McAtlantic-Marshall Construction Co.

Chicago Works

INDEX SHEET

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FLOOR BEAMS PROFILE "FB"

This Index Sheet is to be sent (corrected to date) with drawings going for approval

Specification

Inspection

Paint
Contact Surfaces

Shop Coat

Name of Structure

San Francisco Oakland Bay Bridge

Name of Customer

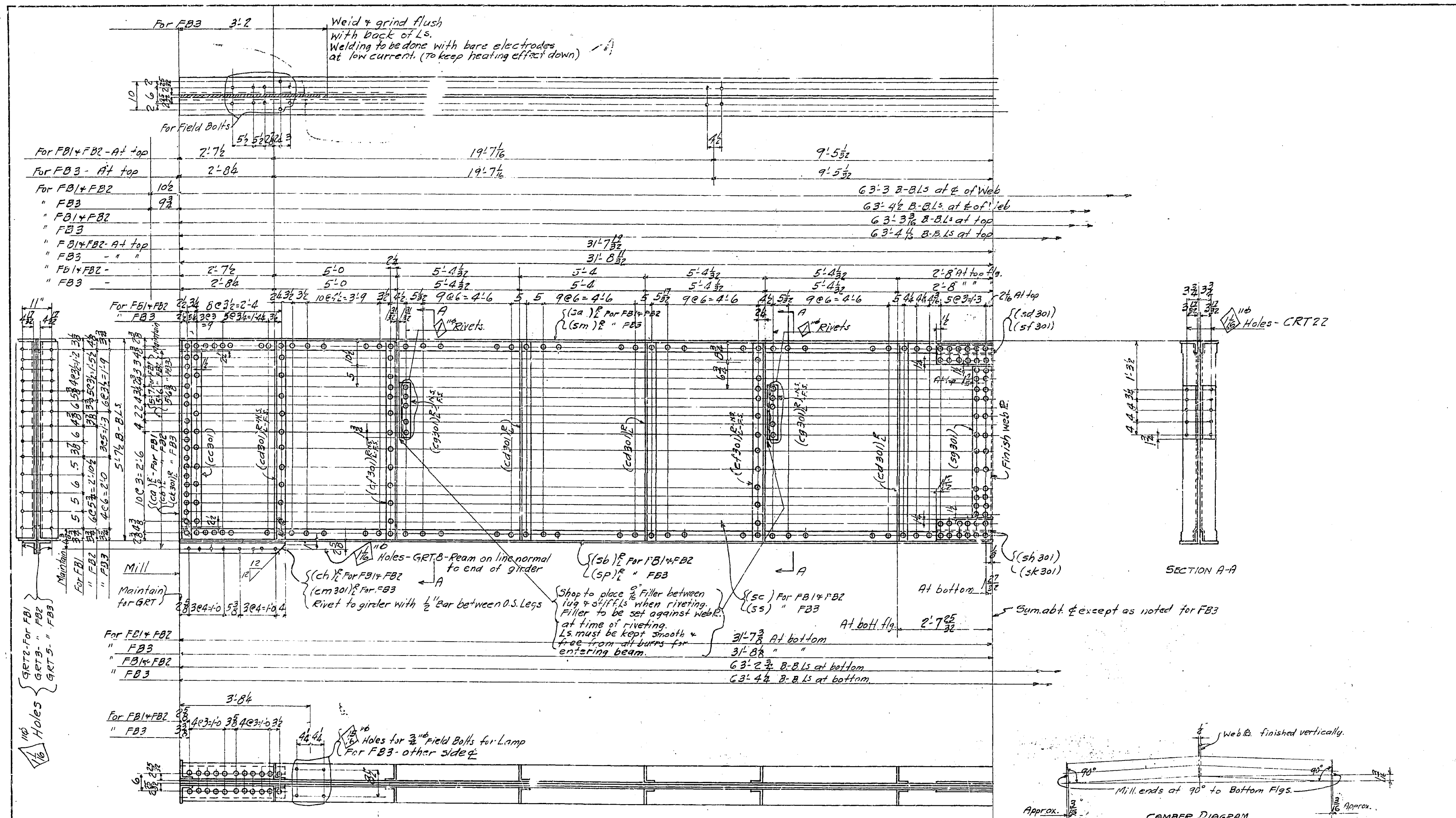
State of California

Contract No. CC1580

Shop No.

Index Sheet No. 13

30-1



Material for one Floor Beam FB1 & FB2

2-Ls 6×4×¾×63'-3 3/16 M2E (sa) R/L Top (ord. 63'-5½) It. 7
2-Ls 6×4×¾×63'-7¾ M2E (sb) R/L Bott. (" ") " 7
2-Web Pls 67F2W×7/16×31'-7 15/32 M1E-F1E (sc) ("67½×31'-9) " 8
4-Ls 6×4×⅝×5'-6 F2E (ca) R/L For FB1; (cb) R/L " FB2
4-Fills 7UM×¾×4'-11 (cc301)
16-Ls 5×3½×⅜×5'-7½ (crimped) F2E (cd301) R/L
8-Ls 5×3½×7/16×5'-7½ (") F2E (cf301) R/L
8-Ls 5×3½×½×1'-6¾ (cg301) R/L
2-Pls 6⅞UM×9/16×3'-1⅛ F2E (sd301)
2-Bars 3¾UM×¾×3'-1⅛ F2E (sf301)
2-Pls 13UM×7/16×4'-3 F2E (sg301)
2-Pls 6⅞UM×9/16×3'-0¾ F2E (sh301)
2-Bars 3¾UM×¾×3'-0¾ F2E (sk301)
4-Ls 5×4×½×3'-0 M1E (ch) R/L

Material for one Floor Beam FB3

2-Ls 6×4×¾×63'-4 11/16 M2E (sm) R/L Top (ord. 63'-5½) It. 7
2-Ls 6×4×¾×63'-4¼ M2E (sp) R/L Bottom (" ") " 7
2-Web Pls. 67F2W×7/16×31'-8 7/32 M1E-F1E (ss) ("67½×31'-9) " 8
4-Ls 6×4×⅝×5'-6 F2E (ck301) R/L
4-Fills (cc301)
16-Ls (cd301) R/L
8-Ls (cf301) R/L
8-Ls (cg301) R/L
2-Pls. (sd301)
2-Bars (sf301)
2-Pls. (sg301)
2-Pls. (sh301)
2-Bars (sk301)
4-Ls 5×4×½×3'-0 M1E (cm301) R/L

Shop note:-
Shop to paint all Erection Marks on left hand end of members as detailed and in an upright position.

Note "A"
Holes marked "GRT" to be reamed or drilled full size thru a metal templet furnished by Chicago Wks.-McClintic-Marshall Corp.
Holes marked "CRT" to be reamed or drilled full size thru a metal templet furnished by Rankin Wks.-McClintic-Marshall Corp.

Shop note:-
Backs of end conn. Ls need not be milled. These Ls shall be set square and flush with milled edge after girder is milled.

Work this sheet with sheet G302, G303, G304, G305

2-each	24	Floor Beams	FB1
2-each	24	Do.	FB2
2-each	24	"	FB3
Spans E11 to 22 incl.	No.	Description	Mark

REQ'D. BY SPANS — REQUIRED LIST (Remarks; Weight each Tons)

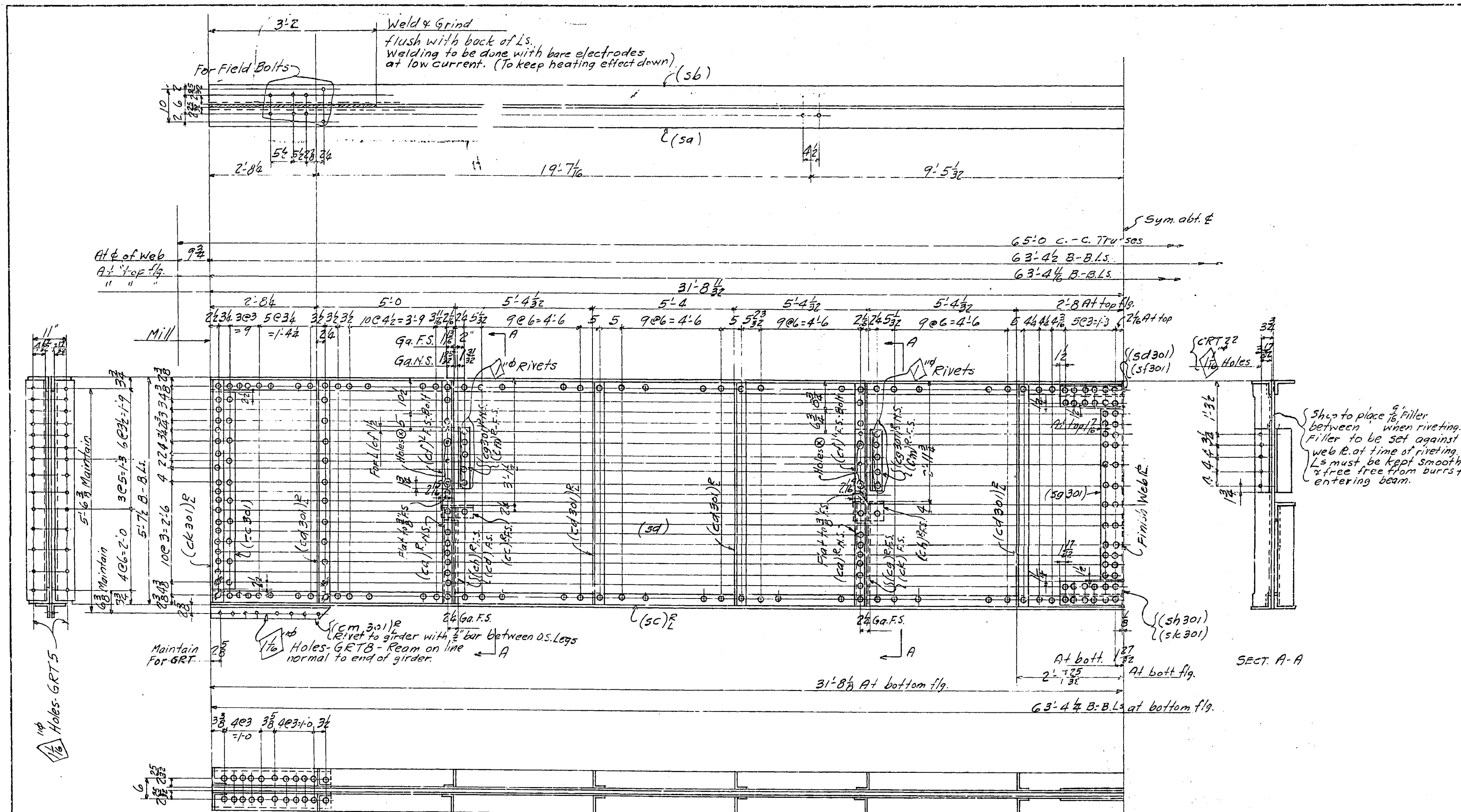
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: ⅞" Un. noted
OPEN HOLES: 15/16" Un. noted.
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in other material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly. Also see Note "A"
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except surfaces at lug Ls on bottom flange and surfaces between stiffeners and lug Ls on web not readily accessible for field sand-blasting, to be given one coat "Acid Resisting Liquid", after thoroughly cleaning and scraping such surfaces.

Date	Revision	App'd

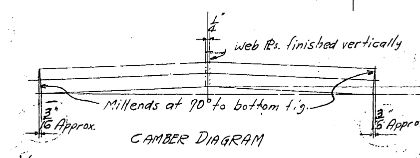
APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 3-23-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago Drawing Room Rankin Works
In charge Anthony Made by GAK
Checked by A.F.L. Traced by GBK
Sheet G 301

30-1



1 ea.	12	Floor Beams	FB4		
SPANS E11 to 22 incl.	TOTAL No.	Description	Mark	Remarks	Weight each Tons
REQ'D. BY SPANS	REQUIRED LIST				



Material for one Floor Beam

2-Ls 6×4×¾×63'-4$\frac{4}{16}$ M2E (sc) (sb) Top (ord. 63-5½) It.#1
2-Ls 6×4×¾×63'-4¼ M2E (sc)R/L Bott. (" " ") 7
2-Web Pls 67 F2W × $\frac{7}{16}$ × 31'-8$\frac{7}{32}$ M1E F1E (sd) (" 67½×31'-9) " 8
4-Ls 6×4× × 5'-6 F2E (ck301)R/L
4-Fills 7UM × ¾ × 4'-11 (cc301)
16-Ls 5×3½×⅜×5'-7½ (crimped) F2E (cd301)R/L
4-Ls 5×3½×$\frac{7}{16}$×5'-7½ " F2E (ca)R/L
2-Ls 5×3½×$\frac{7}{16}$×2'-4½ M1E-F1E (cb)R/L
2-Ls 6×4×¾×10" (cc)R/L
2-Fills 3½UM×¾×1'-9½ (cd)
4-Ls 5×3½×½×1'-6¾ (cg301)R/L
4-Ls 5×3½×⅜×1'-6½ (cf)R/L Bolt
2-Ls 5×3½×$\frac{7}{16}$×2'-6¼ M1E-F1E (cg)R/L
2-Ls 6×6×¾×10" (ch)R/L
2-Fills 3½UM×¾×1'-9¼ (ck)
2-Pls 6⅞UM×$\frac{9}{16}$×3'-1⅛ F2E (sd301)
2-Bars 3¾UM×¾×3'-1⅛ F2E (sf301)
2-Pls 13UM×$\frac{7}{16}$×4'-3 F2E (sg301)
2-Pls 6⅞UM×$\frac{9}{16}$×3'-0¾ F2E (sh301)
2-Bars 3¾UM×¾×3'-0¾ F2E (sk301)
4-Ls 5×4×½×3'-0 M1E (cm301)R/L
4-Ls 5×3½×⅜×1'-6¾ (cm)R/L

Shop note:-
Shop to paint all Erection Marks on left hand end of members as detailed and in an upright position.

Backs of end conn. Ls. need not be milled. These Ls shall be set square & flush with milled edge after girder is milled.

Note "A":-
Holes marked "GRT" to be reamed or drilled to size thru a metal templet furnished by Chicago Wks.-McClintic-Marshall Corp.
Holes marked "CRT" to be reamed or drilled to size thru a metal templet furnished by Rankin Wks.-McClintic-Marshall Corp.
Holes ⊗-
Shop to put shipping bolts in holes ⊗ and draw same up tight. Contact surface of stiff. Ls (ca) at portion bolted must be thoroughly cleaned and scraped before assembly.
Work this sheet with sheet G301

Rev. A - 3-13-34 (5) 4-5-34

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: ⅞" ⌀ Un. noted
OPEN HOLES: $\frac{15}{16}$" ⌀ Un. noted.
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in other material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly. Also see note "A"
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except the following is to recieve one shop coat of "Acid Resisting Liquid"—
Contact surfaces of lug Ls on web, surfaces between stiffener and lug Ls on web, and surfaces between lug Ls on bottom flg not readily accessible for field sand blasting. All surfaces to be painted must be thoroughly cleaned and scraped before paint is applied.

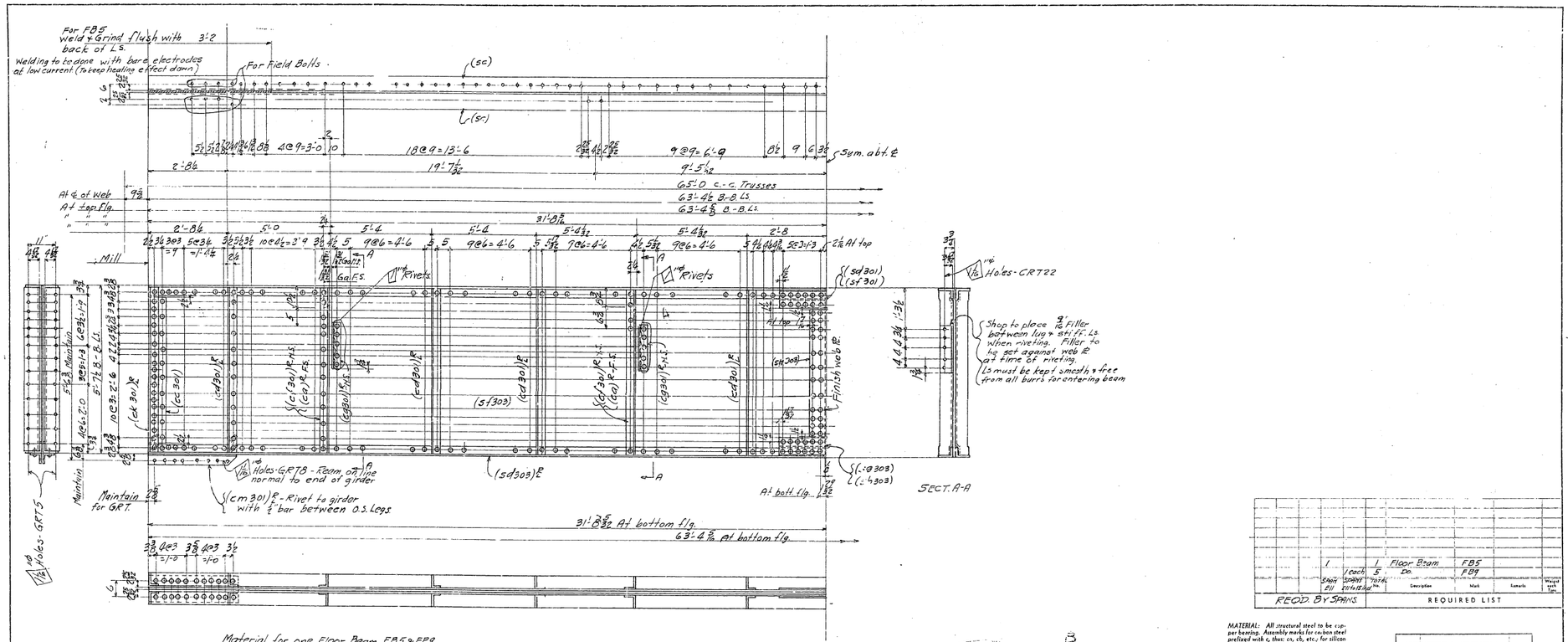
Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 3-23-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Rankin WORKS
IN CHARGE Anthony MADE BY GAK
CHECKED BY AFL 3-16-34 TRACED BY GAK
LAST ASSEM. MK. (S) (CM)

CONTRACT CG15801 SHEET G 302

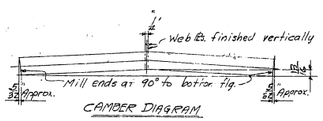


		1	1	Floor Beam	FB5		
		1 each	5	Do.	FB9		
Shop	Spans	Total No.	Description	Mark	Remarks	Weight each Lbs.	
REQD. BY SPANS		REQUIRED LIST					

Material for one Floor Beam FB5 & FB9

1-L- 6 × 4 × 7/16 × 6'-4 5/8	M2E	(sa)
1-L- 6 × 4 × 3/8 × 6'-4 5/8	M2E	(sc)
2-Ls 6 × 4 × 3/8 × 6'-4 5/8	M2E	(sd303)E
2-Web Pls. 67 FUW × 7/16 × 31'-8 29/32	MIE-FPE	(sf303)
4-Ls 6 × 4 × 7/8 × 5'-6	FEE	(ck301)E
4-Pills 7 UM × 3/4 × 4'-11		(cc301)
16-Ls 5 × 3½ × 7/16 × 5'-7 15/16 (crimped)	FEE	(cd301)E
4-Ls 5 × 3½ × 7/16 × 5'-7 15/16 (")		(cf301)E
4-Ls 5 × 3½ × 7/16 × 5'-7 15/16 (")		(cg)E
4-Ls 5 × 3½ × 7/16 × 1'-6 3/4		(rg301)E
2-Pls. 6 5/8 UM × 7/8 × 3'-1 1/8	FEE	(sd301)
2-Bars 3½ UM × 7/8 × 3'-1 1/8	FEE	(sf301)
2-Rs 13 UM × 7/16 × 4'-3 7/8	FEE	(sk303)
2-Pls 6 3/8 UM × 7/8 × 3'-0 7/8	FEE	(sg303)
2-Bars 3 5/8 UM × 7/8 × 2'-0 7/8	FEE	(sh303)
4-Ls 5 × 4 × 7/16 × 2'-0	MIE	(-m301)E

(ord. 63'-5½) If 7
(" ") = 7
(" ") = 7
(" 31'-9) = 8



B

Note:—
See sheet G303A for alterations.

Note A:—
Holes marked "GRT" to be reamed or drilled full size thru a metal templet furnished by Chicago Wks- McClintic-Marshall Corp.
Holes marked "CRT" to be reamed or drilled full size thru a metal templet furnished by Rankin Wks- McClintic-Marshall Corp.

Shop note:—
Backs of end conn. Ls need not be milled. These Ls shall be set square and flush with milled edge after girder is milled.
Shop to paint all Erection Marks on left hand end of members as detailed and in an upright position.

Work this sheet with sheet G301, G306.

Rev. 11/13/34
Rev. E. 4/7/34

MATERIAL: All structural steel to be open hearing. Assembly marks for carbon steel prefixed with c, thus: cc, cb, etc.; for silicon steel with s, thus: sc, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: ⅞ ℄ dia. noted.
OPEN HOLES: 1⅛ ℄ dia. noted.
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in/for material ⅞" thick or less to be sub-punched ¾" and reamed to size after assembly. (See note "A")
DRILLING: Holes in material over ¾" thick to be sub-drilled 1/16" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/16" of metal.
MATCH MARKING: All match marking to be mac's with bath steel stencils and paint.
SHIP PAINT: None, except surfaces of lugs on bottom flange, and surfaces, between stiffeners and lugs on web, not readily accessible for field sand-blasting, to be given one coat "Acid-Resisting Liquid" after thoroughly cleaning and scraping such surfaces.

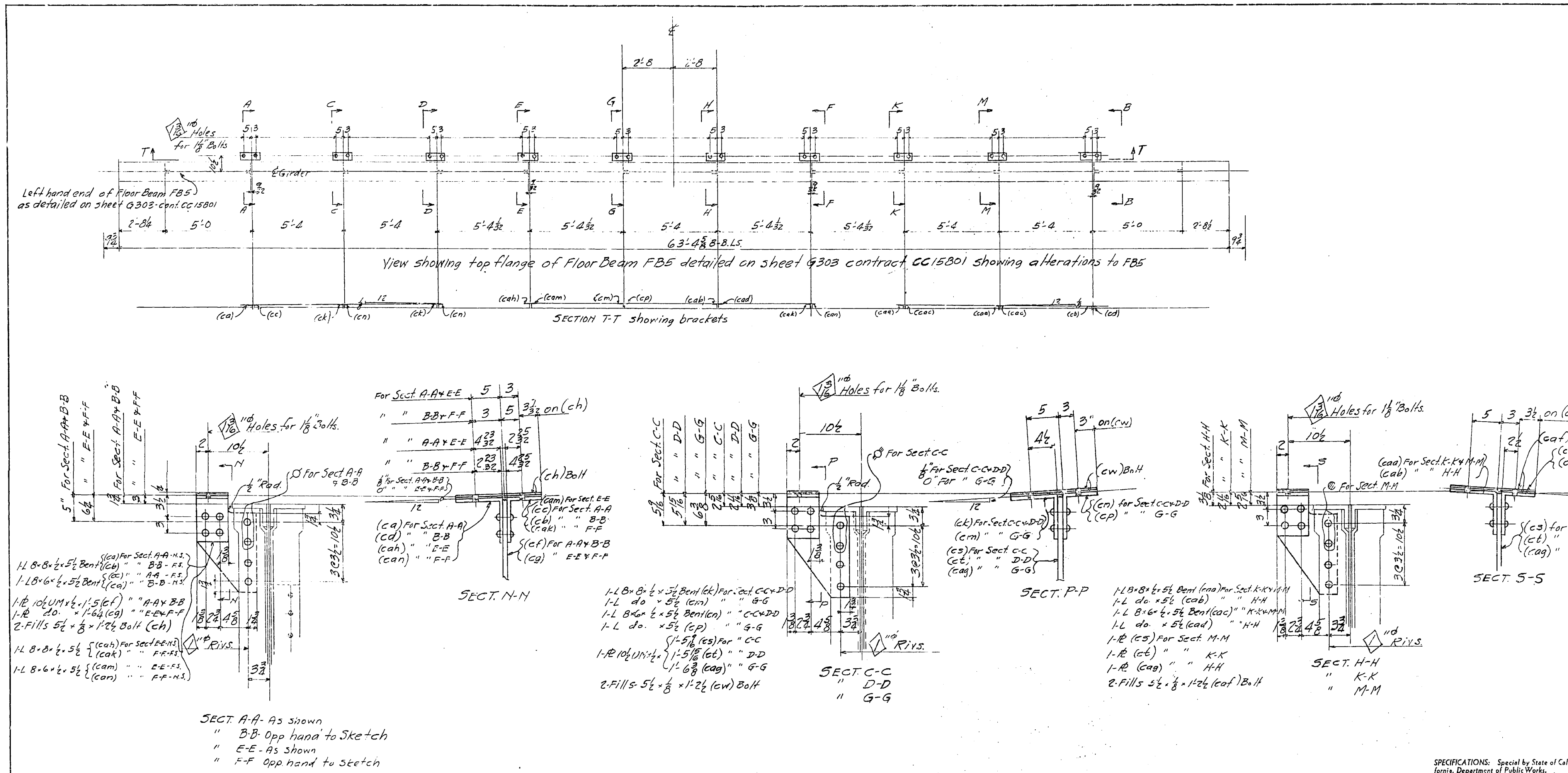
Date	Revision	Appd
APPROVED		
Chas. B. Wendt		Engineer of Design
Chas. E. Andrew		Bridge Engineer
C. H. Purcell		Chief Engineer
Date 3-29-34		

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
268'0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING MADE IN OFFICE OF Rankin
IN OFFICE Anthony MADE BY G.A.K.
CHECKED BY A.F. 3-14-34 TRACED BY G.A.K.
LAST ASSEM. INS. (7A) (2A)

CONTRACT C4S001 SHEET G 303

30-1



WORK TO BE DONE ON FLOOR BEAM FB5
DETAILED ON SHEET G303-CONTRACT CC15801

Work this sheet with sheet G303

No.	Description	Mark	Remarks	Weight each Tons
	See sheet G303			

REQUIRED LIST

SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 7/8" Un. noted
OPEN HOLES: As noted.
PUNCHING:
Holes for shop rivets + Field Bolts may be punched full size.

SHOP PAINT:- None.

Date	Revision	App'd

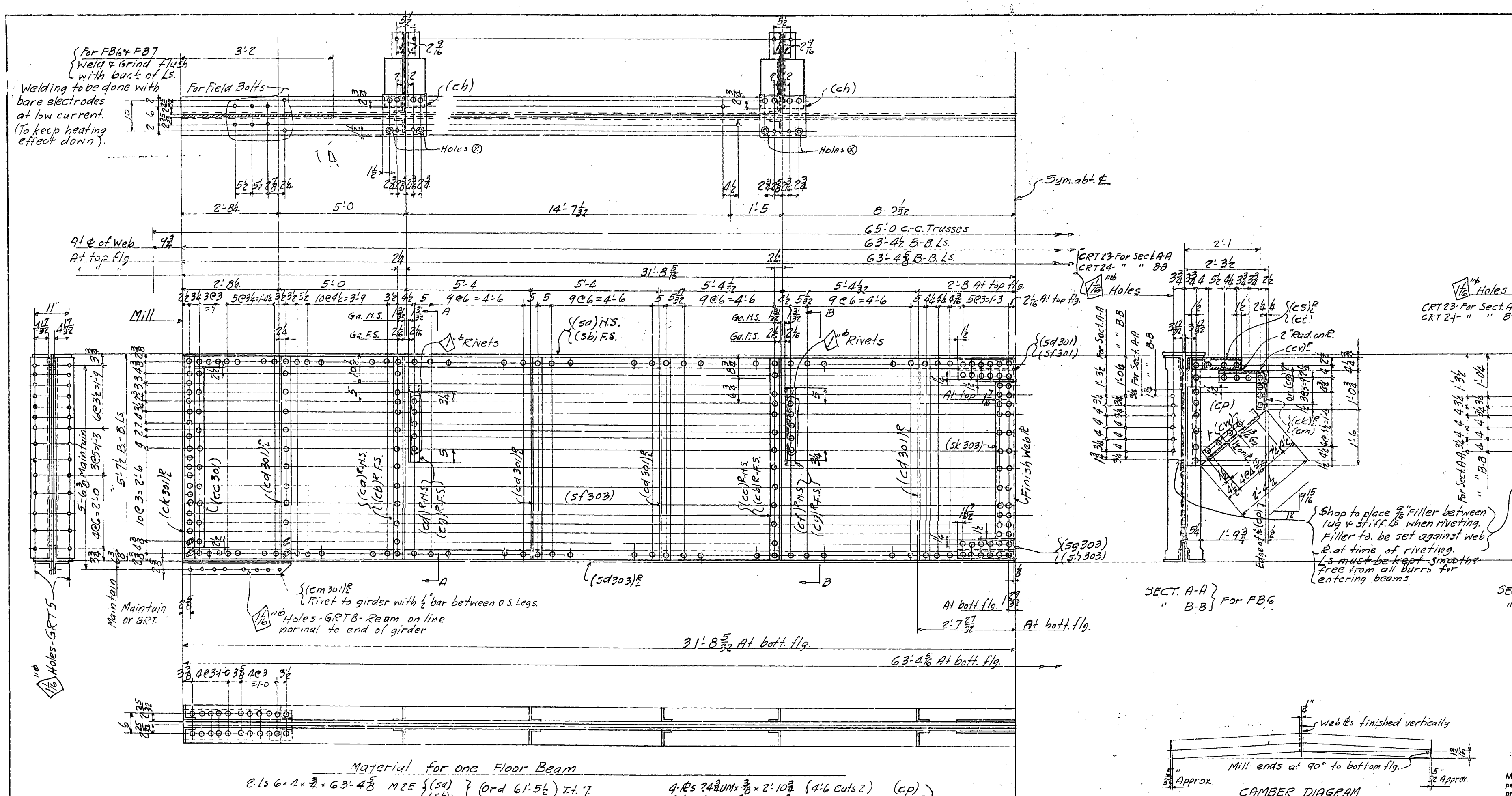
APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 5-28-34

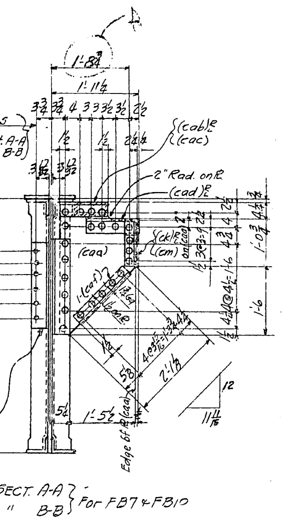
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing

McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Rankin WORKS
IN CHARGE Anthony MADE BY GAK
CHECKED BY W.A. TRACED BY
LAST ASSEM. (can)

CONTRACT CC15801 SHEET G 309A

30-1





Material for one Floor Beam

2-Ls 6×4×3/4×63'-4 5/8 M2E {(sa) (sb)} (Ord 61'-5 1/2) It. 7
2-Ls 6×4×3/4×63'-4 5/8 M2E (sd303)℞ (" ") It. 7
2-Web ℞s 67 F2W × 7/16 × 31'-8 7/16 M1E-F1E (sf303) (ord. 67 1/2 × 31'-9) It. 8
4-Ls 6×4×5/8×5'-6 F2E (ck301)℞
4-Fills 7UM × 3/4 × 4'-11 (cc301)
16-Ls 5×3 1/2×3/8×5'-7 1/2 (crimped) F2E (cd301)℞
2-Ls 5×3 1/2×7/16×5'-7 1/2 (") F2E (ca)℞
4-Ls 5×3 1/2×7/16×5'-7 1/2 (") F2E (cb)℞
2-Ls 5×3 1/2×7/16×5'-7 1/2 (") F2E (cc)℞
4-Ls 5×3 1/2×1/2×1'-11 1/2 (cd)℞ + (cf)℞
4-Ls 5×3 1/2×1/2×2'-1 1/2 (cg)℞
2-℞s 6 7/8 UM × 9/16 × 3'-1 1/8 F2E (sd301)
2-Bars 3 3/4 UM × 3/4 × 3'-1 1/8 F2E (sf301)
2-℞s 13UM × 7/16 × 4'-3 F2E (sk303)
2-℞s 6 7/8 UM × 9/16 × 3'-0 7/8 F2E (sg303)
2-Bars 3 3/4 UM × 3/4 × 3'-0 7/8 F2E (sh303)
4-Ls 5×4×1/2×3'-0 M1E (cm301)℞
4-℞s 13UM × 3/8 × 1'-1 5/16 (ch)
8-Ls 3 1/2×3 1/2×3/8×1'-0 1/4 M1E (ck)℞
8-Fills 3 1/4 UM × 1/2 × 9" (cm)

4-℞s 24 3/4 UM × 3/8 × 2'-10 3/4 (4'-6 Cuts 2) (cp) — For FB6
8-Ls 6×4×3/8×1'-4 3/4 (cs)℞ — For FB6
4-Fills 3 3/4 UM × 7/16 × 1'-0 3/4 (ct) — For FB6
8-Ls 4×3 1/2×1/2×1'-3 3/4 (cv)℞ — For FB6
4-Ls 3×3×3/8×1'-10 1/4 (cw) — For FB6

4-℞s 20 1/2 UM × 3/8 × 2'-10 3/4 (4'-6 3/4 cuts 2) (caa) — For FB7 & FB10
8-Ls 6×4×3/8×1'-1 (cab)℞ — For FB7 & FB10
4-Fills 3 3/4 UM × 7/16 × 9" (cac) — For FB7 & FB10
8-Ls 4×3 1/2×1/2×1'-2 (cad)℞ — For FB7 & FB10
4-Ls 3×3×3/8×1'-6 3/4 (caf) — For FB7 & FB10

Shop note:-
Shop to paint all Erection Marks on left hand end of members as detailed and in an upright position.
Holes ⓧ - Shop to put shipping bolts in holes ⓧ and draw same up tight. Erector to remove in field. Contact surfaces between pieces where ⓧ bolts are used, shall be thoroughly cleaned and scraped before assembling.

Note "A"
Holes marked "CRT" to be reamed or drilled to size thru a metal templet furnished by Rankin Wks.-McClintic-Marshall Corp.
Holes marked "GRT" to be reamed or drilled to size thru a metal templet furnished by Chicago Wks.-McClintic-Marshall Corp.

Note "B"
Holes for shop rivets in sections A-A & B-B, holes in O.S. Legs of Ls (cv)℞ + (cad)℞, holes for shop rivets in Ls (cs)℞ + (cab)℞, + holes for shop & field rivets in ℞ (ch) may be punched full size.

Shop note:-
Backs of end conn. Ls need not be milled. These Ls shall be set square and flush with milled edge after girder is milled.

Work this sheet with sheets G301, G303
Rev. A 3/27/34

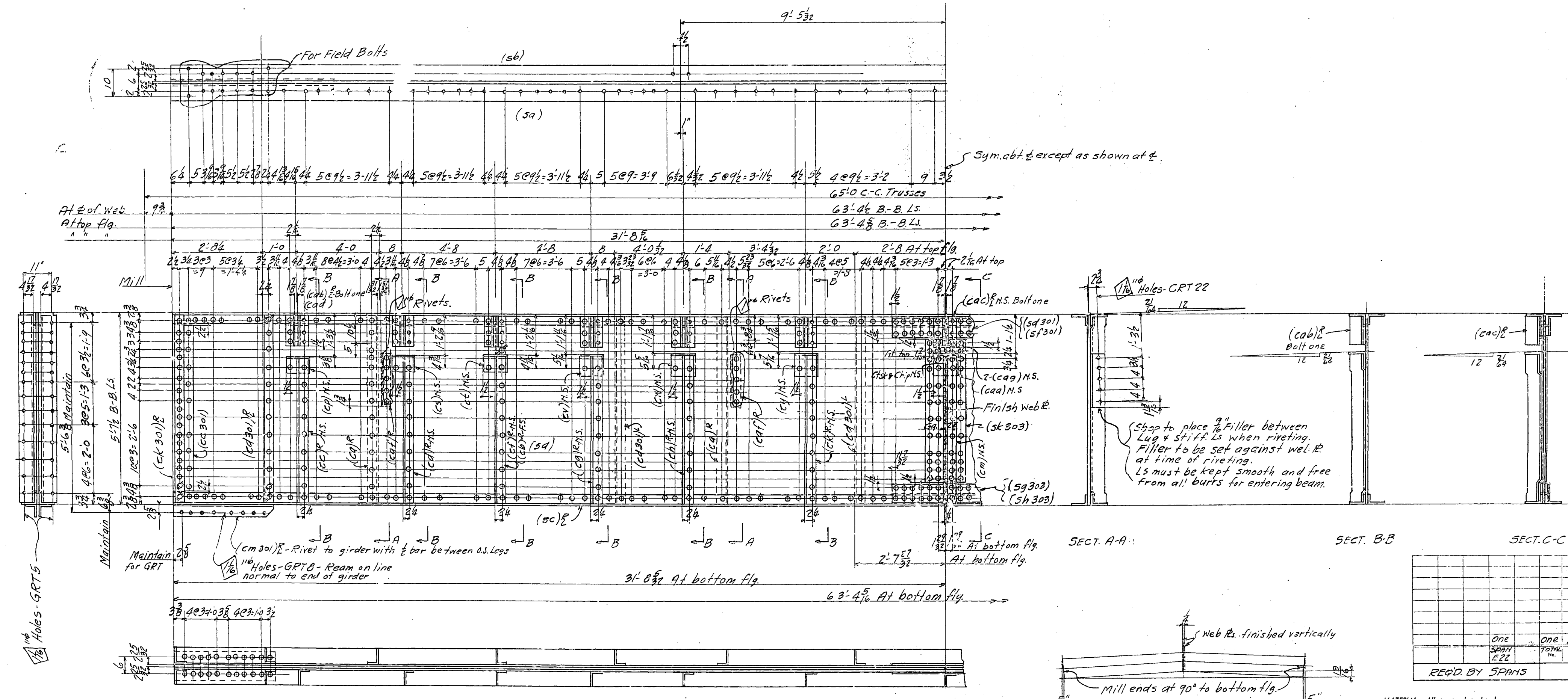
	1ea.			5	Floor Beams	FB6		
		1ea.		6	Do.	FB7		
			1ea.	6	"	FB10		
	Spans E12 to 16	Spans E17 to 22	Spans E16 to 21	Total No.	Description	Mark	Remarks	Weight each Tons
REQ'D. BY SPANS				REQUIRED LIST				

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 7/8"φ Un. noted
OPEN HOLES: 15/16"φ " "
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in other material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly. Also see note "A" & "B".
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except surfaces between Lug Ls on bottom Flg. and surfaces between stiffener and lug L on web, not readily accessible for field sand blasting, to be given one coat of "Acid Resisting Liquid" after such surfaces are thoroughly cleaned and scraped.

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 3-23-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM — Rankin WORKS
IN CHARGE Anthony MADE BY GAK
CHECKED BY A.E.L. 3-11-34 TRACED BY GAK
LAST ASSEM. BY (GEQ) (GCT)
CONTRACT UC13001 SHEET G 304



				one	Floor Beam	FB8		
one	SPAN E22			TOTAL No.	Description	Mark	Remarks	Weight each Tons
REQ'D. BY SPANS				REQUIRED LIST				

Material for one Floor Beam

2-Ls 6×4×3/4×63'-4 5/8 M2E {(sa) (sb)} (org. 63'-5 1/2) It. 7
2-Ls 6×4×3/4×63'-4 9/16 M2E (sc)℞ (" ") " 7
2-Web ℞s. 67 F2W × 7/16 31'-8 3/16 MIE-FIE (sd) ("67 1/2×31'-9) " 8
4-Ls 6×4×5/8×5'-6 F2E (ck 301)℞
4-Fills 7UM×3/4×4'-11 (cc 301)
8-Ls 5×3 1/2×3/8×5'-7 1/2 (crimped) F2E (cd 301)℞
4-Ls 5×3 1/2×7/16×5'-7 1/2 (") F2E (ca)℞
2-Ls 5×3 1/2×3/8×5'-7 1/2 (") F2E (cb)℞
2-Ls 5×3 1/2×7/16×4'-4 3/8 (") MIE-FIE (cc)℞
2-Ls Do. ×4'-4 15/16 (") do (cd)℞
2-Ls " ×4'-5 7/16 (") " (cf)℞
2-Ls " ×4'-5 13/16 (") " (cg)℞
2-Ls " ×4'-6 1/16 (") " (ch)℞
2-Ls " ×4'-6 3/16 (") " (ck)℞
1-L " ×4'-6 3/8 (") " (cm)
2-Ls 6×6×3/4×7 1/8 Bent (cp)
2-Ls Do. ×7 1/8 " (cs)
2-Ls " ×7 1/8 " (ct)
2-Ls 8×6×3/4×7 1/8 " (cv)
2-Ls Do. ×7 1/8 " (cw)
2-Ls " ×7 1/8 " (cy)
1-L 8×6×3/4×7 1/8 -Bent (caa)
24-Ls 5×3 1/2×3/8×10 1/2 FIE (cab)℞ Bolt (12)
2-Ls 5×3 1/2×3/8×10 1/2 FIE (cac)℞
12-Fills 7UM×3/4×7 1/4 (cad)
4-Ls 5×3 1/2×1/2×1'-6 7/8 (caf)℞
2-℞s 6 7/8 UM×9/16×3'-1 1/8 F2E (sd 301)
2-Bars 3 3/4 UM×3/4×3'-1 1/8 F2E (sf 301)
2-℞s 13 UM×7/16×4'-3 F2E (sk 303)
2-℞s 6 7/8 UM×9/16×3'-0 7/8 F2E (sg 303)
2-Bars 3 3/4 UM×3/4×3'-0 7/8 F2E (sh 303)
2-Fills-3UM×7/16×7 1/4 (cag)
4-Ls 5×4×1/2×3'-0 MIE (cm 301)℞

Shop note- Shop to put (2) shipping bolts in each bolted L (cab) and (cac) and draw same up tight. Erector to remove in field. Where stiffener L occurs opp. bolted Lug, that portion which is not shop riveted shall be thoroughly cleaned and scraped before assembling

Note "A":-
Holes marked "GRT" to be reamed or drilled full size thru a metal templet furnished by Chicago Wks.-McClintic-Marshall Corp.
Holes marked "CRT" to be reamed or drilled full size thru a metal templet furnished by Rankin Wks.-McClintic-Marshall Corp.

Shop note:-
Backs of end conn. Ls need not be milled. These Ls shall be set square and flush with milled edge after girder is milled.
Shop to paint all Erection Marks on left hand end of members as detailed and in an upright position.

Work this sheet with sheets G301, G303 Rev. A-4/8/34

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 7/8"φ Un. Noted.
OPEN HOLES: 15/16"φ " "
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in other material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly. Also see note "A".
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except contact surfaces of parts bolted for shipt, surfaces between lug Ls on web and on bottom flange, not readily accessible for field sand blasting, to be given one coat "Acid Resisting Liquid" after thoroughly cleaning and scraping such surfaces. Bolted parts to be assembled after dry.

Date	Revision	App'd

APPROVED

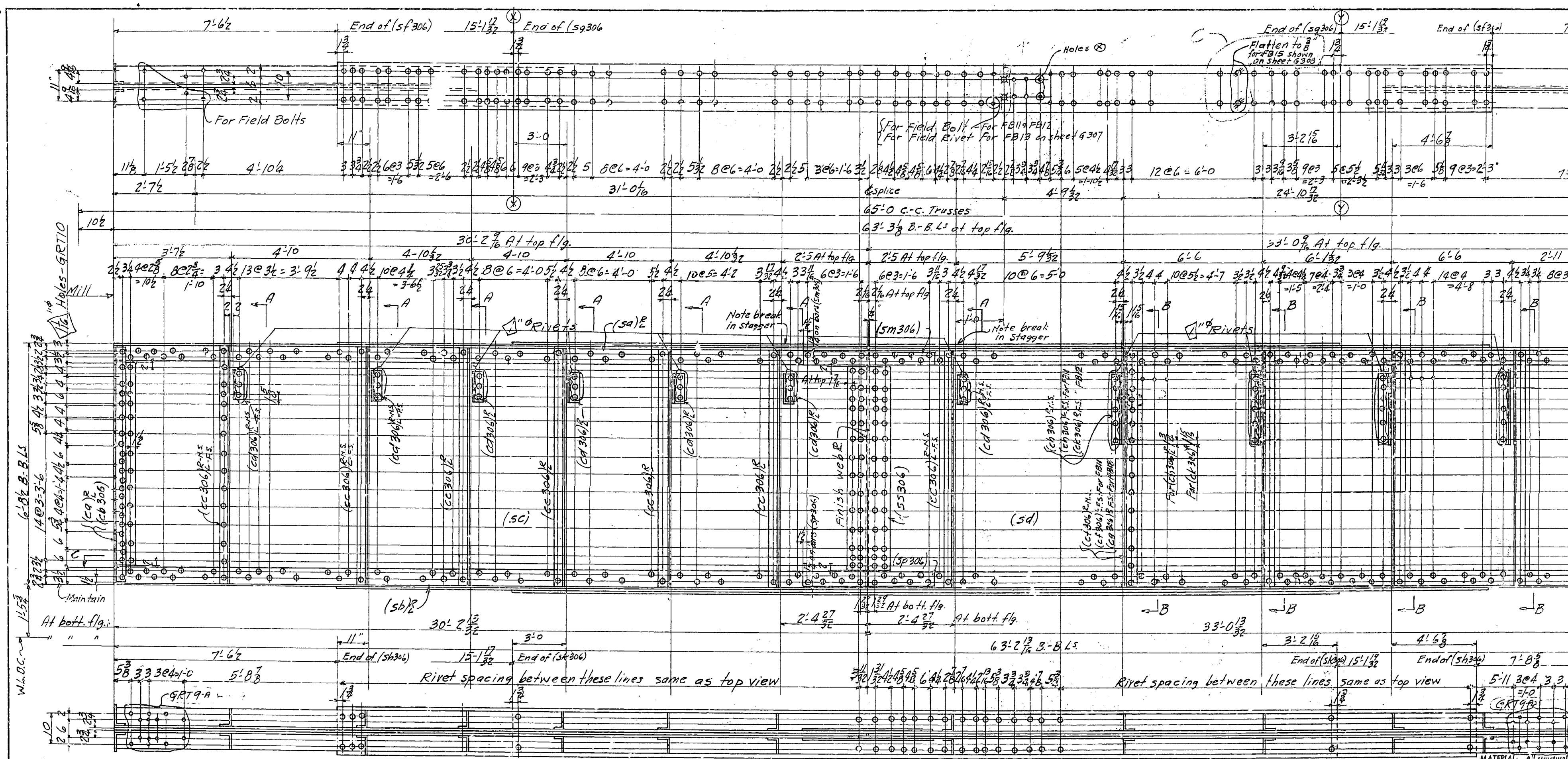
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 4-4-34

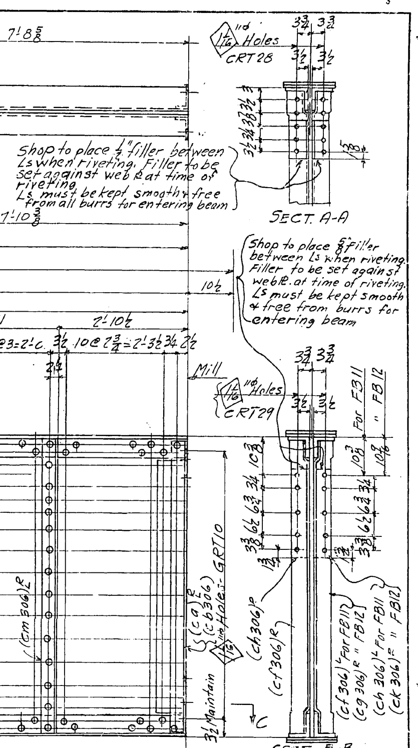
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Rankin WORKS
IN CHARGE Anthony MADE BY GAK
CHECKED BY AFL 8-17-34 (sd) TRACED BY GAK
LAST ASSEM. MK. (cag)

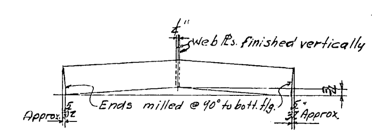
CONTRACT CC15801 SHEET G 305

30-1





Section C-C



CAMBER DIAGRAM

Spans E11 to 21	Span E22	Total No.	Description	Mark	Remarks	Weight each Tons
2 Ea.	1	23	Floor Beams	FB11		
	1	One	Do.	FB12		
Reqd. by Spans		REQUIRED LIST				

Material for one Floor Beam

2-Ls 6×6×11/16×63'-3 1/8 MI (sa) R/L } (ord. 63'-4) It. #58
2-Ls 6×6×11/16×63'-2 13/16 M2E (sb) R/L }
1-web Pl. 80F2W×1/2×30'-2 7/16 MIE-FIE (sc) (" 80 1/2×30'-4) It. 62
1-Web Pl. 80F2W×1/2×33'-0 7/16 MIE-FIE (sd) (" 80 1/2×33'-1 1/4) It. 61
1-Cov. Pl. 14UM×9/16×48'-0 F2E (sf306) (" 48'-0 3/4) It. 121
1- " " Do. ×33-0 F2E (sg306) (" 33'-0 3/4) It. 122
1- " " " ×47'-11 11/16 F2E (sh306) (" 48'-0 3/4) It. 121
1- " " " ×32'-11 11/16 F2E (sk306) (" 33-0 3/4) It. 122
4-Ls 6×4×5/8×6'-6 (ca) R/L
4-Fills 7UM×11/16×5'-8 (cb306)
14-Ls 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E (cc306) R/L
14-Ls 5×3 1/2×1/2×10 (cd306) R/L
8-Ls 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E (cf306) R/L For FB11
4-Ls (cf306) R For FB12
4-Ls 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E (cg306) R For FB12
8-Ls 5×3 1/2×1/2×1'-11 3/8 (ch306) R/L - For FB11
4-Ls (ch306) R For FB12
4-Ls 5×3 1/2×1/2×1'-11 9/16 (ck306) R For FB12
2-Pls. 5UM×3/4×3'-7 1/8 F2E (sm306)
2-Pls 5UM×3/4×3'-6 13/16 F2E (sp306)
2-Pls. 13UM×7/16×5'-8 F2E (ss306)
2-Ls 5×3 1/2×3/8×6'-8 1/2 (crimped) F2E (cm306) R/L

Shop Note-
Shop to put shipping bolts in holes ⊗ and draw same up tight. Erector to remove in field. Contact surfaces at this point to be thorough cleaned & scraped before assembly.

Note "A":-
Holes marked "GRT" to be reamed or drilled full size thru a metal templet furnished by Chicago Wks.-McClintic-Marshall Corp.
Holes marked "CRT" to be reamed or drilled full size thru a metal templet furnished by Rankin Wks.-McClintic-Marshall Corp.

Shop note:-
Backs of end conn. Ls need not be milled. These Ls shall be square and flush with milled edge after girder is milled.
Shop to paint all Erection Marks on left hand end of members as detailed and in an upright position.

Work this sheet with sheets G307 to G313 incl.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 7/8" Un. noted
OPEN HOLES: 15/16" " "
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in other material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly. Also see note "A"
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except surfaces between stiffener Ls & Lug Ls in web, not readily accessible for field sand blasting, to be given one coat "Acid Resisting Liquid" after such surfaces have been thoroughly cleaned & scraped.

Date	Revision	App'd

APPROVED

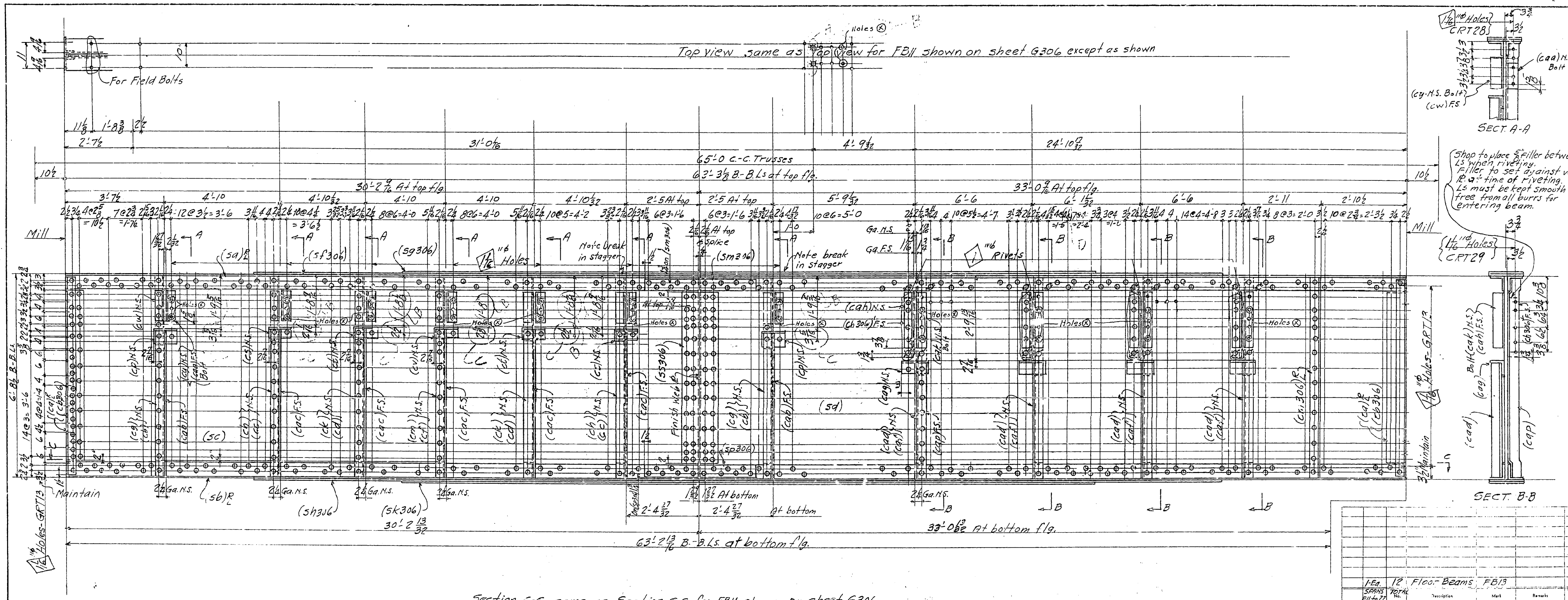
Glenn B. Woodruff — Engineer of Design
Chas. ... Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Rankin WORKS
IN CHARGE Anthony MADE BY GAK
CHECKED BY H.W.S. 1/23/34 TRACED BY GAK
LAST ASSEM. MK. (ss) (cm)

CONTRACT CC15801 SHEET G 306

Rev. 12/14 11-34



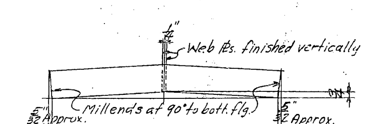
Section C-C same as Section C-C for FB11 shown on sheet G306

Reqd. by Spans	Total No.	Description	Mark	Remarks	Weight each Tons
1-Ea. Spans E11 to 22	12	Floor Beams	FB13		

REQUIRED LIST

Material for one Floor Beam

Material		Mark	Ordered
2-Ls 6×6×11/16 × 63'-3 3/8	M2E	(sa) R/L	(ord. 63'-4) It. #58
2-Ls 6×6×11/16 × 63'-2 13/16	M2E	(sb) R/L	
1-Web Pl 80 F2W × 1/2 × 30'-2 7/16	MIE-FIE	(sc)	(ord. 80 1/2 × 30'-4) It. #62
1-Web Pl 80 F2W × 1/2 × 33'-0 7/16	MIE-FIE	(sd)	(" 80 1/2 × 33'-1 1/4) It. 61
1-Cov. Pl 14 UM × 9/16 × 48'-0	F2E	(sf306)	(ord. 48'-0 3/4) It. 121
1- Do. Do × 33'-0	F2E	(sg306)	(" 33'-0 3/4) It. 122
1- " " × 47'-11 11/16	F2E	(sh306)	(" 48'-0 3/4) It. 121
1- " " × 32'-11 11/16	"	(sk306)	(" 33'-0 3/4) It. 122
4-Ls 6×4×5/8 × 6'-6		(ca) R/L	
4-Fills 7 UM × 11/16 × 5'-8		(cb306)	
2-Ls 5×3 1/2×7/16 × 4'-9 13/16	MIE-FIE	(cb)	
2-Ls Do. × 4'-10 9/16	Do.	(cc)	
2-Ls " × 4'-11	"	(cd)	
1-L " × 4'-11 1/8	"	(cf)	
2-Fills 3 1/2 UM × 11/16 × 3'-10 9/16		(cg)	
2- " Do. × 4'-1 5/16		(ch)	
2- " " × 4'-1 3/8		(ck)	
1- " " × 4'-1 3/8		(cm)	
2-Ls 6×6×11/16 × 9"		(cp)	
2-Ls 6×4×11/16 × 9"		(cs)	
2-Ls Do × 9"		(ct)	
1-L " × 9"		(cv)	
7-Ls 5×3 1/2×3/8 × 1'-0 1/2		(cw)	
7-Ls Do. × 1'-0 1/2		(cy) Bolt	
7-Ls 5×3 1/2×1/2 × 10		(caa) "	
2-Ls 5×3 1/2×7/16 × 6'-8 1/2 (crimped)	F2E	(cab)	
5-Ls Do. × 6'-8 1/2 (")	F2E	(cac)	
2-Bars 5 UM × 3/4 × 3'-7 1/8	F2E	(sm306)	
2- " Do. × 3'-6 13/16	F2E	(sp306)	
2-Pls 13 UM × 7/16 × 5'-8	F2E	(ss306)	
2-Ls 5×3 1/2×3/8 × 6'-8 1/2 (crimped)	F2E	(cm306) R/L	
4-Ls 5×3 1/2×7/16 × 3'-9 5/16	MIE-FIE	(cad)	
4-Fills 3 1/2 UM × 11/16 × 3'-0 7/16		(caf)	
4-Ls 6×4×11/16 × 10 1/2		(cag)	
4-Ls 5×3 1/2×3/8 × 1'-10 1/4		(cah)	
4-Ls Do. × 1'-10 1/4		(cak) Bolt	
4-Ls 5×3 1/2×1/2 × 1'-11 3/8		(ch306) L	
4-Ls 5×3 1/2×7/16 × 6'-8 1/2 (crimped)	F2E	(cap)	



CAMBER DIAGRAM

Shop Note–
Shop to put shipping bolts in holes ⊗ and draw same up tight. Erector to remove in field. Where piece is partly shop bolted and partly shop riveted (as top cov. pls and some web stiffs,) contact surfaces must be thoroughly cleaned and scraped before assembling, but no paint is reqd.

Note "A":–
Holes marked "GRT" to be reamed or drilled full size thru a metal templet furnished by Chicago Wks-McClintic-Marshall Corp. Holes marked "CRT" to be reamed or drilled full size thru a metal templet furnished by Rankin Wks-McClintic-Marshall Co.

Shop note:–
Backs of end conn. Ls need not be milled. These Ls shall be square and flush with milled edge after girder is milled.

Shop to paint all Erection marks on left end of members as detailed and in an upright position.

Work this sheet with sheet G306

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 7/8"⌀ Un. noted
OPEN HOLES: 15/16"⌀ " "
PUNCHING. Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in other material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly. Also see note "A"
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except contact surfaces of parts bolted for shipt., and surfaces between angles in web, not readily accessible for field sand blasting, shall be given one coat of "ACID RESISTING LIQUID," after such surfaces have been thoroughly cleaned and scraped. parts to be bolted while still wet.

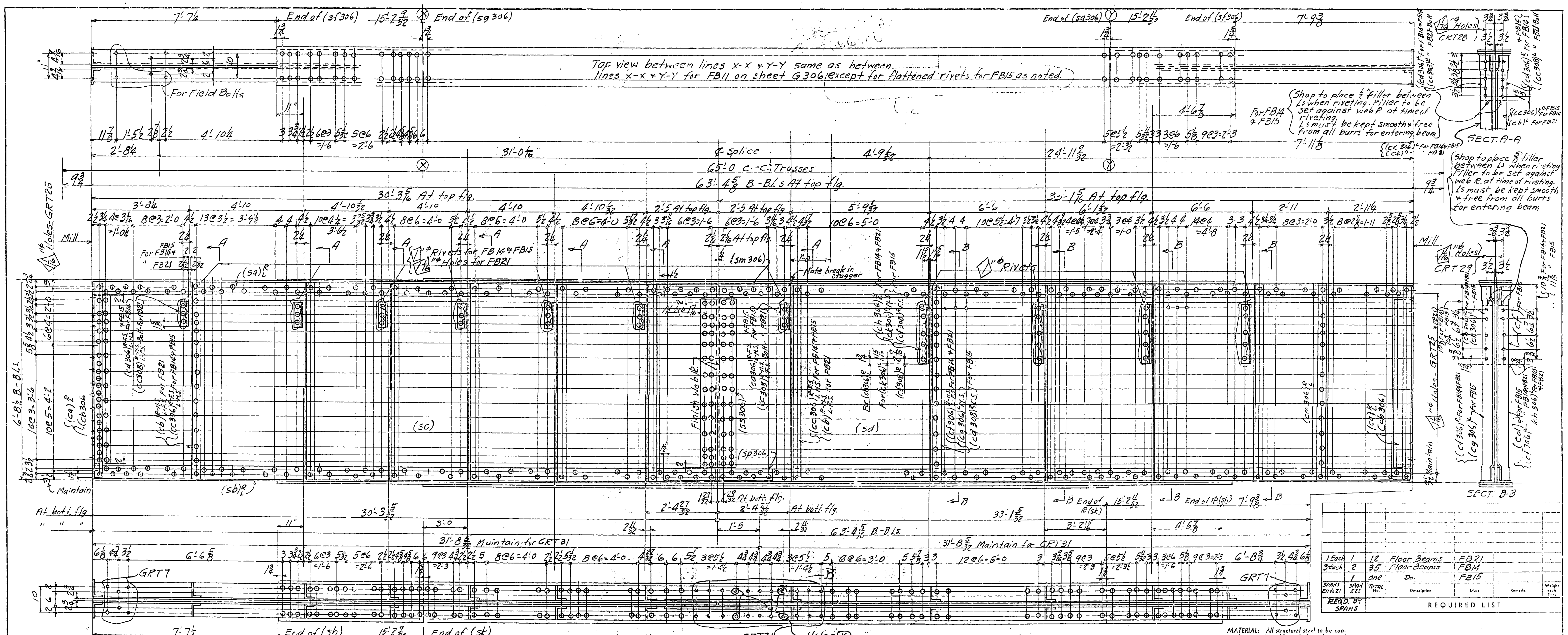
Date	Revision	App'd

APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Rankin WORKS
IN CHARGE Anthony MADE BY GAK
CHECKED BY H.W.S. 3/23/34 TRACED BY GAK
LAST ASSEM. MK. (sd) (cap)
CONTRACT CC15801 SHEET G 307

30-1



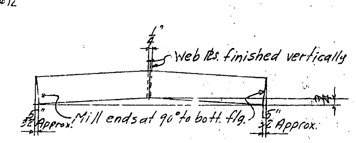
1 Each	1	12	Floor Beams	FB21		
3 Each	2	35	Floor Beams	FB14		
	1	One	Do.	FB15		
SPANS E11 to 21	SPAN E22	TOTAL No.	Description	Mark	Remarks	Weight each Tons
REQD. BY SPANS		REQUIRED LIST				

Material for one Floor Beam.

2-Ls 6×6×11/16 × 63'-4 5/8 – M+E – (sa)R/L (ord. 63'-5 3/8) It. 57
2-Ls 6×6×11/16 × 63'-4 5/8 M+E (sb)R/L
1-Web Pl. 80 F2W × 1/2 × 30'-3 3/16 MIE-FIE (sc) (ord. 30'-4) It. 62
1- Do Do Do × 33'-1 3/16 MIE-FIE (sd) (ord. 33'-2) 60
1-Cov. Pl. 14 UM × 9/16 × 48'-0 F2E (sf306) (ord. 48'-0 3/4) It. 121
1- Do. Do. × 33'-0 F2E (sg306) (" 33'-0 3/4) " 122
1- Do. Do. × 47'-11 11/16 F2E (sh) (" 48'-0 3/4) It. 121
1- Do. Do. × 32'-11 11/16 F2E (sk) (" 33'-0 3/4) It. 122

4-Ls 5×3 1/2×1/2× 8'-0 3/16 (cf) For FB15
8-Ls Do. × 1'-11 3/8 (ch306)R/L " FB14 & FB21
8-Ls 5×3 1/2×7/16× 6'-8 1/2 (crimped) F2E (cf306)R/L For FB14 & FB21
2-Ls 5×3 1/2×3/8× 6'-8 1/2 (crimped) F2E (cm306)R/L

4-Ls 6×4×5/8× 6'-6 (ca)R/L
4-Fills 7UM×11/16× 5'-8 (cb306)
14-Ls 5×3 1/2×7/16× 6'-8 1/2 (crimped) F2E (cc306)R/L For FB14 & FB15
14-Ls Do. × 6'-8 1/2 (") F2E (cb)R/L " FB21
14-Ls 5×3 1/2×1/2× 10 (cd306)R/L " FB14 & FB15
14-Ls Do × 10 (cc308)R/L " FB21 Holt
2-Bars 5UM×3/4× 3'-7 1/8 F2E (sn306)
2- " Do × 3'-6 13/16 F2E (so306)
2-Pls 13UM×7/16× 5'-8 F2E (ss306)
4-Ls 5×3 1/2×7/16× 6'-8 1/2 (crimped) F2E (cg306)L For FB15
4-Ls Do × 6'-8 1/2 (") F2E (cd) " FB15
4-Ls 5×3 1/2×1/2 × 1'-11 9/16 (ck306)L " FB15



CAMBER DIAGRAM

Shop Note-
Contact surfaces of cover pls where bolted thru holes ⊗ shall be thoroughly cleaned and scraped before assembly, but not painted.
Shop to put shipping bolts in holes ⊗ and draw same up tight. Bolts to be removed by Erector in Field.

Note "A":-
Holes marked "GRT" to be reamed or drilled full size thru a metal templet furnished by Chicago Wks-McClintic-Marshall Corp.
Holes marked "CRT" to be reamed or drilled full size thru a metal templet furnished by Rankin Wks-McClintic-Marshall Corp.

Shop note:-
Backs of end conn. Ls need not be milled. These Ls shall be square and flush with milled edge after girder is milled.
Shop to paint all Erection Marks on left hand end of members as detailed and in an upright position

Work this sheet with sheets G306, G311, G312

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 7/8" Ur. noted.
OPEN HOLES: 15/16" " "
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in other material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly. Also see note "A"
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8 of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except contact surfaces of parts bolted for shipt. and surfaces between angles in web not readily accessible for sand blasting shall be given one coat of "Acid Resisting Liquid" after such surfaces have been thoroughly cleaned and scraped. Bolted parts to be assembled after dry, and bolts pulled up tight.

Date	Revision	App'd

APPROVED

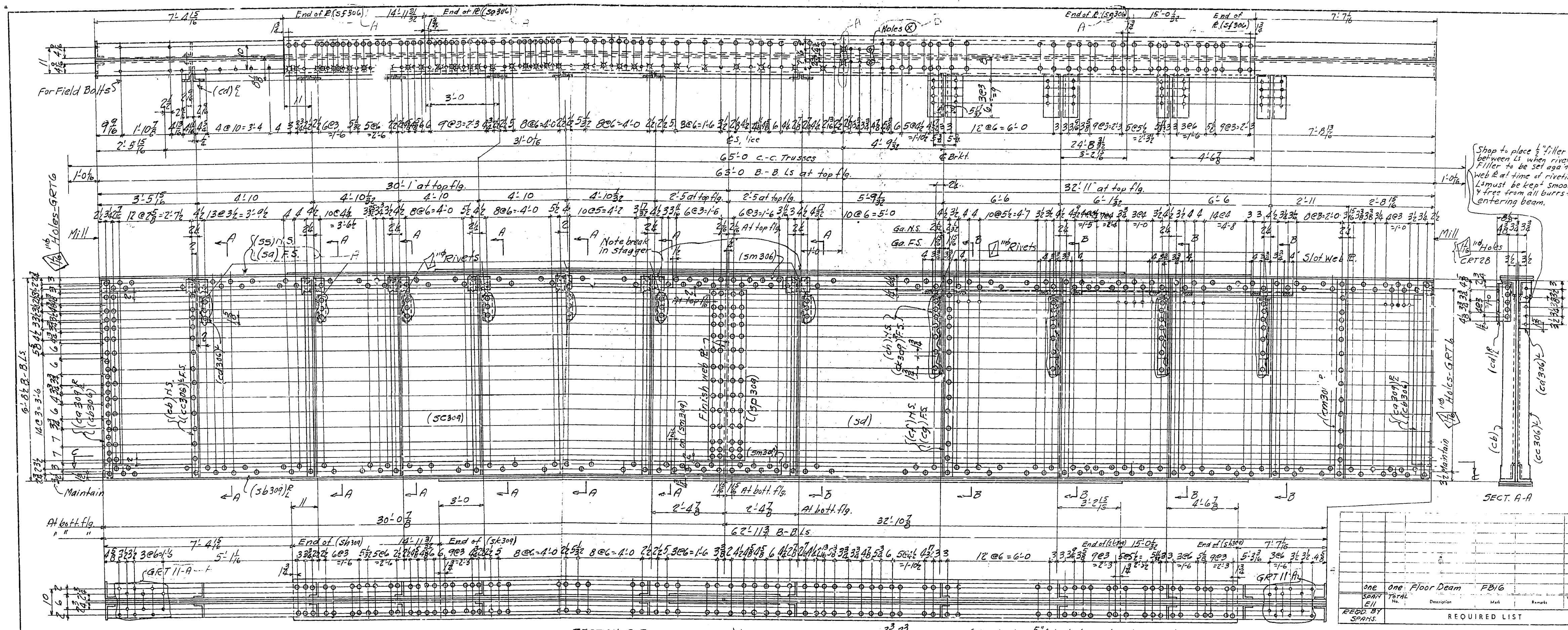
Engineer of Design
Bridge Engineer
Chief Engineer
Date

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Rankin WORKS
IN CHARGE Anthony MADE BY G.A.K.
CHECKED BY H.W. 3/26/34 TRACED BY G.A.K.
LAST ASSEM. MK. (sk) (cf)

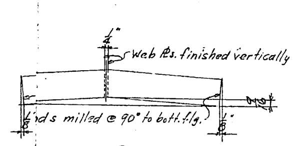
CONTRACT CC15801 SHEET G 308

30-1

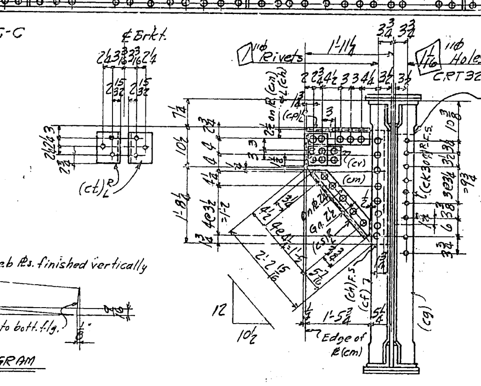


Material for one Floor Beam

- 2-Ls 6 × 6 × 11/16 × 63'-0 MZE (sa) & (ss) (ord. 63'-0 3/4) It. # 59
- 2-Ls 6 × 6 × 11/16 × 62'-11 3/4 MZE (sb309) R L
- 1-Web R 80 F2W × 1/2 × 30'-0 7/8 MIE-FIE (sc309) (ord. 80 1/2 × 30'-1 5/8) It. 64
- 1-Web R Do. × 32'-10 7/8 MIE-FIE (sd) (ord. 80 1/2 × 33'-1 1/2) It. 61
- 1-Cov. R 14 UM × 9/16 × 48'-0 FZE (sf306) (ord. 48'-0 3/4) It. 121
- 1- " " Do. × 33'-0 FZE (sg306) (" 33'-0 3/4) It. 122
- 1- " " Do. × 47'-11 3/4 FZE (sh309) (" 48'-0 3/4) It. 121
- 1- " " Do. × 32'-11 3/4 FZE (sk309) (" 32'-0 3/4) It. 122
- 4-Ls 6 × 4 × 5/8 × 6'-6 (ca309) R L
- 4-Fills 7 UM × 11/16 × 5'-8 (cb306)
- 7-Ls 5 × 3 1/2 × 3/8 × 6'-8 1/2 (crimped) FZE (cb)
- 7-Ls 5 × 3 1/2 × 7/16 × 6'-8 1/2 (") FZE (cc306) L
- 14-Ls 6 × 4 × 7/16 × 1'-3 (cd) R L
- 7-Ls 5 × 3 1/2 × 1/2 × 10 (cd306) L
- 2-Bars 5 UM × 3/4 × 3'-7 1/8 FZE (sm306)
- 2- " 5 UM × 3/4 × 3'-6 7/8 FZE (sm309)
- 2-Rs 13 UM × 7/16 × 5'-8 FZE (sp309)
- 4-Ls 5 × 3 1/2 × 7/16 × 6'-8 1/2 (crimped) FZE (cf)
- 4-Ls 5 × 3 1/2 × 7/16 × 6'-8 1/2 (") FZE (cg)
- 4-Ls 5 × 3 1/2 × 1/2 × 2'-6 1/2 (ch)
- 4-Ls 5 × 3 1/2 × 1/2 × 1'-11 3/8 (ck309) R
- 2-Ls 5 × 3 1/2 × 3/8 × 6'-8 1/2 (crimped) FZE (cm306) R L
- 4-Rs 21 × 7/16 × 2'-6 1/2 (cm) (3'-9 cuts 2)
- 8-Ls 8 × 4 × 1/2 × 1'-4 1/2 (cp) R L
- 8-Ls 4 × 4 × 7/16 × 2'-0 (cs) R L
- 8-Ls 6 × 6 × 7/16 × 9" (ct) R L
- 8-Fills 6 UM × 1/2 × 9" (cv)



CAMBER DIAGRAM



SECT. B-B

Shop to place 5/8" filler between Ls when riveting. Filler to be set against web R. at time of riveting. Ls must be kept smooth & free from all burrs for entering beam.

Note "A":-
Holes marked "GRT" to be reamed or drilled full size thru a metal templet furnished by Chicago Wks.-McClintic-Marshall Corp. Holes marked "CRT" to be reamed or drilled full size thru a metal templet furnished by Rankin Wks.-McClintic-Marshall Corp.

Note "B":-
Holes for shop rivets in sects. A-A & B-B, holes for field rivets in Ls (ct) R L, (cp) R L, and (cd) R L may be punched full size.

Shop Note-
Shop to put shipping bolts in holes ⊗ and draw same uptight. Erector to remove in field.
Backs of end conn. Ls need not be milled. These Ls shall be square and flush with milled edge after girder is milled.
Shop to paint all Erection Marks on left hand end of members as detailed and in an upright position.

Work this sheet with sheets G306, & G310 to G313 incl.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 7/8"⌀ Un. noted
OPEN HOLES: 15/16"⌀ "
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in other material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly. Also see note "A" & "B"
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except surfaces between stiffener Ls & Lugs in web, not readily accessible for field sand blasting, shall be given one coat of "Acid Resisting Liquid" after such surfaces have been thoroughly cleaned and scraped.

Contact surfaces of cover plates where bolted thru holes ⊗ shall be thoroughly cleaned and scraped before assembly, but not painted.

Date	Revision	App'd

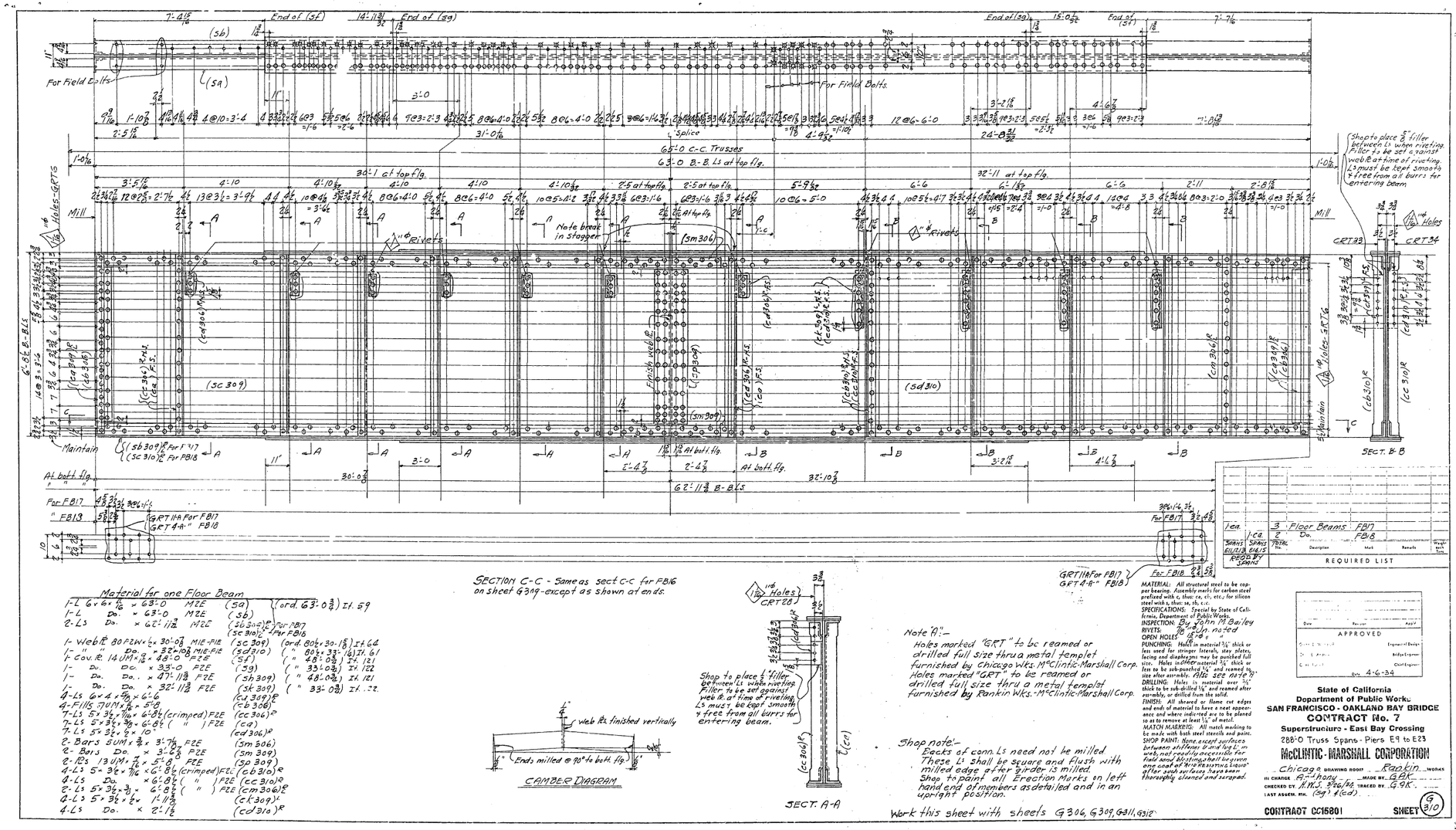
APPROVED

Engineer of Design
Bridge Engineer
Chief Engineer
Date 4-6-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Rankin WORKS
IN CHARGE Anthony MADE BY GAK
CHECKED BY H.W.S. 2/26/34 TRACED BY GAK
LAST ASSEM. MK. (ss) (cv)

CONTRACT CC15801 SHEET G 309



Material for one Floor Beam

1-L	6 x 6 x 15/16	x 63'-0	M2E	(sa)
1-L	Do.	x 63'-0	M2E	(sb)
2-Ls	Do.	x 62'-11 7/8	M2E	(sc 309)
1-Web ℄	80 FCW x 1/2	x 30'-0 3/8	M1E-F1E	(sc 309)
1-" "	Do.	x 32'-10 3/8	M1E-F1E	(sd 310)
1-Cov. P.	14 UM x 3/8	x 48'-0	F2E	(sf)
1-Do.	Do.	x 33'-0	F2E	(sg)
1-Do.	Do.	x 47'-11 3/8	F2E	(sh 309)
1-Do.	Do.	x 32'-11 3/8	F2E	(sk 309)
4-Ls	6 x 4 x 5/16 x	6'-6		(cd 309)E
4-Fills	7UM x 7/16 x	5'-8		(cb 306)
7-Ls	5 x 3 1/2 x 11/16 x	6'-8 1/2 (crimped)	F2E	(cc 306)C
7-Ls	5 x 3 1/2 x 9/16 x	6'-8 1/2 (")	F2E	(ca)
7-Ls	5 x 3 1/2 x 1/2 x	10'		(cd 306)C
2-Bars	5UM x 3/4 x	3'-7 1/2	F2E	(sm 306)
6-Bars	Do.	x 3'-2 7/8	F2E	(sm 309)
6-PLs	13 UM x 7/16 x	5'-8	F2E	(sp 309)
4-Ls	5 x 3 1/2 x 11/16 x	6'-8 1/2 (crimped)	F2E	(cb 310)C
4-Ls	Do.	x 6'-8 1/2 (")	F2E	(cc 310)C
2-Ls	5 x 3 1/2 x 3/8 x	6'-8 1/2 (")	F2E	(cm 306)E
4-Ls	5 x 3 1/2 x 5/16 x	1'-11 7/8		(ck 309)C
4-Ls	Do.	x 2'-1 1/8		(cd 310)C

(ord. 63'-0 3/8) It. 59
(ord. 30'-1 5/8) It. 64
For FB17
For FB18
(" 30'-1 5/8) It. 61
(" 48'-0 3/8) It. 121
(" 33'-0 3/8) It. 122
(" 48'-0 3/8) It. 121
(" 33'-0 3/8) It. 122

SECTION C-C - Same as sect C-C for FB16 on sheet G309 - except as shown at ends.

Note "A":-
Holes marked "GRT" to be reamed or drilled full size thru a metal templet furnished by Chicago Wks. McClintic-Marshall Corp. Holes marked "GRT" to be reamed or drilled full size thru a metal templet furnished by Rankin Wks.-McClintic-Marshall Corp.

Shop note:-
Backs of conn. Ls need not be milled. These Ls shall be square and flush with milled edge after girder is milled. Shop to paint all Erection Marks on left hand end of members as detailed and in an upright position.

Work this sheet with sheets G306, G309, G311, G312

MATERIAL: All structural steel to be copper bearing. Assembly welds for carbon steel prefaced with c, thus: cw, cb, etc., for silicon steel with s, thus: sw, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 7/8" ϕ unless noted
OPEN HOLES: 15/16" ϕ
PUNCHING: Holes in material 1/2" thick or less used for stringer laterals, stay plates, facing and diaphragms may be punched full size. Holes in other material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly. AREE 1923 Note 9.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/4" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except surfaces between stiffeners & end log ℄, or which may not be accessible for field sand blasting, shall be given one coat of Red Rosisting Lacquer after such surfaces have been thoroughly cleaned and scraped.

Tea.	3	Floor Beams	FB17
1 ea.	2	Do.	FB18

Spans Bill'd Each	Spans Total No.	Description	Mark	Remarks	Weight each Piece
Record by Spans		REQUIRED LIST			

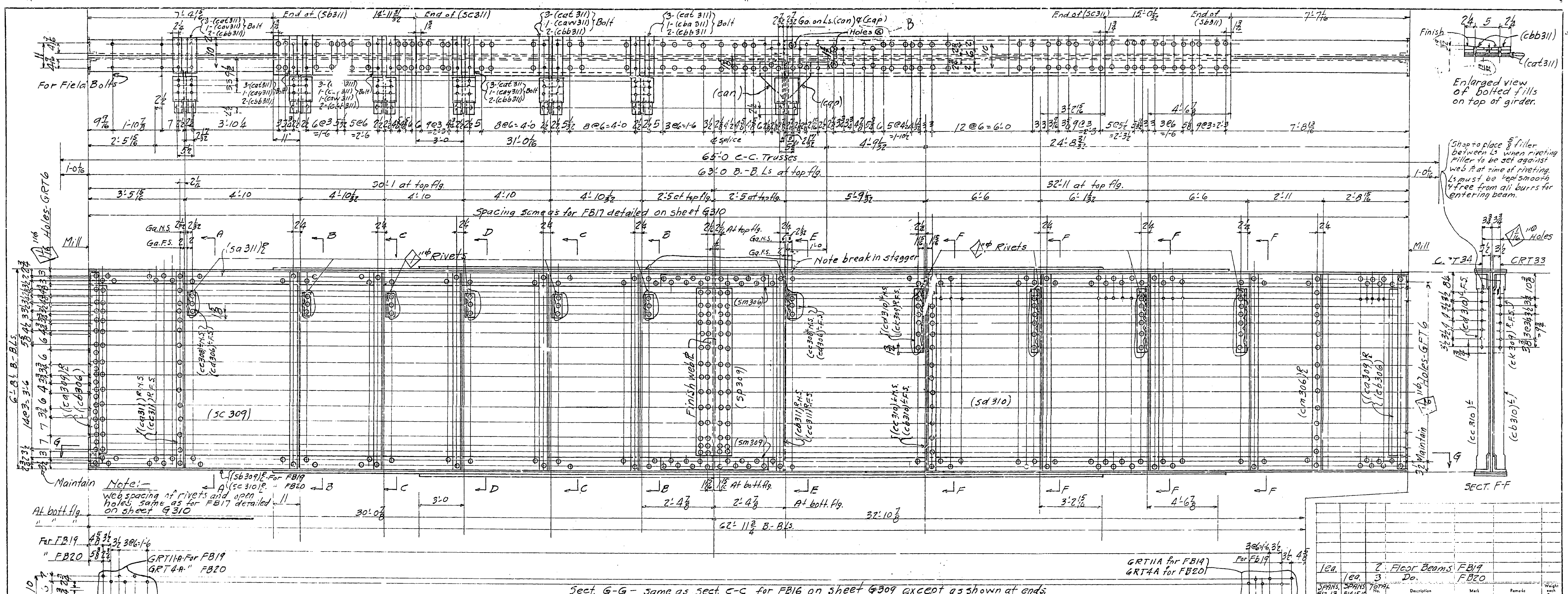
	Date	Revised	Appd
APPROVED			
Engineer of Design			
Bridge Engineer			
Chief Engineer			

Date 4-6-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Rankin WORKS
IN CHARGE A. Anthony MADE BY G.A.K.
CHECKED BY J.M.J. 3/26/34 TRACED BY G.A.K.
LAST ASSEM. PIN. (sg) & (cd)

CONTRACT CC15801 SHEET G 310

30-1

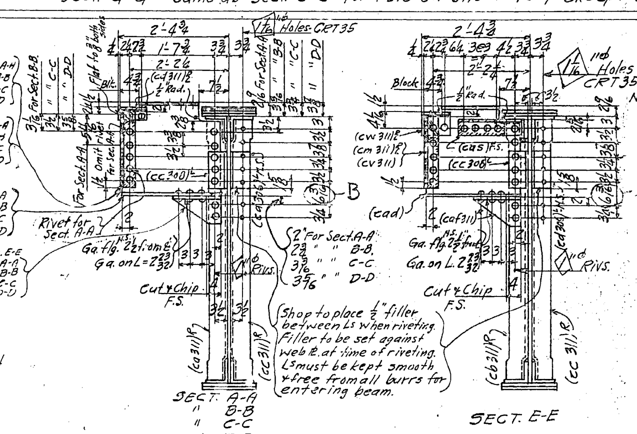


1 ea.		2	Floor Beams	FB19		
	1 ea.	3	Do.	FB20		
SPANS E12,13	SPANS E14,15,16	TOTAL No.	Description	Mark	Remarks	Weight each Tons
REQD. BY SPANS.	REQUIRED LIST					

Material for one Floor Beam

2-Ls 6×6×11/16×63'-0 MZE (sa311) R L (ord. 63'-0 3/4) It. #59
2-Ls Do. ×62'-11 3/4 MZE - (sb309) R L For FB19, (sc310) R L For FB20 (ord. 63-0 3/4) It 59
1-Web Pl. 80FZW×1/2×30'-0 7/8 MIE-FIE (sc309) (ord. 80 1/2×30'-1 5/8) It 64
1- Do. Do ×32'-10 7/8 MIE-FIE (sd310) (" 80 1/2×33-1 5/8) It. 61
1-Cov. Pl. 14UM×9/16×48'-0 FZE (sb311) (" 48'-0 3/4) It. 121
1- Do. Do ×33'-0 FZE (sc311) (" 33'-0 3/4) It. 122
1- Do. Do ×47'-11 3/4 FZE (sh309) (" 48'-0 3/4) It. 121
1- Do. Do ×32'-11 3/4 FZE (sk309) (" 33'-0 3/4) It. 122
4-Ls 6×4×5/8×6'-6 (ca309) R L
4-Fills - 7UM×11/16×5'-8 (cb306)
6-Ls 5×3 1/2×7/16×6'-8 1/2 (crimped) FZE (ca311) R
1-L Do. ×6'-8 1/2 (") FZE (cb311) R
7-Ls. Do. ×6'-8 1/2 (") FZE (cc311) R
4-Ls Do. ×6'-8 1/2 (") FZE (cc310) L
4-Ls Do. ×6'-8 1/2 (") FZE (cb310) L
7-Ls 5×3 1/2×1/2×10" (cc308) L
7-Ls Do. ×10" (cd306) L
4-Ls Do. ×1'-11 3/8 (ck309) R
4-Ls Do ×2'-1 1/2 (cd310) L
2-Ls 5×3 1/2×3/8×6'-8 1/2 (crimped) FZE (cm306) R L
2-Bars 5UM×3/4×3'-7 7/8 FZE (sm306)
2- Do. Do. ×3'-6 7/8 FZE (sm309)

2-Pls 13UM×7/16×5'-8 FZE (sp309)
12-Ls 4×3 1/2×1/2×6 3/4 (cd311) R L
2-Ls 3 1/2×3 1/2×3/8×1'-7 3/16 FIE (cf311) R L For Sec. A-A
4-Ls do ×1'-7 15/16 FIE (cg311) R L " " B-B
4-Ls do. 1'-8 3/8 FIE (ch311) R L " " C-C
2-Ls do. ×1'-8 1/4 FIE (ck311) R L " " D-D
2-Ls do. ×1'-7 1/16 FIE (cm311) R L
2-Fills 3 1/4UM×1/2×1'-3 15/16 (cn311) For Sec. A-A
4-do. do. ×1'-4 11/16 (cp311) " " B-B
4-do. do. ×1'-5 1/8 (cs311) " " C-C
2-do. do. ×1'-5 1/4 (ct311) " " D-D
2-do. do. ×1'-1 7/16 (cv311)
2-Ls 6×[illegible]×1/2×6 3/4 (cw311) R L
New Section: 1-24 BI 74×2'-2 1/2 (cy) For Sec. A-A
2- do ×2'-2 1/2 (caa) " " B-B
2- do ×2'-2 1/2 (cab) " " C-C
1- do. ×2'-2 1/2 (cac) " " D-D
1- do ×2'-2 1/2 (cad)
2-Ls 7×4×1/2×1'-0 1/2 (caf311) R L 1-For Sec. E-E
2-Ls 8×4×1/2×1'-0 1/2 (cag311) R For " A-A, B-B
2-Ls do ×1'-0 1/2 (cah311) R " " C-C
1-L do ×1'-0 1/2 (cam311) R " " D-D
1-L do ×1'-5 3/8 FIE (can)
1-L do ×1'-5 1/4 (cap)
1-Fill 4UM×7/16×1'-0 (cas)
18-Fills 9 1/2×1/8×1'-2 (cat311) Bolt
2- do 9 1/2UM×9/16×1'-2 (cav311) Bolt
2- do 9 1/2UM×5/8×1'-2 (caw311) Bolt
2- do 9 1/2UM×3/4×1'-2 (cay311) Bolt
1- do. 9 1/2UM×13/16×1'-2 (cba311) Bolt
12-Bev. Fills 4×19/32×13/32×1'-2 FIS (cbb311) Bolt



Shop Note - Shop to put shipping bolts in Holes ⊗ and draw same up tight. Erector to remove bolts in field. Contact surfaces of material where these bolts are used shall be thoroughly cleaned and scraped before assembly, but not painted.

Note "A" - Holes marked "GRT" to be reamed or drilled full size thru a metal templet furnished by Chicago Wks.-McClintic-Marshall Corp. Holes marked "CRT" to be reamed or drilled full size thru a metal templet furnished by Rankin Wks.-McClintic-Marshall Corp.

Note "B":- Holes for shop rivets in Sects. A-A, B-B, C-C, D-D, & E-E, holes for field rivets in 24BI74, Ls (cd311) R L, & (cw311) R L, holes in bolted fills, & holes for shop rivets in Ls (can) & (cap) may be punched full size.

Camber Diagram same as shown on sheet G309.

Shop note:- Backs of endconnLs need not be milled. These Ls shall be square and flush with milled edge after girder is milled. Shop to paint all Erection Marks on left hand end of members as detailed and in an upright position.

Work this sheet with sheets G306, G308, G309, G310, G312, G313

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 7/8" Un. noted.
OPEN HOLES: 15/16" " "
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in other material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly. Also see note "A" & "B"
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except contact surfaces of parts bolted for shipt or surfaces between stiffener and lug Ls in web, not readily accessible for field sand blasting, shall be given one coat of "ACID RESISTING LIQUID" after such surfaces have been thoroughly cleaned and scraped. Bolted parts to be bolted after dry and bolts pulled up tight.

Date	Revision	App'd

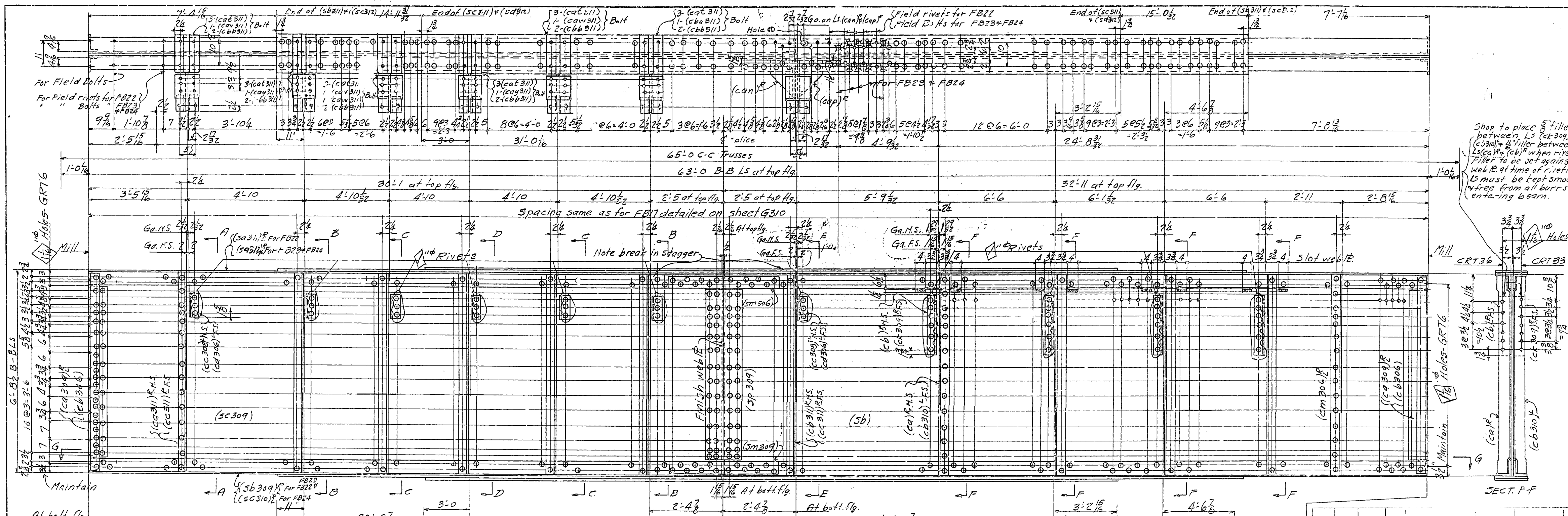
APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date 4-6-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

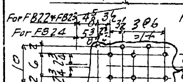
Chicago DRAWING ROOM Rankin WORKS
IN CHARGE Anthony MADE BY GAK
CHECKED BY H.W.S. 3/27/34 TRACED BY GAK
LAST ASSEM. MK. (sc) (cbb)

CONTRACT CC15801 SHEET G 311

30-1



For FB22 & FB23 4 5/8 3 1/2 3 1/2 3@6
For FB24 5 3/8



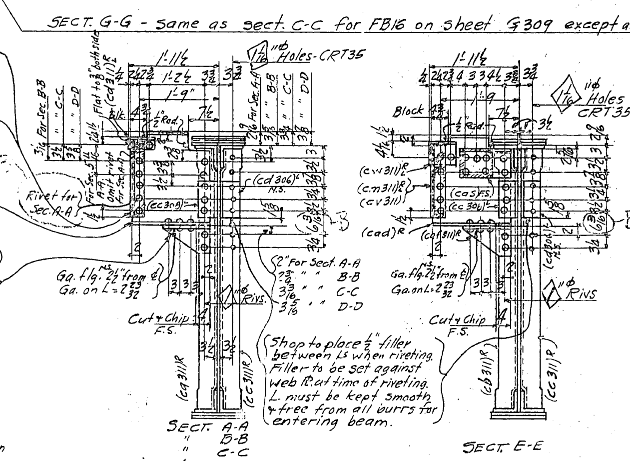
Note:-
Web spacing of rivets and openholes same as for FB17 detailed on sheet G310
GRT4-A For FB24
GRT11-A For FB22 & FB23

Material for one Floor Beam

2-Ls 6×6×11/16×63'-0 MZE (sa311)R/L For FB22 (ord. 63'-0 3/4) It. #59
(sa312)R/L For FB23 & FB24
2-Ls 6×6×11/16×62'-11 3/4 MZE (sb309)R/L For FB22 & FB23, (sc310)R/L For FB24
1-Web Pl. 80 FZW × 1/2 × 30'-0 7/8 MIE-FIE (sc309) (ord. 80 1/2 × 30'-1 5/8) It. 64
1-Web Pl. 80 FZW × 1/2 × 32'-10 7/8 MIE-FIE (sb) (" 80 1/2 × 33'-1/4) " 61
1-Cov. Pl. 14 UM × 9/16 × 48'-0 FZE (sb311) For FB22 (ord. 48'-0 3/4) It. 121
(sc312) " FB23 & FB24
1- Do. Do. × 33'-0 FZE (sc311) " FB22 (ord. 33'-0 3/4) It. 122
(sd312) " FB23 & FB24
1- Do. Do. × 47'-11 3/4 FZE (sh309) (ord. 48'-0 3/4) It. 121
1- Do. Do. × 32'-11 3/4 FZE (sk309) (" 33'-0 3/4) " 122
4-Ls 6×4×5/8×6'-6 (ca309)R/L
4-Fills 7UM×11/16×5'-8 (cb306)
6-Ls 5×3 1/2×7/16×6'-8 1/2 (crimped) FZE (ca311)R
1-L Do. ×6'-8 1/2 (") FZE (cb311)R
7-Ls Do. ×6'-8 1/2 (") FZE (cc311)R
4-Ls Do. ×6'-8 1/2 (") FZE (ca)R
4-Ls Do. ×6'-8 1/2 (") FZE (cb310)L
7-Ls 5×3 1/2×1/2×10" (cc308)L
7-Ls Do. ×10" (cd306)L
4-Ls Do. ×1'-11 3/8 (cb)R
4-Ls Do. ×1'-11 3/8 (ck309)R
2-Ls 5×3 1/2×3/8×6'-8 1/2 (crimped) FZE (cm306)R/L
2 Bars 5UM×3/4×3'-7 1/8 FZE (sm306)
2 Bars Do. ×3'-6 7/8 FZE (sm309)
2 Pls 13UM×7/16×5'-8 FZE (sp309)
12-Ls 4×3 1/2×1/2×6 3/4 (cd311)R/L

2-Ls 3 1/2×3 1/2×3/8×1'-7 3/16 FIE (cf311)R/L For Sec. A-A
4-Ls Do. ×1'-7 15/16 FIE (cg311)R/L " " B-B
4-Ls Do. ×1'-8 3/8 FIE (ch311)R/L " " C-C
2-Ls Do. ×1'-8 1/2 FIE (ck311)R/L " " D-D
2-Ls Do. ×1'-7 7/16 FIE (cm311)R/L
2-Fills 3 1/4 UM×1/2×1'-3 15/16 (cn311) For Sec. A-A
4-Fills Do. ×1'-4 7/16 (cp311) " " B-B
4- " Do. ×1'-5 1/8 (cs311) " " C-C
2- " Do. ×1'-5 1/4 (ct311) " " D-D
2- " Do. ×1'-1/16 (cv311)
2-Ls 6×4×1/2×6 3/4 (cw311)R/L
New Section:
1-24 BI @74×1'-9 1/4 (cy)R For Sec. A-A
2- Do. ×1'-9 1/4 (caa)R " " B-B
2- Do. ×1'-9 1/4 (cab)R " " C-C
1- Do. ×1'-9 1/4 (cac)R " " D-D
2-Ls 7×4×1/2×1'-0 1/2 (caf311)R 1-For Sec. E-E, 1- " " A-A
2-Ls 8×4×1/2×1'-0 1/2 (cag311)R For Sec. B-B
2-Ls Do. ×1'-0 1/2 (cah311)R " " C-C
1-L Do. ×1'-0 1/2 (cam311)R " " D-D
1-L 8×7 1/2×1/2×1'-2 3/8 FIE (can)R } Cut 8×8L
1-L Do. ×1'-2 1/4 (cap)R
1-Fill 7UM×7/16×9" (cas)
18-Fills 9 1/2×1/8×1'-2 (cat311) } Bolt
2- " 9 1/2 UM×9/16×1'-2 (cav311)
2- " 9 1/2 UM×5/8×1'-2 (caw311)
2- " 9 1/2 UM×3/4×1'-2 (cay311)
1- " 9 1/2 UM×3/16×1'-2 (cba311)
12-Bev. Fills 4×19/32×13/32×1'-2 FIS (cbb311)
1-24BI74×1'-9 1/2 (cad)R-New Section

SECT. G-G - same as sect. C-C for FB16 on sheet G309 except as shown at ends.



Shop Note-
Shop to put shipping bolts in holes ⊗ and draw same tight. Erector to remove in field.

Note A-
Holes marked "GRT" to be reamed or drilled full size thru a metal templet furnished by Chicago Wks.-McClintic-Marshall Corp.
Holes marked "CRT" to be reamed or drilled full size thru a metal templet furnished by Rankin Wks.-McClintic-Marshall Corp.

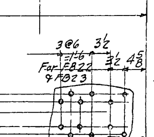
Note "B":-
Holes for shop rivets in Sects. A-A, B-B, C-C, D-D, & E-E, holes for field rivets in 24BI 74, Ls (cd311)R/L & (cw311)R/L, holes in bolted fills, & holes for shop rivets in Ls (can)R & (cap)R may be punched full size.

Camber Diagram same as shown on sheet G309.

Shop note:-
Backs of end conn. Ls need not be milled. These Ls shall be square and flush with milled edge after girder is milled.
Shop to paint all Erection Marks on left hand end of members as detailed and in an upright position.

Work this sheet with sheets G313, G306, G308, G309, G310, G311

3@6 3 1/2
For FB22 & FB23 3 1/2 4 5/8



GRT4-A For FB24
GRT11-A For FB22 & FB23
For FB24 2 3/4 5 3/8

1			one	Floor Beam	FB24	Opp. hand to Sk.	
	1ea.	1	6	Floor Beams	FB22	As shown in'td	
	1ea		5	Do.	FB23	Opp. hand to Sk.	
SPAN E16	SPANS E17 to 21	SPAN E22	TOTAL No.	Description	Mark	Remarks	Weight each Tons
REQD. BY SPANS.			REQUIRED LIST				

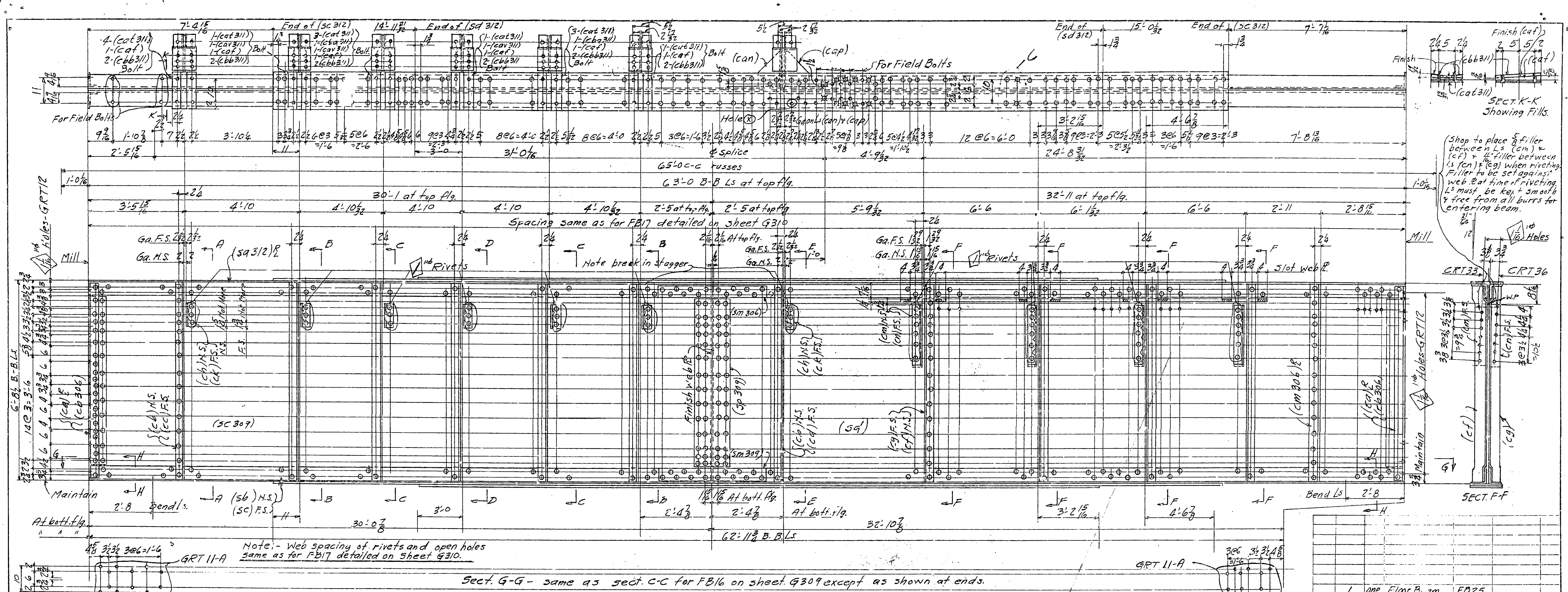
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 7/8"φ Un. noted
OPEN HOLES: 15/16"φ " "
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in other material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly. Also see note "A" & "B"
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except contact surfaces of parts bolted to ship, or surfaces between stiffener Ls and lug Ls in web, not readily accessible for field sand blasting, shall be given one coat of "ACID RESISTING LIQUID" after such surfaces have been thoroughly cleaned and scraped. Bolted parts to be assembled after paint is dry, and bolts drawn tight

Date	Revision	App'd

APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date 4-6-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Rankin WORKS
IN CHARGE Anthony MADE BY GAK
CHECKED BY H.W.S. 3/27/34 TRACED BY GAK
LAST ASSEM. MK. (sd) (cas)
CONTRACT CC15801 SHEET G 312

30-1



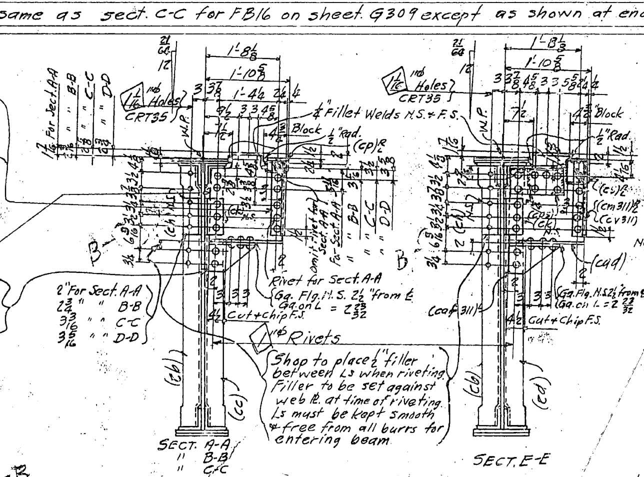
Material for one Floor Beam

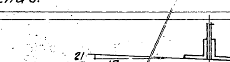
2-Ls 6×6×11/16×63'-0 M2E (sa312)R/L } (ord. 63'-0 3/4) It. #59
2-Ls do ×62'-11 3/4 M2E (sb)(sc) Bent }
1-Web P 80F2W×1/2×30'-0 7/8 M1E-F1E (sc309) (ord. 80 1/2×30'-1 5/8) It. 64
1- " " do ×32'-10 7/8 M1E-F1E (sd) ("80 1/2×33'-1/4) It. 61
1-Cov. P 14 UM×9/16×48'-0 F2E (sc312) (ord. 48'-0 3/4) It. 121
1- " " Do ×33'-0 F2E (sd312) (" 33'-0 3/4) It. 22
1- " " Do. ×47'-11 3/4 F2E (sh309) (" 48'-0 3/4) It. 121
1- " " Do. ×32'-11 3/4 F2E (sk309) (" 33'-0 3/4) It. 127
4-Ls 6×4×5/8×6'-6 (ca)R/L
4-Fills 7UM×11/16×5'-8 (cb306)
7-Ls 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E (cb)
6-Ls do. ×6'-8 1/2 (") F2E (cc)
1-L do. ×6'-8 1/2 (") F2E (cd)
4-Ls do. ×6'-8 1/2 (") F2E (cf)
4-Ls do. ×6'-8 1/2 (") F2E (cg)
7-Ls 5×3 1/2×1/2×10 1/8 (ch)
7-Ls do. ×10 1/8 (ck)
4-Ls do. ×2'-0 5/16 (cm)
4-Ls do. ×2'-0 5/16 (cn)
2-Ls 5×3 1/2×3/8×6'-8 1/2 (crimped) F2E (cm306)R/L
2-Bars 5UM×3/4×3'-7 7/8 F2E (sm306)
2- " do ×3'-6 7/8 F2E (sm309)
2-Ps 13UM×7/16×5'-8 F2E (sp309)
12-Ls 4×3 1/2×1/2×5 1/2" (cp)R/L

2-Ls 3 1/2×3 1/2×3/8×1'-7 5/16 F1E (cf311)R/L For Sec. A-A
4-Ls Do. ×1'-7 15/16 F1E (cg311)R/L " " B-B
4-Ls Do. ×1'-8 3/8 F1E (ch311)R/L " " C-C
2-Ls Do. ×1'-8 1/2 F1E (ck311)R/L " " D-D
2-Ls Do. ×1'-7 3/16 F1E (cm311)R/L
2-Fills 3 1/4 UM×1/2×1'-[illegible] (cn311) For Sec. A-A
4-Fills Do. ×1'-4 11/16 (cp311) " " B-B
4- " Do. ×1'-5 5/8 (cs311) " " C-C
2- " Do. ×1'-5 1/4 (ct311) " " D-D
2- " Do. ×1'-1 7/16 (cv311)
2-Ls 6×4×1/2×5 1/2 (cs)R/L

New Section:
1-24 BI @ 74×1'-8 1/4 (cy) For Sec. A-A
2- Do. ×1'-8 1/4 (caa) " " B-B
2- Do. ×1'-8 1/4 (cab) " " C-C
1- Do. ×1'-8 1/4 (cac) " " D-D

2-Ls 7×4×1/2×1'-0 1/2 (caf311)L/R For Sec. E-E
2-Ls 8×4×1/2×1'-0 1/2 (cag311)L For " A-A
2-Ls Do ×1'-0 1/2 (cah311)L " " B-B
1-L Do ×1'-0 1/2 (cam311)L " " C-C, D-D
1-L 8×8×1/2×1'-2 5/8 F1E (can)
1-L Do. ×1'-2 1/2 (cap)
1-Fill 9 1/4×7/16×8" (cas)
13-Fills 9 1/2×1/8×1'-2 (cat311) } Bolt
3- " 12 UM×9/16×1'-2 (cav311) }
2- " 9 1/2 UM×3/16×1'-2 (cba311) }
6 Bev. Fills 14 UM×3/16×5/8×9 1/2 F1S (caf) }
12- " " 4×15/32×13/32×1'-2 F1S (cbb311) }
1-24 BI 74×1'-0 1/4 (cad) New Section - B





Sect. H-H

Shop Note- Shop to put shipping bolts in Holes (X) and draw same up tight. Erector to remove bolts in field. Contact surfaces of material where these bolts are used shall be thoroughly cleaned and scraped before assembly, but not painted.

Note "A"- Holes marked GRT to be reamed or drilled full size thru a metal templet furnished by Chicago Wks.-McClintic-Marshall Corp. Holes marked "CRT" to be reamed or drilled full size thru a metal templet furnished by Rankin Wks.- McClintic-Marshall Corp.

Note "B"- Holes for Shop rivets in Sects. A-A, B-B, C-C, D-D, & E-E, holes for field rivets in 24 BI 74, Ls (cp)R/L & (cs)R/L, holes in bolted fills, & holes for shop rivets in Ls (can) & (cap) may be punched full size.

Camber diagram same as shown on sheet G309.

Shop note:-
Backs of end conn. Ls. need not be milled. These Ls shall be square and flush with milled edge after girder is milled.
Shop to paint all Erection Marks on left hand end of members as detailed and in an upright position.

Work this sheet with sheets G306, G309, G310, G311, G312.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 7/8" Un. noted
OPEN HOLES: 15/16" " "
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in other material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly. Also see note "A" & "B"
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING. All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except contact surfaces of parts bolted for shipt. or surfaces between stiffener and lug Ls in web, not readily accessible for field sand blasting, shall be given one coat of "Acid Resisting Liquid" after such surfaces have been thoroughly cleaned and scraped. Bolted parts to be bolted after painting dry and bolts pulled up tight.

Reqd. by Spans					
Span E22	Total No.	Description	Mark	Remarks	Weight each Tons
	1	one Floor Beam	FB25		

REQUIRED LIST

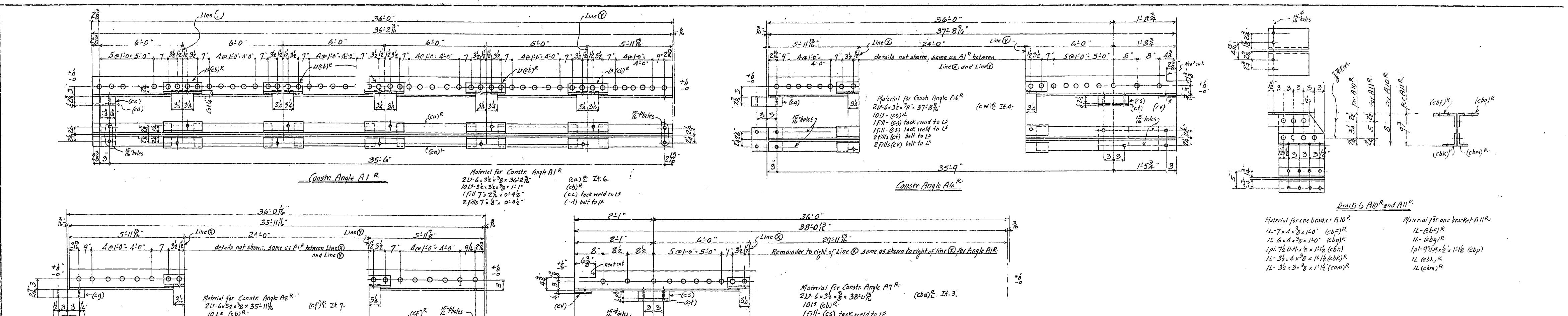
Date	Revision	App'd

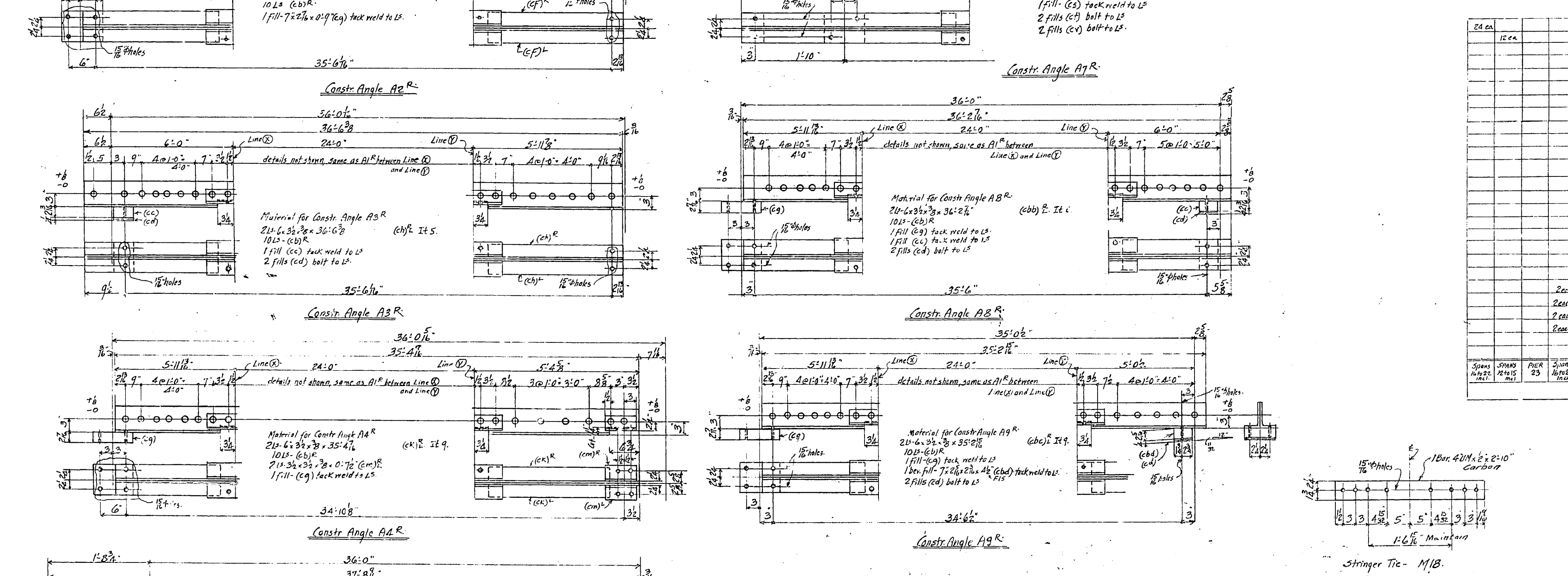
APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date 4-16-34

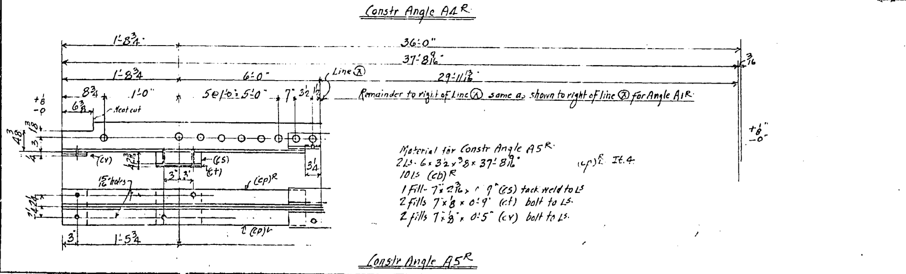
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Rankin WORKS
IN CHARGE Anthony MADE BY GAK
CHECKED BY H.W.S. 4/14/34 TRACED BY
LAST ASSEM. MK. (sd) (cas)

CONTRACT CC15801 SHEET G 313







Spans 16 to 22 incl.	SPANS 12 to 15 incl.	PIER 23	Spans 16 to 21 incl.	Spans 12 to 15 incl. + 22	Span 22	Spans 11 to 15 incl.	Spans 12 to 16 incl.	Spans 16 to 21 incl.	Spans 17 to 22 incl.	SPANS 11 to 22 incl.	SPAN 11	Total No.	Description	Mark	Remarks	Weight each Tons
24 ea												168	Stringer Ties	M18	as shown.	
	12 ea											48	" "	M18	as shown.	
											1	1	Construction Angle	A1R	as shown.	
											1	1	" "	A1L	opp hand	
										4 each		48	" "	A2R	as shown	
										4 each		48	" "	A2L	opp hand.	
										1 each		12	" "	A3R	as shown	
										1 each		12	" "	A3L	opp. hand	
										1 each		12	" "	A4R	as shown	
										1 each		12	" "	A4L	opp. hand.	
									1 each			6	" "	A5R	as shown	
									1 each			6	" "	A5L	opp. hand.	
								1 each				6	" "	A6R	as shown	
								1 each				6	" "	A6L	opp. hand.	
							1 each					5	" "	A7R	as shown	
							1 each					5	" "	A7L	opp hand.	
						1 each						5	" "	A8R	as shown	
						1 each						5	" "	A8L	opp hand	
					1							1	" "	A9R	as shown	
					1							1	" "	A9L	opp hand	
			2 each	1 each								17	Brackets	A10R	as shown	
			2 each	1 each								17	"	A10L	opp hand.	
			2 each	1 each								17	"	A11R	as shown	
			2 each	1 each								17	"	A11L	opp hand.	

REQUIRED BY SPANS. — REQUIRED LIST

Shop Note.
Shop to paint all erection marks on left hand end of members as detailed and in an upright position.
All pieces tack welded for shipment shall be clamped tight while welding. Parts must be thoroughly cleaned and scraped before assembly and to be welded in such a manner so as to permit entering of no foreign particles during shipment or during field sand blasting.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey
RIVETS: 3/4" ⌀ unless noted.
OPEN HOLES: 13/16" ⌀ unless noted.
PUNCHING: All holes for shop and field rivets in material 3/4" thick or less may be punched full size.

DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except contact surfaces of parts bolted for shipment which shall be given one coat of "ACID RESISTING LIQUID", after such surfaces have been thoroughly cleaned and scraped. Parts bolted after dry, and bolts pulled up tight.

Date	Revision	App'd

APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date 4-4-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Rankin WORKS
IN CHARGE Anthony MADE BY EJT 3/13-34
CHECKED BY CAJ 3-20-34 TRACED BY EJT 3/14-34
LAST ASSEM. MK. cbp

CONTRACT CC15802 SHEET G 401

30-1

1 Pc 3 × ⅜ × 7" - M12
1 Pc 3 × 1/16 × 7" - M13

1 Pc 3½ × ⅜ × 1'-1" - M14
1 Pc 3½ × 1/16 × 1'-1" - M15

1 Pc 10½ × ⅜ × 1'-2" - M16
1 Pc 10½ × 1/16 × 1'-2" - M17

1 Pc 3½ × ⅜ × 7" - M18
1 Pc 3½ × 1/16 × 7" - M19

1 Pc 4 × ⅜ × 8⅝" - M10 & M35
1 Pc 4 × 1/16 × 8⅝" - M11 & M36

1 Pc 7 × ⅜ × 9" - M12
1 Pc 7 × 1/16 × 9" - M13

1 Pc 7 × ⅜ × 4½" - M14
1 Pc 7 × 1/16 × 4½" - M15

1 Pc 7 × ¼ × 5" - M16
1 Pc 7 × 1/16 × 5" - M17

1 Pl 4 × ⅜ × 14" - M19
1 Pl 4 × 1/16 × 14" - M20

1 Pl 3½ × ⅜ × 14½" - M21
1 Pl 3½ × 1/16 × 14½" - M22

1 Pl 3½ × ⅜ × 1'-0" - M23
1 Pl 3½ × 1/16 × 1'-0" - M24

1 Pl 5½ × ⅜ × 0'-9⅜" - M25
1 Pl 5½ × 1/16 × 0'-9⅜" - M26

1 Pl 9½ × ⅜ × 1'-0" - M33
1 Pl 9½ × 1/16 × 1'-0" - M34

1 Pl 10½ × ⅜ × 10⅜" - M29
1 Pl 10½ × 1/16 × 10⅜" - M30

M31 & M32 - M27-M28
M37 & M38

1 Pl 5½ × ⅜ × 0'-6" - M31 & M37 - M27
1 Pl 5½ × 1/16 × 0'-6" - M32 & M38 - M28

1 Pl 6 × ⅜ × 0'-5" M40
1 Pl 6 × 1/16 × 0'-5" M41

MATERIAL ON THIS SHEET TO BE CARBON STEEL.

S	G Ea	G Ea	G Ea	S	To	Adjusting Fills	M & O
S	G Ea	G Ea	G	S	10	" "	M41
	3 Each	3 Each	2	3	32	Adjusting Fills	M12
	3 Each	3 Each	2	3	32	" "	M13
	3 Each	3 Each	2	3	32	" "	M14
	3 Each	3 Each	2	3	32	" "	M15
	3 Each	3 Each	2	3	32	" "	M16
	3 Each	3 Each	2	3	32	" "	M17
3	3 Each	3 Each	3	3	36	" "	M18
3	3 Each	3 Each	3	3	36	" "	M19
	10 Each	12 Each	10	10	120	" "	M10
	10 Each	12 Each	10	10	120	" "	M11
	X-Each	5 Each	A	5	50	" "	M12
	X Each	5 Each	A	5	50	" "	M13
5	5 Each		5		20	" "	M14
5	5 Each		5		20	" "	M15
	A Each	5 Each	A	5	50	" "	M16
	A Each	5 Each	A	5	50	" "	M17
	1 Each	1 Each		1	10	" "	M19
	1 Each	1 Each		1	10	" "	M20
4	2 Each	2 Each	1	2	22	" "	M21
1	2 Each	2 Each	1	2	22	" "	M22
	1 Each	1 Each		1	10	" "	M23
	1 Each	1 Each		1	10	" "	M24
	1 Each	1 Each		1	10	" "	M25
	1 Each	1 Each		1	10	" "	M26
	1 Each			1	4	" "	M27
	1 Each			1	4	" "	M28
	1 Each	1 Each		1	10	" "	M29
	1 Each	1 Each		1	10	" "	M30
7	2 Each	2 Each	1	1	18	" "	M31
1	1 Each	1 Each	1	1	12	" "	M32
	7 Each	7 Each	5	7	75	" "	M33
	7 Each	7 Each	5	7	75	" "	M34
	8	8	9	9	90		M35
	8	8	9	9	90		M36
4	4 Each	4 Each	5	4	56		M37
4	4 Each	4 Each	5	4	56		M38
STAM	SHAM	SHAM	STAM	SHAM	TOTAL No	Description	Mark	Remarks	Weight Each Piece
11	DECK	INTAKE	22	16		REQUIRED LIST			
REQ'D BY SPANS:									

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ce, cb, etc.; for silicon steel with s, thus: se, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: None.
OPEN HOLES: ⅞" ø Unless noted
PUNCHING: Holes may be punched full size.

DRILLING: Holes in material over ¾" thick to be sub-drilled 1/4" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with bath steel stencils and paint.
SHOP PAINT: None.

Date	Revision	Appd.
	APPROVED	
Frank T. Wilcox		Engineer of Design
Chas. E. Andrew		Bridge Engineer
C. H. Purcell		Chief Engineer
Date 4-26-34		

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Franklin WORKS
IN CHARGE Nothany SCALE 1" = 1'-0"
CHECKED BY A.H.H. 4-534 TRACED BY E.M.F. 4-27-34
LAST ASSEM. JOB

CONTRACT CG15802 SHEET G 402

Rev B) Shim + Rev A) 4/30/34

30-1

P5

P6

SECTION A-A

SECTION B-B

SECTION C-C

SECTION D-D

SECTION E-E

VIEW F-F

SECTION G-G

SECTION H-H

SECTION K-K

Sketch of platform not shown same as for P5 except for location of holes in L as noted in Section B-B.

Note: Rivets shown thus ⊕ thru Central Knobby plates to be ctsk and have a maximum height not more than height of pattern on plate.

Shop Note—
Shop to put bolts in holes ⊗ and draw same up tight. Erector to remove in field.

Work This Sheet To-gether with Sheet G406

Material for 1 Platform P5

1 Central Knobby Fl. Pl. 65 × ⅞ × 5'-6½" (ca) (It 98)

1 L	10" @ 15.3#	× 5'-10⅜"	F.I.L. (cb)	ORD511 (It 38)
1 L	do	× 5'-6"	(cc)	(It 43)
1 L	do	× 3'-5⅝	F.Z.L. (cd)	ORD358⅝ (It 50)
1 L	do	× 5'-4½	F.Z.L. (ce)	ORD555 (It 41)
1 L	do	× 1'-11⅜	F.I.L. (cg)	ORD 371 (It 37)
1 L	do	× 4'-10⅜	F.Z.L. (ch)	ORD 4114 (It 45)
1 L	6 × 3½ × ⅜	× 5'-3½		(ck)
1 L	3 × 3 × ⅜	× 2'-6"		(cm)
2 L	6 × 4 × ⅞	× 8½"		(cp A08)
1 L	do	× 6"		(cq A05)
1 L	do	× 7⅛"		(cl)
1 PL	22" W. M. × ⅜	× 2'-6"	F.I.L.	(cv)
1 PL	7⅛ × ⅜	× 1'-4½"		(cw) Tack weld
1 L	6 × 6 × ⅜	× 6¼"		(cy A05)
2 L	4 × 4 × ⅜	× 6¼"		(cq A04)
4 L	do	× 6¼"		(cq)
2 L	6 × 4 × ⅜	× 6¼"		(cq A06)

Material for 1 Platform P6

1 Central Knobby Fl. Pl. 65 × ⅞ × 5'-1½" (cad) (It 99)

1 L	10" @ 15.3#	× 5'-1"	F.I.L. (ca)	ORD511½ (It 42)
1 L	do	× 5'-0¼		(ca g) (It 44)
1 L	–			(ca d)
1 L	–			(ca f)
1 L	–			(ca g)
1 L	–			(ca h)
1 L	6 × 3½ × ⅜	× 5'-3⅞		(ca k)
1 L	–			(ca m)
1 L	6 × 4 × ⅜	× 1'-7⅞		(ca A08)
1 L	do			(ca A05)
1 L	do			(ca l)
1 PL	–			(ca v)
1 PL	–			(ca w) Tack weld
2 L	–			(ca A04)
4 L	–			(ca A06)
1 L	–			(ca y 05)
2 L	–			(ca c 405)
1 L	3 × 3 × ⅜	× 3'-4½"		(ca m)

1 Each	11	LADDER RAIL FOR P5		P5	AS SHOWN
1 Each	11	" "		P6	OPP HD TO SKETCH
Spares 10 Ea	No.	Description	Mark	Remarks	Weight each Item
Reqd as Shown		REQUIRED LIST			

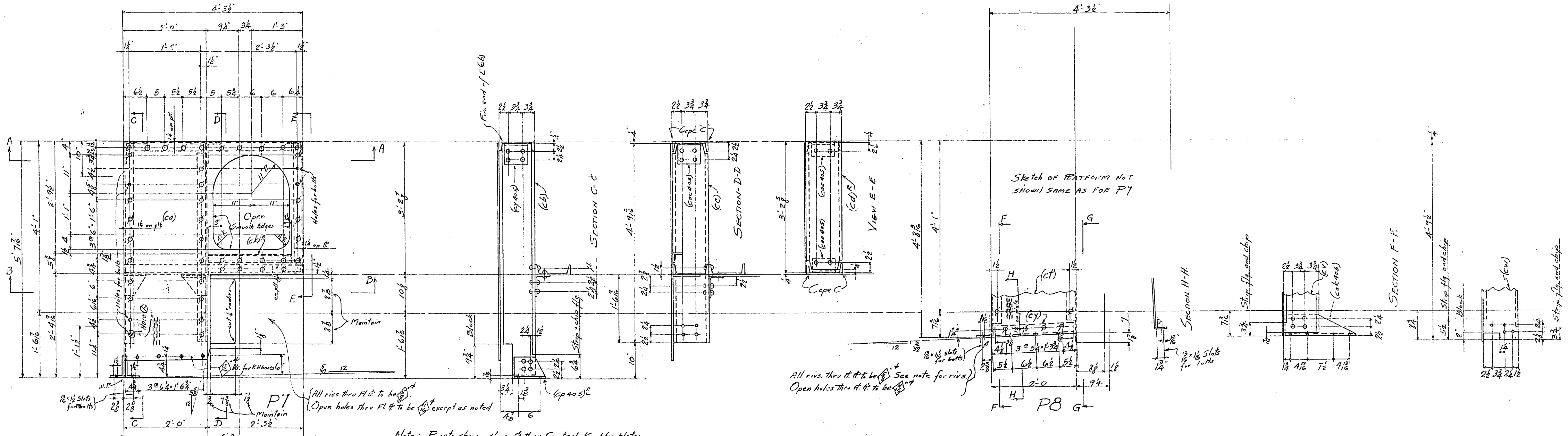
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc., for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: ⅞" unless noted.
OPEN HOLES: ⅞" unless noted
PUNCHING: All holes for shop and field rivets may be punched full size. FINISH: All sheared or flame cut edges and ends of material to have a neat appearance, and where designated F.I.L. or F.Z.L. the shop must shear and grind, chip and grind, or otherwise cut and finish so that members present a finished appearance and conform to dimensions on drawing. Ends of all assembled members must present a neat appearance.
SHOP PAINT: None.
TACK WELDING: Where parts are tack welded, for shipping or otherwise, contact surfaces must be thoroughly cleaned and oiled and after assembly parts must be tightly clamped together while welding, and welded in such a manner so as to permit entering of no foreign substance during field assembling.

Date	Revision	Area #
APPROVED		
Chief Bridge Engineer		
Date 4-16-34		

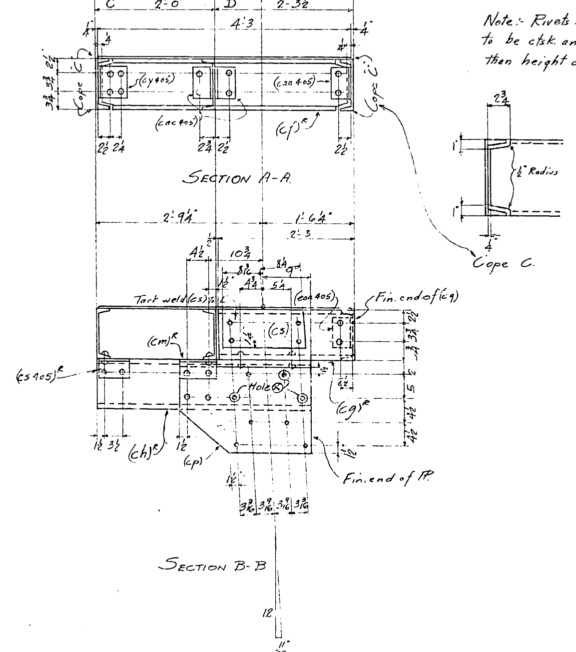
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Rankin WORKS
IN CHARGE J. Henry MADE BY E
CHECKED BY ATA 3-27-33 TRACED BY C
LAST ACTIVITY, ETC.

CONTRACT SCHEDULE SHEET G 405

30-1



Note:- Rivets shown thus ⊕ thru Central Knobby plates to be csk and have maximum height not more than height of pattern on plate.



Material for 1 Platform P7

1 Central Knobby Fl. Pl. 51 × 3/8 × 5'-2 7/16" (ca) ORD 5'-3 7/16 (IT 100)
1 [- 10" @ 15.3# × 5'-7" F.I.E. (cb) ORD 5'-7 1/4 (IT 40)
1 [- do × 4'-8 3/4" (cc) (IT 47)
1 [- do × 3'-2 3/8 F.2.E. (cd)R ORD 3'-2 7/8 (IT 51)
1 [- do × 4'-2 1/2 F.2.E. (cf)R ORD 4'-3 (IT 49)
1 [- do × 2'-3" F.I.E. (cg)R } ORD 5'-10 1/4 (IT 39) To Cut
1 [- do × 3'-6 1/4 F.2.E. (ch)R }
1 L- 2 1/2 × 2 1/2 × 3/8 × 2'-0" (ck)R
2 L- 6 × 4 × 3/8 × 8 1/2" (cp405)R L
1 L- do × 6" (cs405)R
1 L- do × 7 1/2" (cm)R
1 Pl. 17 U.M. × 3/8 × 2'-1 3/4 F.I.E (cp)
1 Pl. 7 1/2 × 3/8 × 1'-4 11/16 (cs)
2 L- 4 × 4 × 3/8 × 6 1/4 (caa405)
1 L- 6 × 6 × 3/8 × 6 1/4 (cy405)
2 L- 6 × 4 × 3/8 × 6 1/4" (cac405)

Material for 1 Platform P8

1 Central Knobby Fl. Pl. 51 × 3/8 × 4'-9 5/8 (ct) (IT 101)
1 [- 10" @ 15.3# × 4'-7 3/4 F.I.E. (cv) ORD 4'-8 (IT 48)
1 [- do × 4'-9 (cw) (IT 46)
1 [- (cd)R
1 [- (cf)R
1 [- (cg)R
1 [- (ch)R
1 L- (ck)R
1 L- 6 × 4 × 3/8 × 1'-7 5/8 (cak405)
1 L- (cs405)R
1 L- (cm)R
1 Pl. (cp)
1 Pl. (cs)
2 L- (caa405)
1 L- (cy405)
2 L- (cac405)
1 L- 3 × 3 × 3/8 × 1'-11" (cy)

Shop Note-
Shop to put shipping bolts in Holes ⊗ and draw same up tight. Erector to remove in field.

WORK THIS SHEET TOGETHER WITH SHEET G405.

1	1	LADDER PLATFORM	P7	AS SHOWN	
1	1	" "	P8	OPP. HD. TO SKETCH	
SPAN 22	TOTAL No.	Description	Mark	Remarks	Weight each Tons
REQ'D BY SPANS	REQUIRED LIST				

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 3/4" Unless Noted
OPEN HOLES: 13/16" Unless Noted.
PUNCHING: All holes for shop and field rivets may be punched full size.
FINISH:- All sheared or flame cut edges and ends of material to have a neat appearance: and where designated F.I.W., F.2.E. etc. shop must shear + grind; clip + grind; or otherwise cut + finish so that members present a finished appearance and conform to dimensions on drawing. Ends of all assembled members must present a neat appearance.

SHOP PAINT- None.
TACK WELDING: Where parts are tack welded, for shipt or otherwise, contact surfaces must be thoroughly cleaned and scraped before assembly. Parts must be tightly clamped while welding and welded in such a manner so as to permit entering of no foreign substance during field sand blasting.

Date	Revision	App'd

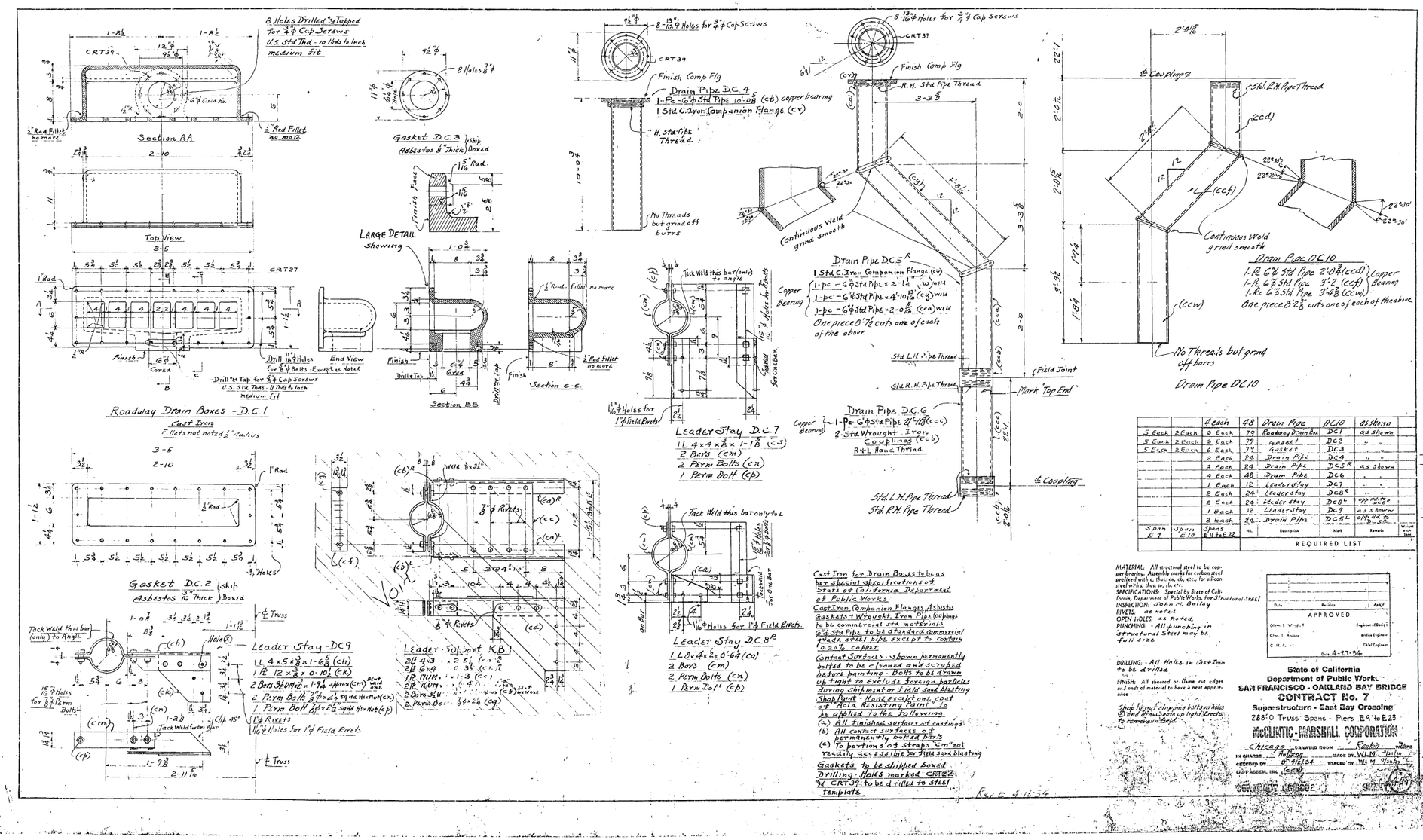
APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 4-16-34

State of California
Department of Public Works.
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Rankin WORKS
IN CHARGE Anthony MADE BY E
CHECKED BY A.T.A. 3-29-33 TRACED BY E
LAST ASSEM. MK.

CONTRACT CC15802 SHEET G 406

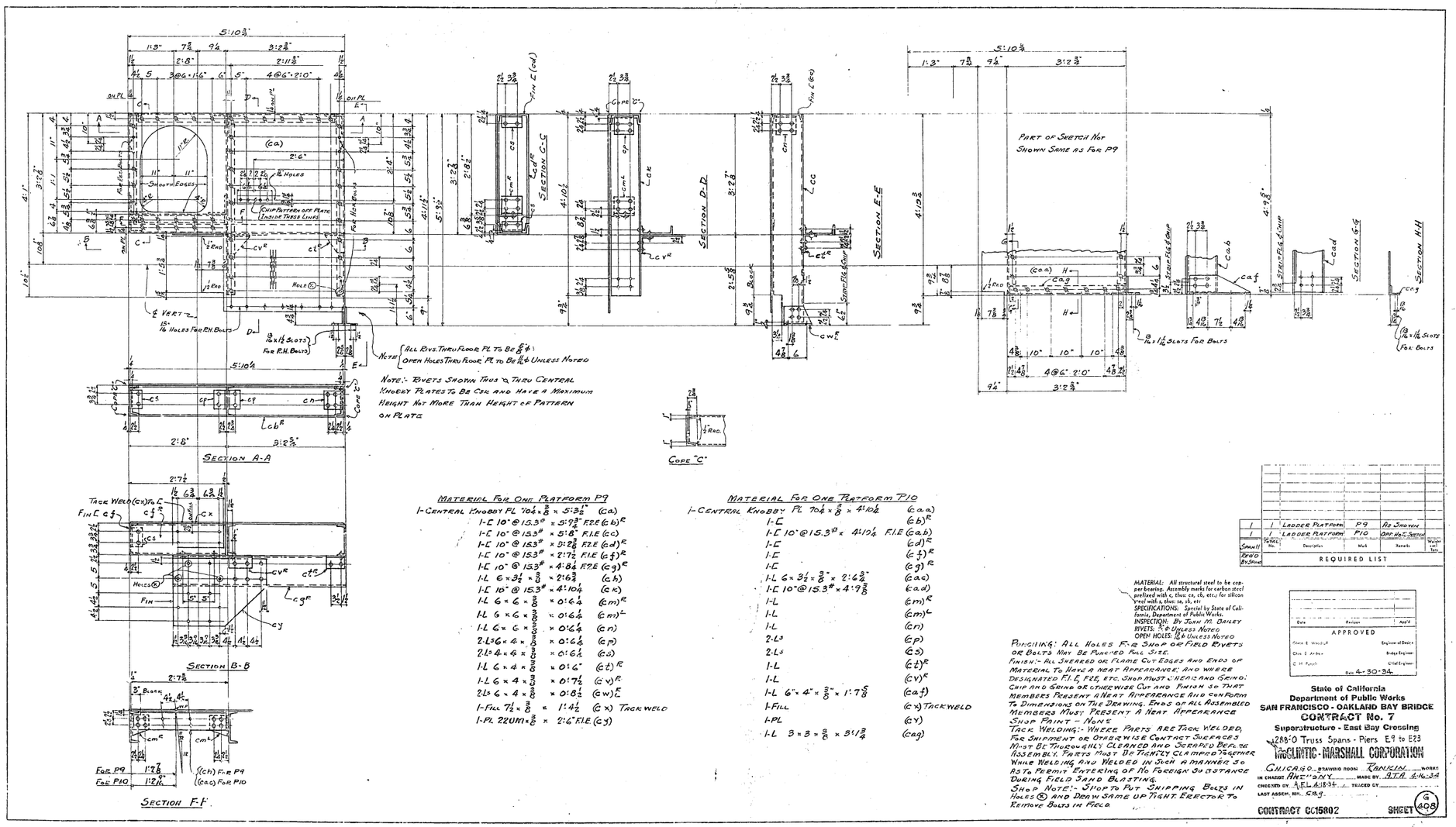
Rev (4) 4-3-34



		Each	No	Drawing	Detail	As Shown
5 Each	2 Each	6 Each	79	Roadway Drain Box	DC1	as shown
5 Each	2 Each	6 Each	79	Gasket	DC2	" "
5 Each	2 Each	6 Each	72	Gasket	DC3	" "
		2 Each	28	Drain Pipe	DC4	" "
		2 Each	24	Drain Pipe	DC5R	as shown
		4 Each	48	Drain Pipe	DC6	" "
		1 Each	12	Leader Stay	DC7	" "
		2 Each	24	Leader Stay	DC8R	" "
		2 Each	24	Leader Stay	DC9	Not Used
		1 Each	12	Leader Stay	DC9	as shown
		2 Each	24	Drain Pipe	DC10	as shown

REQUIRED LIST

Spans C 9	Spans C 10	Spans E 11 to E 22	No.	Description	Mark	Remarks	Weight each Item



MATERIAL FOR ONE PLATFORM P9

1-CENTRAL KNOBBY PL 10¼ × ⅜ × 5'-3 7/8" (ca)
1-L 10" @ 15.3" × 5'-9 7/8" F.R.E (cb) R
1-L 10" @ 15.3" × 5'-8" F.I.E (cc)
1-L 10" @ 15.3" × 3'-2 3/8" F.R.E (cd) R
1-L 10" @ 15.3" × 2'-7½" F.I.E (cf) R
1-L 10" @ 15.3" × 4'-8¼" F.R.E (cg) R
1-L 6 × 3½ × 5/16 × 2'-6 3/4" (ch)
1-L 10" @ 15.3" × 4'-10¼" (ck)
1-L 6 × 6 × 1/2 × 0'-6¼" (cm) R
1-L 6 × 6 × 1/2 × 0'-6¼" (cm) L
1-L 6 × 6 × 1/2 × 0'-6¼" (cn)
2-L 6 × 4 × 1/2 × 0'-6 1/8" (cp)
2-L 4 × 4 × 1/2 × 0'-6½" (cs)
1-L 6 × 4 × 1/2 × 0'-6" (ct) R
1-L 6 × 4 × 1/2 × 0'-7½" (cv) R
2-L 6 × 4 × 1/2 × 0'-8½" (cw) L
1-FILL 7½ × 5/16 × 1'-4½" (cx) TACK WELD
1-PL 22UNIV × 3/8 × 2'-6" F.I.E (cy)

MATERIAL FOR ONE PLATFORM P10

1-CENTRAL KNOBBY PL 10¼ × ⅜ × 4'-10¼" (caa)
1-C (cb) R
1-L 10" @ 15.3" × 4'-10¼" F.I.E (cab)
1-C (cd) R
1-C (cf) R
1-C (cg) R
1-L 6 × 3½ × 3/8 × 2'-6 3/8" (cac)
1-L 10" @ 15.3" × 4'-9 3/8" (cad)
1-L (cm) R
1-L (cm) L
1-L (cn)
2-L (cp)
2-L (cs)
1-L (ct) R
1-L (cv) R
1-L 6" × 4" × 3/8" × 1'-7 5/8" (caf)
1-FILL (cx) TACK WELD
1-PL (cy)
1-L 3 × 3 × 3/8 × 3'-1 3/4" (cag)

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: ⅞ Ø Unless Noted
OPEN HOLES: 13/16 Ø Unless Noted

PUNCHING: All holes F.R. Shop or Field Rivets or Bolts May Be Punched Full Size.
FINISH:- All Sheared or Flame Cut Edges and Ends of Material To Have a Neat Appearance: And Where Designated F.I. & F.R.E. etc. Shop Must Check and Grind: Chip and Grind or Otherwise Cut and Finish So That Members Present a Neat Appearance and Conform To Dimensions on the Drawing. Ends of All Assembled Members Must Present a Neat Appearance
SHOP PAINT – None
TACK WELDING:- Where Parts are Tack Welded, For Shipment or Otherwise Contact Surfaces Must Be Thoroughly Cleaned and Scraped Before Assembly. Parts Must Be Tightly Clamped Together While Welding and Welded in Such a Manner So As To Permit Entering of No Foreign Substance During Field Sand Blasting.
SHOP NOTE:- Ship To Put Shipping Bolts in Holes (X) and Draw Same Up Tight. Erector To Remove Bolts in Field

Small	Erec By Shop	Total No.	Description	Mark	Remarks	Weight Each Piece
	1	1	LADDER PLATFORM	P9	As Shown	
	1	1	LADDER PLATFORM	P10	Opp. Hand Section	

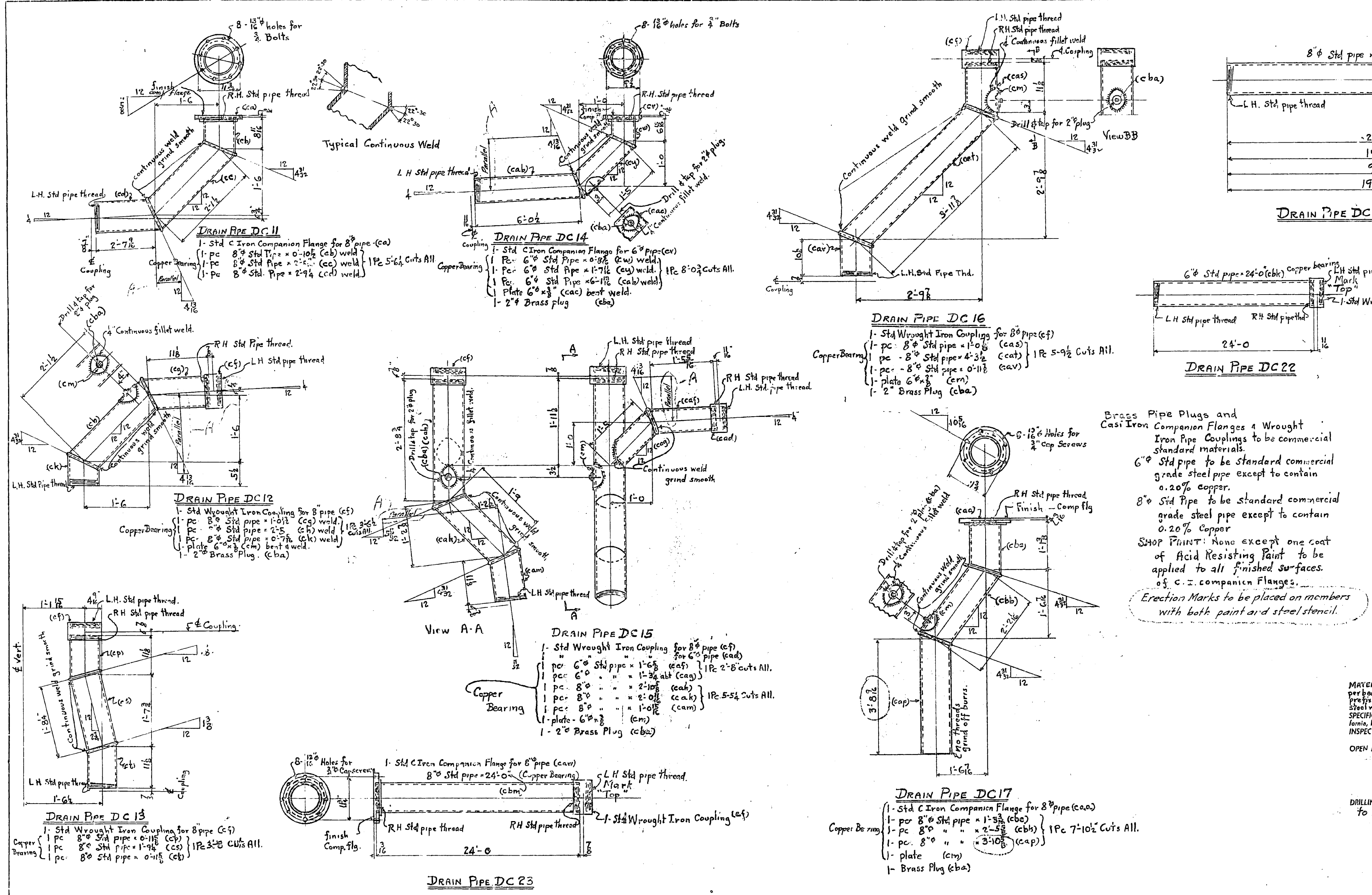
REQUIRED LIST

APPROVED
Date — Revision — Appd
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Dec 4 1934

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
ATLANTIC-MARSHALL CORPORATION
CHICAGO DRAWING ROOM FRANKLIN WORKS
IN CHARGE ANTHONY MADE BY J.T.A. 4-16-34
CHECKED BY A.F.L. 4-18-34 TRACED BY
LAST ASSEM. RIV. C&G

CONTRACT 0C15802 SHEET G 408

30-1



Brass Pipe Plugs and Cast Iron Companion Flanges & Wrought Iron Pipe Couplings to be commercial standard materials.

6"φ Std pipe to be standard commercial grade steel pipe except to contain 0.20% copper.

8"φ Std Pipe to be standard commercial grade steel pipe except to contain 0.20% Copper

SHOP PAINT: None except one coat of Acid Resisting Paint to be applied to all finished surfaces of C.I. companion Flanges.

Erection Marks to be placed on members with both paint and steel stencil.

Span E10	Total No. Req'd	Description	Mark	Remarks	Weight each Tons
1	1	Drain Pipe	DC 11	as shown	
1	1	" "	DC 12	" "	
1	1	" "	DC 13	" "	
1	1	" "	DC 14	" "	
1	1	" "	DC 15	" "	
1	1	" "	DC 17	" "	
1	1	" "	DC 18	" "	
1	1	" "	DC 19	" "	
1	1	" "	DC 20	" "	
1	1	" "	DC 21	" "	
1	1	" "	DC 22	" "	
1	1	" "	DC 23	" "	
1	1	" "	DC 16	" "	

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus ca, cb, etc; for silicon steel with s, thus sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works, for Structural Steel
INSPECTION: John M. Bailey

OPEN HOLES: as noted

DRILLING: Companion flanges to be drilled.

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 6-22-34

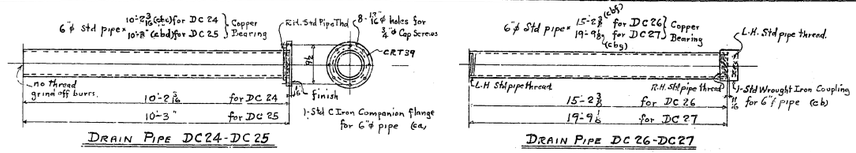
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing

288'-0 Truss Spans Piers E9 to E23

McCLINTIC-MARSHALL CORPORATION

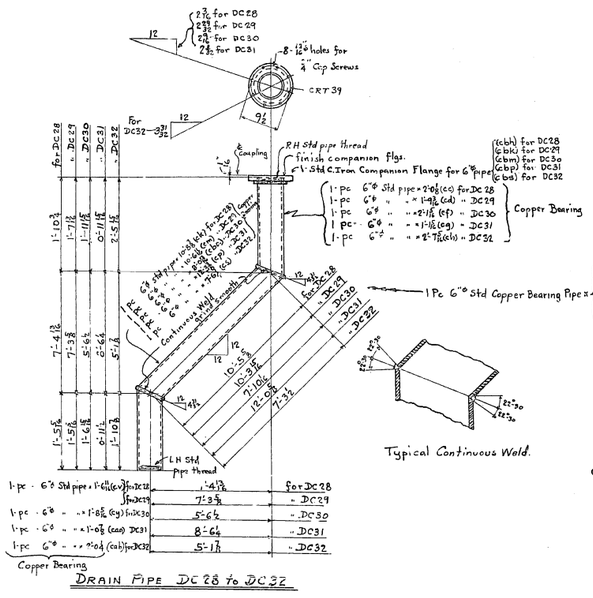
Chicago DRAWING ROOM Rankin WORKS
IN CHARGE Jenks MADE BY V.L.M.
CHECKED BY F.H. 6-13 TRACED BY L.S.E.
LAST ASSEM. MK. (cbm)

CONTRACT CC15802 SHEET G 409

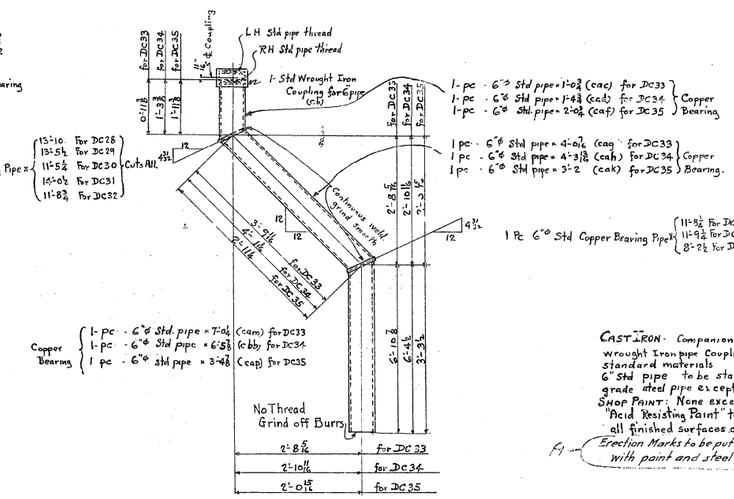


DRAIN PIPE DC24-DC25

DRAIN PIPE DC 26-DC27



DRAIN PIPE DC 28 to DC 32



DRAIN PIPE DC33-DC34-DC35

CAST IRON - Companion Flanges and wrought Iron pipe Couplings to be commercial standard materials

6" Std pipe to be standard commercial grade steel pipe except to contain 0.20% Copper

SHOP PAINT: None except one coat of "Acid Resisting Paint" to be applied to all finished surfaces of C.I. Companion Flgs.

Erection Marks to be put on members both with paint and steel stencil.

				Drain Pipe	DC 24	as shown
1			1	" "	DC 25	as shown
2		1	3	" "	DC 26	" "
1	1		2	" "	DC 27	" "
1			1	" "	DC 28	" "
1			1	" "	DC 29	" "
	1		1	" "	DC 30	" "
	1		1	" "	DC 31	" "
1			1	" "	DC 32	" "
2			2	" "	DC 33	" "
	1		1	" "	DC 34	" "
1	1		2	" "	DC 35	

Span E9	Span E10	Total No. Reqd	Description	Mark	Remarks	Weight Each Piece

REQUIRED LIST

INSPECTION: John M. Bailey

OPEN HOLES: as noted

PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, facing and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.

DRILLING: Holes marked CRT39 in companion flanges to be drilled to a steel template.

Date	Revision	Appd.

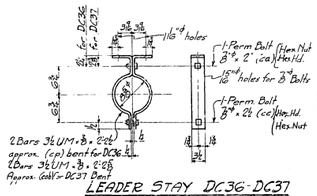
APPROVED

Chas. E. Weinrich — Engineer of Design
Chas. C. Arden — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 6-22-34

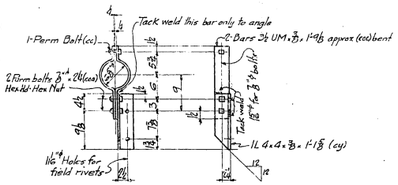
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM — Rankin WORKS
IN CHARGE JENKS MADE BY Y.L.M.
CHECKED BY JH G-I.E. TRACED BY I.S.F.
LAST ASSES. R.R. cbb

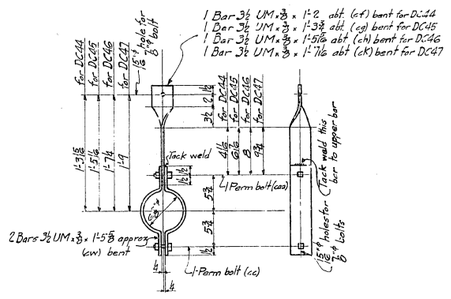
CONTRACT CC15H02 SHEET G 410



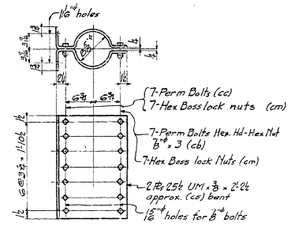
LEADER STAY DC36-DC37



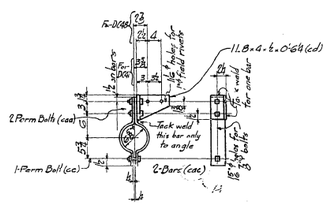
LEADER STAY DC40



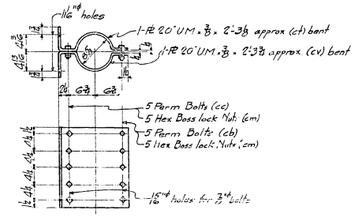
HANGER DC44 to DC47



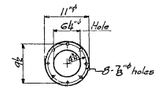
LEADER STAY - DC38



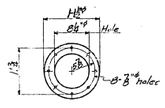
LEADER STAY DC41
LEADER STAY DC48



LEADER STAY - DC39



GASKET - D.C.42 — Asbestos ⅛" thick — Ship Boxed



GASKET - DC43 — Asbestos ⅛" thick — Ship Boxed

At least one piece of each mark should be fitted to pipe to be certain that pipe will be firmly gripped.

Asbestos Gaskets to be of commercial std. material.

CONTACT SURFACES :- shown permanently bolted to be cleaned and scraped before painting. After paint is dry, Bolts to be drawn up tight to exclude foreign particles during shipment or field sand blasting

SHOP PAINT :- None except one coat of Acid Resisting Paint to be applied to the following

(a) All contact surfaces of permanently bolted parts (plates and straps) (cp) (ca) (ct) (cv) (cab)

(b) Top portion of (eab) (cw) not readily accessible for field sand blasting.

GASKETS - to be shipped boxed.

Erection Marks to be placed on members with both paint and steel stencil.

MATERIAL: All structural steel to be open-hearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.

SPECIFICATIONS: Special by State of California, Department of Public Works, for structural steel

INSPECTION: John M. Bailey

RIVETS: None

OPEN HOLES: As noted

PUNCHING: All punching in structural steel may be full size.

FINISH: All sheared or flame cut edges and ends of material to have a neat appearance

Span E9	Span E10	No.	Description	Mark	Remarks	Weight each Lbs.
		4	LEADER STAY	DC48	As Shown	
		1	LEADER STAY	DC36	As Shown	
		5	LEADER STAY	DC37	As Shown	
		1	LEADER STAY	DC38	As Shown	
		1	LEADER STAY	DC39	As Shown	
	2	2	LEADER STAY	DC40	As Shown	
		1	LEADER STAY	DC41	As Shown	
		1	GASKET	DC42	As Shown	
		2	GASKETS	DC43	As Shown	
		1	HANGER	DC44	As Shown	
		1	HANGER	DC45	As Shown	
		1	HANGER	DC46	As Shown	
		1	HANGER	DC47	As Shown	

REQUIRED LIST

Date	Revision	Appd.

APPROVED

Engineer of Design

Bridge Engineer

Chief Engineer

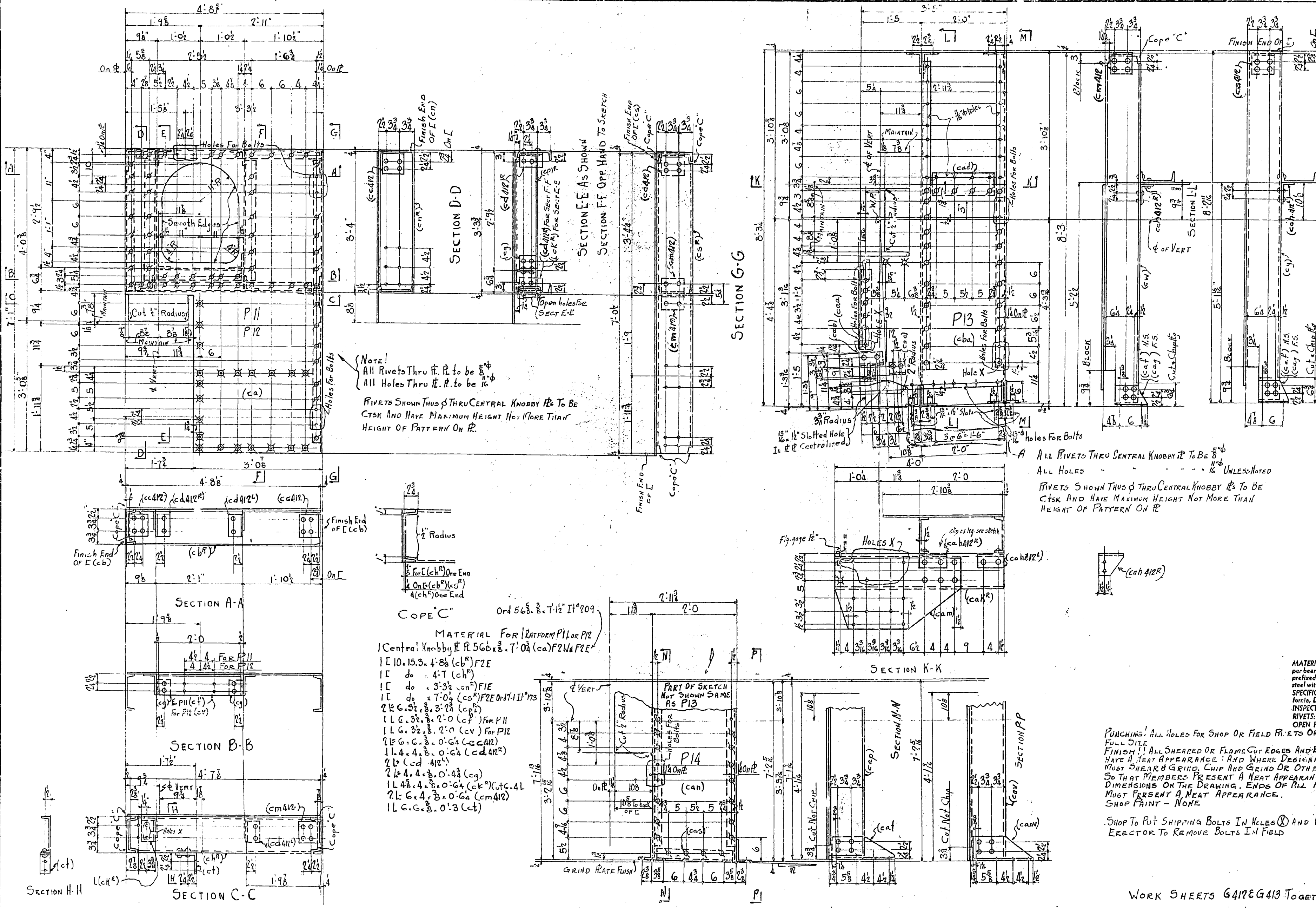
Date 6-22-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E10
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Rankin WORKS
IN CHARGE Jenks MADE BY W.L.M.
CHECKED BY J.H. 6-12 TRACED BY J.L. 6-8-34
LAST ASSEM. FOR (Case)

CONTRACT OC15602 SHEET G 411

30-1



Note!
All Rivets Thru Ct. Pl. to be 5/8"φ
All Holes Thru Ct. Pl. to be 11/16"φ

Rivets Shown Thus φ Thru Central Knobby Pls To Be Ctsk And Have Maximum Height Not More Than Height Of Pattern On Pl.

All Rivets Thru Central Knobby Pl To Be 5/8"φ
All Holes " " " " " 11/16"φ Unless Noted

Rivets Shown Thus φ Thru Central Knobby Pls To Be Ctsk And Have Maximum Height Not More Than Height Of Pattern On Pl

Material For 1 Platform P11 or P12

1 Central Knobby Pl 56 1/8 x 3/8 x 7'-0 3/4 (ca) F2W & F2E — Ord 56 5/8 x 3/8 x 7'-1 1/2" It# 209
1 [10 x 15.3 x 4'-8 1/8 (cb^R) F2E
1 [do x 4'-7 (ch^R)
1 [do x 3'-3 1/2 (cn^R) FIE
1 [do x 7'-0 1/4 (cs^R) F2E Ord 7'-1 It# 173
2 Ls 6 x 3 1/2 x 3/8 x 3'-2 3/4 (cp^R_L)
1 L 6 x 3 1/2 x 3/8 x 2'-0 (cf) For P11
1 L 6 x 3 1/2 x 3/8 x 2'-0 (cv) For P12
2 Ls 6 x 6 x 3/8 x 0'-6 1/4 (cc412)
1 L 4 x 4 x 3/8 x 0'-6 1/4 (cd412^R)
2 Ls (cd 412^L)
2 Ls 4 x 4 x 3/8 x 0'-4 3/4 (cg)
1 L 4 5/8 x 4 x 3/8 x 0'-6 1/4 (ck^R) Cut 6 x 4 L
2 Ls 6 x 4 x 3/8 x 0'-6 1/4 (cm412)
1 L 6 x 6 x 3/8 x 0'-3 (ct)

Material For One Platform P13 or P14

For P13 - 1 Central Knobby Pl. Pl 57 1/2 x 3/8 x 3'-4 3/4 (cba) F2W & F2E Ord 58 x 3/8 x 3'-5 1/2 It# 208
For P14 - 1 Central Knobby Pl. Pl. 49 3/16 x 3/8 x 2'-10 3/8 (can) F2W & F2E Ord 49 3/4 x 3/8 x 2'-11 1/2 It# 210

For P13:
1 [10 x 15.3 x 8'-2 (cw) It# 171
1 [do x 8'-2 1/4 (cy) F.I.E It# 170 Ord 8'-2 3/4"

1 [do x 4'-0 (cak^R) F2E

For P13:
1 L 3 x 3 x 3/8 x 1'-10 1/2 (caa)
1 L 3 1/2 x 3 x 5/16 x 0'-5 1/2 (cab) 13/16" x 2 1/4 Slotted Hole In O.S.L Ga 1 3/4"
1 L 3 1/2 x 2 1/2 x 5/16 x 0'-5 1/2 (cac) 13/16" x 1 1/2 Slotted Hole In O.S.L. Ga 1 3/8"
2 Ls 6 x 4 x 3/8 x 0'-8 1/2 (caf) bent
2 Ls do x 0'-8 1/2 (cag) bent

2 Ls do x 0'-7 (cah412^R_L)
2 Ls (cm412)
1 L (cc412)
1 Pl 6 U.M. x 3/8 x 1'-6 1/4 (cad)
1 Pl 20 U.M. x 3/8 x 2'-11 (cam) F2E.

For P14:
- 1 L 3 x 3 x 3/8 x 1'-11 (cas) 13/16"φ Holes In O.S.L. Ga. O.S.L. 1 3/4"
- 1 [10 x 15.3 x 7'-0 3/4 (cap) It# 174
- 1 [do x 7'-2 (cav) F.I.E. Ord 7'-2 1/2 It# 172
- 1 L 6 x 4 x 3/8 x 1'-5 3/8 (cat) bent
- 1 L do x 1'-5 3/8 (caw) bent

Required List

Req'd By Spans	Span 9 No.	Description	Mark	Remarks	Weight each Tons
1	1	Ladder Platform	P11	As Shown	
1	1	do do	P12	Opp Hand To Sketch	
1	1	do do	P13	As Shown	
1	1	do do	P14	Opp Hand To Sketch	

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 5/8"φ Unless Noted
OPEN HOLES: 13/16"φ do do

Punching: All Holes For Shop Or Field Rivets Or Bolts May Be Punched Full Size

Finish: All Sheared Or Flame Cut Edges And Ends Of Material To Have A Neat Appearance: And Where Designated F.I.E - F2E, Etc. Shop Must Shear & Grind, Chip And Grind Or Otherwise Cut And Finish So That Members Present A Neat Appearance And Conform To Dimensions On The Drawing. Ends Of All Assembled Members Must Present A Neat Appearance.

Shop Paint – None

Shop To Put Shipping Bolts In Holes (X) And Draw Same Up Tight Erector To Remove Bolts In Field

Work Sheets G412 & G413 Together

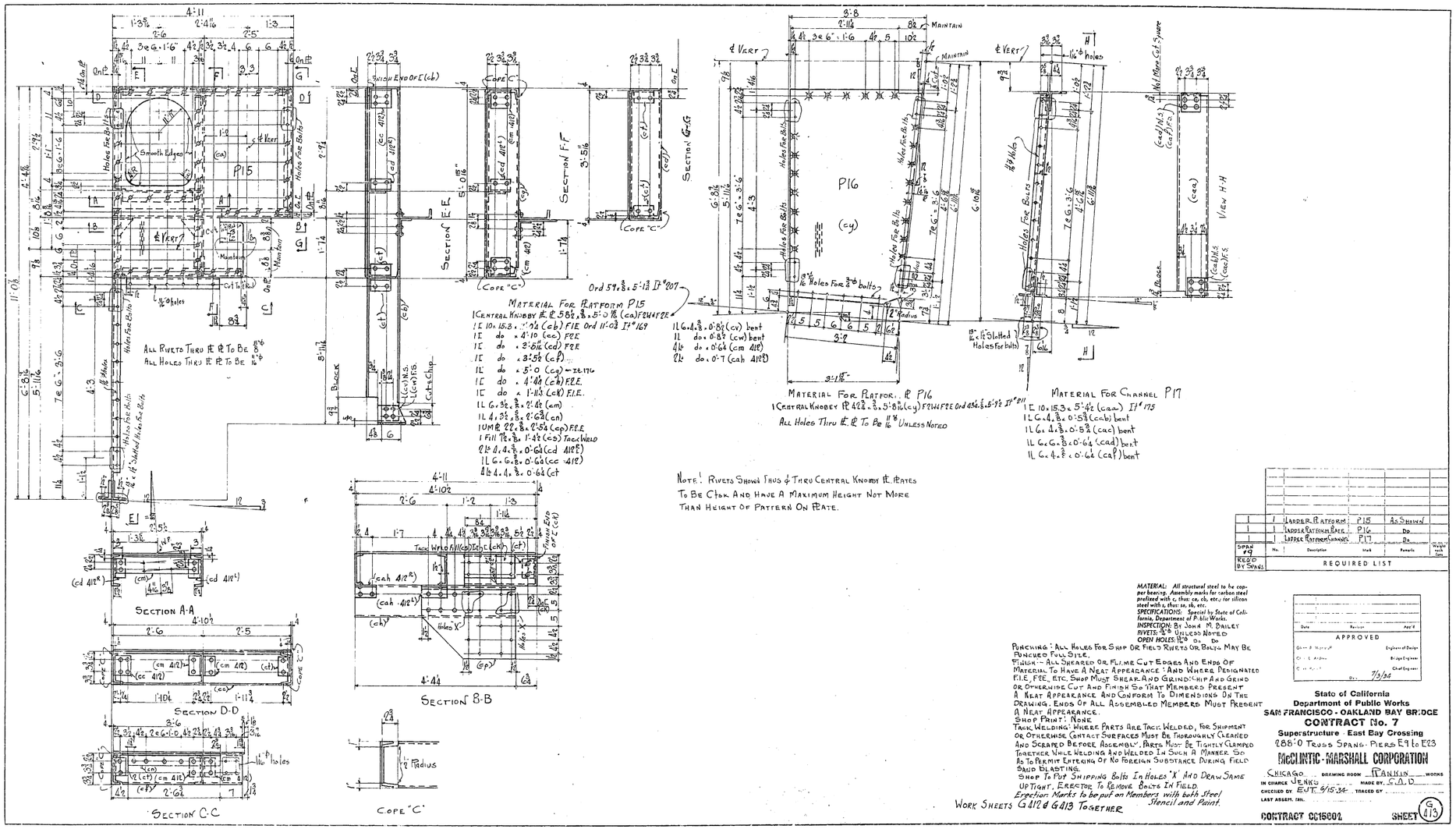
Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 6-25-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Rankin WORKS
IN CHARGE Jenks MADE BY S.A.D.
CHECKED BY EJT 6/15-34 TRACED BY C.H.D.
LAST ASSEM. MK.

CONTRACT CC15802 SHEET G412

30-1



Spad #	No.	Description	Mark	Remarks	Weight each item
1	1	Ladder Platform	P15	As Shown	
1	1	Ladder Platform Base	P16	Do	
1	1	Ladder Platform Channels	P17	Do	
REDO BY SPANS	REQUIRED LIST				

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc., for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 7/8 Unless Noted Do Do
OPEN HOLES: 15/16 Do Do

PUNCHING: All Holes For Shop Or Field Rivets Or Bolts May Be Punched Full Size.
FINISH: All Sheared Or Flame Cut Edges And Ends Of Material To Have A Neat Appearance: And Where Designated F.I.E., F.R.E., Etc. Shop Must Shear And Grind Or Otherwise Cut And Finish So That Members Present A Neat Appearance And Conform To Dimensions On The Drawing. Ends Of All Assembled Members Must Present A Neat Appearance.
SHOP PAINT: None.
TACK WELDING: Where Parts Are Tack Welded, For Shipment Or Otherwise, Contact Surfaces Must Be Thoroughly Cleaned And Scraped Before Assembly. Parts Must Be Tightly Clamped Together While Welding And Welded In Such A Manner So As To Permit Entering Of No Foreign Substance During Field Sand Blasting.
SHOP TO FIT: Shipping Bolts In Holes 'X' And Draw Same Up Tight, Erector To Remove Bolts In Field.
Erection Marks to be put on Members with both Steel Stencil and Paint.

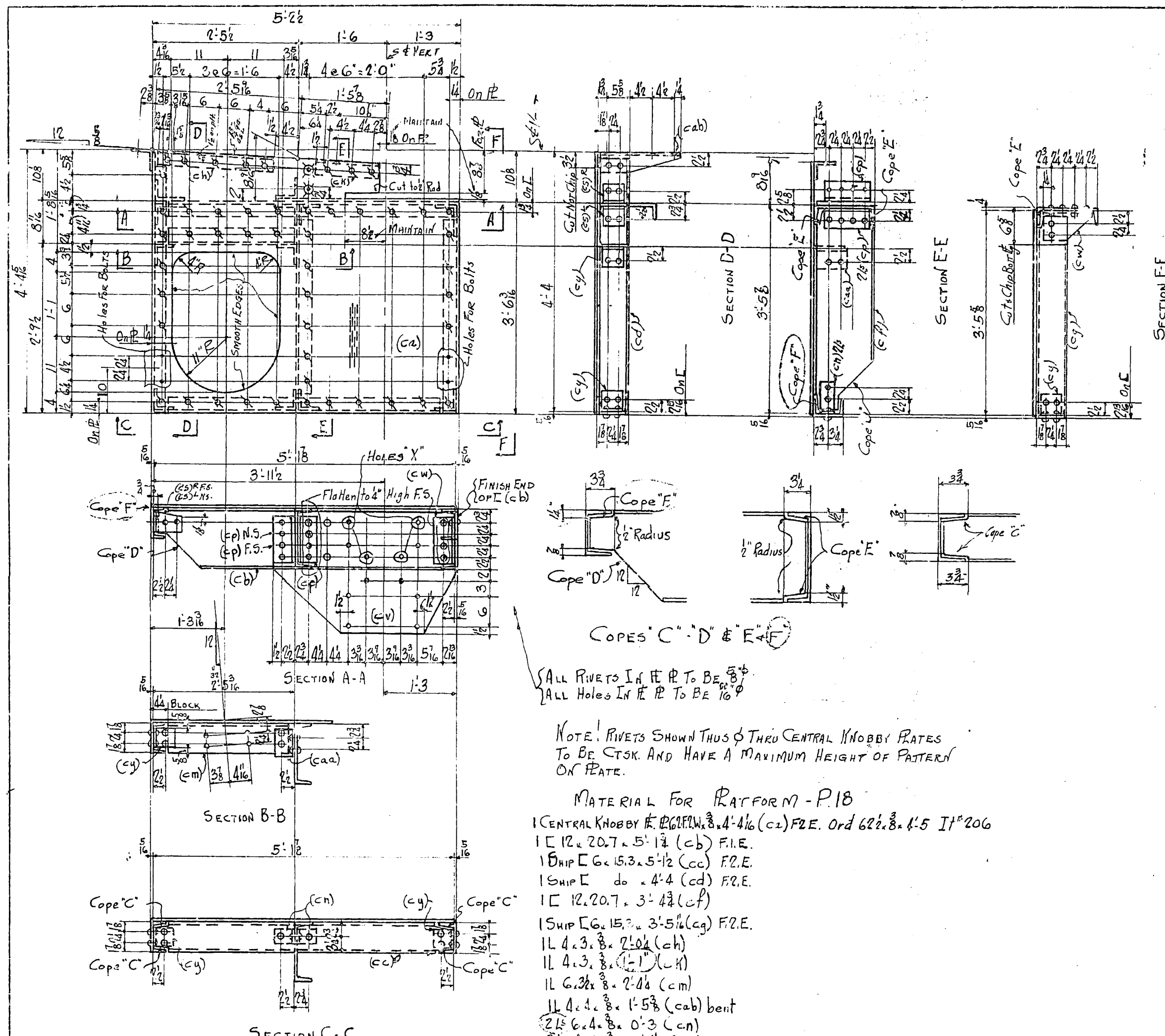
Date	Revision	Appd
APPROVED		
Engineer of Design		
Bridge Engineer		
Chief Engineer		
Dir. 7/3/34		

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E 9 to E 23
McCLINTIC-MARSHALL CORPORATION

CHICAGO DRAWING ROOM RANKIN WORKS
IN CHARGE JENKS MADE BY S.A.D.
CHECKED BY EJT 6/15/34 TRACED BY
LAST ASSIST. DEL.

CONTRACT CC15802 SHEET G 413

30-1



ALL RIVETS IN E. PL. TO BE 5/8" ϕ
ALL HOLES IN E. PL. TO BE 11/16" ϕ

NOTE! RIVETS SHOWN THUS ϕ THRU CENTRAL KNOBBY PLATES TO BE CTSK. AND HAVE A MAXIMUM HEIGHT OF PATTERN ON PLATE.

MATERIAL FOR PLATFORM - P.18

1 CENTRAL KNOBBY E. PL. 62 F.2.W. x 3/8 x 4'-4 1/16 (cz) F.2.E. Ord 62 1/2 x 3/8 x 4'-5 It# 206
1 [12 x 20.7 x 5'-1 3/4 (cb) F.1.E.
1 Ship [6 x 15.3 x 5'-1 1/2 (cc) F.2.E.
1 Ship [do x 4'-4 (cd) F.2.E.
1 [12 x 20.7 x 3'-4 3/4 (cf)
1 Ship [6 x 15.3 x 3'-5 1/16 (cg) F.2.E.
1 L 4 x 3 x 3/8 x 2'-0 1/4 (ch)
1 L 4 x 3 x 3/8 x 1'-1" (ck)
1 L 6 x 3 1/2 x 3/8 x 2'-4 1/4 (cm)
1 L 4 x 4 x 3/8 x 1'-5 3/8 (cab) bent
2 Ls 6 x 4 x 3/8 x 0'-3 (cn)
3 Ls 4 x 4 x 3/8 x 0'-4 1/2 (cy)
3 Ls 4 x 3 1/2 x 3/8 x 0'-9 3/4 (cp)
1 L 4 x 4 x 3/8 x 0'-5 1/2 (caa)
1 L 6 x 4 x 3/8 x 0'-9 1/4 (cw)
1 PL U.M. 24 x 3/8 x 3'-1 (cv) F.2.E.
2 Ls - 6 x 4 x 3/8 x 0'-4 1/2" (cs) R/L

1	1	LADDER PLATFORM	P18		
SPAN #a	No.	Description	Mark	Remarks	Weight Tons
REQ'D BY SPANS	REQUIRED LIST				

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: BY JOH M. BAILEY
RIVETS: 3/4" ϕ UNLESS NOTED
OPEN HOLES: 13/16" ϕ Do Do

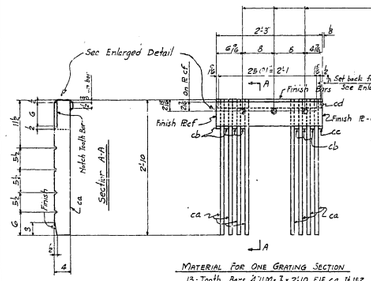
PUNCHING: ALL HOLES FOR SHOP OR FIELD RIVETS OR BOLTS MAY BE PUNCHED FULL SIZE.
FINISH: ALL SHEARED OR FLAME CUT EDGES AND ENDS OF MATERIAL TO HAVE A NEAT APPEARANCE: AND WHERE DESIGNATED F1E, F2E ETC., SHOP MUST SHEAR AND GRIND: CHIP AND GRIND OR OTHERWISE CUT AND FINISH SO THAT MEMBERS PRESENT A NEAT APPEARANCE AND CONFORM TO DIMENSIONS ON THE DRAWING. ENDS OF ALL ASSEMBLED MEMBERS MUST PRESENT A NEAT APPEARANCE
SHOP PAINT: NONE

SHOP TO PUT SHIPPING BOLTS IN HOLES MARKED "X" AND DRAW SAME UP TIGHT. ERECTOR TO REMOVE BOLTS IN FIELD.
Erection Mark to be put on with both Steel Stencil and Paint

Date	Revision	App'd

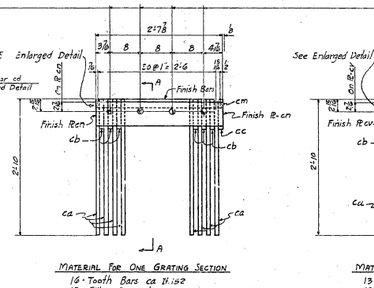
APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date 7/3/34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" TRUSS SPANS - PIERS E9 TO E23
McCLINTIC-MARSHALL CORPORATION
CHICAGO DRAWING ROOM RANKIN WORKS
IN CHARGE JENKS MADE BY C.A.D. 6-13-34
CHECKED BY EJJ 6/18-34 TRACED BY
LAST ASSEM. MK.
CONTRACT CC15802 SHEET G 414



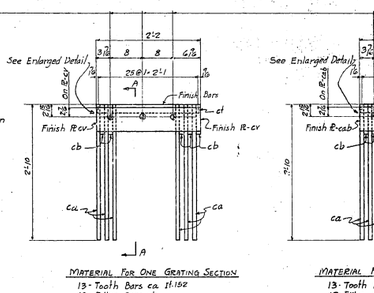
MATERIAL FOR ONE GRATING SECTION
13 - Tooth Bars 2 UM × 3/8 × 2'-10 FIE ca 11.152
13 - Filler Bars 3½ UM × 1/8 × 0'-7 FIE cb
1 - Filler Bar 3½ UM × 1/8 × 0'-7 FIE cc
1 - Bar 1½ UM × 1/2 × 2'-2 6 cd - 11.147
1 - PL 6 UM × 1/2 × 2'-3 F2E cf - 11.157

GRATING SECTION - M50



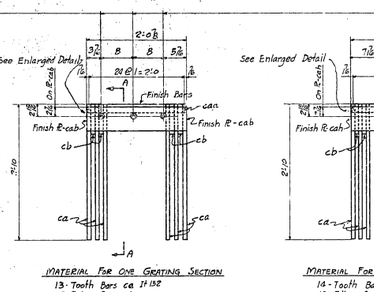
MATERIAL FOR ONE GRATING SECTION
16 - Tooth Bars ca 11.152
15 - Filler Bars cb
1 - Filler Bar cc
1 - Bar 1½ UM × 1/2 × 2'-7 7/8 - cm 11.149
1 - PL 6 UM × 1/2 × 2'-7 7/8 F2E - cn 11.158

GRATING SECTION - M51



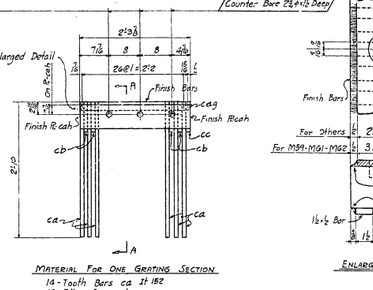
MATERIAL FOR ONE GRATING SECTION
13 - Tooth Bars ca 11.152
13 - Filler Bars cb
1 - Bar 1½ UM × 1/2 × 2'-10½ - ct 11.147
1 - PL 6 UM × 1/2 × 2'-0 FCE - cv 11.157

GRATING SECTION - M52



MATERIAL FOR ONE GRATING SECTION
13 - Tooth Bars ca 11.152
12 - Filler Bars cb
1 - Bar 1½ UM × 1/2 × 2'-10½ - caa 11.147
1 - PL 6 UM × 1/2 × 2'-0 F2E cab 11.151

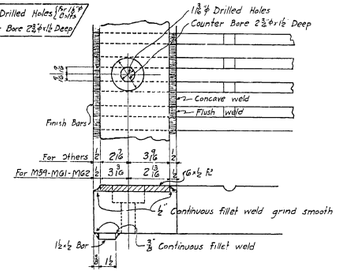
GRATING SECTION - M53



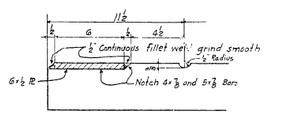
MATERIAL FOR ONE GRATING SECTION
14 - Tooth Bars ca 11.152
13 - Filler Bars cb
1 - Filler Bar cc
1 - Bar 1½ UM × 1/2 × 2'-3 3/8 cag 11.147
1 - PL 6 UM × 1/2 × 2'-3 3/8 F2E cah 11.157

GRATING SECTION - M54

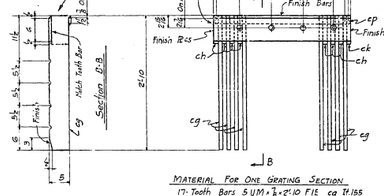
1 1/8" ϕ Drilled Holes 5/8" Deep, Counter Bore 2 3/4" ϕ x 1/2 Deep



ENLARGED DETAIL THRU GRATING AT FILLER BAR

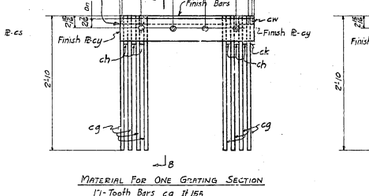


ENLARGED DETAIL THRU GRATING AT TOOTH BAR



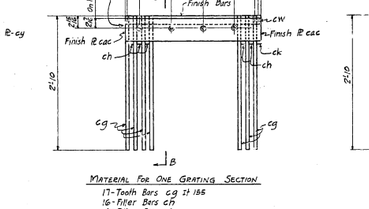
MATERIAL FOR ONE GRATING SECTION
17 - Tooth Bars 5 UM × 3/8 × 2'-10 FIE cg 11.155
17 - Filler Bars 4½ UM × 1/8 × 0'-7 FIE ch
1 - Filler Bar 4½ UM × 1/8 × 0'-7 FIE ck
1 - Bar 1½ UM × 1/2 × 2'-10¼ cp 11.145
1 - ? G UM × 1/2 × 2'-11 F2E es 11.156

GRATING SECTION M55



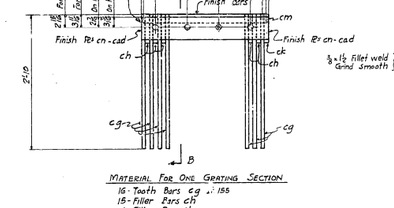
MATERIAL FOR ONE GRATING SECTION
17 - Tooth Bars cg 11.155
16 - Filler Bars ch
1 - Filler Bar ck
1 - Bar 1½ UM × 1/2 × 2'-9 3/8 cw 11.148
1 - PL 6 UM × 1/2 × 2'-9 3/8 F2E cey 11.158

GRATING SECTION M56



MATERIAL FOR ONE GRATING SECTION
17 - Tooth Bars cg 11.155
16 - Filler Bars ch
1 - Filler Bar ck
1 - Bar cw 11.148
1 - PL 6 UM × 1/2 × 2'-9 3/8 F2E eac 11.158

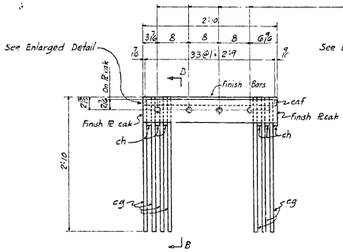
GRATING SECTION M57



MATERIAL FOR ONE GRATING SECTION
16 - Tooth Bars cg 11.155
15 - Filler Bars ch
1 - Filler Bar ck
1 - Bar cm 11.149
1 - PL cn For M58 11.159
1 - PL 6 UM × 1/2 × 2'-7 7/8 F2E cad For M59 11.159

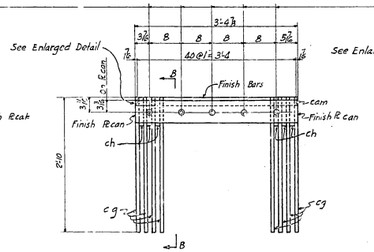
1 1/8" ϕ Drilled Holes 5/8" Deep, Counter Bore 2 3/4" ϕ x 1/2 Deep

GRATING SECTION M58 & M59



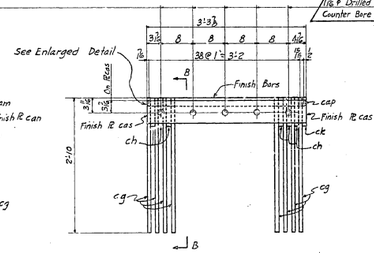
MATERIAL FOR ONE GRATING SECTION
17 - Tooth Bars cg 11.155
17 - Filler Bars ch
1 - Bar 1½ UM × 1/2 × 2'-7½ caf 11.146
1 - PL 6 UM × 1/2 × 2'-10 F2E eak 11.156

GRATING SECTION M60



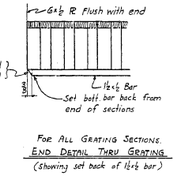
MATERIAL FOR ONE GRATING SECTION
21 - Tooth Bars cg 11.155
20 - Filler Bars ch
1 - Bar 1½ UM × 1/2 × 3'-4½ cam 11.146
1 - PL 6 UM × 1/2 × 3'-4 3/8 F2E can 11.156

GRATING SECTION M61



MATERIAL FOR ONE GRATING SECTION
20 - Tooth Bars cg 11.155
19 - Filler Bars ch
1 - Filler Bar ck
1 - Bar 1½ UM × 1/2 × 3'-3 3/8 cap 11.146
1 - PL 6 UM × 1/2 × 3'-3 3/8 F2E cas 11.156

GRATING SECTION M62



FOR ALL GRATING SECTIONS.
END DETAIL THRU GRATING
(showing set back of ½ x ½ bar)

Span E10	Total No.	Description	Mark	Remarks	Weight Each Piece
		REQUIRED LIST			
One	1	GRATING SECTIONS	M62		
One	1	Do	M61		
One	1	Do	M60		
9	9	Do	M59		
3	3	Do	M58		
3	3	Do	M57		
3	3	Do	M56		
One	1	Do	M55		
One	1	Do	M54		
One	1	Do	M53		
One	1	Do	M52		
40	40	Do	M51		
One	1	Do	M50		

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel purposes with a, thus: ca, cb, etc., for silicon steel with s, thus: as, bs, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey
RIVETS: None
OPEN HOLES: As Noted
PUNCHING: None

DRILLING: Holes to be drilled after grating sections are fully welded.

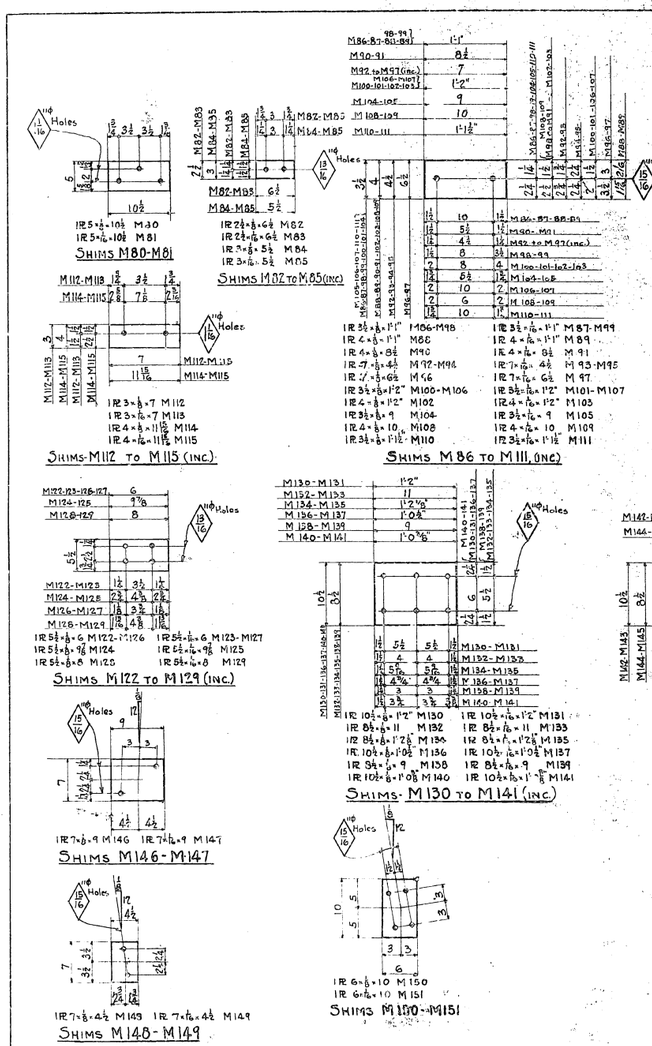
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
SHOP PAINT: None

APPROVED
Date _____ Revised _____ Appd. _____
Chas. E. Wilson — Engineer of Design
Chas. E. Andrus — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 6-22-36

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
CHICAGO DRAWING ROOM RANKIN WORKS
IN CHARGE J.E.N.C.S. MADE BY B.W.
CHECKED BY G.A.K. 6-8-36 TRACED BY B.W.
LAST ASSIST. KIN. C.O.S.

CONTRACT OC13002 SHEET G 4.5

30-1



	2	2	Shims	M80		North & South Walks (Upper)	3	4	7	Shims	M120		Stringer Brackets
	2	2	do	M81		to trusses at E11.	3	4	7	do	M121		at E10 - Lower
	2	2	do	M82		Upper Walks to trusses	6	6	12	do	M122		South Lower Walk Post
	2	2	do	M83		at E10 North	6	6	12	do	M123		to Luge
2	2	4	do	M84		Joists to walks	2	1	3	do	M124		South Lower Walk Post to Luge
2	2	4	do	M85		at 114	2	1	3	do	M125		at E9 & at L4 both spans
	2	2	do	M86		North & South Upper Walks	9	11	20	do	M126		South Lower Walk Posts
	2	2	do	M87		to Floor Beam at E10	9	11	20	do	M127		to Luge
	1	1	do	M88		North Walk-Upper		2	2	do	M128		North Lower Walk Posts
	1	1	do	M89		to Floor Beam at E10		2	2	do	M129		to Luge
11	11	22	do	M90		Upper & Lower Exp. Dams		3	3	do	M130		North Upper Walks to FB at E10
11	11	22	do	M91		at E10		3	3	do	M131		North & South do to FB at E10-E11
2		2	do	M92		Construction 13		2	2	do	M132		North & South Upper Walks
2		2	do	M93		at E9		2	2	do	M133		to Grating Support
	2	2	do	M94		Construction 12		1	1	do	M134		North Lower Walk to
	2	2	do	M95		at E11		1	1	do	M135		Grating Support
2	2	4	do	M96		Construction 14		1	1	do	M136		North Lower Walk to
2	2	4	do	M97		at E10		1	1	do	M137		Floor Beam at E11
	2	2	do	M98		North & South Upper Walks		1	1	do	M138		South Lower Walk to
	2	2	do	M99		to Floor Beam at E11		1	1	do	M139		Grating Support
	1	1	do	M100		South Lower Walk		2	2	do	M140		South Lower Walk to Floor
	1	1	do	M101		to Floor Beam at E11		2	2	do	M141		Beams at E10-E11
	1	1	do	M102		North Lower Walk		1	1	do	M142		South Upper Walks to
	1	1	do	M103		to Floor Beam at E11		1	1	do	M143		Floor Beam at E10
	2	2	do	M104		North & South Lower Walks		4	4	do	M144		North & South Upper
	2	2	do	M105		to Grating Supports		2	2	do	M145		Walks to Grating Supports
	1	1	do	M106		South Lower Walk to	2	2	4	do	M146		Construction 13 to Floor
	1	1	do	M107		Floor Beam at E10	2	2	4	do	M147		Beams at E10
	2	2	do	M108		Skid Girders	2	2	4	do	M148		Construction 15 to Floor
	2	2	do	M109		at E11	2	2	4	do	M149		Beams at U4
	5	5	do	M110		North Lower Walk to Floor at E11		1	1	do	M150		North Lower Walk to
	5	5	do	M111		South do do at E10-E11		1	1	do	M151		Floor Beam at E10
	3	3	do	M112		Upper Walks to Trusses North							
	3	3	do	M113		at E11 - South at E10 - E11							
	1	1	do	M114		North Walk to Truss							
	1	1	do	M115		at E11 - Lower							
B		0	do	M116		Expansion Dam - Upper							
12		12	do	M117		to Floor Beam at E11							
	22	22	do	M118		Upper & Lower Grating							
	22	11	do	M119		Supports at E11							

Span 11	Span 9	Span 10	Total Reqd	Description	Mark	Remarks	Location	Span 9	Span 10	Total Reqd	Description	Mark	Remarks	Location
	Reqd By Spans							Reqd By Spans						

REQUIRED LIST

Material: All structural steel on this sheet to be Copper Bearing Carbon Steel.
Specifications: Special by State of California, Department of Public Works.
Inspection: By John M. Bailey.
Open Holes: As Noted.
Punching: All holes may be punched full size.
Finish: All pieces must be neatly sheared to size and ground.
Shop Paint: None.
Erection marks are to be put on with both paint and steel stencils.

Date	Revision	Approved

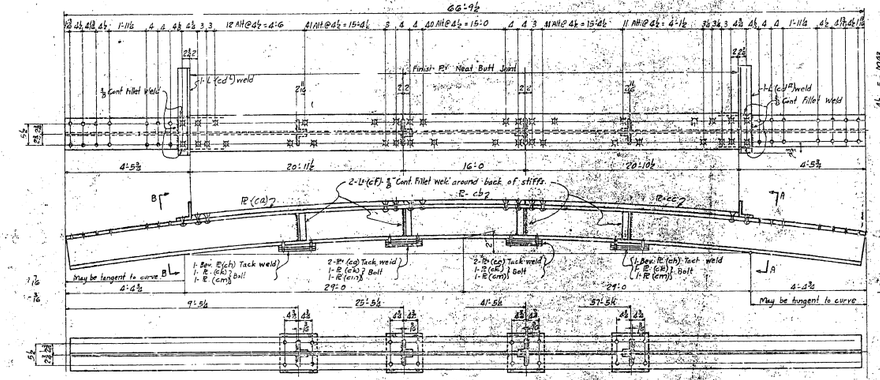
APPROVED

Chief D. Worley — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-16-34

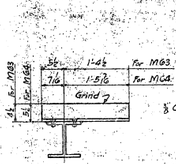
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

CHICAGO Drawing Does RANKIN Works
In Charge J. ENKS Made By JRH 7-11-34
Checked By A.D.S. 7-12-34 Traced By JRH 7-12-34
Last Added, Rem.

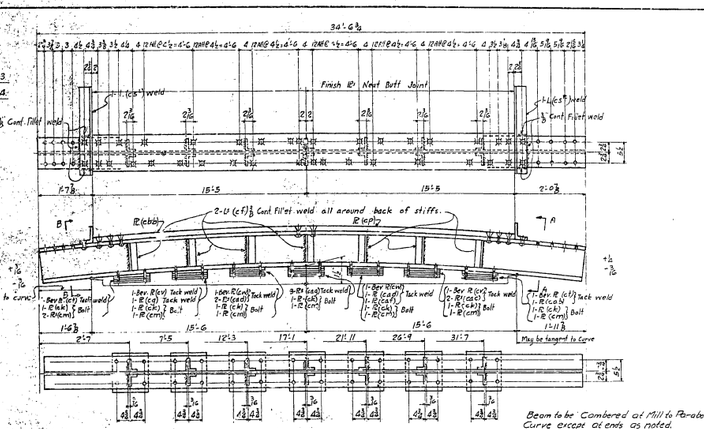
CONTRACT 06S002 SHEET G 419



Beam to be Cambered at Mill to Parabolic Curve except as noted.



Sect. A-A As Shown
Sect. B-B Opp. Hand

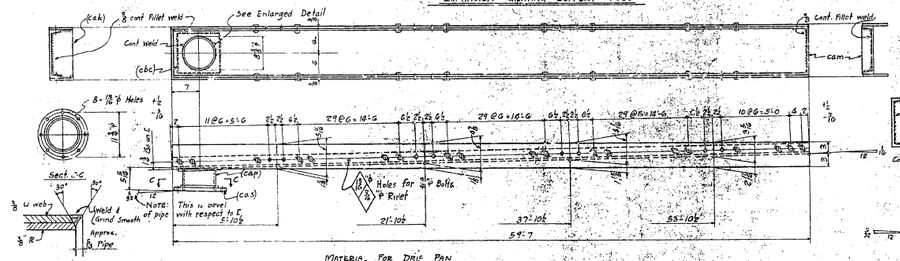


Beam to be Cambered at Mill to Parabolic Curve except at ends as noted.

Material for Expansion Grating Support

1-B 6 BNP 85 × 66'-7⅞ lf 191 ord. 66'-10⅛ (cbd) — 6-Ll 3½ × 2½ × ⅝ × 0'-7⅞ M2E (cf) weld
1-R 9 UM × 1 × 20'-1⅛ F2E (ca) lf 190 ord. 20'-0" — 4-R⁵ 9 UM × ⅜ × 1'-0⅛ (cg) Tack Weld
1-R 9 UM × 1 × 16'-1·0 F2E (cb) lf 190 ord. 16'-0⅛ — 2-Bev R⁵ 12½ UM × ⅜ × 1'-0⅛ F1.S. (ch) Tack weld
1-R 9 UM × 1 × 20'-10⅛ F2E (cc) lf 191 ord. 20'-11⅛ — 1-R 9 UM × ⅞ × 11'-0⅛ (ck) Bolt
2-Ll 6½ × 4 × ⅞ × 1'-10 (cd⁵) weld (cut 6×4×⅞L) grind bevel — 6-R⁵ 9 UM × ⅜ × 1'-0⅛ (cm) Bolt

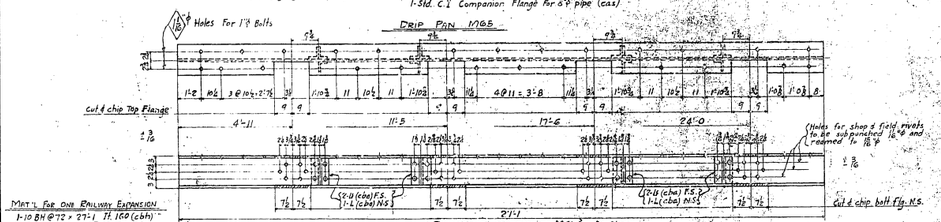
Expansion Grating Support - MG3



Material for Drip Pan

1-12 C 25 × 59'-7 lf 163 (cbf) — 1-Bar 2⅛ × ⅜ × 0'-11⅛ (cam) weld
2-R 6 UM × ⅜ × 59'-7 lf 206 (cbg) and 14'-8⅝ — 1-Pc 11¾ × 0'-11 (cbc) weld
1-R 5 ⅜ × ⅜ × 1'-0 (cak) weld — 1-Pc 8⅝ std. pipe × 0'-5⅞ (cap)
1-Std. C.I. Companion Flange for 6" pipe (ca3)

Drip Pan MG6



Material for One Railway Expansion

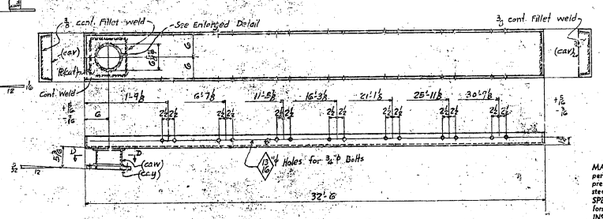
1-10 BN @ 72 × 27'-1 lf 160 (cbh)
12-L 4 × 3 × ⅜ × 0'-8⅜ M2E (cba)

Railway Expansion MG6 As Shown
Railway Expansion MG7 Opp. Hand

Material for Expansion Grating Support

1-B 6 D 56 × 34'-6⅜ lf 162 ord. 34'-7½ (cbk)
1-R 9 UM × 1 × 15'-5 F2E (cbb) lf 189 ord. 15'-6⅜
1-R 9 UM × 1 × 15'-5 F2E (cc) lf 189 ord. 15'-6⅜
2-Ll 3½ × 2½ × ⅜ × 2'-0½ (cs 8⅝ weld (cut 6×4×⅜L) grind bevel
14-Ll (cf)
2-Bev R 12½ UM × 5/32 × 0'-9 F.I.S. (cf) Tack weld
2-Bev R 12½ UM × 1/8 × 0'-9 F.I.S. (cv) Tack weld
2-Bev R 12½ UM × 5/32 × 0'-9 F.I.S. (cw) Tack weld
8-R⁵ (cm) Bolt
7-R⁵ (ck) Bolt
1-R 9 UM × ⅝ × 11'-0½ (cab) Tack weld
2-R 9 UM × ⅝ × 11'-0½ (cac) Tack weld
5-R 9 UM × ⅜ × 11'-0½ (cad) Tack weld
1-R 9 UM × ⅜ × 11'-0½ (caf) Tack weld
3-R 9 UM × ⅜ × 11'-0½ (cag) Tack weld
1-R (cg) Tack weld

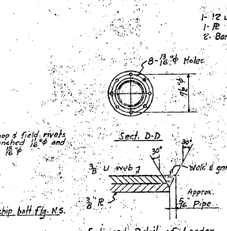
Expansion Grating Support MG6



Material for Drip Pan

1-12 U C 26" × 32'-6 lf 166 (cbm)
1-R 9 × ⅜ × 0'-9 (cat) weld
2-Bars 2⅛ × ⅜ × 0'-11⅛ (cav) weld
1-Pc 6⅝ std. pipe × 0'-5½ (caw)
1-Std companion Flange for 6⅝ pipe (cay)

Drip Pan MG6



Enlarged Detail of Leader conn. to Drip Pan MG6

Shop Note:-
Shop to place all erection marks on left end of members as detailed and in an upright position. All piece tack welded or fully welded shall be clamped tight while welding. Contact surfaces of such parts must be thoroughly cleaned and scraped before assembly and be welded in such a manner as to prevent entering of any foreign particles during shipment or during field sand blasting. Marks to be put on with both paint and steel stencils.

One		1	Railway Expansion	MG7⁶	As Shown
	One	1	Do Do	MG7⁷	Opp. Hand
	One	1	Drip Pan	MG6	
	One	1	Drip Pan	MG5	
	One	1	Exp. Grat. Support	MG4	
	One	1	Exp. Grat. Support	MG3	
Required by Spans	Required by Spans	Total Reqd	Description	Mark	Remarks

SPAN 11 SPAN 10 — REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Specials by State of California, Department of Public Works.
INSPECTION: John M. Bailey
RIVETS: ⅞ Ø Unless Noted
OPEN HOLES: 1⅛ Ø Unless Noted
PUNCHING: All punching to be full size except as noted.

DRILLING: H-holes in material over ¾" thick to be sub-drilled 1/16" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
SHOP PAINT: None, except contact surfaces of parts bolted for shipment, which shall be given one coat of "Acid Resisting Liquid", after such surfaces have been thoroughly cleaned and scraped. Parts bolted after reaming and bolts bolted up sufficiently tight to prevent entering of any foreign particles during shipment or during field sand blasting.
Companion flanges to be drilled.

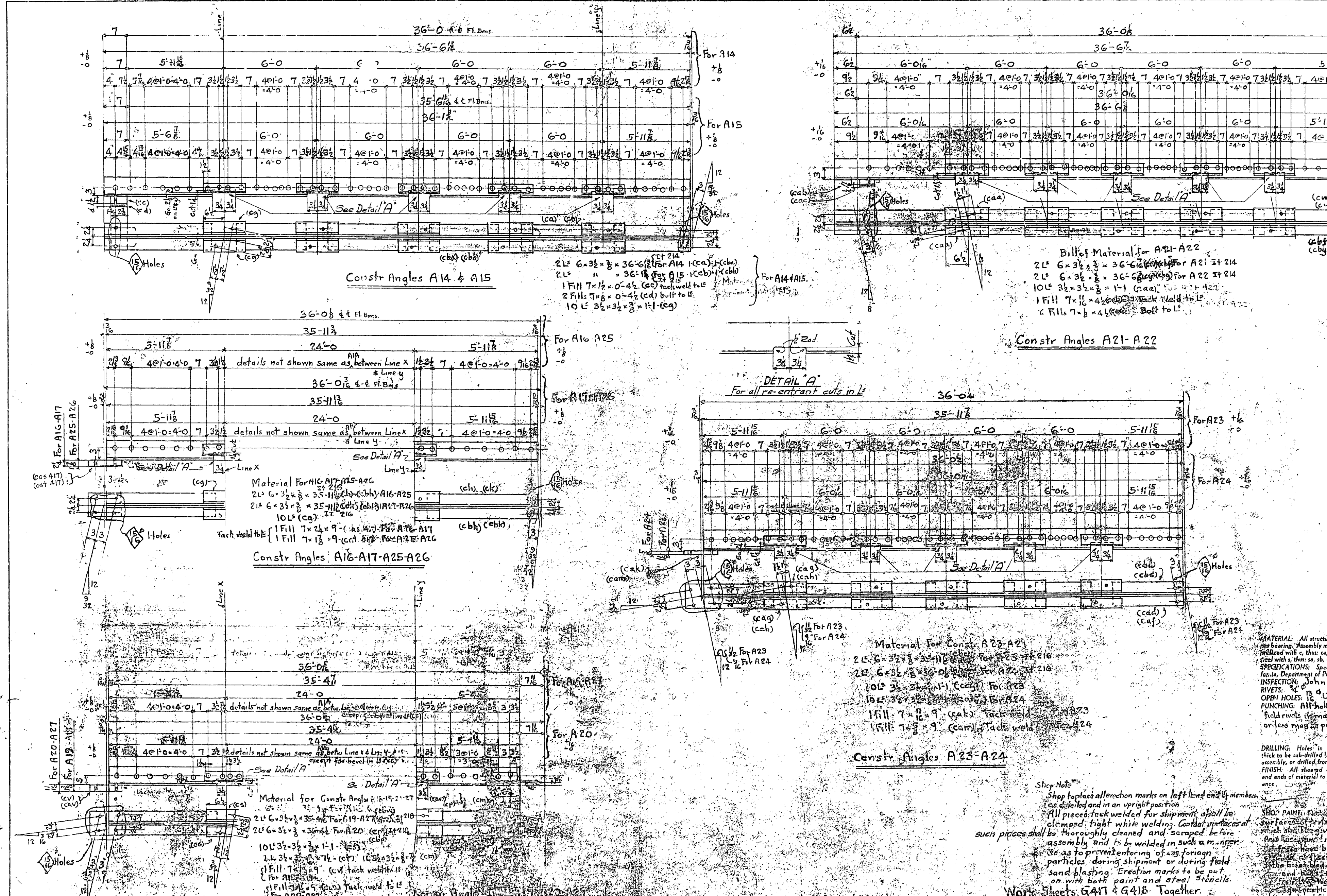
APPROVED
Date ____ Revision ____ Appd.
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 7/3/36

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

CHIC AGO DRAWING ROOM Renton WORKS
IN CHARGE JENKS MADE BY D.W. 5/16/36
CHECKED BY JH. 4-10 TRACED BY D.W.
LAST ASSEM. MK. Cbm

CONTRACT CC15802 SHEET G 416

30-1



Span 9	Span 10	No.	Description	Mark	Remarks	Weight each Tons
1		1	Construction Angle	A14	As Shown	
1		1	" "	A15	As Shown	
1		1	" "	A16	As Shown	
1		1	" "	A17	As Shown	
1		1	" "	[illegible]	As Shown	
2		2	" "	A19	As Shown	
	1	1	" "	A20	As Shown	
2	1	3	" "	A21	As Shown	
	1	1	" "	A22	As Shown	
2		2	" "	A23	As Shown	
2		2	" "	A24	As Shown	
1		1	" "	A25	As Shown	
1		1	" "	A26	As Shown	
	1	1	" "	A27	As Shown	
Required by Span		REQUIRED LIST				

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M Bailey
RIVETS: 3/4" φ
OPEN HOLES: 13/16 φ Unless Noted.
PUNCHING: All holes for shop and field rivets in material 3/4" thick or less may be punched full size.

DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance.

SHOP PAINT: None except contact surfaces of parts [illegible] which shall be given one coat of [illegible] after such surfaces have been thoroughly cleaned and scraped. [illegible] and [illegible] to be [illegible] tight to [illegible] particles during shipment and field sand blasting.

Shop Note
Shop to place all erection marks on left hand end of members as detailed and in an upright position.
All pieces tack welded for shipment shall be clamped tight while welding. Contact surfaces at such pieces shall be thoroughly cleaned and scraped before assembly and to be welded in such a manner so as to prevent entering of any foreign particles during shipment or during field sand blasting. Erection marks to be put on with both paint and steel stencils.

Work Sheets G417 & G418 Together.

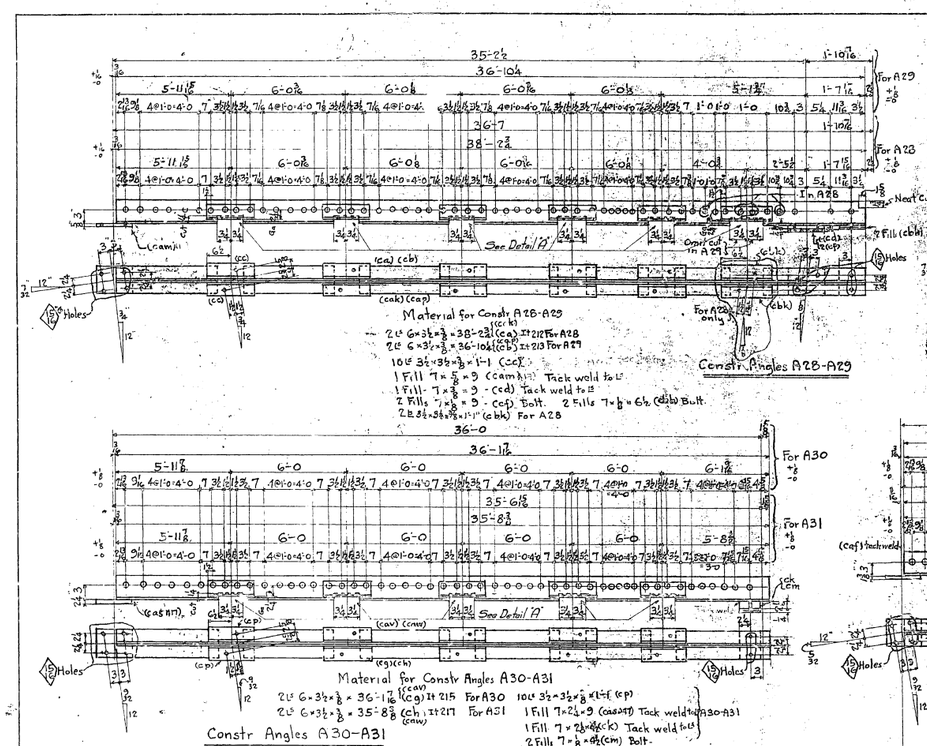
Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 7-18-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288-0 Truss Spans Bents E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Rankin WORKS
IN CHARGE Jen..s MADE BY I.S.F
CHECKED BY JHH 6-15 TRACED BY I.S.F

CONTRACT CC1580 2 SHEET G 417

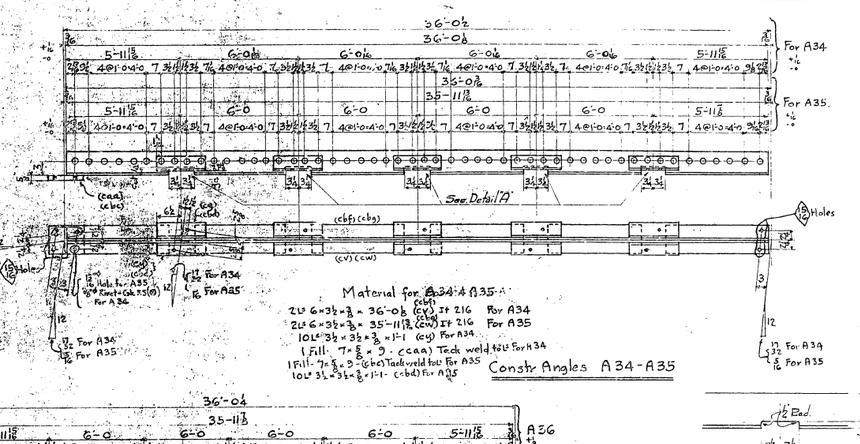
30-1



Material for Constr A28-A29 (cck)

2L's 6×3½×⅜ = 38'-2⅜ (ca) It 212 For A28
2L's 6×3½×⅜ = 36'-10¼ (cb) It 213 For A29
10L's 3½×3½×⅜ = 1'-1 (cc)
1 Fill 7"×⅝"×9" (cam)(ci) Tack weld to L's
1 Fill 7"×⅜"×9" (cd) Tack weld to L's
2 Fills 7"×⅝"×9" (ce) Bolt. 2 Fills 7"×⅝"×6½" (cbk) Bolt.
2 L's 3½×3½×⅜×1'-1" (cbk) For A28

Constr Angles A28-A29



Material for A34 & A35 (cv)

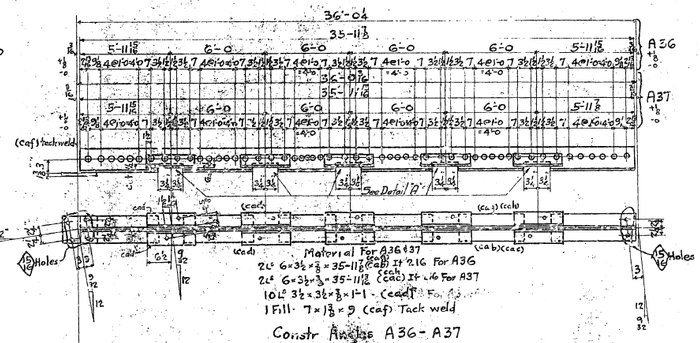
2L's 6×3½×⅜ = 36'-0⅛ (cv) It 216 For A34
2L's 6×3½×⅜ = 35'-11⅜ (cw) It 216 For A35
10L's 3½×3½×⅜ = 1'-1 (cy) For A34
1 Fill 7"×⅝"×9" (caa) Tack weld to L's For A34
1 Fill 7"×⅝"×9" (cbe) Tack weld to L's For A35
10L's 3½×3½×⅜ = 1'-1" (cbd) For A35

Constr Angles A34-A35

Material for Constr Angles A30-A31

2L's 6×3½×⅜ × 36'-1⅞ (cav)(cg) It 215 For A30
2L's 6×3½×⅜ × 35'-8⅜ (ch, cw) It 217 For A31
10L's 3½×3½×⅜×1'-1" (cp)
1 Fill 7"×2¼"×9" (cag)(ch) Tack weld to A30-A31
1 Fill 7"×⅜"×9" (ck) Tack weld to L's
2 Fills 7"×⅝"×9" (cm) Bolt.

Constr Angles A30-A31



Material for A36 & A37

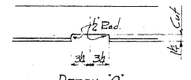
2L's 6×3½×⅜ = 35'-11⅞ (cae) It 216 For A36
2L's 6×3½×⅜ = 35'-11⅞ (cae) It 216 For A37
10L's 3½×3½×⅜×1'-1 (caf)
1 Fill 7"×⅜"×9" (cad) Tack weld to L's

Constr Angles A36-A37

1 Fill 7"×⅜"×9" (ca2d) Tack weld to L's

A38 same as A36 } except as shown.
A38 same as A37 }

Constr Angles A38-A38



DETAIL 'A'
For all re-entrant cuts only

			Construction Angle		
		1	"	A 28	As Shown
		1	"	A 29	As Shown
		1	"	A 30	As Shown
		1	"	A 31	As Shown
		1	"	A 32	As Shown
		1	"	A 33	As Shown
	2	1	"	A 34	As Shown
	2	2	"	A 35	As Shown
		1	"	A 36	As Shown
		1	"	A 37	As Shown
		1	"	A 38	As Shown
		1	"	A 18	As Shown

Span 2	Span 1	No.	Description	Mark	Remarks	Approximate Weight each
Required by Span			REQUIRED LIST			

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey
RIVETS: ¾" Unless Noted.
OPEN HOLES: ⅛" Unless noted.
PUNCHING: All holes for shop and field rivets in material ⅝" thick or less may be punched full size.

DRILLING: Holes in material over ⅝" thick to be sub-drilled 3/16" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance.

SHOP PAINT: None, except contact surfaces of joints but for shipment which shall be given one coat of "Acid Resisting Liquid per" Such surfaces have been thoroughly cleaned & Scraped. Such prohibited to be assembled after paint is dry. Bolts to be driven up sufficiently tight to exclude Service particles during shipment and field sand blasting.

Shop Note
Shop to place all erection marks left hand end of members as detailed and in an upright position.
All pieces to be welded for shipment shall be clamped tight while welding. Contact surfaces of such pieces shall be thoroughly cleaned and scraped before assembly and to be welded in such a manner as to prevent entering of foreign particles during shipment or during field sand blasting. Erection Marks to be put on with both paint and steel pencils.
Work Sheets G417 & G418 Together.

Date	Revision	Appd
APPROVED		
Chief Engineer		
Date 7-18-34		

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" Truss Spans - Bents E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Rankin WORKS

IN CHARGE	Jenks	MADE BY	L.S.F.
CHECKED BY	J.H. 7-21-34	TRACED BY	L.S.F.
LAST ASSEM. FIR.	(Cbal)		

CONTRACT 6C16802 SHEET G 418

16-1

Mcintic Marshall Corporation

Chicago Works

INDEX SHEET

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U1-U3A	16	16	1	1	1	1	1	1	1	1	1	1	1	1
U1 U3B	22	22	1	1	1	1	1	1	1	1	1	1	1	1
U3-U5A	17	17	2	2	2	2	2	2	2	2	2	2	2	2
U3-U5B	21	21	2	2	2	2	2	2	2	2	2	2	2	2
U5-U7A	18	18	3	3	3	3	3	3	3	3	3	3	3	3
U5-U7B	20	20	3	3	3	3	3	3	3	3	3	3	3	3
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U1-L2B	38	38	11	11	11	11	11	11	11	11	11	11	11	11
L2-U2A	32	32	15	15	15	15	15	15	15	15	15	15	15	15
L2-U2B	34	34	15	15	15	15	15	15	15	15	15	15	15	15
L2-U3A	39	39	12	12	12	12	12	12	12	12	12	12	12	12
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L3-U3A	31	31	14	14	14	14	14	14	14	14	14	14	14	14
L3-U3B	33	33	14	14	14	14	14	14	14	14	14	14	14	14

TRUSSES

This Index Sheet is to be sent (corrected to date) with drawings going for approval

Specification

Inspection

Paint

Name of Structure: SAN FRANCISCO OAKLAND BAY BRIDGE

Name of Customer: STATE OF [illegible]

Contract No. CG1580

Shop No.

Index Sheet No. K1

Mcintic Marshall Corporation

Chicago Works

INDEX SHEET

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L5-U5A	31	31	14	14	14	14	14	14	14	14	14	14	14	14
L5-U5B	33	33	14	14	14	14	14	14	14	14	14	14	14	14
L6-U5A	38	39	12	12	12	12	12	12	12	12	12	12	12	12
L6-U5B	39	39	12	12	12	12	12	12	12	12	12	12	12	12
L6-U6A	32	32	15	15	15	15	15	15	15	15	15	15	15	15
L6-U6B	34	34	15	15	15	15	15	15	15	15	15	15	15	15
U7-L6A	38	38	11	11	11	11	11	11	11	11	11	11	11	11
U7-L6B	38	38	11	11	11	11	11	11	11	11	11	11	11	11
L7-U7A	31	31	14	14	14	14	14	14	14	14	14	14	14	14
L7-U7B	33	33	14	14	14	14	14	14	14	14	14	14	14	14
L8-U7A	37	37	10	10	10	10	10	10	10	10	10	10	10	9
L8-U7B	36	35	10	10	10	10	10	10	10	10	10	10	10	9
L8-U8A	30	30	14	14	14	14	14	14	14	14	14	14	14	14
L8-U8B	30	30	14	14	14	14	14	14	14	14	14	14	14	14

TRUSSES

This Index Sheet is to be sent (corrected to date) with drawings going for approval

Specification

Inspection

Paint

Name of Structure: SAN FRANCISCO OAKLAND BAY BRIDGE

Name of Customer

Contract No. CG1580

Shop No.

Index Sheet No. K2

McClintic-Marshall Construction Co.

Chicago Works

INDEX SHEET

	0	1	2	3	4	5	6	7	8	9	
0		G216	G216	G216	G216	G216	G216	G216	G216	G216	0
1	G216	G216	G216	G230	"						1
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BRACKETS & KNEE BRACES — Prefix "KB"

This Index Sheet is to be sent (corrected to date) with drawings going for approval

Specification

Inspection

Paint

Contract Surfaces

Name of Structure: San Francisco Oakland Bay Bridge

Name of Customer: State of California

Contract No. CG1580

Shop No.

Index Sheet No. K9

McClintic-Marshall Construction Co.
Chicago Works
INDEX SHEET

	0	1	2	3	4	5	6	7	8	9	
0	X	G501	G501	G501	G501	G501	G501	G501	G501	G501	0
1	G501	G501	G501	G501	G501	G501	G501	G501	G501	G501	1
2	G501	G501	G501	G501	G501	G501	G501	G501	G501	G501	2
3	G501	G501	G502	G502	G502	G502	G502	G502	G502	G502	3
4	G502	G502	G502	G502	G502	G502	G502	G502	G502	G502	4
5	G502	G502	G502	G701	G701	G701	G701	G701	G701	G701	5
6	G701	G701	G701	G701	G701	G701	G701	G701	G701	G701	6
7	G701	G701	G701	G701	G701	G701	G701	G701	G701	G701	7
8	G501	G501	G501	G501	G501	G501	G701	G701	G701	G701	8
9	G502	G502	G502	G502	G503	G503	G215	G215	G215	G215	9
10	G215	G215	G215	G215	G215	G215	G215	G215	G215	G215	10
11	G215	G215	G215	G215	G215	G215	G215	G215			11
12	G221	G221	G221	G221	G221	G221	G221	G221	G221	G221	12
13	G221	G221	G221	G221	G221	G221	G221	G221	G221	G221	13
14	G221	G221	G221	G221	G221	G221	G221	G221	G227	G227	14
15	G227	G227	G227	G227	G227	G227	G227	G227	G227	G227	15
16	G227	G227	G227	G227	G228	G228	G228	G228	G228	G228	16
17	G228	G228	G228	G228	G228	G228	G228	G228	G228	G228	17
18	G228	G228	G228	G228	G228	G228	G228	G228	G228	G228	18
19	G228	G228	G228	G228	G229	G229	G229	G229	G229	G229	19
20	G222	G222	G222	G222	G222	G222	G222	G222	G222	G222	20
21	G222	G222	G222	G222	G222	G222	G222	G222	G223	G223	21
22	G223	G223	G223	G223	G223	G223	G223	G223	G223	G223	22
23	G223	G223	G223	G223	G223	G223	G223	G223	G223	G223	23
24	G223	G223	G223	G223	G223	G223	G223	G223	G223	G223	24
25	G223	G223	G223	G223	G223	G223	G223	G223	G223	G223	25
26	G223	G223	G223	G223	G223	G223	G223	G223	G223	G223	26
27	G223	G223	G223	G223	G223	G224	G224	G224	G224	G224	27
28	G224	G224	G224	G224	G224	G224	G224	G224	G224	G224	28
29	G224	G224	G224	G224	G224	G225	G225	G225	G225	G225	29
	0	1	2	3	4	5	6	7	8	9	

G215 CONTD

STRINGERS Prefix "S"

This Index Sheet is to be sent (corrected to date) with drawings going for approval

Specification / Inspection / Paint Contact Surfaces / Shop Coat
Name of Structure: San Francisco Oakland Bay Bridge
Name of Customer: State of California
Contract No. CG1580
Shop No.
Index Sheet No. K4

McClintic-Marshall Construction Co.
Chicago Works
INDEX SHEET

	0	1	2	3	4	5	6	7	8	9	
30	X	G225	G225	G225	G225	G225	G225	G225	G225	G225	0
31	G225	G225	G225	G225	G225	G225	G224	G224			1
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STRINGERS PREFIX "S"

This Index Sheet is to be sent (corrected to date) with drawings going for approval

Specification / Inspection / Paint Contact Surfaces / Shop Coat
Name of Structure: San Francisco Oakland Bay Bridge
Name of Customer: STATE OF CALIFORNIA
Contract No. CG1580
Shop No.
Index Sheet No. K5

McClintic-Marshall Construction Co.
Chicago Works
INDEX SHEET

	0	1	2	3	4	5	6	7	8	9	
0	X	601	601	G204	G204	G204	G204	G204	G204	G204	0
1	G204	G204	G204	G204	G204	G204	G204	G204	G204	G204	1
2	G204	G204	G204	G204	G204	G204	G204	G204	G205	G205	2
3	G205	G205	G205	G205	G205	G205	G205	G205	G205	G205	3
4	G205	G205	G205	G205	G205	G205	G205	G205	G205	G205	4
5	G205	G205	G205	G205	G205	G205	G205	G205	G205	G205	5
6	G205	G205	G205	G205	G205	G205	G205	G205	G205	G205	6
7	G205	G205	G205	G205	G205	G205	G205	G205	G205		7
8											8
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ROADWAY JOISTS Prefix "J"

This Index Sheet is to be sent (corrected to date) with drawings going for approval

Specification / Inspection / Paint Contact Surfaces / Shop Coat
Name of Structure: San Francisco Oakland Bay Bridge
Name of Customer: State of California
Contract No. CG1580
Shop No.
Index Sheet No. K6

McClintic-Marshall Construction Co.
Chicago Works
INDEX SHEET

	0	1	2	3	4	5	6	7	8	9	
0	X	202	202	202	G202	G203	G203	G203	G203	G203	0
1	G203	G203	G203								1
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	0	1	2	3	4	5	6	7	8	9	

BOTTOM CHORD LATERALS Prefix "BL"

This Index Sheet is to be sent (corrected to date) with drawings going for approval

Specification / Inspection / Paint Contact Surfaces / Shop Coat
Name of Structure: San Francisco Oakland Bay Bridge
Name of Customer: State of California
Contract No. CG1580
Shop No.
Index Sheet No. K7

McClintic-Marshall Construction Co.
Chicago Works
INDEX SHEET

	0	1	2	3	4	5	6	7	8	9	
0	X	201	201	201	201	201	201	201	201	201	0
1	201	201	201	201	201	201	201	201	201	201	1
2	G219	G219	G219	G219	G219	G219	G219	G219	G219	G219	2
3	G219	G219	G219	G219	G219	G219	G219	G220	G220	G220	3
4	G220	G220	G220	G220	G220	G220	G220	G220			4
5											5
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STRINGER BRACING Prefix "D"

This Index Sheet is to be sent (corrected to date) with drawings going for approval

Specification / Inspection / Paint Contact Surfaces / Shop Coat
Name of Structure: San Francisco Oakland Bay Bridge
Name of Customer: State of California
Contract No. CG1580
Shop No.
Index Sheet No. K8

McClintic-Marshall Construction Co.
Chicago Works
INDEX SHEET

	0	1	2	3	4	5	6	7	8	9	
0	X	103	103	103	103	104	104	104	106	106	0
1	105	105	107	106	108	103					1
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22											22
23	Built Up Shoe B&C1 Sheet G111										23
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29											29
	0	1	2	3	4	5	6	7	8	9	

BUILT UP SHOES Prefix "BS"

This Index Sheet is to be sent (corrected to date) with drawings going for approval

Specification / Inspection / Paint Contact Surfaces / Shop Coat
Name of Structure: San Francisco Oakland Bay Bridge
Name of Customer: State of California
Contract No. CG1580
Shop No.
Index Sheet No. K10

McClintic-Marshall Construction Co.
Chicago Works
INDEX SHEET

	0	1	2	3	4	5	6	7	8	9	
0	X	250 AB	260 AE	250 BE	250 AE	250 AE	250 AE	250 BE	250 CE	250 DE	0
1	250 DE	250 DE	250 DE	250 CG	250 DE	258 AH	258 AH	258 BH	258 BH	258 CH	1
2	258 CH	258 DH	258 DH	258 EH	258 EH	258 FH	258 FH	259 AG	259 AG	259 BG	2
3	259 BG	259 CG	259 CG	259 DG	259 DG	259 EG	259 EG	262	261 EI	261 FI	3
4	263 DE	263 BE	261 EI	261 DI	261 FI	261 GI	261 DI	261 CI	263 CE	263 AE	4
5	261 CJ	261 BI	261 BI	G260	G260	G260	G260	G260	G260	G260	5
6	G260	G260	G260	G260	G260	G260	G260	G264	G264	G264	6
7	G264	G264	G264	G264	G264	G264	G264	G264	G260	G260	7
8	265 BJ	265 AJ	266 CJ	265 HJ	265 DJ	265 DJ	265 CJ	265 GJ	265 FJ	265 FJ	8
9	265 EJ	266 HJ	265 EJ	265 BJ	265 BJ	265 GJ	279 BG	279 FG	279 EG	278 CJ	9
10	278 BJ	279 [illegible]	279 CG	279 AG	278 DJ	278 HJ	278 GJ	278 CJ	278 BJ	278 FJ	10
11	278 EJ	278 AJ	284 BG	284 FG	284 EG	283 CJ	283 AJ	284 DG	284 CG	284 AG	11
12	283 DJ	283 HJ	283 GJ	283 CJ	283 BJ	283 FJ	283 EJ	283 AJ			12
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CURBS & CURB FRAMING Prefix "C"

This Index Sheet is to be sent (corrected to date) with drawings going for approval

Specification / Inspection / Paint Contact Surfaces / Shop Coat
Name of Structure: San Francisco Oakland Bay Bridge
Name of Customer: State of California
Contract No. CG1580
Shop No.
Index Sheet No. K11

McClintic-Marshall Construction Co.
Chicago Works
INDEX SHEET

	0	1	2	3	4	5	6	7	8	9	
0	X	G801	G801	G801	G801	G801	G801	G801	G801	G804	0
1	G806	G806	G806	G806	G806	G806	G806	G804	G806	G806	1
2	G806	G806	G806	G806	G806	G806					2
3	G801	G801	G801	G801	G801	G801	G801	G801	G801	G801	3
4	G801	G801	G801	G801	G801	G801	G801	G801	G801	G801	4
5	G801	G803	G803	G803	G803	G803	G803	G803	G803	G803	5
6	G803	G803	G803	G803	G803	G803	G803	G803	G806	G806	6
7	G806	G804	G804	G806	G806	G806	G806	G806	G806	G804	7
8	G804	G804	G804	G804	G804	G804					8
9											9
10	G805	G805	G805	G805	G805	G805	G805	G805	G805	G805	10
11	G805	G805	G805	G805	G805	G805	G805	G805	G805	G805	11
12	G805	G805	G805	G805	G805	G805	G805	G805	G805	G805	12
13	G805	G805	G805	G805	G805	G805	G805	G805	G805	G805	13
14	G805	G805	G805	G805	G805	G805	G805	G805	G805	G805	14
15	G805										15
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GAS PIPE RAILING Prefix "GR"

This Index Sheet is to be sent (corrected to date) with drawings going for approval

Specification / Inspection / Paint Contact Surfaces / Shop Coat
Name of Structure: San Francisco Oakland Bay Bridge
Name of Customer: State of California
Contract No. CG1580
Shop No.
Index Sheet No. K12

McClintic-Marshall Construction Co.
Chicago Works
INDEX SHEET

	0	1	2	3	4	5	6	7	8	9	
0	X	G110	G110			G405	G405	G406	G406	G408	0
1	G408	G412	G412	G412	G412	G413	G413	G413	G414		1
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PINS & PLATFORMS Prefix "P"

This Index Sheet is to be sent (corrected to date) with drawings going for approval

Specification / Inspection / Paint Contact Surfaces / Shop Coat
Name of Structure: San Francisco Oakland Bay Bridge
Name of Customer: State of California
Contract No. CG1580
Shop No.
Index Sheet No. K13

McClintic-Marshall Construction Co.
Chicago Works
INDEX SHEET

	0	1	2	3	4	5	6	7	8	9	
0	X	G202	G202	G202	G203	G203	G203	G203			0
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LOOSE LATERAL PLATES Prefix "LP"

This Index Sheet is to be sent (corrected to date) with drawings going for approval

Specification / Inspection / Paint Contact Surfaces / Shop Coat
Name of Structure: San Francisco Oakland Bay Bridge
Name of Customer: State of California
Contract No. CG1580
Shop No.
Index Sheet No. K14

McClintic-Marshall Construction Co.

Chicago Works

INDEX SHEET

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SHOE BOLTS Prefix "SB"

This Index Sheet is to be sent (corrected to date) with drawings going for approval

Specification / Inspection / Paint Contact Surfaces / Shop Coat

Name of Structure: San Francisco Oakland Bay Bridge
Name of Customer: State of California
Contract No. CG1580
Shop No.
Index Sheet No. K15

McClintic-Marshall Construction Co.

Chicago Works

INDEX SHEET

	0	1	2	3	4	5	6	7	8	9	
0	X	G109									0
1											1
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SHOE WEDGES Prefix "SW"

This Index Sheet is to be sent (corrected to date) with drawings going for approval

Specification / Inspection / Paint Contact Surfaces / Shop Coat

Name of Structure: San Francisco Oakland Bay Bridge
Name of Customer: State of California
Contract No. CG1580
Shop No.
Index Sheet No. K16

McClintic-Marshall Construction Co.

Chicago Works

INDEX SHEET

	0	1	2	3	4	5	6	7	8	9	
0	X	G110	G109								0
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ROLLERS Prefix "R"

This Index Sheet is to be sent (corrected to date) with drawings going for approval

Specification / Inspection / Paint Contact Surfaces / Shop Coat

Name of Structure: San Francisco Oakland Bay Bridge
Name of Customer: State of California
Contract No. CG1580
Shop No.
Index Sheet No. K17

McClintic-Marshall Construction Co.

Chicago Works

INDEX SHEET

	0	1	2	3	4	5	6	7	8	9	
0	X	G110									0
1											1
2											2
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PIN NUTS Prefix "RN"

This Index Sheet is to be sent (corrected to date) with drawings going for approval

Specification / Inspection / Paint Contact Surfaces / Shop Coat

Name of Structure: San Francisco Oakland Bay Bridge
Name of Customer: State of California
Contract No. CG1580
Shop No.
Index Sheet No. K18

McClintic-Marshall Construction Co.

Chicago Works

INDEX SHEET

	0	1	2	3	4	5	6	7	8	9	
0	X	G251	G251	G252	G252	G253	G253	G255	G255	G256	0
1	G256	G256	G257	G280	G280	G281	G281	G282	G282		1
2											2
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28											28
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EXP. DAM Prefix "ED"

This Index Sheet is to be sent (corrected to date) with drawings going for approval

Specification / Inspection / Paint Contact Surfaces / Shop Coat

Name of Structure: San Francisco Oakland Bay Bridge
Name of Customer: State of California
Contract No. CG1580
Shop No.
Index Sheet No. K19

McClintic-Marshall Construction Co.

Chicago Works

INDEX SHEET

	0	1	2	3	4	5	6	7	8	9	
0	X	6	G402	G402	G402	G402	G402	G402	G402	G402	0
1	G402	G402	G402	G402	G402	G402	G402	G402	G401	G402	1
2	G402	G402	G402	G402	G402	G402	G402	G402	G402	G402	2
3	G402	G402	G402	G402	G402	G402	G402	G402	G402	G109	3
4	G402	G402									4
5	G415	G415	G415	G415	G415	G415	G415	G415	G415	G415	5
6	G415	G415	G415	G416	G416	G416	G416	G416			6
7	G215	G215	G215	G215	G215	G215	G215				7
8	G419	G419	G419	G419	G419	G419	G419	G419	G419	G419	8
9	G419	G419	G419	G419	G419	G419	G419	G419	G419	G419	9
10	G419	G419	G419	G419	G419	G419	G419	G419	G419	G419	10
11	G419	G419	G419	G419	G419	G419	G419	G419	G419	G419	11
12	G419	G419	G419	G419	G419	G419	G419	G419	G419	G419	12
13	G419	G419	G419	G419	G419	G419	G419	G419	G419	G419	13
14	G419	G419	G419	G419	G419	G419	G419	G419	G419	G419	14
15	G419	G419									15
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29											29
	0	1	2	3	4	5	6	7	8	9	

Margin notes: G215 CG15803 (beside row 7); CC15802 (bracket beside rows 5–6); [illegible] (bracket beside rows 0–4)

GRATING SECTS – MISCELLANEOUS PLATES & SHIMS Prefix "M"

This Index Sheet is to be sent (corrected to date) with drawings going for approval

Specification / Inspection / Paint Contact Surfaces / Shop Coat

Name of Structure: San Francisco Oakland Bay Bridge
Name of Customer: State of California
Contract No. CG1580
Shop No.
Index Sheet No. [illegible]

McClintic-Marshall Construction Co.

Works

INDEX SHEET

	0	1	2	3	4	5	6	7	8	9	
0	X	G601	G601	G601	G601	G601	G601	G601	G601	G601	0
1	G601	G601	G601	G601	G417	G417	G417	G417	G418	G417	1
2	G417	G417	G417	G417	G417	G417	G417	G417	[illegible]	[illegible]	2
3	G418	G418	G418	G418	G418	G418	G418	G418	G41[illegible]		3
4											4
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	0	1	2	3	4	5	6	7	8	9	

CONST ANGLES & BOLTS Prefix "A"

This Index Sheet is to be sent (corrected to date) with drawings going for approval

Specification / Inspection / Paint Contact Surfaces / Shop Coat

Name of Structure: San Francisco Oakland Bay Bridge
Name of Customer: State of California
Contract No. CG1580
Shop No.
Index Sheet No. K21

McClintic-Marshall Construction Co.

Chicago Works

INDEX SHEET

	0	1	2	3	4	5	6	7	8	9	
0	X	G407	G407	G407	G407	G407	G407	G407	G407	G307	0
1	G407	G407	G409	G407	G409	G409	G409	G409	G407	G409	1
2	G409	G409	G409	G409	G410	G410	G410	G410	G410	G410	2
3	G410	G410	G410	G410	G410	G410	G411	G411	G411	G411	3
4	G411	G411	G411	G411	G411	G411	G411	G411	G411		4
5											5
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DRAINAGE CASTINGS Prefix "DC"

This Index Sheet is to be sent (corrected to date) with drawings going for approval

Specification / Inspection / Paint Contact Surfaces / Shop Coat

Name of Structure: San Francisco Oakland Bay Bridge
Name of Customer: State of California
Contract No. CG1580
Shop No.
Index Sheet No. K22

McClintic-Marshall Construction Co.

Chicago Works

INDEX SHEET

	0	1	2	3	4	5	6	7	8	9	
0	X	G802	G802	G802	G802	G802	G802	G802	G802	G802	0
1											1
2											2
3											3
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COUPLING BOLTS Prefix "CB"

This Index Sheet is to be sent (corrected to date) with drawings going for approval

Specification / Inspection / Paint Contact Surfaces / Shop Coat

Name of Structure: San Francisco Oakland Bay Bridge
Name of Customer: State of California
Contract No. C[illegible]1580
Shop No.
Index Sheet No. K23

McClintic-Marshall Construction Co.

Chicago Works

INDEX SHEET

	0	1	2	3	4	5	6	7	8	9	
0	X		G802	G802	G802	G802	G802	G802	G802		0
1	G802	G802	G802	G802	G802	G302	G802				1
2											2
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MISCELLANEOUS BOLTS Prefix MB

This Index Sheet is to be sent (corrected to date) with drawings going for approval

Specification / Inspection / Paint Contact Surfaces / Shop Coat

Name of Structure: San Francisco Oakland Bay Bridge
Name of Customer: State of California
Contract No. CG1580
Shop No.
Index Sheet No. K24

McClintic-Marshall Construction Co.
Chicago Works
INDEX SHEET

	0	1	2	3	4	5	6	7	8	9	
0		G110									0
1											1
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DRIVING NUTS Prefix "DN"

This Index Sheet is to be sent (corrected to date) with drawings going for approval

Specification
Inspection
Paint
Contact Surfaces
Shop Coat

Name of Structure: San Fransisco Oakland Bay Bridge
Name of Customer: State of California

Contract No. C61580
Shop No.
Index Sheet No. K25

McClintic-Marshall Construction Co.
Chicago Works
INDEX SHEET

	0	1	2	3	4	5	6	7	8	9	
0		G110									0
1											1
2											2
3											3
4											4
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PILOT NUTS Prefix "PN"

This Index Sheet is to be sent (corrected to date) with drawings going for approval

Specification
Inspection
Paint
Contact Surfaces
Shop Coat

Name of Structure: San Francisco Oakland Bay Bridge
Name of Customer: State of California

Contract No. C61580
Shop No.
Index Sheet No. K26

McClintic-Marshall Construction Co.
Chicago Works
INDEX SHEET

	0	1	2	3	4	5	6	7	8	9	
0		G107	G801	G801	G801	G801	G801	G801			0
1											1
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WASHERS Prefix W

This Index Sheet is to be sent (corrected to date) with drawings going for approval

Specification
Inspection
Paint
Contact Surfaces
Shop Coat

Name of Structure: San Francisco Oakland Bay Bridge
Name of Customer: State of California

Contract No. C61580
Shop No.
Index Sheet No. K27

McClintic-Marshall Construction Co.
Chicago Works
INDEX SHEET

	0	1	2	3	4	5	6	7	8	9	
0		G256 AD	G256 AD	G256 AD	G256 DD	G256 DD	G256 DD	G256 DD	G256 DD	G256 DD	0
1	G256 DD	G256 CD	G256 CD	G256 CD	G256 CD	G256 CD	G256 CD	G256 CD	G256 CD	G256 CD	1
2	G256 DD	G266	G266	G266	G266	G266	G266	G266	G266	G266	2
3	G266	G266	G266	G267	G267	G268	G268	G268	G268	G270	3
4	G270	G271	G271	G272	G273	G274	G275	G276	G271	G272	4
5	G271	G271	G271								5
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SKID GIRDERS Prefix "SG"

This Index Sheet is to be sent (corrected to date) with drawings going for approval

Specification
Inspection
Paint
Contact Surfaces
Shop Coat

Name of Structure: San Francisco Oakland Bay Bridge
Name of Customer: State of California

Contract No. C61580
Shop No.
Index Sheet No. K28

McClintic-Marshall Construction Co.
Chicago Works
INDEX SHEET

	0	1	2	3	4	5	6	7	8	9	
0		G101	G102	G109							0
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SHOE CASTINGS Prefix "SC"

This Index Sheet is to be sent (corrected to date) with drawings going for approval

Specification
Inspection
Paint
Contact Surfaces
Shop Coat

Name of Structure: San Francisco Oakland Bay Bridge
Name of Customer: State of California

Contract No. C61580
Shop No.
Index Sheet No. K29

McClintic-Marshall Construction Co.
Chicago Works
INDEX SHEET

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29											29
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GIRDERS Prefix "G"

This Index Sheet is to be sent (corrected to date) with drawings going for approval

Specification
Inspection
Paint
Contact Surfaces
Shop Coat

Name of Structure: San Francisco Oakland Bay Bridge
Name of Customer: State of California

Contract No. C61580
Shop No.
Index Sheet No. K31

McClintic-Marshall Construction Co.
Works
INDEX SHEET

	0	1	2	3	4	5	6	7	8	9	
0		G701	G901	G901	G901	G901	G901	G902	G902	G902	0
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2	G902	G903	G903	G903	G903	G903					2
3	G904	G904	G904	G904	G905	G905	G905	G905	G905	G905	3
4	G905										4
5											5
6											6
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LADDERS Prefix "L"

This Index Sheet is to be sent (corrected to date) with drawings going for approval

Specification
Inspection
Paint
Contact Surfaces
Shop Coat

Name of Structure: San Francisco Oakland Bay Bridge
Name of Customer: State of California

Contract No. C61580
Shop No.
Index Sheet No. K30

McClintic-Marshall Construction Co.
Chicago Works
INDEX SHEET

	0	1	2	3	4	5	6	7	8	9	
0		G109									0
1											1
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"B"

This Index Sheet is to be sent (corrected to date) with drawings going for approval

Specification
Inspection

Name of Structure

Contract No. C61580
Shop No.
Index Sheet No. K32

1651

Form K-151 3M-7-30

McClintic-Marshall Construction Co.

Chicago Works

INDEX SHEET

R.T.	0	1	2	3	4	5	6	7	8	9	
0		GRT1	GRT1	GRT1	GRT2	GRT1	GRT1	GRT1	GRT1	GRT2	0
1	GRT1	GRT2	GRT1	GRT1	GRT2	GRT2	GRT3	GRT3	GRT3	GRT4	1
2	GFRT1	GRT2	GRT301	GRT301	GRT301	GRT1	GRT1	GRT301	GRT301	GRT301	2
3	GRT201	GRT301	GRT301	GRT301	GRT301	GRT301	GRT301	GRT201	GRT201	GRT301	3
4	GRT2	GRT2BB	GRT3	GRT3	GRT3	GRTF	GRT3	GRT3	GRT3	GRT3	4
5	GRT3	GRT3	GRT3	GRT3	GRT3	GRT3	GRT3	GRT3	GRT3	GRT3	5
6	GRT3	GRT3	GRT3	GRT3		GRT202	GRT202	GRT202	GRT202	GRT3	6
7	GRT5	GRT203	GRT203		GRT203	GRT203	GRT203	GRT203	GRT203	GRT203	7
8	GRT203	GRT203	GRT203	GRT203	GRT203	GRT203	GRT203	GRT203	GRT203	GRT202	8
9	GRT202	GRT202	GRT3	GRT4	GRT3	GRT203	GRT203	GRT203		GRT5	9
10	GRT3	GRT3	GRT4		GRT202	GRT203					10
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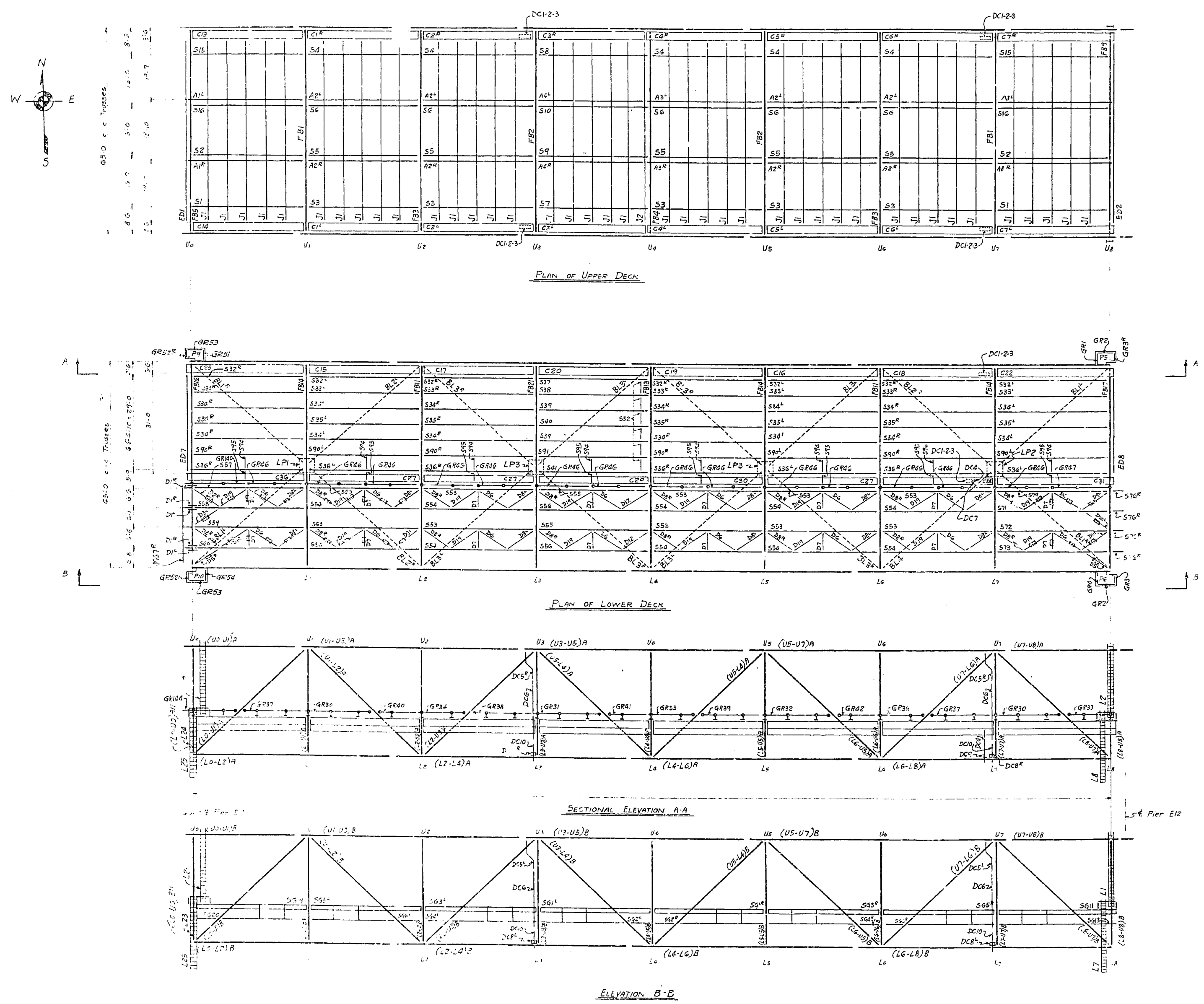
22											22
23											23
24	GRT4A on Sh. GRT1										24
25	GRT9A on Sh. GRT1										25
26	GRT1A on Sh. GRT1										26
27											27
28											28
29											29
	0	1	2	3	4	5	6	7	8	9	

REAMING TEMPLETS Prefix RT

This Index Sheet is to be sent (corrected to date) with drawings going for approval

Specification	Name of Structure	Contract No. CC1580 CG1580
Inspection	San Francisco Oakland Bay Bridge	
Paint Contact Surfaces	Name of Customer	Shop No.
Shop Coat	State of California	Index Sheet No. K30



Notes For Span E11 & E22 incl.

Certain holes in top chords at U2 and U6 and in connecting lugs on truss verticals at these points are to be left open for field riveting by others after erection of electric light poles.

For details of truss members at these points see shts. # G1-G3 & G15.

Field rivets for fastening of electric light poles to be furnished by others.

No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

Superstructure fabricated and erected by Mc Clintic Marshall Corporation Year 1934

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS:
OPEN HOLES:
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

Engineer of Design

Bridge Engineer

Chief Engineer

Date

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing

Erection Diagram Span 11

McCLINTIC - MARSHALL CORPORATION

CHICAGO DRAWING ROOM — CHICAGO WORKS

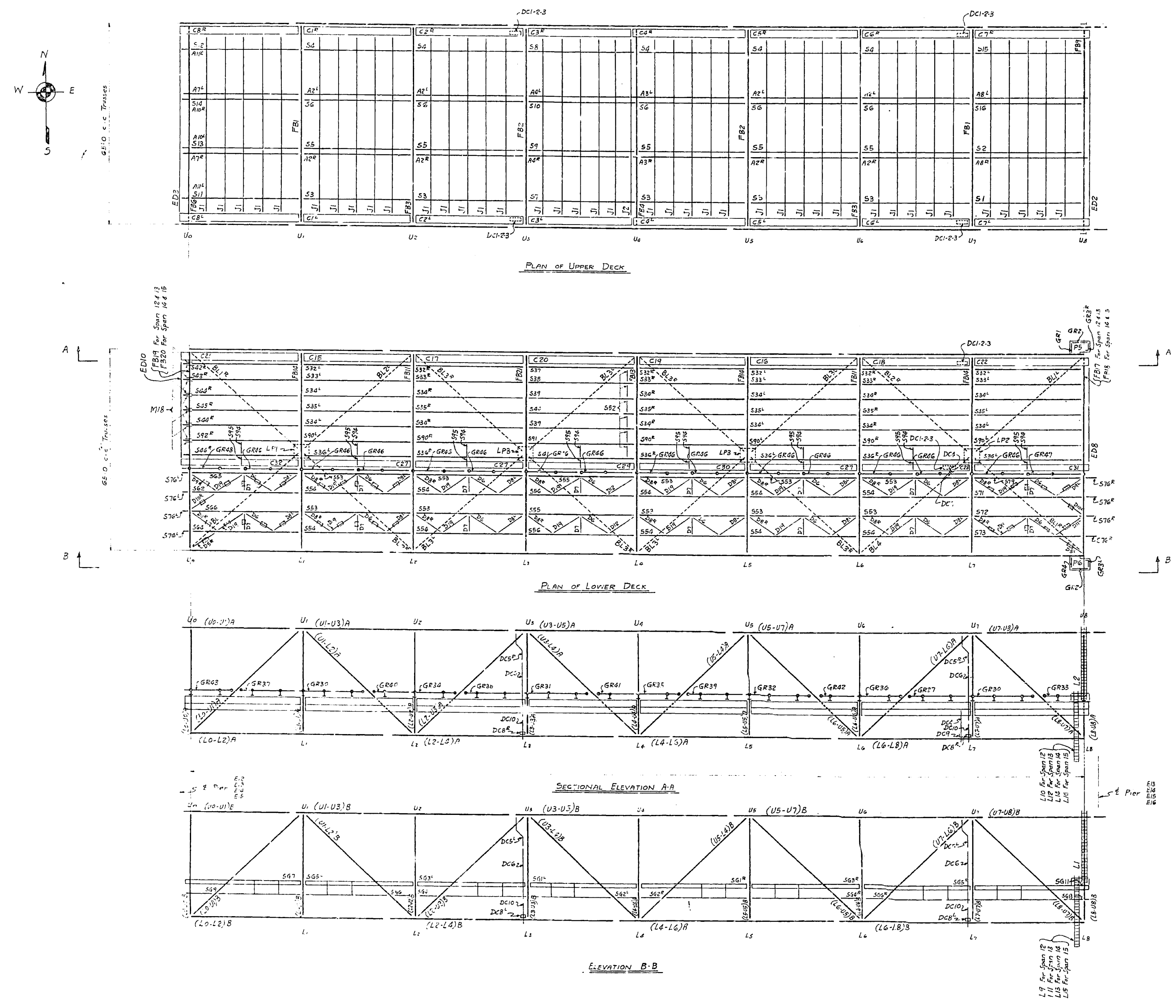
IN CHARGE ANTHONY — MADE BY B.W.

CHECKED BY — TRACED BY B.W.

LAST ASSEM. MK.

CONTRACT CG1580 — **SHEET** G E1

30-1



Plan of Upper Deck

Plan of Lower Deck

Sectional Elevation A-A

Elevation B-B

Superstructure fabricated and erected by Mc Clintic Marshall Corporation year 1934.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS:
OPEN HOLES:
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/8" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except: 1 coat No. Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

Date	Revision	Approved

APPROVED

Engineer of Design

Bridge Engineer

Chief Engineer

Date

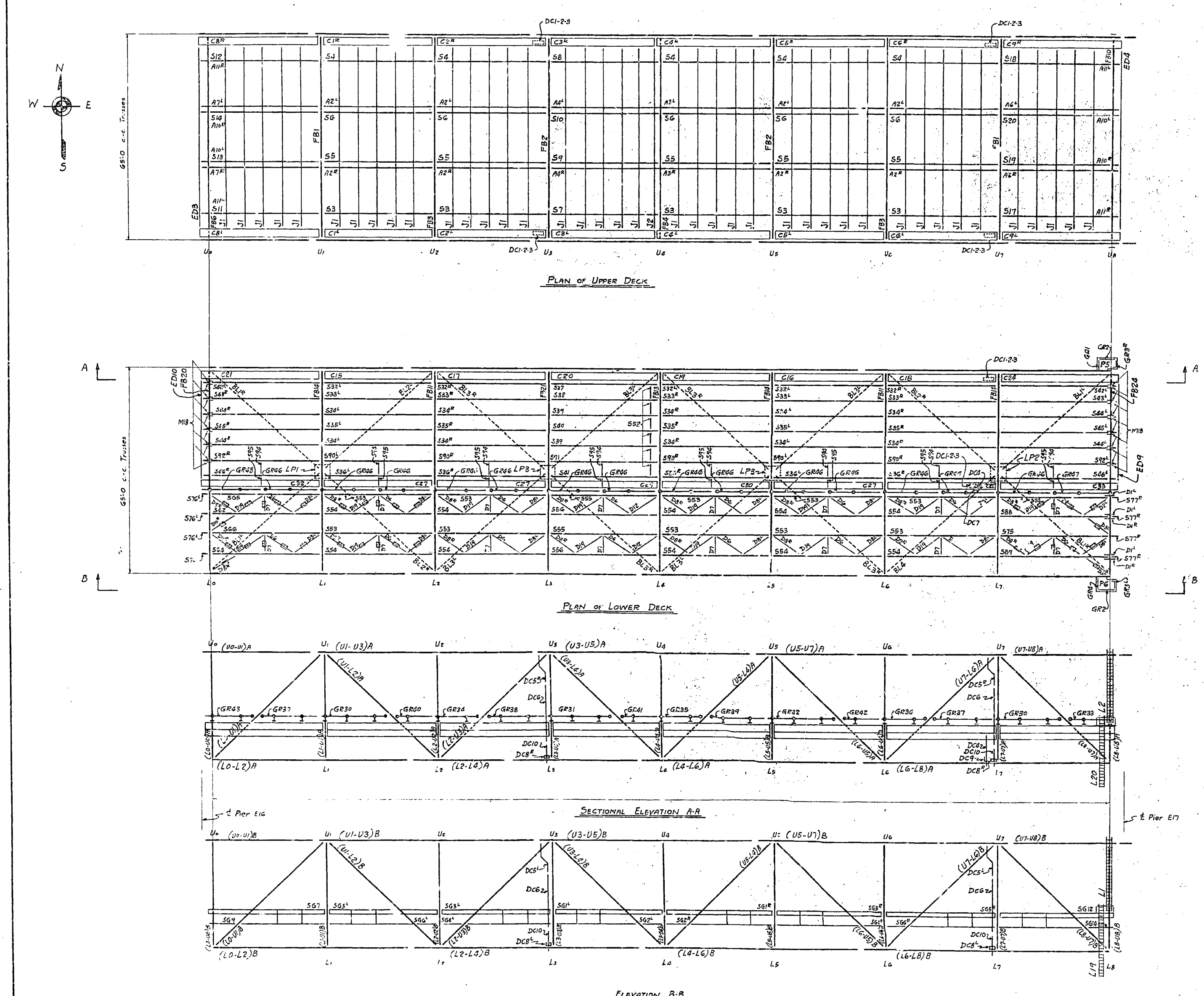
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Erection Diagram Span 12-13-14- & 15

McCLINTIC-MARSHALL CORPORATION

CHICAGO DRAWING ROOM CHICAGO WORKS
IN CHARGE ANTHONY MADE BY BW
CHECKED BY TRACED BY DW
LAST ASSEM. MK.

CONTRACT CG1580 SHEET E2

30-1



Superstructure fabricated and erected by Mc Clintic Marshall Corporation Year 1934.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS:
OPEN HOLES:
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date

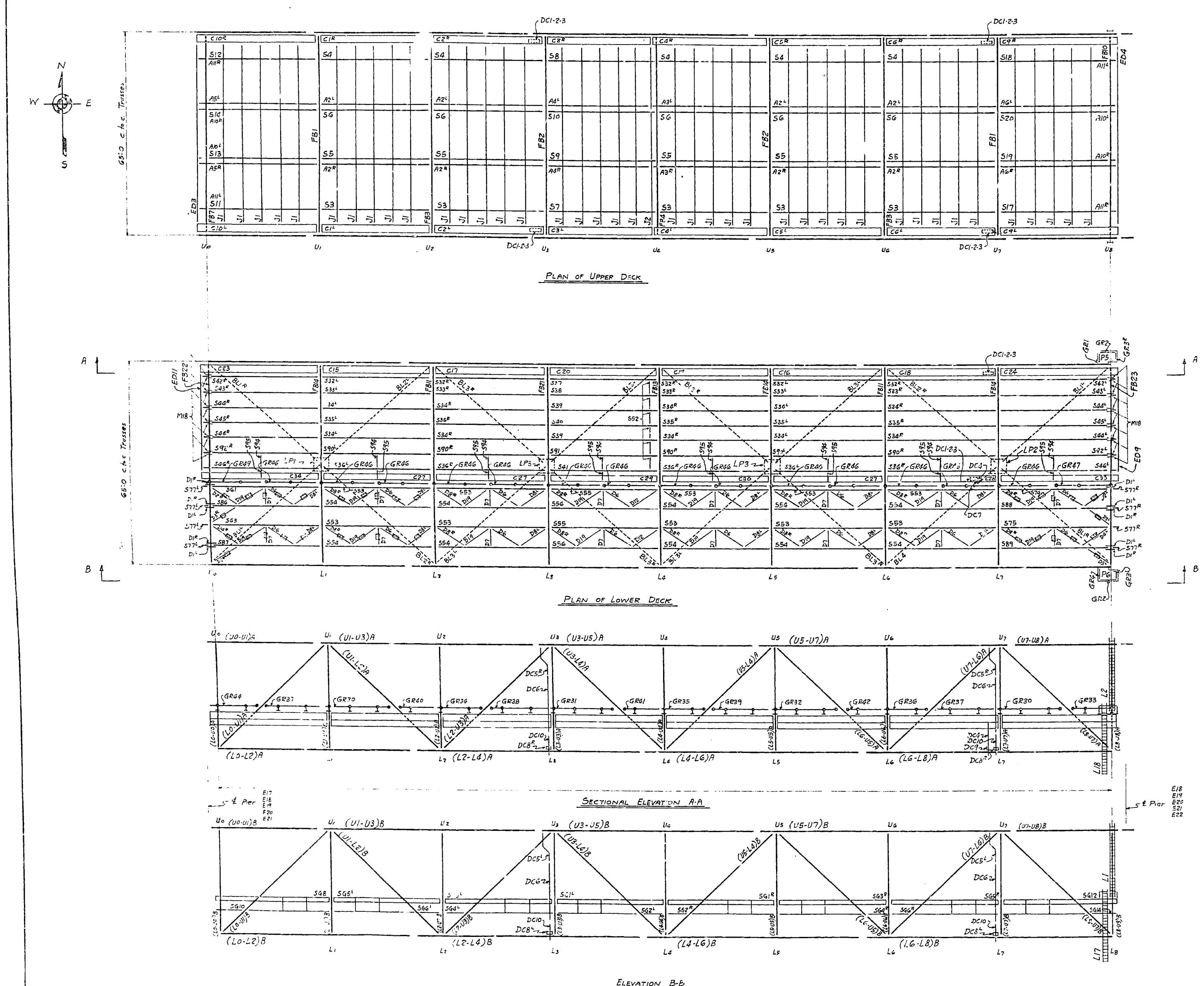
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Erection Diagram Span 16

McCLINTIC - MARSHALL CORPORATION

CHICAGO DRAWING ROOM CHICAGO WORKS
IN CHARGE ANTHONY MADE BY B.W.
CHECKED BY TRACED BY B.W.
LAST ASSEM. MK.

CONTRACT CG1580 SHEET G E3

30-1



REQUIRED LIST

No.	Description	Mark	Remarks	Weight each

Date	Revision	App'd

APPROVED

Engineer of Design

Bridge Engineer

Chief Engineer

Date

Superstructure fabricated and erected by Mc Clintic Marshall Corporation year 1934.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS:
OPEN HOLES:
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ⅛" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

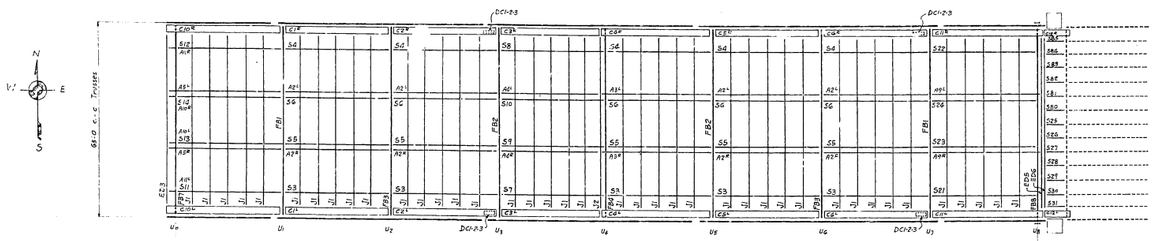
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Erection Diagram Spans 17-18-19-20 & 21

McCLINTIC - MARSHALL CORPORATION

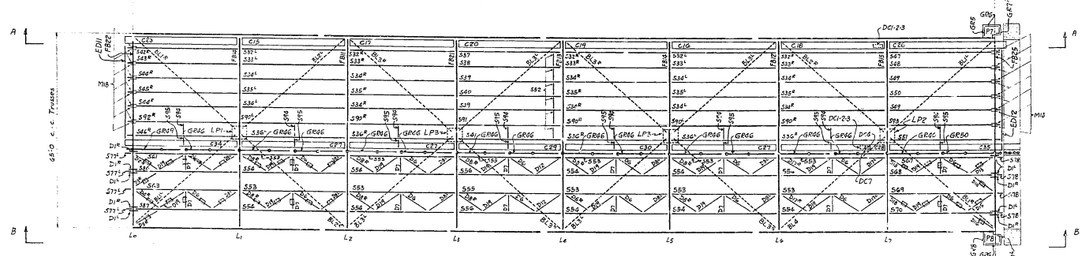
CHICAGO DRAWING ROOM CHICAGO WORKS
IN CHARGE ANTHONY MADE BY B.W.
CHECKED BY TRACED BY B.W.
LAST ASSEM. MK.

CONTRACT CG1580 **SHEET** G E4

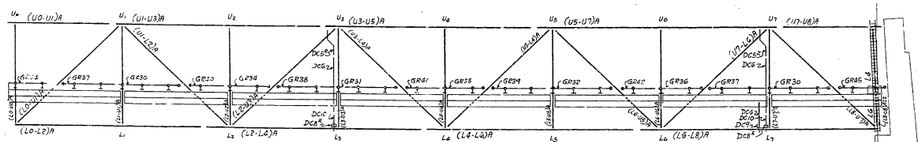
30-1



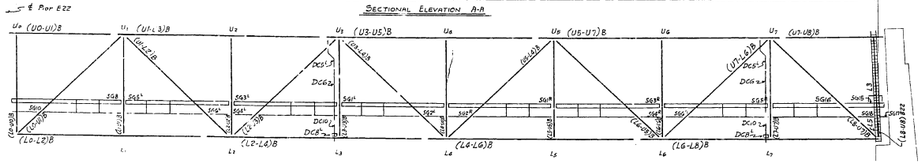
PLAN OF UPPER DECK



PLAN OF LOWER DECK



SECTIONAL ELEVATION A-A



ELEVATION B-B

Superstructure fabricated and erected by Mc Clintic Marshall Corporation year 1934.

MATERIAL: All structural steel to be rivet bearing. Assembly mark for erection steel prefixed with c, thus: ca, cb, etc., for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS:
OPEN HOLES
PUNCHING: Holes in material ½" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material ⅝" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ⅝" thick to be sub-drilled ¼" and reamed after assembly, or drilled from the solid
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed to ½ to remove at least ¼ of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except: 1 coat No. Oxide Filler Red for base and cap plates of Towers, at Bents, and at built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

REQUIRED LIST

No.	Description	Stock	Remarks	Weight Each Piece

Date	Revision	Appd.

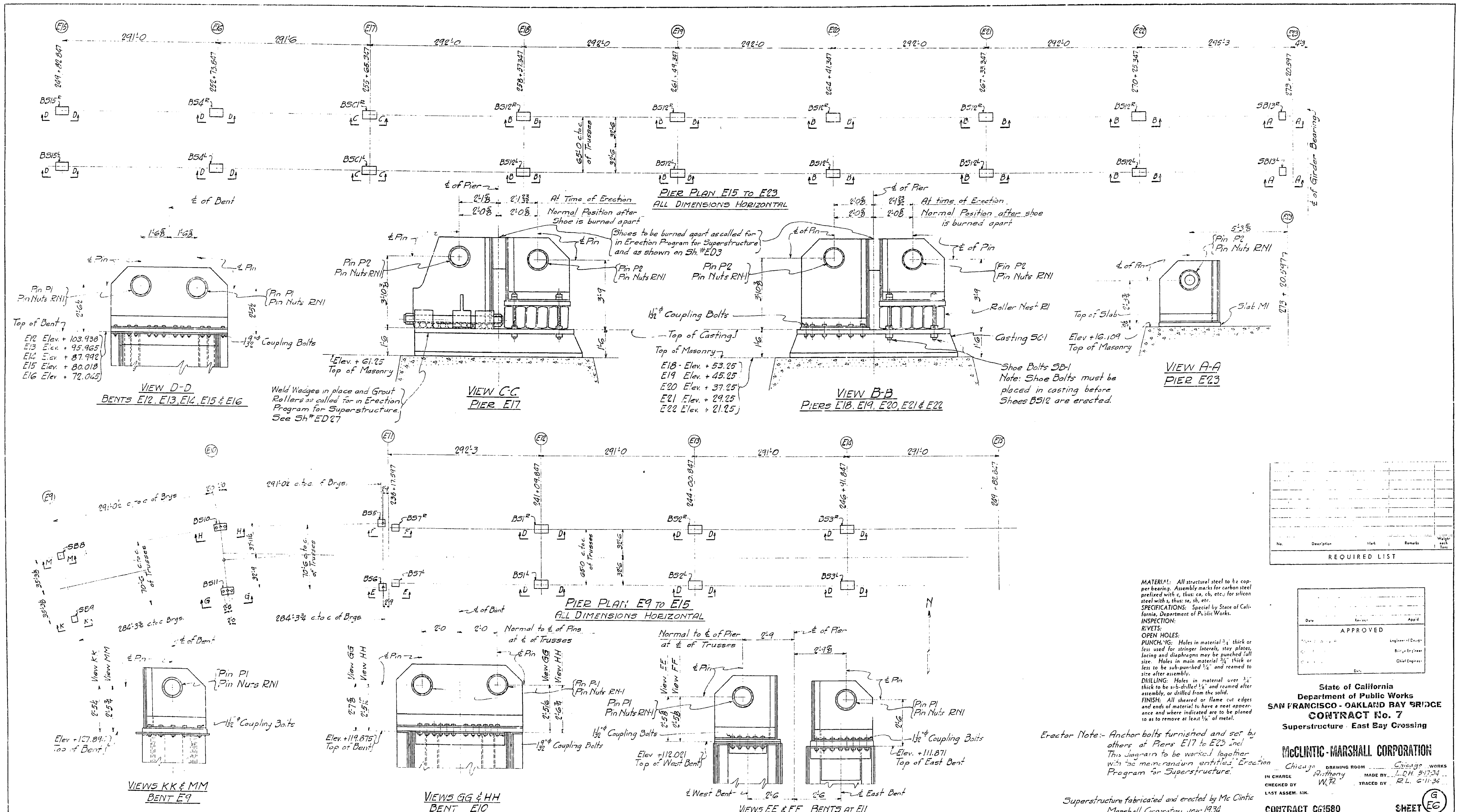
APPROVED

Engineer in Charge
Bridge Engineer
Chief Engineer
Date

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Erection Diagram Span 22
McCLINTIC-MARSHALL CORPORATION
CHICAGO DRAWING ROOM CHICAGO WORKS
IN CHARGE ANTHONY MADE BY B.W.
CHECKED BY TRACED BY B.W.
LAST ASSEM. MK.

CONTRACT CC1590 SHEET E5

30-1


PIER PLAN E15 TO E23
ALL DIMENSIONS HORIZONTAL
VIEW D-D
BENTS E12, E13, E14, E15 & E16
VIEW C-C
PIER E17
VIEW B-B
PIERS E18, E19, E20, E21 & E22
VIEW A-A
PIER E23
PIER PLAN: E9 TO E15
ALL DIMENSIONS HORIZONTAL
VIEWS KK & MM
BENT E9
VIEWS GG & HH
BENT E10
VIEWS EE & FF BENTS AT E11
REQUIRED LIST
No. Description Mark Remarks Weight each Tons
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS:
OPEN HOLES:
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DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
Erector Note:- Anchor bolts furnished and set by others at Piers E17 to E23 incl. This diagram to be worked together with the memorandum entitled "Erection Program for Superstructure."
Superstructure fabricated and erected by Mc Clintic Marshall Corporation year-1934.
Date Revision App'd
APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure · East Bay Crossing
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Chicago WORKS
IN CHARGE Anthony MADE BY L.D.H. 5-17-34
CHECKED BY W.R. TRACED BY R.L. 6-11-34
LAST ASSEM. MK.
CONTRACT CG1580
SHEET G E6

30-1

GENERAL NOTES COVERING ERECTION OF TANGENT SPANS 11 to 22 INCL.
THESE NOTES TO BE USED IN CONJUNCTION WITH "ERECTION PROGRAM FOR SUPERSTRUCTURE" DATED JUNE 1934.

(1) Erection marks are painted in shop on same ends of members as they appear on erection plan and in upright position. Members must be erected with marks in these positions. Where marks appear at middle of member on erection plan, the member may be turned end for end.

(2) Matchmarking:-
Top and bottom chord members and end posts for each span have been assembled in shop and span number added (For matchmarking purposes) as suffix to erection mark. Thus (U1-U3) A11; (U1-U3) B11 etc. Erect accordingly. Span mark is also included in erection mark for all other members where member is not the same for all spans. Where span mark is not included in erection mark, member may be used for any span where mark on erection plan does not have span number as suffix. All members for north trusses are marked with suffix A as (U0-U1)A etc. All members for south trusses are marked with suffix B as (U0-U1)B etc.

(3) Before erecting steel, erector to remove all temporary bolts placed by shop for purpose of excluding extraneous material during shipment and sandblasting. Holes in which these bolts occur are designated on detail drawings as "Holes ⊗".

(4) Erector to provide short guns for numerous conditions of close driving.

(5) Erector to pay particular attention to erectors field rivet lists to insure that tapered rivets, round head bolts, flat head bolts, tap bolts, square and hex head bolts, coupling bolts and round and beveled washers are used as required. Washers are to be used for all slotted hole connections and are to be placed on outside of slots. If slots occur on two exposed surfaces of the same connection, washers are to be used on both surfaces. In placing bolts care should be taken that heads are on exposed sides.

(6) Wherever shop shims have been provided for adjustment, normal shims have been provided and shims bolted for shipment. One $\frac{1}{8}$" field shim and one $\frac{1}{16}$" field shim has also been provided at these points in case further adjustment is required.

(7) See sheet GE8 for typical cross section through spans

(8) Erector to take precautions that chords of adjacent spans are aligned laterally in order that closing plates on chords and walks may fit properly and not bind.

(9) At bent E11 drive rivets connecting Exp Dam ED1 to walks C13 & C14 before erecting grating at upper deck.

(10) Layouts:-
One print each of the following layouts have been furnished Erector for his reference.
(a) Trusses - Sheets GL4 to GL8 incl - Top chords
(b) Traction bracing - Sheets GL20 & GL21
(c) Upper and Lower deck roadway joints - Sheets GL22 to 25 & GL35
(d) Trusses - Sheets GL26 to GL31 incl - Bottom chords
(e) Worksheet - GL33
(f) Erection scheme - GL34
(g) Skid girder connections to Trusses - Sheets GL38 to 41 incl
(h) Upper deck layouts - Sheets GL37, GL42 to 45 incl, GL48 & GL49
(k) Upper & Lower deck data - GL52 AE, BE, CE, DE GL58 & GL59
(m) Drainage details - Sheets GL67 AB, BB.
(n) Skid girder connections to Trusses - GL72, 73 & 74
(p) North lower walk details - GL75, 76, 77 & 79
(s) South lower walk details - GL81, 82 & 83
(t) Ladder layouts - GL84, 85 86 & 87
(v) Stringer erection GL92
(w) Ladders at E Sheets GL100 AB & BB

(11) Trusses -
(a) Before erecting top chord sections U7-U8 for spans 11 to 21 inclusive Erector to remove short stub ends (provided for closing purposes and shipped bolted to chords) and matchmark same. After spans are swung and erection tie removed replace stubs, adjust for neat closing appearance and ream out sub-punched holes provided for adjustment.
(b) Before erecting top chord sections U7-U8 for span 22 Erector to remove permanent bolted plates and angles at U8 and replace and rebolt after span is swung.
(c) After spans are swung and temporary erection devices (such as erection ties, temporary erection struts, temporary erection shoes and straining devices) removed Erector to drive up holes for same.
(d) Leave open holes in cover plates on top chord at U2 & U6 for lamp post connection.

(11) Trusses:- continued.
(e) … not rivet up top and bottom chords until it is understood … ch holes are to be left open for ladder connections
(f) … sing plates on west end of top chords (U0-U1) A and (U0-U1) B11 at bent E11 must be removed in order to erect chords U7-U8 of span 10. Do not rivet until span 10 is in place.

(12) Upper and Lower deck floor beams.
(a) Leave open holes in bottom flg. of upper deck floor beams for light connections.
(b) For method of erecting bottom laterals see sketch V on sheet ER5.
(c) Due to camber in floor beams it may be necessary to place load on same in order to make the connection between floor beams and trusses, and between floor beams and brkt. on vertical below upper deck floor beams. Loading of Fl. Bms. to be carried out in such a manner as not to add to critical stresses.

(13) Sequence of erection - Upper deck
(a) Walks must be erected before expansion dams and expansion dams before construction angles.
(b) Upper deck walks to be erected from east to west except that for adjacent walk sections at bents E12 to E16 incl; the west section is to be erected before the east section. Also at bents E12 to E16 incl. adjust adjacent walk sections for elevation so that at bare steel load the east walk is $\frac{1}{16}$" lower than west walk. Then under full dead load walks will be flush with $\frac{1}{8}$" clearance in slip joint both laterally and vert.
(c) Adjacent sections of upper deck walks at piers E17 to E23 incl. to be adjusted so that tops and curbs are flush and so that there is $\frac{1}{8}$" clearance laterally and vertically in slip joint.
(d) Do not erect upper walk sections at U0 - span 11 until adjacent sections at U8 - span 10 have been erected.
(e) Upper walk sections at pier E23 must be erected before adjacent walk sections on mole.

(14) Sequence of erection - Lower deck.
(a) Walks must be erected before expansion dams.
(b) Do not erect lower walk sections at L0 - span 11 until adjacent sections at L8 - span 10 have been erected.

(15) Expansion dam adjustment.
(a) The east half of upper and lower deck expansion dams at bents E12 to E16 should be set about $\frac{1}{16}$" lower than west half under bare steel load, in order to close properly under full dead load.

(16) Adjustment at expansion joint at U4:-
(a) Adjust construction angles at U4 for elevation.
(b) Adjust curb connection to joists near U4 for elevation.

(17) Upper and lower deck stringers:-
(a) See layout sheet GL92 for erection of stringers.
(b) Use shims M33 & M34 for stringer ties M18 to floor beams.

(18) Traction Bracing:-
For connection of D7 to D19 use one $\frac{7}{8}$"ϕ hex hd. bolt and one washer - W4 in hole nearest stringer.

(19) North lower walk:-
(a) In order to erect north lower walk it must be raised approximately 3" vertically to clear adjacent stringer.
(b) Curb angles on walk to be field riveted to floor beams at L0 - west end of each span with $\frac{7}{8}$"ϕ rivets and field bolted to floor bms. at L8 - east end of each span with $\frac{7}{8}$"ϕ bolts - hex hd. At intermediate floor bms, curb angle is bolted to floor beam on west side of panel point - $\frac{7}{8}$"ϕ bolt hex hd. and riveted to floor bm on east side of panel point, except at panel point L4 where it is riveted both sides.
(c) Vertical hand rail post angles to be field bolted to floor bms at all points with $\frac{7}{8}$"ϕ hex hd. bolts.
(d) Channel at top of railing to be field bolted to truss verticals with $\frac{3}{4}$"ϕ hex hd. bolts and to angle on web of truss diagonals with $\frac{3}{4}$"ϕ hex hd. bolts without nuts, the nuts being shop welded to angle on diagonal. For connection of channel to small lugs on truss diagonals use $\frac{3}{4}$"ϕ round head bolts. For special conditions at L4 expansion joint - See layout GL52 DE.
(e) In order to line up adjacent walks vertically at ends of adjoining spans, shop adjusting shims bolted to walks have been provided at L0 of spans 12 to 22 inclusive. One $\frac{1}{8}$" field shims (M19 - M21) and one $\frac{1}{16}$" field shims (M20 - M22) has been provided in case further adjustment is required.

(20) South lower walks.
(a) Curb angles, diaphragms and posts on walk riveted to floor beam at L0 - west end of each span with $\frac{7}{8}$"ϕ rivets, and field bolted to floor beams at L8 - east end of each span with $\frac{7}{8}$"ϕ hex hd. bolts. At intermediate floor beams, curb angle is bolted to floor beam on west side of panel point with $\frac{7}{8}$"ϕ hex hd. bolts and riveted on east side with $\frac{7}{8}$"ϕ rivets. Diaphragms and posts

(20) South lower walks - continued.
riveted to intermediate floor beams. At panel point L4 - (exp joint) - walk is riveted to floor bm both sides of panel point.
(b) In order to line up adjacent walks vertically at ends of adjoining spans, shop adjusting shims bolted to walks have been provided at L0 of spans 12 to 22 inclusive. One $\frac{1}{8}$" field shim (M21 - M23 - M29) and one $\frac{1}{16}$" field shim (M22 - M24 - M30) has been provided also in case further adjustment is required.
(c) In order to line up channel at top of walk adjusting shims have been provided at bottom of posts between flgs of post and lug connecting post to floor beam. One $\frac{1}{8}$" field shim (M25 at L4 - M27 - M31 - M37) and one $\frac{1}{16}$" field shim (M26 at L4 - M28 - M32 - M38) has been provided. Also at center of each panel where channels have been provided for supporting walk post, adjusting shims have been provided between lugs on channels and posts on walk. One $\frac{1}{8}$" field shim (M40) and one $\frac{1}{16}$" field shim (M41) has been provided.

(21) Skid Girders:-
(a) Closing plates have been provided on skid girders at bents E12 to E22 incl. In order to provide horizontal and vertical adjustment for lining up skids at these points, holes in brackets on verticals L0-U0 have been sub-punched $\frac{11}{16}$"ϕ in shop and vertical slots provided in flanges of L0-U0. Erector to line up skid girders and ream holes in brackets to $\frac{15}{16}$"ϕ. Erector to take special care to properly align railing angle on skid girder.
(b) Countersunk field rivets thru face of skid girders need not be chipped in field but must not be more than $\frac{1}{8}$" high.

(22) Lower deck expansion dams:-
(a) At bents E12 to E16 no adjusting shims provided for west half of expansion dams. Normal shims shipped bolted, to east half. Set west half first and adjust east half to suit. One $\frac{1}{8}$" field shim (M35) and one $\frac{1}{16}$" field shim (M36) provided at each floor beam bracket in case further adjustment is necessary.
(b) At piers E17 to E22 normal shims shipped bolted to both east and west sections of dam. One $\frac{1}{8}$" field shim (M35) and one $\frac{1}{16}$" field shim (M36) provided at each floor beam bracket.
(c) At E23 - Both sections of expansion dam E12 have been shipped fastened together with cap screws, and normal shims shipped bolted to east half. One $\frac{1}{8}$" field shim (M35) and one $\frac{1}{16}$" field shim (M36) provided at each floor beam bracket. After E12 is set to proper elevation and concrete on abutment poured cap screws are to be removed. See (15) this sheet.

(23) Upper deck walks:-
(a) Upper deck walks field bolted to lugs riveted to top chords of trusses; $\frac{13}{16}$"ϕ holes in truss lug and $\frac{13}{16}$" x $1\frac{1}{2}$" slots in walk angle. In order to line up adjacent walks on adjoining spans at bents E12 to E22 the first lug on the east side of each bent is shipped bolted to truss with $\frac{1}{8}$" shim between lug and chord. One $\frac{1}{8}$" field shim (M2) and one $\frac{1}{16}$" field shim (M3) has been provided in case further adjustment is required.
(b) Curb angles and walkway brackets on upper deck walk field bolted to floor beam at all points with $\frac{7}{8}$"ϕ sq. hd. bolts; $\frac{15}{16}$"ϕ holes in floor bm; $\frac{15}{16}$" x $1\frac{3}{16}$" slots in curb angles and $\frac{15}{16}$" x $1\frac{1}{2}$" slots in brackets connecting to floor beam. No vertical adjustment at bent E11. At bents E12 to E22 incl. in order to line up adjacent walks on adjoining spans - shims have been provided bolted to walk between walk and floor bm. at U0 on each span. One $\frac{1}{8}$" field shim (M4) and one $\frac{1}{16}$" field shim (M5) between curb angle and floor beam, and one $\frac{1}{8}$" field shim (M6) and one $\frac{1}{16}$" field shim (M7) between walk brackets and floor bm. has also been provided. At mole girder furnished by San Francisco Works east of pier E23, curb angles and walkway bracket to be riveted to girder.
(c) At expansion joint at U4, curb angle connected to joist with $\frac{3}{4}$"ϕ rivets. In order to provide vertical adjustment between adjacent sections of walks at expansion joint, shims have been provided bolted to curb angle. One $\frac{1}{8}$" field shim (M8) and one $\frac{1}{16}$" field shim (M9) has also been provided.

(24) Upper deck expansion dams:-
(a) At bents E12 to E16 no adjusting shims provided for west half of expansion dams. Normal shims shipped bolted to east half. Set west half first and adjust east half to suit. One $\frac{1}{8}$" field shim (M10) and one $\frac{1}{16}$" field shim (M11) provided at each floor beam bracket. See (15) this sheet.
(b) At piers E17 to E22 normal shims shipped bolted to both east and west sections of dam. One $\frac{1}{8}$" field shim (M10) and one $\frac{1}{16}$" field shim (M11) provided at each floor bm. bracket.
(c) At E23 expansion dam cannot be erected until short stringers to east of E23 are in place.

(25) Construction angles:-
(a) Construction angles to be erected after expansion dams are in place.
(b) In order to line up construction angles where same conn.

(25) Construction angles - continued.
to expansion dams and at expansion joints; shop and field shims have been provided as follows.
(1) Shop shims bolted to construction angles where same conn to floor beam at U0 - spans 12 to 22 incl. and U8 - spans 16 to 21 inc. One $\frac{1}{8}$" field shim (M12) and one $\frac{1}{16}$" field shim (M13) provided at each point in case further adjustment is required.
(2) Shop shims bolted to construction angles where same conn. to floor beams at U0 - span 11; at U4 spans 11 to 22 incl. and at U8 - spans 11 to 15 incl. and 22. One $\frac{1}{8}$" field shim (M14) and one $\frac{1}{16}$" field shim (M15) provided at each point in case further adjustment is required.
(3) Shop shims bolted to construction angle where same connect where same connect to expansion dams at panel point U0 - spans 12 to 22 incl. and at panel point U8 - spans 16 to 21 incl. One $\frac{1}{8}$" field shim (M16) and one $\frac{1}{16}$" field shim (M17) provided at each point in case further adjustment is required.

(26) Ladders and ladder platforms:-
(a) All ladder connections to be field riveted except ladder splices which are to be bolted.
(b) All ladder platform connections to be field riveted except slotted hole connections which are to be field bolted.
(c) For complete sketches showing relation of ladder and ladder platforms to trusses - see ladder layouts GL84 to GL87 incl. and GL100 AB & BB.

(27) Drainage:-
(a) Erector to assemble roadway drain boxes DC1 and asbestos gasket DC2 to upper and lower deck walks on ground before walks are erected.
(b) For drainage layouts see sheet GL67 AB & BB.

(28) Pipe railing:-
(a) Railing posts bolted to walks with $\frac{3}{4}$"ϕ round head bolts; to skid girder with $\frac{3}{4}$"ϕ hex head bolts; to ladder platforms with $\frac{5}{8}$"ϕ hex head bolts; and to truss verticals with $\frac{5}{8}$"ϕ round head bolts.
(b) All field joints in railing for upper and lower walks to be slip joints and need not be welded in field.

(29) Threads on all field bolts to be burred at face of nuts after the latter are drawn up tight.

(30) During erection, the top bottom lateral plate at shoes; At L0 + L8 is to be made effective by blocking between the chord and shoes.

(31) After Span E21 has been erected complete and shoes at pier E23 are in their correct position, slotted holes for anchor bolts in shoes at pier E23 to be welded up solid before anchor bolt nuts are permanently tightened.

NOTES ON BOLTING AND RIVETING.

All field connections to be riveted except as noted below.

(1) Coupling bolts:-
(a) Use coupling bolts CB3-5 & 6 for connecting shoes to steel bent at east side of bent E11.
(b) Use coupling bolts CB5 for connecting shoes to shoe castings at concrete piers E18 to E22 incl.
(c) Use coupling bolts CB7 & CB8 for connecting shoes to steel bents E12 to E16 incl.
(d) Use coupling bolts CB9 in two end holes of bottom flg. of lower deck floor beams at points L0 - spans 11 to 22 inclusive; where floor bm. connects to lateral plate and 6x6x½ L.

(2) Flat head bolts:-
(a) Use flat head bolts MB2 for connecting drain castings to upper and lower walks.
(b) Use flat head bolts MB3 for connecting skid girders to truss verticals.
(c) Use flat head bolts MB4 & MB5 for connecting upper and lower deck walks.

(3) Tap bolts:-
(a) Use tap bolts MB6 for connecting drain castings to upper and lower deck walks.
(b) Use tap bolts MB7 for connecting leader pipes to drain castings.

(4) Round head bolts:-
(a) Use round head bolts MB8 for connecting ladder platform Railing GR3 & GR7 to truss verticals L8-U8 at bents E12 to E23 incl.
(b) Use round head bolts MB10 -
(1) For connecting upper deck walks to top chord of trusses.
(2) For connecting skid girders to truss verticals.
(3) For conn. ladder platforms to skid girders and north lower walks.
(4) For connecting ladders at splices.
(5) For conn. lower north walk to truss diagonals.
(6) For conn. angle rail on skid girder at splices.
(7) For conn. lower south walks at splices.
(c) Use round head bolts MB11 -
(1) For conn. upper deck walks to top chord of trusses.
(2) For conn. hand rail to lower deck walks.
(3) For conn. skid girders to truss verticals.

(4) Round head bolts - continued.
(4) For conn. ladders to platforms furnished by Steelton.
(5) For conn. lower south walk at splices.
(d) Use round head bolts MB12 -
(1) For conn. lower walks at splices.
(2) For conn. hand rail to lower deck walk.
(3) For conn. skid girders to truss verticals.
(e) Use round head bolts MB13
(1) For conn. lower walks at splices
(2) For conn. hand rail to lower deck walk.
(f) Use round head bolts MB14 for conn. skid girders to truss verticals.
(g) Use round head bolts MB15 & MB16 for conn hand rail to lower deck walk.

(5) Use $\frac{7}{8}$"ϕ sq. head bolts in all slotted holes connecting upper deck walks to floor beams.
Use $\frac{7}{8}$"ϕ hex head bolts in all slotted holes connecting lower deck walks to floor beams.
Use one $\frac{7}{8}$"ϕ hex head bolt for connecting traction brace D1 to D19 - See sheet G201 for location of bolt hole.

(6) Use one $\frac{3}{4}$"ϕ sq. head bolt - in upper deck curb plate splice - see sheet G250 AE to EE incl. for location.
Use $\frac{3}{4}$"ϕ hex head bolts in lower deck curb plate splices where called for on details - see sheets G258 AH to HH & 259 AG to GG.
Use $\frac{3}{4}$"ϕ hex head bolts for connecting north lower walk to truss verticals.
Use $\frac{3}{4}$"ϕ hex head bolts with no nuts for connecting lower north walk to truss diagonals - see sheet 258 AH to HH for location - nuts welded to diagonals.
Use $\frac{3}{4}$"ϕ hex head bolts for connecting hand rail to skid girder.
Use $\frac{3}{4}$"ϕ hex head bolts for connecting lugs on end posts to skid girders.
Use one $\frac{3}{4}$"ϕ hex head bolt for curb splice in lower south walk.
Use $\frac{5}{8}$"ϕ hex head bolts for connecting hand rail to ladder platform.
Use $\frac{5}{8}$"ϕ sq. head bolts for connecting drain castings to upper walks - see sheet 250 AE, and to lower walks - see sheet 258 BH & 259 AG.
Use $\frac{5}{8}$"ϕ hex head bolts for connecting expansion dam to lower south walk at L8

(7) Beveled washers:-
(a) Use beveled washers W2 for $\frac{5}{8}$"ϕ bolts in channel flanges.
(b) Use beveled washers W3 for $\frac{3}{4}$"ϕ bolts in channel flanges
(c) Use beveled washers W4 for $\frac{7}{8}$"ϕ bolts in channel flanges.

(8) Round washers:-
(a) Use plain washers W5 - for all $\frac{3}{4}$"ϕ bolts in slotted hole connections.
(b) Use two plain washers W5 for $\frac{3}{4}$"ϕ bolts connecting skid girders to L0-U0 where holes are slotted in both skid girder angles and in posts.
(c) Use plain washers W6 for all $\frac{7}{8}$"ϕ bolts in slotted hole connections.
(d) Use plain washers W7 - for $\frac{3}{4}$"ϕ bolts connecting north lower walk to truss diagonals where nuts for bolts are shop welded to truss diagonals.

ERECTION DEVICES

(1) For details of erection tie plates and erection struts and spans on which same are used - see sheet #1 Contract HG209.
(2) For details of horizontal beams and adjustment devices at E11 - see sheet #2 Contract HG209.
(3) All bolts for fastening erection devices to permanent steel to be furnished by erection department.

Date	Revision	App'd

APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date July 3 - 1934

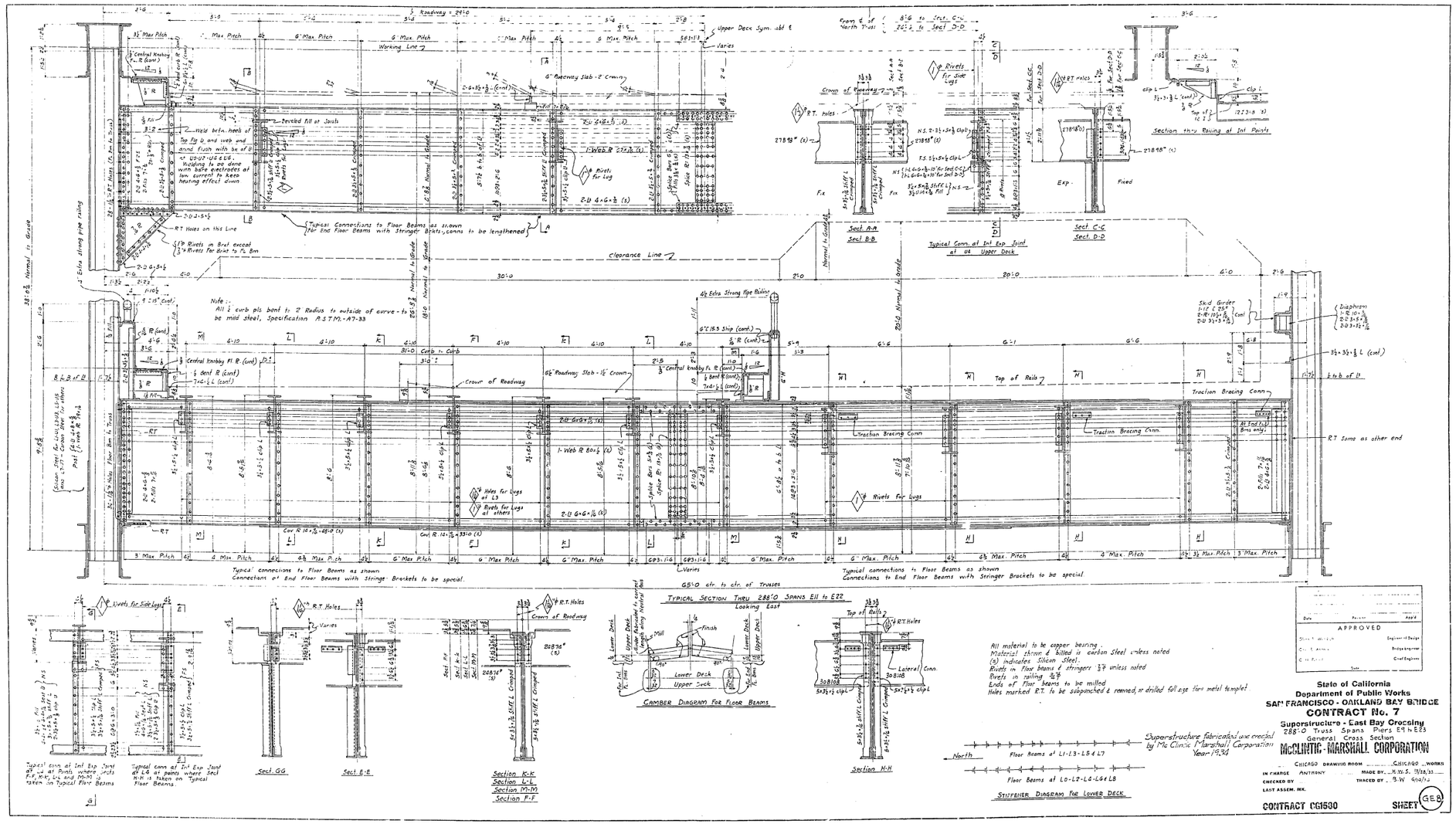
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing

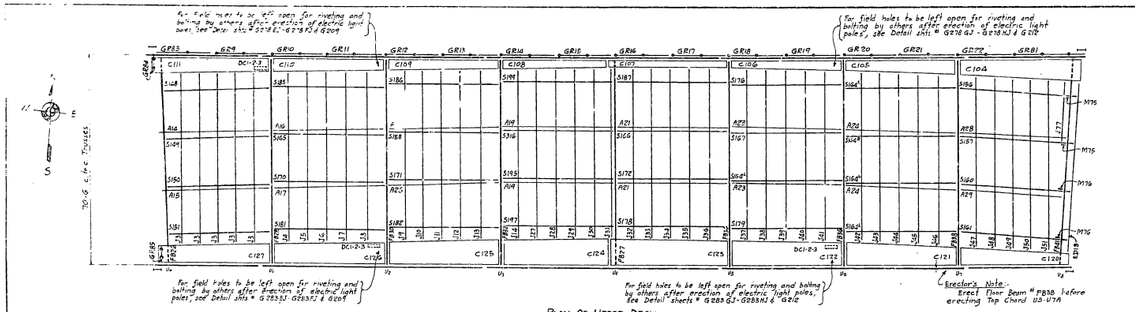
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Chicago WORKS
IN CHARGE Anthony MADE BY
CHECKED BY TRACED BY BK 6/15/34
LAST ASSEM. MK.

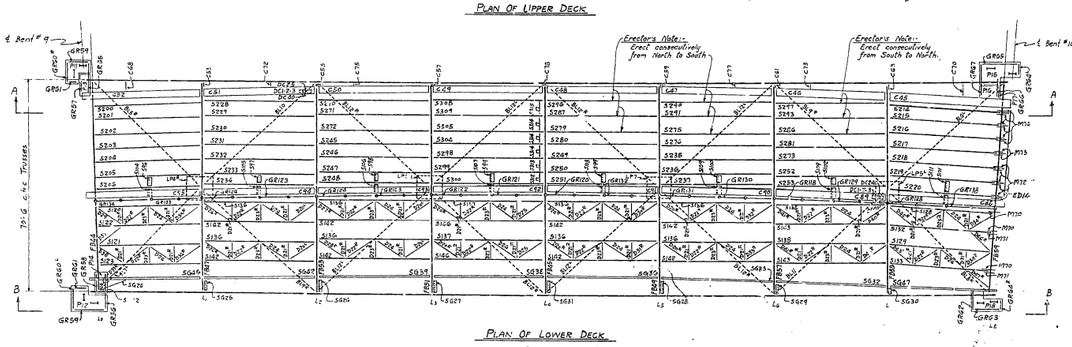
CONTRACT CG15801 SHEET GE7

30-1

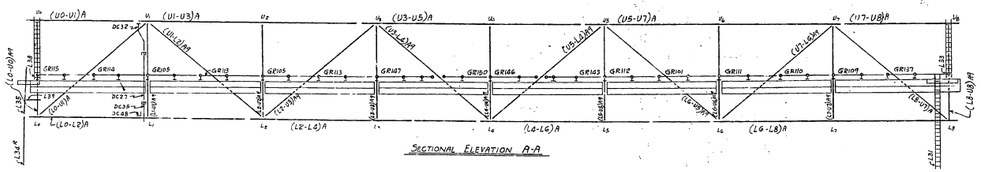

Roadway = 24'-0
Upper Dece Sym. abt ℄
Varies
Working Line
Crown of Roadway
Clearance Line
Normal to Grade
Typical Connections to Floor Beams as shown
For End Floor Beams with Stringer Brkts, Conns to be lengthened
Note:
All ⊥ curb pls bent to 2' Radius to outside of curve - to be mild steel, Specification A.S.T.M.-A7-33
31'-0 Curb to Curb
Crown of Roadway
6½ Roadway Slab - 1½ Crown
Top of Rails
Traction Bracing Conn
Typical connections to Floor Beams as shown
Connections at End Floor Beams with Stringer Brackets to be special.
Typical connections to Floor Beams as shown
Connections to End Floor Beams with Stringer Brackets to be special.
Sect A-A
Sect B-B
Sect C-C
Sect D-D
Typical Conn. at Int Exp. Joint at U4 Upper Deck
Section thru Railing at Int Points
Fix
Exp.
Fixed
Sect G-G
Sect E-E
Section K-K
Section L-L
Section M-M
Section F-F
Section H-H
Typical conn at Int Exp Joint at L4 at points where Sect M-M is taken on Typical Floor Beams
Typical conn at Int Exp Joint at L4 at points where Sect H-H is taken on Typical Floor Beams
Kivets for Side Legs
R.T. Holes
Crown of Roadway
Varies
TYPICAL SECTION THRU 288'0 SPANS E11 to E22
Looking East
Lower Deck
Upper Deck
Finish
Wall
CAMBER DIAGRAM FOR FLOOR BEAMS
Lateral Conn.
STIFFENER DIAGRAM FOR LOWER DECK
North
Floor Beams at L1-L3-L5 & L7
Floor Beams at L0-L2-L4-L6 & L8
Superstructure fabricated and erected by Mc Clintic Marshall Corporation Year 1934
All material to be copper bearing
Material shown & billed is carbon Steel unless noted
(s) indicates Silicon Steel.
Rivets in Floor beams & stringers ⅞" unless noted
Rivets in railing ⅞"
Ends of Floor beams to be milled
Holes marked R.T. to be subpunched & reamed, or drilled full size thru metal template.
APPROVED
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans Piers E11 to E23
General Cross Section
McCLINTIC-MARSHALL CORPORATION
CHICAGO DRAWING ROOM CHICAGO WORKS
IN CHARGE ANTHONY
MADE BY H.W.S. 11/28/33
CHECKED BY
TRACED BY B.W 4/10/34
LAST ASSEM. MK.
CONTRACT CC1530
SHEET GE8



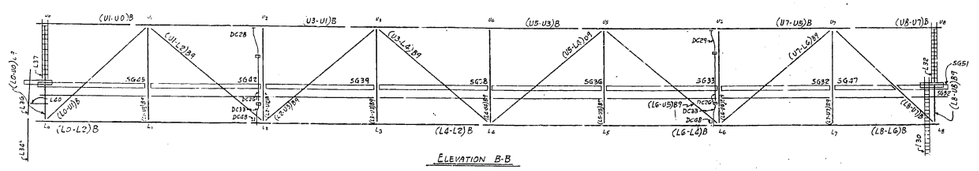
PLAN OF UPPER DECK



PLAN OF LOWER DECK



SECTIONAL ELEVATION A-A



ELEVATION B-B

Erectors Note:- For special notes covering conditions at electric light poles in upper deck walks see sheet # 5810

Item	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: cm, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS:
OPEN HOLES:
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ½" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ½" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.

Date	Revision	Appr'd

APPROVED

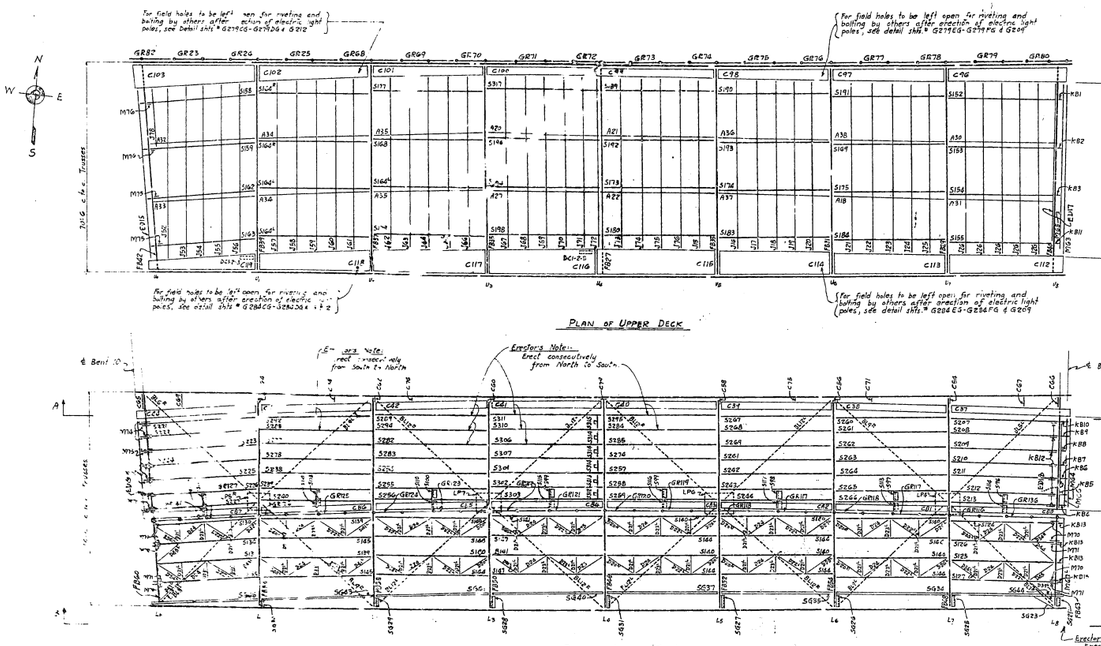
G. ... E. N. ... H — Engineer of Bridges
Chas. E. Andrus — Bridg. Engineer
C. H. Purcell — Chief Engineer
Date

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Erection Diagram Span 9
McCLINTIC-MARSHALL CORPORATION

CHICAGO DRAWING NO. 15 ____ CHICAGO WORKS
IN CHARGE Jenks ____ MADE BY L.G.Y.
CHECKED BY ____ TRACED BY B.W. 6-19-34
LAST ASSGT. NO. ____

CONTRACT CG1560 SHEET G E9

30-1


For field holes to be left open for riveting and bolting by others after erection of electric light poles, see detail shts.# G2196G-G2196J & G212
For field holes to be left open for riveting and bolting by others after erection of electric light poles, see detail shts.# G2196G-G2196J & G209
For field holes to be left open for riveting and bolting by others after erection of electric light poles, see detail shts.# G284EG-G284FG & G209
For field holes to be left open for riveting and bolting by others after erection of electric light poles, see detail shts.# G284EG-G284FG & G212
N
W
E
S
70'-6" c. to c. Trusses
Bent 10
Bent 11
Erector's Note:- Erect consecutively from South to North
Erector's Note:- Erect consecutively from North to South
Erector's Note:- Erect Drip Pan #M66 before erecting brkts #M13
A
B
X
PLAN OF UPPER DECK
PLAN OF LOWER DECK
SECTIONAL ELEVATION A-A
ELEVATION B-B
Plan of Grating Sections Upper Deck
Plan of Grating Sections Lower Deck
20-Grating Sections @ 1'-7½"
20-Grating Sections @ 1'-7½"
5-Grating Sects. @ 1'-7½"
4" Floor Beam & Bent II
4" Floor Beam & Bent II
4" Floor Beam
View X-X
Drainage System at Bent 11
Looking West
ERECTION NOTES:-
At the eight points in upper deck walks, where noted on plans for spans E9 & E10, certain walk plates are to be left loose and certain holes to be left open in top flanges of floor beams, for erection and connection of electric light poles.
Electric light poles are to be furnished by others.
All work connected with removal of floor plates, field drilling, erection of light poles, replacing of floor plates, all riveting & bolting and all painting required to complete work to be done by others.
All connections to be field riveted except where holes are slotted in which latter case flat head bolts are to be used.
All rivets and bolts required to fasten floor plates to be furnished by McClintic Marshall. All rivets required to fasten electric light poles in place to be furnished by others.
McClintic Marshall Erection Dept. will turn over to others the following which are to be taken from quantities shipped on shts.# G2076 & G2196:
150 ⅞ in Rivets ⅞"ø x 1⅜" - 552 3/8 Rivets ⅞"ø x 1⅜" - 20 FH Bolts ⅞"ø x 2½ " M185
20 FH Bolts ⅞"ø x 2½" M189 - 40 Washers 2⅜"ø x ⅛" - ⅞"ø hole " W5
Refer to detail shts. noted on plans and to typical layout sht.# GL280
McClintic Marshall Erection Dept. will turn over to others one print each of shts.# G2196J, G2196K & G2196L which are location lists of field rivets and bolts to be placed by others.
ERECTOR'S NOTE
Drainage leader to be leaded into C.I. Drain Pipe in field.
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc., for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS:
OPEN HOLES:
PUNCHING: Holes in material ⅝" thick or less used for stiffener laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material ⅝" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over ⅝" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
No. Description Mark Remarks
REQUIRED LIST
Date Revision Appd
APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Erection Diagram Span 10
McCLINTIC-MARSHALL CORPORATION
CHICAGO DRAWING ROOM CHICAGO WORKS
IN CHARGE Jenks STATE BY L.G.Y.
CHECKED BY TRACED BY B.W. & J.H.
LAST ASSGN. MIL.
CONTRACT CG1580
SHEET G E10

30-1

GENERAL NOTES COVERING ERECTION OF SPANS 9 & 10

THESE NOTES TO BE USED IN CONJUNCTION WITH "ERECTION PROGRAM FOR SUPERSTRUCTURE" DATED JUNE 1934

(1) Erection marks are painted in shop on same ends of members as they appear on erection plan and in upright position. Members must be erected with marks in these positions. Where marks appear at middle of member on erection plan, the member may be turned end for end.

(2) Matchmarking.
Some members for each span have been assembled and reamed in shop and span number added (For matchmarking purposes) as suffix to erection mark, Thus (U1-U3)A10, (U1-U3)B10 etc. Erect accordingly. Span mark is also included in erection mark for all other members where member is not the same for both spans. Where span mark is not included in erection mark, member may be used for either span where mark on erection plan does not have span number as suffix. All members for north trusses are marked with suffix A as (U0-U1)A etc. All members for south trusses are marked with suffix B as (U0-U1)B etc.

(3) Before erecting steel, erector to remove all temporary bolts placed by shop for purpose of excluding extraneous material during shipment and sandblasting. Holes in which these bolts occur are designated on detail drawings as "Holes ⊗".

(4) Erector to provide short guns for numerous conditions of close driving.

(5) Erector to pay particular attention to erectors field rivet lists to insure that tapered rivets, round head bolts, flat head bolts, tap bolts, square and hex head bolts, coupling bolts and round and beveled washers are used as required. Washers are to be used for all slotted hole connections and are to be placed on outside of slots. If slots occur on two exposed surfaces of the same connection, washers are to be used on both surfaces. In placing bolts care should be taken that heads are on exposed sides.

(6) Wherever shop shims have been provided for adjustment, normal shims have been provided and shims bolted for shipment. One $\frac{1}{8}$" field shim and one $\frac{1}{16}$" field shim has also been provided at these points in case further adjustment is required.

(7) Erector to take precautions that chords of adjacent spans are aligned laterally in order that closing plates on chords and walks may fit properly and not bind.

(8) Layouts:-
One print each of the following layouts have been furnished Erector for his reference.
- (a) General layout of spans GL
- (b) Trusses - Sheets GL125 to GL132 incl. and GL150 to GL162 incl.
- (c) Control Dimensions - GL201 to GL205 incl.
- (d) Expansion Joints and Drainage - Bent E11 - Sheets GL206, GL207A, GL207B, GL208, GL209A, GL209B, GL210 & GL211
- (e) Traction Bracing - GL212 to GL214 incl.
- (f) Ladders and Platforms - Bents E9 & E10 - Sheets GL215, GL216, GL217, GL218 & GL218A
- (g) Layouts for Walks, Skid Girders, and Truss Closing Plates at Top Chords - Sheets GL219 to GL229 incl., GL234 - GL235 - GL235A - GL236 - GL242 - GL243 - GL246 to 250 incl., GL257 - GL258 - GL97 - GL98 & GL99.
- (h) Drainage (except at Bent E11) Sheets GL244 & GL245
- (k) Typical Light Pole Connection - Sheet GL280

(9) Trusses
(a) When erecting top chords (U7-U8) span E9 and top chord (U0-U1) span E10 closing plates between top chords of the two spans, where shop bolted, shall be removed and matchmarked. These closing plates shall be replaced after span E9 is swung.
(b) Drive rivets in holes provided in top flanges of top chords for connection of traveller stops after stops have been removed.
(c) After spans are swung and temporary erection struts & shoes removed, Erector to drive up holes for same.
(d) Do not rivet up top and bottom chords until it is understood which holes are to be left open for ladder connections.

(10) Upper and Lower deck floor beams
(a) Leave open holes in bottom flg of upper deck floor beams for light connections.
(b) For method of erecting bottom laterals see sketch Y on sheet ER5
(c) Due to camber in floor beams it may be necessary to place load on same in order to make the connection between floor beams and trusses, and between floor beams and brkt. on vertical below upper deck floor beams. Loading of floor beams to be carried out in such a manner as not to add to critical stresses.

(11) Sequence of erection - Upper deck
(a) Walks must be erected before expansion dams and expansion dams before construction angles.
(b) Upper deck walks to be erected from east to west except that walks at U8 span 10 are to be erected before adjacent walks at U0 span 11.

(12) Sequence of erection - Lower deck
(a) Walks must be erected before expansion dams.
(b) Erect walks from east to west except that walks at L8 span 10 are to be erected before adjacent walks at L0 span 11.

(13) Adjustment at expansion joint at U4:-
(a) Adjust construction angles at U4 for elevation.
(b) Adjust curb connection to joists near U4 for elevation

(14) Shop adjusting shims bolted to top flgs. of lower deck floor beams at Bent E10. One $\frac{1}{8}$ field shim M120 & one $\frac{1}{16}$" field shim M121 has been provided at each point in case further adjustment is required.

(15) Traction Bracing:-
For connection of D23 to D22 use one $\frac{7}{8}$"φ hex. hd. bolt and one washer - W4 in hole nearest stringer.

(16) North lower walk:-
(a) In order to erect some North lower walks they must be raised approximately 3" vertically to clear adjacent stringer
(b) For riveted and bolted connections see Erector's field rivet lists and details of walks sheets G261 AI to 261 II incl., G262 and G263AE to G263EE incl.
(c) In order to line up adjacent walks at Bent E10, shop adjusting shims bolted to walks have been provided at L0 of span #10. One $\frac{1}{8}$ field shim M88 and M150 and one $\frac{1}{16}$" field shim M89 and M151 has been provided in case further adjustment is required.
(d) In order to line up adjacent walks at Bent E11, shop adjusting shims bolted to walks have been provided at L8 of span #10. One $\frac{1}{8}$" field shim M102, M104, M110, M128, M134 & M136 and one $\frac{1}{16}$" field shim M103, M105, M111, M129, M135 & M137 has been provided in case further adjustment is necessary.
(e) Shop adjusting shims bolted to C66 - North lower walk at Bent E11 have been provided. One $\frac{1}{8}$ field shim M114 and one $\frac{1}{16}$ field shim M115 has been provided in case further adjustment is necessary.

(17) South lower walks:-
(a) For riveted and bolted connections see Erector's field rivet lists and details of walks shts. G265AJ to 265JJ
(b) In order to line up adjacent walks at Bent E11 - shop adjusting shims bolted to walks have been provided at L8 of span #10. One $\frac{1}{8}$" field shim M100, M104, M110, M126, M138 & M140 and one $\frac{1}{16}$" field shim M101, M105, M111, M127, M139 & M141 has been provided in case further adjustment is necessary.
(c) In order to line up adjacent walks at Bent E10 - shop adjusting shims bolted to walks have been provided at L0 of span #10. One $\frac{1}{8}$" field shim M106, M110, M126 & M140 and one $\frac{1}{16}$" field shim M107, M111, M127 & M141 has been provided in case further adjustment is necessary.
(d) Shop adjusting shims bolted to walk posts at bottom lugs have been provided at all posts. One $\frac{1}{8}$" field shim M124 and one $\frac{1}{16}$" field shim M125 has been provided at L0 of span #9 and L4 of spans 9 & 10. At all other posts one $\frac{1}{8}$" field shim M122 or M126 and one $\frac{1}{16}$" field shim M123 or M127 has been provided in case further adjustment is necessary.

(18) Skid Girders:-
(a) In order to line up skid girders at Bent E11 - shop adjusting shims bolted to supporting post have been provided at L8 span #10. One $\frac{1}{8}$" field shim M108 and one $\frac{1}{16}$" field shim M109 has been provided in case further adjustment is necessary.
(b) In order to line up skid girders at bent E10 - where skid girder SG48 connects to flange of vertical (L0-U0)B10, holes connecting skid girder to flange of vertical have been subpunched $\frac{9}{16}$"φ in shop. Erector to line up girders and ream to $\frac{15}{16}$"φ. Connecting holes in web of vertical L0-U0B10 have been subpunched $\frac{11}{16}$"φ in shop. Erector to ream to $1\frac{1}{16}$"φ after girders are aligned. Erector to refer to Note "A" on layout GL246 covering skid girder connections at E10. Erector to take special care to properly align railing angle on skid girder.
(c) Countersunk field rivets thru face of skid girders need not be chipped in field, but must not be more than $\frac{1}{8}$" high.

(18) Skid Girders - continued.
(d) Expansion joint in skid girders at Bent E11 cannot be made until at least a portion of the slab loads are applied on spans E11 to E16 inclusive. Care should be taken, if skid girders at this point are erected in advance of application of sufficient slab load, that skid girders do not jam and become damaged.
(e) Skid girders to be erected from east to west.

(19) Lower deck expansion dams:-
At Bent E10, normal shims have been shipped bolted to east and west sections of dam. One $\frac{1}{8}$ field shim M90, and one $\frac{1}{16}$ field shim M91 has been provided at each support in case further adjustment is required.

(20) Upper deck walks:-
(a) Upper deck walks field bolted to lugs riveted on web and bottom flange angles of top chords of trusses, $\frac{13}{16}$"φ x $1\frac{1}{2}$ slots in truss lugs, and $\frac{13}{16}$"φ holes in lugs on walks. Wherever the connecting legs of the lug angles are horizontal; the walkway lug rests on top of the outstanding leg of clip angle on truss.
(b) For adjusting C96 and C112 at Bent E11, shop adjusting shims have been provided, bolted to top chord members (U7-U8)A10 and (U7-U8)B10, between chord angles and walk lug bolted to chord angles. One $\frac{1}{8}$" field shim M80 & M112 and one $\frac{1}{16}$" field shim M81 and M113 has been provided in case further adjustment is necessary.
(c) For adjusting C96 and C112 at Bent E11 at floor beam and expansion grating support M63, shop adjusting shims have been provided, bolted to walk. One $\frac{1}{8}$" field shim M98, M130, M132 & M144 and one $\frac{1}{16}$" field shim M99, M131, M133 and M145 has been provided for each walk in case further adjustment is required.
(d) For adjusting C103 at Bent E10, shop adjusting shims have been provided bolted to walkway lugs on web of (U0-U1)A10. Two $\frac{1}{8}$" field shims M82 and two $\frac{1}{16}$" field shims M83 have been provided in case further adjustment is required.
(e) For adjusting C119 at Bent E10 - shop adjusting shims have been provided bolted to top chord member (U0-U1)B10, between chord angle and walk lug bolted to chord angle. One $\frac{1}{8}$" field shim M112 and one $\frac{1}{16}$" field shim M113 has been provided in case further adjustment is necessary.
(f) For adjusting C103 at Bent E10, shop adjusting shims have been provided bolted to walk. One $\frac{1}{8}$" field shim M86 & M130 and one $\frac{1}{16}$" field shim M87 & M131 has been provided in case further adjustment is necessary.
(g) For adjusting C119 at Bent E10, shop adjusting shims have been provided bolted to walk. One $\frac{1}{8}$" field shim M86 & M142 and one $\frac{1}{16}$ field shim M87 & M143 has been provided in case further adjustment is required.
(h) For adjusting C100 - 108 - 116 and 124 at expansion joint at U4, shop adjusting shims have been provided, bolted to lugs on walk which connect to joists. One $\frac{1}{8}$" field shim M84 and one $\frac{1}{16}$" field shim M85 has been provided at each conn. in case further adjustment is required.

(21) Upper deck expansion dams:-
(a) At Bent E11; $\frac{1}{16}$" field shims M116 and M117 have been provided for adjustment purposes, at points where expansion dam ED1 connect to brackets on floor beam FB5.
(b) At Bent E10 normal shims shipped bolted to ED13 and ED15 at each support. One $\frac{1}{8}$" field shim M90 and one $\frac{1}{16}$" field shim M91 has been provided at each support in case further adjustment is required.

(22) Construction angles:-
(a) Construction angles to be erected after expansion dams are in place.
(b) In order to line up construction angles where same connect to expansion dams and at expansion joints; shop and field shims have been provided as follows:-
1. Shop adjusting shims bolted to A30-31 At Bent E11. One $\frac{1}{8}$" field shim M94 and one $\frac{1}{16}$" field shim M95 has been provided in case further adjustment is required.
2. Shop adjusting shims bolted to A28-29-32 & 33, at Bent E10 where same connect to floor beams and expansion dams. One $\frac{1}{8}$" field shim M146 and one $\frac{1}{16}$" field shim M147 provided at floor beam connection, and one $\frac{1}{8}$" field shim M96 and one $\frac{1}{16}$" field shim M97 provided at expansion dam connection, in case further adjustment is required.
3. Shop adjusting shims bolted to A14 and A15 at Bent E9. One $\frac{1}{8}$" field shim M92 and one $\frac{1}{16}$" field shim M93 has been provided in case further adjustment is required.
4. Shop adjusting shims bolted to A21 and A22 at Expansion joint U4. One $\frac{1}{8}$ field shim M148 and one $\frac{1}{16}$" field shim M149 has been provided in case further adjustment is necessary.

(23) Shop adjusting shims bolted to M63 and M64 at Bent E11, at points of support. One $\frac{1}{8}$ field shim M118 and one $\frac{1}{16}$" field shim M119 has been provided in case further adjustment is required.

(24) Ladders and ladder platforms:-
(a) All ladder connections to be field riveted except ladder splices which are to be bolted.
(b) All ladder platform connections to be field riveted except slotted hole connections which are to be field bolted.
(c) For complete sketches showing relation of ladder and ladder platforms to trusses - see ladder layouts GL215 - GL216 - GL217 - GL218 & GL218A.

(25) Drainage:-
(a) Erector to assemble roadway drain boxes DC1 and asbestos gasket DC2 to upper and lower deck walks on ground before walks are erected.
(b) For drainage layouts see sheet GL245 - GL244 - GL210 - GL211
(c) Certain parts of drainage leaders at Bent E11 can not be erected until erection tie at shoes at this point are removed.

(26) Pipe railing:-
(a) All railing connections field bolted.
(b) All field joints in railing for upper and lower walks to be slip joints and need not be welded in field.

(27) Threads on all field bolts to be burred at face of nuts after the latter are drawn up tight.

(28) During erection, the top bottom lateral plate at shoes; at L0 & L8 is to be made effective by blocking between the chord and shoes.

(29) Expansion grating at Bent # E11:-
Holes in supports for fastening of east half of expansion grating, both upper and lower decks have been provided in shop.
Holes in supports for fastening of west half of expansion grating to be drilled in field after west half of grating is set in field to proper clearance to east half of grating.

NOTES ON BOLTING AND RIVETING.

(1) For bolted and riveted connections see erector's field rivets and bolt lists - GM101 to GM191 inclu.

(2) Beveled washers and round washers:-
For use of beveled and round washers see erector's field rivet and bolt lists. All washers noted in lists.

No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

Date	Revision	App'd

APPROVED

Engineer of Design

Bridge Engineer

Chief Engineer

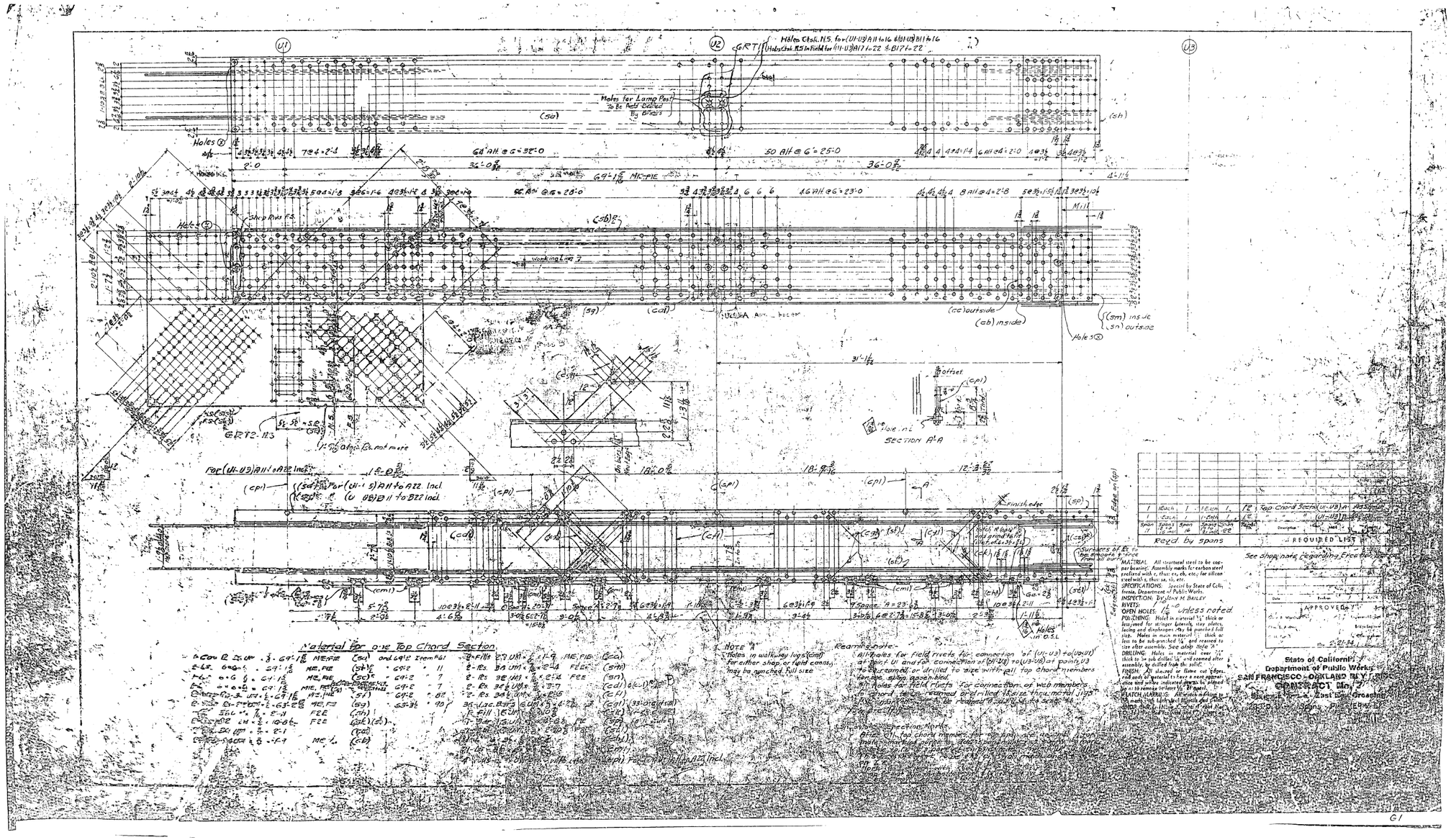
Date

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing

McCLINTIC-MARSHALL CORPORATION

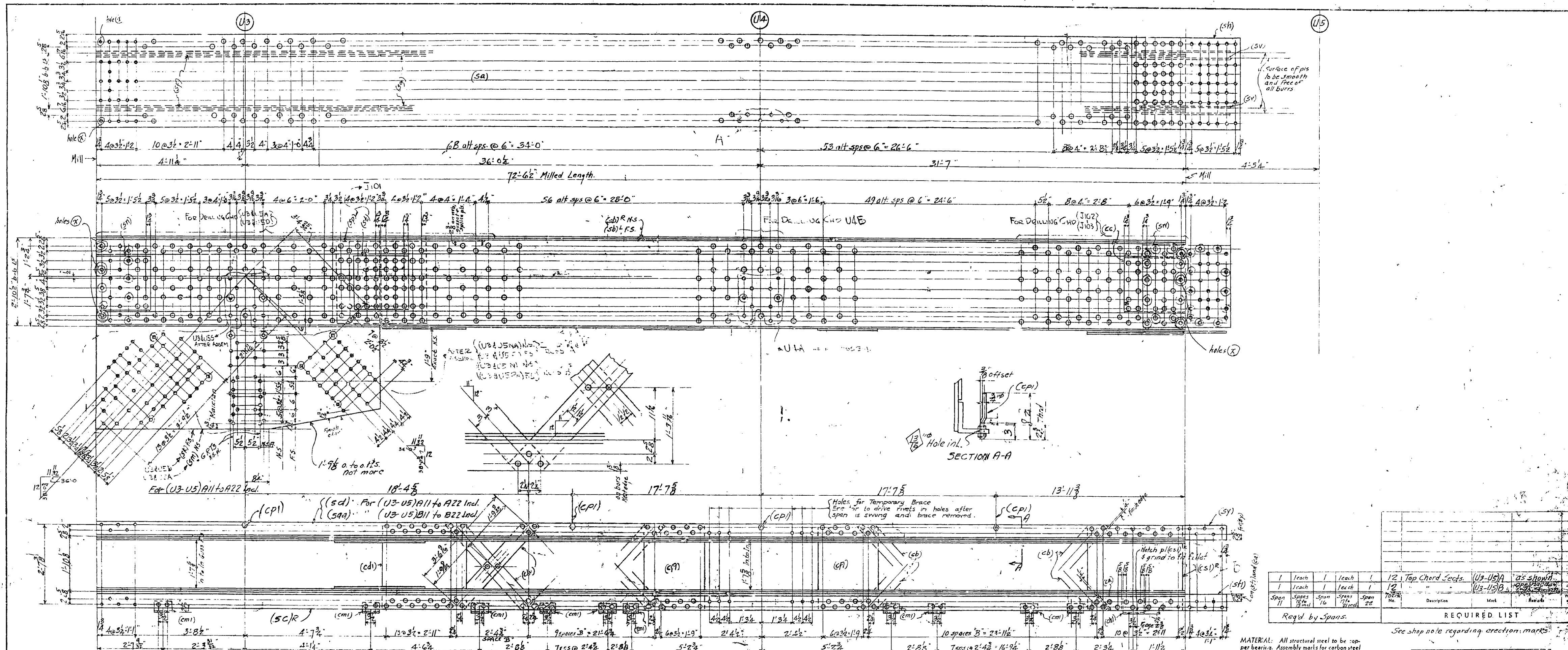
CHICAGO DRAWING ROOM CHICAGO WORKS
IN CHARGE JENKS MADE BY
CHECKED BY TRACED BY B.W.
LAST ASSEM. MK.

CONTRACT CC1580 SHEET G E11


U1
U2
U3
Holes for Lamp Post To Be Field Drilled By Others
Holes ⊗
Shop Ream F.S.
Working Line
Mill
Offset
SECTION A-A
Finish edge
Holes in 0.S.L.
Reed by spans
REQUIRED LIST
See shop note regarding Erection
APPROVED
State of California
Department of Public Works
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT
Steel Grading

G1

30-1



Material for one Top Chord Section

1 Cover Plate - 36" UM x 7/16 x 72'-6½ M2E	(sa)	Ord 72'-7¼	Item 59
2 Ls 6 x 6 x ¾ x 72'-6½ M2E	(sb)^R_L	Ord 72'-7¼	Item 5
1 L- 6 x 6 x ¾ x 72'-6½ M2E	(sc)^R	Ord 72'-7¼	Item 5
1 L- 6 x 6 x ¾ x 72'-6½ M2E (sd) For (U3-U5) All to A22; (saa) For (U3-U5) B11 to B22		Ord 72'-7¼	Item 5
2 Web Pls 34" UM x ½ x 72'-6½ M2E	(sf)	Ord 72'-7¼	Item 81
2 Web Pls 34" UM x ¾ x 63'-1¼ M1E F1E	(sg)	Ord 63'-2½	Item 71
1 Plate - 36" UM x ½ x 3'-6" F2E	(sh)		
1 Plate 74½ F2W x ¾ x 9'-4½ M1E-F1E	(sk)		
1 Plate 74½ F2W x ¾ x 9'-4½ M1E-F1E	(sm)		
2 Plates 22" UM x ¾ x 1'-9" M1E-F1E	(sn)		
2 Plates 34" UM x ½ x 2'-11¼ F2E	(sp)		
2 Plates 22" UM x 7/16 x 1'-9¼ F2E	(st)		
2 Pls - 34" UM x 7/16 x 2'-11 F2E	(sv)		
2 Pls - 22" UM x ¾ x 2'-0⅞ M1E-F1E	(ce)		
2 Pls - 32" UM x 7/16 x 2'-11 F2E	(sw)		
2 Pls - 34½ UM x 9/16 x 3'-7"	(cd1) & (cs1)^R		
2 Pls 34½ UM x 9/16 x 2'-5	(cf1)		
1 Bar 6" UM x ⅝ x 4'-8⅜ F2E	(sy)	(8'-11½ cuts 2)	
1 Bar 6" UM x ⅝ x 2'-10⅝ F2E	(st1)		
1 Fill 6" UM x ⅝ x 0'-10⅜	(ca)	(1'-4¼ cuts 2)	
1 L- 6 x 3½ x ⅝ x 0'-10¼	(ch1)		
40 Lac Bars 6" UM x ⅝ x 4'-0⅜	(cb)	(31'-9" cuts 8)	
22 Ls - 3½ x 4 x ⅝ x 0'-7"	(cm1)		
4 Rods - ⅞"φ x 8⅜ Bent - with 2 Hex. Nuts	(cp1)	For (U3-U5) All to A22 Incl.	

Reaming Note -
All holes for field rivets for connection of (U3-U5) to (U1-U3) at point U3 and for connection of (U3-U5) to (U5-U7) at point U5 to be reamed or drilled to size with all top chord members for one span assembled.
All holes for field rivets for connection of web members to chord to be reamed (or drilled) to size thru metal jigs. Holes marked "GRT" to be reamed or drilled to size thru steel template.

Shop Note - Erection Marks.
After all top chord members for one span are assembled; for match marking purposes, add span number as suffix to mark in Table to become part of shipping mark; thus; (U3-U5) All etc; This complete mark to be the erection mark and to appear on B.F.P.

Shop Note
Shop to put shipping bolts in holes (x) and draw same up tight. Bolts to be removed by Erector in field.

Work this sheet with sheet G1 & G4

Span 11	Spans 12 to 15 incl	Span 16	Spans 17 to 21 incl	Span 22	Total No.	Description	Mark	Remarks	Weight each Total
1	1 each	1	1 each	1	12	Top Chord Sects.	(U3-U5)A	as shown	
1	1 each	1	1 each	1	12	" "	(U3-U5)B	opp. hand	

Req'd by Spans. — REQUIRED LIST

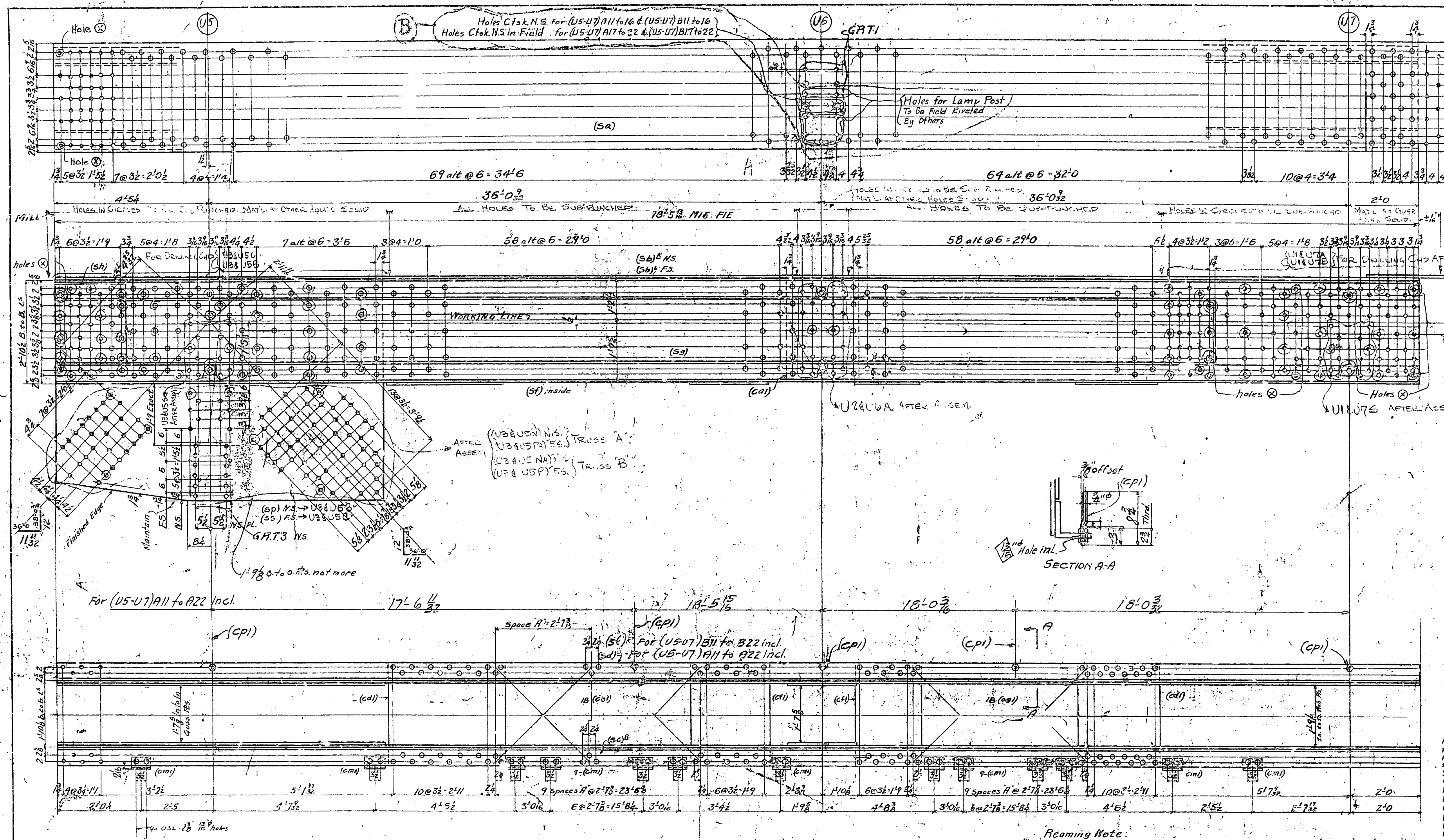
See shop note regarding erection marks.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 1"φ
OPEN HOLES: 1 1/16φ unless noted.
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built-up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolt splice plates (or angles) and surfaces of main material in contact therewith, also projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 2-21-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC - MARSHALL CORPORATION



Material For One Top Chord Section (U5-U7)A & (U5-U7)B

1-Cov. PL. 36 UM × 5/8 × 78'-5 13/16 MIE FIE (5a) ord. 78'-6 1/2 item # 60

2-Ls 6 × 6 × 1/2 × 78'-5 13/16 MIE FIE (5b) ord 78'-6 1/2 " 10

1-L 6 × 6 × 3/4 × 78'-5 13/16 MIE FIE (5c) ord 78'-6 1/2 " 2

1-L 6 × 6 × 3/4 × 78'-5 13/16 MIE FIE (5d) For (U5-U7) A11 to 22, (5e) For (U5-U7) B11 to 22 ord. 78'-6 1/2 " 2

2-Web PLs 34 UM × 1/2 × 78'-5 13/16 MIE FIE (5f) ord 78'-6 1/2 " 80

2-Side PLs 22 UM × 1/2 × 72'-7 5/16 MIE FIE (5g) ord. 72'-8 " 97

2-PLs 34 UM × 3/4 × 2'-4 (ca1)

5-Rods 3/4" × 8 3/4 Bent with 2 Hex Nuts (cp1) For (U5-U7) A11 to A22

1-PL 36 UM × 7/16 × 3'-4 F2E (ca)

2-PLs 27 UM × 1/4 × 2'-0 1/2 FIE MIE (5h)

1-PL 74 1/2 F2W × 3/4 × 9'-4 1/2 MIE FIE (5p)

1-PL 74 1/2 F2W × 3/4 × 9'-4 1/2 MIE FIE (5s)

2-PLs 34 1/2 UM × 9/16 × 3'-7 (cd1)

2-PLs 34 1/2 UM × 9/16 × 2'-3 (cf1)

36-Lac. Bars 6 UM × 5/8 × 4'-2 7/8 (cg1) 33'-0 cuts 6

23-Ls 3 1/2 × 4 × 3/8 × 0'-7 (cm1)

Reaming Note:
All holes for field rivets for connection of (U5-U7) to (U3-U5) at point U5 and for connection of (U5-U7) to (U7-U8) at point U7, to be reamed or drilled to size with all top chord members for one span assembled and top gusset plate on (U7-L8) assembled on chords. All holes for field rivets for connections of web members to chord to be reamed or drilled to size thru metal jigs, except as noted above.
Holes marked "GRT" to be reamed or drilled to size thru steel template.

Shop Note:
Shop to put shipping bolts in holes ⊗ and draw same up tight. Bolts to be removed by Erector in field.

Shop note: Erection marks.
After all top chord members for one span are assembled, for erection purposes add span number as suffix to mark in table to complete part of shipping mark, thus (U5-U7) 11 etc. This complete mark to be the erection mark and to appear on B.F.

Work this sheet with sheet 61 & 64

1	1 Each	1	1 Each	1	12	Top Chord Sects	(U5-U7)A	As Shown
1	1 Each	1	1 Each	1	12	Top Chord Sects	(U5-U7)B	Opp. Hand to Sketch
Span 11	Spans 12 to 15 incl.	Span 16	Spans 17 to 21 incl.	Span 22	Total No.	Description	Mark	Remarks
Required by Spans					Required List			

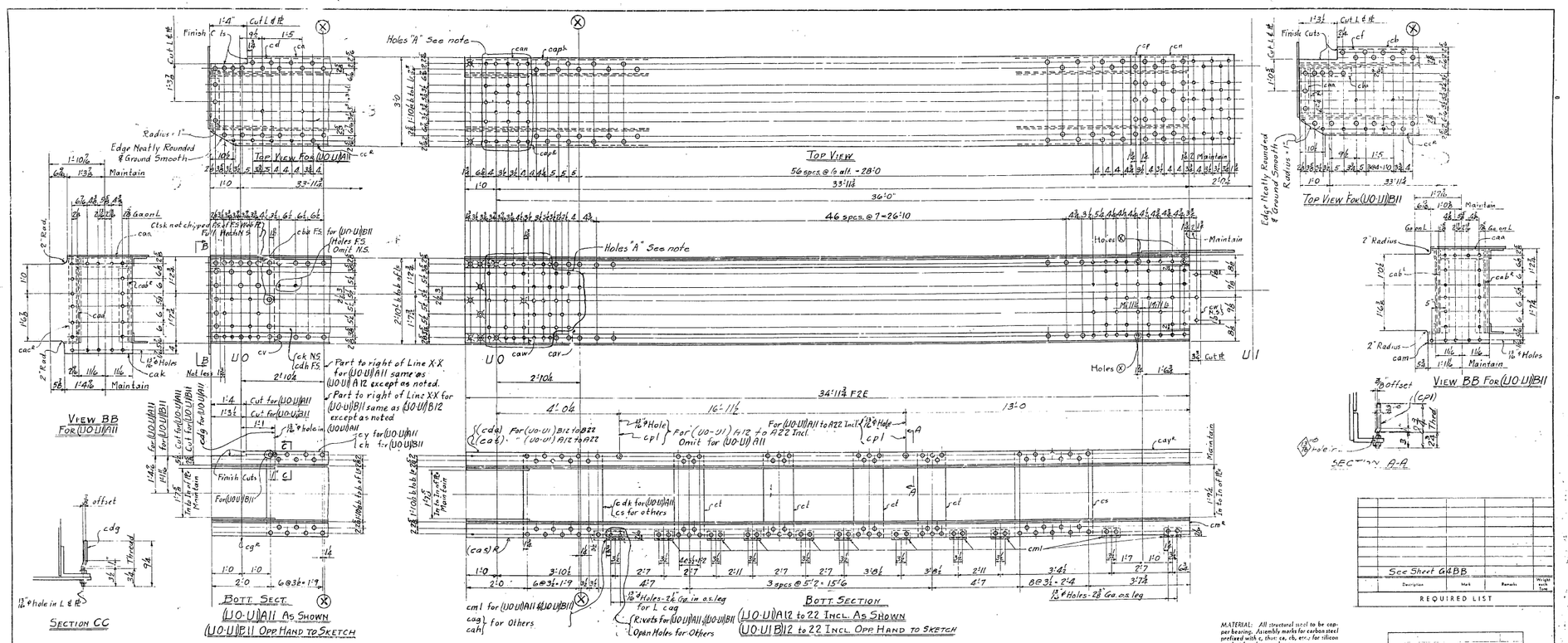
See Shop Note Regarding Erection Marks

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: by John M. Bailey
RIVETS: 1"φ
OPEN HOLES: 1 1/16"φ unless noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also projecting portions of splice (plates or angles) which are shop riveted to main material and are not fully accessible for blasting.

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 2-21-34

State of California
Department of Public Works
San Francisco - Oakland Bay Bridge
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" Truss Spans - Piers E9 to E23



See Sheet G4BB			
Description	Mark	Remarks	Weight each Item

REQUIRED LIST

Bill of Material For One Top Chord Section (U0-U1)A11 - (U0-U1)B11

1 Cov. Pl 36 U.M × 7/16 × 34'-11¾ F2E ca	ord. 35'-0½	Tl 109 for (U0-U1)A11
1 Cov. Pl 36 U.M × 7/16 × 34'-11¾ F2E cb	ord. 35'-0½	Tl 109 for (U0-U1)B11
1 L 6×4×7/16 × 34'-11¾ F2E ca^R	ord. 35'-0½	Tl 23
1 L 6×4×7/16 × 34'-11¾ F2E cd	ord. 35'-0½	Tl 23 for (U0-U1)A11
1 L 6×4×7/16 × 34'-11¾ F2E cf	ord. 35'-0½	Tl 23 for (U0-U1)B11
1 L 6×4×7/16 × 33'-5 MIE-FIE cg^R	ord. 33'-5½	Tl 25
1 L 6×4×7/16 × 33'-5 MIE-FIE cy	ord. 33'-5½	Tl 25 for (U0-U1)A11
1 L 6×4×7/16 × 33'-5 MIE-FIE ch	ord. 33'-5½	Tl 25 for (U0-U1)B11
1 Wel. Pl 34 U.M × 7/16 × 34'-11¾ F2E ck	ord. 35'-0½	Tl 128
1 L 6×4×7/16 × 1'-6½ MIE-FIE cm^R bolt	1 Web Pl 34 U.M × 7/16 × 34'-11¾ F2E cdh	ord. 35'-0½ Tl 128 for (U0-U1)B11
1 Pl 36 U.M × 7/16 × 3'-1 FIE cn	1 Rod ¾"ø × 9'-6" bent with 2 Hex Nuts	cdg for (U0-U1)B11
1 Pl 36 U.M × 7/16 × 1'-10½ F2E cp	1 L 6×4×7/16 × 1'-6¾ MIE-FIE cay^R bolt	
2 Pl 34½ U.M × 7/16 × 2'-7½ cs	for (U0-U1)B11	11 ls 4×3½×5/16 × 0'-7 cm^L
4 Pl 34½ U.M × 7/16 × 1'-5½ cl	2 lr cab^L	for (U0-U1)B11
2 Pl 34 U.M × 7/16 × 2'-1 FIC cv	1 L 4×4×7/16 × 1'-4¾ cba	for (U0-U1)B11
1 Pl 7/8 U.M × 7/16 × 2'-2 F2E cw bolt	1 Pl 33½ U.M × 7/16 sk	F2E bolt for (U0-U1)A11
1 L 4×3½×7/16 × 1'-5½ caa	1 Pl 30½ U.M × 7/16 com	F2E bolt for (U0-U1)B11
1 L 4×3½×7/16 × 2'-1½ cab^R	for (U0-U1)A11	1 Pl -s for (U0-U1)A11
1 L 3½×3½×7/16 × 2'-7⅛ F2E cac^R	for (U0-U1)A11	1 Pl 34½ U.M × 7/16 × 2'-7½ cdk for (U0-U1)A11
1 fill 3½ U.M × 7/16 × 2'-2 ca	for (U0-U1)A11	
1 Rod ⅞"ø, 8'-8" bent with 2 Hex Nuts	(cp1) for (U0-U1)A11	

Bill of Material for One Top Chord Section (U0-U1)A12 to 22 Incl. & (U0-U1)B12 to 22 Incl.

1 Cov. Pl 36 U.M × 7/16 × 34'-11¾ F2E can	ord. 35'-0½	Tl 109
2 ls 6×4×7/16 × 34'-11¾ F2E cap^R	ord. 35'-0½	Tl 23
1 L 6×4×7/16 × 33'-5 MIE-FIE cas^R	ord. 33'-5½	Tl 25
1 L 6×4×7/16 × 33'-5 MIE-FIE	ord. 33'-5½	Tl 25 (cat) - For (U0-U1) A12 to A22 (cab) - " (U0-U1) B12 to B22
2 Web Pl 34 U.M × 7/16 = 34'-11¾ F2E cav	ord. 35'-0½	Tl 128
1 L cm^R bolt		
1 Pl cn		
1 Pl cp		
2 Pl cs		
2 Pl ct		
2 Pl 34 U.M × 5/16 × 2'-1 FIE caw		
1 Pl cw bolt		
10 Ls cm^L		
1 L 7/8 × 3½ × 3/8 × 0'-7 cag bolt		
1 fill 3 × 1/2 × 0'-7 cah		
8 Rods with 2 Hex Nuts each (cp1)	for (U0-U1)A12 to 22	
1 Lcay^R bolt		

Reaming Note:
"All holes for field rivets for connecting of U0-U1 to U1-U3 at Point U1 to be reamed or drilled to size with all top chord members for one span assembled.
All holes for field rivets for connection of web members and erection ties to chord to be reamed or drilled to size thru metal Jigs.
All holes for field rivets for connecting of U7-U6 to U5-U7 at Point U7 to be reamed or drilled to size with all top chord members for one span assembled.

Shop Holes - Shipping Bolts:
Shop to put Shipping Bolts in holes (X) and draw same up tight. Bolts to be removed by Erector in field.

Erection Marks:
After all top chord members for one span are assembled, for match marking purposes, add span number as suffix to mark in table to become part of shipping mark, thus (U0-U1)A11 etc. This complete mark to be the erection mark and to appear on B.F.P.

Work Sheets G4AB and G4BB together as one Sheet.
Work this sheet with sheets G1 - G2 & G3.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M Bailey
RIVETS: 1"ø
OPEN HOLES: 1/16" Unless Noted
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in other material ¾" thick or less to be sub-punched 1/4 and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled 1/4" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or "lame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except 1 coat Red Oxide Iron Red for base and cap plates of Towers, of Bents, and of built up shoes and 1 coat "Acid Resisting Linseed" to milled ends of members, to machined surfaces of castings, and on inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith, also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

APPROVED

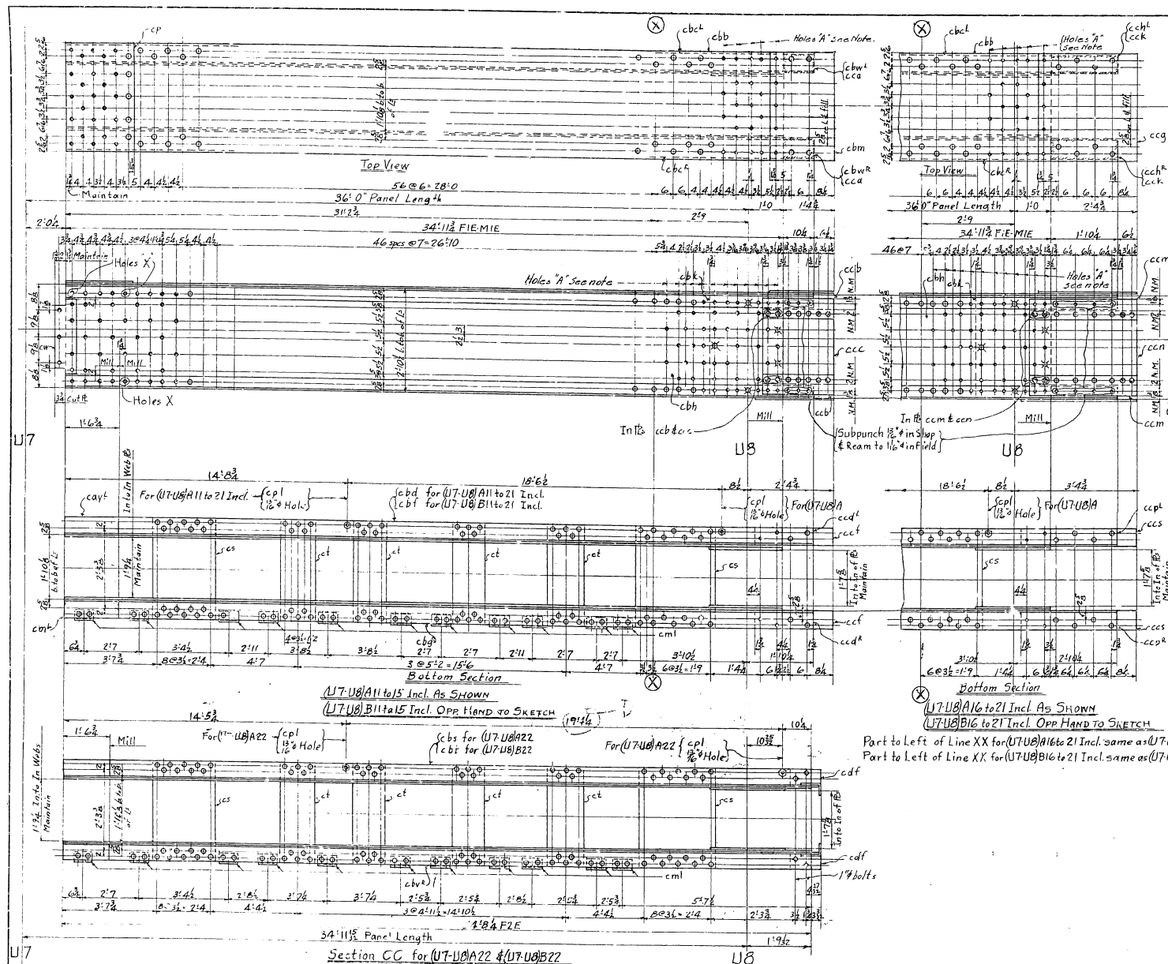
Date	Revision	Appd.
		Engineer of Design
		Bridge Engineer
		Chief Engineer

Date 4-7-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0 Truss Spans - Piers E9 to E23
McCLINTIC - MARSHALL CORPORATION
Chicago ERECTING WORKS, Chicago WORKS
IN CHARGE Anthony MADE BY L.D.H. 12-21-33
CHECKED BY A.P.L. 3/26/34 TRACED BY L.D.H. 12-21-34
LAST ASSEM. MK. Shop Rev. mark

CONTRACT CG1580 | SHEET G4AB

30-1



Bill of Material For One Top Chord Section (U7-U8)A11 to 21 Incl. & (U7-U8)B11 to 21 Incl.

1 Cov Pl 36 UM x ⅞ x 34'-11⅞ M.E. F.I.E. cbb ord. 35'-0½ Tl. # 109
2 Ls 6 x 4 x ⅞ x 34'-11⅞ M.I.E.-M.I.E. cbc R ord. 35'-0½ Tl. # 23
1 L 6 x 4 x ⅞ x 33'-5 M.2.E. cbd ord. 33'-5⅞ Tl. # 25 for (U7-U8)A11 to 21 Incl.
1 L 6 x 4 x ⅞ x 33'-5 M.2.E. cbf ord. 33'-5⅞ Tl. # 25 for (U7-U8)B11 to 21 Incl.
1 L 6 x 4 x ⅞ x 33'-5 M.2.E. cbg R ord. 33'-5⅞ Tl. # 25
2 Web Pls 34 UM x ⅞ x 34'-11⅞ M.I.E. F.I.E. cbh ord. 35'-0½ Tl. # 128
1 L 6 x 4 x ⅞ x 11'-6⅞ M.I.E. F.I.E. cm L bolt
1 L 6 x 4 x ⅞ x 11'-6⅞ M.I.E. F.I.E. cay L bolt — 1 Pl. cw bolt
2 Pls 34 UM x ½ x 7'-1 F.I.E. cbk — 1 Pl. cp
2 Pls cs
4 Pls ct
2 Rods cpl with 2 Hex Nut each for (U7-U8)A11 to 21 Incl.
11 Ls cml
1 Pl 36 UM x ⅜ x 11'-9 F.2.E. cbm
2 Ls 6 x 4 x ⅞ x 0'-10½ M.I.E.-F.I.E. cbn R
2 Fills 6 UM x ⅞ x 10½ M.I.E.-F.I.E. cca
4 Pls 6½ UM x ⅜ x 1'-11⅞ F.2.E. ccb
2 Pls 26 UM x ⅞ x 1'-11⅞ F.2.E. ccc
2 Ls 6 x 4 x ⅞ x 0'-10½ M.I.E.-F.I.E. ccd R
2 Bars 6 UM x ½ x 2'-2⅛ F.2.E. cce
1 Pl 36 UM x ⅜ x 2'-9 F.2.E. ccg
2 Ls 6 x 4 x ⅞ x 1'-10½ M.I.E.-F.I.E. cch R
2 Fills 6 UM x ⅞ x 1'-10½ M.I.E.-F.I.E. cck
4 Pls 6½ UM x ⅜ x 2'-11⅞ F.2.E. ccm
2 Pls 26 UM x ⅞ x 2'-11⅞ F.2.E. ccn
2 Ls 6 x 4 x ⅞ x 1'-10½ M.I.E.-F.I.E. ccp R
2 Bars 6 UM x ½ x 2'-2⅛ F.2.E. ccs

for (U7-U8)A11 to 15 Incl. & (U7-U8)B11 to 15 Incl. bolt
for (U7-U8)A16 to 21 Incl. & (U7-U8)B16 to 21 Incl. bolt

Bill of Material For One Top Chord Section (U7-U8)A22 & (U7-U8)B22

1 Cov Pl 36 UM x ⅞ x 34'-8¼ F.2.E. cbn ord. 34'-9 Tl. 110
2 Ls 6 x 4 x ⅞ x 34'-8¼ F.2.E. cbp R ord. 34'-9 Tl. 24
1 L 6 x 4 x ⅞ x 33'-1½ M.I.E.-F.I.E. cbs ord. 33'-2¼ Tl. 24 for (U7-U8)A22
1 L 6 x 4 x ⅞ x 33'-1½ M.I.E.-F.I.E. cbt ord. 33'-2¼ Tl. 24 for (U7-U8)B22
1 L 6 x 4 x ⅞ x 33'-1½ M.I.E.-F.I.E. cbv R ord. 33'-2¼ Tl. 24
2 Web Pls 34 UM x ⅞ x 34'-8¼ F.2.E. cct ord. 34'-9 Tl. 129
1 L cm L bolt — 1 Pl 6 UM x ⅝ x 3'-0 F.2.E. cdb
1 L cay L bolt — 3 Perm. bolts 1⅛ x 2¼ Sq. Hd. & Hex. Nuts
2 Pls 34 UM x ⅜ x 2'-1 F.I.E. ccv — 2 do 1⅛ x 2¾ do
2 Rods cpl. with 2 Hex. Nuts each for (U7-U8)A22 — 2 fills 6 UM x ⅝ x 2'-2 F.2.E. cdc
11 Ls cml — 2 Ls 6 x 4 x ⅝ x 2'-10⅞ F.2.E. cdd R cut 7½°
1 Pl cw bolt — 1⅛ Perm. bolts 1⅛ x 2¼ Sq. Hd. & Hex. Nuts
1 Pl cp — 2 Pls 6 UM x ⅜ x 0'-10 F.2.E. cdf
4 Perm. bolts 1⅛ x 2¼ Sq. Hd. & Hex. Nuts

(U7-U8)A22 As Shown
(U7-U8)B22 Opp Hand To Sketch
Parts to Left of Line X X for (U7-U8)A22 same as (U7-U8)A11 except as shown
Parts to Left of Line XX for (U7-U8)B22 same as (U7-U8)B11 except as shown

1					1	Top Chord Section	(U7-U8)A	As Shown
1					1	do	(U7-U8)B	Opp Hand To Sketch
					1	do	(U7-U8)A	As Shown
					1	do	(U7-U8)B	Opp Hand To Sketch
		1 each			6	do	(U7-U8)A	As Shown
		1 each			6	do	(U7-U8)B	Opp Hand To Sketch
	1 each	1 each			11	Top Chord Section	(U7-U8)A	As Shown
	1 each	1 each			11	do	(U7-U8)B	Opp Hand To Sketch
1	1 each				5	do	(U7-U8)A	As Shown
1	1 each				5	do	(U7-U8)B	Opp Hand To Sketch
Span 11	Spans 12 to 15 Incl.	Spans 16 to 21 Incl.	Span 22	M	Description	Mark	Remarks	Each Unit
REQUIRED BY SPANS					REQUIRED LIST			

See Note regarding Erection Marks

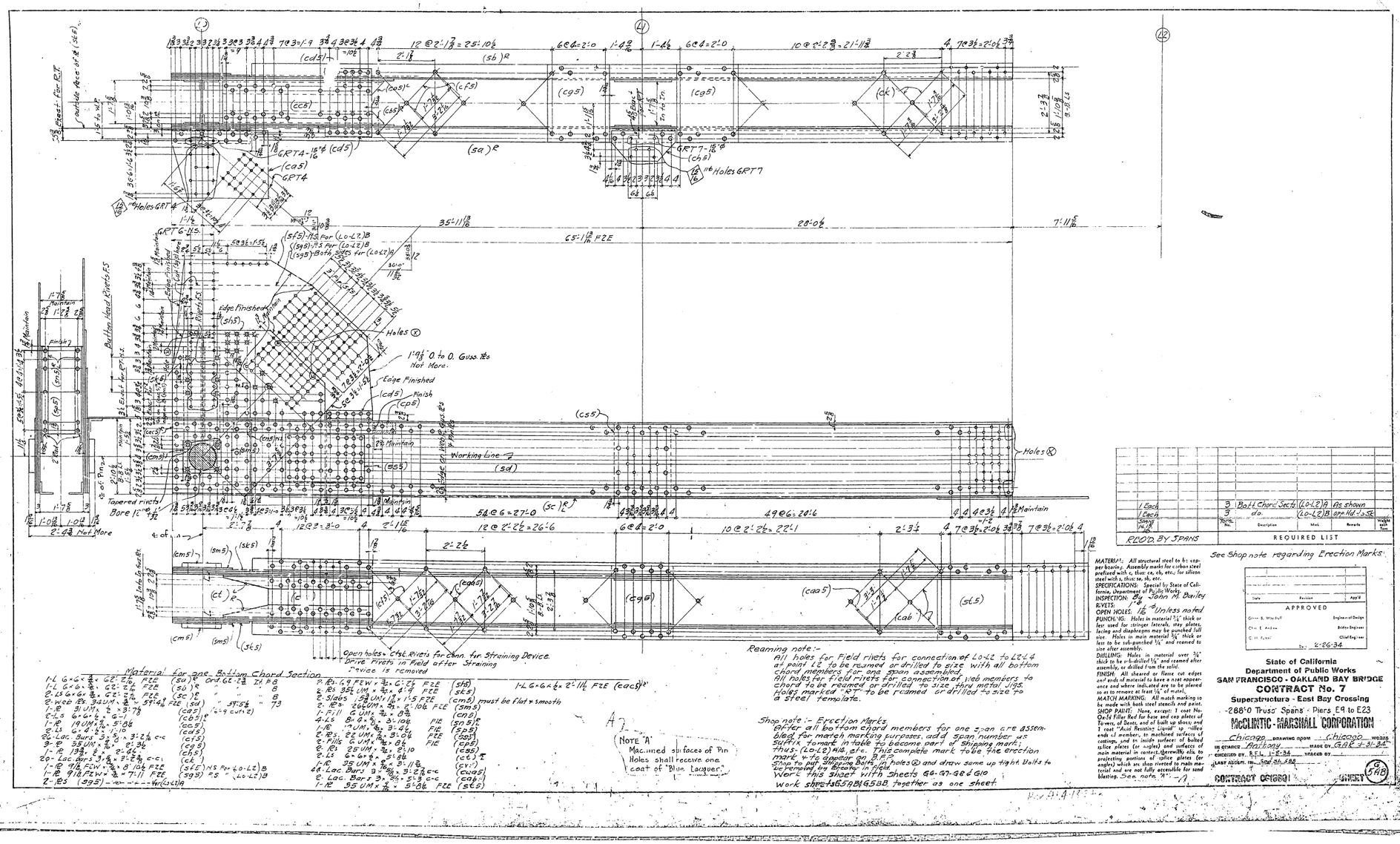
Holes "A"
These holes are used for erection the back Erector to drive rivets after span is swung and then removed.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed w. 2 c, thus: cc, ch, etc; for silicon steel with s, thus: cs, ch, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M Bailey
RIVETS: ⅞
OPEN HOLES: 1⅛" unless noted
PUNCHING: Holes in material ¾" thick or less used for stringer bracket, stay plates, lacing and diaphragms may be punched full size. Holes in other material ¾" thick or less to be sub-punched ⅛" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except: 1 coat Mc Gold Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of lapped splice plates (or angles) and surfaces of main material in contact therewith, also to projecting portions of splice plates (or angles) which are snug riveted to main material and are not fully accessible for sand blasting.

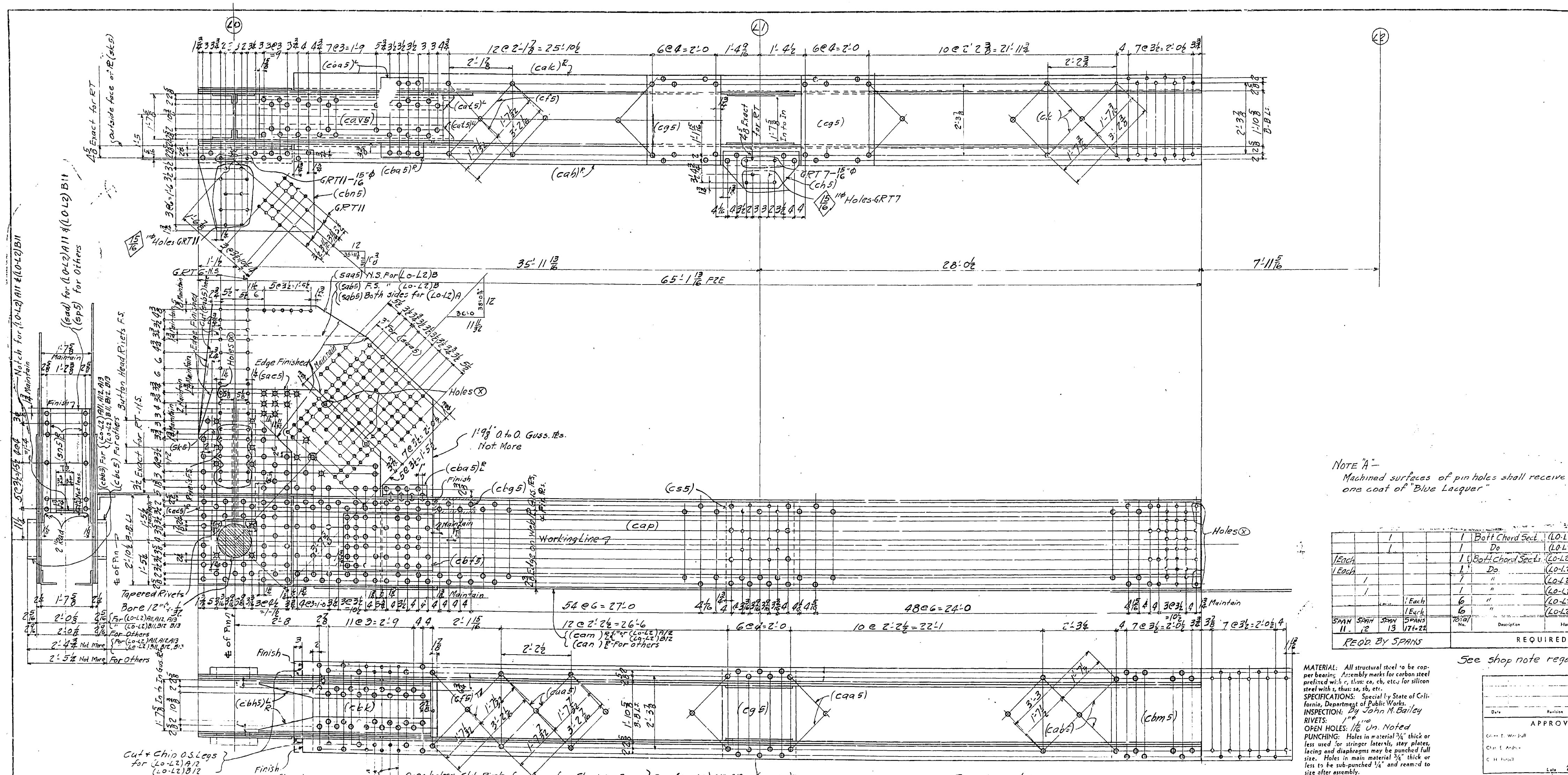
APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date 4-7-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC - MARSHALL CORPORATION
Chicago DRAWING ROOM Chicago WORKS
IN CHARGE Anthony MADE BY Y.S.H. 12-21-34
CHECKED BY A.F.C. 3-26-34 TRACED BY Y.S.H. 12-21-34
LAST ASSEM. SYL. C.G.A.
CONTRACT CG15901 SHEET G4BB

Work Sheets G4AB and G4BB together as one sheet
Work this sheet with Sheets G1, G2 & G3
See Shee G4AB for Notes


Material for one Bottom Chord Section
Open holes for Chord Rivets for Chan. for Straining Device. Drive Rivets in Field after Straining Device is removed
Note "A" Machined surfaces of Pin Holes shall receive one coat of "Blue Lacquer."
Reaming note:- All holes for Field rivets for connection of L0-L2 to L2-L4 at point L2 to be reamed or drilled to size with all bottom chord members for one span assembled. All holes for field rivets for connection of web members to chord to be reamed or drilled to size, third metal jigs. Holes marked "to be reamed or drilled to size to a steel template.
Shop note:- Erection Marks. After all bottom chord members for one span are assembled for match marking purposes, add span number as suffix numeral in table to become part of Shipping mark; thus: (L0-L2)4/8, etc. This complete mark to be the erection mark which will appear on P.F.
Shop to put Shipping Bolts in holes ⓓ and drum same up tight. Bolts to be removed by Erector in field.
Work this Sheet with Sheets 66-67-68 & 610
Work sheets 65A & 65B Together as one sheet.
See Shop note regarding Erection Marks.
REQ'D BY SPANS
REQUIRED LIST
APPROVED
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Chicago WORKS
IN CHARGE Anthony MADE BY GAR 4-31-34
CHECKED BY R.F.L. 4-5-34 TRACED BY
LAST ASSGN. No. Sheet No. 58B
CONTRACT OC1800
SHEET 58B

30-1



Cut & Chip O.S. Legs for (LO-L2)A12, (LO-L2)B12

Finish

Button head Rivs for {(LO-L2)A11 & A17 to A22 Incl., (LO-L2)B11 & B17 to B22 Incl.}

Open holes & Ctsk. Rivets for Conn. for Straining Device. Drive rivets in Field after Straining Device is removed. } For (LO-L2)A12, A13 & (LO-L2)B12, B13

Material for one Bottom Chord Section

1-L 6×6×3/4 × 62'-2 1/16 F2E	(cah)R	Ord. 62'-2 3/4 I.T.#15	
1-L do. × 62'-2 1/16 F2E	(cak)R	" " " 15	
2-Ls " × 62'-2 1/16 F2E	(cam)R For (LO-L2)A12, B12	" " " 15	
2-Ls " × 62'-2 1/16 F2E	(can)R " others	" " 15	
2-Web Pls 34 UM × 3/4 × 59'-4 9/16 F2E	(cap)	ord 59'-5 1/4 " 125	
1-Pl 31 UM × 1/2 × 3'-7 1/4	(cbn5)	(6'-9 cuts 2)	
2-Ls 6×6×1/2 × 6'-1	(cat5)R		
1-Pl 19 UM × 9/16 × 5'-8 1/4	(cav5)		
2-Ls 6×4×1/2 × 1'-4	(cba5)R		
26-Lac. Bars 3×5/8×3'-2 1/16 c-c.	(cf5)		
3-Pls 35 UM × 9/16 × 2'-3 1/2	(cg5)		
1-Pl 13 3/4 × 1/2 × 2'-4 1/2	(ch5)		
20-Lac. Bars 3×5/8×3'-2 3/8 c-c	(ck)		
1-Pl 88 1/4 F2W × 3/4 × 8'-10 1/2 F2E	(saa5) N.S. For (LO-L2)B		
1-Pl 88 1/4 F2W × 3/4 × 7'-11 F2E	(sab5) F.S. " (LO-L2)B		

2-Pls (sab5) – – – – for (LO-L2)A	
2-Pls 69 F2W × 3/4 × 6'-2 1/2 F2E	(sac5)
2-Pls 35 1/2 UM × 3/4 × 4'-9 F2E	(sk5)
2-Slabs 15 3/4 UM × 2 9/16 × 1'-5 F2E (must be flat & smooth)	(cbb5) For {(LO-L2)A11, A12, A13; (LO-L2)B11, B12, B13}
2- " 15 3/4 UM × 2 9/16 × 1'-5 F2E	(cbc5) " others
1-L 6×6×1/2 × 2'-11 1/2 F2E	(cad5)R
4-Ls 8×4×5/8 × 3'-10 1/4 F1E	(sn5)R
1-Pl 19 UM × 3/4 × 3'-4 1/2 F1E	(sp5) For {(LO-L2)A12, A13 & A17 to A22 Incl.; (LO-L2)B12, B13 & B17 to B22 Incl.}
2-Pls 22 UM × 1/2 × 2'-9 3/4 F2E	(cbf5)
2-Fills 6 UM × 3/4 × 1'-3 3/4 F1E	(cbg5)
2-Pls 25 UM × 3/4 × 2'-10	(cb5)
2-Ls 6×6×1/2 × 5'-5 1/4	(cbh5)R
1-Pl 35 UM × 9/16 × 3'-11 3/4	(cak5)
44-Lac. Bars 3×5/8×3'-2 7/16 c-c	(caa5)
2-Lac. Bars 3×5/8×3'-5 c-c	(cab5)

1-Pl 35 UM × 9/16 × 5'-8 1/4 F2E (cbm5)
1-Pl 19 UM × 3/4 × 3'-4 1/2 F1F (sad) for (LO-L2)A11 & (LO-L2)B11

Shop note:
Shop to put shipping Bolts in holes (X) and draw same up tight. Bolts to be removed by Erector in field.
Work shts # G5AB & G5BB together as one sheet.

Reaming note:-
All holes for field rivets for connections of LO-L2 to L2-L4 at point L2 to be reamed or drilled to size with all bottom chord members for one span assembled.
All holes for field rivets for connections of web members to chord to be reamed or drilled to size thru metal jigs.
Holes marked "RT" to be reamed or drilled to size to a steel template.

Shop note:- Erection Marks.
After all bottom chord members for one span are assembled, for match-marking purposes, add span number as suffix to mark in table to become part of shipping mark; thus (LO-L2)A11, etc. This complete mark to be the erection mark & to appear on B.F.P.
Work this sheet with sheets G6-G7-G8 & G10

Rev. (A) 4-13-34

NOTE "A"–
Machined surfaces of pin holes shall receive one coat of "Blue Lacquer"

					Total No.	Description	Mark	Remarks	Weight each Tons
		1			1	Bott Chord Sect.	(LO-L2)A	As Shown	
		1			1	Do	(LO-L2)B	Opp. Hd. to Sk.	
1 Each					1	Bott. Chord Sects.	(LO-L2)A	As Shown	
1 Each					1	Do.	(LO-L2)B	Opp. Hd. to Sk.	
	1				1	"	(LO-L2)A	As Shown	
	1				1	"	(LO-L2)B	Opp. Hd. to Sk.	
			1 Each		6	"	(LO-L2)A	As Shown	
			1 Each		6	"	(LO-L2)B	Opp. Hd. to Sk.	
SPAN 11	SPAN 12	SPAN 13	SPANS 17 to 22						
REQ'D. BY SPANS					REQUIRED LIST				

See shop note regarding Erect. Marks

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 1" φ
OPEN HOLES: 1 1/16 Un. Noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting. See Note "A"

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 2-26-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Chicago WORKS
IN CHARGE Anthony MADE BY GAK 2-1-34
CHECKED BY A.F.L. 1-8-34 TRACED BY GAK 2-2-34
LAST ASSEM. MK. cbm ad

CONTRACT CG15801 SHEET G5BB

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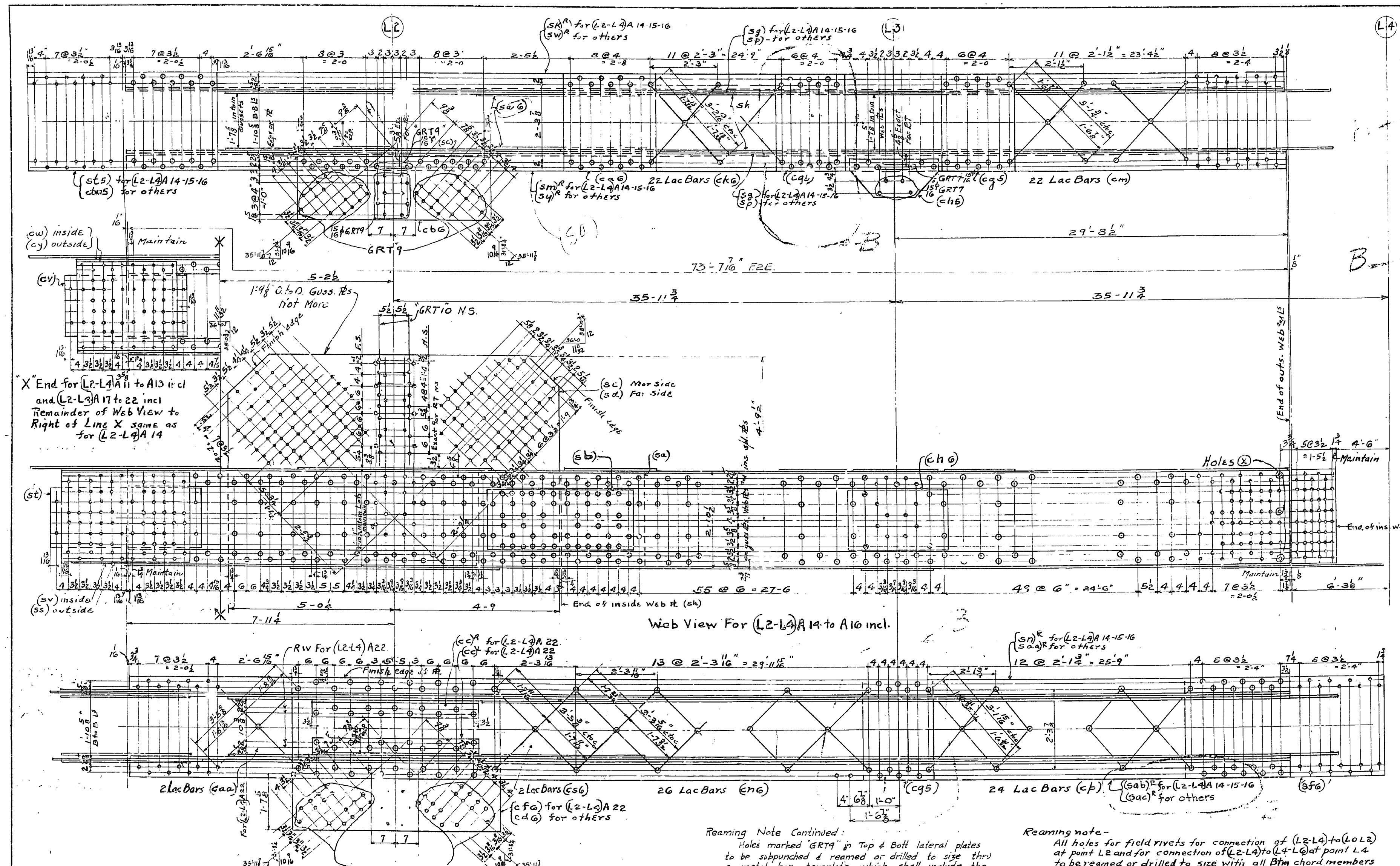


Reaming Note Continued:
Holes marked "GRT9" in Top & Bott lateral plates to be subpunched & reamed or drilled to size thru a metal box template which shall include the holes for both lateral and floor beam conns.

Reaming note-
All holes for field rivets for connection of (L2-L4) to (L0 L2) at point L2 and for connection of (L2-L4) to (L4-L6) at point L4 to be reamed or drilled to size with all Btm chord members for one span assembled.
All holes for field rivets for connection of web members to chord to be reamed or drilled to size thru metal jigs. Holes marked "GRT" to be reamed or drilled to size to a steel Template.

Shop note
Shop to put shipping Bolts in holes ⊗ and draw same up tight. Bolts to be removed by Erector in field.

Shop note - Erection Marks
After all Btm chord members for one span are assembled for match-marking purposes; add span number as suffix to mark in table to become part of shipping mark. thus - (L2-L4)A11, etc. This complete mark to be the erection mark and to appear on BFP
Work this sheet with sheets G5-G7 & G8

Rev. (A) 3/27/34
Rev. (B) 4/17/34

Material For One Bottom Chord Section

1 L 6x6x3/4 x 73'-7 7/16 F2E {(sk)R for (L2-L4)A14-15-16; (sw)R for others} ord 73-8 1/4 It 4
1 L 6x6x3/4 x 73'-7 7/16 F2E {(sm)R for (L2-L4)A14-15-16; (sy)R for others} ord 73-8 1/4 It 4
1 L 6x6x3/4 x 73'-7 7/16 F2E {(sn)R for (L2-L4)A14-15-16; (saa)R for others} ord 73-8 1/4 It 4
1 L 6x6x3/4 x 73'-7 7/16 F2E {(sab)R for (L2-L4)A14-15-16; (sac)R for others} ord 73-8 1/4 It 4
2 Web ℞ 34UM x 3/4 - 73'-7 7/16 F2E {(sg) for (L2-L4)A14-15-16; (sp) for others} ord 73-8 1/4 It 69

2 Web ℞ 34UM 3/4 - 62-8 1/4 F2E (sh) - - - - - - - ord 62'-9 It 72
1 Guss ℞ 74 1/2 (F2W) x 3/4 - 9-9 1/4 F2E (sc)
1 Guss ℞ 74 1/2 (F2W) x 3/4 9-9 1/4 F2E (sd)
1 Plate 23 1/4 x 1/2 - 5-7 1/2 (cb6)
2 ℞ 34UM 9/16 - 4-10 1/2 F2E (sa)
2 ℞ 22UM 9/16 - 4-3 3/4 F2E (sb)
1 ℞ 35UM 9/16 - 2-11 1/2 (ca6)
3 ℞ 35UM 9/16 - 2-3 1/2 (cg5)
1 ℞ 13 3/4 x 1/2 - 2-4 1/2 (ch5)
2 ℞ 22UM 1/2 - 2-9 F2E (ch6)
1 ℞ 35UM 9/16 - 5-10 3/8 F2E (sf6)
22 Lac Bars 3x5/8 - 3-2 13/16 ctrs (ck6)
22 Lac Bars 3x5/8 - 3-1 3/4 ctrs (cm)
26 Lac Bars 3x5/8 - 3-3 5/16 ctrs (cn6)
24 Lac Bars 3x5/8 - 3-1 15/16 ctrs (cp)
2 Lac Bars 3x5/8 - 3-3 3/8 ctrs (cs6)
2 Lac Bars 3x5/8 - 3-5 5/8 ctrs (caa)
1 Sp ℞ 35UM 9/16 - 5-8 1/4 F2E {(st5) for (L2-L4)A14-15-16; (cbm5) for others}
2 ℞ 22UM 3/4 - 4-3 1/4 F2E (st) for (L2-L4)A14-15-16 — Bolt Back For Shipt
2 ℞ 22UM 3/4 - 3-8 1/4 F2E (cv) for (L2-L4)A11-12-13 and 17 to 22 incl. — Bolt Back For Shipt
2 ℞ 34UM 1/2 - 3-7 1/4 F2E (sv) for (L2-L4)A14-15-16 — Bolt Back For Shipt
2 ℞ 34UM 7/16 - 3-0 1/4 F2E (cw) for (L2-L4)A11-12-13 and 17 to 22 incl. — Bolt Back For Shipt
2 ℞ 32 x 7/16 - 3-7 1/4 F2E (ss) for (L2-L4)A14-15-16 — Bolt Back For Shipt
2 ℞ 32 x 7/16 - 3-0 1/4 F2E (cy) for (L2-L4)A11-12-13 and 17 to 22 incl — Bolt Back For Shipt
1 ℞ 53 (F1W) x 1/2 - 5-7 1/2 {(cf6) for (L2-L4)A22; (cd6) for others}
2 Ls 6x6x3/4 - 4-11 (cc)L for (L2-L4)A22

Span 11	Spans 12 & 13	Span 14-15-16	Spans 17 to 21 incl	Span 22	Total No.	Description	Mark	Remarks	Weight each Tons
				1	1	Bottom Chord Sect	(L2-L4)A	As Shown	
				1	1	do. do.	(L2-L4)B	Opp. Hd	
		1 Each			3	Bottom Chord Sects	(L2-L4)A	As Shown	
		1 Each			3	do. do.	(L2-L4)B	Opp. Hd	
1	1 Each		1 Each	1	8	Bottom Chord Sects	(L2-L4)A	As Shown	
1	1 Each		1 Each	1	8	Bottom Chord Sects	(L2-L4)B	Opp. Hd	
Required by Spans					Required List				

See shop note regarding Erection Marks

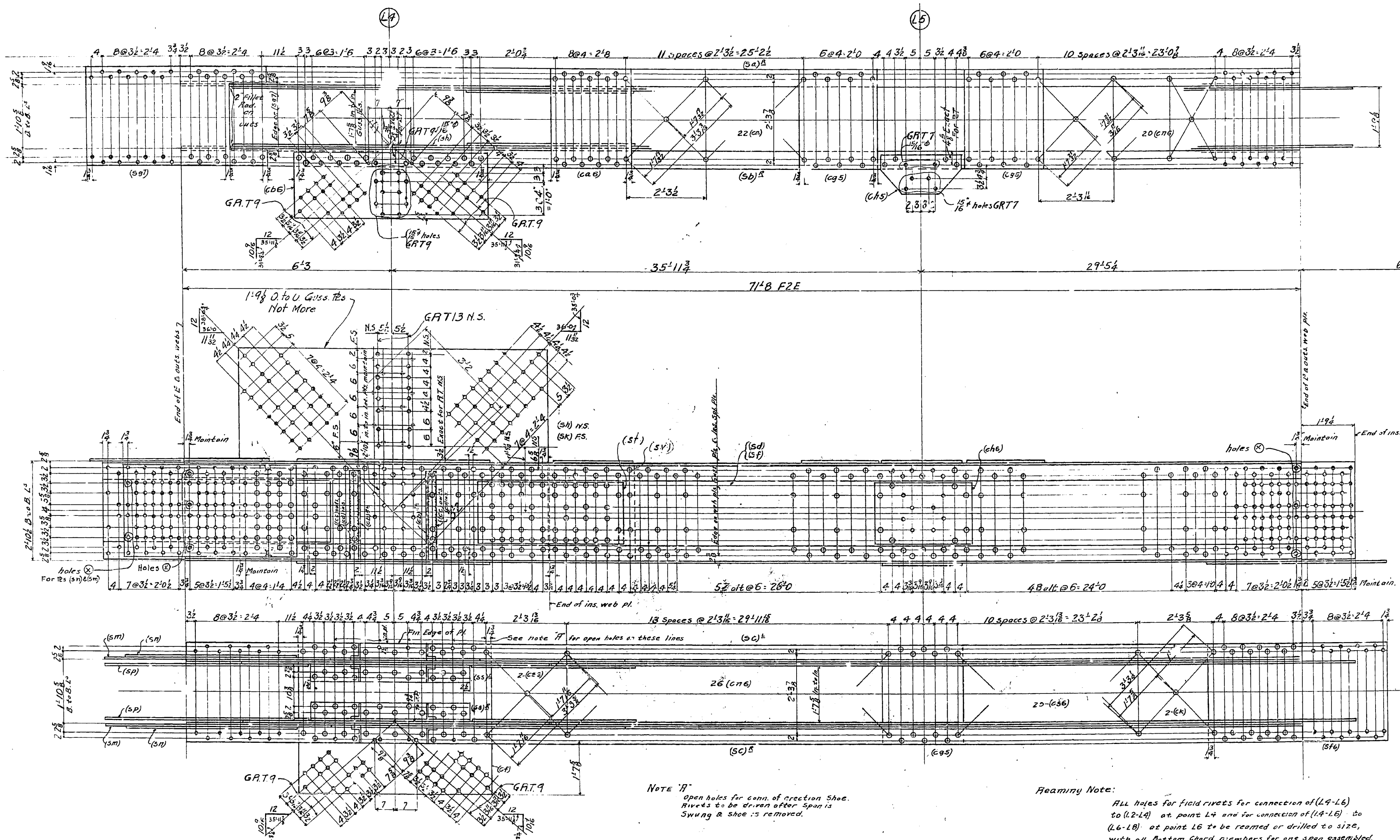
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 1" ϕ
OPEN HOLES: 1 1/16" ϕ Unless noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 2-26-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Chicago WORKS
IN CHARGE Anthony MADE BY W.L.M 1/31/34
CHECKED BY A.F.L. 1/18-34 TRACED BY W.L.M 2/1/34
LAST ASSEM. MK. (cs6)(sac)
CONTRACT CG15001
SHEET G6

30-1



1	1 Each	1	1 Each	1	12	BOTT. CHORD SECTS	(L4-L6)A	as shown	
1	1 Each	1	1 Each	1	12	BOTT. CHORD SECTS	(L4-L6)B	Opp. hand	
Span 11	Spans 12 to 15 incl.	Span 16	Spans 17 to 21 incl.	Span 22	Total No.	Description	Mark	Remarks	Weight each Tons
REQUIRED BY SPANS					REQUIRED LIST				

SEE SHOP NOTE REGARDING ERECTION MARKS

NOTE "A"
Open holes for conn. of erection Shoe. Rivets to be driven after Span is Swung & shoe is removed.

MATERIAL FOR ONE BOTTOM CHORD SECTION (L4-L6) A

1-L 6×6×3/4×71'-8	F2E	(sa)R	ord. 71'-8 3/4 Item #6
1-L 6×6×3/4×71'-8	F2E	(sb)R	ord. 71'-8 3/4 Item #6
2-Ls 6×6×3/4×71'-8	F2E	(sc)R-L	ord. 71'-8 3/4 Item #6
2-Web Pls. 34 U.M.×3/4×71'-8	F2E	(sd)	ord. 71'-8 3/4 Item #70
2-Web Pls. 34 U.M.×3/4×62'-8 1/4	F2E	(sf)	ord 62'-9 Item #72
1-Pl. 35 U.M.×9/16×5'-10 3/4	F2E	(sg7)	
1-Pl. 23 1/4 U.M.×1/2×5'-7 1/2		(cb6)	
1-Pl. 35 U.M.×9/16×2'-11 1/2		(ca6)	
22-Lac. bars 3×5/8×3'-3 5/16 C. to C.		(ca)	
3-Pls 35 U.M.×9/16×2'-3 1/2		(cg5)	
1-Pl. 13 3/4×1/2×2'-4 1/2		(ch5)	
46-Lac. bars 3×5/8×3'-3 5/16 C. to C.		(cn6)	
1-Pl. 72 3/4 F2W×3/4×8'-11 1/2	F2E	(sh)	
1-Pl. 72 3/4 F2W×3/4×8'-11 1/2	F2E	(sk)	
2-Pls. 22 U.M.×3/4×7'-1 1/2	F2E	(sm)	
2-Pls. 32 U.M.×9/16×5'-5 1/2	F2E	(sn)	
2-Pls 34 U.M.×9/16×6'-5 1/2	F2E	(sp)	
8-Ls 5×3 1/2×1/2×2'-6 7/8	M/E	(cb)R-L	
4-Fills 3 1/2×3/4×1'-10		(cc)	
4 Fills 3 1/2×3/4×2'-1 3/8		(cc)	
2-Pls 34 U.M.×9/16×4'-10 1/2	F2E	(sv)	
2-Pls 22 U.M.×9/16×4'-3 3/4	F2E	(st)	
2-Pls 22 U.M.×1/2×2'-9	F2E	(ch6)	
1-Pl. 53 F.I.W.×1/2×5'-7 1/2		(cf)	
2-Ls 6×6×3/4×4'-8 1/4	F2E	(ss)R-L	
22-Lac bars 3×5/8×3'-3 3/8 C. to C.		(cs6)	
2-Lac bars 3×5/8×3'-3 1/4 C. to C.		(ck)	
1-Pl. 35 U.M.×9/16×5'-10 3/4	F2E	(sf6)	

Shop Note:
Shop to put shipping bolts in holes ⊗ and draw same up tight. Bolts to be removed by Erector in field.

Reaming Note:
All holes for field rivets for connection of (L4-L6) to (L2-L4) at point L4 and for connection of (L4-L6) to (L6-L8) at point L6 to be reamed or drilled to size, with all Bottom Chord members for one span assembled. All holes for field rivets for connections of web members to chord to be reamed or drilled to size thru metal Jigs. Holes marked "GRT" to be reamed or drilled to size thru steel template. Holes marked "GRT9" in Top & Bott. lateral plates to be subpunched & reamed or drilled to size thru a metal box template which shall include the holes for both lateral and floor beam conns.

Shop Note: Erection marks.
After all bottom chord members for one span are assembled; for match marking purposes add span number as suffix to mark in table to become part of shipping mark, thus (L4-L6) A12 etc. This complete mark to be the erection mark and to appear on B.F.P.

WORK THIS SHEET WITH SHEETS G5-G6 & G8

MATERIAL All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc., for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: by John M. Bailey
RIVETS: 1"φ
OPEN HOLES: 1 1/16"φ Unless noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes, and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

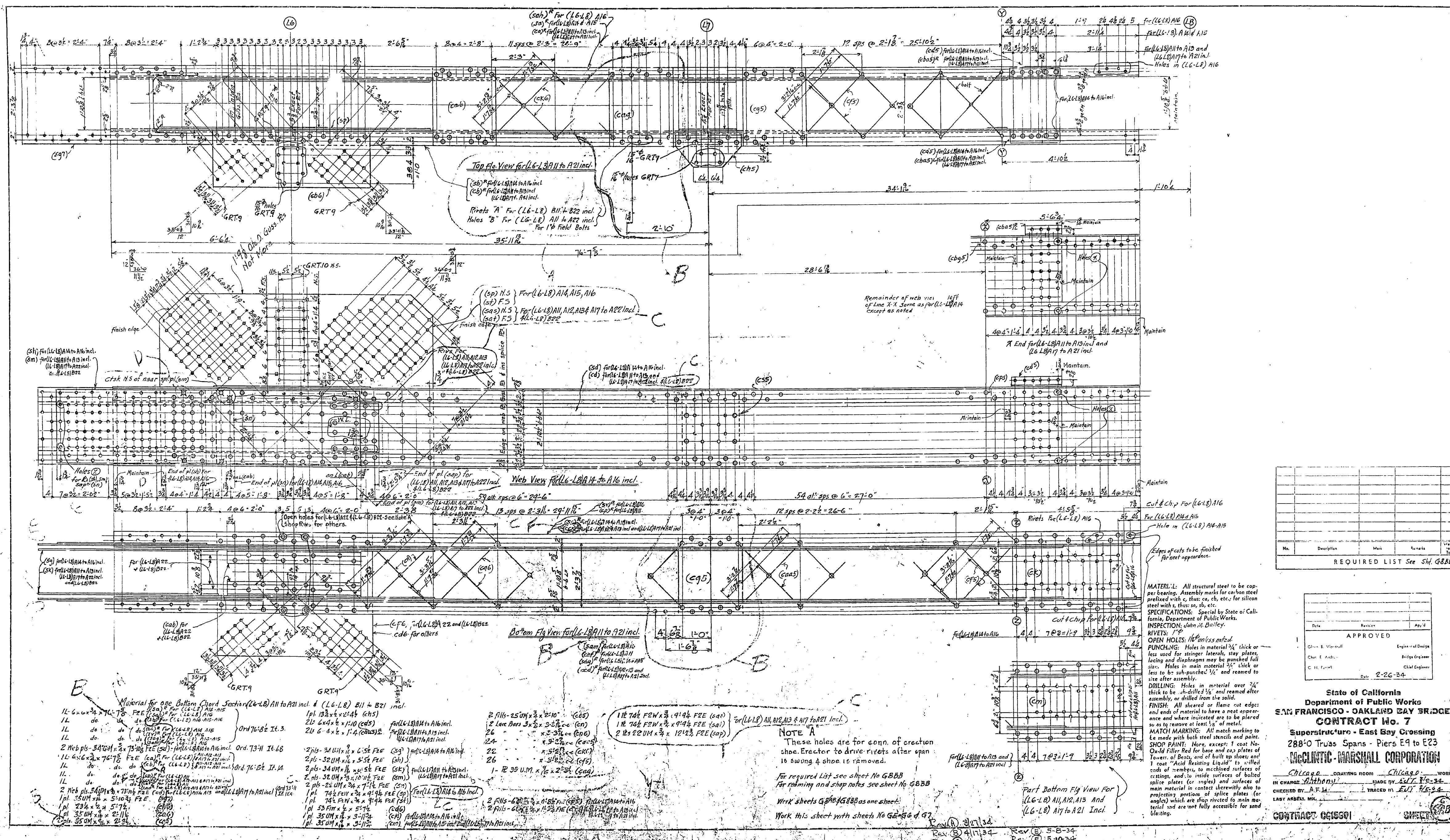
Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 2-26-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

CHICAGO DRAWING ROOM CHICAGO WORKS
IN CHARGE Anthony MADE BY CAJ. 1-31-1934
CHECKED BY A.E.L. 2-8-34 TRACED BY CAJ. 2-1-1934
LAST ASSEM. (CK) (SV)
CONTRACT CG15801 SHEET G7

Rev (A) 4-26-34
Rev (B) [illegible]

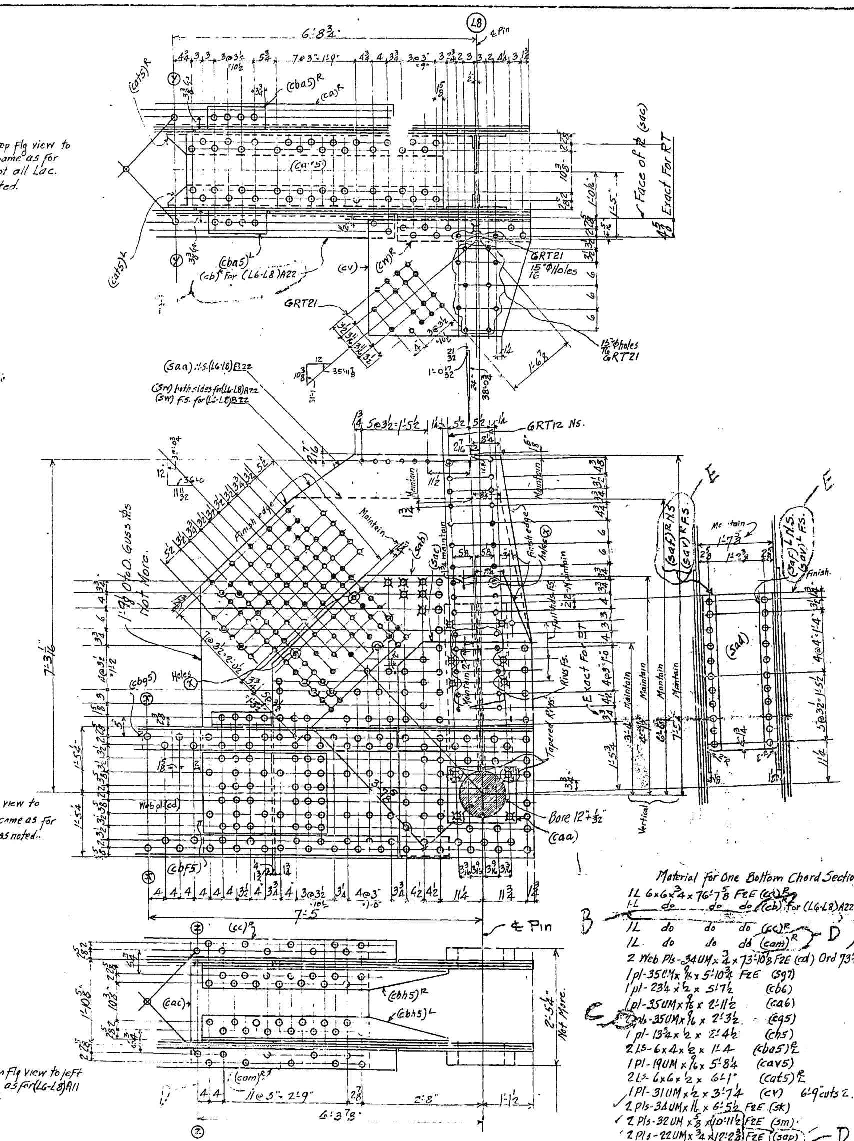

30-1
Top Flg View for (L6-L8) A11 to A21 incl.
Web View for (L6-L8) A14 to A16 incl.
Bottom Flg View for (L6-L8) A11 to A21 incl.
Note "A"
These holes are for conn. of erection shoe. Erector to drive rivets after span is swung & shoe is removed.
For required List see sheet No G8BB
For reaming and shop notes see sheet No G8BB
Work sheets G8AB & G8BB as one sheet.
Work this sheet with sheets No G5-G6 & G7
Part Bottom Flg View For (L6-L8) A11, A12, A13 And (L6-L8) A17 to A21 Incl.
Edges of cuts to be finished for neat appearance.
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey.
RIVETS: 1"φ
OPEN HOLES: 1 1/16"φ unless noted.
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.
No. | Description | Mark | Remarks | Weight each Ton
REQUIRED LIST See Sht. G8BB
Date | Revision | App'd
APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 2-26-34
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Chicago WORKS
IN CHARGE Anthony MADE BY EJT
CHECKED BY A.F.L. TRACED BY EJT
LAST ASSEM. MK.
CONTRACT CC15801
SHEET G8AB
Rev. A 3/27/34
Rev. B 4/17/34
Rev. C 4/21/34
Rev. D 4/26/34
Rev. E 5-8-34
Rev. F 5-10-34

30-1

Remainder of top flg view to left of Line Y-Y same as for (L6-L8)A11, except all Lac. bars shop riveted.

Remainder of web view to left of Line X-X same as for (L6-L8)A 14 except as noted.

Remainder of bottom flg view to left of Line Z-Z same as for (L6-L8)A11 except as noted.



End detail for (L6-L8)A22 and (L6-L8)B22.

Material for One Bottom Chord Section (L6-L8)A 22 & (L6-L8)B22

1L 6x6x3/4 x 76'-7 5/8 F2E (cc)R/L
1L do do do (cb) for (L6-L8)A22 } Ord 76'-8 1/2 It. 14
1L do do do (cc)R
1L do do do (cam)R
2 Web Pls-34UM x 3/4 x 73'-10 5/8 F2E (cd) Ord 73'-11 It. 124
1 pl-35UM x 9/16 x 5'-10 3/4 F2E (sg7)
1 pl-23 1/4 x 1/2 x 5'-7 1/2 (cb6)
1 pl-35UM x 9/16 x 2'-11 1/2 (ca6)
2 pls-35UM x 9/16 x 2'-3 1/2 (cg5)
1 pl-13 3/4 x 1/2 x 2'-4 1/2 (ch5)
2 Ls-6x4x1/2 x 1'-4 (cba5)R/L
1 Pl-19UM x 9/16 x 5'-8 1/4 (cav5)
2 Ls-6x6x1/2 x 6'-1" (cat5)R/L
1 Pl-31UM x 1/2 x 3'-7 1/4 (cv) 6'-9" cuts 2.
2 Pls-34UM x 1 1/16 x 6'-5 1/2 F2E (sk)
2 Pls-32UM x 5/8 x 10'-11 1/2 F2E (sm)
2 Pls-22UM x 3/4 x 12'-2 3/4 F2E (sap)
1 pl-74 1/2 F2W x 3/4 x 9'-9 1/4 F2E (sas)
1 pl-74 1/2 F2W x 3/4 x 9'-9 1/4 F2E (sat)
2 fills-25UM x 3/4 x 2'-10" (cs5)
2 pls-88 1/4 F2W x 3/4 x 7'-11 F2E (sw) for (L6-L8)A22
1 pl-88 1/4 F2W x 3/4 x 8'-10 1/2 F2E (sad) N.S. for (L6-L8)B22
1 pl-88 1/4 F2W x 3/4 x 7'-11 F2E (sw) F.S. for (L6-L8)B22
2 pls 69 F2W x 3/4 x 6'-2 1/2 F2E (sab)
2 Pls-35 1/2 UM x 1/2 x 4'-9" F2E (sac)
1L-6x6x1/2 x 2'-11 1/2 F2E (cw)R
1 pl-19UM x 3/4 x 3'-4 1/2 F1E (sad)
2Ls 8x4x5/8 x 3'-10 1/4 F1E (saf)R/L
2 fills 15 3/4 UM x 2 9/16 x 1'-5 F2E (caa) Must be flat + smooth.
2 pls-22UM x 1/2 x 2'-9 3/4 F2E (cbf5)
2 Ls 8x4x5/8 x 3'-10 1/4 F1E (sav)R/L

2 fills-6UM x 3/4 x 1'-3 3/4 F1E (cbg5)
1 pl-53 F1W x 1/2 x 5'-7 1/2 (cf6)
2 Ls-6x6x3/4 x 4'-11 (cab)
1 Pl-35UM x 9/16 x 3'-11 3/4 (cac)
2 Lace Bars-3 x 5/8 x 3'-3 7/16 c-c (cn)
26 " " " x 3'-3 5/16 c-c (cn6)
24 " " " x 3'-2 7/16 c-c (caa5)
22 " " " x 3'-2 13/16 c-c (ck6)
26 " " " x 3'-2 1/16 c-c (cf5)
2 Ls-6x6x1/2 x 5'-5 1/4 (cbh5)R/L
1-Pl 35 UM x 9/16 x 2'-3 1/2" (cag)

Reaming Note.
For spans 11 to 21 incl.
All holes for field rivets for connection of (L6-L8) to (L4-L6) at point L6, and for connection of (L6-L8) to (U7-L8) at point L8, to be reamed or drilled to size with all bott. chord members for one span assembled and with bottom gusset plate on (U7-L8) assembled with chord.

For span 22.
All holes for field rivets for connection of (L6-L8) to (L4-L6) at point L6 to be reamed or drilled to size with all bottom chord members assembled for one span.

For spans 11 to 22 incl.
All holes for field rivets for connection of web members to chord, to be reamed or drilled to size thru metal jigs, except as noted above for spans 11 to 21 incl.
Holes marked "GRT" to be reamed or drilled to size to a steel template.

Shop Note - Erection Marks.
After all bottom chord members for one span are assembled for match marking purposes, add span number as suffix to mark in table to become part of shipping mark, thus (L6-L8)A11 etc; This complete mark to be the erection mark and to appear on BFP.

Shop Note.
Shop to put shipping bolts in holes (x) and draw same up tight. Bolts to be removed by Erector in Field.

Reaming Note Continued
Holes marked "GRT9" in Top & Bott. lateral plates to be subpunched & reamed or drilled to size thru a metal box template which shall include the holes for both lateral and floor beam conns.

NOTE "A" - Machined surfaces of pin holes shall receive one coat of "Blue Lacquer".

Work sht# G8AB & G8BB as one sheet.
Work this sheet with sheets No. G5-G6 & G7

Rev. (A) 3/17/34 Rev (B) 3/27/34
Rev (E) 5-8-34 Rev (C) 4/17/34
Rev (F) 5-10-34 Rev (D) 4-20-34

Note "C":-
These Bottom Chord Sections are exactly opp. hand to their respective (L6-L8)A Sections, except for Rivets "A" and Holes "B" as Noted.

SPAN 11.	SPANS 12 and 13 17 to 21 incl	SPANS 14+15	SPAN 16	SPAN 22	Total No.	Description	Mark	Remarks	Weight each Tons
1					1	Bottom Chord Sect.	(L6-L8)A	as shown	
1					1	do	(L6-L8)B	opp hand See Note C	
	1 Each				7	do	(L6-L8)A	as shown	
	1 Each				7	do	(L6-L8)B	opp. hand. See Note C	
		1 Each			2	do	(L6-L8)A	as shown	
		1 Each			2	do	(L6-L8)B	opp hand See Note C	
			1		1	do	(L6-L8)A	as shown	
			1		1	do	(L6-L8)B	opp. hand See Note C	
				1	1	do	(L6-L8)A	as shown	
				1	1	do	(L6-L8)B	opp. hand to sketch	
REQ'D BY SPANS.					REQUIRED LIST				

See Shop Note Regarding Erection Marks

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey.
RIVETS: 1"φ
OPEN HOLES: 1 1/16"φ unless noted.
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except: 1 coat No-Ox Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting. See Note "A"

Date	Revision	App'd

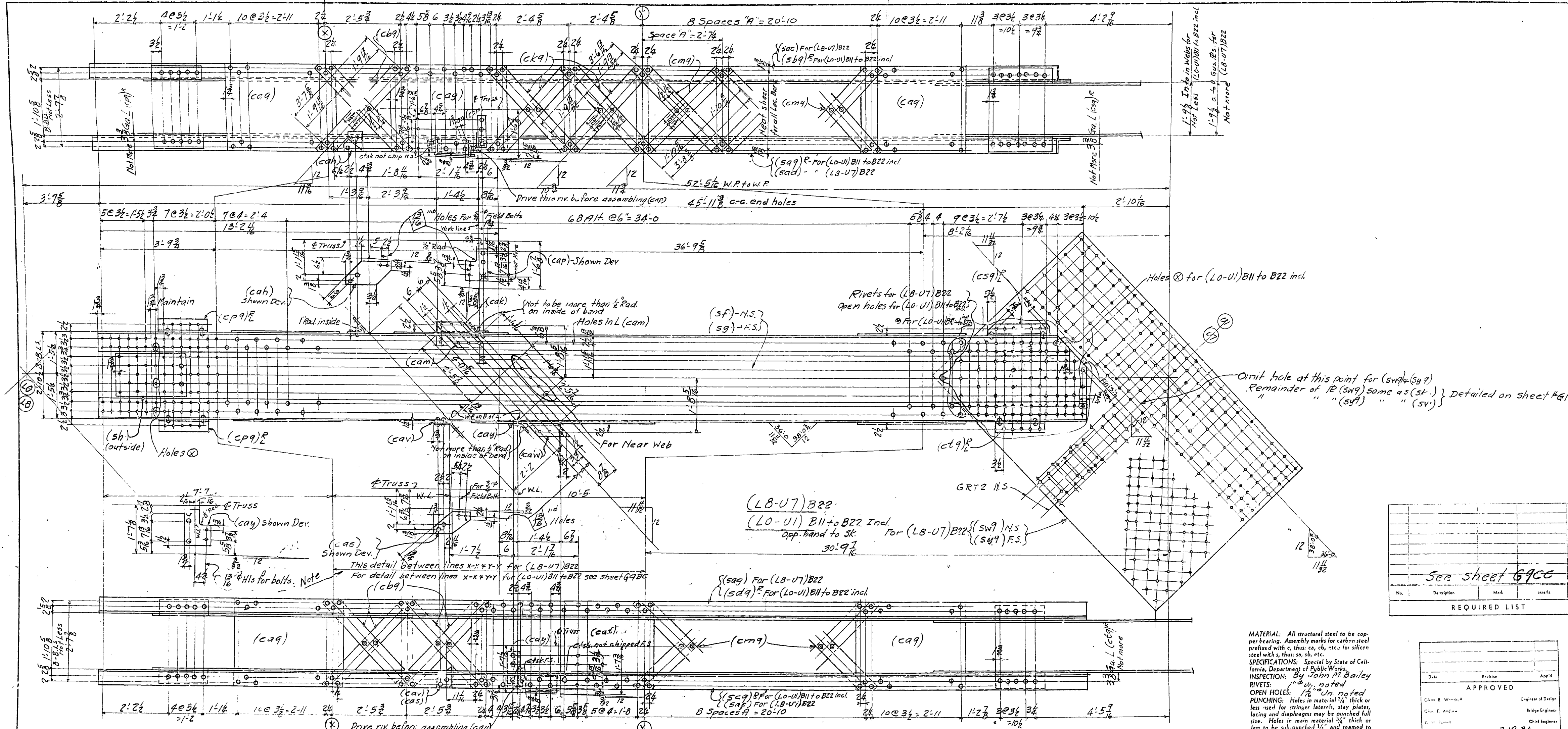
APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 2-26-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Chicago WORKS
IN CHARGE Anthony MADE BY E.U.T. 2/5-34
CHECKED BY A.F.L. TRACED BY E.U.T. 2/6-34
LAST ASSEM. M. (cam) (sat)

CONTRACT CG15001 SHEET G 8BB

30-1



Drive riv. before assembling (cay)

Material for one End Post (LB-U7) B22 & (LO-U1) B11 to B22 incl.

1-L 8×6×13/16 × 45'-7 7/8 — FZE (sac) For (LB-U7) B22 - (sag)℞ For (LO-U1) B11 to B22 — (ord. 46'-3½) cut — It. #1
1-L 8×6×13/16 × 45'-7 7/8 — FZE (sad) (LB-U7) B22 - (sb9)℞ do — do — " 1
1-L 8×6×13/16 × 46'-2 7/8 — FZE (saf) do - (sc9)℞ " — " — It. #1
1-L 8×6×13/16 × 46'-2 7/8 — FZE (sag) " - (sd9)℞ " — " — It. #1
1-℞ 34 UM × 3/4 × 44'-5 5/8 — FZE — (sf) — (ord. 44'-6½) — It. 74
1-℞ 34 UM × 3/4 × 44'-5 5/8 — FZE — (sg) — Do. — " 74
2-℞s 18 UM × ½ × 2'-4½ — FZE — (sh)
4-℞s 35 UM × 9/16 × 3'-7 — (ca9)
6-Lac. Bars 6 UM × 5/8 × 4'-1 5/8 — (cb9)
1-℞ 35 UM × 9/16 × 3'-10 — (cc9)
1-℞ 6¾ UM × 3/8 × 1'-2¼ Bent — (cd9)℞ For (LO-U1) B11 to B22 incl.
2-℞s 14 UM × 3/8 × 1'-0 3/8 — (cf9)
2-Ls 4×3×3/8 × 1'-2¾ — (cg9)℞
1-℞ 35 UM × 9/16 × 3'-10 — (cag) For (LB-U7) B22

2-℞s -14½ UM × 3/8 × 8 5/8 Bent-Bolt one (ch9)℞ For (LO-U1) B11 to B22 incl.
4-Lac. Bars 6 UM × 5/8 × 4'-0 7/8 (ck9)
32- " " 6 UM × 5/8 × 4'-2 5/8 (cm9)
4-Ls 6×4×½ × 1'-7¾ (cp9)℞
2-Ls 6×4×½ × 2'-1½ (cs9)℞
2-Ls 6×4×½ × 1'-6¾ (ct9)℞
1-℞ 82 FZW × 3/4 × 10'-8½ FZE (sw9) } For (LB-U7) B22
1-℞ 82 FZW × 3/4 × 10'-8½ FZE (sy9)
1-℞ 6¾ UM × 3/8 × 1'-2 Bent (cv9)℞ } For (LO-U1) B11 to B22 incl.
1-℞ 35 UM × 9/16 × 6'-1½ (ca19)
1-℞ 9 UM × 3/8 × 1'-2 3/8 Bent (cah)
1-L 6×4×3/8 × 1'-2 7/16 (cak)
1-L do. × 1'-2 9/16 {fit Grind to fillet} (cam) } For (LB-U7) B22
1-℞ 14½ UM × 3/8 × 8¾ Bent (cap)

1-℞ 9 UM × 3/8 × 1'-2¾ Bent (cas)
1-℞ 35 UM × 9/16 × 6'-1½ (cat)
2-Fills 6 UM × 5/8 × 6 15/16 (cav)
1-L 6×4×5/8 × 1'-2 9/16 (caw)
1-℞ 14 UM × 3/8 × 9½ Bent (cay)
} For (LB-U7) B22

Work sheets G9AC, G9BC, G9CC together as one sheet
Work this sheet with sheets G10, G11, G13

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 1"⌀ Un. noted
OPEN HOLES: 1 1/16"⌀ Un. noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly. also see note "A"
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

See sheet G9CC

No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 3-12-34

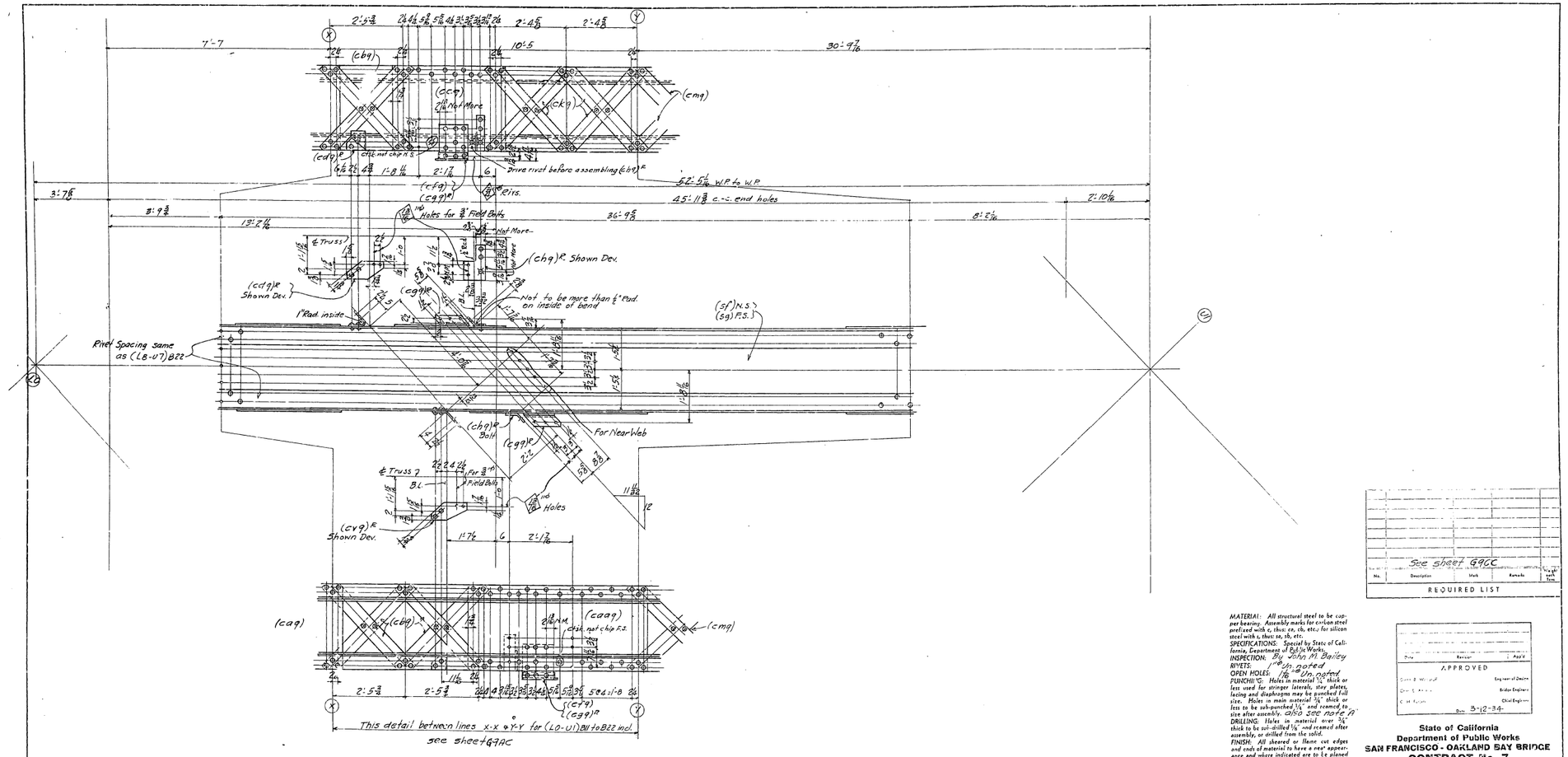
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Chicago WORKS
IN CHARGE Anthony MADE BY GAK
CHECKED BY A.F.L. 2/16/34 TRACED BY GGK
LAST ASSEM. MK.

CONTRACT CG1580I — SHEET G 9AC

Rev. A 5-8-34

30-1



NOTE:-
Work sheets G9AC, G9BC, G9CC together as one sheet.
Work this sheet with sheets G10, G11, G13

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M Bailey
RIVETS: 1" in. noted
OPEN HOLES: 1 1/16" in. noted
PUNCHING: Holes in material ½" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material ⅝" thick or less to be sub-punched ¾" and reamed to size after assembly. Also see note A
DRILLING: Holes in material over ⅝" thick to be sub-drilled 1/16" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed to 30 to remove at least 1/16" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except 1 coat No. Red Oxid Filler Red for base and cap plates of Towers, at Bents, end of built up struts and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

See sheet G9CC

REQUIRED LIST

No.	Description	Mark	Remarks	Weight each Piece

Date Revised by Appd.

APPROVED

Engineer of Design
Bridge Engineer
Chief Engineer

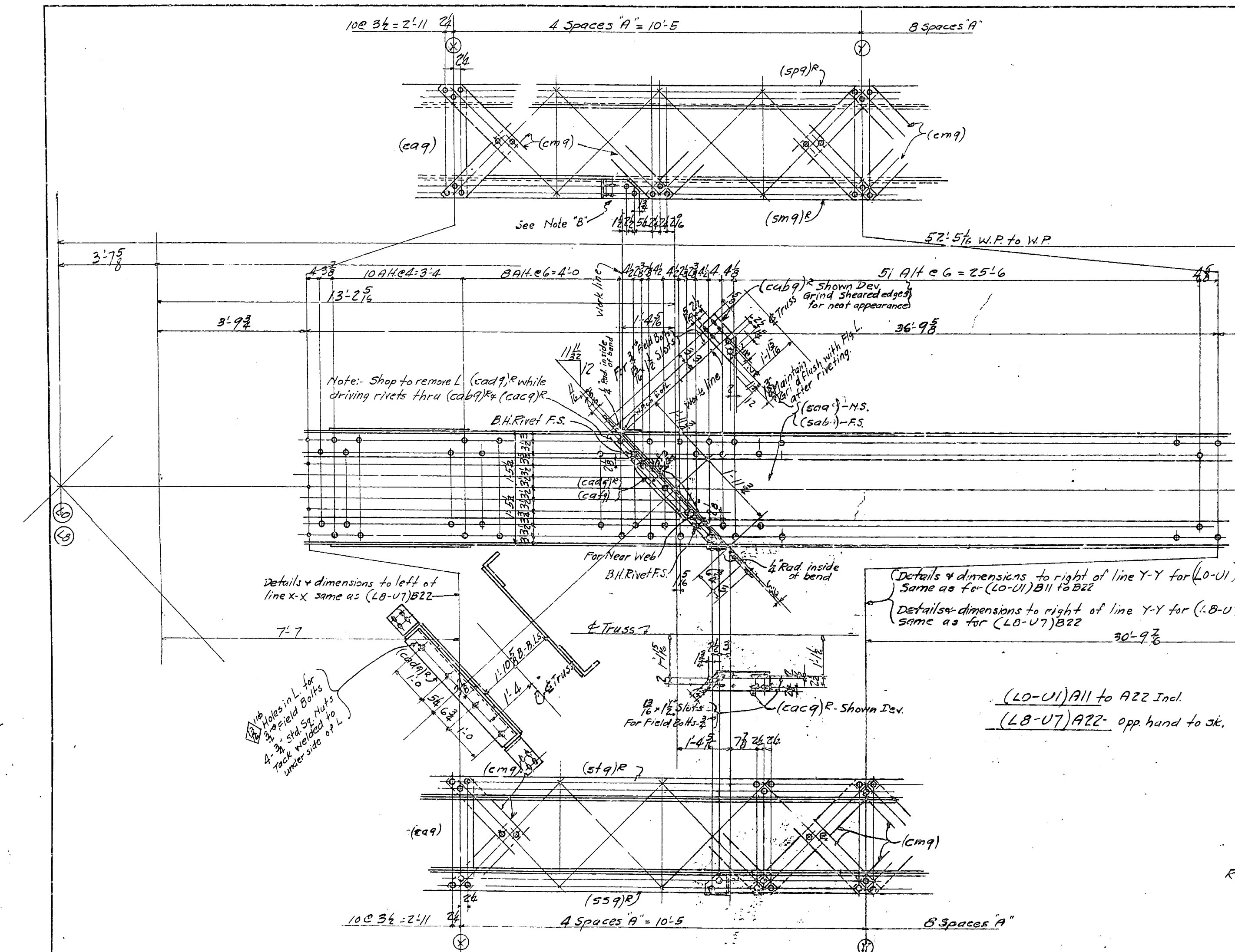
Date 5-12-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Chicago WORKS
IN CHARGE Anthony MADE BY G.B.K.
CHECKED BY A.F.L. 5-21-34 TRACED BY G.B.K.
LAST ASSTM. SPN.

CONTRACT C31580 SHEET G9A

30-1



(L0-U1)A1 to A22 Incl.

(L8-U7)A22- opp. hand to sk.

Note "C":-
As field clearance at these points is only ½" particular attention must be paid to maintaining all dimensions in detail pieces and main material as called for. All exposed edges must be particularly neat as these conns. are for hand rail.

Note "A":-
Holes for shop & field rivets & bolts in all Ps., fills, & Ls used for walk & skid girder conns. may be punched full size.
Shop to put shipping bolts in holes ⊗ and draw same up tight. Erector to remove in field.

Reaming note:-
All holes for field rivets connecting gusset plates on end posts to top & bottom chords, are to be reamed or drilled to size with gusset plate assembled on chords and chords assembled. While gusset plates are assembled on chords for reaming or drilling of chord connections, all other holes in gusset plates for connection of end post or other web members are to be subpunched and reamed or drilled to size thru metal jigs.
All holes in end posts for connection of gusset plates are also to be drilled to size thru metal jigs and gusset plates shop riveted to end post, where called for on drwg.
Holes marked GRT, to be reamed or drilled to size to a metal template.

Shop note: Erection Marks.
Add span number as suffix to mark in table to become part of shipping mark: thus (L8-U7)P11, etc. This complete mark to be the erection mark & to appear on B.F.P.
Work sheets G9AC, G9BC, G9CC together as one sheet.
Work this sheet with sheet G10, G11, G13.

Material for one End Post (L0-U1)A1 to A22 incl. & (L8-U7)A22

1-L 8×6×13/16 × 45'-7 7/8 F2E (sm9)R (ord. 46'-3½) cut It. #1
1-L 8×6×13/16 × 45'-7 7/8 F2E (sp9)R " " " " 1
1-L 8×6×13/16 × 46'-2 7/8 F2E (ss9)R " " It. #1
1-L 8×6×13/16 × 46'-2 7/8 F2E (st9)R " " It. #1
1-P 34UM × 3/4 × 44'-5 5/8 F2E (sa9) " 44'-6½ It. 74
1-P 34UM × 3/4 × 44'-5 5/8 F2E (sab) " " " 74
2-Ps (sh)
4-Ps (ca9)
48-Lac. Bars (cm9)
4-Ls-(cp9)R/L
2-Ls (cs9)R/L
2-Ls (ct9)R/L

1-P (sw9) } For (L8-U7)A22
1-P (sy9) }
1-P 6 UM × 3/8 × 1'-1½ Bent (cab9)R
1-P 6 UM × 3/8 × 1'-6 5/16 Bent (cac9)R
1-L 6 × 3½ × 3/8 × 4'-0 7/16 F2E (cad9)R
1-Fill 3½UM × 3/16 × 2'-4 7/16 (caf9)
4- 3/4" Std. Sq. Nuts-welded to bottom of L (cad9)R

				1	One	End Post	(L8-U7)B	As Shown & Ntd.	
			1 Each		12	Do.	(L0-U1)B	Opp. Hd. to Sk.	
			1 Each		12	"	(L0-U1)A	As Shown & Ntd.	
				1	One	"	(L8-U7)A	Opp. Hd. to Sk.	
			Spans 11 to 22	Span 22	Total No.	Description	Mark	Remarks	Weight each Tons
REQ'D. BY SPANS					REQUIRED LIST				

See shop note regarding Erection Marks.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc., for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 1"⌀ Un. Noted
OPEN HOLES: 1 1/16"⌀ Un. Noted.
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly. See also Note A.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, end of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

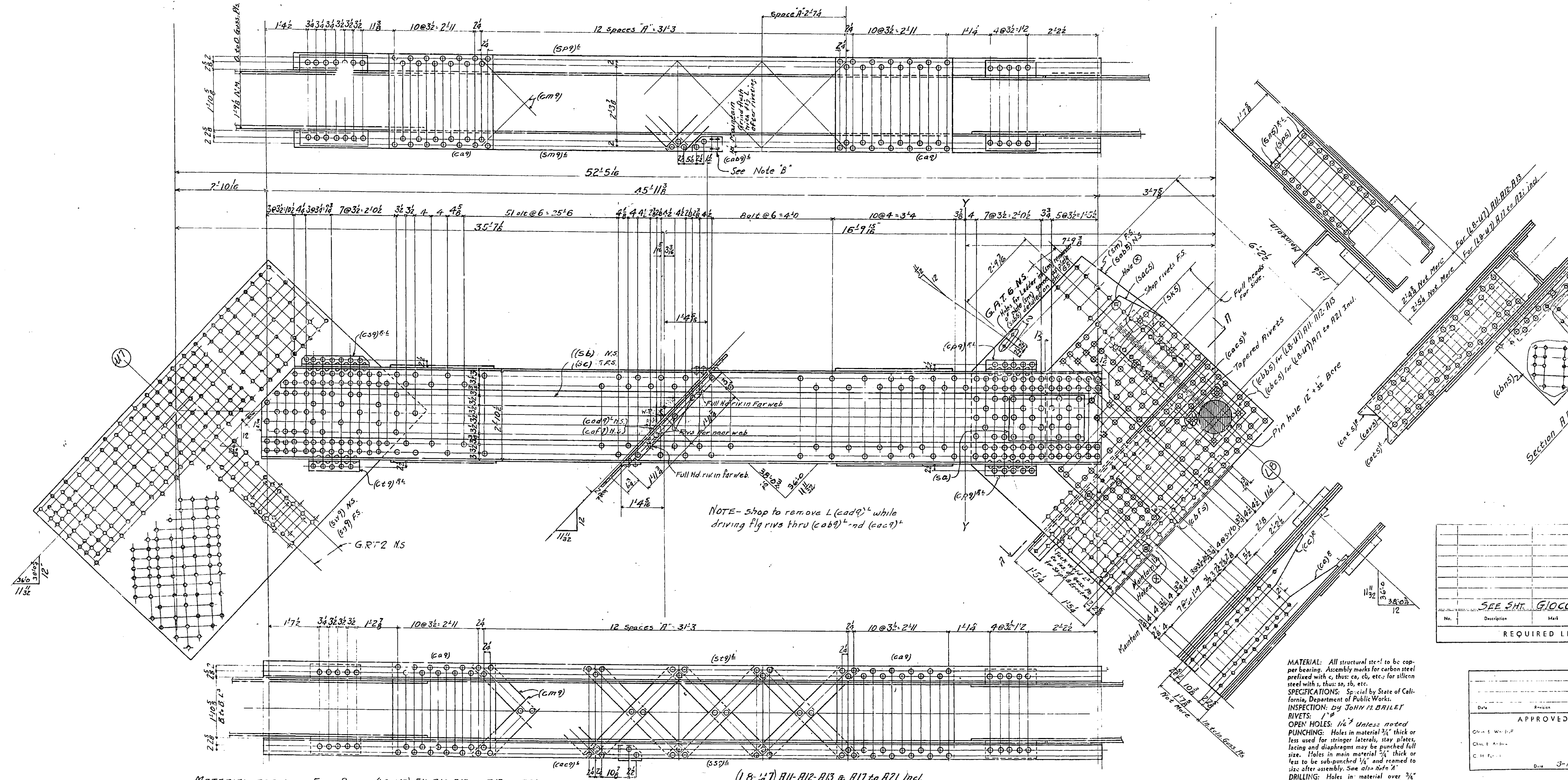
APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 3-12-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Chicago WORKS
IN CHARGE Anthony MADE BY GAK
CHECKED BY K.F.L. 2-16-34 TRACED BY GAK
LAST ASSEM. MK. (sa9) (ca9)

CONTRACT CG15801 SHEET G9CC

30-1



MATERIAL FOR ONE END POST (L8-U7) A11-A12-A13 & A17 to A21 INCL.

1-L 8×6×$\frac{13}{16}$×46'-2$\frac{7}{8}$ F2E (sg9)^L Ord. 46'3$\frac{1}{2}$ item #1
1-L 8×6×$\frac{13}{16}$×46'-2$\frac{7}{8}$ F2E (st9)^L " do " #1
1-L 8×6×$\frac{13}{16}$×45'-7$\frac{7}{8}$ F2E (sm9)^L " do " #1 Cut
1-L 8×6×$\frac{13}{16}$×45'-7$\frac{7}{8}$ F2E (sp9)^L " do " #1 Cut
1-Web Pl. 34 U.M.×$\frac{3}{4}$×44'-5$\frac{5}{8}$ F2E (sc) Ord. 44'6$\frac{1}{2}$ " #74
1-Web Pl. 34 U.M.×$\frac{3}{4}$×44'-5$\frac{5}{8}$ F2E (sb) Ord. 44'6$\frac{1}{2}$ " #74
2-L^s 6×4×$\frac{1}{2}$×2'-1$\frac{1}{2}$ (cg9)^{RL}
4-Pls. 35 U.M.×$\frac{9}{16}$×3'-7 (ca9)
1-Pl. 6 U.M.×$\frac{3}{8}$×1'-1$\frac{1}{2}$ bent (cab9)^L
48 Lac. bars 6 U.M.×$\frac{5}{8}$×4'-2$\frac{5}{8}$ (cm9)
1-Pl. 82 F2W×$\frac{3}{4}$×10'-8$\frac{1}{2}$ F2E (sw9)
1-Pl. 82 F2W×$\frac{3}{4}$×10'-8$\frac{1}{2}$ F2E (sy9)
4-L^s 6×4×$\frac{1}{2}$×1'-7$\frac{1}{4}$ (cp9)^{RL}
2-L^s 6×4×$\frac{1}{2}$×1'-0$\frac{3}{4}$ (cl9)^{RL}
1-L 3$\frac{1}{2}$×6×$\frac{3}{8}$×4'-0$\frac{9}{16}$ F2E (cad9)^L
1-Fill. 3$\frac{1}{2}$ U.M.×$\frac{13}{16}$×2'-4$\frac{7}{16}$ (caf9)
1-Pl. 6 U.M.×$\frac{3}{8}$×1'-6$\frac{5}{16}$ (bent) (cac9)^L
1-Pl. 88$\frac{1}{4}$ F2W×$\frac{3}{4}$×7'-11 F2E (sab5)
2-Pls. 69 F2W×$\frac{3}{4}$×6'-2$\frac{1}{2}$ F2E (sac5)
2-Pls. 35$\frac{1}{2}$ U.M.×$\frac{3}{4}$×4'-9 F2E (sk5)
Must be Flat & Smooth: 2-Slabs 15$\frac{3}{4}$ U.M.×2$\frac{5}{16}$×1'-5 F2E (cbb5) For (L8-U7) A11-A12-A13
2-Slabs 15$\frac{3}{4}$ U.M.×2$\frac{9}{16}$×1'-5 F2E (cbc5) For (L8-U7) A17 to A21 Incl.
1-L 6×6×$\frac{1}{2}$×2'-11$\frac{1}{2}$ F2E (cac5)^L
4-L^s 8×4×$\frac{5}{8}$×5'-10$\frac{1}{4}$ F1E (sn5)^{RL}
1-Pl. 19 U.M.×$\frac{3}{4}$×3'-4$\frac{1}{2}$ F1E (sp5)
2-Pls. 22 U.M.×$\frac{1}{2}$×2'-9$\frac{3}{8}$ F2E (cbf5)
1-L 6×6×$\frac{1}{2}$×5'-5$\frac{1}{4}$ (ca)^R
2-L^s 6×6×$\frac{1}{2}$×6'-1 (cat5)^{RL}
1-Pl. 19 U.M.×$\frac{9}{16}$×5'-8$\frac{1}{4}$ (car5)
2-Pls. 18 U.M.×$\frac{1}{2}$×2'-4$\frac{1}{4}$ F2E (sa)
1-Pl. 31 U.M.×$\frac{1}{2}$×3'-7$\frac{1}{4}$ (cbn5) 6'-9 cuts 2
4-std $\frac{3}{4}$"φ sq. nuts. Tack weld to underside of L (cad9)^L
1-L 6×6×$\frac{1}{2}$×5'-5$\frac{1}{4}$ (cc)^R
1-Pl. 88$\frac{1}{4}$ F2W×$\frac{3}{4}$×7'-11 F2E (sm)

NOTE "B"
As field clearance at these points is only $\frac{1}{8}$", particular attention must be paid to maintaining all dimensions in detail pieces and main material as called for. All exposed edges must be particularly neat as these conns. are for handrail.

NOTE "C"
Machined surfaces of pin holes shall receive one coat of "Blue Lacquer"

Work Sheets G10AC-G10BC & G10CC together as one sheet

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: by John M. Bailey
RIVETS: 1"φ
OPEN HOLES: 1$\frac{1}{16}$"φ Unless noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly. See also Note "A"
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting. See Note "C"

No.	Description	Mark	Remarks	Weight each Tons
	SEE SHT. G10CC.			

REQUIRED LIST

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 3-12-34

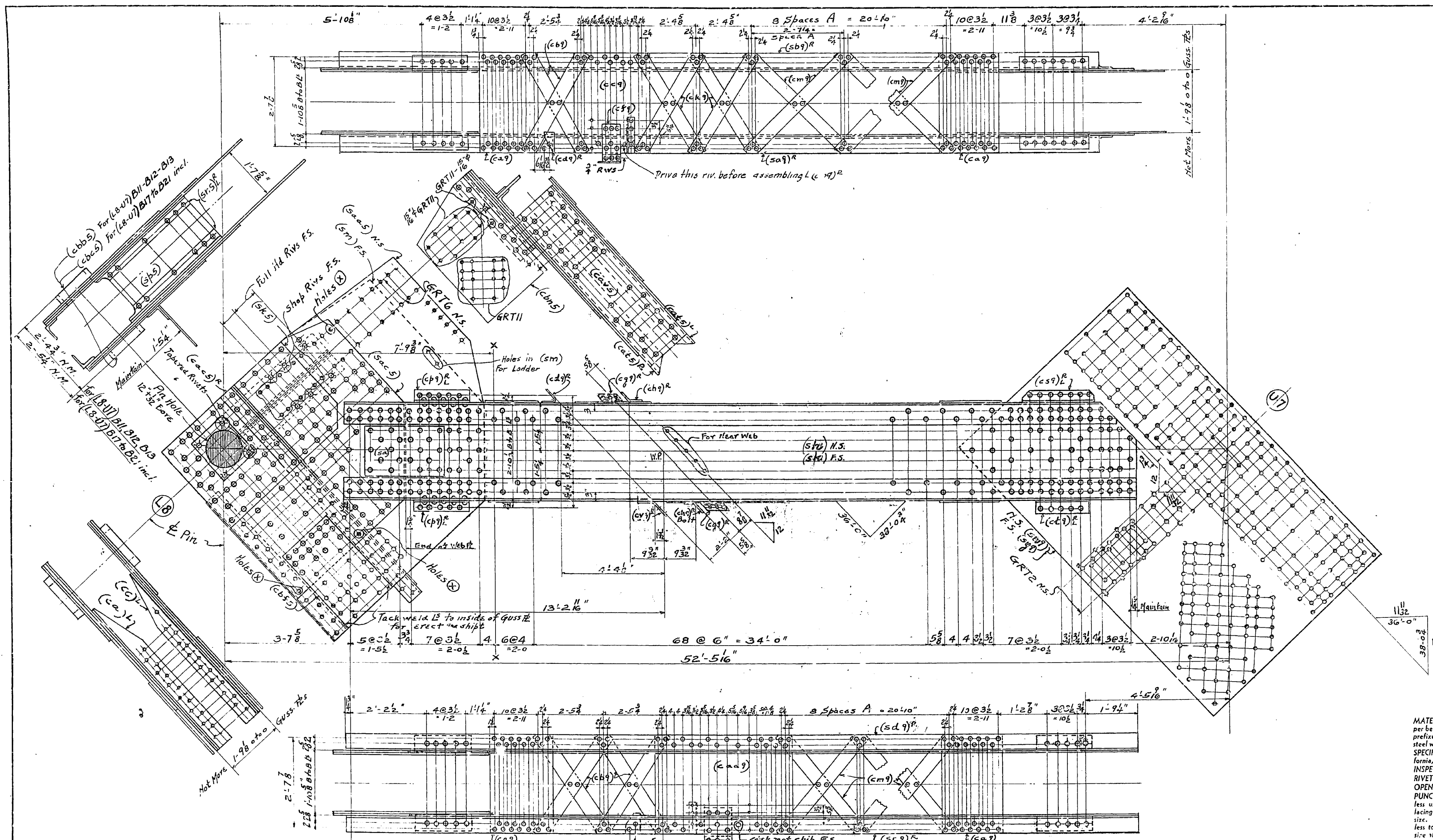
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

CHICAGO DRAWING ROOM CHICAGO WORKS
IN CHARGE Anthony MADE BY CBJ 2-7-34
CHECKED BY F.L. 2/16/34 TRACED BY CAJ 2-8-34
LAST ASSEM. MK.

CONTRACT CG15801 SHEET G 10AC

Rev. (A) 4-23-34.

30-1



END POST (L8-U7) B11-B12-B13 and B17 to B21 incl.

Material for One End Post (L8-U7) B11, B12, B13 & B17 to B21 incl.

1 L 8×6×13/16×45'-7 7/8 F2E — (sb9)R (ord 46'-3½) cut It #1
1 L 8×6×13/16×45-7 7/8 F2E — (ca9)R do cut " 1
1 L 8×6×13/16×46-2 7/8 F2E — (sc9)R do It #1
1 L 8×6×13/16×46-2 7/8 F2E — (sd9)R do It #1
1 PL 34 UM×3/4×44-5 5/8 F2E — (stj) (ord 44-6½ IT. 74
1 PL 34 UM×3/4×44-5 5/8 F2E — (sk) do " 74
2 PL 18 UM×½×2-4¼ F2E — (sa)
4 PL 35 UM×1/16×3-7 — (ca9)
6 Lac Bars 6 UM×5/8×4-1 5/8 — (cb9)
1 PL 35 UM×9/16×3-10 — (cc9)
1 PL 6¾ UM×3/8×1-2¼ Bent — (cd9)R
2 PL 14 UM×3/8-1-0 3/8 — (cf9)
2 Ls 4×3×3/8×1-2 3/4 — (cg9)R

2 PL 14½ UM×3/8×8 5/8" Bent — (ch9)R Both
4 Lac Bars 6 UM×5/8×4-0 7/8 — (ck9)
32 Lac Bars 6 UM×5/8×4-2 5/8 — (cm9)
4 Ls 6×4×½×1-7½ — (cp9)R L
2 Ls 6×4×½×2-1½ — (cs9)R L
2 Ls 6×4×½×1-6 3/4 — (ct9)R L
1 PL 92 F2W×3/4×10-8½ F2E — (su9)
1 PL 82 F2W×3/4×10-8½ F2E — (sg9)
1 PL 6¾×3/8×1-2 Bent — (cv9)R
1 PL 35 UM×9/16×6-1½ — (caa9)
2 Ls 6×6×½×6-1 — (cat5)R L
1 PL 19 UM×9/16×5-8¼ — (cav5)
1 PL 31 UM×½×3-7¼ — (cbn5)

1 PL 88¼ F2W×3/4×8-10½ F2E — (saa5)
1 PL 88¼ F2W×3/4×7-11 F2E — (sm)
2 PL 35½ UM×3/4×4-9 F2E — (sk5)
2 Slabs 15¾ UM×2 5/16×1-5 F2E (cbb5) for (L8-U7) B11-B12-B13 } Must be flat and Smooth
2 Slabs 15¾ UM×2 9/16×1-5 F2E (cbc5) for (L8-U7) B17 to B21 incl. }
4 Ls 8×4×5/8-3-10¼ F1E — (sn5)R L
1 PL 19 UM×3/4×3-4½ F1E — (sp5)
1 L 6×6×½×2-11½ F2E — (cac5)R
2 PL 22 UM×½×2-9¼ F2E — (cb5)
1 L 6×6×½×5-5¼ — (ca)L
2 PL 69 F2W×3/4×6-2½ F2E — (sac5)
1-L 6×6×½×5'-5¼ (cc)L

Work sheets G10AC-G10BC & G10CC together as one sheet

SEE SHEET G10CC

No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 1"φ Unless Noted
OPEN HOLES: 1 1/16" " "
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 3/16" and reamed to size after assembly. also see Note "A"
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting. See Note "C" Sh. 10AC

A

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 3-12-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Chicago WORKS
IN CHARGE Anthony MADE BY W.L.M.
CHECKED BY A.E.L. 4/23 TRACED BY W.L.M.
LAST ASSEM. MK.

CONTRACT CG1580! SHEET G 10BC

Rev. A 4-23-34

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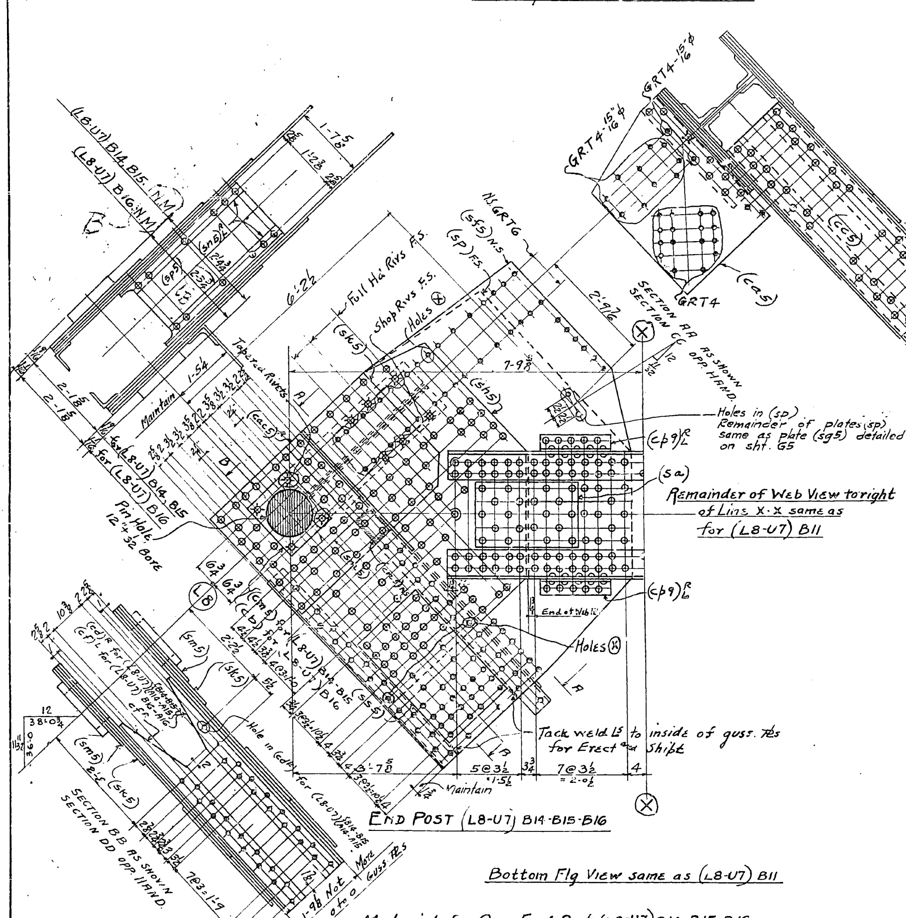
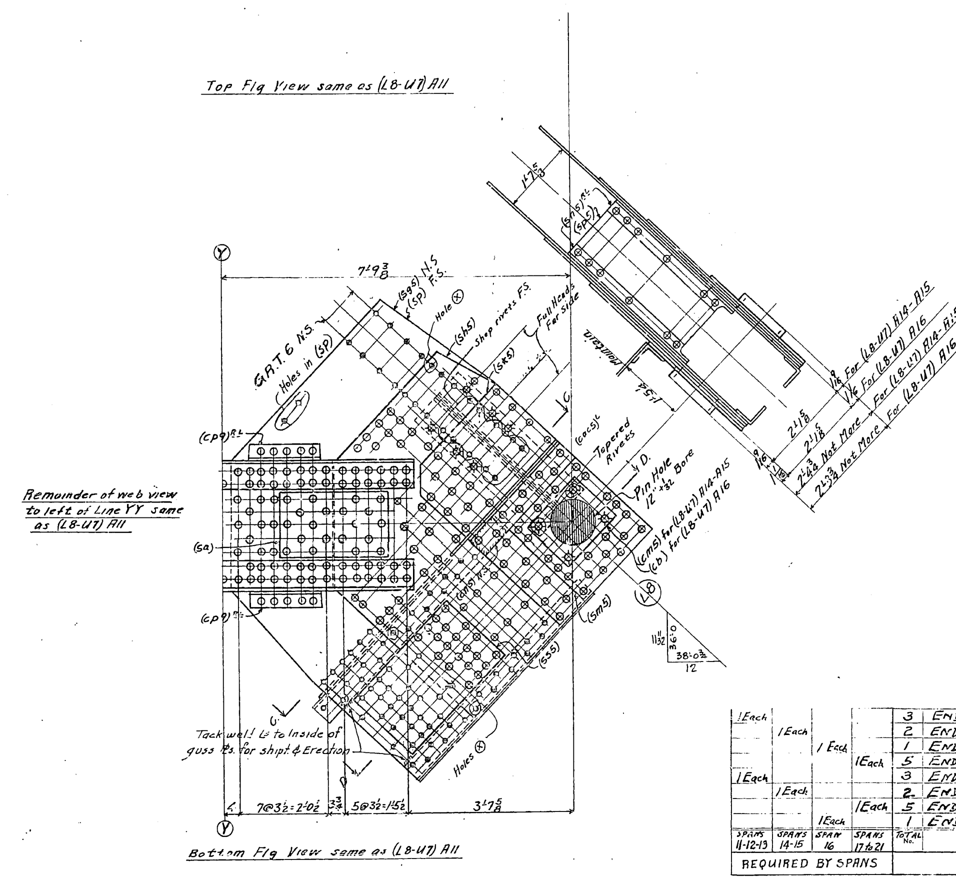




Material for One End Post (L8-U7) B14, B15, B16

1 L-(sb9)R
1 L-(sa9)R
1 L-(sc9)R
1 L-(sd9)R
1 Pl-(sh)
1 Pl-(sk)
2 Pl-(sa)
4 Pl-(ca9)
6 Lac-(cb9)
1 Pl-(cc9)
1 Pl-(cd9)R
2 Pl-(cf9)
2 Ls-(cg9)R
2 Pl-(ch9)R Both
4 Lac(ck9
32 Lac(cm9)
4 Ls-(cp9)RL
2 Ls-(cs9)RL
2 Ls-(ct9)RL
1 Pl-(sd9)

1 Pl-(sy9)
1 Pl-(cv9)R
1 Pl-(ca29)
2 Pl-(sk5)
1 L-(cac5)R
4 Ls-(sn5)RL
1 Pl-(sp5)
2 Ls-6×6×1/2 × 6-1 ——(cb5)RL
1 Pl-19UM×9/16 × 5-8 1/4 ——(cc5)
1 Pl 91 1/4 F2W × 3/4 × 8-10 1/2 F2E (ss5)
1 Pl 91 1/4 F2W × 3/4 × 7-11 F2E (sp)
2 Slabs 15 3/4 UM × 1 1/16 × 1-5 F2E (cm5) for (L8-U7) B14-B15
2 Pl 69 F2W × 3/4 × 6-2 1/2 F2E (sh5)
1 Fill 6" UM × 3/4 × 0'-8 3/4 – (cn5)
2 Pl 26 1/2 UM × 3/4 × 2-10 1/4 F2E (sm5)
1 L 6×6×1/2 × 5-8 1/4 — (cd)R for (L8-U7) B14-B15
2 Pl 22UM × 7/16 × 3-0 1/4 F2E —(ss5)
1 Pl 31 UM × 1/2 - 3'-7 1/8 ——(ca5) 6-9 Cuts 2
2 Slabs 15 3/4 UM × 1 1/16 × 1'-5 F2E (cb) for (L8-U7) B16
1-L 6×6×1/2 × 5'-8 1/4 (cf)R for (L8-U7) B14-B15
2-Ls (cf)RL for (L8-U7) B16

MATERIAL FOR ONE END POST (L8-U7) A14-A15-A16

1-L	(ss9)L	1 Pl	91 1/4 F2W × 3/4 × 7'-11 F2E (sg5)
1-L	(st9)L	2-Pls	(sh5)
1-L	(sm9)L	2-Pls	(ss5)
1-L	(sp9)L	1-Fill	(cn5)
1-Web Pl.	(sb)	2-Slabs	(cm5) (L8-U7) A14-A15
1-Web Pl.	(sc)	2-Slabs	(cb) (L8-U7) A16
2-Ls	(cs9)RL	2-Pls.	(sa)
4-Pls	(ca9)	1-Pl.	(ca5)
1-Pl.	(cab9)L	2-Pls.	(sm5)
48-Lac Bars	(cm9)	4-std 3/4" φ sq. nuts. Tackweld to underside of L(cad9)L	
1-Pl.	(sw9)	1-Pl (sp)	
1-Pl.	(sy9)		
4-Ls	(cp9)RL		
2-Ls	(ct9)RL		
1-L	(cad9)L		
1-Fill.	(caf9)		
1-Pl.	(ccc9)L		
2-Pls	(sk5)		
1-L	(cac5)L		
4-Ls	(sn5)RL		
1-Pl.	sp5		
1-L	cdL for (L8-U7) A14 & A15		
2-Ls	(cb5)RL		
1 Pl.	(cc5)		
1-L	(cf)L for (L8-U7) A14-A15		
2-Ls	(cf)RL for (L8-U7) A16		

END POST (L8-U7) A14-A15-A16

Note-A- Holes for shop + field rivets + bolts in all Pls, fills + Ls used for walk + skid girder conns may be punched full size.

REAMING NOTE:

All holes for field rivets connecting gusset pls on End Posts, to top & bottom chords, are to be reamed or drilled to size with gusset pls assembled on chords, and chords assembled.

While gusset pls are assembled on chord for reaming or drilling of chord connections, all other holes in gusset pls for connection of End Post or other web members are to be subpunched & reamed or drilled to size thru metal jigs.

All holes in end post for connection of gusset pls are to be drilled to size thru metal jigs and gusset pls. shop riveted to End Post where called for on drwg. Holes marked GR.T. to be reamed or drilled to size to a steel template.

Shop Note - Erection Marks.

Add span number as suffix to mark in table to become part of shipping mark: thus (L8-U7) A11 etc. This complete mark to be the erection mark & to appear on B.F.P.

Shop Note:

Shop to put shipping bolts in holes ⊗ and draw same up tight. Bolts to be removed by Erector in field.

Work Sheets G10AC - G10BC & G10CC together as one sheet. Work this sheet with sheets G5 & G9

Rev. (A) 4/23/34
Rev. (B) 5/29/34

SPANS 11-12-13	SPANS 14-15	SPAN 16	SPANS 17 to 21	TOTAL No.	Description	Mark	Remarks	Weight each Tons
1 Each				3	END POSTS	(L8-U7)A	As shown	
	1 Each			2	END POSTS	(L8-U7)A	" "	
		1 Each		1	END POST	(L8-U7)A	" "	
			1 Each	5	END POSTS	(L8-U7)A	" "	
1 Each				3	END POSTS	(L8-U7)B	" "	
	1 Each			2	END POSTS	(L8-U7)B	" "	
			1 Each	5	END POSTS	(L8-U7)B	" "	
		1 Each		1	END POST	(L8-U7)B	" "	

REQUIRED BY SPANS — REQUIRED LIST

SEE SHOP NOTE REGARDING ERECTION MARKS

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: BY JOHN M. BAILEY
RIVETS: 1" φ Unless Noted
OPEN HOLES: 1 1/16 Unless Noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly. See Also Note A
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting. See Note "C" sh. 10AC.

Date	Revision	App'd

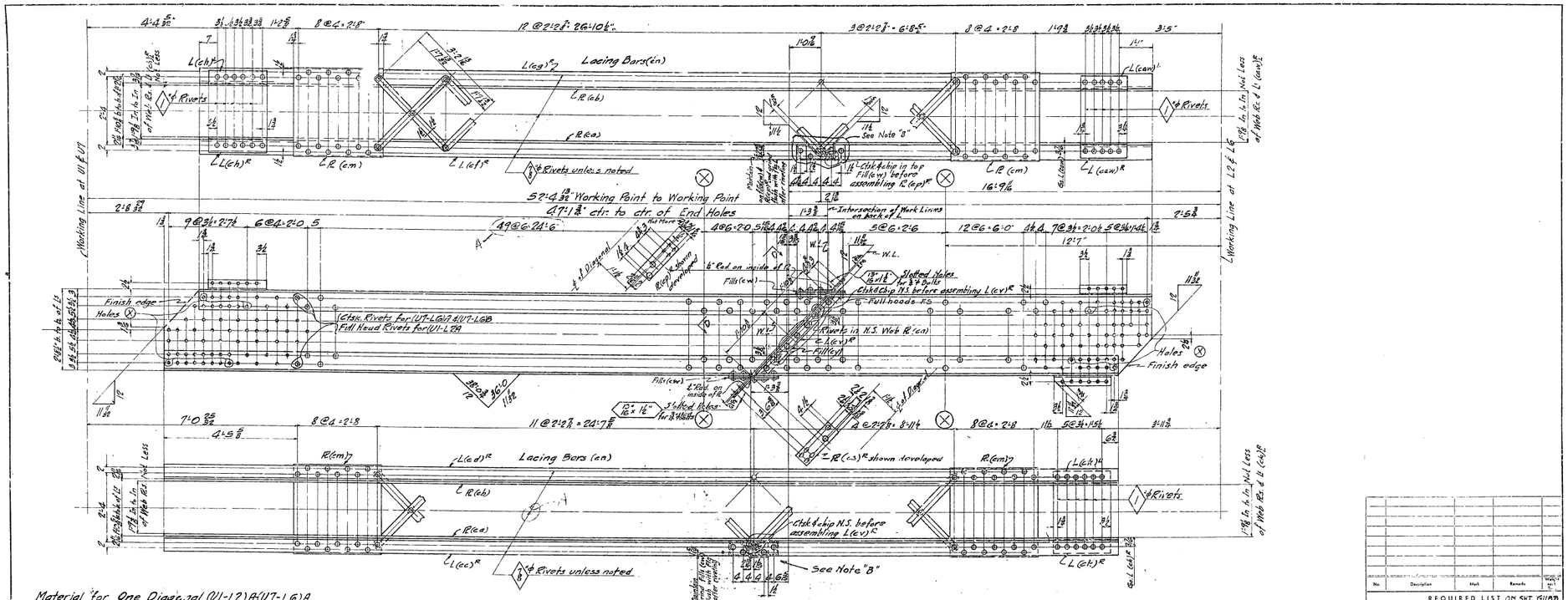
APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 3-12-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Chicago WORKS
IN CHARGE Anthony MADE BY W. M. CAJ
CHECKED BY A.E.L. 3-16-34 TRACED BY W. M. CAJ
LAST ASSEM. MK. (cf) (sp)

CONTRACT CG15701 SHEET G 10CC

14



Material for One Diagonal (U1-L2) & (U1'-L2')A

2-Web Rs 32 UM × ¾ × 47'-8½" F2E (Cs) N.S. F.S. (Ord. 47'-6") IA # 130
2-Ls 8 × 6 × ⅞ × 46'-4½" F2E (Cs) N.S. F.S. (Ord. 46'-5") IA # 12
2-Ls 8 × 6 × ⅞ × 46'-3½" F2E (Cs) N.S. F.S. (Ord. 46'-4") IA # 13
2-Ls 6 × 4 × ½ × 1'-11¼" (eh)L
2-Ls 6 × 4 × ½ × 1'-6⅞" (eaw)L
2-Ls 6 × 4 × ½ × 1'-10⅞" (ek)R
4-PLs 35 UM × ⅞ × 2'-11⅝" (em)
60-Lacing Bars 3UM × ⅞ × 3'-2 13/16" ⅞ϕ (en)
1-R 6UM × ⅞ × 1'-5" (ep)R bent
1-R 6UM × ⅞ × 1'-5" (es)R bent
4-Fills 6UM × ⅞ × 1'-7" (ew) see enlarged detail
1-L-6 × 3½ × ⅞ × 3'-10" (ev)L F2E
1-Fill 3½ UM × ⅞ × 2'-1⅞" (ey) (17'-0 Cut: 8)
4-¾" Tap - Sq. Nuts - Tack welded

U1-L0A as shown
(U1'-L0A opp. hand of sketch

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc., for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: } See Sht. G1188
RIVETS: }
OPEN HOLES: }
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ½" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ½" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except: 1 coat No. 0 Red Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to mill'd ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or ends) and surfaces of main material in contact therewith; also to projecting portions of splice plates for angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Note: Where necessary, flange rivets shall be driven before L(ev) is assembled.

Note "B"
At field clearance at these points is only ¼", particular attention must be paid to maintaining all dimensions in detail pieces and main material as called for. All exposed edges must be particularly neat as those corns. are for hand rail.

No.	Description	Mark	Remarks	Weight Net

REQUIRED LIST ON SHT. G1188

Date	Revision	Appd

APPROVED

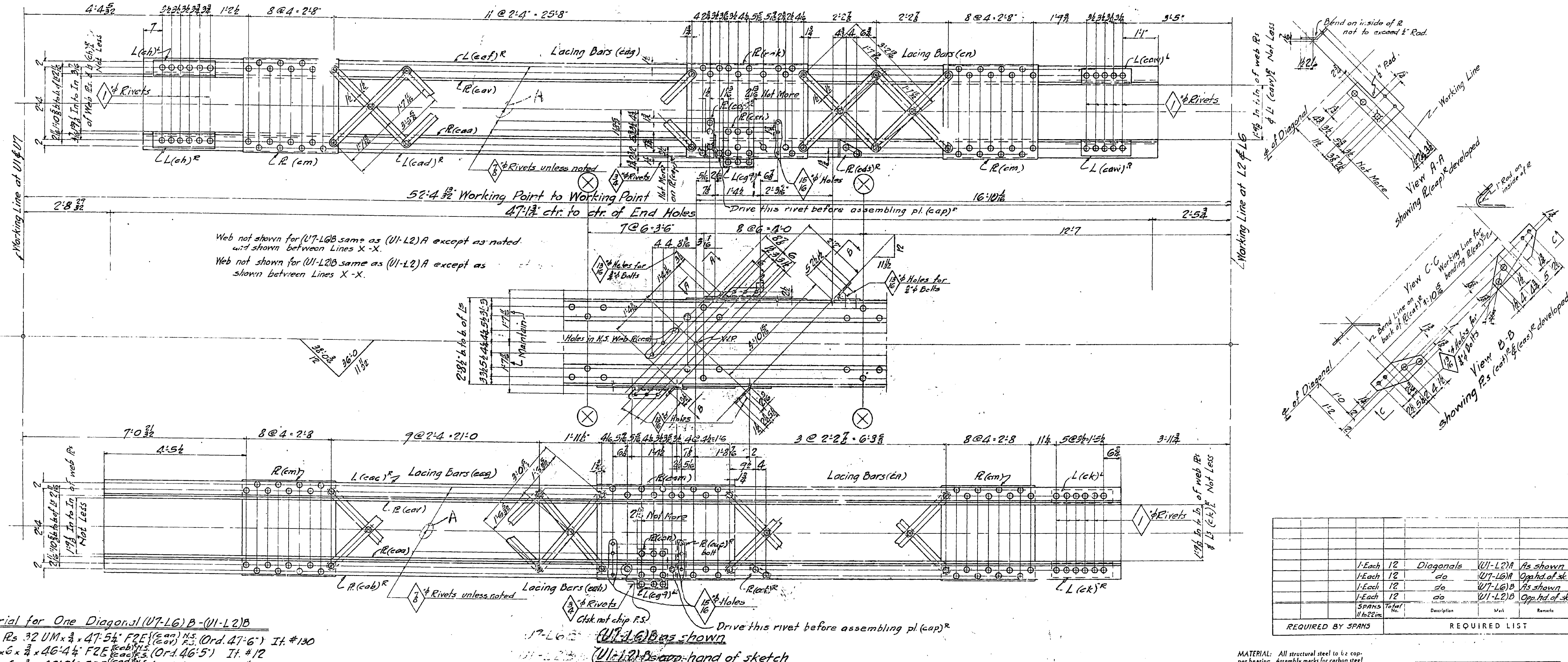
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 9-6-38

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Chicago WORKS
DETAILED BY Anthony TRACED BY K.W.S. & Yates
CHECKED BY A.F.L. 9/26/38 TRACED BY
LAST ACCOM. SHT.

CONTRACT CS1550 SHEET G118A

30-1



			1-Each	12	Diagonals	(U1-L2)A	As shown	
			1-Each	12	do	(U7-L6)A	Opp. hd. of sk.	
			1-Each	12	do	(U7-L6)B	As shown	
			1-Each	12	do	(U1-L2)B	Opp. hd. of sk.	
			SPANS 11 to 22 inc.	Total No.	Description	Mark	Remarks	Weight each Tons
REQUIRED BY SPANS			REQUIRED LIST					

Material for One Diagonal (U7-L6)B-(U1-L2)B

2-Web Pls 32 UM × 3/4 × 47'-5 1/4" F2E {(caa) N.S. (cav) F.S.} (Ord. 47'-6") It. #130
2-Ls 8 × 6 × 3/4 × 46'-4 1/4" F2E {(cab)R N.S. (cac) F.S.} (Ord. 46'-5") It. #12
2-Ls 8 × 6 × 3/4 × 46'-3 1/4" F2E {(cad)R N.S. (caf) F.S.} (Ord. 46'-4") It. #13
2-Ls (ch) R/L
2-Ls (caw) R/L
2-Ls (ck) R/L
4-Pls (cm)
10-Lacing Bars (cn)
40-Lacing Bars 3 UM × 9/16 × 3'-3 5/8" c/c (cag)
2-Lacing Bars 3 UM × 9/16 × 3'-0 5/16" c/c (cah)
1-Pl 35 UM × 9/16 × 3'-9" (cak)
1-Pl 35 UM × 9/16 × 4'-3" (cam)
2-Pls 14 UM × 3/8 × 1'-0 3/8" (can)
2-Ls 4 × 3 × 3/8 × 1'-2 3/4" (cg?)L
2-Pls 14 1/2 UM × 3/8 × 0'-8 3/8" (cap)R bent bolt one
1-Pl 6 3/4 × 3/8 × 1'-3 1/2" (cas)R bent
1-Pl 6 3/4 × 3/8 × 1'-4 1/2" (cai)R bent (2'-6 cuts 2)

Note "A"
Holes for shop or field rivets or bolts in all plates, fills and angles used for walk or skid girder connections may be punched full size.

Reaming Note
All holes for field rivets connecting Diagonals to Top or Bottom Chord gusset plates shall be subpunched and reamed or drilled to size thru metal jigs.

Shop Note:
Shop to put shipping bolts in holes ⊗ and draw same up tight. Bolts to be removed by Erector in field.

Work sheets G11AB and G11BB together as one sheet.
Work this sheet with sheet G9

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 1"⌀ unless noted.
OPEN HOLES: 1 1/16"⌀ unless noted.
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly. Also see Note "A"
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 3-6-34

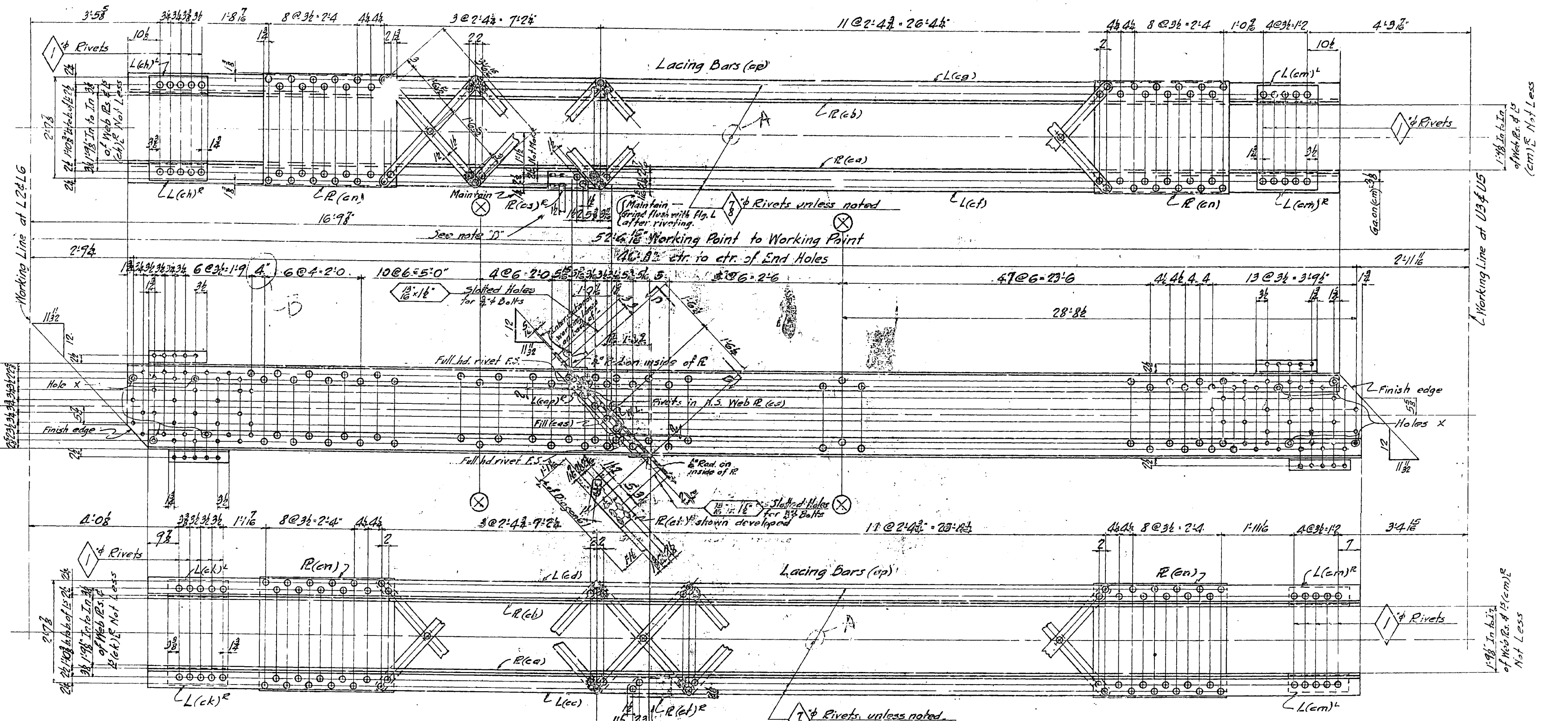
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Chicago WORKS
IN CHARGE Anthony MADE BY HWS 2/14/34
CHECKED BY A.F.L. 2-26-34 TRACED BY
LAST ASSEM. MK. (caw)

CONTRACT CE15801 SHEET G 11BB

Rev. A 3/19/35

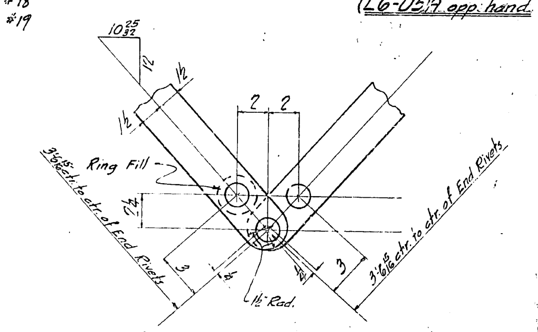
30-1



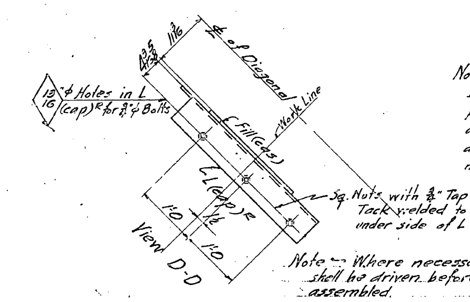
(L2-U3)A as shown.
(L6-U5)A opp. hand.

Material for One Diagonal (L2-U3) A

2-Web Rs 26 UM x 5/8 x 46'-11 1/2" F2E {(ca) N.S. (cb) F.S. Ord. 47'-0 1/4" It. # 134
2-Ls 6 x 6 x 5/8 x 46'-4 3/4" F2E {(ce) N.S. (cd) F.S. Ord. 46'-5 1/2" It. # 18
2-Ls 6 x 6 x 5/8 x 46'-4 1/2" F2E {(cf) N.S. (cg) F.S. Ord. 46'-5 1/2" It. # 19
2-Ls 6 x 4 x 1/2 x 1'-6 1/2" (ch) R/L
2-Ls 6 x 4 x 1/2 x 1'-7" (ck) R/L
4-Ls 6 x 4 x 1/2 x 1'-7 1/4" (cm) R/L
4-Rs 34 3/4 UM x 9/16 x 3'-6" (cn)
56-Lacing Bars 3 UM x 5/8 x 3'-9 7/16" (cp)
(see enlarged detail)
1-R 6 UM x 3/8 x 1'-0 3/4" (cs)R bent
1-R 6 UM x 3/8 x 1'-3 5/8" (ct)R bent
52-Ring Fills 2 1/2"φ x 5/8" thick with 15/16"φ Hole in ctr.
1-L 6 x 3 1/2 x 3/8 x 3'-2 1/16" (cap)R F2E
1-Fill 3 1/2 UM x 5/8 x 1'-10 15/16 (cas)
3-3/4" Tap-Sq. Nuts Tack welded



Enlarged detail showing cutting of ends of Lacing Bars and location of Ring Fills



Note "B"
As field clearances at these points is only 8", particular attention must be paid to maintaining all dimensions in detail pieces and main material as called for. All exposed edges must be particularly neat as these conns. are for hand rail.

Note — Where necessary, flange rivets shall be driven before L (cap)R is assembled.

No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST ON SHT. G12BB

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: / RIVETS: / OPEN HOLES: } See Sht. G12BB
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

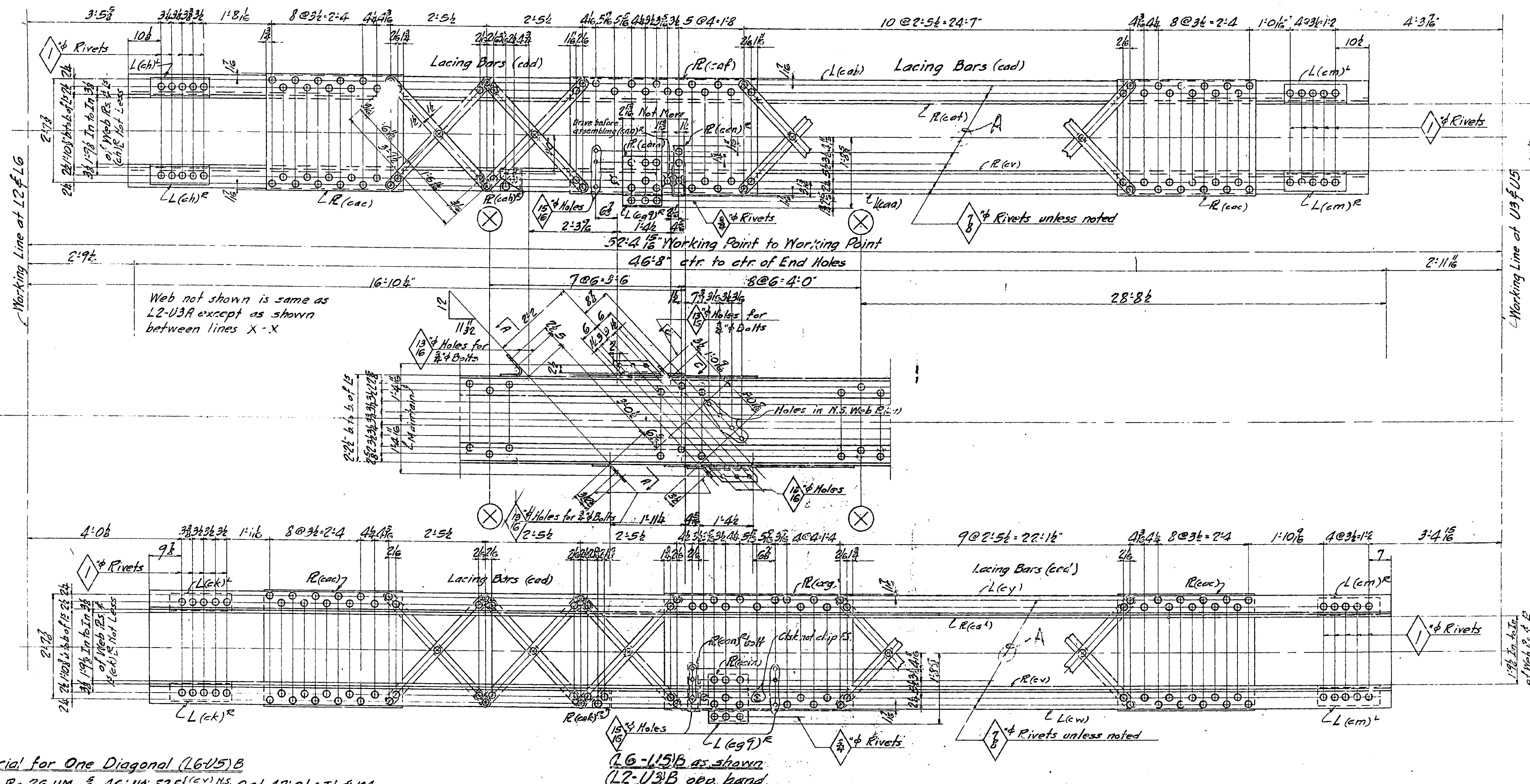
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 3-6-34

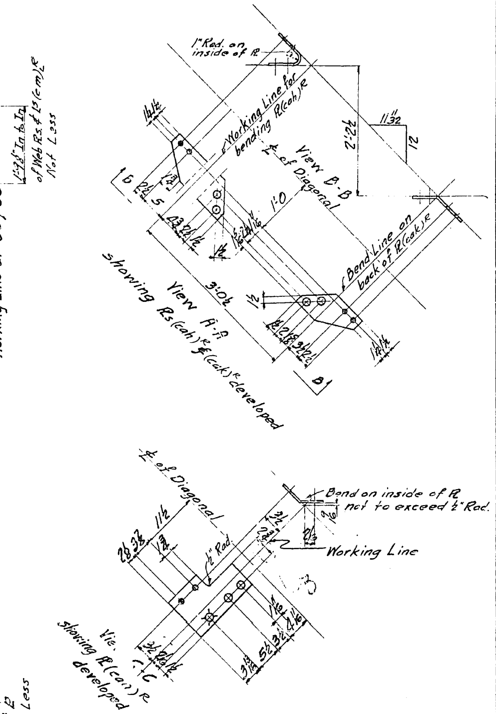
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC - MARSHALL CORPORATION

Chicago DRAWING ROOM Chicago WORKS
IN CH. E. Anthony MADE BY H.W.S. 2/16/34
CHECKED BY A.F.L. 2/26/34 TRACED BY
LAST ASSEM. MK.

CONTRACT CG15801 SHEET G-1266

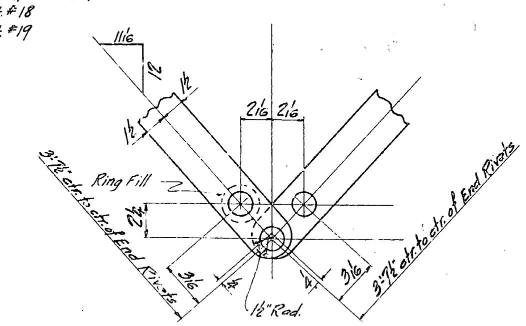
Rev (A) 3-19-34
Rev 3-2-34





Material for One Diagonal (L6-U5)B

2-Web ℞s 26 UM × 5/8 × 46'-11 1/2" F2E{(cy) N.S. (caf) F.S. Ord. 47'-0 1/4" It. # 134
2-Ls 6×6×5/8×46'-4 3/4" F2E{(cw) N.S. (cy) F.S. Ord. 46'-5 1/2" It. # 18
2-Ls 6×6×5/8×46'-4 1/2" F2E{(caa) N.S. (cab) F.S. Ord. 46'-5 1/4" It. # 19
2-Ls (ch) R/L
2-Ls (ck) R/L
4-Ls (cm) R/L
4-℞s 34 3/4 UM × 9/16 × 3'-6" (cac)
48-Lacing Bars 3 UM × 5/8 × 3'-10" (cad)
(see enlarged detail)
1-℞ 34 3/4 UM × 9/16 × 4'-9" (caf)
1-℞ 34 3/4 UM × 9/16 × 4'-9" (cag)
2-Ls 4×3×3/8×1'-2 3/4" (cg9)ᴿ
1-℞ 6 1/2 UM × 3/8 × 1'-2" (cah)ᴿ bent
1-℞ 6 1/2 UM × 3/8 × 1'-0 3/8" (cak)ᴿ bent
2-℞s 14 UM × 3/8 × 1'-0 3/8" (cam)
2-℞s 14 1/2 UM × 3/8 × 0'-8 3/8" (can)ᴿ bent bolt one
40-Ring Fills 2 1/2" ⌀ × 5/8" thick



Enlarged detail showing cutting of ends of Lacing Bars and location of Ring Fills.

Note "A"
Holes for shop or field rivets or bolts in all plates and angles used for wall or skid girder connections may be punched full size

Reaming Note
All holes for field rivets connecting Diagonals to Top or Bottom Chord gusset plates shall be subpunched and reamed or drilled to size thru metal jigs.

Shop Note:
Shop to put shipping bolts in Holes X and draw same up tight. Bolts to be removed by Erector in field.

Work sheets G12AB and G12BB together as one sheet.
Work this sheet with sheet G9

			1-Each	12	Diagonals	L2-U3A	As shown}	
			1-Each	12	do	L6-U5A	Opp. hand}	
			1-Each	12	do	L6-U5B	As shown}	
			1-Each	12	do	L2-U3B	Opp. hand}	
			SPANS 1 to 22 inc	No.	Description	Mark	Remarks	Weight each Tons
REQUIRED BY SPANS				REQUIRED LIST				

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 1" ⌀ unless noted
OPEN HOLES: 1 1/16" ⌀ unless noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly. Also see note "A"
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

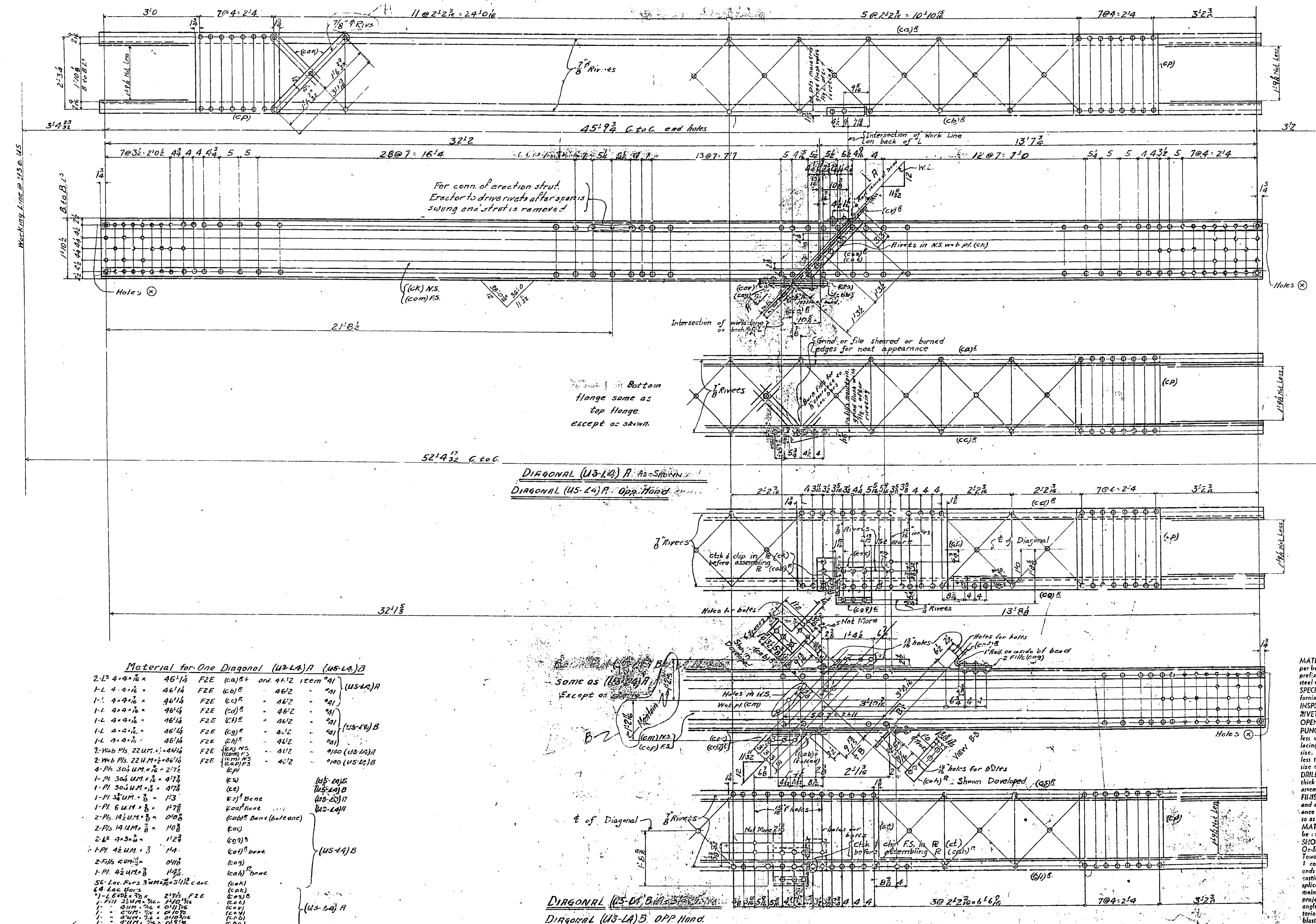
Date	Revision	App'd

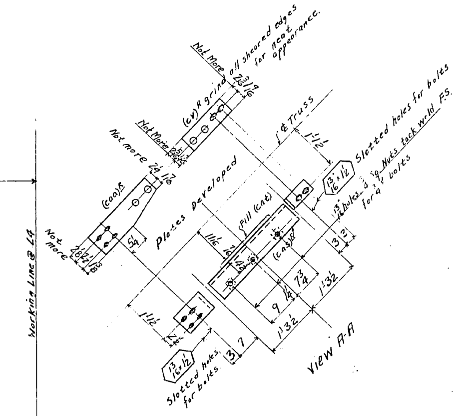
APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 3-6-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM — Chicago WORKS
IN CHARGE Anthony MADE BY N.W.S. 2/16/34
CHECKED BY A.F.L. 2/26/34 TRACED BY
LAST ASSEM. MK. Y(cm)
CONTRACT C615001 SHEET G 12BB

Rev. A. 3/19/34 Rev.





Note "A"
Holes for shop or field rivets or bolts in all plates, fills and angles used for walk or skid girder connections may be punched full size.

Reaming Note:
All holes for field rivets connecting Diagonals to Top or Bottom Chord gusset plates shall be subpunched and reamed or drilled to size thru metal jigs.

Shop Note:
Shop to put shipping bolts in Holes (X) and draw same up tight. Bolts to be removed by Erector in field. Work this sheet with sheet #9.

Material for One Diagonal (U3-L4) A (U5-L4) B

2-L^s 4×4×9/16×	46'1¼	F2E	(ca)^{R,L}	ord. 46'2 item #41	(U5-L4) A
1-L 4×4×7/16×	46'1¼	F2E	(cb)^R	46'2 #41	(U5-L4) A
1-L 4×4×7/16×	46'1¼	F2E	(cc)^R	46'2 #41	(U5-L4) A
1-L 4×4×7/16×	46'1¼	F2E	(cd)^R	46'2 #41	(U5-L4) B
1-L 4×4×7/16×	46'1¼	F2E	(cf)^R	46'2 #41	(U5-L4) B
1-L 4×4×7/16×	46'1¼	F2E	(cg)^R	46'2 #41	(U5-L4) B
1-L 4×4×7/16×	46'1¼	F2E	(ch)^R	46'2 #41	(U5-L4) B
2-Web Pls. 22 U.M.×½×46'1¼		F2E	(ck) N.S. (com) F.S.	46'2 #140	(U3-L4) A
2-Web Pls. 22 U.M.×½×46'1¼		F2E	(cm) N.S. (cap) F.S.	46'2 #140	(U5-L4) B
4-Pls. 30¼ U.M.×9/16×2'7½			(cp)		
1-Pl. 30¼ U.M.×9/16×4'7¾			(cs)		(U5-L4) B
1-Pl. 30¼ U.M.×9/16×4'7¾			(ct)		(U5-L4) B
1-Pl. 3¾ U.M.×⅜×	1'3		(cy)^R Bent		(U3-L4) A
1-Pl. 6 U.M.×⅜×	1'7⅝		(caa)^R Bent		(U3-L4) A
2-Pls. 14½ U.M.×⅜×	0'8⅞		(cab)^R Bent (bolt one)		(U5-L4) B
2-Pls. 14 U.M.×⅜×	1'0⅜		(cac)		(U5-L4) B
2-L^s 4×3×⅜×	1'2¾		(cg?)^R		(U5-L4) B
1-Pl. 4½ U.M.×⅜	1'4		(caf)^R bent		(U5-L4) B
2-Fills 4 U.M.×11/16×	0'11⅞		(cag)		(U5-L4) B
1-Pl. 4½ U.M.×⅜	1'4⅛		(cah)^R bent		(U5-L4) B
56-Lac. Bars 3 U.M.×11/16×3'11 13/16 c. to c.			(cak)		(U5-L4) B
64-Lac. Bars			(cak)		(U3-L4) A
1-L 6×3½×⅞×	2'9 [illegible]	F2E	(cas)^R		(U3-L4) A
1-Fill 3½ U.M.×[illegible]×	1'10 [illegible]		(cat)		(U3-L4) A
1- " 4 U.M.×11/16×	0'11 [illegible]		(cav)		(U3-L4) A
1- " 4 U.M.×11/16×	0'10½		(cay)		(U3-L4) A
1- " 4 U.M.×[illegible]×	0'10 [illegible]		(cbb)		(U3-L4) A
1- " 4 U.M.×11/16×	0'9¼		(cba)		(U3-L4) A
3-Sq. Nuts 3/4 φ Tap tack weld					(U3-L4) A

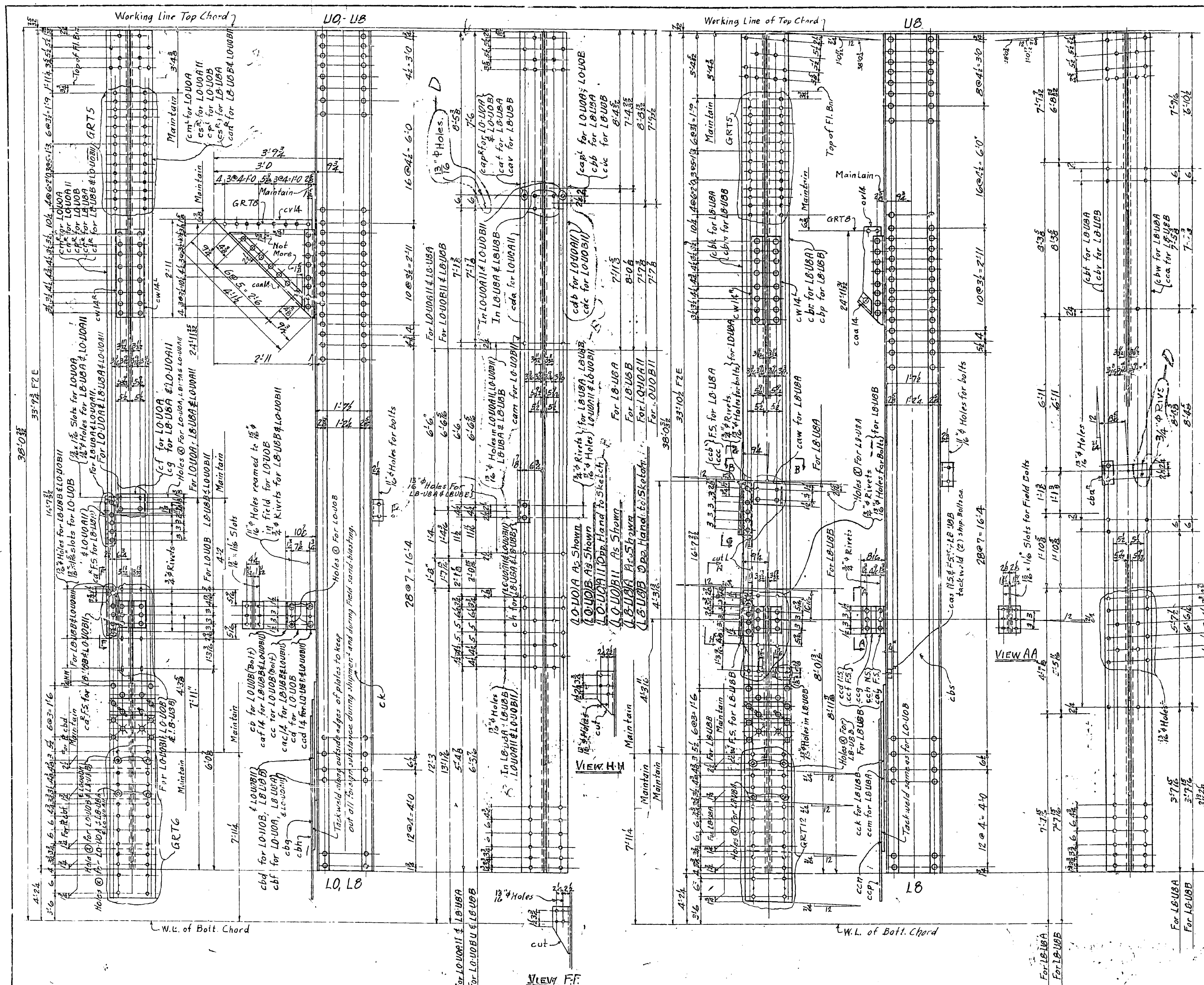
		Spans 11 to 22 incl.	Total No.	Description	Mark	Remarks	Weight each Tons
		1-Each	12	Diagonals	(U3-L4) A	As shown	
		1-Each	12	do	(U5-L4) A	Opp. hand	
		1-Each	12	do	(U5-L4) B	As shown	
		1-Each	12	do	(U3-L4) B	Opp. hand	
REQUIRED BY SPANS			REQUIRED LIST				

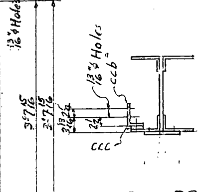
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 1" φ Unless noted
OPEN HOLES: 1 1/16" φ Unless noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly. Also see Note "A".
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except: 1 coat No. Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up sheets etc. 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith, also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

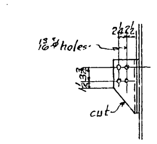
Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 12-12-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
[illegible]-MARSHALL CORPORATION
Chicago DRAWING ROOM Chicago WORKS
IN CHARGE Anthony MADE BY E.A.J. 7/14/34
CHECKED BY H.W.S. [illegible] TRACED BY
LAST ASCRIB. CTR.
CONTRACT [illegible] SHEET 663
Rev (A) [illegible]/34
Rev (B) [illegible]/34




SECT. BB
FOR L8·U8A


VIEW GG

Bill of Material for One Vertical (L0·U0)A, (L0·U0)B, (L8·U8)A, (L8·U8)B, (L0·U0)A11 and (L0·U0)B11

1 ℄ 19 UM × 7/16 × 33'-9 3/4 F2E ck ord. 33'-10 1/2 It.#144

1 L 8 × 4 × 5/8 × 33'-9 3/4 F2E (ord. 33'-10 1/2 It.#47):
- cm^R, cm^L for (L0·U0)A
- cn^R, cs^R for (L0·U0)A11 & L8U8A
- cap^R, cap^L for L0·U0A & L0·U0B
- cp^R, cp^L for L0·U0B
- cdb, cda for L0·U0A11
- cdc, cam for L0·U0B11
- cat, cbb for L8·U8A
- ct^R, can^R for L8·U8B & L0·U0B11
- cav, cbc for L8·U8B

1 L ch for L0·U0A11 & L0·U0B11
1 L ca^R for L0·U0A11 & L0U0B11

1 ℄ 16 1/2 UM × 3/4 × 2'-6 3/4 F2E cbd for L0·U0B11, L0·U0B & L8·U8B
1 ℄ 16 1/2 UM × 3/4 × 3'-6 1/4 F2E cbf for L0·U0A & L8·U8A
1 ℄ 16 1/2 UM × 3/4 × 4'-8 3/4 F2E cbg
1 ℄ 16 1/2 UM × 3/4 × 5'-8 3/4 F2E cbh
1 ℄ 21 3/4 UM × 7/16 × 4'-1 1/2 cv14 (1 ℄ 42'-0 cuts 18)
2 Ls 5 × 4 × 1/2 × 2'-7 1/4 (cw14)^R_L
2 Ls 4 × 4 × 7/16 × 3'-2 3/4 caa14
1 ℄ 10 1/2 U.M × 5/16 × 0'-9 cc for L0·U0B (bolt)
1 ℄ 10 1/2 U.M × 5/16 × 0'-9 cac14 for L8·U8B & L0·U0B11
2 Ls 5 × 3 × 5/16 × 0'-9 cd for L0U0B.
2 Ls 5 × 3 × 5/16 × 0'-9 cad14 for L8·U8B & L0·U0B11
2 Ls 3 1/2 × 3 × 5/16 × 0'-9 cb for L0·U0B (bolt)
2 Ls 3 1/2 × 3 × 5/16 × 0'-9 caf14 for L8·U8B & L0·U0B11
1 L 6 × 4 × 1/2 × 1'-4 13/16 ca^R for L8·U8A & L8·U8B
1 ℄ 6 UM × 3/4 × 10 3/4 cf for L0·U0A
1 ℄ 6 UM × 3/4 × 10 3/4 cg for L8·U8A & L0U0A11
1 L 4 × 3 × 3/8 × 7 1/2 ch for L8U8A & L8U8B
1 ℄ cbf for L0·U0A11

Bill of Material for One Vertical (L8·U8)A 22 & (L8·U8)B 22

1 ℄ 19 UM × 7/16 × 33'-10 1/2 F2E cbs ord. 33'-11 1/4 It.#143

1 L 8 × 4 × 5/8 × 33'-10 1/2 F2E (ord. 33'-11 1/4 It.#46):
- cbk, cbn, cbt, cbw for L8U8A
- cbm, cbp, cbv, cca for L8·U8B

1 ℄ 16 1/2 UM × 3/4 × 2'-7 1/4 F2E cck for L8·U8B
1 ℄ 16 1/2 UM × 3/4 × 3'-6 3/4 F2E ccm for L8·U8A
1 ℄ 16 1/2 UM × 3/4 × 4'-9 1/4 F2E ccn
1 ℄ 16 1/2 UM × 3/4 × 5'-8 3/4 F2E ccp

1 ℄ cv14
2 Ls cw14^R_L
2 Ls caa14
1 ℄ 7 1/2 × 5/16 × 0'-9 ccg for L8U8B (cut 10 1/2" UM ℄)
1 L 5 × 3 × 5/16 × 0'-9 cch, 1 L 5 × 3 × 5/16 × 0'-9 cag for L8U8B
1 L 3 1/2 × 3 × 5/16 × 0'-9 ccd, 1 L 3 1/2 × 3 × 5/16 × 0'-9 ccf for L8·U8B
1 L 6 × 4 1/2 × 1/2 × 1'-3 ccb (cut 6 × 6 L) for L8·U8A
1 ℄ 3 × 11/16 × 1'-3" ccc for L8·U8A
1 ℄ 6 UM × 3/4 × 10 3/4 caw for L8·U8A
1 L 4 × 3 × 3/8 × 7 1/2 cba^R
2 fills 2 3/4 UM × 2" × 0'-6 cas for L8·U8B
1 L 6 × 4 1/2 × 1/2 × 1'-3 ccw (cut 6 × 6 L) for L8·U8B

(L8·U8)A-22 As Shown
(L8·U8)B 22 Opp. Hand to Sketch

Work Sheets G14 0B & G14 BB together as one sheet.
Work this sheet with sheet G15

Shop Note: Shop to put shipping bolts in hole Ⓑ and draw same up tight. Erector to remove bolts in field.

No.	Description	Mark	Remarks	Weight each Tons
	See Sheet G14BB			

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 1"φ unless noted
OPEN HOLES: 1 1/16φ unless noted.
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in other material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly. Also see Note A & B
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date 4-7-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Chicago WORKS
IN CHARGE Anthony MADE BY Y.D.H. 3-14-34
CHECKED BY A.F.L. 3-22-34 TRACED BY Y.D.H. 3-14-34
LAST ASSEM. MK.
CONTRACT CG15801 SHEET G14AB

Rev 3 4-13-34
Rev 5 4-24-34
Rev 6-12-34

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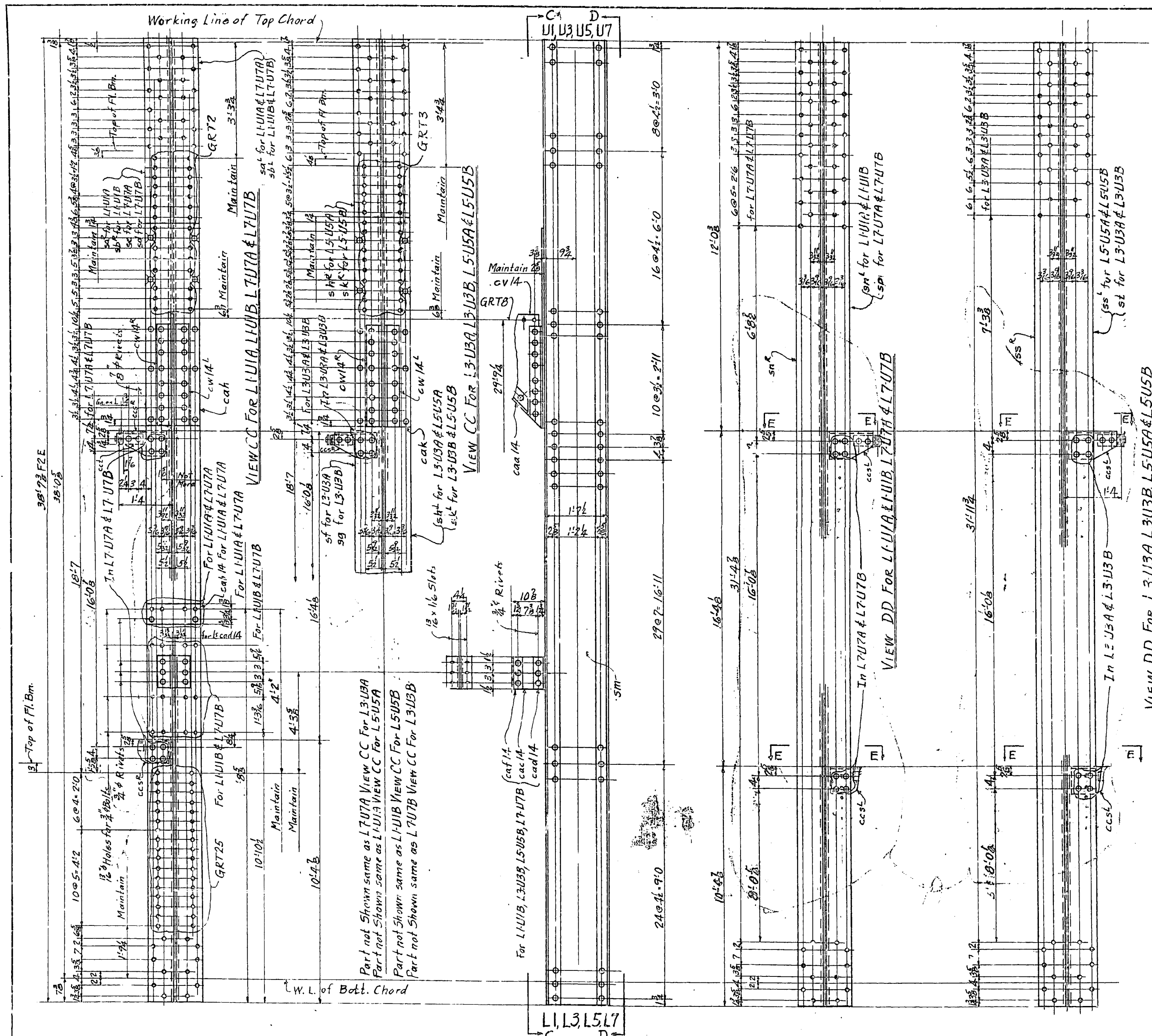


L1-U1A, L1-U1B, L3-U3A, L5-U5A, L5-U5B & L7-U7A as Shown.
L3-U3B & L7-U7B Opp. Hand to Sketch

Bill of Material for One Vertical L1-U1A, L1-U1B, L3-U3A, L3-U3B, L5-U5A, L5-U5B, L7-U7A & L7-U7B

1 Pl 19 UM x 7/16 x 38'-9 3/8 F2E sm (ord. 38'-10 1/4 It. 102)

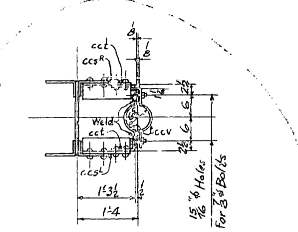
1 L 8 x 4 x 5/8 x 38'-9 3/8 F2E, ord. 38'-10 1/4 It. 43:
- sa^R for L1-U1A
- sa^L for L1-U1A & L7-U7A
- sb^R for L1-U1B
- sb^L for L1-U1B & L7-U7B
- sc for L7-U7A
- sd for L7-U7B
- sf for L3-U3A
- sg for L3-U3B
- sh^R for L5-U5A
- sk^R for L5-U5B
- sh^L for L3-U3A & L5-U5A
- sk^L for L3-U3B & L5-U5B
- sn^R for L1-U1A, L1-U1B, L7-U7A & L7-U7B
- sn^L for L1-U1A & L1-U1B
- sp for L7-U7A & L7-U7B
- ss^R for L3-U3A, L3-U3B, L5-U5A & L5-U5B
- ss^L for L5-U5A & L5-U5B
- st for L3-U3A & L3-U3B

1 Pl 16 1/2 UM x 3/4 x 6'-0 3/8 F2E cah for L1-U1A, L1-U1B, L7-U7A, & L7-U7B
1 Pl 16 1/2 UM x 3/4 x 6'-7 7/8 F2E cak for L3-U3A, L3-U3B, L5-U5A & L5-U5B
1 Pl 6 UM x 3/4 x 1'-4 1/2 cab14 for L1-U1A, L3-U3A, L5-U5A & L7-U7A

For L1-U1B, L3-U3B, L5-U5B, & L7-U7B:
- 2 Ls 3 1/2 x 3 x 5/16 x 0'-9 caf14
- 1 Pl 10 1/2 UM x 5/16 x 0'-9 cac14
- 2 Ls 5 x 3 x 5/16 x 0'-9 cad14

1 Pl cv14
2 Ls cw14 R/L
2 Ls caa14

For L3-U3A, L3-U3B, L7-U7A & L7-U7B:
- 4 Ls 6 x 4 x 5/8 x 1'-1 1/4 ccs R/L
- 4 Ls 6 x 4 x 3/8 x 0'-3 1/2 cct
- 4 Bars 3 1/2 U.M. x 3/8 x 1'-6 1/2 bent ccv
- 4 Bolts 7/8"φ x 2" Sq. Hd & Hex Nut



Sect. EE
For L3-U3A, L3-U3B, L7-U7A & L7-U7B

Span 11	Spans 12 to 21 Incl.	Span 22	Total No.	Description	Mark	Remarks	Weight each Tons
1			1	Truss Vertical	(L0-U0)A11	Opp. Hd. to Sketch	
		1	1	Truss Vertical	(L8-U8)A22	As Shown	
		1	1	do	(L8-U8)B22	Opp. Hd. to Sketch	
1			1	do	(L0-U0)B11	As Shown	
	1 each	1	11	Truss Verticals	(L0-U0)A	As Shown	
	1 "	1	11	do	(L0-U0)B	As Shown	
1	1 "	1	12	do	(L1-U1)A	As Shown	
1	1 "	1	12	do	(L1-U1)B	As Shown	
1	1 "	1	12	do	(L3-U3)A	As Shown	
1	1 "	1	12	do	(L3-U3)B	Opp. Hd. to Sketch	
1	1 "	1	12	do	(L5-U5)A	As Shown	
1	1 "	1	12	do	(L5-U5)B	As Shown	
1	1 "	1	12	do	(L7-U7)A	As Shown	
1	1 "	1	12	do	(L7-U7)B	Opp. Hd. to Sketch	
1	1 "		11	do	(L8-U8)A	As Shown	
1	1 "		11	do	(L8-U8)B	Opp. Hd. to Sketch	

Required by Spans — Required List

Note "A"
Holes for shop or field rivets or bolts in all detail material used for Ladder, Walkway, or Skid Girder connections may be punched full size. Particular care must be taken to hold to all dimensions given for Walkway & Skid Girder connections.

Note "B"
All holes for Field rivets connecting to Top or bottom chords, shall be subpunched and reamed or drilled to size thru metal jigs
Holes marked GRT to be subpunched & reamed or drilled to size thru a metal template

Work this sheet together with sheet G14AB as one sheet
Work this sheet with sheet G15

Rev. B 4-13-34
Rev. A 3-?-34

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey
RIVETS: 1"φ unless noted.
OPEN HOLES: 1 1/16"φ unless noted.
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in other material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly. Also see Note "A" & "B"
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

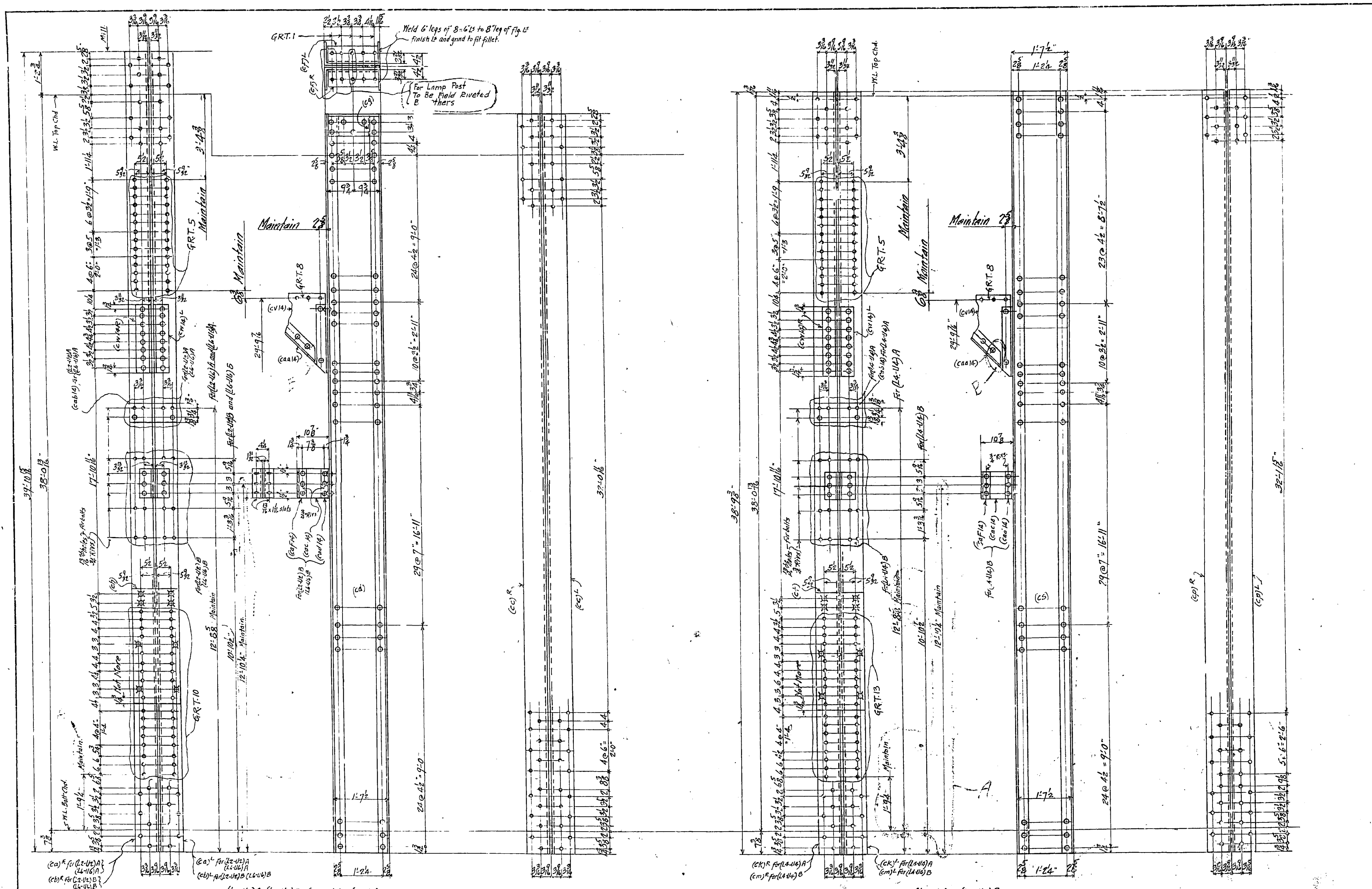
APPROVED
Glenn B. Woodruff — Engineer of Design
C. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 4-7-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Chicago WORKS
IN CHARGE Anthony MADE BY L.D.H. 12-15-34
CHECKED BY A.F.L. 3-23-34 TRACED BY L.D.H. 12-15-34
LAST ASSEM. MK. ?OW ?

CONTRACT CG15801 SHEET G 14B3

30-1



(L2-U2)A (L2-U2)B (L6-U6)A (L6-U6)B.

Material fore one vertical (L2-U2)A (L2-U2)B (L6-U6)A (L6-U6)B

2Ls - 8 x 4 x 5/8 x 39'-10 15/16 FIE, MIE (ca) R/L for (L2-U2)A (L6-U6)A; (cb) R/L for (L2-U2)B (L6-U6)B — Ord. 39'-11 3/4 It. 15 1/2
2Ls - 8 x 4 x 5/8 x 39'-10 15/16 FIE, MIE (cc) R/L
1 Web Pl - 19" U.M. x 7/16 x 39'-10 15/16 FIE, MIE (cd) — Ord. 39'-11 3/4 It. 142b
2Ls - 8 x 6 x 5/8 x 1'-6" FIE (cf) R/L
2 fills - 8 x 5/8 x 0'-11" (cg)
1 pl - 24 3/4 U.M. x 7/16 x 4'-1 1/2 (cv14) 1 Pl. 42'-0" cuts 18
2Ls - 5 x 4 x 1/2 x 2'-7 1/4 (cw14) R/L
2Ls - 4 x 4 x 7/16 x 3'-2 3/4 — B (caa14)

1 Pl. 6" U.M. x 3/4 x 1'-4 1/2 (cab14) for (L2-U2)A (L6-U6)A
1 Pl. 10 1/2" U.M. x 5/16 x 0'-9" (cac14)
2Ls - 5 x 3 x 5/16 x 0'-9" (cad14)
2Ls - 3 1/2 x 3 x 5/16 x 0'-9" (caf14) — for (L2-U2)B (L6-U6)B
1 Pl. 16 1/2 U.M. x 3/4 x 3'-11 3/4 F2E (ch)

(L4-U4)A (L4-U4)B,

Material for one vertical (L4-U4)A (L4-U4)B

2Ls - 8 x 4 x 5/8 x 38'-9 3/8 F2E. (ck) R/L for (L4-U4)A; (cm) R/L for (L4-U4)B — Ord 38'-10 1/4 It. 45
2Ls - 8 x 4 x 5/8 x 38'-9 3/8 F2E. (cp) R/L
1 Web Pl - 19" U.M. x 7/16 x 38'-9 3/8 F2E (cs) — Ord. 38'-10 1/4 It 142
1 pl - 24 3/4 U.M. x 7/16 x 4'-1 1/2 (cv14)
2Ls - 5 x 4 x 1/2 x 2'-7 1/4 (cw14) R/L
2Ls - 4 x 4 x 7/16 x 2'-6 1/2 (caa14)
1 pl. 6" U.M. x 3/4 x 1'-4 1/2 (cob14) for (L4-U4)A

1 Pl. 10 1/2" U.M. x 5/16 x 0'-9" (cac14)
2Ls - 5 x 3 x 5/16 x 0'-9" (cad14)
2Ls - 3 1/2 x 3 x 5/16 x 0'-9" (caf14) — for (L4-U4)B
1 pl. 16 1/2" U.M. x 3/4 x 4'-1 1/2 F2E (ct)

Work this sheet with sheet #14.

Rev (B) 4/13/34
Rev (A) 3/27

Note "A"
Holes for shop or field rivets or bolts in all detail material used for walk or skid girder connections may be punched full size.
Particular care must be taken to hold to all dimensions given for walk way + skid girder connections.

Reaming Note.
All holes for field rivets connecting to Top Chord or Bottom Chord gusset plates shall be subpunched and reamed or drilled to size thru metal jigs.
Holes marked GR.T. to be reamed or drilled to size thru a steel template

Alike	1 each	12	Verticals	(L2-U2)A	as shown + noted.	
	"	12	"	(L6-U6)A	as shown + noted.	
	"	12	"	(L4-U4)A	as shown + noted.	
	"	12	"	(L4-U4)B	as shown + noted.	
Alike	"	12	"	(L2-U2)B	as shown + noted	
	"	12	"	(L6-U6)B	as shown + noted	
	SPANS 11 to 22 incl.	TOTAL No.	Description	Mark	Remarks	Weight each Total
	Req'd by Spans	REQUIRED LIST				

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey
RIVETS: 1" ϕ unless noted.
OPEN HOLES: 1 1/16" ϕ unless noted.
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly. Also see Note "A"
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
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MATCH MARKING. All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd
3/23/34	"A" Maintain Dim.	

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 3-12-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Chicago WORKS
IN CHARGE Anthony MADE BY E.I.T. 2/15-34
CHECKED BY H.W.S. 2/23/34 TRACED BY E.I.T. 2/16-34
LAST ORDER NO.
CONTRACT 5901 SHEET G15

30-1

Holes for Bolts

Shop Rivs. F.S.

Working Line

TOP CHORD SECTION (U1-U3) A9

ENLARGED DETAIL OF LACING BAR

SECTION A-A

Mill

Finish Edge

Hole in L

Holes ⓧ

GRT46 N.S.

ENLARGED DETAIL OF WALKWAY LUGS ON WEB
(cbd)(cbf)(cbg)(cbh) + (cbK)

ENLARGED DETAIL OF WALKWAY LUGS ON WEB
(canK)(capK) (cas) (cba) (cbb16)(cbm)

ENLARGED DETAIL FOR WALKWAY LUGS ON BOTTOM FLANGE FOR (U1-U3) A9

Note A— Holes in Walkway Lugs for either shop or field conns. may be punched full size.

Material for (U1-U3) A9

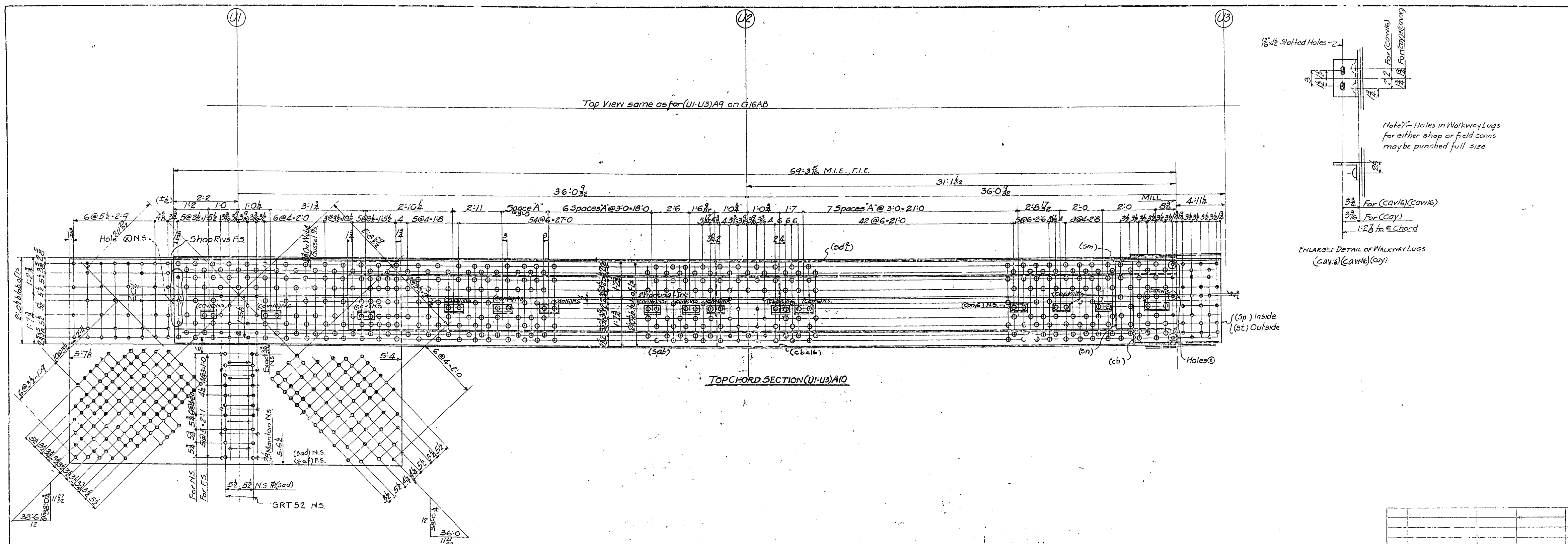
REQUIRED LIST

No.	Description	Mark	Remarks	Weight each Item

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 6-19-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0 TRUSS SPANS-PIERS E9 to E23
McCLINTIC-MARSHALL CORPORATION
CHICAGO DRAWING ROOM CHICAGO WORKS
BY Chas. ANTHONY MADE BY E.J.H.
CHECKED BY TRACED BY
SHEET G(30)



Bottom View same as for (U1-U3)A9 on G16AB except for omission of Walkway Lugs (ck) to (cam) Inclusive.

Material For (U1-U3)A10

1 Cov. Pl. (sa)
2-Web Pls. 34UM x 9/16 x 69'-3 5/16 M.I.E., F.I.E. (saa) Ord. 69'-4 It. 351
2-Side Pls. 22UM x 9/16 x 63'-6 5/16 M.I.E., F.I.E. (sab) Ord. 63'-7 It. 375
2-Top Flg. Ls (sd R/L)
1 Bott. Flg. L (sf)
1-Bott. Flg. L 6 x 6 x 3/4 x 69'-3 5/16 M.I.E., F.I.E. (sac) Ord. 69'-4 It. 305
1-Pl. (ch16)
1-Fill (ca)
2-Fills (sk)
2-Fills (sm)
2-Fills (sn)
2-Fills (cl)
2-Pls. (sp)
2-Pls. (st)
2-Ls. (cbc16)
1-Pl. 81 F.Z. W x 3/4 x 10'-11 1/8 F.Z.E. (sad)
1-Pl. 81 F.Z. W x 3/4 x 10'-11 1/8 F.Z.E. (saf)

2-Pls. (cd16)
36-Lac. Bars (cf16)
2-Pls. (cg16)

2-Bars (sy16)
1-L-5 x 3 1/2 x 1/2 x 7 (cav16)
1-L-5 x 3 1/2 x 1/2 x 7 1/2 (caw16)
1-L-5 x 3 1/2 x 1/2 x 7 (cay)
3-Ls 5 x 3 1/2 x 1/2 x 7 1/2 (cap16)
17-Ls (cdn16)
1-L-4 x 3 1/2 x 1/2 x 10 1/2 (cas)
1-L-5 x 3 1/2 x 1/2 x 9 1/4 (cba)
1-L-5 x 3 1/2 x 1/2 x 9 1/2 (cbb13)
4-Rods - with nuts (cat16)

Reaming Note:—
All holes for field rivets for connection of (U1-U3) to (U0-U1) at Point U1 and for connection of (U1-U3) to (U3-U5) at Point U3 to be reamed or Drilled to size with all Top Chord Members for one span assembled. All holes for connections of web members to chords shall be reamed or drilled to size either with all truss members assembled or thru metal Jigs.

Holes marked GRT to be reamed or drilled to size thru a metal templet.

Shop Note—
After all Top Chord Members for one Span are assembled; for match-marking purposes, add span number as suffix to mark in table to become part of shipping mark, thus: (U1-U3)A9. This complete mark to be the erection mark and to appear on B.F.P. Shop to put shipping bolts in holes ⓧ and draw same up tight. Erector to remove in field.

Work sheets G16AB & G16BB together as one sheet.

Work this sheet with sheets G17, G18, G19, G20, G21, G22, G23.

Span #9	Span #10	Total No.	Description	Mark	Remarks	Weight each Tons
	1	1	TOP CHORD SECTION	(U1-U3)A	As Shown	
1		1	TOP CHORD SECTION	(U1-U3)A	As Shown	
REQ'D BY SPANS		REQUIRED LIST				

SEE SHOP NOTE REGARDING ERECTION MARKS

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: JOHN M. BAILEY
RIVETS: 1"⌀
OPEN HOLES: 1 1/16"⌀ UNLESS NOTED
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly. SEE NOTE "A"
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.

SHOP PAINT—None except one coat "ACID RESISTING LIQUID" to milled ends of members; to contact surfaces of parts shop bolted for shipment except where loose ends of partially riveted material are bolted down for shipment; and to surfaces of riveted parts not readily accessible for sand-blasting.

Date	Revision	App'd

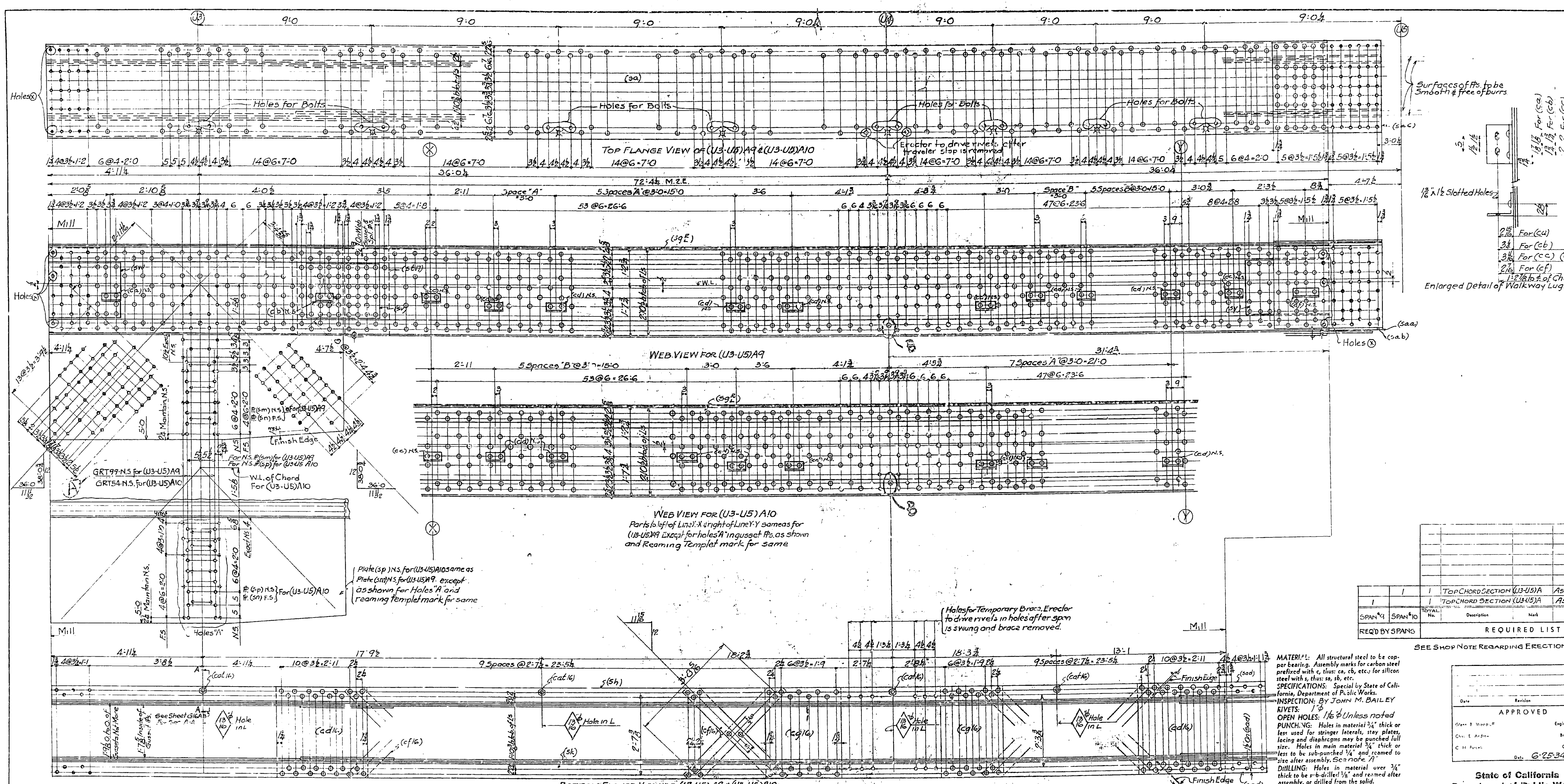
APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 6-19-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 TRUSS SPANS - PIERS E9 to E23

McCLINTIC-MARSHALL CORPORATION

CHICAGO DRAWING ROOM CHICAGO WORKS
IN CHARGE ANTHONY MADE BY E.J.W.
CHECKED BY W.A. TRACED BY
LAST ASSEM. MK. (sag) (cbt)

CONTRACT CG16801 SHEET G16BB



Span #9	Span #10	Total No.	Description	Mark	Remarks	Weight each Tons
	1	1	Top Chord Section	(U3-U5)A	As shown	-
1		1	Top Chord Section	(U3-U5)A	As shown	

REQ'D BY SPANS — REQUIRED LIST

SEE SHOP NOTE REGARDING ERECTION MARKS

Material for One Top Chord Section

1-Cov. P. 36UM × 3/4 × 72'-4 1/4 M.Z.E (sa) Ord. 72'-5 It 323
2-Web Ps. 34UM × 3/4 × 62'-9 1/4 M.I.E., F.I.E. (sb) Ord 62'-10 It 336 For (U3-U5)A9
2-Web Ps. 34UM × 3/4 × 62'-9 1/4 M.I.E., F.I.E. (sc) Ord 62'-10 It 336 For (U3-U5)A10
2-Web Ps. 34UM × 3/8 × 72'-4 1/4 M.Z.E (sd) Ord 72'-5 It 345 For (U3-U5)A9
2-Web Ps. 34UM × 5/8 × 72'-4 1/4 M.Z.E (sf) Ord 72'-5 It 345 For (U3-U5)A10
2-Top Flg Ls 6×6 × 3/4 × 72'-4 1/4 M.Z.E (sg) Ord 72'-5 It 308
1-Bott. Flg L 6×6 × 3/4 × 72'-4 1/4 M.Z.E (sh) " " "
1-Bott. Flg. L 6×6 × 3/4 × 72'-4 1/4 M.Z.E (sk) " " "
1-Gusset P. 74 1/2 F.Z.W. × 3/4 × 9'-6 3/4 M.I.E., F.I.E. (sm) For (U3-U5)A9
1-Gusset Ps. 74 1/2 F.Z.W. × 3/4 × 9'-6 3/4 M.I.E., F.I.E. (sn)
1-Gusset P. 74 1/2 F.Z.W. × 3/4 × 9'-6 3/4 M.I.E., F.I.E. (sp) For (U3-U5) A10

2-Ps. 34UM × 1/2 × 2'-11 1/2 F.Z.E (st)
2 Ps 22UM × 7/16 × 2'-4 1/4 F.Z.E (sv)
2-Fill 22UM × 3/4 × 2'-4 1/4 M.I.E., F.I.E. (sw)
2-Fills-22UM × 3/4 × 2'-8 M.I.E., F.I.E. (sy)
2-Ps. 34UM × 1/2 × 3'-6 F.Z.E. (saa)
2-Ps. 32UM × 1/2 × 3'-6 F.Z.E. (sab)
1-P. 36UM × 9/16 × 3'-6 F.Z.E (sac)
2-Ps. 34 1/2 UM × 9/16 × 3'-7 (cd16)
2-Ps. 34 1/2 UM × 9/16 × 2'-5 (cg16)
36-Bars 6"UM × 3/8 × 4'-2 5/16 (cf16)
2-Bars 6UM × 5/8 × 4'-8 3/8 F.Z.E (sad)
4-Rods 3/4 φ × 8 3/4 Bent-with 2-Hex. Nuts (cat16)

1-L-5 × 3 1/2 × 1/2 × 7 1/4 (ca)
1-L-5 × 3 1/2 × 1/2 × 7 (cb)
2-Ls-5 × 3 1/2 × 1/2 × 7 1/2 (cc)
16-Ls 5 × 3 1/2 × 1/2 × 9 1/2 (cd)
1-L-4 × 3 1/2 × 1/2 × 10 1/2 (cf)

Reaming Note—
All holes for field rivets for connection of (U3-U5) to (U1-U3) at Point U3 and for connection of (U3-U5) to (U5-U7) at Point U5 to be reamed or drilled to size with all top chord members for one span assembled. All holes for connections of web members to chords shall be reamed or drilled to size either with all truss member assembled or thru metal Jigs.

Holes marked "GRT" to be reamed or drilled to size thru a metal templet

Shop Note—
After all top chord Members for one span are assembled; for match-marking purposes, add span number as suffix to mark in table to become part of shipping mark, thus: (U3-U5)A9. This complete mark to be the erection mark and to appear on B.F.P. Shop to put shipping bolts in holes ⊗ and draw same up tight: Erector to remove in field.
Note: [illegible] in walkway lugs for either shop or field connections may be punched full size.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 1" φ
OPEN HOLES: 1 1/16 φ Unless noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly. See note "A"
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
SHOP PAINT—None except one coat "Acid Resisting Liquid" to milled ends of members; to contact surfaces of parts Shop bolted for shipment except where loose ends of partially riveted material are bolted down for shipment; and to surfaces of riveted parts not readily accessible for sand-blasting.

Work this sheet with sheets G16, G18, G19, G20, G21, G22, G23.

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 6-25-34

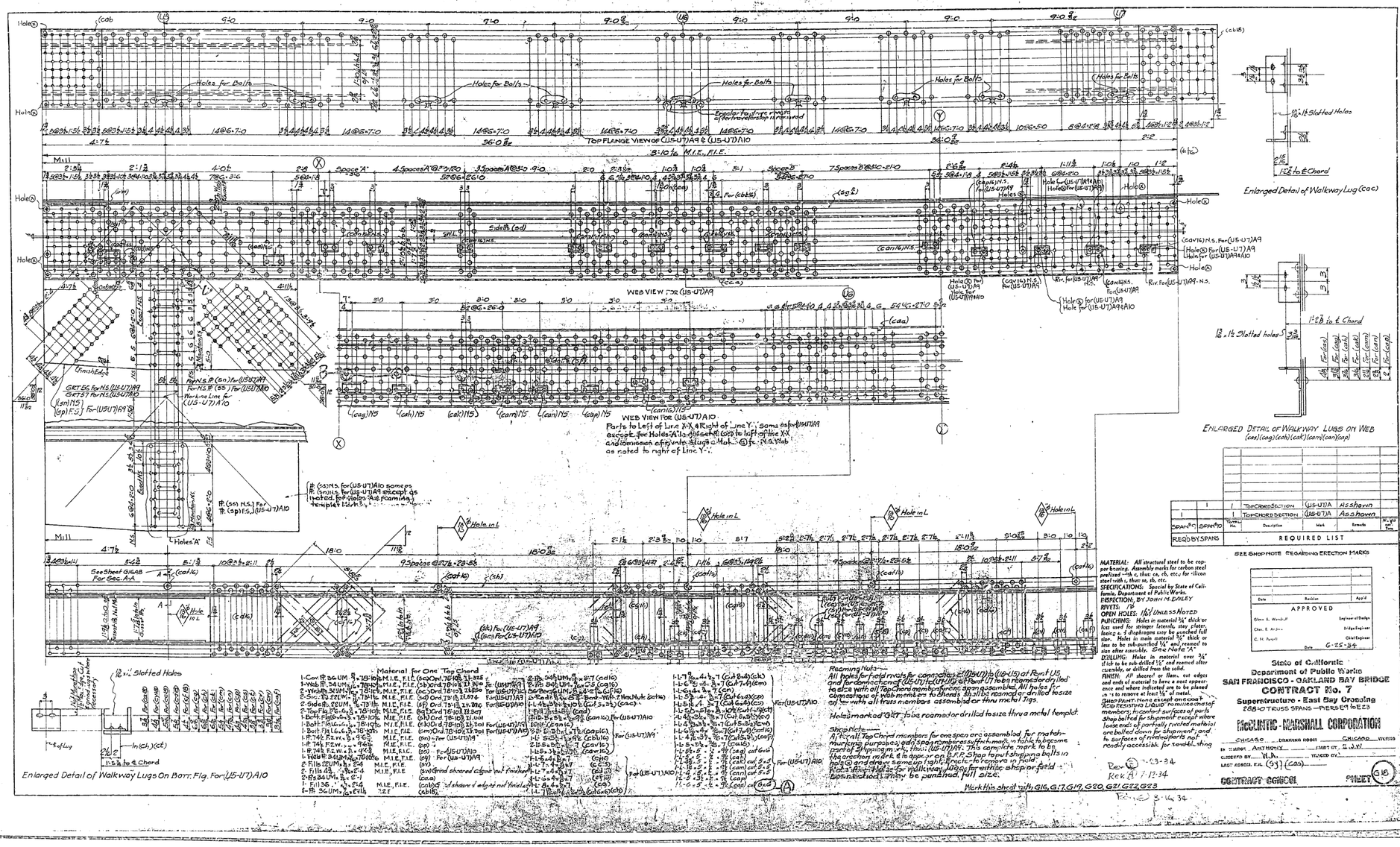
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288-0 TRUSS SPANS - PIERS E9 TO E23.

McCLINTIC-MARSHALL CORPORATION

CHICAGO DRAWING ROOM CHICAGO WORKS
IN CHARGE ANTHONY MADE BY E.J.W.
CHECKED BY W.A. TRACED BY
LAST ASSEM. MK. (sad) (cf).
CONTRACT CC15801 SHEET G17

Rev (A) 7-17-34
Rev (B) 9-15-34

30-1



	1	1	Top Chord Section	(US-U7)A	As shown
	1	1	Top Chord Section	(US-U7)A	As shown
Span "C"	Span "D"	Shipping No.	Description	Mark	Remarks
Reqd by Spans			REQUIRED LIST		

See Shop Note regarding Erection Marks

Date	Revision	Appd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 6-25-34

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.

SPECIFICATIONS: Special by State of California, Department of Public Works.

INSPECTION: BY JOHN M. EMLEY

RIVETS: 7/8

OPEN HOLES: 1 1/16 Unless Noted

PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, facing a. f. diaphragms may be punched full size. Holes in main material 5/8" thick or less to be sub-punched 1/4" and reamed to size after assembly. See Note "A"

DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/4" and reamed after assembly, or drilled from the solid.

FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed or ground to remove at least 1/8" of metal.

SHOP PAINT: None except exposed surfaces of Acid Resisting Cadmio Bronze members, inaccessible surfaces of parts shop bolted for shipment except where loose ends of partially riveted material are bolted down for shipment, and to surfaces of rivet heads not readily accessible for sand-blasting.

Rev. E 7-13-34
Rev. A 1-12-34

Reaming Note:—
All holes for field rivets for connection (US-U7) to (US-U5) at Pier U5 and for connection of (US-U7) to (US-U7) at Pier U7 to be reamed or drilled to size with all truss members assembled or thru metal jigs.

Holes marked "GET" to be reamed or drilled to size thru a metal templet.

Shop Note:—
A. For all Top Chord members for one span are assembled for match-marking purposes, each span will receive such match-marking as part of shipping mark, thus: (US-U7)A1. This complete mark to be the erection mark, it is upper or B.F.P. Shop to put shipping bolts in holes (3) and drive same as right. Erector to remove in field.

Note: Where holes for millway bracing for shipping or field connection may be punched, full size.

Mark this sheet with G16, G17, G19, G20, G21, G22, G23

Material for One Top Chord

1-Cover Pl. 36 UM. x 1 7/8	190 lbs.	M.I.E., F.I.E.	(cc) Ord. 78-1013, 11-1935	2-Pl. 36 UM. x 1	817	(ca) to (cb)	
1-Web Pl. 34 UM. x 7/16	76 lbs.	M.I.E., F.I.E.	(cb) Ord. 78-1013, 11-1935	2-Pl. 36 UM. x 1	1,225	(cg) to (ch)	For (US-U7)A9
2-Web Pls. 34 UM. x 7/16	151 lbs.	M.I.E., F.I.E.	(cc) Ord. 78-1013, 11-1935	For (US-U7)A10			
2-Side Pls. 22 UM. x 5/16	236 lbs.	M.I.E., F.I.E.	(cd) Ord. 78-1013, 11-1935	For (US-U7)A9	2-Stud Bolts 1 1/4 x 8 1/2 Rod - With 2 Hex Nuts		(cm) to (cn)
2-Side Pls. 22 UM. x 5/16	236 lbs.	M.I.D., F.I.E.	(ce) Ord. 78-1013, 11-1935	For (US-U7)A10	2-Stud Bolts 1 1/4 x 8 1/2		(cao)
2-Top Pls. 18 1/2 x 5/16	163 lbs.	M.I.E., F.I.E.	(cf) Ord. 78-1013, 11-1935	For (US-U7)A9	1-Pl. 18 1/2 x 5 1/2 x 5/16		(cap)
1-Bott. Pl. 16 1/2 x 5/16	76 lbs.	M.I.E., F.I.E.	(cg) Ord. 78-1013, 11-1935	For (US-U7)A9	1-Pl. 18 1/2 x 5 1/2 x 5/16		(can)
1-Bott. Pl. 16 1/2 x 5/16	76 lbs.	M.I.E., F.I.E.	(ch) Ord. 78-1013, 11-1935	For (US-U7)A10	1-Pl. 18 1/2 x 5 1/2 x 5/16		(can)
1-Bott. Pl. 16 1/2 x 5/16	76 lbs.	M.I.E., F.I.E.	(ch) Ord. 78-1013, 11-1935	For (US-U7)A10	1-Pl. 18 1/2 x 5 1/2 x 5/16		(can)
1-Pl. 74 5/8 F.W. x 9/16	96 lbs.	M.I.E., F.I.E.	(ca)	For (US-U7)A9	2-Pl. 5 3/8 x 5 1/2 x 7/16	(cap)	cut 6 @ 2
1-Pl. 74 5/8 F.W. x 3/4	128 lbs.	M.I.E., F.I.E.	(ca)	For (US-U7)A10	1-Pl. 5 3/8 x 5 1/2 x 7/16	(can)	cut 6 @ 2
1-Web Pl. 34 UM. x 7/16	76 lbs.	M.I.E., F.I.E.	(ck)	For (US-U7)A9	1-L 6 x 4 x 7/16 x 7	(cak)	cut 6 @ 2
2-Pls. 22 UM. x 5/16	236 lbs.	M.I.E., F.I.E.	(cs)		1-L 6 x 4 x 7/16 x 7	(cam)	cut 6 @ 2
2-Fills 22 UM. x 5/16	236 lbs.	M.I.E., F.I.E.	(cs)		1-L 6 x 4 x 7/16 x 7	(cam)	cut 6 @ 2
2-Fills 18 1/2 x 5/16	163 lbs.	M.I.E., F.I.E.	Sand Grind sheared edges not finished		1-L 6 x 4 x 7/16 x 7	(can)	cut 6 @ 2
2-Pls. 34 UM. x 5/16	161 lbs.	M.I.E., F.I.E.	(ca)		1-L 6 x 4 x 7/16 x 7	(can)	cut 6 @ 2
1-Fill 36 UM. x 5/16	95 lbs.	M.I.E., F.I.E.	(cb) & (cb) sheared edges not finished		1-L 6 x 4 x 7/16 x 7	(cap)	cut 6 @ 2
6-Pl. 36 UM. x 1/2	611 lbs.	S.E.F.	(cb) (cb)		1-L 6 x 4 x 7/16 x 7	(cap)	cut 6 @ 2
					1-L 6 x 4 x 7/16 x 7	(cao)	cut 6 @ 2

For (US-U7)A9

2-Pls. 34 UM. x 7/8	817	(ca) to (cb)		1-L 7 x 4 x 7/16 x 7	(cak)	cut 6 @ 2	
2-Pls. 34 UM. x 1	1,089	(cg) to (ch)		1-L 6 x 4 x 7/16 x 7	(cam)	cut 6 @ 2	
2-Pls. 34 UM. x 1	1,225	(cg) to (ch)		1-L 6 x 4 x 7/16 x 7	(can)	cut 6 @ 2	
2-Stud Bolts 1 1/4 x 8 1/2 Rod - With 2 Hex Nuts		(cm) to (cn)		1-L 6 x 4 x 7/16 x 7	(can)	cut 6 @ 2	
2-Stud Bolts 1 1/4 x 8 1/2		(cao)		1-L 6 x 4 x 7/16 x 7	(cap)	cut 6 @ 2	
1-Pl. 18 1/2 x 5 1/2 x 5/16		(cap)		1-L 6 x 4 x 7/16 x 7	(cao)	cut 6 @ 2	
1-Pl. 18 1/2 x 5 1/2 x 5/16		(can)		1-L 6 x 5 x 7/16 x 7	(cao)	cut 6 @ 2	
1-Pl. 18 1/2 x 5 1/2 x 5/16		(can)		1-L 6 x 5 x 7/16 x 7	(cao)	cut 6 @ 2	

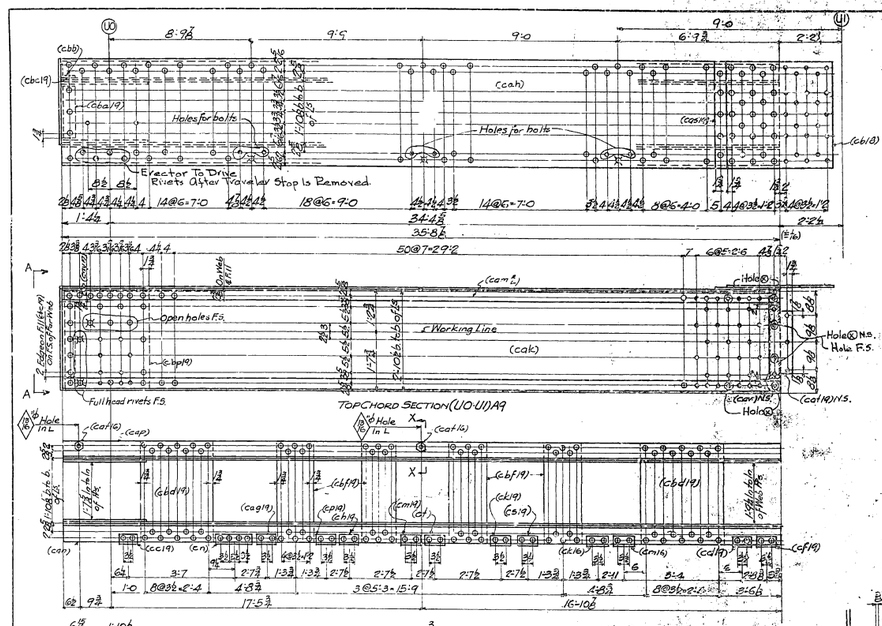
For (US-U7)A10

1-L 7 x 4 x 7/16 x 7		(cak)		1-L 6 x 4 x 7/16 x 7	(cak)	cut 6 @ 2	
1-L 6 x 4 x 7/16 x 7		(cam)		1-L 6 x 4 x 7/16 x 7	(cam)	cut 6 @ 2	
1-L 6 x 4 x 7/16 x 7		(can)		1-L 6 x 4 x 7/16 x 7	(can)	cut 6 @ 2	
1-L 6 x 4 x 7/16 x 7		(can)		1-L 6 x 4 x 7/16 x 7	(can)	cut 6 @ 2	
1-L 6 x 4 x 7/16 x 7		(cap)		1-L 6 x 4 x 7/16 x 7	(cap)	cut 6 @ 2	
1-L 6 x 5 x 7/16 x 7		(cao)		1-L 6 x 5 x 7/16 x 7	(cao)	cut 6 @ 2	

For (US-U7)A10

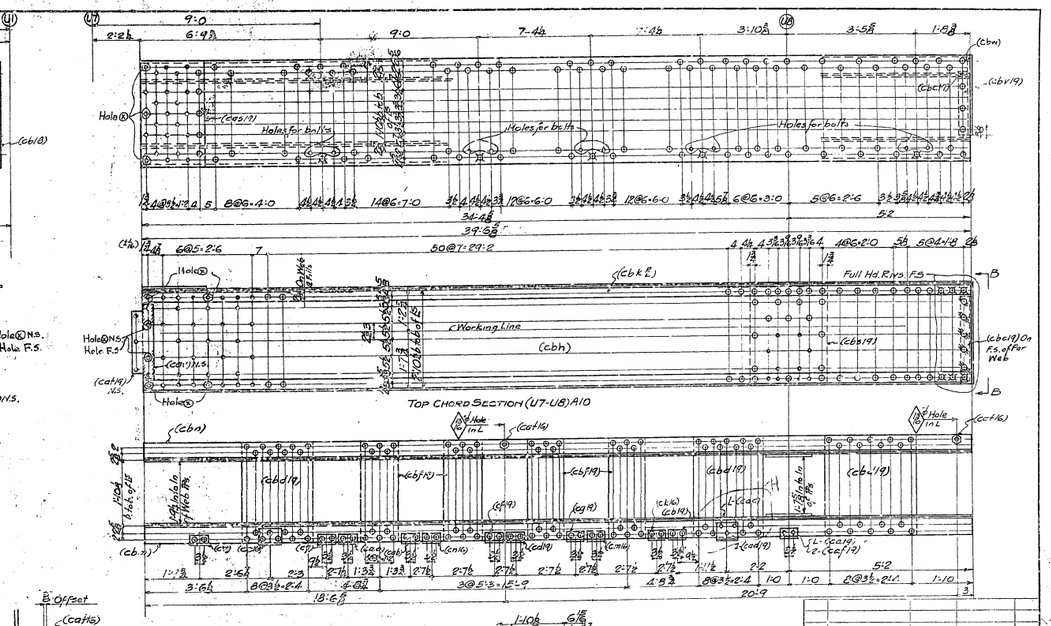
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288-0 Truss Spans — Piers E1 to E23
Pacific - Marshall Corporation
Chicago — Drawing Room — Chicago — Works
In charge: Anthony — Start by: G. J. W.
Checked by: W. A. — Traced by:
Last Correct. F.H. (93) (cas)

CONTRACT CONCH — SHEET G18



Mat'l for one Top Chord Section (U0-U1) A9

1-Cov. Pl. 36 UM. 16 - 35-5/8 F.E.E (cah) Ord. 35-4⅞ 27.452
2-Web Pls. 34 UM. 16 - 35-5/8 F.E.E. (cak) Ord. 35-4⅞ 21.496
2-Top Chord L 6 - 4½ x 3½ x 35-5/8 F.E.E (cam) & (can) Ord. 35-4⅞ 23.428
1-Bott. Chord L 6 - 4½ x 6 x 35-5/8 F.E.E (cap) Ord. 35-4⅞ 23.428
1-Bott. Chord L 6 - 4½ x 6 x 35-5/8 F.E.E (cap) Ord. 35-4⅞ 23.428
1-Pl. 36 UM. 16 - 2-11⅞ F.E.E. (cbb)
1-Pl. 36 UM. 16 - 1-11⅞ F.E.E. (cagm) Grind edges not finished.
1-Pl. 13 UM. 7/16 F.E.E. (cat) } Batt
1-Fill 38 F.E.W. 16 - 2'-2 F.E.E (cav) }
1-Pl. 290 UM. 16 - 2'-10⅜ F.E.E (cav)
2-Pl. 4 38 x 2'-6 T.I.E. (cay19) 2
1-L 4 x 3½ x 7/16 x 1'-6 (bb19)
1-L 4 x 3½ x 7/16 x 2'-1⅝ F.E.E. (cbb)
1-Fill 2'-2 UM. 16 - 2'-1⅝ (cbc19)
2-Pl. 342 UM. 16 - 2'-7½ (cbd19)
4-Pls. 342 UM. 16 - 1'-5⅞ (cbf19)
2-Rods 2¼ Ø 8'-8½ With 2 Hex Nuts (cat16)
1-L 3½ x 3½ x 7/16 x 0'-7 (cc19)
1-L 3½ x 3½ x 7/16 x 1'-0 (cn)
1-L 3½ x 3½ x 7/16 x 0'-7 (cag19)
1-L 3½ x 3½ x 7/16 x 0'-7 (cp19)
1-L 3½ x 3½ x 7/16 x 0'-7 (ch19)
1-L 3½ x 3½ x 7/16 x 0'-7 (cm19)
1-L 3½ x 3½ x 7/16 x 0'-7 (cl)
1-L 4 x 3½ x 7/16 x 0'-7 (ck16)
1-L 4 x 3½ x 7/16 x 0'-7 (cs19)
1-L 4 x 3½ x 7/16 x 0'-7 (ck16)
1-L 4 x 3½ x 7/16 x 0'-7 (cm16)
1-L 4 x 3½ x 7/16 x 0'-7 (cd19)
1-L 4 x 3½ x 7/16 x 0'-7 (cf19)
2-Pls. 34 UM. 16 - 2'-4⅝ F.I.E. Cc bp19)



Material for one Top Chord Section (U7-U8) A10

1-Cov. Pl. 36 UM. 16 - 3-9'-6 F.E.E (cbq) Ord. 39-7½ 31.448
2-Web Pls. 34 UM. 16 - 39-6 F.E.E. (cbh) Ord. 39-7½ 18.480
2-Top Chord L 6 - 4 x 3½ x 16 - 39-6 F.E.E (cbk & cbl) Ord. 39-7½ 22.402
1-Bott. Chord L 6 - 4 x 3½ x 16 - 39-6 F.E.E. (cbm) Ord. 39-7½ 23.402
1-Bott. Chord L 6 - 4 x 3½ x 16 - 39-6 F.E.E. (cbn) Ord. 39-7½ 23.402
2-Pls. 34 UM. 16 - 2'-8½ (cbp19)
1-Pl. (ccar19)
1-Pl. (cat16) } Batt
1-Fill (ccv)
1-Pl. 290 UM. 16 - 2'-10⅜ F.E.E. (cbf)
3-Pls. (cay19) 2
1-L 4 x 3½ x 16 - 1-8⅜ (cbv19)
1-L 4 x 3½ x ⅜ x 2'-9⅜ F.E.E (cbw)
1-Fill - (cbu19)
2-Pls. - (cbd19)
4-Pls. - (cbf19)
2-Rods with 2 Hex. nuts (cat16)
1-L 4 x 3½ x ⅜ x 0'-7 (cbt & bs) (cv)
1-L 3 x 3½ x ⅜ x 0'-7 (cat & bs) (cp19)
1-L 4 x 3½ x ⅜ x 1'-7 (cu5 & 8) (cy)
1-L 4 x 3½ x ⅜ x 0'-7 (cah5 & 8) (caa)
1-L 4 x 3½ x ⅜ x 0'-7 (cu5 & 8) (cab)
1-L 4 x 3½ x ⅜ x 0'-7 (cu5 & 8) (cm16)
1-L 4 x 3½ x ⅜ x 0'-7 (cf 19)
1-L 4 x 3½ x ⅜ x 0'-7 (cd19)
1-L 4 x 3½ x ⅜ x 0'-7 (cq19)
1-L 4 x 3½ x ⅜ x 0'-7 (cm16)
1-L 4 x 3½ x ⅜ x 0'-7 (cu16)
1-L 4 x 3½ x ⅜ x 0'-7 (cb19)
1-L 5 x 3½ x ⅝ x 0'-10½ (cu4-6-8) Bolt for Shipt (cac)
1-L 2½ x 3½ x ⅝ x 0'-7 Bolt for Shipt (ca19)
2-Shims 5 x ½ x 10½ (cad19) Bolt for Shipt
2-Shims 5 x ½ x 0'-7 (caj19) Bolt for Shipt

Shop Note—
Rivets shown thus ⊕
not to exceed ⅞ in height

No.	Description	Mark	Reissue	Worked with Torn

REQUIRED LIST

Date	Revision	Appr'd

APPROVED

Glenn P. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 7/6/44

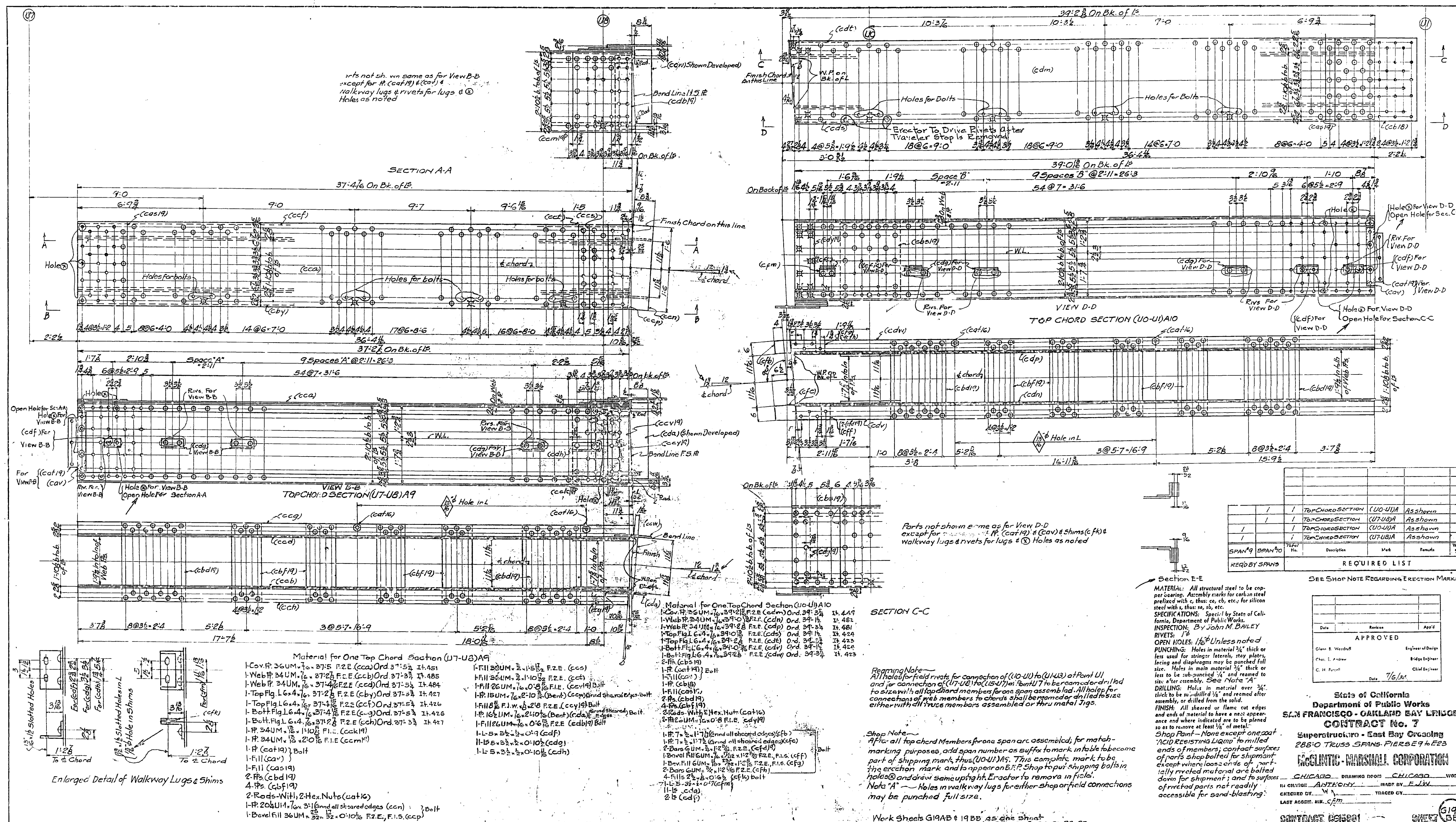
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. BAILEY
RIVETS: ⅞
OPEN HOLES: 1⅛ & ⅞ Unless noted
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, facing and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ½" and reamed to size after assembly. See Note A on G19BB
DRILLING: Holes in material over ¾" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
Shop Paint—See G19BB

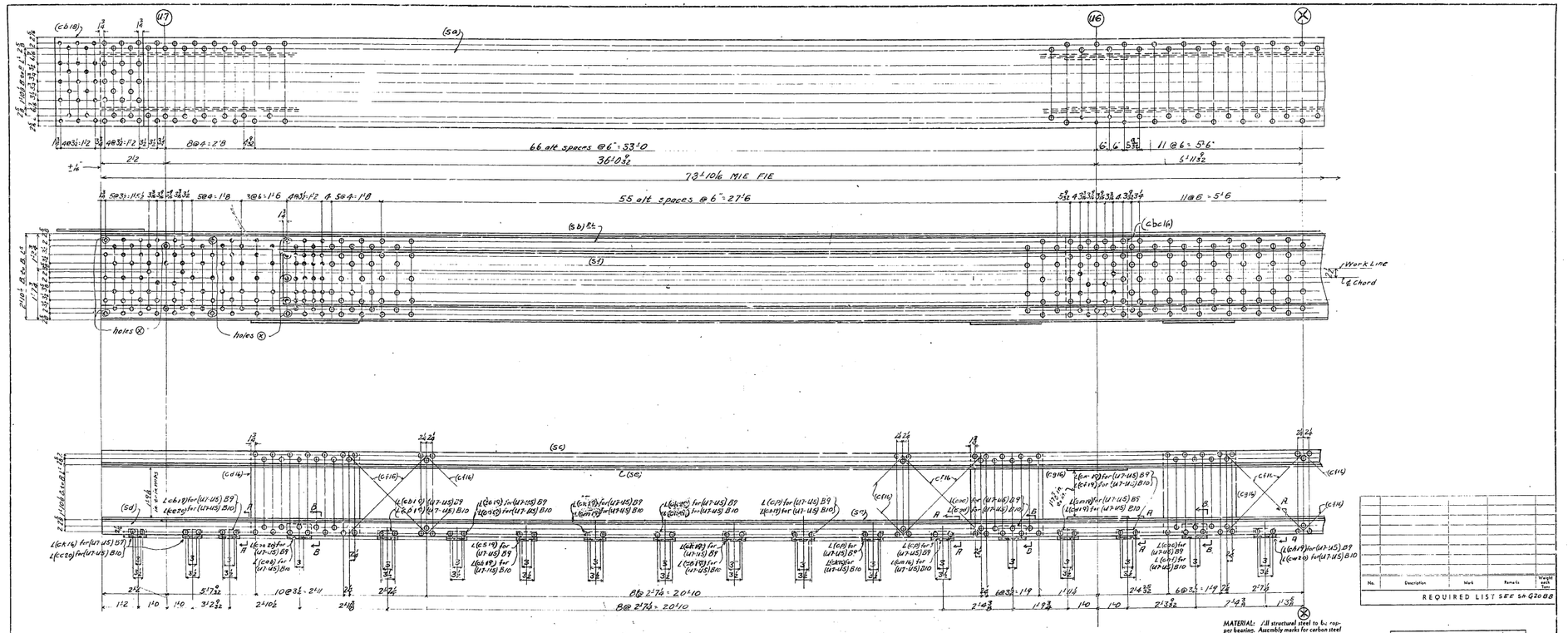
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 TRUSS SPAN—PIERS E4 to E5

ATLANTIC - MARSHALL CORPORATION

CHICAGO DRAWING ROOM CHICAGO WORKS
IN CHARGE ANTHONY TRACED BY
CHECKED BY W.A. TRACED BY
LAST ASSES. ESTL.

CONTRACT 06S001 SHEET G19 AB


30-1
SECTION A-A
VIEW B-B
TOP CHORD SECTION (U7-U8) A9
VIEW D-D
TOP CHORD SECTION (U0-U1) A10
SECTION C-C
Section E-E
Enlarged Detail of Walkway Lugs & Shims
Material for One Top Chord Section (U7-U8) A9
Material for One Top Chord Section (U0-U1) A10
Erector To Drive Rivets After Traveler Stop Is Removed
Reaming Note—
All holes for field rivets for connection of (U0-U1) to (U1-U3) at Point U1 and for connection of (U7-U8) to (U5-U7) at Point U7 to be reamed or drilled to size with all top chord members for one span assembled. All holes for connections of web members to chords shall be reamed or drilled to size either with all truss members assembled or thru metal Jigs.
Shop Note—
After all top chord Members for one span are assembled; for match-marking purposes, add span number as suffix to mark in table to become part of shipping mark, thus (U0-U1) A9. This complete mark to be the erection mark and to appear on E.F.P. Shop to put shipping bolts in holes ⊗ and draw same up tight. Erector to remove in field.
Note "A" — Holes in walkway lugs for either shop or field connections may be punched full size.
Work Sheets G19AB & 19BB as one sheet
Work this sheet with Sheets G16-17-18-20-21-22-23
REQUIRED LIST
REQ'D BY SPANS
SPAN #9 | SPAN #10 | Total No. | Description | Mark | Remarks | Weight each Tons
	1	1	TOP CHORD SECTION	(U0-U1)A	As shown
	1	1	TOP CHORD SECTION	(U7-U8)A	As shown
1		1	TOP CHORD SECTION	(U0-U1)A	As shown
1		1	TOP CHORD SECTION	(U7-U8)A	As shown
SEE SHOP NOTE REGARDING ERECTION MARKS
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. BAILEY
RIVETS: 1"ϕ
OPEN HOLES: 1 1/16"ϕ Unless noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly. See Note "A"
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
Shop Paint—None except one coat "ACID RESISTING LIQUID" to milled ends of members; contact surfaces of parts shop bolted for shipment except where loose ends of partially riveted material are bolted down for shipment; and to surfaces of riveted parts not readily accessible for sand-blasting.
Date | Revision | App'd
APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 7/6/34
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 TRUSS SPANS - PIERS E9 to E23
McCLINTIC-MARSHALL CORPORATION
CHICAGO DRAWING ROOM CHICAGO WORKS
IN CHARGE ANTHONY MADE BY E.J.W.
CHECKED BY W.A. TRACED BY
LAST ASSEM. MK. cfm
CONTRACT CG15601
SHEET G19 BB



No.	Description	Mark	Remarks	Weight each Item

REQUIRED LIST SEE Sh G20B8

MATERIAL: All structural steel to be open hearth. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc., for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special b, State of California, Department of Public Works.
INSPECTION:
RIVETS:
OPEN HOLE:
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched 1/16 size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.

Work Sks G20RB & G20BB Together as one sheet.

Date	Revision	Appd

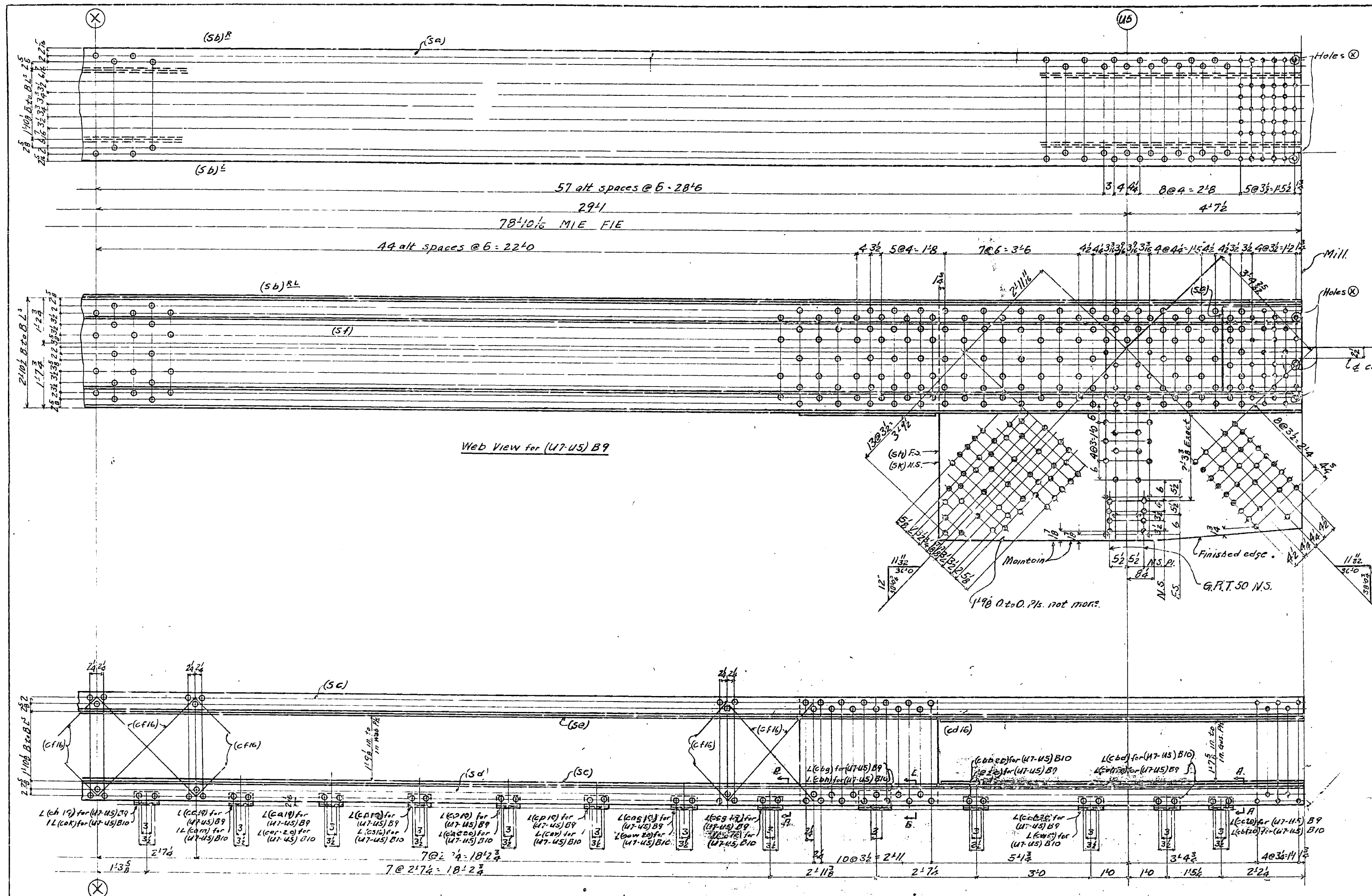
APPROVED

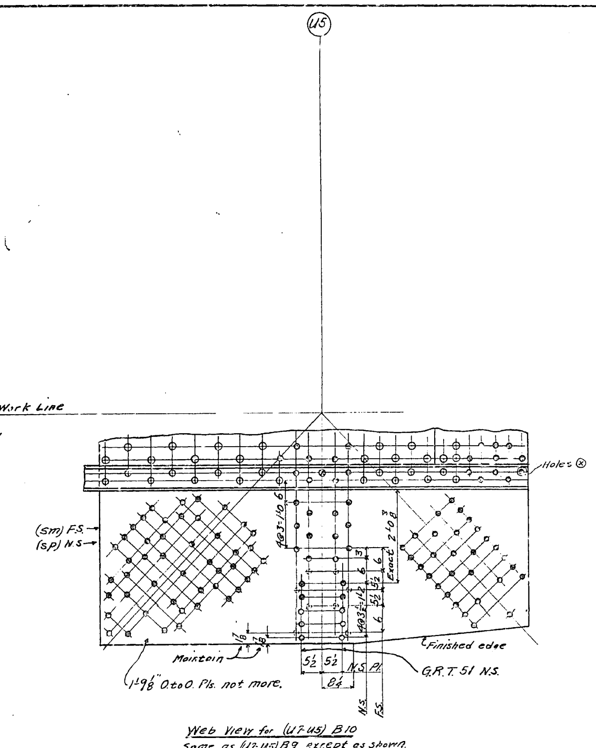
Chas. B. Wendt — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date G-19-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

CHICAGO DRAWING ROOM CHICAGO WORKS
IN CHARGE Anthony TRACED BY CAT 6-4-34
CHECKED BY A.F.L. 6-7-34 TRACED BY CAT 6-4-34
LAST ARRIVAL ETC.

CONTRACT Con580 SHEET G20 RB





1		1	Top Chord Section	(U7-U5)B	as shown & noted	
	1	1	" " "	(U7-U5)B	as shown	
SPAN 10	SPAN 9	Total No.	Description	Mark	Remarks	Weight each Tons
Required by spans		REQUIRED LIST				

See shop note regarding erection marks.

Material for One Top Chord Section

1 Cov. Pl. 36 UM × 5/8 × 78'10 1/16 M/E F/E (5a) ord. 78'10 3/4 item 325
2 L^s 6×6×1/2 × 78'10 1/16 M/E F/E (5b)^{RL} ord 78'10 3/4 " 309
1 " 6×6×3/4 × 78'10 1/16 M/E F/E (5c) " 78'10 3/4 " 301
1 " " 78'10 1/16 M/E F/E (5d) " 78'10 3/4 " 301
2 Web Pls. 34 UM × 1/2 × 78'10 1/16 M/E F/E (5e) " 78'10 3/4 " 354
2 Side Pls. 22 UM × 1/2 × 72'9 9/16 M/E F/E (5f) 72'10 " 380
1 Pl. 36 UM × 1/16 × 2'11 1/4 (cbd16)
2 Pls. 34 UM × 3/4 × 2'1 (cbc16)
2 " 34 1/2 UM × 9/16 × 3'7 (cd16)
2 " " 2'5 (cg16)
2 " 27 UM × 1/4 × 2'0 1/2 M/E F/E (5g)
For (U7-U5) B9 — 1 " 74 1/2 F2W × 3/4 × 9'6 7/8 M/E F/E (5h)
1 " " 9'6 3/4 M/E F/E (5k)
For (U7-U5) B10 — 1 " " 9'6 7/8 M/E F/E (5m)
1 " " 9'6 7/8 M/E F/E (5p)
36 Lac. Bars 6 UM × 5/8 × 4'2 5/16 (cf16) 32'11 1/2 cuts 8

2 L^s 4×3 1/2×3/8×0'7 (ca16)
2 " " 0'7 (cb16)
1 " 6×4×7/8 × 0'10 1/2 (cc16)
2 " 4×3 1/2×3/8 × 0'7 (cf19)
3 " " 0'7 (cg16)
3 " " 0'7 (cp)
2 " 6×4×3/8 × 0'10 1/2 (ccc)
2 " 3 1/2×3 1/2×3/8 × 0'7 (cc19)
2 " " 0'7 (cc19)
For (U7-U5) B9.

2 L^s 3 1/2×3 1/2×3/8×0'7 (cbr)
3 " " 0'7 (cf19)
2 " " 0'7 (ca19)
1 " 6×4×3/8 × 0'10 1/2 (cag)
1 " 3 1/2×3 1/2×3/8 × 0'7 (ccb)
2 " " 0'7 (cp19)
1 " " 0'7 (cc20)
2 " " 0'7 (cc15)
1 " " 0'7 (ce10)
1 " 6×4×3/8 × 0'10 1/2 (cob)
1 " 3 1/2×3 1/2×3/8 × 0'7 (cb19)
1 " " 0'7 (cr)
1 " " 0'7 (ch)
1 " " 0'7
1 " 4×3 1/2×3/8 × 0'7 (cc)
1 " " 0'7 (ca)
For (U7-U5) B9 / For (U7-U5) B10

1 L 4×3 1/2×3/8×0'7 (cbr)
1 " " 0'7 (ck16)
1 " " 0'7 (cas)
1 " 6×4×3/8 × 0'10 1/2 (ced)
1 " 4×3 1/2×3/8 × 0'7 (cd19)
1 " " × 0'7 (ch19)
1 " 6×4×3/8 × 0'10 1/2 (cef)
1 " 5×3 1/2×3/8 × 0'7 (cw20)
1 " " 0'7 (cak)
1 " " 0'7 (cam)
1 " " 0'7 (cap20)
1 " " 0'7 (csit)
1 " " 0'7 (cat20)
1 " " 0'7 (cav)
1 " " 0'7 (caw20)
1 " " 0'7 (ca10)
For (U7-U5) B10

1 L 6×6×3/8 × 0'10 1/2 (cbh)
1 L 6×4×3/8 × 0'7 (cbb20)
1 L 5 7/16 × 4 × 3/8 × 0'7 (cbd)
1 L 6×4×3/8 × 0'7 (cbd)
1 " " 0'7 (cbcc)
For (U7-U5) B10 — Cut 6×4 L

Reaming Note:
All Holes for field rivets for connection of (U7-U5) to (U8-U7) at point U7 and for connection of (U7-U5) to (U5-U3) at point U5 to be reamed or drilled to size with all top chord members assembled for one span. All Holes for connection of web members to chord shall be reamed or drilled to size either with all truss members assembled or thru metal Jigs.

Holes marked "GRT" to be reamed or drilled to size thru metal templet.

Shop Note:
After all Top Chord members for one span are assembled; for match marking purposes, add span number as suffix to mark in table to become part of shipping mark thus: (U7-U5) B9. This complete mark to be the erection mark and to appear on B.F.B. Shop to put bolts in holes ⊗ and draw same up tight. Erector to remove in field.
Holes in walkway lugs for either shop or field connections may be punched full size.

Work Shts G20 AB & G20 BB together as one sheet.

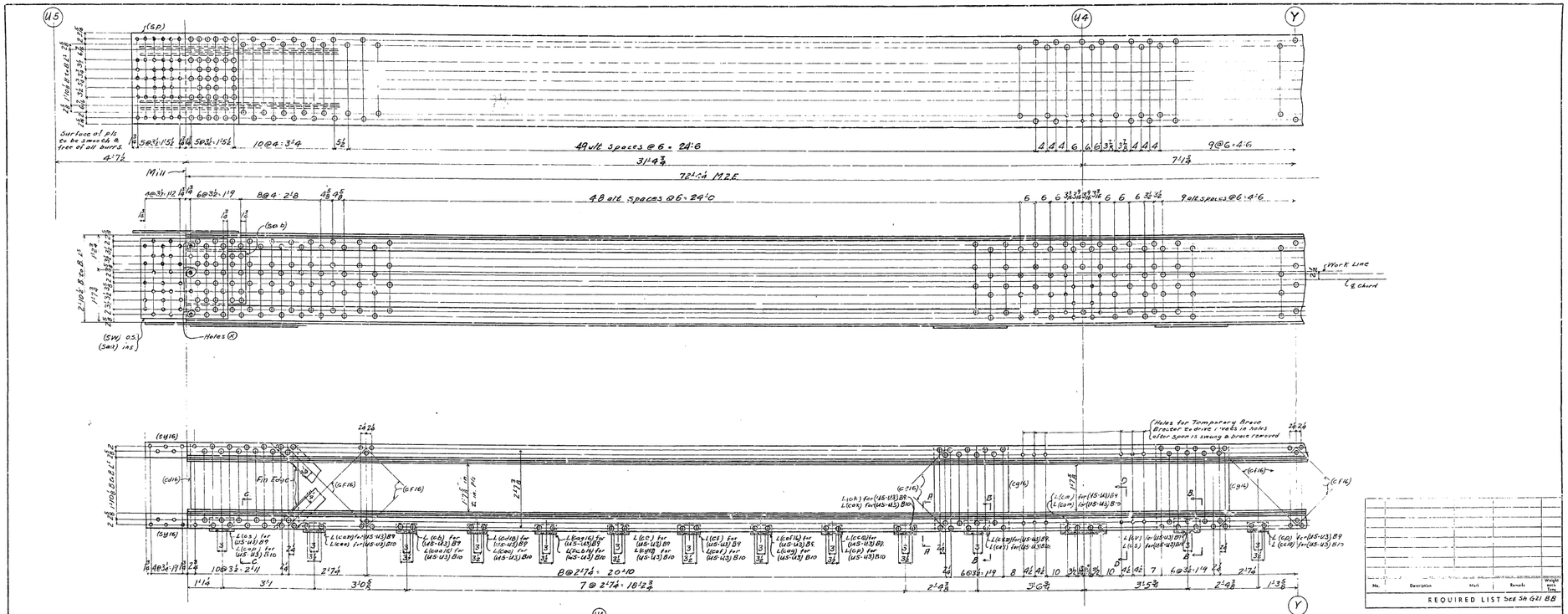
Work this Sh. with Shts G21, G22, & G23, G16, G18, G19

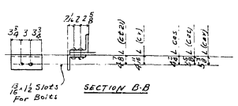
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: by John M. Bailey
RIVETS: 1"φ
OPEN HOLES: 1 1/16"φ unless noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly. See shop note
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
Shop Paint: None except One Coat "Rust Resisting Liquid" To Milled Ends of Members; To Contact Surfaces of Parts Shop Bolted for Shipment except where loose ends of partially riveted material are bolted down for shipment, and to Surfaces of riveted parts not readily accessible for sandblasting.

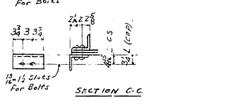
Date	Revision	App'd

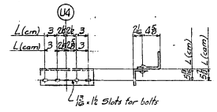
APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 6-19-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0 TRUSS SPANS - PIERS E9 TO E23
McCLINTIC-MARSHALL CORPORATION
CHICAGO DRAWING ROOM CHICAGO WORKS
IN CHARGE Anthony MADE BY CAJ 6-5-34
CHECKED BY A.F.L. 6-7-34 TRACED BY CAJ 6-5-34
LAST ASSEM. MK. (5p) (cbh)
CONTRACT CG15801 SHEET G20 BB









MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS:
OPEN HOLES:
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, facing and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/4" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/2" of metal.

Work Shs G21 HB & G21 BB together as one sheet.

No.	Description	Mark	Remarks	Weight Lbs.

REQUIRED LIST See Sh G21 BB

Date	Revision	Appd.

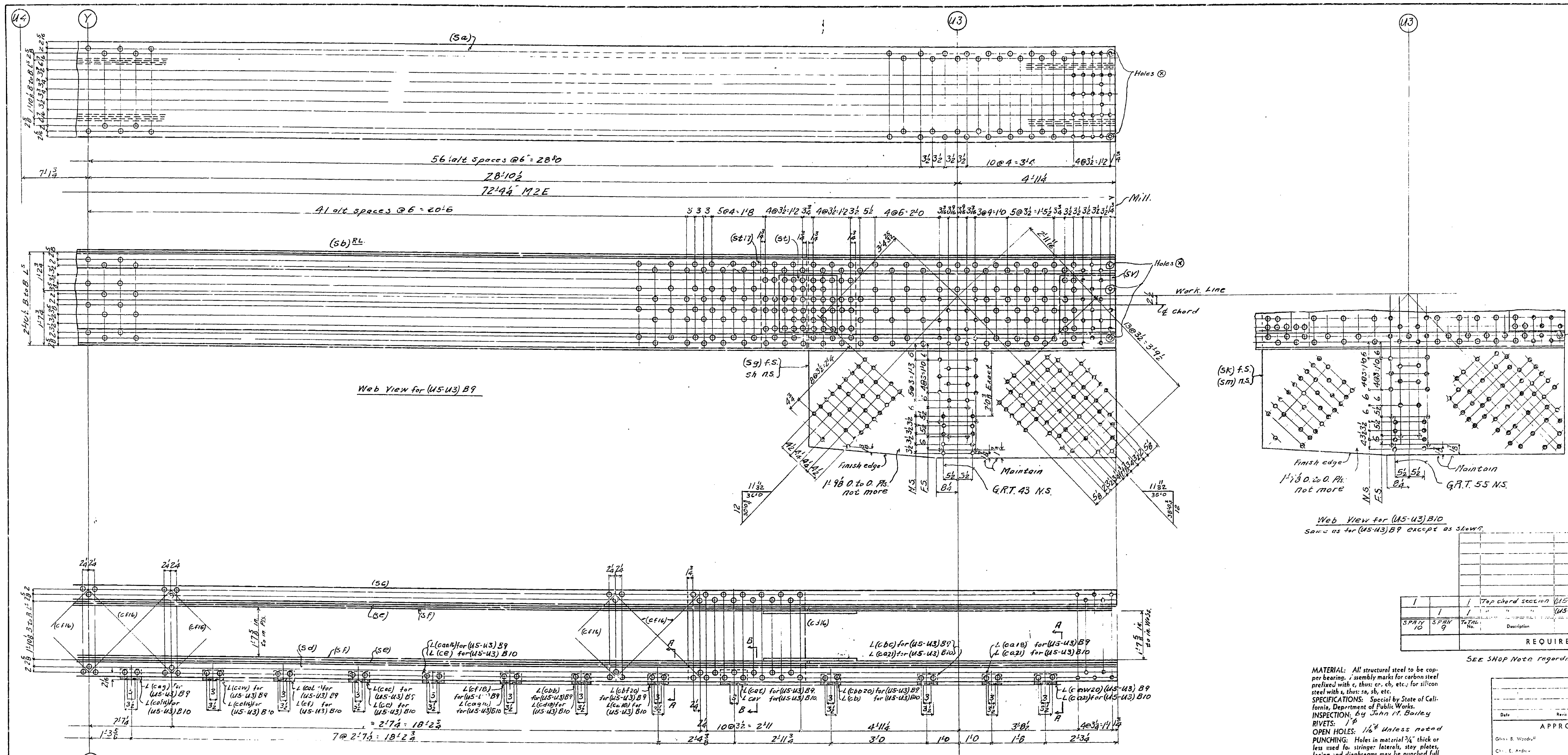
APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 6-25-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0 Truss Spans Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

CHICAGO DRAWING ROOM CHICAGO WORKS
IN CHARGE Anthony TRACED BY CRZ 6-8-34
CHECKED BY A.F.L. 6-15-34 TRACED BY ENT 6-8-34
LAST ASSED. ENG.

CONTRACT C415801 SHEET G21 HA



Span 10	Span 9	Total No.	Description	Mark	Remarks	Weight each Tons
1		1	Top chord section	(U5-U3) B	as shown & noted	
	1	1	" " "	(U5-U3) B	as shown	

REQUIRED LIST

SEE SHOP Note regarding Erection Marks

Material for One Top Chord Section.

1 Cov. Pl. 36 UM × 11/16 × 72'4¼ M2E (Sa) — Ord. 72'5 - Item 324
2 L's 6×6×¾ × 72'4¼ M2E (Sb) RL — " 72'5 " 303
1 " 6×6×¾ × 72'4¼ M2E (Sc) — " 72'5 " 303
1 " 6×6×¾ × 72'4¼ M2E (Sd) — " 72'5 " 303
2 Web Pls 34 UM × ½ × 72'4¼ M2E (Se) — " 72'5 " 355
2 " " 34 UM × ¾ × 62'9¼ MIE FIE (Sf) — " 62'10 " 336
For (U5-U3) B9 — 1 Pl. 74½ F.Z.W. × ¾ × 9'6⅜ MIE FIE (Sg)
1 " 74½ F.Z.W. × ¾ × 9'6⅜ " " (Sh)
For (U5-U3) B10 — 1 " 74½ F.Z.W. × ¾ × 9'6¾ " " (Sk)
1 " 74½ F.Z.W. × ¾ × 9'6¾ " " (Sm)
1 " 36 UM × ½ × 3'6 F2E (Sp)
2 " 34½ UM × 9/16 × 3'7 (cd16)
2 " 34½ UM × 9/16 × 2'5 (cg) 16
2 " 34 UM × ½ × 2'11¼ F2E (St17)
2 " 22 UM × 7/16 × 1'9¼ F2E (St)
36 Lac Bars 6 UM × ⅝ × 4'2 5/16 (cf16)

2 Pls. 22 UM × ¾ × 1'9 MIE FIE (SV)
2 " 32 UM × 7/16 × 2'11 F2E (SW)
2 " 34 UM × 7/16 × 2'11 F2E (Saa)
2 " 22 UM × ¾ × 2'0½ FIE M.I.E. (Sab)
2 Bars 6 UM × ⅝ × 4'8½ F2E (Sy16)

1 L 6×6×⅜ × 0'10½ (cs)
1 " 3½ × 3 × ⅜ × 0'7 (ca21)
1 " " 0'7 (cb)
1 " 7×4×⅜ × 0'7 (cd18)
1 " " 0'7 (cag16)
1 " " 0'7 (ce)
1 " " 0'7 (cf)
1 " " 0'7 (caf16)
1 " " 0'7 (cc18)
— For (U5-U3) B9

1 L 7×4×⅜ × 0'7 (ck)
1 " 6×6×⅜ × 0'10½ (ct21)
1 " 7×4×⅜ × 1'2 (cm)
1 " 6×6×⅜ × 0'10½ (cv)
1 " 7×4×⅜ × 0'7 (cp)
1 " " 0'7 (cag)
1 " " 0'7 (caw)
1 " 6×4×⅜ × 0'7 (ceb16)
1 " " 0'7 (cac)

For (U5-U3) B9:
1 L 6×4×⅜ × 0'7 (caa16)
1 " " 0'7 (cf18)
1 " " 0'7 (cbb)
1 " " 0'7 (cbf20)
1 " 6×6×⅜ × 0'10½ (cat)
1 " 6×4×⅜ × 0'7 (cbb20)
1 " " 0'7 (cbc)
1 " 5×3½×⅜ × 0'7 (ca18)
1 " " 0'7 (caw20)

For (U5-U3) B10:
1 L 6×6×⅜ × 0'10½ (cap)
1 " 6×4×⅜ × 0'7 (caa)
1 " " 0'7 (cae18)
1 " " 0'7 (cac)
1 " " 0'7 (cck16)
1 " " 0'7 (cy18)
1 " 7×4×⅜ × 0'7 (caf)

1 L 7×4×⅜ × 0'7 (cag)
1 " " 0'7 (cp)
1 " " 0'7 (cak)
1 " 6×6×⅜ × 0'10½ (cas)
1 " 7×4×⅜ × 1'2 (cam)
1 " 6×6×⅜ × 0'10½ (cs)
1 " 7×4×⅜ × 0'7 (cc18)
2 " " 0'7 (caf16)
1 " " 0'7 (cf)
2 " " 0'7 (ce)
1 " " 0'7 (cag16)
2 " " 0'7 (cd18)
1 " 8×6×½ × 0'10½ (cav)
1 " 3½×3×⅜ × 0'7 (cb)
3 " " 0'7 (ca21)

Reaming Note:
All Holes for field rivets for connection of (U5-U3) to (U7-U5) at point U5 and for connection of (U5-U3) to (U3-U1) at point U3 to be reamed or drilled to size with all top chord members assembled for one span. All Holes for connection of web members to chord shall be reamed or drilled to size either with all truss members assembled or thru metal Jigs.

Holes marked "GRT" to be reamed or drilled to size thru metal templet.

Shop Note:
After all Top Chord members for one span are assembled for match marking purposes, add span number as suffix to mark in table to become part of shipping mark thus (U5-U3)B9. this complete mark to be the erection mark and to appear on BFP. Shop to put shipping bolts in holes (x) and draw same up tight. Erector to remove in field.
Holes in walkway lugs for either shop or field connections may be punched full size.

Work Shts G21 A.B & G21 B.B together as one sheet

Work this sh. with shs G16-G17-G18-G20 & G22.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: by John M. Bailey
RIVETS: 1"φ
OPEN HOLES: 1 1/16"φ Unless noted
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly. See shop note.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
Shop Paint: None except one coat "Acid Resisting Liquid" to Milled Ends of Members; To contact surfaces of parts shop bolted for shipment, except where loose ends of partially riveted material are bolted down for shipment, and to surfaces of riveted parts not readily accessible for sandblasting.

Date	Revision	App'd

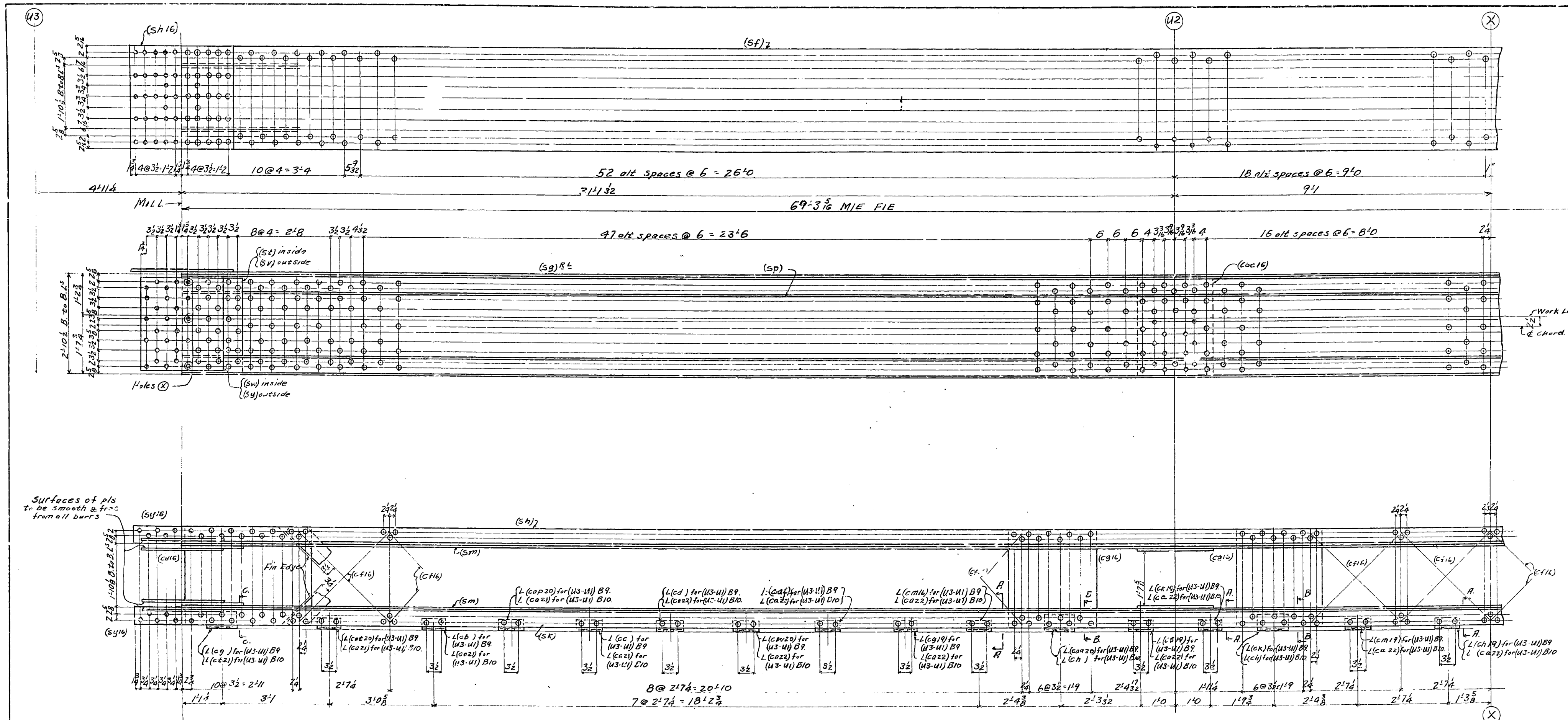
APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 6-25-34

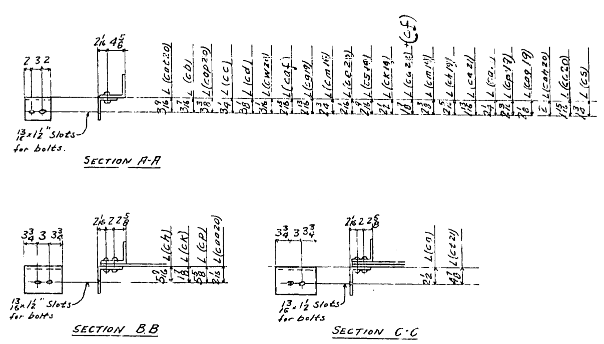
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0 TRUSS SPANS - PIERS E9 TO E23
McCLINTIC - MARSHALL CORPORATION

CHICAGO DRAWING ROOM CHICAGO WORKS
IN CHARGE Anthony MADE BY CAJ 6-11-34
CHECKED BY A.F.L. 6-15-34 TRACED BY CAJ 6-11-34
LAST ASSEM. CK. [illegible]

CONTRACT C41580I SHEET G21 B.B

30-1





SECTION A-A

SECTION B-B

SECTION C-C

MATERIAL FOR ONE TOP CHORD SECTION

1 Cov. Pl. 56 U.M. × 5/8 × 69'3 5/16	M/E F/E	(sf)	Ord 69'4	Item 326
2 Ls 6×6×½ × 69'3 5/16	M/E F/E	(sg) Rt.	" 69'4	" 310
1 L 6×6×¾ × 69'3 5/16	M/E F/E	(sh)	" 69'4	" 305
1 L 6×6×¾ × 69'3 5/16	M/E F/E	(sk)	" 69'4	" 305
2 Web Pls. 34 U.M. × ½ × 69'3 5/16	M/E F/E	(sm)	" 69'4	" 356
2 Side Pls. 22 U.M. × ½ × 63'2 13/16	M/E F/E	(sp)	" 63'3½	" 381
1 Pl 36 U.M. × 7/16 × 2'11	F2E	(sh16)		
2 " 34 U.M. × ¾ × 1'9	M/E-F/E	(st)		
2 " 27 U.M. × ¼ × 1'9	M/E F/E	(sv)		
2 " 34 U.M. × 7/16 × 2'4	F2E	(sw)		
2 " 32 U.M. × 7/16 × 2'4	F2E	(sy)		
2 " 34 U.M. × ¾ × 2'1		(cb16)		
For (U3-U1) B9 — 1 " 83 F2W × ¾ × 10'8¼	F2E	(sa)		
For (U3-U1) B9 — 1 " 83 F2W × ¾ × 10'8¼	F2E	(sb)		
For (U3-U1) B10 — 1 " 82½ F2W × ¾ × 10'9 5/8	F2E	(sc)		
For (U3-U1) B10 — 1 " 82½ F2W × ¾ × 10'9 5/8	F2E	sd		
2 " 34½ U.M. × 9/16 × 3'7		(cd16)		
2 " 34½ U.M. × 9/16 × 2'5		(cg16)		
36 Lac Bars 6" U.M. × 5/8 × 4'2 5/16 32'7½ Cuts 8		(cf16)		

For (U3-U1) B9:

1 L 6×4×3/8 × 0'10½	(cg)	
1 " 5×3½×3/8 × 0'7	(cat20)	
1 " " 0'7	(cb)	
1 " " 0'7	(cap20)	
1 " " 0'7	(cc)	
1 " 5 7/16 × 3 × 3/8 × 0'10½	(cm)	Cut 6×4
2 Ls 3½ × 3 × 3/8 × 0'7	(ca22)	
1 L 5×3½×3/8 × 0'7	(cd)	
1 " " 0'7	(cw20)	
1 " " 0'7	(caf)	
1 " 4×3½×3/8 × 0'7	(cg19)	
1 " " 0'7	(cm16)	
1 " 6×4×3/8 × 0'10½	(caa20)	
1 " 4×3½×3/8 × 0'7	(cs19)	
1 " " 0'7	(ck19)	
1 " 6×4×3/8 × 0'10½	(ck)	
1 " 3½×3½×3/8 × 0'7	(cm19)	
1 " " 0'7	(ch19)	
1 " " 0'7	(ca19)	
1 " " 0'7	(cp19)	
1 " " 0'7	(cag19)	
1 " " 0'7	(ce20)	
1 " " 0'7	(cah20)	
1 " " 0'7	(cc20)	
1 " 3½×3×3/8 × 0'7	(cs)	
1 " 3½×3½×3/8 × 0'7	(cf)	

For (U3-U1) B10:

1 L 6×6×3/8 × 0'10½	(ct21)
4 Ls 3½×3×3/8 × 0'7	(ca21)
12 " " 0'7	(ca22)
2 " 6×6×½ × 0'10½	(ch)
7 " 3½×3½×3/8 × 0'7	(cc20)
1 " 8×6×½ × 0'10½	(cp)

2 Bars 6" U.M. × 5/8 × 4'8½ F2E (sy16)

Work Shts G22 AB & G22 BB together as one Sht.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS:
OPEN HOLES:
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.

No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST See Sh G22 BB

Date	Revision	App'd

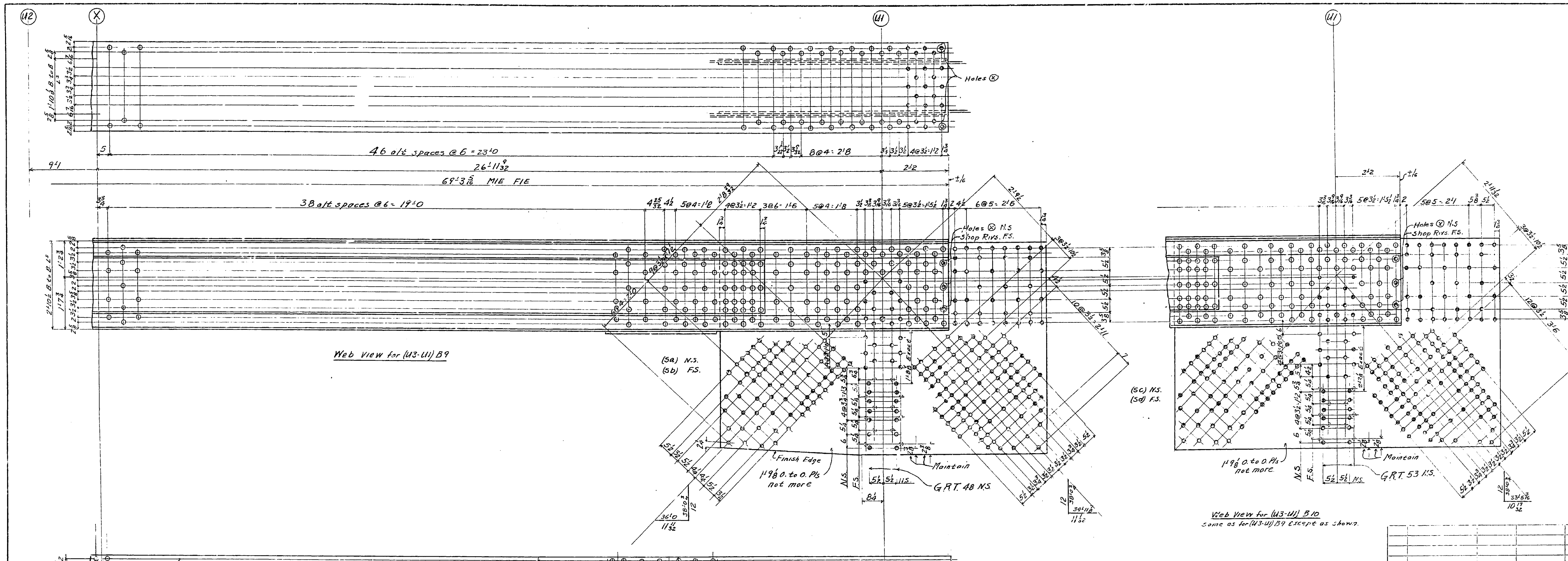
APPROVED

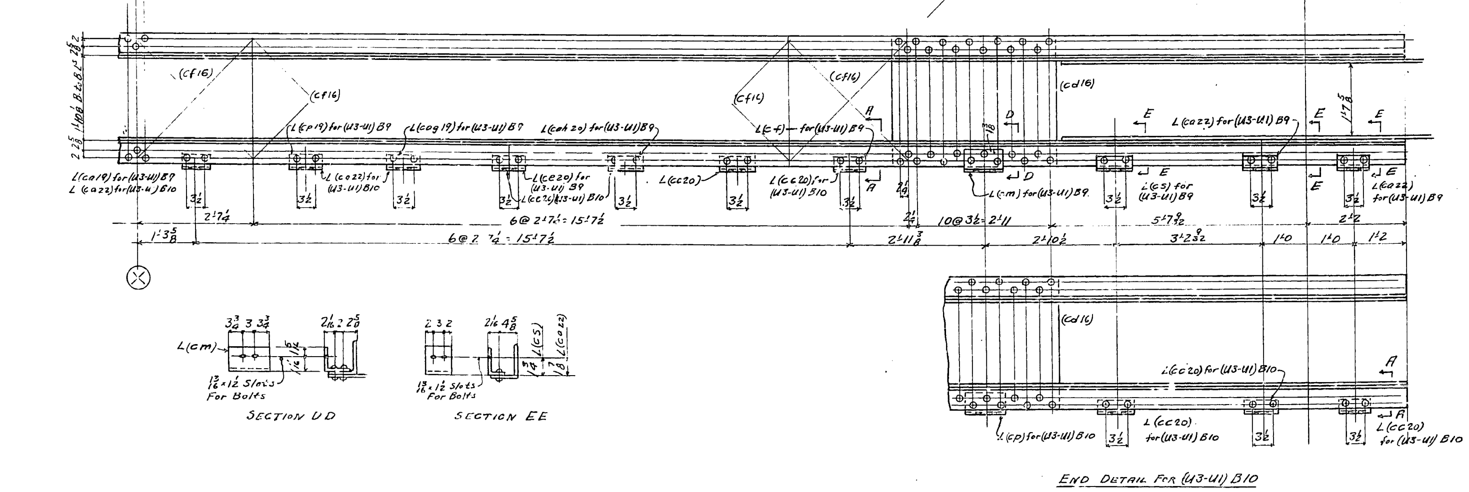
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 7-10-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0 Truss Spans Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Chicago WORKS
IN CHARGE Anthony MADE BY C.A.T. 6-12-34
CHECKED BY A.F.L. 6-18-34 TRACED BY C.A.T. 6-12-34
LAST ASSEM. MK.

CONTRACT CG15801 SHEET G22 AB





Reaming Note.
All Holes for field rivets for connections of (U3-U1) to (U5-U3) at point U3 and for connection of (U3-U1) to (U1-U0) at point U1 to be reamed or drilled to size with all top chord members assembled for one span. All Holes for connection of web members to chord shall be reamed or drilled to size either with all Truss members assembled or thru metal Jigs.
Holes marked "GRT" to be reamed or drilled to size thru metal templet.

Shop Note:
After all Top Chord members for one span are assembled for match marking purposes, add span number as suffix to mark in table to become part of shipping mark thus (U3-U1) B9. This complete mark to be the erection mark and to appear on B.F.P.
Shop to put shipping bolts in holes ⊗ and draw same up tight. Erector to remove in field.
Holes in walkway lugs for either shop or field connections may be punched full size.

Work Shts G77 AB & G22 BB together as one sht.

Work this sht with shts G16, G19, G20, G21 & G23

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: by John M. Bailey
RIVETS: 1"ϕ
OPEN HOLES: 1 1/16"ϕ Unless noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly. see shop note.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
Shop Paint: None Except One Coat "Acid Resisting Liquid" To Milled Ends of Members: To contact surfaces parts Shop bolted for shipment, except where loose ends of partially riveted material are bolted down for shipment; & to surface of riveted parts not readily accessible for sand blasting.

1		1	Top chord Section	(U3-U1) B	as shown & noted	
	1	1	" " "	(U3-U1) B	as shown	
SPAN 10	SPAN 9	Total No.	Description	Mark	Remarks	Weight each Tons
Required by SPANS		REQUIRED LIST				

See Shop Note regarding Erection Marks

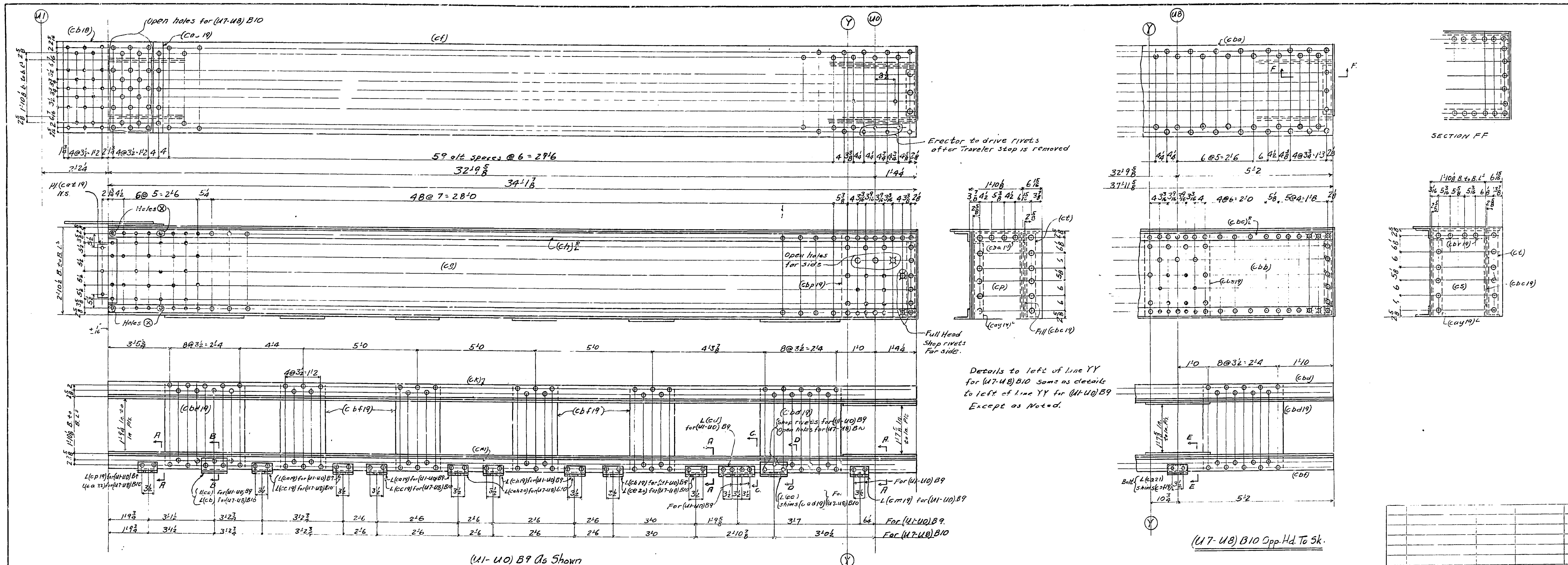
Date	Revision	App'd

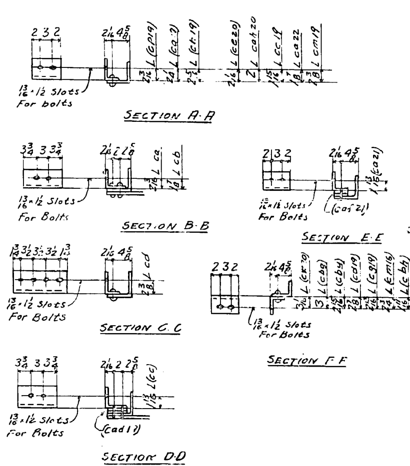
APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 7-10-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0 TRUSS SPANS PIERS E9 TO E23
McCLINTIC - MARSHALL CORPORATION

Chicago DRAWING ROOM Chicago WORKS
IN CHARGE Anthony MADE BY CAJ 6-14-34
CHECKED BY A.F.L 6-18-34 TRACED BY CAJ 6-19-34
LAST ASSEM. MK. 5Y CS

CONTRACT CG15801 SHEET G22 BB





Material For Top CHORD Section (U1-U0) B9

1 Cov. Pl. 36 UM. × 7/16 ×	34'1 7/8	F2E	(cf)	ord. 34'2 3/4	Item	453
2 Web Pls 34 UM × 7/16 ×	34'1 7/8	"	(cg)	" 34'2 3/4	"	487
2 Ls 6 × 4 × 7/16 ×	34'1 7/8	"	(ch) R/L	" 34'2 3/4	"	429
1 L "	34'1 7/8	"	(ck)	" 34'2 3/4	"	429
1 L "	34'1 7/8	"	(cm)	" 34'2 3/4	"	429
1 Pl. 74 UM × 7/16 ×	2'2	"	(cat19) (bolt)			
2 Pls. 34 UM × 15/16 ×	2'4 3/4	F1E	(cbp19)			
1 " 36 UM × 7/16 ×	2'11 1/4	F2E	(cb18)			
1 " 36 × 3/16 ×	1'9 1/2	F2E	(cas19) Grind sheared edges not finished			
1 " 34 1/2 UM × 7/16 ×	2'7 1/2		(cbd19)			
4 " 34 1/2 UM × 7/16 ×	1'5 1/2		(cbf19)			
1 " 29 UM × 7/16 ×	2'10 15/16	F2E	(cr)			
1 L 4 × 3 1/2 × 3/8 ×	1'6		(cbe19)			
1 L "	2'6	F1E	(cay19) L			
1 L "	2'9 5/8	F2E	(ct)			
1 Pl. 3 1/2 UM × 7/16 ×	2'2		(cbc19)			
1 L 3 1/2 × 3 1/2 × 3/8 ×	0'7		(cf19)			
1 L 5 3/4 × 3 1/2 × 3/8 ×	0'10 1/2	cut 6×4	(ca)			
4 Ls 3 1/2 × 3 1/2 × 3/8 ×	0'7		(ca19)			
4 " "	0'7		(ch19)			
1 " "	1'2		(cd)			
1 " "	0'7		(cm19)			

Material For Top CHORD Section (U7-U8) B10

1 Pl. 36 UM. × 7/16 ×	37'11 5/8	F2E	(cba)	ord. 38'0 1/2	Item.	450
2 Web Pls. 34 UM × 7/16 ×	37'11 5/8	F2E	(cbb)	" 38'0 1/2	"	483
2 Ls 6 × 4 × 7/16 ×	37'11 5/8	F2E	(cbc) R/L	" 38'0 1/2	"	425
1 " "	37'11 5/8	"	(cbd)	" 38'0 1/2	"	425
1 " "	37'11 5/8	"	(cbf)	" 38'0 1/2	"	425
1 Pl. (cat19) bolt						
2 " 34 UM × 13/16 ×	2'1		(cbs19)			
1 Pl. (cas19)						
3 Pls. (cbd19)						
4 " (cbf19)						
1 " 29 UM × 3/8 ×	2'10 15/16	F2E	(cs)			
1 L 4 × 3 1/2 × 3/8 ×	1'8 3/4		(cbv19)			
1 L (cay19) L						
1 L (ct)						
1 Pl. (cbc19)						
1 L 3 1/2 × 3 × 3/8 ×	0'7		(ca22)			
1 " 5 3/4 × 3 3/8 × 3/8 ×	0'10 1/2		(cb) cut 6×4.			
3 3 1/2 × 3 × 3/8 ×	0'7		(cc19)			
3 3 1/2 × 3 1/2 × 3/8 ×	0'7		(ce20)			
2 "	0'7		(ce20)			
1 5 3/4 × 3 5/16 × 3/8 ×	0'10 1/2		(cc) cut 6×4 — Bolt			
2 Shims 5 × 1/8 ×	0'10 1/2		(cad19) — Bolt			
1 L 3 1/2 × 3 × 3/16 ×	0'7		(co21) — Bolt			
2 Shims 3 × 1/8 ×	0'7		(cef19) — Bolt			

Work shts G 23 AB & G 23 BB together as one sht.

No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST SEE SHT. G23 BB

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS:
OPEN HOLES:
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 7-20-34

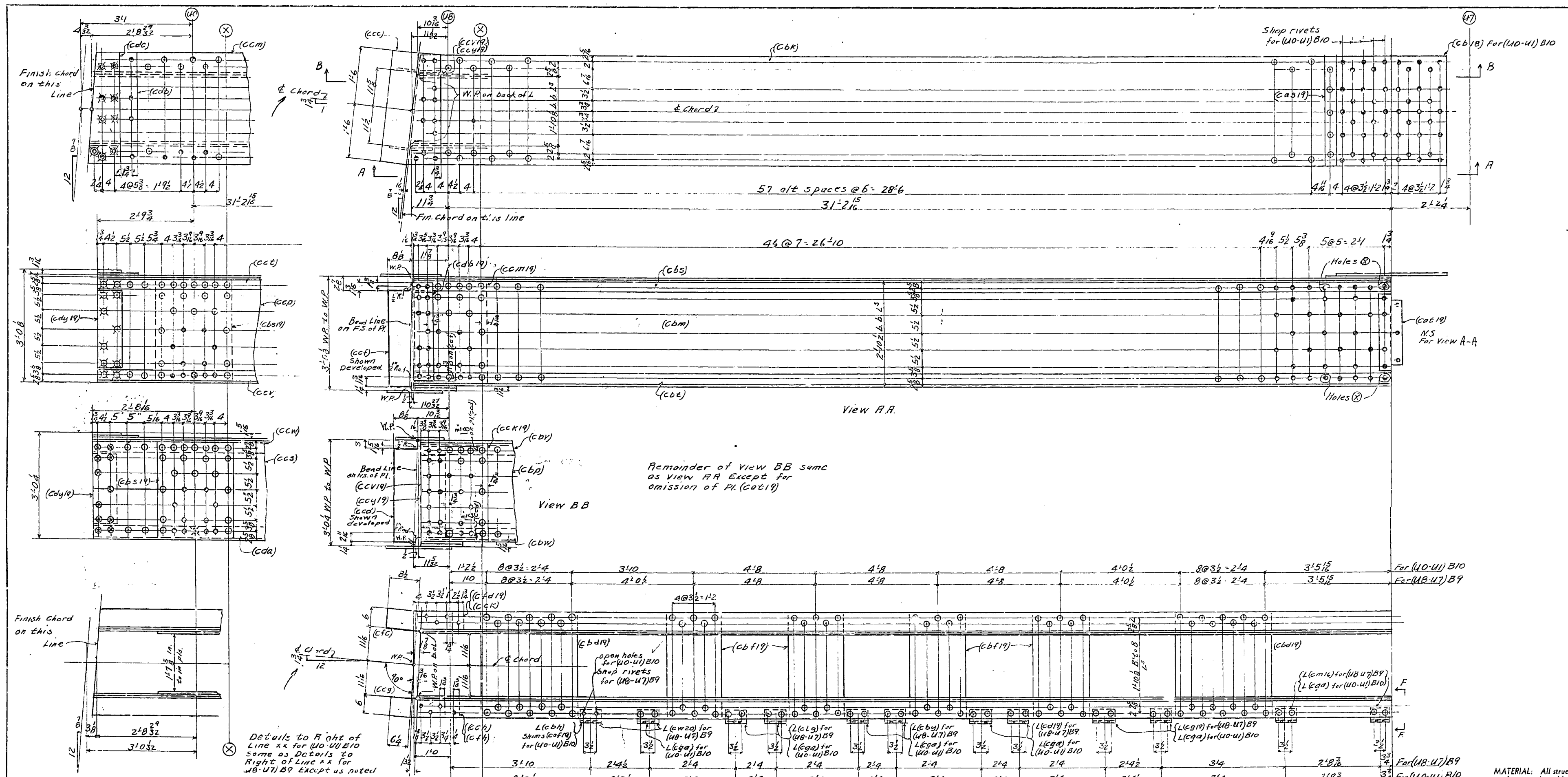
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0 TRUSS SPANS PIERS E9 to E23

McCLINTIC-MARSHALL CORPORATION

CHICAGO DRAWING ROOM CHICAGO WORKS
IN CHARGE ANTHONY MADE BY CAJ 6-15-34
CHECKED BY W.A. TRACED BY
LAST ASSEM. MK.

CONTRACT G61580I SHEET G23 AB

30-1



(U0-U1) B10 - Opp. Hd. To Sketch

(U8-U7) B9 - (As Shown)

1		1	TOP CHORD SECTION	(U1-U0) B	As shown	
	1	1	" " "	(U7-U8) B	OPP. HAND TO SKETCH	
1		1	" " "	(U8-U7) B	As shown	
	1	1	" " "	(U0-U1) B	OPP. HAND TO SKETCH	
SPAN 9	SPAN 10	Total No.	Description	Mark	Remarks	Weight each Tons
Required by spans		REQUIRED LIST				

SEE SHOP NOTE REGARDING ERECTION MARKS

MATERIAL FOR ONE TOP CHORD SECTION (U8-U7) B9

1 Cov. Pl. 36 U.M. × 7/16 × 32'-3 3/16 F2E (cbk) ord. 32'-4 Item 455
1 Web Pl. 34 UM × 7/16 × 32'-2 3/8 F2E (cbm) " 32'-3 1/2 " 490
1 " " 32'-1 1/16 F2E (cbp) " 32'-1 3/4 " 491
1 L 6 × 4 × 7/16 × 32'-3 3/16 F2E (cbs) " 32'-4 " 432
1 " 32'-3 3/16 F2E (cot) " 32'-4 " 432
1 " 32'-1 1/16 F2E (cbv) " 32'-1 3/4 " 433
1 " 32'-1 1/16 F2E (cbw) " 32'-1 3/4 " 433
1 Pl. 34 UM × 13/16 × 2'-0 5/16 F1E (ccm19)
1 " " 1'-10 5/8 F1E (cck19)
1 " (cat19) Bolt
1 " (cas19)
2 " (cbd19)
4 " (cbf19)
1 " 20 1/4 UM × 7/16 × 3'-1 (ccc) bolt. Grind all sheared edges.
1 Fill 26 UM × 7/16 × 0'-8 5/16 F1E (ccv19) Bolt
1 " 8 5/16 F1W × 1/8 × 2'-8 F2E (ccy19) Bolt
1 Pl. 16 1/2 UM × 7/16 × 2'-9 5/16 F2E (ccd) bolt Grind all sheared edges. (1 - 4)
1 " 15 U.M. × 7/16 × 2'-9 3/16 F2E (ccf) (Bent) Grind sheared edges Bolt.
1 Bar 6 UM × 3/4 × 1'-2 3/8 F2E (cfd19) bolt
1 " " 1'-2 7/8 F2E (cfh) bolt
1 Pl. 7 × 1/2 × 1'-7 1/2 (cfc) Grind all sheared edges bolt
1 " 7 × 1/2 × 1'-7 3/8 (ccg) Grind all sheared edges bolt
1 Bevel Fill 6 U.M. × 7/16 × 13/32 × 1'-2 5/16 F2E F1S (cch)
1 " " 6 U.M. × 9/16 × 19/32 × 1'-2 3/8 F2E F1S (cck) Bolt.
2 Ls 5 × 3 1/2 × 3/8 × 0'-7 (cw20)
2 " " 0'-7 (cbg)
2 " " 0'-7 (cby)
2 " 4 × 3 1/2 × 3/8 × 0'-7 (cm16)
2 " " 0'-7 (cg19)
2 " " 0'-7 (cd19)
1 Fill 26 UM × 7/16 × 0'-6 13/16 F2E (cdb19) Bolt

MATERIAL FOR ONE TOP CHORD SECTION (U0-U1) B10

1 Cov. Pl. 36 UM × 7/16 × 34'-1 3/16 F2E (ccm) ord 34'-2 Item 454
1 Web Pl. 34 UM × 7/16 × 34'-0 5/8 F2E (ccp) " 34'-1 1/2 " 488
1 " " " 33'-11 1/16 F2E (ccs) " 33'-11 3/4 " 489
1 L 6 × 4 × 7/16 × 34'-1 1/8 F2E (cct) " 34'-2 " 430
1 " " 34'-1 1/8 F2E (ccv) " 34'-2 " 430
1 " " 33'-11 1/16 F2E (ccw) " 33'-11 3/4 " 431
1 " " 33'-11 1/16 F2E (cda) " 33'-11 3/4 " 431
2 Pls. 34 UM × 13/16 × 2'-1 (cbs19)
1 Pl. (cat19) bolt
1 Pl. (cb18)
1 " (cas19)
2 " (cbd19)
4 " (cbf19)
1 Pl. 36 UM × 3/4 × 1'-3 3/8 F2E (cdb) Bolt
1 Bevel Fill 36 U.M. × 19/32 × 13/32 × 0'-10 F2E F1S bolt (cdc)
2 Fills 26 UM × 7/16 × 0'-8 F1E (cdy19)

11 Ls 3 1/2 × 3 1/2 × 3/8 × 0'-7 (cga)
1 " 3 1/2 × 3 × 3/8 × 0'-7 (cbh)
2 Shims 3 × 1/8 × 0'-7 (caf19)
} Bolt

Reaming Note:
All holes for field rivets for connection of (U0-U1) to (U1-U3) at Point U1 and for connection of (U8-U7) to (U7-U5) at Point U7 to be reamed or drilled to size with all Top Chord members for one Span assembled. All holes for connections of web members to chords shall be reamed or drilled to size either with all truss members assembled or thru metal Jigs

Shop Note:
After all top chord Members for one Span are assembled; for match-marking purposes, add span number as suffix to mark in table to become part of shipping mark thus (U8-U7) B9. This complete mark to be the erection mark and to appear on B.F.P. Shop to put shipping bolts in holes ⊗ and draw same up tight. Erector to remove same in field
Note "A" Holes in walkway lugs for either shop or field connections may be punched full size

Work shts G23AB & G23BB together as one sht.
Work this sht with G16-G17-G18-G19-G20 & G21-G22

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 1"⌀
OPEN HOLES: 1 1/16⌀ Unless noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly. See Note "A"
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
Shop Paint: None except one coat "ACID RESISTING LIQUID" to milled ends of members: contact surfaces of parts shop bolted for shipment except where loose ends of partially riveted material are bolted down for shipment: and to surfaces of riveted parts not readily accessible for sandblasting

Date	Revision	App'd

APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date 7-20-34

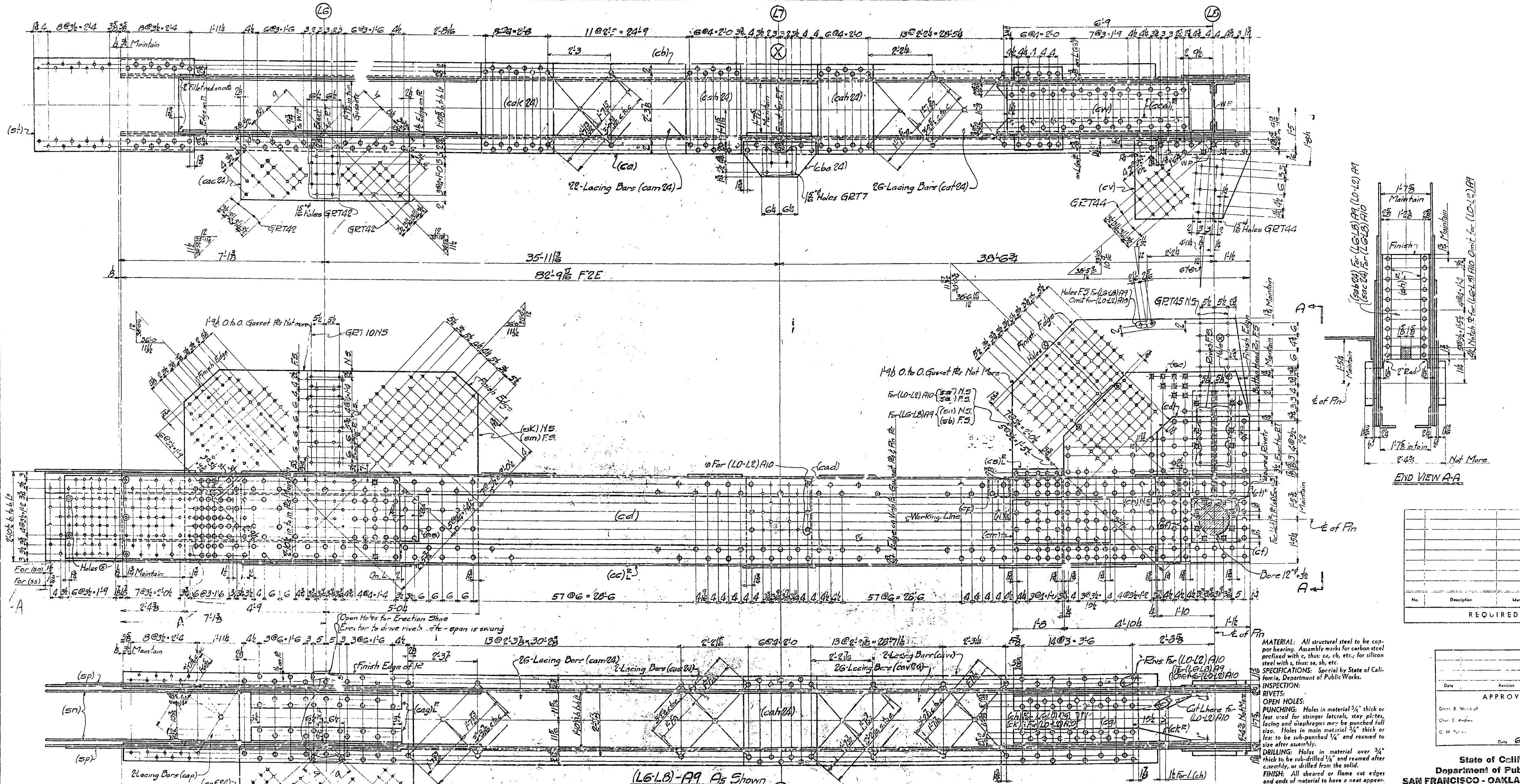
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 TRUSS SPANS PIERS E9 to E23

McCLINTIC-MARSHALL CORPORATION

CHICAGO DRAWING ROOM CHICAGO WORKS
IN CHARGE ANTHONY MADE BY CAJ 6-21-34
CHECKED BY W.A. TRACED BY
LAST ASSEM. MK. (cga)

CONTRACT C41580 SHEET G23 BB

30-1



(L6-L8)-A9 As Shown

Material for One Bottom Chord Section (L6-L8) A9

1-L 8×6×¾ × 79'-9 F2E. (ca) Ord. 79'-10¼ It. #395
1-L 8×6×¾ × 79'-9 F2E. (cb) Ord. 79'-10¼ It. #395
2-Ls 8×6×¾ × 79'-9 F2E. (cc) Ord. 79'-10¼ It. #395
2-Web ℞s 54 UM × ¾ × 76'-9 F2E. (cd) Ord. 76'-10 It. #471
2-℞s 91¾ F2W × ¾ × 7'-11 F2E. (sa) (sb)
2-℞s 71¾ F2W × ¾ × 6'-2½ F2E. (sc)
2-℞s 35½ UM × ¾ × 4'-9 F2E. (sd)
2-℞s 26½ UM × ½ × 2'-10¼ F2E. (sf)
2-Fills 17½ UM × 1 × 1'-5 F2E. (cf)
1-℞ 35 UM × × 4'-3 (cg)
1-L 8×6×½ × 5'-8¾ (ch)
1-L 8×6×½ × 5'-8¾ (ck)
2-℞s 18 UM × × 3'-2 F2E (cm)
1-Fill 8 UM × ½ × 8¾ (cn)
2-Fills 8 F2W × ¾ × 8¼ (cp)
2-Ls 6×4×½ × 1'-7¾ (co)
1-℞ 19 UM × ¾ × 5'-4 F1E (cab 24)
4-Ls 8×4×⅝ × 4'-0¼ F1E (sh)
1-L 8×6×½ × 2'-11½ (ct)
1-℞ 31 UM × ½ × 3' (cv)
1-℞ 19 UM × × 6'-0 (cw)
2-Ls 8×6×½ × 6'-1¼ (caa)
1-℞ 19¾ × ½ × 2'-4 (cba 24)
2-℞s 25 UM × ¾ × 2'-10 (cad)
2-℞s 74½ F2W × ¾ × 9'-9¼ F2E. (sk) (sm)
2-℞s 34 UM × ⅝ × 6'-9½ F2E. (sn)
2-℞s 32 UM × ⅝ × 11'-7¼ F2E (sp)
2-℞s 18 UM × ¾ × 11'-9¾ F2E (ss)
1-℞ 23½ UM × ½ × 5'-5¼ (cac 24)
1-℞ 35 UM × × 5'-10¾ F2E. (st)
1-℞ 53½ F1W × ½ × 5'-5¼ (caf 24)
2-Ls 8×6×¾ × 4'-11 (cag)
3-℞s 35 UM × × 2'-3½ (cah 24)
1-℞ 35 UM × × 2'-11½ (cak 24)
22-Lac. Bars 3 UM × ⅝ × 3'-2 c/c (cam 24)
26-Lac. Bars 3 UM × ⅝ × 3'-3 c/c (can 24)
2-Lac. Bars 3 UM × ⅝ × 3'-0 c/c (cap) Bolt
2-Lac. Bars 3 UM × ⅝ × 3'-2 c/c (cas 24)
26-Lac. Bars 3 UM × ⅝ × 3'-2 c/c (cat 24)
26-Lac. Bars 3 UM × ⅝ × 3'-2 c/c (cav 24)
2-Lac. Bars 3 UM × ⅝ × 3'-2 c/c (caw)

Work sheets G24AC, G24BC & G24CC together as one sheet.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS:
OPEN HOLES:
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.

No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST See Sh. G24CC

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 6-19-34

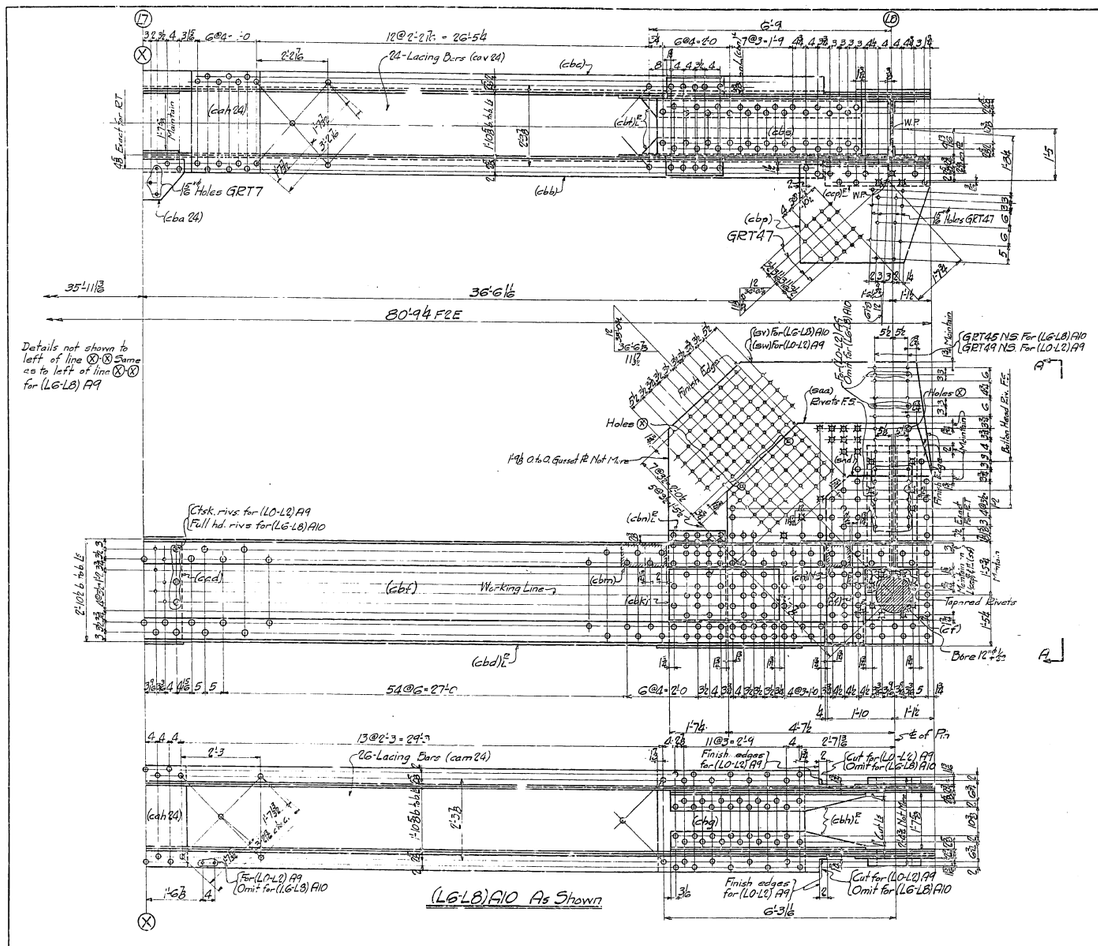
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23

McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Chicago WORKS
IN CHARGE - Anthony MADE BY P.F.H. 6-4-34
CHECKED BY A.F.L. 6-11-34 TRACED BY R.L. 6-6-34
LAST ASSEM. MK.

CONTRACT 6615801 SHEET G 24AC

REV (A) 9/21/34



Material for One Bottom Chord Section (LG-L8) A10

1-L 8 x 6 - ⅜ x 77'-9½ F2E (cbb) Ord. TT-10½ It. #396
1-L 8 x 6 - ⅜ x 77'-9½ F2E (cbe) Ord. TT-10½ It. #396
2-L 8 x 6 - ⅜ x 77'-9½ F2E (cbd) E Ord. TT-10½ It. #396
2-Web Pls 31 UM x ⅜ x 78'-0 F2E (cbf) Ord. 75-04 It. #472
2-Fls 88½ F2W x ⅜ x 7'-11 F2E (cv)
2-Fls 69 F2W x ⅜ x 6'-2½ F2E (saa)
2-Pls 35½ UM x ⅜ x 4'-9 F2E (sad)
2-Pls (sf)
2-Pls (cf)
1-Pl 35 UM x 9/16 x 3'-11½ (cbg)
4-Ls 8 x 6 x ½ x 5'-5½ (cbb) E
6-Pls (8W 1-1/16 x 3'-1⅛ F2E (cbk)
1-Fill (cn)
2-Fills BF2W x ⅜ x 1'-3⅜ (cbm)
2-Ls 6 x 4 x ½ x 1'-7 (cbn) E
1-Pl 19 UM x ⅜ x 3'-4½ F1E (sac 24)
4-Ls (sh) E
1-L 8 x 6 x ½ x 2'-11½ (ccp) E
1-Pl 32⅝ UM x ½ x 3'-7⅛ (cbp) (G-9 cutx 2)
1-Pl 19 UM x 9/16 x 5'-10 (cbs)
2-Ls 2 x 6 x ½ x 6'-1⅛ (cbt) E
1-Pl (cba 24)
1-Pl (cad)
1-Pl (ck)
1-Pl (cm)
2-Pls (sn)
2-Pls (sp)
2-Pls (ss)
1-Pl (cac 24)
1-Pl (st)
1-Pl (cat 24)
2-Ls (cag) E
3-Pl (cah 24)
1-Pl (cak 24)
48-Lacing Bars (cam 24)
24-Lacing Bars (cav 24)
26-Lacing Bars (cam 24)
2-Lacing Bars (cap) Built
2-Lacing Bars (cas 24)

No.	Description	Mat'l	Remarks	Wght. Each Item

REQUIRED LIST See Sh. G24CC

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS:
OPEN HOLES:
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material ¾" thick or less to be ¼-punched ¾" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ¼" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.

Date	Revision	Appd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 6-19-34

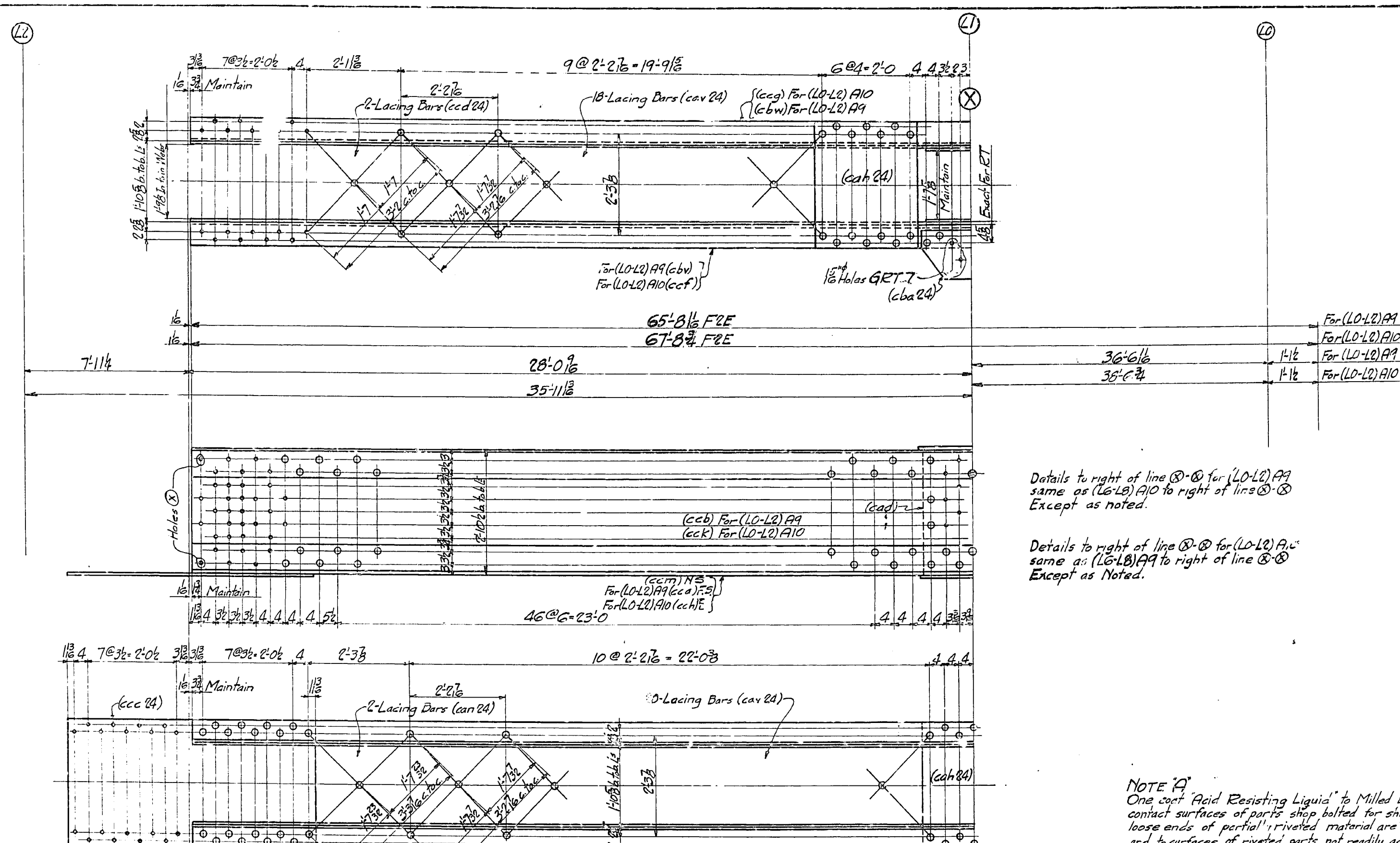
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0 Truss Spans - Piers E9 to E13
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Chicago WORKS
DESIGN BY Anthony DRAWN BY E.H. 6-23-34
CHECKED BY A.F.L. 6-11-34 TRACED BY E.L. 6-16-34
LAST WORKM. SHT.

Work sheets G24AC, G24BC & G24CC together as one sheet.

CONTRACT 66160 W SHEET G 24B

30-1



Details to right of line ⊗-⊗ for (L0-L2) A9 same as (L6-L8) A10 to right of line ⊗-⊗ Except as noted.

Details to right of line ⊗-⊗ for (L0-L2) A10 same as (L6-L8) A9 to right of line ⊗-⊗ Except as Noted.

(L0-L2) A9 Opp. Hand To Sketch
(L0-L2) A10 Opp. Hand To Sketch

Material for One Bottom Chord Section (L0-L2) A9

1-L 8x6x¾x62'-8 5/16 F2E (ccm) Ord. 62'-9¾ It. #398
1-L 8x6x¾x62'-8 5/16 F2E (cbv) Ord. 62'-9¾ It. #398
1-L 8x6x¾x62'-8 5/16 F2E (cbw) Ord. 62'-9¾ It. #398
1-L 8x6x¾x62'-8 5/16 F2E (cca) Ord. 62'-9¾ It. #398
2-Web Pls 34 UM x ¾ x 59'-11 1/16 F2E (ccb) Ord. 60'-0¼ It. #476
2-Pls 88¼ F2W x ¾ x 7'-11 F2E (sw)
2-Pls (saa)
2-Pls (sad)
2-Pls (sf)
2-Fills (cf)
1-Pl (cbg)
2-Ls (cbh) R L
2-Pls (cbk)
1-Fill (cn)
2-Fills (cbm)
2-Ls (cbn) R L
1-Pl (sab 24)
4-Ls (sh) R L
1-L (ccp) R
1-Pl (cbp)
2-Ls (cbt) R L
1-Pl (cbs)
1-Pl (cba 24)
2-Pls (cad)
1-Pl 35 UM x 9/16 x 5'-8¼ F2E (ccc 24)
3-Pls (cal 24)
62-Lacing Bars (cav 24)
2-Lacing Bars 3 UM x 5/8 x 3'-2 9/16 (ccd 24) Bolt
26-Lacing Bars (cam 24)
2-Lacing Bars (can 24)

Material for One Bottom Chord Section (L0-L2) A10

1-L 8x6x¾x64'-9 F2E (ccf) Ord. 64'-9¾ It. #397
1-L 8x6x¾x64'-9 F2E (ccg) Ord. 64'-9¾ It. #397
2-Ls 8x6x¾x64'-9 F2E (cch) R L Ord. 64'-9¾ It. #397
2-Web Pls 34 UM x ¾ x 61'-8¾ F2E (cck) Ord. 61'-9½ It. #475
2-Pls 91¾ F2W x ¾ x 7'-11 F2E (sa)
2-Pls (sc)
2-Pls (sd)
2-Pls (sf)
2-Fills (cf)
1-Pl (cg)
2-Ls (ck) R L
2-Pls (cm)
1-Fill (cn)
2-Fills (cp)
2-Ls (cs) R L
1-Pl (sab 24)
4-Ls (sh) R L
1-L (ct) R
1-Pl (cv)
2-Ls (caa) R L
1-Pl (cw)
1-Pl (cba 24)
2-Pls (cad)
1-Pl (ccc 24)
3-Pls (cah 24)
64-Lac. Bars (cav 24)
2-Lac. Bars (caw)
26-Lac. Bars (cat 24)
2-Lac. Bars (ccd 24) Bolt
2-Lac. Bars (can 24)

NOTE "A"
One coat "Acid Resisting Liquid" to Milled Ends of members; to contact surfaces of parts shop bolted for shipment, except where loose ends of partially riveted material are bolted down for shipment; and to surfaces of riveted parts not readily accessible for sandblasting.

Shop Note:- Erection Marks.
After all Bottom Chord members for one span are assembled; for match-marking purposes; add span number as suffix to mark in table to become part of shipping mark, thus -(L6-L8) A9, etc. This complete mark to be the erection mark and to appear on B.F.P.
Shop to put shipping Bolts in holes ⊗ and draw same up tight. Bolts to be removed by Erector in field.
Work sheets G24AC, G24BC & G24CC together as one sheet.
Work this sheet with sheets G25, G26, G27, G28 & G29

Reaming Note:-
All holes for Field rivets for connection of (L0-L2) to (L2-L4) at point L2 & (L6-L8) to (L4-L6) at point L6 to be reamed or drilled to size with all bottom chord members for one span assembled. All holes for connection of web members to chord to be reamed or drilled to size either with all truss members assembled or thru metal jigs. Holes marked "RT" to be reamed or drilled to size to a steel templet.
Holes marked GRT42 in Top & Bottom Lateral plates to be subpunched & reamed or drilled to size thru a metal box templet which shall include the holes for both lateral and floor beam connections.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 1"φ
OPEN HOLES: 1 1/16"φ Unless Noted.
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
Shop Paint:- None Except machined surfaces of pin holes shall receive one coat of Blue Lacquer, also see Note "A".

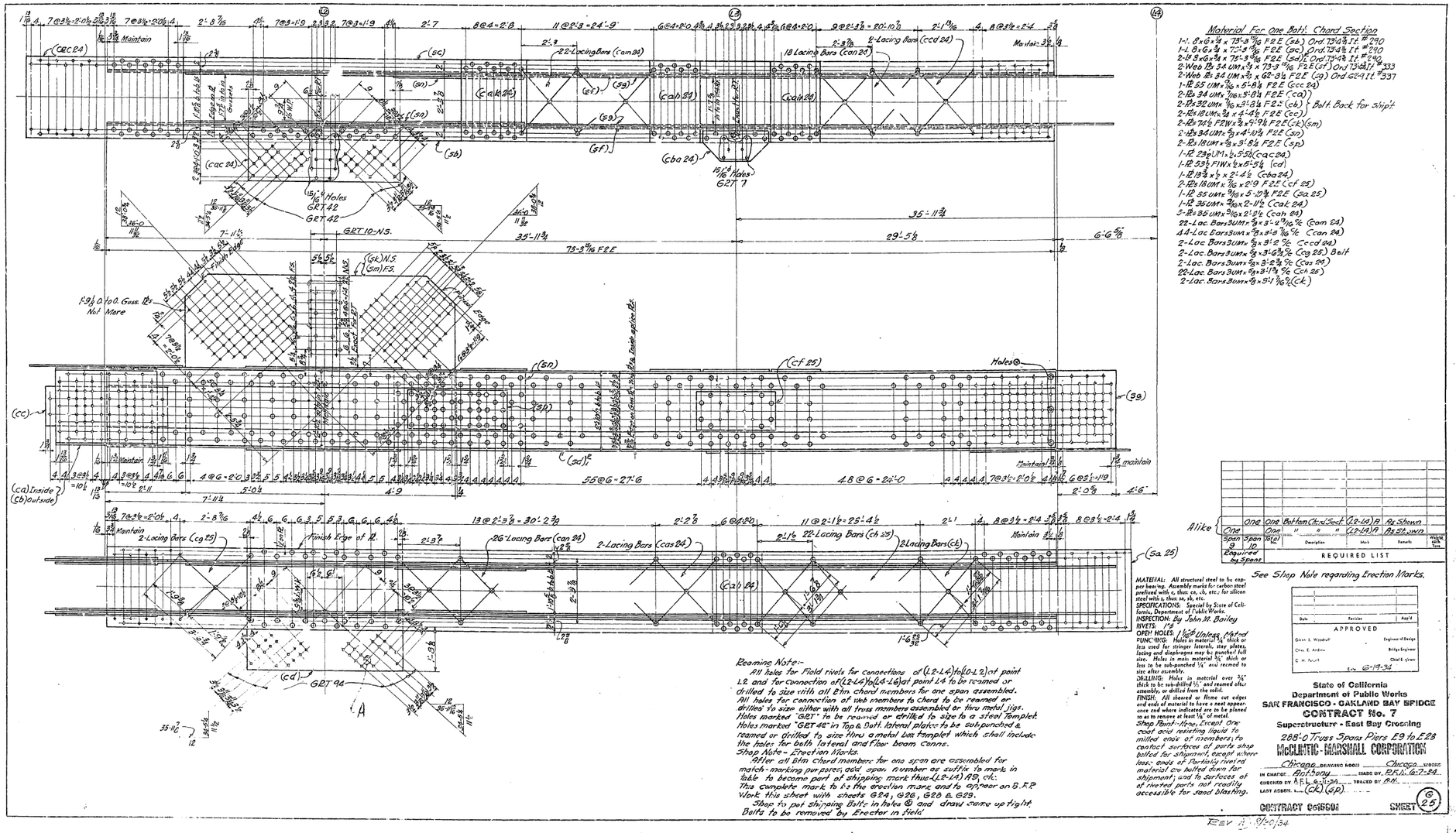
Span 9	Span 10	Total No.	Description	Mark	Remarks	Weight each Tons
One		One	Bott. Chord Sect.	(L6-L8) A	As Shown	
	One	One	Bott. Chord Sect.	(L6-L8) A	As Shown	
One		One	Bott. Chord Sect.	(L0-L2) A	Opp. Hd. to Sk.	
	One	One	Bott. Chord Sect.	(L0-L2) A	Opp. Hd. to Sk.	
Required by Spans		REQUIRED LIST				

See Shop note regarding Erection Marks.

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 6-19-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Chicago WORKS
IN CHARGE Anthony MADE BY P.F.H. 6-6-34
CHECKED BY A.F.L. 6-11-34 TRACED BY R.L. 6-7-34
LAST ASSEM. CK. (cp) (jag)
CONTRACT CG15801 SHEET G 24CC



Reaming Note:-
All holes for Field rivets for connections of (L2-L4) to (L0-L2) at point L2 and for connection of (L2-L4) to (L4-L6) at point L4 to be reamed or drilled to size with all 8 in. chord members for one span assembled. All holes for connection of web members to chord to be reamed or drilled to size either with all truss members assembled or thru metal jigs. Holes marked "GRT" to be reamed or drilled to size to a steel Templet. Holes marked "GRT 42" in Top & Bott. lateral plates to be subpunched & reamed or drilled to size thru a metal bar templet which shall include the holes for both lateral and floor beam conns.
Shop Note - Erection Marks.
After all 8 in. chord members for one span are assembled for match-marking purposes, add span number as suffix to mark in table to become part of shipping mark thus (L2-L4) AS, etc. This complete mark to be the erection mark and to appear on B.F.P. Work this sheet with sheets G24, G26, G28 & G29.
Shop to put shipping bolts in holes @ and draw same up tight. Bolts to be removed by Erector in field.

Material for one Bott. Chord Section
1-1. 8 x 6 x 3/4 x 73'-3 9/16 F2E (sb) Ord. 13943 Jt. # 290
1-1. 8 x 6 x 3/4 x 7'-1 9/16 F2E (sc) Ord. 13943 Jt. # 290
1-12 3 x 6 x 3/4 x 73'-3 9/16 F2E (sa) Jt. # 290
2-Web Pls 34 UM x 3/8 x 73'-3 9/16 F2E (cf) Ord 13943 Jt. # 333
2-Web Pls 34 UM x 3/8 x 62'-3 1/2 F2E (sg) Ord 12-9-11 Jt. # 337
1-Pl 35 UM x 7/16 x 5'-8 1/4 F2E (ccc 24)
2-Pls 34 UM x 7/16 x 3'-8 1/4 F2E (cca)
2-Pls 32 UM x 7/16 x 3'-2 1/4 F2E (cb) } Bolt Back for Shipt.
2-Pls 18 UM x 3/8 x 4'-4 1/2 F2E (cc)
2-Pls 14 1/2 FBW x 3/8 x 4'-9 1/4 F2E (ck) (sm)
2-Pls 34 UM x 5/8 x 4'-10 1/2 F2E (sn)
2-Pls 18 UM x 5/8 x 3'-8 1/4 F2E (sp)
1-Pl 23 1/2 UM x 1/2 x 5'-5 3/8 (cac 24)
1-Pl 23 1/2 FIN x 1/2 x 5'-5 1/4 (cd)
1-Pl 13 3/4 x 1/2 x 2'-4 1/2 (cba 24)
2-Pls 18 UM x 7/16 x 2'-9 F2E (cf 25)
1-Pl 35 UM x 9/16 x 5'-10 3/4 F2E (sa 25)
1-Pl 350 UM x 7/16 x 2'-11 1/2 (cak 24)
3-Pls 35 UM x 9/16 x 2'-5 1/2 (cah 24)
22-Lac. Bars 3 UM x 3/8 x 2'-3 19/16 (cam 24)
44-Lac Bars 3 UM x 3/8 x 2'-3 19/16 (can 24)
2-Lac. Bars 3 UM x 3/8 x 3'-2 3/8 (ccd 24)
2-Lac. Bars 3 UM x 3/8 x 3'-6 3/16 (cg 25) Bolt
2-Lac. Bars 3 UM x 3/8 x 3'-2 3/8 (cas 24)
22-Lac. Bars 3 UM x 3/8 x 3'-1 3/4 (cs 25)
2-Lac. Bars 3 UM x 3/8 x 3'-1 9/16 (ck)

Alike { One Span 9 / One Span 10 } One Bottom Chord Sect. (L2-L4) A | As Shown
One " " " (L2-L4) A | As Shown

Required by Span	Total	Description	Mark	Remarks	Weight each Piece
REQUIRED LIST					

See Shop Note regarding Erection Marks.

MATERIAL: All structural steel to be open hearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 1"Ø
OPEN HOLES: 1 1/16" Ø Unless noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material 5/8" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/2" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/4" of metal.
Shop Paint - None, Except One coat acid resisting liquid to milled ends of members; to contact surfaces of parts shop bolted for shipment, except where loose ends of partially riveted material are bolted down for shipment; and to surfaces of riveted parts not readily accessible for sand blasting.

Date	Revision	App'd

APPROVED
Glenn E. Woodruff — Engineer of Design
Chas. E. Andrus — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 6-19-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Chicago WORKS
IN CHARGE Anthony GRADE BY R.F.H. 6-7-34
CHECKED BY R.F.H. & W.J.M. TRACED BY B.R.
LAST ASSETS (ck) (dp)
CONTRACT 06B608 SHEET G 25

REV 1 8/20/34

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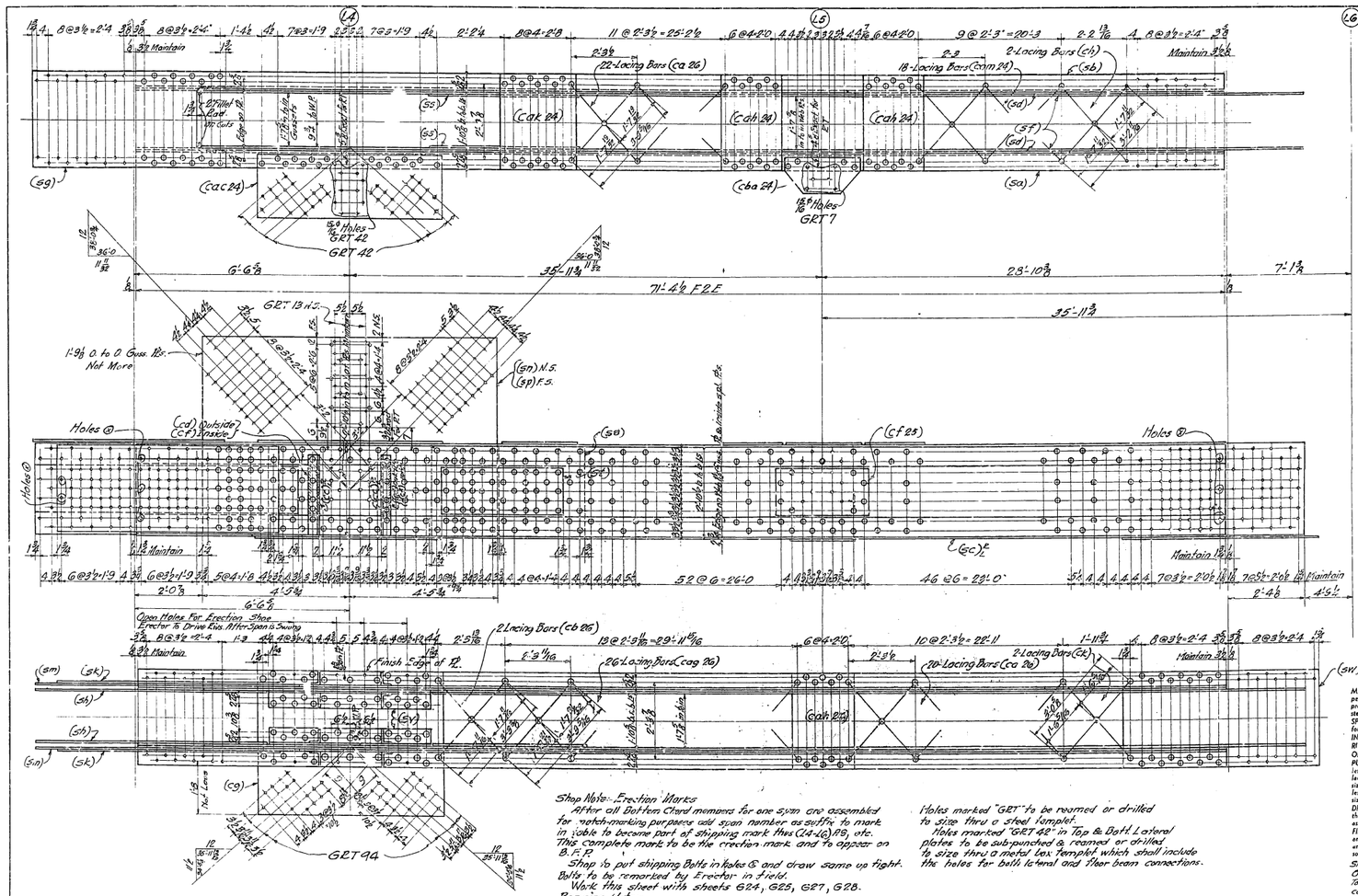


Alike					
One	One	One	Bott. Chord Sect. (L4-L6)A		As Shown
One	One	One	" " " (L4-L6)A		As Shown
Span 9	Span 10	Total No.	Description	Mark	Remarks (Weight Each Piece)
Required by Spans			REQUIRED LIST		

Shop Note:- Erection Marks
After all Bottom Chord members for one span are assembled for match-marking purposes add span number as suffix to mark in table to become part of shipping mark thus (L4-L6)A9, etc. This complete mark to be the erection mark and to appear on B.F.P.
Shop to put shipping Bolts in holes ⊕ and draw same up tight. Bolts to be remarked by Erector in field.
Work this sheet with sheets G24, G25, G27, G28.

Reaming Note:-
All holes for Field rivets for connection of (L4-L6) to (L2-L4) at point L4 & (L4-L6)A to (L6-L0) at point L6 to be reamed or drilled to size with all bottom chord members for one span assembled. All holes for connection of web members to ⊏ and to ⊏ reamed or drilled to size either with all truss members assembled or thru metal jigs.

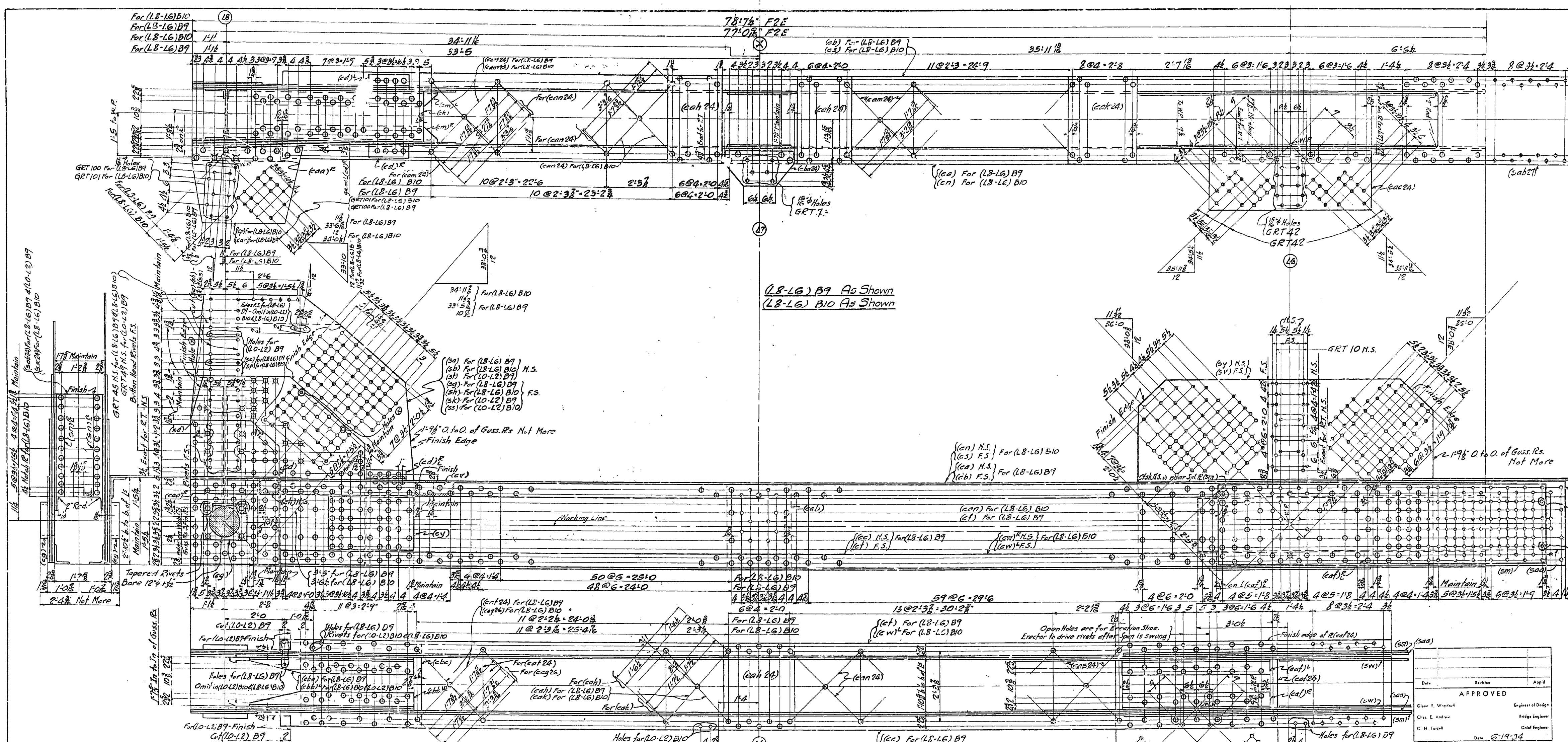
Holes marked "GRT" to be reamed or drilled to size thru a steel Sampler.
Holes marked "GRT 42" in Top & Bott. Lateral plates to be sub-punched & reamed or drilled to size thru a metal box Templet which shall include the holes for both lateral and floor beam connections.

MATERIAL: All structural steel to be open bearing. Assembly marks for carbon steel prefixed with ⊏ c, thus: cc, ck, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: ⅞"ø
OPEN HOLES: 1 1/16" ø Unless Noted
PUNCHING: Holes in material ¾" thick or less used for stringer brackets, stay plates, lacing and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched 13/16" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled 1/16" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
Shop Paint:- None, Except One Coat Red Painting Liquid To Within Inch of Members to contact surfaces of parts shop bolted for shipment, except where loose ends of partially riveted material are bolted down for shipment; and to surface of riveted parts not readily accessible for sandblasting.

See Shop Note regarding Erection Marks.

Date	Revision	Dept.
APPROVED		
Glenn T. Wenzell		Engineer of Design
Chas. E. Andrus		Bridge Engineer
C. H. Purcell		Chief Engineer
Date 6-28-34		

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans-Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Chicago WORKS
BY CR-DSE Anthony MADE BY M.F.H. 6-0-34
CHECKED BY A.B.L. 6-13-34 TRACED BY B.H. 6-11-34
LAST ASSGN. NO. (cag)(sw)
CONTRACT 041500 SHEET G 26



Material for One Bottom Chord Section (L8-L6) B9 & (L8-L6) B10

1-L 6 x 6 x 3/4 x 74'-0 13/16 F2E (ca)
do (cb)
do (cc) (Ord. 74'-1 1/2) It.# 412 For (L8-L6) B9
do (ct)
2-Web Rs 34 UM x 3/4 x 71'-3 5/16 F2E (cf) (Ord. 71'-4) It.# 474
2-Ls 6 x 6 x 3/4 x 75'-7 1/2 F2E (cw) R L
1-L do (cr) (Ord. 75'-8 1/4) It.# 411 For (L8-L6) B10
1-L do (cs)
2-Web Rs 34 UM x 3/4 x 72'-10 F2E (can) (Ord. 72'-10 3/4) It.# 473
1-R 88 1/2 F2W x 3/4 x 8'-10 1/2 F2E (sa) N.S. For (L8-L6) B9
do x 8'-10 1/2 F2E (sb) N.S. For (L8-L6) B10
do x 7'-11 F2E (sh) F.S. do
do x 7'-11 F2E (sg) F.S. For (L8-L6) B9
2-Rs 35 1/2 UM x 3/4 x 4'-9 F2E (sd)

2-Rs 69 F2W x 3/4 x 6'-2 1/2 F2E (sc) For (L8-L6) B9
do (sp) For (L8-L6) B10
2-Rs 26 1/2 UM x 1/2 x 2'-10 1/4 F2E (sf)
2-Rs 15 3/4 UM x 1 1/16 x 1'-5 F2E (cg)
1-Fill 6 UM x 1/2 x 0'-8 3/4 (ch)
1-R 19 UM x 3/4 x 3'-4 1/2 F1E (sab24) For (L8-L6) B9
do (sac24) For (L8-L6) B10
4-Ls 8 x 4 x 5/8 x 3'-10 1/2 F1E (sn) R L
2-L 6 x 4 x 1/2 x 1'-4 (cd) R L
2-Fills 6 UM x 3/4 x 1'-3 3/4 (cv)
2-Rs 22 UM x 1/2 x 2'-9 3/4 F2E (cy)
1-L 6 x 6 x 1/2 x 2'-11 1/2 (caa) R
2-Rs 25 UM x 3/4 x 2'-10 (cab)
1-R 23 1/2 UM x 1/2 x 5'-5 1/4 (cac24)

1-R 74 1/2 F2W x 3/4 x 9'-9 1/4 F2E (sy) N.S.
do (sv) F.S.
2-Rs 34 UM x 11/16 x 6'-5 1/2 F2E (sw)
2-Rs 32 UM x 5/8 x 10'-11 1/2 F2E (sm)
2-Rs 22 UM x 3/4 x 12'-2 3/4 F2E (saa)
1-R 53 1/2 F1W x 1/2 x 5'-5 1/4 (caf24)
2-Ls 6 x 6 x 3/4 x 4'-11 (caf) R L
1-R 35 UM x 9/16 x 5'-10 3/4 F2E (sab27)
3-Rs 35 UM x 9/16 x 2'-3 1/2 (cah24)
1-R 35 UM x 9/16 x 2'-11 1/2 (cak24)
1-R 13 3/4 x 1/2 x 2'-4 1/2 (cba24)
1-R 35 UM x 9/16 x 3'-11 3/4 (cbc)
1-R 19 UM x 9/16 x 5'-8 1/4 (ck)
2-Ls 6 x 6 x 1/2 x 6'-1 1/4 (cm) R L

22-Bars 3 UM x 5/8 x 3'-3 5/16 c-c (cag26)
2- do x 3'-3 c-c (cak)
42- do x 3'-2 13/16 c-c (cam24) For (L8-L6) B10
28- do x 3'-3 1/16 c-c (can24)
2- do x 3'-2 3/4 c-c (cas24)
22- do x 3'-2 5/16 c-c (cat24)
2- do x 3'-1 c-c (cah) For (L8-L6) B9
46-Bars (can24)
22-Bars (cam24)
1-L 6 x 6 x 1/2 x 5'-5 1/4 (cba) For (L8-L6) B9
1-L do (cbb) R do
2-Ls do (cbb) R L For (L8-L6) B10
1-R 31 1/4 UM x 1/2 x 3'-7 3/4 (cp) For (L8-L6) B10 (7'-0 cuts 2)
1-R 31 1/4 UM x 1/2 x 3'-7 3/4 (cac) For (L8-L6) B9 (6'-9 1/2 cuts 2)

For General Notes and Required List see sheet G27BB

Work sheets G27AB & G27BB together as one sheet.

Date	Revision	App'd

APPROVED

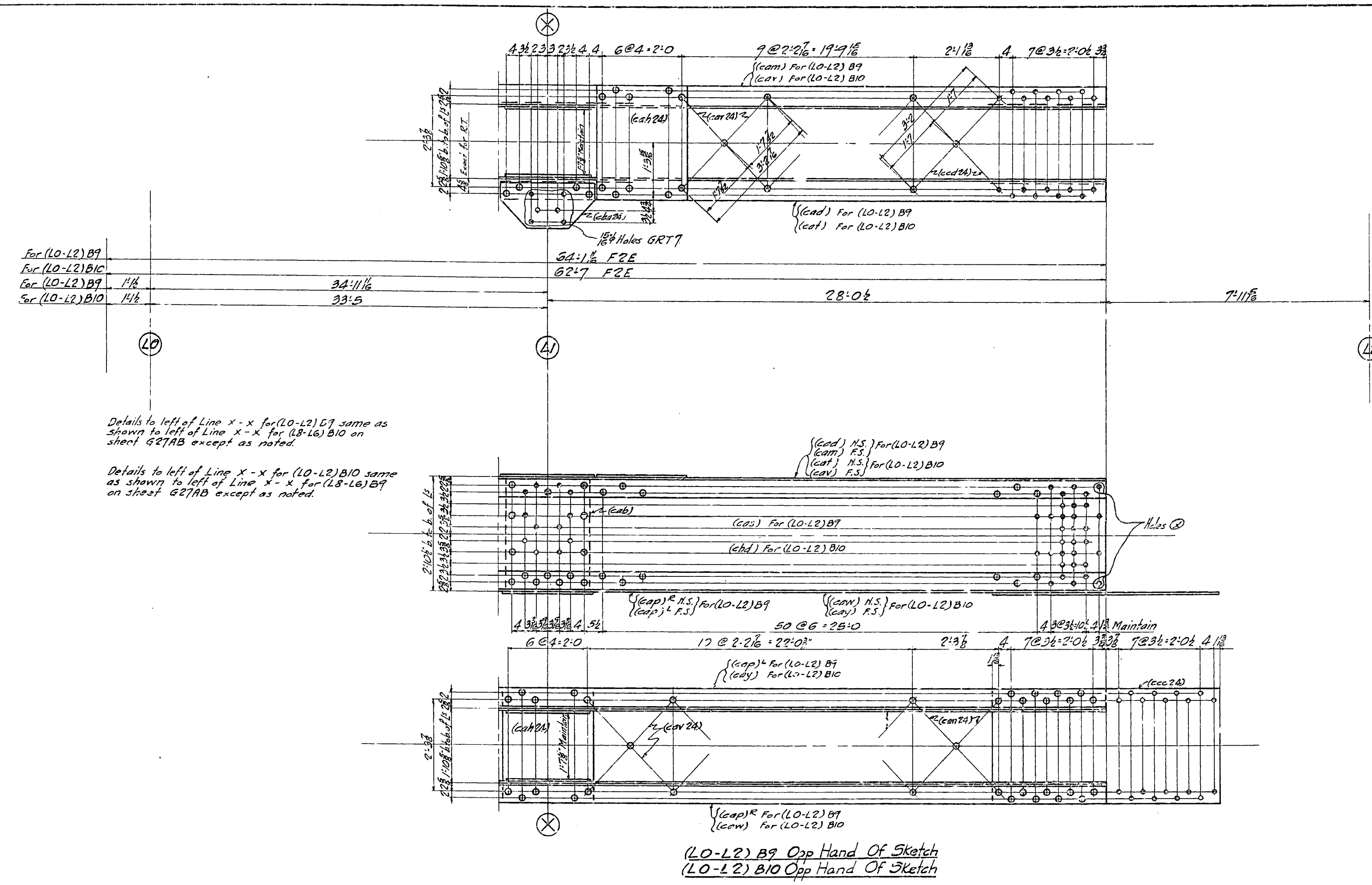
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 6-19-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Chicago WORKS
IN CHARGE Anthony MADE BY H.W.S.
CHECKED BY W.A. TRACED BY
LAST ASSEM. CK.

CONTRACT CG15001 SHEET G 27AB

30-1



(LO-L2) B9 Opp Hand Of Sketch
(LO-L2) B10 Opp Hand Of Sketch

Material for One Bottom Chord Section (LO-L2) B9 & (LO-L2) B10

1-L 6 × 6 × ¾ × 61'-1 15/16 F2E (cad) } (Ord. 61'-2¾) It#413 } For (LO-L2) B9
1-L do (cam)
2-Ls do (cap) R L
2-Web Pls 34 UM × ¾ × 58'-4 7/16 F2E (cas) (Ord. 58'-5¼) It#477
1-L 6 × 6 × ¾ × 59'-7¼ F2E (cat) } (Ord. 59'-8) It#414 } For (LO-L2) B10
do (cav)
do (caw)
do (cay)
2-Web Pls 34 UM × ¾ × 56'-9¾ F2E (cbd) (Ord. 56'-10½) It#478
1-Pl 88¼ F2W × ¾ × 8'-10½ F2E (st) N.S. For (LO-L2) B9
do × 7'-11 F2E (sk) F.S. do
do × 7'-11 F2E (ss) F.S. For (LO-L2) B10
1-Pl (sa) N.S. do
2-Pls (sc) do
2-Pls (sp) For (LO-L2) B9
1-Pl (cp) do
1-Pl (ccc) For (LO-L2) B10

1-Fill (ch)
1-Pl (sab 24)
4-Ls (sn) R L
2-Ls (cd) R L
2-Fills (cv)
2-Pls (cy)
1-L (caa) R
2-Pls (cab)
3-Pls (cah 24)
1-Pl (cba 24)
1-Pl (cb?)
1-Pl (ck)
2-Ls (cm) R L
2-Ls (cbb) R L
2-Pls (sd)
2-Pls (sf)
2-Pls (cg)

1-Pl 35 UM × 9/16 × 5'-8¼ F2E (ccc 24)
38-Bars 3 UM × ⅝ × 3'-2 7/16 c-c (cav 24)
2-Bars do × 3'-2 c-c (ccd 24) bolt for shipment
4-Bars (cai 24) For (LO-L2) B9
22-Bars (can 24) For (LO-L2) B10
22-Bars (caf 24) do
2-Bars (cah) do
22-Bars (cag 26) For (LO-L2) B9
2-Bars (cak) do
20-Bars (cam 24) do

Work sheets # G27AB & G27BB together as one sheet.
Work this sheet with sheets G24-G26 & G28

SHOP BOLTS: Shop to put shipping bolts in holes ⊗ and draw same up tight. Bolts to be removed by Erector in field.
ERECTION MARKS: After all bottom chord members for one Span are assembled, for match-marking purposes, add Span number as suffix to mark in table to become part of Shipping Mark thus: (L8-L6) B9 etc. This complete mark to be the Erection Mark and to appear on B.F.P.
NOTE "A" One coat "Acid Resisting Liquid" to milled ends of members; to contact surfaces of parts shop bolted for shipment, except where loose ends of partially riveted material are bolted down for shipment; and to surfaces of riveted parts not readily accessible for sand blasting.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 1"ϕ
OPEN HOLES: 1 1/16"ϕ unless noted
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
SHOP PAINT: None except Machined Surfaces of Pin Holes which shall receive one coat of Blue Lacquer. (See Note "A")
REAMING: All holes for field rivets for connections of LO-L2 to L2-L4 at point L2 and L8-L6 to L6-L4 at point L6 to be reamed or drilled to size with all bottom chord members for one Span assembled.
All holes for field rivets for connections of web members to chord to be reamed or drilled to size either thru Metal Jigs or with all truss members assembled. Holes marked "RT" to be reamed or drilled to size thru a steel templet.

1		1	Bottom Chord	(L8-L6) B9	As shown	
	1	1	do	(L8-L6) B10	do	
1		1	do	(LO-L2) B9	Opp hand of sketch	
	1	1	do	(LO-L2) B10	do	
Span #9	Span #10	Total No.	Description	Mark	Remarks	Weight each Tons
Req. by Spans		REQUIRED LIST				

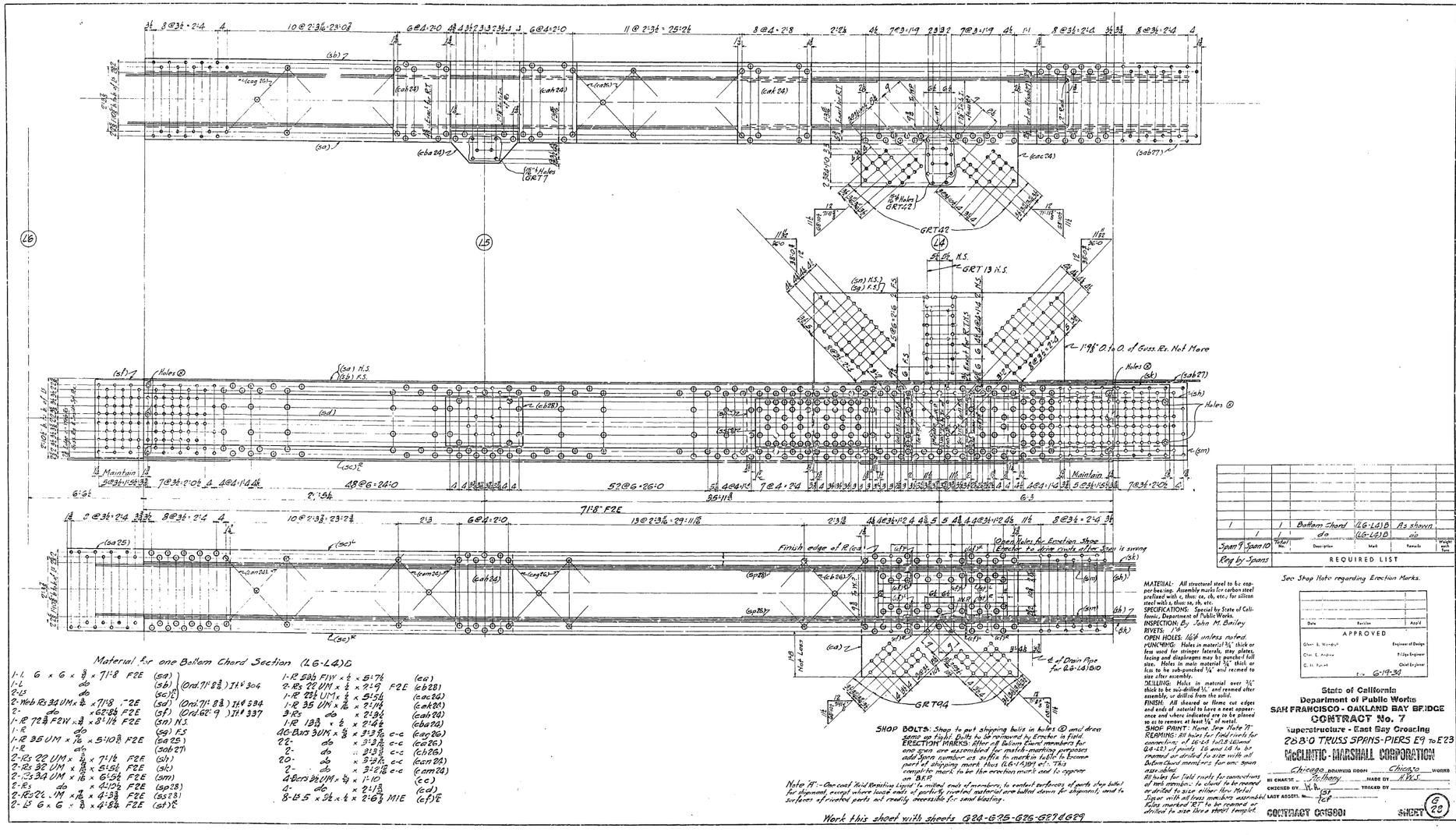
See Shop Note regarding Erection Marks.

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 6-19-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Chicago WORKS
IN CHARGE Anthony MADE BY H.K.S.
CHECKED BY W.A. TRACED BY
LAST ASSEM. MK.
CONTRACT CG15801 SHEET G 27BE

30-1



1-L	G × G × ⅞ × 7'-1⅛ F2E	(sa)	1-R 5¾ F1W × ½ × 5'-7½	(ea)
1-L	do	(sb) (Ord. 7'-8⅜) 1¼ 304	2-Rs 22 UM × ½ × 2'-9 F2E	(eb28)
2-L3	do	(sc)E	1-R 22½ UM × ½ × 5'-5½	(eac24)
2-Web Rs 34 UM × ½ × 7'-1⅛ F2E		(sd) (Ord. 7'-8⅜) 1¼ 384	1-R 35 UM × ⅝ × 2'-1¼	(cah24)
2- do × 62'-8½ F2E		(sf) (Ord. 62'-9) 1¼ 337	3-Rs do × 2'-3½	(cah28)
1-R 72⅜ F2W × ⅜ × 8'-1⅛ F2E		(sm) N.S.	1-R 13⅜ × ½ × 2'-6½	(eba28)
1-R do		(sg) F.S.	46-Bars 3UM × ⅜ × 3'-3 15/16 c-c	(eag26)
1-R 35 UM × ⅝ × 5'-10⅜ F2E		(sa28)	22- do × 3'-3 15/16 c-c	(ea26)
1-R do		(sah27)	2- do × 3'-3 15/16 c-c	(eb26)
2-Rs 22 UM × ½ × 7'-1½ F2E		(sh)	20- do × 3'-3 15/16 c-c	(ean26)
2-Rs 32 UM × ½ × 5'-5½ F2E		(sk)	2- do × 3'-2 15/16 c-c	(ean24)
2-Rs 34 UM × ⅝ × 6'-5½ F2E		(sm)	4-Bars 2½ UM × ⅝ × 1'-10	(cc)
2-Rs do × 4'-10½ F2E		(sp28)	4- do × 2'-1⅜	(cd)
2-Rs 24 UM × ⅞ × 4'-3¾ F2E		(ss28)	8-L5 × 3½ × ½ × 2'-6⅞ MIE	(ef)E
2-L5 G × G × ⅞ × 4'-8¼ F2E		(st)E		

SHOP BOLTS: Shop to put shipping bolts in holes ⊗ and drive same as field. Bolts to be removed by Erector in field.
ERECTION MARKS: After all Bottom Chord members for one span are assembled for match-marking purposes add Span number as suffix to mark in table to become part of shipping mark thus (L6-L4)10-1 etc. This complete mark to be the erection mark and to appear on B.E.P.

Note 'F' :- One coat Red Rusting Liquid To milled ends of members, to contact surfaces of parts they bolt for shipment, except where base ends of perfectly riveted material are bolted down for shipment, and to surfaces of riveted parts not readily accessible for sand blasting.

Work this sheet with sheets G24-G25-G26-G27&G29

Span 9 Span 10	Sheet No.	Description	Mark	Remarks	Weight each Piece
	1	Bottom Chord	(L6-L4)B	As shown	
	1	do	(L6-L4)B	do	
Req by Spans		REQUIRED LIST			

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: ⅞
OPEN HOLES: 1 1/16 unless noted.
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, facing and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled 1/4" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
SHOP PAINT: None. See Note 'F'
REAMING: All holes for field rivets for connections of (G-L5 to G-L6) and (L6-L5) of panels 16 and 18 to be reamed or drilled to size with all Bottom Chord members for one span assembled.
All holes for field rivets for connections of web members to chord to be reamed or drilled to size either New Metal Sign or with all floor members assembled. Rivet marked 'ER' to be reamed or drilled to size like a sheet templet.

See Shop Note regarding Erection Marks.

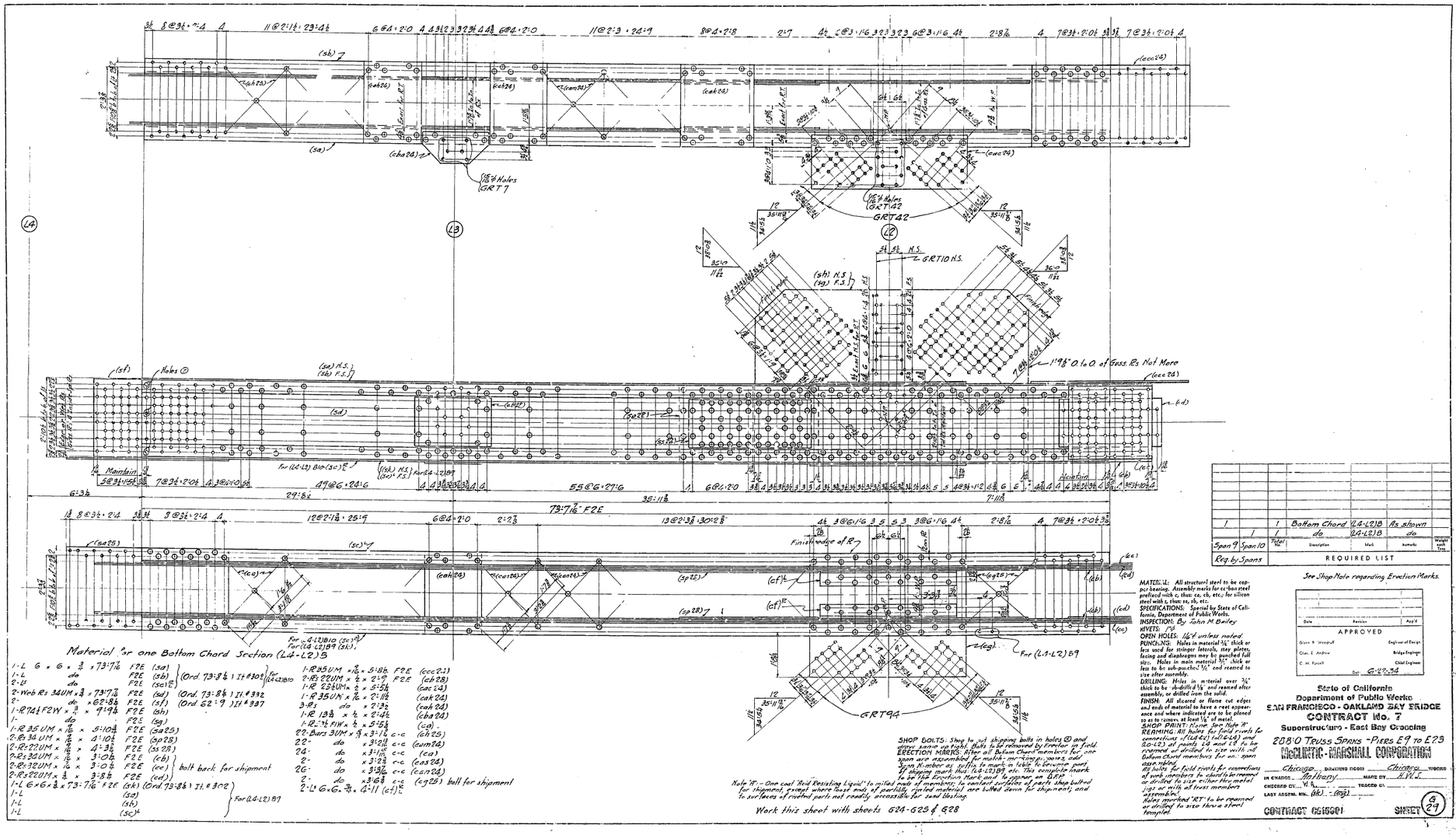
Date	Revision	Appd
APPROVED		
Glenn B. Woodruff		Engineer of Design
Chas. E. Andrew		Bridge Engineer
C. H. Purcell		Chief Engineer
For	6-19-31	

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0 TRUSS SPANS-PIERS E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Chicago WORKS
BI CHARGE Anthony MADE BY H.W.S.
CHECKED BY W.H. TRACED BY
LADY ASSIST. No. 61

CONTRACT CC1500 SHEET G 28

30-1



1	1	Bottom Chord (L4-L2)B		As shown	
1	1	do	(L4-L2)B	do	
Span 9 Span 10	Total No.	Description	Mark	Remarks	Weight each item
Reg by Spans	REQUIRED LIST				

See Shop Note regarding Erection Marks.

Date	Revision	Appd

APPROVED

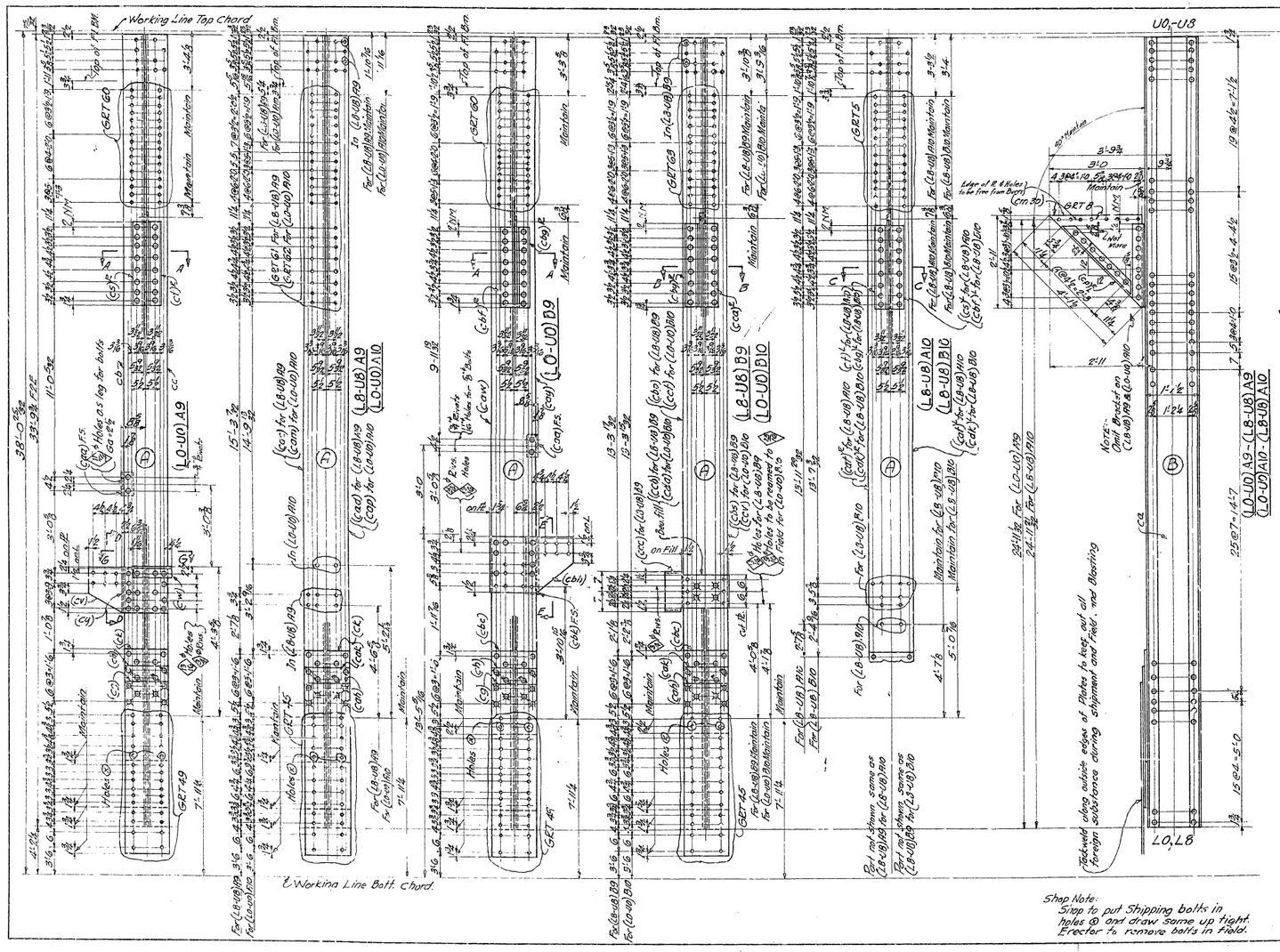
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date G-27-34

MATERIAL: All structural steel to be open hearth bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special for State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: ⅞
OPEN HOLES: 1/16" unless noted
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, facing and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched 5/16" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled 4⅛" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
SHOP PRINT: Name See Note 'R'
REAMING: All holes for field rivets for connections of (L4-L2) (U-L4-L2) and (L2-L2) at panels 10 and 18 to be reamed or drilled to size with all Bottom Chord members for one span taking.
All holes for field rivets for connections of web members to chord to be reamed or drilled to size either they metal [illegible] or with all truss members assembled.
Holes marked 'RT' to be reamed or drilled to size thru a steel templet.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0 Truss Spans - Piers E9 to E23
McCLINTIC - MARSHALL CORPORATION

DRAWING FROM Chicago WORKS Chicago
IN CHARGE Anthony MADE BY E.W.C.
CHECKED BY W. B. TRACED BY
LAST ASSEMB. MK. (sk) - (cg)

CONTRACT 05150R1 SHEET 9/27


Working Line Top Chord
U0-U8
Working Line Bott. Chord.
Shop Note:
Shop to put Shipping bolts in holes ⊕ and draw same up tight.
Erector to remove bolts in Field.
Work sheets G30AC, G30BC, & G30CC together as one sheet
Work this sheet with sheets G31, G32, G33 & G34.
SECT. A-A As shown
SECT. C-C Opp Hand
SECT. B-B
VIEW D D As shown
VIEW E E Opp Hand
SECT G G
REQUIRED LIST
See Sheet G30CC for required list
APPROVED
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
2880 Truss Spans-Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
CONTRACT 06150I
SHEET G 30AC

L8 L0

SECT. K K

SECT. F F

SECT. M M

SECT. H-H

SECT. N N

SECT. S S

SEE SHEET G30CC FOR REQUIRED LIST

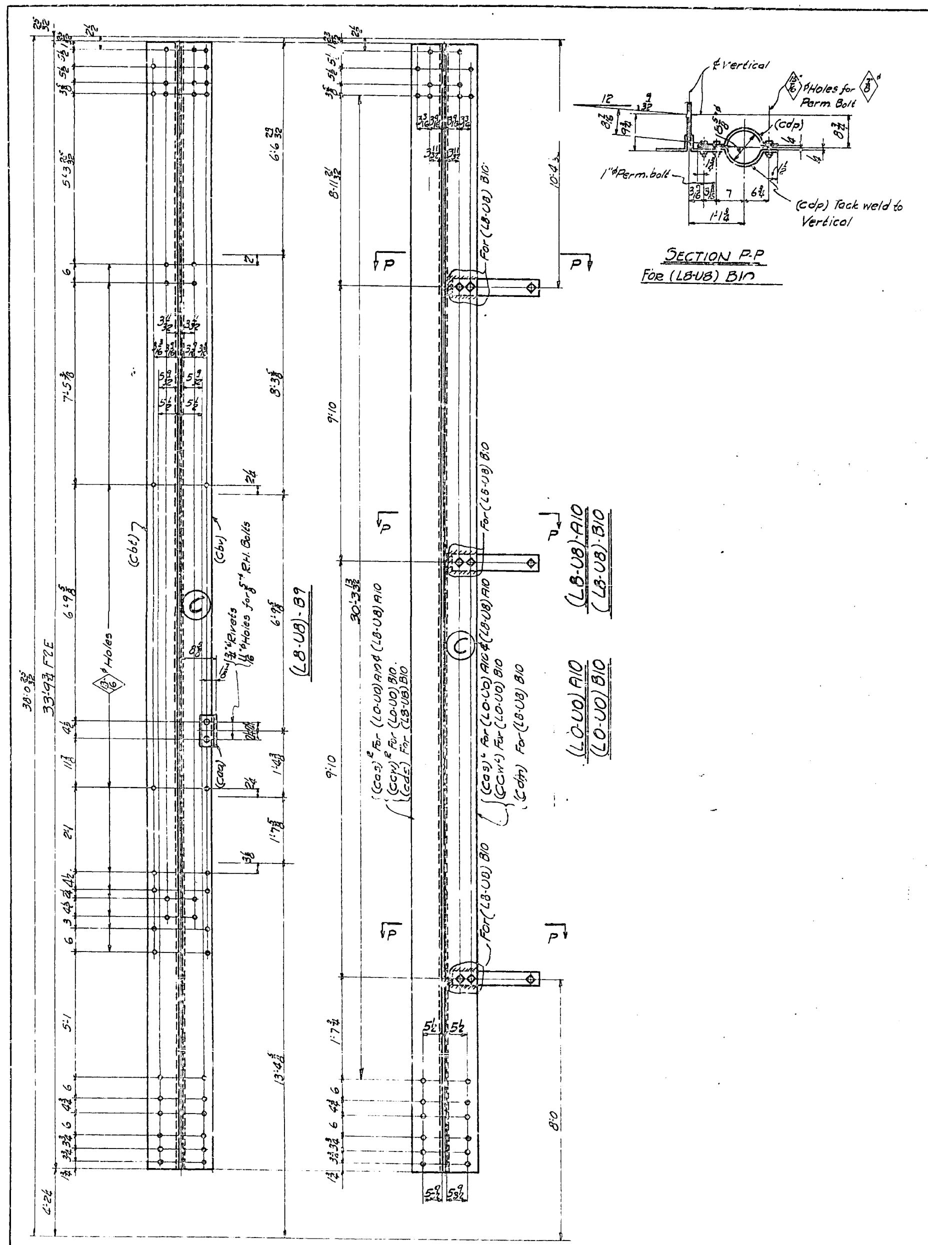
MATERIAL: All structural steel to be copper bearing. Assemble marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 1⅛ unless noted
OPEN HOLES: 1⅛" unless noted.
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched 1½" and reamed to size after assembly. Also see Notes #2 & 3
DRILLING: Holes in material over ¾" thick to be sub-drilled 1⅛" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.

Work Sheets G30AC, G30BC & G30CC together as one sheet
Work this sheet with sheets G31, G32, G33 & G34

Date	Revision	Appd
APPROVED		
Glenn E. Woodruff		Engineer of Design
Chas. E. Andrew		Bridge Engineer
H. M. Patrick		Chief Engineer
Date 7/6/34		

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
2880 Truss Spans Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Chicago WORKS
DESIGNED BY Anthony TRACED BY L.C.H. 6-11-34
CHECKED BY A.F.L. 6-22-34 TRACED BY A.N. 6-14-34
LAST ASSGD. NO.

CONTRACT 6063(1) SHEET G30C



BILL OF MATERIAL

ONE VERTICAL (L0-U0)-A9

1-Web ℞ 19 UM x 7/16 x 33'-9 3/4 F2E (ca) Ord. 33'-10 1/2 It.#518
1-∠ 8x4x5/8 x 33'-9 3/4 F2E {(cb) (cc) (cd) (cf)} Ord. 33'-10 1/2 It.#408
1-℞ 16 1/2 UM x 3/4 x 5'-0 1/4 F2E (cg)
1-℞ 16 1/2 UM x 3/4 x 4'-8 3/4 F2E (ch)
1-℞ 16 1/2 UM x 3/4 x 3'-6 1/4 F2E (ck)
1-℞ 24 3/4 UM x 7/16 x 4'-1 1/2 (cm30) 1-℞ 31'-5 Cuts 14 It.#506
2-Ls. 4x4x7/16 x 3'-1/8 (cn)^R_L
1-∠ 5x5x1/2 x 2'-7 1/2 (cs)^R bent.
1-∠ 5x5x1/2 x 2'-7 1/2 (ct)^R bent.
1-℞ 16 1/2 F2W x 3/8 x 2'-6 1/4 (cv)
1-∠ 4x3 1/2 x 3/8 x 1'-4 1/4 (cw)
1-∠ 6x4x1/2 x 1'-3 3/4 (cy)
1-∠ 4x3x3/8 x 0'-7 (caa)
1-∠ 4x3 1/2 x 3/8 x 1'-7 1/2 (cab)^R

ONE VERTICAL (L8-U8)-A9

1-Web ℞ (ca)
1-∠ 8x4x5/8 x 33'-9 3/4 F2E {(cac) (cad) (caf) (cag)} Ord. 33'-10 1/2 It.#408
1-℞ 16 1/2 UM x 3/4 x 5'-8 1/4 F2E (cah)
1-℞ 16 1/2 UM x 3/4 x 4'-8 3/4 F2E (cak)
1-℞ (ck)
1-∠ (caa)

ONE VERTICAL (L0-U0)-A10

1-Web ℞ (ca)
1-∠ 8x4x5/8 x 33'-9 3/4 F2E {(cam) (cap) (cas)^R (cas)^L} Ord 33'-10 1/2 It.#408
1-℞ (cah)
1-℞ (cak)
1-℞ (ck)

ONE VERTICAL (L8-U8)-A10

1-Web ℞ (ca)
1-∠ 8x4x5/8 x 33'-9 3/4 F2E {(cat)^R (cat)^L (cas)^R (cas)^L} Ord. 33'-10 1/2 It.#408
1-℞ (cah)
1-℞ (cak)
1-℞ (ck)
1-℞ (cm30)
2-Ls (cp)^R_L
1-∠ (ct)^L
1-∠ (cs)^L

BILL OF MATERIAL

ONE VERTICAL (L0-U0) B9

1-Web ℞ 19 UM x 7/16 x 33'-9 3/4 F2E (cau) Ord. 33'-10 1/2 It.#518
1-∠ 8x4x5/8 x 33'-9 3/4 F2E {(caw) (cay) (cba) (cbb)} Ord.# 33'-10 1/2 It.#408
1-℞ (cg)
1-℞ (ch)
1-℞ 16 1/2 UM x 3/4 x 2'-6 3/4 F2E (cbc)
1-℞ 24 3/4 UM x 7/16 x 4'-1 1/2 (cn30) 1-℞ 31'-5 cuts 14 It.#506
2-Ls. 4x4x7/16 x 2'-11 3/4 (cbd30)
1-∠ 5x5x1/2 x 2'-6 1/2 (cbf)^R bent
1-∠ 5x5x1/2 x 2'-6 1/2 (cbg)^R bent
1-℞ 20 F2W x 3/8 x 2'-6 1/2 (cbh)
1-∠ 6x4x1/2 x 1'-7 1/2 (cbk)
1-∠ (caa)
1-∠ (cab)^L

ONE VERTICAL (L8-U8) B9

1-Web ℞ 19 UM x 7/16 x 33'-9 3/4 F2E (cbm) Ord 33'-10 1/2 It.#518
1-∠ 8x4x5/8 x 33'-9 3/4 F'_ {(cbp) (cbs) (cbt) (cby)} Ord. 33'-10 1/2 It.#408
1-℞ (cah)
1-℞ (cak)
1-℞ (cbc)
1-℞ (cn30)
2-Ls 4x4x7/16 x 3'-0 3/8 (cbw30)^R_L
1-∠ 6x5x1/2 x 2'-6 1/2 (cby)^R bent (cut 6x6∠)
1-∠ 6x5x1/2 x 2'-6 1/2 (cca)^R bent (cut 6x6∠)
1-Bevel Fill 12-UM x 1 7/8 x 2 3/4 (F15) x 1'-4 1/2 (ccb)
1-Bent ℞ 23 3/16 (F2W) x 3/8 x 2'-0 1/8 (ccc) Bent
4-Ls. 4x3 1/2 x 3/8 x 1'-5 1/2 (ccd)
4-Fills 4 UM x 3/8 x 0'-11 (ccf)
2-℞s. 10 1/2 x UM x 1/2 x 1'-5 1/2 (ccg)
2-℞s. 13 1/2 F2W x 3/8 x 1'-5 1/2 (cch)
1-∠ 6x4x1/2 x 0'-6 5/8 (cck)
1-℞ 6 5/8 x 1/2 x 1'-1 5/8 (ccm) Bent
2-Fills 4 UM x 5/8 x 0'-7 1/4 (ccp)
1-∠ (caa)

ONE VERTICAL (L8-U8)-B10

1-Web ℞ (cau)
1-∠ 8x4x5/8 x 33'-9 3/4 F2E {(cdk)^R (cdk)^L (cds) (cdm)} Ord. 33'-10 1/2 It.#408
1-℞ (cah)
1-℞ (cak)
1-℞ (cbc)
1-℞ (cn30)
2Ls (cbd30)
1-∠ (cbg)^L
1-∠ (cbf)^L
6-Bars 3 1/2 UM x 3/8 x 1'-9 1/2 (cdp) bent.
6-Perm. bolts 1"φ x 2 1/2" Sq. Hd. & Hex. Nut.
3-Perm. bolts 7/8"φ x 2 1/2" Sq. Hd & Hex Nut.

SHOP NOTE:
See required list for pieces opposite hand to sketch.

BILL OF MATERIAL

ONE VERTICAL (L0-U0) B10

1-Web ℞ 19 UM x 7/16 x 33'-9 3/4 F2E (ccs) Ord. 33'-10 1/2 It.#518
1-∠ 8x4x5/8 x 33'-9 3/4 F2E {(cct) (ccv) (ccw)^R (ccw)^L} Ord. 33'-10 1/2 It.#408
1-℞ (cah)
1-℞ (cak)
1-℞ (cbc)
1-℞ (cn30)
2-Ls 4x4x7/16 x 3'-0 3/4 (ccy30)^R_L
1-∠ (cca)^R
1-∠ (cby)^R
1-Bevel Fill 12 UM x 2 3/8 x 3 1/4 (F15) x 1'-4 1/2 (cda)
4-Ls 4x3 1/2 x 3/8 x 1'-5 1/2 (cdb) bolt.
2-℞s. 10 1/2 UM x 1/2 x 1'-5 1/2 (cdc)
2-℞s 10 1/2 UM x 1/2 x 1'-5 1/2 (cdd)
2-Fills 11 UM x 5/8 x 1'-7 3/8 (cdf)
1-∠ 6x4x1/2 x 0'-6 5/8 (cdg)
1-∠ 6x4x1/2 x 0'-6 5/8 x (cdh)
2-Fills (ccp)

NOTE "A"
Holes for shop or field rivets or bolts in all detail material used for Walk, Skid Girder, Ladder or Drainage connections may be punched full size.
Particular care must be taken to hold to all dimensions given for Walkway & Skid Girder Connections. Dimensions locating such connections have been marked "Maintain."

NOTE "B"
All holes for connections of Verticals to Top & Bottom Chords to be reamed or drilled to size either with truss members assembled or thru Metal Jigs. Holes marked "GRT" to be reamed or drilled to size thru a Steel Templet.

Work Sheets G30AC, G30BC & G30CC together as one sheet.
Work this sheet with Sheets G31, G32, G33 & G34

Span #9	Span #10	Total No.	Description	Mark	Remarks	Weight each Tons
One		One	End Vertical	(L0-U0)A9	As Shown	
One		One	" "	(L8-U8)A9	" "	
	One	One	" "	(L0-U0)A10	Opp.hd. to sketch	
	One	One	" "	(L8-U8)A10	As Shown	
One		One	" "	(L0-U0)B9	" "	
One		One	" "	(L8-U8) B9	" "	
	One	One	" "	(L0-U0) B10	Opp.hd. to Sketch	
	One	One	" "	(L8-U8)B10	As Shown.	
Req'd. By Spans.		REQUIRED LIST				

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M Bailey
RIVETS: 1"φ Unless Noted
OPEN HOLES: 1 1/16"φ Unless Noted.
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly. Also see Notes "A" & "B"
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
SHOP PAINT:- None; except one coat "Acid Resisting Liquid" to milled ends of members; to contact surfaces of parts shop bolted for shipment, except where loose ends of partially rivited material are bolted down for shipment, and to surfaces of riveted parts not readily accessable for sand blasting.

Date	Revision	App'd

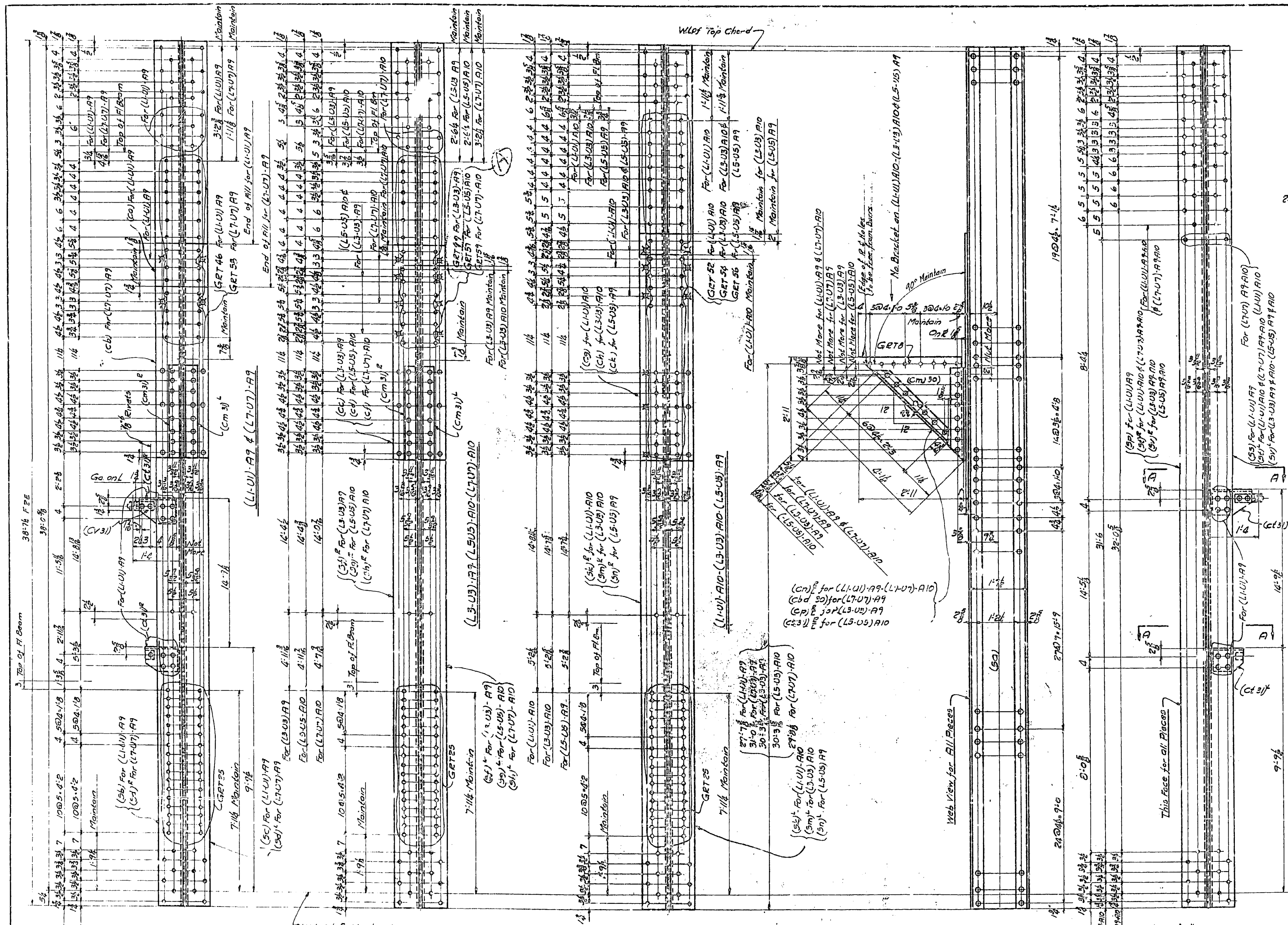
APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 7/6/34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Chicago WORKS
IN CHARGE Anthony MADE BY L.O.H. 6-12-34
CHECKED BY A.F.L. 6-22-34 TRACED BY V.E.A. 6-15-34
LAST ASSEM. MK. (cdu)

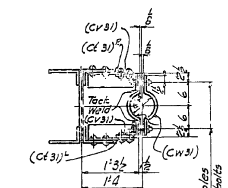
CONTRACT CG1500I SHEET G 30CC

30-1



Bill of Material for One Vertical

1-Web ℙ. 19 UM x 7/16 x 38'-7¼ F2E (sa) Ord. 38'-8 It.# 385
1-L 8 x 4 x 5/8 x 38'-7¼ F2E Ord. 38'-8 It.# 298 {(sb) For (L1-U1)-A9; (sc) For (L1-U1)-A9}
2-Ls. 8 x 4 x 5/8 x 38'-7¼ F2E Ord. 38'-8 It.# 298 {(sd)℞ For (L7-U7) A9; (sf)℞ For (L3-U3) A9; (sg)℞ For (L5-U5) A10; (sh)℞ For (L7-U7)-A10; (sk)℞ For (L1-U1)-A10; (sm)℞ For (L3-U3) A10; (sr)℞ For (L5-U5) A9}
1-L 8 x 4 x 5/8 x 38'-7¼ F2E Ord. 38'-8 It.# 298 {(sp) For (L1-U1)-A9; (ss) For (L1-U1)-A9}
2-Ls. 8 x 4 x 5/8 x 38'-7¼ F2E Ord. 38'-8 It.# 298 {(st)℞ For (L1-U1) A10 & (L7-U7) A9 & A10; (sv)℞ For (L3-U3) A9 & A10-(L5-U5) A9 & A10}
1-Fill-16½ UM x ¾ x 6'-0 5/8 F2E (ca) For (L1-U1)-A9
1-Fill-16½ UM x ¾ x 4'-8 F2E (cb) For (L7-U7)-A9
1-Fill-16½ UM x ¾ x 5'-11 3/16 F2E (cc) For (L3-U3)-A9
1-Fill-16½ UM x ¾ x 5'-11 1/16 F2E (cd) For (L5-U5)-A10
1-Fill-16½ UM x ¾ x 6'-0 1/8 F2E (cf) For (L7-U7) A10
1-Fill-16½ UM x ¾ x 4'-9 9/16 F2E (cg) For (L1-U1) A10
1-Fill-16½ UM x ¾ x 5'-4 15/16 F2E (ch) For (L3-U3) A10
1-Fill-16½ UM x ¾ x 5'-4¼ F2E (ck) For (L5-U5) A9
1-ℙ.-24¾ UM x 7/16 x 4'-1½ (cm30) (31'-5 cuts 14) For (L1-U1)-A9 (L7-U7) A9 & A10 (L3-U3)-A9 (L5-U5) A10
2-Ls. 5 x 5 x ½ x 2'-7½ (cm31)℞ For (L1-U1) A9 (L7-U7) A9 & A10 (L3-U3) A9 (L5-U5) A10
2-Ls. 4 x 4 x 7/16 x 3'-1 1/16 (cn)℞ For (L1-U1) A9 (L7-U7) A10
2-Ls. 4 x 4 x 7/16 x 2'-11 3/4 (cbd30) For (L7-U7) A9
2-Ls. 4 x 4 x 7/16 x 3'-0 9/16 (cp)℞ For (L3-U3)-A9
2-Ls. 4 x 4 x 7/16 x 3'-0¼ (cs31)℞ For (L5-U5) A10
4-Ls. 8 x 4 x ½ x 1'-1¼ (ct31℞) } For (L1-U1) A9
4-Ls. 6 x 4 x 3/8 x 0'-3½ (cv31) (Weld) }
4-Bars 3½ UM x 3/8 x 14 5/8 (bent) (cw31) }
4-Bolts 7/8"ϕ x 2" Sq. Hd. & Hex. Nut. }



SECTION-A-A-
For (L1-U1)-A9

One		One	Truss Vertical	(L1-U1) A9	As Shown	
	One	One	" "	(L1-U1) A10	" "	
One		One	" "	(L3-U3) A9	" "	
	One	One	" "	(L3-U3) A10	" "	
One		One	" "	(L5-U5) A9	" "	
	One	One	" "	(L5-U5) A10	" "	
One		One	" "	(L7-U7) A9	" "	
	One	One	" "	(L7-U7) A10	" "	
Span #9	Span #10	Total No	Description	Mark	Remarks	Weight each Tons
Required By Spans		REQUIRED LIST				

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 1"ϕ Unless Noted
OPEN HOLES: 1 1/8"ϕ Unless Noted
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in other material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly. Also see Note "A" & "B"
DRILLING: Holes in material over ¾" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
PAINT:- See Note.

PAINT NOTE:-
One Coat "Acid Resisting Liquid" to Milled Ends of Members; to Contact Surfaces of Parts bolted and to Surfaces of Riveted Parts not readily accessible for Sand blasting.

NOTE:- "A"
Holes for Shop Rivets or Bolts in all detail material Used for Drainage Connections may be punched full size.

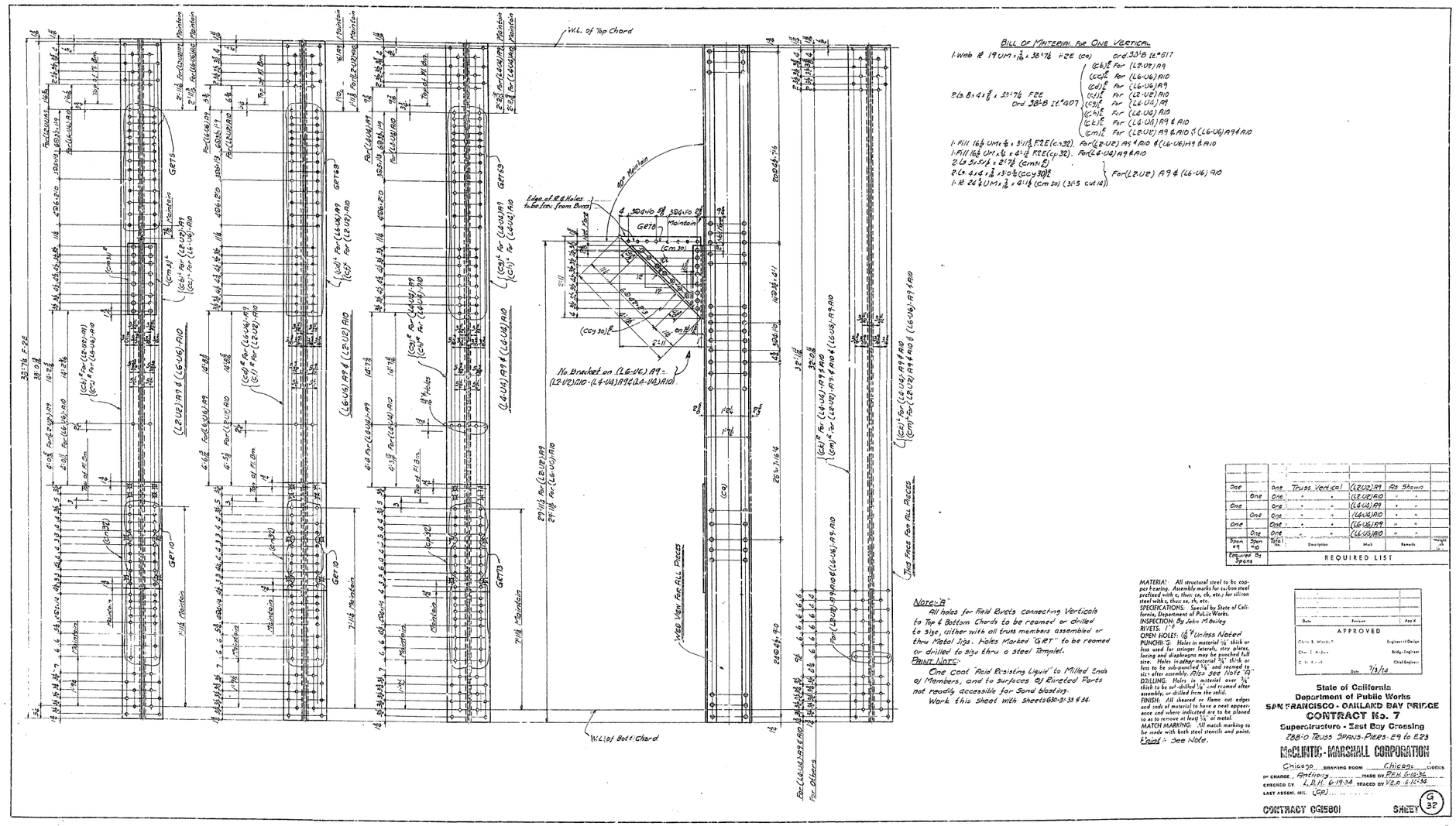
Note "B"
All holes for Field Rivets Connecting Verticals to Top or Bott. Chords to be reamed or drilled to size, either with all Truss Members assembled or thru Metal Jigs.

Holes Marked "GRT" to be reamed or drilled to size thru a steel Templet.
Work this Sheet with Sheets G3c-32-33-34.

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 7/6/34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Chicago WORKS
IN CHARGE Anthony MADE BY P.F.H. 6-12-34
CHECKED BY I. D.H. 6-18-34 TRACED BY V.E.A. 6-13-34
LAST ASSEM. MK. (CW) (SY)
CONTRACT CG15801 SHEET G 31


W.L. of Top Chord
W.L. of Bot. Chord
Web View For ALL Pieces
Top Face For ALL Pieces
Edge of R & Holes to be Ferm. from Brace
No Bracket on (L6-U6) A9 = (L2-U2) A10 - (L4-U4) A9 & (L2-U2) A10
Maintain
GET 10
GET 9
GET 8
GET 7
GET 6
GET 5
GET 4
GET 3
(Cm 32)
(Cm 30)
(Cg)
(Cy)
For (L2-U2) A9 & (L6-U6) A10
For (L4-U4) A9 & (L2-U2) A10
For (L4-U4) A9 & (L4-U4) A10
For (L2-U2) A9 & (L4-U4) A10
For (L4-U4) A9 & (L6-U6) A10
For (L2-U2) A9 & (L6-U6) A10
For Others
Top of Fl. Sm.
Top of Fl. Bm.
7 1/8 Maintain
2 1/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
2 3/16 For (L4-U4) A9
2 1/8 For (L4-U4) A10
2 5/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
2 3/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
2 7/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
2 1/2 For (L4-U4) A9
2 1/8 For (L4-U4) A10
2 9/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
2 5/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
2 11/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
2 3/4 For (L4-U4) A9
2 1/8 For (L4-U4) A10
2 13/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
2 7/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
2 15/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
3 For (L4-U4) A9
2 1/8 For (L4-U4) A10
3 1/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
3 1/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
3 3/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
3 1/4 For (L4-U4) A9
2 1/8 For (L4-U4) A10
3 5/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
3 3/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
3 7/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
3 1/2 For (L4-U4) A9
2 1/8 For (L4-U4) A10
3 9/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
3 5/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
3 11/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
3 3/4 For (L4-U4) A9
2 1/8 For (L4-U4) A10
3 13/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
3 7/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
3 15/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
4 For (L4-U4) A9
2 1/8 For (L4-U4) A10
4 1/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
4 1/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
4 3/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
4 1/4 For (L4-U4) A9
2 1/8 For (L4-U4) A10
4 5/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
4 3/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
4 7/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
4 1/2 For (L4-U4) A9
2 1/8 For (L4-U4) A10
4 9/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
4 5/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
4 11/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
4 3/4 For (L4-U4) A9
2 1/8 For (L4-U4) A10
4 13/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
4 7/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
4 15/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
5 For (L4-U4) A9
2 1/8 For (L4-U4) A10
5 1/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
5 1/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
5 3/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
5 1/4 For (L4-U4) A9
2 1/8 For (L4-U4) A10
5 5/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
5 3/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
5 7/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
5 1/2 For (L4-U4) A9
2 1/8 For (L4-U4) A10
5 9/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
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5 3/4 For (L4-U4) A9
2 1/8 For (L4-U4) A10
5 13/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
5 7/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
5 15/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
6 For (L4-U4) A9
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6 1/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
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6 1/4 For (L4-U4) A9
2 1/8 For (L4-U4) A10
6 5/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
6 3/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
6 7/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
6 1/2 For (L4-U4) A9
2 1/8 For (L4-U4) A10
6 9/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
6 5/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
6 11/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
6 3/4 For (L4-U4) A9
2 1/8 For (L4-U4) A10
6 13/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
6 7/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
6 15/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
7 For (L4-U4) A9
2 1/8 For (L4-U4) A10
7 1/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
7 1/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
7 3/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
7 1/4 For (L4-U4) A9
2 1/8 For (L4-U4) A10
7 5/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
7 3/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
7 7/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
7 1/2 For (L4-U4) A9
2 1/8 For (L4-U4) A10
7 9/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
7 5/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
7 11/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
7 3/4 For (L4-U4) A9
2 1/8 For (L4-U4) A10
7 13/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
7 7/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
7 15/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
8 For (L4-U4) A9
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2 1/8 For (L6-U6) A10
8 1/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
8 3/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
8 1/4 For (L4-U4) A9
2 1/8 For (L4-U4) A10
8 5/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
8 3/8 For (L4-U4) A9
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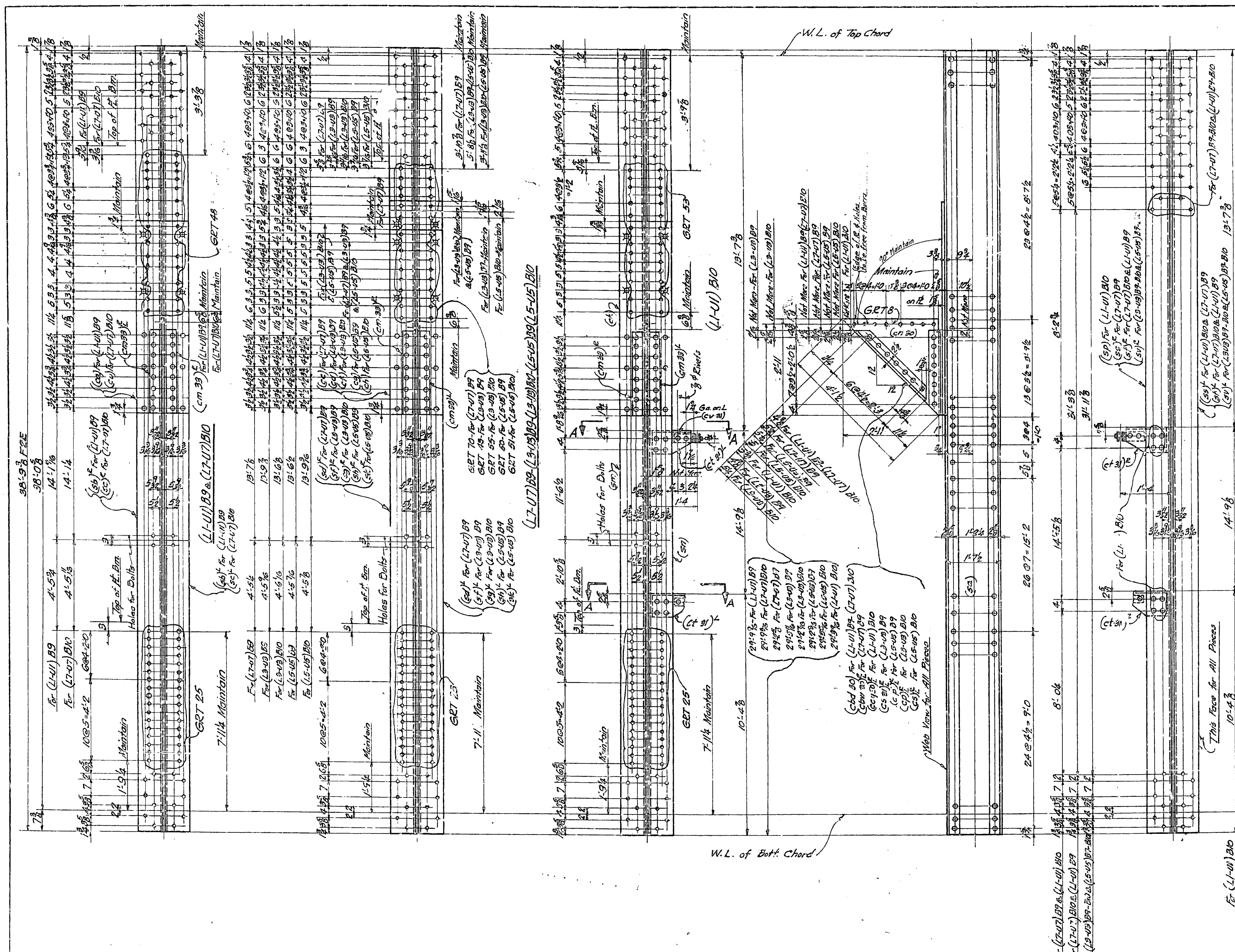
2 1/8 For (L6-U6) A10
24 1/2 For (L4-U4) A9
2 1/8 For (L4-U4) A10
24 9/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
24 5/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
24 11/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
24 3/4 For (L4-U4) A9
2 1/8 For (L4-U4) A10
24 13/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
24 7/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
24 15/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
25 For (L4-U4) A9
2 1/8 For (L4-U4) A10
25 1/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
25 1/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
25 3/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
25 1/4 For (L4-U4) A9
2 1/8 For (L4-U4) A10
25 5/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
25 3/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
25 7/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
25 1/2 For (L4-U4) A9
2 1/8 For (L4-U4) A10
25 9/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
25 5/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
25 11/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
25 3/4 For (L4-U4) A9
2 1/8 For (L4-U4) A10
25 13/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
25 7/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
25 15/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
26 For (L4-U4) A9
2 1/8 For (L4-U4) A10
26 1/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
26 1/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
26 3/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
26 1/4 For (L4-U4) A9
2 1/8 For (L4-U4) A10
26 5/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
26 3/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
26 7/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
26 1/2 For (L4-U4) A9
2 1/8 For (L4-U4) A10
26 9/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
26 5/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
26 11/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
26 3/4 For (L4-U4) A9
2 1/8 For (L4-U4) A10
26 13/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
26 7/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
26 15/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
27 For (L4-U4) A9
2 1/8 For (L4-U4) A10
27 1/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
27 1/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
27 3/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
27 1/4 For (L4-U4) A9
2 1/8 For (L4-U4) A10
27 5/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
27 3/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
27 7/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
27 1/2 For (L4-U4) A9
2 1/8 For (L4-U4) A10
27 9/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
27 5/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
27 11/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
27 3/4 For (L4-U4) A9
2 1/8 For (L4-U4) A10
27 13/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
27 7/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
27 15/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
28 For (L4-U4) A9
2 1/8 For (L4-U4) A10
28 1/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
28 1/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
28 3/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
28 1/4 For (L4-U4) A9
2 1/8 For (L4-U4) A10
28 5/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
28 3/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
28 7/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
28 1/2 For (L4-U4) A9
2 1/8 For (L4-U4) A10
28 9/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
28 5/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
28 11/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
28 3/4 For (L4-U4) A9
2 1/8 For (L4-U4) A10
28 13/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
28 7/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
28 15/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
29 For (L4-U4) A9
2 1/8 For (L4-U4) A10
29 1/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
29 1/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
29 3/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
29 1/4 For (L4-U4) A9
2 1/8 For (L4-U4) A10
29 5/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
29 3/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
29 7/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
29 1/2 For (L4-U4) A9
2 1/8 For (L4-U4) A10
29 9/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
29 5/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
29 11/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
29 3/4 For (L4-U4) A9
2 1/8 For (L4-U4) A10
29 13/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
29 7/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
29 15/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
30 For (L4-U4) A9
2 1/8 For (L4-U4) A10
30 1/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
30 1/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
30 3/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
30 1/4 For (L4-U4) A9
2 1/8 For (L4-U4) A10
30 5/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
30 3/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
30 7/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
30 1/2 For (L4-U4) A9
2 1/8 For (L4-U4) A10
30 9/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
30 5/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
30 11/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
30 3/4 For (L4-U4) A9
2 1/8 For (L4-U4) A10
30 13/16 For (L2-U2) A9
2 1/8 For (L6-U6) A10
30 7/8 For (L4-U4) A9
2 1/8 For (L4-U4) A10
30 15/16 For (L2-U2) A9
2

30-1



Bill of Material for one Vertical

1-Web Pl 19UMX 7/16 x 38'-9 3/8 F2E (sa) Ord. 38'-10 1/4 It. #384

2-Ls 8x4x5/8 x 38'-9 3/8 F2E Ord. 38'-10 1/4 It# 297
- (sb) R/L For (L1-U1) B9
- (sc) R/L For (L7-U7) B10
- (sd) R/L For (L7-U7) B9
- (sf) R/L For (L3-U3) B9
- (sg) R/L For (L3-U3) B10
- (sh) R/L For (L5-U5) B9
- (sk) R/L For (L5-U5) B10

1-L 8x4x5/8 x 38'-9 3/8 F2E Ord. 38'-10 1/4 It# 297
- (sm) For (L1-U1) B10
- (sn) For (L1-U1) B10
- (sp) For (L1-U1) B10
- (ss) L For (L1-U1) B10

2-Ls 8x4x5/8 x 38'-9 3/8 F2E Ord. 38'-10 1/4 It# 297
- (ss) R/L For (L7-U7) B9
- (st) R/L For (L7-U7) B10 & (L1-U1) B9
- (sv) R/L For (L3-U3) B9-B10 & (L5-U5) B9-B10

1-Fill-16 1/2 UM x 3/4 x 5'-11 1/16 F2E (ca) For (L1-U1) B9
1-Fill-16 1/2 UM x 3/4 x 5'-11 7/16 F2E (cb) For (L7-U7) B10
1-Fill-16 1/2 UM x 3/4 x 6'-6 1/2 F2E (cc) For (L7-U7) B9
1-Fill-16 1/2 UM x 3/4 x 6'-11 7/16 F2E (cd) For (L3-U3) B9
1-Fill-16 1/2 UM x 3/4 x 7'-2 1/16 F2E (cf) For (L3-U3) B10
1-Fill-16 1/2 UM x 3/4 x 7'-2 15/16 F2E (cg) For (L5-U5) B9
1-Fill-16 1/2 UM x 3/4 x 6'-11 9/16 F2E (ch) For (L5-U5) B10
1-Fill-16 1/2 UM x 3/4 x 6'-5 9/16 F2E (ck) For (L1-U1) B10
1-Pl 24 3/4 UM x 7/16 x 4'-1 1/2 (cn 30) (29'-2 cuts 13)
2-Ls 5x5x1/2 x 2'-6 1/2 (cm 33) R/L
2-Ls 4x4x7/16 x 2'-11 3/4 (cbd 30) For (L1-U1) B9-(L7-U7) B10
2-Ls 4x4x7/16 x 3'-0 7/8 (cbw 30) R/L For (L7-U7) B9
2-Ls 4x4x7/16 x 3'-0 3/4 (ccy) 30) R/L For (L1-U1) B10
2-Ls 4x4x7/16 x 3'-0 1/4 (cs 31) R/L For (L3-U3) B9

2-Ls 4x4x7/16 x 3'-0 5/8 (cp) R/L For (L3-U3) B10 & (L5-U5) B9
2-Ls 4x4x7/16 x 3'-0 3/8 (cs) R/L For (L5-U5) B10
4-Ls 8x4x1/2 x 1'-1 1/4 (ct 31) R/L } For (L1-U1) B10
4-Ls 6x4x5/8 x 0'-3 1/2 (cv 31) Weld } For (L1-U1) B10
4-Bars 3 1/2 UM x 3/8 x 1'-5 1/2 (bent) (cw 31) } For (L1-U1) B10
4-Bolts 7/8 ø x 2 Sq. Hd. & Hex. Nut } For (L1-U1) B10

Note:- "A"
Holes for shop Rivets or Bolts in all detail material used for Drainage Connections may be punched full size.

Note:- "B"
All holes for Field Rivets connecting Verticals to Top or Bott. Chords to be reamed or drilled to size, either with all Truss Members assembled or thru Metal Jigs.
Holes Marked "GRT" to be reamed or drilled to size thru a steel Templet.
Work this sheet with sheets G 30-31-32-34.
Sect:- A-A Same as Sect:- A-A for (L1-U1) B9 on sheet # G 31

Span #9	Span #10	Total No.	Description	Mark	Remarks	Weight each Tons
One		One	Truss Vertical	(L1-U1) B9	As Shown	
	One	One	do.	(L1-U1) B10	do.	
One		One	do.	(L3-U3) B9	do.	
	One	One	do.	(L3-U3) B10	do.	
One		One	do.	(L5-U5) B9	do.	
	One	One	do.	(L5-U5) B10	do.	
One		One	do.	(L7-U7) B9	do.	
	One	One	do.	(L7-U7) B10	do.	
Required by Spans		REQUIRED LIST				

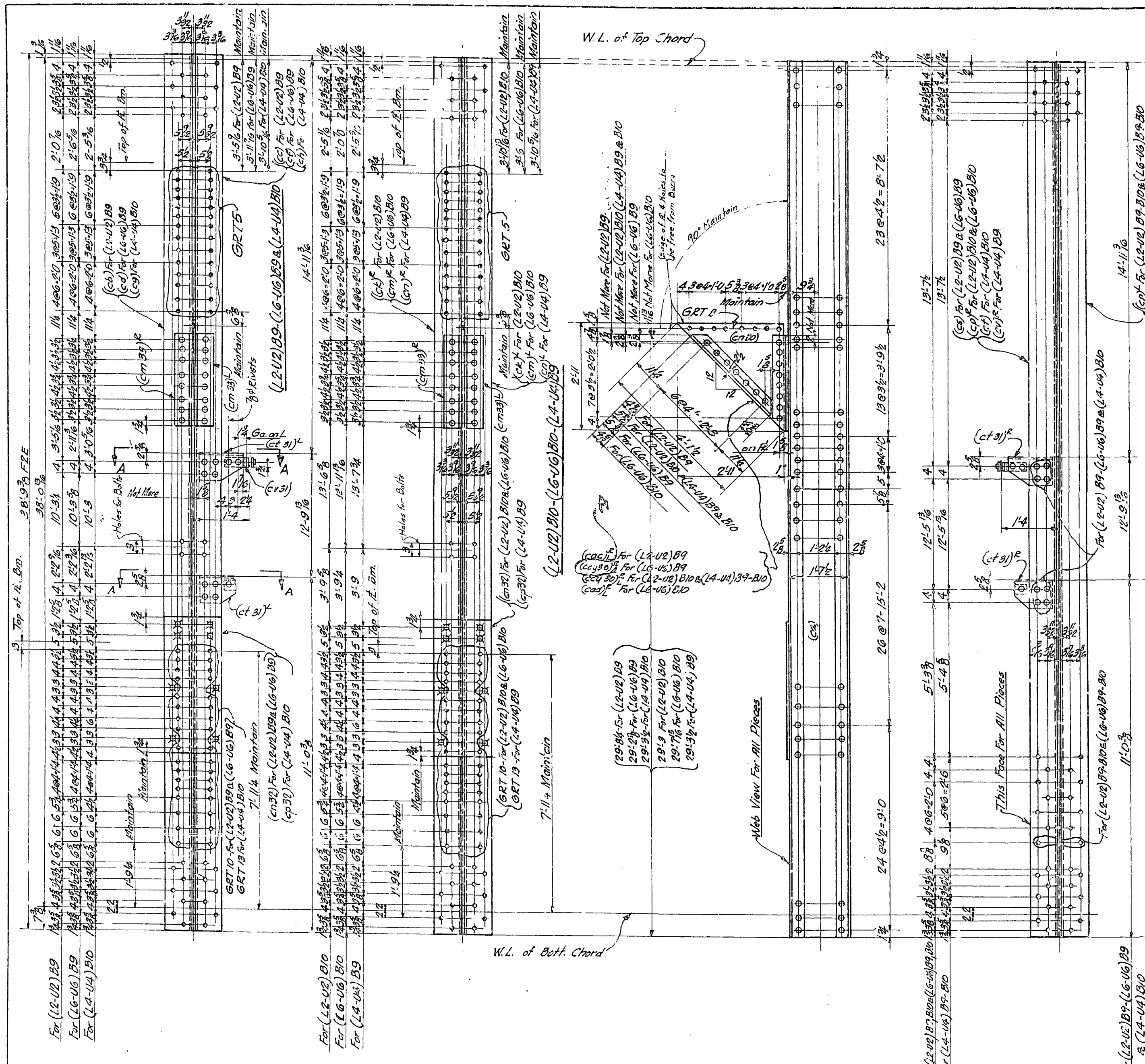
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 1" ø Unless Noted
OPEN HOLES: 1 1/16 ø Unless Noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in other material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly. Also see Note "A" & "B"
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
Paint Note:-
One coat "Acid Resisting Liquid" to Milled Ends of Members; to contact Surfaces of Parts bolted and to Surfaces of Riveted Parts not readily accessible for sand blasting.

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 7/3/34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E 9 to E 23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM - Chicago WORKS
IN CHARGE Anthony MADE BY P.F.H. 6-15-34
CHECKED BY L.D.H. 6-20-34 TRACED BY A.H. 6-18-34
LAST ASSEM. MK. (sv) (cs)

CONTRACT C615C01 SHEET G 33



BILL OF MATERIAL FOR ONE VERTICAL

1-Wst. Pl. 19 UM × 7/16 × 38'-9 3/8 F2E (ca) Ord. 38'-10 1/4 It.#516

1-L 8 × 4 × 5/8 × 38'-9 3/8 F2E Ord. 38'-10 1/4 It# 406
- (cb) For (L2-U2) B9
- (cc) For (L2-U2) B9
- (cd) For (L6-U6) B9
- (cf) For (L6-U6) B9
- (cg) For (L4-U4) B10
- (ch) For (L4-U4) B10

2-Ls 8 × 4 × 5/8 × 38'-9 3/8 F2E Ord. 38'-10 1/4 It# 406
- (ck) R/L For (L2-U2) B10
- (cm) R/L For (L6-U6) B10
- (cn) R/L For (L4-U4) B9
- (cp) R/L For (L2-U2) B10 & (L6-U6) B10

1-L 8 × 4 × 5/8 × 38'-9 3/8 F2E Ord. 38'-10 1/4 It# 406
- (cp) L For (L2-U2) B9 & (L6-U6) B9
- (cs) For (L2-U2) B9 & (L6-U6) B9
- (ct) For (L4-U4) B10

2-Ls 8 × 4 × 5/8 × 38'-9 3/8 F2E Ord. 38'-10 1/4 It.#406 (cv) R/L For (L4-U4) B9

1-L 8 × 4 × 5/8 × 38'-9 3/8 F2E Ord. 38'-10 1/4 It. 406 (cv) L - For (L4-U4) B10

1-Fill 16 1/2 UM × 3/4 × 3'-11 3/4 F2E (cn32) For (L2-U2) B9-B10 & (L6-U6) B9-B10

1-Fill 16 1/2 UM × 3/4 × 4'-1 1/2 F2E (cp32) For (L4-U4) B9 B10

2-Ls 5 × 5 × 1/2 × 2'-6 1/2 (cm 33) R/L

2-Ls 4 × 4 × 7/16 × 3'-0 1/16 (cac) R/L For (L2-U2) B9

2-Ls 4 × 4 × 7/16 × 3'-0 3/4 (ccy 30) R/L For (L2-U2) B10 - (L4-U4) B9-B10 & (L6-U6) B9

2-Ls 4 × 4 × 7/16 × 3'-0 (cad) R/L For (L6-U6) B10

Pl - 24 3/4 UM × 7/16 × 4'-1 1/2 (cn 30) (31'-5 cuts 14 & 29'-2 cts. 13)

4-Ls 8 × 4 × 1/2 × 1'-1 1/4 (ct 31) R/L
4-Ls 6 × 4 × 3/8 × 0'-3 1/2 (cv 31) (weld)
4 Bars 3 1/2 UM × 3/8 × 1'-6 1/2 (bent) (cw 31)
4 Bolts 7/8 φ × 2 Sq. Hd. & Hex. Nut
} For (L2-U2) B9 (L6-U6) B9 & (L4-U4) B10

Note:- "A"
Holes for shop rivets or Bolts in all detail material used for Drainage Connections may be punched full size.

Note "B"
All holes for Field Rivets Connecting Verticals to Top or Bott. Chords to be reamed or drilled to size either with all Truss Members assembled or thru Metal Jigs.
Holes Marked "GRT" to be reamed or drilled to size thru a steel Templet.
Work this sheet with sheets G30-31-32-33.
Sect.-A-A Same as Sect-A-A for (L1-U1) A9 on sheet # G31

Span #9	Span #10	Total No.	Description	Mark	Remarks	Weight each Tons
One		One	Truss Vertical	(L2-U2) B9	As shown	
	One	One	do.	(L2-U2) B10	do	
One		One	do.	(L4-U4) B9	do	
	One	One	do.	(L4-U4) B10	do	
One		One	do.	(L6-U6) B9	do	
	One	One	do.	(L6-U6) B10	do.	
Required by Spans		REQUIRED LIST				

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 1" φ Unless Noted
OPEN HOLES: 1 1/16 φ Unless Noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in other material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly. Also see Note "A" & "B"
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.

Paint Note:-
One Coat "Acid Resisting Liquid" to Milled Ends of Members; to Contact Surfaces of Parts bolted and to surfaces of Riveted Parts not readily accessible for sand-blasting.

Date	Revision	App'd

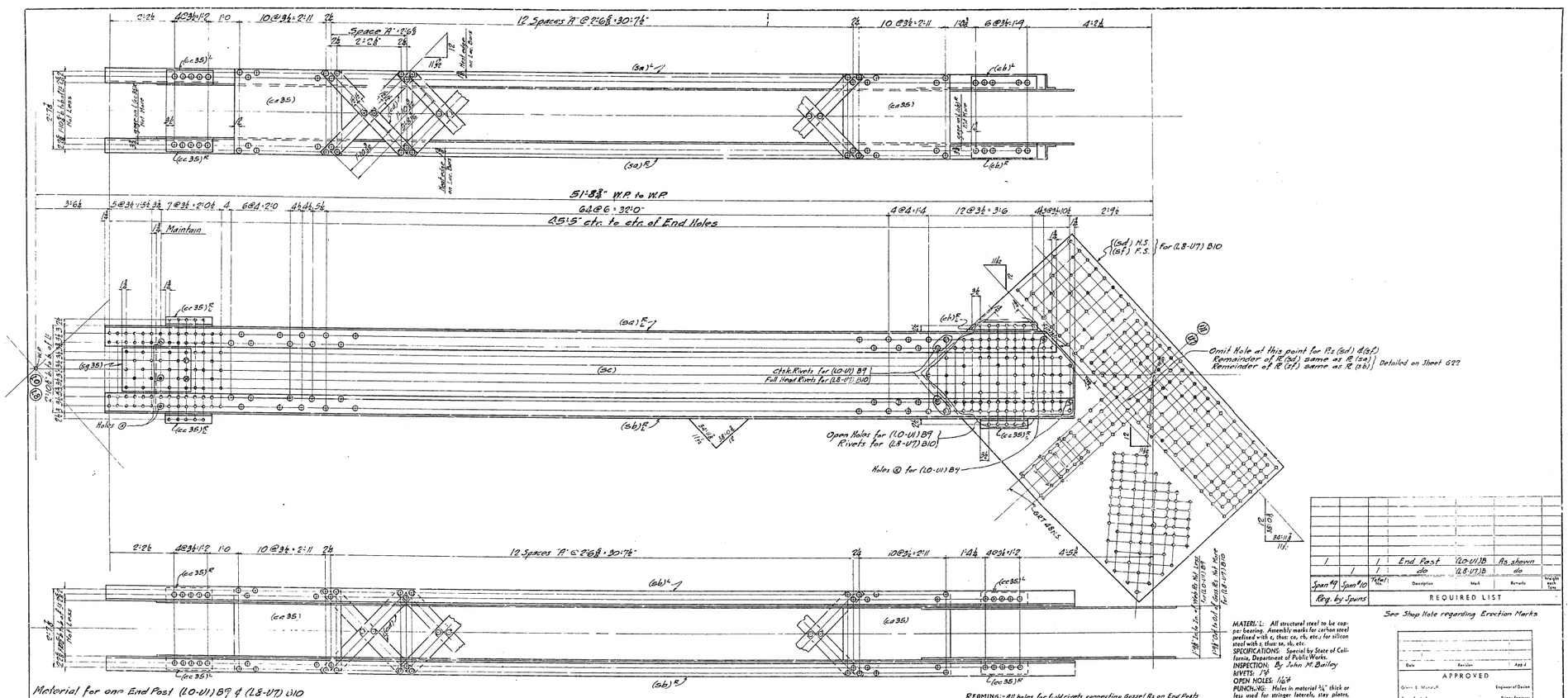
APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 7/6/34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans-Piers E9 to E23
McCLINTIC - MARSHALL CORPORATION

Chicago DRAWING ROOM Chicago WORKS
IN CHARGE Anthony MADE BY P.F.H. 6-18-34
CHECKED BY L.V.H. 6-22-34 TRACED BY A.H. 6-19-34
LAST ASSEM. MK. (cad)

CONTRACT C615801 SHEET G 34

30-1



Span No.	Span No.	Total No.	Description	Mark	Remarks	Weight each Item
		1	End Post	(LO-U1)B	As shown	
		1	do	(L8-U7)B	do	

Reg. by Spans — REQUIRED LIST

Material for one End Post (LO-U1) B9 & (L8-U7) B10

2-L5	8 x 6 x 13/16	x 45'-1¼" F2E	(sa) E	(Ord. 45'-2½") Tl. @ 287
2-L4	do	x 45'-8¾" F2E	(sb) E	10rd 45'-7¼") Tl @ 286 -
2-Web Rs	36 U/M x ⅜	x 43'-11¼" F2E	(sc)	(Ord. 44'-0") Tl @ 340 -
1-R	83 F2W x ⅞	x 10'-2¼" F2E	(sd)	R3 } For (L8-U7) B10
1-R	do		(sf)	F.S. }
2-Rs	18 U/M x ½	x 2'-4⅝" F2E	(sg)	35
3-Rs	35 U/M x 7/16	x 3'-7"	(c)	35
2-L5	6 x 4 x ½	x 2'-2½"	(cb)	E
6-L5	do	x 1'-7½"	(cc)	35 E
48-Lac. Bars	6 U/M x ⅝	x 4'-2⅜"	(cd)	(32'-8½" ends 8)

REAMING:- All holes for field rivets connecting Gusset Rs on End Posts to Top Chord are to be reamed or drilled 1/4 size with Gusset Rs assembled on Chords and Chords assembled. While Gusset Rs are assembled on Chords for reaming or drilling of Chord connection, all other holes in Gusset Rs for connection of End Posts or other web members are to be subpunched and reamed or drilled to size either thru metal jig or with Member assembled. All holes in End Posts for connection of Gusset Rs are also to be subpunched and reamed or drilled to size either thru metal jig or with Member assembled, and Gusset Rs shop riveted to End Post where called for on Drawing.
ERECTION MARKS:- Add Span Number as suffix to mark in table to become part of shipping mark thus: (LO-U1)B9-4, This complete mark to be the Erection Mark and to appear on D.F.P.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 1"ϕ
OPEN HOLES 1 1/16"ϕ
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched 3/16" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled 1/16" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
PAINT:- None See Note "A"
NOTE "A":- One coat Red Resisting Liquid to milled ends of members, to contact surfaces of parts shop bolted for shipment, except where loose ends of packing, rivet heads are called out for shipment; and to surfaces of riveted parts not readily accessible for rust abating.
SHOP BOLTS:- Shop bolt shipping bolts in Holes ⊕ and drive same up. Fight Bolts to be removed by Erector in field.

See Shop Note regarding Erection Marks

Date	Revision	Appd.

APPROVED

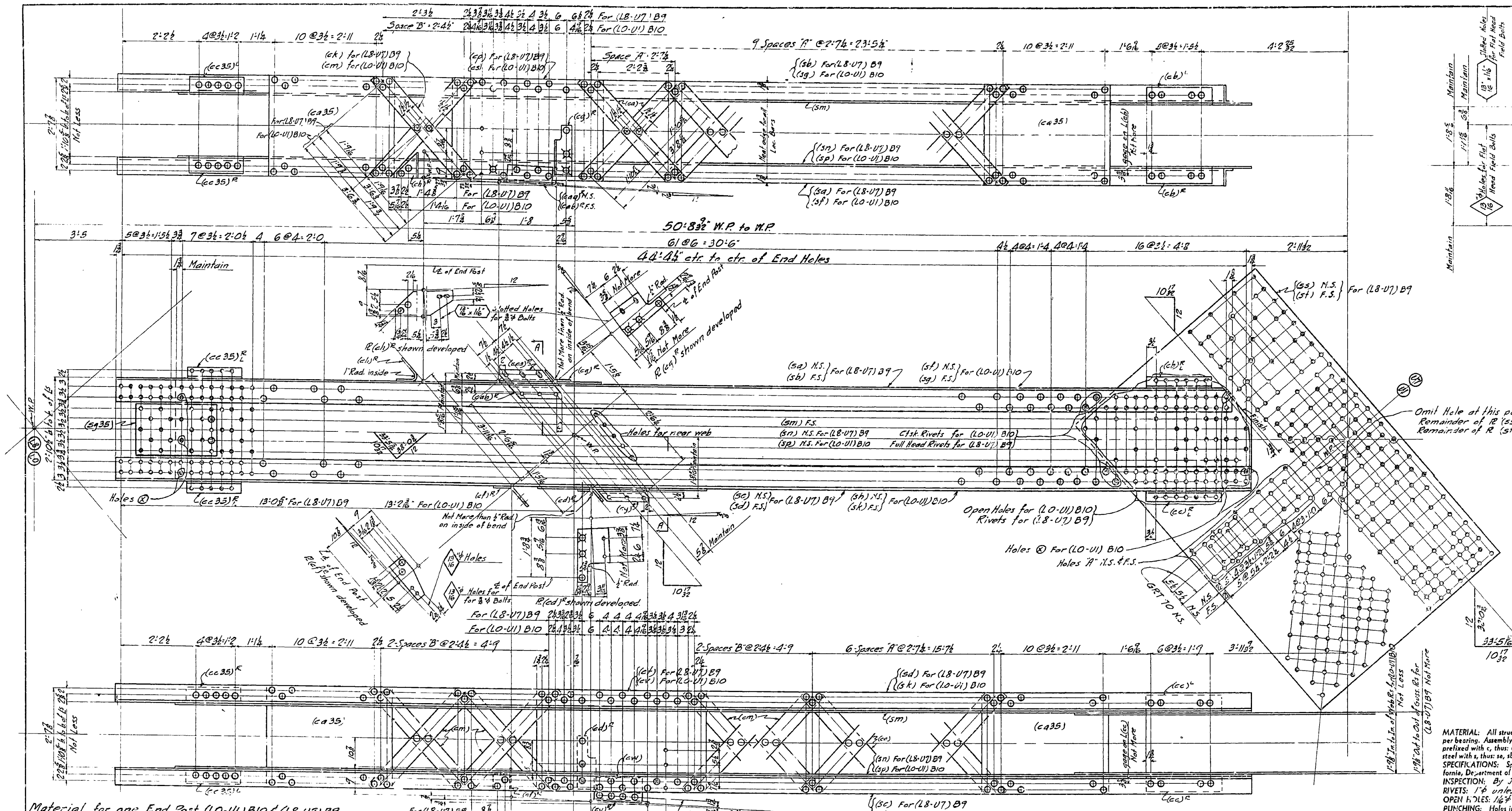
Glenn B. Woodruff — Engineer of Design
C. H. Purcell — Chief Engineer
Date 7-6-34

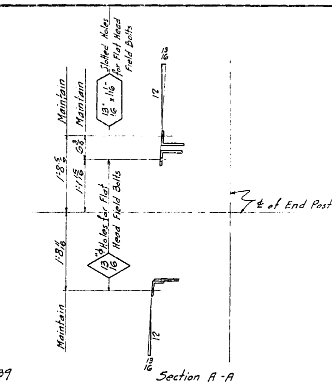
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0" Truss Spans - Piers E9 to E23
McCLINTIC - MARSHALL CORPORATION

Chicago DRAWING ROOS Chicago WORKS
IN CHARGE Anthony MADE BY Lukas
CHECKED BY A.F.L. 6-18-34 TRACED BY
LAST ASSEN. DR. (sg) & (cd)

CONTRACT 66/3001 SHEET 6/36

Work this Sheet with Sheets G36 & G37





1		1	End Post	(L8-U7) B	As shown	
	1	1	do	(L0-U1) B	Opp. hand of sketch	
Span #9	Span #10	Total No.	Description	Mark	Remarks	Weight each Tons
Req. by Spans		REQUIRED LIST				

See Shop Note regarding Erection Marks

Material for one End Post (L0-U1) B10 & (L8-U7) B9

1-L 8 x 6 x 13/16 x 44'-0¾ F2E (sa) (Ord. 44'-1½) It. #289 } For (L8-U7) B9
1-L do x 44'-0¾ F2E (sb) do
1-L do x 44'-7¾ F2E (sc) (Ord. 44'-8½) It. #288
1-L do x 44'-1¾ F2E (sd) do
1-L do x 44'-0¾ F2E (sf) (Ord. 44'-1½) It. #289 } For (L0-U1) B10
1-L do x 44'-0¾ F2E (sg) do
1-L do x 44'-7¾ F2E (sh) (Ord. 44'-8½) It. #288
1-L do x 44'-7¾ F2E (sk) do
1-Web R 34 UM x ¾ x 42'-10½ F2E (sm) (Ord. 42'-11¼) It. #341
1- do (sn) do For (L8-U7) B9
1- do (sp) do For (L0-U1) B10
1-R 82½ F2W x ¾ x 10'-9⅝ F2E (ss) N.S. } For (L8-U7) B9
1- do (st) F.S.
2-Rs 18 UM x ½ x 2'-4½ F2E (sg35)
4-Rs 35 UM x 9/16 x 3'-7 (ca35)
4-Ls 6 x 4 x ½ x 1'-7½ (cc35) R/L
30-Lac. Bars 6 UM x ⅝ x 4'-2⅝ (ca) (20'-11 cuts 5)
2-Ls 6 x 4 x ½ x 2'-2⅝ (cc) R/L

2-Ls 6 x 4 x ½ x 1'-10¾ (cb) R/L
2-Lac. Bars 6 UM x ⅝ x 4'-0⅛ (ck) For (L8-U7) B9 } (4 @ 20'-0 cuts all)
8-Lac. Bars 6 UM x ⅝ x 4'-0¾ (cm) do
10-Lac. Bars (cm) For (L0-U1) B10
1-R 35 UM x 9/16 x 4'-3½ (cp) For (L8-U7) B9
1-R do x 4'-10¾ (ct) do
1-R do x 4'-2½ (cs) For (L0-U1) B10
1-R do x 4'-10¾ (cv) do
1-R 8½ x ⅜ x 1'-3 (cw)
1-L 4 x 3 x ⅜ x 1'-6 3/16 bent (cy) R
1-L 6 x 4 x ⅜ x 1'-6 3/16 bent (caa) R
1-L do bent (cab) R
1-R 18¾ F2W x ⅜ x 0'-10¾ bent (cd) R
1-R 5½ F2W x ⅜ x 1'-2½ bent (cf) R
1-R 16¾ F2W x ⅜ x 0'-10¾ bent (cg) R
1-R 9 F2W x ⅜ x 1'-3 bent (ch) R

REAMING:-(Cont.) All holes in End Posts for connection of Gusset Rs are also to be subpunched and reamed or drilled to size either thru metal jigs or with Members assembled and Gusset Rs shop riveted to End Post where called for on Drawing.
SHOP BOLTS:- Shop to put shipping bolts in holes ⊗ and draw same up tight. Bolts to be removed by Erector in field.
ERECTION MARKS: Add Span Number as suffix to mark in table to become part of shipping mark thus: (L0-U1) B10 etc. This complete mark to be the Erection Mark and to appear on BFP.
NOTE "A":- One coat "Acid Resisting Liquid" to milled ends of members; to contact surfaces of parts shop bolted for shipment, except where loose ends of partially riveted material are bolted down for shipment; and to surfaces of riveted parts not readily accessible for sand blasting.
NOTE "B":- Holes for shop and field rivets or bolts in all Detail Material used for Skid Girder connections may be punched full size.

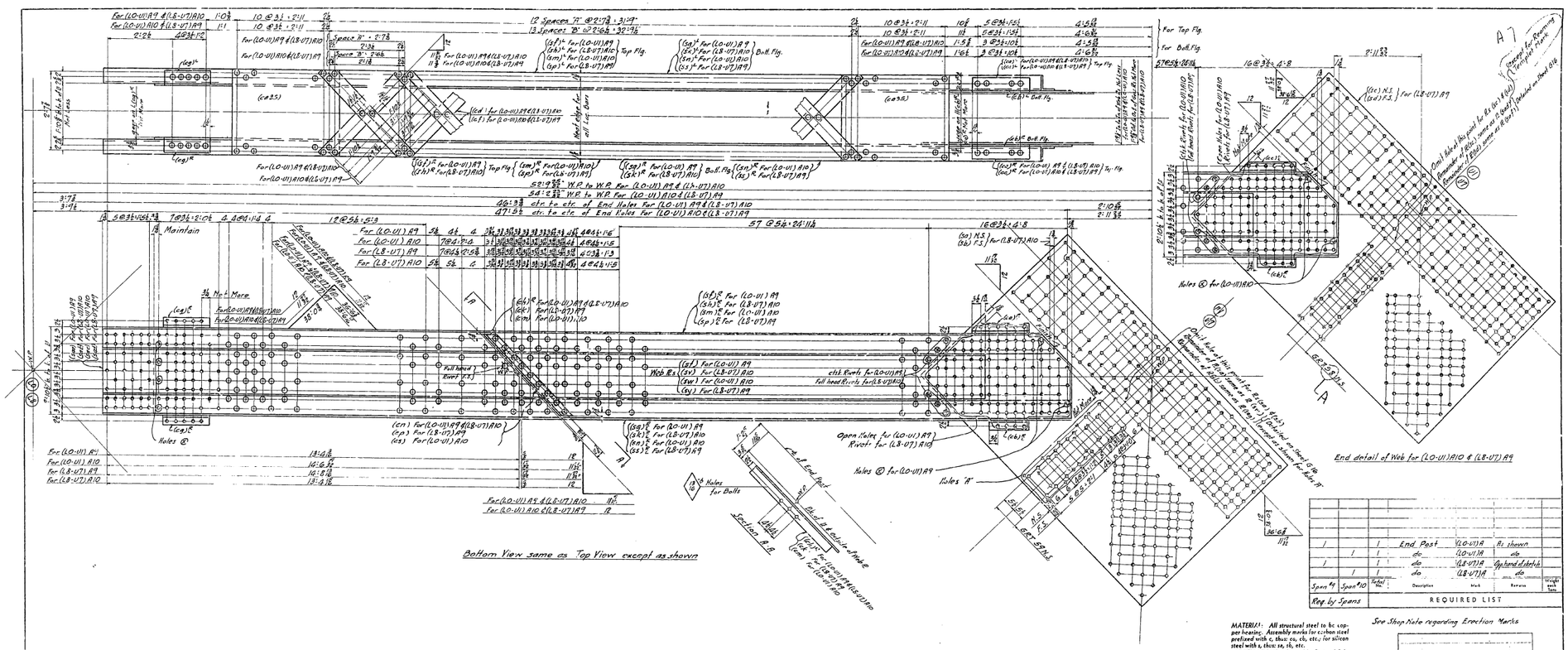
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 1"φ unless noted
OPEN HOLES: 1 1/16"φ unless noted.
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly. See Note "B"
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
PAINT:- None - See Note "A"
REAMING:- All holes for field rivets connecting Gusset Rs on End Posts to Top Chord are to be reamed or drilled to size with Gusset Rs assembled on Chords and Chords assembled. While Gusset Rs are assembled on Chords for reaming or drilling of Chord connections, all other holes in Gusset Rs for connection of End Posts or other web members, are to be subpunched and reamed or drilled to size either thru metal jigs or with Members assembled.

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 7-6-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" TRUSS SPANS - PIERS E9 TO E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Chicago WORKS
IN CHARGE Anthony MADE BY H.W.S.
CHECKED BY A.J.L. 6-20-34 TRACED BY
LAST ASSEM. MK. (cab) & (st)

CONTRACT CG15806 SHEET G 36



1		1	End Post	(LO-U1)A	As shown	
	1	1	do	(LO-U1)A	do	
1		1	do	(L8-U7)A	Cap bend at detail	
	1	1	do	(L8-U7)A	do	
Span #9	Span #10	Total No.	Description	Mark	Remarks	Weight each Item
Req. by Spans			REQUIRED LIST			

Material for one End Post (LO-U1)A9 (LO-U1)A10 (L8-U7) A9 & (L8-U7)A10

2-Ls 8 x 6 x 1/16	x 46'-10½"	F2E	(gf)	(Ord. 46'-1")	Th.# 296	For (LO-U1) A9
2-Ls do	x 46'-7¼"	F2E	(sg)	(Ord. 46'-8")	Th.# 295	
2-Ls do	x 46'-10½"	F2E	(sh)	(Ord. 46'-1")	Th.# 296	For (L8-U7)A10
2-Ls do	x 46'-7¼"	F2E	(sk)	(Ord. 46'-8")	Th.# 295	
2-Ls do	x 47'-8"	F2E	(sm)	(Ord. 47'-2½")	Th.# 294	
2-Ls do	x 47'-7"	F2E	(sn)	(Ord. 47'-9½")	Th.# 293	For (LO-U1)A10
2-Ls do	x 47'-2"	F2E	(sp)	(Ord. 47'-2½")	Th.# 294	
2-Ls do	x 47'-9"	F2E	(ss)	(Ord. 47'-9½")	Th.# 293	For (L8-U7) A9
2-Web Rs 34 UM x 3/8	x 44'-10"	F2E	(st)	(Ord. 44'-10½")	Th.# 337	For (Lo U1) A9
2-Web Rs do	do		(sv)	do		For (L8-U7)A10
2-Web Rs 34 UM x 3/8	x 45'-11¾"	F2E	(sw)	(Ord. 46'-0½")	Th.# 338	For (LO-U1) A10
2-Web Rs do	do		(sy)	do		For (L8-U7)A9
2-Side Rs 18 UM x 7/16	x 45'-8½"	F2E	(saa)	(Ord. 45'-9")	Th.# 992	For (LO-U1) A9
2-Side Rs do	do		(sab)	do		For (L8-U7)A10
2-Side Rs 18 UM x 7/16	x 44'-10"	F2E	(sac)	(Ord. 44'-10½")	Th.# 991	For (LO-U1) A10
2-Side Rs do	do		(sad)	do		For (L8-U7)A9
48-Lac. Bars 6UM x 5/8	x 4'-3		(cd)	(33'-3 cuts 8.)		For (LO-U1)A9 & (L8-U7)A10
52-Lac Bars 6UM x 5/8	x 4'-1⅝		(cf)	(32'-6 cuts 8.)		For (LO-U1)A10 & (L8-U7)A9
4-Pls 350 M x 7/16	x 3'-7		(cu35)			

1-R 81 F2W x 3/8	x 10'-11⅛"	F2E	(sc)	N.S.
1-R do			(sd)	F.S.
1-R 81½ F2W x 3/8	x 10'-8⅞"	F2E	(sa)	N.S.
1-R do			(sb)	F.S.
4-Ls 6 x 4	x ½ x 1'-7"		(eg)	
2-Ls do	x 1'-10¾"		(ca)	For (LO-U1)A9 & (L8-U7)A10
2-Ls do	x 1'-10¾"		(cc)	For (LO-U1).A10 & (L8-U7)A9
2-Ls do	x 1'-3⅛"		(eh)	
1-L 4 x 4	x 3/8 x 4'-0½"	F2E	(ah)	For (LO-U1)A9 & (L8-U7)A10
1-L do	x 4'-1½"	F2E	(ak)	For (L8-U7)A9
1-L do	x 4'-1⅜"	F2E	(cm)	For (LO-U1)A10
1-Fill 4 x 4	x 2'-4½"		(cn)	For (LO-U1)A9 & (L8-U7)A10
1-Fill do	x 2'-5⅜"		(cp)	For (L8-U7)A9
1-Fill do	x 2'-5⅜"		(es)	For (LO-U1)A10

REAMING:- All holes for field rivets connecting Outer Rs on End Posts to Top Chord are to be reamed or drilled to size with Outer Rs assembled in Fillers and Chords assembled. With Gusset Rs are assembled on Chords by reaming or drilling of Chord connections all other holes in Gusset Rs for connection of End Posts or other work members are to be subpunched and reamed or drilled to size either thru metal jigs or with members assembled.
All holes in End Posts for connection of Gusset Rs are also to be subpunched and reamed or drilled to size either thru metal jigs or with members assembled, and Gusset Rs shop riveted to End Posts where called for on Drawing.
SHOP BOLTS:- Ship to put shipping bolts in Holes ⊗ and drum some up tight Bolts to be removed by Erector in field.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 7/8
OPEN HOLES: 1/16" unless noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of materials to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
PAINT:- None - See Note 8"
NOTE "A" One coat "Red Resisting Paint" to milled ends of members, to contact surfaces of parts shop bolted for shipment, except where faces and ends of portions riveted, material and bolted down for shipment, and to surfaces of riveted parts not readily accessible for sand blasting.
ERECTION MARKS:- Add span number as suffix to mark in table to become part of shipping mark, thus: (LO-U1)A9 etc. This complete mark to be the Erection Mark and to appear on all

See Shop Note regarding Erection Marks

Date	Revision	App'd

APPROVED

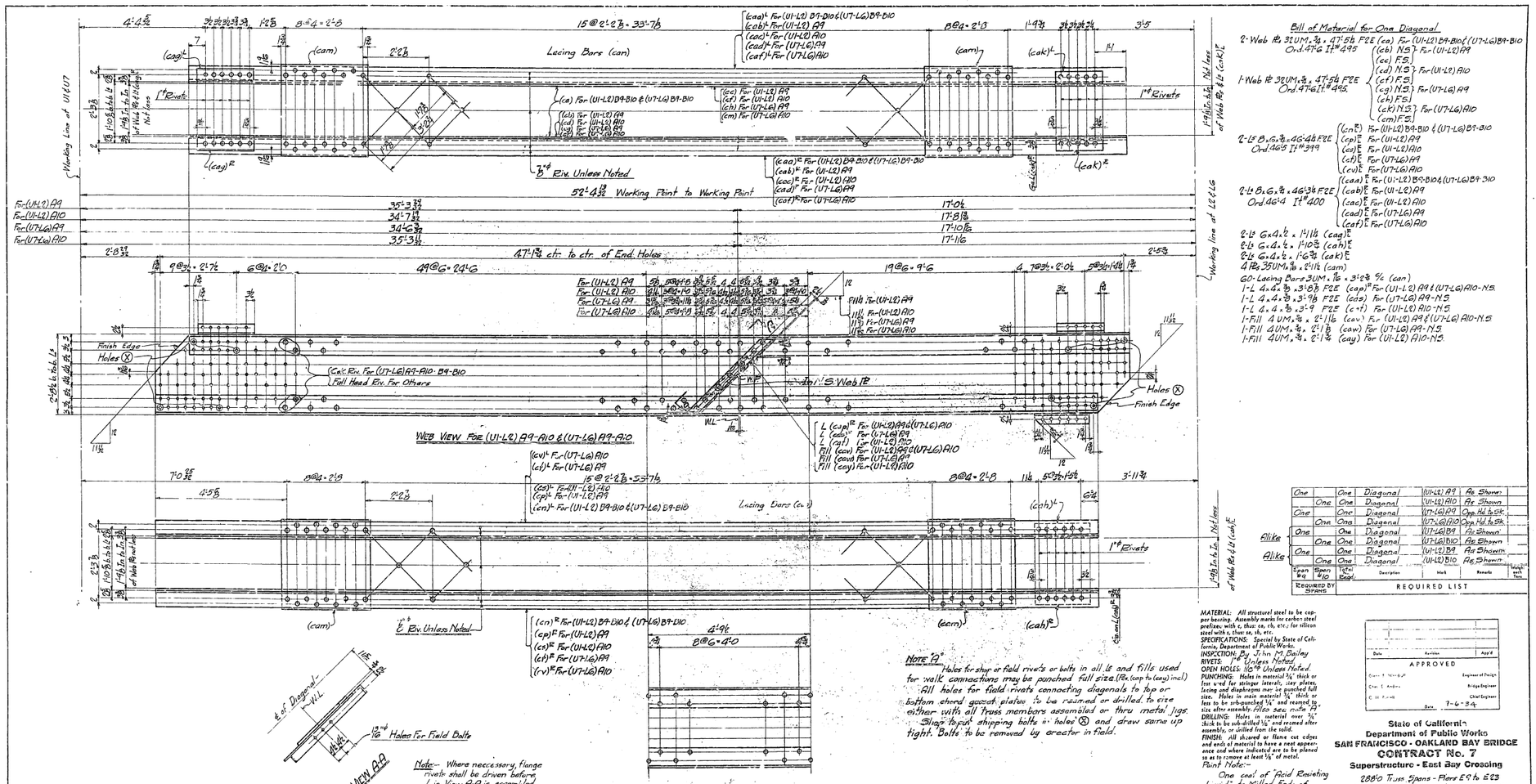
Engineer of Design
Bridge Engineer
Chief Engineer

Date 7-6-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" Truss Spans - Piers E7 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Chicago WORKS
IN CHARGE Anthony STAKE BY W.M.S.
CHECKED BY A.E.L. 6-21-34 TRACED BY
LAST ASSEM. SUR. (sad) 4(es)

CONTRACT CG1801 SHEET G 37



Bill of Material for One Diagonal

2-Web Pl 3/8 UM. 3/4 x 47'-5 1/2 F2E Ord. 47'-6 If 495
(ca) For (U1-L2) B9-B10 & (U7-L6) B9-B10
(cb) N.S. } For (U1-L2) A9
(cc) F.S. }
(cd) N.S. } For (U1-L2) A10
(ce) F.S. }

1-Web Pl 3/8 UM. 3/8 x 47'-5 1/2 F2E Ord. 47'-6 If 495
(cf) F.S. }
(cg) N.S. } For (U7-L6) A9
(ch) F.S. }
(ck) N.S. } For (U7-L6) A10
(cm) F.S. }

2-L's 8 x 6 x 3/4 x 46'-4 1/2 F2E Ord. 46'-5 If 399
(cn) E } For (U1-L2) B9-B10 & (U7-L6) B9-B10
(cp) E } For (U1-L2) A9
(cs) E } For (U1-L2) A10
(ct) E } For (U7-L6) A9
(cv) E } For (U7-L6) A10

2-L's 8 x 6 x 3/4 x 46'-3 1/2 F2E Ord. 46'-4 If 400
(caa) E } For (U1-L2) B9-B10 & (U7-L6) B9-B10
(cab) E } For (U1-L2) A9
(cac) E } For (U1-L2) A10
(cad) E } For (U7-L6) A9
(caf) E } For (U7-L6) A10

2-L's 6 x 4 x 1/2 x 1'-11 1/2 (cag) E
2-L's 6 x 4 x 1/2 x 1'-10 3/8 (cah) E
2-L's 6 x 4 x 1/2 x 1'-6 3/8 (cak) E
4 Pls 35 UM. 7/16 x 2'-11 1/2 (cam)
60-Lacing Bars 3 UM. 7/16 x 3'-2 3/8 & 1/2 (can)
1-L 4 x 4 x 3/8 x 3'-8 F2E (cap) F For (U1-L2) A9 & (U7-L6) A10-N.S.
1-L 4 x 4 x 3/8 x 3'-7 3/8 F2E (cas) For (U7-L6) A9-N.S.
1-L 4 x 4 x 3/8 x 3'-9 F2E (cat) For (U1-L2) A10-N.S.
1-Fill 4 UM. 3/8 x 2'-11 1/2 (cav) For (U1-L2) A9 & (U7-L6) A10-N.S.
1-Fill 4 UM. 3/8 x 2'-1 3/8 (caw) For (U7-L6) A9-N.S.
1-Fill 4 UM. 3/8 x 2'-1 3/8 (cay) For (U1-L2) A10-N.S.

One		One	Diagonal	(U1-L2) A9	As Shown
	One	One	Diagonal	(U1-L2) A10	As Shown
One		One	Diagonal	(U7-L6) A9	Opp. Hd. to Sk.
	One	One	Diagonal	(U7-L6) A10	Opp. Hd. to Sk.
One		One	Diagonal	(U7-L6) B9	As Shown
	One	One	Diagonal	(U7-L6) B10	As Shown
One		One	Diagonal	(U1-L2) B9	As Shown
	One	One	Diagonal	(U1-L2) B10	As Shown
Span 9 & 10 Required	Span 5 & 10 Required	Description		Mark	Remarks

REQUIRED BY SPANS — REQUIRED LIST

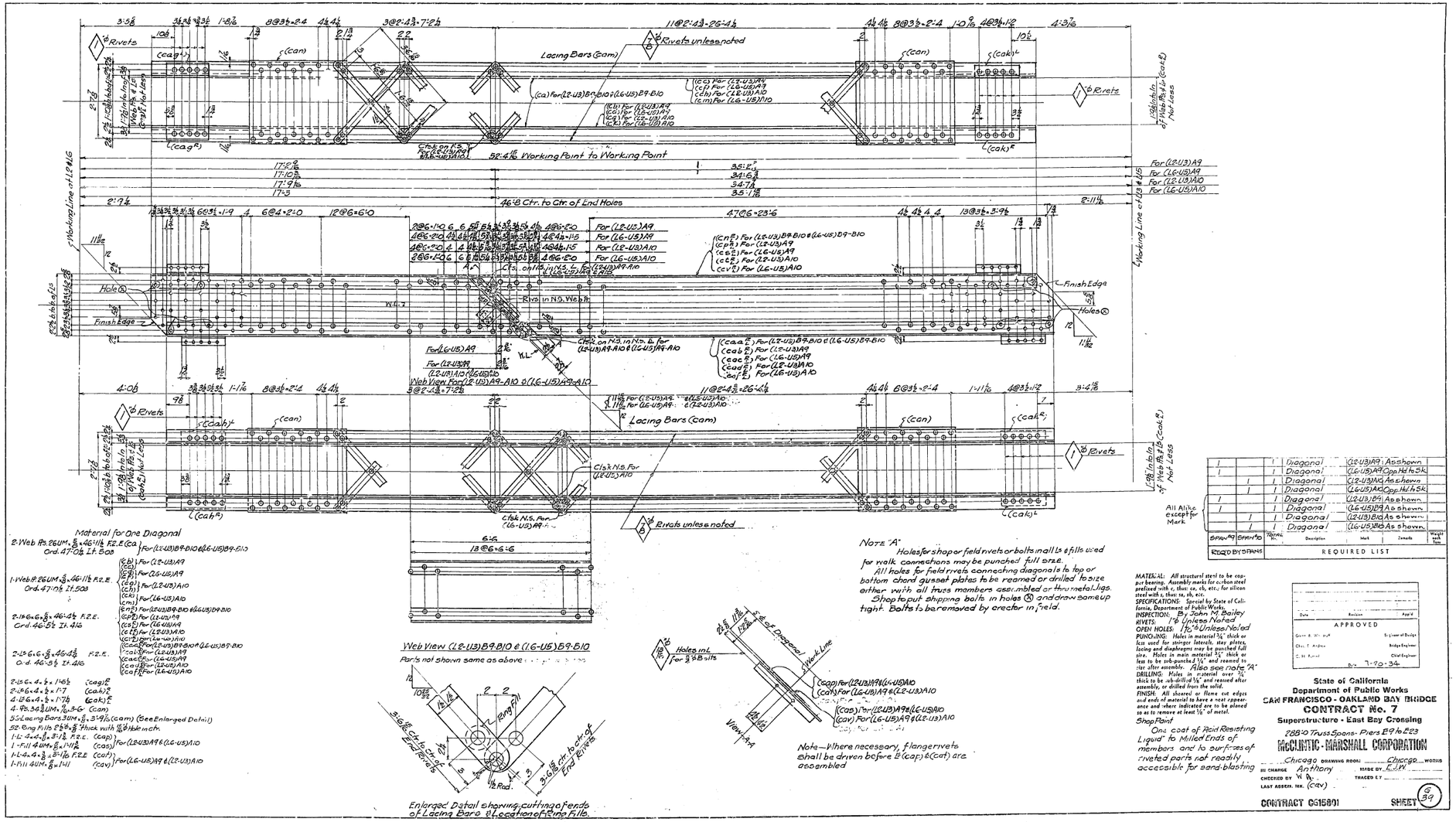
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixes with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 1" ℄ Unless Noted.
OPEN HOLES: 1 1/16" ⌀ Unless Noted.
PUNCHING: Holes in material 3/4" thick or less punched for stringer laterals, seat plates, facing and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly. Also see note "F".
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
Paint Note:- One coat of Acid Resisting Liquid* to Milled Ends of members and to surfaces of riveted parts not readily accessible for sand blasting.

APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date 7-6-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
2880 Truss Spans - Piers E 9 to E 23
PACIFIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Chicago WORKS
IN CHARGE Anthony MADE BY PFH 6-20-34
CHECKED BY L.D.K. & T.S.W. TRACED BY E.T.L. 6-20-34
LAST ASSIGN. NO. (Cay)

CONTRACT CG15201 SHEET G 28

30-1



Material for One Diagonal

2-Web Pls. 26UM. × 46-11⅛ F.E. (Ca) Ord. 47'-0⅛ Lt. Bob — For (L2-U3)B9-B10 & (LG-U5)B9-B10
1-Web Pl. 26UM. × 46-11⅛ F.E. Ord. 47'-0⅛ Lt. Bob
- (cbb) For (L2-U3)A9
- (cca) For (LG-U5)A9
- (ccb) For (L2-U3)A10
- (ccc) For (LG-U5)A10
- (cmj) For (L2-U3)B9-B10 & (LG-U5)B9-B10

2-Web Pls. 6 G. × ⅞ × 46-4½ F.E. Ord. 46'-5½ Lt. Ang
- (cpb) For (L2-U3)A9
- (ccs) For (LG-U5)A9
- (cct) For (L2-U3)A10
- (ccu) For (LG-U5)A10

2-Web Pls. 6 G. × ⅞ × 46-4⅝ F.E. O.d. 46'-5½ Lt. Ang
- (caak) For (L2-U3)A9
- (caac) For (LG-U5)A9
- (caaj) For (L2-U3)A10
- (caaf) For (LG-U5)A10

2-L 6 × 4 × ½ (caag)
2-L 6 × 4 × ⅜ × 1'-7 (caah)
2-L 6 × 4 × ⅜ × 1'-7⅛ (caak)
4-Pls. 36 UM. × ⅞ × 3'-0 (can)
3-Lacing Bars 3 UM. × ⅞ × 3'-9½ (cam) (See Enlarged Detail)
52-Ring Fills 2⅝ ø × ⅞ Thick with ⅞ ø Hole in ctr.
1-L 4 × 4 × ⅞ × 3'-1½ F.E. (cap) — For (L2-U3)A9 & (LG-U5)A10
1-Fill 4 UM. × ⅞ × 1'-11½ (cas)
1-L 4 × 4 × ⅞ × 3'-11⅛ F.E. (cat) — For (LG-U5)A9 & (L2-U3)A10
1-Fill 4 UM. × ⅞ × 1'-11 (cav)

Note "A"
Holes for shop or field rivets or bolts in all Ls & fills used for walk connections may be punched full size.
All holes for field rivets connecting diagonals to top or bottom chord gusset plates to be reamed or drilled to size either with all truss members assembled or thru metal jigs.
Shop to put shipping bolts in holes Ⓚ and drawn same up tight. Bolts to be removed by erector in field.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc., for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: ⅞ ø Unless Noted
OPEN HOLES: 1 1/16 ø Unless Noted
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched 1/4" and reamed to size after assembly. Also see note "A"
DRILLING: Holes in material over ¾" thick to be sub-drilled 1/4" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
Shop Paint
One coat of Acid Resisting Liquid to Milled Ends of members and to surfaces of riveted parts not readily accessible for sand-blasting

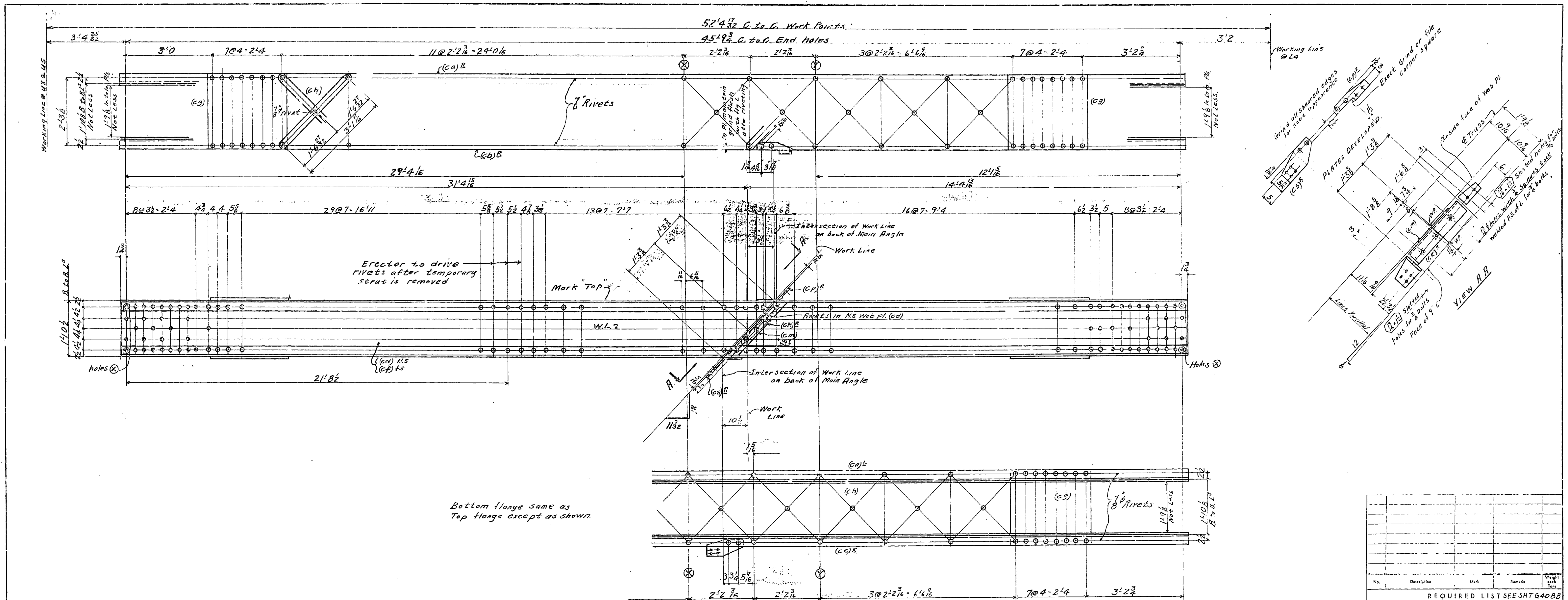
All Alike except for Mark	Sheets Req'd	Sheets Req'd	Material No.	Description	Mark	Remarks	Weight each Turn
	1		1	Diagonal	(L2-U3)A9	As shown	
	1		1	Diagonal	(LG-U5)A9	Opp. Hd. to Sk.	
		1	1	Diagonal	(L2-U3)A10	As shown	
		1	1	Diagonal	(LG-U5)A10	Opp. Hd. to Sk.	
	1		1	Diagonal	(L2-U3)B9	As shown	
	1		1	Diagonal	(LG-U5)B9	As shown	
		1	1	Diagonal	(L2-U3)B10	As shown	
		1	1	Diagonal	(LG-U5)B10	As shown	
BEAMS	BEAMS	Material No.	REQUIRED LIST				
RECD BY DFANS							

Date	Revision	Appd
APPROVED		
Geo. B. McHarg		Engineer of Design
Chas. T. Andrus		Bridge Engineer
C. H. Purcell		Chief Engineer
Date 7-10-34		

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC - MARSHALL CORPORATION
Chicago DRAWING ROOM: Chicago WORKS
IN CHARGE Anthony MADE BY E.J.P.V.
CHECKED BY TRACED BY
LAST ASSEN. NK. (CAV)

CONTRACT CG15801 SHEET S 99

30-1



DIAGONAL (U3-L4) A9 AS SHOWN.
DIAGONAL (U5-L4) A10 OPP. HAND

MATERIAL FOR ONE DIAGONAL (U3-L4) A9, (U5-L4) A10

2 L^s 4×4×9/16×46'1 1/4 F2E (ca)^R_L ord 46'2 Item 439
1 " " 46'1 1/4 F2E (cb)^R " 46'2 Item 439
1 " " 46'1 1/4 F2E (cc)^R " 46'2 " 439
1 Web Pl 22 UM×1/2×46'1 1/4 F2E (cd) " 46'2 " 510
1 " " " 46'1 1/4 F2E (cf) " 46'2 " 510
4 Pls 30 1/4 U.M.×9/16×2'7 1/2 (cg)
64 Lac Bars 3" UM×11/16×3'1 11/16 C to C. (ch)
1 L 6×3 1/2×3/8×2'8 1/2 F2E (ck)^R
1 Fill 3 1/2×9/16×1'10 13/16 (cm)
1 Pl 4 1/2 F2W×3/8×1'2 1/2 (cp)^R bent.
1 " 7 1/4 F2W×3/8×1'5 1/2 (cs)^R bent.
3 Sq Nuts for 3/4" ø bolts (Tack Weld)

No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST SEE SHT G40BB

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS:
OPEN HOLES:
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.

Date	Revision	App'd

APPROVED

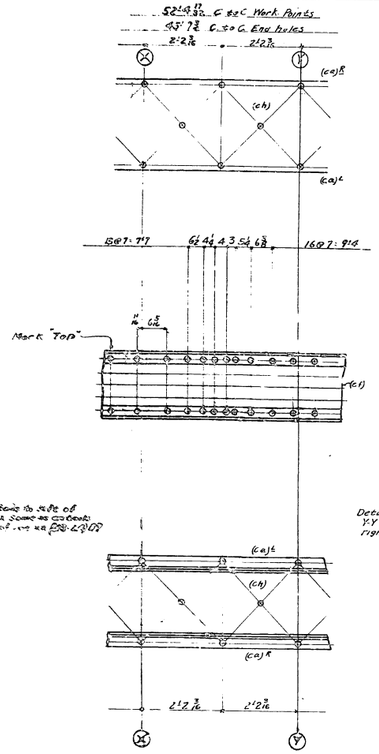
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 7-20-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
208'0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

CHICAGO DRAWING ROOM CHICAGO WORKS
IN CHARGE Anthony MADE BY CHJ 6-26-34
CHECKED BY W A TRACED BY CAJ 6-26-34
LAST ASSEM. MK.

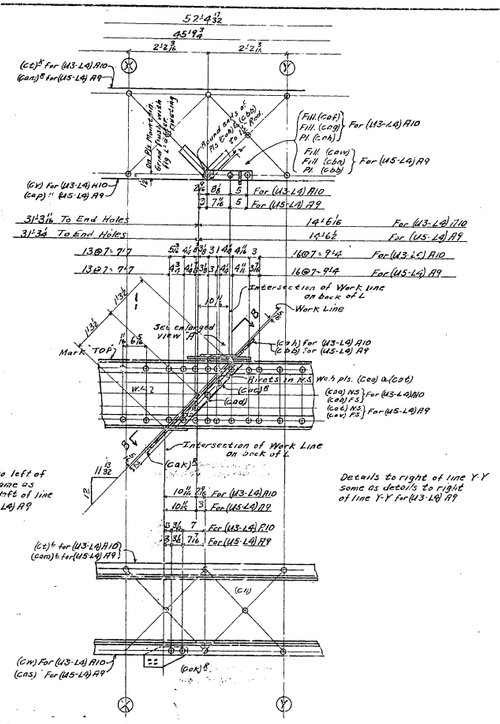
Work Shts G40 AB & G40 BB together as one sht.

CONTRACT CG1560 SHEET G40 AB

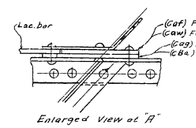


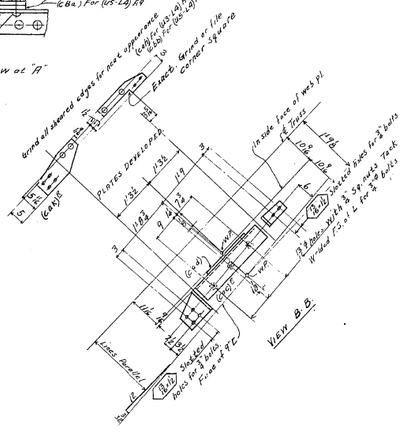
Details to left of line X-X same as details to left of line XX for (U3-L4) A9

Details to right of line Y-Y same as details to right of line Y-Y for (U3-L4) A9



Details to left of line Y-Y same as details to right of line Y-Y for (U3-L4) A9





DIAGONAL (U3-L4) B7 (U5-L4) B10
DIAGONAL (U3-L4) B9 (U3-L4) B10 } As Shown

MATERIAL For ONE DIAGONAL (U5-L4) B7, (U5-L4) B10, (U3-L4) B7 & (U3-L4) B11

4 L⁵	(Ca)F	ord 46'2	Item 439	
2 Web Pls	(cf)	ord 46'2	" 510	
4 Pls	(cj)			
64 Loc bars	(ch)			

MATERIAL For ONE DIAGONAL (U3-L4) A10

2 L⁵ 4"x4"x 7/16 x 46'-1 1/2	F2E	(Cg)B	ord 46'2	Item 439
1 " " 46'-1 1/2	F2E	(cv)	" 46'2	" 439
1 " " 46'-1 1/2	F2E	(cw)	" 46'2	" 439
1 Web Pl 22UM x 7/16 x 46'-1 1/2	F2E	(cae)	" 46'2	" 510
1 " " " 46'-1 1/2	F2E	(cab)	" 46'2	" 510
4 Pls		(cj)		
64 Loc bars		(ch)		
1 L 6"x3 1/2"x 21/32	F2E	(cac)R		
1 Fill 32"x 7/16 x 1'-11		(cae)		
1 " 3"x 7/16 x 1'-11		(cof)	Grind edges Smooth	
1 " 3"x 7/16 x 1'-11		(cog)	Grind edges Smooth	
1 Pl 93.8UM x 3/4 x 1'-7 1/2		(cah)	Bent.	
1 " 76 MM x 2 x 1'-5 3/8		(cax)R	Bent	

3 Sq. Hugs for 3/4" bolts (Track Weld)

MATERIAL For ONE DIAGONAL (U5-L4) A9

2 L⁵ 4"x4"x 7/16 x 46'-1 1/2	F2E	(cam)B	ord 46'2	Item 439
1 " " 46'-1 1/2	F2E	(cag)	" 46'2	" 439
1 " " 46'-1 1/2	F2E	(cas)	" 46'2	" 439
1 Web Pl 22UM x 7/16 x 46'-1 1/2	F2E	(cat)	" 46'2	" 510
1 " " " 46'-1 1/2	F2E	(cay)	" 46'2	" 510
4 Pls		(cg)		
64 Loc bars		(ch)		
1 L		(cac)B		
1 Fill		(cae)		
1 " 3"x 7/16 x 1'-2 1/2		(caw)	Grind edges Smooth	
1 " 3"x 7/16 x 1'-1 1/8		(cba)	Grind edges Smooth.	
1 Pl 42 UM x 7/16 x 1'-7		(cbb)	Bent	
1 Pl		(cax)R	Bent.	

3 Sq. Hugs for 3/4" bolts (Track Weld)

DIAGONAL (U3-L4) A10 As Shown
DIAGONAL (U5-L4) A9 Opp Hand To Sketch

Mark: except for marks							
1		1	LONGINAL	U5-L4) A9	As Shown		
	1	1	"	U5-L4) A10	Opp Hand		
	1	1	"	U3-L4) A10	As Shown		
1		1	"	U5-L4) A9	Opp Hand To Sketch		
1		1	"	U5-L4) B9	As Shown		
1		1	"	U5-L4) B9	As Shown		
	1	1	"	U3-L4) B10	As Shown		
	1	1	"	U5-L4) B10	As Shown		
SPAN 9	SPAN 10	Total No.	Description	Mark	Remarks	Weight each Piece	Weight each Span
REQUIRED BY SPANS		REQUIRED LIST					

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: cn, cb, etc; for silicon steel with s, thus: sn, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: by JOHN M. OAKLEY
RIVETS: 1" holes dotted
OPEN HOLES: 1" holes dotted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, facing and diaphragms may be punch-d full size. Holes in main material 5/8" thick or less to be sub-punched 1/16" and reamed to size after assembly. Also see note "R"
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/16" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/16" of metal.
Shop Paint
One coat of Red Oxide Linseed Oil Mixed Paint of members and all surfaces of riveted parts not readily accessible for subsequent painting.

NOTE "R"
Holes for shop or field rivets & bolts in all L's pls & fills used for work connections may be punched full size.
All holes for field rivets connecting diagonals to top or bottom chord gusset plates to be reamed or drilled to size either with all truss members assembled or thru metal Jigs.
Shop to put clamping bolts in holes Ⓧ and drive same up tight. Bolts to be removed by erector in field.

Work Sheets G40 AB & G40 BB together as one Shl.

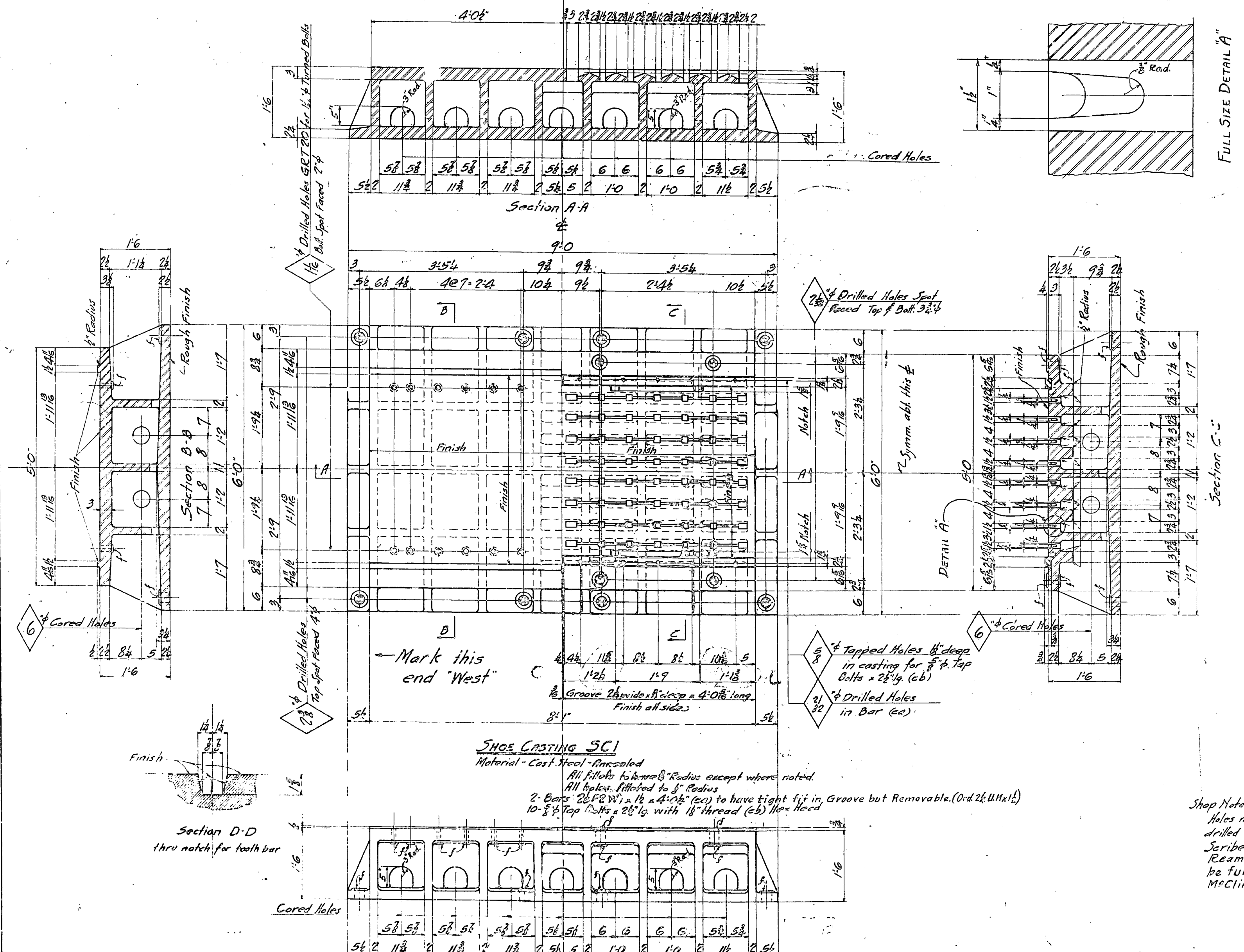
Date	Revision	App'd
APPROVED		
Chief Engineer	Engineer of Design	
Chief Engineer	Bridge Engineer	
Chief Engineer		
Date 7-20-36		

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
268'0 Truss Spans Piers E9 to E23
PACIFIC - MARSHALL CORPORATION

CHICAGO Drawing Room CHICAGO Work
In Charge Anthony Made by SRT 6-28-36
Checked by W Traced by SRT 6-28-36
Last Assem. Mk. (cbc)

CONTRACT C61580 SHEET G40 BB

30-1



Shop Note —
Holes marked GRT20 to be drilled thru a metal templet.
Scribe ℄s on top of Casting
Reaming Templet GRT20 to be furnished by Chicago Works, McClintic-Marshall Corp.

Required by Spans	Total No.	Description	Mark	Remarks	Weight each Tons
2-Each Spans 18 to 22 inc.	10	Shoe Casting	SC1	As shown	

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: None
OPEN HOLES: As Noted.
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ⅛" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint
SHOP PAINT: None, except: 1 coat No-Oxid Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

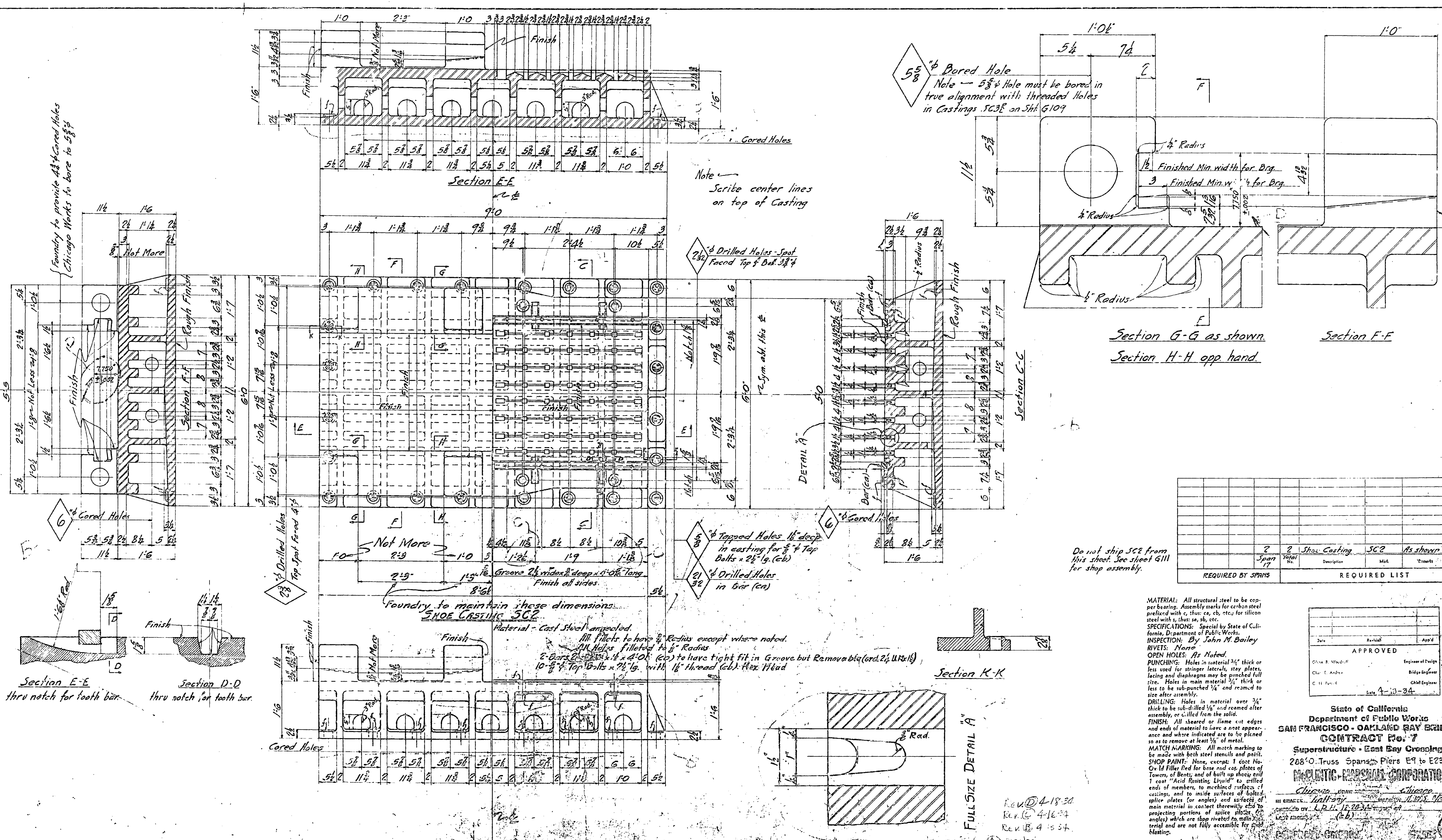
APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date 4-4-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
280'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Chicago WORKS
IN CHARGE Anthony MADE BY HWS 3/6/34
CHECKED BY LDH 3-21-34 TRACED BY
LAST ASSEM. MK.

CONTRACT CG15002 SHEET

30-1



Do not ship SC2 from this sheet. See sheet G111 for shop assembly.

			2	2	Shoe Casting	SC2	As shown	
			Span 17	Total No.	Description	Mark	Remarks	Weight each Tons
REQUIRED BY SPANS				REQUIRED LIST				

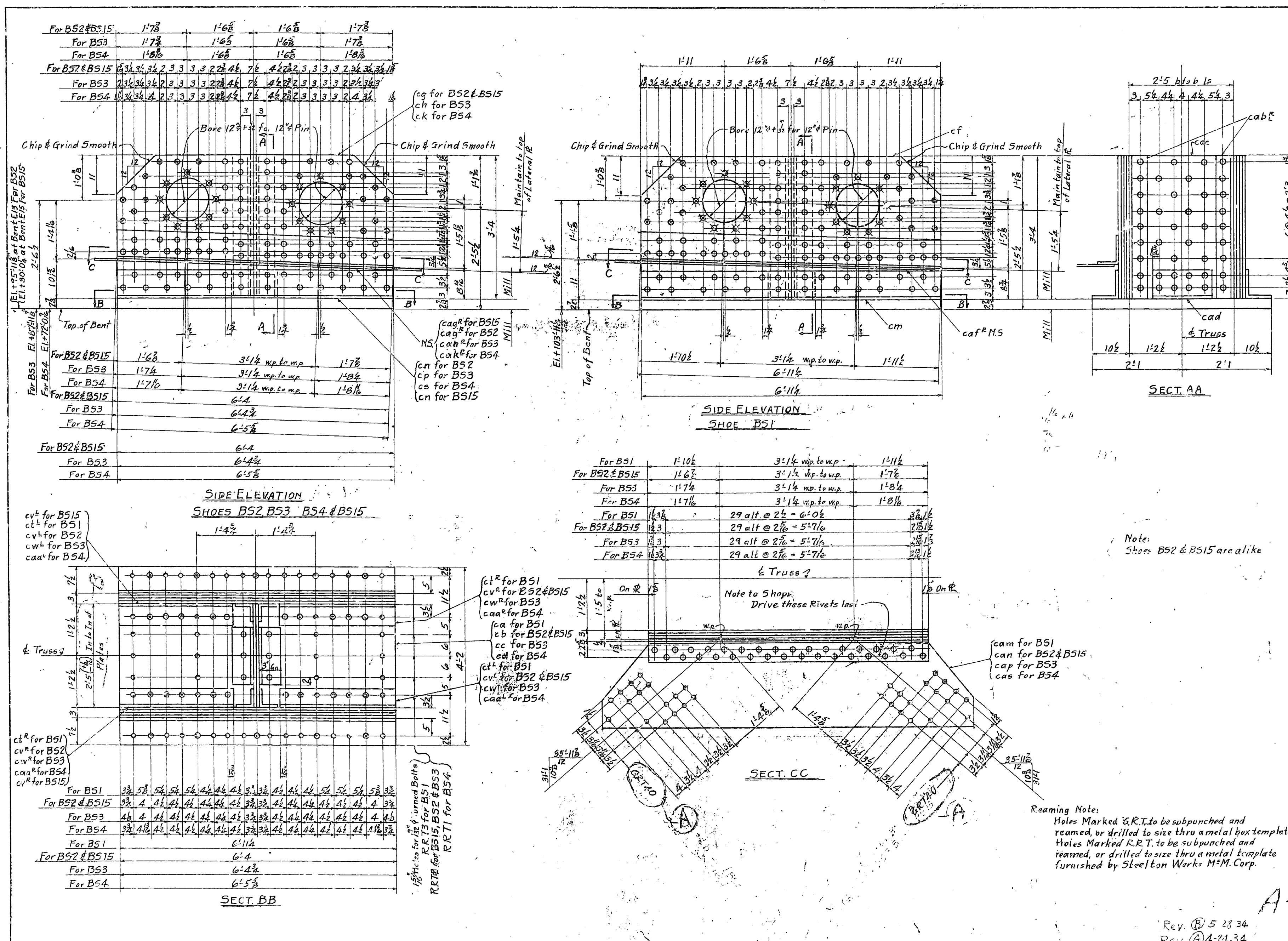
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: None
OPEN HOLES: As Noted.
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents; and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for grit blasting.

Date	Revision	App'd

APPROVED

Engineer of Design
Bridge Engineer
Chief Engineer
Date 4-13-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" Truss Spans, Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago ... Chicago
Checked by L.R.H. 12-28-34



Bill of Material For One Shoe BS1R-BS2R-BS3R-BS4R-BS15R

1 Slab 50" F2W x 2⅞" M2S x { 6'-11¼ F2E ca for BS1 Ord. 50½ x 3¼ x 6'-11¾ It.41; 6'-4 F2E cb for BS15 & BS2 Ord. 50½ x 3¼ x 6'-4½ It.45; 6'-4¾ F2E cc for BS3 Ord. 50½ x 3¼ x 6'-5¼ It.44; 6'-5⅝ F2E cd for BS4 Ord. 50½ x 3¼ x 6'-6⅛ It.43 }

3 Pls 83¼" F2W x ¾ x 3'-4 M1E & F1E cf for BS1 Ord. 2 Pls 83¾ F2W x ¾ x 13'-6½ It.51

8 Pls 76" F2W x ¾ x 3'-4 M1E & F1E cg for BS2 & BS15 Ord. 2 Pl 76½ F2W x ¾ x 13'-6½ It.54

8 Pls 76¾ F2W x ¾ x 3'-4 M1E & F1E ch for BS3 Ord. 2 Pl 77¼ F2W x ¾ x 13'-6½ It.53

8 Pls 77⅝ F2W x ¾ x 3'-4 M1E & F1E ck for BS4 Ord. 2 Pl 78¼ F2W x ¾ x 13'-6½ It.52

2 Ls 8 x 7½ x ¾ x { 6'-11¼ F2E cm for BS1; 6'-4 F2E cn for BS2 & BS15; 6'-4¾ F2E cp for BS3; 6'-5⅝ F2E cs for BS4 } Ord 8 x 8 x ¾

4 Ls 8 x 6 x ¾ x { 2'-11⅛ F1E ctR/L for BS1; 2'-7½ F1E cvR/L for BS2 & BS15; 2'-7⅞ F1E cwR/L for BS3; 2'-8 5/16 F1E caaR/L for BS4 }

4 Ls 5 x 5 x ¾ x 3'-4 M1E & F1E cabR/L

2 Pls 28½ U.M. x ¾ x 3'-4 M1E & F1E cac

2 Ls 8 x 6 x ¾ x 1'-4 cad

1 L 8 x 6 x ½ x { 6'-11½ F2E cafR for BS1; 6'-4¼ F2E cagR for BS2 & BS15; 6'-5 F2E cahR for BS3; 6'-5⅞ F2E cakR for BS4 }

1 Pl 23¼ x ½ x 8'-8 x { cam for BS1; can for BS2 & BS15; cap for BS3; cas for BS4 }

Span #16	Span #15	Span #14	Span #13	Span #12	Total No.	Description	Mark	
	1				1	Builtup Shoes	BS15R	As Shown
	1				1	do	BS15L	Opp. Hand
1					1	Builtup Shoes	BS4R	As Shown
1					1	do	BS4L	Opp. Hand
		1			1	do	BS3R	As Shown
		1			1	do	BS3L	Opp. Hand
			1		1	do	BS2R	As Shown
			1		1	do	BS2L	Opp. Hand
				1	1	do	BS1R	As Shown
				1	1	do	BS1L	Opp. Hand
REQUIRED BY SPANS					REQUIRED LIST			

MATERIAL: All structural steel to be copper bearing. Assembly mark for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 1"φ
OPEN HOLES: 1 1/16"φ Unless Noted
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes.
Machined surfaces of Pin Holes to receive one coat of Blue Lacquer.

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 2-28-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Chicago WORKS
IN CHARGE [illegible] MADE BY L.D.H. 2-5-34
CHECKED BY W.A.
CONTRACT CG13302 SHEET

30-1

Bill of Material for One Shoe BS5

1 Bar 6'-5¾ UM x (7/8 to 1 1/8) M15 x 5'-6¼ FZE cg Ord. 1 lt 5¢
4 lb 37½ U.M. x ⅜ x 3'-5¾ M-IE-FIE cb Ord. 1 lt 39½ U.M. x ⅜ x 14'-11.70
4 lb 33½ U.M. x ⅜ x 3'-5¾ M-IE-FIE cc Ord. 1 lt 33½ U.M. x ⅜ x 14'-11.77
1 lt 41⅛ U.M. x ⅜ x 3'-5¾ M-IE-FIE cd
1 L 6 x 4 x ⅜ x 3'-5¾ M-IE-FIE ce
2 lb cf
1 L 6 x 4 x ⅜ x 3'-5¾ M-IE FIE cg
1 L 8 x 6 x ⅜ x 1'-3½ ch
1 LB x 6 x ⅜ x 3'-2⅜ FZE { ck, cm, cn, cp }
1 L 8 x 6 x ½ x 3'-3 FZE cs
1 L 6 x 6 x ½ x 3'-2⅜ FZE ct (Cut)
1 lt 20 ½ x 4½ x 6'-11½ cvs 1 lt 24 x ½ x 6'-11½ cuts ⅞ x 4 can
1 Slab 26 x 25 x 5½ bent 12 lt (ord. on Cont HG 209 C.P.)
1 L 6 x 5½ x 1'-9½ cbm (ord. on Cont. CG15801 lt 130)
1 L 6 x 2½ x 0'-7 cbn (ord. on Cont. CG15801 lt 131)

Bill of Material for One Shoe BS6

1 Bar 5'-5¾ UM x (7/8 to 1 1/8) M15 x 3'-6½ FZE cw Ord. 1 lt 5¢
4 lb 39½ U.M. x ⅜ x 3'-5¾ M-IE-FIE caa Ord. 1 lt 39½ U.M. x ⅜ x 14'-11.70
4 lb 33½ U.M. x ⅜ x 3'-5¾ M-IE-FIE cab Ord. 1 lt 39½ U.M. x ⅜ x 14'-11.77
1 lt 41⅛ U.M. x ⅜ x 3'-5¾ M-IE-FIE cac
1 L 6 x 4 x ⅜ x 3'-5¾ M-IE-FIE cad
1 L ch
1 LB x 6 x ⅜ x 3'-2⅜ FZE { caf, cag, cah, cak }
1 L ck
1 L 6 x 6 x ½ x 3'-2⅜ FZE cam
1 lt 24 x ½ x 4'-4½ can (ord. with ¼ cv)
1 Slab 26 x 21 x 5½ bent 12 lt cap (ord. on Cont HG 209 C.P.)
1 L 6 x 4½ x 1'-10 cbn (ord. on Cont. CG15801 lt 130)
1 L L cbn (ord. on Cont. CG15801 lt 131)

This Material together with all additional rivets required for same to be charged to Cont. HG 209 C.P.

Bill of Material for One Shoe BS7R

1 Slab 43⅝ F2 W x 5' M25 x 4'-4 FZE cap Ord. 44½ x 3½ x 4'-4½ lt 55
4 lb 38½ U.lt. x ⅞ x 3'-4 M-IE-FIE cas Ord. 1 lt 38½ U.M. x ⅞ x 13'-6½ lt 171
4 lb 32½ U.M. x ⅜ x 3'-4 M-IE-FIE cat Ord. 1 lt 32½ U.M. x ⅜ x 13'-6½ lt 170
1 lt 41⅛ U.M. x ⅜ x 3'-4 M-IE-FIE cav
1 L 6 x 4 x ⅜ x 3'-4 M-IE-FIE caw R
2 lb cax L
1 L 6 x 4 x ⅜ x 3'-4 M-IE-FIE cba R
1 L 8 x 6 x ½ x 1'-9½ cbb
2 L 8 x 8 x ½ x 3'-2⅜ F2E cbc S
2 L B 6 x 6 x ½ x 3'-2⅜ F2E cbd S
1 L 8 x 6 x ½ x 3'-2⅜ F2E cbf S
1 L 6 x 5½ x ½ x 3'-2⅜ F2E cbg R cut 6 x 6 x ½ L
1 lt 23½ x ½ x 4'-5½ cbh 1 lt 23½ x ½ x 7'3 cuts 2
1 Slab 18⅜ x 5½ x 2'-8½ F2E cbt (ord. on Cont. HG 209 C.P.
1 lt 7⅜ x 1'-9¾ cbv cut 6¾ x ½ lt (ord. on Cont. CG15801 lt 116)
1 L 6 x 3½ x 0'-7½ cbw (ord. on Cont CG15801 lt 150)

This Material together with all additional rivets required for same to be charged to Cont. HG 209 C.P.

SECT. BB FOR BS5

Rivet spacing Pin Hole & Cut on ℄ same as VIEW AA For BS5

SECT. BB FOR BS6

SECT. EE-BS6

SECT. DD-BS5

SECT. NN

SECT. PP

SECT. GG.

Rivet spacing, Pin Hole & Cut on ℄ same as View FF

SECT. KK

SECT. M-M

PLAN BS5 & BS6

PLAN BS-7

VIEW AA FOR BS5

VIEW A-A FOR BS6

Rivet Spacing: Pin Hole & Cut on ℄ same as SECT. BB For BS6

Reaming Note:
Holes Marked G.R.T. to be subpunched & reamed, or drilled to size thru a metal box template.
Holes Marked R.R.T. to be subpunched & reamed, or drilled to size thru a metal template furnished by Sheelton Works of M-M. Corp.

VIEW HH

VIEW FF

Rev. E 5-22-34 Rev. F 7-18-34
Rev. D 5-4-34 Rev. B 4-30-34
Rev. C 5-3-34 Rev. A 4-[illegible]-34

RRT5 Holes 1 1/16 ℄ for 1⅛ ℄ Turned Bolts

SPAN "10	SPAN "11	Quantity Wanted	Description	Mark	Remarks	Weight each Piece
REQ'D BY 5 SPANS			REQUIRED LIST			
1	1	1	Built up Shoe	BS5		
1	1	1	do	BS6		
	1	1	do	BS7R	As Shown	
	1	1	do	BS7L	Opp Hand	

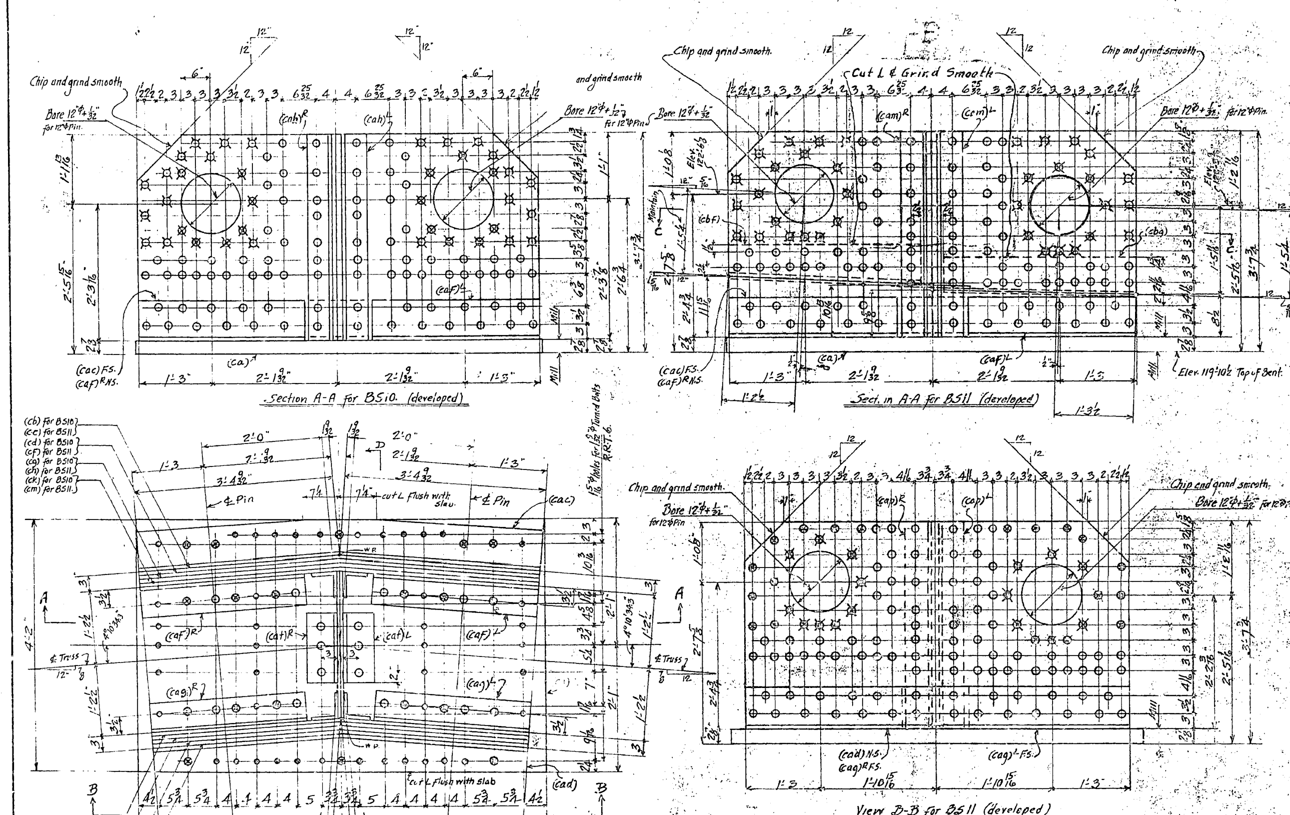
MATERIAL: All structural steel to be open hearth. Assembly nuts for carbon steel prefixed with c, thus: cx, cb, etc.; for silicon steel with s, thus: sx, sb, etc.
SPECIFICATIONS: Special 1⅞ State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 1⅞ unless noted.
OPEN HOLES: 1/16 larger than rivet noted.
PUNCHING: Holes in material ⅝" thick or less used for stringer splices, stay plates, facing and diaphragms may be punched full size. Holes in main material ⅝" thick or less to be sub-punched ⅛ and reamed to size after assembly.
DRILLING: Holes in material over ⅝" thick to be sub-drilled 1/4" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed in as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except: 1 coat Red Oxide Filler Red for base and cap plates of Towers, all Boots, and all built up shoes. Machined surfaces of Pin Holes to receive one coat of Blue Lacquer.

APPROVED
Chief Engineer
Date 4-28-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC - MARSHALL CORPORATION
Chicago DRAWING ROOM Chicago WORKS
IN CHARGE Anthony MADE BY J.D.H.
CHECKED BY W.D. TRACED BY
LAST ASSEM. TRS. CCG

CONTRACT CG15802 SHEET G 104

30-1

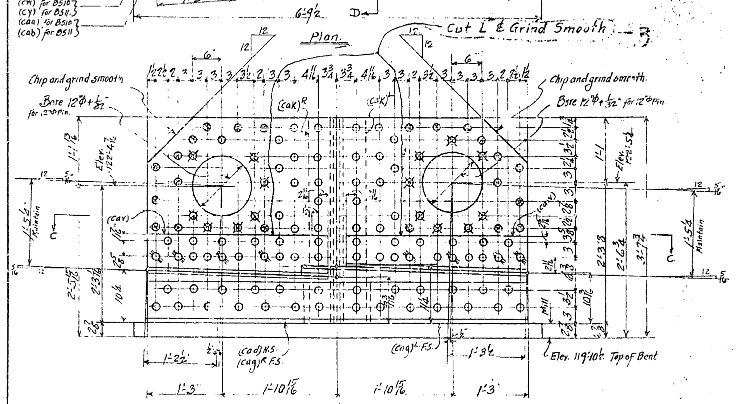


Section A-A for BS10 (developed)

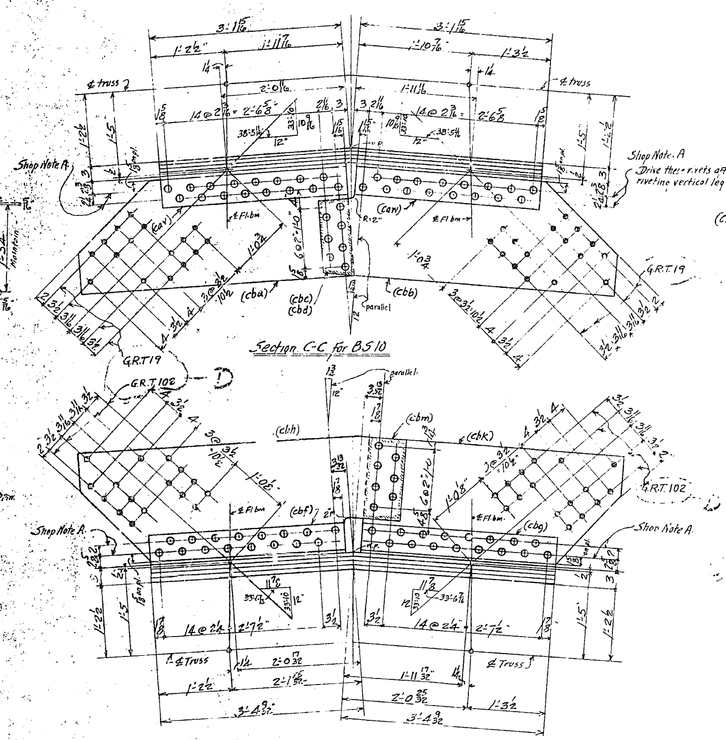
Section A-A for BS11 (developed)

Plan

View B-B for BS11 (developed)

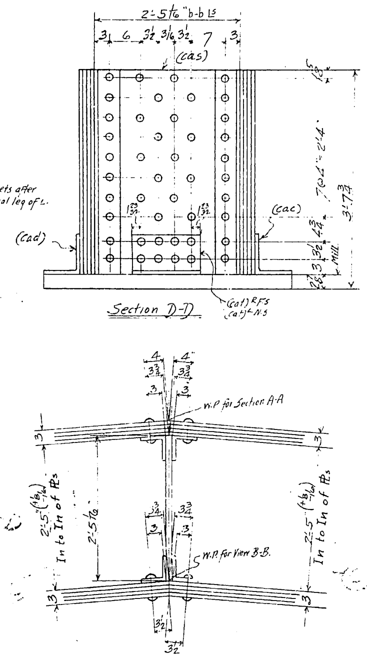


View B-B for BS10 (developed)



Section C-C for BS10

Section C-C for BS11



Section D-D

Plan showing gage on vertical angles, also work point at In. to In. of R's

Material for One Shoe BS10 and BS11.

1 Slab 50" F2W x 2 7/8 M2S x 6'-9 1/2 F2E (ca) Ord. 50 1/2 x 3 1/4 x 6'-10" It 42.
1 Pl.-40 7/8 U.M. M1W x 3/4 x 6'-8 7/16 bent F2E {(cb) for BS10, (cc) for BS11} Ord. 1 pl.-41 x 3/4 x 13'-6" It 65.
1 Pl.-40 7/8 U.M. M1W x 3/4 x 6'-8 3/8 bent F2E {(cd) for BS10, (cf) for BS11} Ord. 1 pl. 41 x 3/4 x 13'-6 It 65.
1 Pl.-40 7/8 U.M. M1W x 3/4 x 6'-8 1/4 bent F2E {(cg) for BS10, (ch) for BS11} Ord. 1 pl. 41 x 3/4 x 13'-6 It 66
1 Pl.-40 7/8 U.M. M1W x 3/4 x 6'-8 1/8 bent F2E {(ck) for BS10, (cm) for BS11} Ord. 1 pl. 41 x 3/4 x 13'-6 It 65.
1 Pl.-40 7/8 U.M. M1W x 3/4 x 6'-3 13/16 bent F2E {(cp) for BS10, (cs) for BS11} Ord 1 pl. 41 x 3/4 x 12'-8 1/2 It 66
1 Pl.-40 7/8 U.M. M1W x 3/4 x 6'-3 11/16 bent F2E {(ct) for BS10, (cv) for BS11} Ord 1 pl. 41 x 3/4 x 12'-8 1/2 It 66
1 pl.-40 7/8 U.M. M1W x 3/4 x 6'-3 9/16 bent F2E {(cw) for BS10, (cy) for BS11} Ord 1 pl. 41 x 3/4 x 12'-8 1/2 It 66
1 pl.-40 7/8 U.M. M1W x 3/4 x 6'-3 7/16 bent F2E {(caa) for BS10, (cab) for BS11} Ord 1 pl. 41 x 3/4 x 12'-8 1/2 It 66.
1 L 8 x 8 x 3/4 x 6'-8 1/2 Bent cut, F2E (cac)
1 L-7 1/2 x 8 x 3/4 x 6'-3 3/8 Bent, cut, F2E (cad)
2 Ls 8 x 6 x 3/4 x 2'-9 1/4 F1E (caf) R L
2 Ls-8 x 6 x 3/4 x 2'-7 1/4 F1E (cag) R L
2 Ls 5 x 5 x 3/4 x 3'-4 7/8 bent M1E F1E (cah) R L } for BS10
2 Ls do. do. do do (cak) R L }
2 Ls do do. do do (cam) R L } for BS11.
2 Ls do do. do do (cap) R L }
2 Web pls. 28 1/2 U.M. x 3/4 x 3'-4 7/8 M1E F1E (cas)
2 Ls-8 x 6 x 3/4 x 1'-1 1/2 (cat) R L
1 L-8 x 6 x 1/2 x 3'-1 1/16 cut, F2E (cav) } for BS10.
1 L do. do. do. do. (caw) }

1 pl-21 1/2 x 1/2 x 4'-6" (cba) } for BS10
1 pl-21 1/2 x 1/2 x 5'-0" (cbb) }
1 fill 6" U.M. x 3/4 x 1'-3 1/2 (cbc) } for BS10
1 fill 6" U.M. x 13/16 x 1'-3 1/2 (cbd) }
1 L-8 x 6 x 1/2 x 3'-2 5/16 cut, F2E (cbf) } for BS11.
1 L-8 x 6 x 1/2 x 3'-2 1/16 cut F2E (cbg) }
1 pl-22 x 1/2 x 5'-4 3/4 (cbh) } for BS11.
1 pl.-22 x 1/2 x 4'-2 1/2 (cbk) }
1 Fill-7" U.M. x 1/16 x 1'-3 1/2 (cbm) for BS11.

Reaming Note:
Holes marked GRT. to be subpunched and reamed or drilled to size thru a metal box template.
Holes marked RRT. to be subpunched and reamed or drilled to size thru a steel template furnished by Steelton Works, Mc-M. Corp.

Reqd by Spans	No.	Description	Mark	Remarks	Weight each Tons
1	1	Built up Shoe	BS10	as shown	
1	1	Built up Shoe	BS11	as shown	
Span #10					

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey.
RIVETS: 1" φ
OPEN HOLES: 1 1/16" φ unless noted.
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4 and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes,
Machined surfaces of Pin Holes to receive one coat of Blue Lacquer.

Rev. (D) 7-18-34
Rev. (C) 5-28-34
Rev. (B) 4-30-34
Rev. (A) 4-24-34

APPROVED

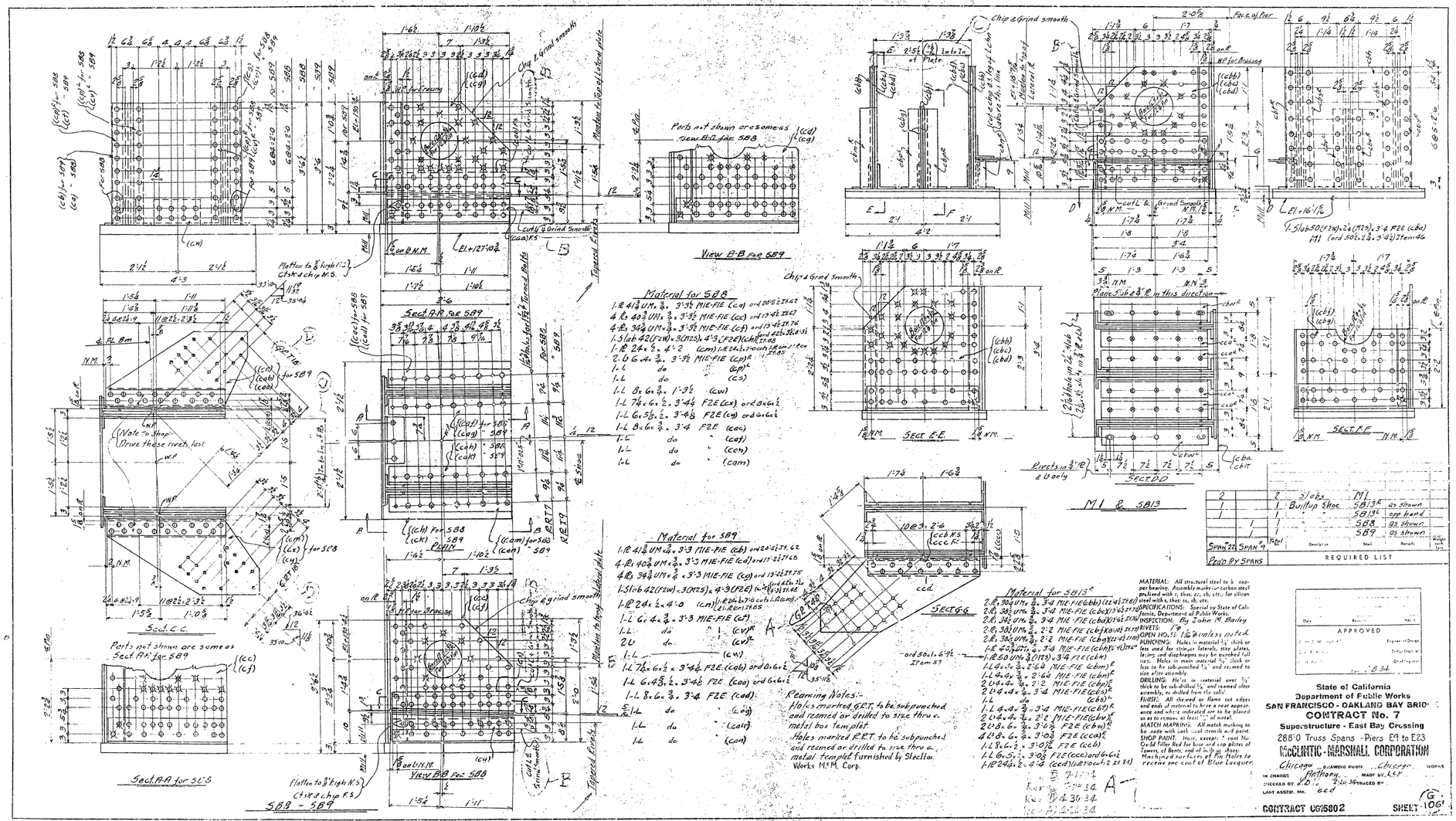
Date 3-8-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Chicago WORKS
IN CHARGE Anthony. MADE BY EJT 2/12-34
CHECKED BY Y.D.H. 2-27-34 TRACED BY FJT 2/12-34
LAST ASSEM. MK. (cbm.

CONTRACT CC15802 SHEET G 105

30-1



2	2	2	3/4 dia.	M1	
1	1	1	Built-up Shoe	5813	as shown
1	1	1	" " "	5813	one hand
		1		588	as shown
	1	1		589	as shown
Span 22	Span 9	Total	Description	Mark	Remarks

Bead By Spans — REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks on carbon steel prefixed with c, thus: cc, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special to State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 7/8"ø
OPEN HOLES: 1 1/16" ø unless as noted.
PUNCHING: Holes in material 5/8" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/4" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/4" of metal.
MATCH MARKING: All match marking to be done with paint of approved consistency and color.
SHIP PAINT: None, except: 1 coat Non-Corrosive Red for base and cap plates of Towers, and of Bents, and of built up shoes. Machined surfaces of Pin Plates to receive one coat of Blue Lacquer.

APPROVED

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago — DRAWING ROOM — Chicago — WORKS
IN CHARGE: J. Anthony — MADE BY: L.S.F.
CHECKED BY: A.D.G. — TRACED BY: —
LAST ASSET. MR.: E.C.D.

CONTRACT CC/5802 — SHEET 106

End View C-C.

Section A-A

Section D-D

Section E-E

Plan.

View B-B.

View F-F

Section K-K
Detail of notch for tooth bar.

Sect M-M for B514

Sect N-N for B514--Sheet G108.

No.	Description	Mark	Remarks	Number each Type

REQUIRED LIST

APPROVED

Date 4-2-34

MATERIAL: All structural steel to be open hearth. Assembly marks for carbon steel prefixed with c, thus: cc, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey.
RIVETS: 1"ø
OPEN HOLES: 1⅛" unless noted
PUNCHING: Holes in material ½" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in other material ¾" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled 1/4" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except 1 coat Red Oxide Filler Red for base and cap plates of Towers, all Seats, and of built up shoes. Machined Surfaces of Pin Holes to receive one coat of Blue Lacquer.

Reaming Note:
Holes marked GR12a to be subpunched and reamed or drilled to size thru a metal template.

For material and rigid list see sheet G107.00

Work this sheet and sheet G107.00 as one sheet.

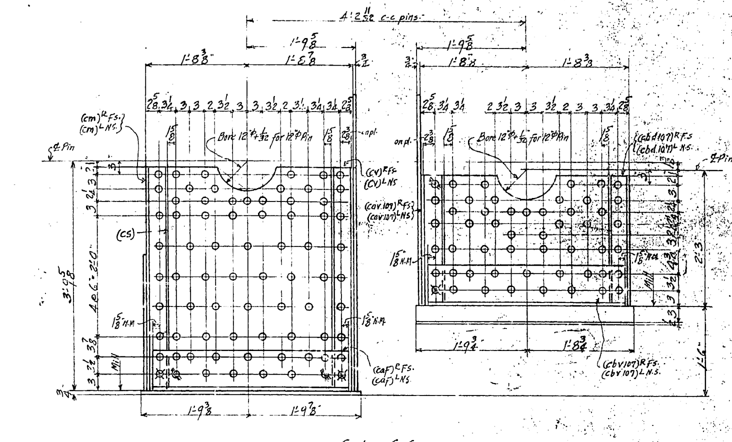
Vert. Sheets G114a + G116b with Sheet G118

Rev (3) 5-2-34
Rev (2) 4-30-34
Rev (1) 4-24-34
Rev (G) 4-16-34
Rev (G) 4-11-34
Rev (B) 4-7-34
Rev (A) 4-3-34

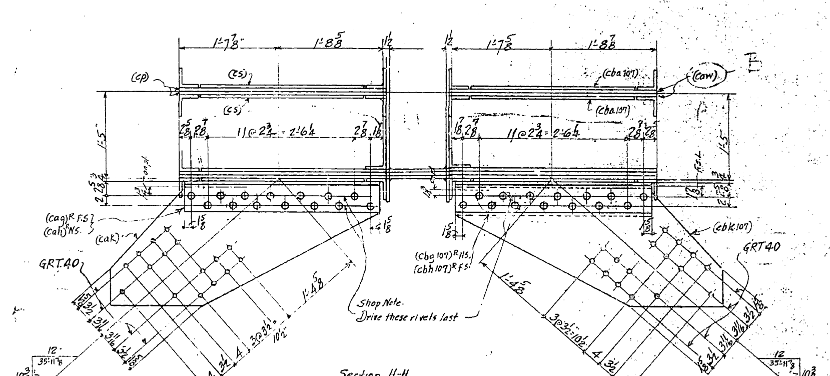
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM: Chicago WORKS
IN CHARGE: Watsons ISSUE BY: 5-2-34
CHECKED BY: D.M. 3-14-34 TRACED BY: E.H. 3-9-34
LAST CHECK: DM.

CONTRACT DRAWING SHEET G107

30-1



Section G-G



Section H-H

Material for one shoe BS12 R.

1 Slab - 42½" F2W × 3½" M15 × 5'-0" F2E (ca) Ord 43×3¾×5'-0½ It.47.
1 Plate - 43¼ U.M. × ¾ M25 × 3'-11½ F2E (cb) Ord. 1 R 43¼ U.M. 1×20'-0" to cut 5 It.58
4 Plates - 91⅛ F2W × ¾ × 4'-10¾ MIE FIE (cc) - {Ord 1 pl. 91¾ × ¾ × 17'-0" It.49 to cut 4}
2 Plates - 86⅞ F2W × ¾ × 4'-10¾ MIE FIE (ce) - {Ord 1 pl. 87½ × ¾ × 17'-0" It.50 to cut 4}
1 Plate - 42¼ UM × ¾ × 2'-2¾ MIE FIE (cf)
1L - 4×4×¾ × 3'-10¾ MIE FIE (cg) R
1L do. do. MIE FIE (ch) R
2Ls - 6×4×¾ × 2'-2¾ MIE FIE (ck) R L
2Ls - 4×4×¾ × 3'-8⅝ MIE FIE (cm) R L
2 Plates - 41 UM × ¾ × 3'-8⅝ MIE FIE (cp)
2 Plates 32¾ UM × ¾ × 3'-8⅝ MIE FIE (cs)
2Ls - 4×4×¾ × 4'-10¾ MIE FIE (ct) R
2Ls do. do. MIE FIE (ct) L
2Ls do. × 3'-8⅝ MIE FIE (cv) R L
1 Plate - 42¼ UM × ¾ × 4'-10¾ MIE FIE (cw)
2 fills - 8" UM MIW × ¾ × 2'-8¾ (caa)
2 fills - 8" UM MIW × ¾ × 3'-0" FIE (cab)
2Ls - 8×6×¾ × 3'-3¼ F2E (cac) R L
2Ls do. do. F2E (cad) R L
2Ls do. do. F2E (caf) R L
1L - 8×6×½ × 3'-3½ F2E (cag) R
1L - 6×5⅛×½ × 3'-3⅜ F2E (cah) R Ord 6×6 L
1 Pl - 23½ × ½ × 4'-6" (cak) 7'-3 cuts 2.
1 Plate - 42¼ UM × ¾ × 3'-5½ MIE FIE (cam) B
2Ls 4×4×¾ × 3'-5½ MIE FIE (cap107) R
1L do. do. MIE FIE (cas107) R
1 Fill - 13½ UM × ¾ × 2'-8¾ (cbf)
1L - 4×4×¾ × 3'-5½ MIE FIE (cap107) L
2Ls do × 2'-2" MIE FIE (cav107) R L
2 Plates 41 UM × ¾ × 2'-2 MIE FIE (caw) E
2 Plates 32¾ UM × ¾ × 2'-2 MIE FIE (cba107)
1L - 4×4×¾ × 2'-5 MIE FIE (cbb107) R
1L do. do. MIE FIE (cbc107) R
2Ls do × 2'-2" MIE FIE (cbd107) R L
1L - 8×6×½ × 3'-3⅜ F2E (cbg107) R
1L - 6×5⅛×½ × 3'-3⅜ F2E (cbh107) R Ord 6×6 L
1 pl - 23½ × ½ × 4'-5 (cbk107) 7'-0 cuts 2
1 Fill - 17 3/16 MIW FIW × ¾ × 2'-8¾ (cbm107)
1 Fill - 8" UM MIW × ¾ × 2'-8¾ (cbp107)
2 fills - 8" UM MIW × ¾ × 3'-0" FIE (cbs107)
2Ls - 8×6×¾ × 3'-3¼ F2E (cbt107) R
2Ls do. do. F2E (cbt109) L
2Ls do. do. F2E (cbv107) R L

Reaming Note.
Holes marked GRT11 to be subpunched and reamed or drilled to size thru a metal box template.

Work this sheet and sheet G107AB as one sheet

Rev. B
Rev. A 4-7-34

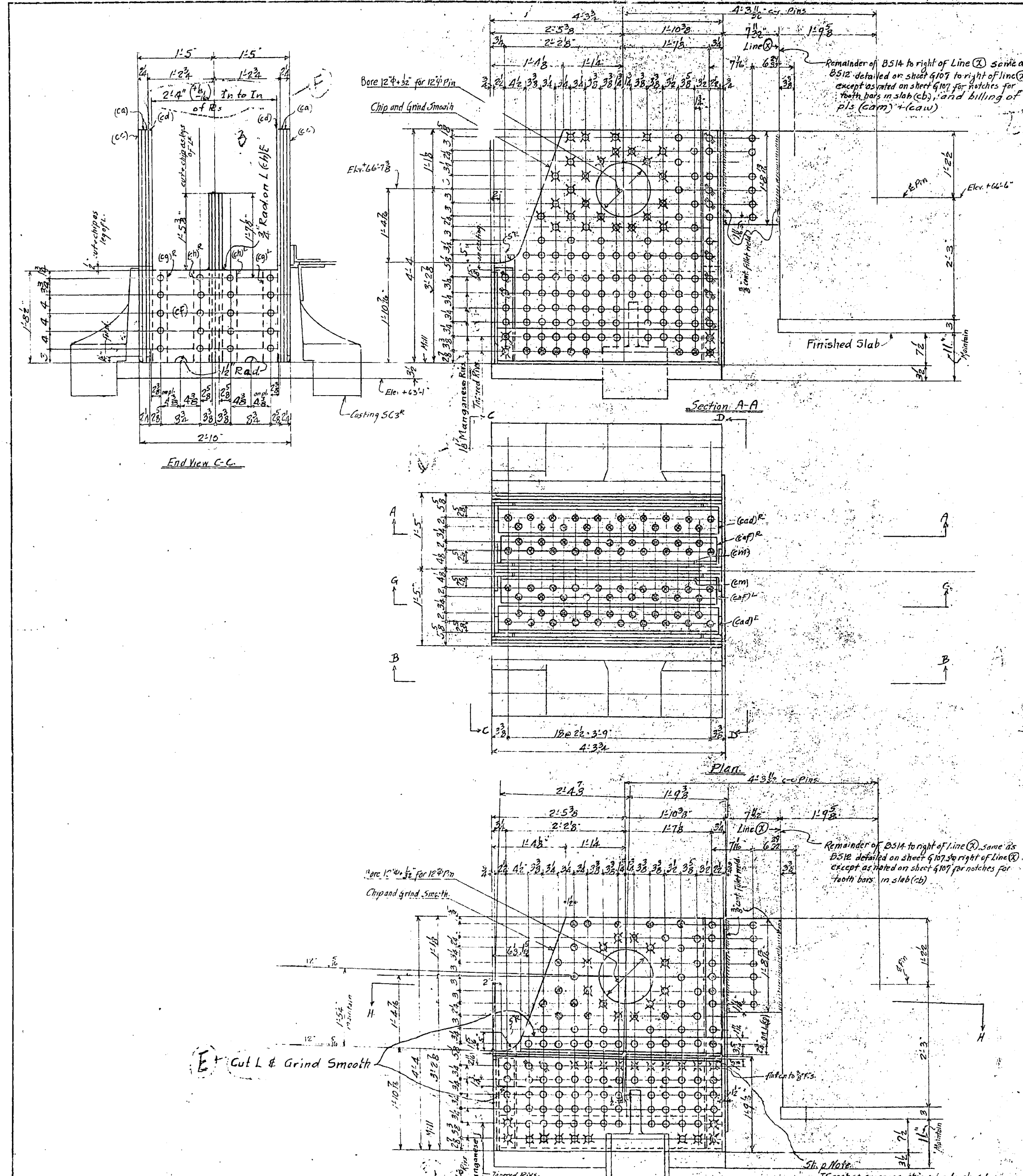
1 each	5	Built up Shoe	BS12 R	as shown	
1 each	5	Built up Shoe	BS12 L	opp. hand.	
SPANS E18 to 22 incl	Total No.	Description	Mark	Remarks	Weight each Tons
REQ'D BY SPANS	REQUIRED LIST				

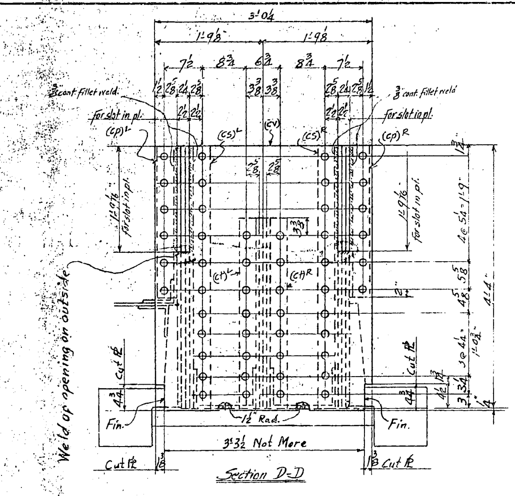
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey.
RIVETS: 1"⌀
OPEN HOLES: 1 1/16 ⌀ unless noted.
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in other material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; Machined surfaces of Pin Holes to receive one coat of Blue Lacquer.

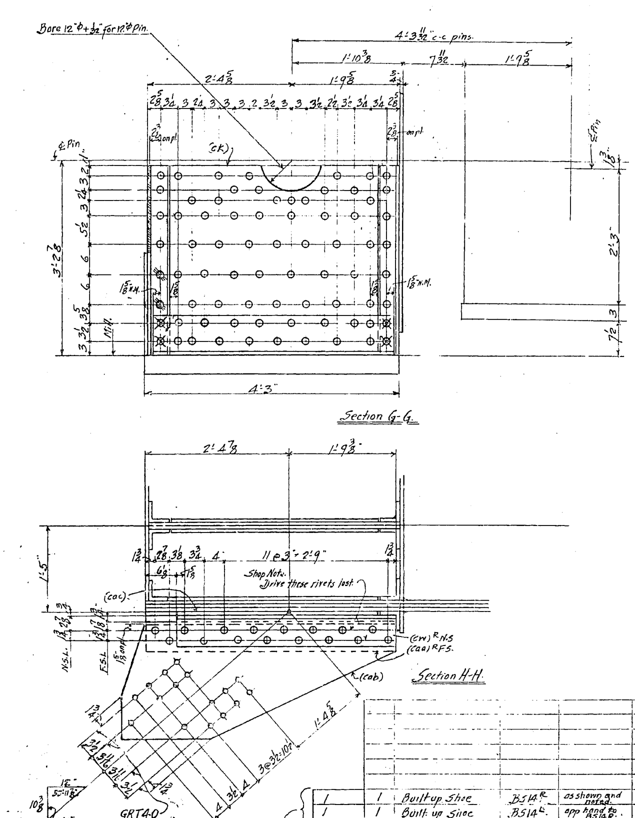
Date	Revision	App'd

APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date 4-2-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Chicago WORKS
IN CHARGE Anthony MADE BY EUT 3/5-34
CHECKED BY YEH 3-14-34 TRACED BY
LAST ASSEM. MK.
CONTRACT CC15802 SHEET G107BB







Material for one Shoe BS14[R]

4 plates 101⅛ F2W × ¾ × 4'-4 MIE FIE (ca) ord. 101¼ × 17'-7 to cut 4 It.#106
1 slab 42½ F2W × 3½ MIS × 5'-0" F2E (cb) ord. 43 × 3¾ × 5'-0½ It.109 (See Shee G107AB for detail)
2 plates 101⅛ F2W × ¾ × 4'-2¾ F2E (cc) ord. 101¼ × 17'-2 to cut 4 It.#107
2 plates 41¾ F2W × ¾ × 4'-4 MIE FIE (cd) ord. 42¼ × 17'-6½ to cut 4 It.#111
1 plate 29 F2W × ¾ × 1'-8½ MIE FIE (cf) ord. 43 × 18'-3 It.#110
2 Ls 4 × 4 × ¾ × 1'-9" MIE FIE (cg)R L
2 Ls do × 3'-1⅞" MIE FIE (ch)R L
2 plates 49¾ F2W × ¾ × 5'-1⅞ MIE FIE (ck) ord. 50¼ × 12'-10 It.#108
2 plates 41½ F2W × ¾ × 3'-1⅞ MIE FIE (cm)
2 Ls 4 × 4 × ¾ × 2'-6⅜ F2E (cp)R L
2 Ls do × 4'-4" MIE FIE (cs)R L
2 Ls do × 3'-1⅞ MIE FIE (ct)R L
1 plate 42½ F2W × ¾ × 4'-4¼ F2E (cv) ord. 43 × 18'-3 It.#110
1 L 6 × 5 × ½ × 2'-8⅜ F2E (cw)R ord. 6 × 6 L
1 L 7/16 × 6 × ½ × 4'-2 1/16 F2E (caa)R ord. 8 × 6 L
1 plate 23" × ½ × 4'-7" (cab) 1 pl. 7'-3½ cuts 2
1 Fill 4⅞ F2W × ¾ × 3'-4⅝ FIE (cac) ord. 41½ × 9'-9 It.#112
2 Ls 8 × 6 × ¾ × 4'-0¾ F2E (cad)R L
2 Ls 8 × 6 × ¾ × 4'-0¼ F2E (caf)R L
1 plate 42½ F2W × ¾ × 3'-5½ MIE FIE (cam)
2 Ls 4 × 4 × ¾ × 3'-5½ MIE FIE (cap107)R
1 L do do MIE FIE (cap107)L
1 L do do MIE FIE (cas107)R
2 Ls do × 2'-2" MIE FIE (cav107)R L
2 Plates 41 F2W × ¾ × 2'-2 MIE FIE (caw) ord. 41½ × 9'-9 It.#112
2 Plates 32¾ UM × ¾ × 2'-2" MIE FIE (cba107)
1 L 4 × 4 × ¾ × 2'-5 MIE FIE (cbb107)R
1 L do do MIE FIE (cbc107)R
2 Ls do × 2'-2" MIE FIE (cbd107)R L
1 L 8 × 6 × ½ × 3'-3⅜ F2E (cbg107)R
1 L 6 × 5⅝ × ½ × 3'-3⅜ F2E (cbh107)R Ord 6 × 6 L
1 pl 23½ × ½ × 4'-5" (cbk107) 7'-0" cuts 2
1 Fill 17 7/16 MIW FIW × ¾ × 2'-8¾ (cbm107)
1 Fill 8 UM MIW × ¾ × 2'-8¾ (cbp107)
2 Fills 8 UM MIW × ¾ × 3'-0" FIE (cbs107)
2 Ls 8 × 6 × ¾ × 3'-3¼ F2E (cbt107)R
2 Ls do do F2E (cbt107)L
2 Ls do do F2E (cbv107)R L
1 Shoe Casting SC3[R] (Detailed on sheet G109 - Contr. CG15802 assembled on this sheet.)

Reaming Note.
Holes marked GRT to be subpunched and reamed or drilled to size thru a metal box template

Work this sheet with sheets G107AB & G108

Note:- Do not ship from this sheet. See sheet G111 Contr. CG15802.

1	1	Built up Shoe	BS14[R]	as shown and noted	
1	1	Built up Shoe	BS14[L]	opp hand to BS14R	
SPAN #17	Total No.	Description	Mark	Remarks	Weight each Tons
REQD. BY SPANS	REQUIRED LIST				

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Cailey
RIVETS: 1" ϕ unless noted.
OPEN HOLES: 1⅛ ϕ unless noted.
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in other material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except: 1 coat No Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, & to machined surfaces of castings,
Machined Surfaces of Pin Holes to receive one coat of Blue Lacquer.

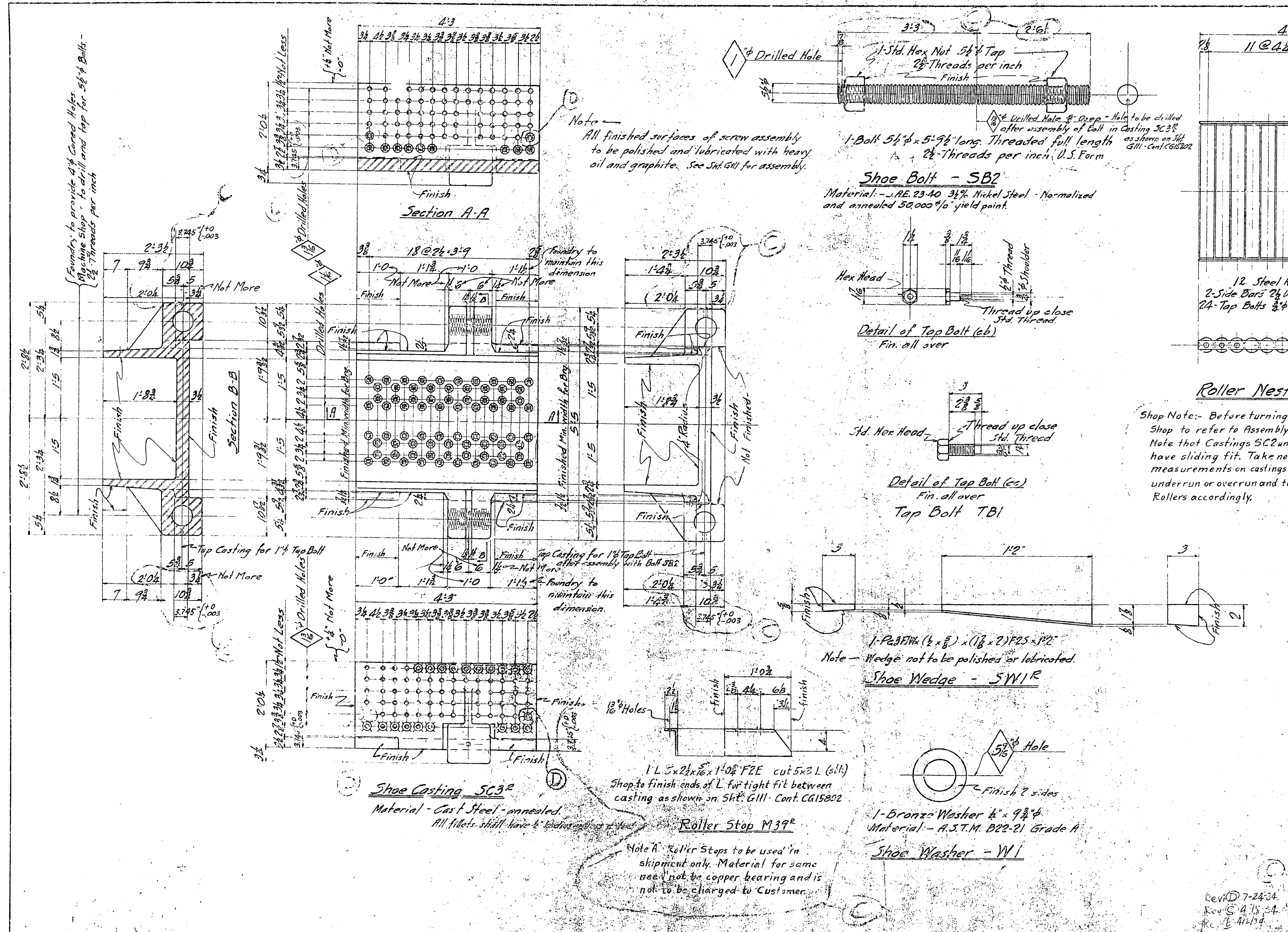
Date	Revision	App'd

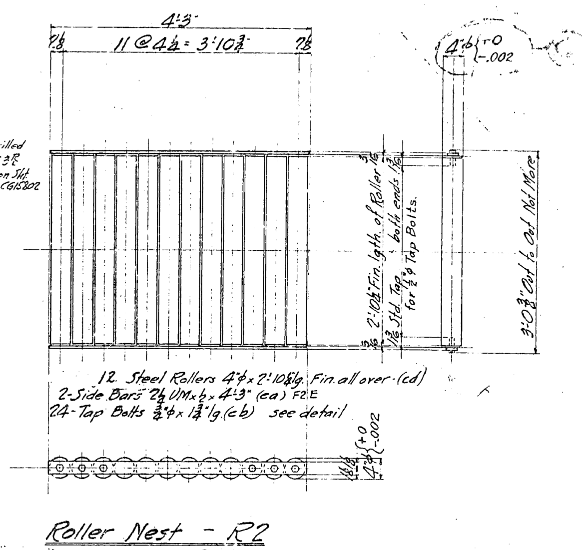
APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date 4-2-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Chicago WORKS
IN CHARGE Anthony MADE BY EUT
CHECKED BY Y.O.T. 3-19-34 TRACED BY EUT 3/19/34
LAST ASCENSION

CONTRACT CG15802 SHEET G108

30-1





Shop Note:- Before turning down Rollers Shop to refer to Assembly Diag. Sh. G111. Note that Castings SC2 and SC3 must have sliding fit. Take necessary measurements on castings to check underrun or overrun and turn down Rollers accordingly.

DO NOT SHIP FROM THIS SHEET

Total No.	Description	Mark	Remarks	Weight each-Tons
2	Roller Stops	M39R	As shown	
2	do	M39L	Opp. hand	
1	Shoe Casting	SC3R	As shown	
1	do	SC3L	Opp. hand	
2	Roller Nests	R2	As shown	
4	Shoe Wedges	SW1R	As shown	
4	do	SW1L	Opp. hand	
8	Shoe Washers	W1	As shown	
4	Shoe Bolts	SB2	As shown	
4	Tap Bolts	TB1	As shown	

Roller Stops: Assemble on Sht. G111 Contract CG15802
Shoe Castings: To be assembled with Builtup Shoes BS14R & BS14L detailed on Sht. G108 - Contract CG15802
Roller Nests through Tap Bolts: Assemble on Sht. G111 - Contract CG15802

SPAN #17 REQUIRED LIST

MATERIAL. All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc. See Note A
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: None
OPEN HOLES: As shown
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in other material ¾" thick or less to be sub-punched ⅛" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub drilled ⅛" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except: 1 coat No-Oxid Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to all surfaces of Rollers and to inside surfaces of Guide Bars adjacent to Rollers.

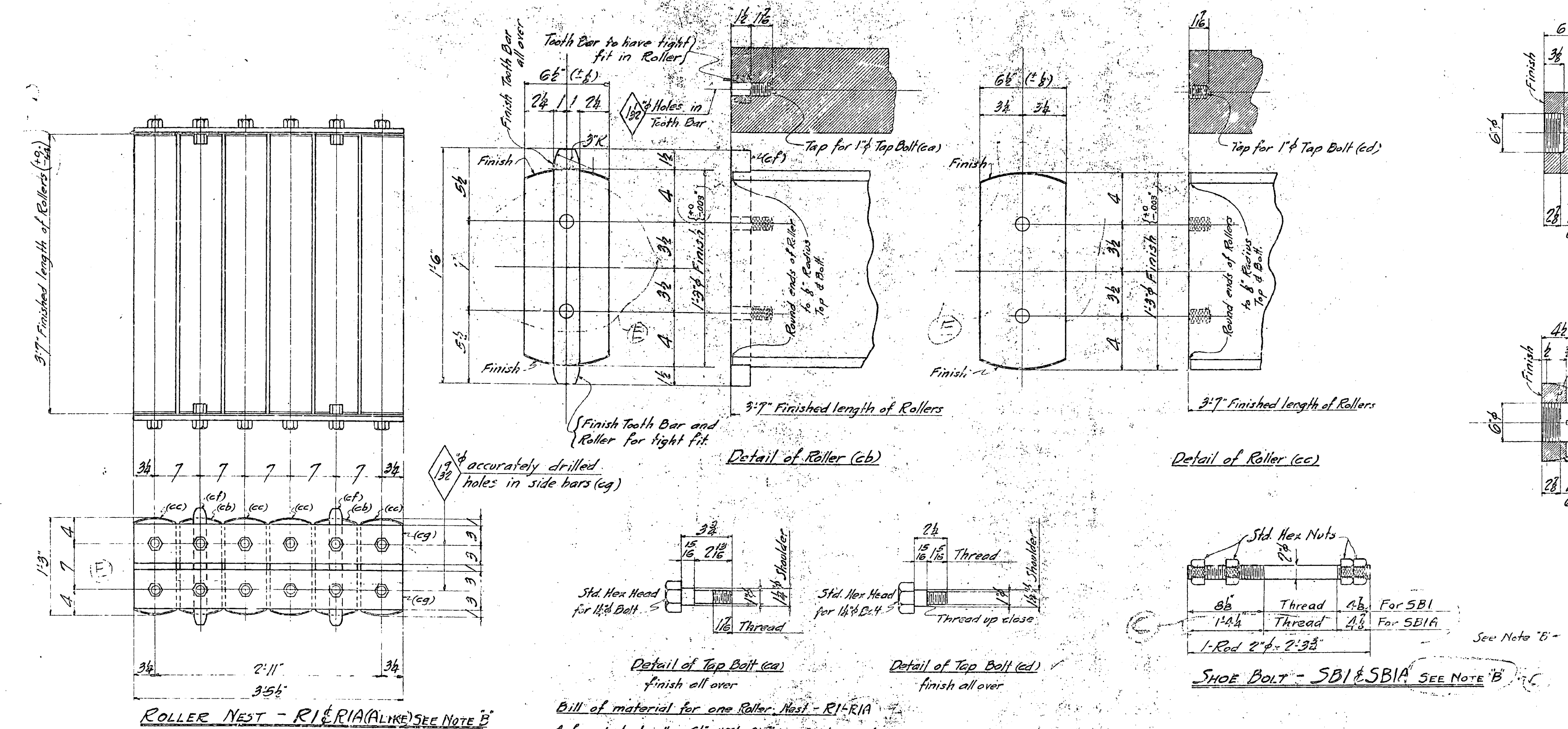
Date	Revision	App'd

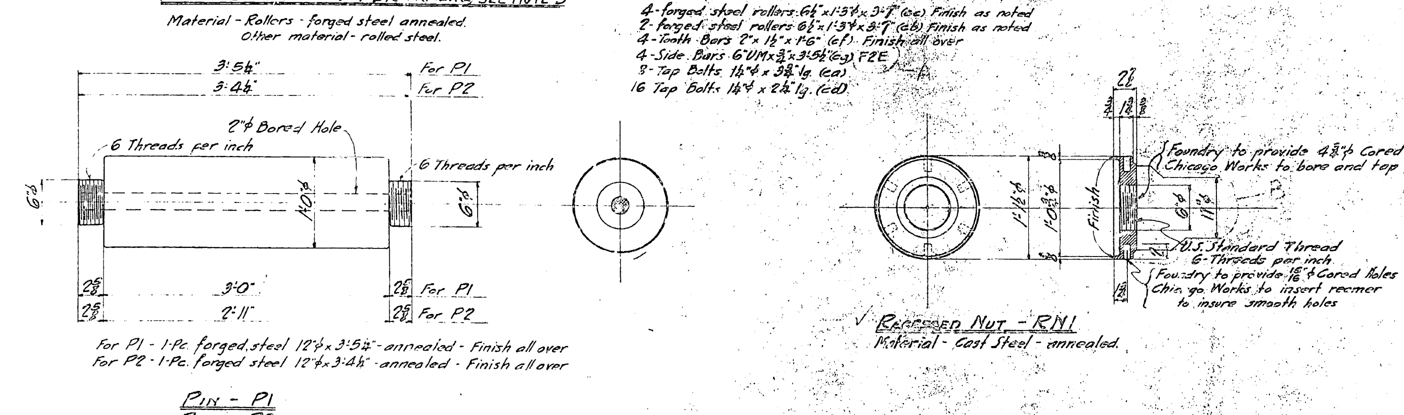
APPROVED

Engineer of Design
Bridge Engineer
Chief Engineer
Date 4-14-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing.
288'-0 Truss, Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Chicago WORKS
IN CHARGE Anthony MADE BY
CHECKED BY L.D.H. 3-29-34 TRACED BY
(cd)
CONTRACT CG15802 SHEET G109

30-1





Note "B" —
Two Roller Nests R1A for Span 17 and eight Shoe Bolts SB1A for Span 17 are not to be shipped from this sheet but will be assembled in shop as shown on Sheet G111 - Contract CG15802 and shipped from that sheet as a part of Built up Shoes BSC1R & BSC1L

Shop Note —
See Sht. G111 for Dummy Tooth Bars required for shop assembly of BSC1R

Note "A"
All material on this sheet to be copper bearing except Pins P1 and P2 & Nuts DN1 and PN1

Rev. D 5-15-34
Rev. 4-15-34

See Note "B"

Spans 9 to 15 inc.	Span 16	Span 17	Spans 18 to 21 inc.	Span 22	Total No.	Description	Mark	Remarks	Weight each Tons
		2			2	Roller Nests	R1A	Same as R1	
		8			8	Shoe Bolts	SB1A	As Shown	
			2 each	2	10	Roller Nests	R1	As shown	
4 each	2				30	Pins	P1	do	
	2	4	4 each	4	26	Pins	P2	do	
8 each	8	8	8 each	8	112	Recessed Nuts	RN1	do	
			8 each	8	40	Shoe Bolts	SB1	do	
				4	4	Driving Nuts	DN1	do	
				4	4	Pilot Nuts	PN1	do	
REQUIRED BY SPANS					REQUIRED LIST				

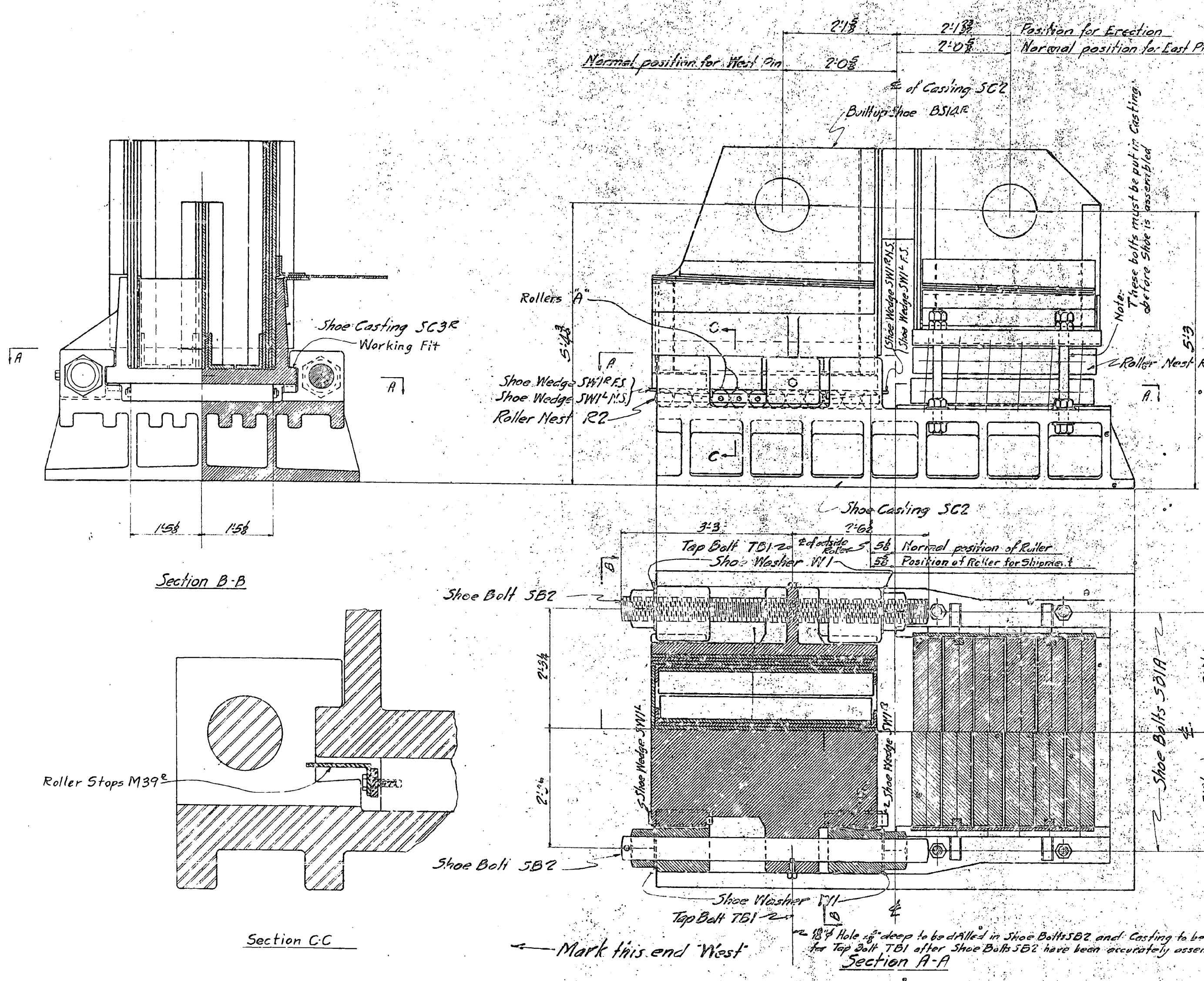
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc. See Note "A"
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: None
OPEN HOLES: As noted
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except: 1 coat No-Ox-Id Filler Red for base and cap plate of Towers, of Bents, and of built up shoes and 1 coat "Acid Resisting Liquid" to milled ends of members to machined surfaces of castings, and to all surfaces of Rollers and to inside surfaces of Guide Bars adjacent to Rollers. Pins to receive one coat of Blue Lacquer.

Date	Revision	App'd

APPROVED

Engineer of Design
Bridge Engineer
Chief Engineer
Date 4-11-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E19 to E23
McCLINTIC - MARSHALL CORPORATION
Chicago DRAWING ROOM Chicago WORKS
IN CHARGE Anthony MADE BY
CHECKED BY L.D.H. 3-22-34 TRACED BY
LAST ASSEM. MK. (cg)
CONTRACT CG15802



BUILTUP SHOE CASTING BSC1R

Shop to assemble the following pieces and mark BSC1R for shipment.

No.	Mark	Description	Det. on Sht.
1	SC2	Shoe Casting	G102
1	BS14R	Builtup Shoe	G108
1	R1A	Roller Nest	G110
1	R2	do	G109
4	SB1A	Shoe Bolt	G110
2	SB2	do	G109
2	TB1	Tap Bolt	G109
4	W1	Shoe Washer	G109
2	SW1R	Shoe Wedge	G109
2	SW1L	do	G109
1	SC3R	Shoe Casting	G109
1	M39R	Roller Stop	G109
1	M39L	Roller Stop	G109

Assembled with Shoe BS14R as shown on Sheet G108.

Shop Note:—
All finished surfaces of screw assembly to be polished and lubricated with heavy oil and graphite.
Wedges are not to be polished or lubricated.

Shop Note:—
Shop to ~~make two~~ extra Tooth Bars (cf) as detailed on Sht. G110 and cut in half for use as Dummy Tooth Bars while assembling BSC1R/L
In assembling Castings SC3R/L with Castings SC2 Shop to take extra precautions to maintain a sliding fit.

Shop Note —
On this drawing and in the following Notes "Normal Position" refers to the final position of Shoes after erection is completed with Rockers in a vertical position.
Assemble Shoes and Casting as follows:-
① Remove 2⅛" Guide Bars from groove in Casting SC2. Assemble Roller Nest R1A with dummy Tooth Bars. Dummy Bars to extend below bottom of Rollers. Place Bolts SB1A in Casting and lower same to clear Shoe
② Set Roller Nest R2 on Casting SC2 6½" West of its normal position.
③ Set Roller Nest R1A in its normal position on Casting SC2, blocking rockers to keep them in a vertical position. Replace 2⅛" Guide Bars in grooves of Casting SC2.
④ Lower Shoe BS14 until it rests on Roller Nest R2 with the West Pin Hole 12½" West of its normal position.
⑤ Roll Shoe BS14 East on Roller Nest R2 which will roll toward its normal position. The Shoe must slide on top of Roller Nest R1A until East Pin Hole has reached its normal position.
⑥ Remove 2⅛" Guide Bars from Casting SC2. Remove blocking from Roller Nest R1A. Remove Tie Bars and replace Dummy Tooth Bars with permanent Tooth Bars. Slots have been provided in Slab and Casting for inserting Tooth Bars. Replace Tie Bars on Rollers.
⑦ Replace 2⅛" Guide Bars in groove on Casting SC2 and bolt.
⑧ Place 5½"ϕ Shoe Bolts SB2 in position shown with Washer W1 and nut on each end.
⑨ Drill 13/16"ϕ Hole in Shoe Casting SC3 and Shoe Bolt SB2 and Tap Casting. Place Tap Bolt in position and turn down tight to prevent Bolt SB2 from turning.
⑩ Move Shoe BS14 East until 15"ϕ Rollers are tilted East 1 3/32" (East Pin Hole will be 1 3/32" East of normal position.)
⑪ Raise Shoe Bolts SB1A and tighten nuts.
⑫ Tighten nuts on 5½"ϕ Bolts SB2 and drive Wedges SW1R/L snug but with only force enough to hold them in place.
⑬ Remove Tap bolts from ends of Rollers Marked "A" and place Roller Stops M39R against Tie Bars of 4" Rollers. Replace Tap bolts as shown in Section C-C. Ends of Roller Stops must have tight fit against lugs on Casting to prevent Rollers from moving during Shipment.

SPAN #17	Total No.	Description	Mark	Remarks	Weight each Tons
1	1	Builtup Shoe Casting	BSC1R	As shown	
1	1	do	BSC1L	Opp hand	

Required by SPANS — REQUIRED LIST

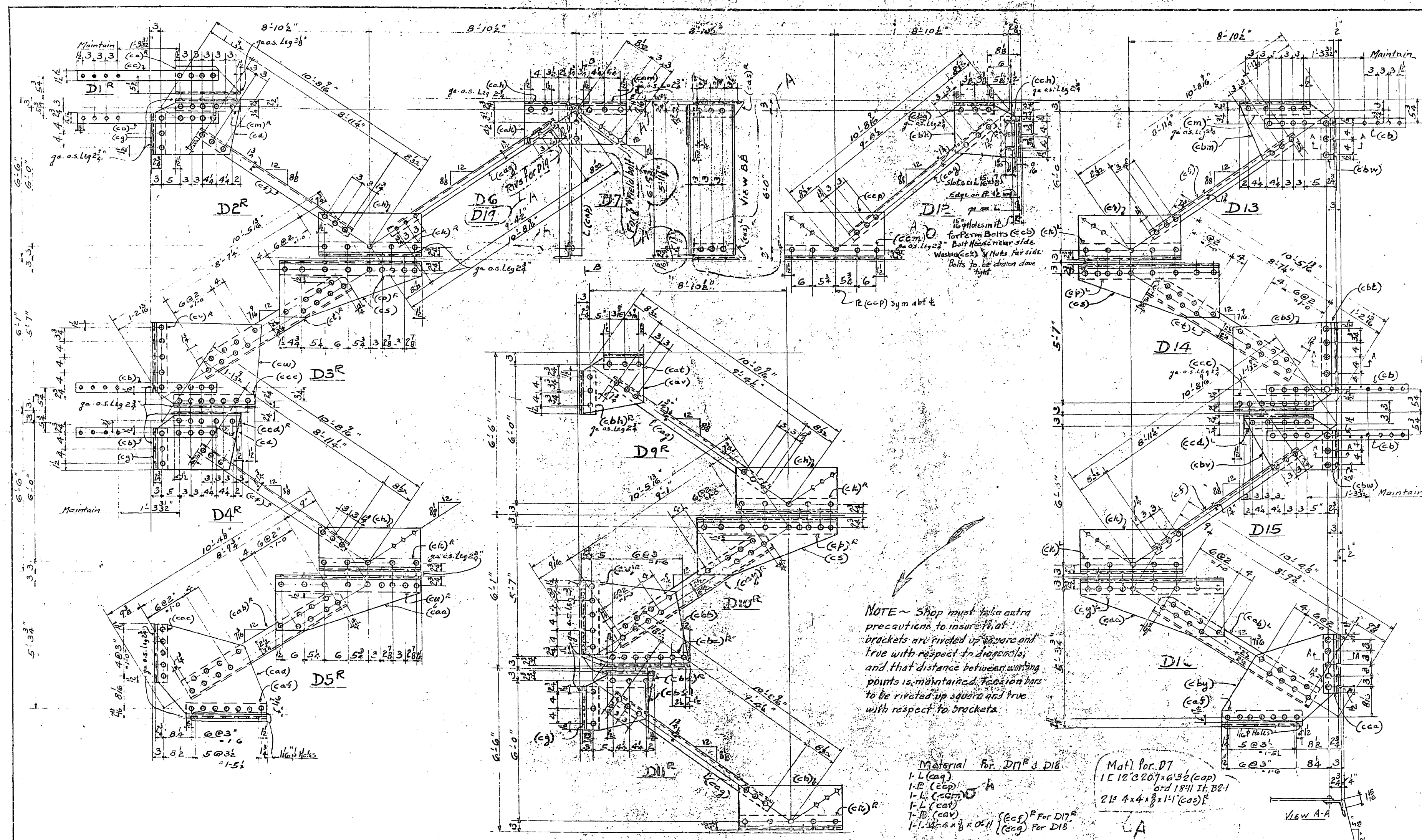
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS:
OPEN HOLES.
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Chicago WORKS
IN CHARGE Anthony MADE BY HWS 3/21/34
CHECKED BY L.D.H. 3-29-34 TRACED BY
LAST ASSEM. MK.
CONTRACT CG15802 SHEET G/111

30-1



NOTE ~ Shop must take extra precautions to insure that brackets are riveted up square and true with respect to diagonals, and that distance between working points is maintained. Tension bars to be riveted up square and true with respect to brackets.

NOTE "A"
All material on this sheet may be punched full size

D8^R D17^R D18

Shop Note:—
Shop to paint all Erection Marks on left hand end of Members as detailed and in an upright position.

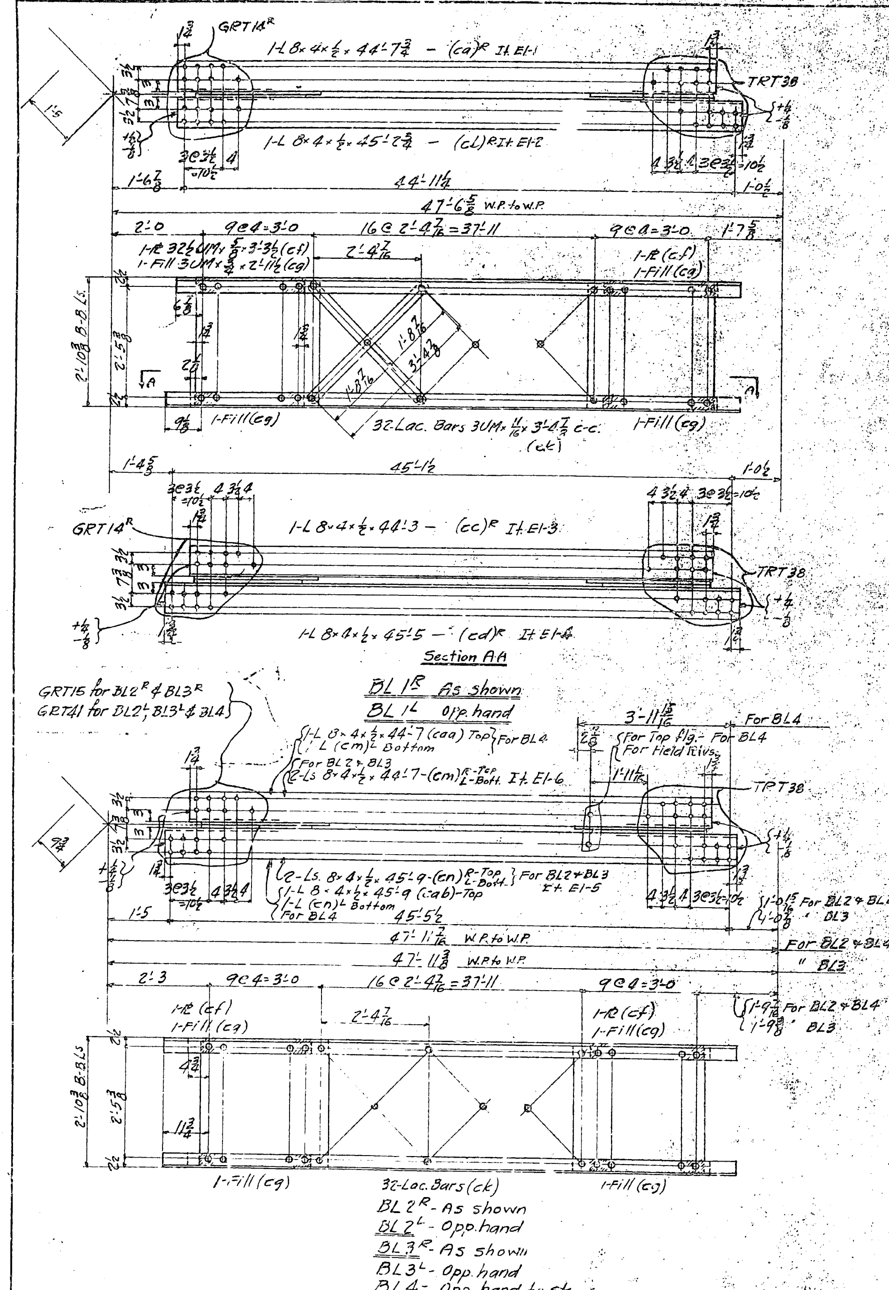
Span 11	Spans 12 to 15	Span 16	Spans 17 to 21	Span 22	Total No.	Description	Mark	Remarks	Weight each Tons
16	16 each	16	16 each	16	192	Traction Bracing	D19	As shown	
				2	2	Traction Bracing	D17^R	As Shown	
				2	2	do	D17^L	Opp. Hd. to D17^R	
				2	2	do	D18	As Shown	
3		2	5 Each	5	35	Traction Bracing	D1^R	as shown	
2		3	5 Each	5	35	do	D1^L	opp hd to D1^R	
1			1 Each	1	7	do	D2^R	as shown	
		1	1 Each		6	do	D2^L	opp hd to D2^R	
1			1 Each	1	7	do	D3^R	as shown	
		1	1 Each		6	do	D3^L	opp hd to D3^R	
1			1 Each	1	7	do	D4^R	as shown	
		1	1 Each		6	do	D4^L	opp hd to D4^R	
1	1 Each	1	1 Each	1	12	do	D5^R	as shown	
1	1 Each	1	1 Each		11	do	D5^L	opp hd to D5^R	
16	16 Each	16	16 Each	16	192	do	D6	as shown	
16	16 Each	16	16 Each	16	192	do	D7	as shown	
14	14 Each	14	14 Each	10	164	do	D8^R	as shown	
12	12 Each	12	12 Each	10	142	do	D8^L	opp hd to D8^R	
	1 Each	1			5	do	D9^R	as shown	
1	1 Each				5	do	D9^L	opp hd to D9^R	
	1 Each	1			5	do	D10^R	as shown	
1	1 Each				5	do	D10^L	opp hd to D10^R	
	1 Each	1			5	do	D11^R	as shown	
1	1 Each				5	do	D11^L	opp hd to D11^R	
2	2 Each	2	2 Each	2	24	do	D12	as shown	
				1	1	do	D13	as shown	
				1	1	do	D14	as shown	
				1	1	do	D15	as shown	
				1	1	do	D16	as shown	
REQUIRED BY SPANS					REQUIRED LIST				

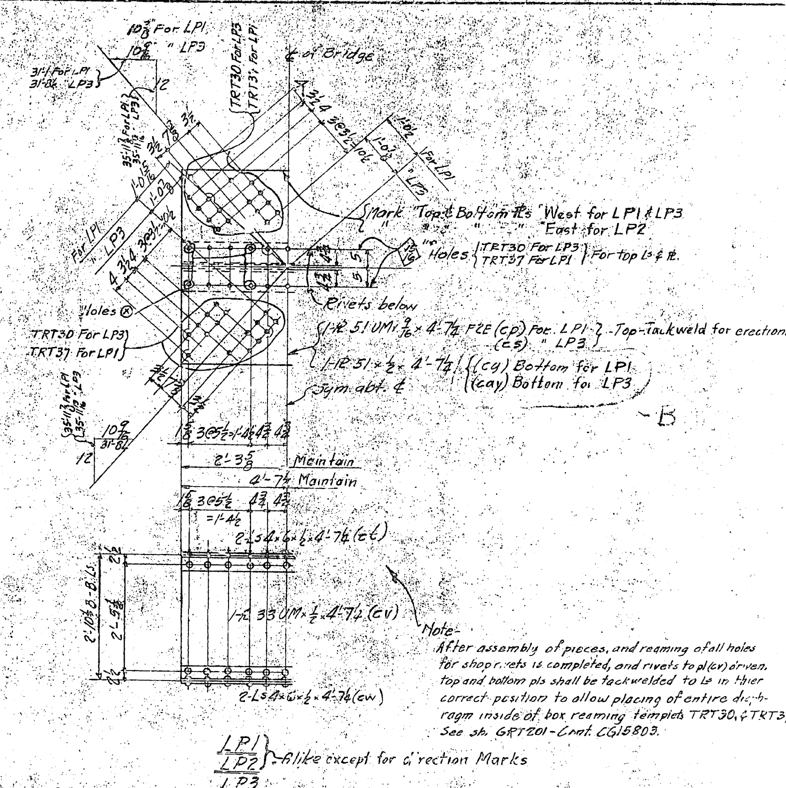
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By JOHN M. BAILEY
RIVETS: 7/8" φ
OPEN HOLES: 15/16" φ Unless Noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly. SEE NOTE "A"
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ... of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except parts bolted either permanent or to ship ... contact surfaces painted with ... "Acid Resisting Liquid" ... contact surfaces are ... and scraped ... repaint it dry.

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 3-30-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM
IN CHARGE ... MADE BY W.L.M.
CHECKED BY HW 2/21/34 TRACED BY W.L.M.
CONTRACT ... SHEET ...
G20





Note-
After assembly of pieces, and reaming of all holes for shop rivets is completed, and rivets to pl (cv) driven, top and bottom pls shall be tackwelded to Ls in thier correct position to allow placing of entire diaphragm inside of box reaming templets TRT30, & TRT37 See sh. GRT201 - Cont. CG15803.

Shop Note:-
Shop to Paint all Erection Marks on Left, Hand End of Members as Detailed and in an Upright Position.
Holes marked GRT to be subpunched and reamed or drilled to size thru metal Box Templet furnished by Chicago Works - McClintic-Marshall Corp.

Holes marked TRT to be subpunched & reamed or drilled to size thru metal Box Templet furnished by San Francisco Works - McClintic-Marshall Corp.
Shop to put shipping bolts in holes Ⓧ and draw same up tight. Erector to remove bolts in field. Contact surfaces between pieces where above bolts are used must be thoroughly scraped and cleaned before assembling.

				Spans 1 to 22 incl.	Total No.	Description	Mark	Remarks	Weight each Item
				2 each	24	Bottom Laterals	BL 1R	As shown	
				2 ea.	24	do	BL 1L	Opp. hand	
				2 ea.	24	"	BL 2R	As shown	
				1 each	12	"	BL 2L	Opp. hand	
				4 each	48	do.	BL 3R	As shown	
				4 each	48	"	BL 3L	Opp. hand	
				1 each	12	"	BL 4	Opp hand to sk.	
				1 each	12	Lateral Conns.	LP1		
				1 each	12	Do.	LP2		
				2 each	24	"	LP3		

REQ'D. BY SPANS. — REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M Bailey
RIVETS: 7/8"
OPEN HOLES: 1 1/16" un. noted.
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in other material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None.

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 2-29-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure, - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM
IN CHARGE Anthone MADE BY GAK
CHECKED BY L.D.H. 3-6-34 TRACED BY GAK
LAST ASSEM. NO.

Rev. Ⓑ 5-14-34
Rev Ⓐ -34

CONTRACT [illegible] SHEET 202

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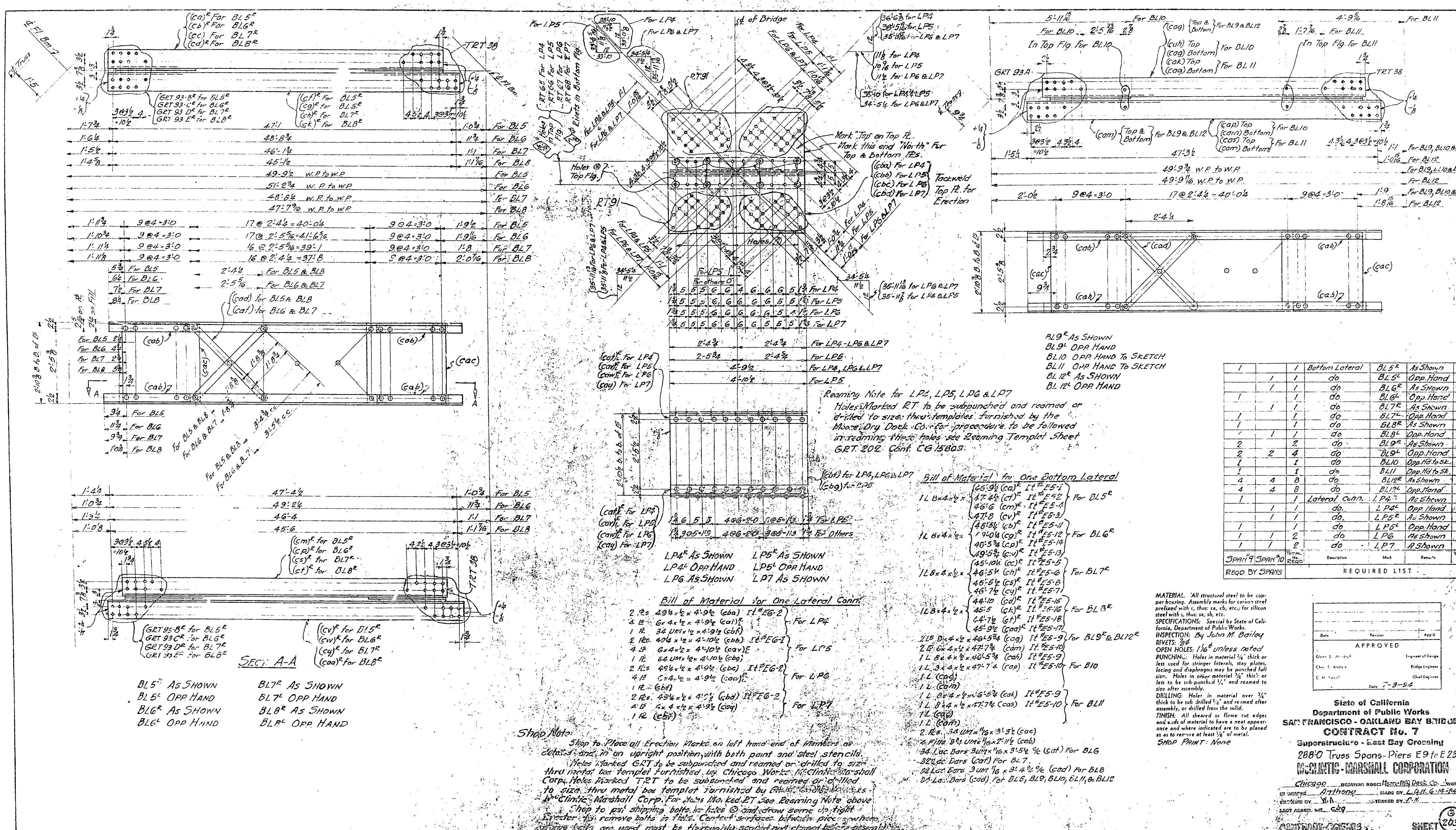


Span #9	Span #10	Total No. Reqd.	Description	Mark	Remarks	Weight each Tons
1		1	Bottom Lateral	BL5R	As Shown	
	1	1	do	BL5L	Opp. Hand	
	1	1	do	BL6R	As Shown	
1		1	do	BL6L	Opp. Hand	
	1	1	do	BL7R	As Shown	
1		1	do	BL7L	Opp. Hand	
1		1	do	BL8R	As Shown	
1	1	1	do	BL8L	Opp. Hand	
2		2	do	BL9R	As Shown	
2	2	4	do	BL9L	Opp. Hand	
1		1	do	BL10	Opp. Hd. to Sk.	
1		1	do	BL11	Opp. Hd. to Sk.	
4	4	8	do	BL12R	As Shown	
4	4	8	do	BL12L	Opp. Hand	
1		1	Lateral Conn.	LP4R	As Shown	
	1	1	do.	LP4L	Opp. Hand	
	1	1	do.	LP5R	As Shown	
1		1	do	LP5L	Opp. Hand	
1	1	2	do	LP6	As Shown	
1	1	2	do	LP7	A Shown	
Reqd. By Spans			Required List			

MATERIAL. All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 7/8 ϕ
OPEN HOLES: 1 1/16 ϕ unless noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in other material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
SHOP PAINT: None

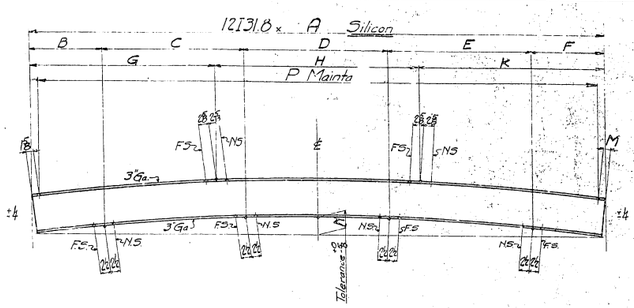
Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 7-3-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago Drawing Room Moore Dry Dock Co. Works
In charge Anthony Made by L.G.H. 6-14-34
Checked by W.A. Traced by C.H.
Last Assem. Ink cbg
CONTRACT CG15803
SHEET G 203

30-1



Note - Beams are Mill Cambered.

MARK	A	ITEM	B	C	D	E	F	G	H	K	M	N	P
J3	57'-10¾	ID-24	4'-11⅛	16'-0⅛	16'-0	16'-0⅛	4'-11⅛	19'-6⅜	18'-10	19'-6⅜	1⅞	1⅞	57'-7
J4	57'-10¾	ID-24	4'-10⅝	16'-0	16'-0	16'-0	4'-11⅛	19'-6⅜	18'-10	19'-6⅜	1⅞	1⅞	57'-7
J5	57'-10⅝	ID-24	4'-8⅛	16'-0	16'-0	16'-0	5'-1⅛	19'-6⅜	18'-10	19'-6⅜	1⅞	1⅞	57'-7
J6	57'-10⅝	ID-24	4'-7⅛	16'-0	16'-0	16'-0	5'-3⅛	19'-6⅜	18'-10	19'-6⅜	1⅞	1⅞	57'-7
J7	57'-10⅝	ID-25	4'-5⅛	16'-0	16'-0	16'-0	5'-5⅛	19'-6⅜	18'-10	19'-6⅜	1⅞	1⅞	57'-7
J8	57'-10⅝	ID-25	4'-3⅛	16'-0	16'-0	16'-0	5'-7⅛	19'-6⅜	18'-10	19'-6⅜	1⅞	1⅞	57'-7
J9	57'-10⅝	ID-25	4'-1⅛	16'-0	16'-0	16'-0	5'-9⅛	19'-6⅜	18'-10	19'-6⅜	1⅞	1⅞	57'-7
J10	57'-10⅝	ID-25	4'-0⅛	16'-0	16'-0⅛	16'-0	5'-0⅜	19'-6⅜	18'-10⅛	19'-6⅜	1⅞	1⅞	57'-7⅛
J11	57'-10⅝	ID-26	4'-3⅜	16'-0	16'-0⅛	16'-0	5'-1⅜	19'-6⅜	18'-10⅛	19'-6⅜	1⅞	1⅞	57'-7⅛
J12	57'-10⅝	ID-26	4'-2⅜	16'-0	16'-0⅛	16'-0	5'-3⅜	19'-6⅜	18'-10⅛	19'-6⅜	1⅞	1⅞	57'-7⅛
J13	57'-10⅝	ID-26	4'-1⅜	16'-0	16'-0⅛	16'-0	5'-5⅜	19'-6⅜	18'-10⅛	19'-6⅜	1⅞	1⅞	57'-7⅛
J14	57'-10⅝	ID-27	5'-2⅜	16'-0⅛	16'-0	16'-0⅛	4'-8⅜	19'-6⅜	18'-10⅛	19'-6⅜	1⅞	1⅞	57'-7⅛
J15	57'-10⅝	ID-27	5'-2⅜	16'-0⅛	16'-0	16'-0⅛	4'-7⅜	19'-6⅜	18'-10	19'-6⅜	1⅞	1⅞	57'-7⅛
J16	57'-10⅝	ID-26	4'-5⅜	16'-0	16'-0⅛	16'-0	5'-1⅜	19'-6⅜	18'-10⅛	19'-6⅜	1⅞	1⅞	57'-7⅛
J17	57'-10⅝	ID-26	4'-3⅜	16'-0	16'-0⅛	16'-0	5'-3⅜	19'-6⅜	18'-10⅛	19'-6⅜	1⅞	1⅞	57'-7⅛
J18	57'-10⅝	ID-26	4'-2⅜	16'-0	16'-0⅛	16'-0	5'-5⅜	19'-6⅜	18'-10⅛	19'-6⅜	1⅞	1⅞	57'-7⅛
J19	57'-10⅝	ID-25	4'-1⅜	16'-0	16'-0⅛	16'-0	4'-11⅜	19'-6⅜	18'-10⅛	19'-6⅜	1⅞	1⅞	57'-7⅛
J20	57'-10⅝	ID-25	5'-0⅛	16'-0	16'-0	16'-0	4'-10⅛	19'-6⅜	18'-10	19'-6⅜	1⅞	1⅞	57'-7
J21	57'-10⅝	ID-25	4'-9⅛	16'-0	16'-0	16'-0	5'-5⅛	19'-6⅜	18'-10	19'-6⅜	1⅞	1⅞	57'-7
J22	57'-10⅝	ID-25	4'-5⅛	16'-0	16'-0	16'-0	5'-9⅛	19'-6⅜	18'-10	19'-6⅜	1⅞	1⅞	57'-7
J23	57'-10⅝	ID-24	4'-7⅛	16'-0	16'-0	16'-0	5'-2⅛	19'-6⅜	18'-10	19'-6⅜	1⅞	1⅞	57'-7
J24	57'-10⅝	ID-24	4'-9⅛	16'-0	16'-0	16'-0	5'-1⅛	19'-6⅜	18'-10	19'-6⅜	1⅞	1⅞	57'-7
J25	57'-10⅝	ID-24	4'-10⅛	16'-0	16'-0	16'-0	4'-11⅞	19'-6⅜	18'-10	19'-6⅜	1⅞	1⅞	57'-7
J26	57'-10⅝	ID-24	4'-11⅛	16'-0⅛	16'-0	16'-0⅛	4'-10⅛	19'-6⅜	18'-10	19'-6⅜	1⅞	1⅞	57'-7

SPAN 10 REQUIRED BY SHOP	SPAN 9 TOTAL REQD.	Description	Mark	Remarks	Weight Each Item
5	5	JOISTS	J3		
	1	JOIST	J4		
	1	JOIST	J5		
	1	JOIST	J6		
	1	JOIST	J7		
	1	JOIST	J8		
	1	JOIST	J9		
	1	JOIST	J10		
	1	JOIST	J11		
	1	JOIST	J12		
	1	JOIST	J13		
	1	JOIST	J14		
1	1	JOIST	J15		
1	1	JOIST	J16		
1	1	JOIST	J17		
1	1	JOIST	J18		
1	1	JOIST	J19		
1	1	JOIST	J20		
1	1	JOIST	J21		
1	1	JOIST	J22		
1	1	JOIST	J23		
1	1	JOIST	J24		
1	1	JOIST	J25		
5	5	JOISTS	J26		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: cx, cb, etc.; for silicon steel with s, thus: sx, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M Bailey
RIVETS: None
OPEN HOLES: 13/16
PUNCHING: Holes may be punched full size.

FINISH: All sheared or flame cut edges and ends of material to have a neat appearance.

Shop Note: All erection marks to be placed on left hand end of joists as detailed and in upright position. Marks to be put on with both paint and steel stencils.

SHOP PAINT. None.

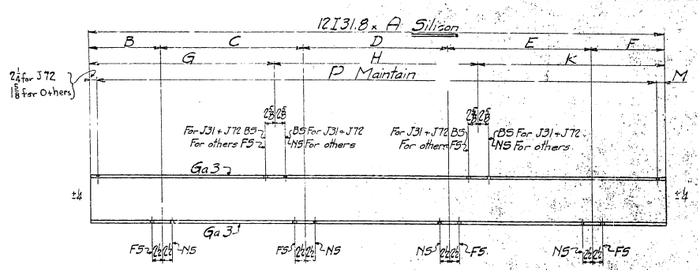
APPROVED
Date — Revision — Dept.
Director of Public Works
Bridge Engineer
Chief Engineer
Date 7/21/34

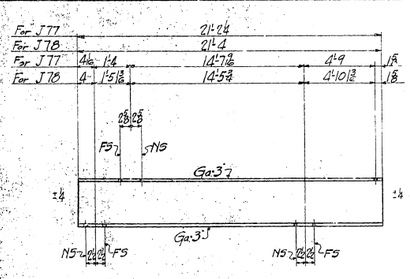
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing

McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING OFFICE Moore Dry Dock WORKS
IN CHARGE Jenks MADE BY R.L. 6-13-34
CHECKED BY [illegible] TRACED BY R.L. 6-18-34
LAST ADDRESS INT.

CONTRACT C516305 SHEET 9 204

30-1





One - I 12.31.8 x 21'-2¼ Silicon For J77 & ID11
One - I 12.31.8 x 21'-4 Silicon For J78 & ID12

JOISTS J77 + J78

MARK	A	ITEM	B	C	D	E	F	G	H	K	M		P
J27	57'-10¼	ID5	5'-1⅛	16'-0¼	16'-0⅛	16'-0¼	4'-8⅞	19'-6½	18'-10⅛	19'-5⅛	1⅛	⅛	57'-7⅞
J28	57'-10¼	ID5	5'-1	16'-0¼	16'-0⅛	16'-0⅛	4'-9	19'-6½	18'-10⅛	19'-5⅜	1⅛	⅛	57'-7⅞
J29	57'-10¼	ID5	5'-0⅜	16'-0⅛	16'-0⅛	16'-0⅛	4'-9⅛	19'-6⅝	18'-10⅛	19'-5⅞	1⅛	⅛	57'-7¾
J30	57'-10¼	ID5	4'-11⅞	16'-0⅛	16'-0⅛	16'-0⅛	4'-10⅛	19'-6¾	18'-10⅛	19'-5⅞	1⅛	⅛	57'-7⅞
J31	57'-10¼	ID5	4'-11⅜	16'-0⅛	16'-0⅛	16'-0⅛	4'-10⅝	19'-6⅞	18'-10⅛	19'-5⅞	1⅛	⅛	57'-7⅞
J32	57'-10¼	ID6	4'-11⅞	16'-0⅜	16'-0⅛	16'-0⅜	4'-10½	19'-6⅞	18'-10⅛	19'-6⅛	1⅜	⅜	57'-7¾
J33	57'-10¼	ID6	5'-0⅛	16'-0⅜	16'-0⅛	16'-0⅜	4'-9⅜	19'-6¾	18'-10⅛	19'-6⅛	1⅜	⅜	57'-7¾
J34	57'-10¼	ID6	5'-1⅛	16'-0⅜	16'-0⅛	16'-0⅜	4'-9⅛	19'-6¾	18'-10⅛	19'-6⅛	1⅜	⅜	57'-7⅞
J35	57'-10¼	ID6	5'-1⅜	16'-0⅜	16'-0⅛	16'-0⅜	4'-8⅞	19'-6¾	18'-10⅛	19'-6⅛	1⅜	⅜	57'-7⅞
J36	57'-10¼	ID6	5'-1⅝	16'-0⅜	16'-0⅛	16'-0⅜	4'-8⅝	19'-6⅞	18'-10⅛	19'-6⅜	1⅜	⅜	57'-7⅞
J37	57'-10¼	ID6	4'-7¼	16'-0⅜	16'-0⅛	16'-0⅜	5'-2⅛	19'-6¼	18'-10⅛	19'-6⅛	1¼	¼	57'-7⅜
J38	57'-10¼	ID6	4'-9⅛	16'-0⅜	16'-0⅛	16'-0⅜	5'-0⅛	19'-6¼	18'-10⅛	19'-6⅜	1⅜	⅜	57'-7⅞
J39	57'-10⅜	ID7	4'-11⅛	16'-0⅜	16'-0⅛	16'-0⅜	4'-11⅜	19'-6⅜	18'-10⅜	19'-6⅜	1⅜	⅜	57'-7⅞
J40	57'-10⅜	ID7	5'-1¼	16'-0⅜	16'-0⅛	16'-0⅜	4'-9⅞	19'-6⅝	18'-10⅜	19'-6¼	1⅜	⅜	57'-7⅞
J41	57'-10⅜	ID7	5'-3¼	16'-0⅜	16'-0⅛	16'-0⅜	4'-7⅞	19'-6⅝	18'-10¼	19'-6⅜	1¼	¼	57'-7⅝
J42	57'-10⅜	ID7	4'-10⅝	16'-0⅜	16'-0⅛	16'-0⅜	4'-11⅛	19'-6⅝	18'-10¼	19'-6⅛	1¼	¼	57'-7⅝
J43	57'-10⅜	ID7	5'-1⅞	16'-0⅜	16'-0⅛	16'-0⅜	4'-8⅝	19'-6⅜	18'-10⅝	19'-6⅛	1⅜	⅜	57'-7⅛
J44	57'-11	ID8	5'-5⅜	16'-0½	16'-0⅛	16'-0½	4'-5¼	19'-6½	18'-10⅝	19'-6¼	1½	½	57'-7⅜
J45	57'-11	ID8	5'-5⅛	16'-0½	16'-0⅛	16'-0½	4'-5⅜	19'-6½	18'-10⅝	19'-6¼	1½	½	57'-7⅜
J46	57'-11¼	ID9	5'-11⅞	16'-0⅝	16'-0⅛	16'-0⅝	3'-11⅜	19'-6⅝	18'-10⅜	19'-6⅛	1⅝	⅝	57'-8
J47	57'-11¼	ID9	5'-3⅞	16'-0⅝	16'-0⅛	16'-0⅝	4'-7⅛	19'-6⅝	18'-10⅛	19'-6⅜	1⅝	⅝	57'-7⅞
J48	57'-11¼	ID9	5'-3⅜	16'-0⅝	16'-0⅛	16'-0⅝	4'-7⅜	19'-6⅛	18'-10⅛	19'-6¼	1⅝	⅝	57'-8⅛
J49	57'-11¼	ID9	5'-2⅝	16'-0⅝	16'-0⅛	16'-0⅝	4'-8⅛	19'-6⅛	18'-10¼	19'-6⅛	1½	½	57'-8⅛
J50	57'-11¼	ID9	5'-1⅜	16'-0⅝	16'-0⅛	16'-0⅝	4'-9⅛	19'-6⅝	18'-10⅛	19'-6¼	1½	½	57'-8⅛
J51	57'-11¼	ID10	5'-1⅛	16'-0⅝	16'-0⅛	16'-0⅝	4'-10	19'-6½	18'-10⅛	19'-6⅛	1½	½	57'-8⅛
J52	57'-11¼	ID9	4'-11⅝	16'-0⅝	16'-0⅛	16'-0⅝	4'-11⅛	19'-6⅝	18'-10⅛	19'-6¼	1¼	¼	57'-8⅛
J53	57'-11¼	ID9	5'-0⅛	16'-0⅝	16'-0⅛	16'-0⅝	4'-10⅛	19'-6⅝	18'-10⅛	19'-6¼	1½	½	57'-8⅛
J54	57'-11¼	ID9	5'-0⅛	16'-0⅝	16'-0⅛	16'-0⅝	4'-10⅛	19'-6⅝	18'-10⅛	19'-6⅜	1½	½	57'-8⅛
J55	57'-11¼	ID9	5'-1	16'-0⅝	16'-0⅛	16'-0⅝	4'-9⅞	19'-6½	18'-10⅜	19'-6⅜	1⅝	⅝	57'-8
J56	57'-11¼	ID11	5'-2⅛	16'-0⅝	16'-0⅛	16'-0⅝	4'-8⅝	19'-6⅝	18'-10¼	19'-6⅛	1⅝	⅝	57'-7⅞
J57	57'-11¼	ID9	5'-10⅛	16'-0⅝	16'-0⅛	16'-0⅝	4'-0⅛	19'-6½	18'-10⅝	19'-6⅝	1⅛	⅛	57'-7⅝
J58	57'-11	ID8	5'-1⅜	16'-0½	16'-0⅛	16'-7½	4'-3½	19'-6½	18'-10¼	19'-6⅜	1¼	¼	57'-7⅛
J59	57'-11	ID8	5'-4⅜	16'-0½	16'-0⅛	16'-3½	4'-6¼	19'-6½	18'-10¼	19'-6¼	1⅛	⅛	57'-7⅜
J60	57'-11	ID8	5'-0⅝	16'-0½	16'-0⅛	16'-0½	4'-9⅞	19'-6⅜	18'-10⅞	19'-6⅛	1⅛	⅛	57'-7⅛
J61	57'-10½	ID7	4'-9⅜	16'-0½	16'-0⅛	16'-0½	5'-0⅛	19'-6⅝	18'-10⅜	19'-6⅜	1⅜	⅜	57'-7½
J62	57'-10¾	ID7	5'-0⅛	16'-0⅜	16'-0⅛	16'-0⅜	4'-9⅛	19'-6⅝	18'-10⅛	19'-6¼	1⅜	⅜	57'-7⅛
J63	57'-10¾	ID7	5'-0¼	16'-0⅜	16'-0⅛	16'-0⅜	4'-10	19'-6⅝	18'-10⅜	19'-6⅝	1⅜	⅜	57'-7½
J64	57'-10¾	ID7	4'-10⅞	16'-0⅜	16'-0⅛	16'-0⅜	4'-11⅛	19'-6⅜	18'-10⅜	19'-6¼	1⅛	⅛	57'-7⅛
J65	57'-10¼	ID6	4'-8⅛	16'-0⅛	16'-0⅛	16'-0⅜	5'-1⅛	19'-6¼	18'-10⅜	19'-6⅜	1¼	¼	57'-7⅜
J66	57'-10¼	ID6	4'-6⅞	16'-0⅛	16'-0⅛	16'-0⅜	5'-3⅛	19'-6⅛	18'-10⅛	19'-6⅜	1⅛	⅛	57'-7⅛
J67	57'-10¼	ID5	5'-2⅜	16'-0⅜	16'-0⅛	16'-0⅜	4'-8¼	19'-6⅝	18'-10⅛	19'-6⅜	1¼	¼	57'-7⅜
J68	57'-10¼	ID5	5'-1⅜	16'-0⅜	16'-0⅛	16'-0⅜	4'-8¾	19'-6⅝	18'-10⅛	19'-6⅜	1⅛	⅛	57'-7⅛
J69	57'-10¼	ID6	5'-0⅜	16'-0⅜	16'-0⅛	16'-0⅜	4'-9⅝	19'-6⅝	18'-10⅛	19'-6⅜	1⅛	⅛	57'-7⅛
J70	57'-10¼	ID6	5'-0⅛	16'-0⅜	16'-0⅛	16'-0⅜	4'-9⅝	19'-6⅝	18'-10⅛	19'-6⅛	1⅛	⅛	57'-7⅛
J71	57'-10¼	ID6	4'-11⅞	16'-0⅜	16'-0⅛	16'-0⅜	4'-10⅛	19'-6⅝	18'-10⅛	19'-6⅜	1⅛	⅛	57'-7⅛
J72	57'-10¼	ID6	4'-11½	16'-0⅜	16'-0⅛	16'-0⅜	4'-11¼	19'-6⅛	18'-10⅛	19'-6⅜	1⅛	⅛	57'-6⅞
J73	57'-10¼	ID5	4'-11⅝	16'-0⅛	16'-0⅛	16'-0⅛	4'-10¼	19'-6⅜	18'-10⅛	19'-6	1⅛	⅛	57'-7⅛
J74	57'-10¼	ID5	5'-0¼	16'-0⅛	16'-0⅛	16'-0⅛	4'-9⅞	19'-5⅞	18'-10⅛	19'-5⅞	1⅛	⅛	57'-7¼
J75	57'-10¼	ID5	5'-1⅛	16'-0⅛	16'-0⅛	16'-0⅛	4'-8⅝	19'-6⅜	18'-10⅛	19'-6	1⅛	⅛	57'-7⅛
J76	57'-10¼	ID5	5'-1⅛	16'-0⅛	16'-0⅛	16'-0⅛	4'-8¾	19'-6⅜	18'-10⅛	19'-6	1⅛	⅛	57'-7⅛

Span	Span	TOTAL	Description	Mark	Remarks	Weight each item
10	9	8220	JOIST	J27		
			JOIST	J28		
			JOIST	J29		
			JOIST	J30		
			JOIST	J31		
			JOIST	J32		
			JOIST	J33		
			JOIST	J34		
			JOIST	J35		
			JOIST	J36		
			JOIST	J37		
			JOIST	J38		
			JOIST	J39		
			JOIST	J40		
			JOIST	J41		
			JOIST	J42		
			JOIST	J43		
			JOIST	J44		
			JOIST	J45		
			JOIST	J46		
			JOIST	J47		
			JOIST	J48		
			JOIST	J49		
			JOIST	J50		
			JOIST	J51		
			JOIST	J52		
			JOIST	J53		
			JOIST	J54		
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			JOIST	J68		
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			JOIST	J73		
			JOIST	J74		
			JOIST	J75		
			JOIST	J76		
			JOIST	J77		
			JOIST	J78		

REQUIRED BY SHAPES — REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: cx, cb, etc; for silicon steel with s, thus: sx, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: Non-upset
OPEN HOLES: 13/16
PUNCHING: Holes may be punched full size.

FINISH: All sheared or flame cut edges and ends of material to have a neat appearance.

SHOP PAINT: None

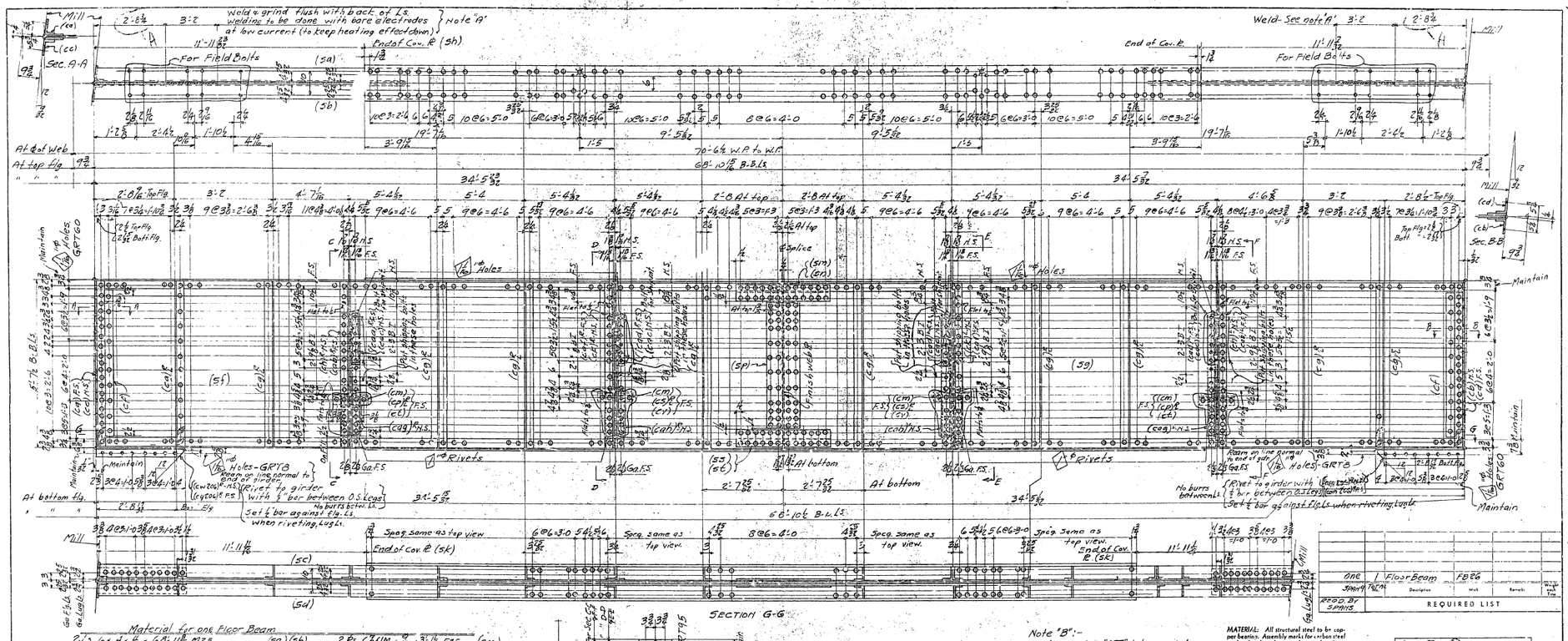
Shop Note: All erection marks to be placed on left hand end of joists as detailed and in upright position. Marks to be put on with both paint and steel stencils.

Date	Revision	Appd
	APPROVED	
		Engineer of Design
		Bridge Engineer
		Chief Engineer
	Date 7/27/34	

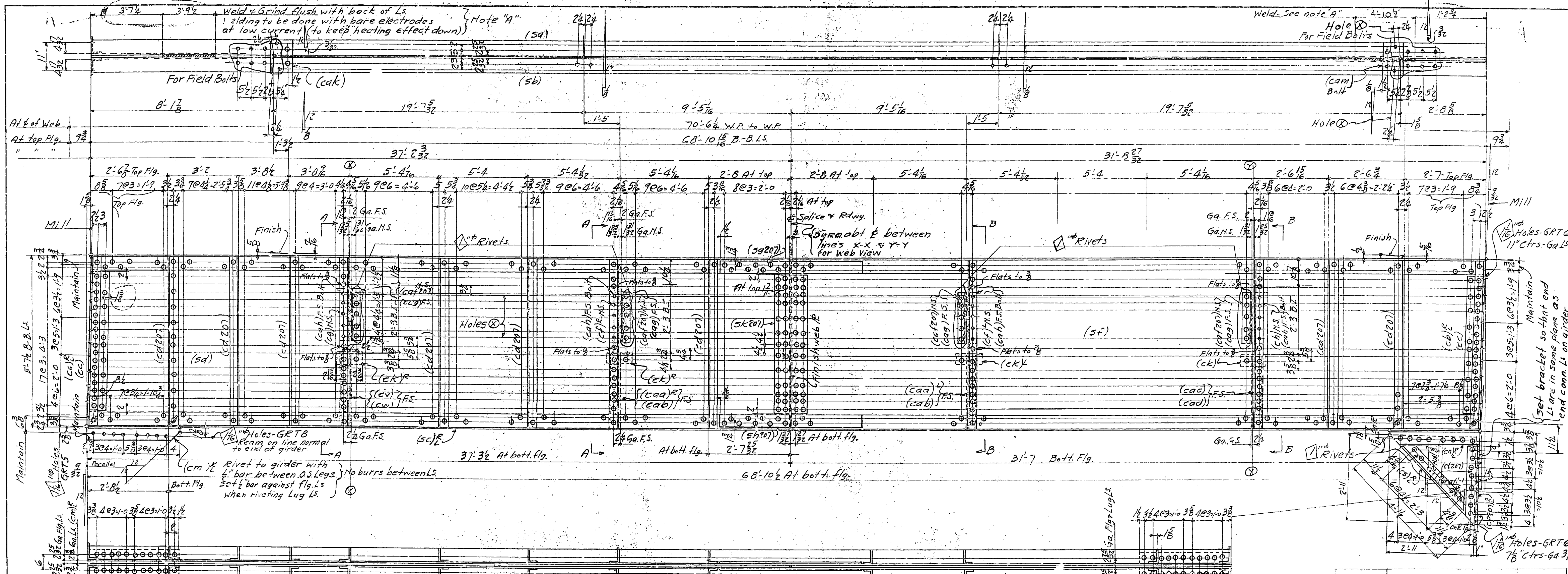
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing

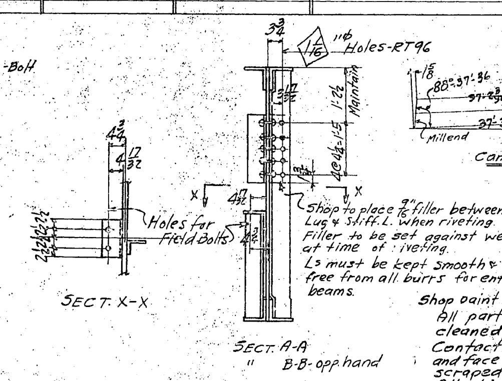
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Moore Dry Dock WORKS
1ST CHECK Jenks MADE BY R.J.L. 6-15-34
CHECKED BY JH 6-26 TRACED BY R.J.L. 6-18-34
LAST ADDED MK.

CONTRACT C645803 SHEET 9 205


Weld & grind flush with back of Ls. welding to be done with bare electrodes at low current (to keep heating effect down.) Note "A"
End of Cov. Pl (5h)
For Field Bolts
Weld- See note 'A'
End of Cov. Pl.
Sec. A-A
Sec. B-B
SECTION G-G
Sect. X-X
Sec. C-C
Camber Diagram
Mill
Maintain
Holes-GRT&B
Rivet to girder with ¾" bar between O.S. Legs
Set ¾" bar against Flg. Ls. when riveting Lug Ls.
No burrs between Ls.
Spacg same as top view.
End of Cov. Pl (5k)
At bottom
At top
At bottom flg.
At top flg.
At end of web
70'-6½ W.P. to W.P.
66'-10⅞ B.B. Ls
34'-5⅝
6'-10⅞ B.U. Ls.
Splice
Material for one Floor Beam
(5a) (5b) (5c) (5d) (5e) (5f) (5g) (5h) (5k) (5m) (5n) (5p) (5q) (5s) (5t) (5u) (5v) (5w) (5x) (5y) (5z) (5aa) (5ab) (5ac) (5ad) (5ae) (5af) (5ag) (5ah) (5ak) (5al) (5am) (5an) (5ap) (5aq) (5ar) (5as) (5at) (5au) (5av) (5aw) (5ax) (5ay) (5az) (5ba) (5bb) (5bc) (5bd) (5be) (5bf) (5bg) (5bh) (5bi) (5bj) (5bk) (5bl) (5bm) (5bn) (5bo) (5bp) (5bq) (5br) (5bs) (5bt) (5bu) (5bv) (5bw) (5bx) (5by) (5bz) (5ca) (5cb) (5cc) (5cd) (5ce) (5cf) (5cg) (5ch) (5ck) (5cm) (5cn) (5cp) (5cq) (5cr) (5cs) (5ct) (5cu) (5cv) (5cw) (5cx) (5cy) (5cz) (5da) (5db) (5dc) (5dd) (5de) (5df) (5dg) (5dh) (5dj) (5dk) (5dl) (5dm) (5dn) (5dp) (5dq) (5dr) (5ds) (5dt) (5du) (5dv) (5dw) (5dx) (5dy) (5dz) (5ea) (5eb) (5ec) (5ed) (5ee) (5ef) (5eg) (5eh) (5ej) (5ek) (5el) (5em) (5en) (5ep) (5eq) (5er) (5es) (5et) (5eu) (5ev) (5ew) (5ex) (5ey) (5ez) (5fa) (5fb) (5fc) (5fd) (5fe) (5ff) (5fg) (5fh) (5fj) (5fk) (5fl) (5fm) (5fn) (5fp) (5fq) (5fr) (5fs) (5ft) (5fu) (5fv) (5fw) (5fx) (5fy) (5fz) (5ga) (5gb) (5gc) (5gd) (5ge) (5gf) (5gg) (5gh) (5gj) (5gk) (5gl) (5gm) (5gn) (5gp) (5gq) (5gr) (5gs) (5gt) (5gu) (5gv) (5gw) (5gx) (5gy) (5gz) (5ha) (5hb) (5hc) (5hd) (5he) (5hf) (5hg) (5hh) (5hj) (5hk) (5hl) (5hm) (5hn) (5hp) (5hq) (5hr) (5hs) (5ht) (5hu) (5hv) (5hw) (5hx) (5hy) (5hz) (5ja) (5jb) (5jc) (5jd) (5je) (5jf) (5jg) (5jh) (5jj) (5jk) (5jl) (5jm) (5jn) (5jp) (5jq) (5jr) (5js) (5jt) (5ju) (5jv) (5jw) (5jx) (5jy) (5jz) (5ka) (5kb) (5kc) (5kd) (5ke) (5kf) (5kg) (5kh) (5kj) (5kk) (5kl) (5km) (5kn) (5kp) (5kq) (5kr) (5ks) (5kt) (5ku) (5kv) (5kw) (5kx) (5ky) (5kz) (5la) (5lb) (5lc) (5ld) (5le) (5lf) (5lg) (5lh) (5lj) (5lk) (5ll) (5lm) (5ln) (5lp) (5lq) (5lr) (5ls) (5lt) (5lu) (5lv) (5lw) (5lx) (5ly) (5lz) (5ma) (5mb) (5mc) (5md) (5me) (5mf) (5mg) (5mh) (5mj) (5mk) (5ml) (5mm) (5mn) (5mp) (5mq) (5mr) (5ms) (5mt) (5mu) (5mv) (5mw) (5mx) (5my) (5mz) (5na) (5nb) (5nc) (5nd) (5ne) (5nf) (5ng) (5nh) (5nj) (5nk) (5nl) (5nm) (5nn) (5np) (5nq) (5nr) (5ns) (5nt) (5nu) (5nv) (5nw) (5nx) (5ny) (5nz) (5pa) (5pb) (5pc) (5pd) (5pe) (5pf) (5pg) (5ph) (5pj) (5pk) (5pl) (5pm) (5pn) (5pp) (5pq) (5pr) (5ps) (5pt) (5pu) (5pv) (5pw) (5px) (5py) (5pz) (5qa) (5qb) (5qc) (5qd) (5qe) (5qf) (5qg) (5qh) (5qj) (5qk) (5ql) (5qm) (5qn) (5qp) (5qq) (5qr) (5qs) (5qt) (5qu) (5qv) (5qw) (5qx) (5qy) (5qz) (5ra) (5rb) (5rc) (5rd) (5re) (5rf) (5rg) (5rh) (5rj) (5rk) (5rl) (5rm) (5rn) (5rp) (5rq) (5rr) (5rs) (5rt) (5ru) (5rv) (5rw) (5rx) (5ry) (5rz) (5sa) (5sb) (5sc) (5sd) (5se) (5sf) (5sg) (5sh) (5sj) (5sk) (5sl) (5sm) (5sn) (5sp) (5sq) (5sr) (5ss) (5st) (5su) (5sv) (5sw) (5sx) (5sy) (5sz) (5ta) (5tb) (5tc) (5td) (5te) (5tf) (5tg) (5th) (5tj) (5tk) (5tl) (5tm) (5tn) (5tp) (5tq) (5tr) (5ts) (5tt) (5tu) (5tv) (5tw) (5tx) (5ty) (5tz) (5ua) (5ub) (5uc) (5ud) (5ue) (5uf) (5ug) (5uh) (5uj) (5uk) (5ul) (5um) (5un) (5up) (5uq) (5ur) (5us) (5ut) (5uu) (5uv) (5uw) (5ux) (5uy) (5uz) (5va) (5vb) (5vc) (5vd) (5ve) (5vf) (5vg) (5vh) (5vj) (5vk) (5vl) (5vm) (5vn) (5vp) (5vq) (5vr) (5vs) (5vt) (5vu) (5vv) (5vw) (5vx) (5vy) (5vz) (5wa) (5wb) (5wc) (5wd) (5we) (5wf) (5wg) (5wh) (5wj) (5wk) (5wl) (5wm) (5wn) (5wp) (5wq) (5wr) (5ws) (5wt) (5wu) (5wv) (5ww) (5wx) (5wy) (5wz) (5xa) (5xb) (5xc) (5xd) (5xe) (5xf) (5xg) (5xh) (5xj) (5xk) (5xl) (5xm) (5xn) (5xp) (5xq) (5xr) (5xs) (5xt) (5xu) (5xv) (5xw) (5xx) (5xy) (5xz) (5ya) (5yb) (5yc) (5yd) (5ye) (5yf) (5yg) (5yh) (5yj) (5yk) (5yl) (5ym) (5yn) (5yp) (5yq) (5yr) (5ys) (5yt) (5yu) (5yv) (5yw) (5yx) (5yy) (5yz) (5za) (5zb) (5zc) (5zd) (5ze) (5zf) (5zg) (5zh) (5zj) (5zk) (5zl) (5zm) (5zn) (5zp) (5zq) (5zr) (5zs) (5zt) (5zu) (5zv) (5zw) (5zx) (5zy) (5zz)
Note "B":-
Holes marked "GRT" to be reamed or drilled full size thru a metal templet furnished by Chicago Wks: McClintic-Marshall Corp.
Holes marked "RT" to be reamed or drilled full size thru a metal templet furnished by Moore Dry Dock Co.
Shop note:-
Shop to place all erection marks on left hand end of members as detailed, and in an upright position. Backs of end conn. Ls need not be milled. These Ls must be flush with milled edge after girder is milled.
Milled ends of Ls (cap206)R (can 206)R (cay206)R to be milled normal to end & flush with respective ends of girder.
Erection marks to be put on with both steel stencils and paint.
Shipping bolts to be drawn up sufficiently tight to exclude foreign particles etc. during shipment & field sand blasting.
SHOP PAINT:- (contd)
All surfaces to be painted to be cleaned & scraped (except (cx)F) before painting. Paint on contact surfaces of parts bolted for shipment to be allowed to dry before assembly.
Contact surfaces betw. Fls. (lan) and Ls (cm) to be cleaned & scraped before assembly and clamped tight while welding.
Work this sheet with sheet G21A
MATERIAL: All structural steel to be open hearth. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc., for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: ⅞" Ø un. noted
OPEN HOLES: 13/16" Ø " "
PUNCHING: Holes in material ¾" thick or less to be sub-punched 1/4" and reamed to size after assembly. See note "B".
DRILLING: Holes in material over ¾" thick to be sub-drilled 1/4" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
SHOP PAINT: None except that the following is to be given one coat of Special Receiving Paint: (at Bridges between & including E9 & E10) Both sides of (cau206)R on both ends. Bottoms of (cac)F, (cad)F, (cae)F, (caf)F, (cag)F, (cah)F, (cak)F, (cal)F, (cam)F, (can206)R, (cap206)R, (caq)F, (car)F, (cas)F, (cat)F, (cau206)R, (cav)F, (caw206)R, (cax)F, (cay206)R, (caz)F, (cba)F, (cbb)F, (cbc)F, (cbd)F, (cbe)F, (cbf)F, (cbg)F, (cbh)F, (cbj)F, (cbk)F, (cbl)F, (cbm)F, (cbn)F, (cbp)F, (cbq)F, (cbr)F, (cbs)F, (cbt)F, (cbu)F, (cbv)F, (cbw)F, (cbx)F, (cby)F, (cbz)F, (cca)F, (ccb)F, (ccc)F, (ccd)F, (cce)F, (ccf)F, (ccg)F, (cch)F, (cck)F, (ccm)F, (ccn)F, (ccp)F, (ccq)F, (ccr)F, (ccs)F, (cct)F, (ccu)F, (ccv)F, (ccw)F, (ccx)F, (ccy)F, (ccz)F, (cda)F, (cdb)F, (cdc)F, (cdd)F, (cde)F, (cdf)F, (cdg)F, (cdh)F, (cdj)F, (cdk)F, (cdl)F, (cdm)F, (cdn)F, (cdp)F, (cdq)F, (cdr)F, (cds)F, (cdt)F, (cdu)F, (cdv)F, (cdw)F, (cdx)F, (cdy)F, (cdz)F, (cea)F, (ceb)F, (cec)F, (ced)F, (cee)F, (cef)F, (ceg)F, (ceh)F, (cek)F, (cem)F, (cen)F, (cep)F, (ceq)F, (cer)F, (ces)F, (cet)F, (ceu)F, (cev)F, (cew)F, (cex)F, (cey)F, (cez)F, (cfa)F, (cfb)F, (cfc)F, (cfd)F, (cfe)F, (cff)F, (cfg)F, (cfh)F, (cfj)F, (cfk)F, (cfl)F, (cfm)F, (cfn)F, (cfp)F, (cfq)F, (cfr)F, (cfs)F, (cft)F, (cfu)F, (cfv)F, (cfw)F, (cfx)F, (cfy)F, (cfz)F, (cga)F, (cgb)F, (cgc)F, (cgd)F, (cge)F, (cgf)F, (cgg)F, (cgh)F, (cgj)F, (cgk)F, (cgl)F, (cgm)F, (cgn)F, (cgp)F, (cgq)F, (cgr)F, (cgs)F, (cgt)F, (cgu)F, (cgv)F, (cgw)F, (cgx)F, (cgy)F, (cgz)F, (cha)F, (chb)F, (chc)F, (chd)F, (che)F, (chf)F, (chg)F, (chh)F, (chj)F, (chk)F, (chl)F, (chm)F, (chn)F, (chp)F, (chq)F, (chr)F, (chs)F, (cht)F, (chu)F, (chv)F, (chw)F, (chx)F, (chy)F, (chz)F, (cja)F, (cjb)F, (cjc)F, (cjd)F, (cje)F, (cjf)F, (cjg)F, (cjh)F, (cjj)F, (cjk)F, (cjl)F, (cjm)F, (cjn)F, (cjp)F, (cjq)F, (cjr)F, (cjs)F, (cjt)F, (cju)F, (cjv)F, (cjw)F, (cjx)F, (cjy)F, (cjz)F, (cka)F, (ckb)F, (ckc)F, (ckd)F, (cke)F, (ckf)F, (ckg)F, (ckh)F, (ckj)F, (ckk)F, (ckl)F, (ckm)F, (ckn)F, (ckp)F, (ckq)F, (ckr)F, (cks)F, (ckt)F, (cku)F, (ckv)F, (ckw)F, (ckx)F, (cky)F, (ckz)F, (cla)F, (clb)F, (clc)F, (cld)F, (cle)F, (clf)F, (clg)F, (clh)F, (clj)F, (clk)F, (cll)F, (clm)F, (cln)F, (clp)F, (clq)F, (clr)F, (cls)F, (clt)F, (clu)F, (clv)F, (clw)F, (clx)F, (cly)F, (clz)F, (cma)F, (cmb)F, (cmc)F, (cmd)F, (cme)F, (cmf)F, (cmg)F, (cmh)F, (cmj)F, (cmk)F, (cml)F, (cmm)F, (cmn)F, (cmp)F, (cmq)F, (cmr)F, (cms)F, (cmt)F, (cmu)F, (cmv)F, (cmw)F, (cmx)F, (cmy)F, (cmz)F, (cna)F, (cnb)F, (cnc)F, (cnd)F, (cne)F, (cnf)F, (cng)F, (cnh)F, (cnj)F, (cnk)F, (cnl)F, (cnm)F, (cnn)F, (cnp)F, (cnq)F, (cnr)F, (cns)F, (cnt)F, (cnu)F, (cnv)F, (cnw)F, (cnx)F, (cny)F, (cnz)F, (cpa)F, (cpb)F, (cpc)F, (cpd)F, (cpe)F, (cpf)F, (cpg)F, (cph)F, (cpj)F, (cpk)F, (cpl)F, (cpm)F, (cpn)F, (cpp)F, (cpq)F, (cpr)F, (cps)F, (cpt)F, (cpu)F, (cpv)F, (cpw)F, (cpx)F, (cpy)F, (cpz)F, (cqa)F, (cqb)F, (cqc)F, (cqd)F, (cqe)F, (cqf)F, (cqg)F, (cqh)F, (cqj)F, (cqk)F, (cql)F, (cqm)F, (cqn)F, (cqp)F, (cqq)F, (cqr)F, (cqs)F, (cqt)F, (cqu)F, (cqv)F, (cqw)F, (cqx)F, (cqy)F, (cqz)F, (cra)F, (crb)F, (crc)F, (crd)F, (cre)F, (crf)F, (crg)F, (crh)F, (crj)F, (crk)F, (crl)F, (crm)F, (crn)F, (crp)F, (crq)F, (crr)F, (crs)F, (crt)F, (cru)F, (crv)F, (crw)F, (crx)F, (cry)F, (crz)F, (csa)F, (csb)F, (csc)F, (csd)F, (cse)F, (csf)F, (csg)F, (csh)F, (csj)F, (csk)F, (csl)F, (csm)F, (csn)F, (csp)F, (csq)F, (csr)F, (css)F, (cst)F, (csu)F, (csv)F, (csw)F, (csx)F, (csy)F, (csz)F, (cta)F, (ctb)F, (ctc)F, (ctd)F, (cte)F, (ctf)F, (ctg)F, (cth)F, (ctj)F, (ctk)F, (ctl)F, (ctm)F, (ctn)F, (ctp)F, (ctq)F, (ctr)F, (cts)F, (ctt)F, (ctu)F, (ctv)F, (ctw)F, (ctx)F, (cty)F, (ctz)F, (cua)F, (cub)F, (cuc)F, (cud)F, (cue)F, (cuf)F, (cug)F, (cuh)F, (cuj)F, (cuk)F, (cul)F, (cum)F, (cun)F, (cup)F, (cuq)F, (cur)F, (cus)F, (cut)F, (cuu)F, (cuv)F, (cuw)F, (cux)F, (cuy)F, (cuz)F, (cva)F, (cvb)F, (cvc)F, (cvd)F, (cve)F, (cvf)F, (cvg)F, (cvh)F, (cvj)F, (cvk)F, (cvl)F, (cvm)F, (cvn)F, (cvp)F, (cvq)F, (cvr)F, (cvs)F, (cvt)F, (cvu)F, (cvv)F, (cvw)F, (cvx)F, (cvy)F, (cvz)F, (cwa)F, (cwb)F, (cwc)F, (cwd)F, (cwe)F, (cwf)F, (cwg)F, (cwh)F, (cwj)F, (cwk)F, (cwl)F, (cwm)F, (cwn)F, (cwp)F, (cwq)F, (cwr)F, (cws)F, (cwt)F, (cwu)F, (cwv)F, (cww)F, (cwx)F, (cwy)F, (cwz)F, (cxa)F, (cxb)F, (cxc)F, (cxd)F, (cxe)F, (cxf)F, (cxg)F, (cxh)F, (cxj)F, (cxk)F, (cxl)F, (cxm)F, (cxn)F, (cxp)F, (cxq)F, (cxr)F, (cxs)F, (cxt)F, (cxu)F, (cxv)F, (cxw)F, (cxx)F, (cxy)F, (cxz)F, (cya)F, (cyb)F, (cyc)F, (cyd)F, (cye)F, (cyf)F, (cyg)F, (cyh)F, (cyj)F, (cyk)F, (cyl)F, (cym)F, (cyn)F, (cyp)F, (cyq)F, (cyr)F, (cys)F, (cyt)F, (cyu)F, (cyv)F, (cyw)F, (cyx)F, (cyy)F, (cyz)F, (cza)F, (czb)F, (czc)F, (czd)F, (cze)F, (czf)F, (czg)F, (czh)F, (czj)F, (czk)F, (czl)F, (czm)F, (czn)F, (czp)F, (czq)F, (czr)F, (czs)F, (czt)F, (czu)F, (czv)F, (czw)F, (czx)F, (czy)F, (czz)F
immediately after finishing. CONTRACT 6G1S803
Rel (B) 10-1-42
U0-E9
Detail Drawn (B)
Date Revision Appr'd
APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrus — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-2-34
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans E9 & E10
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOMS Moore Dry Dock Co
IN CHARGE J. Jenks MADE BY GAK
CHECKED BY J. M. B. TRACED BY
LAST ASSEM. FIR. (cap)-(at)
SHEET G 206
One 1 Floor Beam FB26
Spans Piece Description Mark Remarks Wt. Each Total
REQD. BY SPANS
REQUIRED LIST

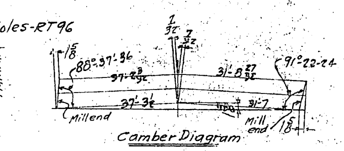
30-1




SECT. X-X

SECT. A-A
" B-B opp. hand

Shop to place 9/16" filler between Lug & Stiff. L. when riveting. Filler to be set against web ℞ at time of riveting.
Ls must be kept smooth & free from all burrs for entering beams.


Camber Diagram

Material for one Floor Beam

2-Ls 6×6×3/4×68'-11 1/32 MZE (sa) (sb)
2-Ls 6×6×3/4×68'-10 21/32-MZE (sc)R/L
1-Web ℞. 67 FZW × 7/16 × 37'-3 19/32 MIE-FIE (sd)
1- " " do. × 31'-8 23/32 MIE, FIE (sf)
4-Ls 6×4×5/8×5'-6 5/32 FZE (ca)R/L (cb)R/L
4-Fills 6 3/8×3/4×4'-7 5/32 Mill One Edge Ord. 7.3/4 UM. (cc)
22-Ls 5×3 1/2×3/8×5'-7 1/2 (crimped) FZE (cd207)
2-Ls 5×3 1/2×7/16×5'-7 1/2 (") FZE (cf)R/L
1-L do ×5'-7 1/2 (") FZE (cg)
1-L do. ×5'-7 1/2 (") FZE (ch)
4-Ls 6×4×3/4× 0" (ck)R/L
2-Ls 5×5×1/2×3'-0 1/8 MIE (cm)R/L
2-Ls do. ×3'-0 MIE (cn)R/L
2-Ls do. ×2'-7 1/2 (cp207)R/L
2-Ls 4×4×7/16×3'-0 1/16 (cs)R/L
1-℞ 24 3/4 UM×7/16×4'-1 1/2 (21'-0 cuts 9) (ct207)
2-Bars 5 UM×3/4×4'-7 1/8 FZE } Grind to fit fillet (sg207)
2- " do ×4'-6 11/16 FZE } (sh207)
2-℞s 13 UM×7/16×4'-7 FZE (sk207)
1-L 5×3 1/2×7/16×2'-3 3/8 MIE, FIE (cv)
1-Fill 3 1/2 UM×3/4×1'-6 7/8 (cw)
2-Ls 5×3 1/2×7/16×2'-4 3/4 MIE, FIE (caa)R/L
2-Fills 3 1/2 UM×3/4×1'-7 3/4 (cab)
1-L 5×3 1/2×7/16×2'-4 1/8 MIE, FIE (cac)
1-Fill 3 1/2 UM×3/4×1'-7 1/8 (cad)
4-Ls 5×3 1/2×1/2×1'-3 1/2 (caf207)
4-Ls 5×3 1/2×3/8×1'-8 1/2 (cag)
4-Ls do ×1'-8 1/2 - Bolt (cah)

1-℞ 7 1/2 UM×5/8×7/16×1'-1 (cak) F.I.S.
1-℞ 7 1/2 UM×5/16×1/2×1'-1 (cam) F.I.S.-Bolt

4 of these Ls and extra rivets for same not to be charged to customer. Bill as shipped but not charged.

Shop paint:- (contd)
All parts to be painted to be thoroughly cleaned and scraped before painting.
Contact surfaces between stiff. Ls (cg) (cf)R/L (ch), and face of Webs to be thoroughly cleaned and scraped before assembling.
All shipping marks to be put on with both steel stencils and paint.

Note "B":-
Holes marked "GRT" to be reamed or drilled full size thru a metal templet furnished by Chicago Wks.-McClintic-Marshall Corp.
Holes marked "RT" to be reamed or drilled full size thru a metal templet furnished by Moore Dry Dock Co.

Shop note:-
Shop to place all erection marks on left hand end of members as detailed, and in an upright position. Backs of end conn. Ls. need not be milled. These Ls must be square & flush with milled edge after girder is milled.
Milled ends of Ls (cn)R/L & (cm)R/L to be milled normal to and flush with respective ends of girder.
Shipping bolts to be placed in holes ⊗ and same to be drawn up sufficiently tight to exclude foreign particles during shipmt. and field sand blasting.

Work this sheet with sheets G208 to 214, 217, 218

One	One	2	Floor Beams	FB27		
SPAN 9	SPAN 10	TOTAL No.	Description	Mark	Remarks	Weight each Tons
REQUIRED BY SPANS		REQUIRED LIST				

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 7/8"⌀ Un. noted
OPEN HOLES: 15/16"⌀ " "

PUNCHING:- Holes in material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly. See note "B".

assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
SHOP PAINT:- None, except as follows, which shall be given one coat "Acid Resisting Liquid":-
(a) Surfaces between lug L at L.H. end of bott. flg., and surfaces between lug & stiff. Ls on web, not readily accessible for field sand blasting.
(b) Contact surfaces betw. Ls (cah) & face of web ℞.
(c) Contact surfaces between ℞ (cam) and top flg. Ls.
Paint noted in (b) & (c) to be allowed to dry before assembling.

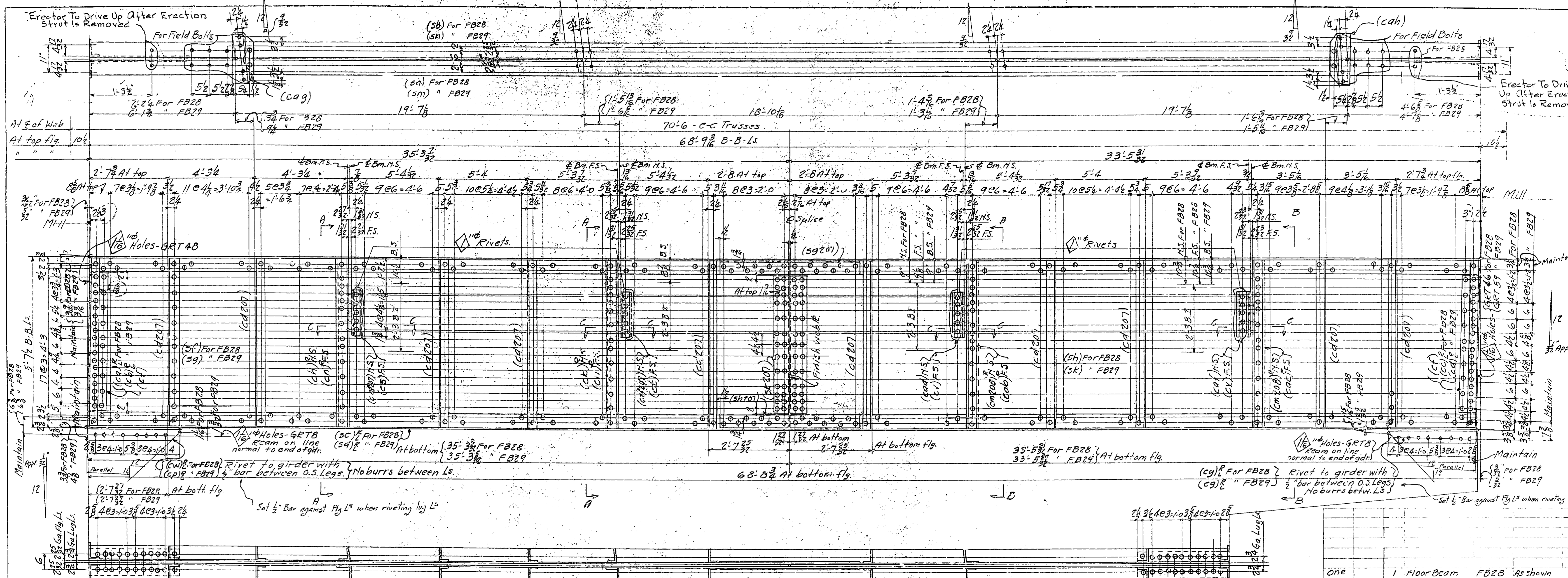
Date	Revision	App'd

APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date 8-2-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans E9 & E10
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Moore Dry Dock Co. WORKS
IN CHARGE Jenks MADE BY GAK
CHECKED BY 8 7 34 TRACED BY
LAST ASSEM. MK. (sk) (cam)
CONTRACT CG15803 SHEET G 207

U4-E9-E10

30-1

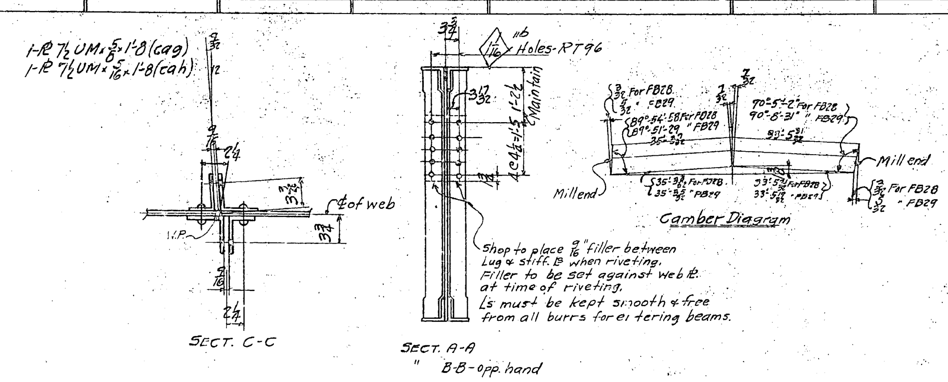


one		1	Floor Beam	FB28	As shown	
	one	1	do	FB29	opp. hd. to Sketch	
SPAN 9	SPAN 10	TOTAL No.	Description	Mark	Remarks	Weight each Tons
REQD. BY SPANS		REQUIRED LIST				

Material for one Floor Beam

2-Ls 6×6×3/4 × 68'-9 7/32 M2E (sa) (sb) For FB28 (sm)(sn) For FB29
2-Ls 6×6×3/4 × 68'-8 25/32 M2E (sc)R/L For FB28 (sd)R/L For FB29
1-Web Pl. 67F2W × 7/16 × 35'-3 3/16 MIE-FIE (sf) For FB28
1- do do. × 35'-3 1/4 - MIE-FIE (sg) " FB29
1- do do × 33'-5 27/32 MIE-FIE {(sh) " FB28 (sk) " FB29}
2-Ls 6×4×5/8 × 5'-6 1/32 F2E (ca)R/L For FB28 (cb)R/L For FB29
2-Ls 6×4×5/8 × 5'-6 1/32 F2E (cc)R/L " FB28 (cd)R/L " FB29
4-Fills 6 1/8 × 3/4 × 4'-7 1/32 M.I. Edge-Ord 7 3/4 U.M. (cf)
20-Ls 5×3 1/2×3/8×5'-7 1/2 (crimped) F2E (cd207)
1-L 5×5×1/2× 5'-7 1/2 (") F2E (ch)R
1-L do. × 5'-7 1/2 (") F2E (ck)R
2-Ls 5×3 1/2×7/16 × 5'-7 1/2 (") F2E (cm208)R
2-Ls 5×3 1/2×7/16 × 5'-7 1/2 (") F2E (cn)R Bent
2-Ls 5×3 1/2×1/2 × 1'-8 1/2 (caf207)
1-L 5×5×1/2× 1'-8 1/2 - Bent (cs)
1-L do. × 1'-8 1/2 " (ct)
2-Ls 5×3 1/2×1/2× 1'-8 1/2 " (cv)
2-Bars 5UM×3/4× 4'-7 1/8 F2E } Grind to (sg207)
2- " do. × 4'-6 11/16 F2E } fit fillet (sh207)
2-Pls 13UM×7/16×4'-7 F2E (sk207)
2-Ls 5×5×1/2 × 3'-0 1/32 MIE (cp)R/L For FB29 (cw)R/L For FB28
2-Ls do. × 3'-0 MIE (cg)R/L " FB29 (cy)R/L " FB28
1-L 5×5×1/2 × 5'-7 1/2 (crimped) F2E (cab)R Bent
1-L do × 5'-7 1/2 (") F2E (car)R "
1-L 5×5×1/2× 1'-8 1/2 (cad)
1-L 5×5×1/2× 1'-8 1/2 (caf)

1-Pl 7 1/2 UM × 5/8 × 1'-8 (cag)
1-Pl 7 1/2 UM × 5/8 × 1'-8 (cah)



Note "B":-
Holes marked "GRT" to be reamed or drilled full size thru a metal templet furnished by Chicago Wks.-McClintic-Marshall Corp.
Holes marked "RT" to be reamed or drilled full size thru a metal templet furnished by Moore Dry Dock Co.

Shop note:-
Shop to place all erection marks on left hand end of members as detailed, and in an upright position. Backs of end conn. Ls need not be milled. These Ls must be square & flush with milled edge after girder is milled.
Milled ends of Ls (cw)R/L (cp)R/L, (cy)R/L & (cg)R/L to be milled normal to and flush with respective ends of girders.
All erection marks to be put on with both steel stencils and paint.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 7/8"⌀ Un. noted.
OPEN HOLES: 15/16"⌀ " "

Punching: Holes in material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly. See note "B"

FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
SHOP PAINT:- None, except surfaces betw. lug Ls on bottom flange, and surfaces between stiffeners & Lug Ls on web, not readily accessible for field sand blasting, to be given one coat "Acid Resisting Liquid", after thoroughly cleaning & scraping such surfaces.

Date	Revision	App'd

APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date 8-2-34

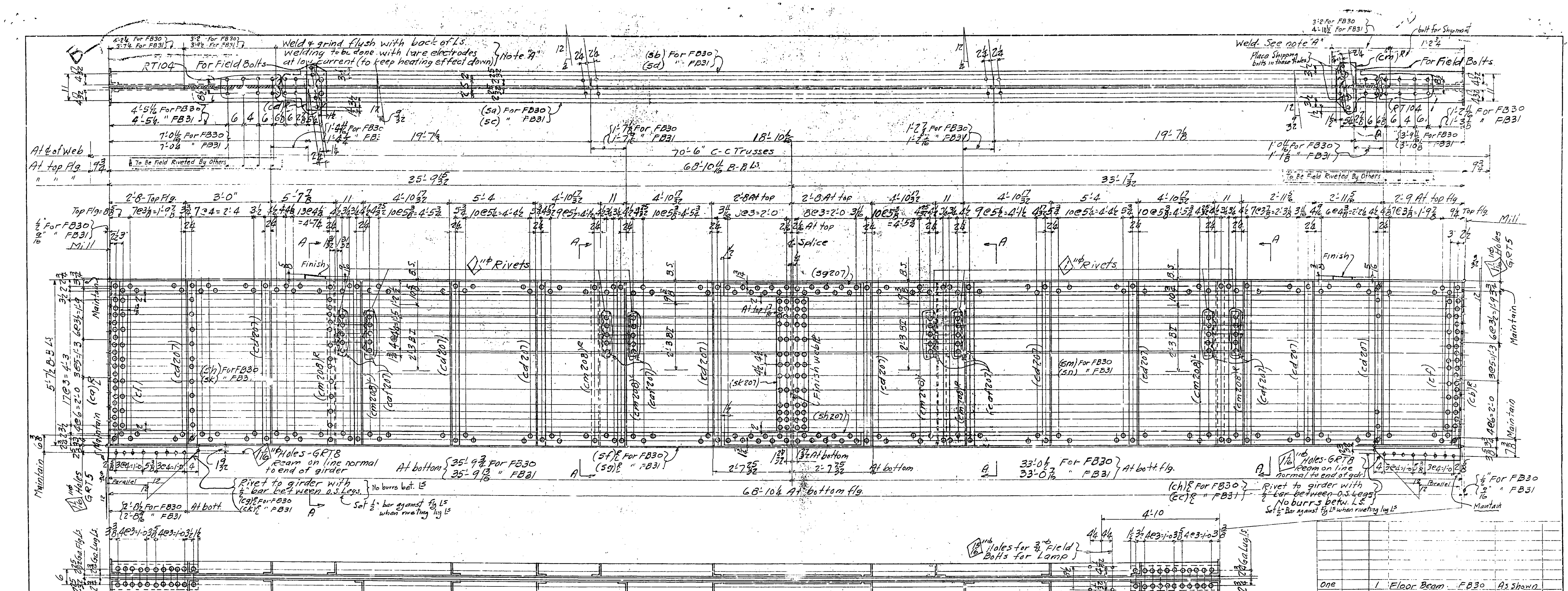
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss spans E9 & E10
McCLINTIC - MARSHALL CORPORATION
Chicago DRAWING ROOM Moore Dry Dock Co. WORKS
IN CHARGE Jenks MADE BY GAK
CHECKED BY 7/10/34 TRACED BY
LAST ASSEM. MK. (sn) (caf)

Work this sheet with sheets G207, 209, 210, 211, 212, 213.

CONTRACT CG15803 SHEET G 208

U1-E9 U7-E10

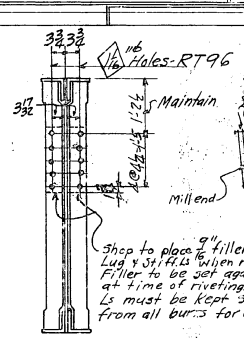
30-1



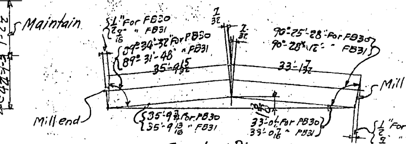
Material for one Floor Beam

2-Ls 6×6×¾× 68'-10¾ M2E (5a)(5b) For FB30 (5c)(5d) For FB31
2-Ls 6×6×¾× 68'-10 5/16 M2E - (5f)R/L For FB30 (5g)R/L For FB31
1-Web Pl. 67F2W × 7/16 × 35'-9 27/32 MIE, FIE (5h) For FB30
1- " " do. × 35'-9 29/32 MIE, FIE (5k) " FB31
1- " " do. × 33'-1 5/32 MIE, FIE (5m) " FB30 / (5n) " FB31

2-Ls 6×4×⅝× 5'-6 1/32 F2E (ca)R/L
2-Ls 6×4×⅝× 5'-6 1/32 F2E (cb)R/L
4-Fills 6⅝×¾× 4'-7 1/16 M.I.Edge - Ord 7.3 UM. (cf)
20-Ls 5×3½×⅜× 5'-7½ (crimped) F2E (cd207)
8-Ls 5×3½×7/16× 5'-7½ (") F2E (cm208)R/L
8-Ls 5×3½×½× 1'-8½ (caf207)
2-Ls 5×5×½× 3'-0 5/32 MIE (cg)R/L For FB30 (ck)R/L For FB31
2-Ls 5×5×½× 3'-0 MIE (ch)R/L " FB30 (cc)R/L " FB31
2-Bars 5UM×¾× 4'-7⅛ F2E (5g207) } Grind to fit fillet
2- " 5UM×¾× 4'-6 11/16 F2E (5h207) }
2-Pls 13UM×7/16× 4'-7 F2E (5k207)
1-Pl 7½UM×5/16×9/16×1'-8 FIS. (cd)R
1-Pl 7½UM×5/16×⅜×1'-8 FIS (cm)R-Bolt



SECT. A-A



Camber Diagram

One		1	Floor Beam	FB30	As Shown	
	One	1	" "	FB31	Opphd. to Sketch	
SPAN 9	SPAN 10	TOTAL No.	Description	Mark	Remarks	Weight each Tons
REQD. BY SPANS		REQUIRED LIST				

Note "B":-
Holes marked "GRT" to be reamed or drilled full size thru a metal templet furnished by Chicago Wks.- McClintic-Marshall Corp.
Holes marked "RT" to be reamed or drilled full size thru a metal templet furnished by Moore Dry Dock Co.

Shop note:-
Shop to place all erection marks on left hand end of members as detailed, and in an upright posisition. Backs of end conn. Ls need not be milled. These Ls must be square & flush with milled edge after girder is milled.
Milled ends of Ls (cg)R/L (ck)R/L (ch)R/L & (cc)R/L to be milled normal to and flush with respective ends of gdr.
Erection marks to be put on with both paint and steel stencils.
Shipping bolts to be drawn up sufficiently tight to exclude foreign particles during shipment or field sand blasting.

Work this sheet with sheets G 207, G 208

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: ⅞"φ Un. noted
OPEN HOLES: 15/16"φ " "

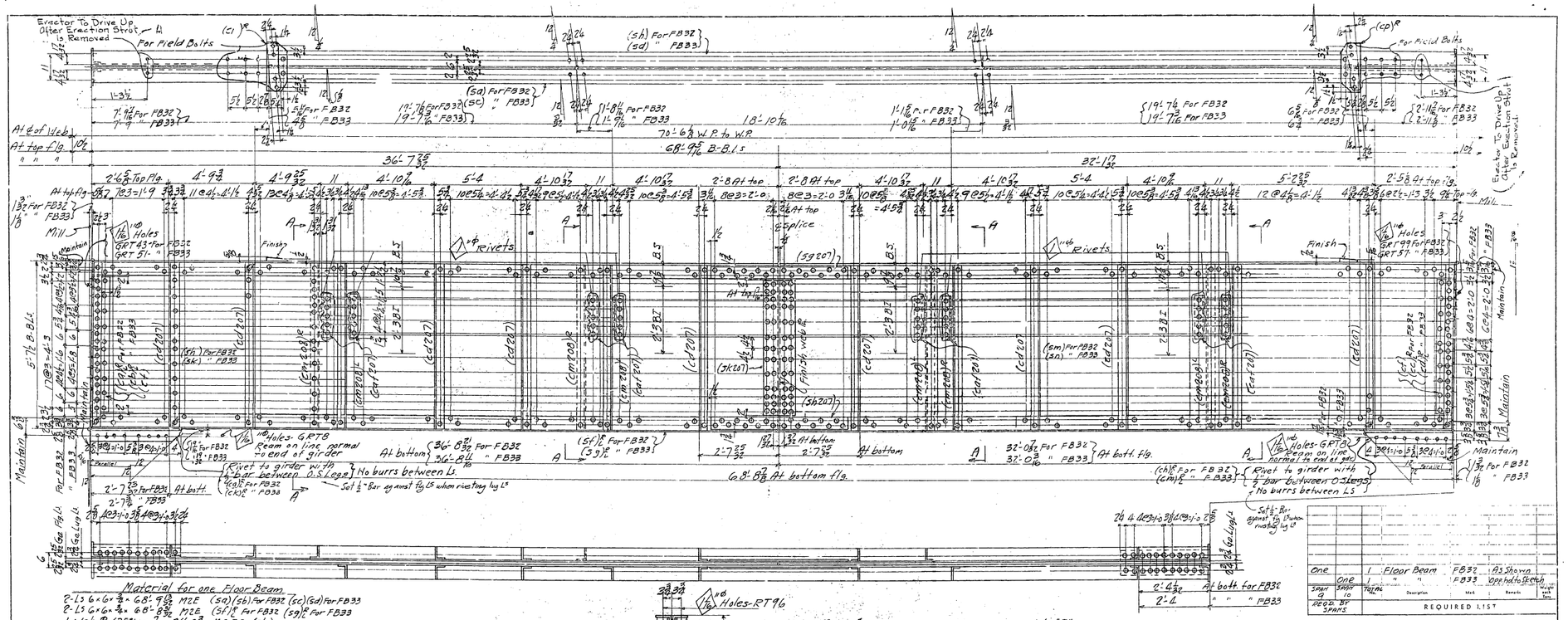
Punching:- Holes in material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly. See note "B"

FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
SHOP PAINT:- None except that the following is to be given one coat of "Acid Resisting Liquid":-
(a) Surfaces bet. lug Ls on bott. flg. and bet. lug Ls & stiffs on web, not accessible for field sand blasting.
(b) Contact surfaces at parts bolted for shipment.
All surfaces to be painted to be cleaned & scraped before painting. Paint on contact surfaces at parts bolted for shipment to be allowed to dry before assembly.

APPROVED
Date 8-2-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans E9 & E10
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Moore Dry Dock Co. WORKS
IN CHARGE Jenks MADE BY G.A.K.
CHECKED BY 7/10/34 TRACED BY
LAST ASSEM. MK. (5n) (cm)
CONTRACT CG13803 SHEET G 209

U2-E9 U6-E10



Material for one Floor Beam

2-L's 6"x6"x 7/16" x 68'-9 25/32 M2E (sa)(sb) For FB32 (sc)(sd) For FB33
2-L's 6"x6"x 7/16" x 68'-8 25/32 M2E (se)℄ For FB32 (sg)℄ For FB33
1-Web PL 60"FLW x 1/16" x 36'-8 3/4 M1E, F1E (sh) For FB32
1- " " do. x 36'-8 5/32 M1E, F1E (sk) " FB33
1- " " do. x 32'-1 3/32 M1E, F1E (sm) " FB32
(sn) " FB33
2-L's 6"x 4"x 5/8" x 5'-6 1/16 F2E (ca)℄ For FB32 (cb)℄ For FB33
2-L's 6"x 4"x 5/8" x 5'-6 1/16 F2E (cc)℄ " FB32 (cd)℄ " FB33
4-Fills 6" x 3/8" x 4'-7 3/32 M1Edge, One T. Run (cf)
18-L's 5"x 3 1/2"x 7/16" x 5'-7" (crimped) F2E (cd207)
8-L's 5"x 3 1/2"x 1/2" x 5'-7" (") F2E (cm208)℄
8-L's 5"x 3 1/2"x 1/2" x 1'-8 1/2" (cn 207)
2-L's 5"x 5"x 1/2" x 3'-0 3/32 M1E (cg)℄ For FB32 (ck)℄ For FB33
2-L's 5"x 5"x 1/2" x 3'-0" M1E (ch)℄ For FB32 (cm)℄ For FB33
2-Bars 5UM x 3/4" x 4'-7 7/8" F2E (sp 207) } Grind to fit fillet
2- " 5UM x 3/4" x 4'-6 1/2" F2E (sh 207)
2-PL's 13UM x 1/2" x 4'-7" F2E (sk 207)
1-PL 7 1/2 UM x 30 5/8" x 1/2" x 1'-8 F1S (cn)R
1-PL 7 1/2 UM x 30 5/8" x 1/2" x 1'-8 F1S (cp)R

Note "B":-
Holes marked "GRT" to be reamed or drilled full size thru a metal templet furnished by Chicago Wks-McClintic-Marshall Corp.
Holes marked "RT" to be reamed or drilled full size thru a metal templet furnished by Moore Dry Dock Co.

Shop note:-
Shop to place all erection marks on left hand end of members as detailed, and in an upright position. Backs of end conn. L's need not be milled. These L's must be square & flush with milled edge after girder is milled.
Milled ends of L's (cm)℄, (ch)℄, (cg)℄, & (ck)℄ to be milled normal to ℄ flush with respective ends of girder.
All erection marks to be put on with both paint and steel stencils.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 7/8" Un. noted
OPEN HOLES: 1" " "

Punching: Holes in material 3/4" thick or less to be sub-punched 1/8" and reamed to size after assembly. See note "B".

FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
Shop Paint: None except surfaces betw'n L's on bottom flanges and surfaces between stiffeners w'n L's on web not readily accessible for field paint blasting, to be given one coat "Red Bristol Liquid" after thoroughly cleaning & scraping such surfaces.

SPAN G	SPAN 10	Total	Description	Mark	Remarks	Weight each Item
One		1	Floor Beam	FB32	As Shown	
	One	1	" "	FB33	Opp. to As Sketch	
REQD. BY SPANS			REQUIRED LIST			

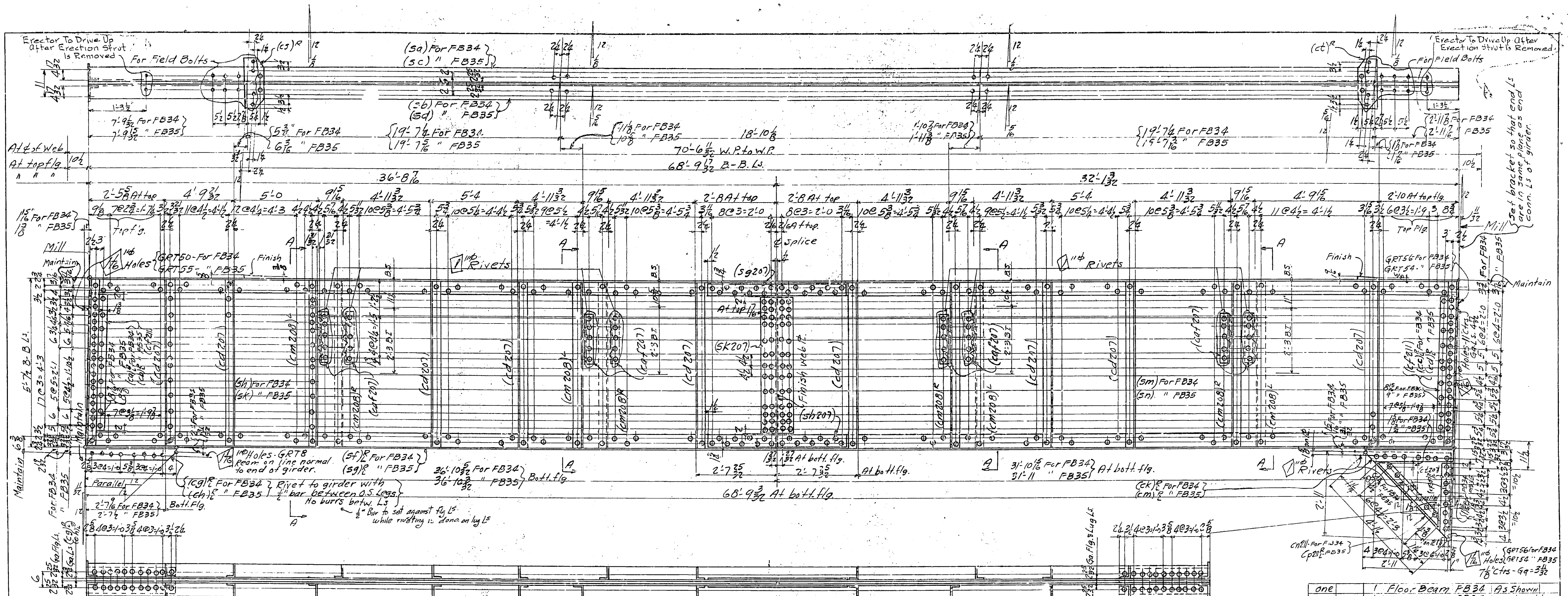
APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date 8-1-34

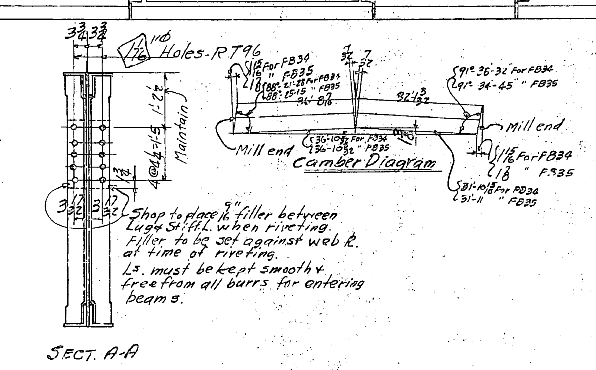
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans E9 & E10
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Moore Dry Dock Co. WORKS
IN CHARGE J.B.McC. MADE BY GAR
CHECKED BY 9-7/10/34 (sn) TRACED BY
LAST ASSEMBL. MK. (cp)
CONTRACT CG1503 SHEET G 210

Work this sheet with sheet G207, G208

U3-E9, U5-E10

30-1





Material for one Floor Beam

2-Ls 6×6×3/4×68'-9 23/32 M2E (sa)(sb) For FB34 (sc)(sd) For FB35
2-Ls 6×6×3/4×68'-9 9/32 M2E (sf) R/L " FB34 (sg) R/L " FB35
1-Web Pl. 67F2W×7/16×36'-10 1/4 MIE, FIE (sh) For FB34
1- " " do. ×36'-10 3/16 MIE, FIE (sk) " FB35
1- " " do. ×32'-0 31/32 MIE, FIE (sm) For FB34 (sn) For FB35
2-Ls 6×4×5/8×5'-6 5/32 F2E (ca) R/L For FB34 (cb) R/L For FB35
2-Ls 6×4×5/8×5'-6 5/32 F2E (cc) R/L " FB34 (cd) R/L " FB35
4-Fills 6 3/8×3/4×4'-7 7/32 M.I. Edge (cf211) -Ord. 7.3/4 U.M.
2-Ls 5×5×1/2×3'-0 1/8 MIE (cg) R/L For FB34 (ch) R/L For FB35
2-Ls 5×5×1/2×3'-0 MIE (ck) R/L " FB34 (cm) R/L " FB35
2-Ls 5×5×1/2×2'-7 1/2 (cp207) R/L
2-Ls 4×4×7/16× {2'-11 3/4 For FB34 (cn211) / 2'-11 5/8 " FB35 (cp211) R/L}
1-Pl 24 3/4 UM×7/16×4'-1 1/2 (21'-0 Cuts 9) (ct207)
2-Bars 5UM×3/4×4'-7 1/8 F2E (sg207) } Grind to fit fillet
2- " 5UM×3/4×4'-6 11/16 F2E (sh207) }
2-Pls 13UM×7/16×4'-7 F2E (sk207)
18-Ls 5×3 1/2×3/8×5'-7 1/2 (crimped) F2E (cd207)
8-Ls 5×3 1/2×7/16×5'-7 1/2 (") F2E (cm208) R/L
8-Ls 5×3 1/2×1/2×1'-8 1/2 (caf207)
1-Pl 7 1/2 UM×5/8×3/8×1'-8 F1S (cs) R
1-Pl 7 1/2 UM×9/16×5/16×1'-8 F1S (ct) R

one		1	Floor Beam	FB34	As Shown	
	one	1	" "	FB35	Opp hd to Sketch	
Span 9	Span 10	Total No.	Description	Mark	Remarks	Weight each Tons
Required by Spans		Required List				

Note "B":-
Holes marked "GRT" to be reamed or drilled full size thru a metal templet furnished by Chicago Wks.-McClintic-Marshall Corp.
Holes marked "RT" to be reamed or drilled full size thru a metal templet furnished by Moore Dry Dock Co.

Shop note:-
Shop to place all erection marks on left hand end of members as detailed, and in an upright position. Backs of end conn. Ls. need not be milled. These Ls must be square & flush with milled edge after girder is milled.
Milled ends of Ls (ck) R/L, (cm) R/L, (cg) R/L, & (ch) R/L to be milled normal to and flush with respective ends of girders.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 7/8"⌀ Un. noted.
OPEN HOLES: 15/16"⌀ " "

Punching:- Holes in material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly. See note "B"

FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
SHOP PAINT- None, except surfaces bet. lug Ls on bottom flange @ L.H. End & surfaces between stiffeners & lug Ls on web, not readily accessible for field sand blasting, to be given one coat "Acid Resisting Liquid" after thoroughly cleaning & scraping such surfaces.
Shipping Marks:- All shipping marks to be put on with steel stencils and paint.

Date Revision App'd

APPROVED

Engineer of Design
Bridge Engineer
Chief Engineer
Date 8-2-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing

288'-0 Truss Spans E9 & E10

McCLINTIC-MARSHALL CORPORATION

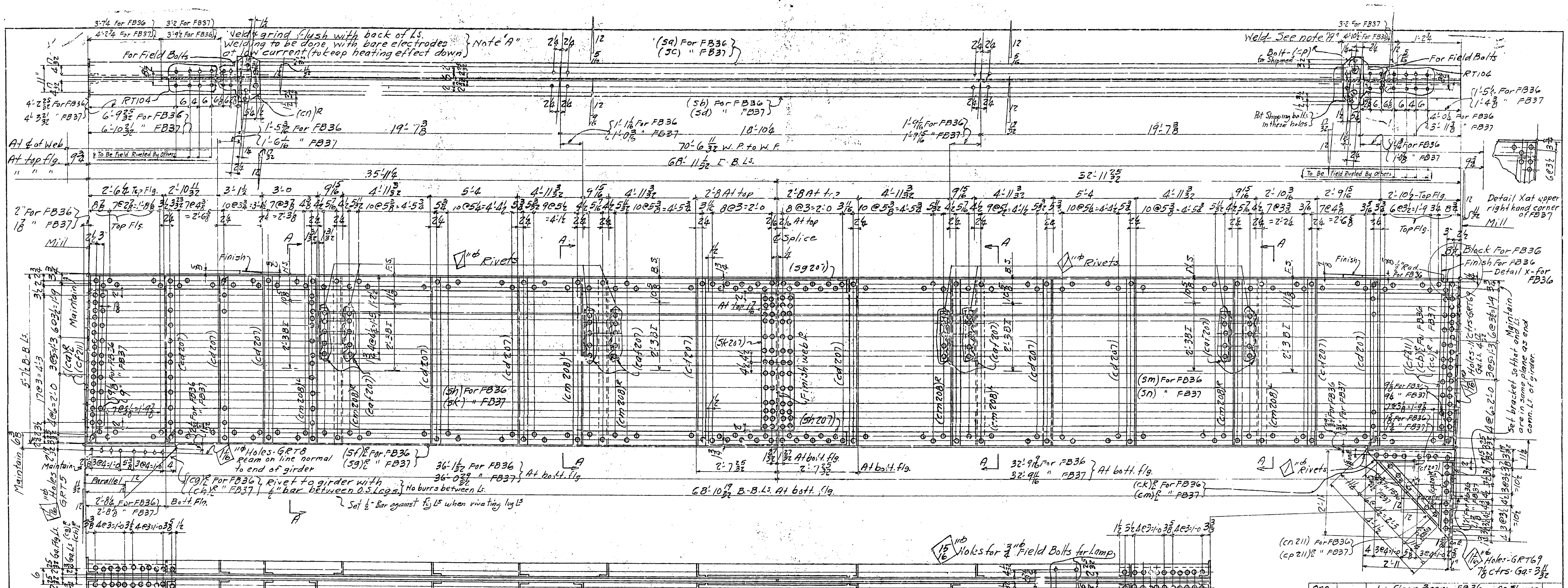
Chicago DRAWING ROOM Moore Dry Dock Co. WORKS
IN CHARGE JENKS MADE BY GAK
CHECKED BY F 7/10/34 TRACED BY
LAST ASSEM. MK. (cb) (sn)

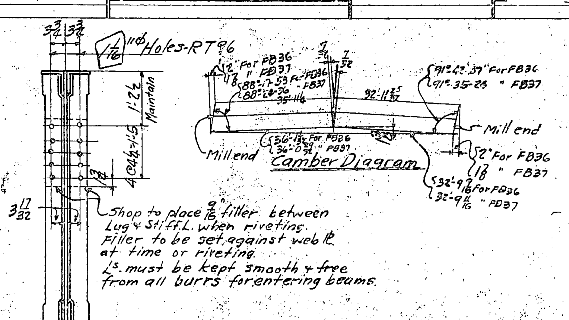
CONTRACT CG15803 SHEET G 211

Work this sheet with sheets G207, G208, 212, 213, 217, 218

US-E9, U3-E10

30-1





SECT. A-A

Camber Diagram

Material for one Floor Beam

2-Ls 6×6×3/4× 68'-11 3/32 MZE (5a) (5b) For FB36 (5c) (5d) For FB37
2-Ls 6×6×3/4× 68'-10 25/32 MZE (5f)R L For FB36 (5g)R L For FB37
1-Web Pl. 67 FZW × 7/16 × 36'-1 1/8 MIE, FIE (5h) For FB36
1- " " do. × 36'-1" MIE, FIE (5k) " FB37
1- " " do. × 32'-11 21/32 MIE, FIE (5m) For FB36 (5n) For FB37
2-Ls 6×4×5/8 × 5'-6 5/32 FZE (ca)R L
2-Ls 6×4×5/8 × 5'-5 21/32 FZE (cb)R L For FB36
2-Ls 6×4×5/8 × 5'-6 5/32 FZE (cc)R L " FB37
2-Ls 5×5×1/2 × 3'-0 1/8 MIE (cg)R L For FB36 (ch)R L For FB37
2-Ls do. × 3'-0 MIE (ck)R L " FB36 (cm)R L " FB37
2-Ls do. × 2'-7 1/2 (cp207)R L
2-Ls 4×4×7/16 × { 2'-11 3/32 (cn211) For FB36 ; 2'-11 7/8 (cp211)R L " FB37 }
1-Pl. 24 3/4 UM × 7/16 × 4'-1 1/2 (21'-0 Cuts 9) (ct207)
2-Bars 5UM × 3/4 × 4'-7 1/8 FZE (5g207) } Grind to fit fillet.
2- " 5UM × 3/4 × 4'-6 11/16 FZE (5h207) }
2-Pls 13UM × 7/16 × 4'-7 FZE (5k207)
22-Ls 5×3 1/2 × 3/8 × 5'-7 1/2 (crimped) FZE (cd207) - 4 of these Ls and extra rivets for same not to be charged to customer. Bill as shipped but not charged.
8-Ls 5×3 1/2 × 7/16 × 5'-7 1/2 (") FZE (cm208)R L
8-Ls 5×3 1/2 × 1/2 × 1'-8 1/2 (caf207)
4-Fills 6 7/8 × 3/4 × 4'-7 7/32 MI Edge-Ord 7.3/4 UM (cf211)
1-Pl. 7 1/2 UM × 5/8 × 3/8 × 1'-8 FIS (cn)R
1-Pl. 7 1/2 UM × 5/8 × 7/8 × 1'-8 FIS -Bolt (cp)R

Note "B":-
Holes marked "GRT" to be reamed or drilled full size thru a metal templet furnished by Chicago Wks.- McClintic-Marshall Corp.
Holes marked "RT" to be reamed or drilled full size thru a metal templet furnished by Moore Dry Dock Co.

Shop note:-
Shop to place all erection marks on left hand end of members as detailed, and in an upright position.
Backs of end conn. Ls need not be milled. These Ls must be square & flush with milled edge after girder is milled.
Milled ends of Ls (ck)R L, (cm)R L, (cg)R L & (ch)R L to be milled normal to and flush with respective ends of girders.
Erection marks to be put on with both paint and steel stencils.
Shipping bolts to be drawn up sufficiently tight to exclude foreign particles during shipment and sand blasting.

Work this sheet with sheets G207, 208, 211,

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 7/8" ⌀ Un. noted.
OPEN HOLES: 15/16" ⌀ " "

Punching:- Holes in material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly. See note "B"

FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
SHOP PAINT:- None except that the following are to be given one coat of "Rust Resisting Liquid" ...: (a) Surfaces bet. lug Ls cg R L and ch R L on bottom flg. and bet. lug Ls & stiff.s on web, not readily accessible for field sand blasting. (b) Contact surfaces of parts bolted for shipment.
All surfaces to be painted to be cleaned and scraped before painting.
Paint on contact surfaces of parts bolted for shipment to be allowed to dry before assembly.

One		1	Floor Beam	FB36	As Shown	
	One	1	" "	FB37	opp. hd. to Sketch	
SPAN 9	SPAN 10	TOTAL No.	Description	Mark	Remarks	Weight each Tons
REQUIRED BY SPANS		REQUIRED LIST				

Date	Revision	App'd

APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date 8-7-34

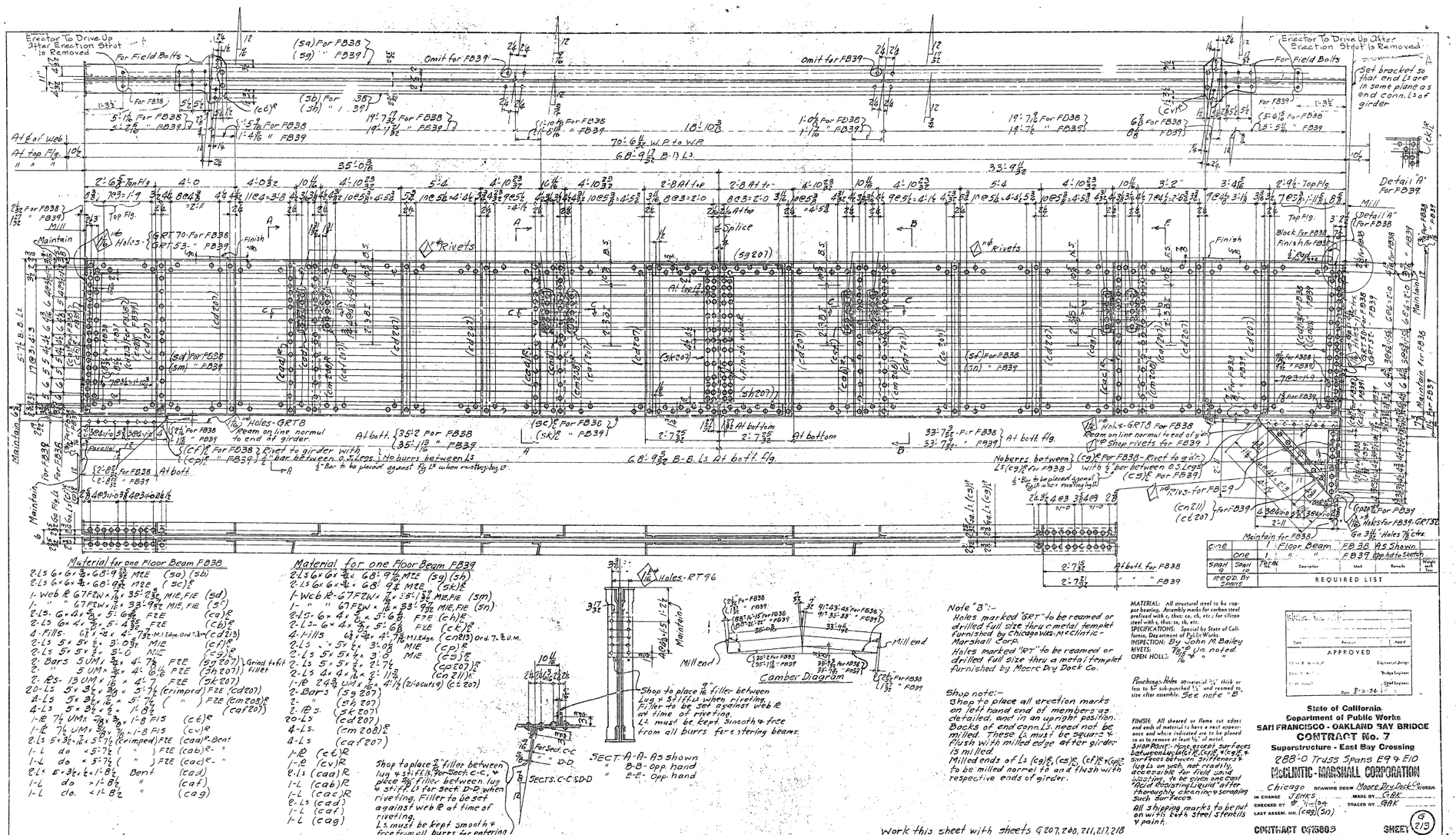
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing

288'-0 Truss Spans E9 & E10

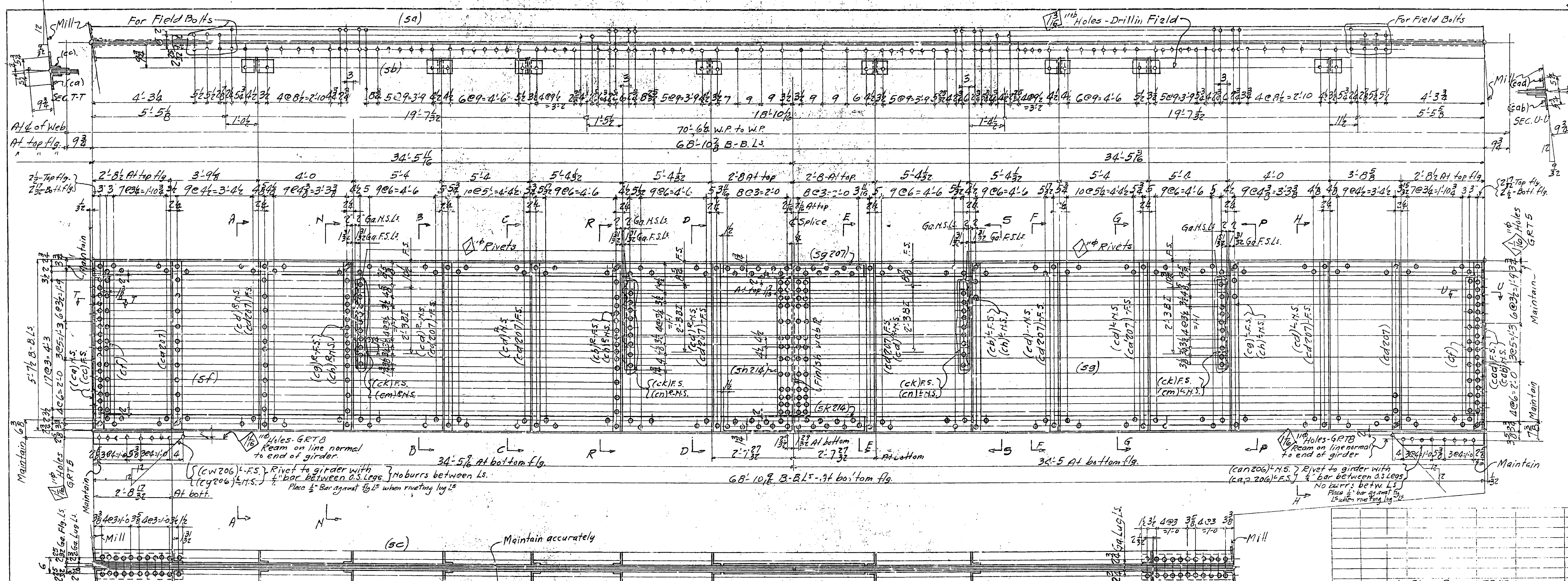
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Moore Dry Dock Co. WORKS
IN CHARGE JENKS MADE BY GAK
CHECKED BY 9-10-34 TRACED BY
LAST ASSEM. MK. (cp) (5n)
CONTRACT CG1580 3 SHEET G 212

U6-E9, U2-E10



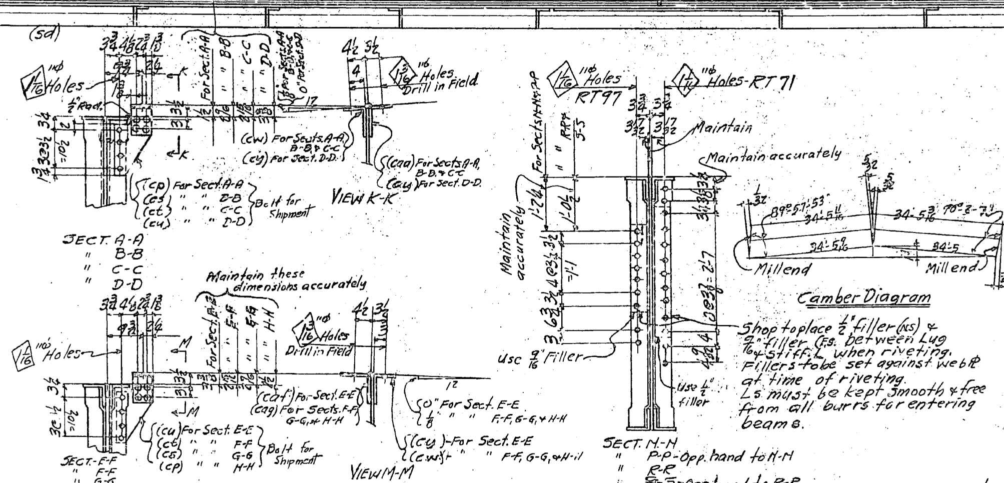
Span	Span	Total	Description	Mark	Remarks	Weight each Piece
One	One		" "		FB38 As Shown	
			" "		FB39 Opp hd to Sketch	
FROM SPANS			REQUIRED LIST			



One	1	Floor Beam	FB40		
SPAN 10	TOTAL No.	Description	Mark	Remarks	Weight each Tons
REQ'D. BY SPANS	REQUIRED LIST				

Material for one Floor Beam

2-Ls-6×6×3/4×68'-11 1/32 MZE (sa)(sb)
2-Ls-6×6×3/4×68'-10 25/32 MZE (sc)(sd)
1-Web Pl. 67 FZW×7/16×34'-5 19/32 MIE,FIE (sf)
1- " " 67 FZW×7/16×34'-5 1/16 MIE,FIE (sg)
2-Ls 6×4×5/8×5'-6 FZE-Bent (ca)(cad)
2-Ls 7×4×5/8×5'-6 FZE-Bent (cc)(cab)
4-Fills 6 5/8×3/4×4'-7-M.I.Edge-Ord.7.3/4 UM (cf)
2-Ls 5×5×1/2×3'-0 1/8 MIE - (can206)L-(cw206)L
2-Ls 5×5×1/2×3'-0 MIE - (cap206)L-(cy206)L
20-Ls 5×3 1/2×3/8×5'-7 1/2 FZE (crimped) 12-Ls(cd207) 8-Ls(cd)
4-Ls 5×3 1/2×7/16×5'-7 1/2 FZE (") (cg) (cb)
4-Ls 5×3 1/2×7/16×5'-7 1/2 FZE (") (ch)
4-Ls 5×3 1/2×1/2×1'-11 1/2 (ck)
2-Ls do. ×2'-10 1/2 (cm)
2-Ls do. ×2'-10 1/2 (cn)
2-Pls 10 UM×1/2 {1'-4 3/4 (cp); 1'-5 13/16 (cs); 1'-6 3/16 (ct); 1'-6 5/8 (cu)} Bolt
6-Ls 8×6×1/2×5 1/2-Bent (cw)
3-Ls do. ×5 1/2- " (caa)
3-Ls do. ×5 1/2- (cy)
1-L 8×8×1/2×5 1/2 (caf)
3-Ls 8×8×1/2×5 1/2-Bent (cag)
2-Pls 13UM×7/16×4'-7 FZE (sh214)
2-Bars 5UM×3/4×4'-7 1/8 FZE (sg207) } Grind to fit
2- " 5UM×3/4×4'-6 13/16 FZE (sk214) } fillet



Note "B":-
Holes marked "GRT" to be reamed or drilled full size thru a metal templet furnished by Chicago Wks - McClintic-Marshall Corp.
Holes marked "RT" to be reamed or drilled full size thru a metal templet furnished by Moore Dry Dock Co.

Shop note:-
Shop to place all erection marks on left hand end of members as detailed, and in an upright position. Backs of end conn. Ls need not be milled. These Ls. must be flush with milled edge after girder is milled.
Milled ends of Ls (cw206)L, (cy206)L, (can206)L, & (cap206)L to be milled normal to and flush with respective ends of girder.
Shipping bolts to be drawn up sufficiently tight to exclude foreign particles during shipmt. and field sand blasting.
All shipping marks to be put on with both steel stencils and paint.

MATERIAL: All structural steel to be ... proper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 7/8"⌀ Un. noted.
OPEN HOLES: 15/16"⌀ " "

Punching:- Holes in material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly. See note "B"

FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
SHOP PAINT: None except that the following are to be given one coat of ACID RESISTING LIQUID.
(a) Surfaces bet. lug Ls on bottom flg. and bet. lug Ls and stiffs on web, not readily accessible for field sand blasting.
(b) Contact surfaces at parts bolted for shipment.
All surfaces to be painted to be cleaned and scraped before painting.
Paint on contact surfaces at parts bolted for shipment to be allowed to dry before assembly.

Date	Revision	App'd

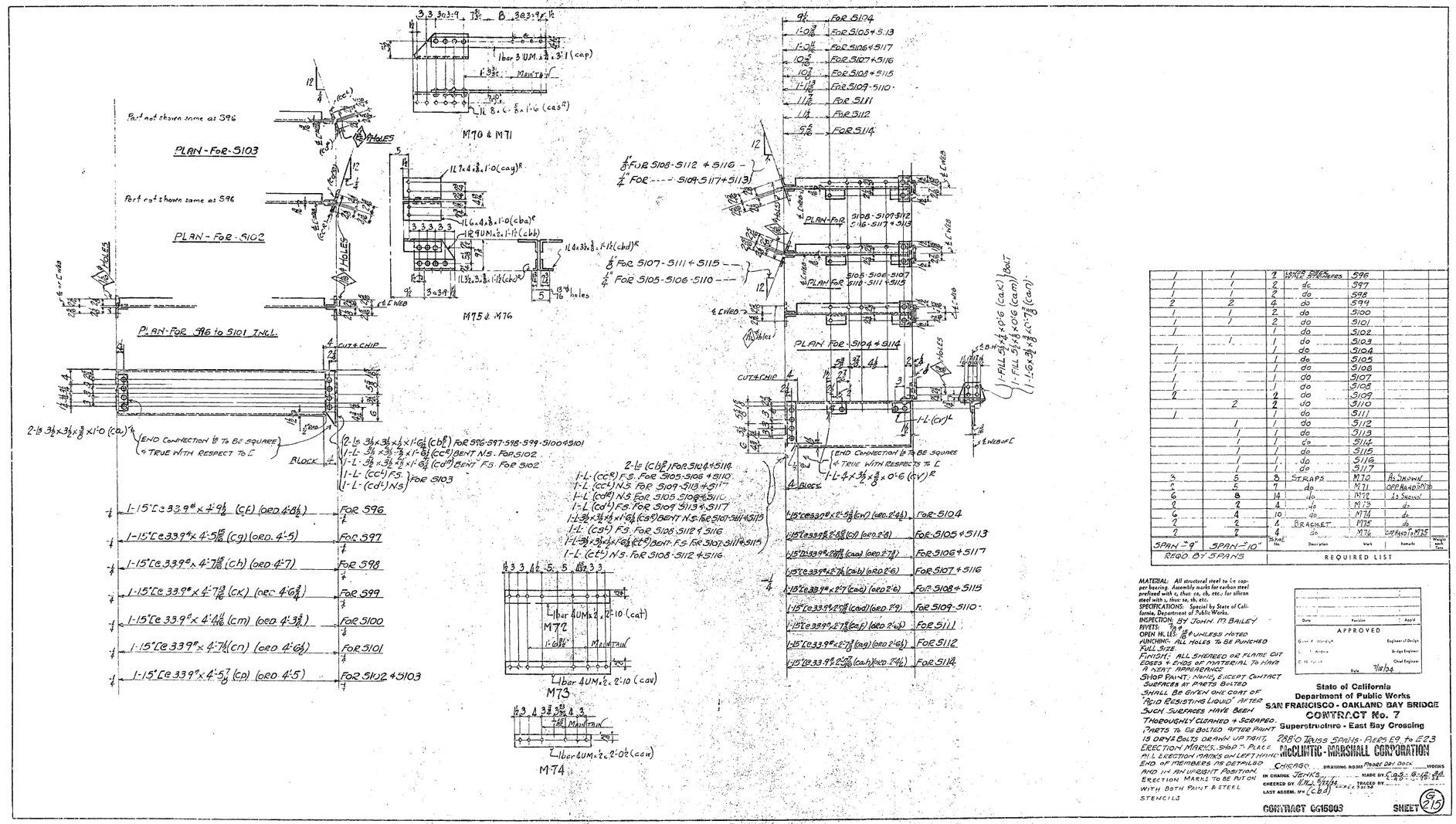
APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-6-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans E9 & E10
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Moore Dry Dock Co. WORKS
IN CHARGE JENKS MADE BY GAK
CHECKED BY 7/10/34 TRACED BY
LAST ASSEM. MK. (sk) (cag)
CONTRACT CG15803 SHEET G 214

work this sheet with sheets G206, 207, 217, 218

U8-E10

30-1



1	1	2	12"x12" STEEL BASE PLATE STIFFENERS	596	
1	1	2	do	597	
1	1	2	do	598	
2	2	4	do	599	
1	1	2	do	5100	
1	1	2	do	5101	
1	1	1	do	5102	
1	1	1	do	5103	
1	1	1	do	5104	
1	1	1	do	5105	
1	1	1	do	5106	
1	1	1	do	5107	
1	1	1	do	5108	
2	2	2	do	5109	
2	2	2	do	5110	
1	1	1	do	5111	
1	1	1	do	5112	
1	1	1	do	5113	
1	1	1	do	5114	
1	1	1	do	5115	
1	1	1	do	5116	
1	1	1	do	5117	
3	5	8	STRAPS	M70	As Shown
5	5	7	do	M71	OPP HAND BOLTS
6	8	14	do	M72	As Shown
2	2	4	do	M73	do
6	4	10	do	M74	do
2	2	4	BRACKET	M75	do
2	2	4	do	M76	OPP HAND TO M75
SPAN "9"	SPAN "10"				
REQD BY SPANS		REQUIRED LIST			

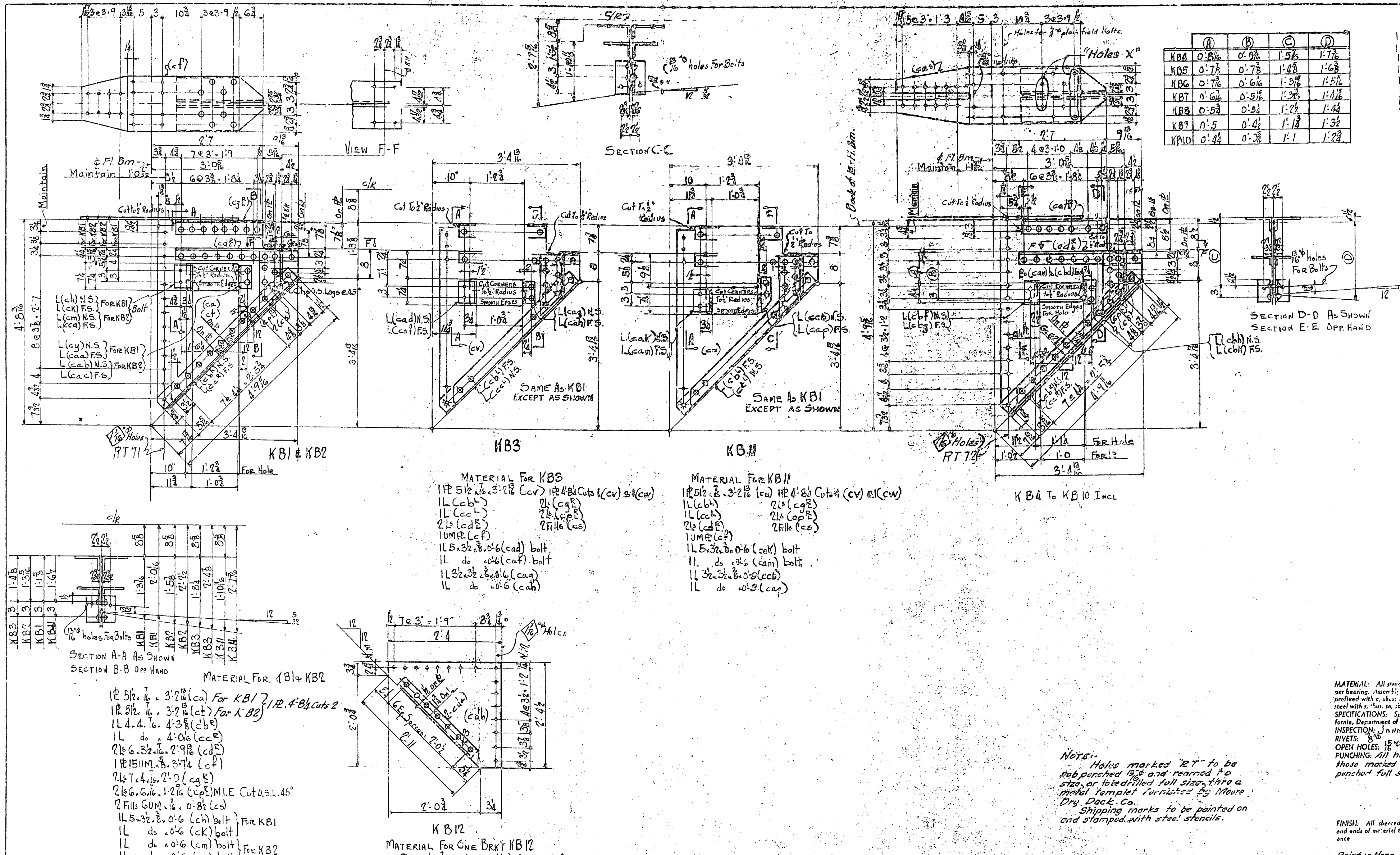
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: cc, cb, etc., for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: BY JOHN M. BAILEY
RIVETS: 7/8"ø
OPEN HL LES: 1/16" UNLESS NOTED
PUNCHING: ALL HOLES TO BE PUNCHED FULL SIZE
FINISH: ALL SHEARED OR FLAME CUT EDGES & ENDS OF MATERIAL TO HAVE A NEAT APPEARANCE
SHOP PAINT: NONE, EXCEPT CONTACT SURFACES AT PARTS BOLTED SHALL BE GIVEN ONE COAT OF "ACID RESISTING LIQUID" AFTER SUCH SURFACES HAVE BEEN THOROUGHLY CLEANED & SCRAPED. PARTS TO BE BOLTED AFTER PAINT IS DRY. BOLTS DRAWN UP TAHT. ERECTION MARKS: SHOP TO PLACE ALL ERECTION MARKS ON LEFT HAND END OF MEMBERS AS DETAILED AND IN AN UPRIGHT POSITION. ERECTION MARKS TO BE PUT ON WITH BOTH PAINT & STEEL STENCILS

APPROVED
Date — Revision — Appd
Engineer of Design
Bridge Engineer
Chief Engineer
Date 7/18/24

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0 Twiss Spans: Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
CHICAGO DRAWING ROOMS Moore Dry Dock WORKS
IN CHARGE JENKS MADE BY C.A.S. 6-18-24
CHECKED BY W.M.L. 6/27/24 TRACED BY
LAST ACCESS. No (C.B.B.)

CONTRACT 06-15903 SHEET 95

30-1



	(A)	(B)	(C)	(D)
KB4	0'-8 11/16	0'-9 3/16	1'-5 7/16	1'-7 3/16
KB5	0'-7 7/8	0'-7 3/8	1'-4 5/8	1'-6 3/8
KB6	0'-7 3/16	0'-6 11/16	1'-3 15/16	1'-5 11/16
KB7	0'-6 7/16	0'-5 15/16	1'-3 3/16	1'-4 15/16
KB8	0'-5 3/4	0'-5 1/4	1'-2 1/2	1'-4 1/4
KB9	0'-5	0'-4 1/2	1'-1 3/4	1'-3 1/2
KB10	0'-4 1/4	0'-3 3/4	1'-1	1'-2 3/4

MATERIAL FOR BRKT'S KB4 TO KB10 Incl.

1 Pl 5 3/4 x 7/16 x 3'-2 13/16 (cav) For KB4
1 Pl do do (caw) For KB5
1 Pl do do (cay) For KB6
1 Pl do do (cba) For KB7
1 Pl do do (cbb) For KB8
1 Pl do do (cbc) For KB9
1 Pl do do (cbd) For KB10
(1 Pl 4'-9 1/2 cuts 2)
2 Ls 7 x 4 x 7/16 x 1'-11 1/4 (cat R/L)
1 Pl U.M. 15 x 5/8 x 4'-2 1/4 (cas) Bolt to ship
2 Ls (cd R/L) 2 Ls (cp R/L) 2 Fills (cs) 1L (cb R) 1L (cc R)
1L 4 x 3 1/2 x 3/8 x 0'-6 (cbf) bolt
1L do do (cbg) bolt
1L 3 1/2 x 3 1/2 x 3/8 x 0'-6" (cbh)
1L do do (cbk)

MATERIAL FOR KB3

1 Pl 5 1/2 x 7/16 x 3'-2 13/16 (cv) 1 Pl 4'-8 1/4 Cuts 1 (cv) & 1 (cw)
1L (cb L)
1L (cc L)
2 Ls (cd R/L)
1 UM Pl (cf)
2 Ls (cg R/L)
2 Ls (cp R/L)
2 Fills (cs)
1L 5 x 3 1/2 x 3/8 x 0'-6 (cad) bolt
1L do x 0'-6 (caf) bolt
1L 3 1/2 x 3 1/2 x 3/8 x 0'-6 (cag)
1L do x 0'-6 (cah)

MATERIAL FOR KB11

1 Pl 5 1/2 x 7/16 x 3'-2 13/16 (cu) 1 Pl 4'-8 1/4 Cuts 1 (cv) & 1 (cw)
1L (cb L)
1L (cc L)
2 Ls (cd R/L)
1 UM Pl (cf)
2 Ls (cg R/L)
2 Ls (cp R/L)
2 Fills (cs)
1L 5 x 3 1/2 x 3/8 x 0'-6 (cak) bolt
1L do x 0'-6 (cam) bolt
1L 3 1/2 x 3 1/2 x 3/8 x 0'-9 (ccb)
1L do x 0'-9 (cap)

MATERIAL FOR KB1 & KB2

1 Pl 5 1/2 x 7/16 x 3'-2 13/16 (ca) For KB1
1 Pl 5 1/2 x 7/16 x 3'-2 13/16 (ct) For KB2
(1 Pl 4'-8 1/4 Cuts 2)
1L 4 x 4 x 7/16 x 4'-3 5/8 (cb R)
1L do x 4'-0 1/16 (cc R)
2 Ls 6 x 3 1/2 x 7/16 x 2'-9 13/16 (cd R/L)
1 Pl 15 UM x 5/8 x 3'-7 1/4 (cf)
2 Ls 7 x 4 x 7/16 x 2'-0 (cg R/L)
2 Ls 6 x 6 x 7/16 x 1'-2 9/16 (cp R/L) M.I.E Cut O.S.L. 45°
2 Fills 6 UM x 7/16 x 0'-8 1/2 (cs)
1L 5 x 3 1/2 x 3/8 x 0'-6 (ch) bolt
1L do x 0'-6 (ck) bolt
(For KB1)
1L do x 0'-6 (cm) bolt
1L do x 0'-6 (can) bolt
(For KB2)
1L 3 1/2 x 3 1/2 x 3/8 x 0'-6 (cy)
1L do x 0'-6 (caa)
(For KB1)
1L do x 0'-6 (cab)
1L do x 0'-6 (cac)
(For KB2)

MATERIAL FOR ONE BRK'T KB12

1 Pl 28 1/2 x 7/16 x 2'-4 (cdb) 1 Pl 2'-11 Cuts 2
2 Ls 4 x 3 x 3/8 x 2'-3 1/2 (cda)

NOTE:–
Holes marked "RT" to be subpunched 13/16"Φ and reamed to size, or to be drilled full size, thru a metal templet furnished by Moore Dry Dock Co.
Shipping marks to be painted on and stamped with steel stencils.

Span No 10	Total No. Req'd	Description	Mark	Remarks	Weight each Tons
1	1	Bracket	KB1	As Shown	
1	1	do	KB2	do	
1	1	do	KB3	As Shown & Noted	
1	1	do	KB4	As Shown	
1	1	do	KB5	do	
1	1	do	KB6	do	
1	1	do	KB7	do	
1	1	do	KB8	do	
1	1	do	KB9	do	
1	1	do	KB10	do	
1	1	do	KB11	As Shown & Noted	
7	7	do	KB12	As Shown	

REQ'D BY SPANS — REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey
RIVETS: 7/8"Φ
OPEN HOLES: 15/16"Φ Unless Noted
PUNCHING: All holes, except those marked "RT" may be punched full size.

FINISH: All sheared or flame cut edges and ends of material to have a neat appearance

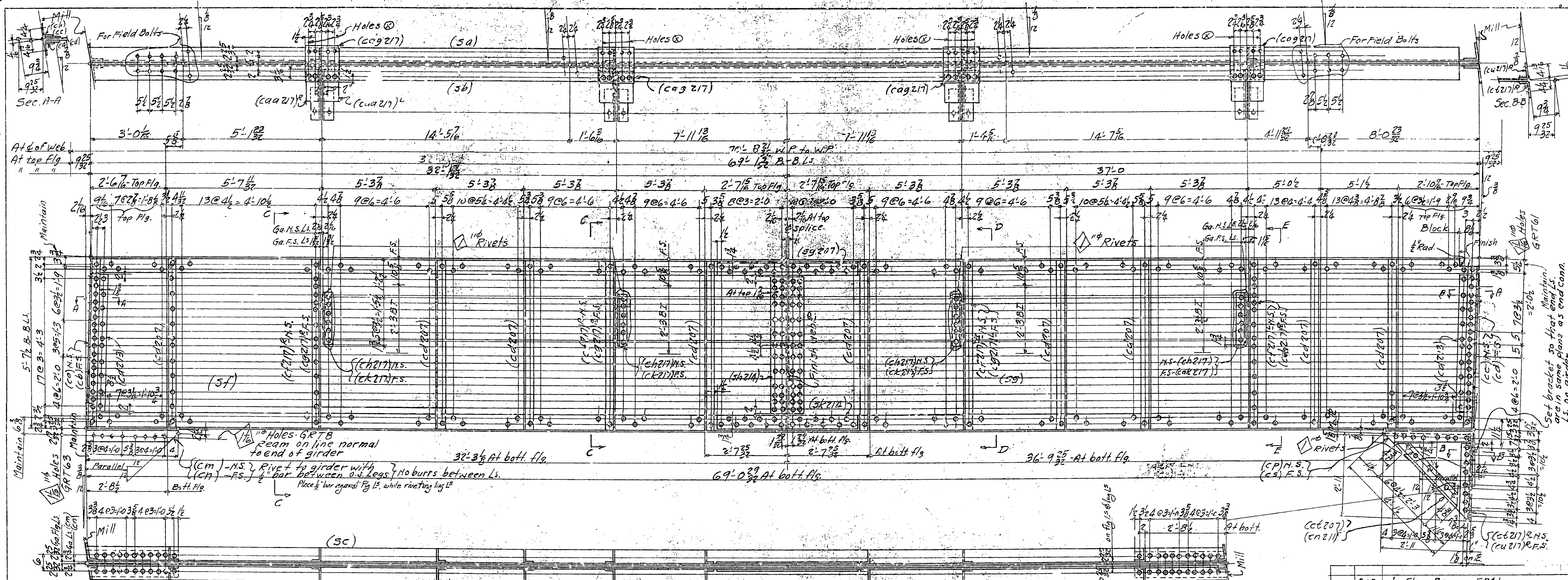
Paint:– None, except contact surfaces of parts bolted for shipment shall have one coat of "Acid Resisting Liquid" after such contact surfaces are thoroughly cleaned & scraped. Parts to be bolted after paint is dry. Place shipping bolts in Holes "X" in plates (cas). Draw all shipping bolts up sufficiently tight to exclude sand and foreign particles during field sand blasting and shipment.

Date	Revision	App'd

APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date 8-1-34

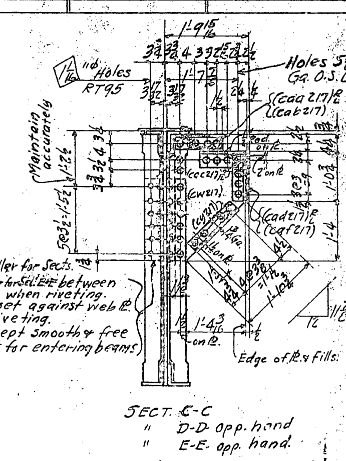
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago Drawing Room Moore Dry Dock Works
In Charge Jenks Made by C.A.D.
Checked by FH 6-26-34 Traced by
Last Assem. Mk. (cdb)
CONTRACT CG16803
SHEET G 216

30-1



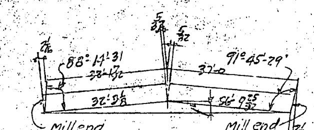
Material for one Floor Beam

1-L	6×6×¾×69'-1 9/16		MZE	(5a)
1-L	do.	×69'-1 5/16	MZE	(5b)
1-L	do.	×69'-1 17/32	MZE	(5c)
1-L	do	×69'-1 31/32	MZE	(5d)
1-Web Pl.	67F2W×7/16×32'-3 5/32		MIE, MIE	(5f)
1- "	" 67F2W×7/16×36'-1 1/8		MIE, FIE	(5g)
2-Ls	6×4×5/8×5'-6 5/32	Bent	(ca) (cb)	F2E
2-Ls	6×4×5/8×5'-3 17/32	"	(cc) (cd)	F2E
4-Fills	6½×¾×4'-7 7/32 - M.I. Edge		(cd213) - Ord. T. ¾ U.M.	
18-Ls	5×3½×3/8×5'-7½	(crimped) F2E	(cd207)	
4-Ls	5×3½×7/16×5'-7½	(") F2E	(cf217) R L	
3-Ls	5×3½×7/16×5'-7½	(") F2E	(cg217) 2-R 1-L	
4-Ls	5×3½×½×1'-9		(ch217)	
3-Ls	5×3½×½×1'-9		(ck217)	
2-Bars	5UM×¾×4'-7 1/8	F2E	(sg207)	Grind to fit fillet.
2- "	5UM×¾×4'-6 13/16	F2E	(sk214)	
2-Pls	13UM×7/16×4'-7	F2E	(sh214)	
1-L	5×5×½×3'-0 5/32	MIE	(cm)	
1-L	do	×3'-0 3/8	MIE	(cn)
1-L	do.	×3'-0 3/8	MIE	(cp)
1-L	do.	×3'-0	MIE	(cs)
1-Pl.	24¾ UM×7/16×4'-1½ (21'-0 Cuts 9)		(ct207)	
2-Ls	5×6×½×2'-7½	Bent	(ct217)R (cu217)R	(cut 6×6 L)
2-Ls	4×4×7/16×2'-11¾		(cn211)	
4-Pls	19½ UM×3/8×2'-8¾ (4'-4 13/16 Cuts 2)		(cw217)	
4-Ls	3×3×3/8×1'-4½		(cy217)	
8-Ls	6×4×3/8×1'-1 5/16		(cag217) R L	
4-Fills	3¾ UM×7/16×9"		(cab217)	
8-Ls	4×3½×½×1'-0 11/16		(cac217) R L	
8-Ls	3½×3½×3/8×1'-0¼	MIE	(cad217) R L	
8-Fills	3¼ UM×½×9"		(caf217)	
4-Pls	13UM×3/8×1'-1 5/16		(cag217)	
1-L	5×3½×7/16×5'-7½ (crimped)		(cah217) R - F2E	
1-L	5×3½×½×1'-9		(cak217)	



Shop to place 9/16" filler for Sects. C-C & D-D; 5/8" filler for Sect. E-E between Lug & stiff Ls when riveting. Filler to be set against web Pl. at time of riveting.
Ls must be kept smooth & free from all burrs for entering beams.

SECT. C-C
" D-D opp. hand
" E-E opp. hand.



Camber Diagram

Shop note:-
Shop to place all erection marks on left hand end of members as detailed, & in an upright position

Note "B":-
Holes marked "GRT" to be reamed or drilled full size thru a metal templet furnished by Chicago Wks.- McClintic-Marshall Corp.
Holes marked "RT" to be reamed or drilled full size thru a metal templet furnished by Moore Dry Dock Co.

Shop note:-
Milled ends of Ls (cm) (cn), (cp), & (cs) to be milled normal to and flush with respective ends of girder.
Holes ⊗:- Shop to put shipping bolts in holes ⊗ & draw same up tight. Erector to remove in Field. Contact surfaces between these pieces where ⊗ bolts are used shall be thoroughly cleaned & scraped before assembling.
Backs of end conn. Ls. need not be milled. These Ls must be flush with milled edge after girder is milled.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 7/8"⌀ Un. noted.
OPEN HOLES: 15/16"⌀ " "

Punching: Holes in material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly. See note "B"

FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
SHOP PAINT:- None, except surfaces bet. lug Ls on bottom flanges @ L.H. end, & surfaces between stiffeners, & lug Ls on web, not readily accessible for field sand blasting, to be given one coat "Acid Resisting Liquid" after thoroughly cleaning & scraping such surfaces.
All shipping marks to be put on with both steel stencils & paint.

One	1	Floor Beam	FB41
SPAN 9	TOTAL		
REQD. BY SPANS	REQUIRED LIST		

APPROVED
8-6-34

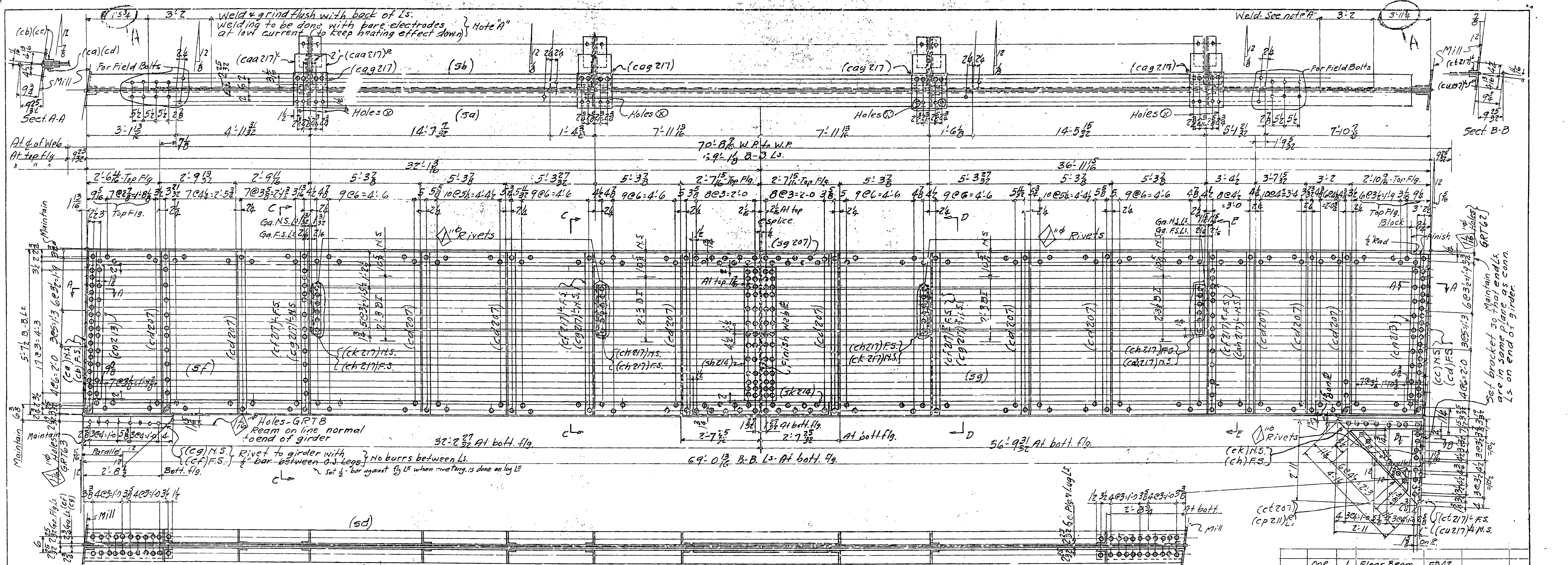
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans E9 & E10
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Moore Dry Dock Co. WORKS
IN CHARGE JENKS MADE BY GAK
CHECKED BY F 7-10-34 TRACED BY
LAST ASSEM. MK (-9) (cak)

Work this sheet with sheets G207, 208, 213, 214, 216

CONTRACT C615003 SHEET G 217

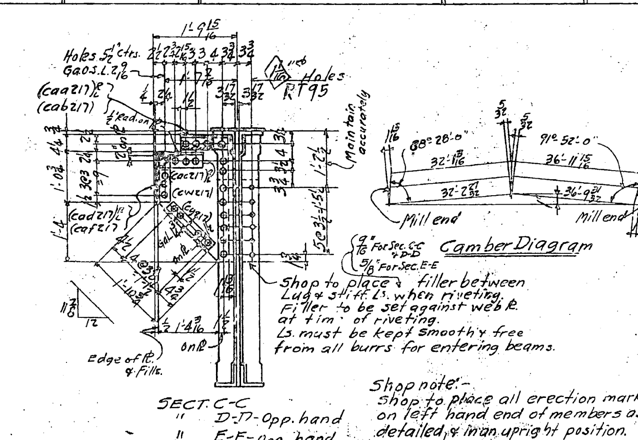
U3-E9

30-1



Material for one Floor Beam

1-L 6×6×3/4× 69'-1 1/32 MZE (sa)
1-L do. ×69'-1 1/4 MZE (sb)
1-L do. × 69'-1 15/32 MZE (sc)
1-L do. × 69'-1 1/4 MZE (sd)
1-Web Pl. 67F2W×7/16 × 32'-2 7/8 MIE, FIE (sf)
1- " " 67F2W×7/16 × 36'-11 13/16 MIE, FIE (sg)
2-Ls 6×4×5/8 ×5'-6 1/8 F2E (ca) (cb) Bent
2-Ls 6×4×5/8 ×5'-5 5/8 F2E (cc) (cd) Bent
4-Fills 6 7/8 × 3/4× 4'-7 3/16 M.I.Edge (cn 213) Ord 7-3/4 U.M.
22-Ls 5×3 1/2×3/8×5'-7 1/2 (crimped) F2E (cd 207) — 4-of these Ls and extra rivets for same not to be charged to customer. Bill as shipped but not charged.
4-Ls 5×3 1/2×7/16×5'-7 1/2 (") F2E (cf 217)
3-Ls 5×3 1/2×7/16×5'-7 1/2 (") F2E (cg 217) 2-L 1-R
4-Ls 5×3 1/2×1/2×1'-9 (ch 217)
3-Ls 5×3 1/2×1/2×1'-9 (ck 217)
2-Bars 5UM×3/4×4'-7 1/8 F2E (sg 207) } Grind to fit fillet
2- " 5UM×3/4×4'-6 13/16 F2E (sk 214) }
2-Pls 13UM×7/16×4'-7 F2E (sh 214)
1-L 5×5×1/2×3'-0 1/8 MIE (cf)
1-L do. ×3'-0 3/8 MIE (cg)
1-L do ×3'-0 3/8 MIE (ch)
1-L do. ×3'-0 MIE (ck)
1-Pl 24 3/4 UM×7/16×4'-1 1/2 (21-0 Cuts 9) (ct 207)
2-Ls 5×6×1/2×2'-7 1/2 Bent (ct 217)L (cu 217)L (Cut 6×6 L)
2-Ls 4×4×7/16×2'-11 7/8 (cp 211) R L
4-Pls. 19 1/2 UM×3/8×2'-6 3/4 (4'-4 13/16 cuts 2) (cw 217)
4-Ls. 3×3×3/8×1'-4 1/2 (cy 217)
8-Ls 6×4×3/8×1'-1 5/16 (caa 217) R L
4-Fills 3 3/4 UM×7/16×9" (cab 217)
8-Ls 4×3 1/2×1/2×1'-0 11/16 (cac 217) R L
8-Ls 3 1/2×3 1/2×3/8×1'-0 1/4 MIE (cad 217) R L
8-Fills 3 1/4 UM×1/2×9" (caf 217)
4-Pls. 13UM×3/8×1'-1 5/16 (cag 217)
1-L 5×3 1/2×7/16×5'-7 1/2 (crimped) F2E (cah 217) L
1-L 5×3 1/2×1/2×1'-9 (cak 217)



Shop to place filler between Lug & stiff. Ls. when riveting. Filler to be set against web Pl. at time of riveting. Ls must be kept smooth & free from all burrs for entering beams.

SECT. C-C
" D-D-Opp. hand
" E-E-Opp. hand

Shop note:- Shop to place all erection marks on left hand end of members as detailed, & in an upright position.

Note "B":- Holes marked "GRT" to be reamed or drilled full size thru a metal templet furnished by Chicago Wks.-McClintic-Marshall Corp. Holes marked "RT" to be reamed or drilled full size thru a metal templet furnished by Moore Dry Dock Co.

Shop note:- Milled ends of Ls (cf), (cg), (ch), & (ck) to be milled normal to and flush with respective ends of girder.
Holes ⊗:- Shop to put shipping bolts in holes ⊗ and draw same up tight. Erector to remove in Field. Contact surfaces between these pieces where ⊗ bolts are used shall be thoroughly cleaned & scraped before assembling.
Backs of end conn. Ls. need not be milled. These Ls. must be flush with milled edge after girder is milled.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 7/8"⌀ Un. noted.
OPEN HOLES: 15/16"⌀ " "

Punching:- Holes in material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly. See note "B"

FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
SHOP PAINT:- None, except surfaces bet. lug Ls on bottom flg. @ L.H. end, & surfaces between stiffeners & lug Ls on web, not readily accessible for field sand blasting, to be given one coat "Acid Resisting Liquid" after thoroughly cleaning & scraping such surfaces.
All shipping marks to be put on with both steel stencils and paint.

One	1	Floor Beam	FB42		
SPAN 10	TOTAL No. 4	Description	Mark	Remarks	Weight each Tons
REQD. BY SPANS	REQUIRED LIST				

Date	Revision	App'd
10/22/34	Rev. (A)	

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-6-34

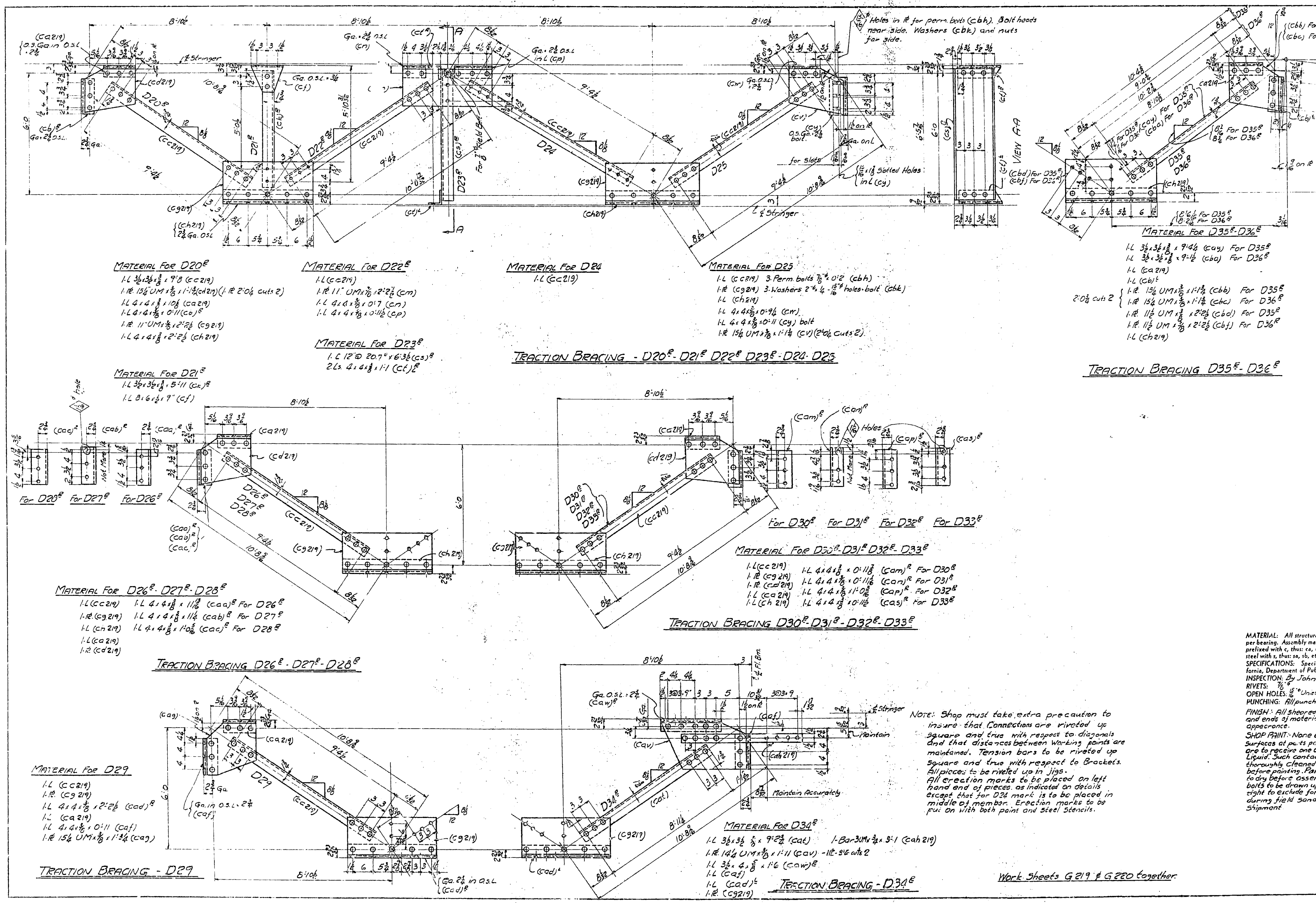
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans E9 & E10
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Moore Dry Dock Co. WORKS
IN CHARGE JENKS MADE BY GAK
CHECKED BY 7/10/34 TRACED BY
LAST ASSEM. MK. (sg) (cm)

Work this sheet with sheets G207, 213, 214, 217, 211

CONTRACT CG1580 3 SHEET G 218

Rev. (A) 10/22/34 UO-E10

30-1



NOTE: Shop must take extra precaution to insure that Connections are riveted up square and true with respect to diagonals and that distances between Working points are maintained. Tension bars to be riveted up square and true with respect to Brackets. All pieces to be riveted up in jigs.
All erection marks to be placed on left hand end of pieces as indicated on details except that for D34 mark is to be placed in middle of member. Erection marks to be put on with both paint and Steel Stencils.

Work Sheets G219 & G220 together.

Span E9	Span E10	Total No.	Description	Mark	Remarks	Weight each Tons
6	6	12	Traction Braces	D20R	As Shown	
4	4	8	" "	D20L	Opp. hd. to D20R	
32		32	" "	D21R	As Shown	
	32	32	" "	D21L	Opp. hd. to D21R	
16		16	" "	D22R	As Shown.	
	16	16	" "	D22L	Opp. hd. to D22R	
16		16	" "	D23R	As Shown.	
	16	16	" "	D23L	Opp. hd. to D23R	
16	16	32	" "	D24	As Shown	
2	2	4	" "	D25	" "	
2		2	" "	D26R	" "	
	2	2	" "	D26L	Opp. hd. to D26R	
1		1	" "	D27R	As Shown.	
	1	1	" "	D27L	Opp. hd. to D27L	
1		1	" "	D28R	As Shown	
	1	1	" "	D28L	Opp. hd. to D28R	
1		1	" "	D29	As Shown	
1		1	" "	D30R	As Shown	
	1	1	" "	D30L	Opp. hd. to D30R	
1		1	" "	D31R	As Shown	
	1	1	" "	D31L	Opp. hd. to D31R	
1		1	" "	D32R	As Shown	
	1	1	" "	D32L	Opp. hd. to D32R	
1		1	" "	D33R	As Shown	
	1	1	" "	D33L	Opp. hd. to D33R	
2	1	3	" "	D34R	As Shown	
	2	2	" "	D34L	Opp. hd. to D34R	
1		1	" "	D35R	As Shown	
	1	1	" "	D35L	Opp. hd. to D35R	
1		1	" "	D36R	As Shown	
	1	1	" "	D36L	Opp. hd. to D36R	

Required By Span. — REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 7/8"⌀
OPEN HOLES: 15/16"⌀ Unless Noted.
PUNCHING: All punching may be full Size.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance.
SHOP PAINT: None except Contact Surfaces at parts permanently bolted are to receive one coat of "Acid Resisting Liquid." Such contact surfaces to be thoroughly cleaned and scraped before painting. Paint to be allowed to dry before assembly. Permanent bolts to be drawn up sufficiently tight to exclude foreign particles during field sand blasting and shipment.

Date	Revision	App'd

APPROVED

Engineer of Design
Bridge Engineer
Chief Engineer
Date 8-14-34

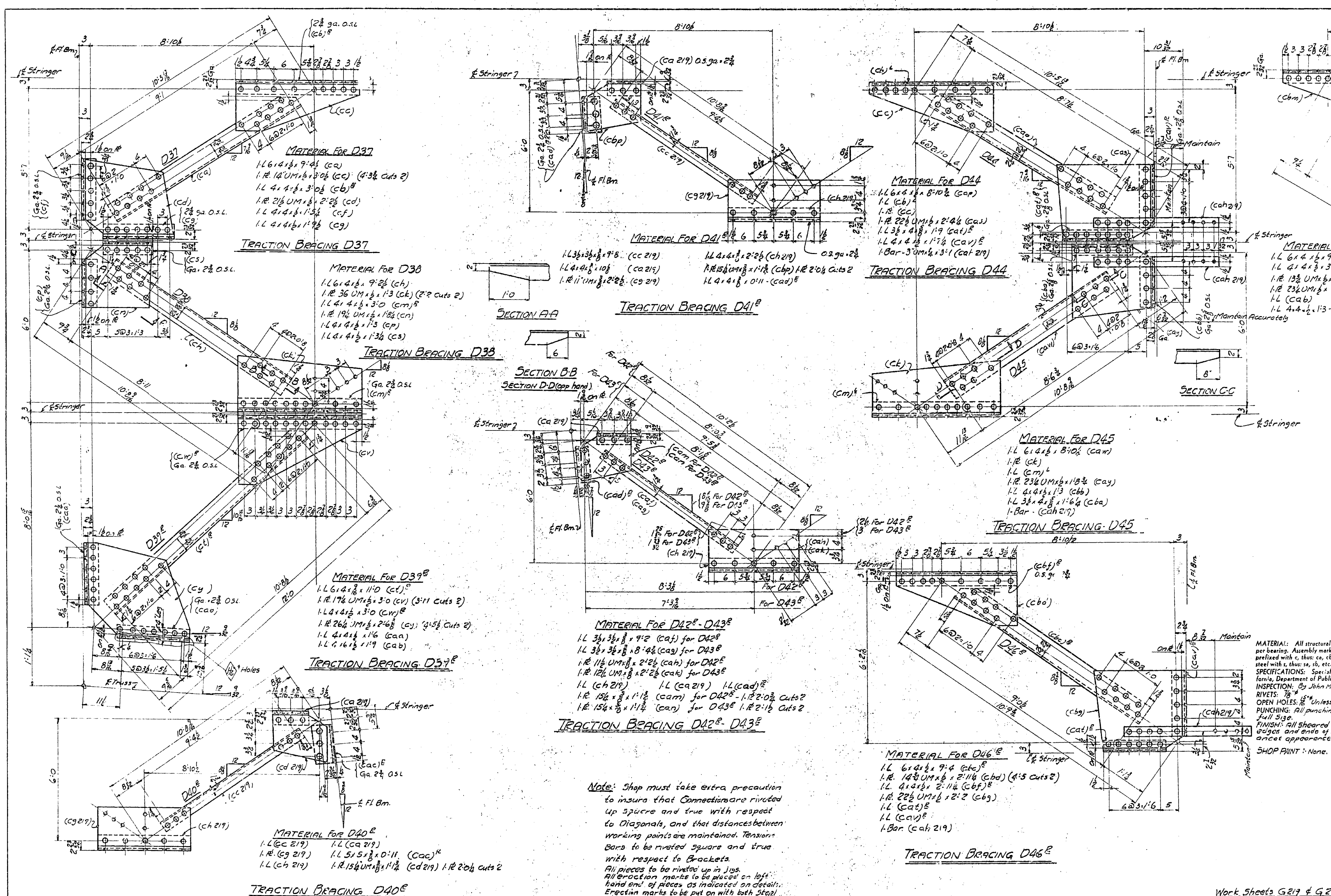
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 TRUSS SPANS PIERS E9 to E23

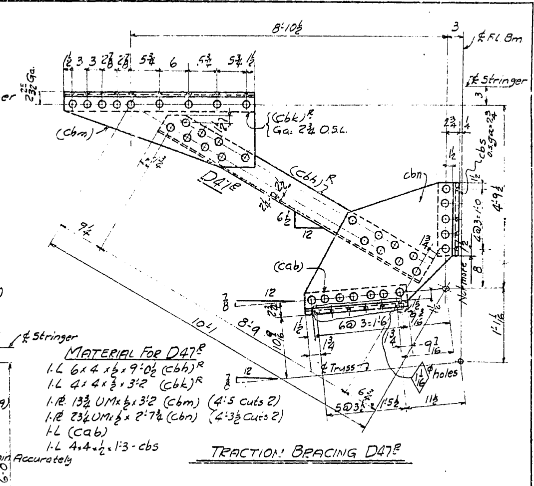
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Moore Dry Dock Co. WORKS
IN CHARGE Jenks MADE BY I.S.F.
CHECKED BY 7/13/34 TRACED BY V.E.A. 6-22-34
LAST ASSEM. MK. (cbk) F.L.C. 7-31-34

CONTRACT CG15803 SHEET G 219

30-1





Note: Shop must take extra precaution to insure that Connections are riveted up square and true with respect to Diagonals, and that distances between working points are maintained. Tension Bars to be riveted square and true with respect to Brackets.
All pieces to be riveted up in jigs.
All erection marks to be placed on left hand end of pieces as indicated on details.
Erection marks to be put on with both Steel Stencils and paint.

Span 9	Span 10	Total No.	Description	Mark	Remarks	Weight each Tons
1		1	Traction Braces	D37	As Shown	
1		1	" "	D38	" "	
1		1	" "	D39R	" "	
	1	1	" "	D39L	Opp. hd. to D39R	
2		2	" "	D40R	As Shown	
	2	2	" "	D40L	Opp. hd. to D40R	
2		2	" "	D41R	As Shown	
	2	2	" "	D41L	Opp. hd. to D41R	
1		1	" "	D42R	As Shown	
	1	1	" "	D42L	Opp. hd. to D42R	
1		1	" "	D43R	As Shown	
	1	1	" "	D43L	Opp. hd. to D43R	
	1	1	" "	D44	As Shown	
	1	1	" "	D45	" "	
1		1	" "	D46R	" "	
	1	1	" "	D46L	Opp. hd. to D46R	
1		1	" "	D47R	As Shown	
	1	1	" "	D47L	Opp. hd. to D47R	
Required by Spans			REQUIRED LIST			

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 7/8"ϕ
OPEN HOLES: 15/16"ϕ Unless Noted.
PUNCHING: All punching may be done full size.
FINISH: All sheared or flame cut edges and ends of material to have neat appearance.
SHOP PAINT: None.

Date	Revision	App'd

APPROVED

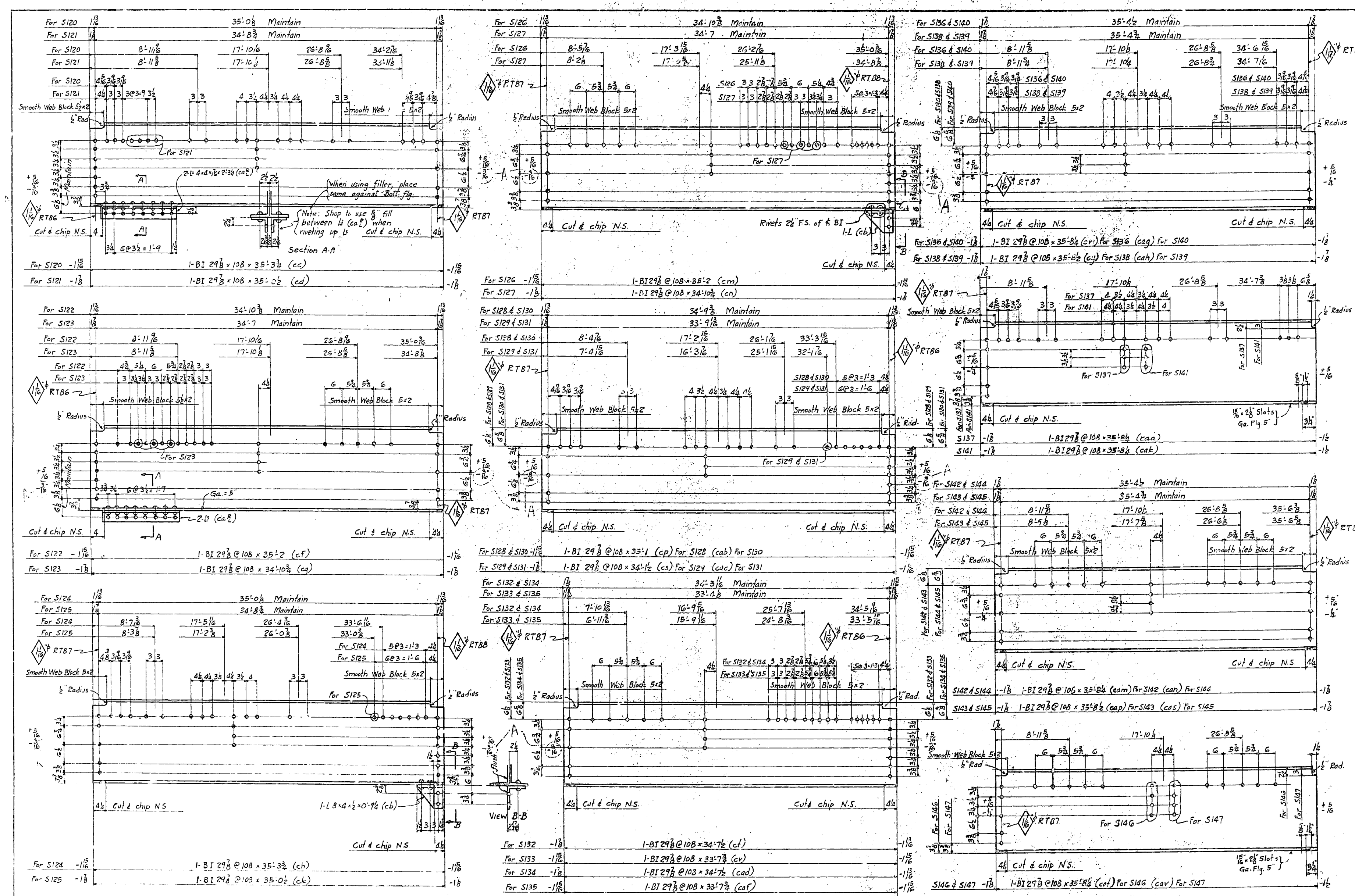
Engineer of Design
Bridge Engineer
Chief Engineer
Date 8-14-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Moore Dry Dock Co WORKS
IN CHARGE Jenks. MADE BY L.S.F.
CHECKED BY [illegible] 7-13-34 TRACED BY V.E.A. 6-26-34
LAST ASSEM. MK. (cbs) RLC 7-31-34

Work Sheets G219 & G220 together.

CONTRACT CG15803 SHEET G 220

30-1



Span #9	Span #10	Total No. Req'd	Description	Mark	Remarks	Weight each Tons
	2	2	STRINGERS	S147	As Shown	
2		2	do	S146	do	
	2	2	do	S145	Opp. Hand to Sketch	
	8	8	do	S144	do do	
2		2	do	S143	As shown	
8		8	do	S142	do	
	2	2	do	S141	do	
	8	8	do	S140	Opp Hand to Sketch	
	2	2	do	S139	do do	
2		2	do	S138	As Shown	
2		2	do	S137	do	
8		8	do	S136	do	
	1	1	do	S135	Opp Hand to Sketch	
	1	1	do	S134	do do	
1		1	do	S133	As Shown	
1		1	do	S132	do	
	1	1	do	S131	Opp. Hand to Sketch	
	1	1	do	S130	do do	
1		1	do	S129	As shown	
1		1	do	S128	do	
	1	1	do	S127	do	
	1	1	do	S126	do	
	1	1	do	S125	do	
	1	1	do	S124	do	
1		1	do	S123	do	
1		1	do	S122	do	
1		1	do	S121	do	
1		1	do	S120	do	
Required By Spans			REQUIRED LIST			

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey
RIVETS: 7/8" ϕ
OPEN HOLES: 15/16" ϕ unless noted
PUNCHING: All holes for shop and field rivets to be subpunched 1/4" and reamed to size after assembly. See Note "A"
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance.
SHOP PAINT: None except that surfaces between Ls ca₁ not readily accessible for field sand blasting to receive one coat of "Acid Resisting Liquid" after thoroughly cleaning and scraping such surfaces.
BURRS: No burrs to be left on copes, cuts, ends of beams or holes at ends of beams, as all end connections are entering connections.

Note "A"

Holes marked RT to be subpunched -1/4" & reamed or drilled to size thru metal templates furnished by the Moore Dry Dock Corp.

Shop Note :-

In setting reaming templates for end connections on stringers, shop must take extra precautions to maintain center to center distance of end holes as noted on details. Shop to place all erection marks on left hand end of member as detailed and in upright position. Erection marks to be put on with both steel stencils and paint.

Date	Revision	App'd

APPROVED

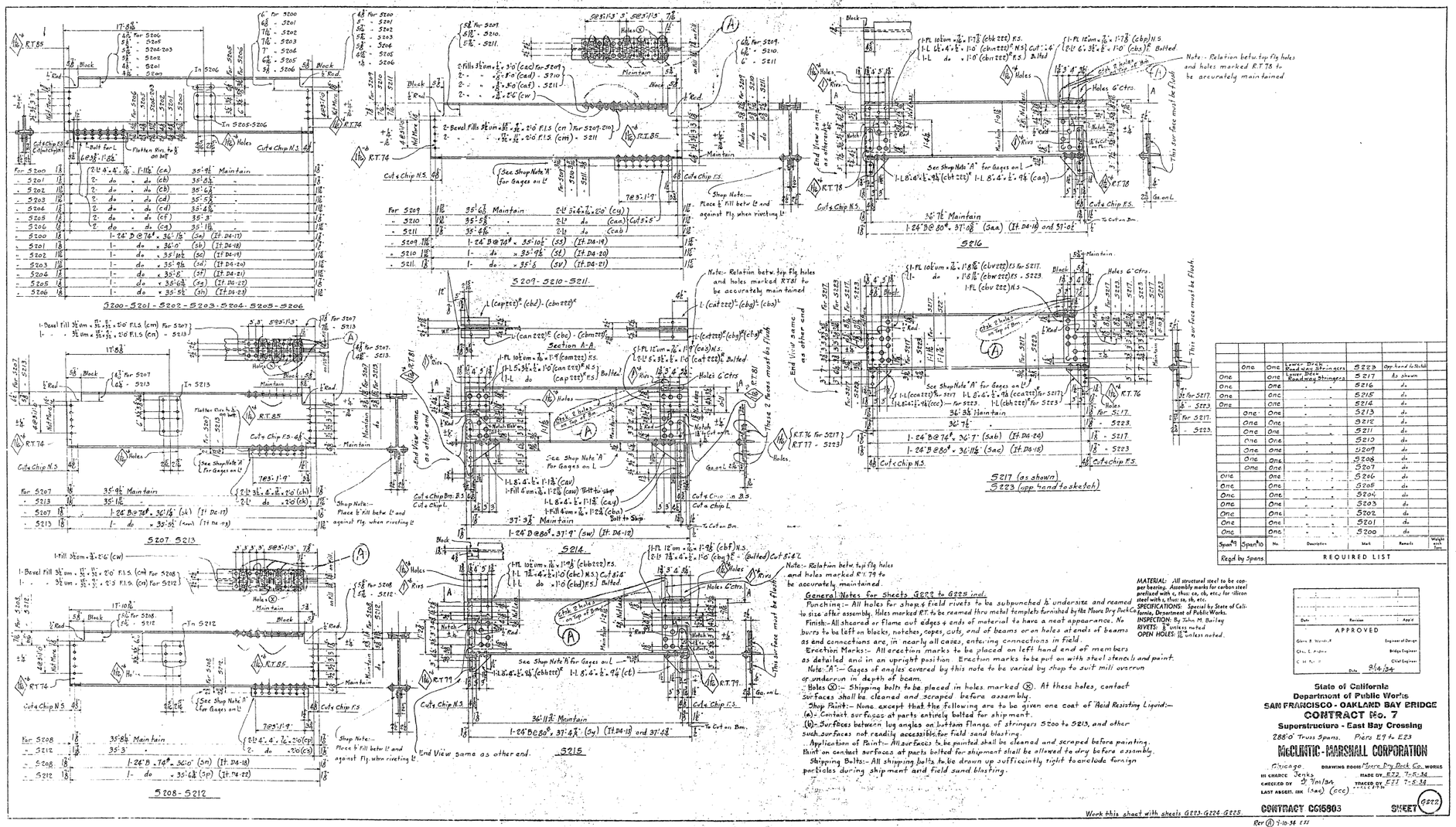
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8/13/34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

CHICAGO DRAWING ROOM MOORE DRY DOCK WORKS
IN CHARGE JENKS MADE BY C.A.D.
CHECKED BY [illegible] 7/26/34 [illegible] 7-31-34 TRACED BY B.W. 6-25-34
LAST ASSEM. MK. (cav)

CONTRACT CG15803 SHEET G 221

Rev. "A" 9-4-34 E.J.J.



Span No	Span No	No.	Description	Mark	Remarks	Weight each Item
Regd by Spans			REQUIRED LIST			
	One	One	Lower Deck Roadway Stringers	5223	Opp hand to Sk'ch	
One		One	Lower Deck Roadway Stringers	5217	As shown	
One		One	" "	5216	do	
One		One	" "	5215	do	
One		One	" "	5214	do	
One		One	" "	5213	do	
	One	One	" "	5212	do	
	One	One	" "	5211	do	
	One	One	" "	5210	do	
	One	One	" "	5209	do	
	One	One	" "	5208	do	
One		One	" "	5207	do	
One		One	" "	5206	do	
One		One	" "	5205	do	
One		One	" "	5204	do	
One		One	" "	5203	do	
One		One	" "	5202	do	
One		One	" "	5201	do	
One		One	" "	5200	do	

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: cx, cb, etc; for Illium steel with i, thus: ix, ib, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: ⅞ unless noted
OPEN HOLES: 1⅛ unless noted.

General Notes for Sheets G222 to G225 incl.

Punching:- All holes for shop & field rivets to be subpunched & undersize and reamed to size after assembly. Holes marked R.T. to be reamed thru metal templets furnished by the Moore Dry Dock Co.

Finish:- All sheared or flame cut edges & ends of material to have a neat appearance. No burrs to be left on blocks, notches, copes, cuts, end of beams or on holes at ends of beams as end connections are, in nearly all cases, entering connections in field.

Erection Marks:- All erection marks to be placed on left hand end of members as detailed and in an upright position. Erection marks to be put on with steel stencils and paint.

Note "A":- Gages of angles covered by this note to be varied by shop to suit mill overrun or underrun in depth of beam.

Holes ⊗:- Shipping bolts to be placed in holes marked ⊗. At these holes, contact surfaces shall be cleaned and scraped before assembly.

Shop Paint:- None except that the following are to be given one coat of Acid Resisting Liquid:—

(a):- Contact surfaces at parts entirely bolted for shipment.

(b):- Surfaces between lug angles on bottom flange of stringers 5200 to 5213, and other such surfaces not readily accessible for field sand blasting.

Application of Paint:- All surfaces to be painted shall be cleaned and scraped before painting. Paint on contact surfaces at parts bolted for shipment shall be allowed to dry before assembly.

Shipping Bolts:- All shipping bolts to be drawn up sufficiently tight to exclude foreign particles during shipment and field sand blasting.

Work this sheet with sheets G223-G224-G225.

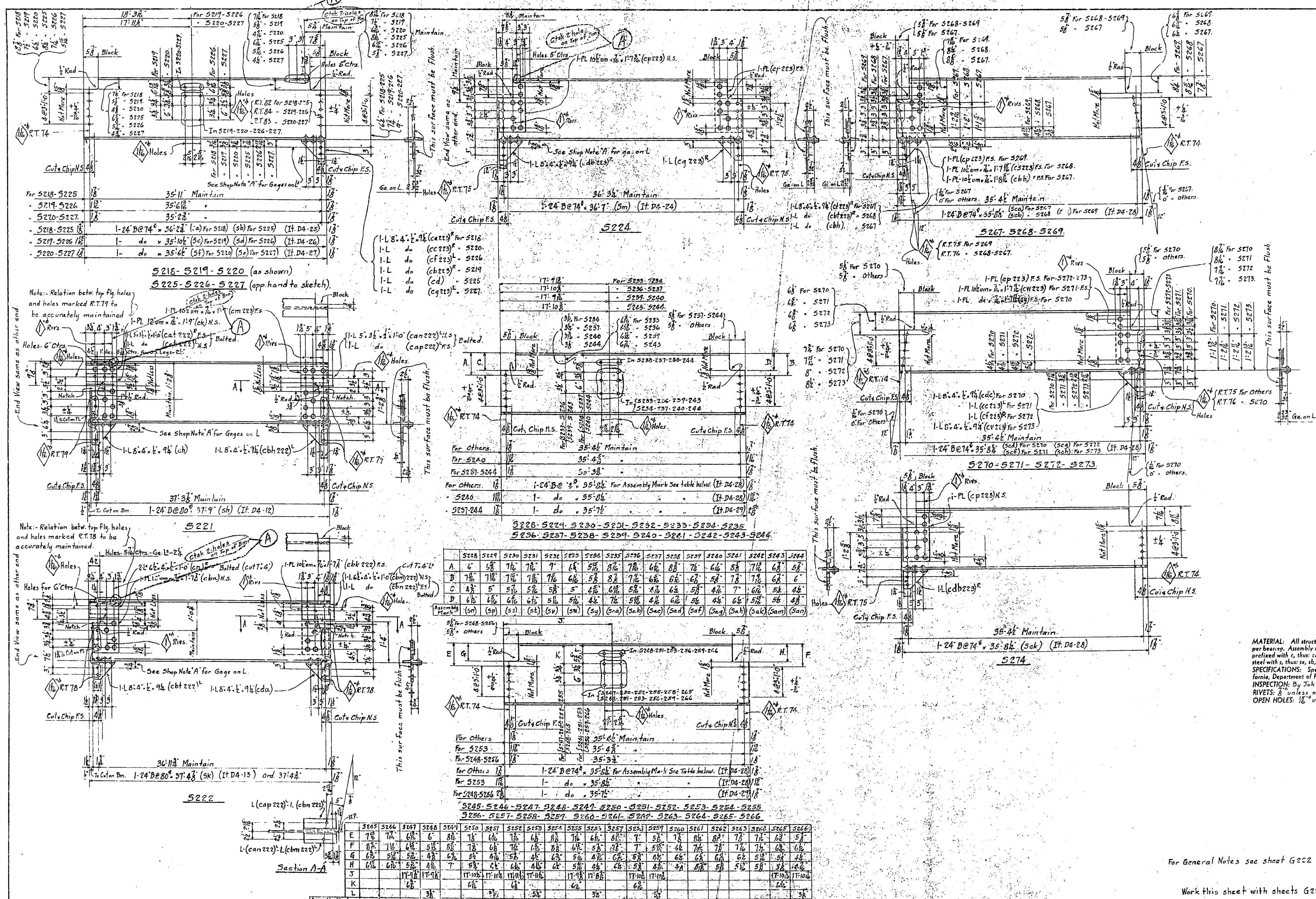
Rev (B) 7-10-34 EH

Date	Revision	Appd.
	APPROVED	
Geo. B. Worrell		Engineer of Design
Chas. E. Andrew		Bridge Engineer
C. H. Purcell		Chief Engineer
	Date 8/16/34	

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0" Truss Spans. Piers E7 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Moore Dry Dock Co. WORKS
IN CHARGE Jenks MADE BY R.T.Z. 7-5-34
CHECKED BY J. Jonlan TRACED BY E.E.I. 7-5-34
LAST ASSGT. INK (Mac) (ccc)

CONTRACT CG15903 SHEET G222

30-1



Span#9	Span#10	No.	Description	Mark	Remarks	Weight each Tons
	One	One	Lower Deck Roadway stringers	5274	As shown.	
One		One	"	5273	do	
One		One	"	5272	do	
One		One	"	5271	do	
One		One	"	5270	do	
	One	One	"	5269	do	
	One	One	"	5268	do	
	One	One	"	5267	do	
	One	One	"	5266	do	
	One	One	"	5265	do	
	One	One	"	5264	do	
	One	One	"	5263	do	
	One	One	"	5262	do	
	One	One	"	5261	do	
	One	One	"	5260	do	
	One	One	"	5259	d.	
	One	One	"	5258	do	
	One	One	"	5257	do	
	One	One	"	5256	do	
	One	One	"	5255	do	
	One	One	"	5254	do	
One		One	"	5253	do	
One		One	"	5252	do	
One		One	"	5251	do	
One		One	"	5250	do	
One		One	"	5249.	do	
One		One	"	5248	do	
One		One	"	5247	do	
One		One	"	5246	do	
One		One	"	5245	do	
	One	One	"	5244	do	
	One	One	"	5243	do	
	One	One	"	5242	do	
	One	One	"	5241	do	
	One	One	"	5240	do	
	One	One	"	5239	do	
	One	One	"	5238	do	
One		One	"	5237	do	
One		One	"	5236	do	
One		One	"	5235	do	
One		One	"	5234	do	
One		One	"	5233	do	
One		One	"	5232	do	
One		One	"	5231	do	
One		One	"	5230	do	
One		One	"	5229	do	
One		One	"	5228	As shown	
	One	One	"	5227	Opp. hand to Sketch	
	One	One	"	5226	do	
	One	One	"	5225	do	
	One	One	"	5224	As shown	
	One	One	"	5222	do	
	One	One	"	5221	do	
One		One	"	5220	do	
One		One	"	5219	do	
One		One	"	5218	do	
Req'd By Spans.		REQUIRED LIST				

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey.
RIVETS: $\frac{7}{8}$" unless noted.
OPEN HOLES: $\frac{15}{16}$" unless noted.

Date	Revision	App'd

APPROVED

[illegible] Engineer of Design
[illegible] Bridge Engineer
[illegible] Chief Engineer
Date 5/14/34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" Truss Spans. Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Moore Dry Dock Co. WORKS
IN CHARGE Jenks MADE BY EJJ 7-6-34
CHECKED BY 7/31/34 TRACED BY EJJ 7-6-34
LAST ASSEM. (5ck) (cdc)

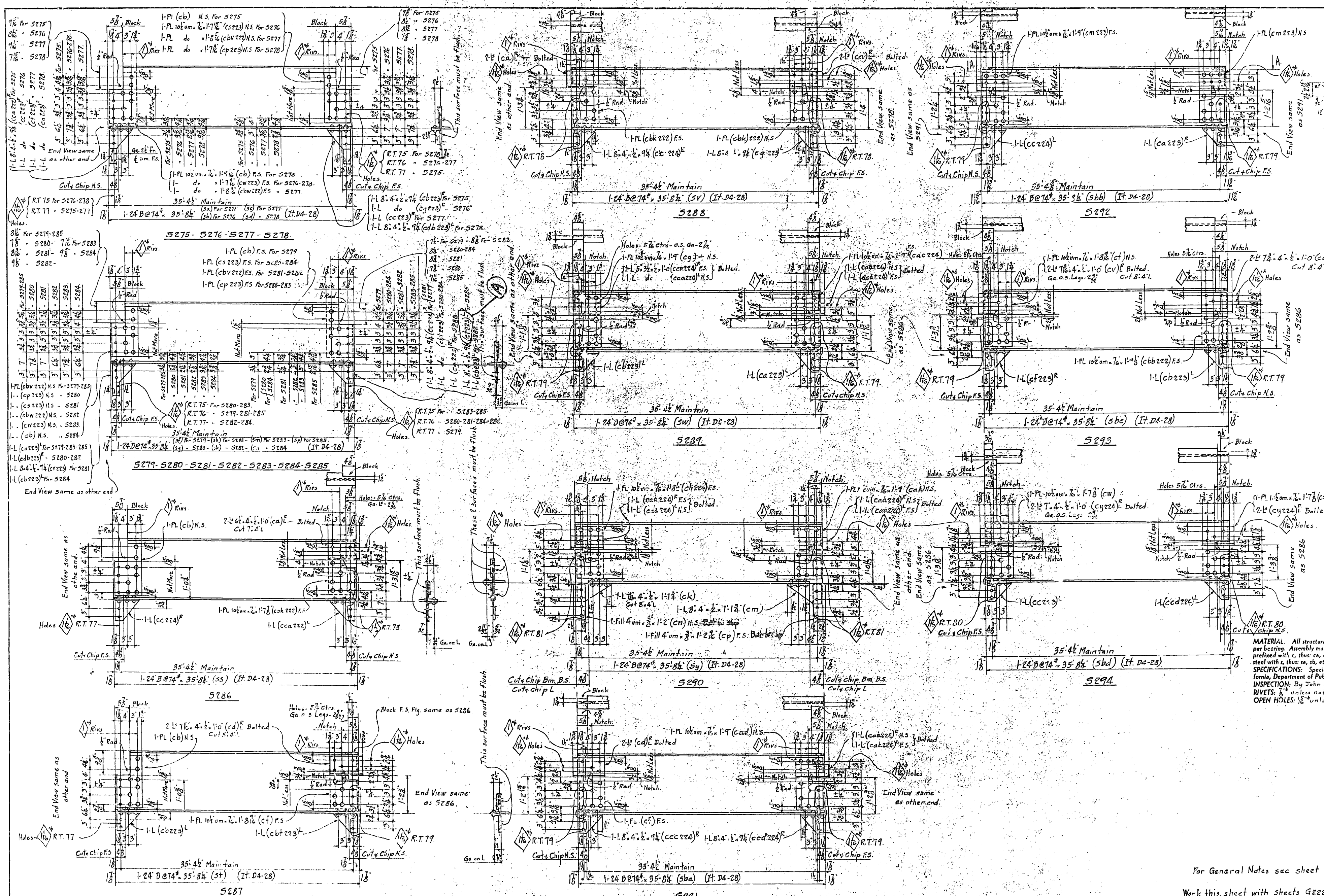
For General Notes see sheet G222

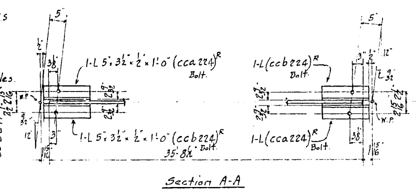
Work this sheet with sheets G222-G224-G225

CONTRACT CG15803 SHEET G223

Rev (A) 9-10-34 EJJ

30-1





Span #9	Span #10	No.	Description	Mark	Remarks	Weight each Tons
	One	One	Lower Deck Roadway Stringer	5294	As shown.	
One		One	" "	5293	do	
	One	One	" "	5292	do	
One		One	" "	5291	do	
One		One	" "	5290	do	
	One	One	" "	5289	do	
	One	One	" "	5288	do	
One		One	" "	5287	do	
One		One	" "	5286	do	
	One	One	" "	5285	do	
	One	One	" "	5284	do	
	One	One	" "	5283	do	
	One	One	" "	5282	do	
One		One	" "	5281	do	
One		One	" "	5280	do	
One		One	" "	5279	do	
	One	One	" "	5278	do	
	One	One	" "	5277	do	
One		One	" "	5276	do	
One		One	" "	5275	do	
Reqd By Spans.		REQUIRED LIST				

MATERIAL. All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey.
RIVETS: $\frac{7}{8}$" unless noted.
OPEN HOLES: $\frac{15}{16}$" unless noted.

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8/14/34.

For General Notes see sheet G222

Work this sheet with sheets G222-G223-G225

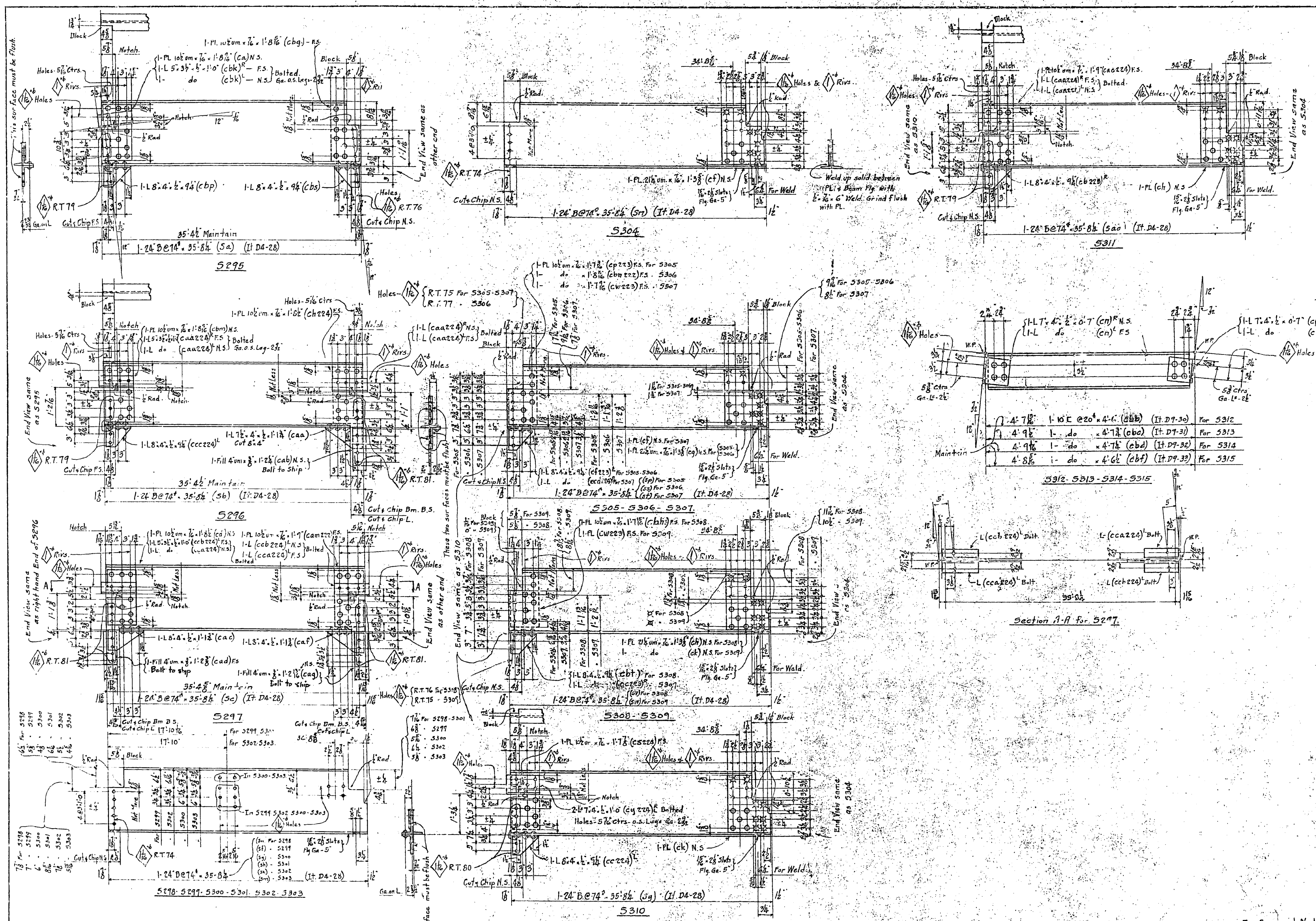
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" Truss Spans. Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Moore Dry Dock Co. WORKS
IN CHARGE Jenks MADE BY EJJ 7-9-34
CHECKED BY 7/31/34 TRACED BY EJJ 7-9-34
LAST ASSEM. MK. (5bd) (ccd) (A)

CONTRACT CG15803 SHEET G224

Rev. (A) 8-27-34.

30-1



or	.ne	2	Lower Deck Roadway Chan. Struts	5315	As shown	
3	3	6	" " "	5314	do	
One	One	2	" " "	5313	do	
One	One	2	" " "	5312	do	
	One	One	Lower Deck Roadway Stringers	5311	do	
	One	One	" "	5310	do	
One		One	" "	5309	do	
One		One	" "	5308	do	
	One	One	" "	5307	do	
	One	One	" "	5306	do	
One		One	" "	5305	do	
One		One	" "	5304	do	
	One	One	" "	5313	do	
	One	One	" "	5302	do	
	One	One	" "	5301	do	
One		One	" "	5300	do	
One		One	" "	5299	do	
One		One	" "	5298	do	
One		One	" "	5297	do	
One		One	" "	5296	do	
	One	One	" "	5295	do	
Span #9	Span #10	No.	Description	Mark	Remarks	Weight each Tons
Reqd by Spans.		REQUIRED LIST				

MATERIAL: All structural steel to be copper bearing. Assembl. marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey.
RIVETS: 7/8" unless noted.
OPEN HOLES: 15/16" unless noted.

Date	Revision	App'd

APPROVED

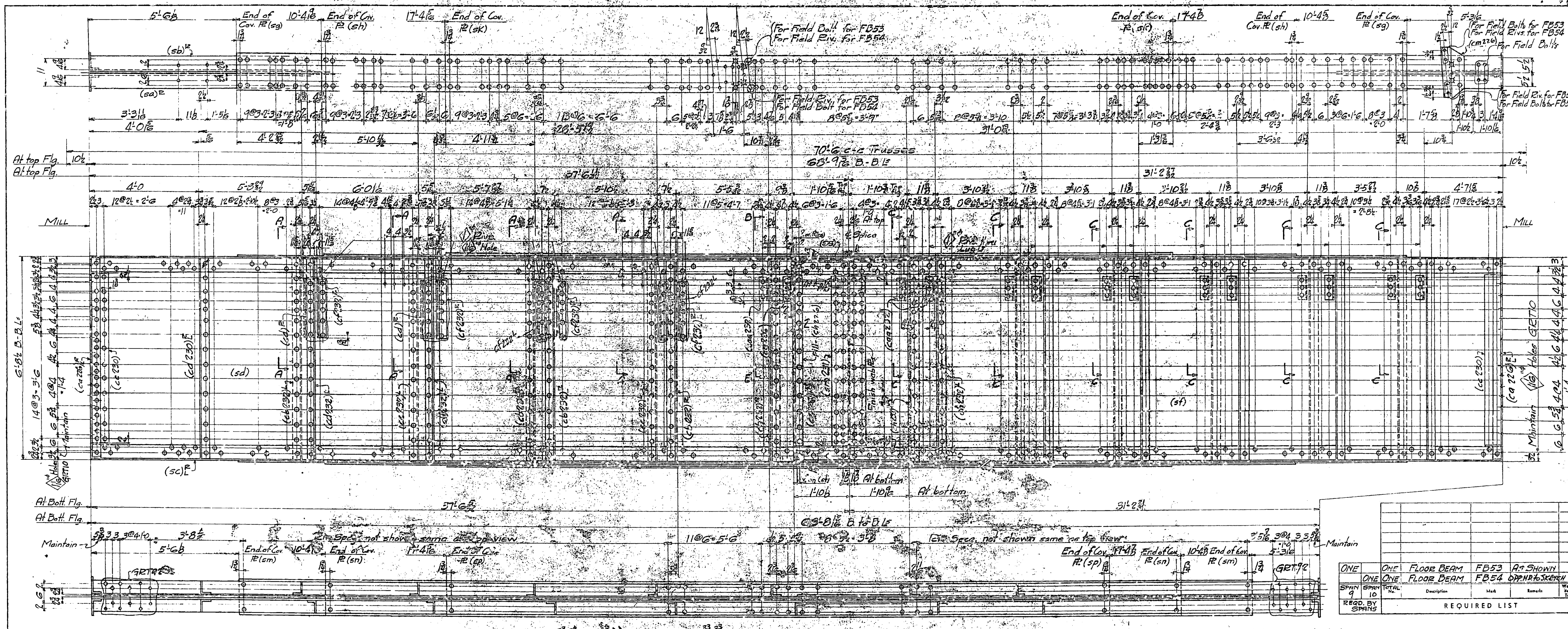
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-14-34

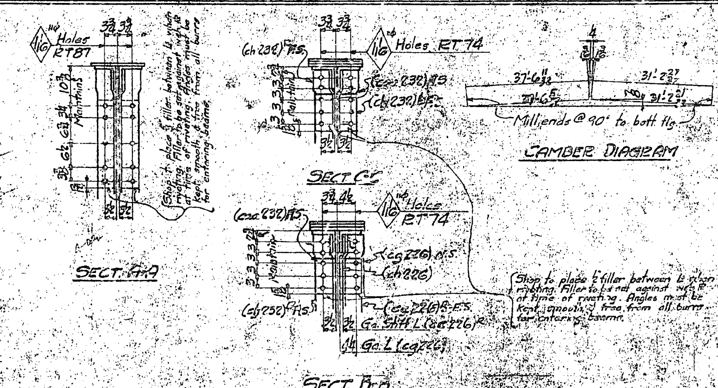
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" Truss Spans. - Piers E9 to E23.
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Moore Dry Dock Co. WORKS
IN CHARGE Jenks MADE BY EJT 7-3-34.
CHECKED BY 7/31/34 TRACED BY EJT 7-3-34.
LAST ASSEM. MK. (5aa) (cbf)

For General Notes see sheet G222
Work this sheet with sheets - G222 - G223 - G224

CONTRACT CC15803 SHEET G225





ONE		ONE	FLOOR BEAM	FB53	As SHOWN	
	ONE	ONE	FLOOR BEAM	FB54	OPP. HD. to SKETCH	
SPAN 9	SPAN 10	TOTAL No.	Description	Mark	Remarks	Weight each Tons
REQD. BY SPANS		REQUIRED LIST				

MATERIAL FOR ONE FLOOR BEAM

2-Ls 6×6×1 1/16×68'-9 7/32 M2E (sa)R (sb)R
2-Ls 6×6×1 1/16×68'-8 13/16 M2E (sc)R L
1-Web Pl 80 F2W×1/2×37'-6 7/32 M1E+F1E (sd)
1-Web Pl 80 F2W×1/2×31'-2 23/32 M1E+F1E (sf)
1-Cov. Pl 14 UM×1/2×58'-0 F2E (sg)
1-Cov. Pl do. ×48'-0 F2E (sh)
1-Cov. Pl do ×34'-0 F2E (sk)
1-Cov. Pl do. ×57'-11 5/8 F2E (sm)
1-Cov. Pl do ×47'-11 5/8 F2E (sn)
1-Cov. Pl do. ×33'-11 5/8 F2E (sp)
2-Bars 5 UM×3/4×3'-7 5/8 F2E (ss)
2-Bars 5 UM×3/4×3'-7 1/4 F2E (st)
2-Pls 13 UM×7/16×5'-8 F2E (sm 231)
4-Ls 6×4×5/8×6'-7 1/8 F2E (ca226)R L
4-Fills 6 3/8×1 1/16×5'-8 (cc 230) M1W (ord. 7 UM×1 1/16)
2 Ls 5×3 1/2×5/8×6'-8 1/2 F2E (Crimped) (cd 230)R L

2-Ls 5×3 1/2×7/16×6'-8 1/2 (Crimped) F2E (cb232)R
2-Ls (cb232)L
2-Ls 5×3 1/2×7/16×6'-8 1/2 F2E (Crimped) (cd232)R
2-Ls 5×3 1/2×7/16×6'-8 1/2 F2E (Crimped) (cd232)L
1-L 5×3 1/2×7/16×6'-8 1/2 F2E (Crimped) (cc226)R
2-Ls 5×5×1/2×1'-11 3/8 (cd)R
4-Ls 5×3 1/2×1/2×1'-11 3/8 (cf232)R
2-Ls (cf232)L
7-Ls 5×3 1/2×7/16×6'-8 1/2 F2E (Crimped) (ch232)R
6-Ls (ch232)L
13-Ls 5×3 1/2×1/2×9 1/4 (cg 232)
1-L 6×3 1/2×1/2×9 1/4 (cg226)
1-Fill 3 1/2 UM×3/4×5'-8 (ch226)
1-Pl 20×1/2×8'13/16 (cm226

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS. Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 7/8"Ø Unless Noted
OPEN HOLES: 15/16"Ø Unless Noted

For General notes covering this sheet see sheet G243

Work this sheet with sheets G230, 231, 232, 239, 240, 234

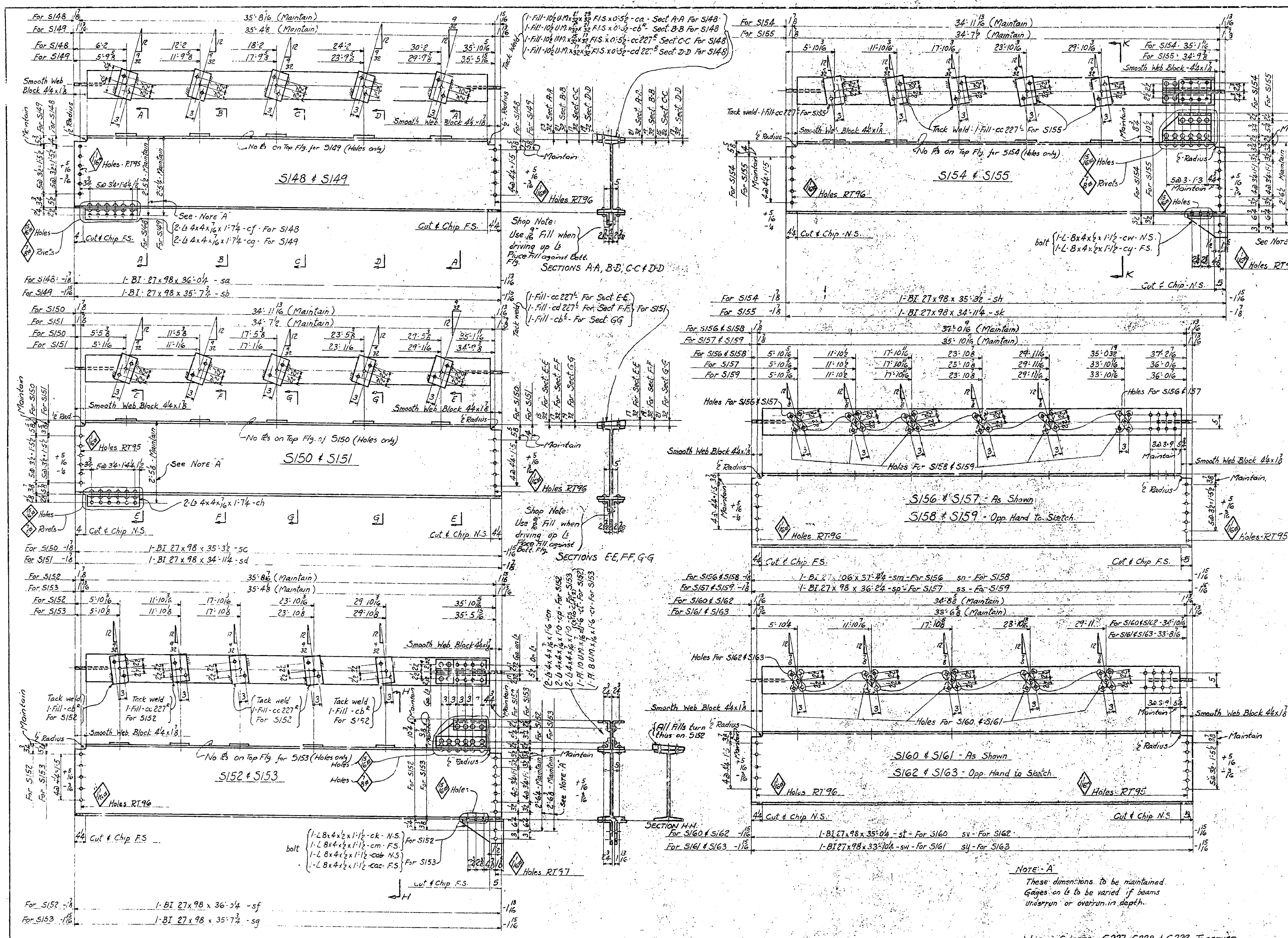
Date	Revision	App'd

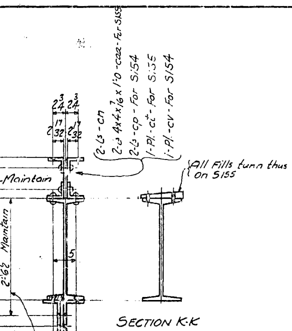
APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-7-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans E9 & E10
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Moore Dry Dock WORKS
IN CHARGE Janks MADE BY G.A.K.
CHECKED BY 7/24/34 TRACED BY R.J.L. 7-13-34
LAST ASSEM. MK. (st) (cm)
CONTRACT C615503 SHEET G 226

L2-E9
L6-E10

30-1





Note "C"
Contact surfaces at parts tack welded to be cleaned and scraped before assembly and clamped tight while welding. Shipment bolts and tack welding to be placed in such a manner that foreign particles are excluded during shipment or field sand blasting.

Note "B"
Holes marked RT to be reamed or drilled full size thru metal templets furnished by Moore Dry Dock Company. All erection marks to be placed on left hand end of members as detailed and in an upright position. No tack welding for bevel fillers to project above top of fillers. No burrs to be left on copes, cuts, ends of beams or holes at ends of beams, as all end connections are entering connections. Erection marks to be put on with paint and steel Stencil.

Span 9	Span 10	Total No.	Description	Mark	Remarks	Weight each Tons
	1	1	Stringer	S163	Opp. Hand to Sktch	
	1	1	do.	S162	do.	
1		1	do.	S161	As Shown	
1		1	do.	S160	do	
	1	1	do.	S159	Opp. Hand to Sktch.	
	1	1	do.	S158	do	
1		1	do.	S157	As Shown	
1		1	do.	S156	do	
	1	1	do.	S155	do	
	1	1	do.	S154	do.	
	1	1	do.	S153	do	
	1	1	do.	S152	do.	
1		1	do.	S151	do.	
1		1	do.	S150	do.	
1		1	do.	S149	do	
1		1	do.	S148	do.	
Req'd By Spans		REQUIRED LIST				

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: As Noted
OPEN HOLES: 13/16" Unless Noted.
PUNCHING: Holes in Fillers ca, cb, cc227 and cd227 may be punched full size. Holes in other material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly. See Note "B"
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance.
SHOP PAINT: None except as follows: Surfaces between lug angles on bott. flg. not readily accessible for field sand blasting, and contact surfaces of parts bolted for shipment to be given one coat of "Acid Resisting Liquid". All surfaces to be painted to be cleaned and scraped before painting. Contact surfaces of parts bolted for shipment to be painted and allowed to dry before assembly.

Date	Revision	App'd

APPROVED

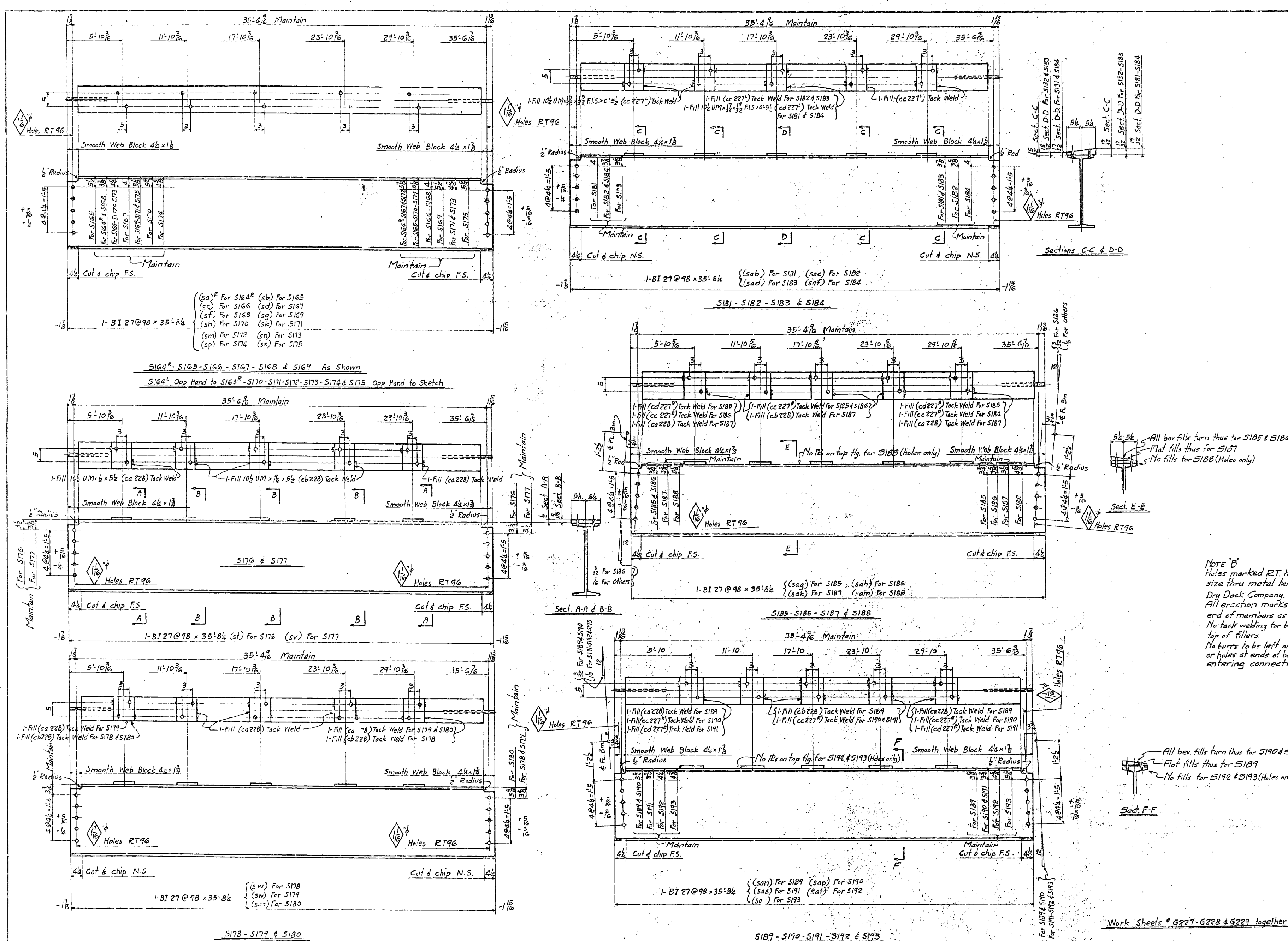
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-9-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 SPANS E9 & E10
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Moore Dry Dock WORKS
IN CHARGE Jenks MADE BY C.B.D.
CHECKED BY 7/10/34 TRACED BY B.K. 7/3/34
LAST ASSEM. MK. CQC

CONTRACT CG15803 SHEET G227

30-1



Note "B"
Holes marked R.T. to be reamed or drilled full size thru metal templets furnished by Moore Dry Dock Company.
All erection marks to be placed on left hand end of members as detailed and in an upright position.
No tack welding for beveled fillers to project above top of fillers.
No burrs to be left on copes, cuts, ends of beams or holes at ends of beams, as all end connections are entering connections.

2	2	4	Stringers	S164R	As Shown	
3	3	6	do	S164L	Opp. Hand to S164R	
1		1	do	S165	As Shown	
1		1	do	S166	do	
1		1	do	S167	do	
	1	1	do	S168	do	
	1	1	do	S169	do	
1		1	do	S170	Opp Hand to Sketch	
1		1	do	S171	do	
1		1	do	S172	do	
	1	1	do	S173	do	
	1	1	do	S174	do	
	1	1	do	S175	do	
1		1	do	S176	As Shown	
	1	1	do	S177	do	
1		1	do	S178	do	
1	1	2	do	S179	do	
	1	1	do	S180	do	
1		1	do	S181	do	
1		1	do	S182	do	
	1	1	do	S183	do	
	1	1	do	S184	do	
1		1	do	S185	do	
1		1	do	S186	do	
1		1	do	S187	do	
1		1	do	S188	do	
	1	1	do	S189	do	
	1	1	do	S190	do	
	1	1	do	S191	do	
	1	1	do	S192	do	
	1	1	do	S193	do	
SPAN 9	SPAN 10	Total No. Req'd	Description	Mark	Remarks	Weight each Tons
REQ'D BY SPANS		REQUIRED LIST				

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey
RIVETS: None
OPEN HOLES: 13/16"ϕ Unless Noted
PUNCHING: Holes in Ps (ca228) (cb228) (cc227R/L) and (cd227R) may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly. See Note "B"
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance.

SHIPPING MARKS: All shipping marks to be put on with both steel stencils and paint
SHOP PAINT: None
TACK WELDING: Where parts are tack welded, for ship't or otherwise, contact surfaces must be thoroughly cleaned and scraped before assembly. Parts to be clamped tightly together while welding and welded in such a manner so as to permit entering of no foreign substance during shipment or during field sand blasting.

Date	Revision	App'd

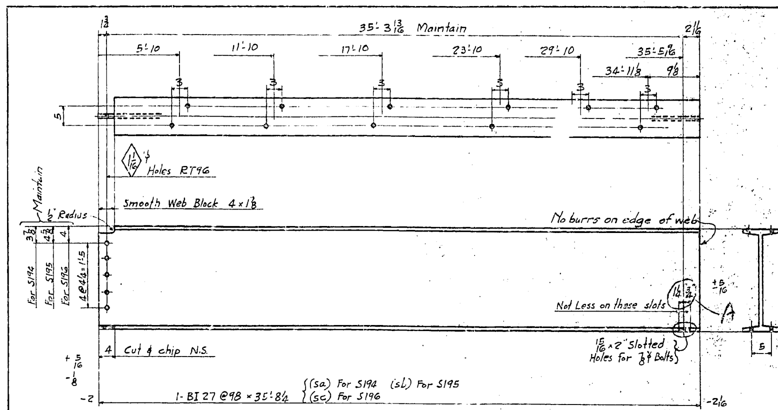
APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-9-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

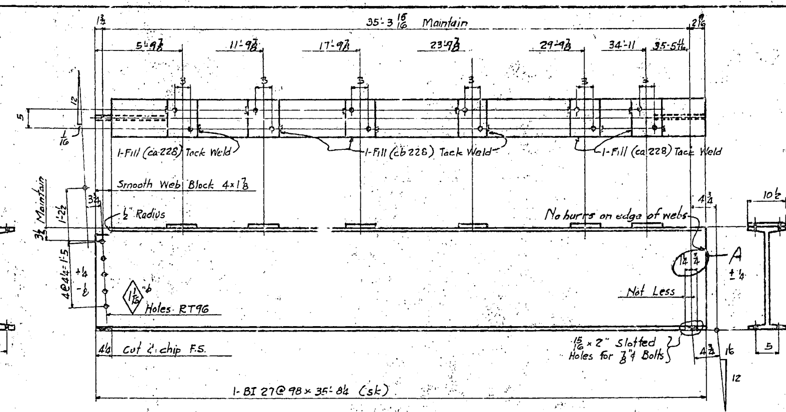
CHICAGO DRAWING ROOM Moore Dry Dock WORKS
IN CHARGE Jenks MADE BY C.A.D
CHECKED BY 7/10/34 TRACED BY B.W 6-26-34
LAST ASSEM. MK. sav / cb

CONTRACT CG15803 SHEET G 228

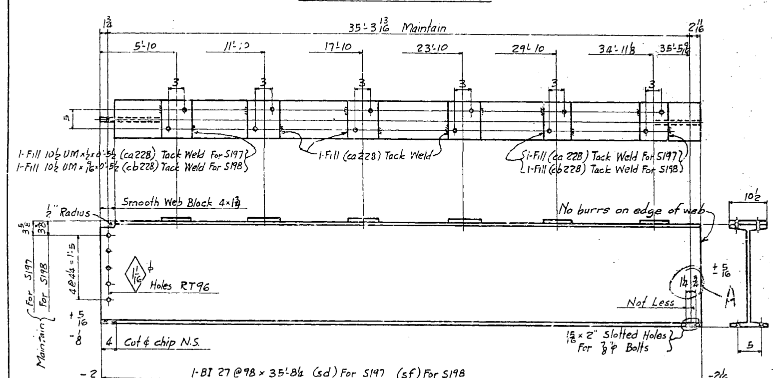
30-1



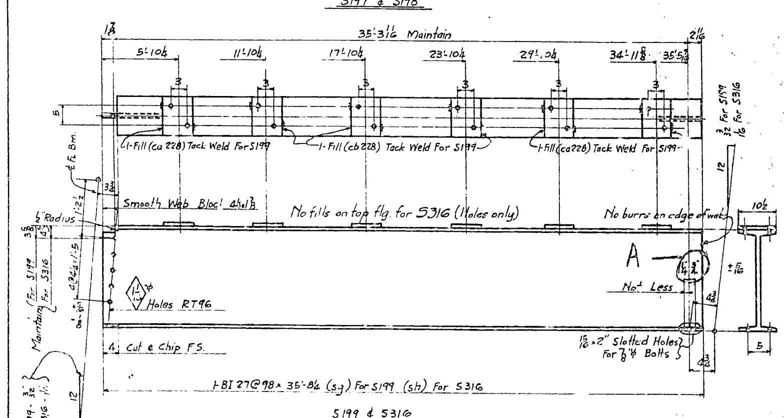
S194 & S195 As Shown
S196 Opp. Hand to Sketch



S317



S197 & S198



S199 & S316

Note "B"
Holes marked R.T. to be reamed or drilled full size thru metal templets furnished by Moore Dry Dock Company.
All erection marks to be placed on left hand end of members as detailed and in an upright position.
No tuck welding for beveled fillers to project above top of fillers.
No burrs to be left on copes, cuts, end of beams or holes at ends of beams, as all end connections are entering connections.

	1	1	STRINGER	S194	As Shown	
1		1	do	S195	do	
	1	1	do	S196	Opp Hd. to Sketch	
1		1	do	S197	As Shown	
	1	1	do	S198	do	
1		1	do	S199	do	
1		1	do	S316	do	
	1	1	do	S317	do	
SPAN 9	SPAN 10	No.	Description	Mark	Remarks	Weight each Tons
REQ'D BY SPANS		REQUIRED LIST				

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.: for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey
RIVETS: None
OPEN HOLES: 13/16" unless noted
PUNCHING: Holes in plates (ca228) & (cb228) may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly. See note "B"
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance.

SHIPPING MARKS: All shipping marks to be put on with both steel stencils and paint.
SHOP PAINT: None
TACK WELDING: Where parts are tack welded, for ship't or otherwise, contact surfaces must be thoroughly cleaned and scraped before assembly. Parts to be clamped tightly together while welding and welded in such a manner so as to permit entering of no foreign substance during shipment or during field sand blasting.

Work sheets # G227-G228 & G229 together.

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-9-34

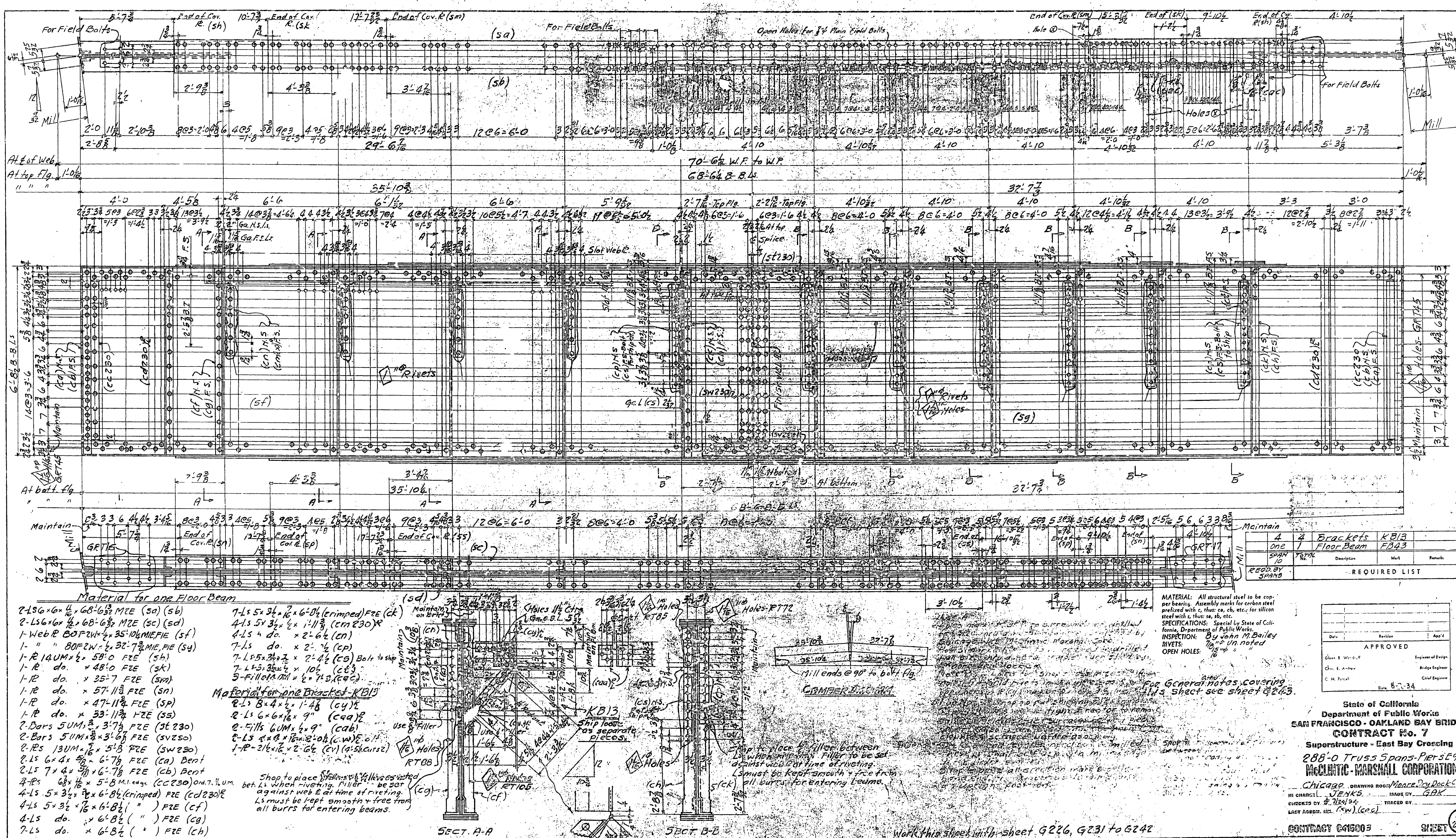
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

CHICAGO DRAWING ROOM Moore Dry Dock WORKS
IN CHARGE JENKS MADE BY C.A.D.
CHECKED BY 5/10/34 FLC 7/11/34 TRACED BY B.W. 6-28-34
LAST ASSEM. NO. SK

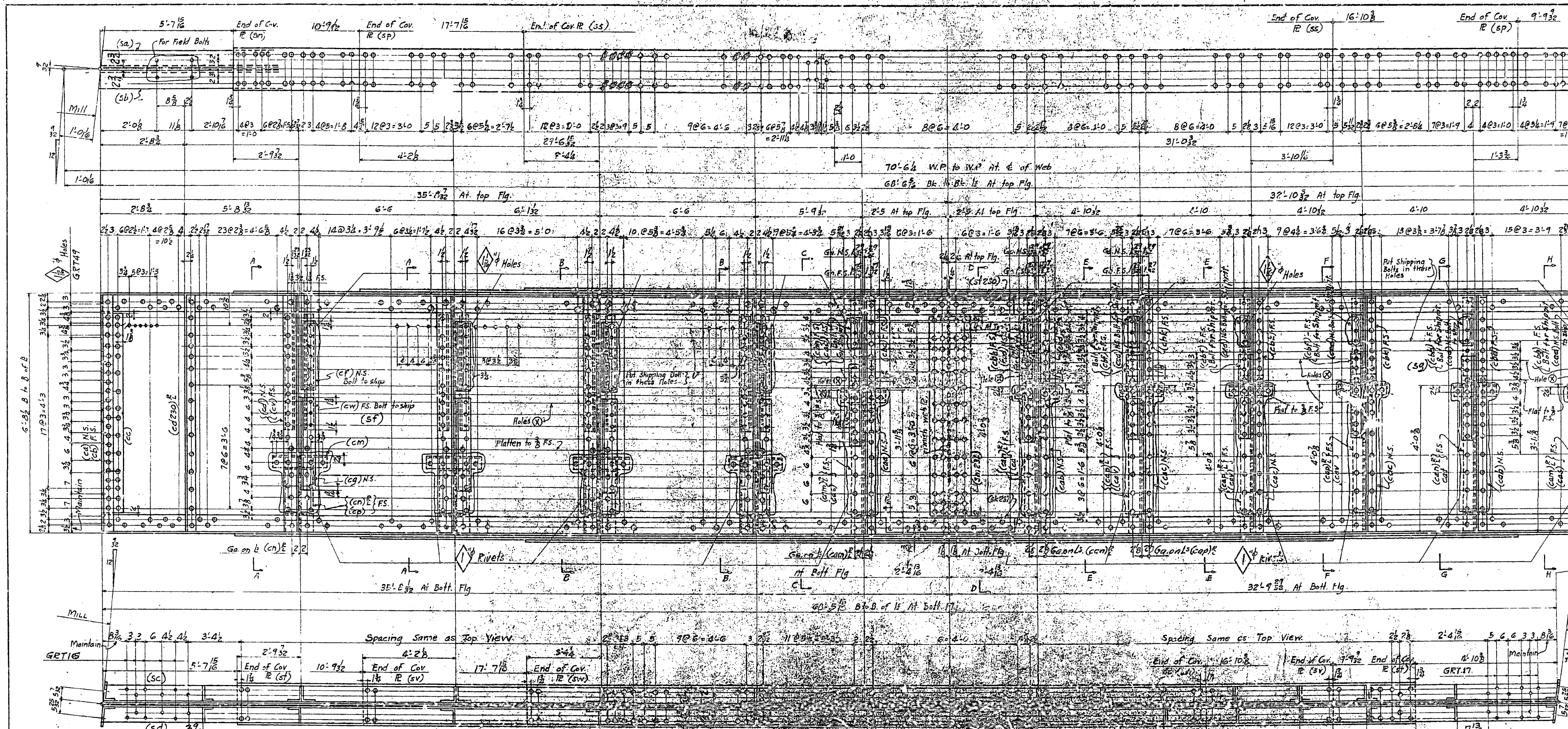
CONTRACT CG15803 SHEET G 229

Rev. (A) 8-23-34.

30-1

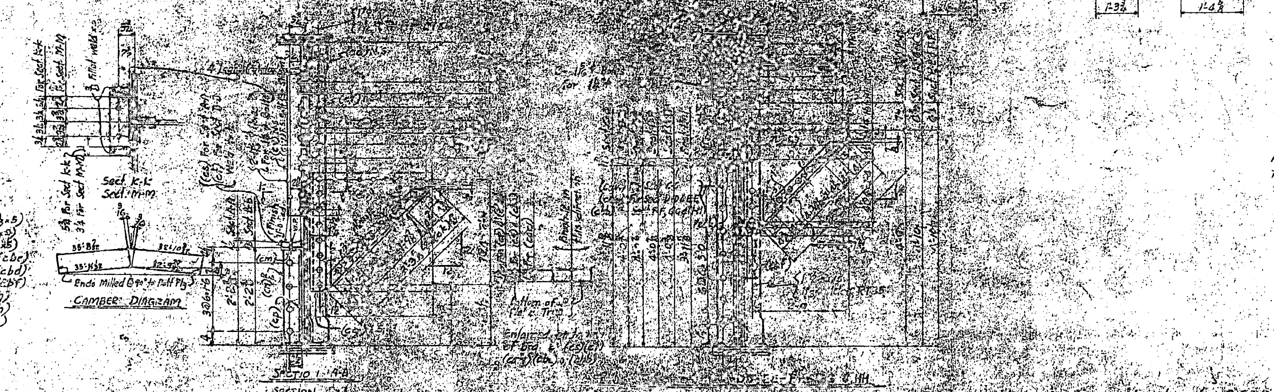

For Field Bolts
Open Holes for 7/8" Main Field Bolts
70'-6¼ W.P. to W.P.
68'-6¾ B. B. Ls.
At ℄ of Web
At top Flg.
At bott. Flg.
Maintain
Mill
Material for one Floor Beam
2-Ls 6×6×11/16×68'-6 13/32 MZE (sa) (sb)
2-Ls 6×6×11/16×68'-6 5/32 MZE (sc) (sd)
1-Web ℞ 80FZW×½×35'-10⅛ MIE,FIE (sf)
1- " " 80FZW×½×32'-7¾ MIE,FIE (sy)
1-℞ 14UM×½×58'-0 FZE (sh)
1-℞ do. ×48'-0 FZE (sk)
1-℞ do. ×35'-7 FZE (sm)
1-℞ do. ×57'-11⅜ FZE (sn)
1-℞ do. ×47'-11¾ FZE (sp)
1-℞ do. ×33'-11¾ FZE (ss)
2-Bars 5UM×¾×3'-7⅛ FZE (st 230)
2-Bars 5UM×¾×3'-6⅞ FZE (sv 230)
2-℞s 13UM×9/16×5'-8 FZE (sw 230)
2-Ls 6×4×5/8×6'-7⅛ FZE (ca) Bent
2-Ls 7×4×9/16×6'-7⅛ FZE (cb) Bent
4-℞s 6⅞×11/16×5'-8 M.I. edge (cc 230) Ord. 7.11/16 UM.
4-Ls 5×3½×7/16×6'-8½ (crimped) FZE (cd 230)℞
4-Ls 5×3½×7/16×6'-8½ (") FZE (cf)
4-Ls do. ×6'-8½ (") FZE (cg)
2-Ls do. ×6'-8½ (") FZE (ch)
2-Ls 5×3½×7/16×6'-8½ (crimped) FZE (ck)
4-Ls 5×3½×½×1'-11⅜ (cm 230)℞
4-Ls do. ×2'-6½ (cn)
2-Ls do. ×2'-7½ (cp)
2-Ls 5×3½×7/16×2'-4½ (cs) Bolt to ship
2-Ls 5×3½×½×10½ (ct)
3-Fills 14UM×½×1'-3 (cac)
Material for one Bracket-KB13
2-Ls 8×4×½×1'-4⅞ (cy)℞
2-Ls 6×6×7/16×9" (caa)℞
2-Fills 6UM×½×9" (cab)
2-Ls 4×4×7/16×2'-0¼ (cw)℞
1-℞ 21½×7/16×2'-6½ (cv) (4'-5½ cuts 2)
Shop to place fillers as noted bet. Ls when riveting. Filler to be set against web ℞ at time of riveting. Ls must be kept smooth + free from all burrs for entering beams.
Sect. A-A
Sect. B-B
KB13 Ship loose as separate pieces
Camber Diagram
Mill ends @ 90° to bott. flg.
Work this sheet with sheet G226, G231 to G242
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 7/8"⌀ Un. noted
OPEN HOLES: 15/16"⌀ " "
For General notes covering this subject see sheet G243.
4 | 4 | Brackets | KB13
One | 1 | Floor Beam | FB43
SPAN 10 | TOTAL No. | Description | Mark | Remarks | Weight each Tons
REQD. BY SPANS
REQUIRED LIST
Date | Revision | App'd
APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-?-34
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Moore Dry Dock Co. WORKS
IN CHARGE JENKS MADE BY GBK
CHECKED BY 7/24/34 TRACED BY
LAST ASSEM. MK. (sw) (cac)
CONTRACT CG15803
SHEET G 230
LB-E10

30-1



Material For One Floor Beam

2-Ls 6×6×11/16×68'-6 15/32 M2E (sa)(sb)
2-Ls 6×6×11/16×68'-6 3/32 M2E (sc)(sd)
1-Web ℞ 80 F2W×½×35'-8 3/32 M1E F1E (sf)
1-Web ℞ 80 F2W×½×32'-9 31/32 M1E F1E (sg)
1-Cov. ℞ 14 UM×11/16×58'-0 F2E (sn)
1-Cov. ℞ 14 UM×11/16×48'-0 F2E (sp)
1-Cov. ℞ 14 UM×11/16×34'-0 F2E (ss)
1-Cov. ℞ 14 UM×11/16×57'-11⅝ F2E (st)
1-Cov ℞ 14 UM×11/16×47'-11⅜ F2E (sv)
1-Cov ℞ 14 UM×11/16×33'-11⅝ F2E (sw)
2-Bars 5 UM×¾×3'-7⅛ F2E (st230)
2-Bars 5 UM×¾×3'-6¾ F2E (st231)
2-℞s 13 UM×7/16×5'-8 F2E (sm231)
2-Ls 7×4×⅝×6'-7⅛ F2E Bent (ca)
2-Ls 6×4×⅝×6'-7⅜ F2E Bent (cb)
4-Fills 6⅞×11/16×5'-8 (cc) M1W-Ord. 7UM×11/16
4-Ls 5×3½×⅜×6'-8½ (Crimped) F2E (cd230)℞
4-Ls 5×5×½×6'-8½ (Crimped) F2E (cd)
4-Ls 5×5×½×1'-11⅜ Bolt (cf)
4-Ls 5×5×½×2'-7⅞ (cg)
4-℞s 31½×9/16×2'-7¾ (ch) (3'-2 cuts 2)
8-Ls 3½×3×⅜×3'-0¾ (ck)℞
4-Ls 6×4×11/16×1'-6 (cm)
8-Ls 5×5×½×2'-0¾ M2E (cn)℞
4-Fills 10UM×11/16×1'-3⅝ (cp)
2-Brg. ℞ 5×1¾ F1S×1'-1 (cs) (2 Fillet Welds ⅜×5)
2-Brg. ℞ 5×1⅝ F1S×1'-1 (ct) (2 Fillet Welds ⅜×5)
8-Ls 4×3×⅜×3'-3⅝ { 4-(cv) / 4-(cw) } Bolt
2-Ls 5×3½×7/16×6'-8½ (crimped) F2E (caa)
2-Ls 5×3½×7/16×6'-8½ (crimped) F2E (cab)
3-Ls 5×3½×7/16×6'-8½ (crimped) F2E (cac)
7-Ls 5×3½×½×0'-10½ Bolt (cad)
7-Ls 5×3½×7/16×2'-5⅝ (caf)
14-Ls 3½×3×⅜×2'-6⅝ (cag)℞
7-℞s 27½×7/16×2'-7¼ (can) (2'-10 cuts 2)
7-Ls 6×4×11/16×1'-2 (cak)
4-Ls 5×3½×½×3'-10½ M1E F1E (cam)℞
4-Ls 5×3½×½×3'-11 M1E F1E (can)℞
6-Ls 5×3½×½×3'-11½ M1E F1E (cap)℞
2-Fills 7UM×11/16×3'-1⅛ (cas)
2-Fills 7UM×11/16×3'-1⅞ (cat)
3-Fills 7UM×11/16×3'-2⅜ (cav)
1-Brg ℞ 5×1 13/16 F1S×1'-1 (caw) (2-Fillet Welds ⅜×5)
3-Brg ℞ 5×1¾ F1S×1'-1 (cba) (2 Fillet Welds ⅜×5)
3-Brg ℞ 5×1⅝ F1S×1'-1 (cbb) (2-Fillet Welds ⅜×5)
2-Ls 5×3½×⅜×2'-3 5/16 (crimped) – (cbc)
2-Ls 5×3½×⅜×2'-3 3/16 (crimped) – (cbd)
3-Ls 5×3½×⅜×2'-2 11/16 (crimped) Bolt – (cbf)
2-Ls 5×3½×⅜×2'-3 (crimped) Bolt (cbg)
2-Ls 5×3½×⅜×2'-3 (crimped) Bolt (cbh)
3 Ls 5×3½×⅜×2'-2 11/16 (crimped) – (cbk)



One	One	Floor Beam	FB44			
SPAN 9	Total No. Req'd.	Description	Mark		Remarks	Weight each Tons
Required By Spans	REQUIRED LIST					

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey
RIVETS: ⅞"φ Unless noted
OPEN HOLES: 15/16"φ Unless noted

For General notes covering this sheet see sheet G243

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-7-34

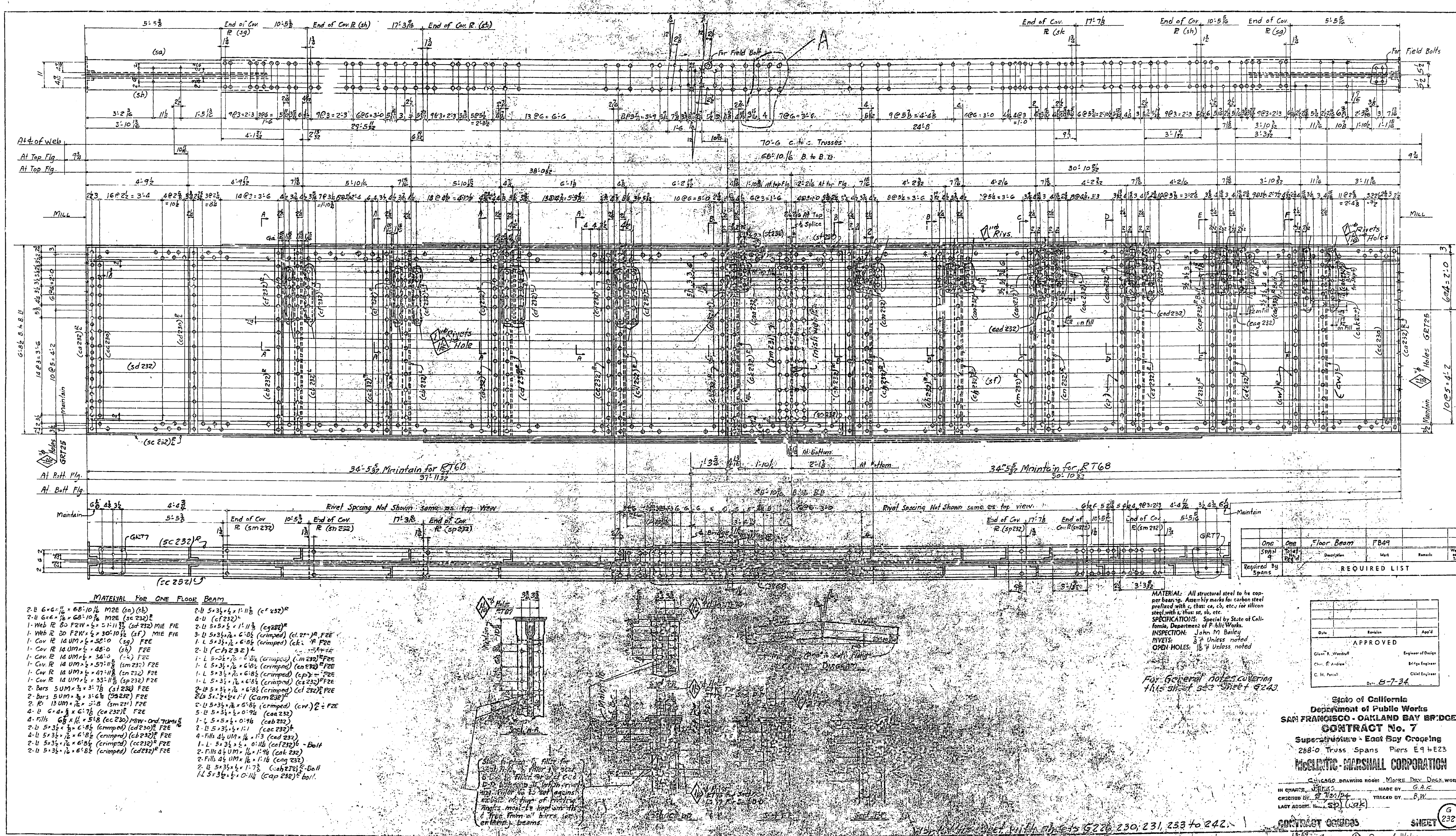
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Marine Dry Dock WORKS
IN CHARGE Jenks MADE BY G.A.K.
CHECKED BY [illegible] 7/21/34 TRACED BY B.W.
LAST ASSEM. MK. (sw) (cbk)

... sheets G226, 230, 232 to 240

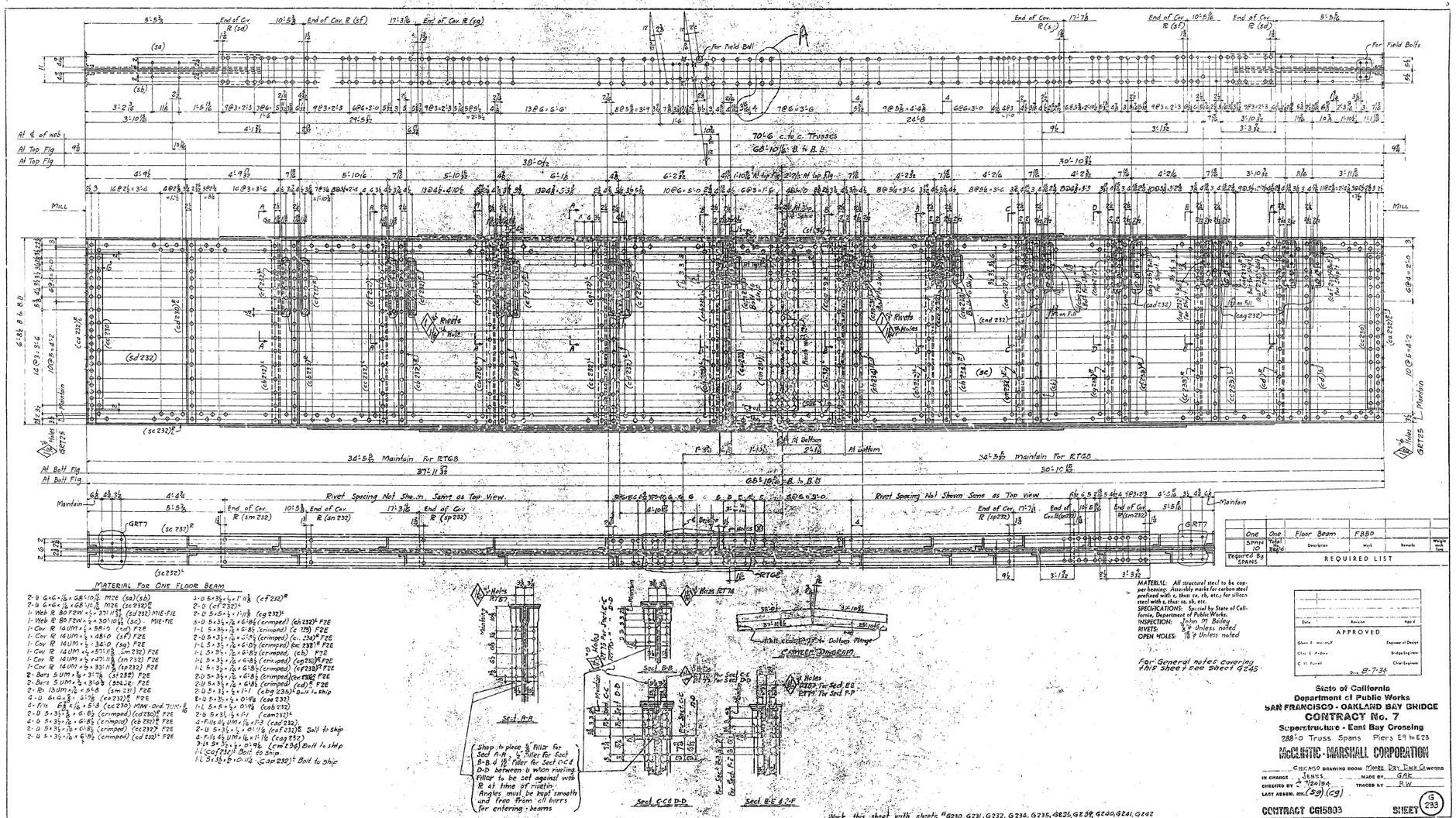
CONTRACT CS15803 SHEET G 231

30-1



MATERIAL FOR ONE FLOOR BEAM
2-L 6×6×11/16×68'-10 11/16 M2E (sa)(sb)
2-L 6×6×11/16×68'-10 5/16 M2E (sc 232)
1-Web R 80 F2W×½×51'-11 (sd 232) M1E F1E
1-Web R 80 F2W×½×30'-10 17/32 (sf) M1E F1E
1-Cov R 14 UM×½×58'-0 (sg) F2E
1-Cov R 14 UM×½×48'-0 (sh) F2E
1-Cov R 14 UM×½×57'-11 5/8 (sm 232) F2E
1-Cov R 14 UM×½×47'-11 5/8 (sn 232) F2E
1-Cov R 14 UM×½×33'-11 5/8 (sp 232) F2E
4-L 6×4×5/8×6'-7 1/8 (ca 232) F2E
2-L 5×3½×7/8×6'-8½ (crimped) (cd 230) F2E
4-L 5×3½×7/16×6'-8½ (crimped) (cb 232) F2E
2-L 5×3½×7/16×6'-8½ (crimped) (cc 232) F2E
2-L 5×3½×7/16×6'-8½ (crimped) (cd 232) F2E
2-L 5×3½×½×1'-11 3/8 (cf 232)
4-L (cf 232)
2-L 5×5×½×1'-11 3/8 (cg 232)
2-L (ch 232)
1-L 5×3½×7/16×6'-8½ (crimped) (cn 232) F2E
1-L 5×3½×7/16×6'-8½ (crimped) (cs 232) F2E
2-L 5×3½×7/16×6'-8½ (crimped) (ct 232) F2E
5-L 5×3½×½×0'-9¼ (caa 232)
1-L 5×5×½×0'-9¼ (cab 232)
2-L 5×3½×½×1'-1 (cac 232)
4-Fills 4½ UM×11/16×1'-3 (cad 232)
2-Fills 4½ UM×11/16×1'-9¼ (cak 232)
2-Fills 4½ UM×11/16×1'-1¼ (cag 232)
1-L 5×3½×½×0'-11¼ (cap 232) bolt
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M Bailey
RIVETS: 7/8"⌀ Unless noted
OPEN HOLES: 15/16"⌀ Unless noted
For General notes covering this sheet see Sheet G243.
One | One | Floor Beam | FB49
Span 9 | Total No. Req'd | Description | Mark | Remarks | Weight each Tons
Required By Spans | REQUIRED LIST
Date | Revision | App'd
APPROVED
Glenn B. Woodruff, Engineer of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Date 8-7-34
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago drawing room Moore Dry Dock works
Made by G.A.K.
Traced by B.W.
Checked by 7/24/34
Sheet G 232
(A) Revised 11/5/34

30-1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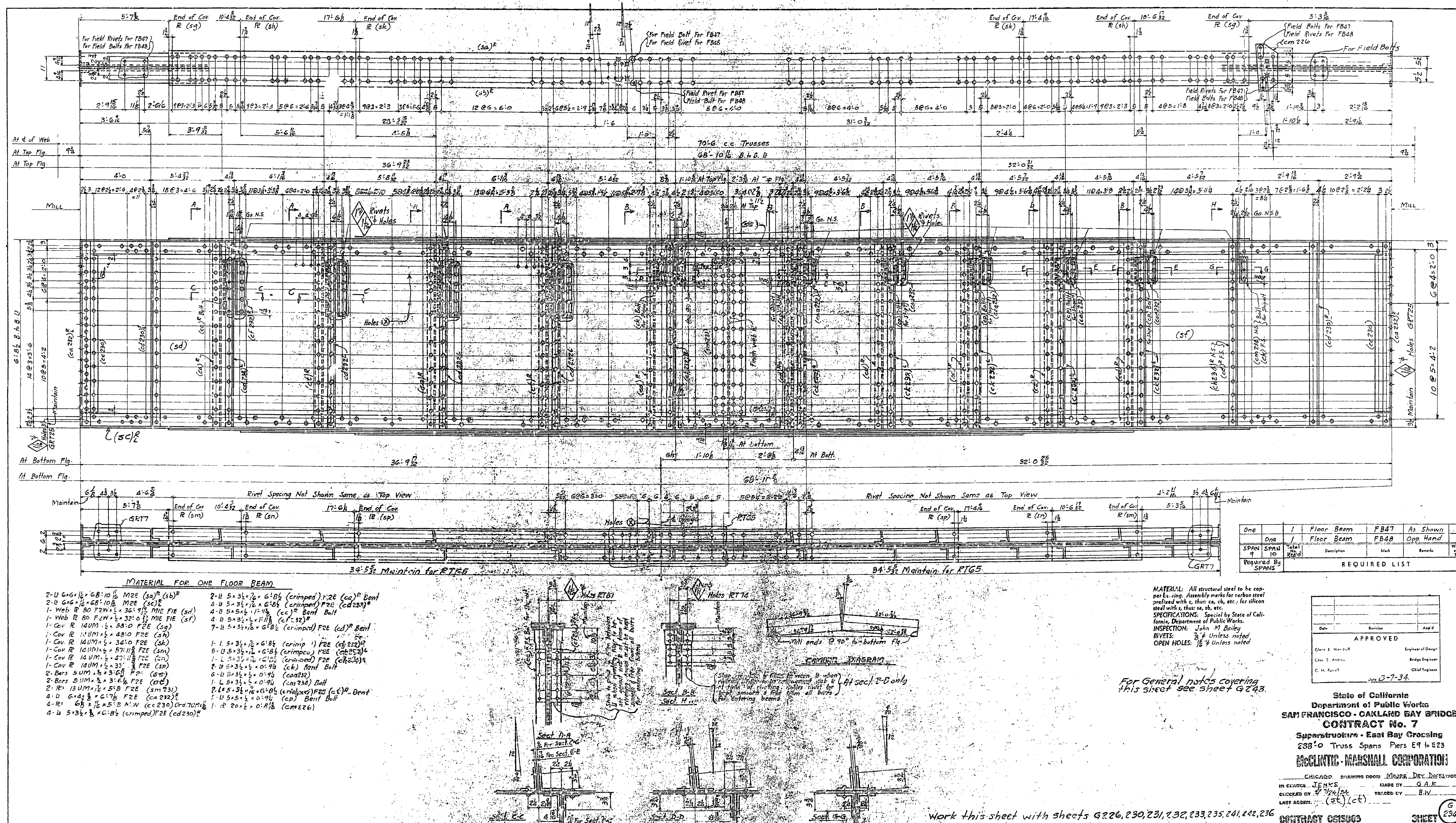
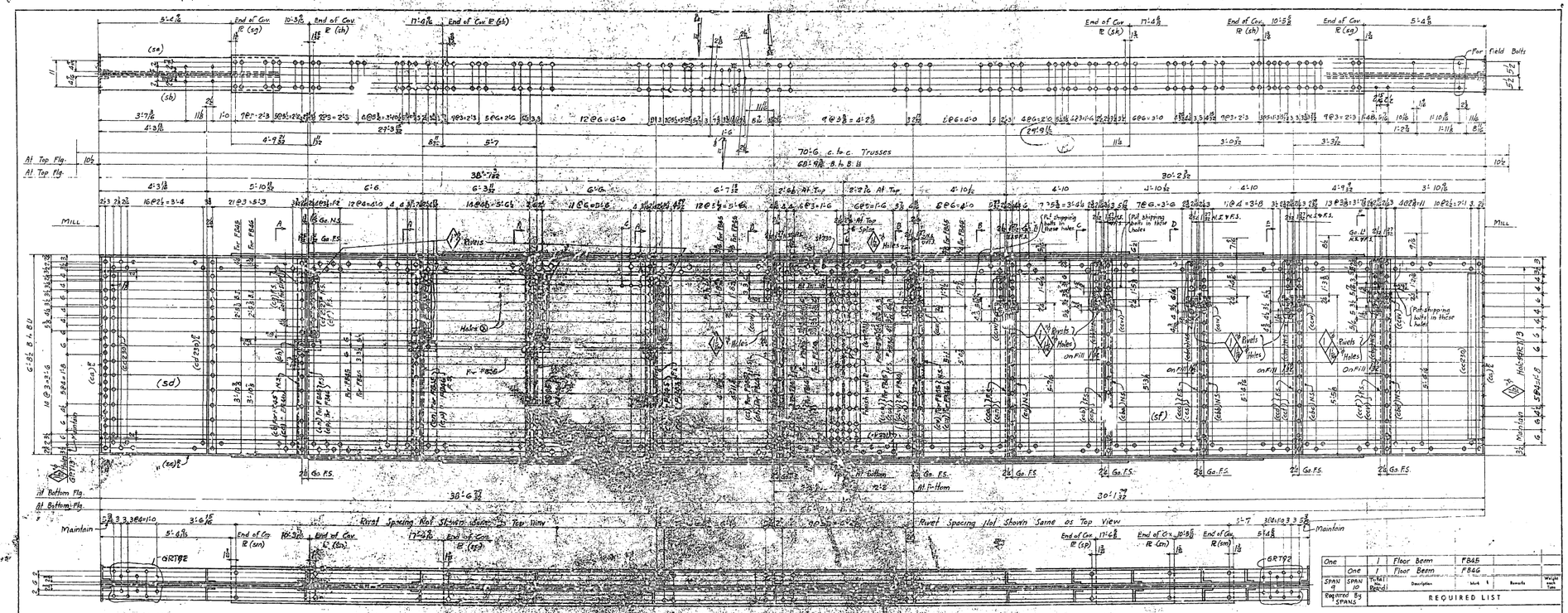

MATERIAL FOR ONE FLOOR BEAM
2-L 6×6×11/16×68'-10 11/16 M2E (sa)R (sb)R
2-L 6×6×11/16×68'-10 5/8 M2E (sc)R
1-Web PL 80 F2W×1/2×36'-9 19/32 M1E F1E (sd)
1-Web PL 80 F2W×1/2×32'-0 23/32 M1E F1E (sf)
1-Cov. PL 14UM×1/2×58'-0 F2E (sg)
1-Cov. PL 14UM×1/2×48'-0 F2E (sh)
1-Cov. PL 14UM×1/2×34'-0 F2E (sk)
1-Cov. PL 14UM×1/2×57'-11 5/8 F2E (sm)
1-Cov. PL 14UM×1/2×47'-11 5/8 F2E (sn)
1-Cov. PL 14UM×1/2×33'-5/8 F2E (sp)
2-Bars 5UM×3/4×3'-6 5/8 F2E (ss)
2-Bars 5UM×3/4×3'-6 1/4 F2E (st)
2-PL 13UM×7/16×5'-8 F2E (sm231)
4-L 6×4×5/8×6'-7 7/8 F2E (ca232)R
4-PL 6 5/8×11/16×5'-8 N.W (cc230) Ord.70M×5/8
4-L 5×3 1/2×3/8×6'-8 1/2 (crimped) F2E (cd230)R
2-L 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E (ca)R Bent
4-L 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E (cd232)R
4-L 5×5×1/2×1'-11 3/8 (cc)R Bent Bolt
4-L 5×3 1/2×1/2×1'-11 3/8 (cf232)R
7-L 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E (cd)R Bent
1-L 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E (cd232)R
5-L 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E
1-L 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E
2-L 5×3 1/2×1/2×0'-9 1/4 (ck) Bent Bolt
6-L 5×3 1/2×1/2×0'-9 1/4 (caa232)
1-L 5×3 1/2×1/2×0'-9 1/4 (cm230) Bolt
2-L 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E (ct)R Bent
5-L 5×5×1/2×0'-9 1/4 (cp) Bent Bolt
1-PL 20×1/2×0'-8 11/16 (cm226)
Rivet Spacing Not Shown Same as Top View
70'-6 c.c. Trusses
68'-10 11/16 B. to B.
34'-5 5/32 Maintain for RT65
One | | 1 | Floor Beam | FB47 | As Shown
| One | 1 | Floor Beam | FB48 | Opp. Hand
SPAN 9 | SPAN 10 | Total No. Req'd | Description | Mark | Remarks | Weight each Tons
Required By SPANS | REQUIRED LIST
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M Bailey
RIVETS: 7/8" ϕ Unless noted
OPEN HOLES: 15/16" ϕ Unless noted
For General notes covering this sheet see sheet G243.
Date | Revision | App'd
APPROVED
Glenn B. Woodruff Engineer of Design
Chas. E. Andrew Bridge Engineer
C. H. Purcell Chief Engineer
Date 3-7-34.
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
CHICAGO DRAWING ROOM MOORE DRY DOCKS WORKS
IN CHARGE JENKS MADE BY G.A.K.
CHECKED BY TRACED BY B.W.
LAST ASSEM. (st)(ct)
Work this sheet with sheets G226, 230, 231, 232, 233, 235, 241, 242, 236
CONTRACT C615803
SHEET G 234



MATERIAL FOR ONE FLOOR BEAM

2-U G46×½ + GR-9½ M2E (sa)(sb)
2-U G46×½ + 60-8½ M2E (sc)E
1- Web R 80 PENt×.381 = 60.96 M1E P1E (sd)
1- Web R 80 PENt×.5 = 80.01 M1E P1E (se)
2- Bars 30IN½ + 31⅞ F3E (sf)(sg)
2- Bars 30IN½ + 31⅜ F3E (sh)(si)
2- Pl × 15UNIV½ + 6'-8 F2E (sj)(sk)
1- Cov. PL 18UNIV½ + 5810 F2E (sl)
1- Cov PL 18UNIV½ + 4810 F2E (sm)
1- Cov PL 18UNIV½ + 3810 F2E (sn)
1- Cov. PL 18UNIV½ + 5710 F2E (so)
1- Cov. PL 18UNIV½ + 4710 F2E (sp)
1- Cov. PL 18UNIV½ + 3310 F2E (sq)
6-U G46×½ + 6'-7½ F2E (sr)
4- Fill 6⅜ × ½ × 5'-8 (sr,23a) M1E F2E (sra) for FB45
10-U 5×3½×½ + 6'-8½ (crimped) F2E (srb) for FB46
4-U 5×3½×½ × 1'-10½ (sf,232)M
4-U 5×3½×½ × 1'-10½ (sf)
4-U 5×3½×½ + 1'-10½ (sg) Bull for Shipmt.
4-U G46×½ + 0'-10½ (sh)
6-U 5×3½×½ × 3'-9 (si) For FB45 F1E-F1E
4-U 5×3½×½ + 3'-9½ M1E F1E (sm) for FB46
4-Fill 3½ UNIV ½ × 2'-11½ (sn) for FB45
4-Fill 3½ UNIV ½ × 3'-6½ (so) for FB46
2-U 5×3½×½ + 6'-10½ (crimped) F2E (so-1,23b)M
1-L 5-3½×½ + 6'-6 (crimped) F2E (so-2) for FB45 (sq) for FB46
1-L 5×3½×½ + 6'-0½ (crimped) F2E (sq) for FB45 (sr) for FB46
1-L 5×3½×½ + 6'-0½ (crimped) F2E (sr) for FB45 (ss) for FB46
1-L 5×3½×½ + 6'-0½ (crimped) F2E (ss)

1-L 5×3½×½ + 6'-6½ (crimped) F2E (sta)
1-L 5×3½×½ + 6'-0½ (crimped) F2E (stb)
1-L 5×3½×½ + 6'-0½ (do) F2E (stc)
1-L 5×3½×½ + 6'-0½ (do) F2E (std)
3-U 6×3½×½ + 6'-10 (ste) 2nd Bull for Shipmt.
3-U 5×3½×½ + 7'-1 (stf) 2nd Bull for Shipmt.
1-L 5×3½×½ + 6'-0½ (stg) Bull for Shipmt.
1-Fill 6¼UNIV ½ × 1'-10½ (sth)
1-Fill 6¼UNIV ½ × 1'-9½ (sim)
1-Fill 6¼UNIV ½ × 1'-6½ (sin)
1-Fill 6¼UNIV ½ × 1'-3½ (sio)
1-L 5×3½ × ½ × 7'-0 (sip) M1E F1E (stb) for FB45
(stc) & ½ M1E F1E (stb) for FB46
1-L 5×3½ × ½ × 6'-11½ M1E F1E (stc) for FB45
(std) & ½ M1E F1E (stc) for FB46
1-L 5×3½×½ × 5'-10½ M1E F1E (stg)
1-L 5×3½ × ½ × 5'-8½ M1E F1E (sth)
1-L 5×3½ × ½ × 5'-2½ M1E F1E (stj)
1-L 5×3½ × ½ × 5'-0½ M1E F1E (stk)
1-L 5×3½ × ½ × 4'-10½ M1E F1E (stl)
1-Fill 3½ UNIV ½ × 5'-0½ (stm) for FB45
1-Fill 3½ UNIV ½ × 5'-6½ (stn) for FB46
1-Fill 3½ UNIV ½ × 4'-6½ (sto)
1-Fill 3½ UNIV ½ × 4'-0½ (stp)
1-Fill 3½ UNIV ½ × 3'-6½ (stq)
1-Fill 3½ UNIV ½ × 3'-0½ (str)

7-U 5×3½×½ + 6'-0 (stv)
5-U 5×3½×½ + 5'-10½ (stw) Bull for Shipmt.
3-U 5×3½×½ + 5'-8½ (stx)
3-U 5×3½×½ + 5'-8 (sty) Bull for Shipmt.
3-U 5×3½×½ + 5'-6 (stz)
1-L 5×3½×½ + 4'-6½ Terminal (sha) Bull for Shipmt.
1-L 5×3½×½ + 4'-0 Terminal (shb)

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc., for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey
RIVETS: ⅞ Ø Unless noted
OPEN HOLES: ⅞ Ø Unless noted

For General notes covering this sheet see sheet G243.

Work this sheet with sheets G239, 241, 242 G230 to 234, 236,

Rev. D-7-6-34

One		1	Floor Beam	FB45		
	One	1	Floor Beam	FB46		
SPAN 9	SPAN 10	No. of Pieces	Description	Mark	Remarks	Weight each Piece
Required By SPANS			REQUIRED LIST			

Date	Revision	Appd.
	APPROVED	
Glenn B. Woodruff		Engineer of Design
Chas. E. Andrew		Bridge Engineer
C. H. Purcell		Chief Engineer

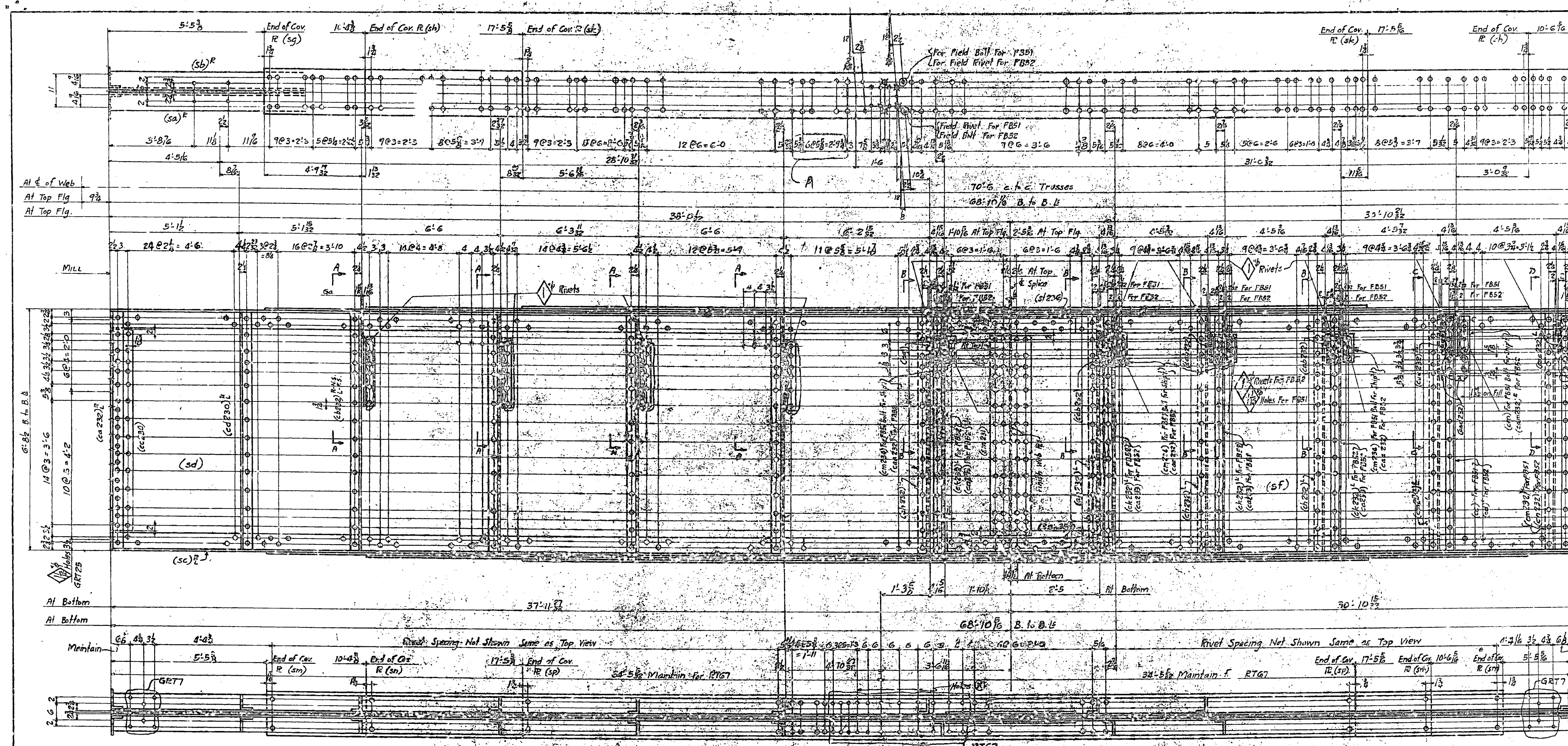
Jan 2-7-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0 Truss Spans Piers E4 to E23
McCLINTIC-MARSHALL CORPORATION
CHICAGO DRAWING ROOM ALAMEDA DRY DOCK CO. WORKS
DETAILED BY Stanics TRACED BY B.W.
CHECKED BY 8/7/34 MADE BY G.A.K.
LOAD ASSUMED (CAF) (SP)

CONTRACT C61503 SHEET 235

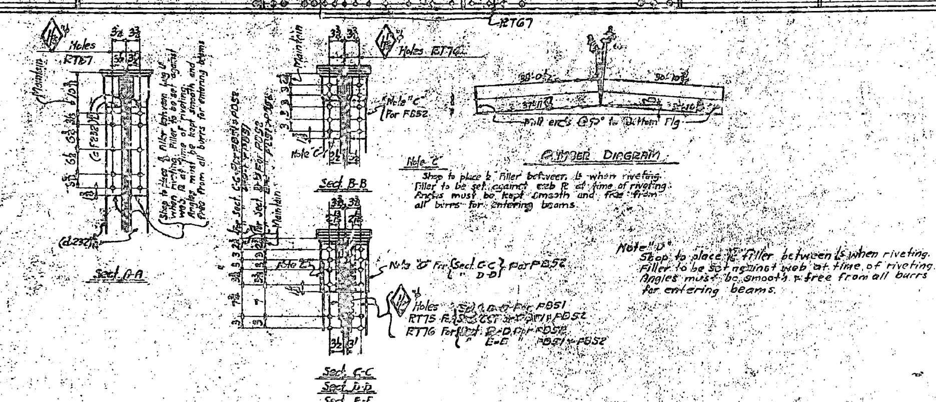
L4-89
L4-89

30-1



MATERIAL FOR ONE FLOOR BEAM

2-Ls 6×6×11/16×68'-10 11/16 M2E (sa)R (sb)R
2-Ls 6×6×11/16×68'-10 11/16 M2E (sc)R L
1-Web Pl 80 F2W×1/2×37'-11 21/32 MIE FIE (sd)
1-Web Pl 80 F2W×1/2×30'-10 17/32 MIE FIE (sf)
1-Cov. Pl 14 UM×1/2×50'-0 F2E (sg)
1- do. do. ×48'-0 F2E (sh)
1- do. do. ×34'-0 F2E (sk)
1- do. do. ×57'-11 5/8 F2E (sm)
1- do. do. ×47'-11 5/8 F2E (sn)
1- do. do. ×33'-11 5/8 F2E (sp)
2-Bars 5UM×3/4×3'-7 1/8 F2E (st236)
2-Bars 5UM×3/4×3'-6 3/4 F2E (ss236)
2-Pls 13UM×7/16×5'-8 F2E (sm231)
4-Ls 6×4×5/8×6'-7 1/8 F2E (ca232)R L
4-Fills 6 3/8×11/16×5'-8 (cc230) MIW(Ord. 7UM×11/16)
2-Ls 5×3 1/2×3/8×6'-8 1/2 (crimped) F2E (cd230)R L
8-Ls 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E (cb232)R L
8-Ls 5×3 1/2×1/2×1'-11 3/8 (cf232)R L
4-Ls 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E (ch232)L
4-Ls 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E (ck-232)L For FB52
4-Ls 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E (c[illegible]) For FB51
2-Ls 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E (ch232)R For FB51
1-L 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E (cn232)R For FB51
2-Ls 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E (cc)R For FB51
1-L [illegible] (crimped) F2E (ck) For FB52
1-L 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E (cd)R For FB52
1-L 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E (cf)R
4-Ls 5×3 1/2×1/2×0'-9 1/2 (cn234) For FB51 - Bolt to ship
4-Ls 5×3 1/2×1/2×0'-9 1/2 (cc232) for FB52
1-L 5×5×1/2×0'-9 1/2 (cg)
3-Ls 5×5×1/2×0'-9 1/2 (cab232)
1-L 5×3 1/2×1/2×1'-1 (cbg.233) For FB51 Bolt
2-Ls 5×3 1/2×1/2×1'-1 (cac232)R [illegible]
2-Ls 5×3 1/2×1/2×1'-1 (cam232)R For FB52
1-L (cbg235)L For FB52 - Bolt to ship
6-Fills 4 1/2 UM×11/16×1'-3 (cad232)
1-L (cm238)L } For FE52
2-Ls (cn232)R }
1-L (cam232)L
2-Ls 5×3 1/2×1/2×1'-1 (cm) For FB51-Bolt



One		One	Floor Beam	FB51	As Shown	
	One	One	Floor Beam	FB52	Opp. Hand to Sketch	
SPAN 9	SPAN 10	Total No. Req'd	Description	Mark	Remarks	Weight each Tons
Required By SPANS		REQUIRED LIST				

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: co, cb, etc.; for silicon steel with s, thus: so, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M Bailey
RIVETS: 7/8" Unless noted
OPEN HOLES: 15/16" Unless noted

For General notes covering this sheet see sheet G243

Date	Revision	App'd

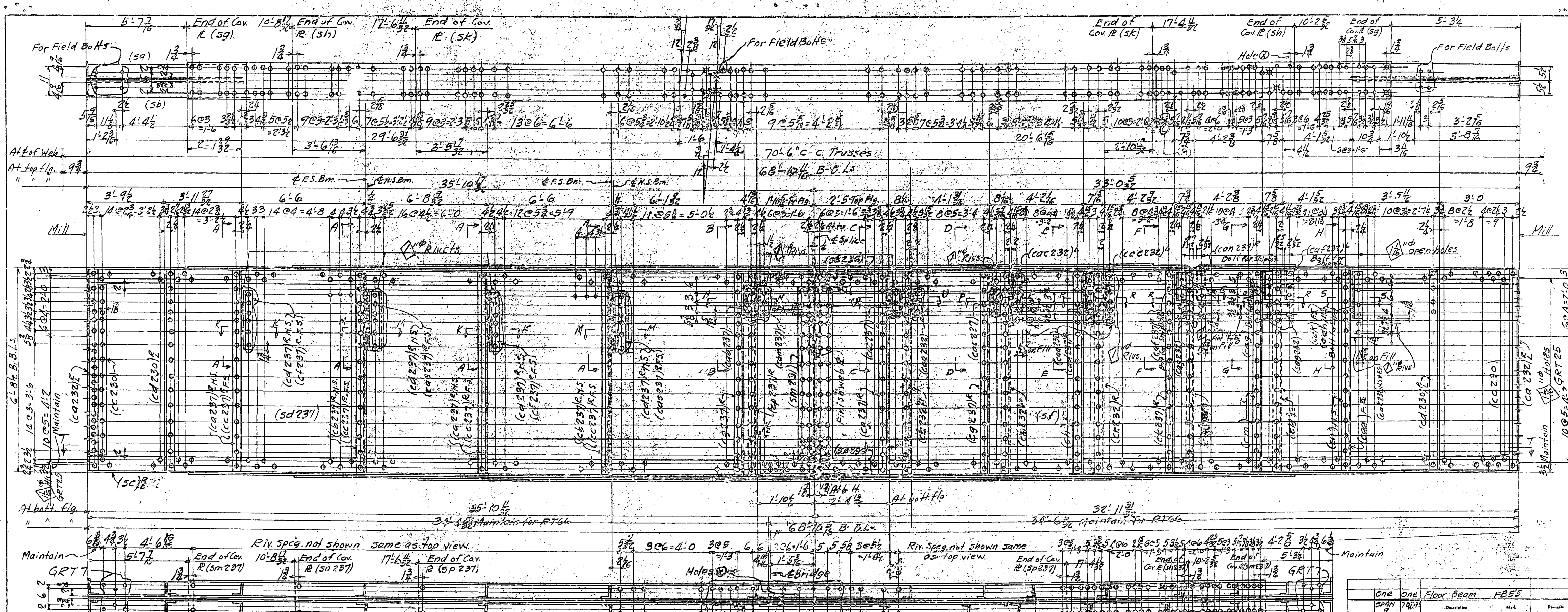
APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-7-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago Drawing Room Moore Dry Dock Company
In charge JENKE Made by GAK
Checked by 8/28/34 Traced by B.W.
Last assem. mk. (st) (cm)
CONTRACT CG15603 SHEET G 236

Work this sheet with sheets # G230-G231-G232-G233, G234, G235, G238

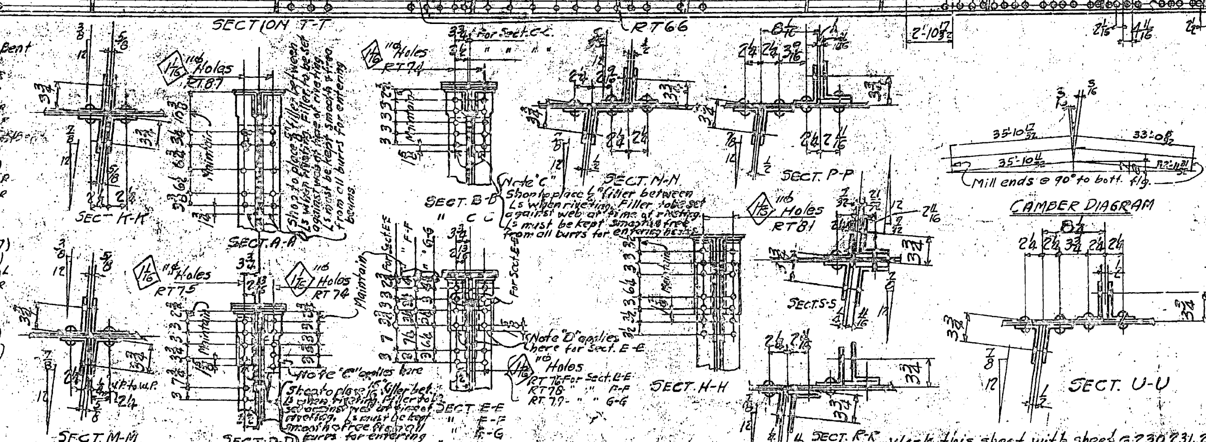
Rev. (A) 11-16-34 L3-E9 L5-E10

30-1



Material for one Floor Beam

2-Ls 6×6×$\frac{11}{16}$×68'-10$\frac{11}{16}$ M2E (sa)(sb)
2-Ls 6×6×$\frac{11}{16}$×68'-10$\frac{11}{16}$ M2E - (sc)$^{R}_{L}$
1-Web Pl. 80F2W×$\frac{1}{2}$×35'-10$\frac{13}{32}$ M1E, F1E. (sd237)
1- " " 80F2W×$\frac{1}{2}$×33'-0$\frac{5}{32}$ M1E, F1E (sf)
1-Cov. Pl. 14UM×$\frac{1}{2}$×58'-0 F2E (sg)
1-Cov. Pl. 14UM×$\frac{1}{2}$×48'-0 F2E (sh)
1-Cov. Pl. 14UM×$\frac{1}{2}$×34'-0 F2E (sk)
1-Cov. Pl. 14UM×$\frac{1}{2}$×57'-11$\frac{5}{8}$ F2E (sm237)
1-Cov. Pl. 14UM×$\frac{1}{2}$×47'-11$\frac{5}{8}$ F2E (sn237)
1-Cov. Pl. 14UM×$\frac{1}{2}$×33'-11$\frac{5}{8}$ F2E (sp237)
2-Bars 5UM×$\frac{3}{4}$×3'-7$\frac{1}{8}$ F2E (st236)
2- " 5UM×$\frac{3}{4}$×3'-6$\frac{3}{4}$ F2E (so236)
2-Pls 13UM×$\frac{7}{16}$×5'-8 F2E (sm231)
4-Ls 6×4×$\frac{5}{8}$×6'-7$\frac{1}{8}$ F2E (ca232)$^{R}_{L}$
4-Fills 6B×$\frac{11}{16}$×5'-8 M1W (cc230) ord. 7UM×$\frac{11}{16}$
4-Ls 5×3$\frac{1}{2}$×$\frac{3}{8}$×6'-8$\frac{1}{2}$ (crimped) F2E (cd230)$^{R}_{L}$
2-Ls 5×3$\frac{1}{2}$×$\frac{7}{16}$×6'-8$\frac{1}{2}$ (") F2E (ca237)^{R} Bent
2-Ls. do. ×6'-8$\frac{1}{2}$ (") F2E (cb237)^{R} "
4-Ls do. ×6'-8$\frac{1}{2}$ (") F2E (cc237)^{R} "
4-Ls 5×5$\frac{1}{2}$×$\frac{1}{2}$×1'-11$\frac{3}{8}$ (cd237)^{R} "
2-Ls do. ×1'-11$\frac{3}{8}$ (cf237)^{R} "
2-Ls 5×5×$\frac{1}{2}$×1'-11$\frac{3}{8}$ (cas237)^{R} "
3-Ls 5×3$\frac{1}{2}$×$\frac{7}{16}$×6'-8$\frac{1}{2}$ (crimped) F2E (cg237)^{R} "
1-L do. ×6'-8$\frac{1}{2}$ (") F2E (ch.)
1-L do ×6'-8$\frac{1}{2}$ (") F2E (ck237)^{R} "
1-L do. ×6'-8$\frac{1}{2}$ (") F2E (cm)
1-L do ×6'-8$\frac{1}{2}$ (") F2E (cn) "
1-L 5×3$\frac{1}{2}$×$\frac{7}{16}$×6'-8$\frac{1}{2}$ (crimped) F2E (cp237)^{R} Bent
1-L do. ×6'-8$\frac{1}{2}$ (") F2E (ct230)^{R}
1-L do. ×6'-8$\frac{1}{2}$ (") F2E (cr232)^{R}
1-L do. ×6'-8$\frac{1}{2}$ (") F2E (cn232)^{R}
1-L do. ×6'-8$\frac{1}{2}$ (") F2E (cw237)^{R}
1-L do. ×6'-8$\frac{1}{2}$ (") F2E (cy237)^{R}
1-L do. ×6'-8$\frac{1}{2}$ (") F2E (caa237)^{R}
1-L 5×5×$\frac{1}{2}$×9$\frac{1}{4}$ Bent (cab237)
2-Ls 5×3$\frac{1}{2}$×$\frac{1}{2}$×9$\frac{1}{4}$ " (cac237)
1-L do. ×1'-1 " (cad237)^{R}
1-L do. ×11$\frac{1}{4}$ " Bolt (caf237)^{R}
1-L do ×11$\frac{1}{4}$ " " (cag)
2-Ls do ×1'-7$\frac{3}{8}$ " " (cah)(cak)
1-L do. ×9$\frac{1}{4}$ Bent (cam237)
1-L do ×9$\frac{1}{4}$ (caa232)
2-Ls do. ×1'-1 (cac232)^{L}
1-L do ×11$\frac{1}{4}$ Bolt (can237)^{R}
1-L do ×11$\frac{1}{4}$ " (cnf232)^{L}
3-Fills 4$\frac{1}{2}$UM×$\frac{11}{16}$×1'-3 (cad232)
4- " do ×1'-1$\frac{1}{4}$ (cag232)
2- " do. ×1'-9$\frac{1}{4}$ (cak232)



Work this sheet with sheet G230, 231, 232, 238, 239, 240

	One	one	Floor Beam	FB55		
	SPAN 9	TOTAL No.	Description	Mark	Remarks	Weight each Tons
REQD. BY SPANS.	REQUIRED LIST					

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: $\frac{7}{8}$"φ Un. noted.
OPEN HOLES: $\frac{15}{16}$"φ " "

For General Notes covering this sheet see sheet G243.

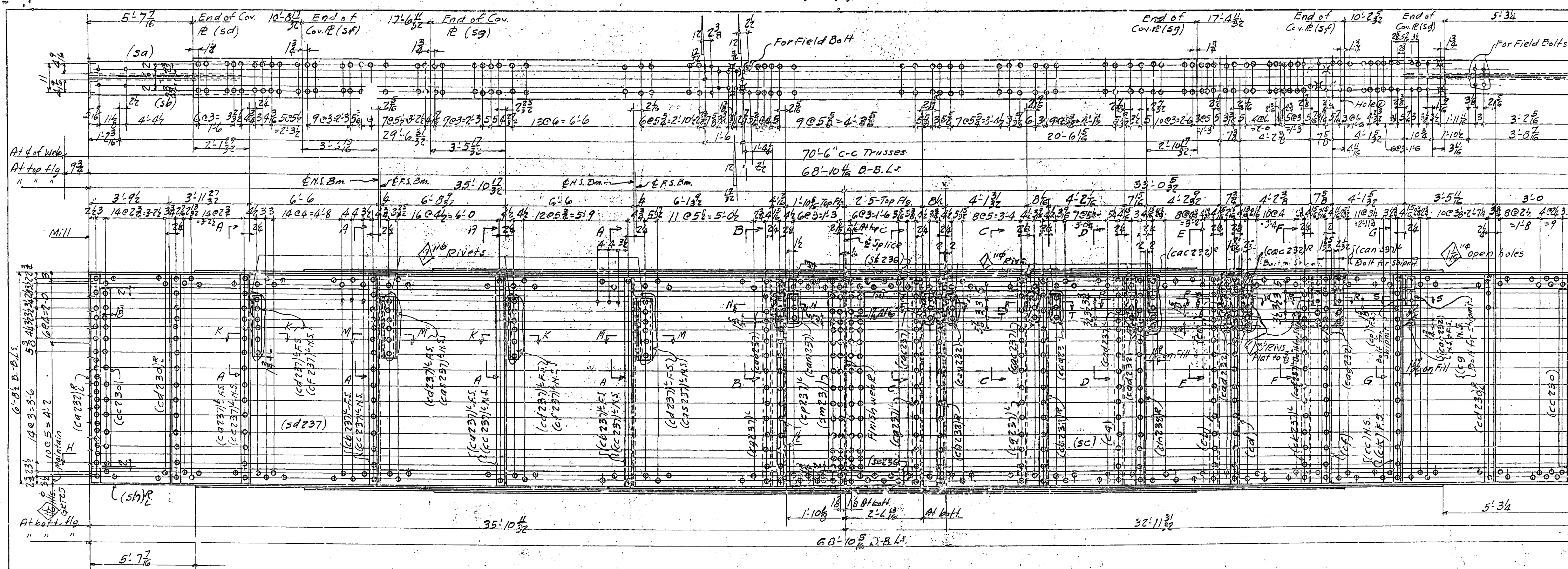
Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-7-34

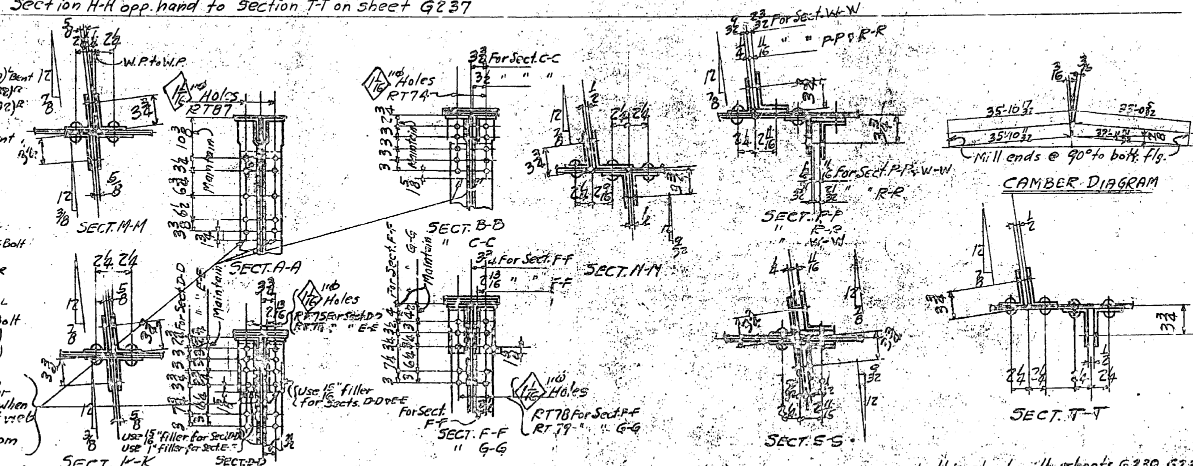
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23.
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Moore Dry Dock Co. WORKS
IN CHARGE Jenks MADE BY GAK
CHECKED BY F 7/25/34 TRACED BY GAK
LAST ASSEM. MK. (sp) (cas)

CONTRACT CG15803 SHEET G 237

L7-E9 Rev. Ⓐ 11-26-34



Section H-H opp. hand to section T-T on sheet G237



Material for one Floor Beam

2-Ls 6×6×11/16×68'-10 11/16 M2E (sa)(sb)
2-Ls 6×6×11/16×68'-10 5/8 M2E-(sh) R/L
1-Web Pl 80 F2W × 1/2 × 35'-10 13/32 M1E, F1E (sd237)
1- " " 80 F2W × 1/2 × 33'-0 5/32 M1E, F1E (sc)
1-Cov. Pl 14UM × 1/2 × 58'-0 F2E (sd)
1-Cov. Pl 14UM × 1/2 × 48'-0 F2E (sf)
1-Cov. Pl 14UM × 1/2 × 34'-0 F2E (sg)
1-Cov. Pl 14UM × 1/2 × 57'-11 5/8 F2E (sm237)
1-Cov. Pl 14UM × 1/2 × 47'-11 5/8 F2E (sn237)
1-Cov. Pl 14UM × 1/2 × 33'-11 5/8 F2E (sp237)
2-Bars 5UM × 3/4 × 3'-7 1/8 F2E (st236)
2- " 5UM × 3/4 × 3'-6 3/8 F2E (ss236)
2-Pls 13UM × 7/16 × 5'-8 F2E (sm231)
4-Ls 6×4×5/8 × 6'-7 7/8 F2E (ca232) R/L
4-Fills 6 7/8 × 11/16 × 5'-8 M1W (cc230) Ord. 7UM × 1/16
4-Ls 5×3 1/2×3/8 × 6'-8 1/2 (crimped) F2E (cd230) R/L
2-Ls 5×3 1/2×7/16×6'-8 1/2 (") F2E (ca237) L Bent
2-Ls do × 6'-8 1/2 (") F2E (cb237) L do
4-Ls do. × 6'-8 1/2 (") F2E (cc237) L do.
4-Ls 5×3 1/2 × 1/2 × 1'-11 3/8 (cd237) L do
2-Ls do. × 1'-11 3/8 (cf237) L do.
2-Ls 5×5×1/2 × 1'-11 3/8 (cas237) L do.
3-Ls 5×3 1/2×7/16 × 6'-8 1/2 (crimped) F2E (cg237) L do.
1-L do × 6'-8 1/2 (") F2E (ca) do.
1-L do × 6'-8 1/2 (") F2E (cb) do.
1-L do × 6'-8 1/2 (") F2E (ck237) L do.
1-L do × 6'-8 1/2 (") F2E (ck) — do.
1-L 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E (cp237) L Bent
2-Ls do. × 6'-8 1/2 (") F2E (c[illegible]232) R
1-L do. × 6'-8 1/2 (") F2E (cm232) R
1-L do. × 6'-8 1/2 (") F2E (cf)
1-L do × 6'-8 1/2 (") F2E (cc) Bent
1-L do × 6'-8 1/2 (") F2E (cd)
1-L-5×5×1/2 × 9 1/2 Bent (cab237)
2-Ls 5×3 1/2×1/2 × 9 " (cac237)
1-L do. × 9 1/4 " (cam237)
2-Ls do × 9 1/4 " (caa232)
1-L do × 1'-1 " (cad237) L
1-L do × 11 1/4 " (caf237) L Bolt
1-L do × 11 1/4 " (cp)
2 Ls do. × 1'-1 " (cac232) R
1-L do × 1'-1 Bent (cm)
1-L do × 11 1/4 Bolt (can237) L
1-L do × 11 1/4 Bent (cg Bolt
4-Fills 4 1/2 UM × 11/16 × 1'-3 (cad232)
4-Fills do × 1'-1 1/4 (caj232)

Shop to place 5/8" filler for Sect. A-A, 1/2" filler for Sects. B-B & C-C, 1/16" filler for Sect. D-D, and [illegible] fillers for Sect. E-E, [illegible] Ls when riveting. Filler to be set against web at time of riveting.
Angles must be smooth & free from all burrs for entering beams

One	One	Floor Beam	FB56		
SPAN 10	TOTAL No.	Description	Mark	Remarks	Weight each Tons
REQ'D. BY SPANS.	REQUIRED LIST				

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc., for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 7/16"⌀ Un. noted.
OPEN HOLES: 15/16"⌀ "

For General notes covering this sheet see sheet G243.

Date	Revision	App'd

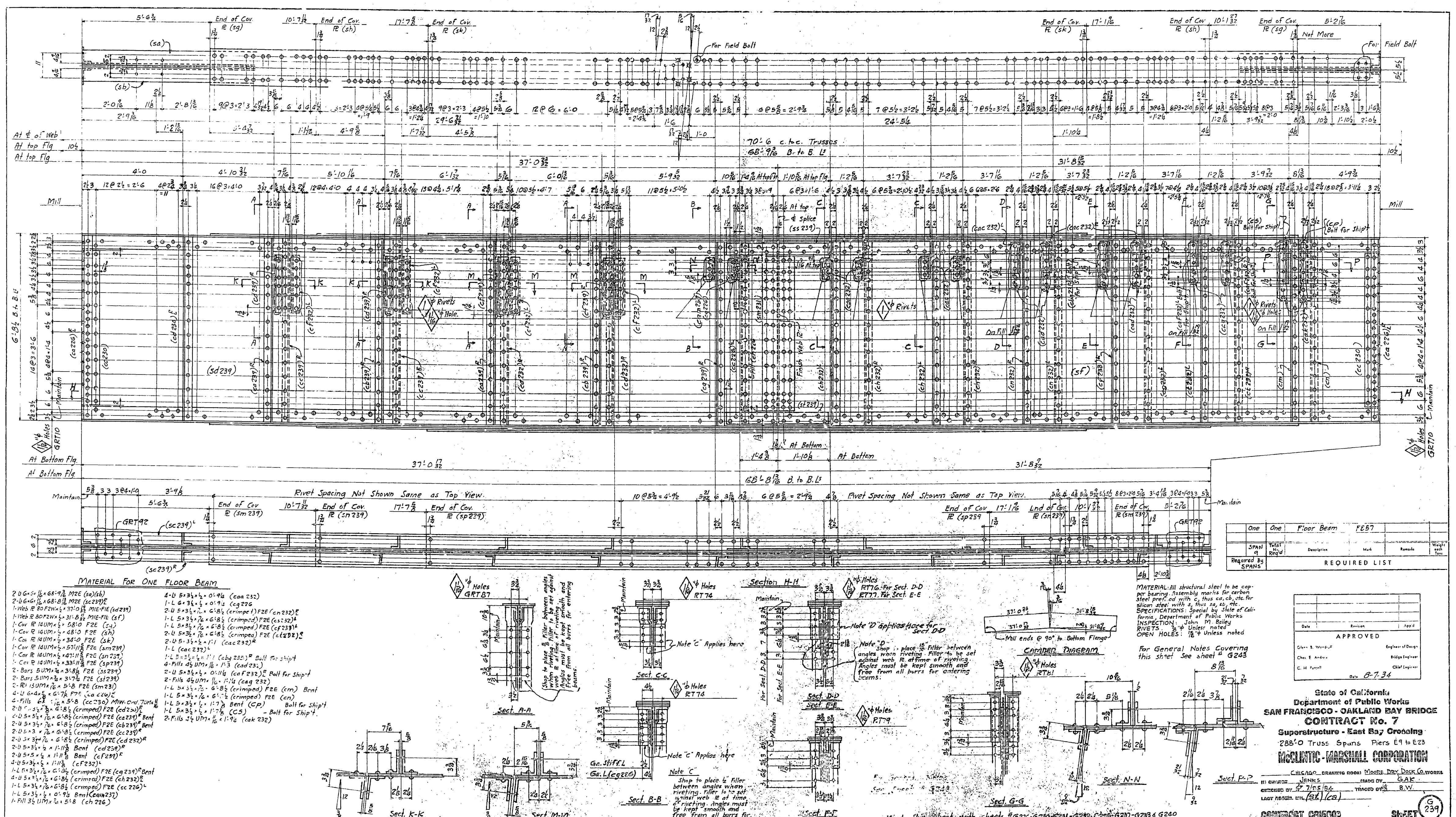
APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-7-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans-Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Moore Dry Dock Co. WORKS
IN CHARGE Jenks MADE BY GAK
CHECKED BY [illegible] 7/25/34 TRACED BY GAK
LAST ASSEM. MK. (sh)(cp)
CONTRACT CG15803 SHEET G 238

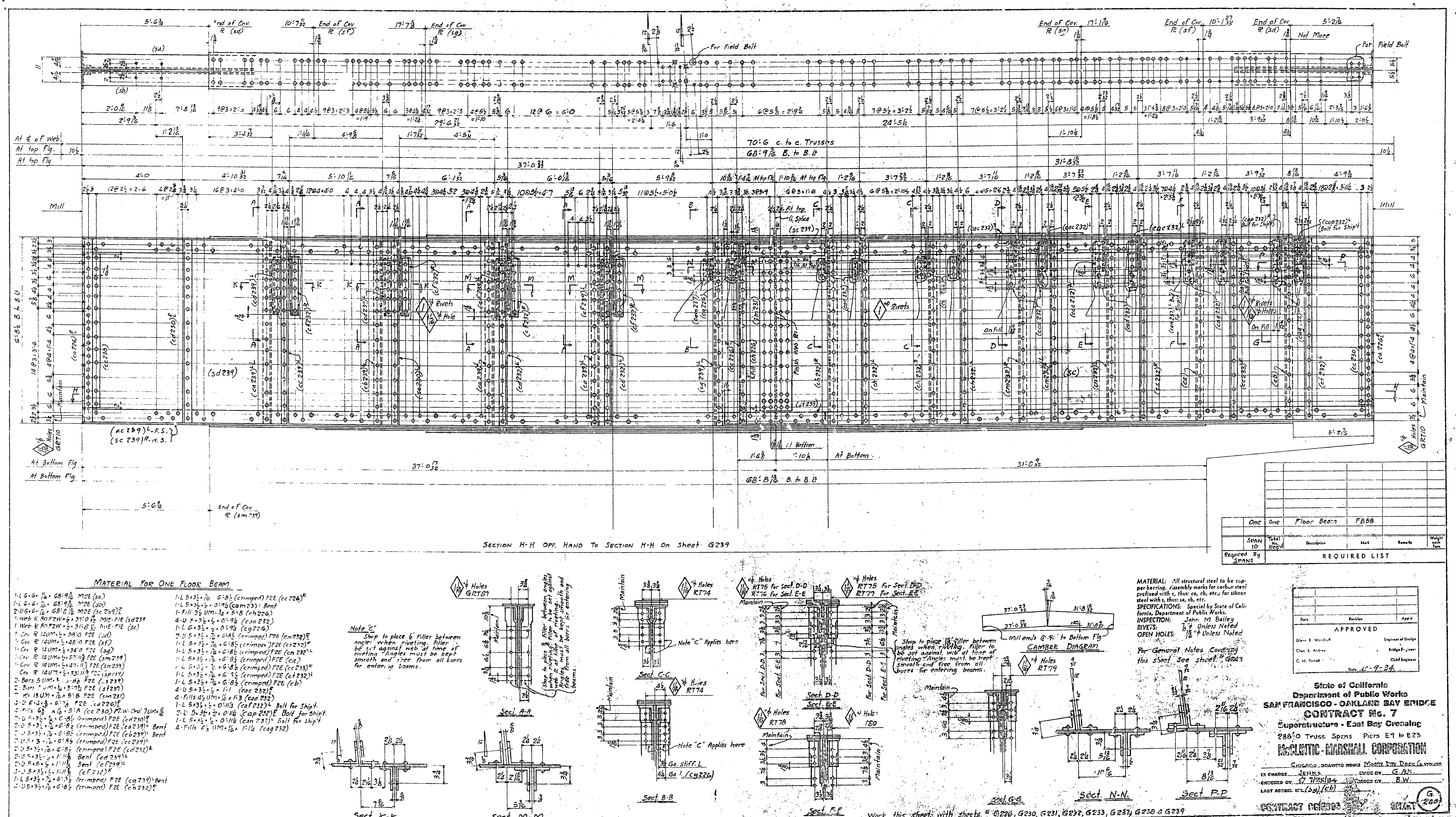
Work this sheet with sheets G230, G231, 232, 237, 240, 236.

L1-E10

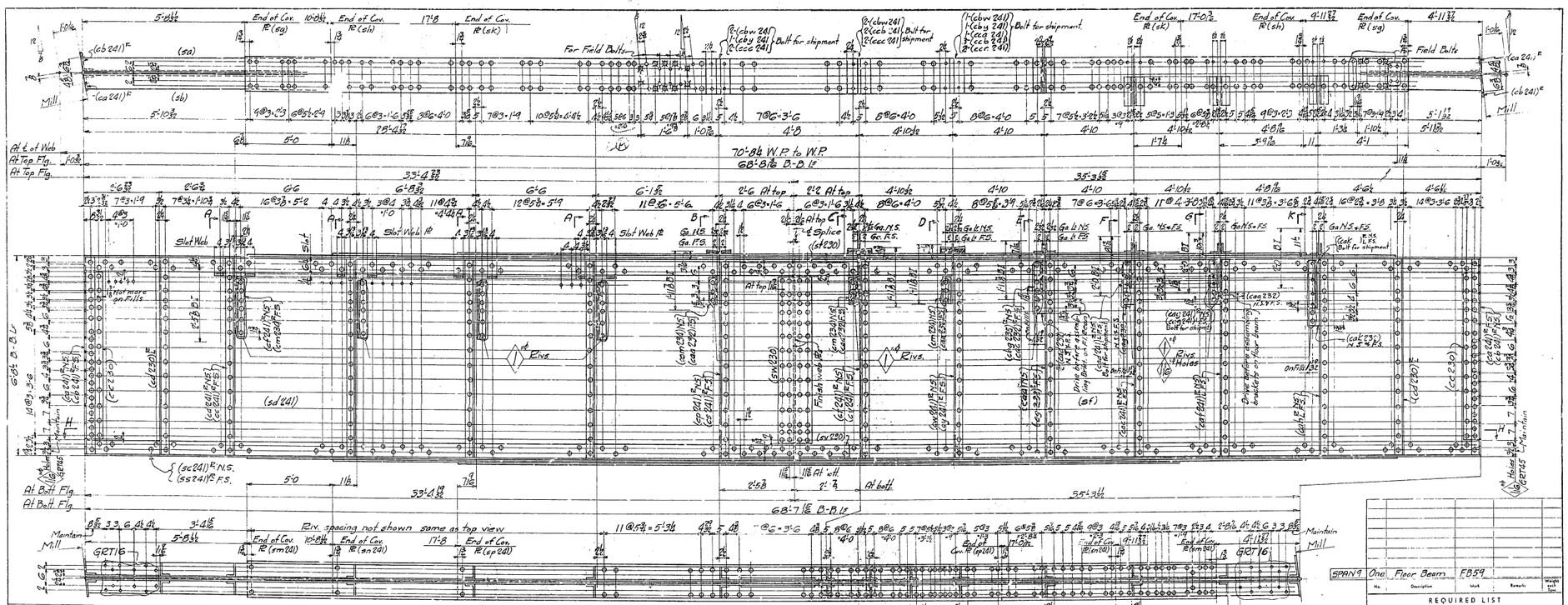
30-1


Rivet Spacing Not Shown Same as Top View.
MATERIAL FOR ONE FLOOR BEAM
2-L 6×6×11/16×68'-9 3/16 MZE (sa)(sb)
2-L 6×6×11/16×68'-8 13/16 MZE (sc239)
1-Web PL 80F2W×1/2×37'-0 19/32 MIE-FIE (sd239)
1-Web PL 80F2W×1/2×31'-8 11/32 MIE-FIE (sf)
1-Cov PL 14UM×1/2×58'-0 F2E (sg)
1-Cov PL 14UM×1/2×48'-0 F2E (sh)
1-Cov PL 14UM×1/2×34'-0 F2E (sk)
1-Cov PL 14UM×1/2×57'-11 5/8 F2E (sm239)
1-Cov PL 14UM×1/2×47'-11 5/8 F2E (sn239)
1-Cov PL 14UM×1/2×33'-11 5/8 F2E (sp239)
2-Bars 5UM×3/4×3'-8 1/8 F2E (ss239)
2-Bars 5UM×3/4×3'-7 3/4 F2E (st239)
2-PLs 13UM×7/16×5'-8 F2E (sm231)
4-L 6×4×5/8×6'-7 1/8 F2E (ca226)
4-Fills 6 7/8×7/16×5'-8 (cc230) MIW-Ord. 7UM×11/16
2-L 5×3 1/2×3/8×6'-8 1/2 (crimped) F2E (cd230)
2-L 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E (ca239) Bent
2-L 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E (cb239) Bent
2-L 5×3×7/16×6'-8 1/2 (crimped) F2E (cc239)
2-L 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E (cd232)
2-L 5×3 1/2×1/2×1'-11 3/8 Bent (cd239)
2-L 5×5×1/2×1'-11 3/8 Bent (cf239)
4-L 5×3 1/2×1/2×1'-11 3/8 (cf232)
1-L 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E (cg239) Bent
4-L 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E (ch232)
1-L 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E (cc226)
1-L 5×3 1/2×1/2×0'-9 1/4 Bent (cgia237)
1-Fill 3 1/2 UM×3/4×5'-8 (ch226)
4-L 5×3 1/2×1/2×0'-9 1/4 (caa232)
1-L 6×3 1/2×1/2×0'-9 1/4 (cg226)
2-L 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E (cn232)
1-L 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E (cs232)
1-L 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E (cf233)
2-L 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E (ct232)
2-L 5×3 1/2×1/2×1'-1 (cac232)
1-L (cac232)
1-L 5×3 1/2×1/2×1'-1 (cby233) Bolt for Ship't
4-Fills 4 1/2 UM×11/16×1'-3 (cad232)
2-L 5×3 1/2×1/2×0'-11 1/4 (caf232) Bolt for Ship't
2-Fills 4 1/2 UM×11/16×1'-1 1/4 (cag232)
1-L 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E (cm) Bent
1-L 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E (cn)
1-L 5×3 1/2×1/2×1'-7 3/8 Bent (CP) Bolt for Ship't
1-L 5×3 1/2×1/2×1'-7 3/8 (CS) - Bolt for Ship't.
2-Fills 4 1/2 UM×11/16×1'-9 1/4 (cak232)
Sect. K-K
Sect. M-M
Sect. A-A
Sect. B-B
Sect. C-C
Section H-H
Sect. D-D
Sect. E-E
Sect. F-F
Sect. G-G
Sect. N-N
Sect. P-P
CAMBER DIAGRAM
Note "C" Shop to place 1/8" filler between angles when riveting. Filler to be set against web PL at time of riveting. Angles must be kept smooth and free from all burrs for entering beams.
Note "D" Shop to place 1/8" filler between angles when riveting. Filler to be set against web PL at time of riveting. Angles must be kept smooth and free from all burrs for entering beams.
Work this sheet with sheets G226-G230-G231-G232-G236-G237-G233 & G240
One | One | Floor Beam | FE57
SPAN 9 | Total No. Req'd | Description | Mark | Remarks | Weight each Tons
Required By SPANS | REQUIRED LIST
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus ca, cb, etc. for silicon steel with s, thus sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works
INSPECTION: John M. Bailey
RIVETS 7/8"φ Unless noted
OPEN HOLES: 15/16"φ Unless noted
For General Notes Covering this sheet See sheet # G243
Date | Revision | App'd
APPROVED
Glenn B. Woodruff Engineer of Design
Chas. E. Andrew Bridge Engineer
C. H. Purcell Chief Engineer
Date 8-7-34
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
CHICAGO DRAWING ROOM MOORE DRY DOCK CO. WORKS
IN CHARGE JENKS MADE BY GAK
CHECKED BY 7/25/34 TRACED BY B.W.
CONTRACT CG15003
SHEET G 239
LG-E9

30-1

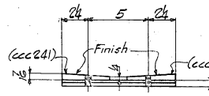


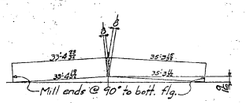
SECTION H-H OPP. HAND TO SECTION H-H ON SHEET G239
MATERIAL FOR ONE FLOOR BEAM
1-L 6×6×11/16×68'-9 3/16 M2E (sa)
1-L 6×6×11/16×68'-9 3/16 M2E (sb)
2-L 6×6×11/16×68'-8 13/16 M2E (sc 239)
1-Web PL 80 F2W×1/2×37'-0 19/32 M1E-F1E (sd 239)
1-Web PL 80 F2W×1/2×31'-8 11/32 M1E-F1E (sc)
1-Cov PL 14 UM×1/2×58'-0 F2E (sd)
1-Cov PL 14 UM×1/2×48'-0 F2E (sf)
1-Cov PL 14 UM×1/2×34'-0 F2E (sg)
1-Cov PL 14 UM×1/2×57'-11 5/8 F2E (sm 239)
1-Cov PL 14 UM×1/2×47'-11 5/8 F2E (sn 239)
1-Cov PL 14 UM×1/2×33'-11 5/8 F2E (sp 239)
2-Bars 5 UM×3/4×3'-8 5/8 F2E (ss 239)
2-Bars 5 UM×3/4×3'-7 3/4 F2E (st 239)
2-PLs 13 UM×7/16×5'-8 F2E (sm 231)
4-L 6×4×5/8×6'-7 1/8 F2E (ca 226)
4-Fills 6 1/8×11/16×5'-8 (cc 230) Mill. Ord. 7 UM×11/16
2-L 5×3 1/2×3/8×6'-8 1/2 (crimped) F2E (cd 230)
2-L 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E (ca 239) Bent
2-L 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E (cb 239) Bent
2-L 5×3×7/16×6'-8 1/2 (crimped) F2E (cc 239)
2-L 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E (cd 232)
2-L 5×3 1/2×1/2×1'-11 3/8 Bent (cd 239)
2-L 5×5×1/2×1'-11 3/8 Bent (cf 239)
4-L 5×3 1/2×1/2×1'-11 3/8 (cf 232)
1-L 5×3 1/2×7/16×6'-3 1/2 (crimped) F2E (cg 239) Bent
4-L 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E (ch 232)
1-L 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E (cc 226)
1-L 5×3 1/2×1/2×0'-9 1/4 (cam 237) Bent
1-Fill 3 1/2 UM×3/4×5'-8 (ch 226)
4-L 5×3 1/2×1/2×0'-9 1/4 (can 232)
1-L 6×3 1/2×1/2×0'-9 1/4 (cg 226)
1-L 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E (cs 232)
1-L 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E (cn 232)
1-L 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E (ca)
1-L 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E (cc 233)
1-L 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E (cf 232)
1-L 5×3 1/2×7/16×6'-8 1/2 (crimped) F2E (cb)
4-L 5×3 1/2×1/2×1'-1 (cac 232)
4-Fills 4 1/2 UM×11/16×1'-3 (cad 232)
1-L 5×3 1/2×1/2×0'-11 1/4 (caf 232) Bolt for Ship't.
2-L 5×3 1/2×1/2×0'-11 1/4 (cap 232) Bolt for Ship't.
1-L 5×3 1/2×1/2×0'-11 1/4 (can 237) Bolt for Ship't
4-Fills 4 1/2 UM×11/16×1'-1 1/4 (cag 232)
Note "C"
Shop to place 1/16" Filler between angles when riveting. Filler to be set against web at time of riveting. Angles must be kept smooth and free from all burrs for entering beams.
Sect. A-A
Sect. B-B
Sect. C-C
Sect. D-D
Sect. E-E
Sect. F-F
Sect. G-G
Sect. K-K
Sect. M-M
Sect. N-N.
Sect. P-P
CAMBER DIAGRAM
Mill ends @ 90° to Bottom Flg.
For Field Bolt
70'-6 c. to c. Trusses
At Bottom Flg.
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M Bailey
RIVETS: 7/8"φ Unless Noted
OPEN HOLES: 15/16"φ Unless Noted
For General Notes Covering this sheet See sheet # G243
One | One | Floor Beam | FB58
SPAN 10 | Total No. Req'd | Description | Mark | Remarks | Weight each Tons
Required By SPANS | REQUIRED LIST
Date | Revision | App'd
APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-9-34
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago drawing room Moore Dry Dock Co. works
In charge Jenks
Made by G.A.K.
Checked by 7/25/34
Traced by B.W.
Last assem. mk. (sg) (cb)
Work this sheet with sheets # G226, G230, G231, G232, G233, G237, G238 & G239
CONTRACT CG15303
SHEET G-240
L2-E10



MATERIAL FOR ONE FLOOR BEAM

2 Lr G.-G. 1¼ × 68'-8⅝ M2E (sa)(sb)
2 Lr G.-G. 1¼ × 68'-8⅜ M2E (sa241)E (ss241)E
1 Web ℄ 80FEW. t. × 33'-4⅜ M1E-F1E (sd241)
1 Web ℄ 80FEW. t. × 35'-3⅜ M1E-F1E (sf)
1-Cov.℄ 12 UM × ½ × 58'-0 F2E (sg)
1-Cov.℄ Do × 40'-0 F2E (sh)
1-Cov.℄ Do × 57'-11⅞ F2E (sm 241)
1-Cov.℄ Do. × 47'-11⅞ F2E (sn 241)
1-Cov.℄ Do × 33'-11⅞ F2E (sp 241)
2 Bars SUM-¾ × 3⅞ F2E (sf 230)
2 Bars SUM-¾ × 2½ F2E (sr 230)
2 ℄s 13 1/16 × ½ × 5'-8 F2E (sw 230)
2 ℄s 6 × 4 × ⅝ × 6'-7⅝ F2E (sa 241)E Bent
2 Lr 7 × 4 × ⅝ × 6'-7⅝ F2E (cb 241)E Bent
4 Fills 6½ × ½ × 5'-8 (cc 230) M.W. (Ord. SUM × 1/16")
2 Lr 5 × 3½ × ⅝ × 6'-8⅝ (crimped) F2E (cd 230)E
4 Lr 5 × 3½ × ½ × 6'-8⅛ (crimped) F2E (cc 241)E
4 Lr 5 × 3½ × 7/16 × 6'-8⅛ (crimped) F2E (cd 241)E
4 Lr 5 × 3½ × ½ × 1'-1⅝ (cf 241)E
4 Lr 5 × 3½ × ½ × 1'-1⅝ (sm 230)E
4-27 BI-145 × 1'-9 (cn 241)E
2 Lr 5 × 3½ × 7/16 × 6'-8¼ (crimped) F2E (sp 241)E (ss241)E
3 Lr 5 × 3½ × ½ × 9⅝ (cm 236)
3 Lr 5 × 3½ × ½ × 9⅝ (caa 232)
2 Lr 5 × 3½ × 7/16 × 6'-8¼ (crimped) F2E (sf 231)E (sv 231)E
2 Lr 5 × 3½ × 7/16 × 6'-8¼ (crimped) F2E (sv 241)E (sy 241)E
2 Lr 5 × 3½ × 7/16 × 6'-8⅛ (crimped) F2E (sv 241)E (sy 241)E
2 Lr 5 × 3½ × 7/16 × 6'-8⅛ (crimped) F2E (saa) (sy 233)E
1 L 5 × 3½ × ½ × 1'-1⅛ (cbg 239)E
1 L 5 × 3½ × ½ × 1'-1⅛ (cac 236)E
2 Lr 5 × 3½ × 7/16 × 6'-8⅛ (crimped) F2E (cac 241)E
2 Lr 5 × 3½ × ½ × 11⅛ Bolt-(cad 241)E
2 Lr 5 × 3½ × 7/16 × 6'-8⅛ (crimped) F2E (caf 241)E
2 Lr 5 × 3½ × ½ × 11⅛ Bolt+ (cag 241)E
2 Lr 5 × 3½ × 7/16 × 6'-8⅛ (crimped) F2E (cah)E
2 Lr 5 × 3½ × ½ × 1'-7⅞ Bolt+ (cal)E
1-24 BI 76 × 1'-8¼ (cam) ¾
1-24 BI 76 × 2'-5⅜ (caz)
3-24 BI 80 × 1'-9⅜ (caf) (cau) (caw)
8 Lr 6 × 4 × ½ × 5 (cag 241)
6 Lr 6 × 4 × ½ × 5 (cbd 241)
14 Lr 3½ × 3½ × 7/16 × 1'-8 M1E (cbb 241)E
14 Fills 3½ UM × ½ × 1'-2⅛ (cbc 241)
1-L 8 × 4 × ½ × 0'-9¼ (cbd)
1-L 8 × 4 × ½ × 0'-9⅛ (cbf)
1 L 8 × 4 × ½ × 1'-1⅞ (cbg)
1 ℄ 12 UM × 7/16 × 1'-7⅞ (cbk)
1 ℄ 10½ UM × 7/16 × 1'-1 (cbh 241)
2 Lr 6 × 3½ × ½ × 1'-10 (cbm)E
1 ℄ 12 UM × 7/16 × 1'-9⅜ (cbn)
2 Lr 7⅞ × 4 × ½ × 1'-10 (cat 231)(cbp)E
1 ℄ 12 UM × 7/16 × 1'-9 (cbs)
2 Lr 5 × 3½ × ½ × 1'-10 (cbt 241)E
2 Lr 4 × 3½ × ½ × 1'-8 (cbv)
5 Fills 9½ × ¾ × 1'-2 (cbw 241) Bolt
2 Fills 9½ × 7/16 × 1'-0 (cby 241) Bolt
1-L 8 × 4 × ½ × 0'-9¼ (ccf)
1-L 8 × 4 × ½ × 0'-9⅜ (ccg)
1 Fill 9½ × ½ × 1'-2 (cca 241) Bolt
5 Fills 9½ × ¾ × 1'-2 (ccb 241) Bolt
6 Dev. Fills 4 UM × 7/16 × 1'-2 F1S (cac 241) Bolt
2 Fills 4½ UM × ½ × 1'-3⅜ (cad 230)
4 Fills 4½ UM × 7/16 × 1'-1⅜ (cay 232)
2 Fills 4½ UM × ½ × 1'-3⅛ (cak 232)
1 Fill 4 UM × 7/16 × 1'-2⅞ (ccd)
1-24 BI 74 × 1'-8½ (cap)
1-24 BI 74 × 1'-8⅝ (cap)
1-L 8 × 7 × ½ × 2'-9¾ (cch)
1-L 8 × 4 × ½ × 0'-9¼ (cck)





SPAN 9	One Floor Beam	F859		
No.	Description	Mark	Remarks	Weight Each Piece

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: cx, cb, ctc., for silicon steel with s, thus: sx, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey.
RIVETS: ⅞ Unless noted.
OPEN HOLES: 15/16 Unless noted.

APPROVED
Date ____ Director ____ Asst. ____
Engineer of Design
Bridge Engineer
Chief Engineer
Date 8-9-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
2880 Truss Spans - Piers 59 to E23
McCLINTIC-MARSHALL, CORPORATION
Chicago DRAWING ROOM Moore Dry Dock WORKS
IN CHARGE ____ Jones ____ MADE BY ____ GHK
CHECKED BY ____ TRACED BY ____
LAST ADD'TN. MK. (39) (cck)

For general notes see sheet G243
For sections A-A, B-B, C-C, D-D, E-E, F-F, G-G, K-K see sheet G243

Work this sheet with sheets G230, 232, 234, 240, 243, 293, 235

CONTRACT C015803 SHEET 9 241

LB-E9

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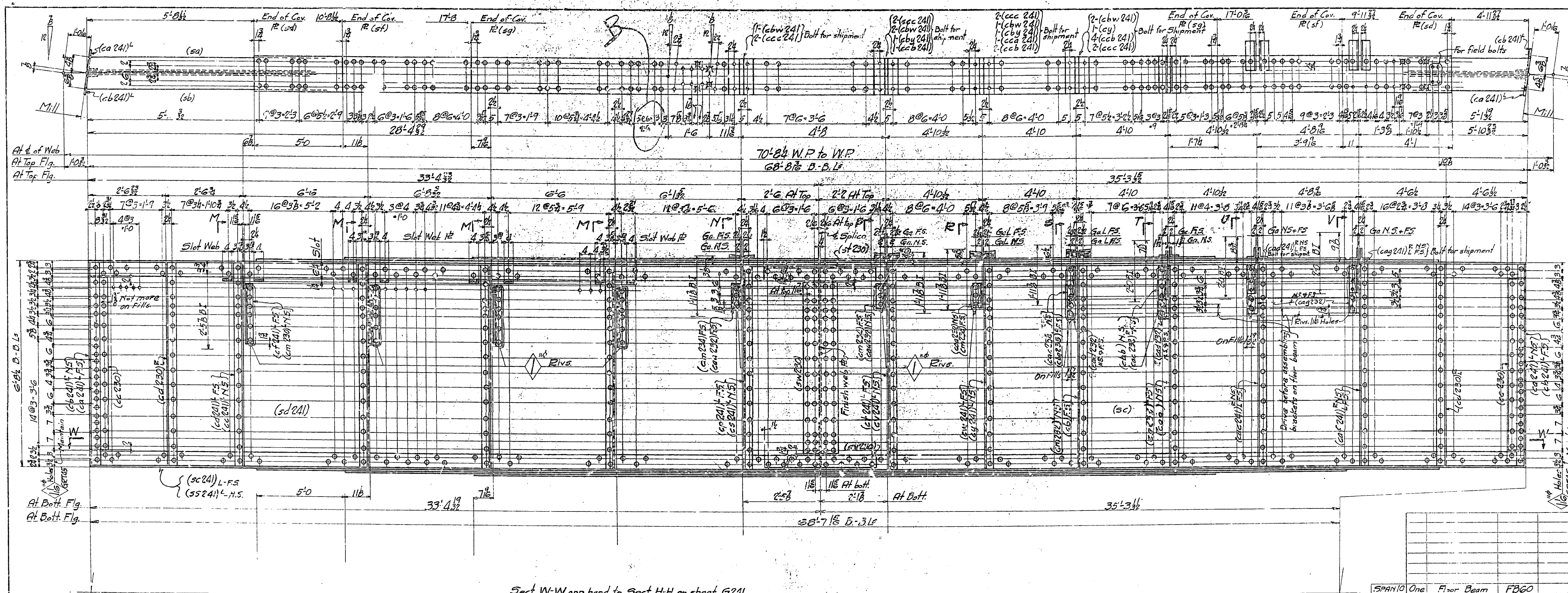
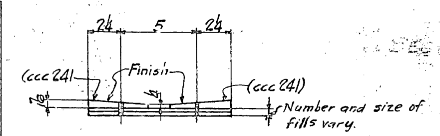


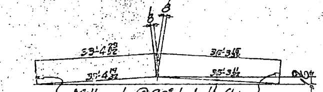
Sect. W-W opp. hand to Sect. H-H on sheet G241

MATERIAL FOR ONE FLOOR BEAM

1 L 6 x 6 x 11/16 x 68'-8 5/8 M2E (sa)
1 L 6 x 6 x 11/16 x 68'-8 5/8 M2E (sb)
2 Ls 6 x 6 x 11/16 x 68'-8 5/8 M2E (sc241)L (ss241)L
1 Web Pl 80F2W x 1/2 x 33'-4 19/32 M1E-F1E (sd241)
1 Web Pl 80F2W x 1/2 x 35'-3 1/32 M1E-F1E (sc)
1 Cov. Pl 14UM x 1/2 x 58'-0 F2E (sd)
1 do 48'-0 F2E (sf)
1 do 34'-0 F2E (sg)
1 do 57'-11 3/4 F2E (sm241)
1 do 47'-11 3/4 F2E (sn241)
1 do 33'-11 7/8 F2E (sp241)
2 Bars 5UM x 3/4 x 3'-7 7/8 F2E (st230)
2 Bars 5UM x 3/4 x 3'-6 7/8 F2E (s.230)
2 Pls 13UM x 7/16 x 5'-8 F2E (sw230)
2 Ls 6 x 4 x 5/8 x 6'-1 1/8 F2E (ca241)L Bent
2 Ls 7 x 4 x 5/8 x 6'-7 7/8 F2E (cb241)L Bent
4 Fills 6 7/8" x 11/16 x 5'-8 (cc230) M.I.W. (Ord. 7 U.M. x 11"/16)
4 Ls 5 x 3 1/2 x 3/8 x 6'-8 1/2 (crimped) F2E (cd230)R L
4 Ls 5 x 3 1/2 x 7/16 x 6'-8 1/2 (crimped) F2E (cc241)L
4 Ls 5 x 3 1/2 x 7/16 x 6'-8 1/2 (crimped) F2E (cd241)L
4 Ls 5 x 3 1/2 x 1/2 x 1'-11 3/8 (cf241)L
4 Ls 5 x 3 1/2 x 1/2 x 1'-11 3/8 (cm230)L
4-27 BI-145 x 1'-9 (cn241)L
1 L 5 x 3 1/2 x 7/16 x 6'-8 1/2 (crimped) F2E (cp241)L
1 L 5 x 3 1/2 x 7/16 x 6'-8 1/2 (crimped) F2E (cs241)L
3 Ls 5 x 3 1/2 x 1/2 x 9 1/4 (cm234)
3 Ls 5 x 3 1/2 x 1/2 x 9 1/4 (caa232)
1 L 5 x 3 1/2 x 7/16 x 6'-8 1/2 (crimped) F2E (ct241)L
1 L 5 x 3 1/2 x 7/16 x 6'-8 1/2 (crimped) F2E (cv241)L
1 L 5 x 3 1/2 x 7/16 x 6'-8 1/2 (crimped) F2E (cw241)L
1 L 5 x 3 1/2 x 7/16 x 6'-3 1/2 (crimped) F2E (cy241)L
1 L 5 x 3 1/2 x 7/16 x 6'-8 1/2 (crimped) F2E (cg233)L
1 L 5 x 3 1/2 x 7/16 x 6'-3 1/2 (crimped) F2E (caa)
2 Ls 5 x 3 1/2 x 1/2 x 1'-1 (cac232)R L
1 L 5 x 3 1/2 x 7/16 x 6'-... (crimped) F2E (cm232)L
1 L 5 x 3 1/2 x 7/16 x 6'-8 1/2 (crimped) F2E (cb)
2 Ls 5 x 3 1/2 x 7/16 x 6'-8 1/2 (crimped) F2E (cac241)R L
2 Ls 5 x 3 1/2 x 1/2 x 11 1/4 Bolt 1-(cad241)R L
2 Ls 5 x 3 1/2 x 7/16 x 6'-8 1/2 (crimped) F2E (caf241)R L
2 Ls 5 x 3 1/2 x 1/2 x 11 1/4 Bolt 1-(cag241)R L
4 Fills 4 1/2 UM x 11/16 x 1'-3 (cad232)
4 Fills 4 1/2 UM x 11/16 x 1'-1 1/4 (cag232)
1-24 BI 74 x 1'-8 1/2 (cd)
1 do 1'-8 1/2 (cf)
1 do 1'-8 1/2 (cg)
1 do 1'-8 1/2 (ch)
1-24 BI-80 x 2'-5 1/4 (ck)
1-24 BI-30 x 1'-9 3/4 (cm)
1-24 BI-80 x 1'-9 3/4 (cn)
14 Ls 3 1/2 x 3 1/2 x 3/8 x 1'-8 M1E (cbb241)R L
14 Fills 3 1/4 UM x 1/2 x 1'-2 1/4 (cbc241)
1 L 8 x 4 x 1/2 x 9 1/4 (cag)
1 L 8 x 4 x 1/2 x 9 1/4 (cah)
8 Ls 6 x 4 x 1/2 x 5 (cay241)
6 Ls 6 x 4 x 1/2 x 5 (cba241)
2 Fills 10 1/2 UM x 7/16 x 1'-1 (cbh241)
1 Fill 12 UM x 7/16 x 1'-7 7/8 (cp)
2 Ls 6 1/2 x 4 x 1/2 x 1'-0 (cs)R (Cut 7.4L)
1 Fill 12 UM x 7/16 x 1'-9 (ct)
2 Ls 5 x 3 1/2 x 1/2 x 1'-0 (cbt241)R L
2 Ls 4 x 3 1/2 x 1/2 x 1'-2 (cw)
6 Fills 9 1/2 x 1/8 x 1'-2 (cbw241) } Bolt
2 Fills 9 1/2 x 7/16 x 1'-2 (cby241) } Bolt
1 Fill 9 1/2 x 1/4 x 1'-2 (cy) } Bolt
1 Fill 9 1/2 x 1/2 x 1'-2 (cca241) } Bolt
7 Fills 9 1/2 x 3/4 x 1'-2 (ccb241) } Bolt
8 Bev. Fills 4 UM x 7/16 x 1/4 x 1'-2 (ccc241) F1S-Bolt
1-L 5 x 3 1/2 x 1/2 x 1'-1 (cbg235)L
1-L 5 x 3 1/2 x 1/2 x 1'-1 (cab)
1-L 8 x 4 x 1/2 x 0'-9 1/4 (cak)
1-L 8 x 4 x 1/2 x 0'-9 1/4 (cac)
1-L 8 x 4 x 1/2 x 0'-9 1/4 (cam)
1-L 8 x 4 x 1/2 x 0'-9 1/4 (cad)
1-L 8 x 4 x 1/2 x 0'-9 1/4 (caf)



Enlarged view of fills on top flg.



CAMBER DIAGRAM

SPAN 10 One	Floor Beam	FB60		
No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 7/8" Unless noted
OPEN HOLES: 15/16" Unless noted.

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-7-34

For general notes see sheet G243
For sections M-M, N-N, P-P, R-R, S-S, T-T, U-U, V-V see sheet G243

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 TRUSS SPANS - PIERS E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Moore Dry Dock WORKS
IN CHARGE Jenks MADE BY GAK.
CHECKED BY 7/25/34 TRACED BY R.J.L. 7-18-34
LAST ASSEM. MK. (sg) (cam)

Work this sheet with sheets G230, 232, 234, 241, 243, 233, 235

CONTRACT CG15803 SHEET G 242

LO-E10

Rev B 11/21/34

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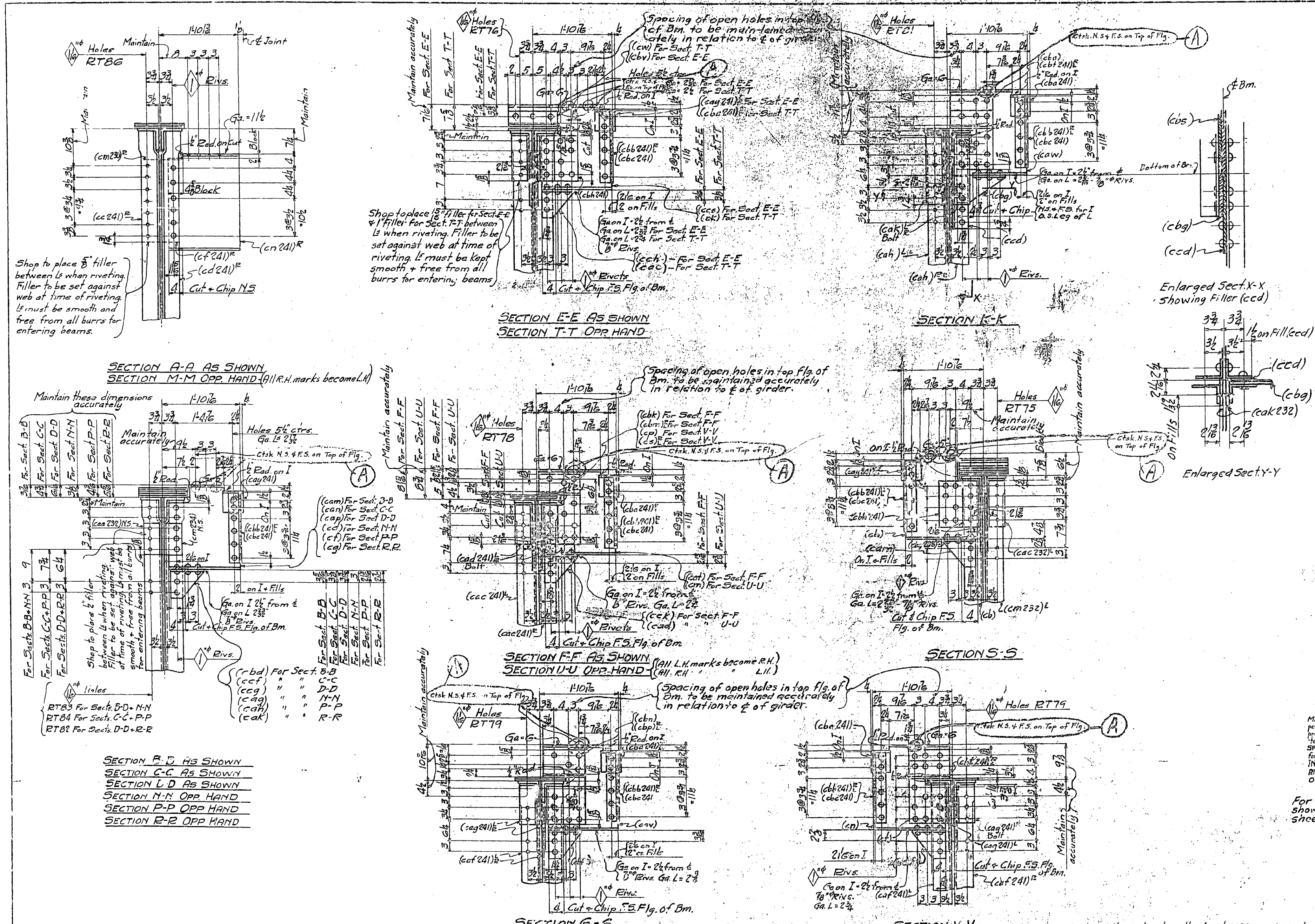


GENERAL NOTES FOR SHEETS G226, G230 to G243

PUNCHING:- All holes in material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly. See note "A."

DRILLING:- All holes in material over ¾" thick to be sub-drilled ⅛" and reamed to size after assembly or drilled from the solid.

FINISH:- All sheared or flame cut edges and ends of material to have a neat appearance and where indicated to be planed to remove at least ⅛" of metal.

SHOP PAINT:- None, except that the following are to be given one coat of "Acid Resisting Liquid":-

(a) Contact surfaces at parts entirely bolted for shipment.

(b) Milled surfaces at top of bearing ℞s (cs)(ct)(caw)(cba) and (cbb) on sheet G231. These surfaces to be coated imediately after finishing.

(c) Surfaces between lug Ls and stiffener Ls, or other such surfaces not readily accessible for field sand blasting.

APPLICATION OF PAINT:- All surfaces to be painted to be cleaned and scraped before painting, except finished surfaces of ℞s (cs)(ct)(caw)(cba) and (cbb) on sheet G231.

Paint on contact surfaces at parts bolted for shipment to be allowed to dry before assembly.

HOLES Ⓧ:- Shipping bolts to be placed in holes marked Ⓧ. At these holes, contact surfaces for parts not entirely bolted for shipment to be cleaned and scraped before assembly.

SHIPPING BOLTS:- All shipping bolts to be drawn up sufficiently tight to exclude foreign particles during shipment and field sand blasting.

WELDING:- Contact surfaces at welded parts to be cleaned and scraped before assembly, and clamped tight while welding.

NOTE "A":

Holes marked "GRT" to be reamed or drilled full size thru metal templets furnished by Chicago Works - McClintic-Marshall Corp.

Holes marked "RT" to be reamed or drilled full size thru metal templets furnished by Moore Dry Dock Corporation.

Backs of end conn. Ls need not be milled, but shall lay in same plane as milled ends of girders whether girders are milled square or on a skew.

Shop to place all erection marks on left hand end of members as detailed and in an upright position. Marks to be put on with both steel stencils and paint.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus; ca, cb, etc. for silicon steel with s, thus; sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: ⅞" Unless noted.
OPEN HOLES: 15/16" Unless noted.

For location of sections shown on this sheet see sheets G241, & G242.

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-7-34

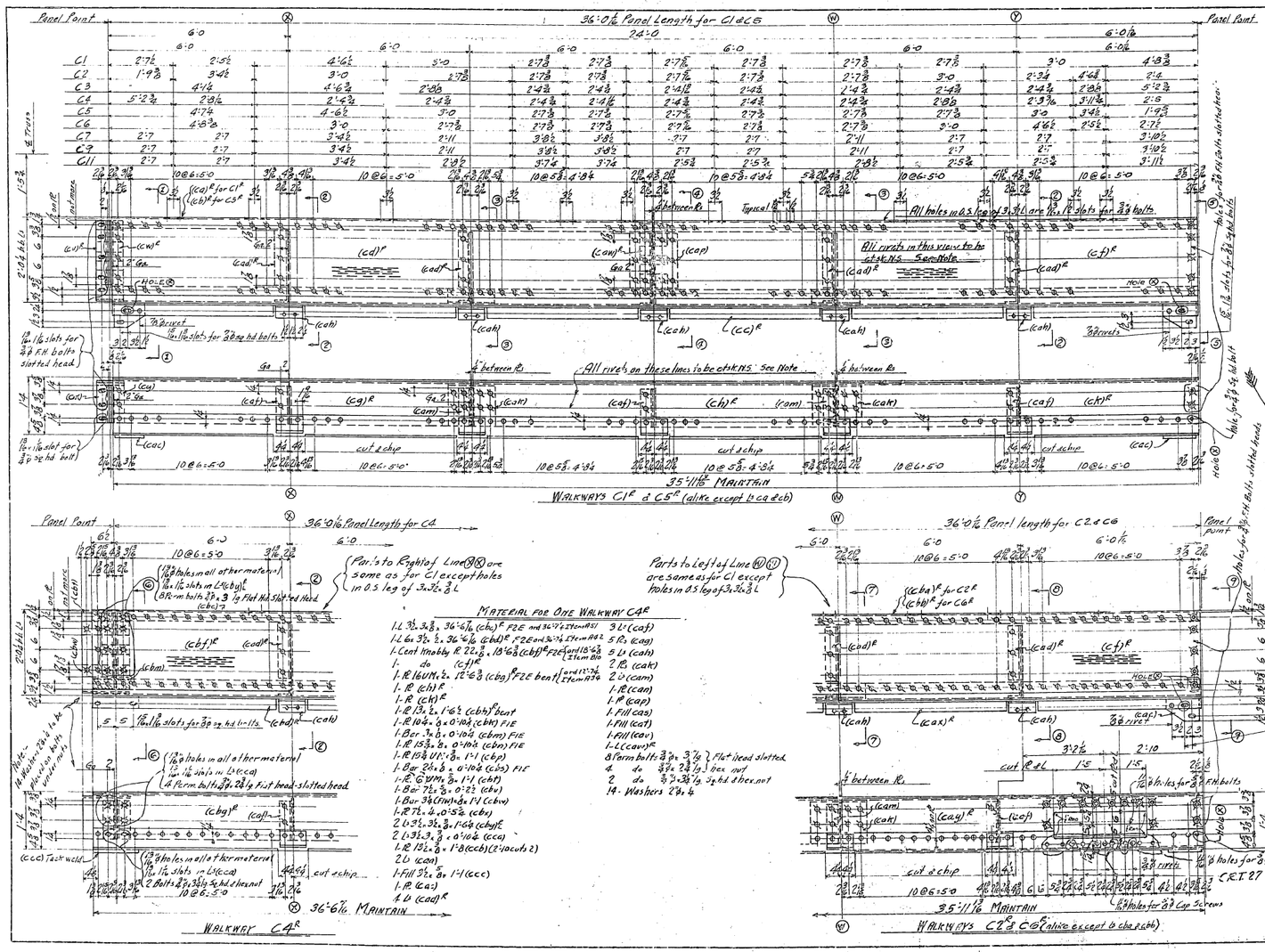
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
286'-0" Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Moore Dry Dock WORKS
IN CHARGE Jenks MADE BY G.A.K.
CHECKED BY 8-7-34 TRACED BY E.J.L. 7-19-34
LAST ASSEM. MK.

CONTRACT C915803 SHEET G 243

Rev. Ⓐ 9-10-34 E.J.J.

30-1



MATERIAL FOR ONE WALKWAY C1R

1-L 3½ x 3⅜ x 36'-6 1/16 (chc)R FZE and 36'-7½ Item A91
1-L 6x 3½ x ½ x 36'-6 1/16 (cbd)R FZE and 36'-7½ Item A92
1-Cent Knobby R 22⅜ x 18'-6⅜ (cbf)R FZE for 18'-6⅜ Item B01
1- do (cf)R
1-R 16 UM x ½ x 12'-6⅜ (cbg)R FZE bent (and 12'-7¼ Item A30)
1-R (ch)R
1-R (ck)R
1-R 13½ x 1'-6½ (cbh)R bent
1-R 10¾ x 0'-10⅜ (cbk) FIE
1-Bar 3½ x 0'-10½ (cbm) FIE
1-R 15⅜ x 0'-10½ (cbn) FIE
1-R 15⅜ UM x ⅜ 1'-1 (cbp)
1-Bar 2½ x ⅜ x 0'-10½ (cbs) FIE
1-R 6 UM x ⅜ 1'-1 (cbt)
1-Bar 7½ x ⅜ 0'-2½ (cbu)
1-Bar 3⅜ (FLAT) x ⅜ 1'-1 (cbw)
1-R 7½ x ⅜ 0'-5⅝ (cbx)
2 L 3½ x 3½ x ⅜ 1'-6½ (cby)E
2 L 3½ x 3½ x ⅜ x 0'-10½ (ccc)
1-R 19½ x ⅜ x 1'-8 (ccb) (2-10 cuts 2)
2 L (can)
1-Fill 3½ x ⅜ x 1'-1 (ccc)
1-R (ca)
4 L (cad)R
3 L (caf)
5 Rs (cag)
5 L (cah)
2 Rs (cak)
2 L (cam)
1-R (can)
1-R (cap)
1-Fill (cas)
1-Fill (cat)
1-Fill (cav)
8 Perm Bolts ⅞ø x 3⅛ lg } Flat head slotted
4 do ⅞ø x 2⅜ lg } Hex nut
2 do ⅞ø x 2⅜ lg 3½ hd. chex nut
14 Washers 2⅜ x 4

MATL FOR ONE WALKWAY C2R OR ONE C6R

1-L 3½ x 3⅜ x 35'-11 15/16 (cha)R FZE for C2R (and 36'-0½ Item A91)
1-L 3½ x 3⅜ x 35'-11 15/16 (chb)R FZE for C6R (and 36'-0½ Item A91)
1-L 6 x 3½ x ½ x 35'-11 15/16 (ccd)R FZE and 36'-0½ Item A90
1- Cent. Knobby R 22⅜ x 17'-11 15/16 (cdf)R FZE (Item B7)
1- do (cf)R
1-R 16 UM x ½ x 11'-11 15/16 (cdg)R FZE bent } (and 12'-0½ Item A31)
1-R 19 UM x ½ x 11'-11 15/16 (cay)R FZE bent
1-R (cm)R
1-R (cn)
1-Fill (cp)
1-Fill (cs)
1-Fill (ct)
1-L (cv)R
1-L (cw)R
1-L (cx)
1-L (cy)
2-L (caa)
1-R (cah)
2 Rs (cac)
4-L (cad)R
3-L (caf)
5-Rs (cag)
5-L (cah)
2-Rs (cak)
2-L (cam)
1-R (can)
1-R (cap)
1-Fill (cas)
1-Fill (cat)
1-Fill (cav)
1- L (cay)R

Note- Rivets shown thus ⊕ thru Central Knobby Walk plates to be ctsk and have a maximum height not more than the height of pattern on plate. All other rivets shown thus ⊕ to be ctsk and have a maximum height of 1/8

For Sects 1 to 9 see Sheet (G250EE)

Work this sheet with sheets (G250RE to EE incl)

Shop to paint Erection Marks on Left hand end of member as detailed and in upright position. Shop to put shipping bolts in holes Ⓧ and draw same up tight. Erector to remove in Field.

TACK WELDING- Where parts are tack welded, contact surfaces must be thoroughly cleaned and scraped before assembly, parts must be clamped tight and aligned in such a manner as to permit entering of no foreign substance during the sand blasting.
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special & State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: ⅞ø unless noted.
OPEN HOLES: 13/16ø unless noted.
Punching: all holes to be punched full size except holes marked R.T. which are to be subpunched ¼" & reamed to size thru a metal templet.
Finish- All sheared or flame cut edges and ends of material to have a neat appearance and when designated to be ground, shall be ground. Chip and grind, or otherwise cut to a finish so that members present a neat appearance and conform to dimensions given on drawings. Ends of all assembled members must present a NEAT appearance.
SHOP PAINT: None, except as outlined below which shall be given one coat of "ACID RESISTING LIQUID".
All surfaces exposed by the elements not readily accessible for field sand blasting.
All contact surfaces of parts bolted together.
All painted surfaces must be thoroughly cleaned and scraped before paint is applied.
Bolted parts to be assembled after paint is dry and bolts drawn up tight.

Leach Span	12	WALKWAYS	C6R	as shown
do	12	do	C6L	opp hand to C6R
do	12	do	C5R	as shown
do	12	do	C5L	opp hand to C5R
do	12	do	C4R	as shown
do	12	do	C2R	as shown
do	12	do	C2L	opp hand to C2R
do	12	do	C1R	as shown
do	12	do	C1L	opp hand to C1R
Spans 11 to 22				

Quantity each Unit	Description	Mark	Remarks	Weight

REQUIRED LIST

Date	Revision	Appd

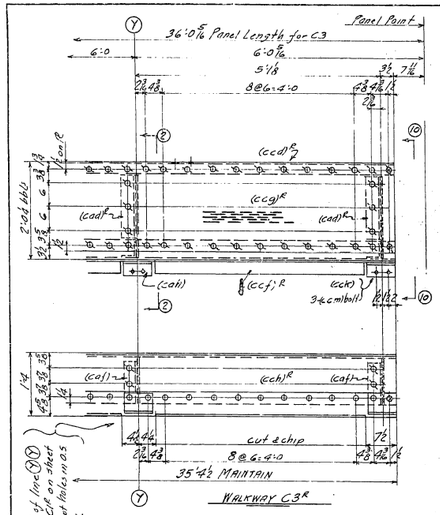
APPROVED

Engineer in Charge
Bridge Engineer
Chief Engineer
4/14/36
Date

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

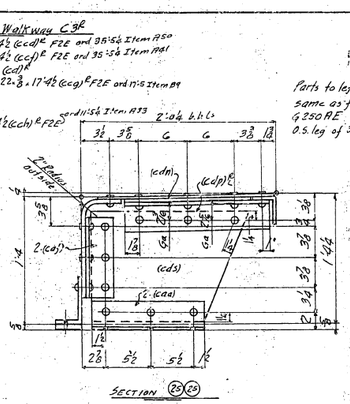
Chic 499 DRAWING ROOM Tucker Pacific WORKS
IN CHARGE Rothang ISSUED BY LGV 3-13-36
CHECKED BY A.T.A. 3-23-36 TRACED BY
LAST ASSEMBLY

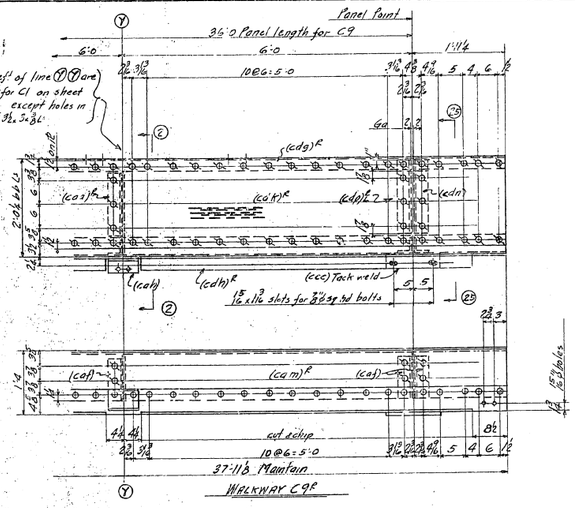
CONTRACT 661B03 SHEET G 250 RE



Material for One Walkway C3R

1-L 3½ x 3 x ⅜ x 35'-4½ (ccd)R FZE and 35'-5¼ Item A50
1-L 6 x 3½ x ½ x 35'-4½ (ccf)R FZE and 35'-5¼ Item A51
1-Cent. Knubby R (cd)R
1- do 22-⅜ x 17'-4½ (ccg)R FZE and 17'-6 Item B9
1-R (cg)R
1-R (ch)R
1-R 16 UM x ½ x 11'-4½ (cch)R FZE
1-R (cm)R
1-R (cn)
1-Fill (cp)
1-Fill (cs)
1-Fill (ct)
1-L (cv)R
1-L (cw)R
1-L (cx)
1-L (cy)
2 Lb (caa)
1-R (cab)
1-R (cac)
5 Lb (cad)R
6 Lb (caf)
6 Rs (cag)
5 Lb (cah)
2 Rs (cak)
2 Lb (cam)
1-R (can)
1-R (cap)
1-Fill (cas)
1-Fill (cat)
1-Fill (cav)
1-L (caw)R
1-L 4½ x 3½ x ½ x 0'-7 (cck)R cut 6 @ 3½
3-Shims 5½ x ⅛ x 0'-7 (ccm) bolt





Material for One Walkway C9R

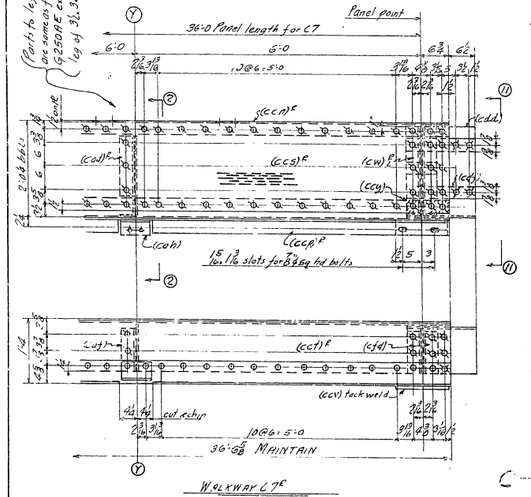
1-L 3½ x 3 x ⅜ x 37'-11⅛ (cda)R FZE and 38'-0 Item A58
1-L 6 x 3½ x ½ x 37'-11⅛ (cdh)R FZE and 38'-0 Item A96
1-Cent. Knobb, R (cd)R
1- do 22-⅜ x 19'-11⅛ (cdk)R FZE and 19'-11⅞ Item B15
1-R (cg)R
1-R (ch)R
1-R 16 UM x ½ x 13'-11⅛ (cdm)R FZE and 14'-0 A37
1-R (cm)R
1-R (cn)
1-Fill (cp)
1-Fill (cs)
1-Fill (ct)
1-L (cv)R
1-L (cw)R
1-L (cx)
1-L (cy)
4-Lb (caa)
1-R (cab)
1-R (cac)
1-R (ccc) Tack weld
4 Lb (cad)R
5-L (caf)
5-Rs (cag)
5-Lb (cah)
2-Rs (cak)
2-Ls (cam)
1-R (can)
1-R (cap)
1-Fill (cas)
1-Fill (cat)
1-Fill (cav)
1-L (caw)R
1-R 7½ x ⅜ x 1'-3⅜ (cdn)
2-D 3½ x 3½ x ⅜ x 1'-6¼ (cdp)E
1-R 14 x ⅜ x 1'-8 (cds) (2-10 cuts 2)

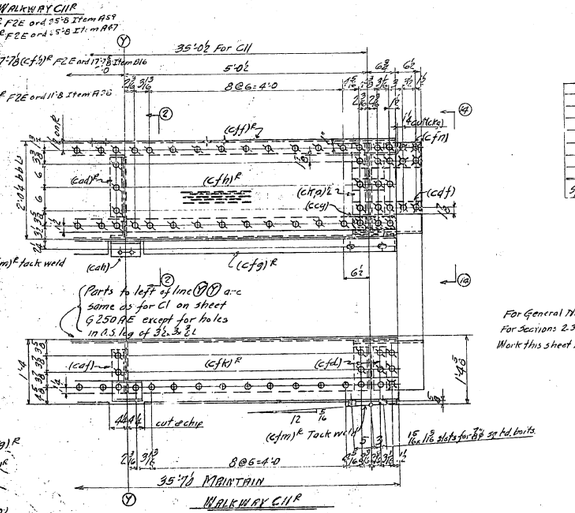
Material for One Walkway C7R

1-L 3½ x 3 x ⅜ x 36'-6⅜ (ccw)R FZE and 36'-7¼ Item A56
1-L 6 x 3½ x ½ x 36'-6⅜ (ccx)R FZE and 36'-7¼ Item A44
1-Cent. Knobby R (cd)R
1- do 22-⅜ x 18'-6⅜ (ccs)R FZE for 18'-7⅛ Item B10
1-R (cg)R
1-R (ch)R
1-R 16 UM x ½ x 12'-6⅜ (cct)R FZE and 12'-7½ Item A34
1-R (cm)R
1-R (cn)
1-Fill (cp)
1-Fill (cs)
1-Fill (ct)
1-L (cv)R
2-Lb (cw)R
1-L (cw)R
1-L (cx)
1-L (cy)
2 D ⅞ x 3 x ⅜ x 0'-10 4/6 (cd)
4 Lb (caa)
1-R (cab)
1-R (cac)
1-Fill 3½ x ⅜ x 1'-1 (ccv) tack weld
4 Lb (cad)R
3 Lb (caf)
5 Rs (cag)
5 Lb (cah)
2 Rs (cak)
2 Ls (cam)
1-R (can)
1-R (ccp)
1-Fill (cc)
1-Fill (c)
1-R (ccu)
1-L (ccw)R
1-R 17 x ⅜ x 1'-6⅞ (ccw)R cut
1-R 10 x ½ x 0'-10⅜ (ccx) FIE
1-Bar 3 x ½ x 0'-10⅜ (ccy) FIE
1-R 15⅜ x ⅜ x 0'-10⅜ (cdd) FIE
1-R 15⅜ x 11 7/16 x ⅜ x 1'-5 (cdh)
1- Bar 28 x ⅜ x 0'-10⅜ (cde) FIE
1-R 6 UM x ⅜ x 1'-5 (cdd)
1-Bar (cbv)
1-Bar 3½ (1M) x ⅜ x 1'-5 (cdf)
1-R (ccb)
1-R (ccc)

Material for One Walkway C11R

1-L 3½ x 3 x ⅜ x 35'-7⅞ (ccf)R FZE and 35'-8 Item A57
1-L 6 x 3½ x ½ x 35'-7⅞ (ccg)R FZE and 35'-8 Item A97
1-Cent. Knobby R (cd)R
1- do 22-⅜ x 17'-7⅞ (cfd)R FZE and 17'-8⅜ Item B16
1-R (cg)R
1-R (ch)R
1-R 16 UM x ½ x 11'-7⅞ (cfh)R FZE and 11'-8 Item A76
1-R (cm)R
1-R (cn)
1-Fill (cp)
1-Fill (cs)
1-Fill (ct)
1-L (cv)R
1-L (cw)R
2-L 3½ x 3½ x ⅜ x 1'-6¼ (cft)R
1-L (cx)
1-L (cy)
2 D (cfd)
2 D (cfe)
1-R (cab)
1-R (cac)
1-Bent Fill 18 x 1⅞ x 7/16 x 0'-3½ (cfm)R tack weld
4 D (caa)R
3 Lb (caf)
5 Rs (cag)
5 Lb (cah)
2 Rs (cak)
2 D (cam)
1-R (can)
1-R (cap)
1-Fill (cas)
1-Fill (cat)
1-Fill (cav)
1-L (caw)R
1-R (ccu)
1-Bar (ccy)
1-R (cqg)
1-R 18 x 11 UM x ⅜ x 1:5 (cfg)R
1-Bar (cdc)
1-R 6 UM x ⅜ x 1:5 (cfn)R
1-Bar (cbv)
1-Bar (cdf)
1-R 7½ x ⅜ x 0'-5½ (cfp)
1-R 13½ UM x ⅜ x 1'-3⅝ (cfm)
1-L 5 x 3½ x ⅜ x 1'-11⅝ (cf3) bent
1-L 5 x 9½ x ⅜ x 1'-11⅝ (cf1) bent
2-L 3½ x 3½ x ⅜ x 0'-10 (cfn) 1/2 bolt
3-Form bolts ⅞ x 3½ c. to c. to nut





Material for One Walkway C9L

1-L 3½ x 3 x ⅜ x 37'-11⅛ (cda)R FZE and 38'-0 Item A58
1-L 6 x 3½ x ½ x 37'-11⅛ (cdh)R FZE and 38'-0 Item A96
1-Cent. Knobb, R (cd)L
1- do 22-⅜ x 19'-11⅛ (cdk)R FZE and 19'-11⅞ Item B15
1-R (cg)R
1-R (ch)L
1-R 16 UM x ½ x 13'-11⅛ (cdm)R FZE and 14'-0 A37
1-R (cm)R
1-R (cn)
1-Fill (cp)
1-Fill (cs)
1-Fill (ct)
1-L (cv)R
1-L (cw)R
1-L (cx)
1-L (cy)
4-Lb (caa)
1-R (cab)
1-R (cac)
1-R (ccc) Tack weld
4 Lb (cad)R
5-L (caf)
5-Rs (cag)
5-Lb (cah)
2-Rs (cak)
2-Ls (cam)
1-R (can)
1-R (cap)
1-Fill (cas)
1-Fill (cat)
1-Fill (cav)
1-L (caw)R
1-R 7½ x ⅜ x 1'-3⅜ (cdn)
2-D 3½ x 3½ x ⅜ x 1'-6¼ (cdp)L
1-R 14 x ⅜ x 1'-8 (cds) (2-10 cuts 2)

				1	WALKWAY	C11R	as shown
				1	do	C11L	opp hand to C11R
		leach span		6	do	C9R	as shown
		do		6	do	C9L	opp hand to C9R
			leach span	5	do	C7R	as shown
			do	5	do	C7L	opp hand to C7R
	1	do	do	12	do	C3R	as shown
	1	do	do	12	do	C3L	opp hand to C3R
Span 22	3 spans 14+21	5 spans 11+15	Total	Description	Mark	Remarks	Weight Each Item

REQUIRED LIST

For General Notes see sheet G 250 AE
For Sections 2-3-4-10-11-12 — 14 see sheet G 250 EE
Work this sheet with sheets G 250 AE-CE-DE-EE

Date	Revision	Appd

APPROVED

Chief Engineer	Engineer of Design
Chief Asst Engr	Bridge Engineer
Chief Asst Engr	Chief Engineer

Date 4/4/36

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING NO. 1083 Judson Pac/ic WORKS
IN CHARGE Hartberg MADE BY LGT 3/11/36
CHECKED BY ATA 3-23-36 TRACED BY
LAST ASSIST. DR.

CONTRACT 0416803 SHEET G 250 BE

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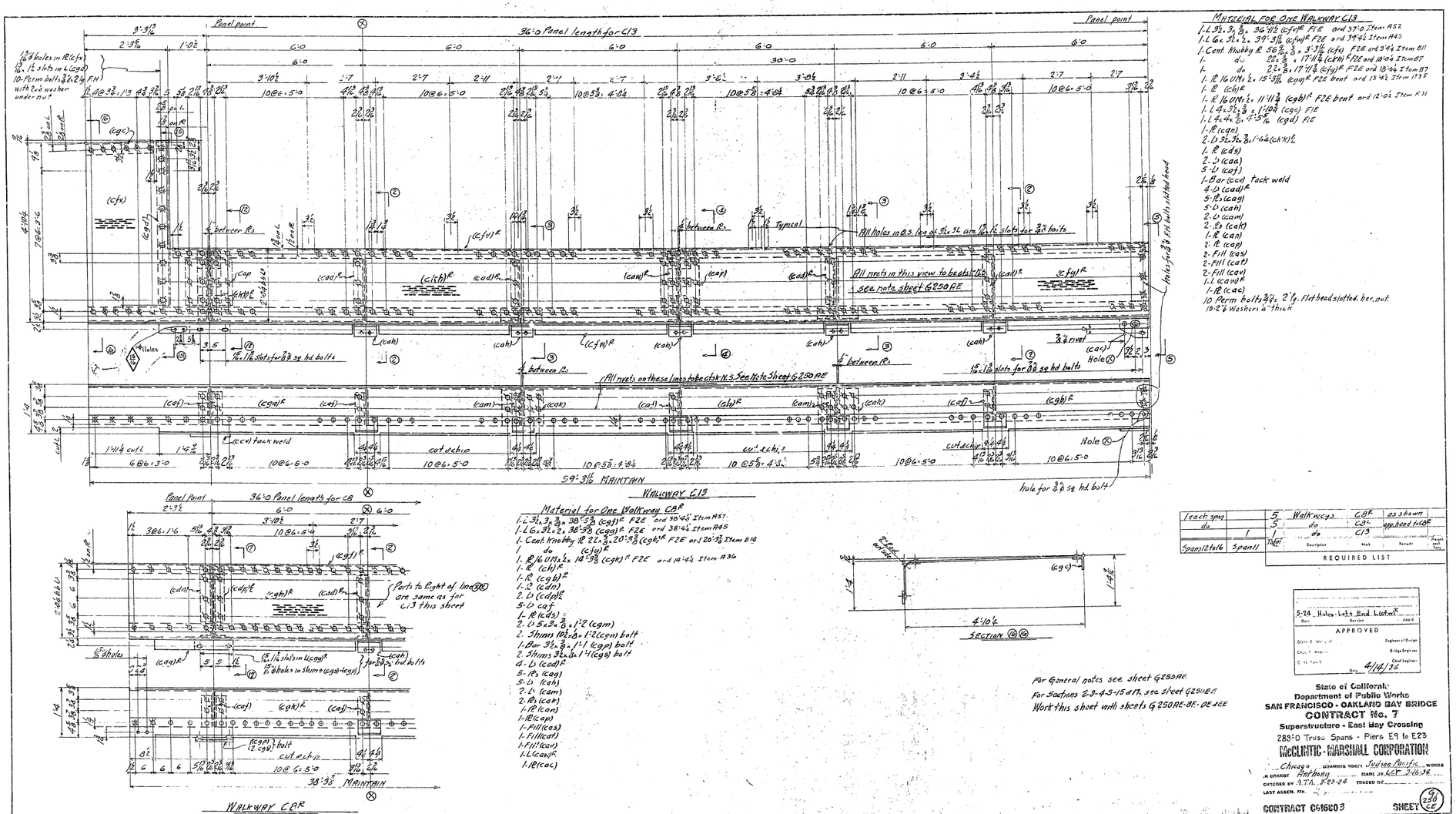


Material for One Walkway C13

1-L 3½ x 3½ x ⅜ x 36'-4⅛ (cfx)R F2E ord 37'-0 Item A52
1-L 6 x 3½ x ⅜ x 39'-3⅛ (cfy)R F2E ord 39'-6½ Item A40
1- Cent. Knobby R 56 x ⅜ x 3'-3⅛ (cfx) F2E ord 3'-4½ Item B11
1- do 22 x ⅜ x 17'-11⅞ (cfh)R F2E ord 18'-0½ Item B7
1- do 22 x ⅜ x 17'-11⅞ (cfg)R F2E ord 18'-0½ Item B7
1- R 16 UM x ½ x 15'-3⅝ (cgq)R F2E bent ord 13'-6½ Item F35
1- R (ch)R
1- R 16 UM x ½ x 11'-11⅞ (cgb)R F2E bent ord 12'-0½ Item F31
1- L 4 x 3½ x ⅜ x 1'-10⅞ (cgc) F1E
1- L 4 x 4 x ⅜ x 5'-5 7/16 (cgd) F1E
1-R (cgn)
2-L 3½ x 3½ x ⅜ x 1'-6½ (ch'n')E
1- R (cds)
2- U (cda)
5-U (caf)
1-Bar (ccv) tack weld
4-Ls (cad)R
5-Rs (cag)
5-Ls (cah)
2-Us (cam)
2-Rs (cat)
1-R (cas)
2-R (cap)
2-Fill (cas)
2-Fill (cat)
2-Fill (cav)
1-L (caw)R
1-R (cac)
10 Perm bolts 3/4" ø x 2"lg. Flat head slotted, hex. nut
10-2"ø Washers ¼" thick

Walkway C13

Material for One Walkway C8R

1-L 3½ x 3½ x ⅜ x 38'-5⅜ (cgs)R F2E ord 38'-6½ Item A57
1-L 6 x 3½ x ⅜ x 38'-5⅜ (cgq)R F2E ord 38'-6½ Item A45
1- Cent. Knobby R 22 x ⅜ x 20'-9⅜ (cgh)R F2E ord 20'-9⅜ Item B19
1 do (cfy)R
1- R 16 UM x ½ x 14'-5⅜ (cgk)R F2E ord 14'-6½ Item A36
1- R (ch)R
1- R (cgb)R
1- R (cgn)
2- U (cdp)R
5- U caf
1- R (cds)
2- U 5 x 3 x ⅜ x 1'-2 (cgm)
2- Shims 10 x 8 x 1'-2 (cgm) bolt
1- Bar 9 x ⅜ x 1'-1 (cgp) bolt
2- Shims 3½ x ⅜ x 1'-1 (cgq) bolt
2- U (cad)R
5- Rs (cag)
5- Ls (cah)
2- U (cam)
2- Rs (cak)
1- R (can)
1- R (cap)
1- Fill (cas)
1- Fill (cat)
1- Fill (cav)
1- L (caw)R
1- R (cac)

WALKWAY C8R

For General notes see sheet G250AE
For Sections 2,3-4,5-1,5 etc. see sheet G250EE
Work this sheet with sheets G250RE-BE-DE 4EE

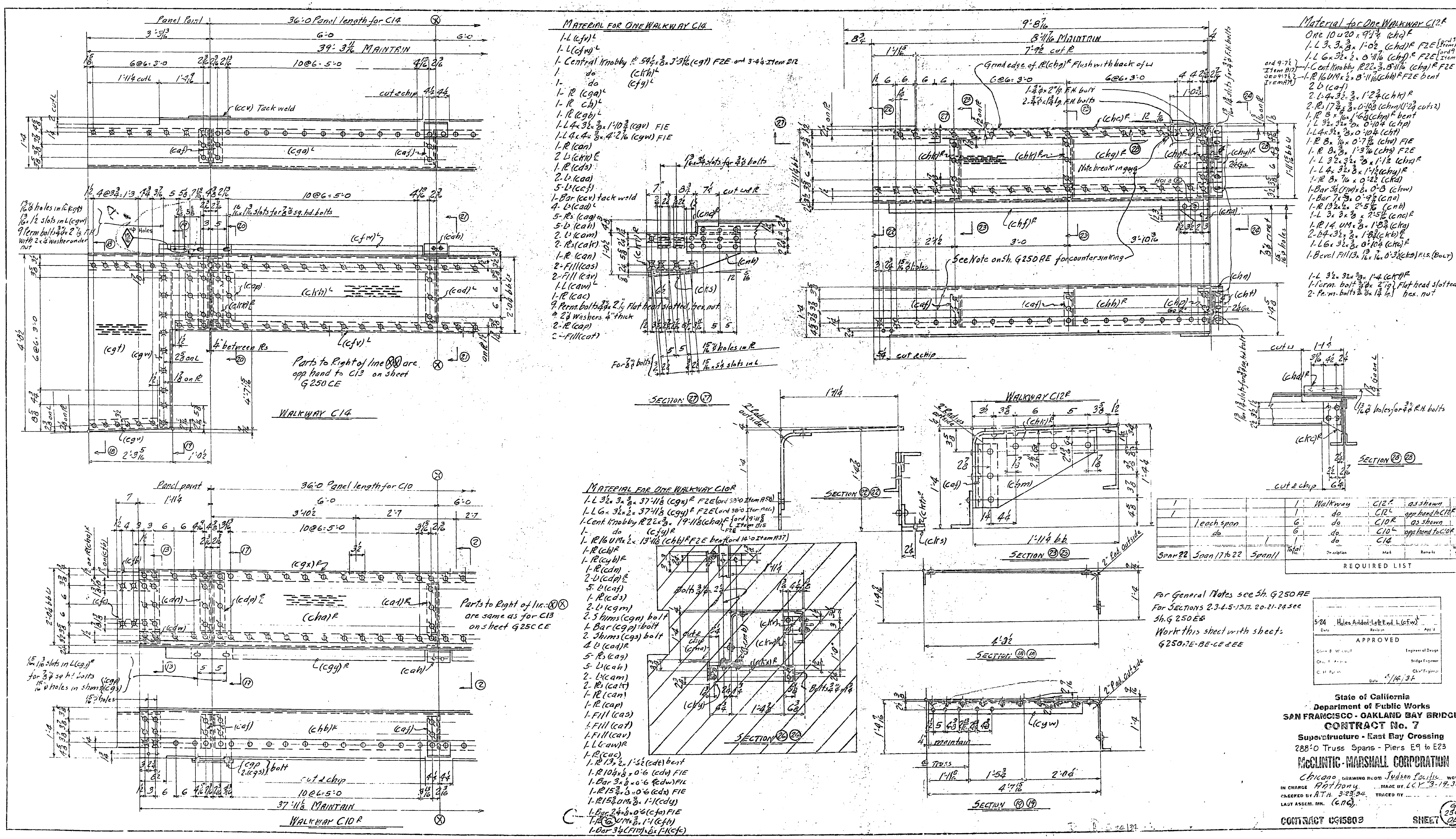
Teach span		5	Walkways	C8R	as shown
do		5	do	C8L	opp. hand to R
do	1	5	do	C13	
Spans 12 to 16	Span 11	Total	Description	Mark	Remarks

REQUIRED LIST

5-24 Holes - Left End L (cfx)R
Date — Revision — Appd.
APPROVED
Glenn B. Warren, Jr. — Engineer of Design
Chas. E. Andrus — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 4/14/32

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC - MARSHALL CORPORATION
Chicago — DRAWING TOOTH Judson Pacific — WORKS
IN CHARGE Anthony — STAGE BY ECF 3-16-32
CHECKED BY A.T.A. 3-23-32 — TRACED BY
LAST ASSEM. EM.

CONTRACT 06160B 3 — SHEET G 250 CE



1			1	Walkway	C12R	as shown	
1			1	do	C12L	opp hand to C12R	
	1 each span		6	do	C10R	as shown	
	do		6	do	C10L	opp hand to C10R	
		1	1	do	C14		
Span 22	Span 17 to 22	Span 11	Total No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

For General Notes see Sh. G250AE
For Sections 2-3-4-5-13-17-20-21-24 see Sh. G250EE
Work this sheet with sheets G250AE-BE-CE & EE

Date	Revision	App'd
5-24	Holes Added-Left End L(cfw)L	

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 4/14/34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Judson Pacific WORKS
IN CHARGE Anthony MADE BY LCY 3-19-34
CHECKED BY A.T.H. 3-23-34 TRACED BY
LAST ASSEM. MK. (cnc)
CONTRACT CG15803 SHEET G 250 OE

30-1

SECTION 1 1

SECTION 5 5

SECTION 9 9

SECTION 11 11

SECTION 14 14

SECTION 2 2 as shown

SECTION 21 21 opp hand

SECTION 6 6

SECTION 10 10

SECTION 12 12 as shown

SECTION 20 20 opp hand

SECTION 22 22

SECTION 3 3

SECTION 7 7

SECTION 8 8

SECTION 17 17

SECTION 13 13

SECTION 15 15

SECTION 23

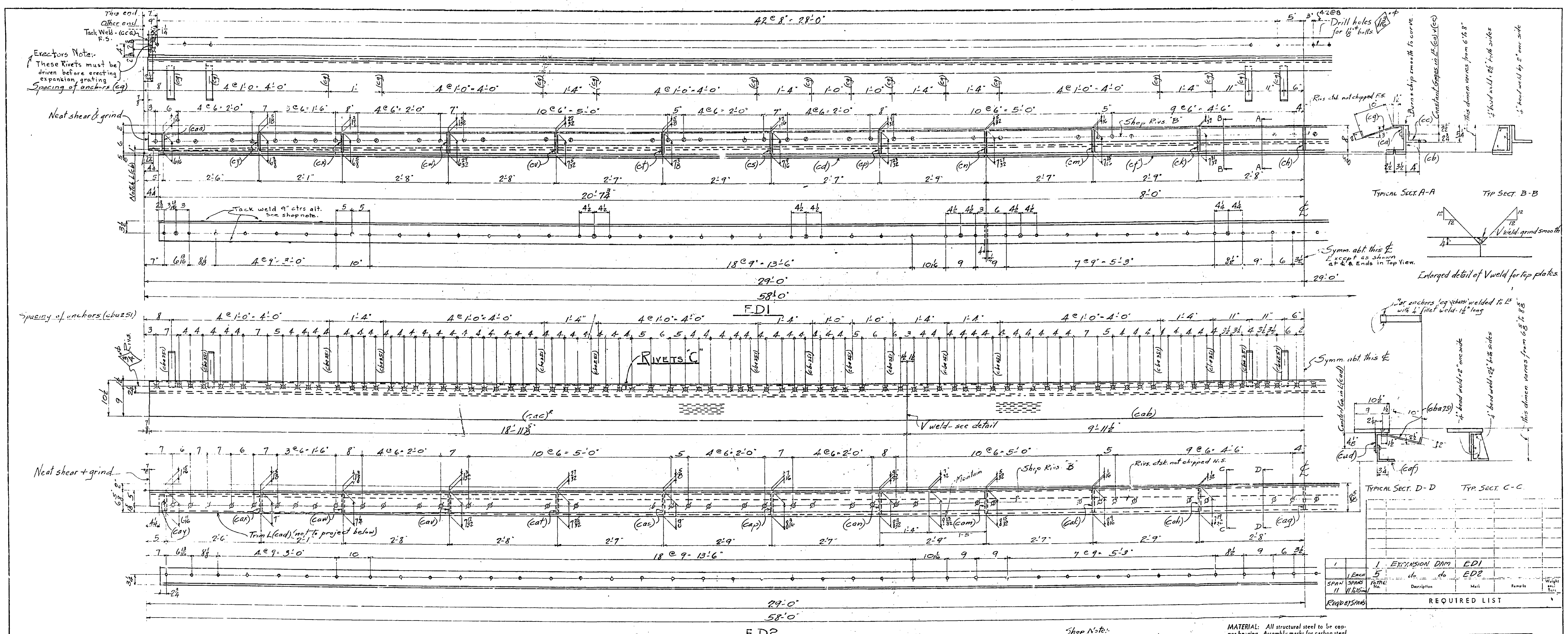
For General Notes see Sheet G250AE
Work this sheet with sheets G250AE to G250AL

APPROVED

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
280'0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Jersey City WORKS
IN CHARGE Anthony MADE BY LEE 3-24-34
CHECKED BY A.T.O. 3-27-34 TRACED BY
LAST ASSGN

CONTRACT 061503 SHEET G 250 EE

30-1



1		1	Expansion Dam	ED1		
	1 Each	5	do do	ED2		
Span 11	Spans 11 to 15 incl	Total No.	Description	Mark	Remarks	Weight each Tons
Reqd by Spans	REQUIRED LIST					

Material for ED1

1 Bent L- 4 × 3 × 5/8 × 57'-10 1/4" F.2.E. (ca) ORD 57-11 IT A3
1 L- 8 × 6 × 3/4 × 57'-10 1/4" F.2.E. (cb) cut 1 leg to curve {Ord 57'-11" IT A1}
1 Bent L- 6 × 5 1/4 × 3/4 × 57'-10 1/4" F.2.E. (cc) cut 6 × 6 L ORD 57-11 IT A2
2 Fills 6 × 5/8 × 20'-7 1/2" (cd) IT A4
1 Fill do × 15'-11 1/2" (cf) IT A5
54 Bent Bars 1 1/2 × 5/16 × 1'-1 3/16" (cg)
1 Ꝑ 4 1/2 × 3/8 × 6 5/8" (ch)
2 Ꝑs- do × 6 19/32" (ck)
2 Ꝑs- do × 6 9/16" (cm)
2 Ꝑs- do × 6 15/32" (cn)
2 Ꝑs- do × 6 11/32" (cp)
2 Ꝑs- do × 6 3/16" (cs)
2 Ꝑs- do × 6" (ct)
2 Ꝑs- do × 5 25/32" (cv)
2 Ꝑs- do × 5 17/32" (cw)
2 Ꝑs- do × 5 1/4" (cx)
2 Ꝑs- do × 5" (cy)
2 Ꝑs- do × 4 11/16 (caa)
2 Fills 2 1/2 × 1/4 × 0'-6" (cca)- Note:- Carbon Steel May Be Used If Copper Bearing Steel Is Not Available.

Material for ED2

1 Central Knobby Ꝑ. Ꝑ. 10 1/2 × 3/4 × 19'-11" F.2.E. (cab) Ord. 19'-11 1/2" It. B1.
2 " " Ꝑ. Ꝑ. do × 18'-11 5/8 F.2.E. (cac) R L Ord. 19'-0 1/8 It. B2.
1 L- 6 × 3 1/2 × 1/2 × 57'-10 1/4 F.2.E (cad) ORD 57-11 IT A8
1 L 5 × 5 × 1/2 × 57'-3 1/2" (caf) IT A9
1 Ꝑ 4 1/2 × 3/8 × 6 7/8 (cag)
2 Ꝑ do × 6 27/32 (cah)
2 Ꝑ do × 6 15/16 (cak)
2 Ꝑ do × 6 23/32 (cam)
2 Ꝑ do × 6 19/32 (can)
2 Ꝑ do × 6 7/16 (cap)
2 Ꝑ do × 6 1/4" (cas)
2 Ꝑ do × 6 1/32 (cat)
2 Ꝑ do × 5 25/32 (cav)
2 Ꝑ do × 5 1/2" (caw)
2 Ꝑ do × 5 1/4" (cax)
2 Ꝑ do × 4 15/16 (cay)
54 Bent Bars- 1 1/2 × 5/16 × 1'-1 3/16" (cba 251)

WORK THIS SHEET TOGETHER WITH SHEETS G252 & G253.

Shop Note:-
Shop to paint all erection marks on left hand end of members as detailed, and in an upright position.
"Rivets C" in Central Knobby Fl. Ꝑs. need not chipped unless they project above pattern on plate.
Tack Welding- Where tack welding is called for, contact surfaces must be thoroughly cleaned and scraped before assembly. Parts to be tightly clamped while welding, and welded in such a manner so as to permit entering of no foreign substance during field sand blasting.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 7/8 Unless Noted
OPEN HOLES: 15/16" Unless Noted.
PUNCHING: All holes for shop & field rivs may be punched full size except holes for shop rivets marked B which are to be sub-punched and reamed to size after assembly.
DRILLING: As Noted.
FINISH:- All sheared or flame cut edges and ends of material to have a neat appearance, and where designated F.1.W., F.2.E. etc. shop must shear + grind; chip and grind; or otherwise cut + finish so that members present a finished appearance and conform to dimensions on drawing. Ends of all assembled members must present a neat appearance.
SHOP PAINT: None

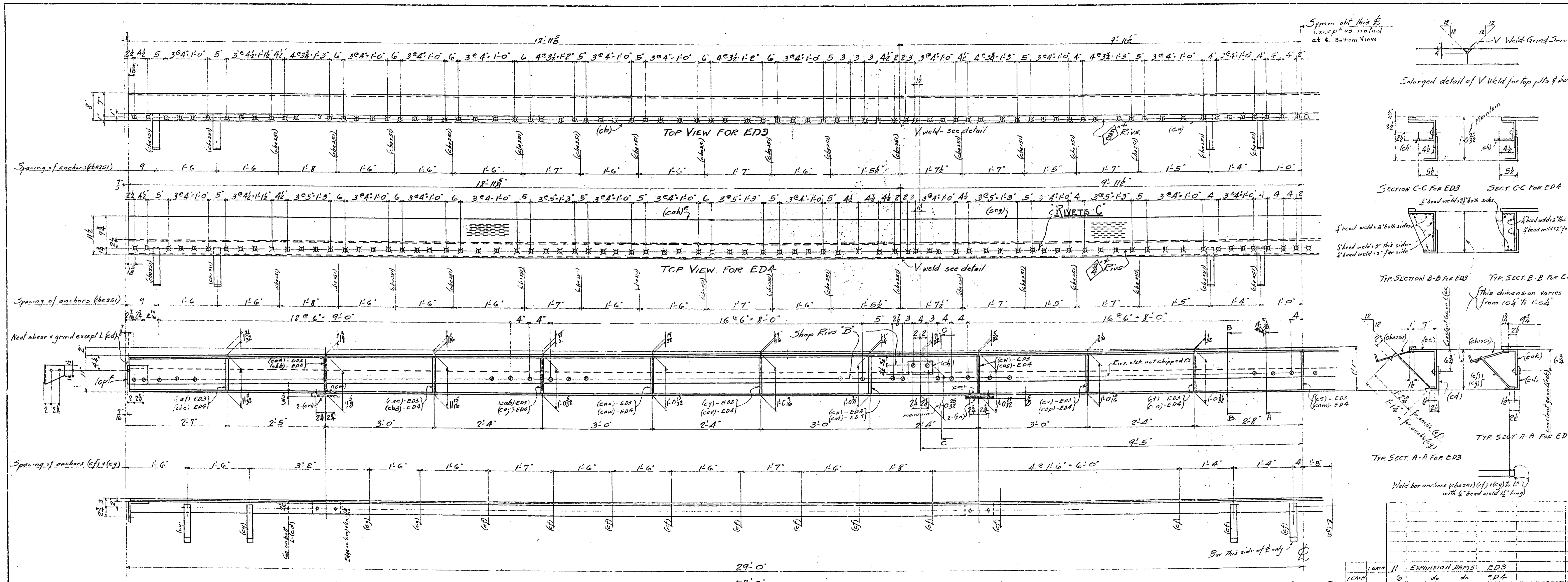
Date	Revision	App'd
5-24-31	Fills (cca) Added; Csk Holes-Both Ends L(cc)	

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 4/14/34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING-ROOM Judson Pacific WORKS
IN CHARGE Anthony MADE BY ___
CHECKED BY JH. 3-23-34 TRACED BY ___
LAST ASSEM. MK. cba 251

CONTRACT CC15803 SHEET G 251



ED3 - ED4

Material for ED3

1 Bar - 2" U.17 × ¾ × 19'-11" F.2.E. (ca) ORD 19-11¾ IT A12
2 Bars - 2" U.17 × ¾ × 18'-11⅝" F.2.E. (cb) ORD 19-0⅜ IT A13
1 Bent L - 8 × 8 × ½ × 57'-10¼" F.2.E. (cc) ORD 15-11 IT A10
1 L - 7 × 4 × ½ × 57'-10¼" Trim 2.E. (cd) ORD 15-11¾ IT A11
38 Bent bars - 1½ × 5/16 × 1'-11 3/16" (cba 251)
27 Bent bars - 1½ × 5/16 × 1'-6 1/16" (cf)
8 " " - do × 1'-4 9/16" (cg)
2 Ls - 6 × 4 × ½ × 7" (ch)

4 Fills 4 × ¾ × 8½" (cm) } bolt to ship
6 " - 4 × ⅛ × 8½" (cn) }
2 Ls - 6 × 6 × 7/16 × 6¼" (cp) R L
1 Pl 7½ × ½ × 11¼" (cs)
2 Pl do × 11 7/32" (ct)
2 Pl do × 11 3/16" (cv)
2 Pl do × 11 3/32" (cw)
2 Pl do × 11" (cx)
2 Pl do × 10 13/16 (cy)
2 Pl do × 10 21/32" (caa)
2 Pl do × 10 13/32" (cab)
2 Pl do × 10 3/16 (cac)
2 Pl do × 9⅞ (cad)
2 Pl do × 9 19/32" (caf)

Material for ED4

1 Central Knobby Fl.Pl 11½ × ¾ × 19'-11" F.2.E. (cag) ord. 19'-11½" It. B3
2 " " " do × 19'-11⅝ F.2.E. (cah) R L ord 19'-0⅜ It. B4
1 Bent L - 8 × 4 × ½ × 57'-10¼" F.2.E (cak) ORD 15-11 IT A19
1 L - (cd) IT A11
38 Bent bars - (cba251)
27 " " - (cf)
8 " " - (cg)
2 Ls - (ch)

4 Fills - (cm) } bolt to ship
8 " - (cn) }
2 Ls - (cp) R L
1 Pl - 3 × ½ × 11¼" (cam)
2 Pl - do × 11 7/32 (can)
2 Pl - do × 11 3/16 (cap)
2 Pl - do × 11 3/32 (cas)
2 Pl - do × 11 (cat)
2 Pl - do × 10 13/16 (cav)
2 Pl - do × 10 21/32 (caw)
2 Pl - do × 10 13/32 (cay)
2 Pl - do × 10 3/16 (cbd)
2 Pl - do × 9⅞ (cbb)
2 Pl - do × 9 19/32 (cbc)

Shop Note:- Shop to paint all erection marks on left hand end of members as detailed; and in an upright position.

"Rivets C" in Central Knobby Fl. Rs. need not be chipped unless they project above pattern on plates.

Work this sheet together with sheets G251 + G253.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.: for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: ⅞" Unless Noted.
OPEN HOLES: 15/16"
PUNCHING: All holes for shop + field rivets may be punched full size except holes for shop rivets marked "B" which are to be sub-punched ⅛" and reamed to size after assembly.
FINISH:- All sheared or flame cut edges and ends of material to have a neat appearance; and where designated F.1.W, F.2.E, etc., Shop must shear + grind; chip + grind; or otherwise cut + finish so that members present a finished appearance and conform to dimensions on drawing. Ends of all assembled members must present a neat appearance.
SHOP PAINT: None, except contact surfaces of parts bolted, which shall be given one coat of "Acid Resisting Liquid" after such surfaces have been thoroughly cleaned and scraped. Parts to be assembled after paint is dry, and bolts pulled up tight.

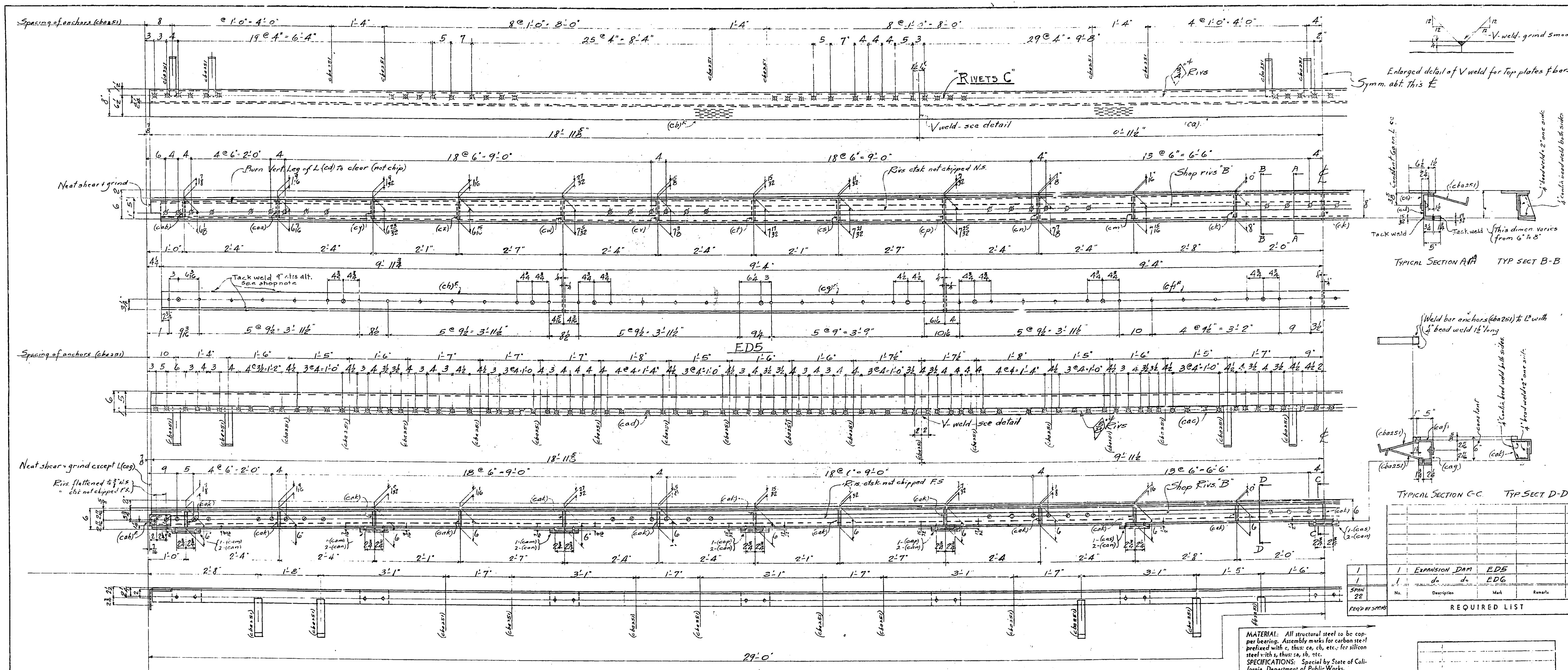
	1 EACH	11	EXPANSION DAMS	ED3		
1 EACH		6	do do	ED4		
SPANS 16t. 21 incl	SPANS 12t. 22 incl	Total No.	Description	Mark	Remarks	Weight each Tons
REQ'D BY SPANS	REQUIRED LIST					

APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date 4/10/34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Judson Pacific WORKS
IN CHARGE Anthony MADE BY
CHECKED BY JHH 3-23-34 TRACED BY
LAST ASSEM. MK. (cbd)

CONTRACT CC15803 SHEET G 252

30-1



Req'd by Spans		No.	Description	Mark	Remarks	Weight each Tons
1		1	Expansion Dam	ED5		
1		1	do do	ED6		
Span 22						

REQUIRED LIST

Material for ED5

1 Central Knobby ℞ 8 × ⅝ × 19'-11" F.2.E. (ca) ord. 19'-11½" 1t. B5
2 " " " do × 18'-11⅝ F.2.E. (cb) ord 19'-0⅛ 1t. B6
1 Bent L 5 × 5½ × ½ × 57'-10¼" F.2.E. (cc) ORD 57'-11" 1T A21
1 L 5 × 5 × ½ × 57'-3½" (cd) 1T A9
2 Bevel Fills 5 × 19/32 × 13/32 × 9'-3½" F.I.S. (cf) ℄
2 " " do × 9'-3½" F.I.S. (cg) ℄
2 " " do × 9'-11½" F.I.S. (ch) ℄
56 Bent bars 1½ × 5/16 × 1'-1 3/16" (cba251)
3 ℞ 4½ × ⅜ × 6⅜" (ck)
2 ℞ do × 6 5/16 (cm)
2 ℞ do × 6¼" (cn)
2 ℞ do × 6 5/32 (cp)
2 ℞ do × 6 3/32 (cs)
2 ℞ do × 5 29/32 (ct)
2 ℞ do × 5¾ (cv)
2 ℞ 4½ × ⅜ × 5 17/32" (cw)
2 ℞ do × 5 5/16 (cx)
2 ℞ do × 5 3/32 (cy)
2 ℞ do × 4 13/16 (caa)
2 ℞ do × 4½" (cab)

Material for ED6.

ED6

1 Bar - 2" U.M. × ⅝ × 19'-11" F.2.E. (cac) ORD 19-11¾ 1T A26
2 Bars - 2" U.M. × ⅝ × 18'-11⅝ F.2.E. (cad) ORD 19-0½ 1T A27
1 Bent L - 6 × 4 × ½ × 57'-10¼" F.2.E. (caf) ORD 57-11 1T A24
1 Bent L - 4 × 4 × ½ × 57'-10¼" (Trim only) (cag) ORD 57-11¾ 1T A25
2 L - 6 × 6 × 7/16 × 0'-3¼" (cah) ℄
25 ℞ 5 × ⅜ × 0'-4⅜" (cak)
6 Bevel Fills - 8½ × 9/16 × 7/16 × 4" F.I.S. (cam) } bolt to ship.
26 Fills - 4 × ⅛ × 8½" (can) }
4 Bevel Fills - 8½ × 17/32 × 15/32 × 4" F.I.S. (cap) }
3 Fills - 4 × ½ × 8½" (cas) }
62 Bent Bars cba251

Work this sheet together with sheets G251 & G252

Shop Notes:-
Shop to paint all erection marks on left hand end of members as detailed; and in an upright position.
"Rivets C" in Central Knobby Fl. Pls. need not be chipped unless they project above pattern on plates.
Where parts are tack welded, contact surfaces must be thoroughly cleaned and scraped before assembly. Parts to be tightly clamped while welding and welded in such a manner so as to permit entering of no foreign substance during field sand blasting.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: ⅞" Unless Noted
OPEN HOLES: 15/16"
PUNCHING: All holes for shop and field rivets may be punched full size except holes for shop rivets marked "B" which are to be sub-punched & and reamed to size after assembly.
FINISH:- All sheared or flame cut edges and ends of material to have a neat appearance; & where designated F.I.W., F.2.E., etc., shop must shear & grind; chip & grind; or otherwise cut & finish so that members present a finished appearance and conform to dimensions on drawing. Ends of all assembled members must present a neat appearance.
SHOP PAINT: None, except contact surfaces of parts bolted, which shall be given one coat of "Acid Resisting Liquid" after such surfaces have been thoroughly cleaned and scraped. Parts to be assembled after paint is dry and bolts pulled up tight.

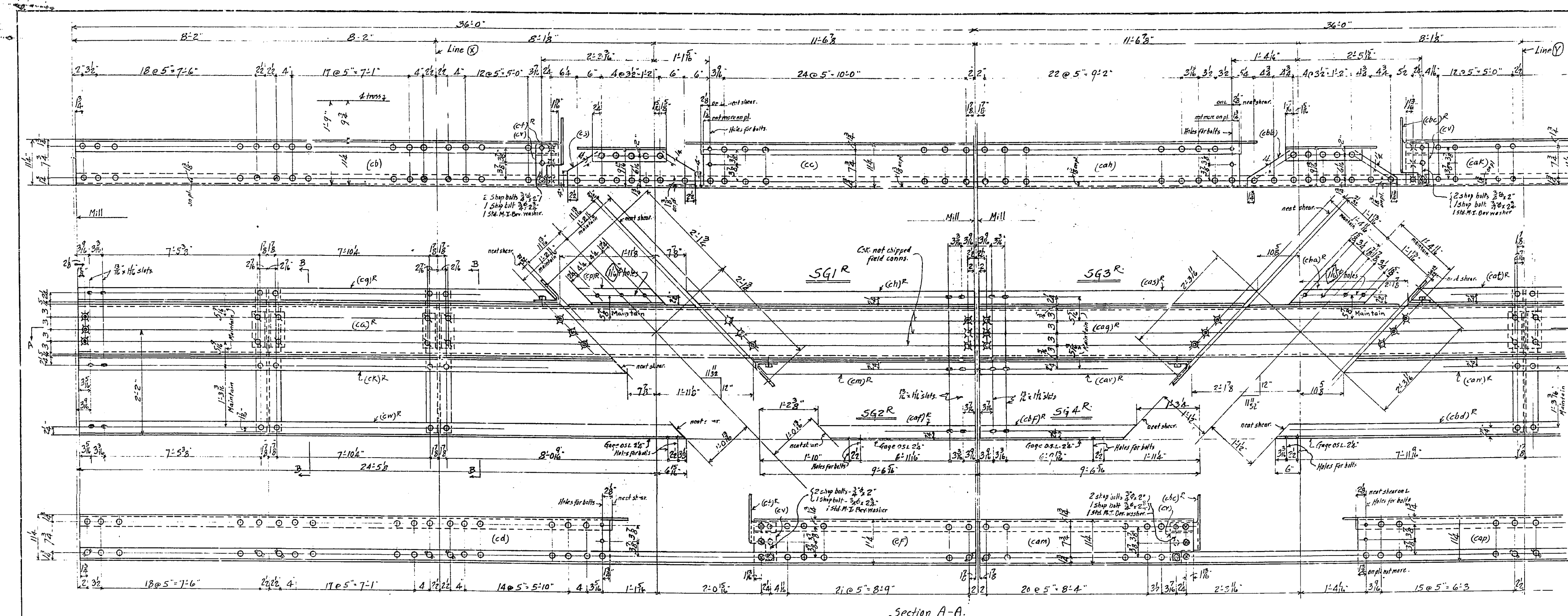
Date	Revision	App'd

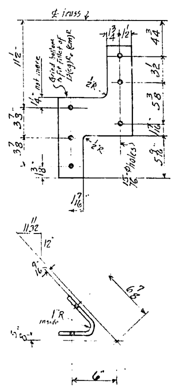
APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 4/14/34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC - MARSHALL CORPORATION
Chicago DRAWING ROOM Judson Pacific WORKS
IN CHARGE Anthony MADE BY E
CHECKED BY JHH 3-23-34 TRACED BY E
LAST ASSEM. MK. (cas)

CONTRACT CG15803 SHEET G 253

30-1



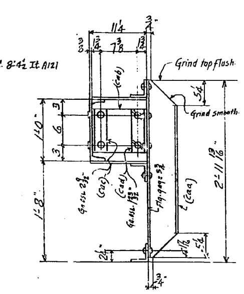


Material for one Skid Girder SG1R.

1-12" [@ 25# - 35'-11 5/8" M2E (ca)R Ord. 36'-0 1/2" It. A107
1 Pl. 10 1/2" U.M. x 5/16 x 22'-5 3/4 MIE FIE (cb) Ord. 22'-6 1/2 It. A108
1 Pl. 10 1/2" UM x 5/16 x 10'-7 7/16 MIE FIE (cc) Ord. 10'-8" It. A109
1 Pl. 10 1/2" UM. x 5/16 x 23'-5 5/16 MIE FIE (cd) Ord. 23'-6" It. A110
1 Pl. 10 1/2" U.M x 5/16 x 9'-7 5/8 MIE FIE (cf) Ord 9'-8 1/2 It A111
1L- 3 1/2 x 3 x 5/16 x 22'-5 3/4 MIE FIE (cg)R Ord 22'-6 1/2 It A112
1L do x 10'-10 7/8 MIE FIE (ch)R Ord 10'-11 3/4 It. A113
1L do. x 23'-9" MIE FIE (ck)R Ord 23'-9 3/4 It. A114
1L do x 9'-7 5/8" MIE FIE (cm)R Ord. 9'-8 1/2 It. A115
1L - 4 x 3 1/2 x 3/8 x 1'-9 5/8 (cp)R
1 Pl. 9" U.M x 3/8 x 2'-7" (cs)
2 Pls. 17 1/2" UM x 3/8 x 0'-9 1/2" bent (ct)R
2 Plates 7 5/8 x 5/16 x 0'-5 1/16 (cv)
1L- 3 1/2 x 3 1/2 x 3/8 x 24'-11 13/16" MIE FIE (cw)R Ord. 25'-0 1/2 It. A120
2- 6" BH @ 20# x 2'-11 (cao) 31'-1 1/2" Cuts 12
2 Pls. 9" UM. x 5/16 x 0'-10 1/2 (cab)
4 Ls- 3 1/2 x 3 x 5/16 x 0'-9" (cac)
4 Ls- 3 x 3 x 5/16 x 0'-9" (cad)
4 shop bolts. 3/4" x 2" } square head
2 " " 3/4 x 2 3/4 } hex nut.
2 Std. Mall. Iron Bev washers 13/16" Φ hole.

Material for 1 Angle SG2R.

1L- 3 1/2 x 3 1/2 x 3/8 x 8'-3 13/16 MIE FIE (caf)R Ord. 8'-4 1/2 It. A121

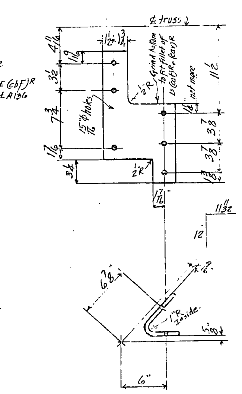


Material for one Skid Girder SG3R

1-12" [@ 25# x 35'-11 5/8 M2E (cag)R Ord 36'-0 1/2 It. A107
1 Pl. 10 1/2" UM x 5/16 x 10'-4 7/16 MIE FIE (cah) Ord. 10'-5 1/4 It A126
1 Pl. 10 1/2 UM x 5/16 x 22'-3" MIE FIE (caK) Ord. 22'-3 3/4 It A127
1 Pl. 10 1/2" UM x 5/16 x 9'-4 5/8 MIE FIE (cam) Ord. 9'-5 3/4 It. A128
1 Pl. 10 1/2" UM x 5/16 x 23'-2 9/16 MIE FIE (cap) Ord. 23'-3 3/4 It. A129
1L- 3 1/2 x 3 x 5/16 x 10'-8 1/8 MIE FIE (cas)R Ord. 10'-9 It. A130
1L do x 22'-5" MIE FIE (cat)R Ord 22'-3 3/4 It. A131
1L do x 9'-4 7/8 MIE FIE (cav)R Ord. 9'-5 3/4 It. A132
1L do x 23'-6 1/4 MIE FIE (caw)R Ord. 23'-7 It. A133
1L- 4 x 3 1/2 x 3/8 x 1'-10 5/16 (cba)R
1 Pl. 9" UM x 3/8 x 3'-0 1/2" (cbb) 1 pl-29'-6" cuts 12
2 Pls- 17 1/2 UM x 3/8 x 0'-9 1/2" bent. (cbc)R
2 Pls- (cv)
1L- 3 1/2 x 3 1/2 x 3/8 x 24'-10 7/8" MIE FIE (cbd)R Ord. 24'-11 3/4 It. A137
2- 6" BH @ 20# x 2'-11" (caa)
2 Pls (cab)
4 Ls (cac)
4 Ls (cad)
4 shop bolts. 3/4" Φ x 2" } square head.
2 " " 3/4" Φ x 2 3/4 } hex nut.
2 Std. Mall. Iron Bev washers - 13/16" Φ hole.

Material for 1 Angle SG4R.

1L- 3 1/2 x 3 1/2 x 3/8 x 8'-2 15/16 MIE FIE (cbf)R Ord. 8'-3 3/4 It A136



Req'd by Spans: SPANS 11 to 22 incl.	Total No.	Description	Mark	Remarks	Weight each Tons
1 each	12	Skid Girders.	SG1R	as shown	
1 each	12	do.	SG1L	opp. hand to SG1R	
1 each	12	Angles	SG2R	as shown	
1 each	12	do.	SG2L	opp. hand to SG2R	
1 each	12	Skid Girders	SG3R	as shown	
1 each	12	do.	SG3L	opp. hand to SG3R	
1 each	12	Angles	SG4R	as shown	
1 each	12	do	SG4L	opp. hand to SG4R	

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M Bailey.
RIVETS. 3/4" Φ
OPEN HOLES: 13/16" Φ unless noted.
PUNCHING. All holes for shop and field rivets in material 3/4" thick or less may be punched full size.
Finish.
All sheared or flame cut edges and ends of material to have a neat appearance, and, where designated FIN, F2E, etc; shop must shear and grind; chip and grind; or otherwise cut and finish so that members present a finished appearance and conform to dimensions given on drawing. Ends of all assembled members must present a neat appearance.
SHOP PAINT: None, except surfaces not in contact and inaccessible for field sand blasting, shall be given one coat of "ACID RESISTING LIQUID" after such surfaces have been thoroughly cleaned and scraped.

Date | Revision | App'd

APPROVED

Engineer of Design
Bridge Engineer
Chief Engineer
Date 4-19-34

Shop Note.
Shop to rivet railing angle to Skid Girder in such a manner that milled end of railing angle lines up with milled end of Skid Girder and that the angle is square and true with respect to the Girder.
Where holes in railing angle and Skid Girder are shown lined up vertically, shop to take care to line up holes.

Shop Note.
Shop to paint all erection marks on left hand end of members as detailed and in an upright position.

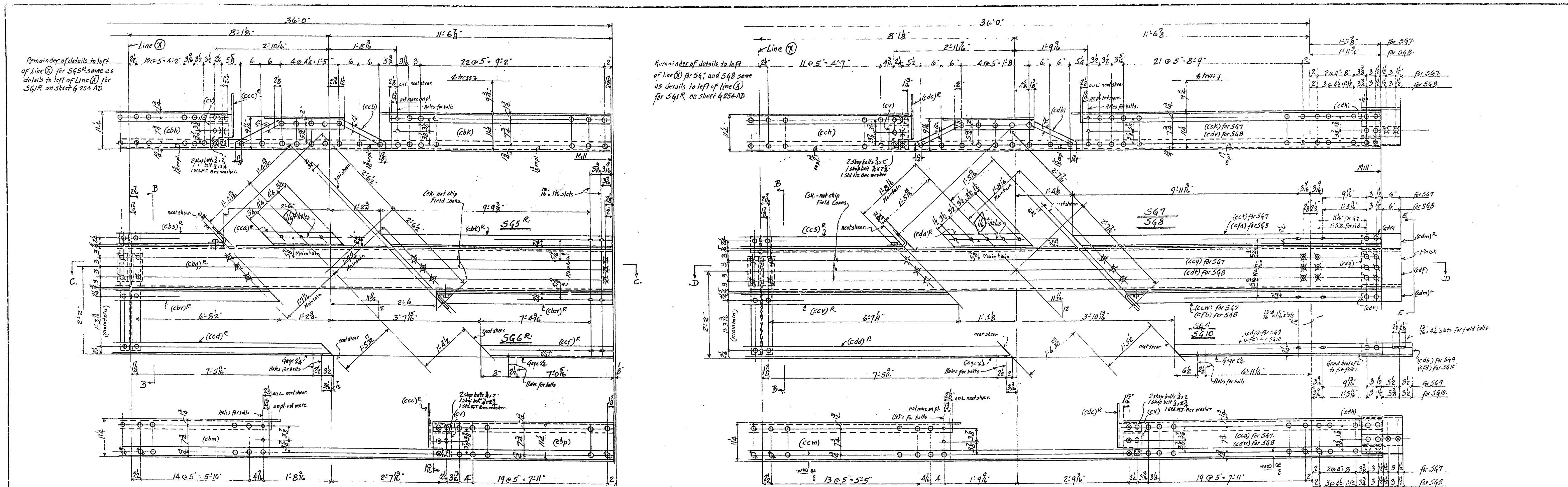
Work this sheet with sheets G254BD, G254CD + G254DD As one Sheet

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

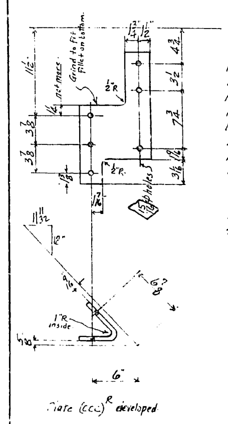
Chicago DRAWING ROOM Judson Pacific WORKS
IN CHARGE Anthony. MADE BY EJT 3/20-34
CHECKED BY JHH 3-20-34 TRACED BY EJT 3/21-34
LAST ASSEM. MK. (cbf)

CONTRACT CG15803 SHEET G 254AD

30-1



Section C-C.

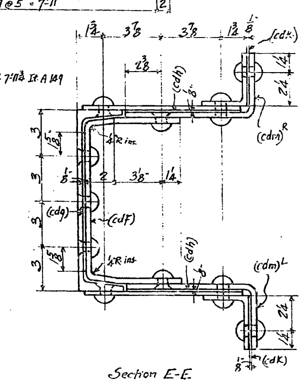


Material for one Skid girder SG5R

1-12" [@ 25# x 35'-11 5/8 M&E (cbg)R Ord. 36'-0½ It. A107
1 Pl 10½ UM x 5/16 x 21'-10 7/8 MIE FIE (cbh) Ord 21'-11¾ It. A138
1 Pl 10½ UM x 5/16 x 10'-0 5/16 MIE FIE (cbk) Ord. 10'-1" It. A139
1 Pl 10½ UM x 5/16 x 22'-10 7/16 MIE FIE (cbm) Ord. 22'-11¼ It. A140
1 Pl - 10½ UM x 5/16 x 9'-0¾ MIE FIE (cbp) Ord. 9'-1½ It. A141
1L - 3½ x 3 x 5/16 x 21'-10 7/8 MIE FIE (cbs)R Ord. 21'-11¾ It. A142
1L do x 10'-4 MIE FIE (cbt)R Ord. 10'-4⅜ It. A143
1L do. x 23'-2⅛ MIE FIE (cbv)R Ord. 23'-3 It. A144
1L do. x 9'-0¾ MIE FIE (cbw)R Ord. 9'-1½ It. A145
1L - 4 x 3½ x ⅜ x 2'-0⅜ (cca)R
1 Pl 9" UM x ⅜ x 3'-8¾ (ccb) 1 Pl - 37'-0" cuts 12
2 Pls - 17½ UM x ⅜ x 0'-9½ bent. (ccc)R
2 Pls (cv)
1L - 3½ x 3½ x ⅜ x 24'-5 5/16 MIE FIE (ccd)R Ord. 24'-6" It. A148.
2 - 6" BH @ 20# (caa)
2 Pls (cab)
4 Ls (cac)
4 Ls (cad)
4 shop bolts ¾ x 2" } square head hex nut.
2 " " ¾ x 2¾ }
2 Std. Mall. Iron Bev. washers with 13/16" ϕ hole.

Material for one Rail Angle SG6R

1L - 3½ x 3½ x ⅜ x 7'-10⅞ MIE FIE (cef)R Ord. 7'-11½ It. A149



Material for one Skid Girder SG7.

1-12" [@ 25# x 37'-5⅝ M&E (ccq) Ord. 37'-6½ It A150
1 Pl - 10½ UM x 5/16 x 21'-9½ MIE FIE (cch) Ord. 21'-10¼ It. A152
1 Pl - 10½ UM x 5/16 x 11'-4 15/16 MIE FIE (cck) Ord. 11'-5¾ It. A151
1 Pl - 10½ UM x 5/16 x 22'-9 1/16 MIE FIE (ccm) Ord. 22'-9¾ It. A154
1 Pl - 10½ UM x 5/16 x 10'-5⅜ MIE FIE (ccp) Ord. 10'-6¼ It. A153
1L - 3½ x 3 x 5/16 x 21'-9½ MIE FIE (ccs)R Ord. 21'-10¼ It. A156
1L do x 11'-8⅝ MIE FIE (cct) Ord. 11'-9½ It. A155
1L do x 23'-0¾ MIE FIE (ccv)R Ord. 23'-1½ It. A158
1L do x 10'-5⅜ MIE FIE (ccw) Ord. 10'-6¼ It. A157
1L - 4 x 3½ x ⅜ x 2'-3⅛ (cda)R
1 Pl - 9" UM x ⅜ x 3'-11½ (cdb) 1 Pl 38'-3" Cut to 12
2 Pls - 17½ UM x ⅜ x 0'-9¾ bent (cdc)R
2 Pls (cv)
1L - 3½ x 3½ x ⅜ x 24'-3 1/16 MIE FIE (cdd)R Ord. 24'-4½ It A160
2 - 6" BH @ 20# (caa)
2 pls (cab)
4 Ls (cac)
4 Ls (cad)
4 shop bolts ¾ x 2" } square hd. hex nut.
2 shop bolts ¾ x 2¾ }
2 Std. Mall Iron Bev. washers 13/16" ϕ hole.
1 Pl - 12" UM x ⅜ x 1'-10¼" M. steel bent (cdf)
1 Fill 6 x ⅛ x 9¼ UM (cdg)
2 fills 6 x ⅛ x 7⅝ UM (cdh)
2 fills 3½ UM x ⅛ x 0'-6" FIE (cdk)
2 pls - 12" UM x ⅜ x 1'-0¼ M. steel bent FIE (cdm)R L

Material for one Rail Angle SG9.

1L - 3½ x 3½ x ⅜ x 9'-1 15/16 MIE FIE (cdp) Ord. 9'-2¾ It. A159
1L - 4 x 4 x ½ x 1'-3 (cds)

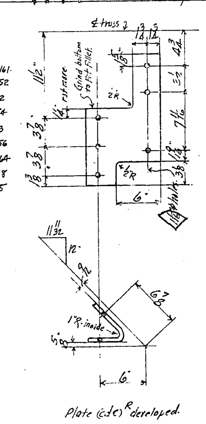
Section D-D

Material for one Skid Girder SG8

1-12" [@ 25# x 37'-11½ M&E (cdt) Ord. 38'-0¼ It. A161.
1 Pl - (cch) Ord. 21'-10¼ It. A152
1 Pl - 10½ UM x 5/16 x 11'-10 13/16 MIE FIE (cdv) Ord. 11'-11½ It. A162
1 Pl - (ccm) Ord. 22'-9¾ It. A154
1 Pl - 10½ UM x 5/16 x 10'-11¼ MIE FIE (cdw) Ord. 11'-0" It. A163
1L - (ccs)R Ord. 21'-10¼ It. A156
1L - 3½ x 3 x 5/16 x 12'-2½ MIE FIE (cfa) Ord. 12'-3¼ It. A164
1L - (ccv)R Ord. 23'-1½ It. A158
1L - 3½ x 3 x 5/16 x 10'-11¼ MIE FIE (cfb) Ord. 11'-0" It. A165
1L - (cda)R
1 Pl. (cdb)
2 Pls. (cde)R
2 Pls (cv)
1L (cdd)R Ord. 24'-4½" It A160
2 - 6" BH @ 20# (caa)
2 pls (cab)
4 Ls (cac)
4 Ls (cad)
4 shop bolts ¾ x 2" } square hd. hex nut.
2 " " ¾ x 2¾ }
2 Std. Mall Iron Bev. washers. 13/16" ϕ hole.
1 pl. (cdf)
1 fill (cdg)
2 fills (cdh)
2 fills (cdk)
2 pls (cdm)R L

Material for one Rail Angle SG10.

1L - 3½ x 3½ x ⅜ x 9'-7 13/16 MIE FIE (cfc) Ord. 9'-8½ It. A166
1L - 4 x 4 x ½ x 1'-3¼ (cfd)



		1 each	12	Skid Girders	SG5R	as shown & noted.	
		1 each	12	do.	SG5L	opp hand to SG5R	
		1 each	12	Railing Angles	SG6R	as shown	
		1 each	12	do.	SG6L	opp. hand to SG6R	
	1 each		5	Skid Girders	SG7	as shown & noted.	
1 each			6	do.	SG8	as shown & noted.	
	1 each		5	Railing Angles	SG9	as shown	
1 each			6	do.	SG10	as shown.	
SPANS 17 to 22 inc	SPANS 12 to 16 inc	SPANS 11 to 22 incl.	No.	Description	Mark	Remarks	Weight each Tons
REQD BY SPANS.			REQUIRED LIST				

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey.
RIVETS: ¾" ϕ
OPEN HOLES: 13/16" ϕ unless noted.
PUNCHING: All holes for shop and field rivets in material ¾" thick or less may be punched full size.
Finish -
All sheared or flame cut edges and ends of material to have a neat appearance, and where designated FIM, FEE, etc. shop must shear and grind: chip and grind or otherwise cut and finish so that members present a finished appearance and conform to dimensions given on drawing. Ends of all assembled members must present a neat appearance.
SHOP PAINT - None, except surfaces not in contact and inaccessible for field sand blasting, shall be given one coat of "ACID RESISTING LIQUID" after such surfaces have been thoroughly cleaned and scraped.

Shop Note:
Shop to rivet railing angle to Skid Girder in such a manner that milled end of railing angle lines up with milled end of Skid Girder, and that the angle is square and true with respect to the Girder. Where holes in railing angle and Skid Girder are shown lined up vertically, shop to take care to line up holes.

Shop Note.
Shop to paint all erection marks on left hand end of members as detailed and in an upright position.

For Section B-B see sheet G254AD

Work this sheet with sheets G254AD, G254CD & G254DD As one Sheet.

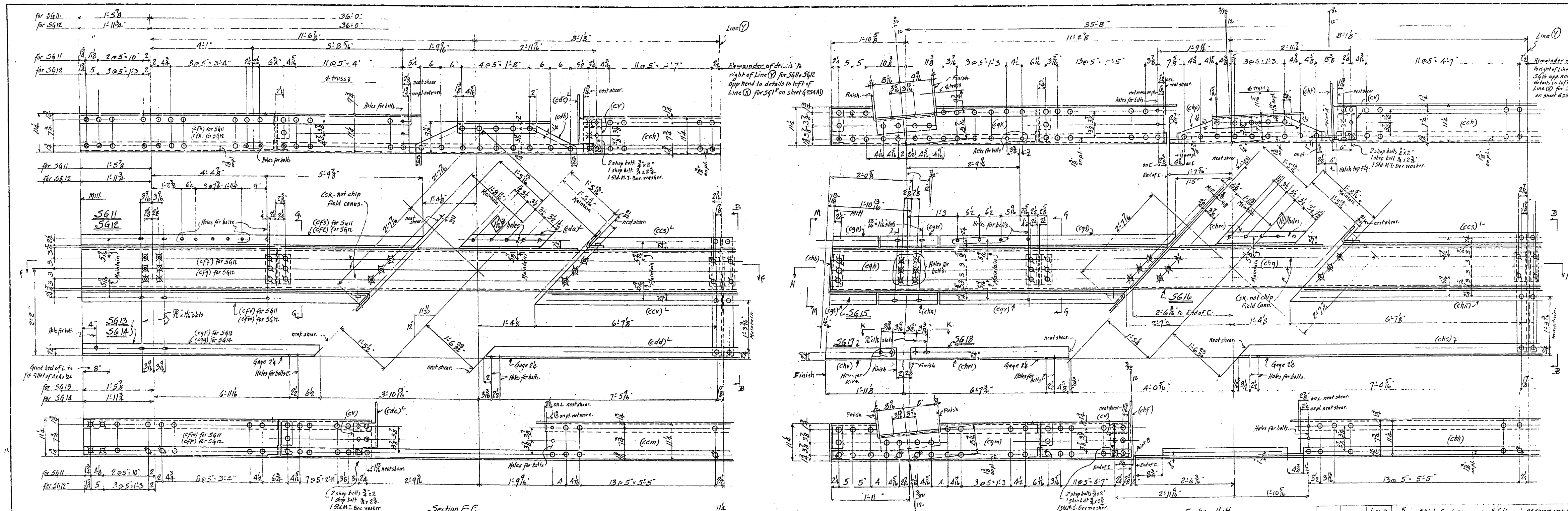
Date	Revision	App'd

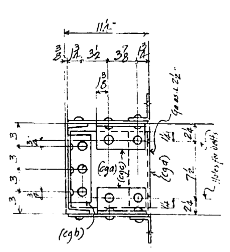
APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date 4-19-34

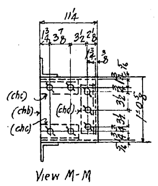
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

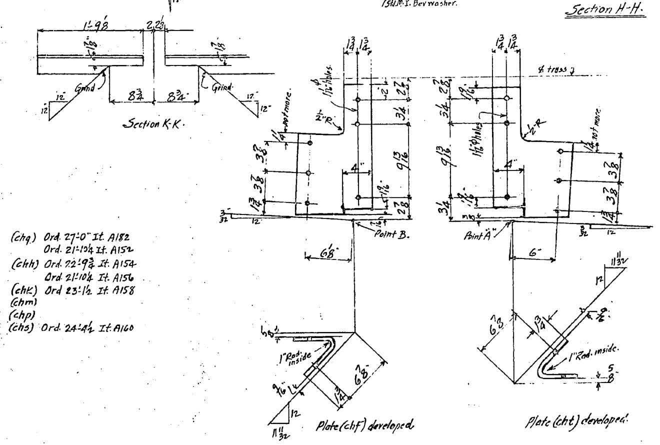
Chicago DRAWING ROOM Judson Pacific WORKS
IN CHARGE Anthony. MADE BY E.J.T. 3/23-34
CHECKED BY JPH 3-30-34 TRACED BY E.J.T. 3/24-34
LAST ASSEM. MK. (cfd)

CONTRACT CG15803 SHEET G 254BD









<u>Material for one Skid Girder SG11 or SG12</u>

1-12" [@ 25# x 37'-5 5/8 M2E (cff) for SG11 Ord. 37'-6 1/2" It. A150
1-12" [@ 25# x 37'-11 1/2 M2E (cfg) for SG12 Ord. 38'-0 1/4 It. A161
1 Pl-10 1/2 UM x 5/16 x 11'-4 15/16 MIE FIE (cfh) for SG11 Ord. 11'-5 3/4 It. A151
1 Pl 10 1/2 UM x 5/16 x 11'-10 13/16 MIE FIE (cfk) for SG12 Ord. 11'-11 1/2 It. A16[illegible]
1 Pl-10 1/2 UM x 5/16 x 10'-5 3/8 MIE FIE (cfn) for SG11 Ord. 10'-6 1/4 It. A153
1 Pl-10 1/2 UM x 5/16 x 10'-11 1/4 MIE FIE (cfp) for SG12 Ord. 11'-0" It. A163
1 Pl. (cch) Ord 21'-10 1/4 It. A152
1 Pl (ccm) Ord 22'-9 3/4 It. A154
1L-3 1/2 x 3 x 5/16 x 11'-8 5/8 MIE FIE (cfs) for SG11 Ord. 11'-9 1/2 It. A155
1L do x 12'-2 1/2 MIE FIE (cft) for SG12 Ord. 12'-3 1/4 It. A164
1L do x 10'-5 3/8 MIE FIE (cfv) for SG11 Ord 10'-6 1/4 It. A157
1L do x 10'-11 1/4 MIE FIE (cfw) for SG12 Ord. 11'-0" It. A165
1L (ccs) Ord. 21'-10 1/4 It. A156
1L (ccv) Ord. 23'-1 1/2 It. A158
1L (cdr)
1 pl (cdb)
2 pls (cdc) Bent.
2 fills (cv)
1L (cdd) Ord 24'-4 1/2" It. A160
2-6" BH @ 20# (caa)
2 pls (cab)
4 Ls (cac)
4 Ls (cad)
4 shop bolts 3/4 x 2" } square hd. hex nut.
2 " " 3/4 x 2 3/4
2 Std. Mall. Iron Bev washers - 13/16" ϕ hole.
1 Pl-10 x 3/8 x 10 1/8" (cga)
2 Ls-3 1/2 x 3 x 3/8 x 0'-9" (cgb)
2 Ls-3 1/2 x 3 1/2 x 3/8 x 0'-6 5/8 (cgc)
1L-4 x 3 x 3/8 x 0'-10" (cgd)

<u>Material for Rail Angle SG13</u>

1L-3 1/2 x 3 1/2 x 3/8 x 9'-1 15/16 MIE FIE (cgf) Ord. 9'-2 3/4 It. A159

<u>Material for Rail Angle SG14</u>

1L-3 1/2 x 3 1/2 x 3/8 x 9'-7 13/16" MIE FIE (cgg) Ord. 9'-8 1/2" It. A166

<u>Material for Skid Girder SG15</u>

1-12" [@ 25# x 11'-6 9/16" M2E (cgh) Ord. 11'-7 1/2" It A183
1 Pl-10 1/2 UM x 5/16 x 11'-5 9/16 MIE FIE (cgk) Ord. 11'-6 1/4" It. A184
1 Pl-10 1/2 UM x 5/16 x 10'-6 3/8 MIE FIE (cgm) Ord. 10'-7 1/4 It. A185
1L-3 1/2 x 3 x 5/16 x 1'-2 MIE FIE (cgp) Ord. 1L-4'-6" It. A186
1L do x 9'-0 1/8 F2E (cgs) Ord. 9'-1" It. A187
1L do x 1'-1 7/8" MIE FIE (cgt) It. A186
1L do x 7'-10 15/16 F2E (cgv) Ord. 7'-11 3/4 It. A188
1L-5 x 3 1/2 x 3/8 x 1'-5 5/8 F2E (cgr)
1L-5 x 3 1/2 x 3/8 x 1'-4 9/16 F2E (cha)
1 Pl-11 1/4 UM x 5/16 x 1'-0 5/8 F2E (chb)
2 Ls-3 1/2 x 3 x 5/16 x 7 3/8 (chc)
1L-3 1/2 x 3 x 5/16 x 0'-9 1/2" (chd)
1 pl. (cga)
2 Ls (cgb)
2 Ls (cgc)
1L (cgd)
1 Pl-17 1/2 UM x 3/8 x 0'-9 7/8 bent. (chf)
1 Fill (cv)
2 Shop bolts 3/4 x 2" } square hd. hex nut
1 Shop bolt 3/4 x 2 3/4
1 Std. Mall. Iron Bev. Washer. - 13/16" ϕ hole.

<u>Material for Rail Angle SG17</u>

1L-3 1/2 x 3 1/2 x 3/8 x 1'-9 7/8 F2E (chv) It. A189

<u>Material for Rail Angle SG18</u>

1L-3 1/2 x 3 1/2 x 3/8 x 7'-0 3/4 F2E (chw) Ord 1L-8'-11 1/2 It. A189

<u>Material for Skid Girder SG16</u>

1-12" [@ 25# x 26'-11 1/16" M2E (chg) Ord. 27'-0" It. A182
1 Pl- (cch) Ord. 21'-10 1/4 It. A152
1 Pl-10 1/2 UM x 5/16 x 22'-9 1/16 MIE FIE (chh) Ord. 22'-9 3/4 It. A154
1L (ccs) Ord. 21'-10 1/4 It. A156
1L 3 1/2 x 3 x 5/16 x 23'-0 3/4 MIE FIE (chk) Ord 23'-1 1/2 It. A158
1L-4 x 3 1/2 x 3/8 x 2'-3 1/8 (chm)
1 Pl-7" UM x 3/8 x 3'-6 7/8 (chp)
1L-3 1/2 x 3 1/2 x 3/8 x 24'-3 1/16 MIE FIE (chs) Ord. 24'-4 1/2 It. A160
2-6" BH @ 20# (caa)
2 pls (cab)
4 Ls (cac)
4 Ls (cad)
1 Pl-17 1/2 UM x 3/8 x 0'-9 7/8 bent. (cht)
1 Fill (cv)
2 shop bolts 3/4 x 2" } square hd. hex nut.
1 shop bolt 3/4 x 2 3/4
1 Std. Mall. Iron Bev. washer. - 13/16" ϕ hole.

Shop Note.
Shop to rivet railing angle to Skid Girder in such a manner that milled end of railing angle lines up with milled end of Skid Girder, and that the angle is square and true with respect to the Girder. Where holes in railing angle and Skid Girder are shown lined up vertically, shop to take care to line up holes.

Shop Note.
Shop to paint all erection marks on left hand end of members as detailed and in an upright position.

For section B-B see sheet G254 AD.

Work this sheet with sheets G254 AD, G254 BD + G254 DD as one sheet.

		1 each	5	Skid Girders	SG11	as shown + noted	
	1 each		6	" "	SG12	as shown + noted.	
		1 each	5	Railing Angle	SG13	as shown	
	1 each		6	" "	SG14	as shown	
1			1	Skid Girder	SG15	as shown	
1			1	" "	SG16	as shown + noted.	
1			1	Railing Angle	SG17	as shown	
1			1	" "	SG18	as shown.	
SPAN 22	SPANS 16 to 21 inc	SPANS 11 to 15 inc	Total No.	Description	Mark	Remarks	Weight each Ton
READ BY SPANS			REQUIRED LIST				

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M Bailey.
RIVETS: 3/4" ϕ
OPEN HOLES: 13/16" ϕ unless noted.
PUNCHING: All holes for shop and field rivets in material 3/4" thick or less may be punched full size.
Finish-
All sheared or flame cut edges and ends of material to have a neat appearance, and, where designated FIN. F2E, etc; shop must shear and grind; chip and grind; or otherwise cut and finish so that members present a finished appearance and conform to dimensions given on drawing. Ends of all assembled members must present a neat appearance.
SHOP PAINT: None, except surfaces not in contact and inaccessible for field sand blasting shall be given one coat of "ACID RESISTING LIQUID" after such surfaces have been thoroughly cleaned and scraped.

Date	Revision	App'd

APPROVED

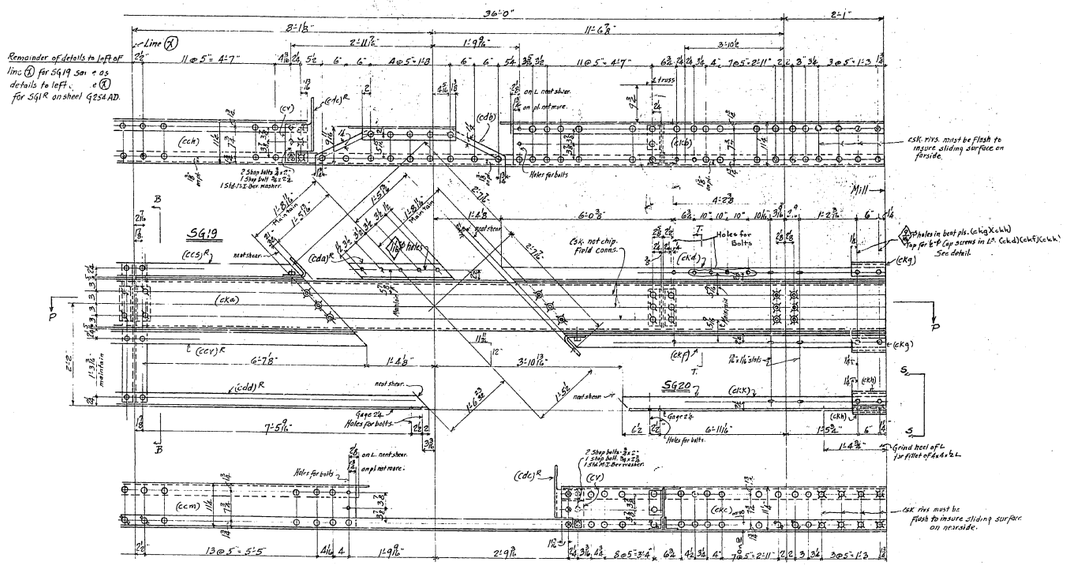
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 4-17-34

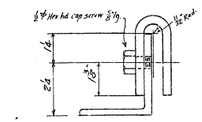
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

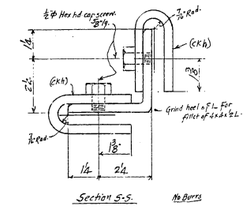
Chicago DRAWING ROOM Judson Pacific WORKS
IN CHARGE Anthony MADE BY E.J.T. 3/29-34
CHECKED BY JAH 4-5-34 TRACED BY E.J.T. 3/30-34
LAST ASSEM. MK. (chr)

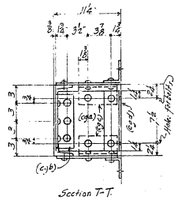
CONTRACT CG15803 SHEET G 254 CD

30-1









Material for Skid Girder SG19

1-12"ℇ @ 25# x 38'-0⅜"	M.E.E.	(cka)	Ord. 41-7" It. A147
1 Pl-10⅝" x ⅝" x 21'-9½"	M.E.P.E.	(ccb)	Ord. 21'-10⅜" It. A152
1 Pl-10⅝" x ⅝" x 17'-0⅜"	M.E.P.E.	(ckb)	Ord. 15'-6¼" It. A148
1 Pl-10½" x ⅝" x 22'-9⅜"	M.E.P.E.	(ccm)	Ord. 22'-9⅜" It. A156
1 Pl-10½" x ⅝" x 11'-0½"	M.E.P.E.	(ckc)	Ord. 11'-0½" It. A149
1L- 3½ x 3 x ⅝" x 21'-9½"	M.E.P.E.	(ccs)R	It. A151
1L do x	17'-3⅜"	M.E.P.E.	(ckd) Ord. 15'-10" It. A170
1L do x	23'-0⅜"	M.E.P.E.	(ccv)R It. A158
1L do x	11'-0½"	M.E.P.E.	(ckf) Ord. 11'-6½" It. A171
1L- 4 x 3½ x ⅜ x	21'-3½"		(cda) P.
1 Pl- 9"W x ⅜ x	3'-11½"		(ckb)
2 Pls bent			(cdc)R.
2 Pls			(cv)
1L			(cdd)R. Ord. 28'-4½" It. A140
2- C 8# @ 20°			(caa)
2 pls			(cab)
1 L 3			(cac)
1 L 3			(cad)
4 Shop bolts ⅞" x 2			
2 " " ⅞" x 2½			
2 Std Malt Iron Bs washers - ⅞" hole.			
2 Pls - 8½"W x ½" x 1'-7" F.S.E. bent, mild steel (ckq)			
4- Cap Screws ¾"ø x ⅝" long. Hex hd.			

1 pl. (cqa)
2 L 3 (cqb)
2 L 3 (cqc)
1 L (cqd)

Material for Railing Angle SG20

1L- 3½ x 3½ x ⅜" x 9'-9⅛"	M.E.P.E.	(ckl)	Ord. 13'-3⅜" It. A172
2 pls - 8½"W x ⅜" x 0'-7⅛"	F.S.E. bent mild steel	(ckh)	
4- Cap Screws ¾"ø x ⅝" long Hex hd.			

Shop Note-
Shop to rivet railing angle to Skid Girder in such a manner that milled end of railing angle lines up with milled end of Skid Girder and that the angle is square end to end with respect to the Girder. Where holes in railing angle and Skid Girder are shown lined up vertically, shop to take care to line up holes.

Shop Note.
Shop to paint all erection marks on left hand end of members as detailed and in an upright position.

For Section B-B see sheet G254AD.

Work this sheet with sheets G254AD, G254BD and G254CD as one sheet.

Span II	Total No.	Description	Mark	Remarks	Weight Each Piece
	1	Skid Girder	SG19	As shown	
	1	Railing Angle	SG20	As shown	
ERD BY SHRD.		REQUIRED LIST			

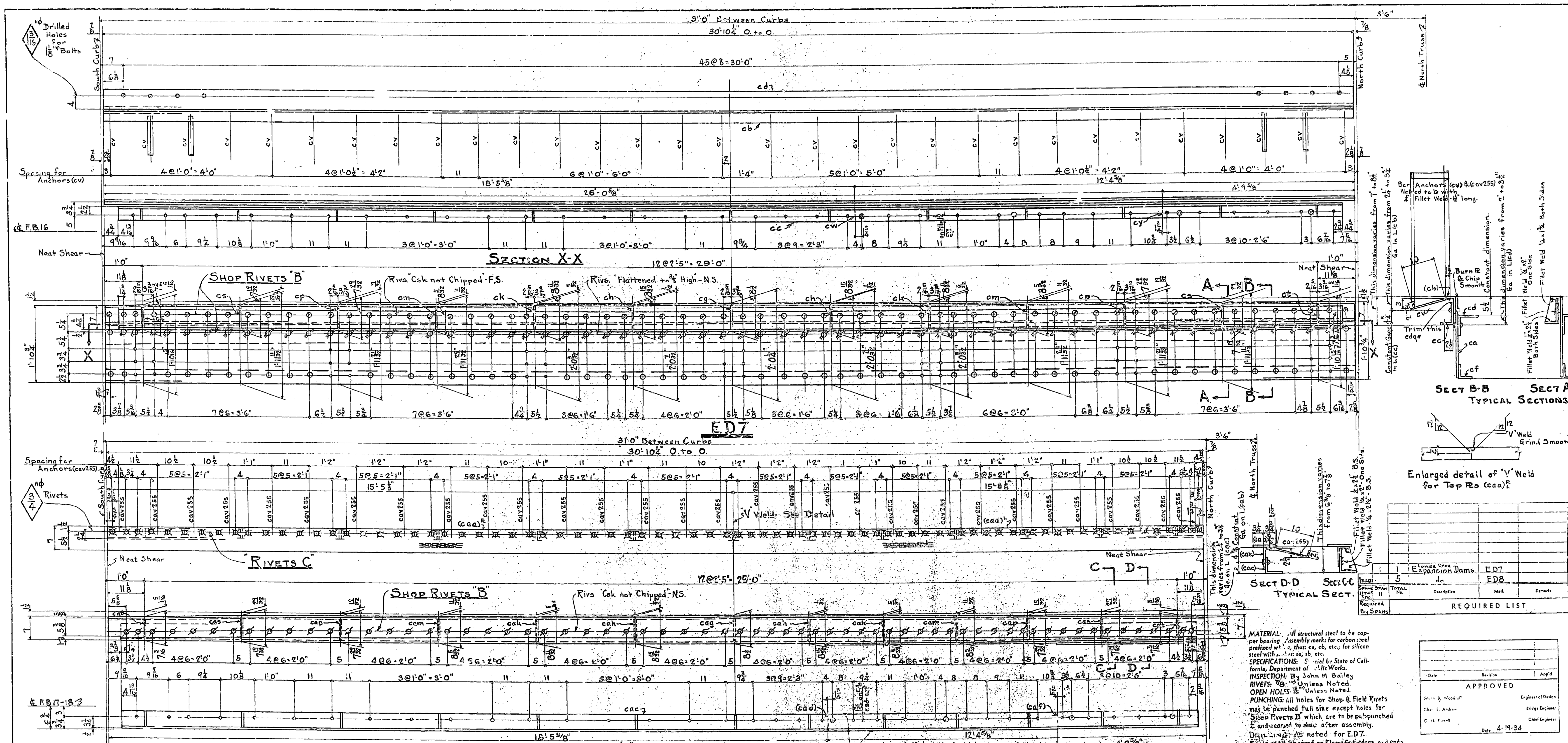
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey
RIVETS: A.S.A.
OPEN HOLES: ⅞" ø unless noted.
PUNCHING: All holes for shop and field rivets in material ⅝" thick or less may be punched full size.
Finish -
All sheared or flame cut edges and ends of material to have a neat appearance, and where designated Fin. F.S.E. etc. shop must shear and grind "chip and grind" all members cut and finish so that members present a finished appearance and conform to dimensions given on drawing. Ends of all assembled members must present a neat appearance.
SHOP PAINT: None, except surfaces not in contact and inaccessible for field sand blasting, shall be given one coat of "Acid Resisting Linseed" after such surfaces have been thoroughly cleaned and scraped.

APPROVED
C. H. Wisewell — Engineer of Design
C. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 4-19-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC - MARSHALL CORPORATION
Chicago DRAWING ROOM Hudson Pacific WORKS
IN CHARGE Bethany ISSUED BY Kent 4-19-34
CHECKED BY [illegible] 4-18-34 TRACED BY
LAST ASSEM. RIV. (ckk)

CONTRACT CC15003 SHEET G 254 BD

30-1



Spans Inc.	Span 11	Total No.	Description	Mark	Remarks	Weight each Tons
1		1	Lower Deck Expansion Dams	ED7		
		5	do	ED8		

Required By Spans — REQUIRED LIST

Material for ED7

1 R 24 UM × 5/8 × 30'-10 1/4" F2E (ca)
1 L 5×3×5/8×30'-10 1/4" F2E-Bent (cb)
1 L 6×4×5/8×30'-2 1/2" (cc)
1 L 6×6×3/4×30'-10 1/4" F2E-Bent (cd)
1 L 4×4×5/8×30'-10 1/4" F2E (cf)
1 Bar 3 1/2 UM × 3/8 × 0'-7 1/4" (cg)
2 Bars do × 0-7 7/32" (ch)
2 Bars do × 0-7 3/32" (ck)
2 Bars do × 0'-6 29/32" (cm)
2 Bars do × 0'-6 21/32" (cp)
2 Bars 3 1/2 UM × 3/8 × 0'-6 11/32" (cs)
2 Bars do × 0'-5 15/16" (ct)
31 Bars 1 1/2 × 5/16 × 1'-1 3/16" Bent (cv)
1 Fill 4 UM × 9/16 × 12'-0 3/4" (cw)
1 Fill 4 UM × 9/16 × 4'-5 3/4" (cy)

Shop Note:
"Rivets C" in Central Knobby Fl. Rs. need not be chipped unless they project above pattern on plates.
Shop Paint: All exposed surfaces not accessible for field sand blasting shall be given one coat "Acid Resisting Liquid". After such surfaces have been thoroughly cleaned and scraped.

Material for ED8

2 Central Knobby Fl. Rs. 7 × 1/2 × 15'-5 5/8" F2E (caa) [illegible]
1 L 6×3 1/2×1/2×30'-10 1/4" F2E-Bent (cab)
1 L 5×5×1/2×30'-2 1/2" (cac)
1 Fill 5 UM × 9/16 × 12'-0 3/4" (cad)
1 Fill 5 UM × 9/16 × 4'-5 3/4" (caf)
1 Bar 3 1/2 UM × 3/8 × 0'-6 [illegible]" (cag)
2 Bars do × 0'-6 [illegible]" (cah)
2 Bars do × 0'-6 [illegible]" (cak)
2 Bars do × 0'-6 [illegible]" (cam)
2 Bars do × 0'-6 [illegible]" (cap)
2 Bars do × 0'-5 31/32" (cas)
2 Bars do × 0'-5 [illegible]" (cat)

31 Bars 1 1/2 × 5/16 × 1'-1 3/16" Bent (cav255)

Shop Note
Shop to paint all erection marks on left hand of member as detailed, and in upright position.

Work This Sheet Together With Sheets G256 & G257

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M Bailey
RIVETS: 7/8" Unless Noted.
OPEN HOLES: 15/16" Unless Noted.
PUNCHING: All holes for Shop & Field Rivets may be punched full size except holes for "Shop Rivets B" which are to be subpunched 1/4" and reamed to size after assembly.
DRILLING: As noted for ED7.
FINISH: All Sheared or Flame Cut edges and ends of material to have a neat appearance, and where designated FIN, F2E, etc., shop must shear & grind, chip & grind, or otherwise cut and finish so that members present a finished appearance and conform to dimensions on drawing. Ends of all assembled members must present [illegible] appearance.
SHOP PAINT: See shop note.
TACK WELDING: Where parts are shown tack welded, contact surfaces must be thoroughly cleaned and scraped before assembly. Parts must be tightly clamped while welding and welded in such a manner so as to permit entering of no foreign substance during field sand blasting.

Date	Revision	App'd

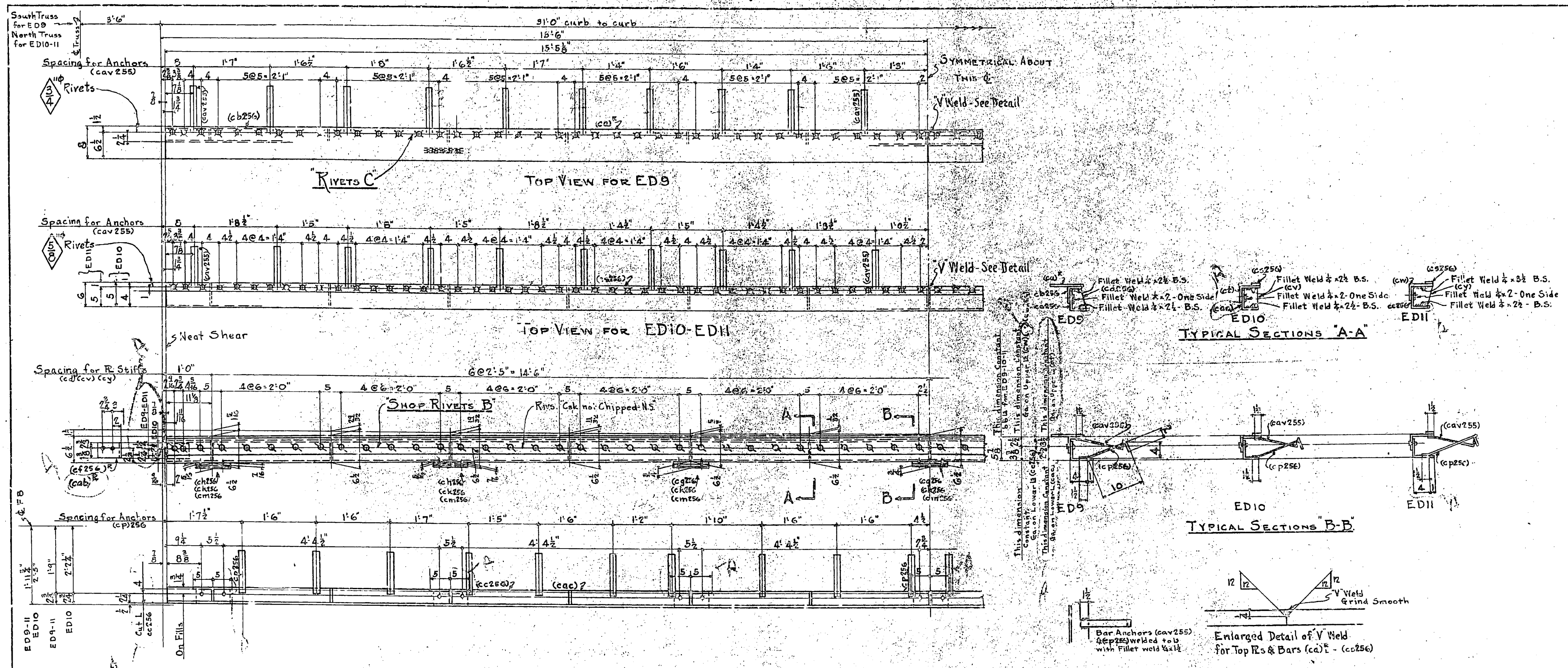
APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 4-19-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC - MARSHALL CORPORATION

Chicago DRAWING ROOM Judson-Pacific WORKS
IN CHARGE Anthony MADE BY JH 8-26-34
CHECKED BY [illegible] 9/6/34 TRACED BY JH 8-26-34
LAST ASSEM. [illegible] (cav)

CONTRACT CG15803 SHEET G 255

30-1



Material for ED9

2 Central Knobby Fl Rs 8×5/8×15'5 5/8" F2E (ca) (ORD 15'5 5/8" IT B19)
1 L 4×3½×½×30'10¼" F2E (cb256) - Bent
1 L 5×5×½×30'10¼" (cc256) - Bent
13 Bars 3½ UM×5/8×0'4 7/8" (cd256)
2 Ls 6×6×7/16×0'3¾" (cf256)
3 Bars 4×3/8×0'8½" (cg256) } Bolt to Ship
4 Rs 8½×5/16×7/16×0'4" (ch256) } Bolt to Ship
7 Bars 4×¼×0'8½" (ck256) } Bolt to Ship
7 Bars 4×1/8×0'8½" (cm256) } Bolt to Ship
20 Bars 1½×5/16×1'1 3/16" (cav255) Bent
20 Bars 1½×5/16×1'1 3/16" (cp256) Bent

Material for ED10

2 Bars 2 UM×5/8×15'5 5/8" F2E (cs256)
1 L 5×5×½×30'10¼" F2E (ct) Bent
1 L 4×4×½×30'10¼" (cac) Bent
13 Bars 3½ UM×5/8×0'4 7/8" (cv)
2 Ls 6×6×7/16×0'3¾" (cab)
3 Bars (cg256) } Bolt to Ship
4 Rs (ch256) } Bolt to Ship
7 Bars (ck256) } Bolt to Ship
7 Bars (cm256) } Bolt to Ship
20 Bars (cav 255) Bent
20 Bars (cp256) Bent

Material for ED11

2 Bars (cs256)
1 L 6×4×½×30'10¼" F2E (cw) Bent
1 L (cc256)
13 Bars 5×5/8×0'4 7/8" (cy)
2 Ls (cf256)
3 Bars (cg256) } Bolt to Ship
4 Bars (ch256) } Bolt to Ship
7 Bars (ck255) } Bolt to Ship
7 Bars (cm256) } Bolt to Ship
20 Bars (cav255) Bent
20 Bars (cp256) Bent

Shop Note:
Shop to paint all erection marks on left hand end of member as detailed, and in upright position.

"Rivets C" in Central Knobby Fl. Rs. need not be chipped unless they project above pattern on plates.

Spans 16 to 21-Inc.	Spans 12 to 16-Inc.	Spans 17 to 22-Inc.	Total No.	Description	Mark	Remarks	Weight each Tons
				Lower Deck			
1 Each			6	Expansion Dams	ED9		
	1 Each		5	do	ED10		
		1 Each	6	do	ED11		
Req'd By Spans			Required List				

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M Bailey
RIVETS: 7/8"⌀ Unless Noted
OPEN HOLES: 15/16"
PUNCHING: All holes for Shop & Field Rivets may be punched full size except holes for "Shop Rivets B" which are to be subpunched ¼" and reamed to size after assembly
FINISH: All Sheared or Flame Cut edges and ends of material to have a neat appearance, and, where designated F1W, F2E, etc., shop must shear and grind; chip and grind; or otherwise cut and finish so that members present a finished appearance and conform to dimensions on drawing. Ends of all assembled members must present a neat appearance.
SHOP PAINT: None, except contact surfaces of parts bolted, which shall be given one coat of "Acid Resisting Liquid" after such surfaces have been thoroughly cleaned and scraped. Parts to be assembled after paint is dry and bolts drawn up tight.

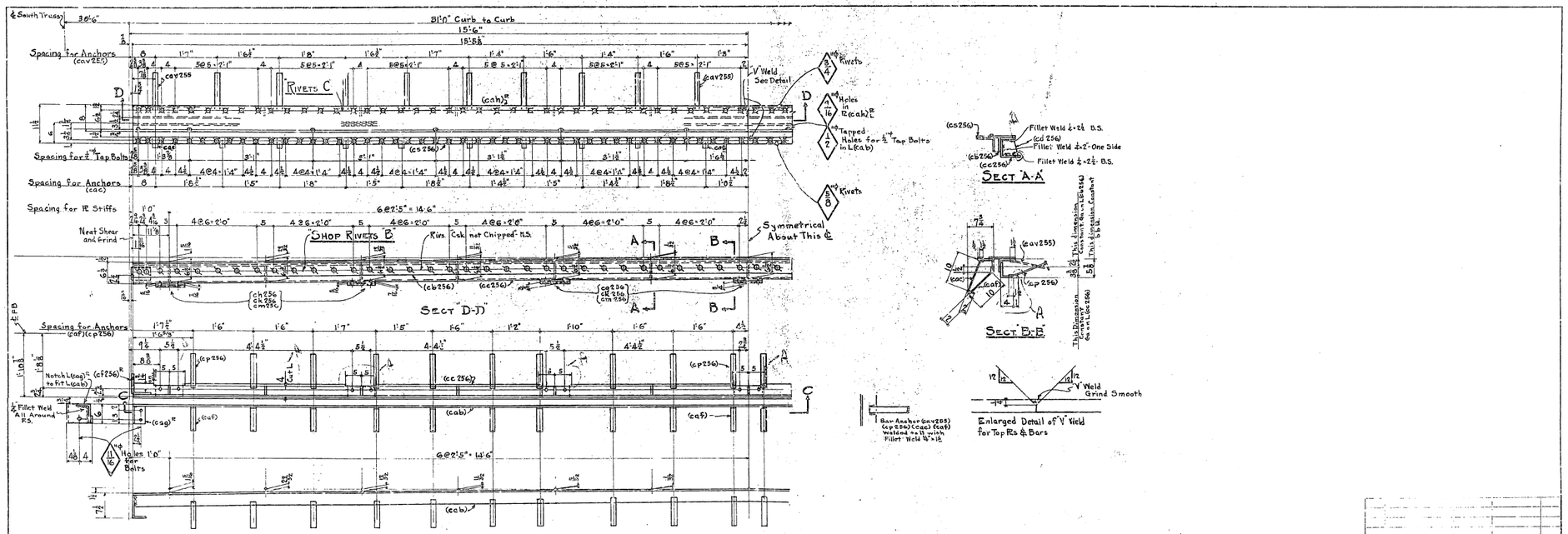
Date	Revision	App'd
5-3-34	Changed Ls (cc256) to (ct) (cac) (cab)	

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 4-19-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
CHICAGO Drawing Room Judson-Pacific Works
In Charge Anthony Made by JH 3-26-34
Checked by Chi. 3-29-34 Traced by JH 3-26-34
Last Assem. Mk. (cy)

Work This Sheet Together With Sheets G255 & G257

CONTRACT CG15803 SHEET G 256



Material for ED12.

2 Central Knobby Fl. Rs. 8 x 8 x 15'-5⅛" FZE (cah) E Ord 15'5⅜" IT B55
1 L 4 x 3½ x ½ x 30'-10½" FZE (cb 256) Bent
1 L 5 x 5½ x ½ x 30'-10½" (cc 256) Bent
2 Bars 2" UM x ⅞ x 15'-5⅜" FZE (cs 256)
1 L 6 x 4 x ⅞ x 30'-10½" FZE (cab) Bent
13 Bars 3½ IM x ⅝ x 0'-7⅞" (cd 256)
2 Pl 6 x 6 x ⅞ - 3'-3½" E (cf 256) E
5 Bars 4 x ⅝ x 0'-8½" (cg 256, cm 256) Bolt to Snip
4 Bars 8½ x ⅛ x ⅝ x 0'-10" (ch 256)
7 Bars 4 x ⅛ x 0'-8½" (ck 256)
7 Bars 4 x ⅛ x 0'-8½" (cm 256)
20 Bars ½ x 2½ x 1'-1⅝" (cav 255) Bent
20 Bars ½ x 2½ x 1'-1⅝" (cp 256) Bent
20 Bars ½ x 2½ x 1'-1⅝" (cac) Bent
20 Bars ½ x 2½ x 1'-1⅝" (caf) Bent
12 - 1" UM x 1⅛ long Tap Bolts.
2 Pl 7 x 6 x ½ x 0'-6" (cag) E

Shop Note
Shop to paint all erection marks on left hand end of member as detailed, and in upright position.

Tap bolts need not be "Copper Bearing" since they are to be removed after concrete is poured in pocket at Bent E23.

"Rivets C" in Central Knobby Fl. Rs. need not be chipped unless they project above pattern on plates.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc., for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M Bailey
RIVETS: ⅞" ø Unless Noted.
OPEN HOLES: 15/16" ø Unless Noted.
PUNCHING: All holes for Shop & Field Rivets may be punched full size except holes for "Shop Rivets B" which are to be subpunched 4" and reamed to size after assembly.
FINISH: All sheared or flame cut edges & ends of material to have a neat appearance; and, where designated FIN, FZE, etc., shop must shear and grind, chip and grind, or otherwise cut and finish so that members present a finished appearance and conform to dimensions on drawing. Ends of all assembled members must present neat appearance.
SHOP PAINT: None, except contact surfaces of parts bolted which shall be given one coat of Acid Resisting Lead after such surfaces have been thoroughly cleaned and scraped. Parts to be assembled after paint is dry and bolts drawn up tight.

Span 22	Lower Deck	Expansion Dam	ED12		
Read By Spans	Total No	Description	Mark	Remarks	Weight each Piece
	REQUIRED LIST				

5-3-34 Changed ⅞ ø to 256

APPROVED
Engineer of Design
Bridge Engineer
C.E. of Engineer
Date 4-19-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
CHICAGO Engineering Branch Judson-Pacific Works
In Charge Anthony Made by JFH 5-3-34
Checked by G.A.C. 4-9-34 Traced by
Last Assem. Mk. (Cag)

CONTRACT CG15803 SHEET G 257

Work This Sheet Together With Sheets GZ55 & GZ56

Rev'd 5/3

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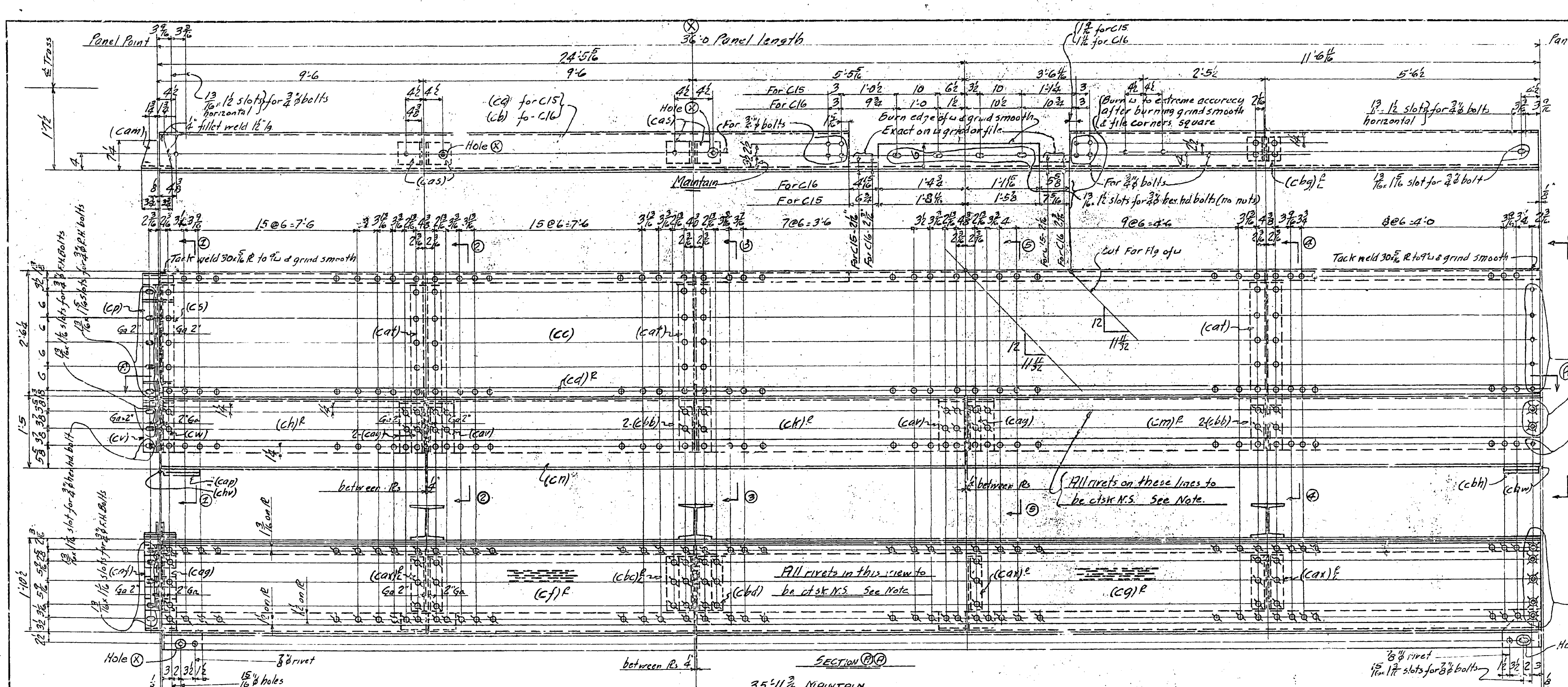


Walkways C15 and C16 alike except for 9" ⊔

Material for One Walkway C15 or C16

- One 9⊔15.0# × 35'-11 3/4 (ca) F2E for C15
- One 9⊔15.0# × 35'-11 3/4 (cb) F2E for C16
- 1-℞ 30UM × 5/16 × 35'-11 3/4 (cc) F2E
- 1-L 3 × 3 × 3/8 × 35'-11 3/4 (cd)R F2E
- 1-Cent. Knobby ℞ 19 1/2 × 3/8 × 18'-11 3/4 (cf)R F2E ord 19'-0 1/4 Item B20
- 1- do 19 1/2 × 3/8 × 16'-11 3/4 (cg)R F2E ord 17'-0 1/4 Item B21
- 1-℞ 16UM × 1/2 × 9'-5 3/4 (ch)R F2E bent
- 1-℞ 16UM × 1/2 × 14'-11 1/16 (ck)R F2E bent
- 1-℞ 16UM × 1/2 × 11'-6 7/16 (cm)R F2E bent
- 1-L 7 × 4 × 1/2 × 35'-11 3/4 (cn) F2E
- 1-L 3 1/2 × 3 1/2 × 3/8 × 3'-9 1/4 (cp)
- 1-L 3 1/2 × 3 1/2 × 3/8 × 3'-9 1/4 (cs)
- 3-Ring Fills 2"⌀ × 3/8"
- 1-℞ 9 1/2 UM × 3/8 × 2'-1 (ct)
- 1-L 3 1/2 × 3 1/2 × 3/8 × 0'-10 1/4 (cv)
- 1-L 3 1/2 × 3 1/2 × 3/8 × 0'-10 1/4 (cw)
- 1-℞ 7 1/2 × 5/16 × 1'-6 3/16 (cy) bent
- 1-Fill 2 1/2 × 1/8 × 0'-7 1/2 (cx)
- 1-℞ 7 1/2 × 3/8 × 1'-1 5/8 (caa)
- 1-Fill 7 1/2 × 7/16 × 0'-2 1/2 (cab)
- 1-℞ 7 1/2 × 5/16 × 0'-9 9/16 (cac) bent
- 1-Fill 7 1/2 × 1/8 × 0'-5 1/8 (cad)
- 1-L 3 1/2 × 3 1/2 × 3/8 × 1'-4 1/4 (caf)
- 1-L 3 1/2 × 3 1/2 × 3/8 × 1'-4 1/4 (cag)
- 1-℞ 7 1/2 × 5/16 × 2'-0 3/8 (cah)
- 1-℞ 7 1/2 × 5/16 × 1'-11 1/2 (cak)
- 1-℞ 7 1/2 × 5/16 × 1'-0 7/16 (cam) bent
- 1-L 6 × 4 × 1/2 × 1'-1 1/2 (can)
- 1-℞ 8 1/2 × 9/16 × 0'-9 1/2 (cap)
- 4-Ls 6 × 4 × 3/8 × 0'-5 1/2 (cas)
- 3-8 H's 31# × 3'-6 (cat)
- 2-℞s 13 × 1/2 × 1'-3 1/4 (cav) bent
- 3 ℞s 11UM × 3/8 × 1'-8 3/8 (caw)
- 3-Ls 4 × 3 1/2 × 3/8 × 1'-1 5/8 (cax)R
- 3-Ls 3 1/2 × 3 1/2 × 3/8 × 0'-10 1/4 (cay)
- 6-Ls 3 1/2 × 3 × 3/8 × 0'-11 (cba)R L
- 4-Ls 3 1/2 × 3 1/2 × 3/8 × 0'-10 1/4 (cbb)
- 2-Ls 4 × 3 1/2 × 3/8 × 1'-1 5/8 (cbc)R L
- 1-℞ 13 × 3/8 × 1'-1 5/8 (cbd)
- 2-Ls (cax)L
- 1-℞ 11UM × 3/8 × 1'-5 5/16 (cbf) (2'-0 cuts 2)
- 2-Ls 4 × 3 1/2 × 3/8 × 0'-6 (cbg)R L
- 1-℞ 8 1/2 × 9/16 × 0'-9 1/2 (cbh)
- 1-℞ 8 1/2 × 9/16 × 0'-9 1/2 (chv)
- 1-℞ 8 1/2 × 9/16 × 0'-9 1/2 (chw)

Note:-

Rivets shown thus ⌀ thru Central Knobby Walk plates are to be ctsk. and have a maximum height not more than the height of pattern on plate.
All other rivets shown thus ⌀ are to be ctsk. and have a maximum height of 1/8"

Shop to paint Erection marks on Left hand end of member as detailed and in an upright position.

Work this sheet with sheets G258 BH to HH.
For Sections 1 to 6 see sheet G258 GH
All brackets shown in Sects. 1-2-3-4-5-7-8-10-11-12-14-15 & 18 to be riveted up in a fixture to assure squareness.

Where parts are tack welded, contact surfaces must be thoroughly cleaned and scraped before assembly, and parts must be tightly clamped while welding. Welding shall be done in such a manner so as to permit entering of no foreign substance during field sand blasting.

	Total No.	Description	Mark	Remarks	Weight each Tons
1 each span	12	Walkways	C16		
do	12	do	C15		
Spans 11 to 22					

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M Bailey.
RIVETS: 3/4"⌀ unless noted
OPEN HOLES: 13/16"⌀ unless noted.
PUNCHING: all holes to be punched full size except holes marked R.T. which are to be sub punched 1/4" & reamed to size thru a metal templet.
Finish:- All sheared or flame cut edges and ends of material to have a neat appearance and where designated F1W, F2E, etc. Shop must shear, grind, chip and grind or otherwise cut and finish so that members present a neat appearance and conform to dimensions given on drawings. Ends of all assembled members must present a NEAT appearance.
SHOP PAINT: None, except as outlined below, which shall be given one coat of "ACID RESISTING LIQUID" -
① All surfaces exposed to the elements not readily accessible for field sand blasting.
② Contact surfaces of parts bolted.
All painted surfaces must be thoroughly cleaned and scraped before paint is applied.
Bolted parts to be assembled after paint is dry and bolts drawn up tight.

Date	Revision	App'd

APPROVED

- Glenn B. Woodruff — Engineer of Design
- Chas. E. Andrew — Bridge Engineer
- C. H. Purcell — Chief Engineer

Date 4-24-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Judson Pacific WORKS
IN CHARGE Anthony MADE BY LCR 3-24-34
CHECKED BY ATA 4-5-34 TRACED BY
LAST ASSEM. MK.

CONTRACT CG15803 SHEET G 258 AK

Panel point

Panel Point

Work this sheet with sheets G25BAH & G25BCH to HH
For Sects. 1-2-3-4-6-7 see Sheet G253GH
For General Notes see Sheet G25BAH

Material for One Walkway C17 or C18

One 9u 15.0# x 35'-11 3/32" (cck) F2E for C17
One 9u 15.0# x 35'-11 3/32" (ccm) F2E for C18
1-R (cc)
1-L (cd)L
1-Cent Knobby R (cf)L
1- do (cg)L
1-R (ch)L for C17
1-R 19WN 2 1/2 x 9'-5 3/8" (cbk) F2E bent for C18
1-R (ch)L
1-R (cm)L
1-L 7"x4"x 1/2 x 35'-11 3/8" (cgg) F2E for C17
1-L 7"x4"x 1/2 x 35'-11 3/8" (cbm) F2E for C18
1-L (cp)
1-L (cz)
3- Ring Fills 2"x 3/8"
1-R (ct)
1-L (cv)
1-L (cw)
1-R (cy)
1-Fill (cx)
1-R (caa)
1-Fill (cab)
1-R (cac)
1-Fill (cad)
1-L (caf)
1-L (cag)
1-R (cah)
1-R (cat)
1-R (cam)
1-L (can)
1-R (cap)
4-L3 (cas)
3-HS (cat)
2-Rs (cav)
3-Rs (caw)
2-L3 (cax)R
3-L2 (cay)L
3-L2 (caz)
6-L3 (cba)E
4-L3 (cbb)
2-L3 (cbc)E
1-R (cbd)
1-R (cbf)
2-L3 (cbg)E
1-R (cbh)
1-R (chv)
1-R (chw)

Each span	12	Walkways	C18		
do	12	do	C17		
Spans 11 to 22	Total No.	Description	Mark	Remarks	Weight Wt. & Net

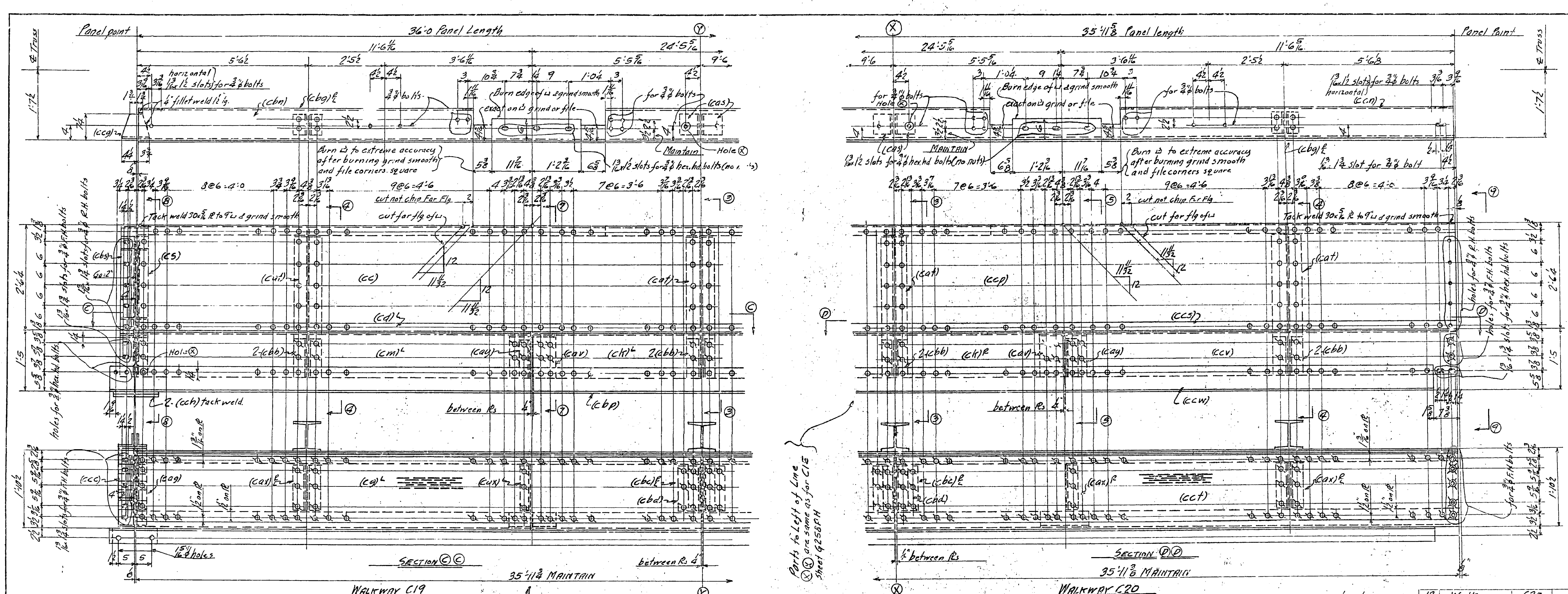
REQUIRED LIST

APPROVED
Glenn B. Woodruff — Engineer of Design
Carl E. Anthony — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 4-26-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago HEAVY STEEL ROOM Judson Pacific WORKS
IN CHARGE Anthony MADE BY CCV 3-26-34
CHECKED BY A.T.A. 4-2-34 TRACED BY
LAST ASSGN. NO.

CONTRACT C46803 SHEET G 25B AH

30-1



MATERIAL FOR ONE WALKWAY C19

One 9w 15.0# x 35'-11 3/8 (cbn) F2E
1-PL (cc)
1-L (cd)L
1-Cent. Knobby PL (cg)L
1- do (cf)L
1-PL (ch)L
1-PL (ck)L
1-PL (cm)L
1-L 7x4x1/2x 36'-6 7/8 (cbp) F2E
1-L 4x3 1/2x 3/8x 3'-9 1/4 (cbs)
1-L (cs)
3-Ring Fills 2 1/2 ø x 3/8
1-PL (ct)
1-L 4x3 1/2x 3/8x 0'-10 1/4 (cbt)
1-L (cw)
1-PL 8x 5/16x 1'-6 3/16 (cbv) bent
1-Fill 2 1/2 (FIW) x 1/8 x 0'-8 (cbw)
1-PL 8x 3/8x 1'-1 5/8 (cbx) F2E
1-Fill 8x 7/16x 0'-2 1/2 (cby)
1-PL 8x 5/16x 0'-9 9/16 (cca) bent
1-Fill 8x 1/8x 0'-5 1/8 (ccb)
1-L 4x3 1/2x 3/8x 1'-4 1/4 (ccc)
1-L (cag)
1-PL 8x 5/16x 2'-0 3/8 (ccd) F2E
1-PL 8x 5/16x 1'-11 1/2 (ccf)
1-PL 8x 5/16x 1'-0 7/16 (ccg) bent
1-L (can)
2-PLs 4x 9/16x 1'-1 (cch) tack weld
4-Ls (cas)
3 H's (cat)
2-PLs (cav)
3-PLs (caw)
2-Ls (cax)R
3-Ls (cax)L
3-Ls (cay)
6-Ls (cba)R/L
4-Ls (cbb)
2-Ls (cbc)R/L
1-PL (cbd)
1-PL (cbf)
2-Ls (cbg)R/L
1-PL (cbh)
1-PL (chw)

MATERIAL FOR ONE WALKWAY C20

One 9w 15.0# x 35'-11 3/8 (ccn) F2E
1-PL 30 UM x 5/16x 35'-11 3/8 (ccp) F2E
1-L 3x3x 3/8x 35'-11 3/8 (ccs) F2E
1-Cent. Knobby PL 19 1/2x 3/8x 16'-11 3/8 (cct) F2E {ord 16'-11 7/8 Item 822}
1- do (cf)R
1-PL 16 UM x 1/2x 11 5/16 (ccv) bent F2E
1-PL (ch)R
1-PL (ck)R
1-L 7x4x 1/2x 35'-4 1/8 (ccw) F2E
1-L (cp)
1-L (cs)
3-Ring Fills 2"ø x 3/8"
1-PL (ct)
1-L (cv)
1-L (cw)
1-PL (cy)
1-Fill (cx)
1-PL (caa)
1-Fill (cab)
1-PL (cac)
1-Fill (cad)
1-L (caf)
1-L (cag)
1-PL (cah)
1-PL (cak)
1-PL (cam)
1-L (can)
1-PL (cap)
4-Ls (cas)
3-H's (cat)
2-PLs (cav)
3-PLs (caw)
3-Ls (cax)R
2-Ls (cax)L
3-Ls (cay)
6-Ls (cba)R/L
4-Ls (cbb)
2-Ls (cbc)R/L
1-PL (cbd)
1-PL (cbf)
2-Ls (cbg)R/L
1-PL (chr)

1 each span
do
Spans 11 to 22

Total No.	Description	Mark	Remarks	Weight each Tons
12	Walkways	C20		
12	do	C19		

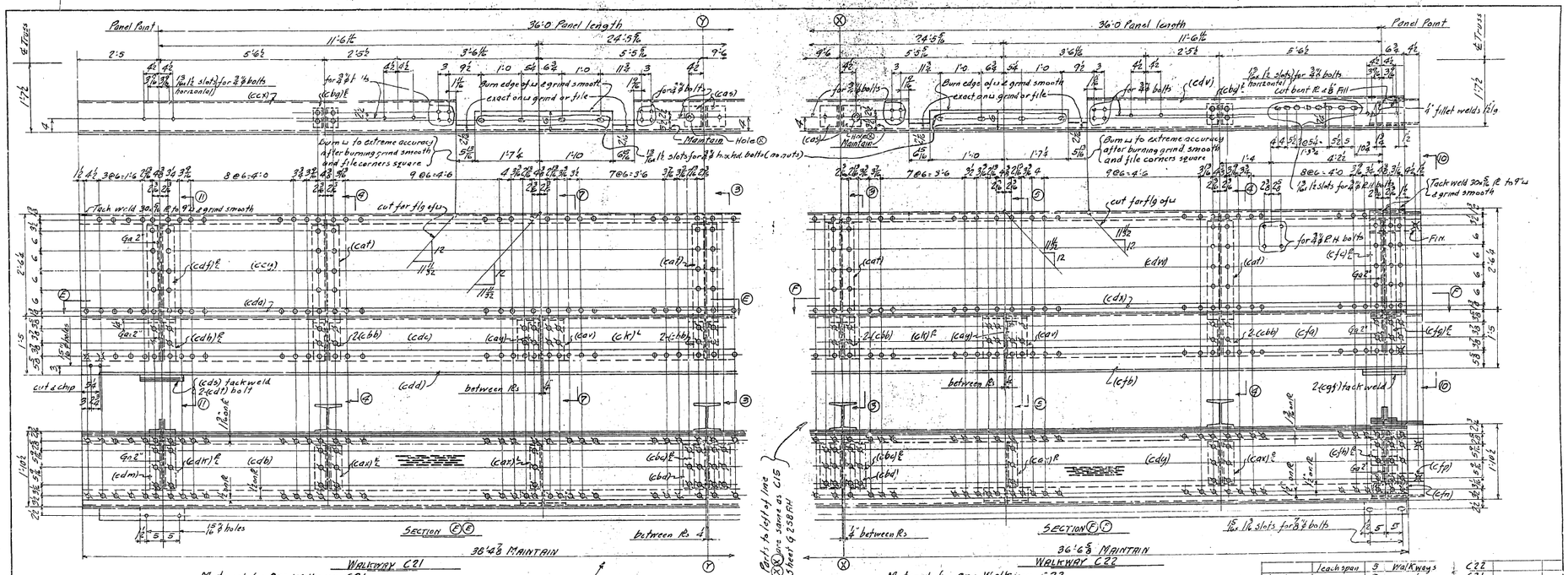
REQUIRED LIST

Work this sheet with sheets G258AH-BH & (DH to HH)
For Sections 1 to 9 see sheet G258GH
For General Notes see Sheet G258AH

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 4-24-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Judson Pacific WORKS
IN CHARGE Anthony MADE BY LCK 3-27-34
CHECKED BY A.T.A. 4-5-34 TRACED BY
LAST ASSEM. MK.
CONTRACT CG15303 SHEET G 258 CH



Material for One Walkway C21

One 9w 15.0# x 38'-4⅜ (ccx) F2E
1-R 30 UM x ⅝ x 38'-4⅜ (ccy) F2E
1-L 3 x 3 x ⅜ x 38'-4⅜ (cda) F2E
1- Cent Knobby R 19½ x ⅜ x 19'-4⅜ (cdh) F2E ord 1953 Item B26
1- do (cf)L
1-R 16 UM x ½ x 13'-11⅞ (cdc) F2E bent
1-R (ck)L
1-R (ch)L
1-L 7 x 4½ x ½ x 38'-4⅜ (cdd) F2E
2-L 3½ x 3½ x ⅜ x 2'-9 (cdf)L
3- Ring Fills 2½ x ⅜
1-R 16 UM x ⅜ x 2'-0⅜ (cdg)
2-L 3½ x 3½ x ⅜ x 0'-10¾ (cdh)E
2-L 3½ x 3½ x ⅜ x 1'-4¼ (cdk)E
1-Fill 7½ x ⅜ x 1'-1⅜ (cdm)
1-L 6 x 4 x ½ x 1'-1⅜ (cdn)
2-Fills 3½ x ⅜ x 1'-1⅜ (cdp) (bolt)
1-Fill 4¢ x ⅜ x 1'-1 (cds) tack weld
2- Shims 4¢ x ⅜ x 1'-1 (cdt) bolt
4-L (coa)
3-H's (cat)
2-Rs (cav)
3-Rs (caw)
2-L (cax)R
3-L's (cay)L
3-L (cag)
6-L (cba)E
4-L (cbb)
2-L (cbc)E
1-R (cbd)
1-R (cbf)
2-L (cbg)E
1-R (cbh)
1-R (chw)

Material for One Walkway C22

One 9w 15.0# x 36'-6⅜ (cdw) F2E
1-R 30 UM x ⅝ x 36'-6⅜ (cdw) F2E
1-L 3 x 3 x ⅜ x 36'-6⅜ (cdx) F2E
1- Cent Knobby R 19½ x ⅜ x 17'-6⅜ (cdv) F2E ord 1953 Item B23
1- do (cf)R
1-R 16 UM x ½ x 12'-1⅞ (cfa) F2E bent
1-R (ck)E
1-R (ch)R
1-L 7 x 4½ x ½ x 36'-6⅜ (cfb) F2E
2-L 3½ x 3½ x ⅜ x 3'-9¼ (cfc)E
1-L 6 x 4½ x ½ x 1'-1½ (cfd) (cut 6.6)
6- Ring Fills 2½ x ⅜
1-R 9½ UM x ⅜ x 2'-1⅞ (cff)
2-L 3½ x 3½ x ⅜ x 0'-10¾ (cfg)E
2-L 3½ x 3½ x ⅜ x 1'-4¼ (cfh)E
1-R 15½ x 1'-5⅞ (cfk) bent
1-R 10¾ x ⅜ x 0'-10¾ (cfm) FIE
1-Fill 3½ x ⅜ x 0'-10¾ (cfn) FIE
1-Fill 2'-1 FIW x ⅜ x 1'-3 (cfp)
1-Fill 10½ FIW x ⅜ x 1'-1⅜ (cfs)
1-R 15 x ⅜ x 1'-1⅜ (cft) F2E
1-Fill 7½ x ⅜ x 0'-2½ (cfv)
1-Fill 7½ x 4 x 0'-5⅜ (cfw)
1-Fill 3 x ⅜ x 0'-10¾ (cfx)
1-R 15 x ⅜ x 2'-10½ (cfy) bent FIE
1-R 10½ FIW x ⅜ x 2'-3⅜ (cga)
1-R 7½ x ⅜ x 1'-1½ (cgb)
1-R 10½ FIW x ⅜ x 0'-6⅜ (cgc)
1-R 15 x ⅜ x 1'-3 (cgd) F1E bent
1-L (cg)
1-L (cs)
1-R (cf)
1-L (cr)
1-L (cw)
1-R (cq)
1-Fill (cx)
1-R (caa)
1-Fill (cab)
1-R (cac)
1-Fill (cad)
1-L (caf)
1-L (cag)
1-R (cah)
1-R (cak)
1-R (cam)
1-L (can)
1-R (cap)
2-Rs 4x ⅝ x 1'-1 (cgf) tack weld
4-L (ce3)
3-H's (cat)
2-Rs (cav)
3-Rs (caw)
3-L's (cax)R
2-L's (cay)L
3-L's (cag)
6-L (cba)E
4-L (cbb)
2-L (cbc)E
1-R (cbd)
1-R (cbf)
2-L (cbg)E
1-R chv

Mark this sheet with sheets G258AH BH-CH & EH to HH.
For Sections 1 to 9 see sheets G258GH
For Sections 10 & 11 see sheet G258BNH
For general notes see sheet G258AH

	1 each span	3	Walkways	C22	
1 each span		5		C21	
Spans 12 to 16	Spans 11 & 15	Total No.	Description	Mark	Remarks

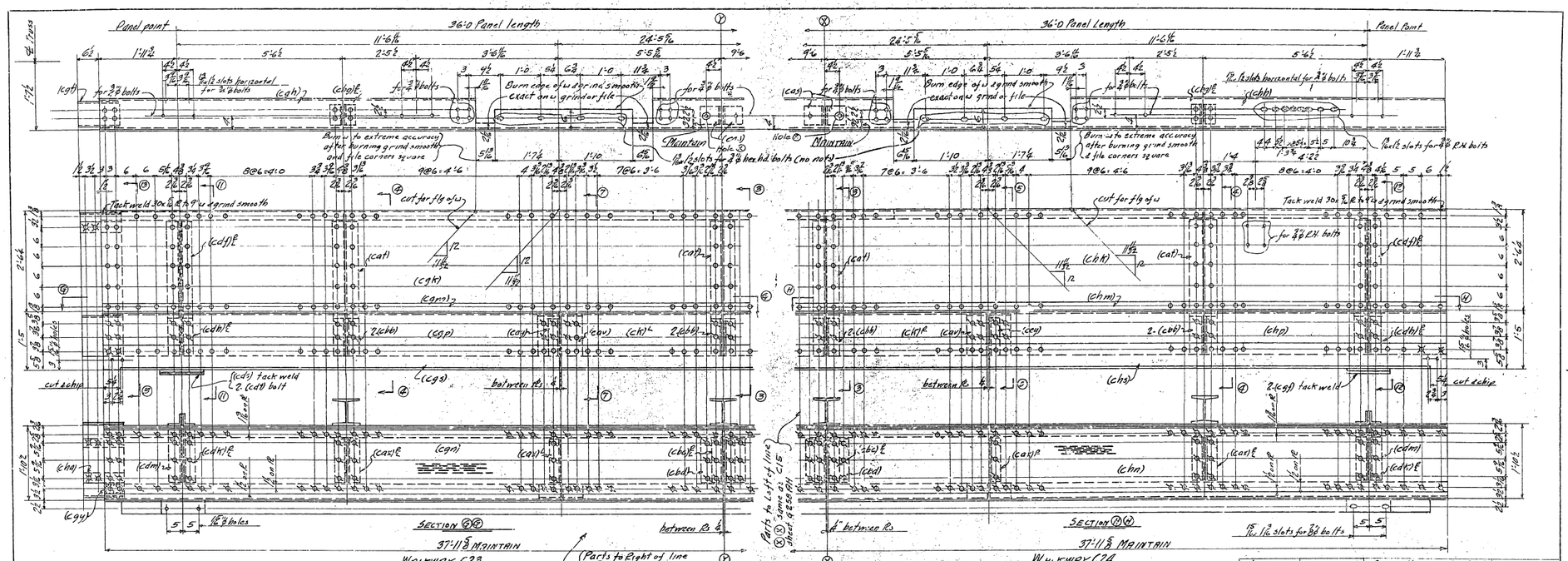
REQUIRED LIST

APPROVED
Date ____ Revision ____ Appd
Engineer of Design
Bridge Engineer
Chief Engineer
Dec 4-24-35

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0 Truss Spans - Piers E9 to E23
McCLINTIC - MARSHALL CORPORATION
Chicago DRAWING ROOM Judson Pacific WORKS
IN CHARGE A Anthony MADE BY LCY 3-27-36
CHECKED BY A.T.A. 4-1-36 TRACED BY
LAST ADDED. DR.

CONTRACT CG16003 SHEET 9 258 (on)

30-1



Material for One Walkway C23

One 9-w 15.0# x 37'-11 5/8" (cgh) F2E
1-R 30 WM x 5/16 x 37'-11 5/8" (cgk) F2E
1-L 3" x 3" x 3/8" x 37'-11 5/8" (cgm) F2E
1- Cent. Knobby R 19 1/2" x 3/8" x 18'-11 5/8" (cgn) F2E (ord 19-06 Item 825)
1- do (cf)L
1-R 16 WM x 1/2" x 13'-6 7/16" (cgp) F2E bent
1-R (ch)L
1-R (ch)L
1-L 7"x4"x1/2" x 37'-11 5/8" (cgs) F2E
1-R 12 1/2" x 7/16" x 1'-3 (cgt) F1E bent
1-Fill 6 FlW x 5/8" x 0'-6 3/8" (cgv)
1-R 12 1/2" x 1/2" x 1'-5 7/16" (cgw) bent
1-Fill 10"x 3/8" x 0'-6 (cgx) F1E
1-Fill 3" x 3/8" 0'-6 (cgy) F1E
1-Fill 22 FlW x 5/8" x 1'-0 1/2" (cha)
1-Fill 6 FlW x 5/8" x 1'-1 5/8" (chb)
1-R 12 1/2" x 3/8" x 1'-1 5/8" (chc) F2E
1-Fill 3" x 3/8" x 0'-6 (chd) F1E
1-Fill 6 FlW x 5/8" x 2'-3 3/8" (che)
1-R 12 1/2" x 3/8" x 2'-10 1/2" (chg) bent F1E
2. L (cdf)E
3-Ring Fills 2 1/4" x 3/8"
1-R (cdg)
2. L (cdh)E
2. L (cdk)E
1-Fill (cdm)
1-L (cdn)
2. Fills (cdp) bolt
1-Fill (cds) tack weld
2. Shims (cdt) bolt
4-L (cas)
3-H "cat"
2-Rs (cav)
3-Rs (caw)
2-L (cax)R
3-L (cax)L
3-L (cay)
6-L (cbc)E
4-L (cbb)
2. L (cbc)E
1-R (cbd)
1-R (cbf)
2. L (cbg)E
1-R (cbh)
1-R (chw)

Material for One Walkway C24

One 9-w 15.0# x 37'-11 5/8" (chh) F2E
1-R 30 WM x 5/16 x 37'-11 5/8" (chk) F2E
1-L 3" x 3" x 3/8" x 37'-11 5/8" (chm) F2E
1- Cent. Knobby R 19 1/2" x 3/8" x 18'-11 5/8" (chn) F2E (ord 19-06 Item 825)
1- do (cf)R
1-R 16 WM x 1/2" x 13'-6 7/16" (chp) F2E bent
1-R (ch)R
1-R (ci)R
1-L 7"x4"x1/2" x 37'-11 5/8" (chs) F2E
1-L (cp)
1-L (cs)
6-Ring Fills 2 1/4" x 3/8"
1-R (cf)
1-L (cv)
1-L (cw)
1-R (cy)
1-Fill (cx)
1-R (coa)
1-Fill (cob)
1-R (coc)
1-Fill (cod)
1-L (caf)
1-L (cag)
1-R (cah)
1-R (cak)
1-R (cam)
1-L (can)
1-R (cap)
4-L (cas)
3-H's (caf)
2-Rs (cav)
3-Rs (caw)
3-L (cax)R
2-L (cax)L
3-L (cay)
6-L (cbc)E
4-L (cbb)
2-L (cbc)E
1-R (cbd)
1-R (cbf)
2. L (cbg)E
2. L (cdf)E
2. L (cdk)E
1-R (cdg)
1-L 6"x3 1/2"x 1/2" (cht)
2-Rs (cgf) tack weld
1-R (chv)

Work this sheet with sheets G258AH to HH & FH to HH
For sections 1 to 9 see sheet G258GH
For sections 10 to 13 see sheet G258HH
For general Notes see sheet G258AH

Each span		6	Walkways	C24	
	Each span	6	do	C23	
Spans 1 to 21	Spans 17 to 22	Total No.	Description	Mark	Remarks

REQUIRED LIST

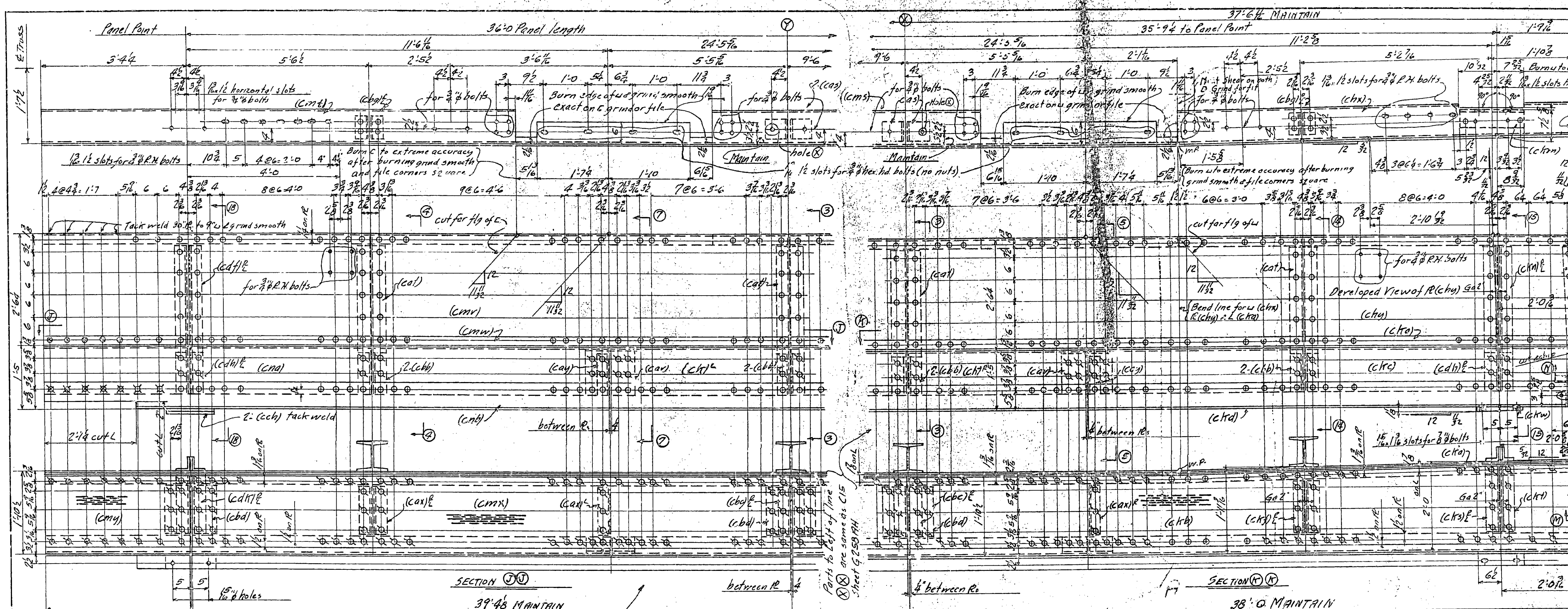
Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Otto L. Andres — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 4-24-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago WORKING BOOK Judson Pacific WORKS
IN CHARGE Anthony TRACED BY LCF 4-3-34
CHECKED BY A.T.A. 4-7-34 TRACED BY
LAST ADDED NO.

CONTRACT 0615003 SHEET G 258 EH

30-1



Material for Walkway C25

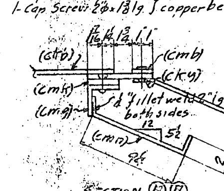
One 9⊔ 15.0# x 39'-4⅛ (cmt) F2E ord 39'-8 Item
1-R 30 UM x 5/16 x 39'-4⅛ (cmv) F2E ord 39'-8 Item
1-L 3 x 3 x ⅜ x 39'-4⅛ (cmw) F2E ord 39'-8 Item
1-Cent. Knobby R 19½ x ⅜ x 16'-11¼ (cmx) F2E ord 16'-11¾ Item B27
1- do (cf)L
1- do 19½ x ⅜ x 3'-4⅛ (cmy) F2E ord.
1-R 16 UM x ½ x 14'-10 13/16 (cmo) F2E bent ord.
1-R(ck)L
1-R(ch)L
1-L 7 x 4 x ½ x 39'-4⅛ (cnb) F2E ord 41'-0 Item
2-Ls(cdf)R/L
3-Ring Fills 2"φ x ⅜
2-Rs (cbd)
2-Ls (cdk)R/L
2-Ls(cdm)R/L
1-R(cdg)
1-L(cht)
2-Fills (cch) Tack weld
2-Ls(cbg)R/L
3-H's(cat)
2-Ls (cax)R
4-Ls(cbb)
3-Rs (caw)
6-Ls(cba)R/L
3-Ls(cax)L
2-Rs(cav)
3-Ls(cay)
1-R(cbf)
4-Ls(cas)
2-Ls(cbc)R/L
1-R(cbh)
1-R(chw)

Work this sheet with sheets
G258AH to EH-GH & HH
For Sections 1 to 9 see sheet G258GH
For Sections 10 to 18 see sheet G258HH
For General Notes see sheet G258AH

Material for Walkway C26

One 9⊔ 15.0# x 26'-6¼ (cms) F2E
One 9⊔ 15.0# x 11'-0 7/16 (chx) F2E
1-R 30 UM x 5/16 x 37'-7 9/16 (chy) F2E bent
1-L 3 x 3 x ⅜ x 37'-7 9/16 (cka) F2E bent
1-Cent. Knobby R 21⅝ x ⅜ x 19'-0 (ckb) F2E ord 21½ x ⅜ x 20'-0¼ Item B26
1- do (cf)R
1-R 16 UM x ½ x 13'-6 11/16 (ckc) F2E bent
1-R(ck)R
1-R(ch)R
1-L 7 x 4 x ½ x 38'-0 (ckd) F2E
1-L(cp)
1-L(cs)
6-Ring Fills 2"φ x ⅜
1-R(ct)
1-L(cv)
1-L(cw)
1-R(cy)
1-Fill(cx)
1-R (caa)
1-Fill(cab)
1-R(cac)
1-Fill(cad)
1-L (caf)
1-L(cag)
1-R(cah)
1-R (cak)
1-R(cam)
1-L (can)
1-R(cap)
1-R(chv)
4-Ls (cas)
3-H's (cat)
1 R(cav)
2-Rs (caw)
2-Ls (cax)R
1-L(cax)L
3-Ls (cay)
4-Ls (cba)R/L
2-Ls(cbc)R/L
1-R(cbd)
4-Ls(cbb)
1-R(cbf)

2-Ls (cbg)R/L
2-Ls 4 x 3½ x ⅜ x 1'-1⅝ (ckf)R/L
1-R 11 UM x ⅜ x 1'-9 7/16 (ckg)
1-L 3½ x 3 x ⅜ x 0'-11 (ckh) bent
1-L 3½ x 3 x ⅜ x 0'-11 (ckk) bent
1-L 5 x 3½ x ⅜ x 1'-6¼ (ckm)
2-Ls 3½ x 3½ x ⅜ x 3'-9 (ckn)R/L
1-L 6 x 5¼ x ½ x 1'-1½ (ckp) (cut 6x6)
2-Ls (cdh)R/L
2-Ls 3½ x 3½ x ⅜ x 1'-5¾ (cks)R/L
1-R 7½ x ⅜ x 1'-3⅛ (ckt)
1-R 10 UM x ⅜ x 2'-1⅛ (ckv) bent
1-Bevel Fill 13 x 1 1/16 x 15/16 x 0'-4 (ckw) F1S.
1-L 5 x 3½ x ⅜ x 2'-6 7/16 (ckx) F1E
1-Fill 4¼ x 2 x 0'-8½ (cmp) tack weld
1-R 6 7/16 FIW x 2 x 1'-6⅛ (cky) F2E
1-R 6 7/16 FIW x 2 x 2'-5¼ (cma) bent
1-Bar 2 UM x ⅜ x 1'-9⅜ (cmb) F2E
1-Bar 2 UM x 2 x 1'-9 (cmc) bent
1-Bar 2 x ½ x 0'-7⅝ (cmd) F1E
1-Bar 2 x ⅜ x 0'-7⅞ (cmf) F1E
1-L 3 x 3 x ⅜ x 1'-6⅛ (cmg)
1-L 3 x 3 x ⅜ x 1'-3¼ (cmh)
1-Bar 30 UM x ½ x 1'-3 9/16 (cmk)
5-Bars 1½ x 5/16 x 1'-1½ (cmm) bent weld
3-Bars 1½ x 5/16 x 1'-1½ (cmn) bent weld
2-Cap Screws ⅞"φ x 1¾ lg. } sq. hd. not
1-Cap Screw ⅞"φ x 1⅜ lg. } copper bearing



SECTION (N)(N)

No.	Description	Mark	Remarks	Weight each Tons
Span 22 1	Walkway	C26		
Span 11 1	do	C25		

REQUIRED LIST

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 4-24-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Judson Pacific WORKS
IN CHARGE Anthony MADE BY LCY
CHECKED BY A.T.A. 4-7-34 TRACED BY
LAST ASSEM. No. CNB
Rel'd 4-11-34
CONTRACT C615803 SHEET G258FH

SECTION ①①

SECTION ②②

SECTION ③③

SECTION ⑤⑤ as shown

SECTION ⑦⑦ opp hand

SECTION ⑨⑨

SECTION ⑩⑩

SECTION ⑫⑫

Enlarged View of Pt (cam)

For General Notes see Sheet #258AH
Work this sheet with sheets #258AH to #258AH

Date	Revision	Appd

APPROVED

Chief Engineer	Engineer of Design
Chief C. Andrew	Bridge Engineer
C. H. Purcell	Chief Engineer

Date 4-24-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" Truss Spans - Piers E9 to E23

McCLINTIC-MARSHALL CORPORATION

CHICAGO DRAWING ROOM TIDEWATER PACIFIC WORKS
IN CHARGE ANTHONY TRACED BY
CHECKED BY A.T.A. 4-5-34 TRACED BY
LAST ACCOM. No.

CONTRACT C@1e603 SHEET 258 AH

30-1

see large detail

Enlarged View of R (cgd)

2" Radius outside

SECTION (10)(10)

SECTION (20)(CC)

SECTION (12)(12)

cut top of L for neat fit to ⊔ & weld

SECTION (16)(16)

SECTION (11)(11)

SECTION (17)(17)

SECTION (13)(13)

SECTION (14)(14)

SECTION (18)(18)

SECTION (DD)(DD)

SECTION (EE)(EE)

SECTION (FF)(FF)

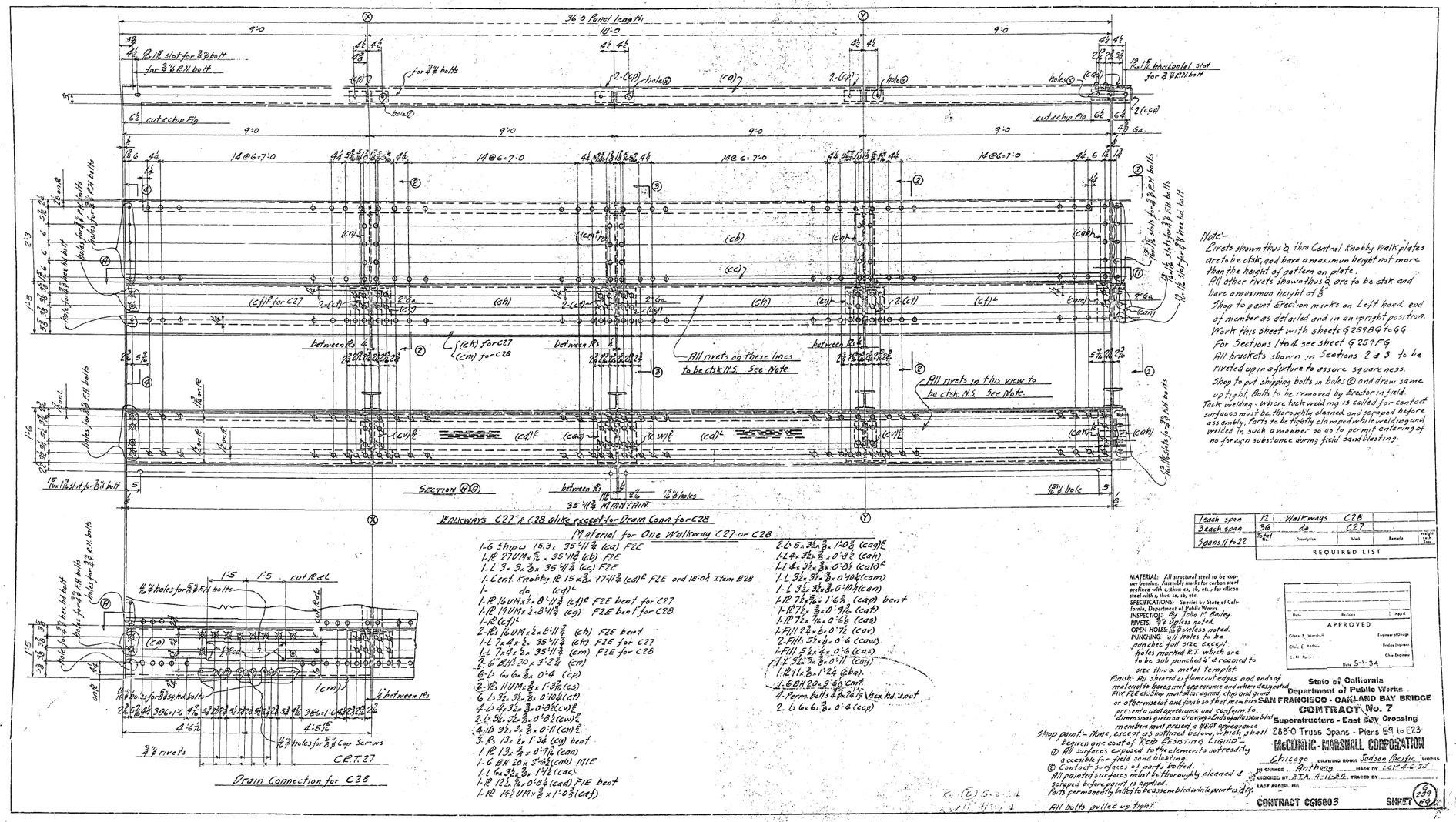
APPROVED

Clinton B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 4-24-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0 Truss Spans - Piers E9 to E23
McCLINTIC - MARSHALL CORPORATION
Chicago DRAWING ROOMS Judson Pacific-Murphy
IN CHARGE Bathory MADE BY LCV
CHECKED BY A.I.A. 4-7-34 TRACED BY
LAST ASSEM. ERK

Rev (Q) 1-10-34

CONTRACT 040063 SHEET 230 HM



Note:-
Rivets shown thus ⊗ thru Central Knobby Walk plates are to be ctsk, and have a maximum height not more than the height of pattern on plate.
All other rivets shown thus ⊗ are to be ctsk and have a maximum height of 1/8".
Shop to paint Erection marks on Left hand end of member as detailed and in an upright position.
Work this sheet with sheets S 259 BG to 66
For Sections 1 to 4 see sheet S 259 FG
All brackets shown in Sections 2 & 3 to be riveted up in a fixture to assure squareness.
Shop to put shipping bolts in holes ⊙ and draw same up tight. Bolts to be removed by Erector in field.
Tack welding - where tack welding is called for contact surfaces must be thoroughly cleaned and scraped before assembly, parts to be tightly clamped while welding and welded in such a manner so as to permit entering of no foreign substance during field sandblasting.

1 each span	12	Walkways	C28		
3 each span	36	60	C27		
Spans 11 to 22	Total No.	Description	Mark	Remarks	Weight each Piece

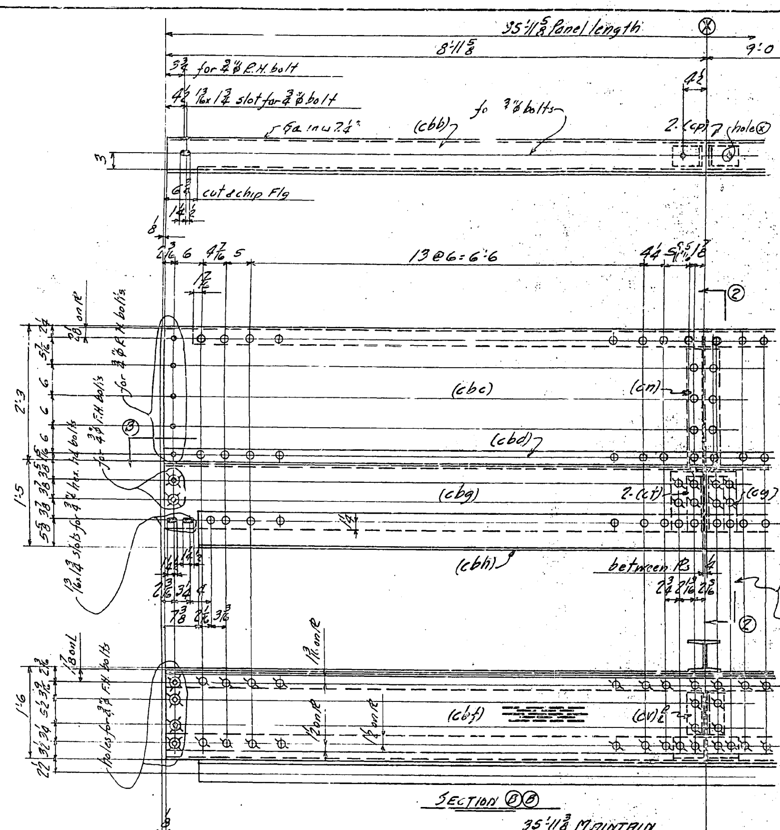
REQUIRED LIST

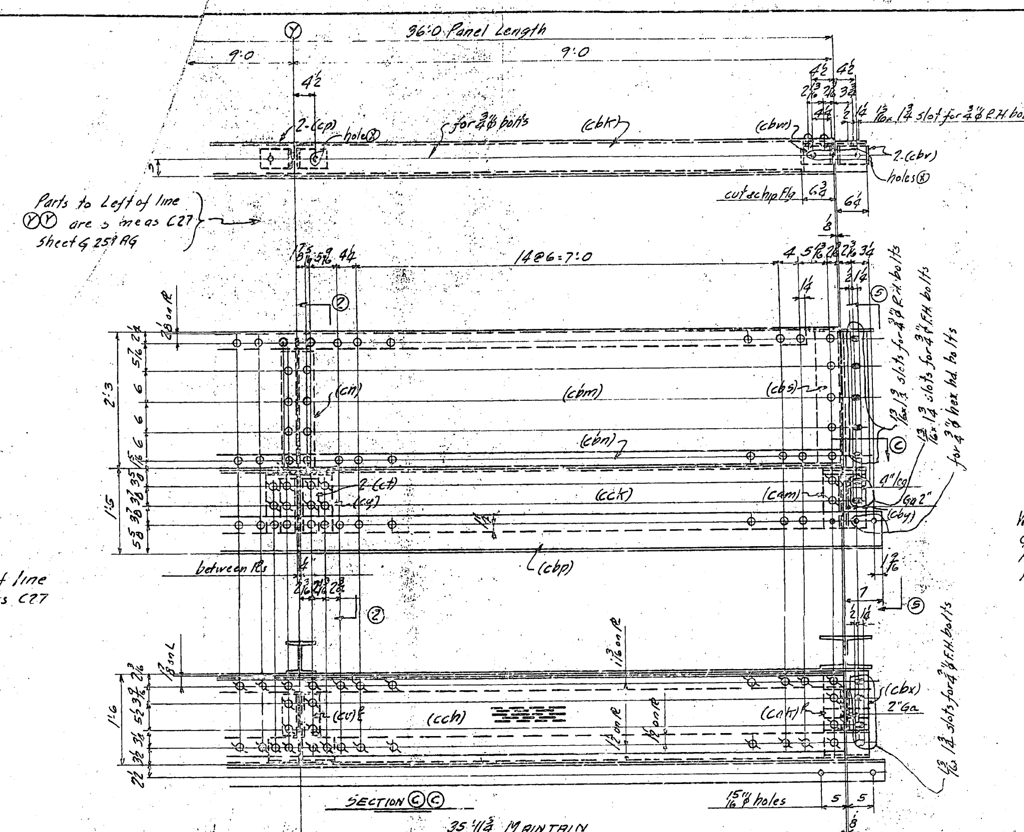
MATERIAL: All structural steel to be open hearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc., for silicon steel with c, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 3/4 Ø unless noted.
OPEN HOLES: 13/16 Ø unless noted.
PUNCHING: all holes to be punched full size except holes marked R.T. which are to be sub punched 1/4" & reamed to size thru a metal templet.
Finish: All sheared or flame cut edges and ends of material to have rust appearance and where designated fine F2E etc. Shop must clear spend, chip and grind or other wise cut and finish so that members shall present a neat appearance and conform to dimensions given on drawing & ends of pillars as stated in order & must present a neat appearance
Shop paint:- None, except as outlined below, which shall be given one coat of "RUST RESISTING LIQUID"
① All surfaces exposed to the elements not readily accessible for field sandblasting.
② Contact surfaces of parts bolted.
All painted surfaces must be thoroughly cleaned & scraped before paint is applied.
Parts permanently bolted to be assembled while paint is dry.
All bolts pulled up tight.

APPROVED
Date | Revision | Appd
Engineer of Design
Bridge Engineer
Chief Engineer
Date 5-1-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Judson Pacific WORKS
IN CHARGE Anthony CHECK BY LCK 4-6-34
CHECKED BY A.T.A. 4-11-34 TRACED BY
LAST ALTER. INIT.

CONTRACT CG15803 SHEET S 259





WALKWAY C29

Material for One Walkway C29

One 6 Ship ⊔ 15.3 x 35'-11 3/8 (cbb) F2E	2-Ls (cag) R/L
1-PL 27UM x 5/16 x 35'-11 3/8 (cbc) F2E	1-L (cah)
1-L 3 x 3 x 3/8 x 35'-11 3/8 (cbd) F2E	1-L (cak) R
1-Cent. Knobby PL 15 x 3/8 x 17'-11 3/8 (cbf) F2E ord 17'-11 3/8 Item B29	1-L (cam)
1- do (cd) L	1-L (can)
1-PL 16UM x 1/2 x 8'-11 3/8 (cbg) F2E bent	1-PL (cap)
1-PL (cf) L	1-PL (cat)
2-PLs (ch)	1-PL (cas)
1-L 7 x 4 x 1/2 x 35'-4 1/8 (cbh) F2E	1-Fill (cav)
2-H's (cn)	2-Fills (caw)
6-Ls (cp)	1-Fill (cax)
2-PLs (cs)	1-L (cay)
6 Ls (ct)	1-PL (cba)
4-Ls (cv) R/L	1-H (cmt)
2-Ls (cw) R/L	4-Perm. bolts 3/4" φ x 2 1/4 lg. hex. hd. & nut
4-Ls (cx) R/L	2-Ls (ccp)
3-PLs (cy)	
1-PL (caa)	
1-H (cab)	
1-L (cac)	
1-PL (cad)	
1-PL (caf)	

WALKWAY C30

Material for One Walkway C30

One 6" Ship ⊔ 15.3 x 35'-11 3/4 (cbk) F2E	1-PL (caf)
1-PL 27UM x 5/16 x 35'-11 3/4 (cbm) F2E	2-Ls (cag) R/L
1-L 3 x 3 x 3/8 x 35'-11 3/4 (cbn) F2E	1-L 4 x 4 x 3/8 x 0'-8 1/2 (cbx)
1-Cent. Knobby PL (cd) R	1-L (cak) R
1- do 15 x 3/8 x 17'-11 3/4 (cch) F2E ord 18'-6 1/4 Item B28	1-L 4 x 3 1/2 x 3/8 x 0'-10 1/4 (cby)
1-PL (cf) R	1-L (cam)
1-PL 16UM x 1/2 x 8'-11 3/4 (cck) F2E bent	1-PL 8 x 5/16 x 1'-6 3/8 (cca) bent
2-PLs (ch)	1-PL 8 x 3/8 x 0'-9 3/16 (ccb) F2E
1-L 7 x 4 x 1/2 x 36'-6 7/8 (cbp) F2E	1-PL 8 x 7/16 x 0'-6 7/8 (ccc)
2-H's (cn)	1-Fill 12 3/4 F1W x 3/8 x 0'-8 (ccd)
6-Ls (cp)	2-Fills 5 1/2 x 3/8 x 0'-9 3/4 (ccf)
2-PLs (cs)	1-Fill 5 1/2 x 1/4 x 0'-9 3/4 (ccg)
6-Ls (ct)	1-L (cay)
4-Ls (cv) R/L	1-PL (cba)
2-Ls (cw) R/L	1-H (cmt)
4-Ls (cx) R/L	4-Perm. bolts 3/4" φ x 2 1/4" lg hex hd & nut.
3-PLs (cy)	
1-PL (caa)	
1-6 B.I. 40 x 3'-6 1/2 (cbs) M1E	
1-L 6 x 3 1/2 x 3/8 x 1'-1 1/2 (cbt)	
2-Ls 6 x 6 x 3/8 x 0'-4 (cbv)	
1-PL 12 1/2 x 5/16 x 0'-8 1/4 (cbw) bent F1E	

Work this sheet with sheets G259AG & G259CG to GG
For Sections 1 to 5 see sheet G259FG
For General Notes see sheet G259AG

	Total No.	Description	Mark	Remarks	Weight each Tons
1 each span	12	Walkways	C30		
1 each span	12	do	C29		
Spans 11 to 22					

REQUIRED LIST

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 5-1-34

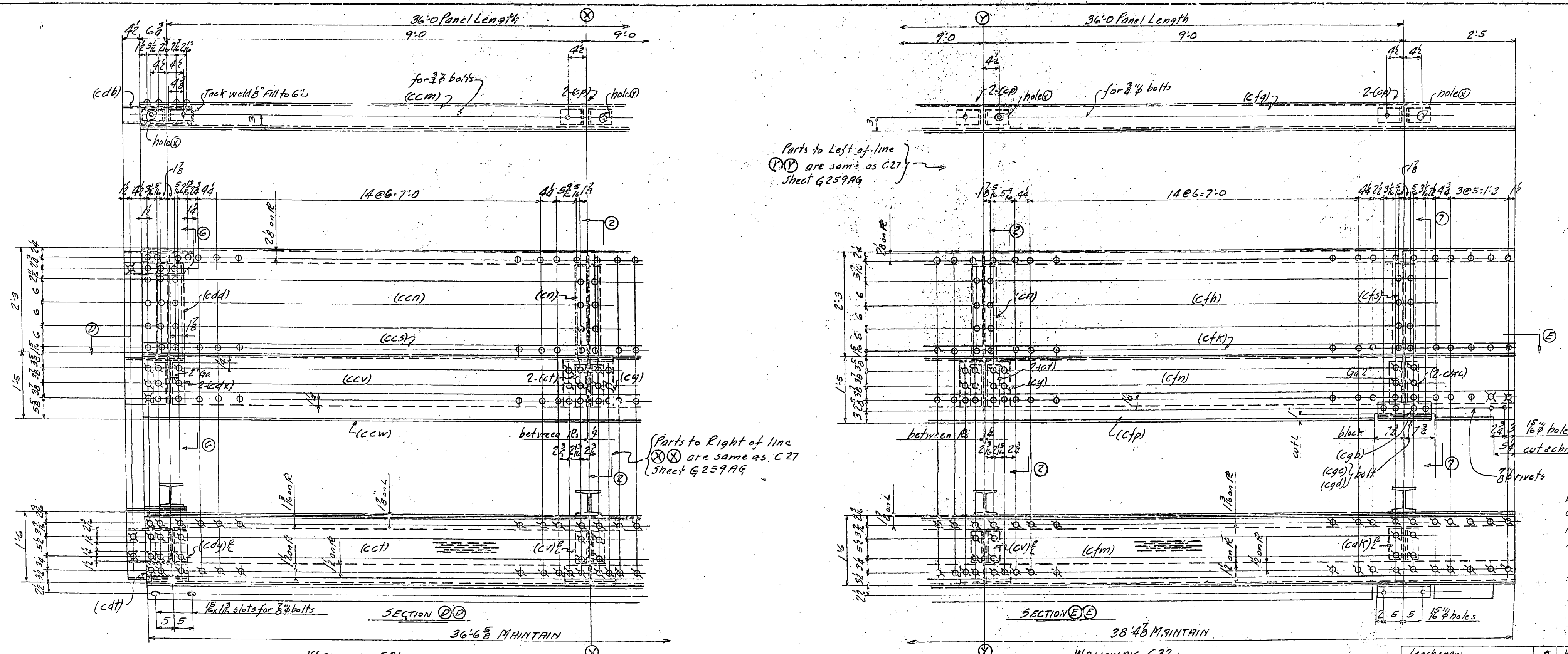
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Judson Pacific WORKS
IN CHARGE Anthony MADE BY LZY 4-6-34
CHECKED BY T.A. 4-11-34 TRACED BY
LAST ASSEM. MK.

Rev. (B) 5/-2/34

CONTRACT CG15803 SHEET G 259 BG

30-1



Work this sheet with sheets G259AG-BG & DG to GG
For Sections 1 to 7 see sheet G259FG
For General Notes see Sheet G259AG

WALKWAY C31

Material for One Walkway C31

One 6 Ship ⊔ 15.3 x 36'-6 5/8 (ccm) F2E
1-PL 27 UM x 5/16 x 36'-6 5/8 (ccn) F2E
1-L 3 x 3 x 3/8 x 36'-6 5/8 (ccs) F2E
1-Cent. Knobby PL 15 x 3/8 x 18'-6 5/8 (cct) F2E ord 18'-7 1/8 Item B31
1- do (cd) L
1-PL 16 UM x 1/2 x 9'-6 5/8 (ccv) F2E bent
1-PL (cf) L
2-PLs (ch)
1-L 7 x 4 x 1/2 x 36'-6 5/8 (ccw) F2E
1-PL 13 FlW x 1/8 x 0'-3 3/4 (ccx)
1-Bar 2 1/2 x 1/8 x 1'-1 (ccy) F1E
1-Bar 2 1/2 x 7/16 x 1'-1 (cda) F1E
1-PL 17 1/2 x 5/16 x 1'-0 11/16 (cdb) F1E bent
2-Ls 6 x 6 x 3/8 x 0'-3 3/8 (cdc) R L
1-6 B.H. 20 x 3'-6 (cdd)
1-PL 10 1/2 FlW x 1/8 x 1'-11 3/8 (cdf)
1-PL 15 x 3/8 x 2'-7 5/16 (cdg) F1E bent
1-PL 7 1/2 x 5/16 x 1'-8 5/8 (cdh)
1-Bar 3 x 1/8 x 0'-10 1/2 (cdk) F1E
1-PL 7 1/2 x 1/4 x 0'-2 3/4 (cdm)
1-PL 10 1/2 FlW x 1/8 x 0'-9 3/16 (cdn)
1-PL 15 x 3/8 x 0'-9 3/16 (cdp) F2E
1-Bar 2 3/4 FlW x 1/8 x 1'-3 (cd?)
1-Bar 3 x 1/8 x 0'-10 1/2 (cdt) F1E
1-PL 10 1/4 x 1/8 x 0'-10 1/2 (cdv) F1E
1-PL 15 x 1/2 x 1'-6 (cdw) bent
2-Ls 3 1/2 x 3 x 3/8 x 0'-10 1/4 (cdx)
2-Ls 3 1/2 x 3 1/2 x 3/8 x 0'-8 1/2 (cdy) R L
2-PLs (caf)
2-Ls 5 x 3 1/2 x 3/8 1'-0 3/8 (cfa) R L
1-L 6 x 4 x 3/8 x 1'-1 1/2 (cfb)
2-Fills (caw)
1-Fill (cax)
1-Fill 5 1/2 x 5/16 x 0'-6 (cfc)
1-H (cmt)
2-H's (cn)
6-Ls (cp)
(2) PLs (cs)
6-Ls (ct)
4-Ls (cv) R L
2-Ls (cw) R L
(4) Ls (cx) R L
3-PLs (cy)
1-PL (caa)
1-H (cab)
1-L (cac)
1-PL (cad)
2-Ls (ccp)
2-Ls (cag) R L
1-L (cah)
1-L (cak) R
1-L (cam)
1-L (can)
1-PL (cap)
1-PL (cat)
1-PL (cas)
1-Fill (cav)
2-Fills 5 1/2 x 1/8 x 0'-6 (cfv)
1-Fill 5 1/2 x 1/4 x 0'-6 (cfw)
1-L (cay)
1-PL (cba)
4-Perm. bolts 3/4" ϕ x 2 1/2" lg. } hex. hd. & nut
4-Perm bolts 3/4" ϕ x 2 1/4 lg. }

WALKWAY C32

Material for One Walkway C32

One 6 Ship ⊔ 15.3 x 38'-4 7/8 (cfg) F2E
1-PL 27 UM x 5/16 x 38'-4 7/8 (cfh) F2E
1-L 3 x 3 x 3/8 x 38'-4 7/8 (cfk) F2E
1- Cent. Knobby PL 15 x 3/8 x 20'-4 7/8 (cfm) F2E ord 20'-5 3/8 Item B32
1- do. (cd) R
1-PL 16 UM x 1/2 x 11'-4 7/8 (cfn) F2E bent
1-PL (cf) R
2-PLs (ch)
1-L 7 x 4 x 1/2 x 38'-4 7/8 (cfp) F2E
2-H's (cn)
8-Ls (cp)
(2) PLs (cs)
6 Ls (ct)
4-Ls (cv) R L
2-Ls (cw) R L
4-Ls (cx) R L
3-PLs (cy)
1-PL (caa)
1-6 B.H. 20 x 3'-6 1/4 (cfs)
1-L 6 x 3 1/2 x 3/8 x 1'-1 1/2 (cft)
2-Fills (cfv)
1-Fill (cfw)
2-Ls (cag) R L
1-PL 15 UM x 3/8 x 1'-0 3/8 (cfx)
2-Ls (cak) R L
2-Ls 3 1/2 x 3 1/2 x 3/8 x 0'-10 1/4 (ckc)
1-Fill 3 1/2 x 1/8 x 1'-1 1/2 (cff) bolt
1-Fill 3 1/2 x 1/4 x 1'-1 1/2 (cfd) bolt
1-Fill 10 1/2 x 1/4 x 1'-0 3/8 (cfy) bolt
1-Fill 10 1/2 x 1/8 x 1'-0 3/8 (cga) bolt
1-L 4 x 3 1/2 x 3/8 x 1'-2 (cgb)
1-Fill 3 1/2 x 1/8 x 1'-2 (cgc) bolt
1-Fill 3 1/2 x 1/4 x 1'-2 (cgd) bolt
4-Perm. bolts 3/4" ϕ x 2 1/4" lg. } hex. hd. & nut
1-L (cay)
1-PL (cba)
1-H (cmt)

		Total No.	Description	Mark	Remarks	Weight each Tons
1 each span		5	WALKWAYS	C32		
	1 each span	5	do	C31		
Spans 12 to 16	Spans 11 to 15					

REQUIRED LIST

Date	Revision	App'd

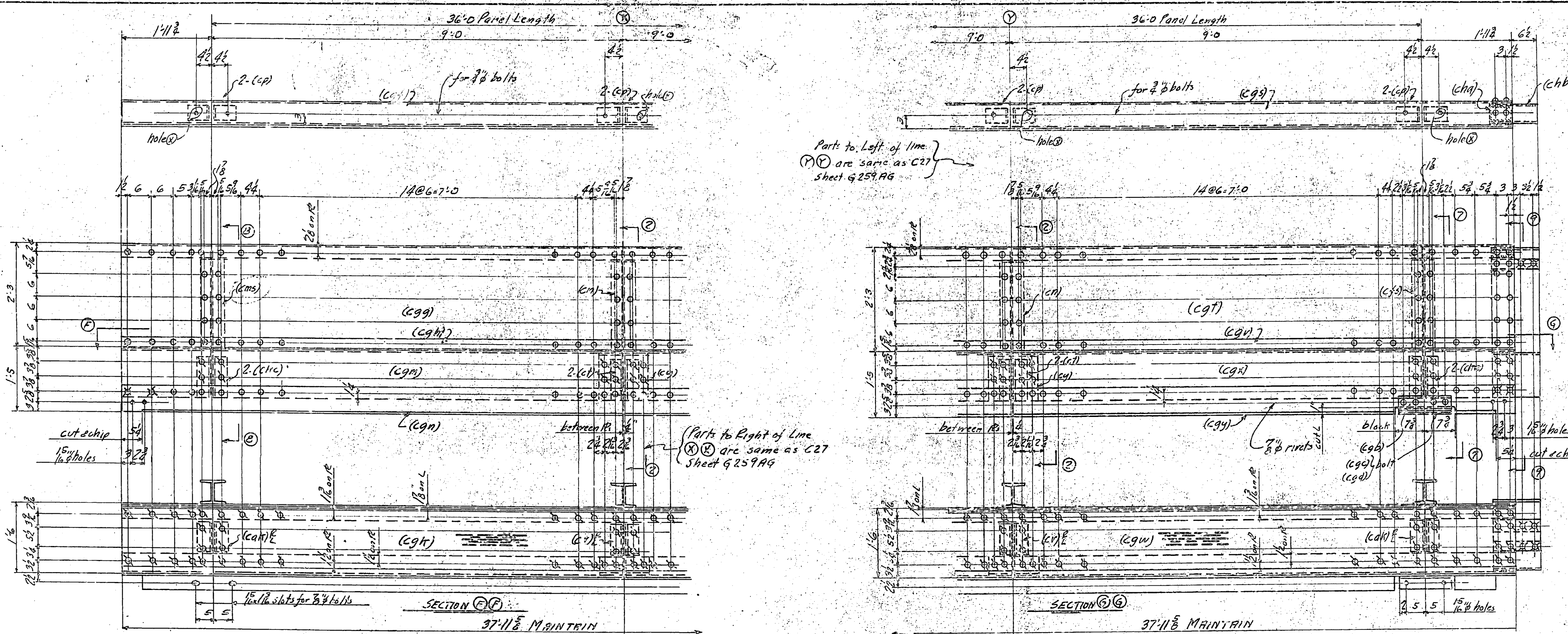
APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 5-1-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Judson Pacific WORKS
IN CHARGE Anthony MADE BY LCY 4-7-34
CHECKED BY A.T.R. 4-11-34 TRACED BY
LAST ASSEM. MK.

Rev (B) 5-1-

CONTRACT C915803 SHEET G 259 CG



Work this sheet with sheets G259AG to CG & EG to GG
For Sections 1 to 7 see sheet G259FG
For Sections 8 & 9 see sheet G259GG
For General Notes see sheet G259AG

WALKWAY C33

Material for One Walkway C33

One 6 Ship w 15.3 x 37'-11 5/8 (cgf) F2E
1-Pl 27UM x 5/16 x 37'-11 5/8 (cgg) F2E
1-L 3 x 3 x 3/8 x 37'-11 5/8 (cgh) F2E
1-Cent. Knobby Pl 15 x 3/8 x 19'-11 5/8 (cgk) F2E ord 20'-0 1/8 Item B33
1- do (cd)L
1-Pl 16UM x 1/2 x 10'-11 5/8 (cgm) F2E bent
1-Pl (cf)L
2-Pls (ch)
1-L 7 x 4 x 1/2 x 37'-11 5/8 (cgn) F2E
1-CBH 26 x 3'-6 1/2 (cms)
8-Ls (cp)
2-Ls (cak)R
4-L (cam)
1-Pl (cfx)
2-Ls 5 x 3 1/2 x 3/8 x 1'-0 3/8 (cmn)R/L
2-Fills (cfv)
1-Fill (cfw)
1-L 6 x 3 1/2 x 3/8 x 1'-1 1/2 (cgp)
1-H (cmt)
2-H's (cn)
2-Ls (ckc)
(2)-Pls (cs)
6-Ls (ct)
4-Ls (cv)R/L
2-Ls (cw)R/L
(4)-Ls (cx)R/L
3-Pls (cy)
1-Pl (caa)
1-H (cab)
1-L (cac)
1-Pl (cad)
1-Pl (caf)
2-Ls (cag)R/L
1-L (cah)
1-L (cak)L
1-L (can)
1-Pl (cap)
1-Pl (cat)
1-Pl (cas)
1-Fill (cav)
2-Fills (caw)
1-Fill (cax)
1-L (cay)
1-Pl (cba)
2-Ls (ccp)
8-Perm. bolts 7/8" x 2 1/4" lg } hex nut & nut

WALKWAY C34

Material for One Walkway C34

One 6 Ship w 15.3 x 37'-11 5/8 (cgs) F2E
1-Pl 27UM x 5/16 x 37'-11 5/8 (cgt) F2E
1-L 3 x 3 x 3/8 x 37'-11 5/8 (cgv) F2E
1-Cent. Knobby Pl 15 x 3/8 x 19'-11 5/8 (cgw) F2E ord 20'-0 1/8 Item B33
1- do (cd)R
1-Pl 16UM x 1/2 x 10'-11 5/8 (cgx) F2E bent
1-Pl (cf)R
2-Pls (ch)
1-L 7 x 4 x 1/2 x 37'-11 5/8 (cgy) F2E
(2-H's (cn)
8-Ls (cp)
(2)-Pls (cs)
6-Ls (ct)
4-Ls (cv)R/L
2-Ls (cw)R/L
(4)-Ls (cx)R/L
3-Pls (cy)
1-Pl (caa)
1-H (cfs)
1-L (cft)
2-Fills (cfv)
1-Fill (cfw)
2-Ls (cag)R/L
1-Pl (cfx)

1-L (cay)
1-Pl (cba)
1-H (cmt)

2-Ls (cak)R/L
2-Ls (ckc)
1-Fill (cfd) bolt
1-Fill (cff) bolt
1-Fill (cfy) bolt
1-Fill (cga) bolt
1-L (cgb)
1-Fill (cgc) bolt
1-Fill (cgd) bolt
4-Perm. bolts 3/4" x 2 1/4" lg } hex hd. & nut
1-Fill 6 FlW x 1/8 x 0'-3 3/4 (cha)
1-Pl 12 1/2 x 5/16 x 1'-0 11/16 (chb) F1E bent
1-Fill 6 FlW x 1/8 x 1'-11 3/8 (chc)
1-Fill 6 FlW x 3/16 x 0'-2 1/2 (chd)
1-Fill 6 FlW x 1/8 x 0'-2 1/2 (chf)
1-Pl 12 1/2 x 3/8 x 2'-7 5/16 (chg) F1E bent
1-Fill 3 x 1/8 x 0'-6 (chh) F1E
1-Fill 6 FlW x 1/8 x 0'-9 3/16 (chk)
1-Fill 2 3/4 FlW x 1/8 x 1'-0 1/2 (chm)
1-Fill 3 x 1/8 x 0'-6 (chn) F1E
1-Fill 10 1/4 x 1/8 x 0'-6 (chp) F1E
1-Pl 12 1/2 x 3/8 x 0'-9 3/16 (chs) F2E
1-Pl 12 1/2 x 1/2 x 1'-6 (cht) bent

REQUIRED LIST

		Total No.	Description	Mark	Remarks	Weight each Tons
1 each span		6	Walkways	C34		
	1 each span	6	do	C33		
Spans 17 to 22	Spans 16 to 21					

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 5-1-34

Rev E 5/7/34
Rev H 4

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Judson Pacific WORKS
IN CHARGE Anthony MADE BY LCY 4-9-34
CHECKED BY A.T.A. 4-11-34 TRACED BY
LAST ASSEM. CH.
CONTRACT CG15903 SHEET G 259 DG

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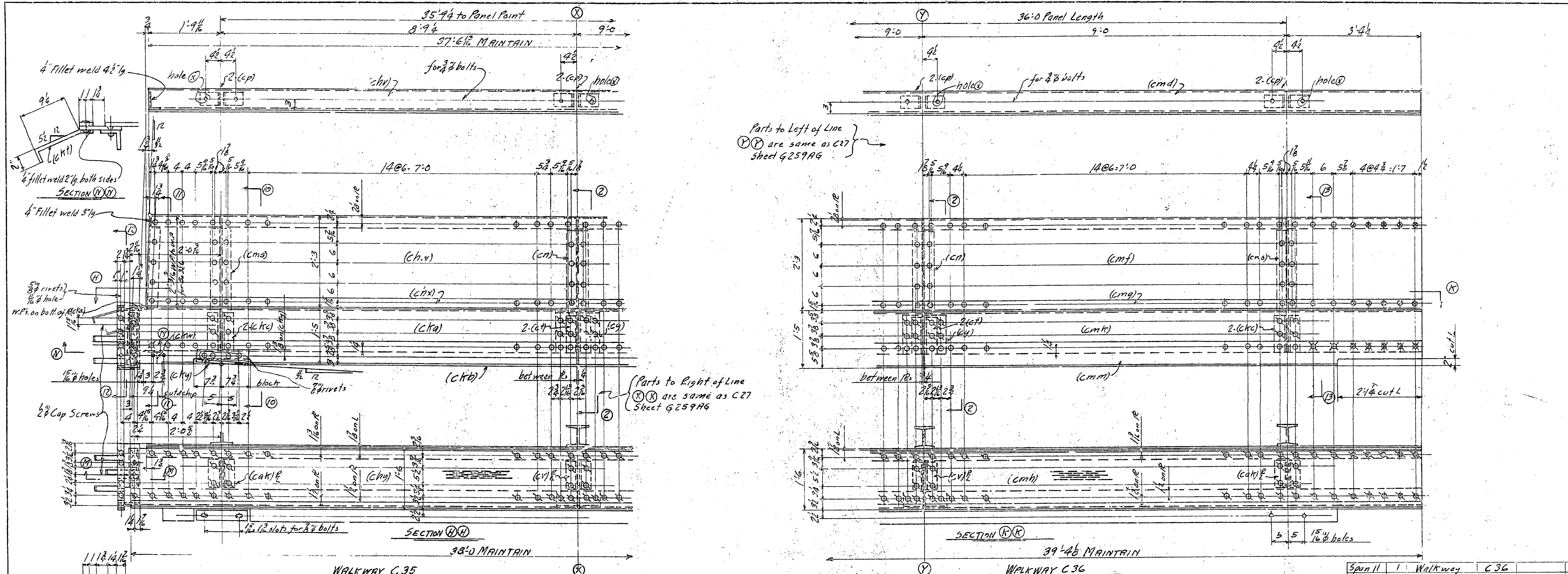

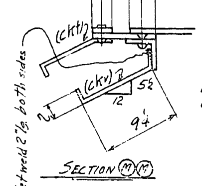

WALKWAY C35

Material for Walkway C35

One 6 Ship ⊔ 15.3 x 37'-6 3/16 (chv) F2E
1-PL 27UM x 5/16 x 37'-7 9/16 (chw) F2E
1-L 3 x 3 x 3/8 x 37'-7 9/16 (chx) F2E
One Cent. Knobby PL 15 x 3/8 x 20'-0 (chy) F2E ord 21'-0¼ Item B34
1- do (cd)L
1-PL 16UM x ½ x 11'-0 (cka) F2E bent
1-PL (cf)L
2-PLs (ch)
1-L 7 x 4 x ½ x 38'-0 (ckb) F2E
1-PL 6 7/16 Flw x ½ x 1'-0¾ (ckd) F2E
1-PL 6 7/16 Flw x ½ x 2'-5½ (ckf) bent
1-Bar 2UM x 3/8 x 1'-4 (ckg) F2E
1-Bar 2UM x ½ x 1'-9 (ckh)
1-Bar 2 x ½ x 0'-7⅝ (ckk) F1E
1-Bar 2 x 3/8 x 0'-7⅝ (ckm) F1E
1-L 3 x 3 x 3/8 x 1'-0¾ (ckn)
1-L 3 x 3 x 3/8 x 1'-3¼ (ckp)
1-Bar 3UM x ½ x 0'-9¾ (cks)
4-Bars 1½ x 5/16 x 1'-1 9/16 (ckt) bent weld
2-Bars 1½ x 5/16 x 1'-1 3/16 (ckv) bent weld
1-Fill 4¼ x ½ x 0'-8½ (ckw) tack weld
1-L 5 x 3½ x 3/8 x 2'-3¼ (ckx) F2E
1-L 4 9/16 x 3½ x 3/8 x 1'-2 (cky) (cut 5 x 3½)
1-H (cms)

8-Ls (cp)
2-Ls (cak)R
1-L (cak)L
2-Ls (ckc)
1-PL (cfx)
1-L 5 x 3½ x 3/8 x 1'-0⅜ (cma) bent
1-L 5 x 3½ x 3/8 x 1'-0⅜ (cmb) bent
1-L 6 x 3½ x 3/8 x 1'-1½ (cmc)
2-Fills (cfv)
1-Fill (cfw)
1-H (cmt)
2-H's (cn)
2-PLs (cs)
6-Ls (ct)
4-Ls (cv)R
2-Ls (cw)R
4-Ls (cx)R
3-PLs (cy)
1-PL (caa)
1-H (cab)
1-L (cac)
1-PL (cad)
1-PL (caf)

2-Ls (cag)R
1-L (cah)
1-L (can)
1-PL (cap)
1-PL (cat)
1-PL (cas)
1-Fill (cav)
2-Fills (caw)
1-Fill (cax)
1-L (cay)
1-PL (cba)
2-Ls (ccp)
8-Perm. bolts ¾ϕ x 2¼ lg. } hex hd. & nut
1-L (cam)
1-Cap Screw ½ϕ x 1⅜ lg. } sq. hd. not
2-Cap Screws ½ϕ x 1¾ lg. } copper bearing.

WALKWAY C36

Material for Walkway C36

One 6 Ship ⊔ 15.3 x 39'-4⅛ (cmd) F2E ord 41'-7 Item
1-PL 27UM x 5/16 x 39'-4⅛ (cmf) F2E ord 41'-7 Item
1-L 3 x 3 x 3/8 x 39'-4⅛ (cmg) F1E ord 41'-7 Item
1-Cent. Knobby PL 15 x 3/8 x 21'-4⅛ (cmh) F2E ord 83'-1 Item B30
1- do (cd)R
1-PL 16UM x ½ x 12'-4⅛ (cmk) F2E bent ord 14'-7 Item
1-PL (cf)R
2-PLs (ch)
1-L 7 x 4 x ½ x 39'-4⅛ (cmm) F2E ord 41'-7 Item
2-H's cn
8-Ls (cp)
2-PLs (cs)
6-Ls (ct)
4-Ls (cv)R
2-Ls (cw)R
4-Ls (cx)R
3-PLs cy
1-PL (caa)
1-H (cms)
2-Ls (cak)R
2-Ls (ckc)
1-PL (cfx)
2-Ls 5 x 3½ x 3/8 x 1'-0⅜ (cmp)R
1-H (cmt)

1-L (cft)
2-Fills (cfv)
1-Fill (cfw)
1-L (cay)
1-PL (cba)
4-Term. bolts ¾ϕ x 2¼ lg } hex hd. & nut

Work this sheet with sheets G259AG to DG & FG & GG
For Sections 1 to 7 see sheet G259FG
For Sections 8 to 13 see sheet G259GG
For General Notes see sheet G259AG

Span 11	1	Walkway	C36		
Span 22	1	do	C35		
	No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 5-1-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Judson Pacific WORKS
IN CHARGE Anthony MADE BY L.C.Y. 4-10-34
CHECKED BY A.T.A. 4-12-34 TRACED BY
LAST ASSEM. MK. CMS

CONTRACT CG15803 SHEET G 259 EG

30-1

See enlarged detail

grind flush

Mill this joint on front

Enlarged Detail at Top of 6" BH (ccab)

SECTION (1)(1)

SECTION (5)(5)

SECTION (6)(6)

See enlarged view

Enlarged View of Top of 6" BH (cdd)

SECTION (20)(20)

SECTION (7)(7)

SECTION (7)(8)

SECTION (7)(9)

SECTION (4)(4)

SECTION (10)(10)

SECTION (11)(11)

SECTION (12)(12)

SECTION (13)(13)

Work this sheet with sheets G259AG to G259GG

For General Notes see Sheet G259AG

Rev (2) 5-1-34

APPROVED

Date | Revision | Appd.

Calvin B. Wood, Jr. — Engineer of Design

Chas. E. Andrew — Bridge Engineer

C. H. Purcell — Chief Engineer

Dec. 5-1-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0 Truss Spans Piers E9 to E23
McCLINTIC - MARSHALL CORPORATION
Chicago DRAWING ROOM Judson Pacific WORKS
IN CHARGE Anthony MADE BY LEC 4-7-34
CHECKED BY ATA 4-11-34 TRACED BY
LAST ASSEM. MK.

CONTRACT 06S5803 SHEET G 259 FG

SECTION (GG)(GG)

SECTION (FF)(FF)

Enlarged View of 12 (chb)

SECTION (BB)

SECTION (EE)

SECTION (PP)(PP)

SECTION (NN)(MM)

SECTION (LL)(KK)

SECTION (JJ)(JJ)

SECTION (RR)(QQ)

SECTION (TT)(TT)

Work this sheet with sheets G259AG to FG
For General Notes see Sheet G259AG

Rev (B) 5/2/34

APPROVED

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Judson Pacific WORKS
IN CHARGE Anthony MADE BY LEV 4-10-34
CHECKED BY RTA 5-2-34 TRACED BY
LAST ASSGN. BY

CONTRACT CG15803 SHEET G 259 GG

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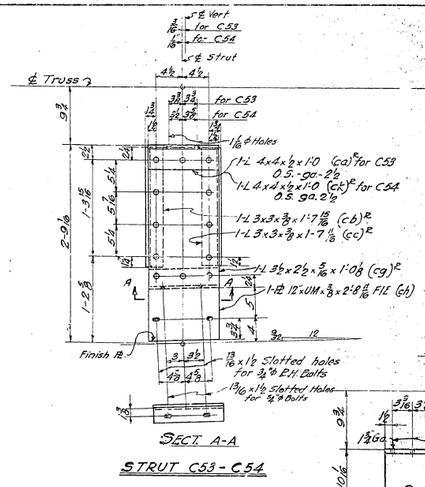
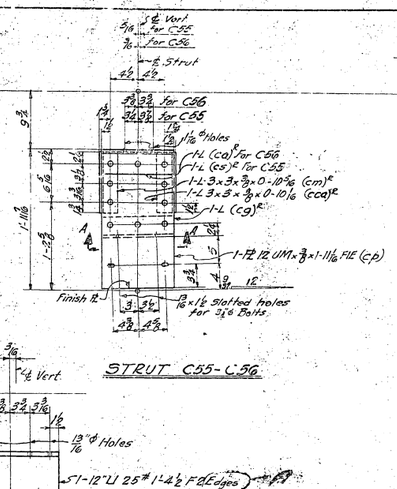
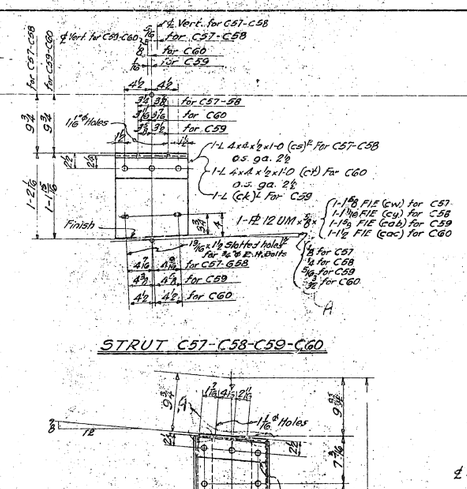
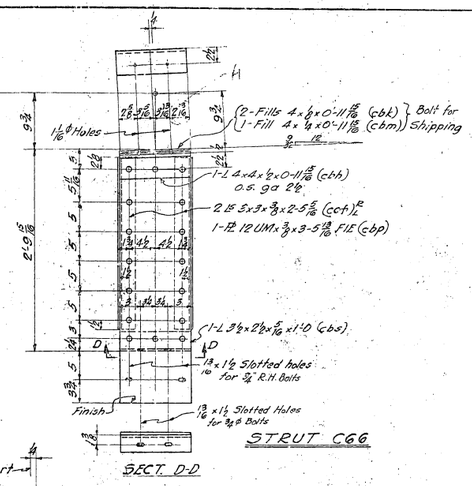
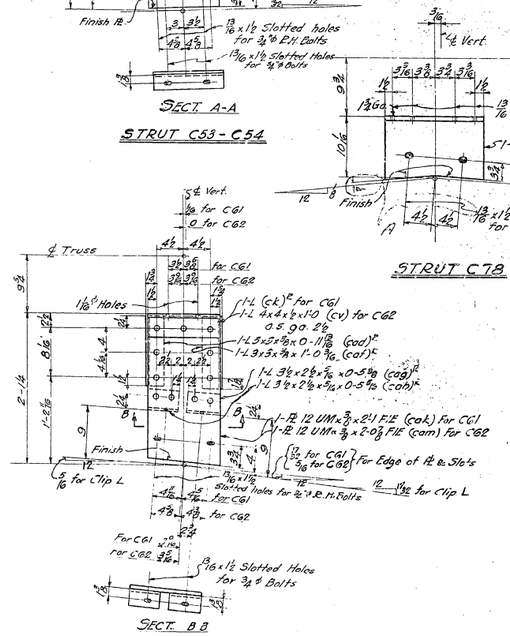
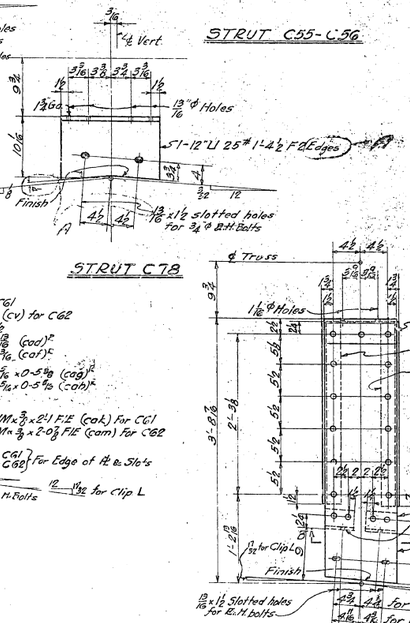


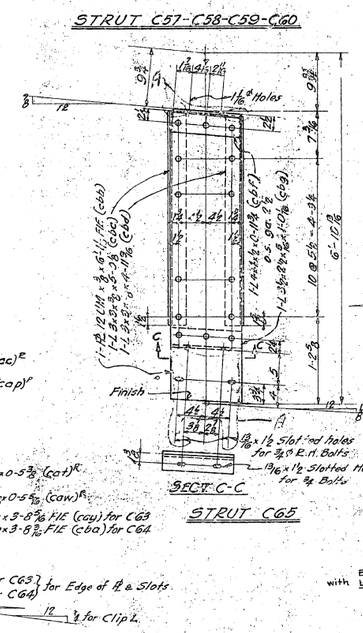












1		1	STRUT	C53	as shown
	1	1	"	C54	opp. hd. to -53-
1		1	"	C55	as shown
	1	1	"	C56	opp. hd. to st.
1		1	"	C57	as shown
	1	1	"	C58	opp. hd. to ck.
1		1	"	C59	opp. hd. to st.
	1	1	"	C60	as shown
1		1	"	C61	as shown
	1	1	"	C62	opp. hd. to ck.
1		1	"	C63	as shown
	1	1	"	C64	opp. hd. to ck.
	1	1	"	C65	as shown
	1	1	"	C66	as shown
1		1	"	C76	as shown
	1	1	"	C79	as shown

Span Ctr to Ctr	Span Ctr to Ctr	No.	Description	Mark	Remarks	Weight each mark
Required in Spans		REQUIRED LIST				

MATERIAL: All structural steel to be open hearth. Arc. ability marks for carbon steel prefixed with (, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: ¾ϕ
OPEN HOLES: As Noted
PUNCHING: All holes to be punched full size

Erection marks to be put on members with both paint and steel stencils.

FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and, where indicated Finish, shop must shear and grind so that members present a neat appearance and conform to dimensions given in drawings.
PAINT: None except one coat of Acid Resisting Liquid to be applied to all contact surfaces of parts bolted for shipping after such surfaces have been thoroughly cleaned and scraped. Assembly after paint is dry and draw bolts up sufficiently tight to exclude sand and foreign particles during shipment and field sand blasting.

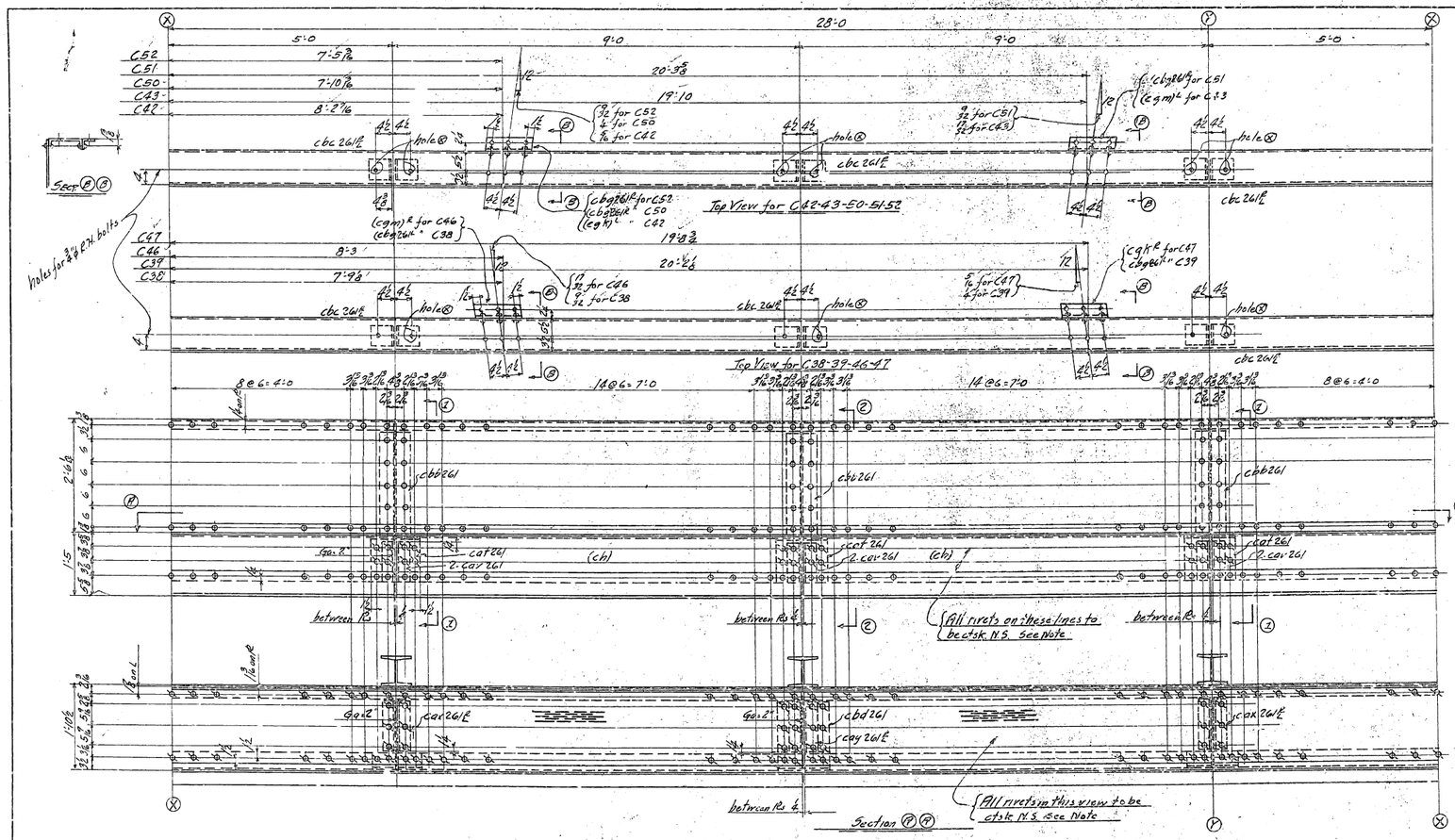
Date	Revision	Appd.
	APPROVED	
Glenn E. Woodruff		Engineer of Design
Chas. E. Andrews		Bridge Engineer
C. H. Purcell		Chief Engineer
Date: 6-26-34		

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Judson Pacific WORKS
Jones MADE BY W.J.M. 6-11-34
TRACED BY A.H. 6-12-34
LAST ACCESS. NO. CCF
CONTRACT 0615803
SHEET 126

Rev. 7-15-34

30-1



General Notes:-

Material- All structural steel to be copper bearing.
Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus sa, sb, etc.
Specifications- Special by State of California, Department of Public Works.
Inspection- By John M. Bailey.
Rivets- 3/4" ϕ unless noted.
Open holes- 13/16 unless noted.
Punching- all holes to be punched full size except holes marked R.T. which are to be subpunched & reamed to size thru a matrix template.
Finish- all sheared or flame cut edges and ends of material to have an eof appearance and where designated FW, F25 etc. Shop must shear and grind, chip and grind or otherwise cut & finish so that members present a neat appearance and conform to dimensions given on drawings. Ends of all assembled members must present a NEAT appearance.
Shop Paint- None, except as outlined below, which shall be given one coat of "ACID RESISTING LIQUID"
① All surfaces exposed to the elements not readily accessible for field sand blasting.
② Contact surfaces of parts bolted.
All painted surfaces must be thoroughly cleaned and scraped before paint is applied.
Bolted parts to be assembled after paint is dry and bolted in such a manner so as to exclude all foreign particles.
Where parts are tack welded, contact surfaces must be thoroughly cleaned and scraped before assembly, and parts must be tightly clamped while welding.
Welding shall be done in such a manner so as to permit entering of no foreign substance during field sand blasting.

Rivets shown thus ⊖ thru Central Knobby Walk plates are to be ctsk. and have a maximum height of not more than the height of pattern on plate.
All other rivets shown thus ⊖ are to be ctsk. and have a maximum height of 1/8".

Shop to paint Erection marks on Left hand end of member as detailed and in an upright position.

Work this sheet with sheets G 261BI to I Incl, G 262 & G 263 AE to EE incl.
For Sections 1 & 2 see Sheet G 261 HI
All brackets shewn in Sects 1 to 26 incl. to be riveted up in a fixture to assure squareness.

Date	Revision	Appd

APPROVED

Chas. B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 12-13-34

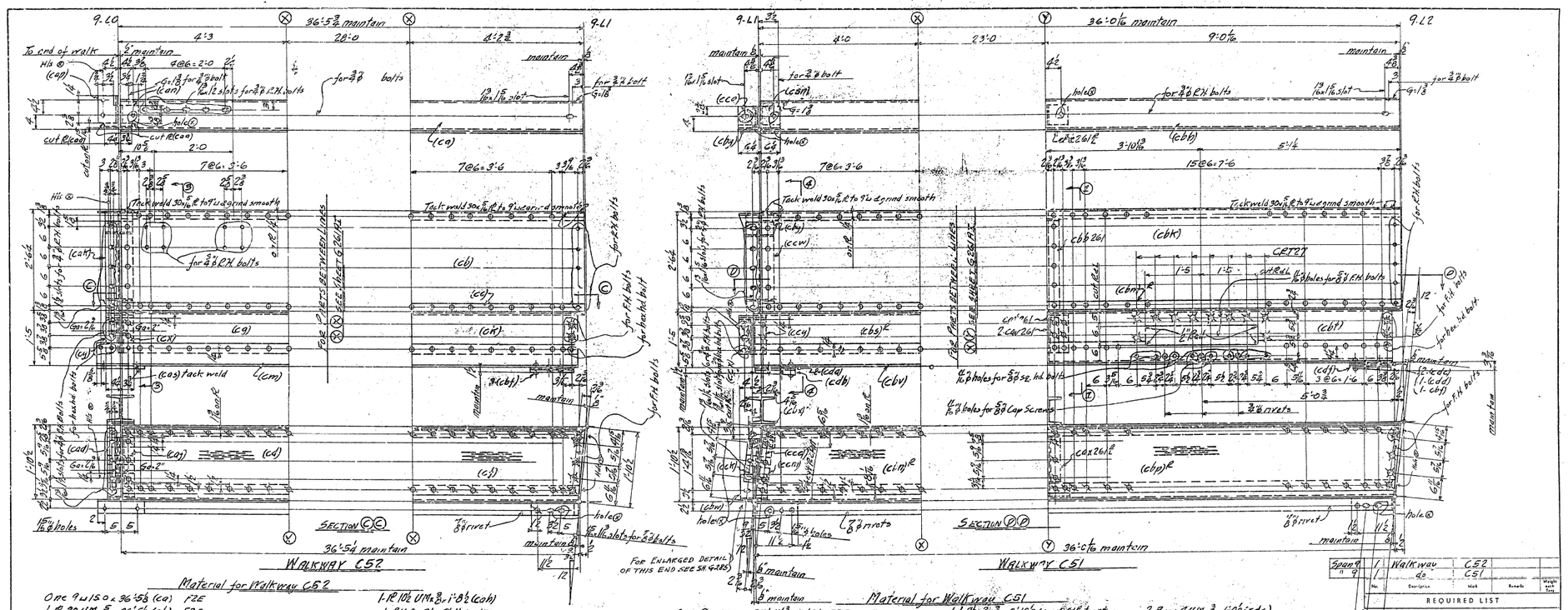
Shop to put shipping bolts in holes ⊗ and draw same up tight.
Bolts to be removed by erector in field.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0 TRUSS SPANS - PIERS E 9 TO E 23
McCLINTIC-MARSHALL CORPORATION.

Chicago DRAWING ROOM Judson Pacific WORKS
IN CHARGE Jones MADE BY JCP 6/9
CHECKED BY E 6-26-35 TRACED BY
LAST ASSEM. DR.

CONTRACT DRAWING — SHEET 29 261

80=1



Material for Walkway C52

One 9"w 15.0 x 36'-5 5/8 (ca) FZE
1-PL 30 UM x 5/16 x 36'-5 5/8 (cb) FZE
1-L 3" x 3" x 3/8 x 36'-5 5/8 (cc) FZE
1 Cent Knobby R 19 1/2 x 3/8 x 18'-2 3/8 (cd) FZE
1- do 19 1/2 x 3/8 x 18'-2 2/8 (cf) FZE
1-PL 16 UM x 1/2 x 9'-2 3/8 (cg) FZE bent
2-Rs 16 UM x 1/2 x 8'-11 1/8 (ch) FZE bent
1-PL 16 UM x 1/2 x 9'-2 5/8 (ck) FZE bent
1-L 7" x 4" x 1/2 x 37'-0 1/8 (cm) FZE
1-PL 8 x 5/16 x 1'-6 1/16 (cn) horiz
1-PL 8 x 3/8 x 1'-1 3/8 (cp) FZE
1-Bar 2 1/2 FLAT x 3/8 x 0'-9 (cq)
1-PL 8 x 7/16 x 1'-2 1/2 (ct)
1-Bar 2 1/2 x 1/2 x 0'-3 (cv)
1-PL 8 x 5/16 x 0'-9 7/16 (cw) bent FIE
1-L 3 1/2 x 3 1/2 x 3/8 x 0'-10 1/4 (cx)
1-L 4 x 3 1/2 x 3/8 x 0'-10 1/4 (cy)
1-PL 12 1/2 x 7/16 x 1'-2 1/2 (caa) bent
1-PL 8 x 5/16 x 1'-1 5/8 (cab) FZE
1-PL 8 x 7/16 1'-1 1/2 (cac)
1-L 4 x 3 1/2 x 3/8 x 1'-1 5/8 (cad)
1-L 3 1/2 x 3 1/2 x 3/8 x 1'-1 5/8 (cae)
2-L 3 1/2 x 3 1/2 x 3/8 x 0'-10 1/4 (caq) FZE

1-PL 10 1/2 UM x 3/8 x 1'-8 1/2 (coh)
1. BH 8 x 31 x 3'-11 (cah)
2. L 6 x 4 x 3/8 x 0'-6 (cam) (cut 6x6)
1- L 6 x 4 x 3/8 x 0'-5 1/2 (can)
1- L 6 x 4 x 3/8 x 1'-8 (cap)
1- Fill 4 UM x 1/4 x 1'-2 (cas) Tack weld
3-Rs 13 UM x 1/2 x 1'-3 1/2 cat 261 bent
6- L 3 1/2 x 3 1/2 x 3/8 x 0'-10 1/4 cav 261
5- Rs 11 UM x 3/8 x 1'-8 3/8 caw 261
4-L 3 x 4 x 3/8 x 1'-1 5/8 cax 261 FZE
2- L 4 x 3 1/2 x 3/8 x 1'-1 5/8 (cay 261) FZE
6- L 3 1/2 x 3 1/2 x 3/8 x 0'-11 1/2 cbb 261 FZE
3- BH 8 x 31 x 3'-6 cbb 261
6- L 6 x 4 x 3/8 x 0'-5 1/2 cbc 261 FZE
1-PL 13 UM x 3/8 x 1'-1 5/8 cbd 261
3- Rs 9 UM x 1/2 x 1'-0 1/2 (cbf)
1-L 3 1/2 x 2 1/2 x 1/2 x 1'-0 1/2 (cbg 261) FZE

Material for Walkway C51

One 9"w 15.0 x 35'-11 13/16 (cbk) FZE
1-PL 30 UM x 5/16 x 35'-11 13/16 (cbk) FZE
1-L 3" x 3" x 3/8 x 35'-11 13/16 (cbm) FZE
1 Cent Knobby R 19 1/2 x 3/8 x 18'-0 3/8 (cbn) FZE
1- do 19 1/2 x 3/8 x 17'-11 13/16 (cbp) FZE
1-PL 16 UM x 1/2 x 9'-0 3/8 (cbs) bent FZE
2-Rs (ch)
1-PL 19 UM x 1/2 x 8'-11 7/16 (cbt) bent FZE
1-L 7" x 4" x 1/2 x 35'-11 13/16 (cbv) FZE
1-PL 8 x 5/16 x 1'-6 7/16 (cbw) bent
1-PL 8 x 7/16 x 0'-9 7/16 (cbx) bent FIE
1-PL 12 1/2 x 7/16 x 0'-11 15/16 (cby) bent
1-L 3 1/2 x 3 1/2 x 3/8 x 0'-5 1/2 (cbz)
1-L 6 x 4 x 3/8 x 0'-5 1/2 (cca)
1-PL 8 x 7/16 x 2'-0 5/8 (ccb) FZE
1-PL 8 x 5/16 x 1'-1 3/8 (ccc) 261
1-PL 7 1/2 x 3/8 x 1'-1 5/8 (ccd) FZE
1-PL 7 1/2 x 3/8 x 0'-2 5/8 (cce) FIE
1-PL 7 1/2 x 1/4 x 0'-2 2/8 (ccg) EG1
1-PL 7 1/2 x 6 x 0'-2 5/8 (cch)
1-L 3 1/2 x 3 1/2 x 3/8 x 1'-1 5/8 (cci)
1-L 3 1/2 x 3 1/2 x 3/8 x 1'-1 3/8 (ccm)

1-L 3 1/2 x 3 1/2 x 3/8 x 0'-10 1/2 (ccn) FZE bent
1-L 3 1/2 x 3 1/2 x 3/8 x 0'-10 1/2 (cco) FZE bent
1-PL 10 1/2 UM x 3/8 x 1'-7 3/8 (ccs) 261
1-L 6 x 4 1/2 x 3/8 x 0'-6 (cct) F (cut 6x6) bent
1-L 6 x 4 1/2 x 3/8 x 0'-6 (ccv) F (cut 6x6) bent
1-BH 8 x 31 x 3'-11 1/2 (ccw)
1-L 3 1/2 x 3 1/2 x 3/8 x 0'-10 1/4 (ccx) bent
1-L 3 1/2 x 3 1/2 x 3/8 x 0'-10 1/4 (ccy) bent
2-Bars 4 UM x 3/8 x 1'-0 2 (cda)
1-PL 12 1/2 x 7/16 x 0'-11 (cdb)
3-Rs cat 261
6- L cav 261
3-Rs caw 261
4- L cax 261 FZE
2- L cay 261 FZE
6- L cba 261 FZE
3- Hs cbb 261
6- L cbc 261 FZE
1-PL cbd 261
1-L (cbg 261) F

2-Bars 4 UM x 3/8 x 1'-0 1/2 (cdc)
1-Bar 4 UM x 3/8 x 1'-0 (cdd)
1-PL 12 1/2 x 2 FILS x 0'-6 (ca.1)
1-Bar (cbf)

Work this sheet with sheets G261 RS, G261 CE to II incl, G262 & G263 RE to EE incl
For Specs 1 to 6 incl. see Sheet G261H1
For General Notes see Sheet G261A1

Span	No.	Description	Mark	Remarks	Weight Each Piece
9	1	Walkway	C52		
	1		C51		

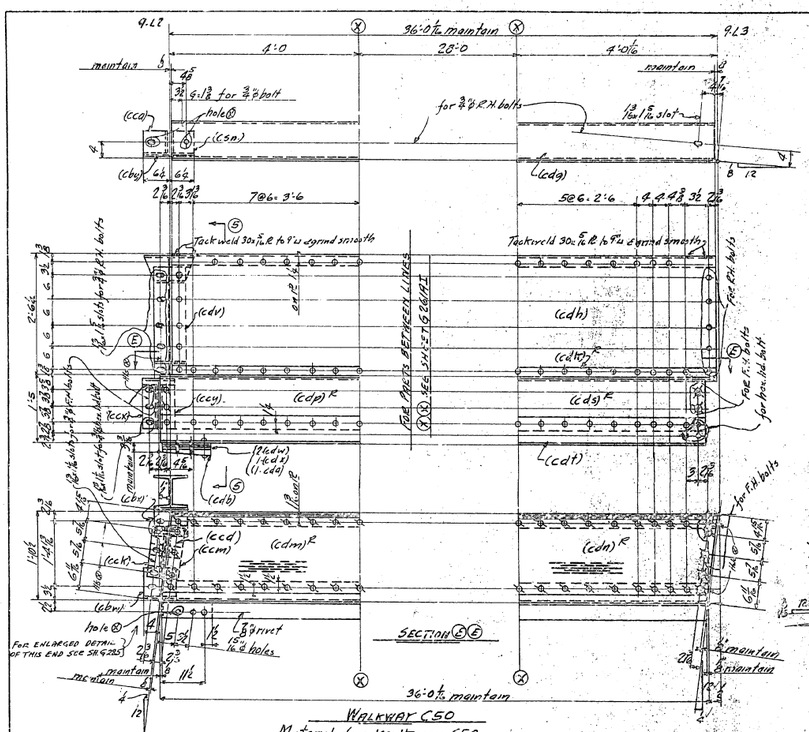
REQUIRED LIST

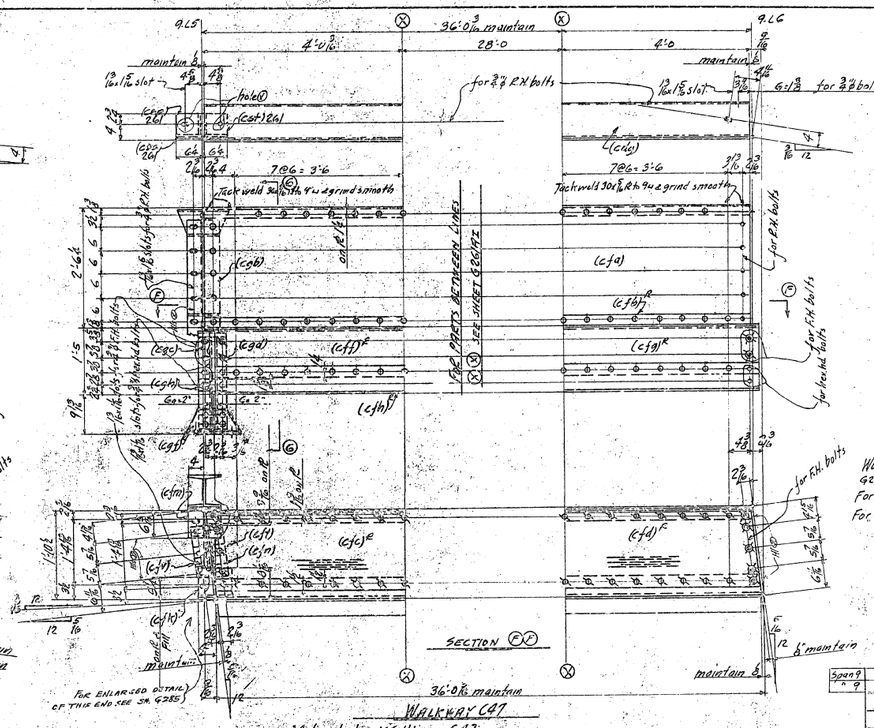
Date	Revision	Appd.

APPROVED
Glenn E. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-15-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" TRUSS SPANS - PIERS E9 TO E23
McCLINTIC - MARSHALL CORPORATION
Chicago DRAWING ROOM Jackson Park Highway
IN CHARGE John's MADE BY LET 54
CHECKED BY — TRACED BY —
LAST PACKED ON —

CONTRACT CC16503 SHEET G261 A1





Work this sheet with sheets G261 91 to 81, G261 01 to 11 incl. G262, G263 HE to EE incl.
For Sects 1-2.5-6 see sheet G261HI
For General Notes see sheet G261AI

Span 9	1	Walkway	C60		
	1	to	C47		
No.	Description		Mark	Remarks	Weight each Type

REQUIRED LIST

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
by S-13-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" TRUSS SPANS - PIERS E9 TO E23
McCLINTIC - MARSHALL CORPORATION
Chicago DRAWING ROOM Southern Pacific WORKS
IN STRUCT. Jenks MADE BY KCT 9/34
CHECKED BY KC 6-26-34 TRACED BY
LAST ADDED, ITEM

CONTRACT 06150B3 SHEET G 261 C7

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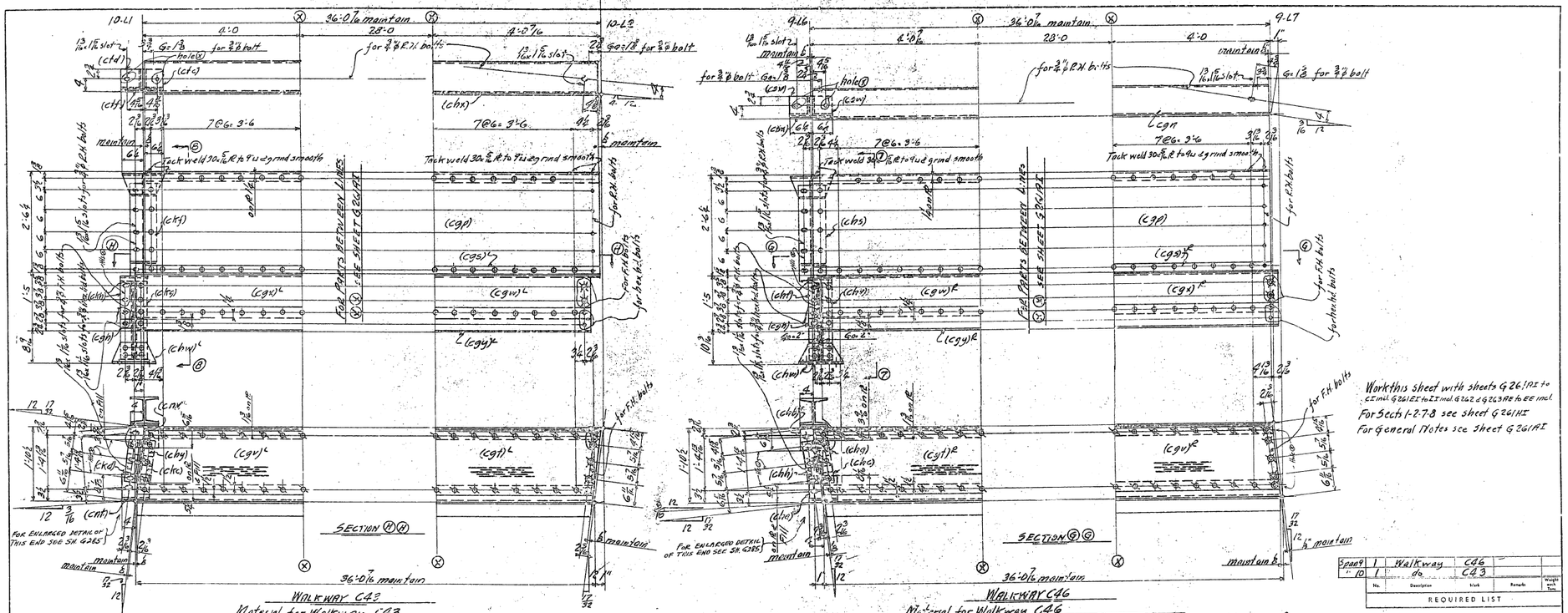

Work this sheet with sheets G 261 AI to EI incl. G 261 EI to II incl. G 262 & G 263 AE to EE incl.

For Sects 1-2-7-8 see sheet G 261 HI

For General Notes see Sheet G 261 AI

WALKWAY C43

Material for Walkway C43

One 9w 15.0# 36'-0 3/16 (chk) F2E
1-R (cgp)
1-L (cgs)L
1-Cent Knobby R(cgt)L
1- do (cgv)L
1-R (cgw)L
2-Rs (ch)
1-R (cgs)L
1-L (cgq)L
1-R 10x 5/16 x 1'-6 7/16 (cnr) bent
1-R 8x 5/16 x 0'-9 7/16 (cnv) bent
1-R 12 1/2 x 7/16 x 0'-11 7/16 (ctf) bent
1-L 6 x 4 x 3/8 x 0'-5 5/8 (cte)
1-L 6 x 4 x 3/8 x 0'-5 5/8 (cth)
1-R 7 1/2 x 3/8 x 1'-1 5/8 (chy) F2E
1-R 7 1/2 x 3/8 x 0'-2 5/8 (cha) F1E
1-R (ccg) 261
1-R (ccb) 261
1-R (ccc) 261

1-R 7 1/2 x 3/8 x 0'-2 5/8 (ctk)
1-L 3 1/2 x 3 1/2 x 1/2 (cte)
1-L 3 1/2 x 3 1/2 x 3/8 x 1'-1 5/8 (ctd)
1-L L (chk)L
1-L (chm)L
1-R (ccs) 261
1-L (chn)L
1-L (chp)L
1-BH 8w 31.4# 6'-6 3/4 (cth)
1-L 3 1/2 x 3 1/2 x 3/8 x 1'-10 11/16 (chy) bent
1-L 3 1/2 x 3 1/2 x 3/8 x 1'-10 11/16 (chh) bent
1-L (chm)L
1-Fill (cgh)
2-Ring Fills 2"ϕ x 3/8
2-Rs cat 261
6-Ls cav 261
3-Rs caw 261
4-Ls cau 261E
2-Ls cay 261E

6-Ls cbc 261E
3-Hs cbb 261
6-Ls cbc 261E
1-R cbd 261
1-L (cgm)L

WALKWAY C46

Material for Walkway C46

One 9w 15.0# 36'-0 13/16 (cgn) F2E
1-R 30UM = 5/16 x 36'-0 3/16 (cgp) F2E
1-L 3" x 3" x 3/8 x 36'-0 7/16 (cgs)L F2E
1-Cent Knobby R 19 1/2 x 3/8 x 18'-0 5/16 (cgt)L F2E
1- do 19 1/2 x 3/8 x 18'-0 5/8 (cgv)L F2E
1-R 10 UM 1/2 x 8 W 16 (cgw) F2E bent
2-Rs (ch)
1-R 16 UM 1/2 x 9'-0 3/8 (cgs)L F2E bent
1-L 7" x 4" x 2" x 36'-0 7/16 (cgy)L F2E
1-R 8x 5/16 x 1'-6 7/16 (cbd) bent
1-R 8x 1/2 x 0'-9 11/16 (chb) bent F1E
1-R 12 1/2 x 7/16 x 0'-11 15/16 (csv) bent
1-L 6w 4x 3/8 x 0'-5 5/8 (csw)
1-L 6w 4x 3/8 x 0'-5 5/8 (csv)
1-R (ccb) 261
1-R (ccc) 261
1-R 7 1/2 x 3/8 x 1'-1 5/8 (chc) F2E
1-R 7 1/2 x 3/8 x 0'-2 5/8 (cbd) F1E
1-R (ccg) 261

1-R 7 1/2 x 3/8 x 0'-2 5/8 (ctf)
1-L 3 1/2 x 3 1/2 x 1'-1 5/8 (chg)
1-L 3 1/2 x 3 1/2 x 3/8 x 1'-1 5/8 (chh)
1-L 3 1/2 x 3 1/2 x 3/8 x 0'-10 1/2 (chk) R bent
1-L 3 1/2 x 3 1/2 x 3/8 x 0'-10 1/2 (chm) R bent
1-R (ccs) 261
1-L 6 x 4 1/2 x 3/8 x 0'-6 (chn) R cut 6x6
1-L 6 x 4 3/8 x 3/8 x 0'-6 (chp) R cut 6x6
1-BH 3w 31.4# 9'-7 1/2 (chs)
1-L 3 1/2 x 3 1/2 x 3/8 x 2'-0 7/16 (cht) bent
1-L 3 1/2 x 3 1/2 x 3/8 x 2'-0 7/16 (chv) bent
1-L 6 x 4 x 2w 1'-1 (chw) R
1-Fill (cgh)
2-Ring Fills 2"ϕ x 3/8
3-Rs cat 261
6-Ls cav 261
3-Rs caw 261
4-Ls cax 261E
2-Ls cay 261E

6-Ls cbc 261E
3-Hs cbb 261
6-Ls cbc 261E
1-R cbd 261
1-L 3 1/2 x 2 1/2 x Tcst 1'-0 5/8 (cgm) R F2E

Span 9	1	Walkway	C46		
1" = 10'	1	do	C43		
No.	Description	Mark	Remarks	Weight per Span	

REQUIRED LIST

Date	Revision	Appd

APPROVED

Glenn B. Warren — Engineer of Bridges
Chas. H. Andrus — Bridge Engineer
C. H. Purcell — Chief Engineer

Dec. 8-13-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" TRUSS SPANS - PIERS E 9 TO E 23
McCLINTIC - MARSHALL CORPORATION
Chicago DRAWING ROOM Judson Pacific WORKING
IN CHARGE J. Lewis MADE BY LEF 9/11
CHECKED BY E. C. 26-34 TRACED BY
LAST ASSOCS. SUR.

CONTRACT 07I5603 SHEET G 261 BI

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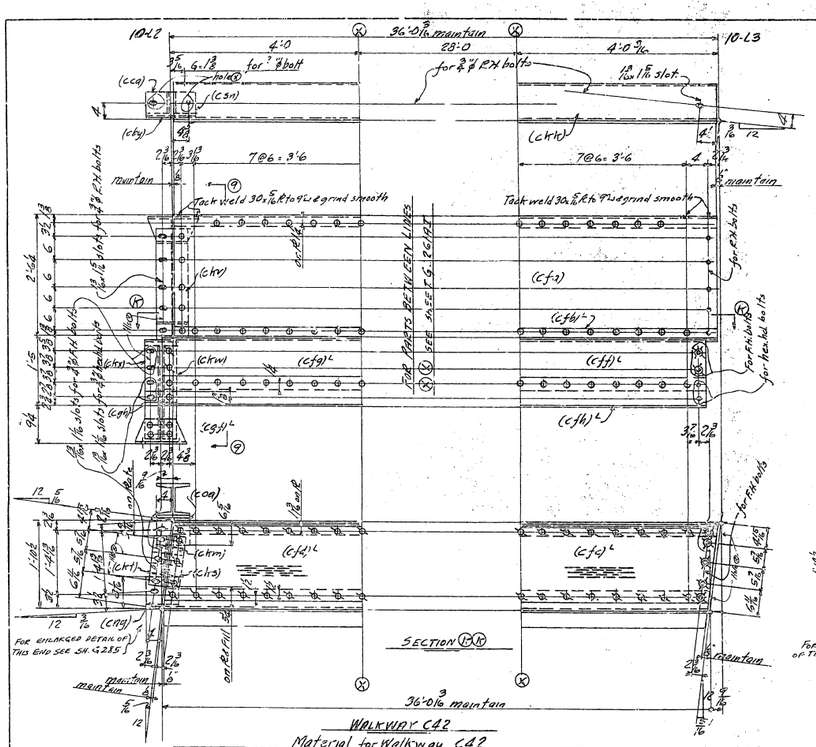

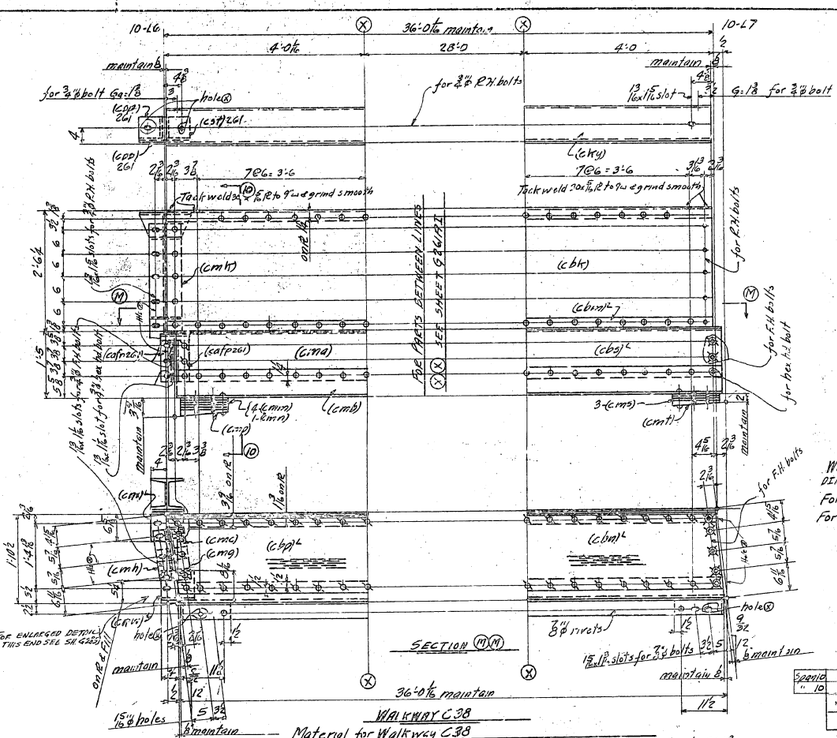

Service	No.	Description	Work	Remarks	Work and Turn
	1	Walkway C42			
	1	C38			

REQUIRED LIST

Date	Revision	App'd

APPROVED

Chief E. Wilson — Engineer of Bridges
C. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer

Dec. 8-13-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" TRUSS SPANS - PIERS E9 TO E23
McCLINTIC - MARSHALL CORPORATION
Chicago drawing from Judson Pacific works
IN CHARGE Jenks ISSUE BY LCT 9/12
CHECKED BY [illegible] 6-26-35 TRACED BY
LAST ASSOC. ENG.

CONTRACT C-16805 SHEET G 261 21

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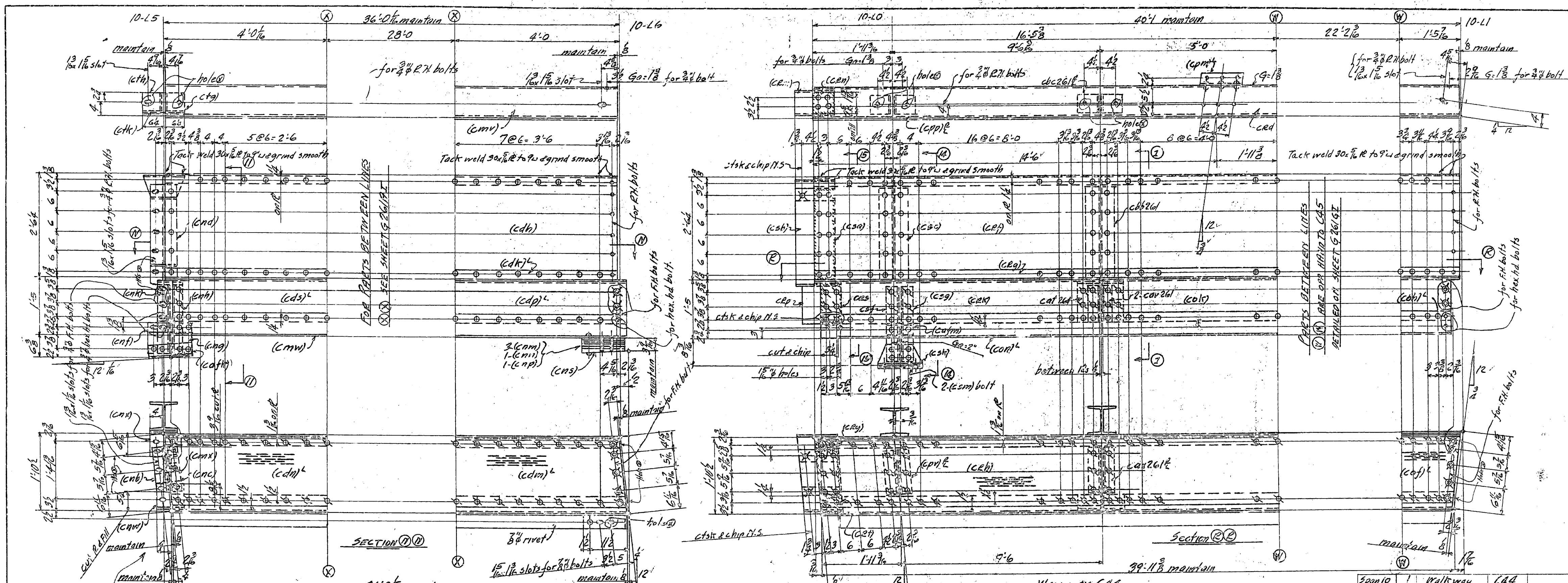


36'-0 1/16 maintain

WALKWAY C39

Material for Walkway C39

One 9 ⊔ 15.0 x 35'-11 3/16 (cmv) F2E
1-R (cdh)
1-L (cdk)L
1-Cent. Knobby R (cdm)L
1- do (cdn)L
1-R (cdp)L
2-Rs (cdr)
1-R (cds)L
1-L 7x4x1/2 x 35'-11 3/16 (cmw) F2E
1-R (cmw)
1-R (cmx)
1-R 12 1/2 x 5/16 x 0'-11 15/16 (ctk) bent
1-L 6x4x 3/8 x 0'-5 1/8 (ctg)
1-L 6x4x 3/8 x 0'-5 1/8 (cth)
1-R (ccb) 261
1-R (ccc) 261
1-R 7 1/2 x 3/8 x 1'-1 5/8 (cmx) F2E
1-R 7 1/2 x 1/2 x 0'-2 5/8 (cmy) F1E
1-R (ccg) 261
1-R 7 1/2 x 1/2 x 0'-2 5/8 (cna)
1-L 3 1/2 x 3 1/2 x 3/8 x 1'-1 5/8 (cnb)
1-L 3 1/2 x 3 1/2 x 3/8 x 1'-1 5/8 (cnc)
1-BH 8 x 31 x 4'-4 (cnd)
1-R (ccs) 261
1-L (ccn) 261L
1-L (ccp) 261L
1-L (cct)L
1-L (ccv)L
1-L 3 1/2 x 3 1/2 x 3/8 x 1'-8 1/2 (cnh) bent
1-L 3 1/2 x 3 1/2 x 3/8 x 1'-8 1/2 (cnk) bent
1-L 4x4x 1/2 x 1'-1 (cafk)
1-Bar 4 x 5/16 x 1'-1 (cnf)
1-R 13 UM x 1/2 x 0'-10 (cng)
3-Bars 4 UM x 5/8 x 1'-0 1/2 (cnm)
1-Bar 4 UM x 11/16 x 1'-0 1/2 (cnp)
1-Bar 4 UM x 1/2 x 1'-0 1/2 (cnn)
1-R 12 1/2 x 9/16 x 2 F.S. x 0'-4 (cns)
1 L (cbg) 261L
3-Rs cat 261
6-Ls cav 261
3-Rs caw 261
4-Ls cax 261 R/L
2. Ls cay 261 R/L
6-Ls cba 261 R/L
3-H's cbb 261
6-Ls cbc 261 R/L
1-R cbd 261
1-Ring Fill 2" ϕ x 3/8

39'-11 3/8 maintain

WALKWAY C44

Material for Walkway C44

One 9 ⊔ 15.0 x 40'-0 3/8 (cpd) F2E
1-R 30 UM x 5/16 x 40'-0 3/8 (crf) F2E
1-L 3 x 3 x 3/8 x 40'-0 3/8 (crg) F2E
1-Cent. Knobby R 19 1/2 x 3/8 x 20'-11 1/4 (crh) F2E
1- do (cof)L
1-R 16 UM x 1/2 x 11'-5 3/8 (crk) F2E bent
2-Rs (cok)
1-R (coh)L
1-L (con)L
1-R 11 x 5/16 x 1'-3 (crm) bent F1E
1-R 6 1/4 FlW x 3 x 0'-6 5/8 (crn)
1-R 11 x 1/2 x 1'-6 1/16 (crp) bent
1-R 10 1/4 x 3/8 x 0'-6 1/4 (crs) F1E
1-Bar 3 x 3/8 x 0'-6 1/4 (crt) F1E
1-R 11 x 3/8 x 0'-3 3/4 (crv) F1E
1-R 6 1/4 FlW x 3/8 x 1'-1 5/8 (crw)
1-R 10 1/2 x 3/8 x 1'-1 5/8 (crx) F2E
1-Bar 3 x 3/8 x 0'-6 1/4 (cry) F1E
1-R 6 1/4 FlW x 3/8 x 2'-3 3/8 (csa)
1-R 11 x 3/8 x 2'-10 3/8 (csb) bent F1E
1-BH 8 x 31 x 4'-6 1/2 (csc)
2-Ls (cpp)R/L
1-L (cpt)L
1-L (cps)L
2-Rs 6 x 3/8 x 0'-10 (csd) bolt
1-L (cpw)L
1-L (cpx)L
2-Ls (cpv)R/L
1-L 3 1/2 x 3 1/2 x 3/8 x 1'-10 9/16 (csf)
1-L 3 1/2 x 3 1/2 x 3/8 x 1'-10 9/16 (csg)
1-R 11 1/2 UM x 3/8 x 1'-8 3/8 (csh)
1-L 6 x 4 x 1/2 x 1'-1 (csk)
2-Bars 4 x 3/8 x 1'-1 (csm) bolt
1-Fill 4 x 3/8 x 0'-7 1/2 (cafm)
2-Ring Fills 2" ϕ x 3/8
6-Perm. bolts 3/4" ϕ x 2" lg. hex. hd. & nut
3-Rs cat 261
6-Ls cav 261
3-Rs caw 261
4-Ls cax 261 R/L
2-Ls cay 261 R/L
6-Ls cba 261 R/L
3-H's cbb 261
6-Ls cbc 261 R/L
1-R cbd 261
1-L (cpm)L

Work this sheet with sheets G261AI to EI incl. & G261GI to II incl. G262 & G263 AE to EE incl.
For Sects 1 & 2 see Sheet G261HI
For Sects 11-14 & 15 see Sheet G261II
For General Notes see Sheet G261AI

Span 10	1	Walkway	C44		
" 10	1	do	C39		
	No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

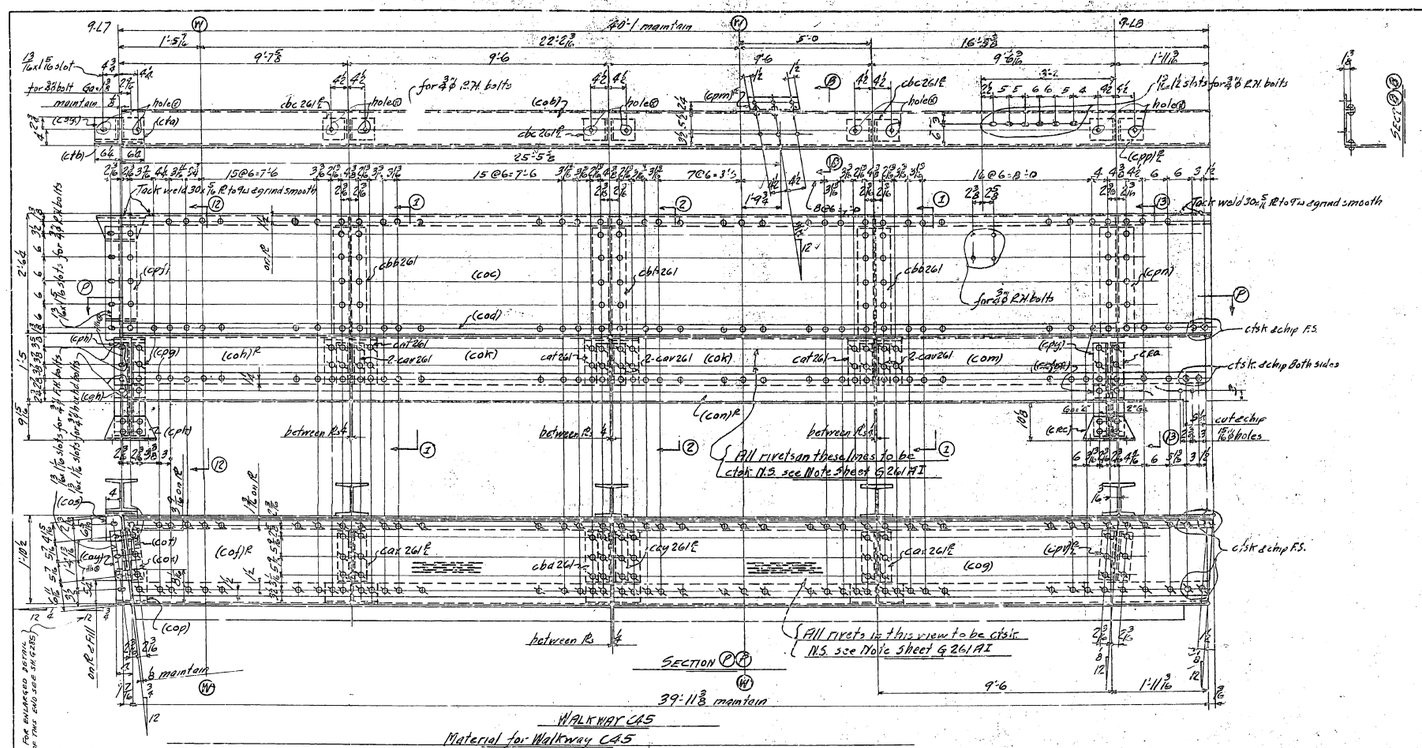
Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-13-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" TRUSS SPANS - PIERS E9 TO E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Judson Pacific WORKS
IN CHARGE Jenks MADE BY LCY 6/15
CHECKED BY E 6-26-34 TRACED BY
LAST ADDITION
CONTRACT CG15803 SHEET G261FI

30-1



Material for Walkway CA5

One 9U15.0 x 40'-0 3/8" (cob) F2E
1-PL 30 UM x 5/16 x 40'-0 3/8" (coc) F2E
1-L 3 x 3 x 3/8 x 40'-0 3/8" (cod) F2E
1-Cent Knobby PL 19 1/2 x 3/8 x 19'-1 5/16" (coj) PL F2E
1- do 19 1/2 x 3/8 x 20'-11 1/4" (cog) F2E
1-PL 16 UM x 1/2 x 9'-6 1/4" (coh) PL bent F2E
2-PLs 16 UMs x 1/2 x 9'-5 3/4" (coh) bent F2E
1-PL 16 UM x 1/2 x 11'-5 1/2" (com) bent F2E
1-L 7 x 4 x 1/2 x 37'-11 1/4" (con) PL F2E
1-PL 8 x 5/16 x 1'-6 7/16" (cop) bent
1-PL 8 x 5/16 x 0'-9 5/16" (coq) bent
1-PL 12 2/16 x 7/16 x 0'-11 7/16" (cob) bent
1-L 6 x 4 x 3/8 x 0'-5 1/2" (cto)
1-L 6 x 4 x 3/8 x 0'-5 1/2" (cts)
1-PL (ccb) 261
1-PL (cc) 261
1-PL 7 1/2 x 3/8 x 1'-1 5/8" (cot) F2E
1-PL 7 1/2 x 6 x 0'-7 3/8" (cov) F1E

1-PL (ccg) 261
1-PL 7 1/2 x 3/8 x 0'-7 3/8" (cow)
1-L 3 1/2 x 3 1/2 x 3/8 x 1'-1 5/8" (cox)
1-L 3 1/2 x 3 1/2 x 3/8 x 1'-1 5/8" (coy)
1-L 3 1/2 x 3 x 3/8 x 0'-10 1/2" (cpa) bent
1-L 3 1/2 x 3 x 3/8 x 0'-10 1/2" (cpb) bent
1-PL (ccc) 761
1-L 6 x 4 1/2 x 3/8 x 0'-6" (cpx) cut 6 x 6
1-L 6 x 4 1/2 x 3/8 x 0'-6" (cpd) cut 6 x 6
1-BH Bm 31 x 4'-0" (cpf)
1-L 3 1/2 x 3 1/2 x 3/8 x 2'-0 1/2" (cpg) bent
1-L 3 1/2 x 3 1/2 x 3/8 x 2'-0 1/2" (cph) bent
1-L 6 x 4 x 1/2 x 1'-1" (cpk)
1- Fill (cph)
4- Bing Fills 2 1/2 x 3/8
1-L 3 1/2 x 2 1/2 x 5/16 x 1'-0 1/2" (cpm) PL
1-BH Bm 31 x 4'-10 1/2" (cpn)
2-L's 6 x 4 x 3/8 x 0'-5 1/2" (cpp) F

1-L 6 x 4 1/2 x 3/8 x 0'-5" (cpq) PL cut 6 x 6
1-L 6 x 4 1/2 x 3/8 x 0'-6" (cpt) PL cut 6 x 6
2-L's 4 x 3 1/2 x 3/8 x 1'-1 3/8" (cpv) F
1-L 3 1/2 x 3 x 3/8 x 0'-11 1/2" (cpw) PL
1-L 3 1/2 x 3 1/2 x 3/8 x 0'-11 1/2" (cpx) PL
1-L 3 1/2 x 3 1/2 x 3/8 x 2'-0 1/2" (cpy)
1-L 3 1/2 x 3 1/2 x 3/8 x 2'-0 1/2" (cza)
1-PL 11 3/8 UM x 3/8 x 1'-8 3/8" (czb)
1-L 6 x 4 x 1/2 x 1'-1" (czc)
3-PLs cot 261
6-L's cor 261
3-PLs cow 261
4-L's cox 261 F
2-L's coy 261 F
6-L's cbb 261 F
3-H's cbb 261
6-L's cbc 261 F
1-PL cbd 261
1-Fill (cafm)

Work this sheet with sheets: G 261 AI to AI incl. & G 261 HI & II, G 262 & G 263 AE to EE incl.

For Sects. 1-2 see Sheet G 261 HI
For Sects 12-13 see sheets G 261 II
For General Notes see sheet G 261 AI

Span 9 | Walkway CA5

No.	Description	Mark	Pounds	Weight Each Piece

REQUIRED LIST

Date	Revision	App'd

APPROVED

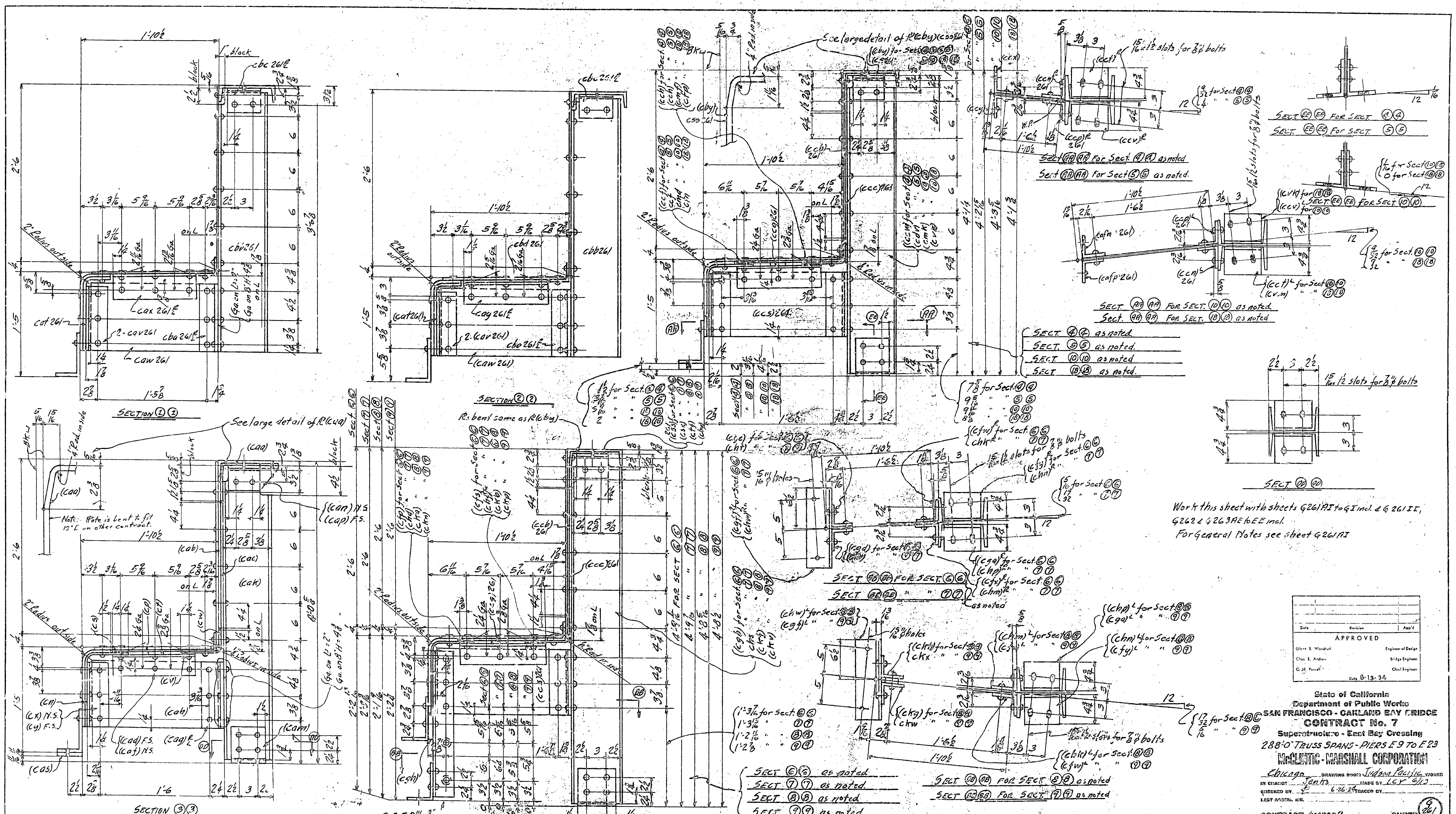
Engineer of Design
Bridge Engineer
Chief Engineer

Date 8-13-34

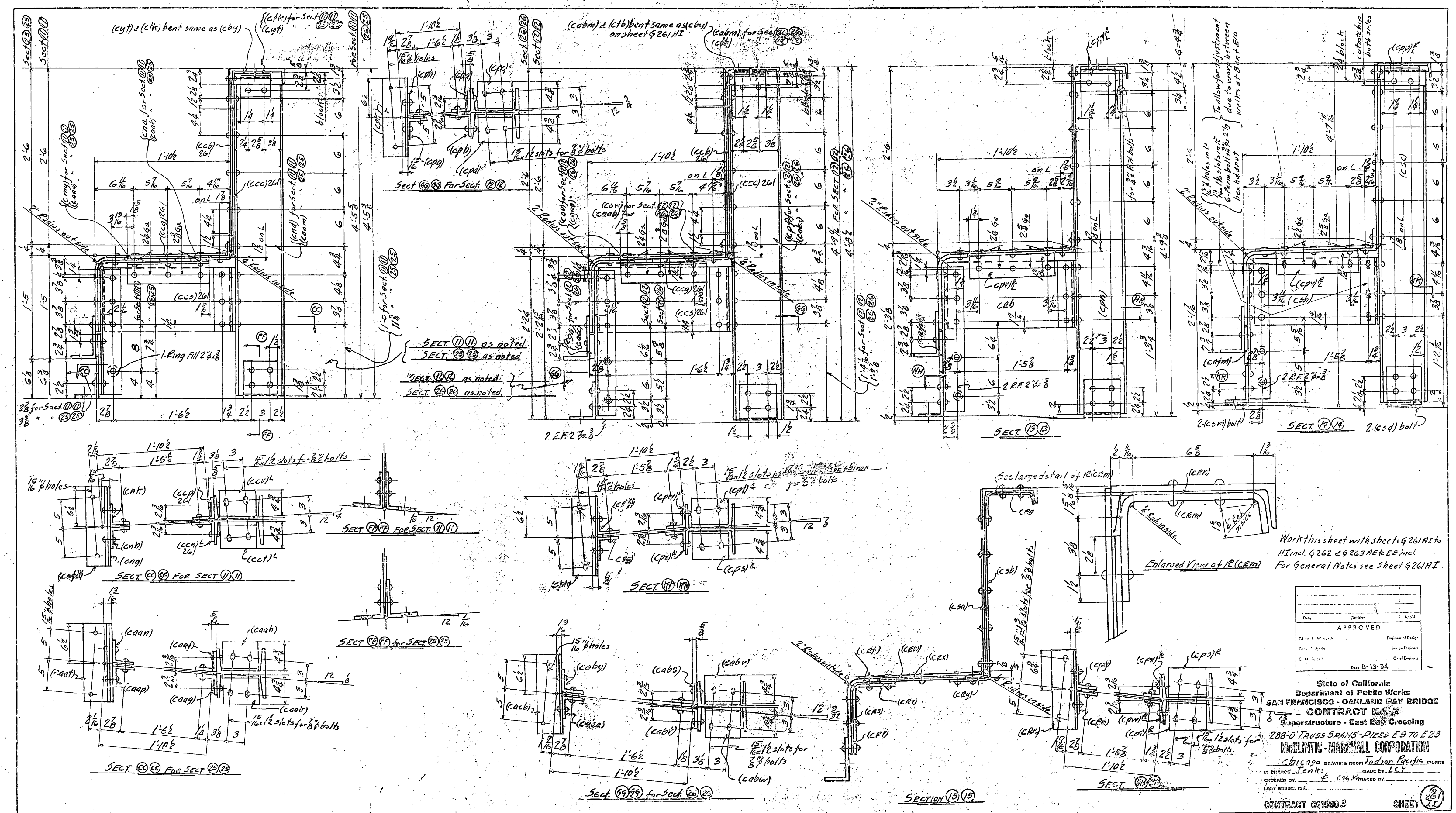
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - 1285 E 9 TO E 23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Judson Pacific WORKS
IN CHARGE Jenks MADE BY LCI 6/34
CHECKED BY [illegible] 6-26-34 TRACED BY
LAST ASSOC. ENG.

CONTRACT 6415B3 SHEET G 261 / 84

30-1

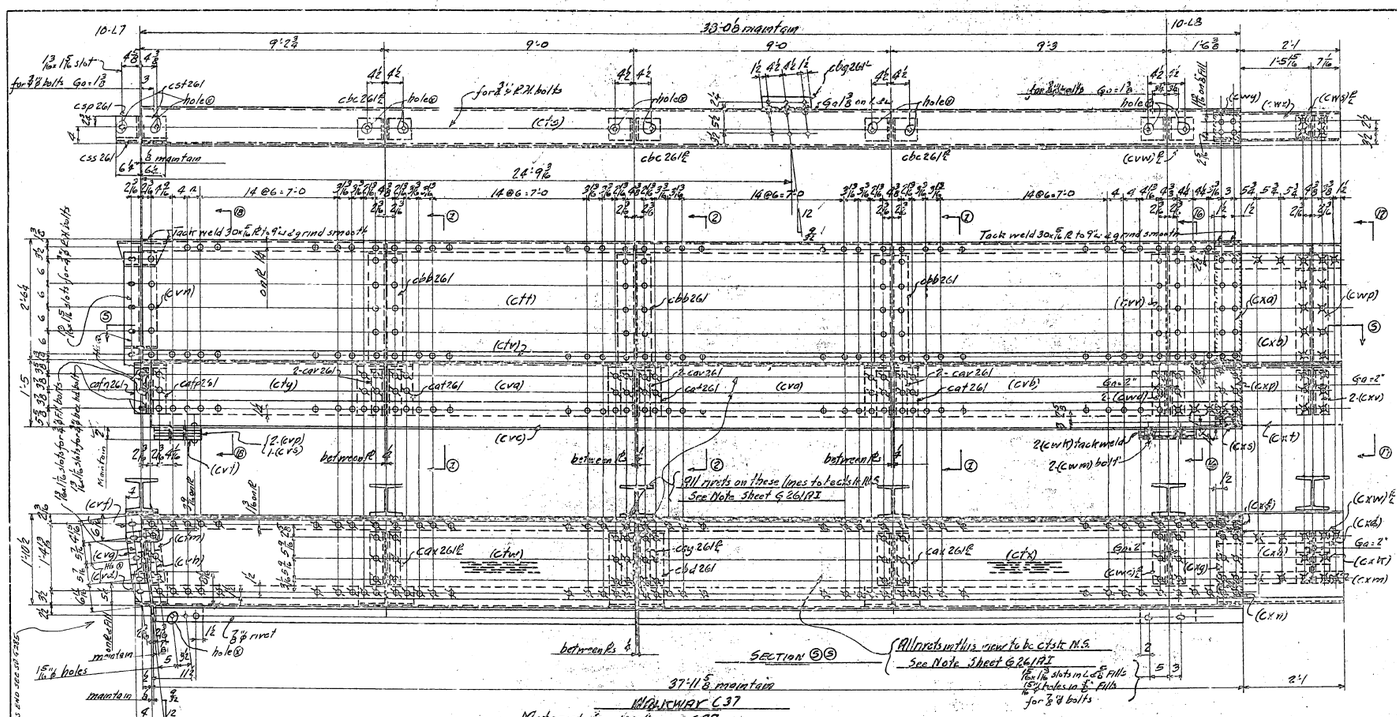

SECTION ② ②
SECTION ③ ③
SECT ⑩ ⑩
Work this sheet with sheets G261AI to GI incl. & G 261 II, G262 & G263AE to EE incl.
For General Notes see sheet G261AI
SECT ④ ④ as noted
SECT ⑤ ⑤ as noted.
SECT ⑩ ⑩ as noted
SECT ⑬ ⑬ as noted
SECT ⑥ ⑥ as noted
SECT ⑦ ⑦ as noted.
SECT ⑧ ⑧ as noted
SECT ⑨ ⑨ as noted
Date
Revision
App'd
APPROVED
Glenn B. Woodruff
Engineer of Design
Chas. E. Andrew
Bridge Engineer
C. H. Purcell
Chief Engineer
Date 8-13-34
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" TRUSS SPANS - PIERS E9 TO E23
McCLINTIC - MARSHALL CORPORATION
Chicago DRAWING ROOM Judson Pacific WORKS
IN CHARGE Jenks MADE BY LCY 6/13
CHECKED BY 6-26-34 TRACED BY
LAST ASSEM. MK.
CONTRACT C415803
SHEET G 261 HI

30-1



Sect 13 13
Sect 14 14
Sect 11 11 as noted
Enlarged View of R (cRm)
Section 15 15
Work this sheet with sheets G261AI to HI incl. G262 & G263 AE to EE incl.
For General Notes see Sheet G261AI
Date
Revision
App'd
APPROVED
Glenn B. Woodruff
Engineer of Design
Chas. E. Andrew
Bridge Engineer
C. H. Purcell
Chief Engineer
Date 8-13-34
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" TRUSS SPANS - PIERS E9 TO E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Judson Pacific WORKS
IN CHARGE Jenks MADE BY LCY
CHECKED BY
TRACED BY
LAST ASSEM. CHK.
CONTRACT CG1580.3
SHEET G 261 II

30-1



One 9u 15.0 x 38'-0 (ctg) FE
1-R 30 UM x 7/16 38'-0 (ctf) FE
1-L 3x3x 3/8 x 38'-0 (ctn) FE
1 Cent. Knobby R Mx 3/8 x 18'-2 (ctm) FE
1 do 19 1/2 x 3/8 x 19'-9 1/2 (ctk) FE
1-R 16 UM x 1/2 x 9'-2 3/8 (ctg) FE bent
2-R 16 UM x 1/2 x 8'-11 3/8 (ctn) FE bent
1-R 16 UM x 1/2 x 10'-9 1/2 (ctk) FE bent
1-L 7x4 x 1/2 x 37'-11 3/8 (cvc) FE
1-R 12 1/2 x 7/16 0'-11 5/16 css 261 bent
1-L 6x4x 3/8 x 0'-5 3/8 csp 261
1-L 6x4x 3/8 x 0'-5 3/8 cst 261
1-R 8 x 7/16 x 1'-6 1/16 (cvd) bent
1-R 8x 7/16 x 0'-9 1/2 (cvf) bent FIE
1-R 8x 7/16 2'-0 3/8 ccb 261
1-R 8 x 7/16 x 1'-11 1/2 ccc 261
1-R 7 1/2 x 3/8 x 1'-1 5/8 (ctm) FE
1-R 7 1/2 x 3/8 x 0'-2 3/8 (cto) FIE
1-R 7 1/2 x 7/16 x 0'-2 1/2 ccg 261
1-R 7 1/2 x 8 x 0'-2 5/8 (ctp)

1-L 3 1/2 x 3 1/2 x 3/8 x 1'-1 5/8 (cvg)
1-L 3 1/2 x 3 1/2 x 3/8 x 1'-1 5/8 (cvh)
1-L 3 1/2 x 3 1/2 x 5/16 x 0'-10 1/2 csf 261 bent
1-L 3 1/2 x 3 1/2 x 5/16 x 0'-10 1/2 csf 261 bent
1-R 10 5/16 UM x 5/16 x 1'-9 63/64 261
1-L L 6x4 x 3/8 x 0'-6 (cvm) cut 6x6
1-L 6x4 x 3/8 x 0'-6 (cvm) cut 6x6
1-BH 8x 31/4 x 4'-0 (cvn)
1-L 3 1/2 x 3 x 3/8 x 6'-10 1/2 ccn 261 bent
1-L 3 1/2 x 3 x 3/8 x 0'-10 1/2 ccp 261 bent
2-Bars 4 UM x 1/2 x 1'-0 1/2 (cvp)
1-Bar 4 UM x 7/16 1'-0 1/2 (cvs)
1-R 12 1/2 x 7/16 FIS x 0'-9 (cvt)
1-BH 8x 31/4 5'-11 3/4 (cvv)
2-L 6x4x 3/8 x 0'-5 1/2 (cvw) E
1-L 6x 3 1/2 x 3/8 x 1'-1 1/2 (cvx) bolt
4-R 5 1/2 x 8 x 0'-8 (cvy) bolt
2-R 5 1/2 x 1/2 x 0'-8 (cww) bolt
2-Bars 3 1/2 x 1/2 x 1'-1 1/2 (cwb) bolt
2-L 4x 3 1/2 x 3/8 x 1'-1 5/8 (cwc) E

2-L 3 1/2 x 3 1/2 x 3/8 x 0'-10 1/2 (cwd)
2-L 5 x 3 1/2 x 3/8 x 1'-0 1/2 (cwf)
2-R 10 1/2 x 8 x 1'-0 2 (cwg) bolt
1-R 16 1/2 UM x 3/8 x 1'-4 5/8 (cwh)
8 Permbolts 2 1/2 x 28 1/8 g hex bd cnot
2-Bars 4 UM x 1/2 x 1'-2 (cwk) tackweld
2-Bars 4 UM x 1/2 x 1'-2 (cwm) bolt
1-BH 8x 31/4 3'-3 1/2 (cwp)
2-L 4x 3 1/2 x 3/8 x 0'-6 (cwq) E
1-L 6x 3 1/2 x 3/8 x 0'-9 (cwr) bent bolt
1-Bar 3 1/2 x 4 x 0'-9 (cww) bolt
2-Bars 3 1/2 x 8 x 0'-9 (cwx) bolt
1-R 31/2 x 1'-2 3/8 (cwy) bent FIE
1-R 6 FIW x 5/16 x 0'-6 5/8 (cwy)
1-R 6 FIW x 5/16 x 2'-5 3/8 (cxa)
1-Bar 31/2 x 4 x 2'-10 1/2 (cxb) bent FIE
1-R 8 x 3/8 x 1'-11 1/2 (cxc)
1-Bar 3 x 5/8 x 0'-6 (cxd) FIE
1-R 7 1/2 x 5/8 x 0'-2 3/8 (cxe)
1-R 6 FIW x 3/8 x 1'-1 5/8 (cxg)

1-R 31/2 x 1/2 x 1'-1 5/8 (cxh) FRE
1-R 7 1/2 x 5/8 x 0'-2 1/2 (cxk)
1-Bar 2 1/2 FIW x 3/8 x 2'-7 (cxm)
1-Bar 3 x 3/8 x 0'-6 (cxn) FIE
1-R 6 FIW x 5/16 x 1'-0 5/8 (cxp)
1-Bar 2 1/2 x 2 x 0'-6 (cxr) FIE
1-R 31/2 x 1/2 x 1'-8 7/8 (cxs) bent
2-L 3 1/2 x 2 x 3/8 x 0'-10 1/2 (cxt)
2-L 3 1/2 x 3 1/2 x 3/8 x 1'-1 5/8 (cxv) E
2-L 4 x 3 1/2 x 3/8 x 1'-2 5/8 (cxw) E
1-R 8 1/2 x 1/2 x 1'-2 5/8 (cxy) bolt
2-R 8 1/2 x 5/8 x 1'-2 5/8 (cyq) bolt
1-E 12 UM x 3/8 x 1'-5 5/8 (cyb)
6-L 3 1/2 x 3 1/2 x 3/8 x 0'-10 1/2 cav 261
3-R 13 UM x 1/2 x 1'-3 1/4 cat 261
3-R 11 1/4 UM x 5/8 x 1'-8 3/8 cau 261
4-L 4 x 3 1/2 x 3/8 x 1'-1 5/8 cau 261 ℄
2-L 4 x 3 1/2 x 3/8 x 1'-1 5/8 cay 261 ℄
6-L 3 1/2 x 3 x 3/8 x 0'-11 cba 261 ℄
3-DH 8 x 31/4 3'-6 cbb 261

6-L 6 x 4 x 3/8 x 0'-5 1/2 cbc 261 ℄
1-R 13 UM x 5/8 x 1'-1 5/8 cbd 261
1-L 3 x 2 1/2 x 5/16 x 1'-0 1/2 cbg 261 ℄ FE

All rivets on this sheet shown thus ☆
are to be ctsk & chip. H.S.

Spans 10	1	Walkway C37		
	No.	Description	Mark	Remarks

REQUIRED LIST

Date	Revision	App'd

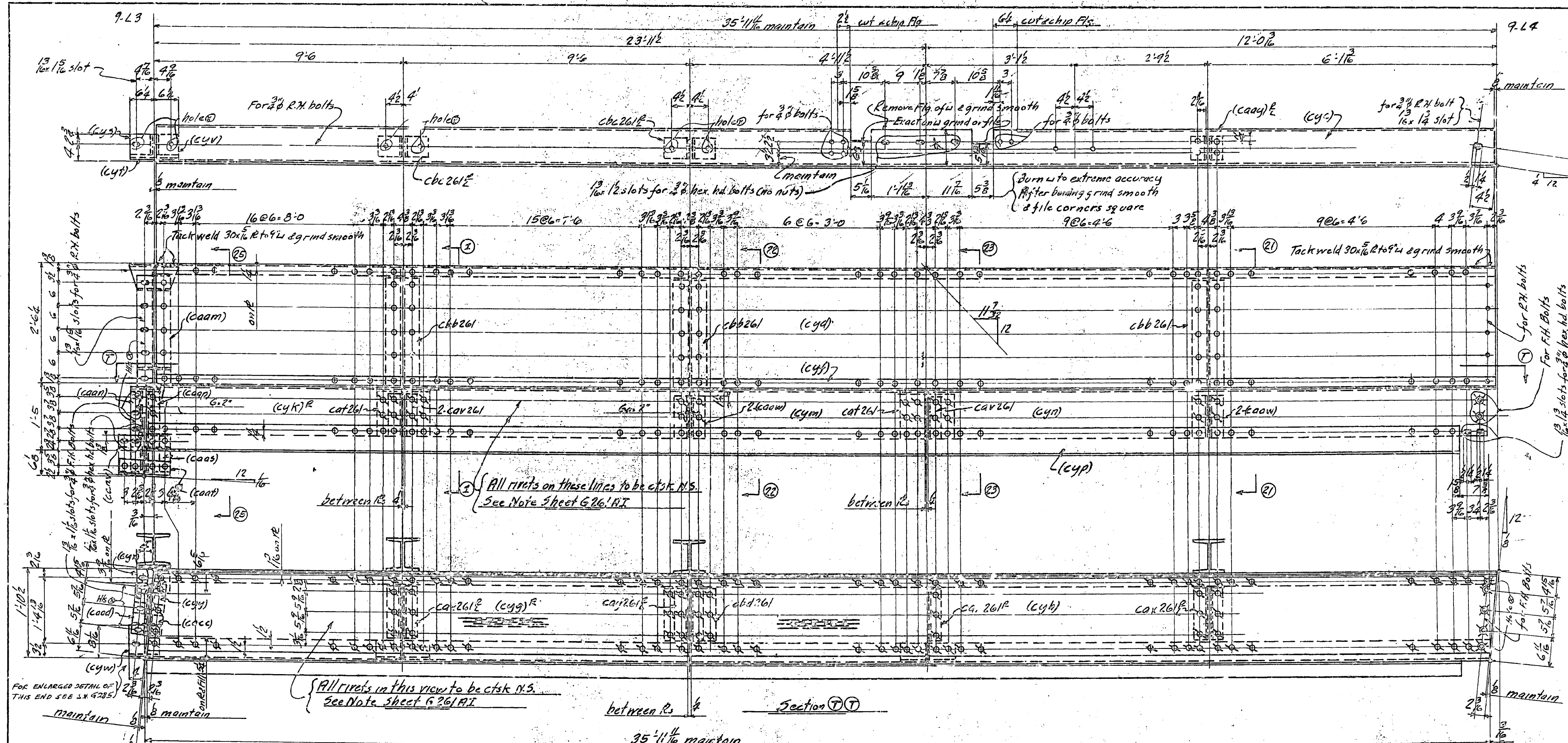
APPROVED

Chief Engineer

Date 8-13-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" Truss Spans - Piers E 9 to E 23
MCKITTRIC - MARSHALL CORPORATION
Clinton DRAWING ROOM Judson Pacific WORKING
IN CHARGE Smith MADE BY L.C.T. CHECKED BY [illegible] TRACED BY
LAST ASSOC. CHF.

CONTRACT 07B003 SHEET 9 262



Section (T)(T)

35'-11 11/16 maintain

WALKWAY C49

Material for Walkway C49

One 9 L 15.0 x 35'-11 7/16 (cyc) F2E
1-R 30 UM x 5/16 x 35'-11 7/16 (cyd) F2E
1-L 3 x 3 x 3/8 x 35'-11 15/32 (cyf) F2E
1-Cent. Knobby R 19 1/2 x 3/8 x 18'-[illegible] (cyg) F2E
1- do 19 1/2 x 3/8 x 16'-11 7/16 (cyh) F2E
1-R 16 UM x 1/2 x 9'-5 15/16 (cyk) F2E bent
1-R 16 UM x 1/2 x 14'-5 1/4 (cym) F2E bent
1-R 16 UM x 1/2 x 11'-11 3/16 (cyn) F2E bent
1-L 7 x 4 x 1/2 x 35'-4 3/16 (cyp) F2E
1-R 12 1/2 x 5/16 x 0'-11 5/16 (cyt). bent
1-L 6 x 4 x 3/8 x 0'-5 1/8 (cyu)
1-L 6 x 4 x 3/8 x 0'-5 1/8 (cyv)
1-R 8 x 5/16 x 2'-0 3/8 ccb261 F2E
1-R 8 x 5/16 x 1'-11 1/2 ccc261
1-R 8 x 5/16 x 1'-6 7/16 (cyw) bent

1-R 8 x 5/16 x 0'-9 13/16 (cyx) bent F1E
1-R 7 1/2 x 3/8 x 1'-1 5/8 (cyy) F2E
1-R 7 1/2 x 1/8 x 0'-2 5/8 (caaa) F1E
1-R 7 1/2 x 7/16 x 0'-2 1/2 ccg261
1-R 7 1/2 x 1/8 x 0'-2 5/8 (caab)
1-L 3 1/2 x 3 1/2 x 3/8 x 1'-1 5/8 (caac)
1-L 3 1/2 x 3 1/2 x 3/8 x 1'-1 5/8 (caad)
1-L 3 1/2 x 3 x 3/8 x 0'-10 1/2 (caaf) bent
1-L 3 1/2 x 3 x 3/8 x 0'-10 1/2 (caag) bent
1-R 10 1/2 UM x 3/8 x 1'-9 ccs261
1-L 6 x 4 3/4 x 3/8 x 0'-6 (caah) bent cut 6x6
1-L 6 x 4 3/4 x 3/8 x 0'-6 (caak) bent cut 6x6
1-BH 8 x 31 x 4'-3 3/4 (caam)
1-L 3 1/2 x 3 1/2 x 3/8 x 1'-8 1/4 (caan) bent
1-L 3 1/2 x 3 1/2 x 3/8 x 1'-8 1/4 (caap) bent

1-R 13 UM x 1/2 x 0'-9 3/4 (caas)
1-L 4 x 4 x 1/2 x 1'-1 (caat)
1-Bar 4 x 5/16 x 1'-1 (caav)
1-Ring Fill 2 1/4 x 3/8
2-Rs 13 UM x 1/2 x 1'-3 1/4 cat261 bent
3-Ls 3 1/2 x 3 1/2 x 3/8 x 0'-10 1/4 cav261
3-Rs 11 UM x 3/8 x 1'-8 3/8 caw261
3-Ls 4 x 3 1/2 x 3/8 x 1'-1 5/8 cax261 R
6-Ls 3 1/2 x 3 x 3/8 x 0'-11 cba261 R/L
3-B.H. 8 x 31 x 3'-6 cbb261
4-Ls 6 x 4 x 3/8 x 0'-5 1/2 cbc261 R/L
4-Ls 3 1/2 x 3 1/2 x 3/8 x 0'-10 1/4 (caaw)
2-Ls 4 x 3 1/2 x 3/8 x 1'-1 5/8 cay261 R
1-R [illegible] 1'-1 5/8 cbd261
1-R 11 UM x 3/8 x 1'-5 5/16 (caax) (1-R 2'-0 cuts 2)

2-Ls cax261 L
2-Ls 4 x 3 1/2 x 3/8 x 0'-6 (caay) R/L

Work this sheet with sheets G261AI to II incl., G262 & G263EE to EE incl.
For Sect. 1 see sheet G261HI
For Sect. 25 see sheet G261II
For Sects 21-22 & 23 see sheet G263EE
For General Notes see sheet G261AI

Span 9	1	Walkway	C49		
	No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 6-13-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing

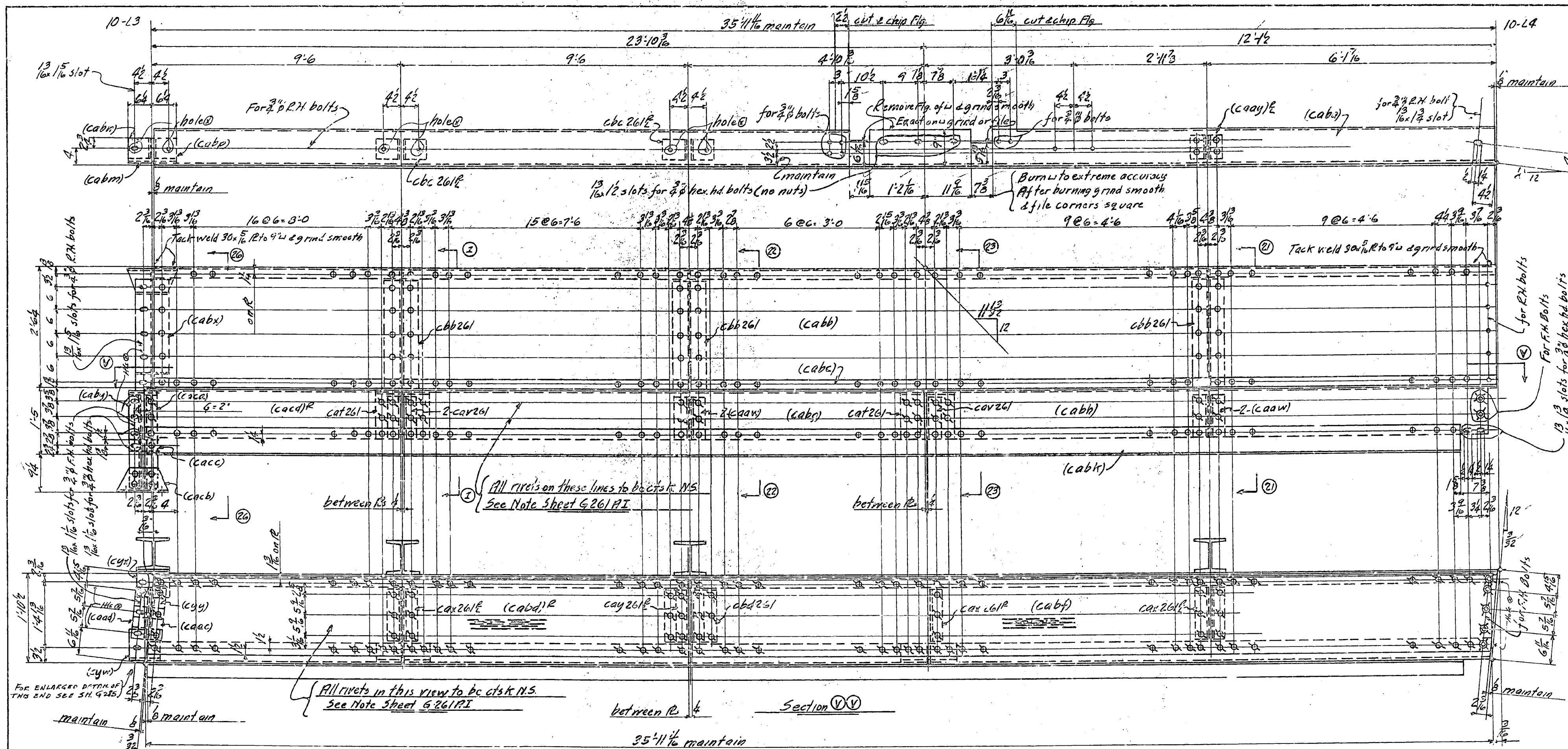
288'-0" TRUSS SPANS - PIERS E9 TO E23

McCLINTIC - MARSHALL CORPORATION

Chicago DRAWING ROOM Judson Pacific WORKS
IN CHARGE Jenks MADE BY LCY 6/18
CHECKED BY [illegible] 6-26-34 TRACED BY
LAST ASSEM. [illegible]

CONTRACT C615803 SHEET G 263 AE

30-1



WALKWAY C41

Material for Walkway C41

One 9 w 15.0 x 35'-11 7/16 (caba) F2E
1-R 30 U.M. x 5/16 x 35'-11 7/16 (cabb) F2E
1-L 3 x 3 x 3/8 x 35'-11 15/32 (cabc) F2E
1-Cent. Knobby R 19 1/2 x 3/8 x 18'-11 15/16 (cabd) R F2E
1- do 19 1/2 x 3/8 x 16'-11 15/16 (cabf) F2E
1-R 16 U.M. x 1/2 x 9'-5 15/16 (cacd) R F2E bent
1-R 16 U.M. x 1/2 x 14'-3 15/16 (cabg) F2E bent
1-R 16 U.M. x 1/2 x 12'-1 1/8 (cabh) F2E bent
1-L 7 x 4 x 1/2 x 35'-4 3/16 (cabk) F2E
1-R 12 1/2 x 5/16 x 0'-11 15/16 (cabm) bent
1-L 6 x 4 x 3/8 x 0'-5 1/8 (cabn)
1-L 6 x 4 x 3/8 x 0'-5 1/8 (cabp)
1-R ccb 261
1-R ccc 261
1-R (cyw)
1-R (cyx)
1-R (cyy)
1-R (caaa)
1-R ccg 261
1-R (caab)
1-L (caac)
1-L (caad)
1-L 3 1/2 x 3 x 3/8 x 0'-10 1/2 (cabs) bent
1-L 3 1/2 x 3 x 3/8 x 0'-10 1/2 (cabt) bent
1-R ccs 261
1-L 6 x 4 3/4 x 3/8 x 0'-6 (cabv) cut 6 x 6
1-L 6 x 4 3/4 x 3/8 x 0'-6 (cabw) cut 6 x 6
1-B.H. 8 x 31 x 4'-6 3/4 (cabx)
1-L 3 1/2 x 3 1/2 x 3/8 x 1'-11 3/8 (caby) bent
1-L 3 1/2 x 3 1/2 x 3/8 x 1'-11 3/8 (caca) bent
1-L 6 x 4 x 1/2 x 1'-1 (cacb)
1-Fill 4 x 13/16 x 0'-7 1/2 (cacc)
2-Ls (caay) R
2-Ring Fills 2 7/8 x 3/8
8-Rs cat 261
3-Ls cav 261
3-Rs caw 261
3-Ls cax 261 R
6-Ls cba 261 R
3-B.H. cbb 261
4-Ls cbc 261 R
4-Ls (caaw)
2-Ls cay 261 R
1-R cbd 261
1-R (caaz)
2-Ls cax 261 L

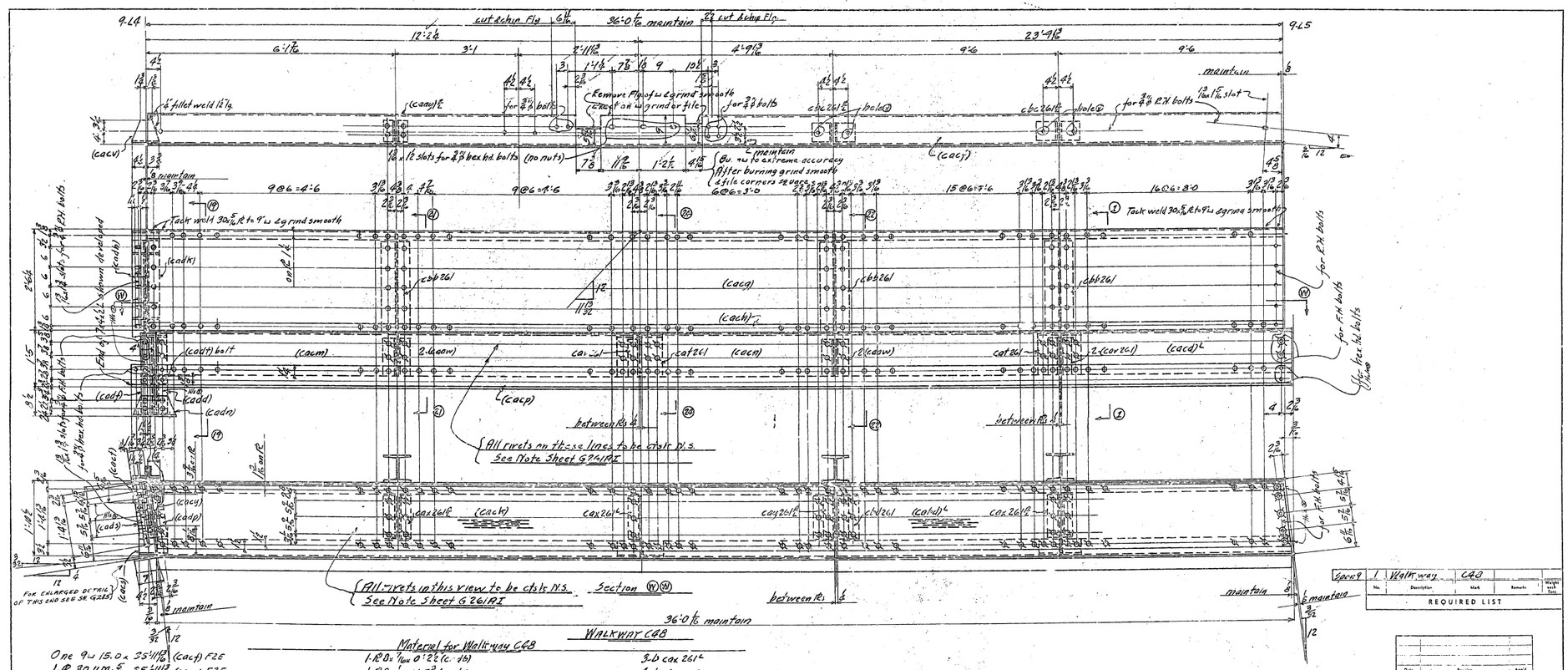
Work this sheet with sheets G261AI to II incl.,
G262 & G263AE & G263CE to EE incl.
For Sect. 1 see sheet G261HI
For Sect. 26 see sheet G261II
For Sects 21-22 & 23 see sheet G263EE
For General Notes see sheet G261AI

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-13-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" TRUSS SPANS - PIERS E9 TO E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Judson Pacific WORKS
IN CHARGE Jenks MADE BY LCY 6/19/34
CHECKED BY E 6-26-34 TRACED BY
LAST ASSEM. MK.
CONTRACT CG1580-3 SHEET G 263 BE

30-1



Material for Walkway C&B

One 9 W 15.0 x 35'-11 11/16" (cacf) F2E	1-R 0 x 7/16 x 0'-2 2/2 (c. to)	3-L's cax 261 L
1-R 30 UM x 5/8 x 35'-11 11/16 (cacg) F2E	1-R 8 x 5/8 x 0'-5 3/8 (cadc)	4-L's (cacw)
1-L 3 x 3 x 3/8 x 35'-11 3/32 (cach) F2E	1-L 3 1/2 x 3 1/2 x 3/8 x 1'-8 1/2 (cadp)	3-R's cav 261
1- Cent Knobby R 19 1/2 x 3/8 x 16'-11 13/16 (cacht) F2E	1-L 4 x 3 1/2 x 3/8 x 1'-4 1/2 (cads)	2-R's cat 261
1- do (cabd) L	1-R 11 UM x 3/8 x 2'-1 (ccdg) bent	8-L's cav 261
1-R 14 1/2 UM x 5/8 x 12'-1 3/8 (cacm) bent F2E	1-L 4 x 3 1/2 x 3/8 x 4'-4 1/2 (cadt)	1-R (caax)
1-R 16 UM x 5/8 x 14'-3 3/8 (cacn) bent F2E	1-L 3 1/2 x 3 1/2 x 3/8 x 4'-4 1/2 (cadu)	2-L's cax 261 R
1-R (cacd) L	1-L 6 x 6 x 1/2 x 1'-1 1/2 (cadm)	4-L's cbc 261 E
1-L 7 x 6 x 1/2 x 36'-6 15/16 (cacp) bent F2E	1-L 6 x 6 x 1/2 x 1'-1 (cadn)	2-L's cay 261 E
1-R 8 1/2 x 5/8 x 1'-6 7/16 (cacs) bent	1-L 4 x 3 1/2 x 3/8 x 1'-10 5/8 (cadd) bent	1-R cbd 261
1-R 8 1/2 x 5/8 x 0'-9 7/16 (cact) bent F1E	1-L 3 1/2 x 3 1/2 x 3/8 x 1'-10 5/8 (cadd) bent	
1-R 8 x 5/8 x 1'-0 7/16 (cacu) bent	1-Fill 4 x 1/2 x 0'-3 (cadt) bolt	
1-R 8 x 5/8 x 2'-0 3/8 (cacw) F2E	6-R.'s to Fills 2" x 3/8	
1-R 8 x 5/8 x 1'-11 1/2 (cacx)	2-L's (cacy) E	
1-R 8 x 3/8 x 1'-1 3/8 (cacy) F2E	3-Bill cbb 261	
1-R 8 x 5/8 x 0'-2 3/8 (cada) F1E	6-L's cba 261 E	

Work this sheet with sheets G 261 RI to II incl, G 262, G 263 RE & BE & G 263 2 E & E
For Sect. 1 see sheet G 261 III
For Sects 19-21-22 & 24 see sheet G 263 EE
For General Notes see sheet G 261 RI

Spec'n	Walkway C&B			
No.	Description	Mark	Remarks	Weight each Piece

REQUIRED LIST

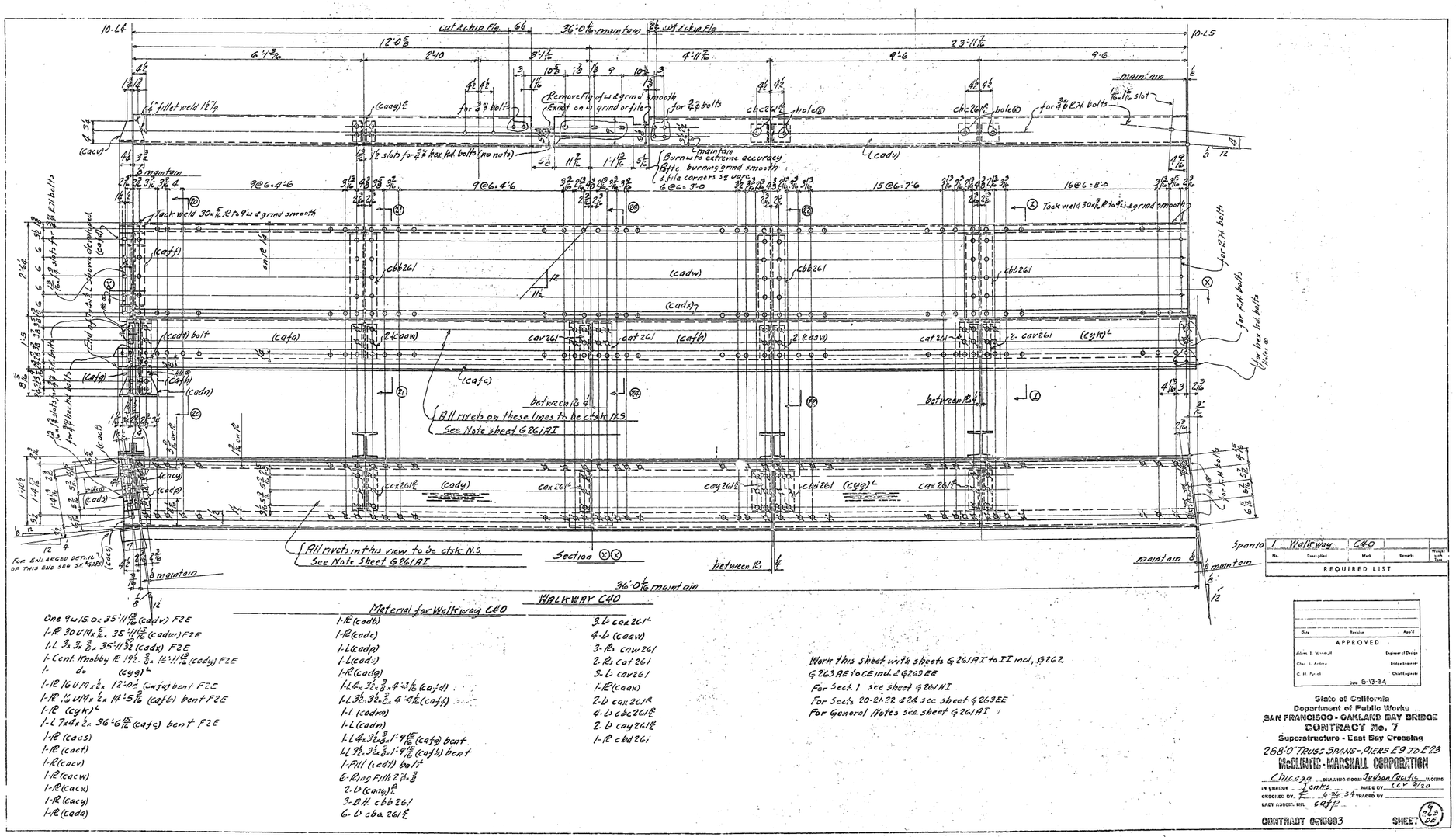
Date	Revision	Appr'd

APPROVED

Chas. B. Wilson Jr. — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-13-36

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" Truss Spans - Piers E 9 to E 23
McCLINTIC - MARSHALL CORPORATION
Chicago — DRAWING ROOM Tudor Pudic — WORKS
IN CHARGE Jentes — PASS BY L.C.P. 6/24
CHECKED BY E — TRACED BY
LAST ASSGD. NO.

CONTRACT 06 1590 3 — SHEET G 262 E



Material for Walkway C&O

One 9wI 15.0 x 35'-11 15/16 (cadw) F2E	1-R (cadb)	3-L's cax 261C
1-R 30 UM x 5/16 x 35'-11 15/16 (cadw) F2E	1-R (cadc)	4-L's caaw
1-L 3 x 3 x 3/8 x 35'-11 3/32 (cadx) F2E	1-L (cadp)	3-Rs caw 261
1- Cent Knobby IR 19# - 3/8 x 12'-11 15/16 (cady) F2E	1-L (cadz)	2-Rs cat 261
1- do (cyg)L	1-R (cadq)	3-L's cav 261
1-R 16 UM x 1/2 x 12'-0 1/4 (cafg) bent F2E	1-L 3 1/2 x 3 1/2 x 3/8 x 4'-3 7/16 (cafd)	1-R (caax)
1-R 1/2 UM x 1/2 x 11'-5 3/16 (cafe) bent F2E	1-L 3 1/2 x 3 1/2 x 3/8 x 4'-2 7/16 (cafj)	2-L's cax 261R
1-R (cyH)L	1-I (cadm)	4-L's cbc 261E
1-L 7 x 4 x 1/2 x 36'-6 15/16 (cafc) bent F2E	1-L (cadn)	2-L's cay 261E
1-R (cacs)	1-L 4 x 3 1/2 x 3/8 x 1'-9 15/16 (cafg) bent	1-R cbd 261
1-R (cact)	1-L 3 1/2 x 3 1/2 x 3/8 x 1'-9 15/16 (cafd) bent	
1-R (cacv)	1-Fill (cadf) bo 1"	
1-R (cacw)	6-Ring Fills 2 x 3/8	
1-R (cacx)	2-L's (cayg)R	
1-R (cacy)	3-B.H. cbb 261	
1-R (cada)	6-L's cba 261E	

Work this sheet with sheets G 261AI to II incl, G 262
G 263AE to CE incl. & G 263EE
For Sect. 1 see sheet G 261NI
For Sects 20-21-32 & 22A see sheet G 263EE
For General Notes see sheet G 261AI

Span 10 | 1 | Walkway | C&O

No.	Description	Mark	Remarks	Weight each Item

REQUIRED LIST

Date	Revision	App'd

APPROVED

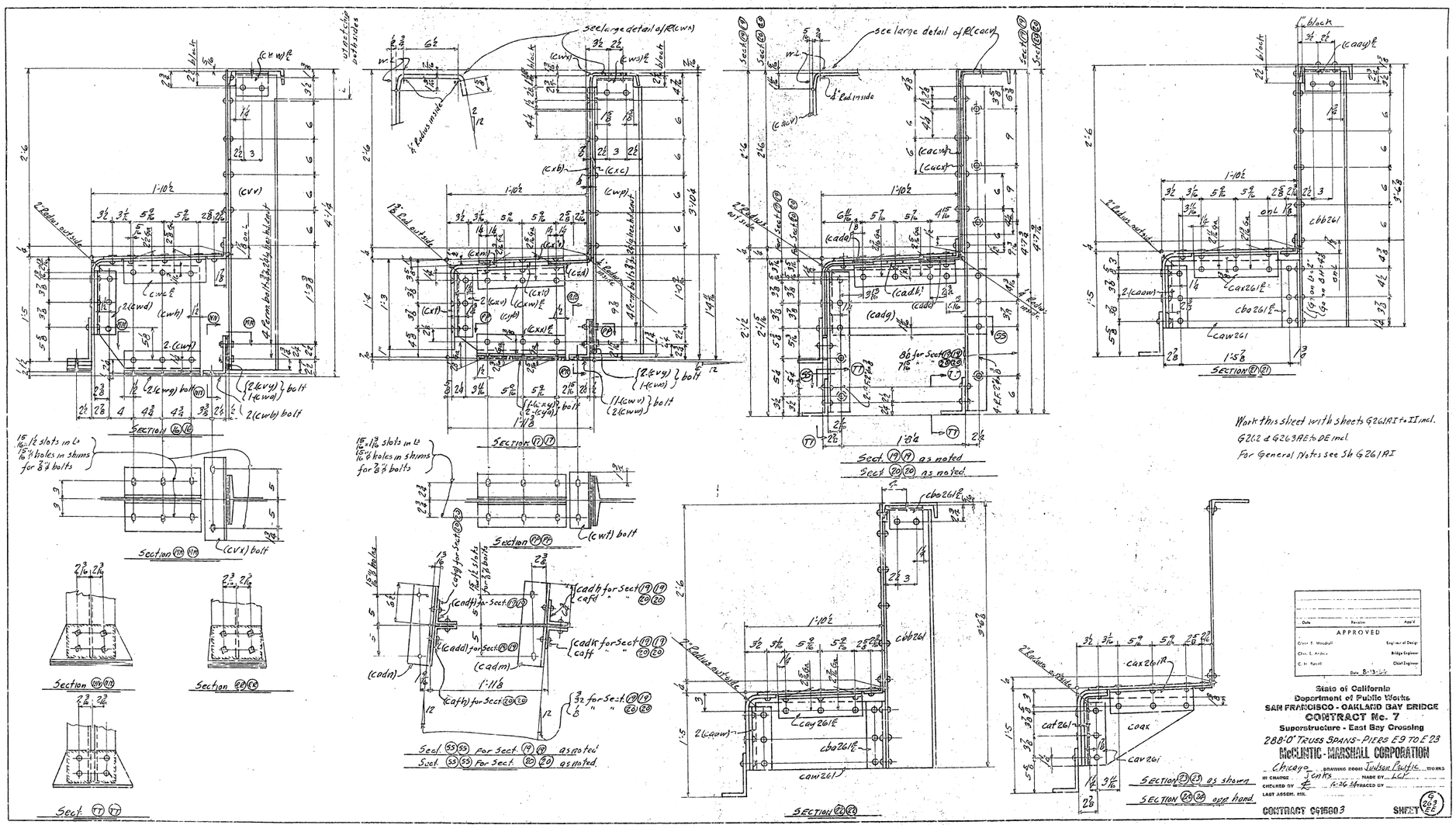
Chas. E. Wilson, Engineer of Bridges
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Date 8-13-34

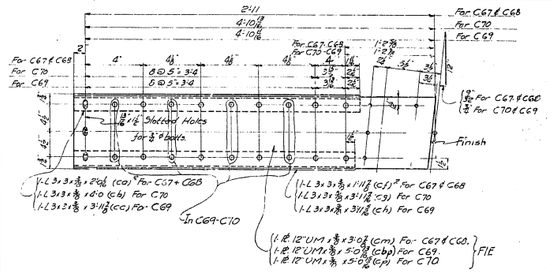
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" Truss Spans - Piers E 9 to E 23

McCLINTIC-MARSHALL CORPORATION

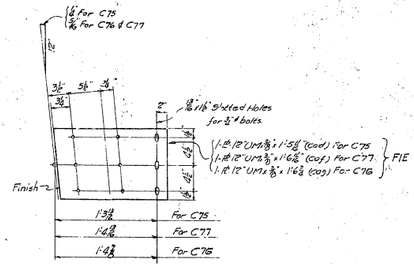
Chicago DRAWING ROOM Judson Pacific WORKS
IN STATION Lentz MADE BY C.V. G/20
CHECKED BY E 6-26-34 TRACED BY
LAST ALTERATION BY cafp

CONTRACT 06B003 SHEET 9 223 05

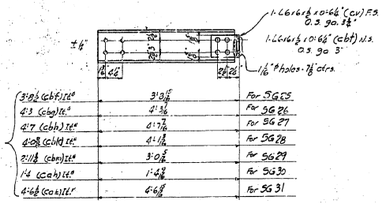

See large detail of PL(cwx)
See large detail of PL(cacy)
2 Radius outside
1 Radius inside
Section (T) (T)
Section (W) (W)
Section (X) (X)
Section (Y) (Y)
Section (Z) (Z)
Sect (55) (55) for Sect (19) (19) as noted
Sect (56) (56) for Sect (20) (20) as noted
Sect (T) (T) as noted
Sect (W) (W) as noted
Sect (20) (20) as noted
SECTION (22) (22)
SECTION (23) (23) as shown
SECTION (24) (24) opp hand
15/16 x 1 1/2 slots in L2
15/16 x 1 1/16 holes in shims for 7/8 bolts
(2 Ecwy) } bolt
(1 Ecww) }
(2 Ecwy) } bolt
(1 Ecwu) }
(2 Ecwu) bolt
(Ecwt) bolt
(Ecvx) bolt
(cadb) for Sect (19) (19) (caff) " " (20) (20)
(cadk) for Sect (T) (T) (caff) " " (20) (20)
3/32 for Sect (19) (19) " " (20) (20)
(cadn)
(caft) for Sect (20) (20)
(cadd) for Sect (19) (19)
(cadm)
(cadf) for Sect (19) (19)
(cadg)
(cadk)
(cacw) PL
(cacy) PL
(caax261) PL
(caay) PL
(cbb261)
(cbb261E)
(caw261)
(caay261E)
(cbb261E)
(caw261E)
(cax261)
(cay261E)
(cbb261E)
(caw261)
(cax261)
(cat261)
(coax)
(cav261)
(caow)
2 (caow)
2 (cawd)
(cwh)
(cwf)
(cwd)
(cwp)
(cxd)
(cxt)
(cxw) PL
(cxn) PL
(cxb)
(cxc)
(cvx)
4 Ferma bolts 3/4 dia by 1 3/4 long thru bolt only
2 Rollers out side
Work this sheet with sheets G261RI to II incl.
G262 & G263AE to DE incl.
For General Notes see Sht G261RI
APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date 8-13-54
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" TRUSS SPANS - PILES E3 TO E23
McCLINTIC - MARSHALL CORPORATION
Chicago
CONTRACT 06T6803
SHEET G 263 EE

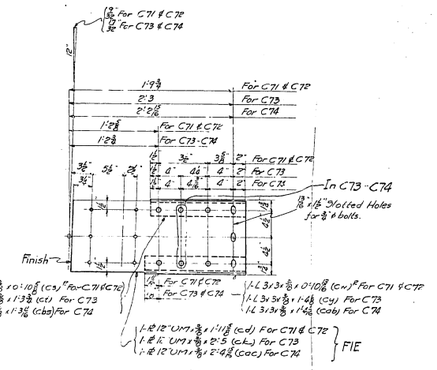


STRUT C67-C68-C69 & C70

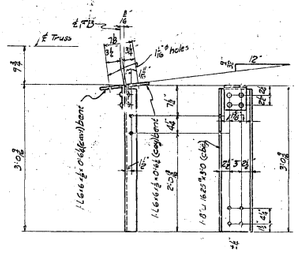


STRUT C75-C76 & C77

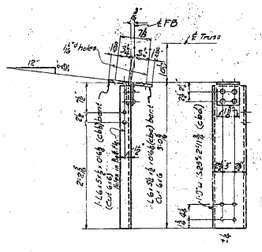




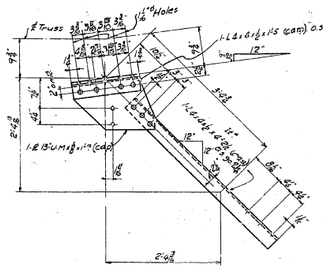
STRUT C71-C72-C73 & C74



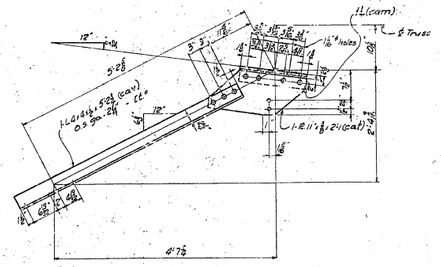
TIE SG21



TIE-SG22



BRACE SG23



BRACE SG24

	1	1	Strut	C67	As Shown	
1		1	"	C68	Opp hand to 67	
	1	1	"	C69	Opp hand to 68	
1		1	"	C70	As Shown	
	1	1	"	C71	As Shown	
1		1	"	C72	Opp hand to 71	
1		1	"	C73	As Shown	
	1	1	"	C74	Opp hand to 73	
1		2		C75	As Shown	
	1	1	Strut	C76	As Shown	
1		1	"	C77	" "	
	1	1	Tie	SG21	As Shown	
1		1	"	SG22	" "	
	1	1	Brace	SG23	" "	
1		1	"	SG24	" "	
1	1	2	Tie	SG25	" "	
1	1	2	"	SG26	" "	
1	1	2	"	SG27	" "	
1	1	2	"	SG28	" "	
1	1	2	"	SG29	" "	
1	1	2	"	SG30	" "	
1	1	2	"	SG31	" "	

Span 64 | Span 410 | Dwgs. No. 2800 | Description | Mark | Remarks | Weight each lb.

READ BY SPANS — REQUIRED LIST

MATERIAL: All structural steel to be open hearing. Assembly marks for carbon steel prefixed with c, thus: cc, cb, etc.; for silicon steel with s, thus: sc, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John H. Bixby
RIVETS: ⅞"ø
OPEN HOLES: 13/16" Unless Noted
PUNCHING: All holes to be punched full size.

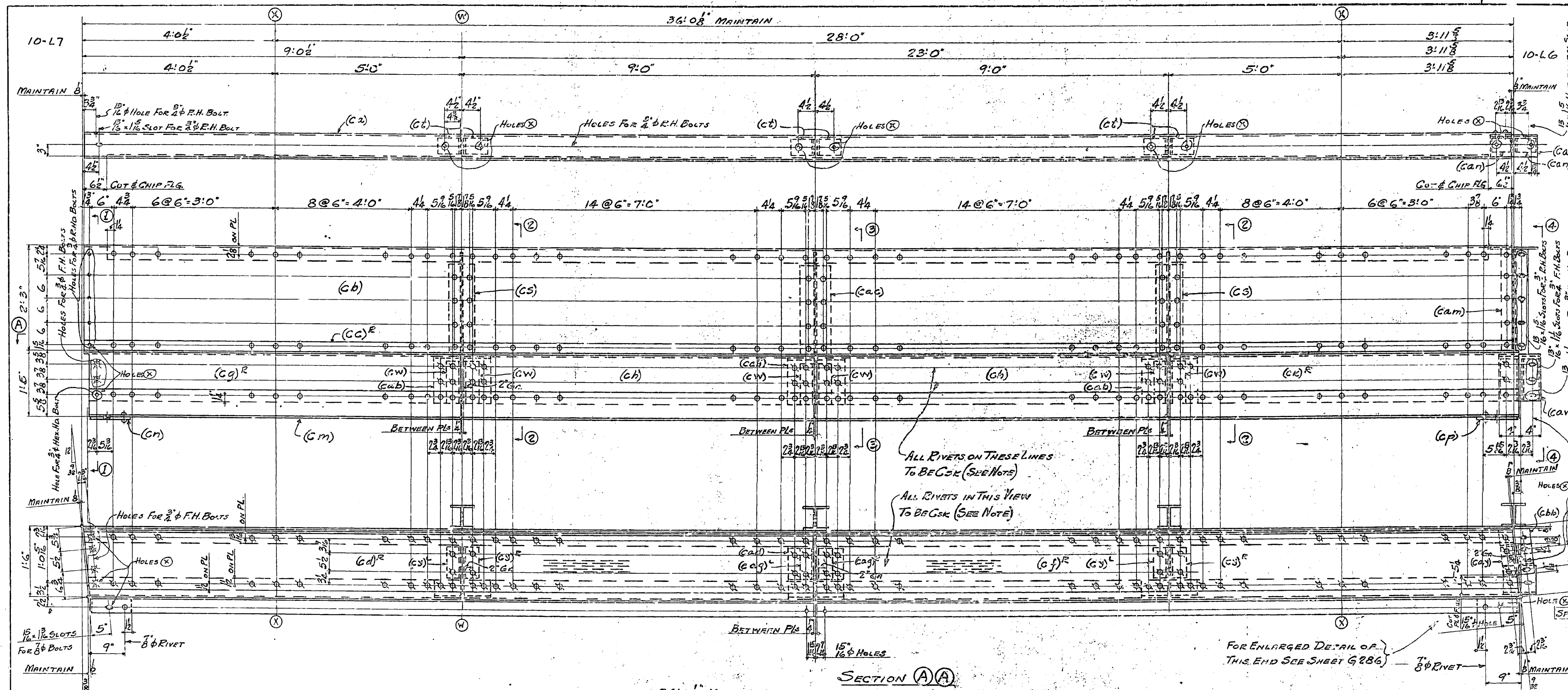
FINISH. All sheared or flame cut edges and ends of material to have a neat appearance and, where indicated finish, shop must shear and grind so that members present a neat appearance, and conform to dimensions given on drawings.
PRINT: None.
ERECTION MARKS to be put on all members with both paint and steel stencil.

Date | Revision | App'd.
APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date 7-16-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago. DRAWING ROOM Judson Pacific WORKS
IN CHARGE Jones MADE BY W.E.M.
CHECKED BY JH 6-19 TRACED BY W.E.R. 6-1934
LAST ASSIST. MR. CBS

CONTRACT 6010003 SHEET 3 264

30-1



SECTION (A)(A)

GENERAL NOTES

MATERIAL - ALL STRUCTURAL STEEL TO BE COPPER BEARING. ASSEMBLY MARKS FOR CARBON STEEL PREFIXED WITH C, THUS: ca, cb, ETC.; FOR SILICON STEEL WITH S, THUS Sa, Sb, ETC.

SPECIFICATIONS - SPECIAL BY STATE OF CALIFORNIA, DEPARTMENT OF PUBLIC WORKS

INSPECTION - BY JOHN M. BAILEY.

RIVETS - 3/4" ϕ UNLESS NOTED

OPEN HOLES 13/16" ϕ UNLESS NOTED

PUNCHING - ALL HOLES TO BE PUNCHED FULL SIZE EXCEPT HOLES MARKED R.T. WHICH ARE TO BE SUBPUNCHED 1/4" & REAMED TO SIZE THRU A STEEL TEMPLET.

FINISH - ALL SHEARED OR FLAME CUT EDGES AND ENDS OF MATERIAL TO HAVE A NEAT APPEARANCE AND WHERE DESIGNATED F.I.W, F.2.E, ETC. SHOP MUST SHEAR AND GRIND, CHIP & GRIND OR OTHERWISE CUT & FINISH SO THAT MEMBERS PRESENT A NEAT APPEARANCE AND CONFORM TO DIMENSIONS GIVEN ON DRAWING. ENDS OF ALL ASSEMBLED MEMBERS MUST PRESENT A NEAT APPEARANCE

SHOP PAINT - NONE EXCEPT AS OUTLINED BELOW WHICH SHALL BE GIVEN ONE COAT OF "ACID RESISTING LIQUID"

(1) ALL SURFACES EXPOSED TO THE ELEMENTS NOT READILY ACCESSIBLE FOR FIELD SAND BLASTING.

(2) CONTACT SURFACES AT PARTS BOLTED. ALL PAINTED SURFACES MUST BE THOROUGHLY CLEANED AND SCRAPED BEFORE PAINT IS APPLIED

BOLTED PARTS TO BE ASSEMBLED AFTER PAINT IS DRY AND BOLTED IN SUCH A MANNER SO AS EXCLUDE ALL FOREIGN PARTICLES

WHERE PARTS ARE TACKWELDED, CONTACT SURFACES MUST BE THOROUGHLY CLEANED AND SCRAPED BEFORE ASSEMBLY, AND PARTS MUST BE TIGHTLY CLAMPED WHILE WELDING. WELDING SHALL BE DONE IN SUCH A MANNER SO AS TO PERMIT ENTERING OF NO FOREIGN SUBSTANCE DURING FIELD SAND BLASTING

CONTINUED

SPAN 10	1	WALKWAY	C81	
No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

MATERIAL FOR WALKWAY C81

1-6" SHIP [@15.3# × 35'-11 7/8 (ca) F.2.E (ORD)(IT.)
1-PL 27" U.M. × 5/16 × 35'-11 7/8" (cb) F.2.E (ORD)(IT.)
1-L 3 × 3 × 3/8 × 35'-11 15/16" (cc)R F.2.E. (ORD)(IT.)
1-CENT. KNOBBY PL 15 × 3/8 × 18'-0 1/4 (cd)R F.2.E. (ORD 18'-1 1/2)(IT. B53)
1-CENT. KNOBBY PL 15 × 3/8 × 17'-11 3/4 (cf)R F.2.E. (ORD 18'-1 1/4)(I. B52)
1-PL 16" U.M. × 1/2 × 9'-0" (cg)R F.2.E (BENT)(ORD 9'-1 1/4)(IT.)
2-PLs 16" U.M. × 1/2" × 8'-11 3/4" (ch) F.2.E (BENT)(ORD)(IT.)
1-PL 16" U.M × 1/2" × 8'-11 3/4" (ck)R F.2.E (BENT)(ORD)(IT.)
1-L 7 × 4 × 1/2 × 35'-11 7/8 (cm) F.2.E (ORD)(IT.)
1-FILL 4" U.M. × 3/16" × 0'-10" (cn)
1-FILL 4" U.M. × 3/16 × 0'-10 (cp)
2-6" B.H. @20# × 3'-2 3/4 (cs)
6-Ls 6 × 6 × 3/8 × 0'-4" (ct)
2-PLs 11 × 3/8 × 1'-3 1/16" (cv)
6-Ls 3 1/2 × 3 1/2 × 3/8 × 0'-10 1/4 (cw)
4-Ls 4 × 3 1/2 × 3/8 × 0'-8 1/2" (cy)R L
4-Ls 3 1/2 × 3 × 3/8 × 0'-11" (caa)R L
3-PLs 13 × 1/2 × 1'-3 1/4 (cab)(BENT)
1-6" B.H. @20# × 3'-6 3/4" (cac)

1-PL 13 × 3/8 × 0'-9 5/16 (cad)
2-L 3 1/2 × 3 1/2 × 3/8 × 0'-8 1/2" (cag)R L
1-L 3 1/2 × 3 × 3/8 × 0'-11" (cah)
1-PL 11" U.M × 3/8 × 1'-2 1/2 (cak)
1-6" B.H @20# × 3'-7 5/16 (cam) M.I.E
2-Ls 6" × 6 × 3/8" × 0'-4" (can)
1-L 6 × 3 1/2 × 3/8 × 1'-1 1/2" (cap)R
2-FILLS 5 1/2 × 1/8 × 0'-6" (cas)
1-FILL 5 1/2 × 1/4 × 0'-6" (cat)
1-PL 12 1/2 × 5/16 × 0'-8 1/4 (cav)(BENT) F.2.E
1-PL 8 × 5/16 × 1'-6 1/2 (caw)(BENT)
1-PL 7 1/2 × 3/8 × 0'-9 3/16 (cay) F.2.E
1-FILL 7 × 1/8 × 0'-2 3/4 (cba) F.1.E
1-PL 7 1/2 × 7/16 × 0'-6 7/8 (cbb)
2-Ls 5 × 3 1/2 × 3/8 × 1'-0 3/8 (cbc)R L
1-L 4 × 3 1/2 × 3/8 × 0'-8 1/2 (cbd)
1-L 4 × 3 1/2 × 3/8 × 0'-8 1/2 (cbf)

1-L 3 1/2 × 3 1/2 × 3/8 × 0'-10 1/4" (cbg) BENT
1-L 3 1/2 × 3 1/2 × 3/8 × 0'-10 1/4 (cbh) BENT
1-PL 14 1/2 UM × 3/8 × 1'-0 3/8 (cbk)
4-PERM. BOLTS 3/4ϕ × 2 1/4 Lg (HEX HD & NUT)

GENERAL NOTES CONTINUED

RIVETS SHOWN THUS THRU CENTRAL KNOBBY WALK PLATES ARE TO BE CTSK. AND HAVE A MAXIMUM HEIGHT NOT MORE THAN THE HEIGHT OF PATTERN ON PLATE.
ALL OTHER RIVETS SHOWN THUS ARE TO BE CTSK AND HAVE A MAXIMUM HEIGHT OF 1/8"

SHOP TO PAINT ERECTION MARKS ON LEFT HAND END OF MEMBERS AS DETAILED AND IN AN UPRIGHT POSITION

WORK THIS SHEET WITH SHEETS G265BJ TO JJ INCL.

FOR SECTIONS (1)(1) (2)(2) (3)(3) (4)(4) SEE SHEET G265IJ

ALL BRACKETS SHOWN IN SECTIONS (2)(2) TO (21)(21) TO BE RIVETED UP IN A FIXTURE TO ASSURE SQUARENESS

SHOP TO PUT SHIPPING BOLTS IN HOLES ⓧ AND DRAW SAME UP TIGHT. BOLTS TO BE REMOVED BY ERECTOR IN FIELD.

Date	Revision	App'd

APPROVED

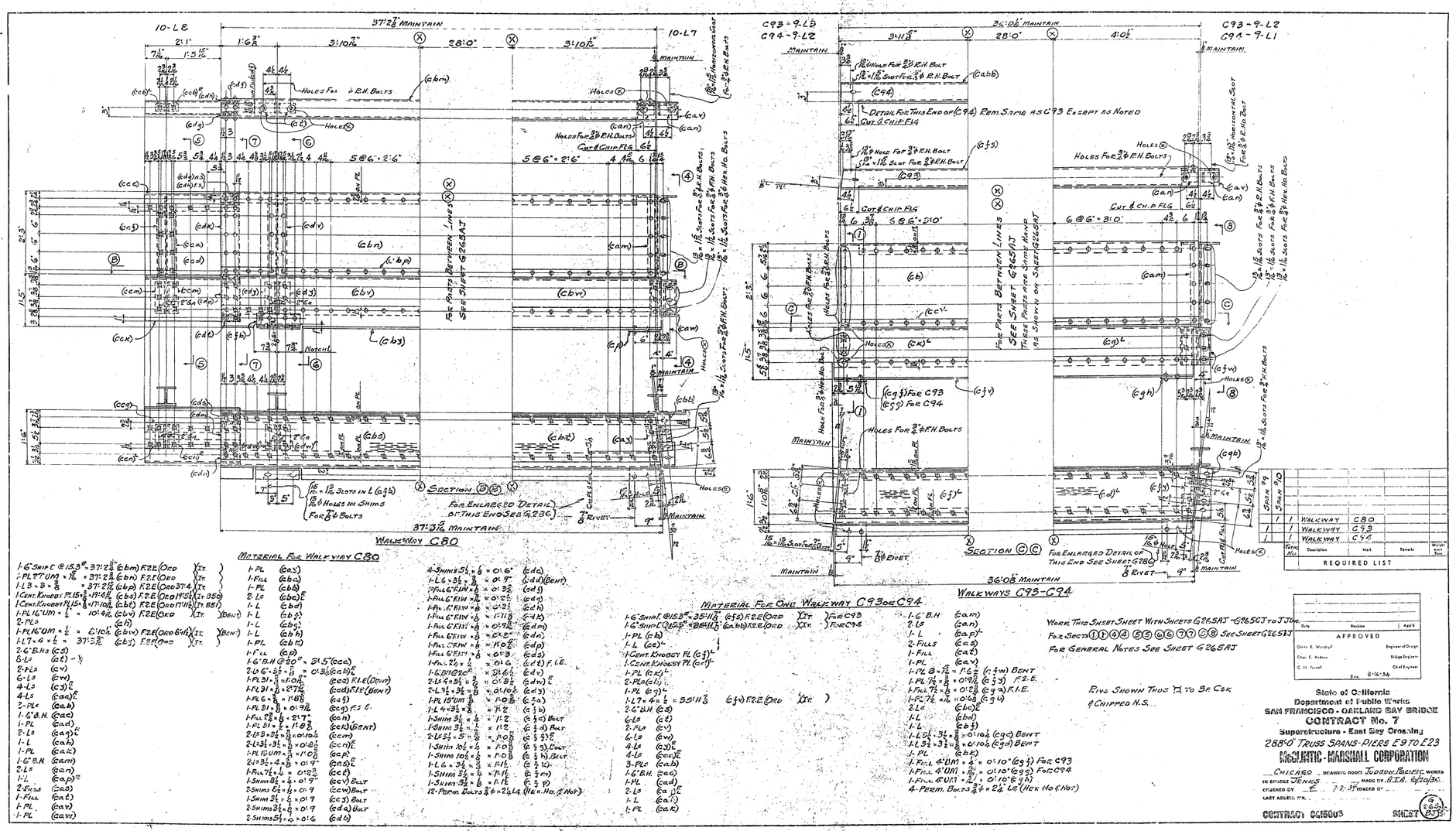
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-16-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" TRUSS SPANS - PIERS E9 TO E23
McCLINTIC-MARSHALL CORPORATION

CHICAGO DRAWING ROOM JUDSON PACIFIC WORKS
IN CHARGE JENKS MADE BY A.T.A. 6/15
CHECKED BY [illegible] 7-2-34 TRACED BY
LAST ASSEM. MK.

CONTRACT CG15803 SHEET G 265 AJ

30-1



Material For Walkway C80

1-6"Sh.PL @ 15.3# = 37'-2⅞"	(c6m)	F2E(Ord	Xtr)
1-PL 27"UM × ⅞ × 37'-2⅞"	(c6n)	F2E(Ord	Xtr)
1-L 3 × 3 × ⅜ × 37'-2⅞"	(c6p)	F2E(Ord 37'-4	Xtr)
1 Cent. Knoedy PL 15 × ⅜ × 19'-4½"	(c6s)	F2E(Ord 19'-5½	Xtr 850)
1 Cent. Knoedy PL 15 × ⅜ × 17'-10½"	(c6t)	F2E(Ord 17'-11½	Xtr 851)
1-PL 16"UM × ½ × 10'-4½"	(c6v)	F2E(Ord	Xtr (Bent)
2-PLs	(a6)		
1-PL 16"UM × ½ × 2'-10⅞"	(c6w)	F2E(Ord 8'-11½	Xtr (Bent)
1-L 7 × 4 × ½ × 37'-5⅞"	(c6y)	F2E(Ord	Xtr)
2-6"B.Hs	(c8)		
6-Ls	(c8) – ½		
2-PLs	(cv)		
6-Ls	(cw)		
4-Ls	(cy)		
4-Ls	(ca)		
4-Ls	(cac)		
2-PLs	(cab)		
1-6"B.H.	(cac)		
1-PL	(cad)		
2-Ls	(cag)		
1-L	(cah)		
1-PL	(cak)		
1-6"B.H.	(cam)		
2-Ls	(can)		
1-L	(cap)		
2-Fills	(cas)		
1-Fill	(cat)		
1-PL	(cav)		
1-PL	(caw)		
1-PL	(ca3)		
1-Fill	(cba)		
1-Fill	(cbb)		
2-Ls	(cbc)		
1-L	(cbd)		
1-L	(cbf)		
1-L	(cbg)		
1-L	(cbh)		
1-PL	(cbk)		
1-Fill	(cp)		
1-6"B.H @ 20" = 31'-5"	(ccc)		
2-Ls 6"-5½ = ⅜ = 01'-3½	(cc6)		
1-PL 31 × ⅜ = 11'-0⅛	(ccc)	F.I.E (Down)	
1-PL 31 × ⅜ = 27'-7⅛	(cad)	F2E (Bent)	
1-PL 6 × ⅜ = 1'-6⅜	(cas)		
1-PL 31 × ⅜ = 01'-9⅛	(cay)	F.I.E.	
1-Fill 23⅜ × ⅜ = 21'-7"	(cch)		
1-PL 31 × ½ = 1'-8⅜	(cck)	(Bent)	
2-L 3 × 3½ × ⅜ = 01'-10½	(ccm)		
2-L 3½ × 3½ × ⅜ = 01'-6⅛	(ccn)		
1-PL 10"UM × ⅜ = 1'-0⅜	(ccp)		
2-L 3½ × 2½ × ⅜ = 01'-9"	(ccs)		
1-Fill 7½ × ½ = 0'-3⅜	(ccf)		
1-Shim 8½ × ½ = 01'-9"	(ccv)	Bolt	
2-Shims 6½ × ½ = 01'-9	(ccw)	Bolt	
1-Shim 3½ × ½ = 0'-9	(ccy)	Bolt	
2-Shims 3½ × ⅜ = 0'-9	(cda)	Bolt	
2-Shims 5½ × ⅜ = 0'-6	(cdb)		
4-Shims 5½ × ⅜ = 01'-6	(cdc)		
1-L 6 × 3½ × ⅜ = 0'-9"	(cdd)	(Bent)	
7-Fill 6"FIM × ⅜ = 0'-3⅜	(cdg)		
1-Fill 6"FIM × ⅜ = 0'-2½	(cdi)		
1-Fill 6"FIM × ⅜ = 0'-2½	(cdh)		
1-Fill 6"FIM × ⅜ = 1'-1⅜	(cdk)		
1-Fill 6"FIM × ⅜ = 0'-9⅜	(cdm)		
1-Fill 6"FIM × ⅜ = 0'-2⅝	(cdn)		
1-Fill 6"FIM × ⅜ = 1'-0⅜	(cdp)		
1-Fill 6"FIM × ⅜ = 0'-3⅜	(cds)		
1-Fill 20 × ½ = 10'-6	(cdt)	F.I.E.	
1-6"B.II @ 20" = 31'-6½	(cdv)		
2-Ls 4 × 3½ × ⅜ = 01'-8½	(cdw)		
2-L 3½ × 3½ × ⅜ = 01'-10½	(cd3)		
1-PL 15"UM × ⅜ = 1'-0⅜	(c5a)		
1-L 4 × 3½ × ⅜ = 1'-2	(c5b)		
1-Shim 3½ × ¼ = 1'-2	(c5c)	Bolt	
1-Shim 3½ × ½ = 1'-2	(c5d)	Bolt	
2-L 5½ × 5" × ⅜ = 1'-0⅝	(c5f)		
1-Shim 10½ × ¼ = 1'-0⅜	(c5g)	Bolt	
1-Shim 10½ × ⅜ = 1'-0⅜	(c5h)	Bolt	
1-L 6 × 3½ × ⅜ = 1'-1½	(c5k)		
1-Shim 3½ × ¼ = 1'-1½	(c5m)		
1-Shim 3½ × ⅜ = 1'-1½	(c5p)		
12-Perm. Bolts ⅞ϕ × 2½ Lg	(He Hex. Ho. & Not)		

Material For One Walkway C93 or C94

1-6"Sh.PL @ 15.3# = 35'-11⅞	(c5s)	F2E(Ord	Xtr) For C93
1-6"Sh.PL @ 15.3# = 36'-11⅝	(c6b)	F2E(Ord	Xtr) For C94
1-PL (c6)			
1-L (ca2)			
1 Cent. Knoedy PL (c5t)			
1 Cent. Knoedy PL (c5u)			
1-PL (c5k)			
2-PLs (c5l)			
1-PL (c5j)			
1-L 7 × 4 × ½ = 35'-11⅞	(c5v)	F2E(Ord	Xtr)
2-6"B.H (c8)			
6-Ls	(cz)		
2-Fills	(cv)		
6-Ls	(cw)		
4-Ls	(cy)		
4-Ls	(cac)		
3-PLs	(cab)		
1-6"B.H.	(cac)		
1-PL	(cad)		
2-Ls	(ca1)		
1-L	(ca1)		
1-PL	(ca2)		
1-6"B.H	(cam)		
2 Ls	(can)		
1-L	(cap)		
2-Fills	(cas)		
1-Fill	(cat)		
1-PL	(cav)		
1-PL B = 7½ = 1'-6½	(c5w)	Bent	
1-PL 7½ × ⅜ = 0'-9⅜	(c5x)	F.I.E.	
1-Fill 7½ × ½ = 0'-3⅜	(c5y)	F.I.E.	
1-PL 7½ = ½ = 1'-0⅛	(c5z)		
2 Ls	(cbc)		
1-L	(cbd)		
1-L	(cbf)		
1-L 5½ × 3½ × ⅜ = 01'-10½	(cgc)	Bent	
1-L 3½ × 3½ × ⅜ = 01'-10½	(cgd)	Bent	
1-PL	(cbk)		
1-Fill 4"DM × ½ × 01'-10"	(c5j)	For C93	
1-Fill 4"DM × ½ × 01'-10"	(c5s)	For C94	
1-Fill 4"DM × ½ × 01'-10"	(cyh)		
4-Perm. Bolts ⅞ϕ × 2½ Lg	(Hex Ho & Not)		

Work This Sheet Sheet With Sheets G265AJ-G265CJ to J Jnc.
For Sects 1 2 3 4 5 6 7 8 See Sheet G265AJ
For General Notes See Sheet G265AJ

Rivs Shown Thus ⊡ To Be C&R
& Chipped H.S.

Spans No.	Span No.				
1	1	Walkway	C80		
1	1	Walkway	C93		
1	1	Walkway	C94		

Total No. | Description | Mark | Remarks | Weight Each | Total

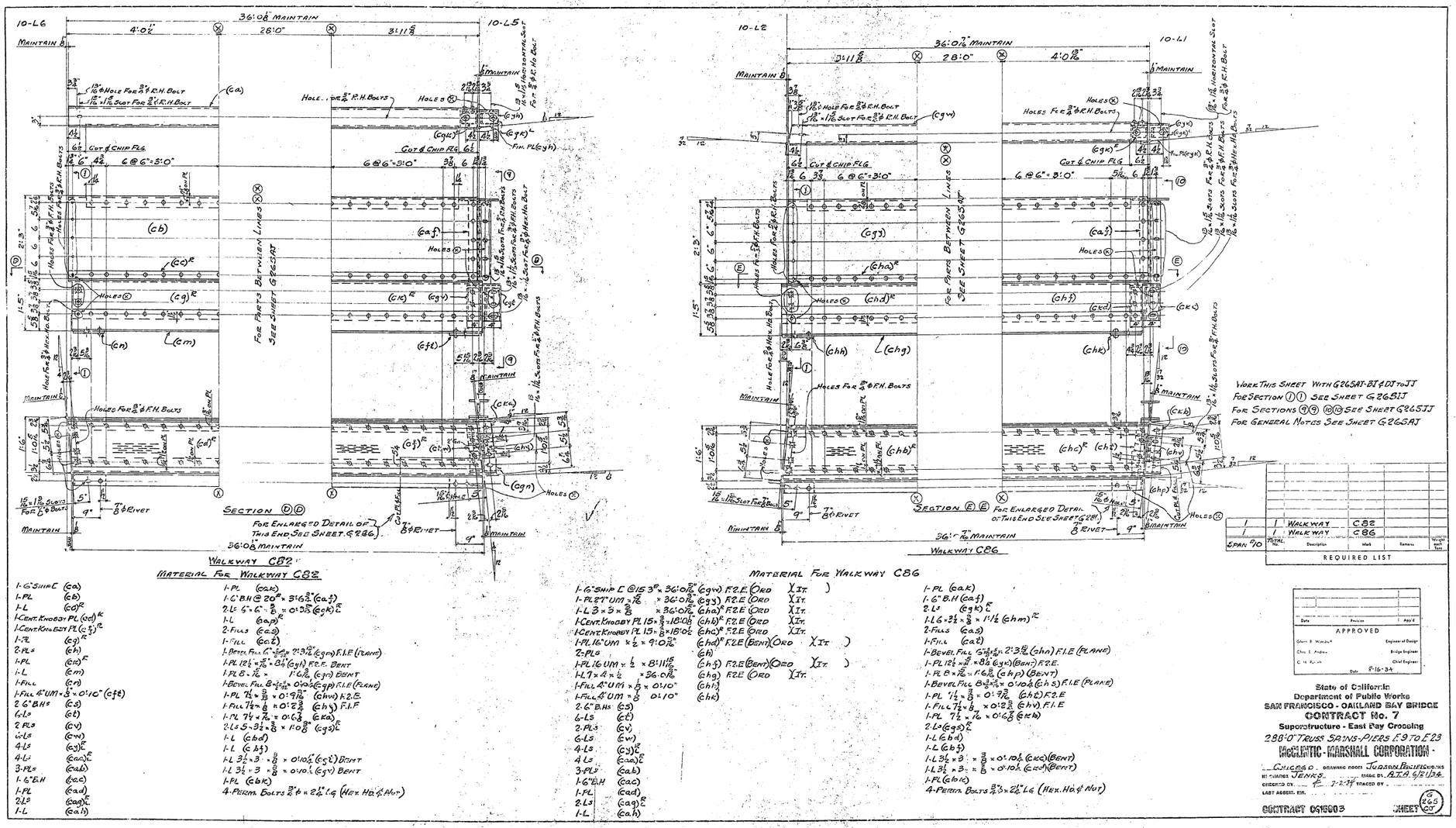
REQUIRED LIST

Date	Revision	Appd
APPROVED		
Glenn B. Woodruff		Engineer of Design
Chas. E. Andrew		Bridge Engineer
C. H. Purcell		Chief Engineer
Date 8-16-34		

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E 9 to E 23
MCCLINTIC - MARSHALL CORPORATION
Chicago Drawing Room Judson Pacific Co. Works
In Charge Jenks Made By B.I.A. 6/20/34
Checked By E 7-2-34 Traced By
Last Added, H.N.

CONTRACT 04150B3 SHEET G 266 BT

30-1



WORK THIS SHEET WITH G26SAT-BT & DT TO JJ
FOR SECTION (1)(1) SEE SHEET G26SIJ
FOR SECTIONS (9)(9) (10)(10) SEE SHEET G26SJJ
FOR GENERAL NOTES SEE SHEET G26SAT

1	1	WALKWAY	C82	
1	1	WALKWAY	C86	
SPAN 9/10	TOTAL NO.	Description	Mark	Remarks

REQUIRED LIST

MATERIAL FOR WALKWAY C82

1-G"SHAPE C	(ca)	1-PL	(cak)
1-PL	(cb)	1-G"B.H @ 20" = 3:6 3/4"	(caf)
1-L	(cd)^R	2-L 6"×6"×3/8 = 0:23 5/8"	(cgk)^L
1-CENT. KNOBBY PL (cc)^R		1-L	(cap)^R
1-CENT. KNOBBY PL (cz)^L		2-FILLS	(caa)
1-PL	(cg)^R	1-FILL	(cat)
2-PLS	(ch)	1-BEVEL FILL G"×3/4"×3/4" = 2:3 13/16"	(cgn) F.I.E (FLANG)
1-PL	(cit)^R	1-PL 12 1/2"×7/8"×8 1/4"	(cgyl) F.I.E. BENT
1-L	(cm)	1-PL 8"×7/16"×1:0 5/8"	(cgr) BENT
1-FILL	(cn)	1-BEVEL FILL B 3/4"×3/4"×0:10 1/2"	(cgp) F.I.E (FLANE)
1-FILL 4"UM×5/8"×0:10"	(cft)	1-PL 7 1/2"×5/8"×0:9 7/16"	(chw) F.I.E.
2-6"B.Hs	(cs)	1-FILL 7 1/4"×1/8"×0:2 3/8"	(chy) F.I.F
6-Ls	(ct)	1-PL 7 1/4"×7/16"×0:1 5/8"	(cka)
2-PLs	(cv)	2-Ls 5"×3 1/2"×5/8"×1:0 5/8"	(cgs)^L
6-Ls	(cw)	1-L	(cbd)
4-Ls	(cy)^L	1-L	(cbf)
4-Ls	(caa)^L	1-L 3 1/2"×3"×5/8"×0:10 1/2"	(cgt) BENT
3-PLs	(cab)	1-L 3 1/2"×3"×5/8"×0:10 1/2"	(cgv) BENT
1-6"E.H	(cac)	1-PL	(cbk)
1-PL	(cad)	4-PERM. BOLTS 3/4"ϕ×2 1/2" LG (HEX. HD & NUT)	
2-Ls	(cag)^L		
1-L	(cah)		

MATERIAL FOR WALKWAY C86

1-G"SHAPE C @ 15.3" = 36:0 3/16"	(cgw) F2.E (ORD	XIT.)	
1-PLATE UM 3/16" × 36:0 3/16"	(cgy) F2.E (ORD	XIT.	
1-L 3"×3"×5/8" × 36:0 3/16"	(cha)^R F2.E (ORD	XIT.	
1-CENT. KNOBBY PL 15"×3/8"×18:0 1/2"	(chb)^R F2.E (ORD	XIT.	
1-CENT. KNOBBY PL 15"×3/8"×18:0 1/2"	(chc)^R F2.E (ORD	XIT.	
1-PL 16" UM ×1/2"×9:0 3/16"	(chd)^R F2.E (BENT) (ORD	XIT.)	
2-PLS	(ch)		
1-PL 16 UM × 1/2" × 8:11 15/16"	(chs) F2.E (BENT) (ORD	XIT.)	
1-L 7"×4"×1/2" × 36:0 3/16"	(chq) F2.E (ORD	XIT.	
1-FILL 4" UM × 1/2" × 0:10"	(chi)		
1-FILL 8" UM × 1/2" 0:10"	(chk)		
2-6"B.Hs	(cs)		
6-Ls	(ct)		
2-PLs	(cv)		
6-Ls	(cw)		
4-Ls	(cy)^L		
4 Ls	(caa)^L		
3-PLs	(cab)		
1-6"E.H	(cac)		
1-PL	(cad)		
2-Ls	(cag)^L		
1-L	(cah)		

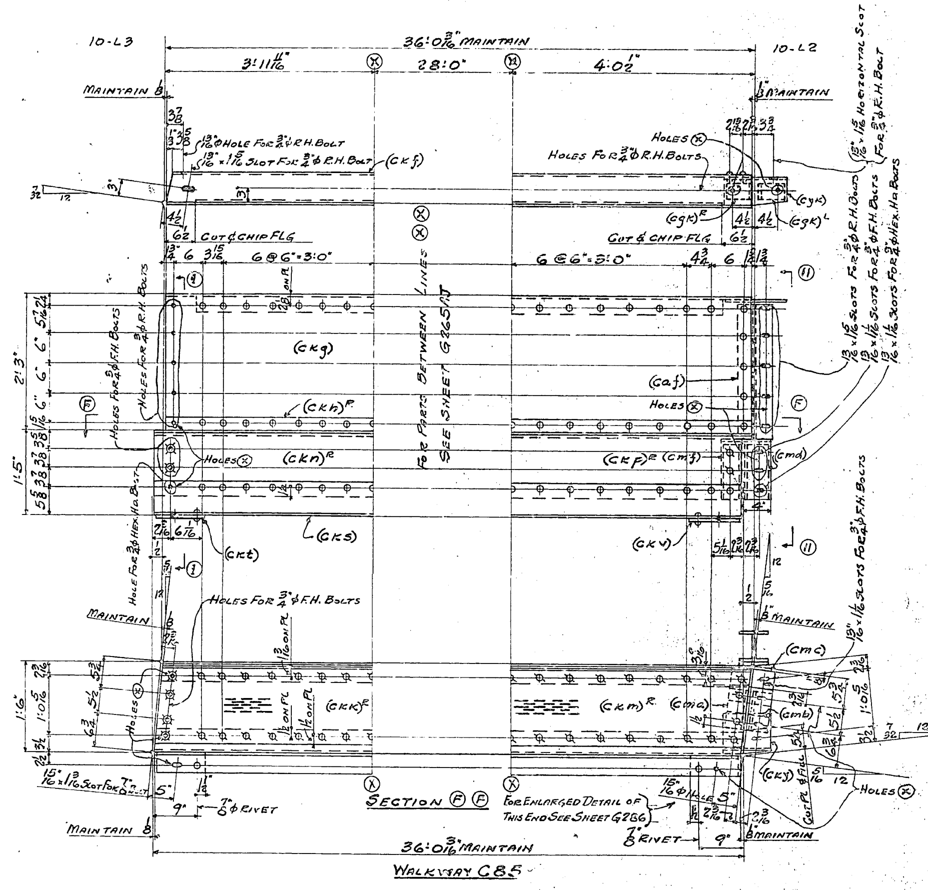
1-PL	(cak)		
1-6"B.H	(caf)		
2-Ls	(cgk)^L		
1-L 6-3 1/2"×3/8"×1:1 1/2"	(chm)^R		
2-FILLS	(caa)		
1-FILL	(cat)		
1-BEVEL FILL G 3/4"×3/4"×2:3 13/16"	(chn) F.I.E (FLANE)		
1-PL 12 1/2"×7/8"×8 1/4"	(cgx) (BENT) F2.E.		
1-PL 8"×7/16"×1:6 5/8"	(chp) (BENT)		
1-BEVEL FILL B 3/4"×3/4"×0:10 1/2"	(chs) F.I.E (PLANE)		
1-PL 1 1/2"×3/8" = 0:9 7/16"	(chz) F2.E		
1-FILL 7 1/2"×1/8"×0:2 3/8"	(chv) F.I.E		
1-PL 7 1/2"×7/16"×0:1 5/8"	(chh)		
2-Ls (cgs)^L			
1-L	(cbd)		
1-L	(cbf)		
1-L 3 1/2"×3"×5/8" = 0:10 1/2"	(ckc) (BENT)		
1-L 3 1/2"×3"×5/8" = 0:10 1/2"	(ckh) (BENT)		
1-PL	(cbk)		
4-PERM. BOLTS 3/4"ϕ×2 1/2" LG (HEX. HD & NUT)			

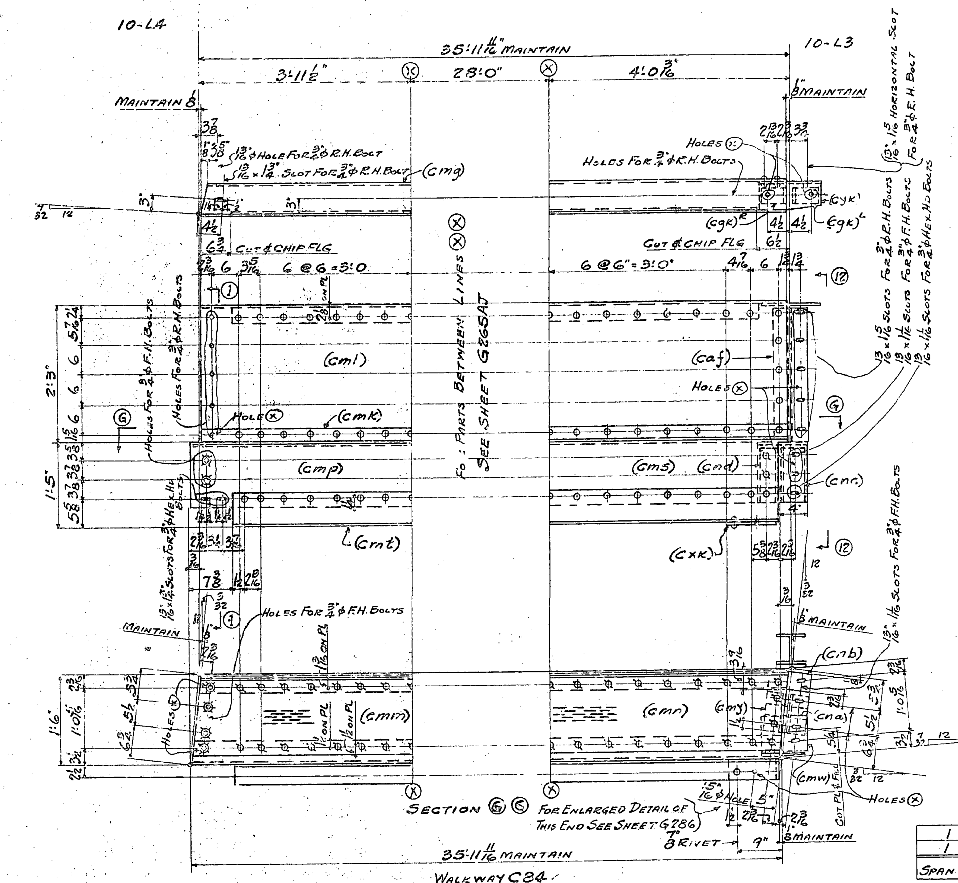
APPROVED

Glenn B. Woodruff	Engineer of Design	
Chas. E. Andrew	Bridge Engineer	
C. H. Purcell	Chief Engineer	
Date 8-16-34		

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0" TRUSS SPANS-PIERS E 9 TO E 23
McCLINTIC-MARSHALL CORPORATION
CHICAGO, DRAWING ROOMS JUDSON PRATT SECTIONS
BY: CURTIS JENKS. ISSUED BY: A.I.A. 6/21/34
CHECKED BY: ____ 7-2-34 TRACED BY: ____
LAST ASSIGN. NO. ____

CONTRACT 04S003 SHEET 265 OF





1	1	WALKWAY	C85		
1	1	WALKWAY	C84		
SPAN #10	TOTAL No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

MATERIAL FOR WALKWAY C85

1-6" SHIP [@ 15.3# × 35'-11 15/16" (ckf) F.2.E (ORD)(IT.)
1-PL 27" UM × 5/16" × 35'-11 15/16 (ckg) F.2.E (ORD)(IT.)
1-L 3 × 3 × 3/8" × 36'-0" (ckh) F.2.E (ORD)(IT.)
1 CENT. KNOBBY PL 15 × 3/8 × 17'-11 7/8 (ckk) F.2.E (ORD)(IT.)
1 CENT. KNOBBY PL 15 × 3/8 × 18'-0 1/4 (ckm) F.2.E (ORD)(IT.)
1-PL 16" UM × 1/2" × 8'-11 15/16 (ckn) F.2.E (BENT) (ORD)(IT.)
2-PLS (ch)
1-PL 16" UM × 1/2 × 8'-11 7/8" (ckp) F.2.E (BENT) (ORD)(IT.)
1-L 7 × 4 × 1/2 × 35'-11 15/16 (cks) F.2.E (ORD)(IT.)
1-FILL 4" UM × 1/8" × 0'-10" (ckt)
1-FILL 4" UM × 1/8 × 0'-10" (ckv)
2-6" B.Hs (cs)
6-Ls (ct)
2-PLs (cv)
6-Ls (cw)
4-Ls (cy) R L
4-Ls (caa) R L
3-PLs (cab)
1-6" B.H. (cac)
1-PL (cad)
2-Ls (caq) R L
1-L (cah)
1-PL (cak)
1-6" B.H (caf)
2-Ls (cgk) R L
1-L 6 × 3 1/2 × 3/8 × 1'-1 1/2" (ckw) R
2-FILLS (cas)
1-FILL (cat)
1-BEVEL FILL (chn)
1-PL (cyk)
1-PL 8 × 5/16 × 1'-6 9/16 (cky) BENT
1-BEVEL FILL (chs)
1-PL 7 1/2 × 3/8 × 0'-9 7/16 (cma) F.2.E
1-FILL 7 1/2 × 1/8 × 0'-2 3/4 (cmb) F.1.E
1-PL 7 1/2 × 7/16 × 0'-6 7/8 (cmc)
2-Ls (cgs) R L
1-L (cbd)
1-L (cbf)
1-L 3 1/2 × 3 × 3/8 × 0'-10 1/4" (cmd) BENT
1-L 3 1/2 × 3 × 3/8 × 0'-10 1/4 (cmf) BENT
1-PL (cbk)
4-PERM. BOLTS 3/4" φ × 2 1/4 LG (HEX. HD. & NUT)

MATERIAL FOR WALKWAY C84

1-6" SHIP [@ 15.3# × 35'-11 7/16" (cmg) F.2.E (ORD)(IT.)
1-PL 27" UM × 5/16 × 35'-11 7/16 (cmh) F.2.E (ORD)(IT.)
1-L 3 × 3 × 3/8" × 35'-11 15/32 (cmk) F.2.E (ORD)(IT.)
1 CENT. KNOBBY PL 15 × 3/8 × 17'-11 7/16 (cmm) F.2.E (ORD)(IT.)
1 CENT. KNOBBY PL 15 × 3/8 × 17'-11 15/16 (cmn) F.2.E (ORD)(IT.)
1-PL 16" UM × 1/2" × 8'-11 7/16" (cmp) F.2.E (BENT) (ORD)(IT)
2-PLs (ch)
1-PL 16" UM × 1/2 × 8'-11 13/16 (cms) F.2.E (BENT) (ORD)(IT)
1-L 7 × 4 × 1/2 × 35'-4 3/16 (cmt) F.2.E (ORD)(IT.)
1-FILL 4" UM × 1/8 × 0'-10" (cxk)
2-6" B.Hs (cs)
6-Ls (ct)
2-PLs (cv)
6-Ls (cw)
4-Ls (cy) R L
4-Ls (caa) R L
3-PLs (cab)
1-6" B.H. (cac)
1-PL (cad)
2-Ls (caq) R L
1-L (cah)
1-PL (cak)
1-6" B.H. (caf)
2-Ls (cgk) R L
1-L 6 × 3 1/2 × 3/8 × 1'-1 1/2" (cmv)
2-FILLS (cas)
1-FILL (cat)
1-BEVEL FILL (chn)
1-PL (cyk)
1-PL 8 × 5/16 × 1'-6 7/16 (cmw) (BENT)
1-BEVEL FILL (chs)
1-PL 7 1/2 × 3/8 × 0'-9 7/16 F.2.E (cmy) F.2.E.
1-FILL 7 1/2 × 1/8 × 0'-2 3/4 F.1.E (cna) F.1.E.
1-PL 7 1/2 × 7/16 × 0'-6 7/8 (cnb)
2-Ls (cgs) R L
1-L (cbd)
1-L (cbf)
1-L 3 1/2 × 3 × 3/8 × 0'-10 1/4 (cnc)
1-L 3 1/2 × 3 × 3/8 × 0'-10 1/4 (cnd)
1-PL (cbk)
4-PERM. BOLTS 3/4" φ × 2 1/4" LG (HEX. HD & NUT)

WORK THIS SHEET WITH G265AJ TO CJ & EJ TO JJ
FOR SECTION (1)(1) SEE SHEET G265IJ
FOR SECTIONS (11)(11) (12)(12) SEE SHEET G265JJ
FOR GENERAL NOTES SEE SHEET G265AJ

Date	Revision	App'd

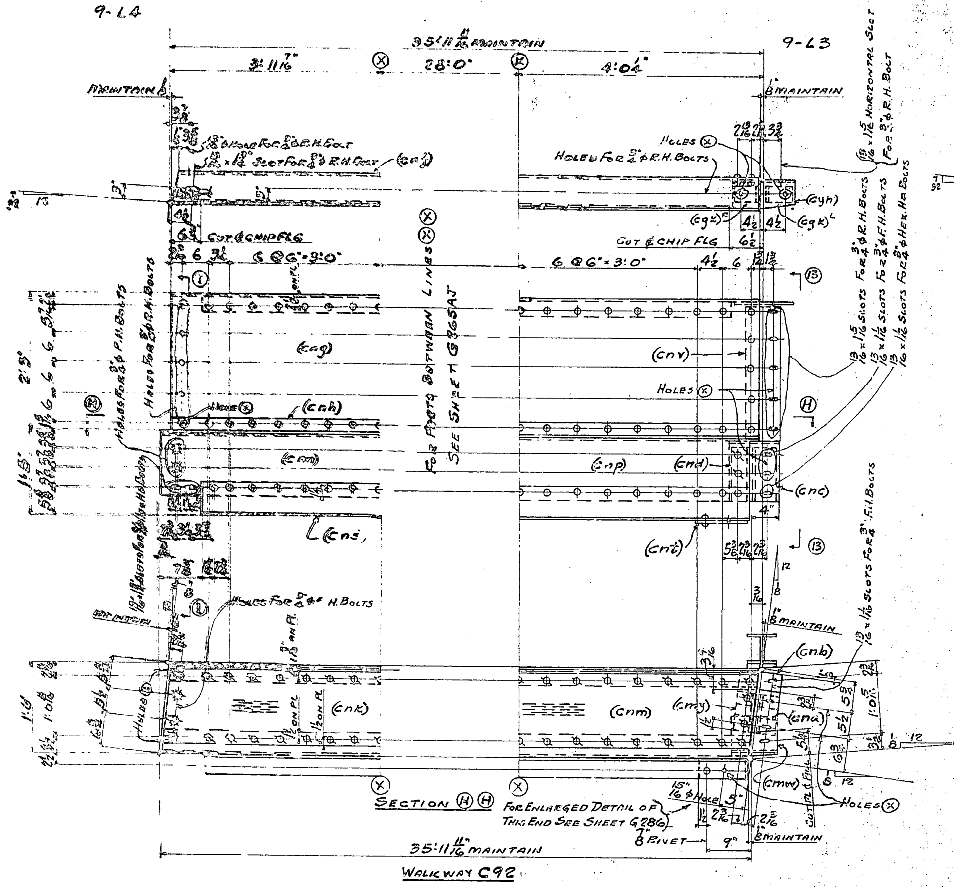
APPROVED

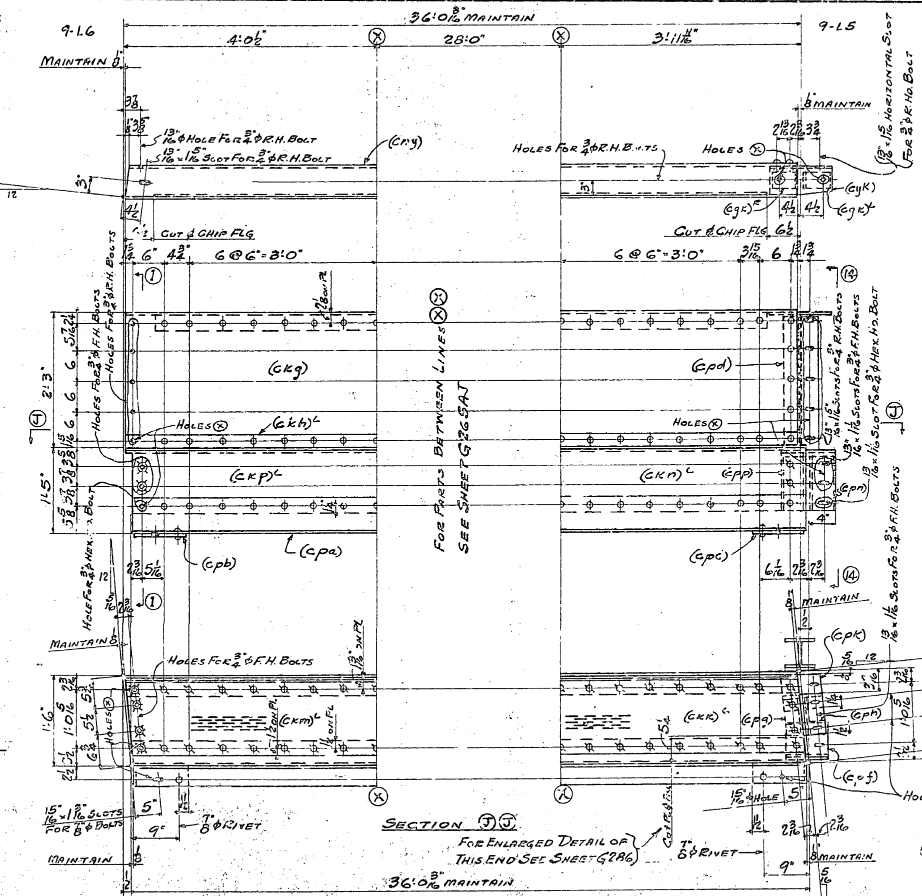
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-16-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" TRUSS SPANS - PIERS E9 TO E23
McCLINTIC-MARSHALL CORPORATION

CHICAGO DRAWING ROOM JUDSON PACIFIC WORKS
IN CHARGE JENKS MADE BY A.T.A. 6/22/34
CHECKED BY ⱻ 7-2-34 TRACED BY
LAST ADDEN. MK.

CONTRACT CG15303 SHEET G 265 DJ





Material for Walkway C92

1-6" Ship [@ 15.3# × 35'-11 7/16" (cnf) F.2.E. (Ord X It.)
1-PL 27" UM × 5/16" × 35'-11 7/16" (cng) F.2.E. (Ord X It.)
1-L 3 × 3 × 3/8 × 35'-11 15/32 (cnh) F.2.E. (Ord X It.)
1-Cent. Knobby PL 15 × 3/8 × 17'-11 3/8 (cnk) F.2.E. (Ord X It.)
1-Cent. Knobby PL 15 × 3/8 × 18'-0" (cnm) F.2.E. (Ord X It.)
1-PL 16" UM × 1/2 × 3'-11 3/8 (cnn) F.2.E. (Bent) (Ord X It.)
2-PLs (ch)
1-PL 16" UM × 1/2 × 8'-11 9/8" (cnp) F.2.E. (Bent) (Ord X It.)
1-L 7 × 4 × 1/2 × 35'-4 9/16 (cns) F.2.E. (Ord X It.)
1-Fill 4" UM × 1/4" × 0'-10" (cnt)
2-6" B.Hs (cs)
6-Ls (ct)
2-PLs (cv)
6-Ls (cw)
4-Ls (cy) R/L
4-Ls (caa) R/L
3-PLs (cab)
1-6" B.H. (cac)
1-PL (cad)
2-Ls (cag) R/L
1-L (cah)
1-PL (cak)
1-6" B.H @ 20# × 3'-6 3/4" (cnv)
2-Ls (cgk) R/L
1-L (cmv)
2-Fills (cas)
1-Fill (cat)
1-Bevel Fill (cgm)
1-PL (cgh)
1-PL (cmw)
1-Bevel Fill (cgp)
1-PL (cmy)
1-Fill (cna)
1-PL (cnb)
2-Ls 5 × 3 1/2 × 3/8 × 1'-0 3/8 (cnw) R/L
1-L (cbd)
1-L (cbf)
1-L (cnc)
1-L (cnd)
1-PL (cbk)
4-Perm. Bolts 3/4" Φ × 2 1/4" Lg (Hex Hd & Nut)

Material for Walkway C90

1-6" Ship [@ 15.3# × 35'-11 15/16" (cny) F.2.E. (Ord X It.)
1-PL (ckg)
1-L (ckh) L
1-Cent. Knobby PL (ckk) L
1-Cent. Knobby PL (ckm) L
1-FL (ckn) L
2-PLs (ch)
1-PL (ckp) L
1-L 7 × 4 × 1/2" × 35'-11 15/16" F.2.E. (cpa) (Ord X It.)
1-Fill 4" UM × 5/16" × 0'-10" (cpb)
1-Fill 4" UM × 5/16" × 0'-10" (cpc)
2-6" B.H. (cs)
6-Ls (ct)
2-PLs (cv)
6-Ls (cw)
4-Ls (cy) R/L
4-Ls (cac) R/L
3-PLs (cab)
1-6" B.H. (cac)
1-PL (cad)
2-Ls (cag) R/L
1-L (cah)
1-PL (cak)
1-6" B.H. @ 20# × 3'-6 3/4" (cpd)
2-Ls (cgk) R/L
1-L (ckw) L
2-Fills (cas)
1-Fill (cat)
1-Bevel Fill (chn)
1-PL (cym)
1-PL C × 5/16 × 1'-6 9/16" (cpf) Bent
1-Bevel Fill (chs)
1-PL 7 1/2 × 3/8 × 0'-9 9/16" (cpg) F.2.E.
1-Fill 7 1/2 × 1/8" × 0'-2 3/4" (cph) F.1.E.
1-PL 7 1/2 × 7/16" × 0'-6 3/8 (cpk)
2-Ls 5 × 3 1/2 × 3/8 × 1'-0 3/8 (cpm) R/L
1-L (cbd)
1-L (cbf)
1-L 3 1/2 × 3 × 3/8 × 0'-10 1/4 (cpn) Bent
1-L 3 1/2 × 3 × 3/8 × 0'-10 1/4 (cpp) Bent
1-PL (cbk)
4-Perm. Bolts 3/4" Φ × 2 1/4 Lg (Hex. Hd & Nut)

Work this sheet with G265AJ to DJ & FJ to JJ
For Section (1)(1) see sheet G265IJ
For Sections (13)(13) & (14)(14) see sheet G265JJ
For General Notes see sheet G265AJ

	Total No.	Description	Mark	Remarks	Weight each Tons
1	1	Walkway	C92		
1	1	Walkway	C90		
Span #9					

REQUIRED LIST

Date	Revision	App'd

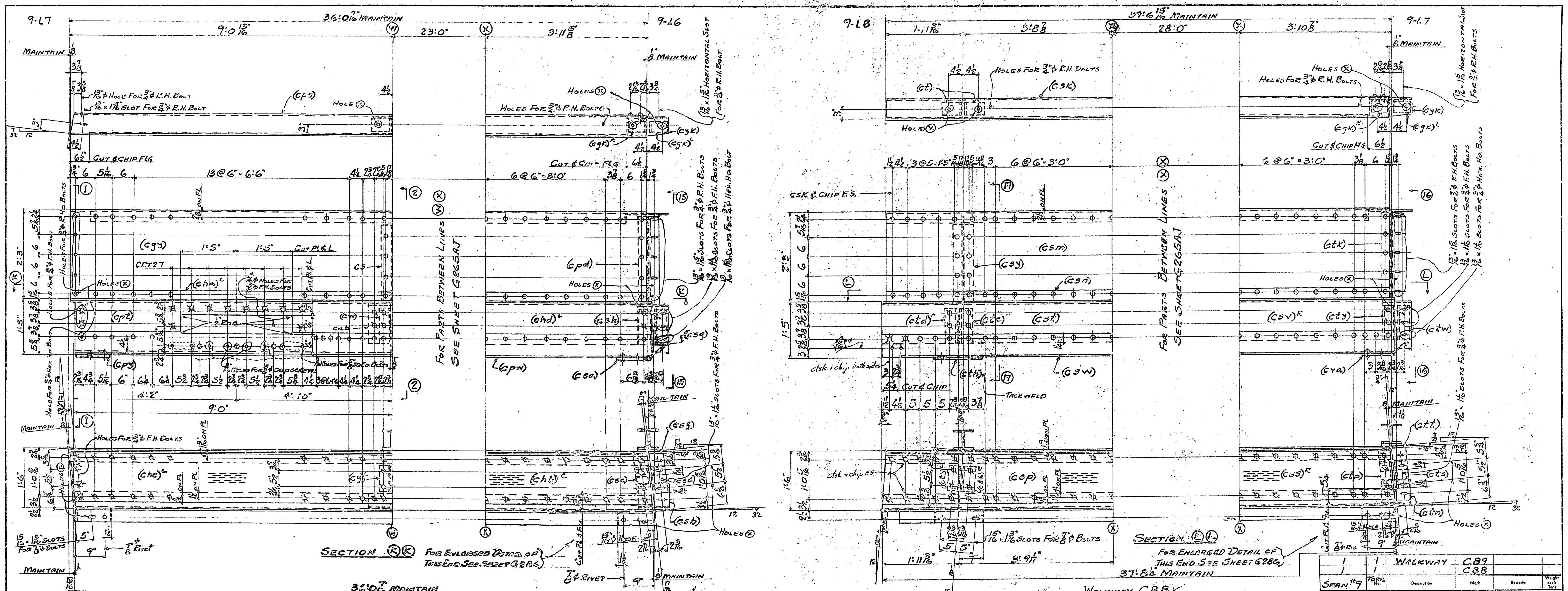
APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-16-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago — Drawing Room: Judson Pacific Works
In charge: Jenks — Made by: R.T.A. 6/25/34
Checked by: E 7-2-34 — Traced by:
Last Assem. Mk.:

CONTRACT CG15803 — SHEET G 265 EJ

30-1



WALKWAY C89

MATERIAL FOR WALKWAY C89

1-6" SHIP [@15.3# × 36'-0 7/16" (cps) F.2.E (ORD)(IT)
1-PL (cgj)
1-L (cha)L
1-CENT. KNOBBY PL (chc)L
1-CENT. KNOBBY PL (chb)L
1-PL 17"UM × 1/2 × 8'-11 15/16" (cpt) F.2.E (BENT)(ORD)(IT)
2-PLs (ch)
1-PL (chd)L
1-L 7 × 4 × 1/2 × 36'-0 3/8 (cpw) F.2.E (ORD)(IT)
1-FILL 4"UM × 3/8 × 0'-10" (cpy)
1-FILL 4"UM × 7/16 × 0'-10" (csa)
2-6" B.Hs (cs)
6-Ls (ct)
2-PLs (cv)
6-Ls (cw)
4-Ls (cy)R L
4-Ls (caa)R L
3-PLs (cab)
1-6" B.H. (cac)
1-PL (cad)
2-Ls (cag)R L
1-L (cah)
1-PL (cak)
1-6" B.H. (cpd)
2-Ls (cgr)R L
1-L (chm)L
2-FILLS (cas)
1-FILL (cat)
1-BEVEL FILL (cha)
1-PL (cyk)
1-PL 8" × 7/16 × 1'-6 3/8 (csb)(BENT)
1-BEVEL FILL (chs)
1-PL 7 1/2 × 3/8 × 0'-9 3/16 (csc) F.2.E.
1-FILL 7 1/2 × 1/8 × 0'-2 3/8 (csd) F.1.E
1-PL 7 1/2 × 7/16 × 0'-6 3/8 (csf)
2-Ls (cpp)R L
1-L (cbd)
1-L (cbf)
1-L 3 1/2 × 3 × 3/8 × 0'-10 1/4" (ccg) BENT
1-L 3 1/2 × 3 × 3/8 × 0'-10 1/4 (csh) BENT
1-PL (cbk)
4-PERM. BOLTS 3/4" φ × 2 1/4" Lg (HEX HD & NUT)

WALKWAY C88

MATERIAL FOR WALKWAY C88

1-6" SHIP [@15.3# × 37'-6 13/16" (csk) F.2.E (ORD)(IT)
1-PL 27"UM × 5/16" × 37'-6 13/16 (csm) F.2.E (ORD)(IT)
1-L 3 × 3 × 3/8 × 37'-7 15/32 (csn) F.2.E (ORD)(IT)
1-CENT. KNOBBY PL 15 × 3/8 × 19'-8 5/8 (csp) F.2.E (ORD)(IT)
1-CENT. KNOBBY PL 15 × 3/8 × 17'-11 5/8 (css) F.2.E (ORD)(IT)
1-PL 16"UM × 1/2 × 10'-8 3/8 (cst) F.2.E (BENT)(ORD)(IT)
2-PLs (sh)L
1-PL 16"UM × 1/2" × 8'-11 3/4" (csv)R F.2.E (BENT)(ORD)(IT)
1-L 7 × 4 × 1/2 × 37'-8 3/8 (csw) F.2.E (ORD)(IT)
1-6" B.H @20# × 3'-7" (csy)
8-Ls (ct)
1-L 6 × 3 1/2 × 3/8 × 1'-11" (cta)
1-FILL (cdb)
2-FILLS (cdc)
2-Ls 4 × 3 1/2 × 3/8 × 0'-8 1/2 (ctb)R L
1-L 3 1/2 × 3 1/2 × 3/8 × 0'-10 1/4" (ctc) BENT
1-L 3 1/2 × 3 1/2 × 3/8 × 0'-10 1/4 (ctd) BENT
2-Ls 5 × 3 1/2 × 3/8 × 1'-0 3/8 (ctf)R L
1-PL 15"UM × 3/8 × 1'-0 3/8 (ctg)
1-FILL 4"UM × 3/8 × 1'-2" (cth)(TACKWELD)
2-6" B.Hs (cs)
8-Ls (ct)
2-PLs (cv)
6-Ls (cw)
4-Ls (cy)R L
4-Ls (caa)R L
3-PLs (cab)
1-6" B.H (cac)
1-PL (cad)
2-Ls (cag)R L
1-L (cah)
1-PL (cak)
1-6" B.H @20# × 3'-6 3/4" (ctk)
2-Ls (cgk)R L
1-L 6 × 3 1/2 × 3/8 × 1'-1 1/2" (ctm)
2-FILLS (cas)
1-FILL (cat)
1-BEVEL FILL (chn)
1-PL (cyk)
1-PL 8 × 7/16 × 1'-6 3/8 (ctn) BENT
1-BEVEL FILL (chs)
1-PL 7 1/2 × 3/8 × 0'-9 3/16 (ctp) F.2.E.
1-FILL 7 1/2 × 1/8 × 0'-2 3/8 (cts) F.1.E.
1-PL 7 1/2 × 7/16 × 0'-6 3/8 (ctr)
2-Ls 5 × 3 1/2 × 3/8 × 1'-0 3/8 (ctv)R L
1-L (cbd)
1-L (cbf)
1-L 3 1/2 × 3 × 3/8 × 0'-10 1/4" (ctw) BENT
1-L 3 1/2 × 3 × 3/8 × 0'-10 1/4 (cty) BENT
1-PL (cbk)
1-FILL 4"UM × 3/8 × 0'-10" (cva)
8-PERM. BOLTS 3/4" φ × 2 1/4" Lg (HEX HD & NUT)

WORK THIS SHEET WITH G265AJ TO EJ & GJ TO JJ
FOR SECTIONS (1)(1) & (2)(2) SEE SHEET G265IJ
FOR SECTIONS (15)(15) (16)(16) (17)(17) SEE SHEET G265JJ
FOR GENERAL NOTES SEE SHEET G265AJ

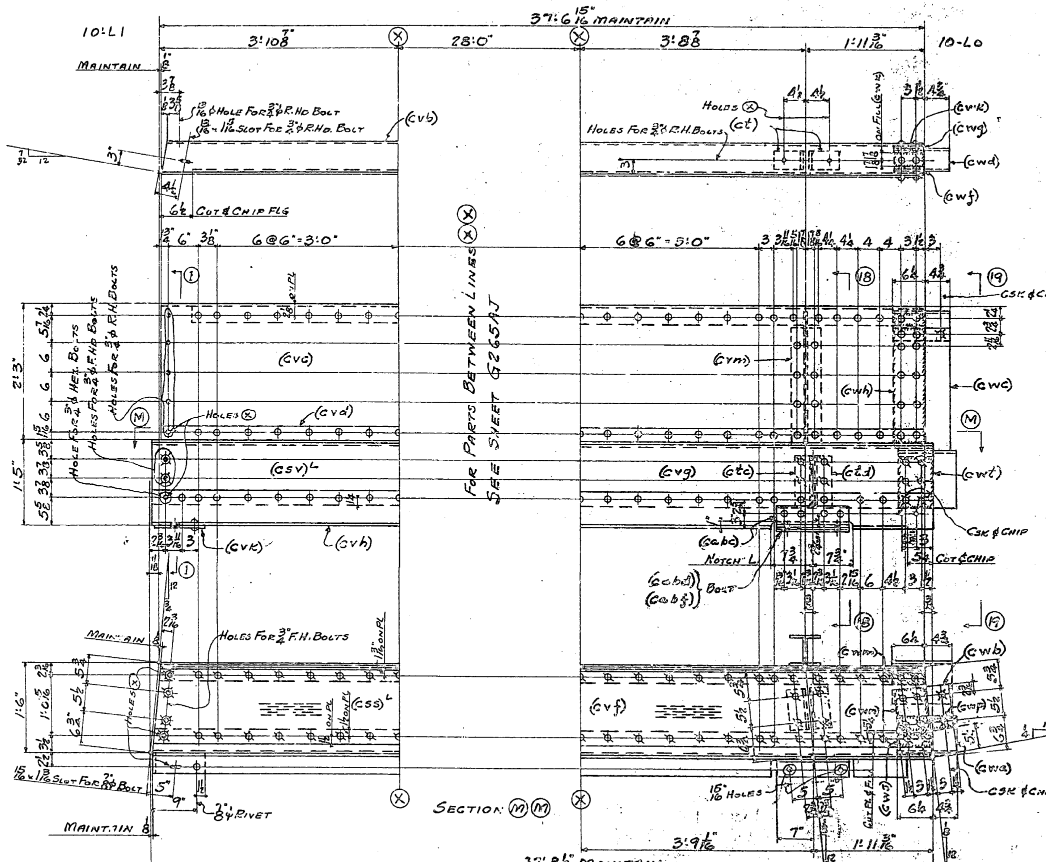
1	1	WALKWAY	C89		
1	1		C88		
SPAN #9	Total No.	Description	Mark	Remarks	Weight each Tons
	REQUIRED LIST				

Date	Revision	App'd

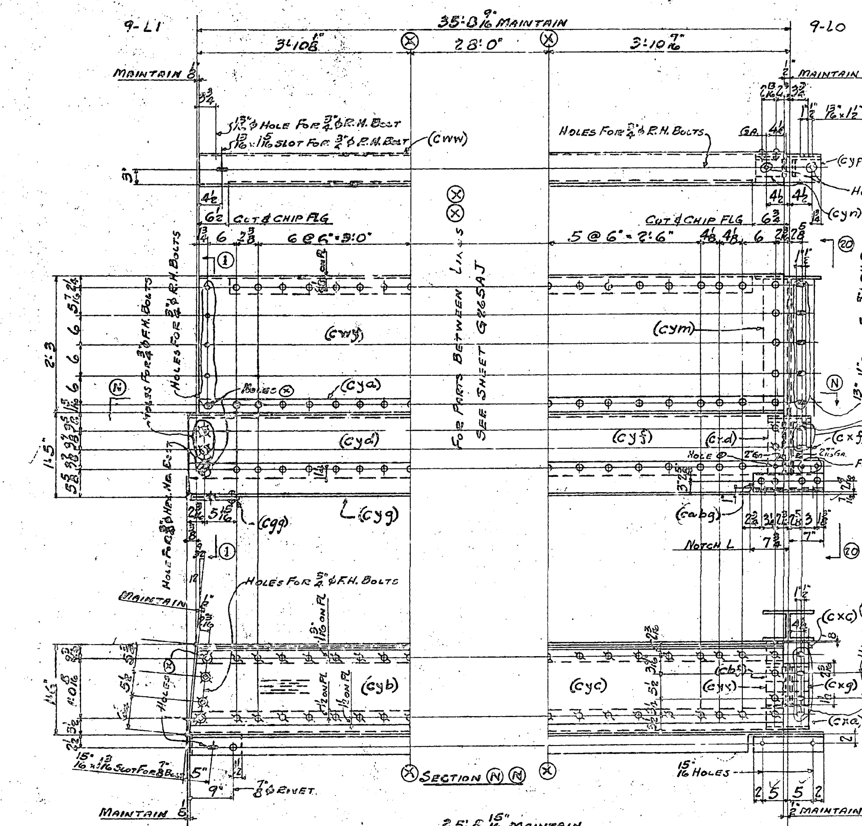
APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 6-16-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 TRUSS SPANS-PIERS E9 TO E23
McCLINTIC-MARSHALL CORPORATION
CHICAGO DRAWING ROOM JUDSON PACIFIC WORKS
IN CHARGE JENKS MADE BY A.T.A 6-26-34
CHECKED BY E 7-2-34 TRACED BY
LAST ASSEM. CHK.
CONTRACT CG15803 SHEET G 265 FJ



WALKWAY C87



WALKWAY C95

MATERIAL FOR WALKWAY C87

1-6" SHIP [@ 15.3# × 37'-6 15/16" (cvb) F.2.E (ORD)(IT.)
1-PL 27" UM × 5/16 × 37'-6 9/16" (cvc) F.2.E (ORD)(IT.)
1-L 3" × 3 × 3/8 × 37'-7 1/32 (cvd) F.2.E (ORD)(IT.)
1-CENT. KNOBBY PL (css)L
1-CENT. KNOBBY PL 15 × 3/8 × 19'-8 5/8 (cvf) F.2.E (ORD)(IT.)
1-PL (csv)L
2-PLS (ch)
1-PL 16" UM × 1/2 × 10'-8 5/8 (cvg) F.2.E (BENT)(ORD)(IT.)
1-L 7 × 4 × 1/2 × 37'-8 5/8 (cvh) F.2.E (ORD)(IT.)
1-FILL 4" UM × 1/8 × 0'-10" (cvk)
2-6" B.HS (cs)
8-LS (ct)
2-PLS (cv)
6-LS (cw)
4-LS (cy)R L
4-LS (caa)R L
3-PLS (cab)
1-6" B.H (cac)
1-PL (cad)
2-LS (cag)R L
1-L (cah)
1-PL (cak)

1-6" B.H @ 20# × 3'-6 1/2" (cvm)
1-L 6 × 3 1/2 × 3/8 × 1'-1 1/2 (cvn)
1-FILL (cdb)
2-FILLS (c 'c)
2-LS (ctb)R L
1-L (ctc)
1-L (ctd)
2-LS 5 × 3 1/2 × 3/8 × 1'-0 3/8" (cvp)R L
1-PL 14 1/2 UM × 3/8 × 1'-0 3/8 (cvs)
1-FILL 10 1/2 × 1/4 × 1'-0 3/8 (cvt) BOLT
1-FILL 10 1/2 × 1/8 × 1'-0 3/8 (cvv) BOLT
1-FILL 3 1/2 × 1/4 × 1'-1 1/2 (cvw) BOLT
1-FILL 3 1/2 × 1/8 × 1'-1 1/2 (cvy) BOLT
1-PL 11 × 1/2 × 1'-6 5/8 (cwa) BENT
1-PL 10 1/2 × 3/8 × 0'-9 3/16 (cwb) F.2.E
1-PL 11" × 3/8 × 2'-7 7/16 (cwc) F.1.E
1-PL 11 × 5/16 × 1'-0 11/16 (cwd) F.1.E
1-FILL 2 1/2 × 3/16 × 0'-6 1/4 (cwf) F.1.E
1-FILL 2 1/2 × 1/8 × 0'-6 1/4 (cwg) F.1.E
1-FILL 6 1/4" F.I.W × 1/8 × 1'-11 3/8 (cwh)
1-FILL 6 1/4 F.I.W. × 1/8 × 0'-3 3/4 (cwk)
1-FILL 3 × 1/8 × 0'-6 1/4 (cwm) F.1.E

1-FILL 6" F.I.W × 1/8 × 0'-9 3/16 (cwn)
1-FILL 11 × 1/8 × 0'-2 3/8" (cwp) F.1.E
1-FILL 3 × 1/8 × 0'-6 3/8 (cws)
1-FILL 10 1/2 × 1/8 × 0'-6 1/4 (cwt) F.1.E
8-PERM. BOLTS 3/4" φ × 2 1/4" LG (HEX. HD. & NUT)
2-PERM. BOLTS 3/4 φ × 2" LG (HEX HD & NUT)
1-L 4 × 3 1/2 × 3/8 × 1'-2" (cabc)
1-FILL 3 1/2 UM × 1/4 × 1'-2" (cabd) BOLT
1-FILL 3 1/2 UM × 1/8 × 1'-2" (cabf) BOLT

MATERIAL FOR WALKWAY C95

1-6" SHIP [@ 15.3# × 35'-7 15/16 (cvw) F.2.E (ORD)(IT.)
1-PL 27" UM × 5/16 × 35'-7 15/16 (cwy) F.2.E (ORD)(IT)
1-L 3 × 3 × 3/8 × 35'-8" (cya) F.2.E (ORD)(IT.)
1-CENT. KNOBBY PL 15" × 3/8 × 17'-10 9/16 (cyb) F.2.E (ORD)(IT.)
1-CENT. KNOBBY PL 15 × 3/8 × 17'-9 13/16 (cyc) F.2.E (ORD)(IT.)
1-PL 16" UM × 1/2 × 8'-10 1/4 (cyd) F.2.E (BENT)(ORD)(IT.)
2-PLS (ch)
1-PL 16" UM × 1/2 × 8'-9 13/16" (cyf) F.2.E (BENT)(ORD)(IT)
1-L 7 × 4 × 1/2 × 36'-3 13/16 (cyg) F.2.E (ORD)(IT.)
1-FILL (cgg)
2-6" B.HS (cs)
6-LS (ct)
2-PLS (cv)
6-LS (cw)
4-LS (cy)R L
4-LS (caa)R L
3-PLS (cab)
1-6" B.H (cac)
1-PL (cad)
2-LS (cag)R L
1-L (cah)
1-PL (cak)

1-6" B.H @ 40# × 3'-6 7/16" (cym) M.I.E
2-LS 6 × 6 × 3/8 × 0'-4" (cyn)
1-PL 12 1/2 × 5/16 × 0'-8 1/4 (cyp) F.2.E (BENT)
1-L 6 × 3 1/2 × 3/8 × 1'-1 1/2" (cys)
1-FILL 5 1/2 × 1/4 × 0'-9 7/8 (cyt)
2-FILLS 5 1/2 × 1/8 × 0'-9 7/8 (cyw)
1-PL 8 × 3/8 × 0'-9 7/16 (cyy) F.2.E
1-PL 8 × 5/16 × 1'-6 3/8 (cxa) (BENT)
1-FILL 2 3/4 F.I.W × 1/8 × 0'-8" (cxb)
1-PL 8 × 7/16 × 0'-6 7/8 (cxc)
1-L 3 1/2 × 3 1/2 × 3/8 × 0'-10 1/4 (cxd)
1-L 4 × 3 1/2 × 3/8 × 0'-10 1/4 (cxf)
1-L (cbf)
1-L 4 × 4 × 3/8 × 0'-8 1/2 (cxg)
2-LS (ctv)R L
1-PL 13" UM × 3/8 × 1'-0 3/8 (cxh)
8-PERM BOLTS 3/4 φ × 2 1/4" LG (HEX. HD & NUT)
1-L 4 × 3 1/2 × 3/8 × 1'-2" (cabg)

WORK THIS SHEET WITH G265AJ TO FJ & HJ TO JJ
FOR SECTION (1)(1) SEE SHEET G265TJ
FOR SECTIONS (18)(18) & (19)(19) SEE SHEET G265TJ
FOR SECTION (20)(20) SEE SHEET G265HJ
FOR GENERAL NOTES SEE SHEET G265AJ

SPAN #10	SPAN #9	TOTAL No.	Description	Mark	Remarks	Weight each Tons
1		1	WALKWAY	C87		
	1	1	WALKWAY	C95		

REQUIRED LIST

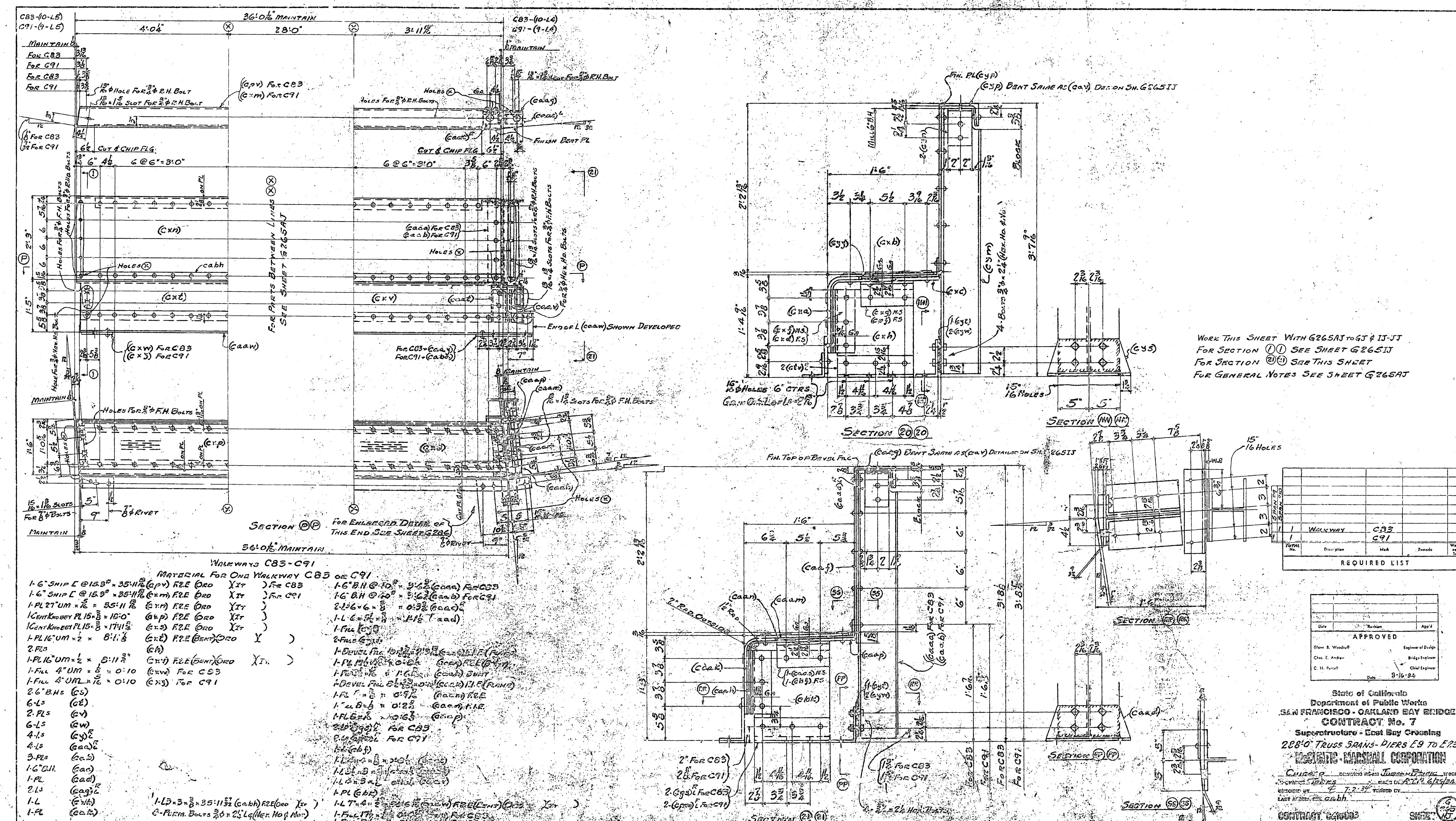
Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-16-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" TRUSS SPANS - PIERS E9 TO E23
McCLINTIC-MARSHALL CORPORATION
CHICAGO DRAWING ROOM JUDSON PACIFIC WORKS
IN CHARGE JENKS MADE BY A.T.A 6/28/34
CHECKED BY £ 7-2-34 TRACED BY
LADY ASSEM. BK.
CONTRACT C13903 SHEET G 265 GJ

30-1



Walkways C83-C91
Material for One Walkway C83 or C91
Work this sheet with G265AJ to GJ & IJ-JJ
For Section ⓘⓘ see sheet G265IJ
For Section ㉑㉑ see this sheet
For general notes see sheet G265AJ
Section ⓟⓟ
Section ⑳⑳
Section ㉑㉑
Required List
Approved
State of California
Department of Public Works
San Francisco - Oakland Bay Bridge
Contract No. 7
Superstructure - East Bay Crossing
288'0" Truss Spans - Piers E9 to E23
McClintic-Marshall Corporation

30-1

SECTION (1)(1)

SECTION (2)(2)

SECTION (3)(3)

SECTION (5)(5)

SECTION (6)(6)

SECTION (7)(7)

SECTION (BB)(BB)

SECTION (AA)(AA) FOR SECT (A)(A)

SECTION (AA)(AA) FOR SECTION (B)(B)

SECTION (EE)(EE)

SECTION (FF)(FF)

SECTION (GG)(GG)

SECTION (HH)(HH)

SECTION (C)(4) AS NOTED

SECTION (D)(5) AS NOTED

SEE ENLARGED DETAIL

ENLARGED DETAIL

GRIND TO PL (GR.) FLUSH

2" EXPANSION JOINT

WALL C.B.H.

BLOCK

2" EXP. OPENING

4-1⅛"ø-2½" HEX. BOLTS

15" 1⅛" ø HOLES

1⅛" ø HOLES GR. O.S.L.=1¾"

RIVETS 3¼" CTRS IN C.B.H. GR. ON L.=1⅛"

1⅛" ø SLOTS IN L'S 15/16" HOLES IN SHIMS FOR ⅞" ø BOLTS

WORK THIS SHEET WITH SHEETS G26SAJ to HJ & JJ

FOR GENERAL NOTES SEE SHEET G26SAJ

Date	Revision	Appd

APPROVED

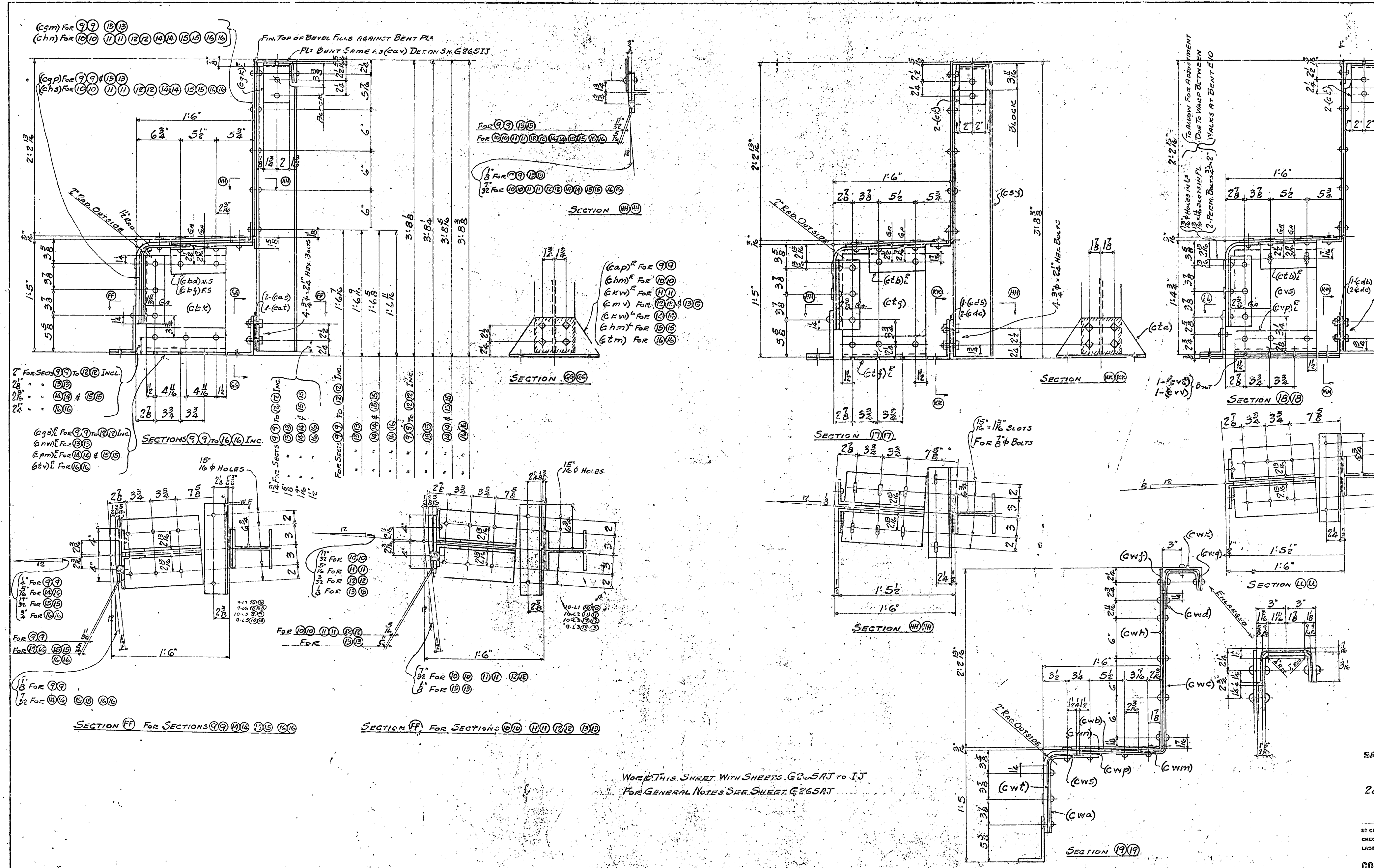
Glen B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-11-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0" TRUSS SPANS - PIERS E9 TO E23
MCCLINTIC-MARSHALL CORPORATION
CHICAGO DRAWING ROOMS JUDSON PACIFIC WORKS
DESIGNED BY JENKS DRAWN BY A.T.R.
CHECKED BY 4 TRACED BY
LAST ADDED DTL.

CONTRACT G26B05

SHEET G 283 J

30-1



WORK THIS SHEET WITH SHEETS G265AJ TO IJ
FOR GENERAL NOTES SEE SHEET G265AJ

Date	Revision	App'd

APPROVED

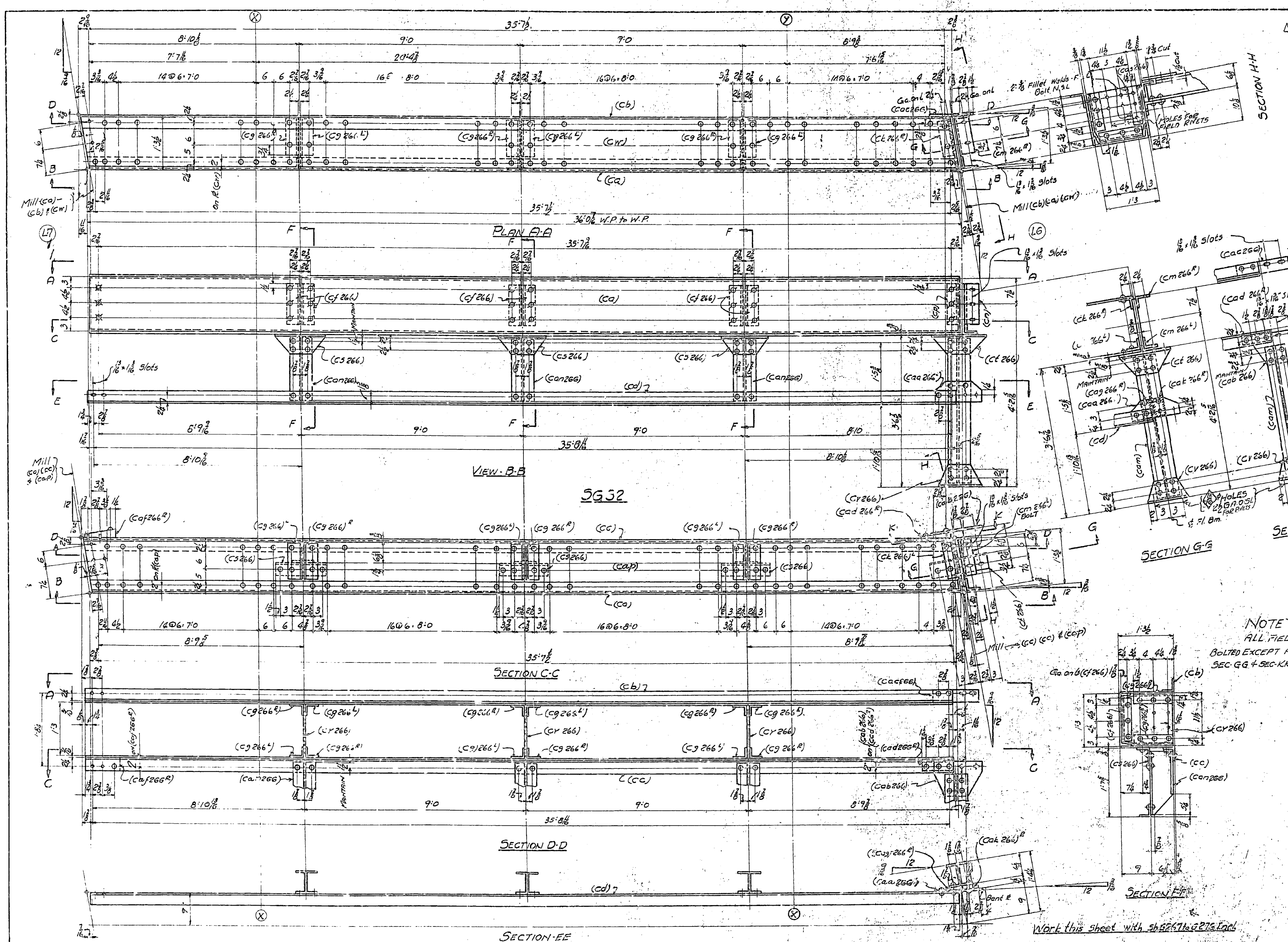
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-16-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" TRUSS SPANS - PIERS E9 TO E23
McCLINTIC-MARSHALL CORPORATION

CHICAGO DRAWING ROOM JUDSON PACIFIC WORKS
IN CHARGE JENKS MADE BY A.T.A. 6-27-34
CHECKED BY E. 7-2-34 TRACED BY
LAST ADDED. NO.

CONTRACT CG15805 SHEET G 265 JJ

30-1



MATERIAL FOR ONE SKID GIRDER

1-15" [@ 33.9# x 36'-0 3/8 (ca) M2E
1-L 3 1/2 x 3 1/2 x 3/8 x 36'-0 3/8 (cb) M2E
1-L 3 1/2 x 3 1/2 x 3/8 x 36'-0 3/8 (cc) M2E
1-L 3 1/2 x 3 1/2 x 3/8 x 36'-0 11/16 (cd) F2E
6-Ls 3 1/2 x 3 x 5/16 x 0'-11 1/2 (cf 266)
12-Ls 3 1/2 x 3 x 5/16 x 0'-11 1/4 (cg 266 R/L)
2-Ls 3 1/2 x 3 x 3/8 x 0'-11 1/4 (ck 266 R/L)
2-Ls 3 1/2 x 3 x 3/8 x 0'-11 1/4 (cm 266 R) BOLT (cm 266 L)
1-L 3 1/2 x 3 x 3/8 x 11 1/2 (cr) Bent
1-L 3 1/2 x 3 x 3/8 x 11 1/2 (cp) Bent.
3-Ls 6 x 3 1/2 x 3/8 x 1'-1 7/8 (cs 266)
1-L 6 x 4 x 3/8 x 1'-1 7/8 (ct 266)
2-Ls. 6 x 4 x 3/8 x 0'-10 (cv 266)
1-Pl. 15" UM x 3/8 x 36'-0 13/16 (cw) M2E
1-Pl. 15" UM x 3/8 x 36'-0 13/16 (cap) M2E
3-Pls. 14" UM x 5/16 x 1'-2 1/2 (cy 266)
1-Pl. 6 1/2" UM x 3/8 x 1'-0 1/2 (caa 266) Bent
1-Pl. 9 1/2" UM x 3/8 x 1'-0 1/2 (cab 266)
1-Bar 3 1/2" UM x 3/8 x 1'-0 1/2 (cac 266) Bent
1-Pl. 9" UM x 3/4 x 5/16 F.I.S. x 3 1/4 (cad 266 R)
1-Pl. 9" UM x 3/4 x 1 3/16 F.I.S. x 3 1/4 (caf 266 R)
1-Bar 2 7/8 UM x 3/4 x 5/8 F.I.S. x 6 1/2 (cag 266 R)
1-Bar 2 7/8 UM x 3/4 x 27/32 F.I.S. x 6 1/2 (cak 266 L)
1-6" B.H. @ 23# x 3'-5 1/4 (cam)
3-6" B.H. @ 23# x 1'-6 1/4 (can 266)
1-Pl. 14 UM x 3/8 x 1'-2 1/2 (cas 266)

SHOP NOTE:
Shop to put all Erection Marks on Left Hand End of Members as Detailed & in upright position.
Shop to rivet railing (cd) & Post (cam) to SKID GIRDER in such a manner that the angle and post is square and true with respect to the girder. Erection marks to be put on with both paint and steel stencil.

One	One	SKID GIRDER	SG32	AS SHOWN	
Span 9	Total No.	Description	Mark	Remarks	Weight each Tons
REQ BY SPANS	REQUIRED LIST				

NOTE "A"
ALL FIELD CONNECTIONS TO BE BOLTED EXCEPT AS NOTED IN SEC-HH-SEC-GG & SEC-KK

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 3/4"
OPEN HOLES: 13/16" Unless noted. SEE NOTE "A"
PUNCHING: All holes for Shop & Field Rivets in Material 3/4" Thick or Less may be punched full size.
FINISH: All Sheared or Flame cut Edges and ends of Material, to have a neat appearance, and where designated F/W F2E, etc. shop must shear & grind; chip and grind; or otherwise cut & finish so that members present a finished appearance and conform to dimensions given on drawings. Ends of all assembled members must present a neat appearance.

SHOP PAINT: None except contact surfaces of parts bolted for shipment. Such surfaces shall be given one coat of "Acid Resisting Liquid" after they have been thoroughly cleaned and scraped. Such parts to be assembled when paint is dry. Bolts to be drawn up tight to prevent entering of any foreign substance during shipping or sand blasting. Contact surfaces at parts tack welded for shipment to be thoroughly cleaned and scraped. Welding to be done in such a manner as to prevent entering of any foreign substance during shipping or sand blasting.

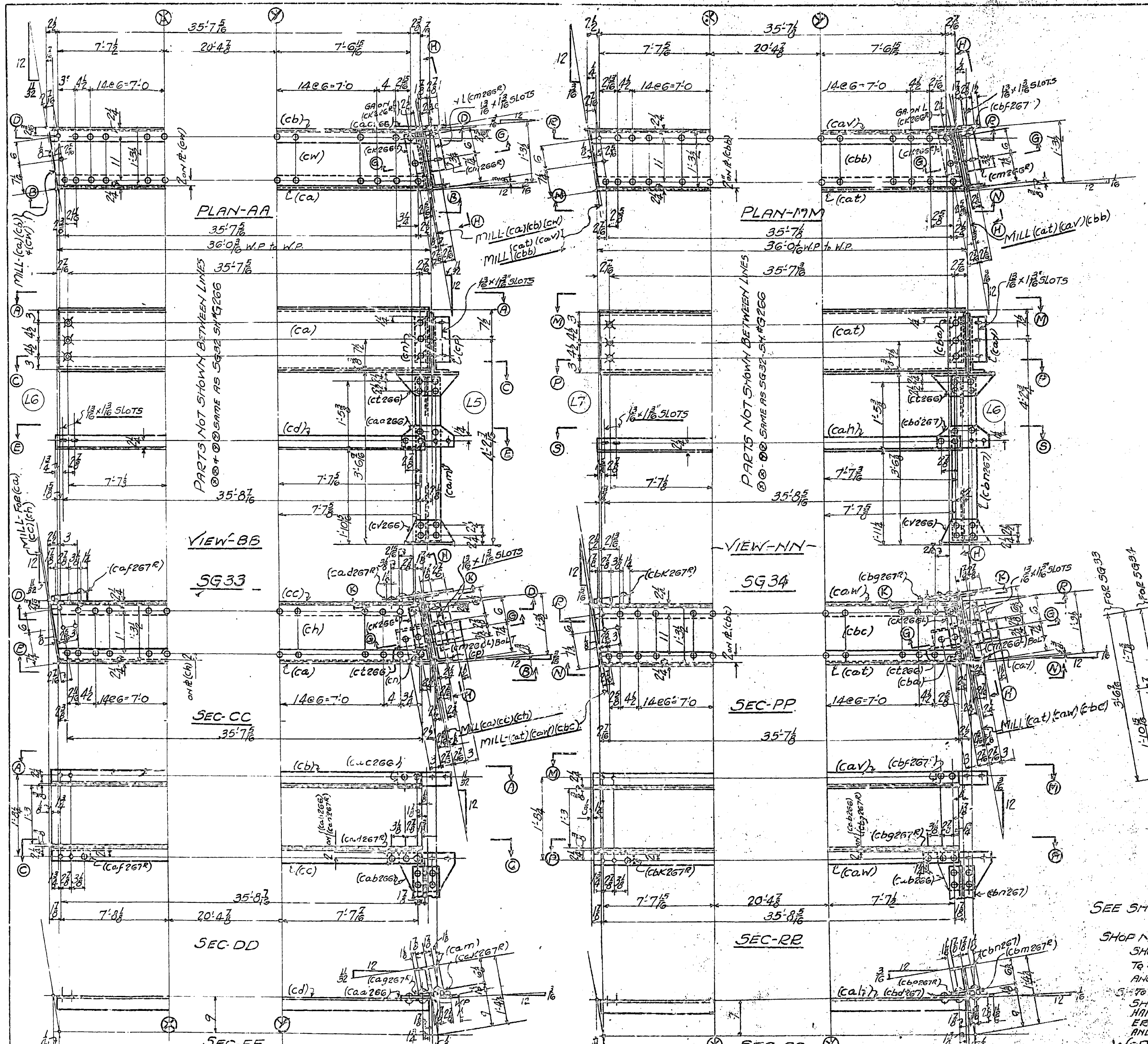
Date	Revision	App'd

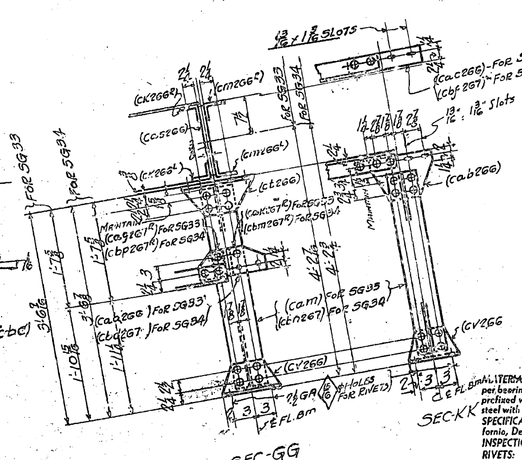
APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 7/16/34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0 TRUSS SPAN-PIERS E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Judson Pacific WORKS
IN CHARGE Jenks MADE BY C.O.S. 6-14-34
CHECKED BY H.W.S. 6/21/34 TRACED BY V.E.A. 6-18-34
LAST ACCUM. RK. (cas)
CONTRACT CG15303
SHEET G 266

30-1





MATERIAL FOR ONE SKID GIRDER-SG33

1-15"[@33.9# × 36'-0 1/16 (ca) M.2.E
1-L-3½ × 3½ × 3/8 × 36'-0 1/16 (cb) M.2.E
1-L-3½ × 3½ × 3/8 × 36'-0 1/16 (cc) M.2.E.
1-L-3½ × 3½ × 3/8 × 35'-11 15/16 (cd)-F.2.E
6-Ls 3½ × 3 × 5/16 × 0'-11½ (cf266)
12-Ls 3½ × 3 × 5/16 × 0'-11¼ (cg266 R/L)
2-Ls 3½ × 3 × 3/8 × 0'-11¼ (ck266 R/L)
2-Ls 3½ × 3 × 3/8 × 0'-11¼ (cm266 R/L) BOLT (cm266L)
1-L-3½ × 3 × 3/8 × 0'-11½ (cn) BENT
1-L-3½ × 3 × 3/8 × 0'-11½ (cp) BENT
3-Ls 6 × 3½ × 3/8 × 1'-1 7/8 (cs266)
1-L-6 × 4 × 3/8 × 1'-1 7/8 (ct266)
2-Ls 6 × 4 × 3/8 × 0'-10 (cv266)
1-PL-15" UM × 3/8 × 36'-0 3/8 (cw) M.2.E
1-PL-15" UM × 3/8 × 36'-0 3/8 (ch) M.2.E
3-PLs 14 UM × 5/16 × 1'-2½ (cy266)
1-PL 14 UM × 3/8 × 1'-2½ (cas266)
1-PL 6½ UM × 3/8 × 1'-0½ (caa266) BENT
1-PL 9½ UM × 3/8 × 1'-0½ (cab266)
1-BAR 3½ UM × 3/8 × 1'-0½ (cac266) BENT
1-PL-9" UM × 3/4 × ½ F.1.S × 3¼ (cad267R)
1-PL-9" UM × 3/4 × 1 F.1.S × 3¼ (caf267R)
1-BAR 2 7/8 UM × 3/4 × 13/16 F.1.S × 6½ (cak267R)
1-BAR 2 7/8 UM × 3/4 × 21/32 F.1.S × 6½ (cag267R)
1-6" B.H @ 23# × 3'-5½ (cam)
3-6" B.H @ 23# × 1'-6¼ (can266)

MATERIAL FOR ONE SKID GIRDER CG34

1-15" [@33.9# × 35'-11 7/8 (cat) M.2.E.
1-L-3½ × 3½ × 3/8 × 35'-11 7/8 (cav) M.2.E
1-L-3½ × 3½ × 3/8 × 35'-11 7/8 (caw) M.2.E
1-L-3½ × 3½ × 3/8 × 35'-11 13/16 (cah) F.2.E
6-Ls (cf266)
12-Ls - (cg266) R/L
2-Ls - (ck266 R/L)
2-Ls (cm266 R/L)
1-L-3½ × 3 × 3/8 × 0'-11½ (cay) BENT
1-L-3½ × 3 × 3/8 × 0'-11½ (cba) BENT
3-Ls 6 × 3½ × 3/8 × 1'-1 7/8 (cs266)
1-L- (ct266)
2-Ls - (cv266)
1-PL-15" UM × 3/8 × 36'-0 1/16 (cbb) M.2.E
1-PL-15" UM × 3/8 × 36'-0 1/16 (cbc) M.2.E
3-PLs (cy266)
1-PL (cas266)
1-PL 6½ UM × 3/8 × 1'-0½ (cbd267) BENT
1-PL 9½ UM × 3/8 × 1'-0½ (cab266)
1-BAR 3½ UM × 3/8 × 1'-0½ (cbf267) BENT
1-PL-9 UM × 3/4 × 5/8 F.1.S × 3¼ (cbg267R)
1-PL-9 UM × 3/4 × 7/8 F.1.S × 3¼ (cbk267R)
1-BAR 2 7/8 UM × 3/4 × 25/32 F.1.S × 6½ (cbm267R)
1-6" B.H @ 23# × 3'-5¾ (cbn267)
3-6" B.H (can266)
1-BAR 2 7/8 UM × 3/4 × 11/16 F.1.S × 6½ (cbp267R)

SPAN 9	SPAN 10	TOTAL No	Description	Mark	Remarks	Weight each Tons
1		1	SKID GIRDER	SG33	AS SHOWN	
	1	1	SKID GIRDER	SG34	do	
REQD. BY SPANS		REQUIRED LIST				

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: JOHN M. BAILEY
RIVETS: 3/4 ϕ
OPEN HOLES: 15/16 ϕ UNLESS NOTED SEE NOTE "A"
PUNCHING: ALL HOLES FOR SHOP & FIELD RIVETS IN MATERIAL 3/4" THICK OR LESS MAY BE PUNCHED FULL SIZE.
FINISH: ALL SHEARED OR FLAME CUT EDGES & ENDS OF MATERIAL TO HAVE A NEAT APPEARANCE, & WHERE DESIGNATED F.1.S, F.2.E, ETC SHOP MUST SHEAR & GRIND, CHIP & GRIND OR OTHERWISE CUT & FINISH SO THAT MEMBERS PRESENT A FINISHED APPEARANCE & CONFORM TO DIMENSIONS GIVEN ON DRAWING.
ENDS OF ALL ASSEMBLED MEMBERS MUST PRESENT A NEAT APPEARANCE.
SHOP PAINT: See Paint Note on Sheet G266

NOTE "A"
ALL FIELD CONNECTIONS TO BE BOLTED UNLESS OTHERWISE NOTED

SEE SHEET G266 FOR SECTION-HH

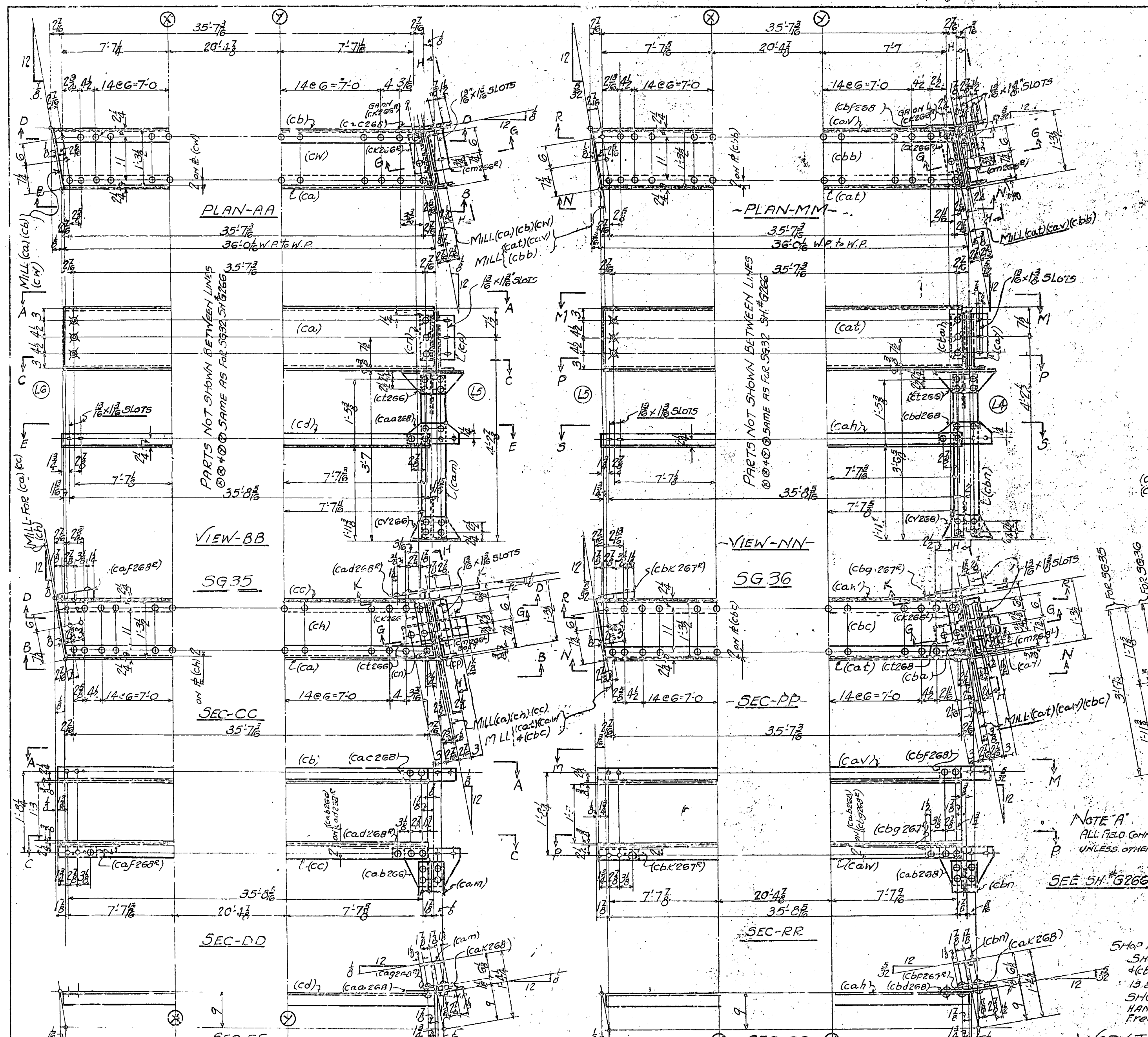
SHOP NOTE:-
SHOP TO RIVET RAILING ANGLES (cd) & (cah) & POSTS (cam) & (cbn267) TO SKID GIRDER IN SUCH A MANNER THAT THE ANGLE & POST IS SQUARE & TRUE WITH RESPECT TO THE GIRDER.
SHOP TO PUT ALL ERECTION MARKS ON LEFT HAND END MEMBERS AS DETAILED & IN UPRIGHT POSITION.
ERECTION MARKS TO BE PUT ON WITH BOTH PAINT AND STEEL STENCIL.
WORK THIS SHEET WITH SH.G266-G268 to G273 incl & G276

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 7/16/34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0" TRUSS SPANS PIERS - E9 TO E23
McCLINTIC-MARSHALL CORPORATION
CHICAGO DRAWING ROOM Judson Pacific WORKS
IN CHARGE Jenks MADE BY Cas. 6-18-34
CHECKED BY H.W.S. 6/21/34 TRACED BY
LAST ASSEM. MK. (cbp)
CONTRACT CG15603 SHEET G 267

30-1

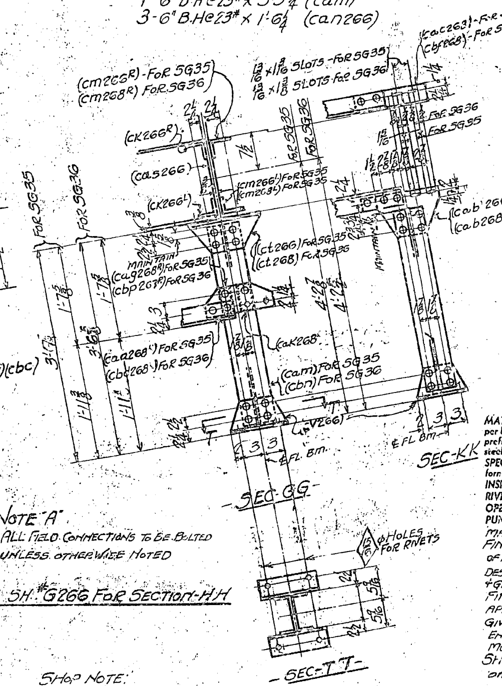


MATERIAL FOR ONE SKID GIRDER SG35

- 1-15" [@ 33.9# × 35'-11 7/8 (ca) M.2.E
- 1-L-3½ × 3½ × 3/8 × 35'-11 7/8 (cb) M.2.E
- 1-L-3½ × 3½ × 3/8 × 35'-11 7/8 (cc) M.2.E
- 1-L-3½ × 3½ × 3/8 × 35'-11 13/16 (cd) F.2.E
- 6-Ls 3½ × 3 × 5/16 × 0'-11½ (cf266)
- 12-Ls 3½ × 3 × 5/16 × 0'-11¼ (cg266 R/L)
- 2-Ls 3½ × 3 × 3/8 × 0'-11¼ (ck266 R/L)
- 2-Ls 3½ × 3 × 3/8 × 0'-11¼ (cm266 R/L)
- 1-L-3½ × 3 × 3/8 × 0'-11½ (cn) BENT
- 1-L-3½ × 3 × 3/8 × 0'-11½ (cp)
- 3-Ls 6 × 3½ × 3/8 × 1'-1 7/8 (cs266)
- 1-L-6 × 4 × 3/8 × 1'-1 7/8 (ct266)
- 2-Ls 6 × 4 × 3/8 × 0'-10 (cv266)
- 1-PL 15" UM × 3/8 × 36'-0 (cw) M.2.E
- 1-PL 15" UM × 3/8 × 36'-0 (ch) M.2.E
- 3-PLs 14" UM × 5/16 × 1'-2½ (cy266)
- 1-PL 14 UM × 3/8 × 1'-2½ (cas 266)
- 1-PL 6½ UM × 3/8 × 1'-0½ (caa 268) BENT
- 1-PL 9½ UM × 3/8 × 1'-0½ (cab266)
- 1-BAR 3½ UM × 3/8 × 1'-0½ (cac268) BENT
- 1-PL 9" UM × 3/4 × 21/32 F.I.S × 3¼ (cad268R)
- 1-PL 9" UM × 3/4 × 27/32 F.I.S × 3¼ (caf268R)
- 1-BAR 2 7/8 UM × 3/4 × 23/32 F.I.S × 6½ (cag268R)
- 1-BAR 2 7/8 UM × 3/4 × 0'-6½ (cak268)
- 1-6" B.H @ 23# × 3'-5¾ (cam)
- 3-6" B.H @ 23# × 1'-6¼ (can266)

MATERIAL FOR ONE SKID GIRDER SG36

- 1-15" [@ 33.9# × 35'-11 5/8 (cat) M.2.E
- 1-L-3½ × 3½ × 3/8 × 35'-11 5/8 (cav) M.2.E
- 1-L-3½ × 3½ × 3/8 × 35'-11 5/8 (caw) M.2.E
- 1-L-3½ × 3½ × 3/8 × 35'-11 9/16 (cah) F.2.E
- 6-Ls (cf266)
- 12-Ls (cg266 R/L)
- 2-Ls - (ck266 R/L)
- 2-Ls 3½ × 3 × 3/8 × 0'-11¼ (cm268 R/L)
- 1-L-3½ × 3 × 3/8 × 0'-11½ (cay)
- 1-L-3½ × 3 × 3/8 × 0'-11½ (cba) BENT
- 3-Ls (cs266)
- 1-L-6 × 4 × 3/8 × 1'-1 7/8 (ct268)
- 2-Ls (cv266)
- 1-PL-15" UM × 3/8 × 35'-11¾ (cbb) M.2.E
- 1-PL-15" UM × 3/8 × 35'-11¾ (cbc) M.2.E
- 3-PLs (cy266)
- 1-PL- (cas 266)
- 1-PL 6½ UM × 3/8 × 1'-0½ (cbd268) BENT
- 1-PL 9½ UM × 3/8 × 1'-0½ (cab268)
- 1-BAR 3½ UM × 3/8 × 1'-0½ (cbf268) BENT
- 1-PL 9 UM × 3/4 × 5/8 F.I.S. × 3¼ (cbg267R)
- 1-PL 9 UM × 3/4 × 7/8 F.I.S. × 3¼ (cbk267R)
- 1-BAR 2 7/8 UM × 3/4 × 11/16 × F.I.S × 0'-6½ (cbp 267R)
- 1-BAR 2 7/8 UM × 3/4 × 0'-6½ (cak268)
- 1-6" B.H. @ 23# × 3'-5½ (cbn)
- 3-6" B.H @ 23# × 1'-6¼ (can266)



NOTE "A"
ALL FIELD CONNECTIONS TO BE BOLTED UNLESS OTHERWISE NOTED

SEE SH. # G266 FOR SECTION-HH

SHOP NOTE:
SHOP TO RIVET RAILING ANGLES (co') + (can) + POSTS (cam) + (cbn) TO SKID GIRDER IN SUCH A MANNER THAT THE ANGLE + POST IS SQUARE + TRUE WITH RESPECT TO THE GIRDER
SHOP TO PUT ALL ERECTION MARKS ON LEFT HAND END OF MEMBER AS DETAILED + IN UPRIGHT POSITION
Erection Marks to be put on with both paint and steel stencil.

WORK THIS SHEET WITH SH. # G266-G269 + G270 + G267

SPAN 9	SPAN 10	TOTAL No	Description	Mark	Remarks	Weight each Tons
	1	1	SKID GIRDER	SG35	AS SHOWN	
1		1	" "	SG36	" "	
REQD. BY SPANS		REQUIRED LIST				

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California; Department of Public Works.
INSPECTION: JOHN M. BAILEY
RIVETS: 3/4 φ
OPEN HOLES: 13/16 φ UNLESS NOTED SEE NOTE "A"
PUNCHING: ALL HOLES FOR SHOP + FIELD RIVETS IN MATERIAL 3/4" THICK OR LESS MAY BE PUNCHED FULL SIZE
FINISH: ALL SHEARED OR FLAME CUT EDGES + ENDS OF MATERIAL TO HAVE A NEAT APPEARANCE + WHERE DESIGNATED F.I.W. F.2.E. ETC, SHOP MUST SHEAR + GRIND, CHIP + GRIND OR OTHERWISE CUT + FINISH SO THAT MEMBERS PRESENT A FINISHED APPEARANCE + CONFORM TO DIMENSIONS GIVEN ON DRAWING.
END OF ALL ASSEMBLED MEMBERS MUST PRESENT A NEAT APPEARANCE
SHOP PAINT. - See Shop Paint Note on Sheet G266

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 7/16/34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing

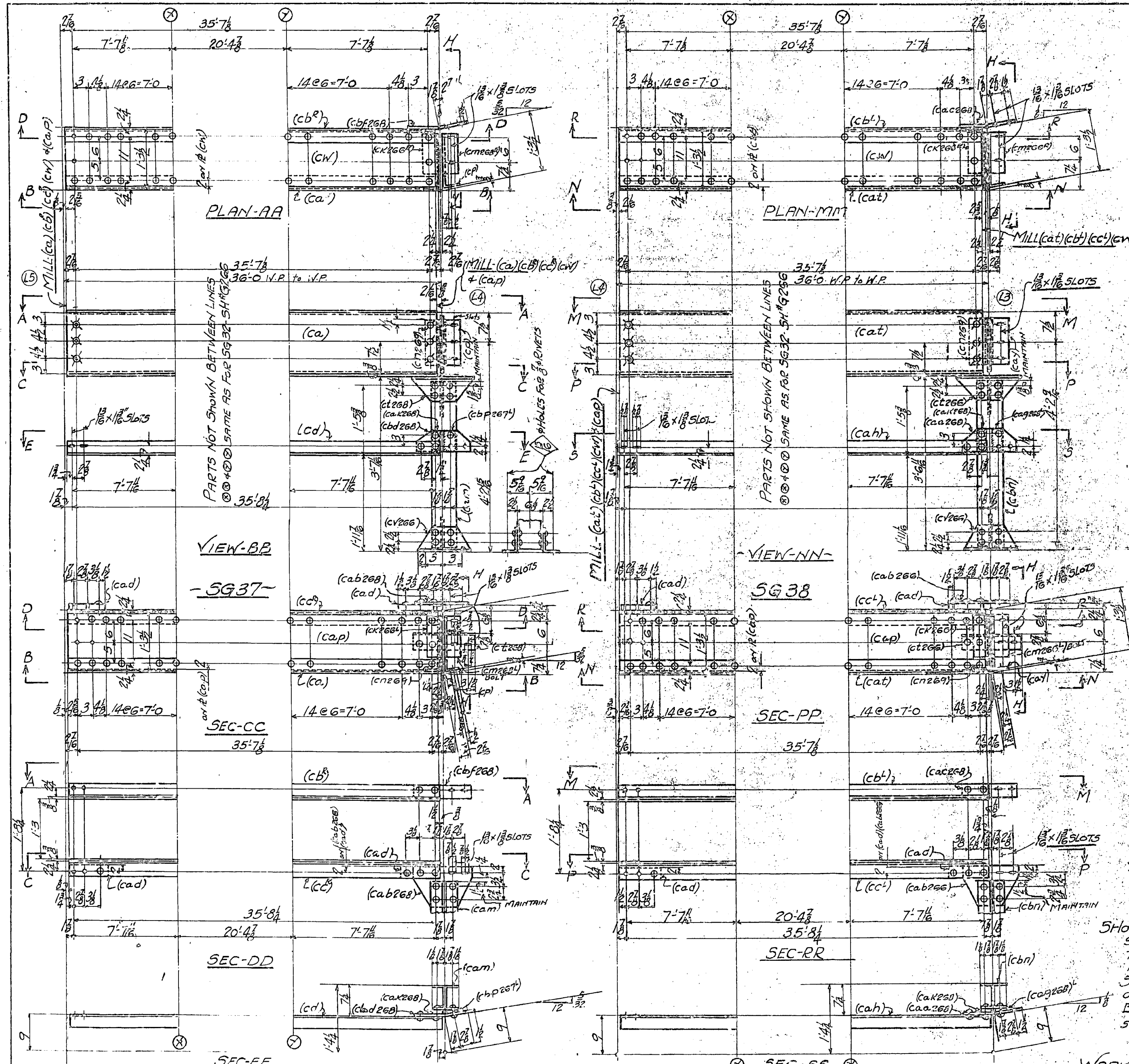
288'0" TRUSS SPANS - PIERS E9 to E23

McCLINTIC - MARSHALL CORPORATION

DRAWING ROOM JUDSON PACIFIC WORKS
IN CHARGE JENC... MADE BY C.O.S. 6-19-34
CHECKED BY H.W.S. 6/22/34 TRACED BY
LAST ASSEM. MK. (cbn)

CONTRACT CG15803 SHEET G 268

30-1



-MATERIAL FOR ONE SKID GIRDER SG37-

1-15"[@33.9# x 35'-11½ (ca) M.2.E.
1-L-3½ x 3½ x ⅜ x 35'-11½ (cb^R) M.2.E.
1-L-3½ x 3½ x ⅜ x 35'-11½ (cc^R) M.2.E
1-L-3½ x 3½ x ⅜ x 35'-11½ (cd) F.2.E.
6-Ls 3½ x 3½ x 5/16 x 0'-11½ (cf266)
12-Ls 3½ x 3 x 5/16 x 0'-11¼ (cg266 R/L)
2-Ls 3½ x 3 x ⅜ x 0'-11¼ (ck266 R/L)
2-Ls 3½ x 3 x ⅜ x 0'-11¼ (cm268 R/L) BOLT (cm268^L)
1-L-3½ x 3 x ⅜ x 0'-11½ (cn269)
1-L-3½ x 3 x ⅜ x 0'-11½ (cp) BENT
3-Ls 6 x 3½ x ⅜ x 1'-1⅞ (cs266)
1-L-6 x 4 x ⅜ x 1'-1⅞ (ct268)
2-Ls 6 x 4 x ⅜ x 0'-10 (cv268)
1-PL-15"UM x ⅜ x 35'-11½ (cw) M.2.E
1-PL-15"UM x ⅜ x 35'-11½ (cap) M.2.E.
3 PLs 14"UM x 5/16 x 1'-2½ (cy266)
1-PL-14 UM x ⅜ x 1'-2½ (cas266)
1-PL 6½ UM x ⅜ x 1'-0½ (cbd268) BENT
1-PL 9½ UM x ⅜ x 1'-0½ (cab268)
1-BAR 3½ UM x ⅜ x 1'-0½ (cbf268) BENT
2-PLs 9"UM x ¾ x 0'-3¼ (cad)
1-BAR 2⅞ x ¾ x 11/16 F.1.5 x 0'-6½ (cbp 267^L)
1-BAR 2⅞ UM x ¾ x 0'-6½ (cak268)
1-6"B.H@23# x 3'-6 (cam)
3-6"B.H@23# x 1'-6¼ (can266)

MATERIAL FOR ONE SKID GIRDER SG38

1-15"[@33.9# x 35'-11½ (cat) M.2.E.
1-L- (cb^L) M.2.E
1-L- (cc^L) M.2.E
1-L-3½ x 3½ x ⅜ x 35'-11½ (cah) F.2.E.
6-Ls (cf266)
12-Ls (cg266 R/L)
2-Ls-(ck266 R/L)
2-Ls 3½ x 3½ x ⅜ x 0'-11¼ (cm266 R/L) BOLT (cm266^L)
1-L-3½ x 3 x ⅜ x 0'-11½ (cay) BENT
1-L-3½ x 3 x ⅜ x 0'-11½ (cn269)
3-Ls (cs266)
1-L-6 x 4 x ⅜ x 1'-1⅞ (ct266)
2-Ls (cv266)
1-PL-15"UM x ⅜ x 35'-11½ (cw) M.2.E
1-PL-15"UM x ⅜ x 35'-11½ (cap) M.2.E.
3-PLs (cy266)
1-PL-(cas266)
1-PL-6½ UM x ⅜ x 1'-0½ (caa268) BENT
1-PL 9½ UM x ⅜ x 1'-0½ (cab266)
1-BAR 3½ UM x ⅜ x 1'-0½ (cac268) BENT
2-PLs 9"UM x ¾ x 0'-3¼ (cad)
1-BAR 2⅞ UM x ¾ x 23/32 F.1.5 x 0'-6½ (cag268)^L
1-BAR 2⅞ UM x ¾ x 0'-6½ (cak268)
1-6"B.H@23# x 3'-5½ (cbn)
3-6"B.H@23# x 1'-6¼ (can266)

Span-9	Span-10	Total No.	Description	Mark	Remarks	Weight each Tons
	1	1	SKID GIRDER	SG37	AS SHOWN	
1		1	SKID GIRDER	SG38	AS SHOWN	
REQ'D. BY SPANS		REQUIRED LIST				

NOTE "A"
ALL FIELD CONNECTIONS TO BE BOLTED EXCEPT WHERE OTHERWISE NOTED

SEE SH# G266 FOR SECTION-HH

SHOP NOTE:-
SHOP TO RIVET RAILING ANGLES (cd) + (cah) + POSTS (cam) + (cbn) TO SKID GIRDER IN SUCH A MANNER THAT THE ANGLE + POST IS SQUARE + TRUE WITH RESPECT TO THE GIRDER.
SHOP TO PUT ALL ERECTION MARKS ON LEFT HAND END OF MEMBER AS DETAILED + IN UPRIGHT POSITION.
ERECTION MARKS TO BE PUT ON WITH BOTH PAINT AND STEEL STENCIL.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: JOHN M. BAILEY
RIVETS: ¾
OPEN HOLES: 13/16 UNLESS NOTED SEE NOTE "A"
PUNCHING: ALL HOLES FOR SHOP OR FIELD RIVETS IN MATERIAL ⅝ THICK OR LESS MAY BE PUNCHED FULL SIZE.
FINISH: ALL SHEARED OR FLAME CUT EDGES + ENDS OF MATERIAL TO HAVE A NEAT APPEARANCE + WHERE DESIGNATED F.S, F2E, ETC, SHOP MUST SHEAR + GRIND, CHIP + GRIND OR OTHERWISE CUT + FINISH SO THAT MEMBERS PRESENT A FINISHED APPEARANCE + CONFORM TO DIMENSIONS GIVEN ON DRAWING.
END OF ALL ASSEMBLED MEMBERS MUST PRESENT A NEAT APPEARANCE
SHOP PAINT: SEE PAINT NOTE ON SHEET G266

Date	Revision	App'd

APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date 7/16/34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing

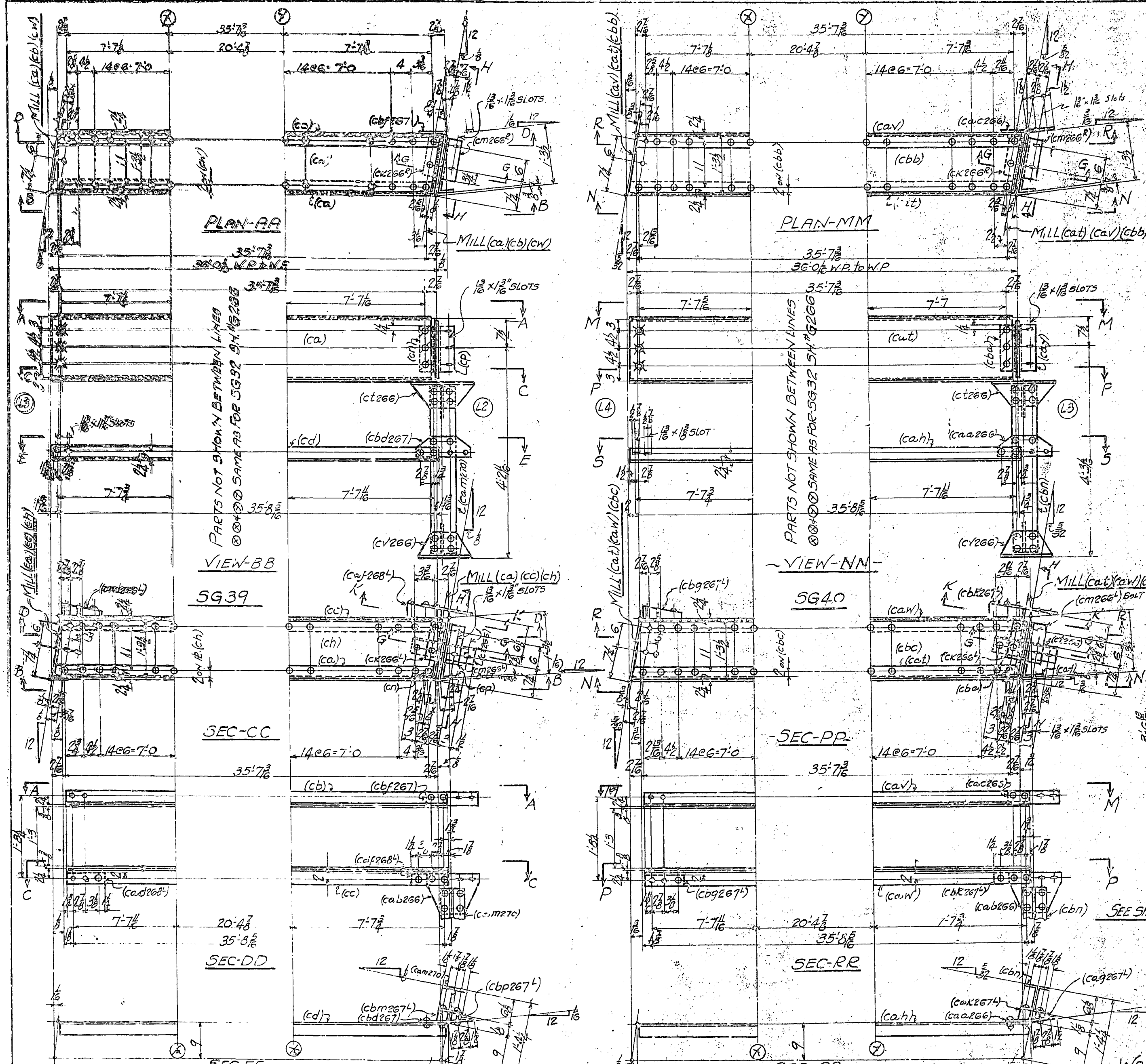
288'0" TRUSS SPANS PIERS E9 to E23

McCLINTIC - MARSHALL CORPORATION
CHICAGO DRAWING ROOM JUDSON PACIFIC WORKS
IN CHARGE JENKS MADE BY C.O.S. - 6-21-34
CHECKED BY H.W.S 6/27/34 TRACED BY
LAST ASSEM. MK. (cbn)

WORK THIS SHEET WITH SH# G266 - G268 - G267 + G273 + G274

CONTRACT CC15803 SHEET G 269

30-1

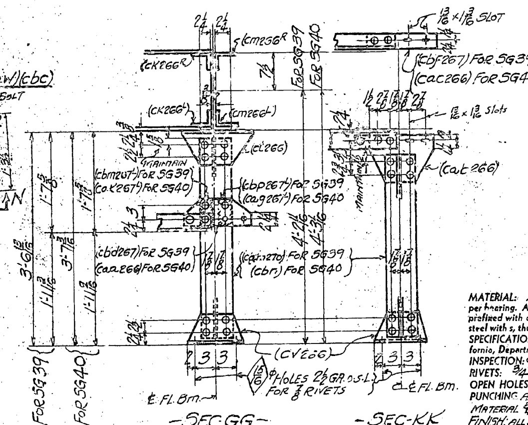


MATERIAL FOR ONE SKID GIRDER SG39

- 1-15"[@ 33.9# × 35'-11 13/16 (ca) M.2.E
- 1-L-3½ × 3½ × 3/8 × 35'-11 13/16 (cb) M.2.E
- 1-L-3½ × 3½ × 3/8 × 35'-11 13/16 (cc) M.2.E
- 1-L-3½ × 3½ × 3/8 × 35'-11 13/16 (cd) F.2.E
- 6-Ls 3½ × 3 × 5/16 × 0'-11½ (cf266)
- 12-Ls 3½ × 3 × 5/16 × 0'-11¼ (cg266 R/L)
- 2-Ls 3½ × 3 × 3/8 × 0'-11¼ (ck266 R/L)
- 2-Ls 3½ × 3 × 3/8 × 0'-11¼ (cm266 R/L) BOLT (cm266 L)
- 1-L-3½ × 3 × 3/8 × 0'-11½ (cn) BENT
- 1-L-3½ × 3 × 3/8 × 0'-11½ (cp) BENT
- 3-Ls 6 × 3½ × 3/8 × 1'-1 7/8 (cs266)
- 1-L-6 × 4 × 3/8 × 1'-1 7/8 (ct266)
- 2-Ls 6 × 4 × 3/8 × 0'-10 (cv266)
- 1-PL 15" UM × 3/8 × 35'-11 15/16 (cw) M.2.E.
- 1-PL-15" UM × 3/8 × 35'-11 15/16 (ch) M.2.E
- 3-PLs 14" UM × 5/16 × 1'-2½ (cy266)
- 1-PL-14" UM × 3/8 × 1'-2½ (cas266)
- 1-PL-6½ UM × 3/8 × 1'-0½ (cbd267) BENT
- 1-PL-9½ UM × 3/8 × 1'-0½ (cab266)
- 1-BAR 3½ UM × 3/8 × 1'-0½ (cbf267) BENT
- 1-PL-9" UM × 3/4 × 21/32 F.1.S × 3¼ (cad268 L)
- 1-PL-9" UM × 3/4 × 27/32 F.1.S × 3¼ (caf268 L)
- 1-BAR 2 7/8 UM × 3/4 × 11/16 F.1.S × 6½ (cbp267 L)
- 1-BAR 2 7/8 UM × 3/4 × 25/32 F.1.S × 6½ (cbm267 L)
- 1-6" B.H @ 23# × 3'-5¾ (cam270)
- 3-6" B.H @ 23# × 1'-6¼ (can266)

MATERIAL FOR ONE SKID GIRDER SG40

- 1-15"[@ 33.9# × 35'-11 5/8 (cat) M.2.E
- 1-L-3½ × 3½ × 3/8 × 35'-11 5/8 (cav) M.2.E
- 1-L-3½ × 3½ × 3/8 × 35'-11 5/8 (caw) M.2.E
- 1-L-3½ × 3½ × 3/8 × 35'-11 9/16 (cah) F.2.E
- 6-Ls (cf266)
- 12-Ls (cg266 R/L)
- 2-Ls (ck266 R/L)
- 2-Ls (cm266 R/L) BOLT (cm266 L)
- 1-L-3½ × 3 × 3/8 × 0'-11½ (cay) BENT
- 1-L-3½ × 3 × 3/8 × 0'-11½ (cba) (BENT
- 3-Ls (cs266)
- 1-L-(ct266)
- 2-Ls (cv266)
- 1-PL-15" UM × 3/8 × 35'-11¾ (cbb) M.2.E
- 1-PL-15" UM × 3/8 × 35'-11¾ (cbc) M.2.E
- 3-PLs (cy266)
- 1-PL-(cas266)
- 1-PL-6½ UM × 3/8 × 1'-0½ (caa266) BENT
- 1-PL-9½ UM × 3/8 × 1'-0½ (cab266)
- 1-BAR 3½ UM × 3/8 × 1'-0½ (cac266) BENT
- 1-PL 9" UM × 3/4 × 7/8 F.1.S × 3¼ (cbk267 L)
- 1-PL-9" UM × 3/4 × 5/8 F.1.S. × 3¼ (cbg267 L)
- 1-BAR 2 7/8 UM × 3/4 × 21/32 F.1.S × 6½ (cag267 L)
- 1-BAR 2 7/8 UM × 3/4 × 13/16 F.1.S × 6½ (cak267 L)
- 1-6" B.H @ 23# × 3'-6. (cbn)
- 3-6 B.H @ 23# × 1'-6¼ (can266)



SPAN-9	SPAN-10	TOTAL No.	Description	Mark	Remarks	Weight each Tons
1		1	SKID GIRDER	SG39	AS SHOWN	
	1	1	SKID GIRDER	SG40	AS SHOWN	
REQ'D. BY SPANS		REQUIRED LIST				

SEE SH. #G266 FOR SEC-HH

NOTE "A"
ALL FIELD CONNECTIONS TO BE BOLTED UNLESS OTHERWISE NOTED.

SHOP NOTE:-
SHOP TO RIVET RAILING ANGLES (cd) & (cah) & POSTS (cam) & (cbn) TO SKID GIRDER IN SUCH A MANNER THAT THE ANGLE & POST IS SQUARE & TRUE WITH RESPECT TO THE GIRDER. SHOP TO PUT ALL ERECTION MARKS ON LEFT HAND OF MEMBERS AS DETAILED & IN UPRIGHT POSITION. Erection Marks to be put on with both paint and steel stencil.

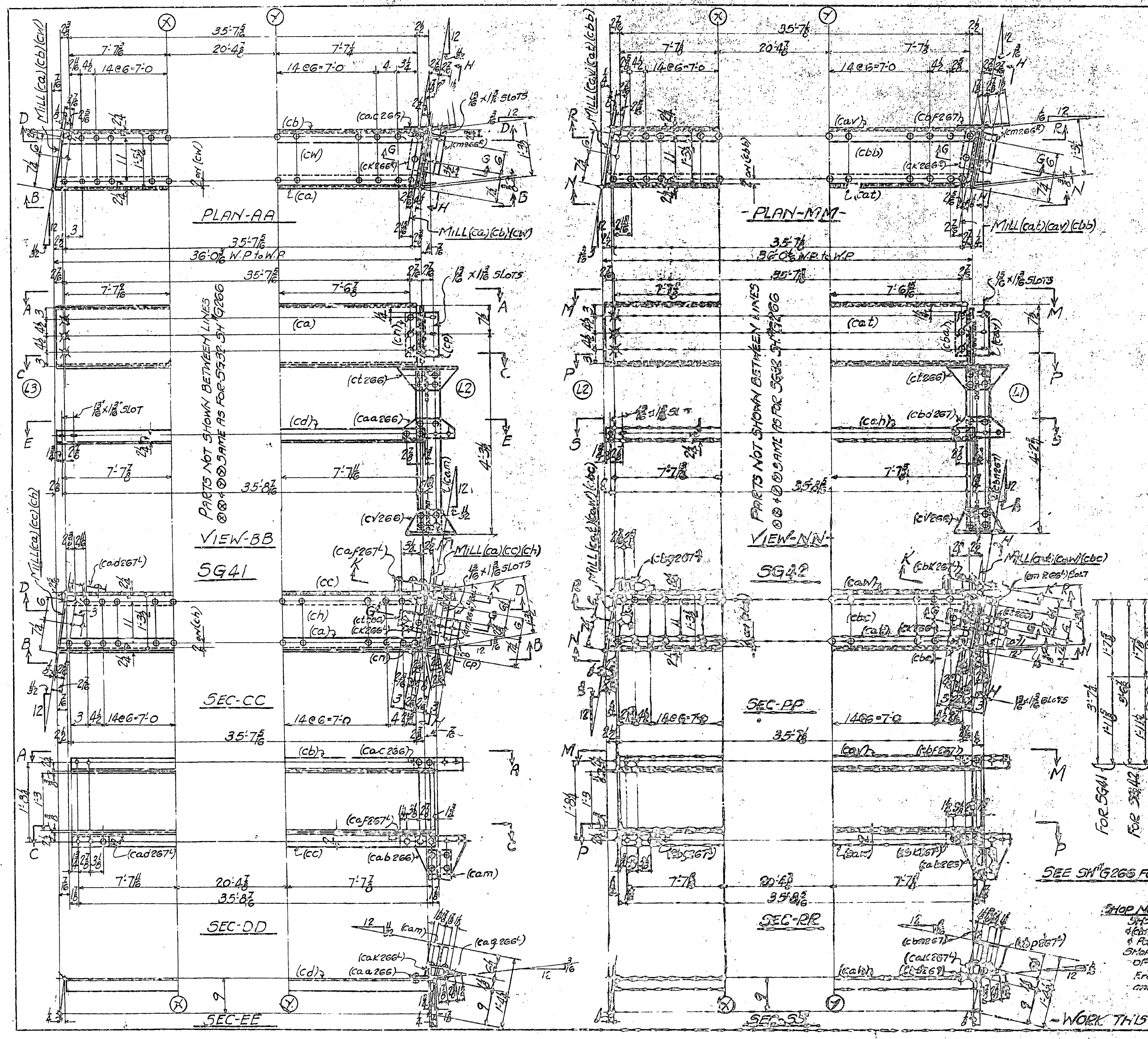
WORK THIS SHEET WITH SH's #G266-G267 & G268 & G273

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: JOHN M. BAILEY
RIVETS: 3/4" φ
OPEN HOLES: 13/16" φ UNLESS NOTED SEE NOTE "A"
PUNCHING: ALL HOLES FOR SHOP & FIELD RIVETS IN MATERIAL 3/4" THICK OR LESS MAY BE PUNCHED FULL SIZE.
FINISH: ALL SHEARED OR FLAME CUT EDGES & ENDS OF MATERIAL TO HAVE A NEAT APPEARANCE & WHERE DESIGNATED F.1.S. & F.2.E., ETC. SHOP MUST SHEAR & GRIND, CHIP & GRIND OR OTHERWISE CUT & FINISH SO THAT MEMBERS PRESENT A FINISHED APPEARANCE & CONFORM TO DIMENSIONS GIVEN ON DRAWING.
ENDS OF ALL ASSEMBLED MEMBERS MUST PRESENT A NEAT APPEARANCE.
SHOP PAINT: See Paint Note on Sheet G266.

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 7/16/34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" TRUSS SPANS - PIERS - E9 TO E23
McCLINTIC - MARSHALL CORPORATION
CHICAGO DRAWING ROOM JUDSON PACIFIC WORKS
IN CHARGE JENKS MADE BY C.O.S. 6-25-34
CHECKED BY H.W.S. 6/27/34 TRACED BY
LAST ASSEM. MK. (cbn)
CONTRACT CG15603 SHEET G 270

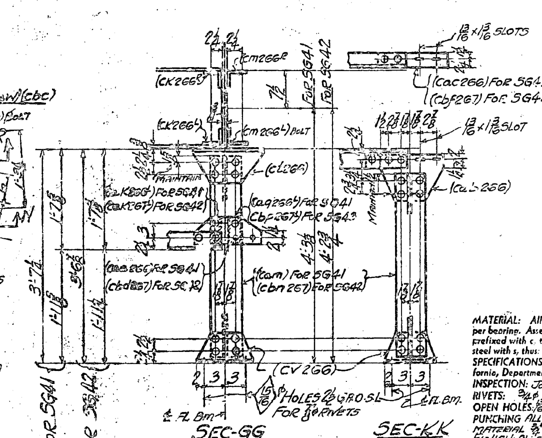


MATERIAL FOR ONE SKID GIRDER SG41

- 1-15"[@33.9# × 36'-0 1/16 (ca) M.2.E.
- 1-L-3½ × 3½ × 3/8 × 36'-0 1/16 (cb) M.2.E.
- 1-L-3½ × 3½ × 3/8 × 36'-0 1/16 (cc) M.2.E.
- 1-L-3½ × 3½ × 3/8 × 35'-11 15/16 (cd) F.2.E.
- 6-Ls 3½ × 3 × 5/16 × 0'-11½ (cf266)
- 12-Ls 3½ × 3 × 5/16 × 0'-11¼ (cg266 R/L)
- 2-Ls 3½ × 3 × 3/8 × 0'-11¼ (ck266 R/L)
- 2-Ls 3½ × 3 × 3/8 × 0'-11¼ (cm266 R/L)(BOLT (cm266 L)
- 1-L-3½ × 3 × 3/8 × 0'-11½ (cn) BENT
- 1-L-3½ × 3 × 3/8 × 0'-11½ (cp) BENT
- 3-Ls 6 × 3½ × 3/8 × 1'-1 7/8 (cs266)
- 1-L-6 × 4 × 3/8 × 1'-1 3/8 (ct266)
- 2-Ls 6 × 4 × 3/8 × 0'-10 (cv266)
- 1-PL-15"UM × 3/8 × 36'-0 3/8 (cw) M.2.E.
- 1-PL-15"UM × 3/8 × 36'-0 3/8 (ch) M.2.E
- 3-PLs 14"UM × 7/16 × 1'-2½ (cy266)
- 1-PL-14"UM × 3/8 × 1'-2½ (cas266)
- 1-PL-6½UM × 3/8 × 1'-0½ (caa266) BENT
- 1-PL-9½UM × 3/8 × 1'-0½ (cab266)
- 1-BAR 3½UM × 3/8 × 1'-0½ (cac266) BENT
- 1-PL-9"UM × 3/4 × 1/2 F.1.S × 3¼ (cad267 L)
- 1-PL 9"UM × 3/4 × 1 F.1.S × 3¼ (caf267 L)
- 1-BAR 2 7/8 UM × 3/4 × 5/8 F.1.S × 6½ (cag266 L)
- 1-BAR 2 7/8 UM × 3/4 × 27/32 F.1.S × 6½ (cak266 L)
- 1-6" B.H @ 23# × 3'-6" (cam)
- 3-6" B.H @ 23# × 1'-6¼ (can266)

MATERIAL FOR ONE SKID GIRDER SG42

- 1-15"[@33.9# × 35'-11 7/8 (cat) M.2.E.
- 1-L-3½ × 3½ × 3/8 × 35'-11 7/8 (cav) M.2.E.
- 1-L-3½ × 3½ × 3/8 × 35'-11 7/8 (caw) M.2.E.
- 1-L-3½ × 3½ × 3/8 × 35'-11 13/16 (cah) F.2.E.
- 6-Ls (cf266)
- 12-Ls (cg266 R/L)
- 2-Ls (ck266 R/L)
- 2-Ls (cm266 R/L)(BOLT (cm266 L)
- 1-L-3½ × 3 × 3/8 × 0'-11½ (cay) BENT
- 1-L-3½ × 3 × 3/8 × 0'-11½ (cba) BENT
- 3-Ls (cs266)
- 1-L-(ct266)
- 2-Ls (cv266)
- 1-PL 15"UM × 3/8 × 36'-0 1/16 (cbb) M.2.E.
- 1-PL-15"UM × 3/8 × 36'-0 1/16 (cbc) M.2.E
- 3-PLs (cy266)
- 1-PL (cas266)
- 1-PL 6½UM × 3/8 × 1'-0½ (cbd267) BENT
- 1-PL (cab266)
- 1-BAR 3½UM × 3/8 × 1'-0½ (cbf267) BENT
- 1-PL-9"UM × 3/4 × 5/8 F.1.S × 3¼ (cbg267 L)
- 1-PL 9"UM × 3/4 × 7/8 F.1.S × 3¼ (cbk267 L)
- 1-BAR 2 7/8 UM × 3/4 × 13/16 F.1.S × 6½ (cak267 L)
- 1-BAR 2 7/8 UM × 3/4 × 11/16 F.1.S × 6½ (cbp267 L)
- 1-6" B.H @ 23# × 3'-5 3/4 (cbn257)
- 3-6" B.H @ 23# × 1'-6¼ (can266)



SEE SH# G268 FOR SEC-HH

NOTE "A"
ALL FIELD CONNECTIONS TO BE BOLTED UNLESS OTHERWISE NOTED

SHOP NOTE:-
SHOP TO RIVET BAILING ANGLES (cd) & (cah) & POSTS (cam) & (cbn257) TO SKID GIRDER IN SUCH A MANNER THAT THE ANGLE & POST IS SQUARE & TRUE WITH RESPECT TO THE GIRDER. SHOP TO PUT ALL ERECTION MARKS ON LEFT HAND OF MEMBERS AS DETAILED & IN UPRIGHT POSITION.
Erection Marks to be put on with both paint and Steel Stencil.

SPAN-9	SPAN-10	TOTAL No.	Description	Mark	Remarks	Weight each Tons
	1	1	SKID GIRDER	SG41	AS SHOWN	
1		1	SKID GIRDER	SG42	AS SHOWN	
REQ'D BY SPANS		REQUIRED LIST				

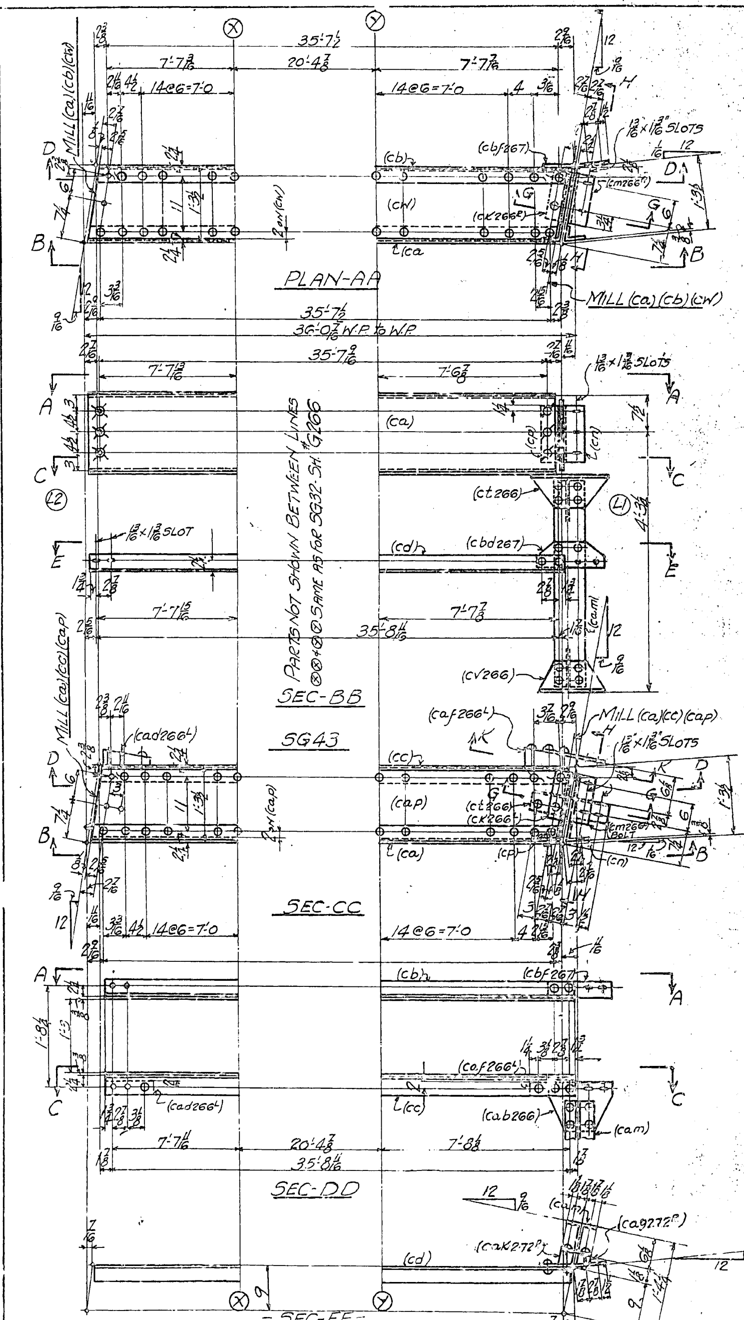
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: JOHN M. BAILEY
RIVETS: 3/4 Ø
OPEN HOLES: 13/16 Ø UNLESS NOTED SEE NOTE "A"
PUNCHING ALL HOLES FOR SHOP & FIELD RIVETS IN MATERIAL 3/4" THICK OR LESS MAY BE PUNCHED FULL SIZE
FINISH: ALL SHEARED OR FLAME CUT EDGES & ENDS OF MATERIAL TO HAVE A NEAT APPEARANCE & WHERE DESIGNATED F.I.W, F.2.E. ETC, SHOP MUST SHEAR & GRIND, CHIP & GRIND OR OTHERWISE CUT & FINISH SO THAT MEMBERS PRESENT A FINISHED APPEARANCE & CONFORM TO DIMENSIONS GIVEN ON DRAWING. END OF ALL ASSEMBLED MEMBERS MUST PRESENT A NEAT APPEARANCE
SHOP PAINT: See Paint Note on Sheet G266

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 7/16/34

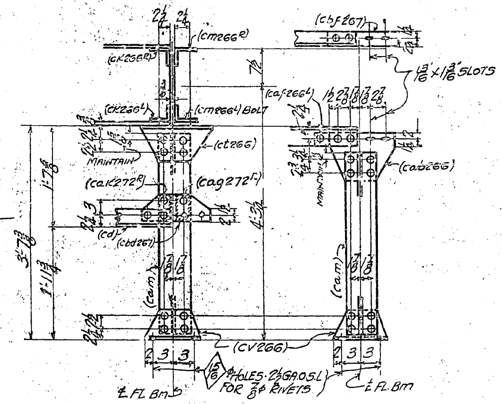
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 TRUSS SPANS - PIERS E9 to E23
McCLINTIC-MARSHALL CORPORATION
CHICAGO DRAWING ROOM JUDSON PACIFIC WORKS
IN CHARGE JENKS MADE BY C.O.S 6-26-34
CHECKED BY H.W.S. 6/27/34 TRACED BY
LAST ASSEM. MK. (cbk
CONTRACT CG15803 SHEET G 271

30-1



MATERIAL FOR ONE SKID GIRDER SG43

1-15" [@ 33.9# × 36'-0 3/8 (ca) M.2.E
1-L-3 1/2 × 3 1/2 × 3/8 × 36'-0 3/8 (cb) M.2.E
1-L-3 1/2 × 3 1/2 × 3/8 × 36'-0 3/8 (cc) M.2.E
1-L-3 1/2 × 3 1/2 × 3/8 × 36'-0 3/16 (cd) F.2.E
6-Ls 3 1/2 × 3 × 5/16 × 0'-11 1/2 (cf266)
12-Ls 3 1/2 × 3 × 5/16 × 0'-11 1/4 (cg266 R/L)
2-Ls 3 1/2 × 3 × 3/8 × 0'-11 1/4 (ck266 R/L)
2-Ls 3 1/2 × 3 × 3/8 × 0'-11 1/4 (cm266 R/L) (BOLT (cm266 L)
1-L-3 1/2 × 3 × 3/8 × 0'-11 1/2 (cn) BENT
1-L-3 1/2 × 3 × 3/8 × 0'-11 1/2 (cp) BENT
3-Ls 6 × 3 1/2 × 3/8 × 1'-1 7/8 (cs266)
1-L 6 × 4 × 3/8 × 1'-1 7/8 (ct266)
2-Ls 6 × 4 × 3/8 × 0'-10 (cv266)
1-PL-15" UM × 3/8 × 36'-0 13/16 (cw) M.2.E.
1-PL 15" UM × 3/8 × 36'-0 13/16 (cap) M.2.E
3-PLs 14" UM × 5/16 × 1'-2 1/2 (cy266)
1-PL-14" UM × 3/8 × 1'-2 1/2 (cas266)
1-BAR 3 1/2 UM × 3/8 × 1'-0 1/2 (cbf267) BENT
1-PL-9 1/2 UM × 3/8 × 1'-0 1/2 (cab266)
1-PL-6 1/2 UM × 3/8 × 1'-0 1/2 (cbd267) BENT
1-PL-9" UM × 3/4 × 5/16 F.1.S × 3 1/4 (cad266L)
1-PL 9" UM × 3/4 × 1 3/16 F.1.S × 3 1/4 (caf266L)
1-BAR-2 7/8 UM × 3/4 × 7/8 F.1.S × 6 1/2 (cak272R)
1-BAR 2 7/8 UM × 3/4 × 19/32 F.1.S × 6 1/2 (cag272R)
1-6" S.H. @ 23# × 3'-6 1/4 (cam)
3-6" B.H. @ 23# × 1'-6 1/4 (can266)



SEC GG SEC KK

SEE SHEET-G266-FOR SEC-HH

1	1	SKID GIRDER	SG43	AS SHOWN	
SPAN 10	TOTAL No.	Description	Mark	Remarks	Weight each Tons
REQD BY SPAN	REQUIRED LIST				

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: JOHN M. BAILEY
RIVETS: 3/4 ⌀
OPEN HOLES: 13/16 ⌀ UNLESS NOTED SEE NOTE "A"
PUNCHING: ALL HOLES FOR SHOP & FIELD RIVETS IN MATERIAL 3/4" THICK OR LESS MAY BE PUNCHED FULL SIZE.
FINISH: ALL SHEARED OR FLAME CUT EDGES & ENDS OF MATERIAL TO HAVE A NEAT APPEARANCE & WHERE DESIGNATED F.1.S, F.2.E, ETC., SHOP MUST SHEAR & GRIND, CHIP & GRIND OR OTHERWISE CUT & FINISH SO THAT MEMBERS PRESENT A FINISHED APPEARANCE & CONFORM TO DIMENSIONS GIVEN ON DRAWING.
ENDS OF ALL ASSEMBLED MEMBERS MUST PRESENT A NEAT APPEARANCE
SHOP PAINT: See Paint Note on Sheet G266.

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 7/16/'34

NOTE "A"
ALL FIELD CONNECTIONS BE BOLTED UNLESS OTHERWISE NOTED

SHOP NOTE:-
SHOP TO RIVET RAILING ANGLE (cd) & POST (cam) TO SKID GIRDER IN SUCH A MANNER THAT THE ANGLE & POST IS SQUARE & TRUE WITH RESPECT TO THE GIRDER
SHOP TO PUT ALL ERECTION MARKS ON LEFT HAND CO MEMBERS AS DETAILED & IN UPRIGHT POSITION
Erection Marks to be put on with both paint and steel stencil.

WORK THIS SHEET WITH SH #G266, G267 & G276.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0" TRUSS SPANS - PIERS E9 TO E23
McCLINTIC-MARSHALL CORPORATION
CHICAGO DRAWING ROOM JUDSON PACIFIC WORKS
IN CHARGE JENKS MADE BY C.O.S-6-27-34
CHECKED BY H.W.S 6/27/34 TRACED BY
LAST ASSEM. MK. (cam)
CONTRACT CG15803 SHEET G 272

30-1

TOP VIEW A-A

VIEW B-B

SECTION C-C

SECTION D-D

SECTION E-E

SECTION F-F

SECTION G-G

SECTION H-H

SECTION J-J

SECTION K-K

SECTION M-M

SECTION N-N

SECTION P-P

For Sections F-F & H-H See Sht. G266

MATERIAL FOR ONE SKID GIRDER

1-15" C 33.9 × 37'-10½" M2E	(ca)
1 L 3½ × 3½ × ⅜ × 37'-11½ Bent - M2E	(cb)
1 L 3½ × 3½ × ⅜ × 37'-10½ Bent - M2E	(cc)
1-15" C 33.9 × 37'-10½ Bent - M2E	(cd)
1-15" C 33.9 × 37'-10½ M2E -	(cf)
1 L 3½ × 3½ × ⅜ × 37'-10½ Bent. F2E	(cg)
1 L 6 × 6 × ½ × 1'-10½	(ch)
2 Fills 6" FIN × ½ × 1'-8	(ck)
2 Rds 22½ × ¾ × 1'-0½ Bent F2E	(cm) Mild Steel
1-R 72½ × ¾ × 1'-9 Bent	(cn) " "
1 Pill - 6" Fin × ⅝ × 7'-8	(cp)
2 L 3½ × 3½ × ⅜ × 10'-11½	(cs)
1-[16" U M1 × ½ × 11½	(ct)
2 L 3½ × 3 × ⅜ × 10'-11½	(cm 269)
6 L 3½ × 3½ × ⅜ × 0'-11½	(cz 266)
2-[16" U M1 × ⅝ × 12'-3	(cas 266)
1 G - B.H. @ 23" × 3'-5½	(cab)
1 L 6 × 3½ × ½ × 6'-8	(coc)
1-R 6½ × ¾ × 1'-10½	(cad)
1 L 3½ × 3½ × ⅜ × 6'-11½	(cv) Bent
1 L 3½ × 3½ × ⅜ × 0'-11½	(cv)
2-Fills - 6 UM × ½ × 10'-10	(cas) Bolt for Shim.
8 Fills - 6 UM × ⅜ × 0'-10	(can)
1-R ⅞ UM × ½ × 1'-0½	(cae)
6 L 3½ × 3½ × ½ × 10'-11½	(cf 266)
12 L 3½ × 3½ × ½ × 0'-11½	(cy 266)
3½ L 3½ × 3½ × ½ × 11'-11½	(cs 266)
3-[15" - 16 UM × ½ × 11'-11½	(cy 266)
3 G - B.H. @ 23" × 11'-6½	(can 266)
1 Bar - 3½ UM × ½ × 1'-10½ Bent	(cbf 267)
1-R ⅞ UM × ½ × 1'-0½	(cab 266)
1 Pill 12" UM × ⅝ × ⅜ FIS × 3¼	(cap 273)
1 G - B.H. @ 23" × 3'-5½	(cam 270)
1 L 6 × 6 × ½ × 11'-11½	(ce 266)
1-R 6½ UM × ½ × 1'-0½ Bent	(cbd 267)
1 Bar 2¾ UM × ½ × FIS × 6½	(cbp 267)
1 Bar 2¾ UM × ½ × FIS × 6½	(cab 267)
4 L 3½ × 3½ × ½ × 0'-10	(cae 273)
2 L 3½ × 3½ × ½ × 0'-11½	(cm 266) ⅞ bolt (cm 266)

Shop Note:
Shop to put all Erection Marks on Left Hand end of Members as Detailed and in upright position. Shop to mark Railing (cn) & Post Assy (cam 270) & Skid Girder in such a manner that the angle and post is square and true with respect to the Girder. Erection Marks are to be put on with both paint and steel stencil.

Span No.	Total No.	Description	Mark	Remarks	Weight Each Span
One	One	Skid Girder	SG44	As Shown	
Required for Spans	REQUIRED LIST				

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John H. Bailey
RIVETS: ⅞" ϕ
OPEN HOLES: ⅛" "Unless Noted - See Note A"
PUNCHING: All holes for Shop & Field Rivets in Material 5/8" Thick or less may be punched full size.
Finish: All Sheared or Flame-cut edges and ends of Material to have a neat appearance, and where designated Fin., Etc. etc. Shop must mill at Shear & grind, Chip and Grind, or otherwise cut & finish to clean members present a finished appearance, and Conform to dimensions shown on drawings. Ends of all assembled members must present a neat appearance.
Shop Paint: See Paint Note on Sheet G266

Note "A"
All field Connections to be bolted except as noted in Sections H-H, P-P and N-N.

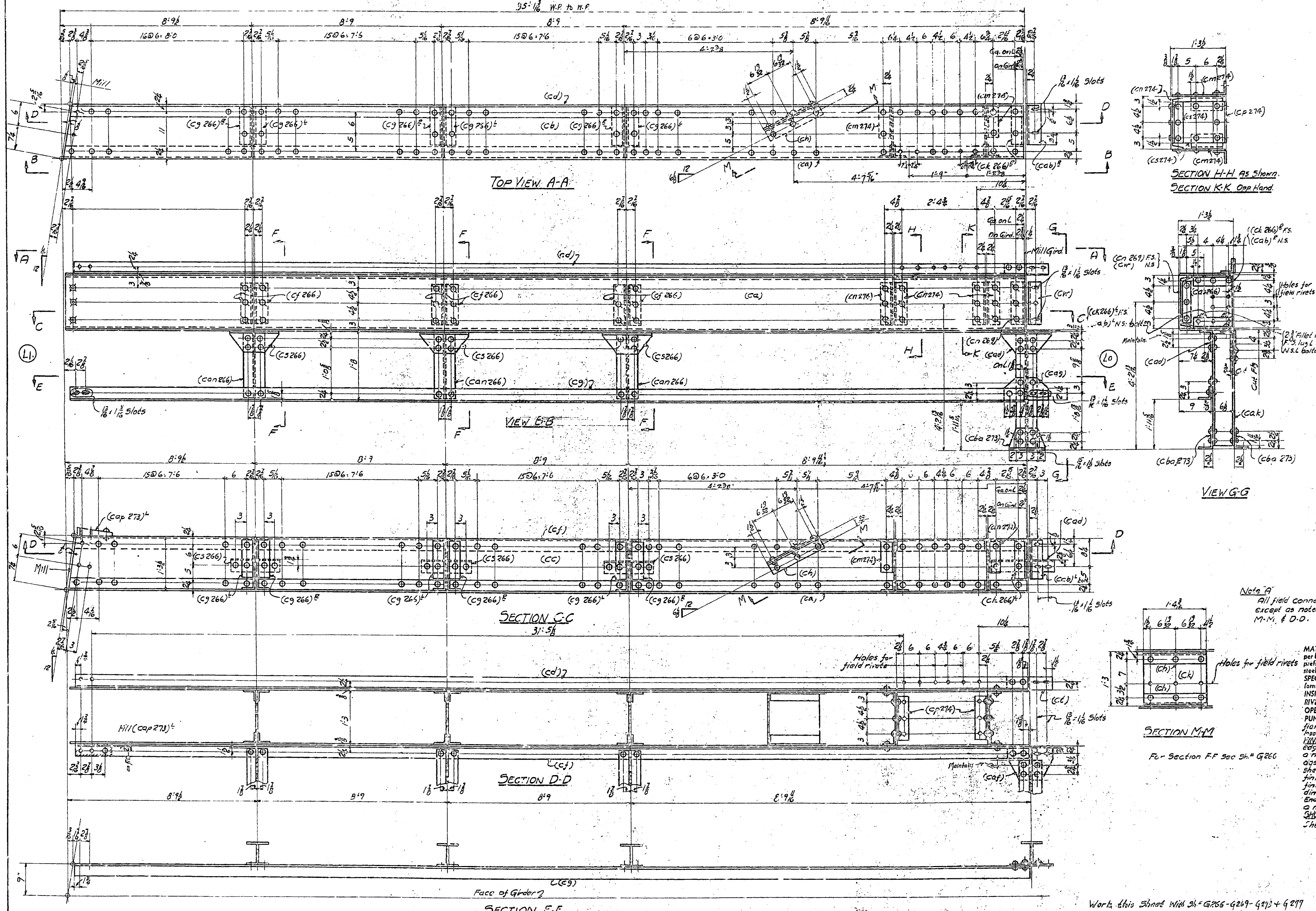
Date	Revision	App'd
APPROVED		
Engineer of Design		
Bridge Engineer		
Chief Engineer		
Date 7/16/49		

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0 Truss Span - Piers E7 to E23
ATLANTIC - MARSHALL CORPORATION
Chicago
DRAWING ROOM - Pittsburg Pacific WORKS
IN CHARGE Jenks DRAWN BY E.P. 6-30-36
CHECKED BY AWS 7-21-36 TRACED BY V.R. 8-25-36
LAST ASSIGN. NO. (Cba)

WORK THIS SHEET WITH Sht° G256-G267-G269 & G270

CONTRACT CG15003 SHEET G 213

30-1



MATERIAL FOR ONE SKID GIRDER

1-15"[@ 33.9# x 35'-0 13/16 (ca) M2E
1-PL. 15" UM x 3/8 x 35'-0 13/16 (cb) M2E
1-PL. 15" UM x 3/8 x 35'-0 13/16 (cc) M2E
1-L 3½ x 3½ x 3/8 x 35'-0 9/16 (cd) M2E
1-L 3½ x 3½ x 7/8 x 35'-0 9/16 (cf) M2E
1-L 3½ x 3½ x 3/8 x 35'-0 5/8 (cg) F2E
1-PL. 9" UM x ¾ x 9/16 F15 x 3¼ (cap 273)[L]
6-Ls 3½ x 3 x 5/16 x 0'-11½ (cf 266)
12-Ls 3½ x 3 x 5/16 x 0'-11¼ (cg 266)[R/L]
3-PLs. 14 UM x 5/16 x 1'-2½ (cy 266)
3-Ls 6 x 3½ x 3/8 x 1'-1 1/8 (cs 266)
3-6" BH @ 23# x 1'-6¼ (can 266)
2-Ls 3½ x 3½ x 3/8 x 1'-4 3/16 (ch)
1-PL. 14" UM x 7/8 x 1'-4 3/16 (ck)
4-Ls 4 x 3½ x 7/8 x 0'-9 (cm 274)
4-Ls 3½ x 3 x 3/8 x 1'-0 (cn 274)
2-Ls 3½ x 3½ x 7/8 x 1'-0 (cp 274)
2-PLs. 12" UM x 7/8 x 1'-2 (cs 274)
1-Bar 3½ UM x 7/8 x 1'-0½ (ct)
1-L 3½ x 3 x 3/8 x 0'-11½ (cn 269)
1-L 3½ x 3 x 7/8 x 0'-11½ (cw)
2-Ls 3½ x 3 x 3/8 x 0'-11¼ (ck 266)[R/L]
2-Ls 3½ x 3 x 7/8 x 0'-11¼ (cab)[R/L] bolt (cab)[L]
1-PL. 14" UM x 7/8 x 1'-2½ (cas 266)
1-L 6 x 3½ x 3/8 x 1'-1 1/8 (cad)
1-PL. 7½ UM x 5/8 x 1'-0½ (caf)
1-PL. 6½ UM x 7/8 x 1'-0½ (cag)
2-Ls 6 x 4 x 7/8 x 0'-10 (cba 273)
1-6" BH x 23# x 3'-5¾ (cak)

Shop Note:
Shop to put all Erection Marks on Left Hand end of Members as Detailed and in an Upright position. Shop to rivet Railing (cg) & Post (cak) to Skid Girder in such a manner that the Angle and Post is square and true with respect to the Girder. Erection Marks are to be put on with both paint and Steel Stencil.

One	One	Skid Girder	SG45	As Shown	
Span 9	Total No.	Description	Mark	Remarks	Weight each Tons
Required By Spans	REQUIRED LIST				

Note "A"
All field connections to be bolted except as noted in Sections G-G, M-M & D-D.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: ¾"
OPEN HOLES: 13/16" Unless Noted. See Note "A"
PUNCHING: All holes for shop and field rivets in material ¾" thick or less may be punched full size.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance, and where designated F1S, F2E, etc. Shop must shear & grind, chip & grind, or otherwise finish so that members present a finished appearance and conform to dimensions given on drawings. Ends of assembled members must present a neat appearance.
SHOP PAINT: See Paint Note on Sheet G266

Date	Revision	App'd

APPROVED

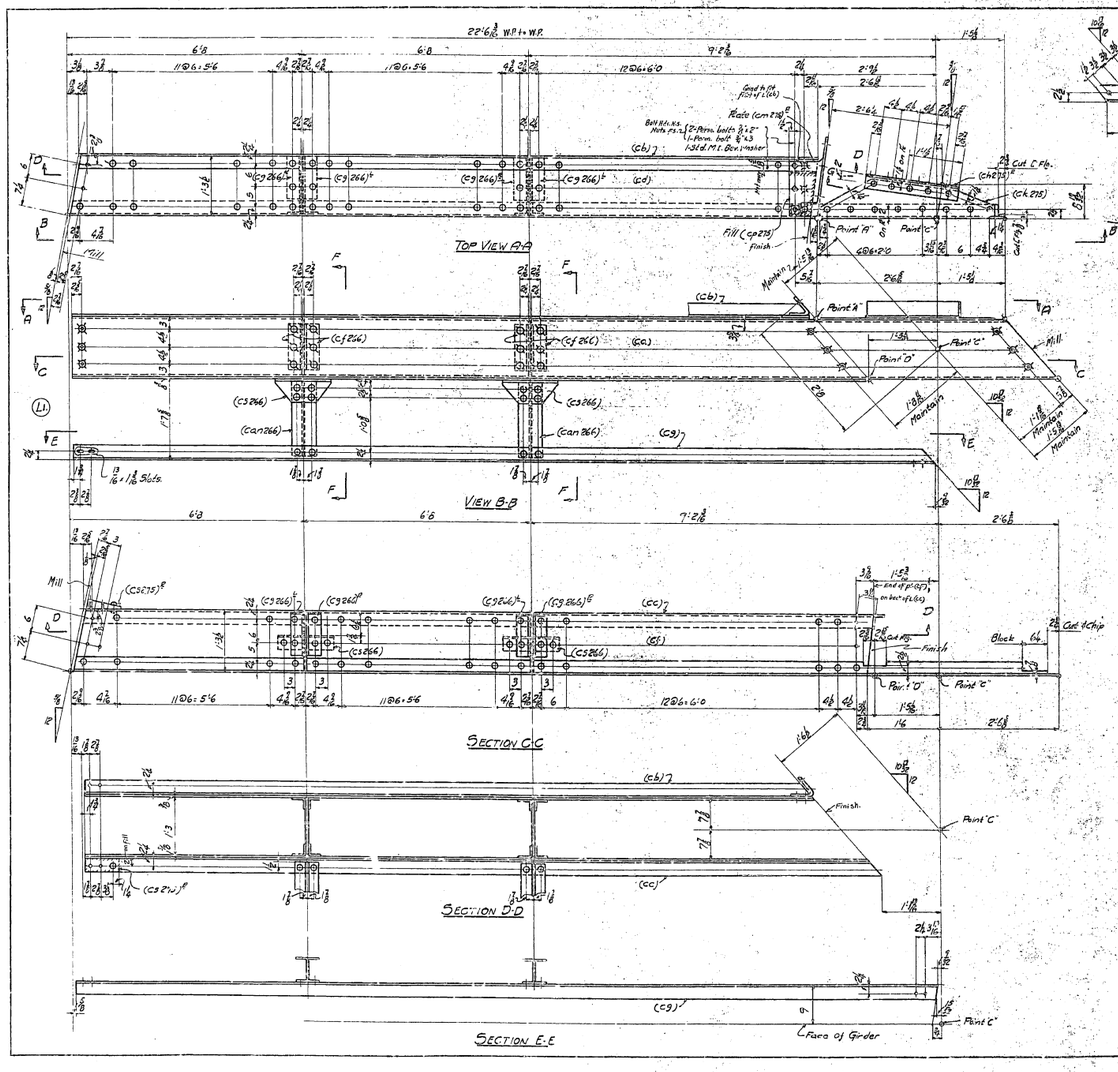
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 7/2/34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Span - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Judson Pacific WORKS
CHARGE Jenks MADE BY E.J.T. 6-25-34
CHECKED BY A.W.S. 7/2/34 TRACED BY V.E.A. 6-28-34
LAST ASSEM. MK. (C...)

CONTRACT CG15803 SHEET G 274

30-1



MATERIAL FOR ONE SKID GIRDER

1-15"C@33.9# x 25'-0 3/8" (ca) M2E
1-L 3 1/2 x 3 1/2 x 7/16 x 19'-10 5/8" (cb) M1E-F1E.
1-L 3 1/2 x 1 1/2 x 7/16 x 21'-3 5/8" (cc) M1E-F1E
1-Pl. 15" UM x 7/16 x 19'-11 1/2" (cd) M1E-F1E
1-Pl. 15" UM x 7/16 x 21'-0 1/2" (ce) M1E-F1E
1-L 3 1/2 x 3 1/2 x 7/16 x 22'-5 5/8" (cg) F2E
1-Fill 9"UM x 3/4 x 1 5/32 Fill x 3 1/2 (cs275)[E]
4-L 3 1/2 x 3 x 5/16 x 10'-11 1/2" (cj 266)
8-L 3 1/2 x 3 x 5/16 x 0'-11 1/2" (cj 266)[F]
2-Cs 6 x 13 1/2 x 7/16 x 1'-11 1/2" (cj 266)
2-Pl. 14"UM x 5/16 x 1'-9 1/2" (cy 266)
2-6" BH @ 23° x 1'-4 1/2" (can 266)
1-L 4 x 3 1/2 x 1/2 x 2'-2 1/2" (ch 275)[E]
1-Pl. 8 1/2 x 1/2 x 3'-7 1/4" (ck 275)
1-Pl. 20"UM x 3/4 x 10'-10 5/8" Bent (cm 278)[E]
2-Perm. Bolts 3/4"ø 2" } Square head & hex. nut
1-Perm. Bolt 3/4"ø 1'-3" }
1-Std. Mall. Iron Bev. Washer 13/16" hole.
1-Fill- 11 5/8" UM x 3/4 x 0'-6" (cp 278)

Shop Note:
Shop put on all Erection Marks on Left hand end of Timbers as detailed & in an upright position.
Erection Marks to be put on with both paint and steel stencil.

One	One	SKID GIRDER	SG46	As Shown	
Span ID	Mark No.	Description	Mat'l	Remarks	Weight each Item
Required at Spans	REQUIRED LIST				

Note 'a'
All field connections to be bolted except as noted for Angle (ch 275)[E] & Plate (cm 278)[E].

For Section F-F, See Sh.[t] G826.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 3/4"ø
OPEN HOLES: 13/16" unless noted. See Note 'a'.
PUNCHING: All holes for shop and field rivets in material 3/4" thick or less may be punched full size.
CUTTING: All sheared or flame cut edges and ends of material, where a neat appearance is required, shall be chipped, ground or otherwise cut & finish so that members present a finished appearance and conform to dimensions given on drawings. ends of all assembled members must present a neat appearance.
SURFACE FINISH: None except contact surfaces of parts permanently fastened. Such surfaces shall begin one coat of Red Oxide Linseed Oil Paint after they have been thoroughly cleaned and scraped. Such parts to be assembled while paint is wet. Bolts to be drawn up tight to prevent entrance of salt water during Shipping or Sand Blasting.

Work this sheet with G856 & G276.

Date	Revision		Appr'd

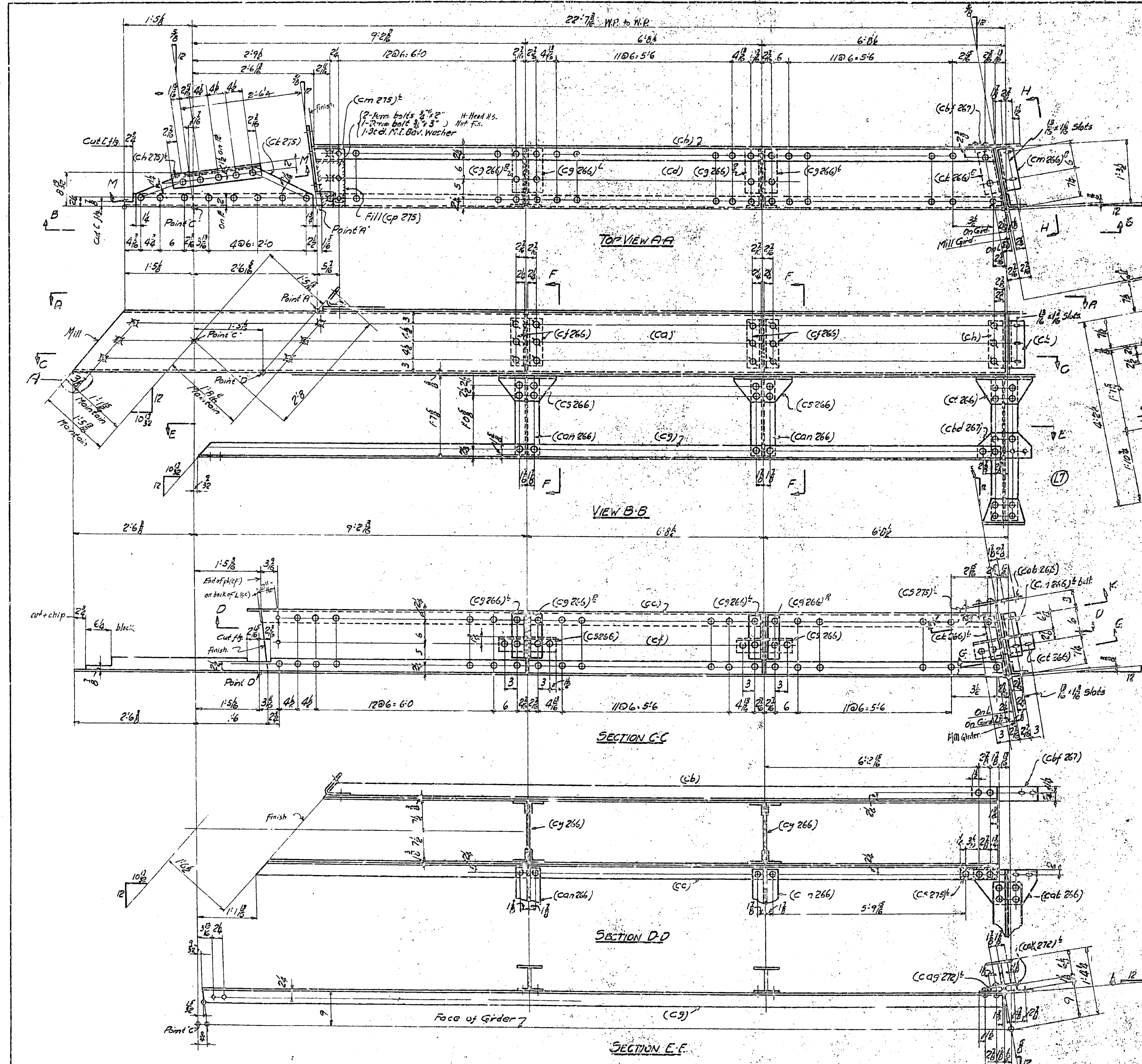
APPROVED
Chas. T. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 7/6/34

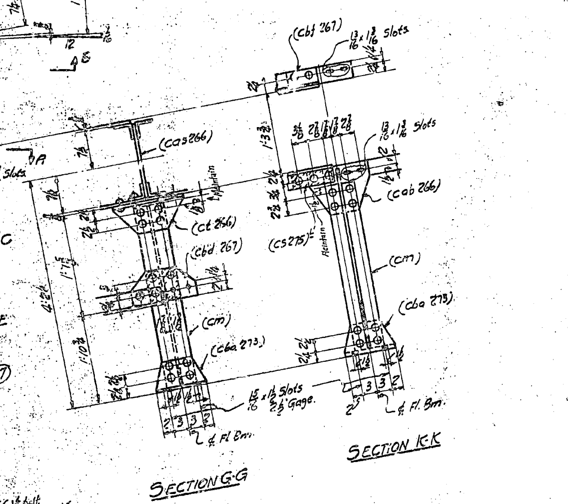
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0 TRUSS SPAN: PIERS E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chas. E. Andrew — DRAWING ROOM — Judson Pacific — LOCATING
DESIGNED BY Jones — SPACE BY E.J.F. 6-27-34
CHECKED BY — TRACED BY E.A.A. 6-29-34
LAST REVISED, SH. (cs 275)

CONTRACT C-7803 — SHEET G 275

30-1





Material For One Skid Girder

1-15" [@ 33.9# × 25'-1 7/16 (ca) M2E
1-L 3 1/2 × 3 1/2 × 3/8 × 19'-11 5/8 (cb) M1E-F1E
1-L 3 1/2 × 3 1/2 × 3/8 × 21'-4 5/8 (cc) M1E-F1E
1-Pl 15 UM × 3/8 × 20'-0 1/4 (cd) M1E-F1E
1-Pl 15 UM × 3/8 × 21'-1 3/8 (cf) M1E-F1E
1-L 3 1/2 × 3 1/2 × 3/8 × 22'-6 5/16 (cg) F2E
1-Fill 9" UM × 3/4 × 5/32 F15 × 3 1/4 (cs 275)L
4-Ls 3 1/2 × 3 × 5/16 × 0'-11 1/2 (cf 266)
8-Ls 3 1/2 × 3 × 5/16 × 0'-11 1/4 (cg 266)R/L
2-Ls 6 × 3 1/2 × 3/8 × 1'-1 7/8 (cs 266)
2-Pls 14" UM × 5/16 × 1'-2 1/2 (cy 266)
2-6" BH @ 23# × 1'-6 1/4 (can 266)
1-L 4 × 3 1/2 × 3/8 × 2'-2 5/8 (ch 275)L
1-Pl 8 1/2 × 3/8 × 3'-7 3/4 (ck 275)
1-Pl 20 UM × 3/8 × 0'-10 1/4 bent (cm 275)L
1-Fill 11 1/2 UM × 3/8 × 0'-6 (cp 275)
2-Perm. Bolts - 3/4" φ × 2" } Square Head + Hex Nut
1-Perm. Bolt - 3/4" φ × 3" }
1-Std. Mall. Iron Bev. Washer 13/16" φ hole.
2-Ls 3 1/2 × 3 × 3/8 × 0'-11 1/4 (ck 266)R/L
2-Ls 3 1/2 × 3 × 3/8 × 0'-11 1/4 (cm 266)R/L bolt (cm 266)L
1-Pl 14 UM × 3/8 × 1'-2 1/2 (cas 266)
1-L 3 1/2 × 3 × 3/8 × 0'-11 1/2 (ch) bent
1-L 3 1/2 × 3 × 3/8 × 0'-11 1/2 (ck) bent
1-L 6 × 4 × 3/8 × 1'-1 7/8 (ct 266)
1-Pl 6 1/2" UM × 3/8 × 1'-0 1/2 (cbd 267) bent
1-Fill 2 7/8 UM × 3/4 × 7/8 F15 × 6 1/2 (cak 272)L
1-Fill 2 7/8 UM × 3/4 × 19/32 F15 × 6 1/2 (cag 272)L
1-Bar 3 1/2 UM × 3/8 × 1'-0 1/2 (cbf 267) bent.
1-Pl 9 1/2 UM × 3/8 × 1'-0 1/2 (cab 266)
2-Ls 6 × 4 × 3/8 × 0'-10 (cba 273)
1-6" B.H. @ 23# × 3'-5 1/4 (cm)

Shop Note:
Shop to put all Erection marks on Left Hand End of Members as detailed and in an Upright position. Shop to rivet Railing (cg) and Post (cm) to Skid Girder in such a manner that the angle & post is square & true with respect to the Girder.
Erection Marks to be put on with both paint and steel stencil.

One	One	Skid Girder	SG47	As Shown	
Span 1	Total No.	Description	Mark	Remarks	Weight each Tons
Required By Spans	REQUIRED LIST				

For Section F-F See Sheet # G266.
For Section H-H See Sheet # G266
Section M-M is Opp. hand to Section G-G Shown on Sh. # G275.
Plate (Cm275)L is opp. hand to Pl (Cm275)R Shown on Sh. # G275

Note "A"
All field connections to be bolted except as noted in Sections M-M and H-H and developed detail of Pl. (cm 275)R

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 3/4" φ
OPEN HOLES: 13/16" φ Unless Noted. See Note "A"
PUNCHING: All holes for Shop & field rivets in material 3/4" thick or less may be punched full size.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where designated F1E, E2E, etc., shop must shear & grind, Chip & grind, or otherwise cut & finish so that members present a finished appearance and conform to dimensions on drawings. Ends of all assembled members must present a neat appearance.
SHOP PAINT: None except contact surfaces at parts permanently bolted. Such surfaces shall be given one coat "Acid Resisting Liquid" after they have been thoroughly cleaned and scraped. Such parts to be assembled while paint is wet. Bolts to be drawn up tight to prevent entering of any foreign substance during shipping or sand blasting.
See paint note on Sht. G266

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 7/16/34

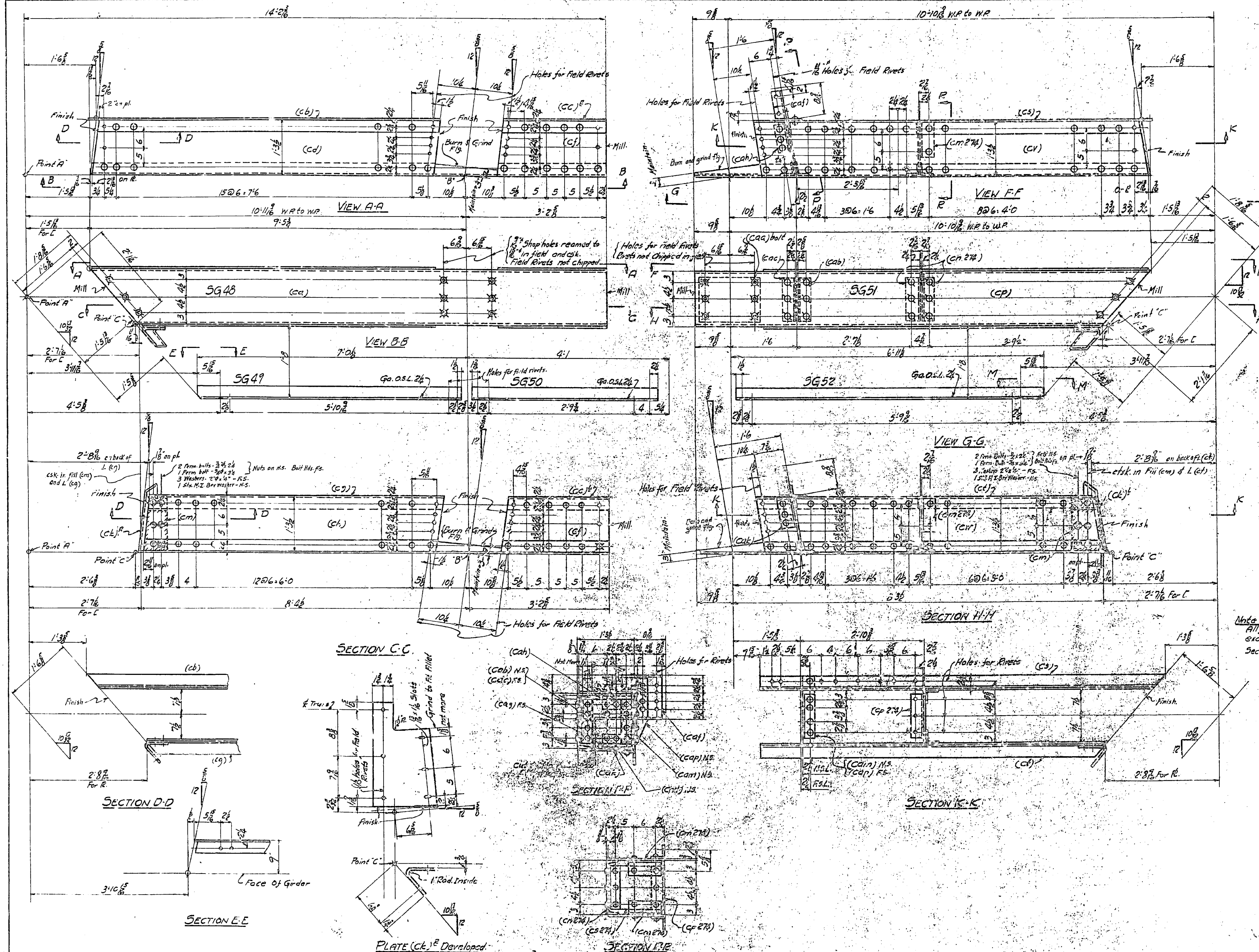
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 - Truss Span - Piers E9 to E23
McCLINTIC - MARSHALL CORPORATION
Chicago DRAWING ROOM Judson Pacific WORKS
IN CHARGE Jenks MADE BY E.J.T. 6/29-34
CHECKED BY H.W.S. 7/2/34 TRACED BY V.E.A.
LAST ASSEM. MK.

Work this sheet with sheets G266 - G273 - G267 - G272 + G275

CONTRACT CG15803 SHEET G 276

Rev. (A)

30-1



MATERIAL FOR ONE SKID GIRDER SG48

1-15" C@33.9 x 12'-8 3/8 (ca) M2E. Ord 12'-9" It. A633
1-L 3½ x 3½ x 3/8 x 9'-0 (cb) F2E. Ord. 9'-0¾" It. A658
2-Ls 3½ x 3½ x 3/8 x 2'-5¼ (cc)R MIE, FIE.
1-PL 15 UM x 3/8 x 8'-9 3/8 (cd) F2E. Ord. 8'-10" It. A644
2-PLs 15 UM x 3/8 x 2'-5 3/8 (cf) MIE, FIE.
1-L 3½ x 3½ x 3/8 x 7'-7¼ (cg) F2E. Ord. 7'-8" It. A659
1-PL 15 UM x 3/8 x 7'-7 3/8 (ch) F2E. Ord. 7'-8½" It. A645
1-PL 19 1/8 F2W x 3/8 x 0'-10¼ (ck)R bent.
1-Fill 11½ UM x 3/8 x 0'-6¼ (cm).
2-Perm. Bolts ¾"ϕ x 2¼.
1-Perm. Bolt ¾"ϕ x 3¼.
3-Washers 2"ϕ x ¼ - 13/16"ϕ hole.
1-Std. M.I. Bev. Washer - 13/16"ϕ hole.

MATERIAL FOR RAILING ANGLE SG49

1-L 3½ x 3½ x 3/8 x 6'-11 1/16 (F2E) Ord. 6'-11¾" It. A666

MATERIAL FOR RAILING ANGLE SG50

1-L 3½ x 3½ x 3/8 x 3'-8¼ F2E. Ord. 3'-9" It. A667

MATERIAL FOR ONE SKID GIRDER SG51

1-15" C@33.9" x 10'-2 3/8 (cp) M2E. Ord. 10'-3" It A635
1-L 3½ x 3½ x 3/8 x 8'-11 (cs) F2E. Ord. 8'-11¾ It. A663
1-L 3½ x 3½ x 3/8 x 7'-6¼ (ct) F2E Ord. 7'-6¾" It. A664
1-PL 15 UM x 3/8 x 8'-8 3/8 (cv) F2E Ord. 8'-9" It. A649
1-PL 15 UM x 3/8 x 7'-6 3/8 (cw) F2E Ord. 7'-7½ It. A650
1-Fill 12 x 1/8 x 1'-4½ (caa) bolt.
1-L 3 x 3½ x 3/8 x 1'-0 (cab) bent
1-L 3 x 3½ x 3/8 x 1'-0 (cac) bent
1-PL 12 UM x 3/8 x 1'-2 (cad)
1-12" C @ 20.7 x 1'-10¼ (caf)
1-Fill 2¾ x ¼ x 5 5/8 (cag)
1-L 4 x 3½ x 3/8 x 0'-8 (cah)
1-L 3½ x 3½ x 3/8 x 1'-0 (cam) bent
1-L 3½ x 4 x 3/8 x 1'-5 5/8 (cap) bent
2-Ls 3½ x 3 x 3/8 x 1'-0 (cn 274)
2-Ls 4 x 3½ x 3/8 x 0'-9 (cm 274)
1-L 3½ x 3½ x 3/8 x 1'-0 (cp 274)
1-PL 12 UM x 3/8 x 1'-2 (cs 274)
1-PL 19 1/8 F2W x 3/8 x 0'-10¼ (ck)L bent
1-Fill 11½ UM x 3/8 x 0'-6¼ (cm)
2-Perm. Bolts - ¾"ϕ x 2¼
1-Perm. Bolt. ¾"ϕ x 3¼
3-Washers - 2"ϕ x ¼ - 13/16"ϕ holes.
1-Std. M.I. Bev. Washer 13/16"ϕ hole
1 L - 4 x 4 x 3/8 x 0'-8" (cak)

MATERIAL FOR RAILING ANGLE - SG52

1-L 3½ x 3½ x 3/8 x 6'-10 1/16 - F2E Ord. 6'-10¾" It. A669.

Shop Note:
Shop to put all Erection Marks on Left Hand end of Members as detailed and in an upright position.
Erection Marks to be put on with both paint and steel stencil

Span 9	Span 10	Total No.	Description	Mark	Remarks	Weight each Tons
	One	One	Skid Girder.	SG48	As Shown.	
	One	One	Railing Angle.	SG49	" " .	
	One	One	" " .	SG50	" " .	
One		One	Skid Girder.	SG51	" " .	
One		One	Railing Angle.	SG52	" " .	

Required By Spans — REQUIRED LIST

Note "A"
All field connections to be bolted except as noted.
Section M-M opp. hand to Section E-E

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: ¾"ϕ
OPEN HOLES: 13/16"ϕ Unless Noted. See Note "A"
PUNCHING: All holes for shop and field Rivets [illegible]
FINISHING: [illegible] or flame cut edges [illegible] of material, to have a neat appearance, and where designated F1E, F2E, etc., Shop must [illegible] grind; chip & grind; or otherwise [illegible] finish so that member presents a neat appearance and conform to dimensions given on drawings. Ends of all assembled members must present a neat appearance.
SHOP PAINT: None except contact surfaces of parts permanently bolted. Such surfaces shall be given one coat "Acid Resisting Liquid" after they have been thoroughly cleaned and scraped. Such parts to be assembled while paint is wet. Bolts to be drawn up tight to prevent entering of any foreign substance during shipping or sand blasting.

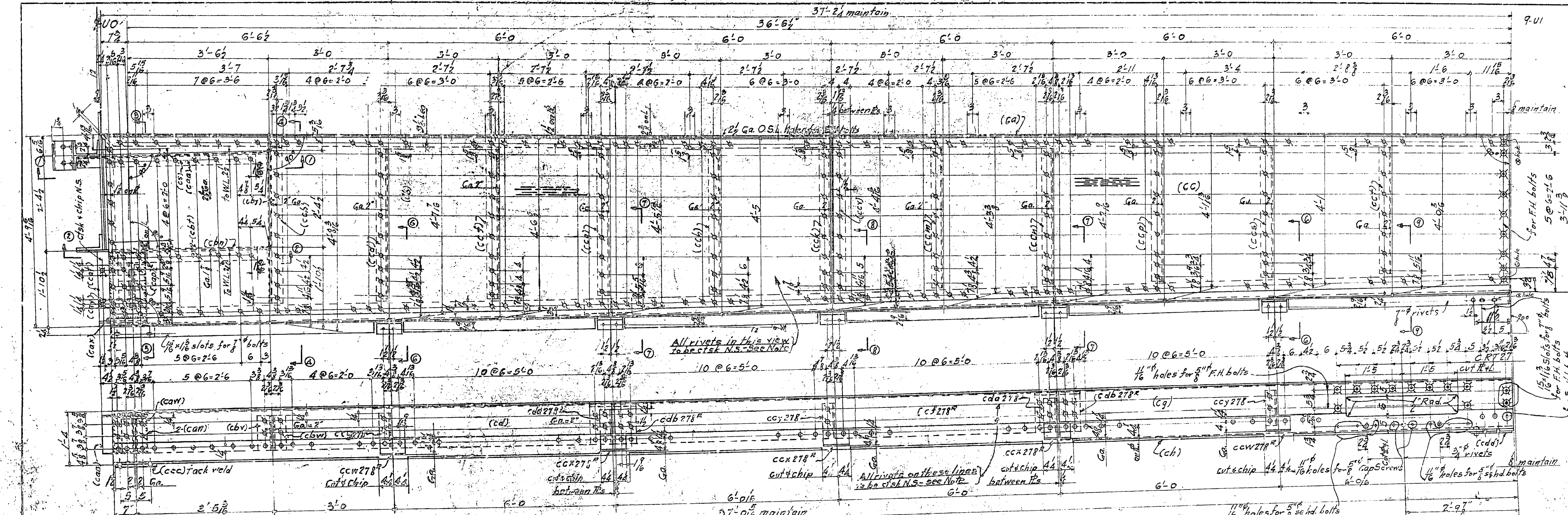
Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 7/16/34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
208'-0 Truss Span - Piers E9 to E23
McCLINTIC - MARSHALL CORPORATION
Chicago DRAWING ROOM Judson Pacific WORKS
IN CHARGE Jenks MADE BY E.J.T. 7/3/34
CHECKED BY N.Y.S. 7/9/34 TRACED BY V.E.A. 7/ /34
LAST ADDED. [illegible] 7-23-34

CONTRACT C-15809 SHEET G 277

30-1



Walkway CIII

Material For Walkway CIII

1-L 4x3½x⅜x37'-1⁵⁄₁₆ ... F2E
1-Cent. Knobby Pl. 54⁷⁄₁₆x⅜x19'-4⅜ (cb)(sketch N1)
1- do 49⁵⁄₁₆x⅜x17'-11⅜ (cc)(" N2)
1-Pl. 16 UMx½x13'-0⅛ (cd) F2E bent
1-Pl. -16UMx½x11'-11¹³⁄₁₆ (cf 278R) F2E bent
1-Pl. -19UMx½x11'-11¹³⁄₁₆ (cg) F2E bent
1-L 6x3½x½x37'-0⁵⁄₁₆ (ch) F2E
1-BH 8x33x3'-9½ (ck)
2Ls-6x4x⅜x0'-8 (cm)
1L-6x3½x½x0'-8-(cn)
1L-6x3½x⅜x0'-8-(cp)
1L-3½x3x⅜x4'-5⁵⁄₁₆-(cq)
1-Pl.-15½UMx⁵⁄₁₆x4'-8¹¹⁄₁₆ (ct)
1L-3½x3½x⅜x1'-9¹³⁄₁₆ (cv)
1L-3½x3½x⅜x1'-1½-(cw)
1L-3x3x⅜x2'-7-(cx)
1L-3½x3x⅜x1'-0-(cy) bent
[illegible] ⅜x3'-6⅜ (caa)
1L-8x4x½x5'-10¹⁄₁₆-(cab) F2E
1-L 8x13.75x3'-1...-(cac) F2E
1-Pl. 29⅜ FIW x⁵⁄₁₆x3'-5 (cad) F2E
1L-4x3½x⅜x2'-10⅝-(caf) F2E
1L-6x3½x⅜x0'-6¼ (cag)
1-Pl.-6¼ FZW x⅜x0'-11 (cah)
1-Pl.-10¼ UMx⅜x1'-7⅞ (cak)
2Ls 3½x3x⅜x0'-7-(cam)
2Ls 3½x3x⅜x0'-10¼-(can)
2Ls 3½x3½x⅜x1'-1[illegible]-(cap)
1-Pl. 13¾x½x1'-5⁵⁄₁₆-(cas) bent

1-Pl.-13⅝x⅜x1'-1⅞-(cat) F2E
1-Pl.-5¼xUMx⅜x1'-1½-(cav)
1-Pl.-10¾ UMx⅜x0'-10¼-(caw)
1-Pl.-10¾ UMx⅜x0'-3-(cax) F1E
1-Bar 2½ UMx¼x1'-1¾-(cay)
1-Pl.-10¾ U.M.x⅜x1'-4⅞-(cba)
1-Bar 3UMx⅜x0'-10¾-(cbb) F1E
1-Pl.-7⅞x⅝x0'-2½-(cbc)
1-Bar 7⅞x4x0'-2½-(cbd)
1-Pl.-14½ UMx⁵⁄₁₆x4'-6¼-(cbf)
1L-3½x3½x⅜x1'-10¹³⁄₁₆ (cbg)
1L-3½x3½x⅜x1'-1½-(cb)
1L-6x3½x⅜x1'-3⅜-(cbk)
1L-3x3x⅜-1'-1-(cbm)
2-Perm. bolts ¾"x1⅝ lg. sq. hd & hex nut.
1L-3½x3x⅜x3'-9-(cbn)
1L-3x3x⅜x2'-6½-(cbp)
1L-3½x3x⅜x0'-11-(cbs) bent
2-Fills [illegible] ⁷⁄₁₆x1'-10-(cbt)
1L-3½x3½x⅜x0'-10¼-(cbv) bent
1L-3½x3½x⅜x0'-10¼-(cbw) bent
1-Pl.-11UMx⁵⁄₁₆x4'-6⁹⁄₁₆-(cbx)
1L-4x3½x⅜x4'-2¾-(cby)
1L-3x3x⅜x3'-10⅜-(cca)
1-Fill-3½ [illegible] ⅜x3'-10⅜-(ccb)
1-Fill-3½x⅝x1'-1-(ccc) Tack weld
1L-4x3½x⅜x3'-[illegible]-(ccd)
1L-4x3½x⅜x3'-9⅞-(ccf)
1L-4x3½x⅜x3'-8¹³⁄₁₆-(ccg)

1L-4x3½x⅜x3'-8-(cch)
1L-4x3½x⅜x3'-7⅜-(cck)
1L-4x3½x⅜x3'-6⅞-(ccm)
1L-4x3½x⅜x3'-5⁹⁄₁₆-(ccn)
1L-4x3½x⅜x3'-4⅛-(ccp)
1L-4x3½x⅜x3'-4-(ccs)
1L-4x3½x⅜x3'-3⅜-(cct)
1-Pl.-7x⅜x3'-7⁹⁄₁₆-(ccv)
2Ls 5¼x3½x½x0'-7½-(ccw 278R)(cut 6x3½)
3Ls 5⅞x3½x½x0'-7½-(ccx 278R)(cut 6x3½)
3Ls 3½x3½x⅜x0'-10¼-(ccy 278) bent
2Ls 3½x3x⅜x0'-10¼-(cda 278) bent
2-Pls-13x½x1'-3⁵⁄₁₆-(cdb 278R) bent
5-Pls-18¾x⅜x0'-10⅞-(cdc 278)(1-28 cuts 2)
1-Pl.-3½x⁵⁄₁₆x1'-0½-(cdd)

General Notes:-
Material- All structural steel to be copper bearing.
Assembly marks for carbon steel prefixed with c, thus: ca, cb etc.; for silicon steel with s, thus sa, sb, etc.
Specifications- Special by State of California, Department of Public Works.
Inspection- By John M. Bailey.
Rivets- ¾"φ unless noted.
Open Holes- ¹³⁄₁₆"φ unless noted.
Punching- All holes to be punched full size except holes marked R.T. which are to be subpunched ¼" & reamed to size thru a metal templet.
Finish- All sheared or flame cut edges and ends of material to have a neat appearance and where designated FIW, F2E, etc. shop must shear and grind, chip and grind or otherwise cut & finish so that members present a neat appearance and conform to dimensions given on drawings. Ends of all assembled members must present a neat appearance.
Shop Paint- None, except as outlined below, which shall be given one coat of "Acid Resisting Liquid"-
① All surfaces exposed to the elements not readily accessible for field sand blasting.
② Contact surfaces of parts bolted.
All painted surfaces must be thoroughly cleaned and scraped before paint is applied.
Bolted parts to be assembled after paint is dry and bolted in such a manner so as to exclude all foreign particles.
Where [illegible] are tack welded, contact surfaces must be thoroughly cleaned and scraped before assembly, and parts must be tightly clamped while welding.
Welding shall be done in such a manner so as to permit entering of no foreign substance during field sand blasting.
Rivets shown thus ⊗ thru Central Knobby Walk plates are to be countersunk and have a maximum height not more than the height of pattern on plate.
All others rivets shown thus ⊗ are to be countersunk and have a maximum height of ⅛".

Shop to paint Erection marks on left hand end of member as detailed and in an upright position.
Shop to put shipping bolts in holes ⊗ and draw same up tight.
Bolts to be removed by erector in field.

All brackets shown in Sects. 1 to 48 incl. to be riveted up in a fixture to assure squareness.

Work this sheet with sheets G278 BS to JS incl. & G279 AG to GG incl.

For Sects. 1 to [illegible] see sheet G278 IS.

Span 9

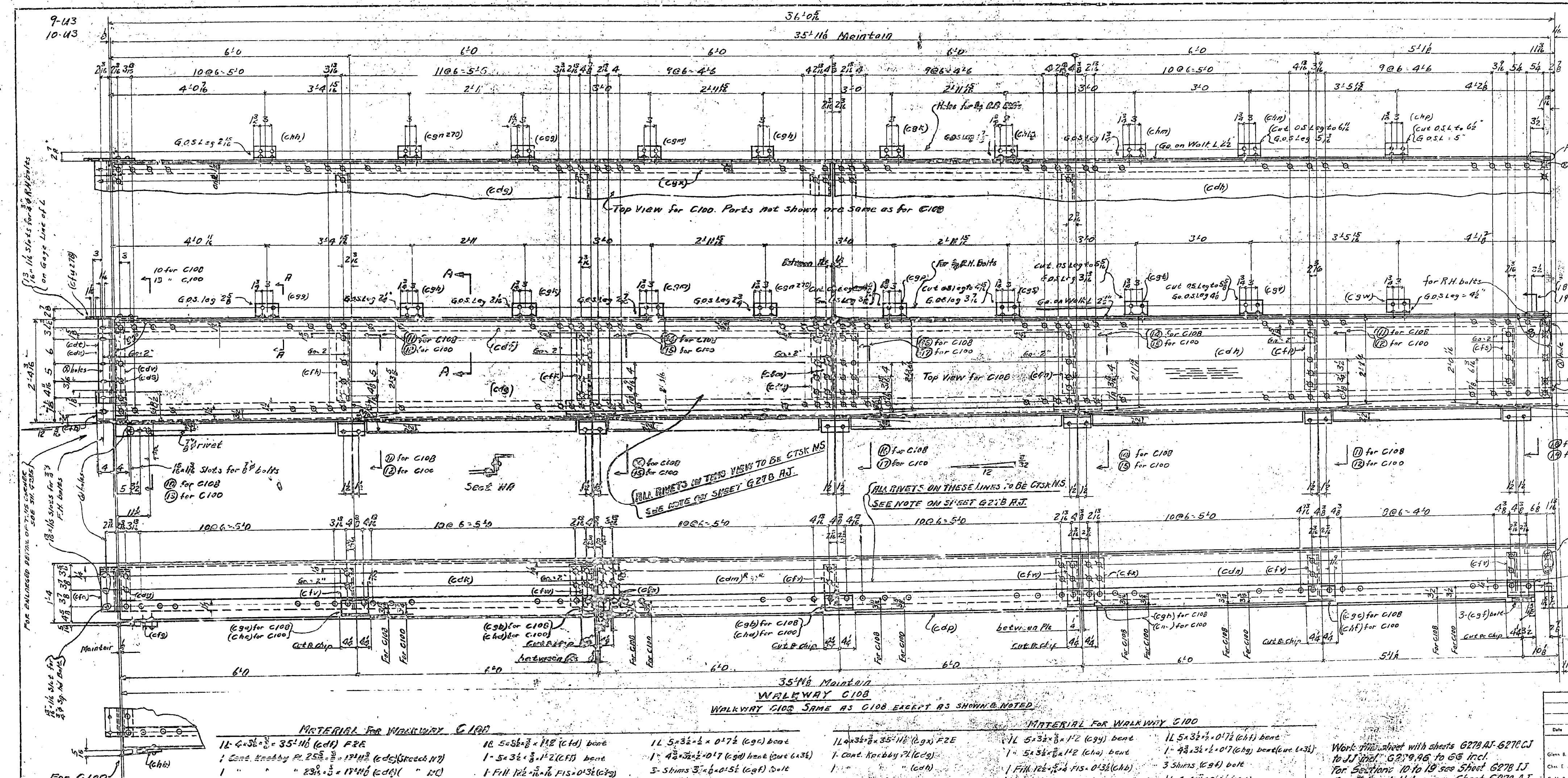
Total No.	Description	Mark	Remarks	Weight each Tons
1	Walkway	CIII		

REQUIRED LIST

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-18-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 TRUSS SPANS - PIERS E9 TO E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Judson Pacific WORKS
IN CHARGE [illegible] MADE BY L.C.Y. 6-29-34
CHECKED BY [illegible] 7-17-34 TRACED BY J.J.H. 7-2-34
LADY ASSOC. [illegible]
CONTRACT CG15803 SHEET G 278 AJ



35'-11 1/16 Maintain

WALKWAY C108

WALKWAY C100 SAME AS C108 EXCEPT AS SHOWN & NOTED

MATERIAL FOR WALKWAY C108

- 1L 4×3½×3/8×35'-11 1/16 (cdf) F2E
- 1 Cont. Knobby Pl. 25 5/8×3/8×17'-11 3/8 (cdg)(Sketch N7)
- 1 " " " 23 9/16×3/8×17'-11 1/16 (cdh)(" N8)
- 1-Pl. 16 UM×½×17'-11 3/4 (cdk) F2E bent
- 1- " 16 UM×½×11'-11 3/8 (cdm) F2E bent
- 1- " 16 UM×½×11'-11 1/16 (cdn) F2E bent
- 1L 6×3½×½×35'-4½ (cdp) F2E
- 1L 3½×3½×3/8×1'-10 15/16 (cds)
- 1 Pl. 7½×3/8×1'-7 3/16 (cdt) F2E
- 1-Pl 7½×7/16×1'-7 7/16 (cdv)
- 1-Fill 7½×3/8×0'-3 3/8 (cdw) F1E
- 1L 3½×3½×3/8×1'-10 15/16 (cdx)
- 1L 3½×3½×3/8×0'-10¼ (cdy)
- 1-L 3½×3½×3/8×0'-10¼ (cfa)
- 1 Pl. 8×5/16×1'-6 7/8 (cfb) bent
- 1 Pl. 14 UM×3/8×1'-8 (cfc) 2'-10 cuts 2
- 1L 5×3½×3/8×1'-2 (cfd) bent
- 1- 5×3½×3/8×1'-2 (cff) bent
- 1-Fill 12½×5/16×16 F1S×0'-3½ (cfg)
- 1L 4×3½×3/8×1'-6 5/16 (cfh)
- 1- 4×3½×3/8×1'-6 1/16 (cfk)
- 1- 4×3½×3/8×1'-5 7/16 (cfm)
- 1- 4×3½×3/8×1'-4 3/16 (cfn)
- 1- 4×3½×3/8×1'-4¼ (cfp)
- 1- 4×3½×3/8×1'-3 11/16 (cfs)
- 1 Pl. 13×3/8×1'-5 7/16 (cft)
- 4 Ls 3½×3½×3/8×0'-4 0¼ (cfv)
- 2- 3½×3×3/8×0'-10¼ (cfw)
- 2 Pls. 13×½×1'-3 7/16 (cfx) bent
- 1 Pl. 3¾ UM×3/8×1'-1 3/8 (cfy 278)
- 1L 5×3½×½×0'-7½ (cga) bent
- 3 Ls 5×3½×½×0'-7½ (cgb) bent
- 1L 5×3½×½×0'-7½ (cgc) bent
- 1- 4¾×3½×½×0'-7 (cgd) bent (cut 6×3½)
- 3-Shims 3½×1/8×0'-5½ (cgf) bolt
- 1L 4×4×3/8×0'-6½ (cgg)
- 1- 4×3½×3/8×0'-6½ (cgh)
- 1- 4×3½×3/8×0'-6½ (cgk)
- 1- 4×3½×3/8×0'-6½ (cgm)
- 1- 4×4×3/8×0'-8½ (cgn 278)
- 1- 4 5/8×4×3/8×0'-6½ (cgp) (cut 6×4)
- 1- 4 15/16×4×3/8×0'-6½ (cgs) (cut 6×4)
- 1- 5 5/16×4×3/8×0'-6½ (cgt) (cut 6×4)
- 1- 5 5/8×4×3/8×0'-6½ (cgv) (cut 6×4)
- 1- 5×4×3/8×0'-6½ (cgw)
- 6 Pls (cdc 278)

MATERIAL FOR WALKWAY C100

- 1L 4×3½×3/8×35'-11 1/16 (cgx) F2E
- 1- Cont. Knobby Pl. (cdg)
- 1 " " (cdh)
- 1 Pl. (cdk)
- 1 Pl. (cdm) R
- 1 Pl. (cdn)
- 1L (cdp)
- 1L (cds)
- 1 Pl. (cdt)
- 1 " (cdv)
- 1 Fill (cdw)
- 1L (cdx)
- 1L (cdy)
- 1L (cfa)
- 1 Pl. (cfb)
- 1 Pl. 14 UM×3/8×1'-8 (chs) (2'-10 cuts 2)
- 1L 5×3½×3/8×1'-2 (cgy) bent
- 1- 5×3½×3/8×1'-2 (cha) bent
- 1 Fill 12½×5/16×4 F1S×0'-3½ (chb)
- 1L (cfh)
- 1- (cfk)
- 1- (cfm)
- 1- (cfn)
- 1- (cfp)
- 1- (cfs)
- 1 Pl. (cft)
- 4 Ls (cfv)
- 2 Ls (cfw)
- 2 Pls (cfx)
- 1 Bar (cfy 278)
- 1L 5×3½×½×0'-7½ (chc) bent
- 3 Ls 5×3½×½×0'-7½ (chd) bent
- 1L 5×3½×½×0'-7½ (chf) bent
- 1- 4¾×3½×½×0'-7 (chg) bent (cut 6×3½)
- 3 Shims (cgf) bolt
- 1L 4×4×3/8×0'-6½ (chh)
- 1L (cgn 278)
- 1- (cgg)
- 1- (cgm)
- 1- (cgh)
- 1- (cgk)
- 1- 4×3×3/8×0'-6½ (chk)
- 1- 4×3×3/8×0'-6½ (chm)
- 1- 6 11/16×4×3/8×0'-6½ (chn) (cut 7×4)
- 1- 6½×4×3/8×0'-6½ (chp) (cut 7×4)
- 6 Pls. (cdc 278)

Work this sheet with sheets G278 AJ-G278 CJ to JJ incl. G279 AG to GG incl.
For Sections 10 to 19 see Sheet G278 IJ
For General Notes see Sheet G278 AJ

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer

Date 8-18-34

Spans 9	1	Walkway	C108	As shown	
Spans 13	1	" "	C100	As shown & noted	
Total No.		Description	Mark	Remarks	Weight each tons

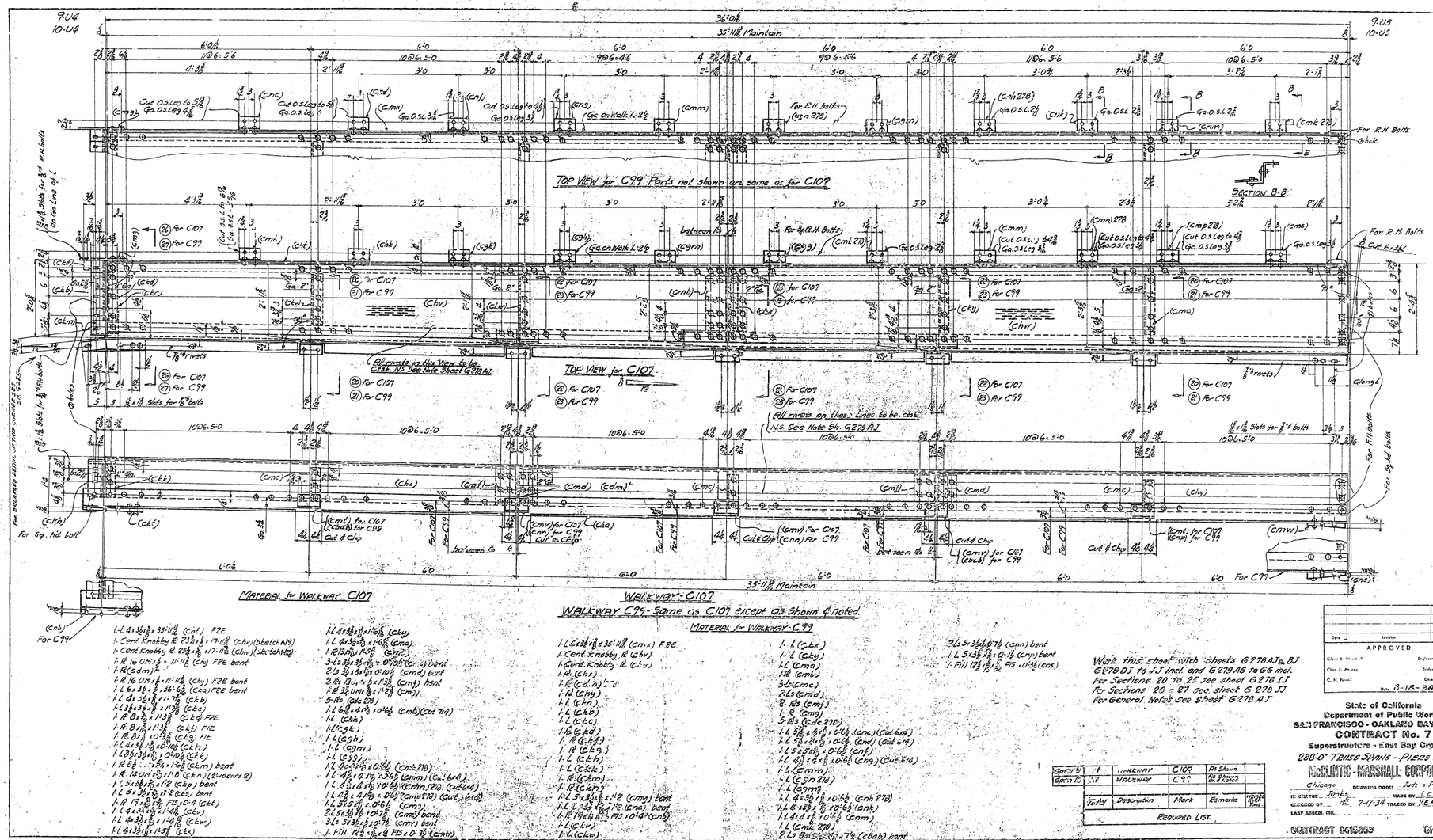
REQUIRED LIST

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Judson-Pacific WORKS
IN CHARGE Jenks MADE BY LCY
CHECKED BY E 7-17-34 TRACED BY CAJ 7-3-34
LAST ADDED. REV.

CONTRACT CG15803 SHEET G 278 BJ

30-1


TOP VIEW for C99 Parts not shown are same as for C107
TOP VIEW for C107
All rivets in this View to be C124, N.S. See Note Sheet G278 AI
All rivets on these lines to be cbd
N.S. See Note Sh. G278 AJ
SECTION B-B
For R.H. Bolts thus
For F.H. bolts
For Sq. hd bolts
For Fill bolts
WALKWAY C107
WALKWAY C99 - Same as C107 except as shown & noted.
MATERIAL for WALKWAY C107
MATERIAL for WALKWAY C99
Work this sheet with sheets G278AJ to BJ
G278 DJ to JJ incl. and G279 AG to GG incl.
For Sections 20 to 25 see sheet G278 JJ
For Sections 26 - 27 see sheet G278 JJ
For General Notes see Sheet G278 AJ
REQUIRED LIST.
APPROVED
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0" Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
CONTRACT 041B883
SHEET

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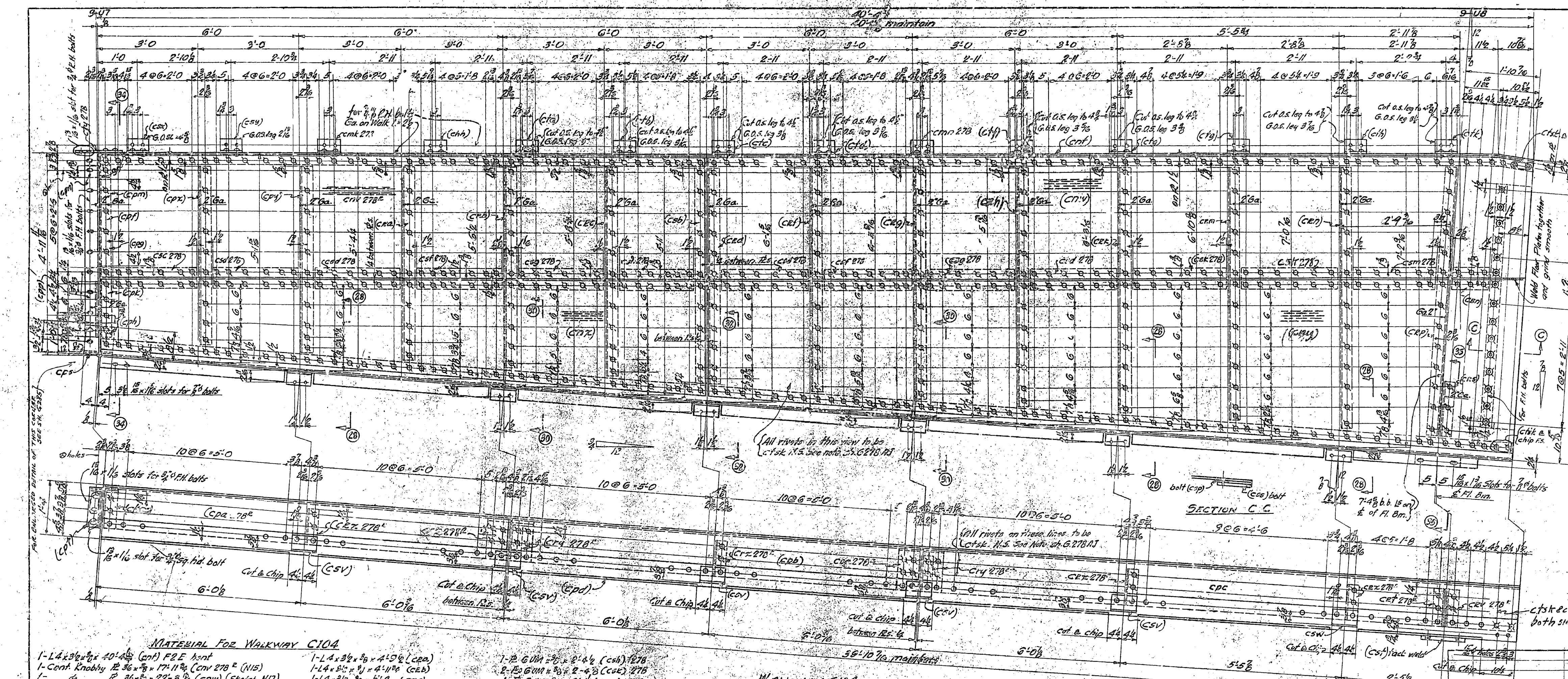


MATERIAL FOR WALKWAY C104

1-L4x3½x⅜x40'-4⅛ (cnt) F2E bent
1-Cent. Knobby Pl. 36x⅜x17'-11¾ (cnv 278 E) (N15)
1- do. Pl. 36x⅜x22'-3 9/16 (cnw) (Sketch N17)
1- do. Pl. 24 1/16x⅜x17'-11⅞ (cnz) (Sketch N16)
1- do. Pl. 50 11/16x⅜x22'-1¼ (cny) (Sketch N18)
1-Pl. 16 UM x ½ x 12'-0⅜ (cpa 278 E) F2E bent
1-Pl. 16 UM x ½ x 12'-0 (cpb) F2E bent
1-Pl. 16 UM x ½ x 15'-9 (cpc) F2E bent
1-L6x3½x½x39'-10 7/16 (cpd) F2E
1-L4x3½x⅜x4'-6 7/16 (cpf)
4-Pl. 7½ x ⅜ x [illegible] (cpg)
1-Fill 7½x⅜x0'-3¼ (cph)
1-Pl. 7½ x 7/16 x 1'-4 (cpk)
1-Fill 3½ UM x 7/16 x 2'-3 (cpm)
1-Pl. 7½ x 7/16 x 0'-6⅝ (cpn)
1-L3½x3½x⅜x1'-4⅜ (cpr)
1-Pl. 8 x 5/16 x 1'-6⅞ (cps) bent
1-L3½x3½x⅜x0-10⅛ (cpt) bent
1-L3½x3½x⅜x0'-10 (cpu) bent
1-Pl. 14 UM x ⅜ x 1'-8 (cpv) 278
4-Ls 5x3½x⅜x1'-2 (cpw) 278
1-L4x3½x⅜x4'-4 1/16 (cpx)
1-L4x3½x⅜x4'-7¼ (cpy)
1-L4x3½x⅜x4'-9½ (cra)
1-L4x3½x⅜x4'-11¾ (crb)
1-L4x3½x⅜x5'-2 (crc)
1-L5x3½x⅜x5'-4 9/16 (crd)
1-L5x3½x⅜x5'-6 9/16 (crf)
1-L5x3½x⅜x5'-8 9/16 (crg)
1-L5x3½x⅜x5'-11 1/16 (crh)
1-L5x3½x⅜x6'-1⅛ (crk)
1-L5x3½x⅜x6'-3 7/16 (crm)
1-L5x3½x⅜x6'-5 9/16 (crn)
1-L5x3½x⅜x6'-7⅝ (crp)
1-L3½x3½x⅜x1'-4⅛ (crs)
1-L3½x3½x⅜x0'-10⅛ (crt) 278 E bent
1-L3½x3½x⅜x0'-10¼ (crv) 278 F bent
1-Pl. 16½ UM x ⅜ x 1'-8 (crw) (2-10 cuts 2)
4-Ls 3½x3½x⅜x0'-10¼ (crx) 278 E bent
2-Ls 3½x3x⅜x0'-10¼ (cry) 278 F bent
2-Pls 13x½x1'-3 9/16 (csa) 278 E bent
1-Pl. 7x⅜x5'-6 5/16 (csb)
1-Pl. 6 UM x ⅜ x 2'-7 15/16 (csc) 278
4-Pls 6 UM x ⅜ x 2'-8 (csd) 278
2-Pls. 6 UM x ⅜ x 2'-8 (csf) 278
2-Pls 6 UM x ⅜ x 2'-8 (csg) 278
1-Pl. 6 UM x ⅜ x 2'-4½ (csh) 278
2-Pls 6 UM x ⅜ x 2'-4⅞ (csk) 278
1-Pl. 6 UM x ⅜ x 2'-1½ (csm) 278
1-Pl. 6 UM x ⅜ x [illegible] (csn)
1-Pl. 3 UM x ½ x [illegible] (csp) bolt
1-Pl. 10 UM x ⅜ x [illegible] (css) bolt
6 Pls. cdc 278
1-Bar 3½ x ⅝ x ¾ P15 x [illegible] (cst) tackweld
5-Ls 5x3½x½x0'-7½ (csv) bent
1-L6x4x⅜x0'-6½ (csx)
1-L4x4x⅜x0'-6½ (csy)
1-L cmk 278
T-L (chh)
1-L4½x4x⅜x0'-6½ (cta) (cut 6x4)
1-L4½x4x⅜x0'-6½ (ctb) (cut 6x4)
1-L4½x4x⅜x0'-6½ (ctc) (cut 6x4)
1-L5x3½x½x0'-7½ (csw) bent
1-L4½x4x⅜x0'-6½ (ctd) (cut 6x4)
1-L4½x4x⅜x0'-6½ (ctf) (cut 6x4)
1-L cmn 278
2-Ls 4½x4x⅜x0'-6½ (ctg) (cut 6x4)
1-L4⅞x4x⅜x0'-6½ (cth) (cut 6x4)
1-L4⅞x4x⅜x0'-6½ (ctk) (cut 6x4)
1-Bar [illegible] 278

WALKWAY C104

Work this sheet with sheets G278AJ to CJ incl. G278EJ to JJ incl. G279AG to QG
For Sects 28-30-32 see Sheet G278IJ
For Sects. 34-35 see sheet G278JJ
For General Notes see sheet G278AB

Span 9	No.	Description	Mark	Remarks	Weight each ton
	1	Walkway	C104		

REQUIRED LIST

Date	Revision	App'd

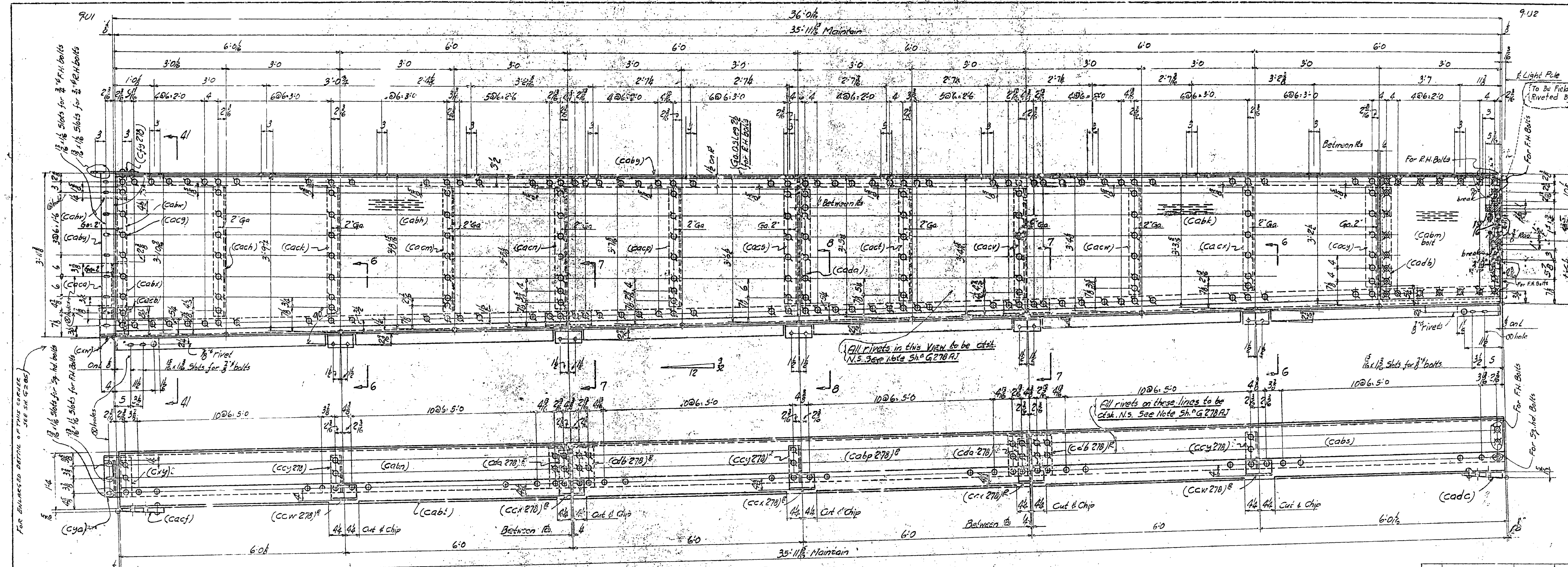
APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-18-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Judson Pacific WORKS
IN CHARGE [illegible] MADE BY L.Y.
CHECKED BY [illegible] 7-17-34 TRACED BY A.H. 7-5-34
LAST ASSEM. MK.

CONTRACT GG15603 SHEET G 278 DJ

30-1



WALKWAY C110

MATERIAL FOR WALKWAY C110

1-L 4x3½x⅜ x 35'-11 13/16 (cabg) F2E
1-Cent. knobby PL 44½x⅜ x 17'-11 13/16 (cabh) (Sketch N3)
1- " " PL 39⅝x⅜ x 14'-11¾ (cabk) (Cut from Sketch N4)
1- " " PL 35⅝x⅜ x 2'-11¾ (cabm) (Cut from Sketch N4) bolt.
1-PL 16 UM x ½ x 11'-11⅞ (cabn) F2E bent
1-PL 16 UM x ½ x 11'-11¾ (cabp) 278^E F2E bent
1-PL 16 UM x ½ x 11'-11 15/16 (cabs) F2E bent.
1-L 6x3½x½ x 35'-11 15/16 (cabt) F2E
1-Bar cfy278
1-PL 7½x7/16 x 0'-6⅝ (cabv)
1-Bar 3½ UM x 7/16 x 1'-6⅞ (cabw)
1-PL 7½x7/16 x 1'-0⅝ (cabx)
1-PL 7½x⅜ x 3'-2⅜ (caby)
1-L 3½x3½x⅜ x 1'-4⅛ (caca)
1-PL [illegible] 5/16 x 1'-6⅞ (cxw) bent
1-Fill 7½x⅛ x 0'-3¼ (cacb)
1-PL 14 UM x ⅜ x 1'-8 cxv278 (2'-10 cuts 2)
1-L 5x3½x⅜ x 1'-2 (cacc) bent
1-L 5x3½x⅜ x 1'-2 (cacd) bent
1-L 3½x3½x⅜ x 0'-10¼ (cxy) bent

1-L [illegible] (cya) bent
1-PL 12½x5/16 x 13/32 FIS x 0'-3½ (cacf)
1-L 4x3½x⅜ x 3'-6⅛ (cacg)
1-L 4x3½x⅜ x 3'-1 9/16 (cach)
1-L 4x3½x⅜ x 5'-0¾ (cack)
1-L 4x3½x⅜ x 2'-11 15/16 (cacm)
1-L 4x3½x⅜ x 2'-11⅛ (cacn)
1-L 4x3½x⅜ x 2'-10 5/16 (cacp)
1-L 4x3½x⅜ x 2'-9½ (cacs)
1-L 4x3½x⅜ x 2'-8¾ (cact)
1-L 4x3½x⅜ x 2'-7 15/16 (cacv)
1-L 4x3½x⅜ x 2'-7⅛ (cacw)
1-L 4x3½x⅜ x 2'-6 5/16 (cacx)
1-L 4x3½x⅜ x 2'-5½ (cacy)
1-PL 7x⅞ x 2'-9½ (cada)
1-PL 7x⅞ x 2'-5½ (cadb)
3-Ls (ccy 278)
2-Ls (cda 278)
2-PLs (cdb 278)^E
5-PLs (cde 278)

2-Ls (ccw 278)^E
3-Ls (ccx 278)^E
1-PL 12½x5/16 x 7/32 FIS x 0'-3½ (cadc)

Work this sheet with sheets G278AJ to DJ & G278FJ to JJ & G279AG to GG incl.

For Sects. 6-7-8 see Sheet G278IJ
For Sect. 41 see sheet G278JJ

For General Notes see sheet G278AJ

Span 9	One	Walkway	C110		
	Total No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

Date	Revision	App'd

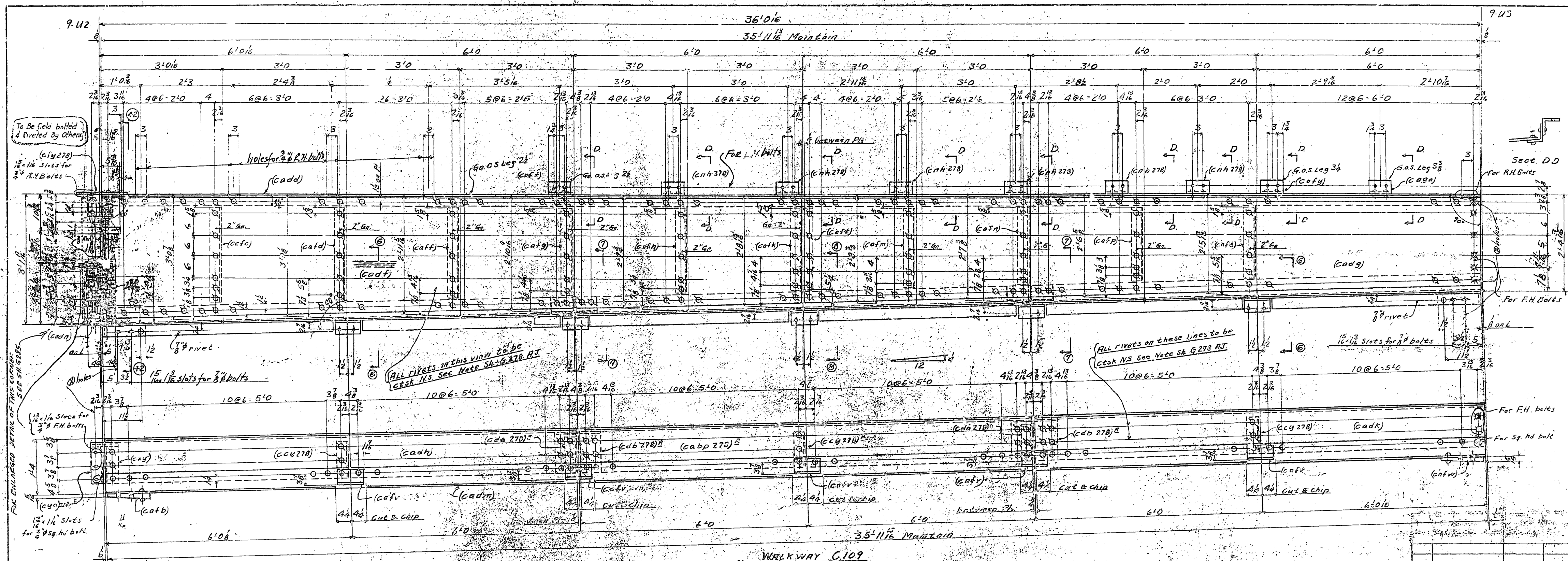
APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-18-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" TRUSS SPANS - PIERS E9 TO E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Judson Pacific WORKS
IN CHARGE Jenks MADE BY L.C.Y. 7-5-34
CHECKED BY [illegible] 7-17-34 TRACED BY V.E.A. 7-6-34
LAST ASSEM. SH.

CONTRACT CG15803 SHEET G 278EJ

30-1



Material for Walkway C.109

1-L 4 × 3½ × 3/8 × 35'-11 13/16 (cadd) F2E
1-Cent. Knobby Pl. 34 13/16 × 3/8 × 17'-11 13/16 (cadf) Sketch N5
1 " " 30 1/16 × 3/8 × 17'-11 3/4 (cadg) Sketch N6
1-Pl. 16.14 M. × 1/2 × 11'-11 7/8 (cadh) F2E bent
1-" (cabp 278)[E]
1-" 16 U.M. × 1/2 × 11'-11 29/32 (cadk) F2E bent
1-L 6 × 3½ × 1/2 × 35'-11 13/16 (cadm) F2E
1-Pl 8 1/2 × 5/16 × 2'-0 5/8 (cadn) bent
1 L (cya)
1 " (cxy) 278[E]
1 Pl. 7½ × 1/2 × 0'-9" (cadp)
~~1 " 7½ × 1/2 × 3'-3½ (cads) bolt~~
~~1 L 3½ × 3½ × 3/8 × 0'-7½ (cadt) bolt~~
1 L 3½ × 3½ × 3/8 × 0'-9" cadv 278
1 Pl. 10 3/4 × 3/8 × 1'-0 7/8 cadw 278
~~1 " 3½ × 3½ × 3/8 × 0'-0 3/8 (cadx) bolt~~
1 Pl. 7½ × 3/8 × 0'-6 5/8 (cady)
1 Pl. 7½ × 3/8 × 0'-2 7/16" (cafa)
1-Pl. (cfy 278)
1-" 12½ × 5/16 × 7/16 F.I.S. × 0'-3½ (cafb)
1 L 4 × 3½ × 3/8 × 2'-3 7/8 (cafc)
1 L 4 × 3½ × 3/8 × 2'-3 5/8 (cafd)
1 L 4 × 3½ × 3/8 × 2'-2 5/16 (caff)
1 " " 2'-1 9/16 (cafg)
1 " " 2'-0 3/4 (cafh)
1 " " 1'-11 15/16 (cafk)
1 " " 1'-11 3/16 (cafm)
1 " " 1'-10 3/8 (cafn)
1 " " 1'-9 5/8 (cafp)
1 " " 1'-8 13/16 (cafs)
1 Pl. 7 × 3/8 × 1'-11 15/16 (caft)
3 L^s (ccy 278)
2 " (cda 278)
2 Pl^s cdb (278)[E]
5 L^s 5 × 3½ × 1/2 × 0'-7½ (cfy 278)
1 Pl. 12½ × 5/16 × 7/16 F.I.S. × 0'-3½ (cafw)
1 L 4 × 4 × 3/8 × 0'-6½ (cafx)
6 L^s (cnh 278)
1 L 6 × 4 × 3/8 × 0'-6½ (cafg)
1 L 5 × 5 × 3/8 × 0'-6½ (cafz)
1 L 3½ × 3½ × 3/8 ... (cam f.s. 78)
3-Rs cdc 278
1 L 5 × 3½ × 3/8 × 0'-9" (cbag) bent
1 L do × 0'-9" (cbah) bent

Work this sheet with sheets G278AG to EJ incl. G278GJ to JJ incl. & G279AG to GG incl.

For Sects 6-7-8 see sheet G278IJ
For Sect. 42 see Sheet G278BJ

For General Notes see sheet G278AJ

SPAN 9: 1	Walkway	C109		
No.	Description	Mark	Remarks	Weight each Ton

REQUIRED LIST

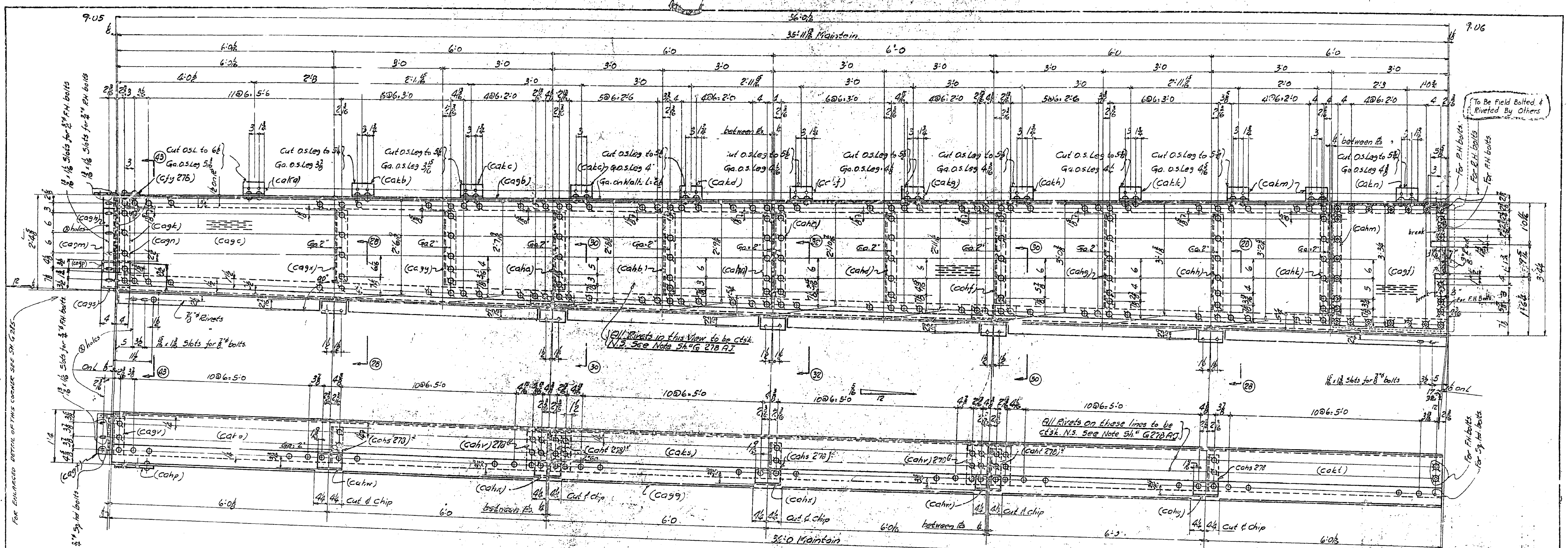
Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-18-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0 Truss Spans Piers E9 to E23
McCLINTIC - MARSHALL CORPORATION
Chicago DRAWING ROOM Judson - Pacific WORKS
IN CHARGE Jenks MADE BY L.C.Y.
CHECKED BY ... 7-17-34 TRACED BY C.A.T. 7-7-34
LAST ACCEPT. ...
CONTRACT C61S803 SHEET G 278 FJ

30-1



WALKWAY C106

MATERIAL for WALKWAY - C106

1-L 4 x 3 1/2 x 3/8 x 35'-11 13/16 (cagb) F2E
1-Cent. knobby ℞ 31 9/16 x 3/8 x 17'-11 13/16 (cagc) (Sketch N11)
1- " " ℞ 35 7/8 x 3/8 x 14'-11 3/4 (cagd) (cut from Sketch N12)
1- " " ℞ 37 7/8 x 3/8 x 2'-11 3/4 (cagf) (cut from Sketch N12)
1-L 6 x 3 1/2 x 1/2 x 36'-0 (cagg) F2E
1-L 3 1/2 x 3 1/2 x 3/8 x 1'-11 3/8 (cagh)
1-L 3 1/2 x 3 1/2 x 3/8 x 1'-11 3/8 (cagk)
1-℞ 7 1/2 x 7/16 x 1'-7 7/8 (cagm) F1E
1-℞ 7 1/2 x 3/8 x 1'-7 7/8 (cagn) F2E
1-℞ 7 1/2 x 3/8 x 0'-3 3/8 (cagp)
1-℞ 8 x 5/16 x 1'-6 7/8 (cags) bent.
1-L 3 1/2 x 3 1/2 x 3/8 x 0'-10 1/4 (cagt) bent.
1-L 3 1/2 x 3 1/2 x 3/8 x 0'-10 1/4 (cagv) bent
1-℞ 14 UM x 3/8 x 1'-8 (cagw) (2'10 Cuts 2)
2-Ls (cpw 278
1-L 4 x 3 1/2 x 3/8 x 1'-9 9/16 (cagx)
1-L 4 x 3 1/2 x 3/8 x 1'-10 9/16 (cagy)
1-L 4 x 3 1/2 x 3/8 x 1'-11 1/2 (caha)
1-L 4 x 3 1/2 x 3/8 x 2'-0 1/2 (cahb)
1-L 4 x 3 1/2 x 3/8 x 2'-1 7/16 (cahc)
1-L 4 x 3 1/2 x 3/8 x 2'-2 7/16 (cahd)
1-L 4 x 3 1/2 x 3/8 x 2'-3 3/8 (cahf)
1-L 4 x 3 1/2 x 3/8 x 2'-4 3/8 (cahg)
1-L 4 x 3 1/2 x 3/8 x 2'-5 5/16 (cahh)
1-L 4 x 3 1/2 x 3/8 x 2'-6 1/4 (cahk)
1-℞ 7 x 7/8 x 2'-6 1/4 (cahm)
1-℞ 7 x 7/16 x 2'-1 7/16 (cahn)
1-℞ [illegible] 1'-0 1/2 (cahp)
3-Ls 5 1/2 x 5 1/2 x 3/8 x 0'-10 1/4 (cahs 278) bent
2-Ls 3 1/2 x 3 x 3/8 x 0'-10 1/4 (cahl 278)
5-℞s (cd=278)
2-℞s 13 x 1/2 x 1'-3 3/16 (cahv 278)E bent.
2-Ls 5 x 3 1/2 x 1/2 x 0'-7 1/2 (cahw) bent
2-Ls 5 x 3 1/2 x 1/2 x 0'-7 1/2 (cahx) bent
1-L 5 x 3 1/2 x 1/2 x 0'-7 1/2 (cahy) bent
1-L 6 1/2 x 4 x 3/8 x 0'-6 1/2 (caka) (Cut 7x4)
1-L 5 1/4 x 4 x 3/8 x 0'-6 1/2 (cakb) (Cut 6x4)
2-Ls 5 1/4 x 4 x 3/8 x 0'-6 1/2 (cakc) (Cut 6x4)
1-L 5 1/2 x 4 x 3/8 x 0'-5 1/2 (cakd) (Cut 6x4)
1-L 5 1/2 x 4 x 3/8 x 0'-5 1/2 (cakf) (Cut 6x4)
1-L 5 1/2 x 4 x 3/8 x 0'-6 1/2 (cakg) (Cut 6x4)
1-L 5 1/2 x 4 x 3/8 x 0'-6 1/2 (cakh) (Cut 6x4)
1-L 5 3/4 x 4 x 3/8 x 0'-6 1/2 (cakk) (Cut 6x4)
2-Ls 5 3/4 x 4 x 3/8 x 0'-6 1/2 (cakm) (Cut 6x4)
1-L 5 3/4 x 4 x 3/8 x 0'-6 1/2 (cakn) (Cut 6x4)
1-℞ 16 UM x 1/2 x 12'-0 (cakp) F2E bent
1-℞ 16 UM x 1/2 x 11'-11 13/16 (caks) F2E bent
1-℞ 16 UM x 1/2 x 11'-11 13/16 (cakt) F2E bent
1-℞ (cjy 278)

Work this sheet with sheets G278AJ to FJ incl. & G278HJ to JJ incl. & G279BG to GG.

For Sects. 28-30-32 See Sheet G278IJ
For Sect 43 see sheet G278JJ

For General Notes see Sheet G278AJ

Total No.	Description	Mark	Remarks	Weight each Tons
One	Walkway	C106		

REQUIRED LIST

Date	Revision	App'd

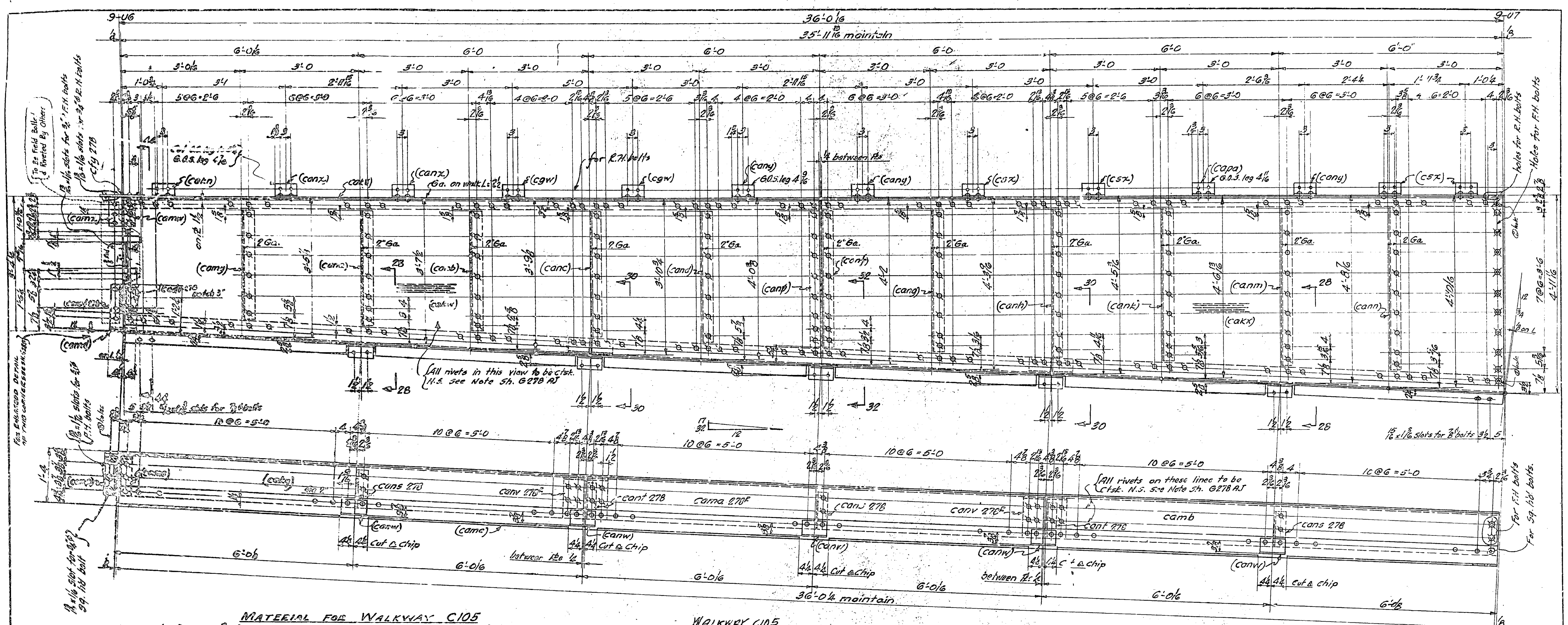
APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-18-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" TRUSS SPANS - PIERS E9 TO E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Judson Pacific WORKS
IN CHARGE Jenks MADE BY L.C.Y. 7-5-34
CHECKED BY [illegible] 7-17-34 TRACED BY V.E.A. 7- 34
LAST ASSEM. MK.

CONTRACT CG15003 SHEET G278GJ



WALKWAY C105

MATERIAL FOR WALKWAY C105

1-L 4 x 3½ x ⅜ x 35'-11⅞ (carv) F2E
1-Cont. Knobby Pl 47½ x ⅜ x 17'-11⅞ (cakw) (Sketch N13)
1- do. Pl 56⅞ x ⅜ x 17'-11¾ (cakx) (Sketch N13)
1-Pl 15 UM x ½ x 12'-0⅝ (caky) F2E bent
1-Pl 16 UM x ½ x 17'-11⅞ (cama 270R) F2E bent
1-Pl 16 UM x ½ x 17'-11⅞ (camb) F2E bent
1-L 6 x 3½ x ½ x 35'-0¼ (camc) F2E
1-Pl cfy 278
1-Pl 3½ x ⅜ x 2'-0⅝ (camd) bent
1-Pl 7½ x ½ x 0'-9" (camg)
~~[illegible]~~
~~[illegible]~~
1-L ~~camf~~ 278
1-L 3½ x 3½ x ⅜ x 0'-10¼ (camp) bent
1-L 3½ x 3½ x ⅜ x 0'-10¼ (camq) bent
1 Pl 13½ x ⅜ x 1'-0⅝ (cbaf 278)
~~[illegible]~~
1-Pl 7½ x ⅜ x 0'-9" (camw)
1-Pl 7½ x ⅜ x 0'-8⅝" (camx)
1-L 4 x 3½ x ⅜ x 2'-8⅝ (camy)
1-L 4 x 3½ x ⅜ x 2'-10½ (cana)
1-L 4 x 3½ x ⅜ x 3'-0⅝ (canb)
1-L 4 x 3½ x ⅜ x 3'-1¾ (canc)
1-L 4 x 3½ x ⅜ x 3'-3⅝ (cand)
1-L 4 x 3½ x ⅜ x 3'-5 (canf)
1-L 4 x 3½ x ⅜ x 3'-6⅝ (cang)
1-L 4 x 3½ x ⅜ x 3'-8⅝ (canh)
1-L 4 x 3½ x ⅜ x 3'-9⅝ (cank)
1-L 4 x 3½ x ⅜ x 3'-11⅞ (canm)
1-L 4 x 3½ x ⅜ x 4'-1⅛ (cann)
1-Pl 7 x ⅜ x 3'-5 (canp)
3-Ls 3½ x 3½ x ⅜ x 0'-10¼ (cans 278) bent
2-Ls 3½ x 3 x ⅜ x 0'-10¼ (cant 278) bent
2-Pls 13 x ½ x 1'-3⅝ canv 278R bent
5-Pls cdc 278
5-Ls 5 x 3½ x ½ x 0'-7½ (canw) bent
1-L (cakn)
2-Ls 5¾ x 4 x ⅜ x 0'-6½ (canx) cut 6x4
2-Ls (cgw)
3-Ls 6 x 4 x ⅜ x 0'-6½ (cany)
4-Ls (csx)
1-L 6 x 4 x ⅜ x 0'-6½ (capa)
1-L cadv 278
2 Pl 5 x 3½ x ⅜ x 9" (cbak 278)

Work this sheet with sheets G278AJ to GJ & G278IJ & JJ & G278AG to GG incl.

For Sects. 28-30-32 see Sheet G278IJ
For Sect. 44 see Sheet G278JJ

For General Notes see Sheet G278AJ

Span G	1	Walkway	C105		
SPAN	No.	DESCRIPTION	MARK	REMARKS	WEIGHT EACH TON

REQUIRED LIST

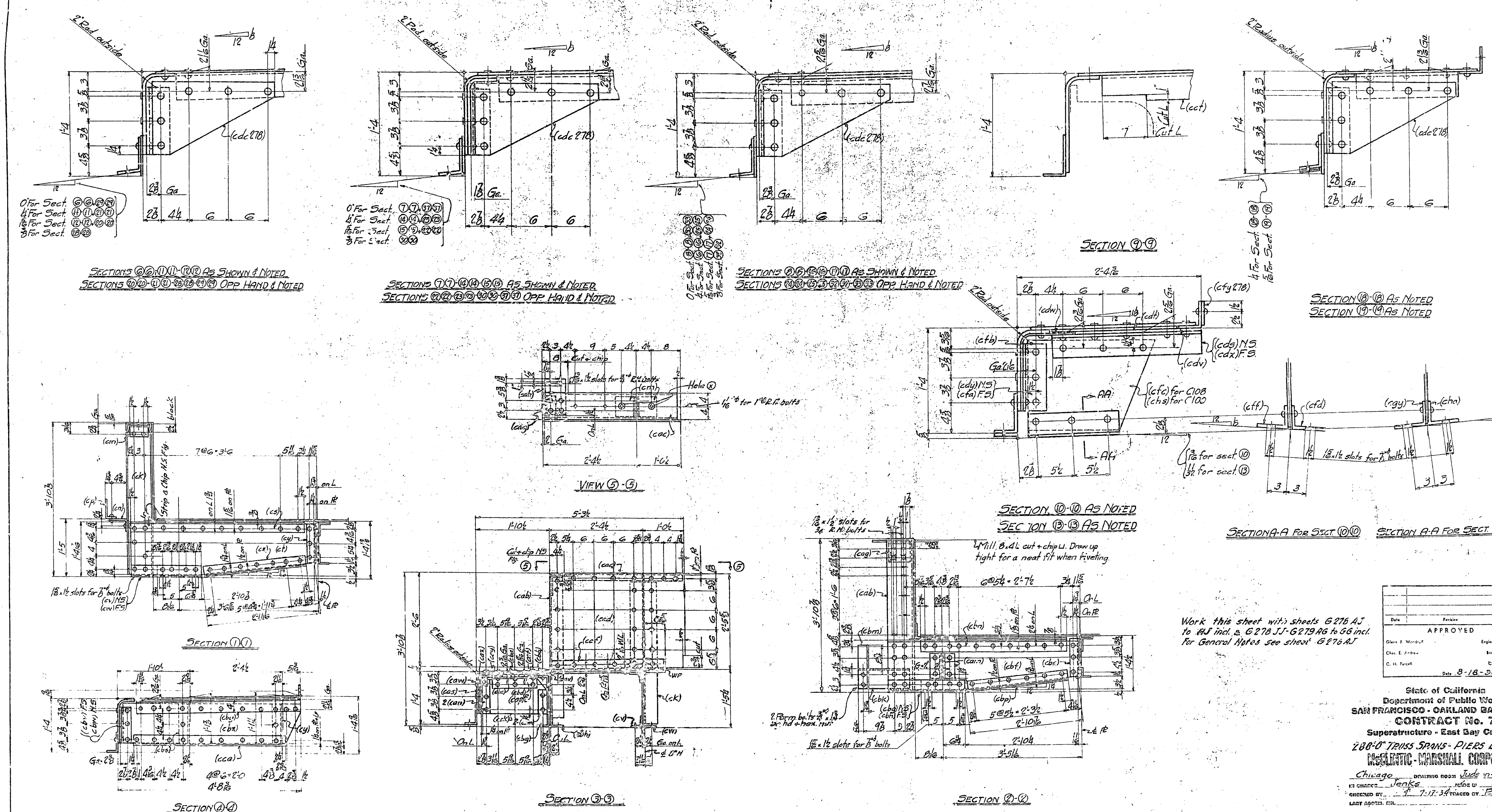
Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-18-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" TRUSS SPANS - PIERS E9 TO E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Judson-Pacific WORKS
IN CHARGE Jenks MADE BY L.C.Y.
CHECKED BY [illegible] 7-17-34 TRACED BY A.H. 7-10-34
LAST ASSEM. MK.

CONTRACT C615833 SHEET G 278 HJ

30-1



Work this sheet with sheets G 278 AJ to AJ incl. & G 278 JJ-G 279 AG to GG incl.
For General Notes see sheet G 276 AJ

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer

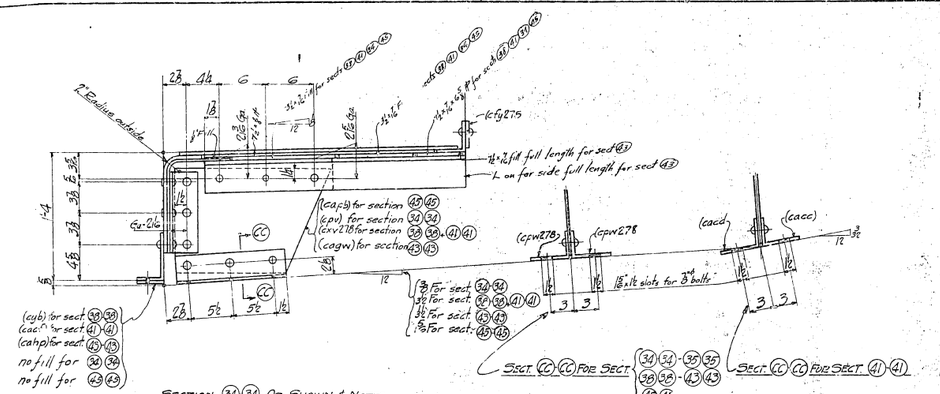
Date 8-18-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" TRUSS SPANS - PIERS E9 TO E23
McCLINTIC - MARSHALL CORPORATION

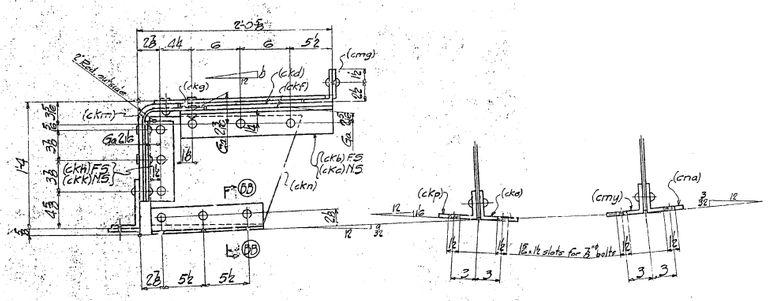
Chicago DRAWING ROOM Judson-Pacific WORKS
IN CHARGE Jenks MADE BY L.C.Y.
CHECKED BY 7-17-34 TRACED BY P.J.L. 7-5-34
LAST ADDED. ETC.

CONTRACT CC15803 SHEET G 278 IJ

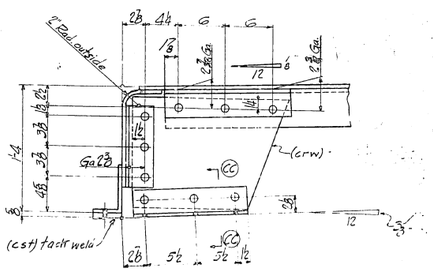
30-1



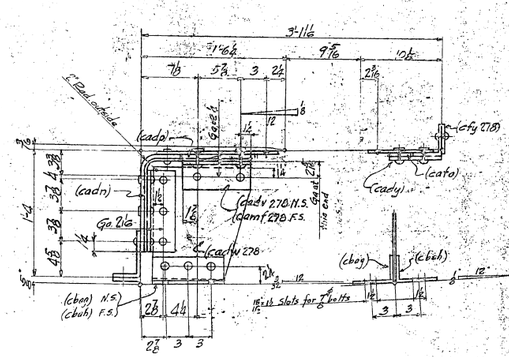
SECTION 34-34 AS SHOWN & NOTED
SECTION 38-39 AS SHOWN & NOTED
SECTION 41-41 AS SHOWN & NOTED
SECTION 43-43 AS SHOWN & NOTED
SECTION 46-46 AS SHOWN & NOTED



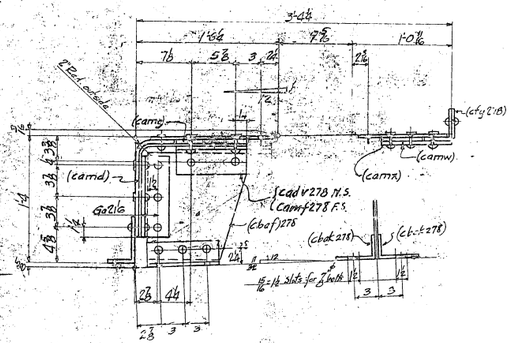
SECTION 26-26 AS NOTED
SECTION 27-27 AS NOTED



SECTION 35-35



SECTION 42-42



SECTION 44-44

Work this sheet with sheets G 278 AJ to AV incl.
& G 279 AG to GG incl.

For General Notes see sheet G 278 AJ.

No.	Description	Mark	Remarks	Weight each Item

REQUIRED LIST

Date	Revision	App'd

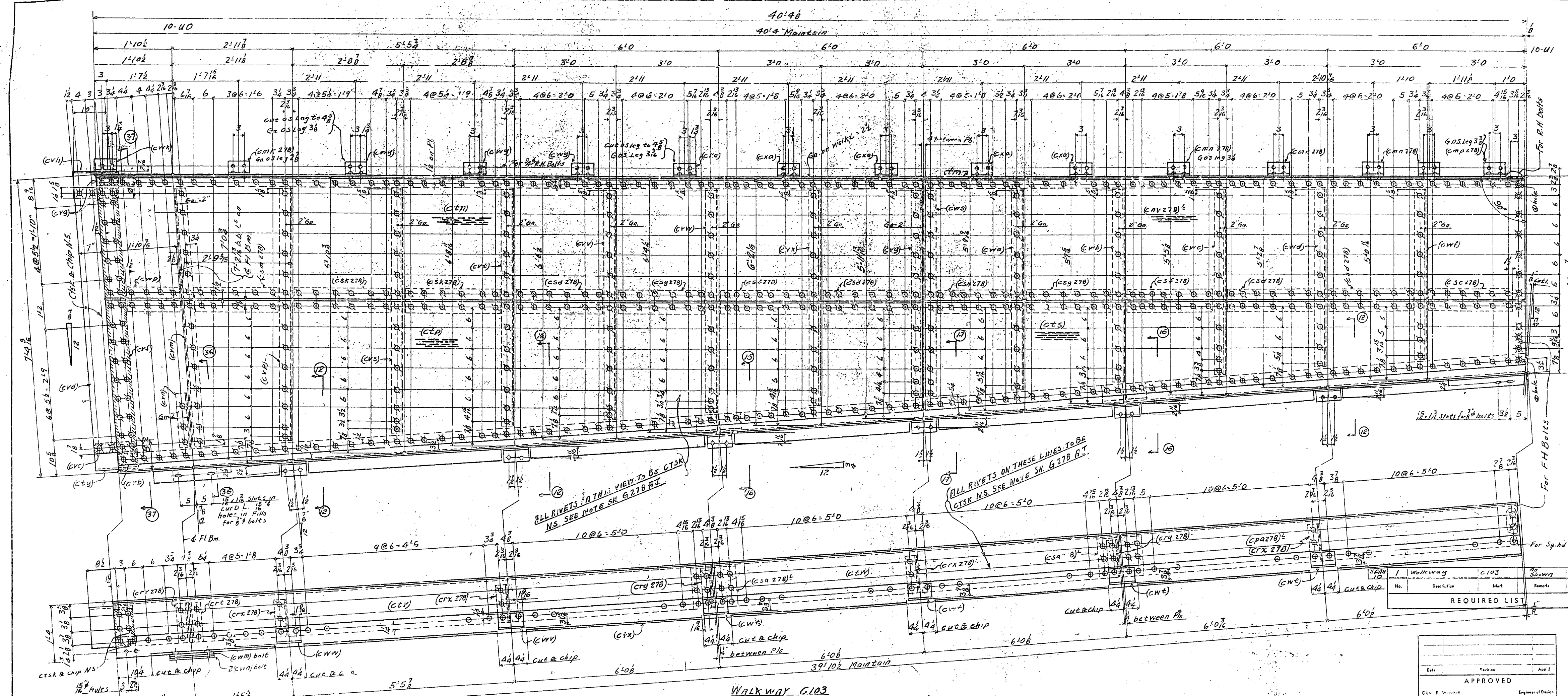
APPROVED

Engineer of Design
Bridge Engineer
Chief Engineer
Date 8-18-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Cracoling
288'0" TRUSS SPANS - PIERS E9 TO E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOMS Judson Pacific WORKS
BY CHARGE Jones MADE BY LGV
CHECKED BY E 1-17-34 TRACED BY RJL 7-6-34
LAST ADDED, DR.

CONTRACT 0415303 SHEET G 278 AJ

30-1



Span 10	1	Walkway	C103	As shown	
	No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

WALKWAY C103

Material for Walkway C103

1L 4x3½x⅜ x 40'4 (ctm) ord Item
1 Cent Knobby Pl 36x⅜ x 22'3 15/16 (ctn) Sketch N19
1 " " 36x⅜ x 17'11¾ (cnv 278)^L N15
1 " " 48 13/16 x⅜ x 22'1¼ (ctp) Sketch N20
1 " " 32 11/16 x⅜ x 17'11¾ (cts) " N21
1-Pl 16 UM x½ x 15'9 15/16 (ctr) F2E bent
1-Pl " 12'0 (ctw) F2E bent
1-Pl " 12'0⅜ (cpa 278)^L F2E bent
1L 6x3½x½ x 39'10½ (ctx) F2E
1Pl 13x½ x 1'6½ (cty) bent
1" 6UM x⅜ x 0'10¼ (cva)
1Bar 3x⅜ x 0'6 (cvb) F1E
1" 3 5/16 F1W ⅛ x 1'1 (cvc)
1Pl 13x⅜ x 6'7 11/16 (cvd) F2E
1" 6UM x⅜ x 6'7 5/32 (cvf)

1Bar 3¼ x⅜ x 0'6½ (cvg) F1E
1Pl 13½ UM x 5/16 x 0'11 (cvh) bent F1E
1Bar 3¾ UM x⅜ x 0'6½ (cvk) F1E
1L 5x3½x⅜ x 6'5 9/16 (cvm)
1" 3½x3½x⅜ x 1'4⅜ (cvn)
1" 5x3½x⅜ x 6'3¾ (cvp)
1" " 6'1¾ (cvs)
1" " 5'11 11/16 (cvt)
1" " 5'9½ (cvv)
1" " 5'7¼ (cvw)
1" " 5'5 1/16 (cvx)
1" 4x3½x⅜ x 5'2 13/16 (cvy)
1" " 5'0 9/16 (cwa)
1" " 4'10 5/16 (cwb)
1" " 4'6⅜ (cwc)
1" " 4'5⅞ (cwd)

1L 4x3½x⅜ x 4'3 11/16 (cwf)
4L^s 3½x3½x⅜ x 0'10¼ (crx 278) bent
2" 3½x3x⅜ x 0'10¼ (cry 278) bent
2Pls 13x½ x 1'3 3/16 (csa 278)^L bent
6Pls 10¾ x⅜ x 0'10⅞ (cdc 278) 1'2½ cuts 2
1L 3½x3½x⅜ x 0'10¼ (crt 278) bent
1" " 0'10¼ (crv 278) bent
1Pl 14½ UM x⅜ x 1'8 (cwg) 2'10 cuts 2
2L^s 5x3x⅜ x 1'2 (cwh)
2Pls 10½ UM x⅜ x 1'2 (cwk) bolt
1Fill 3½ x⅜ x ½ F1S x 1'1 (cwm) bolt
2 Shims 3½ x⅛ x 1'1 (cwn) bolt
1Pl 6UM x⅜ x 1'4 9/16 (cwp)
1" " 2'1½ (csm 278)
2" " 2'⅞ (csn 278)
4" " 2'8 (csd 278)

2Pls 6UM x⅜ x 2'8 (csg 278)
2" " 2'8 (csf 278)
1" " 2'4½ (csh 278)
1" " 2'7 15/16 (csc 278)
1" 7x⅜ x 5'2 13/16 (cws)
4L^s 5x3½x½ x 0'7½ (cwt) bent
1L 5 3/16 x3½x½ x 0'7½ (cwv) bent (cut 6x3½)
1" 5x3½x½ x 0'7½ (cww) bent
1" 4x4x⅜ x 0'6½ (cwx)
1" " 0'6½ (cmk 278)
3L^s 4⅝x4x⅜ x 0'6½ (cwy) cut 6x4
5" 4⅝x4x⅜ x 0'6½ (cxa) cut 6x4
4" 4¾x4x⅜ x 0'6½ (cmn 278) (cut 6x4)
1" 4⅞x4x⅜ x 0'6½ (cmp 278) (cut 6x4)

Work this sheet with sheets G278 AJ to JJ incl. & G279 BG to GG incl.
For Sections 12-15-17 see Sheet G278 IJ
For Sections 36-37 see Sheet G279 GG
For General Notes see Sheet G278 AJ

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-18-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Judson-Pacific WORKS
IN CHARGE Jenks MADE BY LCY
CHECKED BY E 1-17-34 TRACED BY CAJ 7-5-34
LAST ASSEM. MK. CXA

CONTRACT CG15803 SHEET G 279 AG

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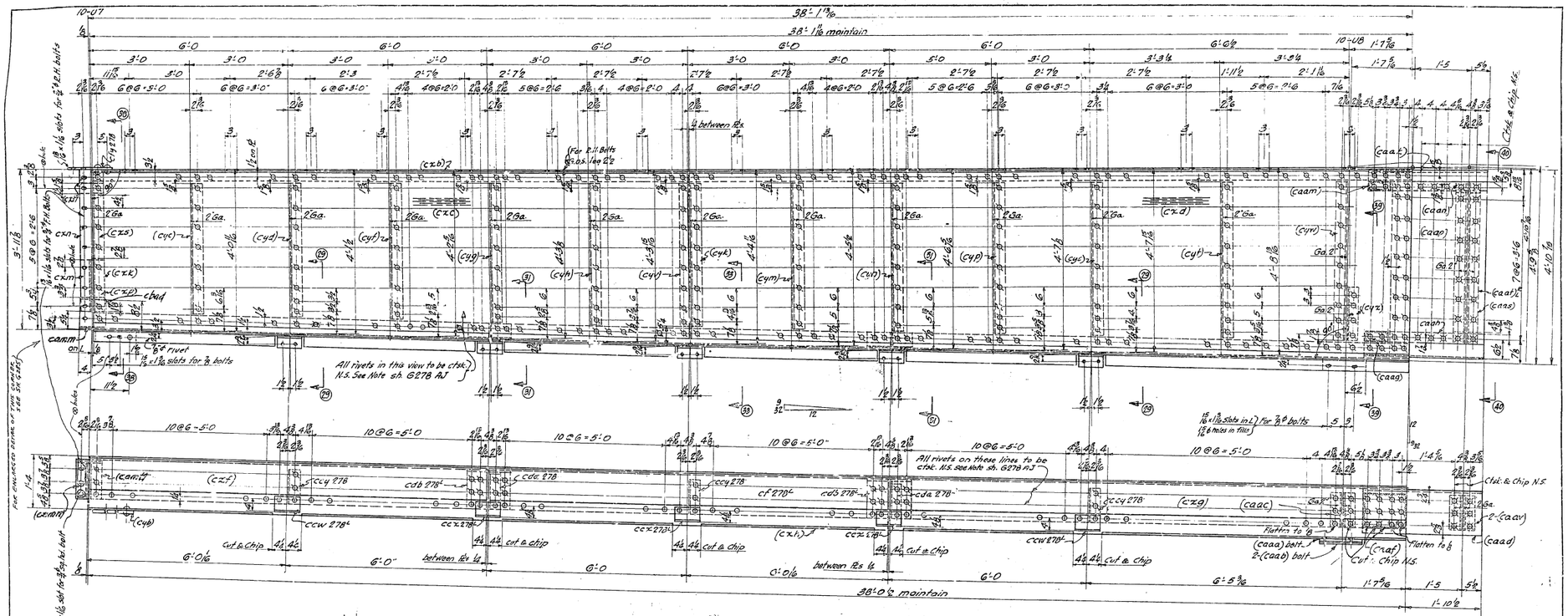
38'-1 1/16
38'-1 1/16 maintain
38'-0 1/2 maintain
All rivets in this view to be ctsk. N.S. See Note sh. G278 AJ
All rivets on these lines to be cctsk. N.S. See Note sh. G278 AJ
For 7/8" Bolts G.n.o.s. see Detail
4 between Rs.
cbad
ccy 278
cdb 278
cdc 278
cdb 278
cdc 278
cda 278
ccw 278
ccx 278
cf 270
cdb 270
cda 270
ccy 278
ccx 270
ccw 270
Cut & Chip
Flatten to fit
Ctsk. & Chip N.S.
Cut & Chip N.S.
2-(caav)
(caad)
(caab) bolt
2-(caab) bolt
(craf)
Cut & Chip N.S.
(camm)
(czf)
(camf)
(czh)
(czg)
(caac)
(caak)
(caam)
(caan)
(caao)
(caat)
(caas)
(caah)
(caag)
(cyf)
(cyg)
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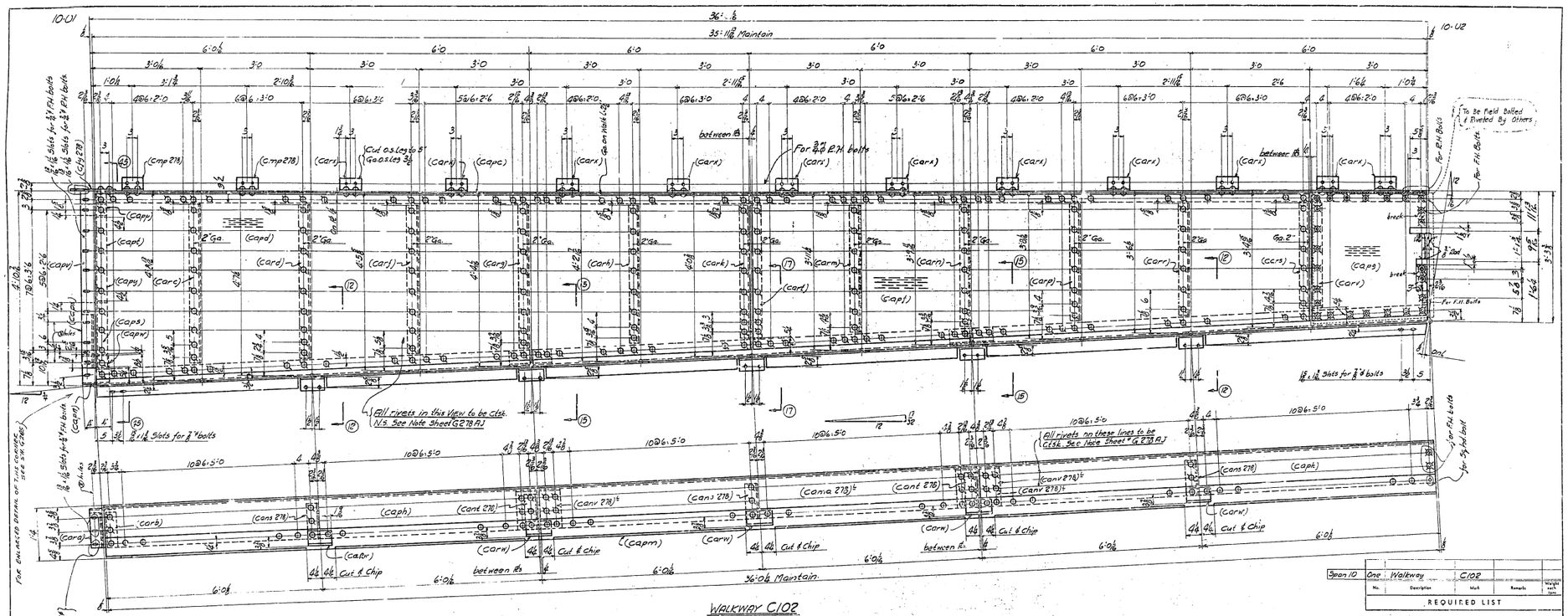


WALKWAY C102

MATERIAL for WALKWAY C102

1-L 4 x 3½ x ⅞ x 35'-11⅞ (Capa) F2E
1-Cent. Knobby Rt. 55⅜ x ⅞ x 17'-11⅞ (Capd) (Sketch N22)
1- " " Rt 46 x ⅞ x 14'-11⅜ (Capf) (Cut from sketch N23)
1- " " Rt 38⅛ x ⅞ x 2'-11⅜ (Capg) (Cut from Sk 'ch N23) bell.
1-Rt. 16 UM x ½ = 11'-11⅞ (Caph) F2E bent
1-Rt 16 UM x ½ x 11'-11⅞ (Cama 278)½ F2E bent
1-Rt 16 UM x ½ x 12'-0⅛ (Capk) F2E bent
1-L 6 x 3½ x ½ x 36'-0¼ (Capm) F2E
1-Rt. 8 x ⅞ x 1'-6⅞ (Capn) bent
1-Rt 7½ x 1⅜ x 0'-6⅞ (Capp)
1-Rt. 7½ x 1⅜ x 1'-3⅞ (Capq)
1-Fill 3½ UM x ⅛ x 2'-3 (Capt)
1-Rt. 7½ x ⅜ x 4'-1½ (Capv)
1-Rt 7½ x ⅜ x 10'-3¼ (Capw)
1-L 3½ x 3½ x ⅜ x 11'-4½ (Capx)
1-L 4 x 3½ x ⅜ x 4'-5½ (Capy)
2-Ls 5 x 3½ x ⅜ x 1'-2 (CpN 278)

1-Rt 16 UM x ⅜ x 1'-8 (Capk) (2'-10 cut ±2)
1-L 3½ x 3½ x ⅜ x 0'-10½ (Cara) bent
1-L 3½ x 3½ x ⅜ x 0'-10¼ (Carb) bent
1-L 4 x 3½ x ⅜ x 3'-11⅜ (Carc)
1-L 4 x 3½ x ⅜ x 3'-10½ (Card)
1-L 4 x 3½ x ⅜ x 3'-8⅜ (Carf)
1-L 4 x 3½ x ⅜ x 3'-7⅛ (Carg)
1-L 4 x 3½ x ⅜ x 3'-5⅛ (Carh)
1-L 4 x 3½ x ⅜ x 3'-3½ (Cark)
1-L 4 x 3½ x ⅜ x 3'-2'4 (Carm)
1-L 4 x 3½ x ⅜ x 3'-0⅜ (Carn)
1-L 4 x 3½ x ⅜ x 2'-11⅛ (Carp)
1-L 4 x 3½ x ⅜ x 2'-9½ (Carr)
1-L 4 x 3½ x ⅜ x 2'-7⅝ (Cars)
1-Rt. 7⅛ x 3'-3⅞ (Cart)
1-Rt. 7⅛ x 2'-7⅞ (Carv)
3-Ls 3½ x 5½ x ⅜ x 0'-10'4 (Cans 278) bent

2-Ls 3½ x 3 x ⅜ x 0'-10½ (Cant 278) bent
2-Rs 13 x ½ x 1'-3⅜ (Canv 278)½ bent
5-Ls 5 x 3½ x ½ x 0'-7⅛ (Carw) bent
5-Rs (cdc 278)
2-Ls Cmp 278
1-Ls 5 x 4 x ⅜ x 0'-6½ (Carx) (Cut 6½)
1-Rt (cfy 278)

Work this sheet with sheets G278AS to JJ incl.
G279AG to BG. G279CJ to GG incl.
For Sects. 12.15-17 see sheet G278JJ
For Sect. 45 see sheet G278JS
For General Notes see sheet G278AS

Span 10	One	Walkway	C102		
No.	Description	Mark	Remarks	Weight each item	

REQUIRED LIST

Date	Revision	Appd

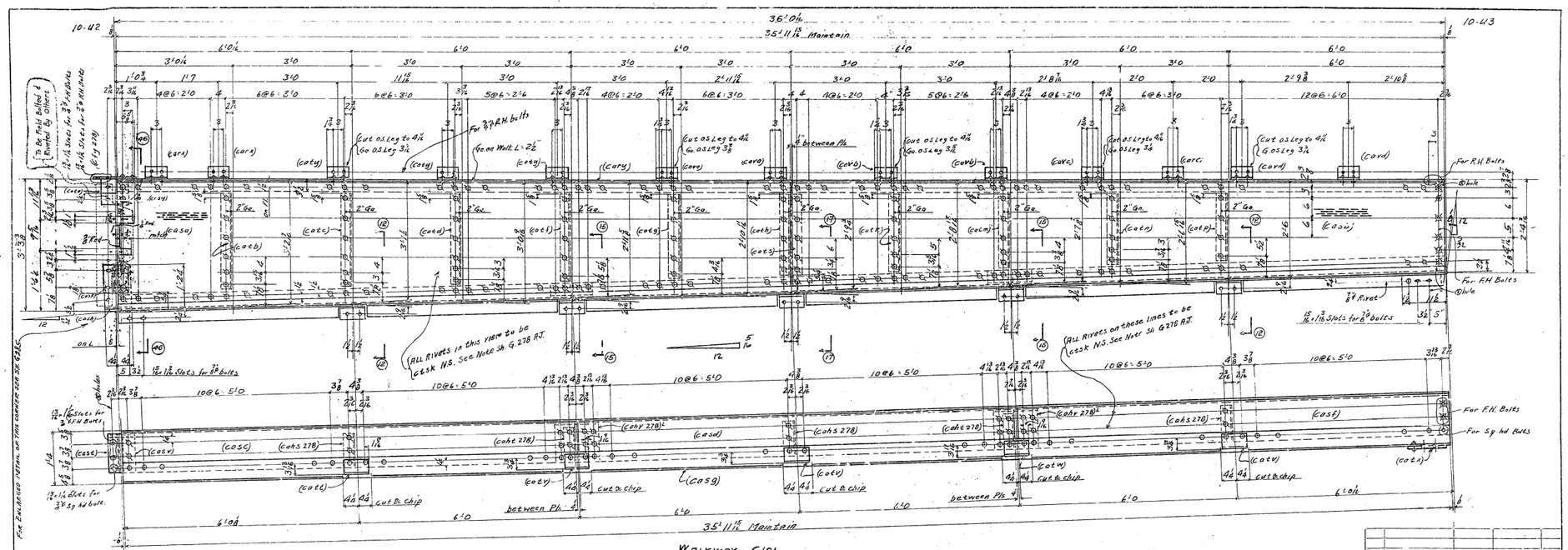
APPROVED

Engineer of Design
Bridge Engineer
Chief Engineer

Date 8-18-36

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0 TRUSS SPANS - PIERS E9 TO E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Judson Pacific WORKS
IN CHARGE Jenks MADE BY L.C.Y. 7-9-36
CHECKED BY [illegible] 7-17-36 TRACED BY V.E.L. 7-10-36
LAST ASSEM. MK. —

CONTRACT C516803 SHEET G 278 36



Material for Walkway C101

1 L 4×3½×⅜ @ 35'-11⅛ (carγ) F2E
1 Cent. Knobby Pl 36½×⅜×17'-11⅛ (casg) (Sketch N24)
1 " " " 30⅞×⅜×17'-11⅜ (cash) (Sketch N25)
1 Pl 16 UM×⅝×11'-11⅜ (casc) F2E bent
1 " " 11'-11⅜ (casd) F2E bent
1 " " 11'-11⅜ (cash) F2E bent
1 L 6×3½×⅝×35'-11½ (casγ) F2E
1 Pl 8½×⅝ Fdtn×2'-0⅝ (cash) bent
1 " 7½×½×0'-9" (cask)
~~1 L 3½×3½×⅜×2'-7½ (carγ) F2E~~
~~1 " 0'-9" (carγ) F2E~~
1 " 0'-9" carγ 278
1 " 0'-10½ (casd) bent
1 " 0'-10½ (casv) bent
1 Pl 13½×⅜×1'-0⅜ (cbaf 278)
~~1 Pl 7½×⅜×0'-4⅜ (casγ)~~
1 Pl 7½×⅜×0'-4⅜ (casγ)
1 " " 0'-7⅞ (casv)
1 " (c4γ 278)
1 L 4×3½×⅜@ 2'-5⅞ (cast)
1 L 4-3½×⅜×2'-6½ (cast)
1 " " 2'-3⅝ (casv)
1 " " 2'-2⅝ (cast)
1 " " 2'-1⅛ (casγ)
1 " " 2'-0⅜ (cash)
1 " " 1'-11⅞ (casc)
1 " " 1'-10⅜ (casm)
1 " " 1'-9⅞ (casn)
1 " " 1'-9 (casp)
1 Pl 7×⅜×2'-0⅜ (casq)
3 L³ 3½×3½×⅜×0'-10½ (cahs 278) bent
2 " 3½×3×⅜×0'-10½ (cahs 278) bent
2 Pls 13×⅜×1'-3⅞ (cahr 278)⁴ bent
5 " (cdc 278)
1 L 5×3½×½×0'-7½ (casq) bent
3 " " 0'-7½ (casr) bent
1 " " 0'-7½ (casm) bent
1 Pl 3½×⅝×1'-0⅝ (cast)
2 L³ (carx)
3 L³ 4⅞×4×⅜×0'-6½ (cavv) cut 6-4
2 " " 0'-6½ (cava) cut 6-4

Walkway C101

2 L³ 4⅞×4×⅜×0'-6½ (cava) cut 6-4
2 " " 0'-6½ (cavs) cut 6-4
2 " " 0'-6½ (cavd) cut 6-4
2 PL 5×3½×⅜×0'-9" (cbak 278)

Work this sheet with sheets G 278 A5 to 33 incl.
G279 A6 to G279 E6 to G6 incl.
For Sects 12-15-17 see sheet G 278 I3
For Sect 46 see sheet G 279 G6
For General Notes see sheet G 278 A3

SPAN 10	No.	Description	Mark	Remarks	Weight each Item
	1	Walkway	C101	As shown	

REQUIRED LIST

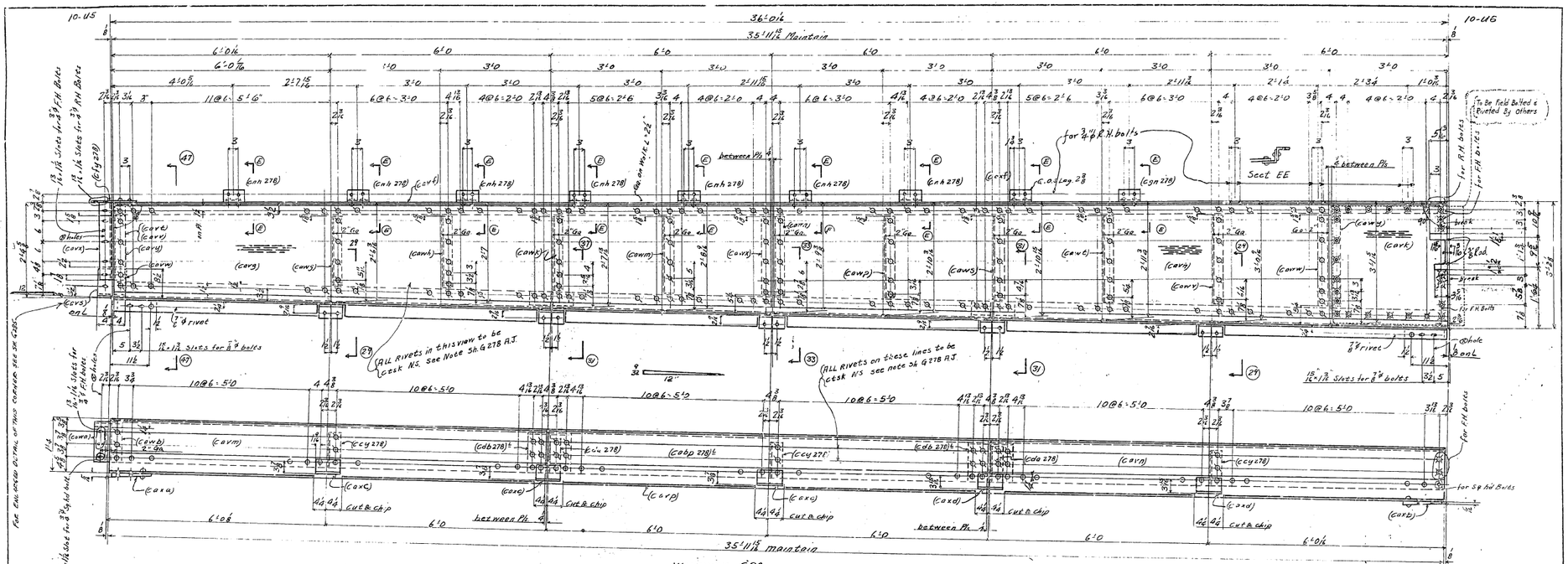
Date	Revision	Appd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-16-34

State of California
Department of Public Works
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
280'-0" Truss Spans - Piers E 9 to E 23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Indian Pacific WORKS
IN CHARGE J.A.J.S. MADE BY L.C.Y.
CHECKED BY E 7-17-34 TRACED BY C.R.F. 7-10-34
LAST ASSEM. ERK.

CONTRACT C415805 SHEET G 279 06

30-1



Material for Walkway C98

1 L 4 × 3½ × ⅜ × 35'-11 13/16 (cavl) F2E
1 Cent knobby Pl 30½ × ⅜ × 17'-11 7/8 (cavg) (Sketch N25)
1 " " " 39 1/4 × ⅜ × 14'-11 3/8 (cavh) (cut from sketch N27)
1 " " " 35¼ × ⅜ × 2'-11 3/8 (cavk) (cut from Sketch N27) bolt.
1 Pl 16UM × ⅜ × 12'-0 (cavm) F2E bent
1 " " 11'-11 3/8 (cabp 278)[t] F2E bent
1 " " 11'-11 3/8 (cavi) F2E bent
1 L 6 × 3½ × ⅝ × 35'-11 15/16 (cavp) F2E
1 Pl 8 × 7/16 × 1'-6 3/8 (cavs) bent
1 " 7½ × 1/16 × 1'-7 5/8 (cavt) F1E
1 " 7½ × ⅜ × 1'-7 5/8 (cavv) F2E
1 " 7½ × ⅜ × 0'-3 3/8 (cavw) F1E
1 L 3½ × 3½ × ⅜ × 1'-11 3/8 (cavx)
1 L 3½ × 3½ × ⅜ × 1'-11 3/8 (cavy)
1 L " 0'-10 4 (cawa) bent
1 L " 0'-10 4 (cawb) bent
1 L 5 × 3½ × ⅜ × 1'-2 (cawc) bent
1 " " " 1'-2 (cawd) bent
1 Pl 14UM × ⅜ × 1'-8 (cawl) (2 1/16 cuts 2)
1 L 4 × 3½ × ⅜ × 1'-9 7/16 (cawq)

1 L 4 × 3½ × ⅜ × 1'-10 (cawh)
1 " " 1'-10 1/8 (cawk)
1 " " 1'-11 1/8 (cavm)
1 " " 2'-0 3/8 (cawn)
1 " " 2'-1 1/8 (cawp)
1 " " 2'-1 7/16 (c.w.s)
1 " " 2'-2 3/8 (cawz)
1 " " 2'-3 3/8 (cawv)
1 L " 2'-4 3/8 (cawx)
1 Pl 7 × ⅜ × 2'-0 3/8 (cawx)
1 " 7 × ⅜ × 2'-0 3/8 (cawy)
3 L[s] 3½ × 3½ × ⅜ × 0'-10 4 (cey 278) bent
2 L[s] 3½ × 3 × ⅜ = 0'-10 4 (cda 278) bent
2 Pls. 13 × ½ × 1'-3 1/2 (cdb 278)[t] bent
5 Pls. (cdc 278)
1 Pl 12½ × 7/16 × 7/16 FIS. 0'-3½ (caxa) Beveled
1 Pl 12½ × 7/16 × 7/16 FIS × 0'-3½ (caxb) Beveled
3 L[s] 5 × 3½ × ½ × 0'-7½ (caxc)
2 L[s] 5 7/8 × 3½ × ½ × 0'-7½ (caxd) cut 6 3/4
7 L[s] 4 × 3½ × ⅜ × 0'-6½ (cxh 278)

1 L 4 × 4 × ⅜ × 0'-6½ (caxf)
1 " " 0'-6½ (cgn 278)
1 Pl. (cfy 278)

Work this sheet with sheets G 278 A5 to J5 incl.
G 279.9 G to 06 & G 279 F6 G6.
For Sects 29-31-33 see Sheet G 278 I5
For Sect. 47 see sheet G 279 G9.
For General Notes see sheet G 278 A5

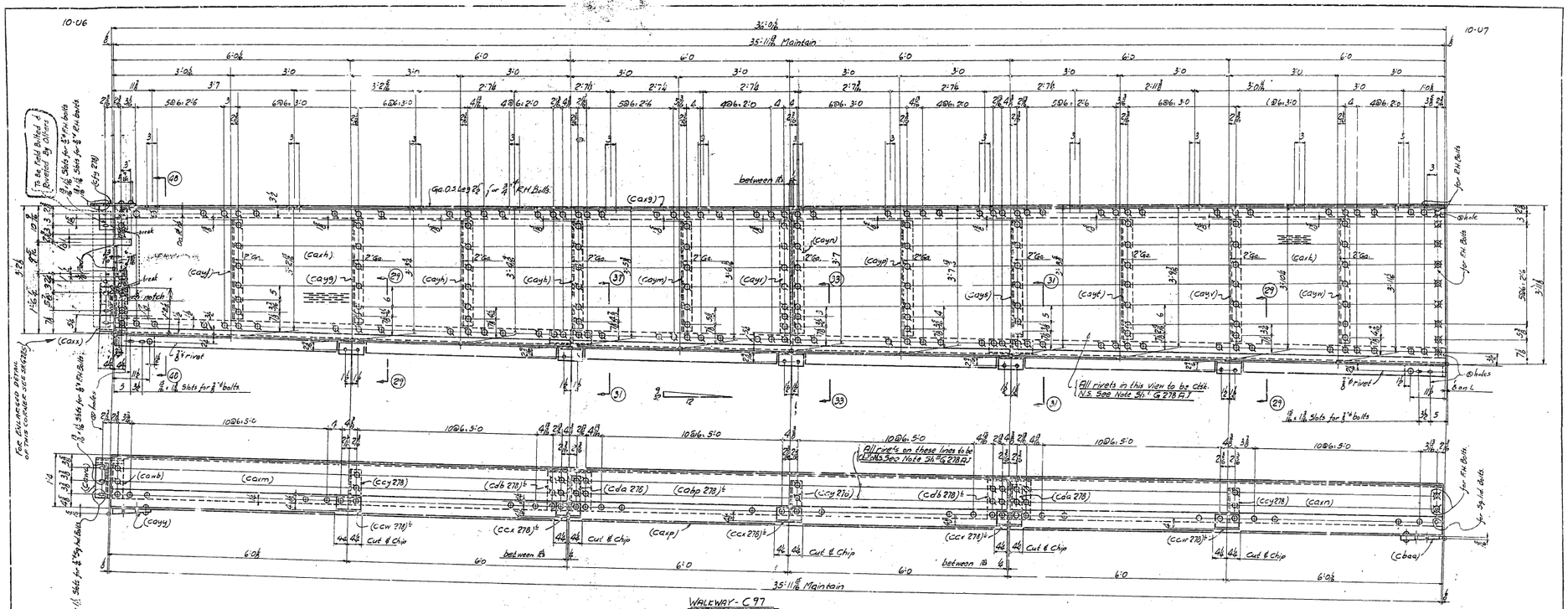
SPAN 10	No.	Description	Mark	Remarks	Weight each Item
	1	Walkway	C98	As shown	

REQUIRED LIST

Date	Position	Appd
APPROVED		
Glenn B. Woodruff		Engineer of Design
Chr. C. Archer		Bridge Engineer
C. H. Purcell		Chief Engineer
Dec. 8-18-34		

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans Piers E 9 to E 23.
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Tucker Pacific WORKS
IN CHARGE Hughes MADE BY H.G.F.
CHECKED BY E 1-17-34 TRACED BY CAS 7-11-34
LAST ASSEM. SEE

CONTRACT CG19203 SHEET G 279 G 9



MATERIAL for WALKWAY - C97

1-L 4 x 3½ x ⅜ x 35'-11⅞ (Cax9) FZE
1-Cent. Knobby ℔ 40[x ⅜ x 17'-11⅞ (Cark) (Sketch N78)
1-" " ℔ 45 x ⅜ x 17'-11⅞ (Caxk) (Sketch N29)
1-℔ 16 UM 1½ x 12'-0 (Carm) FZE bent
1-℔ (Cabp 278)[b]
1-℔ 16 UM 1½ x 11'-11⅞ (Carn) FZE bent
1-L 4 x 3½ x ½ x 35'-11⅞ (Cap) FZE
1-℔ B6 ⅞" x 2'-0⅝ (Caxx) bent
1-℔ 7½ x ½ x 0'-7" (Caxt)
~~1-℔ 5 x 3½ x ⅝ (Caxz) bent~~
~~1-℔ 3½ x ⅜ x 10" (Caxw) Tail~~
1-L Cam 278
1-L Cad W 278
1-L (Cawa)
1-L (Cawb)
~~1-℔ 13⅜ x ⅜ x 1'-0⅞ (Cadw 278)~~
~~1-℔ 7½ x ⅜ x 0'-10⅞ (Cayb) bent~~
1-℔ 7½ x ⅜ x 0'-12⅞ (Cayc)
1-℔ 7½ x ⅜ x 0'-6⅞ (Cayd)
1-℔ (Cdy 278)
1-L 4 x 3½ x ⅜ x 2'-5⅝ (Cayf)
1-L 4 x 3½ x ⅜ x 2'-6⅜ (Cayg)
1-L 4 x 3½ x ⅜ x 2'-7⅞ (Cayh)
1-L 4 x 3½ x ⅜ x 2'-8⅞ (Cayk)
1-L 4 x 3½ x ⅜ x 2'-9⅞ (Caym)
1-L 4 x 3½ x ⅜ x 2'-10" (Cayn)
1-L 4 x 3½ x ⅜ x 2'-10⅞ (Cayp)
1-L 4 x 3½ x ⅜ x 2'-11⅝ (Cayq)
1-L 4 x 3½ x ⅜ x 3'-0⅜ (Cayr)
1-L 4 x 3½ x ⅜ x 3'-1⅛ (Cays)
1-L 4 x 3½ x ⅜ x 3'-2⅛ (Cayt)
1-℔ 7 x ⅜ x 2'-10" (Cayu)
1-℔ 12⅝ x 7/16 x 5/32 FIS 10'-3½ (Cayv) Beveled
1-℔ 12½ x 7/16 x 5/32 FIS 10'-3½ (Cbaa) Beveled
3-Lb (Ccy 278)
2-Lb (Cda 278)
2-Lb (Cdb 278)[b]
5-Lb (Cdc 278)
2-Lb CCW 278[b]
3-Lb CCX 278[b]
1-L 5 x 3½ x ⅝ x 9" (Cbam) bent
1-L " do " 9" (Cban) bent

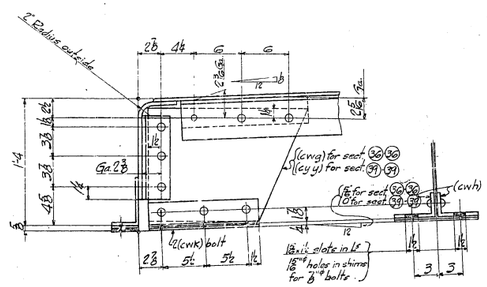
Work this sheet with sheets G 278 AJ to SJ
G 279 AA to EQ & G 279 GG
For Sects 29-31-33 see sheet G 278 IJ
For Sect. AB see sheet G 279 GG
For General Notes see sheet G 278 AJ

Span 10	One	Walkway	C97		
	Mark No.	Description	Mark	Remarks	Weight Each Piece
		REQUIRED LIST			

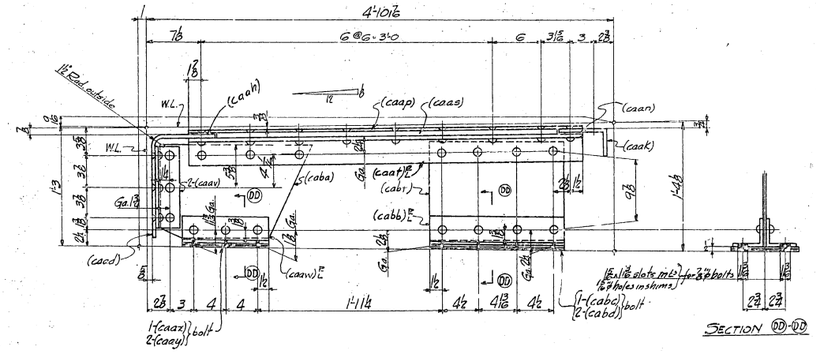
Date	Revision	Appd.
APPROVED		
Engineer of Design		
Bridge Engineer		
Chief Engineer		
Date 8-18-34		

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
263'-0 TRUSS SPANS - PIERS E9 TO E23
McCLINTIC - MARSHALL CORPORATION
Chicago DRAWING ROOM Judson Pacific WO. 876
IN CHARGE Jones TRACED BY L.C.Y. 7-10-34
CHECKED BY [illegible] 7-17-34 TRACED BY V.E.F. 7-11-34
LAST ASSGN. MTL.

CONTRACT 06S6603 SHEET G 278 AI

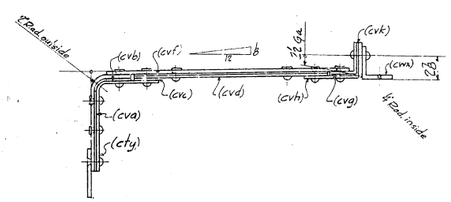


SECTION 36-36 AS SHOWN & NOTED
SECTION 37-37 OPP HAND & NOTED

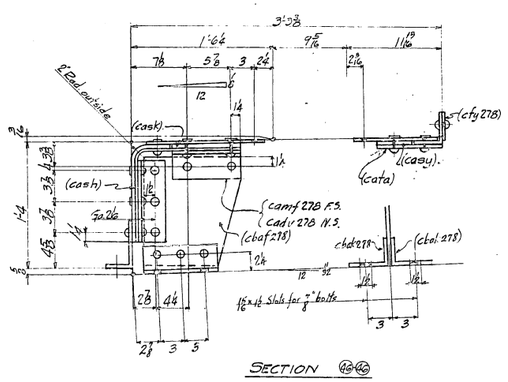


SECTION 40-40

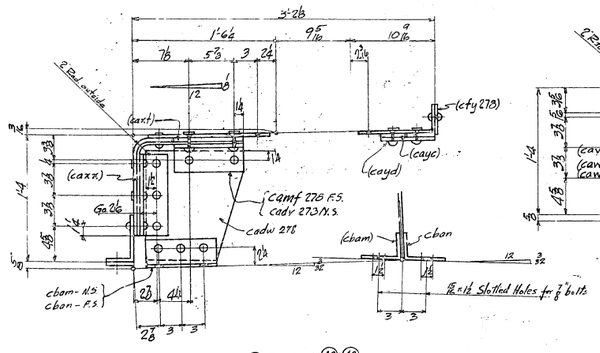
SECTION 00-00



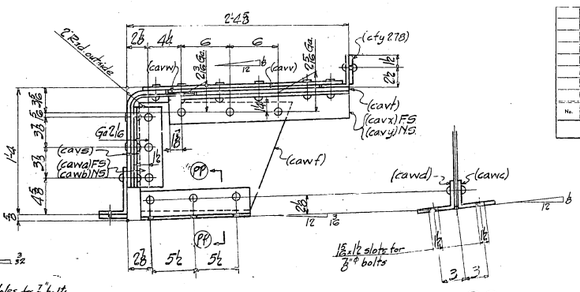
SECTION 37-37



SECTION 46-46



SECTION 48-48



SECT PP-PP

SECTION 47-47

Work this sheet with sheets G 278 A3 to J3 incl.
& G 279 A6 to F6 incl.
For General Notes see Sheet G 278 A3

No.	Description	Mark	Remarks	Weight each item

REQUIRED LIST

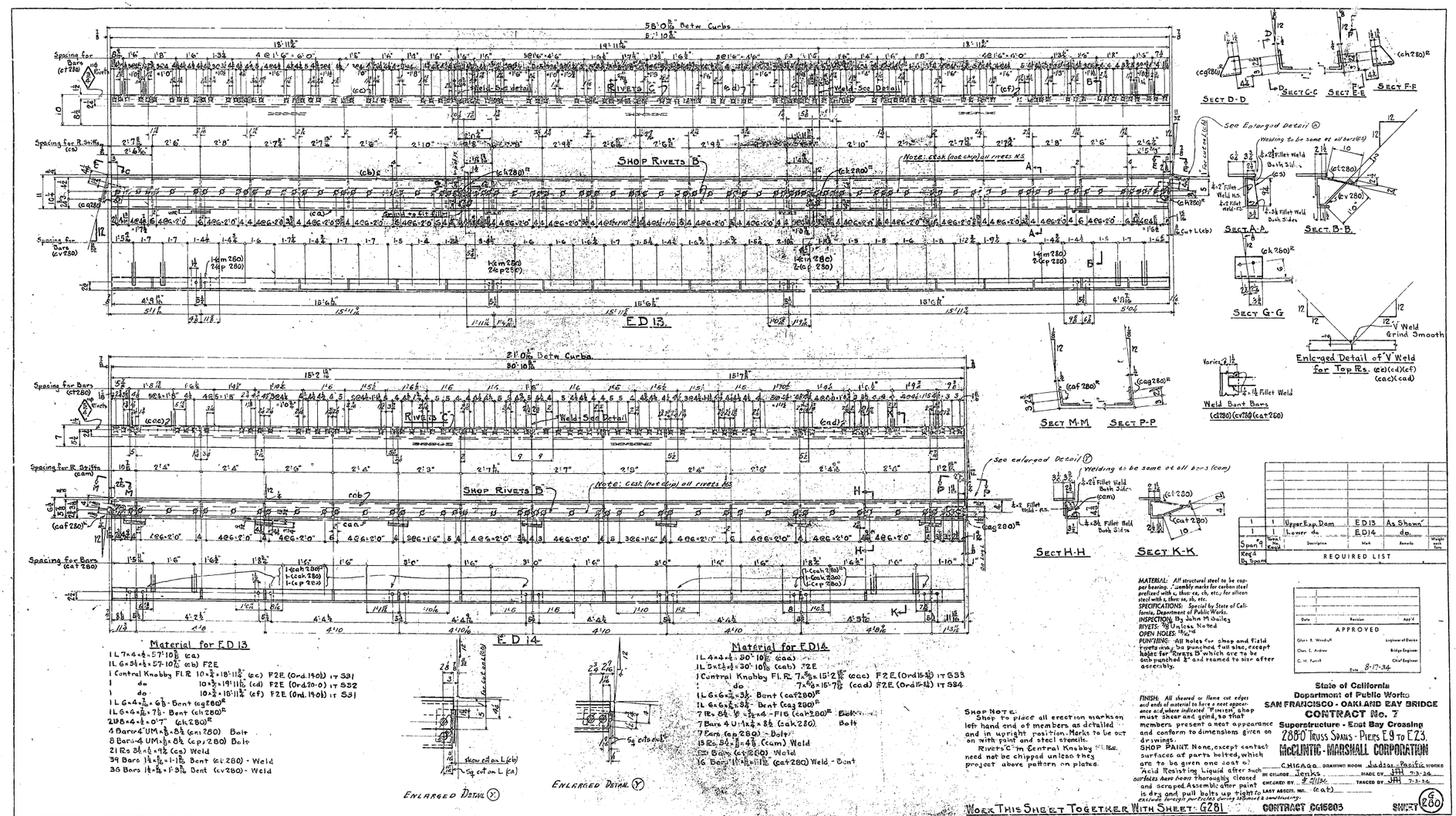
Date	Revision	Appr'd

APPROVED

Engineer of Design
Bridge Engineer
Chief Engineer
Date 8-18-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
286'-0" TRUSS SPANS - PIERS E9 TO E23
McCLINTIC - MARSHALL CORPORATION
Chicago DRAWING ROOMS Judson-Pacific WORKS
IN CHARGE Jenkins MADE BY L.C.Y.
CHECKED BY E. 7-12-34 TRACED BY R.J.L. 7-9-34
LAST ADDED, ERR. CBars

CONTRACT 0515003 SHEET 272 46



Material for E D 13

1 L 7×4×½ × 57-10 3/8 (ca)
1 L 6×3½×½ × 57-10 3/8 (cb) F2E
1 Central Knobby Fl.R 10×¾ × 18'-11 3/8" (cc) F2E (Ord. 19-0b) IT S31
1 do 10×¾ × 19'-11 3/8" (cd) F2E (Ord 20-0) IT S32
1 do 10×¾ × 16'-11 3/8" (cf) F2E (Ord. 19-0b) IT S31
1 L 6×4×⅞ × 6'-3" - Bent (cg280)[E]
1 L 6×4×⅞ × 7'-1" - Bent (ch280)[E]
2 PL 8×4×½ × 0'-7" (ck280)[E]
4 Bars 4 UM×⅞ × 8'-3½ (cm 280) Bolt
8 Bars 4 UM×⅞ × 8'-8 (cp 280) Bolt
21 Rs 3½×½ × 9'-2 (cs) Weld
34 Bars 1¼×⅞ × 1'-1⅜ Bent (cv 280) - Weld
36 Bars 1¼×⅞ × 1'-3⅝ Bent (cv 280) - Weld

Material for E D 14

1 L 4×3½×½ × 30'-10 3/8 (caa)
1 L 5×3½×½ × 30'-10 3/8 (cab) F2E
1 Central Knobby Fl. R. 7⅝ × 15'-2 15/16 (cac) F2E (Ord 15-b) IT S33
do 7×⅝ × 15'-7⅛ (cad) F2E (Ord 15-b) IT S34
1 L 6×6×⅝ × 3'-3½ Bent (caf 280)[E]
1 L 6×6×⅝ × 3'-3½ Bent (cag 280)[E]
7 Rs 3½ × ⅝ × 3'-4 - F1S (cak 280)[E] Bolt
7 Bars 4 U 11½ × 8½ (cak 280) Bolt
7 Bars (cp 280) - Bolt
15 Rs 3½ × ⅝ × 4'-3 (ccam) Weld
Bars (ct 280) Weld
16 Bars 1¼ × ⅞ × 1'-1⅜ (caf 280) Weld - Bent

Shop Note:
Shop to place all erection marks on left hand end of members as detailed and in upright position. Marks to be put on with paint and steel stencils.
Rivets C in Central Knobby Fl. Rs. need not be chipped unless they project above pattern on plates.

Work This Sheet Together With Sheet: G281

Span No	Reqd	Description	Mark	Remarks	Weight each item
1	1	Upper Exp. Dam	ED13	As Shown	
1	1	Lower do.	ED14	do.	

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: cc, cb, etc., for silicon steel with s, thus: sc, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: ⅞ Unless Noted
OPEN HOLES: 15/16"ø
PUNCHING: All holes for shop and field rivets may be punched, full size, except holes for Rivets B which are to be sub-punched ¾" and reamed to size after assembly.

FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated "Finish" shop must shear and grind, so that members present a neat appearance and conform to dimensions given on drawings.
SHOP PAINT: None, except contact surfaces of parts bolted, which are to be given one coat of Acid Resisting Liquid after such surfaces have been thoroughly cleaned and scraped. Assemble after paint is dry and pull bolts up tight to exclude foreign particles during shipment & erection.

Date	Revision	App'd

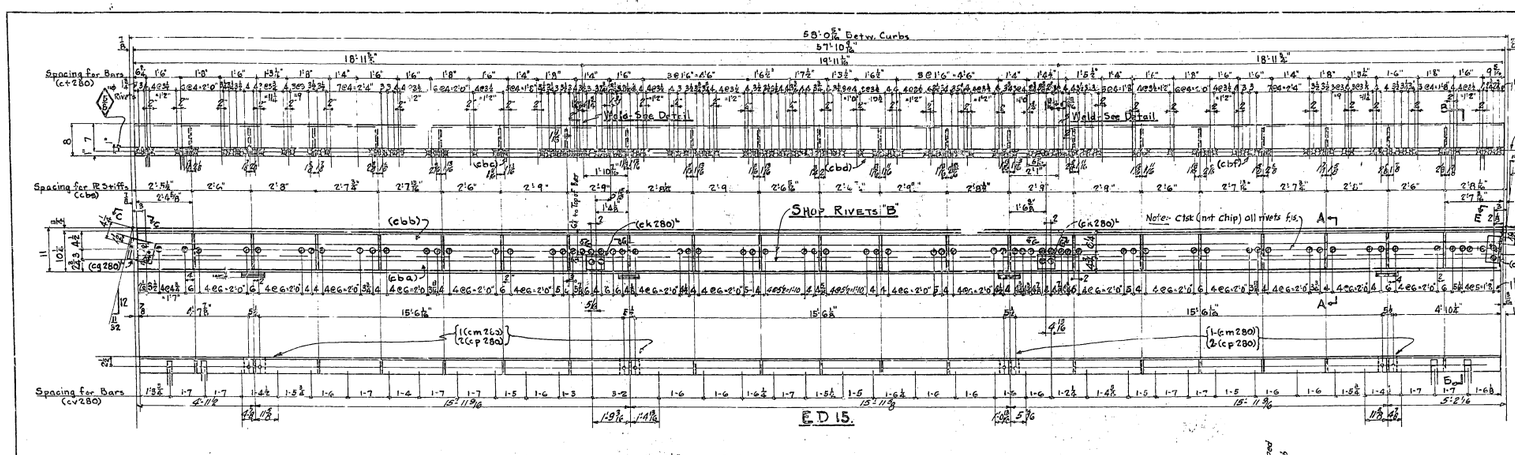
APPROVED

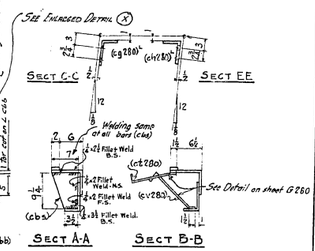
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-17-34

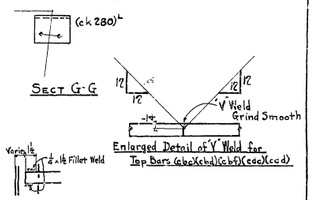
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0 Truss Spans - Piers E9 to E23.
McCLINTIC - MARSHALL CORPORATION

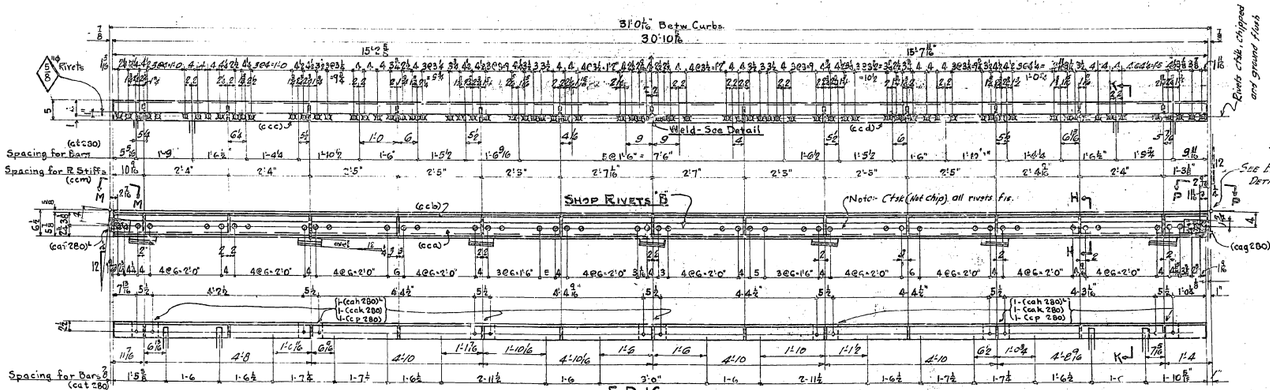
CHICAGO	DRAWING ROOM	Lindstar - Pacific	WORKS
IN CHARGE	Jenks	MADE BY	JHH 7-3-34
CHECKED BY	[illegible]	TRACED BY	JHH 7-3-34
LAST ASSOC. NO.	(cat)		

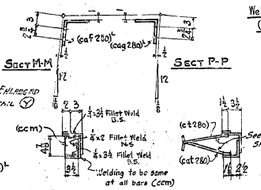
CONTRACT C.C.15803 — SHEET G 280

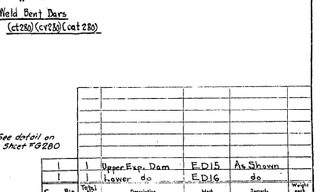










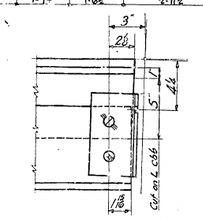


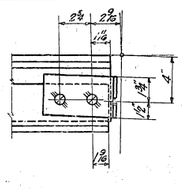
1	1	Upper Exp. Dam	E D 15	As Shown
1	1	Lower do	E D 16	do

REQUIRED LIST

Material for E D 15

1 L 7 - 4×½ × 57'-10⅜ (cbc)
1 L 8×6×½ × 57'-10⅜ (cbb) F2E
1 Bar 2 UM×⅝ × 18'-11⅝ (cbe) F2E
1 Bar 2 UM×⅝ × 19'-11⅝ (cbd) F2L
1 Bar 2 UM×⅝ × 18'-11⅝ (cbf) F2E
1 L 6×4×⅜ - 6'-8 - Bent - (cg 280)L
1 L 6×4×⅜ - 7'-8 - Bent - (ch 280)L
22 8×4×½ - 7 (ck 280)L
4 Bars 4 UM×⅝ × 2'-2 (cm 280) - Bolt
8 Bars 4 UM×⅝ × 0'-8 (cp 280) - Bolt
21 PLs 7×½ × 9'-2 (cbb)-Weld
39 Bars 1⅛×⅝ × 1'-1⅜ Bent (ct 280)- Weld
37 Bars 1⅛×⅝ × 1'-3⅜ Bent (cv 280)- Weld





Material for E D 16

1 L 4×4×¼ × 30'-10⅝ (cca)
1 L 5×5×½ × 30'-10⅝ (ccb) F2E
1 Bar 2 UM×⅝ × 15'-2⅝ (ccc) F2E
1 Bar 2 UM×⅝ × 15'-7⅛ (ccd) F2E
1 L 6×6×⅞ × 3'-4 - Bent - (ca 280)L
1 L 6×6×⅞ × 3'-4 - Bent - (cag 280)L
7 Rs 8½×1" × 2'-4 - F18 (cah 280)L Bolt
4 UM×⅝ × 8½ (cak 280) Bolt
7 Bars (cp 280) - Bolt
13 PLs 3½ × ⅜ × 4'-3 (ccm) Weld
20 Bars (ct 280) Weld
16 Bars 1⅛×⅝ × 1'-1⅜ - Bent (cat 280)- Weld

Shop Note:
Ship to place all erection marks on left hand end of members as detailed and in an upright position. Marks to be put on with paint and steel stencils.

MATERIAL: All structural steel to be copper bearing, assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M Bailey
RIVETS: ¾" Unless Noted
OPEN HOLES: 15/16"ø
PUNCHING: All holes for Shop and Field Rivets may be punched full size, except holes for "Rivets B" which are to be subpunched and reamed to size after assembly.

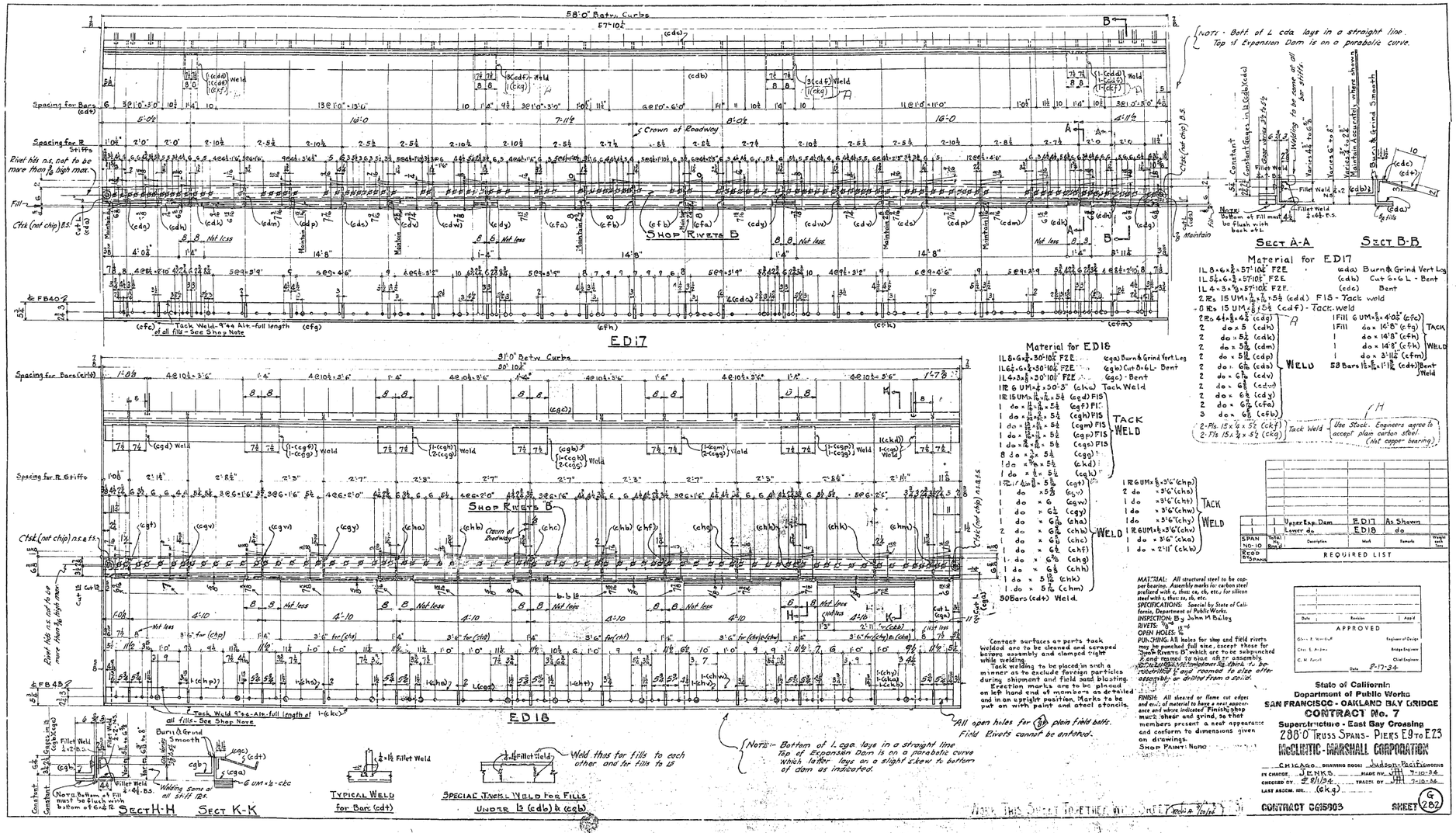
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated Finish, shop must sheer and grind, so that members present a neat appearance and conform to dimensions given on drawings
SHOP PAINT: None, except contact surfaces at parts bolted, which are to be given one coat of Acid Resisting Liquid after such surfaces have been thoroughly cleaned and scraped. Assemble after paint is dry and pull bolts up tight to exclude foreign particles during shipment & sand blasting.

Date	Revision	App'd
	APPROVED	
Geo. B. Worth		Engineer of Design
Chas. E. Andrew		Bridge Engineer
C. H. Purcell		Chief Engineer
	Date 8-17-34	

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
280 TRUSS SPANS - PIERS E9 TO E23
McKITRIC - MARSHALL CORPORATION
CHICAGO DRAWING ROOM Judson Pacific WORKS
IN CHARGE Jenks MADE BY JHH 7-6-34
CHECKED BY [illegible] TRACED BY JHH 7-6-34
LAST ASSEM. MK. (ccm)
CONTRACT 046003 SHEET G 281

WORK THIS SHEET TOGETHER WITH SHEET G 280

30-1



NOTE - Bott of L cda lays in a straight line. Top of Expansion Dam is on a parabolic curve.

SECT A-A SECT B-B

Material for ED17

1 L 8 × 6 × ⅞ × 57'-10½" FZE
1 L 5½ × 6 × ⅞ × 57'-10½" FZE
1 L 4 × 3 × ⅝ × 57'-10½" FZE
2 Rs 15 UM × ⅞ × 2½ × 5½ (cdd) FIS - Tack weld
8 Rs 15 UM × ⅞ × 2½ × 5½ (cdf) - Tack Weld
2 Rs 44 × ⅞ × 4½ (cdg)
2 do × 5 (cdh)
2 do × 5½ (cdk)
2 do × 5½ (cdm)
2 do × 5½ (cdp)
2 do × 6⅛ (cds)
2 do × 6⅞ (cdv)
2 do × 6⅞ (cdw)
2 do × 6⅞ (cdy)
2 do × 6⅞ (cfa)
3 do × 6⅞ (cfb)
(cda) Burn & Grind Vert Leg
(cdb) Cut 6 × 6 L - Bent
(cdc) Bent

A
1 Fill 6 UM × ⅞ × 4'-0½" (cfc) } TACK
1 Fill do × 14'-8" (cfg) } TACK
1 do × 14'-8" (cfh) } WELD
1 do × 3'-11½" (cfm) } WELD
WELD 58 Bars 1½ × ⅞ × 1'-11½" (cdf) Bent Weld

H
2-Pls. 15 × ¾ × 5'-2 (ckf) } Tack Weld
2-Pls 15 × ¾ × 5'-2 (ckg) } Use Stock. Engineers agree to accept plain carbon steel (Not copper bearing)

Material for ED18

1 L 8 × 6 × ⅞ × 30'-10½ FZE (cga) Burn & Grind Vert Leg
1 L 6½ × 6 × ⅞ × 30'-10½ FZE (cgb) Cut 8 × 6 L - Bent
1 L 4 × 3 × ⅝ × 30'-10½" FZE (cgc) - Bent
1 R 6 UM × ⅝ × 30'-3" (ckc) Tack Weld
1 R 15 UM × ⅞ × 2½ × 5½ (cgd) FIS
1 do × ⅞ × 2½ × 5½ (cgf) FIS
1 do × ⅞ × 2½ × 5½ (cgh) FIS
1 do × ⅞ × 2½ × 5½ (cgm) FIS
1 do × ⅞ × 2½ × 5½ (cgp) FIS
1 do × ⅞ × 2½ × 5½ (cgq) FIS
8 do × ⅞ × 5½ (cgg)
1 do × ⅞ × 5½ (ckd)
1 do × ⅞ × 5½ (cgk)
1 R 15 UM × ⅞ × 2½ × 5½ (cgt)
1 do × 5½ (cgv)
1 do × 6 (cgw)
1 do × 6½ (cgy)
1 do × 6⅞ (cha)
2 do × 6⅞ (chb)
1 do × 6½ (chc)
1 do × 6½ (chf)
1 do × 6⅞ (chg)
1 do × 6⅛ (chh)
1 do × 5⅛ (chk)
1 do × 5⅞ (chm)
50 Bars (cdf) Weld.

TACK WELD

1 R 6 UM × ⅝ × 3'-6" (chp)
2 do × 3'-6" (chb)
1 do × 3'-6" (cht)
1 do × 3'-6" (chv)
1 do × 3'-6" (chy)
1 R 6 UM × ⅝ × 3'-6" (chv)
1 do × 3'-6" (cka)
1 do × 2'-11" (ckb)

TACK WELD

MATERIAL: All structural steel to be copper bearing. Assembly marks to carbon steel prefixed with c, thus: cx, cb, etc., for silicon steel with s, thus: sx, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M Bailey
RIVETS: ⅞ϕ 18 to ϕ
OPEN HOLES: 16
PUNCHING: All holes for shop and field rivets may be punched full size, except those for "Shop Rivets B" which are to be subpunched ⅛" and reamed to size after assembly.
All holes for permanent bolts shall be subpunched ¼" and reamed to size after assembly or drilled from a solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated "Finish" shop must shear and grind, so that members present a neat appearance and conform to dimensions given on drawings.
Shop Paint: None

Contact surfaces of parts tack welded are to be cleaned and scraped before assembly and clamped tight while welding.
Tack welding to be placed in such a manner as to exclude foreign particles during shipment and field sand blasting.
Erection marks are to be placed on left hand end of members as detailed and in an upright position. Marks to be put on with paint and steel stencils.

1	1	Upper Exp. Dam	ED17	As Shown
	1	Lower do.	ED18	do

SPAN NO.	Total No. Bars	Description	Mark	Remarks	Weight each Item
10 to 23					

REQUIRED LIST

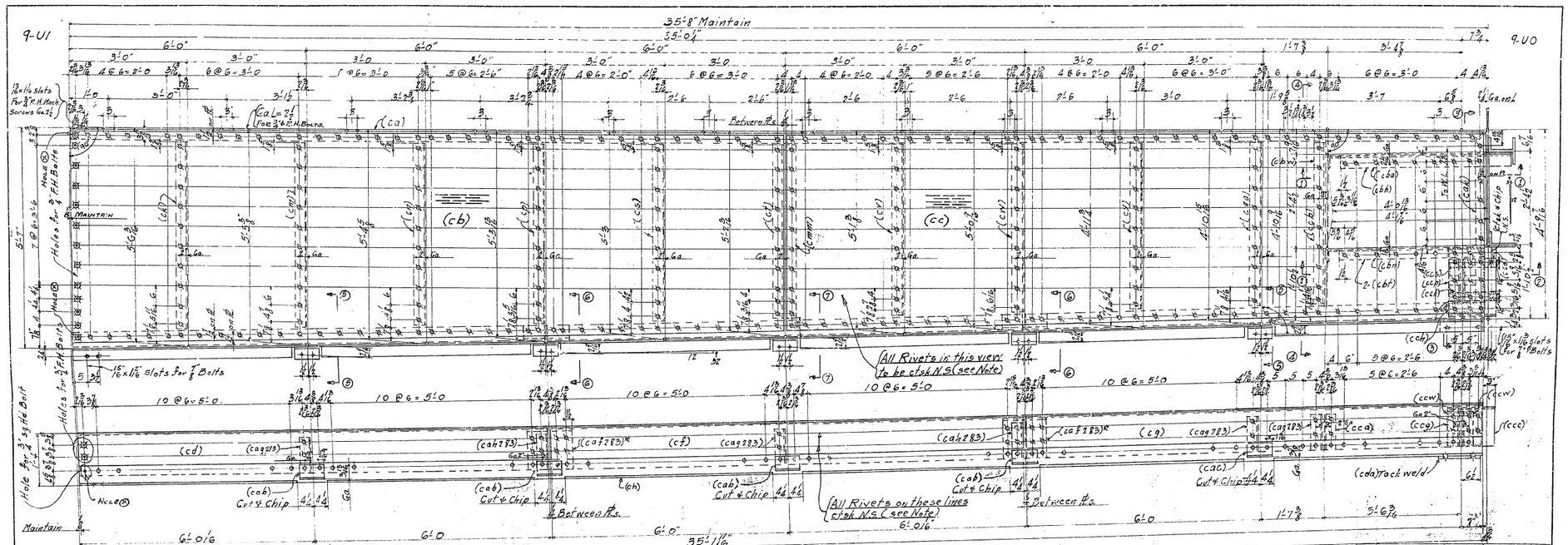
Date	Revision	Appd
APPROVED		
Glen F. Woodruff		Engineer of Design
Chas. E. Andrew		Bridge Engineer
C. H. Purcell		Chief Engineer
Date 8-13-34		

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

CHICAGO DRAWING ROOM: Hudson-Pacific Works
IN CHARGE: J.E.N.K.S. MADE BY: 7-10-34
CHECKED BY: E.B.I./34 TRACED BY: 7-10-34
LAST ASSGN. NO.: (ckg)

CONTRACT CC15903 SHEET G (282)

MARK THIS SHEET TOGETHER WITH SHEET Book A Page 5



Material for C127

11-4 x 9½ x 2'-8 - 35'-7 11/16" (ca) F.E.
1-Cent Knobby ℄ 64 x 3/8 x 11'-1 1/2 (cb) (sketch 529)
1- " " - 59 3/16 x 3/8 - 8'-5" (cc) (" 530)
1-℄ 16" UM x 5/16 x 11-11 7/16 (cd) F.E. & Bent
1-℄ 16" UM x 5/16 x 11-11 3/8 (cf) F.E.E. "
1-℄ 16" UM x 5/16 x 11-8 5/8 (cg) F.E.E. "
11 Gs 3½ x 4 x 35'-8 5/16 (ch) F.E.E.
11-4 x 5½ x 3/8 x 4'-1 7/16" (ck)
11- do 4'-8 3/8" (cm)
11- do 4'-7 5/8" (cn)
11- do 4'-6 3/8" (cp)
11- do 4'-6" (cq)
11- do 4'-5 5/8" (cr)
11- do 4'-4 3/8" (cv)
11- do 4'-3 5/16" (cw)
11- do 4'-2 3/8" (cy)
11- do 4'-1 7/8" (caa)
11-5 x 3½ x ½ x 0'-7 5/8 (cab)
11-5 x 3½ x ½ x 0'-7 5/8 (cac)
5-B 3 x 3 x ½ x 0'-10½ (cad 283) (F.E. cut s 2)
2-B 5 x 3 x ½ x 2'-0 3/8 (ca F 283) Bent
4-B 3½ x 3½ x ½ x 0'-10½ (ca 9283) "
2-B 3½ x 3 x ½ x 0'-10½ (cah 283) "
11-4 x 8½ x 2'-9 x 0'-10½ (cak) F.E.E.
11-29 ½ x 4 HM x ½ x 3'-5 9/16 (cam) F.E.E.
11-5 x 3½ x 0'-7 5/8 (can) F.E.E.
11-8 x 4 x 3'-5 1/16 (cap) F.M.E.
11-6 x 3½ x ½ x 0'-6½ (car)
1-B-6 x 4 x ½ x 3'-6 11/16 (cat)
1-B" BH @ 33 x 3'-6½ (ca\)
215-6 x 4 x ½ x 0'-6 (caw)
1-℄ 15" UM x ½ x 4'-7 1/16 (cay)
11-3½ x 3 x ½ x 4'-7 1/16 (cba)
1-F/P-3½ x 3 x ½ x 0'-7 (cbb)
11-3½ x 3 x ½ x 5'-5 3/16 (cbb)
11-3½ x 3 x ½ x 11-0 (cbc) Bent
11-3 x 3½ x ¾ x 2'-7 1/2 (cbd)
11-3½ x 3½ x ½ x 1'-9 7/16 (cbf)
11-3½ x 3½ x ½ x 1'-6 (cbg)
11-3½ x 3½ x ½ x 11-10 3/16 (cbh)
11-3½ x 3½ x ½ x 11-10 1/2 (cbk)
11-3½ x 3½ x ½ x 1'-1 1/2 (cbm)
11-3½ x 3 x ½ x 3'-1 9/16 (cbn)
11-3 x 3 x 3½ x 2'-6 3/4 (cbp)
11-3½ x 3½ x ½ x 11'-6 (cbq Bent)
2-F/P 11 x ¾ HM x ½ x 2'-10 (cbt)
1-℄ 11" UM x ½ x 4'-8 7/16 (cbv)
11-4 x 3½ x ½ x 4'-6 3/16 (cbw)
11-3 x 3 x ½ x 3'-10 3/16 (ccb)
11-3½ x 3½ x ½ x 0'-10½ (ccc) Bent
1-F/P-3½ x ½ x 0'-8 (ccd)
1-℄ 13 ½ x ½ x 1'-1 3/8 (ccd) F.E.E.
1-℄ 10½ x ½ x 11'-5 3/8 (ccc) Bent
1-℄ 6½ x ½ UM x 3½ x 11 3/8 (ccf)
1-℄ 10 ⅝ UM x ½ x 0'-10 ½ (ccg)
1-℄ 10 ⅞ UM x ½ x 0'-10 ½ (cch) F.I.E.
1-℄ 7½ UM x ½ x 1'-2 3/8 (cck)
1-℄ 10 ⅜ UM x ½ x 1'-2 ½ (ccm)
1-℄ - 3" UM x ½ x 0'-10 ½ (ccn) F.I.E.
1-℄ - 7½ x ½ x 0'-2 ½ (ccp)
1-℄ - 7½ x ½ x 0'-2 ½ (ccq)
1-℄ - 10½ UM x ½ x 1'-7 ⅜ (ccr)
2 ℄ 3½ x 3 x ½ x 0'-4 (ccv)
2 ℄ 3½ x 3 x ½ x 0'-10½ (ccw)
2 ℄ 3½ x 3 x ½ x 1'-1 ½ (ccy) ℄
1-F/P-3½ x ½ x 1'-1 (cda) Tack weld
1-℄ - 7½ x ½ x 4'-5 ⅜ (ccmm)

Walkway C127

General Notes:-

Material-All structural steel to be copper bearing.

Assembly marks for carbon steel are fitted with c. thus: ca, cb, etc. for silicon steel with s. thus sa, sb, etc.

Specifications- Special by State of California, Department of Public Works.

Inspection- By John M. Bailey.

Rivets- ⅞" unless noted.

Open holes- 15/16" unless noted.

Punching- All holes to be punched full size except holes marked R.P. which are to be subpunched ¼" & reamed to size thru a metal templet.

Finish- All sheared or flame cut edges and ends of material to have a neat appearance and where designated F.M.M, F.E.E, etc. shop must shear and grind, chip and grind or otherwise cut and finish so that members possess a neat appearance and conform to dimensions given on drawings. Ends of all assembled members must present a neat appearance.

Shop Paint- None, except as outlined below, which shall be given one coat of Acid Resisting Liquid-

① All surfaces exposed to the elements not readily accessible for field sand blasting.

② Contact surfaces at parts bolted

All painted surfaces must be thoroughly cleaned and scraped before paint is applied.

Bolted parts to be assembled after paint is dry and fitted in such a manner so as to exclude all foreign particles

Where parts are tack welded, contact surfaces must be thoroughly cleaned and scraped before assembly, and parts must be tightly clamped while welding.

Welding must be done in such a manner so as to permit entering of no foreign substance during field sand blasting.

Rivets shown thus ◇ thru Central Knobby Walk plates are to be c'sk'd and have a maximum height not more than the height of pattern or plate.

All other rivets shown thus ◇ are to be c'sk'd and have a maximum height of ⅛".

Shop to paint Erection marks on left hand end of member as detailed and in an upright position.

Shop to put shipping bolts in holes ⊗ and draw same up tight.

Bolts to be removed by erector in field.

For General Notes See This Sheet.
Work This Sheet With: G 263 BT to JJ & G 263 AG to GG
For Sections ① ② ③ ④ ⑤ ⑥ ⑦ See Sheet G 235 JJ
Sections ① to ⑦ Inc. To Be Riveted Up In A Fixture To Assure Squareness.

Span 9	1	Walkway	C127	
Piers	Description	Mark	Remarks	Weight Each Piece

REQUIRED LIST

Date	Revision	Appd.

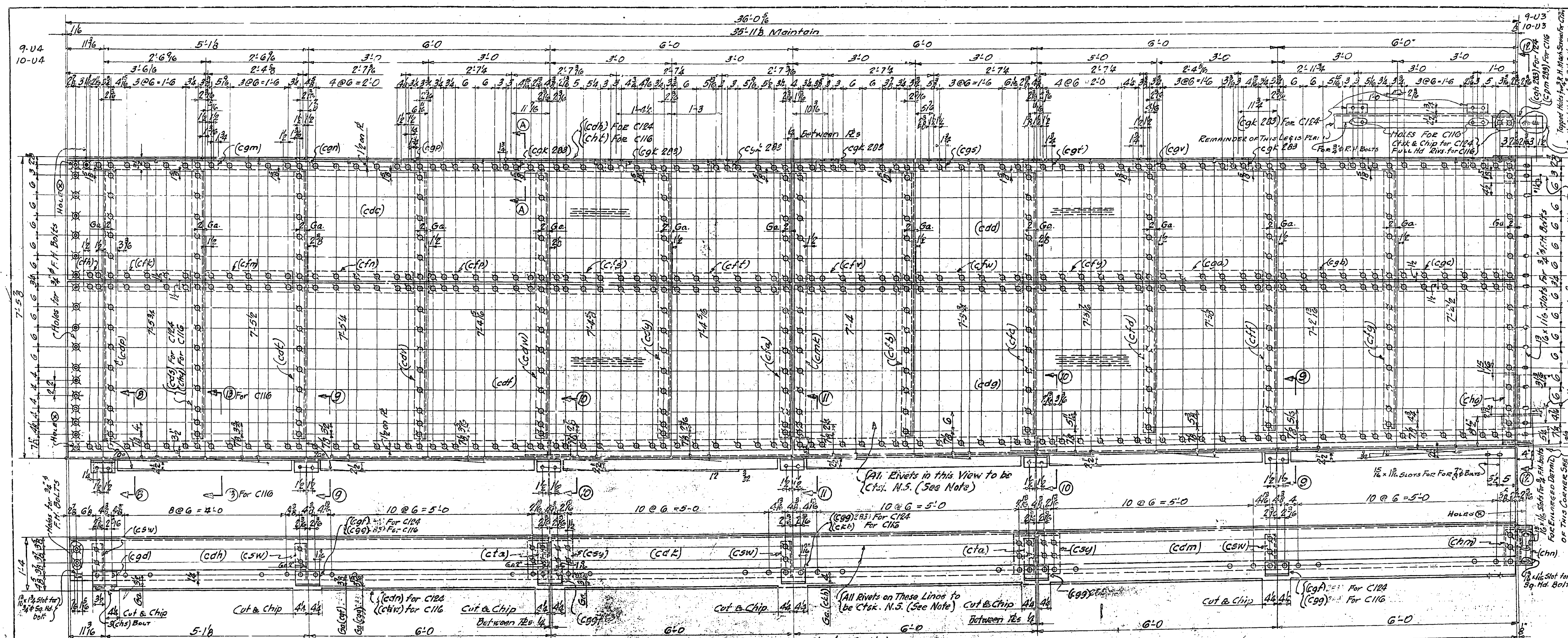
APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-13-36

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" Truss Spans - Piers E 9 to E 23
McCLINTIC - MARSHALL CORPORATION
Chicago
DRAWING CODE Judson Pacific WORK
IN CHARGE Jenks PLACE BY A.T.A.
CHECKED BY 7-27-36 TRACED BY J.J.H.
LAST ASSRTS. ERR.

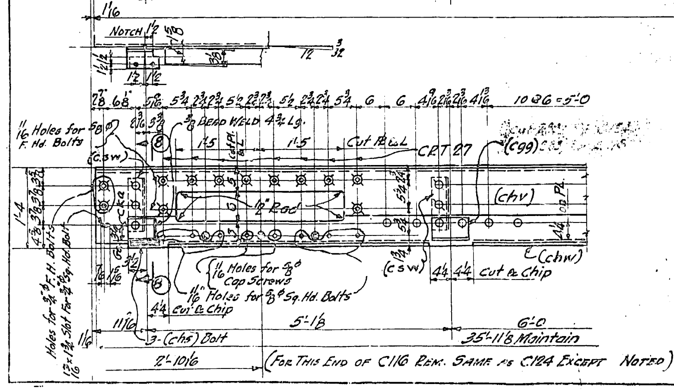
CONTRACT NO. 3509 — SHEET G 263 AT

30-1



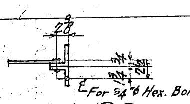
WALKWAY C124

WALKWAY C116 SAME AS C124 EXCEPT AS SHOWN & NOTED



MATERIAL FOR WALKWAY C124 OR C116

1-L4x3½x⅜x35'-11⅛ (cdb) F.2.E (For C124)
1-Cent. Knocky PL 36x⅜x17'-11⅛ (cdc) (S10)
1- " " PL 36x⅜x17'-11⅛ (cdd) (N13)
1- " " PL 30⅞x⅜x17'-11⅞ (cdf) (Sketch S11)
1- " " PL 4⅞x⅜x17'-11⅞ (cdg) (Sketch S12)
1-PL 15 UM x½x11'-11⅛ (cdh) F.2.E Bent (For C124)
1-PL 15 UM x½x11'-11¼ (cdk) F.2.E Bent
1-PL 15 UM x½x11'-11⅞ (cdm) F.2.E Bent
1-L6x3½x½-35'-4½ (cdn) F.2.E (For C124)
1-L5x3½x⅜x6'-8¾ (cdp)
1-L5x3½x⅜x6'-8½ (cds) (For C124)
1-L5x3½x⅜x6'-8¼ (cdt)
1-L5x3½x⅜x6'-7⁹⁄₁₆ (cdv)
1-L5x3½x⅜x6'-7⅜ (cdw)
1-L5x3½x⅜x6'-7⁵⁄₁₆ (cdy)
1-L5x3½x⅜x6'-7 (cfa)
1-L5x3½x⅜x6'-6¾ (cfb)
1-L5x3½x⅜x6'-6⁷⁄₁₆ (cfc)
1-L5x3½x⅜x6'-6⅛ (cfd)
1-L5x3½x⅜x6'-5¹³⁄₁₆ (cff)
1-L5x3½x⅜x6'-5½ (cfg)
1-PL 6 UM x⅜x0'-5¹¹⁄₁₆ (cfh)
1-PL 6 UM x⅜: 1'-10⅝ (cfk)
1-PL 6 UM x⅜x2'-2⁹⁄₁₆ (cfm)
1-PL 6 UM x⅜x2'-8 (cfn)
1-PL 6 UM x⅜x2'-8 (cfp)
1-PL 6 UM x⅜x2'-8 (cfs)
1-PL 6 UM x⅜x2'-8 (cft)
1-PL 6 UM x⅜x2'-4½ (cfv)
1-PL 6 UM x⅜x2'-8 (cfw)
1-PL 6 UM x⅜x2'-8 (cfy)
1-PL 6 UM x⅜x2'-8 (cga)
1-PL 6 UM x⅜x2'-8 (cgb)
1-PL 6 UM x⅜x2'-7¹⁄₁₆ (cgc)
1-L4¾x3½x½x7 (cgd) (cut 6x3½) Bent (For C124)
2-Ls 5x3½x½x7½ (cgf) [illegible] Bent (For C124)
3-Ls 5x3½x½x7½ (cgg) [illegible] Bent (For C124) (cut 6x3½)
6-PLs (cad 283)
4-Ls 3½x3½x⅜x0'-10¼ (csw)
2-PLs 13x½x1'-5⅜ (csy)
2-Ls 3½x3x⅜x0'-10¼ (cta)
1-Bar 3½ UM x⅜x1'-1⅝ (cgh 283) (For C124)
7-Ls 5½x2x⅜x0'-8½ (cgk 283) (For C124)
1-L 3½x3x⅜x0'-7¾ (cgm)
1-L 3½x3x⅜x0'-6⅝ (cgn)
1-L 3½x3x⅜x0'-7⅛ (cgp)
1-L 3½x3x⅜x0'-6⅝ (cgs)
1-L 3½x3x⅜x0'-7⅛ (cgt)
1-L 3½x3x⅜x0'-6⅝ (cgv)
1-Bar 3½ UM x⅜x1'-1⅞ (cpm 283) (For C116)
1-Bevel Fill 8x⅜x⅝ F.1.S. x0'-10¼ (cgw)
1-PL 8x⁵⁄₁₆x1'-6⅜ (cgy) Bent
1-Fill 3¼x⅛x0'-7½ (cha)
1-PL 7½x⅜x6'-5⁹⁄₁₆ (chb)
1-PL 7½x⁷⁄₁₆x1'-0⅝ (chc)
1-PL 7½x⁷⁄₁₆x0'-6⅜ (chd 283)
1-Bar 3½ UM x⁷⁄₁₆x4'-9¹¹⁄₁₆ (chf)
1-L5x3½x⅜x6'-8¹⁵⁄₁₆ (chg)
1-L3½x3½x⅜x1'-4⅛ (chh)
1-PL 14 UM x⅜x1'-8 (chk) (1-PL 2'-10 Cuts 2) (For C124)
1-L3½x3x⅜x0'-10¼ (chm) Bent
1-L3½x3x⅜x0'-10¼ (chn) Bent
2Ls 5x3½x⅜x1'-2 (chp)
3-Shims 3x⅛x0'-5½ (chs) Bolt
1-L4x[illegible]x⅜x35'-11⅛ (cht) F.2.E. (For C116)
1-PL 15 UM x½x11'-11⅛ (chv) F.2.E (For C116)
1-L6x3½x½x35'-4½ (chw) F2E (For C116)
1-L5x3½x⅜x6'-8½ (chy) (For C116)
6-Ls (cgk 283) For C116
1-L 4¾x4[illegible]x½x0'-[illegible] (cka) (For C116) (Bent) (Cut 7x4x½) (Cut Pa. Jt. A2B1)
1-L 5¼x3½x½x0'-7½ (ckb) (For C116) (cut 6x3½) Bent
4-Ls (cgg) [illegible] (For C116)
1-PL 7x⅜x6'-7 (cmk)
1-PL 14 UM x⅜x1'-8 (cbmc) (2'-10 Cuts 2) (For C116)



SECTION Ⓐ-Ⓐ
TYPICAL FOR LUGS ALONG BACK L

For General Notes See Sheet G283AJ
Work This Sheet With G283AJ, G283CJ to JJ & G284AG to GG.
For Sections ⑧⑨⑩⑪⑫⑬ See Sheet G283IJ

Date	Revision	App'd

APPROVED

Glenn B. Woodruff	Engineer of Design
Chas. E. Andrew	Bridge Engineer
C. H. Purcell	Chief Engineer
	Date 8-18-34

9	1	Walkway	C124	As Shown & Noted	
10	1	Walkway	C116	As Shown & Noted	
Span	Total	Description	Mark	Remarks	Weight Each Ton

REQUIRED LIST

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing

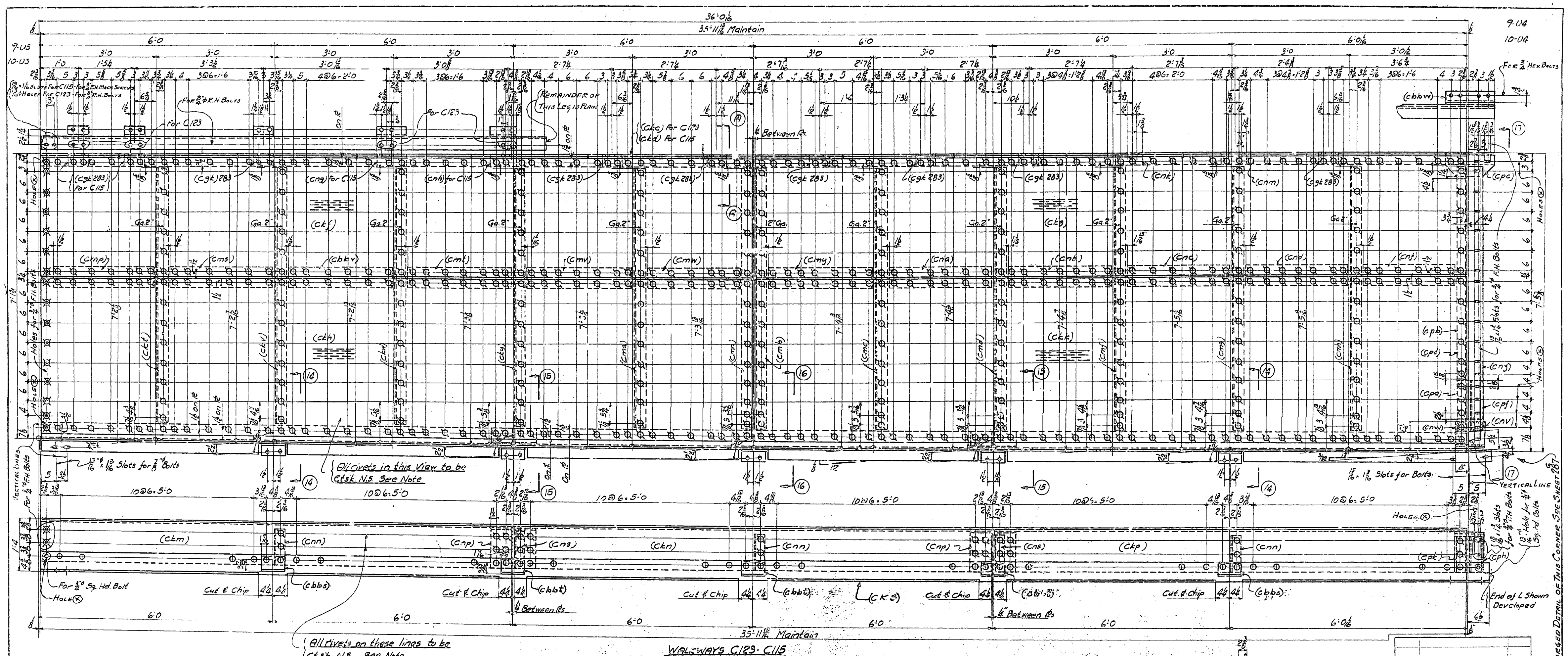
288'-0" TRUSS SPANS - PIERS E9 TO E23

McCLINTIC-MARSHALL CORPORATION

Chicago Drawing Room Judson-Pacific Works
In Charge Tenks Made By A.T.A.
Checked By E 7-27-34 Traced By A.H. 7-11-34
Last Addend. Etc.

CONTRACT C61[illegible] SHEET G 283 BJ

30-1



WALKWAYS C123 - C115

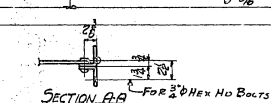
MATERIAL FOR ONE WALKWAY C123 or C115

1-L 4×3½×3/8×35'-11 13/16 (ckc) F.2.E. For C123)
1-L 4×3½×3/8×35'-11 13/16 (ckd) F.2.E. (For C115)
1-Cent. Knobby ℞ 36×3/8×17'-11 3/4 (ckf) (N15)
1-Cent. Knobby ℞ 36×3/8×17'-11 13/16 (ckg) (S3)
1-Cent. Knobby ℞ 48 11/16×3/8×17'-11 3/4 (ckh) (Sketch S8)
1-Cent. Knobby ℞ 50 3/4×3/8×17'-11 13/16 (ckk) (Sketch S9)
1-℞ 16"UM×½×11'-11 13/16 (ckm) F.2.E. Bent
1-℞ 16"UM×½×11'-11 3/4 (ckn) F.2.E. Bent
1-℞ 16"UM×½×11'-11 13/16 (ckp) F.2.E. Bent
1-L 6×3½×½×36'-6 1/16 (cks) F.2.E. Bent
1-L 5×3½×3/8×6'-5 1/8 (ckt)
1-L 5×3½×3/8×6'-5 1/16 (ckv)
1-L 5×3½×3/8×6'-5 13/16 (ckw)
1-L 5×3½×3/8×6'-6 1/8 (cky)
1-L 5×3½×3/8×6'-6½ (cma)
1-L 5×3½×3/8×6'-6 13/16 (cmb)
1-L 5×3½×3/8×6'-7 3/16 (cmc)

1-L 5×3½×3/8×6'-7½ (cmd)
1-L 5×3½×3/8×6'-7 7/8 (cmf)
1-L 5×3½×3/8×6'-8 1/16 (cmg)
1-L 5×3½×3/8×6'-8 9/16 (cmh)
1-℞ 7×3/8×6'-6 13/16 (cmn)
1-℞ 6"UM×3/8×2'-7 15/16 (cmp)
1-℞ 6"UM×3/8×2'-8 (cms)
1-℞ 6"UM×3/8×2'-8 (cmt)
1-℞ 6"UM×3/8×2'-8 (cmv)
1-℞ 6"UM×3/8×2'-4½ (cmw)
1-℞ 6"UM×3/8×2'-8 (cmy)
1-℞ 6"UM×3/8×2'-8 (cna)
1-℞ 6"UM×3/8×2'-8 (cnb)
1-℞ 6"UM×3/8×2'-8 (cnc)
1-℞ 6"UM×3/8×2'-8 (cnd)
1-℞ 6"UM×3/8×2'-4 1/8 (cnf)
7-Ls (cgk 283) For C123
9-Ls (cgk 283) For C115

1-L 3½×3×3/8×0'-9" (cng)(For C115)
1-L 3½×3×3/8×0'-7 11/16" (cnh) For C115
1-L 3½×3×3/8×0'-8 5/16 (cnk)
1-L 3½×3×3/8×0'-7½ (cnm)
2-Ls 5×3½×½×0'-7½ (cbbs)
3-Ls 5×3½×½×0'-7½ (cbbt)(Cut 6×3½)
5-℞s (cad 283)
3-Ls 3½×3½×3/8×0'-10¼ (cnn) Bent
2-℞s 13"×½×1'-3 3/16 (cnp) Bent
2-Ls 3½×3×3/8×0'-10¼ (cns) Bent
1-Bevel Fill 8½×3/8×7/32×0'-10¼ (cnt) F.I.E.
1-℞ 8½×5/16×1'-6 7/8 (cnv) Bent
1-Fill 8×3/8×0'-3½ (cnw) F.I.E.
1-℞ 8×3/8×6'-8 7/8 (cny) F.2.E.
1-℞ 8×7/16×1'-0 5/8 (cpa)
1-Fill 3½"UM×7/16×5'-1 3/8 (cpb)
1-℞ 14×7/16×0'-6½ (cpc) F.I.E.

1-L 5×3½×3/8×6'-3 7/8 (cpd)
1-L 4×3½×3/8×1'-4 1/8 (cpf)
1-℞ 14"UM×3/8×1'-8 (cpg) (1-℞ 2'-10 Cuts 2)
1-L 4×3×3/8×0'-10¼ (cph) (Bent)
1-L 3½×3×3/8×0'-10¼ (cpk)(Bent)
2-Ls (chp)
1-PL 6"UM×3/8×2'-8 (cbbv)
1-L 3½×3×3/8×1'-2" (cbbw)



SECTION A-A
Typical For Lugs Along Back L.

FOR GENERAL NOTES SEE SHEET G283AJ
WORK THIS SHEET WITH G283AJ, BJ, G283DJ TO JJ
& G284AG TO GG.
FOR SECTIONS (14)(15)(16)(17) SEE SHEET G283IJ

Span	Total No	Description	Mark	Remark	Weight each Tons
Span 4	One	Walkway	C123		
Span 10	one	Walkway	C115		

Required List.

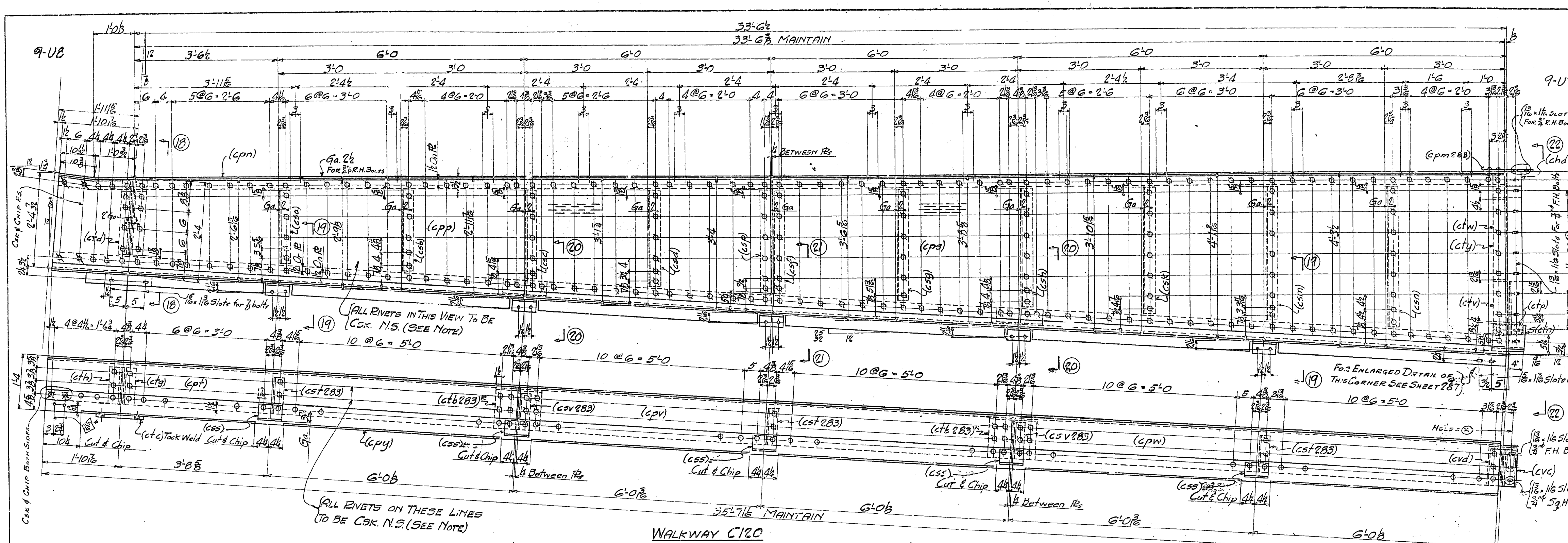
Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-13-34.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" TRUSS SPANS - PIERS E9 TO E23
McCLINTIC - MARSHALL CORPORATION
Chicago DRAWING ROOM Judson Pacific WORKS
IN CHARGE Jenks MADE BY A.T.A. 7-11-34
CHECKED BY 7-27-34 TRACED BY V.E.A. 7-12-34
LAST ADDEN. NO.
CONTRACT C415203
SHEET G 283 CJ

FOR ENLARGED DETAIL OF THIS CORNER SEE SHEET 28?

30-1



WALKWAY C120

MATERIAL FOR WALKWAY C120

1-L 4 x 3½ x ⅜ x 35'-4⅞ (cpn) F.2.E. (BENT)
1-CENT. KNOBBY PL 38⅝ x ⅜ x 17'-6 1/16 (cpp) (SKETCH 519)
1-CENT. KNOBBY PL 50 15/16 x ⅜ x 17'-11¾ (cps) (SKETCH 520)
1-PL 16" UM x ½ x 11'-7 1/16 (cpt) F.2.E.
1-PL 16 UM x ½ x 12'-0 1/16 (cpv) F.2.E.
1-PL 16 UM x ½ x 12'-0 1/16 (cpw) F.2.E.
1-L 6 x 3½ x ½ x 35'-7 1/16 (cpy) F.2.E.
1-L 4 x 3½ x ⅜ x 1'-9 3/16 (csa)
1-L 4 x 3½ x ⅜ x 2'-0⅛ (csb)
1-L 4 x 3½ x ⅜ x 2'-2 7/16 (csc)
1-L 4 x 3½ x ⅜ x 2'-4¾ (csd)
1-L 4 x 3½ x ⅜ x 2'-7 (csf)
1-L 4 x 3½ x ⅜ x 2'-9 5/16 (csg)
1-L 4 x 3½ x ⅜ x 2'-11⅝ (csh)
1-L 4 x 3½ x ⅜ x 3'-1 15/16 (csk)
1-L 4 x 3½ x ⅜ x 3'-4 3/16 (csm)
1-L 4 x 3½ x ⅜ x 3'-6½ (csn)
1-PL 7 x ⅜ x 2'-7 (csp)
5-Ls 5 x 3½ x ½ x 0'-7½ (css)
5-PLs (cad 283)
3-Ls 3½ x 3½ x ⅜ x 10¼ (cst 283) (BENT)
2-Ls 3½ x 3 x ⅜ x 10¼ (csv 283) (BENT)
2-PL 15 x ½ x 1'-3 3/16 (ctb 283) (BENT)
1-BEVEL FILL 3½ x ⅝ x ½ F.I.S. x 1'-1 (ctc) (Tack weld)
1-PL 7½ x ⅜ x 1'-7¼ (ctd)
2-Ls 3½ x 3½ x ⅜ x 1'-10⅛ (ctf) R L
1-L 3½ x 3½ x ⅜ x 0'-10¼ (ctg) (BENT)
1-L 3½ x 3½ x ⅜ x 0'-10¼ (cth) (BENT)
2-Ls 5 x 3½ x ⅜ x 1'-7½ (ctk)
1-PL 14½ UM x ⅜ x 2'-2 (ctm)
1-PL 8 x 5/16 x 1'-6½ (ctn) (BENT)
1-FILL 7½ x ⅛ x 0'-3¼ (ctp)
1-BEVEL FILL 8 x ⅜ x 5/16 F.I.S. x 0'-10¼ (cts 283)
1-PL (chd 283)
1-PL 7½ x 7/16 x 1'-0⅝ (ctv)
1-FILL 3½ UM, 7/16 x 2'-4 5/16 (ctw)
1-L 4 x 3½ x ⅜ x 4'-0 9/16 (cty)
1-L 3½ x 3½ x ⅜ x 1'-4⅛ (cva)
1-PL 14 UM x ⅜ x 1'-8 (cvb) (2'-10" Cut to 2)
1-L 3½ x 3 x ⅜ x 0'-10¼ (cvc) BENT
1-L 3½ x 3 x ⅜ x 0'-10¼ (cvd) BENT
2-Ls (ctp)
1-PL 7½ x ⅜ x 3'-8 13/16 (cvf)
1-BAR (cpm 283)

SPAN #9	No.	Description	Mark	Remarks	Weight each Tons
	1	WALKWAY	C120		

REQUIRED LIST

Date	Revision	App'd

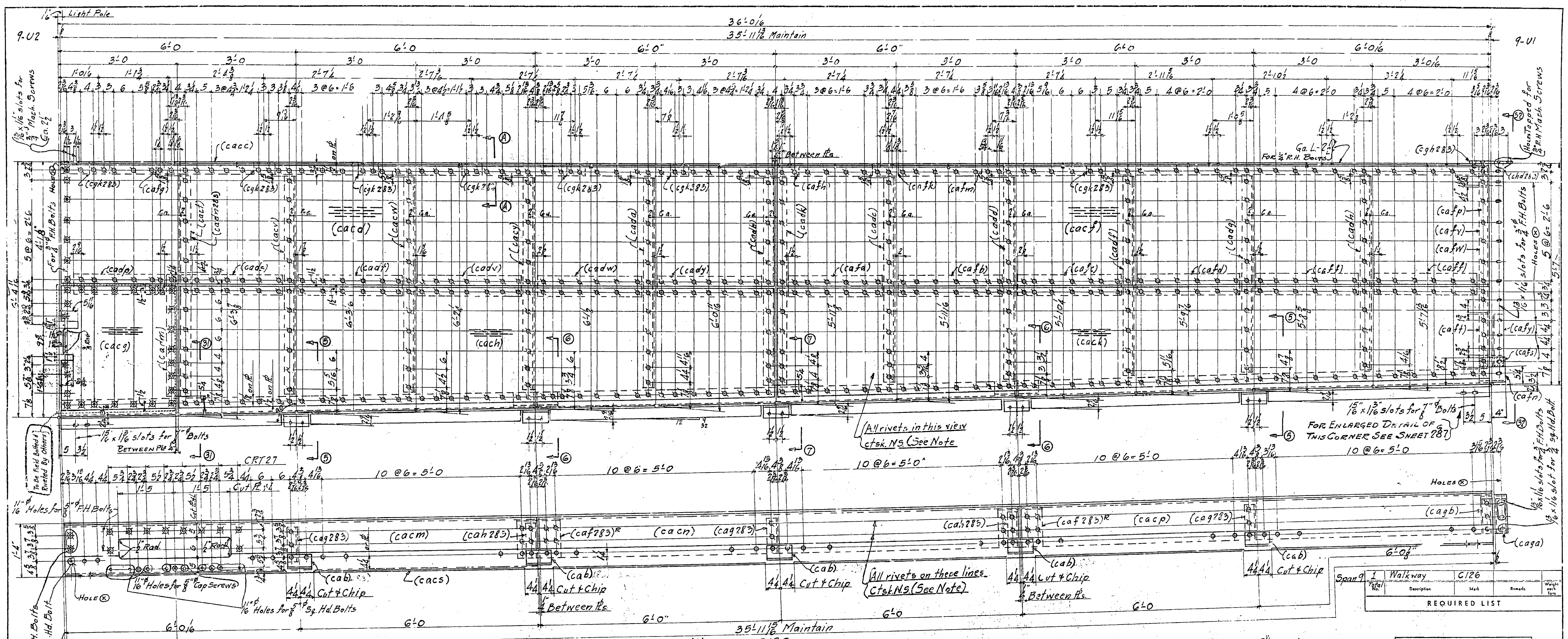
APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-18-34

FOR GENERAL NOTES SEE SHEET G283AJ
WORK THIS SHEET WITH G283AJ TO CJ, EJ TO JJ & G284 AG TO GG.
FOR SECTIONS (13) (22) SEE SHEET G283JJ
FOR SECTIONS (19) (20) (21) SEE SHEET G283 IJ

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 SPANS - E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Judson-Pacific WORKS
IN CHARGE Jenks MADE BY A.T.A.
CHECKED BY E 7-27-34 TRACED BY R.J.E. 7-11-34
LAST ADDED. MK.
CONTRACT CG15003 SHEET G 283 DT

30-1



WALKWAY C126

Material For Walkway C126

1L-4×3½×3/8×35'-11 13/16" (cacc) F.2.E.
1-Cent. Knobby Pl. 36×3/8×17'-11 3/4 (cacd)(N15)
1- do Pl. 36×3/8×17'-11 13/16 (cacf)(53)
1- do Pl. 37 7/16×3/8×2'-11 3/4 (cacg)(Cut Fr. Sketch 527)(Bolt)
1- do Pl. 36 3/4×3/8×14'-11 3/4 (cach)(do)
1- do Pl. 32 3/4×3/8×17'-11 13/16 (cack)(Sketch 528)
1-Pl.-19" UM×1/2×11'-11 13/16 (cacm) F.2.E. (Bent)
1-Pl.-16 UM×1/2×11'-11 3/4 (cacn) F.2.E. (Bent)
1-Pl. 16" UM×1/2×12'-0 5/16" (cacp) F.2.E. (Bent)
1L-6×3½×1/2×35'-11 15/16 (cacs) F.2.E.
1L-5×3½×3/8×5'-6 7/8 (cact)
1-L do ×5'-8 1/16 (cacv)
1-L do ×5'-5 1/4 (cacw)
1-L do ×5'-4 1/2 (cacy)
1-L do ×5'-3 11/16 (cada)
1L-4×3½×5/8×5'-2 7/8 (cadb)
1L- do ×5'-2 1/16 (cadc)
1L- do ×5'-1/4 (cadd)

1L-4×3½×3/8×5'-0 7/16 (cadf)
1L- do ×4'-11 5/8 (cadg)
1L- do ×4'-10 13/16 (cadh)
1-Pl.-7×5/8 ×5'-2 7/8 (cadk)
1-Pl.-7×3/8 ×3'-0 1/2 (cadm)
1-Fill-3½ UM×3/8×2'-6 1/8 (cadn283)
1-Pl.-6" UM×3/8×2'-4 7/16 (cadp)
1-Pl.-6" U.M.×3/8×2'-4 1/8 (cads)
1-Pl.- do ×2'-8 (cadt)
1-Pl. do ×2'-8 (cadv)
1-Pl. do ×2'-8 (cadw)
1-Pl. do ×2'-8 (cady)
1-Pl. do ×2'-4 1/2 (cafa)
1-Pl. do ×2'-8 (cafb)
1-Pl. do ×2'-8 (cafc)
1-Pl. do ×2'-8 (cafd)
2-Pls. do ×2'-8 (caff)

5Ls-(cab)
5-Pls (cad283)
3Ls-(cag283)
2-Pls.-(caf283)R
2Ls-(cah283)
7Ls-(cgk283)
1L-3½×3×3/8×0'-7 3/8"-(cafg)
1L- do ×0'-7 1/4-(cafh)
1L- do ×0'-7 1/2-(cafk)
1L- do ×0'-6 11/16-(cafm)
1-Pl.-8×5/16×1'-6 7/8" -(cafn) Bent)
1-Pl.-7½×3/8×1'-10" -(cafp)
1-Fill-7½×1/8×0'-3 3/4 -(cafs) F.1.E
1-Pl.-7½×1/16×1'-0 7/8 -(caft)
1-Pl.-(chd283)
1-Fill-3½ UM×7/16×3'-2 1/2-(cafv)
1L-4×3½×3/8×5'-1 3/4-(cafw)
1L-3½×3½×3/8×1'-4 1/8-(cafy)

1-Pl.-14" UM×3/8×1'-8"-(cabw283)(2'-10 cuts 2)
1L-3½×3½×3/8×0'-10 1/4-(caga)(Bent)
1L-3½×3½×3/8×0'-10 1/4-(cagb)(Bent)
2Ls 5×3½×3/8×1'-2-(cccb283)
1-Bar-(cgh283)

Section Ⓐ Ⓐ
Typical For Lugs Along Back L

For General Notes See Sheet G283AJ
Work This Sheet With G283AJ to DJ, G283FJ to TJ & G284AG to GG.
For Sections ⑤⑥⑦㉛ See Sheet G283IJ
For Section ㉜ See Sheet G283JJ

Span 9	1	Walkway	C126		
	Total No.	Description	Mark	Remarks	Weight each Tons

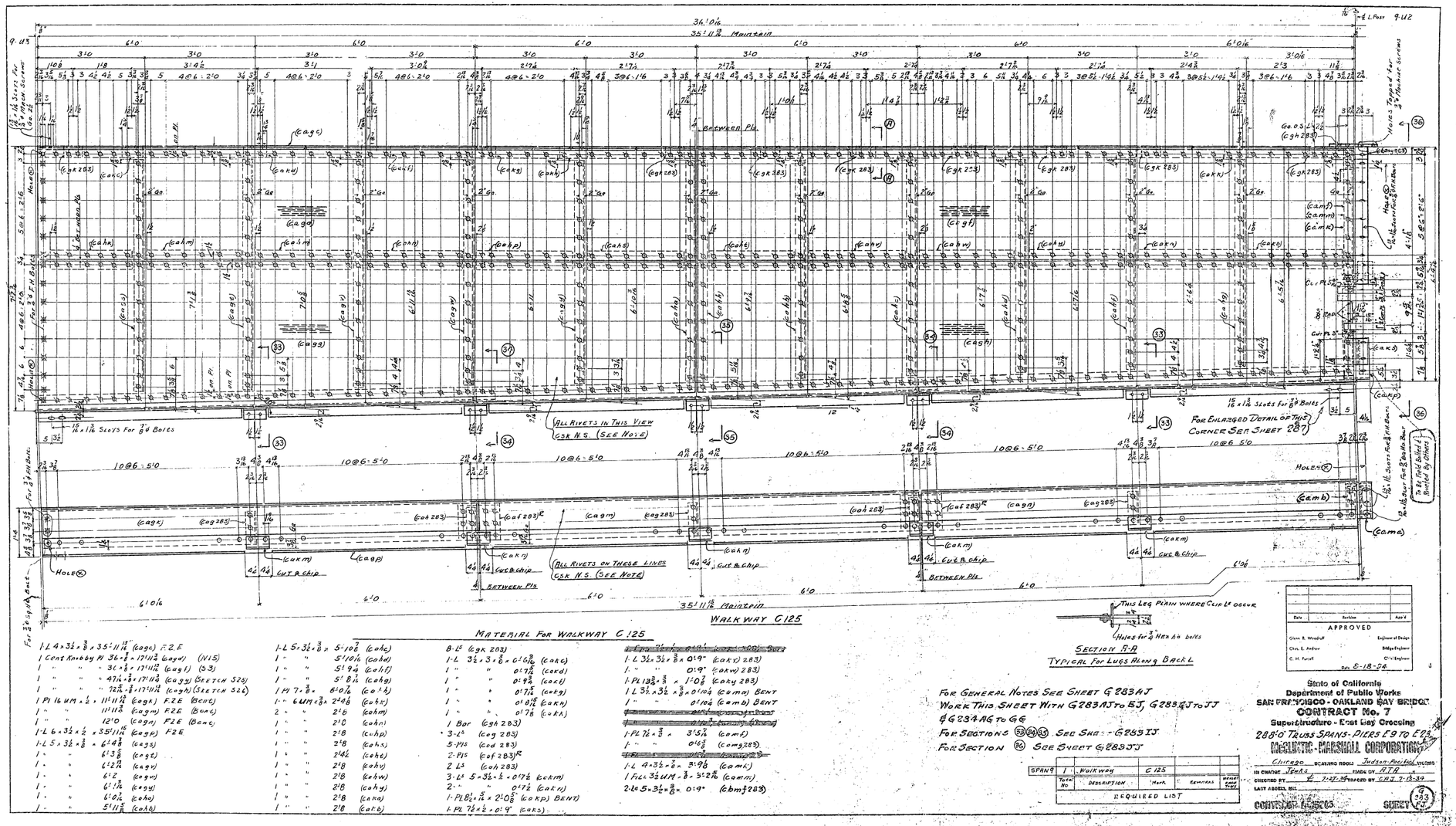
REQUIRED LIST

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-18-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Judson Pacific WORKS
IN CHARGE Jenks MADE BY A.T.A.
CHECKED BY E 7-27-34 TRACED BY J.J.H.
LAST ASSEM. MK.
CONTRACT GC15803 SHEET G283EJ

30-1



Material For Walkway C125

1 L 4 x 3½ x ⅜ x 35'-11 11/16" (cagc) F2E
1 Cent Knobby Pl 36 x ⅝ x 17'-11½" (cagd) (W15)
1 " " " 30 x ⅝ x 17'-11½" (cagf) (S3)
1 " " " 47¼ x ⅝ x 17'-11½" (cagg) (Sketch S2S)
1 " " " 72⅞ x ⅝ x 17'-11½" (cagh) (Sketch S2L)
1 Pl 16 UM x ½ x 11'-11 15/16" (cagk) F2E (Bent)
1 " " 11'-11½" (cagm) F2E (Bent)
1 " " 12'-0" (cagn) F2E (Bent)
1-L 6 x 3½ x ½ x 35'-11 11/16" (cagp) F2E
1-L 5 x 3½ x ⅜ x 6'-4⅜" (cags)
1 " " 6'-3⅜" (cagt)
1 " " 6'-2⅞" (cagv)
1 " " 6'-2" (cagw)
1 " " 6'-1⅞" (cagy)
1 " " 6'-0½" (cahc)
1 " " 5'-11⅝" (cahd)

1-L 5 x 3½ x ⅜ x 5'-10⅞" (cahe)
1 " " 5'-10⅛" (cahf)
1 " " 5'-9¼" (cahi)
1 " " 5'-8⅛" (cahg)
1 Pl 7⅞ x ⅜ x 6'-0⅛" (cahk)
2 " " 2'-6" (cahm)
1 " " 2'-0" (cahn)
1 " " 2'-8" (cahp)
1 " " 2'-8" (cahs)
1 " " 2'-4½" (cahu)
1 " " 2'-8" (cahv)
1 " " 2'-8" (cahw)
1 " " 2'-8" (cahy)
1 " " 2'-8" (cahz)
1 " " 2'-8" (caia)
1 " " 2'-8" (caib)

8-L² (cgk 283)
1-L 3½ x 3½ x ⅜ x 0'-10⅞" (caic)
1 " " 0'-7½" (caid)
1 " " 0'-9⅜" (caie)
1 " " 0'-7½" (caig)
1 " " 0'-8 15/16" (caih)
1 " " 0'-7⅞" (caik)
1 Bar (cgk 283)
3-L² (ceg 283)
5-Pls (cod 283)
2-Pls (cof 283)¹²
2 L³ (coh 283)
3-L³ 5 x 3½ x ½ x 0'-7½" (cakm)
2-" " 0'-7½" (cakn)
1-Pl 8½ x ⅝ x 2'-0⅝" (cakp) BENT)
1-Pl 7½ x ½ x 0'-9" (cakq)

1-L 3½ x 3½ x ⅜ x 0'-9" (cakr) 283)
1 " " 0'-9" (cakw) 283)
1-Pl 13¾ x ⅜ x 1'-0⅞" (caky 283)
1 L 3½ x 3½ x ⅜ x 0'-10⅛" (cama) Bent
1 " " 0'-10⅛" (camb) Bent
1-Pl 7½ x ⅜ x 3'-5¼" (camf)
1 " " 0'-6⅜" (camg 283)
1-L 4 x 3½ x ⅜ x 3'-9⅛" (camk)
1 FLL 3½ UM x ⅜ x 3'-2⅞" (camm)
2 L 5 x 3½ x ⅜ x 0'-9" (cbm 283)

SPAN 9	1	Walkway	C 125			
Turbo No		DESCRIPTION	Mark	REMARKS	WEIGHT EACH PIECE	

REQUIRED LIST

Date	Revision	Appd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Civil Engineer
Date 8-18-34

For General Notes See Sheet G 283AJ
Work This Sheet With G283AJ to EJ, G283EJ to JJ & G 284AG to GG
For Sections 33 34 35 See Sheet G 283IJ
For Section 36 See Sheet G 283JJ

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" Truss Spans - Piers E 9 to E 23
MCCLINTIC-MARSHALL CORPORATION

Chicago — Bearing Rods Judson-Pacific — Welding
In Charge Jones — Drawn by A.T.H.
Checked by — Traced by E.H.J. 7-13-34
Last Added Bill

CONTRACT NO. 7 — SHEET 283

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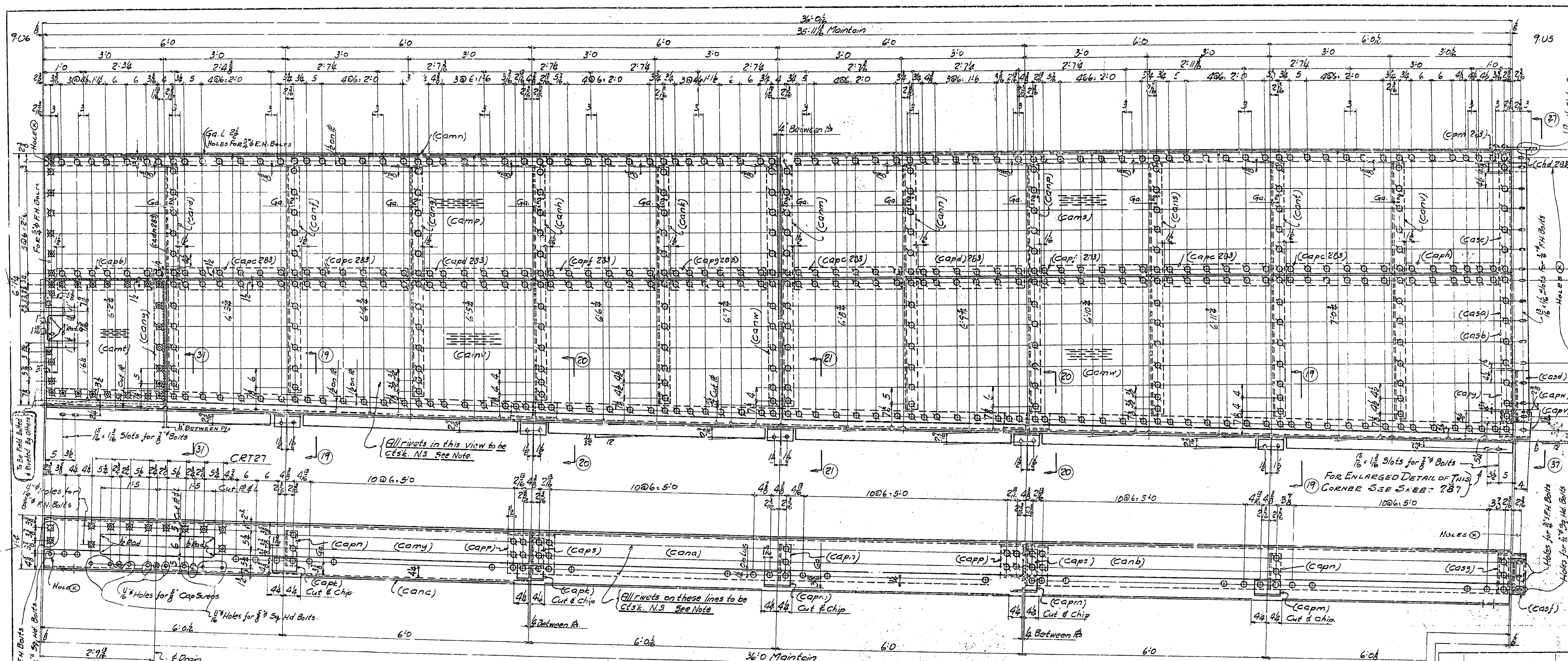

WALKWAY C122

MATERIAL FOR WALKWAY - C122

1-L 4x3 1/2x3/8 x 35'-11 13/16 (camn) F.2.E.
1-Cent. Knobby Pl 36x3/8x17'-11 3/4 (camp)(N15)
1-Cent. Knobby Pl 36x3/8x17'-11 13/16 (cams) (53)
1-Cent. Knobby Pl 35 5/8x3/8x2'-11 3/4 (camt) (Cut from Sketch 523)(Bolt)
1-Cent. Knobby Pl 40 5/8x3/8x14'-11 3/4 (camv) (Cut from Sketch 523)
1-Cent. Knobby Pl 46 5/8x3/8x17'-11 13/16 (camw) (Sketch 524)
1-Pl 19"UMx1/2x11'-11 15/16 (camy) F.2.E. Bent
1-Pl 16"UMx1/2x11'-11 13/16 (cana) F.2.E. Bent
1-Pl 16 UMx1/2x11'-11 7/8 (canb) F.2.E. Bent
1-L 6x3 1/2x1/2x36'-0 (canc) F.2.E.
1-L 5x3 1/2x3/8x5'-5 3/4 (cand)
1-L 5x3 1/2x3/8x5'-6 3/4 (canf)
1-L 5x3 1/2x3/8x5'-7 3/4 (cang)
1-L 5x3 1/2x3/8x5'-8 3/4 (canh)
1-L 5x3 1/2x3/8x5'-9 3/4 (cank)
1-L 5x3 1/2x3/8x5'-10 3/4 (canm)
1-L 5x3 1/2x3/8x5'-11 3/4 (cann)
1-L 5x3 1/2x3/8x6'-0 3/4 (canp)
1-L 5x3 1/2x3/8x6'-1 3/4 (cans)
1-L 5x3 1/2x3/8x6'-2 3/4 (cant)
1-L 5x3 1/2x3/8x6'-3 3/4 (canv)
1-Pl 7x3/8x5'-10 3/4 (canw)
1-Pl 7x3/8x2'-11 3/8 (cany)
1-Fill (cadn283)
1-Pl 6"UMx3/8x2'-4 7/16 (capb)
5-Pls 6"UMx3/8x2'-8 (capc283)
2-Pls 6"UMx3/8x2'-8 (capd283)
2-Pls 6"UMx3/8x2'-8 (capf283)
1-Pl 6"UMx3/8x2'-4 1/2 (capg283)
1-Pl 6"UMx3/8x2'-4 3/8 (caph)
2-Ls 5x3 1/2x1/2x0'-7 1/2 (capk)
3-Ls 5 3/16x3 1/2x1/2x0'-7 1/2 (capm) (Cut 6x3 1/2)
3-Ls 3 1/2x3 1/2x3/8x0'-10 1/4 (capn) Bent
2-Pls 13x1/2x1'-3 3/16 (capp) Bent.
2-Ls 3 1/2x3x3/8x0'-10 1/4 (caps) Bent
5-Pls (cad283)
1-Bar (cpm283)
1-Bevel Fill (cts283)
1-Pl 8x5/16x1'-6 3/8 (capv) Bent
1-Fill 7 1/2x1/8x0'-3 1/4 (capw)
1-Pl 7 1/2x5/16x1'-0 5/8 (capy)
1-Pl (chd283)
1-Fill 3 1/2x7/16x4'-9 1/4 (casa)
1-Pl 7 1/2x3/8x6'-4 3/4 (casb)
1-L 5x3 1/2x3/8x6'-8 1/2 (casc)
1-L 3 1/2x3 1/2x3/8x1'-4 1/8 (casd)
1-L 3 1/2x3x3/8x0'-10 1/4 (casf) Bent
1-L 3 1/2x3x3/8x0'-10 1/4 (casg) Bent
2-Ls caab283)
1-Pl 14"UMx3/8x1'-8 (cash) (2'-10" Cuts 2)

FOR GENERAL NOTES SEE SHEET G283AJ
WORK THIS SHEET WITH G283AJ TO FJ, G283HJ TO JJ & G284AG TO GG.
FOR SECTIONS (19)(20)(21)(31) SEE SHEET G283IJ
FOR SECTION (37) SEE SHEET G283JJ

Span 9	One	Walkway	C122		
	Total No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-18-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" TRUSS SPANS - E9 TO E23
McCLINTIC - MARSHALL CORPORATION
Chicago DRAWING ROOM Judson Pacific
IN CHARGE Jenks MADE BY A.T.A. 7/13/34
CHECKED BY E. 7-27-34 TRACED BY V.E.A. 7/16/34
LAST ASSEM. MK.
CONTRACT CG15803 SHEET G 283 GJ

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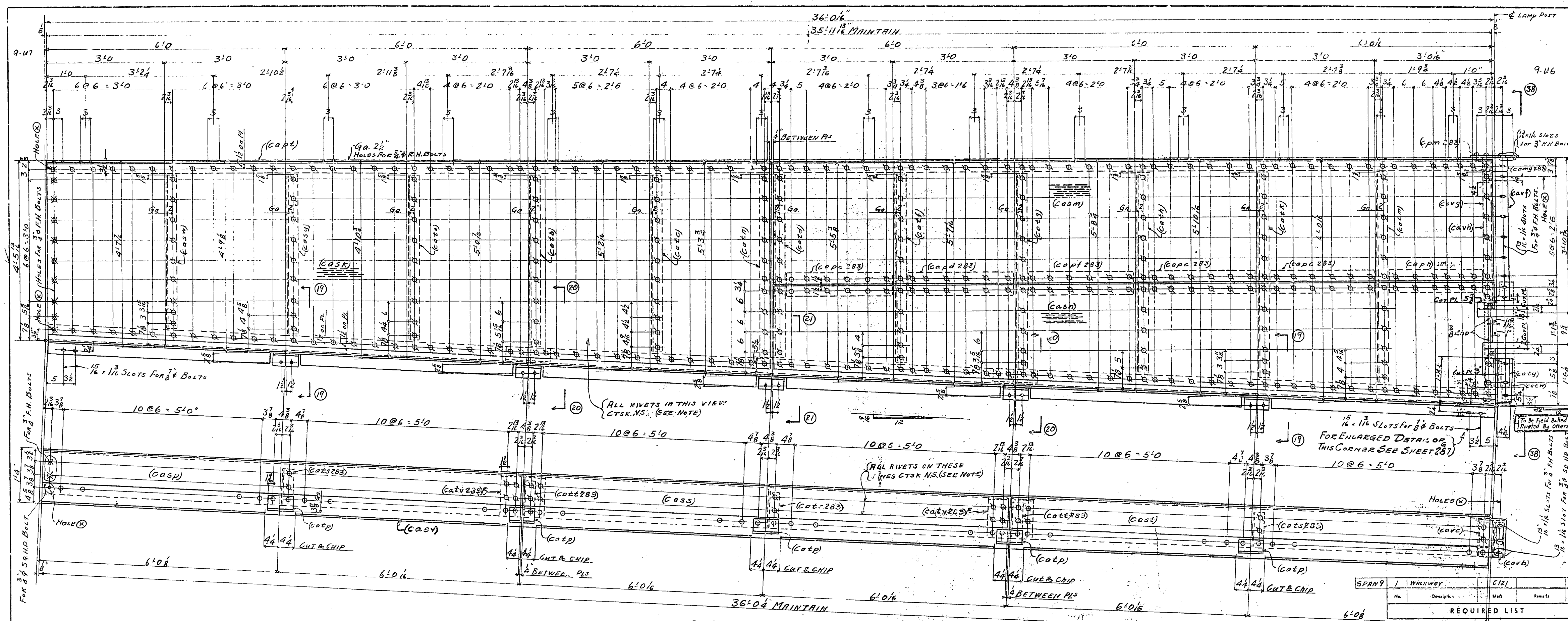


Material for Walkway C121

1-L 4 x 3½ x ⅜ x 35'11¹³⁄₁₆ (capt) F.2.E.
1-Cent Knobby PL. 60⅞ x ⅜ x 17'11¾" (cask) (Sketch 521)
1 " " " 36 x ⅜ x 17'11¹³⁄₁₆ (casm) (53)
1 " " " 34⅝ x ⅜ x 17'11¹³⁄₁₆ (casn) (Sketch 522)
1-PL 16" UM x ½ x 12'0³⁄₁₆ (casp) F.2.E (Bent)
1 " " 11'11⅞ (cass) F.2.E (Bent)
1 " " 11'11¹⁵⁄₁₆ (cast) F.2.E (Bent)
1-L 6 x 3½ x ½ x 36'0¼ (casv) F.2.E
1-L 4 x 3½ x ⅜ x 3'10⁷⁄₁₆ (casw)
1 " " 4'0⅛ (casy)
1 " " 4'1¾ (cata)
1 " " 4'3⁷⁄₁₆ (catb)
1 " " 4'5⅟₁₆ (catc)
1 " " 4'6¾ (catd)
1 " " 4'8⅜ (catf)
1 " " 4'10⅟₁₆ (catg)
1 " " 4'11¾ (cath)
1 " " 5'1⁷⁄₁₆ (catk)
1 " " 5'3⅟₁₆ (catm)
1-PL 7 x ⅜ x 4'6¾ (catn)

3-PLs (capc 283)
1- " (capd 283)
1- " (capf 283)
1- " (ca, ")
5-Ls 5 x 3½ x ⅜ x 0'7½" (catp) (Bent)
5-PLs (cad 283)
3-Ls 3½ x 3½ x ⅜ x 0'10¼ (cats 283) Bent
2-Ls 3½ x 3 x ⅜ x 0'10¼ (catt 283) Bent
2-PLs 13 x ½ x 1'3³⁄₁₆ (catv 283) Bent
1-Bar (cpm 283)
1-Bevel Fill (cts 283)
1-PL 8½ x ⁵⁄₁₆ x 2'0⅝ (catw) (Bent)
1- " 7½ x ½ x 0'9" (caty)
~~[illegible]~~
~~[illegible]~~
1-L (cakv 283)
1-L (cakw 283)
1-PL 13¾ x ⅜ x 1'0⅞ (cbmg 283)
1-L 3½ x 3 x ⅜ x 0'10¼ (cavb) (Bent)
1- " " 0'10¼ (cavc) (Bent)

~~[illegible]~~
1-PL 7½ x ⅜ x 3'7½ (cavf)
1-PL (camg 283)
~~[illegible]~~
1-L 4 x 3½ x ⅜ x 3'6³⁄₁₆ (cavg)
1-Fill 3½ UM x ⅜ x 2'11⅜ (cavh)
2-Ls (cbmf 283)

Span 9	1	Walkway		C121	
No.	Description			Mark	Remarks

Required List

For General Notes see Sheet G283AJ
Work this sheet with G283AJ to GJ, G283IJ-JJ & G284AG to GG.
For Sections (19)(20)(21) see Sheet G283IJ
For Section (38) see Sheet G283JJ

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-18-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0" Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago Drawing Room — Judson Pacific Works
In charge: Jenks — Made by: ATA
Checked by: [illegible] -34 — Traced by: CAJ 7-17-34
Last Assem. Mk.
CONTRACT CG15803 — SHEET G 283 HJ

Sections ① ② ⑦ ⑧ ⑬ ⑭ As Shown
Sections ③ ④ ⑤ ⑥ ⑨ ⑩ ⑪ ⑫ ⑮ ⑯ Opp Hand

Sections ③ ④ ⑤ ⑥ ⑨ ⑩ ⑪ ⑫ ⑮ ⑯ As Shown
Sections ① ② ⑦ ⑧ ⑬ ⑭ Opp Hand

Sections ⑦ ⑧ ⑩ ⑪ ⑬ ⑭ As Shown
Sections ③ ④ ⑨ ⑫ ⑮ ⑯ Opp Hand

Section ⑤⑥

Section ⑨⑩

Section ⑧⑧

Section ⑬⑬

Section ⑫⑫ For C124
Section ⑭⑭ For C116

Sect ⑤⑤

Section ⑰⑰

Section ④④

Section ③③

Sect ⑦⑦

Sect ⑥⑥

Section ②②

Section ①①

For General Notes See Sheet G283AT
Work This Sheet G283AJ to HJ, G283JJ & G284AG to GG

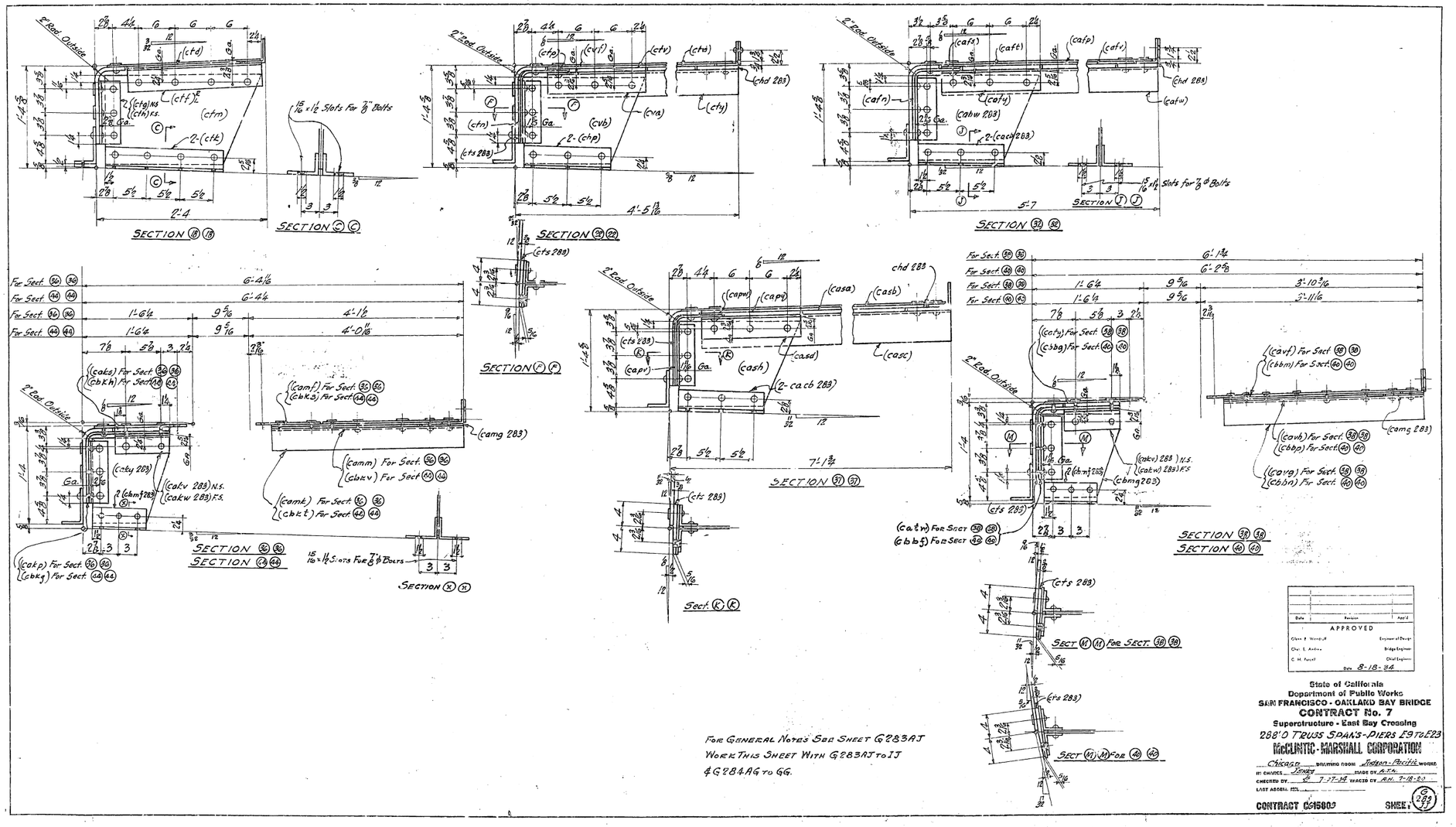
Date	Revision	Appd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-18-24

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0" Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago — Drawing Room: Judson Pacific
In Charge: Jenks — Made by: A.T.A.
Checked by: [illegible] 7.21.31 — Traced by: J.J.H.
Lads Assem. Ink.

CONTRACT CC15805 — SHEET 283 AJ



For General Notes See Sheet G283AJ
Work This Sheet With G283AJ to IJ
& G284AG to GG.

Date	Revision	Appd

APPROVED

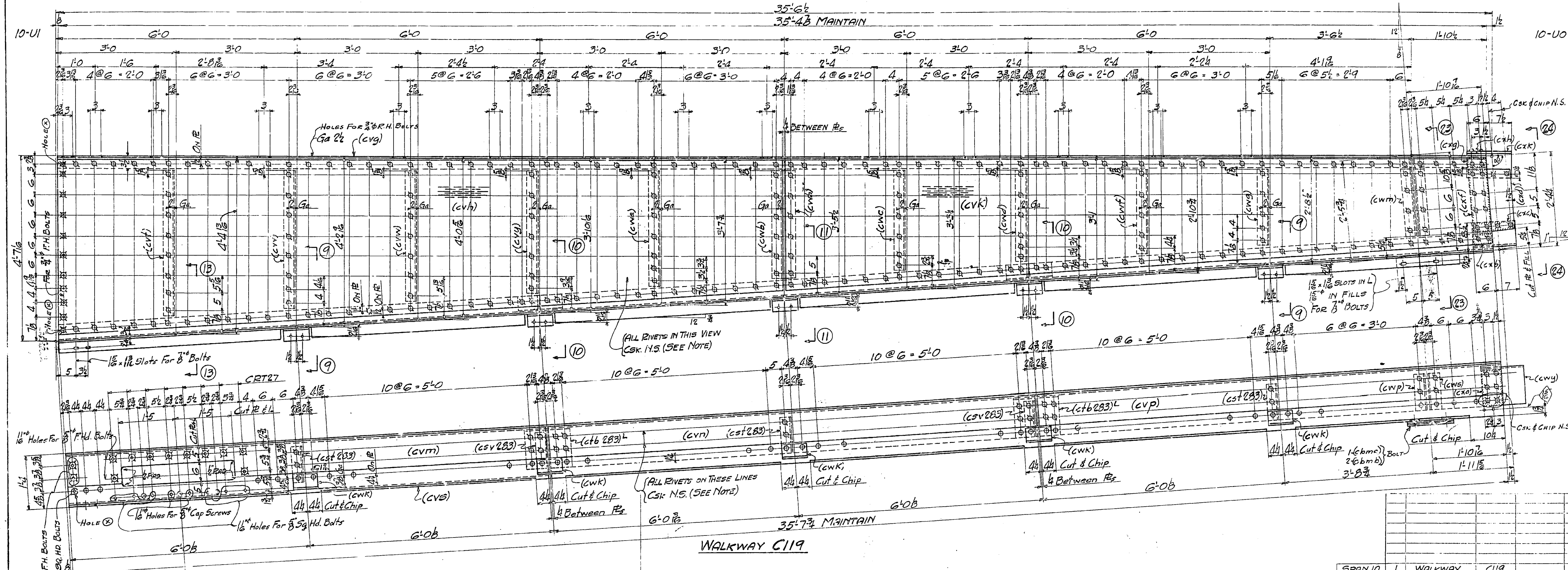
Chas. P. Wenzell — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-18-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0 TRUSS SPANS-PIERS E9 TO E23
McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM Jackson-Pacific WORK
IN CHARGE Jenks MADE BY A.T.N.
CHECKED BY S. 7-17-34 TRACED BY A.H. 7-18-34
LAST ADDEN. NO.

CONTRACT 645803 SHEET G 283

30-1



SPAN 10	1	WALKWAY	C119	
No.	Description	Mark	Remarks	

REQUIRED LIST

MATERIAL FOR WALKWAY C119

1-L 4 × 3½ × ⅜ × 35'-5⅛ (cvg) F.2E.
1-Cent. Knobby PL 52 3/16 × ⅜ × 17'-11¾ (cvh) (Sketch S17)
1-Cent. Knobby PL 38⅝ × ⅜ × 17'-6 13/16 (cvk) (Sketch S13)
1-PL 19 UM × ½ × 12'-0 (cvm) F.2E.
1-PL 16 UM × ½ × 12'-0 1/16 (cvn) F.2E.
1-PL 16 UM × ½ × 11'-7 3/16 (cvp) F.2E.
1-L 6 × 3½ × ½ × 35'-7¾ (cvs) F.2E.
1-L 4 × 3½ × ⅜ × 3'-7 13/16 (cvt)
1-L 4 × 3½ × ⅜ × 3'-5 9/16 (cvv)
1-L 4 × 3½ × ⅜ × 3-3 5/16 (cvw)
1-L 4 × 3½ × ⅜ × 3'-1 1/16 (cvy)
1-L 4 × 3½ × ⅜ × 2'-10¾ (cwa)
1-L 4 × 3½ × ⅜ × 2-8½ (cwb)
1-L 4 × 3½ × ⅜ × 2'-6¼ (cwc)
1-L 4 × 3½ × ⅜ × 2'-4 (cwd)
1-L 4 × 3½ × ⅜ × 2'-1¾ (cwf)
1-L 4 × 3½ × ⅜ × 1'-11½ (cwg)
1-PL 7 × ⅜ × 2'-8½ (cwh)
5-Ls 5 × 3½ × ½ × 0'-7½ (cwk)
5-PLs 18¾ × ⅜ × 0'-10⅜ (cad 283) (1'-2½ cuts 2)
3-Ls 3½ × 3½ × ⅜ × 0'-10¼ (cst 283) Bent
2-Ls 3½ × 3 × ⅜ × 0'-10¼ (csv 283) Bent
2-PLs 13 × ½ × 1'-3 5/16 (ct6 283)L Bent

1-PL 7½ × ⅜ × 1'-9 (cwm)
1-L 3½ × 3½ × ⅜ × 1'-11⅞ (cwn)
1-L 3½ × 3½ × ⅜ × 0'-10¼ (cwp) Bent
1-L 3½ × 3½ × ⅜ × 0'-10¼ (cws) Bent
2-Ls 5 × 3 × ⅜ × 1'-7½ (cwt)
2-Shims 10½ UM × ⅛ × 1'-7½ (cwv) Bolt
1-PL 14½ UM × ⅜ × 2'-2 (cww)
1-PL 13 × ½ × 1'-6½ (cwy) Bent
1-Fill 6 UM × ⅛ × 10¼ (cxa)
1-Fill 3 × ⅛ × 0'-6 (cxb) F.I.E.
1-Fill 3 5/16 F.I.W. × ⅛ × 1'-1 (cxc)
1-PL 13 × ⅜ × 1'-7 1/16 (cxd) F.2E.
1-Fill 6 UM × ⅛ × 1'-7 1/16 (cxf)
1-Fill 3¼ × ⅛ × 0'-6¼ (cxg) F.I.E.
1-Fill 3¾ UM × ⅛" × 0'-6" (cxh) F.I.E.
1-PL 13½ UM × 5/16 × 0'-11 (cxk) F.I.E. (Bent)
1-L 3½ × 3½ × ⅜ × 1'-11⅞ (cbkw)
1-Fill 3½ × ⅜ × ¼ F.I.S. × 1'-1" (cbma) Bolt
2-Fills 3½ × ⅛ × 1'-1" (cbmb) Bolt

For General Notes See Sheet G283AJ
Work This Sheet With G283AJ to JJ & G284BG to GG
For Sections (9) (10) (11) (13) See Sheet G283IJ
For Sections (23) (24) See Sheet G284GG

Date	Revision	App'd

APPROVED

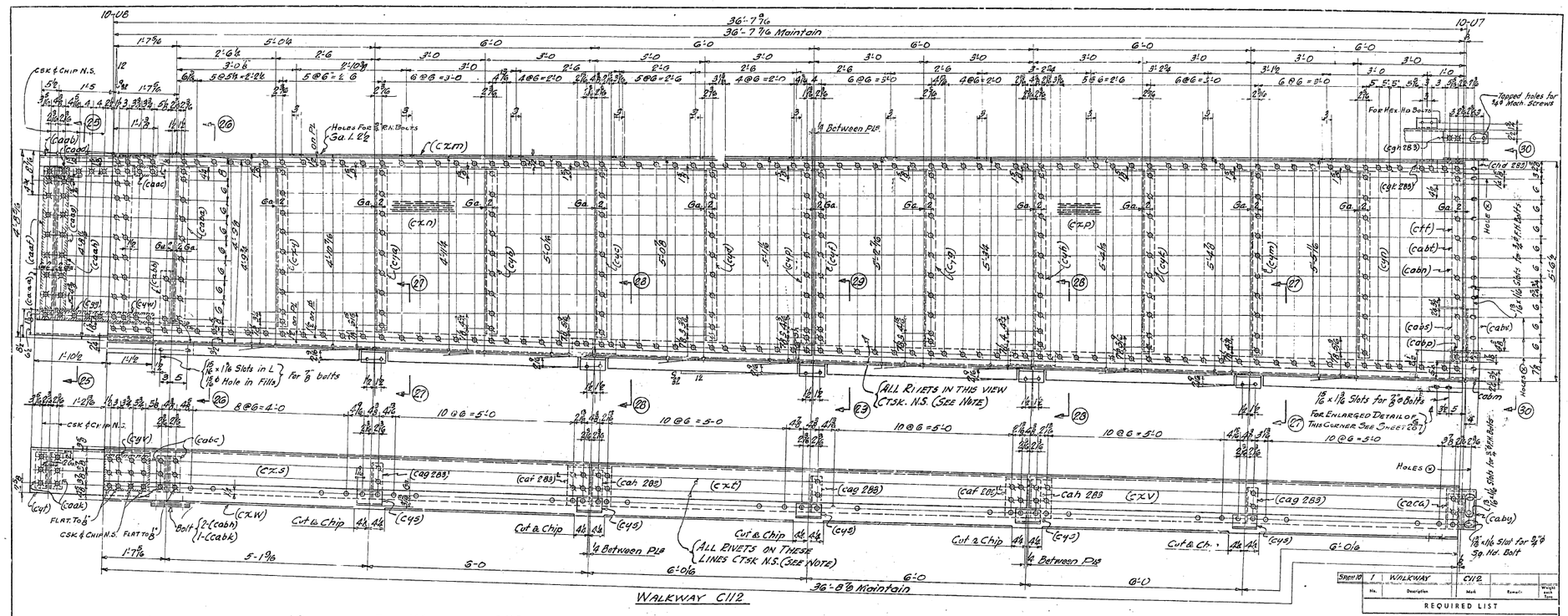
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-18-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 SPANS - PIERS E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago Drawing Room Judson-Pacific Works
In Charge Jenke Made by E.T.A.
Checked by ¢ 7-27-34 Traced by R.J.L. 7-12-34
Last Assoc.Mk.

CONTRACT C615803 SHEET G 284 BG

30-1


10-U8
10-U7
36'-7 9/16
36'-7 9/16 Maintain
Holes For 7/8" Dia. Rivets Ga. 1 & 2
Between Plts
ALL RIVETS IN THIS VIEW CTSK. N.S. (See Note)
ALL RIVETS ON THESE LINES CTSK N.S. (See Note)
Topped holes for 1/4 Mach. Screws For Hex. Hd Bolts
Holes for 3/4" Mach. Bolts
1 5/16 x 1 3/16 Slots for 7/8" Bolts For Enlarged Detail of This Gusset See Sheet 28J
1 5/16 x 1 3/16 Slots in L 13/16 ø Hole in Fills for 7/8" bolts
CSK & Chip N.S.
Cut & Chip
Flat To 8"
Bolt {2-(cabh) 1-(cabk)
1 5/16 x 1 1/16 Slot for 7/8" Sq. Hd. Bolt
Hole
Holes
Cabm
Ga. 1
Ga. 2
8 @ 6 = 4'-0
10 @ 6 = 5'-0
6 @ 6 = 3'-0
5 @ 6 = 2'-6
4 @ 6 = 2'-0
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6 @ 6 = 3'-0
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5 @ 5 = 2'-5
3 @ 6 = 1'-6
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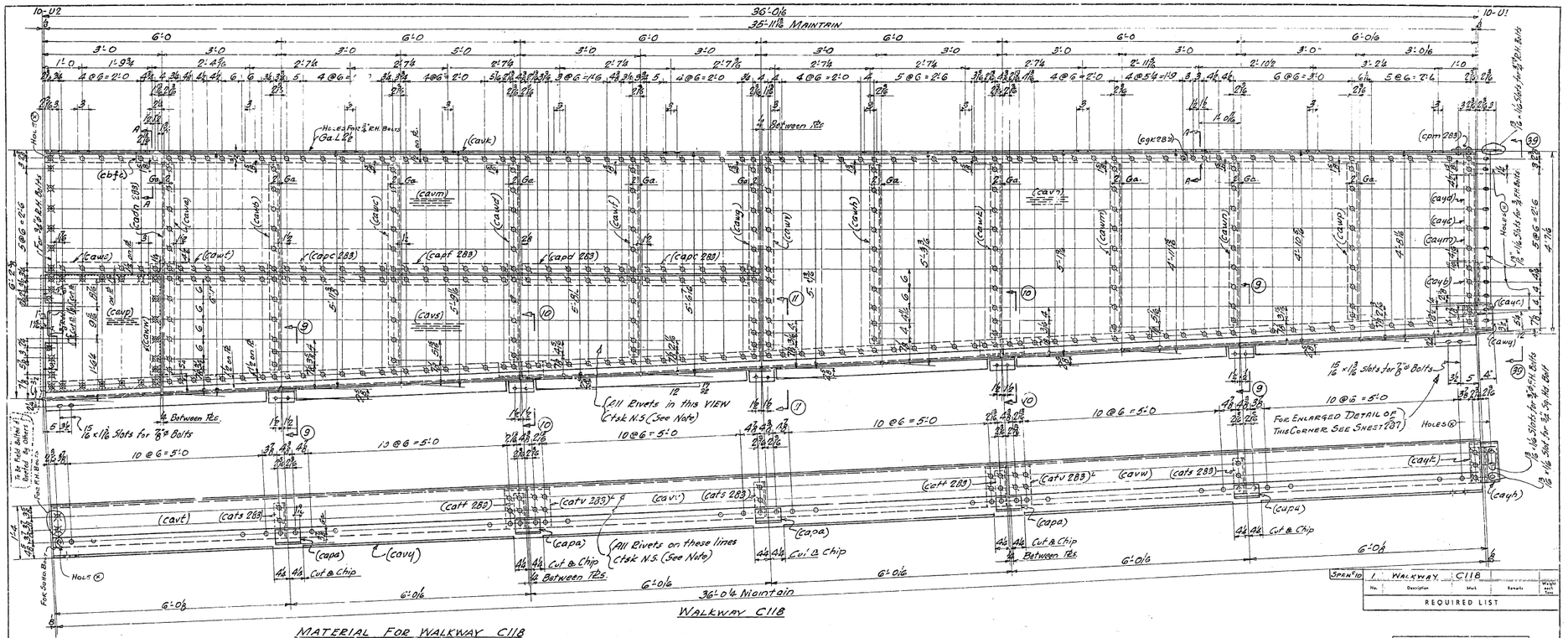
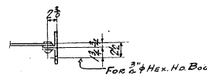


MATERIAL FOR WALKWAY C118

1-L 4 × 3½ × ⅜ × 35'-11⅛ (cauk) F.E.
1-Cent Knuby 12 36 × ⅜ × 17'-11⅛ (cavm)(N.S)
1- do. 12 6 7/16 × ⅜ × 17'-11⅛ (cavn) (Sketch 516)
1- do. 12 35⅜ × ⅜ × 2'-11⅛ (cavp) (Cut For Sketch 516) Bolt
1- do 12 3⅜ × ⅜ × 14'-11⅛ (cavq) (Cut For Sketch 516)
1-12 16 UM × ½ × 11'-11⅞ (cauf) F.E. (Bent)
1-12 16 UM × ½ × 11'-11⅞ (cauv) F.E. (Bent)
1-12 16 UM × ½ × 12'-0⅛ (cavw) F.E (Bent)
1-L 6 × 3½ × ½ × 36'-0¼ (cavq) F.E
1-L 5 × 3½ × ⅜ × 5'-4 (caus)
1-L 4 × 3½ × ⅜ × 5'-2⅜ (caut)
1-L 4 × 3½ × ⅜ × 5'-0⅛ (cauc)
1-L 4 × 3½ × ⅜ × 4'-11⅛ (cavs)
1-L 4 × 3½ × ⅜ × 4'-9⅛ (cauf)
1-L 4 × 3½ × ⅜ × 4'-7⅛ (cavg)
1-L 4 × 3½ × ⅜ × 4'-6⅛ (cavh)
1-L 4 × 3½ × ⅜ × 4'-4⅛ (cavk)
1-L 4 × 3½ × ⅜ × 4'-2⅛ (cavm)
1-L 4 × 3½ × ⅜ × 4'-1⅛ (cavn)
1-L 4 × 3½ × ⅜ × 3'-11⅛ (cavp)

1-R 6 UM × ⅜ × 2'-4⅛ (caus)
1-R 6 UM × ⅜ × 2'-4⅛ (c..wf)
2-R 5 6 UM × ⅜ × 2'-8 (capc 283)
1- i. 6 UM × ⅜ × 2'-8 (capf 283)
1-R 6 UM × ⅜ × 2'-8 (capd 283)
1-R 7 × ⅜ × 4'-7⅛ (cavv)
1-R 7 × ⅜ × 2'-9⅜ (cavw)
1-Fill 3½ UM × ⅜ × 2'-6⅛ (cadn 283)
5-R 5 (cad 283)
3-L 5 3½ × 3½ × ⅜ × 0'-10⅛ (cats 283)(Bent)
2-L 5 3½ × 3½ × ⅜ × 0'-10⅛ (catt 283)(Bent)
2-R 5 1.. × ½ × 1'-3⅜ (catv 283)L (Bent)
5 L 5 × 3½ × ⅜ × 0'-7⅛ (capa) (Bent)
1-R 8 × ⅞ × 1'-6⅛ (cavs) (Bent)
1-Fill 7⅛ × ⅛ × 0'-3¼ (caya)
1-Bevel Fill 8 × ⅜ × ⅝ F.I.S. × 0'-1⅛ (cts 283)
1-R (chd 283)
1-R 7½ × ⅞ × 1'-0⅝ (cayb)
1-Fill 3½ UM × ⅞ × 2'-2⅞ (cayc)
1-L 4 × 3½ × ⅜ × 4'-1⅞ (cayd)

1-L 3½ × 3½ × ⅜ × 1'-4⅛ (cayf)
1-PL 14 UM × ⅜ × 1'-8 (cayg) (2'-10" Curs 2)
1-L 3½ × 3 × ⅜ × 0'-10¼ (cayh) (Bent)
1-L 3½ × 3 × ⅜ × 0'-10¼ (cayk)(Bent)
2-L 5 (cacb 283)
1-R 7½ × ⅜ × 3'-10⅛ (cayn)
1-Bar 3¾ UM × ⅜ × 1'-1⅜ (cpm 283)
1-L (egk 283)
1-L 3½ × 3 × ⅜ × 0'-8 13/16" (cbfs)



SECTION AA

For General Notes See Sheet 283AJ
Work This Sheet With G 283AJ to JJ, G 284AA-BB & G 284DG to GG
For Sections 9 10 11 See Sheet G 283IJ
For Section 39 See Sheet G 284GG

SPAN NO 10 — 1 WALKWAY C118

No.	Description	Mark	Remarks	Weight Each Piece

REQUIRED LIST

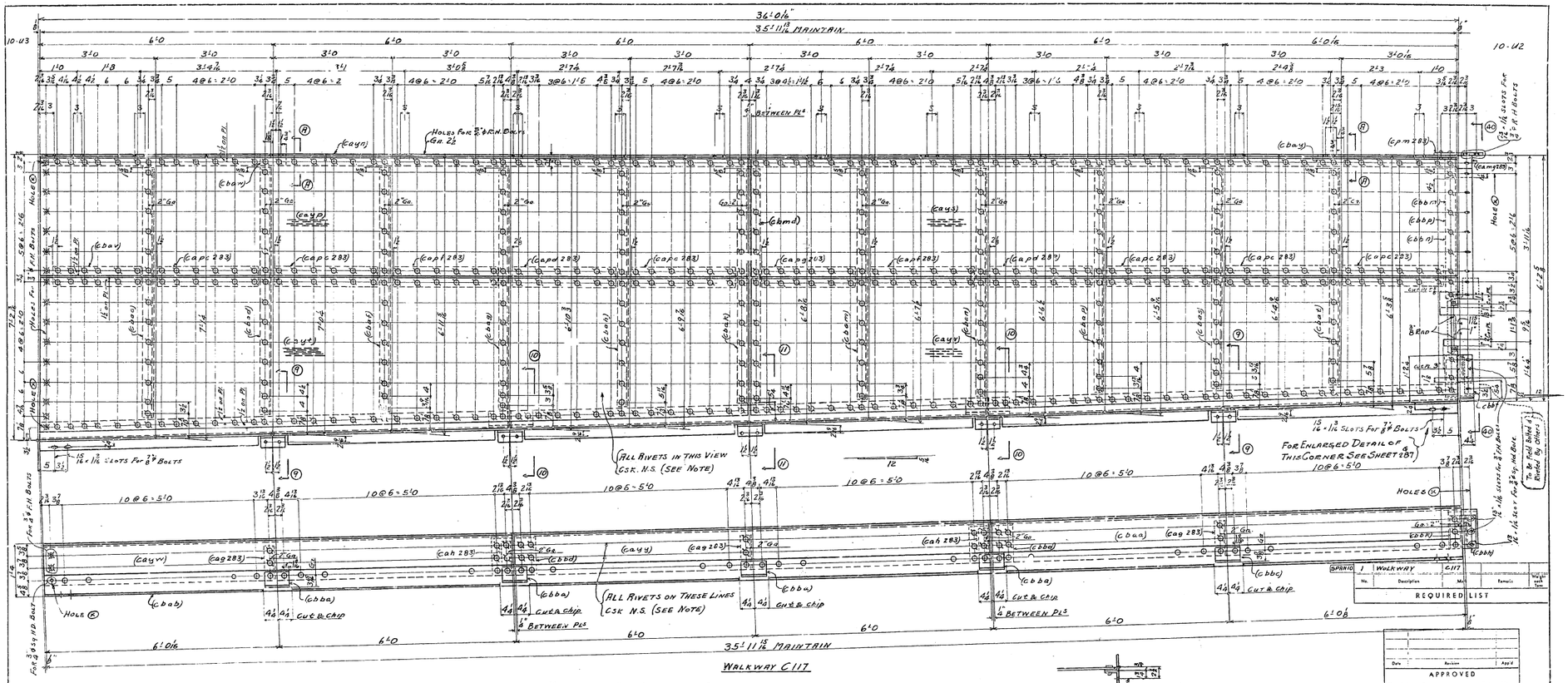
Date	Revision	Appr'd

APPROVED

Engineer of Design
Bridge Engineer
Chief Engineer
Date 8-18-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" TRUSS SPANS - PIERS E9 TO E23
McCLINTIC-MARSHALL CORPORATION
CHICAGO DRAWING ROOM JERSEY PARKER WORKS
IN CHARGE JENKS MADE BY A.T.H.
CHECKED BY E 7-27-36 TRACED BY A.L. 7-17-36
LAST ASSGN. NO.

CONTRACT 03S6803 SHEET G 284 GG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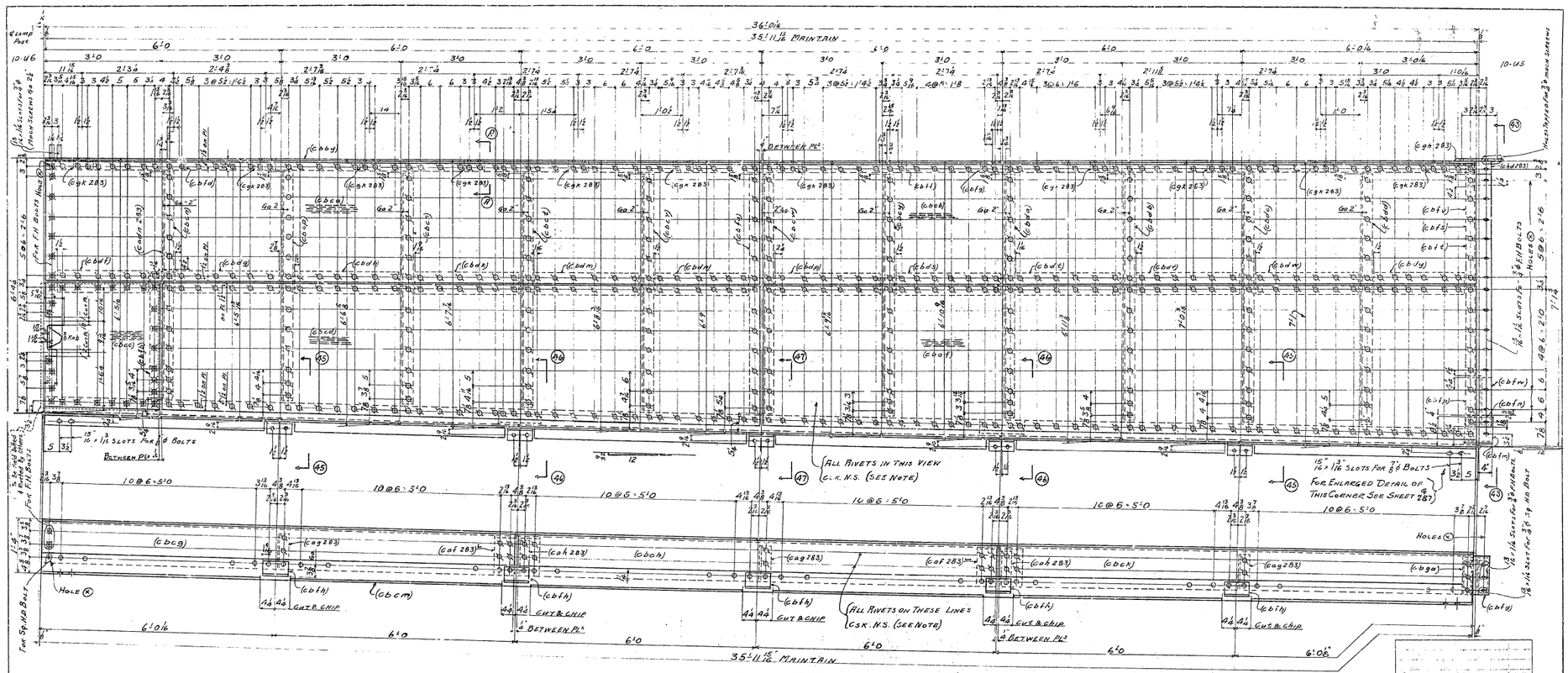


Material For Walkway C114

1-L 4 x 3½ x ⅜ x 35'-11 13/16" (cbbtt) F2 E
1-Cent. Knobby Pl. 36 - ⅜ x 17'-11 3/16" (cbca) (W.S.)
1- " " - 36 x ⅜ x 17'-11 13/16" (cbcb) (S3)
1- " " - 37 13/16 x ⅜ x 2'-11 3/16" (cbcc) (Cut Fr. Sketch 36) (Bolt)
1- " " - 41⅜ x ⅜ x 10'-11⅜" (cbcd) (Cut Fr. Sketch 36)
1- " " - 46⅜ x ⅜ x 17'-11⅜" (cbce) (Sketch 37)
1-Pl 16"UM x ½ x 11'-11 13/16" (cbcg) F2 E (Bent)
1-Pl 16"UM x ½ x 11'-11 3/16" (cbch) F2 E (Bent)
1-Pl 16"UM x ½ x 11'-11 7/16" (cbck) F2 E (Bent)
1-L 6 x 3½ x ½ x 35'-11 13/16" (cbcm) F2 E
1- " 5 x 3½ x ⅜ x 5'-8 1/16" (cbcn)
1- " " 5'-8 13/16" (cbcp)
1- " " 5'-9 9/16" (cbcs)
1- " " 5'-10 1/16" (cbct)
1- " " 5'-11 7/16" (cbcv)
1-L 5 x 3½ x ⅜ x 6'-10" (cbcw)
1- " " 6'-10 13/16" (cbcw)
1- " " 6'-11 1/16" (cbda)
1- " " 6'-11 3/16" (cbdb)
1- " " 6'-11 5/16" (cbdc)
1- " " 6'-11 7/16" (cbdd)
1-Pl 6"UM x ⅜ x 2'-4 7/16" (cbdf)
1- " " 2'-8" (cbdg)
1- " " 2'-8" (cbdh)
1- " " 2'-8" (cbdk)
1- " " 2'-8" (cbdm)
1- " " 2'-4½" (cbdn)
1- " " 2'-8" (cbdp)
1- " " 2'-8" (cbdq)
1- " " 2'-8" (cbdt)

1- Pl 6"UM x ⅜ x 2'-8" (cbdv)
1- " " 2'-8" (cbdw)
1- " " 2'-10 5/16" (cbdy)
1- " 7 x ⅜ x 6'-0" (cbfa)
1- Pl " 3'-11 15/16" (cbfb)
1- Fill (cadn 283)
1- Bar (cgk 283)
11-L's (cgk 283)
1-L 3½ x 3 x ⅜ x 0'-6 3/8" (cbfd)
1- " " 0'-7" (cbfi)
1- " " 0'-7 11/16" (cbfg)
5- Pl's (cad 283)
5-L's 5 x 3½ x ½ x 0'-7½" (cbfh)
3-L's (cag 283)
2- " (cah 283)

2-Pl's (caf 283)L
1- Bevel Fill 8 x ⅜ - 11/32 Fls. x 0'-10⅝" (cbfk)
1- Pl 3 x 1/16 x 1'-6 3/8" (cbfm) (Bent)
1- Fill 7½ x ⅜ x 0'-13¼" (cbfn)
1-Pl 7½ x 7/16 x 1'-0 3/8" (cbfp)
1- Pl (chd 283)
1-Fill 3½ "UM" x 16 x 4'-1 9/16" (cbfs)
1- Pl 7½ x ⅜ x 6'-4 3/8" (cbft)
1-L 5 x 3½ x ⅜ x 6'-8½" (cbfv)
1-L 3½ x 3½ x ⅜ x 1'-4⅜" (cbfw)
1- 3½ x 3 x ⅜ x 0'-10¼" (cbfy) (Bent)
1- " " 0'-10¼" (cbgx) (Bent)
2-L's (cach 283)
1- Pl 14"UM x ⅜ x 1'-8" (cbgb) (2'-10" cuts 2)

For General Notes See Sheet G283AJ
Work This Sheet With G283AJ to JJ, G284AG to DG & G284FG-GG
For Sections 46 45 47 See Sheet G283IJ
For Section 43 See Sheet G284GG.

Section A-A
Typical along Back L
This Leg Plain where Clips occur
Holes for ⅞" H.S.H.D. Bolts

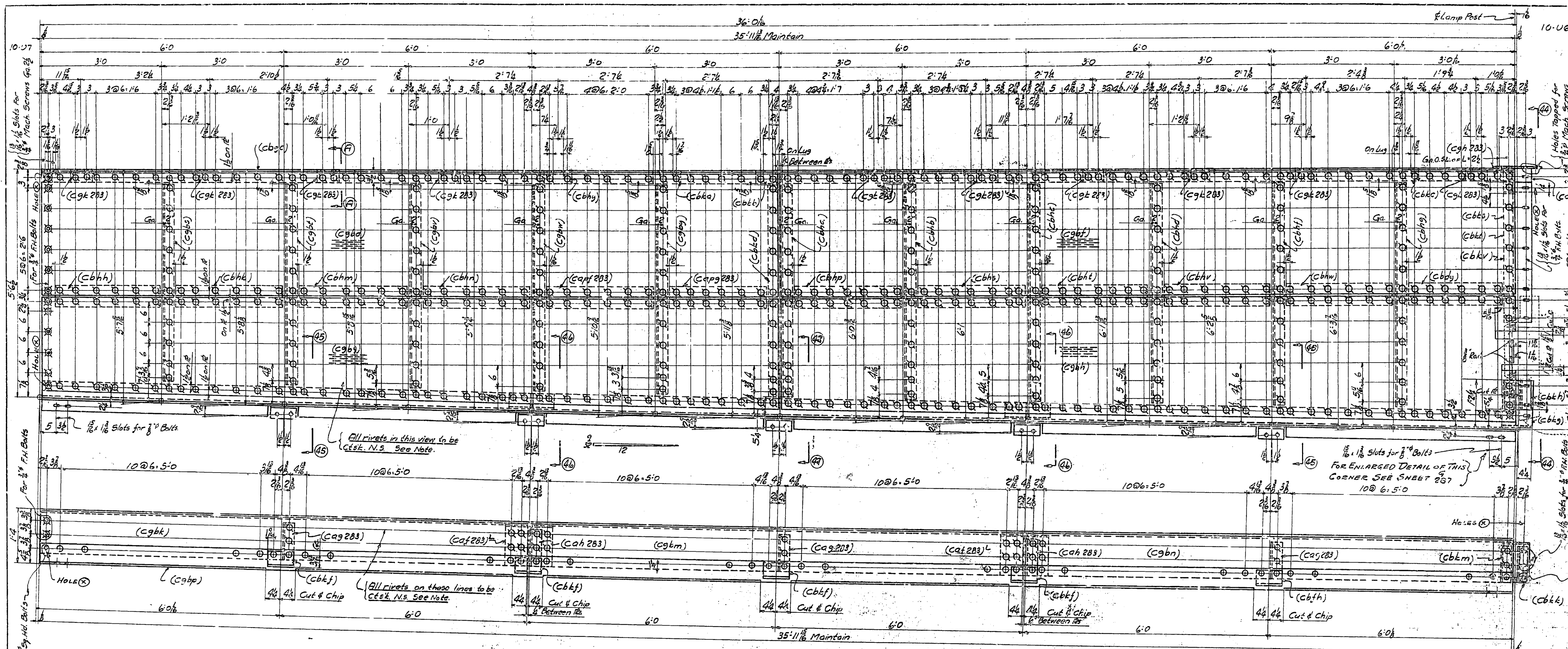
Span	No	Walkway	C114	Remarks	Weight (Lbs.)
		Description	Mark		
		Required List			

APPROVED
Date 8-18-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
280'-0" Truss Spans 9 Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago Drawing Room Judson Pacific-Moore
In Charge Jones Made By A.T.S.
Checked By E 7-27-36 Traced By C.A.T. 7-28-36
Last Aslem. Mk.

Contract C615803 Sheet G 284 GG

30-1



Walkway C113

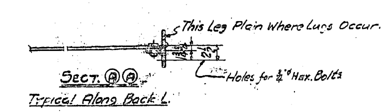
Material for Walkway C113

1-L 4 x 3 1/2 x 3/8 x 35'-11 13/16 (cbgc) F.Z.E.
1-Cent. Knobby Pl 36 x 3/8 x 17'-11 3/4 (cgbd) (N15)
1-Cent. Knobby Pl 36 x 3/8 x 17'-11 13/16 (cgbf) (53)
1-Cent. Knobby Pl 32 1/4 x 3/8 x 17'-11 3/4 (cgbg) (Sketch 54)
1-Cent. Knobby Pl 37 1/8 x 3/8 x 17'-11 13/16 (cgbh) (Sketch (55)
1-Pl 16" UM x 1/2 x 11'-11 13/16 (cgbk) F.Z.E. (Bent)
1-Pl 16" UM x 1/2 x 11'-11 3/4 (cgbm) F.Z.E. (Bent)
1-Pl 16" UM x 1/2 x 11'-11 7/8 (cgbn) F.Z.E. (Bent)
1-L 6 x 3 1/2 x 1/2 x 35'-11 15/16 (cgbp) F.Z.E.
1-L 4 x 3 1/2 x 3/8 x 4'-10 5/16 (cgbs)
1-L 4 x 3 1/2 x 3/8 x 4'-11 1/8 (cgbt)
1-L 4 x 3 1/2 x 3/8 x 4'-11 15/16 (cgbv)
1-L 4 x 3 1/2 x 3/8 x 5'-0 3/4 (cgbw)
1-L 4 x 3 1/2 x 3/8 x 5'-1 9/16 (cgby)
1-L 4 x 3 1/2 x 3/8 x 5'-2 3/8 (cbha)
1-L 5 x 3 1/2 x 3/8 x 5'-3 3/16 (cbhb)
1-L 5 x 3 1/2 x 3/8 x 5'-4 (cbhc)
1-L 5 x 3 1/2 x 3/8 x 5'-4 13/16 (cbhd)

1-L 5 x 3 1/2 x 3/8 x 5'-5 5/8" (cbhf)
1-L 5 x 3 1/2 x 3/8 x 5'-6 7/16 (cbhg)
1-Pl 6" UM x 3/8 x 2'-7 15/16 (cbhh)
1-Pl 6" UM x 3/8 x 2'-8 (cbhk)
1-Pl 6" UM x 3/8 x 2'-8 (cbhm)
1-Pl 6" UM x 3/8 x 2'-8 (cbhn)
1-Pl (capf 283)
1-Pl (capg 283)
1-Pl 6" UM x 3/8 x 2'-8 (cbhp)
1-Pl 6" UM x 3/8 x 2'-8 (cbhs)
1-Pl 6" UM x 3/8 x 2'-8 (cbht)
1-Pl 6" UM x 3/8 x 2'-8 (cbhv)
1-Pl 6" UM x 3/8 x 2'-8 (cbhw)
1-Pl (cbdy)
1-Bar (cgh 283)
10-Ls (cgk 283)
1-L 3 1/2 x 3 x 3/8 x 7 15/16 (cbhy)
1-L 3 1/2 x 3 x 3/8 x 7 5/16 (cbka)

1-L 3 1/2 x 3 x 3/8 x 7 5/16 (cbkb)
1-L 3 1/2 x 3 x 3/8 x 7 1/16 (cbkc)
1-Pl 7 x 3/8 x 5'-2 3/8 (cbkd)
3-Ls (cag 283)
2-Ls (cah 283)
2-Pls (caf 283)
4-Ls 5 x 3 1/2 x 1/2 x 0'-7 1/2 (cbkf) (Bent)
1-L (cbfh)
5-Pls (cad 283)
1-Pl 8 1/2 x 5/16 x 2'-0 5/8 (cbkg) (Bent)
~~[illegible]~~
1-Pl 7 1/2 x 1/2 x 0'-9" (cbkh)
1-L (cakv 283)
1-L (cakw 283)
1-Pl 13 3/4 x 3/8 x 1'-0 7/8 (caky 283)
1-L 3 1/2 x 3 1/2 x 3/8 x 0'-10 1/4 (cbkk) (Bent)
1-L 3 1/2 x 3 1/2 x 3/8 x 0'-10 1/4 (cbkm) (Bent)
~~[illegible]~~

~~[illegible]~~
1-Pl 7 1/2 x 3/8 x 3'-5" (cbks)
1-Pl (camg 283)
~~[illegible]~~
1-L 4 x 3 1/2 x 3/8 x 3'-8 11/16 (cbkt)
1-[11 3 1/2 UM x 3/8 x 3'-1 7/8 (cbkv)
2-Ls 5 x 3 1/2 x 3/8 x 0'-9" (cbm f 283)



Sect. (A)(A)
Typical Along Back L.

For General Notes See Sheet G283AJ
Work This Sheet With G283AJ to JJ, G284AG to EG & G284GG
For Sections (45)(46)(47) See Sheet G283IJ
For Section (44) See Sheet G283JJ

Span 10	One	Walkway	C113		
	Total No.	Description	Mark	Remark	Weight each Tons
	Required List				

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-18-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago Drawing Room Judson Pacific Works
In Charge: Jenks Made by A.T.R. 7-20-34
Checked by [illegible] 7-27-34 Traced by V.E.R. 7-83-34
Last Assem. Mk. cgby
CONTRACT CG1E805 SHEET F6

SECTION (23)-(23)

SECTION (F)(F)

SECTION (28)(28)

SECTION (H)(H)

SECTION (26)(26)

SECTION (30)(30)

SECTION (29)(29)

SECTION (I)(I)

SECTION (N)(N)

SECTION (P)(P)

SECTION (G)(G)

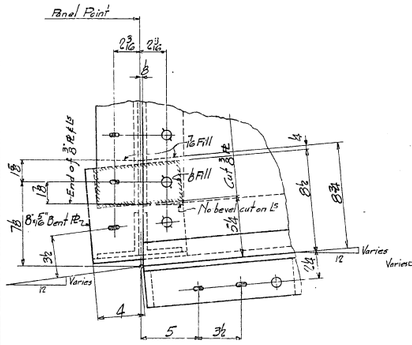
For General Notes See Sheet G 283 AT
Work This Sheet With Sheets G 283 AT to JJ & G 284 AG to FG

APPROVED

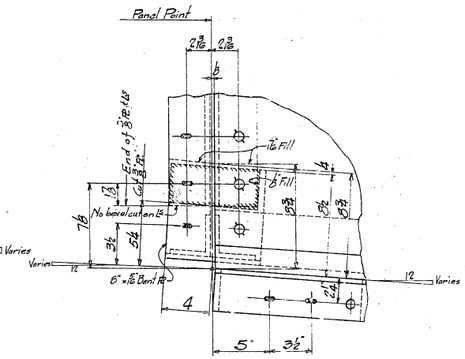
Engineer of Design
Bridge Engineer
Chief Engineer
Date 8-18-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Judson Pacific-Murphy
IN CHARGE Jenks MADE BY ATA 7/17/34
CHECKED BY E 7-21-34 TRACED BY KEH 7/19/34
LAST ASSEM. DR.

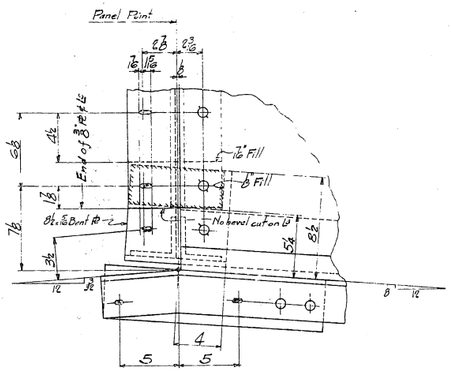
CONTRACT OGISP03 SHEET G 284 AG



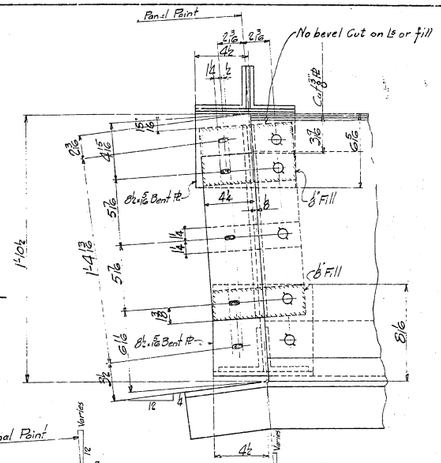
ENLARGED CORNER DETAIL
FOR C102-C110-C100-C108



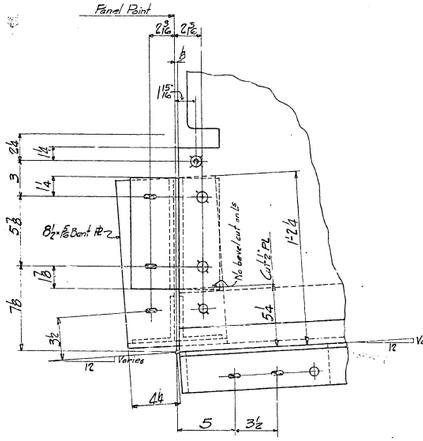
ENLARGED CORNER DETAIL
FOR C104-C106-C96-C98



ENLARGED CORNER DETAIL
FOR C107 & C99



ENLARGED END DETAIL
FOR C48 & C40



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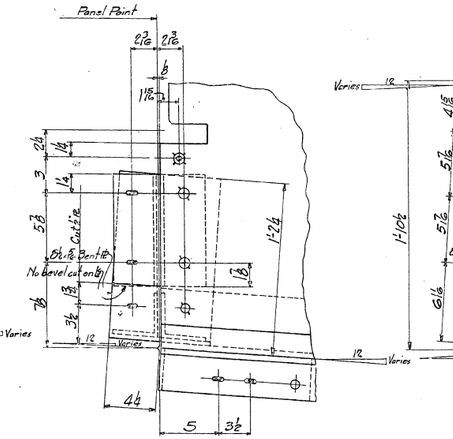
FOR C101 + C109



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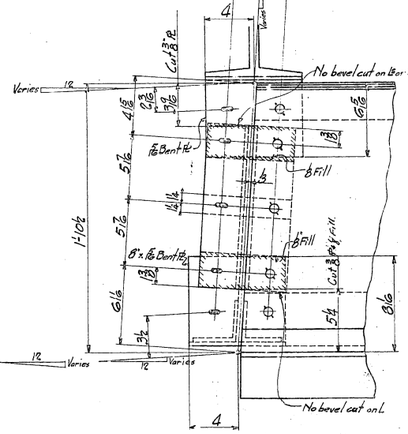
FOR C97 + C105



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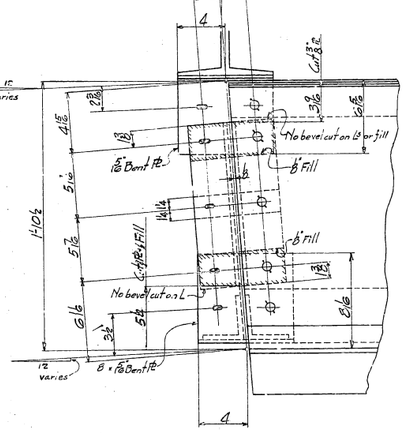
FOR C41-C42-C43-C49-C50-C51



ENLARGED END DETAIL
FOR C37-C38-C39-C45-C46-C47

No.	Description	Mark	Remarks

REQUIRED LIST

Date	Revisions	Appr'd

APPROVED

Engineer of Design

Bridge Engineer

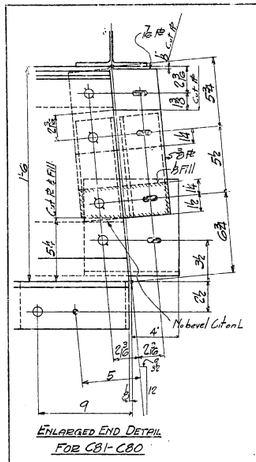
Chief Engineer

Dec. 8-18-34

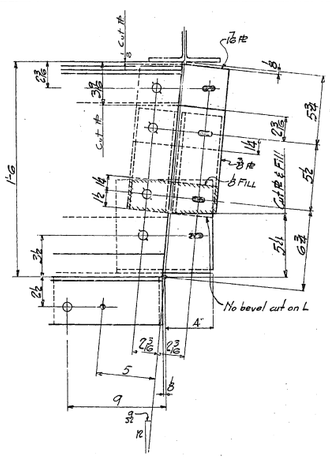
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Judson Pacific WORKS

IN CHARGE Tom Ek MADE BY L.G.V.
CHECKED BY E. 7-27-34 TRACED BY R.J. 7-20-34
LAST ASSEM. MK.

CONTRACT C075803 SHEET G 285



ENLARGED END DETAIL
FOR C81-C80



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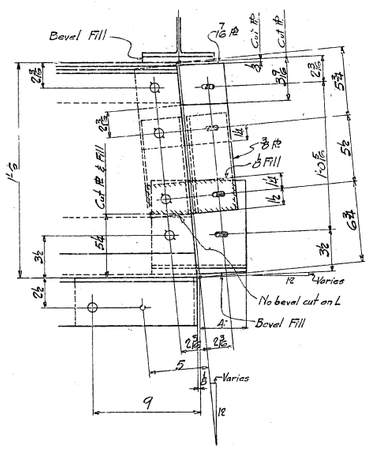
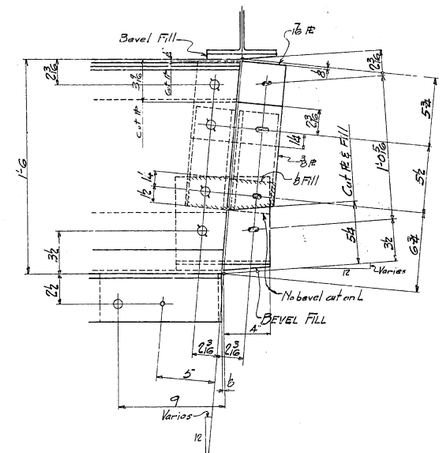
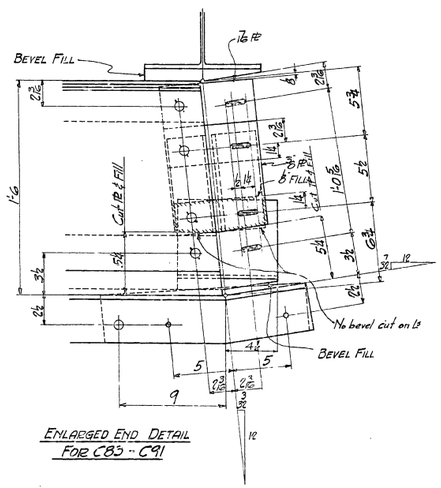
FOR C93-C94



ENLARGED END DETAIL
FOR C82-C90-C88-C89



ENLARGED END DETAIL
FOR C86-C84-C85-C92



ENLARGED END DETAIL
FOR C85-C91

No.	Description	Mark	Remarks	Weight each Type

REQUIRED LIST

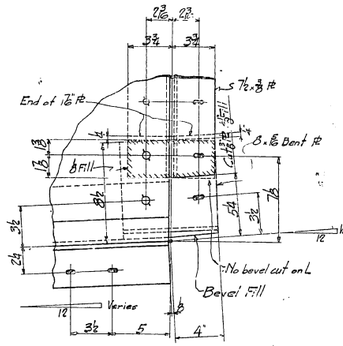
Date	Revision	Appr'd

APPROVED

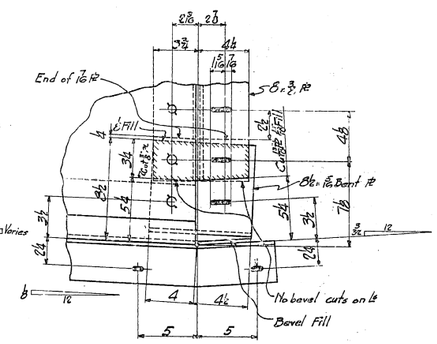
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrus — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-18-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0 Truss Spans - Piers E9-E23
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING ROOM Judson-Pacific WORKS
IN CHARGE Jonks STAGE BY A.T.A.
CHECKED BY E 7-27-36 TRACED BY R.J.L. 7-23-36
LAST ASSEM. ITM.

CONTRACT CG15603 SHEET G 186



ENLARGED CORNER DETAIL
FOR C124 - C116 - C118



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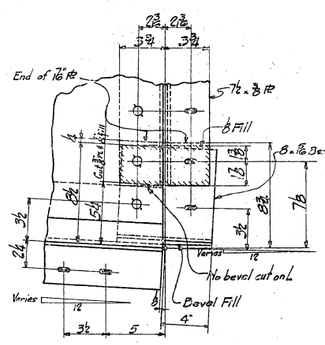
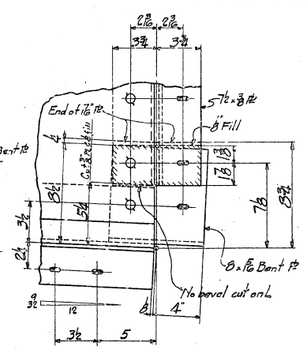
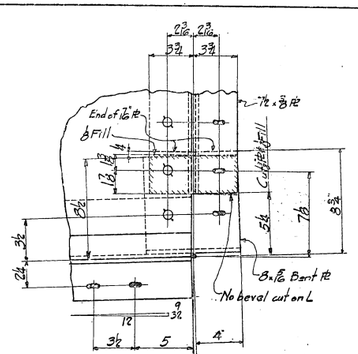
FOR C123 - C115



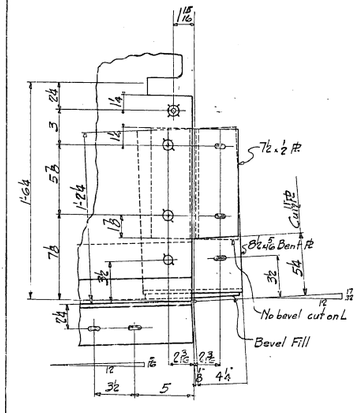
ENLARGED CORNER DETAIL
FOR C120 - C122 - C114



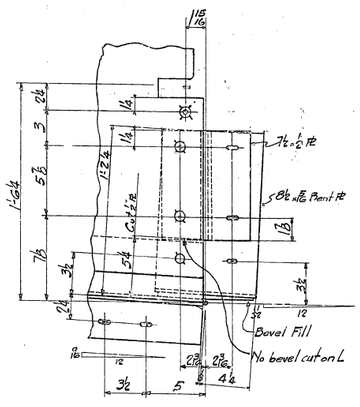
ENLARGED CORNER DETAIL
FOR C112



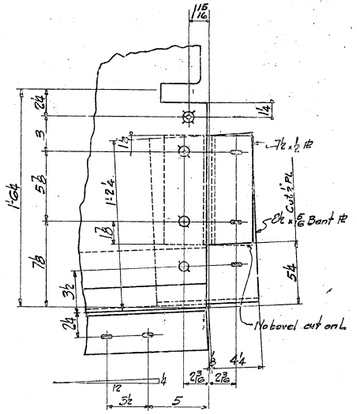
ENLARGED CORNER DETAIL.
FOR C126



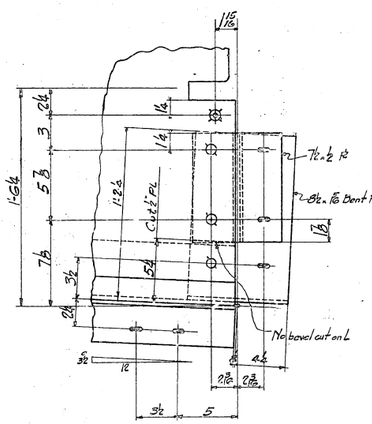
ENLARGED CORNER DETAIL
FOR C117



ENLARGED CORNER DETAIL.
FOR C121



ENLARGED CORNER DETAIL
FOR C125



ENLARGED CORNER DETAIL
FOR C113

No.	Description	Mark	Remarks	Weight each Item

REQUIRED LIST

Date	Revision	App'd

APPROVED

Glenn B. Warren — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8-18-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago — DRAWING ROOS Judson-Pacific-Murphy
IN CHARGE Jenks — TRACED BY A.T.P.
CHECKED BY E 7-27-34 — TRACED BY P.J.L. 7-24-34
LAST ABSTR. FOR

CONTRACT 061503 — SHEET 287

30-1

Index of Shipping Marks — Panels 1–20

Description	Mark	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Misc. Plates	M	101	101	101	102	102	101	805	602	602	602	607	817	817							
Floor Beams	FB	401	402	403	404	411	405	406	407	408	409	410	414	414	414	414	403		416	416	416
Beacon Std.	BBS	606																			
Shoes	BS	201	201	202	202	203	204														
Pins	P	203	203	203	203	203	203	203	203	203	203	203	203								
Rings	R	203	203	203	203	203	203	203	203	203	203	203	203	203	203	203	203				
Bolts	X	203	203	203	203	203	203	203	203	203	203	203	204								
Pin Caps	PC	203																			
Top Chord Struts	TS	801	801	01	601	801															
Sway Frame	SF	802	802	802	803																
Top Chord Lateral	TL	802																			
Bracket	KB	802	802																		
Portal Bracing	PF	601				602	602														
Stringers	S	301	301	302	302	302	307	302	302	302	302	307	302	302	302	302	302	302	303	303	303
Plates (Portal)	PP		601	601	601					601											
Ladders	LL	603	603	603	603	603	603	603	604	604	604	604	604	603							
Diagonals	D	804	804	804	304	804	804	804	804	804	804	804	804	804	804	805	805	805	805	805	805
Lateral Pls.	LP	804	204	804	804	805	805	805	805	805	805	805	804	806	806	806	806	606	806	806	806
Angles	A	805	805	805	805	805	804	804	805	806	806	817									
Brackets	B	129	129	130	130	605	605	605	605		605	605		605	135	605	605	605	605		
Cross Struts	CS	129	129	129	129	129	129	305	135	135	135	305									
Bottom Chord Lateral	BL	306	306	306	306	306	306	306													
Asbestos Gaskets	AG	606	606																		
Expansion Dam	ED	814	814	814	815	815	815	816	816	824	824										
Upper Deck Floor Joist	J	205	205	205	205	205															
Pilot Nuts	PN	203																			
Driving Nuts	DN	203																			
Roller Nest	RN	204																			
Truss Heel	TH	109	109	109	109	109	109	109	109	109	109										
Pipe Brackets	PB	606	605	605	605																
Drain Pipe	DP	606	606	606	606	606	606	606	606	606	606										
Railing Post	RP	1001	1001	1001																	
Hand Rails	GR	A 1002	A 1002	A 1002	A 1002	A 1002	A 1002	A 1002	A 1002	A 1002	A 1002	A 1002	A 1002	A 1002	A 1002	A 1002	A 1002	A 1002	A 1002	A 1002	A 1002
Skid Girders	SG	810	810	810	810	810	810	812	812	811	811	811	811	811	811	811	811	811	811	811	811
Walkways	C	A 807	A 807	A 807	B 807	B 807	D 807	D 807	D 807	D 807	D 807	C 807	D 807	D 807	D 807	D 807	E 807	E 807	E 807	B 807	B 807
Con. Angles	CA	607	607	607	607	607	607	607	607	607	607	607	607	607	607	607	607				
Cross Frames	CF	817	817	817																	
Post	SGP	605																			
Guide Angles	GA	605	605	605																	
Man hole Covers	MC	605																			
Drain Box	DB	606																			
Platform	HP	609																			
Platform Hand Railing	HR	609	609	609	609	609															

Panels 21–40

Description	Mark	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Floor Beams	FB	416	417	417	417	417	418	417	412	419	419	419	419	420	420	416	416	417	417	419	419
Stringers	S	303	303	303	303	303	303	303	303	304	304	304	304	304	304	304	304	304	304	304	304
Diagonals	D	805	805	805	805	805	805	805	805	805	805	805	805	806	806	806	806	806	806	806	806
Lateral Pls.	LP	806	806	118	307	307	307	307	307	307	307	307	307	307	307	307	817				
Hand Rails	GR	A 1002	A 1002	A 1002	A 1002	A 1002	A 1002	A 1002	A 1002	A 1002	A 1002	A 1002	A 1002	A 1002	A 1002	A 1002	A 1002	B 1002	B 1002	B 1002	B 1002
Skid Girders	SG	811	811	811	811	813	819	825	825												
Walkways	C	F 807	F 807	G 807	G 807	G 807	G 807	D 807	H 807	H 807	H 807	A 808	A 808	A 808	B 808	B 808	B 803	C 808	C 808	C 808	B 808

Panels 41–60

Description	Mark	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Floor Beams	FB	412	413	421	422	415															
Stringers	S	305	305	305	305	305	305	305	305	305	305	305	305	305	305	305	305	305	305	305	305
Diagonals	D	806	806	806	806	806	806	806	806	805	806	817	817	817	817	817	817			805	
Hand Rails	GR	B 1002	B 1002	B 1002		B 1002	B 1002	B 1002	B 1002	B 1002	B 1002										
Walkways	C	C 808	D 808	D 808	D 808	E 808	F 808	G 808	G 808	F 808	F 808	G 808	C 808	E 808	H 808	H 808	H 808	C 808	E 803	820	822

Panels 61–120

Descriptions	Mark	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
Stringers	S	305	305	305	305	129	129	129	129	129	129	129	129	129	127	129	129	130	130	130	130
Walkways	C	A 809	B 804	C 809	C 809	C 809	C 809	C 809	C 809	C 809	D 809	D 809	D 809	D 809	D 809	D 809	D 809	G 809	E 809	E 809	E 809

Descriptions	Mark	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
Stringers	S	130	130	130	130	129	129	129	129	129	129	129	129	130	130	130	130	129	129	129	129
Walkways	C	F 809	F 809	F 809	G 809	G 809	H 809	H 809	C 809	H 809	821	I 807	I 807	I 807	823	818					

Descriptions	Mark	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
Stringers	S	302	129	129	129	127	303	303	130	130	129	129	129	129	130	130	130	130	130	130	130
Walkways	C																				

Panels 121–180

Description	Mark	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140
Stringers	S	130	131	121	131	131	131	131	131	131	132	132	132	132	132	132	132	132	131	131	132

Description	Mark	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
Stringers	S	132	131	131	132	132	132	132	132	132	132	132	131	131	135	135	130	130	135	135	501

Description	Mark	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180
Stringers	S	501			135	135	135	135	135	135	135	135	129	129							

Index of Truss Members

J101	U5-6, U7-6
J102	U4-5, U8-7
J103	U3-4, U9-8
J104	U2-3, U10-9
J105	U10-M11
J106	M1-U2
J107	L12-M11
J108	L0-M1
J109	TH1, TH2, TH3, TH4, TH5, TH6, TH7, TH8, TH9, TH10
J110	U2-M3 U10-M9
J111	M3-L4, M9-L8
J112	M5-U6, M7-U'
J113	L8-M7
J114	L2-M3, L10-M9, M5-L6, M7-L6, M1-L2, M11-L10
J115	M2-U2, M4-U4, M6-U6, M8-U8, M10-U10
J116	M3-U3, M5-U5, M7-U7, M9-U9, L4-M5
J117	L1-M1, L11-M11
J118	L1-M1, L11-M11
J119	L3-M3, L5-M5, L7-M7, L9-M9
J120	L3-M3, L9-M9
J121	L5-M5, L7-M7
J122	GL2, GL2A, GL6, GL10, GL10A,
J123	GL4N, GL4S, GL8S, GL8N, GL4AN, GL4AS, GL8AS, GL8AN
J124	L2-M2, L10-M10
J125	L2-M2, L10-M10
J126	L4-M4, L8-M8
J127	L4-M4, L8-M8
J128	L6-M6
J133	L6-M6
J134	L0-M0, L12-M12

Shims	F1 to F48 incl.	sheet	608
Bolts	CB1 to CB7 incl.	"	826
"	GB1-GB2-GB3	"	826
"	MB1 to MB14 incl.	"	826
Washers	W1-W2	"	826

Date	Revision	App'd

APPROVED

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

504'-0" Span

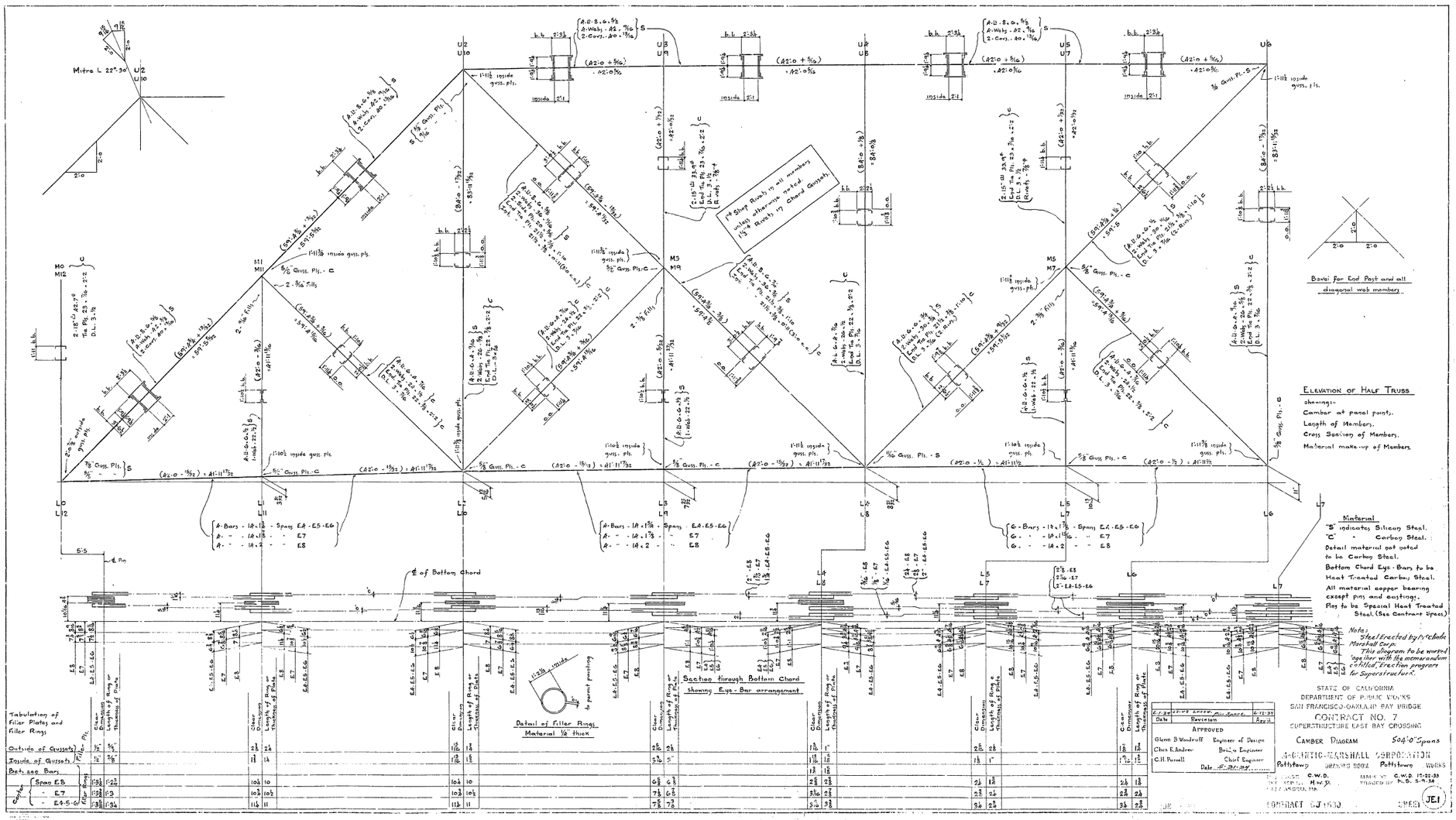
Index of Shipping Marks

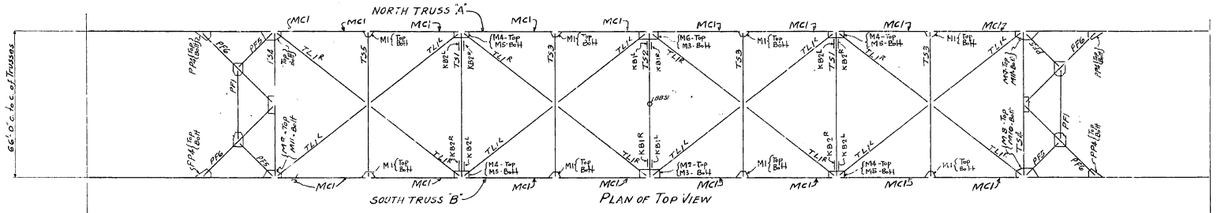
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING OFFICE Pottstown

IN CHARGE CWD
TRACED BY WED

CONTRACT CJ

JKI


Mitra L 22°-30'
U0 U2 U4 U6 U8 U10 U12
L0 L1 L2 L3 L4 L5 L6 L7
M0 M1 M3 M5 M7 M9 M11 M12
Bevel for End Post and all diagonal web members
Section through Bottom Chord showing Eye-Bar arrangement
Detail of Filler Rings Material ½" thick
Material
"S" indicates Silicon Steel.
"C" - Carbon Steel.
Detail material not noted to be Carbon Steel.
Bottom Chord Eye-Bars to be Heat Treated Carbon Steel.
All material copper bearing except pins and castings.
Pins to be Special Heat Treated Steel. (See Contract Specs.)
Note: Steel Erected by McClintic Marshall Corp.
This diagram to be worked together with the memorandum entitled "Erection program for Superstructure".
Tabulation of Filler Plates and Filler Rings
Outside of Gussets
Inside of Gussets
Batten Bars
Splice Bars
Camber
ELEVATION OF HALF TRUSS
showing:-
Camber at panel points.
Length of Members.
Cross Section of Members.
Material make-up of Members.
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE EAST BAY CROSSING
CAMBER DIAGRAM 504'-0" Spans
ATLANTIC-MARSHALL CORPORATION
Pottstown Bridge Works Pottstown
CONTRACT 07-1550
JE1

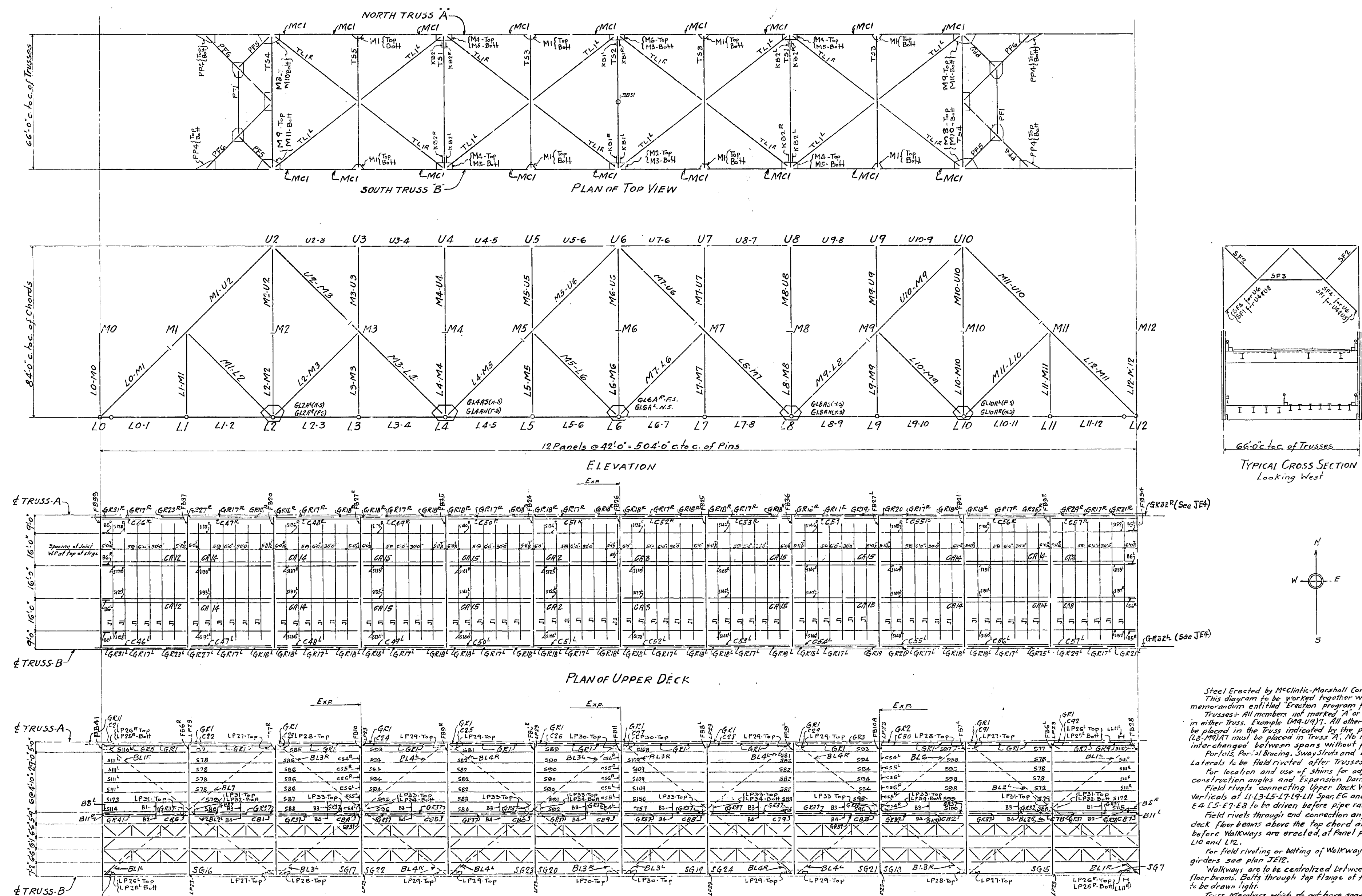


Steel Erected by McClintic-Marshall Corp.
This diagram to be worked together with the memorandum entitled, "Erection program for Superstructure"
Trusses: All members not marked 'A' or 'B' may be placed in either truss. Example (MT-U9)T. All other members must be placed in the truss indicated by the piece mark. Example (L8-M8)P1 must be placed in Truss 'B'. No members to be interchanged between spans without first consulting the shop.
Portals, Portal Bracing, Sway Struts and Bracing and Top Laterals to be field riveted after trusses are swung.
For location and use of shims for adjusting Walkways, construction angles and Expansion Dams see Plan JE6.
Field rivets connecting Upper Deck Walkways to Truss verticals at L1-L3-L6-L7-L9-L11 span E6 and L1-L5-L7-L9-Spans E4-E5-E7-E8 to be driven before pipe railing is erected.
Field rivets, through end connection angles of lower deck floorbeams above the top chord angles to be driven before walkways are erected at Panel Points L0-L2-L4-L6-L8 L10 and L12.
For anchorages see Plan JE4
For field riveting or bolting of Walkways and skid girders see Plan JE12.
Walkways are to be centered between adjoining floorbeams. Bolts through top flange of floorbeams to be driven tight.
Truss members which do not have span numbers may be used in any span except E6. Top lateral Plates except of U2-U10, may be used with any span.
For special conditions, see sheet JE10.

APPROVED
Engineer of Con. Jt.
Bridge Engineer
Chief Engineer
9-7-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO 7
SUPERSTRUCTURE EAST BAY CROSSING
Erection Plan
504'-0" Spans E4-E5-E7-E8
ATLANTIC MARSHALL CORPORATION
Bethlehem PENNSYLVANIA SHOP Bethlehem WORKS
DRAWN C.W.D. TRACED C.S.G.
CHECKED E.W.D. TYPED
CONTRACT CJ1590 SHEET JE2

39-1



Holes connecting lower deck stringers to floorbeams to be faired without distortion before driving rivets.

FOR MARKS of RAILROAD STRINGERS + RAILROAD STRINGER BRACING SEE PLAN JE6

Steel Erected by McClintic-Marshall Corp.

This diagram to be worked together with the memorandum entitled "Erection program for Superstructure."

Trusses:- All members not marked "A" or "B" may be placed in either Truss. Example (M9-U9)7. All other members must be placed in the Truss indicated by the piece mark. Example (L8-M9)A7 must be placed in Truss "A". No members to be interchanged between spans without first consulting the Shop.

Portals, Portal Bracing, Sway Struts and Bracing and Top Laterals to be field riveted after Trusses are swung.

For location and use of shims for adjusting Walkways, construction angles and Expansion Dams see plan JE11.

Field rivets connecting Upper Deck Walkways to Truss Verticals at L1-L3-L5-L7-L9-L11 Span E6 and L3-L5-L7-L9-Spans E4-E5-E7-E8 to be driven before pipe railing is erected.

Field rivets through end connection angles at lower deck floor beams above the top chord angles to be driven before Walkways are erected, at Panel points L0-L2-L4-L6-L8-L10 and L12.

For field riveting or bolting of Walkways and skid girders see plan JE12.

Walkways are to be centralized between adjoining floor beams. Bolts through top flange of floorbeams to be drawn tight.

Truss Members which do not have span numbers may be used in any span except E6.

Top Lateral Plates except at U2 & U10, may be used with any span.

For special conditions see sheet JE10.

Date	Revision	App'd

APPROVED

Engineer of Design

Bridge Engineer

Chief Engineer

Date: 9-7-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE

CONTRACT NO. 7

SUPERSTRUCTURE-EAST BAY CROSSING

Erection Plan

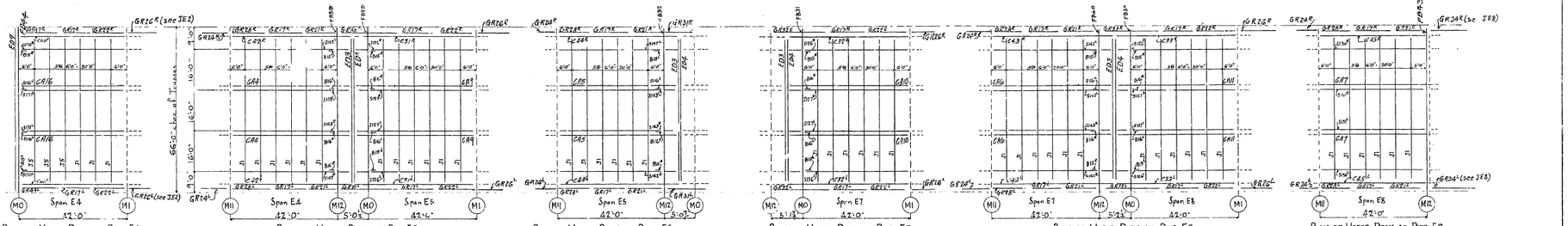
504'-0" Span E6

McCLINTIC-MARSHALL CORPORATION

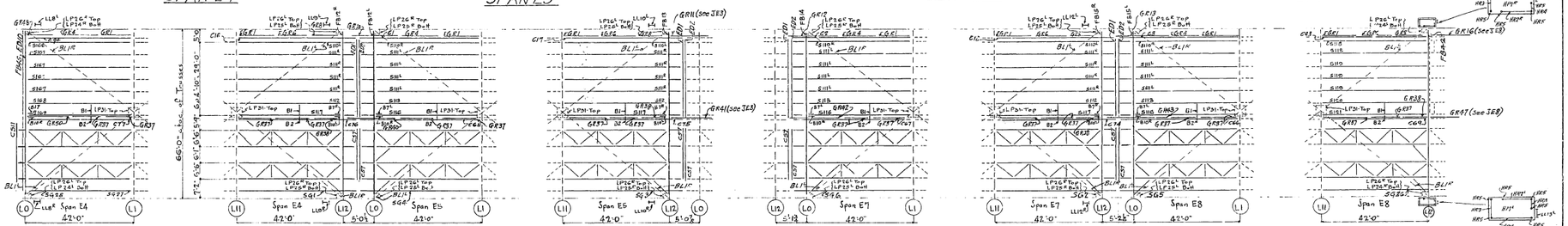
Pottstown DRAWING ROOM Pottstown WORKS

Designed by C.W.D. — Made by C.S.G.
Checked by C.W.D. — Traced by J.E.W.

CONTRACT CJ 1380 — SHEET JE3

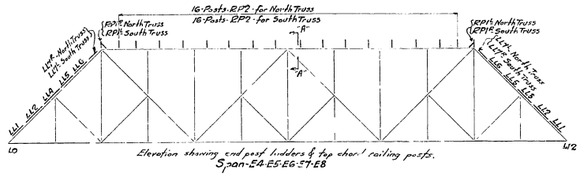


Plan of Upper Deck at Pier E4 — Plan of Upper Deck at Pier E5 — Plan of Upper Deck at Pier E6 — Plan of Upper Deck at Pier E7 — Plan of Upper Deck at Pier E8 — Plan of Upper Deck at Pier E9



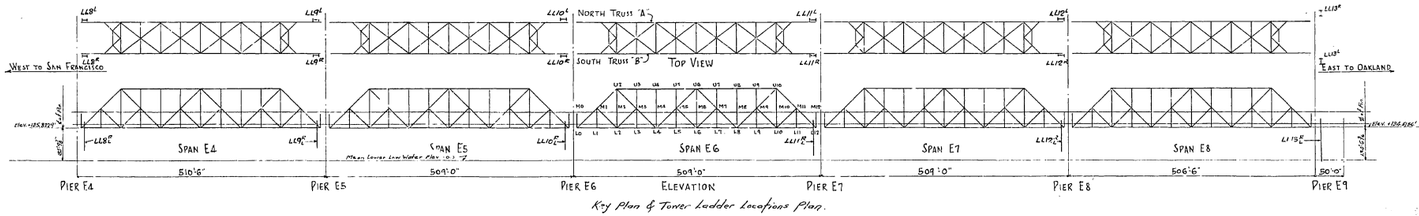
Plan of Lower Deck at Pier E4 — Plan of Lower Deck at Pier E5 — Plan of Lower Deck at Pier E6 — Plan of Lower Deck at Pier E7 — Plan of Lower Deck at Pier E8 — Plan of Lower Deck at Pier E9

For Marks of Railroad Stringers & Railroad Stringer Bracing See Plan JE6



Elevation showing end post ladders & top chord railing posts.

Holes connecting lower deck stringers to floorbeams to be faired without distortion before driving rivets.



Key Plan & Tower Ladder Locations Plan.

Erector Note
Legend for compound mark of truss members
(U2-3)A5 — Letter refers to North Truss A or South Truss B
Numeral refers to span number E4,5,6,7,8.
Legend of mark for Bottom Chord eyebars shown on sheet JE5

Steel Erected by McClintic-Marshall Corp.
This diagram to be worked together with the one entitled Erection Program for Superstructure.
For location and use of shims for adjusting walkways, Construction Angles and Expansion Dams, see Plan JE11.
Field rivets connecting Upper Deck Walkways to floor Verticals of L9-L9-L7-L7-L11-Spans E6 and L9-L5-L7-L7-Spans E4-E5-E7 and E8 to be driven before pipe railing is erected.
Field rivets through end expansion angles of lower deck floor beams above the top chord angles to be driven before walkways are erected at Panel points L0-L2-L4-L6-L8-L10 and L12.
Expansion Dams FD9 and FD10 at Panel point L0-Span E4 must be pulled down to suit the curvature of the top flange of floor beams FB16 and FB45.
Walkways are to be centralized between adjoining floorbeams Shifts through top flanges of floorbeams to be drawn tight.
For special conditions see JE10

Date	Revision	App'd

APPROVED

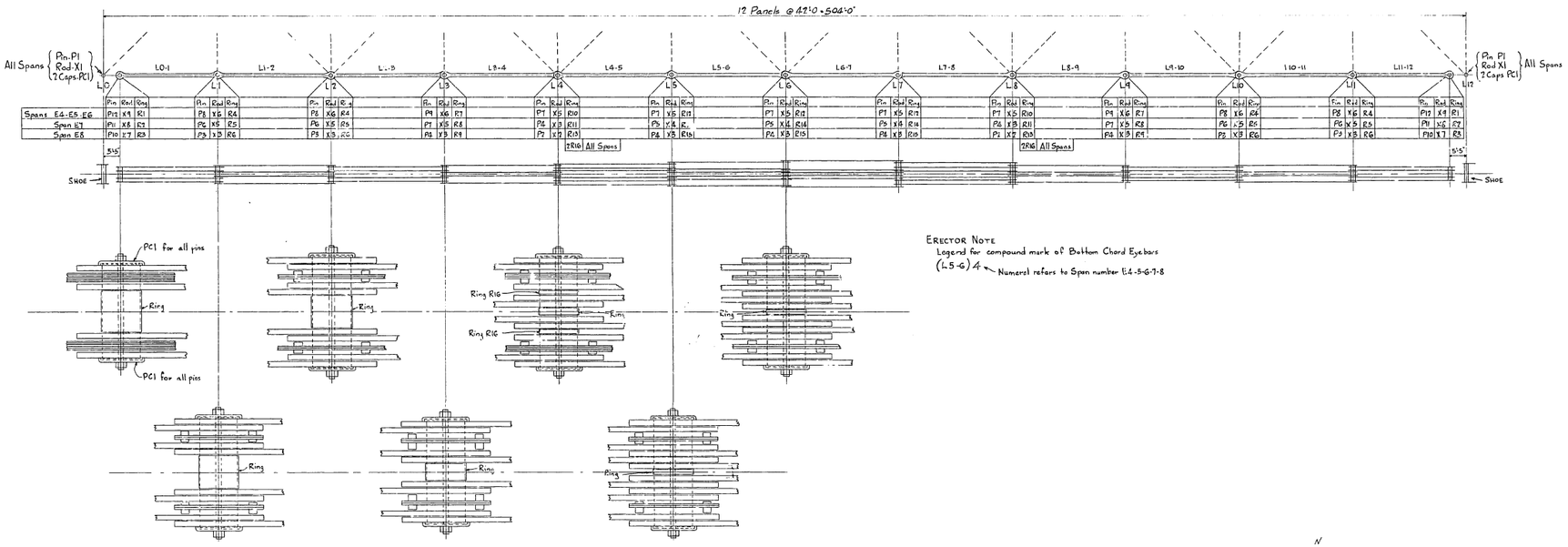
9-7-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
504'-0" Spans.

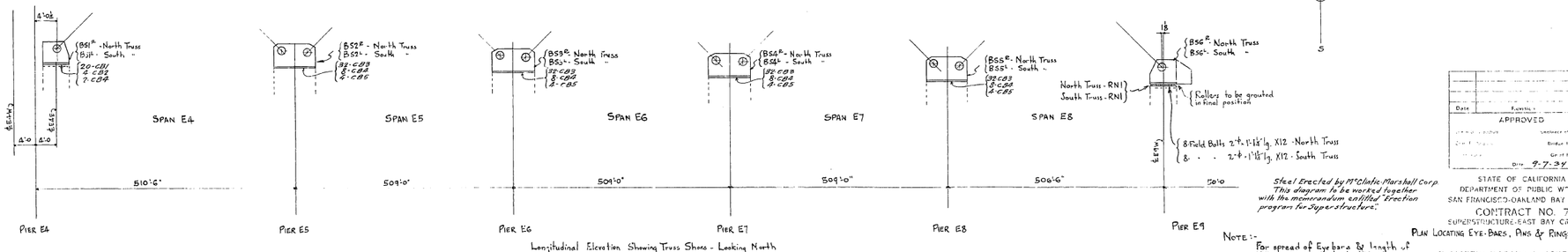
Erection Diagram-End Panels-Spans E4 E5 E7 E8.

McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING NO. 18 Pottstown WORKS
DESIGNED BY CWP DRAWN BY FSS
CHECKED BY CWP TRACED BY (NEW YORK)

CONTRACT CJ 1599 SHEET JE4



ERECTOR NOTE
Legend for compound mark of Bottom Chord Eyebars
(L5-6)4 ← Numeral refers to Span number E4-5-6-7-8



Longitudinal Elevation Showing Truss Shoes - Looking North

NOTE:-
For spread of Eyebars & length of Filler Rings see sheet JE1

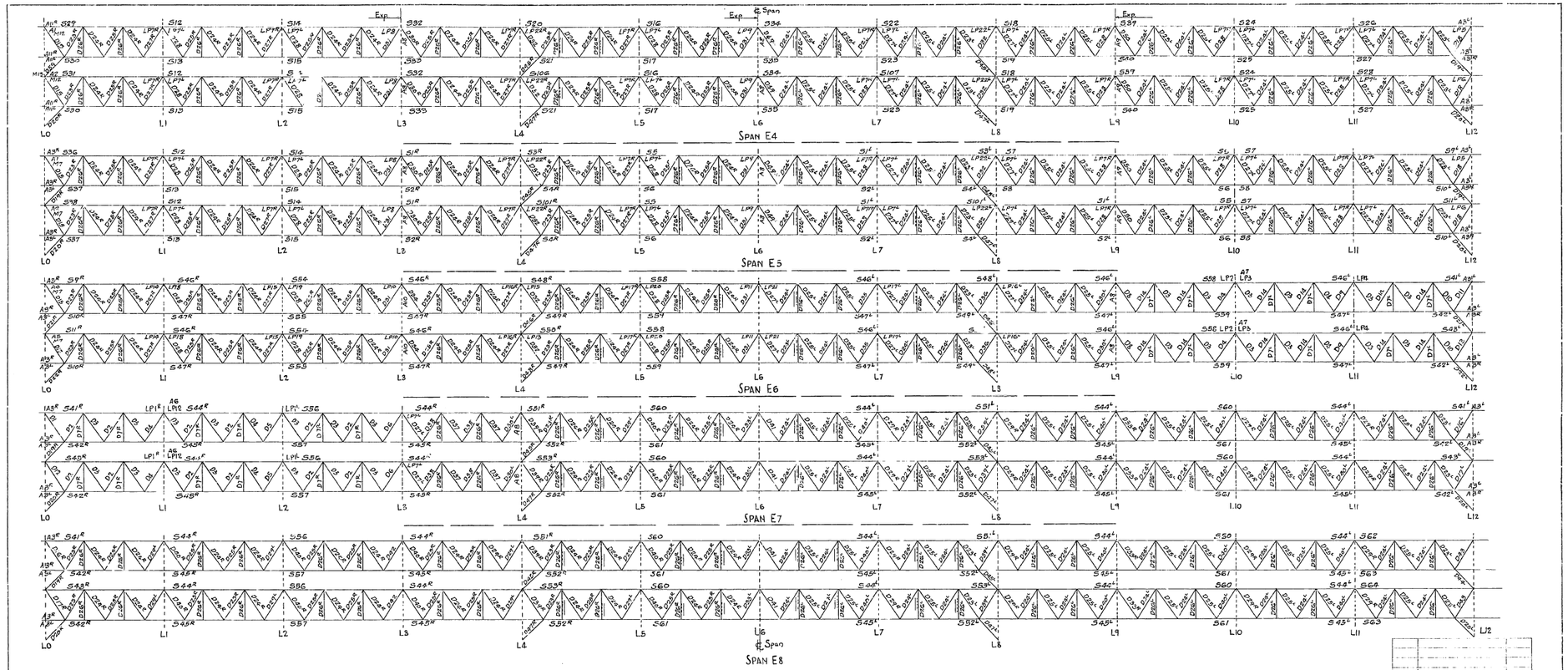
Steel Erected by McClintic-Marshall Corp.
This diagram to be worked together with the memorandum entitled "Erection program for Superstructure."

N W E S

Date	Revisions	Appd.

APPROVED
Chief of Bureau of Design
Bridge Engineer
Chief Engineer
Date 9-7-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
PLAN LOCATING EYE-BARS, PINS & RINGS -504'0 SPANS
McCLINTIC-MARSHALL CORPORATION
POTTSTOWN BRANCH, PA. POTTSTOWN WORKS
DESIGNED GWD DATE OF CSG
CHECKED FZS TRACED BY VS
LOS ANGELES, CAL.
CONTRACT OJ 1580 SHEET JE5



N
W E
S

Steel Erected by McClintic-Marshall Corp.
This diagram to be worked together with the memorandum entitled "Erection program for Superstructure."

Date	Revision	Appd.

APPROVED

Engineer of Bridges

Bridge Engineer

Chief Engineer

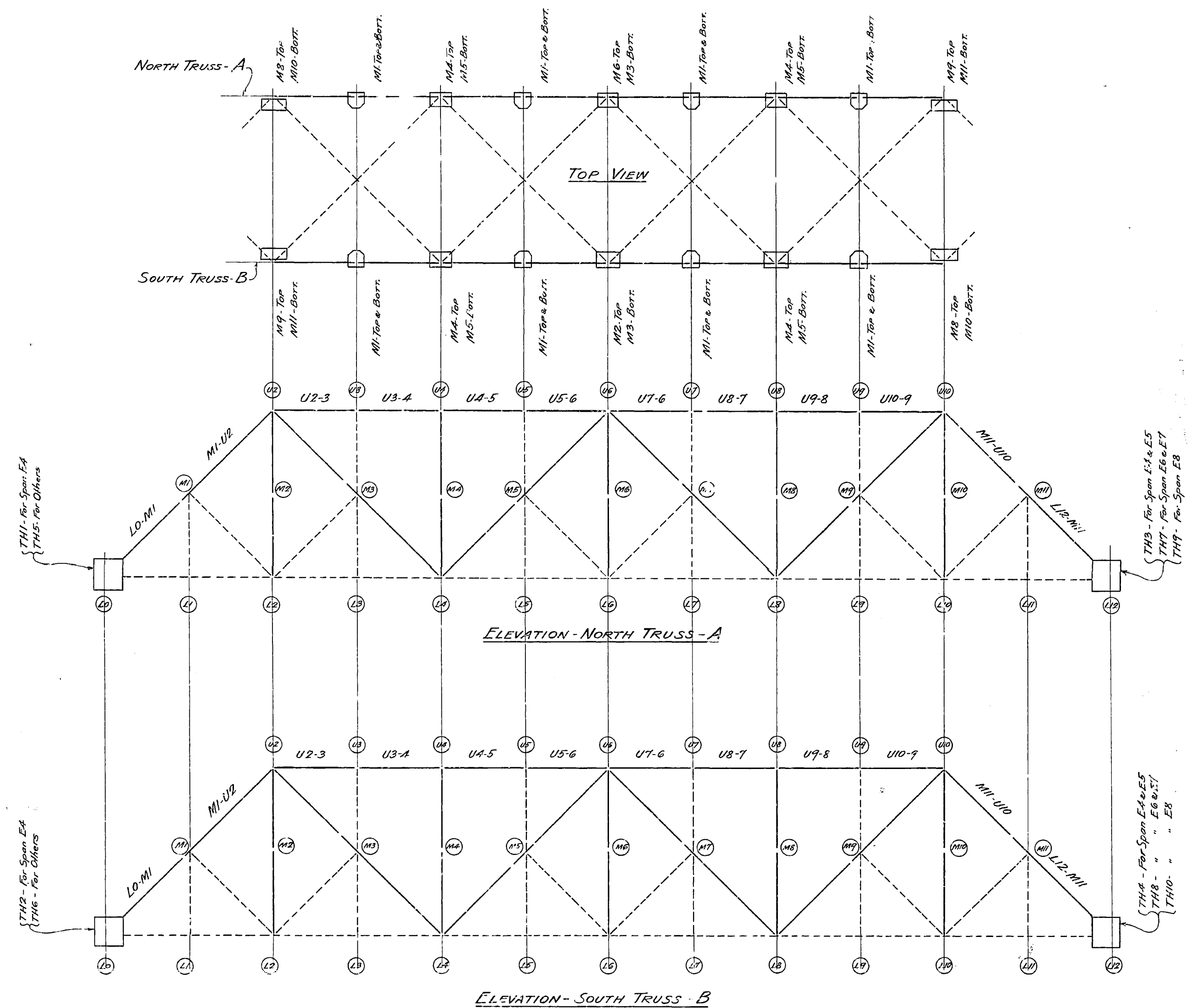
Date 9-7-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
EAST BAY CROSSING
PLAN (Sta 0 to Span)
Railroad Stringers & Bracing
McCLINTIC-MARSHALL CORPORATION
Pottstown, PENNSYLVANIA Pottstown, PENN.

DRAWING NO. S-WB MADE BY VS
CHECKED BY FEG TRACED BY VS
JOB NUMBER NO.

CONTRACT NO. 1940 SHEET JE6

39-1



Notes:-

End Posts and Top Chords will be shop assembled and reamed while assembled.

All truss members which are assembled will have the span number added to the mark given on detail drawings, except some members for Span E6, marks of which on detail drawings include the span number.

Span numbers to be added to End Posts and Top Chords while same are assembled.

Members which do not have span numbers may be used in any span except F6.

Members which do not have truss marks A or B, on detail drawings, may be used for either truss.

Lateral Plates, except at Points U2 & U10, may be used with any span.

Holes for lateral plates in top chords, except at U2 and U10, are to be reamed in shop in both adjoining members while assembled together with reaming template, simultaneously with web splice reaming.

At points U2 and U10, bent portal plates M8, M9, M10 & M11 to be reamed assembled in shop with end post and top chord. While assembled, the truss mark A or B, and the span number 4, 5, 6, 7 or 8 to be added to the detail drawing mark, example:- M9-A4, to indicate plate on A Truss, Span E4.

All details bolted for shipment to be match-marked.

Steel Erected by McClintic-Marshall Corp.
This diagram to be worked together with the memorandum entitled "Erection program for Superstructure."

Date	Revision	App'd
10/9/34	Riveting notes for Truss Heels removed.	10/16/34

APPROVED

Engineer of Design

Bridge Engineer

Chief Engineer

Date 9-7-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE

CONTRACT NO. 7

SUPERSTRUCTURE EAST BAY CROSSING

Shop Assembly & Reaming Plan.
504:0" Spans.

McCLINTIC-MARSHALL CORPORATION

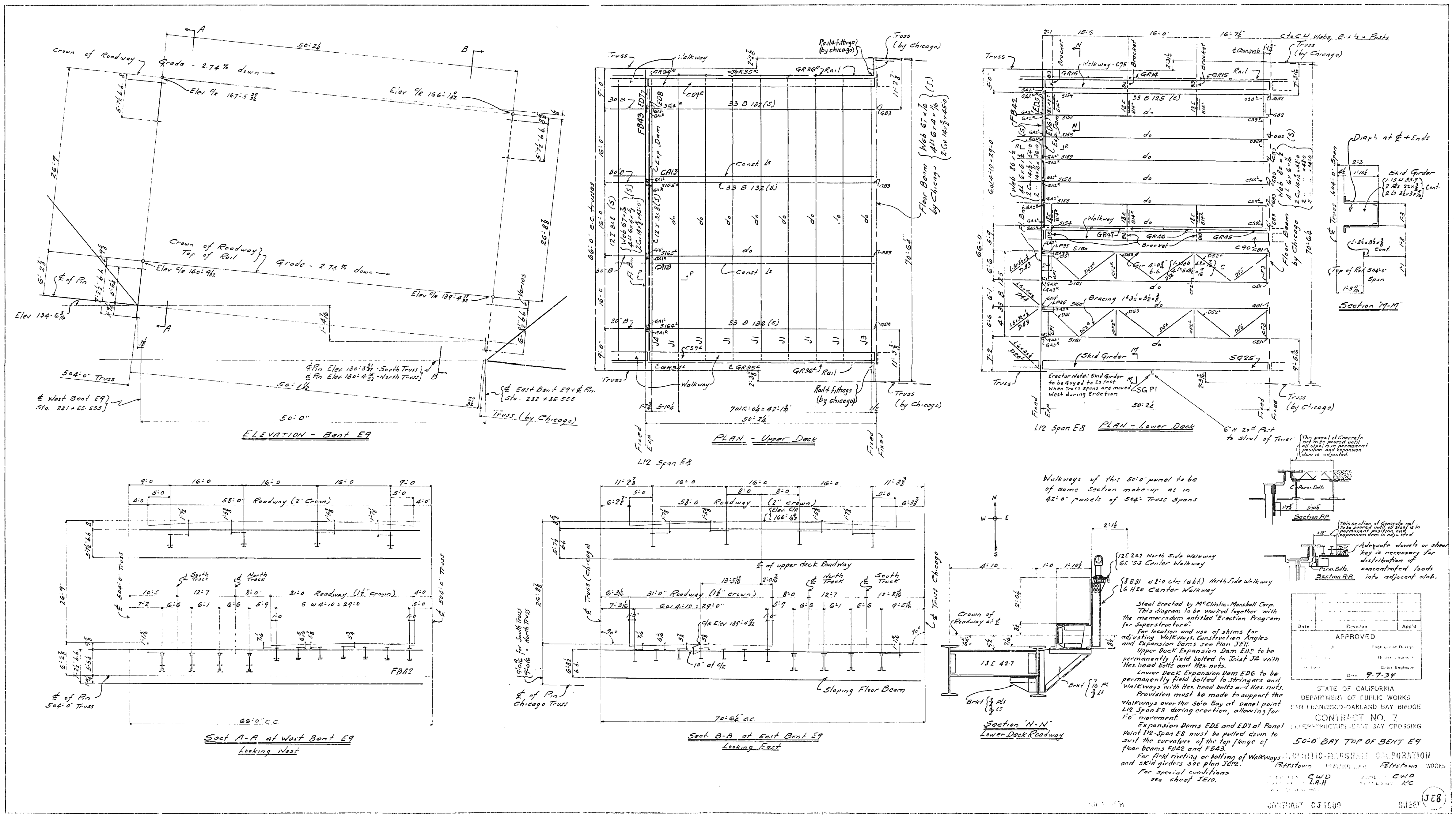
Pottstown [illegible] Pottstown Works

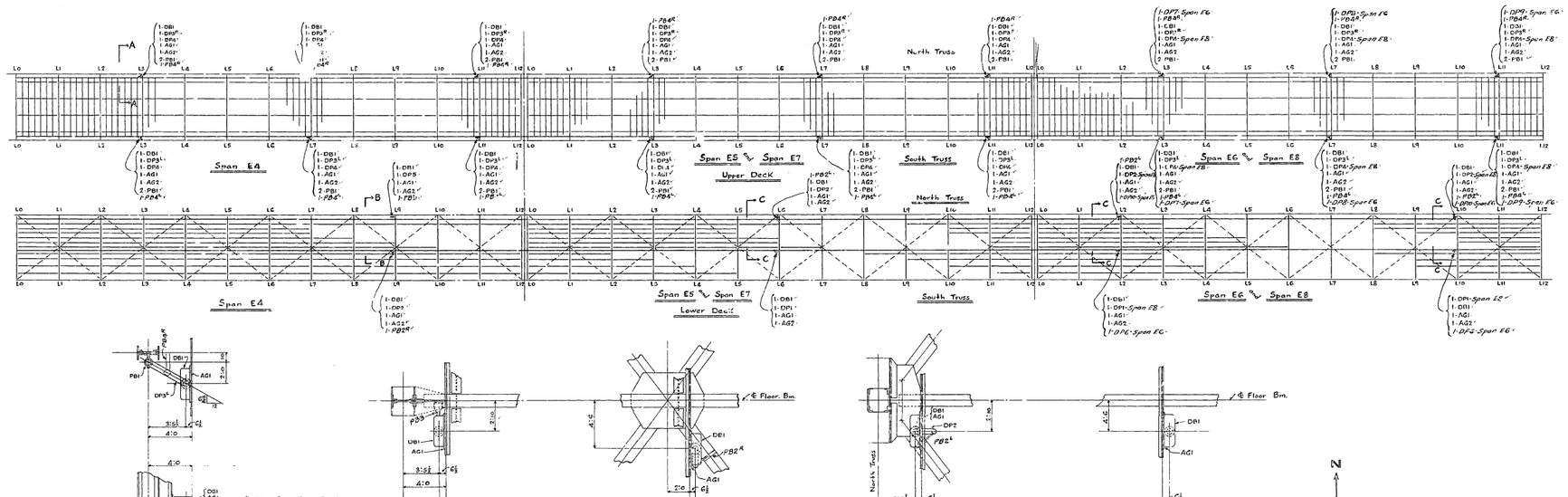
C.W.D — Made by [illegible]

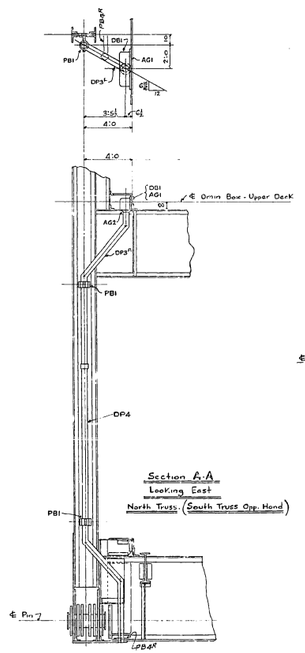
Checked by CWD — Traced by CJK.

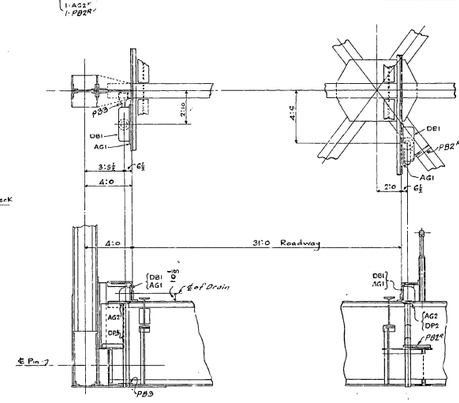
CONTRACT CJ-1580 — SHEET JE7

30-1

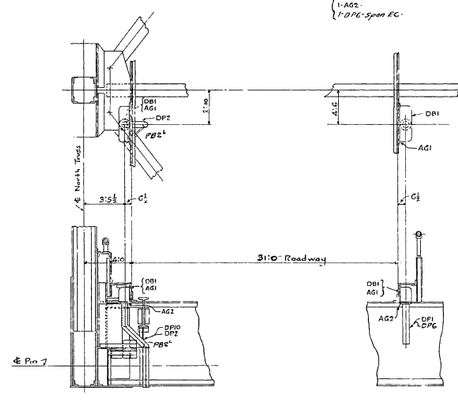

ELEVATION - Bent E9
PLAN - Upper Deck
PLAN - Lower Deck
Section 'M-M'
Sect. A-A at West Bent E9
Looking West
Sect. B-B at East Bent E9
Looking East
Section 'N-N'
Lower Deck Roadway
Section P.P.
Section R.R.
Walkways of this 50'-0" panel to be of same section make-up as in 42'-0" panels of 504' Truss Spans
This section of Concrete not to be poured until all steel is in permanent position and expansion dam is adjusted.
Adequate dowels or shear key is necessary for distribution of concentrated loads into adjacent slab.
Steel Erected by McClintic-Marshall Corp.
This diagram to be worked together with the memorandum entitled "Erection Program for Superstructure".
For location and use of shims for adjusting Walkways, Construction Angles and Expansion Dams see Plan JE11.
Upper Deck Expansion Dam ED8 to be permanently field bolted to Joist JA with Hex. head bolts and Hex. nuts.
Lower Deck Expansion Dam ED6 to be permanently field bolted to Stringers and Walkways with Hex. head bolts and Hex. nuts.
Provision must be made to support the Walkways over the 50'-0 Bay at panel point L12 Span E8 during erection, allowing for 1'-0" movement.
Expansion Dams ED5 and ED7 at Panel Point L12-Span E8 must be pulled down to suit the curvature of the top flange of floor beams FB42 and FB43.
For field riveting or bolting of Walkways and skid girders see plan JE12.
For special conditions see sheet JE10.
Date
Revision
App'd
APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date 9-7-34
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
50'-0" BAY TOP OF BENT E9
McCLINTIC-MARSHALL CORPORATION
Pottstown
Pottstown WORKS
CWD
L.A.H
CWD
KC
CONTRACT 0J1580
SHEET JE8





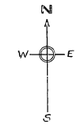


Section B-B Looking East



Section C-C Looking East

Tap Bolts $\frac{3}{4}$"ø x 0'-2$\frac{1}{2}$" lg. (Detailed on sheet J826). To bolt Drain Pipes to Drain Boxes DB1
" " $\frac{5}{8}$"ø x 0'-2$\frac{1}{2}$" lg. (" " " "). To bolt Drain Box DB1 to Walkway



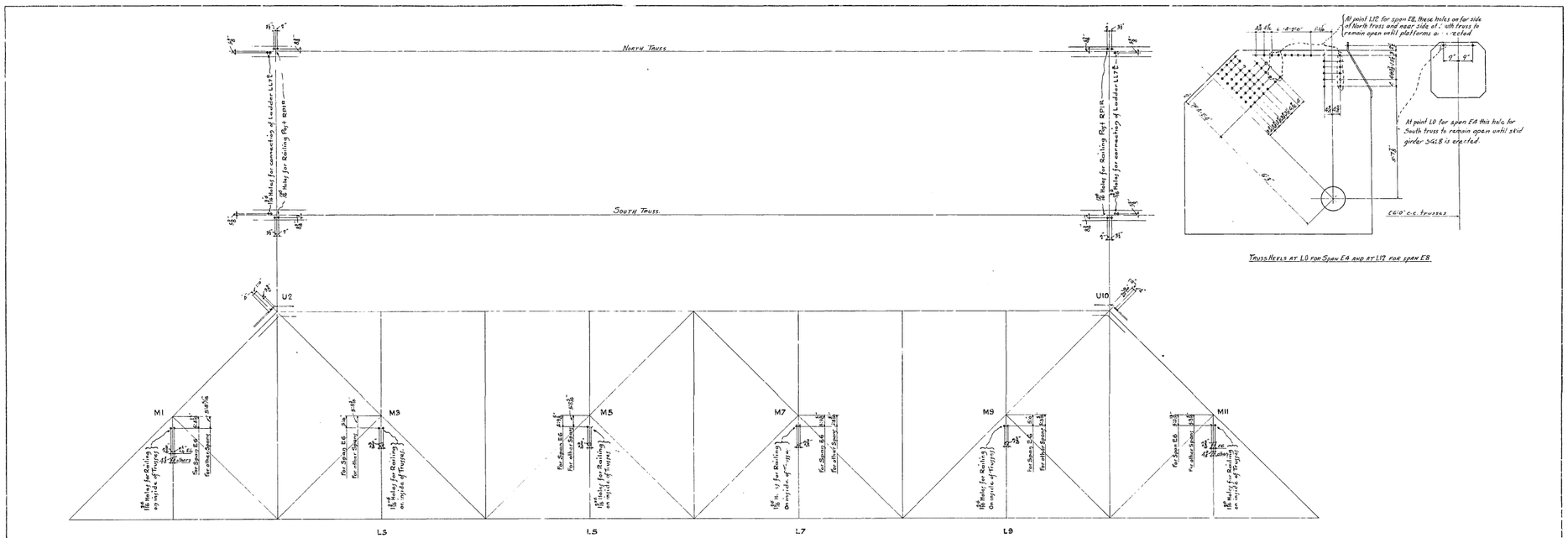
Steel Erected by McClintic-Marshall Corp.
This diagram to be worked together with the memorandum entitled "Erection program for Superstructure."

APPROVED

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Southern Spans
ERECTION DIAGRAM GIVING LOCATION OF DRAIN BOXES AND DRAIN PIPES SPANS E4 to E8 Incl.
MCCLINTIC-MARSHALL CORPORATION
Pottstown PENNSYLVANIA WORKS

DRAWN C.W.D. TRACED BY E.W.C.
CHECKED F.E.G. CHECKED BY
QUANTITIES CHECKED BY

CONTRACT (J 1588 SHEET JE9



Sheet Erected by McClintic Marshall Corp
This diagram to be worked together with the memorandum entitled Erection program for Superstructure.

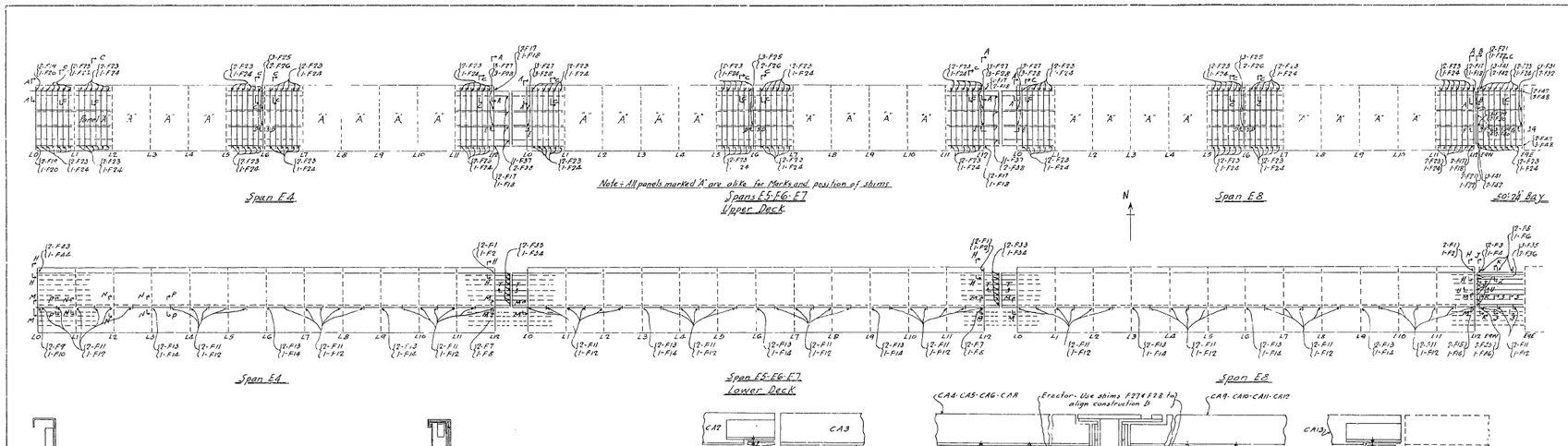
Date	Revision	Appd

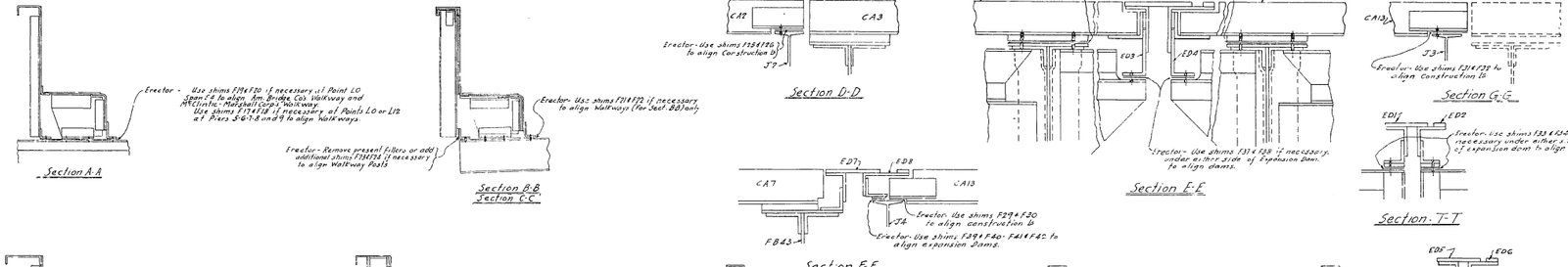
APPROVED

Engineer of Design
Bridge Engineer
Chief Engineer
Date. 9-7-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
508.10 Span
Special Erection Conditions
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS
IN CHARGE C.W.D. CHECKED BY G.W.P. CHIEF ASSIST. MR.
TRACED BY Webb. TRACED BY S.V.R.

CONTRACT CJ1580 SHEET JE10





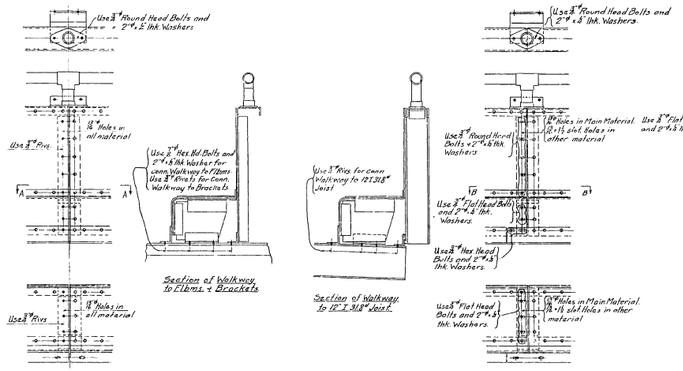
Steel erected by McClintic Marshall Corp. This dicagram to be worked together with the memorandum entitled "Erection program for Superstructure."

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE EAST BAY CROSSING
Erection Diagram For Shims (504'-0" Spans)
McCLINTIC-MARSHALL CORPORATION
Pottstown PENNSYLVANIA Pottstown WORKS

Date Revision By

APPROVED
Engineer in Charge
Division Engineer
Chief Engineer
Dec 8/1936

CHARGE C.W.D. SUP'D H.V.D.
DRAWN BY L. 8/1936 CHECKED BY Z.R.W.
LAST ASSIGN. NO. JE11
CONTRACT 67198 SHEET



VIEW A-A

All points except L3:L6

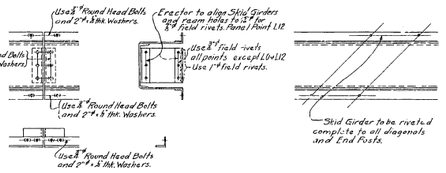
Section of Walkway to Floorbeams & Brackets

Section of Walkway to 12"I 31.8# Joist

VIEW B-B

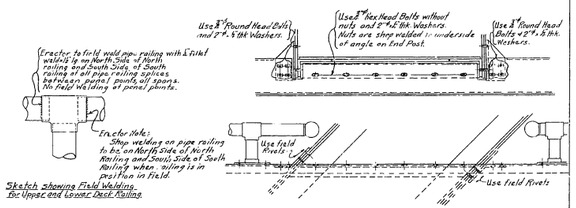
Panel Points L3:L6

Sketches showing types of Field Connections for Upper Deck Walkways.



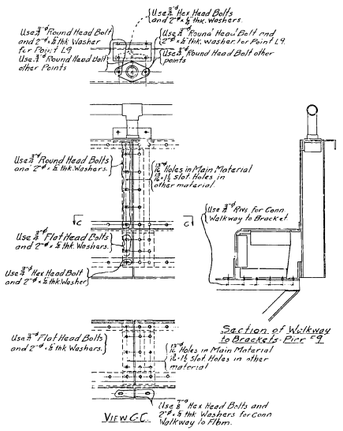
Points L0 to L12 incl.

Sketches showing types of Field Connections for Skid Girder Looking South



Sketch showing Field Welding for Upper and Lower Deck Railing.

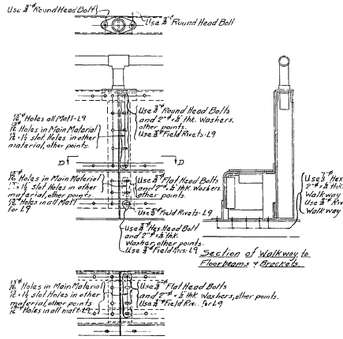
Sketch showing connection of Walkways to End Posts-Upper and Lower Deck.



VIEW C-C

Section of Walkway to Brackets Pier L9

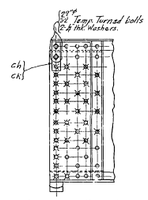
Sketches showing types of Field Connections for North Walk Lower Deck



Section D-D

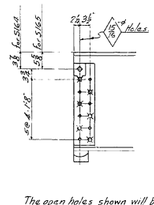
Section of Walkway to Floorbeams & Brackets

Sketches showing types of Field Connections for South Walk Lower Deck Looking South



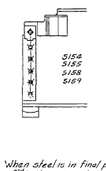
The temporary bolts, washers and bars ch and ck at top of stringer, be removed after stringer is in final position, the bolt holes are then to be countersunk and countersunk rivets to be driven.

Railway Stringers of 50'0 Span at E9W



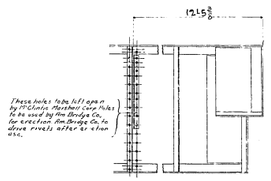
The open holes shown will be used in the field for 7/8" bolts during erection. When steel is in final position the 7/8" bolt and lugs to be discarded, 7/8" bolts to be removed and holes to be countersunk and 7/8" countersunk rivets to be driven.

Upper Roadway Stringers 5164-5165 of 50'0 Span at E9W.



When steel is in final position 7/8" bolt and lugs to be discarded

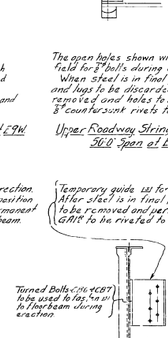
Lower Deck Roadway Stringers of 50'0 Span at E9W.



South End of Floorbeam FB45

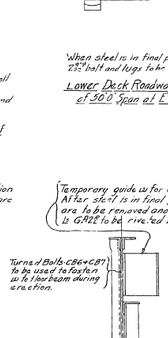
Floor Beam at L12 Span E8

Lower Deck.



Floor Beam at L12 Span E8

Upper Deck



Floor Beam at L12 Span E8

Lower Deck

Notes:
For Special bolts to be used for field bolting Walkways, Skid Girders and Portal Bracing see Sheet J82C Contract CT13208.

Date	Revision	Initials

APPROVED

Engineer in Charge

Bridge Engineer

Chief Engineer

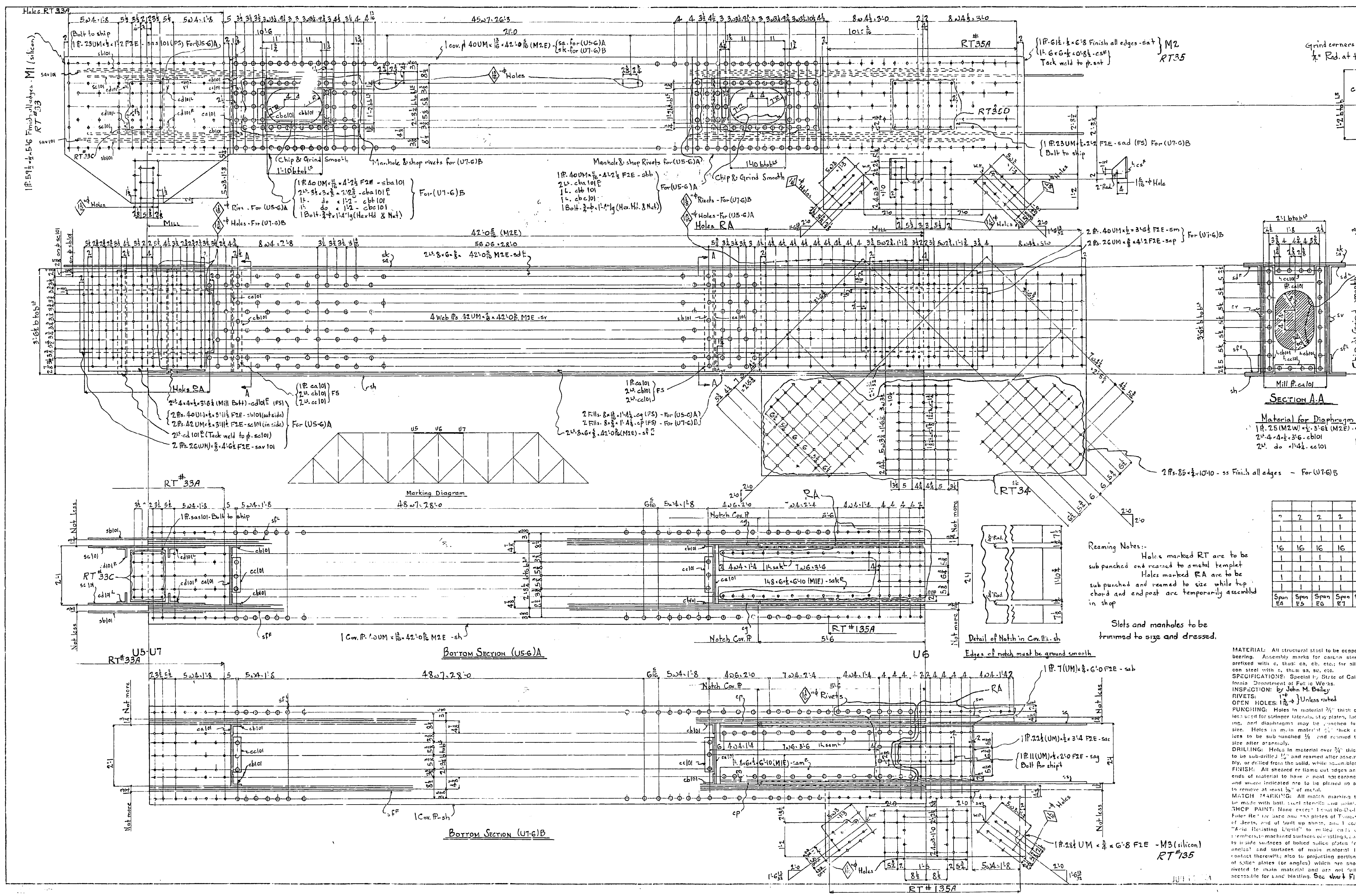
Date 9-7-34

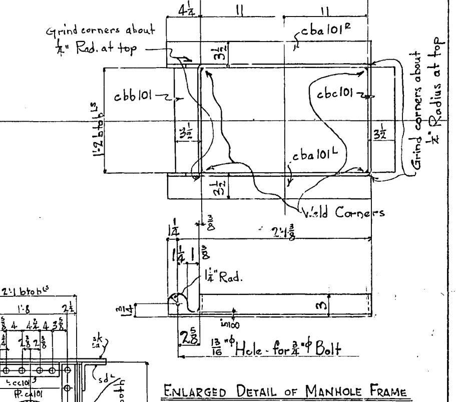
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

ERECTION DIAGRAM 504'-0" Spans
Notes & Sections

ACME STEEL COMPANY
Pottstown Designed by Pottstown Detailed by
Drawn by C.W.D. Checked by H.W.D.
Traced by Checked by

CONTRACT NO. 7 SHEET JE12





Material for Diaphragm
1 R. 25 (M2W) × ½ · 3'·6½ (M2E) - ca101
2 Ls. 4 × 4 × ½ × 3'·6 - cb101
2 Ls. do × 1'·4¼ - cc101

Note: For Shop assembly and system of marking after assembly, see sheet JE7

Reaming Notes:– Holes marked RT are to be sub punched and reamed to a metal templet. Holes marked RA are to be sub punched and reamed to size while top chord and end post are temporarily assembled in shop.

Slots and manholes to be trimmed to size and dressed.

Span E4	Span E5	Span E6	Span E7	Span E8	Total No.	Description	Mark	Remarks	Weight each Tons
2	2	2	2	2	10	Plates	M3		
1	1	1	1	1	5	"	M6	Opp Hand to M2	
1	1	1	1	1	5	"	M2	As shown	
16	16	16	16	16	80	"	M1		
1	1	1	1	1	5	Top Chord	(U5-6)A	As shown	
1	1	1	1	1	5	" "	(U5-6)B	Opp. hand to (U5-6)A	
1	1	1	1	1	5	" "	(U7-6)B	As shown	
1	1	1	1	1	5	" "	(U7-6)A	Opp hand to (U7-6)B	

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California Department of Public Works.
INSPECTION: by John M. Bailey
RIVETS: 1"φ
OPEN HOLES: 1 3/16"φ } Unless noted
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ⅛ and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Oxide Filler Red for base and cap plates of Towers, of Bents, and of built up shoes, and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting. See sheet F1

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date May 17, 1934

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
TOP CHORD (U5-6) - (U7-6)
504'-0" Spans

McCLINTIC-MARSHALL CORPORATION
POTTSTOWN DRAWING ROOM — POTTSTOWN WORKS Shop 2

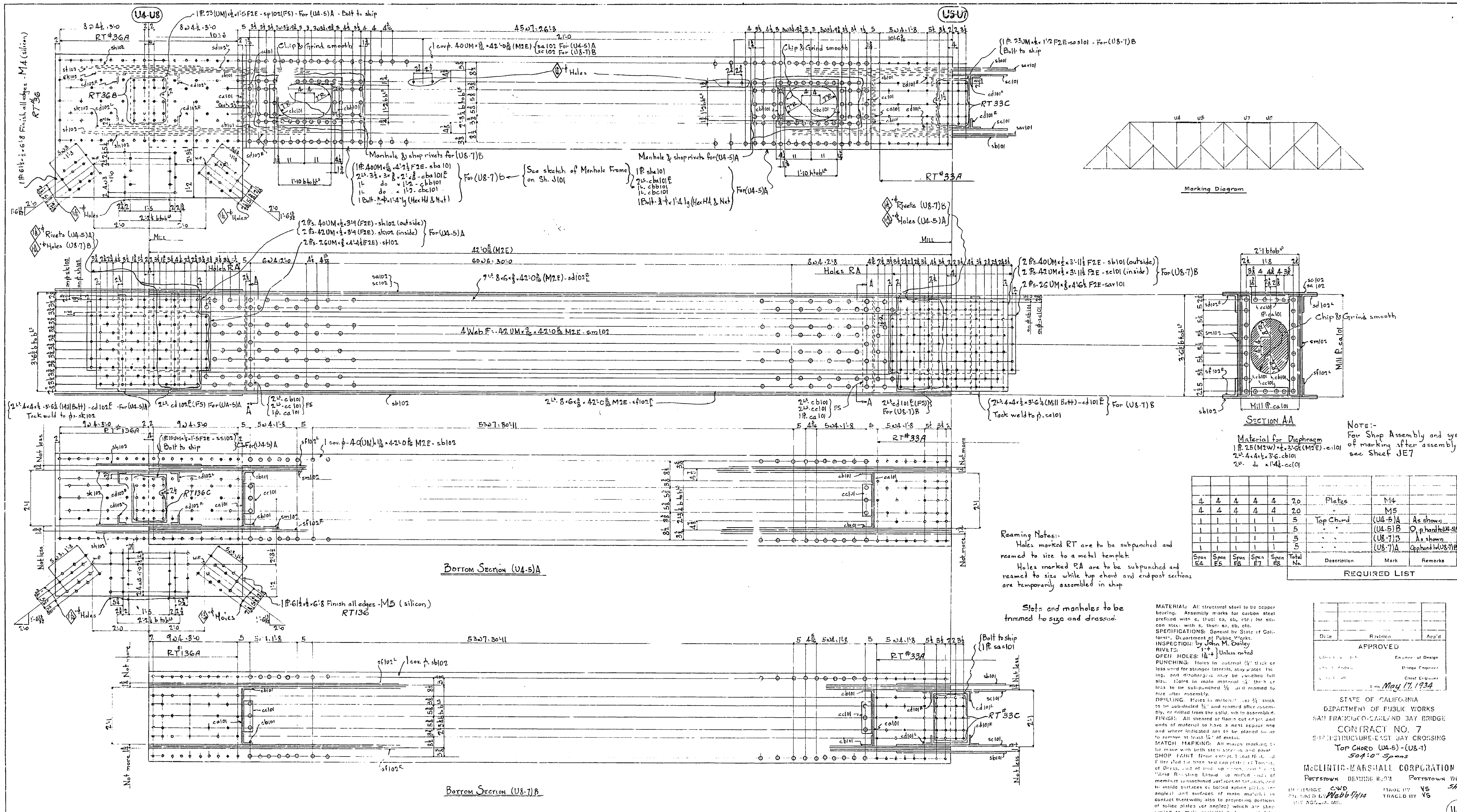
IN CHARGE CWD
CHECKED BY Webb 5/2/34
LAST ASSEM. MK.
MADE BY VS
TRACED BY VS

CONTRACT CJ 1580-1 — SHEET J101

Rev. 7/12/34

30-1

80-1



Note:-
For Shop Assembly and system of marking after assembly, see Sheet JE7

Reaming Notes:-
Holes marked RT are to be subpunched and reamed to size to a metal templet.
Holes marked RA are to be subpunched and reamed to size while top chord and endpost sections are temporarily assembled in shop

Slots and manholes to be trimmed to size and dressed.

Span E4	Span E5	Span E6	Span E7	Span E8	Total No.	Description	Mark	Remarks	Weight each Tons
4	4	4	4	4	20	Plates	M4		
4	4	4	4	4	20	"	M5		
1	1	1	1	1	5	Top Chord	(U4-5)A	As shown	
1	1	1	1	1	5	" "	(U4-5)B	Opp. hand to (U4-5)A	
1	1	1	1	1	5	" "	(U8-7)B	As shown	
1	1	1	1	1	5	" "	(U8-7)A	Opp. hand to (U8-7)B	

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: by John M. Bailey
RIVETS: 1"⌀ } Unless noted
OPEN HOLES: 1 3/16"⌀ } Unless noted
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼ and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, when assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ¼" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat [illegible] Red for base and cap plates of Towers, of Bents, end of built up [illegible], and 1 coat "Acid Resisting Liquid" to milled ends of members to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting. See sheet F1

Date	Revision	App'd

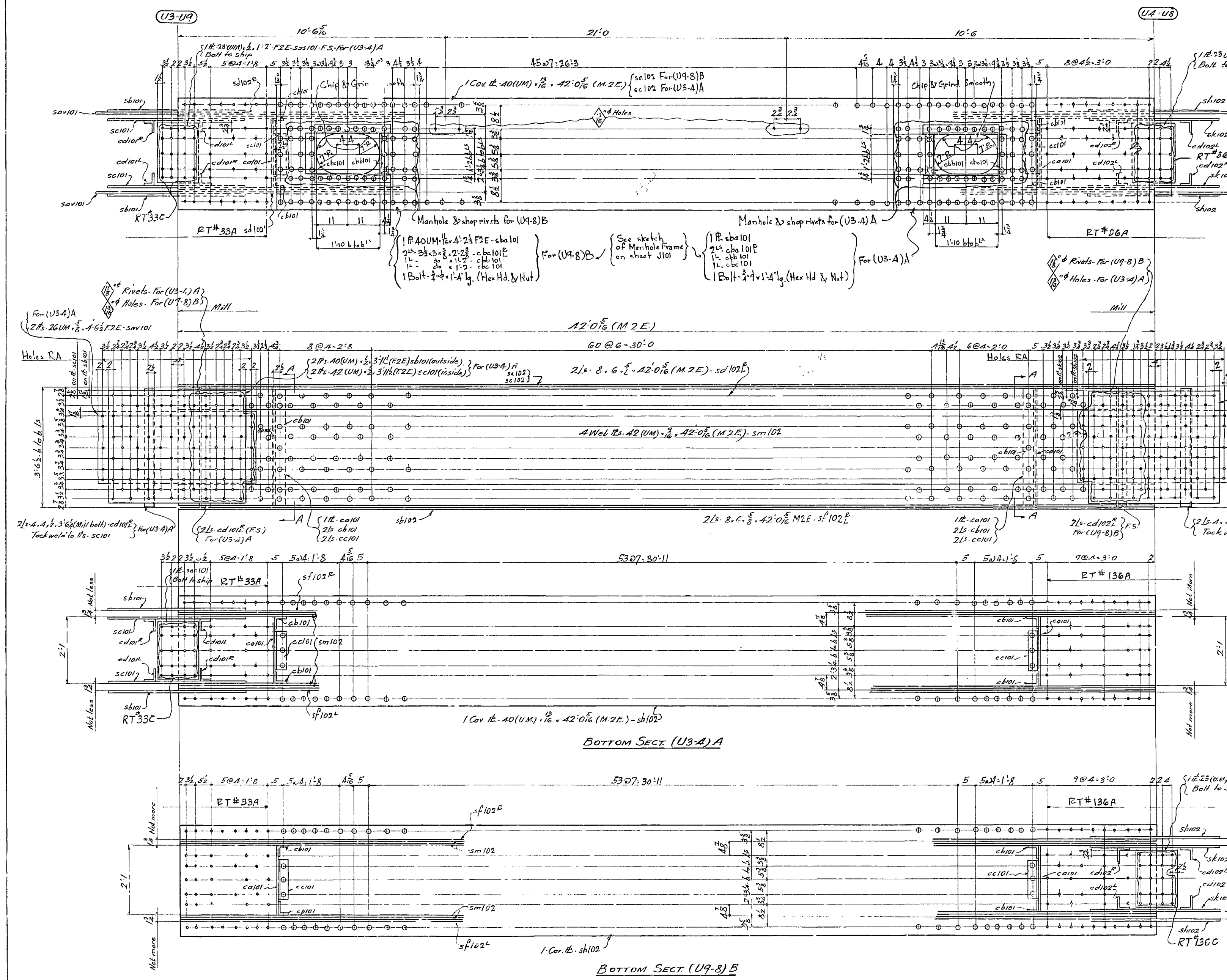
APPROVED
[illegible] Engineer of Design
[illegible] Bridge Engineer
[illegible] Chief Engineer
Date May 17, 1934

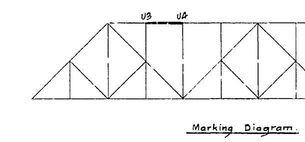
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Top Chord (U4-5)-(U8-7)
504'-0" Spans

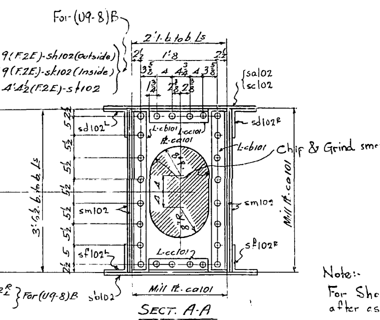
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS Shop 2
IN CHARGE CWD MADE BY VS
CHECKED BY Webb 5/3/34 TRACED BY VS
[illegible]

CONTRACT CJ 1580-1 SHEET J102

30-1







Note:-
For Shop Assembly and system of marking after assembly, see sheet JE7

Material for Diaphragm
1 Pl. 25(M.2W.) x 1/2 x 3'-6 1/2 - (M.2E.) - ca101
2 Ls. 4 x 4 x 1/2 x 3'-6 - cb101
2 Ls. " x 1'-4 1/2 - cc101

Reaming Notes:-
Holes marked RT to be subpunched and reamed to size to a metal templet.
Holes marked RA to be subpunched and reamed to size while top chord and endpost are temporarily assembled in shop

Span E4	Span E5	Span E6	Span E7	Span E8	No.	Description	Mark	Remarks	Weight each Tons
1	1	1	1	1	5	TOP CHORDS	(U3-4)A	As Shown	
1	1	1	1	1	5	" "	(U3-4)B	Opp. Hand to (U3-4)A	
1	1	1	1	1	5	" "	(U9-8)B	As Shown	
1	1	1	1	1	5	" "	(U9-8)A	Opp. Hand to (U9-8)B	

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: by John M. Bailey
RIVETS: - 1"φ - unless noted
OPEN HOLES: - 1 3/16"φ - unless noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/4" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting. See sheet F1

Date	Revision	App'd

APPROVED

[illegible] Engineer of Design
[illegible] Bridge Engineer
[illegible] Chief Engineer
Date May 17, 1934

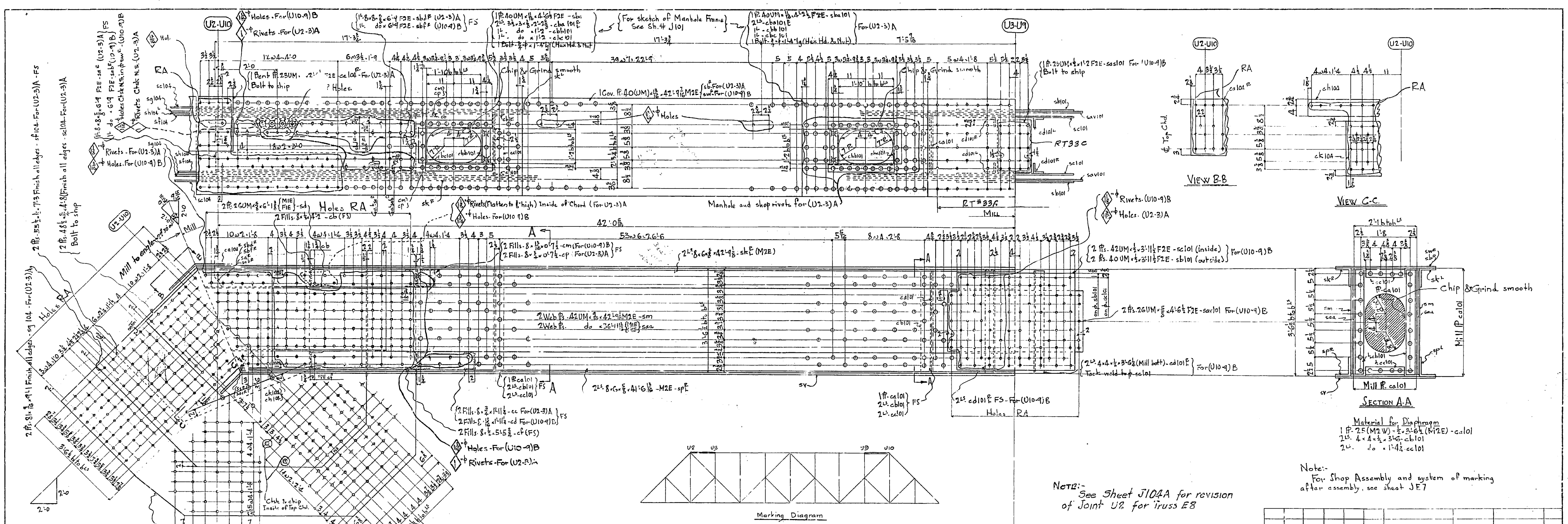
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

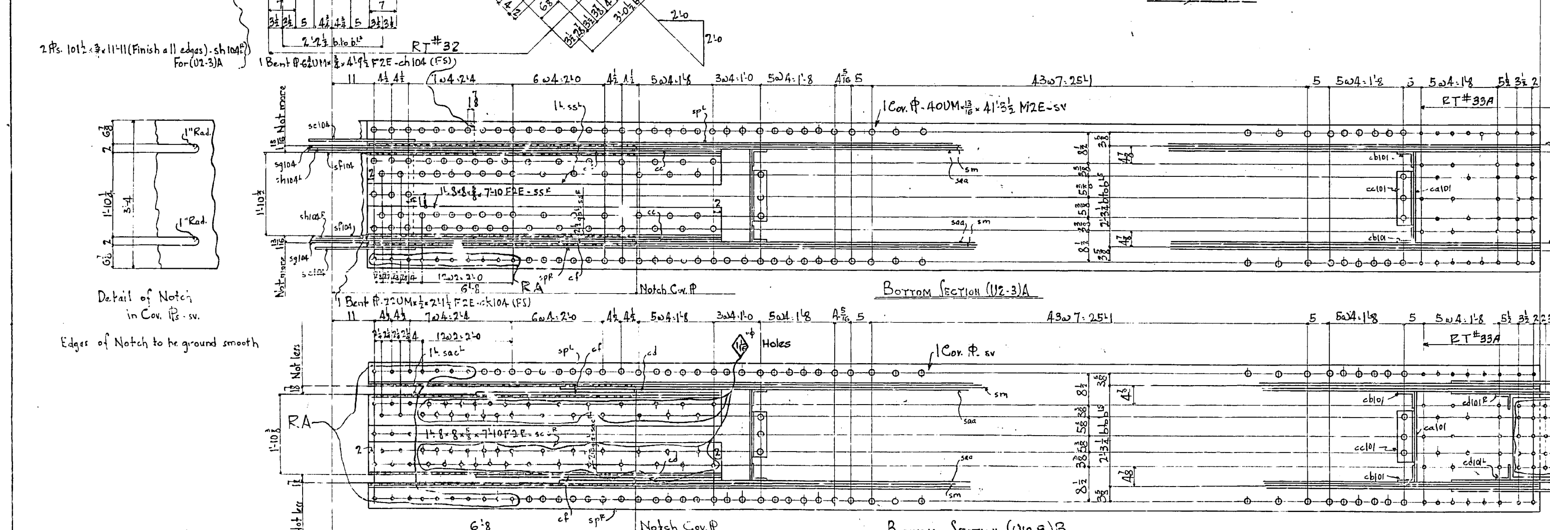
TOP CHORDS - (U3-4) & (U9-8)
504'-0" Spans

McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS Shop 2
IN CHARGE C.W.D.
CHECKED BY Webb 5/4/34
LAST ASSEM. MK.
MADE BY V.M.S.
TRACED BY C.K.

CONTRACT CJ 580-1 SHEET J103

90-1





Note:-
See Sheet J104A for revision of Joint U2 for Truss E8

Note:-
For Shop Assembly and system of marking after assembly, see sheet JE7

Material for Diaphragm
1 P-25(M2W) × 1/2 × 3'-6 1/2 (M2E) - ca101
2 Ls. 4 × 4 × 1/2 × 3'-6 - cb101
2 Ls. do × 1'-4 1/4 - cc101

Reaming Notes:-
Holes marked RT are to be subpunched and reamed to size to a metal templet
Holes marked RA are to be subpunched and reamed to size while top chord and end post sections are temporarily assembled in shop

Slots and manholes to be trimmed to size and dressed

Span E4	Span E5	Span E6	Span E7	Span E8	Total No.	Description	Mark	Remarks	Weight each Tons
1	1	1	1	1	5	Top Chord	(U2-3)A	As Shown	
1	1	1	1	1	5	" "	(U2-3)B	Opp Hd to (U2-3)A	
1	1	1	1	1	5	" "	(U10-9)B	As Shown	
1	1	1	1	1	5	" "	(U10-9)A	Opp Hd to (U10-9)B	

REQUIRED LIST

MATERIAL: All structural steel to be cooper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: by John M. Bailey
RIVETS: 1" φ } Unless noted
OPEN HOLES: 1 3/16" φ } Unless noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4 thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting. See sheet F1

Date	Revision	App'd
10/9/34	Ls loose for (U10-9)	10/16/34

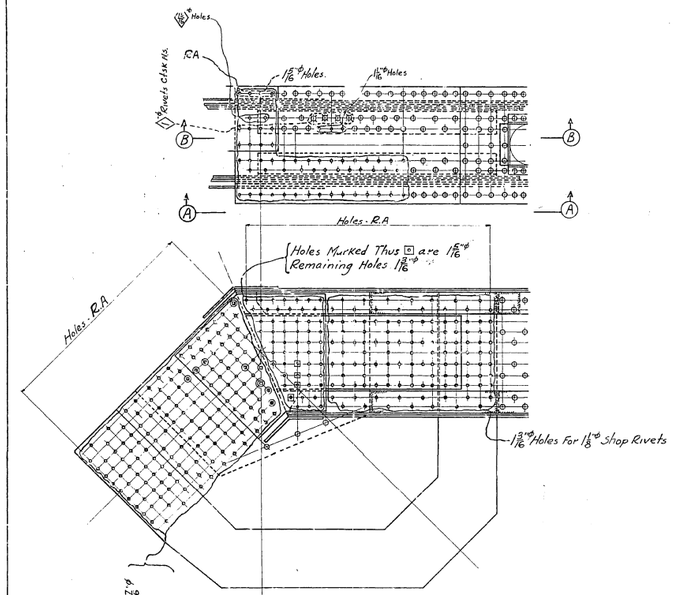
APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date: May 17, 1934

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Top Chord (U2-3) - (U10-9)
504'-0" Spans

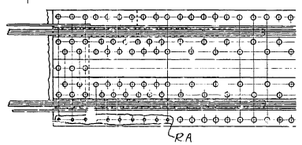
McCLINTIC-MARSHALL CORPORATION
POTTSTOWN DRAWING ROOM — POTTSTOWN WORKS Shop 2

IN CHARGE C.W.D. — MADE BY V.S.
CHECKED BY Webb 5/4/34 — TRACED BY V.S.
LAST ASSEM. MK.

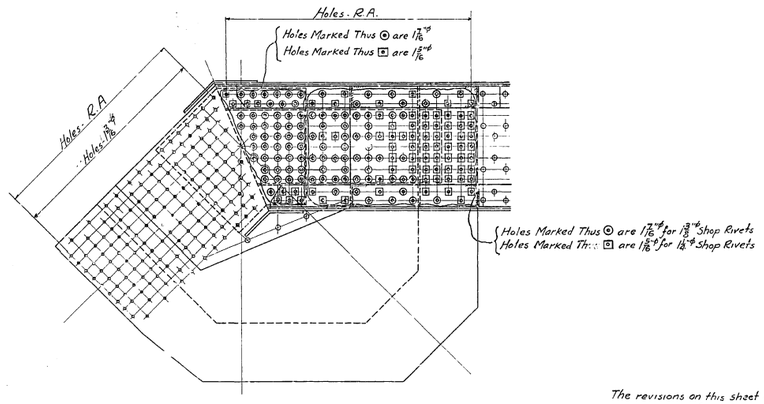
CONTRACT CJ 1580-1 — SHEET J104



VIEW (A)



(U2-3)B - OPPOSITE HAND TO SKETCH

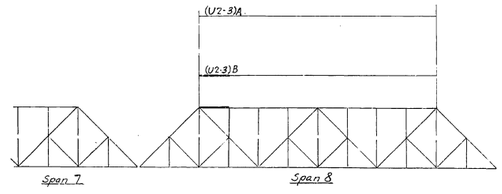


SECTION (B)

The revisions on this sheet apply only to one Top Chord (U2-3)B Span 8

NOTE:- FOR PARTS NOT SHOWN SEE SHT. J10A

The revisions shown on this sheet were due to unfair holes that developed when Chord (U2-3)B Span 8 was assembled in the Shop for reaming



Marking Diagram

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with a, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: by John M. Bailey
RIVETS: 1" ϕ Unless Noted
OPEN HOLES: 1⅛" ϕ Unless Noted
PUNCHING: Holes in material ½" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ½" thick or less to be sub-punched ⅝" and reamed to size after assembly.
DRILLING: Holes in material over ½" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while templated.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat Mc-Dade Filler Red on base and cap plates of Tower, at Bents, and of built up struts; and 1 coat "Acid Resisting Linseed" to outside ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting. See Sheet 71

No.	Description	Mark	Remarks	Weight each Piece

REQUIRED LIST

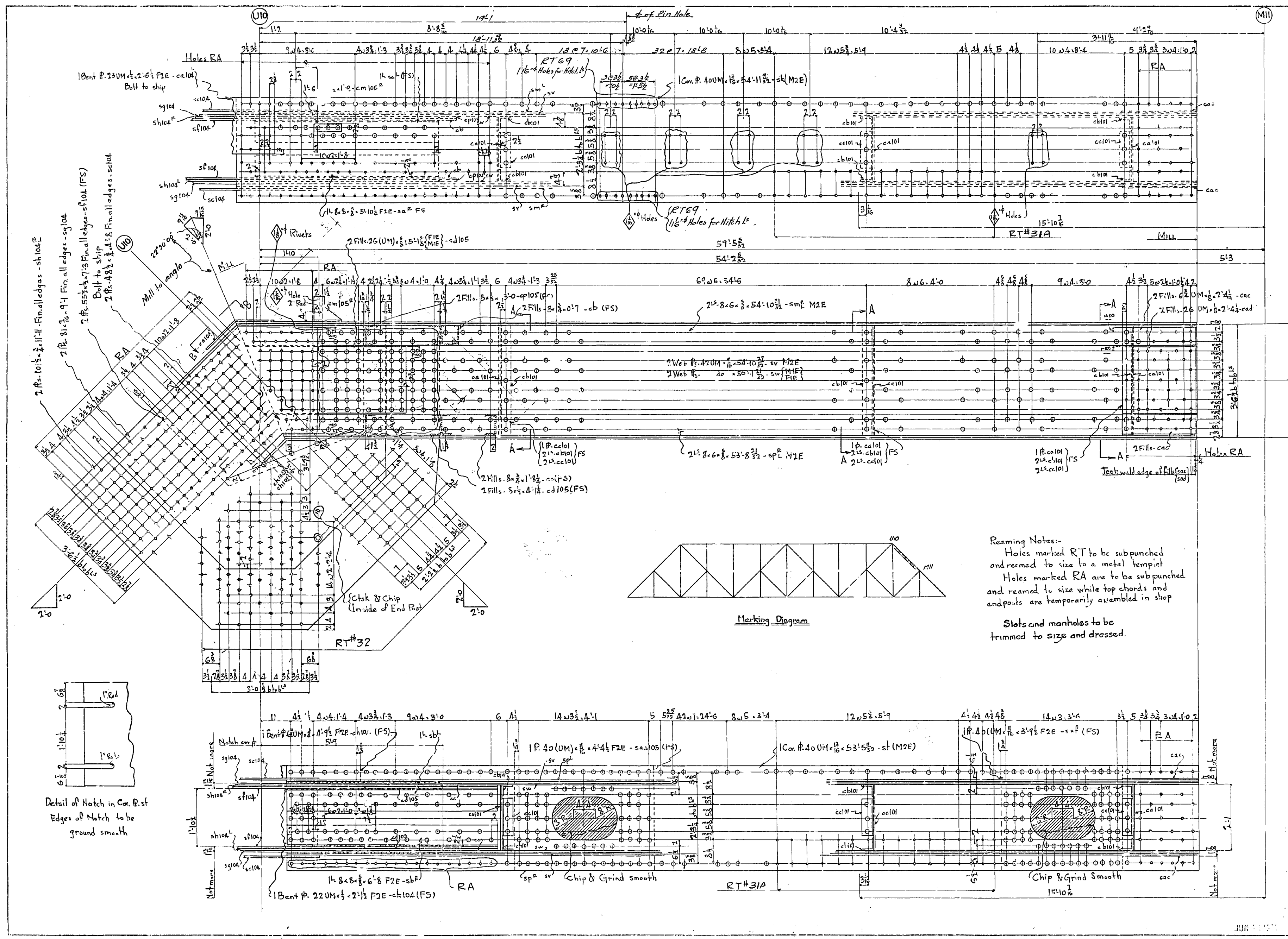
Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date:

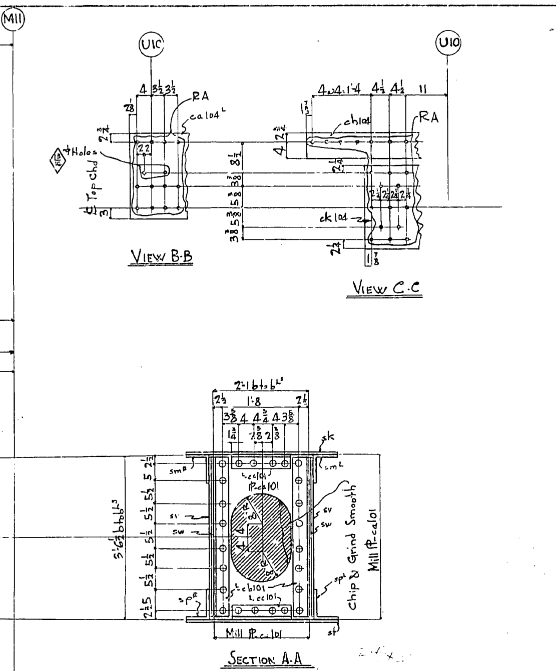
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Top Chord (U2-3)B-Span 8
504'-0" Spans
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING NO. 1003 Pottstown WORKS Shop #2
IN CHARGE C.W.D. MADE BY J.T.
CHECKED BY M.G.L. U-3-34 TRACED BY J.T.
EAST ASSEM. MK.

CONTRACT C.T 1589-1 SHEET J10A1



Reaming Notes:-
Holes marked RT to be subpunched and reamed to size to a metal templet.
Holes marked RA are to be subpunched and reamed to size while top chords and endposts are temporarily assembled in shop.

Slots and manholes to be trimmed to size and drossed.



Material for Diaphragm
1 Pl.- 25(M2W) × ½ × 3'-6½ (M2E) - cc101
2 Ls. 4 × 4 × ½ × 3'-6 - cb101
2 Ls. do × 1'-4½ - cc101

Note:
For shop assembly and system of marking after assembly, see sheet JE7

1	1	1	1	1	5	End Post	(M11-U10)A	As shown	
1	1	1	1	1	5	" "	(M11-U10)B	Opp hand	
Span E4	Span E5	Span E6	Span E7	Span E8	Total No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: by John M. Bailey
RIVETS: 1" φ } Unless Noted
OPEN HOLES: 1 1/16" φ }
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat Iron-Oxide Filler Red for base and cap plates of Towers, of Bents, and of built up sheds; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting. See sheet F1

Date	Revision	App'd
7/12/34	Holes added top flange for erection hitch Ls	7/24/34

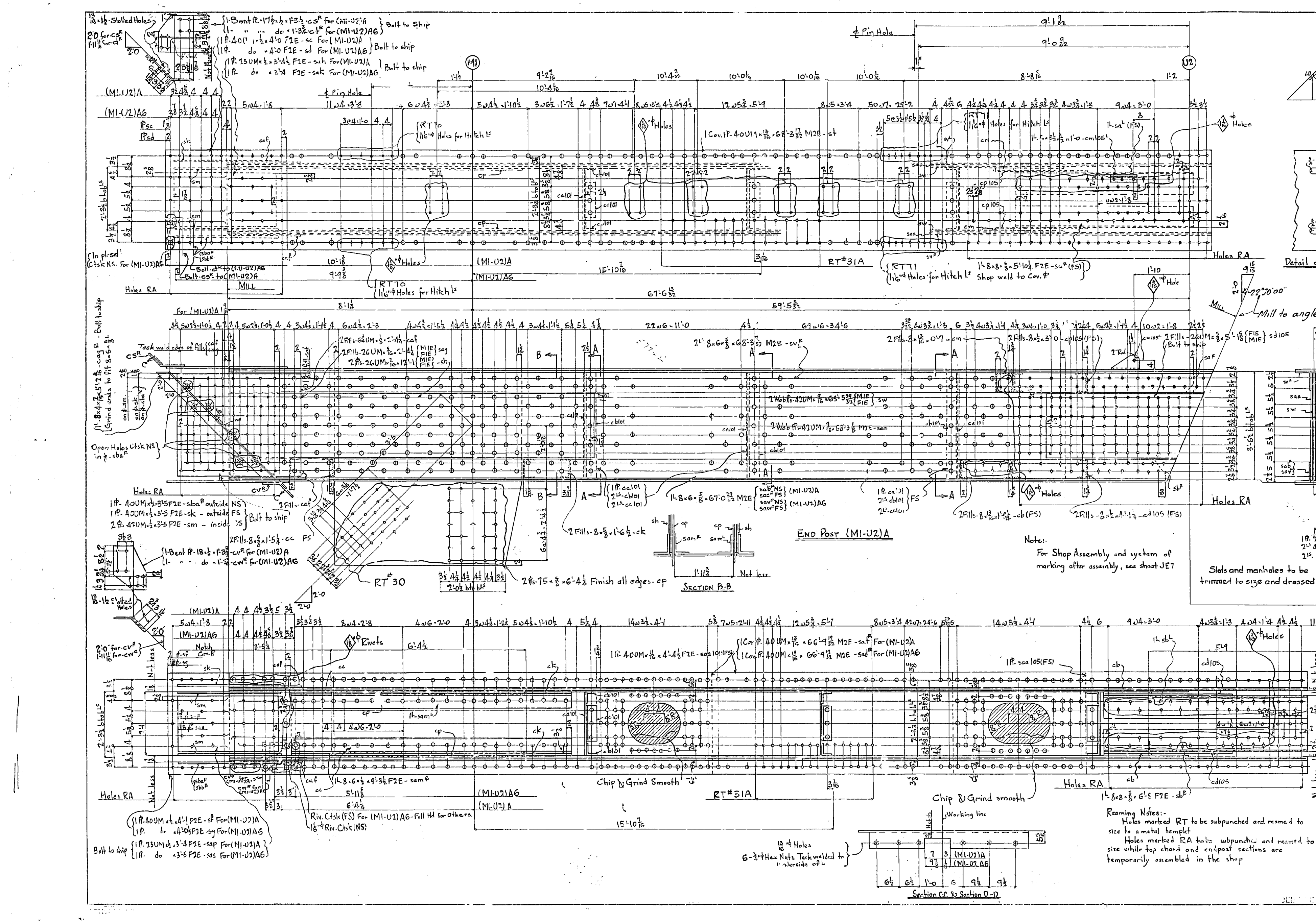
APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date: May 18, 1934

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE EAST BAY CROSSING

End Post (M11-U10)
504'-0" Spans

McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS Shop 2
IN CHARGE: C.W.D. MADE BY V.S.
CHECKED BY Webb 5/8/34 TRACED BY V.S.
saf & cod

CONTRACT CJ 1580-1 SHEET J105



Span E4	Span E5	Span E6	Span E7	Span E8	Total No.	Description	Mark	Remarks	Weight each Tons
1	1		1	1	4	End Post	(M1-U2)A	As shown	
1	1		1	1	4	" "	(M1-U2)B	Opp hand to (M1-U2)A	
		1			1	" "	(M1-U2)AG	As shown	
		1			1	" "	(M1-U2)BG	Opp hand to (M1-U2)AG	

REQUIRED LIST

Reaming Notes:-
Holes marked RT to be subpunched and reamed to size to a metal templet
Holes marked RA to be subpunched and reamed to size while top chord and endpost sections are temporarily assembled in the shop

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: by John M. Bailey
RIVETS: 1" ⌀ Unless noted
OPEN HOLES: 1 3/16" ⌀ " "
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting. See Sheet F1

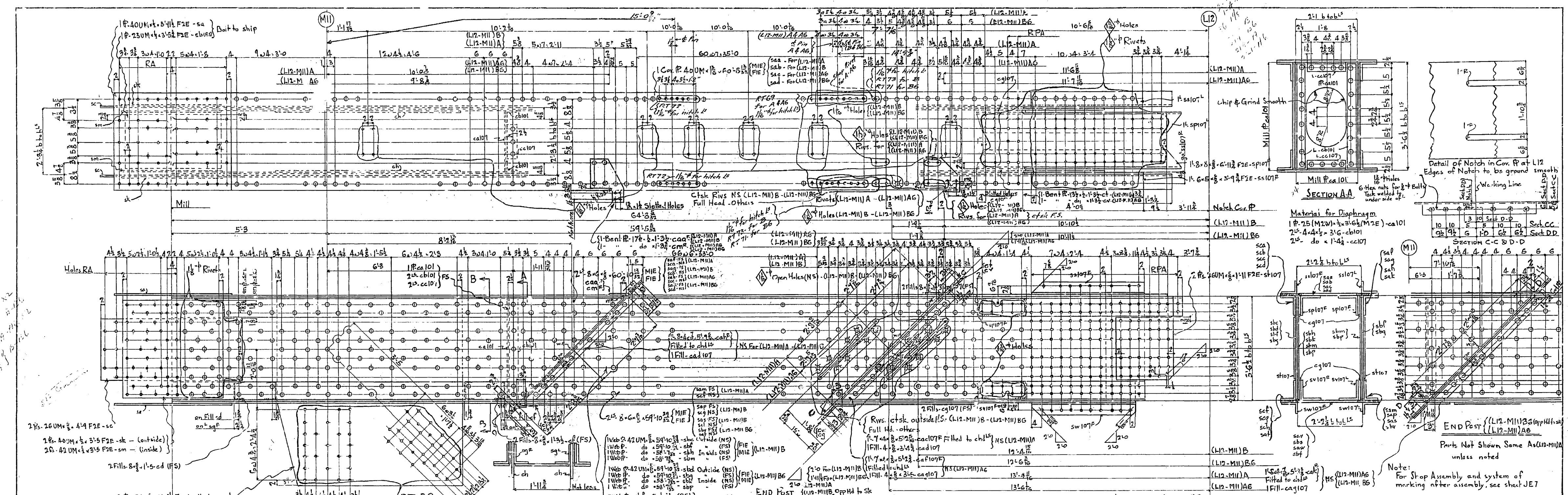
Date	Revision	App'd
10/9/34	Ls sa & sb loose	10/16/34
7/12/34	Holes added top flange for erection hitch Ls	7/24/34

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 5-18-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

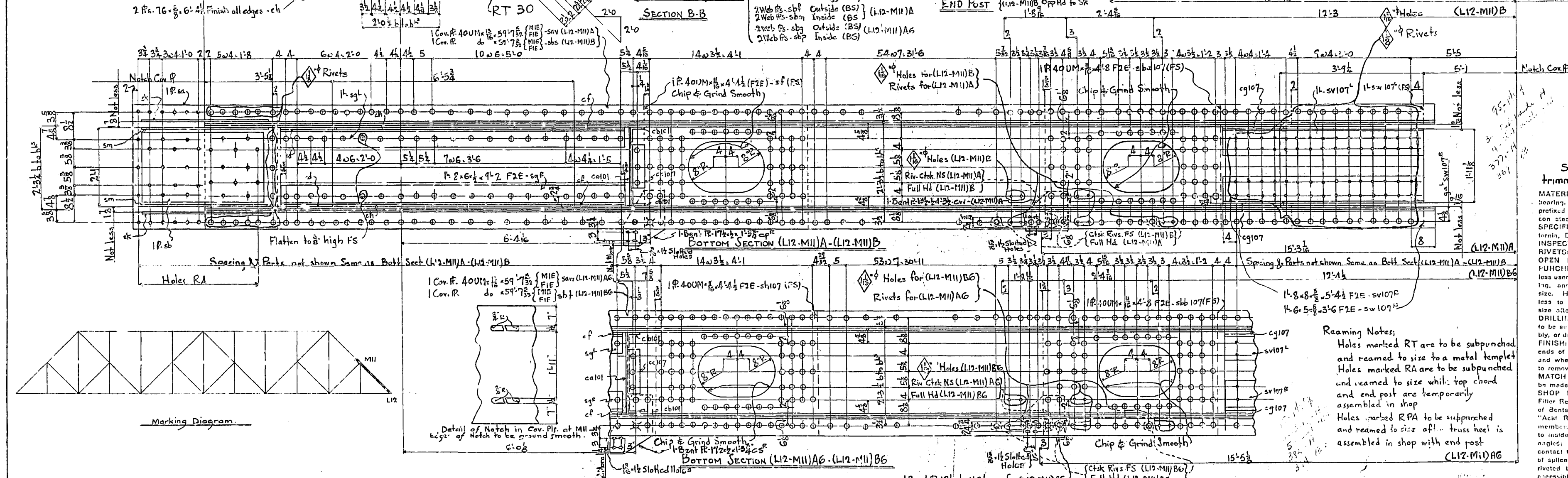
End Post M1-U2
504'-0" Spans
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS Shop 2
IN CHARGE CWD
CHECKED BY Webb 5/8/34
LAST ASSEM. MK. sbb & cah
MADE BY VS
TRACED BY VS
CONTRACT CJ 1560-1
SHEET J106

Rev 6-29-34
" 7-30-34



Parts Not Shown Same As (L12-M11)A unless noted

Note:
For Shop Assembly and system of marking after assembly, see sheet JE7



Reaming Notes;
Holes marked RT are to be subpunched and reamed to size to a metal templet
Holes marked RA are to be subpunched and reamed to size while top chord and end post are temporarily assembled in shop
Holes marked RPA to be subpunched and reamed to size after truss heel is assembled in shop with end post
(L12-M11)A6

Span E4	Span E5	Span E6	Span E7	Span E8	Total No.	Description	Mark	Remarks	Weight each Tons
1	1		1	1	4	End Post	(L12-M11)A	As shown	
1	1		1	1	4	do	(L12-M11)B	Opp Hand to Sk.	
		1			1	do	(L12-M11)A6	As shown	
		1			1	do	(L12-M11)B6	Opp. Hand to Sk.	

REQUIRED LIST

Slots and manholes to be trimmed to size and dressed.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: by John M Bailey
RIVETS: 1" ϕ Unless Noted
OPEN HOLES: $1\frac{1}{16}$" ϕ Unless Noted
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting. See Sheet F1

Date	Revision	App'd
10/9/34	L's sv107 & sp107 loose; Truss Heel note removed	10/16/34
7/12/34	Holes added top flg. for hitch; Truss heel loose span E8	7/24/34

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 6-12-34

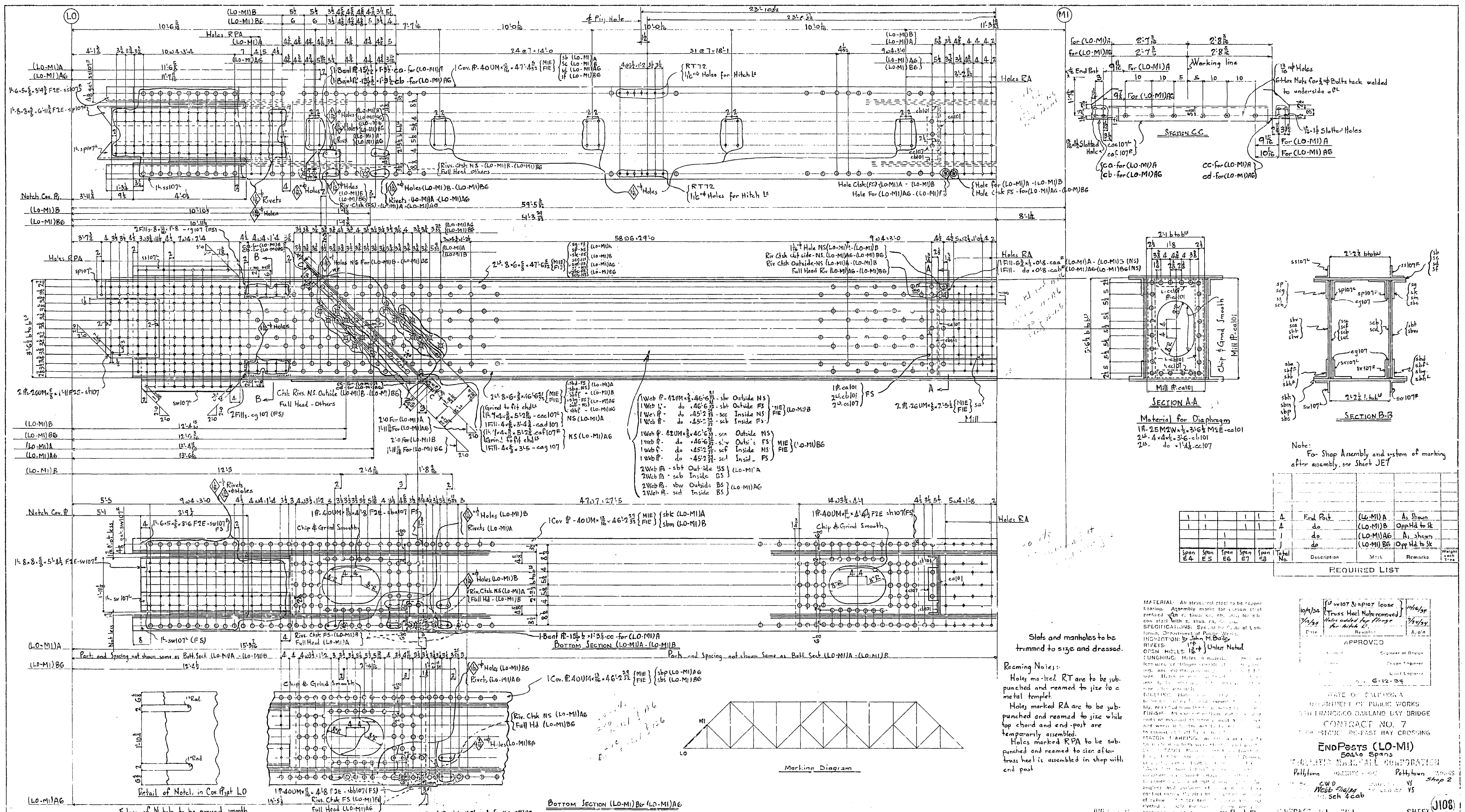
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

End Post (L12-M11)
504'-0 Spans

McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS
Shop 2
IN CHARGE CWD MADE BY VS
CHECKED BY Webb 5/16/34 TRACED BY VS
ASSEMB. MK. sch & cca

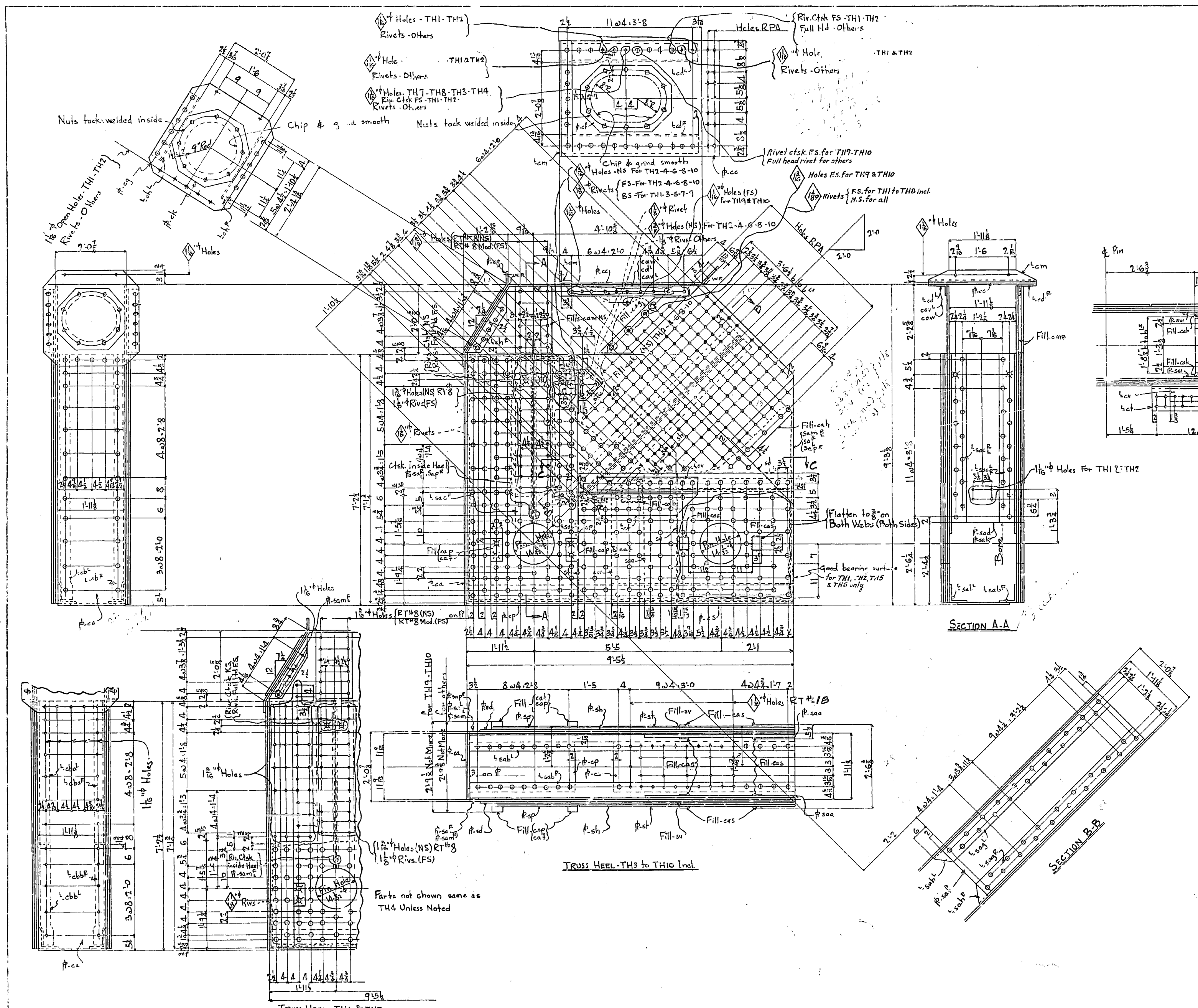
CONTRACT CJ 15604 SHEET J107

Rev. 7/24/34
" 7/30/34
5/29/34



SECTION A-A
SECTION B-B
Section C-C
Material for Diaphragm
Note: For Shop Assembly and system of marking after assembly, see Sheet JE7
REQUIRED LIST
Span E4 | Span E5 | Span E6 | Span E7 | Span E8 | Total No. | Description | Mark | Remarks | Weight each Tons
End Post | (LO-MI)A | As Shown
do | (LO-MI)B | Opp Hd to Sk
do | (LO-MI)AG | As shown
do | (LO-MI)BG | Opp Hd. to Sk
BOTTOM SECTION (LO-MI)A - (LO-MI)B
BOTTOM SECTION (LO-MI)BG (LO-MI)AG
Detail of Notch in Cov Plat LO
Edges of Notch to be ground smooth
Marking Diagram
Slots and manholes to be trimmed to size and dressed.
Reaming Notes:
Holes marked RT are to be sub-punched and reamed to size to a metal template.
Holes marked RA are to be sub-punched and reamed to size while top chord and end-post are temporarily assembled.
Holes marked RPA to be sub-punched and reamed to size after truss heel is assembled in shop with end post
MATERIAL: All structural steel to be copper bearing.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: by John M. Bailey
RIVETS: 1"ϕ
OPEN HOLES: 1 3/16"ϕ } Unless Noted
see Sheet F1
10/9/34 Ls sv107 & sp107 loose Truss Heel Note removed 10/16/34
7/12/34 Holes added top flange for hitch Ls. 7/24/34
Date | Revision | App'd
APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
6-12-34
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
EndPosts (LO-MI)
504'-0 Spans
Pottstown
Pottstown
Shop 2
CWD
Webb 5/16/34
VS
VS
Sch 4cab
SHEET J108
5/21/34 Webb
5/25/34

30-1



Slots and manholes to be trimmed to size and dressed.

Reaming Notes:-
Holes marked RPA to be subpunched and reamed to size after truss heel is assembled in shop with end post
Holes marked RT to be subpunched and reamed to size to a metal templet

Pin holes to receive one coat of Blue Lacquer

1-Pl. 113 × 7/8 × 9'-1 3/4 Fin all edges - Sap (FS) for TH9 & TH10
1-Pl. saR (NS) for TH9 & TH10
1 Pl.-23 3/8 (M2W) × 7/16 × 4'-10 1/4 - sak {FIE / MIE to fit 14" φ Pin} For TH1 - TH2
2 Ls.- 4×4×1/2×4'-1 1/4 - cba } For TH1 & TH2
2 Ls.- do ×3'-1 - cbb (crimped) } For TH1 & TH2
2 Pls.-113×7/8×9'-1 3/4 - sam Fin all edges } For TH1 & TH2
1 L 6×4×5/8×4'-0 - cav - for TH1 - TH2
1 L do - caw - for TH9 & TH10
1 L cd R for TH1 - TH2 - TH9 - TH10
2 Pls.-113×7/8×9'-1 3/4 Fin. all edges - sa For TH3 to 8 Incl.
2 Pls.-109×5/8×7'-1 1/2 " " " - sd
2 Pls.-64×5/8×7'-1 1/2 " " " - sh
2 Pls.-30UM×7/8×7'-1 1/2 F2E - sp
2 Pls.-44 1/2 UM ×1×6'-2 3/4 F2E - st
2 Fills - 44 1/2 UM×5/8×3'-4 3/4 F2E - sv
2 Pls.- 38 1/4 UM×1/2×5'-3 1/2 F2E - sw
2 Pls.- 43 7/8 UM (M1W)×1×4'-3 3/4 - F2E - saa
2 Ls.- 6×6×1/2×9'-5 F2E - sab
1 Pl. 23×1/2×7'-2 1/2 - ca
2 Ls. 4×4×1/2×7'-2 1/2 - cb (crimped) For TH3 to 10 Incl.
1 Bent Pl.-40×1/2×4'-10 - cc
2 Ls. 6×4×5/8×4'-0 - cd for TH3-4-5-6-7-8
1 Manhole Cov. 23×1/2×2'-7 - cf
1 Bent Pl. 33×1/2×3'-1 1/2 - cg
2 Ls.- 4×4×1/2×2'-1 1/2 - ch
1 Manhole Cov. 25×1/2×2'-1 - ck
18 Bolts - 7/8" φ × 2" lg.
4 Ls. 6×6×3/4×5'-2 1/4 abt. - sac {FIE / MIE to fit 14" φ Pin
1 Pl.- 23 1/8 M2W × 7/16 × 4'-10 1/4 - sal {FIE / MIE to fit 14" φ Pin} For TH3 to 10 Incl.
1 L- 4×4×1/2×3'-4 - cm
1 Pl. 18×3/4×3'-1 - cp
1 Pl. do ×5'-3 - cs
1 L 8×8×3/4×3'-5 1/2 - ct
1 L. 5×5×3/4×2'-11 1/8 - cv
2 Ls.- 4×4×1/2×4'-11 1/4 - cw
1 Pl. 20 1/8 - M2W ×1/2×4'-11 1/4 - caa
2 Fills - 7×1×0'-8 1/2 - cab
1 Pl. 23 1/8 M2W × 1/16 × 6'-5 F2E - saf
2 Ls.- 6×6×1/2×6'-5 - F2E - sag
2 Ls.- do ×6'-9 F2E - sah
2 Fills - 8×5/8×2'-11 1/2 - cag
2 Fills - do ×2'-6 - cah
1 Fill - 8 1/4×7/8×0'-4 1/2 - cak NS - For TH2-4-6-8-10
2 Fills - 13×1 1/16×1'-11 1/2 - cam NS
4 Fills - 4×2 1/16×0'-8 - cap - for TH1 to 8 incl.
8 Fills - 3×3/8×0'-5 - cas Tack weld to pls st & saa
4 Fills - 4×1 5/16×0'-8 - cat - for TH9 & 10

Span E4	Span E5	Span E6	Span E7	Span E8	Total No.	Description	Mark	Remarks	Weight each Tons
1					One	Truss Heel	TH1	As Shown	
1					One	" "	TH2	Opp Hd to Sk	
1	1				2	" "	TH3	Opp. Hd. to Sk	
1	1				2	" "	TH4	As shown	
	1	1	1	1	4	" "	TH5	As Shown	
	1	1	1	1	4	" "	TH6	Opp Hd to Sk	
		1	1		2	" "	TH7	Opp Hd to Sk	
		1	1		2	" "	TH8	As shown	
				1	One	" "	TH9	Opp Hd to Sk	
				1	One	" "	TH10	As Shown	

REQUIRED LIST

MATERIAL: All structural steel ... SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: by John M. Bailey
RIVETS: 1"
OPEN HOLES: 1 3/16" } Unless noted
PUNCHING: Holes in material 3/4" thick or less ... may be punched full size. Holes in main material 3/4" thick or less to be sub-punched and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/2" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marks ... be made with both steel ...
SHOP PAINT: None except ... See Sheet F1

Date	Revision	App'd
10/9/34	Shop assembly note removed	10/16/34
8/1/34	Note added for bearing surface. Open holes and rivets thru plec and filler cap changed for TH5 & TH10	8/7/34
7/12/34	TH9 & TH10 shown loose. Pinch dimension - & cm.	7/24/34
6/13/34	TH1-2 changed to suit A.E.Co. Jacking device	6/28/34

APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date 6-6-34

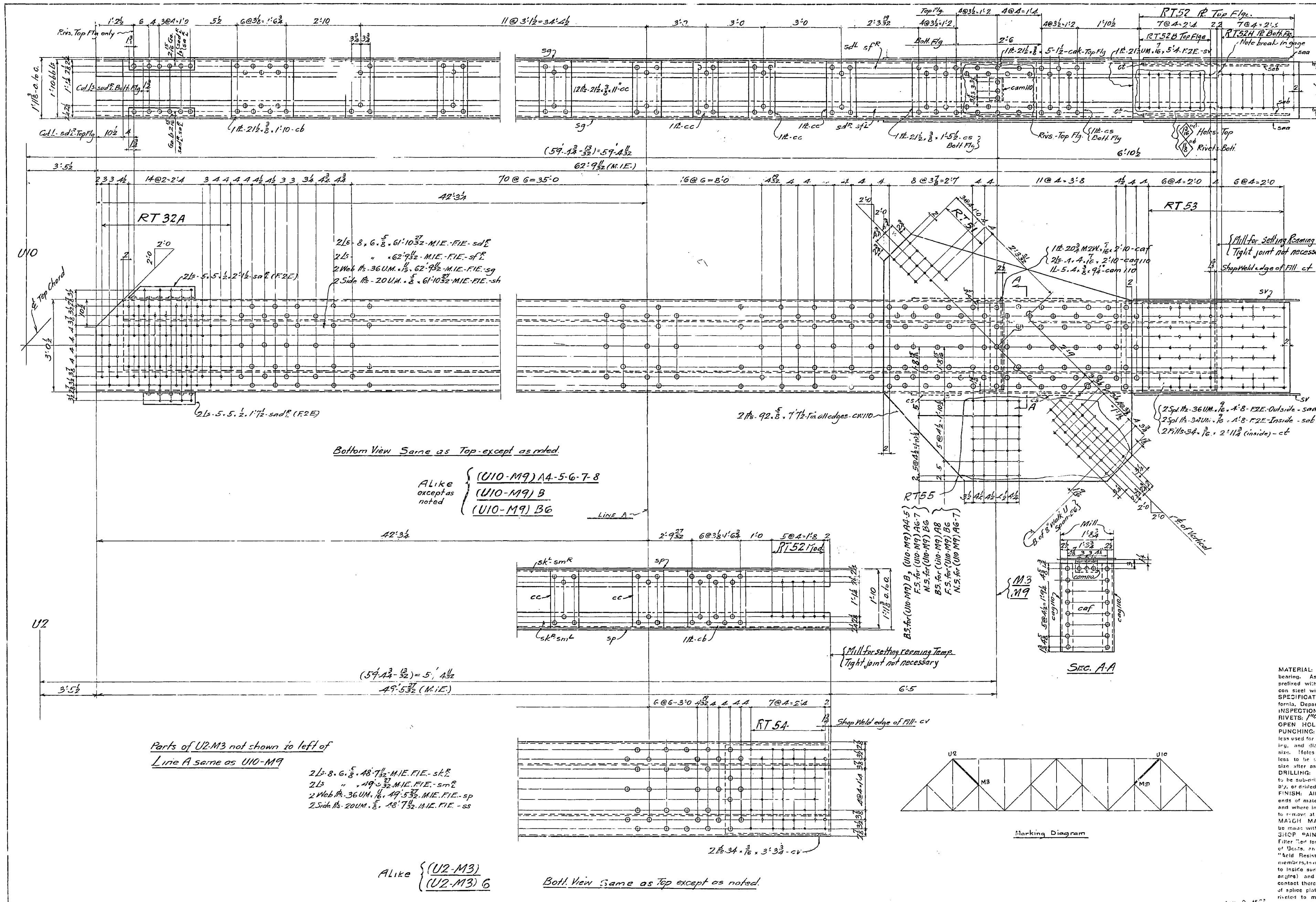
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE EAST BAY CROSSING

TRUSS HEEL at L0 & L12
504'-0 SPANS

McCLINTIC-MARSHALL CORPORATION
Pottstown Pottstown WORKS Shop 2
CWD MADE BY VS
Webb 5/18/34 TRACED BY VS
sam & cbb
CONTRACT 3J 1590-1 SHEET J109

Rev. 8/13/34

30-1



REAMING NOTE:
Holes marked RT are to be sub-punched and reamed to a metal templet.

Span E4	Span E5	Span E6	Span E7	Span E8	No.	Description	Mark	Remarks	Weight each Tons
1					ONE	DIAGONAL	(U10-M9)A4	Alike except as noted	
	1				ONE	"	(U10-M9)A5		
		1			ONE	"	(U10-M9)A6		
			1		ONE	"	(U10-M9)A7		
				1	ONE	"	(U10-M9)A8		
1	1		1	1	4	"	(U10-M9)B		
		1			ONE	"	(U10-M9)B6		
2	2		2	2	8	"	U2-M3	Alike	
		2			2	"	U2-M3-6		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 1"φ-Unless noted
OPEN HOLES: 1 3/16"φ
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Oxid Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting. See Sheet Fi

JUL 9 1934

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 6-20-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

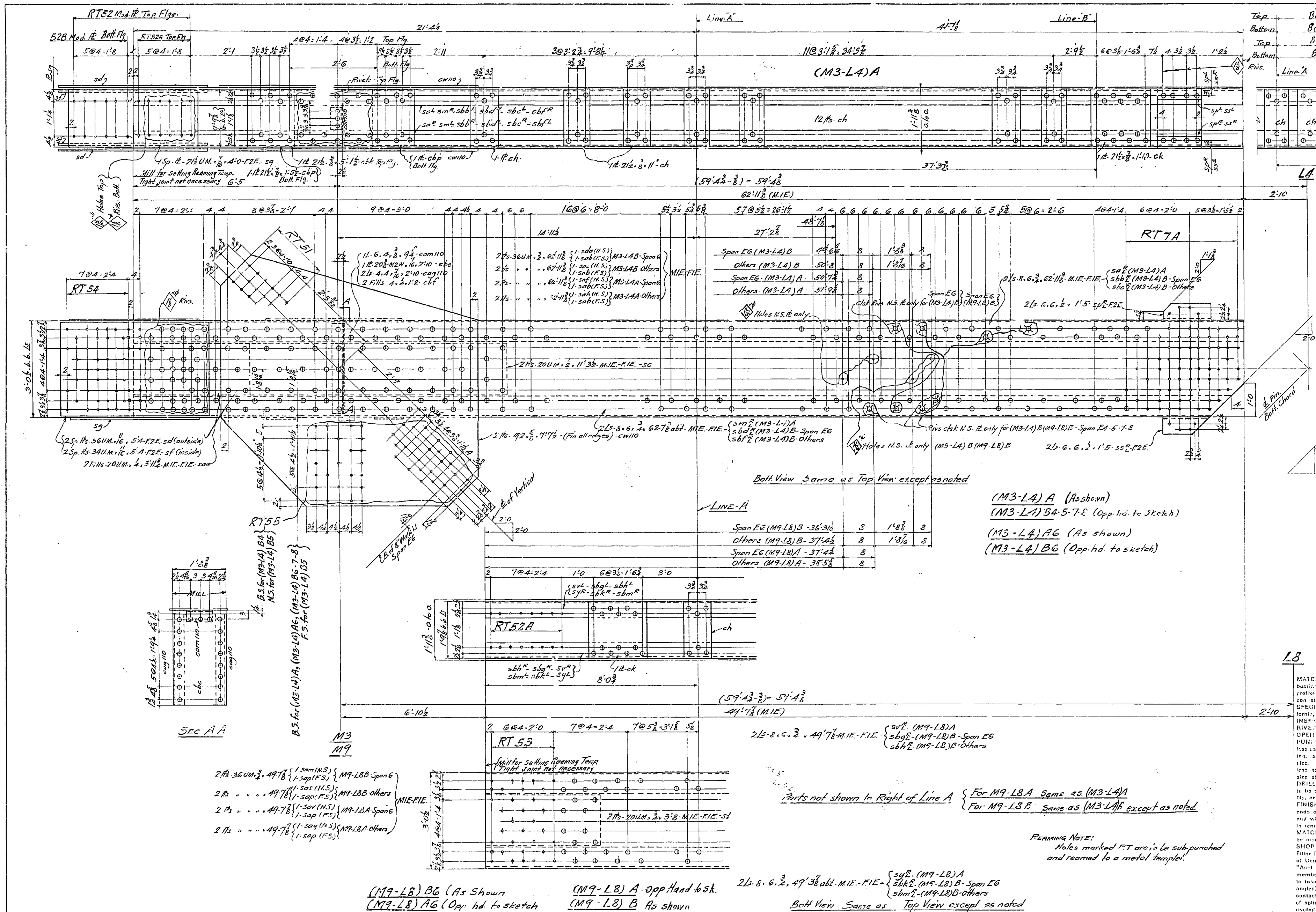
TRUSS DIAGONALS {U2-M3, U10-M9}
504'-0" Spans

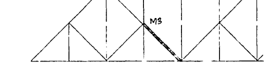
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS Shop 2

IN CHARGE - C.W.D. MADE BY L.A.H.
CHECKED BY L 5/14/34 TRACED BY G.K.
LAST ASSEM. MK. sad & cap

CONTRACT CJ 1530-1 SHEET T110

Rev 8/16/34





Marking Diagram.

Span E4	Span E5	Span E6	Span E7	Span E8	No.	Description	Mark	Remarks	Weight each Tons
1					ONE	DIAGONAL	(M3-L4) B4	Opp. hd. to Sk	
	1				ONE	"	(M3-L4) B5		
			1		ONE	"	(M3-L4) B7		
1	1		1	1	4	DIAGONALS	(M3-L4) A	As Shown	
				1	ONE	"	(M3-L4) B8	Opp. Hand to Sk.	
1	1		1	1	4	"	(M9-L8) B	As Shown	
1	1		1	1	4	"	(M9-L8) A	Opp. Hand to Sk.	
		1			One	"	(M3-L4) A-6	As Shown	
		1			One	"	(M3-L4) B-6	Opp. Hand to Sk.	
		1			One	"	(M9-L8) B-6	As Shown	
		1			One	"	(M9-L8) A-6	Opp. Hand to Sk	

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey
RIVETS: 1" unless noted
OPEN HOLES: $1\frac{3}{16}$" unless noted
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Oxid Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting. See Sheet F1

Date	Revision	App'd

APPROVED

Engineer of Design
Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 7-2-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

(M3-L4) (M9-L8)
504'-0" Spans

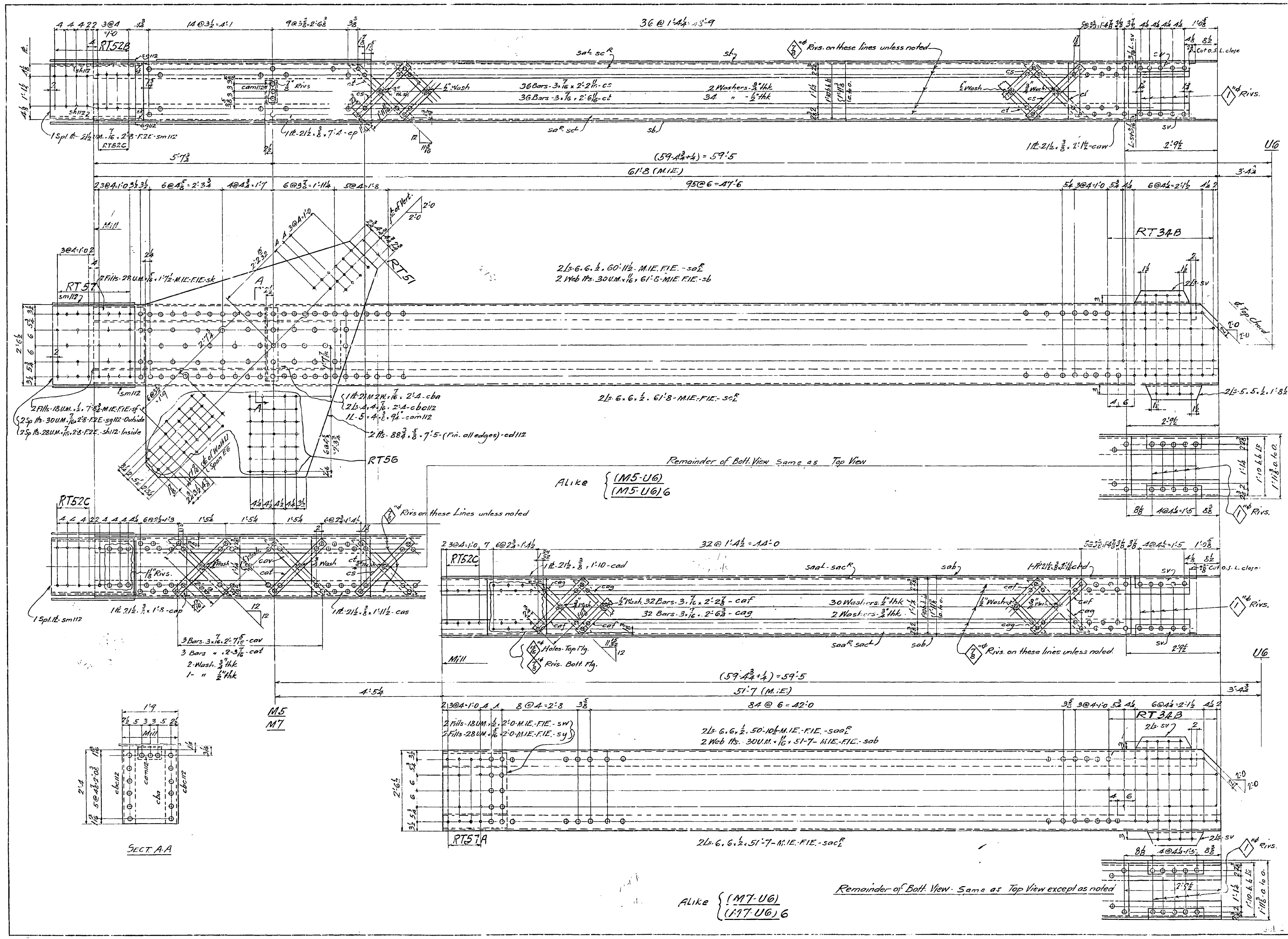
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS Shop 2

IN CHARGE - C.W.D. MADE BY - L.A.H.
CHECKED BY C 5/14/34 TRACED BY - C.K.
LAST ASSEM. MK. sbm & cbm

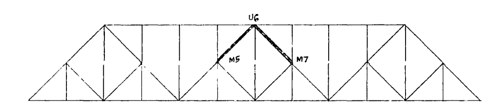
CONTRACT CJ-1580-1 SHEET J111

Rev. 7-24-34
" 8-16-34

JUL 9 1934



REAMING NOTE:
Holes marked RT are to be sub-punched and reamed to a metal templet.



Marking Diagram

Span E4	Span E5	Span E6	Span E7	Span E8	No.	Description	Mark	Remarks	Weight each Tons
2	2		2	2	8	DIAGONALS	(M5-U6)	Alike	
		2			2	"	(M5-U6)6		
2	2		2	2	8	"	(M7-U6)	Alike	
		2			2	"	(M7-U6)6		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Gailey
RIVETS: 1"⌀ unless noted
OPEN HOLES: $1\frac{3}{16}$"⌀ unless noted
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting. See Sheet F1

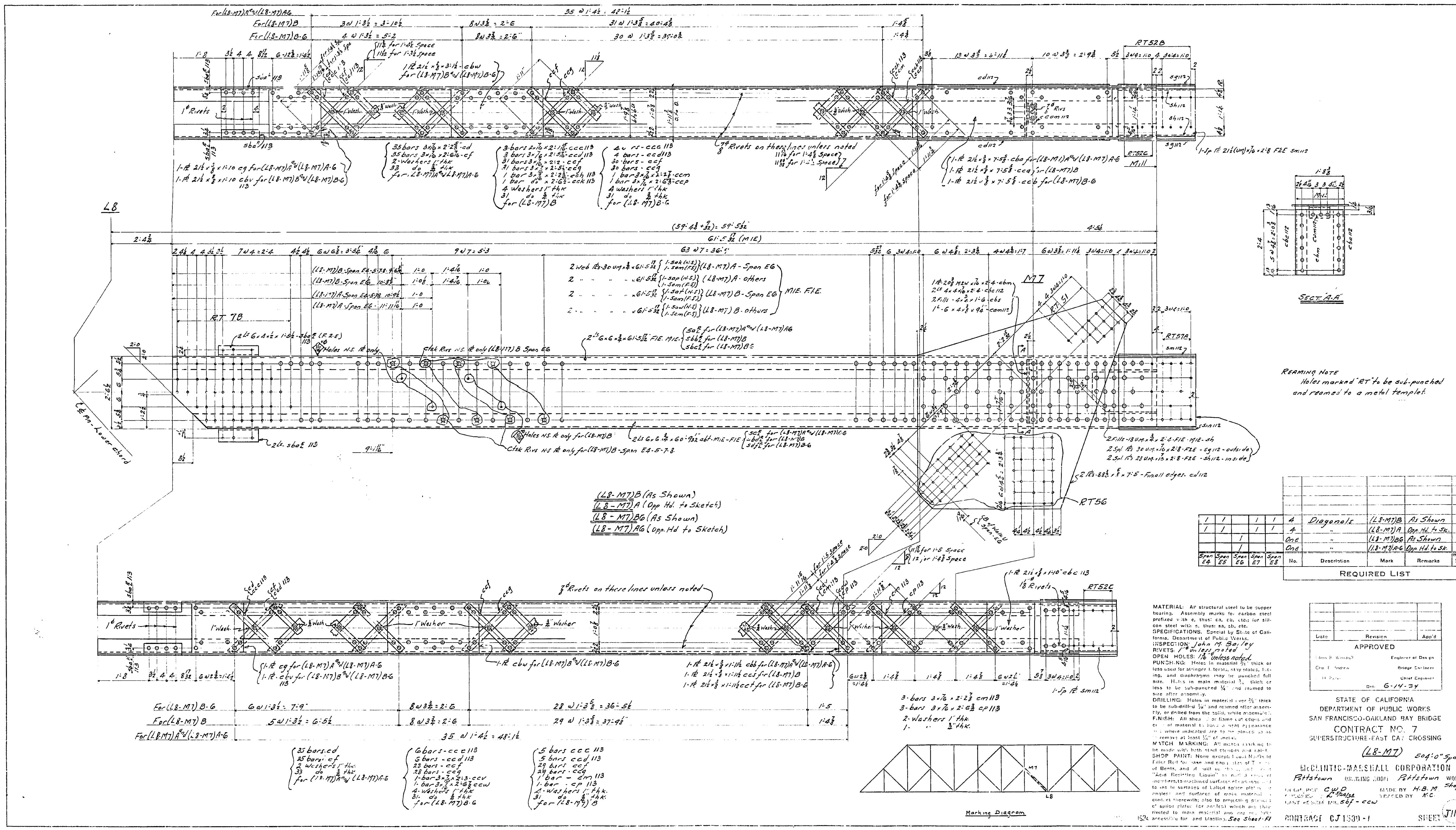
Date	Revision	App'd

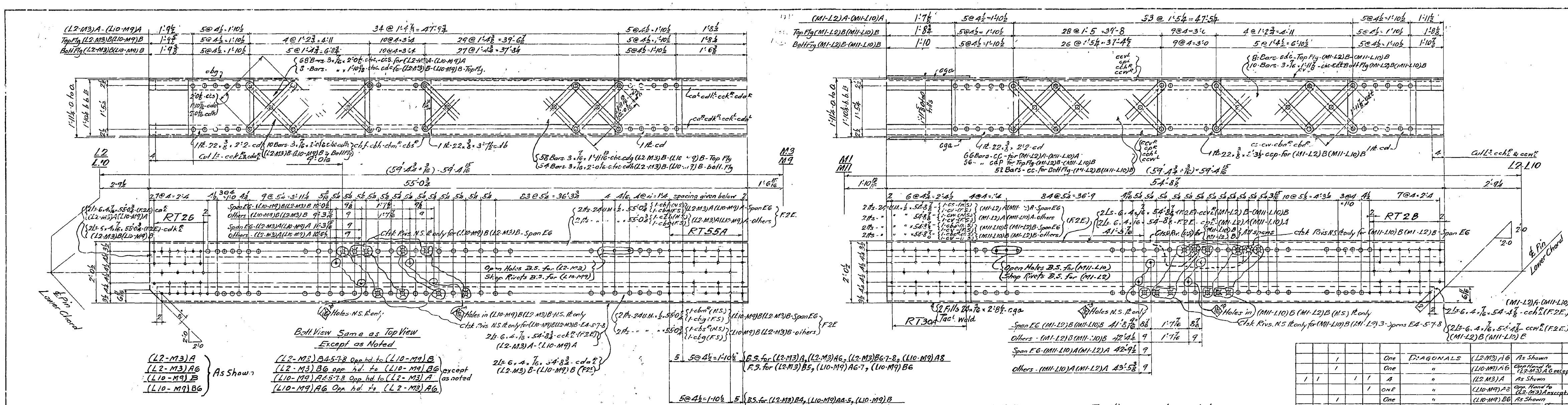
APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 5-23-34

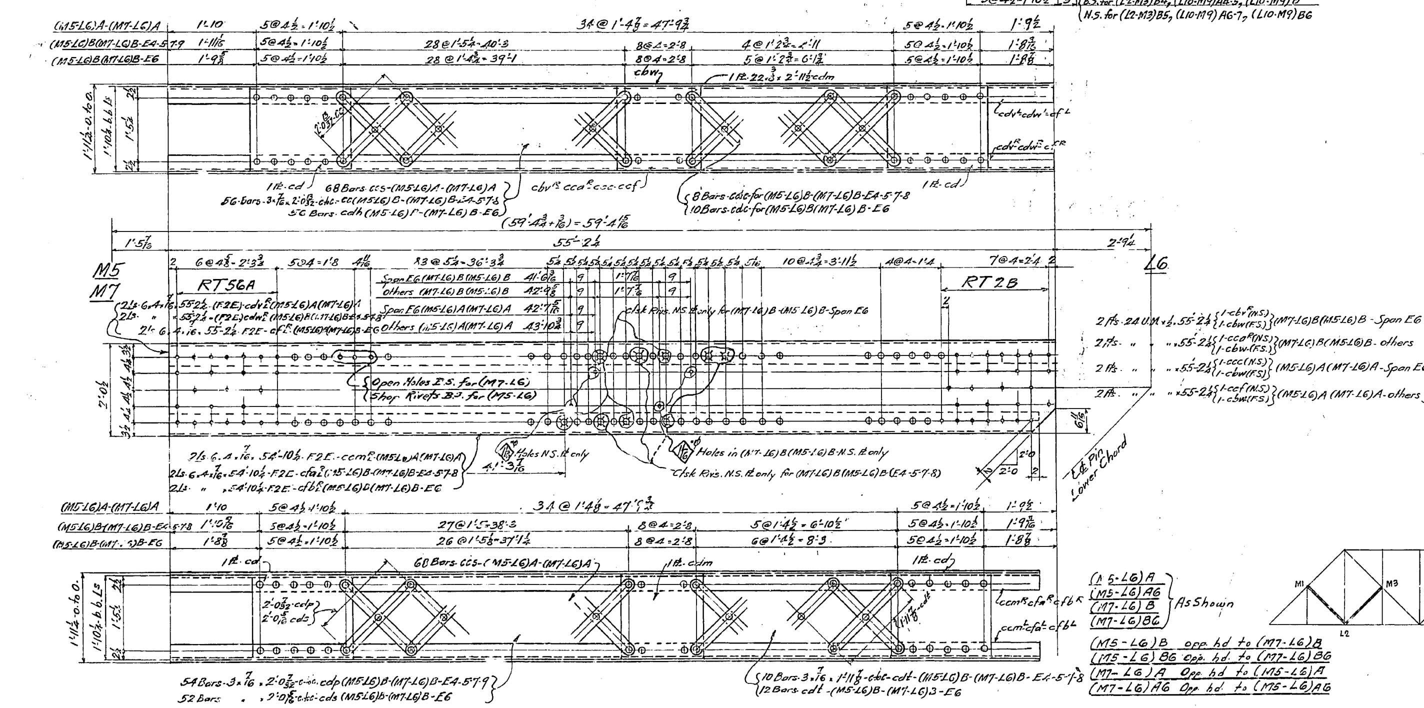
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

TRUSS DIAGONALS-(M5-U6)-(M7-U6)
504'-0" Spans
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS Shop 2
IN CHARGE C.W.D. MADE BY L.A.H.
CHECKED BY C 5/14/34 TRACED BY
LAST ASSEM. MK. sac & caw
CONTRACT CJ 1589-1 SHEET J112

Rev. 7-30-34


L8
M7
SECT. "A-A"
REAMING NOTE
Holes marked "RT" to be sub-punched and reamed to a metal templet.
(L8-M7)B (As Shown)
(L8-M7)A (Opp. Hd. to Sketch)
(L8-M7)B6 (As Shown)
(L8-M7)A6 (Opp. Hd. to Sketch)
Marking Diagram
REQUIRED LIST
4 Diagonals (L8-M7)B As Shown
4 " (L8-M7)A Opp. Hd. to Sk.
One " (L8-M7)B6 As Shown
One " (L8-M7)A-6 Opp. Hd. to Sk.
Span E4 Span E5 Span E6 Span E7 Span E8 No. Description Mark Remarks Weight each Tons
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS. Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey
RIVETS: 1" unless noted
OPEN HOLES: 1 1/16" unless noted
Date Revision App'd
APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
6-14-34
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
(L8-M7) 504'-0" Spans
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS Shop 2
MADE BY H.B.M.
TRACED BY K.C.
CONTRACT CJ 1530-1
SHEET J113





(M1-L2)B - Opp. hd to (M11-L10)B
(M1-L2)B6 Opp. hd to (M11-L10)B6
(M11-L10)A Opp. hd to (M1-L2)A
(M11-L10)A6 Opp. hd to (M1-L2)A6

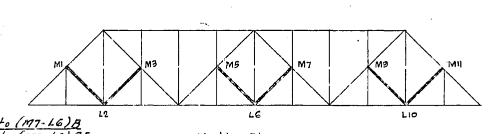
Span E4	Span E5	Span E6	Span E7	Span E8	No.	Description	Mark	Remarks	Weight ea. Tons
1					ONE	DIAGONAL	(L10-M9)A4	opp. hand to (L2-M3) A except as noted	
	1				ONE	"	(L10-M9)A5		
			1		ONE	"	(L10-M9)A7		
1					ONE	"	(L2-M3)B4	opp. hand to (L10-M9)B except as noted	
	1				ONE	"	(L2-M3)B5		
			1		ONE	"	(L2-M3)B7		

REQUIRED LIST

Span E4	Span E5	Span E6	Span E7	Span E8	No.	Description	Mark	Remarks	Weight each Tons
		1			One	DIAGONALS	(L2-M3)A6	As Shown	
		1			One	"	(L10-M9)A6	Opp Hand to (L2-M3)A6 except as noted	
1	1		1	1	4	"	(L2-M3)A	As Shown	
				1	ONE	"	(L10-M9)A8	Opp. Hand to (L2-M3)A except as noted	
		1			One	"	(L10-M9)B6	As Shown	
		1			One	"	(L2-M3)B6	Opp. Hand to (L10-M9)B6 except as noted	
1	1		1	1	4	"	(L10-M9)B	As Shown	
				1	ONE	"	(L2-M3)B8	Opp Hand to (L10-M9)B except as noted	
		1			One	"	(M5-L6)A6	As Shown	
		1			One	"	(M7-L6)A6	Opp. Hand to (M5-L6)A6 except as noted	
1	1		1	1	4	"	(M5-L6)A	As Shown	
1	1		1	1	4	"	(M7-L6)A	Opp Hand to (M5-L6)A except as noted	
		1			One	"	(M7-L6)B6	As Shown	
		1			One	"	(M5-L6)B6	Opp. Hand to (M7-L6)B6 except as noted	
1	1		1	1	4	"	(M7-L6)B	As Shown	
1	1		1	1	4	"	(M5-L6)B	Opp. Hand to (M7-L6)B except as noted	
		1			One	"	(M1-L2)A6	As Shown	
		1			One	"	(M11-L10)A6	Opp Hand to (M1-L2)A6 except as noted	
1	1		1	1	4	"	(M1-L2)A	As Shown	
1	1		1	1	4	"	(M11-L10)A	Opp. Hand to (M1-L2)A except as noted	
		1			One	"	(M11-L10)B6	As Shown	
		1			One	"	(M1-L2)B6	Opp. Hand to (M11-L10)B6 except as noted	
1	1		1	1	4	"	(M11-L10)B	As Shown	
1	1		1	1	4	"	(M1-L2)B	Opp. Hand to (M11-L10)B except as noted	

REQUIRED LIST

REAMING NOTE: Holes marked RT are to be sub-punched and reamed to a metal templet.



Marking Diagram

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc., for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: - By John M. Bailey
RIVETS: - 1" ⌀
OPEN HOLES: - 1 3/16" Unless noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Tower of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting. - See Sheet F1

Date	Revision	App'd
9-25-34	Holes open for erection use.	10-2-34

APPROVED

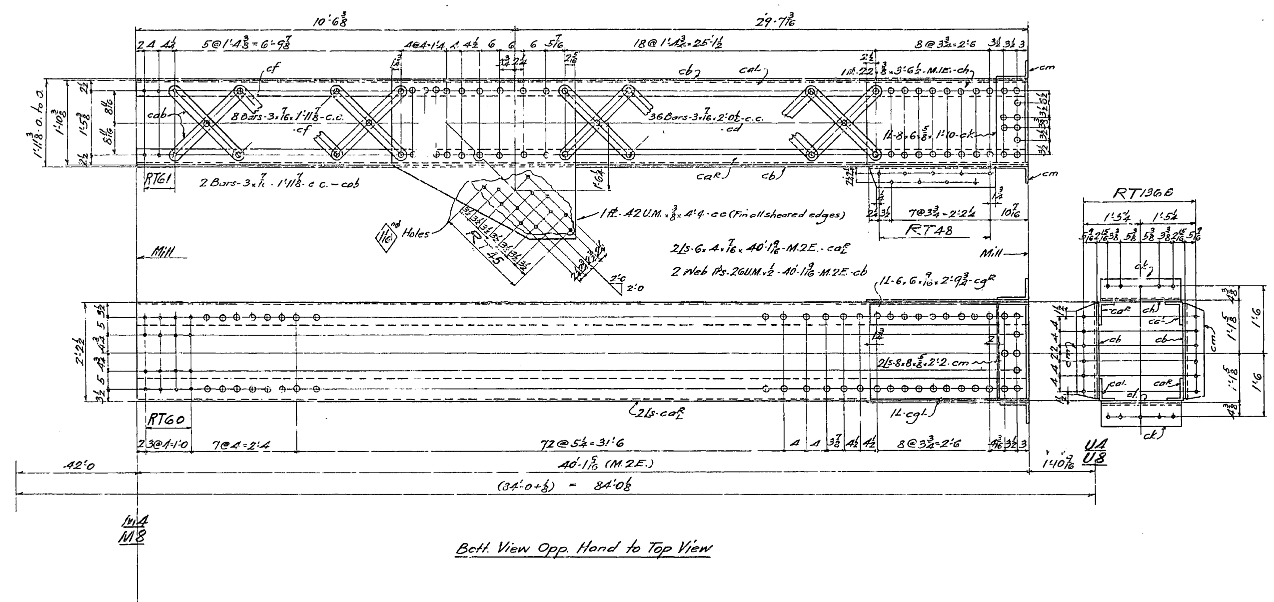
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 7-2-34

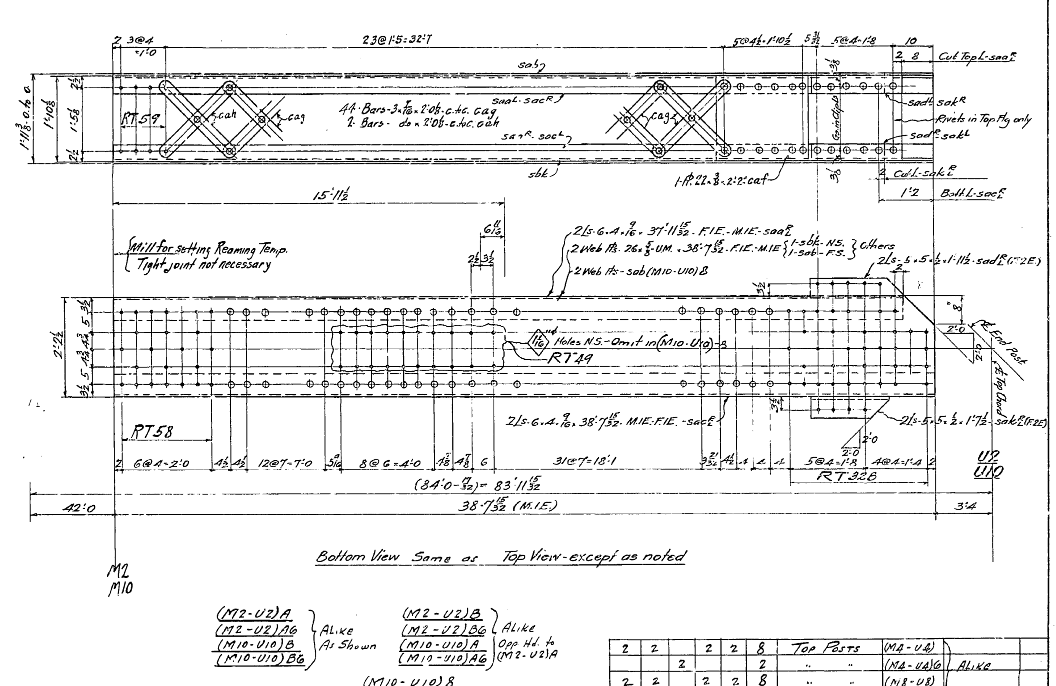
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

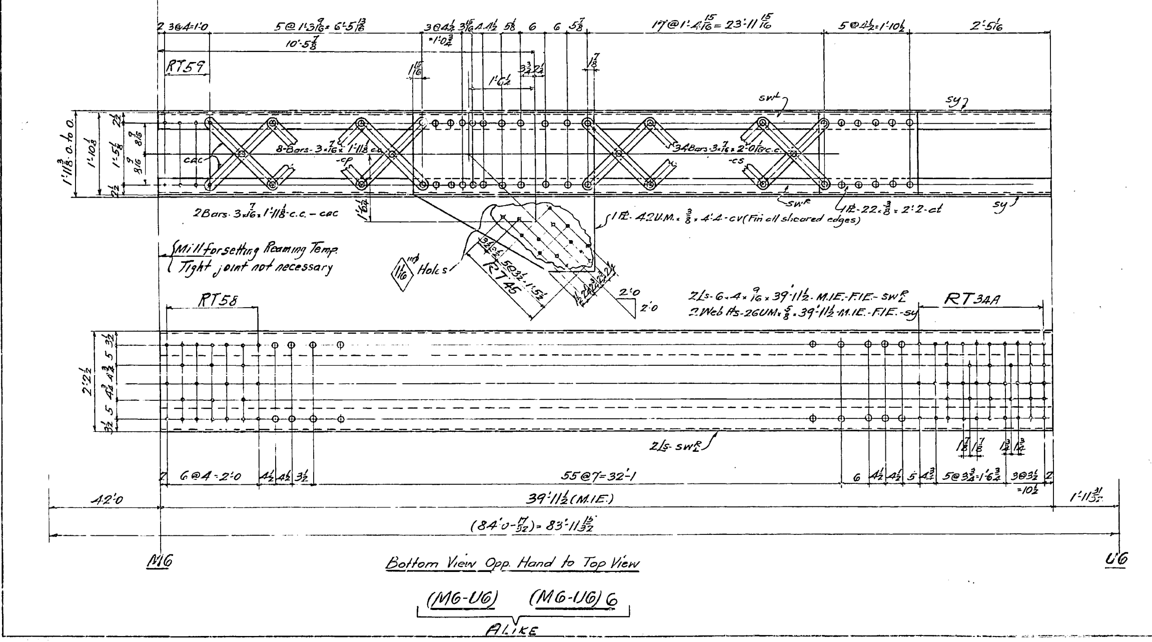
L2-M3, L10-M9, M5-L6, M7-L6 DIAGONALS M1-L2, M11-L10
504'-0" Spans

McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM — Pottstown WORKS Shop 2
IN CHARGE - C. W. D. — MADE BY - L. A. H.
CHECKED BY - C 5/16/34 cfb — TRACED BY cfk
LAST ASSEM. MK.
CONTRACT CJ-1580-1 — SHEET J114

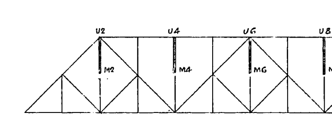
Rev. 8/9/34
" 8-16-34







REAMING NOTE: Holes marked RT are to be sub-punched and reamed to a metal templ't.


Marking Diagram

Span E4	Span E5	Span E6	Span E7	Span E8	No.	Description	Mark	Remarks	Weight each Tons
2	2		2	2	8	Top Posts	(M4-U4)		
		2			2	" "	(M4-U4)6	Alike	
2	2		2	2	8	" "	(M8-U8)		
		2			2	" "	(M8-U8)6		
2	2		2	2	8	" "	(M6-U6)	Alike	
		2			2	" "	(M6-U6)6		
1	1		1	1	4	" "	(M2-U2)A		
		1			One	" "	(M2-U2)A6	Alike	
1	1		1		3	" "	(M10-U10)B	As Shown	
		1			One	" "	(M10-U10)B6		
1	1		1	1	4	" "	(M2-U2)B		
		1			One	" "	(M2-U2)B6	Alike.	
1	1		1		3	" "	(M10-U10)A	Opp. hd. to	
		1			One	" "	(M10-U10)A6	(M2-U2)A	
				2	2	" "	(M10-U10)8		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey
RIVETS: 1"⌀
OPEN HOLES: 1 3/16"⌀ unless noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING. Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, or Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of spliced plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting. See Sheet F1

Date	Revision	App'd
5/31/34	change battens to lacing (M2-U2) - (M10-U10)	G.B.W.

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 5-23-34

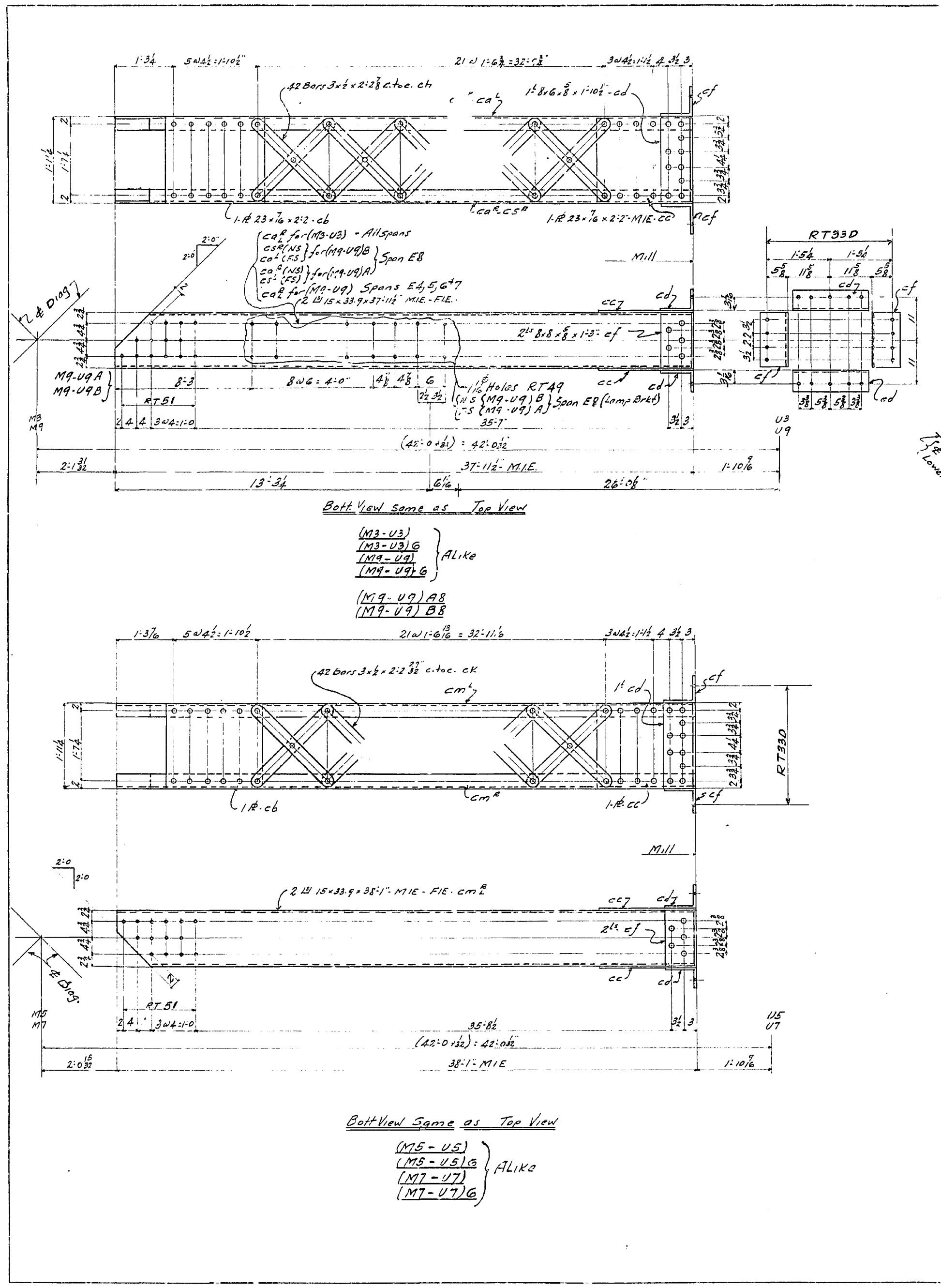
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

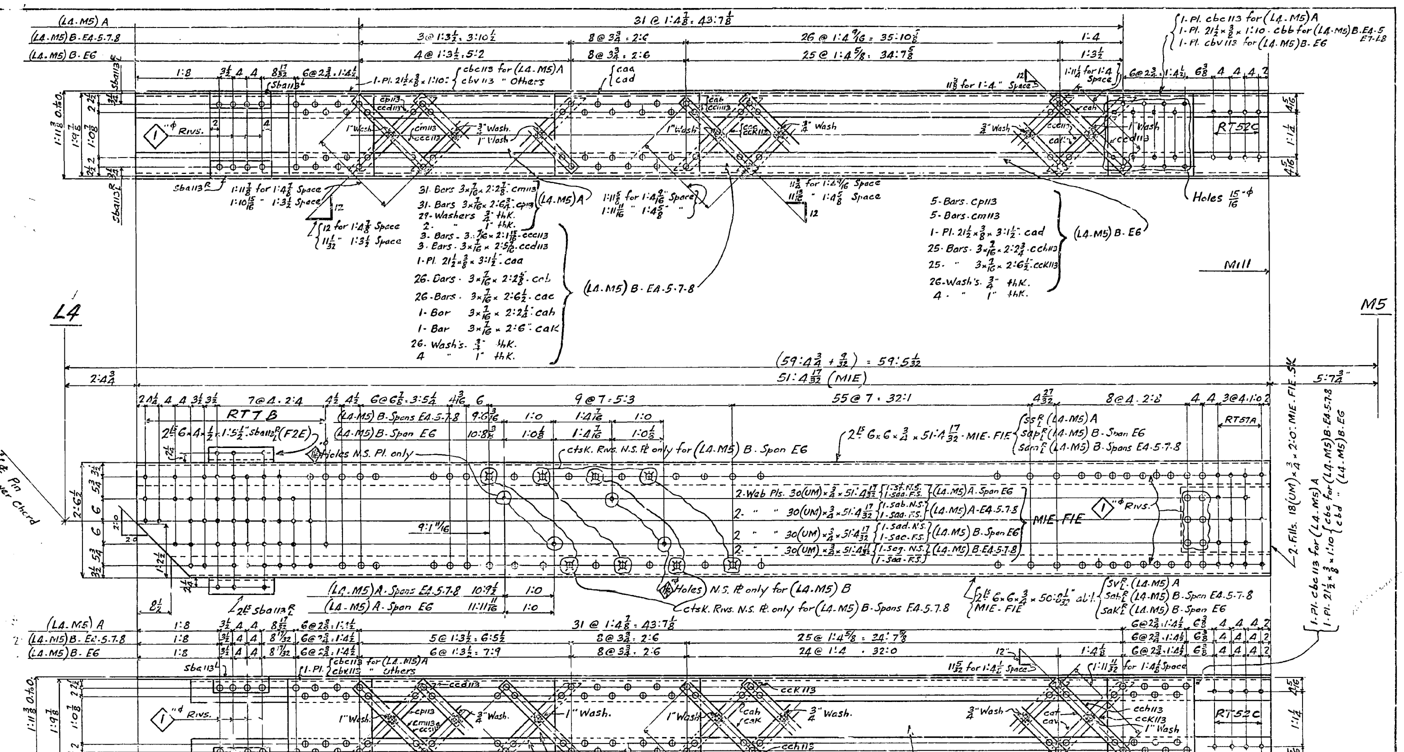
TOP POSTS-(M4-U4) (M8-U8) (M6-U6) (M2-U2) (M10-U10)
504'-0" Spans

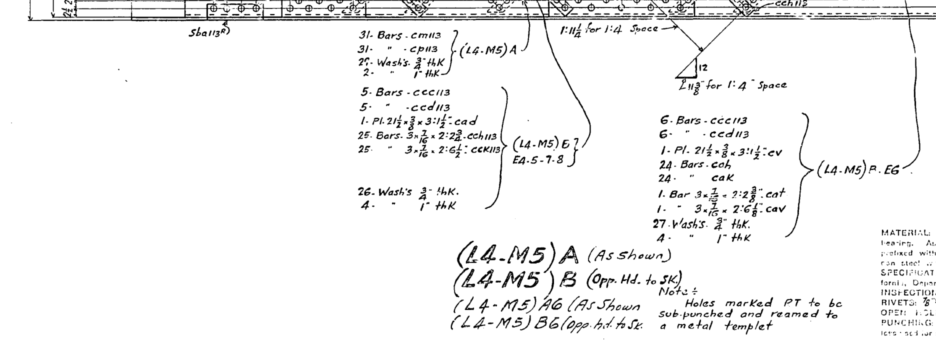
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS Shop 2
IN CHARGE - C.W.D. MADE BY L.A.H.
CHECKED BY L 5/14/34 TRACED BY
LAST ASSEM. MK. sak & cah

CONTRACT CJ1580-1 SHEET JJ15

30-1

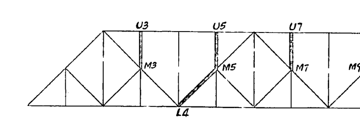






Span E4	Span E5	Span EG	Span E7	Span E8	Total No	Description	Mark	Remarks	WGT. Ea. Tons
1	1		1	1	4	Diagonals	(L4-M5)A	As Shown	
1	1		1	1	4	"	(L4-M5)B	Opp. Hd. to SK.	
		1			One	"	(L4-M5)AG	As Shown	
		1			One	"	(L4-M5)BG	Opp. Hd. to SK.	
2	2		2	2	8	Top Posts	(M5-U5)	Alike	
		2			2	do	(M5-U5)G	Alike	
2	2		2	2	8	do	(M7-U7)	Alike	
		2			2	do	(M7-U7)G	Alike	
2	2		2	2	8	do	(M3-U3)	Alike	
		2			2	do	(M3-U3)G	Alike	
2	2		2		6	do	(M9-U9)	Alike	
		2			2	do	(M9-U9)G	Alike	
				1	One	do	(M9-U9)A8		
				1	One	do	(M9-U9)B8		

REQUIRED LIST



Marking Diagram

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey
RIVETS: 7/8"ϕ Unless Noted
OPEN HOLES: 1 3/16" Unless Noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled [illegible] and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencil and paint.
SHOP PAINT: None except [illegible] Oxide Filler [illegible] for base and cap plates of Towers, of Seats and of built up struts, and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting. See Sheet F1

JUL 9 1934

Date	Revision	App'd

APPROVED

Engineer of Design

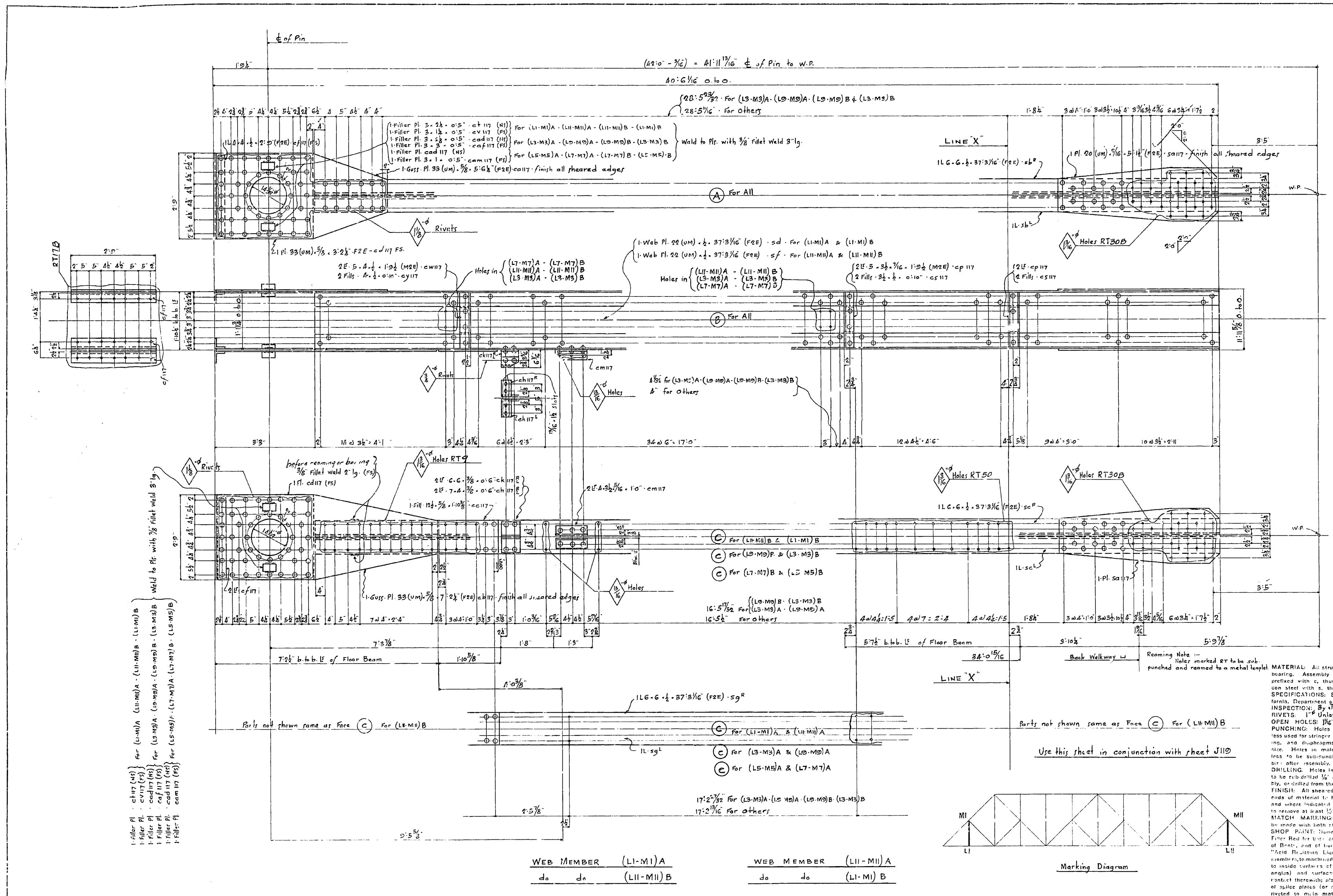
Bridge Engineer

Chief Engineer

Date: 6-18-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
M3-U3 M5-U5 L4-M5
M9-U9 M7-U7
504'-0" Spans
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS Shop 2
IN CHARGE C.W.D.
CHECKED BY L 5/25/34
MADE BY L.A.H.
TRACED BY K.C & F.J.K
LAST ASCENT Sop & cbd

CONTRACT GJ-1589-1 SHEET J116



Span 4	Span 5	Span 7	Span 8	Total No.	Description	Mark	Remarks	Weight each Tons
one	one	one	one	4	Web Members	(L1-M1)A		
one	one	one	one	4	do	(L11-M11)A		
one	one	one	one	4	do	(L11-M11)B		
one	one	one	one	4	do	(L1-M1)B		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 1"φ Unless Noted
OPEN HOLES: 1 1/16"φ Unless Noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING. Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/2" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting. See Sheet F1

Date	Revision	App'd

APPROVED

Engineer of Design

Bridge Engineer

Chief Engineer

Date: 6·30·34

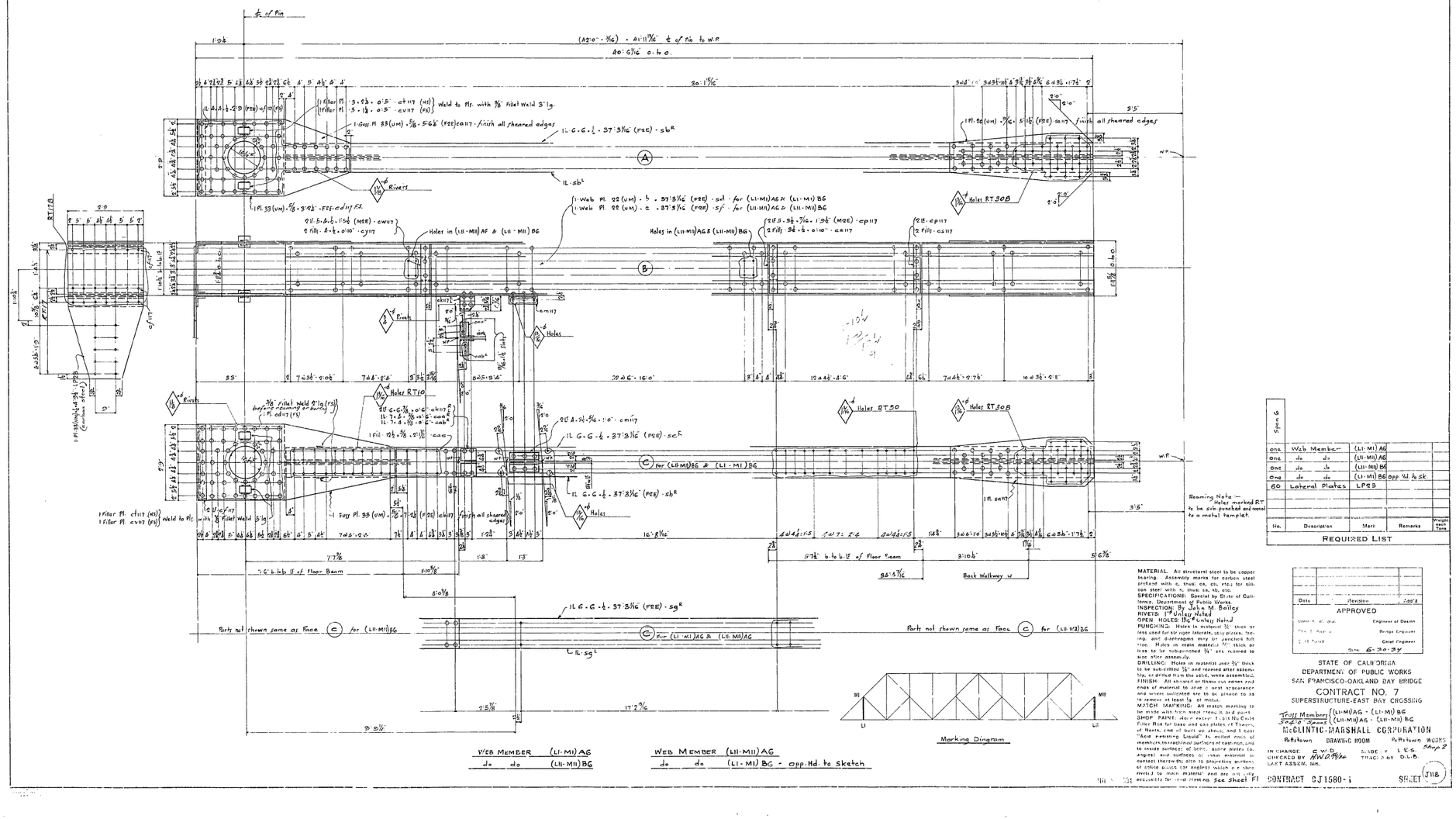
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

Truss Members 504'0" Spans — (L1-M1)A - (L11-M11)A, (L1-M1)B - (L11-M11)B — Spans 4·5·7·8

McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS Shop 2

IN CHARGE C.W.D. — MADE BY L.E.S.
CHECKED BY H.W.D. 5/10/34 — TRACED BY D.L.B.
LAST ASSEM. MK.

CONTRACT CJ 1580-1 SHEET J117



Spec'd					
one	Web Member	(L11-M1) AG			
one	do do	(L11-M11) AG			
one	do do	(L11-M11) BG			
one	do do	(L11-M1) BG opp. Hd. to Sk.			
60	Lateral Plates	LP83			
No.	Description	Mark	Remarks	Weight each Piece	

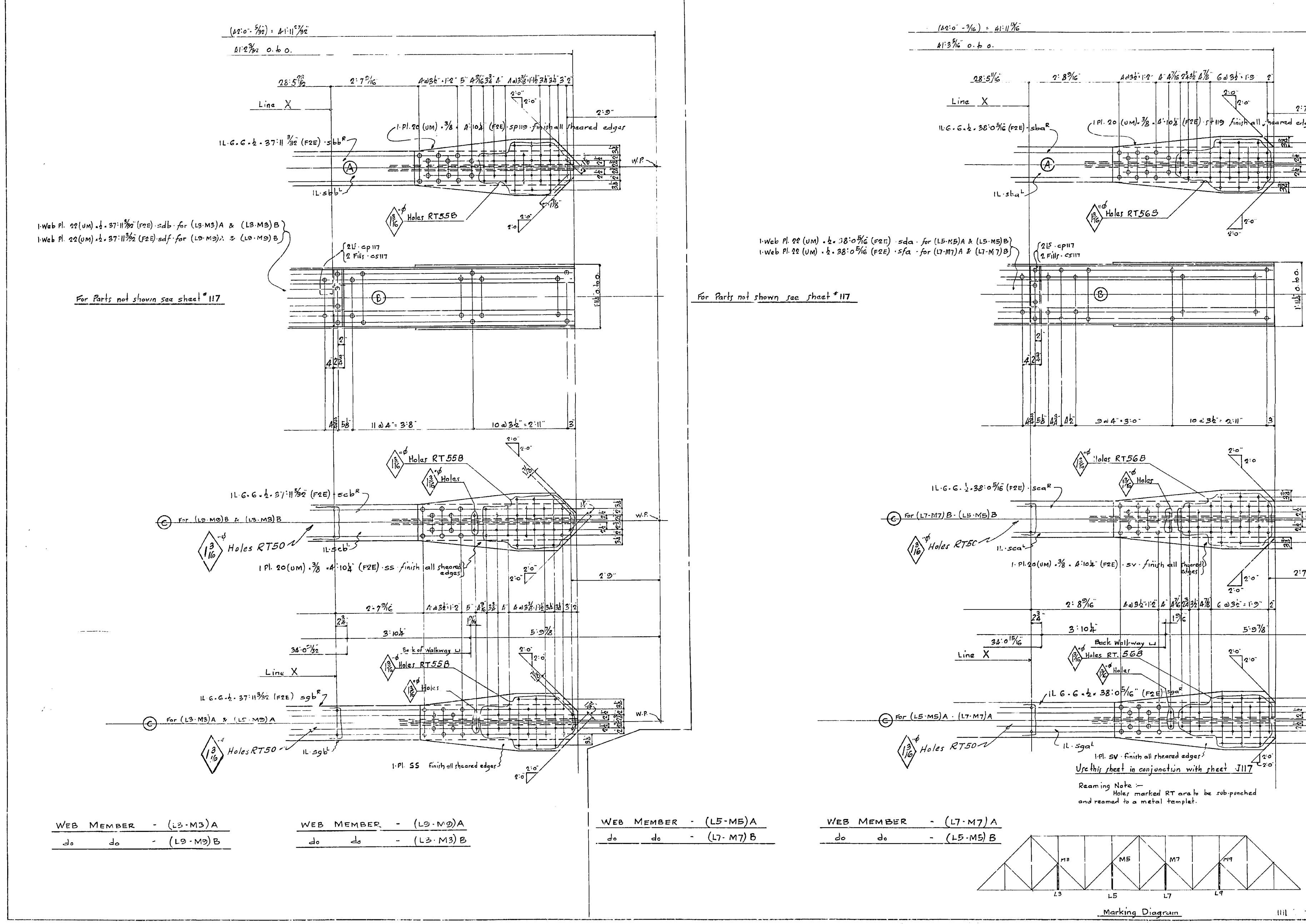
REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 1 3/8" Unless Noted
OPEN HOLES: 1 3/16" Unless Noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, facing, and diaphragms may be punched full size. Holes in main material 7/16" thick or less to be sub-punched 3/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 3/4" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be ground so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with hard metal stamps and paint.
SHOP PAINT: Paint except 1 coat No. Calcimine Filler Red for base and cap plates of Towers, all Heads, end of built up struts, and 1 coat "Red Lead Linseed Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolt, splice plates, diaphragms and surfaces of other material in contact therewith; also to bearing portions of splice plates (or angles) which are shop rivets to main material and are not easily accessible for final painting. See Sheet #1

Date	Revision	Init'd

APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date 6-30-39

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Truss Members 504'-0" Spans (L11-M1)AG - (L11-M1)BG, (L11-M11)AG - (L11-M11)BG
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS
IN CHARGE E.W.D. CHECKED BY H.W.D. LAST ASSEM. MK. SIDE V. L.E.G. TRACED BY D.L.B. Stamp 2
SHEET J118
CONTRACT SJ 1680-1



Span 4	Span 5	Span 7	Span 8	Total No	Description	Mark	Remarks	Weight each Tons
one	one	one	one	4	Web Members	(L5-M5)A		
one	one	one	one	4	do	(L7-M7)A		
one	one	one	one	4	do	(L7-M7)B		
one	one	one	one	4	do	(L5-M5)B		
one	one	one	one	4	do	(L3-M3)A		
one	one	one	one	4	do	(L9-M9)A		
one	one	one	one	4	do	(L9-M9)B		
one	one	one	one	4	do	(L3-M3)B		

No. | Description | Mark | Remarks | Weight each Tons

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 1" Unless Noted.
OPEN HOLES: 1 1/16" Unless Noted.
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ½" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ¼" of metal.
MATCH MARKING: All match marking to be made with both steel st[illegible]
SHOP PAINT: [illegible] filler Red for [illegible] cap plates [illegible] of Bents, and [illegible] "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates [illegible] angles and surfaces of main material [illegible] therewith; also to projecting portions of [illegible] plates (or angles) which [illegible] to main material and are [illegible] for sand blasting. See sheet F1

Date	Revision	App'd

APPROVED

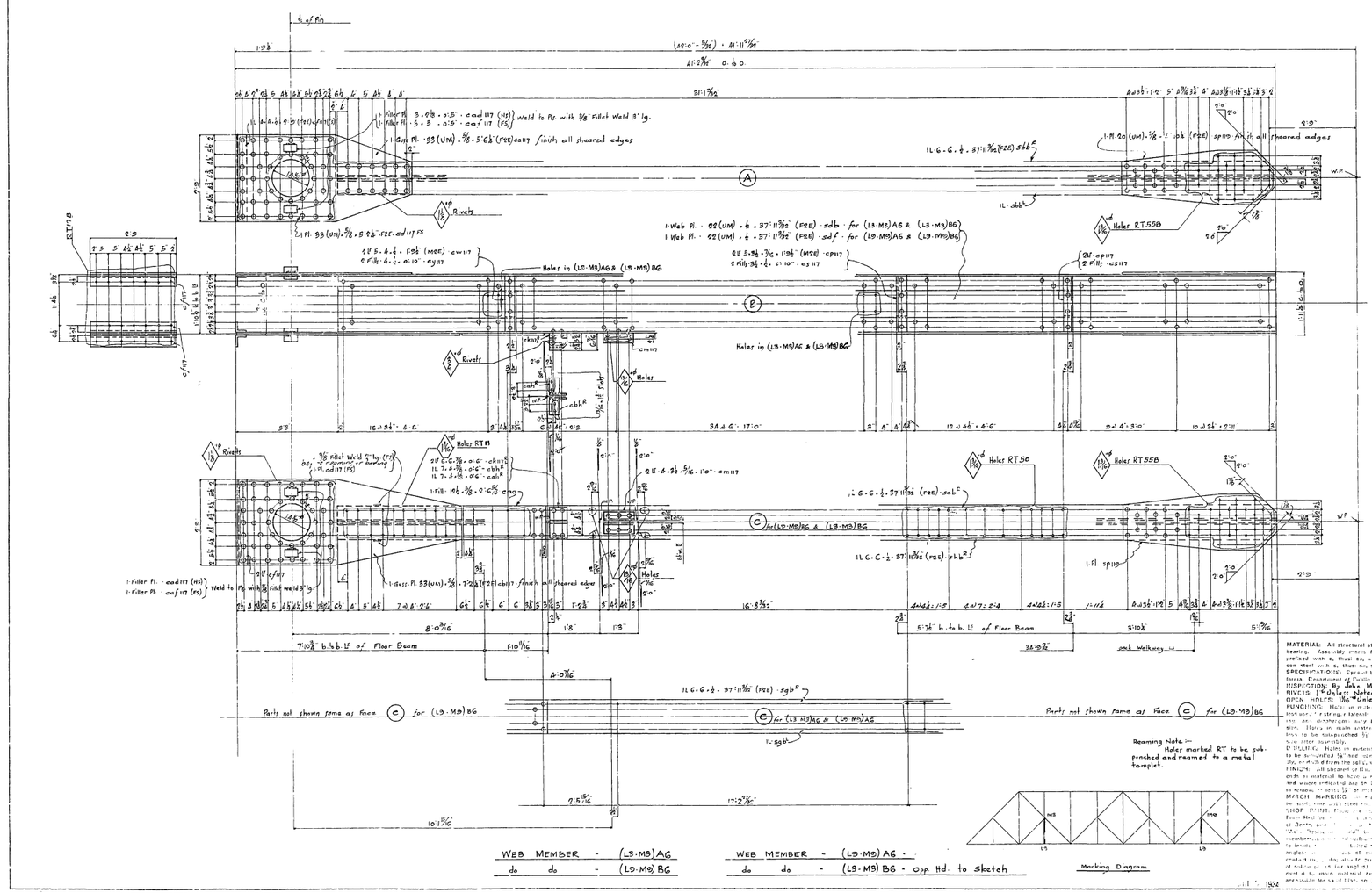
Engineer of Design
Bridge Engineer
Chief Engineer
Date: 6-30-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

Truss Members 504'-0" Spans (L5-M5)A · (L5-M5)B, (L7-M7)A · (L7-M7)B, (L3-M3)A · (L3-M3)B, (L9-M9)A · (L9-M9)B Spans 4·5·7·8

McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS Shop 2
IN CHARGE C.W.D. MADE BY L.E.S.
CHECKED BY H.W.D. 5/10/34 TRACED BY D.L.B.

CONTRACT CJ[illegible]-1
SHEET J119



Span 6			
one	Web Member	(L3-M3)AG	
one	do do	(L3-M3)AG	
one	do do	(L3-M3)BG	
one	do do	(L3-M3)BG	Opp Hd. to sk.

No.	Description	Mark	Remarks	Weight each Piece

REQUIRED LIST

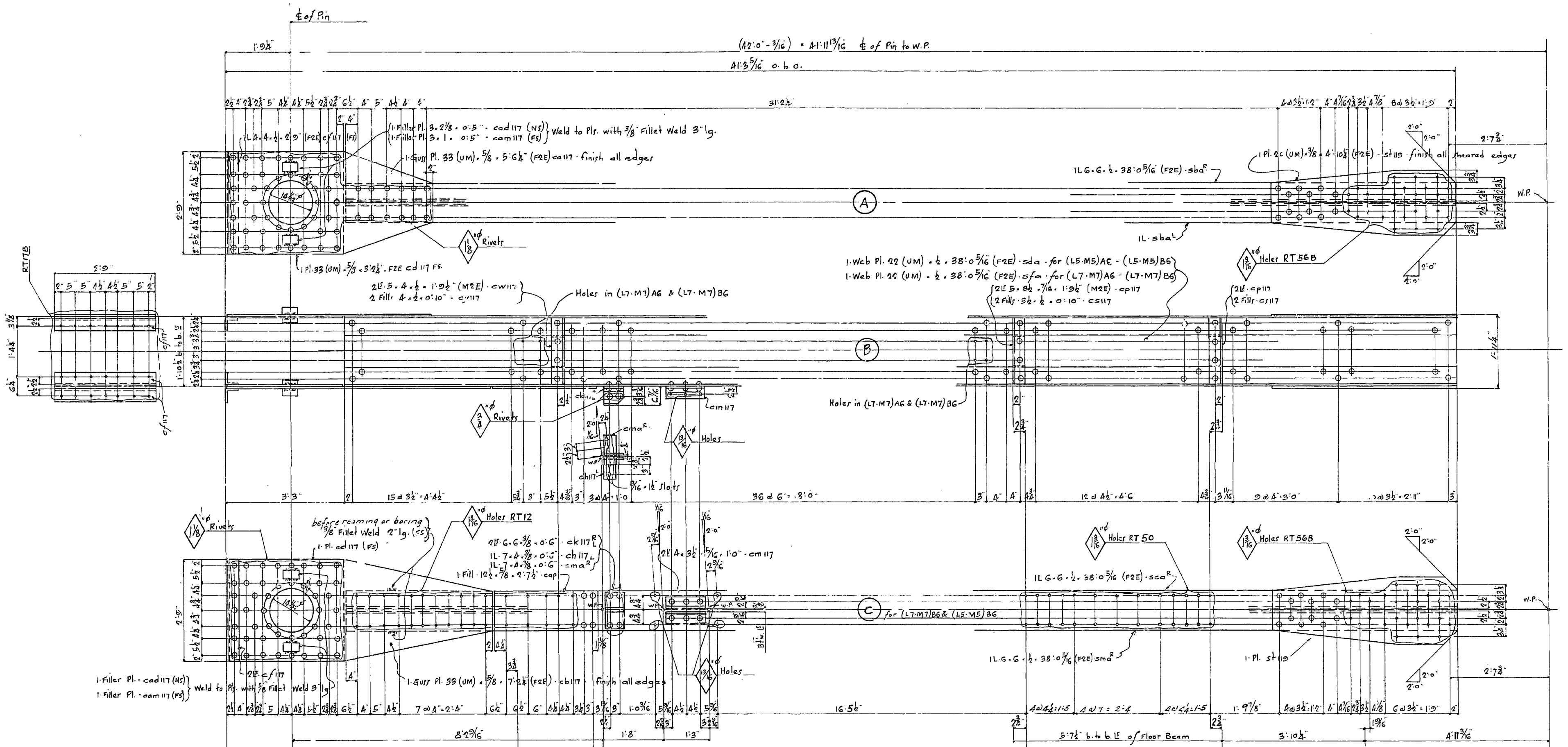
MATERIAL: All structural steel to be required bearing. Assembly prints for shop use prefixed with E, that is, E1, E2, etc. For all can start with 1, that is, 1E1, etc.
SPECIFICATIONS: Current by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 7/8" Unless Noted.
OPEN HOLES: 1 1/16" Unless Noted
PUNCHING: Holes in material ... thick or less and ... stringer, lateral, ... plates, ... and ... distinction may be provided for ... sizes. Holes in main material ... inches ... to be sub-punched ... and ... at ... size after assembly.
DRILLING: Holes in material ... thick to be sub-drilled ... less than ... and ... assembly, and ... from the solid, while assembled. FINISH: All sheared or flame cut edges ... ends of material to have a neat appearance and where indicated are to be planed or ... to remove ... burrs or irregularities.
MATCH MARKING: ... with paint ... to be match-marked ... before ... paint.
SHOP PRINTS: ... Shop Prints ... Erection Marks ... of Steel, and ... numbers ... members ... to be ... to ... Engineer ... shop ... of ... as far ... which ... erected ... Any ... of ... of ... of ... material and ... are ... responsible for said ... See Sheet E1

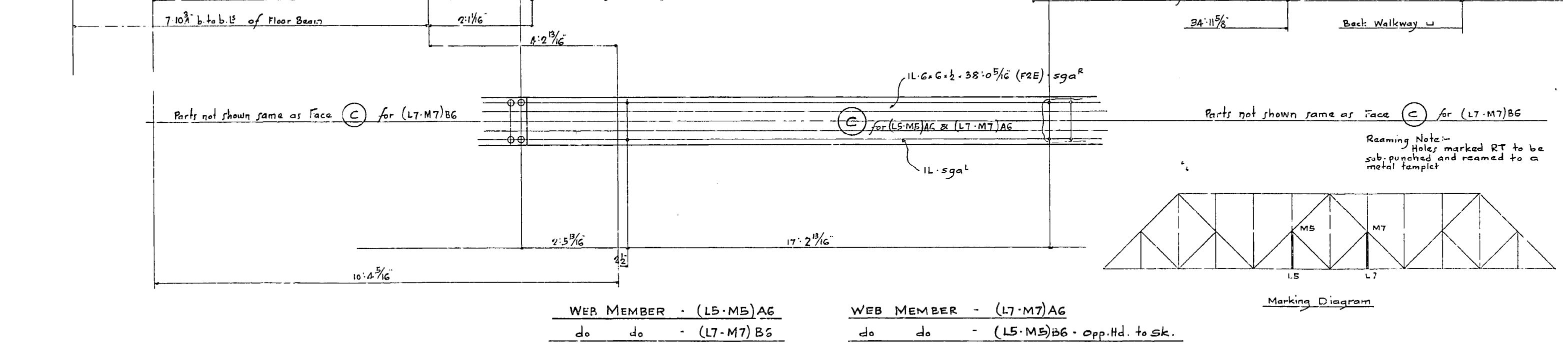
APPROVED

Date	Revision	Appd.

Engineer of Design
Bridge Engineer
Chief Engineer
Dec. 6-30-38

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Truss Members (L3-M3)AG - (L3-M3) BG
Suspension Spans (L0-M0)AG - (L0-M0) BG
ELLIOTT-MARSHALL CORPORATION
Petaluma DRAWING NO. 37 Petaluma WORKING Sheet 2
TRACED BY L.E.P. DESIGNED BY D.L.B.
CHECKED BY [illegible]
CONTRACT CJ1500-1 SHEET (180)





MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 1"⌀ Unless Noted
OPEN HOLES: 1 1/16"⌀ Unless Noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/8" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/4" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except ... Filler Rod for base and cap plates of Trusses, of Beams, and of built up shoes and ... "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are ... accessible for ... blasting. See sheet F1

Span 6				
one	Web Member	(L5-M5)A6		
one	do do	(L7-M7)A6		
one	do do	(L7-M7)B6		
one	do do	(L5-M5)B6	Opp. Hd. to Sk.	
No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

Date	Revision	App'd

APPROVED

Engineer of Design

Bridge Engineer

Chief Engineer

Date 6-30-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

Truss Members 504'-0" Spans {(L5-M5)A6 - (L5-M5)B6 / (L7-M7)A6 - (L7-M7)B6}

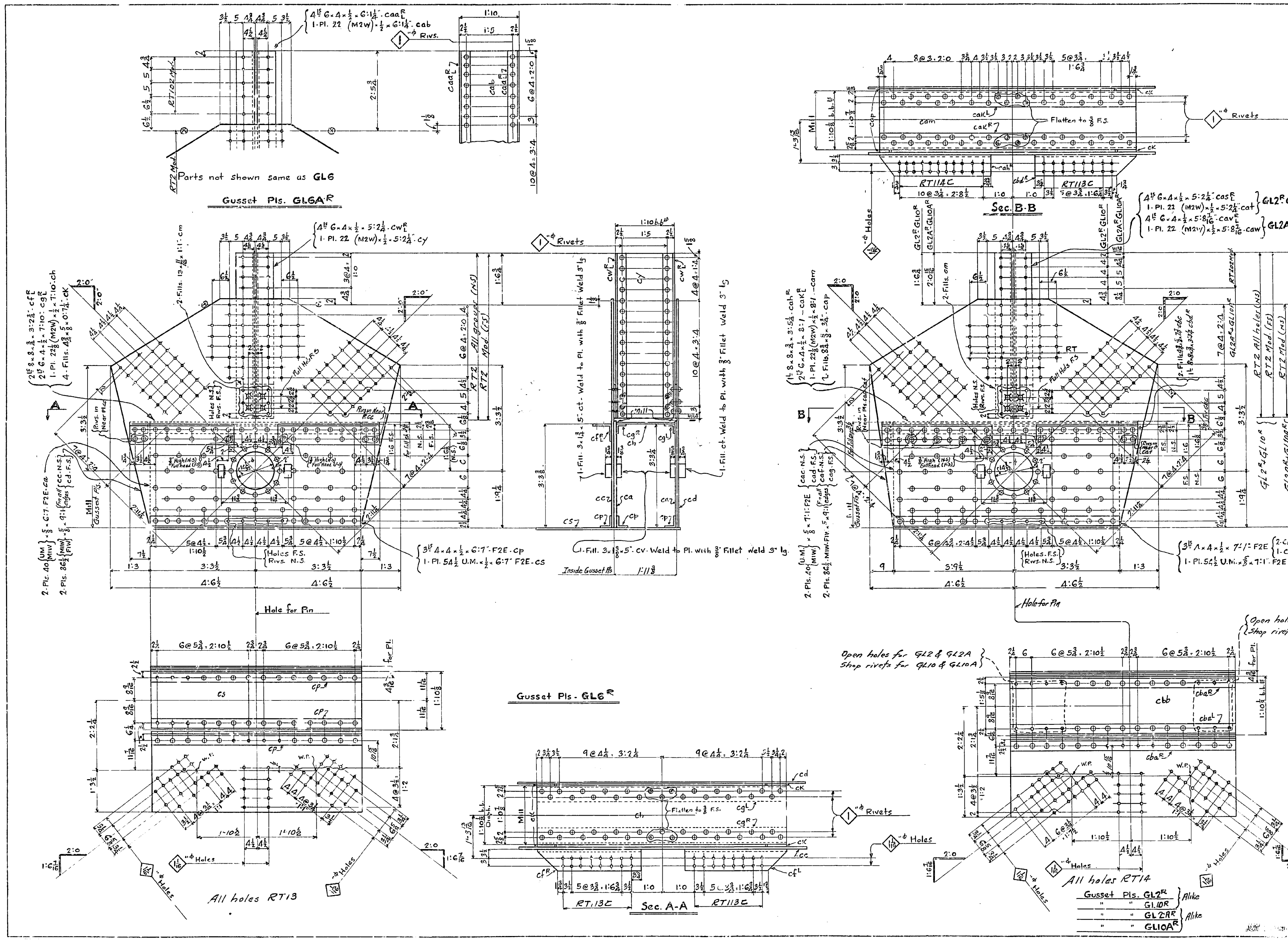
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS Shop 2

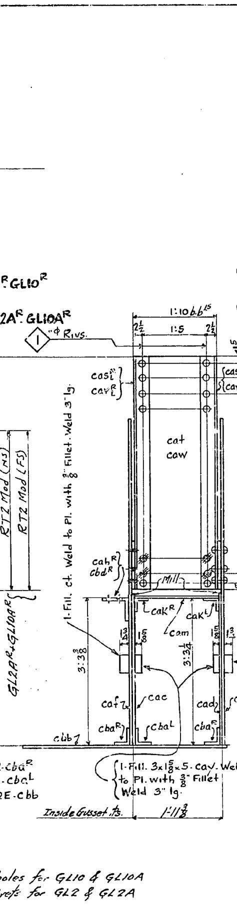
IN CHARGE C.W.D. MADE BY L.E.S.
CHECKED BY H.W.D. 4/1/34 TRACED BY D.L.B.

JUL 9 1934 CONTRACT CJ1589-1 SHEET J121

309-1

30-1





Note:
Holes marked RT to be sub-punched and reamed or drilled full size thru a metal templet

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: by John M Bailey Inc.
RIVETS: 1⅛"ф Unless Noted
OPEN HOLES: 1³⁄₁₆"ф " "
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾ thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ½" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except [illegible] Red for base and cap plates of [illegible], of [illegible], and of built up shoes and 1 coat "[illegible] Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop [illegible] to main material and are not fully [illegible] and blasting. See Sheet F1

One	Gusset Plate	GL6A^R		
One	" "	GL6A^L		
4	Gusset Pls.	GL2^R		
4	" "	GL2^L	Opp. Hand	
One	" "	GL2A^R		
One	" "	GL2A^L	Opp. Hand	
4	" "	GL6^R		
4	" "	GL6^L		
4	" "	GL10^R		
4	" "	GL10^L	Opp. Hand	
One	" "	GL10A^R		
One	" "	GL10A^L	Opp. Hand	
No.	Description	Mark	Remarks	Weight each Tons

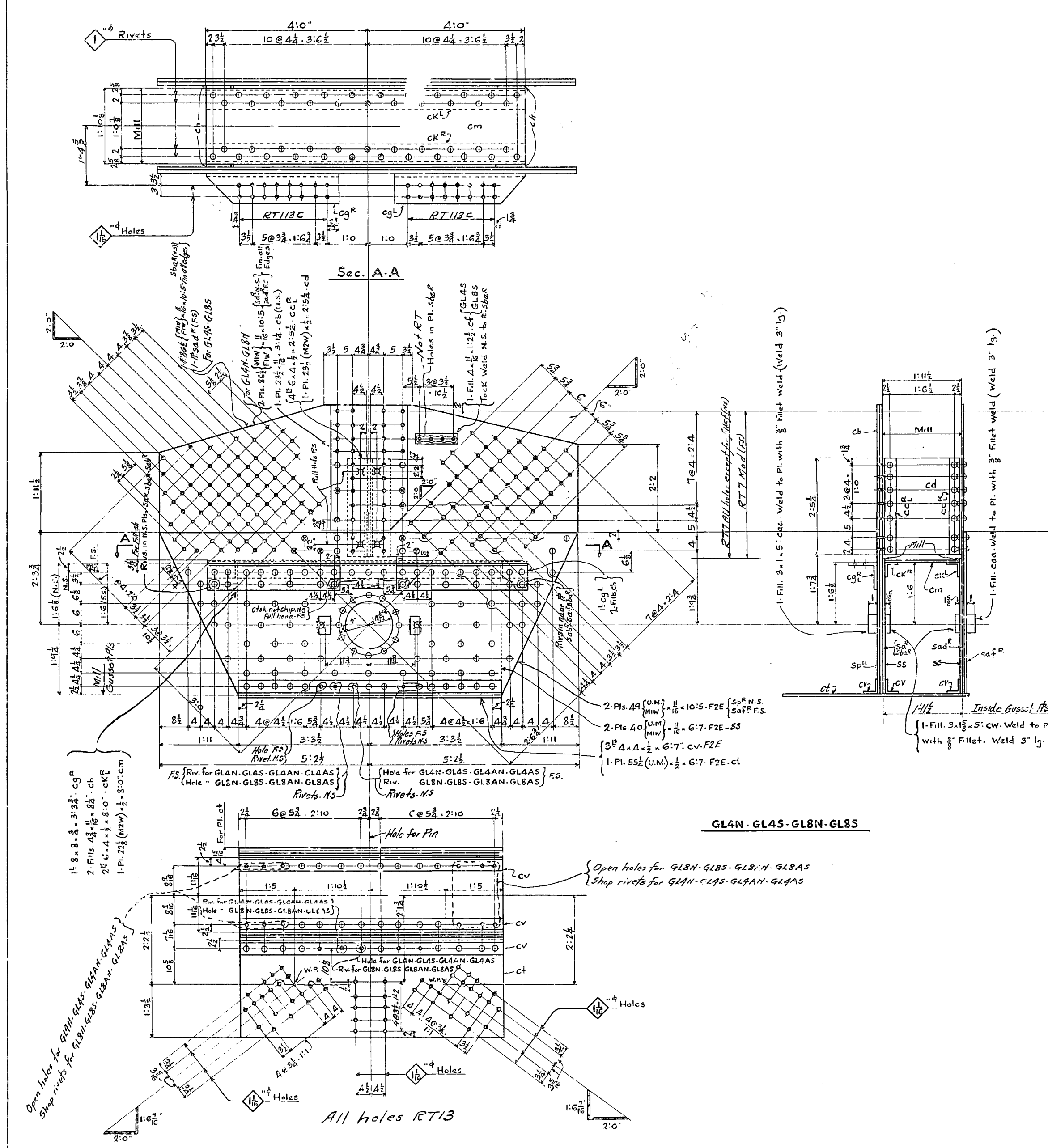
REQUIRED LIST

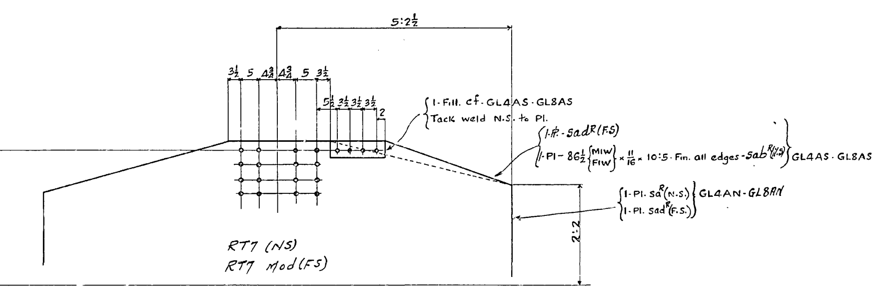
Date	Revision	App'd
9-17-34	Shop rivets changed to open holes in bottom section.	9-25-34

APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date: 6-18-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
504'0 Spans
Bott. Chord Gusset Pls
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS Shop 2
IN CHARGE C.W.D. MADE BY L.A.H.
CHECKED BY HBW 5/25/34 TRACED BY F.J.K.

CONTRACT CJ1580-I SHEET J122





Remainder of GL4AN-GL4AS-GL8AN-GL8AS same as GL4N-GL4S-GL8N-GL8S

GL4AN-GL4AS-GL8AN-GL8AS

Note:
Holes marked RT to be sub-punched and reamed or drilled full size thru a metal templet

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: by John M. Bailey Ins.
RIVETS: $1\frac{1}{8}$"ϕ Unless Noted
OPEN HOLES: $1\frac{3}{16}$"ϕ " "
PUNCHING: Holes in material ¾ thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼ and reamed to size after assembly.
DRILLING: Holes in material over ¾ thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛ of metal.
MATCH MARKING: All match marking to be made with both steel stencil and paint.
SHOP PAINT: None except [illegible] Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and [illegible] "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates or angles and surfaces of main material in contact [illegible]; also to projecting portions of splice plates (or angles) which are riveted to main material and are not accessible for hand blasting. See sheet F1

No.	Description	Mark	Remarks	Weight each Tons
4	Gusset Plates	GL4N		
4	" "	GL4S	Opp. Hd. to SK.	
4	" "	GL8S		
4	" "	GL8N	Opp. Hd. to SK.	
One	" "	GL4AN		
One	" "	GL4AS	Opp. Hd. to SK.	
One	" "	GL8AS		
One	" "	GL8AN	Opp. Hd. to SK.	

REQUIRED LIST

Date	Revision	App'd
9-17-34	Shop rivets changed to open holes in bottom section.	9-25-34

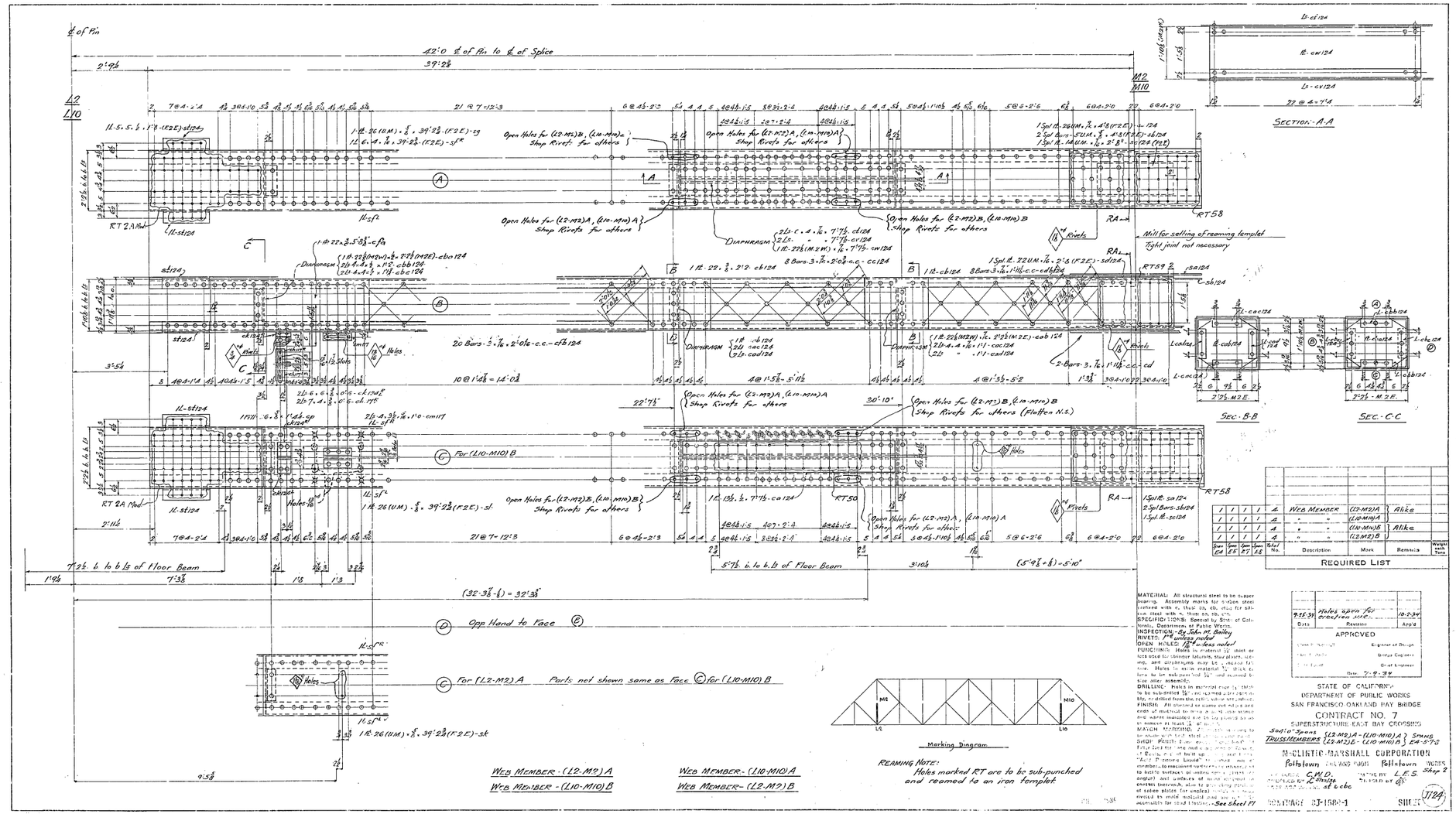
APPROVED

Engineer of Design
Bridge Engineer
Chief Engineer
Date 6-18-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
504'-0 Spans
Bottom Chord Gusset Plates
McCLINTIC MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS Shop 2
IN CHARGE C.W.D. MADE BY L.A.H
CHECKED BY HBM 5/23/34 TRACED BY F.J.K.

CONTRACT CJ 1580-1 SHEET J123

3J-1581



1	1	1	1	L	WEB MEMBER	(L2-M2)A	Alike
						(L10-M10)B	
1	1	1	1	A	" "	(L10-M10)B	Alike
						(L2-M2) B	
1	1	1	1	A	" "	(L2-M2) B	Alike
Spec. E4	Spec. E5	Spec. E7	Spec. E8	Sub'l No.	Description	Mark	Remarks	Weight each Piece

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for shop steel fabricated with ℄ thick ch, eb, etc. for silicon steel with ℄ thick en, eb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: ⅞" unless noted
OPEN HOLES: ⅞" unless noted
PUNCHING: Holes in material ½" thick or less used for diaphragm laterals, stay plates, stiffeners, and diaphragms may be punched full size. Holes in main material ½" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ½" thick to be sub-drilled ¼" and reamed after assembly, or drilled from the solid while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a finish comparable with sheared edges of universal mill plates and shapes as defined in Section 4.4 of A.S.C.E. Code.
MATCH MARKING: Each piece of steel shall be marked to agree with the shop drawings. Shop Prints: Erection marks shall be stamped on the Fabricator's shop prints. Prints shall be submitted to the Engineer for approval before any material is cut. Erection marks shall be stamped on the "Auto-Print" prints issued by the Engineer's office.
Members to be painted with one coat of red lead paint before leaving the shop. Contact surfaces of members to be assembled in the shop shall be painted before assembly. Surfaces of members to be welded (except ends of angles) and surfaces of metal adjacent to welds shall be painted after welding. Surfaces covered by concrete, also to be painted, shall be painted before concrete is placed. Surfaces of bolted plates (or angles) and surfaces of metal adjacent to rivets to be installed shall be painted after assembly but before rivets are driven. Paint shall be applied to all surfaces accessible for good painting. See Sheet 71

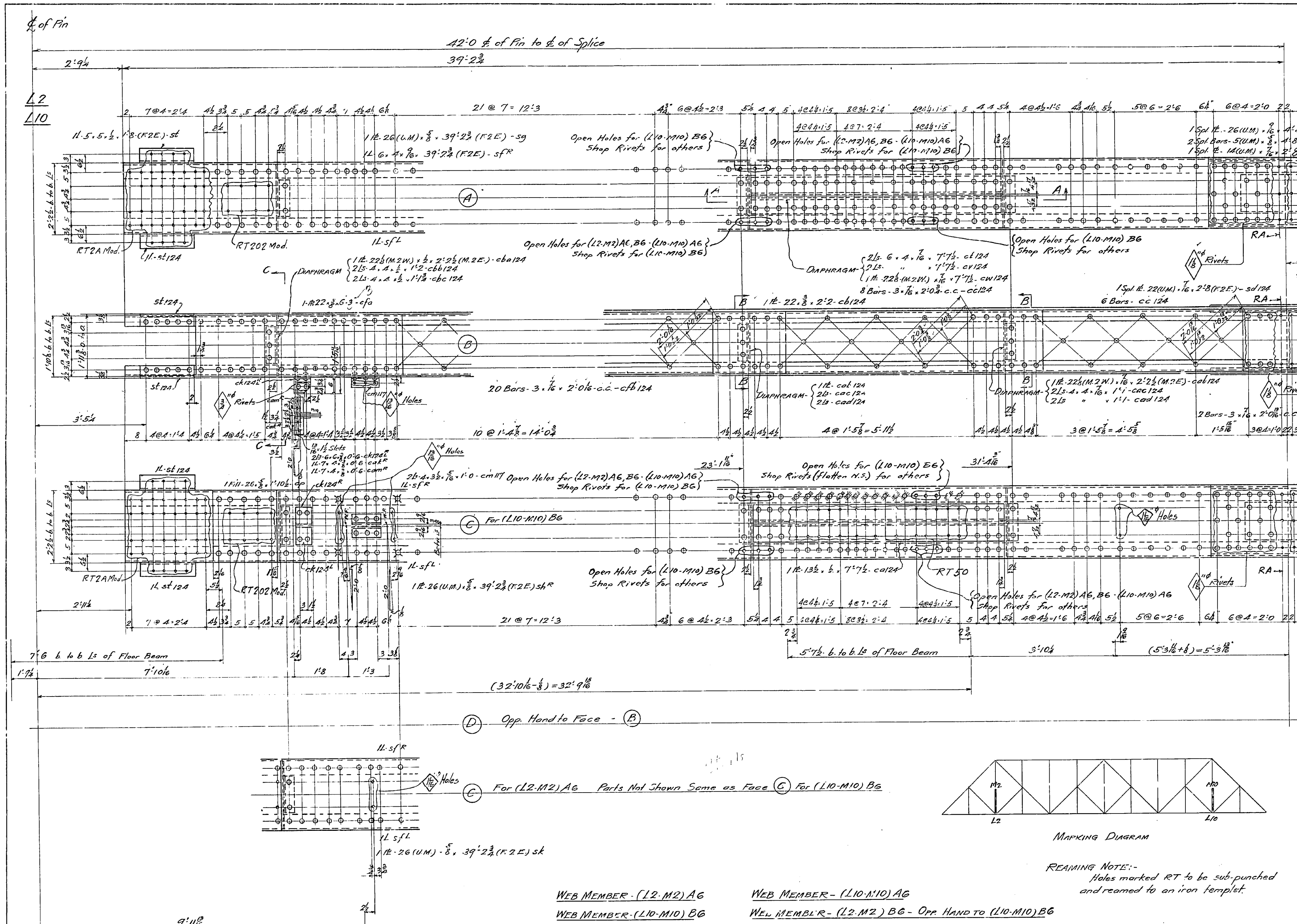
9-15-34	Holes open for erection use.
Date	Revision

10-2-34
And'd

APPROVED
Chief Engineer
Engineer of Design
Bridge Engineer
Chief Engineer
Date 7-9-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE EAST BAY CROSSING
Sod for Spans
Truss Members {L2-M2)A - (L10-M10)A} Same
{L2-M2)B - (L10-M10)A} E4-5-T5
McCLINTIC-MARSHALL CORPORATION
Pottstown PENNSYLVANIA Pottstown WORKS Shop 2
DESIGNED BY C.W.D. DETAILED BY L.E.S. CHECKED BY
QUANTITIES BY L. Bruce TRACED BY
SUBMITTED BY st & cbc

SHEET 1124
CONTRACT 3J-1581-1



Span E6				
One	Web Member	(L2-M2) A6	alike	
One	" "	(L10-M10) A6		
One	" "	(L10-M10) B6		
One	" "	(L2-M2) B6	Opp. Hd. to (L10-M10) B6 except as noted.	
No.	Description	Mark	Remarks	Weight each Tons

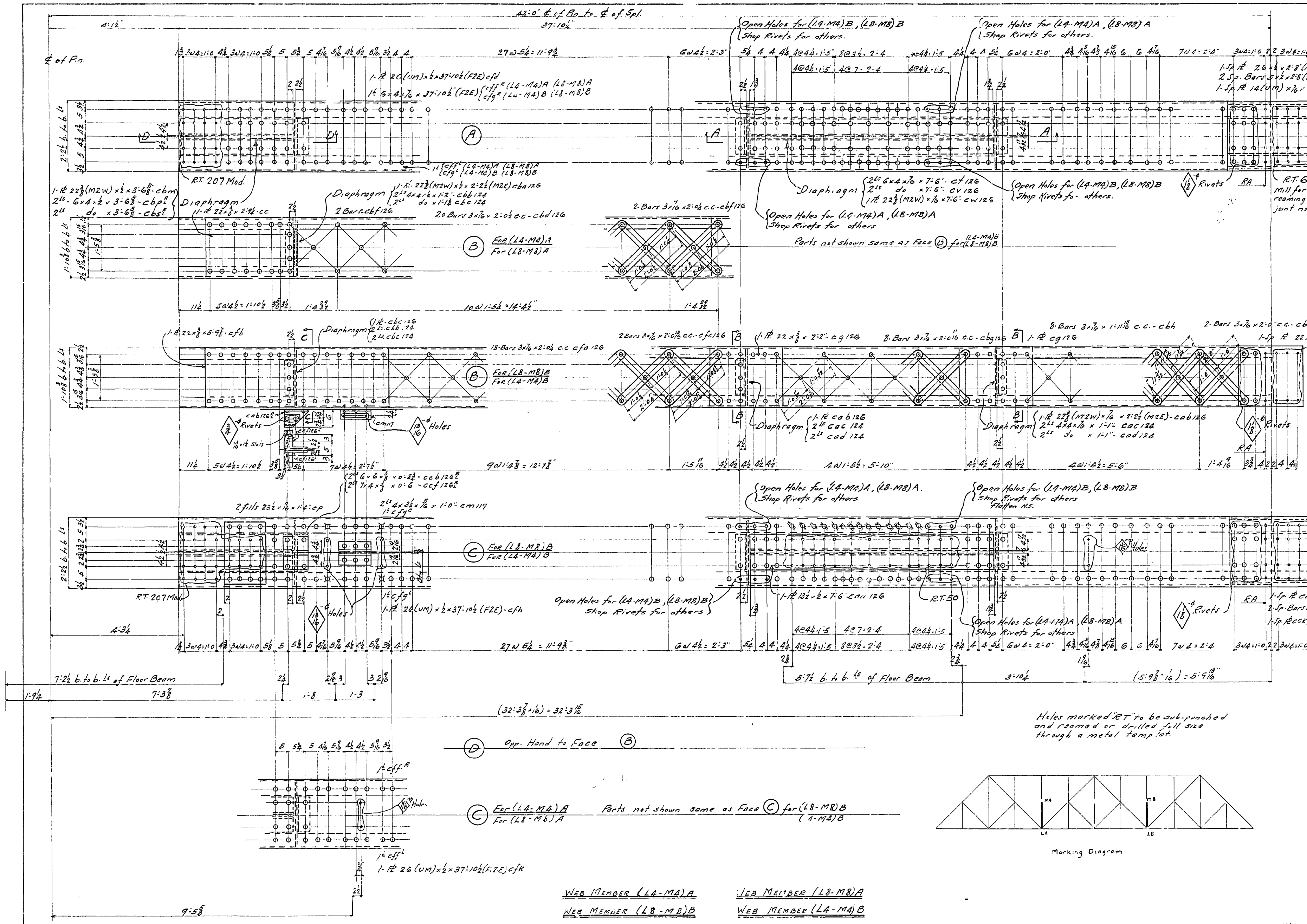
REQUIRED LIST

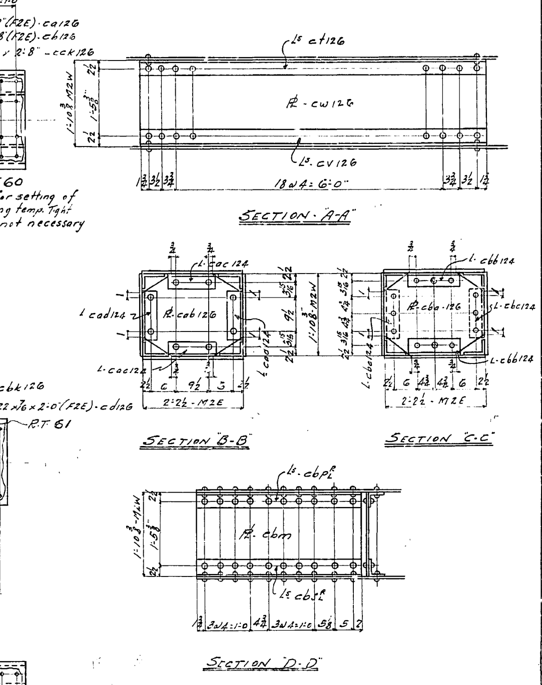
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: - By John M. Bailey
RIVETS: 1" unless noted
OPEN HOLES: - $1\frac{3}{16}$" unless noted
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No Oxide Filler Red for base and cap plates of Towers, of Bents, and of built up sleeves; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting. - See Sheet F1

Date	Revision	App'd
9-25-34	Holes open for erection use.	10-2-34

APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date: 7-9-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
WEB MEMBERS 504'-0" Spans (L2-M2) A6 - (L10-M10) A6
(L2-M2) B6 - (L10-M10) B6
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS Shop 2
IN CHARGE - C.W.D. MADE BY - L.E.S.
CHECKED BY L 5/22/34 TRACED BY CJK
CHECK ASSEM. MK. - Sok & com
CONTRACT CJ-1580-1 SHEET J125





One	One	One	One	4	Web Member	(L4-MA)A	Alike	
One	One	One	One	4	do	(L8-M8)A		
One	One	One	One	4	do	(L8-M8)B	Alike	
One	One	One	One	4	do	(L4-MA)B		
Span E4	Span E5	Span E7	Span E8	No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey
RIVETS: 1" Unless Noted
OPEN HOLES: $1\frac{3}{16}$" Unless Noted
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None [illegible] Red for [illegible] and cap plates of towers, of Bents, and of built up shoes, and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd
9-24-34	Holes open for erection use.	10-2-34

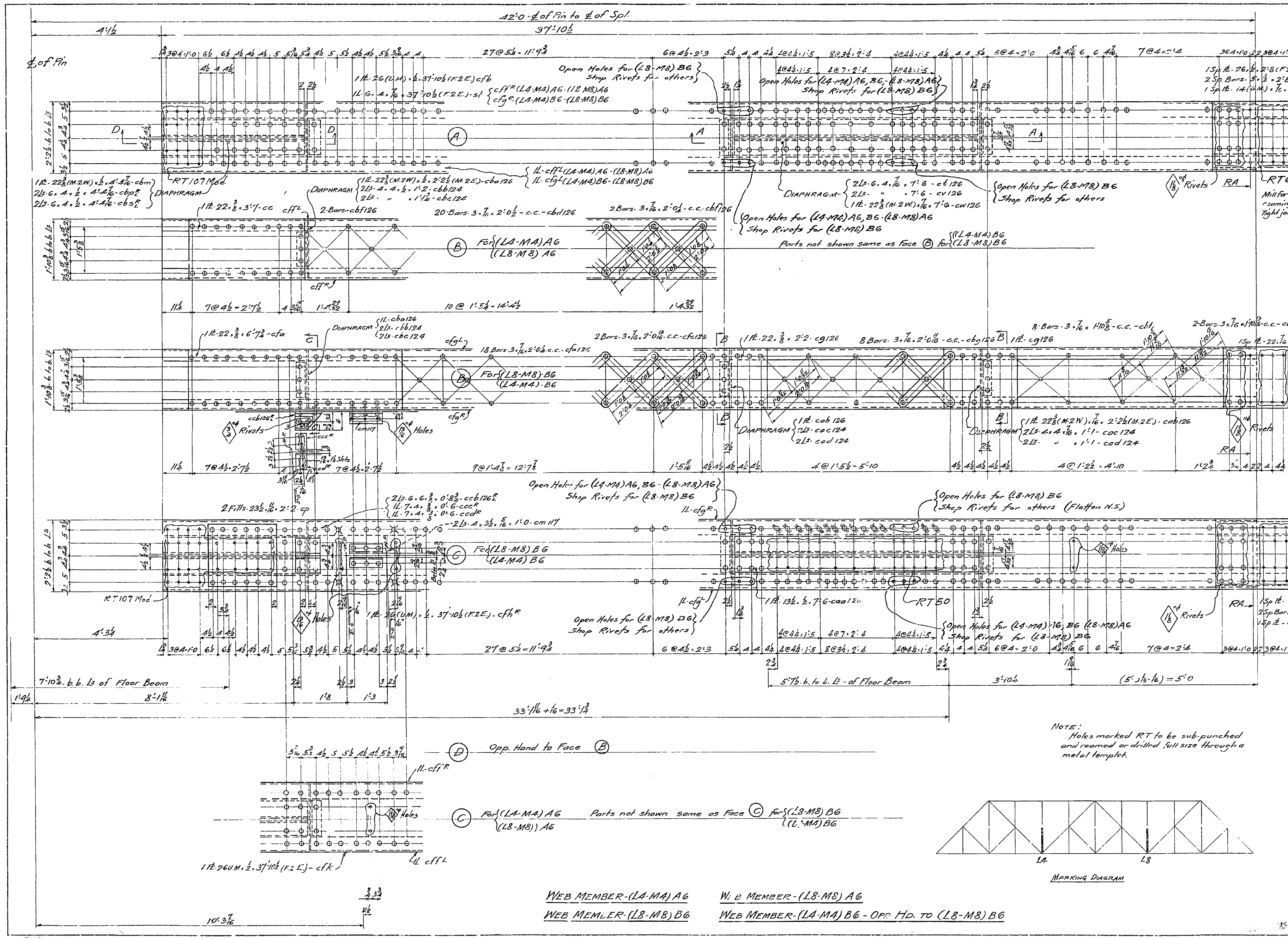
APPROVED

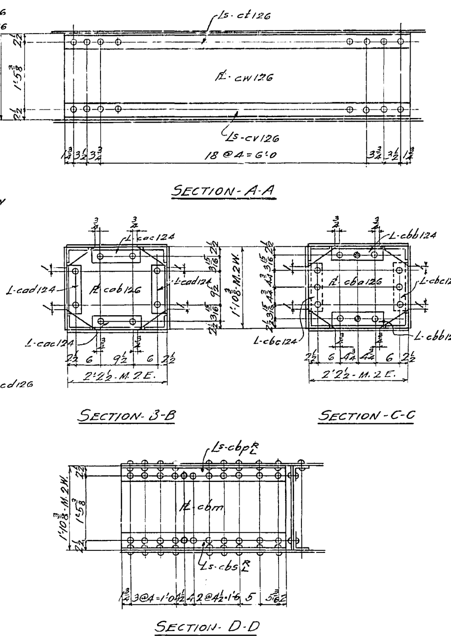
[illegible] Engineer of Design
[illegible] Bridge Engineer
[illegible] Chief Engineer
Date 7-9-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

Truss Members (L4-M4)A (L8-M8)A (L4-M4)B (L8-M8)B Spans E4, 5, 7, 8 — 504'-0" Spans

McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM — Pottstown WORKS Shop 2
[illegible] C.W.D — MADE BY L.E.S
CHECKED BY J.A.S — TRACED BY K.C
CONTRACT CJ1500-1 — SHEET J126





MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: - By John M. Bailey
RIVETS: - 1" unless noted
OPEN HOLES: - 1 3/16" unless noted
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾ thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencil and paint.
SHOP PAINT: None except [illegible] Filler Red for base and [illegible] of [illegible], and of built up shoes, and [illegible] "Acid Resisting Liquid" to [illegible] members, to machined surfaces of castings and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are [illegible] accessible for sand blasting. See Sheet F1

Span E6				
One	WEB MEMBER	(L4-M4) A6	Alike	
One	" "	(L8-M8) A6		
One	" "	(L8-M8) B6		
One	" "	(L4-M4) B6	Opp. Hd. to (L8-M8) B6 as except noted	
No.	Description	Mark	Remarks	Weight each Tons

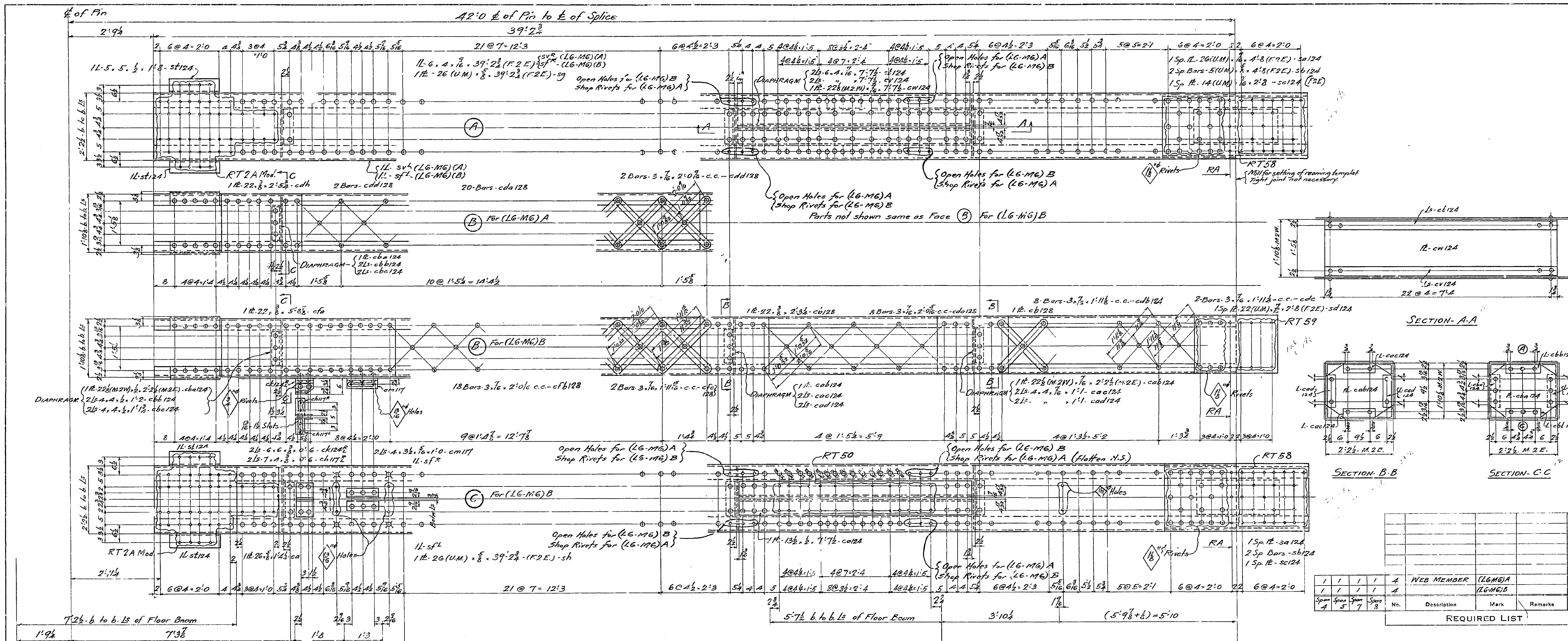
REQUIRED LIST

Date	Revision	App'd
9-24-34	Holes open for erection use.	10-2-34

APPROVED
[illegible] Engineer of Design
[illegible] Bridge Engineer
[illegible] Chief Engineer
Date 7-9-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

TRUSS MEMBERS {(L4-M4) A6-(L8-M8) A6, (L4-M4) B6-(L8-M8) B6} Span 6
504'-0" Spans
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS Shop 2
IN CHARGE - C.W.D. MADE BY L.E.S.
CHECKED BY J.A.S. TRACED BY [illegible]
ASST. ASSEM. MK.
CONTRACT CJ-1580-1 SHEET J127



Span 4	Span 5	Span 7	Span 8	No.	Description	Mark	Remarks	Weight each Tons
1	1	1	1	4	WEB MEMBER	(L6M6)A		
1	1	1	1	4		(L6-M6)B		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: - 1"⌀ unless noted
OPEN HOLES: 1 3/16"⌀ unless noted.
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ⅛" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with bolt steel stencils and paint.
SHOP PAINT: None except 1 coat [illegible] Filler Red [illegible] and [illegible] plates [illegible] of [illegible] built up [illegible] "Acid Resisting Liquid" to milled [illegible] members, to machined surfaces of castings and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) [illegible] to main material [illegible] accessible for [illegible]. See Sheet F1

Date	Revision	App'd
9-24-34	Holes open for erection use.	10-2-34

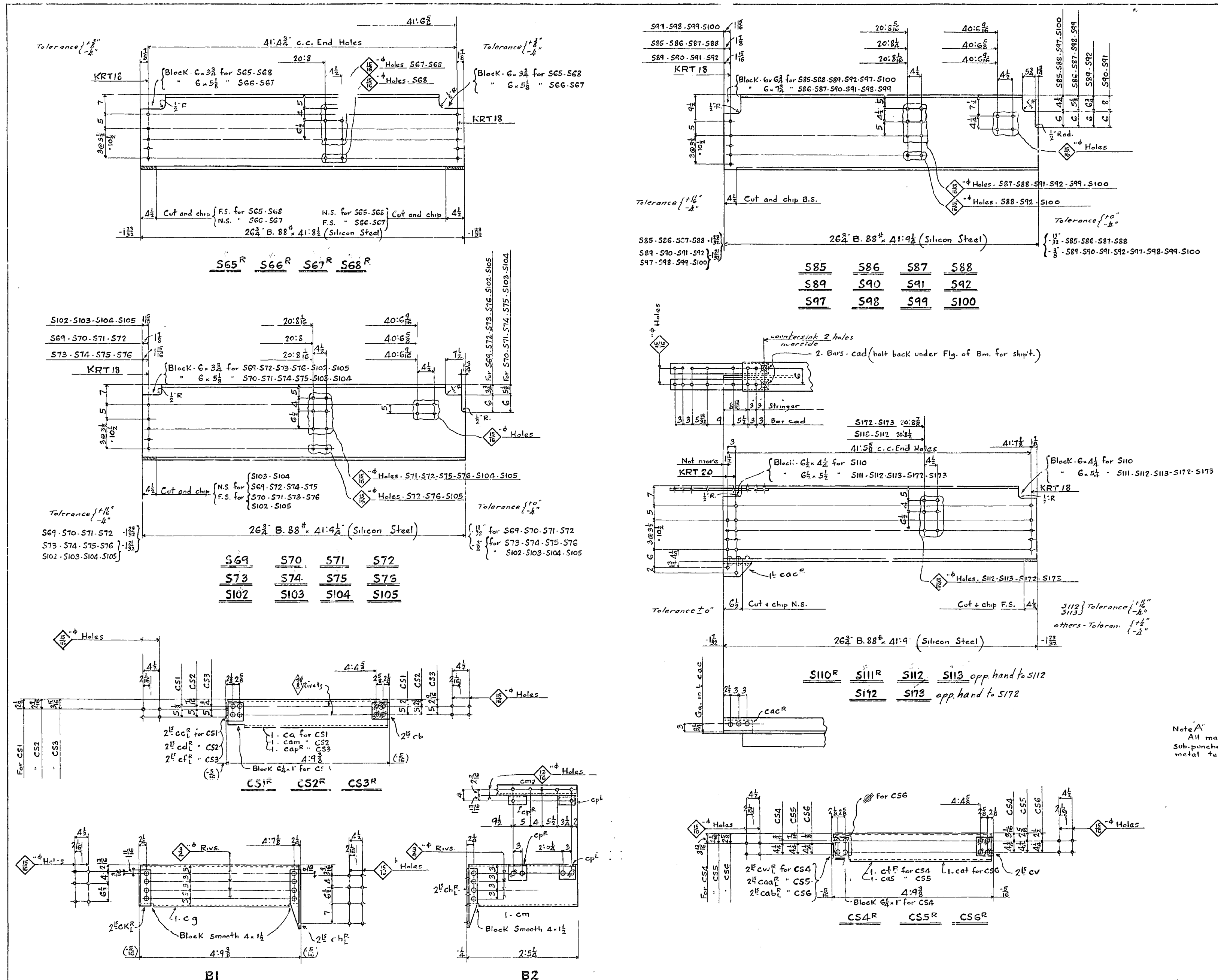
APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 7-9-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
WEB MEMBER (L6-M6) A / (L6-M6) B — SPANS 4-5-7-8
504'0" Spans
McCLINTIC-MARSHALL CORPORATION
POTTSTOWN DRAWING ROOM — POTTSTOWN WORKS Shop 2
IN CHARGE C.W.D. — MADE BY L.E.S.
CHECKED BY J.A.S. — TRACED BY E.K.

CONTRACT CJ-1580-1 — SHEET J128

30-1



Note "A"
All material marked RT to be sub-punched 1/8" and reamed to a metal templet

Shipping Schedule						
No. Req'd.	Mark	Installments 2	3	4	5	6
28	S65 R/L	3-R, 4-L	3-R, 4-L		3-R, 4-L	3-R, 4-L
112	S66 R/L	12-R, 16-L	12-R, 16-L		12-R, 16-L	12-R, 16-L
28	S67 R/L	3-R, 4-L	3-R, 4-L		3-R, 4-L	3-R, 4-L
28	S68 R/L	3-R, 4-L	3-R, 4-L		3-R, 4-L	3-R, 4-L
4	S69	1	1		1	1
16	S70	4	4		4	4
4	S71	1	1		1	1
4	S72	1	1		1	1
4	S73	1	1		1	1
16	S74	4	4		4	4
4	S75	1	1		1	1
4	S76	1	1		1	1
One	S85			1		
4	S86			4		
One	S87			1		
One	S88			1		
One	S89			1		
4	S90			4		
One	S91			1		
One	S92			1		
One	S97			1		
4	S98			4		
One	S99			1		
One	S100			1		
4	S102	1	1		1	1
16	S103	4	4		4	4
8	S110 R/L	1-R	1-R, 1-L	1-R, 1-L	1-R, 1-L	1-L
32	S111 R/L	4-L	4-R, 4-L	4-R, 4-L	4-R, 4-L	4-R
3	S112		1		1	1
3	S113	1	1		1	
4	S104	1	1		1	1
4	S105	1	1		1	1
24	CS1 R/L	3-R, 3-L	3-R, 3-L		3-R, 3-L	3-R, 3-L
24	CS2 R/L	3-R, 3-L	3-R, 3-L		3-R, 3-L	3-R, 3-L
24	CS3 R/L	3-R, 3-L	3-R, 3-L		3-R, 3-L	3-R, 3-L
6	CS4 R/L			3-R, 3-L		
6	CS5 R/L			3-R, 3-L		
6	CS6 R/L			3-R, 3-L		
50	B1	12	12	2	12	12
50	B2	12	12	2	12	12
One	S172			1		
One	S173			1		

Total Material Required

196 - 26¾ B. 88# × 41'-8½ (Ord. 41'-8½) Silicon Steel Req. 108/3
48 - do. × 41'-9 (" 41'-9) " " " 108/2
105 - do. × 41'-9¼ (" 41'-9¼) " " " 108/3
24 - 10" [× 20# × 4'-8½" (Ord. 4'-8½) ca " 120/3
6 - do. × 4'-8½" (" 4'-8½) ct R/L " 120/3
50 - 15" [× 33.9# × 4'-8½" (" 4'-8½) cg " 120/1
50 - do. × 2'-4½" (" 2'-4½) cm " 120/2

96 - Bars - 4 × ½ × 2'-11" cad Req. 122/2
24 Ls 5 × 5 × ½ × 0'-10" cac R " 122/3
24 Ls do. × 0'-10" cac L " 122/3
144 Ls 6 × 3½ × 3/8 × 0'-7½" cb " 122/5
48 Ls do. × 0'-7 5/8" cc R/L " 122/5
48 Ls do. × 0'-8" cd R/L " 122/6
48 Ls do. × 0'-8¼" cf R/L " 122/6
36 Ls do. × 0'-6¾" cv " 122/4
12 Ls do. × 0'-7½" cw R/L " 122/5
12 Ls do. × 0'-7¼" caa R/L " 122/5
12 Ls do. × 0'-6 7/8" cab R/L " 122/4
100 Ls 5 × 3½ × 3/8 × 0'-6" cp R/L " 122/7
200 Ls 3½ × 3½ × 3/8 × 1'-9" ch R/L " 122/8
100 Ls do. × 1'-1½" ck R/L " 122/9
24 - 10" [× 20# × 4'-8½" (Ord. 4'-8½) cam
24 - do. × 4'-8½ (" 4'-8½) cap R/L
6 - do. × 4'-8½ (" 4'-8½) cas
6 do. × 4'-8½ (" 4'-8½) cat
} Req 120/3

No.	Description	Mark	Remarks	Weight each Tons
One	Stringer	S172	As Shown	
One	"	S173	Opp. Hd. to S172	
12	Stringers	S65R	As Shown	
16	"	S65L	Opp. Hand	
48	"	S66R	As Shown	
64	"	S66L	Opp. Hand	
12	"	S67R	As Shown	
16	"	S67L	Opp. Hand	
12	"	S68R	As Shown	
16	"	S68L	Opp. Hand	
4	"	S69		
16	"	S70		
4	"	S71		
4	"	S72		
4	"	S73		
16	"	S74		
4	"	S75		
4	"	S76		
4	"	S102		
16	"	S103		

REQUIRED LIST

No.	Description	Mark	Remarks	Weight each Tons
4	Stringers	S104		
4	"	S105		
One	"	S85		
4	"	S86		
One	"	S87		
One	"	S88		
One	"	S89		
4	"	S90		
One	"	S91		
One	"	S92		
One	"	S97		
4	"	S98		
One	"	S99		
One	"	S100		
4	"	S110R	As Shown	
4	"	S110L	Opp. Hand	
16	"	S111R	As Shown	
16	"	S111L	Opp. Hand	
3	"	S112	As Shown	
3	"	S113	Opp. Hd. to S112	
12	Cross Struts	CS1R	As Shown	
12	" "	CS1L	Opp. Hand	
12	" "	CS2R	As Shown	
12	" "	CS2L	Opp. Hand	
12	" "	CS3R	As Shown	
12	" "	CS3L	Opp. Hand	
3	" "	CS4R	As Shown	
3	" "	CS4L	Opp. Hand	
3	" "	CS5R	As Shown	
3	" "	CS5L	Opp. Hand	
3	" "	CS6R	As Shown	
3	" "	CS6L	Opp. Hand	
50	Brackets	B1		
50	"	B2		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 7/8"φ Unless Noted
OPEN HOLES: 1 1/16" " "
PUNCHING: ~~Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size.~~ Holes in main material 3/4" thick or less to be sub-punched 1/8 and reamed to size ~~after assembly.~~ See Note "A"
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut [illegible] ends of material to have a neat [illegible] and where indicated are to be [illegible] so as to remove at least 1/8" of metal.
MATCH MARKING: All [illegible] to be made [illegible]
SHOP PAINT: None, except Acid Resisting Liquid. (See Sheet F1)

Date	Revision	App'd
8-30-34	Holes ctsk in top flange of S110-111-112-113-172-173	9-6-34

APPROVED
[illegible] Engineer of Design
[illegible] Bridge Engineer
[illegible] Chief Engineer
Date 7-9-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE EAST BAY CROSSING

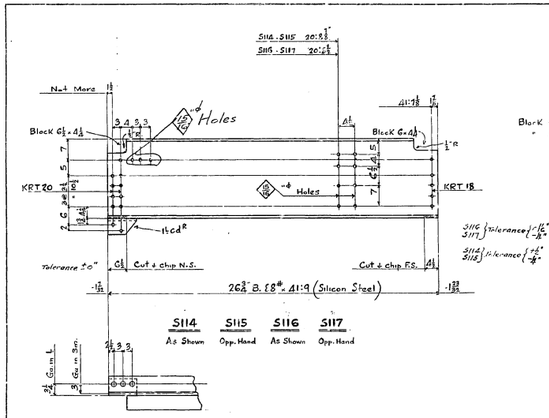
Stringers Lower Deck 504'-0 Span

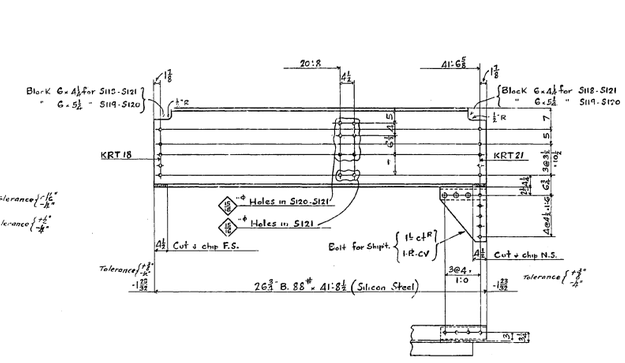
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Saucon WORKS

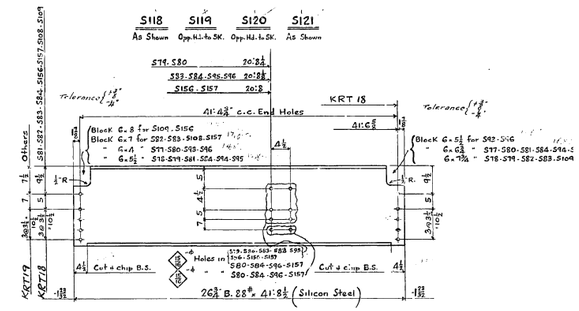
IN CHARGE C.W.D. MADE BY E.W.C.
CHECKED BY FEG TRACED BY F.J.K.

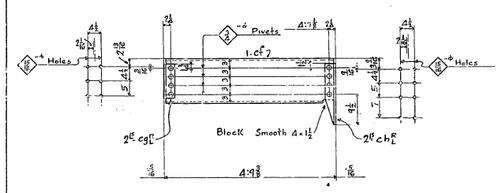
CONTRACT CK3160-1 SHEET J129

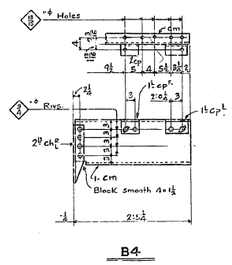
Rev. 8/7/34

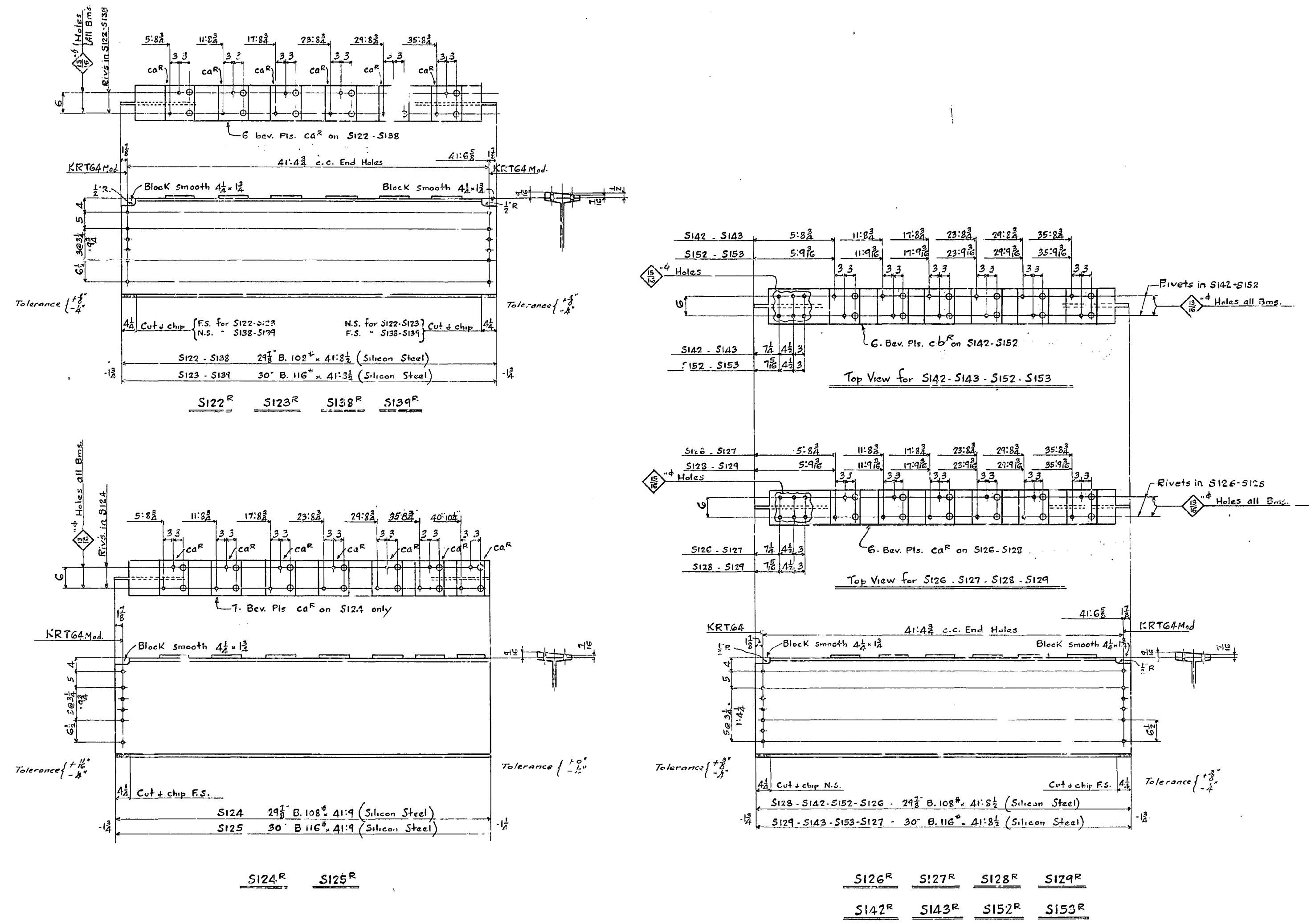

S114 - S115 20:8 3/4
S116 - S117 20:2 5/8
N.t Mare
Holes
Block G = 4 1/2
Block G = 4 1/2
41:7 3/8
1/2" R
KRT 20
KRT 18
-6 Holes
1 1/4 cd R
S116 S117 Tolerance +/- 1/16"
S114 S115 Tolerance +2" -1/2"
Tolerance 3.0"
Cut & chip N.S.
Cut & chip F.S.
26 3/4" B. 58# @ 41:9 (Silicon Steel)
S114 As Shown
S115 Opp. Hand
S116 As Shown
S117 Opp. Hand


Block G = 4 1/2 for S115 - S121
" G = 5 1/2 " S119 - S120
Block G = 4 1/2 for S118 - S121
" G = 5 1/2 " S119 - S120
20:R
41:6 5/8
1 1/8
1/2" R
KRT 18
KRT 21
-6 Holes in S120 - S121
-6 Holes in S121
Bolt for Shipt. 1 1/2 cl R 1:R CV
Cut & chip F.S.
Cut & chip N.S.
30 4 1:0
Tolerance +1/2" -1/32
Tolerance +1/2" -1/4
26 3/4" B. 88# @ 41:8 1/2 (Silicon Steel)
S118 As Shown
S119 Opp. Hd. to SK.
S120 Opp. Hd. to SK.
S121 As Shown


S74 - S80 20:3 3/4
S93 - S84 - S95 - S96 20:2 7/8
S156 - S157 20:3
KRT 18
41:4 3/8" c.c. End Holes
41:6 5/8
Tolerance +1/2" -1/8
Tolerance +1/2" -1/4
Others
KRT 19
KRT 18
Block G = 8 for S100 - S156
Block G = 7 for S82 - S83 - S108 - S157
- G = 6 - S77 - S78 - S79 - S96
- G = 5 1/2 - S76 - S81 - S84 - S95
Block G = 5 1/2 for S82 - S96
- G = 6 3/4 - S77 - S80 - S81 - S84 - S95
G = 7 3/4 - S78 - S79 - S82 - S83 - S108
1/2" R
Cut & chip B.S.
Cut & chip B.S.
-6 Holes in S108 - S157 - S158 S80 - S84 - S96 - S157
-6 - - S80 - S84 - S96 - S157
S79 - S80 - S83 - S93 S95
26 3/4" B. 88# @ 41:8 1/2 (Silicon Steel)
S77 S78 S79 S80 S81 S82 S108
S83 S84 S93 S94 S95 S96 S109
S156 S157


-6 Holes
-6 Holes
-6 Pivots
1 cf 7
Block Smooth A = 1 1/2
2 1/2 cg L
2 1/2 ch L
41:7 3/8
B3


-6 Holes
-6 Rivs.
1 cm
1 cp
1 cp
2 1/2 ch
1 cm
Block Smooth A = 1 1/2
2:1 1/2
B4



Shipping Schedule

No. of Roadway Stringers	Mark	Installments 2	3	4	5	6
32	S122 R/L	4R 4L	4R 4L		4R 4L	4R 4L
32	S123 R/L	4R 4L	4R 4L		4R 4L	4R 4L
10	S124 R/L	1R 1L	1R 1L	1R 1L	1R 1L	1R 1L
10	S125 R/L	1R 1L	1R 1L	1R 1L	1R 1L	1R 1L
6	S126 R/L	1R 1L	1R 1L		1R 1L	
6	S127 R/L	1R 1L	1R 1L		1R 1L	
2	S128 R/L			1R 1L		
2	S129 R/L			1R 1L		
42	S138 R/L	5R 5L	5R 5L	1R 1L	5R 5L	5R 5L
42	S139 R/L	5R 5L	5R 5L	1R 1L	5R 5L	5R 5L
6	S142 R/L		1R 1L		1R 1L	1R 1L
6	S143 R/L		1R 1L		1R 1L	1R 1L
2	S152 R/L			1R 1L		
2	S153 R/L			1R 1L		

Mat'l. Req'd.
- 90 - $29\frac{1}{8}$" B. 108# × 41'-$8\frac{1}{2}$" (Ord. 41'-$8\frac{1}{2}$") Silicon Steel Req. 108/4
- 10 - do. × 41'-9" (" 41'-9") " " " 108/6
- 90 - 30" B. 116# × 41'-$8\frac{1}{2}$" (" 41'-$8\frac{1}{2}$") " " " 108/5
- 10 - do. × 41'-9" (" 41'-9") " " " 108/7
- 281 - Bev. Fills. $10\frac{1}{2}$ × ($\frac{9}{16}$ × $\frac{7}{16}$) × 0'-$8\frac{1}{2}$" - caR } Req. 122/21
- 281 - " " do. × 0'-$8\frac{1}{2}$" - caL }
- 24 - " " do × 0'-$8\frac{1}{2}$" cbR } Req. 122/21
- 24 - " " do × 0'-$8\frac{1}{2}$" cbL }

No.	Description	Mark	Remarks	Weight each Tons
16	Roadway Stringers	S122R		
16	" "	S122L	Opp. Hand	
16	" "	S123R		
16	" "	S123L	Opp. Hand	
5	" "	S124R		
5	" "	S124L	Opp. Hand	
5	" "	S125R		
5	" "	S125L	Opp. Hand	
3	" "	S126R		
3	" "	S126L	Opp. Hand	
3	" "	S127R		
3	" "	S127L	Opp. Hand	
One	" "	S128R		
One	" "	S128L	Opp. Hand	
One	" "	S129R		
One	" "	S129L	Opp. Hand	
21	" "	S138R		
21	" "	S138L	Opp. Hand	
21	" "	S139R		
21	" "	S139L	Opp. Hand	
3	" "	S142R		
3	" "	S142L	Opp. Hand	
3	" "	S143R		
3	" "	S143L	Opp. Hand	
One	" "	S152R		
One	" "	S152L	Opp. Hand	
One	" "	S153R		
One	" "	S153L	Opp. Hand	

REQUIRED LIST

Note A
All Holes marked RT to be sub-punched 1/4" and reamed to size to a metal templet

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 3/4"
OPEN HOLES: $1\frac{1}{16}$" Unless Noted
PUNCHING: ~~[illegible]~~ Holes in main material 7/8" thick or [illegible] to be sub-punched 1/4" and reamed to size ~~[illegible]~~ See Note "A"
~~DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.~~
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and when indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except Acid Resisting Liquid (See Sheet F1)

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 6-19-34

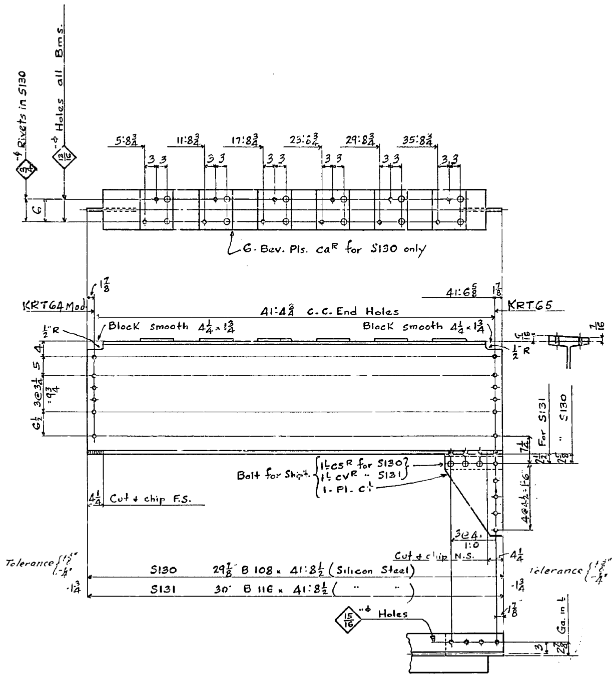
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

Stringers Upper Deck 504'-0 Spans

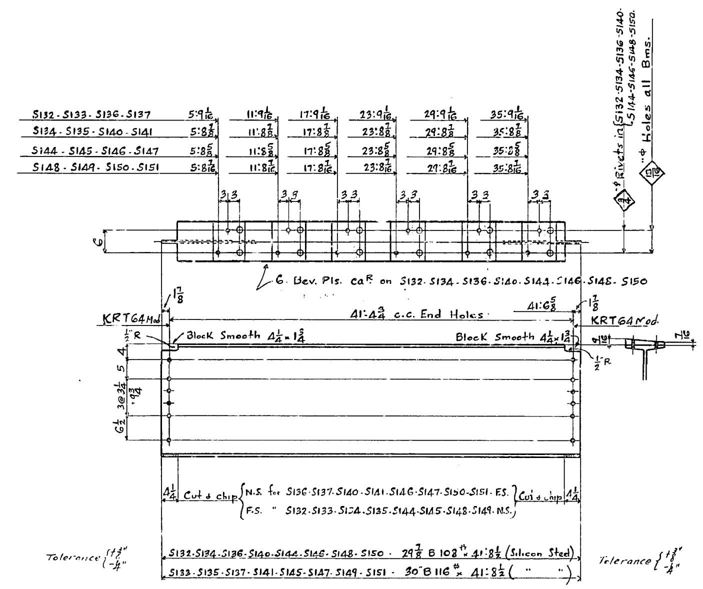
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Saucon WORKS
IN CHARGE C.W.D. MADE BY E.W.C.
CHECKED BY FEG TRACED BY F.J.K.

CONTRACT CK1530-1 SHEET J131

Rev. 6/22/34
Rev. 8/1/34



S130R S131R



S132R S133R S134R S135R S136R S137R S140R S141R

S144R S145R S146R S147R S148R S149R S150R S151R

Shipping Schedule

No. of Stringers	Mark	Installments 2	3	4	5	6
2	S130 R/L	1-R 1-L				
2	S131 R/L	1-R 1-L				
2	S132 R/L			1-R 1-L		
2	S133 R/L			1-R 1-L		
2	S134 R/L			1-R 1-L		
2	S135 R/L			1-R 1-L		
2	S136 R/L			1-R 1-L		
2	S137 R/L			1-R 1-L		
2	S140 R/L			1-R 1-L		
2	S141 R/L			1-R 1-L		
2	S144 R/L			1-R 1-L		
2	S145 R/L			1-R 1-L		
2	S146 R/L			1-R 1-L		
2	S147 R/L			1-R 1-L		
2	S148 R/L			1-R 1-L		
2	S149 R/L			1-R 1-L		
2	S150 R/L			1-R 1-L		
2	S151 R/L			1-R 1-L		

Total Material Required

18 - 29⅞" B 108# x 41:8½" (Ord. 41:8½) Silicon Steel Req 108/4
18 - 30" B 116# x 41:8½" (" 41:8½) " " " 108/5
108 - Bev. Fills. 10½ x (9/16 x 1/16) x 0:8½" cu R/L Req 122/21
2 Ls 5¼ x 4 x ⅜ x 1:3½" cs R/L Req 122/22
2 Ls do. x 1:3½" cv R/L " 122/22
4 - Pls. 15½ x ⅜ x 1:9½" ct " 122/23

No.	Description	Mark	Remarks	Weight each Tons
One	Stringer	S130R		
One	"	S130L	Opp. Hand	
One	"	S131R		
One	"	S131L	Opp. Hand	
One	"	S132R		
One	"	S132L	Opp. Hand	
One	"	S133R		
One	"	S133L	Opp. Hand	
One	"	S134R		
One	"	S134L	Opp. Hand	
One	"	S144R		
One	"	S144L	Opp. Hand	
One	"	S135R		
One	"	S135L	Opp. Hand	
One	"	S136R		
One	"	S136L	Opp. Hand	
One	"	S137R		
One	"	S137L	Opp. Hand	
One	"	S140R		
One	"	S140L	Opp. Hand	
One	"	S141R		
One	"	S141L	Opp. Hand	
One	"	S145R		
One	"	S145L	Opp. Hand	
One	"	S146R		
One	"	S146L	Opp. Hand	
One	"	S147R		
One	"	S147L	Opp. Hand	
One	"	S148R		
One	"	S148L	Opp. Hand	
One	"	S149R		
One	"	S149L	Opp. Hand	
One	"	S150R		
One	"	S150L	Opp. Hand	
One	"	S151R		
One	"	S151L	Opp. Hand	

REQUIRED LIST

Note "A"
All Holes marked RT to be sub-punched ¼" and reamed full size to a metal templet

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: ⅞"ϕ Except as Noted.
OPEN HOLES: 1 1/16 Unless Noted
PUNCHING: ~~Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size.~~ Holes in main material ⅞" thick or less to be sub-punched ¼" and reamed to size ~~after assembly.~~ see Note "A"
~~DRILLING: Holes in material over ⅞" thick to be sub-drilled ¼" and reamed after assembly, or drilled from the solid, while assembled.~~
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except Acid Resisting Liquid (See Sheet F1)

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 6-19-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

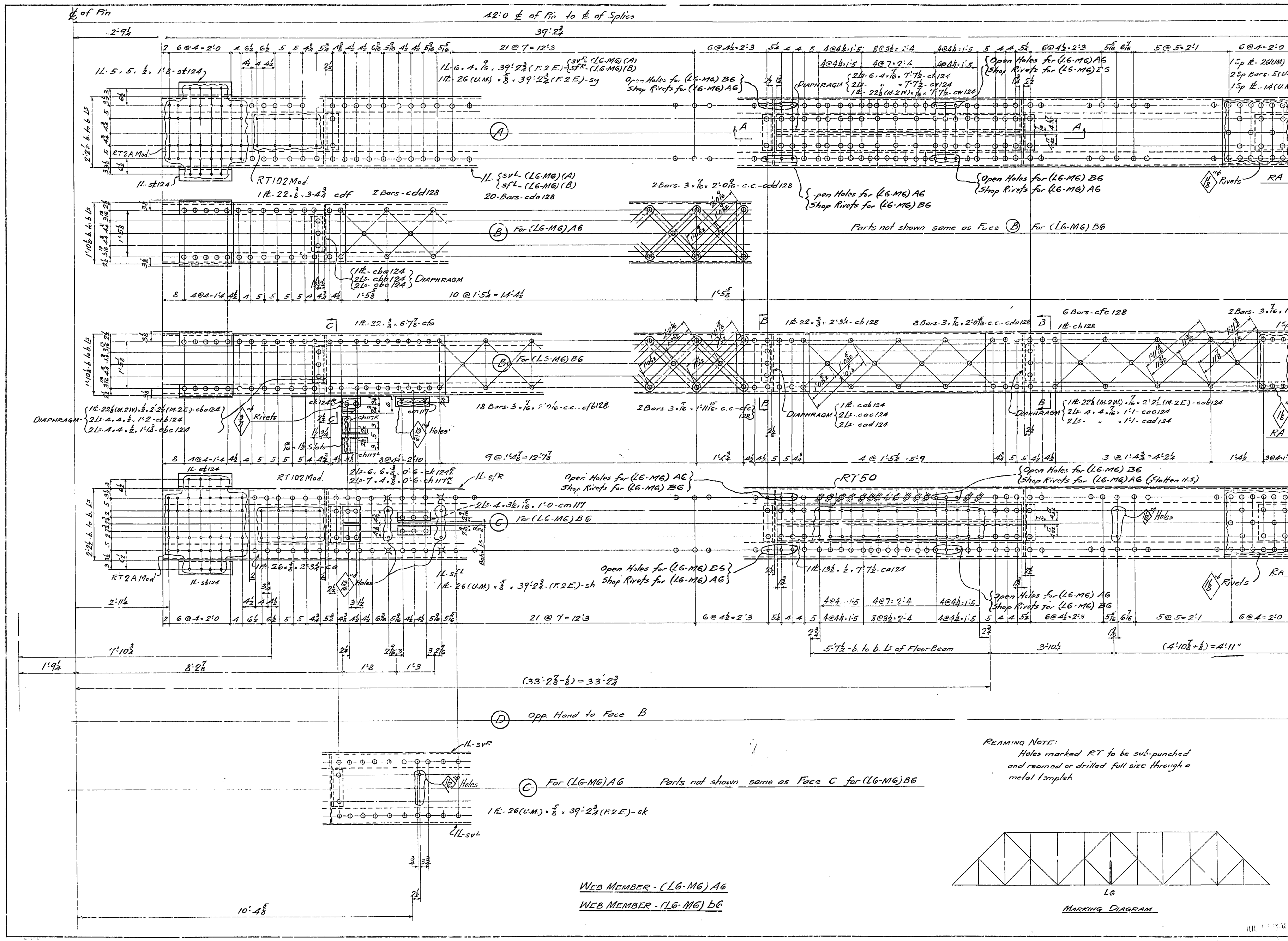
Stringers - Upper Deck 504:0 Span
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Saucon WORKS

IN CHARGE C.W.D. MADE BY E.W.C.
CHECKED BY FEG. TRACED BY F.J.K.
LAST ASS'BL. MK.

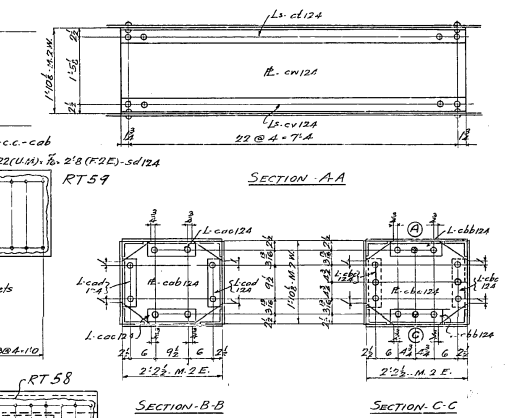
CONTRACT CK1580-1 SHEET J132

Rev. 8/7/34

30-1



REAMING NOTE:
Holes marked RT to be sub-punched and reamed or drilled full size through a metal templet.



Span E6				
One	WEB MEMBER	(L6-M6) A6		
One	" "	(L6-M6) B6		
No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: - By John M. Bailey
RIVETS: 1"⌀ unless noted
OPEN HOLES: 1 3/16"⌀ unless noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat [illegible] Filler Red for base and cap plates of Towers, [illegible] Bents, and of built up sleeves and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting. See Sheet F1

9-24-34	Holes open for erection use.	10-2-34
Date	Revision	App'd

APPROVED

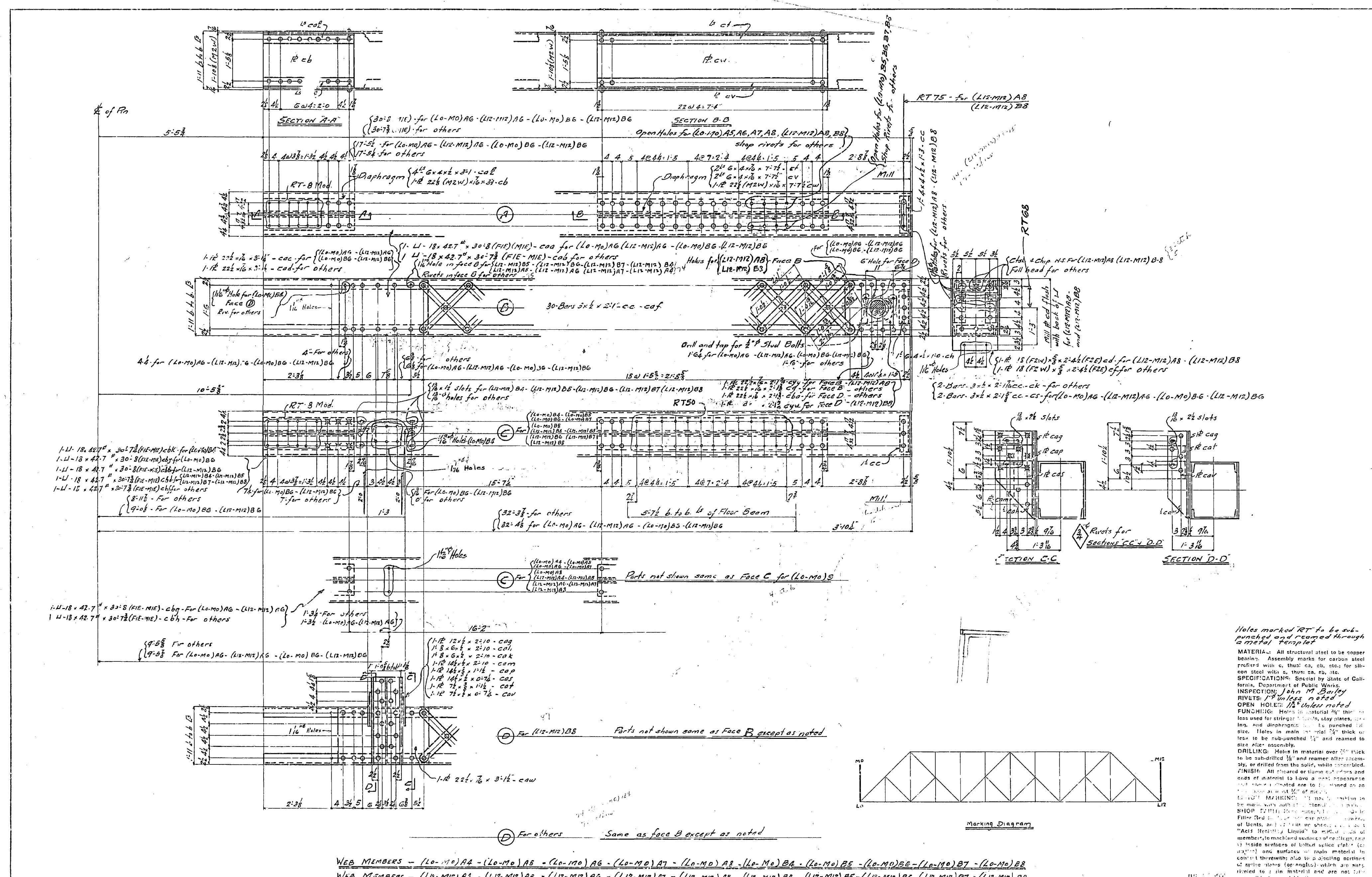
Glenn B. Woodruff — Engineer of Design
[illegible] Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 7-9-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE EAST BAY CROSSING

TRUSS MEMBERS - (L6 M6)-A6 / (L6-M6)-B6 } SPAN 6
504'0" Spans

McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM — Pottstown WORKS Shop 2
IN CHARGE C.W.D. — MADE BY L.E.S.
CHECKED BY J.A.S. — TRACED BY C.P.K.
LAST ASSEM. MK.

CONTRACT CJ-1500-1 — SHEET J133



No.	Description	Mark	Remarks	Weight each Tons
One	Web Member	(Lo-Mo)B4		
One	do	(Lo-Mo)B5	Alike	
One	do	(Lo-Mo)B7		
One	do	(Lo-Mo)B8		
One	do	(L12-M12)B4		
One	do	(L12-M12)B5	Alike	
One	do	(L12-M12)B7	Opp. Hd. to Sk.	
One	do	(L12-M12)B8	Opp. Hd. to Sk.	
One	do	(Lo-Mo)B6		
One	do	(L12-M12)B6	Opp. Hd. to Sk.	
One	do	(Lo-Mo)A4		
One	do	(Lo-Mo)A5		
One	do	(Lo-Mo)A7	Alike	
One	do	(Lo-Mo)A8		
One	do	(L12-M12)A4		
One	do	(L12-M12)A5	Alike	
One	do	(L12-M12)A7		
One	do	(L12-M12)A8		
One	do	(Lo-Mo)A6		
One	do	(L12-M12)A6		

REQUIRED LIST

Holes marked "RT" to be sub-punched and reamed through a metal templet

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M Bailey
RIVETS: 1" unless noted
OPEN HOLES: 1 1/16" Unless noted
PUNCHING: Holes in material ¾" thick or less used for stringer [illegible], stay plates, [illegible]ing, and diaphragms [illegible] be punched [illegible] size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance [illegible] are to be planed on as [illegible] at least ¼" of metal.
[illegible] MARKING: [illegible]
SHOP [illegible]: [illegible] Filler Red [illegible] of Bents, and [illegible] "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not later accessible for sand blasting.

Date	Revision	App'd
7-24-34	Holes open for erection use	10-2-34

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 7-9-34

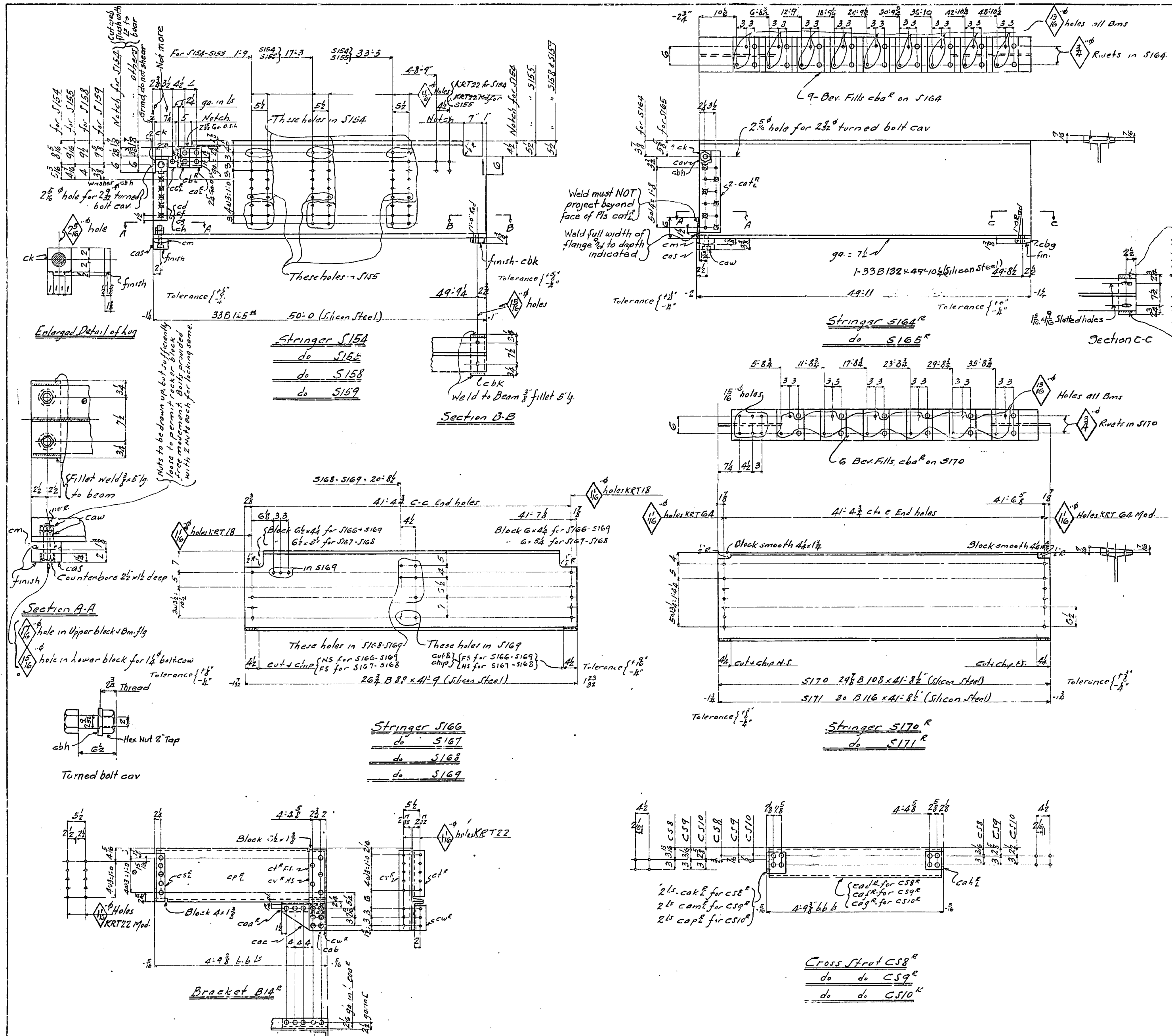
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

TRUSS MEMBERS (Lo-Mo)A (Lo-Mo)B
504'-0" Spans (L12-M12)A (L12-M12)B } All Spans

McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS Shop 2
C.W.D. L.E.S.
J.A.S. K.C.

CONTRACT CJ1580-I SHEET J134

Rev - 7-19-34
" [illegible]
" 10-22-34
" 11-5-34



No	Mark	Installment
2	S154	1
2	S155	1
2	S158	1
One	S159	1
One	S164^R	1
One	S164^L	1
One	S165^R	1
One	S165^L	1
3	B14^R	1
3	B14^L	1
One	CS8^R	1
One	CS8^L	1
One	CS9^R	1
One	CS9^L	1
One	CS10^R	1
One	CS10^L	1

S154-S155-S158-S159
- 7-33B125 × 50'-0" Silicon (ord 50'-0") Reg. 121/3
- 14 Ls 7×4×½ × 0'-11¼" ca R/L Reg 123/1
- 14 Stiff Ls 3½×3½×⅜ × 0'-6½" cb R/L MIE } Reg 123/2
- 14 " " × 0'-6½" cc R/L MIE
- 14 fills 4¾ × ⅜ × { 4-1'-9 cd for S154 — Reg 123/3; 4-1'-8 cf for S155 — Reg 123/4; 4-1'-7½ cg for S158; 2-1'-7½ ch for S159 — Reg 123/6 } Reg 123/5
- 14 lugs 4×1⅜×4½ ck — Reg 124/2
- 7 Turned bolts 2 9/32" ϕ × 5½ UH thrd 2¾ lg Hex Hd & 2" Hex Nut cav — Reg 124/10
- 7 Bars 5×2¼ × F.I.S × 1'-2 cos — Reg 123/10
- 7 Bars 5×1⅜ F.I.S. × 1'-2 cm — Reg 123/11
- 14 Bolts 1¼" ϕ × 5½ OH. Hex Hd & Nut thrd 3¼" lg caw (2 Nuts per bolt) — Reg 124/18
- 7-Washers 4½" ϕ × ⅜ thk. 2 5/16" ϕ hole cbh Item 124/2
- 7-bars 5×1⅜ F.I.S × 1'-7 cbk — Reg. 123/11

B14 R/L
- 6-18" [42.7 × 4'-8½ cp R/L (ord 4'-8½) Reg. 121/7
- 12 Ls 4×3½ × ⅜ × 1'-4 7/16 cs R/L — Reg 123/14
- 6 Ls 6×4×⅜ × 1'-1¼" ct R/L — Reg. 123/15
- 6 Ls " × 2'-3¼ cv R/L — Reg 123/16
- 6 Ls 6×4×⅜ × 0'-9 cw R/L — Reg 123/17
- 6 Ls 3½×3½×⅜ × 1'-5¾ caa R/L — Reg 123/18
- 6 fills 6×⅜ × 0'-5¾" cab — Reg 123/19
- 6 Ps 9×7/16 × 1'-5¾" cac — Reg 123/20

CS8 R/L, CS9 R/L, CS10 R/L
- 2-10 [20 × 4'-8½" cad R/L (ord 4'-8½) Reg. 121/9
- 2- " × 4'-8½ caf R/L (ord 4'-8½) Reg. 121/9
- 2- " × 4'-8½ cag R/L (ord 4'-8½) Reg. 121/9
- 12 Ls 6×4×⅜ × 0'-6 cah R/L — Reg 123/21
- 4 Ls " × 0'-6¾ cak R/L — Reg 123/22
- 4 Ls " × 0'-6½ cam R/L — Reg 123/23
- 4 Ls " × 0'-6¼ cap R/L — Reg 123/24

S164 R/L, S165 R/L
- 4-33B132 × 49'-10¼" Silicon (ord 49'-10¼) Reg. 121/5
- 8-fills 7×⅜ × 2'-3½ cat R/L Reg 123/12
- 4 Blocks - cm - Reg 123/11
- 4 " - cas - Reg 123/10
- 8 lugs - ck — Reg 124/2
- 18 Bev fills cba R/L — Reg 123/13
- 8 Bolts - caw — Reg 124/18
- 4 " - cav - Reg 124/10
- 4 bars 5×1⅜ F.I.S. × 1'-1 cbg. Reg 123/11
- 4 Washers cbh Item 124/12

No of Stringers	Mark	Installment
One	S166	6
4	S167	6
One	S168	6
One	S169	6
One	S170^R	6
One	S170^L	6
One	S171^R	6
One	S171^L	6

- 7-26¾ B 88 × 41'-9" Silicon (ord. 41'-9) Reg. 108/2
- 2-29⅞ B 108 × 41'-8½" Silicon (ord. 41'-8½) Reg 108/4
- 2-30 B 116 × 41'-8½ Silicon (ord. 41'-8½) Reg. 108/5
- 12-Bev. fills 10½ × (9/16 - 7/16) × 0'-8½" cba R/L Reg. 122/21

Note A
Holes marked "RT" to be sub-punched ¼" and reamed to a metal template.

No	Description	Mark	Remarks	Wgt each Tons	No.	Description	Mark	Remarks	Weight each Tons
2	Stringers	S154			One	Stringer	S170^L	Opp Hand	
2	do	S155			One	do	S171^R	Shown	
2	do	S158			One	do	S171^L	Opp. Hand	
One	do	S159			3	Brackets	B14^R	As Shown	
One	do	S164^R	Shown		3	do	B14^L	Opp Hand	
One	do	S164^L	Opp Hand		One	Cross Struts	CS8^R	Shown	
One	do	S165^R	Shown		One	do	CS8^L	Opp Hand	
One	do	S165^L	Opp Hand		One	do	CS9^R	Shown	
One	do	S166			One	do	CS9^L	Opp Hand	
4	do	S167			One	do	CS10^R	Shown	
One	do	S168			One	do	CS10^L	Opp Hand	
One	do	S169							
One	do	S170^R	Shown						

REQUIRED LIST — REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey
RIVETS: ⅞" ϕ Unless noted
OPEN HOLES: 15/16" ϕ Unless noted
PUNCHING:

Holes in main material ¾" thick or less to be sub-punched ⅛" and reamed to size see note A
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: [illegible] Acid Resisting Liquid (see sheet F1)

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 7-11-34

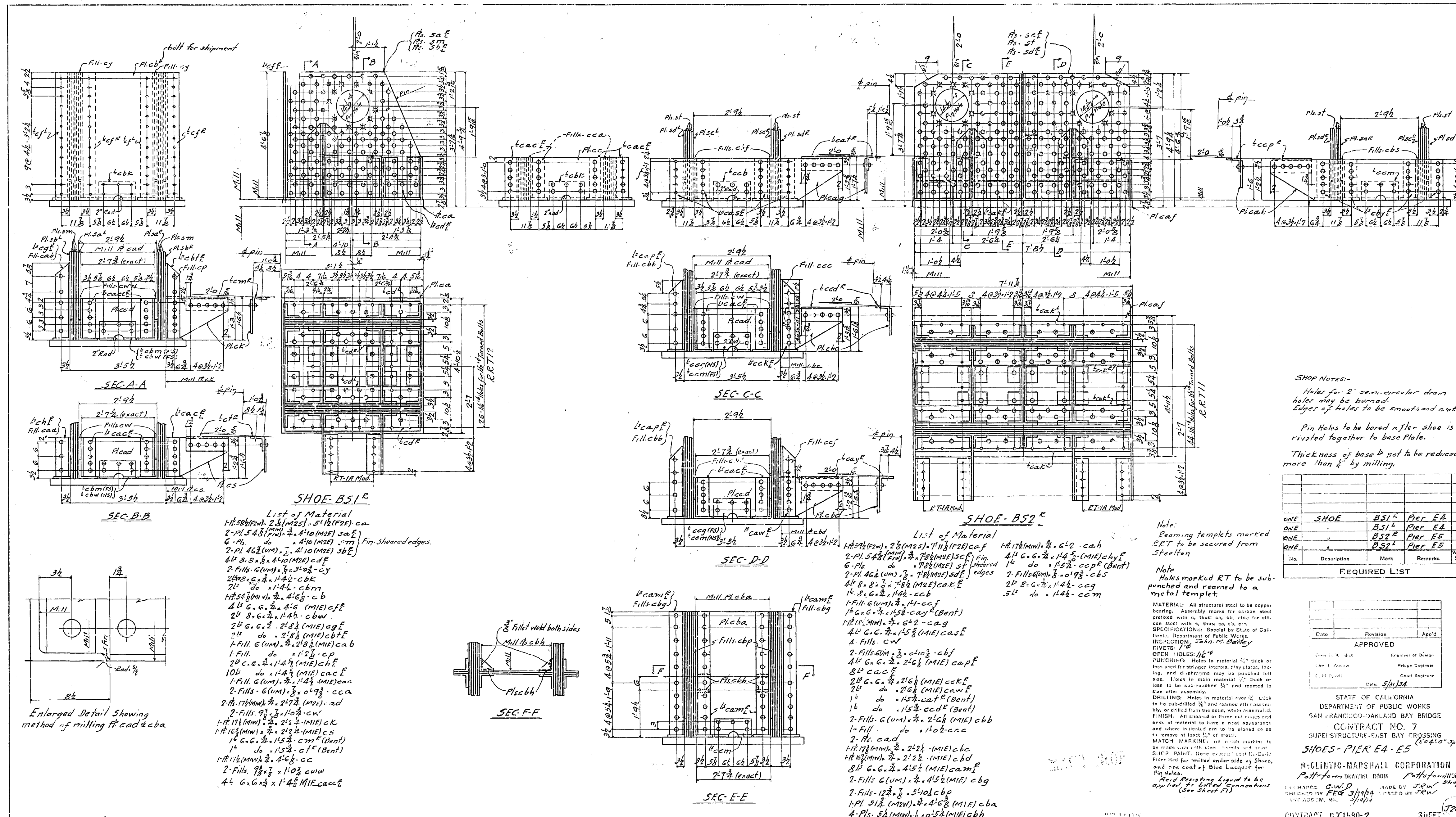
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Stringers + Brackets
Span E4 & Tower E9
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Saucon WORKS

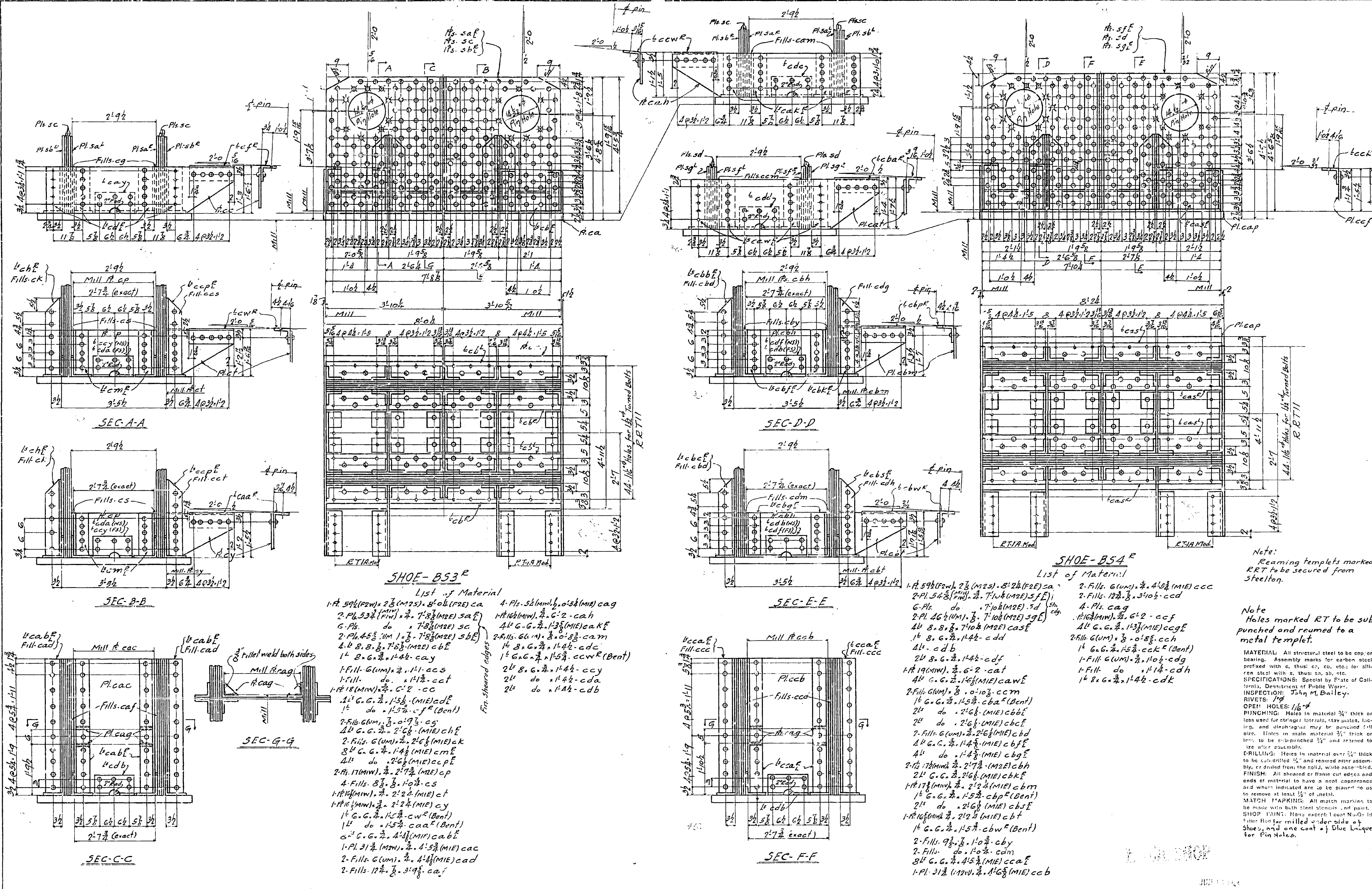
IN CHARGE C.W.D. — MADE BY E.W.C.
CHECKED BY N.B.M. 6/21/34 — TRACED BY K.C.
LAST ASSEM. MK.

CONTRACT CK1580-1 — SHEET J135

Rev 7/19/34
" 8/1/34

30-1


SHOE-BS1R
SHOE-BS2R
SEC-A-A
SEC-B-B
SEC-C-C
SEC-D-D
SEC-E-E
SEC-F-F
List of Material
Enlarged Detail Showing method of milling Pl. cad & cba
Shop Notes:-
Holes for 2" semi-circular drain holes may be burned. Edges of holes to be smooth and neat.
Pin Holes to be bored after shoe is rivited together to base Plate.
Thickness of base Ls not to be reduced more than ¼" by milling.
ONE | SHOE | BS1R | Pier E4
ONE | " | BS1L | Pier E4
ONE | " | BS2R | Pier E5
ONE | " | BS2L | Pier E5
No. | Description | Mark | Remarks | Weight each Tons
REQUIRED LIST
Note: Reaming templets marked RRT to be secured from Steelton
Note: Holes marked RT to be sub-punched and reamed to a metal templet.
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey
RIVETS: 1"⌀
OPEN HOLES: 1 1/16"⌀
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾ thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for milled under side of Shoes, and one coat of Blue Lacquer for Pin Holes.
Acid Resisting Liquid to be applied to bolted Connections (See Sheet F1)
Date | Revision | App'd
APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date: 5/31/34
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING (504'-0" Spans)
SHOES-PIER E4-E5
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM
Pottstown WORKS Shop 2
IN CHARGE C.W.D.
CHECKED BY FEG 3/29/34
MADE BY J.R.W.
TRACED BY J.R.W.
CONTRACT CJ1590-2
SHEET J201



Enlarged Detail showing method of Milling Pls. cp, cac, cbh, & ccb.

Shop Notes:-
Holes for 2" semi-circular drain holes may be burned
Edges of holes to be smooth & neat.

Pin Holes to be bored after shoe is riveted together to base plate.

Thickness of base Ls not to be reduced more than 1/4" by milling.

Note:
Reaming templets marked RRT to be secured from Steelton.

Note
Holes marked RT to be sub-punched and reamed to a metal templet.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey.
RIVETS: 1"⌀
OPEN HOLES: 1 1/16"⌀
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/4" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Oxid Filler Red for milled underside of Shoes, and one coat of Blue Lacquer for Pin Holes.

No.	Description	Mark	Remarks	Weight each Tons
ONE	SHOE	BS3R	Pier E6	
ONE	"	BS3L	Pier E6	
ONE	"	BS4R	Pier E7	
ONE	"	BS4L	Pier E7	

REQUIRED LIST

Date	Revision	App'd

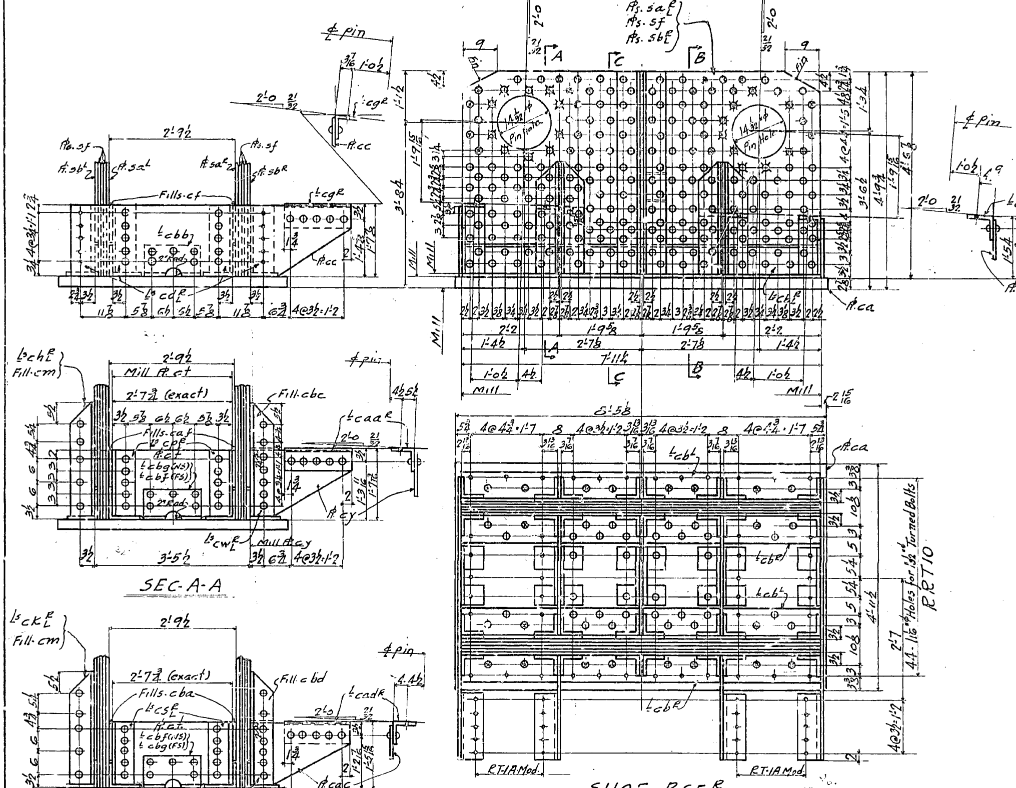
APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 5/31/34

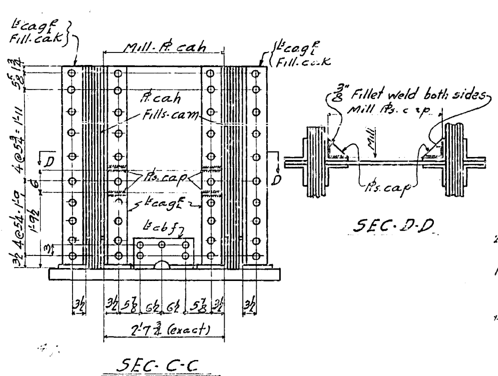
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE EAST BAY CROSSING (504'-0" Spans)

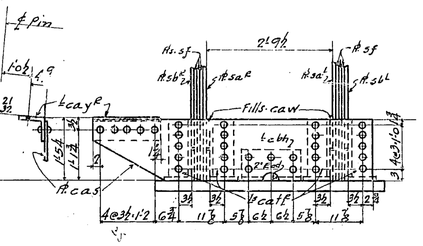
SHOES - PIERS E6-E7

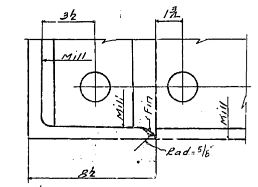
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS Shop 2
IN CHARGE C.W.D. MADE BY J.R.W.
CHECKED BY FEG 3/29/34 TRACED BY J.R.W.
LAST ASSEM. MK. 5/15/34

CONTRACT CJ1580-2 SHEET J202







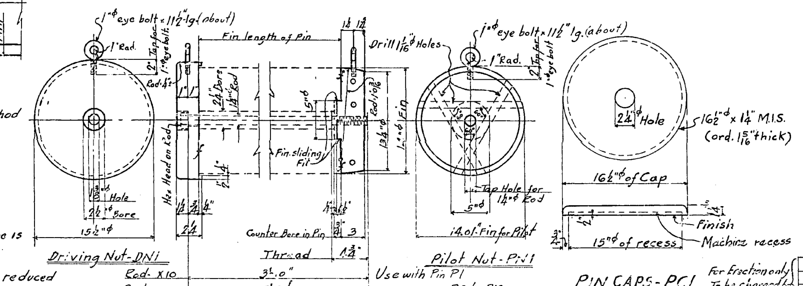


Enlarged Detail showing method of Milling Pls. ct ⊄cah.

Shop Note:
Pin Holes to be bored after shoe is riveted together to base plate.

Thickness of base Ls not to be reduced more than 1/4" by milling.

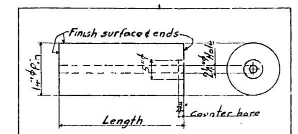
Holes for 2" semi-circular drain holes may be burned.
Edges of holes to be smooth and neat.



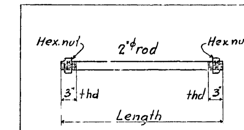
Notes:
Counterbore in pin and projection on pilot must be exactly centered.
Clearance between counter bore and projection on pilot nut not to exceed .005 inches.
Pilot nuts to be assembled with a number of pins before leaving shop to insure perfect alignment of curved surface of pilot nut with pin.

LIST of Material

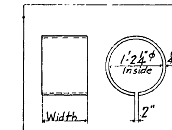
1-Pl. 59 1/2 (F2W) x 2 7/8 (M.2.S.) x 8'-5 1/8 (F2E) ca
2-Pl. 54 7/8 (M1W/F1W) x 3/4 x 7'-11 1/4 (M2E)-sa
6-Pls. do x 7'-11 1/4 (M2E)-sf
2-Pl 46 3/4 (UM) x 7/8 x 7'-11 1/4 (M2E)-sb (Fin. Sheared edges)
4Ls 8 x 3 x 7/8 x 7'-11 1/4-(M2E) cb
1L 8 x 6 x 3/4 x 1'-4 1/2-cbb
1-Fill-6 (UM) x 3/4 x 1'-0-cbc
1-Fill- do x 1'-1 1/4-cbd
1-Pl. 19 (M1W) x 3/4 x 6'-2-cc
4Ls 6 x 6 x 3/4 x 1'-6 1/8 (M.1E) cd
2-Fills-6 (UM) x 7/8 x 0'-10 7/8-cf
1L 6 x 6 x 3/4 x 1'-5 3/4-cg (Bent)
2Ls do x 2'-6 1/8-(M1E) ch
2Ls do x 2'-6 1/8-(M1E) ck
2-Fills-6 (UM) x 3/4 x 2'-6 1/8 (M1E) cm
4Ls 6 x 6 x 3/4 x 1'-4 5/8 (M1E) cp
4Ls do x 1'-4 5/8 (M1E) cs
2-Pls 17 1/2 (M1W) x 3/4 x 2'-7 3/4 (M2E) ct
2Ls 6 x 6 x 3/4 x 2'-6 1/8 (M.1.E) cw
1-Pl. 17 1/8 (M1W) 3/4 x 2'-2 1/4-(M1E) cy
1L 7 x 6 x 3/4 x 1'-5 3/4-caa (Bent)
2Ls 6 x 6 x 3/4 x 2'-6 1/8 (M1E) cab
1-Pl. 16 5/8 (M1W) x 3/4 x 2'-2 1/4 (M1E) cac
1L 6 x 6 x 3/4 x 1'-5 3/4-cad (Bent)
2-Fills-9 3/8 x 7/8 x 1'-0 3/4-caf
2-Fills- do x 1'-0 3/4-cba
8Ls 6 x 6 x 3/4 x 4'-6-(M1E) cag
1-Pl. 31 3/4 (M2W) x 3/4 x 4'-6 1/8 (M1E) cah
2-Fills-6 (UM) x 3/4 x 4'-6-(M1E) cak
2-Fills-12 3/4 x 7/8 x 3'-10 3/4-cam
4-Pls. 5 1/4 (M1W) x 1/2 x 0'-5 1/4 (M1E) cap
1-Pl. 16 3/4 (M1W) x 3/4 x 6'-2-cas
4Ls 6 x 6 x 3/4 x 1'-3 7/8 (M1E) cat
2-Fills-6 (UM) x 7/8 x 0'-8 5/8-caw
1L 6 x 6 x 3/4 x 1'-5 3/4-cay (Bent)
4Ls 8 x 6 x 3/4 x 1'-4 1/2-cbf
2Ls do x 1'-4 1/2-cbg
1L do x 1'-4 1/2-cbh



No. of Pins	Mark	Length ft.	Length in.
20	P1	3	6
4	P2	3	1 3/8
8	P3	3	1 1/2
14	P4	3	1 1/8
6	P5	3	1
8	P6	3	0 3/4
34	P7	3	0 5/8
24	P8	3	0 1/2
12	P9	3	0 1/8
4	P10	2	11 1/8
4	P11	2	10 7/8
12	P12	2	10 5/8



No. of Rods	Mark	Length ft.	Length in.
20	X1	4	0 3/4
4	X2	3	8 1/4
22	X3	3	8
6	X4	3	7 3/4
42	X5	3	7 1/2
36	X6	3	7
4	X7	3	5 3/4
4	X8	3	5 1/2
12	X9	3	5 1/4



No. of Rings	Mark	Width	Length
12	R1	15 1/4 UM x 1/4	3'-7 1/2 (ord 3'-9)
4	R2	15 UM x 1/4	
4	R3	14 3/4 UM x 1/4	
24	R4	11 UM x 1/4	
8	R5	10 1/2 UM x 1/4	
8	R6	10 UM x 1/4	
12	R7	7 3/8 UM x 1/4	
4	R8	6 7/8 UM x 1/4	
4	R9	6 3/8 UM x 1/4	
12	R10	3 3/8 UM x 1/4	
4	R11	2 7/8 UM x 1/4	
18	R12	2 3/4 UM x 1/4	
4	R13	2 3/8 UM x 1/4	
6	R14	2 1/4 UM x 1/4	
6	R15	1 3/4 UM x 1/4	
40	R16	1 5/8 UM x 1/4	

No.	Description	Mark	Remarks	Weight each Tons
6	Driving Nuts	DN1		
6	Pilot Nuts	PN1		
3	Rods	X10		
6	Rods	X11		
	Rings	R1 to R16		
	Rods	X1 to X9		
	Pins	P1 to P12		
300	PIN CAPS	PC1		
ONE	SHOE	BS5R	PIER E8	
ONE	SHOE	BS5L	PIER E8	

REQUIRED LIST

(DN1, PN1, X10, X11: For Erection only. To be charged to Erection Dept.) (Rings, Rods, Pins: See schedule)

Note:
Reaming templets marked RRT to be secured from Steelton.

Note
Holes marked RT to be subpunched and reamed to a metal templet.

Note:
Material: All structural steel to be copper bearing, except Pins, Driving Nuts, Pilot Nuts & Rods X10 & X11. Pins to be Special Heat Treated Steel.
Driving Nuts, Pilot Nuts & Rods X10 & X11 to be Structural Steel, not copper bearing.
Shop Paint:
None except one coat No-Ox-Id Filler Red for milled under side of Shoes, and one coat of Blue Lacquer for Pin Holes.
Entire surface of Pins to receive one coat of No-Ox-Id Filler Red.
Machined recess of Pin Caps and finished surface to receive one coat of No-Ox-Id Filler Red.
Threaded ends of Rods X1 to X9 inclu. to receive one coat of No-Ox-Id Filler Red.

Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey.
RIVETS: 1"φ
OPEN HOLES: 1 1/16"φ Unless Noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/8" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.

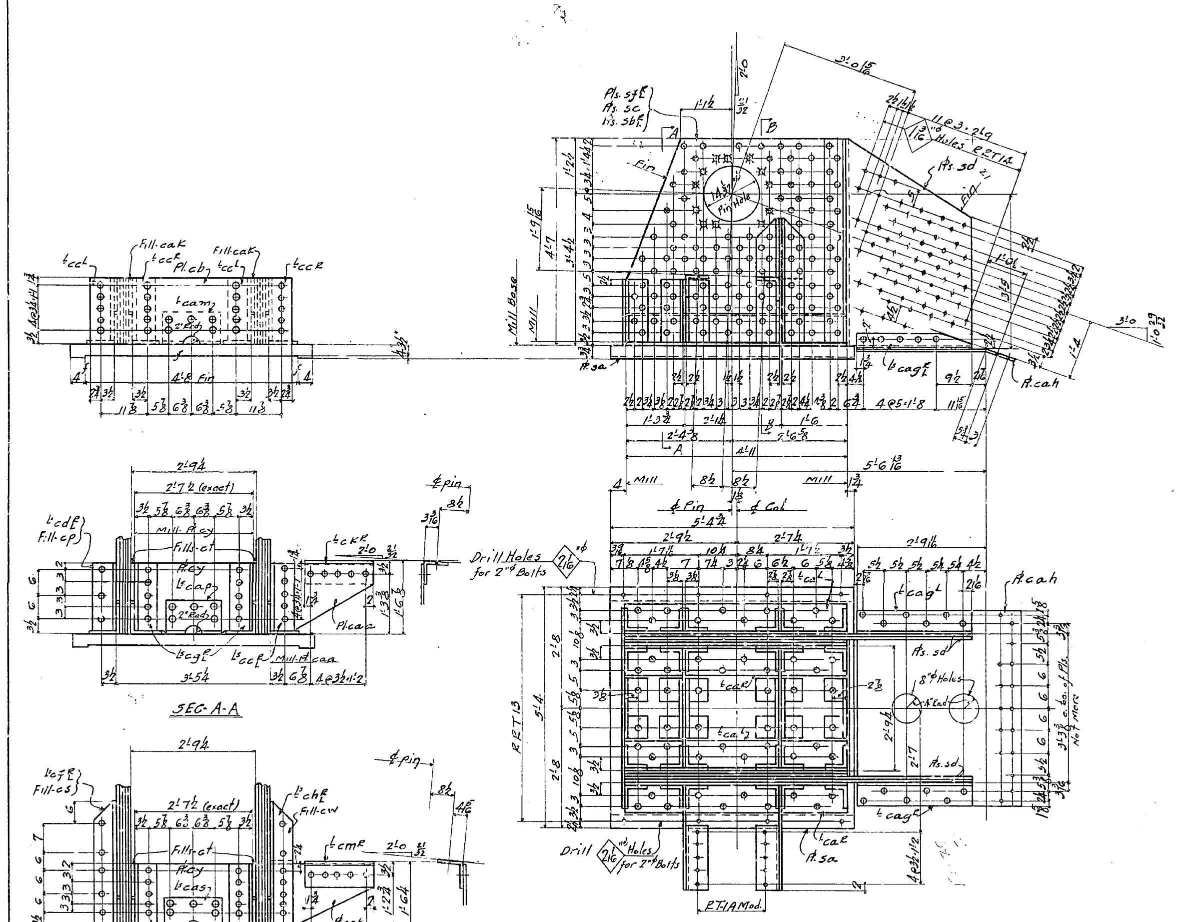
Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 5/31/34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7 504'-0" Spans
SUPERSTRUCTURE-EAST BAY CROSSING
SHOES- PIER-E8
PINS-RODS-RINGS-CAPS
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS Shop 2
IN CHARGE C.W.D. MADE BY JRW
CHECKED BY FEG 5/15/34 TRACED BY JRW
LAST ASSEM. MK.
CONTRACT CJ 1589-2 SHEET J203
Rev. 8-14-34

MACH. SHOP
FORGE SHOP

39-1

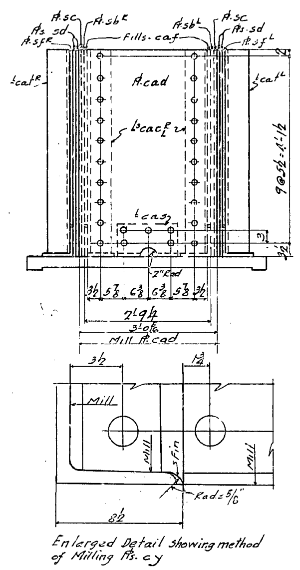


SHOE-BSG[R]

List of Material

1-Pl. 64(F2W) × 3¾ (M1S/F1S) × 5'-4¾ (F2E) - sa
2-Pls. 55 (F1W/M1W) × ¾ × 4'-11 - (M2E) sb R/L
2-Pls. do × 4'-11 - (M2E) sc
4-Pls do × 7'-8¾ (M1E/F1E) sd
(Fin sheared edges)
2-Pls. 46⅞ (UM) × ⅞ × 4'-11 - (M2E) sf R/L
4 Ls. 8 × 8 × ⅞ × 4'-11 - ca R/L (M2E)
1-Pl. 18¾ (M1W) × ¾ × 4'-5¾ - cb
6 Ls 6 × 6 × ¾ × 1'-5⅜ - cc R/L (M1E)
2 Ls do × 1'-4⅝ - cd R/L (M1E)
2 Ls do × 2'-9⅝ - cf R/L (M1E)
8 Ls do × 1'-4⅝ - cg R/L (M1E)
2 Ls do × 2'-9⅝ - ch R/L (M1E)
1 L do × 1'-5¾ - ck R (Bent)
1 L do × 1'-5¾ - cm R (Bent)
1-Fill - 6 (UM) × ¾ × 1'-4⅝ cp (M1E)
1-Fill - do × 2'-9⅝ - cs (M1E)
4-Fills - 9⅜ × ⅞ × 1'-0¾ - ct
1-Fill - 6 (UM) × ¾ × 1'-4½ - cw
2-Pls. 17½ (M1W) × ¾ × 2'-7½ (M2E) cy
1-Pl. 17⅜ (M1W) × ¾ × 2'-2⅜ - caa (M1E)
1-Pl. 16⅞ (M1W) × ¾ × 2'-2⅜ - cab (M1E)

2 Ls 6 × 6 × ¾ × 4'-6⅛ - cac R/L (M1E)
1-Pl. 96 5/16 (M2W) × ¾ × 4'-7 - cad (M1E)
2-Fills 6 (UM) × ⅞ × 3'-10⅞ - caf
2 Ls 6 15/16 × 4 × ½ × 2'-7¼ - cag R/L
1-Pl. 53½ (UM) × ¾ × 3'-8¼ - cah (Bent)
2-Fills - 6 (UM) × ⅞ × 0'-10⅛ - cak
1 L 8 × 6 × ¾ × 1'-4¼ - cam
2 Ls do × 1'-4½ - cap
3 Ls do × 1'-4¼ - cas
2 Ls 6 × 6 × ¾ × 4'-6⅛ - cat R/L (M1E)

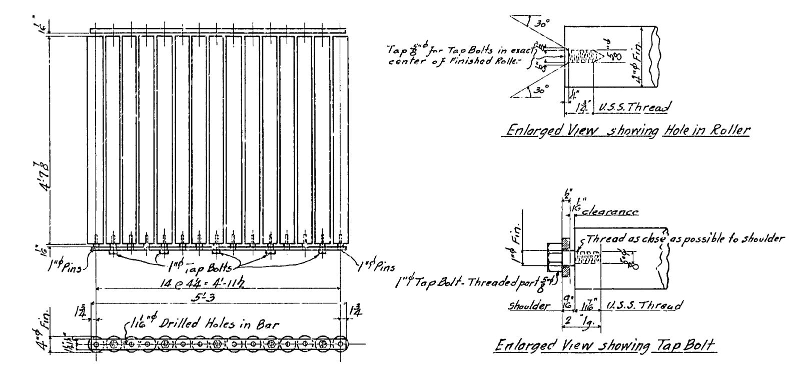


Enlarged Detail showing method of Milling Pls. cy

Shop Note:
Pin Holes to be bored after shoe is riveted together to base plate

Thickness of base is not to be reduced more than ¼" by milling.

Holes for 2" semi-circular drain holes may be burned
Edges of holes to be smooth and neat.



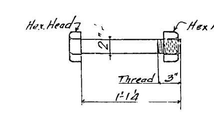
15 - Rollers - 4"φ Fin × 4'-7⅞ - Fin - cba
2 - Guide Bars - 2½ (UM) × ½ × 5'-3 - cbb
10 - Tap Bolts - 1"φ × 2" lg. U.S.S. Thread ⅝"φ Tap
20 - Pins - 1"φ × 2" lg. U.S.S. Thread ⅝"φ Tap

ROLLER NEST - RN1

Enlarged View showing Hole in Roller

Enlarged View showing Tap Bolt

Enlarged View showing Pin.



Bolts - X12

Note:
Reaming templets marked R.RT to be secured from Steelton.

Note:
Rollers to be heat treated carbon steel.
Holes marked RT to be sub-punched and reamed to a metal templet

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey
RIVETS: 1"φ
OPEN HOLES: 1 1/16"φ Unless Noted
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
Shop Paint:
None except one coat No-Ox-Id Filler Red for under side of Shoes, and one coat of Blue Lacquer for Pin Holes.
Rollers to receive one coat of No-Ox-Id Filler Red.

No.	Description	Mark	Remarks	Weight each Tons
16	Bolts	X12	Pier-E9	
2	ROLLER NESTS	RN1	PIER-E9	
ONE	SHOE	BSG[R]	PIER-E9	
ONE	do	BSG[L]	PIER-E9	

REQUIRED LIST.

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 5/31/34

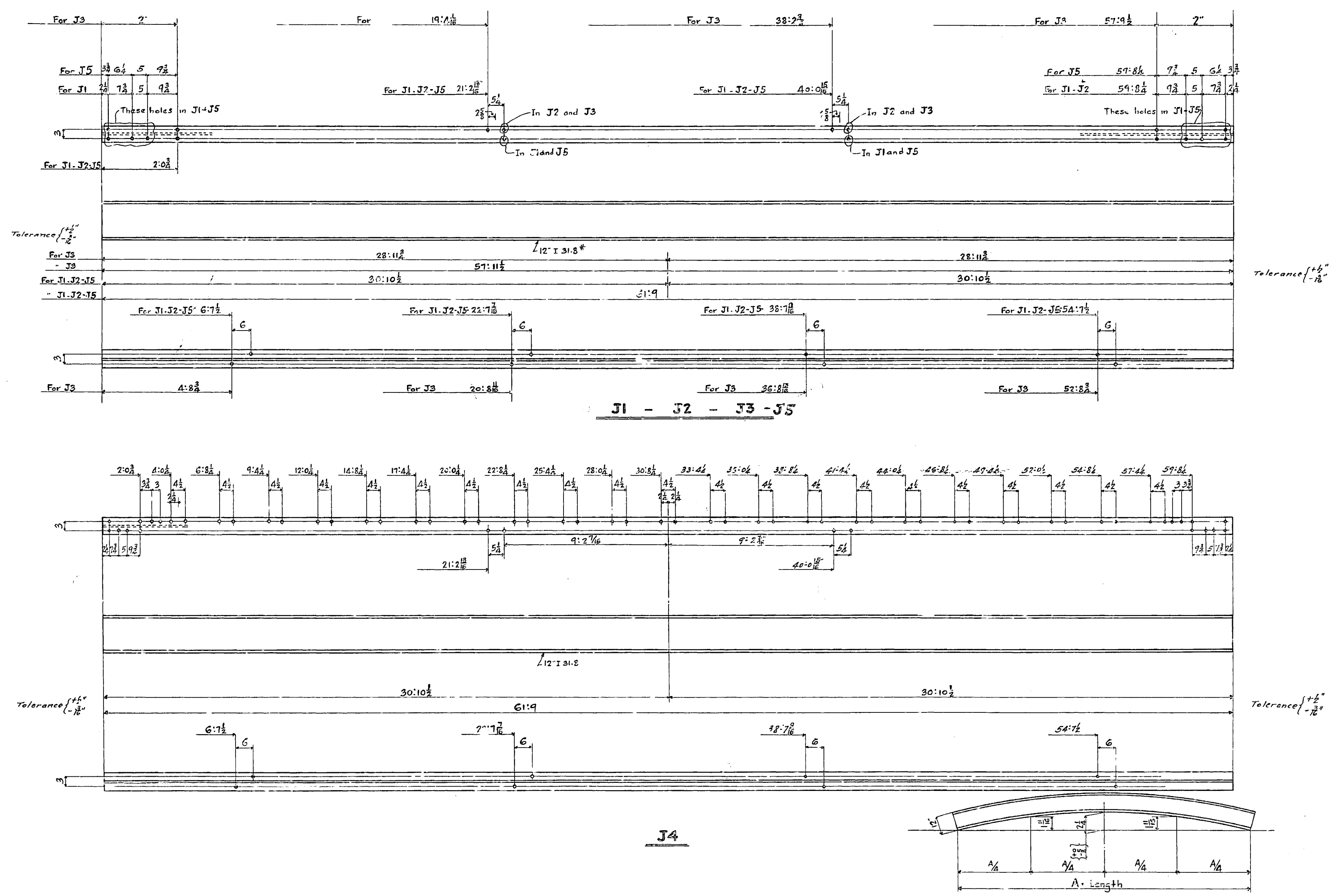
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING (504'-0" Spans)

SHOES - BSG R/L - ROLLER NEST - RN1 - PIER - E9

McCLINTIC-MARSHALL CORPORATION
Pott-town DRAWING ROOM Pottstown WORKS Shop 2
IN CHARGE C.W.R. MADE BY JRW
CHECKED BY FEG 5/17/34 TRACED BY JRW
LAST ASSEM. MK.

CONTRACT CJ 5590-2 SHEET T204

Rev. 6/26/34
" 8/1/34



Camber Diagram

Tolerance at ℄ as noted

Tolerance at ¼ points to vary in proportion to that at ℄

Shipping Installments							
No. of Roadway Joists	Mark	Installments					
		1	2	3	4	5	6
364	J1	7	72	72	72	72	69
5	J2		One	One	One	One	One
One	J3	One					
One	J4	One					
3	J5						3

Req. 373 - 12" I's 31.8# × 61:9 (Ord. 61:9) Silicon Steel } { 369 ord. Req. 20½
One - do. × 57:11½ (Ord 61:9 (cut)) " " } { 5 " " 20⅔

Note: All material Silicon Steel.

No.	Description	Mark	Remarks	Weight each Tons
364	Roadway Joists	J1		
5	" "	J2		
One	" "	J3		
One	" "	J4		
3	" "	J5		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey
RIVETS: None
OPEN HOLES: 13/16"φ
PUNCHING: ~~Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size.~~ Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size ~~after assembly.~~
~~DRILLING: Holes in material over ¾" thick to be sub-drilled ¼" and reamed after assembly, or drilled from the solid, with assembled.~~
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None

Date	Revision	App'd
7/21/34	Addition of holes to Top Flg. of J4	8-1-34

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 6-19-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

Joists - Upper Deck 504:0 + 50:0 Span

McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Saucon WORKS

C.W.D. MADE BY E.W.C.
CHECKED BY FEG TRACED BY F.J.K.

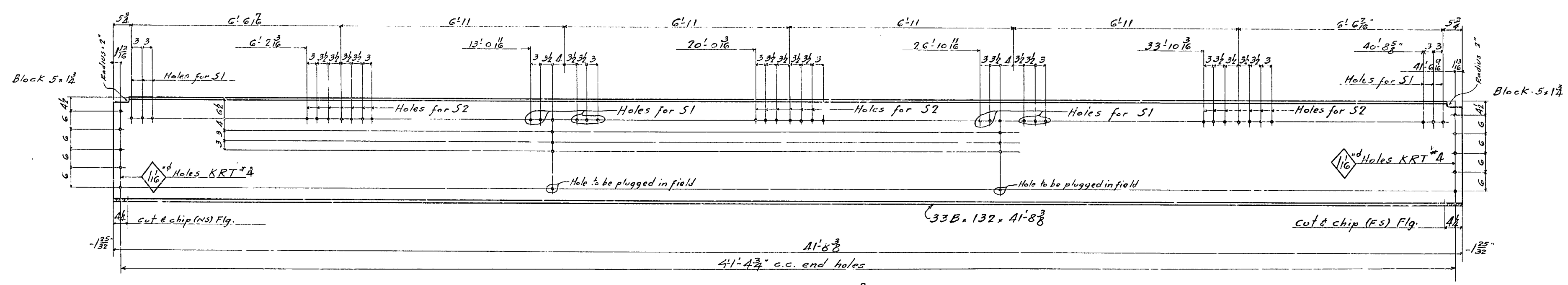
CONTRACT CK [illegible]-2 SHEET J205

Rev. 8/7/34

30-1

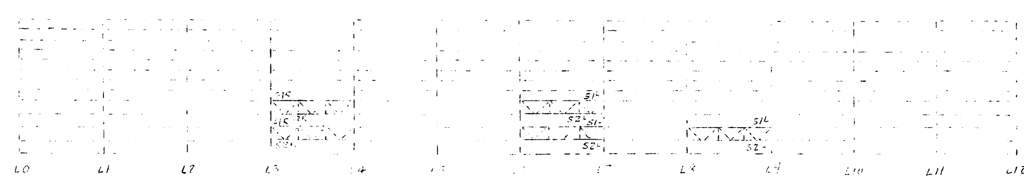
Installment #5
Advance Shipment

Material for Stringers { 5-51 RL / 5-52 RL }
10-33" B 132# × 41'-8 3/8" (ord 41'-8 3/8" Req. 301/5)



STRINGER BEAMS - 51R
do do - 52R

Stringers to be used Temporarily as Erection Falsework



SPAN EE

No.	Description	Mark	Remarks	Weight each Tons
2	Stringer Beams	51R	As shown	
3	do do	51L	Opp. hand to 51R	
2	do do	52R	As shown	
3	do do	52L	Opp. hand to 52R	

Installment #5 Advance Shipment. (rows 2–5)

REQUIRED LIST

Note:
Beams increased in weight from 125 lbs. per ft. to 132 lbs. per ft. on account of being used for erection falsework. Increase in weight to be charged to Erection Department.

All material Carbon Steel.

Note A
Holes marked RT to be subpunched 1/4" and reamed to a metal templet furnished by Saucon Works

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: by John M. Bailey
RIVETS: None
OPEN HOLES: 15/16" Unless Noted
PUNCHING: ~~[struck-through text]~~ Holes in main material 3/4" thick or less to be sub-punched 1/8" and reamed to size ~~after assembly~~ see Note A
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/4" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None

Date	Revision	Appr'd
4-23-34	Notes changed and added. Dimensions changed.	GBW

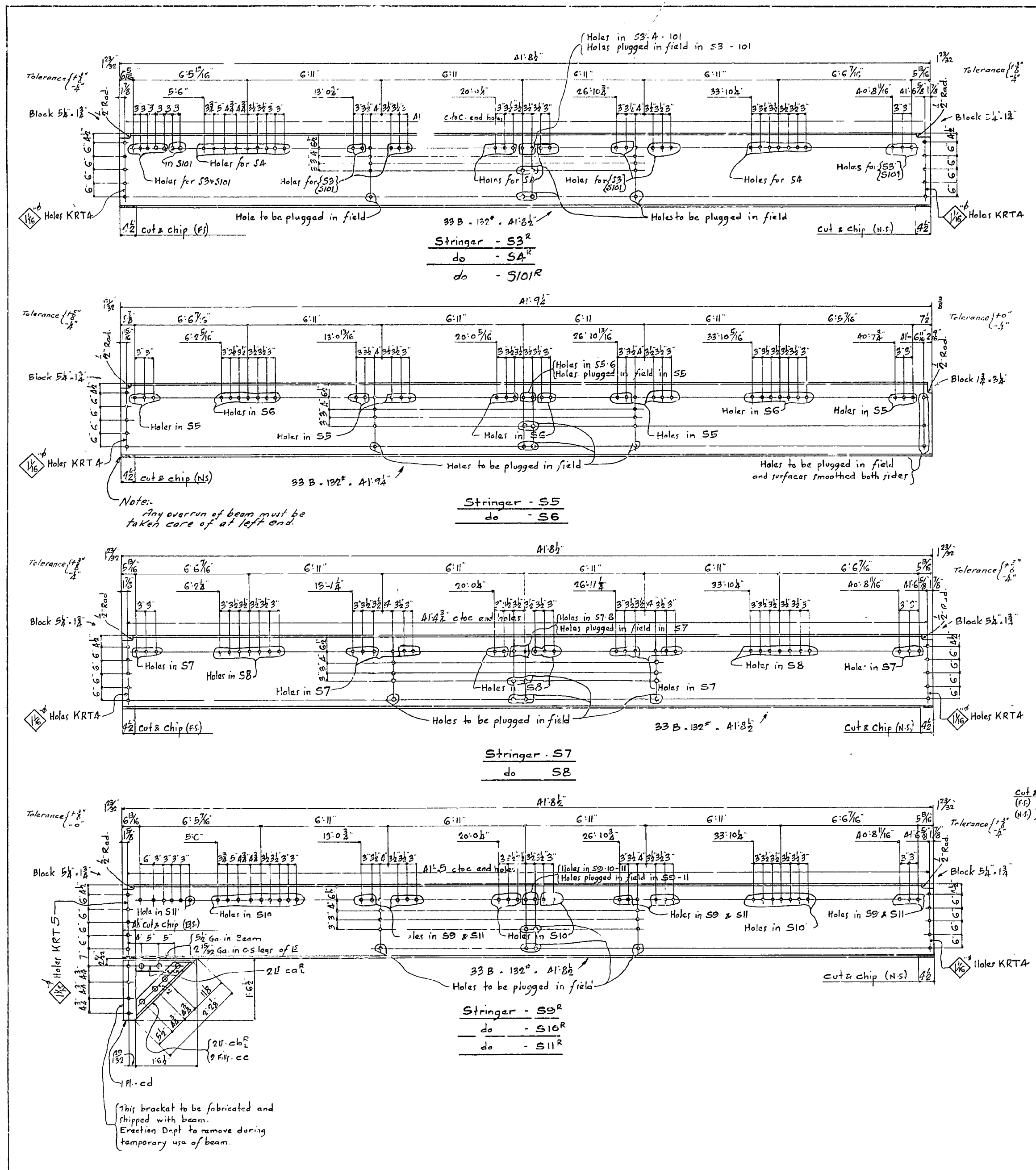
APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date: April 16th 1934

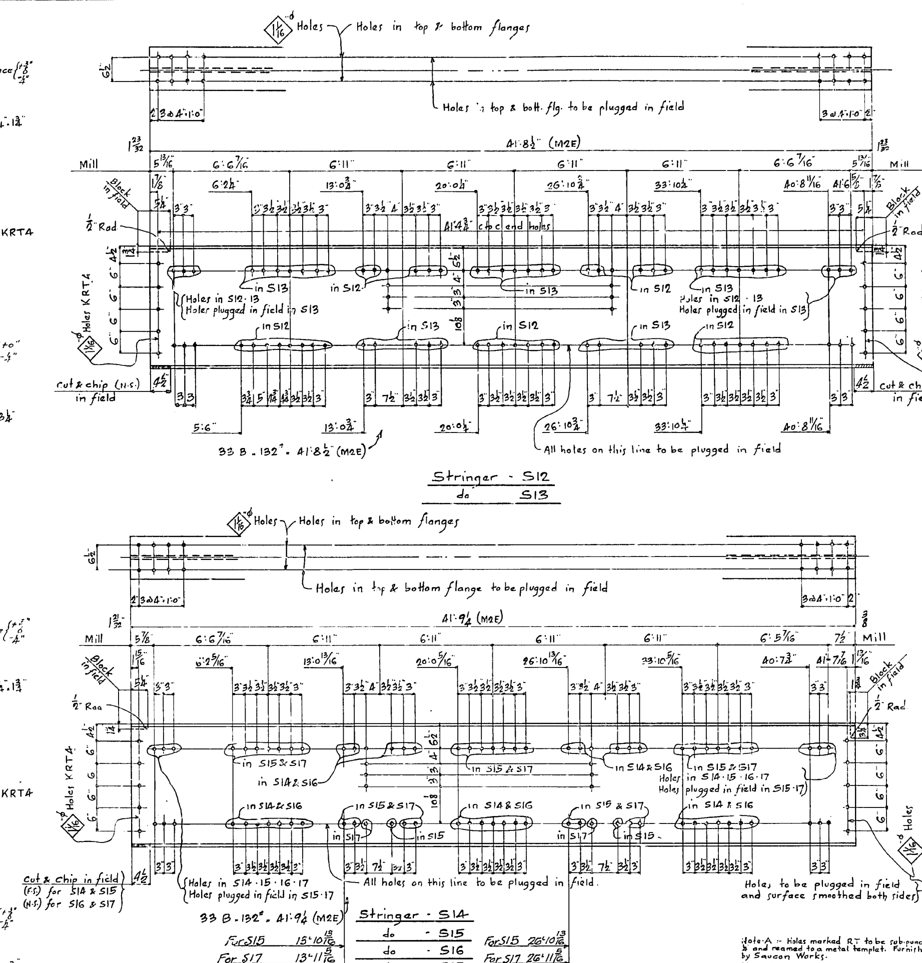
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE EAST BAY CROSSING

STRINGERS - 51-52

McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Saucon WORKS
IN CHARGE C.W.D. MADE BY JRW
CHECKED BY FEG. TRACED BY JRW
LAST REVISION MK.

CONTRACT CK1580-3 SHEET J301





Material for Stringers — Advance Shipment

2 - S3 R/L, 4 - S4 R/L, 4 - S5, 2 - S101 R/L } Installment #5 { 4 - S6, 3 - S7, 3 - S8

8 - 33 B 132# × 41'-9¼" (ord 41'-9¼") Req 302/2

14 - 33 B 132# × 41'-8½" (ord 41'-8½") Req 302/2

One S9R, 2 - S10R, One S11R } Installment #4 — One S9L, 2 - S10L, One S11L } Installment #5

8 - 33" B 132# × 41'-8½" (ord 41'-8½") Req 302/2

8 - Pls 18 × 9/16 × 1'-10" cd Req 305/2

16 Ls 4 × 4 × 3/8 × 1'-5¾" ca R/L " 305/4

16 Ls 4 × 3½ × 3/8 × 2'-0 cb R/L " 305/5

16 fills 4 × 3/8 × 1'-7 cc " 305/3

Number of Stringers	Mark	Installment #5	Installment #6
4	S12	2	2
4	S13	2	2
4	S14	2	2
4	S15	2	2
2	S16		2
2	S17		2

8 - 33" B 132# × 41'-8½" M2E (ord 41'-9¼") Req 302/3

12 - do × 41'-9¼" M2E (ord 41'-10) " 302/3

No.	Description	Mark	Remarks	Weight each item
One	Stringers	S3R	As Shown	
One	do	S3L	Opp. Hand	
2	do	S4R	As Shown	
2	do	S4L	Opp. Hand	
4	do	S5		
4	do	S6		
3	do	S7		
3	do	S8		
One	do	S9R	As Shown	
One	do	S9L	Opp. Hand	
2	do	S10R	As Shown	
2	do	S10L	Opp. Hand	
One	do	S11R	As Shown	
One	do	S11L	Opp. Hand	
4	do	S12		
4	do	S13		
4	do	S14		
4	do	S15		
2	do	S16		
2	do	S17		
One	do	S101R	As shown	
One	do	S101L	Opp. hand	

REQUIRED LIST

All Material Carbon Steel.

Note:—
Beams increased in weight from 125 lbs. per ft. to 132 lbs. per ft. on account of being used for erection falsework. Increase in weight to be charged to Erection Department.
All field plugs to be driver Rivets.

Note A :- Holes marked RT to be sub-punched ⅛" and reamed to a metal templet. Furnished by Saucon Works.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.

SPECIFICATIONS: Special by State of California, Department of Public Works.

INSPECTION: by John M. Bailey

RIVETS: 7/8"ϕ

OPEN HOLES: 15/16"ϕ Unless Noted.

PUNCHING: ~~Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size.~~ Holes in main material ¾" thick or less to be sub-punched ⅛" and reamed to size ~~after assembly~~ See Note A.

DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.

FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.

MATCH MARKING: All match marking to be made with both steel stencils and paint.

SHOP PAINT: None, except Acid Resisting Liquid (See Sheet F1)

Date	Revision	App'd

APPROVED

Engineer of Design

Bridge Engineer

Chief Engineer

Date 6-20-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE

CONTRACT NO. 7

SUPERSTRUCTURE-EAST BAY CROSSING

504'-0 Spans

Railroad Stringers

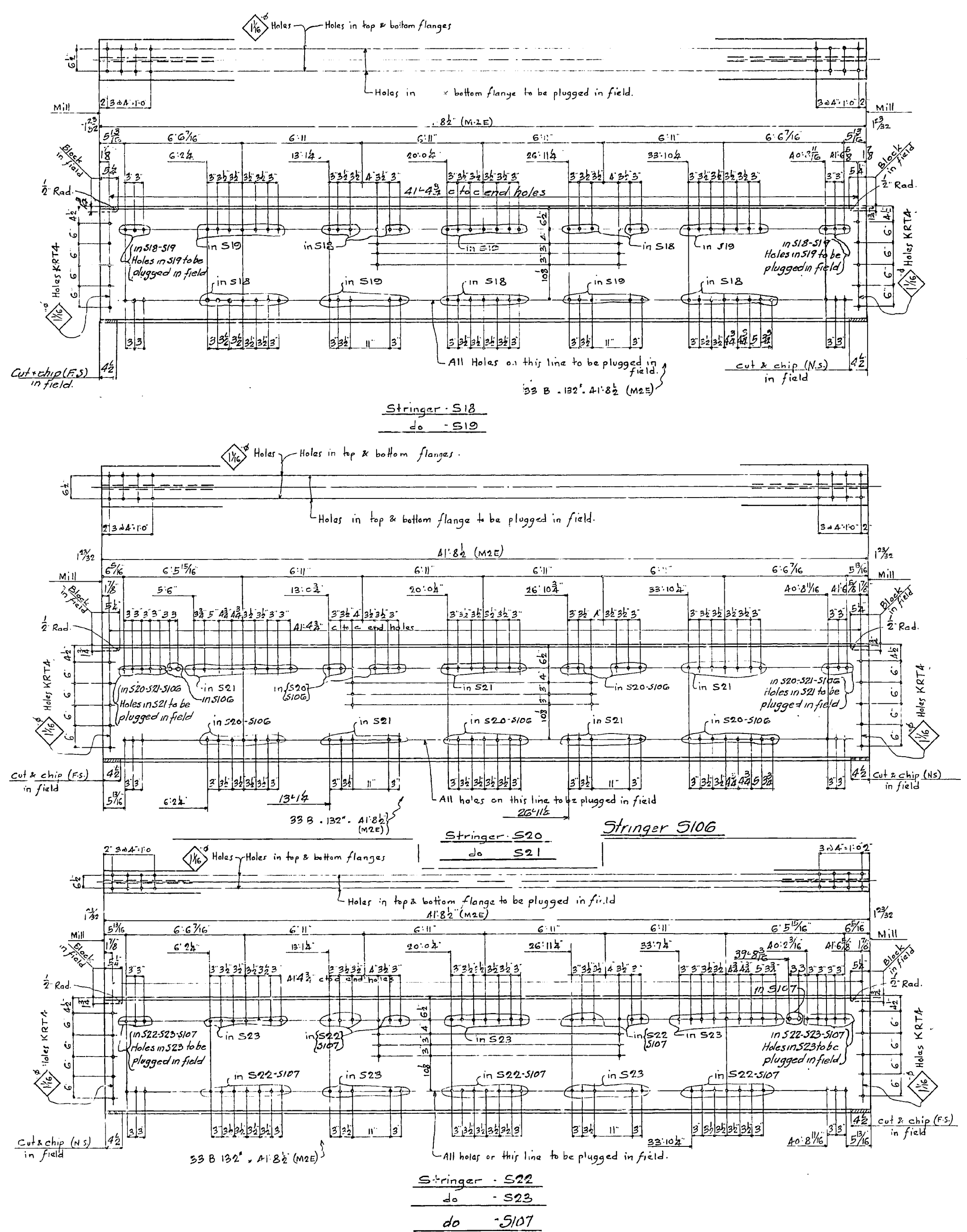
McCLINTIC-MARSHALL CORPORATION

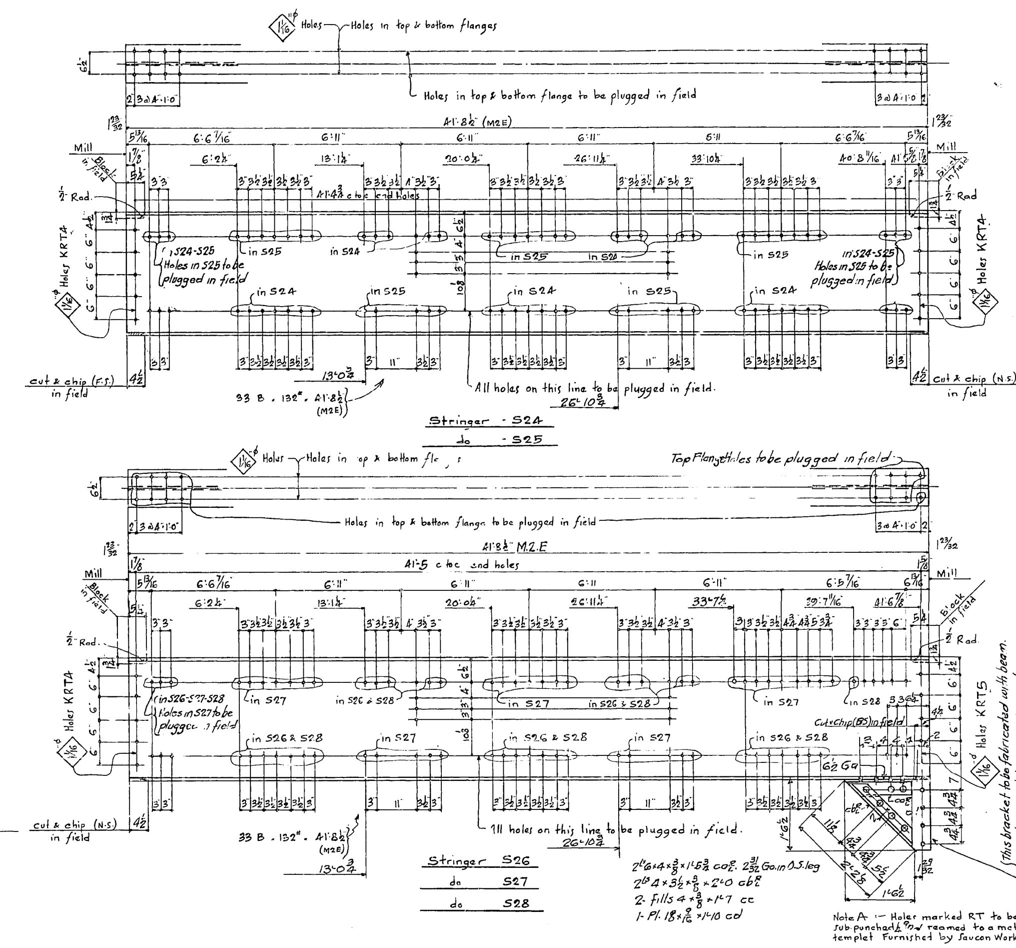
Pottstown DRAWING ROOM Saucon WORKS

IN CHARGE C.W.D. MADE BY H.B.M.
CHECKED BY FEG. TRACED BY D.L.B.

CONTRACT CK1880-3 SHEET J302

Rev. 8/7/34.





Advance Shipment

No of Stringers	Mark	Installment
2	S18	6
2	S19	6
One	S20	6
2	S21	6
One	S22	6
2	S23	6
2	S24	6
2	S25	6
One	S106	6
One	S107	6

16 - 33-B132 × 41'-8½ M2E (Ord 41'-9¼) Req. 302/3

One S26, 2 S27, One S28 } Installment 6

4 - 33-B132 × 41'-8½ M2E (Ord 41'-9¼) Req. 302/3
8 Ls 6×4×⅜ × 1'-5¾ ca Req 305/8
8 Ls 4×3½×⅜ × 2'-0 cb " 305/9
8 - fills 4×⅜ × 1'-7 cc " 4 pcs. 305/10 4-pcs. 306/1
4 - Pls 18×9/16 × 1'-10 cd. " 305/11

All Material Carbon Steel.

Note :- Beams increased in weight from 125 lbs. per ft. to 132 lbs. per ft. on account of being used for erection falsework. Increase in weight to be charged to Erection Department.
All field plugs to be driven rivets

Note A :- Holes marked RT to be sub-punched & and reamed to a metal templet Furnished by Saucon Works.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: by John M. Bailey
RIVETS: ⅞"ϕ
OPEN HOLES: 15/16"ϕ Unless Noted.
PUNCHING: ~~Holes in material ¾" thick or less used for stringer laterals, clamp plates, lacing, and diaphragms may be punched full size.~~ Holes in main material ¾" thick or less to be sub-punched ⅛" and reamed to size ~~after assembly~~ - See Note A
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and when indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except Acid Resisting Liquid (See Sheet F1)

No.	Description	Mark	Remarks	Weight each Tons
2	Stringers	S18		
2	do	S19		
One	do	S20		
2	do	S21		
One	do	S22		
2	do	S23		
2	do	S24		
2	do	S25		
One	do	S26		
2	do	S27		
One	do	S28		
One	do	S106		
One	do	S107		

REQUIRED LIST

Date	Revision	App'd

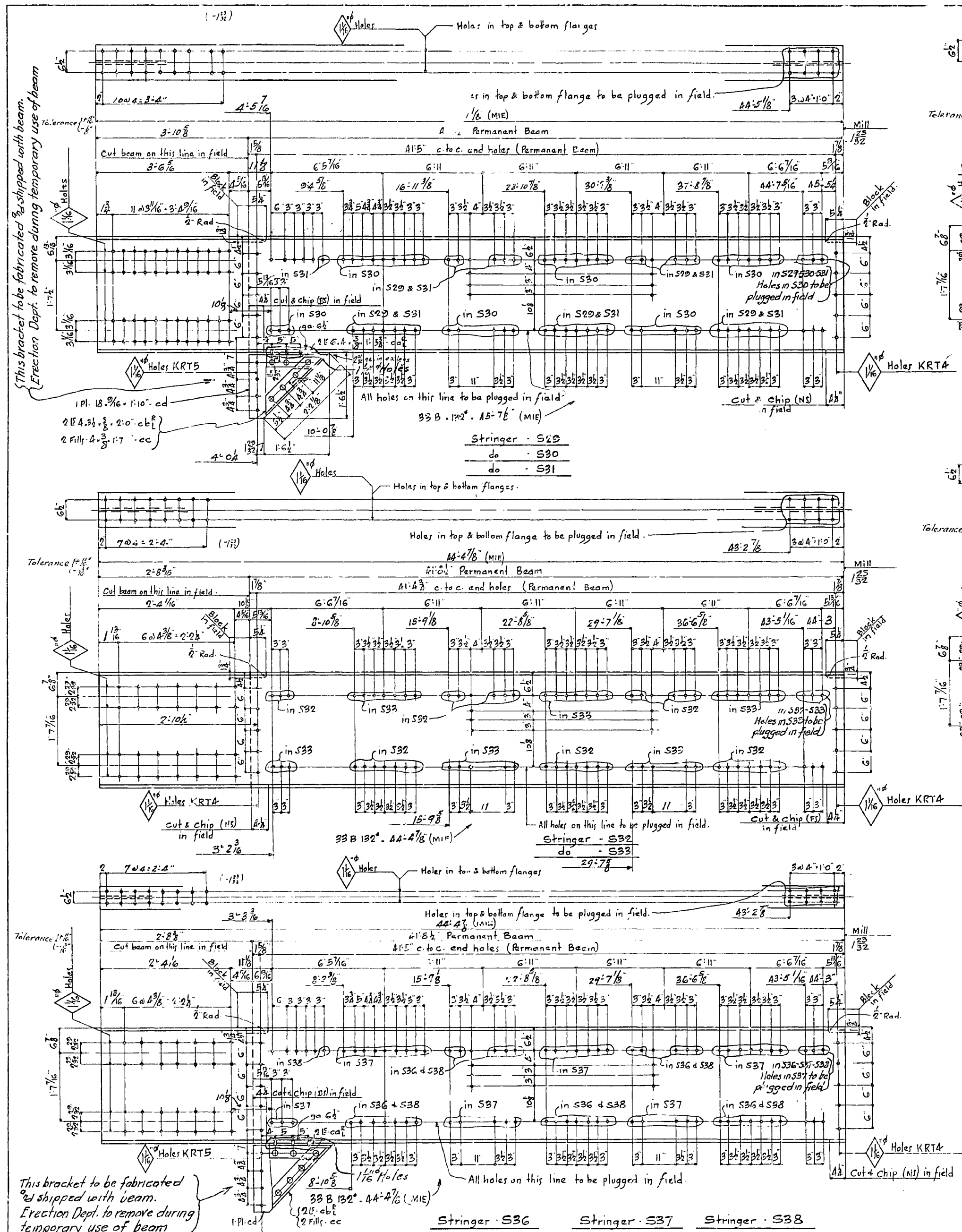
APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date: 6-20-34

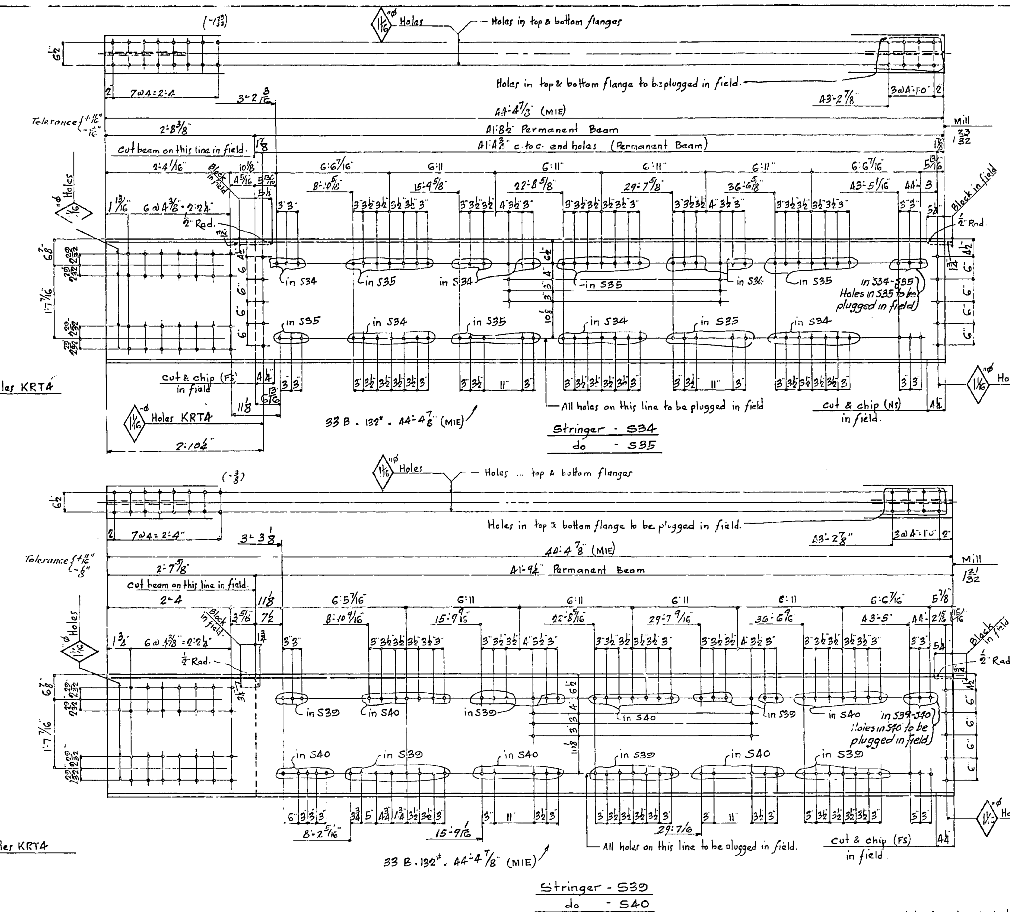
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
504'-0 Spans
Railroad Stringers

McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Saucon WORKS
IN CHARGE C.W.D. MADE BY H.B.M.
CHECKED BY FEG. TRACED BY D.L.B.
LAST ASSEM. MK.

CONTRACT CK 1530-3 SHEET J303

30-1





Advance Shipment

No of Stringers	Mark	Installment
2	S32	6
2	S33	6
2	S34	6
2	S35	6
2	S39	6
2	S40	6

12-33B132 × 44'-4⅞ MIE (Ord 44'-4⅞ MIE) Req 302/5

1-Stringer - S29 }
2- do S30 } 6th Installment
1- do S31 }
1- do S36 }
2- do S37 } 5th Installment
1- do S38 }

4-33B132# × 45'-7⅛ MIE (ord 45'-7⅛ M.I.E) Req 302/4
4-33B132# × 44'-4⅞ MIE. (Ord 44'-4⅞ M.I.E.) Req 302/5
16 Ls 6×4×⅜×1'-5¾ ca R/L Req 305/17
16 Ls 4×3½×⅜×2'-0 cb R/L " 305/16
16 fills 4×⅜×1'-7 cc " 305/15
8 Pls. 18×9/16×1'-10 cd " 305/14

All Material Carbon Steel.

Note:— Beams increased in weight from 125lb. per ft. to 132 lbs. per ft. on account of being used for erection falsework. Increasein in weight to be charged to Erection Dept.
Material at left end of each beam, indicated to be cut off in field, is to be charged to Erection Department.
All field plugs to be driven rivets

Shipping Marks to be placed to right of dotted line indicating field cut.

Note A:- Holes Marked RT to be sub-punched ¼" and reamed to a metal templet. Furnished by Saucon Works.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: by John M. Bailey
RIVETS: 7/8"φ
OPEN HOLES: 15/16"φ Unless Noted
PUNCHING: ~~Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size.~~ Holes in main material ¾" thick or less to be sub-punched ⅛" and reamed to size ~~after assembly~~ - See Note A
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ¼" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: [illegible], except Field Resisting Liquid (See Sheet F1)

No.	Description	Mark	Remarks	Weight each Tons
one	Stringer	S29		
2	do	S30		
one	do	S31		
2	do	S32		
2	do	S33		
2	do	S34		
2	do	S35		
one	do	S36		
2	do	S37		
one	do	S38		
2	do	S39		
2	do	S40		

REQUIRED LIST

Date	Revision	App'd

APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date 6-20-34

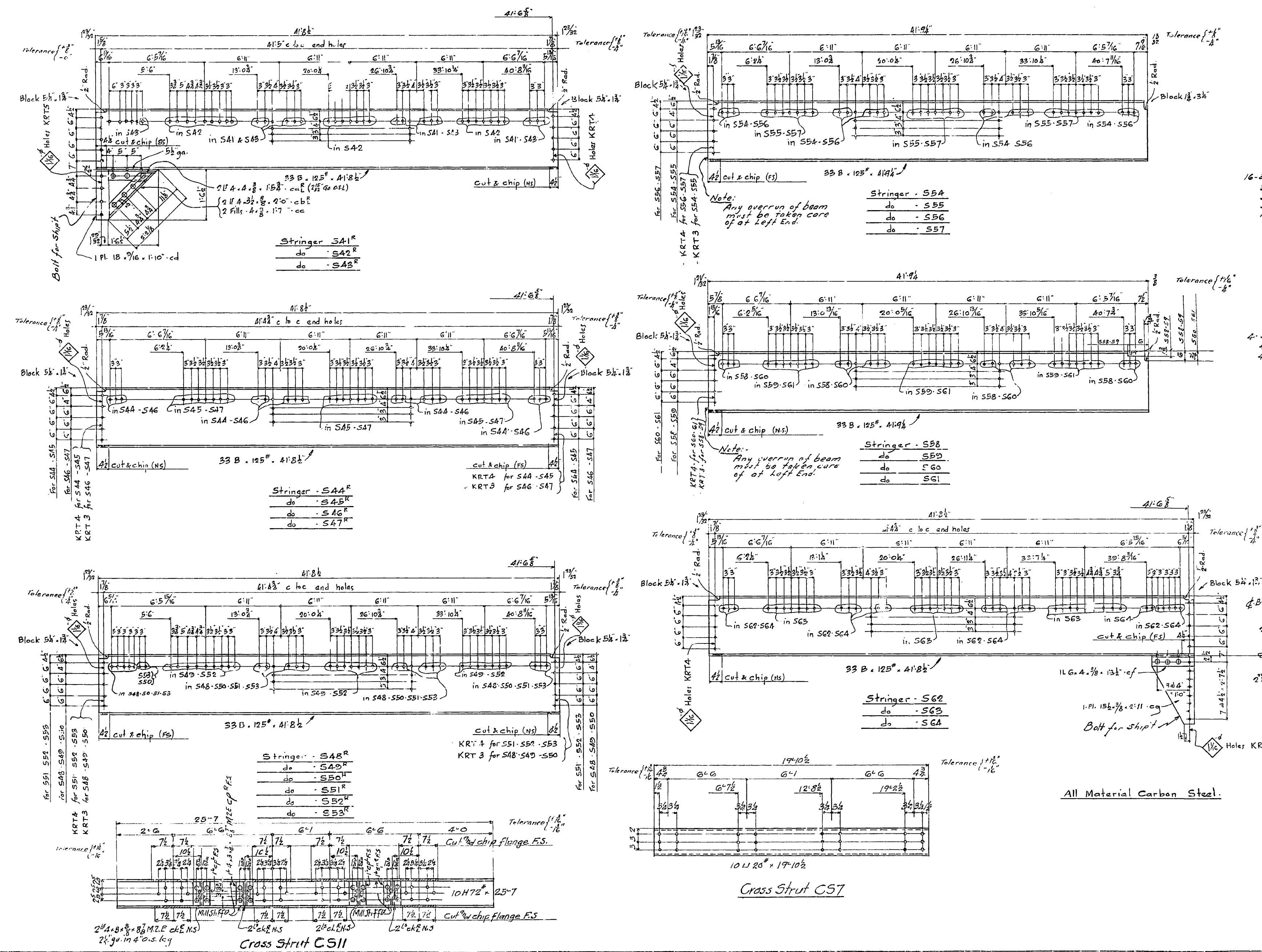
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
504'-0" Spans
Railroad Stringers

McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Saucon WORKS
C.W.D. MADE BY H.B.M.
CHECKED BY FEG TRACED BY D.L.B.

CONTRACT CK1560-3 SHEET J304

Rev. 8/1/34
" 8/25/34

30-1



All Material Carbon Steel.

No	Mark	Ship't
One	S41^R	3
One	S41^R	2
One	S41^L	4
One	S41^L	3
2	S42^R	3
2	S42^R	2
2	S42^L	4
2	S42^L	3
One	S43^R	3
One	S43^R	2
One	S43^L	4
One	S43^L	3

No	Mark	Ship't
4	S44^R	3
4	S44^R	2
6	S44^L	3
6	S44^L	2
4	S45^R	3
4	S45^R	2
6	S45^L	3
6	S45^L	2
4	S46^R	4
6	S46^L	4
4	S47^R	4
6	S47^L	4
One	S48^R	4
One	S48^L	4
2	S49^R	4
2	S49^L	4
One	S50^R	4
One	S50^L	4
One	S51^R	3
One	S51^R	2
One	S51^L	3

No	Mark	Ship't
One	S51^L	2
2	S52^R	3
2	S52^R	2
2	S52^L	3
2	S52^L	2
One	S53^R	3
One	S53^R	2
One	S53^L	3
One	S53^L	2
2	S54	4
2	S55	4
2	S56	3
2	S56	2
2	S57	3
2	S57	2
4	S58	1
4	S59	4
4	S60	3
4	S60	2
4	S61	3
4	S61	2

16-33B: 25# × 41'-8½ (ord 41'-8½") Reg. 302/1
32 Ls 4×4×⅜ × 1'-5⅜ - co R/L Reg. 305/20
32 Ls 4×3½×⅜ × 2'-0 - cb R/L " 305/21
32 fills - 4×⅜ × 1'-7 - cc " 305/22
16 Pls 18×9/16 × 1'-10" - cd " 305/23

No	Mark	Ship't
One	S62	2
2	S63	2
One	S64	2

84 - 33B × 125# × 41'-8½ (ord 41'-8½) Reg. 302/1
36 - do × 41'-9¼ (ord 41'-9¼) Reg. 302/1

No	Mark	Ship't
1	CS7	6
2	CS7	5
2	CS7	4
2	CS7	3
1	CS7	2

4 - 33B × 125# × 41'-8½ (ord 41'-8½) Reg. 302/1
4 Ls 6×4×⅜ × 1'-3½ - cf Reg. 305/25
4 Pls 15½×⅜ × 2'-11 - cg " 307/2

8 - 10 ⊏ 20# × 19'-10½ (Ord 19'-10½) Reg. 304/1

One CS11 Ship't. 6
4 Ls 4×3×⅜ × 8⅞ M2E ck R/L Reg. 307/4
1 - 10 H 72 × 25'-7 (Ord) Reg. 307/3
8 Ls 4×3×⅜ × 8⅞ M2E ck R/L " 307/4

No.	Description	Mark	Remarks	Weight each Tons	No.	Description	Mark	Remarks	Weight each Tons
2	Stringers	S41^R	As Shown		4	Stringers	S52^R	As Shown	
2	do	S41^L	Opp. Hand		4	do	S52^L	Opp. Hand	
4	do	S42^R	As Shown		2	do	S53^R	As Shown	
4	do	S42^L	Opp. Hand		2	do	S53^L	Opp. Hand	
2	do	S43^R	As Shown		2	do	S54		
2	do	S43^L	Opp. Hand		2	do	S55		
8	do	S44^R	As Shown		4	do	S56		
12	do	S44^L	Opp. Hand		4	do	S57		
8	do	S45^R	As Shown		4	do	S58		
12	do	S45^L	Opp. Hand		4	do	S59		
4	do	S46^R	As Shown		8	do	S60		
6	do	S46^L	Opp. Hand		8	do	S61		
4	do	S47^R	As Shown		one	do	S62		
6	do	S47^L	Opp. Hand		2	do	S63		
one	do	S48^R	As Shown		one	do	S64		
One	do	S48^L	Opp. Hand		8	Cross Struts	CS7		
2	do	S49^R	As Shown		One	do	CS11		
2	do	S49^L	Opp. Hand						
One	do	S50^R	As Shown						
One	do	S50^L	Opp. Hand						
2	do	S51^R	As Shown						
2	do	S51^L	Opp. Hand						

REQUIRED LIST — REQUIRED LIST

Note:- Holes Marked RT to be sub-punched and reamed to metal templet. Furnished by Saucon Works.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: by John M. Bailey
RIVETS: ⅞"⌀
OPEN HOLES: 15/16"⌀ Unless Noted.
PUNCHING: ~~Holes in material ¾" thick or less used for stringers, lateral or stay planes, lacing, and small angles may be punched full size.~~ Holes in main material ¾" thick or less to be sub-punched ⅓" and reamed to size ~~after assembly~~ See Note A.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except Acid Resisting Liquid (See Sheet F1)

Date	Revision	App'd

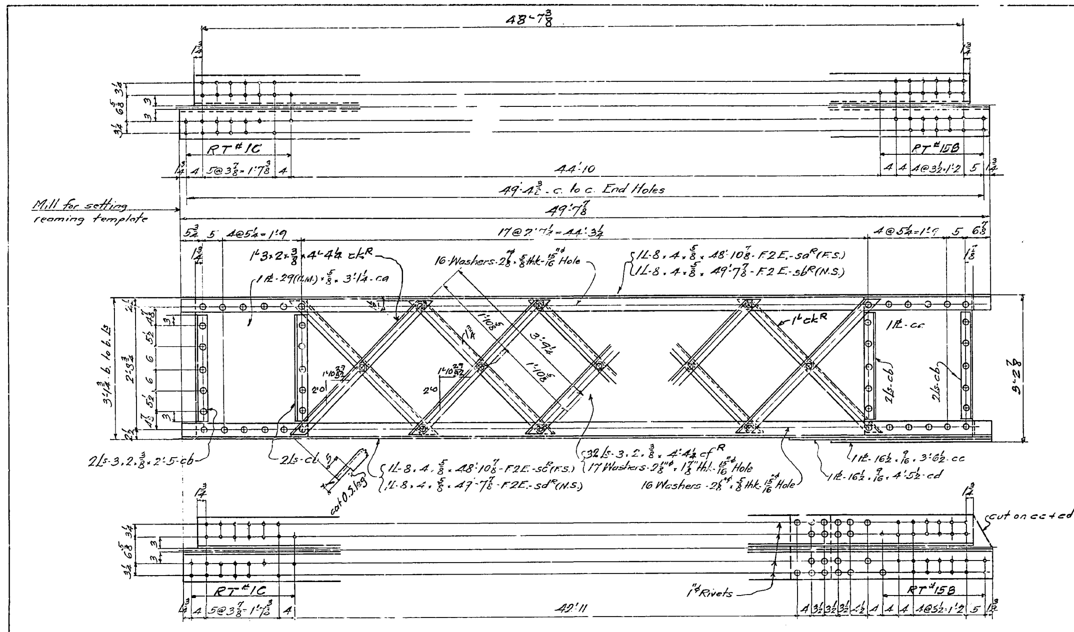
APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date: 7-11-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
504'-0" Spans
Railroad Stringers
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Saucon WORKS
IN CHARGE C.W.D. MADE BY H.B.M.
CHECKED BY FEG TRACED BY D.L.B.
LAST ASSEM. MK.

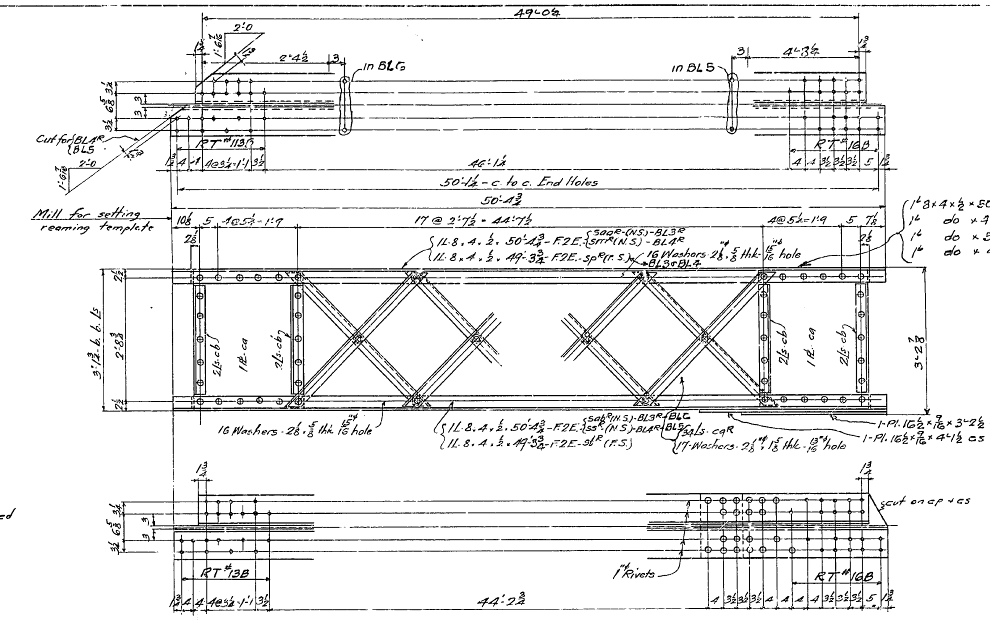
CONTRACT CK1580-3 SHEET J305

Rev. 8/7/34

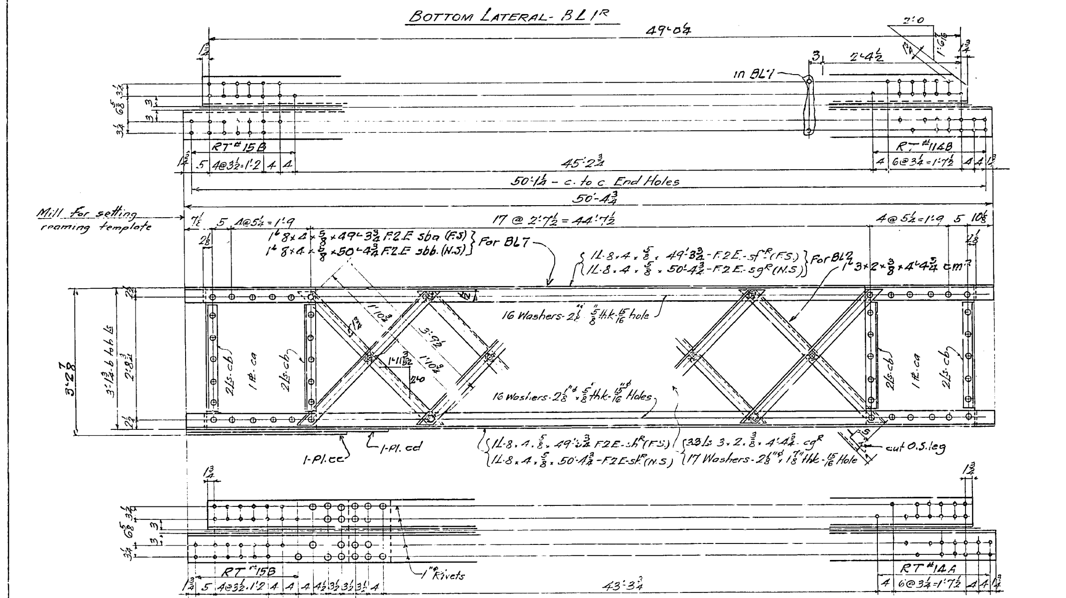
30-1



BOTTOM LATERAL - $BL1^R$



BOTTOM LATERAL - $BL3^R$ - $BL4^R$
do do BL5 Opp. hand to Sketch
do do BL6 Opp. hand to Sketch



BOTTOM LATERAL - $BL2^R$
do do BL7

No.	Description	Mark	Remarks	Weight each Tons
One	Bottom Lateral	BL5	Opp. hd. to Sk.	
4	do do	BL6	Opp. hd. to Sk.	
2	do do	BL7	as shown	
10	Bottom Laterals	$BL1^R$		
10	" "	$BL1^L$		
8	" "	$BL2^R$		
10	" "	$BL2^L$		
20	" "	$BL3^R$		
16	" "	$BL3^L$		
20	" "	$BL4^R$		
19	" "	$BL4^L$		

REQUIRED LIST

All holes marked "RT" to be sub-punched and reamed to a metal templet.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: by John M. Barley
RIVETS: ⅞"φ unless noted
OPEN HOLES: $1\frac{1}{16}$"φ
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled $\frac{1}{16}$" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ¼" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: [illegible] "Acid Resisting Liquid" to [illegible] members, to machined surfaces of [illegible] to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting [illegible] of splice plates (or angles) which are [illegible] riveted to main material and are not fully accessible for sand blasting.

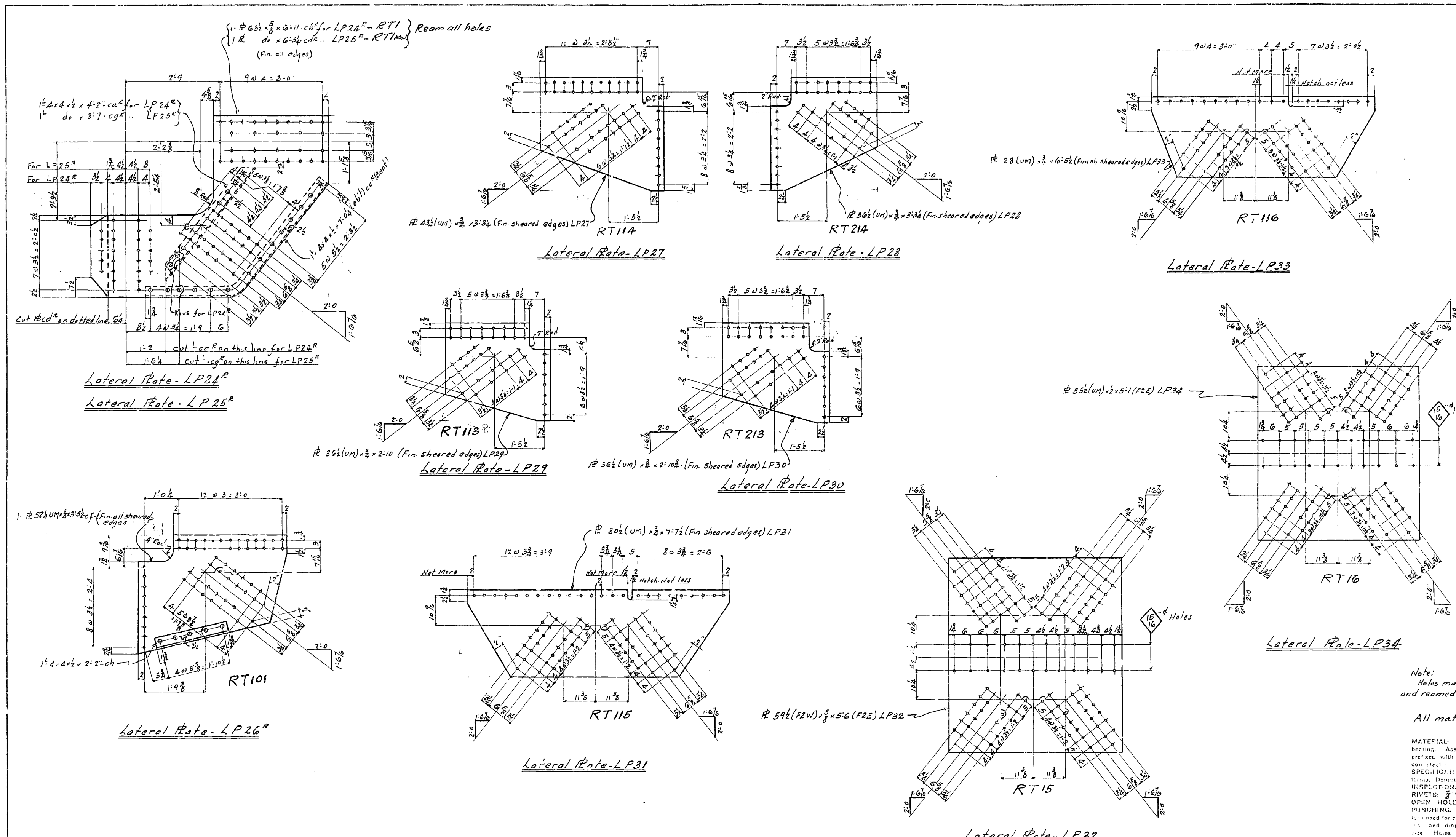
Date	Revision	App'd
6/29/34	Holes added in top flanges for downspout conns.	8-1-34

APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date 6-14-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE EAST BAY CROSSING
504'-0 SPANS
BOTTOM LATERALS

McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS Shop 3
IN CHARGE C.W.D. MADE BY H.B.M.
CHECKED BY FEG TRACED BY C.P.K.

CONTRACT CT-1580-3 SHEET J306
Rev. 7-13-34



Note:
Holes marked RT to be subpunched and reamed to size to a metal templet

All material carbon steel

No.	Description	Mark	Remarks	Weight each Tons
2	Lateral Plates	LP24R		
2	do	LP24L		
8	do	LP25R		
8	do	LP25L		
10	do	LP26R		
10	do	LP26L		
20	do	LP27		
20	do	LP28		
40	do	LP29		
20	do	LP30		
20	do	LP31		
10	do	LP32		
40	do	LP33		
20	do	LP34		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with [illegible] ca, cb, etc.; for silicon steel [illegible] sa, sb, etc.
SPECIFICATIONS: [illegible] al by State of California, Department of Public Works.
INSPECTION: John M. Bailey
RIVETS: 7/8"
OPEN HOLES: 1 1/16" unless noted
PUNCHING: Holes in material 3/4" thick or [illegible] used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None

Date	Revision	App'd

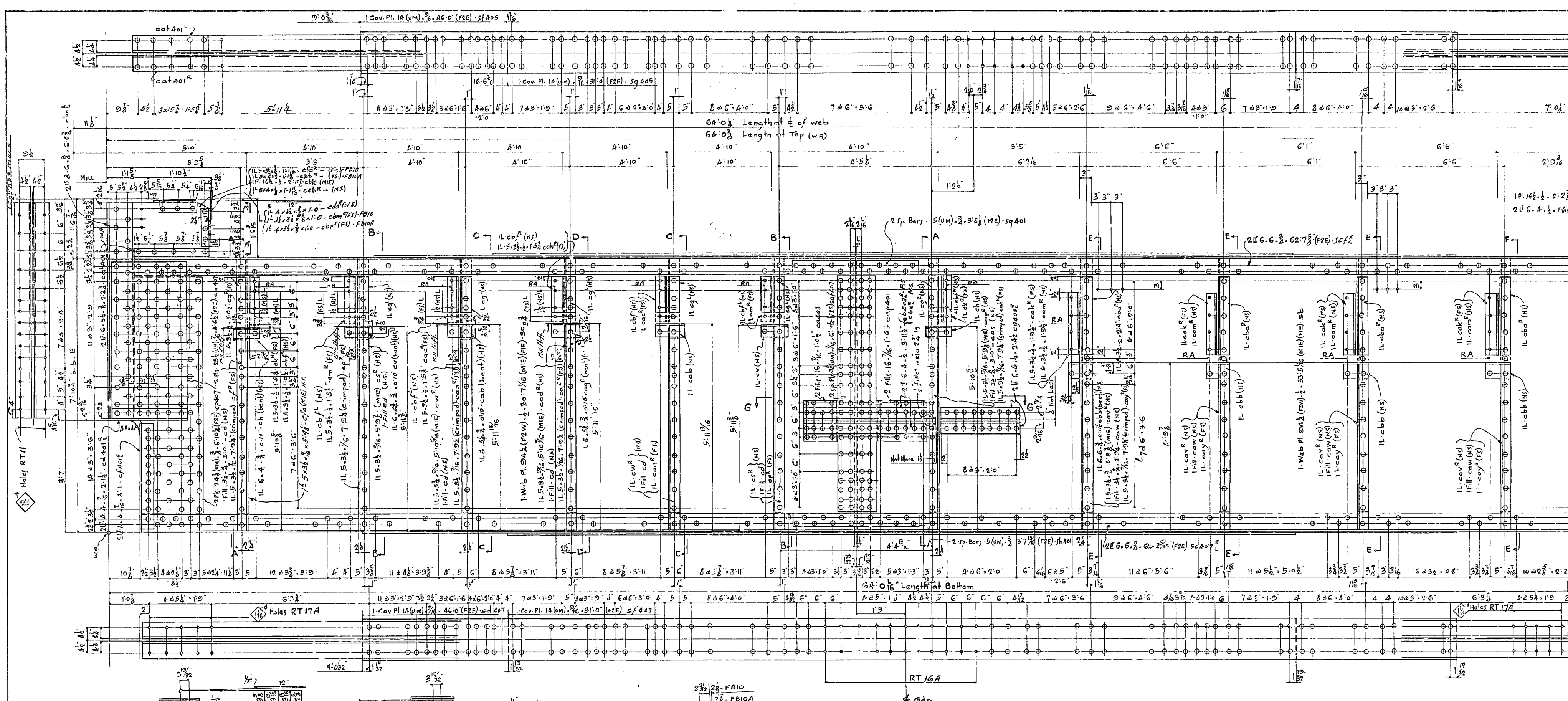
APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date 6/21/34

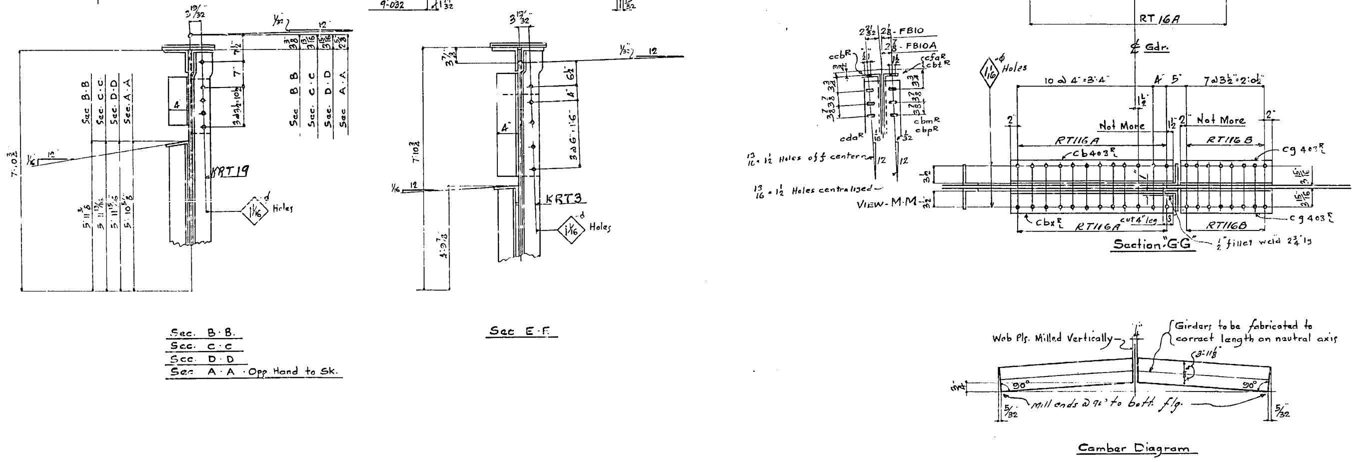
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE EAST BAY CROSSING
504'-0 - Spans
Bottom Lateral Plates

McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS Shop 3
IN CHARGE CWD — MADE BY J.R.W.
FEG — TRACED BY K.C.

CONTRACT CJ 580-3
J307

30-1





All stiffeners Angles to bear. Backs of end conn. Ls need not be milled. These Ls shall be set square and flush with milled edge after floor beam is milled

Holes marked RA to be sub punched and reamed with material shop assembled.
Holes marked RT to be sub-punched and reamed or drilled full size through a metal templet.

Re-entrant cuts at ends of floor beam webs may be burned. Burned edges of material to be planed, faced or chipped to remove at least 1/8" of metal.
Reaming Templet marked KRT to be obtained from Saucon Works.

No.	Description	Mark	Remarks	Weight each Tons
One	Floor Beam	FB10		
One	do do	FB10-A	Opp. Hand To Sk	

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M Bailey Inc.
RIVETS: 7/8
OPEN HOLES: 15/16 Unless noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4 thick or less to be sub-punched 1/4 and reamed to size after assembly.
DRILLING: Holes in material over 3/4 thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8 of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Oxid Filler Red for base and ... of Bents, ... "Acid Resisting Liquid" to ... members, to machined surfaces of ... to inside surfaces of bolted ... angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

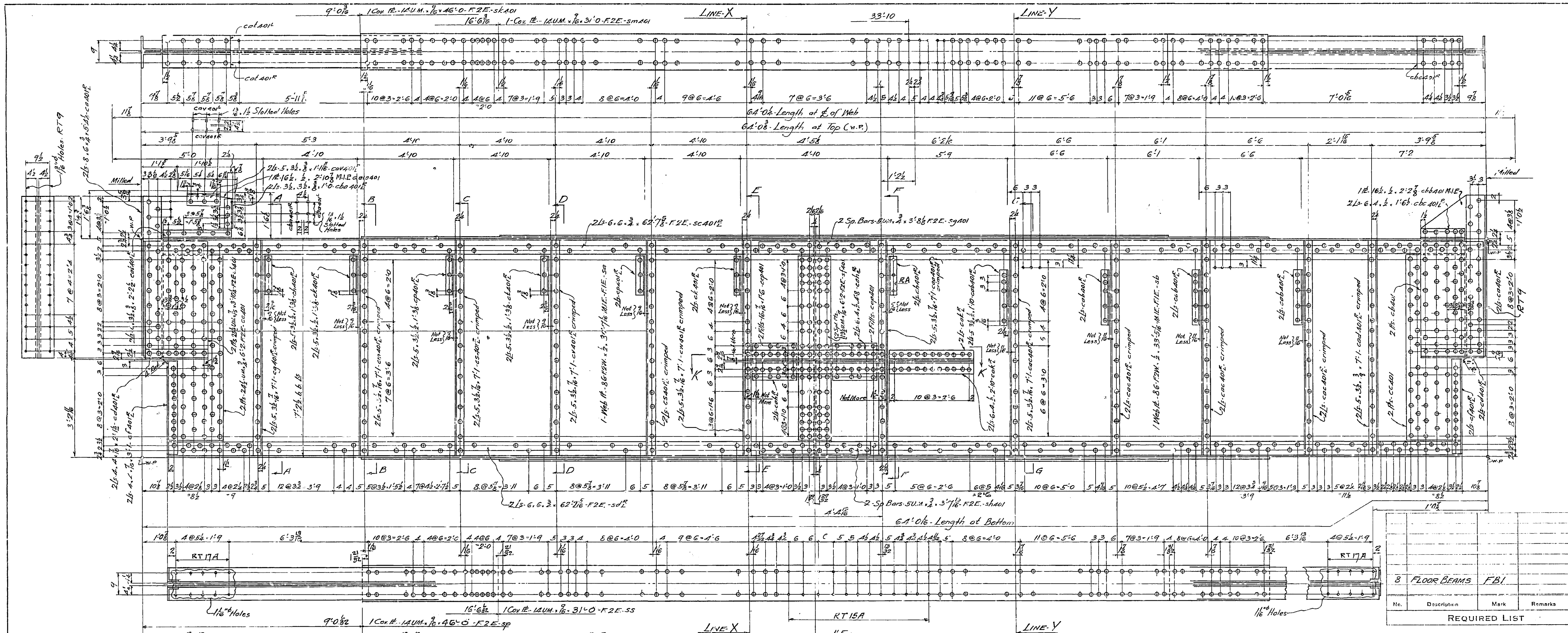
Date	Revision	App'd
10/19/34	Section G-G { cut 4" lcg / Weld 6" lcg	10/27/34
7/17/34	Holes out Top Flange - left end.	7/25/34

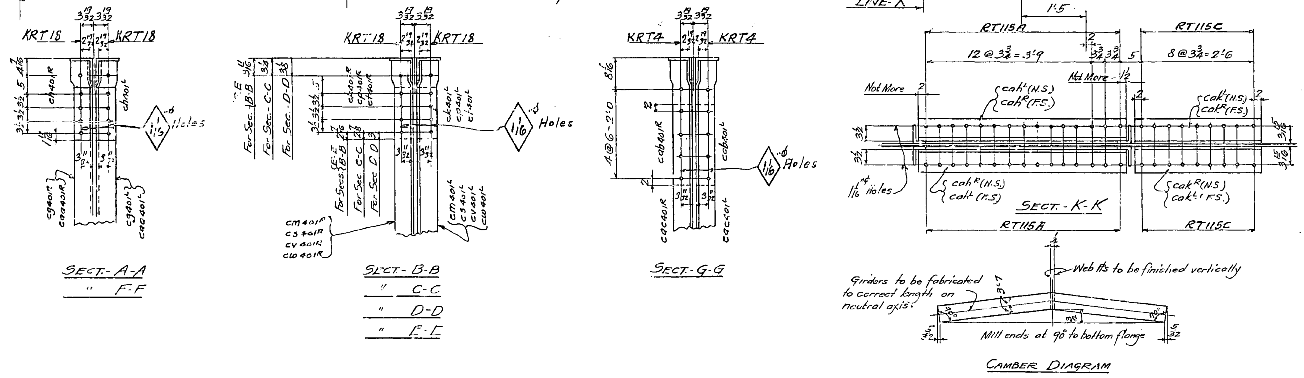
APPROVED

Engineer of Design
Bridge Engineer
Chief Engineer
Date 6-20-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO 7
SUPERSTRUCTURE EAST BAY CROSSING
504' 0" Spans
FLOOR BEAMS (SPAN EG) L3 - L9
McCLINTIC MARSHALL CORPORATION
Pottstown DRAWING ROOM   Pottstown WORKS
Shop 2
DRAWN BY C.W.D.   MADE BY L.A.H.
CHECKED BY J.A.S.   TRACED BY D.L.B.
CONTRACT CJ 1560-4   SHEET J409
Rev 7/30/34

30-1





Shop Note:-

All Stiffener Angles to bear.
Backs of end conn.[ls] need not be milled. These[ls] shall be set square and flush with milled edge after Floor beam is milled.
Re-entrant cuts at ends of floor beam webs may be burned. Burned edges of material to be planed, faced or chipped to remove at least 1/8" of metal.
Holes marked RA to be sub-punched and reamed with material shop assembled.
Holes marked RT to be sub-punched and reamed or drilled full size through a metal templet.
Reaming Templet marked KRT to be obtained from Saucon Works.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: by John M. Bailey Inc
RIVETS: 7/8"ϕ
OPEN HOLES: 15/16"ϕ unless noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING. Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH. All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shores; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

No.	Description	Mark	Remarks	Weight each Tons
8	FLOOR BEAMS	FB1		

REQUIRED LIST

Date	Revision	App'd

APPROVED

Engineer of Design

Bridge Engineer

Chief Engineer

Date 5-23-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING L1-L11

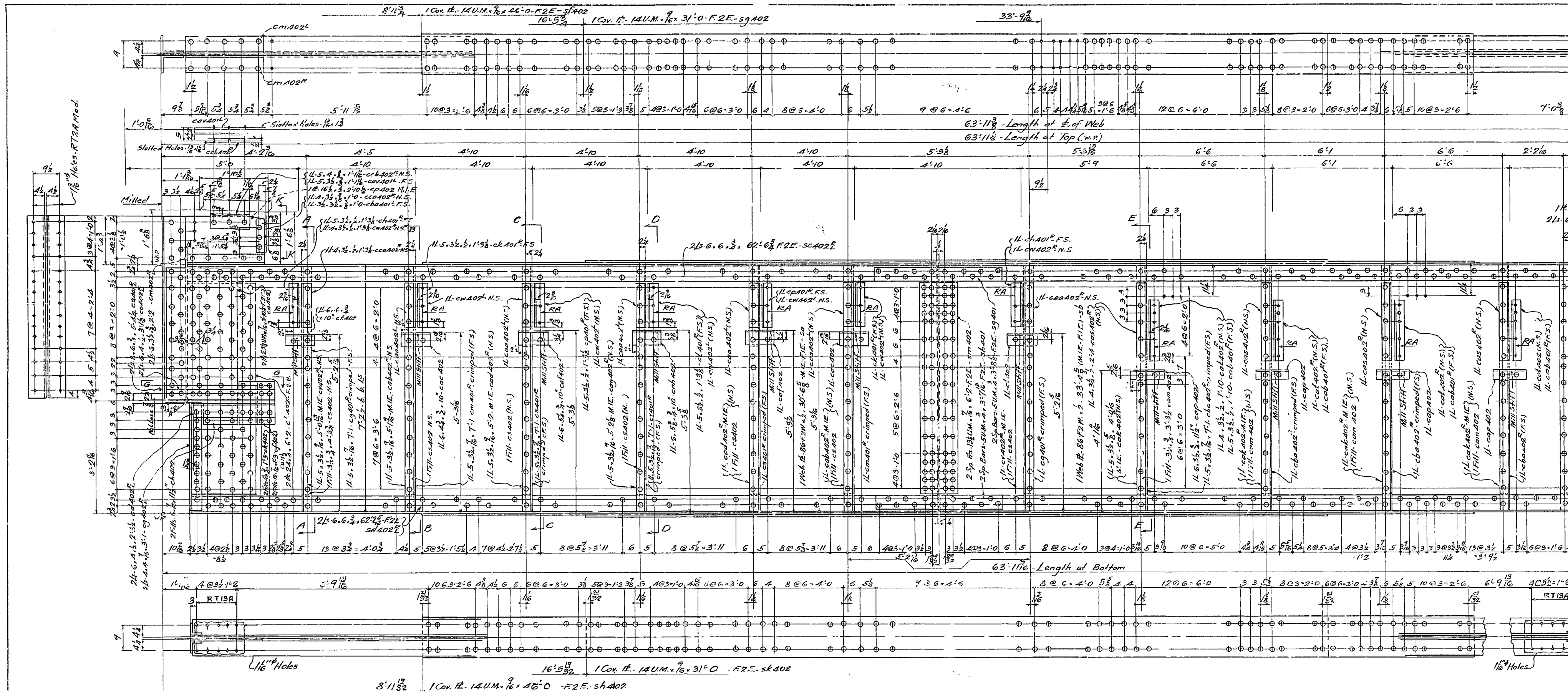
FLOOR BEAMS (SPANS E4-E5-E7-E8
504'-0" Spans

McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS Shop 2

IN CHARGE C.W.D.
CHECKED BY J.A.S.
MADE BY H.B.M.
TRACED BY EPK.

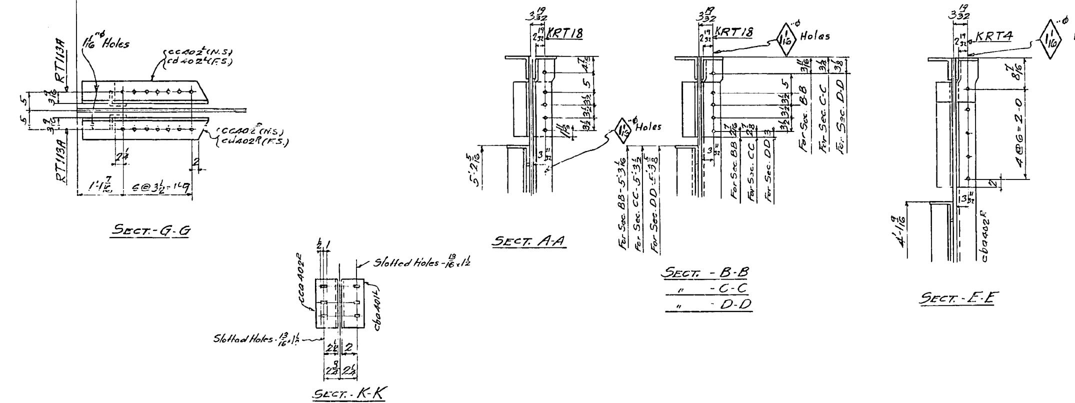
CONTRACT CJ 1580-4

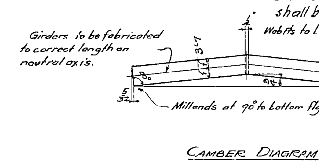
SHEET J401



No.	Description	Mark	Remarks	Weight each Tons
4	FLOORBEAMS	FB2		

REQUIRED LIST





CAMBER DIAGRAM

All Stiffener Angles to bear.

Holes marked RT to be sub-punched and reamed or drilled full size through a metal templet.

Holes marked RA to be sub-punched and reamed with material assembled.

Backs of end conn. L's need not be milled. These L's shall be set square and flush with milled edge after Floorbeam is milled.

Web Pls to be finished vertically.

Reaming Templet marked KRT to be obtained from Saucon Works.

Re-entrant cuts at end of floor beam webs may be burned. Burned edges of material to be planed, faced or chipped to remove at least 1/8" of metal.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: by John M. Bailey Inc
RIVETS: 7/8" ϕ 15/16" ϕ
OPEN HOLES: 15/16 unless noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, bracing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/8" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/16" of metal.
MATCH MARKING: All match marking to be made with both steel stencil and paint.
SHOP PAINT: [illegible]

Date	Remarks	App'd

APPROVED

Engineer of Design

Bridge Engineer

Chief Engineer

Date: 5-23-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
504'0" Spans

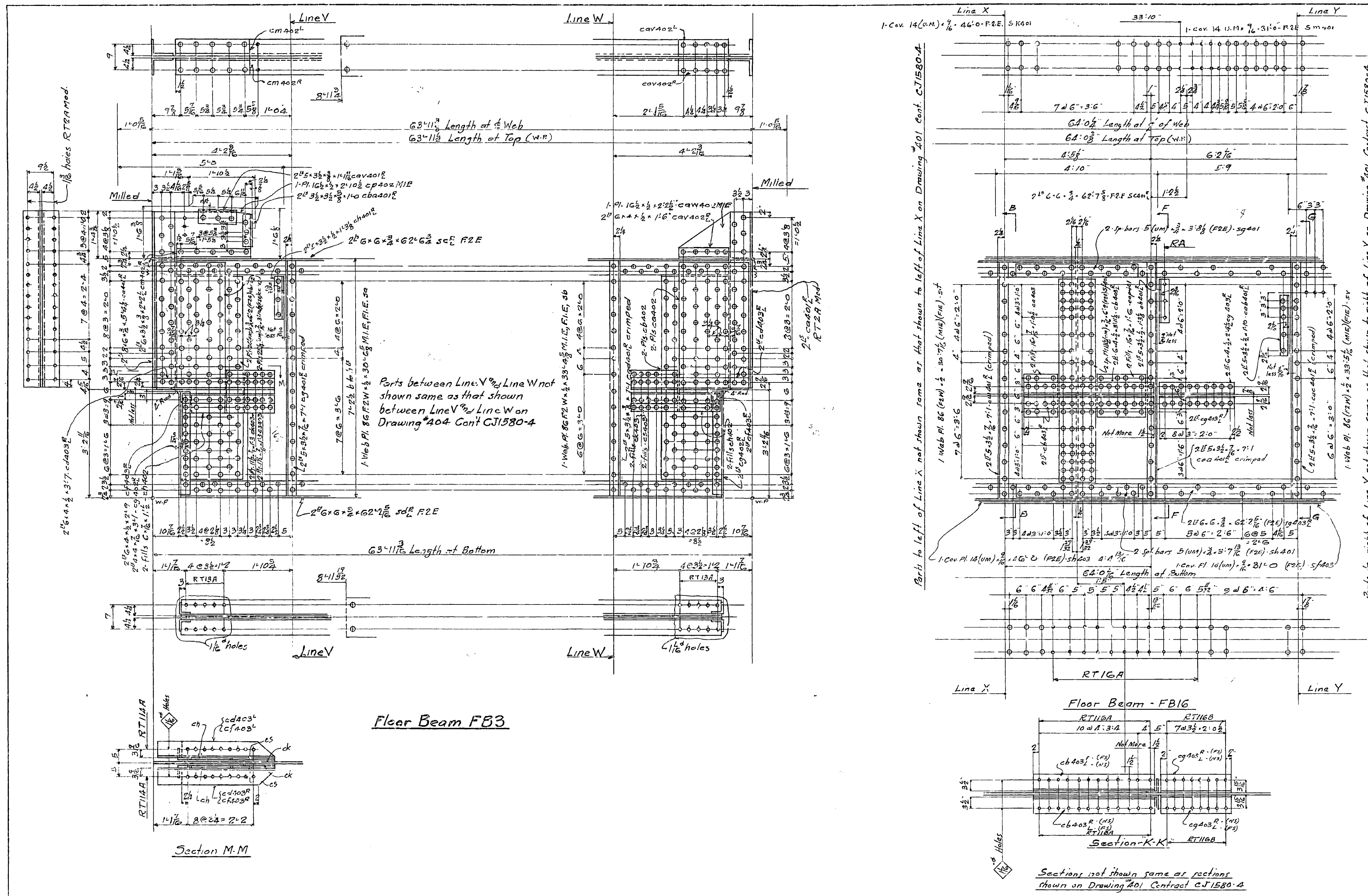
FLOOR BEAMS-F.B.2-(SPANS-E4-5-7-8)-L6

McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS Shop 2

[illegible] C. W. D. MADE BY H. B. M.
CHECKED BY J. A. S. TRACED BY CK
[illegible]

CONTRACT CJ-1589-4 SHEET J102

Rev. 7-30-34



Shop Notes:-
All stiffener Ls to bear.
Holes marked RT to be sub-punched and reamed or drilled full size through an iron templet.
Holes marked RA to be sub-punched and reamed with material shop assembled
Backs of end conn. Ls need not be milled.
These Ls shall be set square and flush with milled edge after floor beam is milled
Reaming Templet marked KRT to be obtained from Saucon Works.

No.	Description	Mark	Remarks	Weight each Tons
8	Floor Beams	FB3		
8	" "	FB16		

REQUIRED LIST

Re-entrant cuts at ends of beam webs may be burned. Burned edges of material to be planed, faced or chipped to remove at least ⅛ of metal.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: by John M. Bailey Inc.
RIVETS: ⅞ diam
OPEN HOLES: 15/16 diam. unless noted
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ¼" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Oxid Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

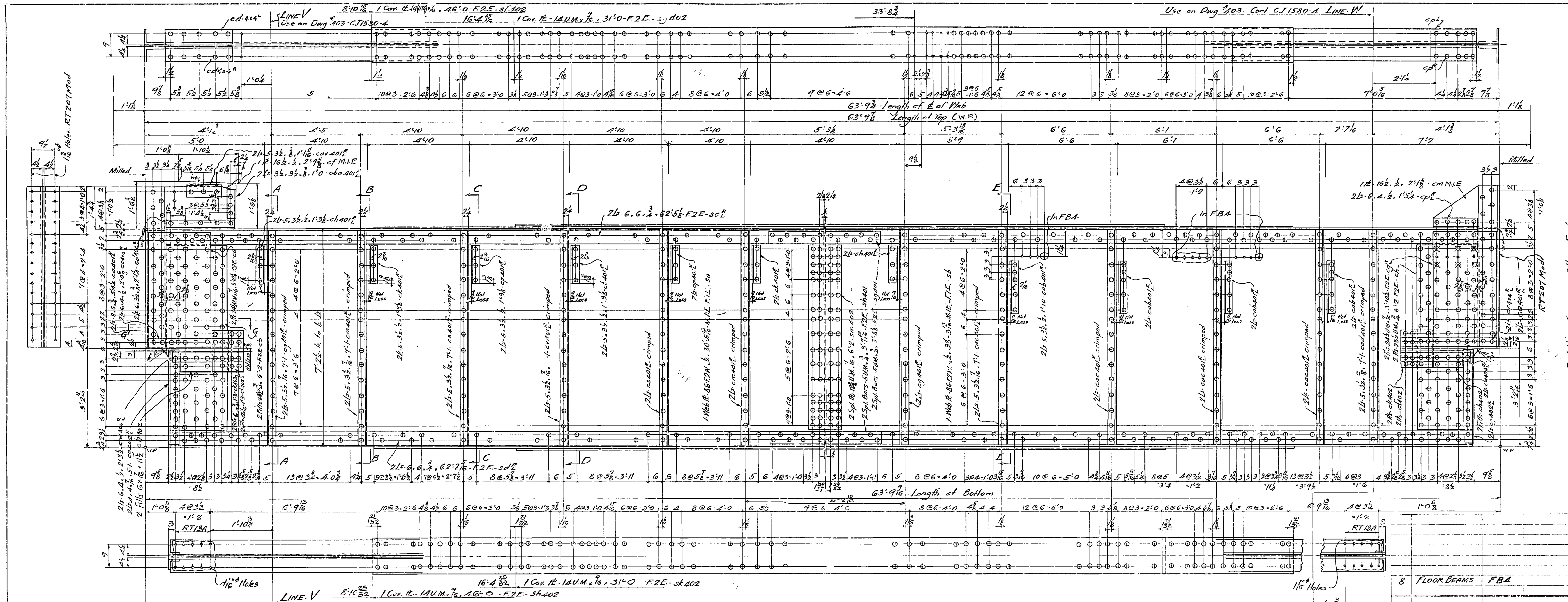
Date	Revision	App'd

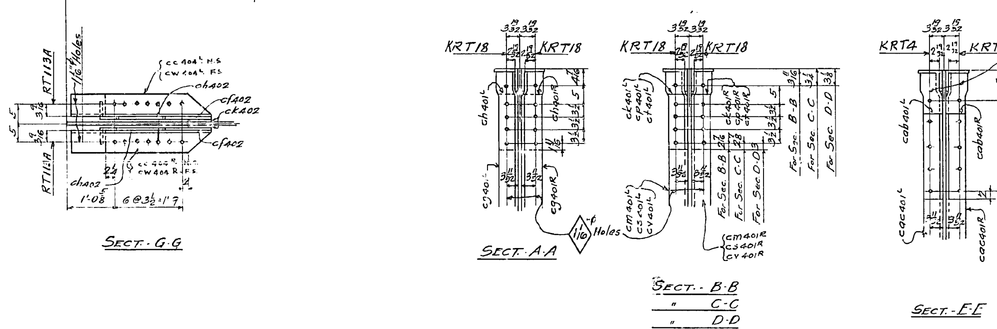
APPROVED

Engineer of Design
Bridge Engineer
Chief Engineer
Date 5-31-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
504'-0 Spans. E4-E5-E7-E8
Floor Beams. {FB3 - L2-L10, FB16 - L5-L7}
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM — Pottstown WORKS Shop 2
IN CHARGE C.W.D. — MADE BY L.A.H.
CHECKED BY J.A.S. — TRACED BY D.L.B.
EAST ASSEM. MK.

CONTRACT CJ 1580-4 — SHEET J403





Sect. G-G

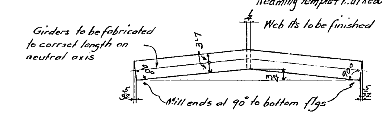
Sect. A-A

Sect. B-B
" C-C
" D-D

Sect. E-E

All Stiffener Angles to bear.

Holes marked RT to be sub-punched and reamed or drilled full size through an iron templet.
Backs of end conn. Ls need not be milled
These Ls shall be set square and flush with milled edge after floorbeam is milled
Reaming Templet marked KRT to be obtained from Saucon Works



Camber Diagram

Re-entrant cuts at ends of floor beam webs may be burned. Burned edges of material to be planed, faced or chipped to remove at least ⅛" of metal.

No.	Description	Mark	Remarks	Weight each Tons
8	Floor Beams	FB4		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: by John M. Barley Inc.
RIVETS: ⅞" ø
OPEN HOLES: 15/16" ø - unless noted
PUNCHING: Holes in material ¾ thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up stringers and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

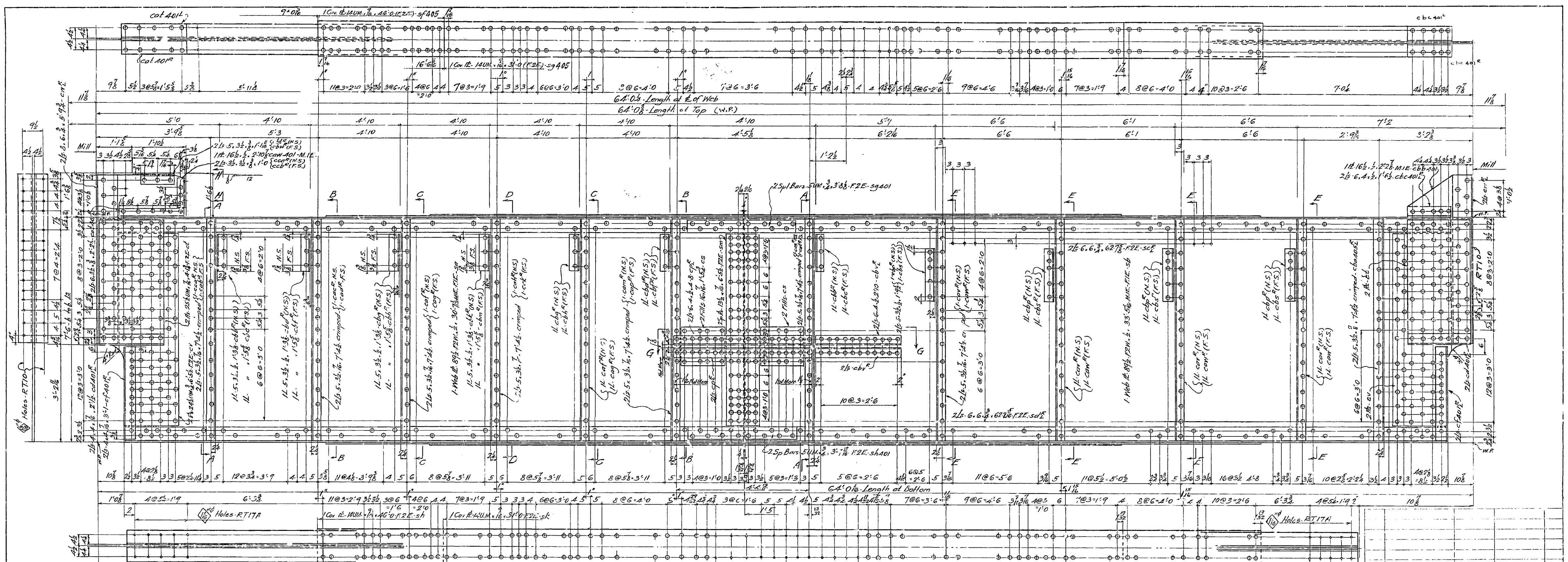
Date	Revision	App'd

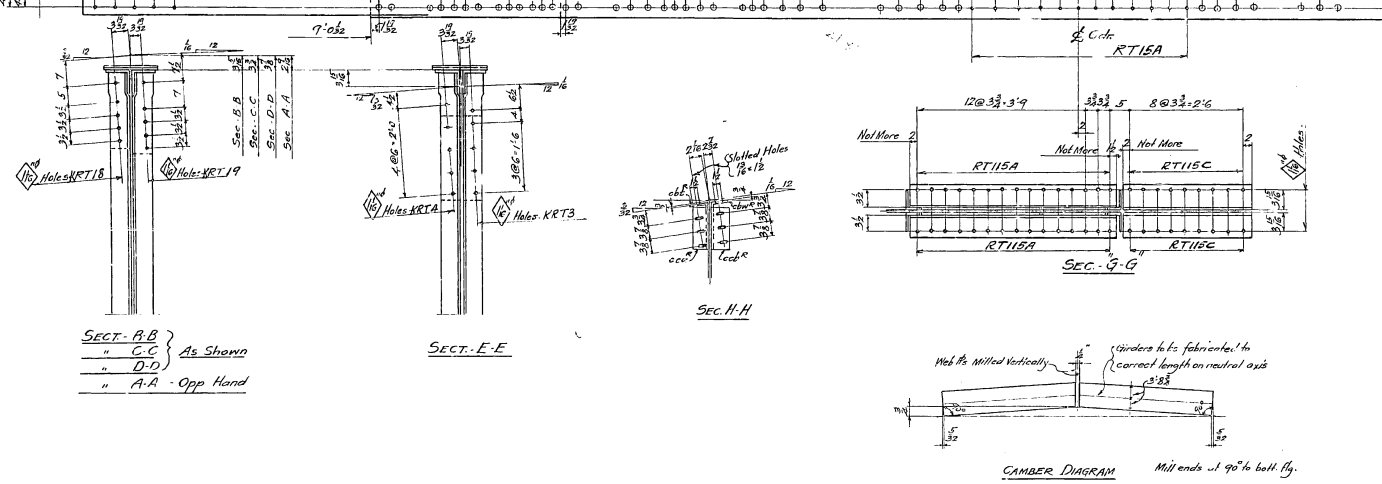
APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date: 5-31-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
504'-0 SPANS (E4-E5 E7-E8)
FLOOR BEAMS FB4 (L4-L8)

McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS Shop 2
IN CHARGE C.W.D.
CHECKED BY J.A.S.
MADE BY H.M.
TRACED BY G.R.
CONTRACT CJ 1580-4 SHEET J404
Rev 8-14-34

30-1





Shop Note:

All Stiff ∠s to bear.
Backs of End Conn. ∠s need not be milled.
These ∠s shall be set square and flush with milled edge after floor beam is milled.

Re-entrant cuts at ends of floor beam webs may be burned. Burned edges of material to be planed, faced or chipped to remove at least 1/8" of metal.

Holes marked RT to be sub-punched and reamed or drilled full size thru a metal templet.
Reaming Templet marked KRT to be obtained from Sc[illegible]con Works.

One	Floor Beam	FB6R		
One	" "	FB6L	Opp. Hand	
No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: by John M. Bailey Inc.
RIVETS: 7/8" ϕ 15/16" ϕ
OPEN HOLES: 15/16 unless noted.
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4 and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Oxid Filler Red for base and cap plates of Towers, of Beds, [illegible] built up [illegible], and [illegible] "Acid Resisting [illegible]" to milled [illegible] of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates [illegible] angles and surfaces of main material in contact therewith, also to projecting portions of splice plates (or angles) which are then riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd
7/17/34	Holes out Top flange - left end	7/25/34

APPROVED

[illegible] Engineer of Design
Chas. E. Andrew Bridge Engineer
C. H. Purcell Chief Engineer
Date 5-31-34

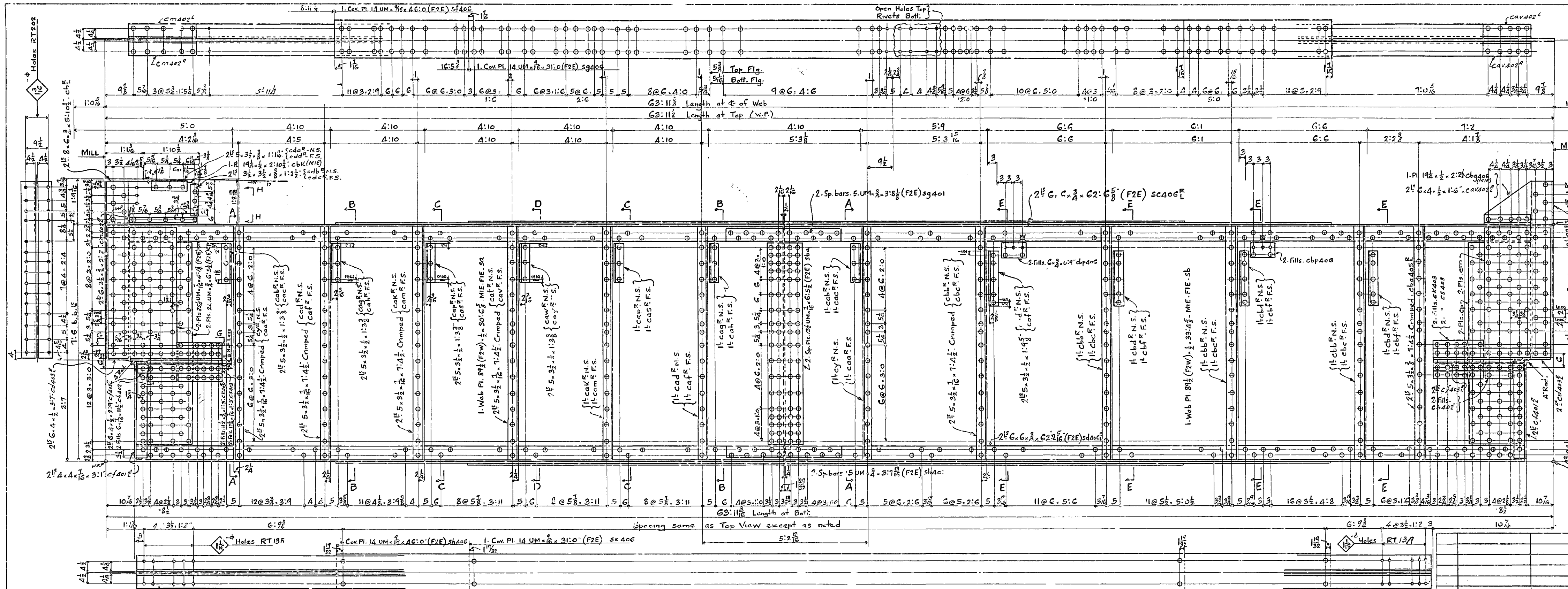
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

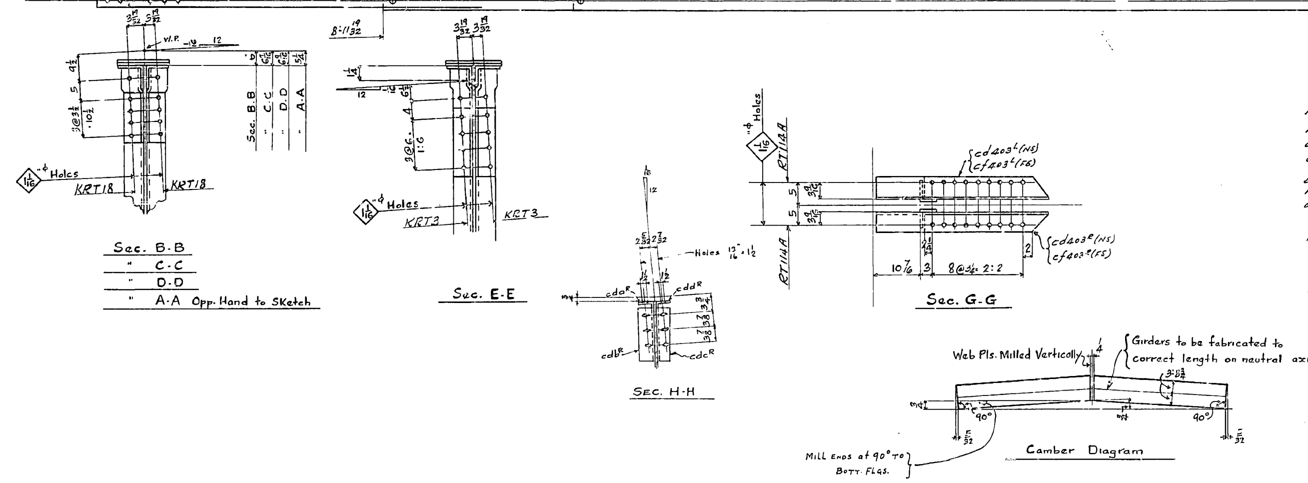
FB6R/L FLOOR BEAM - SPAN-E6
504'-0" Spans

McCLINTIC-MARSHALL CORPORATION
POTTSTOWN DRAWING ROOM POTTSTOWN WORKS
IN CHARGE C.W.D. MADE BY L.A.H. Shop 2
CHECKED BY J.A.S. TRACED BY [illegible]
[illegible] ASSEM. MIL.

CONTRACT CJ-1580-4 SHEET J405

Rev. 7/30/34





All stiffener Angles to bear
Holes marked "RT" to be sub-punched and reamed or drilled full size through a metal templet.
Backs of end conn. Ls need not be milled. These Ls shall be set square and Flush with milled edge after Floor beam is milled.
Re-entrant cuts at ends of floor beam webs may be burned. Burned edges of to be planed, faced or chipped to remove at least 1/8" of metal.
Reaming Templet marked KRT to be obtained from Saucon Works.

No.	Description	Mark	Remarks	Weight each Tons
One	Floor Beam	FB7R	As Shown	
One	" "	FB7L	Opp. Hand	

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: by John M. Bailey Inc.
RIVETS: 7/8"ϕ
OPEN HOLES: 15/16"ϕ Unless Noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except ... Filler Red for base and cap plates of Towers or Bents, and of built up steel, and ... "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting ... of splice plates (or angles) which are shop riveted to main material and are not ... accessible for sand blasting.

Date	Revision	App'd
7/17/34	Holes out Top flange-left end	7/25/34

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 5-31-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE EAST BAY CROSSING

Floor Beams FB7 R/L (SPAN E6) L2-L10
504'0" Spans

McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS Shop 2

IN CHARGE C.W.D. MADE BY L.A.H.
CHECKED BY J.A.S. TRACED BY F.J.K

CONTRACT CJ1580-4 SHEET J406

Rev. 7/30/57

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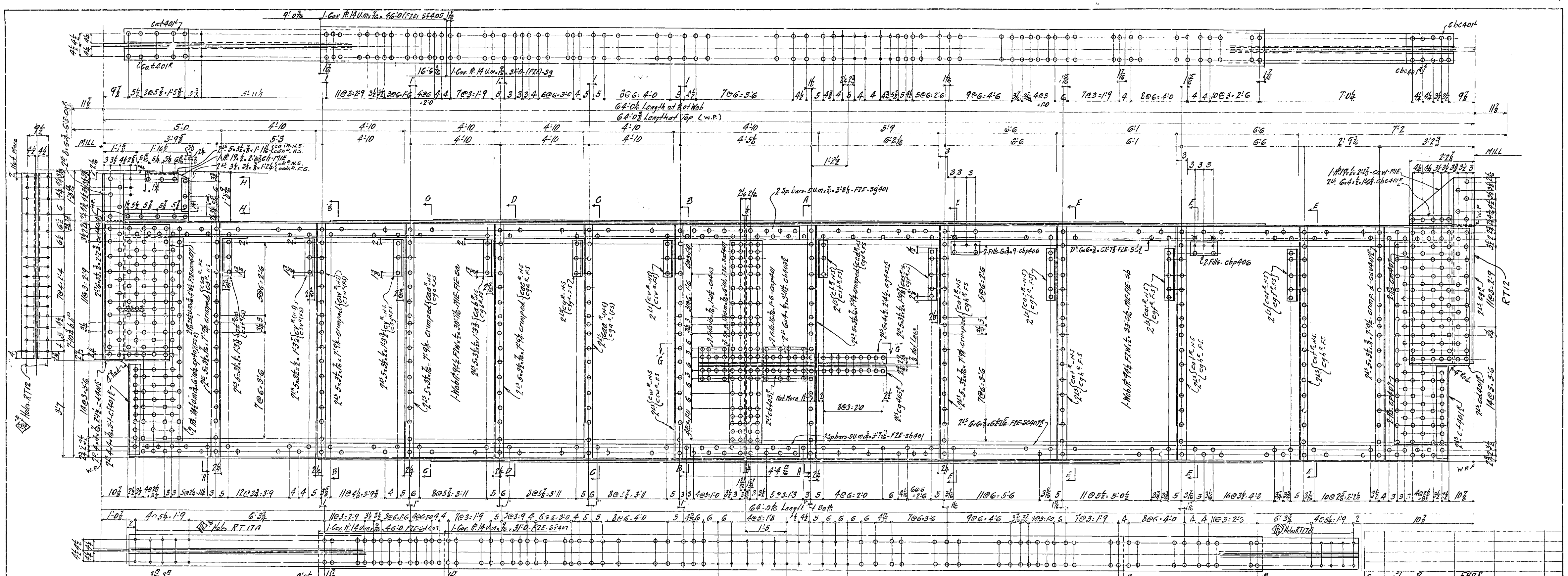
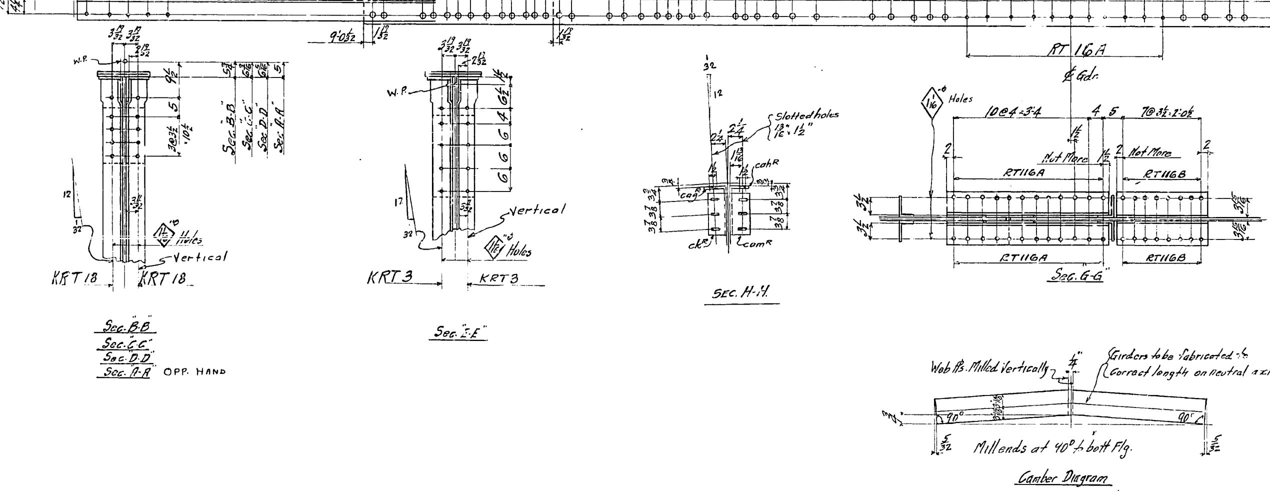




Shop Note:-
All Stiff Angles to bear.
Backs of end conn. ∠s need not be milled. These ∠s shall be set squar. and flush with milled edge after floor beam is milled.
Holes marked RT to be sub punched and reamed or drilled full size through a metal templet.
Re-entrant cuts at ends of floor beam webs may be burned. Burned edges of material to be planed, faced or chipped to remove at least 1/8" of metal.
Reaming Templet marked KRT to be obtained from Saucon Works.

No.	Description	Mark	Remarks	Weight each Tons
One	Floor Beam	FB8R		
One	do	FB8L	Opp Hand	

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: by John M. Bailey Inc.
RIVETS: 7/8"
OPEN HOLES: 15/16" unless noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except: 1 coat No-Ox Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes, and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd
7/17/34	Holes out Top flange - left end.	7/25/34

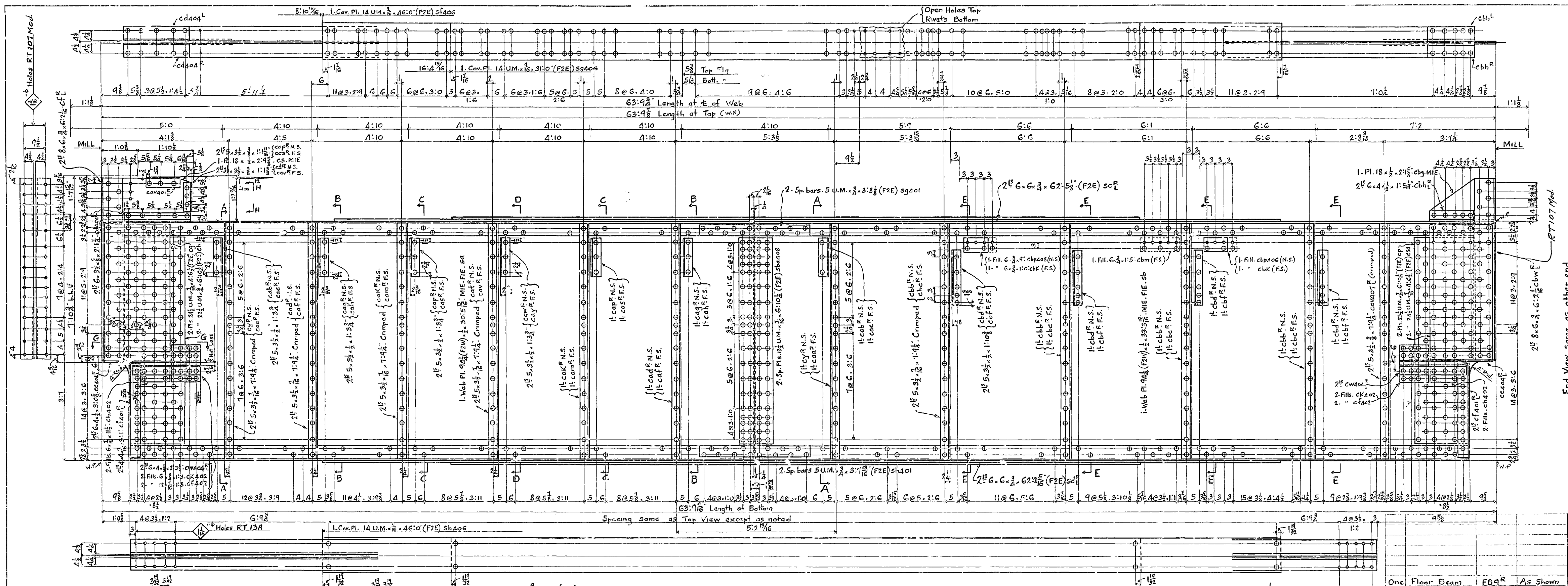
APPROVED

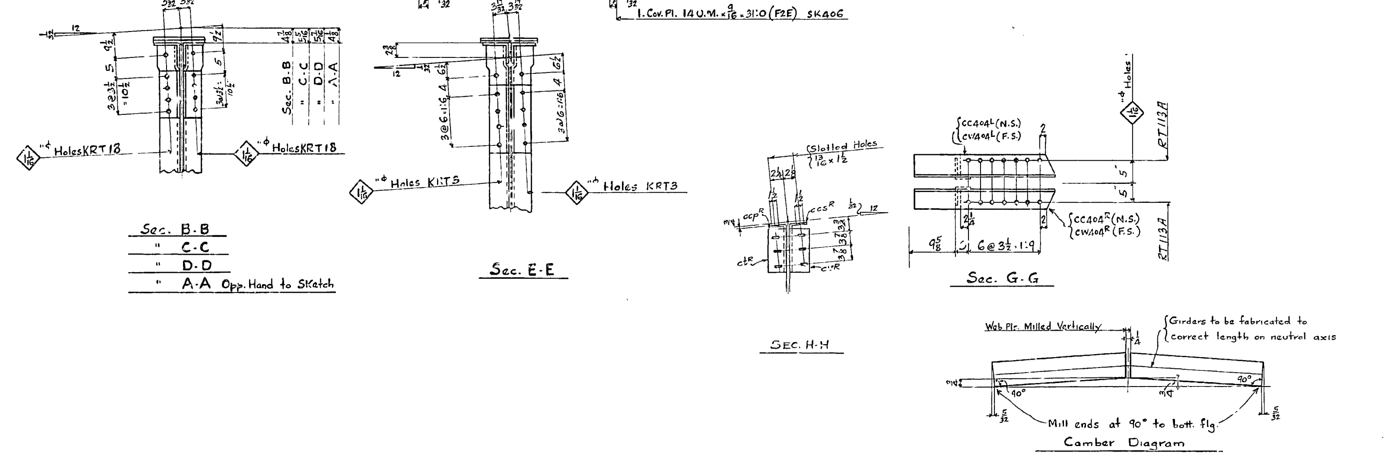
Engineer of Design
Bridge Engineer
Chief Engineer
Date 5-31-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Floor Beams-(Span E6)-L5-L7
504'-0" Spans
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS Shop 2
IN CHARGE G.W.D
CHECKED BY J.A.S.
MADE BY L.A.H
TRACED BY L.A.H

CONTRACT CJ1580-4 SHEET J407

Rev. 7/30/34





All stiffener angles to bear.
Holes marked RT to be sub-punched and reamed or drilled full size thru a metal templet.
Backs of end connection angles need not be milled. These angles shall be set square and flush with milled edge after Floor Beam is milled.
Re-entrant cuts at ends of floor beam webs may be burned. Burned edges of material to be planed, faced or chipped to remove at least 1/8" of metal.
Reaming Templet marked KRT to be obtained from Saucon Works.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey Inc.
RIVETS: 7/8"φ
OPEN HOLES: 15/16"φ Unless Noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except [illegible] Red Lead base [illegible] of Towers, of Bents, and of built up [illegible] "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

One	Floor Beam	FB9R	As Shown	
One	" "	FB9L	Opp. Hand	
No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

Date	Revision	App'd
7/17/34	Holes out Top Flange - left end	7/25/34

APPROVED

Engineer of Design
Bridge Engineer
Chief Engineer
Date 5-31-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

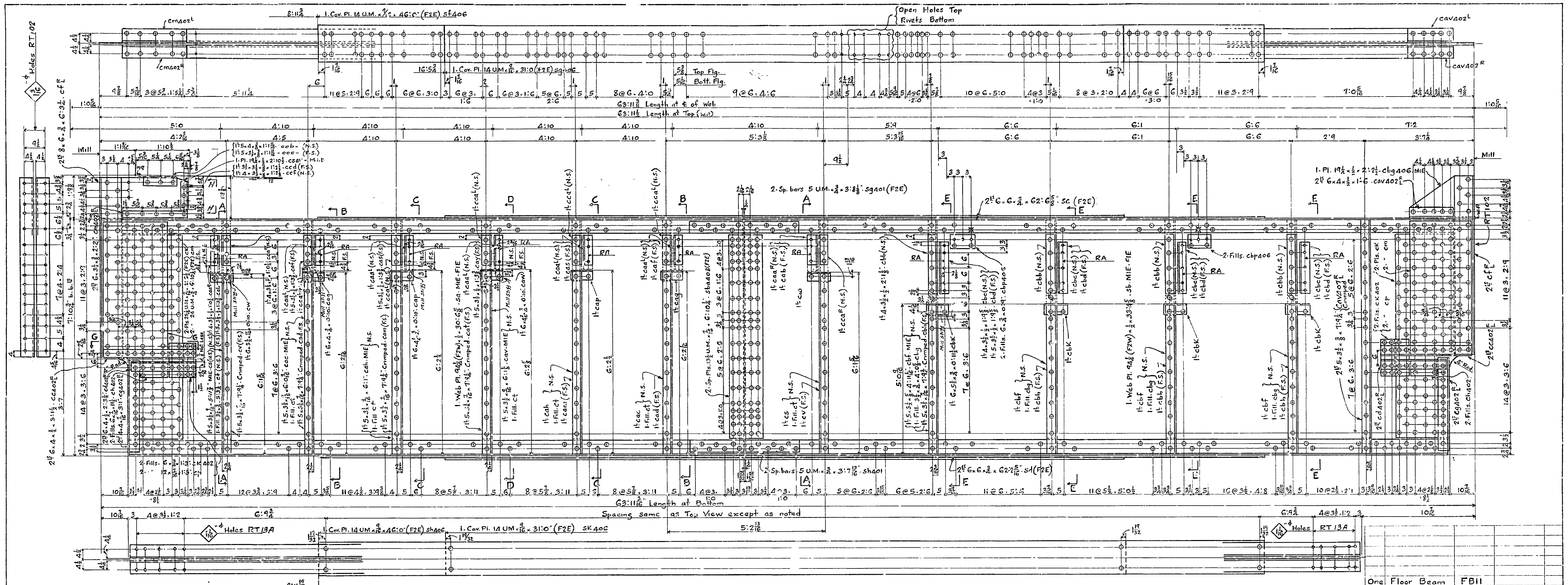
FLOOR BEAMS FB9 R/L (SPAN E6) L4-L8
504'-0" Spans

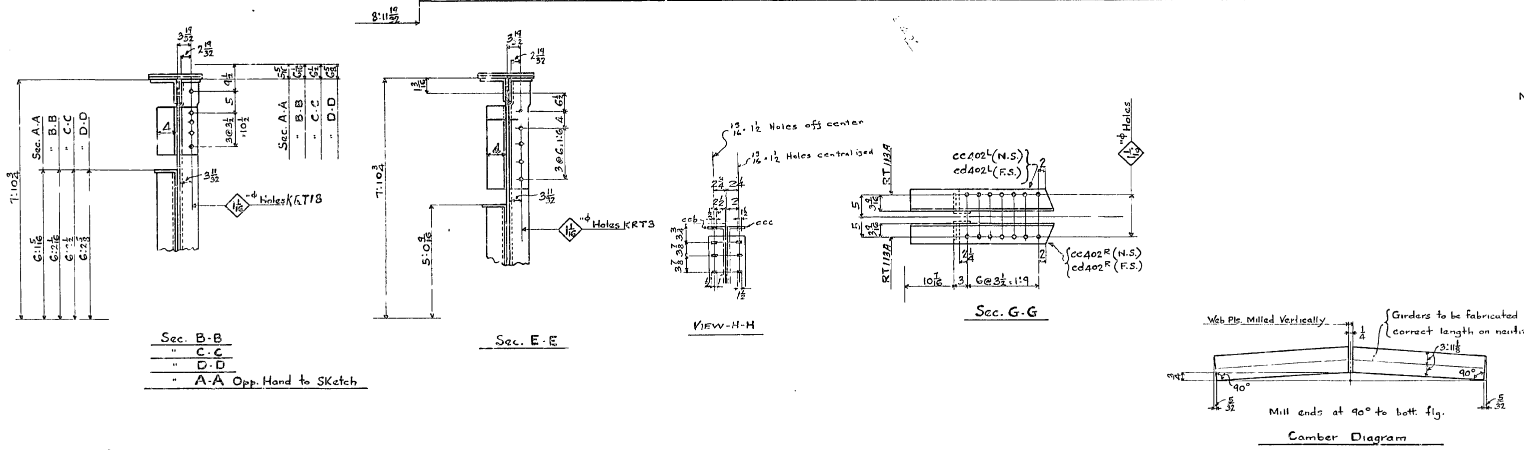
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS Shop 2

IN CHARGE OF C.W.D. MADE BY L.A.H.
CHECKED BY J.A.S. TRACED BY F.J.K

CONTRACT CJ1580-4 SHEET J408

Rev. 7/25/34





Note:
All stiffener ⌊s to bear.
Backs of end connection ⌊s need not be milled. These ⌊s shall be set square and flush with milled edge after Floor Beam is milled.

Holes marked RT to be sub-punched and reamed or drilled full size thru a metal templet.

Holes marked RA to be sub-punched and reamed with material shop assembled.

Re-entrant cuts at ends of floor beam webs may be burned. Burned edges of material to be planed, faced or chipped to remove at least $\frac{1}{8}$" of metal.
Reaming Templets marked KRT to be obtained from Saucon Works.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey Inc.
RIVETS: $\frac{7}{8}$"φ
OPEN HOLES: $\frac{15}{16}$"φ Unless Noted
PUNCHING: Holes in material $\frac{3}{4}$" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material $\frac{3}{4}$" thick or less to be sub-punched $\frac{1}{8}$" and reamed to size after assembly.
DRILLING: Holes in material over $\frac{3}{4}$" thick to be sub-drilled $\frac{1}{8}$" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least $\frac{1}{16}$" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox Id [illegible] Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to [illegible] ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting. See Sheet F1

No.	Description	Mark	Remarks	Weight each Tons
One	Floor Beam	FB11		

REQUIRED LIST

Date	Revision	App'd
7/17/34	Holes out top flg. left end Gages in View H-H.	7/25/34

APPROVED

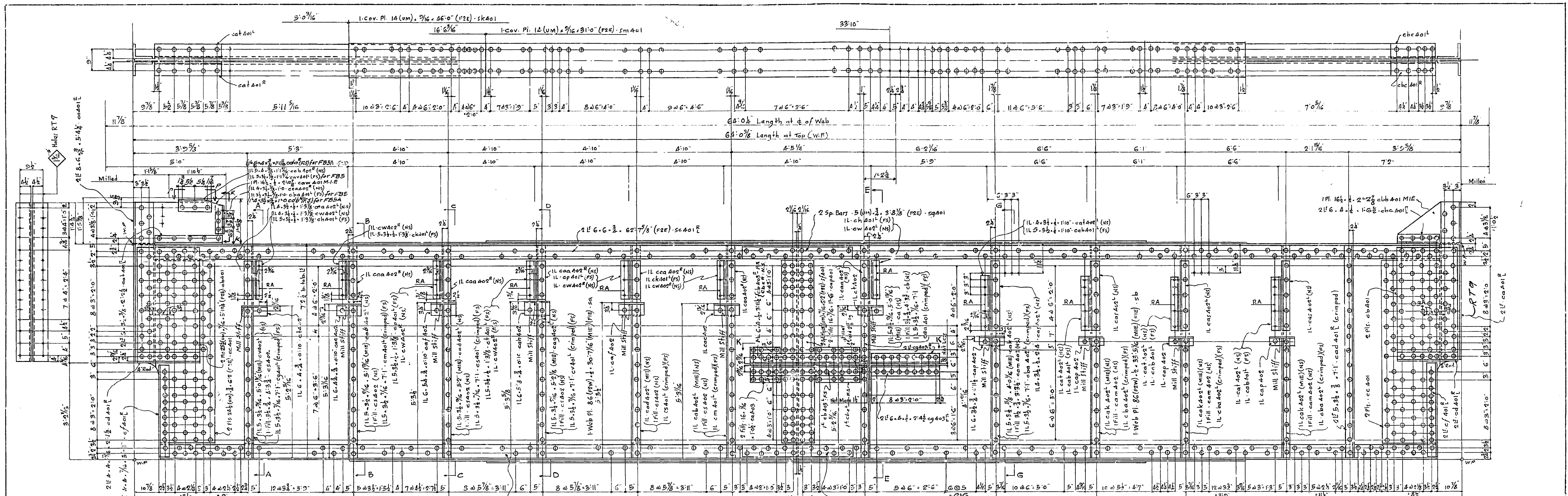
[illegible] Engineer of Design
[illegible] Bridge Engineer
[illegible] Chief Engineer
Date 6-20-34

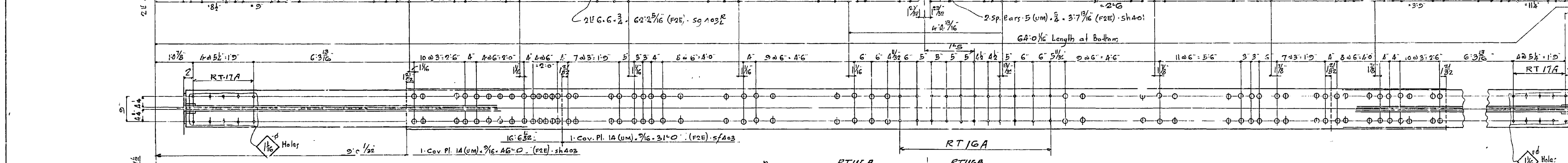
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
504'-0" Spans
FLOOR BEAM FB11 (Span E6) LG

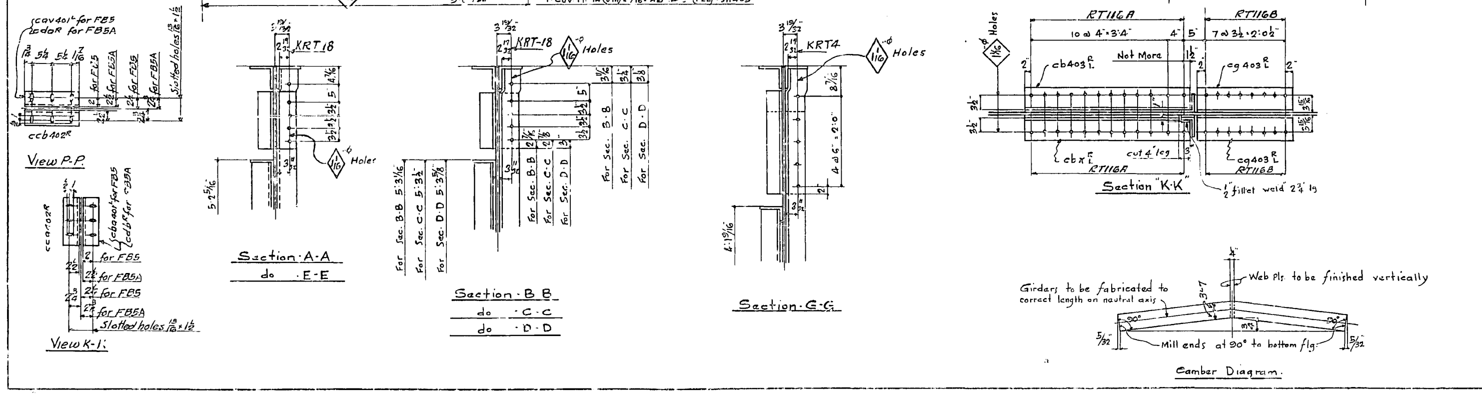
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS Shop 2
IN CHARGE C.W.D. MADE BY L.A.H
CHECKED BY J.A.S. TRACED BY F.J.K.
LAST ASSEM. MK.

CONTRACT CJ1580-4 SHEET J410

Rev 7/30/34







Shop Note -

All Stiffener Angles to bear.

Backs of end conn. Ls need not be milled. These Ls shall be set square and flush with milled edge after floor beam is milled.

Re-entrant cuts at ends of floor beam webs may be burned. Burned edges of material to be planed, faced or chipped to remove at 1/8" of metal.

Holes marked RA to be sub-punched and reamed with material shop assembled.

Holes marked RT to be sub-punched and reamed or drilled full size through a metal templet.

Reaming Templets marked KRT to be obtained from Saucon Works.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc; for silicon steel with s, thus: sa, sb, etc.

SPECIFICATIONS: Special by State of California, Department of Public Works.

INSPECTION: by John M. Bailey Inc.

RIVETS: 7/8" ⌀

OPEN HOLES: 15/16" ⌀ Unless Noted

PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.

DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.

FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/4" of metal.

MATCH MARKING: All match marking to be made with both steel stencils and paint.

SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to [illegible] portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

No.	Description	Mark	Remarks	Weight each Tons
4	Floor Beams	FB5		
4	do do	FB5A	Opp. hand to Sk	

REQUIRED LIST

Date	Revision	App'd
10/19/34	Section K-K { cut 4" leg / Weld 6" leg	10/27/34

APPROVED

Chas. P. Woodruff — Engineer of Design

Chas. E. Andrew — Bridge Engineer

C. H. [illegible] — Chief Engineer

Date: 5-31-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE

CONTRACT NO. 7

SUPERSTRUCTURE-EAST BAY CROSSING

Floor Beams - FB5 - FB5A

504'-0" Spans

McCLINTIC-MARSHALL CORPORATION

Pottstown DRAWING ROOM Pottstown WORKS

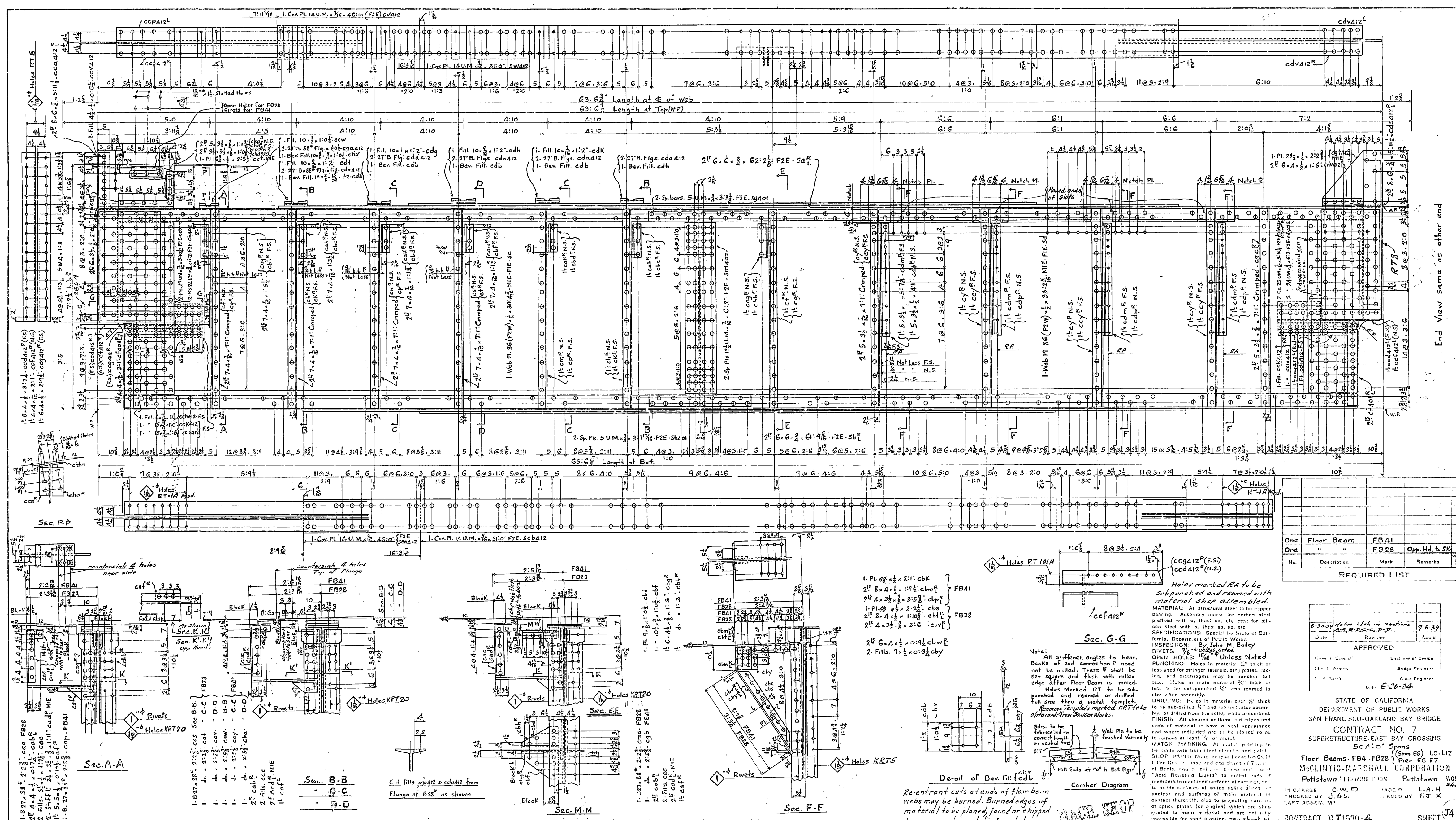
Shop 2

IN CHARGE C.W.D. MADE BY H.B.M.

CHECKED BY J.A.S. TRACED BY D.L.B.

LAST ASSEM. MK.

CONTRACT CJ1580-4 SHEET J411



Note:
All stiffener angles to bear. Backs of end connection ∟s need not be milled. These ∟s shall be set square and flush with milled edge after Floor Beam is milled.
Holes Marked RT to be subpunched and reamed or drilled full size thru a metal templet. Reaming Templets marked KRT to be obtained from Saucon Works.

Holes marked RA to be subpunched and reamed with material shop assembled.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: ⅞"ϕ unless noted
OPEN HOLES: 15/16"ϕ Unless Noted
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red to base and cap plates of Towers of Bents, and of built up shoes and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting. See sheet F1

No.	Description	Mark	Remarks	Weight each Tons
One	Floor Beam	FB41		
One	" "	FB28	Opp. Hd. to SK	

REQUIRED LIST

Date	Revision	App'd
8-30-34	Holes ctsk in sections A-A, B-B, C-C, D-D.	9-6-34

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 6-30-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
504'-0" Spans
Floor Beams - FB41-FB28 {(Span E6) L0-L12 Pier E6-E7

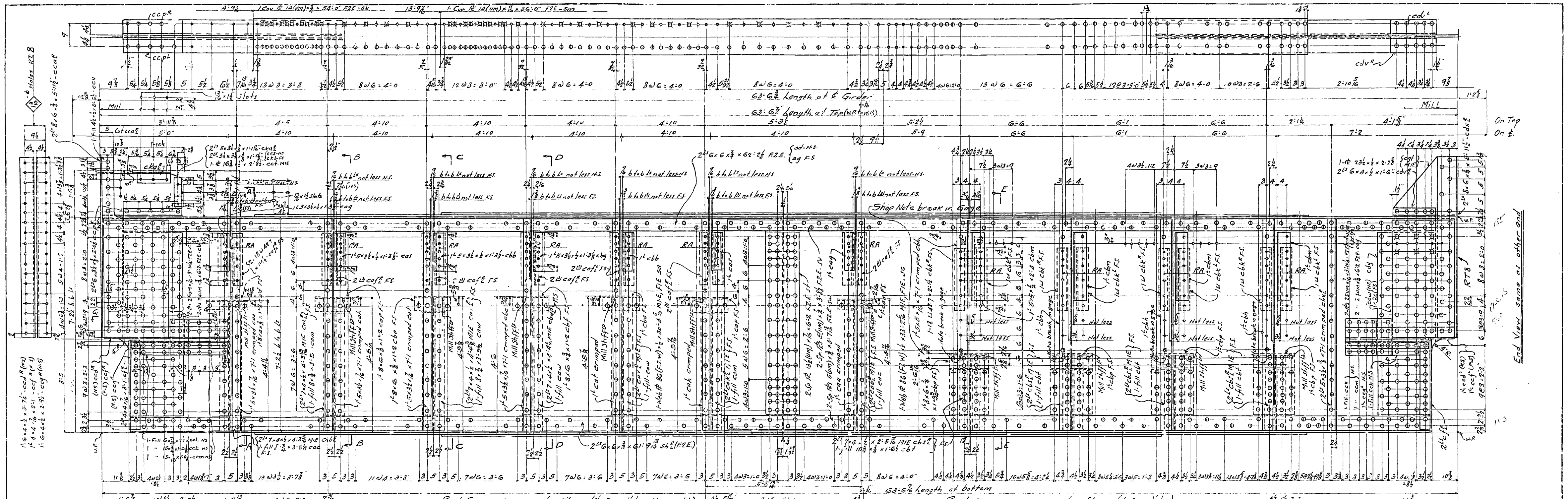
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS Shop 2

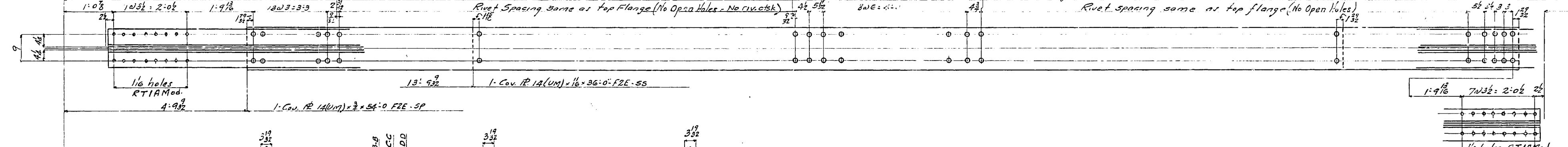
IN CHARGE C.W.D. MADE BY L.A.H.
CHECKED BY J.A.S. TRACED BY F.J.K.
LAST ASSEM. MK.

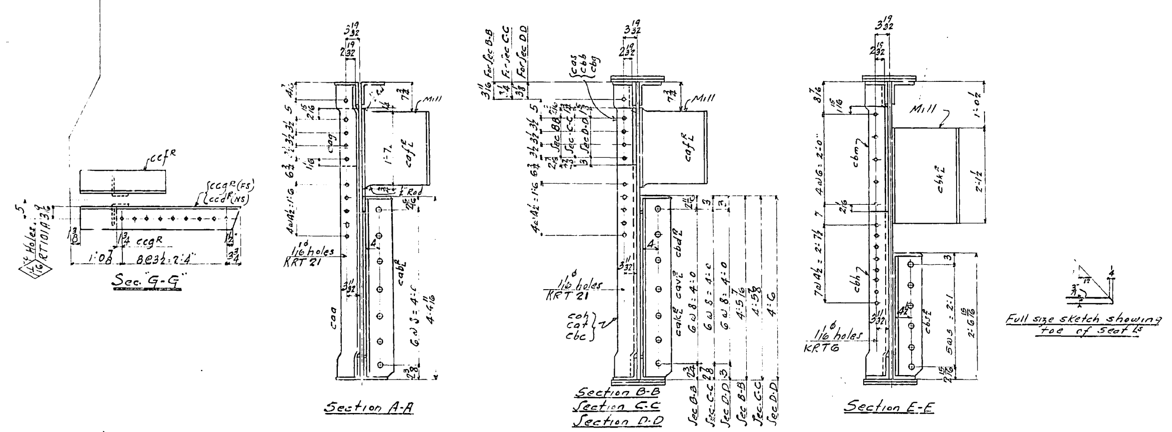
CONTRACT CJ1590-4 SHEET J412

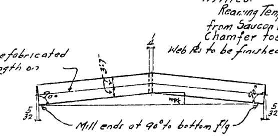
Rev 7/20/34
" 8-1? 34
" 12-26-34

30-1









CAMBER DIAGRAM

All Stiffener Angles to bear.
Holes marked "RT" to be sub-punched and reamed or drilled full size through a metal templet.
Holes marked "RA" to be sub punched and reamed with material assembled.
Backs of end conn. Ls need not be milled. These Ls shall be set square and flush with milled edge after Floorbeam is milled.
Reaming Templet marked KRT to be obtained from Saucon Works.
Chamfer toe of all seat Ls. See Detail.
Web Pls to be finished vertically

Re-entrant cuts at ends of floor beam webs may be burned. Burned edges of material to be planed, faced or chipped to remove at least 1/8" of metal.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 7/8"
OPEN HOLES: 15/16" Unless Noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members to machined surfaces of castings, and to inside surfaces of bolted splice plates or angles, and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting. see sheet F1

No.	Description	Mark	Remarks	Weight each Tons
One	Floor Beam	FB42		

REQUIRED LIST

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer

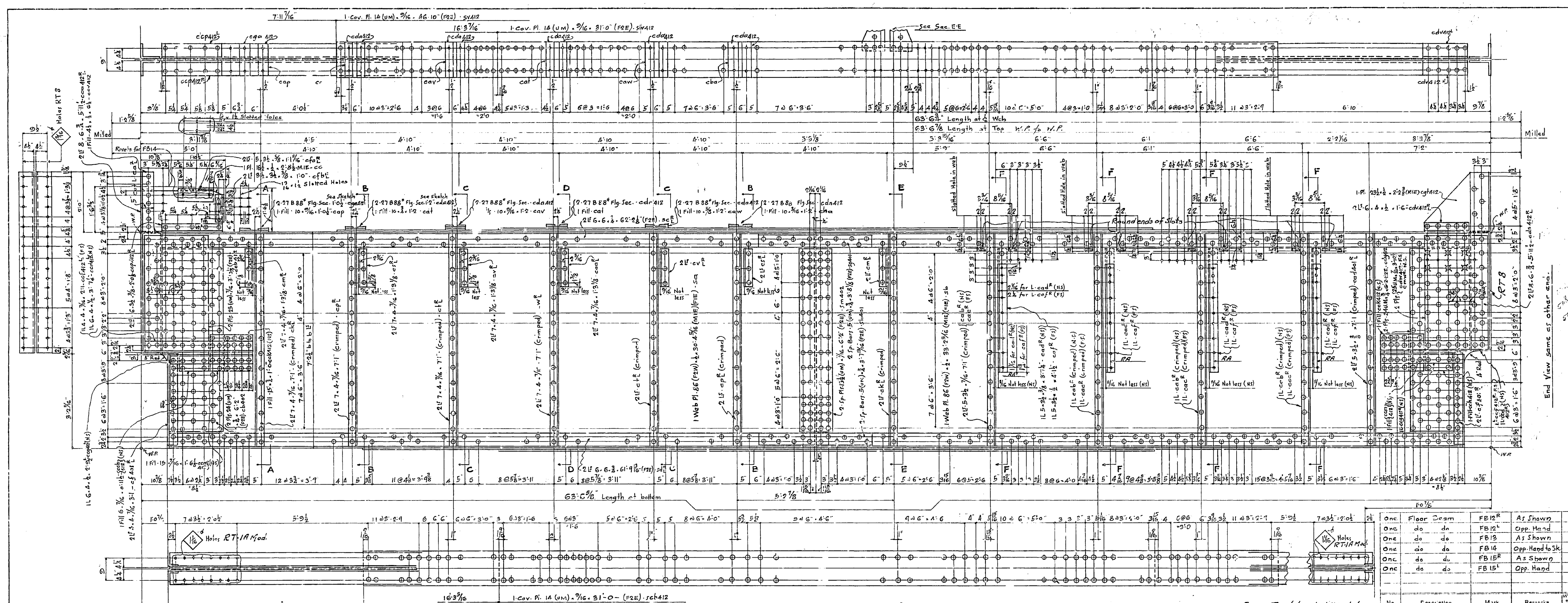
Date 7/25/34

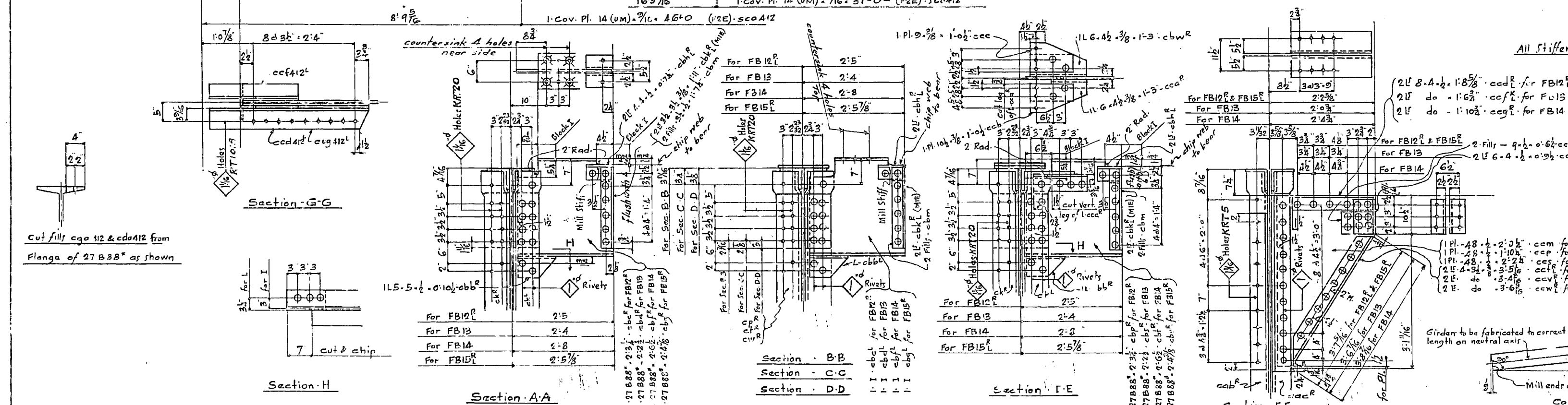
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
504'-0" Span
Floor Beam at L12 Span E8

McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS Shop 2

IN CHARGE C.W.D — MADE BY H.B.M.
CHECKED BY L 6/21/34 — TRACED BY K.C
LAST ASSEM. MK.

CONTRACT CJ 1530-4 — SHEET J413





All Stiffener ⅃s to bear.

NOTES:-

Holes marked RT to be sub-punched and reamed or drilled full size through a metal templet.

End Conn.⅃s shall be set square and flush with milled edge after floor beam is milled.

Re-entrant cuts at ends of floor beam webs may be burned. Burned edges of material to be planed, faced or chipped to remove at least 1/8" of metal.

Reaming Templet marked KRT to be obtained from Saucon Works.
Holes marked RA to be sub-punched and reamed with material shop assembled.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 7/8" ⌀ Unless Noted
OPEN HOLES: 15/16" ⌀ Unless Noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/3" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact herewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting. See Sheet F1

No.	Description		Mark	Remarks	Weight each Tons
One	Floor Beam		FB12^R	As Shown	
One	do	do	FB12^L	Opp. Hand	
One	do	do	FB13	As Shown	
One	do	do	FB14	Opp. Hand to Sk.	
One	do	do	FB15^R	As Shown	
One	do	do	FB15^L	Opp. Hand	

REQUIRED LIST

Date	Revision	App'd
8-30-34	Holes cfsk in Sections A-A, B-B, C-C, D-D.	9-6-34

APPROVED

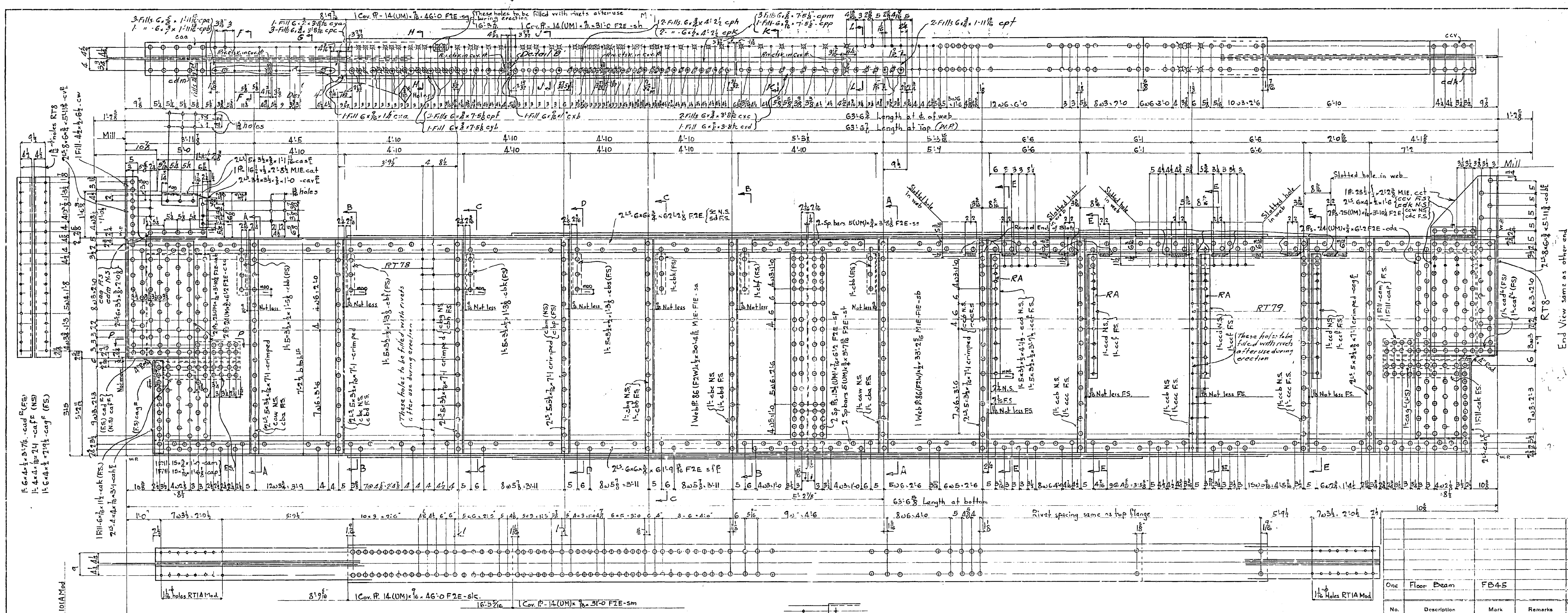
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 7-9-34

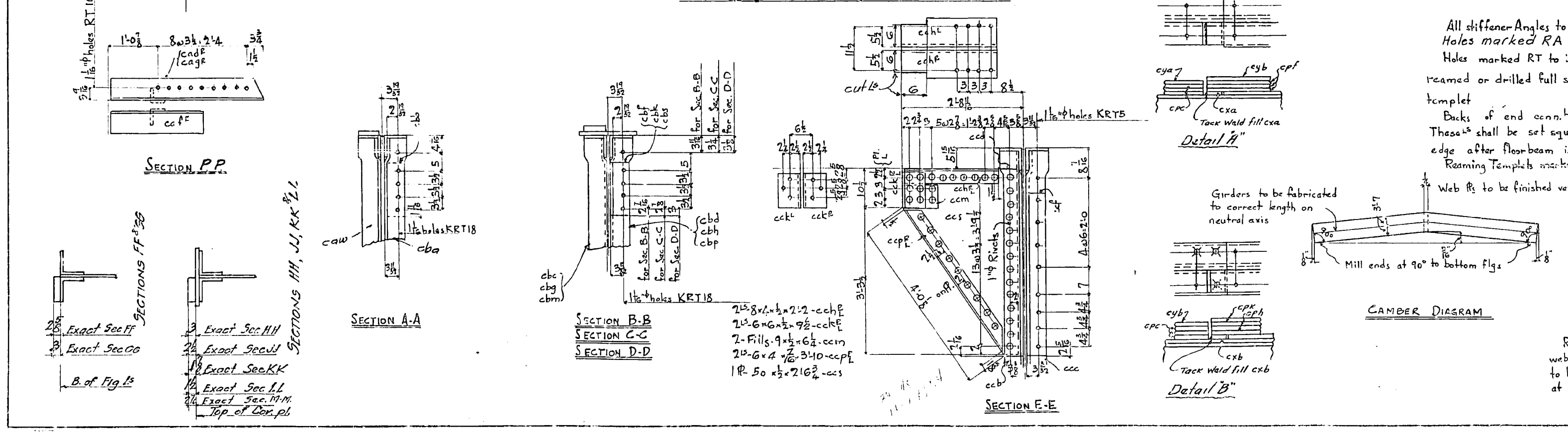
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Floor Beams FB12 R/L · FB13 · FB14 · FB15 R/L

McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS Shop 2
IN CHARGE C.W.D. MADE BY H.B.M.
CHECKED BY J.A.S. TRACED BY D.L.B.
LIST ASSEM. MK.

CONTRACT CJ 580-4 SHEET J414

Rev. 7/26/34





All stiffener Angles to bear
Holes marked RA to be reamed assembled
Holes marked RT to be sub-punched and reamed or drilled full size through an iron templet
Backs of end conn.Ls need not be milled
TheseLs shall be set square and flush with milled edge after floorbeam is milled
Reaming Templets marked KRT to be obtained from Saucon Works
Web Ps to be finished vertically

Re-entrant cuts at ends of floor beam webs may be burned. Burned edges of material to be planed, faced or chipped to remove at least 1/8" of metal

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: by John M. Bailey
RIVETS: 7/8"-φ unless noted
OPEN HOLES: 15/16"φ unless noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting. See Sheet F1

No.	Description	Mark	Remarks	Weight each Tons
One	Floor Beam	FB45		

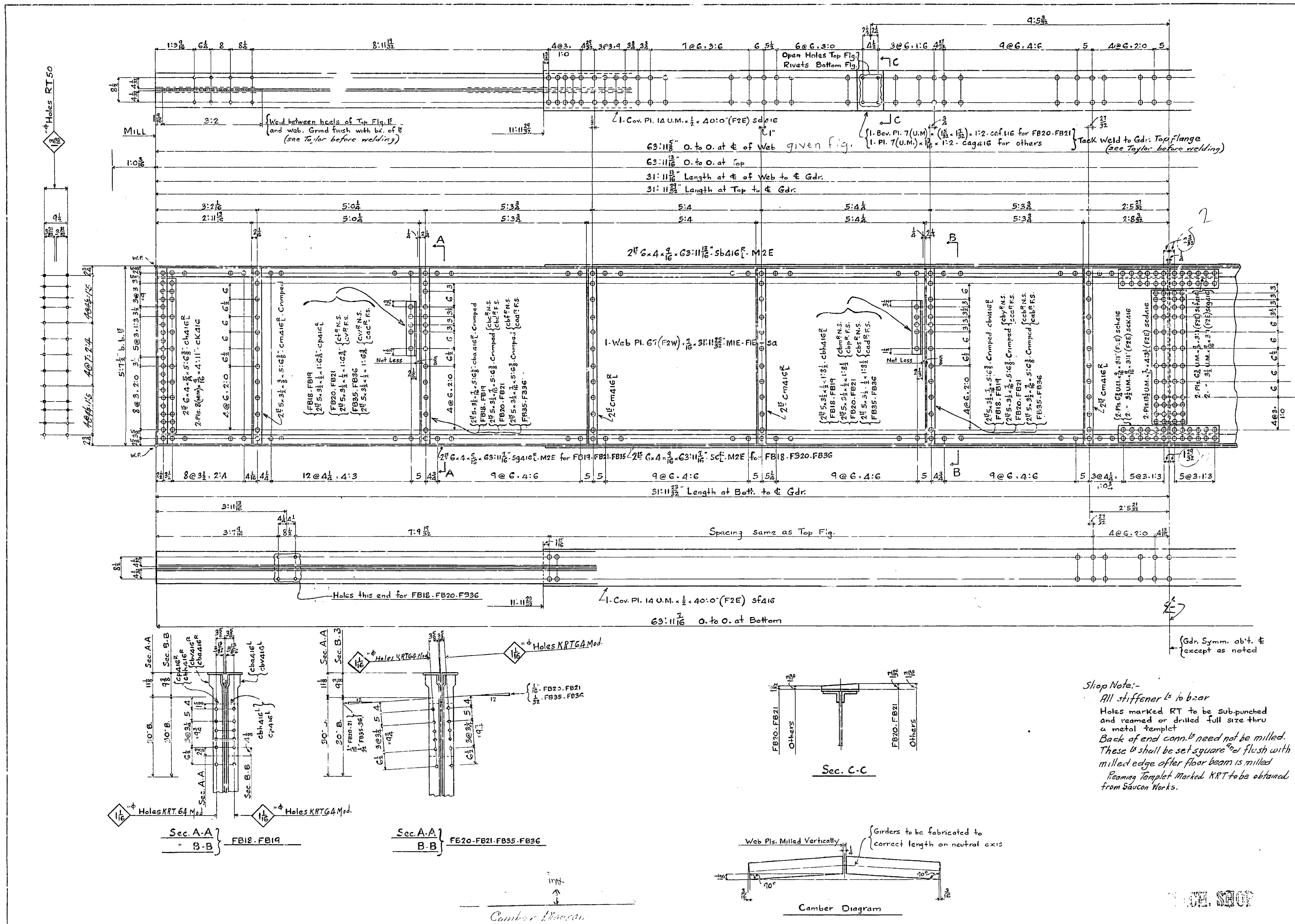
REQUIRED LIST

Date	Revision	App'd
10/15/34	changes to suit erection conditions	11/2/34
10/2/34	Location of holes in top flange. Added additional holes in web	10/5/34

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8/7/34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
504'-0 Span
Floor Beam at L0 Span E4
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS Shop 2
IN CHARGE G.W.D. MADE BY H.B.M.
CHECKED BY FEG TRACED BY VS
LAST ASSEM. MK.
CONTRACT CJ 1586-4 SHEET J415



Shop Note:-
All stiffener ⟂s to bear
Holes marked RT to be sub-punched and reamed or drilled full size thru a metal templet
Back of end conn.⟂s need not be milled.
These ⟂s shall be set square and flush with milled edge after floor beam is milled
Reaming Templet Marked KRT to be obtained from Saucon Works.

Gdr. Symm. ab't. ℄ except as noted

No.	Description	Mark	Remarks	Weight each Tons
8	Floor Beams	FB18		
8	" "	FB19		
One	" Beam	FB20		
One	" "	FB21	Opp. Hd. to SK.	
One	" "	FB35		
One	" "	FB36	Opp. Hd. to SK.	

REQUIRED LIST

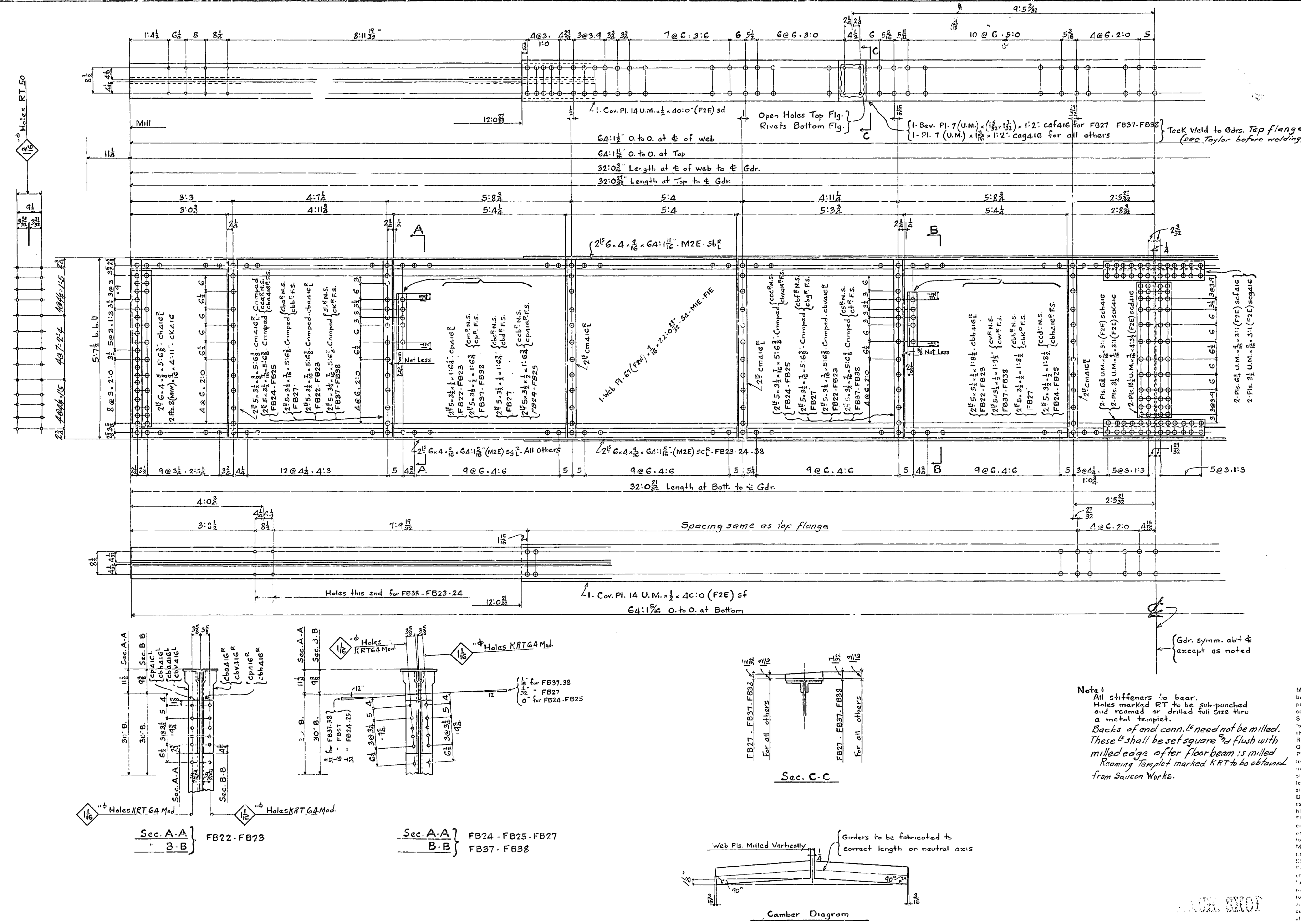
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: by John M. Bailey
RIVETS: 7/8"⌀
OPEN HOLES: 15/16"⌀ Unless Noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/8 and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8 and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except ... Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and ... "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting. See sheet F1

Date	Revision	App'd

APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date 6-4-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
504:0 Spans
Upper Deck Floor Beams
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS Shop 3
IN CHARGE C.W.D. MADE BY L.A.H.
CHECKED BY HBM 5/15/34 TRACED BY F.J.K.
LAST ASSEM. MK.
CONTRACT CJ1580-4 SHEET J416

30-1



Note:
All stiffeners to bear.
Holes marked RT to be sub-punched and reamed or drilled full size thru a metal templet.
Backs of end conn. Ls need not be milled.
These Ls shall be set square and flush with milled edge after floor beam is milled.
Reaming Templet marked KRT to be obtained from Saucon Works.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: by John M. Bailey
RIVETS: 7/8"ϕ
OPEN HOLES: 15/16"ϕ Unless Noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4 thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except: coat of [illegible] Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and [illegible] "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which [illegible] riveted to main material and are [illegible] accessible for sand blasting. see sheet F1

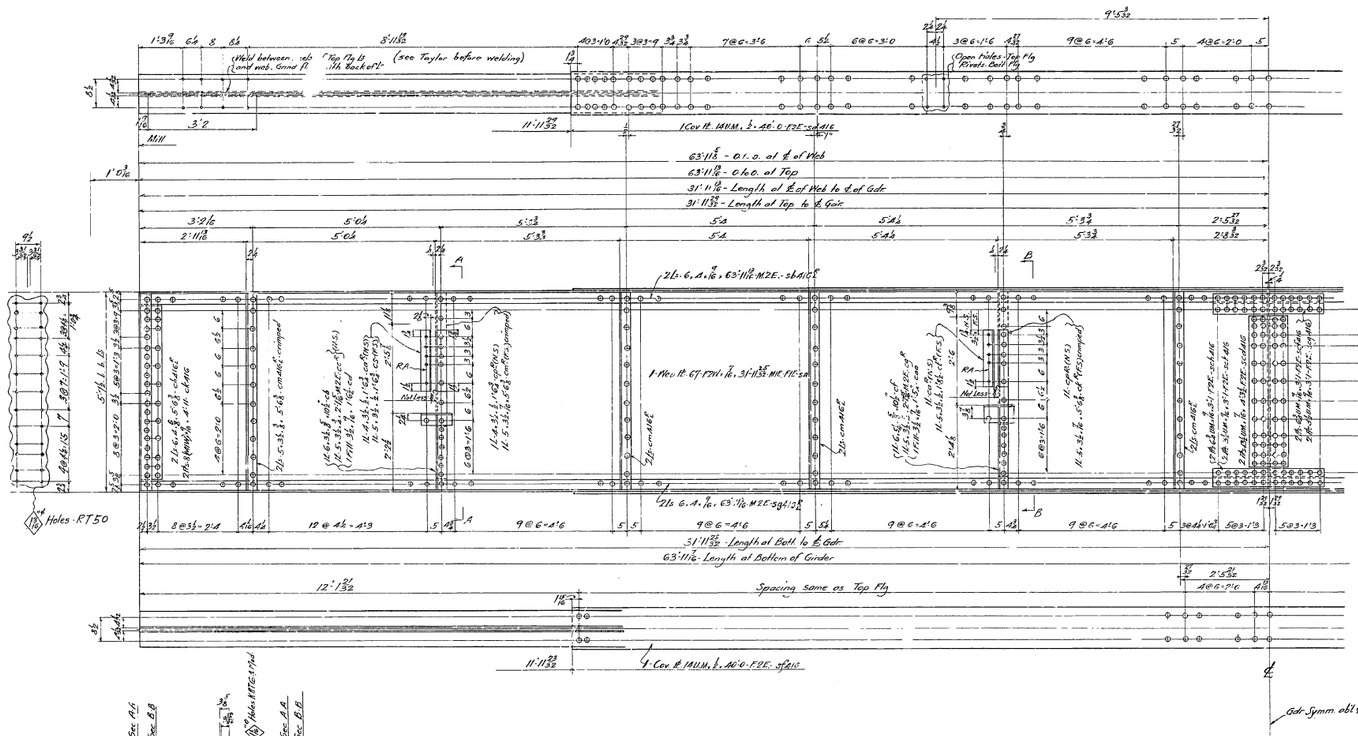
No.	Description	Mark	Remarks	Weight each Tons
One	Floor Beam	FB37	As Shown	
One	" "	FB38	Opp. Hd. to SK.	
16	Floor Beams	FB22		
8	" "	FB23		
One	" Beam	FB24	As Shown	
One	" "	FB25	Opp. Hd. to SK	
One	" "	FB27R	As Shown	
One	" "	FB27L	Opp. Hd.	

REQUIRED LIST

Date	Revision	App'd

APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date 6-4-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
504'-0 Spans.
Upper Deck Floor Beams
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS Shop 3
IN CHARGE C.W.D. MADE BY L.A.H.
CHECKED BY HBM 5/15/34 TRACED BY
EAST ASSEM. MK.
CONTRACT CJ1580-4 SHEET J417
Rev 7-25-34



Shop Note-
All stiffener ends to bear.
Holes marked RA to be sub-punched and reamed with material shop assembled.
Holes marked RT to be sub-punched and reamed or drilled full size through a metal templet.
Backs of end cann. ⊾s need not be milled. These ⊾s shall be set square and flush with milled edge after floorbeam is milled
Reaming Templets marked RRT to be obtained from Sawsen Works.

No.	Description	Mark	Remarks	Weight each Piece
5	FLOOR BEAMS	FB26		

REQUIRED LIST

MATERIAL: All structural steel to be open hearth. Assembly marks for carbon steel painted with a thick red, white, or silicon dark with a thick red, white, etc.
SPECIFICATIONS: Governed by Dept. of California Department of Public Works.
INSPECTION: To be by John M. Bailey
RIVETS: 3/4" ø unless noted
OPEN HOLES: 1 1/16" ø unless noted
PUNCHING: Holes in material 3/4" thick or less used for stiffener brackets, cap plates, splice plates, and diaphragms may be punched full size. Holes in main material of thickness greater than 3/4" to be sub-punched 1/4" and reamed to full size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, when practicable.
FINISH: All sheared or flame cut edges and ends of members to have a neat appearance, and where indented are to be ground as to remove at least 1/4" of metal.
MATCH MARKING: All match marking to be made with both steel stamps and paint.
SHOP PAINT: Shop paint all No. Coating Faying Surfaces, and one plane of Webs of Beams, and of Inside Angles, and Exterior Surfaces (Except Bottom Flange) to make contact of bolted or rivet pieces, Inside Angles, and surfaces of main material in contact therewith, also to projecting portions of rivet heads (or angles) which are shop riveted to main material and are not fully accessible for hand cleaning. See sheet F1

Date	Revision	Appr.

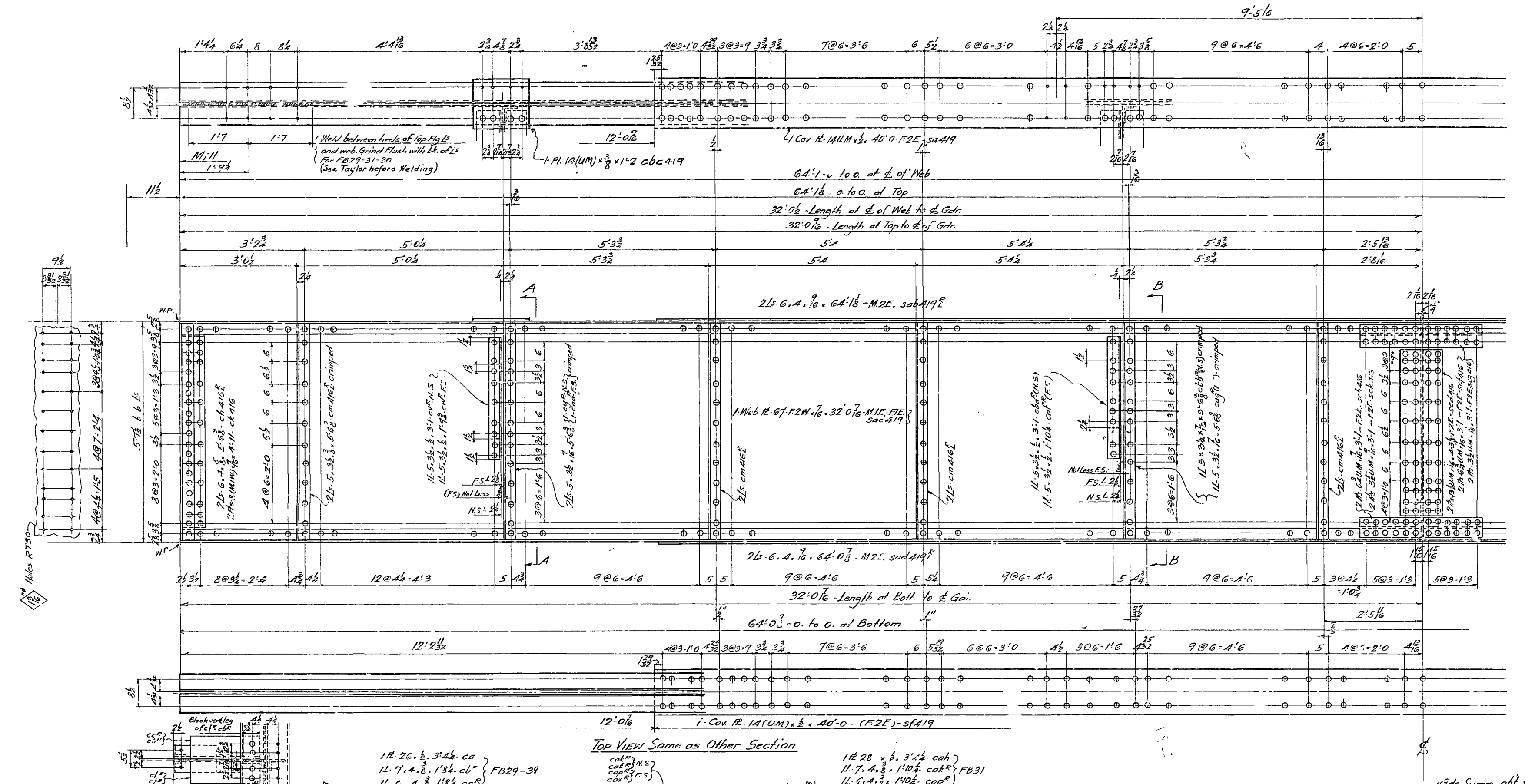
APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date 6-4-34

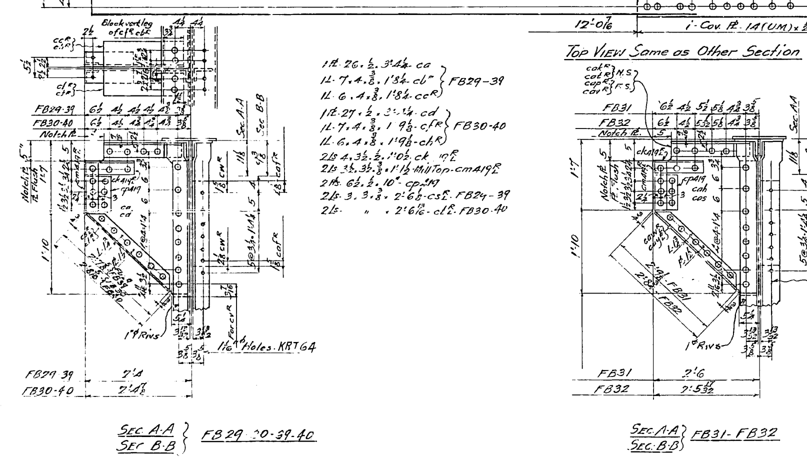
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
UPPER FLOOR BEAMS-U6
50ft-0" Spans
McN MIC-MARSHALL CORPORATION
Rail Fence DRAWING ROOM Pottsform WORKS Shop 3
EN CHARGE C.W.D. MADE BY L.A.H.
CHECKED BY J.M.B.H. 4/10/34 TRACED BY C.P.C.
LAST ASSETS, MK.

CONTRACT CJ-1560-4 SHEET (1418)

11-22-34

30-1





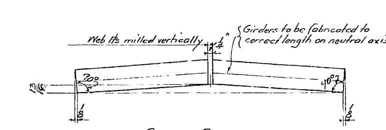
SHOP NOTE:

All Stiffener Ls to bear

Holes marked RT to be sub-punched and reamed or drilled full size through a metal templet.

Back of End Conn. Ls need not be milled. These Ls shall be set square and flush with milled edge after floor beam is milled.

Reaming Templet marked KRT to be obtained from Saucon Works



CAMBER DIAGRAM

No.	Description	Mark	Remarks	Weight each Tons
One	FLOOR BEAMS	FB29	As Shown	
One	" "	FB39	Opp Hand to Sk	
One	" "	FB30	As Shown	
One	" "	FB40	Opp Hand to Sk	
One	" "	FB31	As Shown	
One	" "	FB32	Opp Hand to Sk.	

REQUIRED LIST

MATERIAL. All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 7/8" unless noted
OPEN HOLES: 15/16" unless noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Oxide Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not easily accessible for and blasting. - See Sheet F1

Date	Revision	App'd
7/6/34	Pl. added on top flange	7/11/34

APPROVED

Engineer of Design

Bridge Engineer

Chief Engineer

Date 6-20-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE

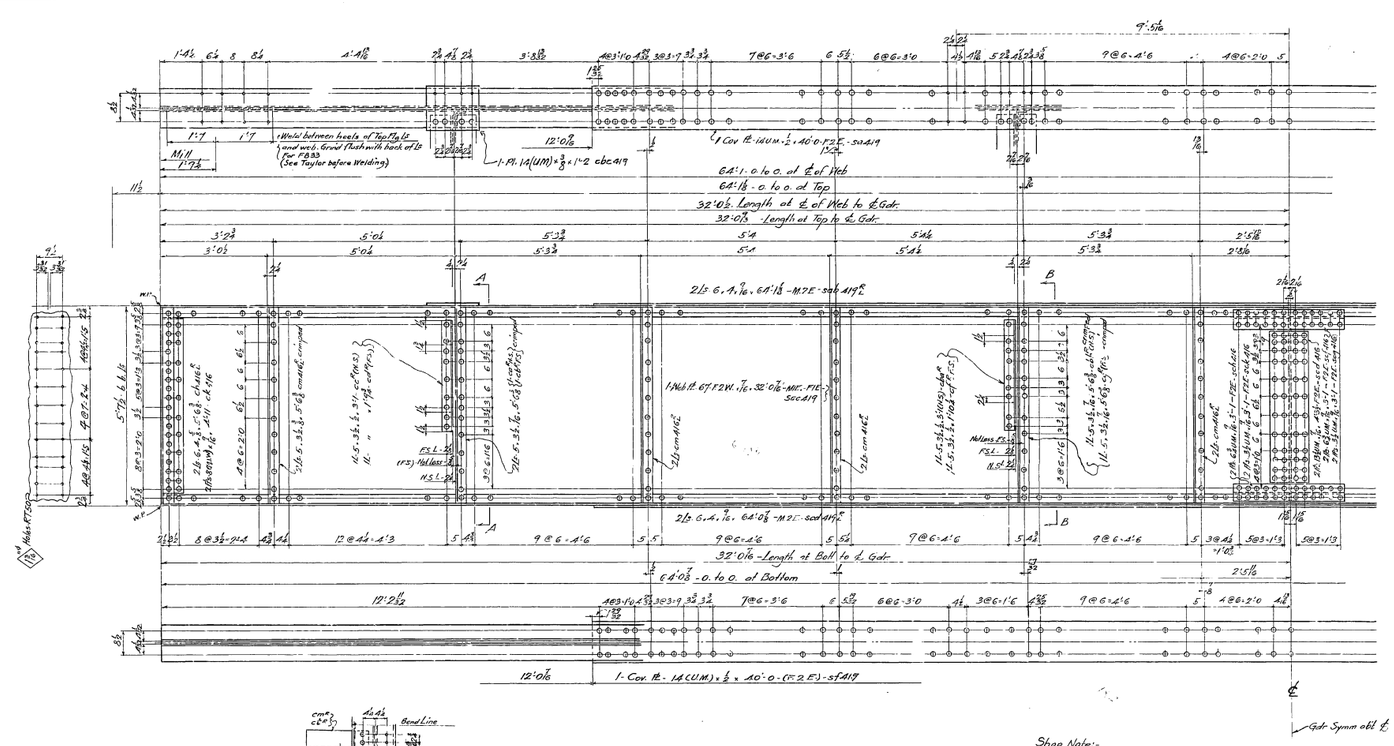
CONTRACT NO. 7

SUPERSTRUCTURE-EAST BAY CROSSING
504'-0" Spans
L0-L12-UPPER DECK-SPANS-E4-5-7-8

McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS

IN CHARGE C.W.D. MADE BY L.A.H Shop 3
CHECKED BY H.R.M. 5/22/34 TRACED BY A.K.
LAST REV. MR.

CONTRACT CJ-1580-4 SHEET 3419



No.	Description	Mark	Remarks	Weight each Piece
One	FLOOR BEAM	FB33	As Shown	
One	" "	FB34	Opp. Head to Sk.	

REQUIRED LIST

Date	Revisions	Appd.
7/9/54	Pl. added on top flange	7/11/54

APPROVED

Engineer of Design

Bridge Engineer

Chief Engineer

Date. 6-20-54

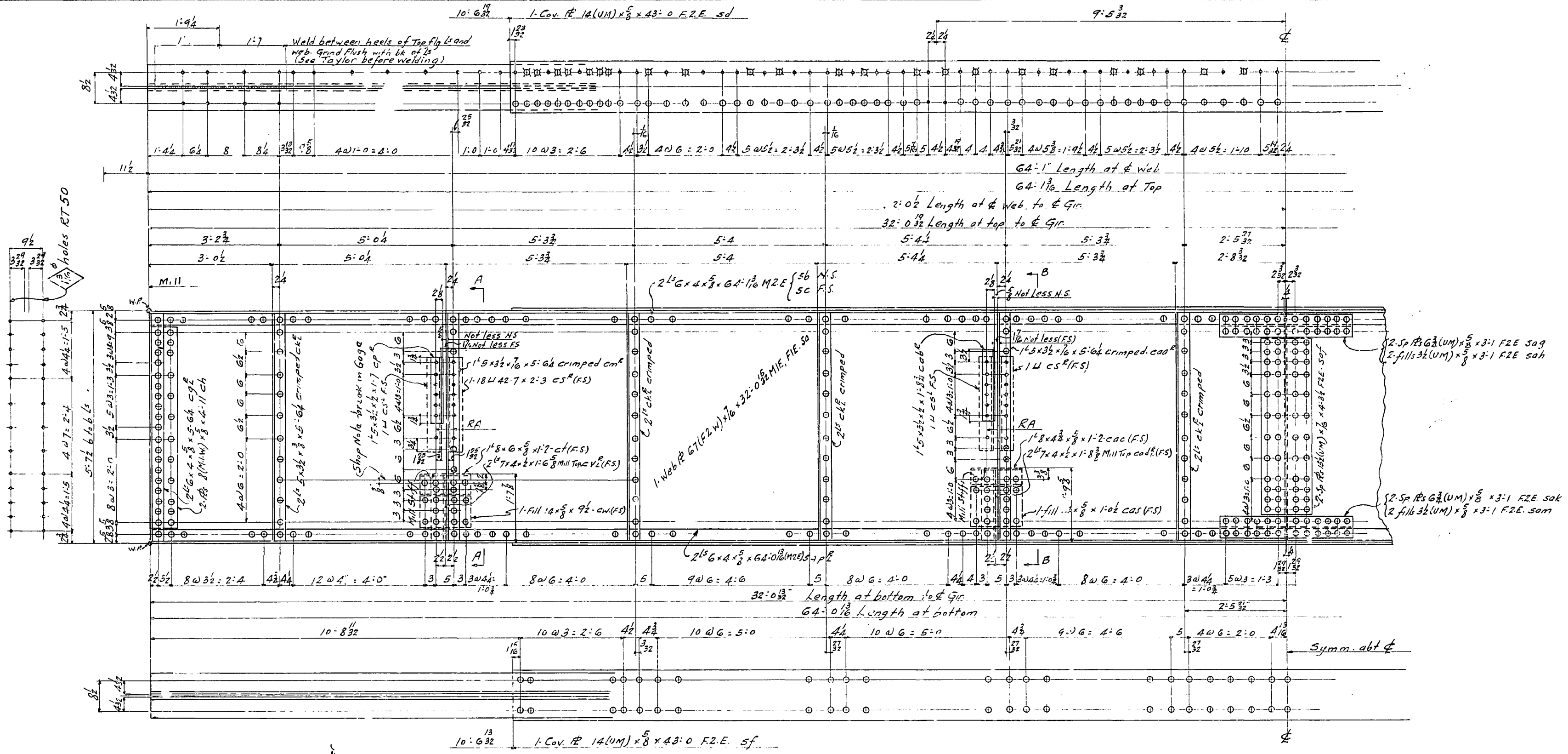
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
504'-0" Spans
LO-L/12-UPPER DECK-SPAN E4-5-7-8

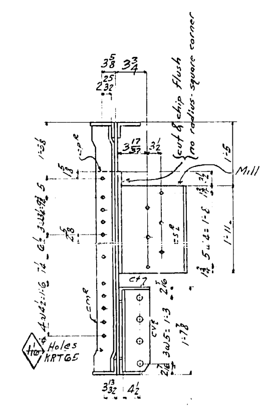
CLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS Shop 3

IN CHARGE C.W.D. 6/24/54 DETD BY L.A.H.
CHECKED BY A.B.M. 7/2/54 TRACED BY C.K.
LIST ASSEM. M.K.

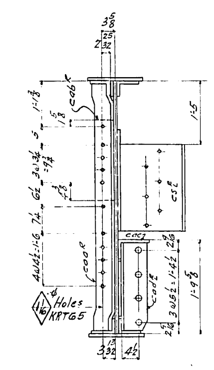
CONTRACT CJ-1500-A SHEET (420)

30-1

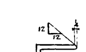




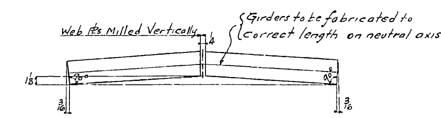
Section A-A



Section B-B



Full size sketch showing toe of seat Ls ct and cac



Camber Diagram

Shop Note:-
All stiffener Ls to bear
Holes marked RT to be sub-punched and reamed or drilled full size through a metal templet.
Holes marked RA to be sub-punched and reamed with material shop assembled

Backs of end Conn. Ls need not be milled. These Ls shall be set square and flush with milled edge after floor beam is milled.
Reaming Templets marked KRT to be obtained from Saucon Works.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS. Special by State of California, Department of Public Works.
INSPECTION: John M Bailey
RIVETS: ⅞"
OPEN HOLES: 15/16" Unless Noted
PUNCHING Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT. None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

No.	Description	Mark	Remarks	Weight each Tons
One	Floor Beam	FB43		

REQUIRED LIST

Date	Revision	App'd
9-25-34	Spacing in erection ☐ Sections A-A, B-B.	10-2-34

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 7/25/34

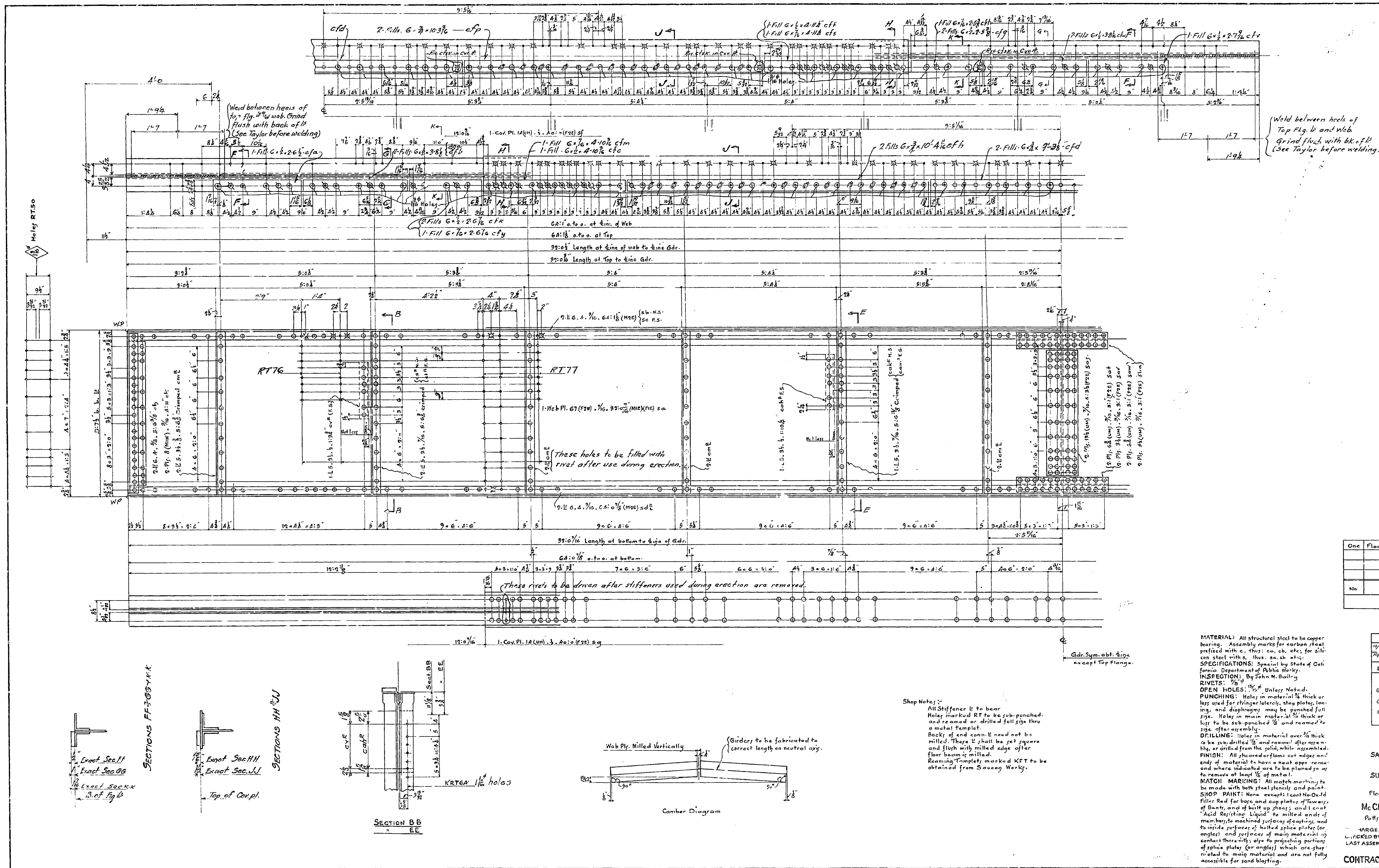
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
504'-0" SPAN

Floor Beam at L12 · Span E8 (Upper Deck)

[illegible]NTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS Shop #3
IN CHARGE C.W.D. MADE BY H.B.M.
CHECKED BY FEG 6-20 TRACED BY K.C
LAST ASSEM. MK.

CONTRACT CJ1530-4 SHEET J421

30-1



Shop Notes :-
All Stiffener Ls to bear
Holes marked RT to be sub-punched and reamed or drilled full size thru a metal templet.
Backs of end conn. Ls need not be milled. These Ls shall be set square and flush with milled edge after floor beam is milled.
Reaming Templets marked KFT to be obtained from Saucon Works.

One	Floor Beam	FB44		
No.	Description	Mark	Remarks	Weight Each Tons

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc; for silicon steel with s, thus: sa, sb etc.
SPECIFICATIONS: Special by State of California Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 7/8"⌀
OPEN HOLES: 15/16"⌀ Unless Noted.
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

10/15/34	Rivet ctsk in top Flange	11/2/34
10/1/34	Location of holes in top flange. Added additional holes in web.	10/5/34
Date	Revision	App'd

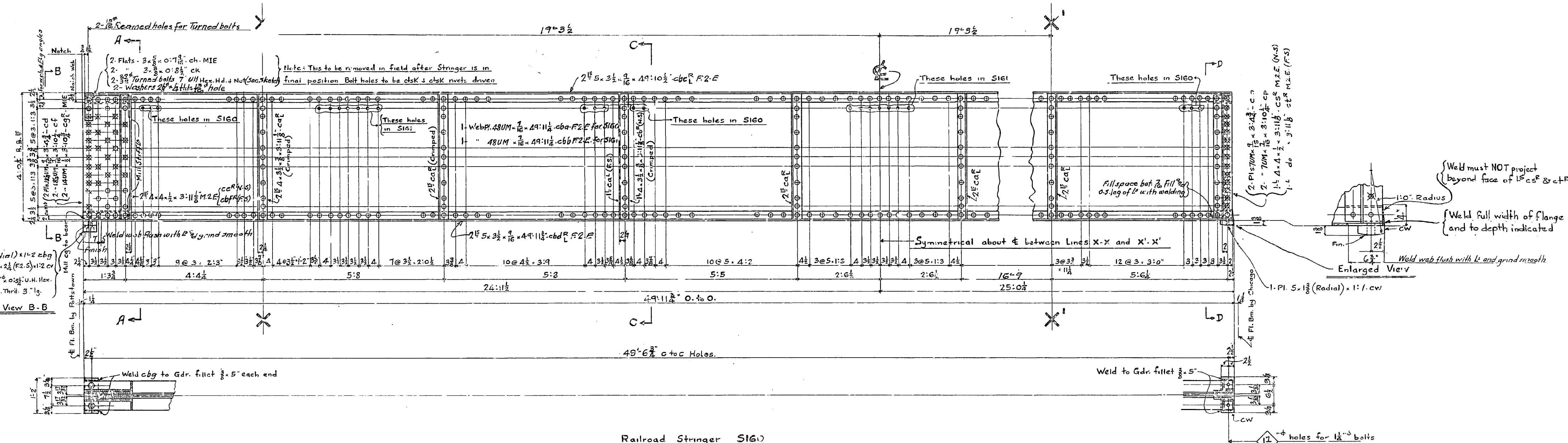
APPROVED

Glenn W. Woodruff — Engineer of Design
Chas. E. Andrews — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8/7/34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
504:0" Span
Floorbeam at Upper Deck · Pier E4

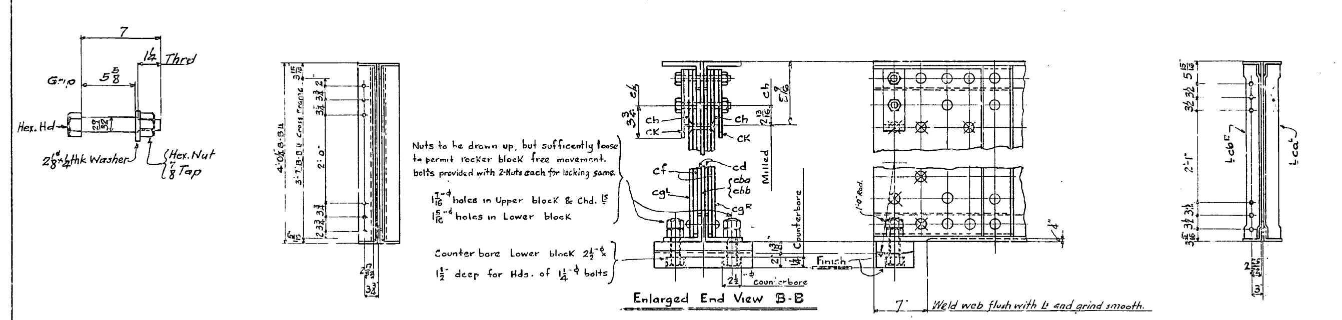
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS Shop 3
CHARGE C.W.D. MADE BY L.A.H.
CHECKED BY FEG TRACED BY S.V.R.
LAST ASSEM. MK.

CONTRACT CJ-1580-4 SHEET. J422



Railroad Stringer S160

" " S161



Section A-A Shown.
Section D-D opp hand.

Enlarged End View B-B

Section C-C

Shop Note:
For a distance of 7' from each end of the stringer shop is to weld Web flush with back of bott. Flg. L^s and to grind smooth. See enlarged End views. Web not to project above Top Chord Angles.
All Stiffener L^s to bear

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 7/8" φ
OPEN HOLES: 15/16" φ except as noted.
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/4" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat Red Lead Filler Red for base and cap plates of Towers, of Bents, and of built up shoes, and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting. See Sheet F1

No.	Description	Mark	Remarks	Weight each Tons
2	Railroad Stringers	S160	As Shown	
2	" "	S161	Opp. Hd. to SK.	

REQUIRED LIST

Date	Revision	App'd
10/10/34	Welding of right end for rocker sw	10/10/34

APPROVED

Engineer of Design

Bridge Engineer

Chief Engineer

Date 6/30/34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

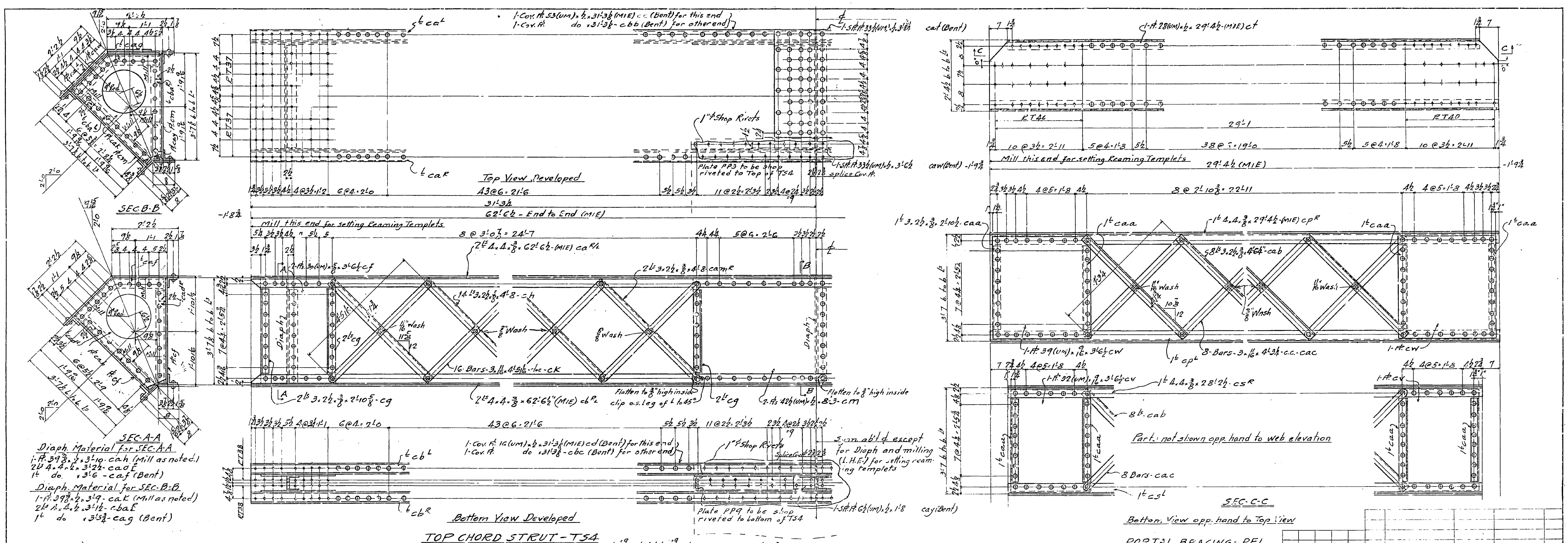
Railroad Stringers for 50:0 bay

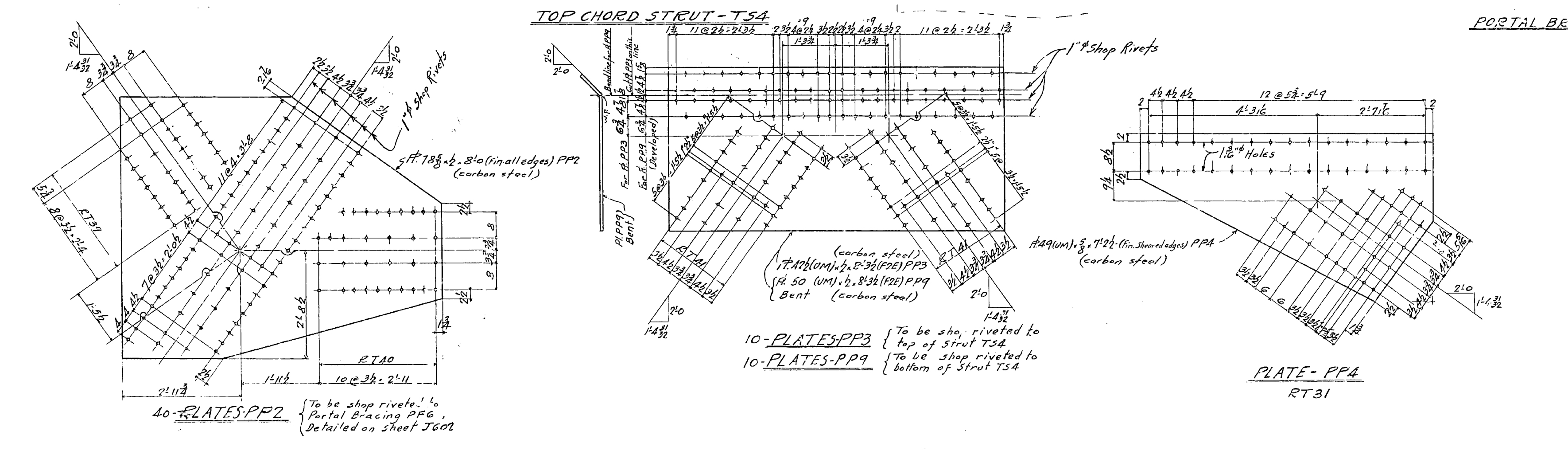
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS Shop 2

IN CHARGE C.W.D. MADE BY E.W.C.
CHECKED BY HBM 6/14/34 TRACED BY F.J.K.
LAST ASSEM.

CONTRACT CJ1580-5 SHEET J501

Rev. 7-30-34
Rev. 10-10-34





Span E4	Span E5	Span E6	Span E7	Span E8	Total No.	Description	Mark	Remarks	Weight each Tons
8	8	8	8	8	40	Plates	PP4		
2	2	2	2	2	10	Portal Bracing	PF1		
2	2	2	2	2	10	Top Chord Strut	TS4		

REQUIRED LIST

Note
Holes marked RT to be sub-punched and reamed to size to a metal templet.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey
RIVETS: 7/8"⌀ unless noted.
OPEN HOLES: 1 1/16"⌀ Unless Noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/4" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and one portion of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

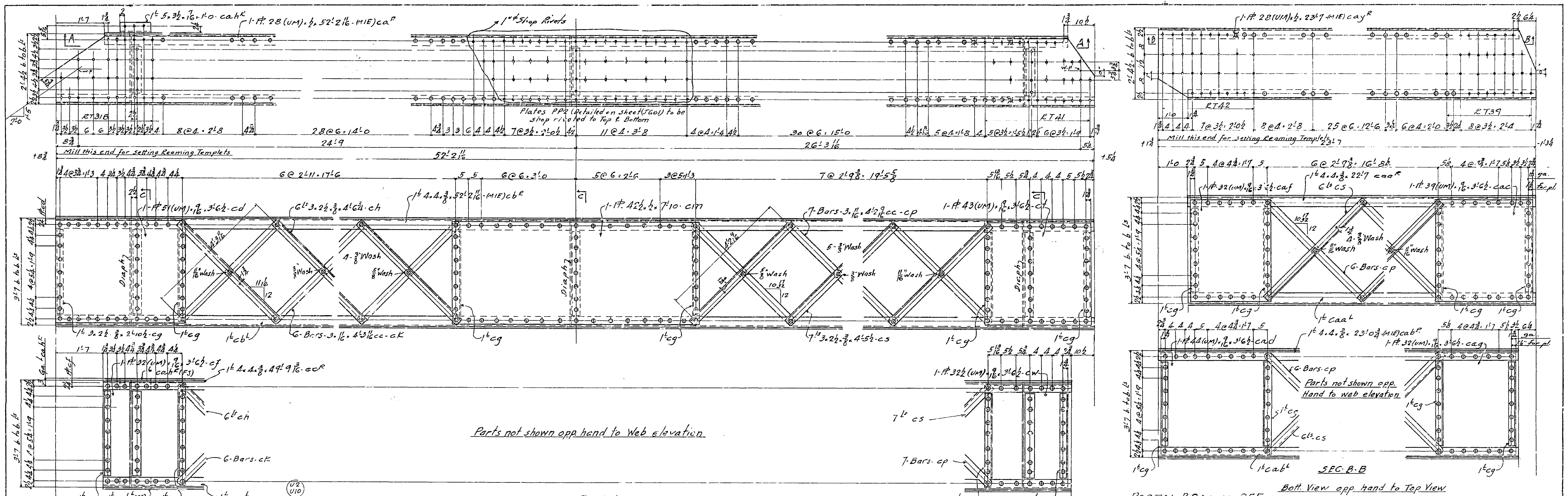
Date	Revision	App'd

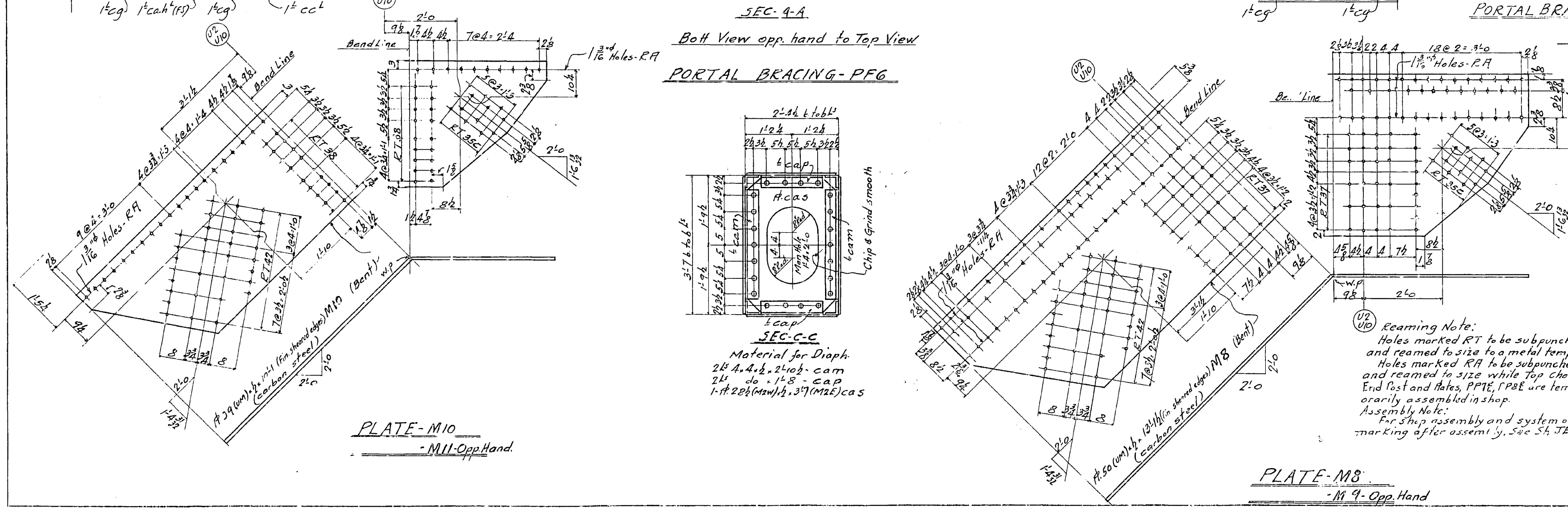
APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date 6-7-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Top Chord Strut-TS4-Plates-PP2-3-4
Portal Bracing-PF1-504'-Span
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS Shop 3
IN CHARGE C.W.D. MADE BY JRW
CHECKED BY Webb 5/22/34 TRACED BY JRW
CONTRACT CJ7580-6 SHEET J601

Rev. 6-20-34
Rev 7-13-34
Rev 8-10-34

5/23/34 Webb





Plates PP2, detailed on sheet J601, to be shop riveted to Portal Bracing PF6

Span E4	Span E5	Span E6	Span E7	Span E8	Total No.	Description	Mark	Remarks	Weight each Tons
4	4	4	4	4	20	Portal Bracing	PF5		
4	4	4	4	4	20	" "	PF6		
2	2	2	2	2	10	Plates	M8	As Shown	
2	2	2	2	2	10	"	M9	Opp. Hand	
2	2	2	2	2	10	"	M10	As Shown	
2	2	2	2	2	10	"	M11	Opp. Hand	

REQUIRED LIST

Reaming Note:
Holes marked RT to be subpunched and reamed to size to a metal templet.
Holes marked RA to be subpunched and reamed to size while Top Chord, End Post and Plates, PP7E, PP8E are temporarily assembled in shop.
Assembly Note:
For shop assembly and system of marking after assembly, See Sh. JE7.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey
RIVETS: 7/8"ϕ unless noted.
OPEN HOLES: 1 1/16"ϕ Unless noted
PUNCHING: Holes in material 3/4 thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4 thick or less to be sub-punched 1/4 and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/4" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except [illegible] Filler Red for base and [illegible] of Bents, and of built up shoes, and [illegible] "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, [illegible] to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not [illegible] accessible for sand blasting.

Date	Revision	App'd

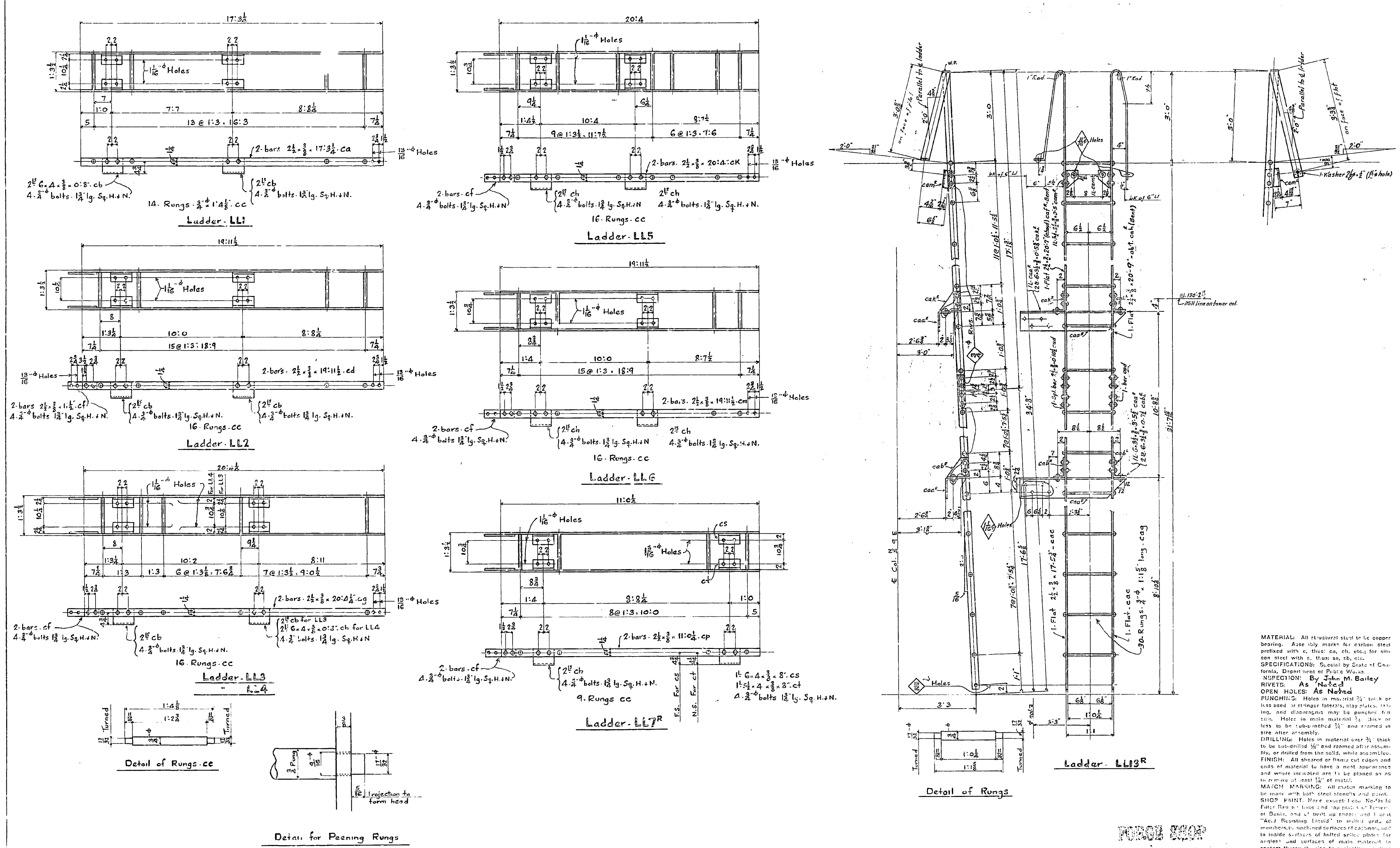
APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date 6-7-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

PORTAL BRACING - 504' Span

McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS Shop 3
MADE BY J.R.W.
CHECKED BY Webb 6/15/34
TRACED BY J.R.W.
C.W.D.
COS
CONTRACT CJ 1580-6
SHEET J602

Rev. 6-20-34
Rev 7-13-34
Rev. 8-10-34



One	Ladder	LL13R		
One	"	LL13L		
20	Ladders	LL1		
20	"	LL2		
10	"	LL3		
10	"	LL4		
20	"	LL5		
20	"	LL6		
10	"	LL7R		
10	"	LL7L		
No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: As Noted
OPEN HOLES: As Noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Oxid Filler Red for base and cap plates of Towers of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting. See Sheet F1

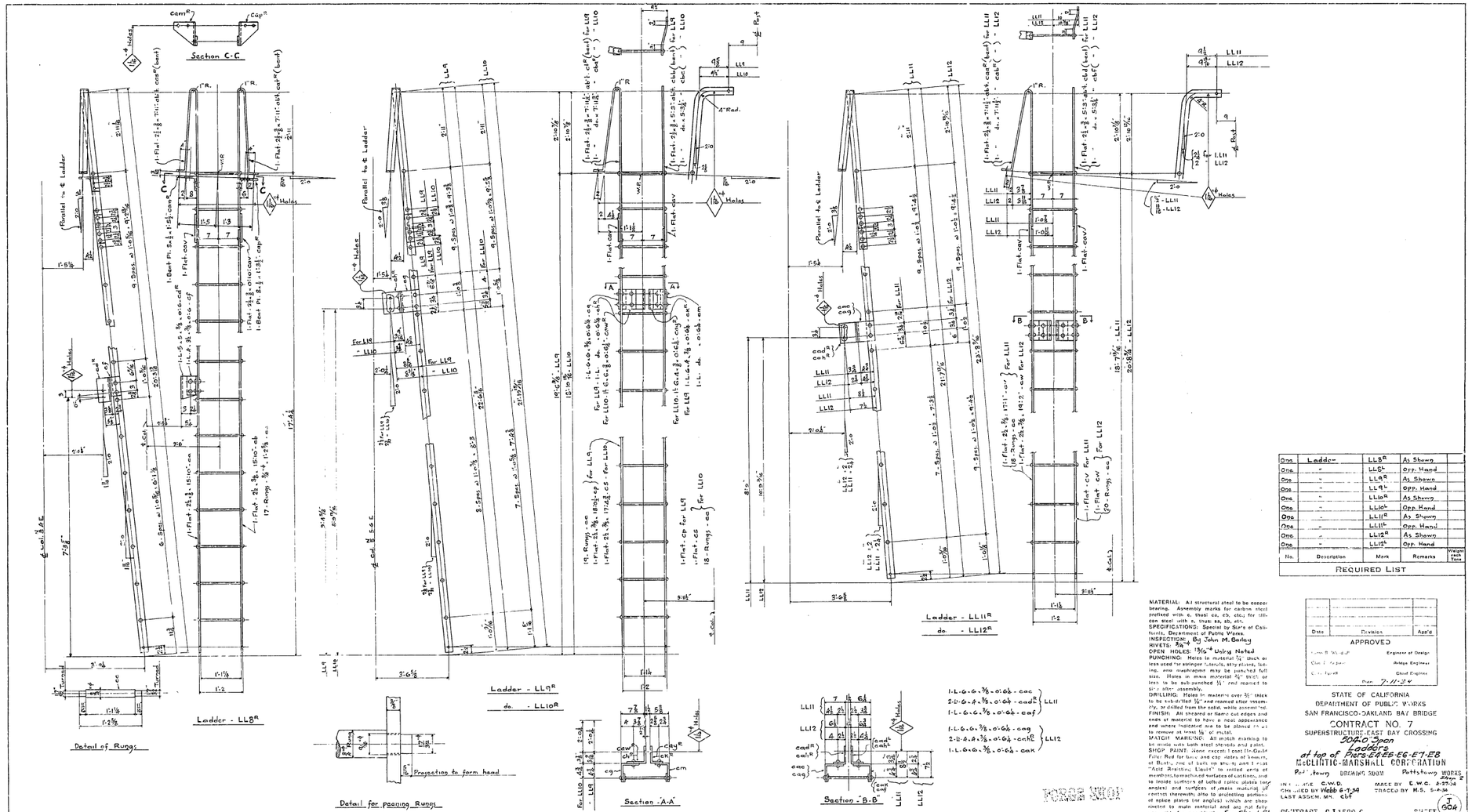
Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 8/7/34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
504'-0" SPAN
LADDERS ALONG END POSTS.
LADDERS AT TOP OF PIER E9.
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS Shop 2
IN CHARGE C.W.O. MADE BY H.B.M.
CHECKED BY Webb 6-7-34 TRACED BY F.J.K.
LAST ASSEM. MK cam.
CONTRACT CJ1580-6 SHEET J603

FORGE SHOP



Qnty.	Ladder		As Shown	
One	"	LL8L	Opp. Hand	
One	"	LL9R	As Shown	
One	"	LL9L	Opp. Hand	
One	"	LL10R	As Shown	
One	"	LL10L	Opp. Hand	
One	"	LL11R	As Shown	
One	"	LL11L	Opp. Hand	
One	"	LL12R	As Shown	
One	"	LL12L	Opp. Hand	

No.	Description	Mark	Remarks	Weight each Item

REQUIRED LIST

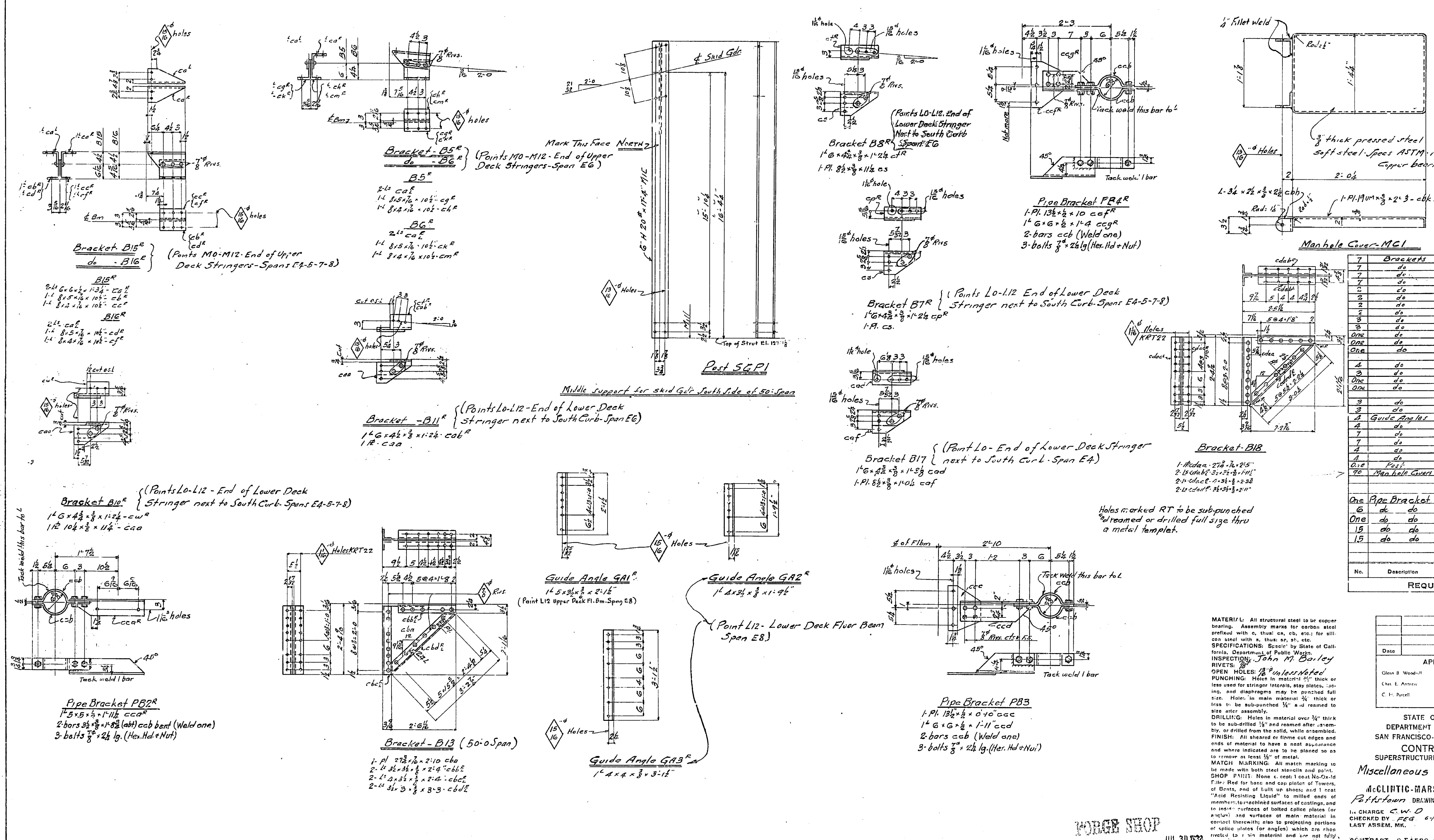
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 3/4"ϕ
OPEN HOLES: 13/16"ϕ Unless Noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, sty plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to fit after assembly.
DRILLING: Holes in materials over 3/4" thick to be sub-drilled 1/4" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed or cut to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with bath steel stencils and paint.
SHOP PAINT: None except 1 coat Red Oxide Paint Red for base and cap plates of towers, all Rivets, ends of built members and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material at contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting. See Sheet F1

Date	Revisions	Appd
	APPROVED	
		Engineer of Design
		Bridge Engineer
		Chief Engineer
	Date: 7-11-36	

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Solid Span Ladders at top of Piers E2-E6-E6-E7-E8
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING SHOP Pottstown WORKS

INITIALS: C.W.D. MADE BY: E.W.C. 2-25-36
CHECKED BY: Webb 6-7-36 TRACED BY: M.S. 5-A-36
LAST ASSEM. MK: CDF

CONTRACT 0J 1580-6 SHEET J 60A



No.	Description	Mark	Remarks	Weight each Tons
7	Brackets	B15R	As shown	
7	do	B15L	Opp. hand	
7	do	B16R	As shown	
7	do	B16L	Opp. hand	
2	do	B5R	As shown	
2	do	B5L	Opp. hand	
2	do	B6R	As shown	
2	do	B6L	Opp. hand	
3	do	B7R	As shown	
3	do	B7L	Opp. hand	
One	do	B8R	As shown	
One	do	B8L	Opp hand	
One	do	B17		
4	do	B10R	As shown	
3	do	B10L	Opp. hand	
One	do	B11R	As shown	
One	do	B11L	Opp. hand	
3	do	B18		
3	do	B13		
4	Guide Angles	GA1R	As Shown	
4	do	GA1L	Opp. Hand	
7	do	GA2R	As Shown	
7	do	GA2L	Opp. Hand	
4	do	GA3R	As Shown	
4	do	GA3L	Opp. Hand	
One	Post	SGP1		
90	Man hole Covers	MC1		
One	Pipe Bracket	PB2R	As shown	
6	do do	PB2L	Opp. hand	
One	do do	PB3		
15	do do	PB4R	As shown	
15	do do	PB4L	Opp. hand	

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey
RIVETS: 7/8"
OPEN HOLES: 13/16" ⌀ Unless Noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

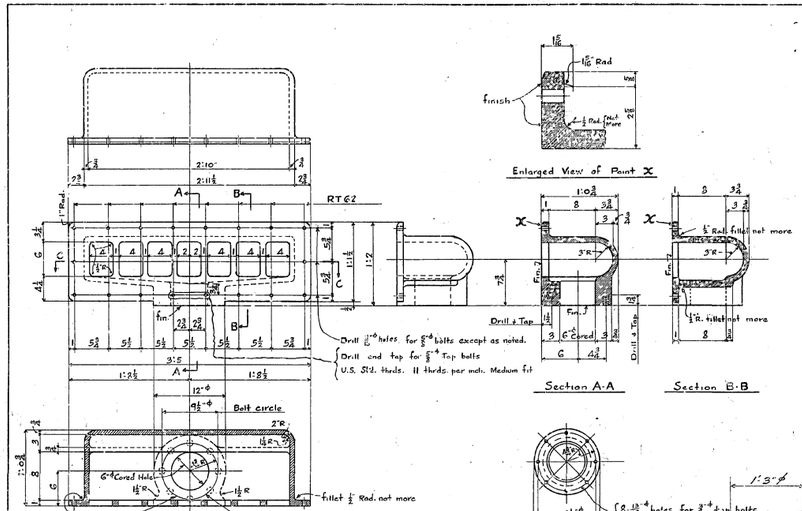
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 7-25-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Miscellaneous {504'0 Spans / 50'0 Span}
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS Shop 2
In CHARGE C.W.D MADE BY E.W.C
CHECKED BY FEG 6-18 TRACED BY KC
LAST ASSEM. MK.
CONTRACT CJ 1580-6 SHEET J605

Rev 8-9-34

FORGE SHOP JUL 30 1934

30-1

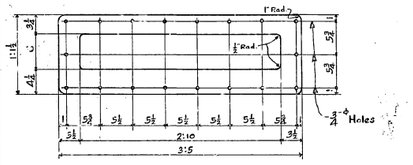


Section C-C

Roadway Drain Box DB1

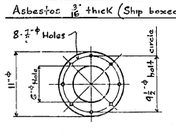
Cast Iron

Fillets not marked 1/2 Rad.



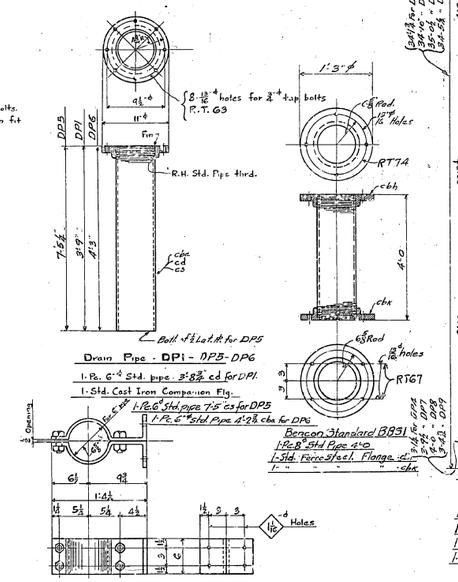
Gasket - AG1

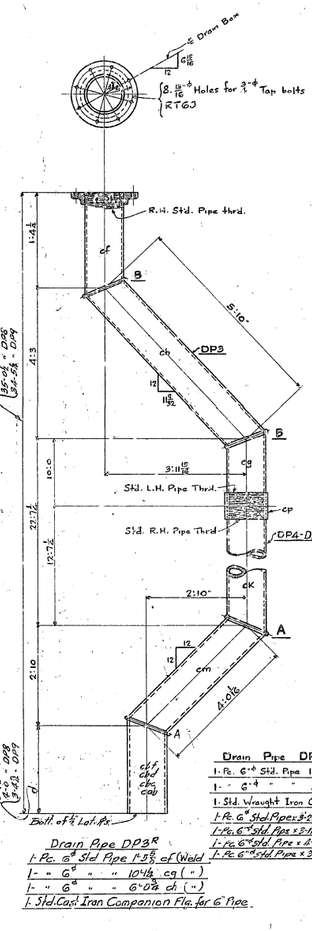
Asbestos 3/16" thick (Ship boxed)

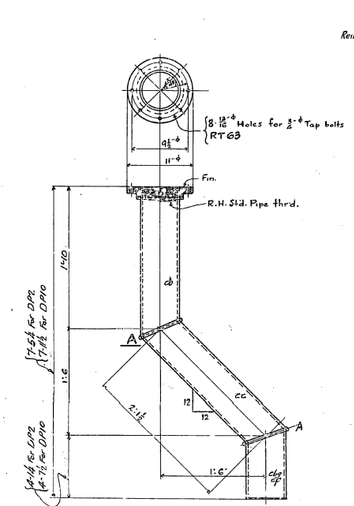


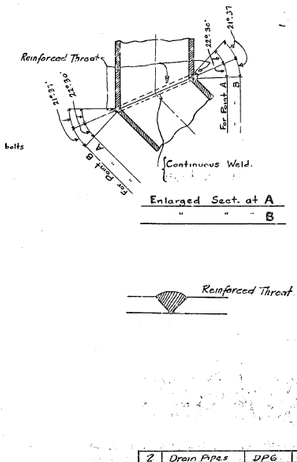
Gasket - AG2

Asbestos 1/8" thick (Ship boxed)









No.	Description	Mark	Remarks	Weight each Item
2	Drain Pipes	DP6		
2	" "	DP7		
2	" "	DP8		
2	" "	DP9		
2	" "	DP10		
One	Drain Pipe	DP3		
5	Beacon Stds.	BBS1		
AA	Roadway Drain Boxes	DB1		
60	Pipe Brackets	PB1		
4	Drain Pipes	DP1		
5	" "	DP2		
15	" "	DP3R		
15	" "	DP3L		
24	" "	DP4		
AA	Asbestos Gaskets	AG1		
AA	" "	AG2		

REQUIRED LIST

MATERIAL All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with a, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.

SPECIFICATIONS Special or State of California, Department of Public Works, for structural steel.

INSPECTION By John M. Bailey.

RIVETS None

OPEN HOLES As Listed

PUNCHING All punching in structural steel may be full size.

DRILLING All Holes in Cast Iron to be drilled unless noted. Holes marked ø to be drilled to steel templets.

FINISH All sheared or flame cut edges and ends of material to have a neat appearance.

CAST IRON For drain boxes to be as per Special Specifications of State of California, Department of Public Works.

CAST IRON companion flanges, asbestos gaskets & Wrought Iron Pipe & Couplings to be Commercial Std. materials.

6"-4 Std. Pipe to be Std. commercial grade steel pipe except as certain 0.20% Copper.

CONTACT SURFACES shown permanently bolted to be cleaned and scraped before painting. Bolts to be drawn up tight to exclude foreign particles during

Shipment or field Sand blasting.

GASKETS To be shop-cut boxed.

SHOP PAINT "N" as except one coat of "Acid Resisting Paint" to be applied to the following (a) All finished surfaces of castings. (b) All contact surfaces of permanently bolted parts. (c) To portion of shops marked "PSI" not readily accessible for field sand blasting.

MACH. SHOP

Date	Revision	App'd

APPROVED

Chas. B. Wardell — Engineer of Design

Chas. E. Andrew — Bridge Engineer

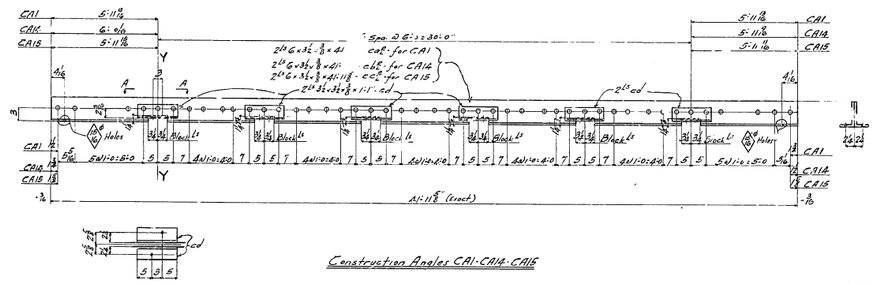
C. H. Purcell — Consl. Engineer

Date 8-1-36

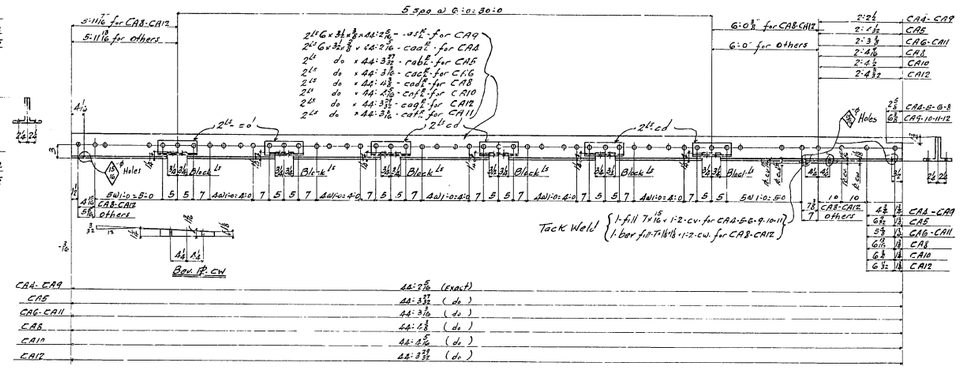
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Sheet 1 of 2 Sheets
Details of Drain Boxes & Drain Pipes for
Upper & Lower Decks. Spans E4 to E8 incl.
CLIFTIC-MARSHALL CORPORATION
Pittstown DRAWING ROOM Pittstown, W.Va.

IN CHARGE C.W.O. DESIGN BY E.W.C.
CHECKED BY F.E.G. TRACED BY F.T.K.
LAST ADDEN. MK.

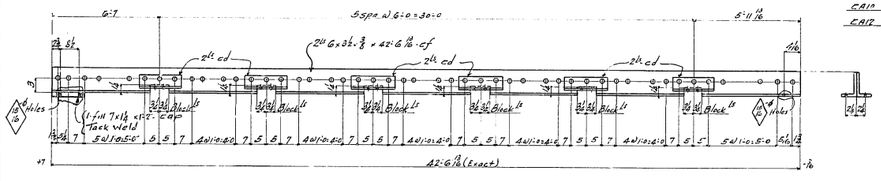
CONTRACT C.J.1580-G SHEET J60(2)



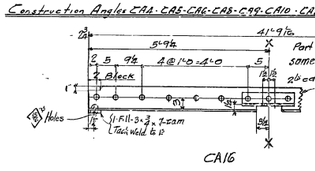
Construction Angles CA1-CA16-CA15



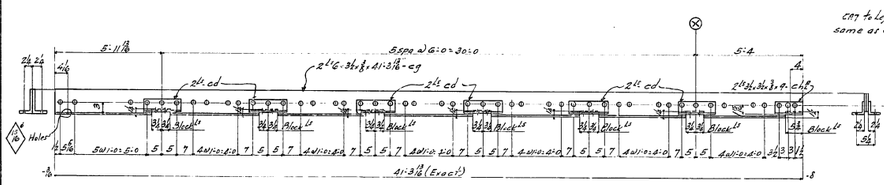
Construction Angles CA4-CA5-CA6-CA8-CA9-CA10-CA11-CA12



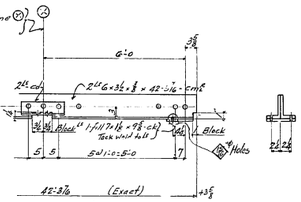
Construction Angles - CA3



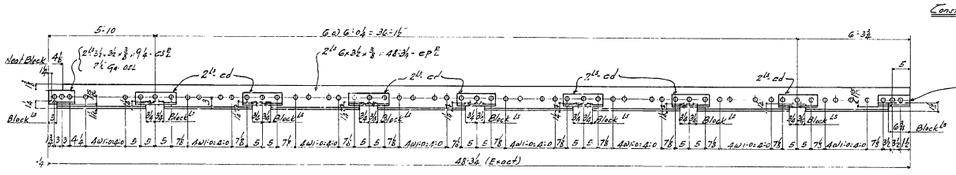
Part not shown to right of line X-X is same as that to right of line Y-Y for CA1



Construction Angles - CA2



Construction Angle CA7



Construction Angles CA13

G.A.	Construction Ls	Mark		
3	do	CA1		
3	do	CA16		
10	do	CA15		
10	do	CA5		
2	do	CA2		
2	do	CA13		
2	do	CA7		
2	do	CA4		
2	do	CA6		
2	do	CA8		
2	do	CA9		
2	do	CA10		
2	do	CA11		
2	do	CA12		
2	do	CA13		

No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for section steel prefixed with c, thus: cb, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: ⅞"ø
OPEN HOLES: 13/16" Unless noted
PUNCHING: Holes in material ¾" thick or less may be punched full size. All sheared or flame cut edges and ends of material to have a neat appearance.
SHOP PRINTS: None except one coat of Acid Resisting Liquid applied to surfaces inaccessible for sand blasting. Such surfaces to be thoroughly cleaned and wire brushed before liquid is applied (See Sh. F1)

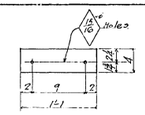
Notes:
Corners of re-entrant cuts to be rounded to ½" Radius.

MACH. SHOP

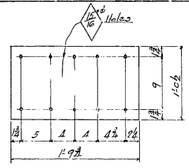
Date	Revision	Appd

APPROVED
Chas. B. Wooley — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 7-11-34

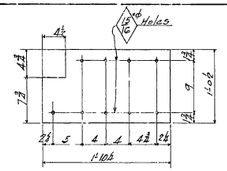
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
504'-0 SPAN & 50'-0 SPAN
Upper Deck
Construction Angles.
McCLINTIC-MARSHALL CORPORATION
Pittstown DRAWING NO. 6003 Pittstown WORKS Shop 2
IN CHARGE C.W.D. CHECKED BY Webb 9/12/34 LAST ASSEM. OK. CA16
MADE BY L.A.H. TRACED BY K-C
CONTRACT CJ1580-6 SHEET J607
Rev. 7-25-34
8-31-34



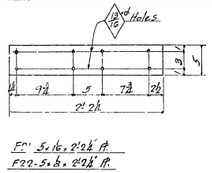
F1- 4.½.½.1'-1" ft
F2- 4.⅜.⅜.1'-1 ft



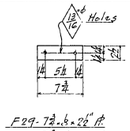
F7- 12½.½.1'-9⅜" ft
F8- 12½.⅜.1'-9⅜" ft



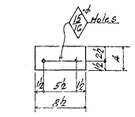
F15- 12½.½.1'-10⅜ ft
F16- 12½.⅜.1'-10⅜ ft



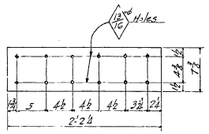
F11- 5.½.½.2'-2½ ft
F27- 5.½.½.2'-7⅜" ft



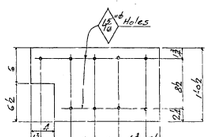
F29- 7½.½.2½" ft
F30- 7½.⅛.2½ ft



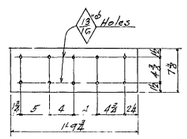
F37- 8½.½.4" ft
F38- 8½.⅛.4" ft



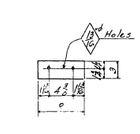
F3- 7⅜.½.2'-2½" ft
F4- 7⅜.⅜.2'-2½" ft



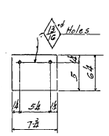
F9- 12½.½.1'-9⅜" ft
F10- 12½.⅜.1'-9⅜" ft



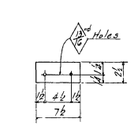
F25- 7⅜.½.1'-9⅜" ft
F26- 7⅜.⅜.1'-9⅜" ft



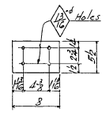
F23- 8.½.3" ft
F24- 8.⅜.3" ft



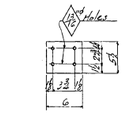
F31- 7⅜.⅜.6½" ft
F32- 7⅜.½.6½" ft



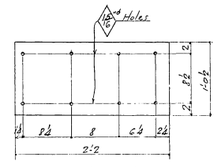
F39- 2½.⅜.7½" ft
F40- 2½.½.7½" ft



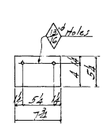
F5- 3.½.5½" ft
F6- 3.⅜.5½" ft



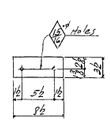
F11- 5½.½.6" ft
F12- 5½.⅜.6" ft



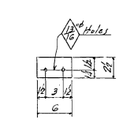
F17- 12½.½.2'-2" ft.
F18- 12½.⅜.2'-2" ft.



F25- 7⅜.⅜.5½" ft
F26- 7⅜.½.5½" ft

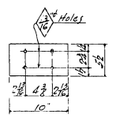


F33- 8½.½.3½" ft
F34- 8½.⅜.3½" ft

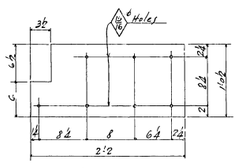


F41- 2½.⅜.6 ft
F42- 2½.½.6 ft

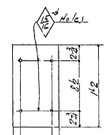
F33- 4.½.6½" ft
F34- 4.⅜.6½" ft



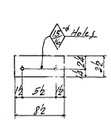
F13- 5½.½.10' ft
F14- 5½.⅜.10' ft



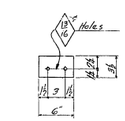
F19- 12½.½.2'-2" ft
F20- 12½.⅜.2'-2" ft



F27- 7.⅜.1'-2" ft
F28- 7.½.1'-2" ft



F35- 8½.⅜.3½" ft
F36- 8½.½.3½" ft



F47- 3½.×½.×6" ft
F48 3½.×⅜.×6" ft

All material carbon steel.
copper bearing

No.	Description	Mark	Remarks	Weight each Item
10	Shims	F1		
5	"	F2		
2	"	F3		
ONE	"	F4		
6	"	F5		
3	"	F6		
8	"	F7		
4	"	F8		
2	"	F9		
ONE	"	F10		
296	"	F11		
113	"	F12		
30	"	F13		
15	"	F14		
2	"	F15		
ONE	"	F16		
20	"	F17		
10	"	F18		
4	"	F19		
2	"	F20		
4	"	F21		
2	"	F22		
1472	"	F23		
736	"	F24		
30	"	F25		
20	"	F26		
48	"	F27		
12	"	F28		
6	"	F29		
4	"	F30		
6	"	F31		
4	"	F32		
56	"	F33		
28	"	F34		
21	"	F35		
14	"	F36		
16	"	F37		
32	"	F38		
63	"	F39		
42	"	F40		
6	"	F41		
4	"	F42		
2	"	F43		
ONE	"	F44		
2	"	F45		
ONE	"	F46		
4	"	F47		
6	"	F48		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: Tom McBailey
RIVETS: None
OPEN HOLES: As noted.
PUNCHING: Holes in material ⅝" thick or less and for stringer laterals, strut plates, lacing, and diaphragms may be punched full size. Holes in main material ⅝" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ⅝" thick to be sub-drilled 3/16" and reamed after matching, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Oxid Filler Red for base and cap plates at fulcrums of Bents, and of built up sheets and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (except that surfaces of main material in contact therewith shall be painted as noted) and to portions of splice plates for anchor rivets, and shall extend to main material and shall be fully accessible for sand blasting.

Date	Revision	App'd

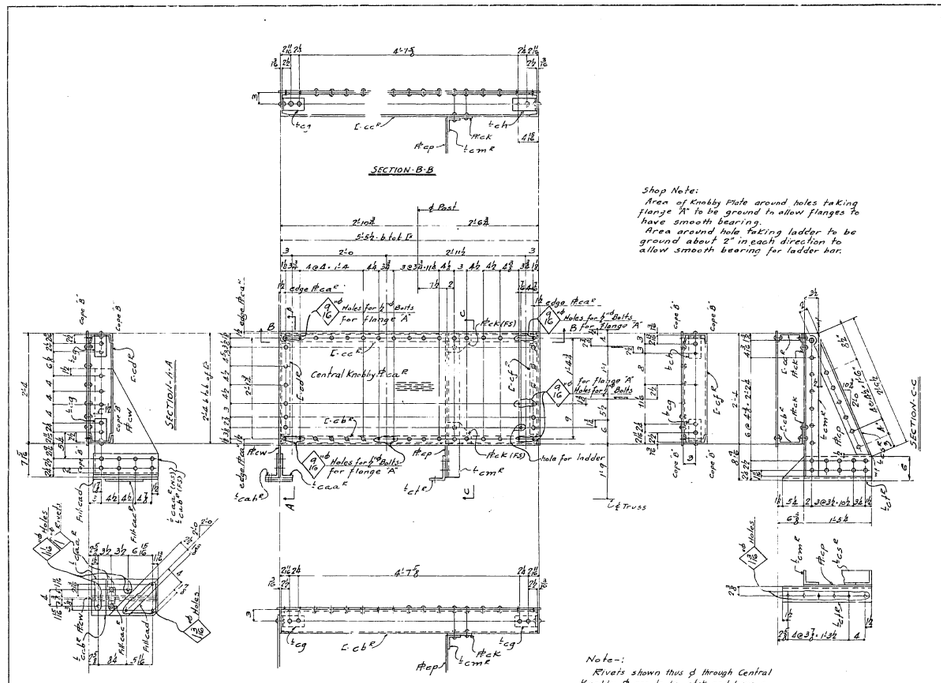
APPROVED

Engineer of Design
Bridge Engineer
Chief Engineer
Date: 8-9-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE EAST BAY CROSSING

Adjustment Shims. (664 0" Spans)
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Pottstown WORKS
IN CHARGE E.W.P. TRACED BY H.W.P. Shp 2
CHECKED BY [illegible] TRACED BY J.E.W.
EAST BOSTON, MASS.

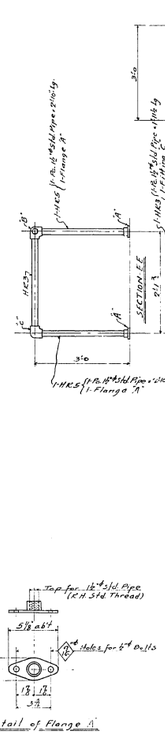
CONTRACT CT 1596-E SHEET J608

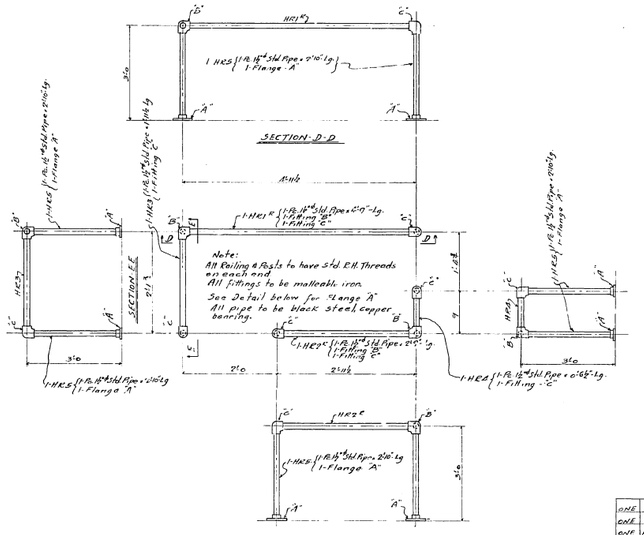


PLATFORM-HP1ᴿ

List of Material for HP1ᴿ

1- Central Knobby Pl 78¾ . ⅜ . 51'6 - ca^R
1- 6"L . 8.2 . 55'8 - cb^R
1- do . 55'8 - cc^R
1- do . 21'3 - cd^R
1- do . 21'3 - cf^R
3- ½ . L . 6 . ⅜ . 0'3" - g
1- L . 8 . 6 . ⅞ . 0'3" - ch
2- Pl's . 35 . ⅜ . 0'6" - ck
1- L . 3½ . 3½ . ⅜ . 3'0 - cm^R
1- Pl 17 . ⅜ . 3'0 - cp
1- L . 3½ . 3½ . ⅜ . 21'7½ - cs^R
1- L . 6 . 4 . ⅜ . 1'10 - ct^R
1- Pl . 17 . ⅜ . 2'1½ - cw
1- L . 6 . 1 . ⅜ . 15'4 - ca a^R
1- L . 6 . 4⅛ . ⅜ . 15'4 - c b^R
1- Fill . 9⅛ . ⅜ . 0'10" - cu c^R
1- Fill . 9⅛ . ⅜ . 15'4 - ca d





PLATFORM HAND RAILING { HR1ᴿ, HR2ᴿ, HR3, HR4, HR5

No.	Description	Mark	Remarks	Weight each Tons
one	Platform	HP1ᴿ		
one	do	HP2ᴿ		
not	Platform Hand Railing	HR1ᴿ		
one	do	HR2ᴿ		
one	do	HR3ᴿ		
one	do	HR4ᴿ		
7	do	HR3		
2	do	HR4		
12	do	HR5		

REQUIRED LIST

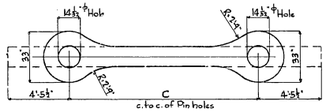
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By Mr. W. Bailey
RIVETS: ¾" ø unless noted
OPEN HOLES: ⅞" unless noted
PUNCHING: Holes in material ⅝" thick or less used for stringer laterals, bay plates, lacing, and diaphragms may be punched full size. Holes in main material ⅝" thick or less to be subpunched 1/16" and reamed to size after assembly.
DRILLING: Holes in material over ⅝" thick to be subdrilled 3/16" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" in metal.
MATCH MARKING: All match marking to be made with bush steel stencils and paint.
SHOP PAINT: Prime except 1 coat Na-Ox-Id Filler Red for inside and cap plates of Towers of Bents, and all Pedestal shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, machined surfaces of assembly, and to inside surfaces of bolted spliced plates (or angles) and surfaces of main material in contact therewith also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd.

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 8/21/36

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Platform and Pipe Railing at Truss Heel
L12 Span E8 - 504'0 Span
McCLINTIC-MARSHALL CORPORATION
For Town DRAWING ROOM Pottstown Work Shop
DESIGNED BY C.W.D. MADE BY J.E.W.
CHECKED BY L. 8/21/36 TRACED BY J.E.W.
LAST ASSGN. NO.

CONTRACT CJ1580-6 SHEET J609



Extra required for Test Bars

Permanent Material

No. of Pieces	No. of Pieces	MARK		Size Wide in.	Size Thick in.	Length C c. to c. ft.	Length C c. to c. in.	Ordered Length ft.	Ordered Length in.	
2	8	(L0-1)4	Alike	18	$1\frac{3}{4}$	36	$6\frac{13}{32}$	45	$5\frac{1}{2}$	378 #
	8	(L0-1)5								
	8	(L0-1)6								
	8	(L11-12)4								
	8	(L11-12)5								
	8	(L11-12)6								
One	8	(L0-1)7	Alike	14	$1\frac{7}{8}$	36	$6\frac{13}{32}$	A5	$5\frac{1}{2}$	#060
	8	(L11-12)7								
One	8	(L0-1)8	Alike	14	2	36	$6\frac{13}{32}$	A5	$5\frac{1}{2}$	#328
	8	(L11-12)8								
5	8	(L1-2)4	Alike	14	$1\frac{3}{4}$	41	$11\frac{13}{32}$	50	$10\frac{1}{2}$	#520
	8	(L1-2)5								
	8	(L1-2)6								
	8	(L10-11)4								
	8	(L10-11)5								
	8	(L10-11)6								
	8	(L2-3)4								
	8	(L2-3)5								
	8	(L2-3)6								
	8	(L9-10)4								
	8	(L9-10)5								
	8	(L9-10)6								
	8	(L3-4)4								
	8	(L3-4)5								
	8	(L3-4)6								
	8	(L8-9)4								
	8	(L8-9)5								
	8	(L8-9)6								
2	8	(L1-2)7	Alike	14	$1\frac{7}{8}$	41	$11\frac{13}{32}$	50	$10\frac{1}{2}$	#378
	8	(L2-3)7								
	8	(L3-4)7								
	8	(L8-9)7								
	8	(L9-10)7								
	8	(L10-11)7								
2	8	(L1-2)8	Alike	14	2	41	$11\frac{13}{32}$	50	$10\frac{1}{2}$	#434
	8	(L2-3)8								
	8	(L3-4)8								
	8	(L8-9)8								
	8	(L9-10)8								
	8	(L10-11)8								
5	12	(L4-5)4	Alike	14	$1\frac{7}{8}$	41	$11\frac{1}{2}$	50	$10\frac{1}{2}$	#567
	12	(L4-5)5								
	12	(L4-5)6								
	12	(L5-6)4								
	12	(L5-6)5								
	12	(L5-6)6								
	12	(L6-7)4								
	12	(L6-7)5								
	12	(L6-7)6								
	12	(L7-8)4								
	12	(L7-8)5								
	12	(L7-8)6								
2	12	(L4-5)7	Alike	18	$1\frac{15}{16}$	41	$11\frac{1}{2}$	50	$10\frac{1}{2}$	#571
	12	(L5-6)7								
	12	(L6-7)7								
	12	(L7-8)7								
2	12	(L4-5)8	Alike	14	2	41	$11\frac{1}{2}$	50	$10\frac{1}{2}$	#574
	12	(L5-6)8								
	12	(L6-7)8								
	12	(L7-8)8								

Note:
Eye bars to be Heat-Treated Carbon Steel, Copper-Bearing

Paint - None, except pin holes which are to receive one coat of Blue Lacquer

Date	Revision	App'd

APPROVED

Engineer of Design

Bridge Engineer

Chief Engineer

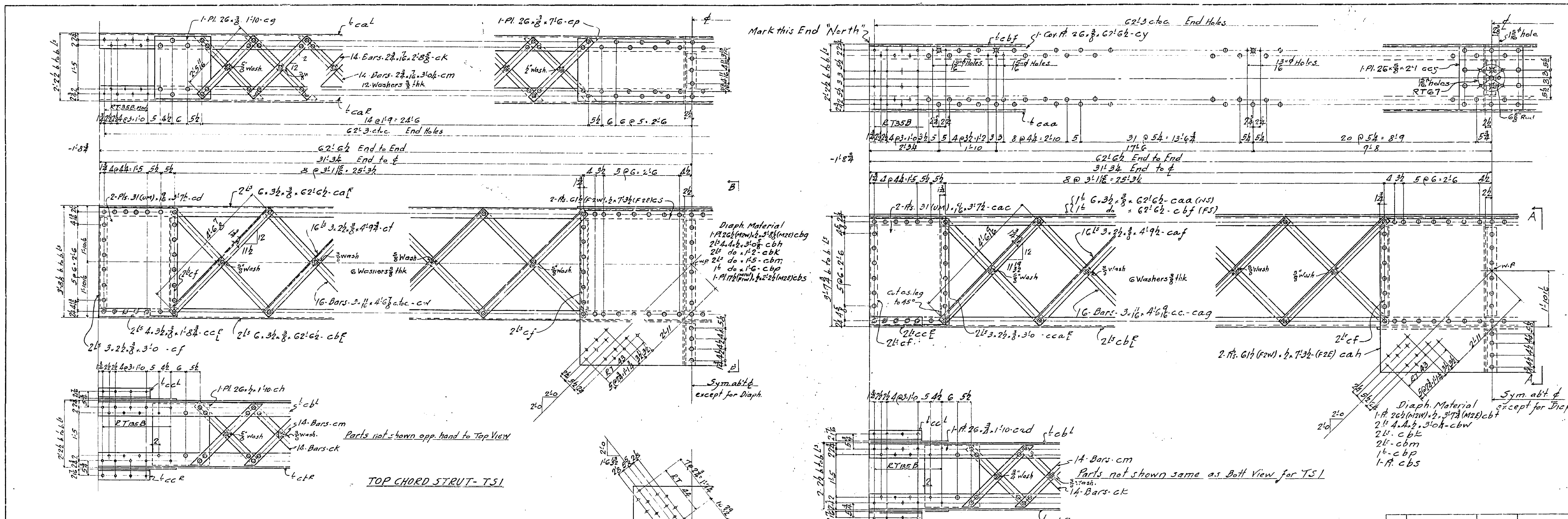
Date 4-30-34

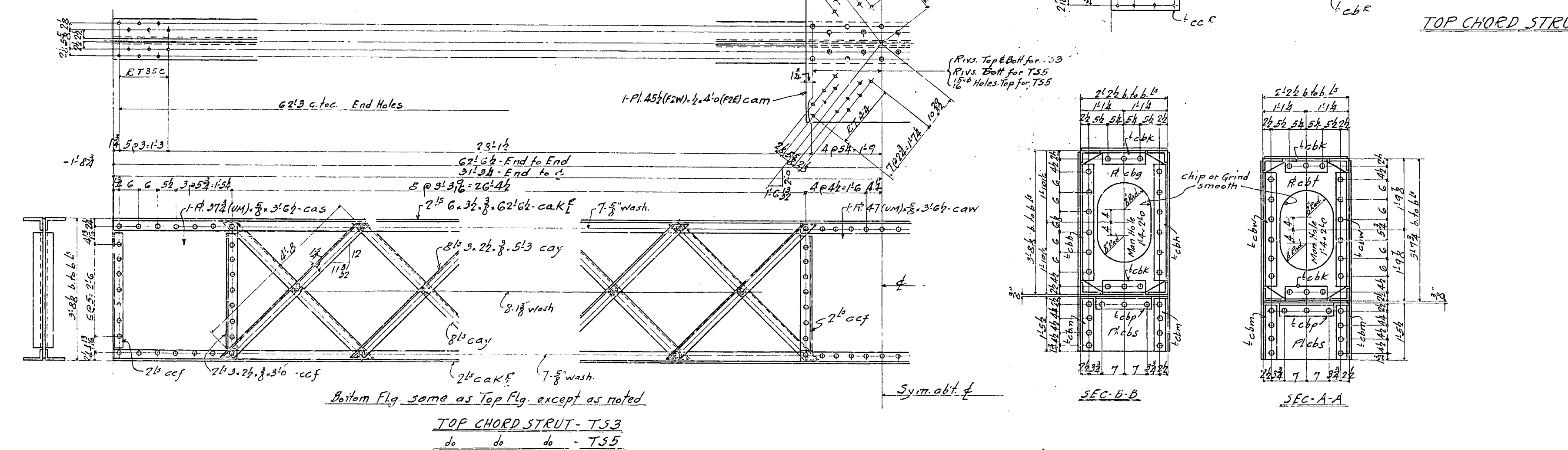
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
EYE BARS 504'0" SPANS

JOHNSTON-MARSHALL CORPORATION
Pottstown DRAWING FROM Pottstown PENNA

IN CHARGE	GWP	MADE BY	CSG
CHECKED BY	FBG	TRACED BY	VS
LAST ASSEM. MK.			

CONTRACT CJ 1580-7 SHEET (J701)





2	2	2	2	2	10	Top Chord Struts	TS1		
1	1	1	1	1	5	" " "	TS2		
3	3	3	3	3	15	" " "	TS3		
1	1	1	1	1	5	" " "	TS5		
Span E4	Span E5	Span E6	Span E7	Span E8	Total No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

Note:
Holes marked RT to be sub-punched and reamed to size to a metal templet

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey
RIVETS: 7/8
OPEN HOLES: 1 1/16"⌀ Unless noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 7-9-34

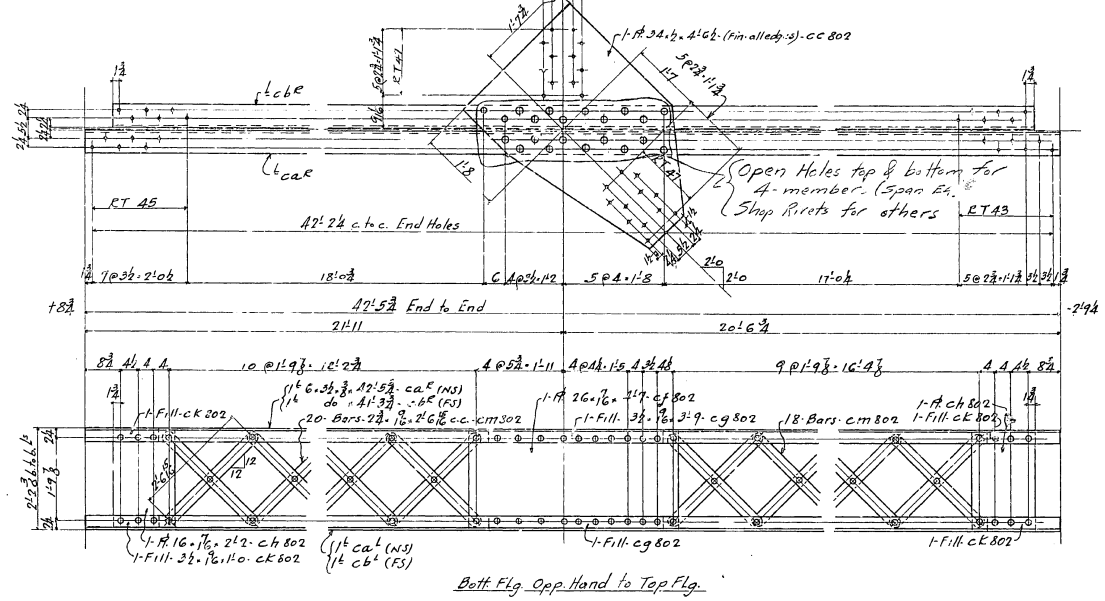
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

TOP CHORD STRUTS - TS1-2-3-5
504' SPANS

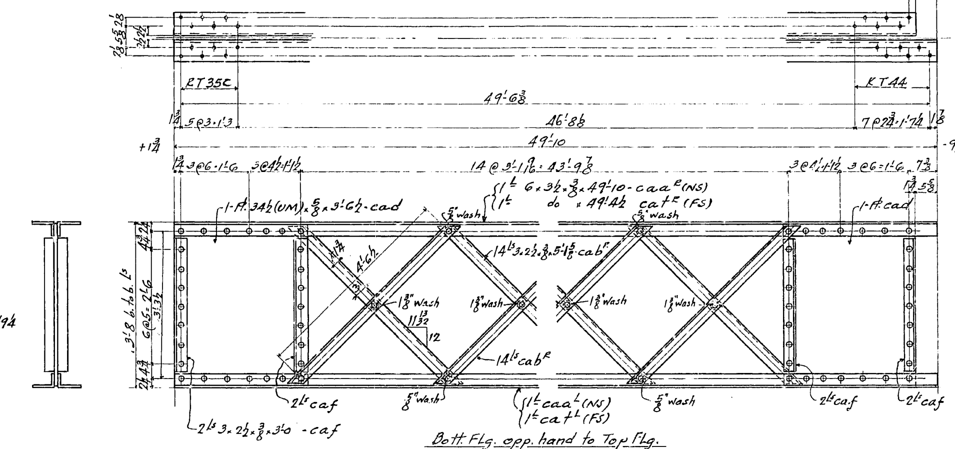
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Moore Shipbuilding & Dry Dock WORKS

IN CHARGE C.W.D. — MADE BY JRW
CHECKED BY Webb 5/21/34 — TRACED BY JRW
LAST ASSEM. MK. CCZ

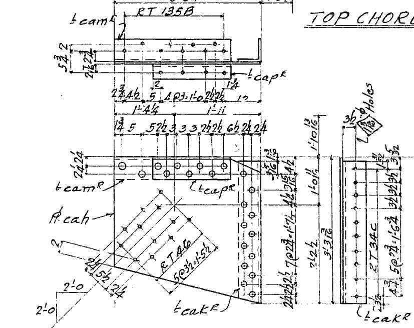
CONTRACT CJ1560-8 SHEET J801



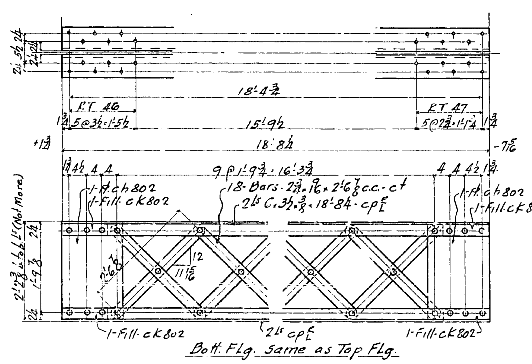
SWAY FRAME - SF1



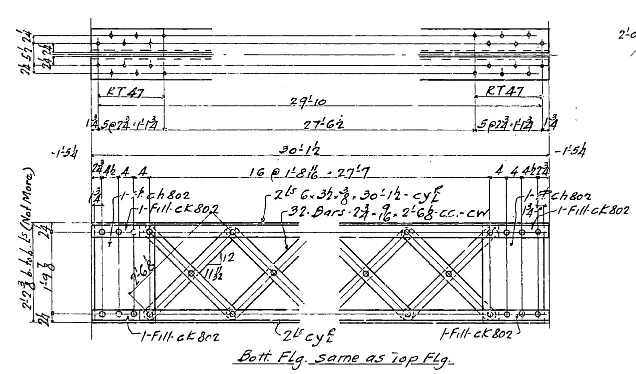
TOP CHORD LATERAL - TL1R



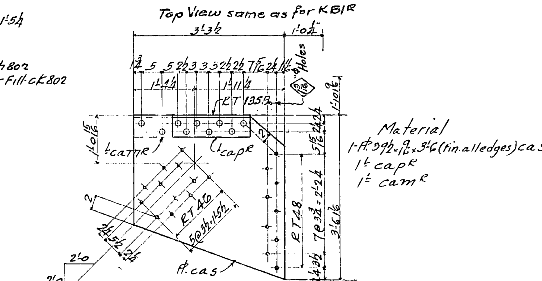
BRACKET - KB1R



SWAY FRAME - SF2



SWAY FRAME - SF3



BRACKET - KB2R

Span E4	Span E5	Span E6	Span E7	Span E8	Total No.	Description	Mark	Remarks	Weight each Tons
4	4	4	4	4	20	Brackets	KB2R		
4	4	4	4	4	20	"	KB2L		
2	2	2	2	2	10	"	KB1R		
2	2	2	2	2	10	"	KB1L		
8	8	8	8	8	40	Top Chord Laterals	TL1R		
8	8	8	8	8	40	" " "	TL1L		
3	3	3	3	3	15	Sway Frame	SF3		
6	6	6	6	6	30	" "	SF2		
4	4	4	4	4	20	" "	SF1		

REQUIRED LIST

Note
Holes marked RT to be sub-punched and reamed to size to a metal templet.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey
RIVETS: 7/8"⌀
OPEN HOLES: 1 1/16"⌀ Unless Noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of spliced plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 7-9-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE

CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

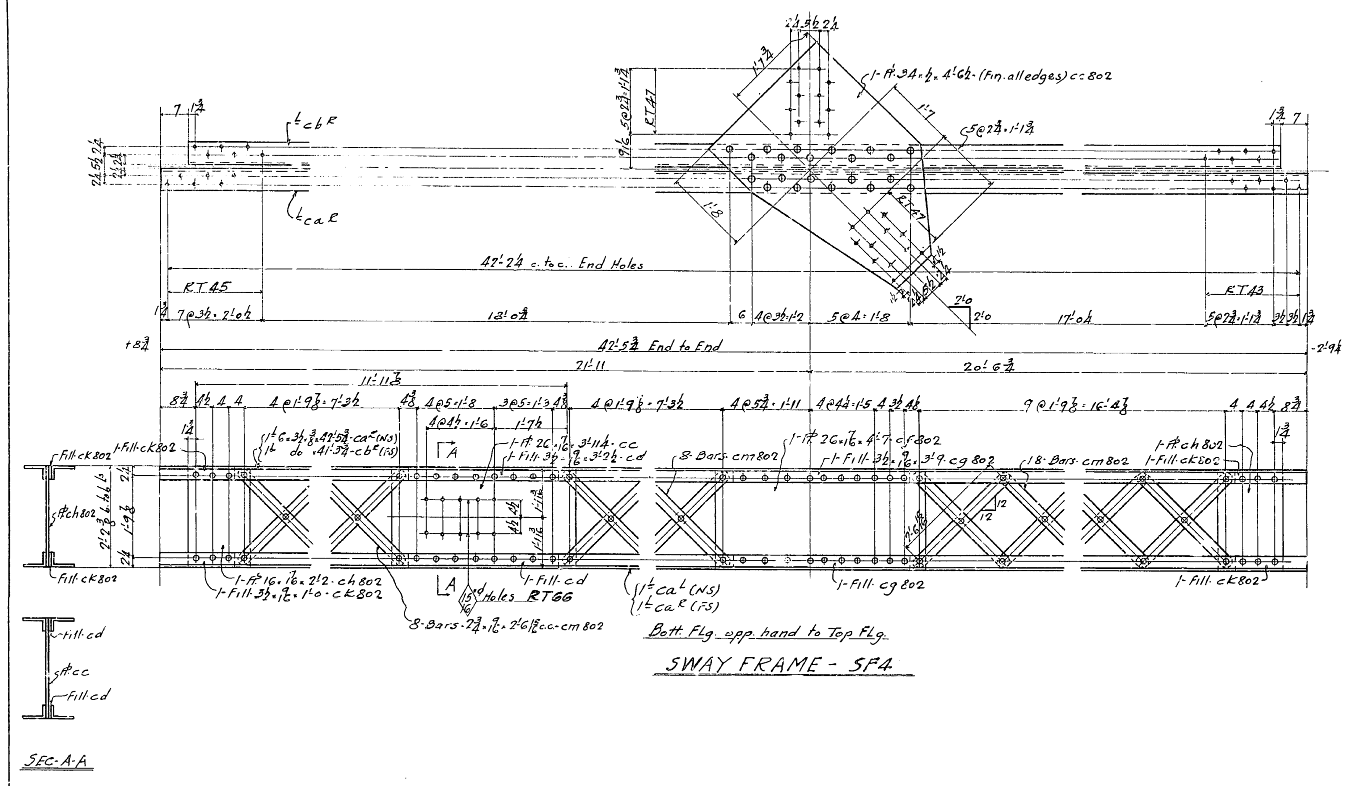
Sway Frames - SF1 - SF2 - SF3 - Top Chord Laterals TL1
Brackets - KB1 R/L - KB2 R/L (504' Span)

McCLINTIC-MARSHALL CORPORATION

Po ... DRAWING ROOM Moore Shipbuilding & Dry Dock WORKS

IN CHARGE C.W.D. — MADE BY JKW
CHECKED BY Webb 5/21/34 — TRACED BY JEW
LAST ASSEM. MK. cat

CONTRACT CJ1580-8 — SHEET J802



Span E4	Span E5	Span E6	Span E7	Span E8	Total No.	Description	Mark	Remarks	Weight each Tons
2	2	2	2	2	10	Sway Frames	SF4		

REQUIRED LIST

Note:
Holes marked RT to be sub-punched and reamed to size to a metal templet.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey
RIVETS: 7/8"⌀
OPEN HOLES: 1 1/16"⌀ Unless Noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Oxid Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 7-9-34

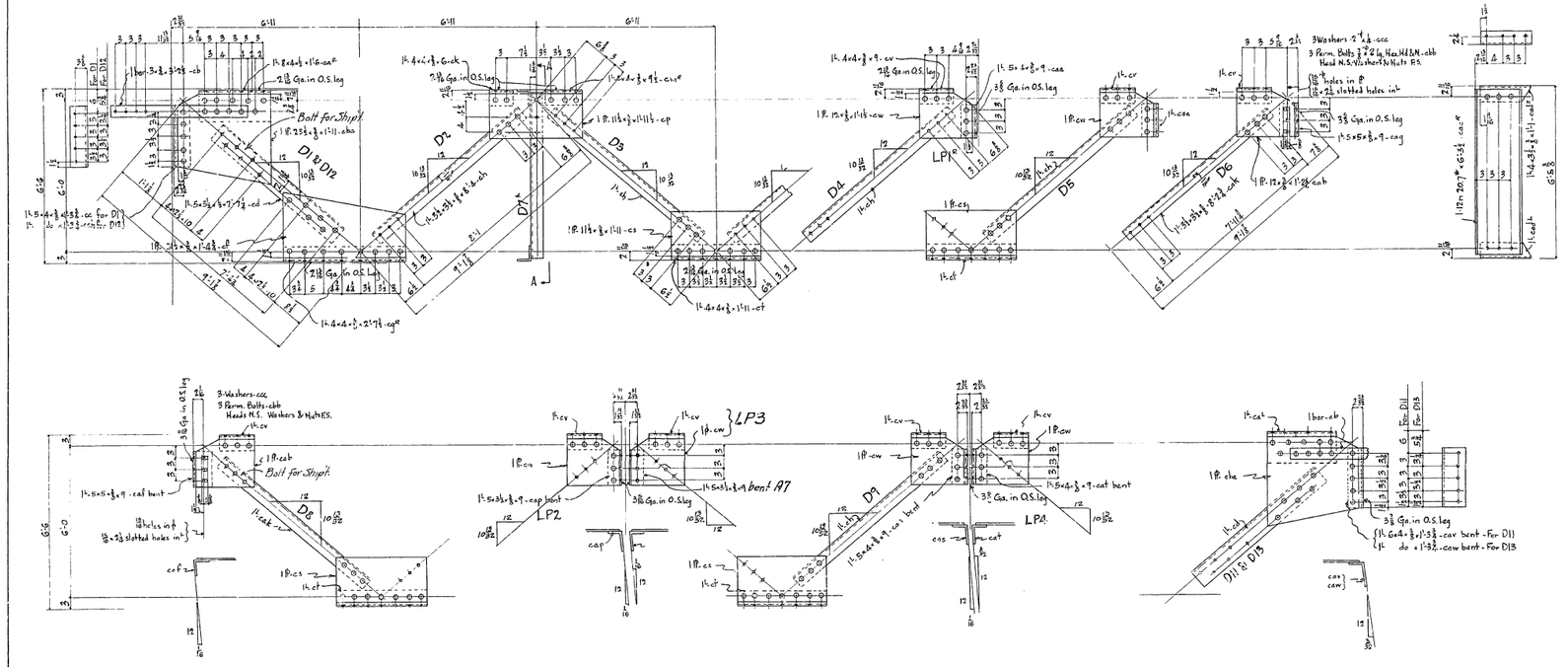
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

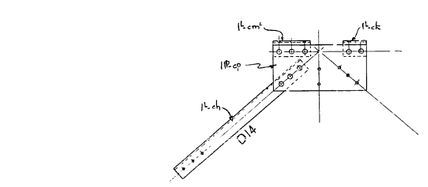
SWAY FRAMES-SF4
504-5 SPANS

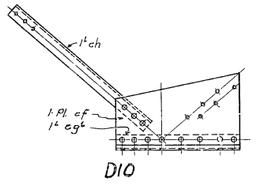
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Moore Shipbuilding & Dry Dock WORKS
IN CHARGE C.W.D. MADE BY JRW
CHECKED BY Webb 5/31/34 TRACED BY JRW
LAST ASSEM. MK. cd

CONTRACT CJ 1580-8 SHEET J803

J804







All Material Carbon Steel

No.	Description	Mark	Remarks	Weight each Piece
2	Angles	A7		
2	Angles	A6		
2	Lateral Plates	LP12		
One	Diagonal	D1		
13	do	D2		
26	do	D3		
8	do	D4		
2	do	D5		
2	do	D6		
12	do	D7 L	As shown	
12	do	D7 R	Opp hand	
2	do	D8		
2	do	D9		
2	do	D10		
One	do	D11		
One	do	D12		
One	do	D13		
12	do	D14		
2	Lateral Plates	LP1 L	As shown	
2	do	LP1 R	Opp hand	
2	do	LP2		
2	do	LP3		
2	do	LP4		

REQUIRED LIST

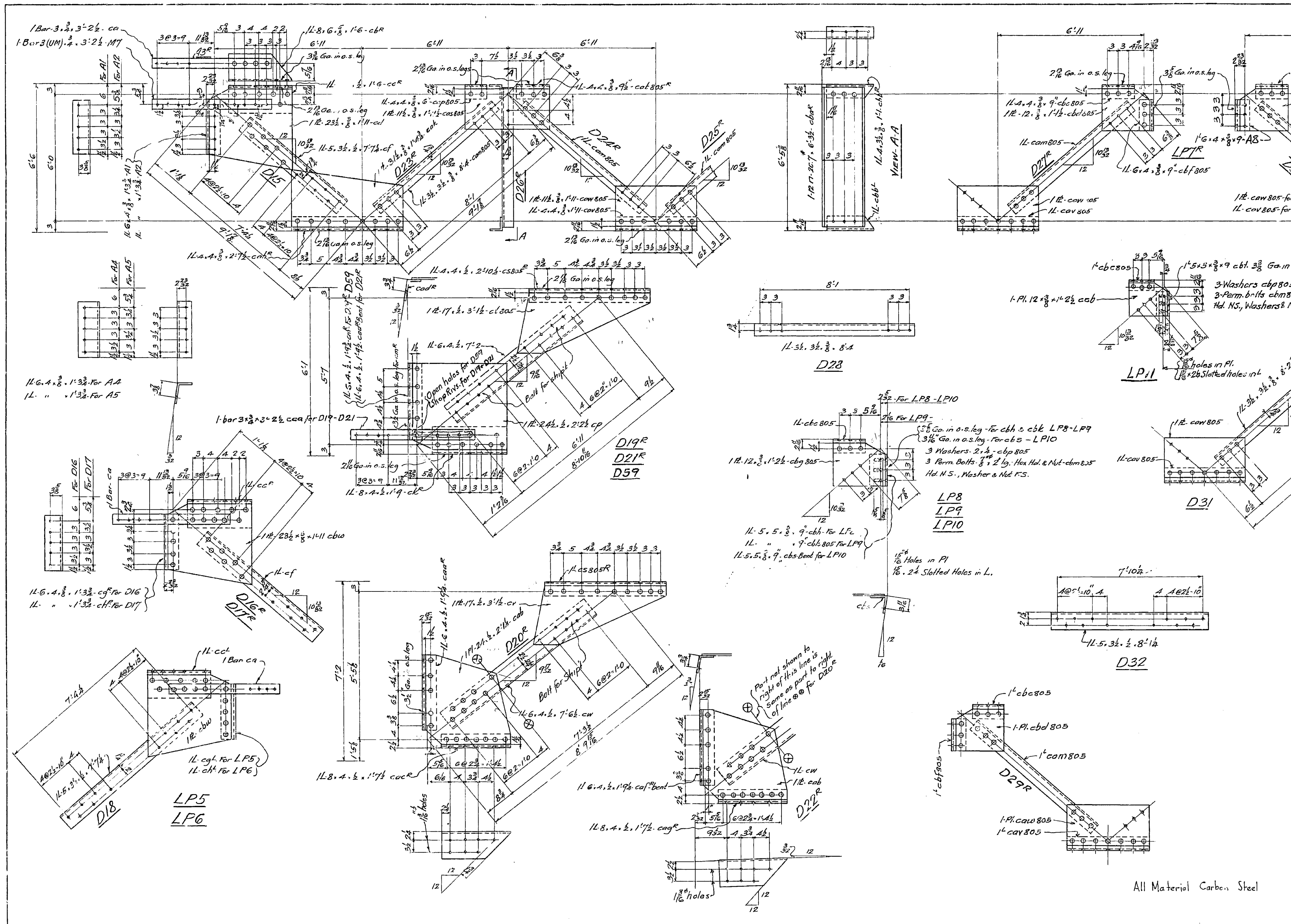
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: by John M. Bailey
RIVETS: 7/8 diam.
OPEN HOLES: 1/8 diam. unless noted
PUNCHING: Holes in material 5/8" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 5/8" thick or less to be subpunched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 5/8" thick to be subdrilled 1/4" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/16" of metal.
MATCH MARKING: All match marking to be made with hot steel stencils and paint.
SHOP PAINT: None except 1 coat No. 0 Red Lead Paint for bare end cap plates at Tops of Bents, and of built up shoes and 1 coat "Anti Rusting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted rolled plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of rolled plates (or angles) which are shop riveted to main material and are not fully accessible for paint finishing.

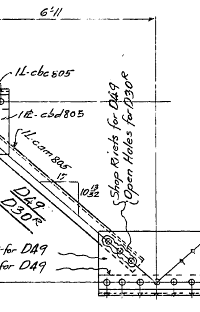
Date	Revision	Insp'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Dec. 5-7-36

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE EAST BAY CROSSING
504'0 Span.
Bracing for Railroad Stringers
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM. Kearny Peninsula Works
IN CHARGE C.W.D. MADE BY H.B.M.
CHECKED BY F.E.G. 4-7-36 TRACED BY V.J.
LAST ASSEM. MK.
CONTRACT CJ 1530-B SHEET J804





	No.	Description	Mark	Remarks	Weight each Tons
	4	Bars	M7		
	2	Angles	A1		
	2	"	A2		
	20	"	A3R	As Shown	
	20	"	A3L	Opp. Hand	
	One	"	A4		
	One	"	A5		
	2	Lateral Pls.	LP5		
	2	" "	LP6		
	32	" "	LP7R	As Shown	
	30	" "	LP7L	Opp. Hand	
	4	" "	LP8		
	4	" "	LP9		
	2	" "	LP10		
	2	" "	LP11		
6	6	Diagonals	D15		
	One	"	D16R	As Shown	
	One	"	D16L	Opp. Hand	
	One	"	D17R	As Shown	
	One	"	D17L	Opp. Hand	
4	4	"	D18		
	3	"	D19R	As Shown	
	3	"	D19L	Opp. Hand	
	4	"	D20R	As Shown	
	4	"	D20L	Opp. Hand	
	One	"	D21R	As Shown	
	One	"	D21L	Opp. Hand	
	One	"	D22R	As Shown	
	One	"	D22L	Opp. Hand	
12	18	"	D23R	As Shown	
10	18	"	D23L	Opp. Hand	
72	104	"	D24R	As Shown	
60	108	"	D24L	Opp. Hand	
60	86	"	D25R	As Shown	
50	90	"	D25L	Opp. Hand	
	108	"	D26R	As Shown	
	108	"	D26L	Opp. Hand	
24	24	"	D27R	As Shown	
24	24	"	D27L	Opp. Hand	
34	34	"	D28		
	10	"	D29R	As Shown	
	10	"	D29L	Opp. Hand	
4	4	"	D30R	As Shown	
4	4	"	D30L	Opp. Hand	
12	12	"	D31		
10	10	"	D32		
4	4	"	D49		
	12	Angles	A8		
	One	Diagonal	D59		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: by John M. Bailey
RIVETS: 7/8"φ
OPEN HOLES: 15/16"φ unless noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up sheer; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 6-20-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE

CONTRACT NO. 7

SUPERSTRUCTURE-EAST BAY CROSSING

504'-0 SPANS

BRACING FOR RAILROAD STRINGERS

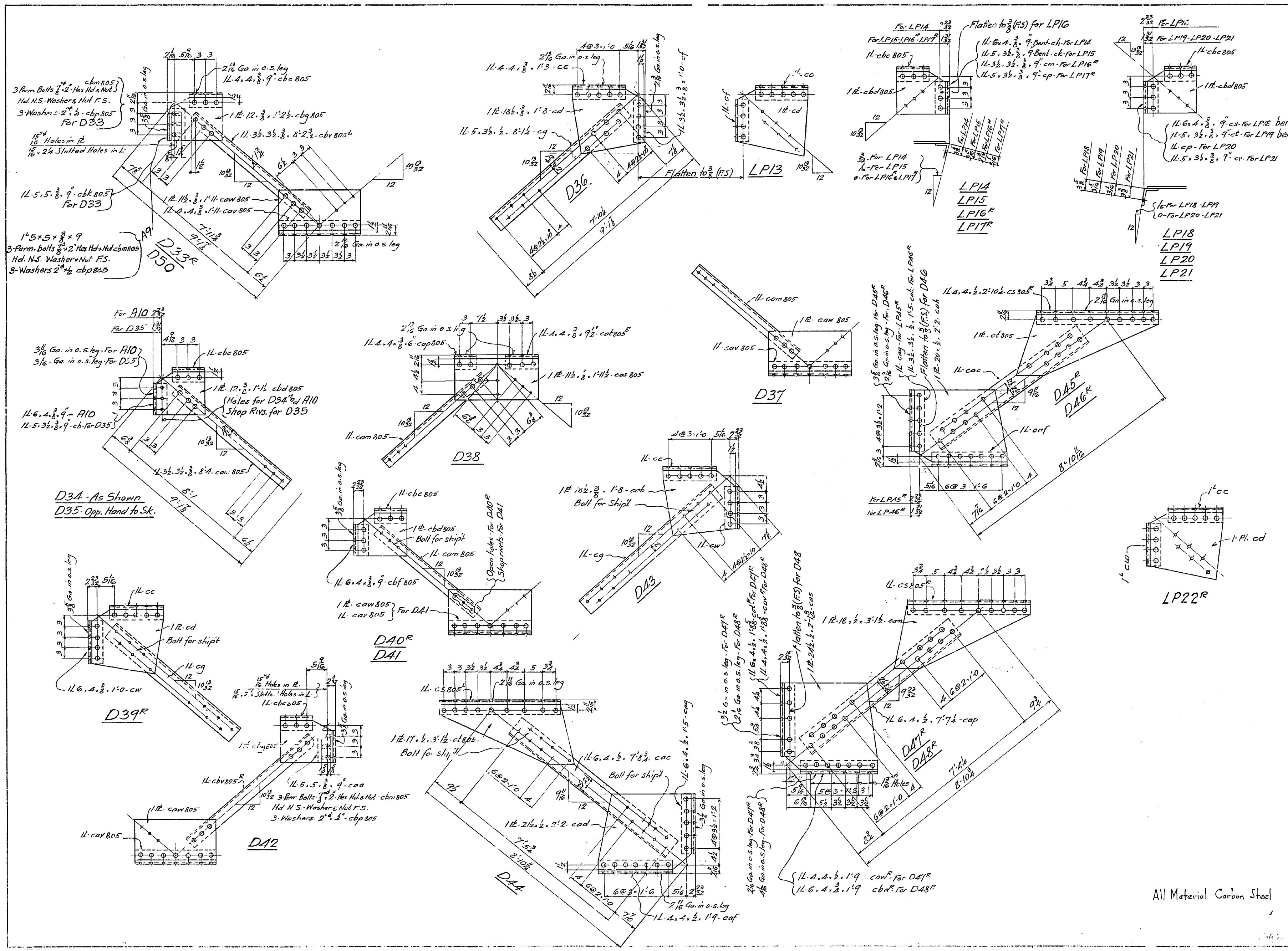
McCLINTIC-MARSHALL CORPORATION

P. town DRAWING ROOM Moore Shipbuilding & Dry Dock WORKS

IN CHARGE C.W.D. MADE BY H.M.
CHECKED BY FEG. TRACED BY C.K.
LAST ASSEM. MK.

CONTRACT CJ 1590-8 SHEET 7805

7



All Material Carbon Steel

No.	Description	Mark	Remarks	Weight each Tons
4	Lateral Pls.	LP22R	As shown	
4	" "	LP22L	Opp. hand	
2	LATERAL PLS.	LP13		
2	" "	LP14		
2	" "	LP15		
2	" "	LP16R	As Shown	
2	" "	LP16L	Opp. Hand	
2	" "	LP17R	As Shown	
2	" "	LP17L	Opp. Hand	
2	" "	LP18		
2	" "	LP19		
2	" "	LP20		
2	" "	LP21		
4	DIAGONALS	D33R	As Shown	
4	"	D33L	Opp. Hand	
2	"	D34		
2	"	D35	Opp. hand to Sk	
2	"	D36		
4	"	D37		
4	"	D38		
4	"	D39R	As Shown	
4	"	D39L	Opp. Hand	
10	"	D40R	As Shown	
16	"	D40L	Opp. Hand	
4	"	D41		
2	"	D42		
2	"	D43		
One	"	D44		
4	"	D45R	As Shown	
4	"	D45L	Opp. Hand	
One	"	D46R	As Shown	
One	"	D46L	Opp. Hand	
4	"	D47R	As Shown	
4	"	D47L	Opp. Hand	
One	"	D48R	As Shown	
One	"	D48L	Opp. Hand	
4	"	D50		
4	Angles	A9		
2	"	A10		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: by John M. Bailey
RIVETS: 7/8"φ
OPEN HOLES: 15/16"φ - unless noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
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SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ... of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates ... angles ... of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for ... blasting.

Date	Revision	App'd

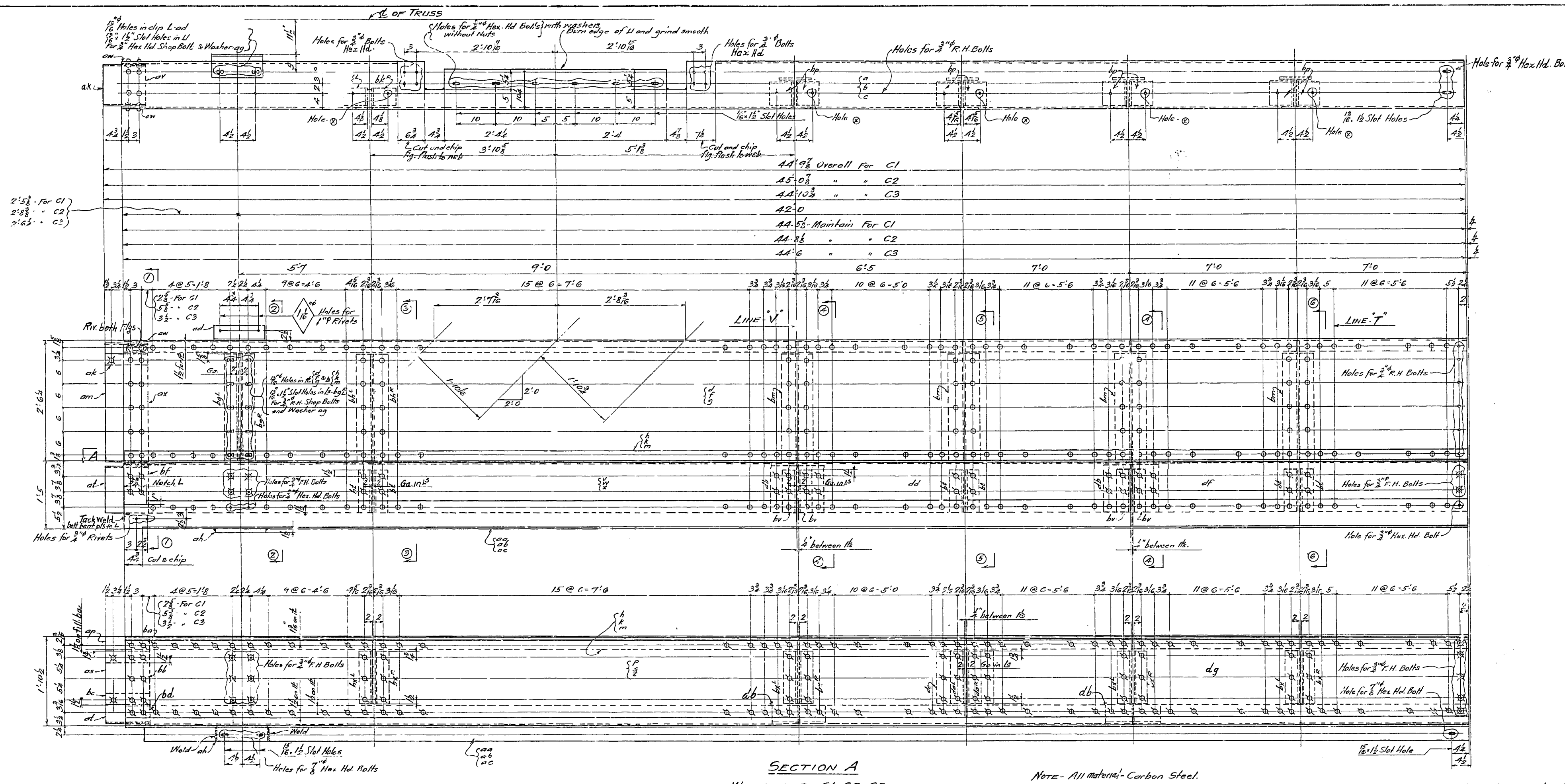
APPROVED

Glenn B. Woodruff — Engineer of Desig.
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 6-20-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
504'-0 SPAN
BRACING FOR RAILROAD STRINGERS

...LANTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Moore Shipbuilding & Dry Dock WORKS
IN CHARGE - C.W.D.   MADE BY H.M.
CHECKED BY FEG   TRACED BY C.K.

CONTRACT CJ 1580-8   SHEET J806



SECTION A
WALKWAYS - C1 - C2 - C3

Note - All material - Carbon Steel.

1 - a - 12U-20.7 x 44'5 5/8 - F.2E. - For C1
1 - b - 12U-20.7 x 44'8 5/8 - F.2E. - For C2
1 - c - 12U-20.7 x 44'6 F.2E. - For C3
1 - d - Pl. 30 1/2 U.M. x 5/16 x 44'5 5/8 - F.2E. - For C1
1 - f - Pl. 30 1/2 U.M. x 5/16 x 44'8 5/8 - F.2E. - For C2
1 - g - Pl. 30 1/2 U.M. x 5/16 x 44'6 F.2E. - For C3
1 - h - L 3 x 3 x 3/8 x 44'5 5/8 - F.2E. - For C1
1 - k - L 3 x 3 x 3/8 x 44'8 5/8 - F.2E. - For C2
1 - m - L 3 x 3 x 3/8 x 44'6 - F.2E. - For C3
1 - p - Central Knobby Pl. 19 1/2 x 3/8 x 23'5 3/4 - F.2E. - For C1
1 - s - " " Pl. 19 1/2 x 3/8 x 23'8 3/4 F.2E. For C2
1 - t - " " Pl. 19 1/2 x 3/8 x 23'6 5/8 - F.2E. - For C3
1 - v - Bent Pl. 16 1/2 UM x 1/2 x 17'0 3/4 - F.2E. For C1 (Mild Steel)
1 - w - " " 16 1/2 UM x 1/2 x 17'3 3/4 - F.2E. For C2 (Mild Steel)
1 - x - " " 16 1/2 UM x 1/2 x 17'1 1/8 - F.2E. For C3 (Mild Steel)
1 - aa - L 7 x 4 x 1/2 x 44'5 5/8 - F.2E. - For C1
1 - ab - L 7 x 4 x 1/2 x 44'8 5/8 - F.2E. - For C2
1 - ac - L 7 x 4 x 1/2 x 44'6 - F.2E. - For C3
1 - ad - L 6 3/4 x 4 x 1/2 x 1'1
1 - ah - Fill 4 x 1 1/8 x 1'1 - (Welded)

1 - ak - Bent Pl. 19 1/4 x 3/8 x 10 3/4 (Mild Steel)
1 - am - Pl. 10 3/4 x 3/8 x 2'3 1/2
1 - ap - Pl. 7 3/4 x 3/8 x 10 3/4
1 - as - Pl. 13 3/4 U.M. x 3/8 x 10 3/4
1 - at - Bent Pl. 10 3/4 x 3/8 x 1'6 3/4 (Mild Steel)
1 - av - Fill 6 x 1/8 x 10"
2 - aw - Fills 6 x 1/8 x 2 1/2"
1 - ax - Fill 6 x 1/8 x 2'3 1/2
1 - ba - Fill 6 x 1/8 x 3"
1 - bb - Fill 6 x 1/8 x 1'1 3/4
1 - bc - Fill 3 x 1/8 x 10 3/4"
1 - bd - Fill 6 x 1/8 x 3"
1 - bf - Fill 6 x 1/8 x 10 3/4"
2 - bg - Ls 3 1/2 x 3 1/2 x 3/8 x 3'2 1/4
2 - bh - Ls 5 x 3 1/2 x 3/8 x 3'6 1/2
2 - bk - Ls 8 x 6 x 7/16 x 6"
4 - bm - 8" B.H. @ 31# x 3'6 1/2
8 - bp - L 6 x 4 x 3/8 x 6"
5 - bs - Pls - 11 x 3/8 x 1'8 3/4
6 - bt - Ls 3 1/2 x 3 1/2 x 3/8 x 10 3/4"

4 - by - Ls 3 1/2 x 3 1/2 x 3/8 x 10 3/4"
10 - bw - Ls 3 1/2 x 3 1/2 x 3/8 x 11"
8 - bx - Ls 5 x 3 1/2 x 3/8 x 1'1 3/4
2 - da - Ls 4 x 3 1/2 x 3/8 x 1'1 3/4
2 - db - Bent Pl. 13 1/2 x 3/8 x 1'3 3/4 (Mild Steel)
1 - dc - Pl. 13 3/4 U.M. x 3/8 x 1'1 1/2
1 - dd - Bent Pl. U.M. 16 1/2 x 1/2 x 13'4 3/4 - F.2E (Mild Steel)
1 - df - Bent Pl. U.M. 16 1/2 x 1/2 x 13'11 5/8 - F.2E (Mild Steel)
1 - dg - Central Knobby Pl. 19 1/2 x 3/8 x 20'11 5/8 (F.2E.)
8 - 3/4"ø Round Head Bolts - 2" lg. with Hex Nuts
2 - 3/4"ø " " 2 1/4 lg. " " "
12 - ag - 1/4" thk Washers - 2"ø - 13/16"ø Hole
3 - af 1 1/2"ø x 1/2" thk Washers 15/16"ø Hole
2 - 3/4"ø Hex Head Bolts x 2" lg. with hex nuts.

Countersunk holes for flat head field bolts to conform to the head of bolts furnished by the Alameda Works. (Dwg. J826 Contract CT1580-8). Samples to be furnished by the Alameda Works.

NOTES -
Rivets shown thus ⌀ through Central Knobby Walk plates are to be ctsk and have a maximum height not more than the height of pattern on plate. All other rivets shown thus ⌀ are to be ctsk and have a maximum height of 1/8".
Shop to place Erection Marks on Left End of members as detailed and in an upright position.

Work this Sheet with Sheets - J807JJ
For Sections see Sheet J807JJ

All Brackets shown in Sects. are to be riveted up in a fixture to assure squareness
Where parts are tack welded, contact surfaces must be thoroughly cleaned and scraped before assembly, and parts must be tightly clamped while welding. Welding shall be done in such a manner so as to prevent entering of any foreign substance during field sand blasting.

Shop to put shipping bolts in holes ® and draw same up light. Erector to remove in field.
Corners of re-entrant cuts to be rounded to 1/2" radius.

MATERIAL - All Structural Steel to be copper bearing.
SPECIFICATIONS - Special by State of California, Dept. of Public Works.
INSPECTION - By John M. Bailey
RIVETS - 3/4"ø unless noted
OPEN HOLES - 13/16"ø unless noted
PUNCHING - All holes to be punched full size except holes marked RT, which are to be sub-punched 1/4 and reamed to size through a metal templet.
FINISH - All sheared or flame cut edges and ends of material to have a neat appearance and where designated F1W, F2E, etc. Shop must shear and grind, chip and grind or otherwise cut and finish so that members present a neat appearance and conform to dimensions given on drawings. Ends of all assembled members must present a NEAT appearance.
SHOP PAINT - None, except as outlined below, which shall be given one coat of "ACID RESISTING LIQUID" -
① - All surfaces exposed to the elements not readily accessible for field sand blasting.
② - Contact surfaces of parts bolted.
All painted surfaces must be thoroughly cleaned and scraped before paint is applied. Bolted parts to be assembled after paint is dry and bolts drawn up tight.

No.	Description	Mark	Remarks	Weight each Tons
One	WALKWAY	C1		
One	"	C2		
One	"	C3		

REQUIRED LIST

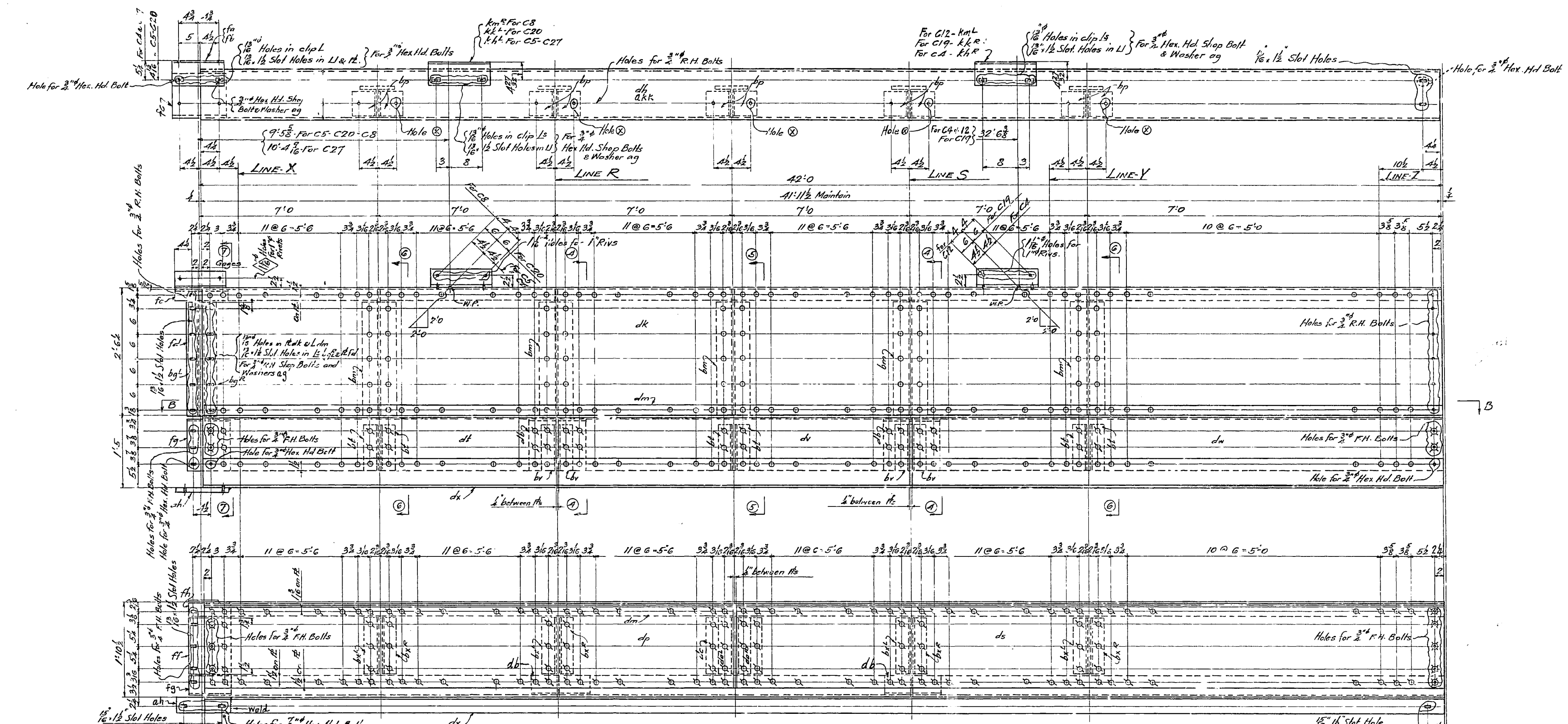
Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8/8/34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
C1-C2-C3 (504'-0" Spans)
WALKWAYS - NORTH WALK - LOWER DECK

Mc[illegible]NTIC-MARSHALL CORPORATION
[illegible]stown DRAWING ROOM Judson Pacific WORKS
IN CHARGE C.W.D. MADE BY H.W.D.
CHECKED BY L 7/9/34 TRACED BY cfk
LAST ASSEM. MK.
CONTRACT CT-1580-8 SHEET J807 AJ

30-1



SECTION - B-B

1-akk - 12U-20.7# × 41'-11½ - F2E - for C5-C20
1-dl - 12U-20.7 × 41'-11½ - F2E - for C4-C19
1-dk - Pl 30½ U.M. × 5/16 × 41'-11½ - F2E.
1-dm - L 3 × 3 × 3/8 × 41'-11½ - F2E.
1-dp - Central Knobby Pl 19½ × 3/8 × 20'-11⅝ - F2E.
1-ds - Central Knobby Pl 19½ × 3/8 × 20'-11⅝ - F2E.
1-dt - Bent Pl 16½ UM × ½ × 13'-11⅝ - F2E (Mild Steel)
1-dv - Bent Pl 16½ UM × ½ × 13'-11¾ - F2E (Mild Steel)
1-dw - Bent Pl 16½ U.M. × ½ × 13'-11⅝ - F2E (Mild Steel)
1-dx - L 7 × 4 × ½ × 41'-11½ - F2E.
1-fa - L 7 × 4 × ½ × 1'-1 For C4 & C19
1-fb - L 6 × 4 × ½ × 1'-1 For C5-C20
1-fc - Bent Pl 12½ × 3/8 × 1'-1¼ (Mild Steel)
1-fd - Pl 7½ × 3/8 × 2'-3½
1-ff - Pl 13¾ U.M. × 3/8 × 10½"
1-fg - Bent Pl 10½ × 3/8 × 1'-3¾ (Mild Steel)
1-fh - Pl 3 × 3/8 × 10½
5 bm
10-bp
5-bs
2-bg R/L
1-kh R - L 6 × 4 × ½ × 1'-3¾ - For C4
1-kh L - For C5

1-kk R - L 6 × 4 × ½ × 1'-8 - For C19
1-kk L - For C20
6-bl
4-bv
10-bw R/L
8-bx R/L
2-da R/L
2-db
1-dc
1-ah (Weld)
4-¾"φ Round Head Bolts-2¼"lg. with hex nuts
1-¾"φ " " " 2¾"lg " " "
8-ag
3-af
1-¾"φ Hex Hd. Bolt-2½"lg. with hex nut
2-¾"φ " " " 2"lg. " " "

For General notes see 807AJ
All material Carbon Steel
Work this sheet with 807AJ
For sections see 807JJ

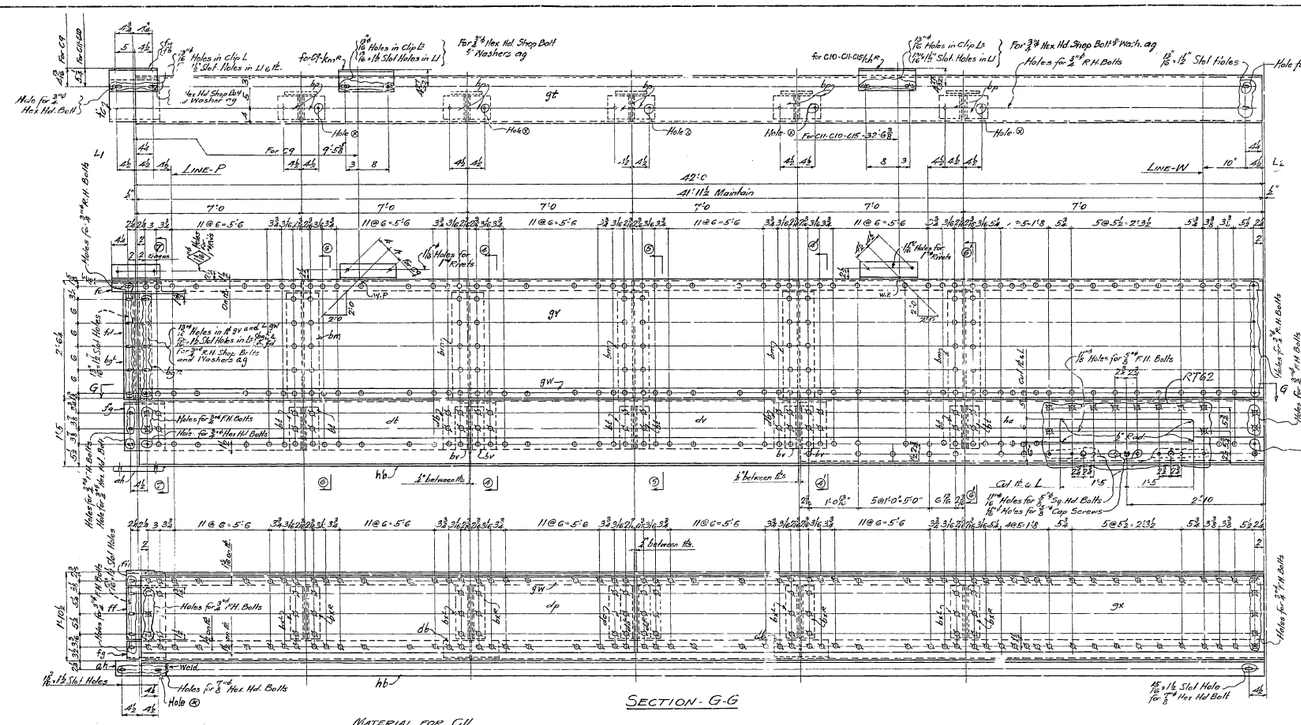
No.	Description	Mark	Remarks	Weight each Tons
3	WALKWAYS	C4		
4	"	C5		
4	"	C19		
4	"	C20		

REQUIRED LIST

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 8/8/34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
504'-0 Spans
WALKWAYS - C4-5-19-20
North Walk - Lower Deck
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Judson Pacific WORKS
IN CHARGE C. W. D. MADE BY H. W. D.
CHECKED BY L. 7/9/34 TRACED BY O.K.
ASST. ENG. MK.
CONTRACT CJ-1580-8 SHEET J807 BJ



MATERIAL FOR C11

1 - gt - 12"ℓ 20.7# 41'11½ F2E.
1 - gv - 12" 30.6#(USM) × ⅝ 41'11½ F2E.
1 - gw - L 3 × 3 × ⅝ 41'11½ F2E.
1 - gx - Central Knobby 12" 17.5 × ¾ 20'11⅝ F2E.
1 - dp
1 - bw - Bent 12" 19.6#(USM) × ½ 13'11⅝ F2E. } Mild Steel
1 - c''
1 - dv
1 - hb - L 7 × 4 × ½ 41'11½ F2E.

1 - fa
1 - fc
1 - fd
1 - ff
1 - fg
1 - fh
5 - bm
10 - bp
5 - ba
6 - bd
4 - bv
1 - kk*
2 - bg
10 - bw
8 - bx
2 - dc
2 - db
1 - dc
1 - ak (weld)
4 - ¾" Round Head Bolts 2½ lg. with hex nuts
1 - ¾" " " " 2¾ lg. " " "
8 - ag
3 - af
1 - ¾" Hex. Hd. Bolt - 2½ lg. with hex nut
2 - ¾" " " " 2 lg. " " "

For general notes see J807 AJ
All material carbon Steel.
For Sections see J807 J3

No.	Description	Mark	Remarks	Weight each Total
One	WALKWAY	C11		

REQUIRED LIST

Date	Revision	App'd

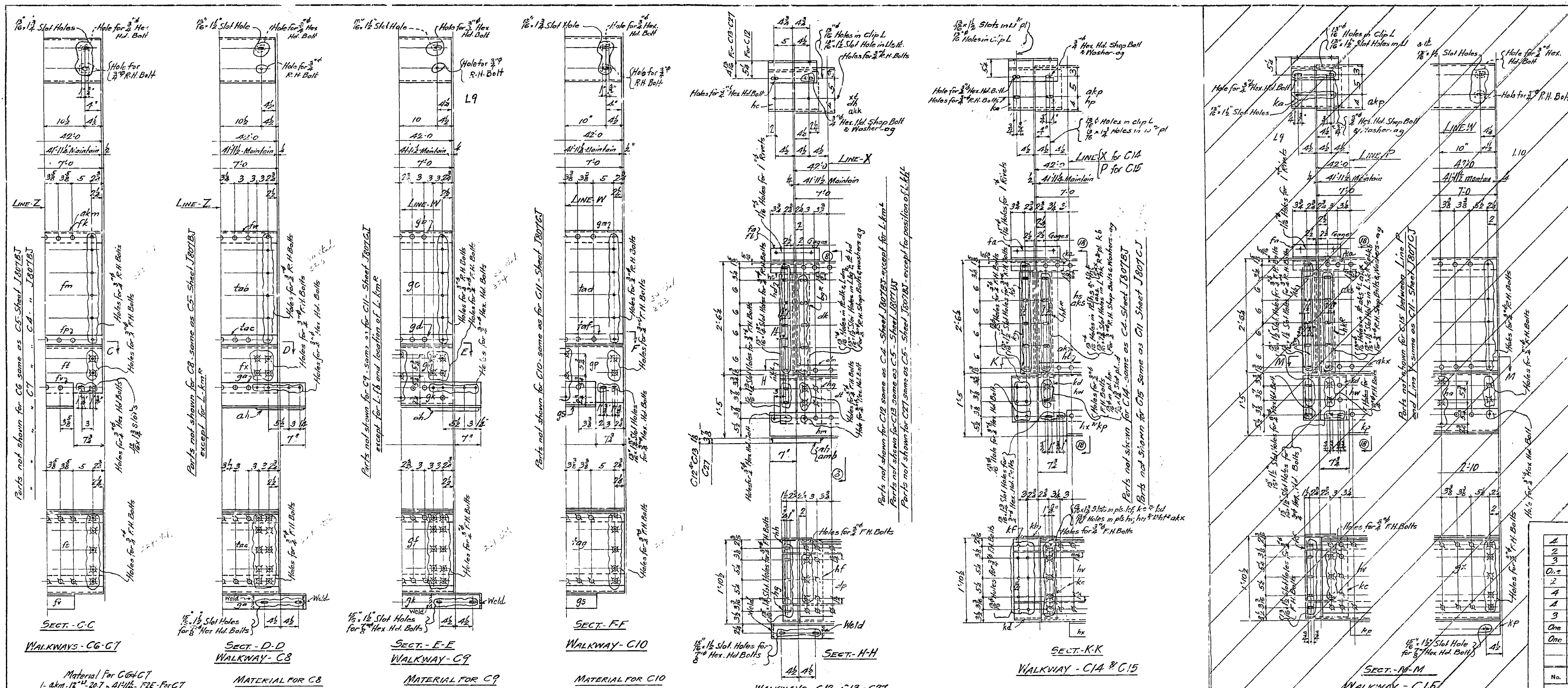
APPROVED

Glenn B. Woodruff — Engineer of Design
Chr. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 9/1/32

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
504'-0 Spans
WALKWAY - C11
North Walk - Lower Deck
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Judson Pacific - WORKS

IN CHARGE - C.W.D.
CHECKED BY [illegible] 9/1/32
LAST ASSEM. WK.
MADE BY - H.W.D.
TRACED BY - G.P.K.

CONTRACT CJ-1580-S
SHEET J807 C11



Material For C6 & C7

1 - akm. 12" ⊔ - 20.7 × 41'-11 1/2 - F2E - For C7
1 - fk - 12" ⊔ 20.7# × 41'-11 1/2 - F2E - For C6
1 - fm - Pl. 30 1/2 (U.M.) × 5/16 × 41'-11 1/4 - F2E
1 - fp - L 3 × 3 × 3/8 × 41'-11 1/2 - F2E
1 - fs - Central Knobby Pl. 19 1/2 × 3/8 × 20'-11 3/8 - F2E
1 - dp
1 - fl - Bent Pl. 16 1/2 (U.M.) × 1/2 × 13'-11 3/8 - F2E (Mild Steel)
1 - dt
1 - dv — 4 - bv
1 - fv - L 7 × 4 × 1/2 × 41'-4 - F2E — 1L - kh^L - For C6
1 - fa - For C7 — 1L - kh^R - For C7
1 - fb - For C6 — 2 - bg^R_L
1 - fc — 3 - af
1 - fd — 10 - bw^R_L
1 - ff — 8 - bx^R_L
1 - fg — 2 - da^R_L
1 - fh — 2 - db
5 - bm — 1 - dc
10 - bp — 1 - ah (Weld)
5 bs — 8 - ag
6 bt
4 - 3/4"ø Round Head Bolts - 2 1/4" lg. with hex nuts
1 - 3/4"ø Round Head Bolts - 2 3/4 lg. " " "
1 - 3/4"ø Hex " " 2 1/2 lg. " " "
2 - 3/4"ø Hex " " 2" lg. " " "

MATERIAL FOR C8

1 - fw - 12" ⊔ - 20.7# × 41'-11 1/2 - F2E
1 - tab - Pl. 30 1/2 (U.M.) × 5/16 × 41'-11 1/2" - F2E
1 - tac - L 3 × 3 × 3/8 × 41'-11 1/2" - F2E
1 - taa - Central Knobby Pl. 19 1/2 × 3/8 × 20'-11 5/8" - F2E
1 - dp
1 - fx - Bent Pl. 16 1/2 (U.M.) × 1/2 × 13'-11 5/8 - F2E - (Mild Steel)
1 - dt
1 - dv
1 - ga - L 7 × 4 × 1/2 × 42'-6 3/4" F2E
1 - fb — 2 - bg^R_L
1 - fc — 3 - af
1 - fd — 8 - ag
1 - ff — 1 - km^R - L 6 × 4 × 1/2 × 1'-2 1/2
1 - fg — 10 - bw^R_L
1 - fh — 8 - bx^R_L
5 bm — 2 - da^R_L
10 - bp — 2 - db
5 bs — 1 - dc
6 - bt — 2 - ah (Weld)
4 - bv
4 - 3/4"ø Round Head Bolts 2 1/4" lg. with hex nuts
1 - 3/4"ø " " " 2 3/4 lg. " " "
1 - 3/4"ø Hex Hd. Bolt - 2 1/2" lg. - " " "
2 - 3/4"ø " " " - 2" lg. - " " "

MATERIAL FOR C9

1 - gb - 12" ⊔ - 20.7# × 41'-11 1/2 - F2E
1 - gc - Pl. 30 1/2 (U.M.) × 5/16 × 41'-11 1/2 - F2E
1 - gd - L 3 × 3 × 3/8 × 41'-11 1/2 - F2E
1 - gf - Central Knobby Pl. 19 1/2 × 3/8 × 20'-11 5/8 - F2E
1 - dp
1 - gh - Bent Pl. 19 3/4 (U.M.) × 1/2 × 13'-11 5/8 - F2E (Mild Steel)
1 - dt
1 - dv
1 - gk - L 7 × 4 × 1/2 × 42'-6 3/4 F2E
1 - fb — 1 km^R
1 - fc — 2 bg^R_L
1 - fd — 10 - bw^R_L
1 - ff — 8 - bx^R_L
1 - fg — 2 - da^R_L
1 - fh — 2 - db
5 bm — 1 - dc
10 - bp — 2 - ah (weld)
5 - bs — 8 - ag
6 - bt — 3 - af
4 - bv
4 - 3/4"ø Round Head Bolts 2 1/4 lg. with hex nuts
1 - 3/4"ø " " " 2 3/4 lg. " " "
1 - 3/4"ø Hex " " 2 1/2 lg. " " "
2 - 3/4"ø " " " 2 lg. " " "

MATERIAL FOR C10

1 - gm - 12" ⊔ 20.7# × 41'-11 1/2" - F2E
1 - tad - Pl. 30 1/2 (U.M.) × 5/16 × 41'-11 1/2 - F2E
1 - taf - L 3 × 3 × 3/8 × 41'-11 1/2 - F2E
1 - tag - Central Knobby Pl. 19 1/2 × 3/8 × 20'-11 3/8" F2E
1 - dp
1 - gp - Bent Pl. 14 1/4 (U.M.) × 1/2 × 13'-11 3/8 - F2E (Mild Steel)
1 - dt
1 - dv — 1 - kh^R
1 - gs - L 7 × 4 × 1/2 × 41'-4 - F2E — 2 - bg^R_L
1 - fa — 10 - bw^R_L
1 - fc — 8 - bx^R_L
1 - fd — 2 - da^R_L
1 - ff — 2 - db
1 - fg — 1 - dc
1 - fh — 1 - ah (weld)
5 - bm — 8 - ag
10 - bp — 3 - af
5 - bs
6 - bt
4 - bv
4 - 3/4"ø Round Head Bolts - 2 1/4" lg. with hex nuts
1 - 3/4"ø " " " - 2 3/4 lg. " " "
1 - 3/4"ø Hex " " - 2 1/2 lg. " " "
2 - 3/4"ø " " " - 2 lg. " " "

MATERIAL FOR C12 - C13 - C27

1 - hc - Bent Pl. 12 1/2 × 3/8 × 1'-1 3/4 (Mild Steel)
1 - hd - Pl. 8 × 3/8 × 2'-3 1/2
1 - hf - Pl. 13 3/4 U.M. × 3/8 × 11"
1 - hg - Bent Pl. 11 × 3/8 × 1'-3 3/4 (Mild Steel)
1 - hh - Pl. 3 × 3/8 × 11"
1 - hk^L - L 4 × 3 1/2 × 3/8 × 3'-2 1/4 — 5 - bm
1 - bg^R — 10 - bp
1 - dh - For C12 — 5 - bs
1 - xt - 12" ⊔ - 20.7# × 41'-11 1/2 - F2E {For C27} — 6 - bt
1 - dk — 4 - bv
1 - dm — 10 - bw^R_L
1 - dp — 8 - bx^R_L
1 - ds — 2 - da^R_L
1 - dt — 2 - db
1 - dv — 1 - dc
1 - dw — 8 - ag
1 - hm - L 7 × 4 × 1/2 × 42'-6 3/4 — 3 - af
1 - kh^L {For C13 - C27}
1 - ah - For C12 - C13 (Weld) — 1 - km^L (For C12)
1 - fa - For C12
1 - fb - For C13 - C27
4 - 3/4"ø Round Head Bolts - 2 1/4" lg. with Hex Nuts
1 - 3/4"ø " " " - 2 3/4 lg. " " "
1 - 3/4"ø - Hex " " 2 1/2 lg. " " "
2 - 3/4 " " " 2 lg. " " "
1 - akk - for C13
1 - amb - Fill 4 × 3 7/8 (M2S) × 1'-1" (weld) for C27

MATERIAL FOR C14

1 - hp - 12" ⊔ - 20.7# × 41'-11 1/2 - F2E
1 - hs - Pl. 30 1/2 (U.M.) × 5/16 × 41'-11 1/2 - F2E
1 - ht - L 3 × 3 × 3/8 × 41'-11 1/2 - F2E
1 - hv - Central Knobby Pl. 19 1/2 × 3/8 × 20'-11 3/8 - F2E
1 - ds
1 - hw - Bent Pl. 16 1/2 (U.M.) × 1/2 × 13'-11 3/8 - F2E (Mild Steel)
1 - dv
1 - dw
1 - hx - L 7 × 4 × 1/2 × 41'-4 - F2E
1 - ka - Bent Pl. 12 1/2 × 3/8 × 1'-1 3/4 (Mild Steel)
1 - kb - Pl. 8 1/2 × 3/8 × 2'-3 1/2
1 - kc - Pl. 13 3/4 (U.M.) × 3/8 × 11 1/2
1 - kd - Bent Pl. 11 1/2 × 3/8 × 1'-3 3/4 - (Mild Steel)
1 - kf - Pl. 3 × 3/8 × 11 1/2 — 10 - bw^R_L
1 - kg - L 4 × 3 1/2 × 3/8 × 3'-2 1/4 — 8 - bx^R_L
1 - hk^R — 2 - da^R_L
1 - fa — 2 - db
5 - bm — 1 - kh^R — 1 - dc
10 - bp — 8 - ag
5 - bs — 3 - af
6 - bt
4 - bv
4 - 3/4"ø Round Head Bolts - 2 1/4" lg. with Hex Nuts
1 - 3/4"ø " " " - 2 3/4 lg. " " "
1 - 3/4"ø - Hex " " - 2 1/2 lg. " " "
2 - 3/4"ø " " " - 2 lg. " " "

MATERIAL FOR C15

1 - akp - 12" ⊔ - 20.7# × 41'-11 1/2 - F2E
1 - aks - Pl. 30 1/2 (U.M.) × 5/16 × 41'-11 1/2 - F2E
1 - akx - L 3 × 3 × 3/8 × 41'-11 1/2 - F2E
1 - hv
1 - gx
1 - hw
1 - ha
1 - dv
1 - kp - L 7 × 4 × 1/2 × 41'-4 - F2E
1 - ka
1 - kb
1 - kc — 10 - bw^R_L
1 - kd — 8 - bx^R_L
1 - kf — 2 - da^R_L
1 - kg — 2 - db
1 - hk^R — 1 - dc
1 - fa — 8 - ag
5 - bm — 3 - af
10 - bp — 1 - kh^R
5 - bs
6 - bt
4 - bv
4 - 3/4"ø Round Head Bolts - 2 1/4" lg. with Hex Nuts
1 - 3/4"ø " " " - 2 3/4 lg. " " "
1 - 3/4"ø Hex " " - 2 1/2 lg. " " "
2 - 3/4 " " " - 2 lg. " " "

For General notes see 807AJ
All material Carbon Steel
For Sections see 807JJ
Work this sheet with 807BJ & 807CJ

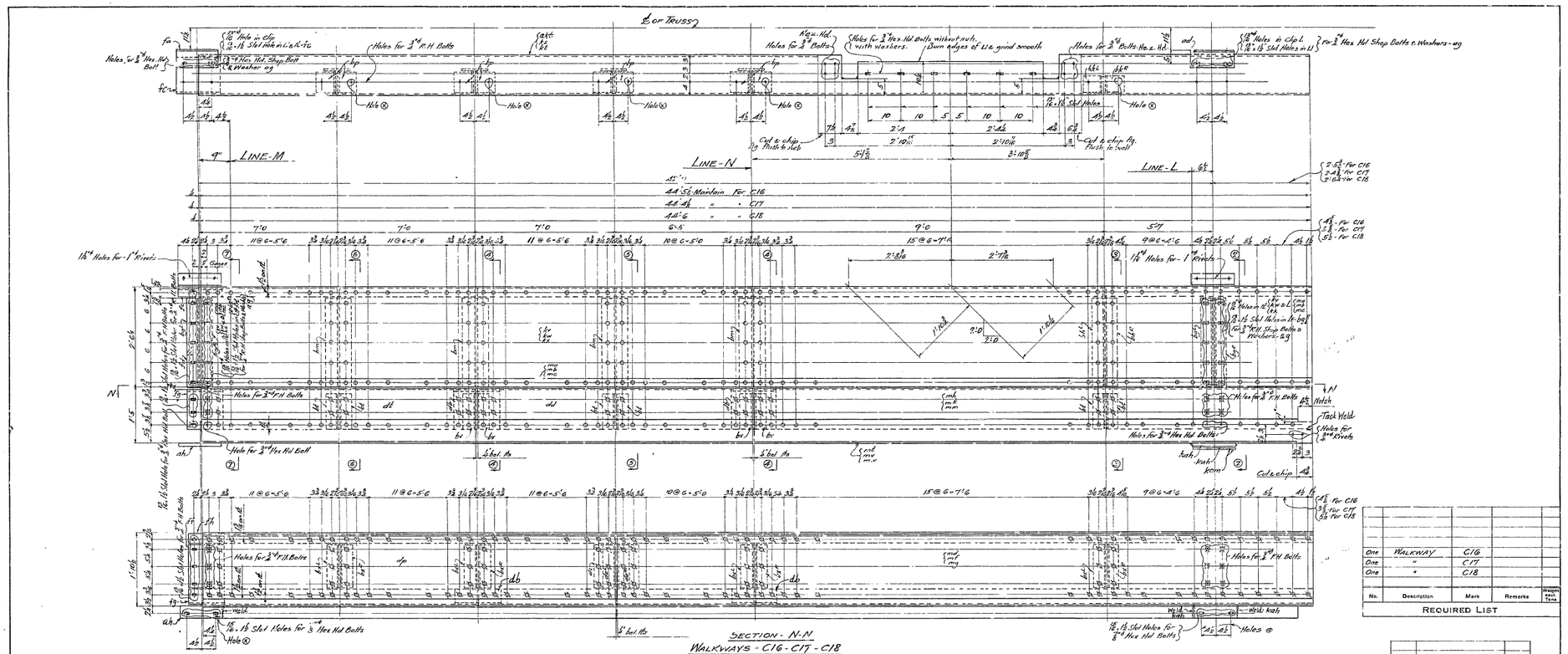
No.	Description	Mark	Remarks	Weight each Tons
4	WALKWAYS	C6		
2	"	C7		
3	"	C8		
One	"	C9		
2	"	C10		
4	"	C12		
4	"	C13		
3	"	C14		
One	"	C15		
One	"	C27		

REQUIRED LIST

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 7/30/34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
North Walk - Lower Deck WALKWAYS (504'-0" Spans)
C6-7-8-9-10-12-13-14-15-27
McCLINTIC-MARSHALL CORPORATION
P... town DRAWING ROOM Judson Pacific WORKS
IN CHARGE C.W.D. — MADE BY H.W.D.
CHECKED BY L. 7/9/34 — TRACED BY [illegible]
LAST ASSEM. MK.
CONTRACT CJ-1580-8 — SHEET J807 DJ



No.	Description	Mark	Remarks	Weight each Piece
One	WALKWAY	C16		
One	"	C17		
One	"	C18		

REQUIRED LIST

1 - alt - 12 U 20.7# . 44'5½ - F2E - For C16
1 - ks - 12 U 20.7# . 44'-0½ - F2E - " C17
1 - kt - 12 U 20.7# . 43'-6 - F2E - " C18
1 - kv - ft 30½(WM) . ⅜ . 44'5½ - F2E - " C16
1 - kw - ft 30½(WM) . ⅜ . 44'-0½ - F2E - " C17
1 - kx - ft 30½(WM) . ⅜ . 43'-6 - F2E - " C18
1 - ma - L 3 . 3 . ⅜ . 44'5½ - F2E - " C16
1 - mb - L 3 . 3 . ⅜ . 44'-0½ - F2E - " C17
1 - mc - L 3 . 3 . ⅜ . 43'-6 - F2E - " C18
1 - md - Central Knobby ft - 19½ . ⅜ . 23'5½ - F2E - For C16
1 - me - Central Knobby ft - 19½ . ⅜ . 23'-0½ - F2E - For C17
1 - mg - Central Knobby ft - 19½ . ⅜ . 23'-6½ - F2E - For C18
1 - ajp
1 - mk - Bent ft - 16½(WM) . ½ . 17'6½ - F2E - For C16 } Mild Steel
1 - mk - Bent ft - 16½(WM) . ½ . 16'11½ - F2E - For C17 } Mild Steel
1 - mn - Bent ft - 16½(WM) . ½ . 17'1½ - F2E - For C18 } Mild Steel
1 - al
1 - dd

1 - mt - L 7 . 4 . ½ . 44'5½ - F2E - For C16
1 - mv - L 7 . 4 . ½ . 44'-0½ - F2E - For C17
1 - mw - L 7 . 4 . ½ . 43'-6 - F2E - For C18
1 - ad
1 - fa
8 - bp
2 - bk
1 - fd
1 - fc
1 - ff
1 - fg
1 - fh
4 - bg
4 - bm
2 - bk
6 - bt
2 - bv
2 - db

8 - bx
2 - dc
5 - bs
10 - bw
1 - ah - Weld
18 - ag
8 - ¾" Round Head Bolts 2½, with Hex. Nuts
6 - ¾" " " " 2¼ " " " "
6 - af
1 - ⅞" Hex Hd. Bolt - 2½ with Hex Nut
2 - ⅞" " " " - 2" " " "
1 - ⅞" R.H Bolt - 2¾ with Hex Nuts
1 - kah 4 x ⅞ x 1'-1" Weld
1 - kak 4 x ⅞ x 1'-1" } Bolt to ship
2 - kam 4 x ⅞ x 1'-1" }

For General notes - See Dwg #878J
All material Carbon Steel
For Sections See #877J

Date	Revision	App'd

APPROVED

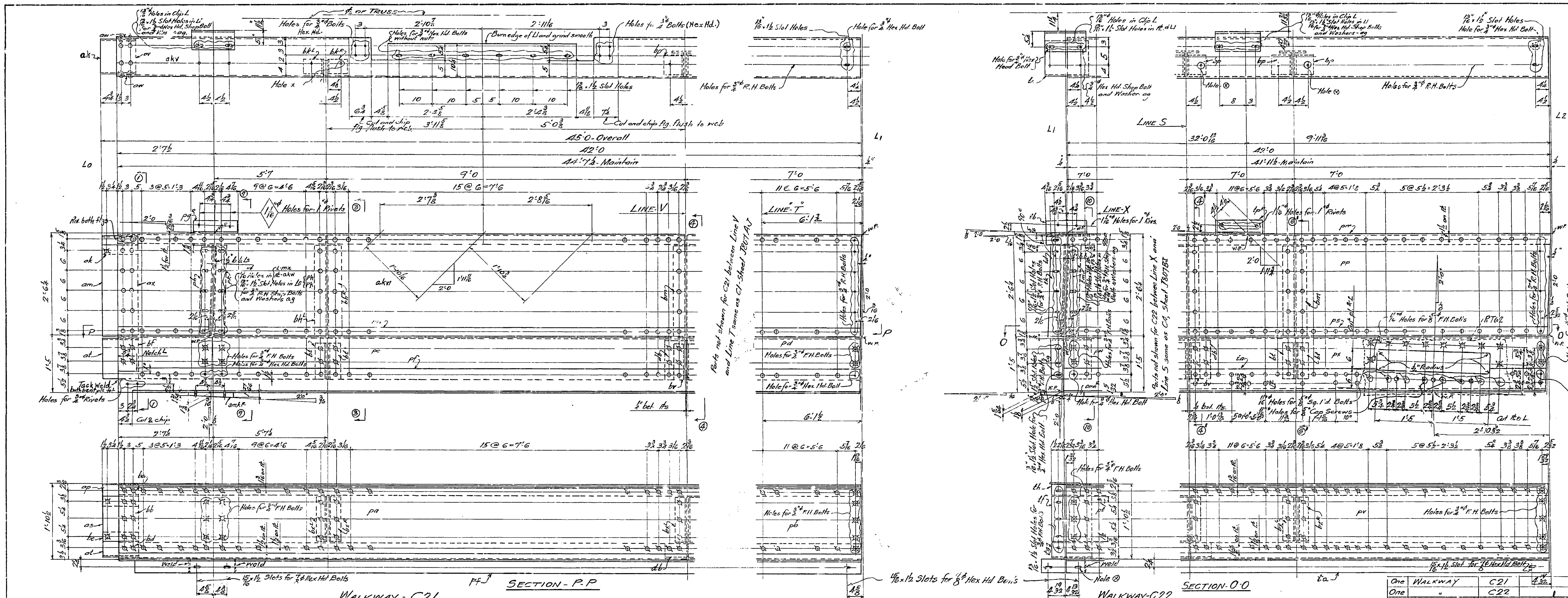
Glenn T. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Exec. 5/8/52

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE - EAST BAY CROSSING
504'-0" Spans
WALKWAYS - NORTH WALK - LOWER DECK

McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOT: Judson Pacific WORKS

IN CHG. C.W.D. TRACED BY H.W.D.
CHK'D BY L 7/9/52 CHK'D BY
LAS ANGELES, U.S.A.

CONTRACT CJ-1580-B SHEET J807 EJ



Material for C21

1-akv-12" ⊔-20.7# × 44'-7¼ F2E.	1-bd
1-akw ℔-30½ U.M. × 5/16 × 44'-7¼ F2E	1-bf
1-mx-L-3×3×3/8 × 44'-7 F2E.	1-ph-L-3½×3½×3/8×3'-2½
1-pa-Central Knobby ℔-19½×3/8×23'-7⅜-F2E.	1-pk-L-3½×3½×3/8×3'-2½
1-pb- " " " 19½×3/8×20'-11⅜-F2E.	3-af
1-pc-Bent ℔-16½ U.M.×½×17'-2⅜-F2E.	2-bh R/L
1-pd- " " 16½ UM×½×13'-11⅜-F2E	2-bk R/L
1-da	4-bm
1-pf-L 7×4×½×44'-6 11/16-F2E.	8-bp
1-pg R-L 6¾×4×½×1'-1	5-bs
1-ak	6-bt
1-am	4-bv
1-ap	10-bw R/L
1-as	3-bx R/L
1-at	2-da R/L
1-av	2-db
2-aw	1-dc
1-ax	12-ag
1-ba	8-¾"φ Round Head Bolts×2" lg. with hex bolts
1-bb	2-¾"φ " " " ×2¼ lg. " " "
1-bc	2-¾"φ Hex. Hd. Bolts×2" lg. " " "
1-amk R-Bev. fill ℔×(1 21/64×1 27/64)×1'-1" weld	

Material for C22

1-pm-12" ⊔-20.7#×41'-11½ F2E.	5-bs
1-pp.-℔-30½ (U.M.)×5/16×41'-11 11/16-F2E.	6-bt
1-ps-L-3×3×3/8×41'-11½ F2E.	4-bv
1-pt-Central Knobby ℔-19½×3/8×20'-11 13/16-F2E.	10-bw R/L
1-pv- " " " -19½×3/8×20'-11 7/16-F2E.	8-bx R/L
1-pw-Bent ℔-16½ (U.M.)×½×13'-11⅞ F2E (Mild Steel)	2-da R/L
1-px- " " -19½ (U.M.)×½×13'-11 7/16 F2E (Mild Steel)	2-db
1-dv	1-dc
1-ta-L-7×4×½×41'-11½ F2E.	8-ag
1-tb-L-7×4×½×1'-1-bent	3-af
1-tc-Bent ℔-12×3/8×1'-1¼ (Mild Steel)	4-¾"φ Round Head Bolts 2¼" lg. with hex nuts
1-td-℔-7½×3/8×2'-3½	1-¾"φ " " " 2¾ lg. " " "
1-tf-℔ 13¾ U.M.×3/8×10½ (bent)	1-¾"φ Hex. Hd. Bolt×2½ lg. " " "
1-tg-Bent ℔-10½×5/8×1'-3¾ (Mild Steel)	2-¾"φ " " " ×2 lg. " " "
1-th-℔-3×3/8×10½-(bent)	
1-tk-L-3½×3½×3/8×3'-2¼	
1-tm-L-3½×3½×3/8×3'-2¼	
1-tp R-L-6×4×½×1'-3¾	
5-bm	
10-bp	
1-amm R Bev fill ℔×(1 5/64×1 5/32)×1'-1" weld	

For General notes see 807AJ
All material carbon steel
For Sections see 807JJ
Work this sheet with 807AJ & 807BJ

No.	Description	Mark	Remarks	Weight each Tons
One	Walkway	C21		
One	"	C22		

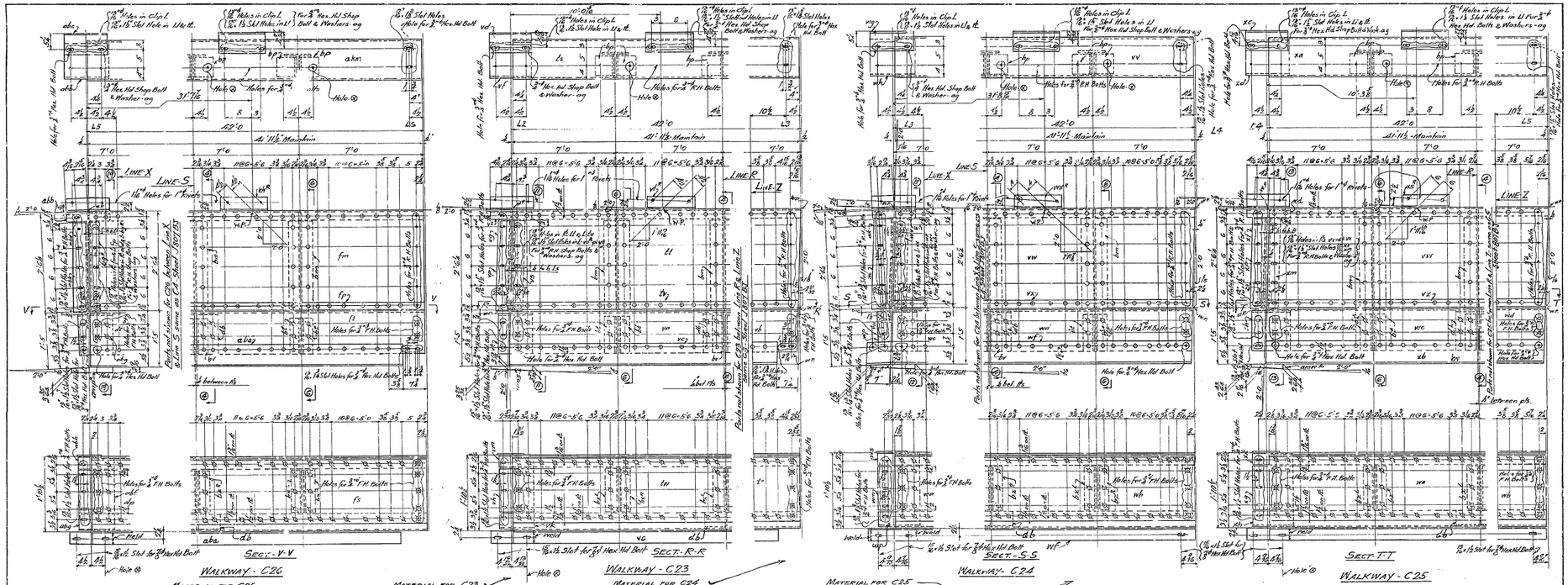
REQUIRED LIST

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 8/30/34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
504'-0" Spans
WALKWAY - C21 - C22
Span E6 - North Walk - Lower Deck
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Judson Pacific WORKS
IN CHARGE C.W.D. MADE BY H.W.D.
CHECKED BY L 7/9/34 TRACED BY CK
LAST ASSEM. MK.
CONTRACT CJ-1580-8 SHEET J807 FJ



For General notes see 807RJ
All material Carbon Steel.
For sections see 807JJ
Mark this sheet with 807BJ

REQUIRED LIST

No.	Description	Mark	Remarks	Sht. Feeds
One	Walkway	C23		
One	"	C24		
One	"	C25		
One	"	C26		

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrews — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 8/26/38

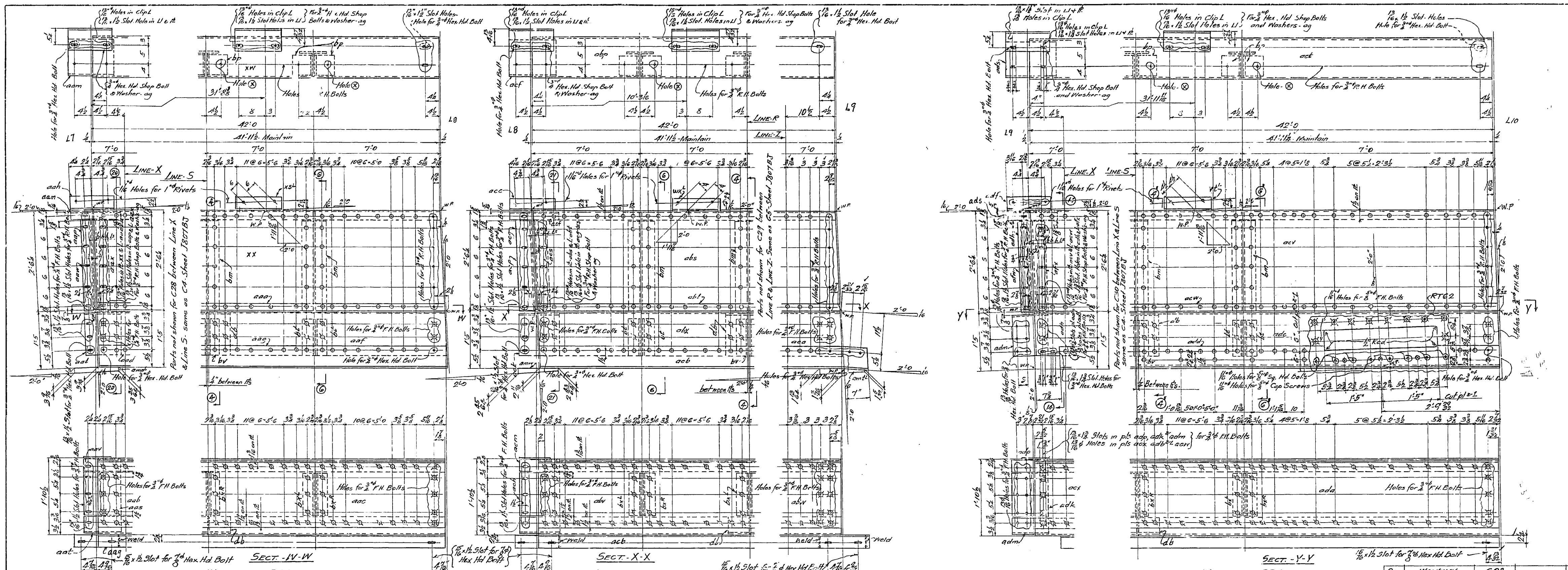
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
504'0" Spans
WALKWAYS - C23 - C24 - C25 - C26
Spans E. North Walk, Lower Deck
THE CLINTIC-MARSHALL CORPORATION
Yorkstown DRAWING ROOM Judson Pacific - Works

IN CHARGE - C.H.D.
CHECKED BY J.P.M.
LAST ASSEM. MK.

MADE BY H.W.D.
TRACED BY C.K.

CONTRACT CJ-1630-8

SHEET J807 BJ



SECT. -W-W

WALKWAY - C28

SECT. -X-X

WALKWAY - C29

SECT. -Y-Y

WALKWAY - C30

$\frac{15}{16}$ x 1$\frac{1}{2}$ Slot for $\frac{7}{8}$" Hex Hd. Bolt

MATERIAL FOR C28

1 - xw - 12" ⊔ - 20.7# × 41'-11$\frac{1}{2}$ - F.2E
1 - xx - PL - 30$\frac{1}{2}$ (U.M.) × $\frac{5}{16}$ × 41'-11$\frac{9}{16}$ - F.2E
1 - aaa - L - 3 × 3 × $\frac{3}{8}$ × 41'-11$\frac{1}{2}$ - F.2E
1 - aab - Central Knobby PL - 19$\frac{1}{2}$ × $\frac{3}{8}$ × 20'-11$\frac{9}{16}$ - F.2E
1 - aac - " " " 19$\frac{1}{2}$ × $\frac{3}{8}$ × 20'-11$\frac{11}{16}$ - F.2E
1 - aad - Bent PL - 16$\frac{1}{2}$ (U.M.) × $\frac{1}{2}$ × 13'-11$\frac{9}{16}$ - F.2E - (Mild Steel)
1 - aaf - " " - 16$\frac{1}{2}$ (U.M.) × $\frac{1}{2}$ × 13'-11$\frac{11}{16}$ - F.2E - (Mild Steel)
1 - dv
1 - aag - L - 7 × 4 × $\frac{1}{2}$ × 41'-11$\frac{1}{2}$ - F.2E
1 - aah - L - 7 × 4 × $\frac{1}{2}$ × 1'-1 (bent)
1 - xs^L
1 - aam - Bent PL - 12$\frac{1}{2}$ × $\frac{3}{8}$ × 1'-1$\frac{1}{2}$ (Mild Steel)
1 - aap - PL - 7$\frac{1}{2}$ × $\frac{3}{8}$ × 2'-3$\frac{1}{2}$
~~1 - aas - PL 13$\frac{3}{4}$ U.M. × $\frac{3}{8}$ × 10$\frac{1}{2}$" (bent)~~
1 - aat - Bent PL - 10$\frac{1}{2}$ × $\frac{3}{8}$ × 1'-3$\frac{3}{4}$ (Mild Steel)
1 - aav - PL - 3 × $\frac{3}{8}$ × 10$\frac{1}{2}$" (bent)
1 - aaw - L - 3$\frac{1}{2}$ × 3$\frac{1}{2}$ × $\frac{3}{8}$ × 3'-2$\frac{1}{4}$
1 - aax - L - 3$\frac{1}{2}$ × 3$\frac{1}{2}$ × $\frac{3}{8}$ × 3'-2$\frac{1}{4}$
5 - bm
10 - bp
5 - bs
6 - bt
4 - bv
10 - bw^R_L
8 - bx^R_L
2 - da^R_L
2 - db
1 - dc
8 - ag
3 - af
4 - $\frac{3}{4}$"⌀ Round Head Bolts - 2$\frac{1}{4}$" lg. with Hex Nuts
1 - $\frac{3}{4}$"⌀ " " " - 2$\frac{3}{4}$ lg. " " "
1 - $\frac{3}{4}$"⌀ Hex " " - 2$\frac{1}{2}$ lg. " " "
2 - $\frac{3}{4}$"⌀ " " " - 2 lg. " " "
1 - amp^L Bev. Fill (weld)

MATERIAL FOR C29

1 - abp - 12" ⊔ - 20.7# × 41'-11$\frac{1}{2}$ - F.2E
1 - abs - PL - 30$\frac{1}{2}$ (U.M.) × $\frac{5}{16}$ × 41'-11$\frac{9}{16}$ - F.2E
1 - abt - L - 3 × 3 × $\frac{3}{8}$ × 41'-11$\frac{1}{2}$ - F.2E
1 - abv - Central Knobby PL - 19$\frac{1}{2}$ × $\frac{3}{8}$ × 20'-11$\frac{9}{16}$ - F.2E
1 - abw - " " " - 19$\frac{1}{2}$ × $\frac{3}{8}$ × 20'-11$\frac{11}{16}$ - F.2E
1 - abx - Bent PL - 16$\frac{1}{2}$ (UM) × $\frac{1}{2}$ × 13'-11$\frac{9}{16}$ - F.2E (Mild Steel)
1 - aca - " " - 16$\frac{1}{2}$ (UM) × $\frac{1}{2}$ × 13'-11$\frac{9}{16}$ - F.2E (Mild Steel)
1 - dv
1 - acb - L - 7 × 4 × $\frac{1}{2}$ × 42'-6$\frac{3}{4}$ F.2E - (bent)
1 - acc - L - 6 × 4 × $\frac{1}{2}$ × 1'-1
1 - wx^L
1 - acf - Bent PL - 12$\frac{1}{2}$ × $\frac{3}{8}$ × 1'-1$\frac{1}{2}$ (Mild Steel)
1 - acg - PL - 7$\frac{1}{2}$ × $\frac{3}{8}$ × 2'-3$\frac{1}{2}$
1 - ach - PL 13$\frac{3}{4}$ U.M. × $\frac{3}{8}$ × 10$\frac{1}{2}$"
1 - ack - Bent PL - 10$\frac{1}{2}$ × $\frac{3}{8}$ × 1'-3$\frac{3}{4}$ - (Mild Steel)
1 - acm - PL - 3 × $\frac{3}{8}$ × 10$\frac{1}{2}$
1 - acp - L - 3$\frac{1}{2}$ × 3$\frac{1}{2}$ × $\frac{3}{8}$ × 3'-2$\frac{1}{4}$
1 - acs - L - 3$\frac{1}{2}$ × 3$\frac{1}{2}$ × $\frac{3}{8}$ × 3'-2$\frac{1}{4}$
5 - bm
10 - bp
5 - bs
6 - bt
4 - bv
10 - bw^R_L
8 - bx^R_L
2 - da^R_L
2 - db
1 - dc
8 - ag
3 - af
4 - $\frac{3}{4}$"⌀ - Round Head Bolts - 2$\frac{1}{4}$" lg - with Hex Nuts
1 - $\frac{3}{4}$"⌀ - " " " - 2$\frac{3}{4}$ lg - " " "
1 - $\frac{3}{4}$"⌀ - Hex " " - 2$\frac{1}{2}$ lg. - " " "
2 - $\frac{3}{4}$"⌀ - " " " - 2" lg. - " " "

1 - amw^L }
1 - amt^L } Bev. Fills (Weld)

MATERIAL FOR C30

1 - act - 12" ⊔ - 20.7# × 41'-11$\frac{1}{4}$ - F.2E
1 - acv - PL - 30$\frac{1}{2}$ (U.M.) × $\frac{5}{16}$ × 41'-11$\frac{7}{16}$ - F.2E
1 - acw - L - 3 × 3 × $\frac{3}{8}$ × 41'-11$\frac{1}{4}$ - F.2E
1 - acx - Central Knobby PL - 19$\frac{1}{2}$ × $\frac{3}{8}$ × 20'-11$\frac{3}{16}$ - F.2E
1 - ada - " " " - 19$\frac{1}{2}$ × $\frac{3}{8}$ × 20'-11$\frac{13}{16}$ - F.2E
1 - adb - Bent PL - 16$\frac{1}{2}$ (UM) × $\frac{1}{2}$ × 13'-11$\frac{3}{16}$ - F.2E } Mild Steel
1 - adc - " " 19$\frac{1}{4}$ (UM) × $\frac{1}{2}$ × 13'-11$\frac{7}{8}$ - F.2E }
1 - dv
1 - add - L - 7 × 4 × $\frac{1}{2}$ × 41'-4 - F.2E
1 - adf - L - 7 × 4 × $\frac{1}{2}$ × 1'-1 - (bent)
1 - vt^L
1 - adh - PL - 8$\frac{1}{2}$ × $\frac{3}{8}$ × 2'-3$\frac{1}{2}$
1 - adk - PL 13$\frac{3}{4}$ U.M. × $\frac{3}{8}$ × 11$\frac{1}{2}$ (bent)
1 - adm - Bent PL - 11$\frac{1}{2}$ × $\frac{3}{8}$ × 1'-3$\frac{3}{4}$ (Mild Steel)
1 - adp - PL - 3 × $\frac{3}{8}$ × 11$\frac{1}{2}$" (bent)
1 - ads - Bent PL - 12$\frac{1}{2}$ × $\frac{3}{8}$ × 1'-1$\frac{3}{4}$ (Mild Steel)
5 - bm
10 - bp
5 - bs
6 - bt
1 - afw - L - 4 × 3$\frac{1}{2}$ × $\frac{3}{8}$ × 3'-2$\frac{1}{4}$
1 - afx - L - 4 × 3$\frac{1}{2}$ × $\frac{3}{8}$ × 3'-2$\frac{1}{4}$
4 - bv
10 - bw^R_L
8 - bx^R_L
2 - da^R_L
2 - db
1 - dc
8 - ag
3 - af
4 - $\frac{3}{4}$"⌀ - Round Head Bolts - 2$\frac{1}{4}$" lg. - with Hex Nuts
1 - $\frac{3}{4}$"⌀ - " " " - 2$\frac{3}{4}$ lg. - " " "
1 - $\frac{3}{4}$"⌀ - Hex " " - 2$\frac{1}{2}$ lg. - " " "
2 $\frac{3}{4}$"⌀ - " " " - 2" lg. - " " "

For General notes see 807AJ
All material Carbon Steel.
For Sections see 807JJ
Work this sheet with 807B

One	WALKWAY	C28		
One	"	C29		
One	"	C30		
No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8/30/34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE

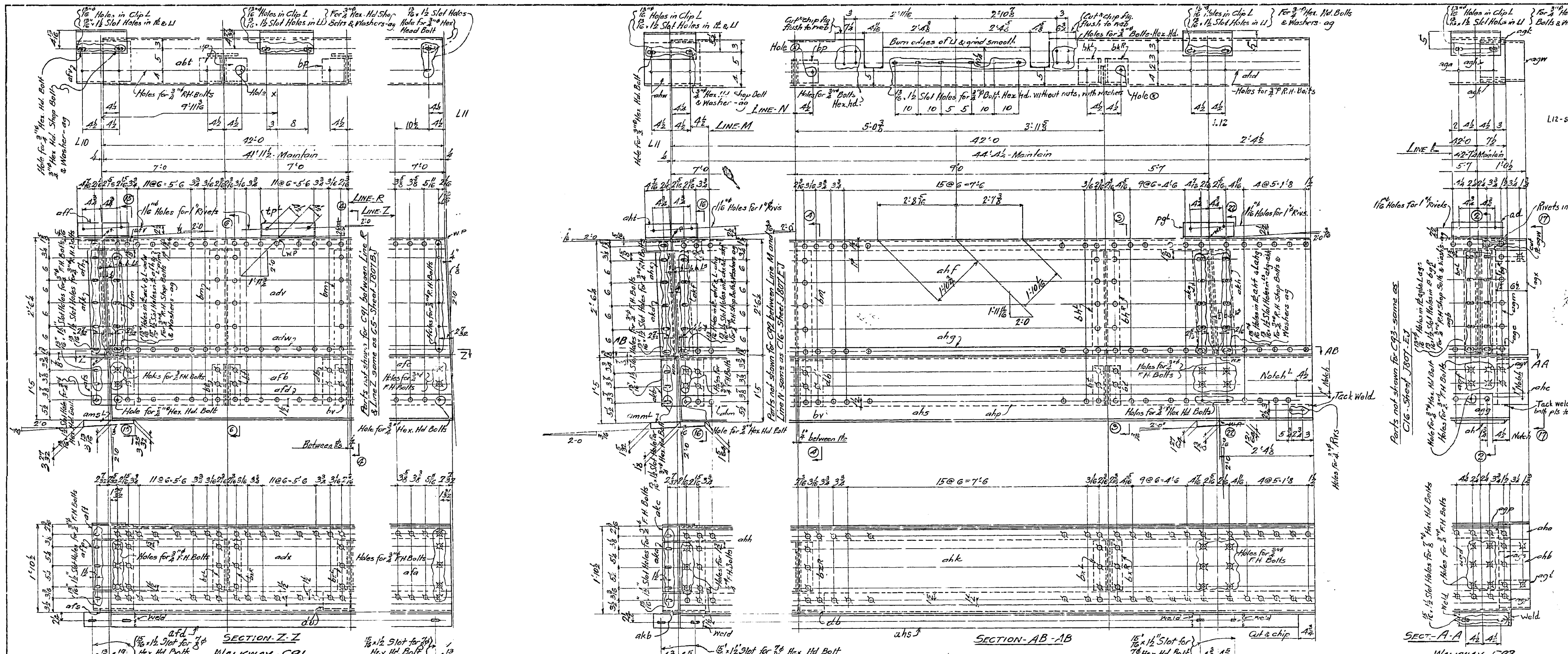
CONTRACT NO. 7

SUPERSTRUCTURE-EAST BAY CROSSING
504'-0" Spans
WALKWAYS - C28 - C29 - C30
Span E6 - North Walk - Lower Deck

McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Judson-Pacific - WORKS

CHARGE - C.W.D. MADE BY H.W.D.
CHECKED BY L 7/9/34 TRACED BY cfk
LAST ASSEM. MK.

CONTRACT CJ-1580-8 SHEET J807 HJ



MATERIAL FOR · C91

1-adt - 12"⊔-20.7# × 41'-11½ - F.2E.
1-adv - Pl.-30½(U.M.) × 5/16 × 41'-11 11/16 - F.2E.
1-adw - L.3 × 3 × 3/8 × 41'-11½ - F.2E.
1-adx - Central Knobby Pl.-19½ × 3/8 × 20'-11 7/16 - F.2E
1-afa - " " " 19½ × 3/8 × 20'-11 13/16 - F.2E
1-afb - Bent Pl.-16½(U.M.) × ½ × 13'-11 7/16 - F.2E } mild steel
1-afc - " " -16½(U.M.) × ½ × 13'-11 13/16 F.2E } mild steel
1-dv
1-afd - L.7 × 4 × ½ × 41'-11½ - F.2E.
1-aff - L.6 × 4 × ½ × 1'-1
1-tp^L
1-afh - Pl.-7½ × 3/8 × 2'-3½
1-afk - L.3½ × 3½ × 3/8 × 3'-2½
1-afm - L.3½ × 3½ × 3/8 × 3'-2½
1-afp - Pl.-13¾ U.M. × 3/8 × 10½
1-afs - Bent Pl.-10½ × 3/8 × 1'-3¾ (Mild Steel)
1-aft - Pl.-3 × 3/8 × 10½"
1-afv - Bent Pl.-12 × 3/8 × 1'-1¼ (Mild Steel)
5-bm
10-bp
5-bs
4-¾"φ Round Head Bolts - 2¼" lg - with Hex Nuts
1-¾"φ - " " " 2¾" lg - " " "
1-¾"φ - Hex " " 2½ lg - " " "
2-¾"φ - " " " 2" lg - " " "

6-bt
4-bv
10-bw R/L
8-bx R/L
2-da R/L
2-db
1-dc
8-ag
3-af
1-ams^L Bev. fill (Weld)

MATERIAL FOR C92

1-aht - 12"⊔-20.7# × 44'-4½ - F.2E.
1-ahf - Pl.-30½(U.M.) × 5/16 × 44'-4½ - F.2E.
1-ahg - L.3 × 3 × 3/8 × 44'-4 - F.2E.
1-ahh - Central Knobby Pl.-19½ × 3/8 × 20'-11 3/8 - F.2E.
1-ahk - " " " -19½ × 3/8 × 23'-4 3/8 - F.2E.
1-ahm - Bent Pl.-16½(U.M.) × ½ × 13'-11 3/8 - F.2E. } mild steel
1-ahp - " " 16½(U.M.) × ½ × 16'-11 3/8 - F.2E. } mild steel
1-a'd
1-ahs - L.7 × 4 × ½ × 44'-3 15/16 - F.2E.
1-aht - L.7 × 4 × ½ × 1'-1 (bent)
1-pg^L
1-ahw Bent Pl.-12 × 3/8 × 1'-1¼ (Mild Steel)
1-ahx - Pl.-7½ × 3/8 × 2'-3½
1-aka - Pl.-13¾ × 3/8 × 10½ (bent)
1-akb - Bent Pl.-10½ × 3/8 × 1'-3¾ (Mild Steel)
1-akc - Pl.-3 × 3/8 × 10½" (bent)
1-akd - L.3½ × 3½ × 3/8 × 3'-2½
1-akf - L.3½ × 3½ × 3/8 × 3'-2½
1-akg - L.3½ × 3½ × 3/8 × 3'-2½
1-akh - L.3½ × 3½ × 3/8 × 3'-2½
8-bp
8-¾"φ Round Head Bolts - 2" lg - with Hex Nuts
6-¾"φ " " " 2¼" lg - " " "
1-¾"φ Hex " " 2½" lg - " " "
2-¾"φ " " " 2" lg - " " "
1-¾"φ R.H. Bolt - 2¾" lg with Hex. nut

2-bk R/L
4-bm
2-bh R/L
6-bt
4-bv
2-db
8-bx R/L
2-da R/L
1-dc
5-bs
10-bw R/L
18-ag
6-af
1-amm^L Bev. fill (Weld)
1-amk^L " " "

MATERIAL FOR - C93

1-aga - 12"⊔-20.7# × 42'-7¼ - F.2E
1-agb - Pl.-30½(U.M.) × 5/16 × 42'-7¼ - F.2E.
1-agc - L.3 × 3 × 3/8 × 42'-7¼ - F.2E.
1-agd - Central Knobby Pl.-19½ × 3/8 × 21'-7 3/8 - F.2E
1-dp
1-agf Bent Pl.-16½(U.M.) × ½ × 15'-2 3/8 - F.2E: Mild steel
1-dd
1-dt
1-agg - L.7 × 4 × ½ × 42'-7¼ - F.2E.
1-ad
1-agh - Fill - 6¾ × 1/8 × 10"
2-agk - Fills - 6¾ × 1/8 × 2½"
1-agm - Fill - 3 × 1/8 × 2'-3½
2-agp - Fill - 3 × 1/8 × 3"
1-ags - Fill - 3 × 1/8 × 1'-1¾
1-agt - Fill - 3 × 1/8 × 8"
1-agv - Fill - 3 × 1/8 × 10¾"
2-ah - (weld)
1-agw - Bent Pl.-19½ × 3/8 × 11¾" - mild steel
1-agx - Pl.-8 × 3/8 × 2'-3½
1-aha - Pl.-7½ × 3/8 × 8"
1-ahb - Pl.-13¾ U.M. × 3/8 × 8"
1-ahc - Bent Pl.-8 × 3/8 × 1'-6¾ (Mild Steel)
4-bg R/L

1-fa
8-bp
2-bk R/L
1-fd
1-fc
1-ff
1-fg
1-fh
4-bm
2-bh R/L
6-bt
4-bv
2-db
8-bx R/L
2-da R/L
1-dc
5-bs
10-bw R/L
18-ag
6-af
8-¾"φ Round Head Bolts - 2" lg - with Hex Nuts
6-¾"φ " " " 2¼" lg - " " "
1-¾"φ Hex " " 2½" lg - " " "
2-¾"φ " " " 2" lg - " " "
1-¾"φ R.H. Bolts - 2¾" lg. with Hex nut

For General notes see 807AJ
All material Carbon Steel
For Sections see 807JJ
Work this sheet with 807BJ & 807EJ

One	WALKWAY	C91		
One	"	C92		
One	"	C93		
No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 8/30/34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE

CONTRACT NO. 7

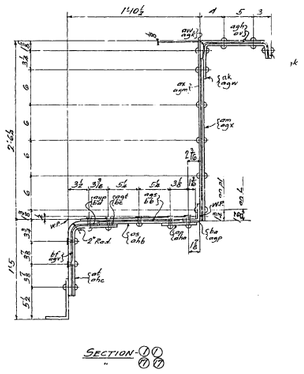
SUPERSTRUCTURE-EAST BAY CROSSING

WALKWAYS - C91 - C92 - C93 } 504'-0" Spans
NORTH WALK - LOWER DECK }

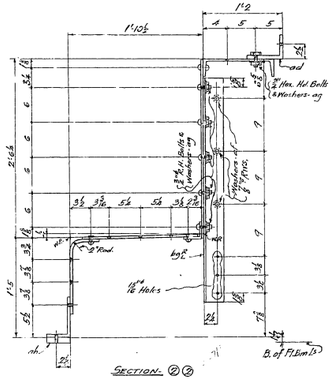
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Judson-Pacific WORKS

IN CHARGE - C.W.D. MADE BY - H.W.D.
CHECKED BY [illegible] 11/9/34 TRACED BY C.P.K.
LAST ASSEM. MK.

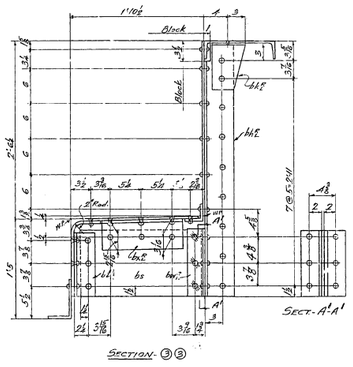
CONTRACT CJ-1580-8 SHEET J807 IJ



SECTION - ⑥⑥ / ⑥'⑥'



SECTION - ②②



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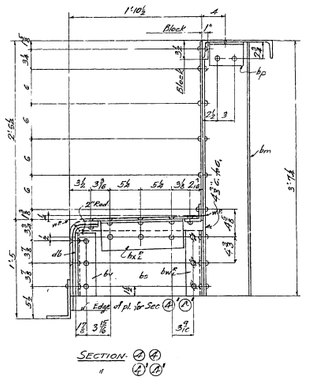
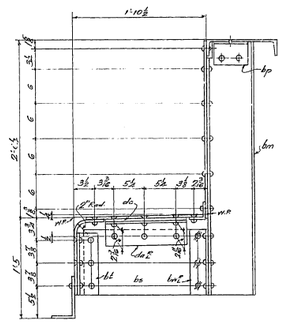
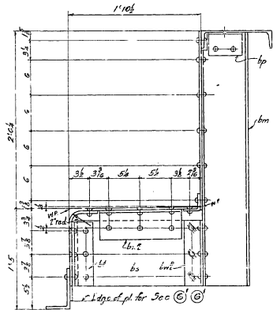


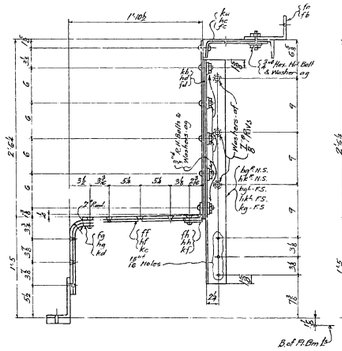
SECTION - ④④ / ④'④'



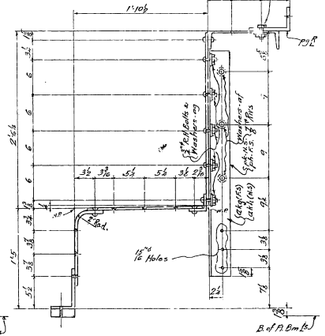
SECTION - ⑤⑤



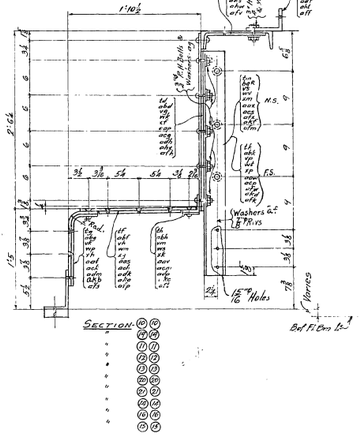
SECTION - ⑥⑥ / ⑥'⑥'



SECTION - ⑦⑦ / ⑧⑧ / ⑱⑱



SECTION - ⑨⑮ / ⑫⑫



SECTION - ⑩⑩ / ⑪⑪ / ⑫⑫ / ⑬⑬ / ⑭⑭ / ⑮⑮ / ⑯⑯ / ⑰⑰

No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

Date	Revision	App'd

APPROVED

Glenn P. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 6/3/32

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE

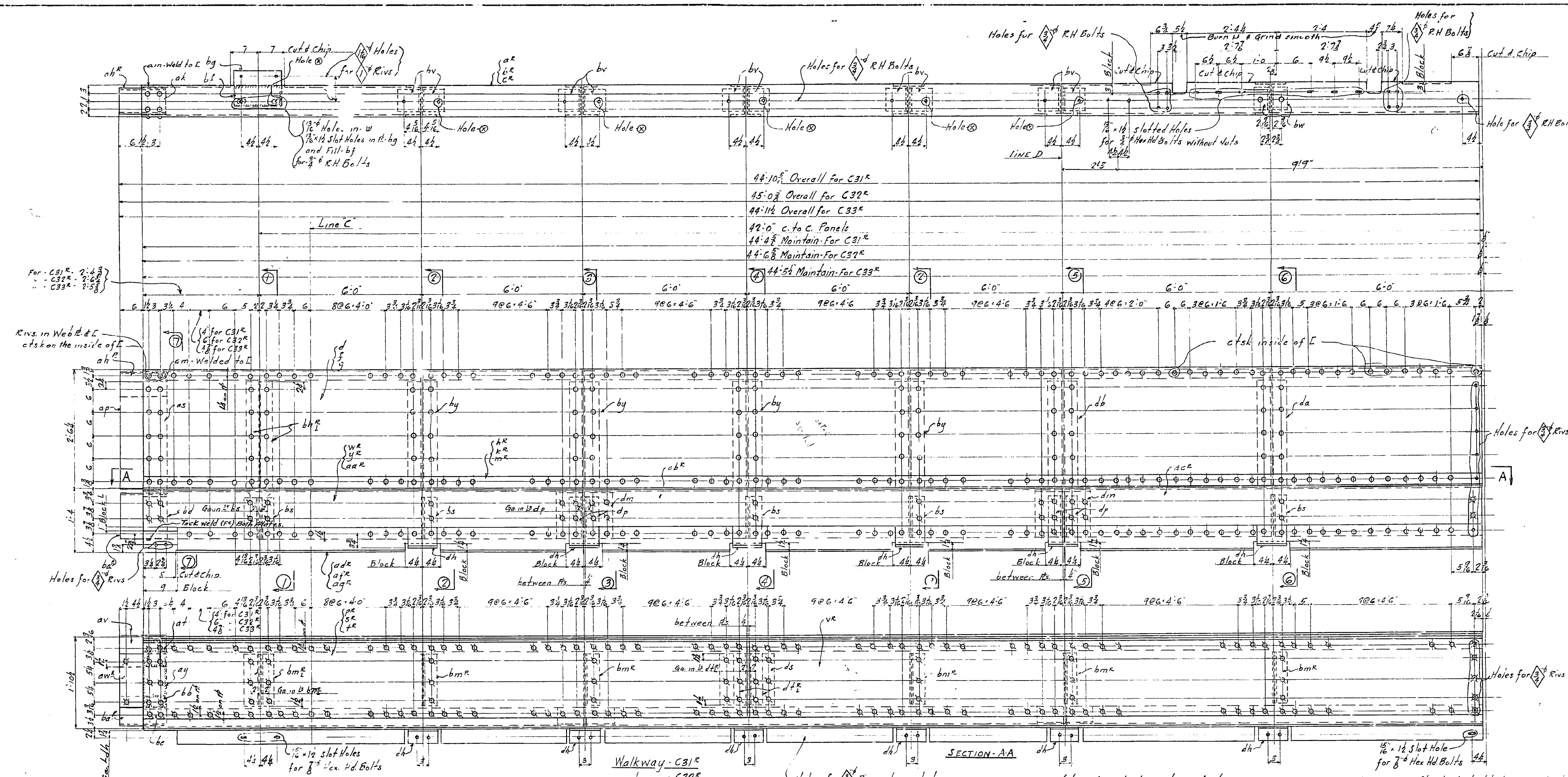
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
504'-0" Spans

SECTIONS - NORTH WALK - LOWER DECK

McCLINTIC-MARSHALL CORPORATION
Bethlehem Pacific Coast Steel Corporation
DRAFTING ROOM Judson Pacific - Murphy Corp. WORKS

In charge M.P.D.
Checked L. 11/9/32
Last Assem. Mk.
Made by C.W.D.
Traced by C.K.

CONTRACT C.J-1680-B
SHEET 1807 J7



Walkway - C31R
do - C32R
do - C33R

1 aR [8 x 13.75# x 44'-4 5/8 F2E For C31R
1 bR [do x 44'-6 5/8 F2E " C32R
1 cR [do x 44'-5 1/2 F2E " C33R
1 d Pl 30 1/2 UM x 5/16 x 44'-4 5/8 F2E " C31R
1 f Pl do x 44'-6 5/8 F2E " C32R
1 g Pl do x 44'-5 1/2 F2E " C33R
1 hR L 3 x 3 x 3/8 x 44'-4 5/8 F2E " C31R
1 kR L do x 44'-6 5/8 F2E " C32R
1 mR L do x 44'-5 1/2 F2E " C33R

Central knobby Pls:
1 pR Pl 19 1/2 x 3/8 x 20'-1 5/8 F2E " C31R
1 sR Pl do x 20'-6 5/8 F2E " C32R
1 tR Pl do x 20'-5 1/2 F2E " C33R
1 vR Pl do x 23'-11 3/4 F2E

Bent Pls. Mild steel:
1 wR Pl 16 1/2 UM x 1/2 x 14'-4 5/8 F2E For C31R
1 yR Pl do x 14'-6 5/8 F2E " C32R
1 aaR Pl do x 14'-5 1/2 F2E " C33R
1 abR Pl do x 17'-11 3/4 F2E
1 acR Pl do x 11'-11 3/4 F2E

1 adR L 6 x 3 1/2 x 1/2 x 44'-4 5/8 F2E For C31R
1 afR L do x 44'-6 5/8 F2E " C32R
1 agR L do x 44'-5 1/2 F2E " C33R
1 ahR Pl 12 x 3/8 x 1'-2 3/4 (Bent) Mild Steel
1 ak Fill 6 x 3/8 x 0'-6 1/2
2 am Fill 6 x 3/8 x 0'-1 1/2 (Welded)
1 ap Pl. 12 x 3/8 x 2'-4
1 as Fill 6 x 3/8 x 2'-4
1 at Fill 6 x 3/8 x 0'-3
1 av Pl 7 1/4 x 3/8 x 1'-0"
1 awR Pl 13 3/4 UM x 3/8 x 1'-0
1 ay Fill 6 x 3/8 x 1'-1 3/4
1 baR Pl. 12 x 3/8 x 1'-6 3/4 (Bent) Mild Steel
1 bb Fill 3 x 3/8 x 1'-0"
1 bc Fill 6 x 3/8 x 0'-3
1 bd Fill 6 x 3/8 x 0'-10 3/4
1 bf Fill 5 1/2 x 3/8 x 1'-0 1/2
1 bg Pl. 9 1/2 x 1/2 x 1'-0 1/2

2 bhRL Ls 3 1/2 x 3 1/2 x 3/8 x 3'-7 1/2
1 bk L do 1'-0"
7 bmRL Ls 5 x 3 1/2 x 3/8 x 1'-1 3/4
6 bs Ls 3 1/2 x 3 1/2 x 3/8 x 0'-10 3/4
2 bpRL Ls 6 x 3 1/2 x 3/8 x 0'-10 3/4
1 bt Pl. 13 x 3/8 x 1'-5 7/16
10 bv Ls 6 x 4 x 3/8 x 0'-6
2 bw Ls 4 x 4 x 3/8 x 0'-6"
4 by Is 8 x 31# x 3'-8 1/2
1 da I do x 3'-8 1/2
1 db I do x 3'-8 1/2
6 dh Ls 5 x 3 x 3/8 x 0'-7 1/2 (Bent)
6 dg Pls 12 1/2 x 3/8 x 1'-5 1/2
6 dkR Ls 3 1/2 x 3 1/2 x 3/8 x 0'-10 3/4
6 df Ls 3 1/2 x 3 1/2 x 3/8 x 0'-8 (Bent)
6 de Fills 3 x 3/8 x 0'-8"
12 dd Fills 3 x 1/16 x 0'-8"
2 dm Pl 13 1/2 x 3/8 x 1'-5 3/4 (Bent) Mild Steel

4 dp Ls 3 1/2 x 3 1/2 x 3/8 x 0'-10 3/4
1 ds Pl 13 3/4 UM x 3/8 x 1'-1 1/2
2 dtRL Ls 4 x 3 1/2 x 3/8 x 1'-1 3/4
12 - pw - Perm. Bolts 7/8 x 2 5/8 Lg. Hex. Hd. & Hex Nut

Note: All steel Carbon Steel.
Corners of re-entrant cuts to be rounded to 1/2 Radius.

NOTES -
Rivets shown thus ⌀ through Central Knobby Walk plates are to be ctsk and have a maximum height not more than the height of pattern on plates. All other rivets shown thus ⌀ are to be ctsk and have a maximum height of 1/8.
Shop to place Erection Marks on Left End of members as detailed and in an upright position.
Countersunk holes for flat head field bolts to conform to the head of bolts furnished by the Alameda Works. (Dwg. J826 Contract CT1580-8). Samples to be furnished by the Alameda Works.
For Sections 1, 2, 3, 4, Etc see Sheet J808II
All Brackets shown in Sects. ① to ㉓ incl. to be riveted up in a fixture to assure squareness.
Where parts are tack welded, contact surfaces must be thoroughly cleaned and scraped before assembly, and parts must be tightly clamped while welding. Welding shall be done in such a manner so as to permit entering of no foreign substance during field sand blasting.
Shop to put shipping bolts in holes ⊗ and draw same up tight. Erector to remove in field.

MATERIAL - All Structural Steel to be copper bearing.
SPECIFICATIONS - Special by State of California Dept of Public Works.
INSPECTION - By John M. Bailey.
RIVETS - 3/4".
OPEN HOLES - 13/16" unless noted.
PUNCHING - All holes to be punched full size except holes marked RT which are to be subpunched 1/4 and reamed to size through a metal templet.
FINISH - All sheared or flame cut edges and ends of material to have a neat appearance and where designated F1W, F2E, etc. Shop must shear and grind, chip and grind or otherwise cut and finish so that members present a neat appearance and conform to dimensions given on drawings. Ends of all assembled members must present a neat appearance.
SHOP PAINT - None, except as outlined below which shall be given one coat of ACID RESISTING LIQUID.
① - All surfaces exposed to the elements not readily accessible for field sand blasting.
② - Contact surfaces of parts bolted.
All painted surfaces must be thoroughly cleaned and scraped before paint is applied. Bolted parts to be assembled after paint is dry and bolts drawn up tight.

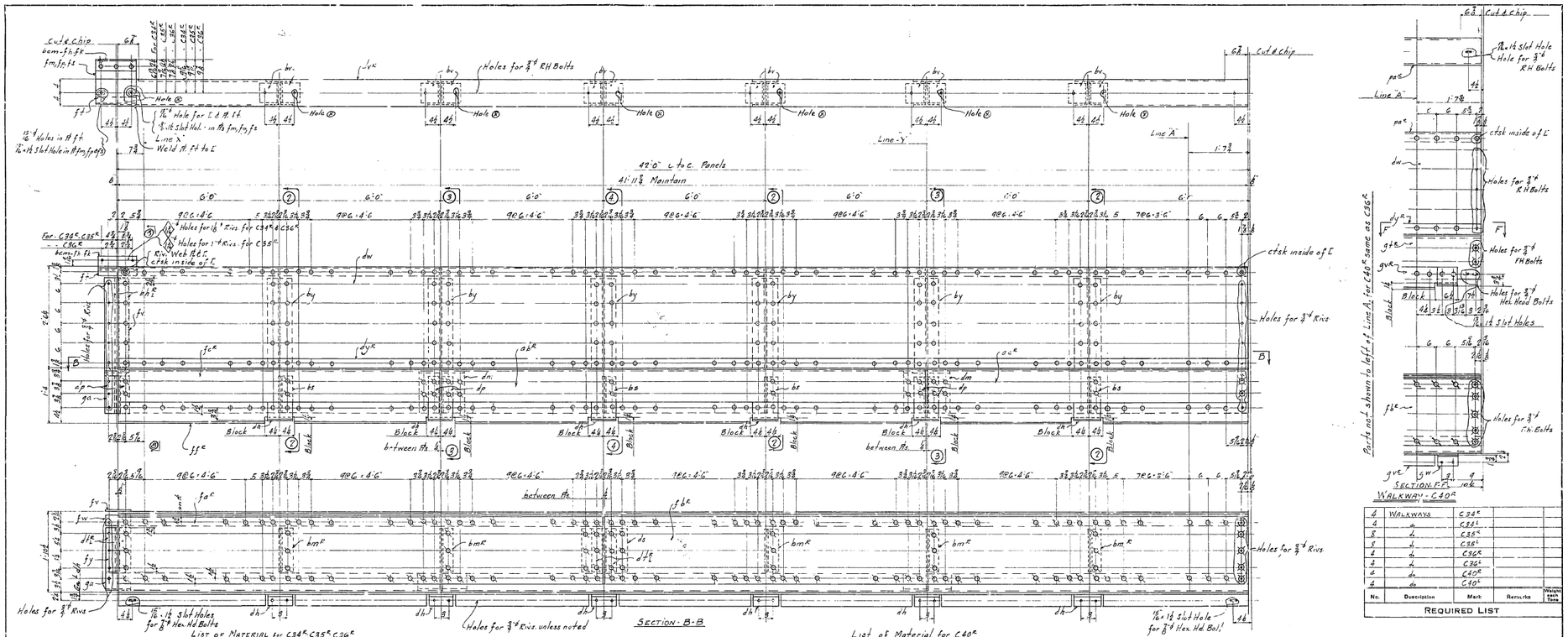
No.	Description	Mark	Remarks	Weight each Tons
ONE	Walkway	C31R		
ONE	do	C31L		
ONE	do	C32R		
ONE	do	C32L		
ONE	do	C33R		
ONE	do	C33L		

REQUIRED LIST

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 8/18/34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Walkways - C31RL - C32RL - C33RL - Upper Deck
504'-0" Spans
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Judson Pacific WORKS
IN CHARGE C.W.D. — MADE BY J.R.W.
CHECKED BY H.W.D. — TRACED BY F.C.P.
LAST ASSEM. MK.
CONTRACT C J1580-8 — SHEET J808 AI



WALKWAY - C40E

4	WALKWAYS	C34E		
4	do	C34E		
8	do	C35E		
8	do	C36E		
4	do	C36E		
4	do	C37E		
6	do	C40E		
4	do	C40E		
No.	Description	Mark	Remarks	Weight each Type

REQUIRED LIST

List of Material for C34E - C35E - C36E

1-dwE-L- 8.1375 ×	41'-11⅞"-72E
1-dwE-fl-50½UM × ⅝ ×	41'-11⅞"-72E
1-dyE-L- 3-3½-⅜ ×	41'-11⅞"-72E
Central Knobby fls { 1-faE-fl- 19½ × ⅜ ×	17'-11⅜"-72E
Central Knobby fls { 1-fbE-fl- do ×	28'-11⅜"-72E
Bent fls Mild Steel { 1-fcE-fl-16½UM × ½ ×	11'-11⅜"-72E
Bent fls Mild Steel { 1-adE ×	11'-11⅜"-72E
1-acE ×	
1-ffE-L- 6-3½-½ ×	41'-11⅜"-72E
12-bv	
6-by	
5-bmE	
2-be	
6-dh	
6-dg	
6-dfE	
6-ac	
12-dd	
6-ey	
2-dm	
1-de	
4-dfE	
1-fh-L- 4-3½-½ ×	1'-1" for C34E
1-fk-L- do ×	1'-1" C36E
ff-fl- 9½ × ⅜ ×	1'-1" (Bent) Mild Steel (Welded)
1-fm-fl- 10½ ×	1'-1" for C34E
1-fp-fl- 11½ ×	1'-1" " C35E
1-fs-fl- do ×	1'-1" " C36E
2-bnE	
1-fv-fl- 7½ × ⅜ ×	2'-6"
1-fg-L- 6-3½-⅜ ×	1'-0"
1-fjw-fl- 3 × ⅜ ×	0'-7½"
1-fy-fl- 13¾ (or 13½) × ⅜ ×	0'-7½"
1-ga-fl- 7½ × ⅜ ×	1'-3½" (Bent Mild Steel)
2-bpE	
1-bf	
12-pw-Bolts	
1-bcm-L-2-3½-½ × 11'-1" for C35E	

List of Material for C40E

1-gfE-fl-16½UM × ½ × 11'-11⅜"	(72E) Mild Steel (Bent)
1-gvE-L- 6 × 3½ × ½ × 41'-11⅜"	(72E)
1-gw-L- 5 × 3½ × ⅜ × 0'-6"	
1-paE-L- 8.1375 × 41'-11⅜"	(72E)
1-dv	
1-dyE	12-pw-Bolts
1-faE	6-dp
1-fbE	2-dm
1-fcE	1-dg
1-adE	4-dfE
12-dv	1-fjE
6-by	1-fjf
5-bmE	1-fjs
4-be	2-bnE
6-dh	1-fv
6-dg	1-fg
6-dfE	1-fw
6-df	1-fx
6-cE	1-fa
12-dd	2-bpE
	1-bf

Note: For General notes see sheet J808AI
All material Carbon Steel
For Sections see sheet - J808II

Date	Revision	App'd

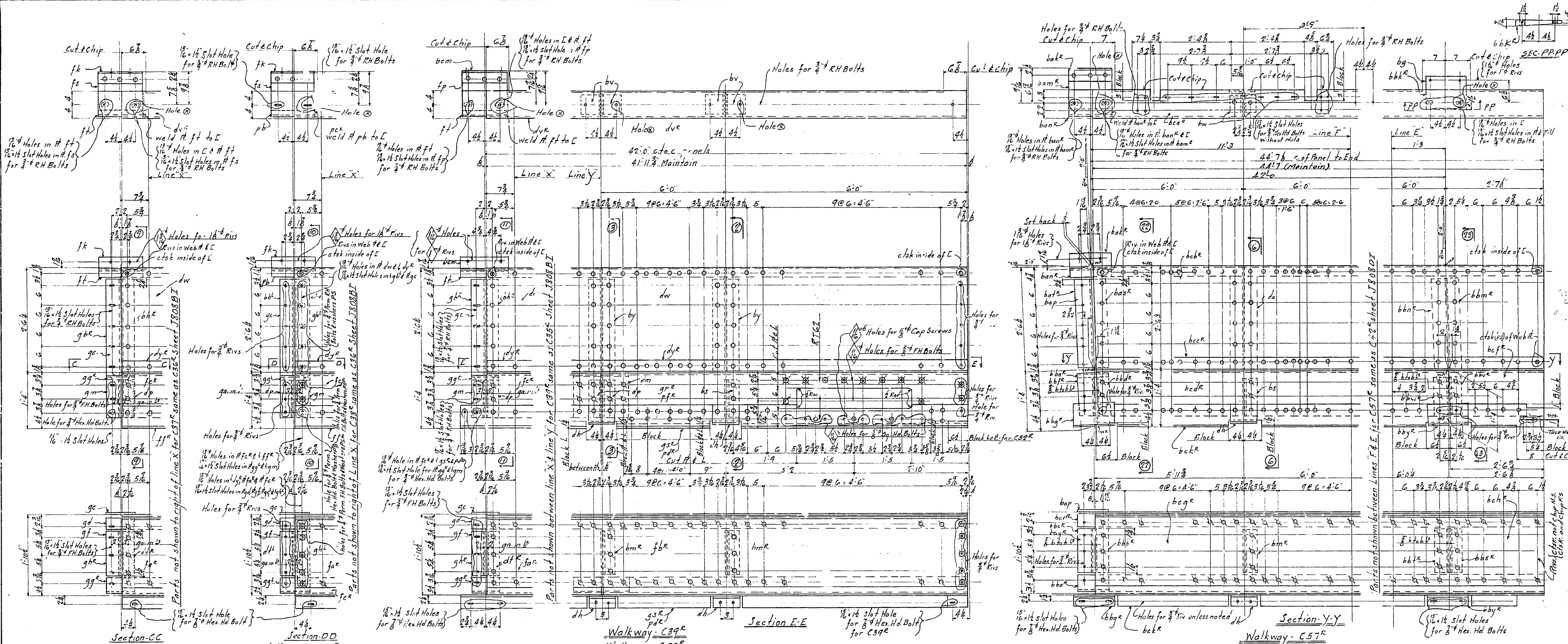
APPROVED

Chas. B. Wardwell — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 6/18/42

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Section Symbol
WALKWAYS - C34E C35E C36E C40E } Upper Deck
PACIFIC-MARSHALL CORPORATION
PITTSTOWN DRAWING ROOM Judson Pacific WORKS

IN CHARGE CWD — MADE BY JCW
CHECKED BY JWD — TRACED BY FEP
LAST ASSEM. MK.

CONTRACT CJ1580-8 — SHEET J808 81



Section-CC
Walkway C37R

Section-DD
Walkway-C38R

Walkway-C39R
Walkway-C57R

Section E-E

Section-Y-Y
Walkway-C57R

List of Material for C37R

1-dvR, 1-dw, 1-dyR, 1-faR, 1-fbR, 1-fcR, 1-abR, 1-acR, 1-ffR
1-fk, 1-ft, 1-fs, 1-bhR, 1-fg, 3-dt, 7-bp, 5-dp, 12-bv, 6-by
6-df, 6-dc, 12-dd, 6-dg, 5-bmR, 6-dkR, 4-bs, 6-dh, 2-dm, 1-ds, 1-bt, 12-pw-Bolts

1-gbR-L-3½×3½×⅜×3'-7¼
1-gc-Pl-7½×⅜×2'-4
1-gd-Pl-3×⅜×0'-7½
1-gf-Pl-13¾UM×⅜×0'-7½"
1-ggR-Pl-7½×⅜×1'-3¾ (Bent)(Mild steel)
1-ghR-L-4×3½×⅜×1'-1¾

1-gm-L-3½×3½×⅜×0'-10¾

List of Material for C38R

1-pcR-C 8×13.75×41'-11¾ (F2E)
1-dw, 1-dvR, 1-faR, 1-fbR, 1-fcR, 1-abR, 1-acR, 1-ffR, 1-fk, 1-fs, 1-ds
1-ggL, 1-bt, 1-ghL, 3-dt, 2-bp, 1-gm, 5-dp, 12-bv, 6-by, 6-df
6-dc, 12-dd, 6-dg, 5-bm, 6-dkR, 6-dh, 1-gf, 12-pw-Bolts
1-gbL, 1-bhL, 1-gc, 1-fg, 1-gd, 4-bs, 2-dm
1-pb-Pl 9½×⅜×1'-1 (Bent)(Mild Steel)
4-ph-Perm Bolt: ¾"φ×2¼ Lg. Round Head
1-pk- " " ¾"φ×2¾ Lg. Hex Nut
3-pm- " " ¾"φ×2½ Lg. Flat Head
4-pn- " " ¾"φ×2¼ Lg. Hex Nut
1-pp- " " ¾"φ×3" Lg. Hex Hd & Hex Nut
13-ps-Washers 2"φ×¼ thk-13/16φ Holes.

List of Materials for C39R & C52R

1-gpR-Pl 19¼ UM×½×11'-11¾ (F2E)(Bent) for C39R (Mild Steel)
1-pfR-Pl 19¼ UM×½×11'-11¾ (F2E)(Bent) for C52R (Mild Steel)
1-gsR-L 6×3½×½×42'-6⅜ (F2E) for C39R
1-pdR-L 6×3½×½×42'-6⅜ (F2E) for C57R
1-dvR, 1-dw, 1-abR, 1-faR, 1-fbR, 1-bcm, 1-ft, 1-fp, 1-bhR, 1-gbR, 1-gc, 1-fg, 1-gf, 1-ggR, 1-dyR, 1-feR
1-bt, 3-dt, 1-ghR, 2-bp, 5-dp, 1-gm, 1-gd, 12-bv, 6-by, 6-df, 12-dd, 6-dc
6-dg, 5-bmR, 6-dkR, 4-bs, 6-dh, 2-dm, 1-ds, 12-pw-Bolts

List of Material for C57R

1-bcaR-C 8×13.75× 44'-7" F2E
1-bcbR-Pl 30½UM×5/16× 44'-7 F2E
1-bccR-L 3×3×⅜× 44'-6¾ F2E (Mild Steel)
1-bcdR-Pl 16½UM×½× 11'-11½ F2E (Bent)
1-abR-
1-bcfR-Pl 16½UM×½× 14'-7 F2E (Mild Steel)(Bent)
1-begR-Pl 19½×⅜× 23'-11½ F2E (Central Knobby Pls.)
1-bchR-Pl do × 20'-7-F2E
1-bckR-L 6×3½×½× 44'-6¾ F2E
1-bakR-L 4×3½×½× 1'-1 (Bent)
1-bamR-Pl 11×½× 1'-1" (Bent)
1-banR-Pl 9½×⅜× 1'-1" (Bent (Mild Steel)
1-bap-Pl 7½×⅜× 2'-4"
1-basR-L 3½×3½×⅜× 3'-7¼
1-batR-L do × 3'-7¼
1-bavR-Pl 3×⅜× 0'-7½ (Bent)
1-fg

1-bayR-Pl 13¾UM×⅜× 0'-7½"
1-bbaR-Pl 7½×⅜× 1'-3¾ (Bent)(Mild Steel)

1-bbbR-L 4×3½×⅜×1'-1¾ (Bent)
1-bbcL-L do ×1'-1¾ (Bent)
4-bp
1-bbdR-L 3½×3½×⅜×0'-10¾
1-bbfR-L do ×0'-10¾
1-bbgR-L 6×3½×½×1'-0"
1-bg
1-bbkR-Bev. Fill-5½(5/16×1½)×1'-0½
1-bbmR-L-3½×3½×⅜×3'-7¼
1-bbnR-L- do ×3'-7¼
1-bK
2-bt
1-bbsR-L 5×3½×⅜×1'-1¾
1-bbtR-L do ×1'-1¾
1-bbvR-L 3½×3½×⅜×0'-10¾
1-bbwR-L do ×0'-10¾
1-bbyR-L 6×3½×½×1'-0"

10-bv, 2-bw, 4-by, 1-da, 1-db, 6-df, 12-dd, 6-de, 6-dg, 5-bmR, 6-dkR, 1-ds, 2-dt, 4-bs, 2-dm, 4-dp, 6-dh, 12-pw-Bolts

Note: For General notes see Sheet J808AI
All material Carbon steel
Work this Sheet with Sheets J808BI & J808DI
For Sections see Sheet J808II

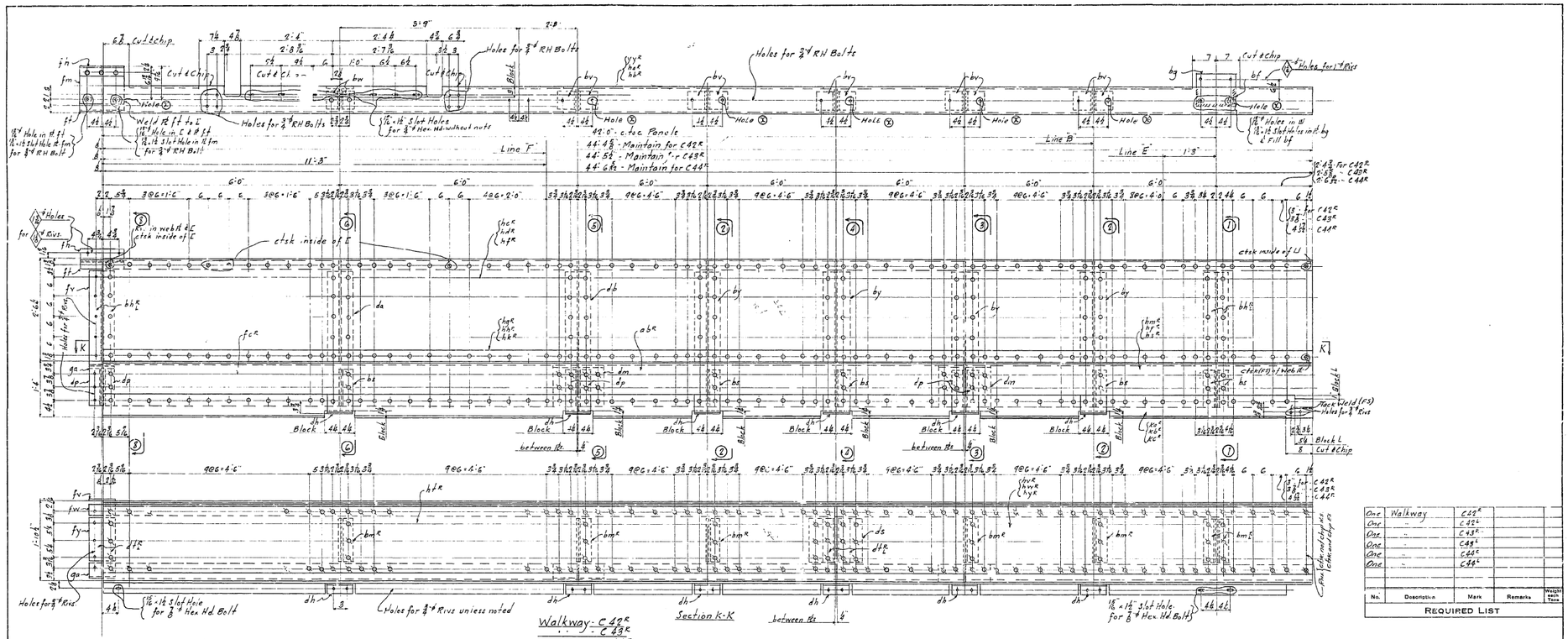
No.	Description	Mark	Remarks	Weight each Tons
4	Walkway	C37R		
4	"	C37L		
4	"	C38R		
4	"	C38L		
4	"	C39R		
4	"	C39L		
ONE	"	C52R		
ONE	"	C52L		
ONE	"	C57R		
ONE	"	C57L		

REQUIRED LIST

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8/18/34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Walkways-C37R/L-C38R/L-C39R/L-C52R/L-C57R/L-Upper Deck
504'-0" Spans
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Judson Pacific WORKS
IN CHARGE CWD — MADE BY JRW
CHECKED BY H.W.D. — TRACED BY FCP
LAST ASSEM. MK.
CONTRACT CJ1580-8 — SHEET J808 CI



List of Material

1	yy^R	C	8 × 18.75 ×	44'-4 5/8"	PE	For	C42R
1	hh^R	C	do ×	44'-5 1/4"	PE	"	C43R
1	hh^R	C	do ×	44'-6 3/8"	PE	"	C44R
1	he^R	℄	3/8 UM × 7/16 ×	44'-6 3/8"	PE	"	C42R
1	hj^R	℄	do ×	44'-5 1/4"	PE	"	C43R
1	hj^R	℄	do ×	44'-6 3/8"	PE	"	C44R
1	hg^R	L	3 × 3 × 3/8 ×	44'-4 5/8"	PE	"	C42R
1	hh^R	L	do ×	44'-5 1/4"	PE	"	C43R
1	hk^R	L	do ×	44'-6 3/8"	PE	"	C44R
Bent Pl. Mild Steel	1	fe^R	℄				
	1	eb^R	℄				
	1	hm^R	℄	16 1/2 UM × 1/2 ×	14'-4 5/8"	PE	For - C42R
	1	hp^R	℄	do ×	14'-5 1/4"	PE	" - C43R
	1	hs^R	℄	do ×	14'-6 3/8"	PE	" - C44R
Central Knobby Rs.	1	hf^R	℄	19 5/8 × 3/8 ×	23'-11 3/4"	PE	-
	1	hv^R	℄	do ×	20'-4 5/8"	PE	For - C42R
	1	hw^R	℄	do ×	20'-5 1/4"	PE	" - C43R
	1	hy^R	℄	do ×	20'-6 3/8"	PE	" - C44R

1	ka^R	L	6 × 3 1/2 × 1/2 ×	44'-4 5/8"	PE	For -	C42R
1	kb^R	L	do ×	44'-5 1/4"	PE	" -	C43R
1	kc^R	L	do ×	44'-6 3/8"	PE	" -	C44R

12	pw	Bolts	
1	fn		
1	fm		
1	ft		
1	fv		
4	nh^R		
1	fg		
1	fx		
1	fy		
1	qa		
2	bt		
4	dd^R		
4	nn^R		
6	dp		
1	bg		
1	bf		
1	de		
1	bk		
7	bin^R		
6	bs		
2	nw		
10	bv		
1	da		
1	dc		
1	fy		
4	by		
C^R			
12	ed		
6	dc		
6	dq		
C^R			
6	ah		
2	em		

For General notes See J808A1
All Material Carbon Steel.
For Sections See J808I

No.	Description	Mark	Remarks	Weight each Tons
One	Walkway	C42^R		
One	"	C42^L		
One	"	C43^R		
One	"	C43^L		
One	"	C44^R		
One	"	C44^L		

REQUIRED LIST

Date	Revision	App'd

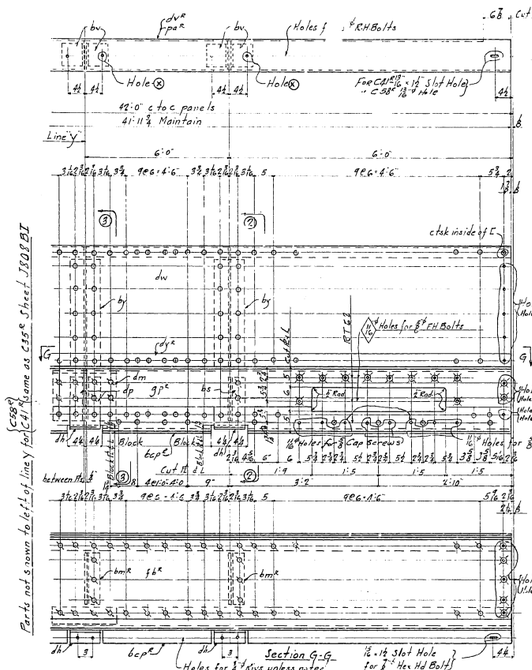
APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. L. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 8/18/37

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Walkways C42E, C43E, C44E
Upper Deck 50'-0" Spans
McCLINTIC-MARSHALL CORPORATION
PITTSBURGH DRAWING ROOM Judson Pacific WORKS

CHANGE GWD — MADE BY JFW
CHECKED BY AWD — TRACED BY RCP
LAST ASSEM. MK.

CONTRACT CJ1580-8 — SHEET J808 D2



Walkways C41K C58K

List of Material for C41K C58K

1	dv^K for C58^K	1	fg	4 bs
1	pa^K " C41^K	1	fw	6 dh
1	dw	1	fy	2 dm
1	dy^K	1	ga	6 dp
1	fa^K	1	gb	1 ds
1	fb^K	1	gt	4 dd^K
1	fc^K	2	hp^K	12 pw Bolts
1	ah^K			
1	gp^K	12	bv	
1	bcp^K (2 L 3 1/2 x 3 1/2 x 11/16 PL)	6	by	
		6	dy^K	
1	bcm	19	dd	
1	ft	6	dc	
1	fp	6	dg	
2	bhg	5	bm^K	
1	fv	6	dk^K	

List of Material for C45K

1	kd^K	L	8 x 8 x 1 1/8	42'-7 3/8	F2E	1 ag
1	kf^K	ft	30 1/2 UM x 7/8	42'-7 3/8	F2E	2 bf
1	kl^K	L	3 x 3 x 3/8	42'-7 3/8	F2E	4 dg^K
						4 bp^K
1	fc^K					6 dp
1	ah^K					1 ds
1	kk^K	ft	16 1/2 UM x 1	15'-7 3/8	F2E	1 bk
1	ht^K					7 bm^K
1	kk^K	ft	19 1/2 x 3/8	18'-7 3/8	F2E	6 bs
1	km^K	L	6 x 3/8 x 1/2	42'-7 3/8	F2E	2 bw
1	np	ft	9 1/2 x 1/2	1'-5 1/2		10 by
1	KS Fill		54 x 8 x	1'-1"		1 d3
1	fh					1 db
1	fm					4 bv
1	ft				6 dk^K	6 dc
1	fv				6 dh	6 dg
4	fk^K				2 dm	12 dd
1	fg				12 pw Bolts	6 dc
1	fw					6 dg
1	fy					

Bent fg Mild Steel

Central Knobby Bs

Walkway C45K

List of Material for C53K

1	ahc^K	L	8 x 18 7/8 x 7/16	41'-11 3/4	F2E
1	ahf^K	ft	30 5/8 UM x 7/8	41'-11 3/4	F2E
1	ahl^K	L	3 x 3 x 3/8	41'-11 3/4	F2E
1	ahat^K	ft	16 1/4 UM x 1/2	11'-11 1/2	F2E (Bent) (Mild Steel)
1	ab^K				
1	ahk^K	ft	16 1/4 UM x 1/2	11'-11 1/2	F2E (Bent) (Mild Steel)
1	ahk^K	ft	19 1/2 x 3/8 x	17'-11 1/2	F2E (Cent of Knobby Bs)
1	ahm^K	ft	do	11'-11 1/2	F2E
1	ahn^K	L	6 x 3 1/2 x 1/2	41'-11 3/4	F2E
1	agd^K	L	4 x 3 1/2 x 1/2	1'-1	(Bent)
1	ag f^K	ft	10 x 1/2 x	1'-1	(Bent)
1	agg^K	ft	9 1/2 x 3/8 x	1'-1	(Bent) (Mild Steel)
1	agm	ft	7 1/2 x 3/8 x	2'-1	
1	agh^K	L	3 1/2 x 3 1/2 x 3/8 x	3'-7 1/4	
1	agk^K	L	do x	8'-7 1/4	
1	agp^K	ft	3 x 3/8 x	0'-7 1/2	(Bent)
1	ag				
1	ags^K	ft	19 1/2 UM x 3/8 x	0'-7 1/2	(Bent)
1	agt^K	ft	72 x 3/8 x	1'-3 1/2	(Bent) (Mild Steel)

1	agu^K	L	4 x 3 1/2 x 3/8 x	1'-1 3/4	(Bent)
			do x	1'-1 3/4	
1	agw^K	L			
1	bt				
2	bp^K				
1	aha^K	L	3 1/2 x 3 1/2 x 3/8 x	0'-10 3/4	
			do x	0'-10 3/4	
1	ahb^K	L			
1	agy^K	L	6 x 3 1/2 x 1/2 x	1'-0"	
12	bv				
2	dm				
4	dp				
1	ds				
12	dd				
2	dt^K				
12	pw Bolts				

For General Notes see J808AI
All Material Carbon Steel.
Work this Sheet with Sheets J808BI to J808DI
For Sections see Sh J808II

No.	Description	Mark	Remarks	Weight Each Piece
4	Walkways	C58^K		
4	"	C58^K		
4	"	C41^K		
4	"	C41^K		
One	"	C45^K		
One	"	C45^K		
One	"	C53^K		
One	"	C53^K		

REQUIRED LIST

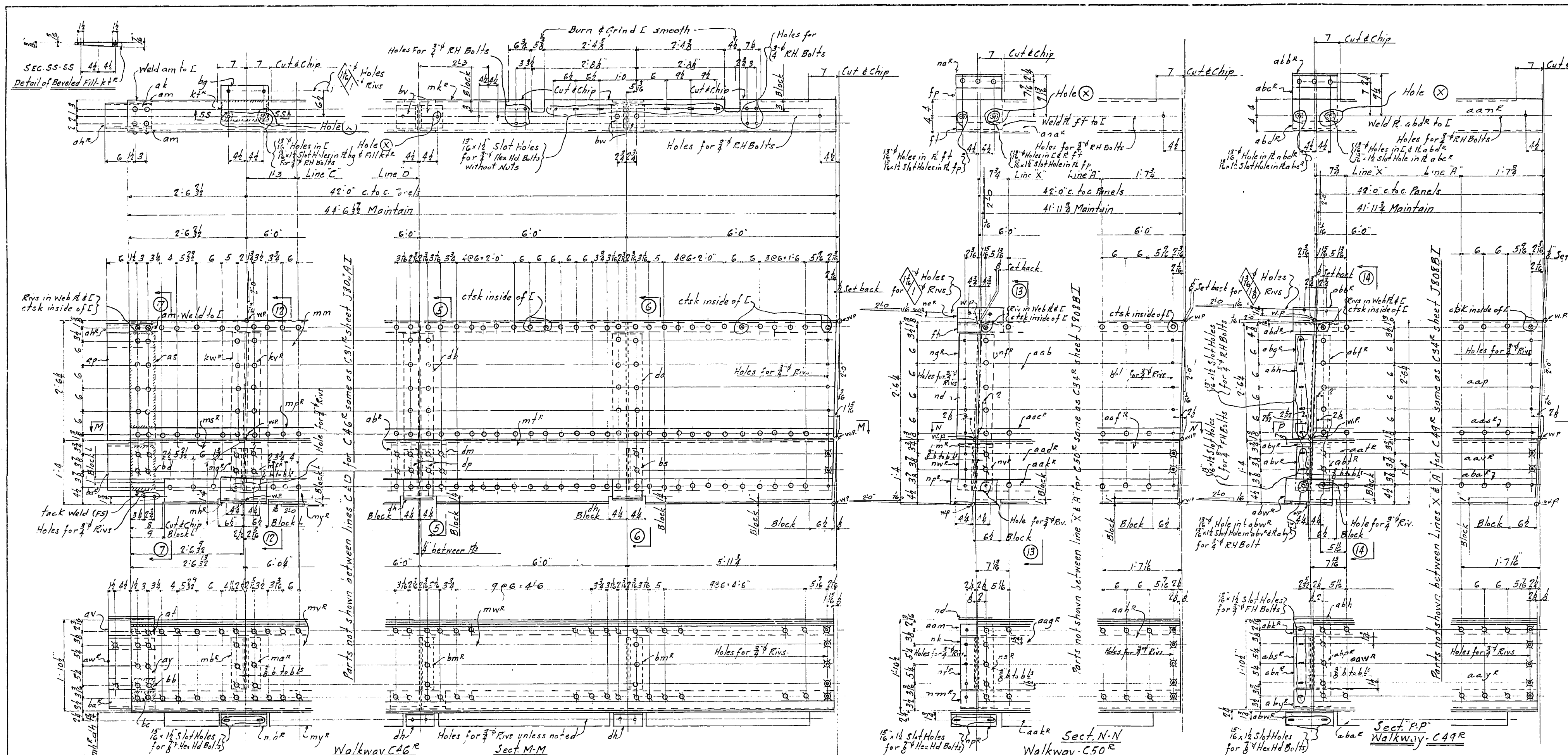
Date	Revision	Apv'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 8/16/54

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Walkways C58K-C41K C45K-C53K
Upper Deck 504'-0" Spans
McCLINTIC-MARSHALL CORPORATION
Pittstown DRAWING ROOM Judson Pacific WORKS
CHARGE CWD — MADE BY JRW
CHECKED BY HMB — TRACED BY FCP
QUANTITIES BY J.T. ASSEM. ENG.

CONTRACT CJ1580-8 SHEET J808 EE



List of Material for C46R

1-mkR-[8×13.75×44'-6 17/32-F2E
1-mm-Pl 30½ UM×5/16×44'-6 17/32-F2E
1-mpR-L 3×3×3/8×44'-6 9/32-F2E
Bent Pls. Mild Steel { 1-msR-Pl 16½ UM×½×11'-6 3/32-F2E
1-abR
1-mtR-Pl 16½ UM×½×11'-11½-F2E }
Central Knobby Pls. { 1-mvR-Pl 19½×3/8×20'-6 17/32-F2E
1-mwR-Pl do 23'-11½-F2E }
1-myR-L 6×3½×½×44'-6 5/32-F2E
1-ktR-Fill 5½×(5/16×7/16)×1'-0½ (Beveled)
1-kvR-L 3½×3½×3/8×3'-7¼
1-kwR-L do ×3'-7¼
1-bk
1-maR-L 5×3½×3/8×1'-1¾
1-mbR-L do ×1'-1¾
2-bpRL
1-mhR-L 6×3½×½×1'-0
1-mfR-L 3½×3½×3/8×0'-10¾
1-mgR-L do ×0'-10¾

1-bg, 1-bt, 1-ahR, 1-ak, 2-am, 1-ap, 1-as, 1-av, 1-at, 1-awR, 1-ay, 1-bb, 1-bc, 1-baR, 1-bd

10-bv, 2-bw, 4-by, 1-do, 1-da, 6-df, 12-dd, 6-dc, 6-dg, 5-bmR, 6-dkR, 4-bs, 6-dh, 2-dm, 4-dp, 1-ds, 2-dtRL, 12-pw-Bolts

List of Material for C50R

1-aaaR-[8×13.75×41'-11¾-F2E
1-aab-Pl 30½ UM×5/16×41'-11 13/16-F2E
1-aacR-L 3×3×3/8×41'-11¾-F2E
Bent Pls. Mild Steel { 1-aadR-Pl 16½ UM×½×11'-11 13/16-F2E
1-abR
1-aafR-Pl 16½ UM×½×11'-11 11/16-F2E }
Central Knobby Pls. { 1-aagR-Pl 19½×3/8×17'-11 13/16-F2E
1-aahR-Pl do ×23'-11 11/16-F2E }
1-aakR-L 6×3½×½×41'-11¾-F2E
1-fp
1-naR-L 4×3½×½×1'-1"
1-ft
1-nd-Pl 7½×3/8×2'-4"
1-nfR-L 3½×3½×3/8×3'-7¼
1-ngR-L do ×3'-7¼
1-fg
1-nk-Pl 13¾ UM×3/8×0'-7½
1-nmR-Pl 7½×3/8×1'-3¾ (Bent)(Mild Steel)
1-bt
1-nsR-L 4×3½×3/8×1'-1¾ (Bent)

1-ntR-L 4×3½×3/8×1'-1¾ (Bent)
2-bpRL
1-nvR-L 3½×3½×3/8×0'-10¾
1-nwR-L do ×0'-10¾
1-npR-L 6×3½×½×1'-0"
1-aam-Pl 3×3/8×0'-7½

12-bv, 6-by, 6-df, 12-dd, 6-dc, 6-dg, 5-bmR, 6-dkR, 4-bs, 6-dh, 2-dm, 4-dp, 1-ds, 2-dtRL

12-pw Bolts

List of Material for C49R

1-aanR-[8×13.75×41'-11¾-F2E
1-aap-Pl 30½ UM×5/16×41'-11 13/16-F2E
1-aasR-L 3×3×3/8×41'-11¾-F2E
1-aatR-Pl 16½ UM×½×11'-11 13/16-F2E } Bent Pls. Mild Steel
1-obR-
1-aavR-Pl 16½ UM×½×11'-11 11/16-F2E }
1-aawR-Pl 19½×3/8×17'-11 13/16-F2E } Central Knobby Pls.
1-aayR-Pl do ×23'-11 11/16-F2E }
1-abaR-L 6×3½×½×41'-11¾-F2E
1-abbR-L 4×3½×½×1'-1" (Bent)
1-abcR-Pl 10×½×1'-1" "
1-abdR-Pl 9½×3/8×1'-1" " (Mild Steel)
1-abh-Pl 7½×3/8×2'-4"
1-abfR-L 3½×3½×3/8×3'-7¼
1-abgR-L do ×3'-7¼
1-fg
1-abkR-Pl 3×3/8×0'-7½ (Bent)
1-abnR-Pl 13¾ UM×3/8×0'-7½ "
1-abyR-Pl 7½×3/8×1'-3¾ " (Mild Steel)

1-abpR-L 4×3½×3/8×1'-1¾ (Bent)
1-absR-L do ×1'-1¾ "
1-bt
2-bpRL
1-abtR-L 3½×3½×3/8×0'-10¾
1-abvR-L do ×0'-10¾
1-abwR-L 6×3½×½×1'-0"

12 bv, 6 by, 6 df, 12 dd, 6 dc

6-dg, 5-bmR, 6-dkR, 4-bs, 6-dh, 2-dm, 4-dp, 1-ds, 2-dtRL, 12 pw Bolts

Note:
For General notes see sheet J808AI
All Material Carbon Steel.
For Sections see Sheet J808II

Work this sheet with sheets J808AI-J808BI

No.	Description	Mark	Remarks	Weight each Tons
One	Walkway	C46R		
One	"	C46L		
One	"	C50R		
One	"	C50L		
One	"	C49R		
One	"	C49L		

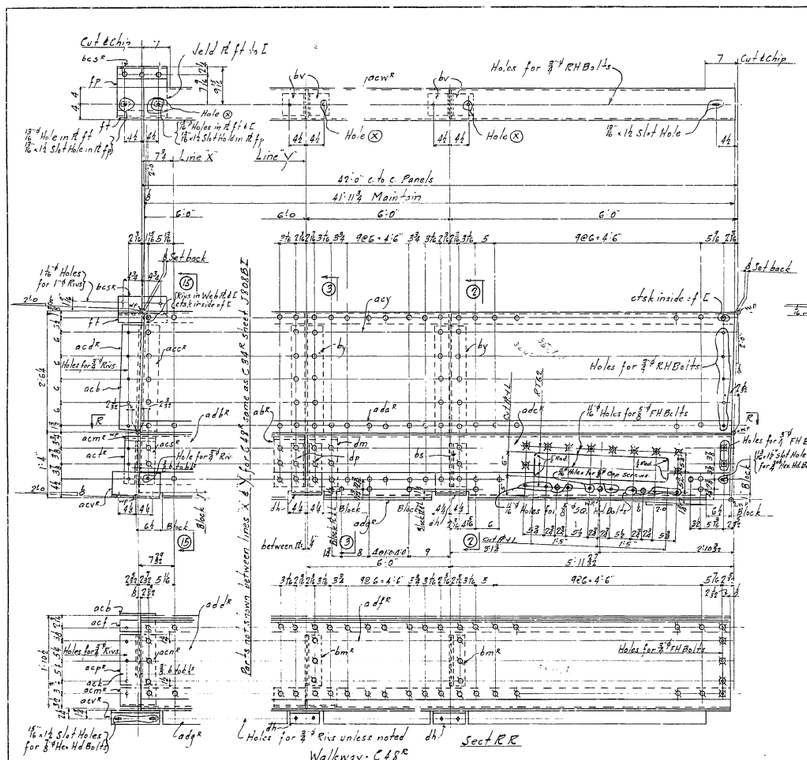
REQUIRED LIST

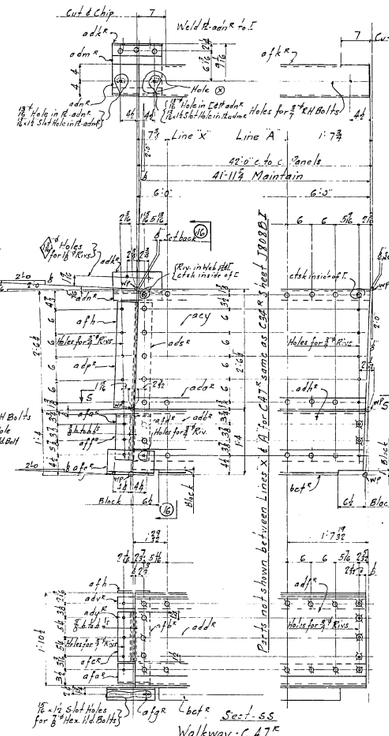
Date	Revision	App'd

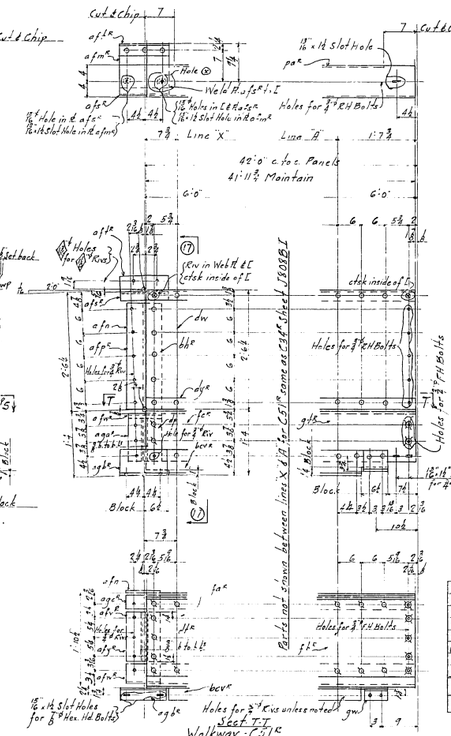
APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 8/18/34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Walkways - C46RL - C50RL - C49RL
Upper Deck 504'-0" Spans
McCLINTIC-MARSHALL CORPORATION
P[illegible]stown DRAWING ROOM Judson Pacific WORKS
IN CHARGE CWD — MADE BY JRW
CHECKED BY H.W.D. — TRACED BY FCP
LAST ASSEM. MK.

CONTRACT CJ1580-[illegible] — SHEET J808 FI







List of Material for C48R

1- acv^R	C	8 - 13.75 #	41-11½	F2E
1- acy	Pl	30½ UM - ⅜	41-11⅞	F2E
1- adv^R	L	3 - 3 x ⅜	41-11½	F2E
1- adw^R	Pl	162 UM - ½	11-11½	F2E (Bent)
1- adx^R				
1- ady^R	Pl	19¼ UM - ½	11-11⅝	F2E (Bent)
1- adz^R	Pl	19½ - ⅜	17-11⅞	F2E (Contract Keeley Pl)
1- ad1^R	Pl	do	13-11⅝	F2E
1- adg^R	L	6 - 3½ x ½	41-11½	F2E
1- bcs^R	L	4 - 3½ x ½	1'-1"	
1- bf				
1- ft				
1- acb	Pl	7½ - ⅜ x	2'-4	
1- acc^R	L	85 - 3½ x ⅜	3'-7½	
1- acd^R	L	do	3'-7½	
1- ar^R	Pl	3 - ⅜ x	0'-7½	
1- fg				

1- bf		
1- acb^R Pl	13½ UM - ⅜ x	0'-7½ (Bent)
1- acm^R	7½ - ⅜ x	1'-1½ (Bent) (Mild Steel)
1- acn^R L	4 - 3½ x ⅜	1'-1½ (Bent)
1- acp^R L	do	1'-1½ (Bent)
2- bp^R		
1- acq^R L	34 - 3½ x ⅜	0'-10½
1- acr^R L	do	0'-10½
1- acv^R L	6 - 3½ x ½	1'-0"
12- bv		
6- by		
6- cf		
12- df		
6- dc		
6- dp	12 pw Bolts	
5- bm^R	2- dm	
6- dk^R	4- dp	
1- ds	2- dk^R	
6- dh	12 pw Bolts	

List of Material for C47R

1- afk^R	C	5 - 13.75 #	41-11½	F2E
1- acy				
1- ada^R				
1- adds				
1- adr				
1- adt^R	Pl	16½ UM - ½	11-11⅝	F2E (Bent mild steel)
1- adu^R				
1- bct^R - L		6 - 3½ x ½	41-11½	F2E
12- bv				
6- by				
6- cf				
12- dd				
6- de				
6- dg				
5- bm^R				
6- dk^R				
4- bs				

1- ad1^R	L	4 - 3½ x ½	1'-1"	(Bent)
1- adm^R	Pl	10 - ½ x	1'-1"	(Bent)
1- adn^R	Pl	9½ - ⅜ x	1'-1"	(Bent) (Solid Steel)
1- afh	Pl	7½ - ⅜ x	2'-4	
1- ads^R	L	34 - 3½ x ⅜	3'-7½	
1- aop^R	L	do	3'-7½	
1- adv^R	Pl	3 - ⅜ x	0'-7½	(Bent)
1- fg				

1- bf		
1- adv^R Pl	13½ UM - ⅜ x	0'-7½ (Bent)
1- afa^R Pl	7½ - ⅜ x	1'-1½ (Bent) (Solid Steel)
1- afb^R L	4 - 3½ x ⅜ x	1'-1½ (Bent)
1- afc^R L	do	1'-1½ (Bent)
2- bp^R		
1- afd^R L	34 - 3½ x ⅜ x	0'-10½
1- afe^R L	do	0'-10½
1- afg^R L	6 - 3½ x ½ x	1'-0"
12- bv		
6- by		
6- cf	6 - ¾	
12- dd	2- dm	
6- de	4- dp	
6- dg	1- ds	
5- bm^R	2- dk^R	
6- dk^R	12- pw Bolts	

List of Material for C51R

1- par				
1- dv				
1- dy^R				
1- pk^R				
1- fk^R				
1- ab^R				
1- fc^R				
1- qf^R				
1- bc^R - L		6 - 3½ x ½	41-11½	F2E
1- afk^R	L	4 - 3½ x ½	1'-1"	(Bent)
1- afm^R	Pl	10 - ½ x	1'-1"	(Bent)
1- afs^R	Pl	9½ - ⅜ x	1'-1"	(Bent) (Solid Steel)
1- afn	Pl	7½ - ⅜ x	2'-4	
1- bh^R				
1- afp^R	L	34 - 3½ x ⅜	3'-7½	
1- agc^R	L	3 - ⅜ x	0'-7½	(Bent)
1- fg				
1- bf				

1- afv^R Pl	13½ UM - ⅜ x	0'-7½ (Bent)
3- fl^R		
1- afx^R L	4 - 3½ x ⅜ x	1'-1½ (Bent)
1- afw^R Pl	7½ - ⅜ x	1'-5½ (Bent) (Solid Steel)
2- bp^E		
5- dp		
1- agu^R L	34 - 3½ x ⅜ x	0'-10½
1- agv^R L	6 - 3½ x ½ x	1'-0"
12- bv		
6- by		
6- cf		
12- dd		
1- ds		
6- de		
5- bm^R		
6- dk^R		
4- bs		

Note:
For General Notes see Sheet J80A I
All material Carbon Steel
For Sections see Sheet J80B II
Work this sheet with Sheet J80B I

No.	Description	Mark	Remarks	Weight each Total
One	Walkway	C48R		
One	"	C48L		
One	"	C47R		
One	"	C47L		
One	"	C51R		
One	"	C51L		

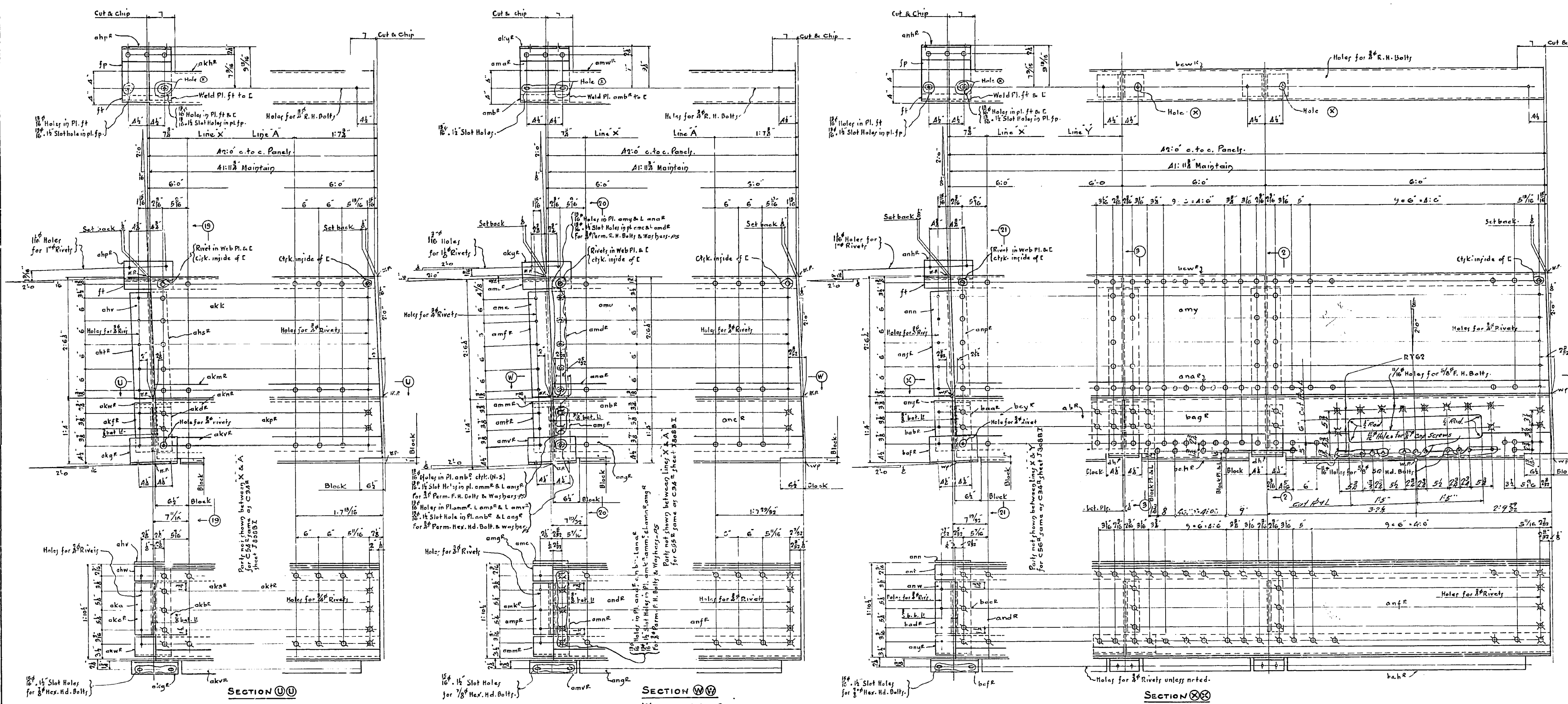
REQUIRED LIST

Date	Revision	Asst'd
	APPROVED	
	Engineer of Design	
	Bridge Engineer	
	Field Engineer	
	Date: 8/19/54	

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Walkways - C48L - C47L - C51L
Upper Deck 50'-0" Spans
by CLINTIC-MARSHALL CORPORATION
Jeffstown DRAWING 6008 Juneau Pacific WORKS

IN CHARGE CWD — MADE BY JCW
CHECKED BY RWD — TRACED BY FCP
ASST. ENGR. MK.

CONTRACT CJ1556-8 — SHEET J80B (GI)



Section U-U — Walkway C54^R

Material for One Walkway C54^R

- 1· akh^R [8 · 13.75 · 41:11 3/4" (F2E)
- 1· akk Pl. 30 1/2 (UM) · 5/16 · 41:11 7/8 (F2E)
- 1· akm^R L 3 · 3 · 3/8 · 41:11 3/4" (F2E)
- Mild Steel:
  - 1· akn^R Pl. 16 1/2 (UM) · 1/2 · 11:11 11/16 (F2E) (bent)
  - 1· ab^R
  - 1· akp^R Pl. 16 1/2 (UM) · 1/2 · 11:11 7/8 (F2E) (Bent)
- 1· aks^R Cent. Knobby Pl. 19 1/2 · 3/8 · 17:11 11/16 (F2E)
- 1· akt^R " " " " · 23:11 7/8 (F2E)
- 1· akv^R L 6 · 3 1/2 · 1/2 · 41:11 3/4 (F2E)
- 1· ahp^R L 4 · 3 1/2 · 1/2 · 1:1"
- 1· fp
- 1· ft
- 1· ahv Pl. 7 1/2 · 3/8 · 2:4"
- 1· ahs^R L 3 1/2 · 3 1/2 · 3/8 · 3:7 1/4"
- 1· aht^R L do · 3:7 1/4"
- 1· ahw Pl. 3 · 3/8 · 0:7 1/2"
- 1· fg
- 1· bt
- 1· aka Pl. 13 3/4 UM · 3/8 · 0:7 1/2
- 1· akw^R Pl. 7 1/2 · 3/8 · 1:3 3/4 (bent) Mild Steel
- 1· akb^R L 4 · 3 1/2 · 3/8 · 1:1 3/4" (bent)
- 1· akc^R do · 1:1 3/4" (bent)
- 2· bp^R_L
- 1· akd^R L 3 1/2 · 3 1/2 · 3/8 · 0:10 3/4"
- 1· akf^R L do · 0:10 3/4"
- 1· akg^R L 6 · 3 1/2 · 1/2 · 1:0"
- 12· pw Bolts.
- 12· bv
- 6· bj
- 6· df
- 12· dd
- 6· dc
- 6· dg
- 5· bm^R
- 6· dk^R
- 4· bs
- 6· dh
- 2· dm
- 4· dp
- 1· ds
- 2· dt^R_L

Section W-W — Walkway C55^R

Material for One Walkway C55^R

- 1· amw^R [8 · 13.75 · 41:11 3/4" (F2E)
- 1· amy Pl. 30 1/2 (UM) · 5/16 · 41:11 15/16 (F2E)
- 1· ana^R L 3 · 3 · 3/8 · 41:11 3/4 (F2E)
- Mild Steel:
  - 1· anb^R Pl. 16 1/2 (UM) · 1/2 · 11:11 5/8 (F2E) (Bent)
  - 1· ab^R
  - 1· anc^R Pl. 16 1/2 (UM) · 1/2 · 11:11 13/16 (F2E) (Bent)
- 1· and^R Pl. 19 1/2 · 3/8 · 17:11 5/8 (F2E) } Central Knobby Pls.
- 1· anf^R Pl. do · 23:11 15/16 (F2E) }
- 1· ang^R L 6 · 3 1/2 · 1/2 · 41:11 3/4 (F2E)
- 1· aky^R L 4 · 3 1/2 · 1/2 · 1:1" (Bent)
- 1· ama^R Pl. 10 · 1/2 · 1:1" (Bent)
- 1· amb^R Pl. 9 1/2 · 3/8 · 1:1" (Bent) Mild Steel.
- 1· amc Pl. 7 1/2 · 3/8 · 2:4"
- 1· amd^R L 3 1/2 · 3 1/2 · 3/8 · 3:7 1/4"
- 1· amf^R L do · 3:7 1/4"
- 1· amg^R Pl. 3 · 3/8 · 0:7 1/2"
- 1· fg
- 1· bt
- 1· amk^R Pl. 13 3/4 UM · 3/8 · 0:7 1/2" (Bent)
- 1· amm^R Pl. 7 1/2 · 3/8 · 1:3 3/4 (Bent) Mild Steel.
- 1· amn^R L 4 · 3 1/2 · 3/8 · 1:1 3/4" (Bent)
- 1· amp^R L do · 1:1 3/4" (Bent)
- 2· bp^R_L
- 1· ams^R L 3 1/2 · 3 1/2 · 3/8 · 0:10 3/4"
- 1· amt^R do · 0:10 3/4"
- 1· amv^R L 6 · 3 1/2 · 1/2 · 1:0"
- 2· dt^R_L
- 12 pw Bolts
- 12· bv
- 6· by
- 6· df
- 12· dd
- 6· dc
- 6· dg
- 9· bm^R
- 6· dk^R
- 4· bs
- 6· dh
- 2· dm
- 4· dp
- 1· ds.
- 4· ph
- 1· pk
- 3· pm
- 4· pn
- 1· pp
- 13· ps

Section X-X — Walkway C56^R

Material for One Walkway C56^R

- 1· bcw^R [8 · 13.75# · 41:11 3/4 (F2E)
- 1· amy
- 1· ana^R
- Mild Steel:
  - 1· bcy^R Pl. 16 1/2 UM · 1/2 · 11:11 5/8 (F2E) (Bent)
  - 1· ab^R
  - 1· bag^R Pl. 19 1/4 (UM) · 1/2 · 11:11 15/16 (F2E) (Bent)
- 1· and^R
- 1· anf^R
- 1· bah^R L 6 · 3 1/2 · 1/2 · 41:11 3/4" (F2E)
- 1· anh^R L 4 · 3 1/2 · 1/2 · 1:1"
- 1· fp
- 1· ft
- 1· ann Pl. 7 1/2 · 3/8 · 2:4"
- 1· anp^R L 3 1/2 · 3 1/2 · 3/8 · 3:7 1/4"
- 1· ans^R L do · 3:7 1/4"
- 1· ant Pl. 3 · 3/8 · 0:7 1/2"
- 1· fg
- 1· bt
- 1· anw Pl. 13 3/4 UM · 3/8 · 0:7 1/2
- 1· any^R Pl. 7 1/2 · 3/8 · 1:3 3/4" (Bent) Mild Steel.
- 1· bac^R L 4 · 3 1/2 · 3/8 · 1:1 3/4" (Bent)
- 1· bad^R L do · 1:1 3/4" (Bent)
- 2· bp^R_L
- 1· bao^R L 3 1/2 · 3 1/2 · 3/8 · 0:10 3/4"
- 1· bab^R L do · 0:10 3/4"
- 1· baf^R L 6 · 3 1/2 · 1/2 · 1:0"
- 12· bv
- 6· by
- 6· df
- 12· dd
- 6· dc
- 6· dg
- 5· bm^R
- 6· dk^R
- 4· bs
- 6· dh
- 2· dm
- 4· dp
- 1· ds
- 2· dt^R_L
- 12· pw Bolts.

Note:
For General Notes see sheet J808AI
All material Carbon steel
For Sections see sheet J808II
Work this sheet with sheet J808BI

No.	Description	Mark	Remarks	Weight each Tons
One	Walkway	C54^R		
One	do	C54^L		
One	do	C55^R		
One	do	C55^L		
One	do	C56^R		
One	do	C56^L		

REQUIRED LIST

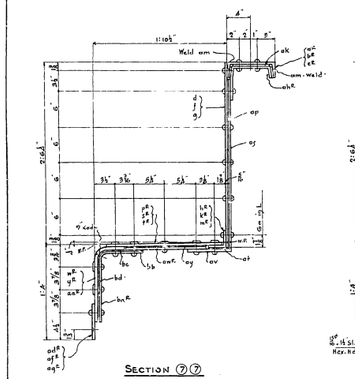
Date	Revision	App'd

APPROVED

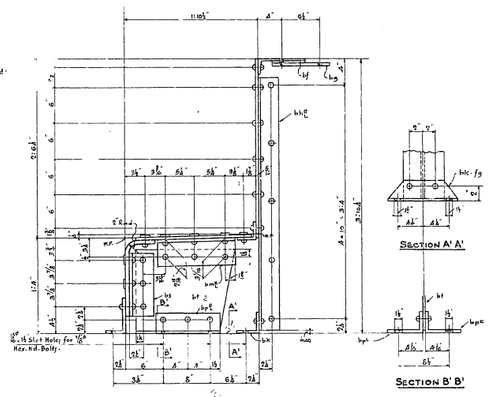
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 8/18/34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Walk ways - C54^R_L - C55^R_L - C56^R_L
Upper Deck 504'0" Spans
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Judson Pacific WORKS
IN CHARGE C.W.D. MADE BY J.R.W.
CHECKED BY H.W.D. TRACED BY S.V.R.
LAST ASSEM. MK.

CONTRACT CJ1580-8 SHEET J808 HI



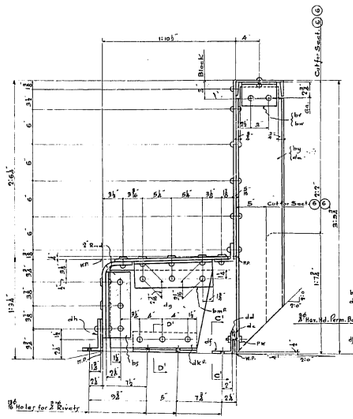
SECTION 7 7



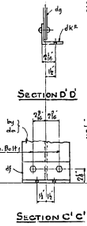
SECTION 1 1

SECTION A' A'

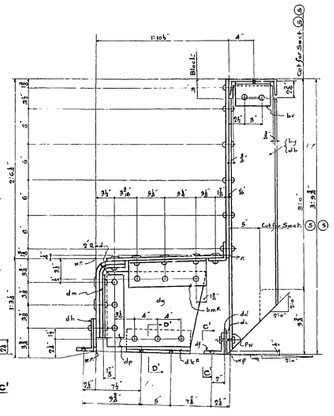
SECTION B' B'



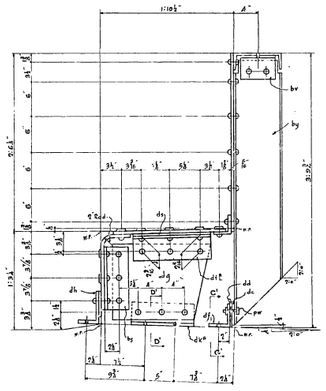
SECTION 12 12 6 6



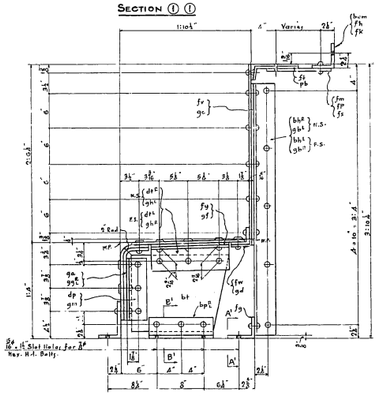
SECTION D' D'



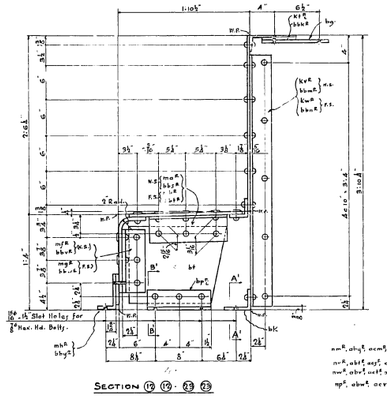
SECTION 3 3 5 5



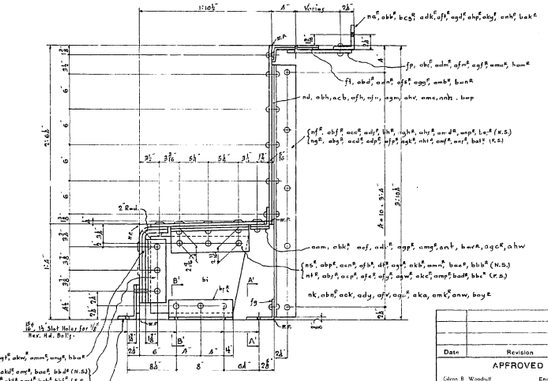
SECTION A A



SECTION 8 8 9 9 16 16 11 11



SECTION 12 12 13 13



SECTION 3 3 5 5

SECTION	13	13
d_1	14	14
d_2	15	15
d_3	16	16
d_4	17	17
d_5	18	18
d_6	19	19
d_7	20	20
d_8	21	21
d_9	22	22

Note

For General Notes see sheet J808A1

All material Carbon Steel

Mark this sheet with sheet. - J808A1 to J808H1 inc.

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer in Charge

Chas. T. Andrew — Bridge Engineer

C. M. Purcell — Chief Engineer

Date 8/18/34.

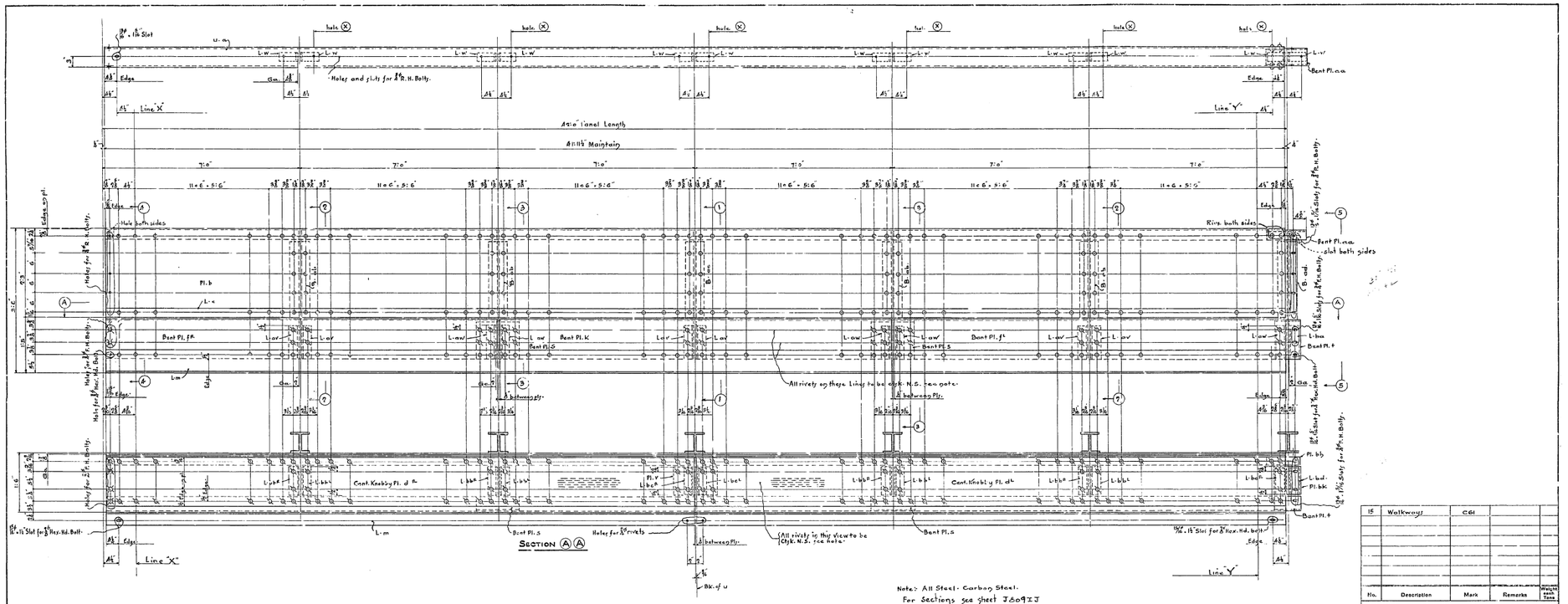
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Sections for Walkways
Upper Deck 504'-0" Spans
McCLINTIC-MARSHALL CORPORATION
Pittsburg - GRAVINE ROAD Junction Pacific WORKS

In Charge C.W.D.
Checked by H.W.D.
Last Assem. Mk.

Made by J.R.W.
Traced by S.K.E.

CONTRACT CT1580-8

J808
22
SHEET



Note:- All Steel - Carbon Steel.
For Sections see sheet J809IJ

Material for one Walkway - C6i

1- a	6"Ship u. c	15.9#	41:11½"	(P2E)	
1- b	Pl. 27"(UM)	⅜	41:11½"	(P2E)	
1- c	L 3. 3.	⅜	41:11½"	(P2E)	
1- d[2]	Central Knobby Pl. 19.	⅜	20.11⅜"	(P2E)	
1- d1					
1- f[2]	Bent Pl. 16½ (UM)	½	13:11⅜"	(P2E)	mild steel
1- k	8 int Pl. 16½ (UM)	½	13:11⅜"	(P2E)	mild steel
1- f1					
1- m	L- 7. 4.	½	41:11½"	(P2E)	
2- s	Bent Pl. 13½	⅜	1:3½"	mild steel	
1- t	Bent Pl. 7½	⅜	1:3½"	mild steel	
1- v	Pl. PLUM.	⅜	41:11½"		
19- w	U 6. 6.	⅜	41:5"		
1- aa	Bent Pl. 19½	⅜	41:11⅜"	mild steel	
4- ab	B- 6 × 20#		3:3½"		
1- ac	B- 6 × 20#		3:1½"		
1- ad	B- 6 × 20#		3:10"		
1- af	L- 6. 3½	⅜	1:10"		
1- ag	L 6. 3½	⅜	41:11½"		
3- ah	Shimy 6.	1/16	41:5½"		
4- ak	Shimy 6.	1/16	41:5½"		
4- am	Pl. 11.	⅜	41:11½"		
2- ap	Pl. 12½	⅜	1:12½"		
8- at[2]	L 3½. 3.	⅜	41:11½"		
6- av	L 3½. 3½.	⅜	41:11½"		
5- aw	L 3½. 3.	½	41:11½"		
1- ba	L 3½. 3.	½	41:10½"		
8- bb[2]	L 3. 3½.	½	41:8½"		
2- be[2]	L 4. 3½.	½	41:8½"		
1- be1					
1- bd	L 4. 3½.	½	41:8½"		
1- bf	L 3½. 3.	½	1:10½"		
2- bg[2]	L 6. 3½.	½	1:10½"		
1- bh	Pl. 3.	½	41:9½"		
1- bk	Pl. PLUM.	½	41:7½"		
8- Bolts	⅞" - 2½" lg.		Hex. Hd. & Nut		

Notes:-
Rivets shown thus ▽ through Central Knobby Walk Plates are to be c'sk. and have a maximum height not more than the height of cutters on plate. All other rivets shown thus ▽ are to be c'sk. and have a maximum height of ⅛".
Shop to place Erecting Marks on left End of members as detailed and in an upright position.
Corners of re-entrant cuts to be rounded to ½" radius. Countersunk holes for flat head field bolts to conform to the head of bolts furnished by the Alameda Works (See J826 Contract CT1580-B). Samples to be furnished by the Alameda Works.
All Brackets shown in Sects. are to be riveted up in a fixture to assure squareness.
Where parts are tack welded, contact surfaces must be thoroughly cleaned and scraped before assembly, and parts must be tightly clamped while welding. Welding shall be done in such a manner so as to prevent entering of any foreign substance during field sand blasting.
Shop to put shipping bolts in holes (X) and draw same up tight. Erector to remove in field.

MATERIAL:- All Structural Steel to be copper bearing.
SPECIFICATIONS:- Special by State of California, Dept of Public Works.
INSPECTION:- By Tohi N. Bailey.
RIVETS:- ⅞"
OPEN HOLES:- 15/16" Unless Noted.
PUNCHING:- All holes to be punched full size except holes marked RT. which are to be sub-punched & and reamed to size through a metal templet.
FINISH:- All sheared or flame cut edges and ends of material to have a neat appearance and where designated PIM, PEE, etc. Shop must sheer and grind, chip and grind or otherwise cut and finish so that members present a neat appearance and conform to dimensions given on drawings. Ends of all assembled members must present a neat appearance.
SHOP PAINT:- None, except as outlined below, which shall be given one coat of Acid Resisting Liquid.
① All surfaces exposed to the elements not readily accessible for field sand blasting.
② Contact surfaces of parts bolted.
All painted surfaces must be thoroughly cleaned and scraped before paint is applied.
Bolted parts to be assembled after paint is dry and bolts drawn up tight.

No.	Description	Mark	Remarks	Weight each Tons
15	Walkways	C6i		

REQUIRED LIST

Date	Revision	Acc'd

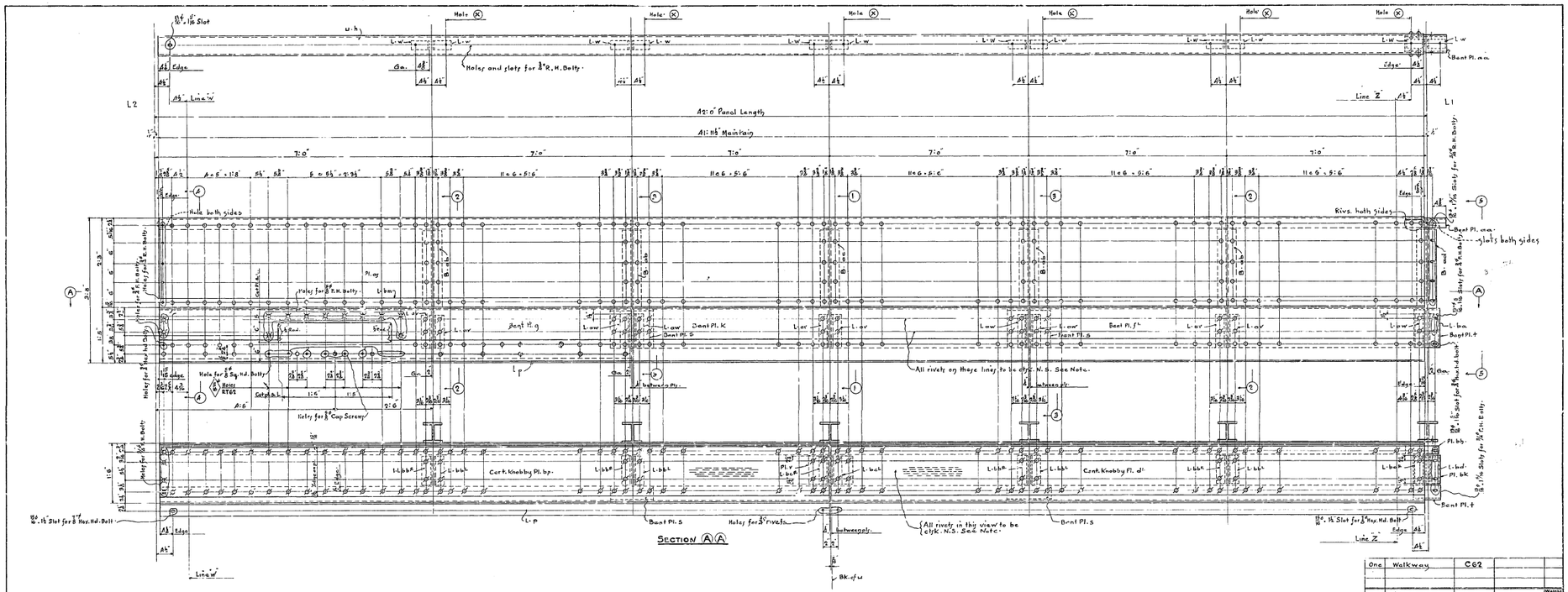
APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. T. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 8/6/34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Center Walkway - Lower Deck
Scale 1" = 1'-0"
ATLANTIC-MARSHALL CORPORATION
1 Walkway - DRAWING ROOM Todco Pacific WORKS

IN CHARGE C.W.D. — MADE BY L.E.S.
CHECKED BY L. 7/19/34 — TRACED BY S.V.R.
LAST ASSEM. MK.

CONTRACT CT1580-B — SHEET J800 A3



Material for One Walkway C62

1-h	6" Ship u = 15.8# . Δ1: 11½' (PSE)	1-ba	
1-as	Pl. 27 (UM) - ⅜ . Δ1: 11½' (PSE)	8-bb	
1-bm	L 3 . 3 . ⅜ . Δ1: 11½' (PSE)	9-bc	
1-bp	Central Knobby Pl. 15 . ⅜ . 30: 113⅝ (PSE)	1-bd	
1-dk		1-be	
1-g	Bent Pl. 19½ (UM) . ½ . 13: 118⅝ (PSE) Mild Steel	1-bf	
1-k		2-bg	
1-fs		1-bh	
1-p	L 7 . 4 . ½ . 41: 114 (PSE)	1-bk	
9-s		8-Bolts ⅞" dia., Hex Hd. & Nut	
1-t			
1-v			
19-w			
1-aa			
8-ab			
1-ac			
1-ad			
1-af			
1-ag			
9-aj			
2-ak			
8-am			
9-ap			
8-ar			
8-aw			

Note:
For General notes see sheet J809AJ
All material Carbon Steel
For Sections see sheet J809IJ

One	Walkway	C62		
No.	Description	Mark	Remarks	Weight Each Piece

REQUIRED LIST

Date	Revision	Appd

APPROVED

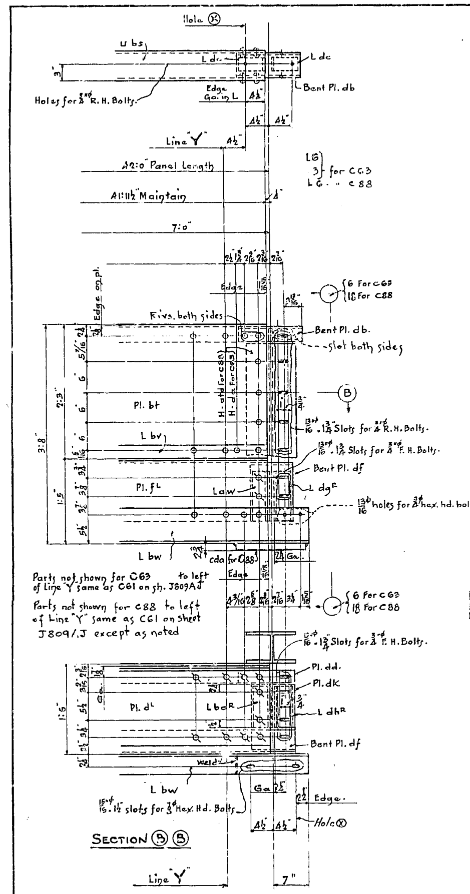
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 4/10/52

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Center Walkway - Lower Deck
Scale - 3/8" = 1'-0"

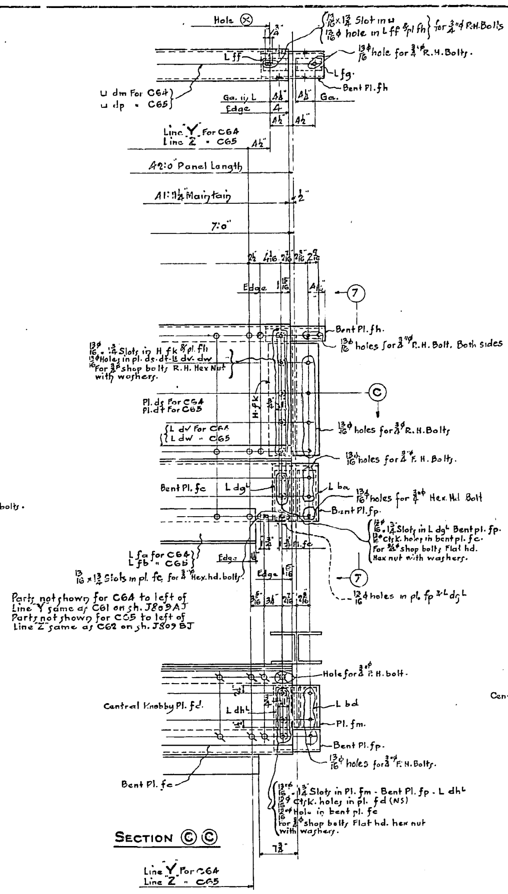
C. C. CLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Tidyot Pacific WORKS

IN CHARGE C.W.D.
CHECKED BY [illegible] 4/19/52
LAST ASSEM. MK.
MADE BY L.F.S.
TRACED BY J.W.R.

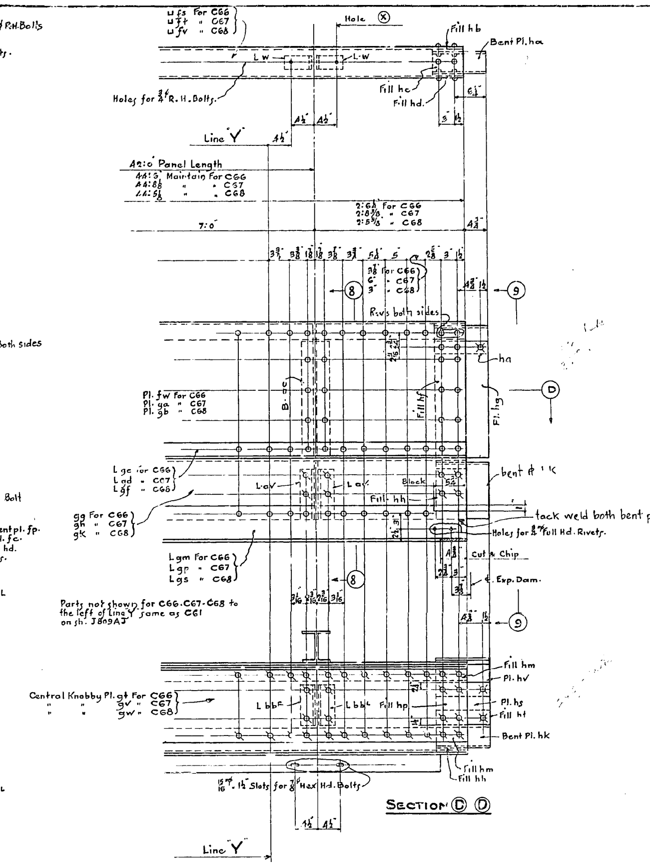
CONTRACT CJ1509-8 SHEET J809 93



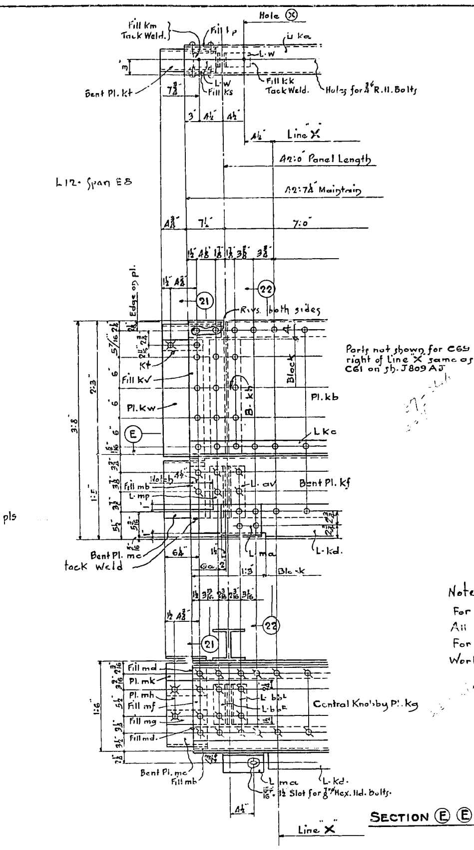
WALKWAY C63 - C88



WALKWAYS C64 - C65



WALKWAYS C66 - C67 - C68



WALKWAY C69

Note:
For General notes see sheet J809AJ
All material Carbon Steel
For sections see sheets J809IJ & J809JJ
Work this sheet with sheets J809AJ & J809BJ

No.	Description	Mark	Remarks	Weight each Tons
8	Walkway	C63		
3	do	C64		
One	do	C65		
One	do	C66		
One	do	C67		
One	do	C68		
One	do	C69		
One	do	C88		

REQUIRED LIST

Material for One Walkway C63 - C88

1-bs - 6" Ship ⊔ = 15.3 . 41:11½" (F2E)	1- v
1-bt - Pl. 27 (UM) . 5/16 . 41:11½" (F2E)	6- av
1-bv - L 3 . 3 . 3/8 . 41:11½" (F2E)	5- aw
1-bw - L 7 . 4 . ½ . 42:6¾" (F2E)	8- bb R/L
2-d R/L	2- bc R
2-f R/L	1- bc L
1-k	2- s
1-dh R - L 4 . 4 . 3/8 . 0:8½"	1- ag
1-dk - Pl. 9¼ UM . 3/8 . 0:7½"	1- ah
1-de - 6" Subway H @ 40#. 3:6" For C63	2- ak
1-db - Bent Pl. 12½ . 3/8 . 0:11⅜" mild steel.	4- am
2-dc - L 6 . 6 . 3/8 . 0:-	2- ap For C63
1-dd - Pl. 3 . 3/8 . 0:9¾"	10 - w
1-df - Bent Pl. 7½ . 3/8 . 1:3¾" mild steel.	4- ab
1-dg R - L 4 . 3 . 3/8 . 0:10¾"	1- ac
8- Bolts ¾" ϕ . 2¼" lg. Hex. hd. & nut	8- at R/L
1- vs - L 6 . 3½ . 3/8 . 1:0"	1- bf
1- vt - Shims 10 . 3/8 . 0:5¾"	2- bg R/L
2- vv - Shims 10 . 1/16 . 0:5¾"	
1- atd - 6" Subway H @ 40#. 3:8¾" } For C88	
1- atf - Pl. 12¾ . 3/8 . 1:5¾" } For C88	
1- ap } For C88	
1- cda - Fill 4 × 2¾ (M25) × 1'-2" (weld) for C88	

Material for One Walkway C64 & C65

1-dm	6" Ship ⊔ = 15.3 . 41:11¼" (F2E) For C64	1- fp Bent pl. 7½ . 3/8 . 1:3¾" mild steel.	3- Bolts ¾" ϕ . 2¼" lg. R.H. hex nut.
1-dp	6" Ship ⊔ = 15.3 . 41:11¼" (F2E) For C65	1- v	1- Bolt ¾" ϕ . 2¼" lg. R.H. hex nut
1-ds	Pl. 27 (UM) 5/16 . 41:11¼" (F2E) For C64	6- av	5- Bolts ¾" ϕ . 2¼" lg. F.H. hex. nut.
1-dt	Pl. 27 (UM) - 5/16 . 41:11¼" (F2E) For C65	4- aw	
1-dv	L 3 . 3 . 3/8 . 41:11¼" (F2E) For C64	8 bb R/L	
1-dw	L 3 . 3 . 3/8 . 41:11¼" (F2E) For C65	1- bc R	
1-fa	L 7 . 4 . ½ . 41:4" (F2E) For C64	1- bc L	
1-fb	L 7 . 4 . ½ . 41:4" (F2E) For C65	2- s	
1-fe	Bent Pl. 16½ (UM) . ½ . 13:11⅜" (F2E) Mild steel	1- vs	
1-fd	Central Knobby Pl. 15 . 3/8 . 20:11⅜" (F2E)	1- ag	
1- d R	For C64	1- vt	
1- bp	For C65	2- vv	
1- f R	For C64	1- ah	
1- g	For C65	2- ak	
1- k		4- am	
1- dh L		2- ap	
1- dg L		10- w	
1- ba		4- ab	
1- bd		1- ac	
1- jf	L 6 . 6 . 3/8 . 0:3"	8- at R/L	
1- fg	L 6 . 6 . 3/8 . 0:3"	1- bf	
1- fh	Bent Pl. 12½ . 3/8 . 0:11⅜" mild steel	2- bg R/L	
1- fk	6" Subway H @ 40#. 3:6"	8- Bolts ¾" ϕ . 2¼" lg. Hex. Hd. & Nut.	
1- fm	Pl. 9¼ UM . 3/8 . 0:7½"	9- Washers ¼" tk. 2" ϕ	

Material for One Walkway C66 - C68 - C67

1- fs	6" Ship ⊔ = 15.3 . 44:6" For C66 } F2E	1- hd Fill 6 . 3/16 . 0:2½"	
1- ft	6" Ship ⊔ = 15.3 . 44:8⅜" For C67 } F2E	1- hf Fill 6 . 3/8 . 1:11⅜"	
1- fv	6" Ship ⊔ = 15.3 . 44:5⅜" For C68 } F2E	1- hg Pl. 10¾ . 3/8 . 1:11⅜"	
1- fw	Pl. 27 (UM) . 5/16 . 44:6" (F2E) For C66	1- hh Fill 6 . 3/8 . 0:10¾"	
1- ga	Pl. 27 (UM) . 5/16 . 44:8⅜" (F2E) For C67	1- hk Bent Pl. 10¾ . 3/8 . 1:6¾" mild steel	
1- gb	Pl. 27 (UM) . 5/16 . 44:5⅜" (F2E) For C68	2 hm Fills 6 . 3/8 . 0:3"	
1- gc	L 3 . 3 . 3/8 . 44:6" (F2E) For C66	1- hp Fill 6 . 3/8 . 0:9¾"	
1- gd	L 3 . 3 . 3/8 . 44:8⅜" (F2E) For C67	1- hs Pl. 10¾ . 3/8 . 0:9¾"	
1- gf	L 3 . 3 . 3/8 . 44:5⅜" (F2E) For C68	1- ht Fill 3 . 3/8 . 0:10¾"	
1- gg	Bent Pl. 16½ (UM) . ½ . 16:6⅜ (F2E) mild steel For C66	1- hv Pl. 10¾ . 3/8 . 0:7¾"	
1- gh	Bent Pl. 16½ (UM) . ½ . 16:8¾ (F2E) mild steel For C67	8 av	
1- gk	Bent Pl. 16½ (UM) . ½ . 16:5¾ (F2E) mild Steel For C68	4 aw	
1- gm	L 7 . 4 . ½ . 44:6" (F2E) For C66	10 bb R/L	
1- gp	L 7 . 4 . ½ . 44:8⅜" (F2E) For C67	2- bc R/L	
1- gs	L 7 . 4 . ½ . 44:5⅜ (F2E) For C68	2- s	2- ae
1- gt	Central Knobby Pl. 15 . 3/8 . 23:6⅜ (F2E) For C66	1- af	8- at R/L
1- gv	" " Pl. 15 . 3/8 . 23:8¾" (F2E) For C67	1- ag	1- bf
1- gw	" " Pl. 15 . 3/8 . 23:5¾" (F2E) For C68	2 ah	2- bg R/L
1- d R		4- ak	8- bolts ¾" ϕ . 2¼" lg. Hex. hd. & nut.
1- f R		4 am	
1- k		1- v	
1- ha	Bent Pl. 10¾ . 3/8 . 1:0¾" mild steel	2- ap	
1- hb	Fill 6 . 3/8 . 0:2½"	12 - w	
1- hc	Fill 6 . 3/8 . 0:3¾"	4- ab	

Material for One Walkway C69

1- ka	6" Ship ⊔ @ 15.3 . 42:7¾" (F2E)	1- mk Pl. 7¾ . 3/8 . 0:7¾"	
1- kb	Pl. 27 (UM) . 5/16 . 42:7¾" (F2E)	2- mm R/L L 6 . 3½ . 3/8 . 1:0½"	
1- kc	L 3 . 3 . 3/8 . 42:7¾" (F2E)	1- mp L 3½ . 3½ . 3/8 . 0:10¾"	
1- kd	L 7 . 4 . ½ . 42:7¾ (F2E)	12- Bolts ¾" ϕ . 2¼" lg. Hex. hd. & nut	
1- kf	Bent Pl. 16½ (UM) . ½ . 14:7⅜" (F2E) mild steel.	2- s	
1- kg	Central Knobby Pl. 15 . 3/8 . 21:7⅜" (F2E)	1- t	
1- d L		1- v	
1- k		14- w	
1- f L		1- ae	
1- kh	B 6 @ 20#. 3:5¾"	2- af	
1- kk	Fill 3 . ½ . 0:6"	1- ag	
1- km	Fill 3¾ . 3/8 . 0:7⅜"	3 ah	
1- kp	Fill 2½ . 3/8 . 0:7⅜"	6- ak	
1- ks	Fill 2½ . 3/16 . 0:7⅜"	4- am	
1- kt	Bent Pl. 12¾ . 3/8 . 1:0" mild steel	3- ap	
1- kv	Fill 3 . 3/8 . 1:11⅜"	8- at R/L	
1- kw	Pl. 7¾ . 3/8 . 1:11⅜"	7- av	
1- ma	L 6 11/16 . 4 . ½ . 0:8½"	5- aw	
1- mb	Fill 3 . 3/8 . 0:10¾"	1- ba	4- ab
1- mc	Bent Pl. 7¾ . 3/8 . 1:6¾" mild steel	10- bb R/L	2- bg R/L
2- md	Fills 3 . 3/8 . 0:3"	2- bc R	1- bh
1- mf	Fill 3 . 3/8 . 0:9¾"	1- bc L	1- bk
1- mg	Fill 3 . 3/8 . 0:7¾"	1- bd	1- ad
1- mh	Pl. 7¾ . 3/8 . 0:9¾"	1- bf	1- aq

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 9-7-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE

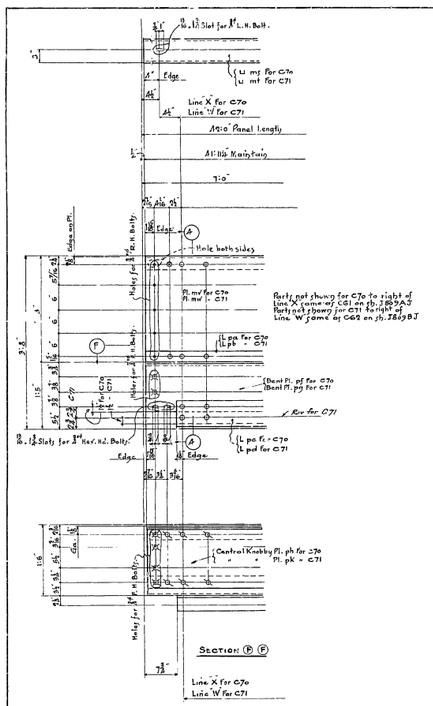
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

Center Walkway - Lower Deck
504'-0" Spans

McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Judson Pacific WORKS

IN CHARGE C.W.D.
CHECKED BY L. 7/19/34
LAST ASSEM. MK.
MADE BY L.E.S.
TRACED BY S.V.R.

CONTRACT CJ1580-8 SHEET J809 CJ

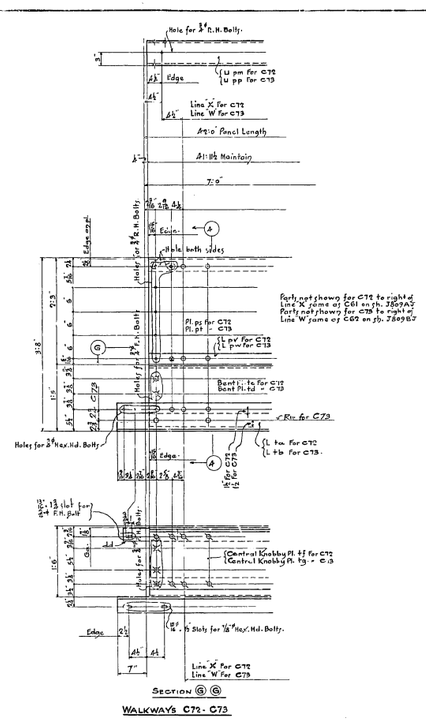


WALKWAYS C70 - C71

Material for One Walkway C70-C71

1-ms	6" Ship u = 15.3# - A11½ (F58) for C70	1-ag
1-mt	6" Ship u = 15.3# - A11½ (F58) for C71	2-ah
1-mv	Pl. 37 (UM) - 5/16 - A11½ (F58) for C70	4-ak
1-mw	Pl. 37 (UM) - 5/16 - A11½ (F58) for C71	8-am
1-ps	L 3 . 3 . 5/16 - A11½ (F58) for C70	6-ap
1-pt	L 3 . 3 . 5/16 - A11½ (F58) for C71	8-at
1-pa	L 7 . 4 . ½ - A11 (F58) for C70	6-av
1-pd	L 7 . 4 . ½ - A11 (F58) for C71	5-aw
1-pf	Bent Pl. 16½ (UM) - ½ - 150 lb (F58) Mild Steel for C70	1-ba
1-pg	Bent Pl. 19½ (UM) - ½ - 150 lb (F58) - - For C71	8-bh
1-ph	Central Knobby Pl. 15-⅜ - 20.0 lb (F58) for C70	2-bn
1-pk	Central Knobby Pl. 15-⅜ - 20.0 lb (F58) for C71	1-bn
1-dl		1-bd
1-k		1-bf
1-fl		2-bg
2-s		1-bh
1-t		1-bk
1-v		
18-w		
1-aa		
4-ab		
1-ac		
1-ad		
1-af		

8-Bolts ¾" x 2½" lg. Hex. hd. & nut.

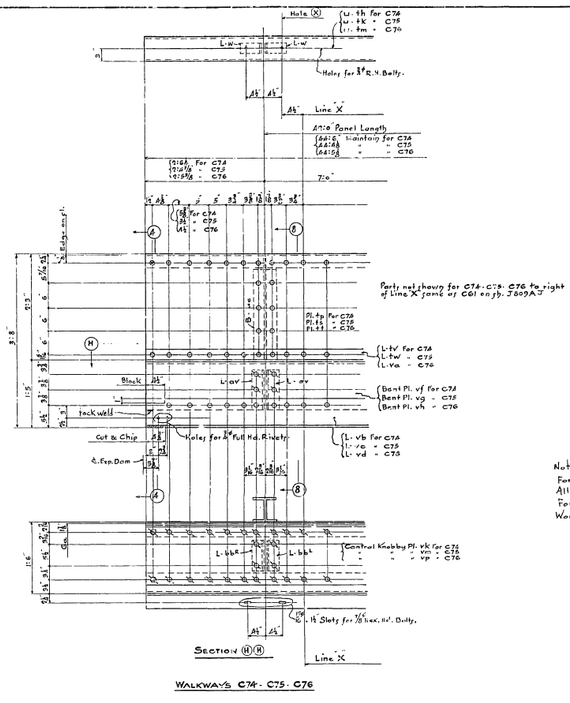


WALKWAYS C72 - C73

Material for One Walkway C72-C73

1-pm	6" Ship u = 15.3# - A11½ (F58) for C72	1-ag
1-pp	6" Ship u = 15.3# - A11½ (F58) for C73	2-ah
1-pz	Pl. 37 (UM) - 5/16 - A11½ (F58) for C72	4-ak
1-pt	Pl. 37 (UM) - 5/16 - A11½ (F58) for C73	8-am
1-rz	L 3 . 3 . 5/16 - A11½ (F58) for C72	7-ap
1-pw	L 3 . 3 . 5/16 - A11½ (F58) for C73	8-at
1-ta	L 7 . 4 . ½ - A11½ (F58) for C72	6-av
1-tb	L 7 . 4 . ½ - A11½ (F58) for C73	5-aw
1-tc	Bent Pl. 16½ (UM) - ½ - 150 lb (F58) Mild Steel for C72	1-ba
1-td	Bent Pl. 19½ (UM) - ½ - 150 lb (F58) Mild Steel for C73	8-bh
1-tj	Central Knobby Pl. 15-⅜ - 20.0 lb (F58) for C72	8-bn
1-tg	Central Knobby Pl. 15-⅜ - 20.0 lb (F58) for C73	1-bn
1-dl		1-bd
1-k		1-bf
1-fl		2-bg
2-s		1-bh
1-t		1-bk
1-v		
18-w		
1-aa		
4-ab		
1-ac		
1-ad		
1-af		

8-Bolts ¾" x 2½" lg. Hex. hd. & nut.
1-dd



WALKWAYS C74 - C75 - C76

Material for One Walkway C74-C75-C76

1-th	6" Ship u = 15.3# - A11½ (F58) for C74	1-V
1-tk	6" Ship u = 15.3# - A11½ (F58) for C75	18-w
1-tm	6" Ship u = 15.3# - A11½ (F58) for C76	1-aa
1-tp	Pl. 37 (UM) - 5/16 - A11½ (F58) for C74	4-ab
1-tq	Pl. 37 (UM) - 5/16 - A11½ (F58) for C75	2-ac
1-tt	Pl. 37 (UM) - 5/16 - A11½ (F58) for C76	1-ad
1-tv	L 3 . 3 . 5/16 - A11½ (F58) for C74	2-af
1-tw	L 3 . 3 . 5/16 - A11½ (F58) for C75	1-ag
1-tx	L 3 . 3 . 5/16 - A11½ (F58) for C76	2-ah
1-vb	L 7 . 4 . ½ - A11½ (F58) for C74	6-ak
1-vc	L 7 . 4 . ½ - A11½ (F58) for C75	4-am
1-vd	L 7 . 4 . ½ - A11½ (F58) for C76	3-ap
1-vf	Bent Pl. 16½ (UM) - ½ - 161.6 lb (F58) Mild Steel for C74	8-at
1-vg	Bent Pl. 16½ (UM) - ½ - 161.6 lb (F58) Mild Steel for C75	8-av
1-vh	Bent Pl. 16½ (UM) - ½ - 161.6 lb (F58) Mild Steel for C76	5-aw
1-vk	Central Knobby Pl. 15-⅜ - 231.6 lb (F58) for C74	1-ba
1-vl	Central Knobby Pl. 15-⅜ - 231.6 lb (F58) for C75	10-bh
1-vp	Central Knobby Pl. 15-⅜ - 231.6 lb (F58) for C76	7-bn
1-dl		1-bn
1-k		1-bd
1-fl		1-bf
2-s		4-bg
1-t		1-bh

1-bk
10-Bolts ⅞" x 2½" lg. Hex. hd. & nut.

Note
For General notes see sheet J809AJ
All material Carbon Steel
For Sections see Sheet J809 IJ
Work this sheet with sheets J809AJ & J809BJ

No.	Description	Mark	Remarks	Weight each Type
6	Walkways	C70		
2	do	C71		
3	do	C72		
One	do	C73		
One	do	C74		
One	do	C75		
One	do	C76		

REQUIRED LIST

Date	Revision	App'd

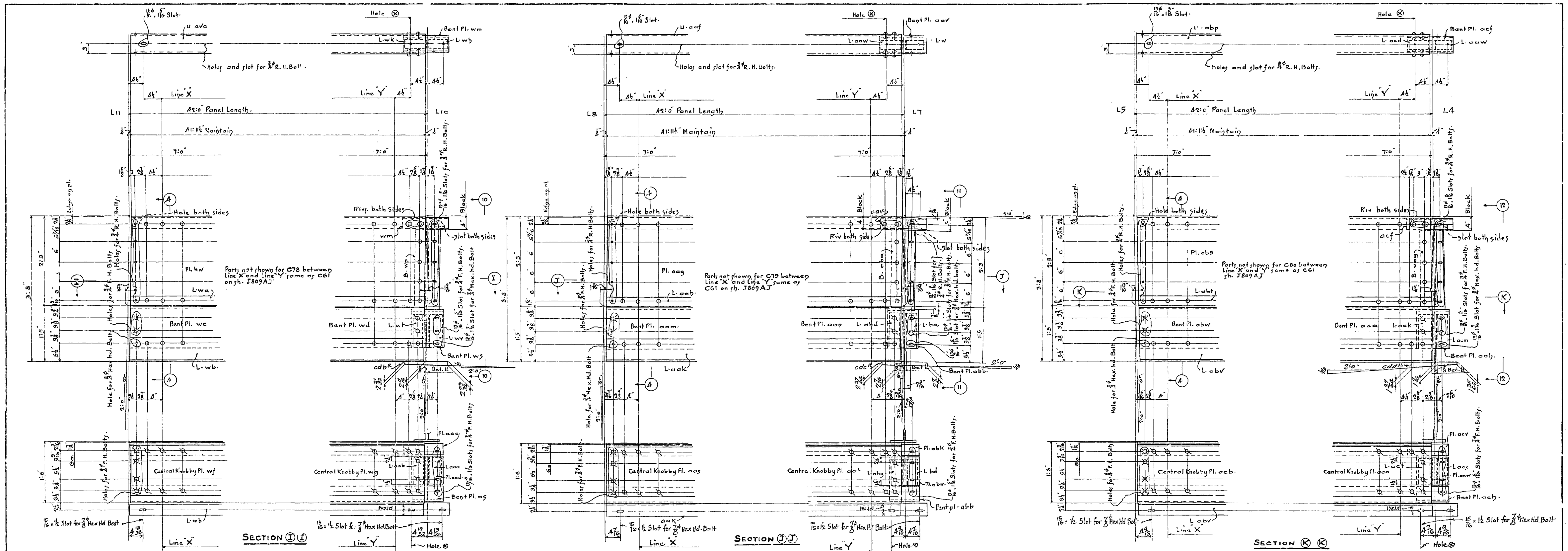
APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 9-7-38

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Center Walkway - Lower Deck
504'-0" Spans
McCLINTIC-MARSHALL CORPORATION
Jeffstown DRAWING ROOM Sydney Pomeroy WORKS

IN CHARGE C.W.D.
CHECKED BY [illegible]
LAST ASSEM. MK.
MADE BY L.E.B.
TRACED BY B.W.R.

CONTRACT CJ1580-8 SHEET J809 CJ



WALKWAY C78

Material for One Walkway C78

- 1-ava 6" Ship ⊔ @ 15.3#. 41'-11½" (F2E)
- 1-hw Pl. 27 (UM). 5/16. 41'-11⅝ (F2E)
- 1-wa L 3. 3. 3/8. 41'-11½" (F2E)
- 1-wb L 7. 4. ½. 41'-11½ (F2E)
- 1-wc Bent Pl. 16½ (UM). ½. 13'-11 11/16 (F2E) mild steel
- 1-wd Bent Pl. 16½ (UM). ½. 13'-11½ (F2E) mild steel.
- 1-wf Central Knobby Pl. 15. ⅜. 20'-11¾" (F2E)
- 1-wg Central Knobby Pl. 15. ⅜. 20'-11½" (F2E)
- 1-wh Bent L 6. 6. 3/8. 0'-3"
- 1-wk Bent L 6. 6. 3/8. 0'-3"
- 1-wm Bent Pl. 12½. 3/8. 0'-11 3/8 mild steel.
- 1-wp B. 6 @ 20#. 3'-8¾"
- 1-ws Bent Pl. 7½. 3/8. 1'-3¾" mild steel
- 1-wt L 3½. 3. 3/8. 0'-10¾"
- 1-wv L 3½. 3. 3/8. 0'-10¾"
- 1-ww Pl. 12½. 3/8. 1'-5¼"
- 1-aaa Bent L 4. 3½. ⅜. 0'-8½"
- 1-aab Bent L 4. 3½. ⅜. 0'-8½"
- 1-aac Pl. 3. ⅜. 0'-9¾
- 1-aad Pl. 9¼UM. ⅜. 0'-7½
- 1-k
- 2-s
- 1-v
- 10-w
- 4-ab
- 1-ac
- 1-af
- 1-ag
- 2-ah
- 4-ak
- 1-ap
- 8-at R/L
- 6-av
- 4-aw
- 8-bb R/L
- 8-Bolts ¾"ϕ. 2¼" lg. Hex. hd. & nut
- 2-bc R/L
- 1-bf
- 2-bg R/L
- 4-am
- 1-cdb R Bev. fill 4×(2 21/32 × 2 23/32) M2S × 1'-2" (Weld)

WALKWAY C79

Material for One Walkway C79

- 1-aaf 6" Ship ⊔ @ 15.3#. 41'-11½ (F2E)
- 1-aag Pl. 27 (UM). 5/16. 41'-11 9/16 (F2E)
- 1-aah L 3. 3. 3/8. 41'-11½" (F2E)
- 1-aak L 7. 4. ½. 41'-11½ (F2E)
- 1-aam Bent Pl. 16½ (UM). ½. 13'-11¾" (F2E) mild steel
- 1-aap Bent Pl. 16½ (UM). ½. 13'-11 9/16" (F2E) mild steel
- 1-k
- 1-aas Central Knobby Pl. 15. ⅜. 20'-11 11/16 (F2E)
- 1-aat Central Knobby Pl. 15. ⅜. 20'-11 9/16 (F2E)
- 1-aav Bent Pl. 12½. 3/8. 0'-11 3/8" mild steel
- 1-aaw Bent L 6. 6. 3/8. 0'-3"
- 1-aba B. 6 @ 20#. 3'-8½"
- 1-abb Bent Pl. 7½. 3/8. 1'-3¾" mild steel.
- 1-ba
- 1-abd L 3½. 3. 3/8. 0'-10¾"
- 1-abf Pl. 12¼. 3/8. 1'-5"
- 1-abg Bent L 4. 3½. 3/8. 0'-8½"
- 1-bd
- 1-abk Bent Pl. 3. ⅜. 0'-9¾"
- 1-abm Bent Pl. 9¼UM. ⅜. 0'-7½"
- 2-s
- 1-v
- 11-w
- 4-ab
- 1-ac
- 1-af
- 1-ag
- 2-ah
- 4-ak
- 1-ap
- 8-at R/L
- 6-av
- 4-aw
- 8-bb R/L
- 2-bc R/L
- 1-bf
- 2-bg R/L
- 8-Bolts ¾"ϕ. 2¼" lg. Hex. hd. & nut
- 4-am
- 1-cdc R Bev. fill 4×(2 27/64 × 2 7/16) M2S × 1'-2" Weld

WALKWAY C80

Material for One Walkway C80

- 1-abp 6" Ship ⊔ @ 15.3. 41'-11½ (F2E)
- 1-abs Pl. 27 (UM). 5/16. 41'-11 9/16 (F2E)
- 1-abt L 3. 3. 3/8. 41'-11½" (F2E)
- 1-abv L 7. 4. ½. 41'-11½ (F2E)
- 1-abw Bent Pl. 16½ (UM). ½. 13'-11 9/16" (F2E) mild steel
- 1-aca Bent Pl. 16½ (UM). ½. 13'-11¾" (F2E) mild steel
- 1-acb Central Knobby Pl. 15. ⅜. 20'-11 9/16 (F2E)
- 1-acc Central Knobby Pl. 15. ⅜. 20'-11 11/16" (F2E)
- 1-acd Bent L 6. 6. 3/8. 0'-3"
- 1-acf Bent Pl. 12½. ⅜. 0'-11 3/8" mild steel
- 1-acg B. 6 @ 20#. 3'-7½"
- 1-ach Bent Pl. 7½. ⅜. 1'-3¾" mild steel
- 1-ack L 3½. 3. ⅜. 0'-10¾"
- 1-acm L 3½. 3. ⅜. 0'-10¾"
- 1-acp Pl. 12¼. ⅜. 1'-4"
- 1-acs Bent L 4. 3½. ⅜. 0'-8½"
- 1-act Bent L 4. 3½. ⅜. 0'-8½"
- 1-acv Pl. 3. ⅜. 0'-9¾"
- 1-acw Pl. 9¼UM. ⅜. 0'-7½"
- 1-k
- 2-s
- 1-v
- 10-w
- 4-ab
- 1-ac
- 1-af
- 1-ag
- 2-ah
- 4-ak
- 1-ap
- 8-at R/L
- 6-av
- 4-aw
- 8-bb R/L
- 2-bc R/L
- 1-bf
- 2-bg R/L
- 8-Bolts ¾"ϕ. 2¼" lg. Hex hd. & nut
- 1-aaw
- 4-am
- 1-edd R Bev. fill 4×(1 35/64 × 1 37/64) × 1'-2" weld

Note:
For General notes see sheet J809AJ
All material Carbon steel
For Sections see sheets J809IJ & J809JJ
Work this sheet with sheet J809AJ

No.	Description	Mark	Remarks	Weight each Tons
One	Walkway	C78		
One	do	C79		
One	do	C80		

REQUIRED LIST

Date	Revision	App'd

APPROVED

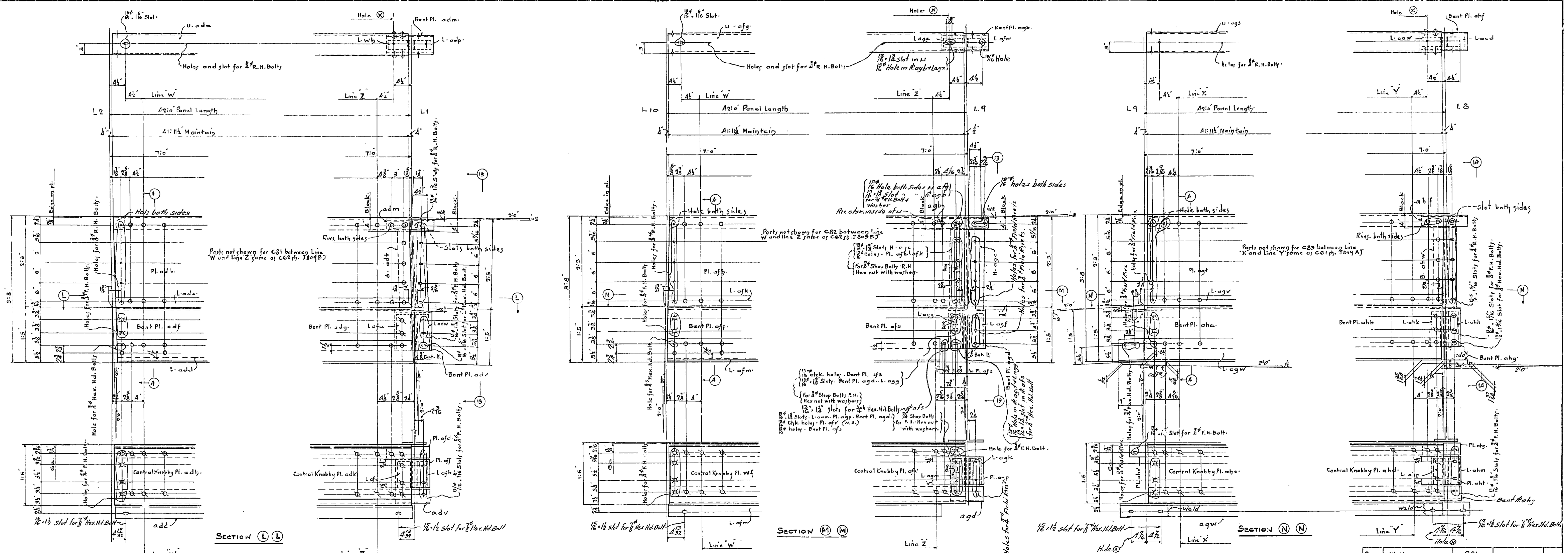
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 9-7-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Center Walkway - Lower Deck
Span - E6 (504'-0" Spans)

McCLINTIC-MARSHALL CORPORATION
DRAWING ROOM Judson Pacific WORKS

IN CHARGE C.W.D. — MADE BY L.E.S.
CHECKED BY L 7/20/34 — TRACED BY S.V.R.
LAST ASSEM. MK.

CONTRACT CJ1580-8 — SHEET J 809 EJ



Walkway C81

Material for One Walkway C81

1·ada 6" Ship ⊔ ∘ 15.3 . 41:11½ (F2E)
1·adb Pl. 27(UM) . 5/16 . 41:11⅝ (F2E)
1·adc L 3 . 3 . ⅜ . 41:11½ (F2E)
1·add L 7 . 4 . ½ . 41:11½ (F2E)
1·adf Bent Pl. 19¼(UM) . ½ . 13:11½ (F2E) } Mild
1·adg Bent Pl. 16½(UM) . ½ . 13:11 13/16 (F2E) } Steel
1·k
1·adh Central Knobby Pl. 15 . ⅜ . 20:11½" (F2E)
1·adk Central Knobby Pl. 15 . ⅜ . 20:11⅜" (F2E)
1·adm Bent Pl. 12½ . ⅜ . 0:11⅜ mild steel
1·adp Bent L 6 . 6 . ⅜ . 0:3"
1·wh
1·adt B - 6 ∘ 20# . 3:6"
1·adv Bent Pl. 7½ . ⅜ . 1:3¾" mild steel
1·adw L 3½ . 3 . ⅜ . 0:10¾"
1·afa L 3½ . 3 . ⅜ . 0:10¾"
1·afb Bent L 4 . 3½ . ⅜ . 0:8½"
1·afc Bent L 4 . 3½ . ⅜ . 0:8½"
1·afd Bent Pl. 3 . ⅜ . 0:9¾"
1·aff Bent Pl. 9¼UM . ⅜ . 0:7½"
2·s
1·v
10·w
4·ab
1·ac
1·af
1·ag

2·ah
4·ak
2·ap
8·at R/L
6·av
4·aw
8·bb R/L
2·bc R/L
1·bf
2·bg R/L
8·Bolt, ¾φ . 2¼" lg. hex hd. & nut
4·am

Walkway C82

Material for One Walkway C82

1·afg 6" Ship ⊔ ∘ 15.3 . 41:11½ (F2E)
1·afh Pl. 27(UM) . 5/16 . 41:11⅝ (F2E)
1·afk L 3 . 3 . ⅜ . 41:11½" (F2E)
1·afm L 7 . 4 . ½ . 41:4 (F2E)
1·afp Bent Pl. 19¼(UM) . ½ . 13:11 13/16 (F2E) mild steel.
1·afs Bent Pl. 16½(UM) . ½ . 13:11½" (F2E) mild steel
1·wf
1·afv Central Knobby Pl. 15 . ⅜ . 20:11¼ (F2E)
1·afw Bent L 6 . 6 . ⅜ . 0:3"
1·aga Bent L 6 . 6 . ⅜ . 0:3"
1·agb Bent Pl. 12½ . ⅜ . 0:11⅜ mild steel.
1·agc subway H 6 ∘ 40# . 3:6"
1·agd Bent Pl. 7½ . ⅜ . 1:3¾" mild steel
1·agf L 3½ . 3 . ⅜ . 0:10¾"
1·agg L 3½ . 3 . ⅜ . 0:10¾"
1·agh Pl. 12½ . ⅜ . 1:2½"
1·agk Bent L 4 . 3½ . ⅜ . 0:8½"
1·agm Bent L 4 . 3½ . ⅜ . 0:8½"
1·agp Bent Pl. 9¼UM . ⅜ . 0:7½"
1·k
2·s
1·v
10·w
4·ab
1·ac
1·vs
1·ag

1·ah
2·ak
1·ap
8·at R/L
6·av
4·aw
8·bb R/L
8·Bolts ¾φ . 2¼" lg. Hex. Hd. & nut
4·Bolts ¾φ . 2" lg. Rd. Hd. & hex nut
1·Bolt ¾φ . 2½" lg. Rd. Hd. & hex nut
5·Bolts ¾φ . 2½" lg. F. H. & hex nut.
9·Washers ¼" tk.
2·bc R/L
1·bf
2·bg R/L
1·vt
2·vv
4·am

Walkway C83

Material for One Walkway C83

1·ags 6" Ship ⊔ ∘ 15.3 . 41:11½" (F2E)
1·agt Pl. 27(UM) . 5/16 . 41:11 9/16 (F2E)
1·agv L 3 . 3 . ⅜ . 41:11½" (F2E)
1·agw Bent L 7 . 4 . ½ . 42:6¾" (F2E)
1·aha Bent Pl. 16½(UM) . ½ . 13:11¾ (F2E) mild steel
1·ahb Bent Pl. 16½(UM) . ½ . 13:11 13/16 (F2E) mild steel.
1·k
1·ahc Central Knobby Pl. 15 . ⅜ . 20:11 11/16 (F2E)
1·ahd Central Knobby Pl. 15 . ⅜ . 20:11 9/16 (F2E)
1·ahf Bent Pl. 12½ . ⅜ . 0:11⅜ mild steel
1·acd
1·aaw
1·ahg Bent Pl. 7½ . ⅜ . 1:3¾" mild steel
1·ahh L 3½ . 3 . ⅜ . 0:10¾"
1·ahk L 3½ . 3 . ⅜ . 0:10¾"
1·acp
1·ahm Bent L 4 . 3½ . ⅜ . 0:8½"
1·ahp Bent L 4 . 3½ . ⅜ . 0:8½"
1·ahs Bent Pl. 3 . ⅜ . 0:9¾"
1·aht Bent Pl. 9¼UM . ⅜ . 0:7½"
2·s
1·v
10·w
4·ab
1·ac
1·af
1·ag

2·ah
4·ak
1·ap
8·at R/L
6·av
4·aw
8·bb R/L
2·bc R/L
1·ahv Bent Pl. 3 . ⅜ . 0:9¾"
1·ahw B - 6" ∘ 20# . 3:7½"
8·Bolts ¾φ . 2¼" lg. Hex. hd. & nut
1·bf
2·bg R/L
4·am
1·cdf R Bev. Fill 4 × (3/32 × 5/64) × 1'2" weld.
1·cdd L " " (weld)

Note:
For General notes see sheet J809AJ
All material Carbon steel
For Sections see sheets J809IJ & J809JJ
Work this sheet with sheets J809AJ & J809BJ

One	Walkway	C81		
One	do	C82		
One	do	C83		
No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

Date	Revision	App'd

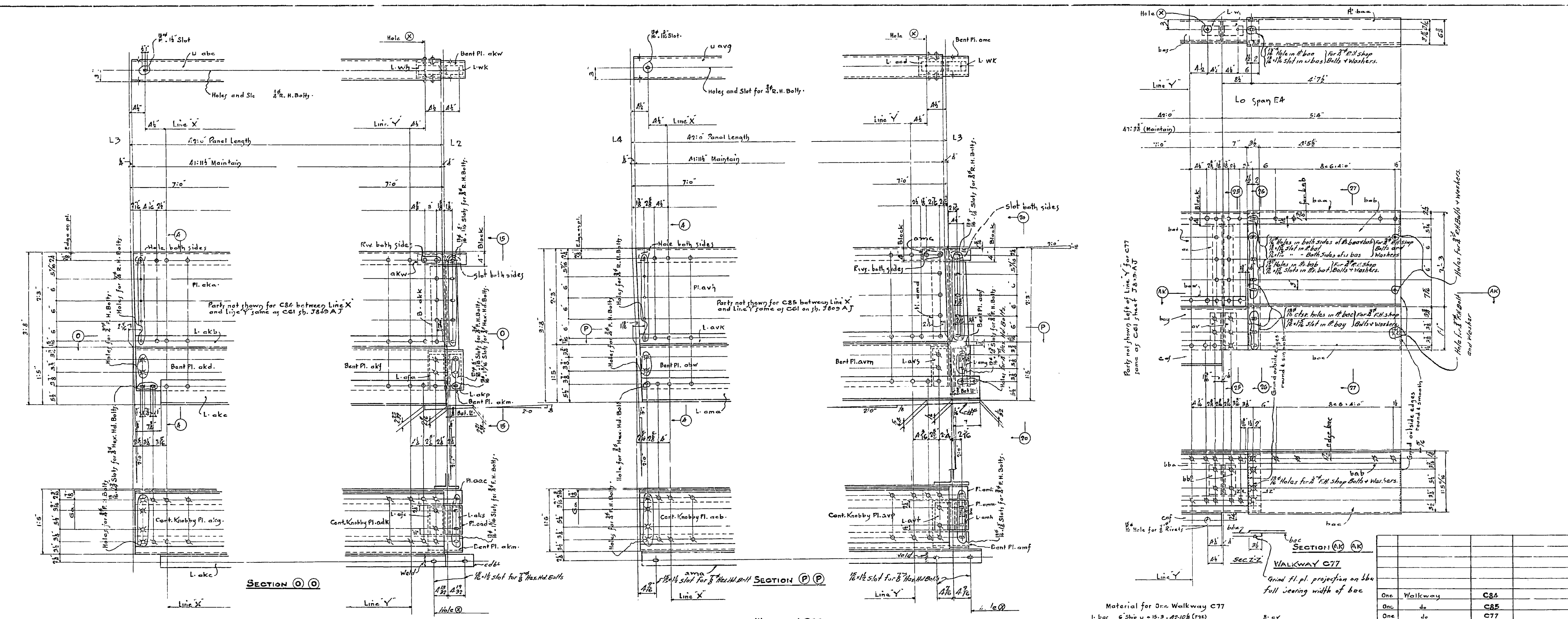
APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 9-7-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Center Walkway - Lower Deck
Span - E6 504'-0" Spans
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Judson Pacific WORKS

IN CHARGE C.W.D. MADE BY L.E.S.
CHECKED BY L 7/20/34 TRACED BY S.V.R.
LAST ASSEM. MK.

CONTRACT CJ1580-8 SHEET J809 FJ

30-1



Material for One Walkway C84

1·abc	6" Ship u · 15.3 · 41:11½ (F2E)	4·ab
1·aka	Pl. 27 (UM) · 5/16 · 41:11⅞ (F2E)	1·ae
1·akb	L 3 · 3 · ⅜ · 41:11¼ (F2E)	1·af
1·akc	L 7 · 4 · ½ · 41:4" (F2E)	1·ag
1·akd	Bent Pl. 16½ (UM) · ½ · 19:11¼ (F2E) Mild Steel	2·ah
1·akf	Bent Pl. 16½ (UM) · ½ · 19:11 13/16 (F2E) " "	4·ak
1·akg	~~Cont. Knobby Pl. 15 · ⅜ · 20:11 (F2E)~~	1·ap
1·adk		8·at R/L
1·wh		6·av
1·wk		4·aw
1·akk	B · 6" · 20# · 3:8⅞"	8·bb R/L
1·akm	Bent Pl. 7½ · 3/8 · 1:3⅞" Mild Steel	2·bc R/L
1·akp	L 3½ · 3 · 3/8 · 0:10⅞"	8·Bolts ¾φ · 2¼" lg. Hex. Hd. & Nut
1·afa		1·bf
1·ww		2·bg R/L
1·aks	Bent L 4 · 3½ · 3/8 · 0·8½"	1·k
1·afc		4·am
1·aac		1·cdb L
1·aad		
1·akw	Bent Pl. 12½ · ⅜ · 0:11⅜ Mild Steel	
2·s		
1·v		
10 W		

Material for One Walkway C85

1·avg	6" Ship [× 15.3# × 41'-11½ (F2E)	1·ac
1·avh	Pl. 27 UM × 5/16 × 41'-11 11/16 (F2E)	1·vs
1·avk	L 3 × 3 × ⅜ × 41'-11½ (F2E)	1·ag
1·ama	Bent L 7 · 4 · ½ · 42:6¾ (F2E)	1·ah
1·abw		2·ak
1·avm	Bent Pl. 16½ UM × ½ × 13'-11¾ {F2E Mild Steel	1·ap
1·K		8·at R/L
1·acb		6·av
1·avp	Central Knobby Pl. 15 × ⅜ × 20'-11 11/16 (F2E)	4·aw
1·acd		6·bb R/L
1·WK		2·bc R/L
1·amc	Bent Pl. 12½ · 3/8 · 0:11 3/8" Mild Steel	1·bf
1·amd	6" Subway H · 40# · 3:6"	2·bg R/L
1·amf	Bent Pl. 7½ · 3/8 · 1:3⅞" Mild Steel.	8·Bolts ¾φ · 2¼" lg. Hex. Hd. & Nut
1·avs	L 3½ × 3 × ⅜ × 0'-10¾	1·vt
1·amg	L 3½ · 3 · 3/8 · 0:10¾"	2·v
1·avt	Bent L 4 × 3½ × ⅜ × 0'-8½	4·am
1·amh	L 4 · 3½ · 3/8 · 0:8½" Bent	1·agh
1·amk	Bent Pl. 3 · 3/8 · 0:9¾"	1·cdf L
1·amm	Bent Pl. 9¼ UM × 3/8 · 0:7½"	
2·s		
1·v		
10·w		
4·ah		

Material for One Walkway C77

1·bas	6" Ship u · 15.3 · 42-10¼ (F2E)	8·av
1·bat	Pl. 27 (UM) · 5/16 · 42-10⅛ (F2E)	4·aw
1·baw	L 3 · 3 · ⅜ · 42:6½" (F2E)	
1·f R		2·s
1·k		1·v
1·bay	Pl. 16½ (UM) · ½ · 14-10⅜ (F2E) (bent) {Mild Steel	1·bf
1·d R		8·¾" Hex. Hd. Bolts · 2¼" lg. Hex. Nut.
1·bba	15 · ⅜ · 21-10⅜ (F2E) Cent. Knobby Pl.	6·¾" R.H. Bolts × 2" lg. Hex. Nut
1·caf	L 7 · 4 · ½ · 41:11½" (F2E)	1·¾" R.H. " × 2½" " " "
1·baa	Pl. 14½ × 3/8 · 4:9" (bent) } Mild steel	5·¾" F.H. " × 2" " " "
1·bab	Pl. 29 · 3/8 · 4:9" (bent) } Mild steel	2·¾" F.H. " × 2½" " " "
1·bac	Pl. 29½ · ½ · 4:9" (bent) } Mild steel	14·Washers 2"φ × ⅛" thk. 13/16"φ hole.

1·ban L 6 · 3½ · 3/8 · 1:0"
1·bap·L do ·1:0½"
12·w
4·ab
2·ac
4·am
2·ap
4·ak
2·ah
1·ag
10·bb R/L
2·bc R/L
8·at R/L
1·bbq·L· 6 × 3½ × ⅜ × 1'-0½

Notes:
For General notes see sheet J809AJ
All material Carbon steel
For Sections see sheets J809IJ & J809JJ
Work this sheet with sheet J809AJ

No.	Description	Mark	Remarks	Weight each Tons
One	Walkway	C84		
One	do	C85		
One	do	C77		

REQUIRED LIST

Date	Revision	App'd.

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 9-7-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Center Walkway - Lower Deck
Span - E6 & E4 (504'-0" Spans)
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Judson Pacific WORKS
CHARGE C.W.D. MADE BY L.E.S.
CHECKED BY L. 7/20/34 TRACED BY S.V.R.
LAST ASSEM. MK.
CONTRACT CJ 1580-8 SHEET J809 GJ

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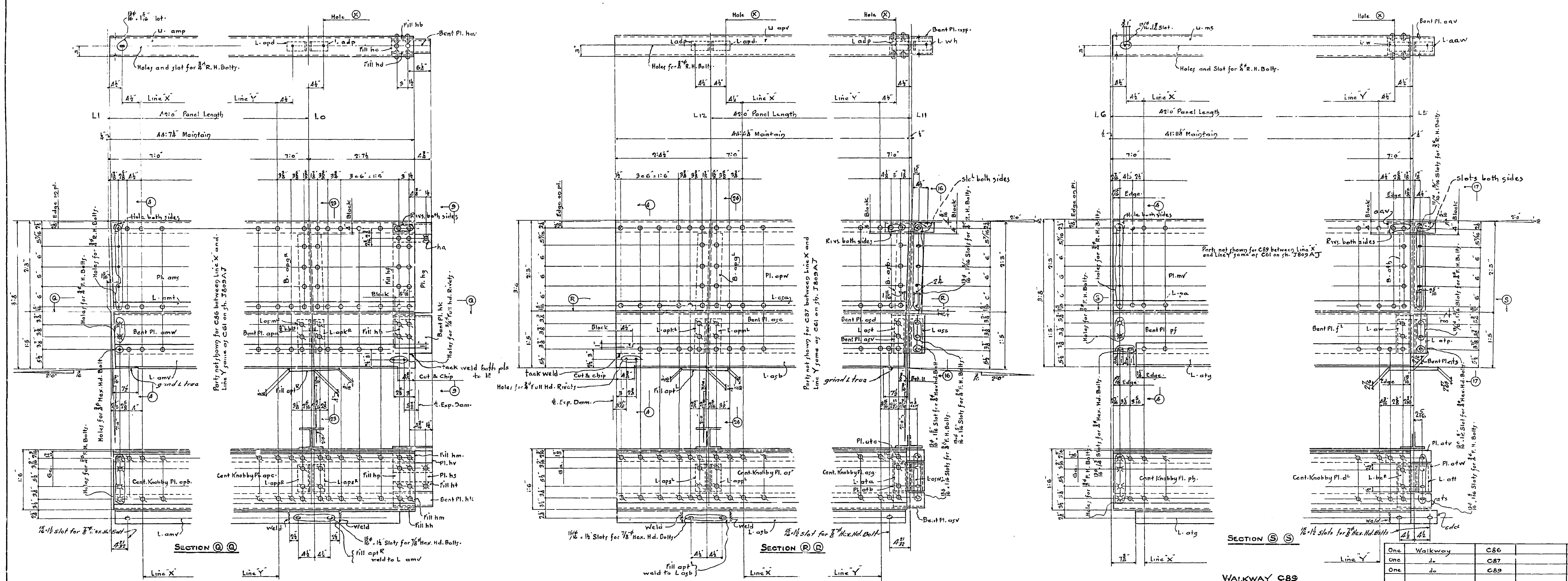


WALKWAY C86 | WALKWAY C87 | WALKWAY C89

One	Walkway	C86		
One	do	C87		
One	do	C89		
No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

Material for One Walkway C86

1-amp 6" Ship ⊔ @ 13.3#. 44:7¼ (F2E)	2-ah
1-ams Pl. 27(UM) - 5/16 . 44:7¼" (F2E)	4-ak
1-amt L 3. 3. ⅜. 44:7 1/16 (F2E)	4-am
1-amv L 7. 4. ½ . 44:7" (F2E)	1-ap
1-amw Bent Pl. 16½ (UM) . ½ . 13:11 7/16 (F2E) Mild Steel	8-at R/L
1-apa Bent Pl. 16½ (UM) . ½ . 16:7⅜ (F2E) " "	6-av
1-k	4-aw
1-apb Cent. Knobby Pl. 15. ¾ . 22:11 7/16 (F2E)	8-bb R/L
1-apc " " Pl. do . 23:7 3/8 (F2E)	1-bc R/L
1-adp	1-bf
1-apd Bent L 6. 6. 3/8 . 0:3"	2-bg R/L
1-apg R B. 6 @ 20#. 3:6¾"	8-Bolts ¾ø. 2¼" lg. Hex. Hd. & Nut.
1-aph Pl. 12¼. ⅜. 1:2¾"	1-ha
1-apk R L 3½. 3. ⅜. 0:10¾"	1-hb
1-apm R L 3½. 3. ⅜. 0:10¾"	1-hc
1-app R Bent L 4. 3½. ⅜. 0:8½"	1-hd
1-aps R Bent L 4. 3½. ⅜. 0:8½"	1-hf
1-apt R Bev. Fill 4. (1/16 . 5/16). 1:2" (weld)	1-hg
2-s	1-hh
1-v	1-hk
10-w	2-hm
4-ab	1-hp
1-ac	1-hs
1-af	1-ht
1-ag	1-hv

Material for One Walkway C87

1-apv 6" Ship ⊔ @ 15.3#. 44:4¼" (F2E)	1-aps L
1-apw Pl. 27(UM) . 5/16 . 44:4¼ (F2E)	1-app L
1-asa L 3. 3. 3/8 . 44:4 1/16" (F2E)	1-aph
1-asb L 7. 4. ½ . 44:4" (F2E)	1-apt L (weld)
1-asc Bent Pl. 16½ (UM) . ½ . 16:4⅜ (F2E) Mild Steel	2-s
1-asd Bent Pl. 16½ (UM) . ½ . 13:11 7/16 (F2E) " "	1-v
1-k	10-w
1-asf Cent. Knobby Pl. 15. ⅜ . 23:4⅜ (F2E)	4-ab
1-asg " " " 15. ⅜ . 20:11 7/16 (F2E)	1-ac
1-ash B. 6 @ 20#. 3:6"	2-af
1-wh	1-ag
	12-Bolts ¾ø. 2¼" lg. Hex. Hd. & Nut.
1-asp Bent Pl. 12½. 3/8 . 0:11⅜" Mild Steel	3-ah
1-ass L 3½. 3. 3/8 . 0:10¾"	6-ak
1-ast L 3½. 3. 3/8 . 0:10¾"	4-am
1-asv Bent Pl. 7½. 3/8 . 1:3¾" Mild Steel	2-ap
1-asw Bent L 4. 3½. ⅜ . 0:8½"	8-at R/L
1-ata Bent L 4. 3½. ⅜ . 0:8½"	6-av
1-atb Bent Pl. 9¼(UM) ⅜ . 0:7½"	4-aw
1-ate Bent Pl. 3. 3/8 . 0:9¾"	8-bb R/L
1-apg L	2-bc R/L
2-adp	1-bf
1-apd	4-bg R/L
1-apk L	
1-apm L	

Material for One Walkway C89

1-ms	2-ah
1-mv	4-ak
1-pa	4-am
1-pf	1-ap
1-k	8-at R/L
1-f L	6-av
1-ph	5-aw
1-d L	8-bb R/L
1-atg L 7. 4. ½ . 41:4 (F2E)	2-bc R
1-ath B. 6" @ 20#. 3:8½"	1-bc L
1-aav	1-bf
1-aaw	2-bg R/L
1-atp L 3½. 3. ⅜ . 0:10¾"	8-Bolts ¾ø. 2¼" lg. Hex. Hd. & Nut.
1-ats Bent Pl. 7½. 3/8 . 1:3¾" Mild Steel.	1-cdc L
1-att Bent L 4. 3½. ⅜ . 0:8½"	
1-atv Bent Pl. 3. 3/8 . 0:9¾"	
1-atw Bent Pl. 9¼(UM) 3/8 . 0:7½"	
1-abf	
2-s	
1-v	
11-w	
4-ab	
1-ac	
1-af	
1-ag	

Note:
For General notes see sheet J809AJ
All material Carbon Steel
For Sections see sheets J809IJ & J809JJ
Work this sheet with sheet J809AT

Date	Revision	App'd.

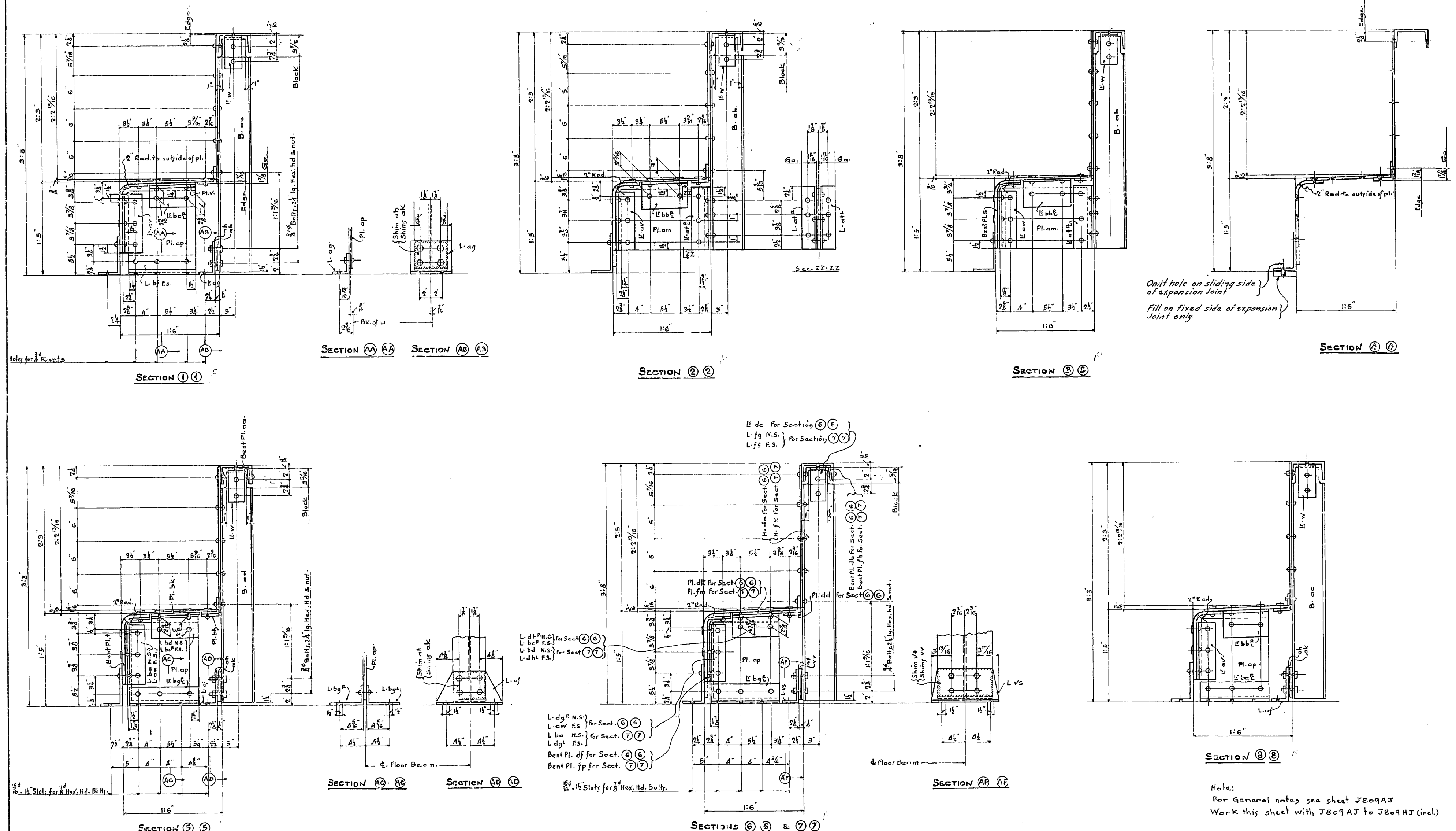
APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 9-7-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Center Walkway - Lower Deck
Span E6 504'-0" Spans
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Judson Pacific WORKS

IN CHARGE C.W.D. MADE BY L.E.S.
CHECKED BY L 7/20/34 TRACED BY S.V.R.
LAST ASSEM. MK.

CONTRACT CJ 1580-8 SHEET J809 HJ



No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

Note:
For General notes see sheet J809AJ
Work this sheet with J809AJ to J809HJ (incl.)

Date	Revision	App'd

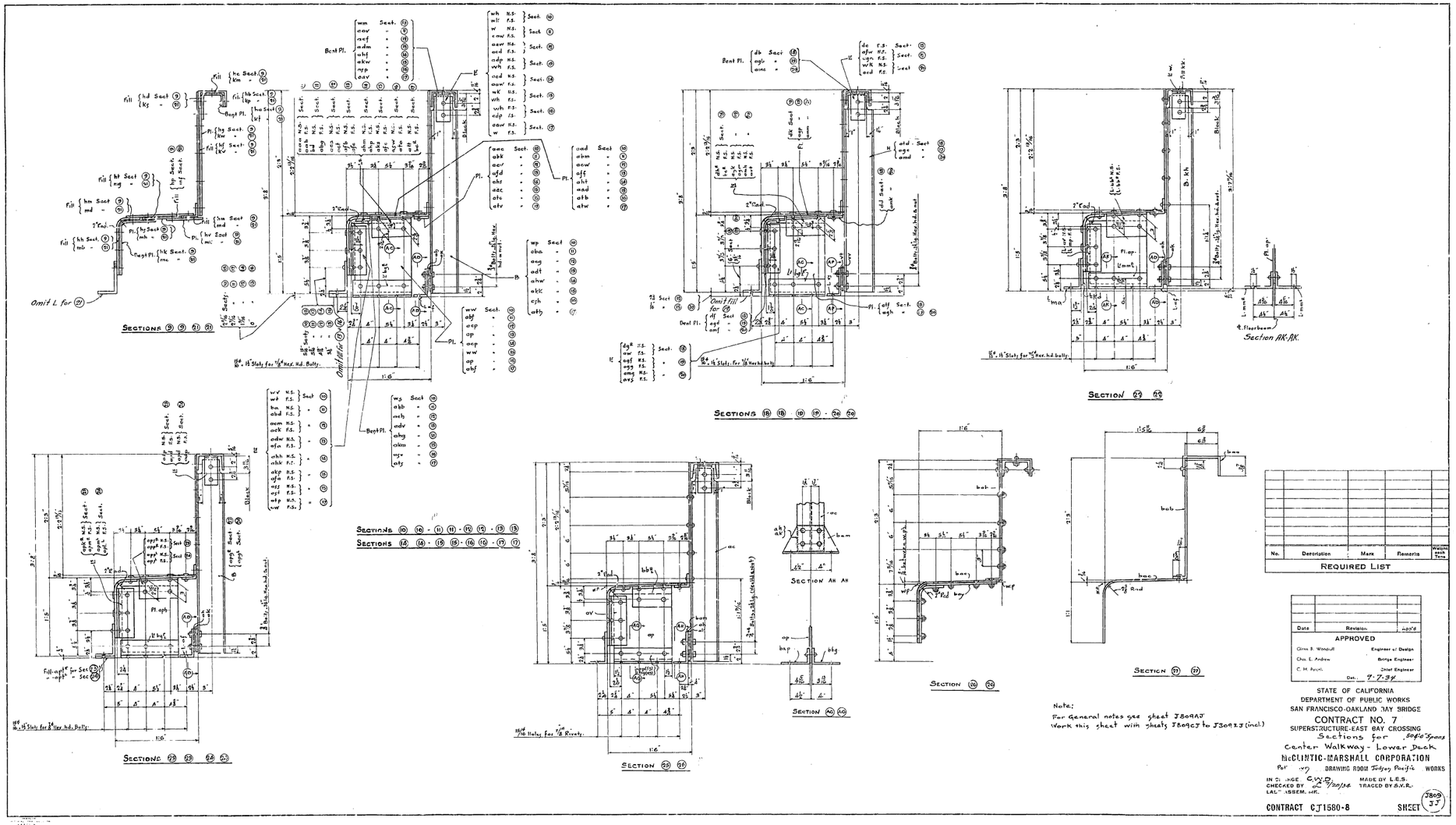
APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 8/16/34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Sections for (504'-0" Spans)
Center Walkway - Lower Deck
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Judson Pacific WORKS

IN CHARGE C.W.D. MADE BY L.E.S.
CHECKED BY L. 7/20/34 TRACED BY S.V.R.
LAST ASSEM. MK.

CONTRACT CJ1580-8 SHEET J809 IJ


Bent Pl.
Omit L for (21)
Sections (9) (9) (21) (21)
Omit fill for (21)
Sections (18) (18) (19) (19) - (20) (20)
Section (23) (23)
Section AK-AK.
Section (23) (23)
Sections (10) (10) - (11) (11) - (12) (12) - (13) (13)
Sections (14) (14) - (15) (15) - (16) (16) - (17) (17)
Section AH-AH
Section (22) (22)
Section (24) (24)
Section (27) (27)
Section (26) (26)
Floorbeam
Block
2"Pad
Pl. ap.
Pl. apb
Pl. bay
Pl. bbg
Pl. bbk
Pl. bbm
Pl. bbn
Pl. bbp
Pl. bbq
Pl. bbr
Pl. bbs
Pl. bbt
Pl. bbu
Pl. bbv
Pl. bbw
Pl. bbx
Pl. bby
Pl. bbz
Pl. bca
Pl. bcb
Pl. bcc
Pl. bcd
Pl. bce
Pl. bcf
Pl. bcg
Pl. bch
Pl. bci
Pl. bcj
Pl. bck
Pl. bcl
Pl. bcm
Pl. bcn
Pl. bco
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Pl. bcq
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Pl. bun
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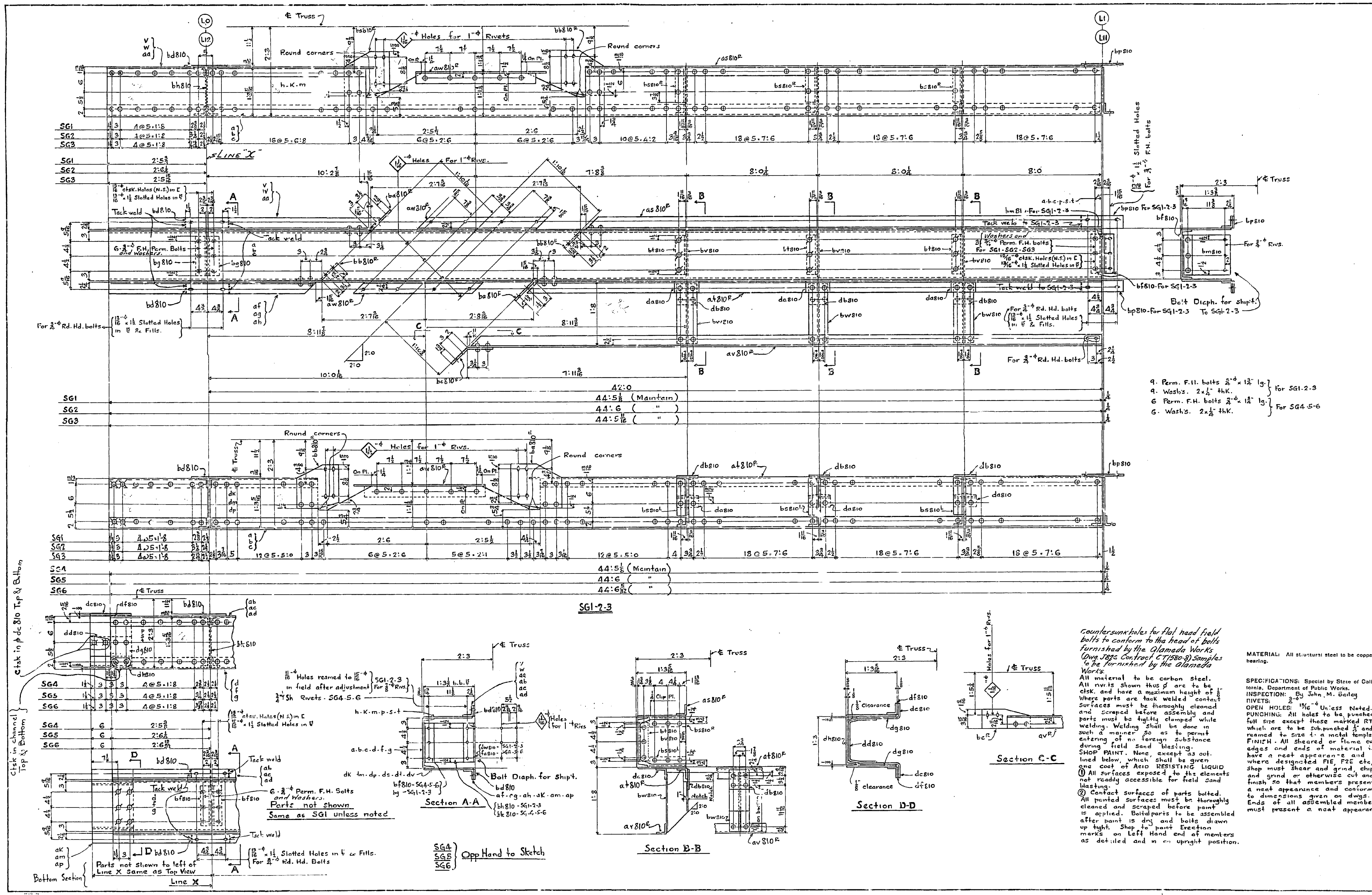
Pl. ecz
Pl. eda



List Of Material

1-a-15 [33.9# × 44:5 1/8 F2E for SG1
1-b-15 [33.9# × 44:6 " " SG2
1-c-15 [33.9# × 44:5 11/16 " " SG3
1-d-15 [33.9# × 44:5 1/8 " " SG4
1-f-15 [33.9# × 44:6 " " SG5
1-g-15 [33.9# × 44:6 5/32 " " SG6
1-h-Pl. 15 × 5/16 × 44:5 1/8 " " SG1
1-K-Pl. 15 × 5/16 × 44:6 " " SG2
1-m-Pl. 15 × 5/16 × 44:5 11/16 " " SG3
1-p-Pl. 15 × 5/16 × 44:5 1/8 " " SG4
1-s-Pl. 15 × 5/16 × 44:6 " " SG5
1-t-Pl. 15 × 5/16 × 44:6 5/32 " " SG6
1-v-L 8 1/2 × 3 × 5/16 × 10:3 1/4 " " SG1
1-w-L do. × 10:4 1/8 " " SG2
1-aa-L do. × 10:3 13/16 " " SG3
1-ab-L do. × 10:3 1/4 " " SG4
1-ac-L do. × 10:4 1/8 " " SG5
1-ad-L do. × 10:4 9/32 " " SG6
1-af-L do. × 8:8 3/4 " " SG1
1-ag-L do. × 8:9 5/8 " " SG2
1-ah-L do. × 8:9 5/16 " " SG3
1-aK-L do. × 8:8 3/4 " " SG4
1-am-L do. × 8:9 5/8 " " SG5
1-ap-L do. × 8:9 25/32 " " SG6
1-as810F L do. × 29:0 3/8 "
1-at810F L do. × 30:5 7/8 "
1-av810F L 3 1/2 × 3 1/2 × 3/8 × 31:11 "
2-aw810F Ls 3 1/2 × 3 1/2 × 3/8 × 3:3 1/2 "
2-ba810F Pls. 13 1/2 × 1/2 × 1:4 (bent)
2-bb810F Pls. 13 1/2 × 1/2 × 1:2 3/4 (bent)
1-bc810F Pl. 5 1/2 × 1/2 × 1:2 3/4 (bent)
2-bd810 Fills. 3 1/2 × 3/16 × 1:0 1/2 (Tack weld for shipt)
2-bf810-Ls 3 1/2 × 3 × 5/16 × 1:0
2-bg810 Ls do. × 1:0 for SG1-2-3
1-bh810-Pl. 12 × 5/16 × 1:2 1/2 " SG1-2-3
1-bK810-Pl. do. × 1:2 1/2 " SG4-5-6
1-bm810-Pl. do. × 1:3 " SG1-2-3
2-bp810-Fills. 3 1/2 × 7/16 × 1:0 1/2 " SG1-2-3 (Tack weld for shipt)
6-bs810F Ls 3 × 3 × 5/16 × 11 1/2
3-bt810-Ls do. × 1:0
3-bv810-Pls. 14 × 5/16 × 1:2 1/4
3-bw810-6"H 20# × 1:6 1/2
3-da810-Ls 3 1/2 × 3 × 5/16 × 6 1/4"
3-db810-Pls. 6 × 5/16 × 6 1/2"
2-dc810-Pls. 12 × 3/8 × 1:4 (bent) (Mild Steel) For SG4-5-6
1-dd810-Pl. 12 × 3/8 × 2:5 1/2 (bent) (" ") For SG4-5-6
2-df810-Fills. 6 × 1/8 × 0:3 1/2 For SG4-5-6
2-dg810- " 6 × 1/8 × 0:11 1/2 For SG4-5-6
1-dh810- " 6 × 1/8 × 1:0 For SG4-5-6
1-dK-Pl. 15 × 5/16 × 44:5 1/8 F2E for SG1
1-dm- " do. × 44:6 " " SG2
1-dp- " do. × 44:5 11/16 " " SG3
1-ds- " do. × 44:5 1/8 " " SG4
1-dt- " do. × 44:6 " " SG5
1-dv- " do. × 44:6 5/32 " " SG6
2-dw810-Ls 4 × 3 1/2 × 5/16 × 1:0" for SG1-2-3
2-fa810-Ls do. × 1:0" for SG4-5-6

No.	Description		Mark	Remarks	Weight each Tons
One	Skid	Girder	SG1	As Shown	
One	"	"	SG2	As Shown	
One	"	"	SG3	As Shown	
One	"	"	SG4	Opp. Hd. to SK.	
One	"	"	SG5	Opp. Hd. to SK	
One	"	"	SG6	Opp. Hd. to SK.	

REQUIRED LIST

Countersunk holes for flat head field bolts to conform to the head of bolts furnished by the Alameda Works (Dwg. J826 Contract CT1580-8) Samples to be furnished by the Alameda Works.

All material to be carbon steel.
All rivets shown thus ⌀ are to be ctsk. and have a maximum height of 1/8"
Where parts are tack welded contact surfaces must be thoroughly cleaned and scraped before assembly and parts must be tightly clamped while welding. Welding shall be done in such a manner so as to permit entering of no foreign substance during field sand blasting.
SHOP PAINT. None, except as outlined below, which shall be given one coat of ACID RESISTING LIQUID
① All surfaces exposed to the elements not readily accessible for field sand blasting.
② Contact surfaces of parts bolted.
All painted surfaces must be thoroughly cleaned and scraped before paint is applied. Bolted parts to be assembled after paint is dry and bolts drawn up tight. Shop to paint Erection marks on Left Hand end of members as detailed and in an upright position.

MATERIAL: All structural steel to be copper bearing.

SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 3/4"⌀
OPEN HOLES: 13/16"⌀ Unless Noted.
PUNCHING: All holes to be punched full size except those marked RT which are to be sub.punched 1/4" and reamed to size to a metal templet.
FINISH. All sheared or flame cut edges and ends of material to have a neat appearance and where designated F1E, F2E etc, shop must shear and grind, chip and grind or otherwise cut and finish so that members present a neat appearance and conform to dimensions given on dwgs. Ends of all assembled members must present a neat appearance.

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 8/11/34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE

CONTRACT NO. 7

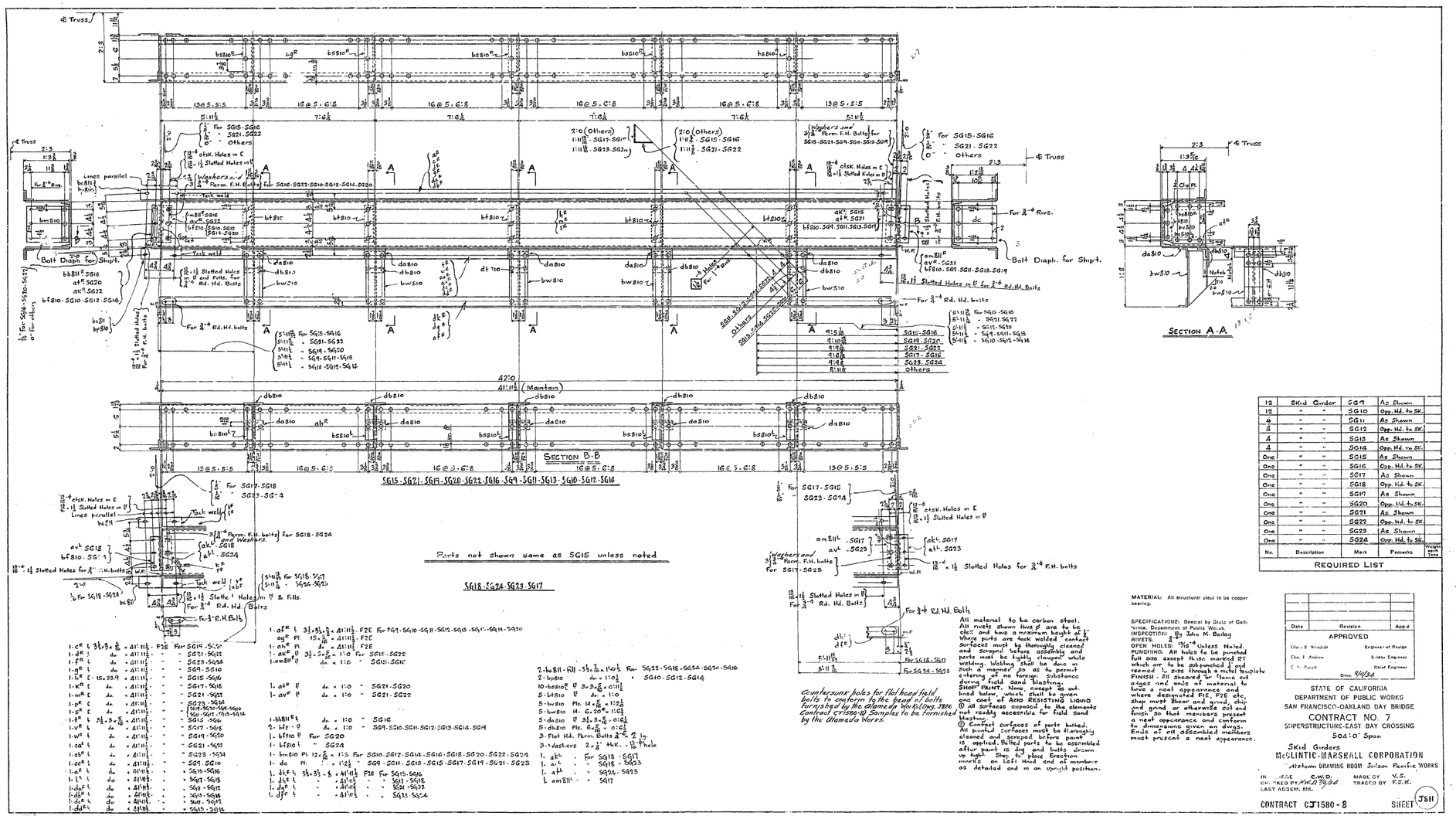
SUPERSTRUCTURE-EAST BAY CROSSING
504:0" Span
Skid Girders (L0-L1) (L12-L11)

McCLINTIC-MARSHALL CORPORATION
P . .town . DRAWING ROOM Judson Pacific WORKS

IN CHARGE C.W.D. MADE BY V.S.
CHECKED BY FEG. 6-28-34 TRACED BY F.J.K.
LAST ASSEM. MK.

CONTRACT CJ1580-8 SHEET J810

Rev. 10-4-34



No.	Description	Mark	Pieces	Weight each Piece
12	Skid Girder	SG9	As Shown	
12	"	SG10	Opp. Hd. to SK.	
4	"	SG11	As Shown	
4	"	SG12	Opp. Hd. to SK.	
4	"	SG13	As Shown	
4	"	SG14	Opp. Hd. to SK.	
One	"	SG15	As Shown	
One	"	SG16	Opp. Hd. to SK.	
One	"	SG17	As Shown	
One	"	SG18	Opp. Hd. to SK.	
One	"	SG19	As Shown	
One	"	SG20	Opp. Hd. to SK.	
One	"	SG21	As Shown	
One	"	SG22	Opp. Hd. to SK.	
One	"	SG23	As Shown	
One	"	SG24	Opp. Hd. to SK.	

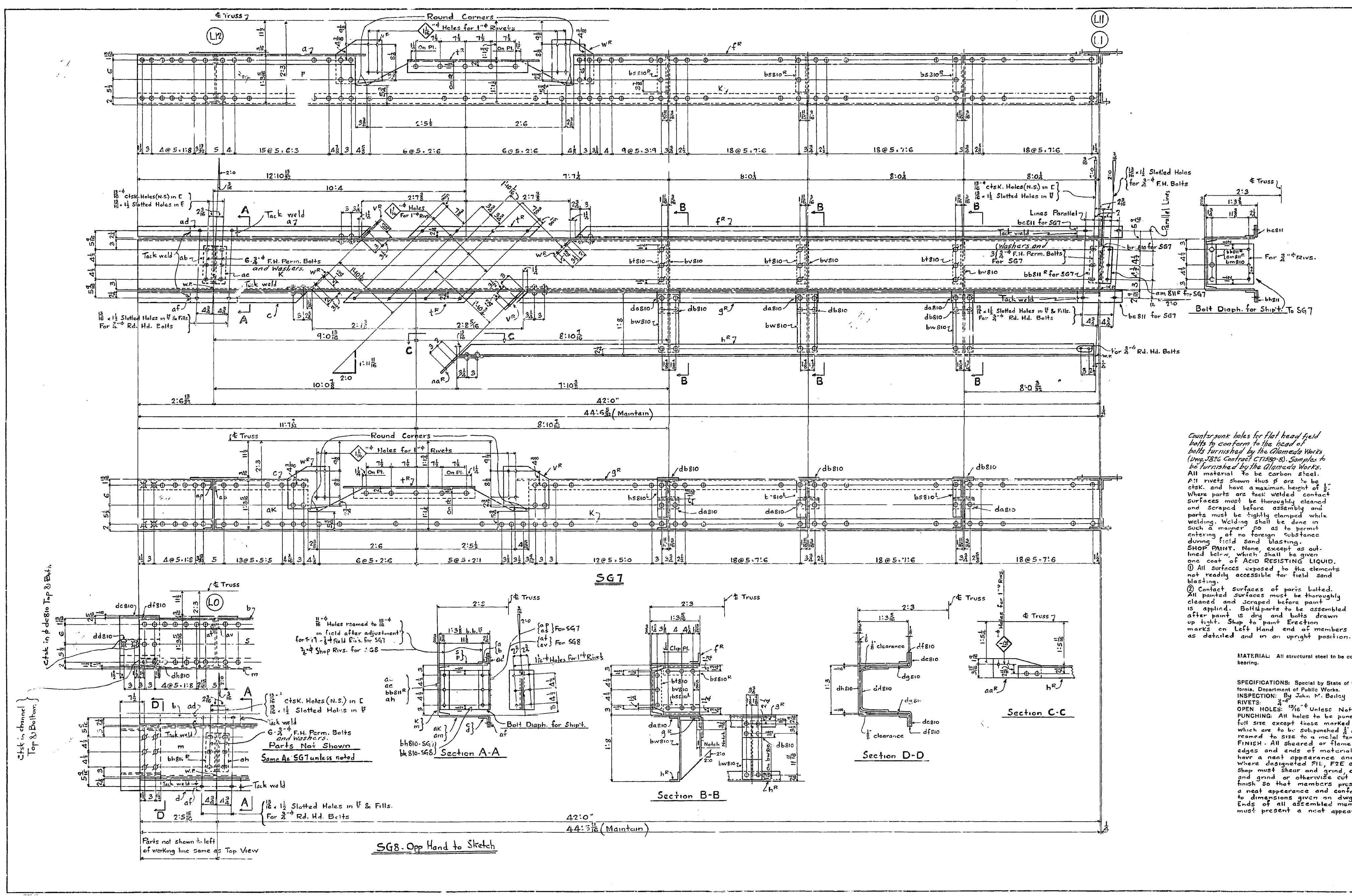
REQUIRED LIST

Date	Revision	App'd
	APPROVED	
Chas. B. Woodruff		Engineer of Design
Chas. E. Andrew		Bridge Engineer
C. H. Purcell		Chief Engineer
	Date: 8/10/32	

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
504'-0" Span
SKid Girders
McCLINTIC-MARSHALL CORPORATION
Bethlehem-Alameda Shipyard DRAWING ROOM Judson, Pacific Works

IN CHARGE C.W.D. MADE BY V.S.
CHECKED BY K.W.D. TRACED BY F.J.K.
LAST ASSIGN. NO. 7

CONTRACT CT1580-8 SHEET J311



LIST OF MATERIAL

1-a-L 3½×3×5/16×10:5¼ F2E For SG7
1-b-L do. ×10:4 13/16 " " SG8
1-c-L do. × 8:10 9/16 " " SG7
1-d-L do. × 8:10⅛ " " SG8
1-f^R-L do. × 28:11⅛ "
1-g^R-L do. × 30:4⅞ "
1-h^R-L 3½×3½×⅜ × 31:9 27/32 "
1-K-[- 15×33.9# × 44:6 5/32 " For SG7
1-m-[- do. × 44:5 11/16 " " SG8
1-p-Pl. 15×5/16 × 44:6 5/32 " " SG7
1-s-Pl. do. × 44:5 11/16 " " SG8
2-t^R-Ls 3½×3½×⅜ × 3:3¾
2-v^R-Pls. 13½×½ × 1:4 (Bent)
2-w^R-Pls. do. × 1:2¾ (")
1-aa^R-Pl. 5½×½ × 1:2¾ (")
6-bs810^R_L-Ls 3×3×5/16 × 0:11½
3-bt810-Ls do. × 1:0
3-bv810-Pls. 14×5/16 × 1:2¼
3-bw810-H-6×20# × 1:6½
3-da810-Ls 3½×3×5/16 × 0:6¼
3-db810-Pls. 6×5/16 × 0:6½
2-dc810-Pls. 12×⅜ × 1:4 (Bent) Mild Steel } For SG8
1-dd810-Pl. do. × 2:5½ (") " " } For SG8
2-df810-Fills. 6×⅛ × 0:3½ } For SG8
2-dg810- " do. × 0:11½ } For SG8
1-dh810- " do. × 1:0 } For SG8
1-ab-L 3½×3×5/16 × 1:0 } For SG7
1-ac-L do. × 1:0 } For SG7
2-bb811^R-Ls do. × 1:0
1-ah-L do. × 1:0 - For SG8
1-bh810-Pl. 12×5/16 × 1:2½ " SG7
1-bK810-Pl. do. × 1:2½ " SG8
1-ap, 1-as } - Ls 4×3½×5/16 × 1:0 " SG7
1-at, 1-av } - Ls do. × 1:0 " SG8
1-ad-Fills. 3½×3/16 × 1:0½ } Tack Weld for Ship't.
1-af- " do. × 1:0½ } Tack Weld for Ship't.
1-am811^R-L 3½×3×5/16 × 1:0 For SG7
1-bm810-Pl. 12×5/16 × 1:3 For SG7
2-bc811-Fill. 3½×7/16 × 1:0½ For SG7 Tack Weld for Ship't

9-Flat Hd. Perm. Bolts ¾"φ × 1¾" lg. } For SG7
9-Washers - 2×¼" thk. } For SG7
6-Flat Hd. Perm. Bolts ¾"φ × 1¾" lg. } For SG8
6-Washers - 2"×¼" thk } For SG8
1-aK-Pl. 15×5/16 × 44:6 5/32 F2E For SG7
1-am-Pl. do. × 44:5 11/16 " " SG8

Countersunk holes for flat head field bolts to conform to the head of bolts furnished by the Alameda Works (Dwg. J826 Contract CT1580-8). Samples to be furnished by the Alameda Works.
All material to be carbon steel.
All rivets shown thus φ are to be ctsk. and have a maximum height of ⅛". Where parts are tack welded contact surfaces must be thoroughly cleaned and scraped before assembly and parts must be tightly clamped while welding. Welding shall be done in such a manner so as to permit entering of no foreign substance during field sand blasting.
SHOP PAINT. None, except as outlined below, which shall be given one coat of ACID RESISTING LIQUID.
① All surfaces exposed to the elements not readily accessible for field sand blasting.
② Contact surfaces of parts bolted. All painted surfaces must be thoroughly cleaned and scraped before paint is applied. Bolted parts to be assembled after paint is dry and bolts drawn up tight. Shop to paint Erection marks on Left Hand end of members as detailed and in an upright position.

MATERIAL: All structural steel to be copper bearing.

SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: ¾"φ
OPEN HOLES: 13/16"φ Unless Noted.
PUNCHING: All holes to be punched full size except those marked RT, which are to be sub.punched ¼" and reamed to size to a metal templet.
FINISH - All sheared or flame cut edges and ends of material to have a neat appearance and where designated FIL, F2E etc, shop must shear and grind, chip and grind or otherwise cut and finish so that members present a neat appearance and conform to dimensions given on dwgs. Ends of all assembled members must present a neat appearance

No.	Description	Mark	Remarks	Weight each Tons
One	Skid Girder	SG7	As Shown	
One	" "	SG8	Opp. Hd. to SK.	

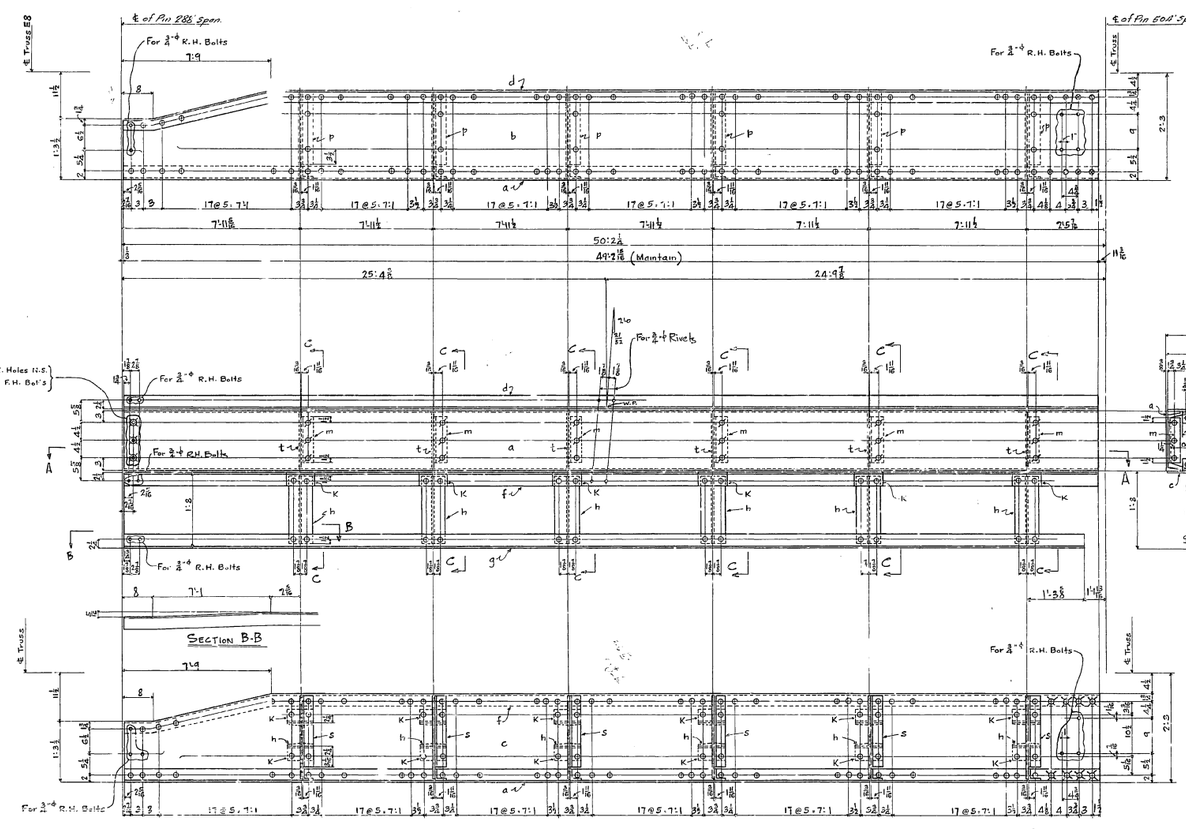
REQUIRED LIST

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 8/11/34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
504'-0" Span
Skid Girders (L12-L11) (L0-L1) Span E6
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Judson Pacific WORKS
IN CHARGE C.W.D. MADE BY V.S.
CHECKED BY F.E.G. 6-29-34 TRACED BY F.J.K.
LAST ASSEM. MK.
CONTRACT CJ1580-8 SHEET J812

Rev. 10-24-34



List Of Material

1-a	L	15 × 33.9# × 44'-2 1/16"	F2E
1-b	Pl.	22 - ⅝ × 44'-2 1/16"	F2E
1-c	Pl.	22 - ⅝ × 44'-2 1/16"	F2E
1-d	L	3½ - 3 - 5/16 × 44'-3½"	F2E (Bent)
1-f	L	do. × 44'-3½"	F2E (")
1-g	L	3½ × 3½ - ⅜ × 44'-0⅝"	F2E
G-h	G	H × 20" × 1'-6⅛	
12-K	B	2½ × 2½ - ⅝ × 0'-6⅛	
G-m	B	3 × 3 × ⅜ × 1'-0	
G-p	B	do. × 1'-6⅛	
G-s	B	do. × 1'-6⅛	
G-t	Pls.	14 × 7/16 × 1'-9⅜	

Countersunk holes for flat head (ctsk) bolts to conform to the head of bolts furnished by the Alameda Works (Dwg. 788 contract 17780-B). Samples to be furnished by the Alameda Works.

All material to be carbon steel.

All rivets shown thus ℄ are to be ctsk. and have a maximum height of ⅛". Where parts are tack welded contact surfaces must be thoroughly cleaned and scraped before assembly and parts must be tightly clamped while welding. Welding shall be done in such a manner so as to prevent entering of no foreign substance during field sand blasting.

SHOP PAINT: None, except as outlined below, which shall be given one coat of ACID RESISTING LIQUID.

① All surfaces exposed to the elements not readily accessible for field sand blasting.

② Contact surfaces of parts butted. All painted surfaces must be thoroughly cleaned and scraped before paint is applied. Bolted parts to be assembled after paint is dry and bolts drawn up tight. Shop to place erection marks on Left Hand end of members as detailed and in an upright position.

MATERIAL: All structural steel to be copper bearing.

SPECIFICATIONS: Specified by State of California, Department of Public Works.

INSPECTION: By John M. Bailey

RIVETS: ⅞"

OPEN HOLES: 1 1/16"

PUNCHING: All holes to be punched full size except those marked RT which are to be sub-punched ⅜ and reamed to size through a metal template. FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where designated F1E F2E etc. Shop must shear and grind, chip and grind or otherwise cut and finish so that members present a neat appearance and conform to dimensions given on dwgs. Ends of all assembled members must present a neat appearance.

No.	Description	Mark	Remarks	Weight each Tons
One	Skid Girder	SG25		

REQUIRED LIST

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design

Chas. E. Andrew — Bridge Engineer

C. H. Purcell — Chief Engineer

Date: 8/19/30.

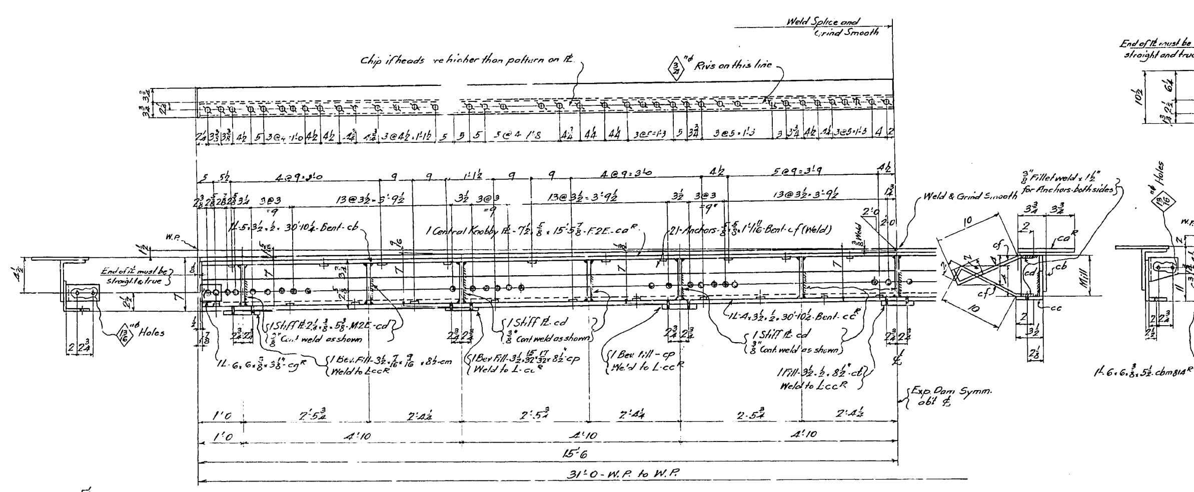
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

Skid Girder 50'-0" Span

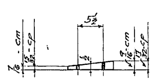
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Judson Pacific WORKS

IN CHARGE C.W.O. — MADE BY V.S.
CHECKED BY H.W.D. — TRACED BY F.J.K.
LADI ASSEM. MK.

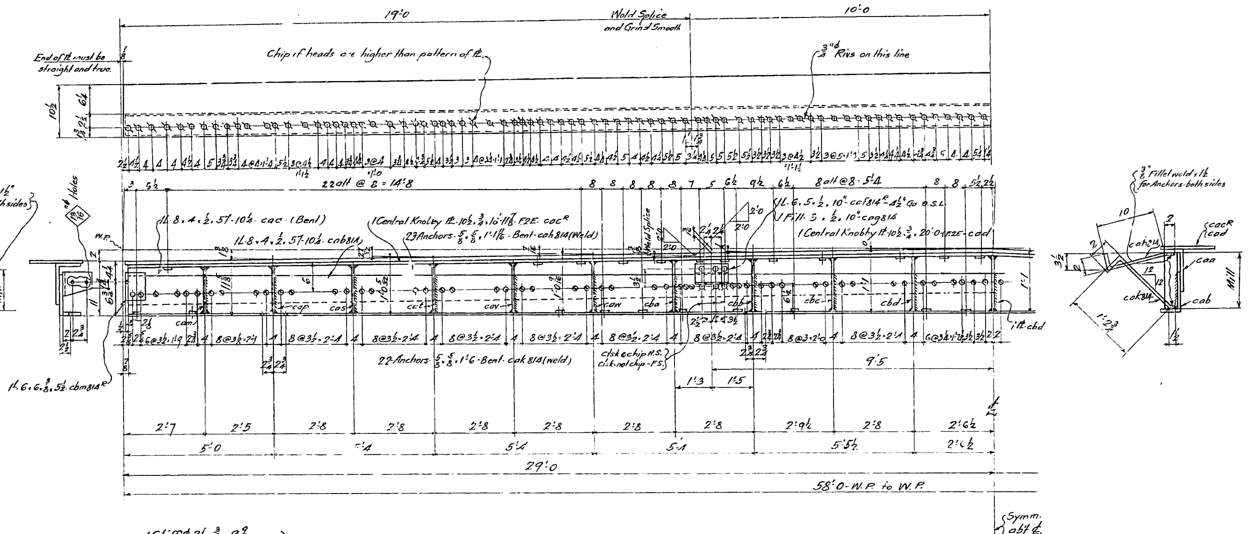
CONTRACT CJ1560-8 — SHEET J813



EXPANSION DAM - ED1



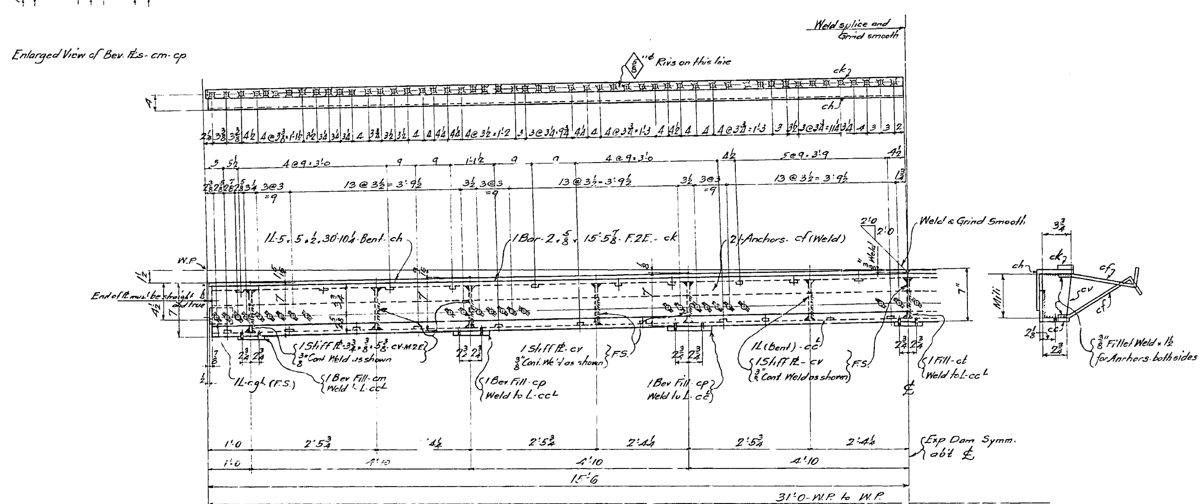
Enlarged View of Bev. ℔s - cm - cp



EXPANSION DAM - ED3

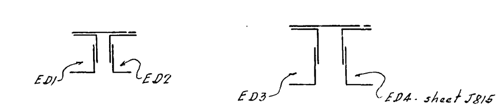
1 Stiff ℔ 2½ · ⅜ · 9⅞ - cam
1 " " · 9⅞ - cap
1 10⅛ - cas
1 10⅛ - cat
1 10⅜ - cav
1 10⅝ - caw
1 10⅝ - cba
1 11⅛ - cbb
1 11⅛ - cbc
1 11⅛ - cbd

M2E. ⅜ Cont Weld as shown



EXPANSION DAM - ED2

Fabricator Note:
Opposite halves of expansion dam to be assembled in shop and marked. ... assembly see below.



No.	Description	Mark	Remarks	Weight each Tons
4	EXPANSION DAMS	ED1		
4	" "	ED2		
4	" "	ED3		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John A. Bailey
RIVETS: ⅞" Unless noted
OPEN HOLES: 15/16 Unless Noted.
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ¼" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting. - See Sheet - F1

Date	Revision	App'd

APPROVED

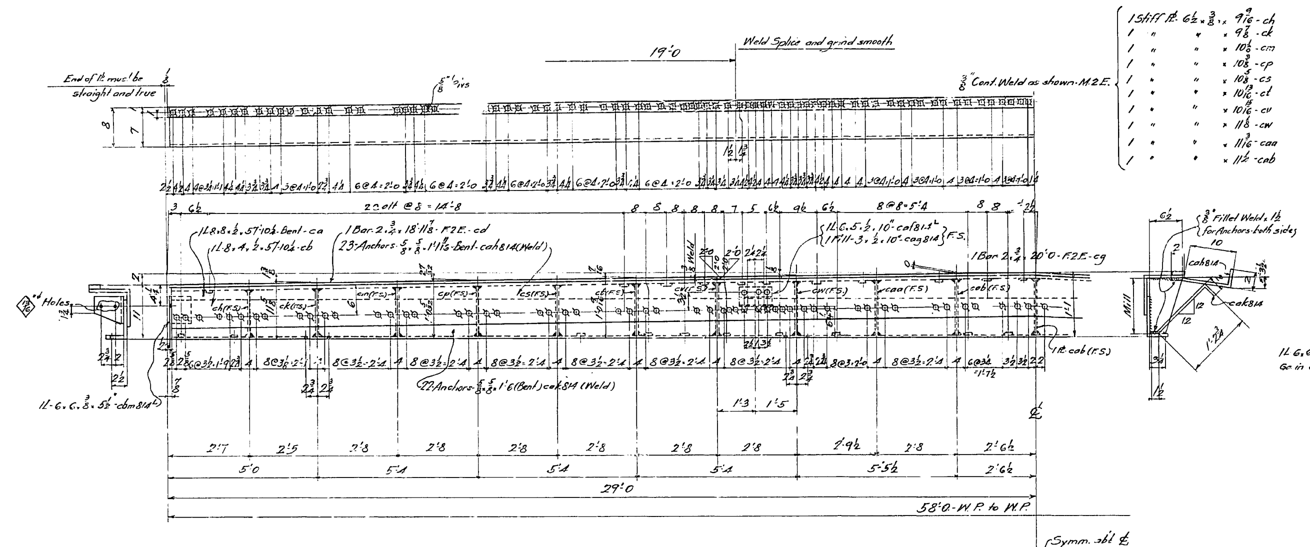
[illegible] Engineer of Design
[illegible] Bridge Engineer
[illegible] Chief Engineer
Date 8/9/34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
504'-0" Spans
EXPANSION DAMS-ED1-2-3

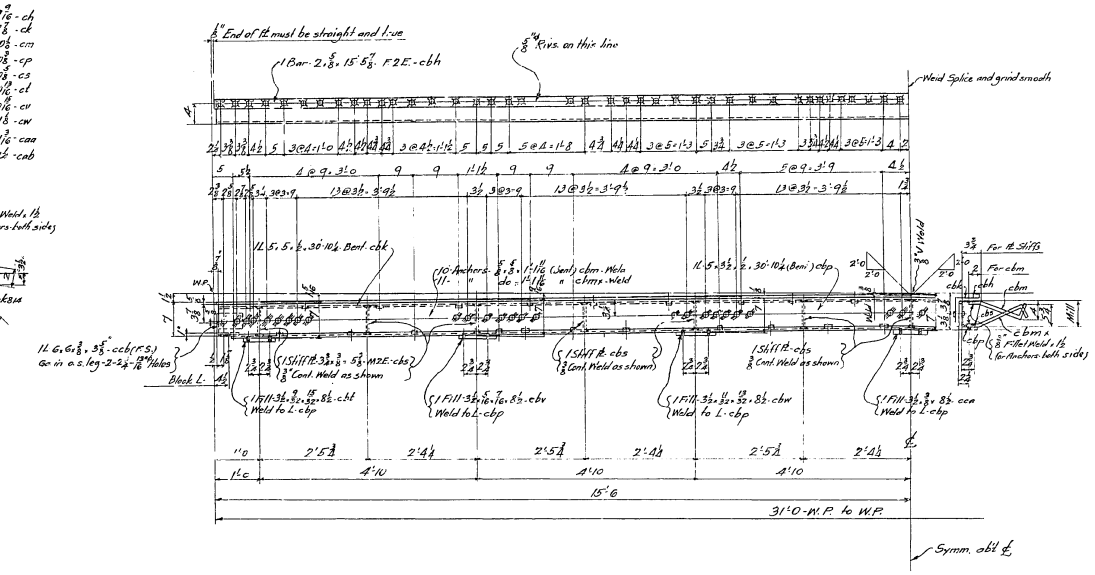
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Judson Pacific WORKS
IN CHARGE C.W.D. MADE BY L.A.H.
CHECKED BY J.A.S. 7/31/34 TRACED BY G.K.
LAST ASSEM. MK.

CONTRACT CJ-1593-8 SHEET J814

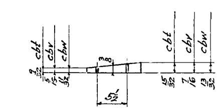
30-1



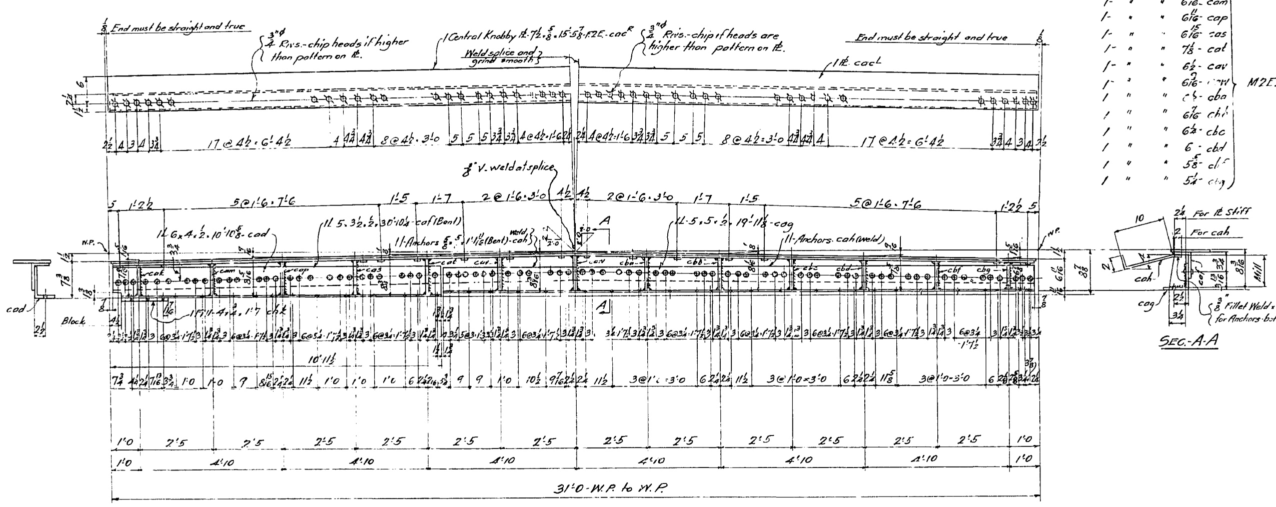
Expansion Dam - ED4



Expansion Dam - ED6

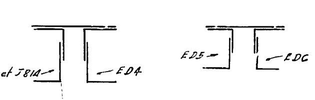


Detail of Fills - cbt - cbv - cbw



Expansion Dam - ED5

Fabricator Note:
Opposite halves of expansion dam to be assembled in shop and marked.
For assembly see below.



Note - Corners of re-entrant cuts to be rounded to ½" radius.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: ⅞" ⌀ - unless noted
OPEN HOLES: $\frac{15}{16}$" ⌀ - unless noted
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No. Oxide Filler Red for base and cap plates of Towers, of Bents, and of built up sheets; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting - See Sheet - F1

No.	Description	Mark	Remarks	Weight each Tons
A	Expansion Dams	ED4		
One	" "	ED5		
One	" "	ED6		

REQUIRED LIST

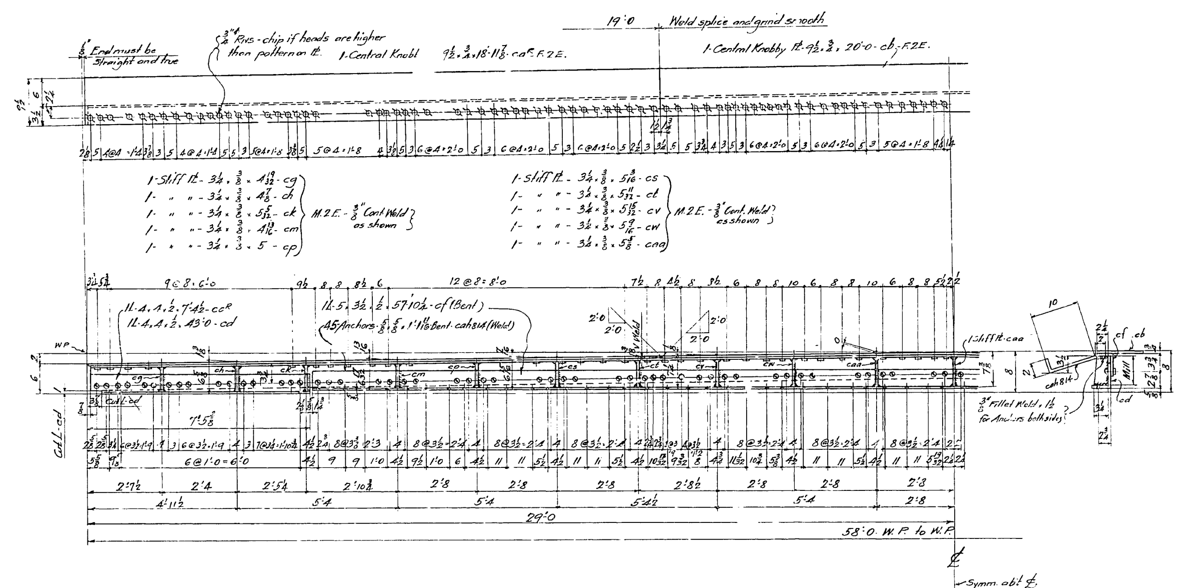
Date	Revision	App'd

APPROVED

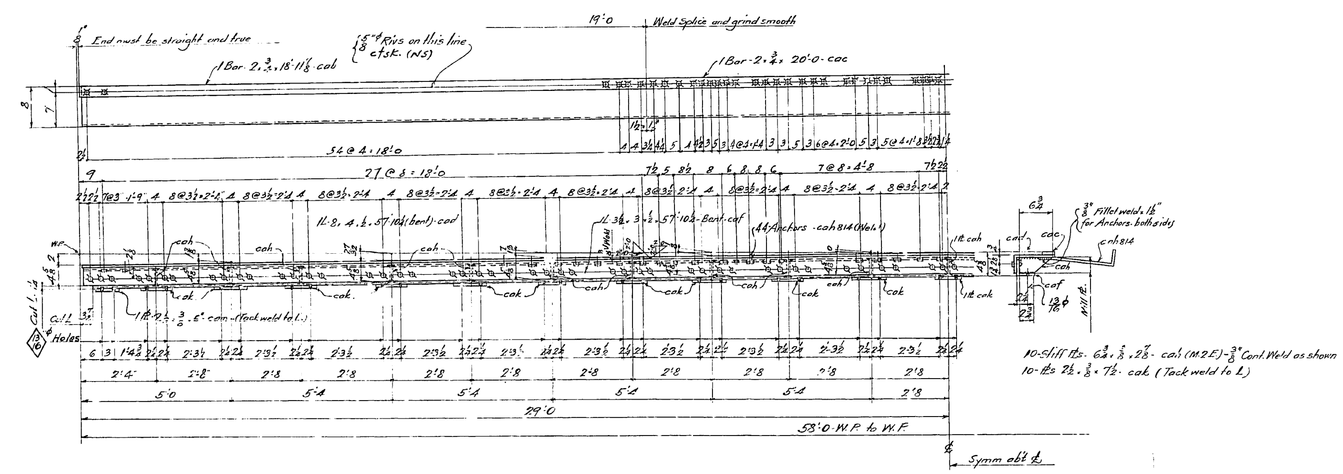
Engineer of Design
Bridge Engineer
Chief Engineer
Date 8/9/34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE EAST BAY CROSSING
504'-0" Spans
EXPANSION DAMS - ED4 - 5 - 6

[illegible]LANTIC-MARSHALL CORPORATION
[illegible]ottstown DRAWING ROOM Judson Pacific WORKS
IN CHARGE C.W.D. MADE BY L.A.H.
CHECKED BY J.A.S. 7/21/34 TRACED BY C.P.K.
LAST ASSEM. MK.
CONTRACT 6J-1590-8 SHEET J815

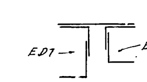


EXPANSION DAM - ED7



EXPANSION DAM - ED8

Fabricator Note:
Opposite halves of expansion dam to be assembled in shop and marked. For assembly see below



Note: Corners of re-entrant cuts to be rounded to ½" Radius.

No.	Description	Mark	Remarks	Weight each Tons
One	Expansion Dam	ED7		
One	" "	ED8		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey
RIVETS: ⅞" unless noted
OPEN HOLES: 15/16" unless noted
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and when indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat N...Ox ... Filler Red for base and ... plates of Towers, of Bents, and of built up ...; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting. - See Sheet F1

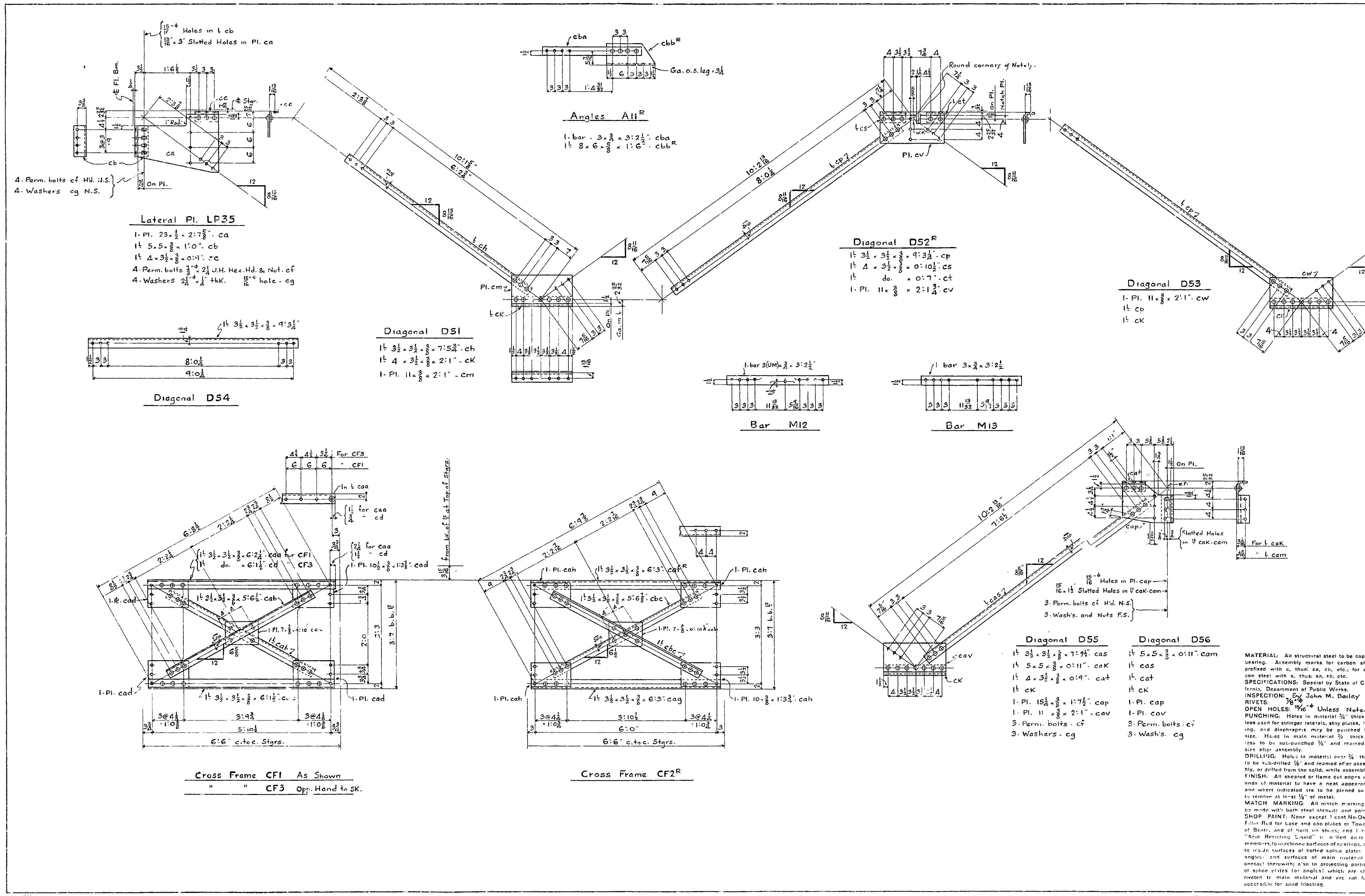
Date	Revision	App'd

APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date 8/9/34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE EAST BAY CROSSING
504-0" Spans
EXPANSION DAMS - ED7 - ED8

McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Judson Pacific WORKS
IN CHARGE - C.W.D. MADE BY L.A.H.
CHECKED BY J.A.S. 8/31/34 TRACED BY C.P.K.
LAST ASSEM. MK.

CONTRACT CJ-1...-8 SHEET J816



No.	Description	Mark	Remarks	Weight each Tons
2	Lateral Plates	LP35		
2	Diagonals	D51		
2	"	D52R		
2	"	D52L		
2	"	D53		
2	"	D54		
One	"	D55		
One	"	D56		
2	Cross Frames	CF1		
2	" "	CF2R		
2	" "	CF2L		
2	" "	CF3	Opp. Hd. to SK	
3	Angles	A11R		
2	"	A11L		
2	Bars	M12		
One	Bar	M13		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: 7/8"φ
OPEN HOLES: 15/16"φ Unless Noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4 thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

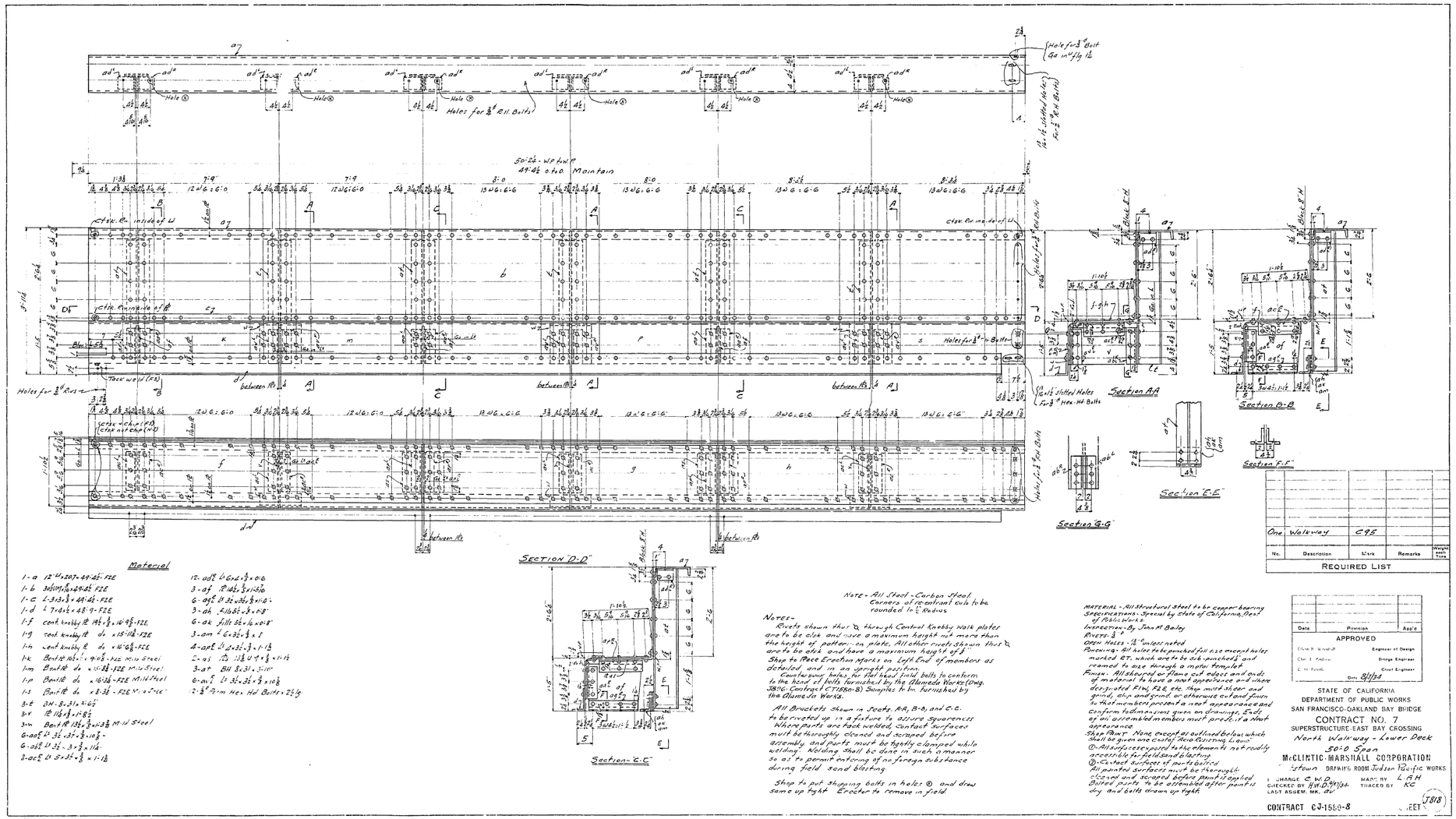
APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 8-7-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Lateral Bracing for R.R. Stringers of 50'0 Span E8-E9 Lower Deck
McCLINTIC-MARSHALL CORPORATION
ottstown DRAWING ROOM Moore Shipbuilding & Dry Dock WORKS

In CHARGE C.W.D. MADE BY E.W.C.
CHECKED BY HBM 6/18/34 TRACED BY F.J.K
LAST ASSEM. MK.

CONTRACT C J1580-8 SHEET J817



No.	Description	Mark	Remarks	Weight Each Piece
One	Walkway	C95		

REQUIRED LIST

Date	Revision	App'd

APPROVED

Engineer of Design

Bridge Engineer

Chief Engineer

Dist. 8/1/54

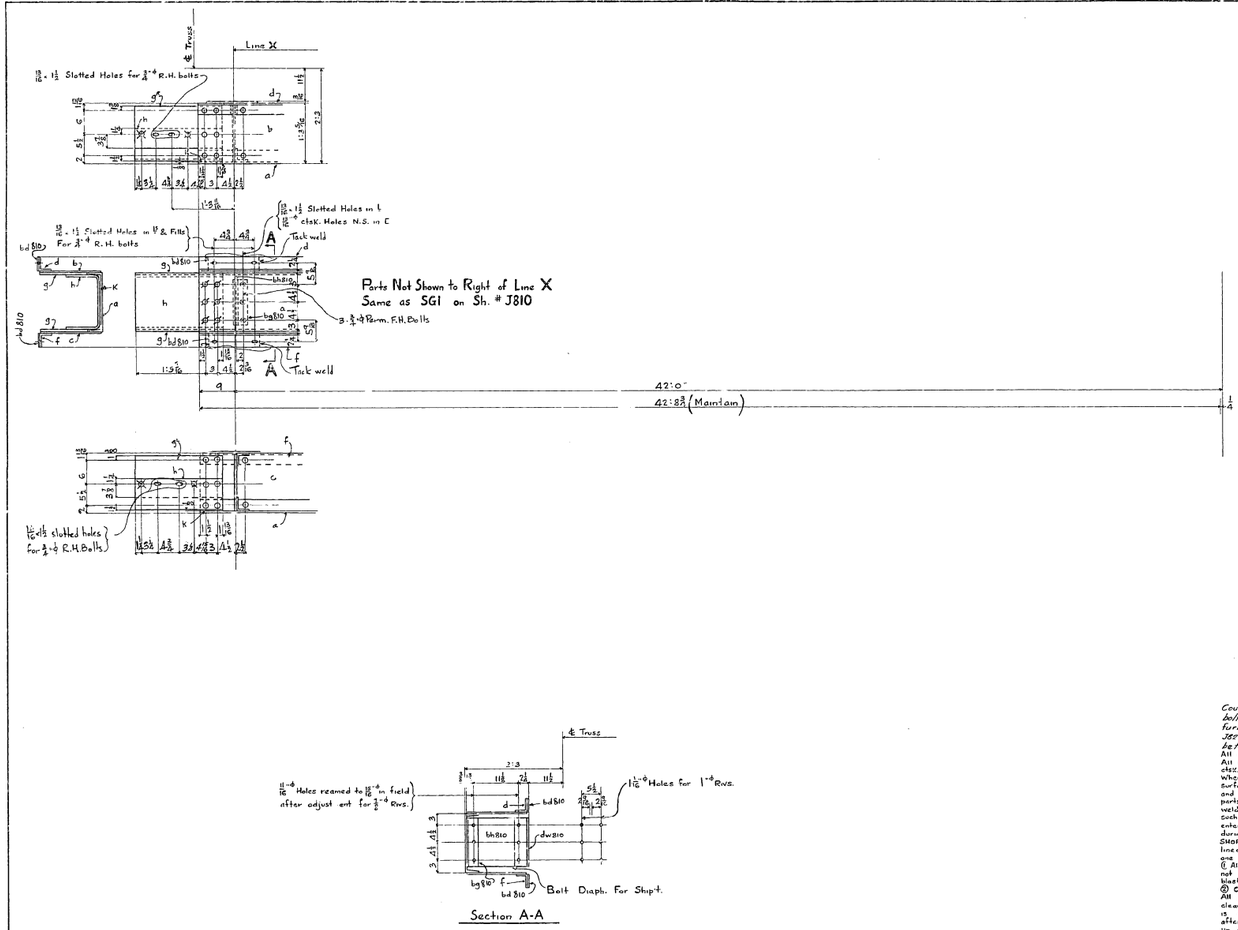
DRAWING ROOM Judson Pacific WORKS

CHARGE C.W.D. — MADE BY L.A.M.

CHECKED BY R.W.D. 8/1/54 — TRACED BY K.C.

LAST ASSEM. MK. A6

SHEET J818



List of Material

1- a 15"C 33.9# 42:8⅞" F2E
1- b Pl. 15-⅜ × 42:8⅞" F2E
1- c Pl. do. × 42:8⅞" F2E
1- d L 3½ × 3 × ⅜ × 8:6" F2E
1- f L do. × 7:10½" F2E
2- gL Plr. 11½ × 1 × 11:10" "
1- h Pl. 27½ × ⅞ × 27:5½ (bent) Mild Steel
1- K Fill. 6 × ½ × 11:0" "
2- bf810 U 3½ × 3 × ⅜ × 11:0" "
1- bg810 L do. × 11:0" "
1- bh810 Pl. 17 × ⅜ × 11:5½" "
1- bm810 Pl. do. × 11:3" "
2- dw810 U do. 3½ × ⅜ × 11:0" "
2- bd810 Fills. ½ × ⅜ × 11:0½" (Tack Weld for Ship't.)
2- bg810 Fills. 3½ × ⅜ × 11:9½" (" " " ")
1- as810 PL 38 - 3 × ⅜ × 24:10½" F2E
1- at810 PL do. × 30:5⅝" F2E
1- av810 PL 34-3½ × ⅜ × 31:11" F2E
2- aw810 PL 8½ - 2½ × ⅜ × 8:2½" F2E
2- ba810 Plts. 13½ × ⅜ × 11:4" (bent)
2- bb810 Plts do. × 11:2⅝" (")
1- bc810 Pl. 5½ × ⅜ × 11:2⅝" (")
6- bs810 U 3 × 3 × ⅜ × 01:11" "
3- bt810 U do. × 11:0" "
3- bw810 Plt. 18 × ⅜ × 1:2½ "
3- bw810 6"H 20# × 11:6" "
3- da810 U 3½ - 3 × ⅜ × 01:0¾ "
3- db810 Plt. 6 × ⅜ × 01:0¾ "
6- Perm. Rivets - ⅞" × 2. lg.
6- Washers - 2" × ½" thk. - ⅞" ϕ hole

Countersunk holes for flat head field bolts to conform to the head of bolt furnished by the Alameda Works Cont. 1826 Contract CT1580.8 Samples to be furnished by the Alameda Works.
All material to be carbon steel.
All rivets shown thus ℄ are to be shop, and have a maximum height of ⅞".
Where parts are tack welded contact surfaces must be thoroughly cleaned and scraped before assembly and parts must be tightly clamped while welding. Welding shall be done in such a manner so as to permit entering of no foreign substance during field sand blasting.
SHOP PAINT. None, except as outlined below, which shall be given one coat of RED RESISTING LIQUID.
All surfaces exposed to the elements not readily accessible for field sand blasting.
Contact surfaces of parts bolted. All painted surfaces must be thoroughly cleaned and scraped before paint is applied. Bolted parts to be assembled after paint is dry and bolts drawn up tight. Ship to place Erection marks on left hand end of members as detailed and in an upright position.

MATERIAL: All structural steel to be copper bearing.

SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: ⅞"ϕ
OPEN HOLES: 13/16"ϕ Unless Noted.
PUNCHING: All holes to be punched full size except those marked RT which are to be sub-punched ¼" and reamed to size through a metal templet.
FINISH. All sheared or flame cut edges and ends of material to have a neat appearance and where designated F1E, F2E etc. Shop must shear and grind, chip and grind or otherwise cut and finish so that members present a neat appearance and conform to dimensions given on dwgs. Ends of all assembled members must present a neat appearance.

No.	Description	Mark	Remarks	Weight each Tons
One	Skid Girder	SG26		

REQUIRED LIST

Date	Revision	App'd

APPROVED

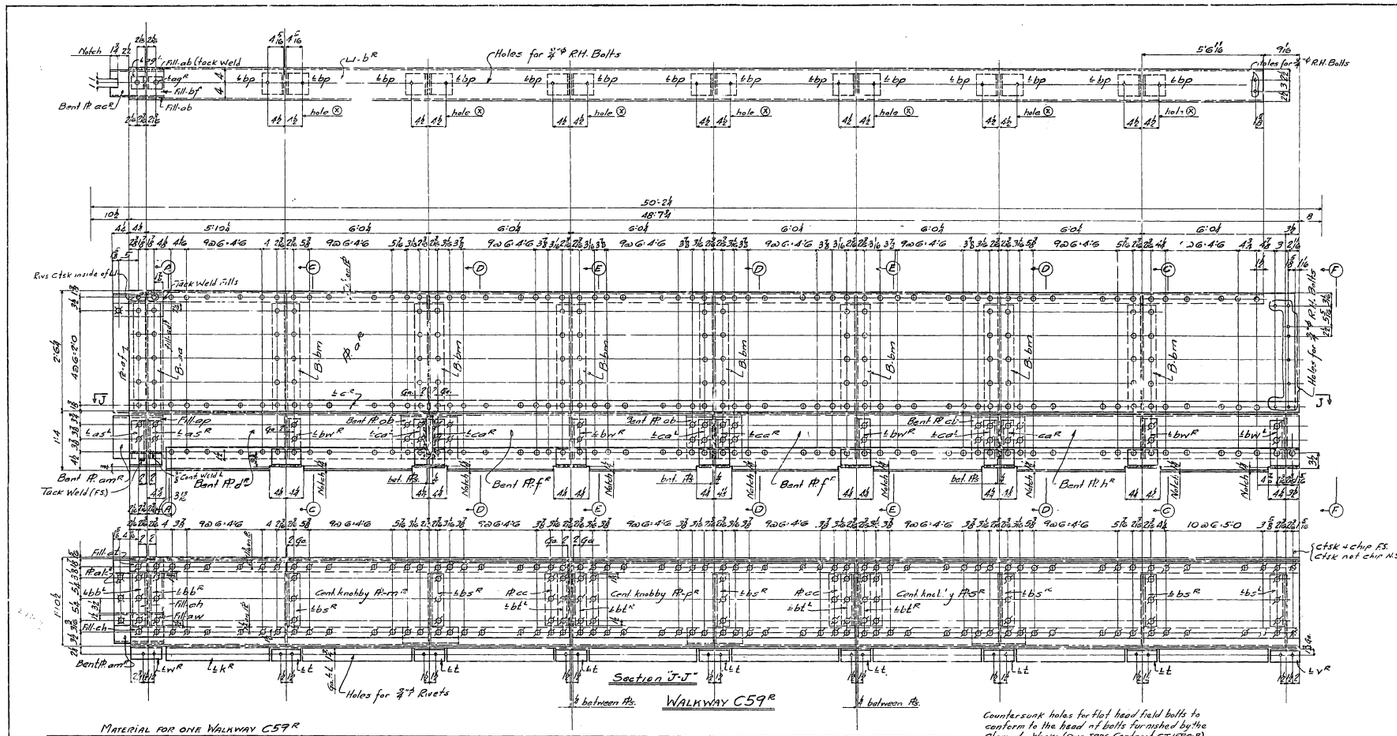
Glenn B. Warnecke — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8/1/32

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

Skid Girder 504:0 Spans
McCLINTIC-MARSHALL CORPORATION
Pittstown DRAWING ROOM Judson Pacific WORKS

CHARGE C.W.D. MADE BY V.S.
CHECKED BY H.W.D. 7/6/32 TRACED BY F.J.K.
LIST AS ACM. MK.

CONTRACT CT1580-8 SHEET J819



Material for one Walkway C59^R

1-a^R	Pl 30⅛ (wid) x ⅝ x 40'-6 11/16 (R2E)	1-nd	Pl 8 x ⅝ x 2'-4	1-bg	Fill. 3 x ⅜ x 0'-6	7-cf	Fills - 3 x ⅜ x 0'-5
1-b^R	8"-LJ x 13.75^# x 47'-10 7/16 (R2E.)	1-af	Pl 12⅛ x ⅜ x 2'-4	8-bh	Fills - 3 x ¼ x 0'-6	14-cg	Fills - 3 x ⅛ x 0'-8
1-c^R	L 3 x 3 x ⅜ x 48'-7⅜ (R2E)	7-af^R	L 6 x 3½ x ⅜ x 0'-5	7-bk	Pls. 12⅝ x ⅜ x 1'-5½	16 Bolts ¾" ϕ x 2½" lg. Hex. hd. & nut	
1-d^R	Bent Pl 16½ (WM) x ½ x 12'-2⅝ (R2E.) mild steel	1-ah	Fill - 8 x ⅜ x 1'-1⅜	7-bm	B - 8 x 31^# x 3'-6½		
2-f^R	Bent Pl. do. x 12'-0⅜ (R2E.) mild steel	1-ai^L	Pl 13½ WM x ⅜ x 1'-0½	14-bp	L 6 x 4 x ⅜ x 0'-6		
1-h^R	Bent Pl. do. x 12'-3⅜ (R2E.) mild steel	1-am^R	Bent Pl 12⅛ x ⅜ x 1'-6⅜ mild steel	5-bs^R	L 5 x 3½ x ⅜ x 1'-1⅜		
1-k^R	L 6 x 3½ x ½ x 47'-10⅜ (R2E.)	1-ap	Fill 8 x ⅝ x 0'-10⅜	4-bt^L	L 4 x 2½ x ⅜ x 1'-1⅜		
1-m^R	Cent. knobby Pl 10½ x ⅜ x 18'-2⅜ (R2E)	2-as^L	L 3½ x 3½ x ⅜ x 0'-10⅜	1-eh	Fill 8 x ½ x 3		
1-p^R	Cent. knobby Pl. do. x 12'-0⅜ (R2E.)	1-at	Fill 8 x ⅜ x 0'-3	4-bw^L	L 3½ x 3½ x ⅜ x 0'-10⅜		
1-s^R	Cent. knobby Pl. do. x 18'-0⅜ (R2E.)	1-av	Pl 12⅛ x ⅝ x 1'-2	1-bv^L			
7-k	L 5 x 3½ x ⅜ x 0'-7½ (bent)	1-aw	Fill 5 x 3½ x 1'-0½	1-bs^L			
1-v^R	L 5 x 3½ x ⅜ x 0'-7½ (bent)	1-ba	Pl 12⅛ x 1'-5	1 ck	Pl 10⅜ x ⅞ x 1'-5½		
1-w^R	L 3½ x 3½ x ⅜ x 0'-10½ (bent) {weld to Pl'd ⅜ fillet weld	5-bt^R	L 4 x 3½ x ⅜ x 1'-1⅜	6-ca^R	L 3½ x 3½ x ⅜ x 0'-10⅜		
1-aa	B - 6 x 20^# x 3'8	8-be^R	L 3½ x 3½ x ⅜ x 0'-10⅜ (2½" Ga. O.S.L.)	3-cb	Bent Pl 12⅛ x ⅜ x 1'-3⅜ mild steel		
2-ah	Fills 6 x ⅜ x 0'-6 weld to W-b^R	1-bd	L 4 x 3½ x ⅜ x 0'-6	2-cc	Pl. 13⅜ x 1'-1 x ⅞ x 1'-1½		
1-ar^L	Bent Pl 12⅛ x ⅜ x 1'-2⅜	1-bf	Fill 8 x ⅜ x 0'-6½	7-cd	L 3½ x 3½ x ⅜ x 0'-8		

Countersunk holes for flat head field bolts to conform to the head of bolts furnished by the Alameda Works (Dwg. 3826 Contract CT 1580-B) Samples to be furnished by the Alameda Works.

Note - All Steel - Carbon Steel.
Corners of re-entrant cuts to be rounded to ½" radius.

Notes -
Rivets shown thus ⊗ through Central knobby Walk plates are to be ctsk. and have a maximum height not more than the height of pattern on plate. All other rivets shown thus ⊗ are to be ctsk. and have a maximum height of 1/16". Stamp to place Erection Marks on left End of members as detailed and in an upright position.

Work this Sheet with Sheet J820BB
For all sections see Sheet J820BB

All Brackets shown in Sections A-A, C-C, D-D, E-E, F-F. to be riveted up in a fixture to assure squareness
Where parts are tack welded, contact surfaces must be thoroughly cleaned and scraped before assembly, and parts must be tightly clamped while welding. Welding shall be done in such a manner so as to permit ordering of no foreign substance during field sand blasting.

Shop to put shipping bolts in holes ⊗ and draw same up tight. Erector to remove in field.

No.	Description	Mark	Remarks	Weight each Piece
One	Walkway	C59^R		
One	Walkway	C59^L		

REQUIRED LIST

MATERIAL - All Structural Steel to be copper bearing.
Specifications - Special by State of California - Dept of Public Works.
Inspection - By John M. Bailey
Rivets - ¾"ϕ
Drill Holes - ¹⁵/₁₆"ϕ
Punching - All holes to be punched full size except holes marked RT. which are to be subpunched ⅞" and reamed to size through a matched template.
Finish - All sheared or flame cut edges and ends of material to have a neat appearance and where designated RM, RE, etc. Edge must shear and grind, chip and grind or otherwise cut and finish, so that members present a neat appearance and conform to dimensions given on drawing. Ends of all assembled members must present a neat appearance.
Shop Paint - None, except as outlined below, which shall be given one coat of Red Dressing Liquid.
① All surfaces exposed to the elements not readily accessible for field sand blasting.
② Contact surfaces of parts bolted. All painted surfaces must be thoroughly cleaned and scraped before paint is applied. Bolted parts to be assembled after paint is dry and bolts drawn up tight.

Date	Revision	App'd
	APPROVED	
Glenn B. Woodruff		Engine r of Design
Chas. E. Andrew		Bridge Engineer
C. H. Purcell		Chief Engineer
	Date: 9-7-34	

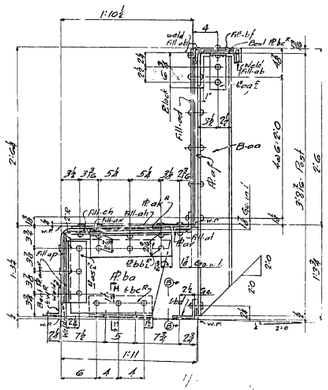
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

UPPER DECK WALKWAY 50'0 SPAN

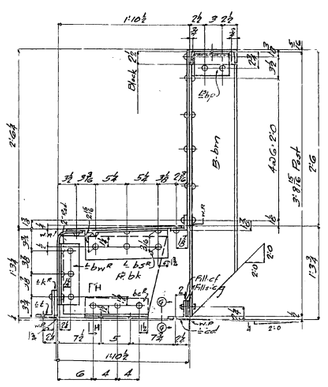
McCLINTIC-MARSHALL CORPORATION
Bethlehem DRAFTING ROOM Judson Pacific WORKS

IN CHARGE G.W.D. MADE BY L.A.H.
CHECKED BY M.M.D. 9-28-34 TRACED BY L.E.S.
LAST ADDEM. MK. E2

CONTRACT CJ 1580-B SHEET J820 AB



SECTION (A)(A)



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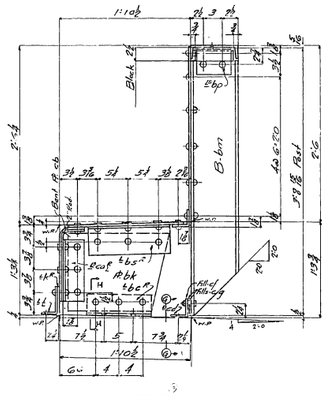
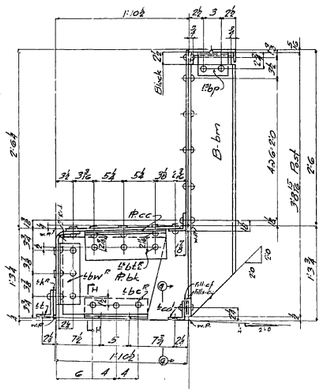
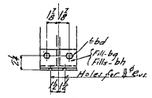


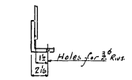
SECTION (D)(D)



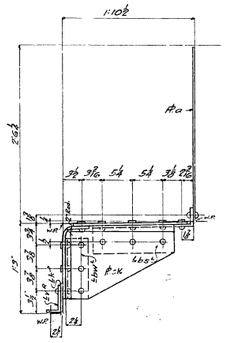
SECTION (E)(E)



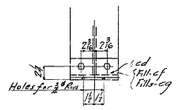
SECTION (B)(B)



Section 11-H



SECTION (F)(F)



SECTION (G)(G)

for general notes see sheet J820.AB
Work this sheet with sheet J820.AB

Date	Revision	App'd

APPROVED

Glenn B. Woodell — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 8/14/42

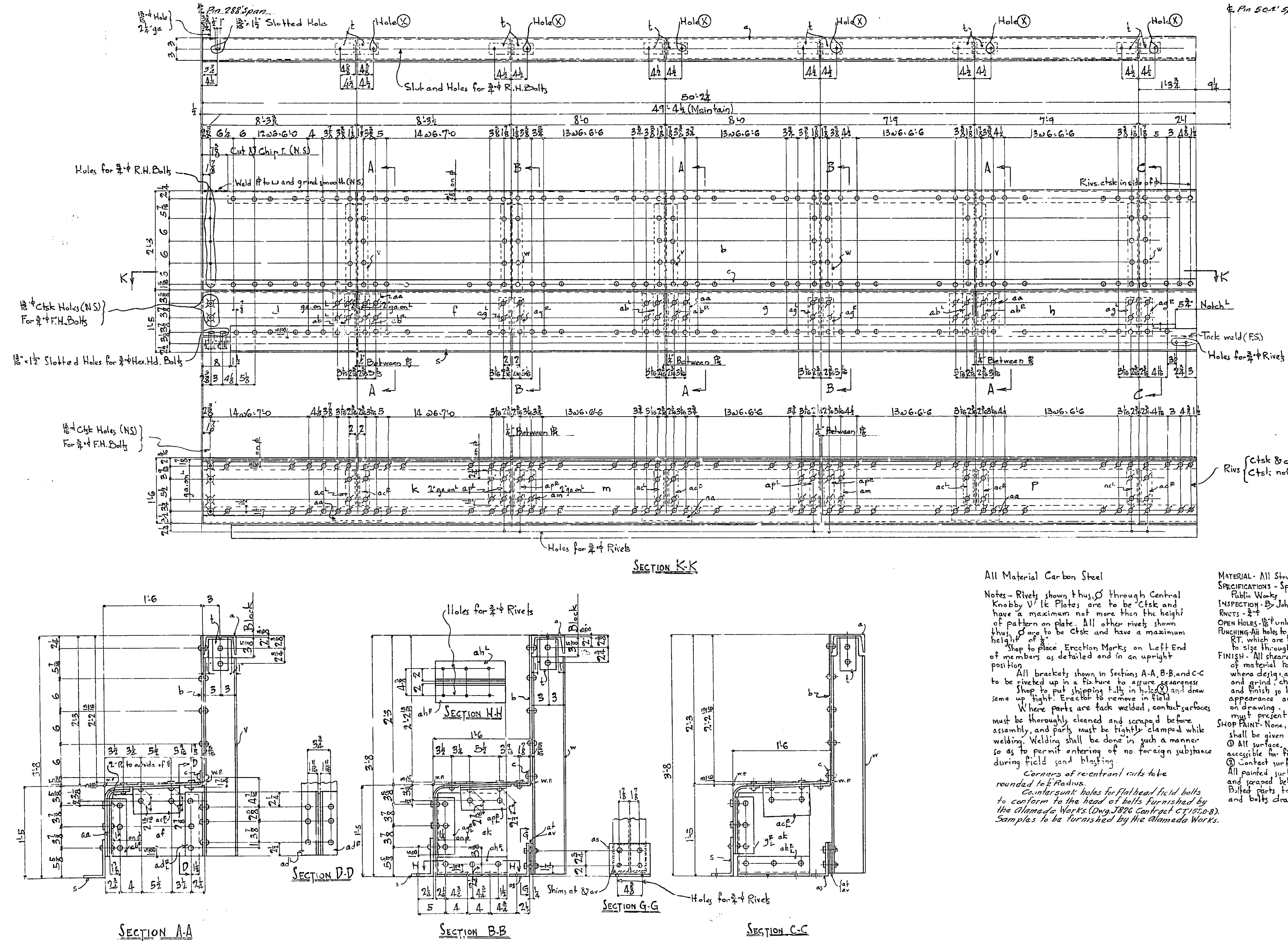
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

UPPER DECK WALKWAY 50'0 SPAN

McCLINTIC-MARSHALL CORPORATION
Hoberg DRAWING ROOM Judson Beiffe WORKS

IN HARGE C.W.D. MADE BY L.A.H.
CHECKED BY F.W.B. TRACED BY L.E.S.
LAST ASSEM. MK.

CONTRACT CJ 1580-8 SHEET J820 BB



1-a	6 Ship ⊏ × 15.3# × 49'-4½ F2E
1-b	ℙ-21UM × 5/16 × 49'-4½ F2E
1-c	∟ 3 × 3 × 3/8 × 49'-4½ "
1-d	ℙ-16½UM × ½ × 8'-3⅛ " Bent
1-f	ℙ- do × 16'-3¼ " "
1-g	ℙ- do × 15'-8¾ " "
1-h	ℙ- do × 9'-0⅝ " "
1-k	ℙ- 15 × 3/8 × 16'-6⅝ " (Central knobby)
1-m	ℙ- do × 15'-4¼ " " "
1-p	ℙ- do × 16'-9⅝ " " "
1-s	∟ 7 × 4 × ½ × 48'-9 "
12-t	∟s - 6 × 6 × 3/8 × 0'-8
3-v	GH 20# × 3'-3¼
3-w	do × 3'-6½
3-aa	ℙs - 13½ × 3/8 × 1'-3¾ (Bent) Mild Steel
6-ab R/L	∟s - 3½ × 3 × 3/8 × 0'-10¾
8-ac R/L	∟s - 5 × 3½ × 3/8 × 0'-8½
6-ad R/L	∟s - 3½ × 3 × 3/8 × 0'-11¼
3-af	ℙs - 11¼ × 3/8 × 1'-4
6-ag R/L	∟s - 3½ × 3½ × 3/8 × 0'-10¾
6-ah R/L	∟s - 3½ × 3½ × 3/8 × 1'-0½
3-ak	ℙs - 12¼ × 3/8 × 1'-2½
2-am	ℙs - 9¼UM × 3/8 × 1'-1½
4-ap R/L	∟s - 4 × 3½ × 3/8 × 0'-8½
3-as	∟s - 6 × 3½ × 3/8 × 0'-7½
3-at	Shims - 5¼ × 1/8 × 0'-6
6-av	" " 5¼ × 1/16 × 0'-6
12	Perm Hex. Hd. Bolts - 3/4"φ × 2¼ lg.

All Material Carbon Steel

Notes - Rivets shown thus, ⌀ through Central Knobby V' lk Plates are to be Ctsk and have a maximum not more than the height of pattern on plate. All other rivets shown thus, ⌀ are to be Ctsk and have a maximum height of 1/8".

Shop to place Erection Marks on Left End of members as detailed and in an upright position

All brackets shown in Sections A-A, B-B, and C-C to be riveted up in a fixture to assure squareness

Shop to put shipping bolts in holes (X) and draw same up tight. Erector to remove in field

Where parts are tack welded, contact surfaces must be thoroughly cleaned and scraped before assembly, and parts must be tightly clamped while welding. Welding shall be done in such a manner so as to permit entering of no foreign substance during field sand blasting.

Corners of re-entrant cuts to be rounded to ½" Radius.

Countersunk holes for flathead field bolts to conform to the head of bolts furnished by the Alameda Works. (Dwg. J826 Contract CT1550-8). Samples to be furnished by the Alameda Works.

MATERIAL - All Structural Steel to be copper bearing
SPECIFICATIONS - Special by State of California, Dept. of Public Works
INSPECTION - By John M. Bailey
RIVETS - 3/4"φ
OPEN HOLES - 13/16"φ unless noted
PUNCHING - All holes to be punched full size except holes marked RT, which are to be sub-punched 1/4" and reamed to size through a metal template
FINISH - All sheared or flame cut edges and ends of material to have a neat appearance and where designated F1W, F2E, etc., Shop must shear and grind, chip and grind or otherwise cut and finish so that members present a neat appearance and conform to dimensions given on drawing. Ends of all assembled members must present a NEAT appearance
SHOP PAINT - None, except as outlined below, which shall be given one coat of "Acid Resisting Liquid"
① All surfaces exposed to the elements not readily accessible for field sand blasting.
② Contact surfaces and parts bolted
All painted surfaces must be thoroughly cleaned and scraped before paint is applied.
Bolted parts to be assembled after paint is dry and bolts drawn up tight

No.	Description	Mark	Remarks	Weight each Tons
One	Walkway	C90		

REQUIRED LIST

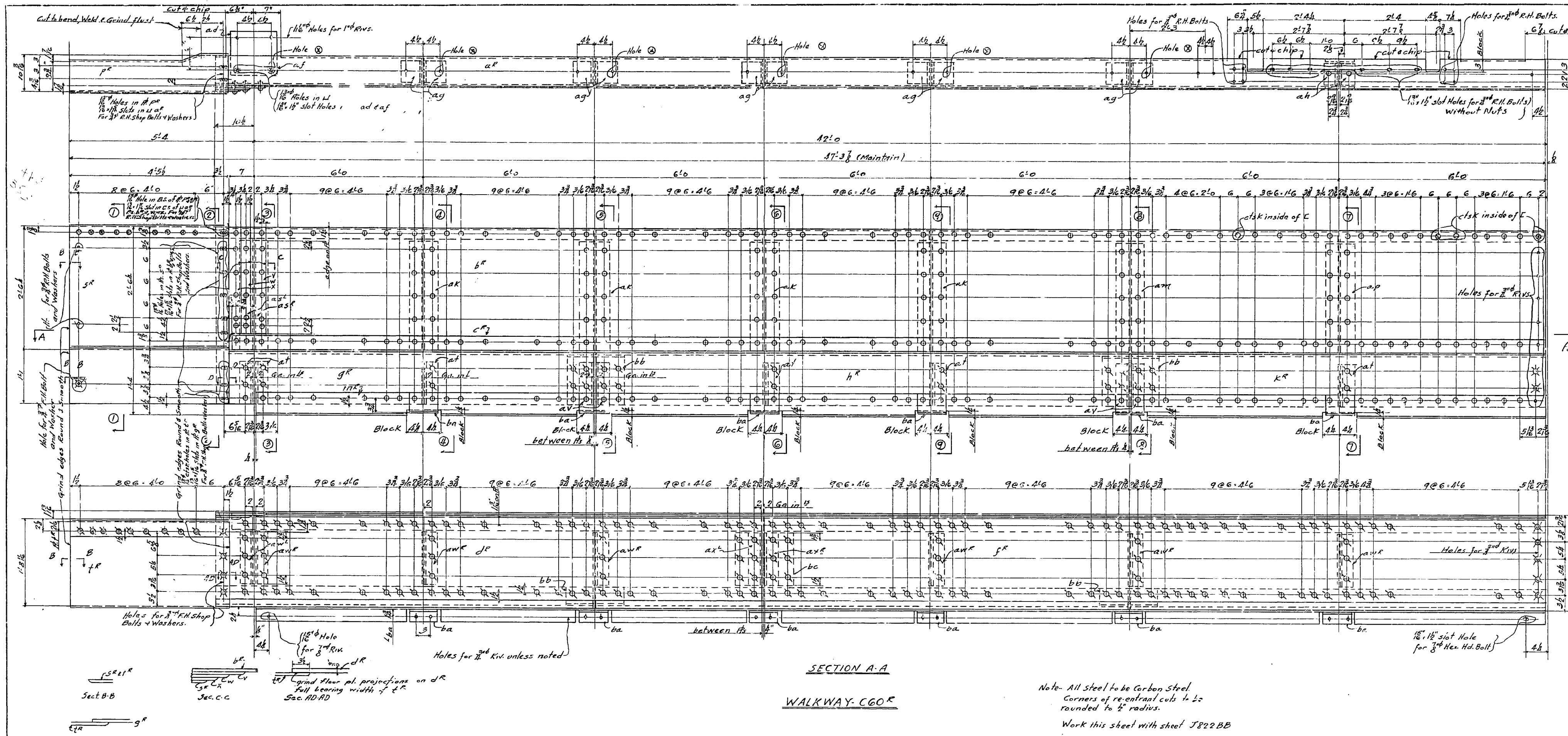
Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 9-7-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
WALKWAY 50'-0 BAY
SOUTH WALK LOWER DECK
McCLINTIC-MARSHALL CORPORATION
POTTSTOWN DRAWING ROOM JUDSON PACIFIC WORKS

IN CHARGE C.W.D. MADE BY
CHECKED BY H.W.D. 9/29/34 TRACED BY } V.S.
LAST ASSEM. MK. av

CONTRACT CJ 1580-8 SHEET J821



SECTION A-A

WALKWAY-C60R

Note- All steel to be Carbon Steel.
Corners of re-entrant cuts to be rounded to ½" radius.

Work this sheet with sheet J822BB

Material for C60L

1 aR ⊔ 8@13.75# × 42'-10⅜" (F2E)
1 bR Pl. 30½ UM × 5/16 × 42'-10⅜ (F2E)
1 cL L 3×3×⅜ × 42'-6⅝ (F2E)
1 dR Central Knobby Pl. 19½ × ⅜ × 18'-10⅜" (F2E)
1 fR " " " do × 23'-11¾ (F2E)
1 gR Pl. 16½ × ½ × 12'-10⅜" (F2E) (Bent) (Mild Steel)
1 hR Pl. do × 17'-11¾ (F2E) (") (" ")
1 kR Pl. do × 11'-11¾ (F2E) (") (" ")
1 mR L 6×3½×½ × 41'-11⅝ (F2E)
1 pR Pl. 57 × ⅜ × 1'-3⅝ (F2E) (Bent) (Mild steel)
1 sR Pl. do × 2'-9 (F2E) (") (" ")
1 tR Pl. 57 × ½ × 2'-8⅝ (F2E) (") (" ")
1 v Pl. 14 × ½ × 2'-5¾
1 w Pl. 10 × ½ × 2'-5¾
1 x Pl. 6¾ × ½ × 2'-5¾

1 ad Pl. 9½ × ½ × 1'-0½
1 af Pl. 5½ × ⅜ × 1'-0½
10 ag Ls 6 × 4 × ⅜ × 0'-6
2 ah Ls 4 × 4 × ⅜ × 0'-6
4 ak I 8H@31# × 3'-8½
1 am I do × 3'-8½
1 ap I do × 3'-8½
2 asL Ls 3½ × 3½ × ⅜ × 3'-7½
6 at Ls do × 0'-10¾
4 av Ls do × 0'-10¾
6 awR Ls 5 × 3½ × ⅜ × 1'-1
1 awL L do × 1'-1¾
2 axL Ls 4 × 3½ × ⅜ × 1'-1¾
6 ba Ls 5 × 3 × ⅜ × 0'-7½ (Bent)
2 bb Pl. 13½ × ⅜ × 1'-3¾ (Bent) (Mild steel)
1 bc Pl. 13¾ UM × ⅜ × 1'-17
1 bd Pl. 13 × ⅜ × 1'-5½
6 bt Pl. 12½ × ⅜ × 1'-5½

1 bsR Ls 6 × 3½ × ⅜ × 10¾"
6 bfR Ls 3½ × 3½ × ⅜ × 0'-10¾
1 bgR L do × 1'-0
3 bh Ls do × 0'-8
12 bk Pls 3 × 5/16 × 0'-8
6 bm Pls 3 × ⅜ × 0'-8
3 bp Ls 5 × 3½ × ⅜ × 0'-8
12 Bolts ¾"ϕ × 2¼" lg (Hex. Hd. & Nut)
1 bwR L 6×3½×⅜×10¾"
6 - ¾"ϕ R.H. Bolts × 2" lg. (Hex. Nuts)
1 - ¾"ϕ R.H. " × 4½ " (" ")
5 - ¾"ϕ R.H. " × 3½ " (" ")
2 - ¾"ϕ F.H. " × 2½ " (" ")
2 - ¾"ϕ F.H. " × 2¼ " (" ")
16 - 2"ϕ × ⅛ Washers, 13/16"ϕ Hole

Notes-

Rivets shown thus ϕ through Central Knobby Walk plates are to be ctsk. and have a maximum height of not more than the height of pattern on plate. All other rivets shown thus ϕ are to be ctsk. and have a maximum height of ⅛".

Shop to place Erection Marks on left end of members as detailed and in an upright position.

All Brackets shown in Sections are to be riveted up in a fixture to assure squareness.

Where parts are tack welded, contact surfaces must be thoroughly cleaned and scraped before assembly and parts must be tightly clamped while welding. Welding shall be done in such a manner so as to prevent entering of any foreign substance during field sand blasting.

Shop to put shipping bolts in holes ⊗ and draw same up tight. Erector to remove in field.

Countersunk holes for flat head field bolts to conform to the head of bolts furnished by the Alameda Works. (Dwg. J826 Contract CT1580-8). Samples to be furnished by the Alameda Works.

Material- All Structural Steel to be Copper bearing.
Specifications- Special by State of California, Dept. of Public Works.
Inspection- By John M. Bailey.
Rivets- ¾"ϕ unless noted
Open Holes- 13/16"ϕ unless noted
Punching- All holes to be punched full size except holes marked R.T. which are to be subpunched ⅛" and reamed to size through a metal templet.
Finish- All sheared or flame cut edges and ends of material to have a neat appearance and where designated F1W, F2E, etc. Shop must shear and grind, chip and grind or otherwise cut and finish so that members present a neat appearance and conform to dimensions given on drawings. Ends of all assembled members must present a neat appearance.
Shop Paint- None, except as outlined below, which shall be given one coat of "Acid Resisting Liquid."
① All surfaces exposed to the elements not readily accessible for field sand blasting.
② Contact surfaces of parts bolted.
All painted surfaces must be thoroughly cleaned and scraped before paint is applied.
Bolted parts to be assembled after paint is dry and bolts drawn up tight.

No.	Description	Mark	Remarks	Weight each Tons
ONE	Walkway	C60R		
ONE	"	C60L		

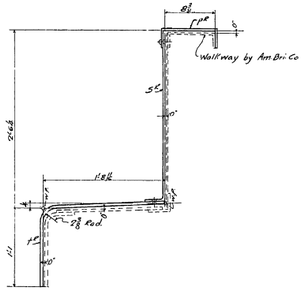
REQUIRED LIST

Date	Revision	App'd

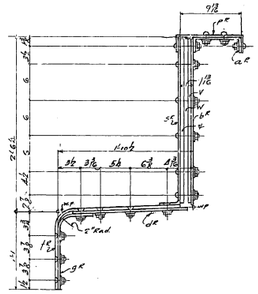
APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 9-7-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Walkways - Upper Deck - 504'-0 Span
Pier - E4
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Judson Pacific WORKS
IN CHARGE C.W.P. MADE BY JRW
CHECKED BY L 8/8/34 TRACED BY JRW
LAST ASSEM. MK. bw
CONTRACT CJ1580-8 SHEET J822 AB

Rev.



Section ①①



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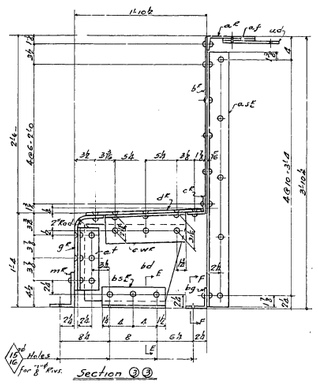

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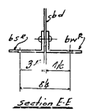
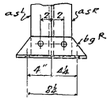


Section E-E



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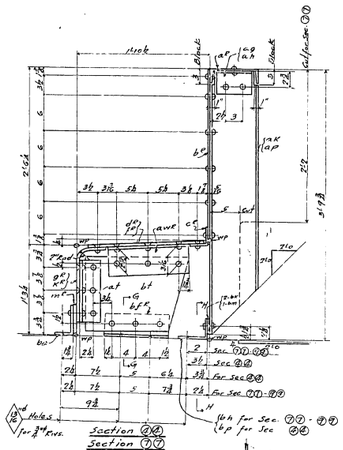
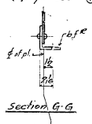
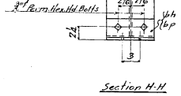


Section ④④
Section ⑦⑦
Section ⑧⑧



Section G-G



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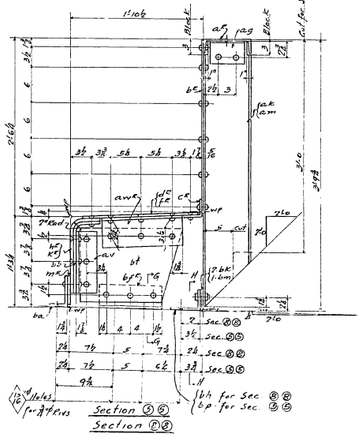

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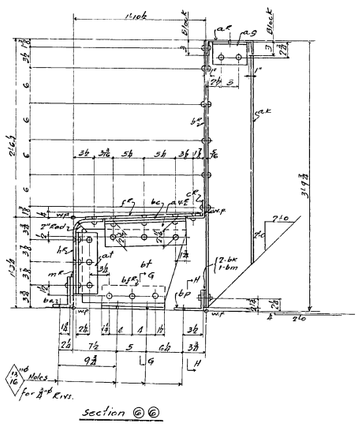
Section ⑥⑥



Section ⑥⑥

Note-
Work this sheet with sheet J822AB
For General Notes see Sheet J822AB
All Material Carbon Steel

No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

Date	Revision	App'd

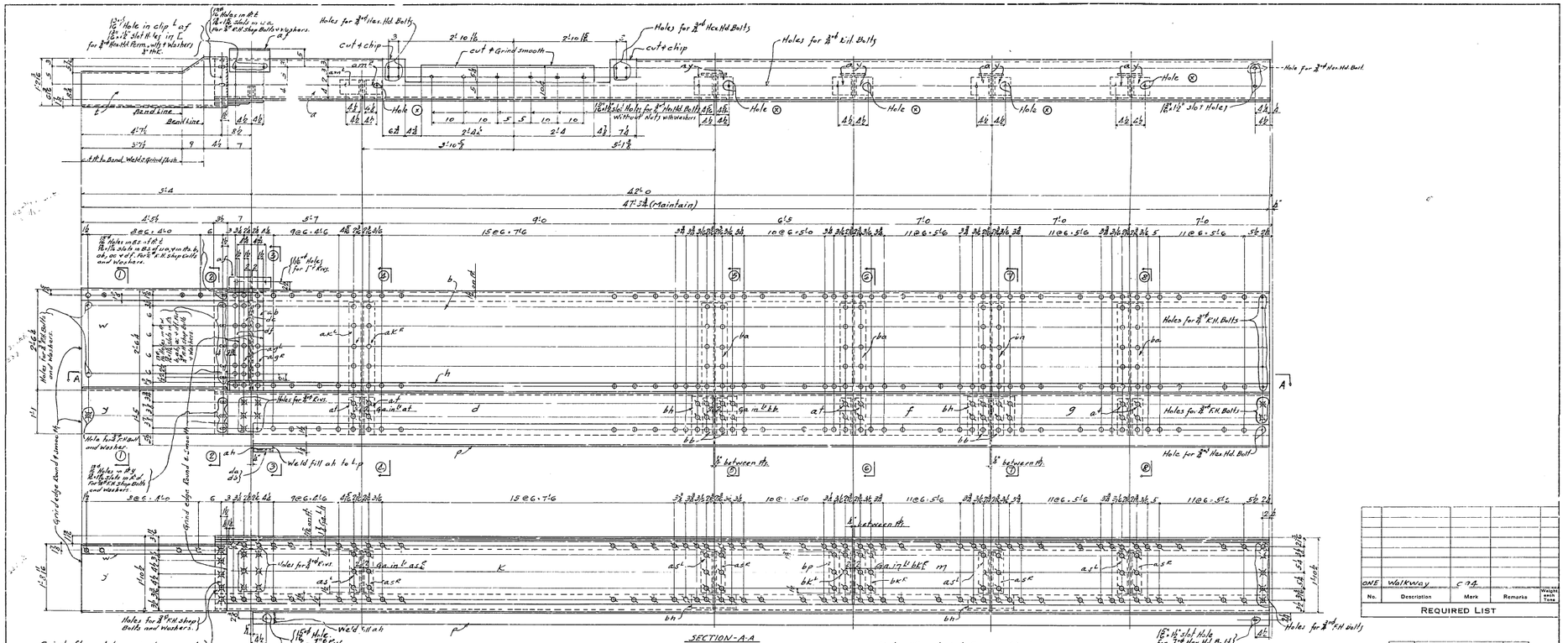
APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 9-1-24

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Sections for Walkway - CGCE
Upper Deck - Fed'l Span
ATLANTIC-MARSHALL CORPORATION
Watertown DRAWING FOOD Judson Pacific WORKS

IN CHARGE E.W.P.
CHECKED BY L.P.M.
LAST ASSEM. MK.
MADE BY J.R.W.
TRACED BY J.R.W.

CONTRACT 67T580-B
SHEET (J822 BB)



Walkway C94

List of Material

1	a	L	12. 2.7.	82.10#	(F2E)		
1	b	PL	30 @ 1'-4⅛	42.10#	(F2E)		
1	h	L	3. 3.⅜	89.6#	(F2E)		
1	d	PL	16 @ 1'-2	151.5#	(F2E)	Mild steel	
1	f	PL	do	131.5#	(F2E)		
1	g	PL	do	134.5#	(F2E)	Bent	
1	K	PL	196. ⅜	71.10#	(F2E)	Central	
1	m	PL	do	20.11#	(F2E)	Knobby ft	
1	P	L	7. 4. ½	211.11#	(F2E)		
1	t	PL	57. ½	12.8#	(F2E)	Mild	
1	w	PL	do	21.8#	(F2E)	Steel	
1	y	PL	57. ½	12.8#	(F2I)	Bent	
1	a.b	"	16½ . ½	21.5			
1	d.c	"	93 . ½	21.5			
1	d.f	"	61½ . ½	21.5			

1	a.f	L	6. 3. ½	14.1	
2	a.g	L	3½ . 3½ . ½	31.2#	
1	a.h	Fill	4. ⅜	0.6#	Weld
1	d.a	"	4. ⅜	0.6#	Bolted
2	d.b	"	4. ½	0.8#	
2	a.m	L	3. 3. ½	9.4	
2	a.K	L	5. 3½ . ½	31.6#	
5	a.p	PL	11. ⅜	11.2#	
8	a.s	L	5. 3½ . ½	14.1#	
10	a.w	L	3½ . 3. ½	0.11"	
6	a.t	L	3½ . 3½ . ½	11.10#	
1	a.y	I	6. 3. ½	9.6	
1	b.a	I	8BH 31. ½	31.6#	
1	b.b	L	3½ . 3½ . ½	0.11#	
2	b.h	PL	13½ . ½	11.3#	Mild steel
1	b.p	PL	13 @ 1'-3 . ⅜	11.1#	
2	b.k	L	4. 3½ . ½	11.1#	

2-¾" Hex Hd Bolts × 2"Lg (Hex. Nut)
2 Washers ½" thk × 2½" (13/16" Hole)
3- " - ½" thk × 2½" (13/16" Hole)
6-¾" Rd Bolts × 2"Lg (Hex. Nut)
1-¾" F.H. " × 2½"Lg (" ")
5-¾" F.H. " × 3½"Lg (" ")
2-¾" F.H. " × 2½"Lg (" ")
3-¾" F.H. " × 2¼"Lg (" ")

Notes-
Rivets shown thus ⊕ through Central Knobby Walk plates are to be cbsk. and have a maximum height not more than the height of pattern on plate. All other rivets shown thus ⊕ are to be cbsk. and have a maximum height of ⅛".
Shop to place Erection Marks on Left End of members as detailed and in an upright position.

For Sections see Sheet J823BB

Work this Sheet with Sheet J823 BB
All Brackets shown in Sects are to be riveted up in a fixture to assure squareness. Where parts are tack welded contact surfaces must be thoroughly cleaned and scraped before assembly and parts must be tightly clamped while welding. Welding shall be done in such a manner as to prevent entering of any foreign substance during field sand blasting.

Shop to put shipping bolts in holes ⊗ and draw same up tight. Erector to remove in field.

Note - All material Carbon Steel

MATERIAL - All Structural Steel to be except bearing.
SPECIFICATIONS - Special by State of California Dept. of Public Works
INSPECTION By John M Bailey
RIVETS - ¾" Unless noted.
OPEN HOLES - ⅞" Unless noted
PUNCHING - All holes to be punched full size except holes marked ⊗F, which are to be sub-punched & reamed to size through a metal template.
FINISH - All sheared or flame cut edges and ends of material to have a neat appearance and where designated F.W.I, F2E, etc. shop must shear and grind, chip and grind or otherwise cut and finish so that members present a neat appearance, and conform to dimensions given on drawings. Ends of all assembled members must present a neat appearance.
SHOP PAINT - None except as outlined below which shall be given one Coat of "Rock-Resisting Liquid"
⊗ - All surfaces to present to the element not readily accessible for field sand blasting.
Ⓕ Contact surfaces of parts bolted
All painted surfaces must be thoroughly cleaned and scraped before paint is applied. Bolted parts to be assembled after paint is dry and bolts drawn up tight.

Countersunk holes for flat head field bolts to conform to the head of bolts furnished by the Alameda Works. (Dwg. J826 Contract CT 1880B.) Samples to be furnished by the Alameda Works.

ONE	Walkway	C 94		
No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

Date	Revision	By/d

APPROVED

Glenn B. Woodruff	Engineer of Design
Chas. E. Andrew	Bridge Engineer
C. M. P. Hill	Chief Engineer

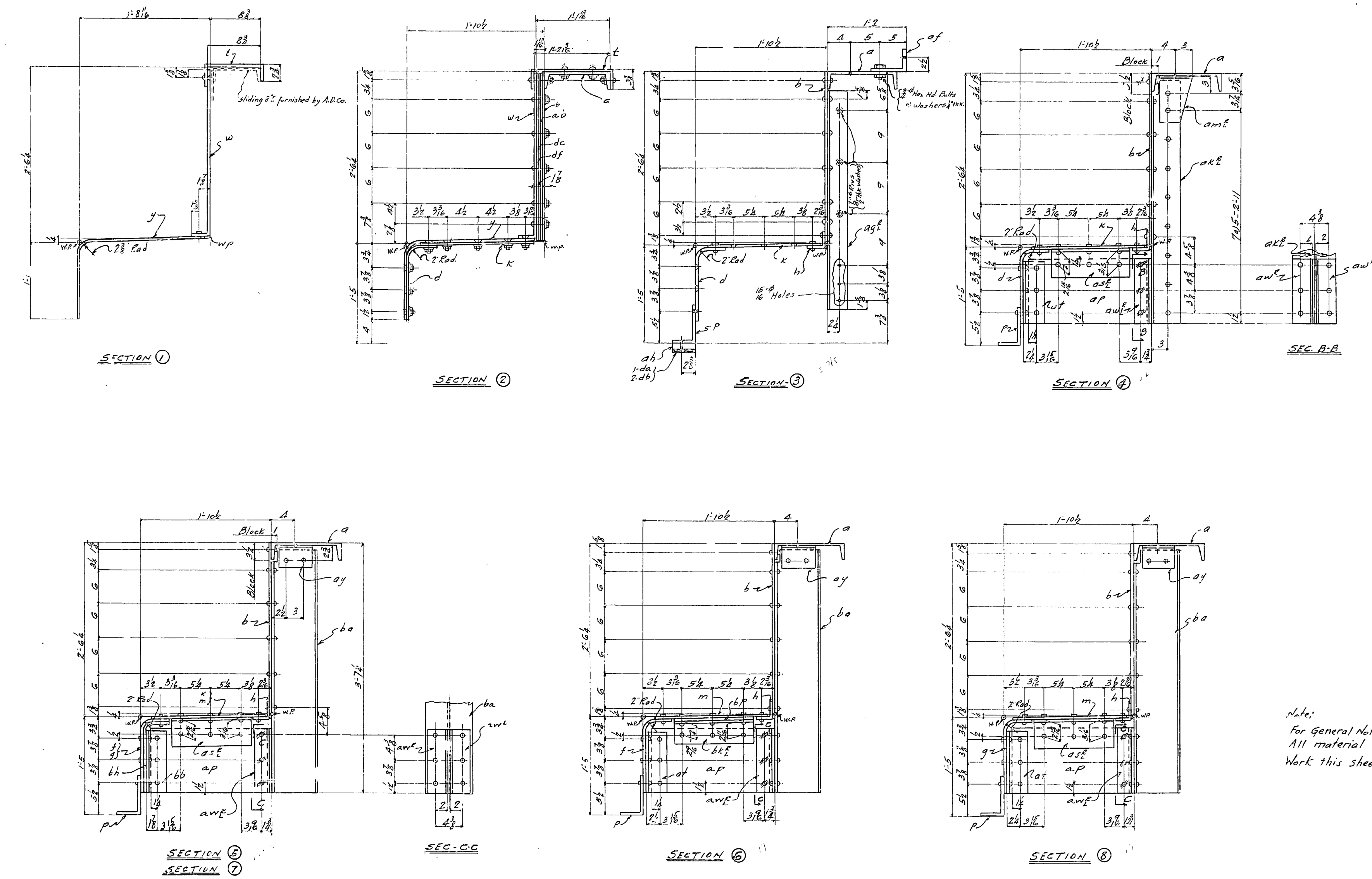
Date: 9-7-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
C 94
North WALKWAY-LOWER DECK - 504'-0 Span
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Judson Pacific WORKS

IN CHARGE C.W.P. CHECKED BY J.K.W.
CHECKED BY J.K.W. TRACED BY J.F.W.
LAST ASSEM. MK. of

CONTRACT CT 1880-B SHEET 18 (J823)

30



Note:
For General Notes see sheet J823AB
All material Carbon Steel
Work this sheet with sheet J823AB

No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

Date	Revision	App'd

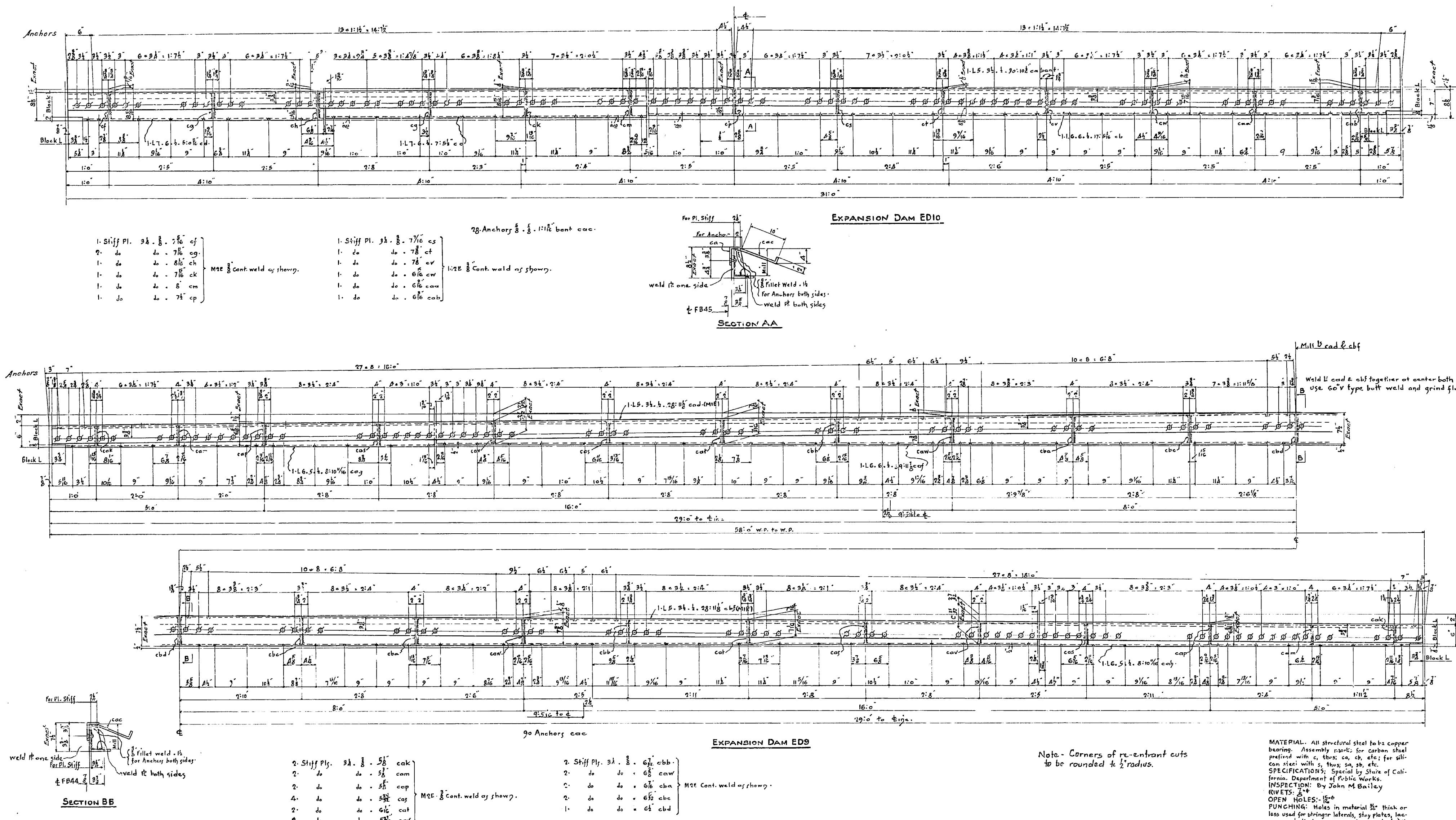
APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 9-7-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Sections for Walkway-C94
NORTH - Lower Deck 504'-0" Spans
McCLINTIC-MARSHALL CORPORATION
Po own DRAWING ROOM Judson Pacific WORKS

IN CHARGE CWD MADE BY JRW
CHECKED BY H.W.D. L 8/6/34 TRACED BY K.C
LAST ASSEM. MK.

CONTRACT CJ 1690-8 SHEET J823 BB



Note- Corners of re-entrant cuts to be rounded to ½" radius.

One	Expansion Dam	ED9		
One	" "	ED10		
No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

MATERIAL. All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus; ca, cb, etc; for silicon steel with s, thus; sa, sb, etc.
SPECIFICATIONS; Special by State of California. Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: ⅞"ϕ
OPEN HOLES:- 15/16"ϕ
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
SHOP PAINT: None

10/1/34	Location of open holes	10/5/34
Date	Revision	App'd

APPROVED

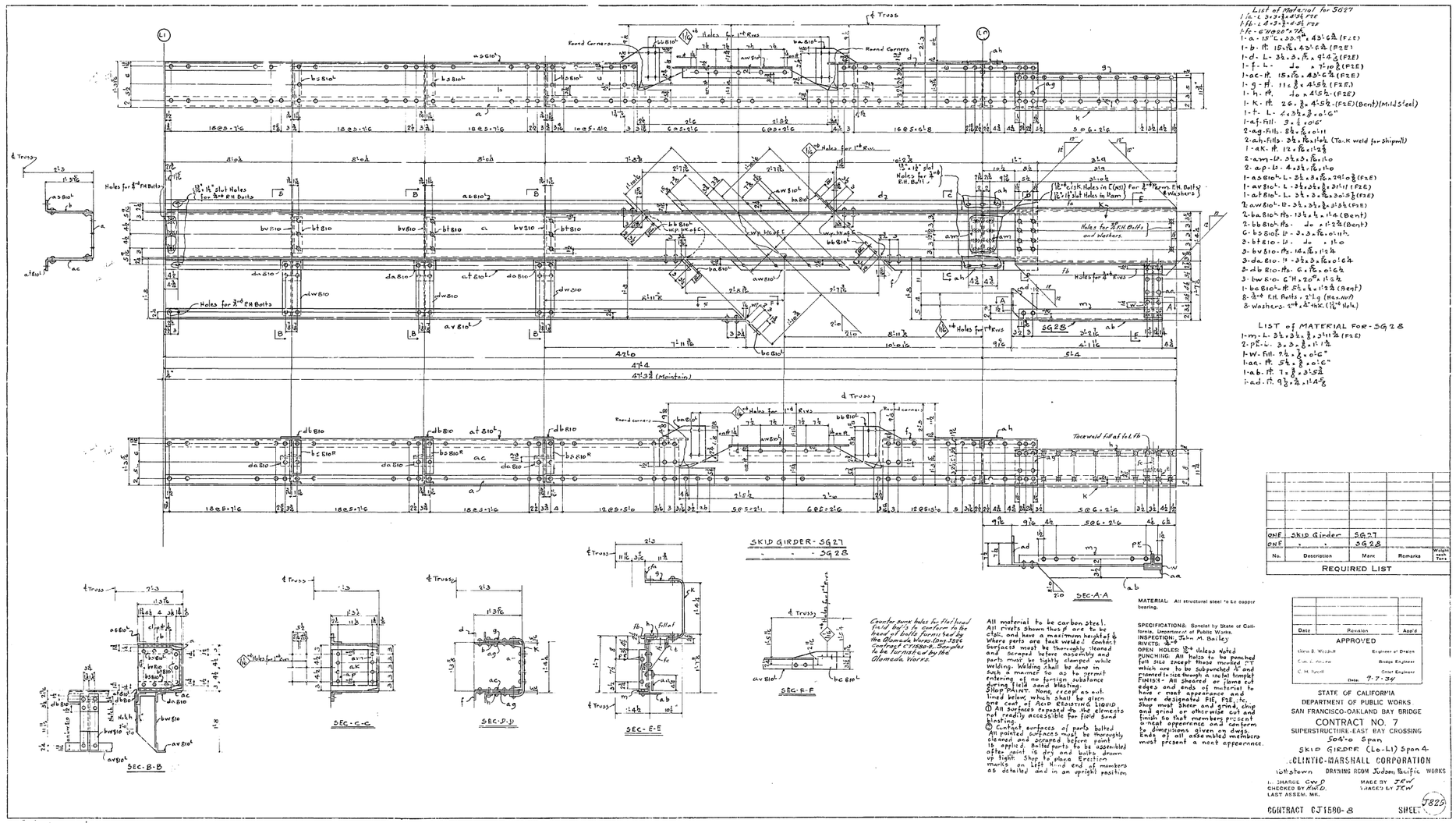
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 8/18/34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
504'0" Spans
EXPANSION DAMS - PIER E4

McCLINTIC-MARSHALL CORPORATION
DRAWING ROOM Judson Pacific WORKS
IN CHARGE C.W.D. MADE BY H.B.M.
CHECKED BY L 7/20/34 TRACED BY S.V.R.
LAST ASSEM. MK. cbf

CONTRACT C J1580-8 SHEET J824

9



List of Material for SG27
1 fc-L 3x3x7/16 rns
1 fc-L 4x3x7/16 rns
1 fc-6"W@20"=7#
1-a-PL 15"x 43'-6" (F2E)
1-b-PL 15"x 43'-6" (F2E)
1-d-L- 3½ x 3 x 9'-4" (F2E)
1-f-L- Jo x 7'-10" (F2E)
1-ac-PL 15"x 43'-6" (F2E)
1-g-PL 11"x ⅞ x 4'-5" (F2E)
1-h-PL Jo x 4'-5" (F2E)
1-K-PL 26"x ⅞ x 4'-5" (F2E) (Bent) (Mild Steel)
1-t-L- 4x3½x⅞x0'-6"
1-af-Fill- 3"x½"x0'-6"
2-ag-Fills- 8½"x⅝"x0'-11"
2-ah-Fills- 2½"x PLasHeb (Tack weld for Shipment)
1-ak-PL 12"x⅝"x2'-8"
2-am-L- 3½x3x⅜x1'-0
2-ap-L- 4x3½x⅜x1'-0
1-as B10# L- 3½x3"x⅜x29'-0" (F2E)
1-av B10# L- 3½x3½x⅞x39'-11" (F2E)
1-at B10# L- 3½x3"x⅜x30'-8" (F2E)
2-aw B10# L- 3½x3½x⅞x13'-6" (F2E)
2-ba B10# Pls- 13½"x ½"x1'-6" (Bent)
2-bb B10# Pls- Jo x 1'-2" (Bent)
6-bs B10# L- 3x3x⅝"x0'-11½"
3-bt B10- L- Jo x 1'-0
3-bv B10- Pls- 14"x⅜"x1'-2"
3-da B10- 11"-3½x3"x⅜x0'-6"
2-db B10- Pls- 6"x⅜"x0'-6"
3-bw B10- 6"H x 20"x 11½"
1-bc B10# - Pl 5½"x ½"x1'-2" (Bent)
8-¾" F.H. Bolts, 2'-7" (Max. mf)
8-Washers 2"ø x ¼" thk. (13/16" Hole)

LIST of MATERIAL FOR-SG28
1-m-L- 3½x3½x⅞x3'-11½ (F2E)
2-p-L- 3x2x½x1'-1½
1-w-Fill- 9½x½x0'-6"
1-aa-PL 5½x⅝x0'-6"
1-ab-PL 7"x⅞x3'-5½
1-ad-PL 9½"x½"x1'-4⅞

ONE	Skid Girder	SG27		
ONE	" "	SG28		
No.	Description	Mark	Remarks	Weight each Piece

REQUIRED LIST

All material to be carbon steel. All rivets shown thus ● are to be cbtsk. and have a maximum height of ⅛ where parts are tack welded. Contact surfaces must be thoroughly cleaned and scraped before assembly and parts must be tightly clamped while welding. Welding shall be done in such a manner as to prevent entering of no foreign substance during field sand blasting.
Shop PAINT. None, except as out. lined below, which shall be given one coat of ACID RESISTING LIQUID
① All surfaces exposed to the elements not readily accessible for field Sand blasting.
② Contact surfaces of parts bolted. All painted surfaces must be thoroughly cleaned and scraped before paint is applied. Bolted parts to be assembled after paint is dry and bolts drawn up tight. Stop to place Erection marks on left Hand end of members as detailed and in an upright position.

Counter bore holes for flat head field bolts to conform to the head of bolts furnished by the Alameda Works (Dwg. 1826 Contract CT1580-B. Samples to be furnished by the Alameda Works.

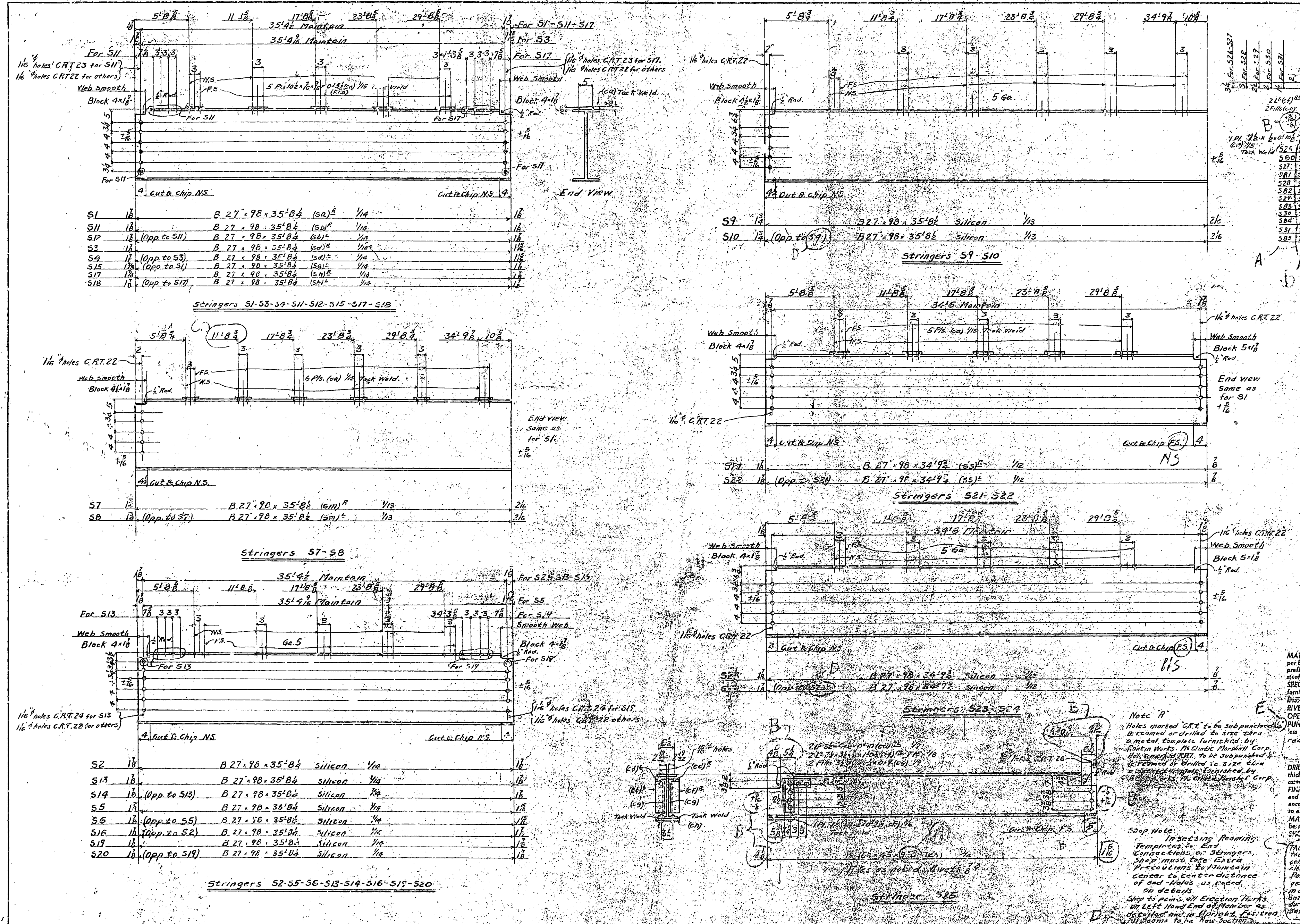
MATERIAL: All structural steel to be copper bearing.

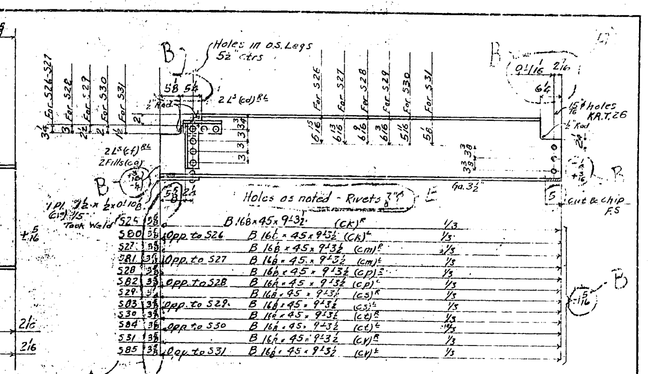
SPECIFICATIONS: Standard by State of California, Department of Public Works.
INSPECTION: John M. Bailey
RIVETS: ¾"ø
OPEN HOLES: ⅞"ø unless noted
PUNCHING: All holes to be punched full size except those marked "P" which are to be subpunched ¼" and reamed to size through a metal template
PAINTING: All sheared or flame cut edges and ends of material to have a neat appearance and where designated PIE, PSE, etc. Shop must Shear and grind, chip and grind or otherwise cut and finish so that members present a neat appearance and conform to dimensions given on dwgs. Ends of all asbestos members must present a neat appearance.

Date	Revision	Appd
APPROVED		
Glenn B. Woodruff	Engineer of Design	
C.H. Purcell	Bridge Engineer	
	Chief Engineer	
Date: 7-7-34		

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
504'-0 Span
SKID GIRDER (L6-L1) Span 4
CLINTIC-MARSHALL CORPORATION
Bethlehem DRAWING ROOM Judson Pacific WORKS
IN CHARGE C.W.D. CHECKED BY H.W.D. LAST ASSEM. MK.
MADE BY J.F.W. TRACED BY J.F.W.
CONTRACT CT1580-B SHEET 5825

30-1





Span 11	Spans 12 to 15 Incl.	Spans 16 to 21 Incl.	Span 22		Total No.	Description	Mark	Remarks	Weight each Tons
			1		1	Upper Deck Stringers	S85	Opp. to S31	
			1		1	do	S31		
			1		1	do	S84	Opp. to S30	
			1		1	do	S30		
			1		1	do	S83	Opp. to S29	
			1		1	do	S29		
			1		1	Upper Deck Stringers	S82	Opp. to S28	
			1		1	do	S28		
			1		1	do	S81	Opp. to S27	
			1		1	do	S27		
			1		1	do	S80	Opp. to S26	
			1		1	do	S26		
			1		1	do	S25		
			1		1	do	S24	Opp. to S23	
			1		1	d.	S23		
			1		1	do	S22	Opp. to S21	
			1		1	do	S21		
1	1 Each	1 Each	1		12	do	S10	Opp. to S9	
1	1 Each	1 Each	1		12	do	S9		
		1 Each			6	do	S20	Opp to S19	
		1 Each			6	do	S19		
	1 Each	1 Each	1		11	do	S14	Opp. to S13	
	1 Each	1 Each	1		11	do	S13		
5	5 Each	5 Each	5		60	do	S6	Opp to S5	
5	5 Each	5 Each	5		60	do	S5		
2	1 Each				6	do	S16	Opp. to S2	
2	1 Each				6	do	S2		
1	1 Each	1 Each	1		12	do	S8	Opp. to S7	
1	1 Each	1 Each	1		12	do	S7		
		1 Each			6	do	S18	Opp to S17	
		1 Each			6	do	S17		
	1 Each	1 Each	1		11	do	S12	Opp. to S11	
	1 Each	1 Each	1		11	do	S11		
5	5 Each	5 Each	5		60	do	S4	Opp. to S3	
5	5 Each	5 Each	5		60	do	S3		
2	1 Each				6	do	S15	Opp. to S1	
2	1 Each				6	do	S1		

REQUIRED BY SPANS — REQUIRED LIST

Note "A"
Holes marked "C.R.T." to be subpunched 1/4" & reamed or drilled to size thru a metal template furnished by Rankin Works - McClintic Marshall Corp. Holes marked "R.R.T." to be subpunched 1/4" & reamed or drilled to size thru a metal template furnished by Steelton Works McClintic-Marshall Corp.

Shop Note:
In setting Reaming Templates for End Connections on Stringers, Shop must take Extra Precautions to Maintain Center to center distance of end holes as noted on details.
Shop to paint all Erection Marks on Left Hand End of Member as detailed and in Upright Position.
All Beams to be New Section.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: by JOHN M. BAILEY
RIVETS: as noted.
OPEN HOLES: 13/16" Un. Noted.
PUNCHING: Holes in material 3/4" thick or less to be subpunched 1/4" and reamed to size. See Note "A"
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None.
TACK WELDING: Where parts are tack welded, for shipt or otherwise, contact surfaces must be thoroughly cleaned and scraped before assembly. Parts to be clamped tightly together while welding and welded in such a manner so as to permit entering of no foreign substance during shipment or during field sand blasting.

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 4-6-34

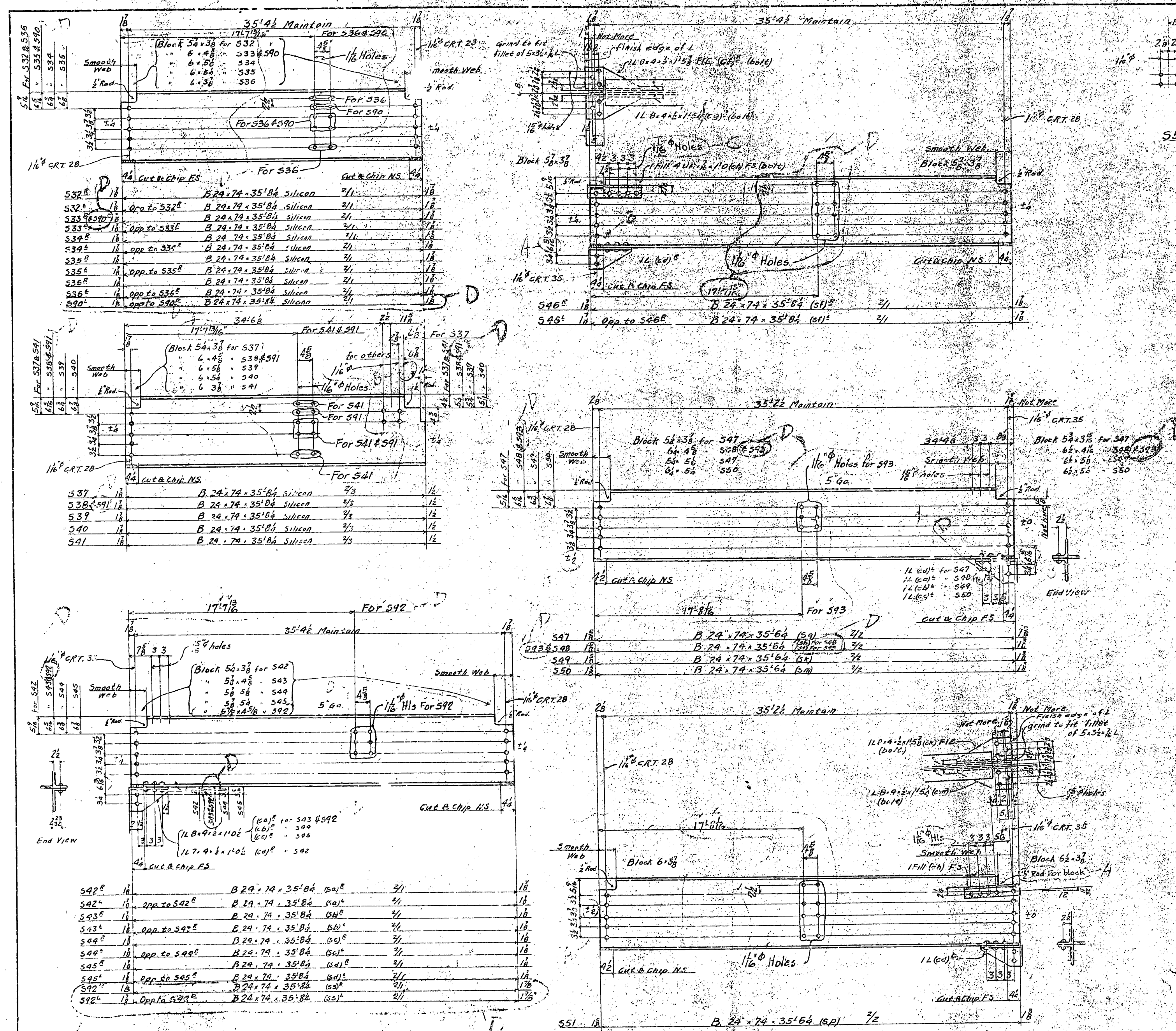
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

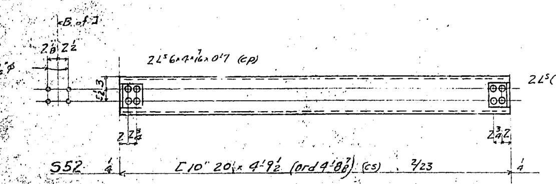
CHICAGO DRAWING ROOM — BETH WORKS
IN CHARGE ANTHONY — MADE BY CRJ 3/13/34
CHECKED BY A.F. 3-19-34 — TRACED BY CRJ 3/13/34
LAST ASSEMBLY ...

CONTRACT 0K15804 — SHEET

Rev. (D) 4-9-34 Rev. (A) 3-27-34
Rev. (E) 4-23-34 Rev. (B) 4-2-34
Rev. (C) 4-6-34

30-1





SPAN 11	SPANS 12 to 15 incl.	SPANS 16 to 21 incl.	SPAN 22	Total No.	Description	Mark	Remarks	Weight each Tons
			1	1	Lower Deck Roadway Stringers	S93		
		1 Each		6	"	S92L		
	1 Each	1 Each	1	11	"	S92R		
1	1 Each	1 Each	1	12	"	S91		
3	3 Each	2 Each	2	29	"	S90L		
4	3 Each	3 Each	3	37	"	S90R		
6 Each	6 Each	6 Each	6 Each	72	Lower Deck Roadway Stringers	S52		
			1	1	"	S51		
			1	1	"	S50		
			2	2	"	S49		
			1	1	"	S48		
			1	1	"	S47		
		1 Each		6	"	S46L		
	1 Each	1 Each	1	11	"	S46R		
		1 Each		6	"	S45L		
	1 Each	1 Each	1	11	"	S45R		
		2 Each		12	"	S44L		
	2 Each	2 Each	2	22	"	S44R		
		1 Each		6	"	S43L		
	1 Each	1 Each	1	11	"	S43R		
		1 Each		6	"	S42L		
	1 Each	1 Each	1	11	"	S42R		
1	1 Each	1 Each	1	12	"	S41		
1	1 Each	1 Each	1	12	"	S40		
2	2 Each	2 Each	2	24	"	S39		
1	1 Each	1 Each	1	12	"	S38		
1	1 Each	1 Each	1	12	"	S37		
3	3 Each	2 Each	2	29	"	S36L		
4	3 Each	3 Each	3	37	"	S36R		
3	3 Each	2 Each	2	29	"	S35L		
4	3 Each	3 Each	3	37	"	S35R		
6	6 Each	4 Each	4	58	"	S34L		
8	6 Each	6 Each	6	74	"	S34R		
3	3 Each	2 Each	2	29	"	S33L		
4	3 Each	3 Each	3	37	"	S33R		
3	3 Each	2 Each	2	29	"	S32L		
4	3 Each	3 Each	3	37	"	S32R		

REQUIRED BY SPANS — REQUIRED LIST

Note "A"
Holes marked C.R.T. to be subpunched (1/4") & reamed or drilled to size thru a metal template furnished by Rankin Works of Mc Clintic-Marshall Corp.

Shop Note:
In setting Reaming Templates for end connections on stringers, shop must take extra precautions to Maintain center to center distance of end holes as noted on details.
Shop to paint all Erection Marks on left Hand end of member as detailed and in Upright Position.
All 24B74 Beams on this sheet are new sections.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: by John M. Bailey
RIVETS: 7/8"
OPEN HOLES: As Noted
PUNCHING: Holes in material 3/4" thick or less to be subpunched 1/4" and reamed to size. See note "A"
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except contact surfaces of parts bolted to ship, which shall be given one coat of "Acid Resisting Liquid" after such surfaces have been thoroughly cleaned and scraped. Bolted parts shall be assembled after painting dry and bolts drawn up tight.

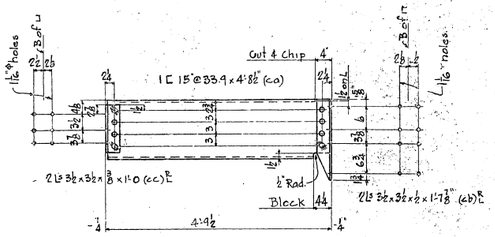
Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 4-6-34

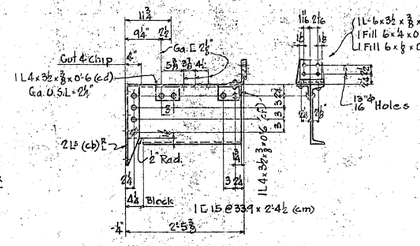
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC - MARSHALL CORPORATION

CHICA. DRAWING ROOM BETH. WORKS
IN CHARGE Anthony MADE BY CAJ. 3/22/34
CHECKED BY A.F.L. 3-28-34 TRACED BY CAJ. 3/22/34
LAST ASSEM. NO. (SA) (cs)
CONTRACT (K15804 SHEET G502

Rev. (A) 4/6/34 Rev. (D) 4-23-34
Rev. (B) 4-9-34
Rev. [illegible] 4-12-34



S94



S95

8 Ea.	96	LOWER DECK LONGITUDINAL STRINGERS	S94		
3 Ea.	96	do	S95		
SPARE BOLTING	TOTAL No.	Description	Mark	Remarks	WEIGHT each Piece
RECD BY SPARE	REQUIRED LIST				

SHOP NOTE—
Shop to paint erection mark on left hand end of member as detailed and in an upright position.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M. Bailey
RIVETS: ⅞ ø
OPEN HOLES: 1⅛" ø Unless Noted.
PUNCHING: All holes may be punched full size.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance.
SHOP PAINT: None, except contact surfaces of parts bolted, which shall be given one coat of "ACID RESISTING LIQUID" after such surfaces have been thoroughly cleaned and scraped. Parts to be bolted after paint is dry. Bolts drawn up tight.

Date	Revision	App'd

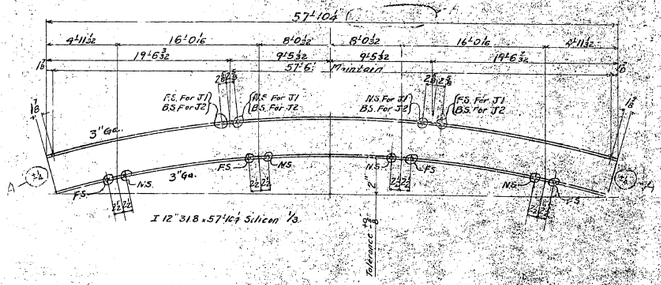
APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 5-10-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION
Chicago COMPANY OFFICES Bethlehem WORKS
IN CHARGE Antram MADE BY A.P.L. 4-30-34
CHECKED BY A.T.A. 5-2-34 TRACED BY A.P.L. 4-30-34
LAST ASSET'S. ETC.

CONTRACT CK15504 SHEET G 503

30-1



Joists J1 & J2

1 Each	12	Joists	J2			
40 Each	480	Joists	J1			
Space to be left blank	Total No.	Description	Mark	Remarks	Weight each Item	

Required By Shops — REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Ascertly marks for carbon steel prefixed with c, thus: ca, cb, etc., for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: by JOHN M BAILEY
RIVETS:
OPEN HOLES: 13/16"
Holes may be punched full size.

Shop Note:
Shop to Paint all Erection Marks on Left Hand End of Beams as detailed & in Upright Position.

FINISH: All sheared or flame cut edges and end, of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with hot steel stencils and paint.
SHOP P/INT: None, except: 1 coat No-Oxide Filler Red for base and cap plates of Towers, all Rivets, and of built up Chords and 1 coat "Acid Resisting Liquid" to milled ends of members, to mast-lined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith, also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	Appd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 4-6-34

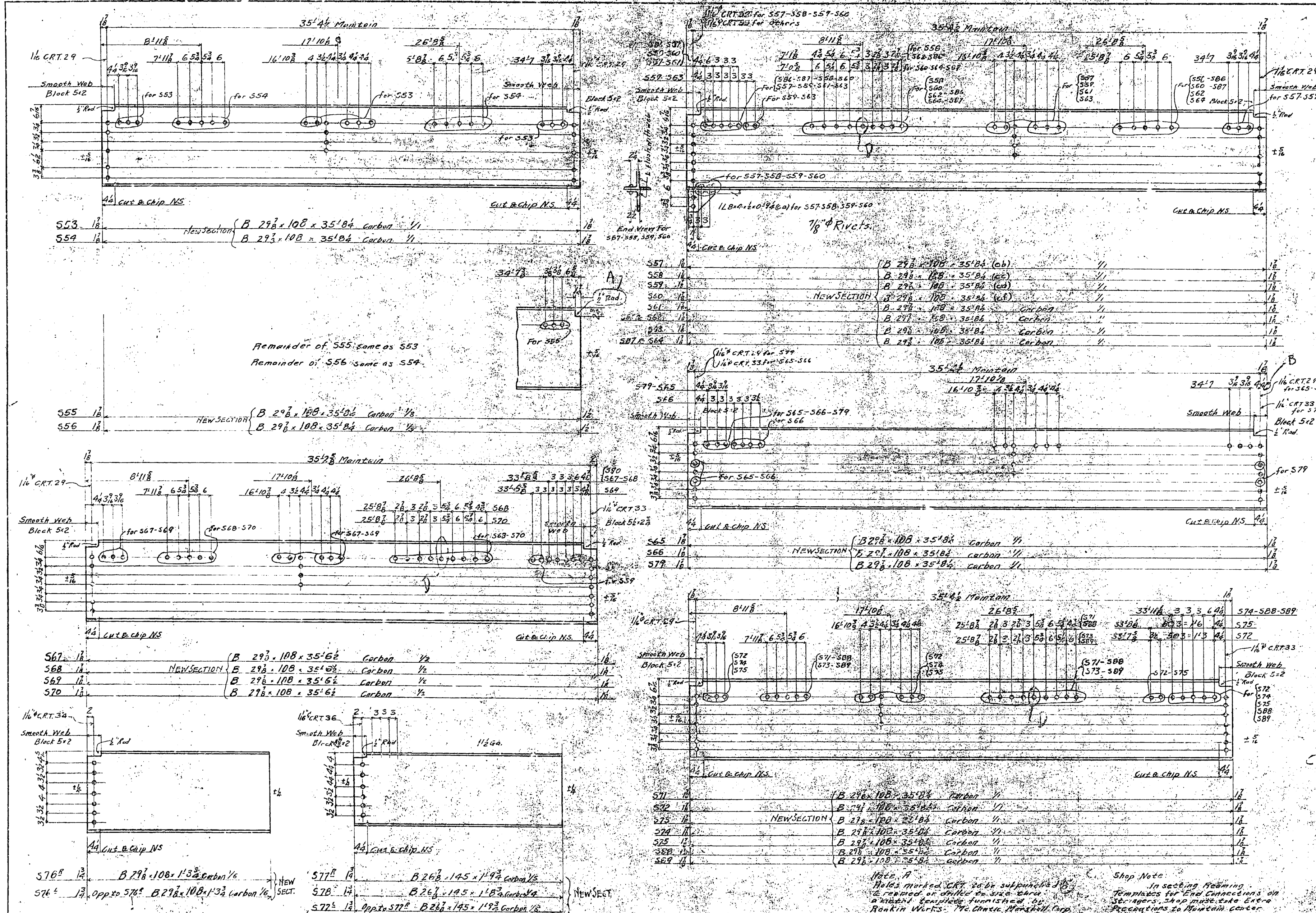
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

CHECKED ____ DRAWING FROM ____ DETAIL ____ TRACING
IN CHARGE Rodeway — PLACE OF FILE 3-17-34
CHECKED BY A.F.L. 3-24 — TRACED BY GAT 3-14-34
LAST CHECK — ITEM

CONTRACT DRAWING — SHEET 6 (601)

Rev 4-9-34

30-1



Note "A"
Holes marked CRT to be subpunched ⅛" & reamed or drilled to size thru a metal template furnished by Rankin Works - McClintic Marshall Corp.

Shop Note
In setting Reaming Templates for End Connections on Stringers, Shop must take Extra Precautions to Maintain center to Center distance of end holes as noted on details.
Shop to paint all Erection Marks on Left Hand End of Member as detailed and in Upright Position.

		1	1 Each		6	Lower Deck Railroad Stringers	589		
		1	1 Each		6	"	588		
			1 Each	1	6	"	587		
			1 Each	1	6	"	586		
1	1 Each				5	"	579		
						"			
				4	4	"	578		
			4 Each	4	24	"	577ᴸ		
		4	4 Each		24	"	577ᴿ		
	4 Each	4			20	"	576ᴸ		
4	4 Each				20	"	576ᴿ		
		1	1 Each		6	"	575		
		1	1 Each		6	"	574		
1	1 Each				5	"	573		
1	1 Each				5	"	572		
1	1 Each				5	"	571		
				1	1	"	570		
				1	1	"	569		
				1	1	"	568		
				1	1	"	567		
	1 Each	1			5	"	566		
	1 Each	1			5	"	565		
	1 Each	1			5	"	564		
			1 Each	1	6	"	563		
	1 Each	1			5	"	562		
			1 Each	1	6	"	561		
1					1	"	560		
1					1	"	559		
1					1	"	558		
1					1	"	557		
2	2 Each	2	2 Each	2	24	"	556		
2	2 Each	2	2 Each	2	24	"	555		
10	10 Each	10	10 Each	10	120	"	554		
10	10 Each	10	10 Each	10	120	"	553		
Span 11	Spans 12 to 15 Incl.	Span 16	Spans 17 to 21 Incl.	Span 22	Total No	Description	Mark	Remarks	Weight each Tons
REQUIRED BY SPANS					REQUIRED LIST				

MATERIAL:- All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: by John M. Bailey
RIVETS: As Noted
OPEN HOLES: ¹⁵⁄₁₆"ɸ Unless noted.
PUNCHING: Holes in material ¾" thick or less to be subpunched ⅛" and reamed to size. See Note "A"
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 4-6-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago Drawing Room — Beth Works
In Charge Anthony — Made by CAJ 3/2_/34
Checked by A.F.L. 4-3-34 — Traced by CAJ 3/26/34
Last Abetted (CM)

CONTRACT CK15806 — SHEET G 701

Rev. (A) 4/6/34
Rev. (B) 4-13-34
Rev. (C) 4-23-34
Rev. (D) 5-27-34

ELEVATION OF NORTH COLUMNS

SECTION 4-A BENT E4

SECTION B-B BENT E4

SECTION C-C BENT E5

SECTION D-D BENT E6

SECTION E-E BENT E7

SECTION F-F BENT E8

SECTION G-G BENT E9 (WEST)

SECTION H-H BENT E9 (EAST)

SECTION J-J BENT E10

SECTION K-K BENT E11

SECTION M-M BENT E11

SECTION N-N BENT E12

SECTION P-P BENT E13

SECTION T-T BENT E14

SECTION W-W BENT E15

SECTION X-X BENT E16

SOUTH ELEV. OF BENTS E9W & E9E

Note to Erector:- Struts T5E6 to be erected before placing Strut T5E5W. Flange Gusset plate-cac-not to be riveted to strut T5E6 until after Block-caf is in place and pin-gca driven. Weld fl-cbr to Flange Gusset fl-cac and Finish Flush.

Connection of gusset plates to diagonals- Use diagonals as templet and ream to size in gussets after dead load of truss is applied.

Connection of gusset plates to top of Columns- Use gusset plate as templet and ream to size in columns after the dead load of truss is applied.

Note to erector:- Struts to be erected before B Section of Column

Connection of gusset plates to columns- Use Column Angles as templet and ream to size in Gussets after the dead load of truss is applied.
Connection of Gusset Plates to diagonals- Use diagonals as templet and ream to size in gussets after dead load of truss is applied.

Note: SL. Slope Length. GL. Geometric Length.
Note to Erector: No diagonal bracing to be riveted to columns until the full dead load of the steel superstructure on both adjacent spans is in place
For notes regarding field welding of Col. Bents 3-67 & 8 to slabs see detail sheets R300 - Contract CR15801 for slabs and sheets No. R74 & R36 Contract CR15802 for Columns and ladders
All holes for connections of material for other trades to be drilled in field by others than McClintic-Marshall Corp.
Refer to platform drawings R28, R65, R66, R68 and R84 for assembling Tower Platform Handrailing.

See note for North Elev. Field Painting: As per Spec.

1-21	R2- Sht No. R1 to R300	
Date	Revision	Appd.

APPROVED

Glenn B. Woodruff	Engineer of Design
Chas. E. Andrew	Bridge Engineer
C.H. Purcell	Chief Engineer
Date	

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE EAST BAY CROSSING

ERECTION DIAGRAM

McCLINTIC-MARSHALL CORPORATION
STEELTON DRAWING ROOM - STEELTON WORKS
IN CHARGE: C.P. Boone
CHECKED BY: C.H.L.
MADE BY: R.W.A. 12-27-33

CONTRACT CR1580 SHEET RE1

30-1

LIST OF DRAWINGS

CONTRACT CR1580

Dwg. No.	Description
RE1	Erection Diagram
RE2	List of Drawings and Index (This Dwg.)

TOWERS - CONTRACT CR15802

Dwg. No.	Description
R1, R1A	Tower Sect. (Bott.) Bent E4 (East/West)
R2, R2A	Tower Sect. (2nd) Bent E4 (East/West)
R3, R3A	Tower Sect. (3rd) Bent E4 (East/West)
R4, R4A	Tower Sect. (4th) Bent E4 (East/West)
R5, R5A	Tower Sect. (5th Top) Bent E4 - "East"
R6, R6A	Tower Sect. (5th Top) Bent E4 - "West"
R7, R7A, R7B	Tower Sect. (Bott.) Bents E5-E6
R8, R8A	Tower Sect. (2nd) Bents E5-E6
R9, R9A	Tower Sect. (3rd) Bents E5-E6
R10, R10A	Tower Sect. (4th) Bents E5-E6
R11, R11A	Tower Sects (4th) Bent E7
R12, R12A	Tower Sect. (4th Top) Bent E8
R13, R13A	Tower Sect. (5th Top) Bent E5
R14, R14A	Tower Sect. (5th Top) Bent E6
R15, R15A	Tower Sect. (Bott.) Bent E9 (East/West)
R16, R16A	Tower Sect. (2nd) Bent E9 (East)
R17, R17A	Tower Sect. (3rd) Bent E9 (East)
R18	Tower Sect. (4th Top) Bent E9 (East)
R19, R19A	Tower Sect. (4th Top) Bent E9 (West)
R20	Platform for Towers Bents E13 to E16 Incl.
R21, R21A	Tower Sects. (Bott.) Bents E13 to E16 Incl.
R22	Tower Sect. (2nd) Bents E13-E14

CONTRACT CR15802 (Cont'd.)

Dwg. No.	Description
R23	Tower Sect. (3rd Top) Bent E13
R24	Tower Sect. (2nd Top) Bent E16
R25	Tower Sect. (2nd Top) Bent E15
R26	Tower Sect. (3rd Top) Bent E14
R27, R27A	Tower Sect. (Bott.) Bent E10
R28, R28A	Tower Sect. (Bott.) Bent E12
R29, R29A	Tower Sect. (2nd) Bent E10
R30, R30A	Tower Sect. (2nd) Bent E12
R31	Tower Sect. (3rd Top) Bent E12
R32, R32A	Tower Sect. (Bott.) Bent E11 (East/West)
R33	Tower Sect. (2nd) Bent E11 (East/West)
R34, R34A	Tower Sect. (3rd Top) Bent E11 (East/West)
R35	Tower Sect. (5th Top) Bent E7
R36	Tower Sect. (3rd) Bent E10
R37	Tower Sect. (4th Top) Bent E10
R38, R38A, R38B	Tower Sect. (Bott.) Bents E7-E8
R39, R39A	Tower Sect. (2nd) Bents E7-E8
R40, R40A	Tower Sect. (3rd) Bents E7-E8
R41	Tower Sect. (2nd) Bents E9 (West)
R42, R42A	Tower Sect. (3rd) Bents E9 (West)
R43	Tower Platforms - Bents E10; E12
R44	Tower Platforms - Bents E5 to E8 Incl.
R45	Tower Platforms - Bents E4
R46	Tower Platforms - Bent E9E, E9W and E11

STRUTS CONTRACT CR15803

Dwg. No.	Description
R101	Top Cross Gdr. - Bent E9 (East)
R102, R103	Struts (Long'td) Bent E9
R104	Struts (Top and Bott. Bent E9-West; Bott. of Bent E9-East)
R105	Struts (Bott.) Bent E9 (West)
R106	Struts (Top) - Bent E4 (East)
R107	Struts Bents E12 to E16 Incl.
R108	Struts (Top of Bent E11-East; Top and Bott. of Bent E10)
R109	Struts (Bott.) Bent E11 (East/West)
R110	Strut (Top) Bent E11 (West)
R111, R111A	Struts (Bott.) Bents E5 to E8 Incl.

CONTRACT CR15803 (Cont'd.)

Dwg. No.	Description
R112	Strut (Top) Bent E4 (West)
R113	Struts (Bott.) Bent E4 (East/West)
R114, R114A	Struts (Top) Bents E5 to E8 Incl.

DIAGONALS CONTRACT CR15804

Dwg. No.	Description
R201	Diagonal (Longt.) Bent E9
R202, R203, R204, R205	Diagonal (Transv.) Bent E9
R206, R207	Diagonals (Trans.) Bent E4
R208	Diagonals (Trans.) Bent E16
R209	Diagonals (Trans.) Bent E14
R210	Diagonals (Trans.) Bent E15
R211	Diagonals (Trans.) Bent E13
R212	Diagonals (Trans.) Bent E4
R213	Diagonals (Trans.) Bent E10
R214	Diagonals (Trans.) Bent E12
R215	Diagonals (Trans.) Bent E8
R216, R217	Diagonals (Trans.) Bent E8
R218, R219	Diagonals (Trans.) Bent E11
R220, R221, R222	Diagonals (Trans.) Bent E7
R223, R224, R225	Diagonals (Trans.) Bent E6
R226, R227, R228	Diagonals (Trans.) Bent E5
R229	Diagonals (Longt.) Bent E9

DOORS-DIAPHRAGMS-LADDERS

Dwg. No.	Description	Contract
RJS1	Diaphragms - Cols. - Bents E12 to E16 Incl.	CR15802 - ok
RJS2	Diaphragms - Struts and Diagonals	CR15803-4 - ok
RJS3	Diaphragms - Cols. - Bents E10-E12	CR15802
RJS4	Diaphragms - Cols. - Bents E5 to E8 Incl.	CR15802
RJS5	Ladders - ok	CR15802
RJS6	Doors - Bents E10 to E16 Incl. - ok	CR15802
RJS7, RJS8	Diaphragms - Cols. - Bents E5 to E3 Inc.	CR15802
RJS9	Diaphragms - Cols. - Bent E9	CR15802
RJS10	Doors - Bents E4 to E9 incl.	

INDEX TO MARKS

CONTRACT CR15802 TOWER SECTIONS

General Mark TN and TS	A	B	C	D	E (Sheet Letter Large)
W4	R1 R1A	R2 R2A	R3 R3A	R4 R4A	R6 R6A
E4	R1 R1A	R2 R2A	R3 R3A	R4 R4A	R5 R5A
5	R7-R7A R13	R8 R8A	R9 R9A	R10 R10A	R13 R13A
6	R7-R7A R7B	R8 R8A	R9 R9A	R10 R10A	R14 R14A
7	R38-R38A R38B	R39 R39A	R40 R40A	R11 R11A	R35
8	R38-R38A R38B	R39 R39A	R40 R40A	R12 R12A	
W9	R15 R15A	R41	R42 R42A	R19 R19A	
E9	R15 R15A	R16 R16A	R17 R17A	R18	
10	R27 R27A	R29 R29A	R36	R37	
W11	R32 R32A	R33	R34 R34A		
E11	R32 R32A	R33	R34 R34A		
12	R28 R28A	R30 R30A	R31		
13	R21 R21A	R22	R23	ok	
14	R21 R21A	R22	R26		
15	R21 R21A	R25			
16	R21 R21A	R24			

CONTRACT CR15304 TOWER BRACING

General Mark B	A	B	C	D	E	F	G	H (Sheet Letter Large)
4W	R206	R206	R206	R207	R207	R207	R212	R212
4E	R206	R206	R206	R207	R207	R207	R212	R212
5	R226	R226	R226	R227	R227	R228	R228	
6	R223	R224	R225	R223	R223	R225	R224	
7	R220	R220	R220	R221	R221	R222	R222	
8	R215	R217	R216	R215	R215	R216	R217	
9N	R229	R201	R229	R201	R201	R229		
9S	R229	R201	R229	R201	R201	R229		
9W	R202	R202	R202	R203		R203	R205	R205
9E	R202	R202	R202	R203		R203	R204	R204
10	R213	R213	R213	R213				
11W	R218	R219	R218	R219				
11E	R218	R218	R218	R218				
12	R214	R214	R214					
13	R211	R211	R211					
14	R209	R209	R209	R209				
15	R210	R210	R210	R210				
16	R208	R208	R208	R208				

CONTRACT-CR15803

General Mark TS	TOP STRUT	General Mark BS	BOTT. STRUT	Sheet Letter Large
4W	R112	4W	R113	
4E	R106	4E	R113	
5	R114	5	R111	
6	R114	6	R111	
7	R114	7	R111	
8	R114	8	R111	
9WA	R104	9EA 9WA	R104	
9NB 9SB	R103	9NA 9SA	R105	
10	R108	10	R108	
11W	R110	11	R109	
11E	R108			
12	R107	12	R107	
13	R107	13	R107	
14	R107	14	R107	
15	R107	15	R107	
16	R107	16	R107	
LONG'TD STRUTS	B9NH-B9SH, B9NG-B9SG	Dwg. R102		

COL.-DIAPHRAGMS CONTRACT-CR15802

General Mark D	0	1	2	3	4	5	6	7	8 (Sheet Letter Large)	9
		RJS1	RJS1	RJS1	RJS1	RJS1	RJS1	RJS1	RJS1	
1	10A-RJS1 RJS1	RJS3	RJS3	RJS3	RJS3	RJS3	RJS3	RJS3	RJS3	RJS3
2	RJS3	RJS3	RJS3	RJS3	RJS3	RJS3	RJS3	RJS9	RJS9	RJS9
3	RJS9	RJS9	RJS9	RJS9	RJS9	RJS9	RJS9	RJS9	RJS9	
4										
5	RJS4	RJS4	52A-RJS4 RJS4	RJS4	RJS4	RJS4	RJS4	RJS7	RJS7	RJS7
6	RJS7	RJS7	62A-RJS4 62-RJS7	RJS7	RJS7	RJS7	RJS7	RJS7	RJS7	RJS8
7	RJS8	RJS8	RJS8	RJS8	RJS8	RJS8	RJS8	RJS8	RJS8	RJS8

STRUT DIAPHRAGMS CONTRACT CR15803

General Mark SD	0	1	2	3	4	5	6	7	8 (Sheet Letter Large)	9
		RJS2	RJS2	RJS2	RJS2	RJS2	RJS2	RJS2	RJS2	RJS2
1	RJS2									

BRACING DIAPHRAGMS CONTRACT-CR15804

General Mark DD	0	1	2	3	4	5	6	7	8 (Sheet Letter Large)	9
		RJS2	RJS2	RJS2	RJS2	RJS2	RJS2	RJS2	RJS2	RJS2
1	RJS2	RJS2								

MISCELLANEOUS

MISCELLANEOUS	Dwg. No.	Contract
Platforms TP13-14-15-16 - Railing THR1	R20	CR15802
Platforms LB2	R34	CR15802
Platforms TP10-12 Railing THR2	R43	CR15802
Platforms TP5-6-7-8 - Railing THR3	R44	CR15802
Platforms - TP4E-4W - Railing THR4	R45	CR15802
Platforms - TP9E-TP9W-TP11E-TP18; Railing THR5-THR7; Brackets - TB9E-TB9W-TB11EA-TB11EB	R46	CR15802
Ladders (TL1 to TL16 - TL18 to TL32 - TL34 - TL35)	RJS5	CR15802
Doors (TLP2-3-4)(H1-2-3)(TD1-2-3)	RJS6	CR15802
Doors (TLP5-6-7-9-9A) (H4)(TD4-5-7)	RJS10	CR15802
Reaming Templates RRT1 to RRT9 Incl.	RTS1	CR15802
Reaming Templates RRT10 to RRT14	RTS2	CR15802
Cross Girder - CG9E	R101	CR15803
Slabs for Cols CS1-CS2	R300	CR15801
Brackets - TB5E-TB6E-TB7E-TB8D	R12A	CR15802

REAMING TEMPLATES CONT. CR15802

Dwg. No.	Description
RTS1	Reaming templates Bents E9E to E16 Incl.
RTS2	Reaming templates Bents E4 to E9W Incl.

SLABS-CONTRACT-CR15801

Dwg. No.	Description
R1, R1A	Slabs for Col. Bent E4 (East/West)
R15, R15A	do do do do E9 (East/West)
R21, R21A	do do do do E13 to E16 Incl.
R27, R27A	do do do do E10
R28, R28A	do do do do E12
R32, R32A	do do do do E11 (East/West)
R300	do do do do E5 to E8 Incl.
R18	do do do do E9 (East Top)
R19, R19A	do do do do E9 (West Top)

Date	Revision	App'd.

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date:

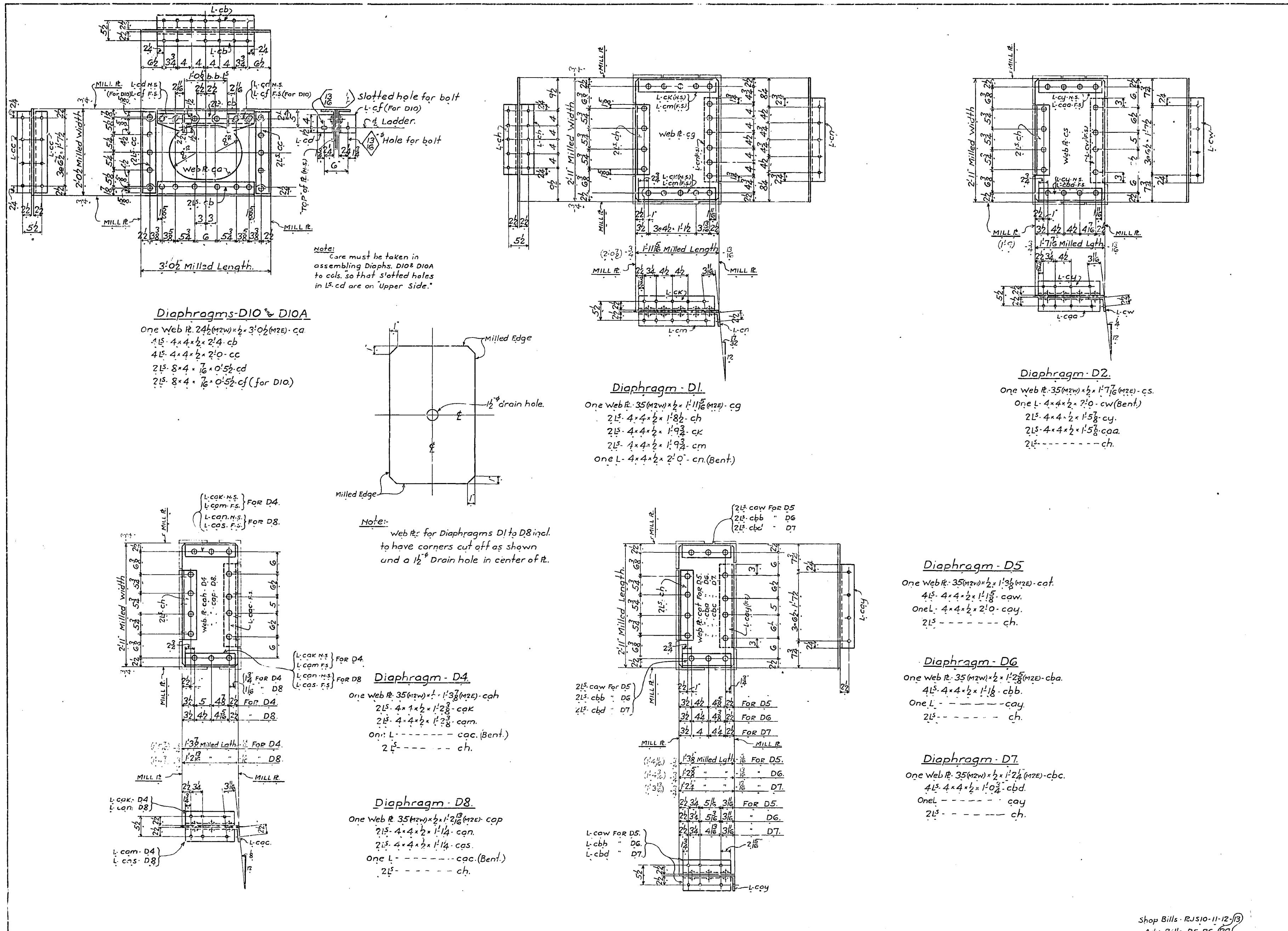
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

List of Drawings and Marking Index

McCLINTIC-MARSHALL CORPORATION
ST..TON DRAWING ROOM — STEELTON WORKS

IN CHARGE
CHECKED BY
LAST ASSEM. MK.
MADE BY / TRACED BY — D.R.B. 3/26/34

CONTRACT CR 1580 — SHEET RE2



Bent #10.	Bent #12.	Bent #13.	Bent #14.	Bent #15.	Bent #16.				
No.	No.	No.	No.	No.	No.	Description	Mark	Remarks	Weight each Tons
2	2	2	2	2	2	Diaphragms	D10A.		
16.	12	12.	10.	8.	6.	"	D10.		
-	-	-	-	4.	-	"	D8.		
-	-	4.	-	-	-	"	D7.		
-	-	4.	4.	-	-	"	D6.		
-	-	4.	4.	-	-	"	D5.		
-	-	4.	4.	4.	4.	"	D4.		
-	-	4.	4.	4.	4.	"	D3.		
-	-	4.	4.	4.	4.	"	D2.		
-	-	4.	4.	4.	4.	"	D1.		

Added 1/31/34 (first two columns)

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey - Chief Insp.
RIVETS: ⅞"φ
OPEN HOLES: 1 1/16"φ unless noted.
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

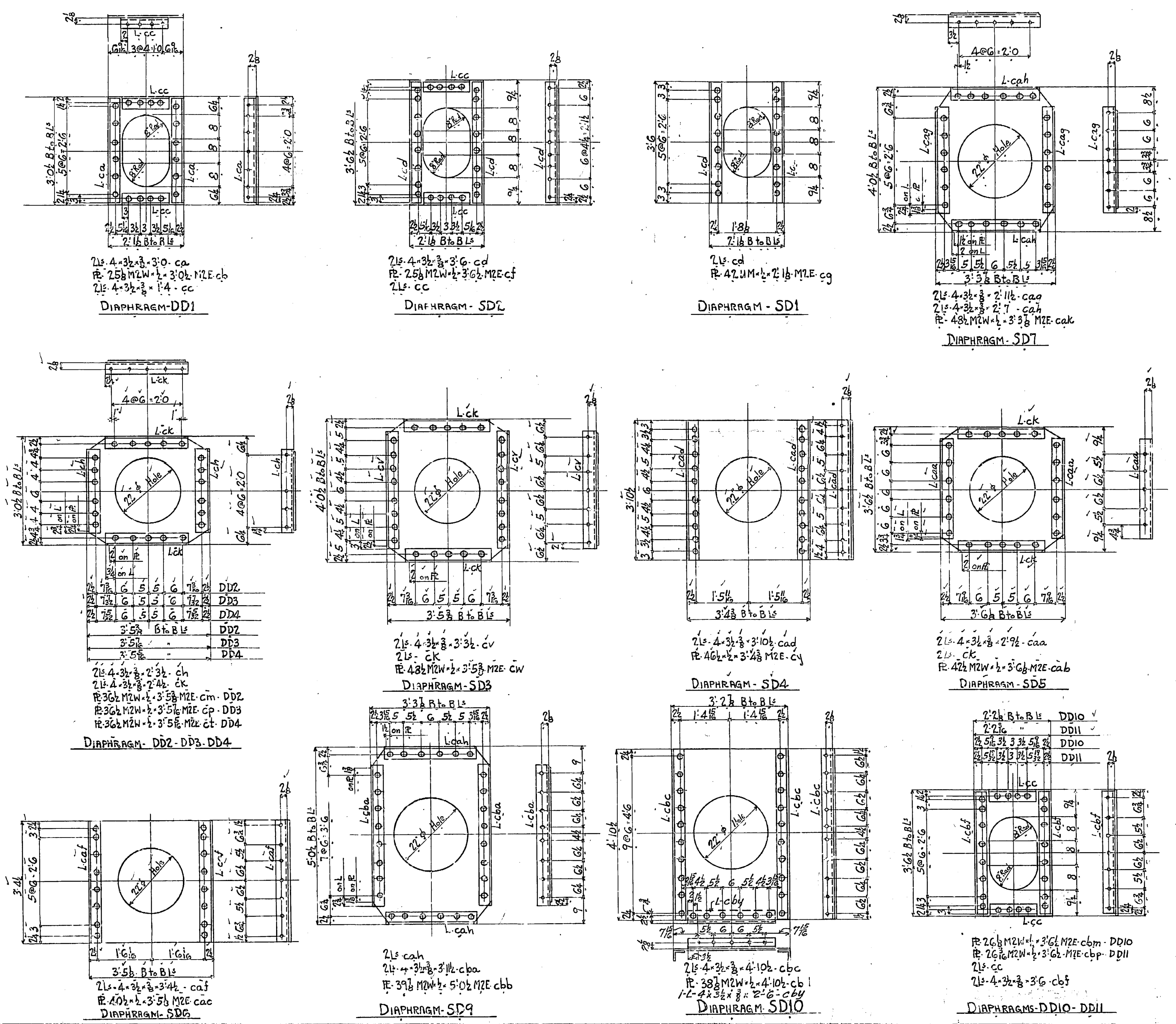
APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 3-7-34

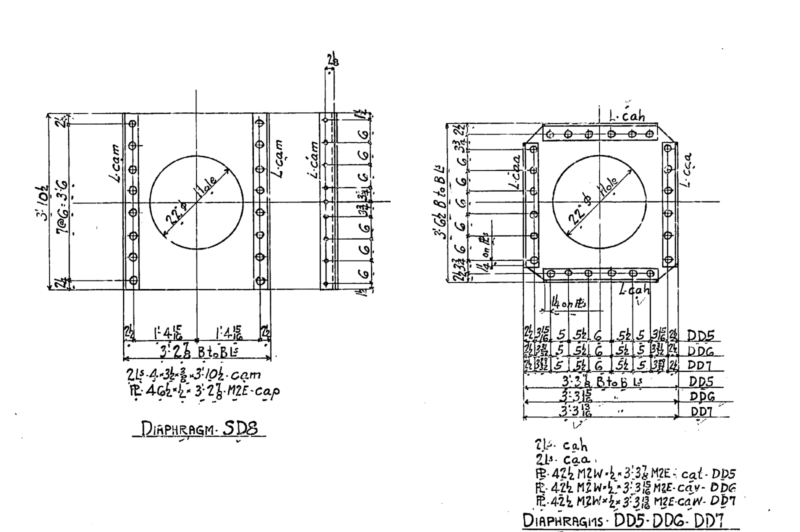
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

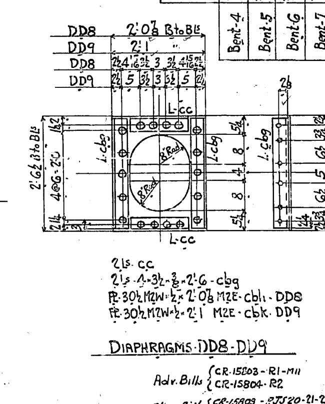
Column Diaphragms - E13 to E16 incl. E10 & E12

McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM — Steelton WORKS
IN CHARGE Boone — MADE BY / TRACED BY J.N.B. 1/19/34
CHECKED BY C.F.R. 1/22/34
LAST ASSEM. MK. cbd

CONTRACT CR15802 — SHEET R. JS1







Contract	No. Bent-4	No. Bent-5	No. Bent-6	No. Bent-7	No. Bent-8	No. Bent-9	No. Bent-10	No. Bent-11	No. Bent-12	No. Bent-13	No. Bent-14	No. Bent-15	No. Bent-16	Description	Mark	Remarks	Weight each Tons
CR15804	12													Diaphragms	DD11		
CR15804	20													Do	DD10		
CR15804						16								Do	DD9		
CR15804						16								Do	DD8		
CR15803		One	One	One	One									Do	SD10		
CR15803		2	2	2	2									Do	SD9		
CR15803		One	One	One	One									Do	SD8		
CR15803		2	2	2	2									Do	SD7		
CR15804		8	8	8	10									Do	DD7		
CR15804		2	2	2	2									Do	DD6		
CR15804		6	6	6	4									Do	DD5		
CR15803								2						Do	SD6		
CR15803								4						Do	SD5		
CR15803								One						Do	SD4		
CR15803								2						Do	SD3		
CR15804								6						Do	DD4		
CR15804								4						Do	DD3		
CR15804								6						Do	DD2		
CR15803							4		4	4	4	4	4	Do	SD2		
CR15803							2		2	2	2	2	2	Do	SD1		
CR15804							8		8	8	8	8	8	Do	DD1		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey-Chief Insp.
RIVETS: ⅞" ϕ
OPEN HOLES: 15/16" ϕ
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
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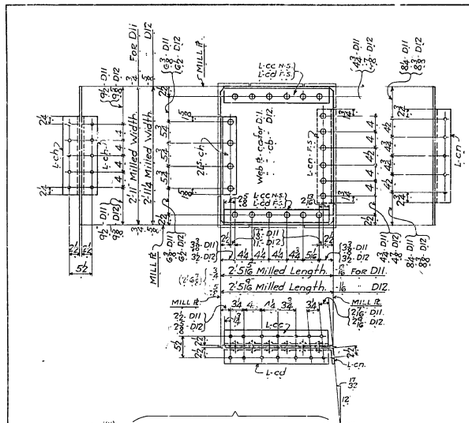
Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 3-7-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

Diaphragms for Struts and Diagonals

McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS
IN CHARGE Boone MADE BY JAS
CHECKED BY C.F.R. 1/23-34 TRACED BY
LAST ASSEM. MK. cby
CONTRACT CR15803 CR15804 SHEET RJS2

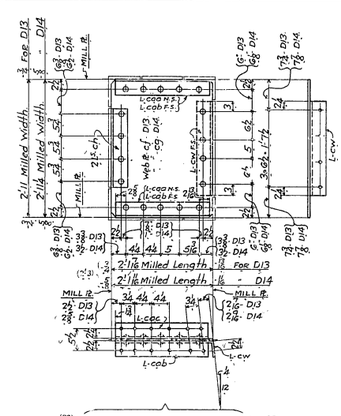


(D11) **Diaphragm - D11** (Bent E12).

One Web ℝ - 35½(M2W) × ½ × 2'-5⅞(M2E) - ca.
2 L⁵ - 4 × 4 × ½ × 2'-4 - cc.
2 L⁵ - 4 × 4 × ½ × 2'-4 - cd.
2 L⁵ - 4 × 4 × ½ × 1'-8½ - ch.
One L - 4 × 4 × ½ × 2'-10 - cn (Bent).

(D12) **Diaphragm - D12** (Bent E10).

One Web ℝ - 35½(M2W) × ½ × 2'-5⅝(M2E) - cb.
2 L⁵ - - cc.
2 L⁵ - - cd.
2 L⁵ - - ch.
One L - - cn (Bent).

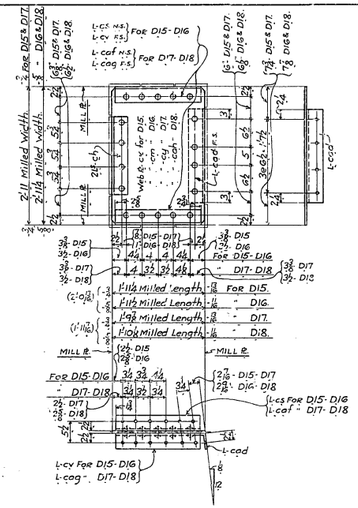


(D13) **Diaphragm - D13** (Bent E12).

One Web ℝ - 35½(M2W) - ½ × 2'-11⅛(M2E) - cf
2 L⁵ - 4 × 4 × ½ × 2'-0⅝ - caa.
2 L⁵ - 4 × 4 × ½ × 2'-0⅝ - cab.
One L - 4 × 4 × ½ × 2'-0 - cw (Bent).
2 L⁵ - - - - - - - - ch.

(D14) **Diaphragm - D14** (Bent E10).

One Web ℝ - 35½(M2W) × ½ × 2'-11⅛(M2E) - cg.
2 L⁵ - - caa.
2 L⁵ - - cab.
One L - - cw (Bent).
2 L⁵ - - ch.



(D15) **Diaphragm - D15** (Bent E12).

One Web ℝ - 35(M2W) × ½ × 1'-11⅛(M2E) - cx.
2 L⁵ - 4 × 4 × ½ × 1'-9⅞ - cs.
2 L⁵ - 4 × 4 × ½ × 1'-9⅞ - cy.
One L - 4 × 4 × ½ × 2'-0 - cad (Bent).
2 L⁵ - - - - - - - - ch.

(D16) **Diaphragm - D16** (Bent E10).

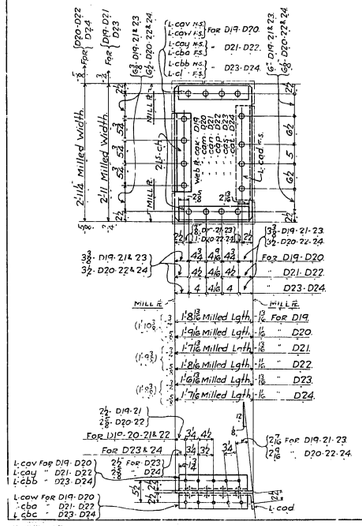
One Web ℝ - 35½(M2W) × ½ × 1'-11½(M2E) - cm.
2 L⁵ - - cs.
2 L⁵ - - cy.
One L - cad (Bent.)
2 L⁵ - - ch.

(D17) **Diaphragm - D17** (Bent E12).

One Web ℝ - 35(M2W) × ½ × 1'-9⅞(M2E) - cy.
2 L³ - 4 × 4 × ½ × 1'-8½ - caf.
2 L⁵ - 4 × 4 × ½ × 1'-8½ - cag.
One L - cad (Bent.)
2 L⁵ - - ch.

(D18) **Diaphragm - D18** (Bent E10).

One Web ℝ - 35½(M2W) × ½ × 1'-10⅛(M2E) - cah.
2 L⁵ - - caf
2 L⁵ - - cag.
One L - cad (Bent.)
2 L⁵ - - ch.



(D19) **Diaphragm - D19** (Bent E12).

One Web ℝ - 35½(M2W) × ½ × 1'-8⅞(M2E) - cax.
2 L⁵ - 4 × 4 × ½ × 1'-7½ - cav.
2 L⁵ - 4 × 4 × ½ × 1'-7½ - caw.
One L - - - - - - - - cad (Bent.)
2 L⁵ - - - - - - - - ch.

(D20) **Diaphragm - D20** (Bent E10).

One Web ℝ - 35½(M2W) × ½ × 1'-9⅛(M2E) - cam.
2 L⁵ - - cav.
One L - - cad (Bent.) 2 L⁵ - - caw.
2 L⁵ - - ch.

(D21) **Diaphragm - D21** (Bent E12).

One Web ℝ - 35(M2W) × ½ × 1'-7⅞(M2E) - can.
2 L⁵ - 4 × 4 × ½ × 1'-6½ - cay.
2 L⁵ - 4 × 4 × ½ × 1'-6½ - cba.
One L - cad (Bent) 2 L⁵ - - ch.

(D22) **Diaphragm - D22** (Bent E10).

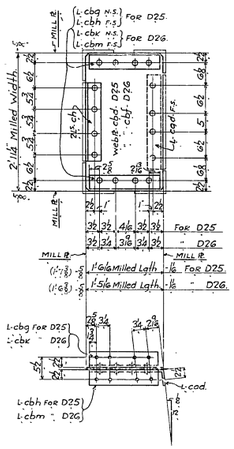
One Web ℝ - 35½(M2W) × ½ × 1'-8⅛(M2E) - cap.
2 L⁵ - - cay
2 L⁵ - - cba.
One L - - cad (Bent.) 2 L⁵ - - ch.

(D23) **Diaphragm - D23** (Bent E12).

One Web ℝ - 35(M2W) × ½ × 1'-6⅞(M2E) - cas.
2 L⁵ - 4 × 4 × ½ × 1'-5½ - cbb.
2 L⁵ - 4 × 4 × ½ × 1'-5½ - cbc.
One L - - cad (Bent.) 2 L⁵ - - ch.

(D24) **Diaphragm - D24** (Bent E10).

One Web ℝ - 35½(M2W) × ½ × 1'-7⅛(M2E) - cat
2 L⁵ - - cbb
2 L⁵ - - cbc.
One L - cad (Bent.) 2 L⁵ - - ch.

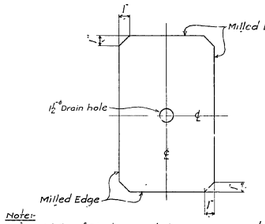


(D25) **Diaphragm - D25** (Bent E12).

One Web ℝ - 35½(M2W) × ½ × 1'-9⅛(M2E) - cbd.
2 L⁵ - 4 × 4 × ½ × 1'-4½ - cbg.
2 L⁵ - 4 × 4 × ½ × 1'-4½ - cbh.
One L - - - - - - - cad (Bent.)
2 L⁵ - - - - - - ch.

(D26) **Diaphragm - D26** (Bent E10).

One Web ℝ - 35½(M2W) × ½ × 1'-5⅞(M2E) - cbf
2 L⁵ - 4 × 4 × ½ × 1'-3½ - cbk.
2 L⁵ - 4 × 4 × ½ × 1'-3½ - cbm.
One L - - - - - - - cad (Bent.)
2 L⁵ - - - - - - ch.



Note:-
Web ℝs. of Diaphragms to have corners cut off as shown, and a 1½" drain hole in center of ℝ.

No.	Bent #10	Bent #12	Description	Mark	Remarks	Weight each Tons
4	–	–	Diaphragms.	D26		
4	..	..	"	D25		
4	..	..	"	D24		
–	4	–	"	D23		
4	–	–	"	D22		
–	4	–	"	D21		
4	–	–	"	D20		
–	4	–	"	D19		
4	–	–	"	D18		
–	4	–	"	D17		
4	–	–	"	D16		
–	4	–	"	D15		
4	–	–	"	D14		
4	–	–	"	D13		
4	–	–	"	D12		
–	4	–	"	D11		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. An ambiguous marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: cs, cb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey - chief Insp.
RIVETS: ⅞" ☐ V
OPEN HOLES: 1/16
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat Pro-Dux Filler Red for base and end plates of Towers, of Deck, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, finished surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

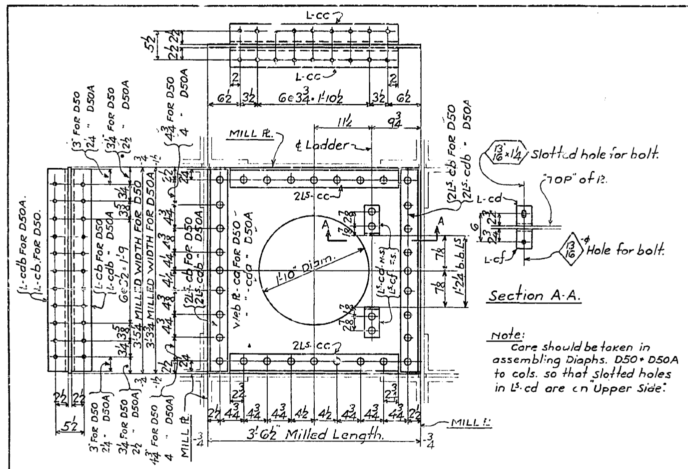
Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 3-7-34.

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Column Diaphragms - Bents E10 & E12.
McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS
IN CHARGE Boone, CHECKED BY C.E.R. 3-7-34, LAST ASSIGN. No.
MADE BY J.N. 13 1/2 3/34, TRACED BY

CONTRACT SR15002 SHEET 153

Shop Bills:- RJS30-31-32-33-34-35.
Adv. Bills:- R9-R10.



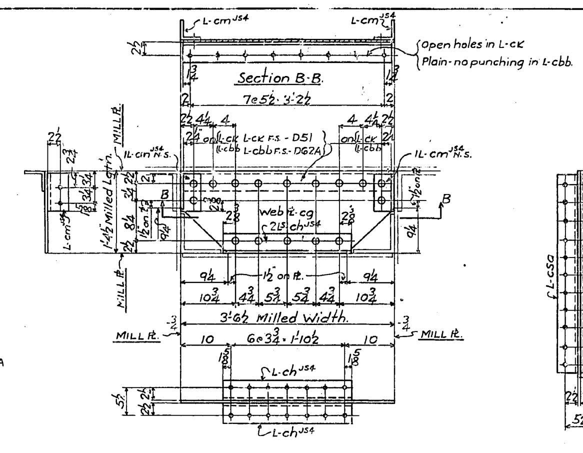
Note: Care should be taken in assembling Diaphs. D50 & D50A to cols. so that slotted holes in L^s.cd are on "Upper Side".

Diaphragm - D50

One Web Pl. 41¼(M2W) × ½ × 3'-6½(M2E) - ca.
4L^s. 4×4×½ × 3'-4¾ - cb.
4L^s. 4×4×½ × 2'-9½ - cc.
2L^s. 6×4×⅜ × 0'-3" - cd.
2L^s. 6×4×⅜ × 0'-3 - cf.

Diaphragm - D50A.

One Web Pl. 39¾(M2W) × ½ × 3'-6½(M2E) - cda
4L^s. 4×4×½ × 3'-3¼ - cdb.
4L^s - - - - - - - cc
2L^s - - - - - - - cd
2L^s - - - - - - - cf.

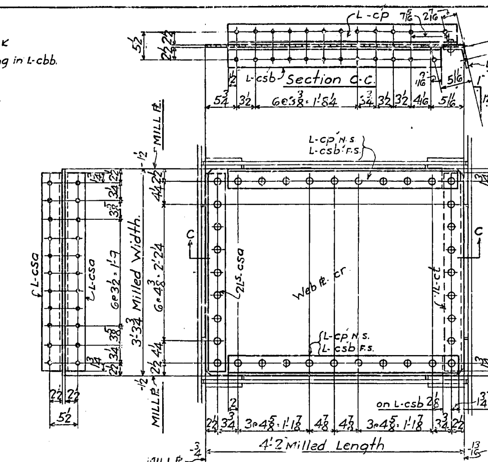


Diaphragm - D51.

One Web Pl. 42½(M2W) × ½ × 1'-4½(M2E) - cg
2L^s. 4×4×½ × 2'-1¾ - ch^{JS4}
One L. 4×4×½ × 3'-6 - ck
2L^s. 4×4×½ × 0'-7⅝ - cm^{JS4}

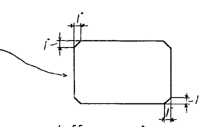
Diaphragm - D62A.

One Web Pl. - - - cg.
2L^s - - - - - ch^{JS4}
One L. 4×3×½ × 3'-6 - cbb
2L^s - - - - - - cm^{JS4}

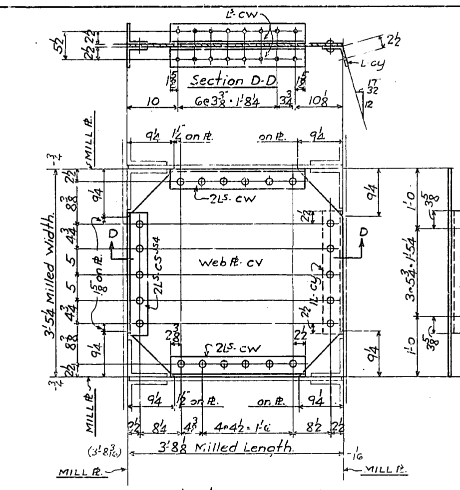


Diaphragm - D52

One Web Pl. 39¾(M2W) × ½ × 4'-2" (M2E) - cn.
2L^s. 4×4×½ × 3'-9" - cp.
2L^s. 4×4×½ × 3'-2¼ - csa.
One L. 4×4×½ × 3'-2¼ - ct. (Bent.)
2L^s. 4×4×½ × 3'-5⅝ - csb.

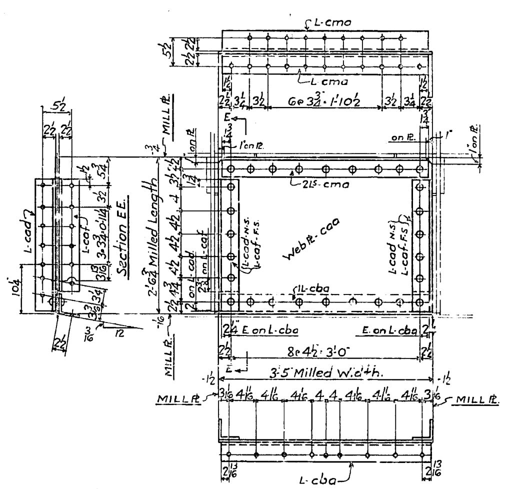


Cut off corners of Web Pl. - cn.



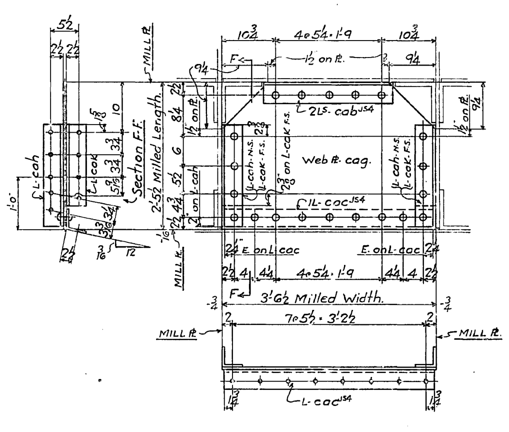
Diaphragm - D54.

One Web Pl. 41¼(M2W) × ½ × 3'-8⅛(M2E) - cv.
4L^s. 4×4×½ × 2'-3¼ - cw.
2L^s. 4×4×½ × 2'-0½ - cs^{JS4}
One L. 4×4×½ × 2'-0½ cy (Bent.)



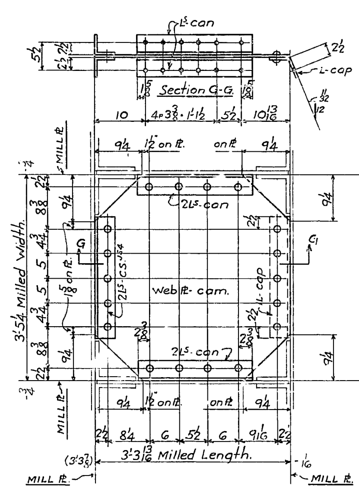
Diaphragm - D53.

One Web Pl. 41(M2W) × ½ × 2'-6¾(M2E) - caa
2L^s. 4×4×½ × 3'-3½ - cma
One L. 4×4×½ × 3'-4½ - cba - (Bent.)
2L^s. 4×4×½ × 2'-2" - cad.
2L^s. 4×4×½ × 1'-9⅝ - caf.



Diaphragm - D55.

One Web Pl. 42½(M2W) × ½ × 2'-5½(M2E) - cag.
2L^s. 4×4×½ × 1'-8⅝ - cah.
2L^s. 4×4×½ × 1'-4¼ - cak.
One L. 4×4×½ × 3'-6" - cac^{JS4} (Bent.)
2L^s - - - - - - - - cab^{JS4}



Diaphragm - D56.

One Web Pl. 41¼(M2W) × ½ × 3'-3 13/16(M2E) - cam.
4L^s. 4×4×½ × 1'-10¼ - can.
One L. 4×4×½ × 2'-0½ - cap (Bent.)
2L^s - - - - - - - cs^{JS4}.

Shop Bills:- RJS40 - RJS41 & RJS42

Bent #5 No.	Bent #6 No.	Bent #7 No.	Bent #8 No.	Description	Mark	Remarks	Weight each Tons
2	2	-	-	Diaphragms	D62A.		
-	2	2	-	"	D50A.		
4	4	4	4	"	D56		
2	2	2	2	"	D55		
4	4	4	4	"	D54		
2	2	2	2	"	D53		
4	4	4	4	"	D52		
32	32	30	22	"	D51		
28	26	24	22	"	D50		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey - Chief Insp.
RIVETS: ⅞"φ
OPEN HOLES: 1 1/16"φ unless noted
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched 1/3" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except: 1 coat No-Oxid Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd
5/3	R2 - [illegible] Length of L can	
5/1	R1 - [illegible] - Diaphs - D51 & D62A	

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 4-11-34

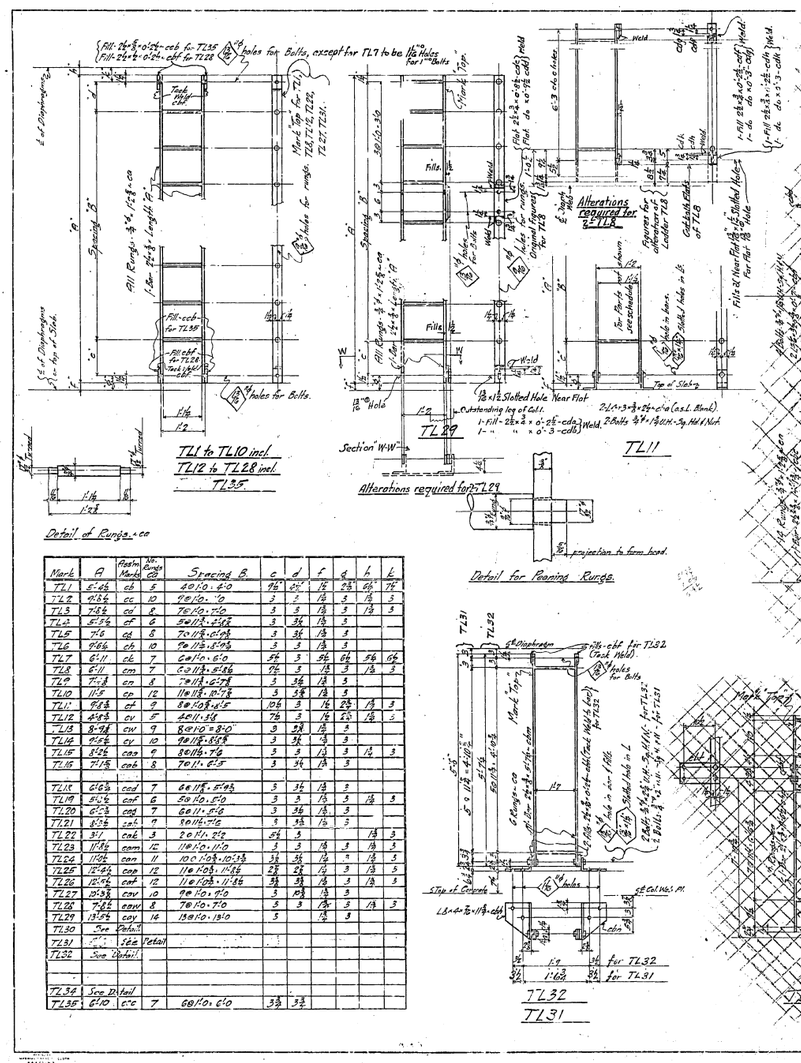
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

Column Diaphragms - Bents (E5 to E8 incl.)

[illegible]NTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS

IN CHARGE Boone
CHECKED BY [illegible]
LAST ASSEM. MK. cbb
MADE BY / TRACED BY J. D. B. 1/29/34

CONTRACT [illegible]R15802
SHEET R JS4



Mark	Q	Reqd in Mark	No. Rungs Req'd	Spacing B.	c	d	f	g	L	L
TL1	5'-6½	ab	5	20'10 - 6'0	7½"	6½"	1½	2½	6½"	7½"
TL2	6'-6½	cc	10	9'8 1/2 - 10	3	1	1⅛	3	1⅛	3
TL3	7'-6½	ad	8	7'8 1/2 - 7'10	3	3	1⅛	3	1⅛	3
TL4	8'-6½	ae	6	5'11⅞ - 6'5⅞	3	3⅝	1⅛	3		
TL5	9'6	af	8	7'0 1/8 - 7'4⅜	3	3⅝	1⅛	3		
TL6	9'-6½	ah	10	5'9 1/8 - 5'11⅜	3	3	1⅛	3		
TL7	6'-11	ck	7	6'8 1/2 - 6'10	5⅝	3	5⅝	6¼	5⅝	6¼
TL8	6'-11	cm	7	6'11⅞ - 7'4⅝	6¼	3	1⅛	3	1⅛	3
TL9	7'-1⅜	cn	8	7'11⅞ - 8'1⅜	3	3⅝	1⅛	3		
TL10	11'-5	co	12	11'11⅞ - 12'1⅜	3	3⅝	1⅛	3		
TL11	9'-3⅜	cf	9	8'10 3/8 - 8'5⅝	10⅝	3	1⅛	2⅜	1⅛	3
TL12	6'-9½	cv	8	6'11⅛ - 7'2	7⅛	3	1⅛	2⅜	1⅛	3
TL13	8'-7⅜	cw	9	8'0 1/2 - 8'3"	3	2⅝	1⅛	3		
TL14	9'-6½	cv	10	9'11⅛ - 10'1⅜	3	3½	1⅛	3		
TL15	8'-6½	cas	9	8'11⅞ - 9'4	3	3	1⅛	3	1⅛	3
TL16	7'-1⅜	cab	8	7'0 1/8 - 7'5"	3	3⅝	1⅛	3		
TL17	6'6½	cad	7	6'11⅞ - 6'10⅜	3	3½	1⅛	3		
TL18	5'-6½	cae	6	5'8 1/2 - 5'10	3	3	1⅛	3	1⅛	3
TL20	6'-2⅜	caq	7	6'0 1/2 - 6'4	3	3⅝	1⅛	3		
TL21	8'-3½	cal	9	8'0 1/2 - 8'4	3	3½	1⅛	3		
TL22	3'1	cak	3	2'0 1/2 - 2'5	5⅝	3			1⅛	3
TL23	11'-6½	cam	12	11'8 1/2 - 11'10	3	3	1⅛	3	1⅛	3
TL24	11'-2½	can	11	10'0 1/2 - 10'2 1/2	3⅛	3⅛	1⅛	3	1⅛	3
TL25	12'-6½	cap	12	11'8 1/2 - 11'11⅜	2⅞	2⅞	1⅛	3	1⅛	3
TL26	12'-6½	cat	12	11'8 1/2 - 11'11⅜	2⅞	2⅞	1⅛	3	1⅛	3
TL27	10'-3⅜	cav	10	9'8 1/2 - 9'10	3	10⅜	1⅜	3		
TL28	7'-6½	can	8	7'8 1/2 - 7'10	3	3	1⅜	3	1⅛	3
TL29	13'-6½	cay	16	13'8 1/2 - 13'10	3		1⅛	3		
TL30	See Detail									
TL31	" "	See Detail								
TL32	See Detail									
TL36	See Detail									
TL35	6'10	cc	7	6'8 1/2 - 6'10	3⅜	3⅜				

Mark	Reqd in Bent	Description
TL35	2	
TL34	2	
TL32	2	
TL31	4	
TL30	4	
TL29	2	
TL28	2	
TL27	2	
TL26	2	
TL25	4	
TL24	24	
TL23	12	
TL22	4	
TL21	2	
TL20	2	
TL19	2	
TL18	2	
TL17	2	
TL16	4	
TL15	2	
TL14	4	
TL13	2	
TL12	4	
TL11	2	
TL10	2	
TL9	2	
TL8	2	
TL7	2	
TL6	2	
TL5	2	
TL4	2	
TL3	2	
TL2	4	
TL1	2	

Mk. Bent E16	Mk. Bent E15	Mk. Bent E14	Mk. Bent E13	Mk. Bent E12	Mk. Bent E11	Mk. Bent E10	Mk. Bent E9	Mk. Bent E8	Mk. Bent E7	Mk. Bent E6	Mk. Bent E5	No. Bent E4	Description	Mark	Remarks	Weight each Type
6	8	10	10	12	10	16	34	20	22	4	22	22	4	REQUIRED LIST			
2	2	2	2	2		2										

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with a, thusl ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John H. Bailey, Chief Inspector.
RIVETS:
OPEN HOLES: As Noted
PUNCHING: Holes in material ⅝" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ⅝" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over ⅝" thick to be sub-drilled 1/4" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/4" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: Main members 1 coat Red-Oxide Primer Red for base and carpenters of Towers, of Girders, and of built up shears; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	Appl'd

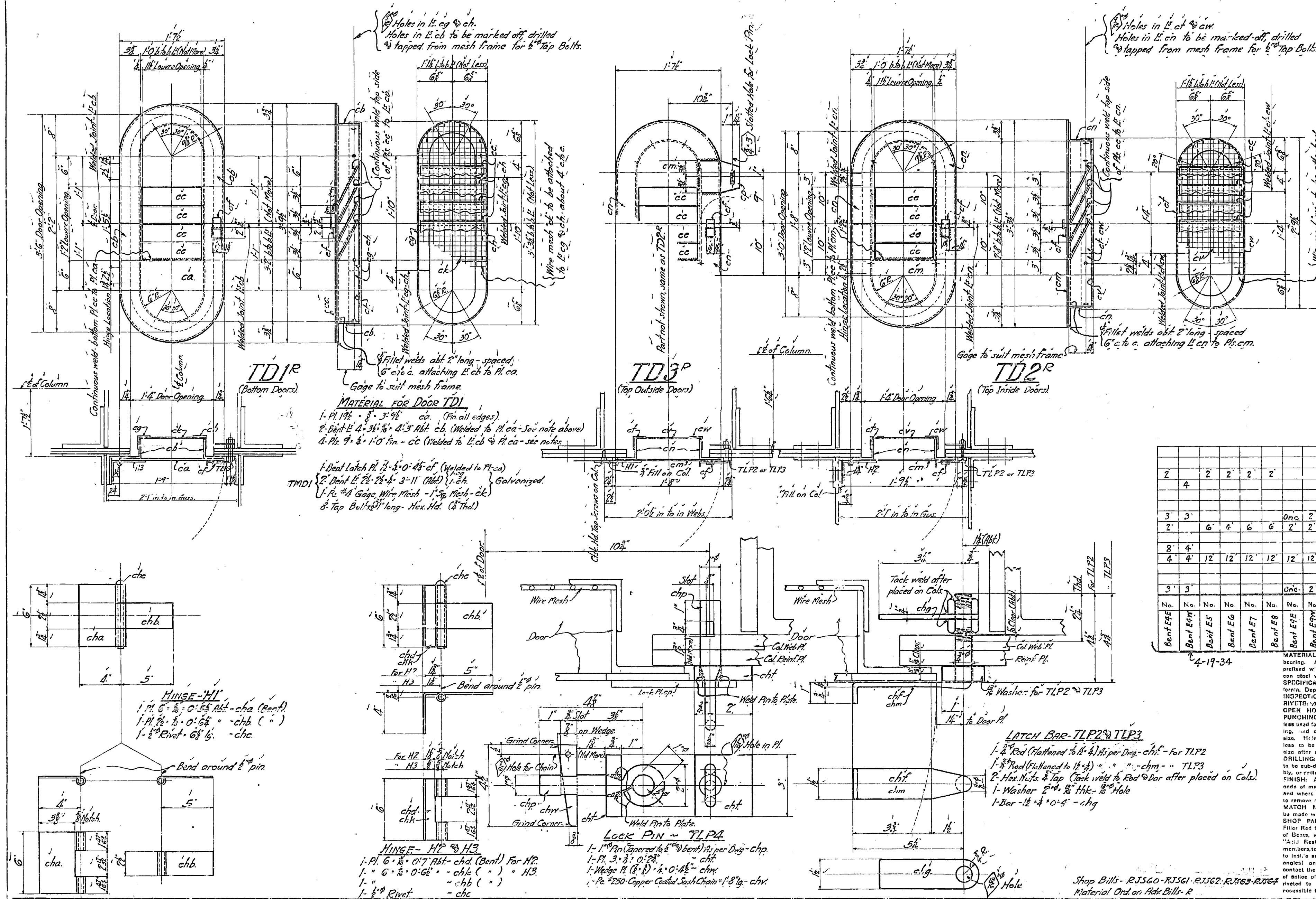
APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 3-23-34
4-28-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

Ladders.

MacF. FIC-MARSHALL CORPORATION
STOCKTON DRAWING ROOM STEELTON WORKS
IN CHARGE
CHECKED BY TCP 3-F
MADE BY LMO.
TRACED BY LMO.
LAST ISSUE, 1SH.
CONTRACT {CT1580X2 / CC1580Z
SHEET 259



No. Bent E4E	No. Bent E4W	No. Bent E5	No. Bent E6	No. Bent E7	No. Bent E8	No. Bent E9E	No. Bent E9W	No. Bent E10	No. Bent E12	No. Bent E13	No. Bent E14	No. Bent E15	No. Bent E16	Description	Mark	Remarks	Weight each Tons
2		2	2	2	2			2	2	2	2	2	2	Lock Pins	TLP4		
	4							4	4	4	4	4	4	Hinges	H3		
								One	One	One	One	One	One	Doors	TD3L		
								One	One	One	One	One	One	"	TD2L		
3	3					One	2	One	One	One	One	One	One	"	TD1L		
2		6	6	6	6	2	2	4	4	4	4	4	4	Latch Bars	TLP2		
								2	2	2	2	2	2	Latch Bars	TLP3		
8	4							4	4	4	4	4	4	Hinges	H2		
4	4	12	12	12	12	12	12	4	4	4	4	4	4	"	H1		
								One	One	One	One	One	One	Doors	TD3R		
								One	One	One	One	One	One	"	TD2R		
3	3					One	2	One	One	One	One	One	One	"	TD1R		

4-19-34 3-5-34

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey - Chief Inspector.
RIVETS: None
OPEN HOLES: As Noted
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

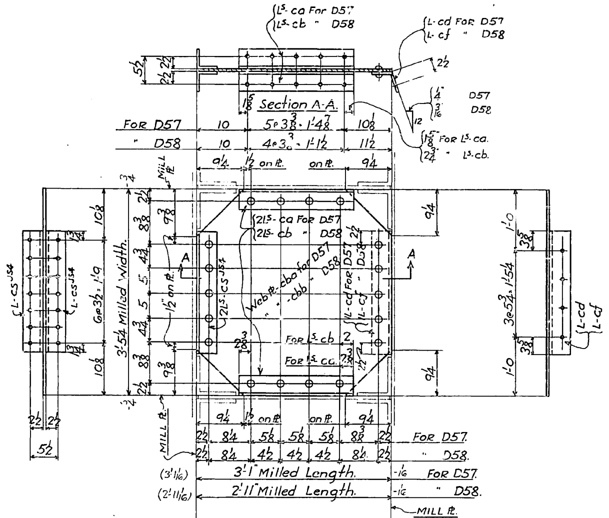
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 4-27-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

Detail of Doors for Tower Columns.

McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS
CHARGE [signature] MADE BY C.F.R. 3/13-34
CHECKED BY [signature] TRACED BY
LAST ASSEM. MK. chw.

CONTRACT CR 15802 SHEET RJ56

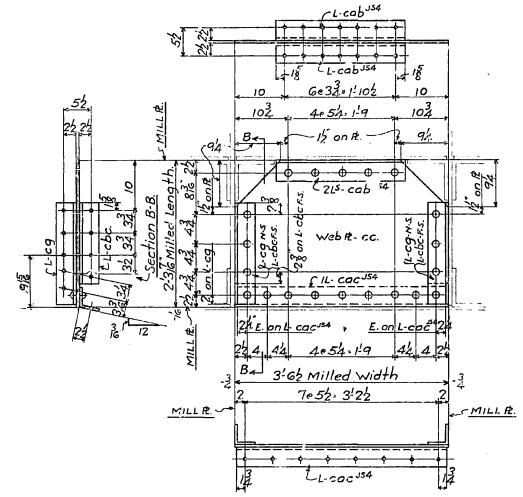


Diaphragm - D57

One Web Pl. - $41\frac{1}{4}$(M2W) × $\frac{1}{2}$ × 3'-1" (M2E) - cba
4Ls - 4×4×$\frac{1}{2}$ × 1'-8$\frac{1}{8}$ - ca.
2Ls - 4×4×$\frac{1}{2}$ × 2'-0$\frac{1}{2}$ - cs^{JS4}
One L - 4×4×$\frac{1}{2}$ × 2'-0$\frac{1}{2}$ - cd (Bent.)

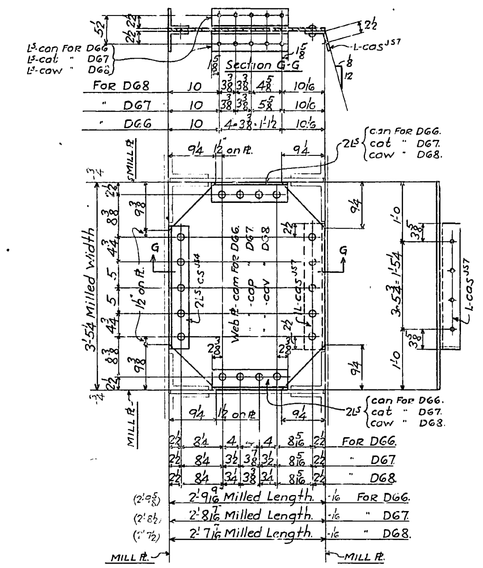
Diaphragm - D58

One Web Pl. - $41\frac{1}{4}$(M2W) × $\frac{1}{2}$ × 2'-11" (M2E) - cbb.
4Ls - 4×4×$\frac{1}{2}$ × 1'-5$\frac{7}{8}$ - cb.
2Ls - - - - - - - - cs^{JS4}
One L - 4×4×$\frac{1}{2}$ × 2'-0$\frac{1}{2}$ - cf (Bent.)



Diaphragm - D59.

One Web Pl. - $42\frac{1}{2}$(M2W) × $\frac{1}{2}$ × 2'-3$\frac{7}{16}$ (M2E) - cc
2Ls - 4×4×$\frac{1}{2}$ × 2'-1$\frac{3}{4}$ - cob^{JS4}
2Ls - 4×4×$\frac{1}{2}$ × 1'-6$\frac{5}{8}$ - cg.
2Ls - 4×4×$\frac{1}{2}$ × 1'-2$\frac{1}{4}$ - cbc.
One L - 4×4×$\frac{1}{2}$ × 3'-6 - cac^{JS4} (Bent.)

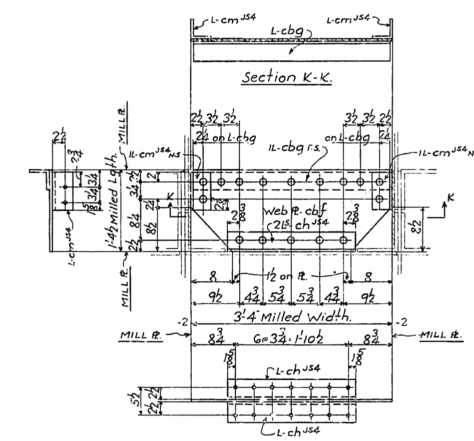


Diaphragm - D66

One Web Pl. - $41\frac{1}{4}$(M2W) × $\frac{1}{2}$ × 2'-9$\frac{9}{16}$ (M2E) - cam
4Ls - 4×4×$\frac{1}{2}$ × 1'-4$\frac{3}{4}$ - con
2Ls - - - - - - - - cs^{JS4}
One L - 4×4×$\frac{1}{2}$ × 2'-0$\frac{1}{2}$ - cas^{JS7} (Bent.)

Diaphragm - D67

One Web Pl. - $41\frac{1}{4}$(M2W) × $\frac{1}{2}$ × 2'-8$\frac{7}{16}$ (M2E) - cap.
4Ls - 4×4×$\frac{1}{2}$ × 1'-3$\frac{5}{8}$ - cot
2Ls - - - - - - - cs^{JS4}
One L - - - - - - - - cas^{JS7} (Bent.)

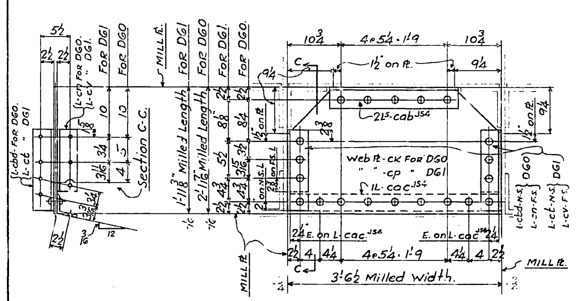


Diaphragm - D62.

One Web Pl. - 40(M2W) × $\frac{1}{2}$ × 1'-4$\frac{1}{2}$ (M2E) - cbf
2Ls - 4×4×$\frac{1}{2}$ × 2'-1$\frac{3}{4}$ - ch^{JS4}
One L - 4×4×$\frac{1}{2}$ × 3'-3$\frac{1}{2}$ - cbg.
2Ls - 4×4×$\frac{1}{2}$ × 0'-7$\frac{5}{8}$ - cm^{JS4}

Diaphragm - D68

One Web Pl. - $41\frac{1}{4}$(M2W) × $\frac{1}{2}$ × 2'-7$\frac{7}{16}$ (M2E) - cav.
4Ls - 4×4×$\frac{1}{2}$ × 1'-2$\frac{5}{8}$ - caw.
2Ls - - - - - - - cs^{JS4}
One L - - - - - - - cas^{JS7} (Bent.)

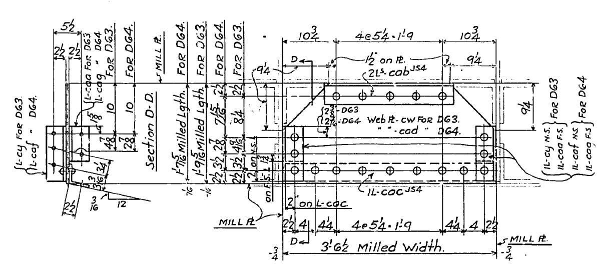


Diaphragm - D60.

One Web Pl. - $42\frac{1}{2}$(M2W) × $\frac{1}{2}$ × 2'-1$\frac{7}{16}$ (M2E) - ck.
2Ls - 4×4×$\frac{1}{2}$ × 1'-4$\frac{9}{16}$ - cbd
2Ls - 4×4×$\frac{1}{2}$ × 1'-0$\frac{3}{16}$ - cn.
2Ls - - - - - - - - - cob^{JS4}
One L - - - - - - - - - cac^{JS4} (Bent.)

Diaphragm - D61.

One Web Pl. - $42\frac{1}{2}$(M2W) × $\frac{1}{2}$ × 1'-11$\frac{3}{8}$ (M2E) - cp.
2Ls - 4×4×$\frac{1}{2}$ × 1'-2$\frac{5}{8}$ - ct
2Ls - 4×4×$\frac{1}{2}$ × 0'-10$\frac{1}{4}$ - cv.
2Ls - - - - - - - - cab^{JS4}
One L - - - - - - - - cac^{JS4} (Bent.)

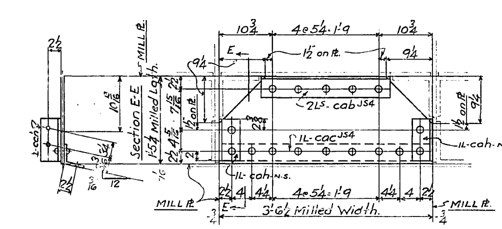


Diaphragm - D63

One Web Pl. - $42\frac{1}{2}$(M2W) × $\frac{1}{2}$ × 1'-9$\frac{5}{16}$ (M2E) - cw.
2Ls - 4×4×$\frac{1}{2}$ × 1'-0$\frac{7}{16}$ - cy
2Ls - 4×4×$\frac{1}{2}$ × 0'-8$\frac{11}{16}$ - caa
2Ls - - - - - - - cab^{JS4}
One L - - - - - - - - cac^{JS4} (Bent.)

Diaphragm - D64.

One Web Pl. - $42\frac{1}{2}$(M2W) × $\frac{1}{2}$ × 1'-7$\frac{5}{16}$ (M2E) - cad.
2Ls - 4×4×$\frac{1}{2}$ × 0'-10$\frac{7}{16}$ - caf.
2Ls - 4×4×$\frac{1}{2}$ × 0'-6$\frac{11}{16}$ - cag.
2Ls - - - - - - - - cab^{JS4}
One L - - - - - - - - cac^{JS4} (Bent.)



Diaphragm - D65.

One Web Pl. - $42\frac{1}{2}$(M2W) × $\frac{1}{2}$ × 1'-5$\frac{1}{4}$ (M2E) - cak.
2Ls - 4×4×$\frac{1}{2}$ × 0'-8$\frac{3}{8}$ - cah.
2Ls - - - - - - - - - - cab^{JS4}
One L - - - - - - - - - - cac^{JS4} (Bent.)

Shop Bills # RJS70 - RJS71 & RJS72

Bent #5 No.	Bent #6 No.	Bent #7 No.	Bent #8 No.	Description	Mark	Remarks	Weight each Tons
4	4	4	4	Diaphragms	D68		
4	4	4	4	"	D67		
4	4	4	4	"	D66		
2	2	2	2	"	D65		
2	2	2	2	"	D64		
2	2	2	2	"	D63		
4	4	4	2	"	D62		
2	2	2	2	"	D61		
2	2	2	2	"	D60		
2	2	2	2	"	D59		
4	4	4	4	"	D58		
4	4	4	4	"	D57		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey - chief Insp.
RIVETS: $\frac{7}{8}$"φ
OPEN HOLES: $1\frac{1}{16}$"φ.
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd
5/10	Rl Diaph D65	
5/1	Rl Diaph D64	

APPROVED

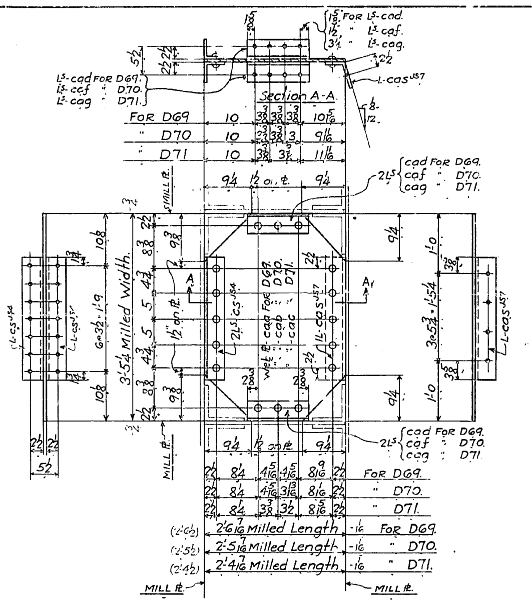
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 4-2-34

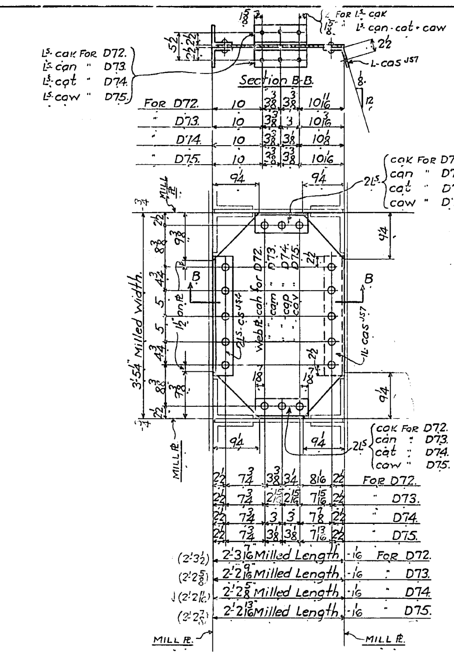
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

Column Diaphragms - Bents (E5 to E8 incl.)

[illegible]LINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS
IN CHARGE Boone
CHECKED BY H. 7/28/34.
LAST ASSEM. MK.
MADE BY / TRACED BY J. N. B. 3/2/34

CONTRACT CR15802 SHEET R JS7





Diaphragm - D72.

One Web Pl. - 41 1/4 (M.2W) × 1/2 × 2'-3 7/16 (M.2E) - cah.
4 Ls - 4 × 4 × 1/2 × 0'-10 3/8 - cak.
2 Ls - - - - - - - - - cs JS4
One L - - - - - - - - - - cas JS7 (Bent)

Diaphragm - D73.

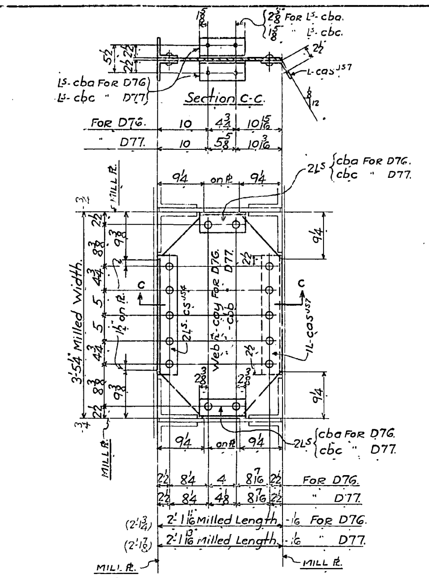
One Web Pl. - 41 1/4 (M.2W) × 1/2 × 2'-2 9/16 (M.2E) - cam.
4 Ls - 4 × 4 × 1/2 × 0'-9 5/8 - can.
2 Ls - - - - - - - - cs JS4
One L - - - - - - - - cas JS7 (Bent.)

Diaphragm - D74.

One Web Pl. - 41 1/4 (M.2W) × 1/2 × 2'-2 5/8 (M.2E) - cap.
4 Ls - 4 × 4 × 1/2 × 0'-9 3/4 - cat
2 Ls - - - - - - - - cs JS4
One L - - - - - - - - - cas JS7 (Bent.)

Diaphragm - D75.

One Web Pl. - 41 1/4 (M.2W) × 1/2 × 2'-2 13/16 (M.2E) - cav.
4 Ls - 4 × 4 × 1/2 × 0'-10" - caw.
2 Ls - - - - - - - - - cs JS4
One L - - - - - - - - - cas JS7 (Bent.)



Diaphragm - D76.

One Web Pl. - 41 1/4 (M.2W) × 1/2 × 2'-1 11/16 (M.2E) - cay
4 Ls - 4 × 4 × 1/2 × 0'-8 3/4 - cba.
2 Ls - - - - - - - - - - cs JS4
One L - - - - - - - - - cas JS7 (Bent)

Diaphragm - D77.

One Web Pl. - 41 1/4 (M.2W) × 1/2 × 2'-1 13/16 (M.2E) - cbb.
4 Ls - 4 × 4 × 1/2 × 0'-8 7/8 - cbc.
2 Ls - - - - - - - - - - cs JS4
One L - - - - - - - - - cas JS7 (Bent.)

Diaphragm - D69.

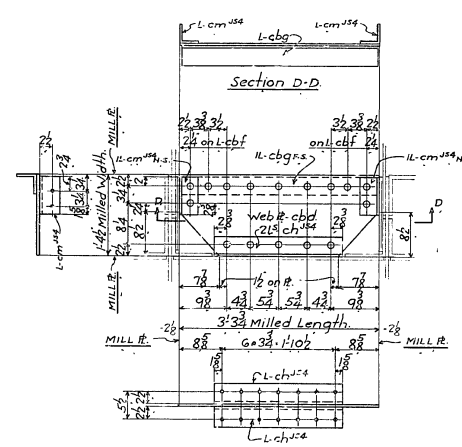
One Web Pl. - 41 1/4 (M.2W) × 1/2 × 2'-6 7/16 (M.2E) - caa.
4 Ls - 4 × 4 × 1/2 × 1'-1 3/8 - cad.
2 Ls - 4 × 4 × 1/2 × 2'-0 1/2 - cs JS4
One L - 4 × 4 × 1/2 × 2'-0 1/2 - cas JS7 (Bent.)

Diaphragm - D70.

One Web Pl. - 41 1/4 (M.2W) × 1/2 × 2'-5 7/16 (M.2E) - cab.
4 Ls - 4 × 4 × 1/2 × 1'-0 7/8 - caf
2 Ls - - - - - - - - - cs JS4
One L - - - - - - - - - - cas JS7 (Bent.)

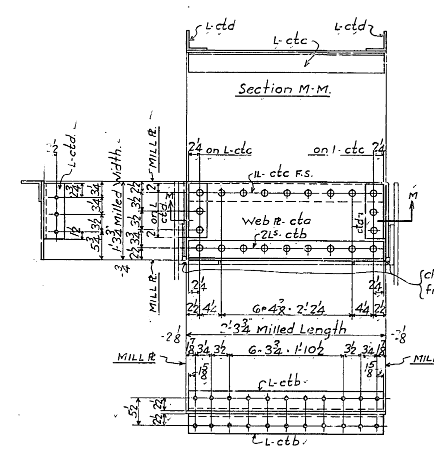
Diaphragm - D71.

One Web Pl. 41 1/4 (M.2W) × 1/2 × 2'-4 7/16 (M.2E) - cac.
4 Ls - 4 × 4 × 1/2 × 0'-11 5/8 - cag.
2 Ls - - - - - - - - - - cs JS4
One L - - - - - - - - - - cas JS7 (Bent.)



Diaphragm - D78.

One Web Pl. - 16 1/2 (M.2W) × 1/2 × 3'-3 3/4 (M.2E) - cbd.
2 Ls - 4 × 4 × 1/2 × 2'-1 3/4 - ch JS4
One L - 4 × 4 × 1/2 × 3'-3 1/4 - cbg.
2 Ls - 4 × 4 × 1/2 × 0'-7 5/8 - cm JS4



Diaphragm - D79.

One Web Pl. - 15 3/4 (M.2W) × 1/2 × 3'-3 3/4 (M.2E) - cta.
2 Ls - 4 × 4 × 1/2 × 3'-3 1/4 - ctb.
One L - 4 × 4 × 1/2 × 3'-3 1/4 - ctc.
2 Ls - 4 × 4 × 1/2 × 0'-11" ctd.

Shop Bills:- RJS80 - RJS81 & RJS82.

No. (Bent #5)	No. (Bent #6)	No. (Bent #7)	No. (Bent #8)	Description	Mark	Remarks	Weight each Tons
2	2	2	2	Diaphragms	D79		
-	-	-	2	"	D78		
-	4	-	-	"	D77		
4	-	-	-	"	D76		
-	-	4	-	"	D75		
-	4	-	-	"	D74		
4	-	-	-	"	D73		
4	4	4	-	"	D72		
4	4	4	4	"	D71		
4	4	4	4	"	D70		
4	4	4	4	"	D69		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey - chief Insp.
RIVETS: 7/8" ϕ
OPEN HOLES: 1 1/16" ϕ
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT. None except 1 coat No-Oxid Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 4-11-34

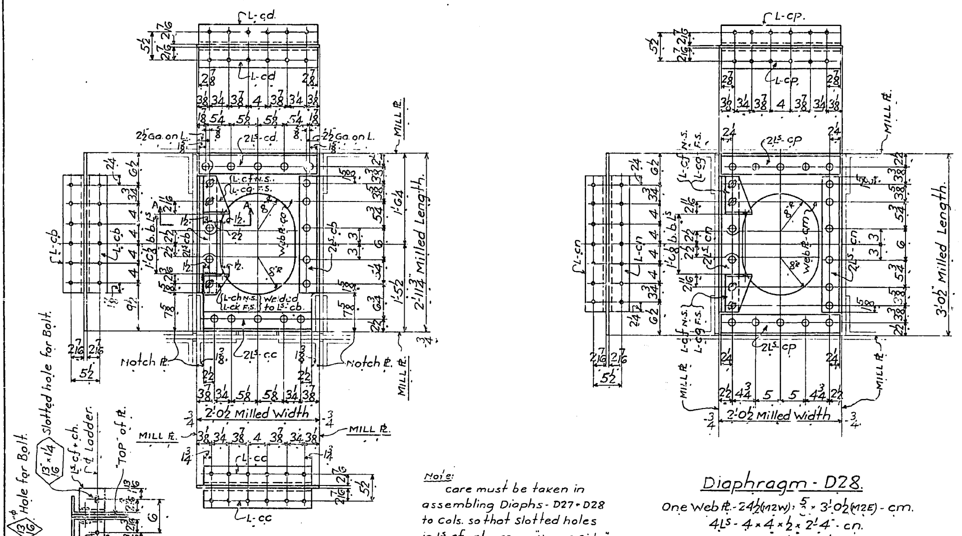
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

Column Diaphragms - Bents (E5 to E8 incl.)

[illegible]NTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS

IN CHARGE Boone
CHECKED BY [illegible]
LAST ASSEM. MK. [illegible]
MADE BY / TRACED BY } J. N. B. 2/5/34

CONTRACT CR15802
SHEET R JS8



Note: care must be taken in assembling Diaphs - D27 + D28 to Cols. so that slotted holes in Ls. cf + ch are on "Upper Side."

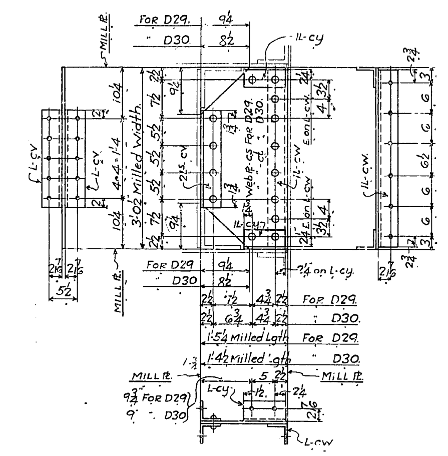
Section A-A.

Diaphragm - D27.R

One Web Pl.-24½(M2W) × 5/8 × 2'-11¾(M2E) - ca.
4Ls. 4 × 4 × ½ × 1'-11⅞ - cb.
2Ls. 4 × 4 × ½ × 1'-9¾ - cc.
2Ls. 4 × 4 × ½ × 2'-0 - cd.
One L- 8 × 4 × 7/16 × 0'-5½ - cf.
One L- 8 × 4 × 7/16 × 0'-5½ - cg.
One L- 4 × 4 × ⅜ × 0'-5½ - ch. } Welded to
One L- 4 × 4 × ⅜ × 0'-5½ - ck. } Ls-cb.

Diaphragm - D28.

One Web Pl.-24½(M2W) × 5/8 × 3'-0½(M2E) - cm.
4Ls - 4 × 4 × ½ × 2'-4" - cn.
4Ls - 4 × 4 × ½ × 2'-0" - cp.
2Ls ---------- cf.
2Ls ---------- cg.

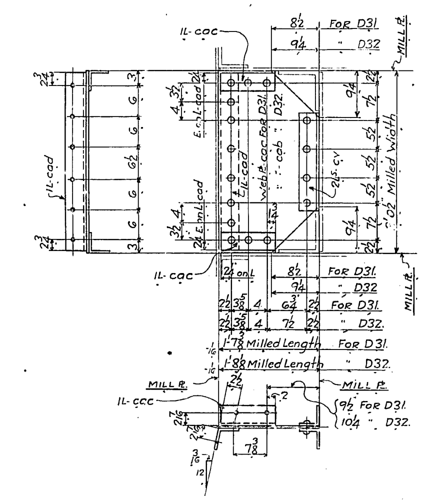


Diaphragm - D29

One Web Pl.-36½(M2W) × 5/8 × 1'-5¼(M2E) - cs.
2Ls- 4 × 4 × ½ × 1'-8 - cv.
One L- 4 × 4 × ½ × 3'-0" - cw.
2Ls- 4 × 4 × ½ × 0'-8¾ - cy.

Diaphragm - D30.

One Web Pl.-36½(M2W) × 5/8 × 1'-4½(M2E) - ct
2Ls ---- cv.
One L ---- cw.
2Ls ---- cy.

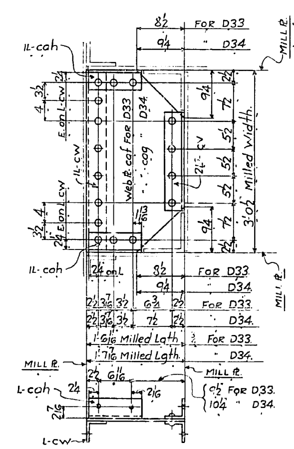


Diaphragm - D31.

One Web Pl.-36½(M2W) × 5/8 × 1'-7⅜(M2E) - caa.
2Ls- 4 × 4 × ½ × 0'-11⅝ - cac.
One L- 4 × 4 × ½ × 3'-0" - cad.(Bent.)
2Ls ------- cv.

Diaphragm - D32.

One Web Pl.-36½(M2W) × 5/8 × 1'-8⅛(M2E) - cab.
2Ls ------- cac.
One L ------- cad.(Bent.)
2Ls ------- cv.

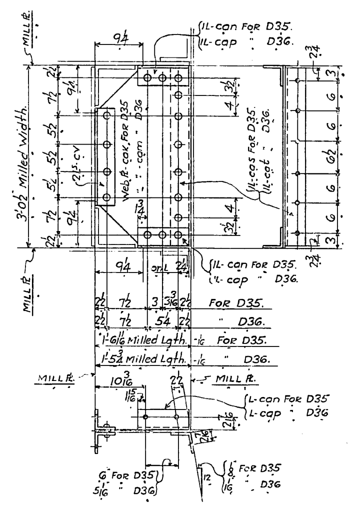


Diaphragm - D33.

One Web Pl.-36½(M2W) × 5/8 × 1'-6 11/16 (M2E) - caf
2Ls- 4 × 4 × ½ × 0'-11" - cah.
2Ls ------ cv.
One L ------- cw.

Diaphragm - D34.

One Web Pl.-36½(M2W) × 5/8 × 1'-7 7/16(M2E) - cag
2Ls ---- cah.
2Ls ---- cv.
One L ---- cw.

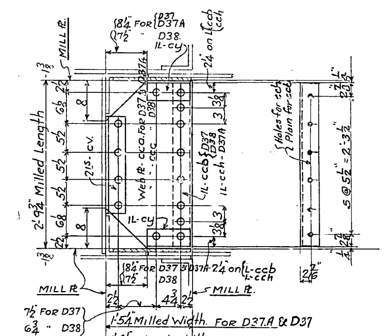


Diaphragm - D35

One Web Pl.-36½(M2W) × 5/8 × 1'-6 11/16(M2E) - cak.
2Ls- 4 × 4 × ½ × 0'-10 3/16 - can
One L- 4 × 4 × ½ × 3'-0" - cas.(Bent.)
2Ls ------- cv.

Diaphragm - D36.

One Web Pl.-36½(M2W) × 5/8 × 1'-5¾(M2E) - cam.
2Ls- 4 × 4 × ½ × 0'-9¼ - cap.
One L- 4 × 4 × ½ × 3'-0" - cat.(Bent.)
2Ls ------- cv.



Diaphragm - D37. & D37A

One-Web Pl.-17¼(M2W) × 5/8 × 2'-9¾"(M2E) - cca.
One L- 4 × 4 × ½ × 2'-9¼" - ccb. for D37 / cch. for D37A
2Ls ---------- cv.
2Ls ---------- cy.

Diaphragm - D38.

One-Web Pl.-16½(M2W) × 5/8 × 2'-9¾(M2E) - ccc
One L -------- ccb
2Ls ------ cv
2Ls ------- cy

Shop Bills:- RJS90-91-92.
Adv. Bills:- R27 + R28 + M12

		one	one	Diaphragms.	D37A		
–	–	One	One		D38.		
One	One			"	D37.		
One	One	–	–	"	D36.		
One	One	–	–	"	D35.		
–	–	4.	4	"	D34.		
–	–	4.	4	"	D33.		
One	One	–	–	"	D32.		
–	–	One	One	"	D31.		
–	–	4.	4.	"	D30.		
12.	12.	3.	3.	"	D29.		
8.	8.	9.	9.	"	D28.		
One.	–	–	One	"	D27L.		
–	One	One	–	"	D27R.		
No.	No.	No.	No.	Description	Mark	Remarks	Weight each Tons
North East Col.	South East Col.	North West Col.	South West Col.	REQUIRED LIST			
Bent. #9.							

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey - chief Insp.
RIVETS: ⅞".
OPEN HOLES: 15/16", unless noted.
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

R4 - 5/2 8 - Angle ccd to ccb for D38

Date	Revision	App'd
R3	4/27 2-Diaphs D37A added - 2-D37 cut	
R2	2-D37's Added 4/6/34	
R1	D38 Added 3/27/34	

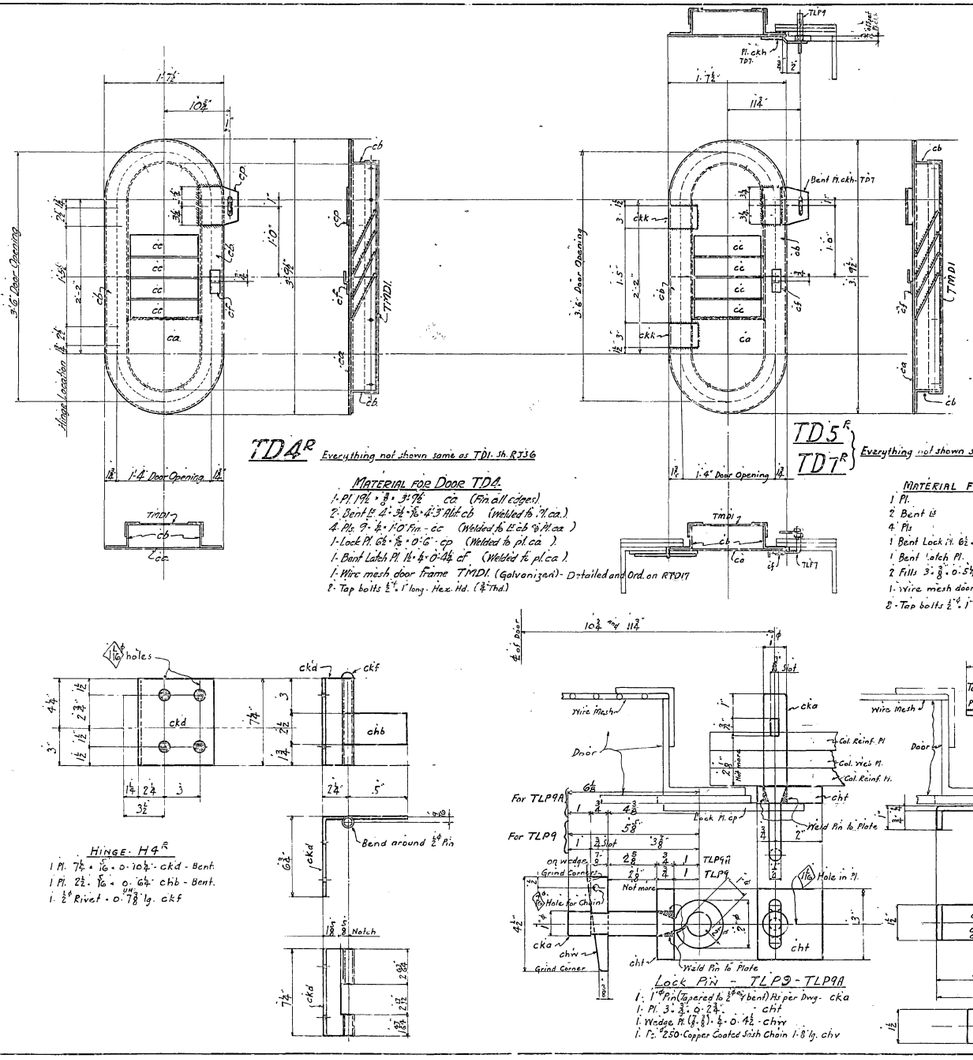
APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 3-16-34
4-9-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

Column Diaphragms (Bent #9)

McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS
IN CHARGE Boone. MADE BY / TRACED BY J. N. B. 2/13/34
CHECKED BY H. Yuba.
LAST ASSEM. MK. ccb

CONTRACT GR15802 SHEET R JS9



TD4R

Everything not shown same as TD1-sh R356

MATERIAL FOR DOOR TD4

1-Pl 19½ • ⅜ • 3'-9½" ca (Fin all edges)
2-Bent Pl 4'-3½ • ½ • 4'-3 Alt cb (Welded to Pl ca.)
4-Pls 9'-½ • 1'-0 Fin - cc (Welded to Pl cb & Pl ca)
1-Lock Pl 6½ • ⅜ • 0'-6" cp (Welded to pl ca)
1-Bent Latch Pl 1½ • ½ • 0'-4½ cf (Welded to pl ca)
1-Wire mesh door frame TMDI (Galvanized) - Detailed and Ord. on RTD17
8-Tap bolts ⅝" • 1" long Hex. Hd. (⅝" Thd)

TD5R / TD7R

Everything not shown same as TD1-sh R356

MATERIAL FOR DOOR: TD5-TD7

1 Pl	ca	(Fin all edges
2 Bent 13	cb	(Welded to Pl ca
4 Pls	cc	Welded to Pl cb & Pl ca
1 Bent Lock Pl 6½ • ⅜ • 0'-8	ckh	(welded to Pl ca) for TD7
1 Bent Latch Pl	cf	(welded to Pl ca)
2 Fills 3" • ⅜ • 0'-5"	ckk	(welded to doors)

1-Wire mesh door frame - TMDI (Galvanized) Detailed and Ord. on RTD17
8-Tap bolts ⅝" • 1" long Hex. Hd. (⅝" Thd)

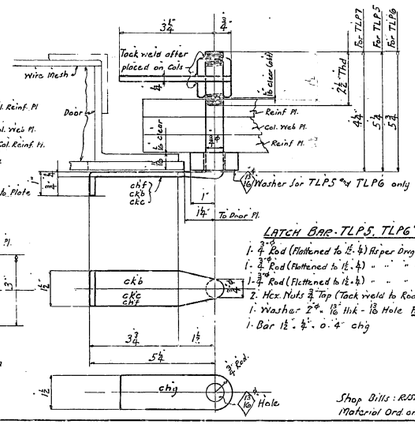
Want this sheet in conjuction with Sheet R356

HINGE - H4R

1 Pl 7½ • ⅜ • 0'-10½" ckd - Bent
1 Pl 2½ • ⅜ • 0'-6½" chb - Bent
1 ½" Rivet • 0'-7⅞" lg. ckf

LOCK PIN - TLP9 - TLP9A

1-1" Pin (Tapered to ⅞" bent) Fit per Dwg - cka
1-Pl 3" • ⅜ • 0'-2¾" - cht
1-Wedge Pl (¼) - ½ • 0'-4½" - chn
1-½" - 250 Copper Coated Sash Chain 1'-8" lg. chn



LATCH BAR - TLP5, TLP6 & TLP7

1-¾" Rod (Flattened to ½") Fit per Dwg - ckb For TLP5
1-⅝" Rod (Flattened to ½") - " " - ckc For TLP6
1-¾" Rod (Flattened to ½") - " " - chf - For TLP7
2-Hex Nuts ¾" Tap (Tack weld to Rod & bar after placed on Cols)
1-Washer 2" • 1⅛" Hole - ⅛" Hole To - TLP5, TLP6
1-Bar 1½" • ¼" • 0'-4" chg

Shop Bills: RD5100 to RD5104
Material Ord. on Rdr. Bills:

For notes see Sh. R356
Wire Mesh Door Frames TMDI
Ord. & detailed on RTD17

Bent E9E	Bent E9M	Bent F5	Bent E6	Bent E7	Bent E8	Bent E9E	Bent E9M	No.	Description	Mark	Remarks
						2				TLP9A	
One	One	One	One	One	One			"	Doors	TD4R	
One	One	One	One	One	One			"	"	TD4L	
		2	2	2	2	One		"	"	TD5R	
		2	2	2	2	One		"	"	TD5L	
						One	One	"	"	TD7R	
						One	One	"	"	TD7L	
6	6								Latch Bars	TLP5	
	2						2	"	"	TLP6	
						4	2	"	"	TLP7	
	2						2	"	Pin	TLP9	
2	2								Hinges	H4R	
2	2							"	"	H4L	

REQUIRED LIST

6-15-36 R1-D, 13-TLP9 changed to 2-TLP9A

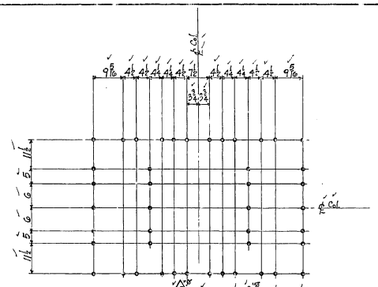
No.	Date	Revision	Appd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C.H. Purcell — Chief Engineer
Date: 10-27-36

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Detail of Doors for Tower Columns

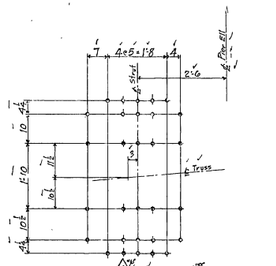
M. ..NTIC-MARSHALL CORPORATION
...stleton DRAWING ROOM Steelton WORKS
IN CHARGE [illegible] MADE BY: W.P.D 9/18/36
CHKD. " BY " TRACED BY: "
LAST ASSEM. MK. "

CONTRACT GR.15802 SHEET R 3510



Holes for 1⅛" Turned Bolts

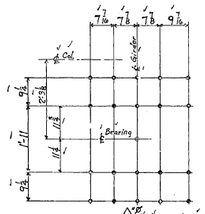
RRT1 (Bent-E16)



Holes for 1⅛" Turned Bolts

RRT4 (Bent-E9)

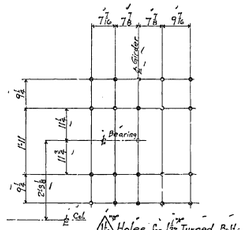
(North Truss - West Col.)



Holes for 1⅛" Turned Bolts.

RRT7 (Bent-E9)

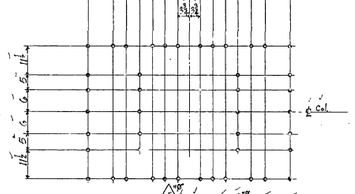
(South Truss - East Col.)



Holes for 1⅛" Turned Bolts.

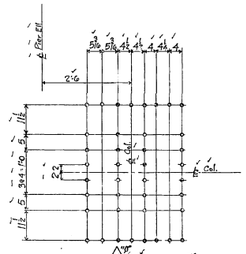
RRT9 (Bent-E9)

(North Truss - East Col.)



Holes for 1⅛" Turned Bolts

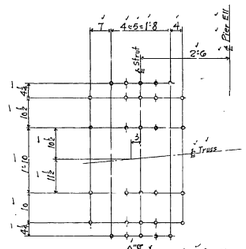
RRT2 (Bent E13-E14-E15)



Holes for 1⅛" Turned Bolts

RRT5 (Bent-E11)

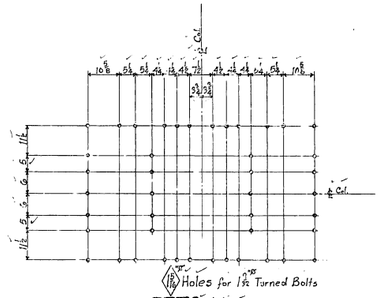
(North & South Truss - East Col.)



Holes for 1⅛" Turned Bolts

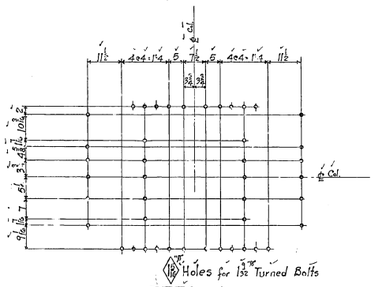
RRT8 (Bent E11)

(South Truss - West Col.)



Holes for 1⅛" Turned Bolts

RRT3 (Bent E12)



Holes for 1⅛" Turned Bolts

RRT6 (Bent E10)

No.	Description	Mark	Remarks	Weight each Type

REQUIRED LIST

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design

Chas. E. Andrew — Bridge Engineer

C. H. Purcell — Chief Engineer

Date:

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with a, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.

SPECIFICATIONS: Special by State of California, Department of Public Works.

INSPECTION: John M. Bailey Chief Inspector

RIVETS:

OPEN HOLES: As Noted

PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, facing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be subpunched ¼" and reamed to size after assembly.

DRILLING: Holes in material over ¾" thick to be sub-drilled ¾" and reamed after assembly, or drilled from the solid, while assembled.

FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.

MATCH MARKING: All match marking to be made with hot steel stencil and paint.

SHOP PAINT: None except 1 coat Red Oxide Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Lloyds" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

Reaming Templates for Shoes-Bent E9 to E16

BETHLEHEM-PACIFIC COASTAL STEEL CORPORATION
Steelton DRAWING ROOM Steelton WORKS

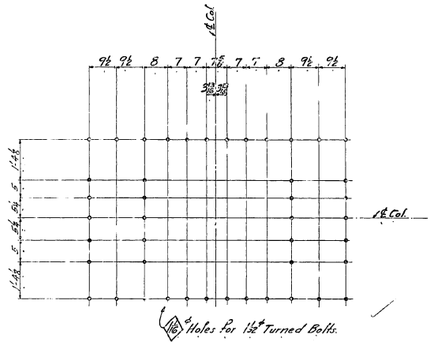
IN CHARGE
CHECKED BY
LAST ASSEM. MK.

MADE BY W.O.O.O. 2-1-34
TRACED BY

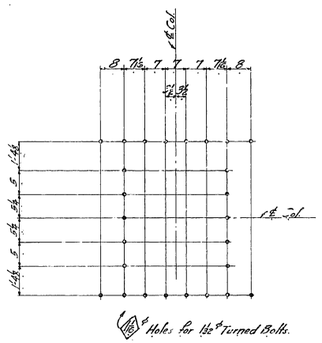
CONTRACT OR 15802

SHEET RT511

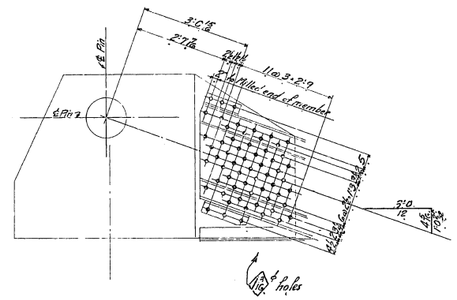
Shop Bill RT510



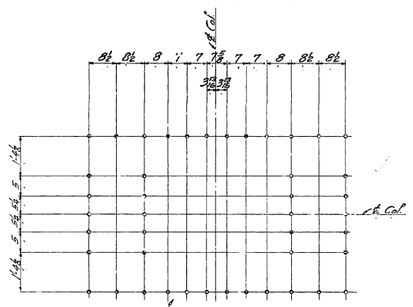
RRT10 (Bent 3)



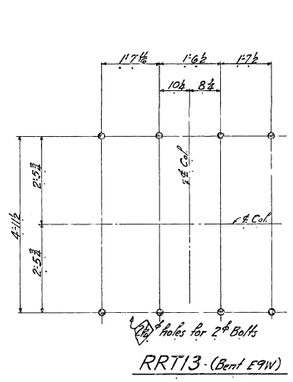
RRT12 (Bent 4 East)



RRT14 (Bent E7W)



RRT11 (Bents 5-6-7)



RRT13 (Bent E9W)

No.	Description	Mark.	Remarks	Weight each Tons

REQUIRED LIST

Date	Revision	Appd.
5/28	Rt-Bk Dimensions for RRT13	

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

REAMING TEMPLETS FOR SHOES BENTS

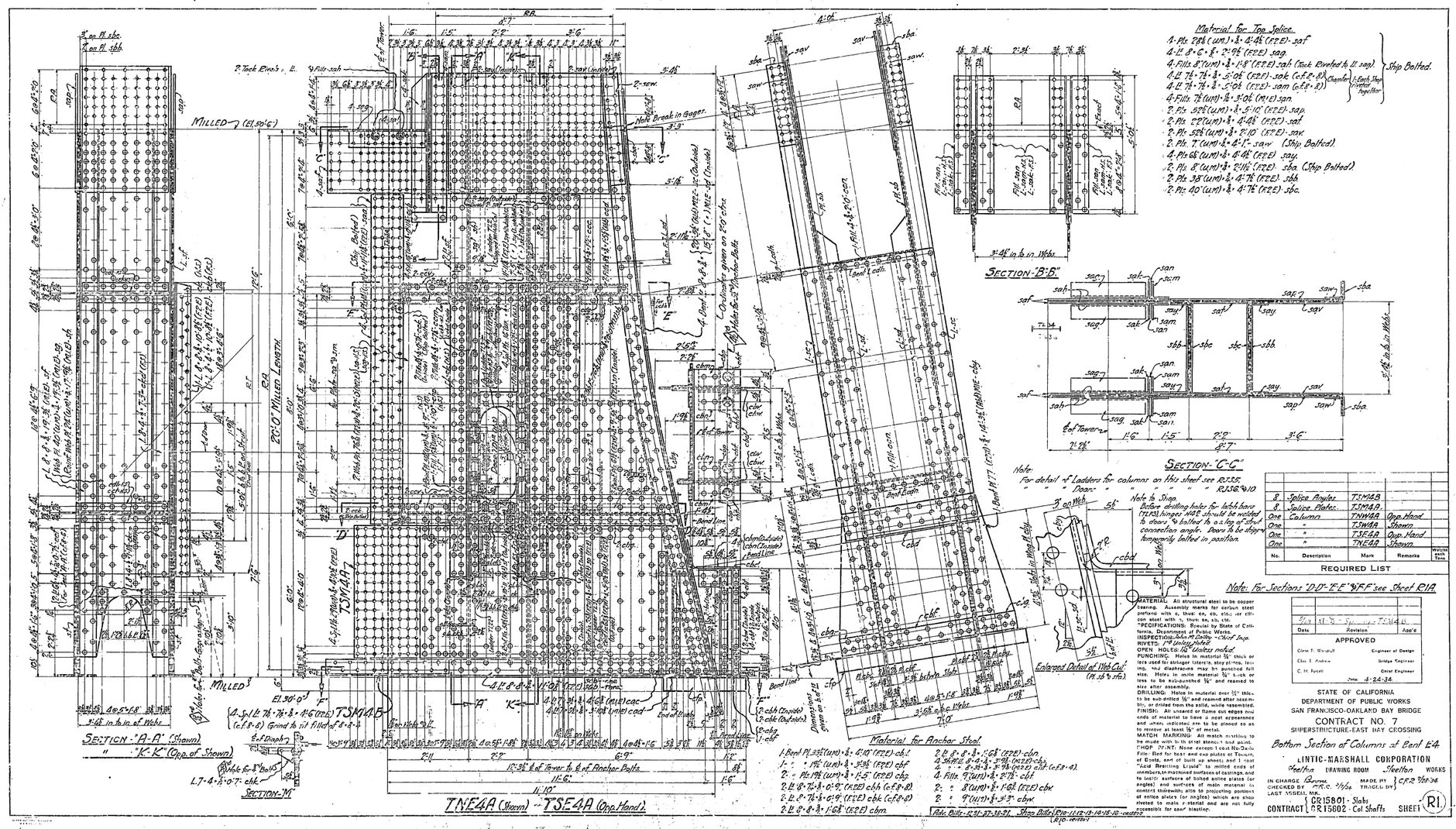
McCLINTIC-MARSHALL CORPORATION
TECLTON DRAWING ROOM STEELTON WORKS

L. ...ARGE Revised
CHECKED BY F.R.C. 4/6/36
LAST ASSEM. MK.

MADE BY DRB. 2-13-36.
TRACED BY

Shop Bill RT320

CONTRACT CR 15802 SHEET RT32


MILLED (2), 50'6"
20'-0" Milled Length
SECTION "A-A" (Shown)
" "K-K" (Opp. of Shown)
SECTION "M"
TSM4AA
TSM4AB
TNE4A (Shown) - TSE4A (Opp. Hand)
Material for Top Splice.
Material for Anchor Shoe
SECTION "B-B"
SECTION "C-C"
Enlarged Detail of Web Cut
Note Break in Gages.
Note: For detail of Ladders for columns on this sheet see R7.55
Note: For Sections "D"-"E" & "F" see Sheet R1A
REQUIRED LIST
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with a, those ex, cb, etc.; or silicon steel with n, thus en, nb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Eadie - Chief Insp.
RIVETS: 7/8" Unless Noted
OPEN HOLES: As Unless noted.
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 3/16" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 3/16" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All unsawed or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/16" of metal.
MATCH MARKING: All match marking to be made with bi-tit steel stencil and paint.
SHOP PAINT: None except 1 coat Red Oxide Zinc Red for bed and cap plates at Towers, ends of Boxes, ends of built up sheets and 1 coat "Acid Resisting Litsulin" to milled ends of members, to machined surfaces of castings, and to faying surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop-riveted to main material and are not fully accessible for sand blasting.
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Bottom Section of Columns at Bent E4.
LINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS
IN CHARGE Bourne
CHECKED BY F.C.C. 2/5/34
MADE BY TRACED BY
C.F.R. 2/28/34
CONTRACT CR15801 - Slabs CR15802 - Col Shafts
SHEET R1

TSW4A (Shown) ~ TNW4A (Opp Hand)

SECTION "E-E" (Sheet R1)

SECTION "D-D" (Sheet R1)

SECTION "F-F" (Sheet R1)

SECTION "H-H"

Material for Section "E-E"

Material for Section "D-D"

Fe- Required List see Sheet R1

Date	Revision	Appd
10-9-36	Supports for down pipes Added	

APPROVED.

Glenn B. Woodruff — Engineer of Design
Chas E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 12-24-36

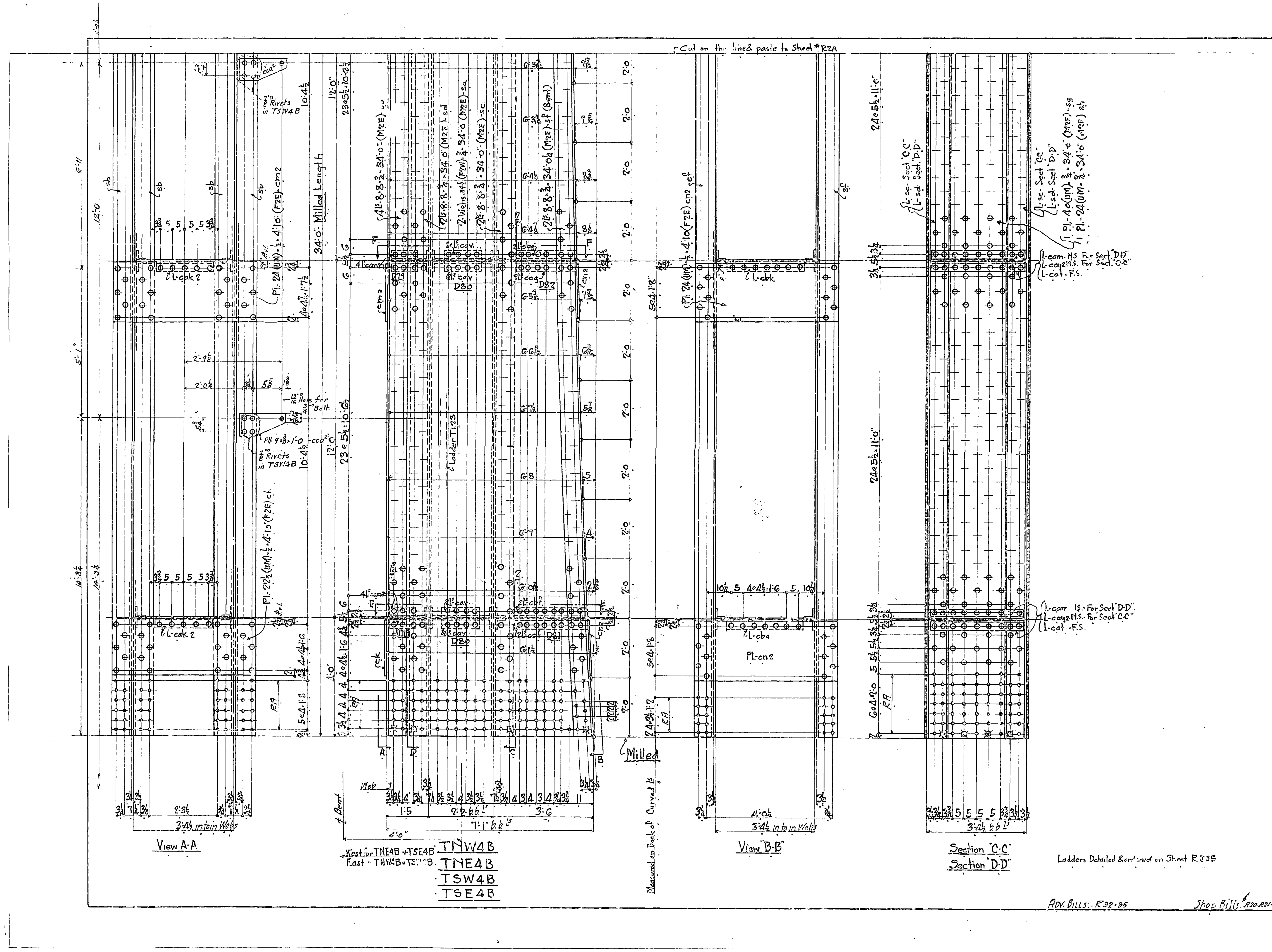
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

Bottom Section of Columns at Bent E4

McCLINTIC MARSHALL CORPORATION.
Steelton DRAWING ROOM Steelton WORKS

IN CHARGE Lawrence MADE BY CFP 10-36
CHECKED BY R.F.C 3-11-36 TRACED BY
LAST ASSEM MK

CONTRACT CR15801 - Slabs, CR15802 - Col. Shafts. SHEET R1A



Diaphragms Req'd for 3rd 4th & 5th Sections of Column Bent E4

Sheet No. R6 R6A	Sheet No. R5 R5A	Sheet No. R4 R4A	Sheet No. R3 R3A	Mark
			12.	D79.
4.	4.	12.	12.	D80.

No.	Description	Mark	Remarks	Weight each Tons
One	Column	TSE4B.	Alike	
One	Column	TSW4B.	Alike	
One	Column	TNE4B.	Alike	
One	Column	TNW4B.	Alike	

REQUIRED LIST

MATERIAL All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc; for silicon steel with s, thus: sa, sb, etc
SPECIFICATIONS: Special by State of California, Department of Public Works
INSPECTION: John M. Bailey. Chief Inspector
RIVETS: 1" except as noted
OPEN HOLES: 1 1/16" except as noted
PUNCHING: Holes in material 3/4" thick or less used for stringer, laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd.
10-9-34	Supports for drain pipes added	

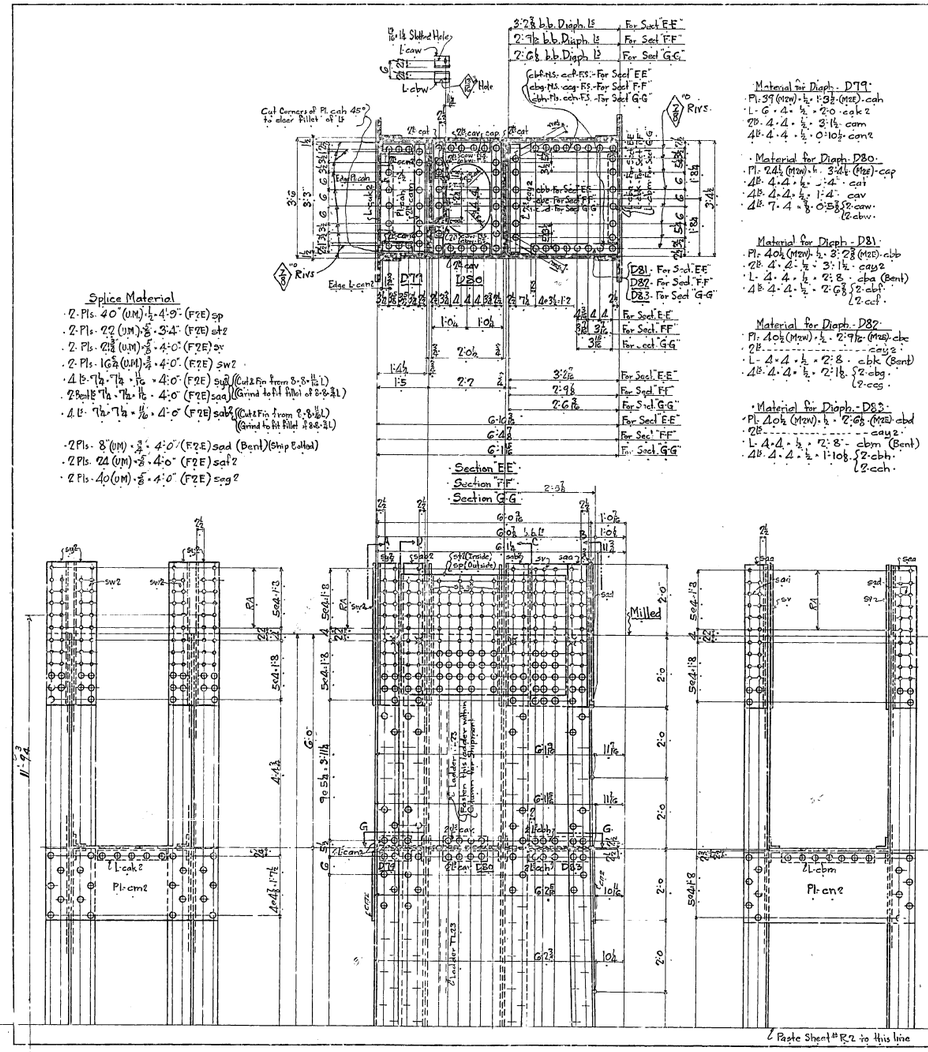
APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 4-4-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE EAST BAY CROSSING

Int. Section of Column - Bent 4

McCLINTIC-MARSHALL CORPORATION
St ... DRAWING ROOM Steelton WORKS
IN CHARGE Boone MADE BY JCM 1/3/34
CHECKED BY ... TRACED BY ...
LAST ASSEM. MK ...

CONTRACT CR15802 SHEET R2



10-1-36	Supports for drain pipes added	
Date	Revision	Appd

APPROVED

Glenn B. Woodruff	Engineer of Design
Chas. E. Andrew	Bridge Engineer
C. H. Purcell	Chief Engineer

Date: 1-24-34

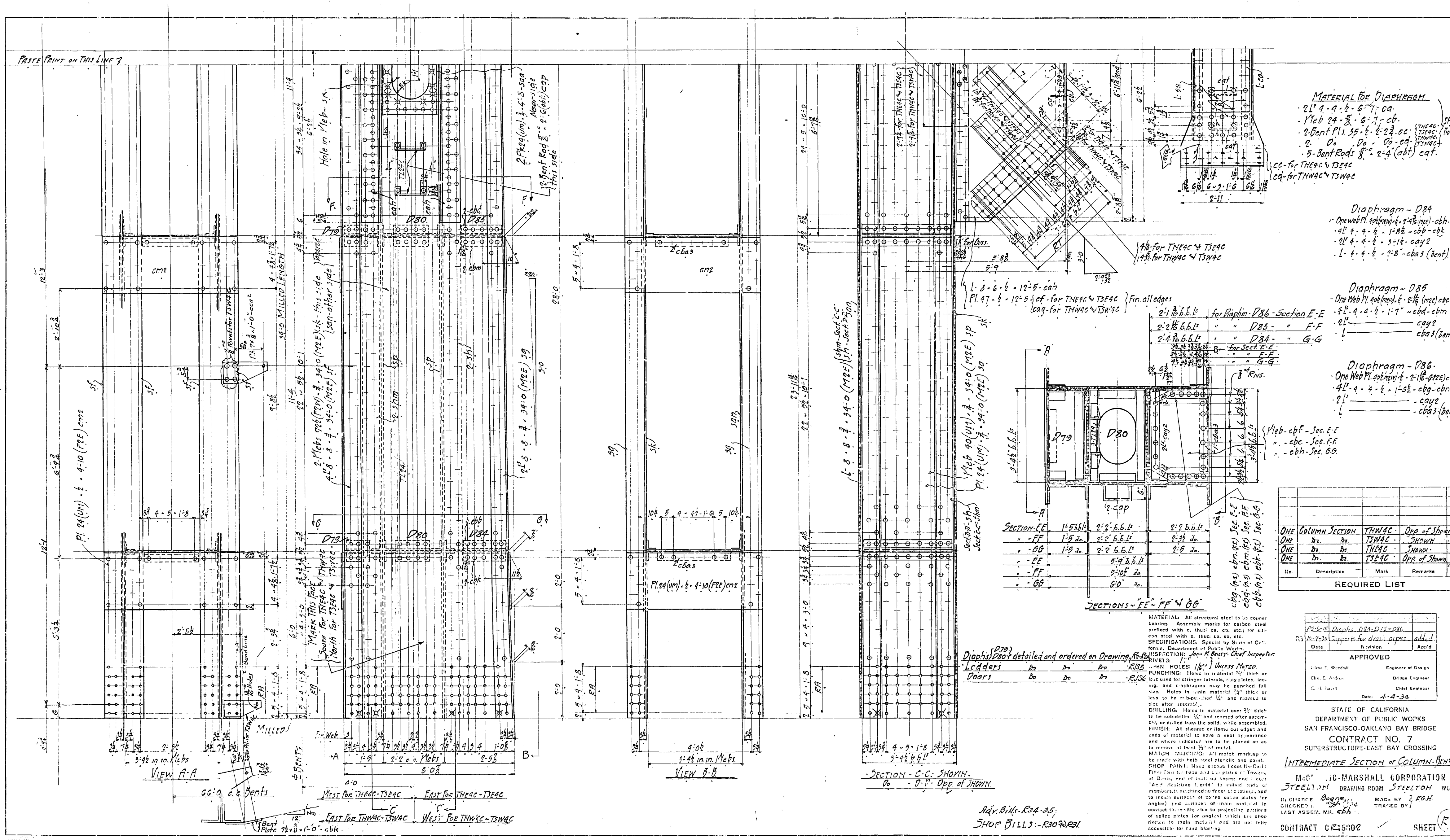
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

Int. Sect. of Column — Bent E4

McCLINTIC-MARSHALL CORPORATION
Stockton DRAWING ROOM Stockton WORKS

IN CHARGE Beane
CHKD BY
LAST DSE'M. MK.
MADE BY } J.C.M 1/2/34
TRACED BY

CONTRACT CR.15802 SHEET R2A



MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey - Chief Inspector
RIVETS: 1" } Unless Noted.
OPEN HOLES: 1 1/16" }
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

No.	Description		Mark	Remarks	Weight each Tons
One	Column Section		TNW4C	Opp. of Shown	
One	Do.	Do.	TSW4C	Shown	
One	Do.	Do.	TNE4C	Shown	
One	Do.	Do.	TSE4C	Opp. of Shown	

REQUIRED LIST

	Date	Revision	App'd
	R2-6-15	Diaphs. D84-D85+D86	
R3	10-9-34	Supports for drain pipes	added

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 4-4-34

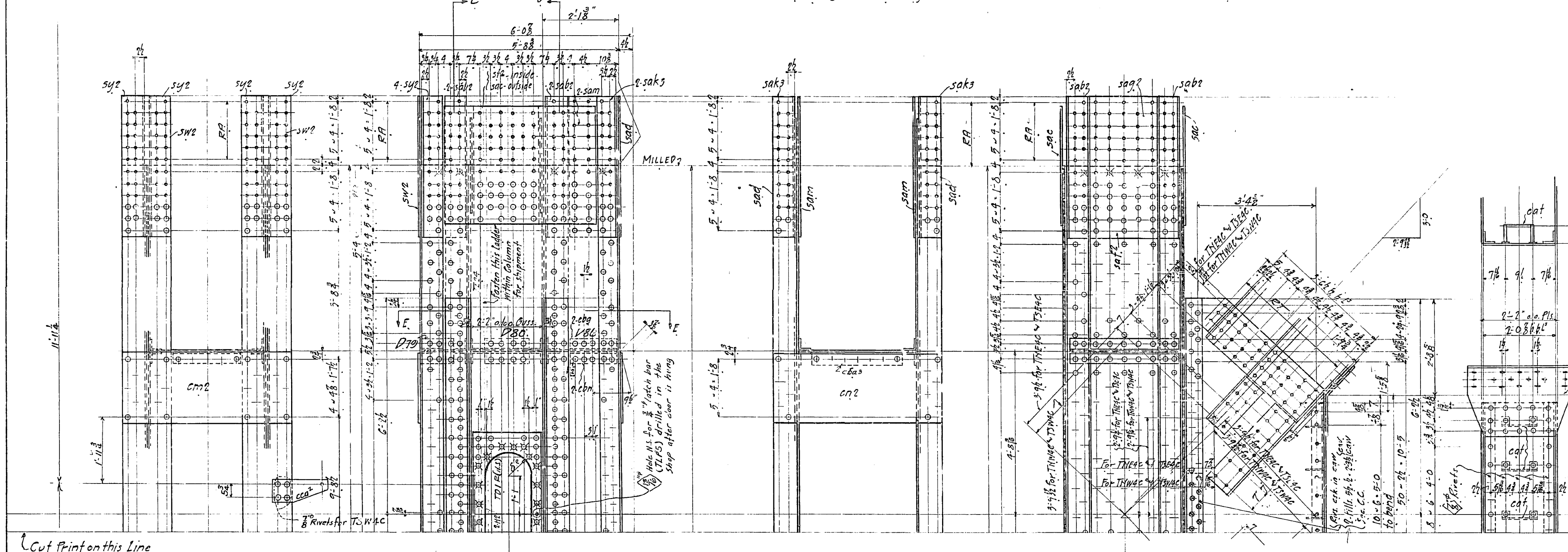
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

INTERMEDIATE SECTION of COLUMN-BENT 4

McC[illegible]IC-MARSHALL CORPORATION
STEELTON DRAWING ROOM STEELTON WORKS
IN CHARGE Bogner
CHECKED BY [illegible] /34
LAST ASSEM. MK. cbh
MADE BY } R.G.H.
TRACED BY }
CONTRACT CR-15802
SHEET R3

Material for Splice

- 2 Pls. 40(UM) · ½ · 4'-4" (F2E) sac
- 2 Pls. 22(UM) · 5/8 · 3'-4 (F2E) st2
- 2 Pls. 16½(UM) × 5/8 · 4'-0 (F2E) sam
- 2 Pls. 16¾(UM) · 3/4 · 4'-0 (F2E) sw2
- 4 L^s 7¾ · 7¾ · 11/16 · 4'-0 (F2E) sy2 } cut fr. 8 · 8 · 11/16 Grind to fit fillet L 8 · 8 · ¾
- 2 L^s 7¾ · 7¾ · 11/16 · 4'-0 (F2E) sak3 }
- 4 L^s 7¾ · 7¾ · 11/16 · 4'-0 (F2E) sab2 cut and Fin. fr. L 8 · 8 · 11/16 Grind to fit fillet L 8 · 8 · ¾
- 2 Pls. 8(UM) · 3/4 × 4'-0 (F2E) sad - Ship bolted.
- 2 Pls. 24(UM) · 5/8 × 4'-0 (F2E) saf2
- 2 Pls. 20(UM) · 5/8 × 4'-0 (F2E) sag2



No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS:
OPEN HOLES:
PUNCHING. Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith, also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	Apr'd
10-9-34	Supports for drain pipe added	
6-15-34	R2-E - 2" to 1½ - Diaph	D86

APPROVED

Glenn B. Woodruff	Engineer of Design
Chas. E. Andrew	Bridge Engineer
C. H. Purcell	Chief Engineer

Date: 4-24-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

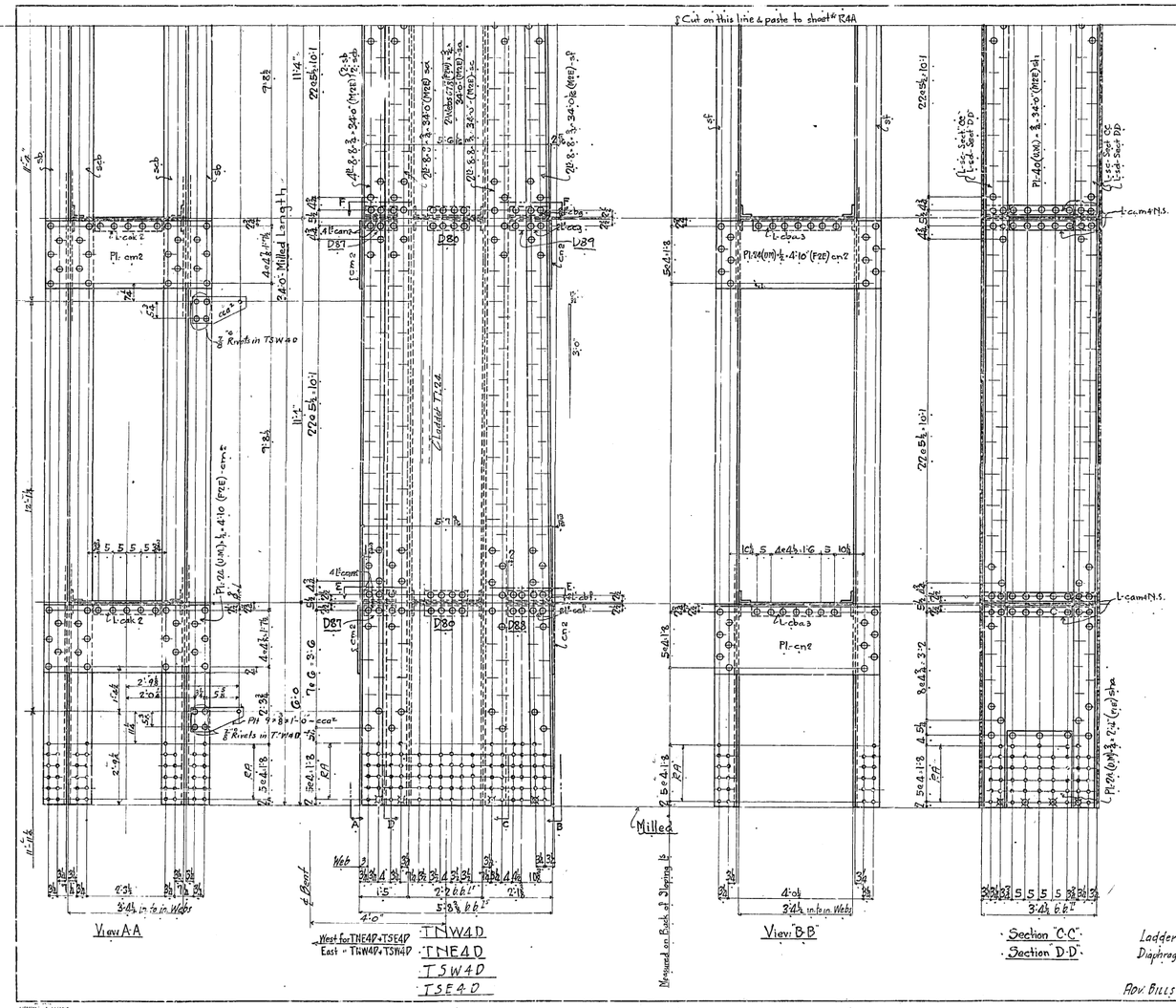
INTERMEDIATE SECTION of COLUMN - BENT 4

MCCLINTIC-MARSHALL CORPORATION
STEELTON DRAWING ROOM STEELTON WORKS

IN CHARGE Boone
CHECKED BY CH 7/1/34
LAST ASSEM. MK.
MADE BY } R.G.H.
TRACED BY }

CONTRACT CR15802 SHEET R3A

§ Cut on this line & paste to sheet # R4A



No.	Description	Mark	Remarks	Weight Each Piece
One	Column	TSE4D		
One	Column	TSW4D		
One	Column	TNE4D	Alike	
One	Column	TNW4D		

REQUIRED LIST

Date	Revision	App'd
10-2-35	Supports for drain pipe added	

APPROVED

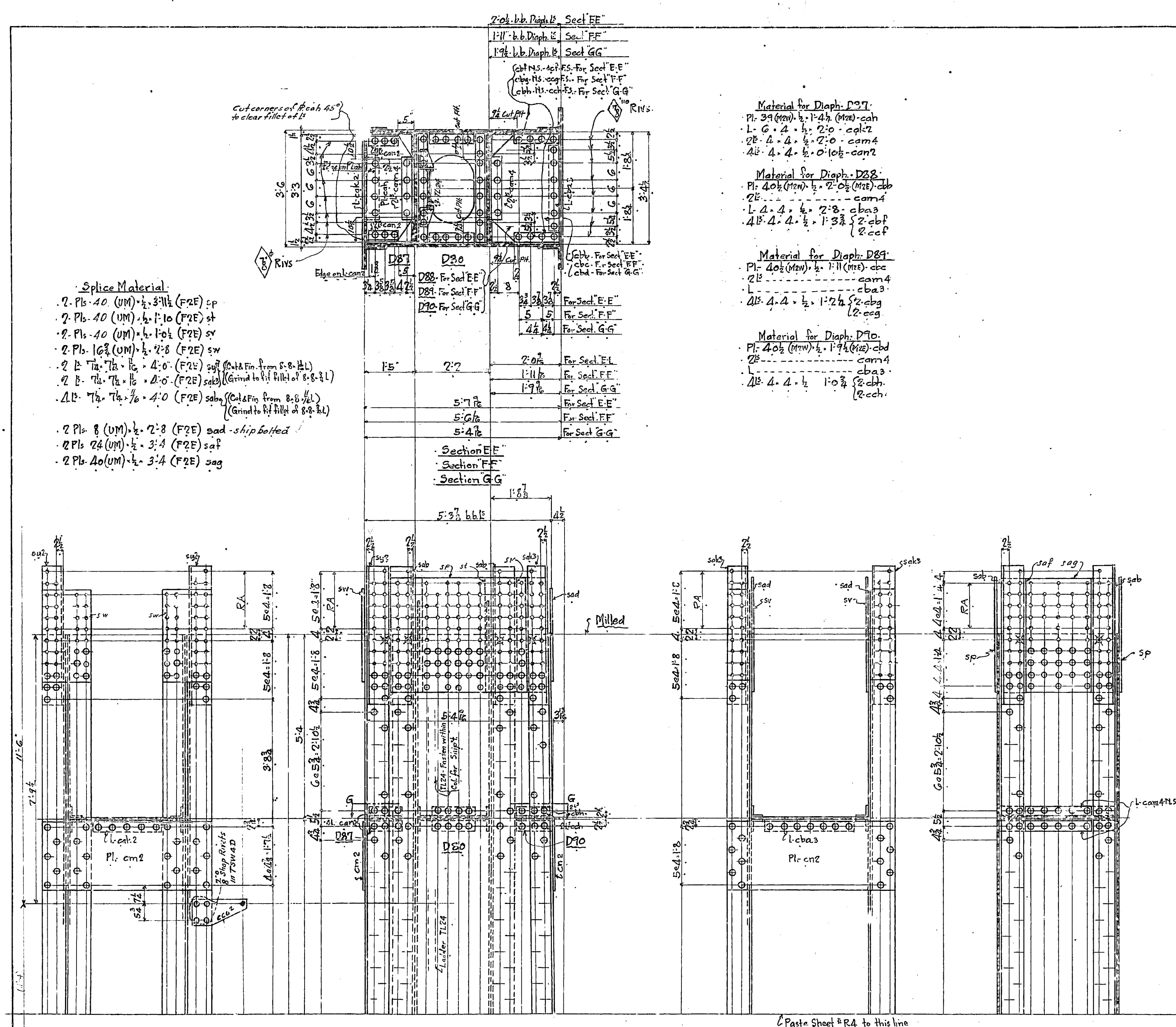
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 4-4-36

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

Int. Section of Column - Bent 4

ATLANTIC-MARSHALL CORPORATION
Stockton DRAWING ROOM Stockton WORKS
IN CHARGE Boone CHECKED BY Geo. Price LAST ASSIGN. MIL.
MADE BY J.C.M 1/9/36 TRACED BY

CONTRACT CR 15802 SHEET R4



Material for Diaph. D87.
- Pl. 39 (M2W) × ½ × 1'-4½ (M2E) - cah
- L. 6 × 4 × ½ × 2'-0 - cqk2
- 2Ls. 4 × 4 × ½ × 2'-0 - cam4
- 4Ls. 4 × 4 × ½ × 0'-10½ - can2

Material for Diaph. D88.
- Pl. 40½ (M2W) × ½ × 2'-0½ (M2E) - cbb
- 2Ls - - - - - - - - - - cam4
- L. 4 × 4 × ½ × 2'-8 - cba3
- 4Ls. 4 × 4 × ½ × 1'-3¾ {2-cbf, 2-ccf}

Material for Diaph. D89.
- Pl. 40½ (M2W) × ½ × 1'-11 (M2E) - cbc
- 2Ls - - - - - - - - - - cam4
- L - - - - - - - - - - cba3
- 4Ls. 4 × 4 × ½ × 1'-2½ {2-cbg, 2-ccg}

Material for Diaph. D90.
- Pl. 40½ (M2W) × ½ × 1'-9½ (M2E) - cbd
- 2Ls - - - - - - - - - - cam4
- L - - - - - - - - - - cba3
- 4Ls. 4 × 4 × ½ 1'-0¾ {2-cbh, 2-cch}

Splice Material
- 2-Pls-40 (UM) × ½ × 3'-11½ (F2E) sp
- 2-Pls-40 (UM) × ½ × 1'-10 (F2E) st
- 2-Pls-40 (UM) × ½ × 1'-0½ (F2E) sv
- 2-Pls-16¾ (UM) × ½ × 2'-8 (F2E) sw
- 2 Ls. 7¼ × 7¼ × 11/16 × 4'-0" (F2E) saj } (Cut & Fin. from 8×8×11/16 L)
- 2 Ls. 7¼ × 7¼ × 11/16 × 4'-0" (F2E) sak3 } (Grind to fit fillet of 8×8×¾ L)
- 4 Ls. 7¼ × 7¼ × 11/16 × 4'-0 (F2E) sabq { (Cut & Fin from 8×8×11/16 L) (Grind to fit fillet of 8×8×¾ L)
- 2 Pls. 8 (UM) × ½ × 2'-8 (F2E) sad - ship bolted
- 2 Pls 24 (UM) × ½ × 3'-4 (F2E) saf
- 2 Pls-40 (UM) × ½ × 3'-4 (F2E) sag

No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey - Chief Inspector
RIVETS: 1"ϕ. except as noted
OPEN HOLES: 1 1/16"ϕ
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up pieces; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd
10-9-34	Supports for drain pipes added	
?-18-34	Rl. E - Sect. EE - FF & GG	

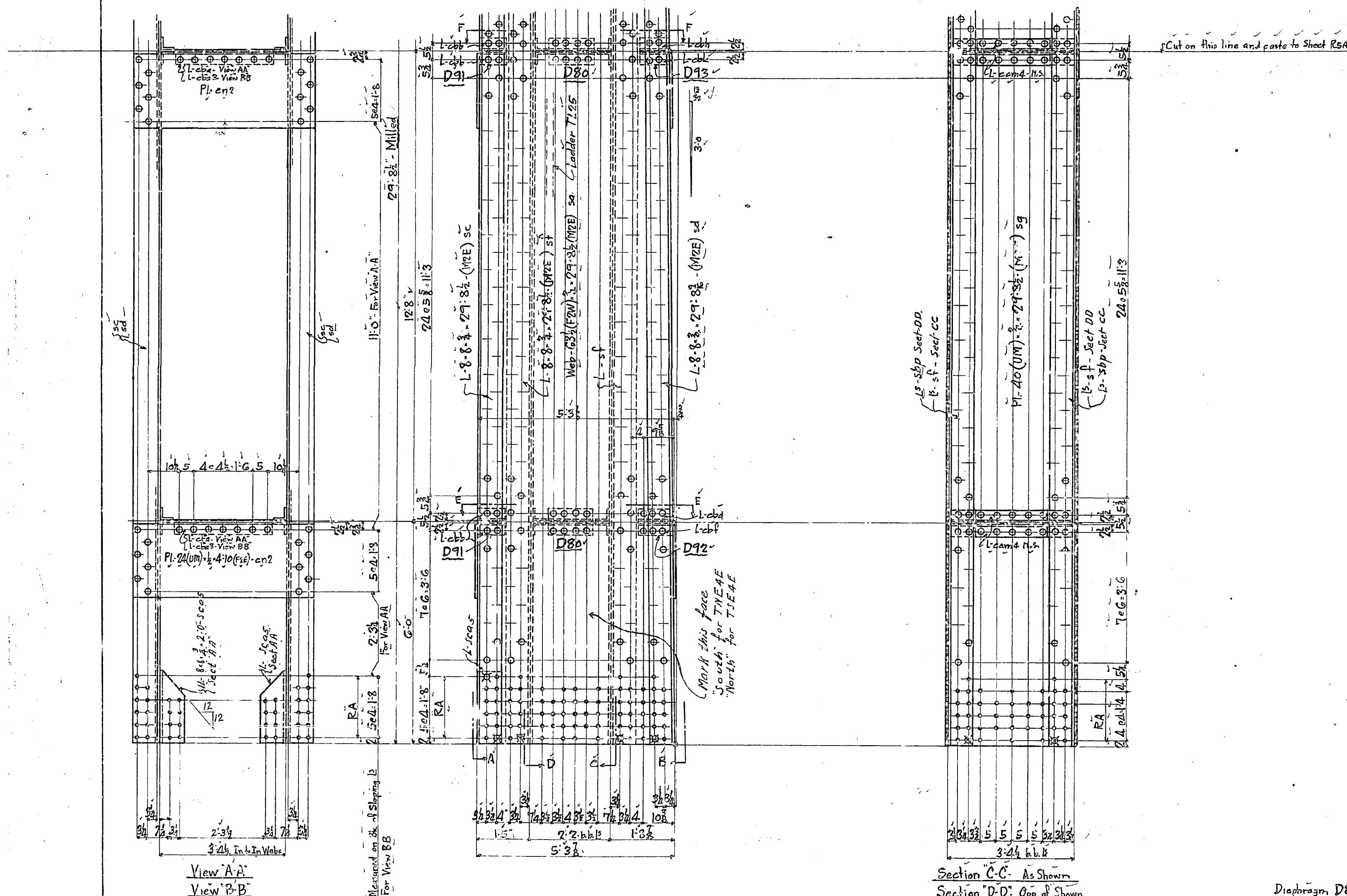
APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 4-21-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

Int. Sect. of Columns ~ Bent E4

McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS
IN CHARGE Boone
CHECKED BY G.H. 7/28/34
MADE BY / TRACED BY J.C.M. 1/5/34
LAST ASSEM. MK.
CONTRACT CR15802
SHEET R4A



Diaphragm D80 - detailed & ordered on R2-R7A
Ladders " " " " RJS5
Doors, Fastenings, etc. " " " " RJS6 and RJS10
Shop Bills - #R50-R51 and R52
Adv. Bill:- R36

Diaphragms Req'd for 5th Section of Column Bent E4

Sheet No. R6 R6A	Mark
4	D91
2	D92
2	D93

No.	Description	Mark	Remarks	Weight each Tons
One	Column	TNE4E	As Shown	
One	Column	TSE4E	Opp of Shown	

REQUIRED LIST

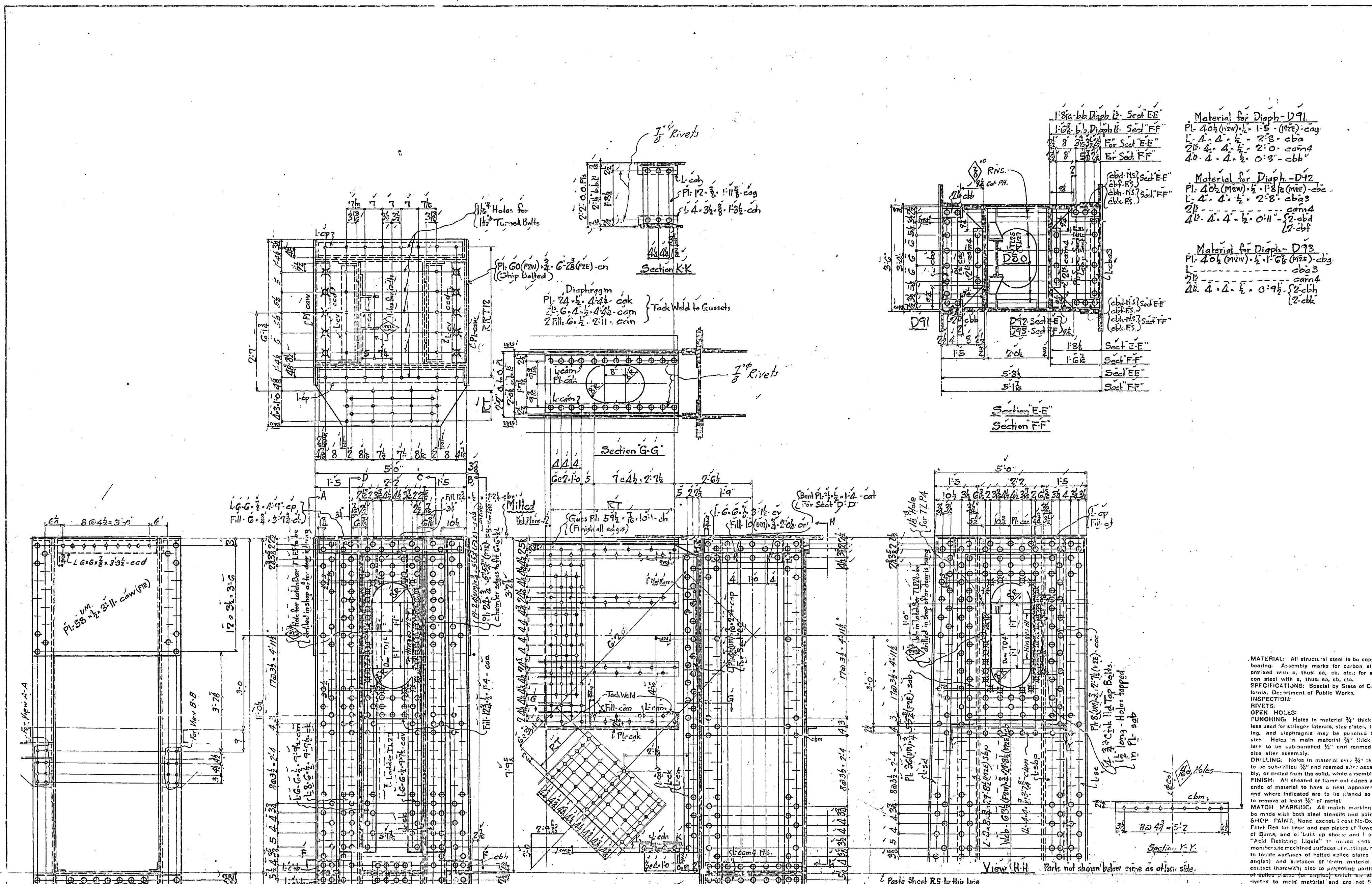
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey – Chief Inspector
RIVETS: 1"ϕ except as noted
OPEN HOLES: 1 1/16"ϕ except as noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; one 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

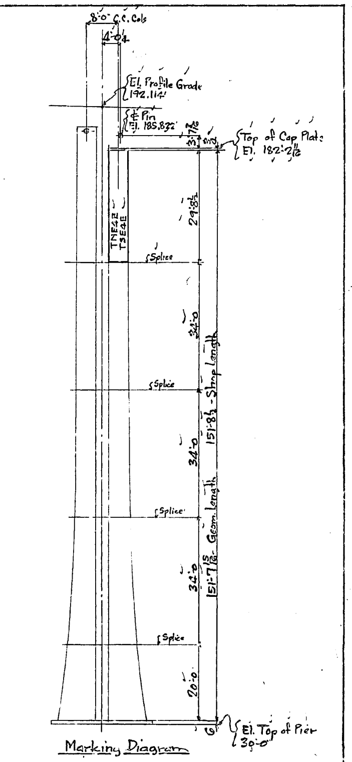
Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 4-24-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Columns — Bent E4

McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS
IN CHARGE
CHECKED BY C.R.D.
LAST ASSEM. MK.
MADE BY } JCM 1/12/34
TRACED BY }
CONTRACT CR 15802
SHEET R5





No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS:
OPEN HOLES:
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd
8/6	R3 - Fld Rivs - Pl ccd.	
6-25-34	R2 - HER. 8 Riv. Sects. K-K G-G	
5-31-34	R1 - D - Pl cn - 6' 1 3/8 to 6'-2 3/8	

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 4-24-34

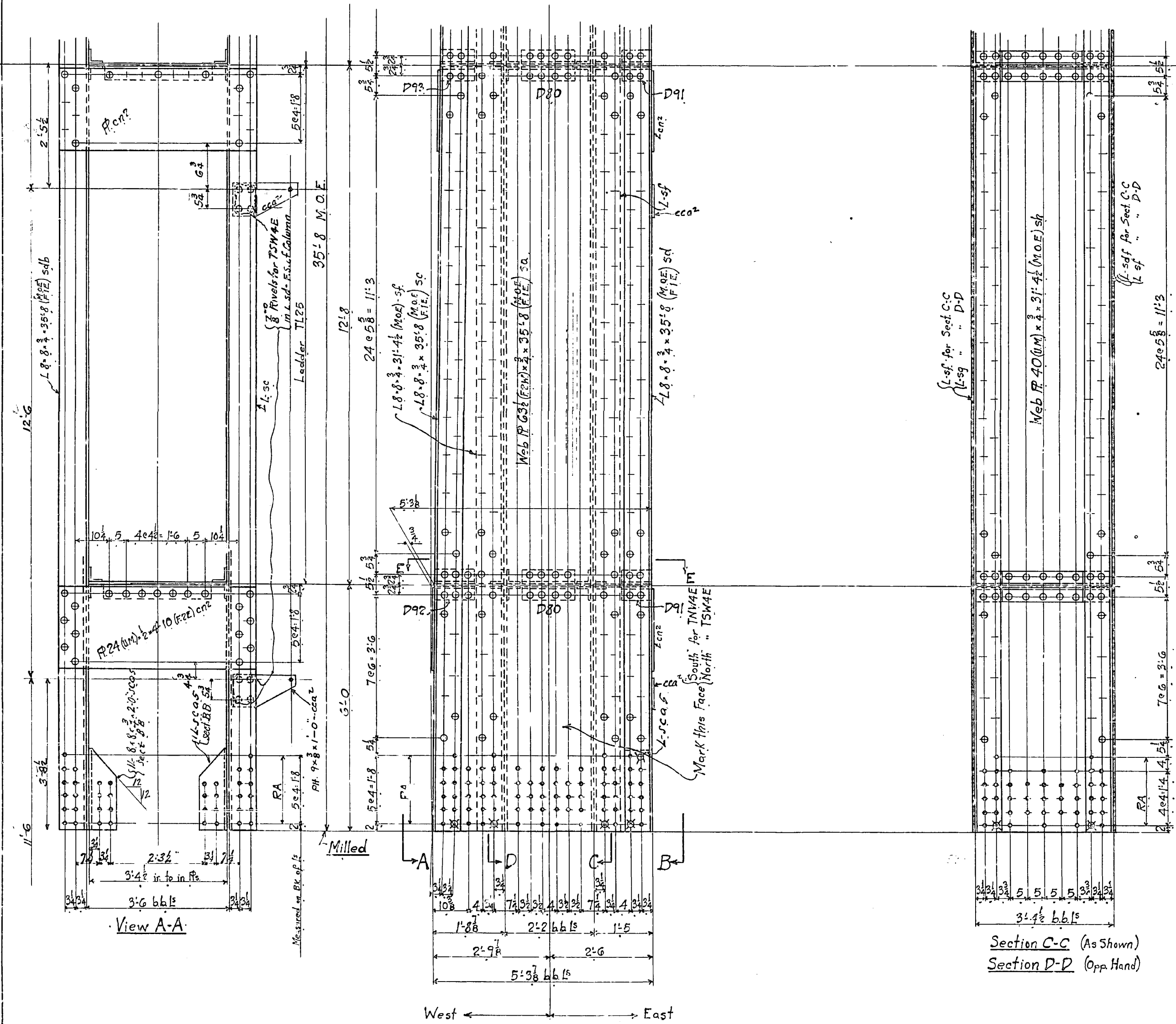
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Columns – Bent E4-East.

McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS
IN CHARGE
CHECKED BY
LAST ASSEM. MK. ccd
MADE BY J.C.M 2/16/34
TRACED BY

CONTRACT CR 15802 SHEET R5A

30-1

Paste to this Line Dwg. 6A



No.	Description	Mark	Remarks	Weight each Tons
One	Column	TNW4E	As Shown	
One	"	TSW4E	Opp. Hand	

REQUIRED LIST

Ladders detailed and ordered on Sh. RJ55.
Doors, Hinges & Latches detailed & ordered on Sh. RJ56.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey - Chief Inspector
RIVETS: 1" Except as Noted
OPEN HOLES: 1 1/16 Unless Noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
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Date	Revision	App'd
10-4-34	Supports for drain pipe added	

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 4-4-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

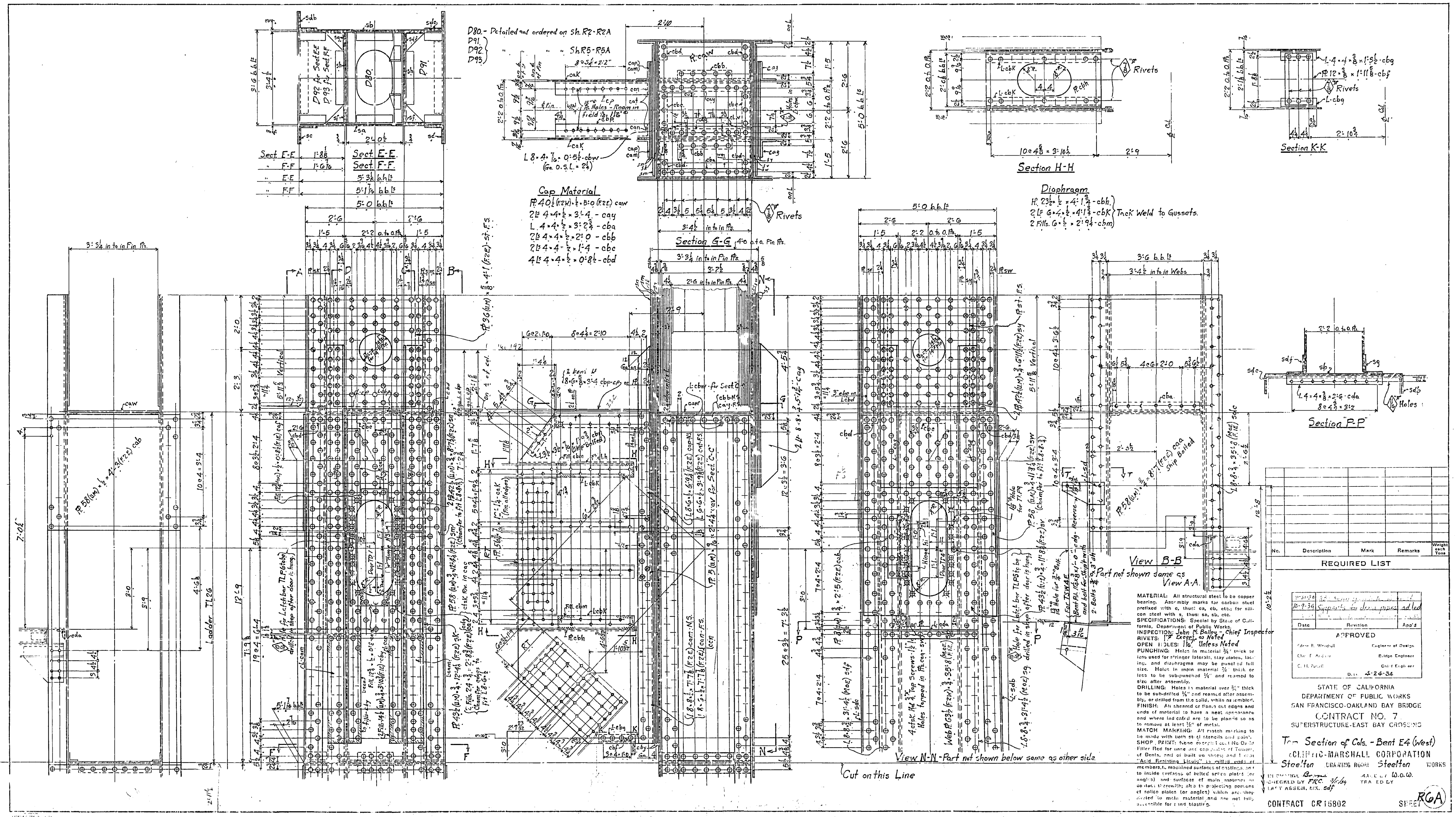
T. Section of Cols. - Bent E4 (West)

McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS

IN CHARGE Boone MADE BY W.O.W. 2-28-34
CHECKED BY F.R.C. 3/5/34 TRACED BY
LAST ASSEM. MK.

Shop Bills: R60-R61 and R62
Adv. Bill: R34

CONTRACT CR 15802 SHEET R6



MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey - Chief Inspector
RIVETS: 1" Except as Noted
OPEN HOLES: 1 1/16" Unless Noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Oxide Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

Date	Revision	App'd
10-31-34	[illegible]	
10-9-34	Supports for drain pipes added	
[illegible]	[illegible]	

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 4-24-34

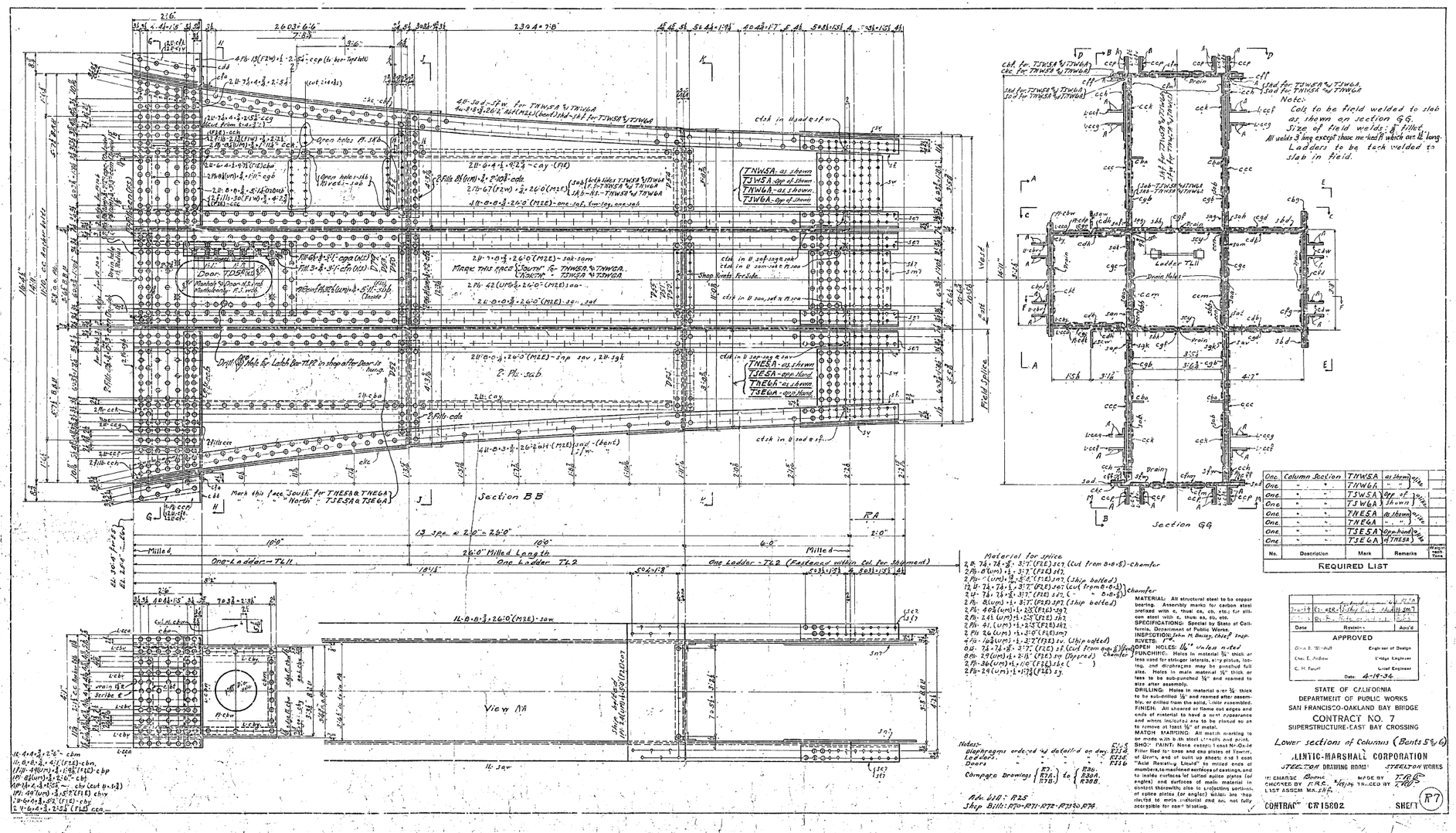
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

Top Section of Cols. - Bent E4 (West)

McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS

IN CHARGE Boone — MADE BY W.O.W.
CHECKED BY FRC. 3/5/34 — TRACED BY
LAST ASSEM. MK. sdf

CONTRACT CR15802 — SHEET R6A



No.	Description	Mark	Remarks	Weight each Piece
One.	Column Section	TNWSA	as shown	9116
One.	" "	TNWGA	" "	
One.	" "	TSWSA	Opp of shown	9116
One.	" "	TSWGA	" "	
One.	" "	TNESA	as shown	9116
One.	" "	TNEGA	" "	
One.	" "	TSESA	Opp hand of TNESA	9116
One.	" "	TSEGA	" "	

REQUIRED LIST

Material for splice.
2 Pl. 7/8 x 7'-8" - 33.7 (F2E) sc7 (Cut from B-0 x 5/8) - chamfer
2 Pls - 8 (um) x 1 - 33.7 (F2E) sn7
2 Pls - " (um) x 7/8 - 5'-6" (F2E) sn7 (Ship bolted)
1/2 Pl. 7/8 x 7/8 x 1 - 33.7 (F2E) sn7 (Cut from B-0 x 5/8) } Chamfer
2 Pl. - 7/8 x 7/8 x 5/8 - 33.7 (F2E) sn7 (" " B-0 x 5/8)
2 Pls - 8 (um) x 1 - 33.7 (F2E) sn7 (Ship bolted)
2 Pls - 403 (um) x 1 - 2.25 (F2E) sn7
2 Pls - 2.45 (um) x 1 - 2.25 (F2E) sn7
2 Pls - 41 (um) x 1 - 2.25 (F2E) sn7
2 Pl 26 (um) x 1 - 3.0" (F2E) sn7
4 Pls - 102 (um) x 1 - 3.7" (F2E) sn (Ship bolted)
8 Pls - 7/8 x 7/8 x 5/8 - 3.7" (F2E) sn (Cut from 6-0 x 5/8) Chamfer
8 Pls - 2.9 (um) x 1 - 2.25" (F2E) sn (Tapered)
2 Pls - 36 (um) x 1 x 10" (F2E) sn (")
2 Pls - 2.9 (um) x 1 - 1.75 (F2E) sn

Notes-
Diaphragms ordered & detailed on dwg. F15.5
Ladders " " " F15.6
Doors " " " F15.6
Compare Drawings R7. to R30A. R30B.
R7A. R30B.

Adv. bill: R25
Ship Bills: R70-R71-R72-R73-R74

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey, Chief Insp.
RIVETS: ⅞"
OPEN HOLES: ⅛" unless noted
PUNCHING: Holes in material ¾" thick or less used for stiffener laterals, splices, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed to an to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with a ⅛ steel stencils and paint.
SHOP PAINT: None except: 1 coat Red Oxide Filler Red for base and cap plates of Towers, of Shafts, and of built up sheets and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are not riveted to main material and are not fully accessible for paint blasting.

			4-19-36
2-4-34	(2) - REF. 1/16 dia. C.C. thick		4-19-36
1-7-34	(1) - R.F. Note & Detail		12-1-33
Date	Revisions		Appd

APPROVED

Chas. E. Andrew — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Steel Engineer
Date: 4-19-36

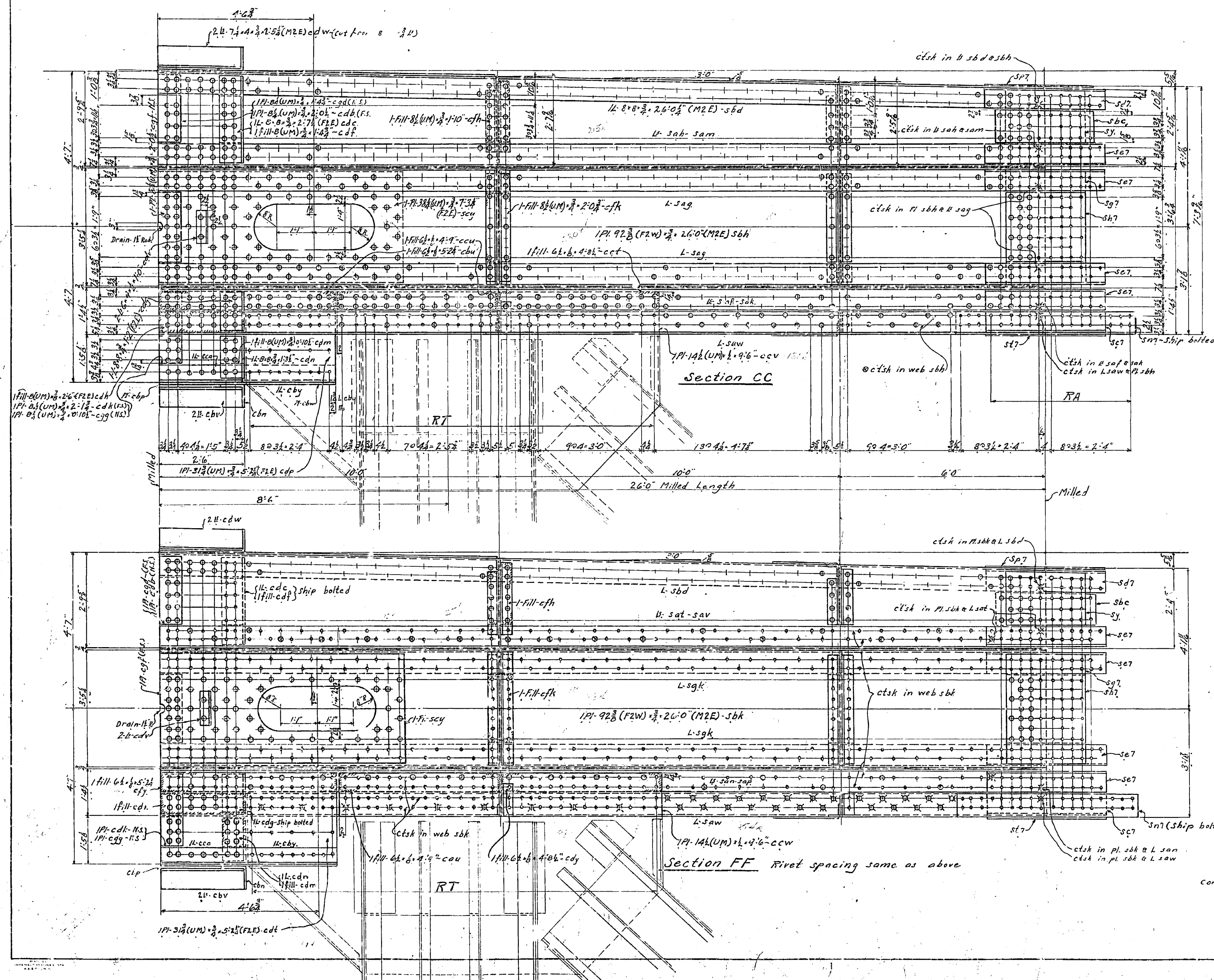
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

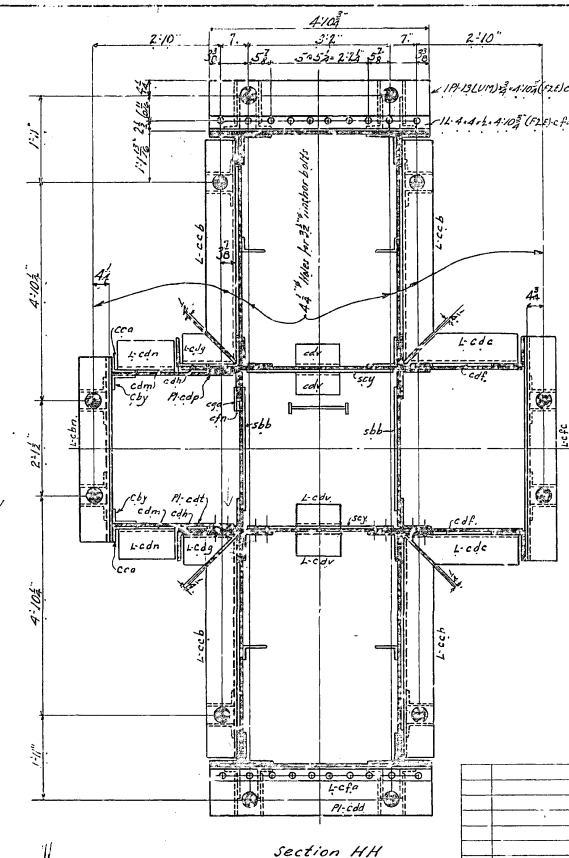
Lower sections of Columns (Bents 5 & 6)

ATLANTIC-MARSHALL CORPORATION
STEEL FOR DRAWING ROOM: STEELTON WORKS
IN CHARGE Bonnie MADE BY T.R.S.
CHECKED BY T.R.C. 5/29/36 TRACED BY T.R.S.
LIST ASSEM. NO. 5 P.L.

CONTRACT CR15802 SHEET R7

30-1





Section HH

No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS: 1"⌀
OPEN HOLES: 1 1/16"⌀ unless noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Compare Dwgs R7, R7A, R7B to R38, R38A, R38B.

Date	Revision	App'd
5/2	R3 - Open Holes & Shop Rivets	
5/1	R2 - [illegible]	
4-27	R1 [illegible]	

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 4-19-34

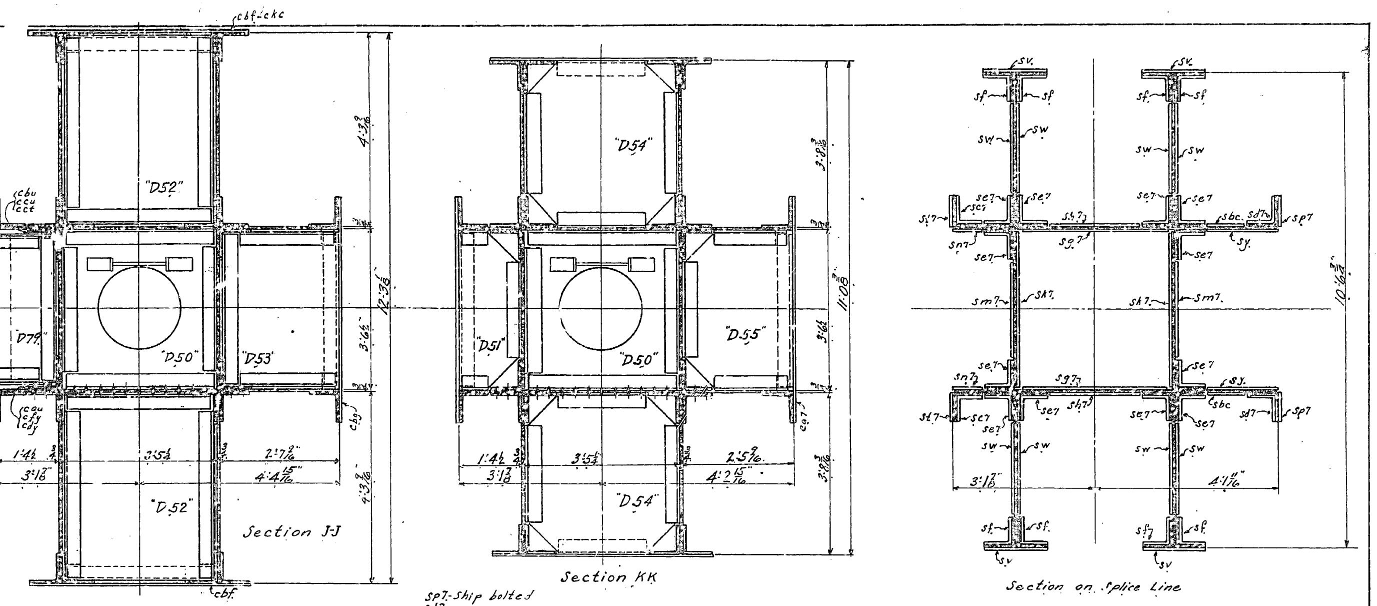
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO 7
SUPERSTRUCTURE-EAST BAY CROSSING

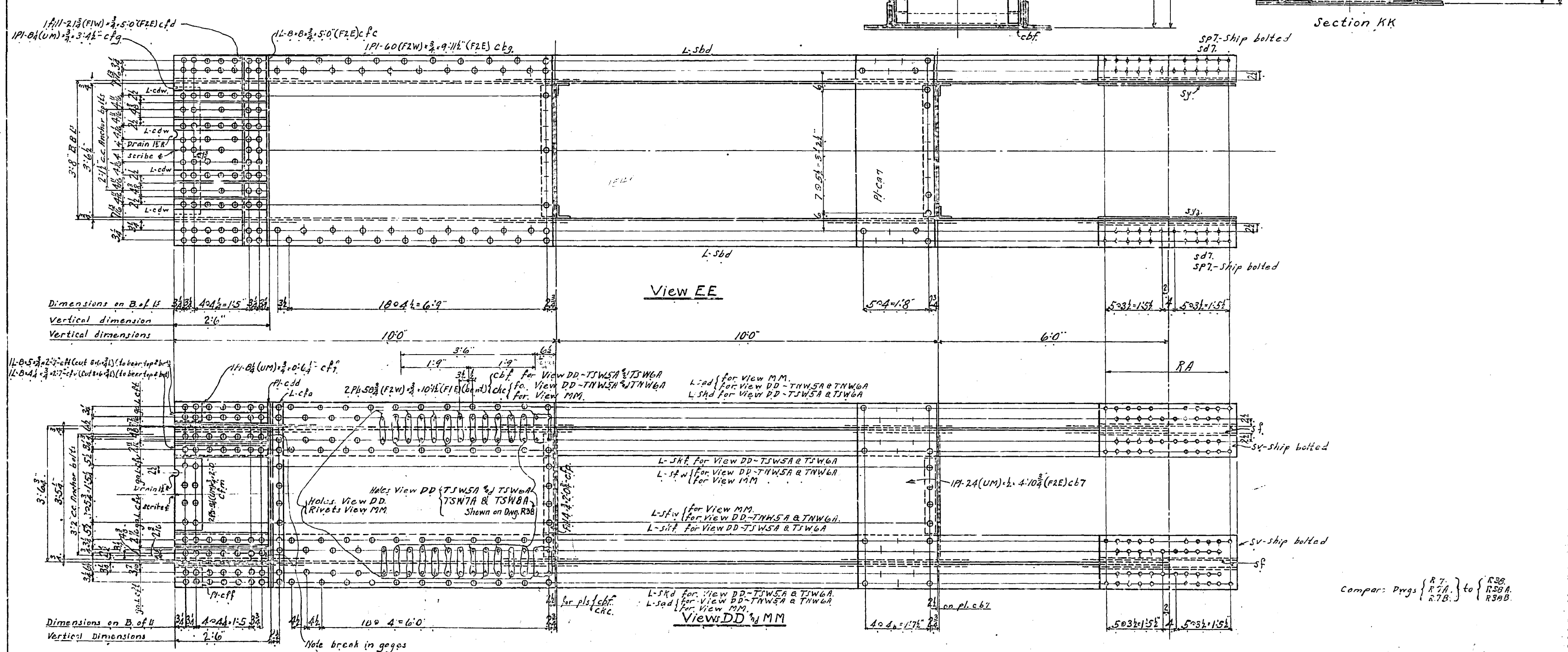
Lower Sections of Columns (Bent 5 & 6)

McCLINTIC-MARSHALL CORPORATION
STEELTON DRAWING ROOM — STEELTON WORKS

IN CHARGE Boone — MADE BY TRP
CHECKED BY F.R.C. 4/19/34 — TRACED BY TRP
LAST ASSEM. MK. Sbf.

CONTRACT CR15302 — SHEET R7A





No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS: 1"ø
OPEN HOLES: 1 1/16"ø unless noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes, and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd
June 1	R3-8 - Note on Sects. DD + MM	

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 4-19-34

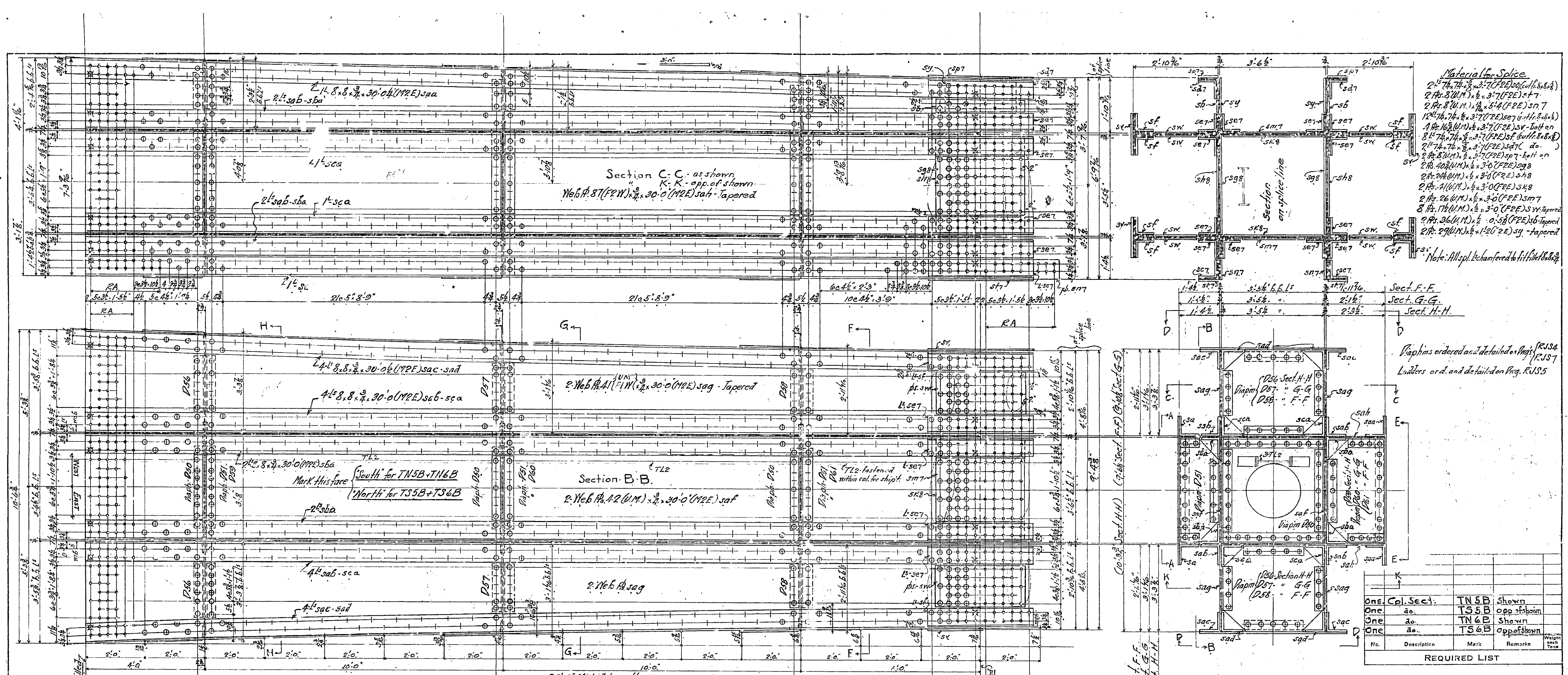
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

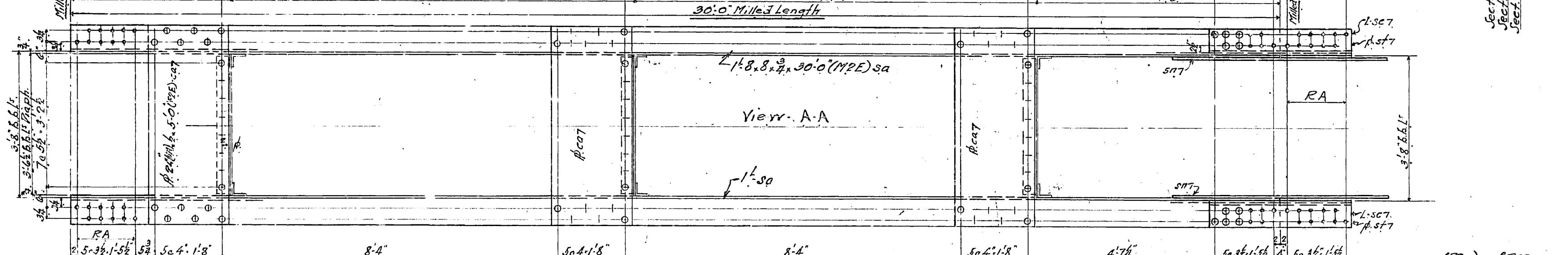
Lower Sections of Columns (Bents 5 1/2, 6)

McCLINTIC-MARSHALL CORPORATION
STEELTON DRAWING ROOM STEELTON WORKS

IN CHARGE Boone MADE BY TRP
CHECKED BY E.M.C. 2/19/34 TRACED BY TRP
LAST ASSEM. MK. SKf

CONTRACT CR 15802 SHEET R7B





No.	Description	Mark	Remarks	Weight each Tons
One	Col. Sect.	TN5B	Shown	
One	do.	TS5B	opp. of shown	
One	do.	TN6B	Shown	
One	do.	TS6B	opp. of shown	

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey Chief Insp.
RIVETS: 1"φ
OPEN HOLES: $1\frac{1}{16}$"φ
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd
4-3-34	R1- Holes & Rivets added at Splice. Length	

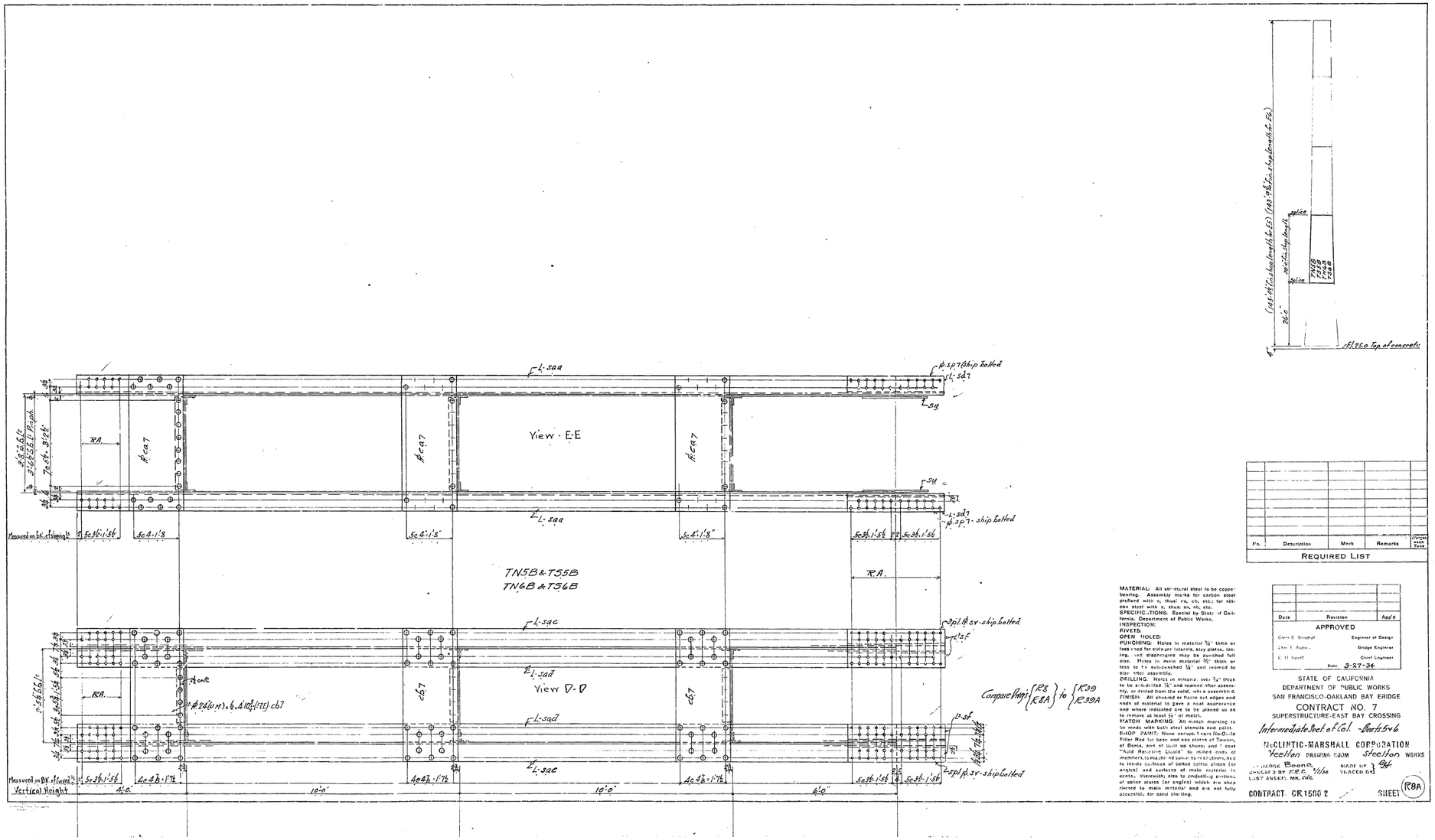
APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 3-27-34 / 4-11-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Intermediate Sect. of Col's - Bents 5+6

McCLINTIC-MARSHALL CORPORATION
Stockton DRAWING ROOM — Stockton WORKS
IN CHARGE Boone
CHECKED BY F.R.C. 3/7/34
LAST ASSEM. MK. cdc
MADE BY } G.H.
TRACED BY }

CONTRACT CR15802 — SHEET R8



No.	Description	Mark	Remarks	Revision Mark Date

REQUIRED LIST

MATERIAL: All structural steel to be copper-bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS:
OPEN HOLES:
PUNCHING: Holes in material ⅝" thick or less used for stiffeners, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ⅝" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ⅝" thick to be sub-drilled ¾" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ¼" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat Red-Oxide Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

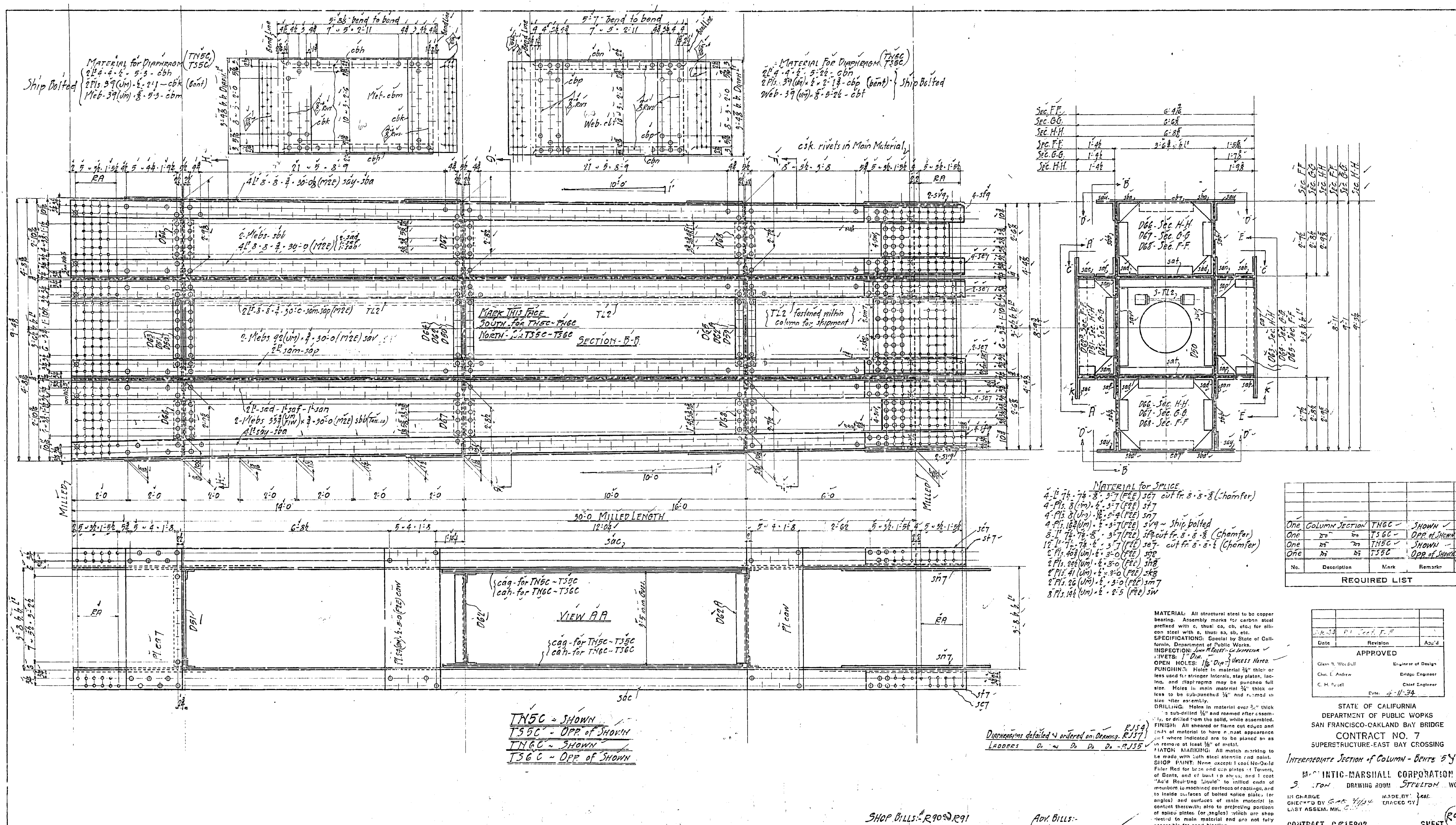
APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date. 3-27-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Intermediate Sect of Col. - Bents 5 & 6

McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS
CHECKED BY F.E.C. 5/26/34 — MADE BY / TRACED BY
LIST ANGLES, MK. etc.

CONTRACT CR 1500 2 — SHEET R8A



No.	Description	Mark	Remarks	Weight each Tons
One	Column Section	TN6C	Shown	
One	Do	TS6C	Opp. of Shown	
One	Do	TN5C	Shown	
One	Do	TS5C	Opp. of Shown	

REQUIRED LIST

TN5C ~ Shown
TS5C ~ Opp. of Shown
TN6C ~ Shown
TS6C ~ Opp. of Shown

Diaphragms detailed & ordered on Drawing RJ54, RJ57
Ladders Do Do Do - RJ55

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey - Ch. Inspector
RIVETS: 1" Dia.
OPEN HOLES: $1\frac{1}{16}$" Dia. Unless Noted.
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except: 1 coat No-Ox-Id Filler Red for base end cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd
5-16-34	R1 Sect. F-F	

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 4-11-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

Intermediate Section of Column - Bents 5 & 6

McClintic-Marshall Corporation
Steelton Drawing Room Steelton Works

In Charge
Checked by G.M.K. 4/11/34
Last Assem. Mk.
Made by
Traced by

Shop Bills: R90 & R91
Adv. Bills:

CONTRACT CR15802 SHEET R9

3054

VIEW E-E

VIEW D-D

SECTION - C-C (SHOWN)

SECTION - K-K (One of Shown)

Web - Bl(F2W) - ½ - 30-0 (M2E) sat (Tapered)

28-0 Tapered Side

L-8-8-½-50-ab(M2E) sab (bent)

31-5½ c.c. End Holes (Vertical Length)

Measured on back of L Vertical Height

Measured on back of L

Bend Line Z

Thrust Line

Fl-cbg-for TH6C-T3GC

Fl-cbc-for TH5C-T3GC

63k rivets in Knuckle Material

18-6⅜ for TH5C-T3GC

17-8⅜ for TH6C-T3GC

Miter

Section at Splice

Section M-M

Diagram-Detailed on Dwg. R9A

Mark	Revision	Appd.
	Fl-cbd for floor 1-5-8	G.E.

APPROVED

Glenn B. Woodruff — Engineer of Design

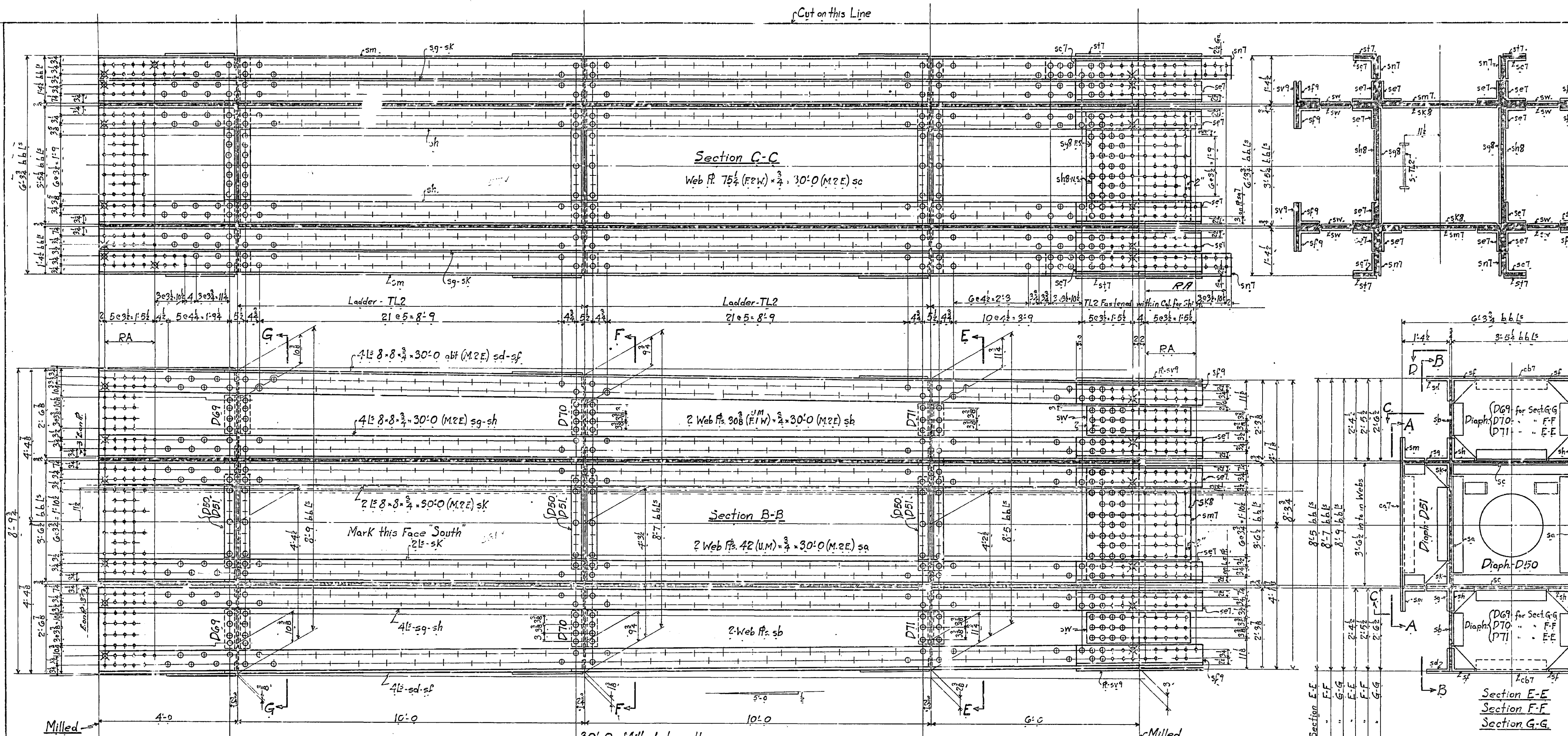
Chas. E. Andrew — Bridge Engineer

C. H. Purcell — Chief Engineer

Date 4-11-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
INTERMEDIATE SECTION of COLUMN (Bents 5W6)
McCLINTIC-MARSHALL CORPORATION
STEELTON DRAWING ROOM STEELTON WORKS
CHARGE — CHECKED BY Exer 3-1-34 — TRACED BY Rex 4/5/34 — LAST ALTERED MK.

CONTRACT CR 15802 SHEET R9A



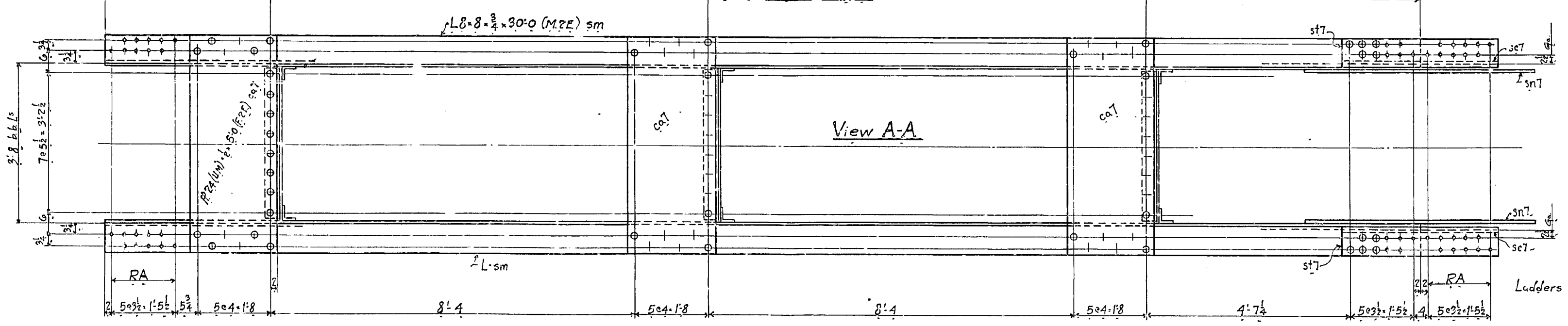
Splice Material

4 Ls 7¼ × 7¼ × ⅝ × 3'-7 (F.2E.) - sc7 (cut fr. L8×8×⅝ Chamfer)
4 Pls. 8 (U.M.) × ½ × 3'-7 (F.2E.) - st7
4 Pls. 8 (U.M.) × 13/16 × 5'-4 (F.2E.) - sn7
12 Ls 7¼ × 7¼ × ½ × 3'-7 (F.2E.) - se7 (cut fr. L8×8×½ Chamfer)
4 Pls. 16¾ (U.M.) × ½ × 3'-7 (F.2E.) - sv9 ← ship bolt
8 Ls 7¼ × 7¼ × ⅝ × 3'-7 (F.2E.) - sf9 (cut fr. L8×8×⅝ Chamfer)
2 Pls. 40¾ (U.M.) × ½ × 3'-0 (F.2E.) - sg8
2 Pls. 24½ (U.M.) × ½ × 3'-0 (F.2E.) - sh8
2 Pls. 41 (U.M.) × ½ × 3'-0 (F.2E.) - sk8
2 Pls. 26 (U.M.) × ½ × 3'-0 (F.2E.) - sm7
8 Pls. 36 (U.M.) × ½ × 0'-11½ (F.2E.) - sw (Tapered)

D50 - Detailed & ordered on Drg. RJ54.
D51 - " " " RJ54.
D69, D70, D71 - " " " RJ58

No.	Description	Mark	Remarks	Weight Pounds Tons
One	Column	TN5D	Alike	
One	"	TS5D	Alike	
One	"	TN6D	Alike	
One	"	TS6D	Alike	

REQUIRED LIST



Ladders detailed & ordered on Sh. RJ55.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey - Chief Inspector
RIVETS: 1" "
OPEN HOLES: 1 1/16.
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 4-11-34

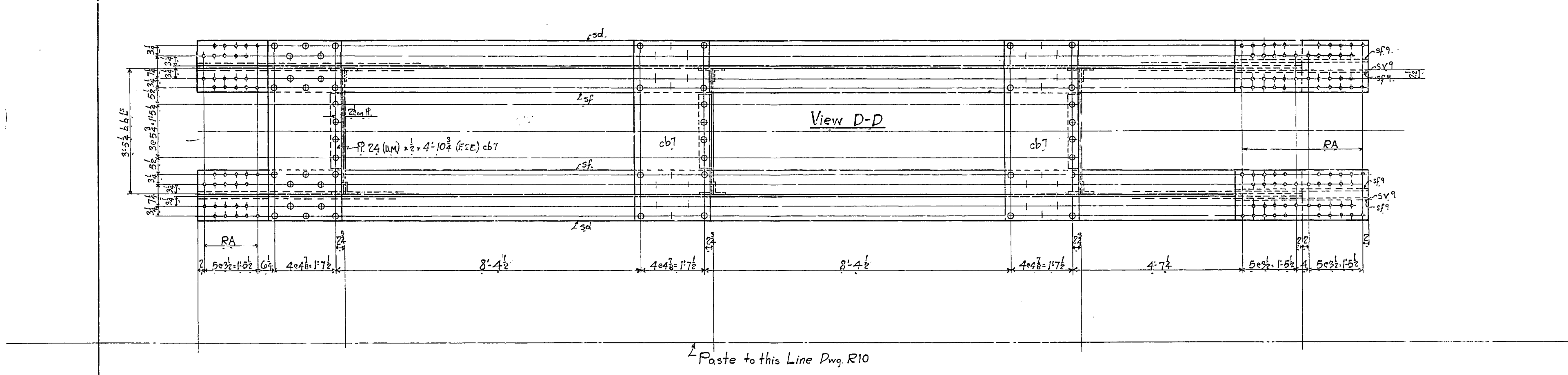
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

Intermediate Section of Cols. - Bents 5 and 6

LINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS

IN CHARGE
CHECKED BY C.S.H. 2/6/34
LAST ASSEM. MK. W
MADE BY W.O.W. 1-30-34
TRACED BY

CONTRACT CR 15802 SHEET R10



No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey-Chief Inspector
RIVETS: 1" 1"
OPEN HOLES: 1 1/16
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 4-2-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS
IN CHARGE
CHECKED BY G.S.M. 2/6/34
LAST ASSEM. MK.
MADE BY W.O.W.
TRACED BY

CONTRACT CR 15802 SHEET R10A

Cut on this Line

Section C-C.

Web Pl. 75¼ (FEW) × ⅞ × 30'-0 (MEE) cc

Ladder - TL2 | Ladder - TL2 | TL2 - Fastened within Col. for Shipt

Section B-B.

Mark this Face "South"

Milled — 4'-0 — 10'-0 — 10'-0 — 6'-0 — Milled

30'-0 Milled Length

View A-A

Splice Material

4 Lt 7¼ × 7¼ × ⅞ × 3'-7 (F2E) - cc7 (cut fr L8×8×⅞ Chamfer)
4 Pls 8 (LM) × ½ × 3'-7 (F2E) - cf7
1 Pls 8 (LM) × 9/16 × 5'-4 (F2E) - cm7
12 Lt 7¼ × 7¼ × ½ × 3'-7 (F2E) - cc7 (cut fr L8×8×½ Chamfer)
4 Pls 16¾ (LM) × ½ × 3'-7 (F2E) - cf9 (cut fr L8×8×⅞ Chamfer)
8 Lt 7¼ × 7¼ × ⅞ × 3'-7 (F2E) - cf9 (cut fr L8×8×⅞ Chamfer)
2 Pls 40¾ (LM) × ½ × 3'-0 (F2E) - cg8
2 Pls 24½ (LM) × ½ × 3'-0 (F2E) - ch8
2 Pls 41 (LL) × ½ × 3'-0 (F2E) - ck8
2 Pls 26 (LM) × ½ × 3'-0 (F2E) - cm7
8 Pls 36 (LM) × ½ × 0'-11½ (F2E) - cw (Tapered)

D50 - Detailed & ordered on Dwg. RJ54
D51 " " " RJ54
D69 " " " RJ58
D70 " " " RJ58
D71 " " " RJ58

Section E-E
Section F-F
Section G-G

No.	Description	Mark	Remarks	Weight each Piece
One	Column	TNTD.	Alike	
One	"	TSTD.		

REQUIRED LIST

Note:
This Drawing to be worked in conjunction with Dwg. R10 & R10A. Everything not given on this sheet to be made same as Dwg. R10 & R10A, except material prefixed "S" for silicon steel to be prefixed "C" for carbon steel.

Ladders detailed & ordered on Sh. RJ55.

Shop Bill: 4R110

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with a, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John H. Bayley - Chief Inspector
RIVETS: 1"
OPEN HOLES: 1⅛"
PUNCHING: Holes in material ⅝" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ⅝" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over ⅝" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with hook steel stencils and paint.
SHOP PAINT: None except 1 coat No-Corode Finish Red for base and cap plates of Towers, at Seats, and of built up shapes and 1 coat "Acid Resisting Liquid" to inside ends of member, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to web material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Bridges
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 4-11-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

Intermediate Section of Cols. - Bent 7

McCLINTIC-MARSHALL CORPORATION
Elizabeth DRAWING ROOM Steelton WORKS

IN CHARGE
CH. CHKD BY C.E.A. 4/04
LAST ASSEM. MK. W.
MADE BY W.O.W. 2-5-34
TRACED BY

CONTRACT CR 15802 SHEET R11

No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with u, thus: ua, ub, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey, Chief Inspector
RIVETS: 7/8" ~~1"~~
OPEN HOLES: 11/16.
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ½" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled 1/16" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with gun steel stencils and paint.
SHOP PAINT: Plane except 1 coat No-Oxid Filer Red for base and cap plates of Towers, of Bents and of built up shapes; 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

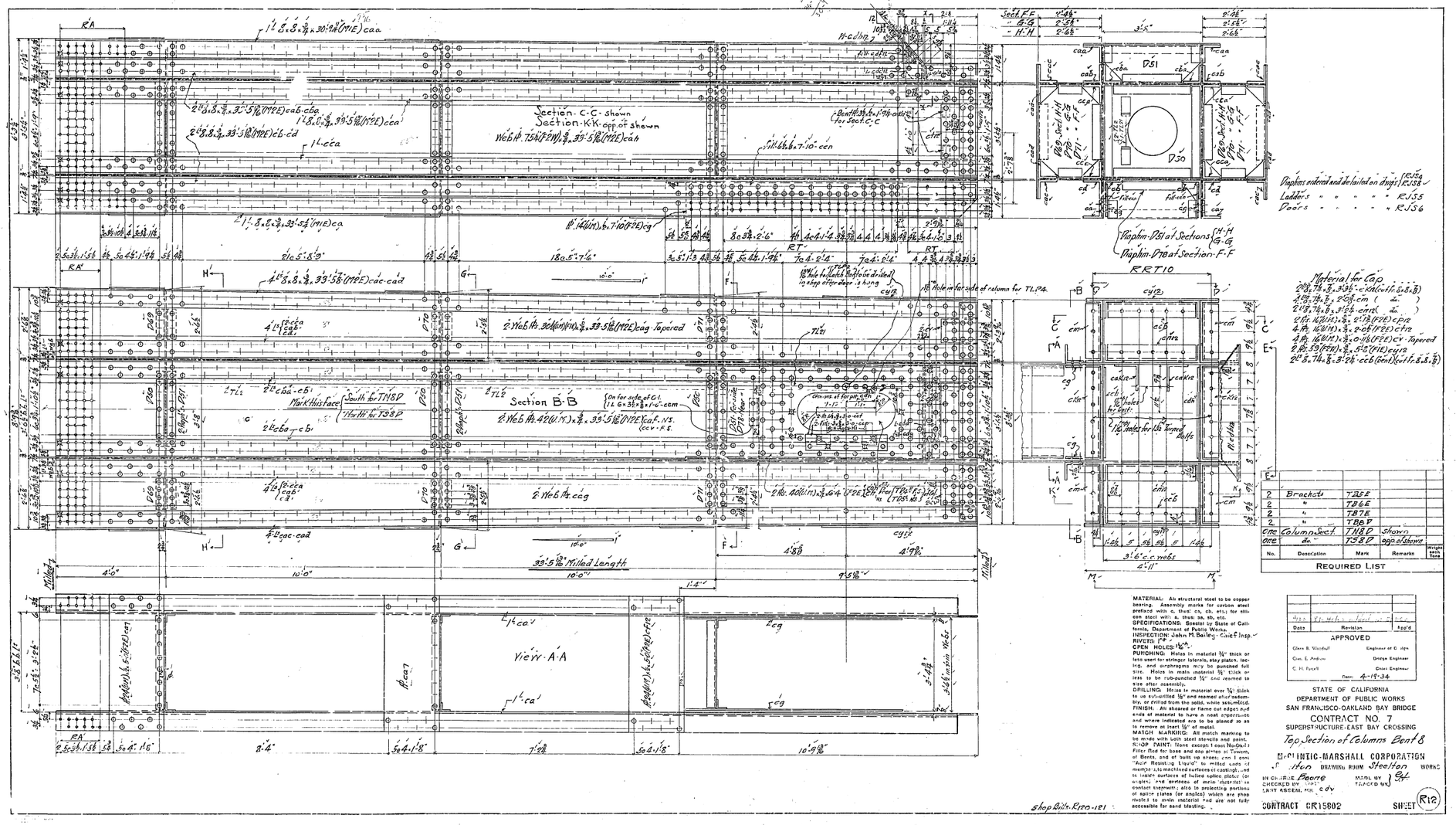
APPROVED

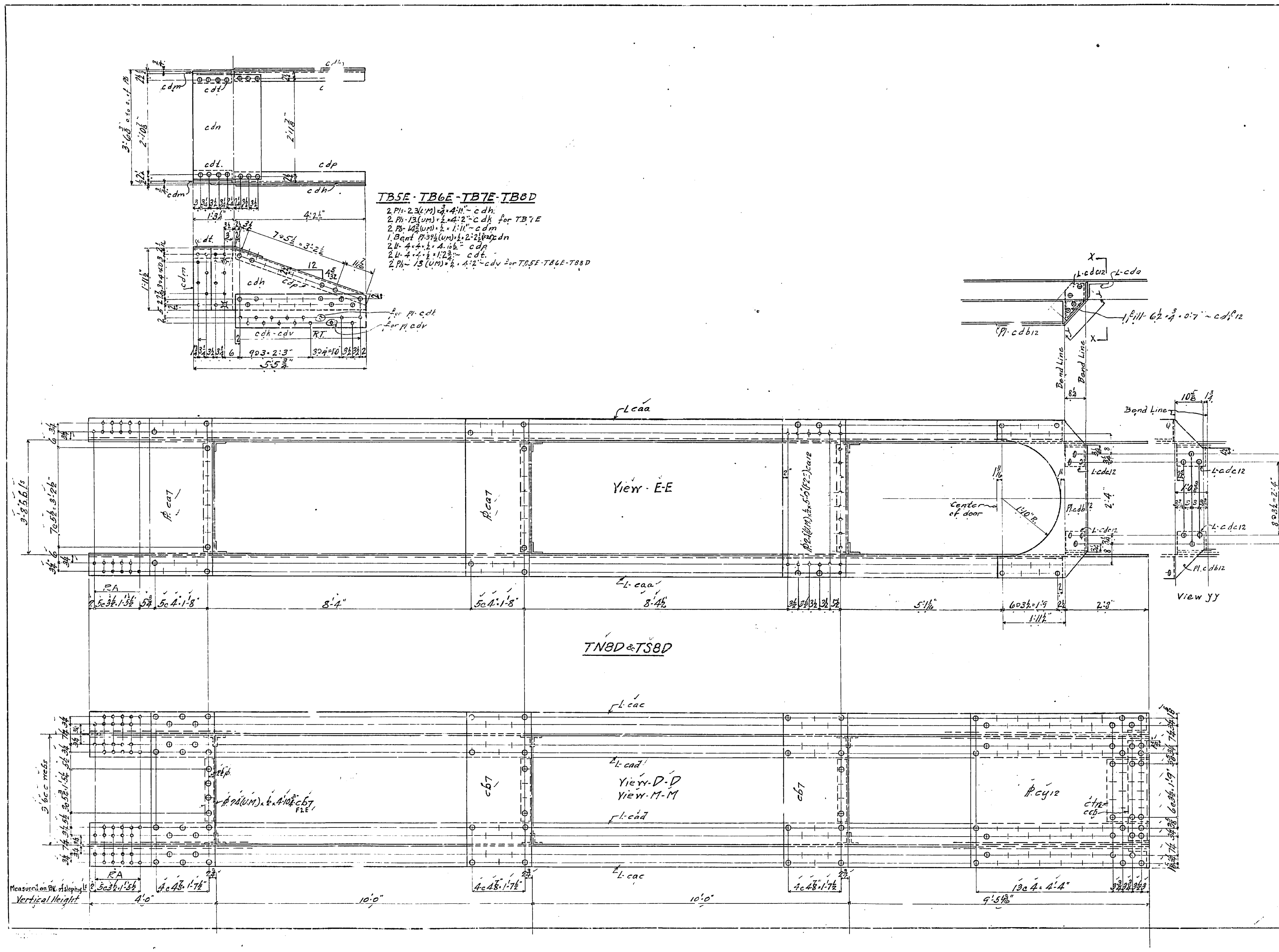
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 6-2-34

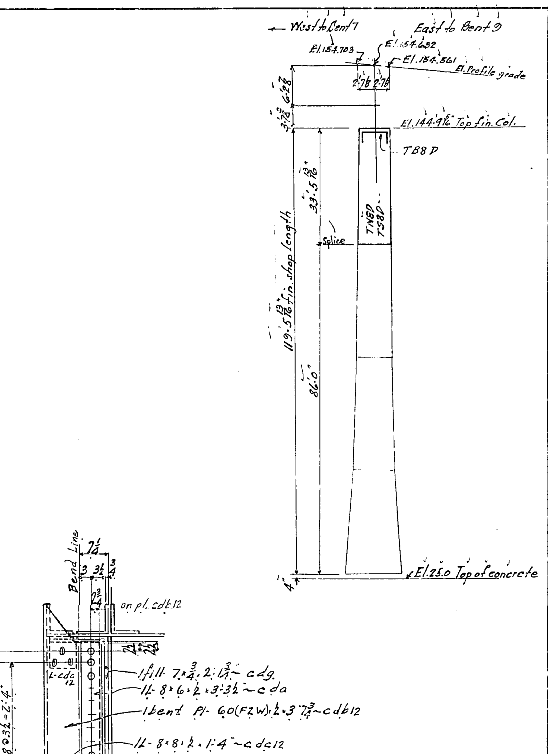
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

McATLANTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS
IN CHARGE
CHECKED BY C.E.H. 7/6/34 — TRACED BY
LAST ASSEM. MK.
MADE BY W. C. W.

CONTRACT CR 15802 — SHEET R11A


Section C-C shown
Section K-K opp. of shown
Section B-B
View A-A
Section E-E
Section G-G
Section H-H
Diaphragms ordered and detailed on drwgs. RJS4 & RJS8
Ladders " " " " RJS5
Doors " " " " RJS6
Diaphm. D51 at Sections H-H, G-G
Diaphm. D50 at Section F-F
RET10
Material for Cap
2 Brackets TB5E
2 " TB6E
2 " TB7E
2 " TB8D
one Column Sect. TN8D shown
one do. TS8D opp. of shown
REQUIRED LIST
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefaced with a, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Specs. by State of California, Department of Public Works.
INSPECTION: John M. Bailey - Chief Insp.
RIVETS: 7/8".
OPEN HOLES: 1 1/16".
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/16" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 3/16" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/16" of metal.
MATCH MARKING: All match marking to be made with steel stencils and paint.
SHOP PAINT: None except 1 coat No. 04-61 Finn Red for base and cap girders at Towers, at Bents, and of built up struts; and 1 coat "Rust Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and portions of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Top Section of Columns Bent 8
McCLINTIC-MARSHALL CORPORATION
Shop Bills R120-121
CONTRACT CR15802
SHEET R12





No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, so, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS:
OPEN HOLES:
PUNCHING: Holes in material ⅞" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer

Date: 4-2-34

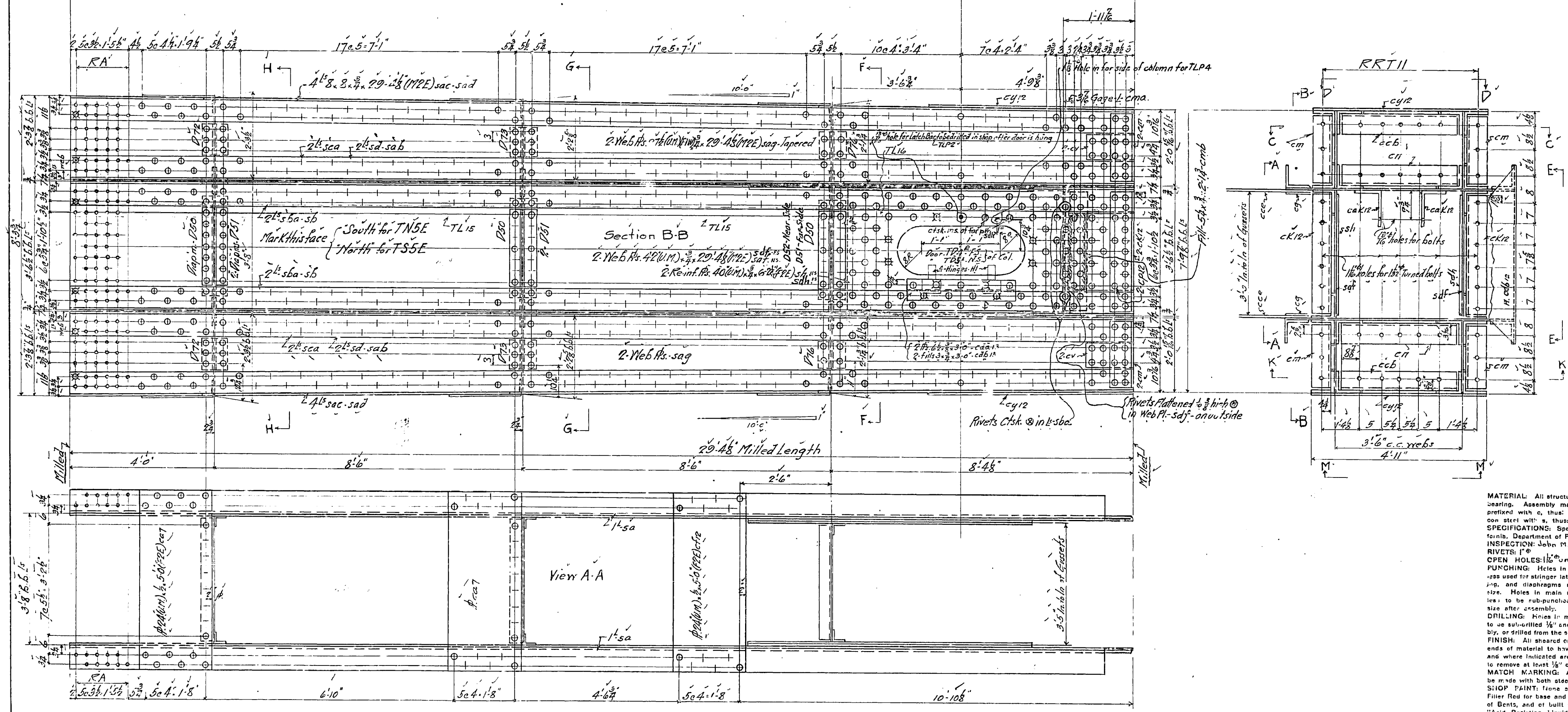
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

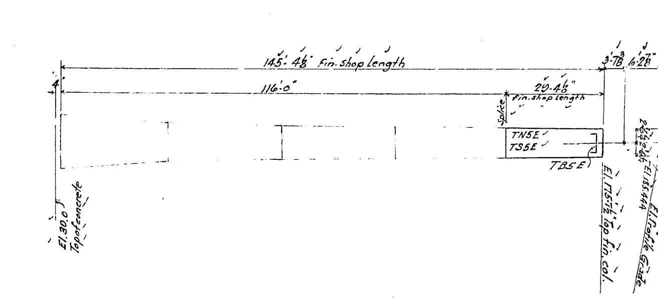
Tr. Section of Columns Bent 8

McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM *Steelton* WORKS

IN CHARGE *Boone*
CHECKED BY
LAST ASSEM. MK. *cdv*
MADE BY / TRACED BY *G.A.*

CONTRACT CR15802 SHEET R12A





Material for Cap
2 Ls 8 x 7¼ x ⅞ x 3'-2¼" - ceb (bent) (cut fr. 8 x 8 x ⅞)
2 Ls 8 x 7¼ x ⅞ x 3'-3½" - cK12 (cut fr. 8 x 8 x ⅞)
4 Ls 8 x 7¼ x ⅞ x 1'-10" - cm (do.)
2 Ls 8 x 7¼ x ⅞ x 3'-2¼" - cn (do.)
2 Pls. 16" (U.M.) x ¾ x 2'-1¾ (F2E) cp12
4 Pls. 16" (U.M.) x ¾ x 2'-0½ (F2E) ct12
4 Pls. 16" (U.M.) x ¾ x 0'-8½ (F2E) cv - Tapered
2 Pls. 59 (F2W) x ¾ x 5'-8" (F1E) cy12

Diaphms ordered and detailed on drwgs. {RJS4, RJS7, RJS8}
Ladders " " " " " RJS5
Doors " " " " " RJS6

One	Column Sect.	TN5E	shown	
One	do.	TS5E	opp. of shown	
No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey - Chief Insp.
RIVETS: 1" Φ
OPEN HOLES: 1 1/16" Φ unless noted
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 4-19-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

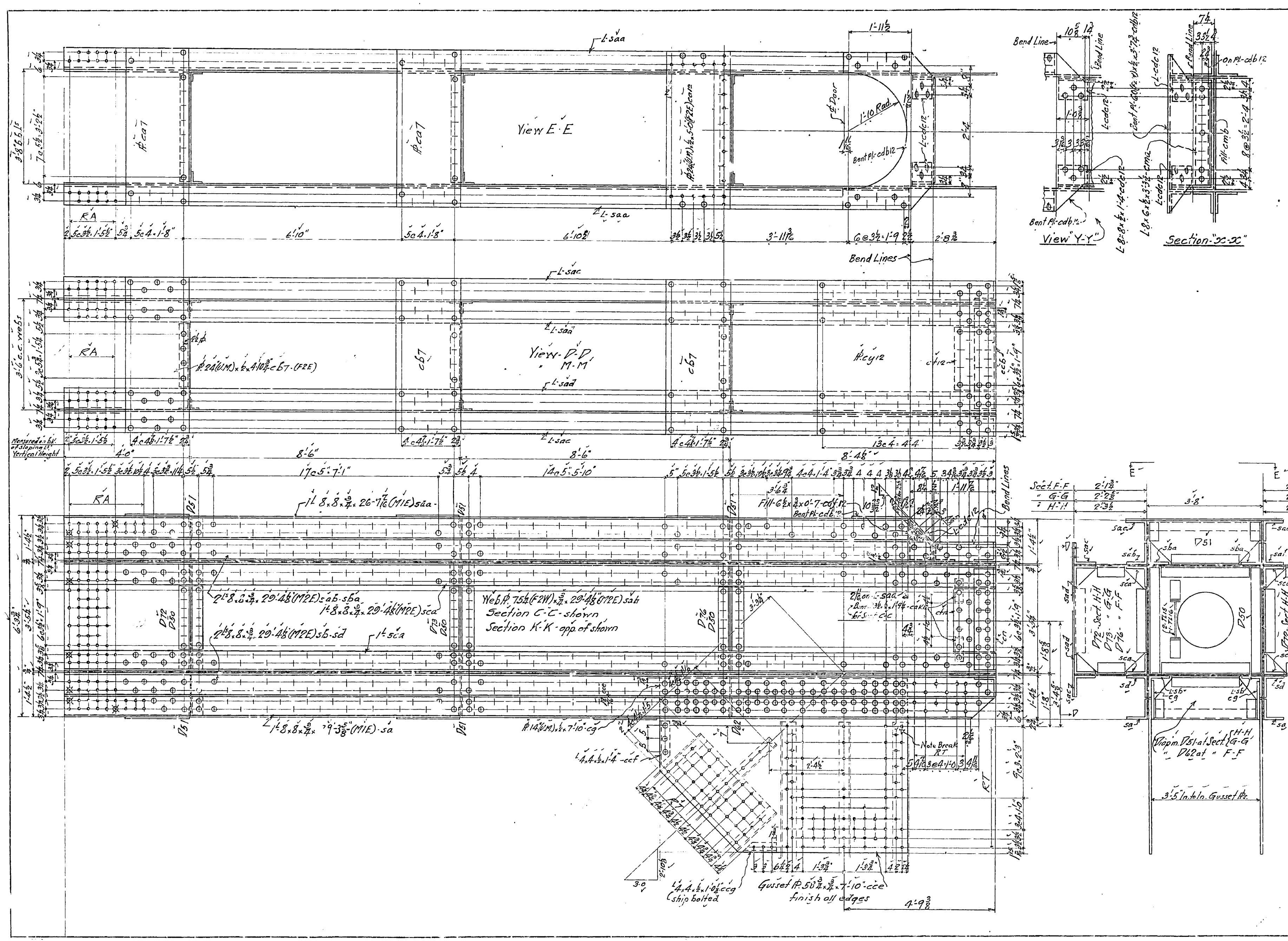
Top Section of Columns Bent 5

McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS

IN CHARGE Boone
CHECKED BY [illegible]
LAST ASSEM. MK. cmb
MADE BY / TRACED BY } G.H.

CONTRACT CR15802 SHEET R13

Shop Bills - R130-131



MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works
INSPECTION: John M. Bailey, chief Insp.
RIVETS: 1"φ
OPEN HOLES: 1 1/16"φ unless noted.
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, or Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 4-19-34

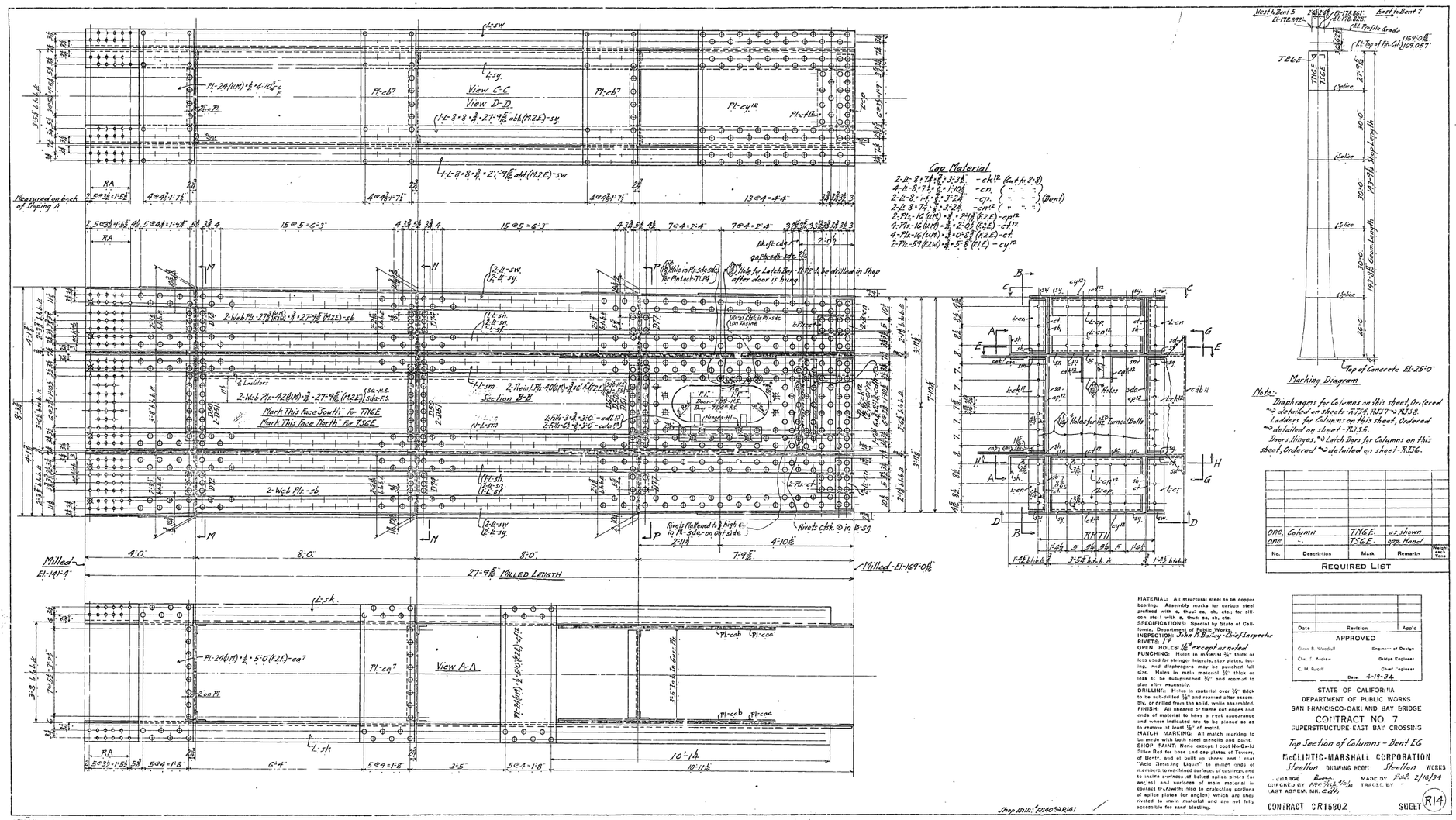
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

Top Section of Columns Bent 5

McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS

IN CHARGE Boone
CHECKED BY [illegible]
LAS. ASSEM. MK. cmb
MADE BY / TRACED BY G.H.

CONTRACT CR15802 SHEET R13A


View C-C
View D-D
(14-L-8"x8"x⅞"x27'-9⅞" abt.(M.2.E)-SY.
Section B-B
View A-A
Mark This Face South for T.N.G.E.
Mark This Face North for T.S.G.E.
Measured on back of Shoping ℄
Milled El-141'-9"
27'-9⅞" MILLED LENGTH
Milled-El-169'-0⅛"
Rivets Flattened to ⅛" high in Pl-sda on Outside
Rivets c'sk. ⊗ in L-SY.
Holes for Latch Bar-T.R.2 to be drilled in Shop after shoes is hung
Holes in Pl-sdc for Pin Latch-T.L.P.6
Web of Cbl. in Pl-sdc Cut away
2 Ladders
2 Rein. Pls 40(M)x¾"x6'-1" (F.2.E) sdb
2 Web Pls -sb
2 Web Pls -sdb
2 Fills -¾"x3'-10" - cdl.12
2 Fills -⅞"x3'-10" - cdu.12
2 con Pl
Pl-cab
Pl-cdb
Pl-cdu
Pl-cdl
Pl-cdc
Pl-cdd
Pl-cdt
Pl-cdv
Pl-cdw
Pl-cdx
Pl-cdy
Pl-cdz
Pl-cea
Pl-ceb
Pl-cec
Pl-ced
Pl-cee
Pl-cef
Pl-ceg
Pl-ceh
Pl-cei
Pl-cej
Pl-cek
Pl-cel
Pl-cem
Pl-cen
Pl-ceo
Pl-cep
Pl-ceq
Pl-cer
Pl-ces
Pl-cet
Pl-ceu
Pl-cev
Pl-cew
Pl-cex
Pl-cey
Pl-cez
Pl-cfa
Pl-cfb
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Pl-cfd
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Pl-cff
Pl-cfg
Pl-cfh
Pl-cfi
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Pl-cfk
Pl-cfl
Pl-cfm
Pl-cfn
Pl-cfo
Pl-cfp
Pl-cfq
Pl-cfr
Pl-cfs
Pl-cft
Pl-cfu
Pl-cfv
Pl-cfw
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Pl-cii
Pl-cij
Pl-cik
Pl-cil
Pl-cim
Pl-cin
Pl-cio
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Pl-cir
Pl-cis
Pl-cit
Pl-ciu
Pl-civ
Pl-ciw
Pl-cix
Pl-ciy
Pl-ciz
Pl-cja
Pl-cjb
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Pl-cjd
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Pl-cjm
Pl-cjn
Pl-cjo
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Pl-cjq
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Pl-cjt
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Pl-cjv
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Pl-cjy
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Pl-ckb
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Pl-ckd
Pl-cke
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Pl-cmj
Pl-cmk
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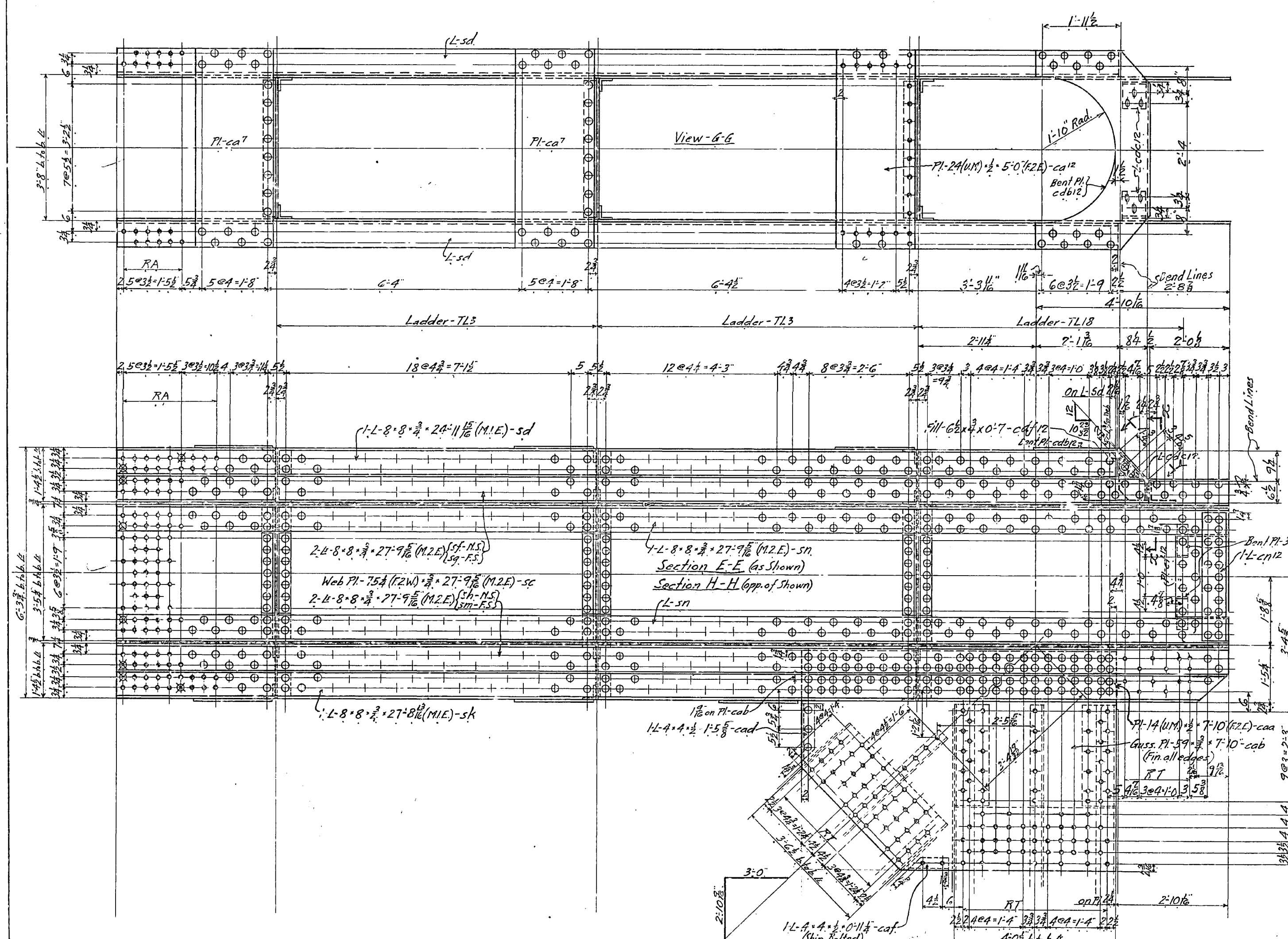
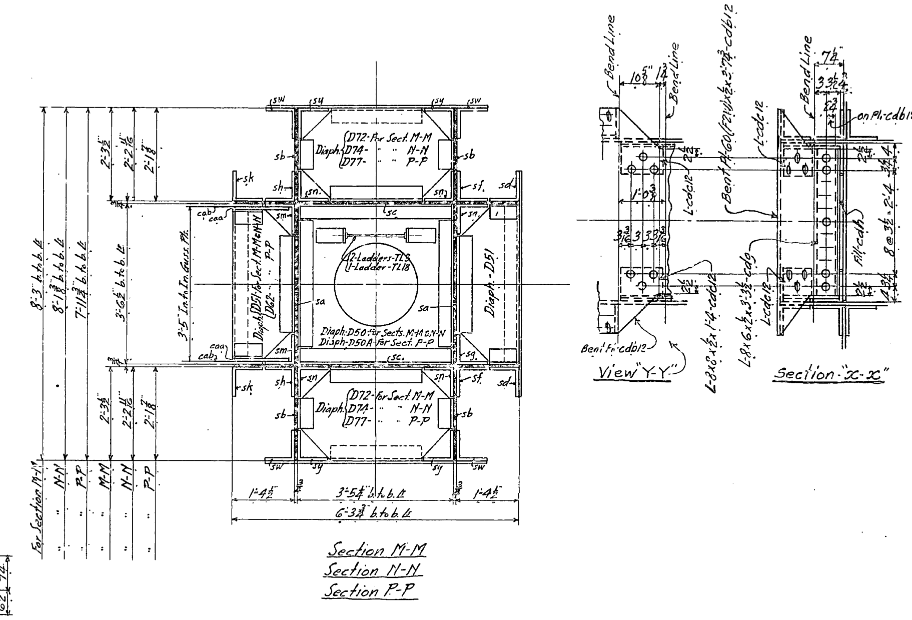




No.	Description	Mark	Remarks	Weight each Tons
	For Required List see Sheet R14			

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS:
OPEN HOLES:
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 4-19-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

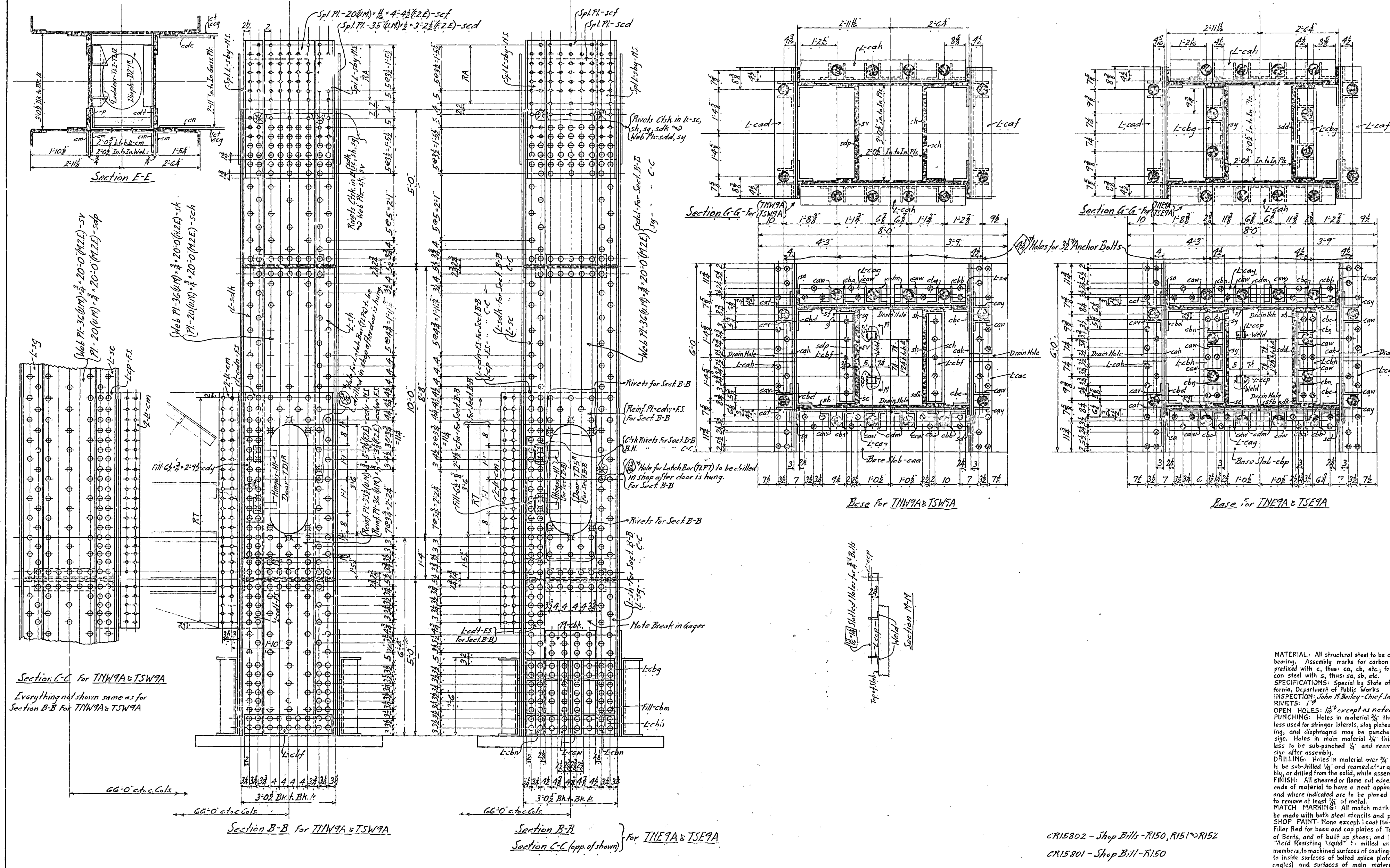
Top Section of Columns - Bent E6

McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS

IN CHARGE Boone MADE BY H.L.S. 2/16/34
CHECKED BY FRC 2/26/34 4/13/34 TRACED BY " "
LAST ASSEM. MK. cdh

CONTRACT CR15802 SHEET R14A

30-1



Note:-
Diaphragms for Columns on this sheet, Ordered & detailed on sheet-RJS9.
Ladders for Columns on this sheet, Ordered & detailed on sheet-RJS5.
Doors, Latch Bars & Hinges for Columns on this sheet, Ordered & detailed on sheet-RJS6 & RJS10

No	Description	Mark	Remarks	Weight each Tons
one	Bott. Column	TNW9A	as shown.	
one	" "	TSW9A	opp. Hand.	
one	" "	TNE9A	opp. Hand.	
one	" "	TSE9A	as shown.	

REQUIRED LIST

CR15802 - Shop Bills - R150, R151 & R152
CR15801 - Shop Bill - R150

Material Ordered on Ade Bills - R22, R23 -CR15802

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works
INSPECTION: John M. Bailey - Chief Inspector
RIVETS: 1"⌀
OPEN HOLES: 1 1/16"⌀ except as noted.
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd.

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C.H. Purcell — Chief Engineer
Date: 3-16-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE - EAST BAY CROSSING

Bottom Section of Columns - Bent E9E & E9W

McCLINTIC-MARSHALL CORPORATION
STEELTON DRAWING ROOM — STEELTON WORKS

IN CHARGE: Boone — MADE BY: H.A.S. 12/28/33
CHECKED BY: F.R.K. 2/23/34 — TRACED BY:
LAST ASSEM. MK.: sfg

CONTRACT {CR15801 - Slabs / CR15802 - Col. Shafts} SHEET R15

30-1

Section D-D

Splice for TIW9A & T3W9A
Everything not shown same as for T9E9A

Section H-H

Section A-A

10-11-34	R1	Splice Section "H" for T9W9A & T3W9A
Date	Revision	Appd.

APPROVED

Glenn B. Woodruff	Engineer of Design
Chas. F. Andrew	Bridge Engineer
C.H. Purcell	Chief Engineer

Date: 4-9-36

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE

CONTRACT NO. 7
SUPERSTRUCTURE - EAST BAY CROSSING

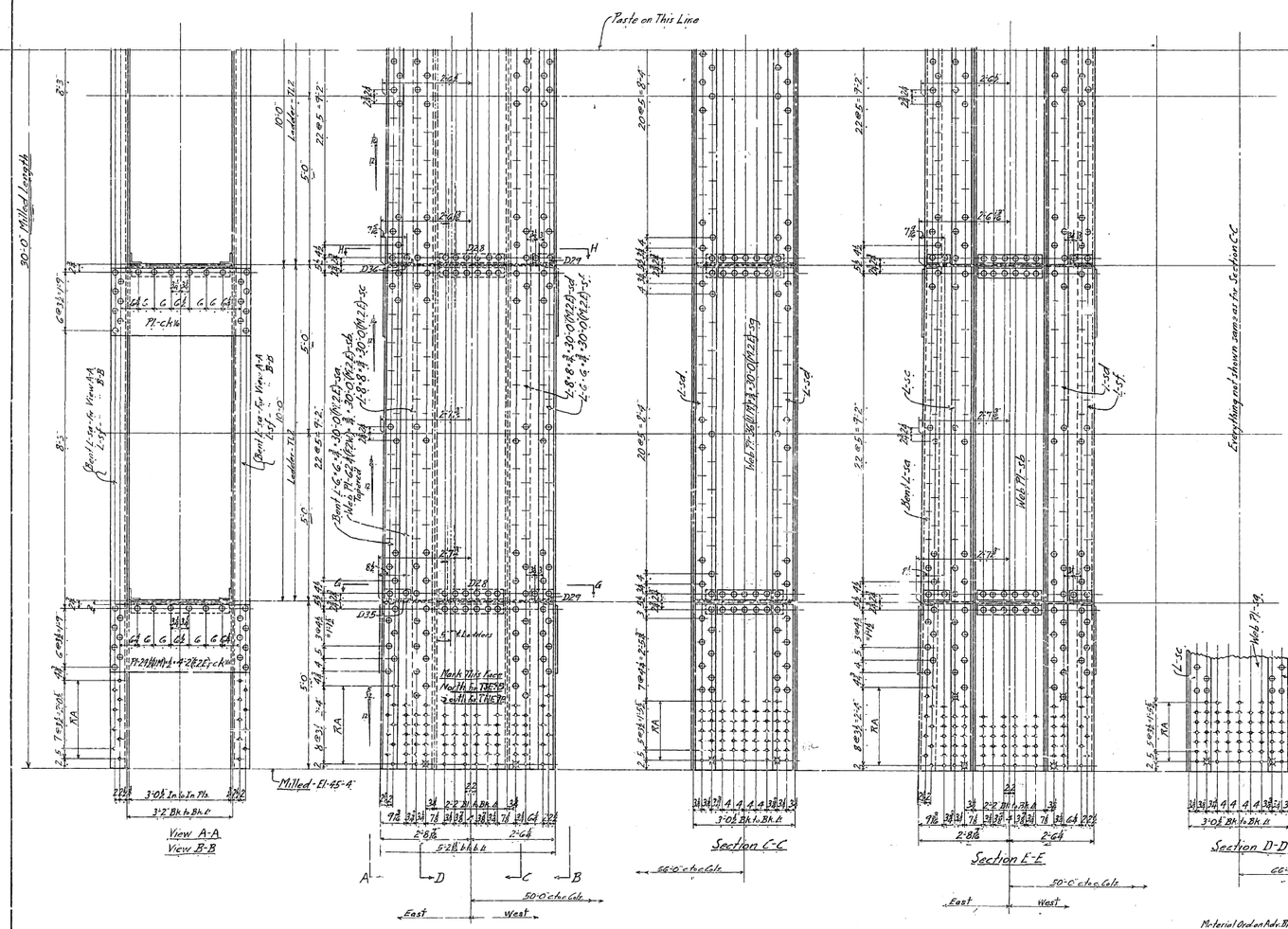
Bottom Section of Columns - Bent E7E to E9W

Mc CLINTIC-MARSHALL CORPORATION
ELTON DRAWING ROOM STEELTON WORKS

IN CHARGE Barnes — MADE BY Reed 12/26/33
CHECKED BY F.R.C. 1/12/34 — TRACED BY
LAST ASSEMBL. MK. 1 dg

CONTRACT {CR15801 - Slabs / CR15802 - Lt. Wall} SHEET R15A

Paste on This Line



Note:-
Diaphragms for Columns on this sheet, Ordered ~ detailed on sheet R339.
Lurkers for Columns on this sheet, Ordered ~ detailed on sheet R335.

No	Description	Mark	Remarks	Weight each Tons
one	Column	TSE9B.	as shown	
one	"	TME9B.	opp Hand	

REQUIRED LIST

Date	Revision	Appd.

APPROVED

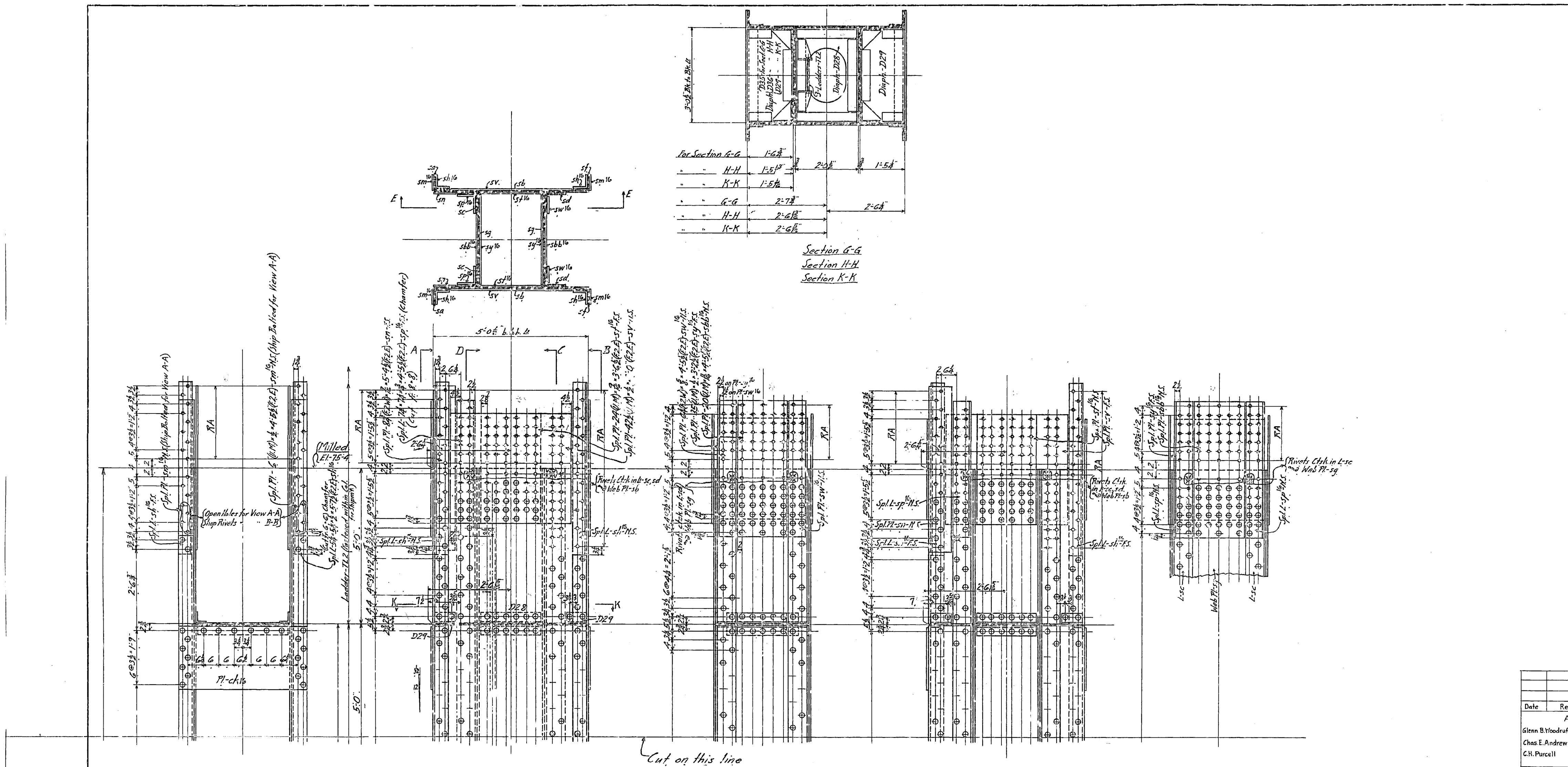
Glenn B Woodruff — Engineer of Design
Chas E Andrew — Bridge Engineer
C.H. Purcell — Chief Engineer
Date:- 3-16-34

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with a, those ca, cb, etc.; for silicon steel with a, those sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works
INSPECTION: John M. Eisley - Chief Inspector
RIVETS: 7/8"
OPEN HOLES: 1 1/8" except as noted.
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 7/8" thick or less to be sub-punched 1/8" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat Dixon's Iron Filler Red for bridge and cover plates of Trusses, at Berth, end of built up Floors, and 1 coat "Acme Rosening Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE - EAST BAY CROSSING
Int Section of Columns - Bent E9E
Mc CLINTIC - MARSHALL CORPORATION
STEELTON DRAWING ROOM STEELTON WORKS
IN CHARGE: Brown MADE BY: Mack 12/1/33
CHECKED BY: ERC 3/11/34 TRACED BY:
LAST ASSEM. MK. JSE

CONTRACT CR15802 SHEET R16

30-1



Date	Revision	App'd.

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 3-16-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO - OAKLAND BAY BRIDGE

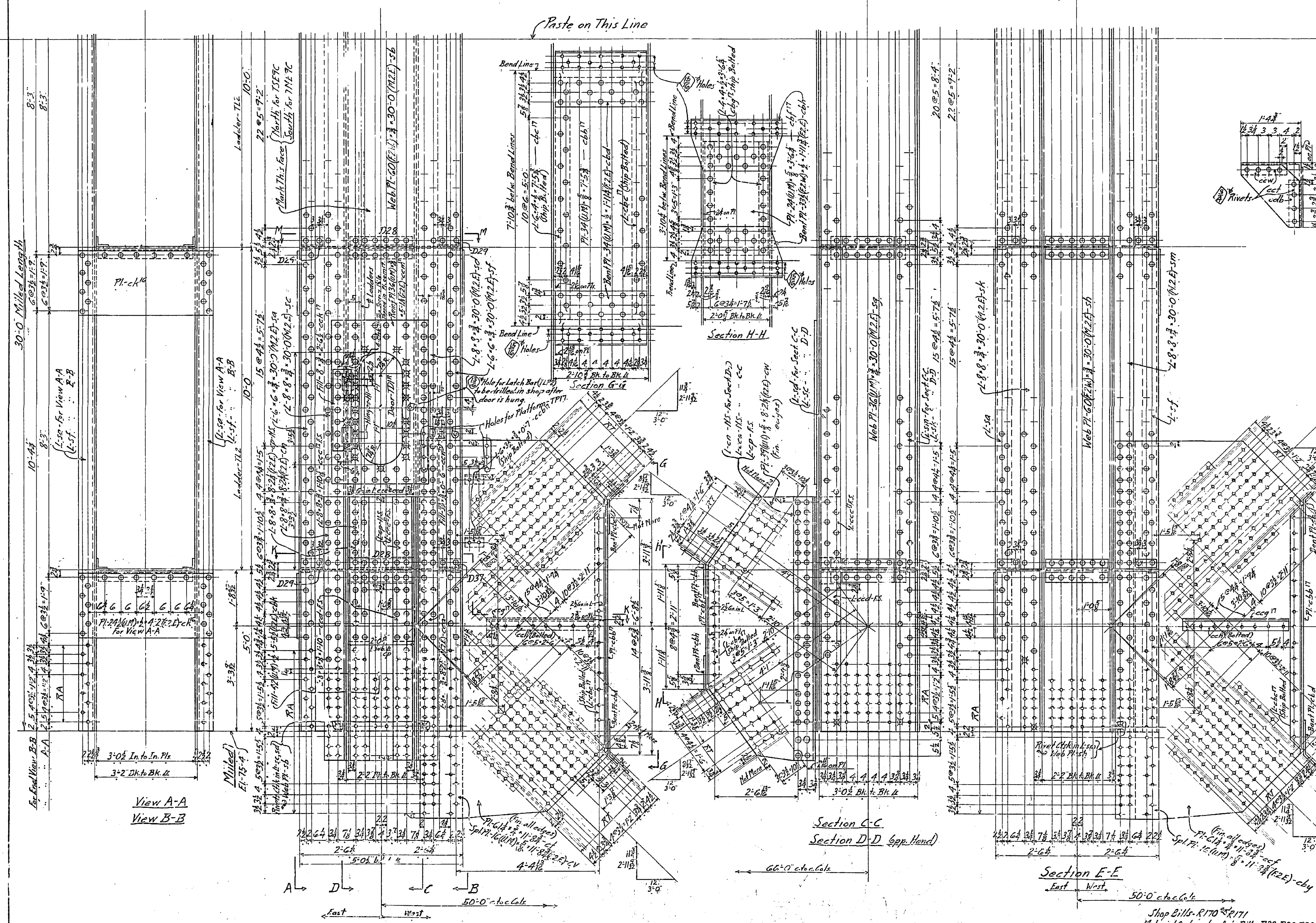
CONTRACT NO. 7
SUPERSTRUCTURE - EAST BAY CROSSING

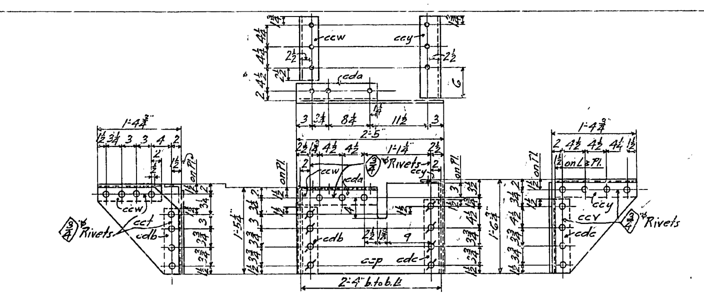
Int. Section of Columns - Bent E9E

McCLINTIC-MARSHALL CORPORATION
STEELTON DRAWING ROOM — STEELTON WORKS

IN CHARGE: Boone — MADE BY: H.S. 1/2/34
CHECKED BY: E.R.S. 2/21/34 — TRACED BY:
LAST ASSEM. MK. 5bb

CONTRACT CR15802 — SHEET R16A





Material for Platform-TP17R-To be Shop Riveted to Cols.

1-Pl. 29(U.M.) × ½ × 1'-6¼"(F.2.E.) -ccp
1-Pl. 16¼ × ⅜ × 1'-4¾" -cct
1-Pl. 16¼ × ⅜ × 1'-6¼" -ccv
1-L 4 × 3½ × ⅜ × 1'-0¾" -ccw
1-L 4 × 3½ × ⅜ × 1'-4¼" -ccy
1-L 3½ × 3½ × ⅜ × 1'-3¾" -cda
1-L 3½ × 3½ × ⅜ × 1'-1½" -cdb
1-L 3½ × 3½ × ⅜ × 1'-3" -cdc

Note:-
Diaphragms for Columns on this sheet, Ordered & detailed on sheet-RJ59.
Ladders for Columns on this sheet, Ordered & detailed on sheet-RJ55.
Doors, Latch Bars & Hinges for Columns on this sheet, Ordered & detailed on sheet RJ56.

Cols. TNW9C & TSW9C Det. & Ord. on Sh. R42 & R42A

No.	Description	Mark	Remarks	Weight each Tons
2	Platforms	TP17R	one each Shop Riveted to Cols. TSE9C & TNW9C.	
2	..	TP17L	one each Shop Riveted to Cols. TNE9C & TSW9C.	
one	Column	TSE9C	as shown	
one	..	TNE9C.	opp. Hand	

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey-Chief Inspector
RIVETS: 1"φ except as noted.
OPEN HOLES: 1 1/16"φ except as noted.
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd
5/3	R4 - Finishing of Plt. C.W.	
4/5/34	R3 - [illegible]	
[illegible]	R2 - [illegible]	
[illegible]	R1 - [illegible]	

APPROVED

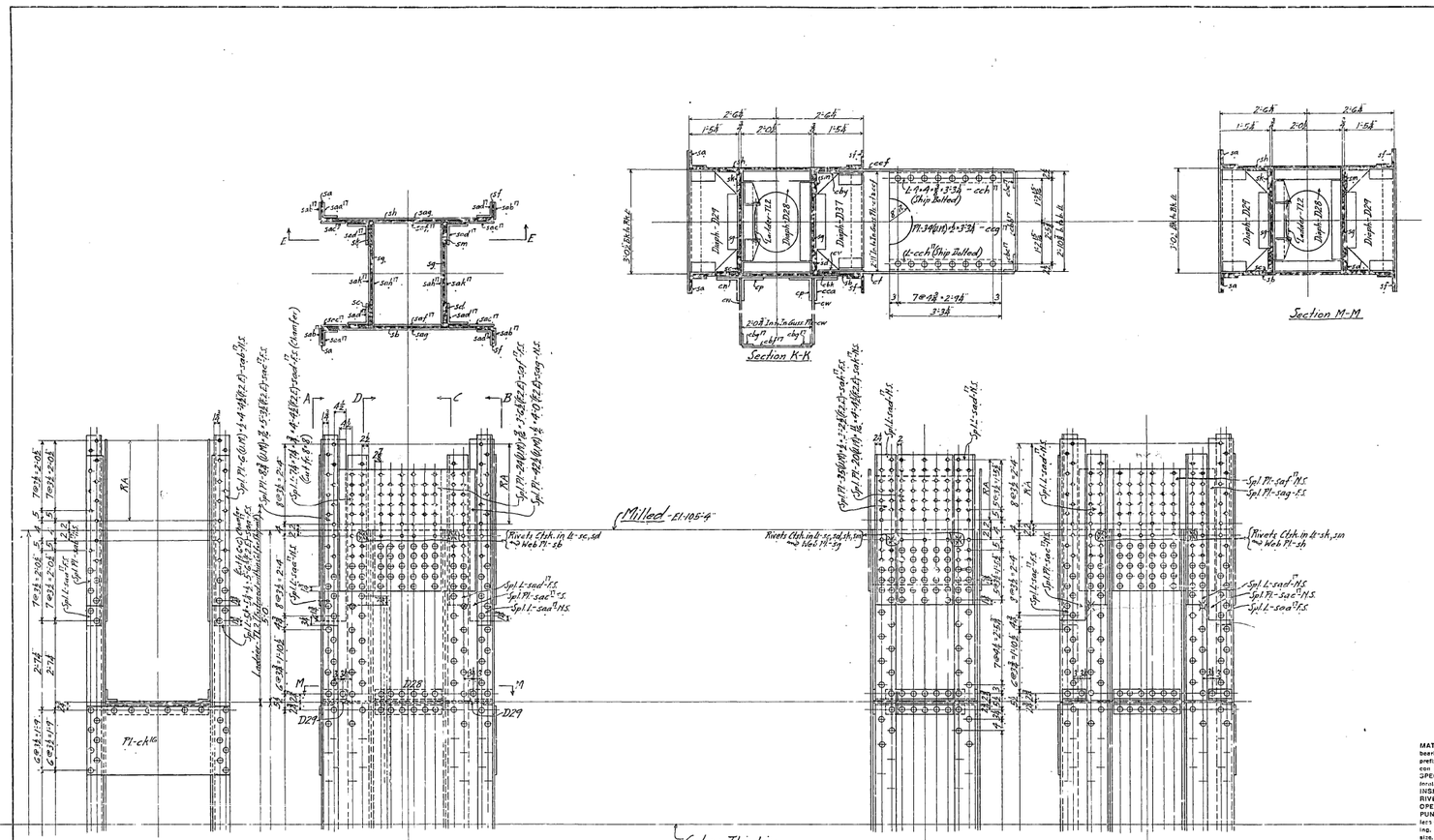
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 3-30-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

Int. Section of Columns - Bent E9E

M[illegible]NTIC-MARSHALL CORPORATION
[illegible]LELTON DRAWING ROOM — STEELTON WORKS
IN CHARGE Boone — MADE BY H.C.S. 1/11/34
CHECKED BY F.R.C. 3/21/34 — TRACED BY " "
LAST ASSEM. MK. cdc

CONTRACT CR15802 — SHEET R17



No.	Description	Mark	Remarks	Weight each Item
	REQUIRED LIST			

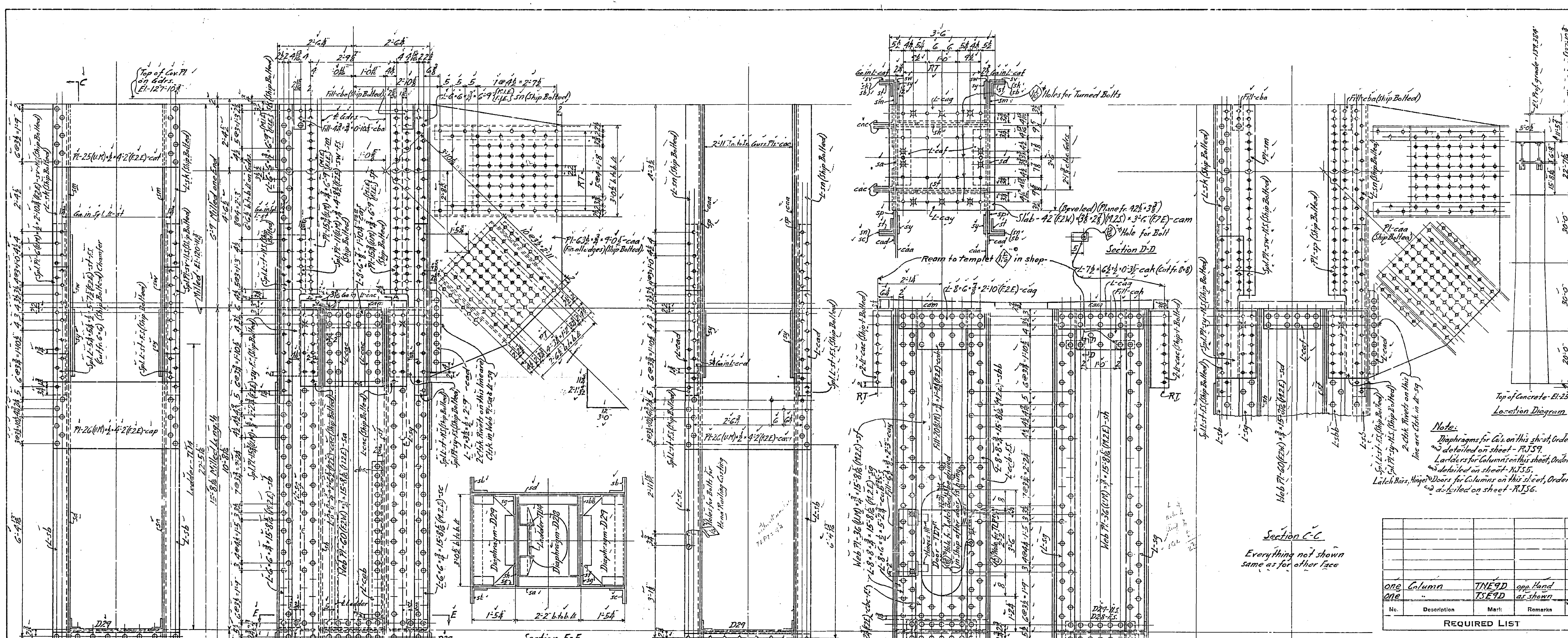
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with s, thus: sa, sb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS:
OPEN HOLES:
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ¾" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edge and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ½" of metal.
MATCH MARKING: All match marking to be made with lath steel stencils and paint.
SHOP PAINT: None except 1 coat McDonald Finish Red for inner and cap plates of Towers, of Struts, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machine surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	Apr'd
	APPROVED	
Glenn B. Woods		Engineer of Design
Chas. E. Andrew		Bridge Engineer
C. H. Purcell		Chief Engineer
	Date 3-17-34 3-20-34	

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Int. Section of Columns - Bent E9E
McCLINTIC-MARSHALL CORPORATION
STEELTON DRAWING ROOM STEELTON WORKS

DESIGN	Burns	MADE BY	Neal 10/1/34
CHECKED BY	E.E.C. 3/24	TRACED BY	
ASSEM. MK.	cdc		

CONTRACT CR15802 SHEET 1217A



Note:
Diaphragms for Cols. on this sheet, Ordered and detailed on sheet - RJ59.
Ladders for Columns on this sheet, Ordered and detailed on sheet - KJ55.
Latch Bars, Hinges & Doors for Columns on this sheet, Ordered and detailed on sheet - RJ56.

No.	Description	Mark	Remarks	Weight each Tons
one	Column	TNE9D	opp. Hand	
one	"	TSE9D	as shown	

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey - Chief Inspector
RIVETS: 1"⌀
OPEN HOLES: 1 1/16"⌀ except as noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd
6-15	R4 - (TLP1 to TLP7)(TLP8 [illegible] TLP7)	
4-25	R3 - [illegible] notes [illegible]	
4/16/34	R2 - [illegible]	

APPROVED

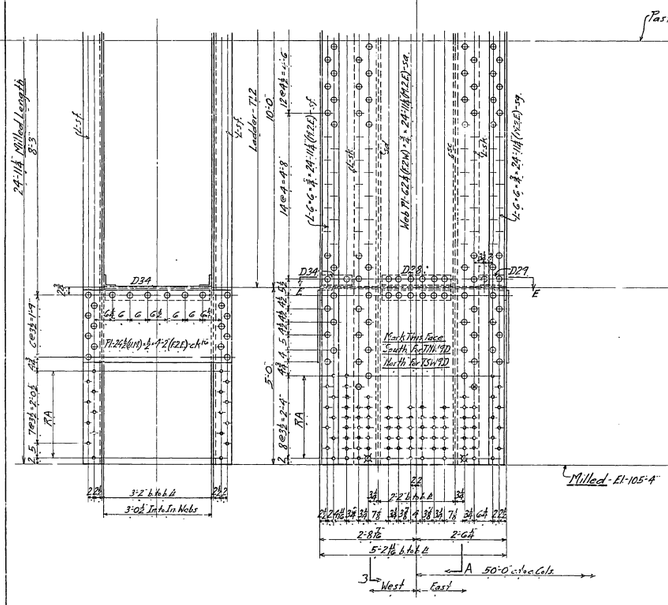
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 4-9-34

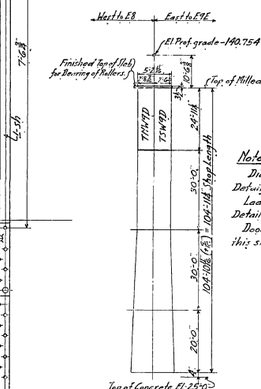
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

Top Sections of Columns - Bent - E9E

McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS
IN CHARGE Boice MADE BY H.A.S. 2/12/34
CHECKED BY [illegible] 4/14/34 TRACED BY "
LAST ASSEM. MK. cbc
CONTRACT { CR15801 - Slab / CR15802 - Col. Shafts } SHEET R18

Paste on this Line





Note:-

Diaphragms for Columns on this sheet, Ordered ⇒ Detailed on Sheet R.I.59.

Ladders for Columns on this sheet, Ordered ⇒ Detailed on Sheet R.I.55.

Doors, Hinges, Latch Bars ⇒ Latch Pins for Columns on this sheet, Ordered ⇒ Detailed on Sheet R.I.56 ⇒ R.I.110.

No.	Description	Mark	Remarks	Weight each Piece
one	Column	7TW7D	as Shown	
one	"	7SW7D	opp Hand	

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey - Chief Inspector
RIVETS: 1"ø
OPEN HOLES: 1⅛" except as noted.
PUNCHING: Holes in material ⅝" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ⅝" and reamed to size after assembly.
DRILLING: Holes in material over ⅝" thick to be sub-drilled ½" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ¼" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: Never except: 1 coat McDonald Filler Red for base and cap plates of Towers, at Bents, and of built up shoes; and 1 coat "Azo Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

Hern B Wilson — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 4-23-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

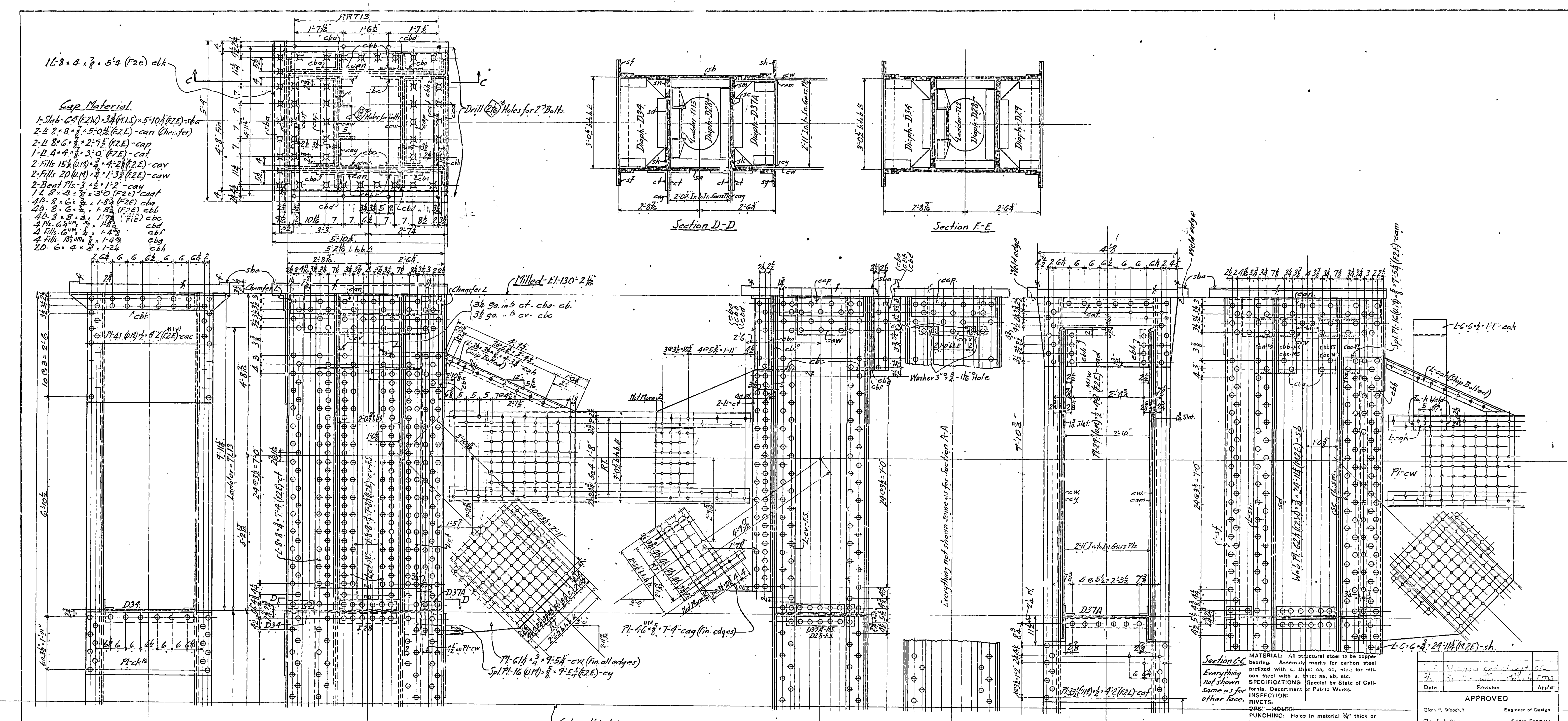
Top Section of Columns - Bent E9W

McCLINTIC-MARSHALL CORPORATION
Seattle DRAWING ROOMS Seattle WORKS

IN CHARGE ... MADE BY Hall 11/6/34
CHECK ... BY ... TRACED BY ...
LAST ASSEM. MIL. ...

CONTRACT CR15801-Slabs & CR15502-Col. Shafts
SHEET R19

CR15802 - Shop Bills - R190 ~ R191
CR15801 - Slope Bill - R190
CR15802 - Material Order Bolt Bill - R18



MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS:
~~OPEN HOLES:~~
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 5-7-34

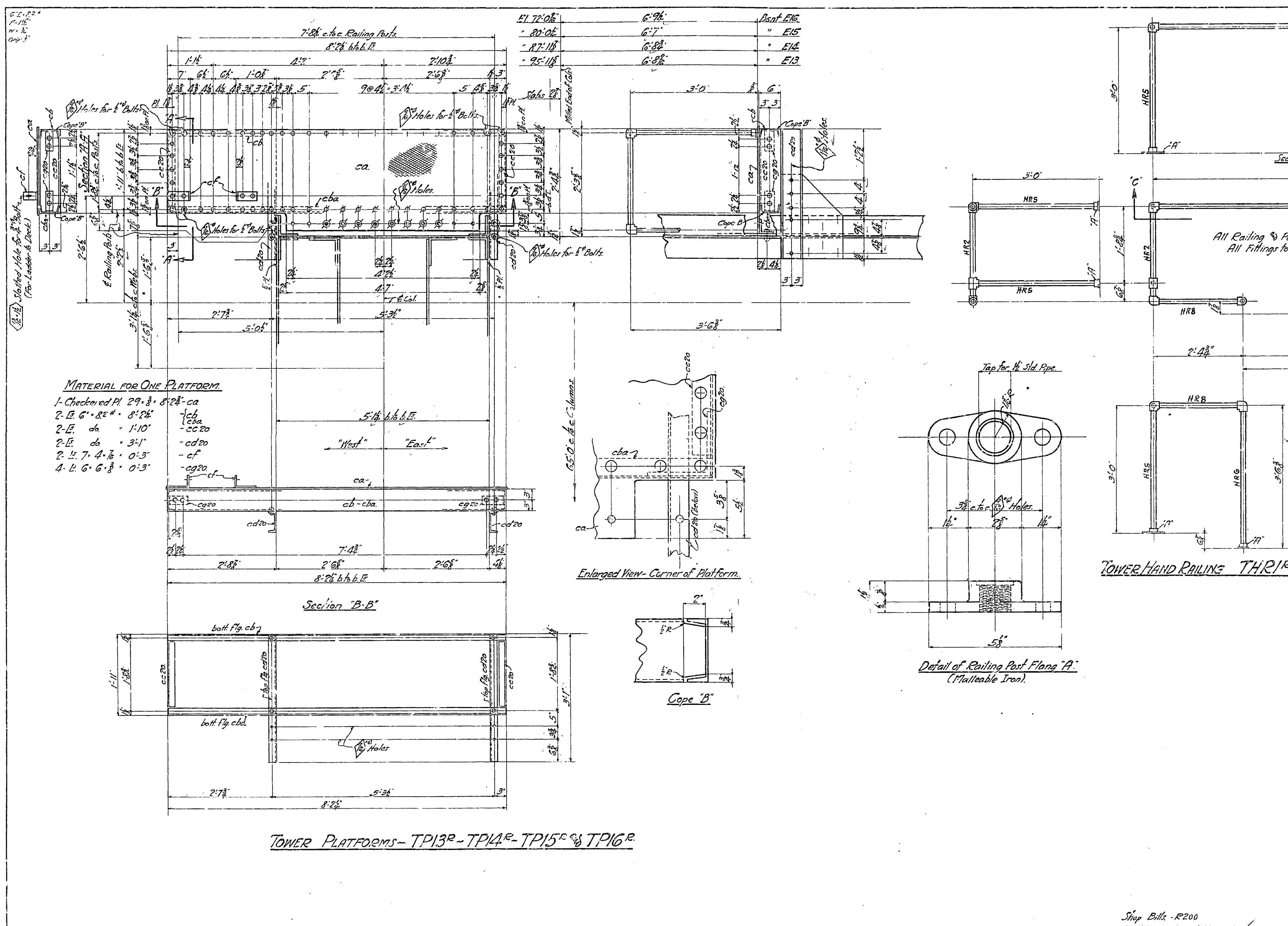
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

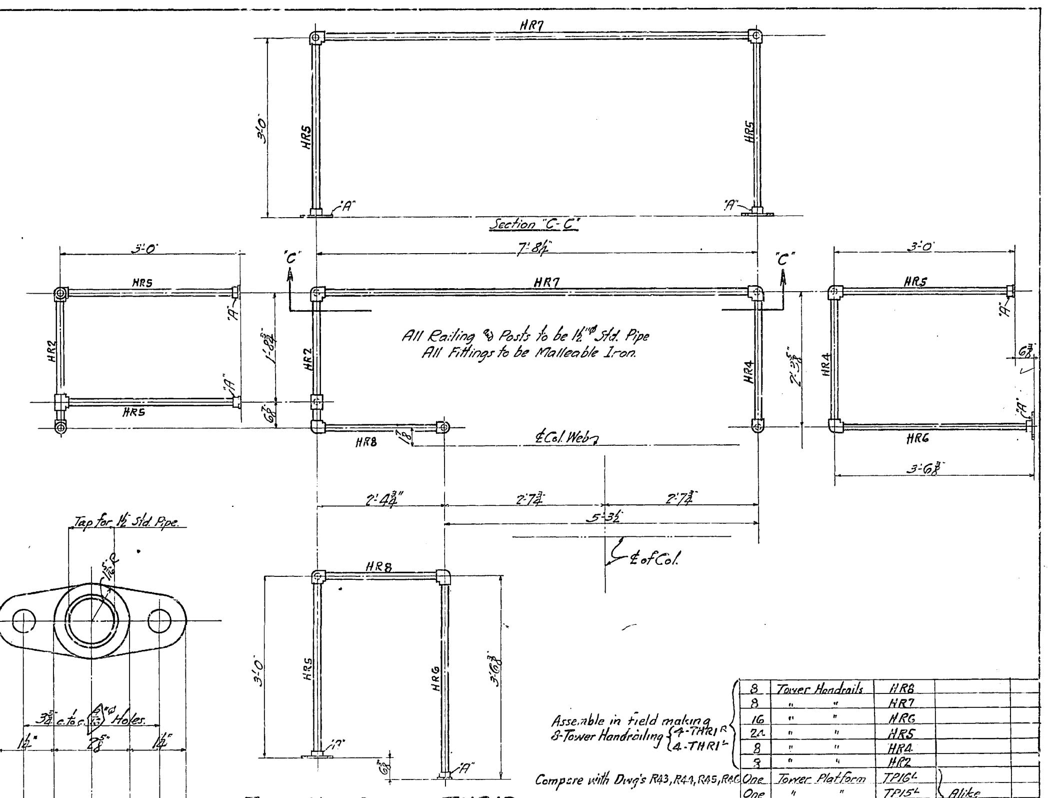
Top Section of Columns - Bent E9W

McCLINTIC-MARSHALL CORPORATION
Stee , DRAWING ROOM Steelton WORKS

IN CHARG Boone — MADE BY Hrc. 4/6/34
CHECKED BY FRC 4/10/34 — TRACED BY
LAST ASSEM. MK. sba

CONTRACT {CR15801-Slabs, CR15802-Col. Shafts} SHEET R19A





No.	Description	Mark	Remarks	Weight each Tons
8	Tower Handrails	HR8		
8	" "	HR7		
16	" "	HR6		
24	" "	HR5		
8	" "	HR4		
8	" "	HR2		
One	Tower Platform	TP16L	Alike	
One	" "	TP15L		
One	" "	TP14L		
One	" "	TP13L		
One	" "	TP16R	Alike.	
One	" "	TP15R		
One	" "	TP14R		
One	" "	TP13R		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey - Chief Inspector
RIVETS: ⅞"
OPEN HOLES: As Noted.
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

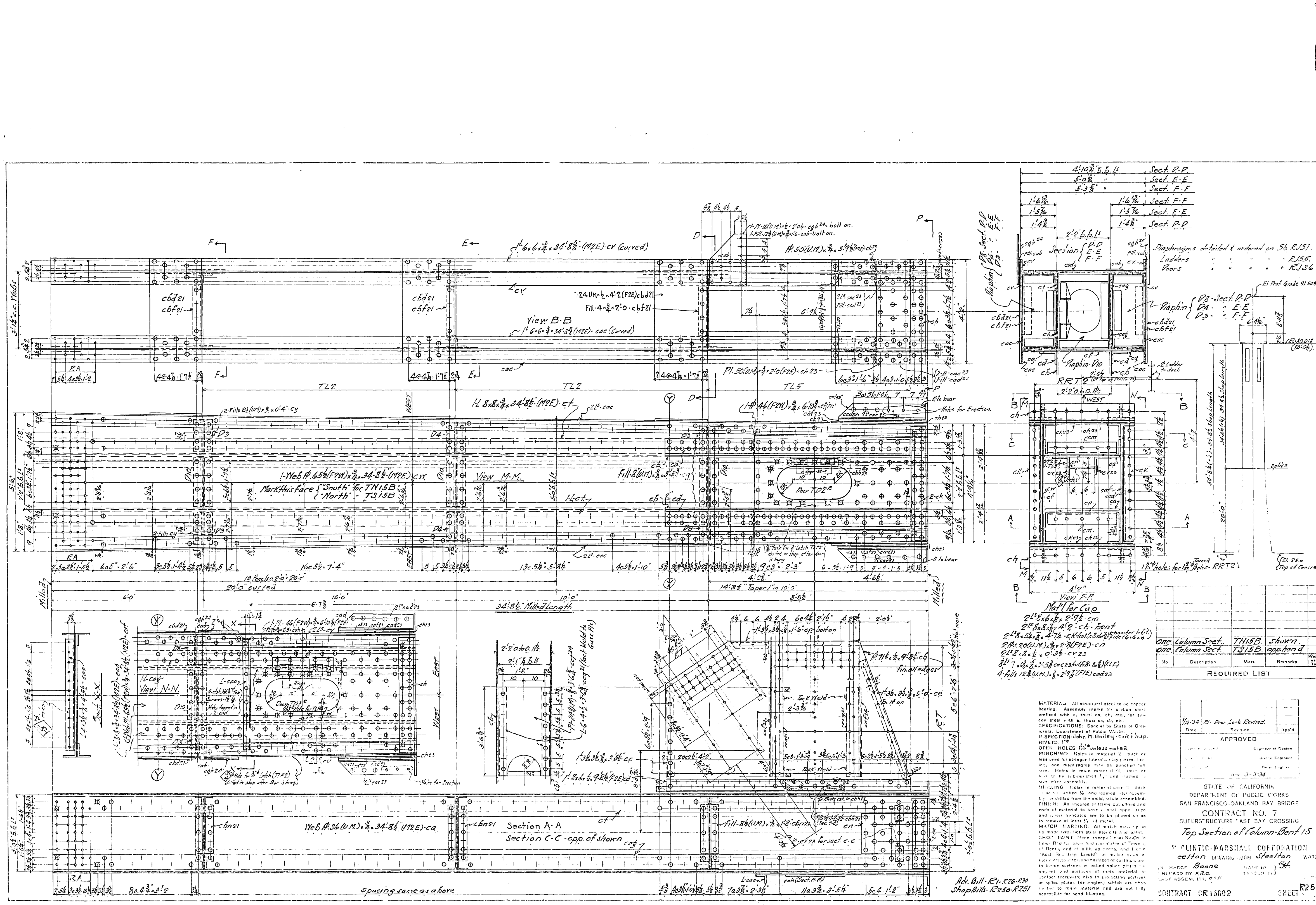
APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 2-28-36

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

Detail of Tower Platforms - Bents E13 to 16 Incl.

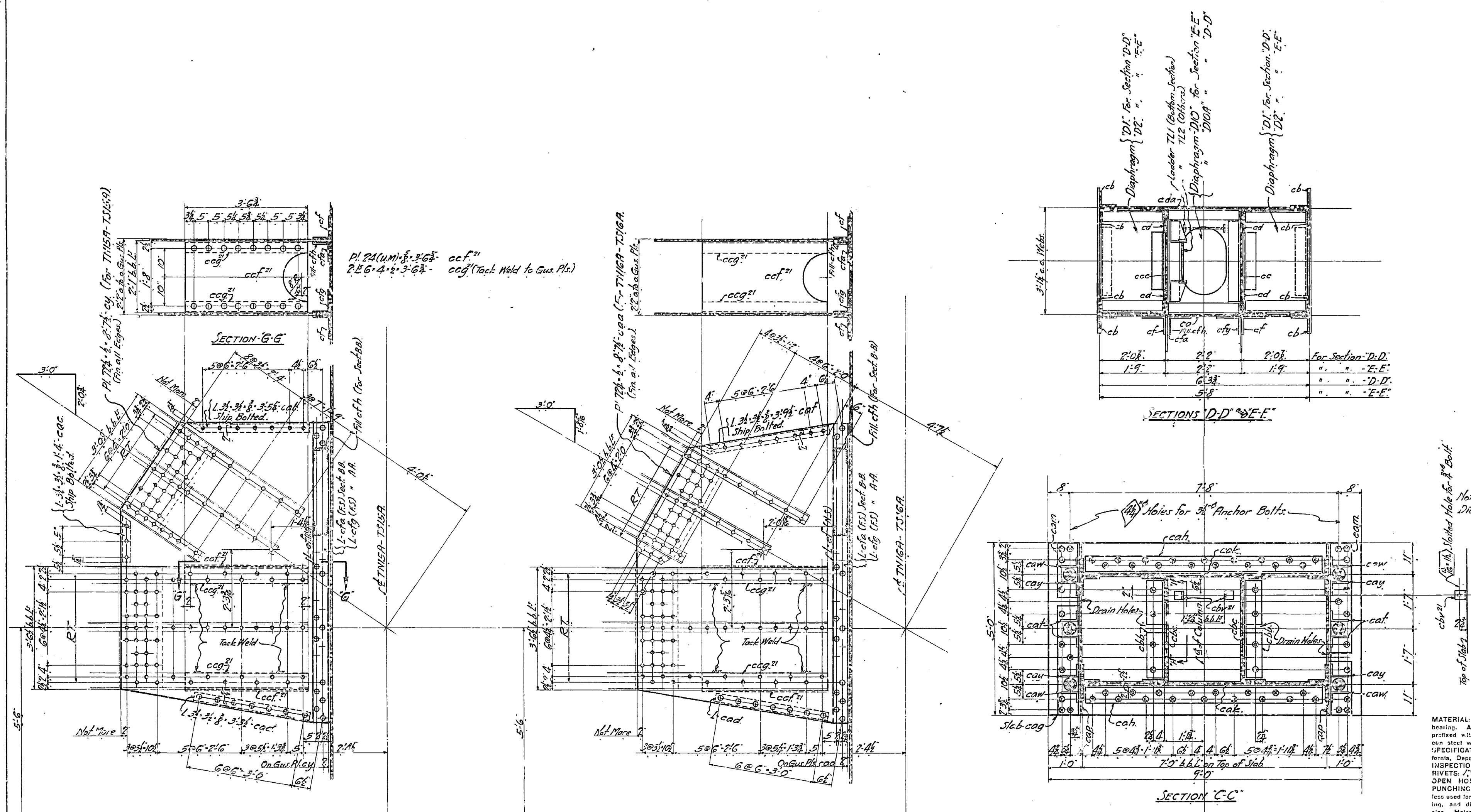
McCLINTIC-MARSHALL CORPORATION
...ton DRAWING ROOM Steelton WORKS
IN CHARGE
MADE BY C.F.P. 2/5-34
CHECKED BY
TRACED BY
LAST ASSEM. MK.

CONTRACT CR15802 SHEET R20



30-1
View B-B
View M-M
View N-N
View F-F
Section A-A
Section C-C opp. of shown
Sect. X-X
Mark this face { "South" for TN15B / "North" - TS15B
Diaphragms detailed & ordered on Sh. RJ51.
Ladders " " " " RJ55
Doors " " " " RJS6
Mat'l for Cap
Spacing same as above
Adv. Bill - R1 - R26 - R30
Shop Bills - R250 - R251
No	Description	Mark	Remarks	Weight each Tons
one	Column Sect.	TN15B	shown	
one	Column Sect.	TS15B	opp. hand	
REQUIRED LIST
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey - Chief Insp.
RIVETS: 1"Φ
OPEN HOLES: 1 1/16"Φ unless noted
3/13/34 R1 - Door Lock Revised.
Date | Revision | App'd
APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date 3-3-34
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Top Section of Column-Bent 15
McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS
IN CHARGE Boone
CHECKED BY F.R.C.
CONTRACT SR15602
SHEET R25

30-1



Note:
Diaphragms for Columns on this sheet, Ordered & detailed on Sheet RJ51.
Ladders for Columns on this sheet, Ordered & detailed on Sheet RJ55.
Doors for Columns on this sheet, Ordered & detailed on Sheet RJ56.

No.	Description	Mark	Remarks	Weight each Tons
One	Column.	TS16A.	Opp. Hand TN16A	
One	"	TN16A.	Shown.	
One	"	TS15A.	Opp. Hand TN15A	
One	"	TN15A.	Shown.	
One	"	TS14A.	Opp. Hand TN14A	
One	"	TN14A.	Shown.	
One	"	TS13A.	Opp. Hand TN13A	
One	"	TN13A.	Shown.	

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey. Chief Inspector.
RIVETS: 1"⌀
OPEN HOLES: 1⅛"⌀ Unless Noted.
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

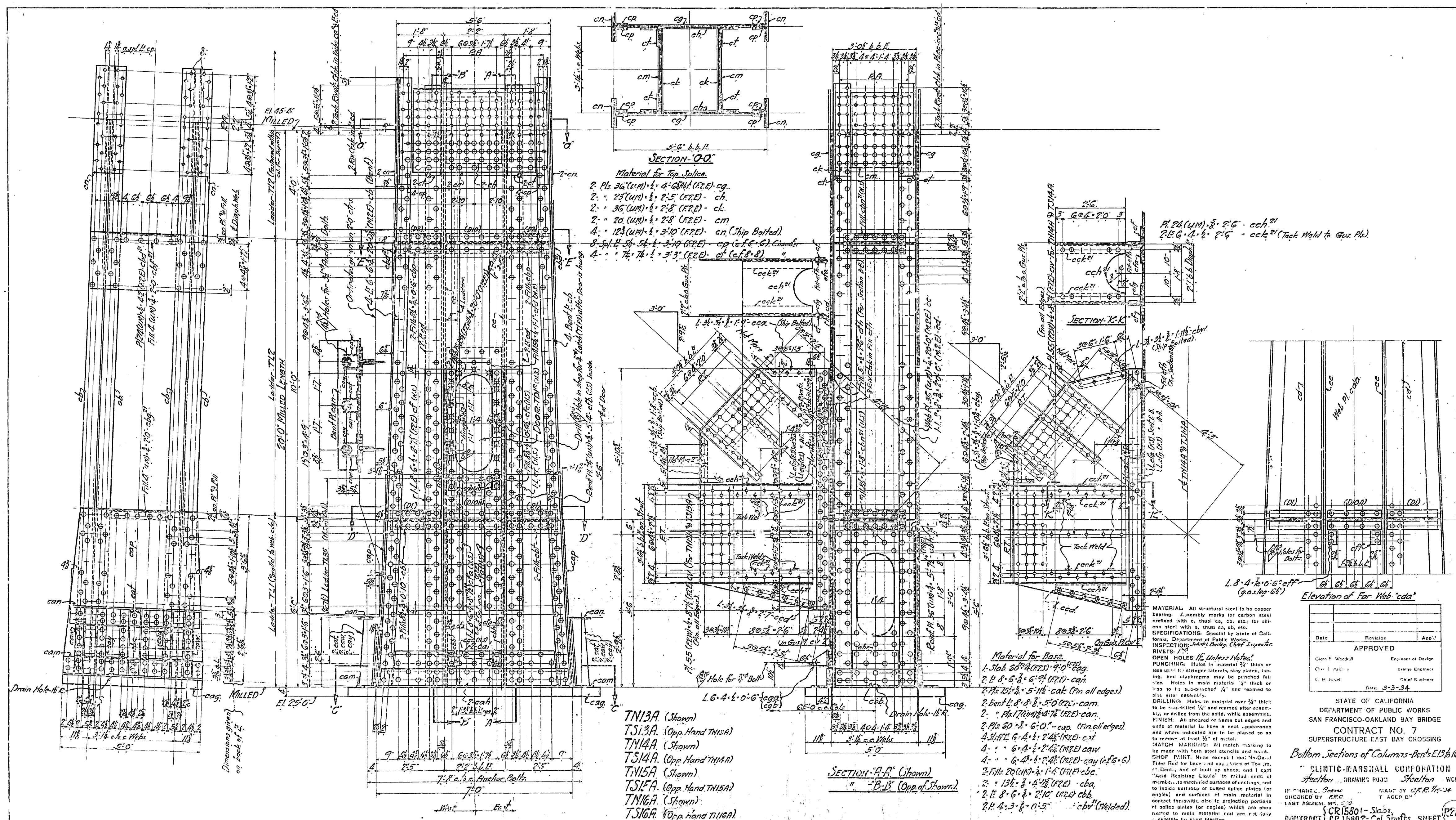
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 3-3-34

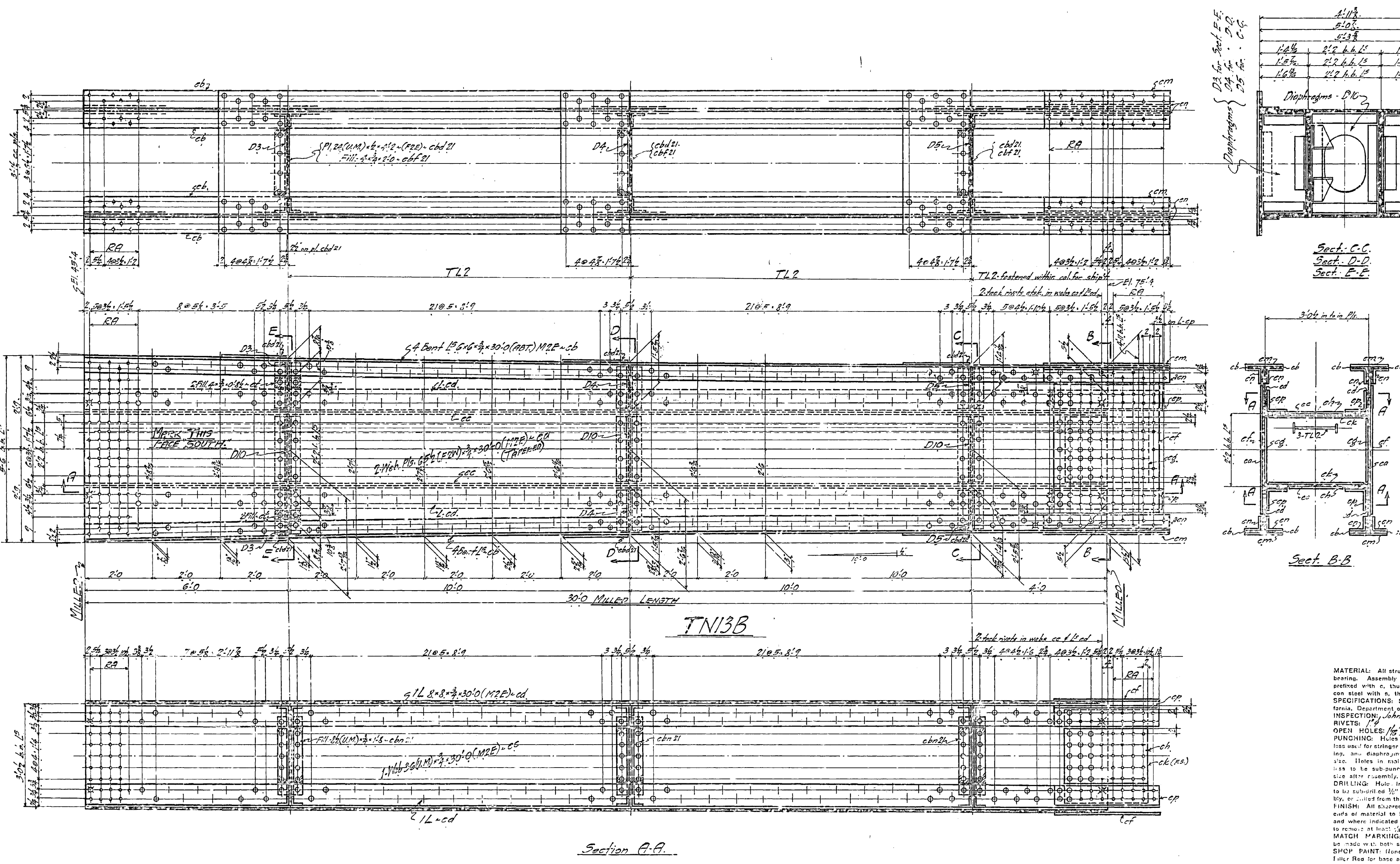
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

Bottom Sections of Columns - Bents E13 to 16 Incl.

[illegible]LINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS
IN CHARGE Boone MADE BY C.F.R. 1/18-34
CHECKED BY F.R.C. TRACED BY
LAST ASSEM. MK. cda
CONTRACT {CR 15801 - Slabs / CR 15802 - Col. Shafts} SHEET R21.

CR15801 - Shop Bill - R210
CR15802 - Shop Bills - R210 - R211 and R212
Material Ord. on Adv. Bills: {R26 / R1 - R3 - R7 - R8 - R9 - R29.}
Base Slabs Ord. CR15801 - Adv. Bill - R1.


SECTION "O-O"
Material for Top Splice.
SECTION "K-K"
Elevation of Far Web "cda"
Material for Base.
SECTION "A-A" (Shown)
" "B-B" (Opp. of Shown)
TN13A (Shown)
TS13A (Opp. Hand TN13A)
TN14A (Shown)
TS14A (Opp. Hand TN14A)
TN15A (Shown)
TS15A (Opp. Hand TN15A)
TN16A (Shown)
TS16A (Opp. Hand TN16A)
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John J. Bailey, Chief Inspector.
RIVETS: 1"⌀
OPEN HOLES: 1 1/16" Unless Noted.
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/3" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.
Date | Revision | App'd
APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 3-3-34
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Bottom Sections of Columns-Bents E13 to 16 Incl.
McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS
IN CHARGE Boone
MADE BY C.F.R. 1/15-34
CHECKED BY F.R.C.
TRACED BY
LAST ASSEM. MK.
CONTRACT {CR15801 - Slabs. CR 15802 - Col. Shafts.
SHEET R21A



No.	Description	Mark	Remarks	Weight each Tons
One.	Column.	TN13B.	ALIKE	
One.	Column.	TS13B.	ALIKE	
One.	Column.	TN14B.	ALIKE	
One.	Column.	TS14B.	ALIKE	

REQUIRED LIST

Ladders detailed & ordered on Sh. RJ55.
Adv. Bill # R1-R26-R30
Shop Bill-R220

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey - Chief Inspector.
RIVETS: 1"⌀
OPEN HOLES: 1 1/16"⌀
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

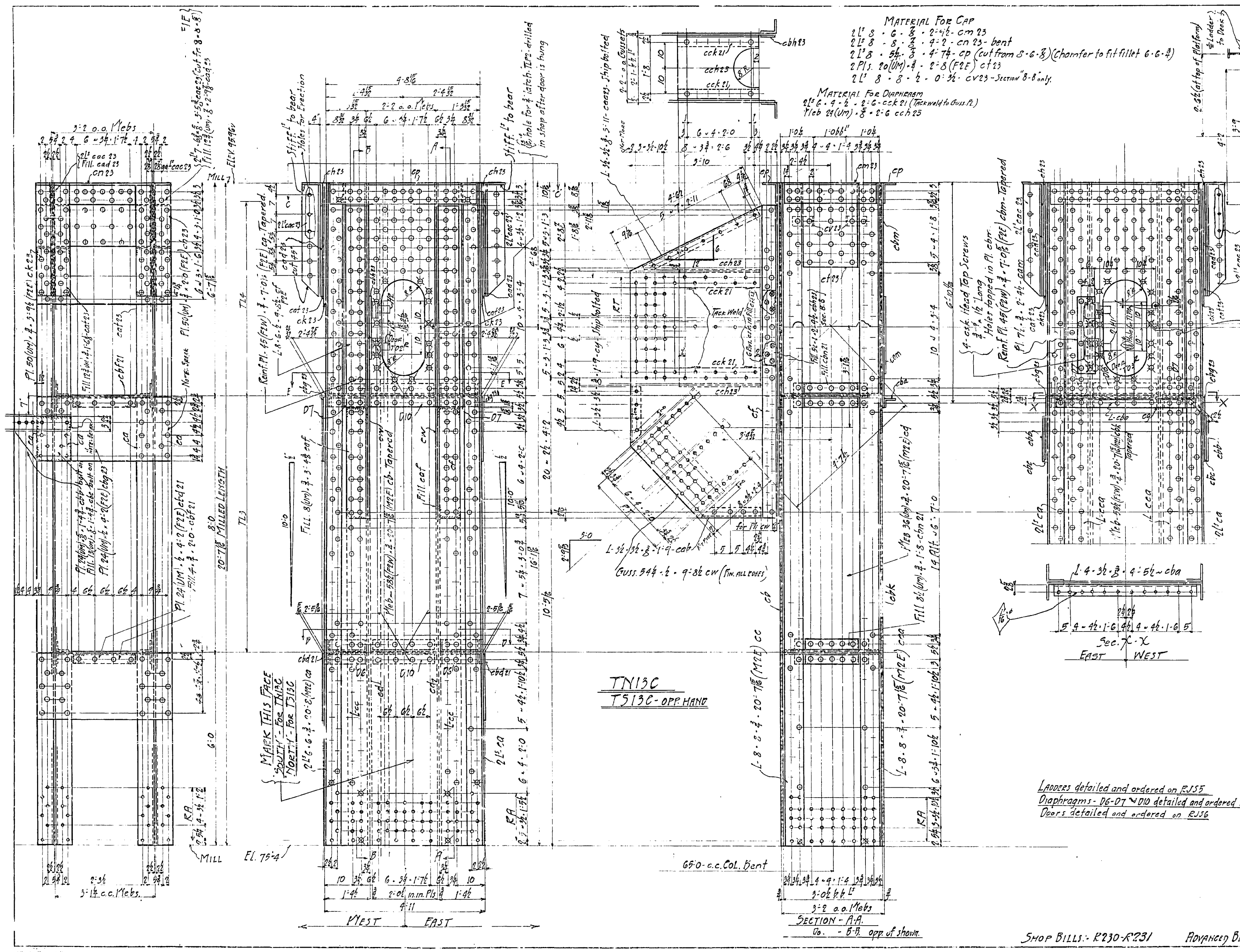
Date	Revision	App'd

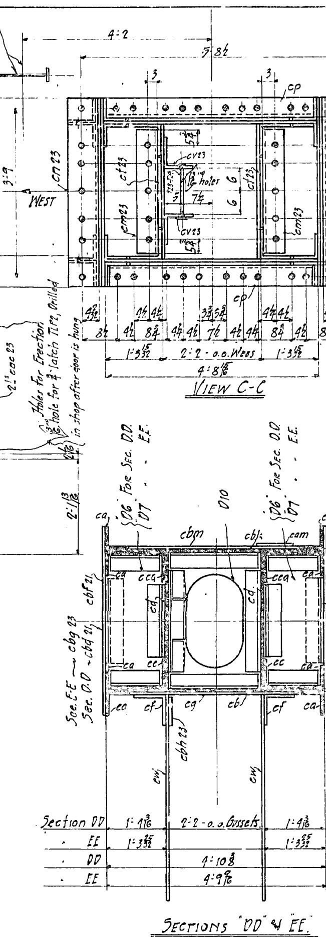
APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 3-7-34

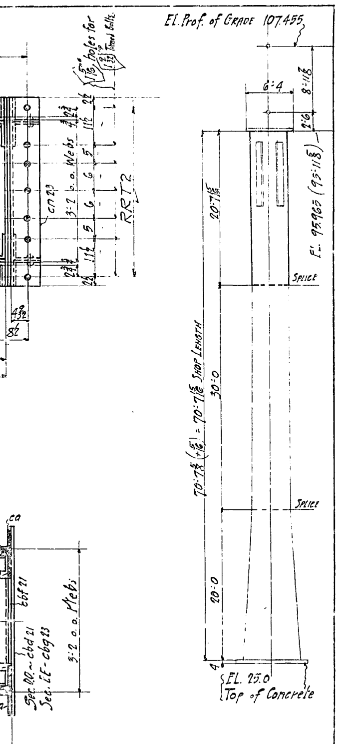
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

MIDDLE SECTIONS OF COLUMNS - BENTS #13 & 14.

McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS
IN CHARGE Boone — MADE BY LMU.
CHECKED BY F.R.C. — TRACED BY LMU.
LAST ASSEM. MK. cy
CONTRACT CR 1580 2 — SHEET R22







Ladders detailed and ordered on RJ55
Diaphragms - D6-D7 & D10 detailed and ordered on RJ51
Doors detailed and ordered on RJ56

SHOP BILLS:- R230-R231

ADVANCED BILLS:- R1-R13-R26

No.	Description	Mark	Remarks	Weight each Tons
ONE	COLUMN SECTION	TN13C	SHOWN	
ONE	Do Do	TS13C	OPP. HAND.	

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: JOHN M. BAILEY. Chief Inspector.
RIVETS: 1" DIA.
OPEN HOLES: 1 1/16" DIA.
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING. Holes in material over 3/4" thick to be sub-drilled 1/2" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of member, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd
R1 3/13/34	Door Lock Revised	

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 3-3-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

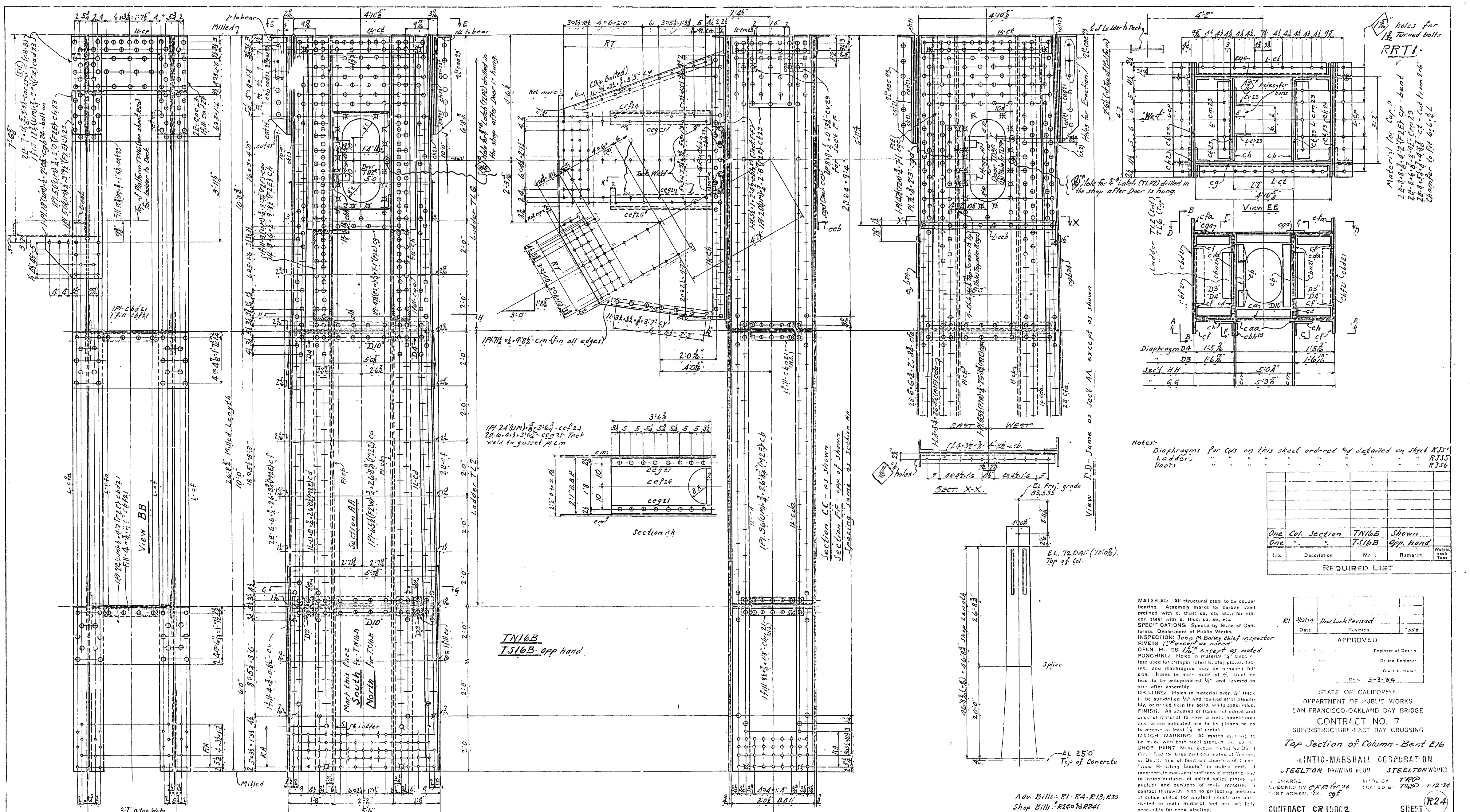
TOP SECTION of COLUMN - BENT 13

BETHLEHEM... ATLANTIC-MARSHALL CORPORATION
STEELTON DRAWING ROOM STEELTON WORKS

IN CHARGE
CHECKED BY C.G. 1/23/34
FACT ASSEM. INC.
MADE BY / TRACED BY R.G.H. 1/24/34

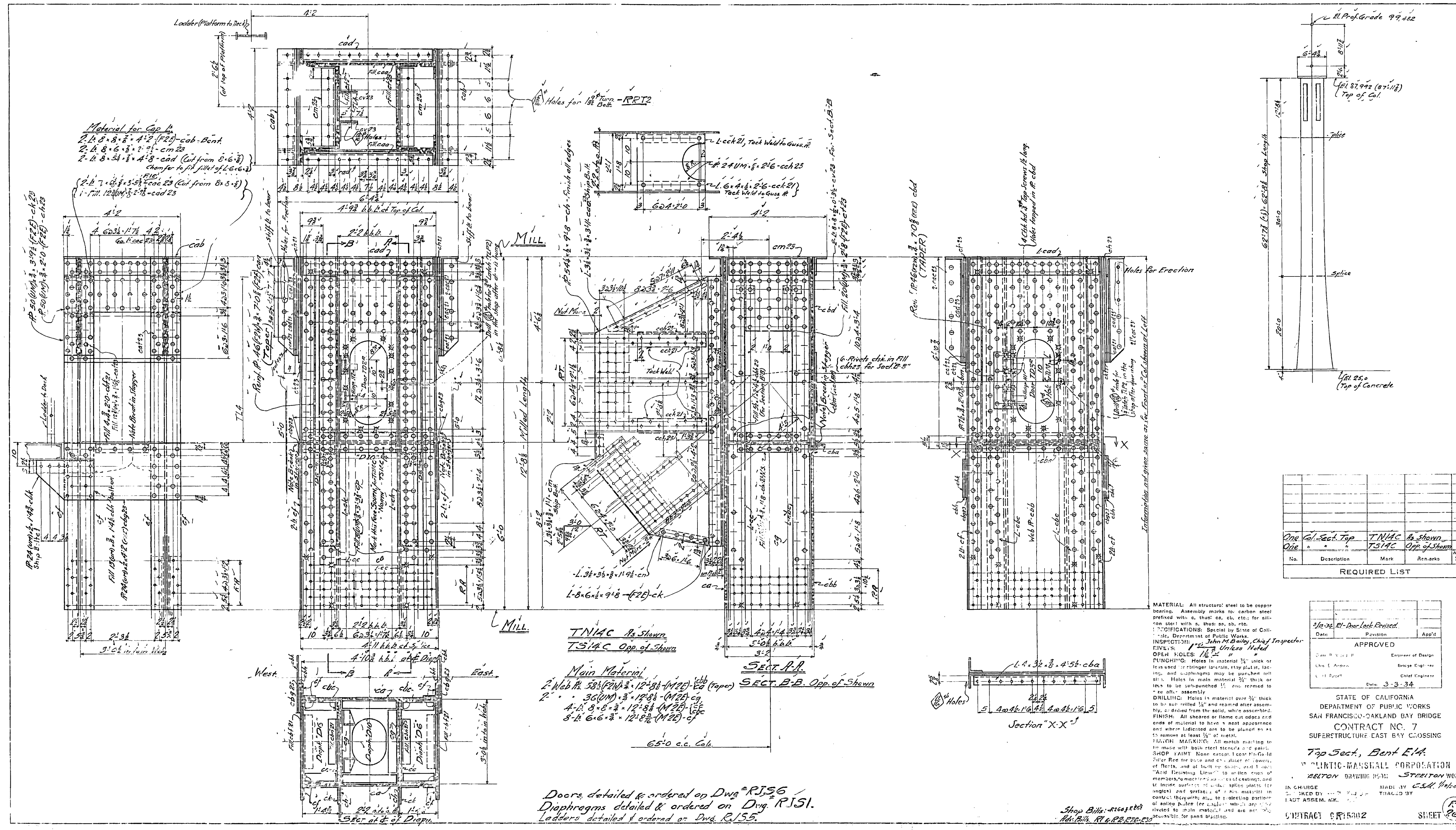
CONTRACT CR 15802 SHEET R23

30-1

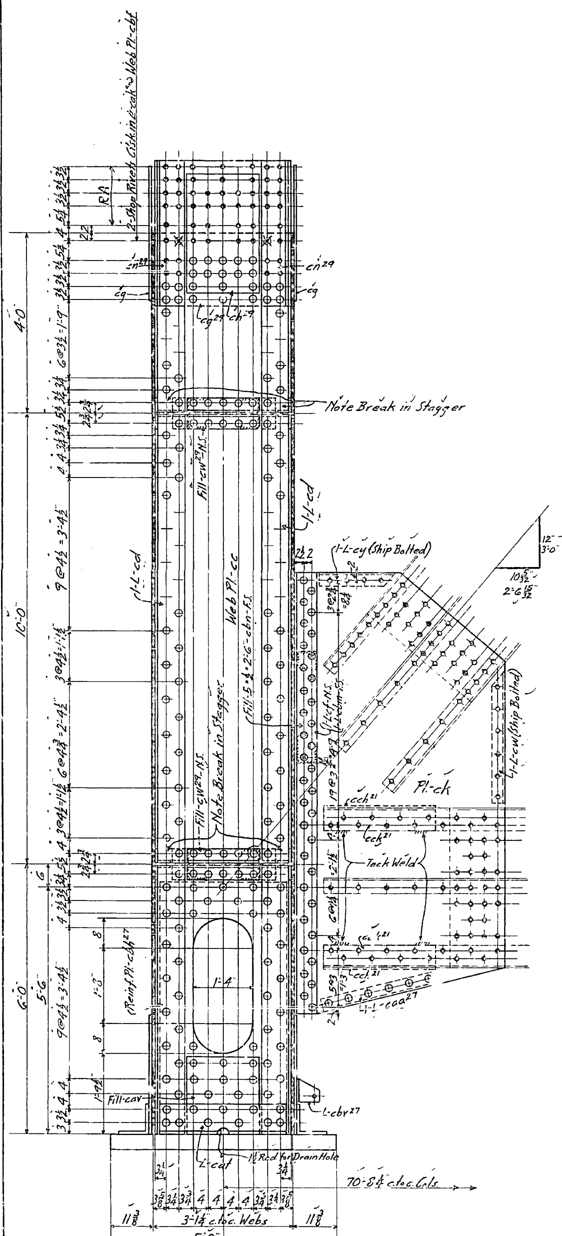


Notes:-
Diaphragms for Cols. on this sheet ordered and detailed on sheet RJS1
Ladders " " " " " " " " " RJS5
Doors " " " " " " " " " RJS6
One | Col. Section | TN16B | Shown
One | " " | TS16B | Opp. hand
No. | Description | Mark | Remarks | Weight each Tons
REQUIRED LIST
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey, chief inspector
RIVETS: 1" except as noted
OPEN HOLES: 1 1/16" except as noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4 thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
R1 | 3/13/34 | Door Lock Revised
Date | Revision | App'd
APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date 3-3-34
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Top Section of Column - Bent E16
STEELTON DRAWING ROOM
STEELTON WORKS
MADE BY TRP
TRACED BY TRP 1-12-34
CONTRACT CR 158C2
SHEET R24
TN16B
TS16B opp hand
View BB
Section AA
Section CC - as shown
View EE
Sect. X-X
EL. 25'0" Top of Concrete

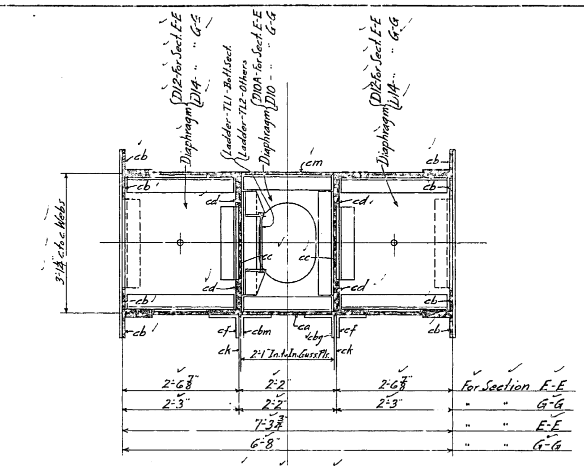
30-1



Material for Cap Ls
Main Material
TN14C As Shown
TS14C Opp. of Shown
Sect. A-A
Sect. B-B Opp. of Shown
Section "X-X"
Sec. at ℄ of Diaph.
West
East
Mill
Holes for Erection
Doors detailed & ordered on Dwg. R156
Diaphragms detailed & ordered on Dwg. R151.
Ladders detailed & ordered on Dwg. R155.
65'-0 c.c. Cols.
One | Col. Sect. Top | TN14C | As Shown
One | " " " | TS14C | Opp. of Shown
No. | Description | Mark | Remarks | Weight each Tons
REQUIRED LIST
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey, Chief Inspector
RIVETS: 1" Unless Noted
OPEN HOLES: 1 1/16" " "
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Oxid Filler Red for base and cap plates of Towers, of Bents, and of built up shoes, and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of milled splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are riveted to main material and are not accessible for sand blasting.
3/13-34 | R1-Door Lock Revised.
Date | Revision | App'd
APPROVED
Engineer of Design
Chas. E. Andrew | Bridge Engineer
C. H. Purcell | Chief Engineer
Date: 3-3-34
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE EAST BAY CROSSING
Top Sect., Bent E14.
McCLINTIC-MARSHALL CORPORATION
STEELTON DRAWING ROOM
STEELTON WORKS
IN CHARGE
CHECKED BY
LAST ASSEM. MK.
MADE BY C.S.H.
TRACED BY
Shop Bills: R260 & R261
Adv. Bills: R1 & R2-R26-R30
CONTRACT C R15802
SHEET R26



Section B-B



Sections E-E & G-G

Note:
Diaphragms for Columns on this sheet, Ordered & detailed on sheets RJ51 & RJ53.
Ladders for Columns on this sheet, Ordered & detailed on sheet RJ55.
Hinges, Latch Bars & Doors for Columns on this sheet, Ordered & detailed on sheet RJ56.

No.	Description	Mark	Remarks	Weight each Tons
one	Column	TN10A	as Shown	
one	"	TS10A	opp. Hand	

REQUIRED LIST

Note:- This Dwg. to be worked in conjunction with Dwg.-R28.

CR15801 - Shop Bill-#R270
CR15802 - Shop Bills #R270-271

Material Ord. on Adv. Bill - {R26, R17-R29} - CR15802
Base Slabs Ord. CR15801 - Adv. Bill-R1

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey - Chief Inspector
RIVETS: 1"ø
OPEN HOLES: 1$\frac{1}{16}$"ø except as noted.
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾ thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

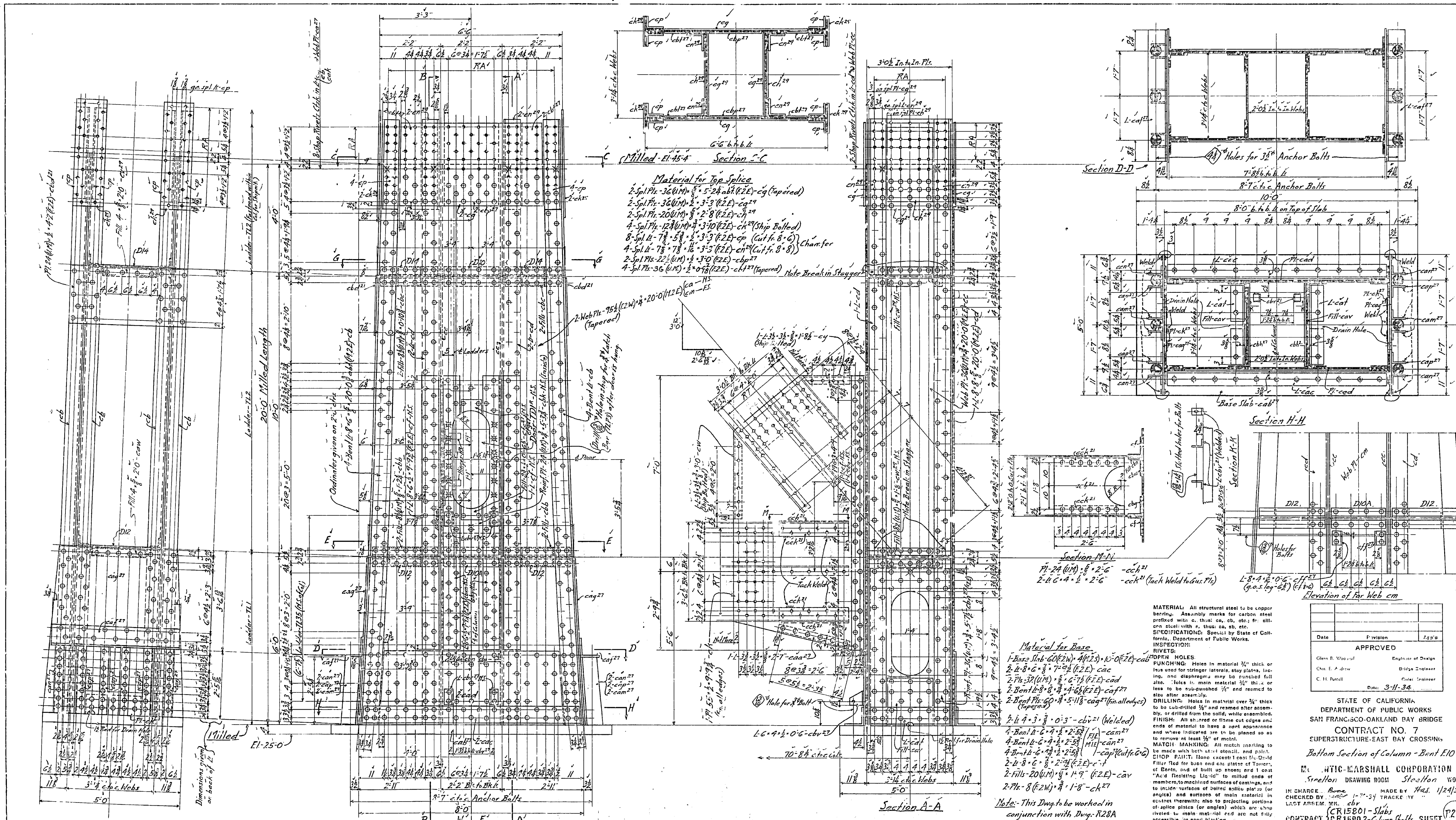
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 3-9-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

Bottom Section of Column - Bent E10

McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS

IN CHARGE Boone MADE BY Has. 1/24/34
CHECKED BY [illegible] -29-34 TRACED BY "
LAST ASSEM. MK. cbv
CONTRACT {CR15801 - Slabs, CR15802 - Column Shafts} SHEET R27



Material for Top Splice

2-Spl. Pls.-36(U.M.)×5/8×5-2¼ abt.(F.2.E.)-cg (Tapered)
2-Spl. Pls.-36(U.M.)×1/2×3-3"(F.2.E.)-cg29
2-Spl. Pls.-20(U.M.)×5/8×2-8"(F.2.E.)-ch29
4-Spl. Pls.-12¾(U.M.)×3/4×3-10"(F.2.E.)-ck29 (Ship Bolted)
8-Spl. Ls-7⅜×5⅜×1/2×3-3"(F.2.E.)-cp (Cut fr. 8×6) } Chamfer
4-Spl. Ls-7⅞×7⅜×11/16×3-3"(F.2.E.)-cn29 (Cut fr. 8×8) }
2-Spl. Pls.-22½(U.M.)×1/2×3-0"(F.2.E.)-cbp27
4-Spl. Pls.-36(U.M.)×1/2×0-9⅞(F.2.E.)-cbt27 (Tapered)

Pl.-24(U.M.)×5/8×2-6" -cch21
2-Ls 6×4×1/2×2-6" -cck21 (Tack Weld to Gus. Pls.)

Material for Base

1-Base Slab-60(F.2.W.)×4(M.2.S.)×10-0"(F.2.E.)-cab27
2-Ls-8×6×7/8×7-9½(F.2.E.)-cac
2-Pls-32(U.M.)×5/8×6-7½(F.2.E.)-cad
2-Bent Ls-8×8×3/4×4-6½(F.2.E.)-caf27
2-Bent Pls.-60×3/4×5-11⅞-cag27 (Fin. all edges) (Tapered)
2-Ls 4×3×3/8×0-3"-cbv21 (Welded)
4-Bent Ls-6×4×1/2×2-5¾ (F.I.E.)-cam27
4-Bent Ls-6×4×1/2×2-5¾ (M.I.E.)-can27
4-Bent Ls-6×4×1/2×2-5¾ -cap27 (Cut fr. 6×6)
2-Ls-8×6×7/8×2-9½(F.2.E.)-cat
2-Fills-20(U.M.)×5/8×1-9"(F.2.E.)-cav
2-Pls.-8(F.2.W.)×3/4×1-8"-ck27

Note:- This Dwg. to be worked in conjunction with Dwg.-R28A

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS:
OPEN HOLES:
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencil and paint.
SHOP PAINT: None except: 1 coat Fe-Oxid Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

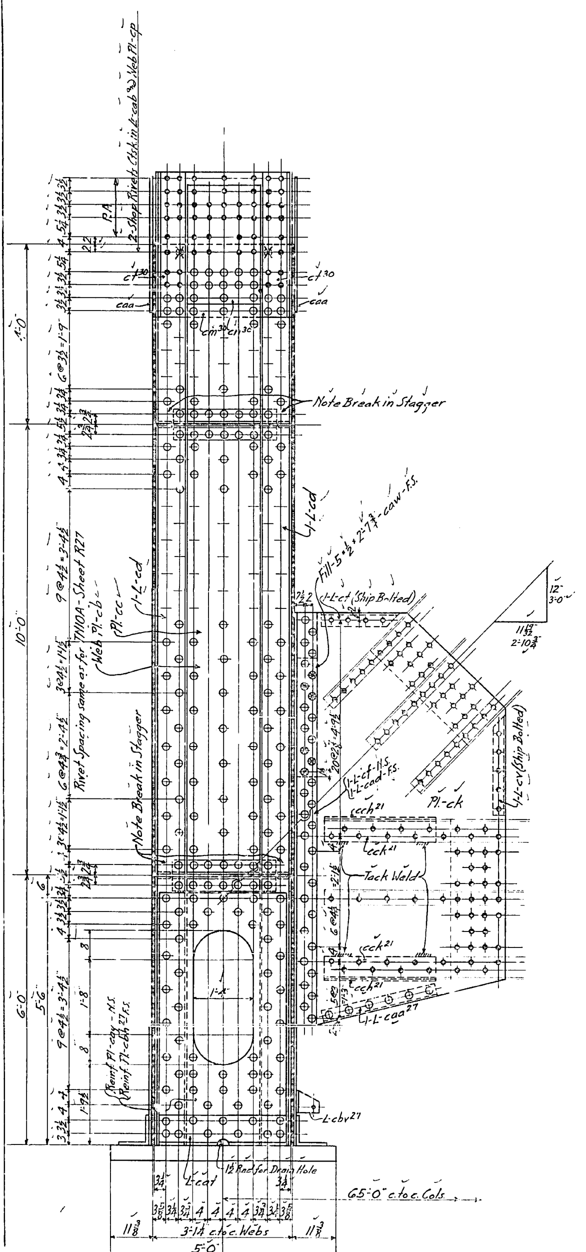
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 3-11-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

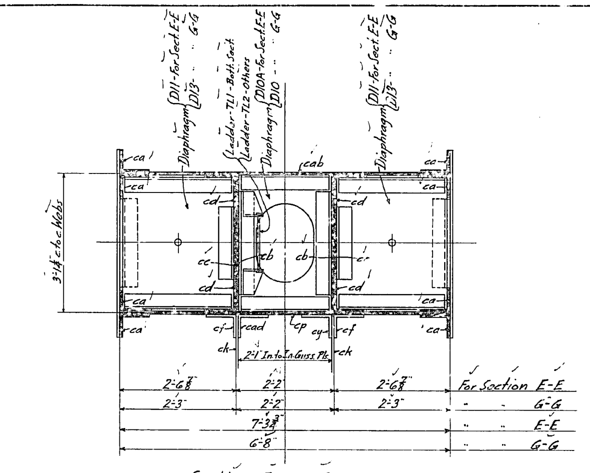
Bottom Section of Column - Bent E10

MC[illegible]NTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS
IN CHARGE Boone MADE BY Has. 1/24/34
CHECKED BY [illegible] 1-?-34 TRACED BY " "
LAST ASSEM. MK. cbr
CONTRACT {CR15801-Slabs, CR15802-Column Shafts} SHEET P27A

30-1



Section B-B



Sections E-E & G-G

Note:
Diaphragms for Columns on this sheet, Ordered & detailed on sheets RJS1 & RJS3.
Ladders for Columns on this sheet, Ordered & detailed on sheet RJS5.
Hinges, Latch Bars & Doors for Columns on this sheet, Ordered & detailed on sheet RJS6.

No.	Description	Mark	Remarks	Weight each Tons
one	Column	TN12A	as Shown	
one	"	TS12A	opp. Hand	

REQUIRED LIST

Note: This Dwg. to be worked in conjunction with Dwg.-R27.

CR1580-1 Shop Bill #R280
CR1580-2 Shop Bills #R280-R281

Material Ord. on Adv. Bills {R29-R26, R11, R12, R20-CR15802
Base Slabs Ord. CR15801-Adv. Bill-R1

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey-Chief Inspector
RIVETS: 1"ϕ
OPEN HOLES: 1 1/16"ϕ except as noted
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Rev. for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

Glenn B. Woodruff	Engineer of Design
Chas. E. Andrew	Bridge Engineer
C. H. Purcell	Chief Engineer

Date: 3-1-34

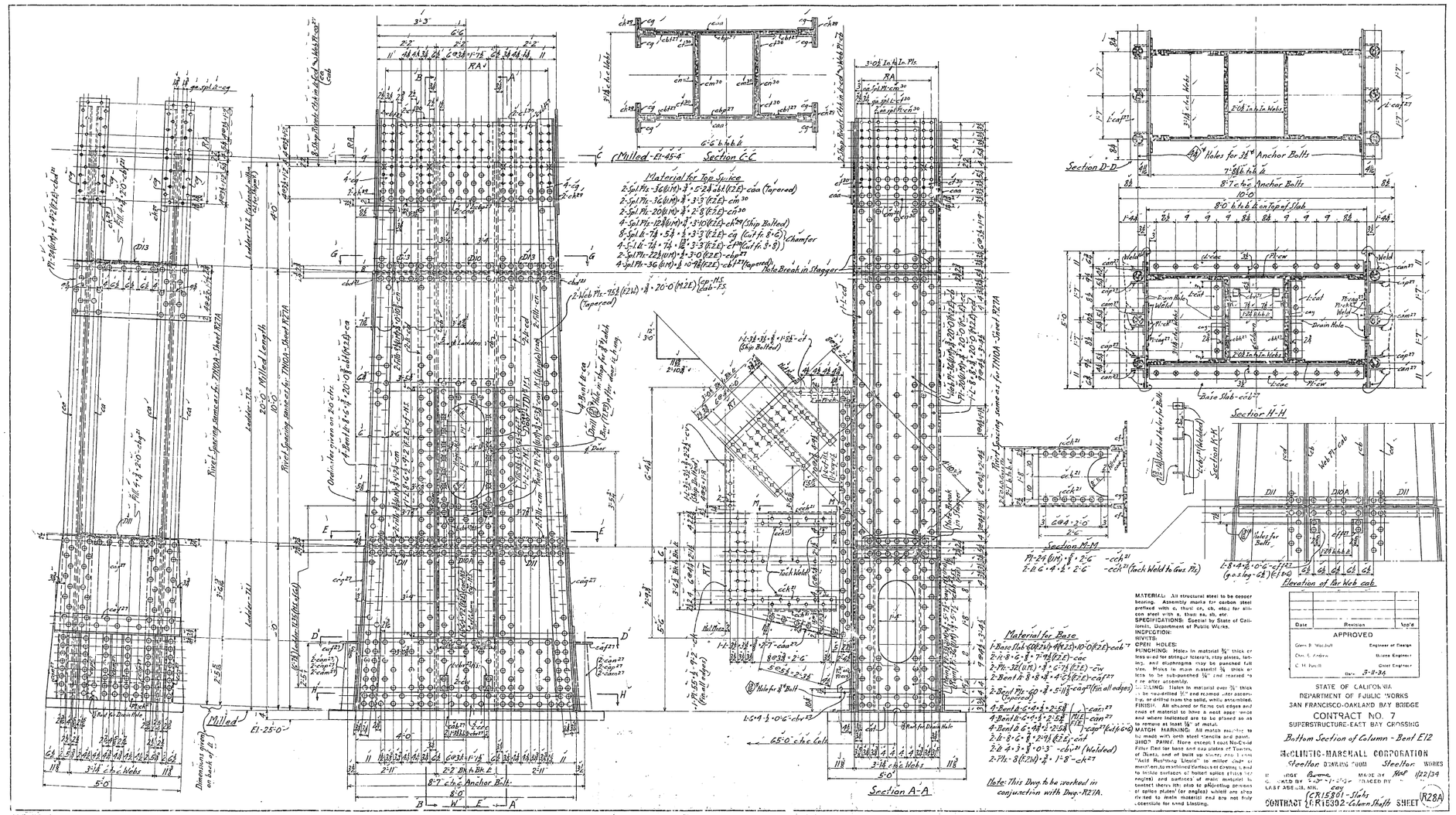
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

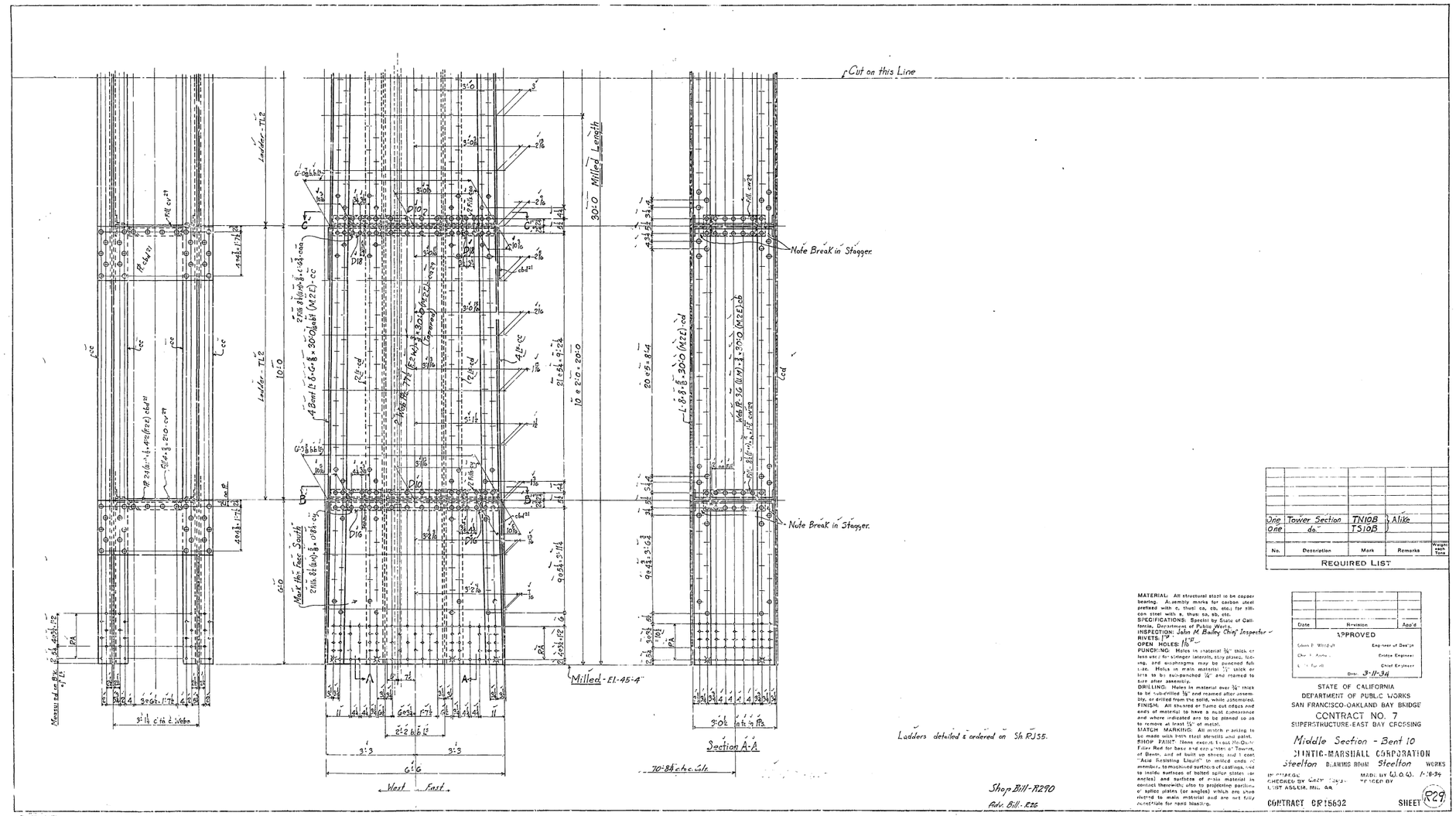
Bottom Section of Column-Bent E12

McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS

IN CHARGE Boone MADE BY Has. 1/25/34
CHECKED BY GaD-1-29-34 TRACED BY " "
LAST ASSEM. MK. cay

CONTRACT {CR15801-Slabs, CR15802-Column Shafts} SHEET R28


Section C-C
Material for Top Splice
Section D-D
Holes for 3¼" Anchor Bolts
Section H-H
Section M-M
Section A-A
Elevation of Br Web cab
Material for Base
Note: This Dwg. to be worked in conjunction with Dwg. R21A.
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with a, thus: ca, cb, etc; for alloy steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS:
OPEN HOLES:
PUNCHING:
REAMING:
FINISH:
MATCH MARKING:
SHOP PAINT:
Date
Revision
Init'd
APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Bottom Section of Column - Bent E12
McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING 4008
Steelton WORKS
CONTRACT 7, R15392-Column Shafts
SHEET R28A



One Tower Section		TN10B	Alike	
One do		TS10B		
No.	Description	Mark	Remarks	Weight Tons

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with a, thus: aa, ab, etc. for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M Bailey Chief Inspector
RIVETS: 7/8"
OPEN HOLES: 1 1/16"
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 1" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be subdrilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with hot steel stencils and paint.
SHOP PAINT: None except 1 coat Red Oxide Filler Red for base and contact of Towers, of Bents, and of built up shapes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for hand blasting.

Date	Revision	App'd

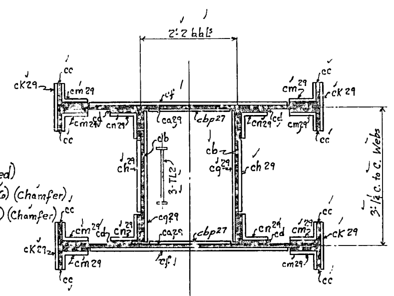
APPROVED
Edwin P. Woodell — Engineer of Design
Chas. H. Purcell — Chief Engineer
Date: 3-11-34

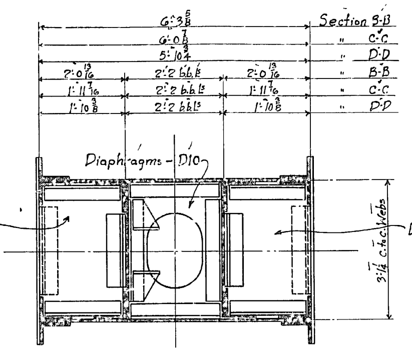
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Middle Section - Bent 10
STATIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS
DETAILED BY [illegible]
CHECKED BY [illegible]
LAST ASSUM. MIL. 0.0
MADE W.O. 0.0. 1-18-34
APPROVED BY

CONTRACT CR15602 SHEET R29

Splice Material

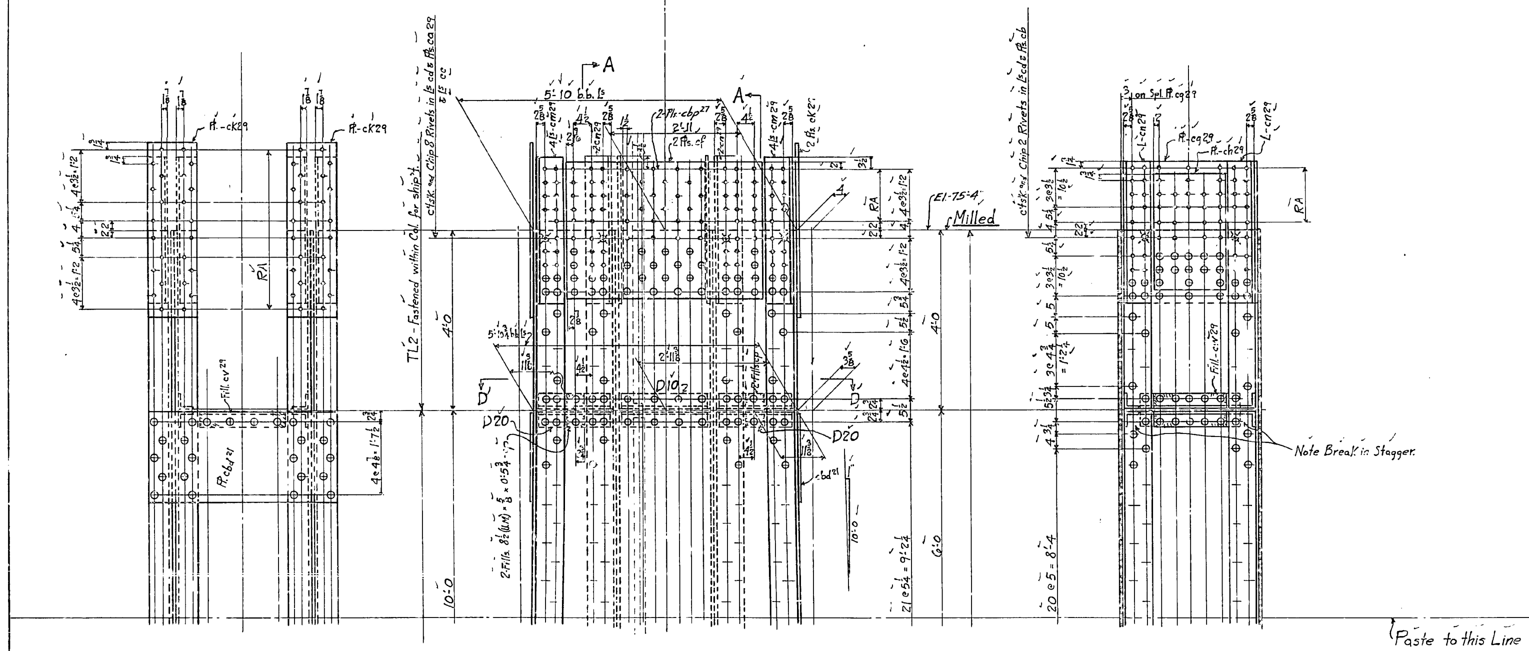
2-Spl. Pls. 36 (U.M.) × 5/8 × 4'-5 3/4 (F.2 E.) - cf (Tapered)
2-Spl. Pls. 36 (U.M.) × 1/2 × 3'-3 (F.2 E.) - cg29
2-Spl. Pls. 20 (U.M.) × 5/8 × 2'-8 (F.2 E.) - ch29
4-Spl. Pls. 12 3/4 (U.M.) × 3/4 × 3'-10 (F.2 E.) - ck29 (Ship Bolted)
8-Spl. Ls 7 3/8 × 5 3/8 × 1/2 × 3'-3 (F.2 E.) - cm29 (Cut fr. L8×6) (Chamfer)
4-Spl. Ls 7 3/8 × 7 3/8 × 11/16 × 3'-3 (F.2 E.) - cn29 (Cut fr. L8×8) (Chamfer)
2-Spl. Pls. 22 1/2 (U.M.) × 1/2 × 3'-0 (F.2.E.) - cbp27





Section - B-B
Section - C-C
Section - D-D

D10 - Detailed & Ordered on Dwg. RJS1
D16 " " " " RJS3.
D18 " " " " RJS3.
D20 " " " " RJS3.



No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey - Chief Inspector
RIVETS: 1"⌀
OPEN HOLES: 1 1/16"⌀
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 3-11-34

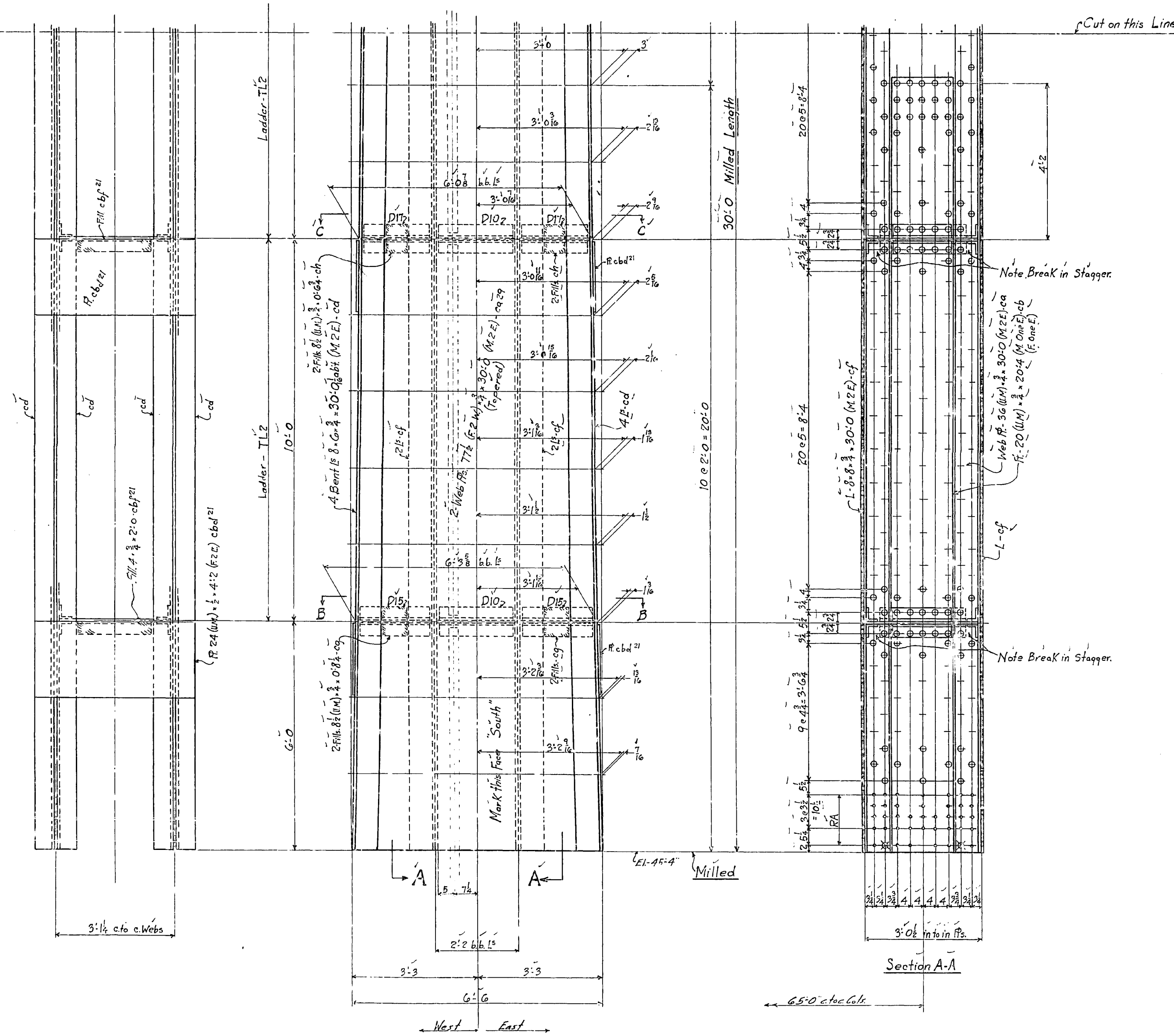
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

Middle Section - Bent 10

M [illegible]NTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS

IN CHARGE
CHECKED BY [illegible]
LAST ASSEM. MK.
MADE BY W.O.W.
TRACED BY

CONTRACT CR15802 SHEET R29A



Note

This Drawing to be worked in conjunction with Drawing Nº R29 and R29A.

Punching in TN12B - TS12B same as TN10B-TS10B on Dwg.# R29 and R29A, except as shown for Ps.-cb, and for Gages in Splice Ls.

Ladders detailed & ordered on Sh. R.15b.

Adv. Bill- -R26 Shop Bill-R300

No.	Description	Mark	Remarks	Weight each Tons
One	Tower Section	TN12B	Alike	
One	do.	TS12B		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey-Chief Inspector
RIVETS: 1"⌀
OPEN HOLES: 1 1/16"⌀
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 3-11-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

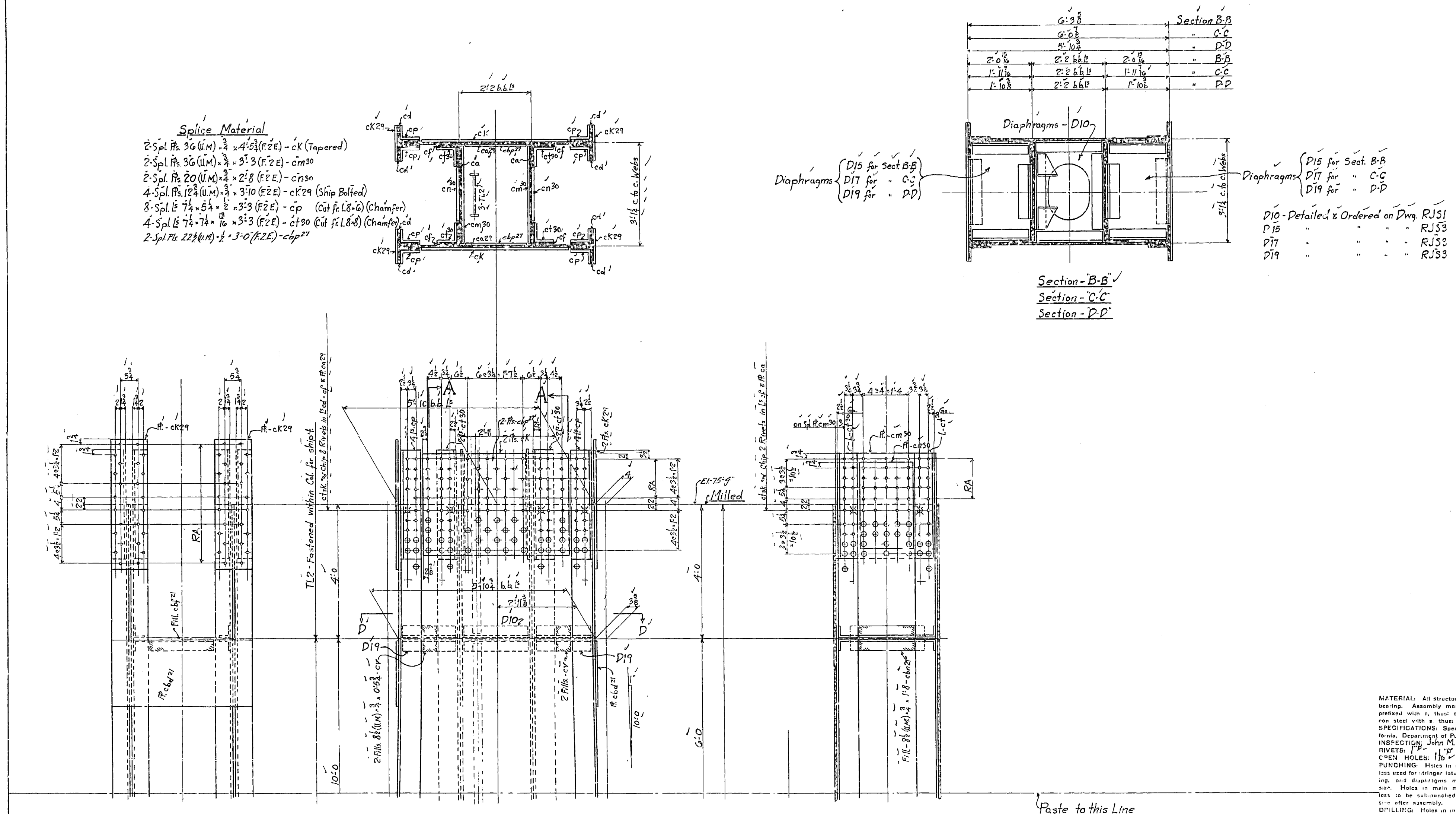
Middle Section - Bent 12

McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS

IN CHARGE
CHECKED BY
LAST ASSEM. MK.
MADE BY W.O.W. 1-19-34
TRACED BY

CONTRACT CR 15802 SHEET R30

30-1



No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey Chief Inspector
RIVETS: 1" - 1 1/8"
OPEN HOLES: 1 1/16"
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/4" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up pieces; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

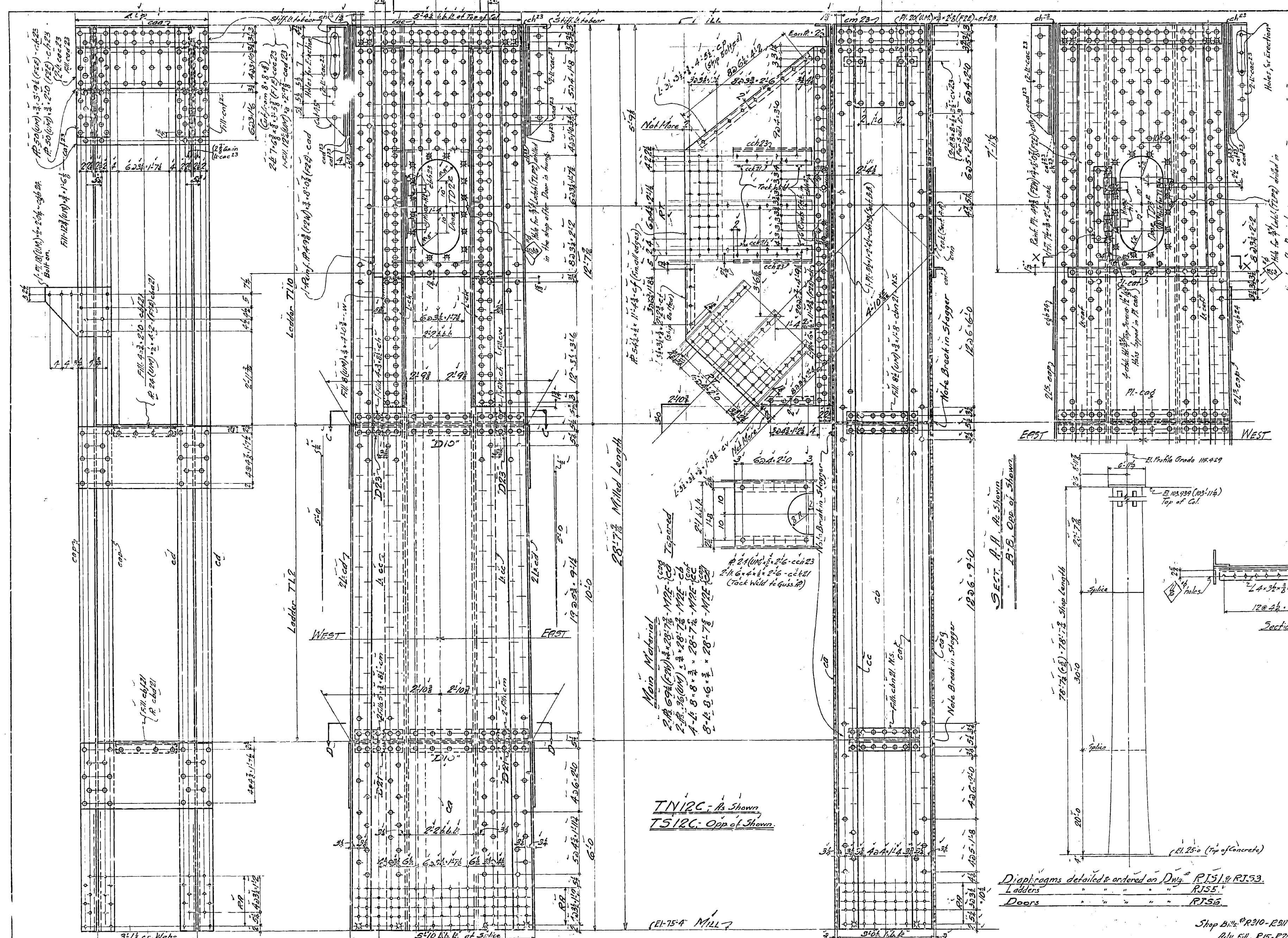
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 3-11-34

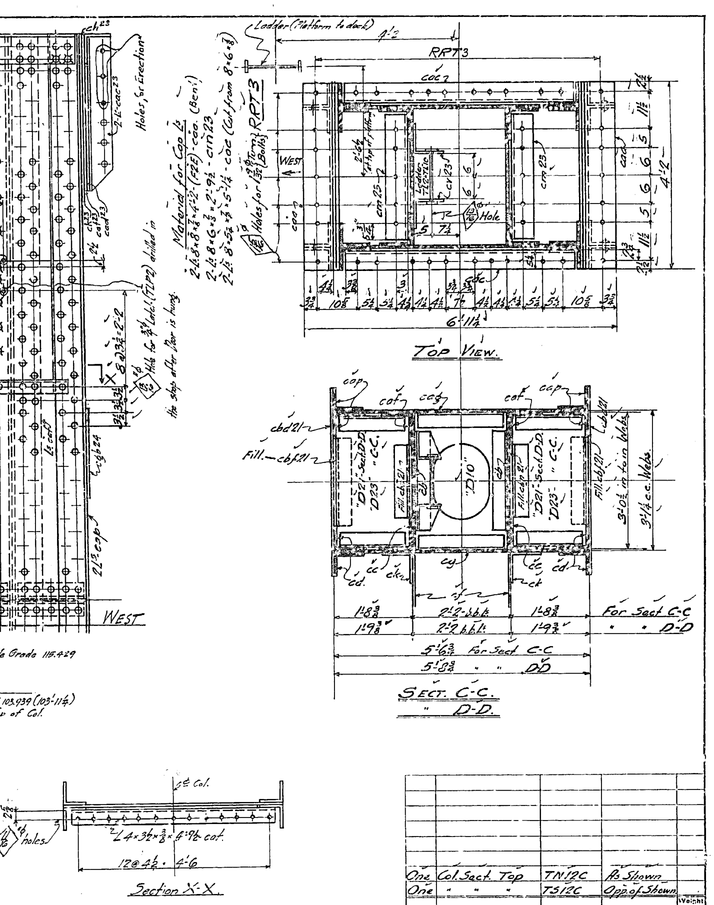
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS

IN CHARGE
CHECKED BY -26-34
LAST ASSEM. MK. W
MADE BY W.O.W.
TRACED BY

CONTRACT CR15802 SHEET R30A





One	Col. Sect. Top	TN12C	As Shown	
One	" " "	TS12C	Opp. of Shown	
No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey, Chief Inspector
RIVETS: 1"Ø
OPEN HOLES: 1 1/16"Ø Unless noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 3-11-34

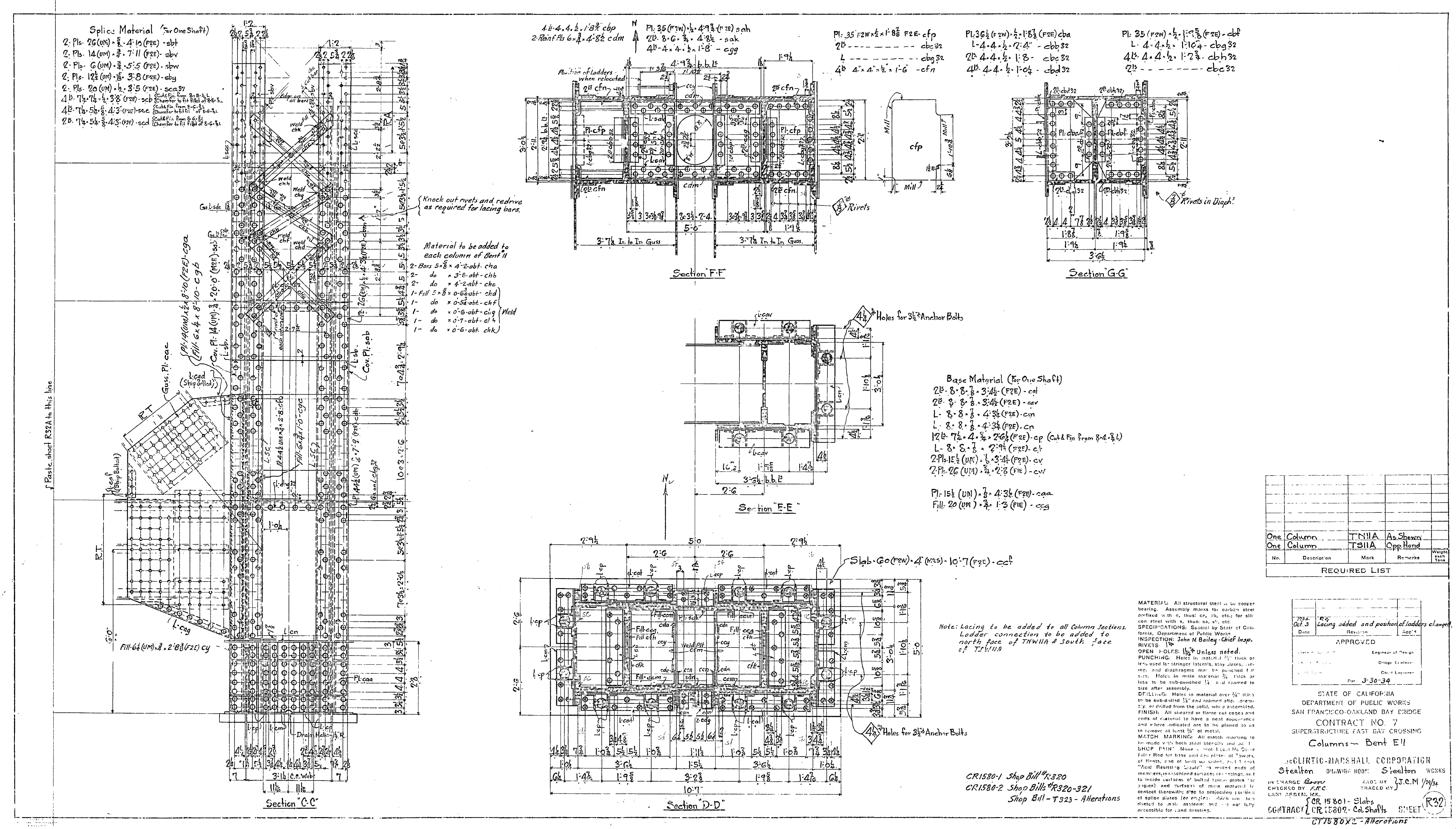
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

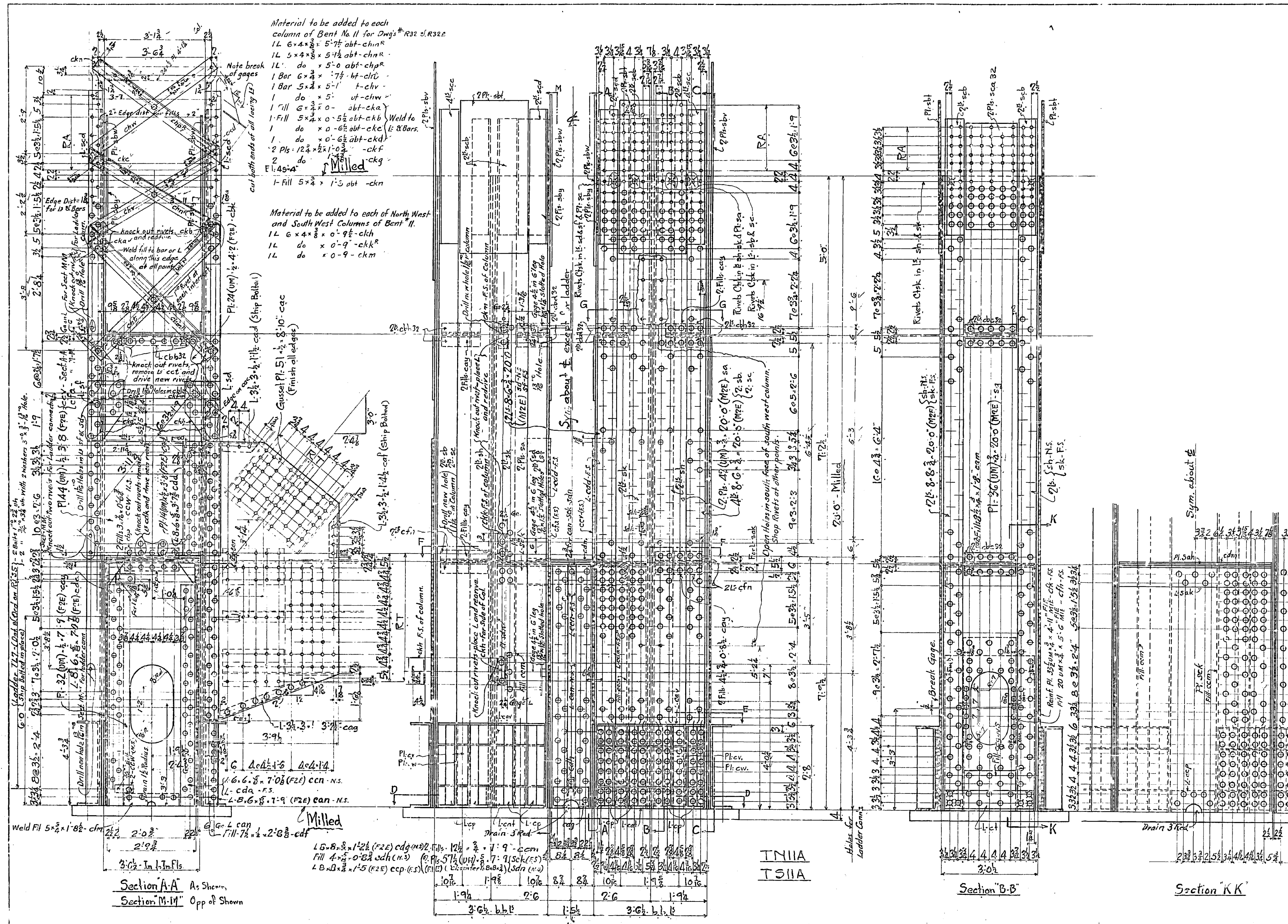
Top Sect. Bent. E12.

McCLINTIC-MARSHALL CORPORATION
STEELTON DRAWING ROOM STEELTON WORKS

IN CHARGE
CHECKED BY G.W. 1-30-34
LAST ASSEM. MK. CCV
MADE BY C.S.M 1/24/34
TRACED BY

CONTRACT CR15802
SHEET R 31


30-1
Splice Material (For One Shaft)
Material to be added to each column of Bent 11
Knock out rivets and redrive as required for lacing bars.
Section "C-C"
Section "F-F"
Section "G-G"
Section "E-E"
Section "D-D"
Base Material (For One Shaft)
Holes for 3¼" Anchor Bolts
Note: Lacing to be added to all Column Sections. Ladder connection to be added to north face of TNW11A & South face of TS11A
CR1580-1 Shop Bill #R320
CR1580-2 Shop Bills #R320-321
Shop Bill - T323 - Alterations
One Column TN11A As Shown
One Column TS11A Opp. Hand
No. Description Mark Remarks Weight each Tons
REQUIRED LIST
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M Bailey - Chief Insp.
RIVETS: 1"
OPEN HOLES: 1 1/16" Unless noted.
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Oxid Filler Red for base and cap plates of Towers, of Bents, and of built up shoes, and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are not riveted to main material and are not fully accessible for sand blasting.
1934 Oct. 3 R4 Lacing added and position of ladders changed.
Date Revision App'd
APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date 3-30-34
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE EAST BAY CROSSING
Columns - Bent E11
McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS
IN CHARGE Boone
CHECKED BY F.R.C.
MADE BY TRACED BY J.C.M 1/29/34
LAST ASSEM. MK.
CONTRACT CR 15801 - Slabs
CR 15802 - Col. Shafts
SHEET R32
CT1580X2 - Alterations



MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS:
OPEN HOLES:
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, also to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

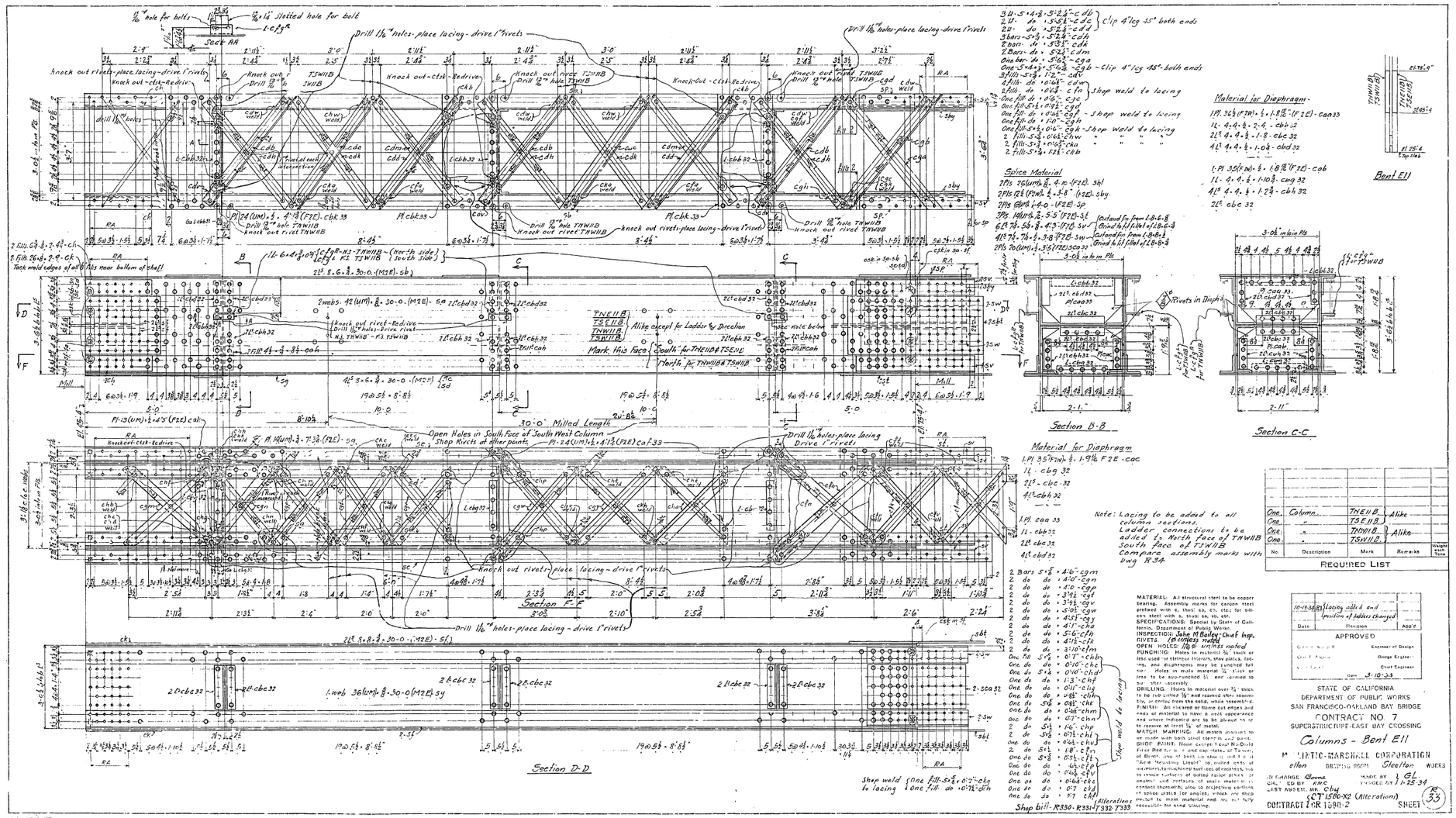
Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 3-30-34

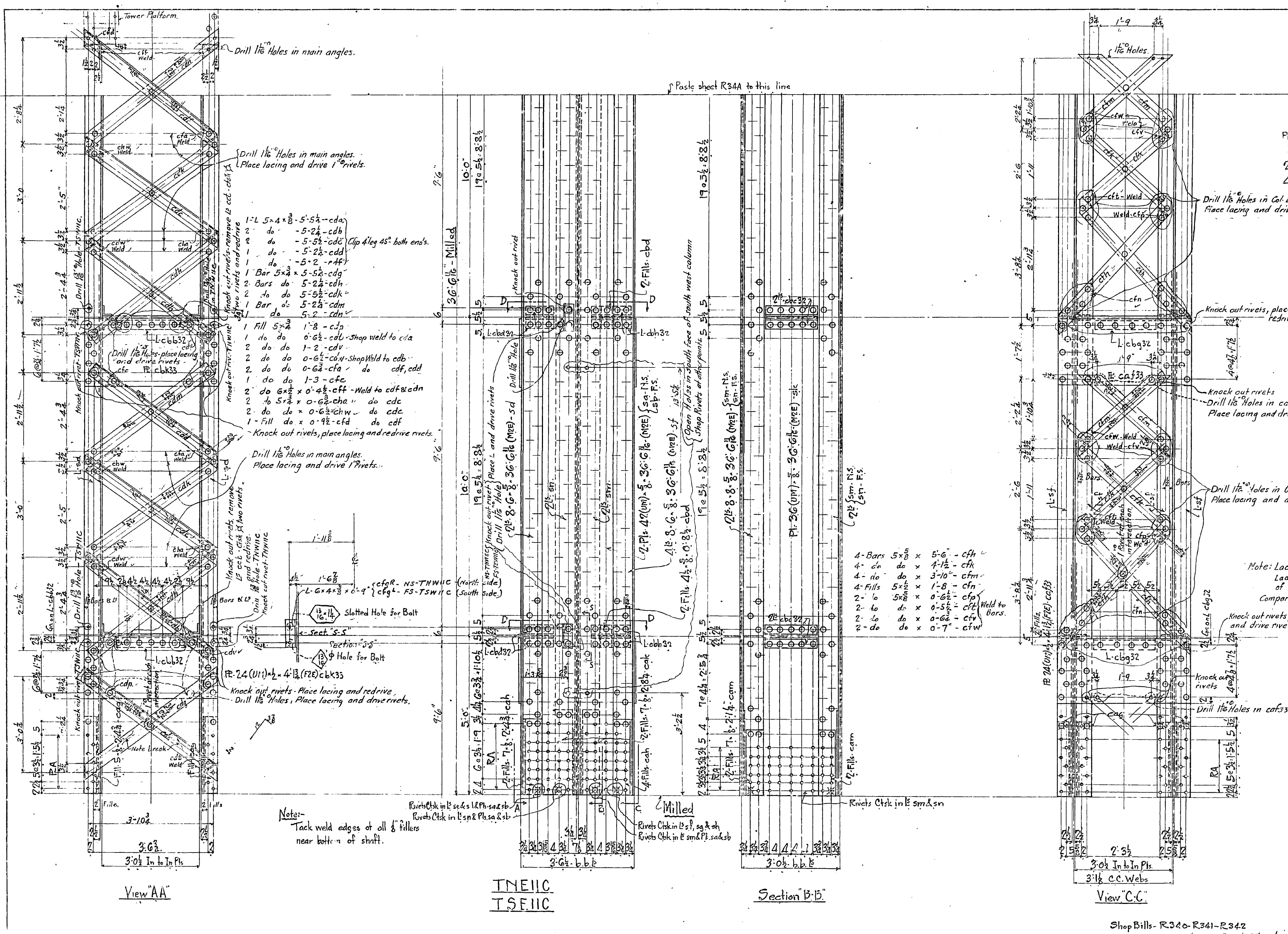
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Columns — Bent E 11

McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS
IN CHARGE: Boone — MADE BY J.C.M. 1/29/34
CHECKED BY A.R.C. — TRACED BY
LAST ASSEM. MK. cgd
CONTRACT CR 15801 - Slabs; CR 15802 - Col. Shafts — SHEET R32A
CT 1580X2 - Alterations



No.	Description	Mark	Remarks	Weight each Tons
One	Column	T1E11B	Alike	
One	"	T3E11B		
One	"	T1W11B	Alike	
One	"	T3W11B		

REQUIRED LIST



Diaphragm Material

Pl. 36 1/2 (F2W) · 1/2 · 1'-8 15/16 (F2E) - caa33
L-4·4·1/2 · 2'-4" - cbb32
2L^s · 4·4·1/2 · 1'-8" - cbc32
4L^s · 4·4·1/2 · 1'-0 1/4 - cbd32

Pl. 35 1/4 (F2W) · 1/2 · 1'-8 5/16 (F.O.E) - cbn
L-4·4·1/2 · 1'-10 3/4 - cbg32
4L^s · 4·4·1/2 · 1'-2 3/4 - cbh32
2L^s cbc32

Note: Lacing to be added to all column sections. Ladder Connections to be added to North Face of TNW11C and South Face of TSW11C. Compare assembly marks with Dwg #R33

No.	Description	Mark	Remarks	Weight each Tons
One	Column.	TNW11C	Alike	
One	Column.	TSW11C.		
One	Column.	TNE11C	As Shown	
One	Column.	TSE11C	Opp of Shown	

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey Chief Insp.
RIVETS: 1"φ
OPEN HOLES: 1 1/16"φ } except as noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8 and reamed after assembly or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Oxid Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd
10/17/34	R3 Lacing added and position of ladders changed	

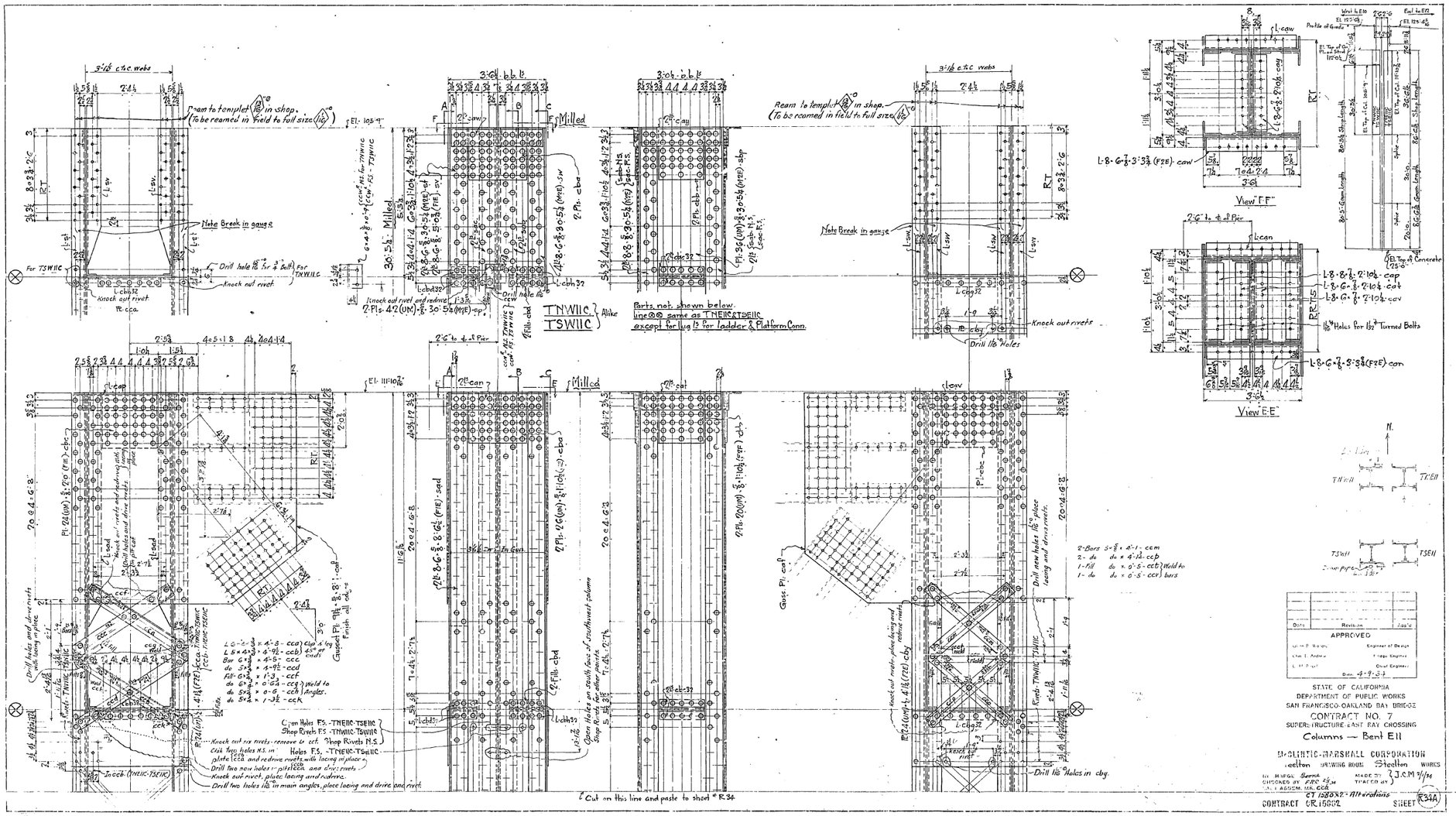
APPROVED

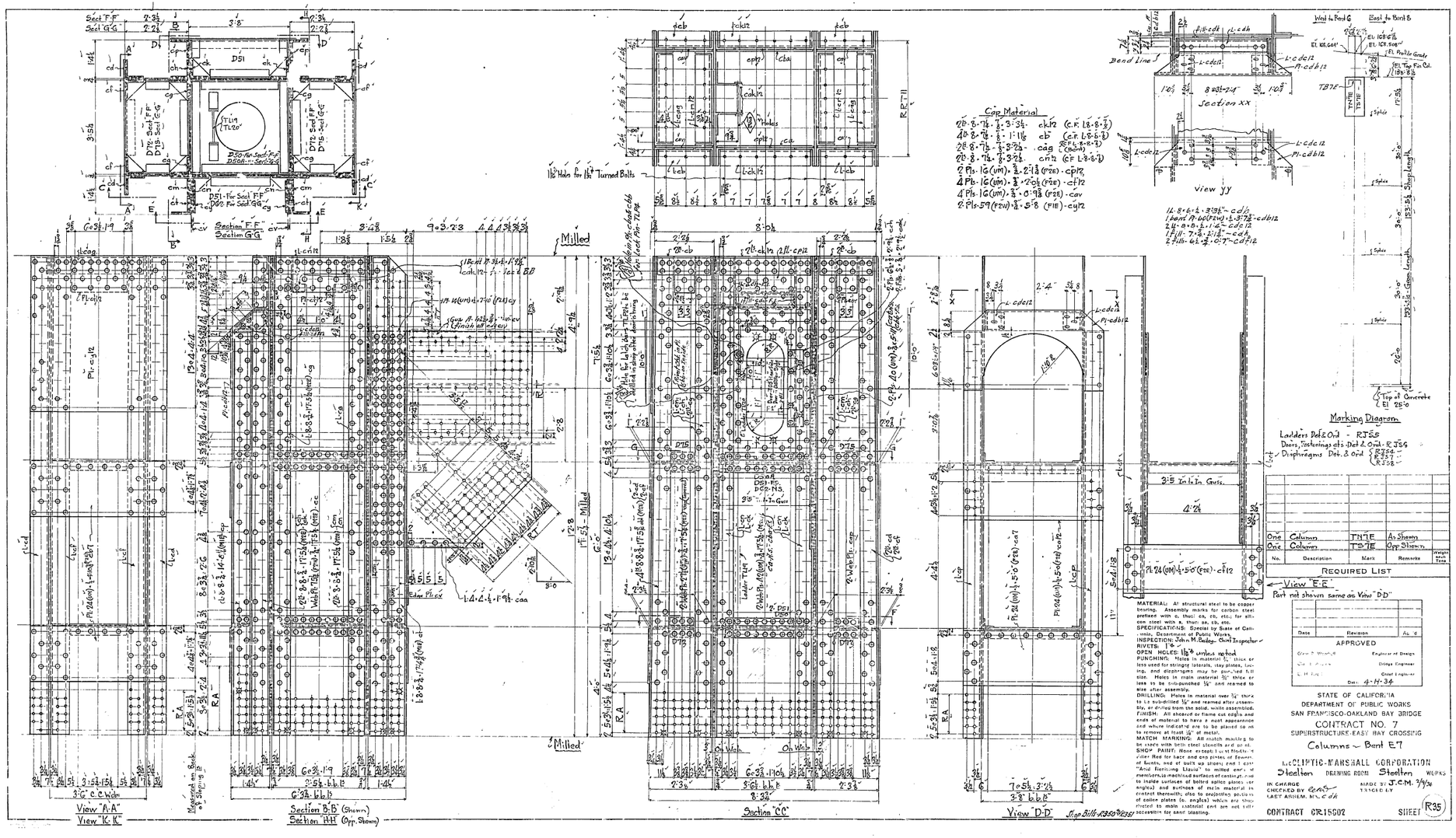
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 4-9-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

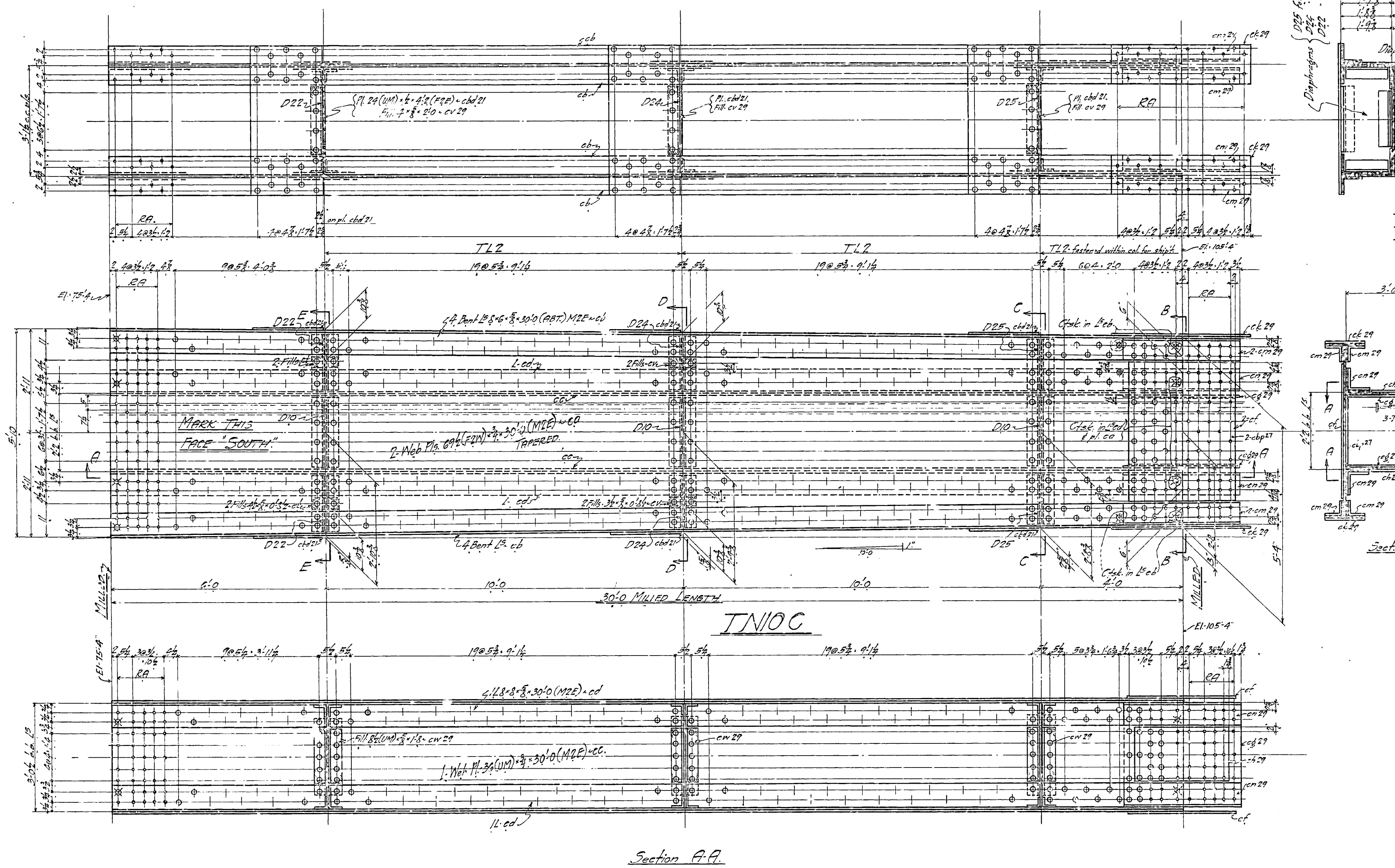
Columns – Bent E11

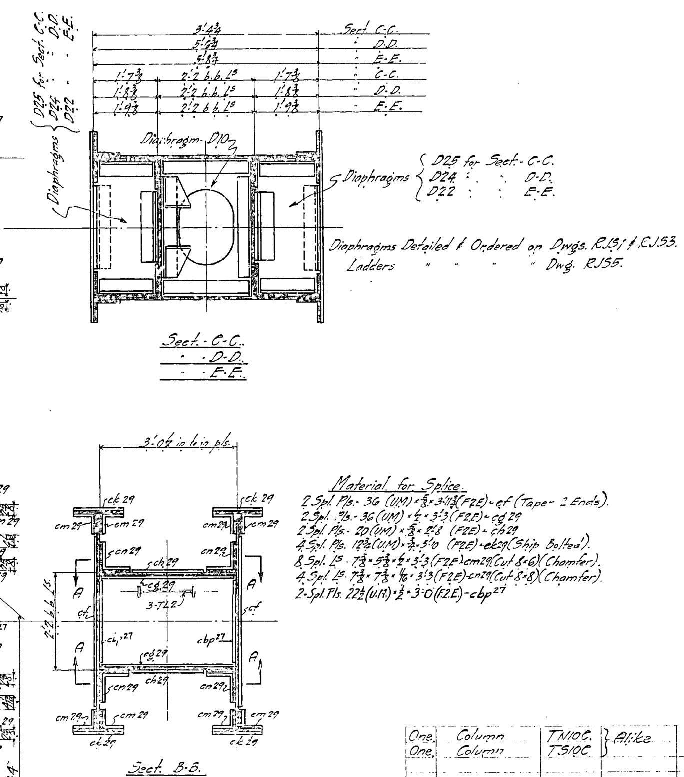
McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS
IN CHARGE Boone
CHECKED BY F.R.C. 3/8/34
LAST ASSEM. MK. C61
MADE BY } J.C.M 2/1/34
TRACED BY
CONTRACT { CT 1580X2 - Alterations. CR15802
SHEET R34


3'-1⅛ c to c webs
Ream to templet (B) in shop. (To be reamed in field to full size (C))
El. 105.9'
Note Break in gauge
For TSWIIC
Drill hole B for ¾" bolt) For TNWIIC
Knock out rivet
Milled
Knock out rivet and redrive
Drill hole B
TNWIIC } Alike
TSWIIC }
Parts not shown below, line ⊗⊗ same as TNEIIC & TSEIIC except for lug ℓs for ladder & Platform Conn.
Note Break in gauge
Drill 1⅛" Holes
Knock out rivets
2'-6" to ℄ of Pier
El. 111.10½'
Milled
Drill hole B for TNWIIC } Conn. to FS - TSWIIC
Drill hole B for TSWIIC } Conn. to FS - TNWIIC
Knock out rivets - remove & ret. Shop Rivets FS.
Click two holes N.S. in plate & redrive rivets with lacing in place.
Drill two new holes in plate & drive rivets.
Knock out rivet, plate lacing and redrive.
Drill two holes 1⅛ in main angles, place lacing and drive one rivet.
Open Holes FS. - TNEIIC - TSEIIC
Shop Rivets FS. - TNWIIC - TSWIIC
Holes FS. - TNEIIC - TSEIIC
Open holes on South face of southwest column
Shop Rivets for other points
Gusset Pl. ⅜ - 8'-8" - 1 - cod
Finish all edges
Drill holes and drive rivets with lacing in place
Knock out rivets and redrive with lacing in place
Drill new holes 1⅛" & place lacing and drive rivets
Gusset Pl. cod
2-Bars 5 - ⅞ x 4'-1 - ccm
2 - do do x 4'-12 - ccp
1 - Fill do x 0'-5 - ccb } Weld to
1 - do do x 0'-5 - ccr } bars
Web Line
TNWII
TSEII
TSWII
Drain pipe
Date
Revision
Job #
APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Dec. 4-9-34
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Columns — Bent EII
ATLANTIC-MARSHALL CORPORATION
Scale
DRAWING ROOM
Stockton
WORKS
TRACED BY
CHECKED BY
CT 192832 - Alterations
CONTRACT CR 15002
SHEET
Cut on this line and paste to sheet # R-34


Sect F-F
Sect G-G
D51
Section F-F
Section G-G
D50-For Sect F-F
D50N-For Sect G-G
D51-For Sect F-F
D51N-For Sect G-G
Milled
Section "A-A"
View "K-K"
Section "B-B" (Shown)
Section "HH" (Opp. Shown)
Section "CC"
View "D-D"
Cap Material
Section XX
View YY
West to Bent G
East to Bent B
Marking Diagram
REQUIRED LIST
View "E-E"
Part not shown same as View "D-D"
APPROVED
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Columns ~ Bent E7
McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton PA.
CONTRACT CR15502
SHEET R35

90-1





No.	Description	Mark	Remarks	Weight each Tons
One	Column	TN10C	Alike	
One	Column	TS10C		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey, Chief Inspector.
RIVETS: 1".
OPEN HOLES: 1 1/16".
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/4" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT. None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents and of built up sheet, and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

Engineer of Design

Bridge Engineer

Chief Engineer

Date 3-11-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

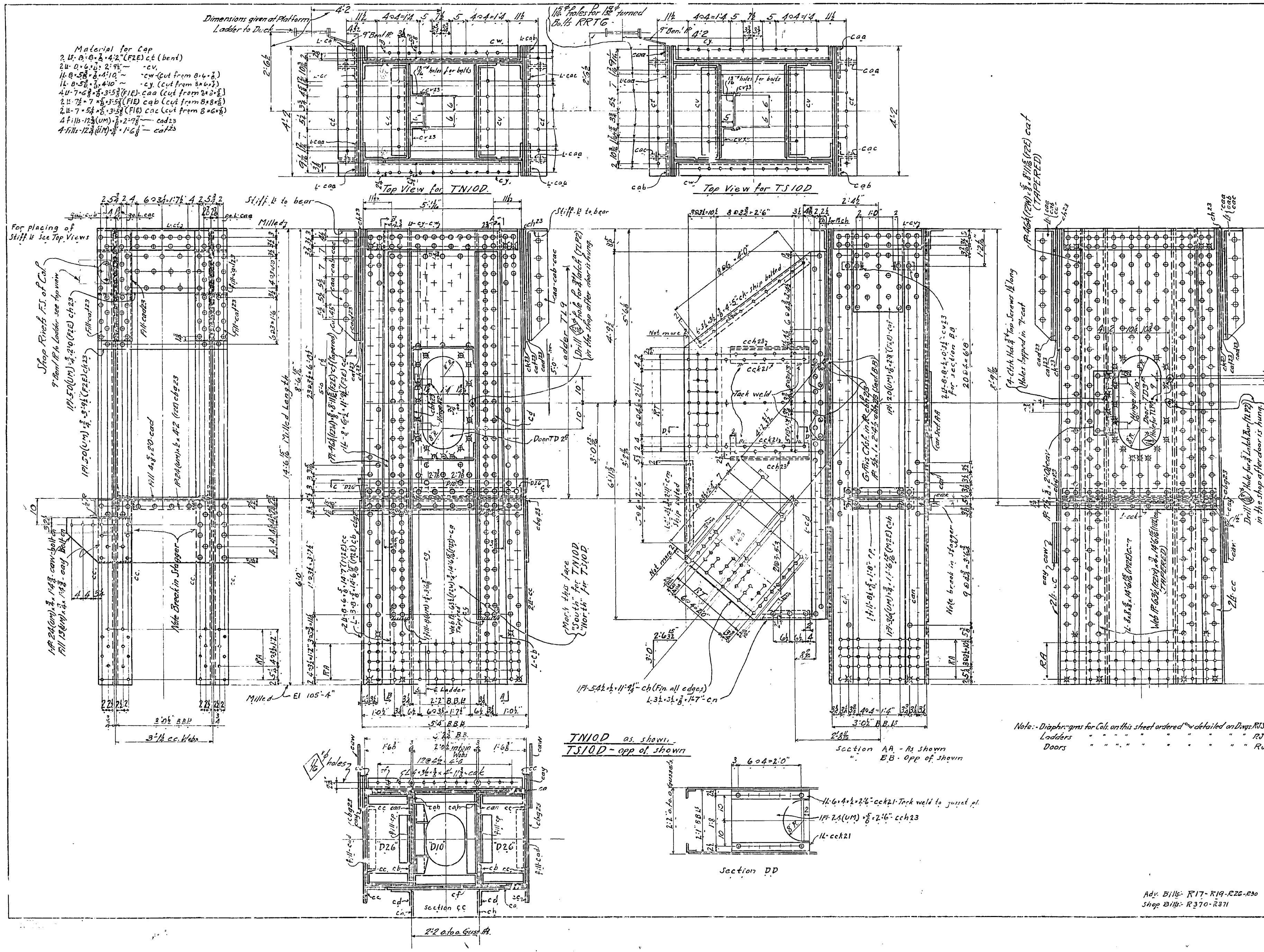
MIDDLE SECTION - BENT #10.

McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS

MADE BY LMU.
CHECKED BY F.R.C.
TRACED BY LMU.
LAST ASSEM. MK. CV

CONTRACT OR15802 SHEET R36

Adv. Bill - R26
Shop Bill # R360



Note:- Diaphragms for Cols. on this sheet ordered & detailed on Dwgs. RJ51-RJ53
Ladders " " " RJ55
Doors " " " RJ56

Adv. Bills R17-R19-R26-R30
Shop Bills R370-R371

No.	Description	Mark	Remarks	Weight each Tons
One	Col. Section	TN10D	As Shown	
One	" "	TS10D	Opp. of Shown	

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey, chief Inspector
RIVETS: 1"
OPEN HOLES: 1 1/16" except as noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat Ne-Ox-Id Filler Red for base and cap plates of Towers of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

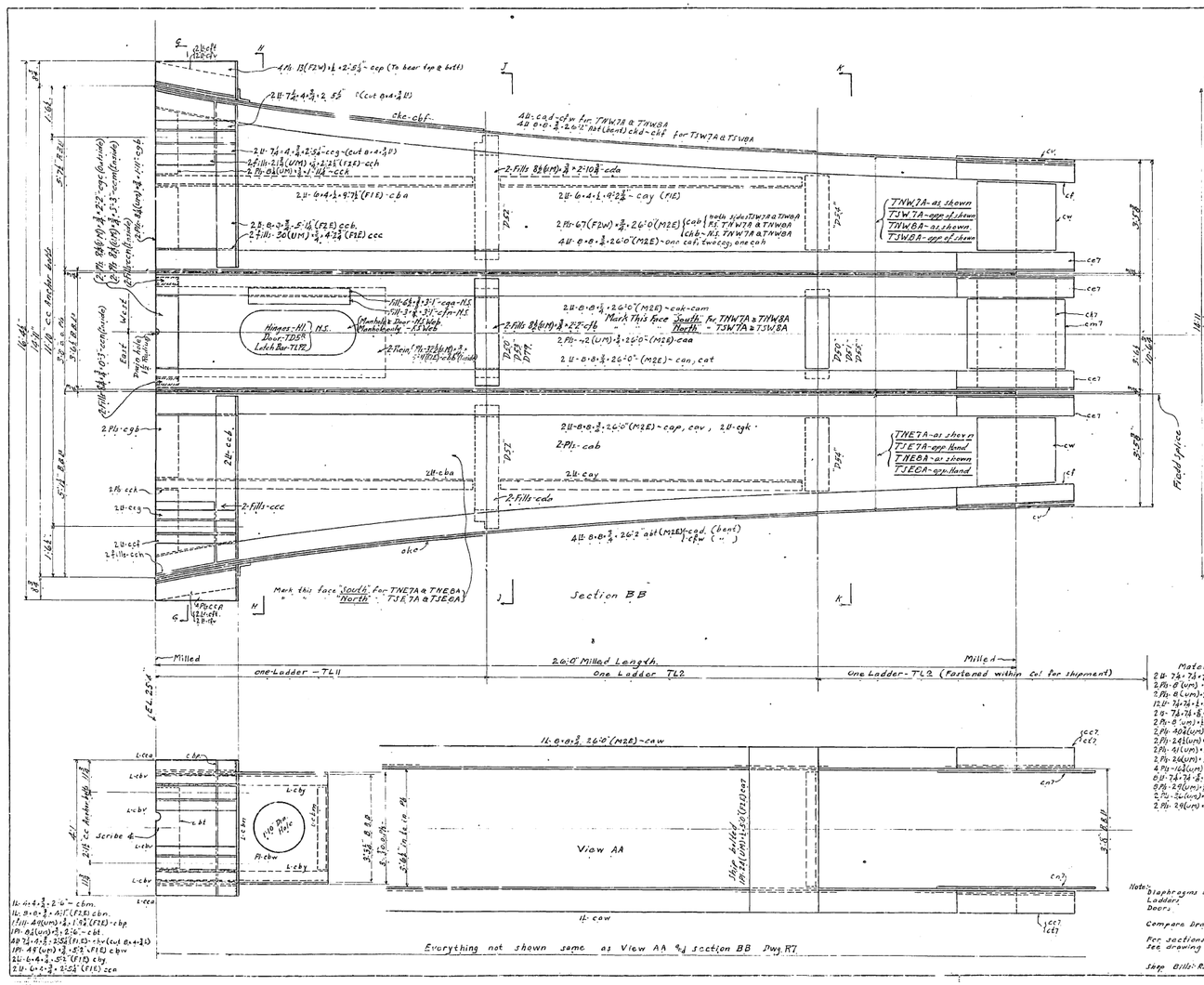
APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 3-9-34

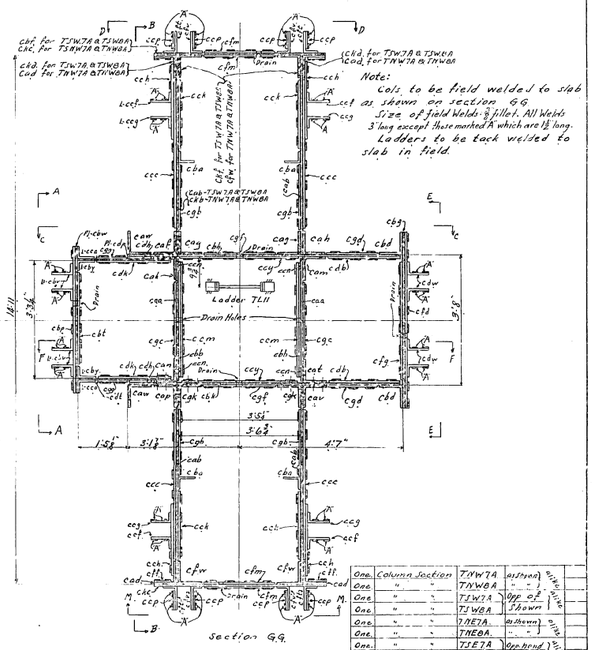
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Top Section of Column-Bent E10

[illegible]INTIC-MARSHALL CORPORATION
STEELTON DRAWING ROOM — STEELTON WORKS

IN CHARGE
CHECKED BY C.S.W. 1/31/34
LAST ASSEM. MK. cay
MADE BY TRP
TRACED BY TRP 1-30-34

CONTRACT CR15802 — SHEET R37





No.	Description	Mark	Remarks	Weight each Total
One.	Column Section	TNW7A	as shown	
One.	" "	TNW8A	" "	
One.	" "	TJW7A	Opp. of TNW7A	
One.	" "	TJW8A	" " TNW8A	
One.	" "	TJE7A	as shown	
One.	" "	TNE8A	" "	
One.	" "	TJE7A	Opp. hand of TNE7A	
One.	" "	TJE8A	" " TNE7A	

REQUIRED LIST

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 4-19-34

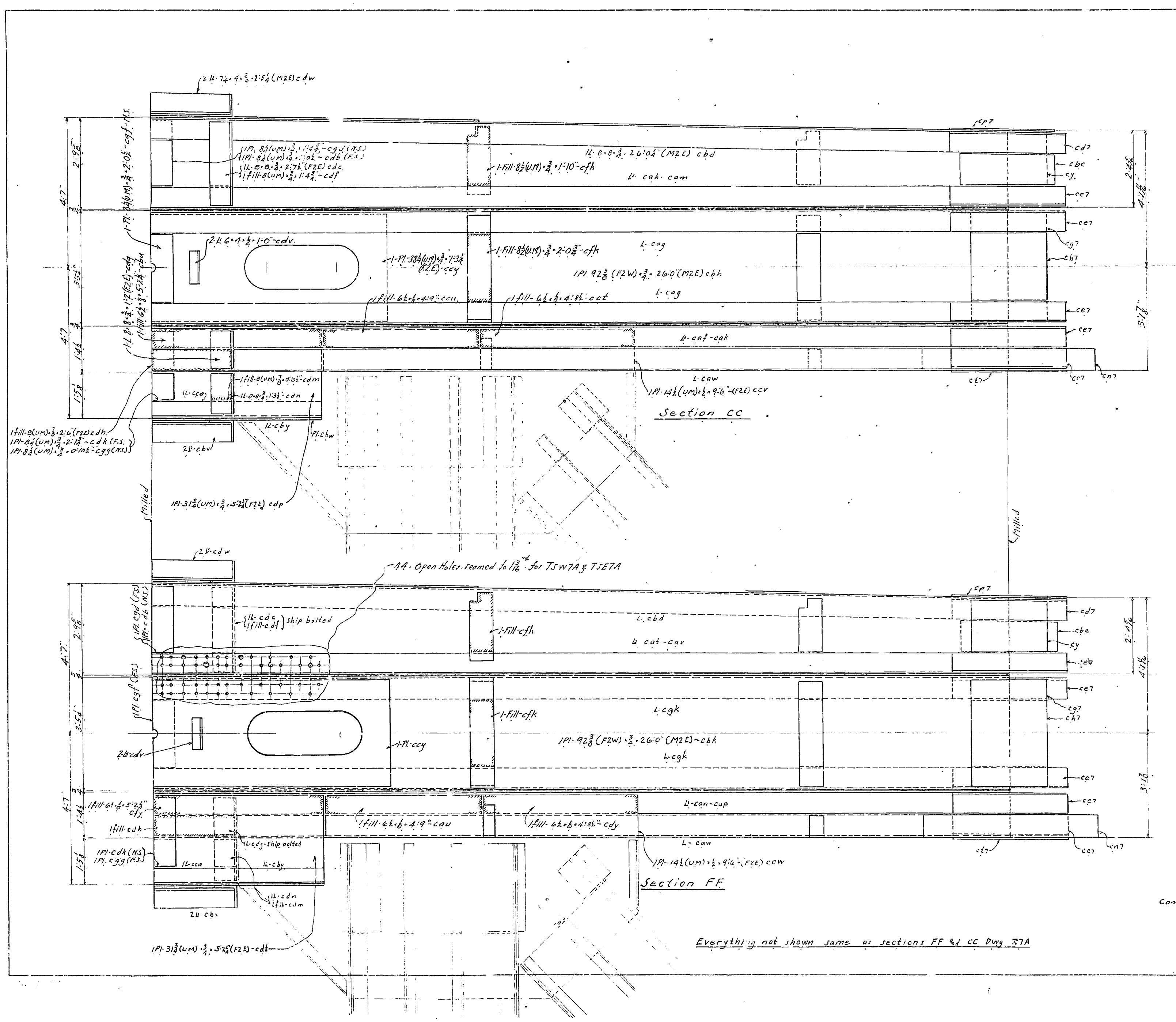
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

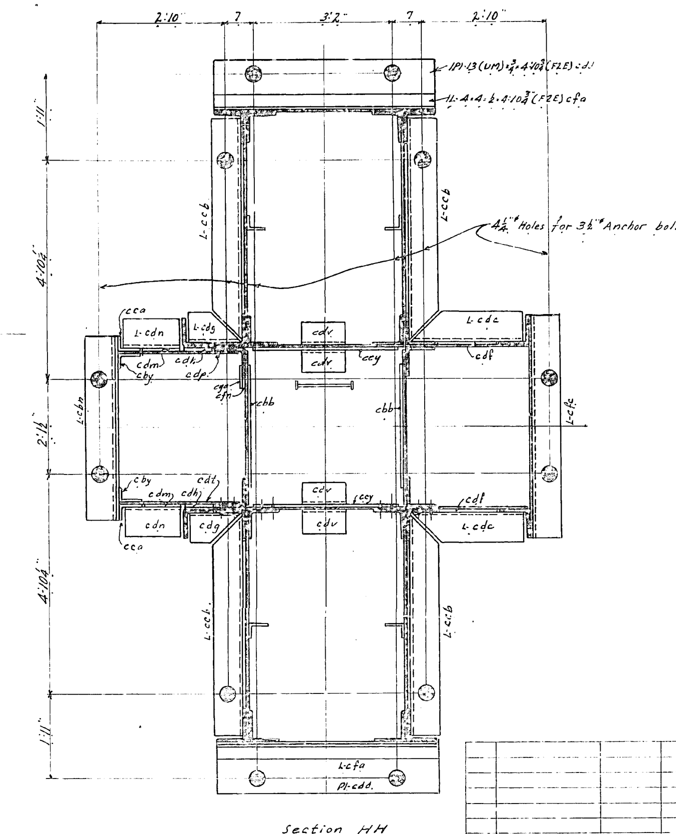
Lower sections of Columns (Bents 7 & 8)

McCLINTIC-MARSHALL CORPORATION
STEELTON DRAWING ROOM STEELTON PA.
TRACED BY Boone CHECKED BY [illegible] APPROVED BY [illegible] DATE 4/16/34 TRACED BY [illegible] DATE 2-8-34
SHOP ASSEMBLY MK. cbf

CONTRACT CR15802 SHEET R38

30-1





No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS: 1"ϕ
OPEN HOLES: 1 1/16"ϕ Unless noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes, and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd
[illegible]	[illegible] 1 5/16"	

APPROVED

Glenn B. Woodruff	Engineer of Design
Chas. E. Andrew	Bridge Engineer
C. H. Purcell	Chief Engineer

Date: 4-19-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE

CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

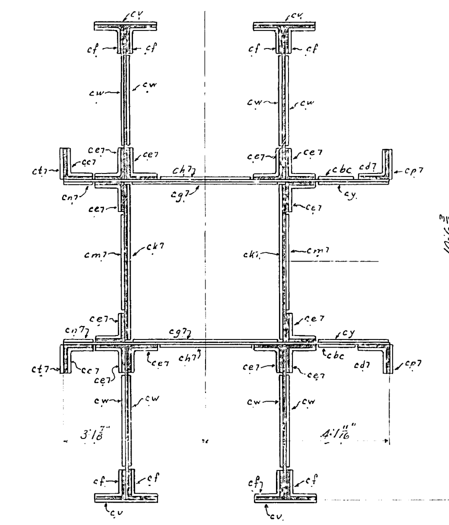
Lower Sections of Columns (Bent 7 3/8)

McCLINTIC-MARSHALL CORPORATION
STEELTON DRAWING ROOM — STEELTON WORKS

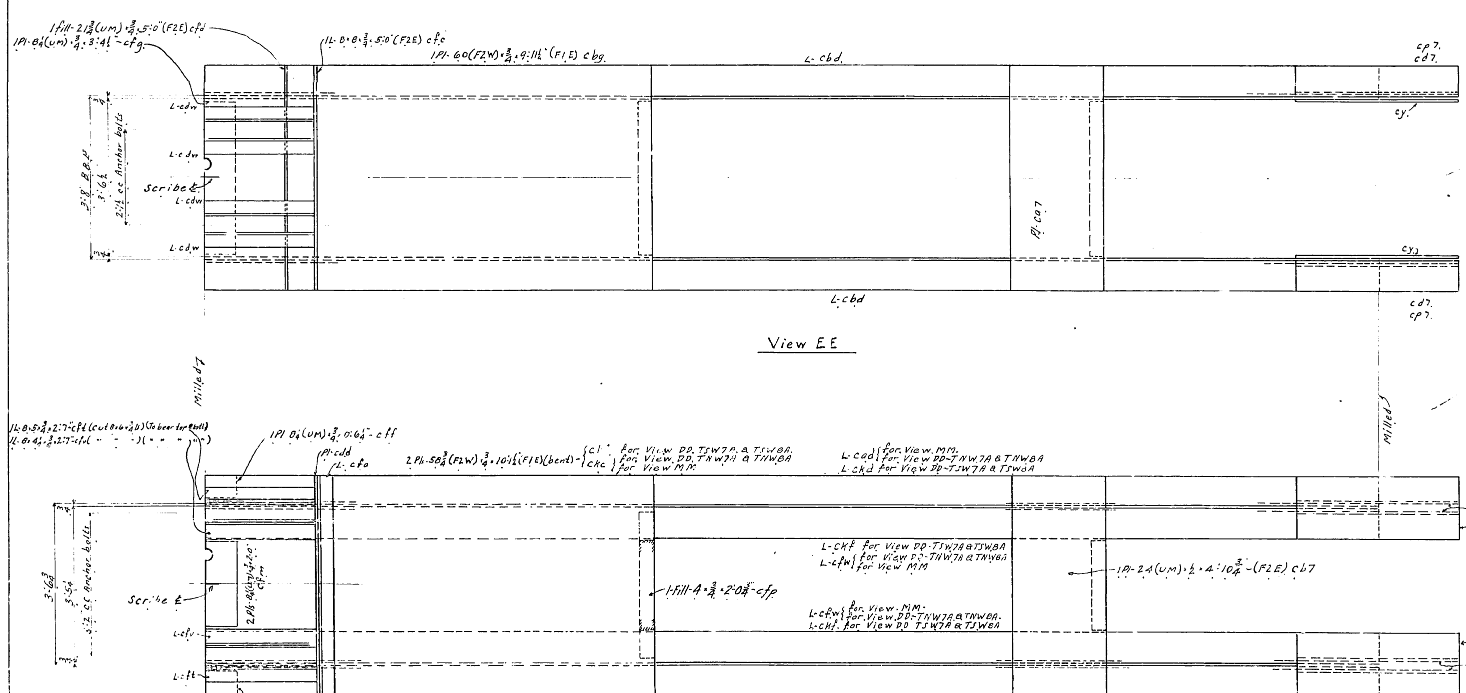
CHARGE Groome — MADE BY TRP
CHECKED BY H.R.C. 2/19/34 — TRACED BY TRP 2-9-34
LAST ASSEM. MK. ckf

CONTRACT CR15602 — SHEET (R38A)

30-1



Section on Splice Line



View EE

Views DD & MM

Everything not shown same as Views DD, EE & MM Dwg R7B

Compare Dwgs {R38, R38A, R38B} to {R7, R7A, R7B}

No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS: 1"⌀
OPEN HOLES: 1 1/16"⌀ unless noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes, and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are then riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

Engineer of Design

Bridge Engineer

Chief Engineer

Date: 4-19-34

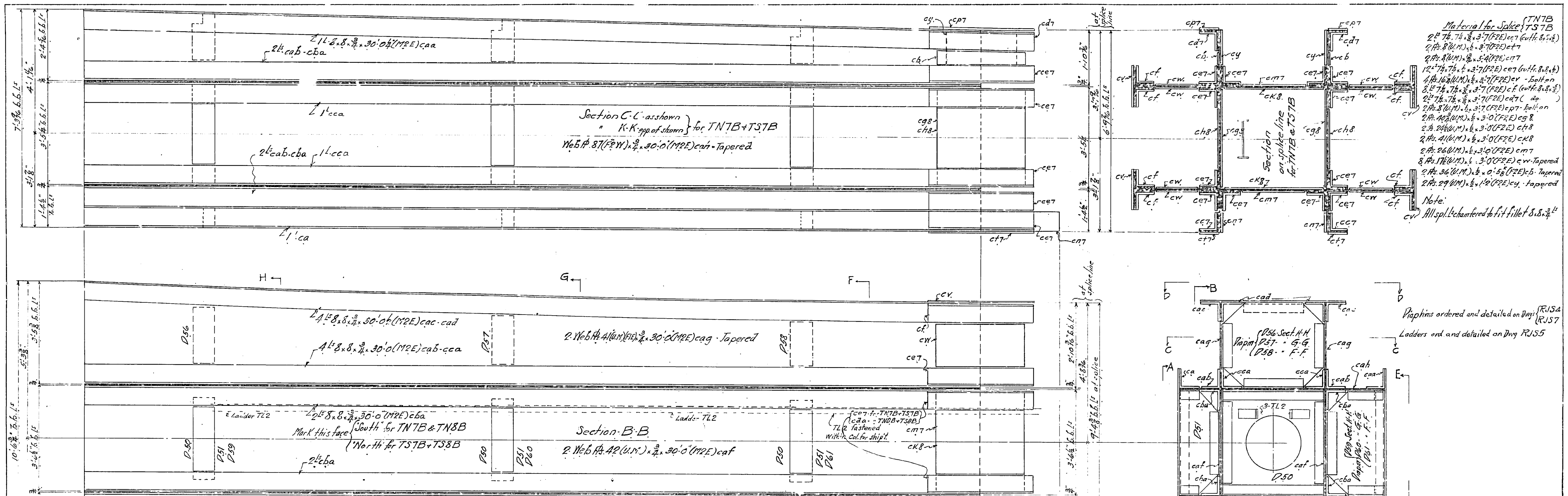
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

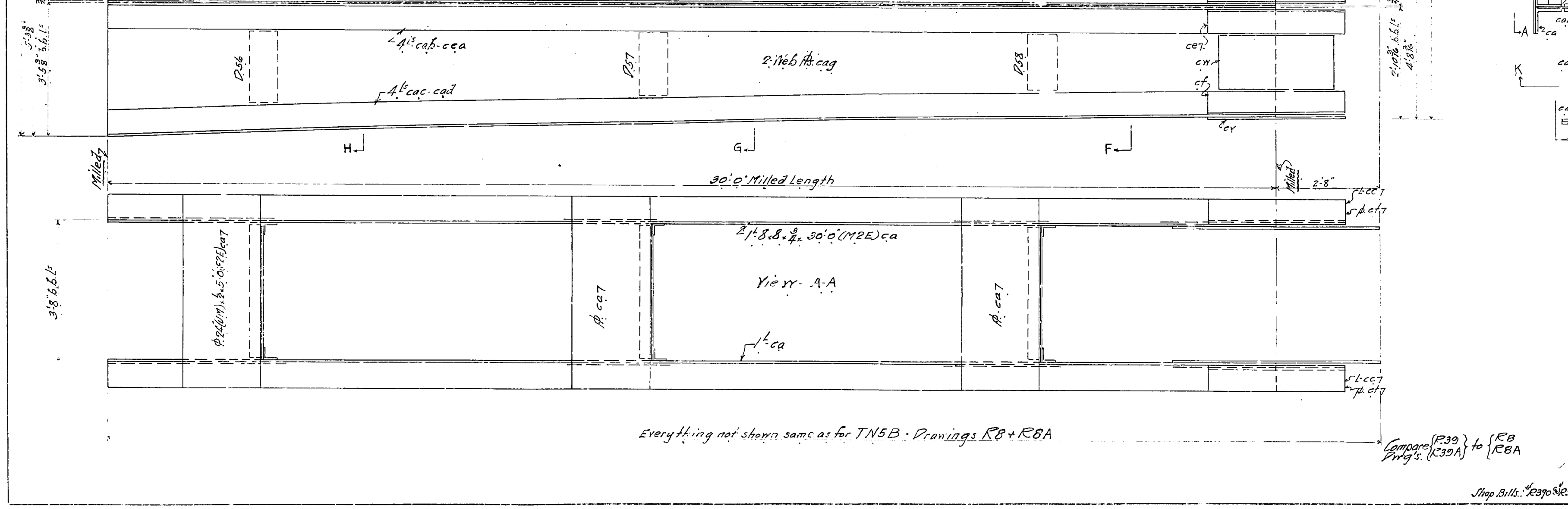
Lower Sections of Columns (Bents 7 & 8)

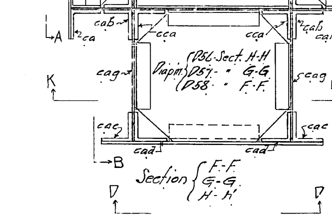
…CLINTIC-MARSHALL CORPORATION
STEELTON DRAWING ROOM STEELTON WORKS

IN CHARGE Boone
CHECKED BY ERC 4/19/34
LAST ASSEM. MK. ckf
MADE BY T.R.P.
TRACED BY T.R.P.

CONTRACT SR 15602 SHEET R38B







No.	Description	Mark	Remarks	Weight each Tons
One	Col. Sect.	TN7B	shown	
One	do.	TS7B	opp. of shown	
One	do.	TN8B	shown	
One	do.	TS8B	opp. of shown	

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey Chief Insp.
RIVETS: 1"ϕ
OPEN HOLES: 1 1/16"ϕ
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ½" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-id Filler Red to base and cap plates of Towers, of Bents, and of built up shoes, and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

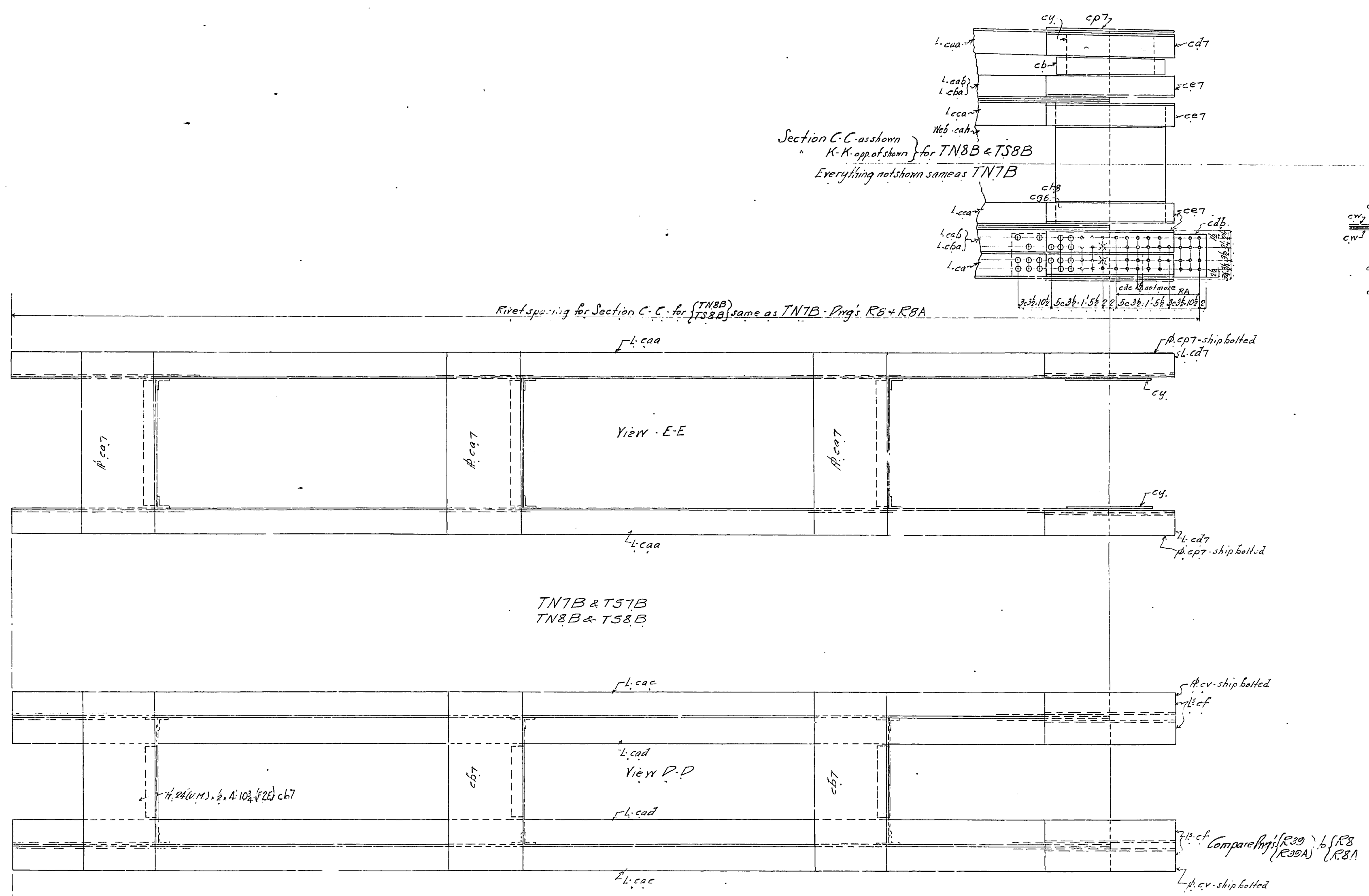
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 4-11-34

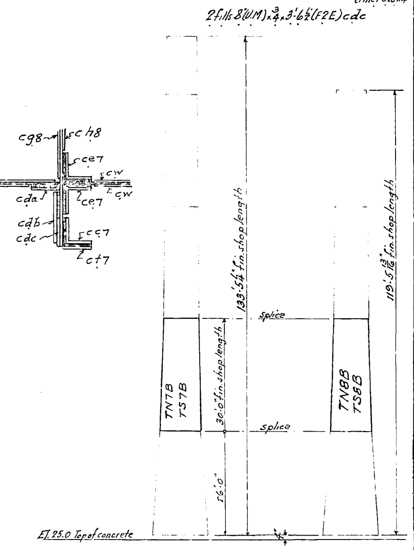
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Intermediate Sect. of Cols. Bents 7 + 8

McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS

IN CHARGE Boone
CHECKED BY F.R.C. 3/6/34
LAST ASSEM. MK. cdc
MADE BY } G.H.
TRACED BY }

CONTRACT CR15902
SHEET R39





Splice Material for - TN8B + TS8B

2 Ls. cc7
2 Pls. ct7
10 Ls. ce7
4 Pls. cv - bolt on
8 Ls. cf
2 Ls. cd7
2 Pls. cp7 - bolt on
2 Pls. cg8
2 Pls. ch8
2 Pls. ck8
2 Pls. cm7
8 Pls. cw
2 Pls. cb
2 Pls. cy
2 Pls. 14"(U.M.) x 3/4 x 5'-4"(F2E) cdb
2 Pls. 7 1/4"(U.M.) x 3/4 x 3'-7"(F2E) cda {Grind to fit fillet 8x8x3/4}
2 fills 8"(U.M.) x 3/4 x 3'-6 1/2"(F2E) cdc

No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS:
OPEN HOLES:
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

Engineer of Design
Bridge Engineer
Chief Engineer
Date: 4-2-34

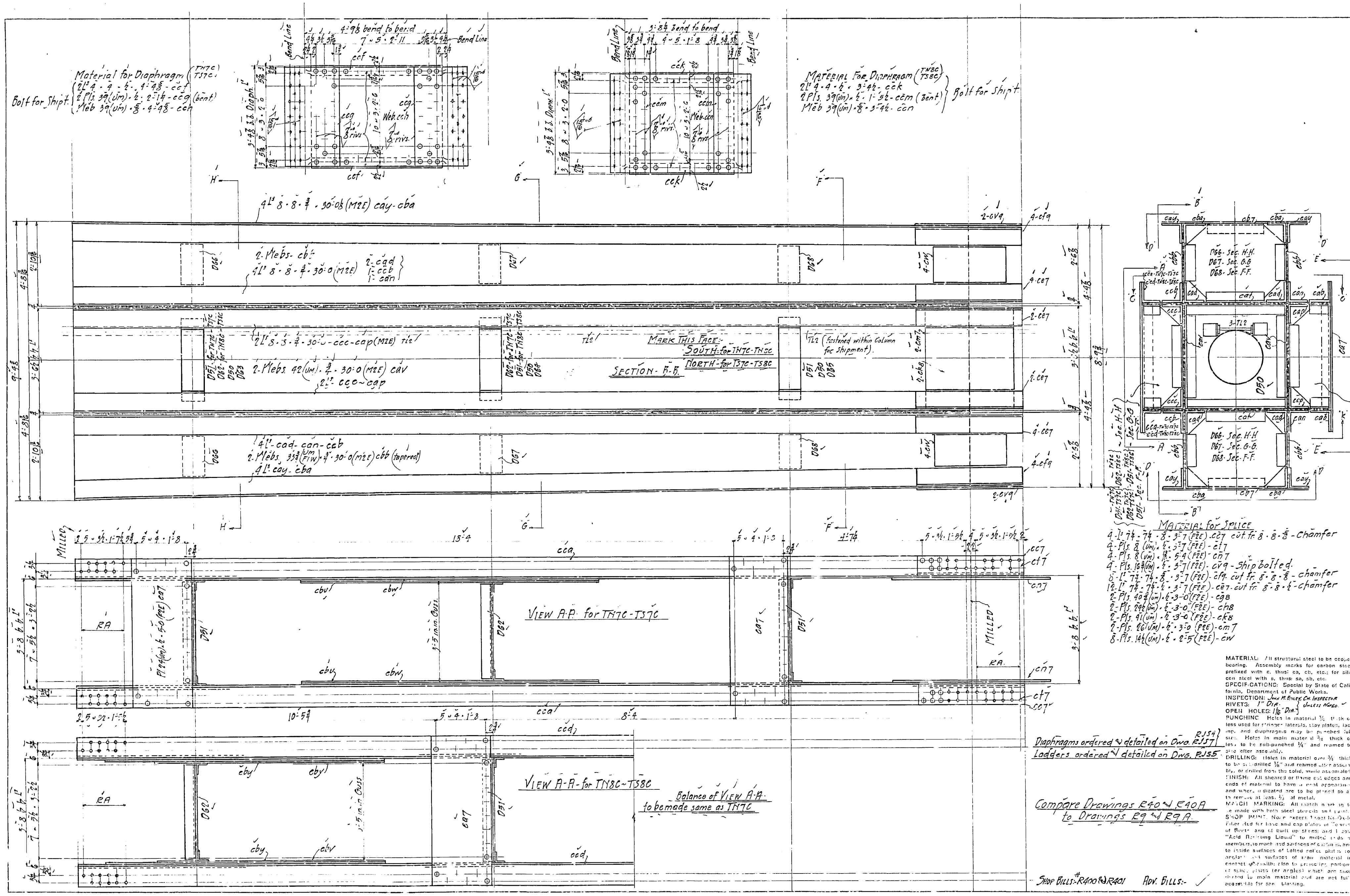
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

Intermediate Sect. of Col. - Bents 7 + 8

McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS
IN CHARGE Boone
CHECKED BY F.R.C. 3/7/34
LAST ASSEM. MK. c/c
MADE BY } TRACED BY } G.H.

CONTRACT CR15802
SHEET R39A

30-1



No.	Description	Mark	Remarks	Weight each Tons
ONE	Column Section	TN8C	Shown	
ONE	Do	Do	TS8C	Opp. of Shown	
ONE	Do	Do	TN7C	Shown	
ONE	Do	Do	TS7C	Opp. of Shown	

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey, Ch. Inspector
RIVETS: 1" Dia. } Unless Noted.
OPEN HOLES: 1 1/16" Dia. }
PUNCHING: Holes in material 3/4 thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4 thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4 thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8 of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Oxide Filler Red for base and cap plates of Towers, of Bents and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 4-11-34

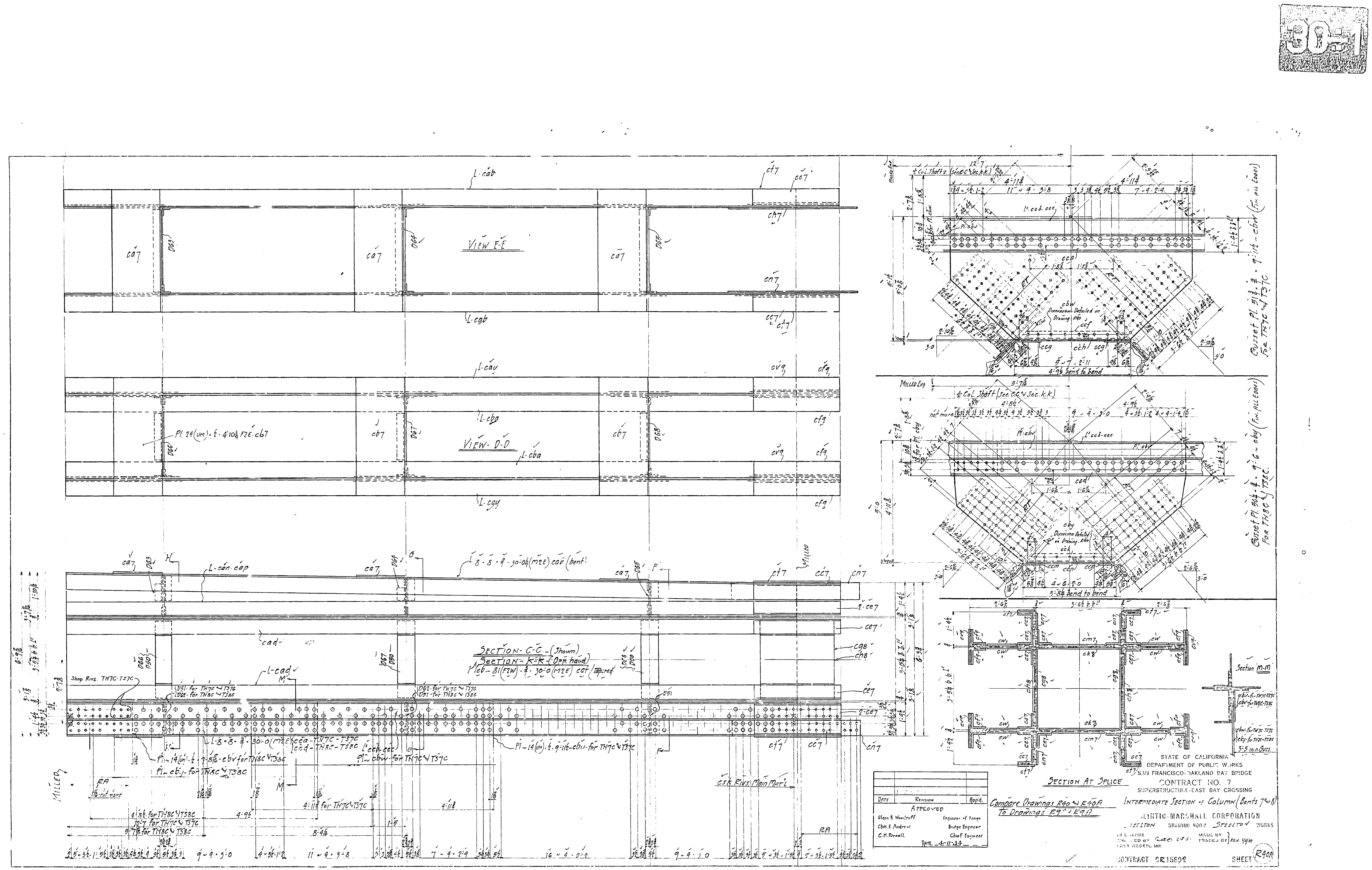
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

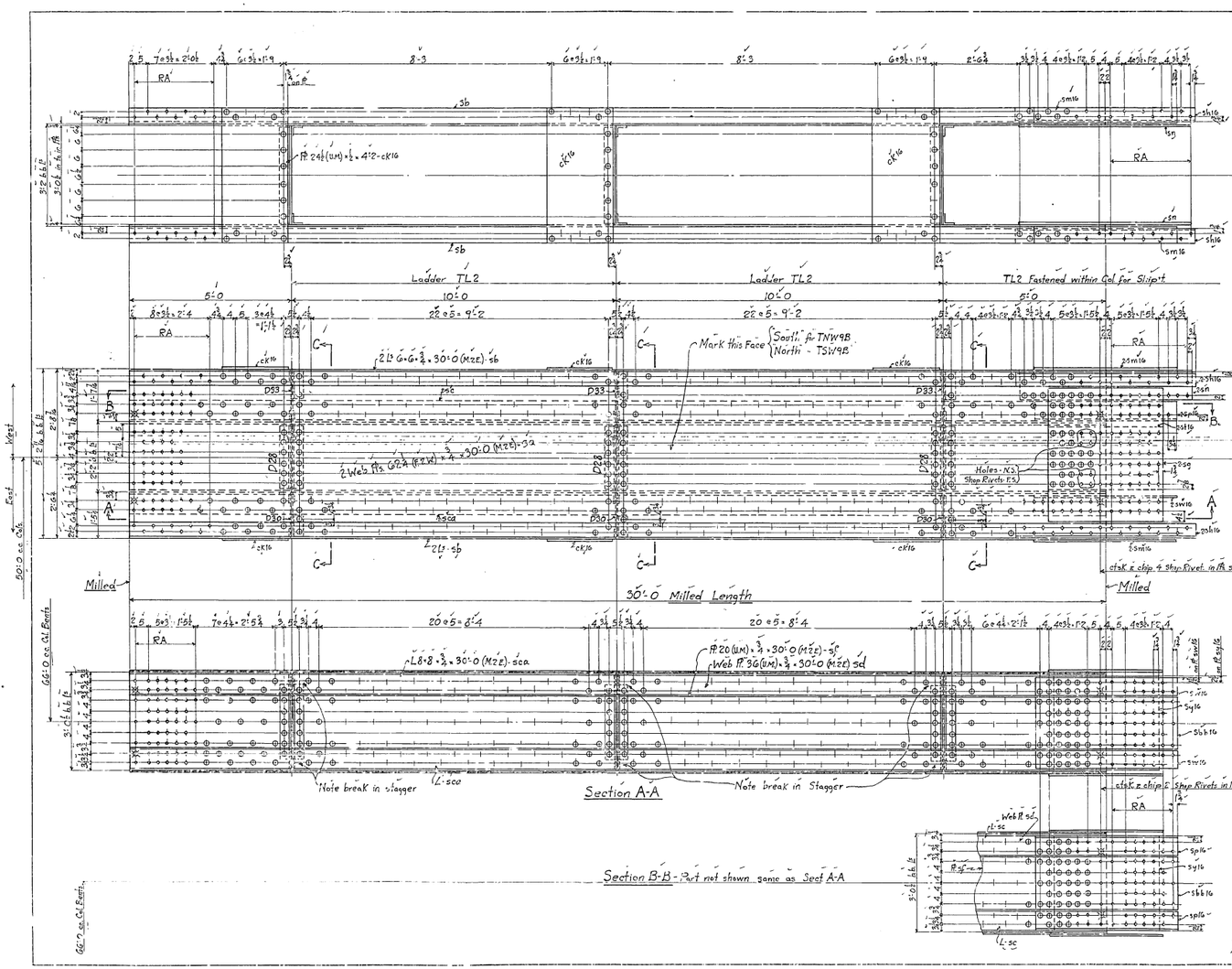
INTERMEDIATE SECTION of COLUMN - BENTS 7 & 8

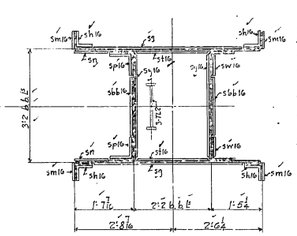
...NTIC-MARSHALL CORPORATION
STEELTON DRAWING ROOM STEELTON WORKS
IN CHARGE
CHECKED BY E.A.H. 2-5-34 MADE BY } TRACED BY } R.G.H.
FIRST ASSEM. BY

Shop Bills: R400 & R401 Adv. Bills:- ✓

CONTRACT CR15802 SHEET R40


30-1
VIEW F-F
VIEW D-D
SECTION C-C (Shown)
SECTION K-K (Opp. hand)
SECTION AT SPLICE
Compare Drawings R40 & R40A
To Drawings R9 & R9A
APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C.H. Purcell. — Chief Engineer
Date 4-11-34
Date | Revision | App'd.
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Intermediate Section of Column (Bents 7 & 8)
DRAWING ROOM STEELTON WORKS
TRACED BY R.G.H. 1/8/34
CONTRACT CR15892
SHEET R40A





Splice Material

2 Pl 74 × 7½ × ⅝ × 4'-6½ (F2E) - sp16 (chamfer) (outside)
4 L 6½ × 6½ × ⅝ × 8'-1½ (F2E) - sh16 (chamfer) (outside)
2 Pl 42½(BM) × ½ × 4'-2½ (F2E) - sg
2 Pl 36 (BM) × ½ × 3'-2½ (F2E) - sg16
2 Pl 24 (BM) × ⅝ × 3'-6½ (F2E) - st16
2 Pl 20 (BM) × ⅝ × 1'-6½ (F2E) - sbb16
2 Pl 11 (UM) × ⅞ × 5'-5 (F2E) - sn
2 Pl 6½ (UM) × ⅝ × 4'-6½ (F2E) - sw16
4 Pl 6 (UM) × ½ × 4'-6½ (F2E) - sm16

D28 - Detailed & Ordered on Sh. RJ59.
D30 - " " " Sh. RJ59.
D33 - " " " Sh. RJ59.

Ladders detailed & ordered on Sh. RJ58

Opp	Column	TNW9B	As Shown	
One	"	TSW9B	Opp. Hand	

No.	Description	Mark	Remarks	Weight Each Piece
REQUIRED LIST				

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey - Chief Inspector
RIVETS: ⅞"
OPEN HOLES: 1⅛"
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, splices, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ⅛" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where end area is to be plowed so as to remove at least ½" of a chip.
MATCH MARKING: All match marking to be done with cold steel stencils and punch.
SHOP PRINT: None except as noted on Detail Sheets to show end plates of Towers, of Bents, and of built-up shapes, and 1 copy "Acid Resisting Liquid" to mutual check of members to machined bottoms of castings and to end surfaces of bolted splice plates for angles and buffer ends of main material in contact therewith; also to inspecting portions of splice plates for original values and shop invisible to main material and are not fully accessible for sand blasting.

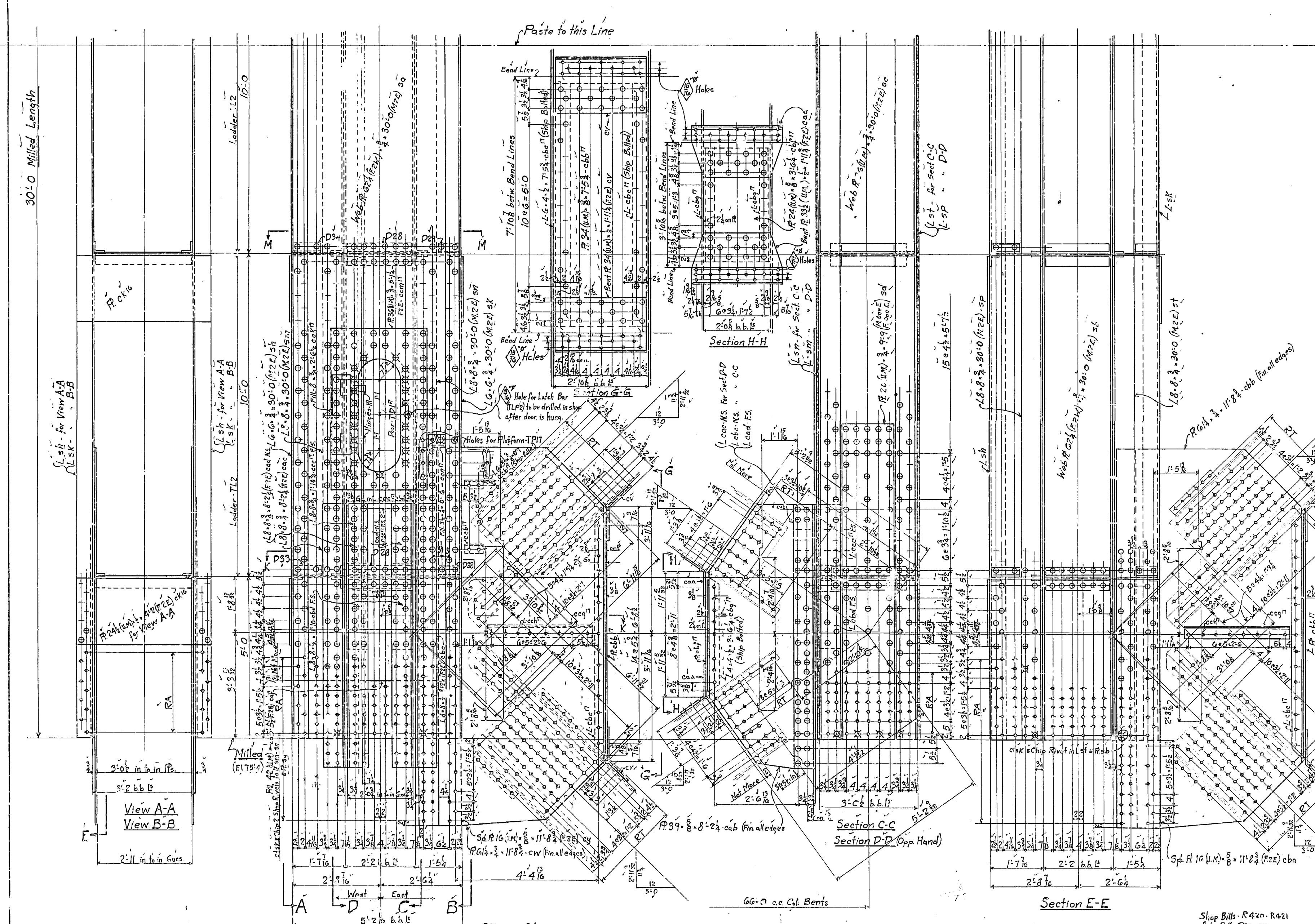
Shop Bill - K-810
Adv Bill - R22 - R23

Date	Revision	Init

APPROVED

(John P. [illegible]) Engineer of Design
(C[illegible] Parker) Bridge Engineer
([illegible]) Chief Engineer
Date 3-16-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Intermediate Section of Cols. - Bent 9
LINTIC-MARSHALL CORPORATION
Steelton DRAWING FROM Steelton WORKS
IN CHARGE [illegible] MAD BY W.O.O. 2-7-34
CHECKED by C.H.B. TRACED BY
LAST ASSEM. MK. 11
CONTRACT OR 15802 SHEET R41



Note:

This Drawing to be worked in conjunction with Dwg. R17 and R17A.

Punching in TNW9C - TSW9C same as for TNE9C - TSE9C on Dwg R17 and R17A, except as noted.

Platform TP17 detailed on Sh. R17 -
Ladders detailed & ordered on Sh. RJS5.
Doors, Latch Bars and Hinges for Columns on this sheet detailed & ordered on Sh. RJS6.

No.	Description	Mark	Remarks	Weight each Tons
One	Column	TNW9C	As Shown	
One	"	TSW9C	Opp. Hand	

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey - Chief Inspector
RIVETS: 1" - 1"
OPEN HOLES: 1 1/16, except as noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	Appd.
[illegible]	[illegible]	

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 4-9-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

Intermediate Section of Cols - Bent E9

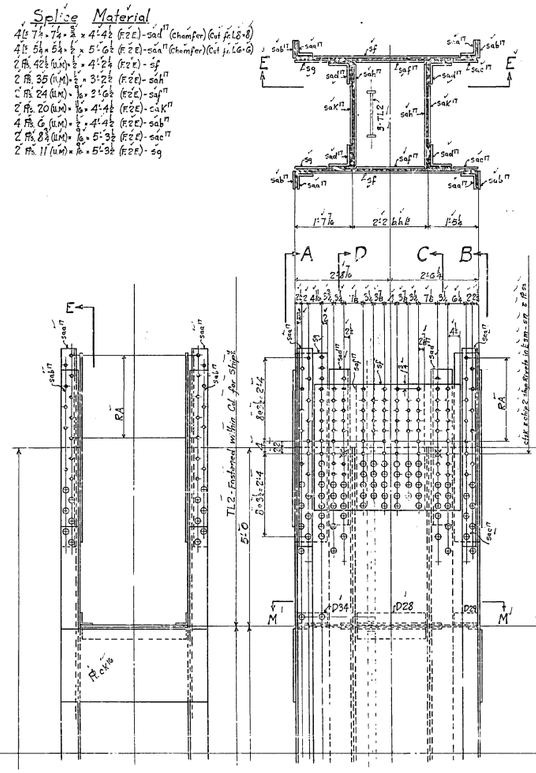
[illegible]NTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS

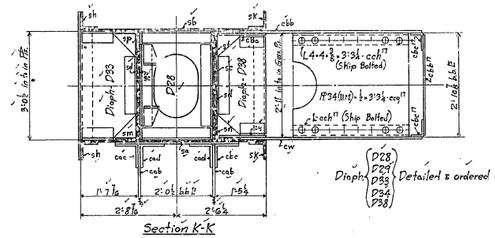
IN CHARGE
CHECKED BY Gals 2-23-34
LAST ASSEM. MK. af
MADE BY W. O. W. 2-13-34
TRACED BY

CONTRACT CR 15802 SHEET R42

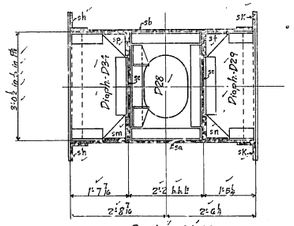
Splice Material

4 Pl. 7¾" × ⅞" × 4'-4½" (F2E) - 2sa1" (chamfer) (Cut fr. L6-8)
4 Pl. 5¾" × ⅝" × 5'-6½" (F2E) - 2sa1" (chamfer) (Cut fr. L6-9)
2 Pl. 42½" (u.m.) × ½" × 4'-2½" (F2E) - sf
2 Pl. 35" (u.m.) × ½" × 3'-2½" (F2E) - 2sh1"
1 Pl. 24" (u.m.) × ½" × 2'-0½" (F2E) - 2sf1"
2 Pl. 20" (u.m.) × ½" × 1'-4½" (F2E) - 2sk1"
4 Pl. 6" (u.m.) × ½" × 1'-4½" (F2E) - 2sb1"
2 Pl. 8¾" (u.m.) × ½" × 5'-3½" (F2E) - 2sc1"
2 Pl. 11" (u.m.) × ½" × 5'-3½" (F2E) - 2sg





Diaph. D28, D29, D33, D34, D38 } Detailed & ordered on Jk. RJ59.



Date	Revision	Appr'd

APPROVED

Glenn B. Woodruff	Engineer of Design
Chas. E. Andrew	Bridge Engineer
C. H. Purcell	Chief Engineer

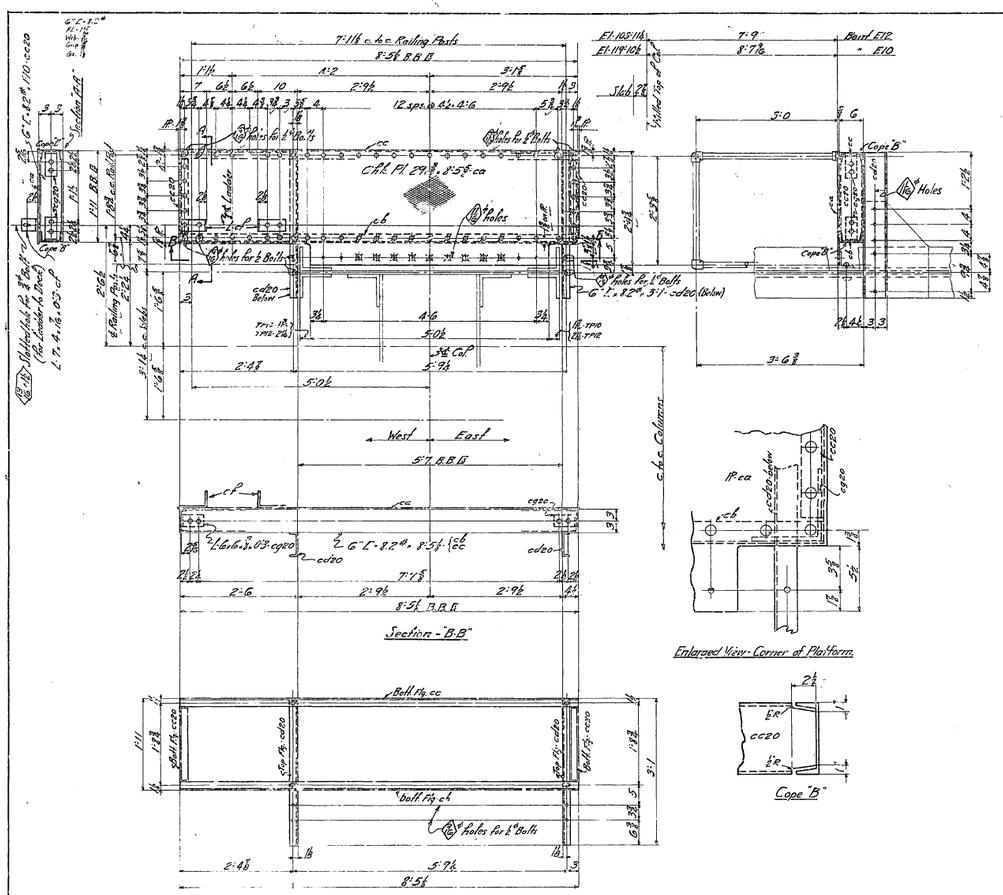
Date: 3-16-38.

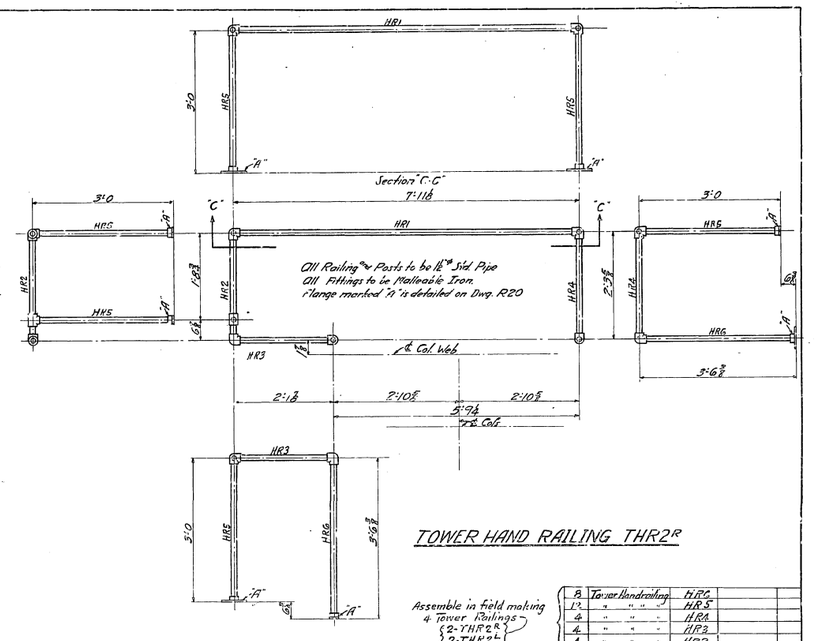
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

M ANTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS

IN CHARGE
CHECKED BY
LAST ASSEM. MK
MADE BY
TRACED BY

CONTRACT CR15802 SHEET (P42)





TOWER HAND RAILING THR2R

Assemble in field making 4 Tower Railings { 2-THR2R, 2-THR2L }

Compare with Dwg's R22-24-25 & 46

No.	Description	Mark	Remarks	Weight each item
8	Tower Handrailing	HR6		
12	" " "	HR5		
4	" " "	HR4		
4	" " "	HR3		
4	" " "	HR2		
4	" " "	HR1		
One	Tower Platform	TP12R	Alike	
One	" "	TP10R		
One	" "	TP12L	Alike	
One	" "	TP10L		

REQUIRED LIST

TOWER PLATFORMS TP10R - TP12R

Shop Bill R430

Mk Bill R39

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: CB, CD, etc; for silicon steel with s, thus: SB, SD, etc.
SPECIFICATIONS: Special by Staff of California Department of Public Works
INSPECTION: John M. Bailey, Jr. Inspt.
RIVETS: ⅞"
OPEN HOLES: As noted
PUNCHING: Holes in material ⅝" thick or less void for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material ⅝" thick or less to be sub-punched 1/8" and reamed to size after assembly.
DRILLING: Holes in material over ⅝ thick to be sub-drilled 1/8" and reamed after assembly or drilled from the solid while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat Red Lead Filler Red for base end cap plates of Towers, at Bents and at built up shoes and 1 coat "Acid Resisting Liquid" to milled ends of members to machined surfaces at castings and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact there with, also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	Appd.

APPROVED

Glenn B. Woodruff — Engineer in Charge
Chas. E. Andrews — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 3-10-34

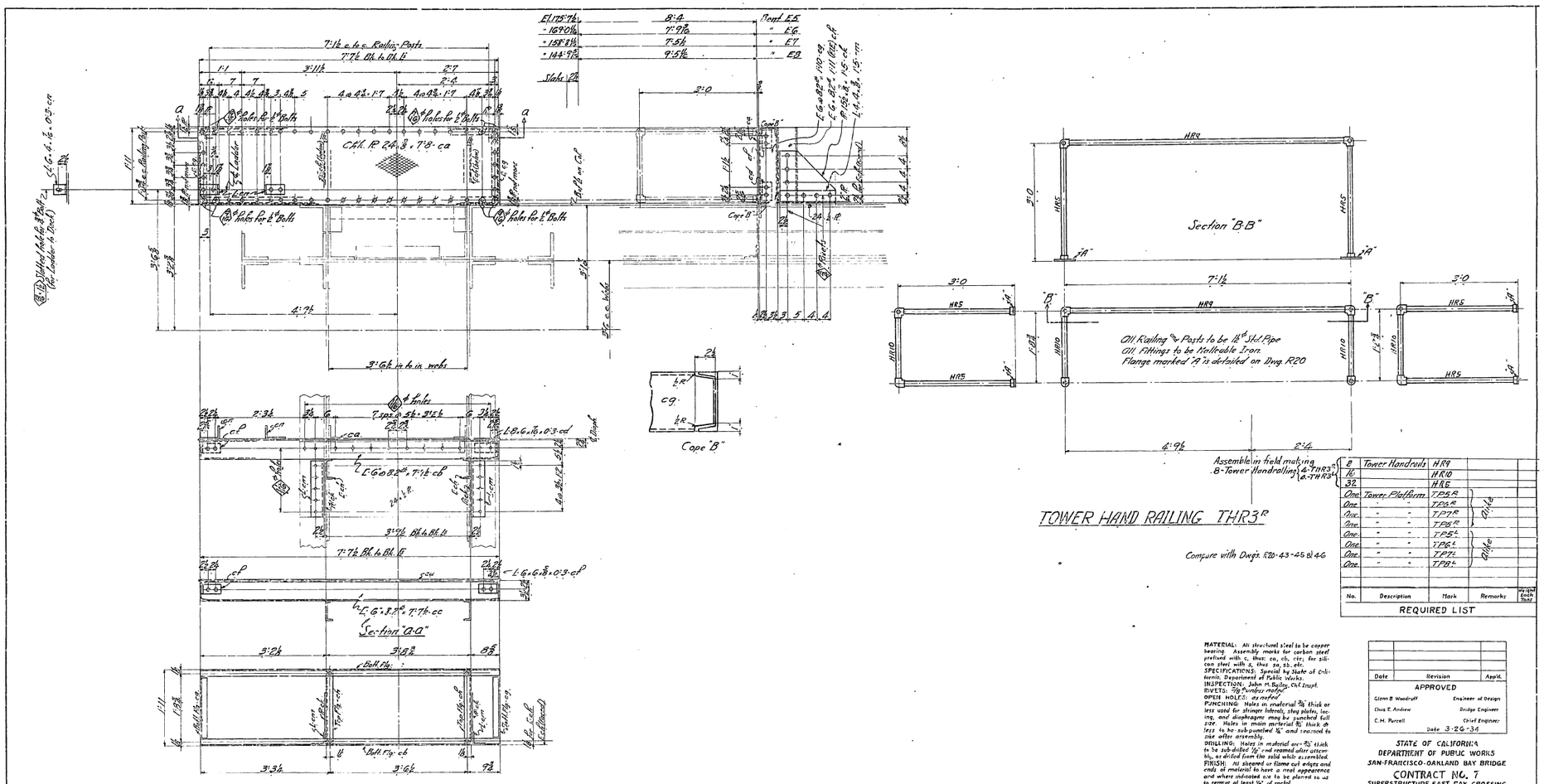
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO OAKLAND BAY BRIDGE
CONTRACT NO. 7.
SUPERSTRUCTURE EAST BAY CROSSING

Detail of Tower Platforms Bents E10 & E12

McCLINTIC-MARSHALL CORPORATION
SELTON DRAWING ROOM — STEELTON WORKS

111 CHAN. C. — MADE BY D.R.B. 2-8-34.
CHECKED BY S.S.B. & J.G. — TRACED BY
LAST ASSEM. MK. CF

CONTRACT CR 15802 — SHEET R45



No.	Description	Mark	Remarks	Wt. Each Piece
2	Tower Handrails	HR9		
16		HR10		
32		HR5		
One	Tower Platform	TP5R		
One	" "	TP6R		
One	" "	TP7R		
One	" "	TP8R		
One	" "	TP5L		
One	" "	TP6L		
One	" "	TP7L		
One	" "	TP8L		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc; for silicon steel with s, thus sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey, Chf Exmpt.
RIVETS: 7/8" Pencil rivets.
OPEN HOLES: as noted.
PUNCHING: Holes in material 7/8" thick or less used for stringer laterals, shop plates, lacing, and diaphragms may be punched full size. Holes in main material 7/8" thick or less to be sub-punched 3/4" and reamed to size after assembly.
DRILLING: Holes in material over 7/8" thick to be sub-drilled 13/16" and reamed after assembly, or drilled from the solid while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with bells steel stencils and paint.
SHOP PAINT: None except I coat No. 1 Red Silver Rust for base and top plates of Towers of Bents and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces, of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also in projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Rev. Bill - R39.
Shop Bill - R440.

Date	Revision	Appvd.

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C.H. Purcell — Chief Engineer
Date 3-26-34

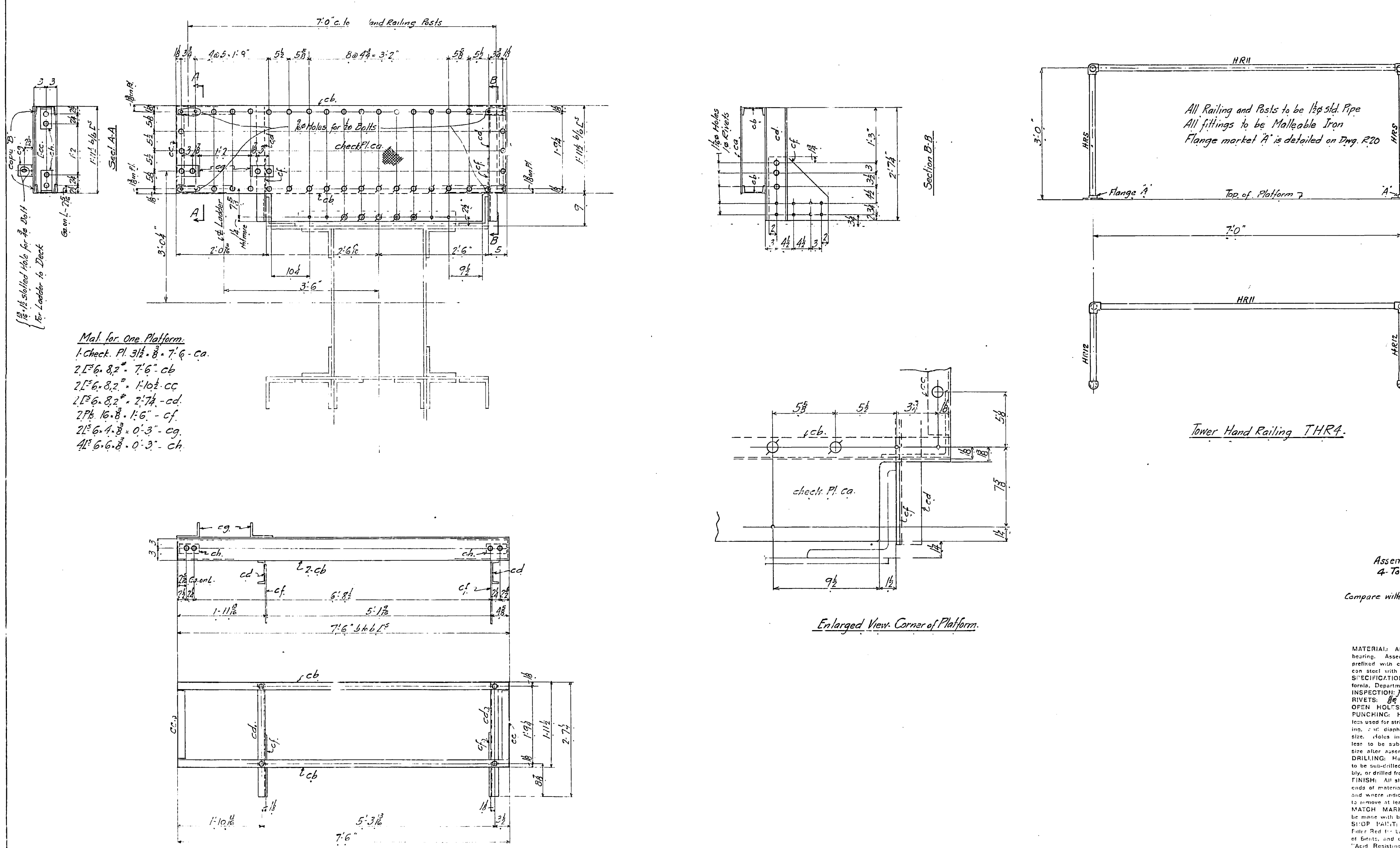
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

Details of Tower Platforms Bents E5 & E6 Ends

McCLINTIC-MARSHALL CORPORATION
...TON DRAWING ROOM STEELTON WORKS

IN CH. IGE. Glenn
CHECKED BY J.R.C. 3/26
LAST ASSEM. MK. CM
MADE BY DRB 3-5-34
TRACED BY

CONTRACT CR1502 SHEET R44



Shop Bill - R 450.
Adv. Bill - E39.

Assemble in field making 4-Tower Handrailing-THR4

Compare with Dwg's. R20-R43-R44 & R46

No.	Description	Mark	Remarks	Weight each Tons
One	Tower Platform	TP4W.R	Alike	
One.	"	TP4E.R		
One.	"	TP4W.L	Alike	
One.	"	TP4E.L		
16	do Handrailing	HR5		
4	do do	HR11		
8	do do	HR12		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey - Chief Inspector
RIVETS: ⅞ø
OPEN HOLES: 15/16ø unless noted
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 3-27-34

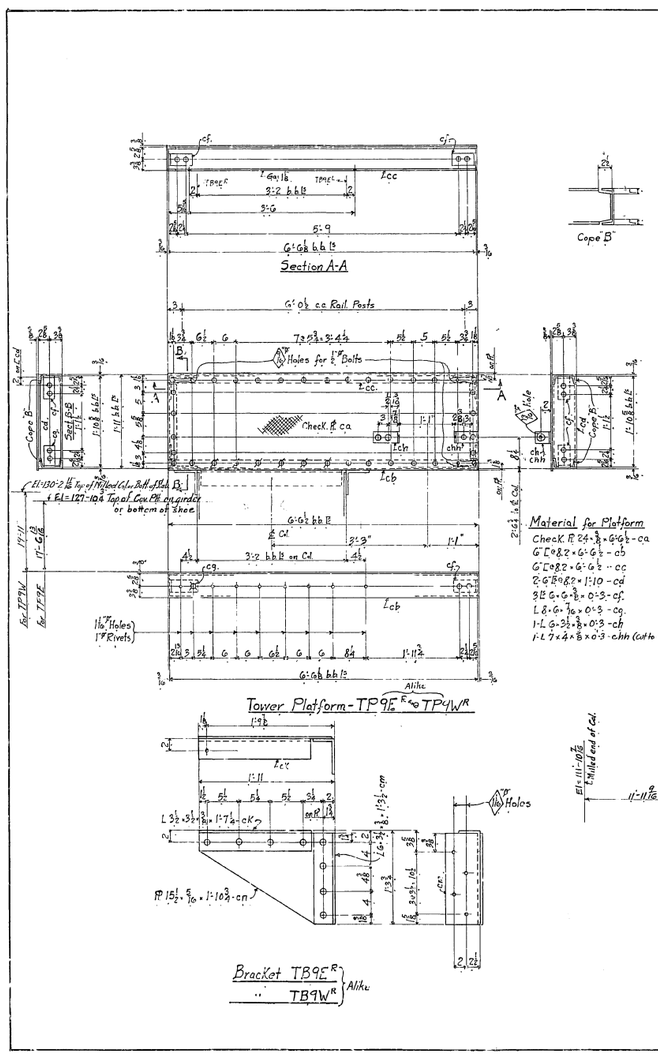
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE EAST BAY CROSSING

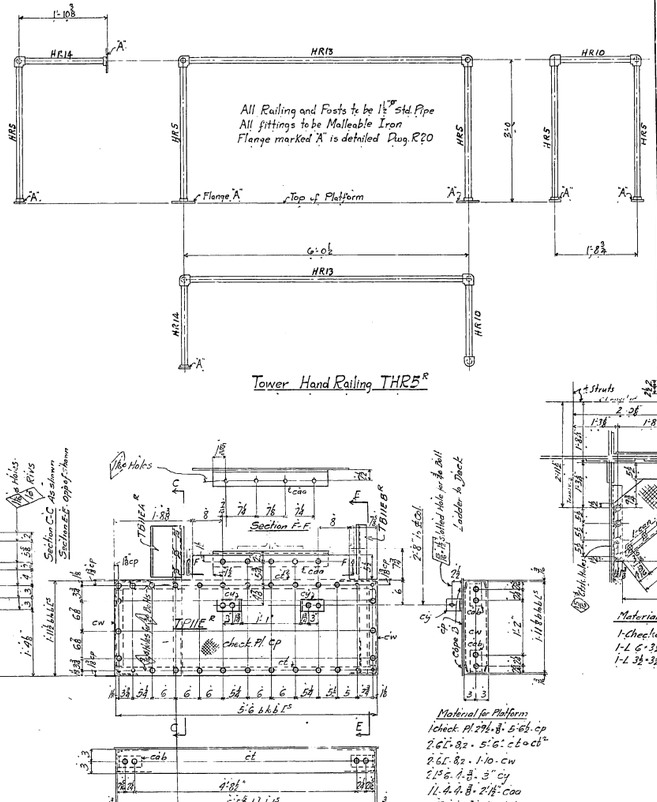
Detail of Tower Platform - Bent E4.

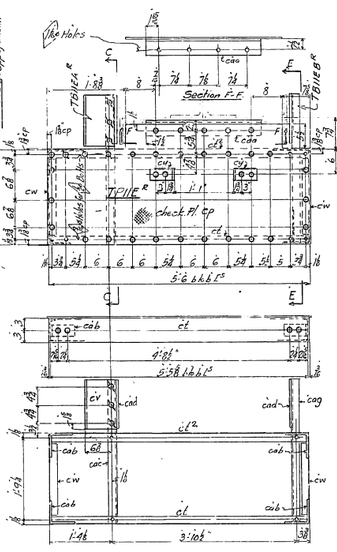
[illegible]TIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS

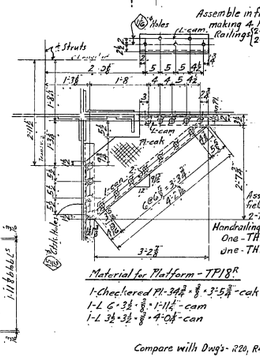
IN CHARGE Boone — MADE BY GL. 3-9-34
CHECKED BY F.R.C. 3/—/34 — TRACED BY
FIRST ASSEM. MK. ch

CONTRACT C° 1580-2 SHEET R45









12	Tower Handrails	HR5	
4	" "	HR10	
4	" "	HR13	
4	" "	HR14	
One	Tower Platform	TP18^R	
One	" "	TP18^L	
One	Tower Platform	TP9E^L	Alike
One	" "	TP9W^L	
One	Bracket	TB11E^R	
One	"	TB11E^L	
One	"	TB11EA^R	
One	"	TB11EA^L	
One	Tower Platform	TP11E^L	
One	"	TP11E^L	
2	Tower Handrail	HR15	
2	" "	HR12	
6	" "	HR5	
One	Tower Platform	TP9E^R	Alike
One	" "	TP9W^R	
2	Brackets	TB9E^R	Alike
2	"	TB9W^R	
2	"	TB9E^L	Alike
2	"	TB9W^L	

No.	Description	Mark	Remarks	Weight

REQUIRED LIST

Compare with Dwg's - R20, R45, R44 & R46

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with a. floor: ca, cb, etc.; for silicon steel with s. floor: sa, sb, etc.
SPECIFICATIONS: Specified by State of California, Department of Public Works
INSPECTION: John M. Bailey - Chief Inspector
RIVETS: ⅞" Ø except as noted.
OPEN HOLES: ⅞" Ø except as noted.
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, floor plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be subpunched ½" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ½" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ¼" of metal.
MATCH MARKING: All marks pertaining to be made with both steel stencils and paint.
SHOP PRINT: Shop copies to be No. 0-11 Filter Red for base and cap plates of Towers, of Struts and of built up shoes, and 1 coat "Arid Resisting Liquid" to milled ends of members, fabricated surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for paint brushing.

Date	Revision		Appd

APPROVED

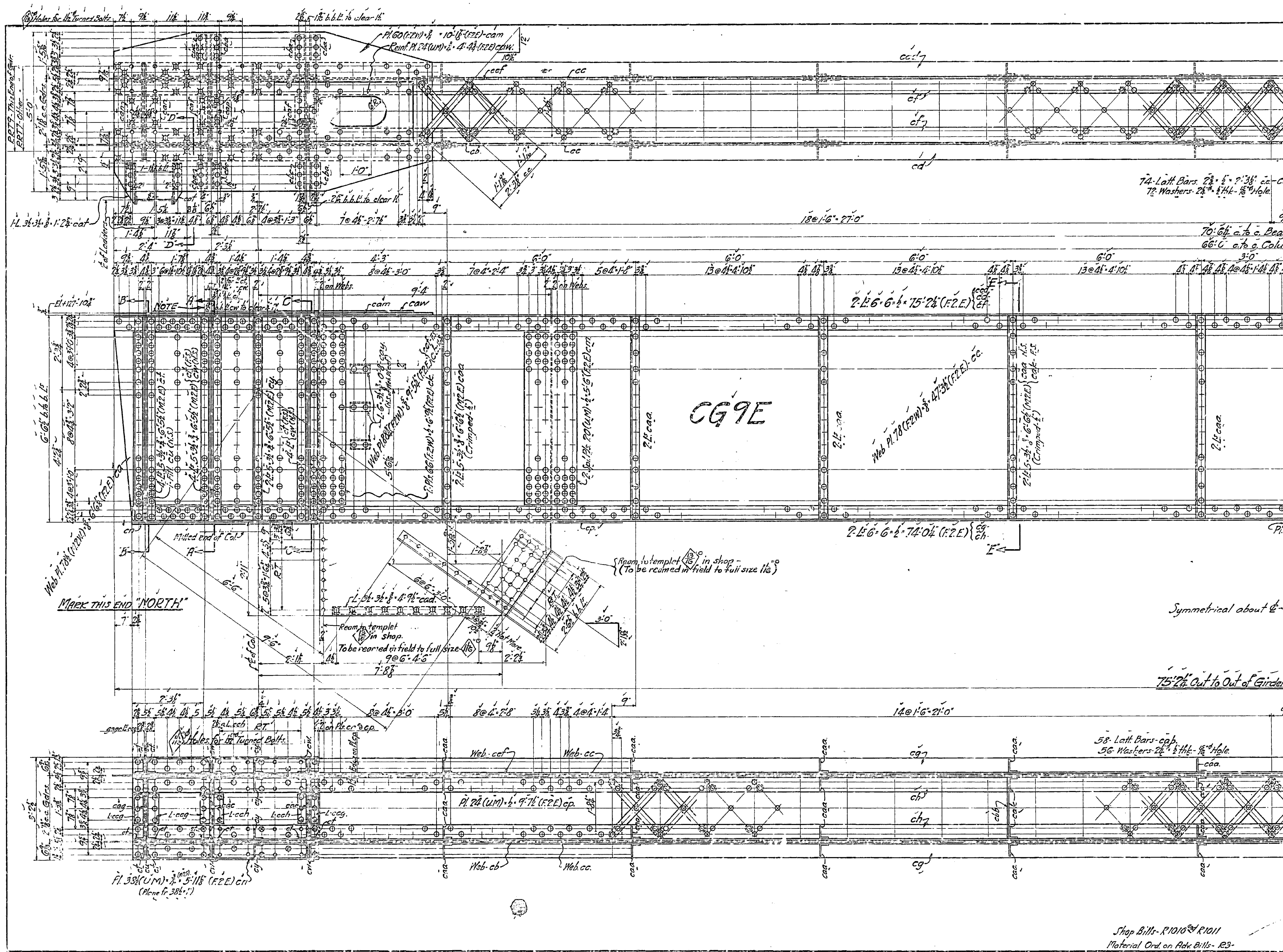
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C.H. Purcell — Chief Engineer
Date: 4-9-34 4-19-34

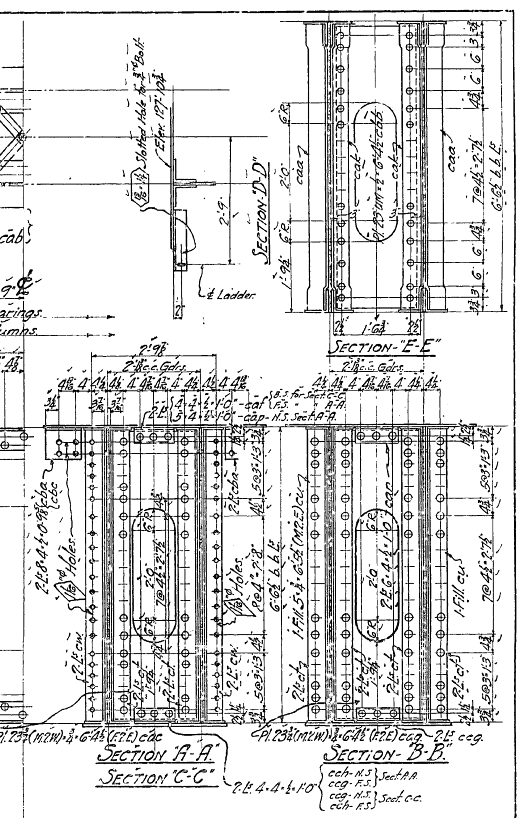
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Detail of Tower Platform - Bent E9E / Bent E9W

Mc[illegible]-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS
IN CHARGE Boone
CHECKED BY F.B.C. Nichols
LAST ASSEM. MK Can
MADE BY: D.O.D. 3-15-34
TRACED BY: G.L.

CONTRACT CR 1580-2 SHEET R46

30-1





No.	Description	Mark	Remarks	Wgt. each Tons.
One	Cross Girder	CG9E		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey, Ch. Inspector.
RIVETS: ⅞"⌀
OPEN HOLES: 15/16"⌀ Unless Noted.
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd.

APPROVED

Glenn B. Woodruff — Engineer of Design.
Chas. E. Andrew — Bridge Engineer.
C. H. Purcell — Chief Engineer.
Date: 3-16-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

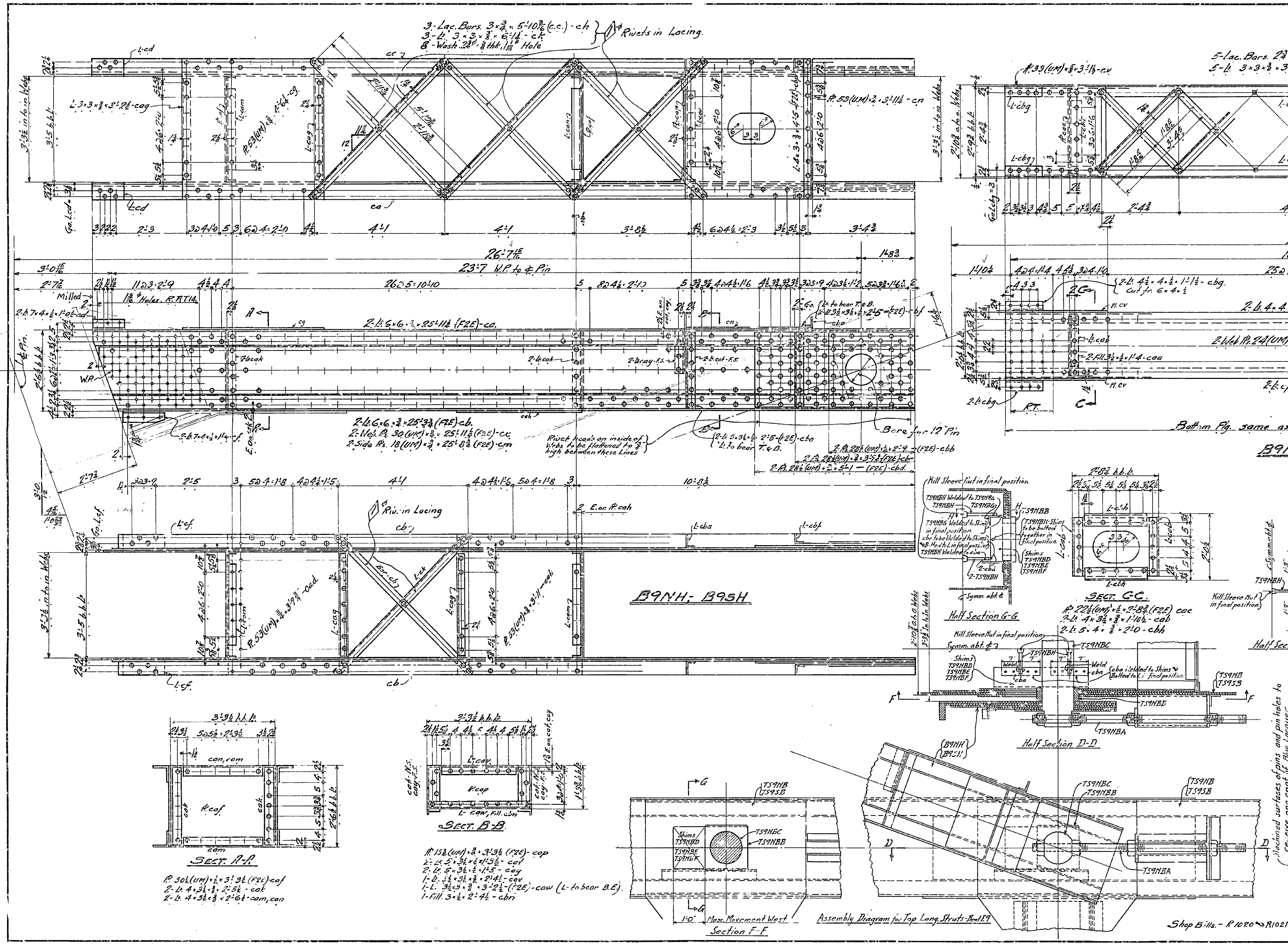
Detail of Cross Girder - Bent E9 East

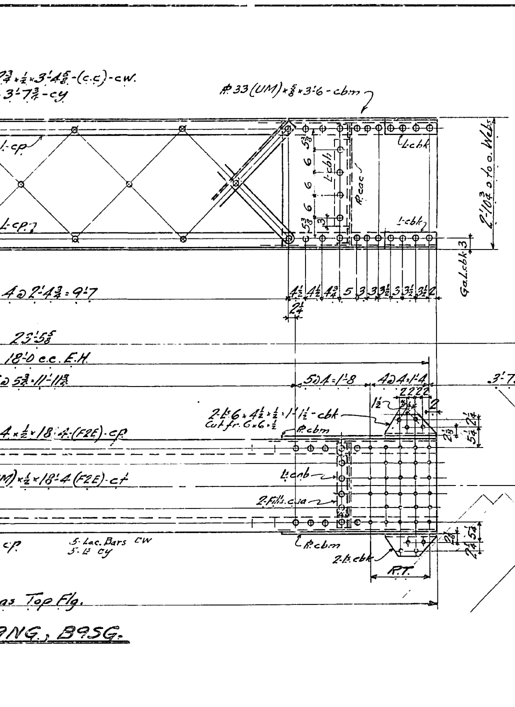
McCLINTIC-MARSHALL CORPORATION
Iron DRAWING ROOM Steelton WORKS

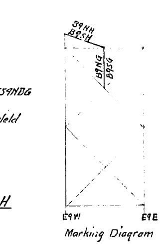
CHARGE: BOONE — MADE BY: C.F.R. 3/15-34
CHECKED: — TRACED BY: "
LAST ASSEM. MK.

CONTRACT CR15803 — SHEET R-101

30-1







No.	Description	Mark	Remarks	Weight each Tons
One.	Longitud. Strut	B9NH.	Alike.	
One.	" "	B9SH.		
One.	" "	B9NG.	Alike.	
One.	" "	B9SG.		

REQUIRED LIST.

MATERIAL: All structural steel to be copper bearing. Assembly marks for Carbon Steel prefixed with c - thus - ca, cb etc, for Silicon Steel with s - thus sa, sb, etc.
SPECIFICATIONS. Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey, Chief Inspector
RIVETS: 7/8 ϕ
OPEN HOLES: 1 1/16 ϕ Unless noted.
PUNCHING: Holes in material 3/4" thick or less used for stringer Laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be subpunched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except: 1 coat No-Ox-Id Filler Red for base and cap pls. of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice pls (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice pls. (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 5-7-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS.
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7.
SUPERSTRUCTURE-EAST BAY CROSSING

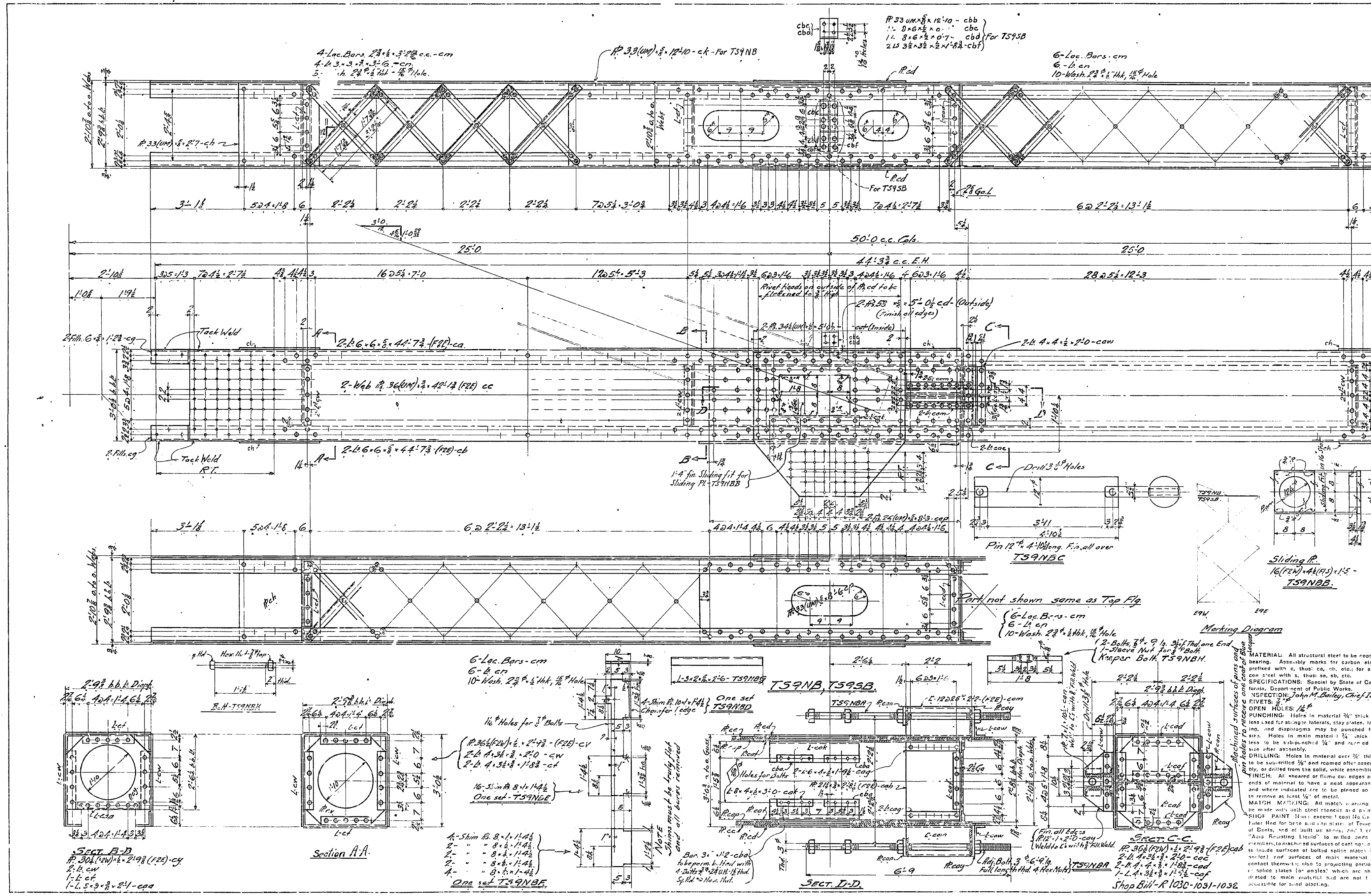
LONGITUDINAL BRACING - BENT E9

Mc[illegible]TIC-MARSHALL CORPORATION.
STEELTON DRAWING ROOM — STEELTON WORKS.

IN CHARGE:
CHECKED BY: F.R.C. 4/10/34
LAST ASSEM. MK. cbf
MADE BY C.S.M. 4/6/34
TRACED BY

CONTRACT CR15803.
SHEET R 102

30-1



No.	Description	Mark	Remarks	Weight each Tons
4	Shim Bolts	TS9NBK		
5	Keeper Bolts	TS9NBH	To be welded to Keeper Ls & Bars in Field	
4	" Ls	TS9NBG		
2	Set of Shim Pls.	TS9NBF	Shim to be welded to Keeper Bars & Ls in Field, when in final position	
2	" " " "	TS9NBE		
2	" " " "	TS9NBD		
2	Pins.	TS9NBC		
4	Sliding Pls.	TS9NBB		
4	Adj. Bolts	TS9NBA		
One	Top Strut	TS9NB		
One	" "	TS95B		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey, Chief Inspector
RIVETS: ⅞"φ
OPEN HOLES: 1 1/16"φ
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No. Oxide Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 5-7-34

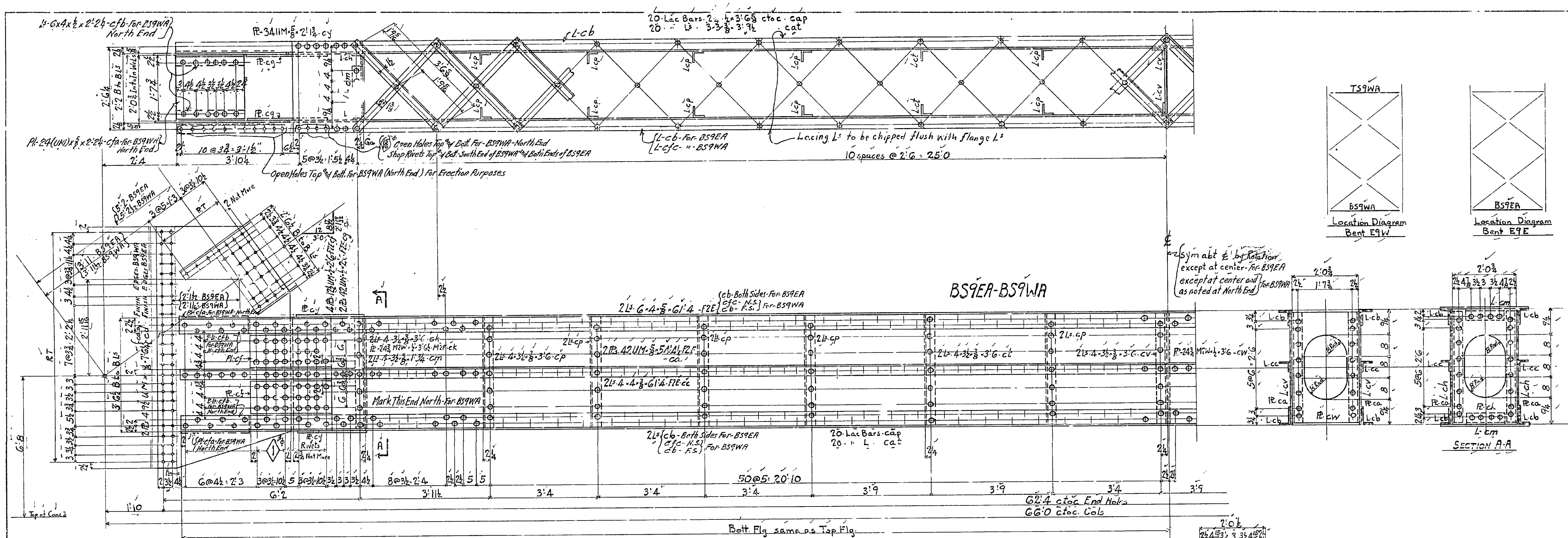
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

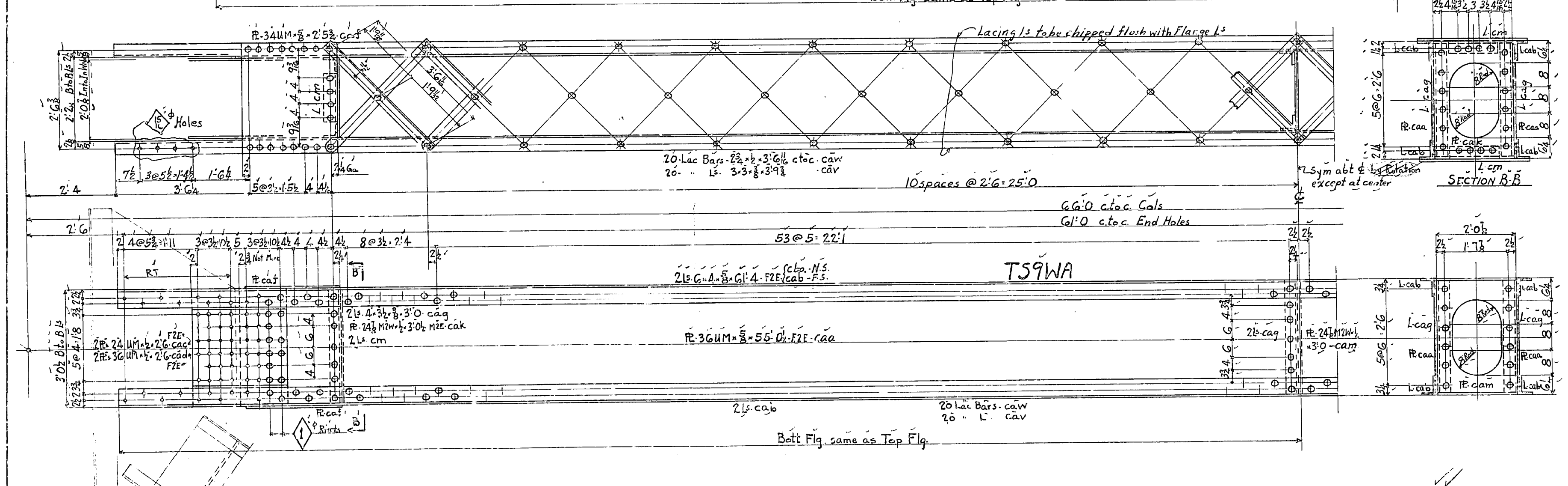
LONG. TOP STRUT, BENT E9

...ANTIC-MARSHALL CORPORATION
STEELTON DRAWING ROOM STEELTON WORKS

IN CHARGE Boone MADE BY CSM. 2/7/34
CHECKED BY F.R.C. 2/9/34 CONTRACED BY
LAST ASSEM. MK. cbf

CONTRACT C R15803 SHEET R 103





Shop Bills: R1040-R1041

No.	Description	Mark	Remarks	Weight each Tons
One	Bottom Strut	BS9EA		
One	Do	BS9WA		
One	Top Strut	TS9WA		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California Department of Public Works.
INSPECTION: John M Bailey Chief Insp.
RIVETS: ⅞ϕ Unless Noted
OPEN HOLES: 1 1/16ϕ - Unless Noted.
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and ream a to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except: [illegible] No-Ox-id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

Engineer of Design

Bridge Engineer

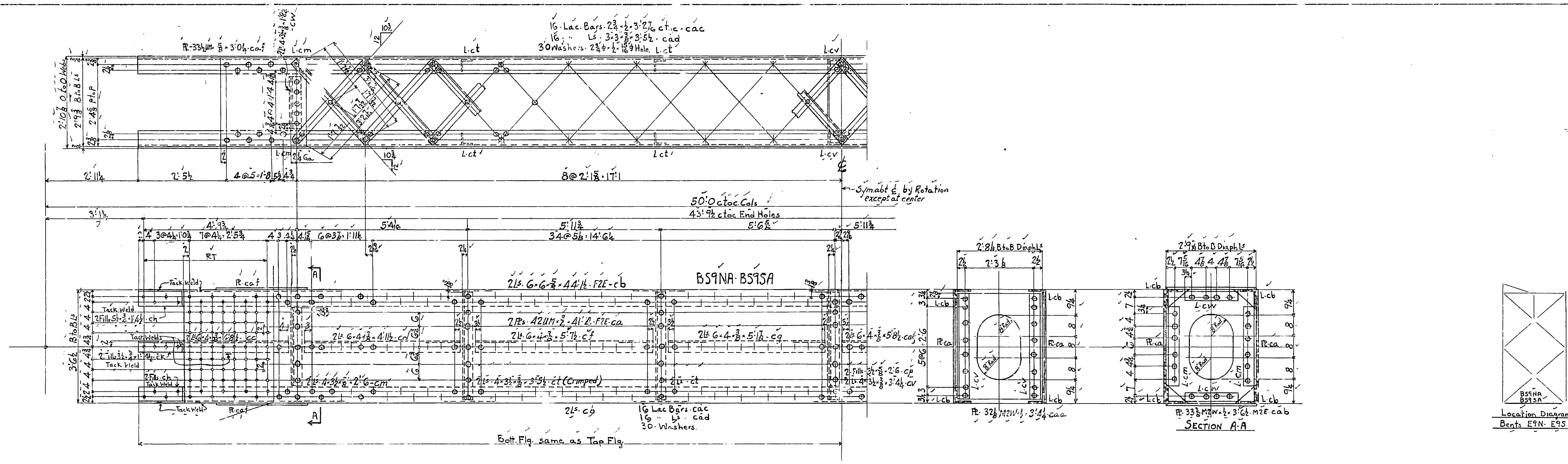
Chief Engineer

Date: 3-16-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Struts - Bent - E9

McC[illegible]-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS
IN CHARGE
CHECKED BY [illegible] 34
LAST ASSEM. MK. cfc
MADE BY JAS 1-8-34
TRACED BY

CONTRACT CR15803
SHEET R 104



No.	Description	Mark	Remarks	Weight each Tons
One	Bottom Strut	BS9NA	} Alike	
One	Do	BS9SA		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M Bailey Chief Insp.
RIVETS. ⅞" ϕ
OPEN HOLES: 1 1/16" ϕ
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat [illegible] Filler Red for base and [illegible] of towers, of Bents, and of built up [illegible] and [illegible] "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles), and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd
[illegible]	[illegible] Fills [illegible]	[illegible]

APPROVED

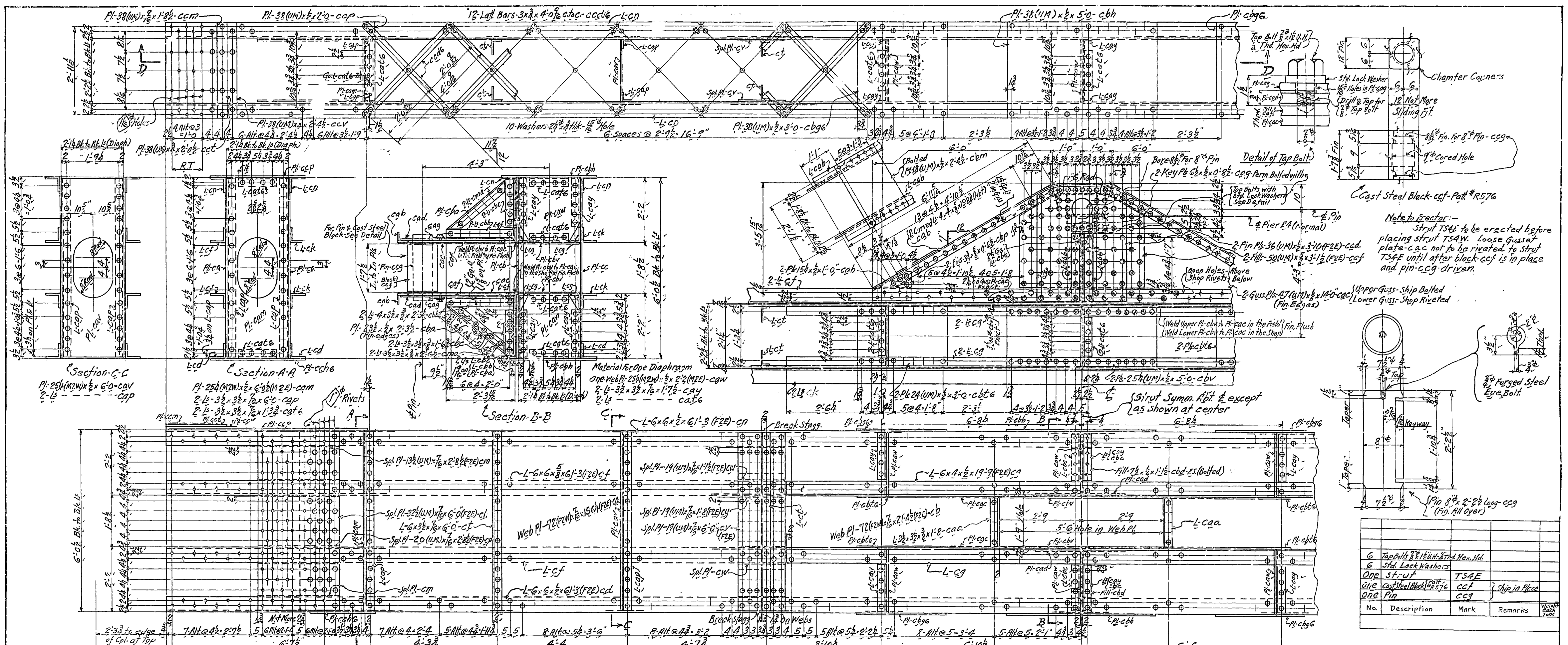
[illegible] Engineer of Design
[illegible] Bridge Engineer
[illegible] Chief Engineer
Date: 3-16-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Struts - Bent - E9N and E9S

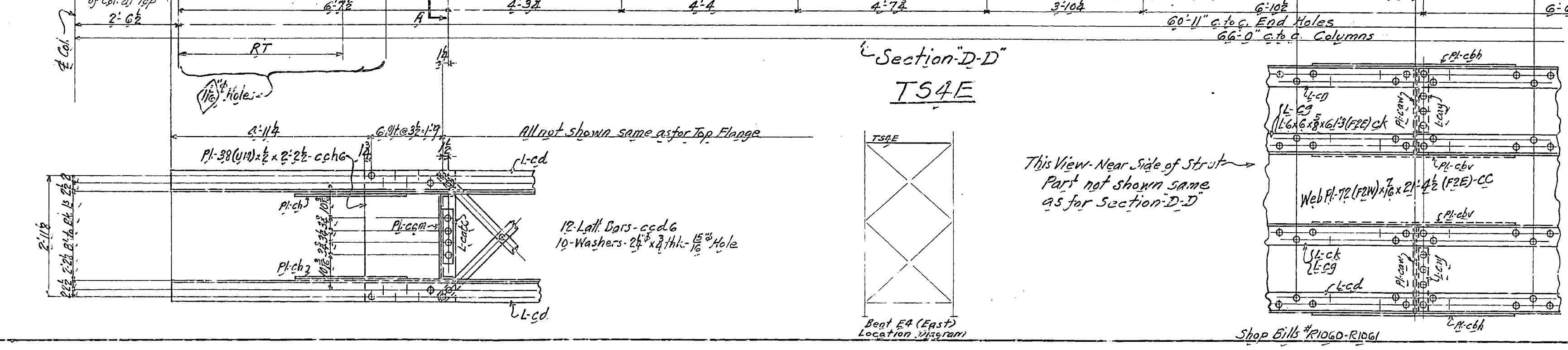
McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS
IN CHARGE
CHECKED BY [illegible]
LAST ASSEM. MK.
MADE BY JAS-1-11-34
TRACED BY

Shop Bill #R1050

CONTRACT CR15303 SHEET R 105



Note to Erector:- Strut TS4E to be erected before placing strut TS4W. Loose Gusset plate-cac not to be riveted to strut TS4E until after block-ccf is in place and pin-ccg driven.



No.	Description	Mark	Remarks	Weight each Tons
6	Tap Bolts 7/8"φ x 1 1/2" U.H.-3/4" Thd. Hex. Hd.			
6	Std. Lock Washers			
One	Strut	TS4E		
One	Cast Steel Block (Patt. #R576)	ccf	Ship in Place	
One	Pin	ccg	Ship in Place	

Machined surfaces of pins and pin holes to receive one coat of Blue Lacquer

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb etc., for Silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey, Chief Inspector
RIVETS: 7/8" Unless Noted
OPEN HOLES 15/16" Unless Noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None, except: 1 coat No. OX-Id Filler Red for base and cap plates of Towers, of Bents, and of built up Shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd.

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C.H. Purcell — Chief Engineer
Date: 4-4-34

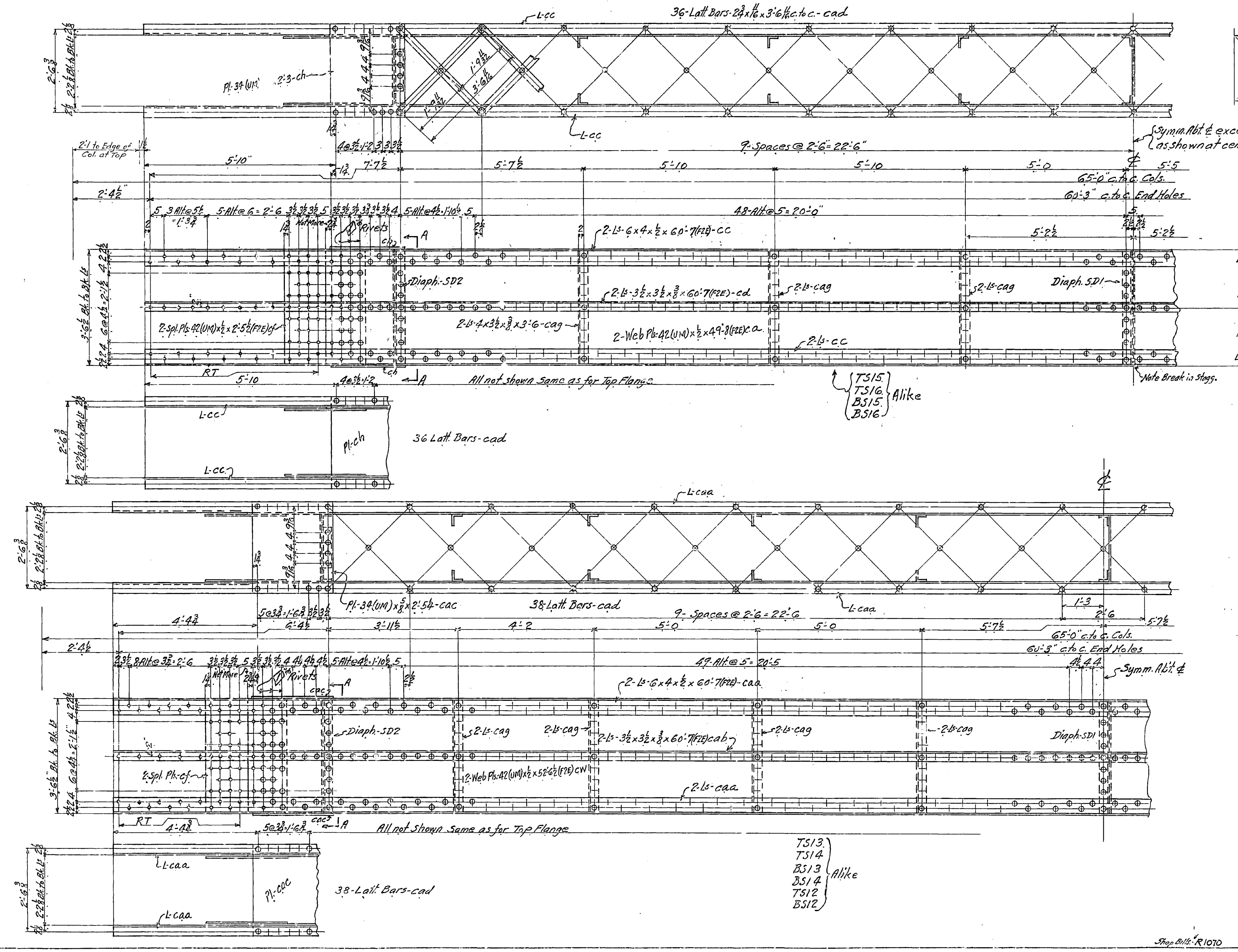
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE - EAST BAY CROSSING

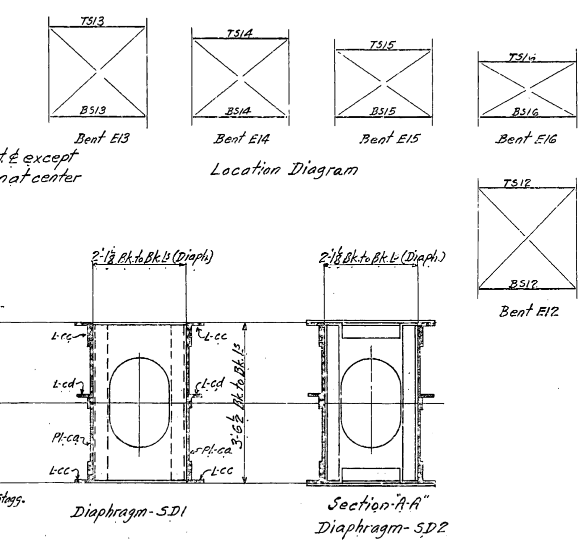
Strut at Top of Bent E4 (East)

McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS
IN CH. Boone MADE BY J.S.B. 1/14/34
CHECKED BY [illegible] 2/26/34 TRACED BY
LAST ASSEM. MARK cma

CONTRACT CR1580-3 SHEET R106

30-1





Diaphragms detailed and Ordered on Dwg-RJ52

No.	Description	Mark	Remarks	Weight each Tons
One	Bottom Strut	BS15	Alike	
One	" "	BS16		
One	Top Strut	TS15		
One	" "	TS16		
One	" "	TS13	Alike	
One	" "	TS14		
One	Bottom Strut	BS13		
One	" "	BS14		
One	" "	BS12		
One	Top "	TS12		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey, Chief Inspector
RIVETS: 7/8" Unless Noted
OPEN HOLES: 1 1/16"
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

Engineer of Design
Bridge Engineer
Chief Engineer
Date 2-20-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

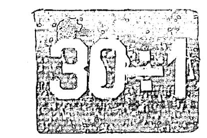
Strots Bents E12 to E16 Inc.

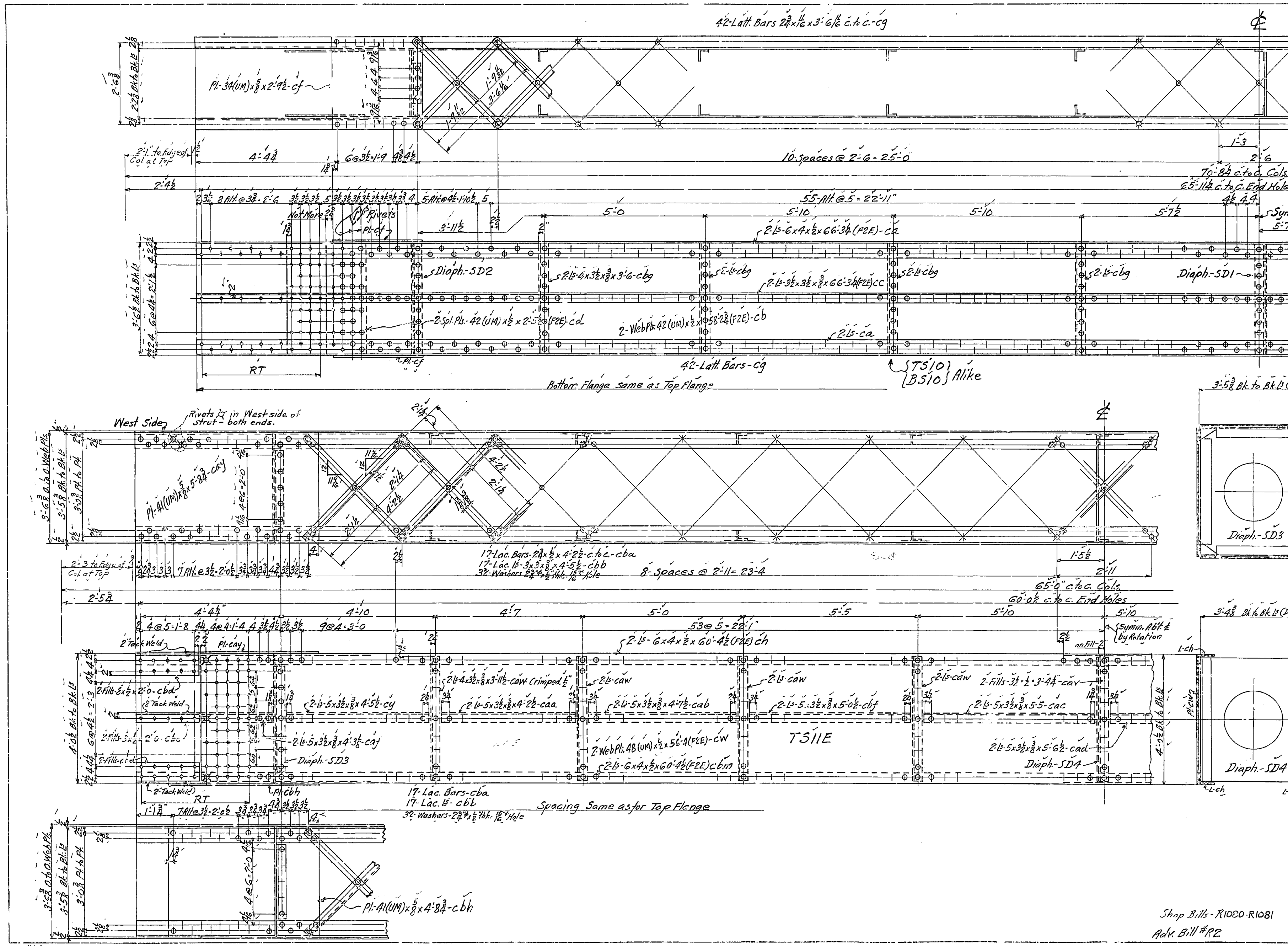
McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS

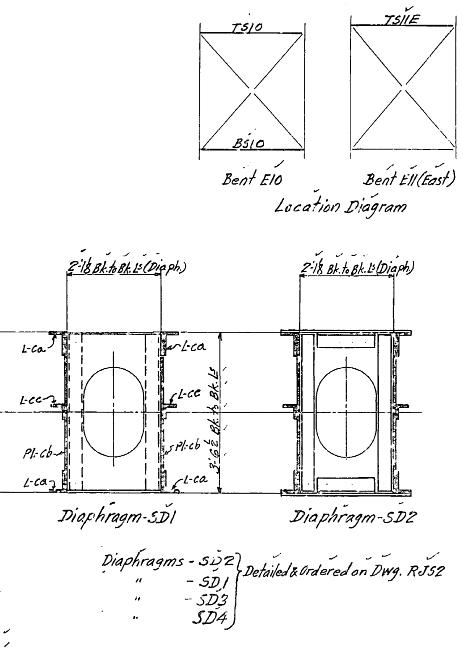
IN CHARGE Boone
CHECKED BY F.R.C.
LAST ASSEM. MK. cag
MADE BY / TRACED BY J.S.S.B. 1/16/34

CONTRACT CR1560-3 SHEET R 107

Shop Bolts R1070







MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey-Chief Inspector.
RIVETS: 7/8"⌀
OPEN HOLES: 1 1/16"⌀
PUNCHING. Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING. Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT. None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

No.	Description	Mark	Remarks	Weight each Tons
One	Top Strut	TS11E		
One	Top Strut	TS10	Alike	
One	Bottom Strut	BS10	Alike	

REQUIRED LIST

Date	Revision	App'd

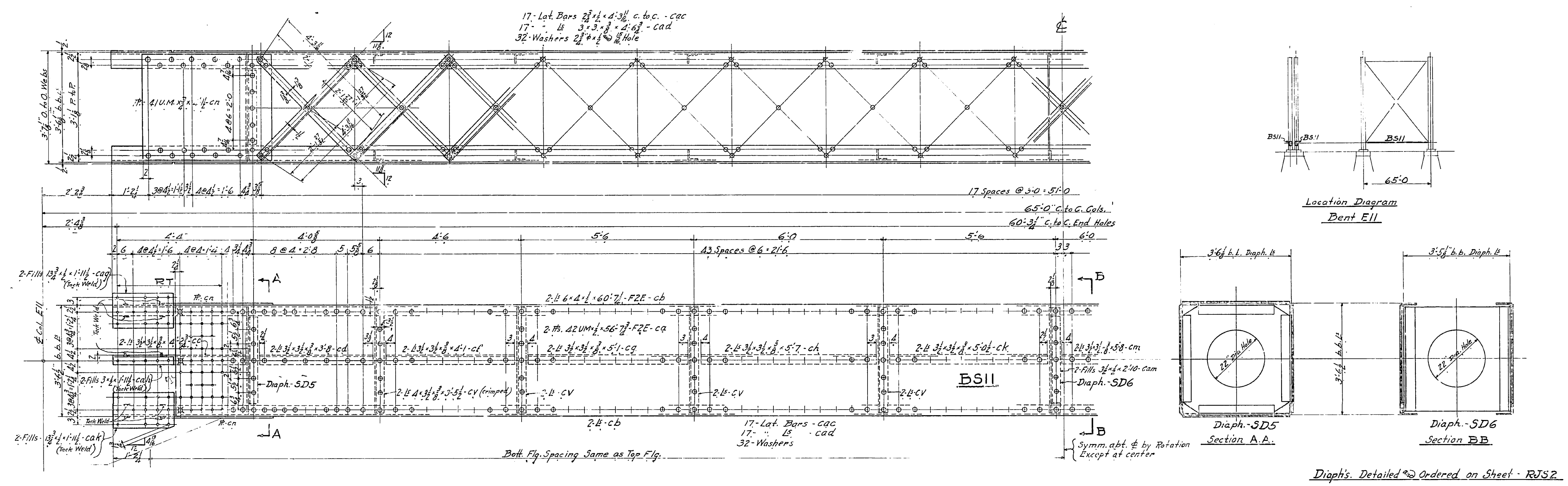
APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date 3-7-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

Struts at Bents E10 & E11

McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS
IN CHARGE Boone
CHECKED BY
LAST ASSEM. MK. cbm
MADE BY / TRACED BY S.S.B. 1/22/34
CONTRACT CR1560-3 SHEET R108

30-1



Diaph's. Detailed and Ordered on Sheet - RJS2

No.	Description	Mark	Remarks	Weight each Tons
2.	Bottom Struts	BS11		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey Chief Insp.
RIVETS: ⅞" ϕ
OPEN HOLES: 1$\frac{1}{16}$" ϕ
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes, and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

Engineer of Design
Bridge Engineer
Chief Engineer
Date 3-7-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

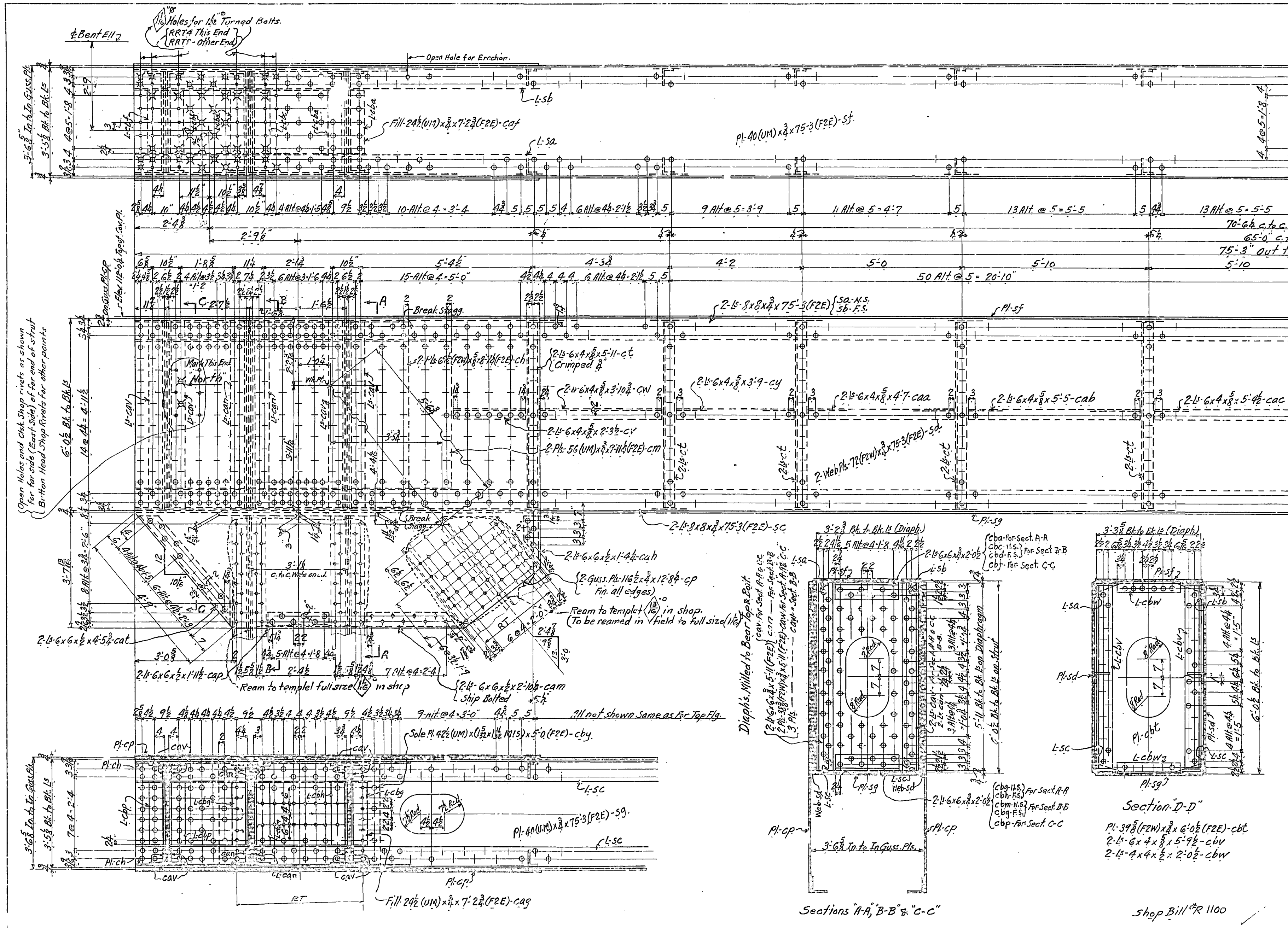
Strut - Bent E11

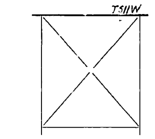
McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS

IN CHARGE Boone
CHECKED BY E.R.C. 1/30/34
LAST ASSEM. MK. cam
MADE BY R.V.K. 1/19/34
TRACED BY do.

Shop Bill # R 1090

CONTRACT OR 15803 SHEET R 109





Bent E11 (West) Location Diagram

No.	Description	Mark	Remarks	Weight each Tons
One	Strut	TS11W		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey, Chief Inspector
RIVETS: 1"ϕ
OPEN HOLES: 1 1/16"ϕ
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes, and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates or angles, and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 4-4-34

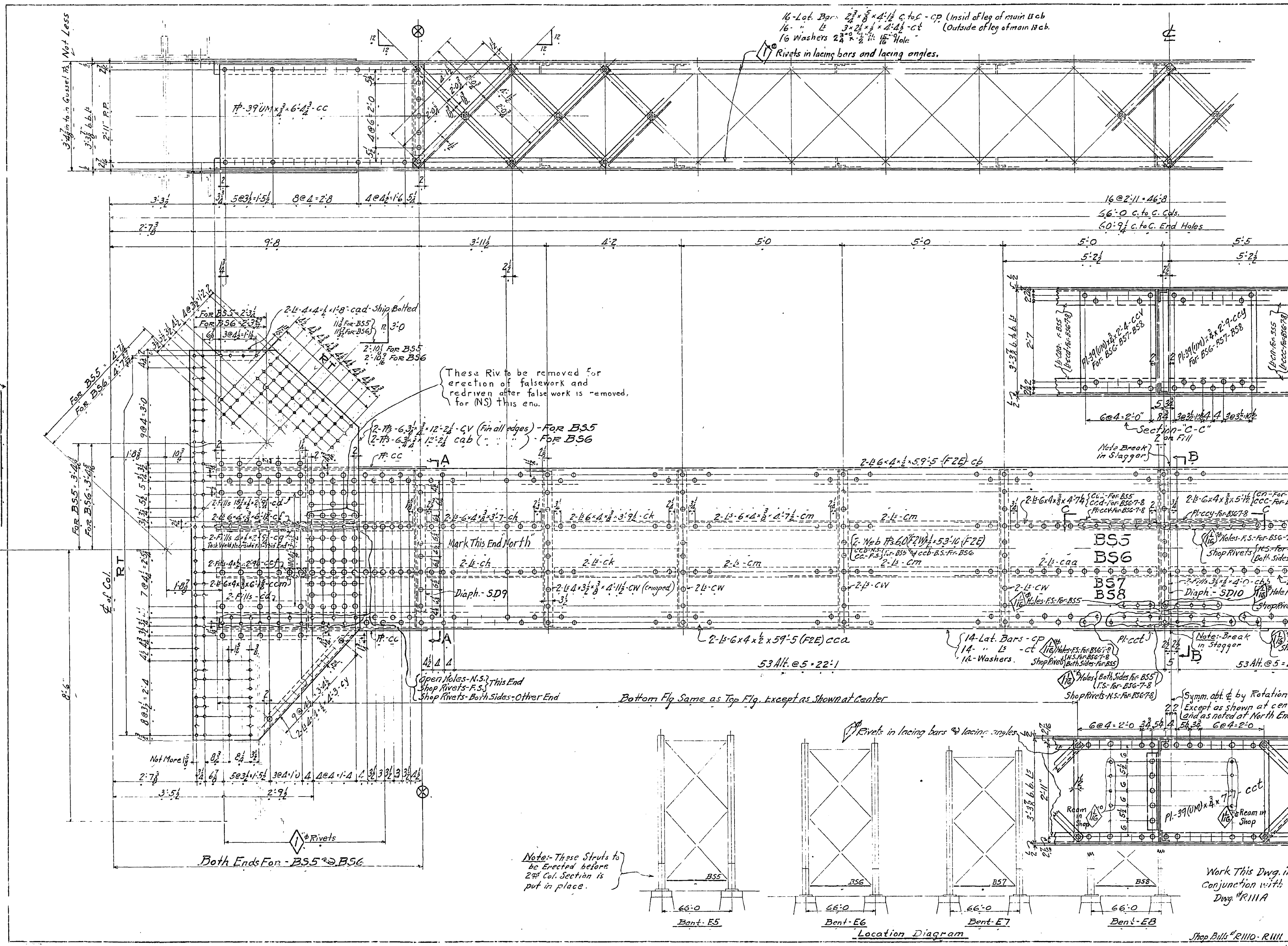
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

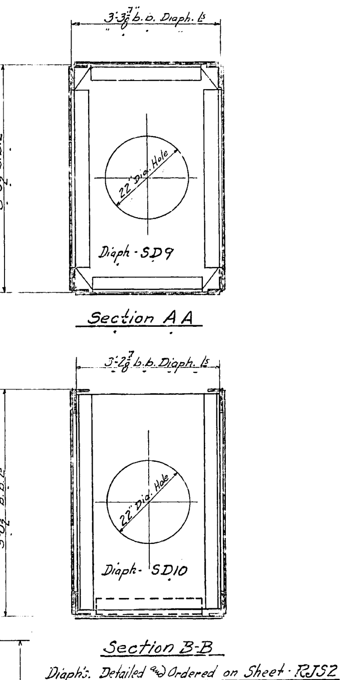
Strut at Bent E11 (West)

McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS
IN CHARGE Boone — MADE BY / TRACED BY S.S.B. 1/30/34
CHECKED BY [illegible] 3/5/34
LAST ASSEM. MK. cby

CONTRACT CR1580-3 SHEET R 110

80-1





No.	Description	Mark	Remarks	Weight each Tons
One	Bott. Strut	BS8		
One	" "	BS7		
One	" "	BS6		
One	" "	BS5		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey - Chief Insp.
RIVETS: 7/8"ϕ unless noted -
OPEN HOLES: 1 1/16"ϕ
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4 thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 4-19-34

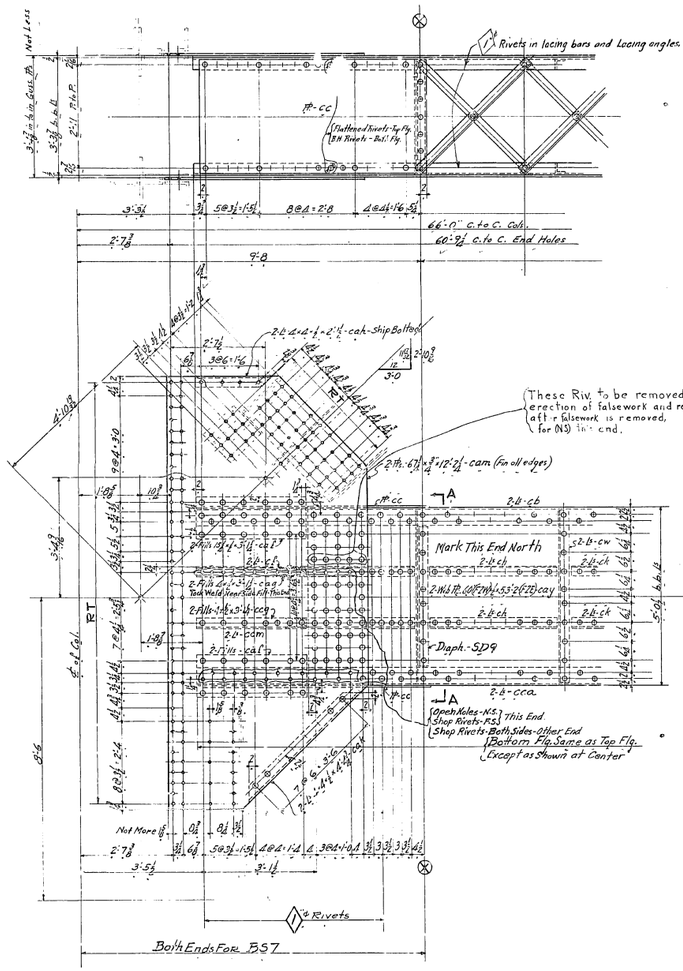
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

Bottom Struts - Bents E5 to E8 inc.

McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS

IN CHARGE C.F. Boone — MADE BY R.V.K 1/24/34
CHECKED BY S.S.B. 2/19/34 — TRACED BY
LAST ASSEM. MK. ccy

CONTRACT CR 15803 — SHEET R111


Net Loss
1" Rivets in lacing bars and lacing angles.
ft-cc
(Flattened Rivets-Ty Fly
B.H. Rivets - Batt. Fly.
66'-0" c. to c. Cols.
60'-9⅞ c. to c. End Holes
2-L 4"x4"x½"x2'-1½" cak-Ship Bolted
These Riv. to be removed for erection of falsework and redriven after falsework is removed, for (N3) In-end.
2-Pls. 67⅞" x ⅞" x 12'-2½" - cam. (Fin. all edges)
Mark This End North
2-Pls. 4"x¾"x3'-3½" - cas
Tack Weld Near Side Filler Plates
2-Pls. 4"x¾"x3'-3½" - cat
2-Pls. 4"x¾"x3'-3½" - cau
2-Pls. 4"x¾"x3'-3½" - cav
2-Pls. 4"x¾"x3'-3½" - caw
2-Pls. 4"x¾"x3'-3½" - cax
2-Pls. 4"x¾"x3'-3½" - cay
2-Pls. 4"x¾"x3'-3½" - caz
2-Pls. 4"x¾"x3'-3½" - cba
2-Pls. 4"x¾"x3'-3½" - cbb
2-Pls. 4"x¾"x3'-3½" - cbc
2-Pls. 4"x¾"x3'-3½" - cbd
2-Pls. 4"x¾"x3'-3½" - cbe
2-Pls. 4"x¾"x3'-3½" - cbf
2-Pls. 4"x¾"x3'-3½" - cbg
2-Pls. 4"x¾"x3'-3½" - cbh
2-Pls. 4"x¾"x3'-3½" - cbi
2-Pls. 4"x¾"x3'-3½" - cbj
2-Pls. 4"x¾"x3'-3½" - cbk
2-Pls. 4"x¾"x3'-3½" - cbl
2-Pls. 4"x¾"x3'-3½" - cbm
2-Pls. 4"x¾"x3'-3½" - cbn
2-Pls. 4"x¾"x3'-3½" - cbo
2-Pls. 4"x¾"x3'-3½" - cbp
2-Pls. 4"x¾"x3'-3½" - cbq
2-Pls. 4"x¾"x3'-3½" - cbr
2-Pls. 4"x¾"x3'-3½" - cbs
2-Pls. 4"x¾"x3'-3½" - cbt
2-Pls. 4"x¾"x3'-3½" - cbu
2-Pls. 4"x¾"x3'-3½" - cbv
2-Pls. 4"x¾"x3'-3½" - cbw
2-Pls. 4"x¾"x3'-3½" - cbx
2-Pls. 4"x¾"x3'-3½" - cby
2-Pls. 4"x¾"x3'-3½" - cbz
2-Pls. 4"x¾"x3'-3½" - cca
2-Pls. 4"x¾"x3'-3½" - ccb
2-Pls. 4"x¾"x3'-3½" - ccc
2-Pls. 4"x¾"x3'-3½" - ccd
2-Pls. 4"x¾"x3'-3½" - cce
2-Pls. 4"x¾"x3'-3½" - ccf
2-Pls. 4"x¾"x3'-3½" - ccg
2-Pls. 4"x¾"x3'-3½" - cch
2-Pls. 4"x¾"x3'-3½" - cci
2-Pls. 4"x¾"x3'-3½" - ccj
2-Pls. 4"x¾"x3'-3½" - cck
2-Pls. 4"x¾"x3'-3½" - ccl
2-Pls. 4"x¾"x3'-3½" - ccm
2-Pls. 4"x¾"x3'-3½" - ccn
2-Pls. 4"x¾"x3'-3½" - cco
2-Pls. 4"x¾"x3'-3½" - ccp
2-Pls. 4"x¾"x3'-3½" - ccq
2-Pls. 4"x¾"x3'-3½" - ccr
2-Pls. 4"x¾"x3'-3½" - ccs
2-Pls. 4"x¾"x3'-3½" - cct
2-Pls. 4"x¾"x3'-3½" - ccu
2-Pls. 4"x¾"x3'-3½" - ccv
2-Pls. 4"x¾"x3'-3½" - ccw
2-Pls. 4"x¾"x3'-3½" - ccx
2-Pls. 4"x¾"x3'-3½" - ccy
2-Pls. 4"x¾"x3'-3½" - ccz
2-Pls. 4"x¾"x3'-3½" - cda
2-Pls. 4"x¾"x3'-3½" - cdb
2-Pls. 4"x¾"x3'-3½" - cdc
2-Pls. 4"x¾"x3'-3½" - cdd
2-Pls. 4"x¾"x3'-3½" - cde
2-Pls. 4"x¾"x3'-3½" - cdf
2-Pls. 4"x¾"x3'-3½" - cdg
2-Pls. 4"x¾"x3'-3½" - cdh
2-Pls. 4"x¾"x3'-3½" - cdi
2-Pls. 4"x¾"x3'-3½" - cdj
2-Pls. 4"x¾"x3'-3½" - cdk
2-Pls. 4"x¾"x3'-3½" - cdl
2-Pls. 4"x¾"x3'-3½" - cdm
2-Pls. 4"x¾"x3'-3½" - cdn
2-Pls. 4"x¾"x3'-3½" - cdo
2-Pls. 4"x¾"x3'-3½" - cdp
2-Pls. 4"x¾"x3'-3½" - cdq
2-Pls. 4"x¾"x3'-3½" - cdr
2-Pls. 4"x¾"x3'-3½" - cds
2-Pls. 4"x¾"x3'-3½" - cdt
2-Pls. 4"x¾"x3'-3½" - cdu
2-Pls. 4"x¾"x3'-3½" - cdv
2-Pls. 4"x¾"x3'-3½" - cdw
2-Pls. 4"x¾"x3'-3½" - cdx
2-Pls. 4"x¾"x3'-3½" - cdy
2-Pls. 4"x¾"x3'-3½" - cdz
2-Pls. 4"x¾"x3'-3½" - cea
2-Pls. 4"x¾"x3'-3½" - ceb
2-Pls. 4"x¾"x3'-3½" - cec
2-Pls. 4"x¾"x3'-3½" - ced
2-Pls. 4"x¾"x3'-3½" - cee
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2-Pls. 4"x¾"x3'-3½" - ceg
2-Pls. 4"x¾"x3'-3½" - ceh
2-Pls. 4"x¾"x3'-3½" - cei
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2-Pls. 4"x¾"x3'-3½" - cek
2-Pls. 4"x¾"x3'-3½" - cel
2-Pls. 4"x¾"x3'-3½" - cem
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2-Pls. 4"x¾"x3'-3½" - ceo
2-Pls. 4"x¾"x3'-3½" - cep
2-Pls. 4"x¾"x3'-3½" - ceq
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2-Pls. 4"x¾"x3'-3½" - ces
2-Pls. 4"x¾"x3'-3½" - cet
2-Pls. 4"x¾"x3'-3½" - ceu
2-Pls. 4"x¾"x3'-3½" - cev
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2-Pls. 4"x¾"x3'-3½" - cex
2-Pls. 4"x¾"x3'-3½" - cey
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2-Pls. 4"x¾"x3'-3½" - cga
2-Pls. 4"x¾"x3'-3½" - cgb
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2-Pls. 4"x¾"x3'-3½" - cgy
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2-Pls. 4"x¾"x3'-3½" - cha
2-Pls. 4"x¾"x3'-3½" - chb
2-Pls. 4"x¾"x3'-3½" - chc
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2-Pls. 4"x¾"x3'-3½" - cjf
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2-Pls. 4"x¾"x3'-3½" - cjv
2-Pls. 4"x¾"x3'-3½" - cjw
2-Pls. 4"x¾"x3'-3½" - cjx
2-Pls. 4"x¾"x3'-3½" - cjy
2-Pls. 4"x¾"x3'-3½" - cjz
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2-Pls. 4"x¾"x3'-3½" - ckd
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2-Pls. 4"x¾"x3'-3½" - ckf
2-Pls. 4"x¾"x3'-3½" - ckg
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2-Pls. 4"x¾"x3'-3½" - ckv
2-Pls. 4"x¾"x3'-3½" - ckw
2-Pls. 4"x¾"x3'-3½" - ckx
2-Pls. 4"x¾"x3'-3½" - cky
2-Pls. 4"x¾"x3'-3½" - ckz
2-Pls. 4"x¾"x3'-3½" - cla
2-Pls. 4"x¾"x3'-3½" - clb
2-Pls. 4"x¾"x3'-3½" - clc
2-Pls. 4"x¾"x3'-3½" - cld
2-Pls. 4"x¾"x3'-3½" - cle
2-Pls. 4"x¾"x3'-3½" - clf
2-Pls. 4"x¾"x3'-3½" - clg
2-Pls. 4"x¾"x3'-3½" - clh
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2-Pls. 4"x¾"x3'-3½" - cll
2-Pls. 4"x¾"x3'-3½" - clm
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2-Pls. 4"x¾"x3'-3½" - clo
2-Pls. 4"x¾"x3'-3½" - clp
2-Pls. 4"x¾"x3'-3½" - clq
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2-Pls. 4"x¾"x3'-3½" - cls
2-Pls. 4"x¾"x3'-3½" - clt
2-Pls. 4"x¾"x3'-3½" - clu
2-Pls. 4"x¾"x3'-3½" - clv
2-Pls. 4"x¾"x3'-3½" - clw
2-Pls. 4"x¾"x3'-3½" - clx
2-Pls. 4"x¾"x3'-3½" - cly
2-Pls. 4"x¾"x3'-3½" - clz
2-Pls. 4"x¾"x3'-3½" - cma
2-Pls. 4"x¾"x3'-3½" - cmb
2-Pls. 4"x¾"x3'-3½" - cmc
2-Pls. 4"x¾"x3'-3½" - cmd
2-Pls. 4"x¾"x3'-3½" - cme
2-Pls. 4"x¾"x3'-3½" - cmf
2-Pls. 4"x¾"x3'-3½" - cmg
2-Pls. 4"x¾"x3'-3½" - cmh
2-Pls. 4"x¾"x3'-3½" - cmi
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2-Pls. 4"x¾"x3'-3½" - cmk
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2-Pls. 4"x¾"x3'-3½" - cmq
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2-Pls. 4"x¾"x3'-3½" - cms
2-Pls. 4"x¾"x3'-3½" - cmt
2-Pls. 4"x¾"x3'-3½" - cmu
2-Pls. 4"x¾"x3'-3½" - cmv
2-Pls. 4"x¾"x3'-3½" - cmw
2-Pls. 4"x¾"x3'-3½" - cmx
2-Pls. 4"x¾"x3'-3½" - cmy
2-Pls. 4"x¾"x3'-3½" - cmz
2-Pls. 4"x¾"x3'-3½" - cna
2-Pls. 4"x¾"x3'-3½" - cnb
2-Pls. 4"x¾"x3'-3½" - cnc
2-Pls. 4"x¾"x3'-3½" - cnd
2-Pls. 4"x¾"x3'-3½" - cne
2-Pls. 4"x¾"x3'-3½" - cnf
2-Pls. 4"x¾"x3'-3½" - cng
2-Pls. 4"x¾"x3'-3½" - cnh
2-Pls. 4"x¾"x3'-3½" - cni
2-Pls. 4"x¾"x3'-3½" - cnj
2-Pls. 4"x¾"x3'-3½" - cnk
2-Pls. 4"x¾"x3'-3½" - cnl
2-Pls. 4"x¾"x3'-3½" - cnm
2-Pls. 4"x¾"x3'-3½" - cnn
2-Pls. 4"x¾"x3'-3½" - cno
2-Pls. 4"x¾"x3'-3½" - cnp
2-Pls. 4"x¾"x3'-3½" - cnq
2-Pls. 4"x¾"x3'-3½" - cnr
2-Pls. 4"x¾"x3'-3½" - cns
2-Pls. 4"x¾"x3'-3½" - cnt
2-Pls. 4"x¾"x3'-3½" - cnu
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2-Pls. 4"x¾"x3'-3½" - cnw
2-Pls. 4"x¾"x3'-3½" - cnx
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2-Pls. 4"x¾"x3'-3½" - coa
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2-Pls. 4"x¾"x3'-3½" - coc
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2-Pls. 4"x¾"x3'-3½" - coe
2-Pls. 4"x¾"x3'-3½" - cof
2-Pls. 4"x¾"x3'-3½" - cog
2-Pls. 4"x¾"x3'-3½" - coh
2-Pls. 4"x¾"x3'-3½" - coi
2-Pls. 4"x¾"x3'-3½" - coj
2-Pls. 4"x¾"x3'-3½" - cok
2-Pls. 4"x¾"x3'-3½" - col
2-Pls. 4"x¾"x3'-3½" - com
2-Pls. 4"x¾"x3'-3½" - con
2-Pls. 4"x¾"x3'-3½" - coo
2-Pls. 4"x¾"x3'-3½" - cop
2-Pls. 4"x¾"x3'-3½" - coq
2-Pls. 4"x¾"x3'-3½" - cor
2-Pls. 4"x¾"x3'-3½" - cos
2-Pls. 4"x¾"x3'-3½" - cot
2-Pls. 4"x¾"x3'-3½" - cou
2-Pls. 4"x¾"x3'-3½" - cov
2-Pls. 4"x¾"x3'-3½" - cow
2-Pls. 4"x¾"x3'-3½" - cox
2-Pls. 4"x¾"x3'-3½" - coy
2-Pls. 4"x¾"x3'-3½" - coz
2-Pls. 4"x¾"x3'-3½" - cpa
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2-Pls. 4"x¾"x3'-3½" - cpd
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2-Pls. 4"x¾"x3'-3½" - cpj
2-Pls. 4"x¾"x3'-3½" - cpk
2-Pls. 4"x¾"x3'-3½" - cpl
2-Pls. 4"x¾"x3'-3½" - cpm
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2-Pls. 4"x¾"x3'-3½" - cqg
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2-Pls. 4"x¾"x3'-3½" - crc
2-Pls. 4"x¾"x3'-3½" - crd
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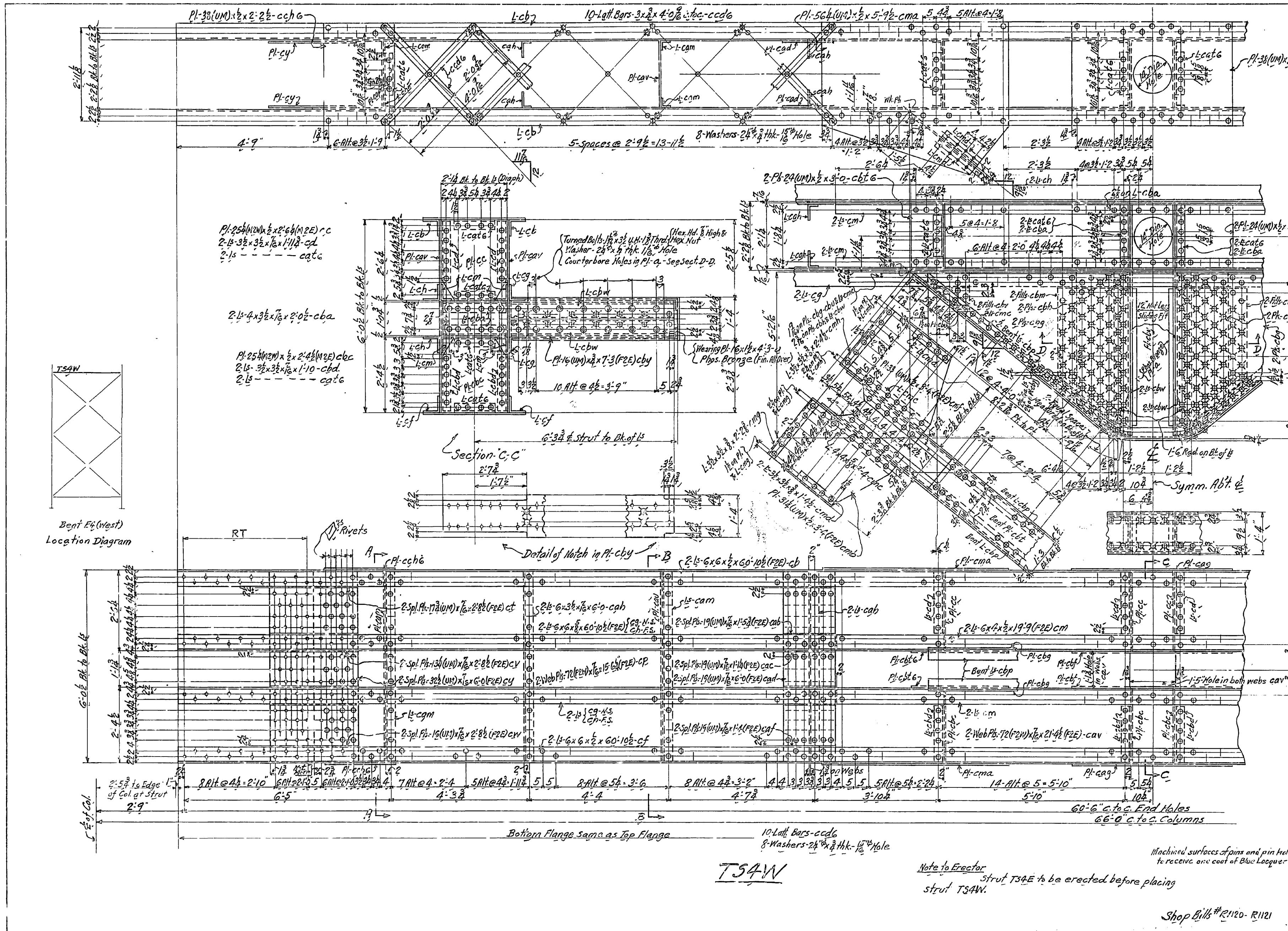
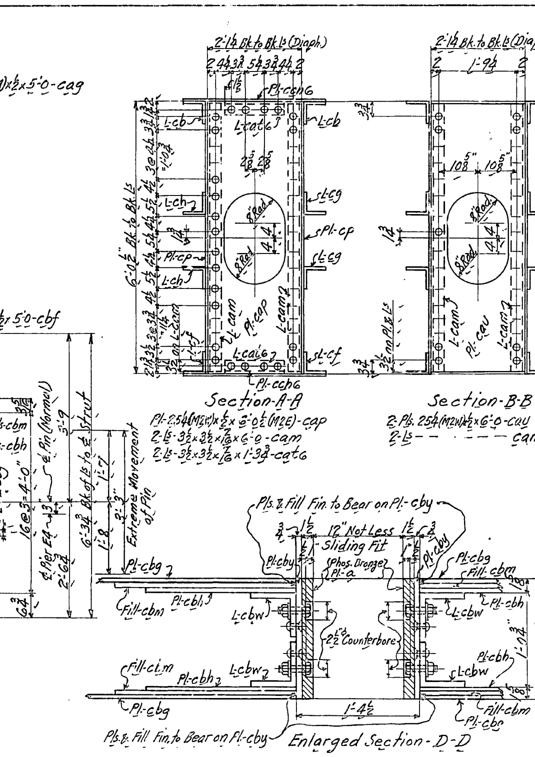
2-Pls. 4"x¾"x3'-3½" - crf
2-Pls. 4"x¾"x3'-3½" - crg
2-Pls. 4"x¾"x3'-3½" - crh
2-Pls. 4"x¾"x3'-3½" - cri
2-Pls. 4"x¾"x3'-3½" - crj
2-Pls. 4"x¾"x3'-3½" - crk
2-Pls. 4"x¾"x3'-3½" - crl
2-Pls. 4"x¾"x3'-3½" - crm
2-Pls. 4"x¾"x3'-3½" - crn
2-Pls. 4"x¾"x3'-3½" - cro
2-Pls. 4"x¾"x3'-3½" - crp
2-Pls. 4"x¾"x3'-3½" - crq
2-Pls. 4"x¾"x3'-3½" - crr
2-Pls. 4"x¾"x3'-3½" - crs
2-Pls. 4"x¾"x3'-3½" - crt
2-Pls. 4"x¾"x3'-3½" - cru
2-Pls. 4"x¾"x3'-3½" - crv
2-Pls. 4"x¾"x3'-3½" - crw
2-Pls. 4"x¾"x3'-3½" - crx
2-Pls. 4"x¾"x3'-3½" - cry
2-Pls. 4"x¾"x3'-3½" - crz
2-Pls. 4"x¾"x3'-3½" - csa
2-Pls. 4"x¾"x3'-3½" - csb
2-Pls. 4"x¾"x3'-3½" - csc
2-Pls. 4"x¾"x3'-3½" - csd
2-Pls. 4"x¾"x3'-3½" - cse
2-Pls. 4"x¾"x3'-3½" - csf
2-Pls. 4"x¾"x3'-3½" - csg
2-Pls. 4"x¾"x3'-3½" - csh
2-Pls. 4"x¾"x3'-3½" - csi
2-Pls. 4"x¾"x3'-3½" - csj
2-Pls. 4"x¾"x3'-3½" - csk
2-Pls. 4"x¾"x3'-3½" - csl
2-Pls. 4"x¾"x3'-3½" - csm
2-Pls. 4"x¾"x3'-3½" - csn
2-Pls. 4"x¾"x3'-3½" - cso
2-Pls. 4"x¾"x3'-3½" - csp
2-Pls. 4"x¾"x3'-3½" - csq
2-Pls. 4"x¾"x3'-3½" - csr
2-Pls. 4"x¾"x3'-3½" - css
2-Pls. 4"x¾"x3'-3½" - cst
2-Pls. 4"x¾"x3'-3½" - csu
2-Pls. 4"x¾"x3'-3½" - csv
2-Pls. 4"x¾"x3'-3½" - csw
2-Pls. 4"x¾"x3'-3½" - csx
2-Pls. 4"x¾"x3'-3½" - csy
2-Pls. 4"x¾"x3'-3½" - csz
2-Pls. 4"x¾"x3'-3½" - cta
2-Pls. 4"x¾"x3'-3½" - ctb
2-Pls. 4"x¾"x3'-3½" - ctc
2-Pls. 4"x¾"x3'-3½" - ctd
2-Pls. 4"x¾"x3'-3½" - cte
2-Pls. 4"x¾"x3'-3½" - ctf
2-Pls. 4"x¾"x3'-3½" - ctg
2-Pls. 4"x¾"x3'-3½" - cth
2-Pls. 4"x¾"x3'-3½" - cti
2-Pls. 4"x¾"x3'-3½" - ctj
2-Pls. 4"x¾"x3'-3½" - ctk
2-Pls. 4"x¾"x3'-3½" - ctl
2-Pls. 4"x¾"x3'-3½" - ctm
2-Pls. 4"x¾"x3'-3½" - ctn
2-Pls. 4"x¾"x3'-3½" - cto
2-Pls. 4"x¾"x3'-3½" - ctp
2-Pls. 4"x¾"x3'-3½" - ctq
2-Pls. 4"x¾"x3'-3½" - ctr
2-Pls. 4"x¾"x3'-3½" - cts
2-Pls. 4"x¾"x3'-3½" - ctt
2-Pls. 4"x¾"x3'-3½" - ctu
2-Pls. 4"x¾"x3'-3½" - ctv
2-Pls. 4"x¾"x3'-3½" - ctw
2-Pls. 4"x¾"x3'-3½" - ctx
2-Pls. 4"x¾"x3'-3½" - cty
2-Pls. 4"x¾"x3'-3½" - ctz
2-Pls. 4"x¾"x3'-3½" - cua
2-Pls. 4"x¾"x3'-3½" - cub
2-Pls. 4"x¾"x3'-3½" - cuc
2-Pls. 4"x¾"x3'-3½" - cud
2-Pls. 4"x¾"x3'-3½" - cue
2-Pls. 4"x¾"x3'-3½" - cuf
2-Pls. 4"x¾"x3'-3½" - cug
2-Pls. 4"x¾"x3'-3½" - cuh
2-Pls. 4"x¾"x3'-3½" - cui
2-Pls. 4"x¾"x3'-3½" - cuj
2-Pls. 4"x¾"x3'-3½" - cuk
2-Pls. 4"x¾"x3'-3½" - cul
2-Pls. 4"x¾"x3'-3½" - cum
2-Pls. 4"x¾"x3'-3½" - cun
2-Pls. 4"x¾"x3'-3½" - cuo
2-Pls. 4"x¾"x3'-3½" - cup
2-Pls. 4"x¾"x3'-3½" - cuq
2-Pls. 4"x¾"x3'-3½" - cur
2-Pls. 4"x¾"x3'-3½" - cus
2-Pls. 4"x¾"x3'-3½" - cut
2-Pls. 4"x¾"x3'-3½" - cuu
2-Pls. 4"x¾"x3'-3½" - cuv
2-Pls. 4"x¾"x3'-3½" - cuw
2-Pls. 4"x¾"x3'-3½" - cux
2-Pls. 4"x¾"x3'-3½" - cuy
2-Pls. 4"x¾"x3'-3½" - cuz
2-Pls. 4"x¾"x3'-3½" - cva
2-Pls. 4"x¾"x3'-3½" - cvb
2-Pls. 4"x¾"x3'-3½" - cvc
2-Pls. 4"x¾"x3'-3½" - cvd
2-Pls. 4"x¾"x3'-3½" - cve
2-Pls. 4"x¾"x3'-3½" - cvf
2-Pls. 4"x¾"x3'-3½" - cvg
2-Pls. 4"x¾"x3'-3½" - cvh
2-Pls. 4"x¾"x3'-3½" - cvi
2-Pls. 4"x¾"x3'-3½" - cvj
2-Pls. 4"x¾"x3'-3½" - cvk
2-Pls. 4"x¾"x3'-3½" - cvl
2-Pls. 4"x¾"x3'-3½" - cvm
2-Pls. 4"x¾"x3'-3½" - cvn
2-Pls. 4"x¾"x3'-3½" - cvo
2-Pls. 4"x¾"x3'-3½" - cvp
2-Pls. 4"x¾"x3'-3½" - cvq
2-Pls. 4"x¾"x3'-3½" - cvr
2-Pls. 4"x¾"x3'-3½" - cvs
2-Pls. 4"x¾"x3'-3½" - cvt
2-Pls. 4"x¾"x3'-3½" - cvu
2-Pls. 4"x¾"x3'-3½" - cvv
2-Pls. 4"x¾"x3'-3½" - cvw
2-Pls. 4"x¾"x3'-3½" - cvx
2-Pls. 4"x¾"x3'-3½" - cvy
2-Pls. 4"x¾"x3'-3½" - cvz
2-Pls. 4"x¾"x3'-3½" - cwa
2-Pls. 4"x¾"x3'-3½" - cwb
2-Pls. 4"x¾"x3'-3½" - cwc
2-Pls. 4"x¾"x3'-3½" - cwd
2-Pls. 4"x¾"x3'-3½" - cwe
2-Pls. 4"x¾"x3'-3½" - cwf
2-Pls. 4"x¾"x3'-3½" - cwg
2-Pls. 4"x¾"x3'-3½" - cwh
2-Pls. 4"x¾"x3'-3½" - cwi
2-Pls. 4"x¾"x3'-3½" - cwj
2-Pls. 4"x¾"x3'-3½" - cwk
2-Pls. 4"x¾"x3'-3½" - cwl
2-Pls. 4"x¾"x3'-3½" - cwm
2-Pls. 4"x¾"x3'-3½" - cwn
2-Pls. 4"x¾"x3'-3½" - cwo
2-Pls. 4"x¾"x3'-3½" - cwp
2-Pls. 4"x¾"x3'-3½" - cwq
2-Pls. 4"x¾"x3'-3½" - cwr
2-Pls. 4"x¾"x3'-3½" - cws
2-Pls. 4"x¾"x3'-3½" - cwt
2-Pls. 4"x¾"x3'-3½" - cwu
2-Pls. 4"x¾"x3'-3½" - cwv
2-Pls. 4"x¾"x3'-3½" - cww
2-Pls. 4"x¾"x3'-3½" - cwx
2-Pls. 4"x¾"x3'-3½" - cwy
2-Pls. 4"x¾"x3'-3½" - cwz
2-Pls. 4"x¾"x3'-3½" - cxa
2-Pls. 4"x¾"x3'-3½" - cxb
2-Pls. 4"x¾"x3'-3½" - cxc
2-Pls. 4"x¾"x3'-3½" - cxd
2-Pls. 4"x¾"x3'-3½" - cxe
2-Pls. 4"x¾"x3'-3½" - cxf
2-Pls. 4"x¾"x3'-3½" - cxg
2-Pls. 4"x¾"x3'-3½" - cxh
2-Pls. 4"x¾"x3'-3½" - cxi
2-Pls. 4"x¾"x3'-3½" - cxj
2-Pls. 4"x¾"x3'-3½" - cxk
2-Pls. 4"x¾"x3'-3½" - cxl
2-Pls. 4"x¾"x3'-3½" - cxm
2-Pls. 4"x¾"x3'-3½" - cxn
2-Pls. 4"x¾"x3'-3½" - cxo
2-Pls. 4"x¾"x3'-3½" - cxp
2-Pls. 4"x¾"x3'-3½" - cxq
2-Pls. 4"x¾"x3'-3½" - cxr
2-Pls. 4"x¾"x3'-3½" - cxs
2-Pls. 4"x¾"x3'-3½" - cxt
2-Pls. 4"x¾"x3'-3½" - cxu
2-Pls. 4"x¾"x3'-3½" - cxv
2-Pls. 4"x¾"x3'-3½" - cxw
2-Pls. 4"x¾"x3'-3½" - cxx
2-Pls. 4"x¾"x3'-3½" - cxy
2-Pls. 4"x¾"x3'-3½" - cxz
2-Pls. 4"x¾"x3'-3½" - cya
2-Pls. 4"x¾"x3'-3½" - cyb
2-Pls. 4"x¾"x3'-3½" - cyc
2-Pls. 4"x¾"x3'-3½" - cyd
2-Pls. 4"x¾"x3'-3½" - cye
2-Pls. 4"x¾"x3'-3½" - cyf
2-Pls. 4"x¾"x3'-3½" - cyg
2-Pls. 4"x¾"x3'-3½" - cyh
2-Pls. 4"x¾"x3'-3½" - cyi
2-Pls. 4"x¾"x3'-3½" - cyj
2-Pls. 4"x¾"x3'-3½" - cyk
2-Pls. 4"x¾"x3'-3½" - cyl
2-Pls. 4"x¾"x3'-3½" - cym
2-Pls. 4"x¾"x3'-3½" - cyn
2-Pls. 4"x¾"x3'-3½" - cyo
2-Pls. 4"x¾"x3'-3½" - cyp
2-Pls. 4"x¾"x3'-3½" - cyq
2-Pls. 4"x¾"x3'-3½" - cyr
2-Pls. 4"x¾"x3'-3½" - cys
2-Pls. 4"x¾"x3'-3½" - cyt
2-Pls. 4"x¾"x3'-3½" - cyu
2-Pls. 4"x¾"x3'-3½" - cyv
2-Pls. 4"x¾"x3'-3½" - cyw
2-Pls. 4"x¾"x3'-3½" - cyx
2-Pls. 4"x¾"x3'-3½" - cyy
2-Pls. 4"x¾"x3'-3½" - cyz
2-Pls. 4"x¾"x3'-3½" - cza
2-Pls. 4"x¾"x3'-3½" - czb
2-Pls. 4"x¾"x3'-3½" - czc
2-Pls. 4"x¾"x3'-3½" - czd
2-Pls. 4"x¾"x3'-3½" - cze
2-Pls. 4"x¾





2-Pls-6¼×½×6'-3¾ (Fin all edges) cbg
2-Pls-20(F1W)×½×5'-1¼ (F2E)-cbh
2-Fills 27(F1W)×⅝×4'-4¼ (F2E)-cbm
2-Bent Ls-4×4×⅝×17'-2 (Abt)-cbp
1-Bent Pl-16(UM)×¾×9'-4½ (Abt.)(F2E)-cbt
2-Pls-14½×½×1'-3½-cbu
2-Fills-7¾×⅝×0'-7¼-cbv
2-Ls-6×6×¾×5'-1¼ (F2E)-cbw

No.	Description	Mark	Remarks	Weight each Tons
2	Phos. Bronze Pls.-a		Ship in Place	
24	Turned Bolts-1⅜"⌀×3½ U.H. 1⅜ Thrd (Hex Hd. ⅞" High & Hex Nuts)		Ship in Place	
24	Washers 2¾"⌀×¼ thk-1½"⌀ Hole		Ship in Place	
One	Strut	TS4W		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey, Chief Inspector
RIVETS: ⅞"⌀ Unless Noted
OPEN HOLES: 1⅛"⌀
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except: 1 coat No-Oxid Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 4-24-34

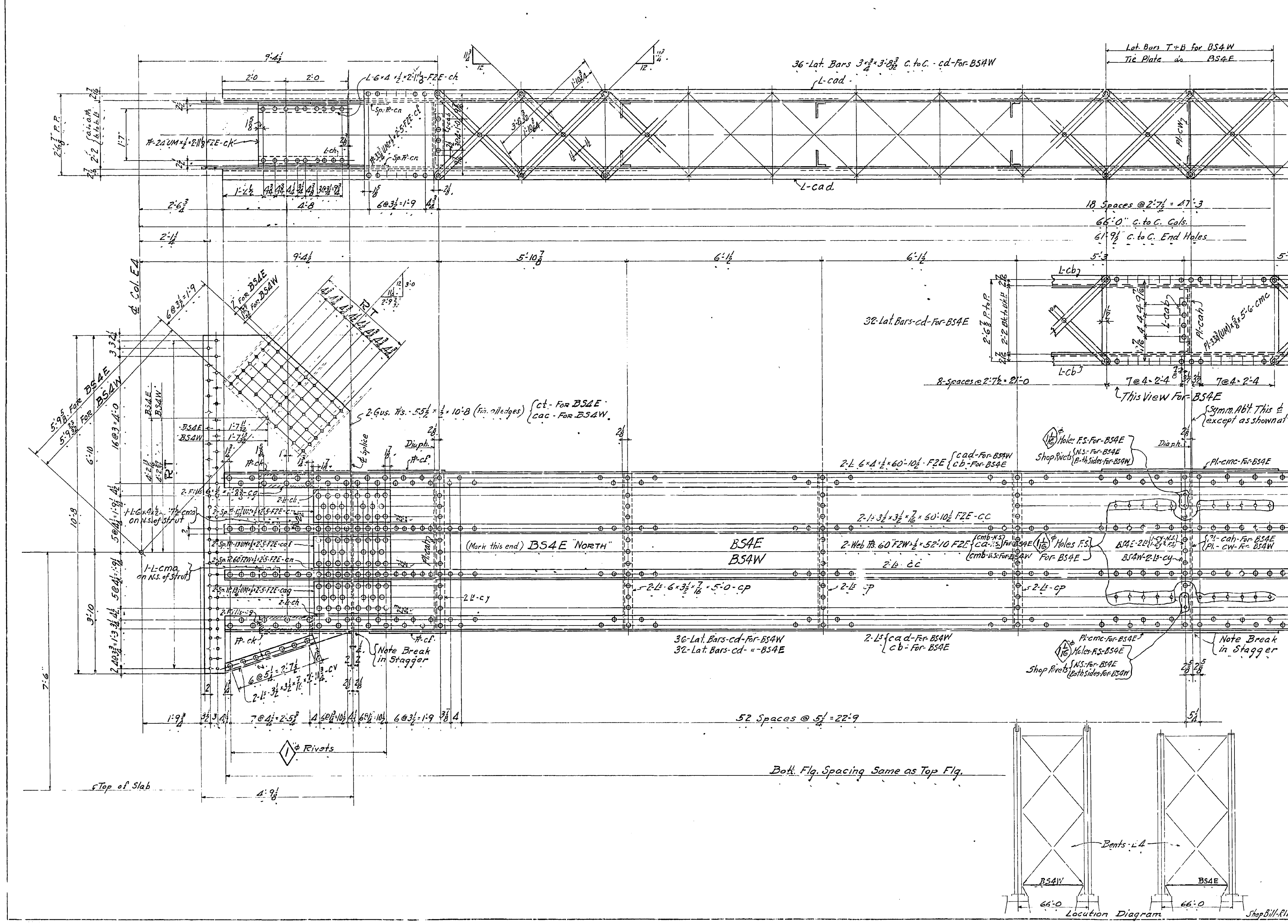
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

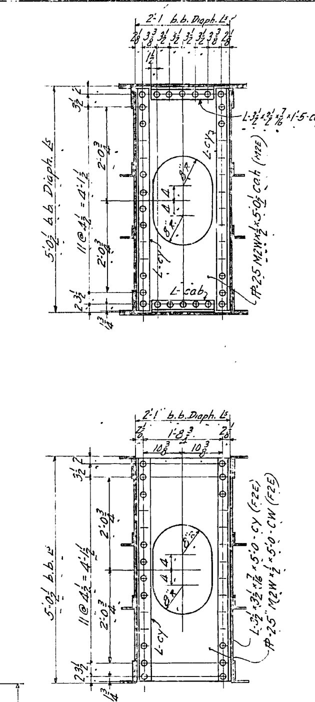
Strut at Top of Bent E4 (West)

McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS
IN CHARGE Boone
CHECKED BY JCM 2/20/34
LAST ASSEM. MK. cmb
MADE BY / TRACED BY S.S.B. 2/12/34

CONTRACT CR 1580-3 SHEET R112

30-1





No.	Description	Mark	Remarks	Weight each Tons
One	Bott. Strut	BS4W		
One	Bott. Strut	BS4E		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey Cheif Insp.
RIVETS: 7/8"ϕ unless noted
OPEN HOLES: 1 1/16"ϕ unless noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat Mo-Ox id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 3-31-34

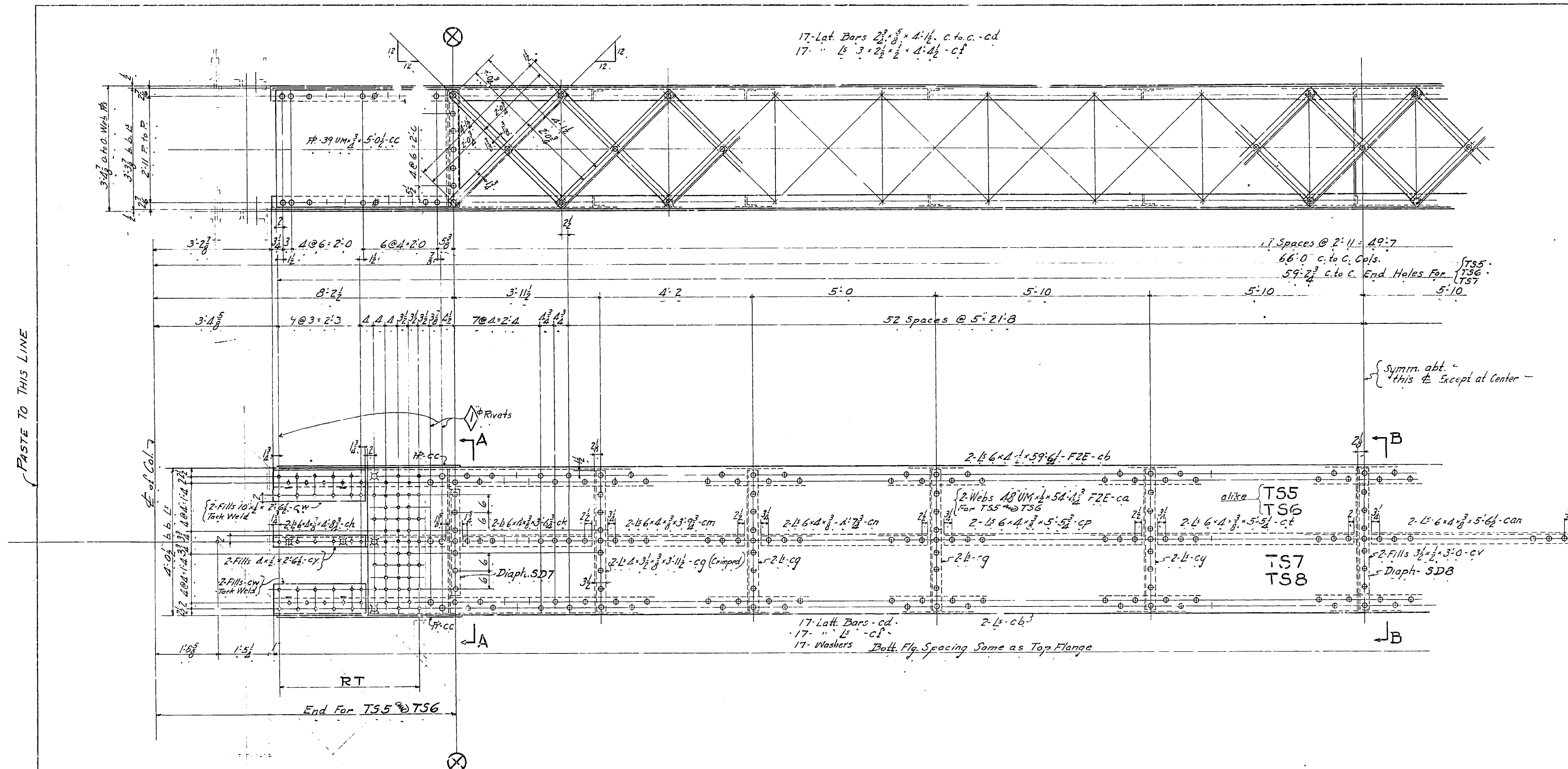
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

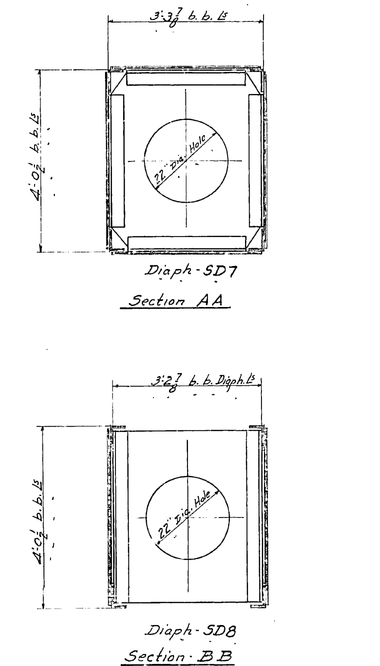
Bott. Strut-Bent E4

McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS

IN CHARGE Boone MADE BY R.V.K. 2/7/34
CHECKED BY TRP 2-?-34 TRACED BY do.
LAST ASSEM. MK. cmc

CONTRACT CR15803 SHEET R 113

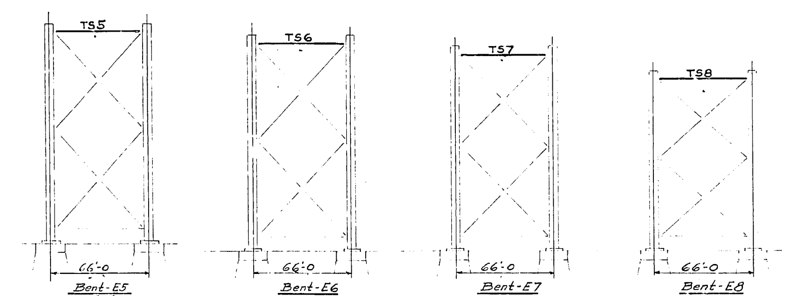




Diaph's. Detailed & Ordered on Sheet - RJS2

No.	Description	Mark	Remarks	Weight each Tons
One	Top Strut	TS8		
One	" "	TS7		
One	" "	TS6	alike	
One	" "	TS5		

REQUIRED LIST



Location Diagram

Work This Dwg. in conjunction with Dwg. #R114A

Shop Bill-R1140

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey Chief Insp.
RIVETS: 7/8" ⌀ unless noted.
OPEN HOLES: 1 1/16 ⌀
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates or angles, and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

Engineer of Design
Bridge Engineer
Chief Engineer
Date 4-19-34

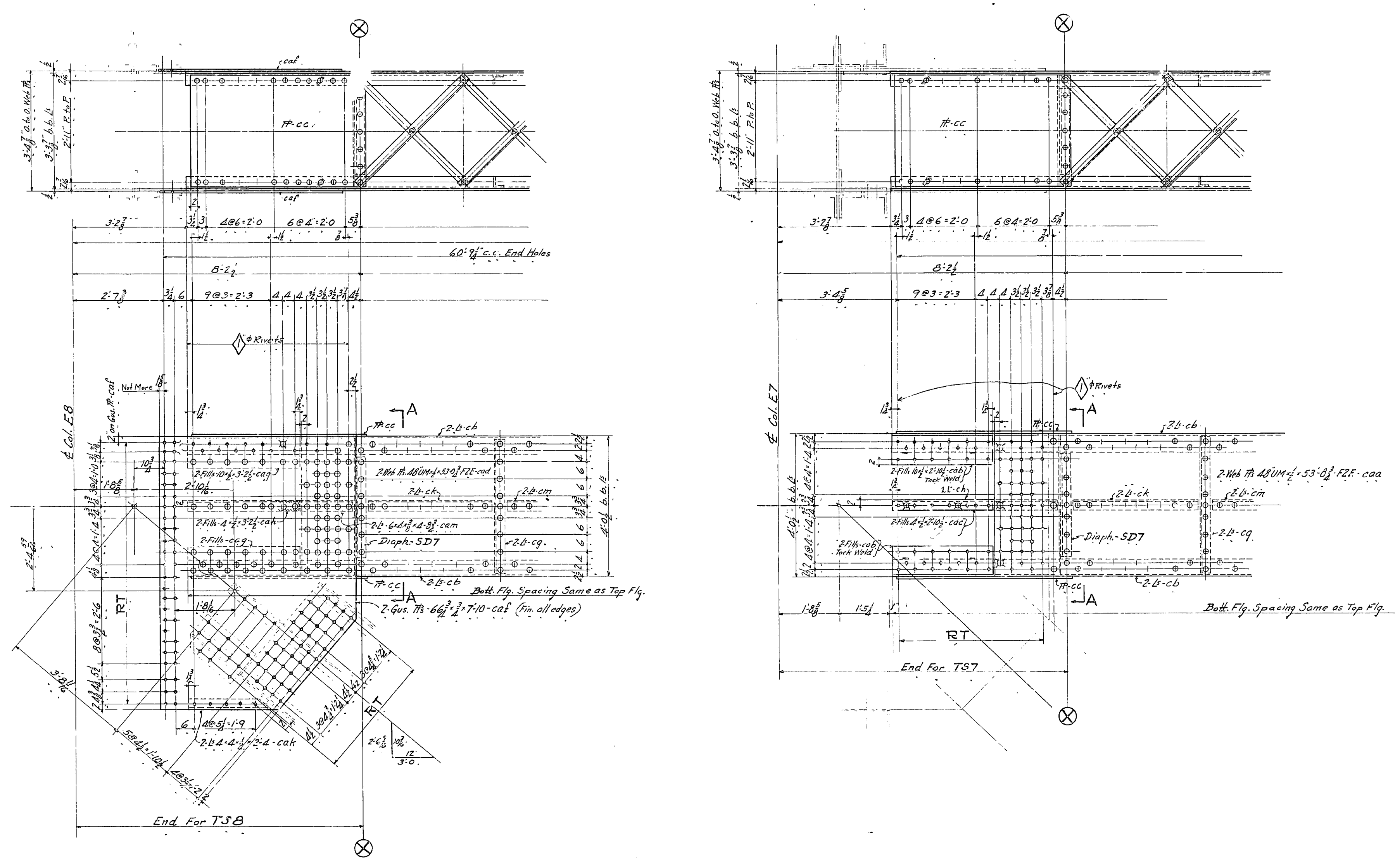
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

Top Struts - Bent E5 to E8 inc.

McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS
IN CHARGE Boone MADE BY R.V.K. 1/31/34
CHECKED BY C.P. 2-16-34 TRACED BY do.
LAST ASSEM. MK. can

CONTRACT CR-15803 SHEET R 114

30-1



Work this Dwg. in conjunction with Dwg. # R114

CUT ON THIS LINE

No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS:
OPEN HOLES:
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4 thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No Oxide Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

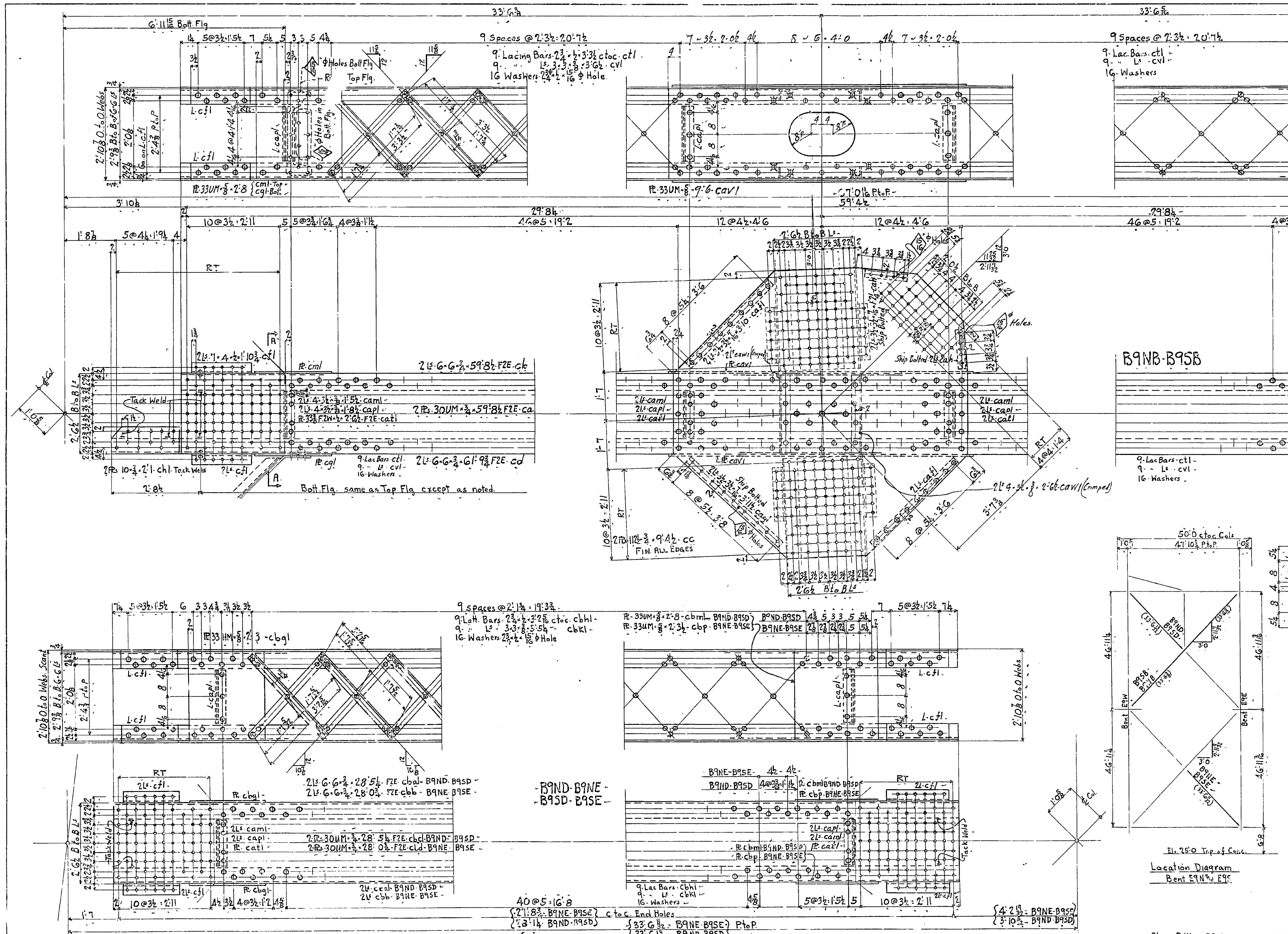
Engineer of Design
Chas. E. Andrew — Bridge Engineer
Chief Engineer
Date 4-19-34

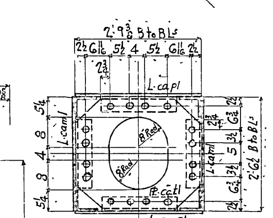
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

Tr - Struts Bents E5 to E8 inc.

McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS
IN CHARGE Boone MADE BY R.V.K 1/31/34
CHECKED BY TRP 2-16-34 TRACED BY
LAST ASSEM. MK. can

CONTRACT CR 15803 SHEET R 114R





SECTION A-A

No.	Description	Mark	Remarks	Weight each Tons
One	Diagonal	B9NB	} Alike	
One	Do	B9SB		
One	Do	B9ND	} Alike	
One	Do	B9SD		
One	Do	B9NE	} Alike	
One	Do	B9SE		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey - Chief Insp.
RIVETS: 7/8" φ
OPEN HOLES: 1 1/16" φ Unless Noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except: 1 coat No-Oxid Filler Red for base and cap plates of Towers, of Bents, and of built up sheets and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd
4/27/34	Holes added in Ps. cc	

APPROVED

[illegible] — Engineer of Design
[illegible] — Bridge Engineer
[illegible] — Chief Engineer
Date: 3-16-34

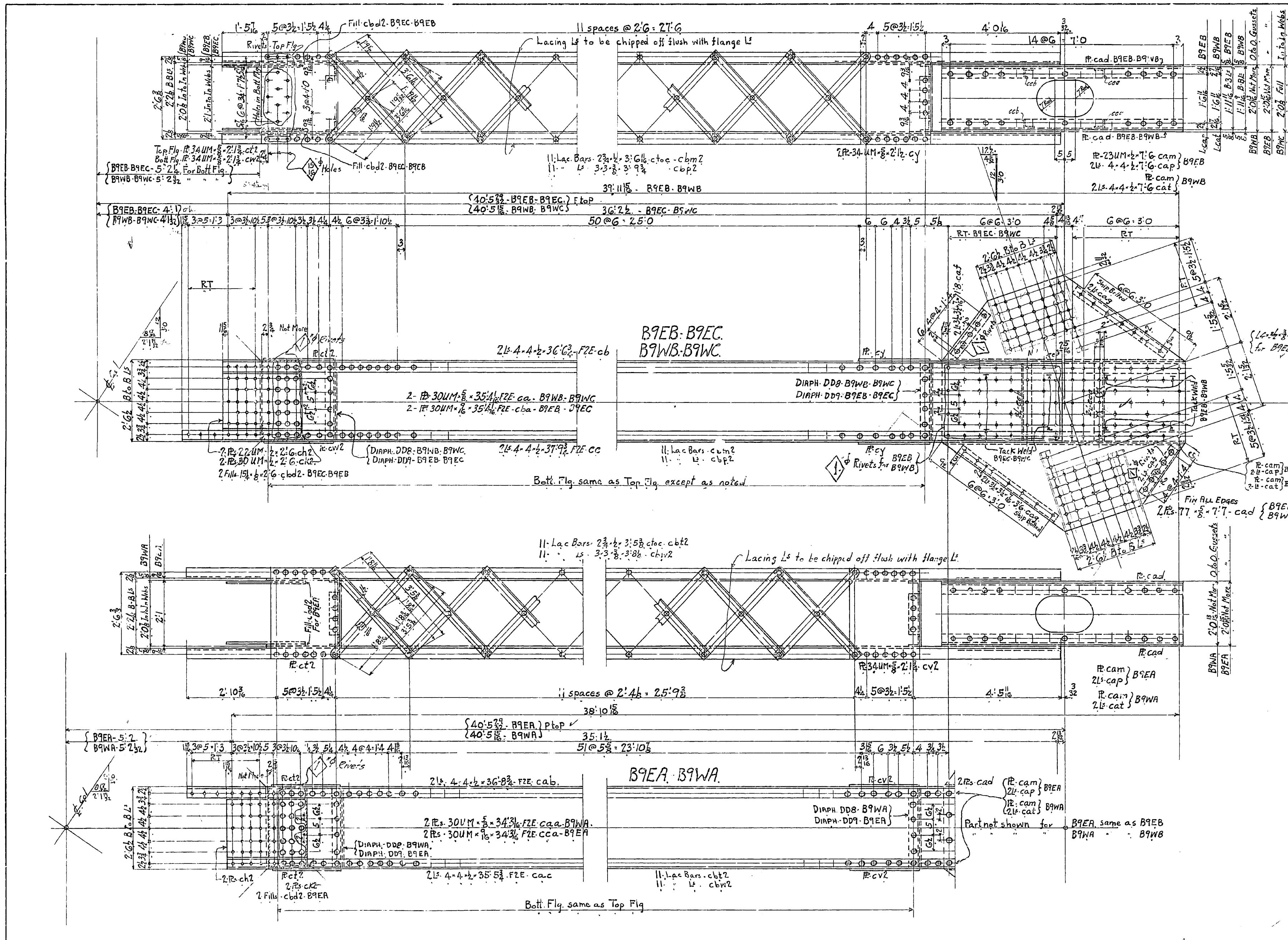
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

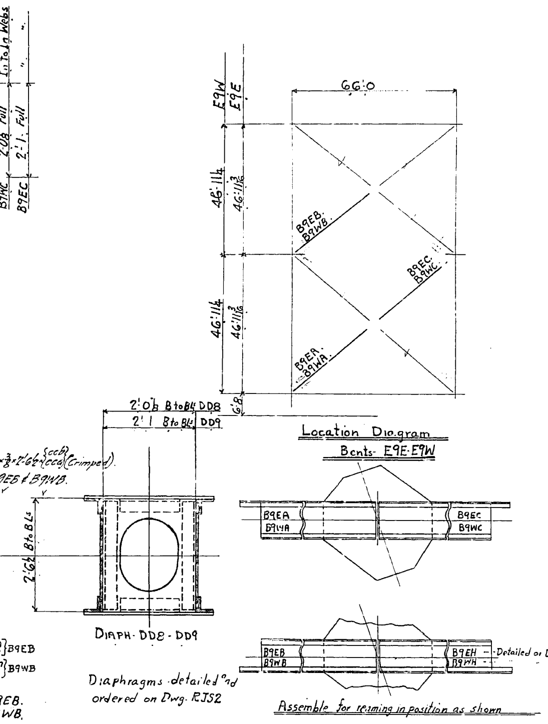
Diagonal Bracing - Bent E9

[illegible]-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS
IN CHARGE Boone MADE BY JRS. 2-12-34
CHECKED BY TRP. 2-15-34 TRACED BY
LAST ASSEM. MK. cpp

CONTRACT CR15804 SHEET R 201

30-1





MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc; for silican steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey Chief Insp.
RIVETS: 7/8" ϕ Unless Noted
OPEN HOLES: 1 1/16" ϕ Unless Noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size, Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes: and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

No.	Description	Mark	Remarks	Weight Each Tons
One	Diagonal	B9EA		
One	Do	B9WA		
One	Do	B9EB		
One	Do	B9WB		
One	Do	B9EC		
One	Do	B9WC		

REQUIRED LIST

Date	Revision	App'd

APPROVED

Glenn B Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 3-16-34

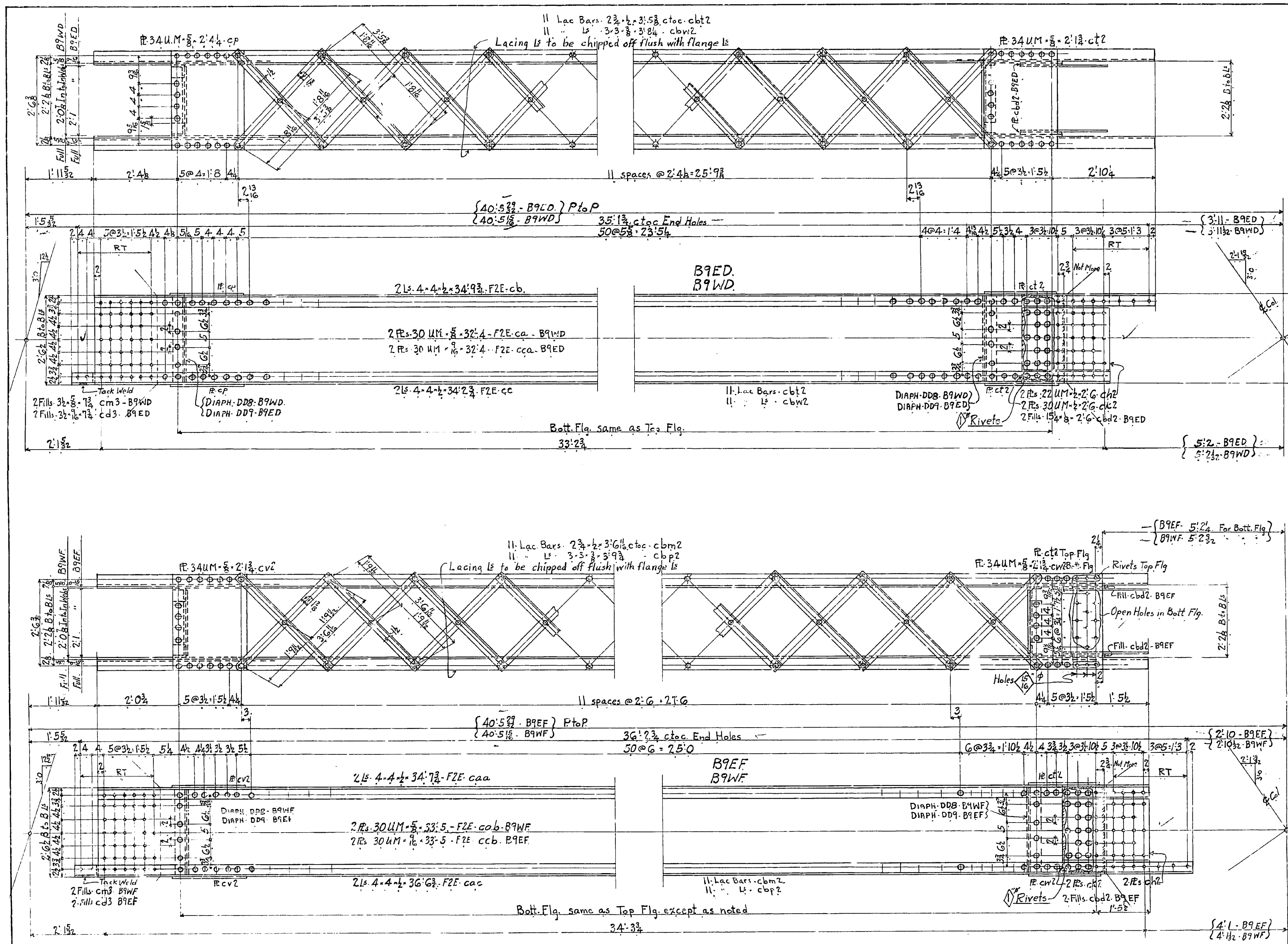
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Diagonal Bracing - Bent E9

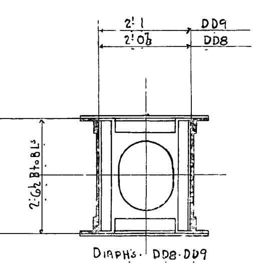
McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS

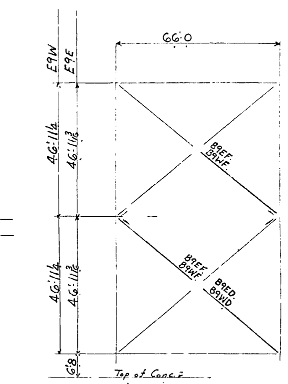
IN CHARGE Brown — MADE BY JAS. 12.29.33
CHECKED BY E.R.C. 2/9/34 — TRACED BY
LAST ASSEM. MK. ccb

CONTRACT CR15804 — SHEET R 202

30-1







Location Diagram
Bent - E9

Diaphragms detailed and Ordered on Dwg. RJ52

One.	Diagonal.	B9ED.		
One.	Do.	B9WD.		
2.	Do.	B9EF.		
2.	Do.	B9WF.		
No.	Description	Mark	Remarks	Weight Each Tons

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey - Chief Insp
RIVETS: 7/8" ϕ Unless Noted
OPEN HOLES: 1 1/16" ϕ Unless Noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

Glenn B Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 3-16-34

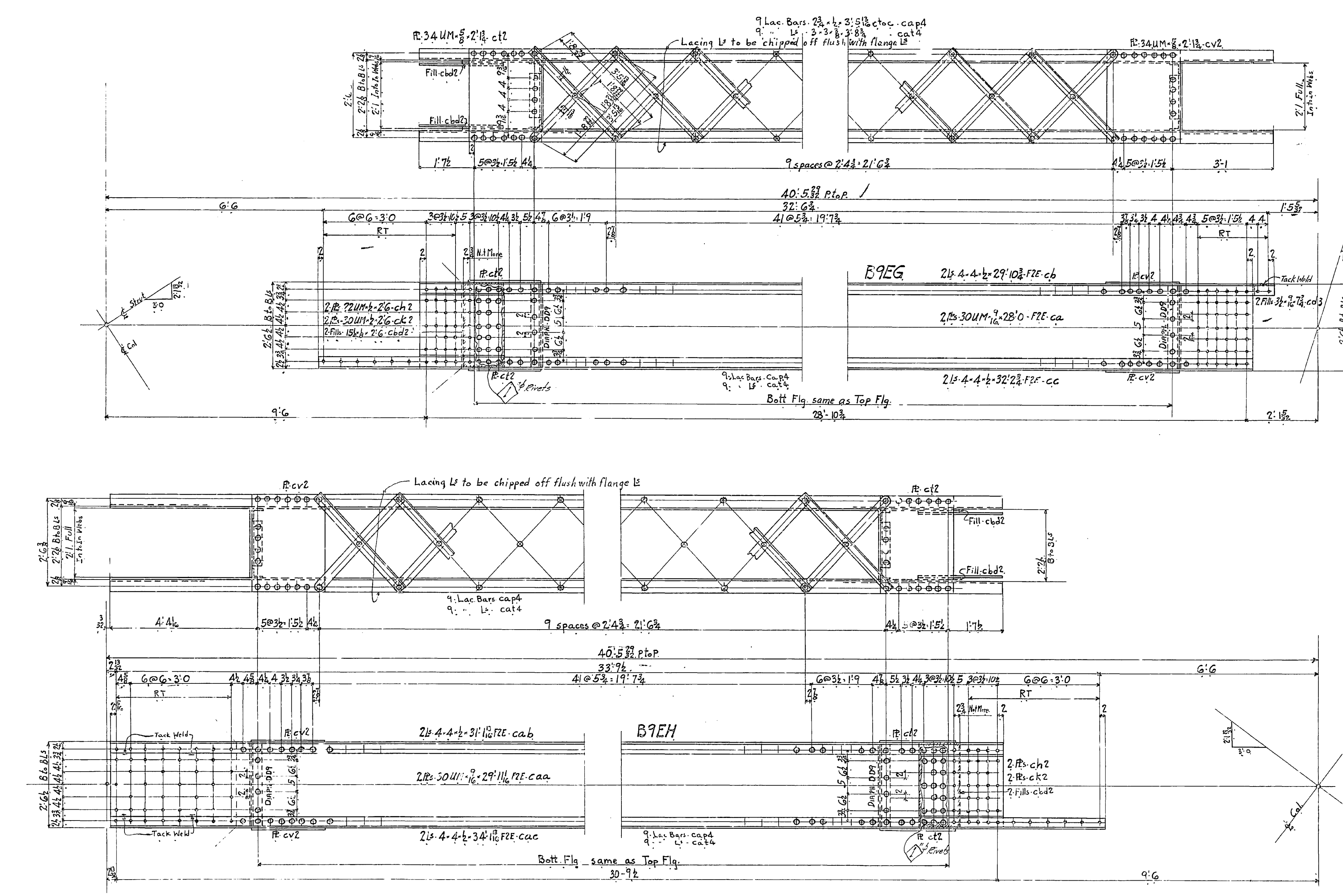
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE - EAST BAY CROSSING
Diagonal Bracing - Bent E9

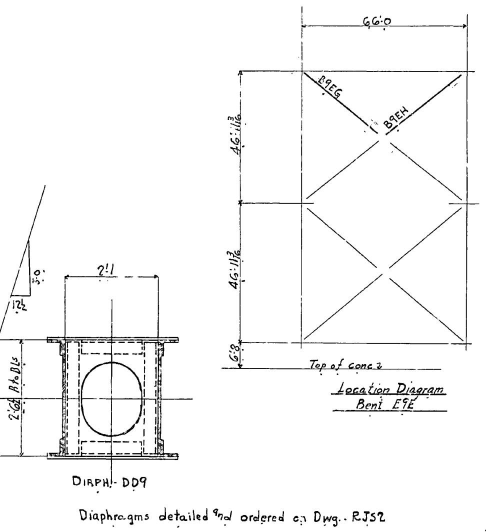
McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS

IN CHARGE Boone — MADE BY JAS 1-2-34
CHECKED BY — TRACED BY
LAST ASSEM. MK cac

CONTRACT CR15804 — SHEET R 203

Shop Bills: R2030-R2031





No.	Description	Mark	Remarks	Weight each Tons
One	Diagonal.	B9EG.		
One	Do.	B9EH.		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey, Chief Insp.
RIVETS: 7/8"ϕ
OPEN HOLES: 1 1/16"ϕ
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

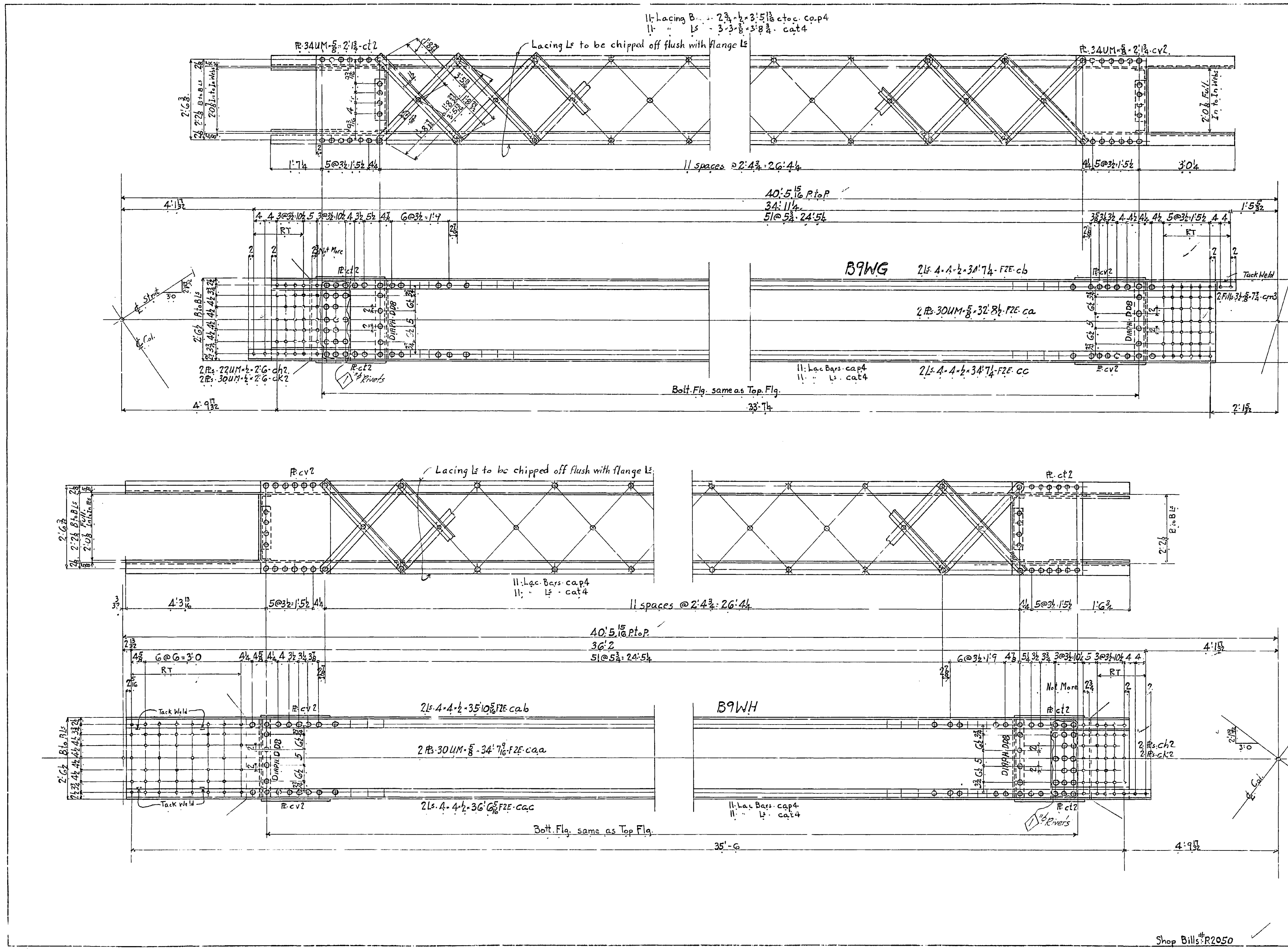
APPROVED

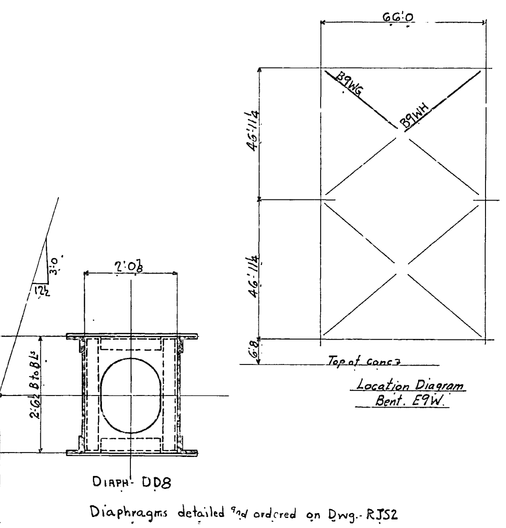
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 3-16-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE EAST BAY CROSSING
Diagonal Bracing - Bent E9

[illegible]INTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM. Steelton WORKS
IN CHARGE Boone   MADE BY JAS. 1-3-34
CHECKED BY E.R.C. 2/12/34   TRACED BY
ASST. ASSEM. MR. CHC

CONTRACT CR15804   SHEET R 204





No.	Description	Mark	Remarks	Weight each Tons
One	Diagonal	B9WG		
One	Do.	B9WH		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey - Chief Insp
RIVETS: 7/8" ϕ
OPEN HOLES: 1 1/16" ϕ
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/4" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except: 1 coat No-Oxid Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

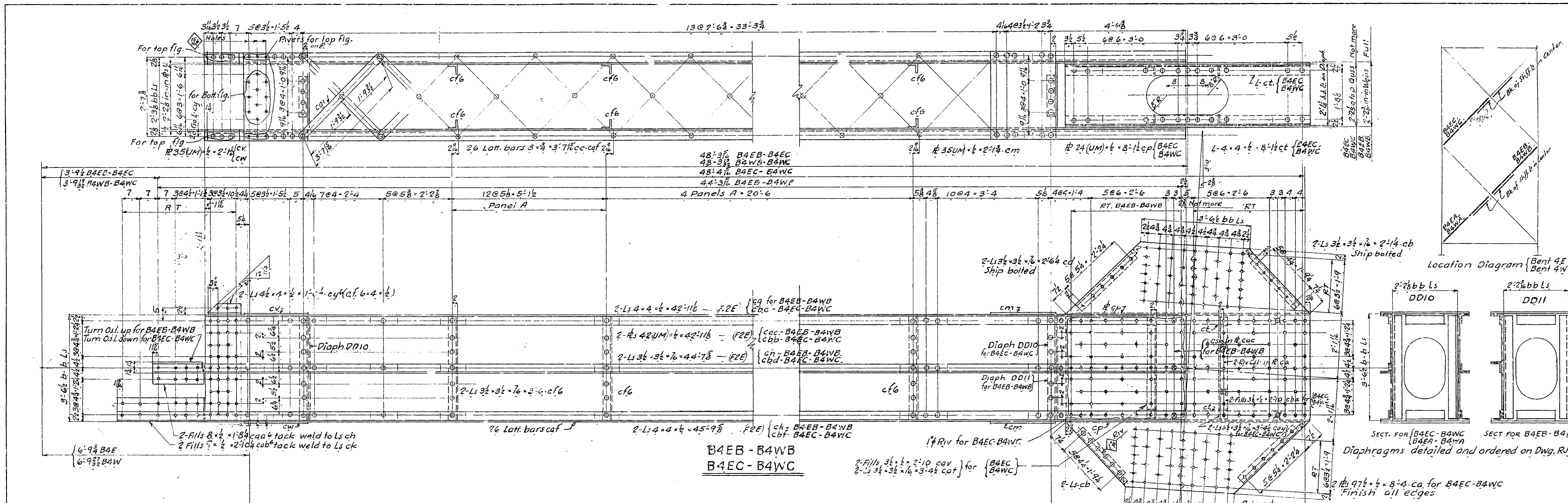
APPROVED

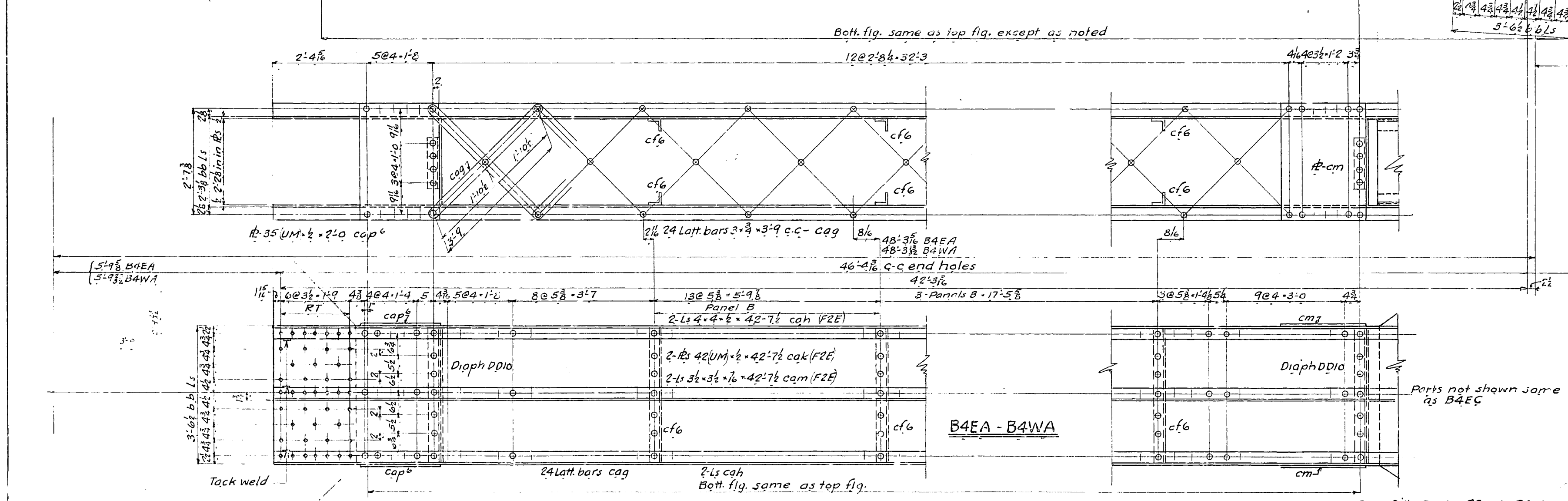
Engineer of Design
Bridge Engineer
Chief Engineer
Date: 3-16-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Diagonal Bracing - Bent E9

McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS
IN CHARGE Boone
CHECKED BY FRC. 2/12/34
LAST ASSEM. MK. cac
MADE BY JAS. 1-5-34
TRACED BY

CONTRACT CR 15804
SHEET R 205





One	Diagonal.	B4EA.	Alike.	
One	Do.	B4WA.		
One	Do.	B4EB.	Alike	
One	Do.	B4WB.		
One	Do.	B4EC.	Alike	
One	Do.	B4WC.		
No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey Chief Inspector
RIVETS: ⅞"ϕ Unless noted
OPEN HOLES: 1⅙" Unless noted
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up slices; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 4-4-34

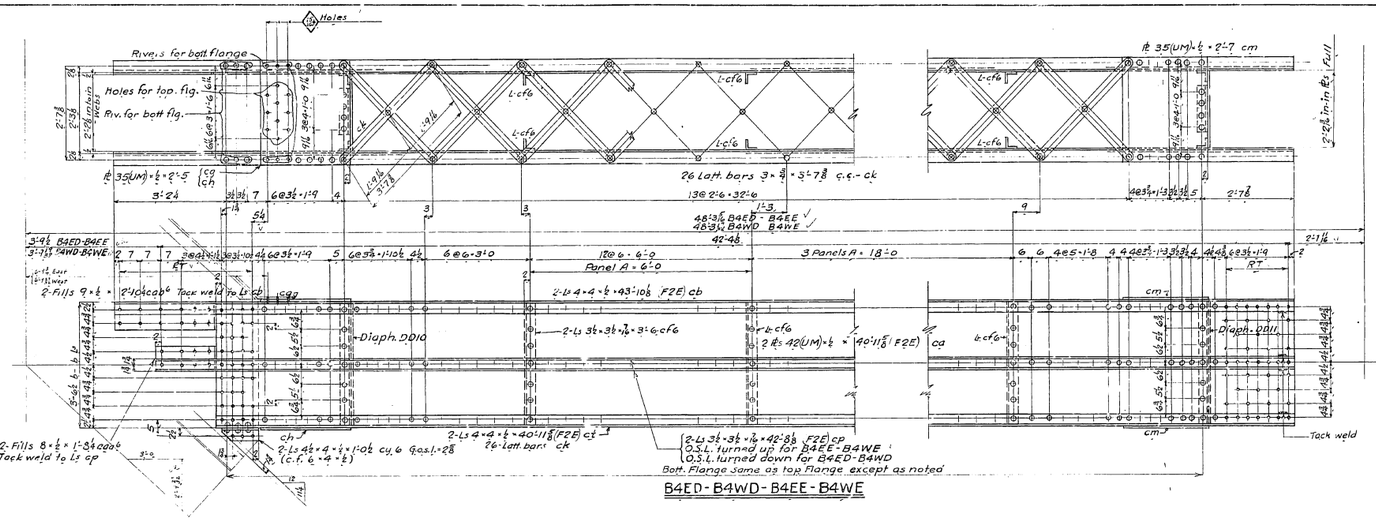
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

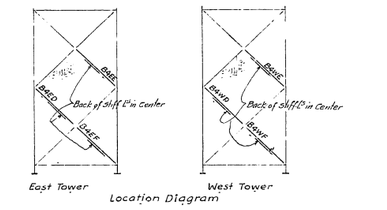
DIAGONAL BRACING BENT 4

McCLINTIC-MARSHALL CORPORATION
STEELTON DRAWING ROOM STEELTON WORKS

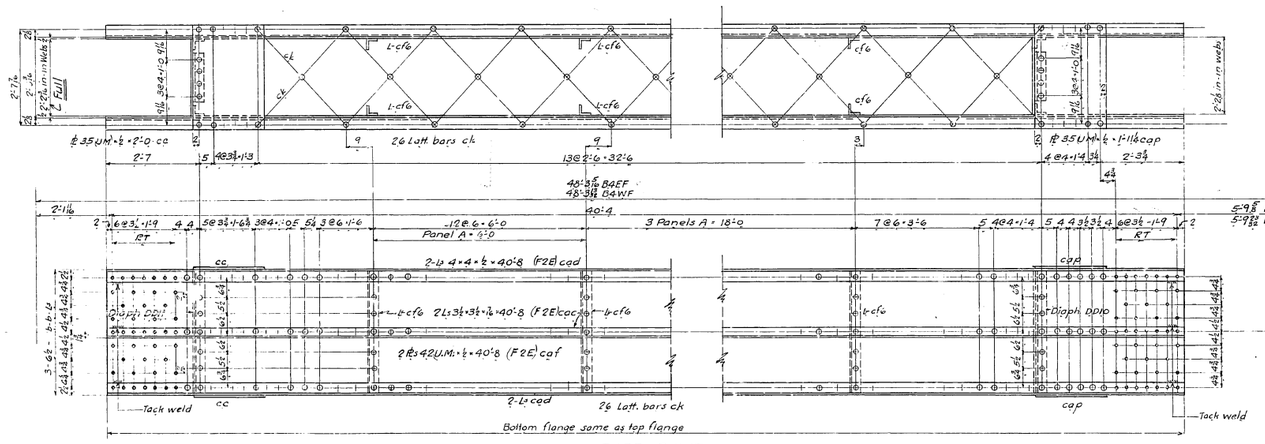
IN CHARGE C.P. Boone MADE BY R.W.A. 2-8-34
CHECKED BY [illegible] 2/21/34 TRACED BY
LAST ASSEM. MK. cbg

CONTRACT CR 1580-4 SHEET R 206





Diaphragms Detailed and ordered on dwg RJ52

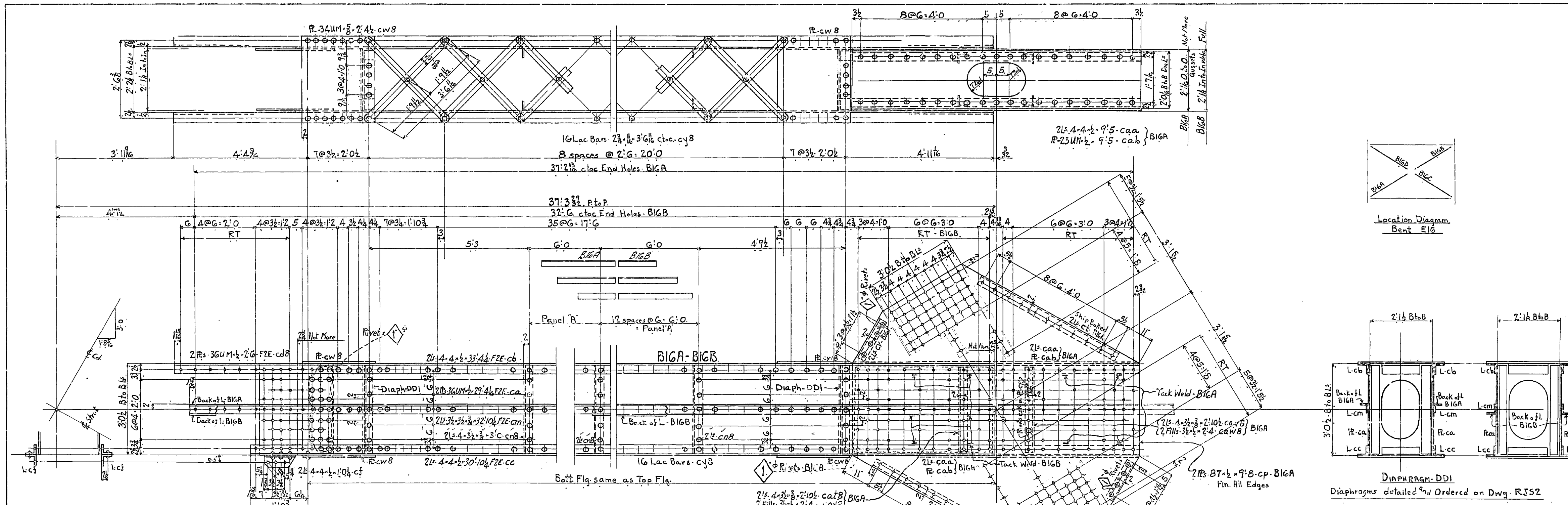


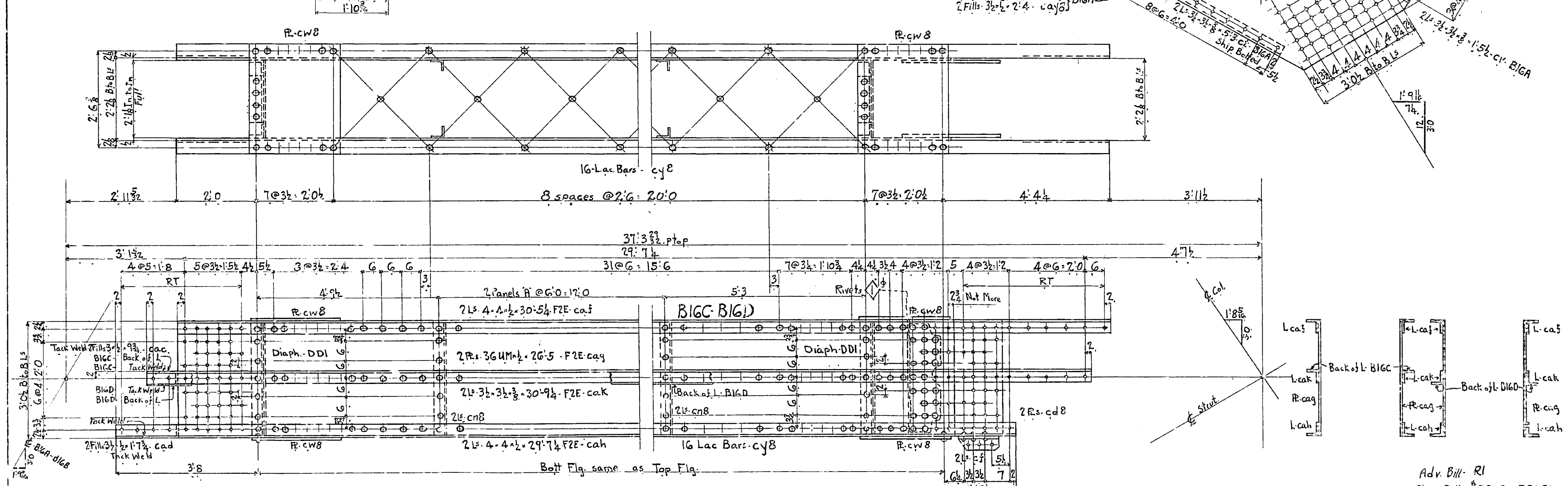
ONE	DIAGONAL	B4ED	Alike	
ONE	Do.	B4WD		
ONE	Do.	B4WE	Alike	
ONE	Do.	B4EF		
ONE	Do.	B4EE	Alike	
ONE	Do.	B4WF		
No.	Description	Mark	Remarks	Weight Tons

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: J.M.Bailey Chief Inspector
RIVETS: ⅞
OPEN HOLES: 1/16 Unless noted
PUNCHING: Holes in material ⅝" thick or less used for stringer laterals, stay plates, bracing, and diaphragms may be punched full size. Holes in main material ⅝" thick or less to be subpunched ½" and reamed to size after assembly.
DRILLING: Holes in material over ⅝" thick to be sub-drilled 3/16" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with lumb steel-stencils and paint.
SHOP PAINT: None except 1 coat Dixon's Ruby Red Iron Oxide Boiled Linseed Oil mixed ready for use, first for floor and web plates of Towers, of Bents, and of built up chords and flanges. Resulting

30-1





MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey Chief Inspector.
RIVETS: 7/8 ϕ Unless Noted
OPEN HOLES: 1 1/16" ϕ
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint
SHOP PAINT: None except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes, and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

No.	Description	Mark	Remarks	Weight each Tons
One	Diagonal	B16A		
One	Do	B16B		
One	Do	B16C		
One	Do	B16D		

REQUIRED LIST

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 3-7-34

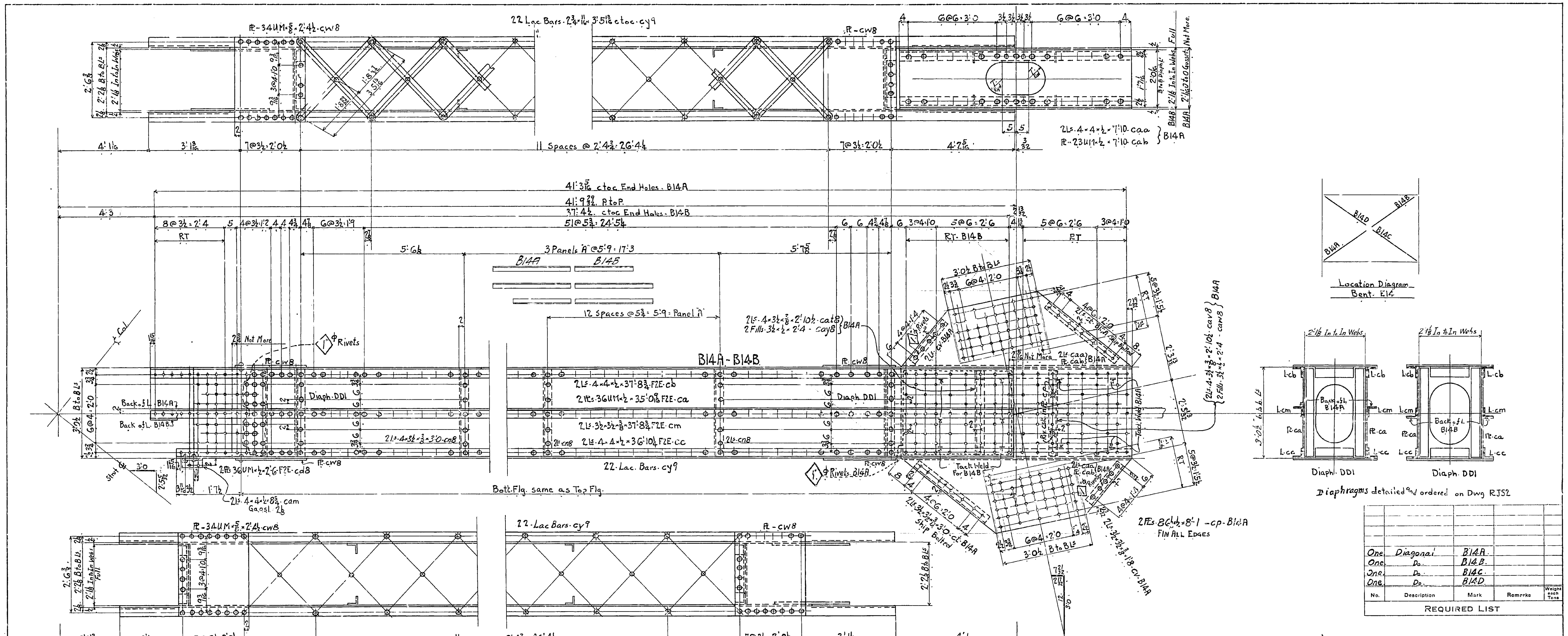
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

Bracing - Bent - E16

McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS

IN CHARGE Boone — MADE BY JRS 1-15-34
CHECKED BY F.R.C. — TRACED BY
LAST ASSEM. MK. Cak

CONTRACT CR15804. SHEET R 208



No.	Description	Mark	Remarks	Weight each Tons
One	Diagonal	B14A.		
One	Do.	B14B.		
One	Do.	B14C.		
One	Do.	B14D.		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey Chief Inspector
RIVETS: 7/8"φ Unless Noted
OPEN HOLES: 1 1/16"φ
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

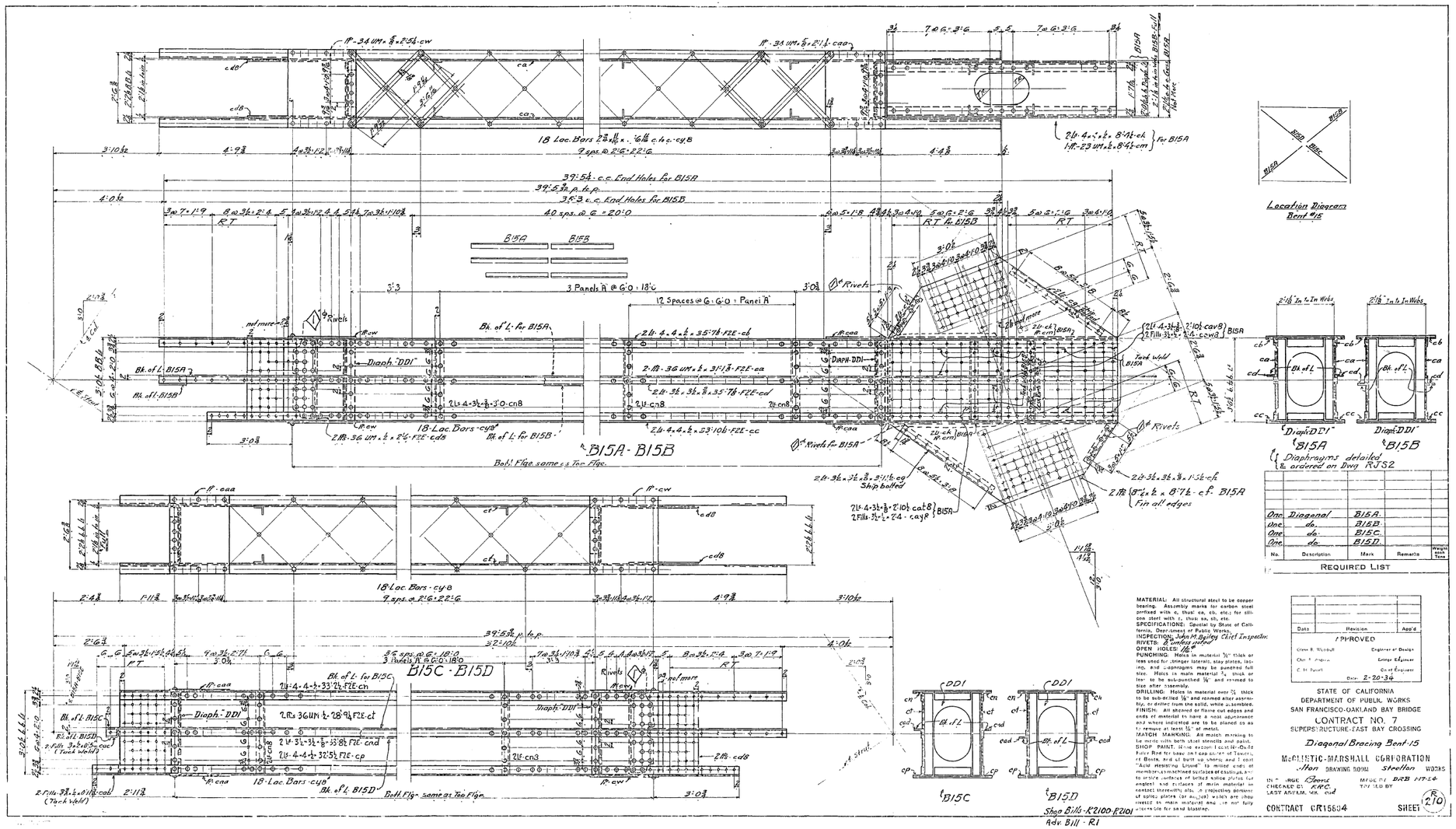
Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 2-20-34.

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Diagonal Bracing - Bent E14

McCLINTIC-MARSHALL CORPORATION
[illegible]elton DRAWING ROOM Steelton WORKS
IN CHARGE Boom — MADE BY JRS. 1-17-34
CHECKED BY F.R.C. — TRACED BY
[illegible] ASSEM. MK. cak
CONTRACT CR15804 — SHEET R 209



No.	Description	Mark	Remarks	Weight per Span
One	Diagonal	B15A		
One	do.	B15B		
One	do.	B15C		
One	do.	B15D		

REQUIRED LIST

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. H. Purcell — Chief Engineer
C. H. Purcell — Chief Engineer
Date: 2-20-34

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: cs, cb, etc.; for silicon steel with r, thus: rs, rb, etc.

SPECIFICATIONS: Special by State of California, Department of Public Works.

INSPECTION: John M. Bailey, Chief Inspector.

RIVETS: ⅞ unless noted.

OPEN HOLES: 1⅛ dia.

PUNCHING: Holes in material ⅝" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ⅝ thick or less to be sub-punched ¼" and reamed to size after assembly.

DRILLING: Holes in material over ⅝ thick to be sub-drilled 1/4" and reamed after assembly, or drilled from the solid, while assembled.

FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.

MATCH MARKING: All match marking to be metric with both steel stencils and paint.

SHOP PAINT: All as except 1 coat Red-Oxide Paint for base and top plates of Towers, at Bents, and all built up shapes; and 1 coat "Acid Resisting Enamel" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates for angles and surfaces of main material in contact therewith, etc., & respecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for hand blasting.

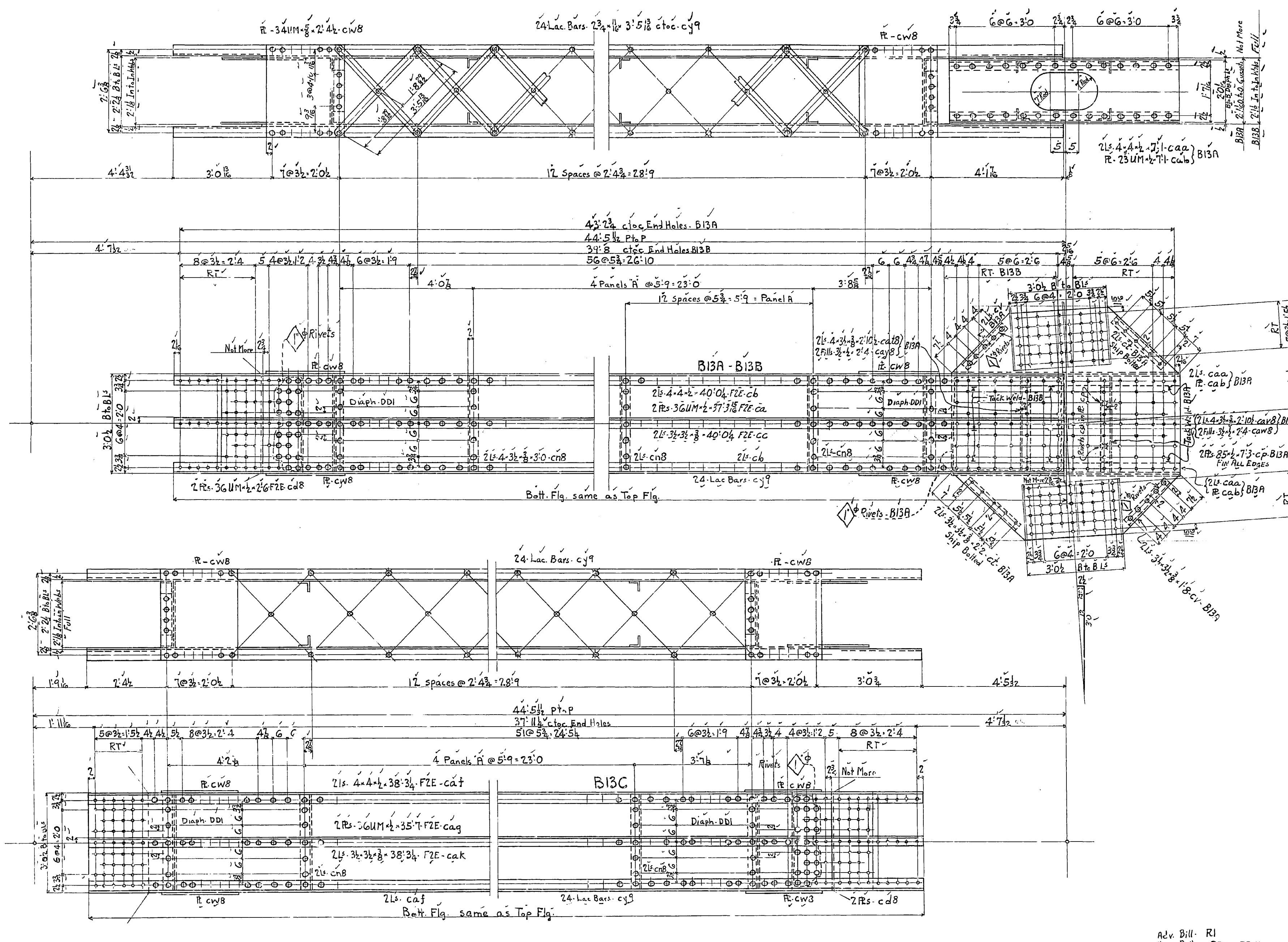
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

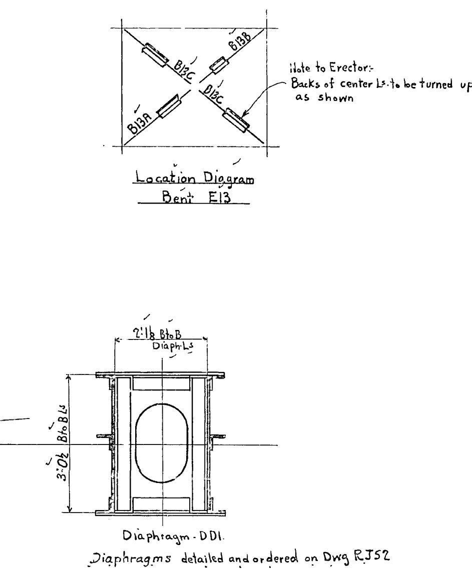
Diagonal Bracing Bent 15

McCLINTIC-MARSHALL CORPORATION
New York DRAWING ROOM *Stockton* WORKS

IN CHARGE: *Bonnie* MADE BY: *DRB 11-24*
CHECKED BY: *K.R.C.* TRACED BY
LAST ASSIGN. MK. *cud*

CONTRACT *CR15804* SHEET 210





No.	Description	Mark	Remarks	Weight each Tons
One	Diagonal	B13A		
One	Do	B13 B		
7	Do	B13C		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M Bailey - Chief Insp.
RIVETS: 7/8" ϕ Unless Noted
OPEN HOLES: 1 1/16" ϕ
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4 thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

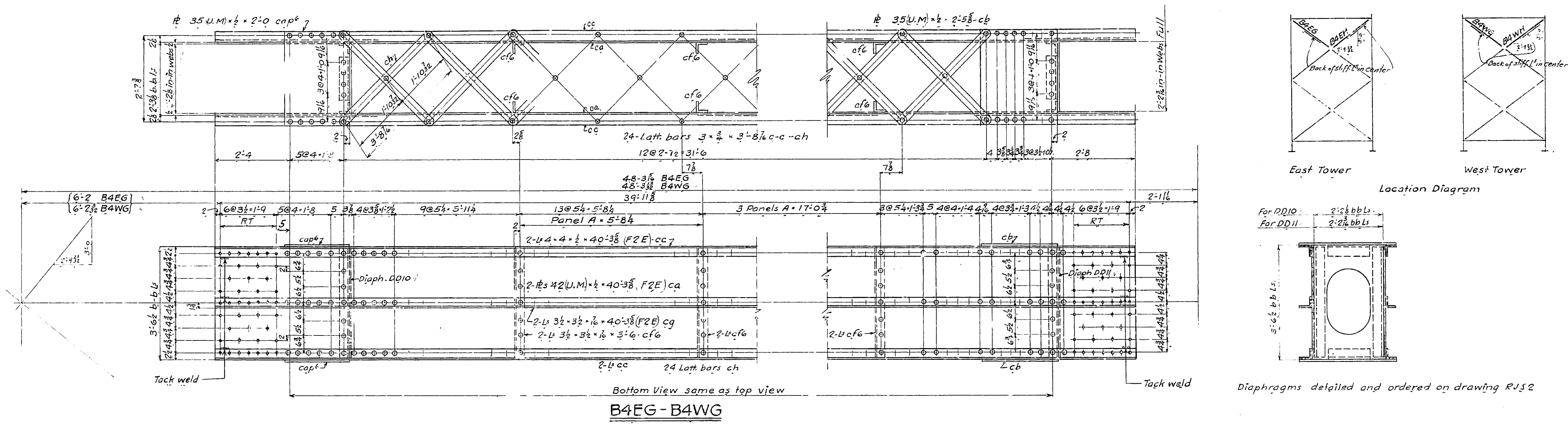
Date	Revision	App'd

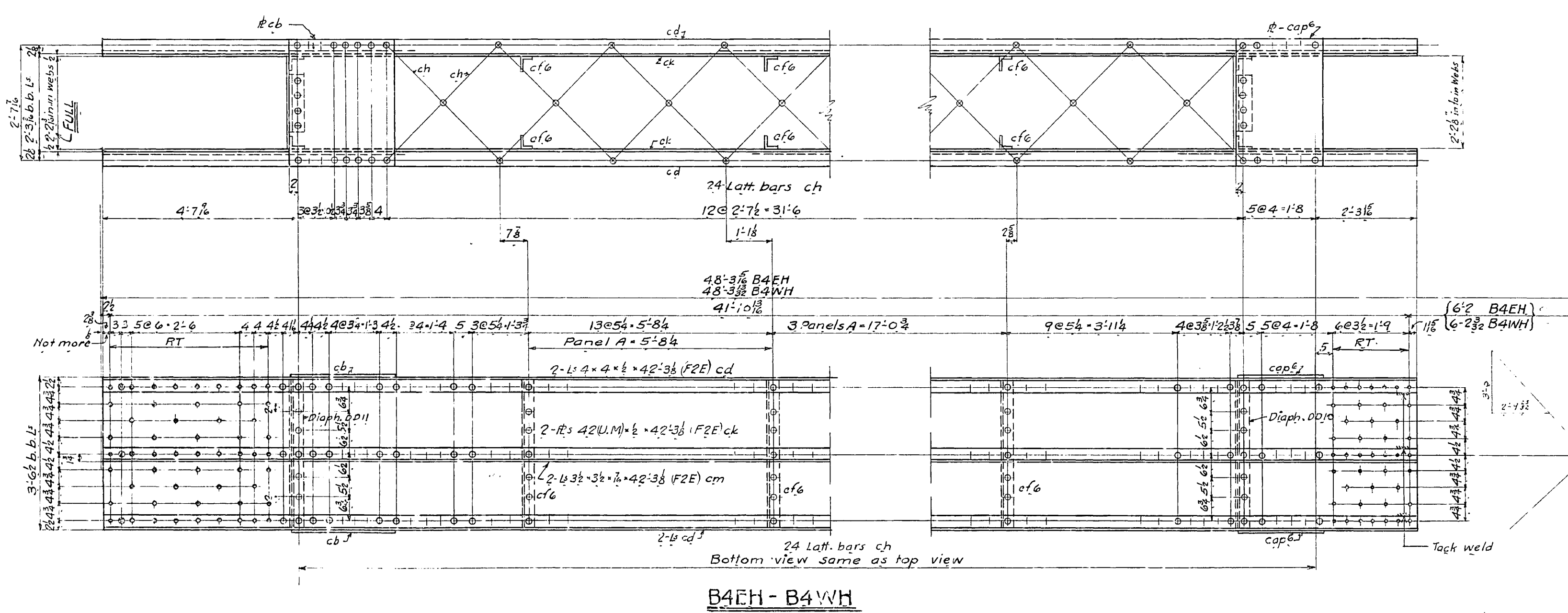
APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 2-20-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Diagonal Bracing - Bent E13

McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS
IN CHARGE
CHECKED BY
LAST ASSEM. MK.
MADE BY JAS - 1-18-34
TRACED BY
CONTRACT CR15804
SHEET R 211





No.	Description	Mark	Remarks	Weight each Tons
ONE	DIAGONAL	B4EG.	Alike	
ONE	Do.	B4WG.		
ONE	Do.	B4EH.	Alike	
ONE	Do	B4WH.		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: J.M. Bailey Chief Inspector
RIVETS: ⅞"φ
OPEN HOLES: 1 1/16φ
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Shop Bill - R2120

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 4-4-34

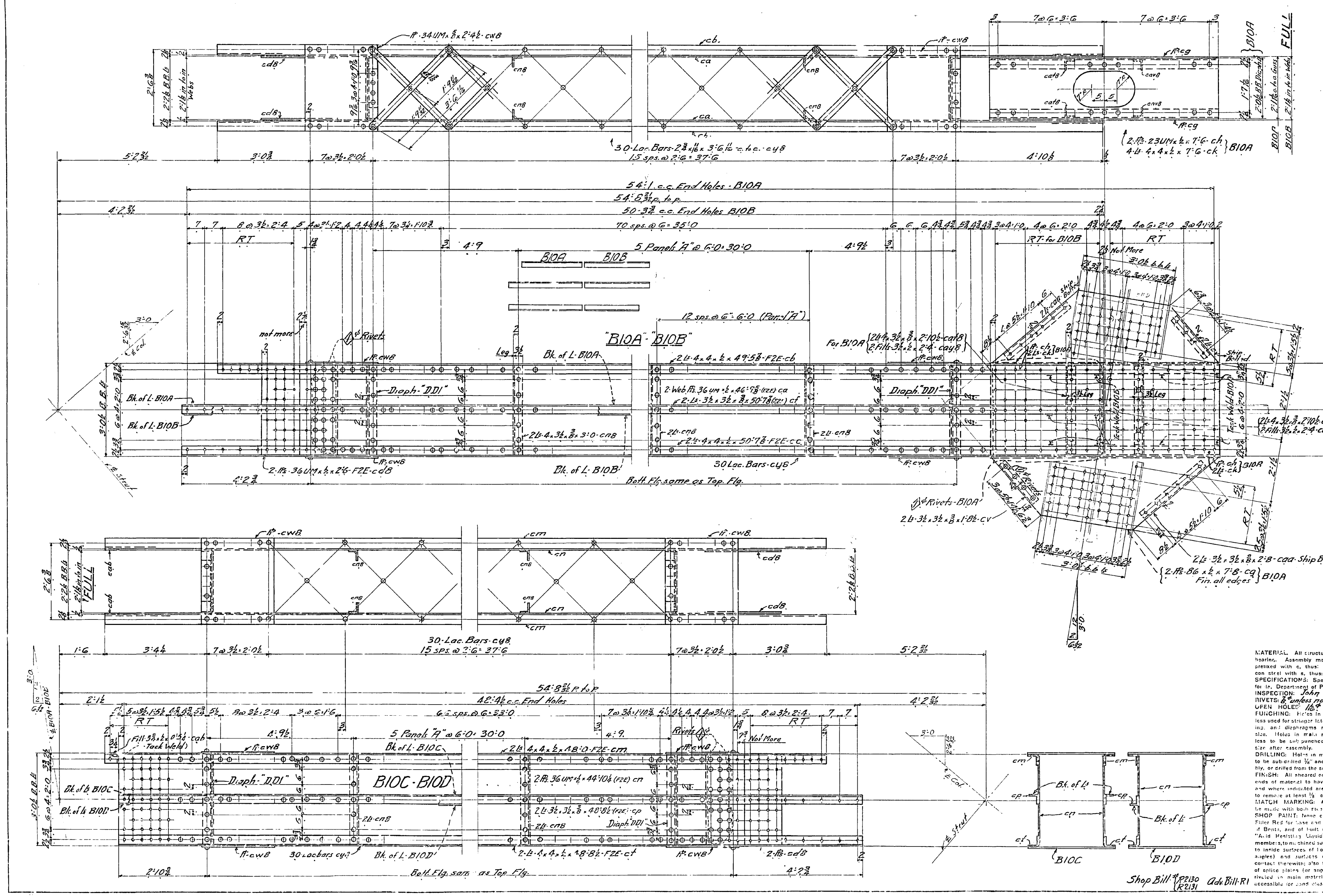
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

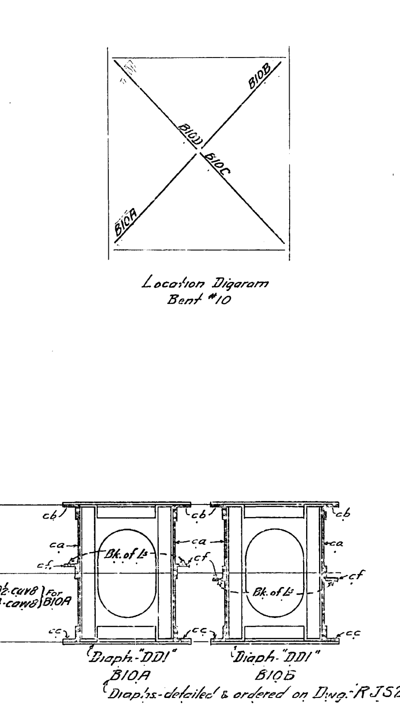
DIAGONAL BRACING BENT 4

McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS
IN CHARGE C.P. Boone MADE BY / TRACED BY R.W.A. 1-16-34
CHECKED BY C.J.M.
LAST ASSEM. MK. cm

CONTRACT CR 1580-4 SHEET R 212

30-1





No.	Description	Mark	Remarks	Weight each Tons
One.	Diagonal	B10A.		
One.	do.	B10B.		
One.	do.	B10C.		
One.	do.	B10D.		

REQUIRED LIST

MATERIAL. All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: *John M. Bailey Chf. Inspt.*
RIVETS: *⅞" unless noted*
OPEN HOLES: *1 1/16"*
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

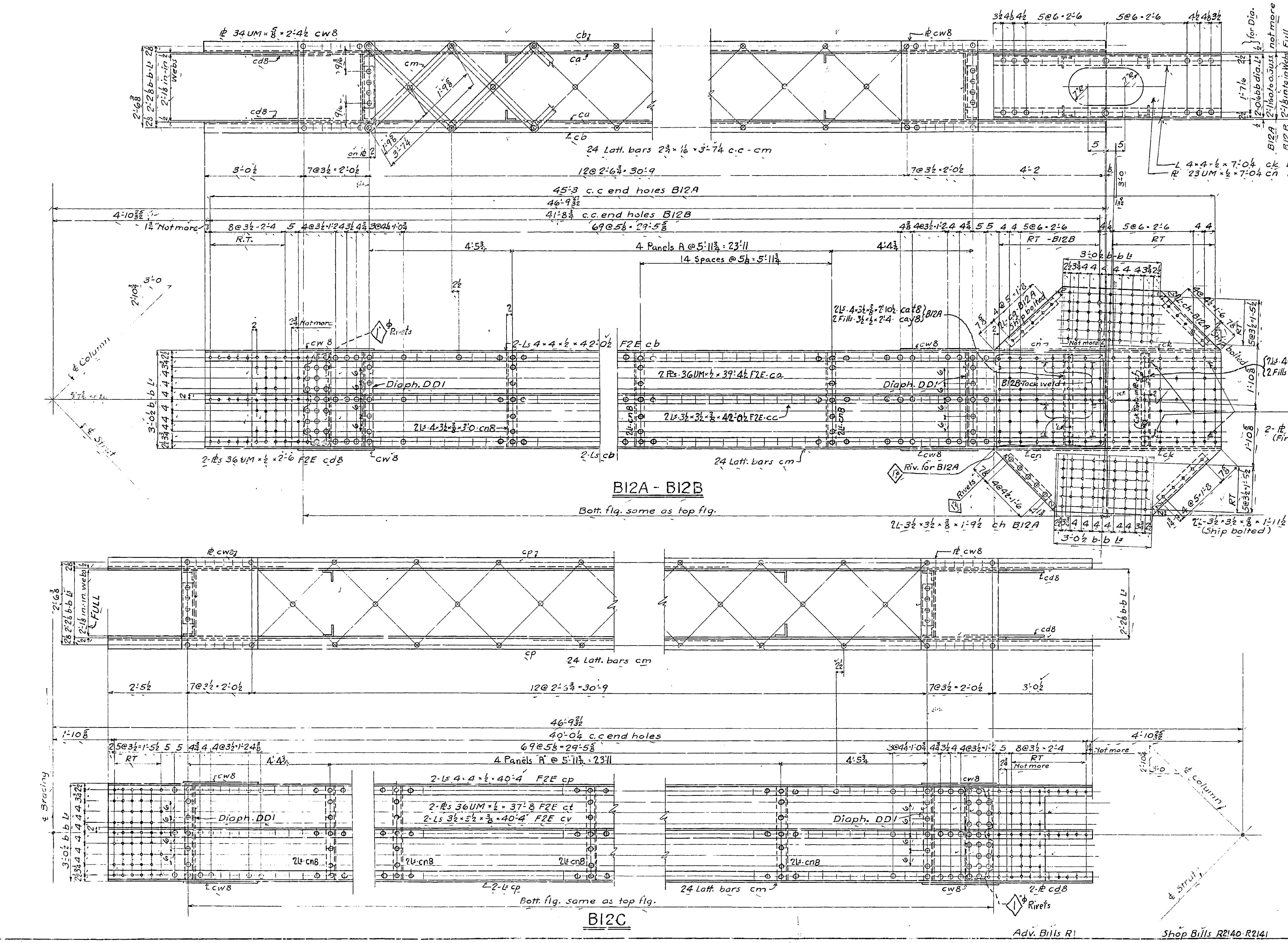
APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: *3-16-34*

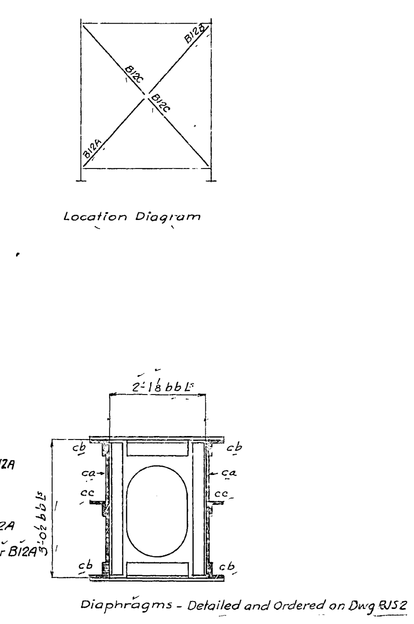
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

Diagonals - Bent No. 10

McCLINTIC-MARSHALL CORPORATION
STEELTON DRAWING ROOM *STEELTON* WORKS
IN CHARGE *Boone* MADE BY *DRB-1-19-34*
CHECKED BY *F.R.C. 1/29/34* TRACED BY
LAST ASSEM. MK. *cab*

CONTRACT CR15804 SHEET *R 213*





No.	Description	Mark	Remarks	Weight each Tons
One	Diagonal	B12A		
One	Diagonal	B12B		
2	Diagonals	B12C		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: J.M. Bailey-Chief inspector
RIVETS: 7/8 ϕ Unless Noted
OPEN HOLES: 1 1/16 ϕ
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Oxid Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

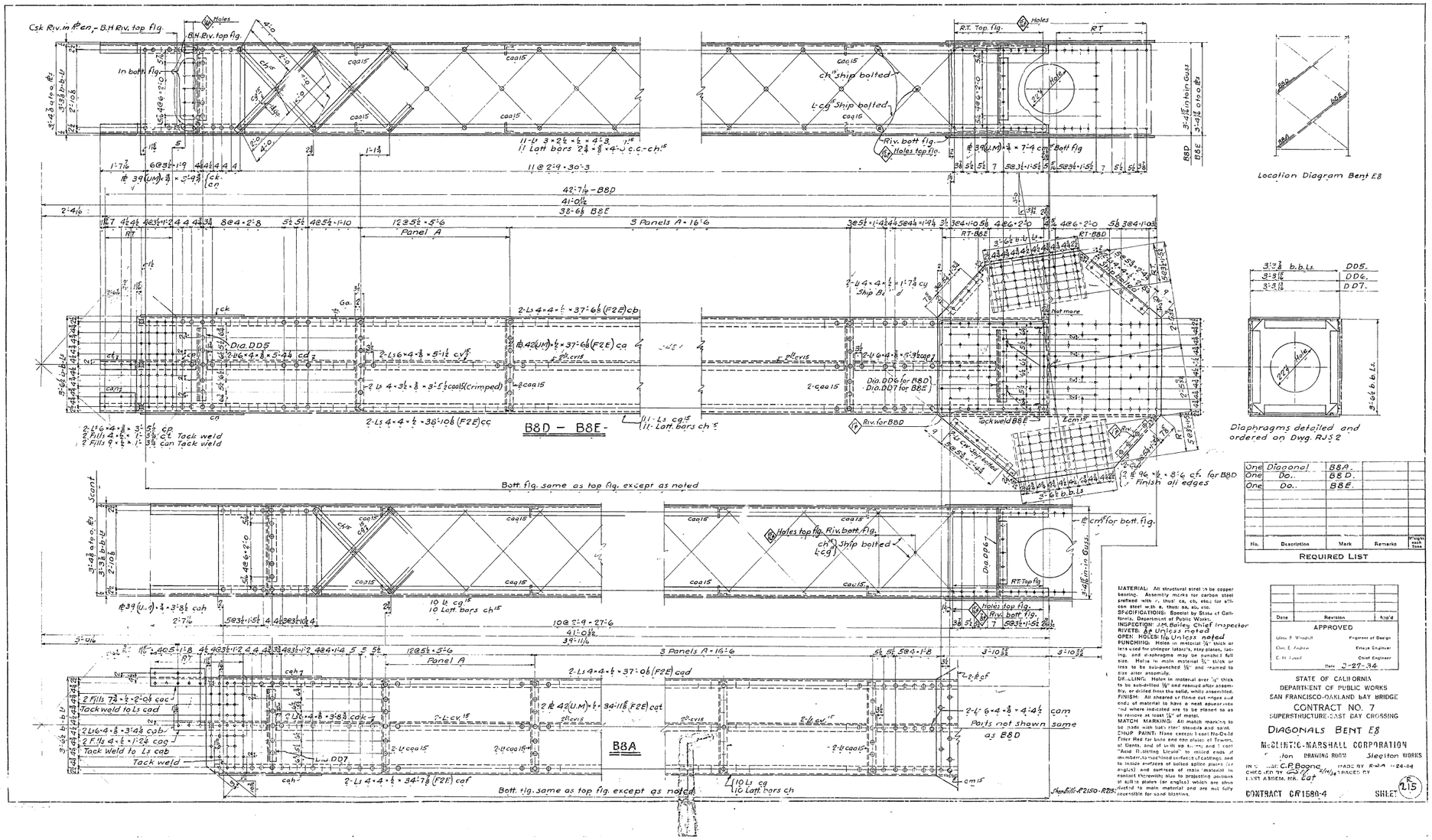
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date. 3-11-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

DIAGONAL BRACING BENT E12

McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS
IN CHARGE C.P. Boone
CHECKED BY C.J. 1/24/34
LAST ASSEMB. MK. CW
MADE BY / TRACED BY } R.W.A 1-18-34

CONTRACT CR 1580-4 SHEET R 214



One	Diagonal	B8A		
One	Do.	B8D		
One	Do.	B8E		

REQUIRED LIST

No.	Description	Mark	Remarks	Weight each item

Date	Revision	Acad

APPROVED

Glenn P. Woodruff — Engineer of Design
Chas. E. Andrew — Design Engineer
C. H. Lund — Chief Engineer
Date 3-27-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

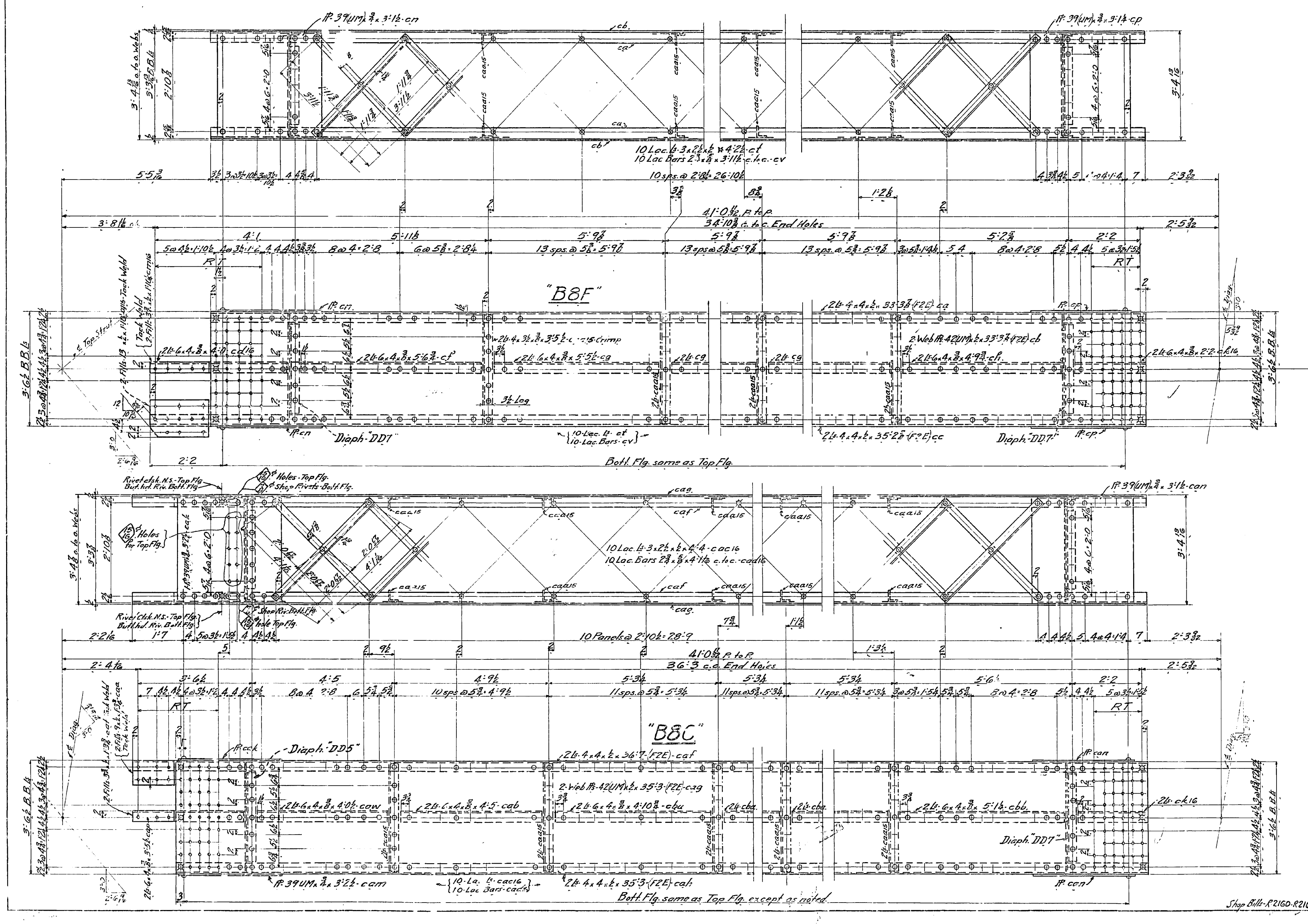
DIAGONALS BENT E8

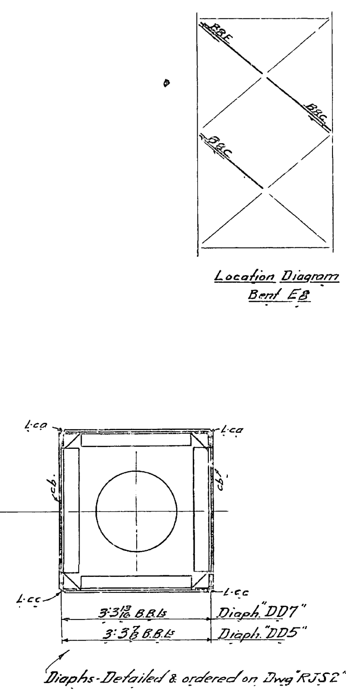
McCLINTIC-MARSHALL CORPORATION
Pleasanton DRAWING ROOM Sleeth on WORKS

IN CHARGE C.P. Boone MADE BY R.W.A. 1-24-34
CHECKED BY [illegible] 2/15/34 TRACED BY
LIST ASSEM. MK. Cat

CONTRACT DF1580-4 SHEET 215

30-1





No.	Description	Mark	Remarks	Weight each Tons
One	Diagonal	B8F		
2	do	B8C		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey. Chf. Inspt.
RIVETS: ⅞
OPEN HOLES: 1⅛ unless noted
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except: 1 coat No-Oxid Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date. 3-27-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

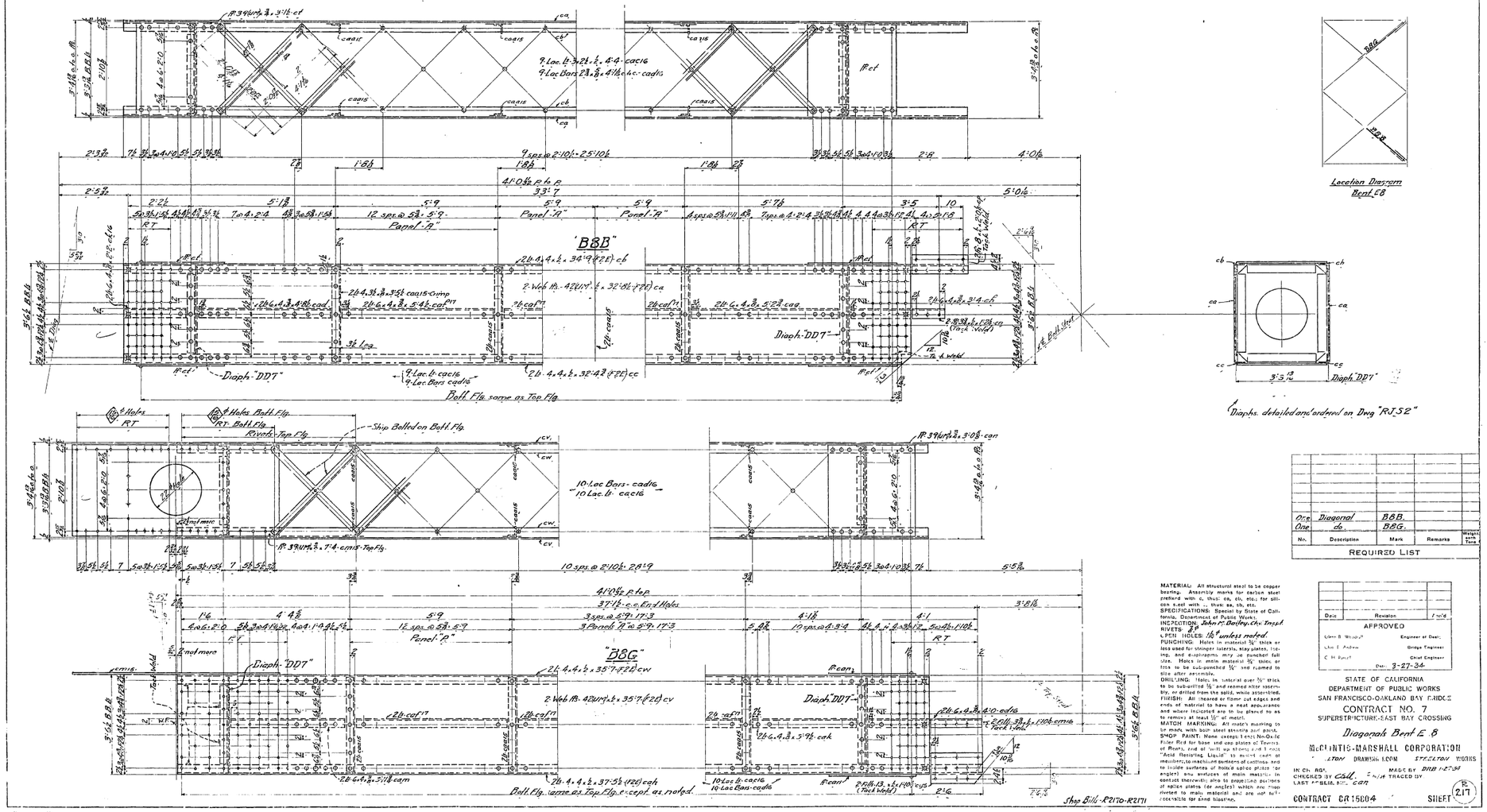
Diagonals - Bent E. 8

..INTIC-MARSHALL CORPORATION
STEELTON DRAWING ROOM STEELTON WORKS

IN CHARGE
CHECKED BY C.Sd. 2/15/34
LAST ASSEM. MK. cbb
MADE BY DRB 1-25-34
TRACED BY

CONTRACT CR15804 SHEET R216

38



One	Diagonal	B&B.		
One	do.	B&G.		
No.	Description	Mark	Remarks	Weight each Piece

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Dooley, Chf. Insp't.
RIVETS: ⅞"
PUNCHING: Holes in material ⅝" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ⅝" thick, or less to be sub-punched ⅛" and reamed to size after assembly.
DRILLING: Holes in material over ⅝" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ½" of metal.
MATCH MARKING: All members assembling to be made with both sheet stencils and punch.
SHOP PAINT: None except 1 coat Non-Oxidic Filler Red for base and cap plates of Towers of Piers, and of built up struts, and 1 coat "Acid Resisting Liquid" to inaccessible parts of members, to machined surfaces of castings and to inside surfaces of holes & splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are flush rivetted to main material and are not self-cleanable by sand blasting.

Date	Revision	Initial

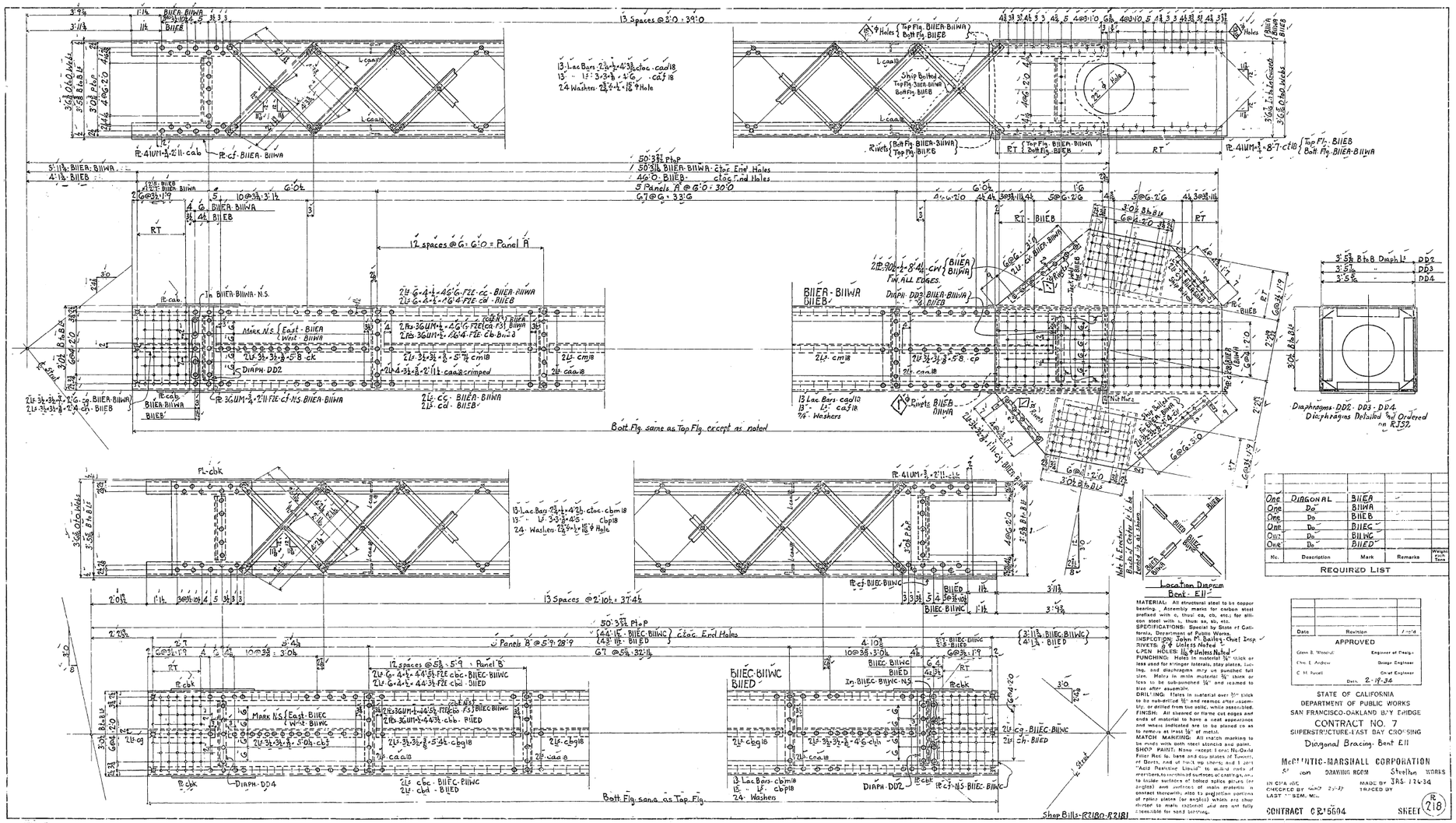
APPROVED

Glenn B. Woodruff — Engineer of Design
John T. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 3-27-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Diagonals Bent E 8
McCLINTIC-MARSHALL CORPORATION
STANDARD DRAWING ROOM STEEL DIV. WORKS

IN CH. REG. — MADE BY DRB 1-27-34
CHECKED BY Call. — TRACED BY
LAST PRINT BY CAR

CONTRACT CR 15004 — SHEET 217



No.	Description	Mark	Remarks	Weight each Piece
One	DIAGONAL	BIIEA		
One	Do	BIIWA		
One	Do	BIIEB		
One	Do	BIIEC		
One	Do	BIIWC		
One	Do	BIIED		

REQUIRED LIST

MATERIAL All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS Special by State of California, Department of Public Works.
INSPECTION John M. Bailey - Chief Insp.
RIVETS ⅞ ϕ Unless Noted.
OPEN HOLES 15/16 ϕ Unless Noted.
PUNCHING Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¾" and reamed to size after assembly.
DRILLING Holes in material over ¾" thick to be sub-drilled ⅝" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING All match marking to be made with soft steel stencils and paint.
SHOP PAINT. None except one coat Red Oxide Filler Red for base and cap plates of Towers, at Decks, and at field splices; and 1 coat "Acid Resisting Shop" to shop ends of members, to machined surfaces of castings, etc., to inside surfaces of rolled splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop painted to mark, adjacent and are not fully accessible for hand painting.

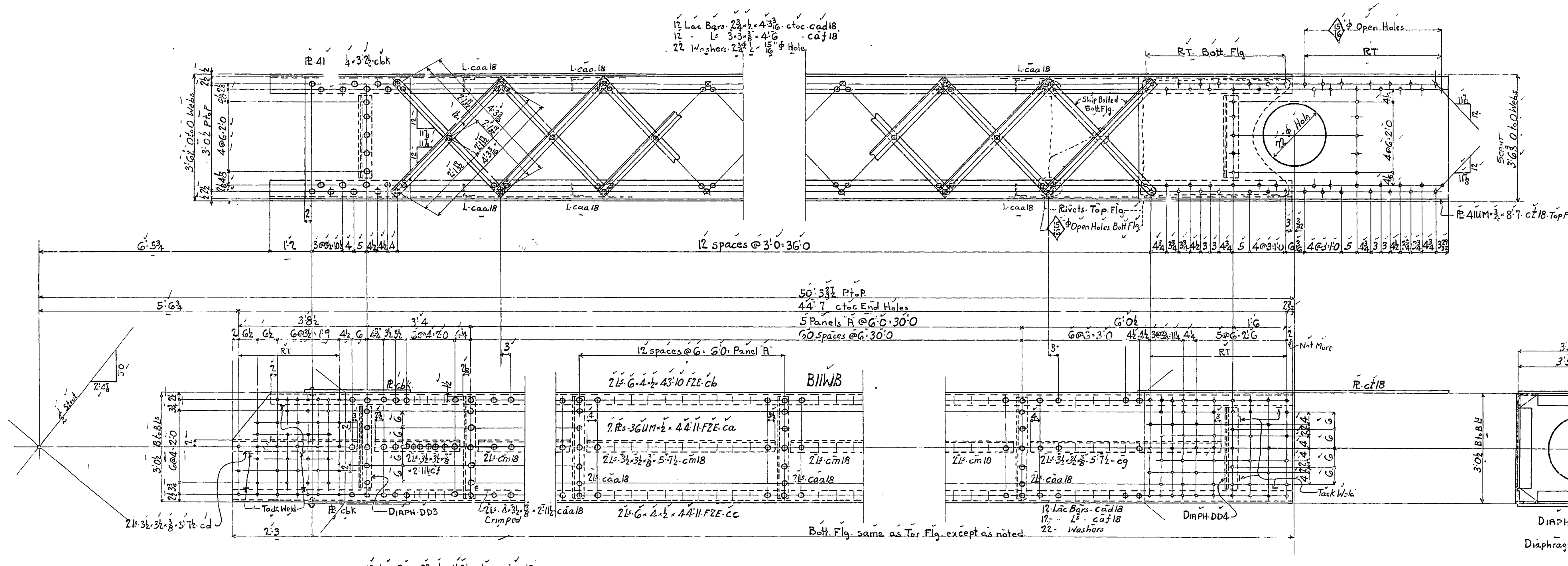
Date	Revision	Init'd

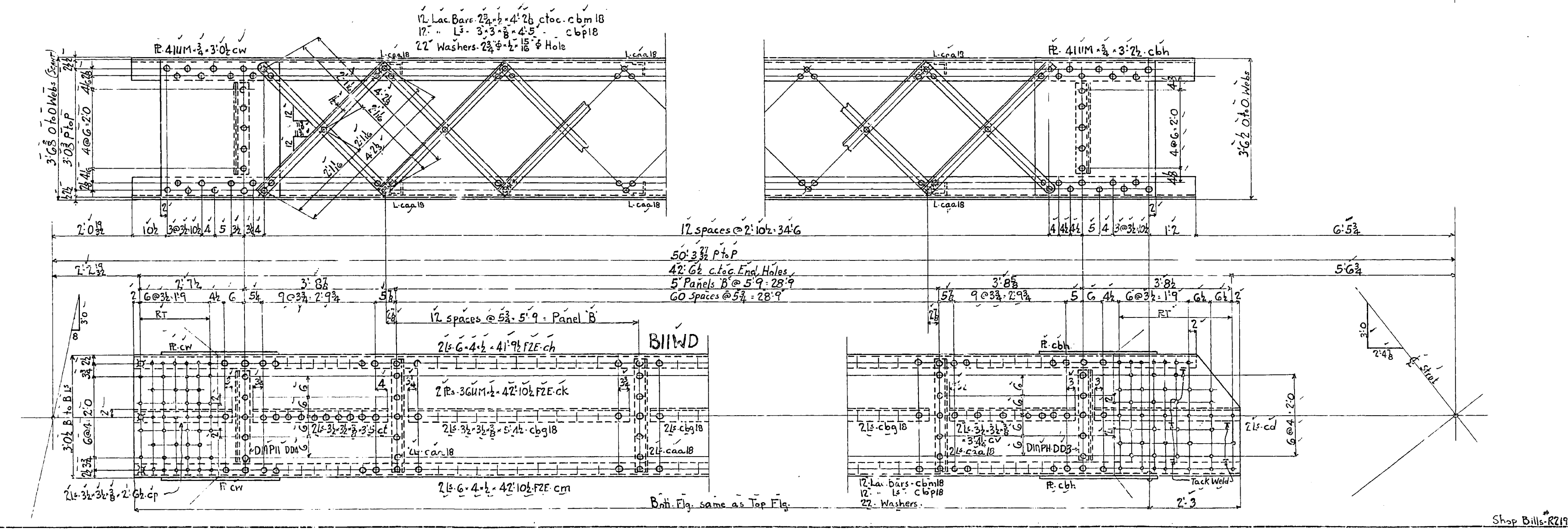
APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Design Engineer
C. H. Purcell — Chief Engineer
Date 2-18-34

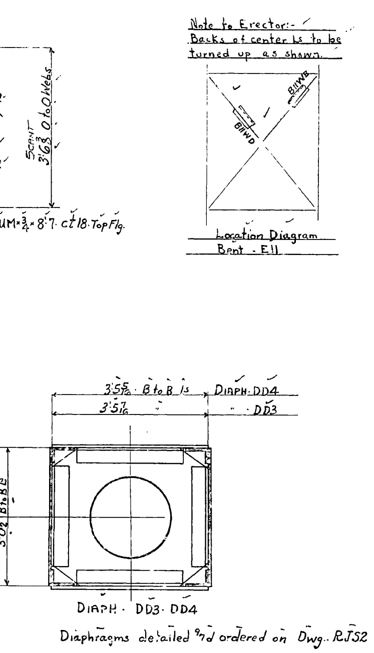
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Diagonal Bracing. Bent E11

McCLINTIC-MARSHALL CORPORATION
Engineering DRAWING ROOM Shelton WORKS
IN CHARGE
CHECKED BY [illegible] 2-1-34 MADE BY JAS. 12-4-34
LAST CORR. MADE TRACED BY

CONTRACT C.R.15504 SHEET 15 218







No.	Description	Mark	Remarks	Weight each Tons
One	DIAGONAL	B11WB		
One	Do	B11WD		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M Bailey, Chief Insp.
RIVETS: 7/8" ϕ
OPEN HOLES: 1 1/16" ϕ Unless Noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Shop Bills-R2190-R2191

Date	Revision	App'd
R1 3-12-34	B11WB-B11WD - o.to o. Webs.	

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date. 3-11-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

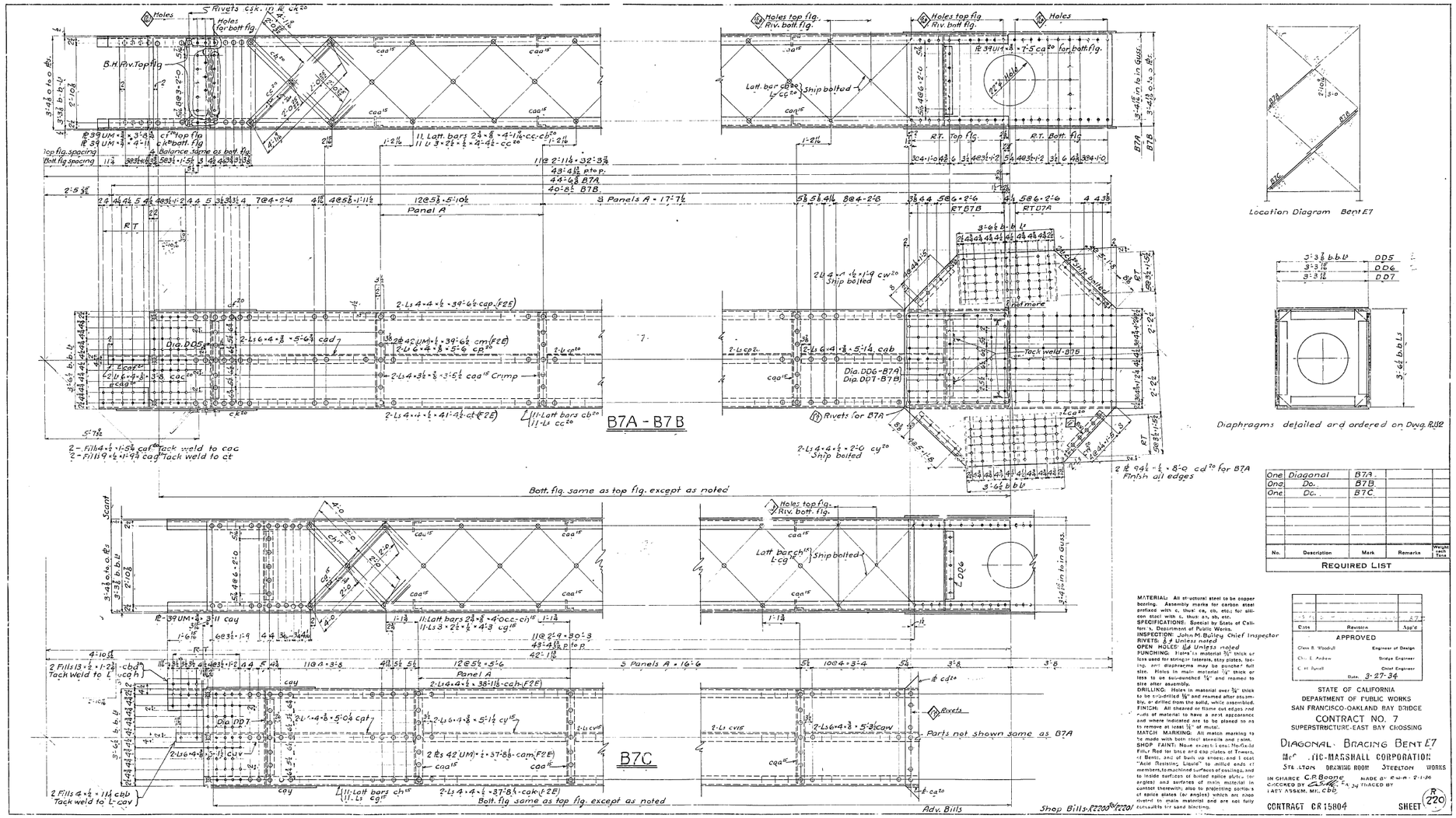
Diagonal Bracing - Bent - E11

McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS

IN CHARGE
CHECKED BY
LAST ASSEM. MK.
MADE BY JAS. 1-29-34
TRACED BY

CONTRACT CR15804 SHEET R 719

80-1



Diaphragms detailed and ordered on Dwg. R.S.12

One	Diagonal	B7A		
One	Do.	B7B		
One	Do.	B7C		

No.	Description	Mark	Remarks	Weight Tons

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefaced with c, thus: cg, cb, etc.; for silicon steel with s, thus: sg, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bulley Chief Inspector
RIVETS: ⅞ Unless noted
OPEN HOLES: ⅛ Unless noted
PUNCHING: Plates in material ⅝" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ⅞" thick or less to be subpunched ⅛" and reamed to size after assembly.
DRILLING: Holes in material over ⅝" thick to be subdrilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat Red Oxide Zinc Paint for base and cap plates of Towers, of Bents, and of built up angles, and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of bearings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are closed riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

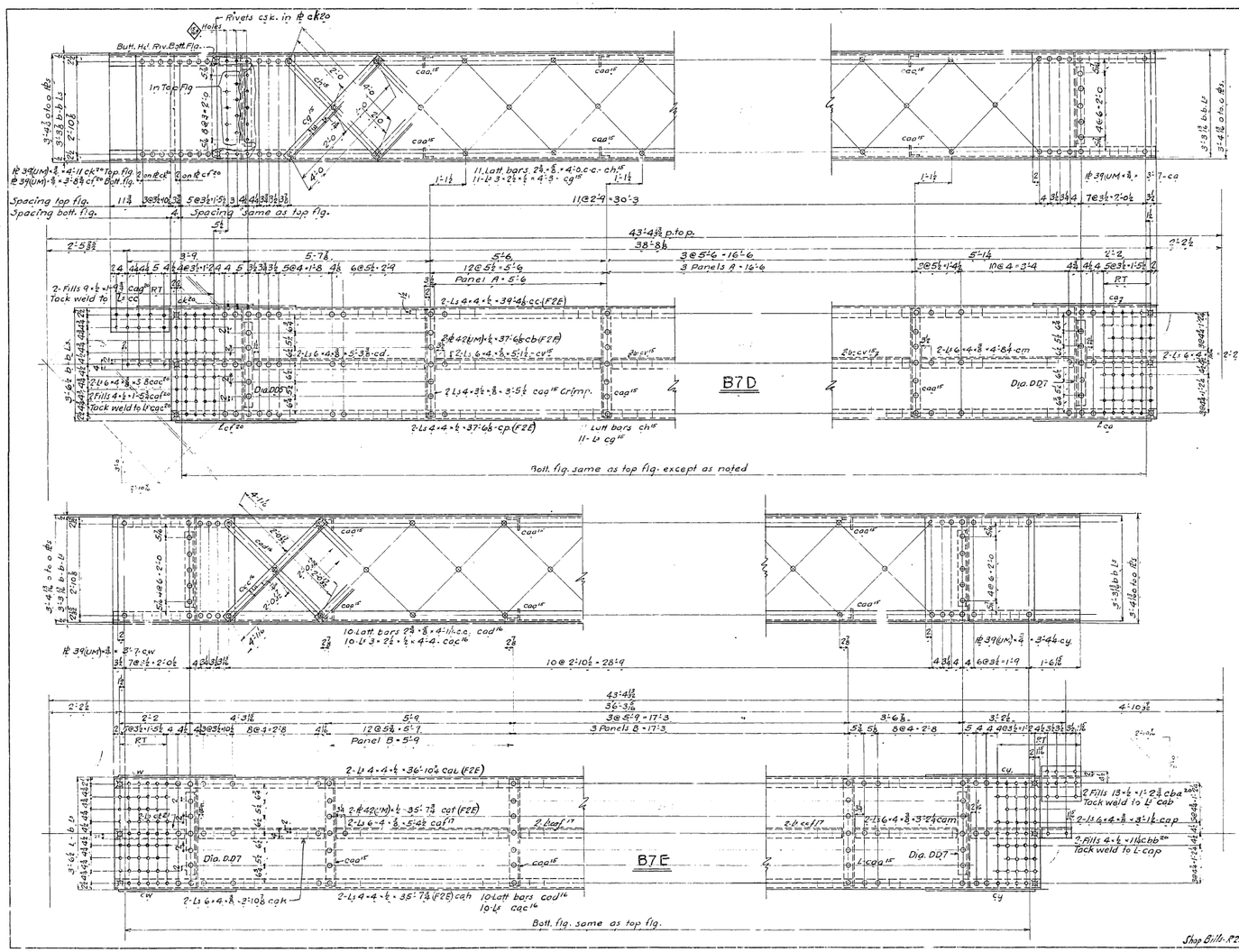
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date. 3-27-34

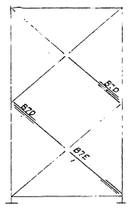
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

DIAGONAL BRACING BENT E7

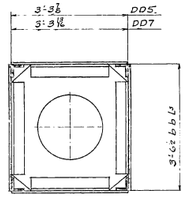
MFG. ...TIC-MARSHALL CORPORATION
STE...TON DRAWING ROOM STEELTON WORKS
IN CHARGE C.P. Boone MADE BY R.W.H. 2-1-34
CHECKED BY C.L.S. & J.J. TRACED BY
CHIEF ASSKM. MR. C.B.B.

CONTRACT CR 15804 SHEET R 220





Location Diagram Bent E7



Diaphragms detailed and ordered on Dwg R1S2

No.	Description	Mark	Remarks	Weight each Piece
2	Diagonals	B7D		
One	Diagonal	B7E		

REQUIRED LIST

MATERIAL: All structural steel to be carbon bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey Chief Insp.
RIVETS: 7/8"
OPEN HOLES: 1 1/16 Unless Noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/2" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 3/4" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with hot steel stencils and paint.
SHOP PAINT: None except 1 coat No. 0 Red Lead Paint for base and cap plates at Towers and Bents, and of built up sheets and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of bearings, and to inside surfaces of bolted splice plates (at angles) and surfaces of main material in contact therewith; also to projecting parts of splice plates (for angles) which are snop riveted to main material and are not fully accessible for sand blasting.

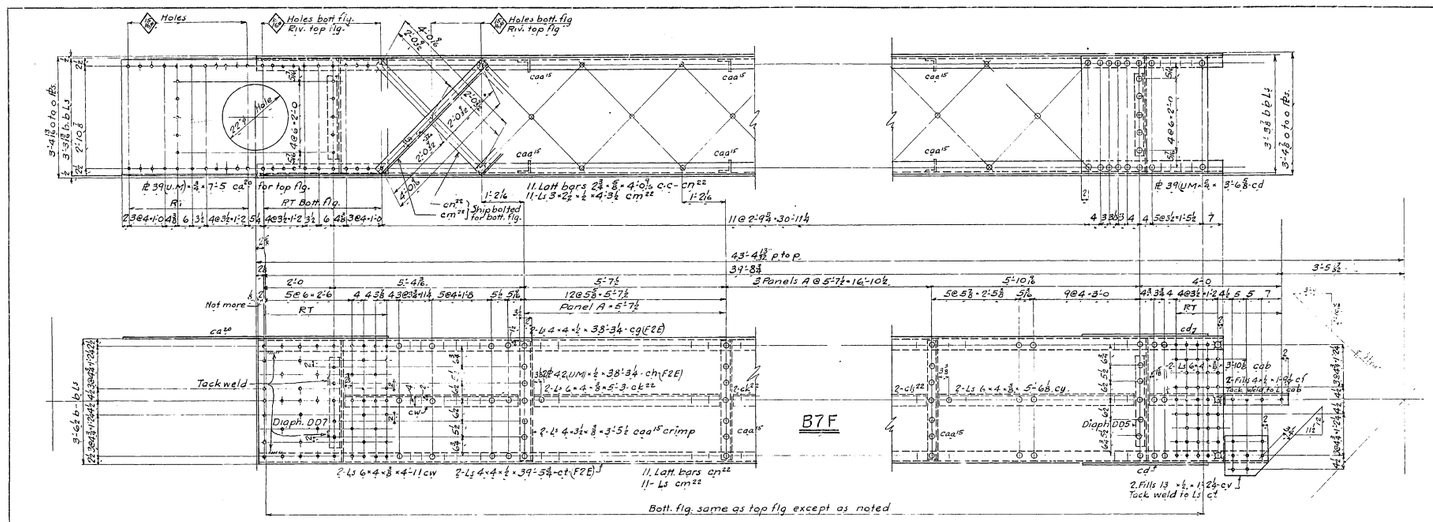
Date	Revision	App'd
	APPROVED	
Glenn P. Woodruff	Engineer of Design	
Carl E. Anderson	Bridge Engineer	
C. H. Purcell	Const. Engineer	
	Date 3-27-34	

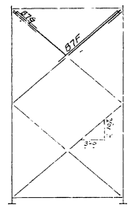
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

DIAGONAL BRACING BENT E7

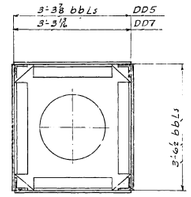
McCLINTIC-MARSHALL CORPORATION
STEEL ERECTION DRAWING ROOM STEEL FABRICATION WORKS
DETAILED BY C. P. Boone MADE IN C.O.A. 2-5-34
CHECKED BY C. [illegible] TRACED BY
LAST ASSEM. MK. C6V

CONTRACT CR 1580-G SHEET 221

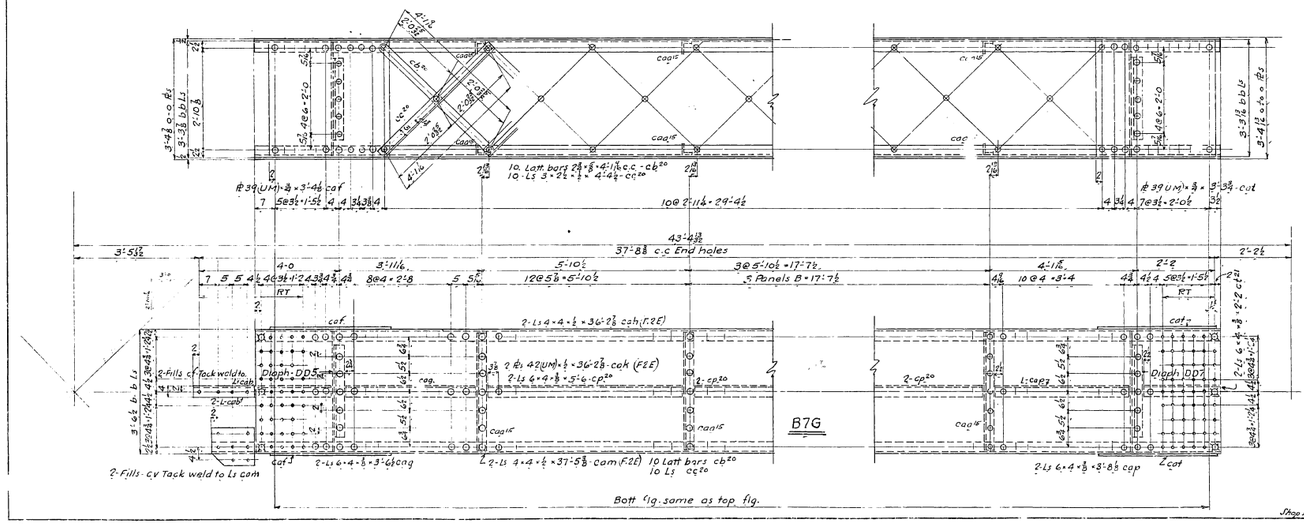




Location Diagram Bent E7



Diaphragms detailed and ordered on Dwg R.J.52



One	Diagonal	B7F		
One	Diagonal	B7G		

No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION John M. Bailey Chief Insp.
RIVETS: ⅞"ø
OPEN HOLES: 1/16 Unless Noted
PUNCHING: Holes in material ⅝" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ⅝" thick or less to be sub-punched ⅛" and reamed to size after assembly.
DRILLING: Holes in material over ⅝" thick to be sub-drilled 5/16" and reamed after assembly, or drilled from the solid, when assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with soft steel stencils and paint.
SHOP PAINT: None except 1 coat Red Oxide Zinc Chromate Primer and 1 coat "Acid Resisting Linoil" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of bolted plates (or angles) which are shop riveted to main material and are not fully accessible for hand painting.

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrews — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 3-27-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

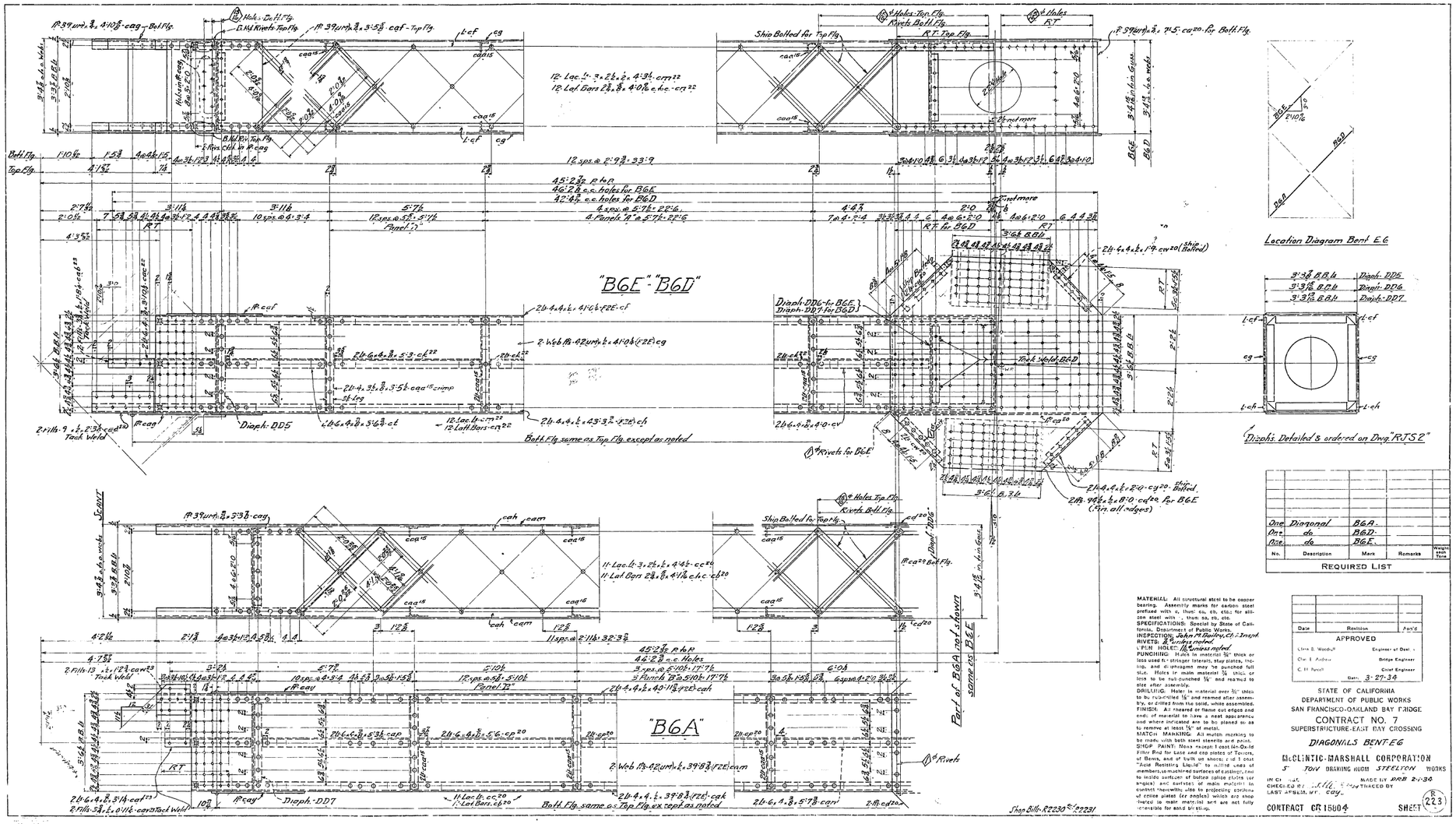
DIAGONAL BRACING BENT E7

McCLINTIC-MARSHALL CORPORATION
ELTON DRAWING BOARD — STEELTON WORKS

DRAWN BY C.P. Boone — TRACED BY R. Weir 2-7-34
CHECKED BY C. Jones — CHECKED BY
LAST ALTERED, DATE 6/21

CONTRACT CR 1580-S — SHEET 222

Shop Bills: R2220 & R2221



One	Diagonal	B6A
One	do	B6D
One	do	B6E

No.	Description	Mark	Remarks	Weight each Type

REQUIRED LIST

Date	Revision	Init'd

APPROVED

Llew B. Woodell — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 3-27-34

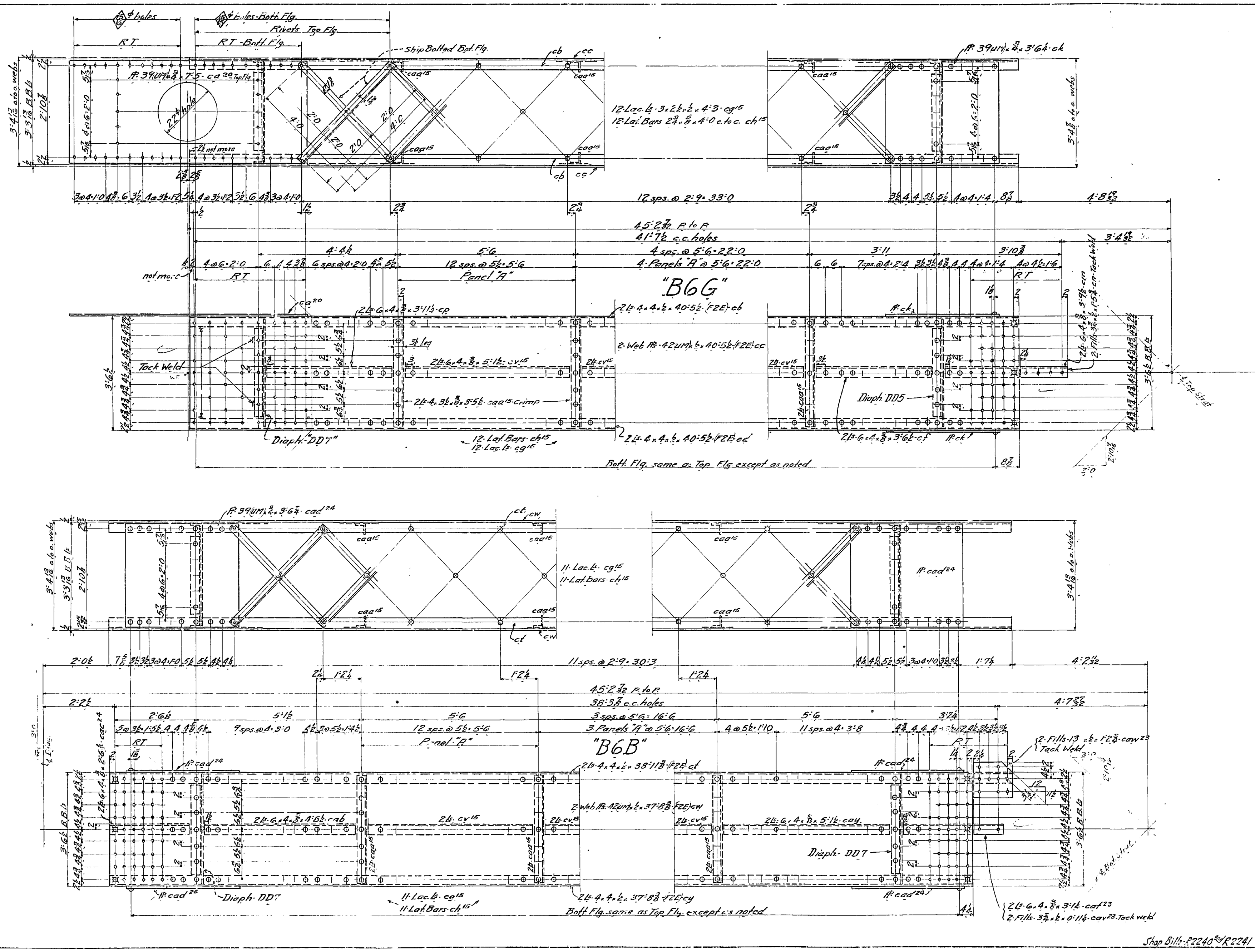
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with a, thus: a1, a2, etc.; for silicon steel with s, thus: s1, s2, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey, C.E. Insptr.
RIVETS: ⅞" unless noted.
PLUG HOLES: ⅞" unless noted.
PUNCHING: Holes in material ⅝" thick or less used for stringer laterals, stay plates, lugs, and diaphragms may be punched full size. Holes in main material ⅝" thick or less to be full-punched 1/16" and reamed to size after assembly.
DRILLING: Holes in material over ½" thick to be subdrilled 1/16" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/16" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: Heavy coat of Iron Oxide Filler Red for Lace and cap plates of Tension, of Beams, and of built up shapes; and 1 coat "Acid Resisting Lac-id" to milled ends of members, to machined surfaces of castings, and to inside surfaces of batten splice plates (or angles), and surfaces of main material in contact inaccessible to projecting portions of splice plates (or angles) which are shop-riveted to main material and are not fully cleanable for paint-ing.

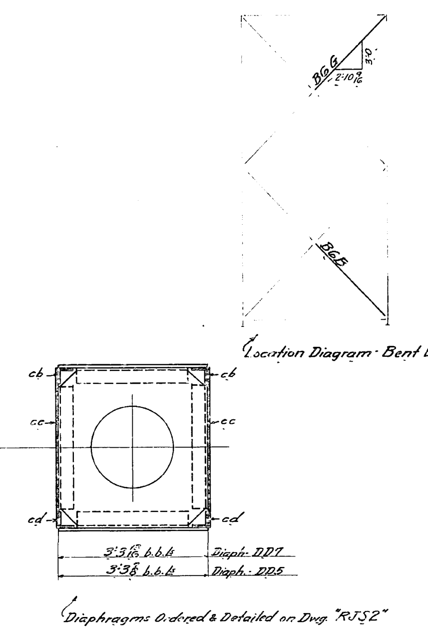
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST DAY CROSSING
DIAGONALS BENT E6
McCLINTIC-MARSHALL CORPORATION
3 TON DRAWING ROOM STEELTON WORKS

MADE BY JOB 2-1-34
CHECKED BY
TRACED BY
LAST ASSEM. WT. Coy.

CONTRACT CR 1500-4 SHEET 223

30-1





No.	Description	Mark	Remarks	Weight each Tons
One.	Diagonal	B6G.		
One.	do.	B6B.		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey, Chf. Inspt.
RIVETS: 7/8"
OPEN HOLES: 1 1/16" unless noted.
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 3-27-34

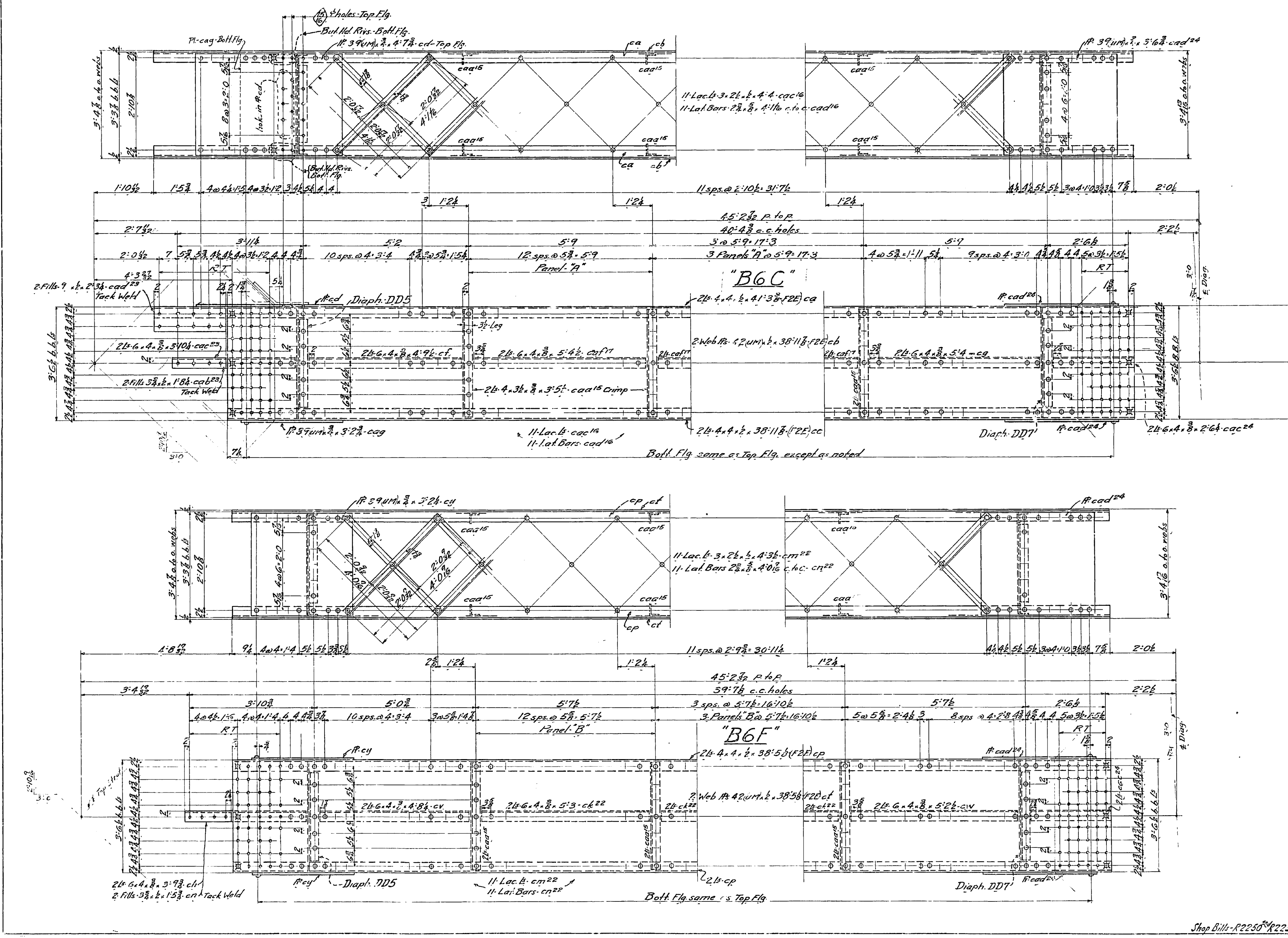
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

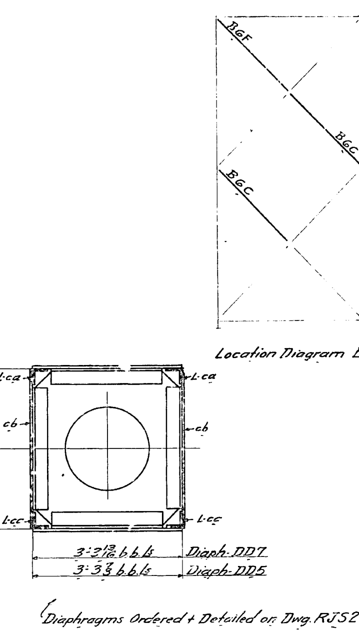
DIAGONALS BENT E.6

LINTIC-MARSHALL CORPORATION
STEELTON DRAWING ROOM STEELTON WORKS

IN CHARGE — MADE BY DRB 1-5-34.
CHECKED BY C.S.W. — TRACED BY
LAST ASSEM. MK. cay

CONTRACT CR 15804 SHEET R 224





MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey, Chf. Inspt.
RIVETS: 7/8"
OPEN HOLES: 1 1/16" unless noted.
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/4" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

No.	Description	Mark	Remarks	Weight each Tons
2.	Diagonals	B6C		
One	do	B6F		

REQUIRED LIST

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 3-27-34

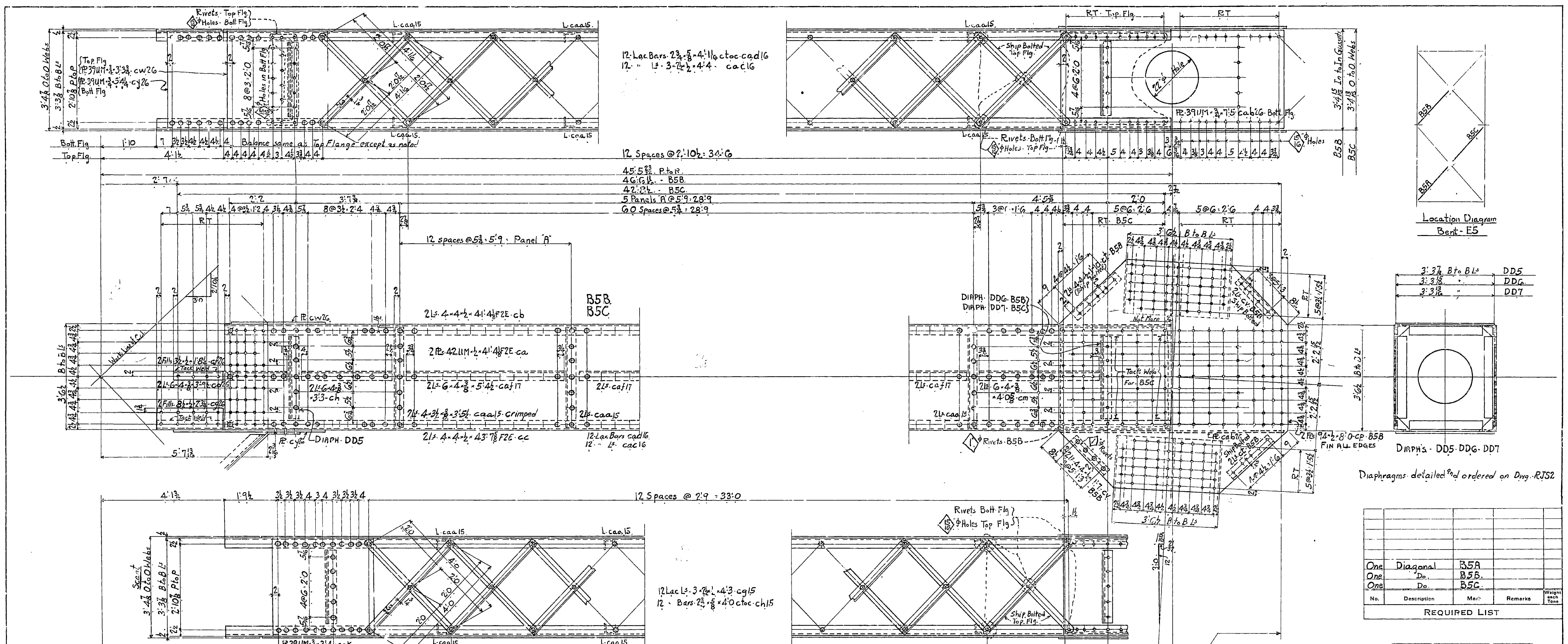
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

DIAGONALS BENT-E6.

McCLINTIC-MARSHALL CORPORATION
STEELTON DRAWING ROOM STEELTON WORKS

IN CHARGE MADE BY DRB 1-6-34.
CHECKED BY C.S.M. 4/20/34 TRACED BY
LAST ASSEM. MK. cag.

CONTRACT CR15004 SHEET R 225



No.	Description	Mark	Remarks	Weight each Tons
One	Diagonal	B5A		
One	Do.	B5B.		
One	Do.	B5C.		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey - Chief Insp.
RIVETS: 7/8" ⌀ Unless Noted
OPEN HOLES: 1 1/16" ⌀ Unless Noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up shoes; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

Date	Revision	App'd
[illegible]	[illegible]	[illegible]

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 3-27-34

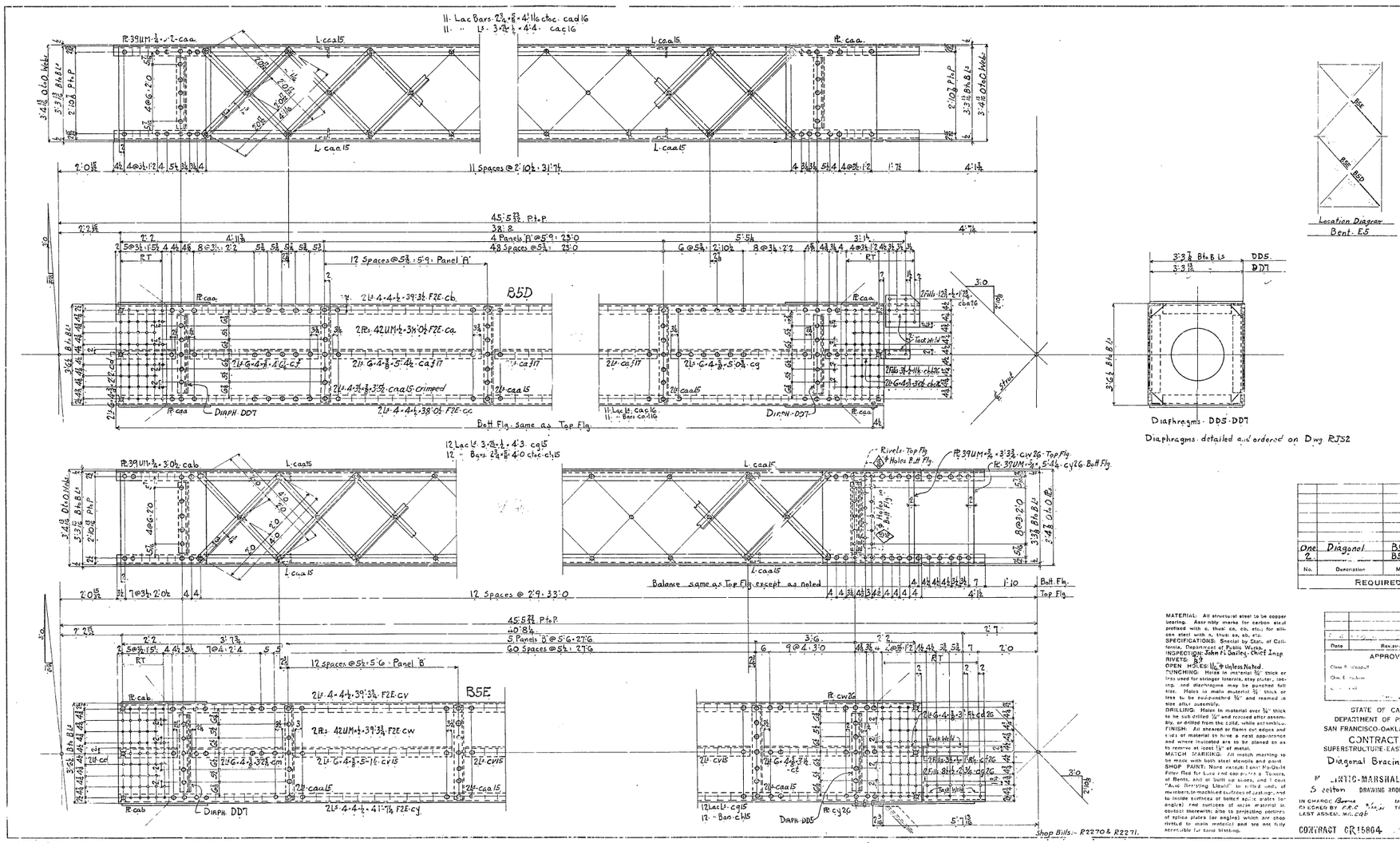
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Diagonal Bracing - Bent E5

McCLINTIC-MARSHALL CORPORATION
St[illegible]ion DRAWING ROOM Steelton WORKS

IN CHARGE Boone — MADE BY JRS. 2-1-34
CHECKED BY F.R.C. 3/20/34 — TRACED BY
LAST ASSEM. MK. cbf

Shop Bills S-R2260 & R2261

CONTRACT CR15804 — SHEET R 226



No.	Description	Mark	Remarks	Weight Each Piece
One 2	Diagonal	B5D B5E		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with a, thus: aa, ab, etc., for silicon steel with n, thus: an, ab, etc.
SPECIFICATIONS: Special by Dept. of California, Department of Public Works.
INSPECTION: John P. Bailey - Chief Insp
RIVETS: ⅞
OPEN HOLES: 1/16 Unless Noted
PUNCHING: Holes in material ⅝" thick or less used for stringer toerails, stay plates, lacings, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ⅛" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled 13/16" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Oxide Filler Red for Lacing and plates in Towers, of Bents, and of built up struts, and 1 coat "Avoset Rerusting Liquid" to rolled ends of members, to machined surfaces of castings, and to inside surfaces of toilet splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for paint blasting.

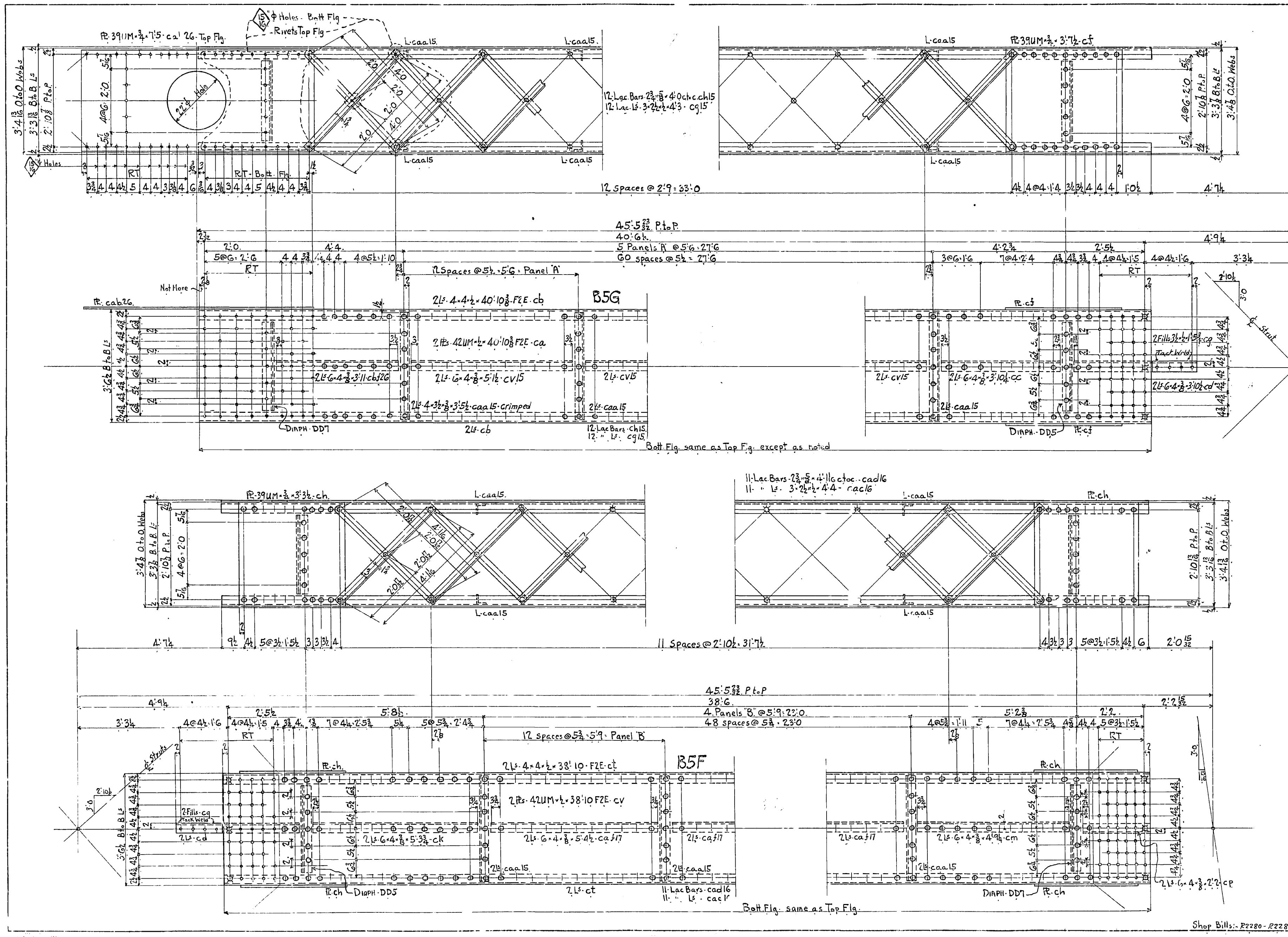
Date	Revision	App'd

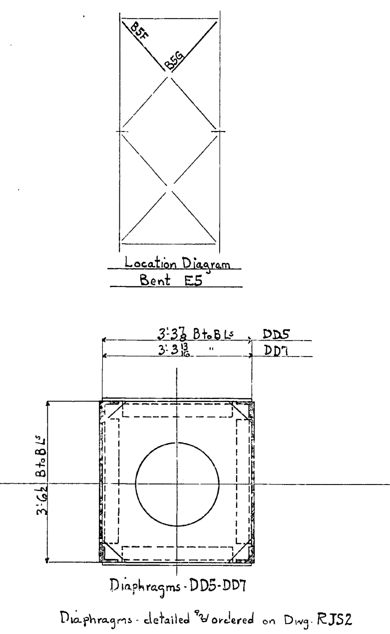
APPROVED
Chief Engineer
3-27-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
Diagonal Bracing Bent E5

ATLANTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS
IN CHARGE [illegible] MADE BY JRS 2-5-34
CHECKED BY F.E.C 2-15-34 TRACED BY
LAST ASSEM. MK. C9A

CONTRACT CR 15804 SHEET 227





MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M. Bailey - Chief Insp.
RIVETS: 7/8" φ
OPEN HOLES: 1 1/16 φ Unless Noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT- None except: 1 coat No-Ox-Id Filler Red for base and cap plates of Towers, of Bents, and of built up slices; and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

No.	Description	Mark	Remarks	Weight each Tons
One	Diagonal	B5F		
One	Do	B5G		

REQUIRED LIST

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 3-27-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

Diagonal Bracing - Bent E5

McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS
IN CHARGE Boone — MADE BY JRS - 3-6-34
CHECKED BY FRC 3/20/34 — TRACED BY
LAST ASSEM. MK. CV

CONTRACT CR15804 SHEET R228

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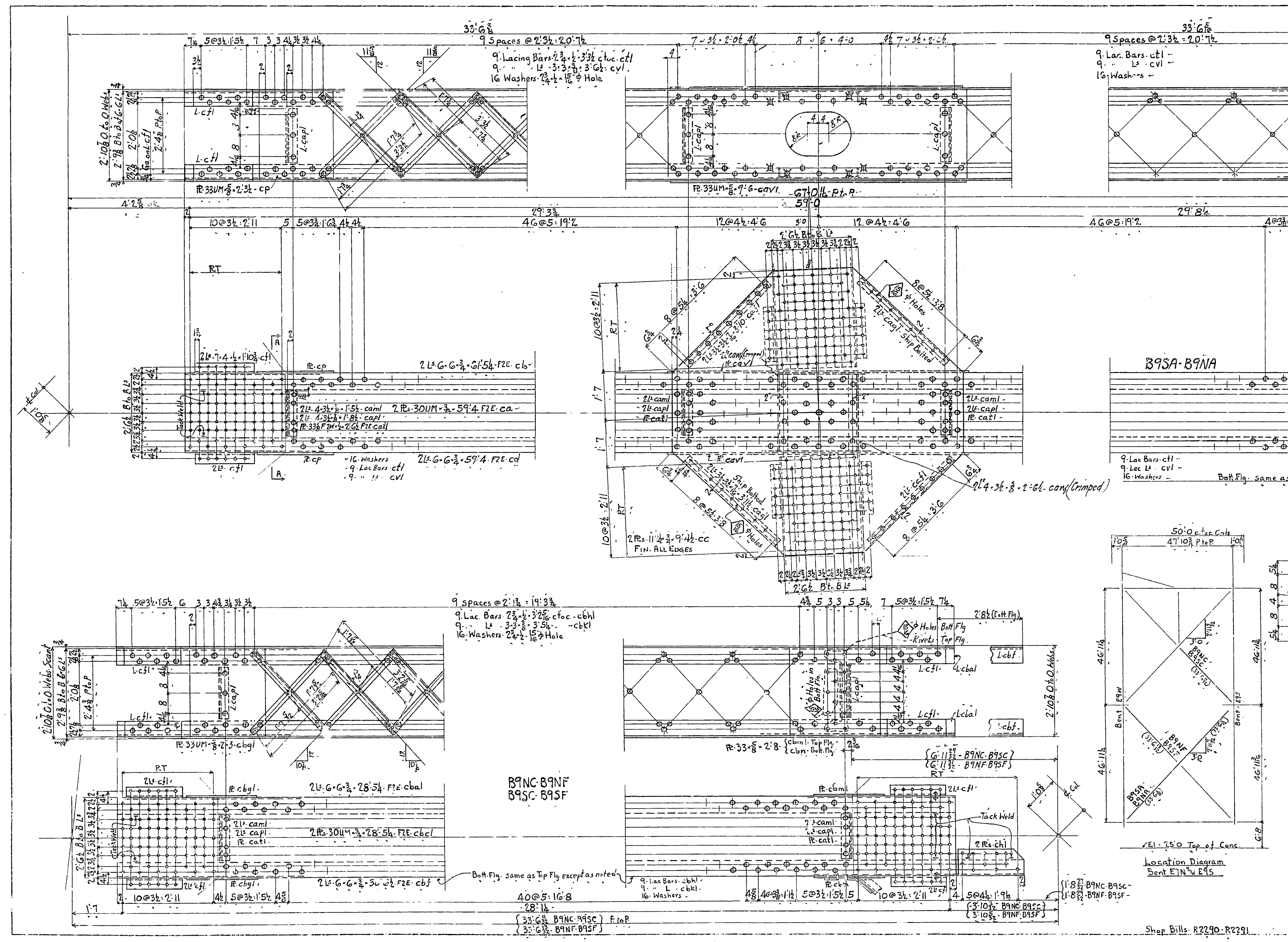
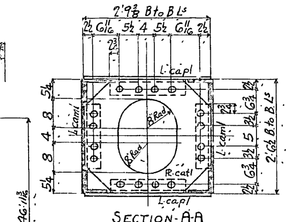




No.	Description	Mark	Remarks	Weight each Tons
One	Diagonal	B9NA	Alike	
One	Do	B9SA		
One	Do	B9NC	Alike	
One	Do	B9SC		
One	Do	B9NF		
One	Do	B9SF		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: John M Bailey, Chief Insp.
RIVETS: 7/8" φ
OPEN HOLES: 1 1/16" φ Unless Noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
MATCH MARKING: All match marking to be made with both steel stencil and paint.
SHOP PAINT: [illegible]

Date	Revision	

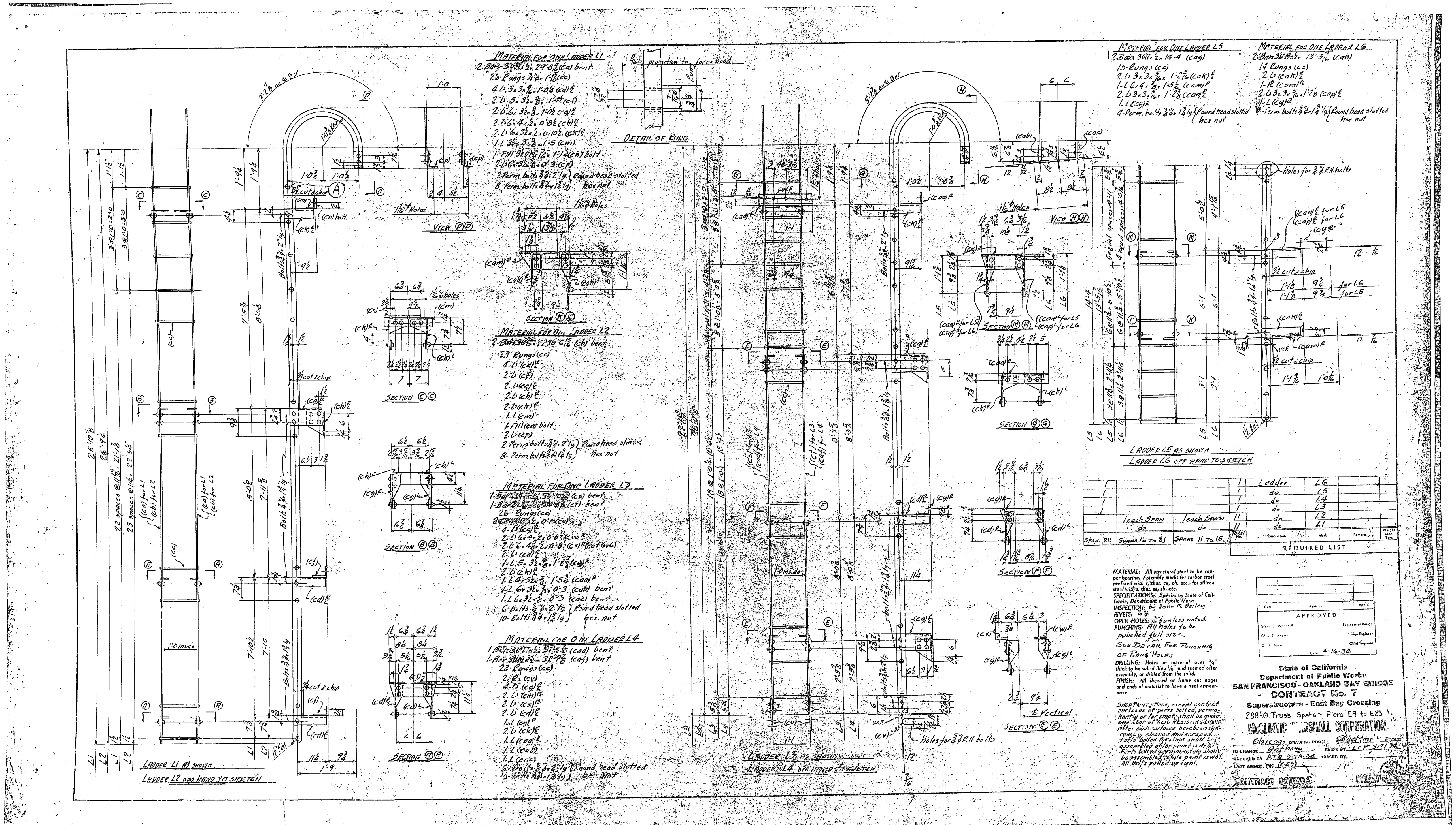
APPROVED

Engineer
Bridge Engineer
Chief Engineer
Date: 3-16-34

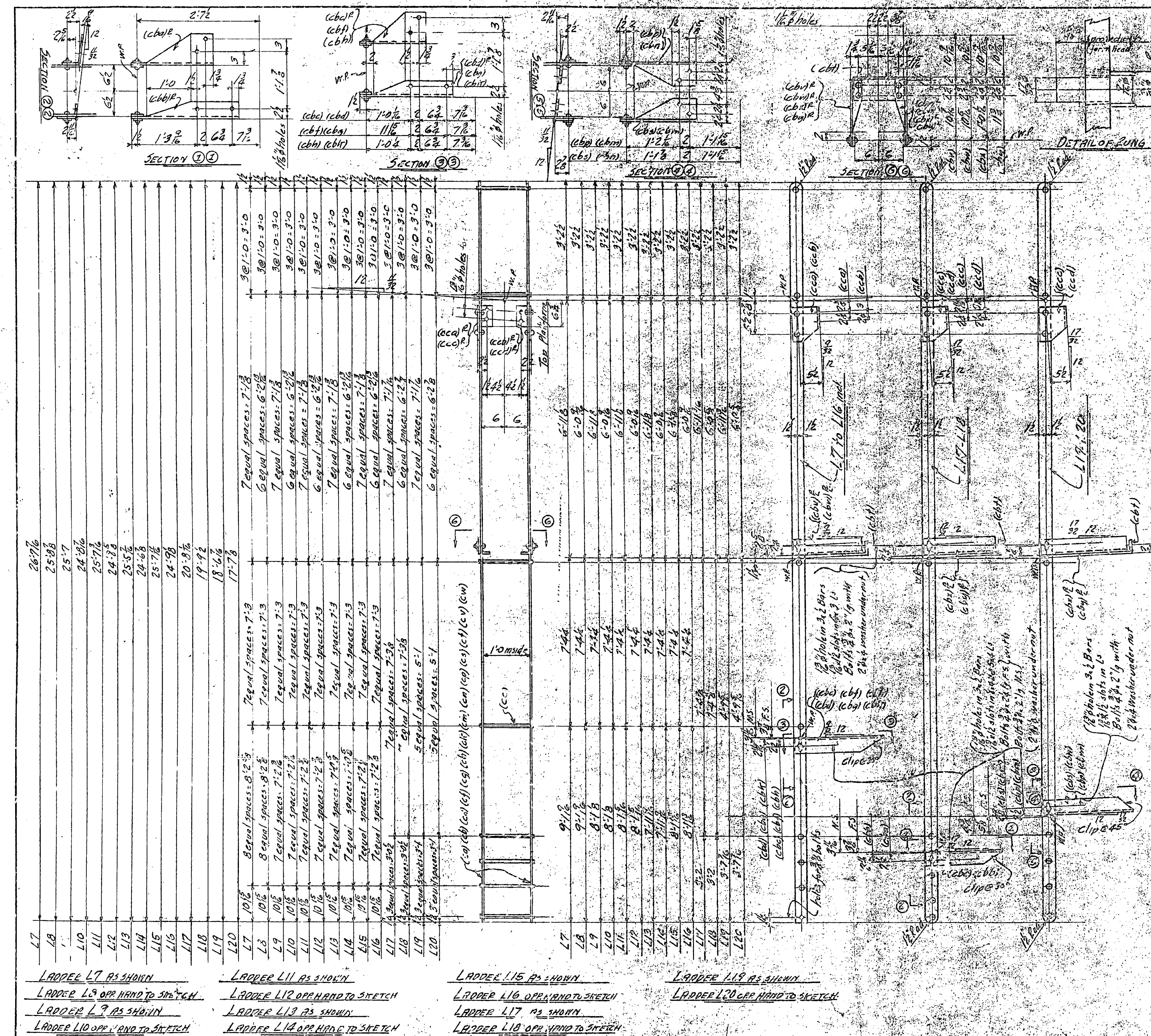
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE EAST BAY CROSSING
Diagonal Bracing - Bent - E9

McCLINTIC-MARSHALL CORPORATION
Steelton DRAWING ROOM Steelton WORKS
Boone
CHECKED BY T.R.P. 2-19-34 TRACED BY
MADE BY JAS. 2-13-33
CP
CONTRACT CR15804 SHEET R 229

30-1


MATERIAL FOR ONE LADDER L1
MATERIAL FOR ONE LADDER L2
MATERIAL FOR ONE LADDER L3
MATERIAL FOR ONE LADDER L4
MATERIAL FOR ONE LADDER L5
MATERIAL FOR ONE LADDER L6
DETAIL OF RUNG
LADDER L1 AS SHOWN
LADDER L2 OPP. HAND TO SKETCH
LADDER L3 AS SHOWN
LADDER L4 OPP. HAND TO SKETCH
LADDER L5 AS SHOWN
LADDER L6 OPP. HAND TO SKETCH
REQUIRED LIST
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: by John M. Bailey.
OPEN HOLES: 13/16" ϕ unless noted
PUNCHING: All holes to be punched full size.
SEE DETAIL FOR PUNCHING OF RUNG HOLES
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance
APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date 4-16-34
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans ~ Piers E9 to E23
CORPORATION
Chicago DRAWING ROOM
IN CHARGE Anthony
CHECKED BY A.T.R. 3-28-34 TRACED BY
CONTRACT

30-1



Material for Ladder L7
2-Bars 3 1/2 x 1/2 x 26'-7 7/16 (ca)
26 Rungs 3/4 x 1'-1 5/8 (cc)
1-L 8 x 4 x 1/2 x 1'-5 5/16 (cbc)R bent
1-L 5 x 4 x 3/8 x 2'-0 1/16 (cbd)R bent
1-L 6 x 3 1/2 x 3/8 x 1'-0 3/4 (cbt)
2-Ls 4 x 3 x 5/16 x 1'-3 15/16 (cbv)R L
1-L 7 x 4 x 1/2 x 0'-8 1/2 (cca)R
1-L 7 x 4 x 1/2 x 0'-8 1/2 (ccb)R
3-Perm. bolts 3/4"φ x 2" lg. } Round head
1-Perm. bolt 3/4"φ x 2 1/4 lg. } slotted hex. nut
4-Washers 2"φ x 1/4

Material for Ladder L8
2-Bars 3 1/2 x 1/2 x 25'-3 3/8 (cb)
25 Rungs (cc)
1-L 8 x 4 x 1/2 x 1'-5 3/16 (cbf) bent
1-L 5 x 4 x 3/8 x 1'-11 5/16 (cbg) bent
1-L (cbt)
2-Ls 4 x 3 x 5/16 x 1'-3 13/16 (cbw)R L
1-L (cca)R
1-L (ccb)R
3-Perm. bolts 3/4"φ x 2" lg. } Round head
1-Perm. bolt 3/4"φ x 2 1/4 lg. } slotted hex. nut
4-Washers 2"φ x 1/4

Material for Ladder L9
2-Bars 3 1/2 x 1/2 x 25'-7 (cd)
25 Rungs (cc)
1-L 8 x 4 x 1/2 x 1'-5 1/2 (cbh) bent
1-L 5 x 4 x 3/8 x 2'-0 1/4 (cbk) bent
1-L (cbt)
2-Ls (cbv)R L
1-L (cca)R
1-L (ccb)R
3-Perm. bolts 3/4"φ x 2" lg. } Round head
1-Perm. bolt 3/4"φ x 2 1/4 lg. } slotted hex. nut
4-Washers 2"φ x 1/4

Material for Ladder L10
2-Bars 3 1/2 x 1/2 x 24'-8 1/16 (cf)
24-Rungs (cc)
1-L (cbc)R
1-L (cbd)R
1-L (cbt)
2-Ls (cbw)R L
1-L (cca)R
1-L (ccb)R
3-Perm. bolts 3/4"φ x 2" lg. } Round head
1-Perm. bolt 3/4"φ x 2 1/4 lg. } slotted hex. nut
4-Washers 2"φ x 1/4

Material for Ladder L11
2-Bars 3 1/2 x 1/2 x 25'-7 3/16 (cg)
25 Rungs (cc)
1-L (cbh)
1-L (cbk)
1-L (cbt)
2-Ls (cbv)R L
1-L (cca)R
1-L (ccb)R
3-Perm. bolts 3/4"φ x 2" lg. } Round head
1-Perm. bolt 3/4"φ x 2 1/4 lg. } slotted hex. nut
4-Washers 2"φ x 1/4

Material for Ladder L12
2-Bars 3 1/2 x 1/2 x 24'-8 5/8 (ch)
24 Rungs (cc)
1-L (cbc)R
1-L (cbd)R
1-L (cbt)
2-Ls (cbw)R L
1-L (cca)R
1-L (ccb)R
3-Perm. bolts 3/4"φ x 2" lg. } Round head
1-Perm. bolt 3/4"φ x 2 1/4 lg. } slotted hex. nut
4-Washers 2"φ x 1/4

Material for Ladder L13
2-Bars 3 1/2 x 1/2 x 25'-5 7/16 (ck)
25 Rungs (cc)
1-L (cbh)
1-L (cbk)
1-L (cbt)
2-Ls (cbv)R L
1-L (cca)R
1-L (ccb)R
3-Perm. bolts 3/4"φ x 2" lg. } Round head
1-Perm. bolt 3/4"φ x 2 1/4 lg. } slotted hex. nut
4-Washers 2"φ x 1/4

Material for Ladder L14
2-Bars 3 1/2 x 1/2 x 24'-6 7/8 (cm)
24 Rungs (cc)
1-L (cbc)R
1-L (cbd)R
1-L (cbt)
2-Ls (cbw)R L
1-L (cca)R
1-L (ccb)R
3-Perm. bolts 3/4"φ x 2" lg. } Round head
1-Perm. bolt 3/4"φ x 2 1/4 lg. } slotted hex. nut
4-Washers 2"φ x 1/4

Material for Ladder L15
2-Bars 3 1/2 x 1/2 x 25'-7 11/16 (cn)
25 Rungs (cc)
1-L (cbh)
1-L (cbk)
1-L (cbt)
2-Ls (cbv)R L
1-L (cca)R
1-L (ccb)R
3-Perm. bolts 3/4"φ x 2" lg. } Round head
1-Perm. bolt 3/4"φ x 2 1/4 lg. } slotted hex. nut
4-Washers 2"φ x 1/4

Material for Ladder L16
2-Bars 3 1/2 x 1/2 x 24'-9 7/8 (cp)
24-Rungs (cc)
1-L (cbc)R
1-L (cbd)R
1-L (cbt)
2-Ls (cbw)R L
1-L (cca)R
1-L (ccb)R
3-Perm. bolts 3/4"φ x 2" lg. } Round head
1-Perm. bolts 3/4"φ x 2 1/4 lg. } slotted hex. nut
4-Washers 2"φ x 1/4

Material for One Ladder L17
2-Bars 3 1/2 x 1/2 x 20'-8 1/16 (cs)
21 Rungs (cc)
1-L 8 x 4 x 1/2 x 1'-8 13/16 (cba)R bent
1-L 5 x 4 x 3/8 x 2'-3 9/16 (cbb)R bent
1-L (cbt)
2-Ls 4 x 3 x 5/16 x 1'-5 9/16 (cbx)R L
1-L 7 x 4 x 1/2 x 0'-8 1/2 (ccc)R
1-L 7 x 4 x 1/2 x 0'-8 1/2 (ccd)R
3-Perm. bolts 3/4"φ x 2" lg. } Round head
1-Perm. bolt 3/4"φ x 2 1/4 lg. } slotted hex. nut
4-Washers 2"φ x 1/4

Material for One Ladder L18
2-Bars 3 1/2 x 1/2 x 19'-9 1/2 (ct)
20 Rungs (cc)
1-L (cba)R
1-L (cbb)R
1-L (cbt)
2-Ls 4 x 3 x 5/16 x 1'-5 1/4 (cby)R L
1-L (ccc)R
1-L (ccd)R
3-Perm. bolts 3/4"φ x 2" lg. } Round head
1-Perm. bolt 3/4"φ x 2 1/4 lg. } slotted hex. nut
4-Washers 2"φ x 1/4

Material for Ladder L19
2-Bars 3 1/2 x 1/2 x 18'-6 7/16 (cv)
19-Rungs (cc)
1-L 6 x 4 x 3/8 x 1'-7 7/16 (cbp) bent
1-L 6 x 5 x 3/8 x 1'-7 7/16 (cbm) bent (cut 6x6)
1-L (cbt)
2-Ls (cby)R L
1-L (ccc)R
1-L (ccd)R
4-Perm. bolts 3/4"φ x 2" lg. Round head slotted hex. nut.
4-Washers 2"φ x 1/4

Material for Ladder L20
2-Bars 3 1/2 x 1/2 x 17'-7 7/8 (cw)
18-Rungs (cc)
1-L 6 x 4 x 3/8 x 1'-7 (cbn) bent
1-L 6 x 5 x 3/8 x 1'-7 (cbs) bent (cut 6x6)
1-L (cbt)
2-Ls (cby)R L
1-L (ccc)R
1-L (ccd)R
4-Perm. bolts 3/4"φ x 2" lg. Round head slotted hex. nut.
4-Washers 2"φ x 1/4

No.		Description	Mark	Remarks	Weight each Tons
Span 16	1	Ladder	L20		
do	1	do	L19		
Spans 17 to 21 1-Each	5	do	L18		
do	5	do	L17		
Span 15	1	do	L16		
do	1	do	L15		
Span 14	1	do	L14		
do	1	do	L13		
Span 13	1	do	L12		
do	1	do	L11		
Span 12	1	do	L10		
do	1	do	L9		
Span 11	1	do	L8		
do	1	do	L7		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: by John M. Bailey
RIVETS: 3/4"φ
OPEN HOLES: 13/16"φ unless noted
PUNCHING: All holes to be punched full size. See DETAIL FOR PUNCHING OF RUNG HOLES
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance.
SHOP PAINT: None, except contact surfaces of parts permanently bolted, shall be given one coat of "ACID RESISTING LIQUID" After such surfaces have been thoroughly cleaned and scraped. Parts to be assembled while paint is wet and bolts pulled up tight.

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 4-16-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC - MARSHALL CORPORATION
Chicago DRAWING ROOM Steelton WORKS
IN CHARGE Anthony MADE BY Lar 3-22-34
CHECKED BY A.T.A. 3-28-34 TRACED BY
LAST ASSEM. NO. ccd
CONTRACT C-15307 SHEET 6

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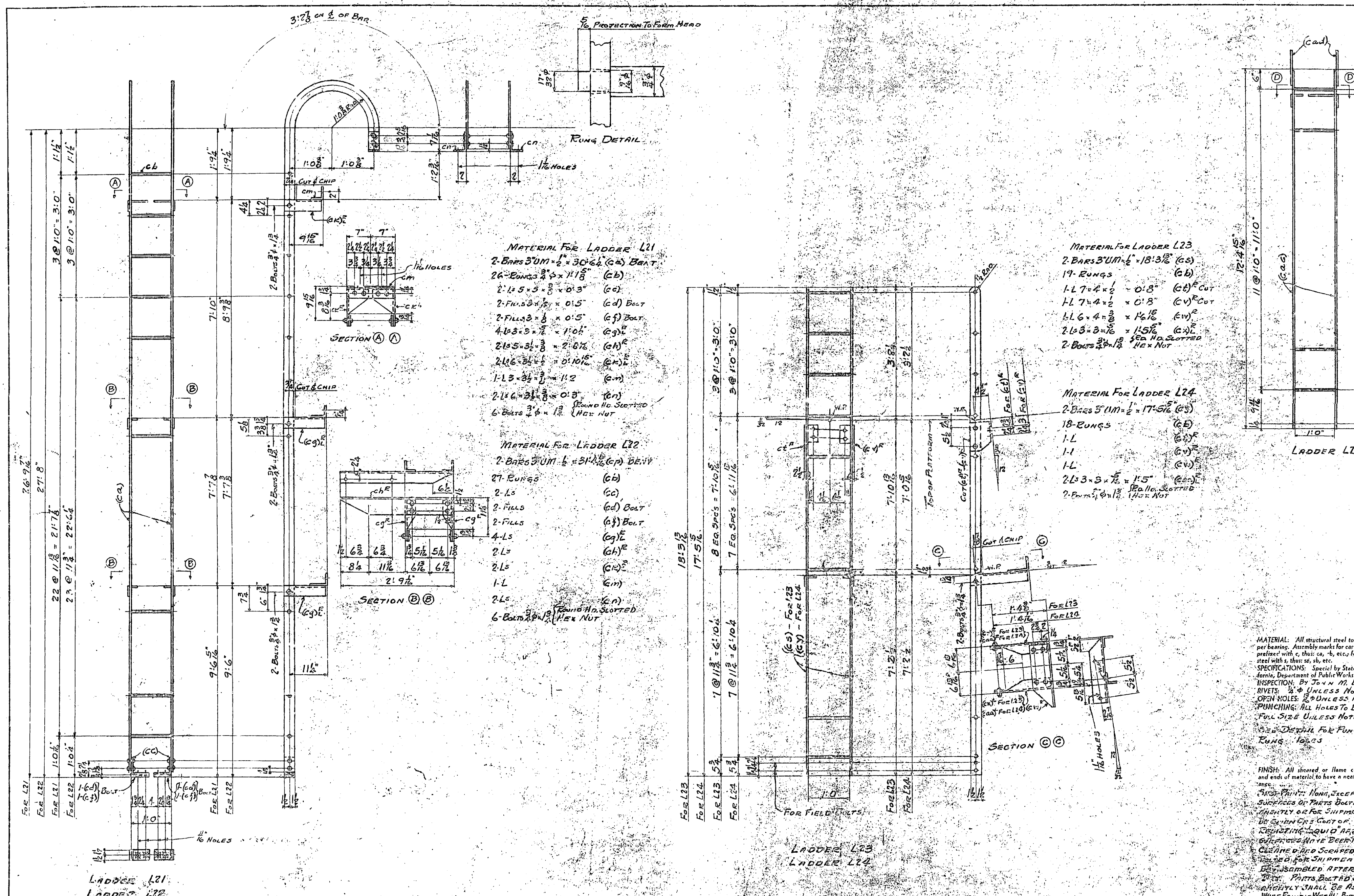

1	1	LADDER	L21	AS SHOWN	
1	1	LADDER	L22	OPP. HD. TO SKETCH	
1	1	LADDER	L23	AS SHOWN	
1	1	LADDER	L24	OPP. HD. TO SKETCH	
2	2	LADDER	L25	AS SHOWN	
SPAN 11	TOTAL No.	Description	Mark	Remarks	Weight each Tons
REQ'D BY SPANS	REQUIRED LIST				

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: BY JOHN M. BAILEY
RIVETS: 3/4" Φ UNLESS NOTED
OPEN HOLES: 13/16" Φ UNLESS NOTED
PUNCHING: ALL HOLES TO BE PUNCHED FULL SIZE UNLESS NOTED
SEE DETAIL FOR PUNCHING RUNG HOLES

FINISH: All sheared or flame cut edges and ends of material to have a neat appearance.
SHOP PAINT: NONE, EXCEPT CONTACT SURFACES OF PARTS BOLTED PERMANENTLY OR FOR SHIPMENT SHALL BE GIVEN ONE COAT OF "ACID RESISTING LIQUID" AFTER SUCH SURFACES HAVE BEEN THOROUGHLY CLEANED AND SCRAPED. PARTS BOLTED FOR SHIPMENT SHALL BE ASSEMBLED AFTER PAINT IS DRY. PARTS BOLTED PERMANENTLY SHALL BE ASSEMBLED WHILE PAINT IS WET. ALL BOLTS PULLED UP TIGHT.

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 4-30-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" Truss Spans - Piers E9 to E23
McCLINTIC - MARSHALL CORPORATION
CHICAGO DRAWING ROOM STEELTON WORKS
IN CHARGE ANTHONY MADE BY A.T.A. 4-18-34
CHECKED BY A.F.L. 4-19-34 TRACED BY
CONTRACT CR15875 SHEET 903

SEC-DD

SEC-AA

SEC-BB

SEC-CC

SEC-EE

SEC-GG

SEC-FF

SEC-HH

SEC-KK

SEC-SS

SEC-MM

SEC-NN

SEC-PP

SEC-VV

DETAIL OF RUNG

L30

L31

L32

L33

MATERIAL FOR ONE LADDER-L30

2-BARS 3 UM × ½ × 27'-10⅛ (ca)
28-RUNGS ⅜ø × 1'-1⅝ (cb)
1-L 7×4×½ × 1'-2⅛ (cc) BENT
1-L 5×5×⅝ × 1'-10⅞ (cd) BENT
1-L 6×3½×⅜ × 0'-10⅜ (ce)
1-L 4×4×⅜ × 1'-2½ (cf) BENT
1-L 4×4×⅜ × 1'-3½ (cg) BENT
1-L 6×4×½ × 0'-8½ (ck) (CUT & BENT)
1-L 8×4×½ × 0'-8½ (cm) (CUT & BENT)
4-WASHERS 2"ø × ⅞ (1⅛ø HOLE IN CTR)
4-BOLTS ⅞ø × 2¼ LG (ROUND HD.-SLOTTED (HEX NUT)

MATERIAL FOR ONE LADDER — L31

2-BARS 3UM × ½ × 27'-4⅜ (cn)
27 RUNGS ⅜ø × 1'-1⅝ (cb)
1-L 7×5×⅝ × 2'-3⅝ (ct) BENT (CUT & GAS)
1-L 7×4×½ × 1'-0⅝ (cv) BENT
1-L 6×3½×⅜ × 0'-10⅜ (cw)
1-L 4×4×⅜ × 1'-5½ (cx) BENT
1-L 4×4×⅜ × 1'-4½ (cy) BENT
1-L 8×4×½ × 0'-8½ (cbb) (CUT & BENT)
1-L 8×4×½ × 10'-8⅝ (cbb) (CUT & BENT)
4-WASHERS 2"ø × ⅞ (1⅛ø HOLE IN CTR)
4-BOLTS ⅞ø × 2¼ LG (ROUND HD.-SLOTTED (HEX NUT)

MATERIAL FOR ONE LADDER L32

1-BAR 3"UM × ½ × 24'-5⅞ (caa) BENT
1-BAR 3"UM × ½ × 29'-6⅝ (cab) BENT
1-BAR 3½UM × ½ × 0'-10⅛ (cac)
1-L 3½ × 3½ × ⅜ × 1'-5 — (cad)
2-Lb 6 × 3½ × ½ × 0'-10⅜ — (caf) E
25 RUNGS — (cb)
2-Lb 6 × 3½ × ⅜ × 0'-3 — (cag)
4-Lb 3 × 3½ × ⅜ × 1'-0½ — (cak) E
2-Lb 5 × 3½ × ⅜ × 1'-4½ — (cam)
2-Lb 6 × 4 × ½ × 0'-8½ — (can) E
2-Lb 6 × 3½ × ⅜ × 1'-0½ — (cap) E
10 BOLTS ⅞ø × 1⅜ LG (ROUND HEAD - SLOTTED (HEX NUT)
A — 1-BAR 3½"UM × ⅝ × 0'-10⅞ (caq)

MATERIAL FOR ONE LADDER-L33

1-BAR 3"UM × ½ × 30'-0⅛ (cas) BENT
1-BAR 3"UM × ½ × 30'-1⅜ (cat) BENT
1-BAR 3"UM × 1'-1¼ (cav)
1-L - (cad)
A — 2-Lb 6 × 3½ × ⅜ × 10'-8⅝ (ccc) E
26 RUNGS (cb)
2-Lb (caq)
4-Lb (cak) E
2-Lb (cam)
2-Lb (can) E
2-Lb (cap) E
10-BOLTS ⅞ø × 1⅜ LG (ROUND HEAD - SLOTTED (HEX NUT)

1	/	LADDER	L30	
1	/	do	L31	
1	/	do	L32	
1	/	do	L33	
SPAN 99				

REQUIRED LIST

MATER: = structural steel to be copper bearing. ↓ Assembly marks for carbon steel prefixed with C thus: ca, cb, etc.; for silicon steel with S thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By JOHN M. BAILEY
RIVETS: ⅞ø UNLESS NOTED
OPEN HOLES: ⅞ø UNLESS NOTED
PUNCHING: ALL HOLES TO BE PUNCHED FULL SIZE
SEE DETAIL FOR PUNCHING OF RUNG HOLES
DRILLING: Holes in material over ¾" thick to be sub-drilled 1½" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance.
SHOP PAINT: - HAVE EXCEPT THAT CONTACT SURFACES OF PARTS PERMANENTLY BOLTED, SHALL BE GIVEN ONE COAT OF "ACID-RESISTING LIQUID" AFTER SUCH SURFACES HAVE BEEN THOROUGHLY CLEANED & SCRAPED. SUCH PARTS TO BE ASSEMBLED WHILE PAINT IS WET
½" BOLTS PULLED UP TIGHT
PARTS SHOP MILLED TO A SNUG FIT SHALL BE THOROUGHLY CLEANED & SCRAPED BEFORE ASSEMBLING. SHOP WELDING SHALL BE DONE IN STRICT ACCORDANCE WITH SPECIFICATIONS FOR THE FEDERAL ELECTRIC ARC WELDING SHALL BE DONE BY OPERATORS QUALIFIED BY THE STANDARD TESTS OF THE BUREAU OF STANDARDS.

Date	Revision	Appd
APPROVED		
Chief Engineer		Engineer of Design
Chief Engineer		Bridge Engineer
C. H. Purcell		Chief Engineer
Date 6-22-34		

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" TRUSS SPANS - PIERS E9 to E23
McCLINTIC-MARSHALL CONSTRUCTION
CHICAGO DRAWING ROOMS STEELTON WORKS
DETAILED BY J.E.N. 5-3 TRACED BY
CHECKED BY J.T.R. 6-11-34 TRACED BY
LAST ADDED, DEL.

CONTRACT CR1505 SHEET 904

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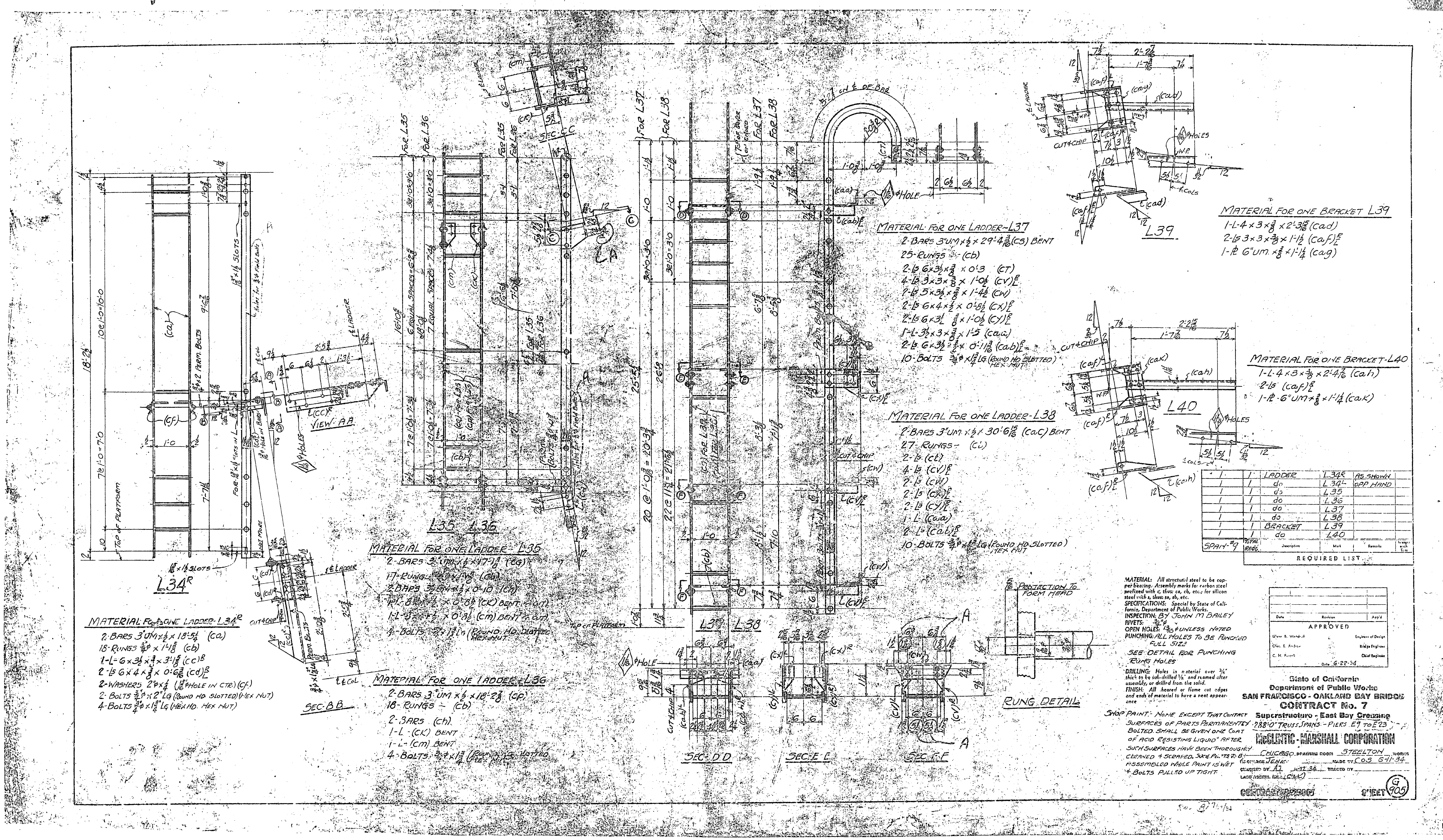
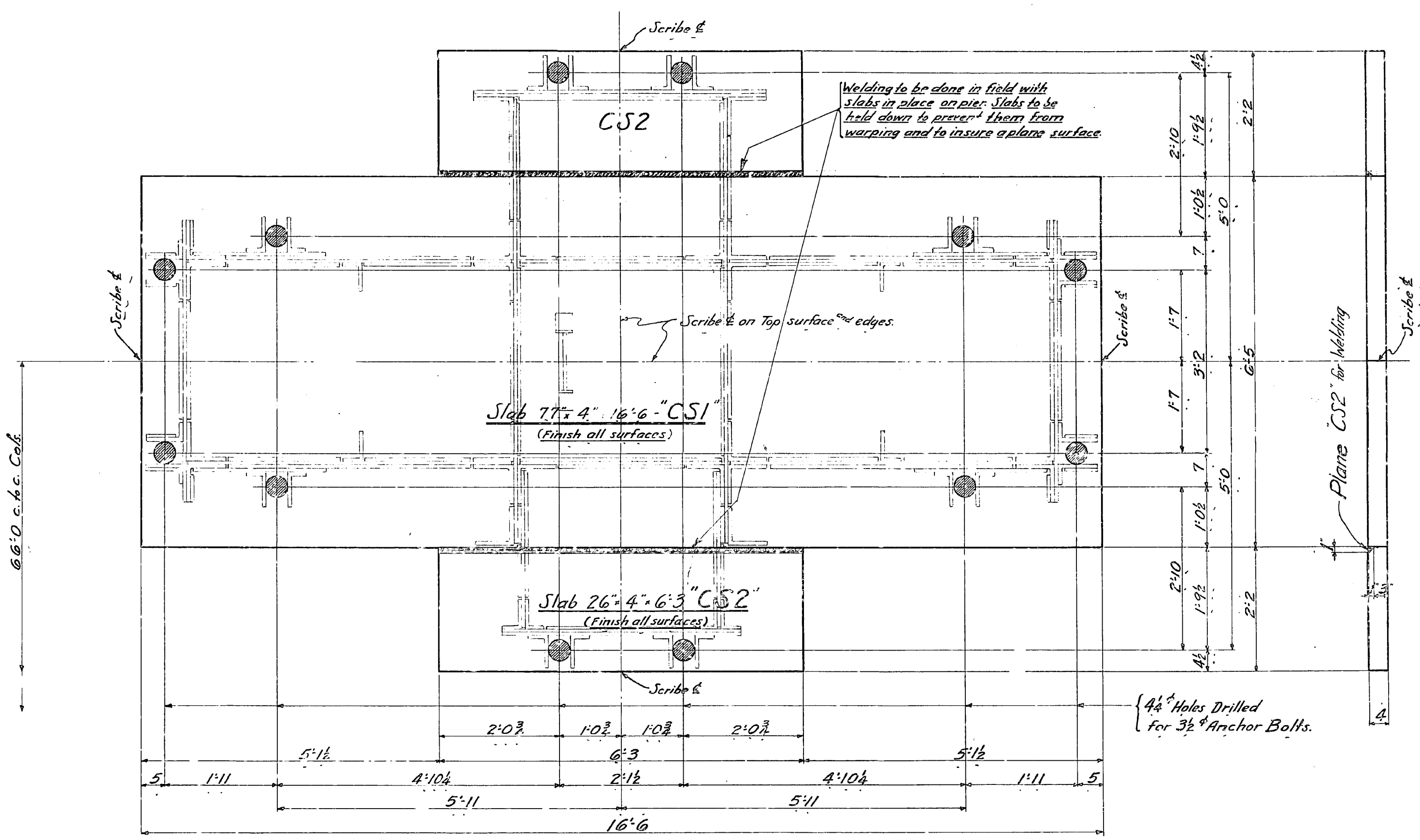

MATERIAL FOR ONE LADDER-L34R
2-BARS 3"UM x 1/2 x 18'-5 1/4 (ca)
18-RUNGS 3/4"φ x 1'-1 5/8 (cb)
1-L-6 x 3 1/2 x 3/8 x 3'-1 5/8 (cc)R
2-Ls 6 x 4 x 3/8 x 0'-6 3/16 (cd)R L
2-WASHERS 2"φ x 1/4 (13/16"φ HOLE IN CTR.) (cf)
2-BOLTS 3/4"φ x 2" LG (ROUND HD SLOTTED) (HEX NUT)
4-BOLTS 3/4"φ x 1 3/4" LG (HEX HD. HEX NUT)
L34R
SEC-BB
VIEW-AB
L35 L36
MATERIAL FOR ONE LADDER-L35
2-BARS 3"UM x 1/2 x 17'-1 3/8 (cg)
17-RUNGS (cb)
2-BARS 3 1/2"UM x 1/2 x 0'-10 (ch)
1-PL-8"UM x 1/2 x 0'-8 1/2 (ck) BENT & CUT
1-L-3 x 3 x 1/2 x 0'-8 1/2 (cm) BENT & CUT
4-BOLTS 3/4"φ x 1 3/4" LG (ROUND HD. SLOTTED HEX NUT)
MATERIAL FOR ONE LADDER-L36
2-BARS 3"UM x 1/2 x 18'-2 7/8 (cp)
18-RUNGS - (cb)
2-BARS (ch)
1-L-(ck) BENT
1-L-(cm) BENT
4-BOLTS 3/4"φ x 1 3/4
SEC-CC
L37 L38
SEC-DD
SEC-EE
SEC-FF
MATERIAL FOR ONE LADDER-L37
2-BARS 3"UM x 1/2 x 29'-4 3/16 (cs) BENT
25-RUNGS - (cb)
2-Ls 6 x 3 1/2 x 3/8 x 0'-3 (ct)
4-Ls 3 x 3 x 3/8 x 1'-0 1/2 (cv)R L
2-Ls 5 x 3 1/2 x 3/8 x 1'-4 1/2 (cw)
2-Ls 6 x 4 x 1/2 x 0'-8 1/2 (cx)R L
2-Ls 6 x 3 1/2 x 3/8 x 1'-0 1/2 (cy)R L
1-L-3 1/2 x 3 x 3/8 x 1'-5 (caa)
2-Ls 6 x 3 1/2 x 1/2 x 0'-11 3/16 (cab)R L
10-BOLTS 3/4"φ x 1 3/4 LG (ROUND HD SLOTTED) HEX NUT
MATERIAL FOR ONE LADDER-L38
2-BARS 3"UM x 1/2 x 30'-6 15/16 (cac) BENT
27-RUNGS - (cb)
2-Ls (ct)
4-Ls (cv)R L
2-Ls (cw)
2-Ls (cx)R L
2-Ls (cy)R L
1-L-(caa)
2-Ls (cab)R L
10-BOLTS 3/4"φ x 1 3/4 LG (ROUND HD SLOTTED) HEX NUT
5/16 PROJECTION TO FORM HEAD
RUNG DETAIL
L39
MATERIAL FOR ONE BRACKET L39
1-L-4 x 3 x 3/8 x 2'-3 15/16 (cad)
2-Ls 3 x 3 x 3/8 x 1'-1 1/2 (caf)R L
1-PL 6"UM x 3/8 x 1'-1 1/4 (cag)
L40
MATERIAL FOR ONE BRACKET-L40
1-L-4 x 3 x 3/8 x 2'-4 7/16 (cah)
2-Ls (caf)R L
1-PL-6"UM x 3/8 x 1'-1 1/4 (cak)
REQUIRED LIST
SPAN-#9 | TOTAL REQ'D | Description | Mark | Remarks | Weight each Tons
1 | 1 | LADDER | L34R | AS SHOWN
1 | 1 | do | L34L | OPP HAND
1 | 1 | do | L35
1 | 1 | do | L36
1 | 1 | do | L37
1 | 1 | do | L38
1 | 1 | BRACKET | L39
1 | 1 | do | L40
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: BY JOHN M BAILEY
RIVETS: 3/4"φ
OPEN HOLES: 13/16 φ UNLESS NOTED
PUNCHING: ALL HOLES TO BE PUNCHED FULL SIZE
SEE DETAIL FOR PUNCHING RUNG HOLES
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance
SHOP PAINT:- NONE EXCEPT THAT CONTACT SURFACES OF PARTS PERMANENTLY BOLTED SHALL BE GIVEN ONE COAT OF ACID RESISTING LIQUID" AFTER SUCH SURFACES HAVE BEEN THOROUGHLY CLEANED & SCRAPED. SUCH PARTS TO BE ASSEMBLED WHILE PAINT IS WET & BOLTS PULLED UP TIGHT.
Date | Revision | App'd
APPROVED
Glenn B. Woodruff | Engineer of Design
Chas. E. Andrew | Bridge Engineer
C. H. Purcell | Chief Engineer
Date 6-22-34
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" TRUSS SPANS - PIERS E9 TO E23
McCLINTIC - MARSHALL CORPORATION
CHICAGO DRAWING ROOM STEELTON WORKS
IN CHARGE JENK. MADE BY COS 6-11-34
CHECKED BY AJ 6-12-34 TRACED BY
LAST ASSEM. MK. (CLK)
CONTRACT PR15805
SHEET G 905

30-1



Shop Paint:- 1-Coat No-Ox-Id Filler Red applied to all parts.

Shop Bill:- R3000

No.	Description	Mark	Remarks	Weight each Tons
8	Slabs	CS1		
16	"	CS2		

REQUIRED LIST

MATERIAL: { Carbon Steel. All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.

SPECIFICATIONS: Special to State of California Department of Public Works.

INSPECTION: John M. Bailey, Chf. Inspt.

RIVETS: —

OPEN HOLES: As noted.

PUNCHING: [illegible]

DRILLING: [illegible]

FINISH: [illegible]

APPROVED

Date 3-16-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE EAST BAY CROSSING

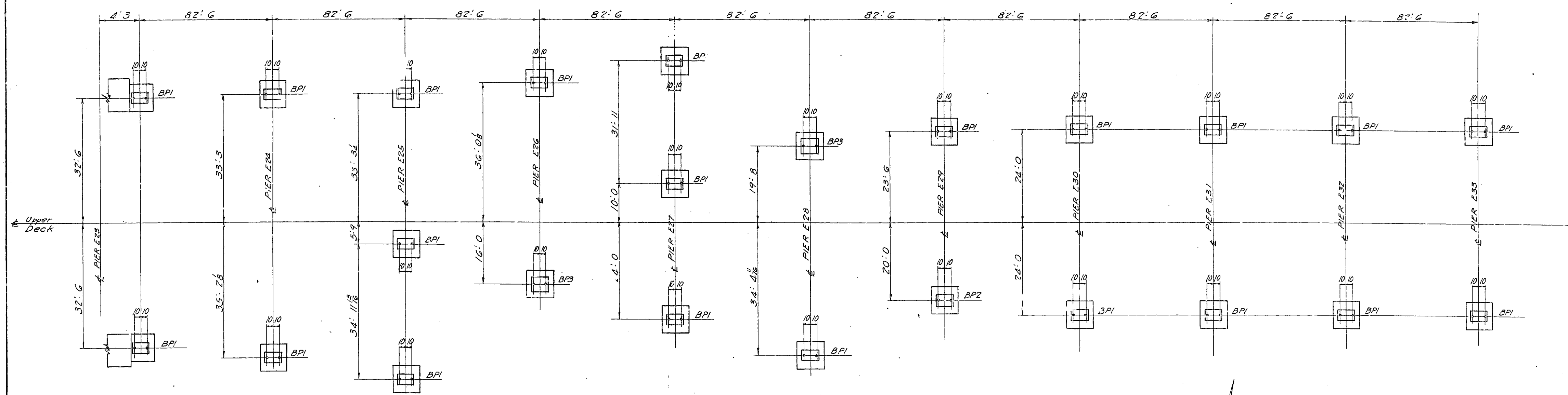
SLABS FOR TOWERS - BENTS E5 to E8 Incl.

BETHLEHEM STEEL CORPORATION

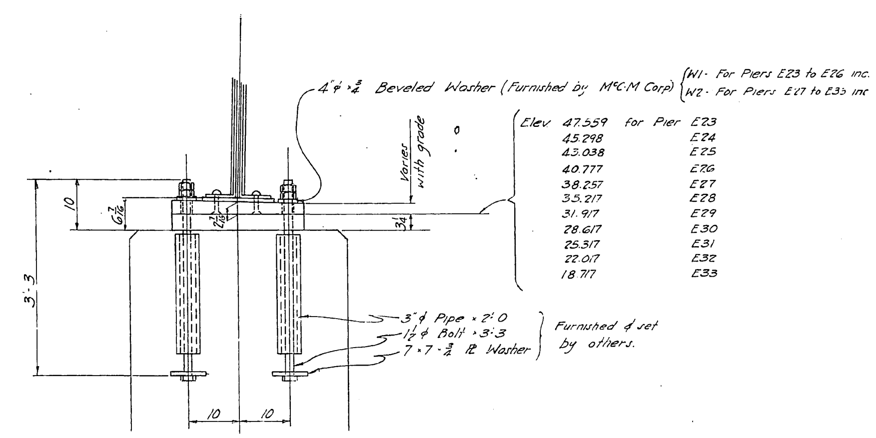
STEELTON — STEELTON PENNA.

Boone — MADE BY DRB 2-9-34

R 300



BASE PLATE SETTING PLAN



SECTION FOR PIERS E23 to E33

SCHEDULE OF BASE PLATES		
No.	MARK	SIZE
21	BP1	26 × 3¼ × 1'4
1	BP2	26 × 3¼ × 1'6
2	BP3	26 × 3¼ × 1'10

Date	Revision	App'd

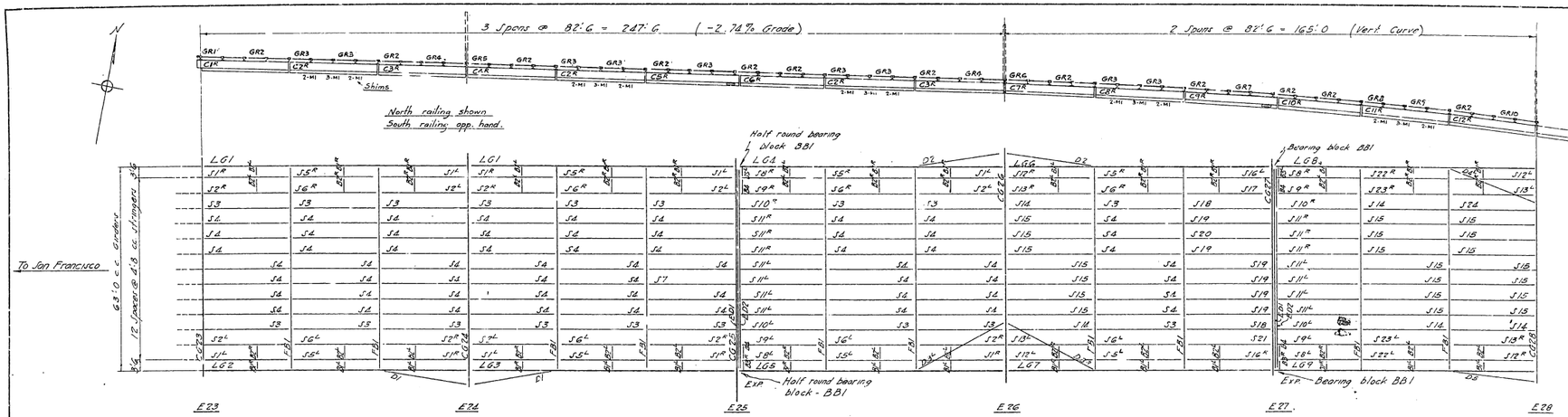
APPROVED

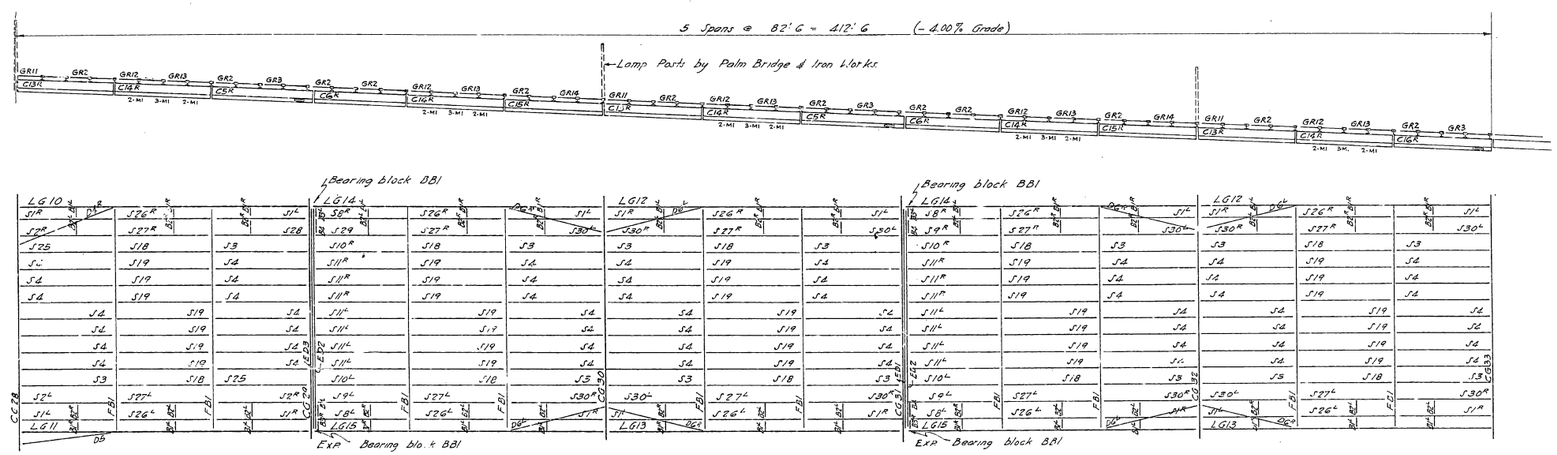
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 9/7/34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Mole Plate Girder Spans Piers E23-33
McCLINTIC-MARSHALL CORPORATION

Alameda DRAW. OOM Alameda WORKS
IN CHARGE T.E.B. MADE BY D.F.G.
CHECKED BY J TRACED BY D.F.G.
LAST ASSEM. MK.

CONTRACT CT1580 SHEET TE1





ERECTION DIAGRAM.

Note: Members to be erected with mark upright and in position shown on plan.

APPROVED

Engineer of Design

Bridge Engineer

Chief Engineer

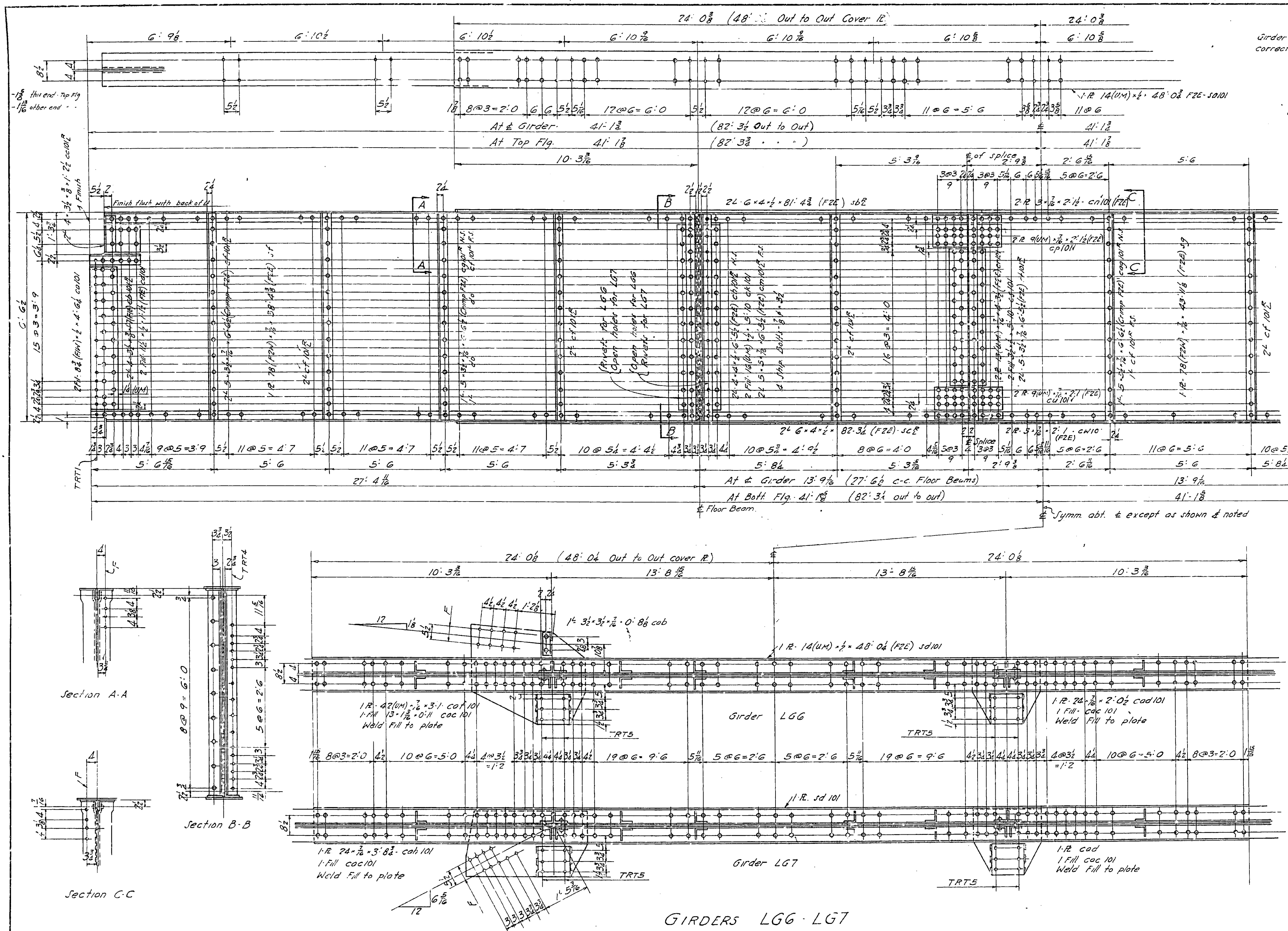
Date 4-1-35

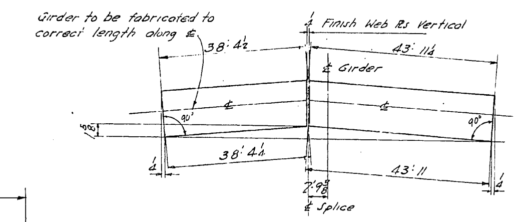
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Mole Plate Girder Spans Piers E23-33
McCLINTIC-MARSHALL CORPORATION

Alameda DRAWING ROOM Alameda WORKS
IN CHARGE T.F.B. STATE DY. D.E.G.
CHECKED DY J TRACED DY D.E.G.
LAST ACCESS. NO.

CONTRACT CT1580 SHEET T52

30-1





Camber Diagram

NOTE 'A'
Holes marked TRT to be reamed or drilled full size thru a metal templet.
Holes marked F may be punched full size
All re-entrant cuts to have ½" radius.

	1		1	Long. Girder	LG6		
	1		1	Long. Girder	LG7	Opp Hand	
	Span E26		No.	Description	Mark	Remarks	Weight each Tons
Req'd by Spans			REQUIRED LIST				

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS: ⅞ ϕ
OPEN HOLES: 15/16 ϕ
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly. Also see note 'A'
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
EDGE DISTANCE: 1½ Unless noted.

SHOP PAINT: None, except: One coat 'Acid Resisting Liquid' to surfaces between conn. angles on web, not readily accessible for field sand-blasting, and to contact surfaces of parts bolted for shipment, after thoroughly cleaning and scraping such surfaces.

WELD - For fills to gusset plates - 5/16" fillet × 2" long where shown.

Date	Revision	App'd

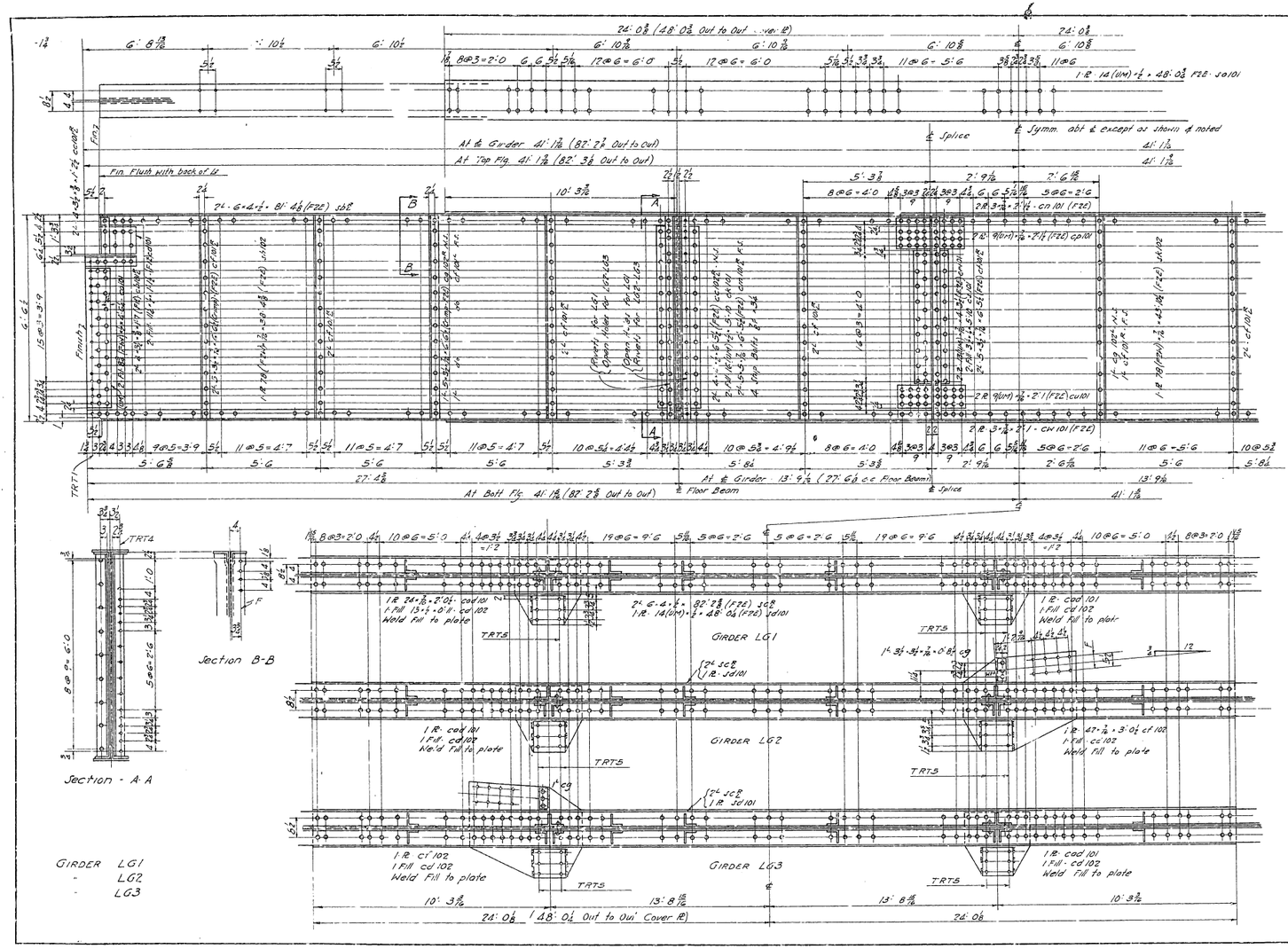
APPROVED

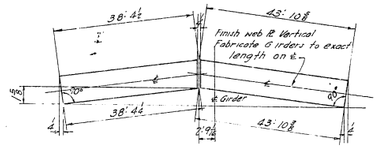
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 10/5/34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Mole Plate Girder Spans Piers E23-33
McCLINTIC-MARSHALL CORPORATION

Alameda DRAW. ROOM Alameda WORKS
IN CHARGE T.F.B. MADE BY H.E.B.
CHECKED BY J. TRACED BY D.F.G.
LAST ASSEM. MK.

CONTRACT C715801 SHEET T101





Camber Diagram

Note A
Holes marked TRT to be reamed or drilled full size thru a metal templet.
Holes marked F may be punched full size.
All reentrant cuts to have ½ radius.

1	1		2	Long. Girder	LG1	
1			1	Long. Girder	LG2	One Hand
	1		1	Long. Girder	LG3	One Hand
Span E23	Span E24		No.	Description	Mark	Remarks	Weight each Type
Reqd by Span			REQUIRED LIST			

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS: ⅞ ⅞ / ⅞ ⅞
OPEN HOLES:
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing and di. shapes may be punched full size. Holes in main material ¾" thick or less to be sub-punched 1/16" and reamed to size after assembly. Also see Note A.
DRILLING: Holes in material over ¾" thick to be sub-drilled 1/16" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/16" of metal.
EDGE DISTANCE: 1½ unless noted

SHOP PAINT: None, except: See Sheet T101.

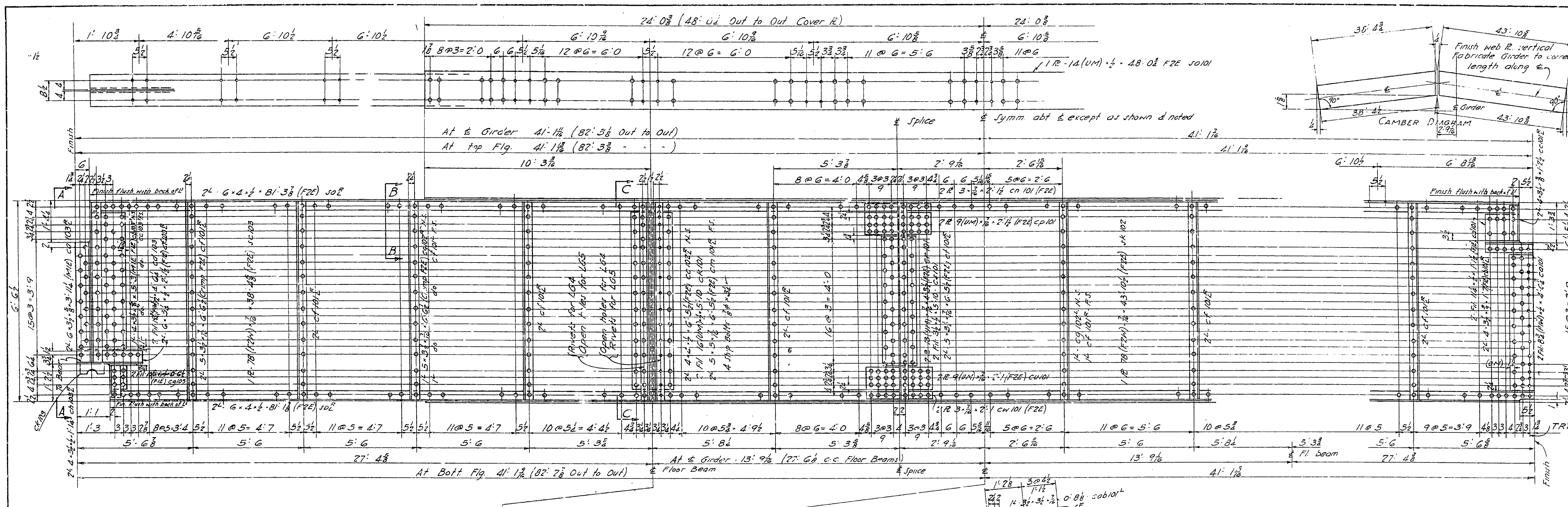
WELD - See Sheet T101

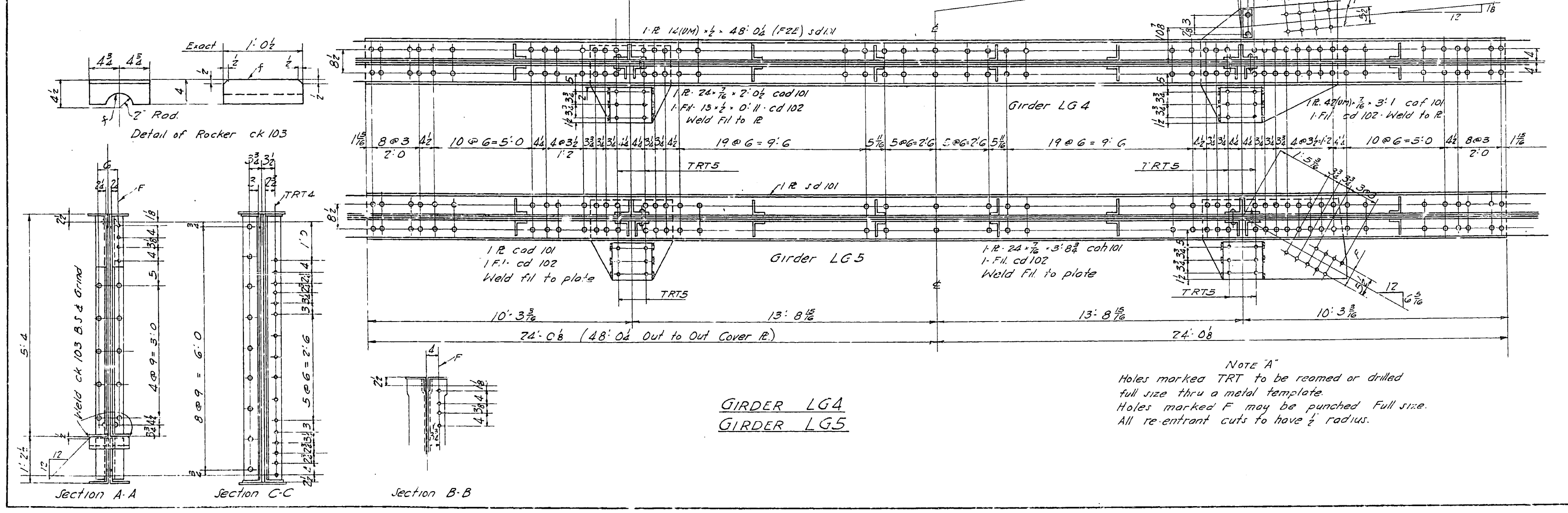
Date	Revision	Appr'd
	APPROVED	
Struc. & Mech. Engr.		Engineer of Design
Chief Arch.		Bridge Engineer
C. of S.		Chief Engineer
	Date 9/27/34	

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Main Plate Girder Spans Piers E23-33
McCLINTIC-MARSHALL CORPORATION
Alameda DRAWING ROOM Alameda WORKS
IN CHARGE T.F.E MADE BY D.F.D
CHECKED BY J. TRACED BY D.F.D
LAST ASSCTS. ESS.

CONTRACT C71580/ SHEET T102

30-1





			No.	Description	Mark	Remarks	Weight each Tons
	1		1	Long. Girder	LG4		
	1		1	Long. Girder	LG5	opp. Hand.	
	Span E25						
Req'd by Spans.			REQUIRED LIST				

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS: ⅞ ϕ
OPEN HOLES: $\frac{15}{16}$ ϕ
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly. Also see Note "A"
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
EDGE DISTANCE: 1½ Unless noted

SHOP PAINT: None, except: One coat "Acid Resisting Liquid" to surfaces between conn. angles on web, not readily accessible for field sandblasting and to contact surfaces of parts bolted for shipment, after thoroughly cleaning and scraping such surfaces. Also to half round bearing surface of rocker ck 103.

WELD - See Sheet T101

Date	Revision	App'd

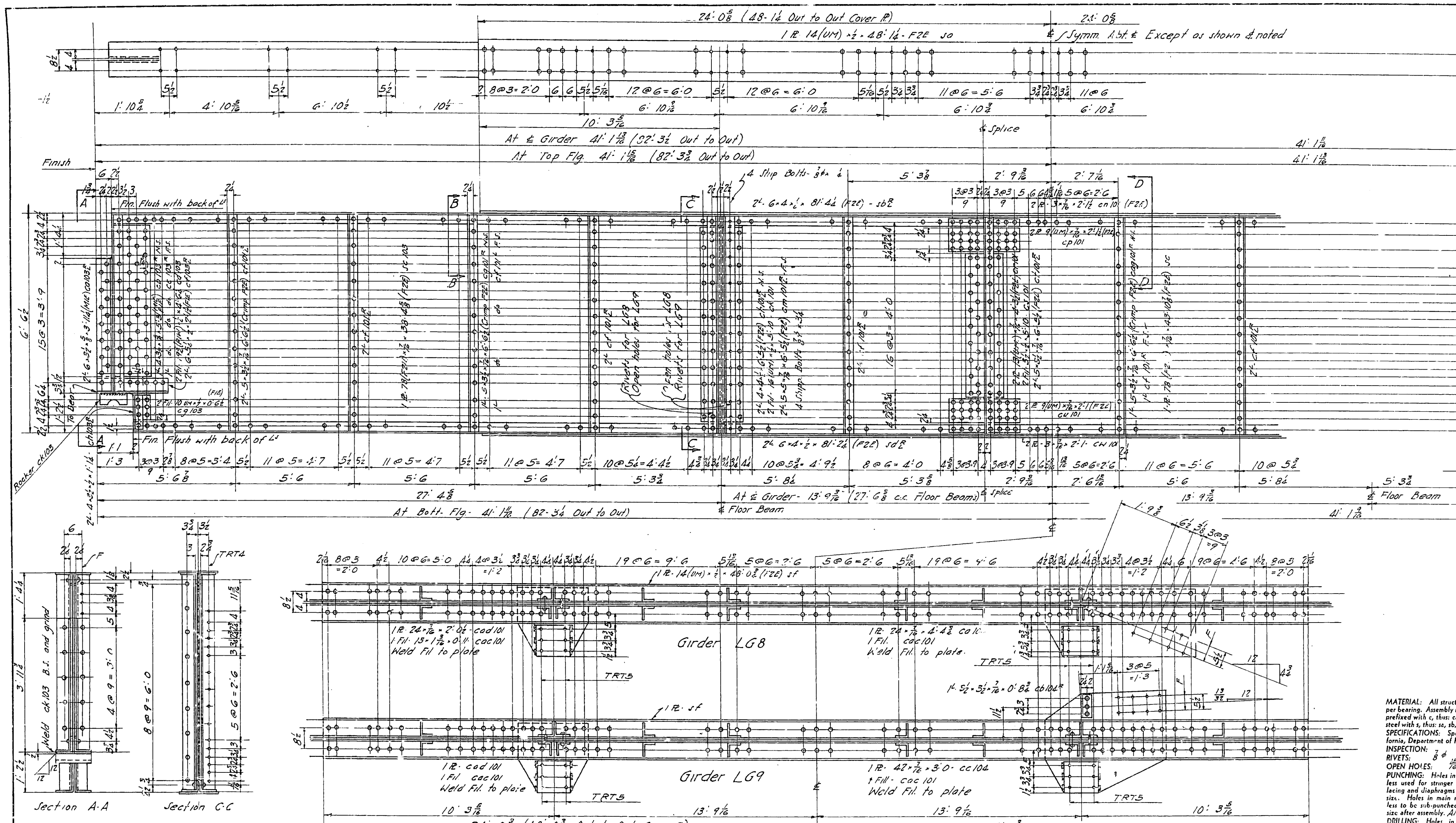
APPROVED

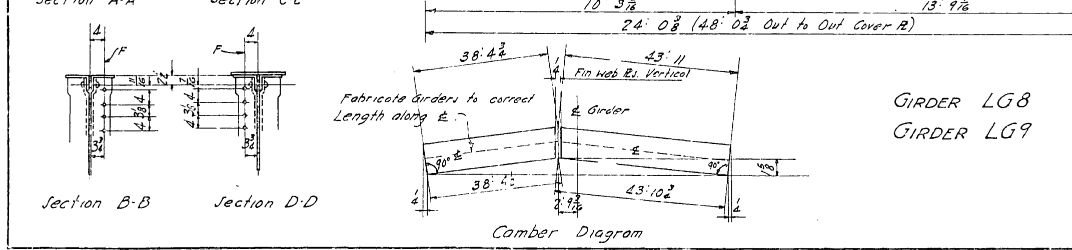
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 9/27/34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Mole Plate Girder Spans Piers E23-33
McCLINTIC-MARSHALL CORPORATION
Alameda DRAWING ROOM Alameda WORKS
IN CHARGE T. B. MADE BY H. E. B.
CHECKED BY TRACED BY D. F. G.
LAST ASSEM. MK.

CONTRACT CT15801 SHEET T103

30-1





GIRDER LG8
GIRDER LG9

NOTE "A" - Holes marked TRT to be reamed or drilled full size thru a metal template.
Holes marked F may be punched Full size.
All re-entrant cuts to have 1/2" radius.

Req'd by Spans			No.	Description	Mark	Remarks	Weight each Tons
	1		1	Long. Girder	LG8		
	1		1	Long. Girder	LG9	Opp. Hand	
	Span E27						

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS: 7/8 ϕ
OPEN HOLES: 15/16 ϕ
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly. Also see Note "A"
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
EDGE DISTANCE: 1 1/2 Unless noted

SHOP PAINT: None, except: See Sheet T103

WELD - See Sheet T101

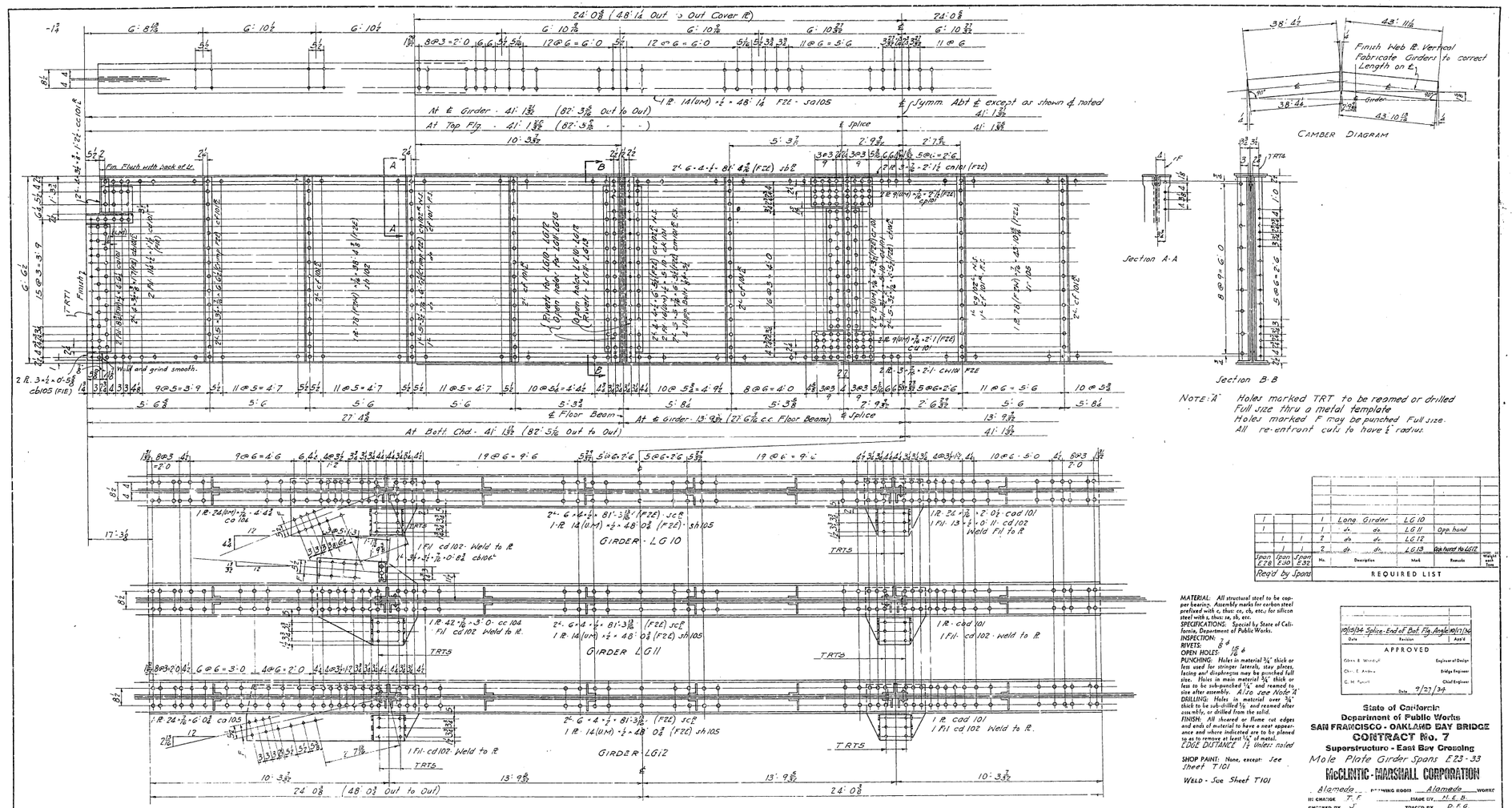
Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 9/27/34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Mole Plate Girder Spans Piers E23-33
McCLINTIC-MARSHALL CORPORATION

Alameda DR. ROOM Alameda WORKS
IN CHARGE T.F.B. MADE BY H.E.B.
CHECKED BY J. TRACED BY D.F.G.
LAST ASSEM. MK.

CONTRACT CT15801 SHEET T104



NOTE: A Holes marked TRT to be reamed or drilled Full size thru a metal template
Holes marked F may be punched Full size.
All re-entrant cuts to have ¾" radius.

Span E28	Span E30	Span E32	No.	Description	Mark	Remarks	Weight each Type
1			1	Long. Girder	LG10		
1			1	do.	LG11	Opp. hand	
	1	1	2	do.	LG12		
	1		2	do.	LG13	Opp. hand to LG12	
Req'd by Span			REQUIRED LIST				

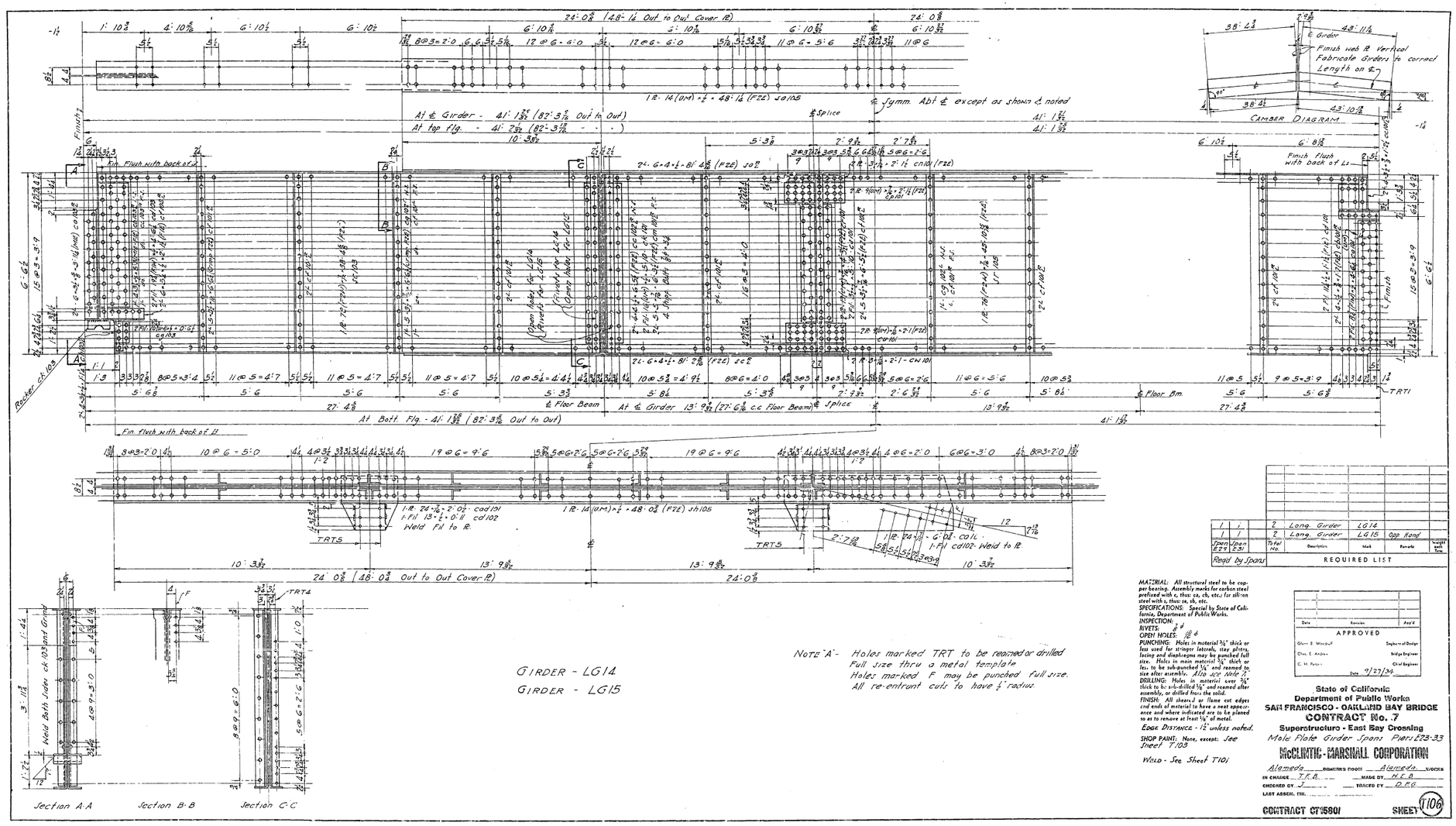
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS: ⅞ ϕ
OPEN HOLES: 15/16 ϕ
PUNCHING: Holes in material ⅜" thick or less used for stringer laterals, stay plates, facing and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly. Also see Note 'A'
DRILLING: Holes in material over ¾" thick to be sub-drilled 3/16" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ¼" of metal.
EDGE DISTANCE 1½ Unless noted
SHOP PAINT: None, except: See Sheet T101
WELD - See Sheet T101

Date	Revision	Appr'd
10/5/34	Splice-End of Bot. Flg. Angle	10/17/34

APPROVED

Edwin B. Woodall — Engineer of Design
Chas. E. Andrus — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 9/27/34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Mole Plate Girder Spans E23 - 33
McCLINTIC-MARSHALL CORPORATION
Alameda DRAWING ROOMS Alameda WORKS
IN CHARGE T. F. STAGE BY H. E. B.
CHECKED BY J. TRACED BY D. F. G.
L.F.ST ASSEM. BRS.
CONTRACT CY1580! SHEET T105



GIRDER - LG14
GIRDER - LG15

NOTE 'A'- Holes marked TRT to be reamed or drilled Full size thru a metal template
Holes marked F may be punched full size.
All re-entrant cuts to have ½" radius.

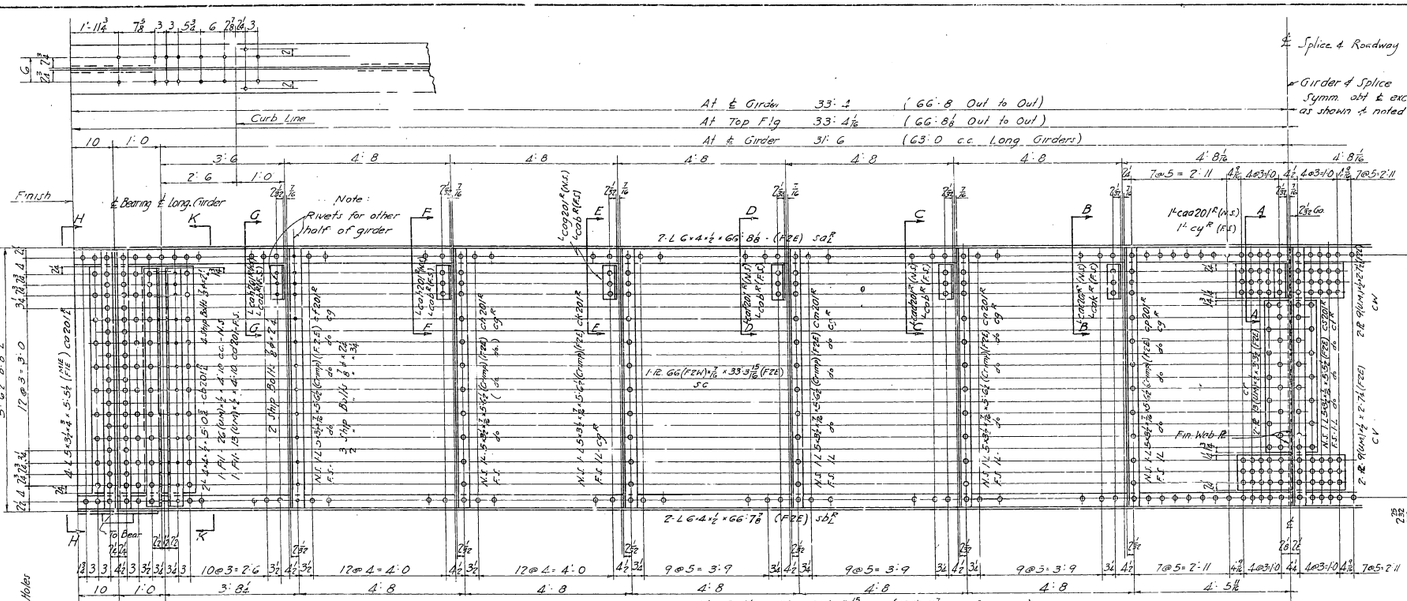
1	1	2	Long. Girder	LG14	
1	1	2	Long. Girder	LG15 Opp Hand	
Span E29	Span E31	Total No.	Description	Mark	Remarks	Weight each Item
Read by Spans			REQUIRED LIST			

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS: ℔ 4
CRH HOLES: ℔ 4
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly. Also see Note 'A'.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
EDGE DISTANCE - 1½" unless noted.
SHOP PAINT: None, except: See Sheet T103
WELD - See Sheet T101

Date	Remarks	Asst'd
APPROVED		
Glenn B. Woodruff		Engineer of Design
Chas. E. Andrew		Bridge Engineer
C. H. Purcell		Chief Engineer
Date 9/27/34		

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Mole Plate Girder Spans Piers E23-33
McCLINTIC-MARSHALL CORPORATION
Alameda DRAWING ROOTS Alameda WORKS
IN CHARGE T.K.R. MADE BY H.E.B.
CHECKED BY J. TRACED BY D.F.C.
LAST ASSEM. YD.

CONTRACT CT5801 SHEET T106



CROSS GIRDER CG23

NOTE 'A'. Holes marked KRT2G to be reamed or drilled full size to metal templet furnished by Bethlehem Works.
Holes marked TRT to be reamed or drilled full size to metal templet furnished by Alameda Works.

Shop to place 1/2" filler between lug & stiffener as when riveting.
Filler to be set against web & while riveting
Lug must be kept smooth & free from burrs for entering beams.

Span E23	No.	Description	Mark	Remarks	Wt. each item
	1	1" Cross Girder	CG23		

Reqd by Specs — REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS:
OPEN HOLES: 1/16" ø Unless Noted.
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diagl. signs may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 3/4" and reamed to size after assembly. Also see Note 'A'.
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
Edge distance 1 5/8" Unless Noted.
SHOP PAINT: None, except: Contact surfaces of parts bolted for shipt. and surfaces between com. pts. on web not readily accessible for field sandblasting to be given one coat "Acid Resisting Paint" after thoroughly cleaning and scraping such surfaces. Bottom surface of bearing plates to be given one coat of "Acid Resisting Paint". Bolted parts to be dry before assembly.

Date	Revision	Appd

APPROVED

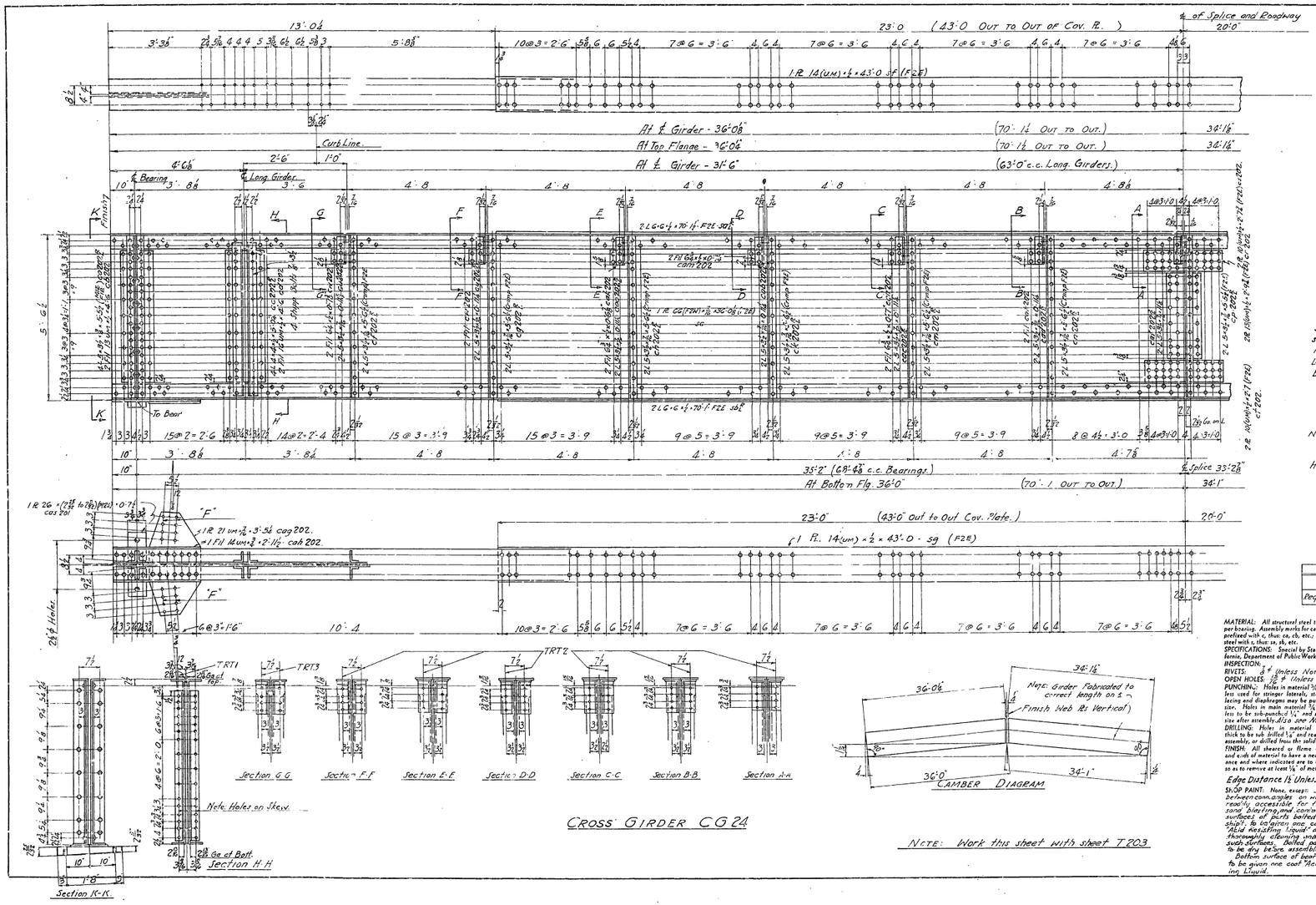
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 9/2/34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Mole Plate Girder spans Piers E23.33
McCLINTIC-MARSHALL CORPORATION
Alameda DRAWING ROOM Alameda WORKS

DET. CHECK.	T.F.B.	MADE BY	H.E.B.
CHECKED BY		TRACED BY	D.E.C.
LAST ASSIST. ENG.	(SE)	(CEK)	

CONTRACT CT15802 SHEET 1201

301



Shop to place ½" Filler between lug and stiffener L2 when riveting. Filler to be set against web R while riveting. L2 must be kept smooth and free from burrs for entering booms.

Note 'A' Holes marked 'T.R.T.' to be reamed or drilled full size thru a metal templet. Holes marked 'F' may be punched full size.

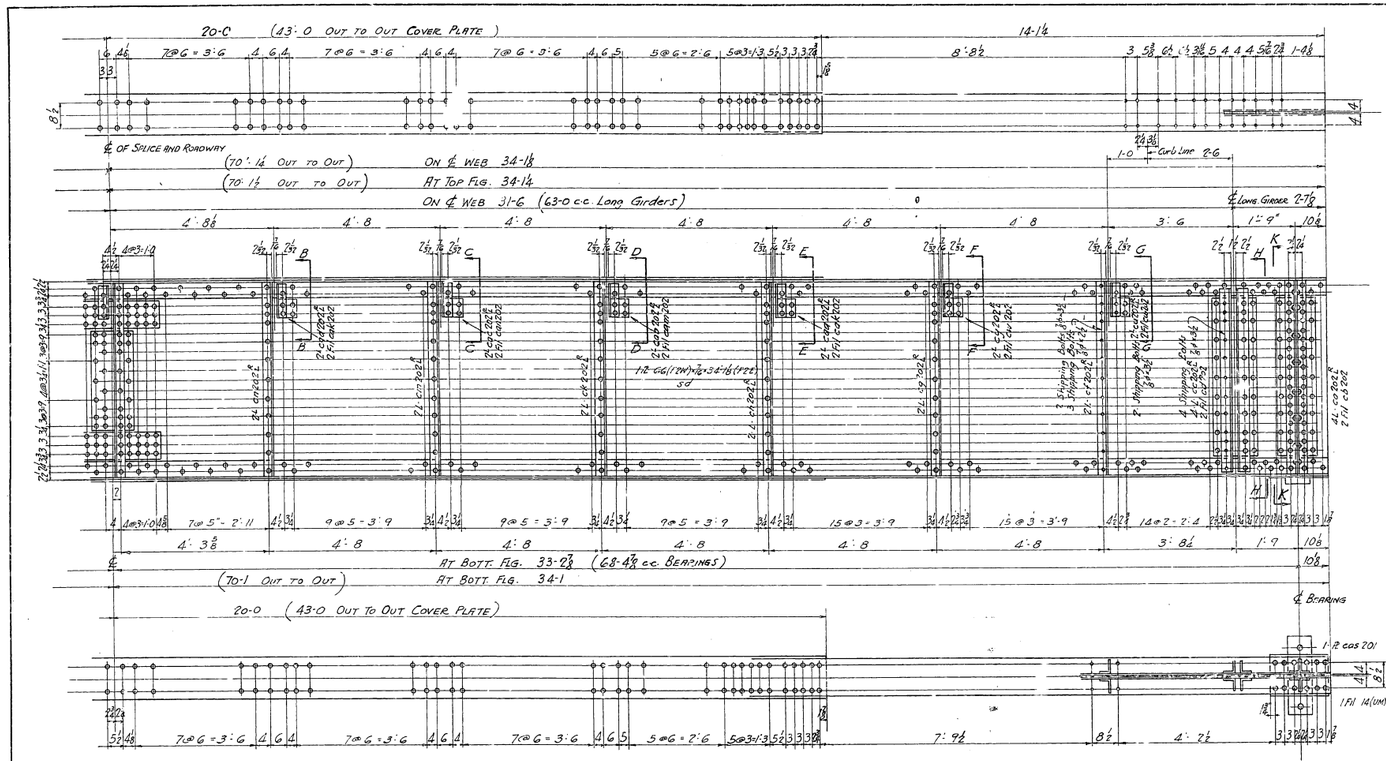
Span E23	No.	Cross Girder CG24 Description	Mark	Remarks	Weight each piece
Req'd by span		REQUIRED LIST			

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS: ⅞" ϕ Unless Noted
OPEN HOLES: ⅞" ϕ Unless Noted
PUNCHING: Holes in material ⅜" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly. Also see Note 'A'
DRILLING: Holes in material over ¾" thick to be sub-drilled ¼" and reamed after assembly, or drilled thru the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
Edge Distance ½ Unless Noted.
SHOP PAINT: None, except: Surfaces between room angles on web not readily accessible for field sand blasting and contact surfaces of parts bolted for shop; to be given one coat of "Acid Resisting Liquid" after thoroughly cleaning and scraping such surfaces. Bolted parts [illegible] to be dry before assembly.
Bottom surface of bearing plates to be given one coat "Acid Resisting Liquid."

Date	Revision	App'd
APPROVED		
Glenn B. Woodruff		Engineer of Design
Chas. E. Andrew		Bridge Engineer
C. H. Purcell		Chief Engineer
Date 9/1/34		

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Main Plate Girder Spans Piers E23-33
McCLINTIC-MARSHALL CORPORATION
Alameda, WHERE MOORE Alameda, WORKED
IN CHARGE T. C. STAGE BY H.E.B.
CHECKED BY A.R.B. TRACED BY D.E.G.
LAST ASSIGN. MK.
CONTRACT 07/5802 SHEET T202

30-1



CROSS GIRDER CG24

NOTE: Work this sheet with sheet T202

See Sheet T202

No.	Description	Mark	Remarks	Weight each Piece

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS: ⅞ ϕ Unless noted
OPEN HOLES: 1⅛ / 1⅛ ϕ Unless noted
PUNCHING: Holes in material ¾" thick or less used for stiffeners, lateals, stay plates, facing and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly. Also See Note A Sh. T202
DRILLING: Holes in material over ¾" thick to be sub-drilled 1/16" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/16" of metal.
EDGE DISTANCE 1¼" unless noted.
SHOP PAINT: See sheet T202

Date	Revision	Appd.

APPROVED

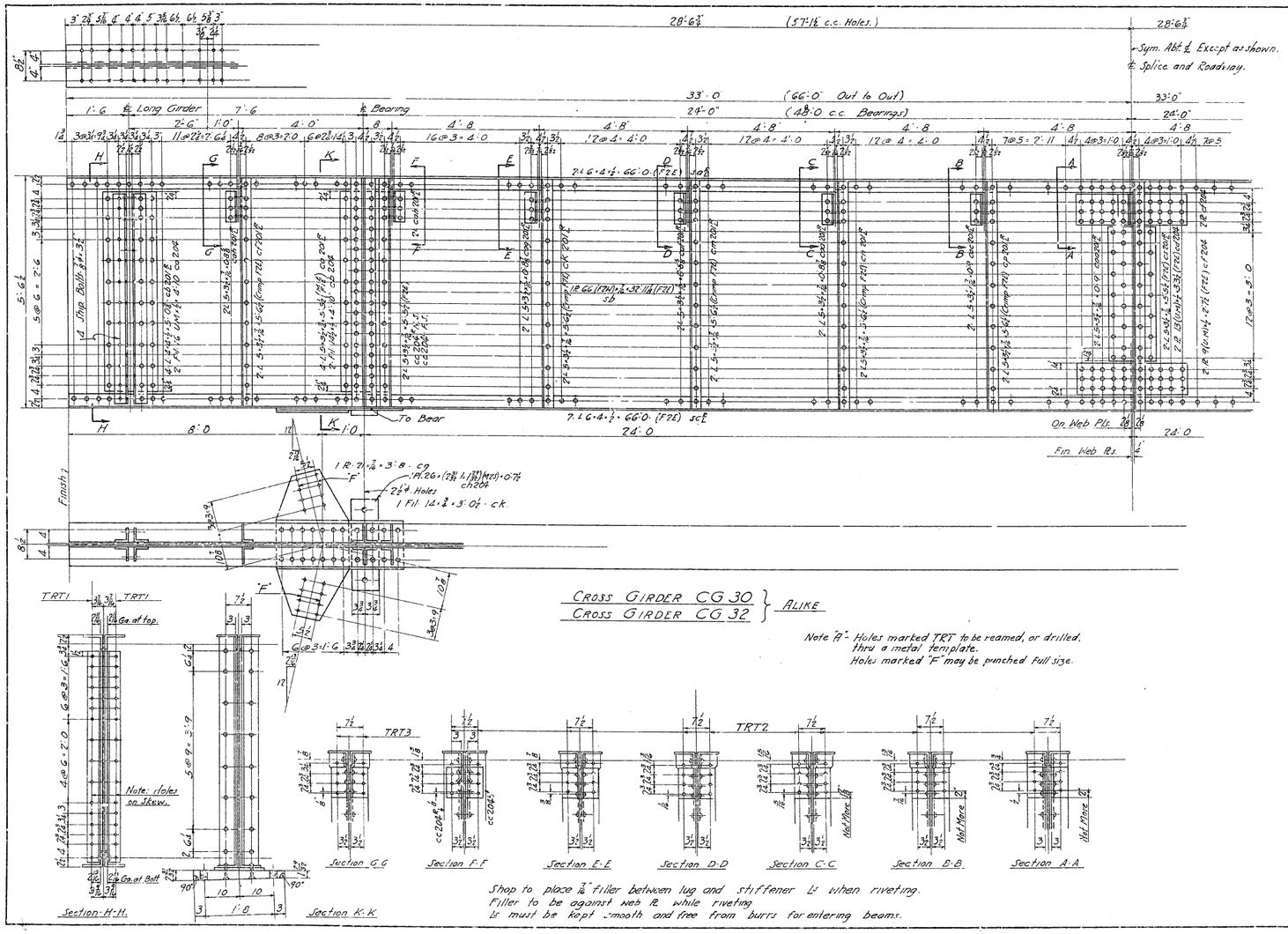
Glen S. Wright, C. — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 9/1/36

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Main Plate Girder Spans - Piers E23-33
McCLINTIC-MARSHALL CORPORATION

Alameda — DRAWING ROOM: Alameda — WORLD
IN CHARGE T.F.D — MADE BY H.E.B.
CHECKED BY A.L. — TRACED BY D.F.G.
LAST ASSIST. ENR.

CONTRACT CT15802 SHEET T203

30-1



CROSS GIRDER CG 30 } ALIKE
CROSS GIRDER CG 32 }

Note "A" - Holes marked TRT to be reamed, or drilled, thru a metal template.
Holes marked "F" may be punched full size.

Span E 24	Span E 23	No.	Description	Mark	Remarks	Weight each Item
	1	1	Cross Girder	CG 30		
	1	1	Cross Girder	CG 32		
Regd by Spans			REQUIRED LIST			

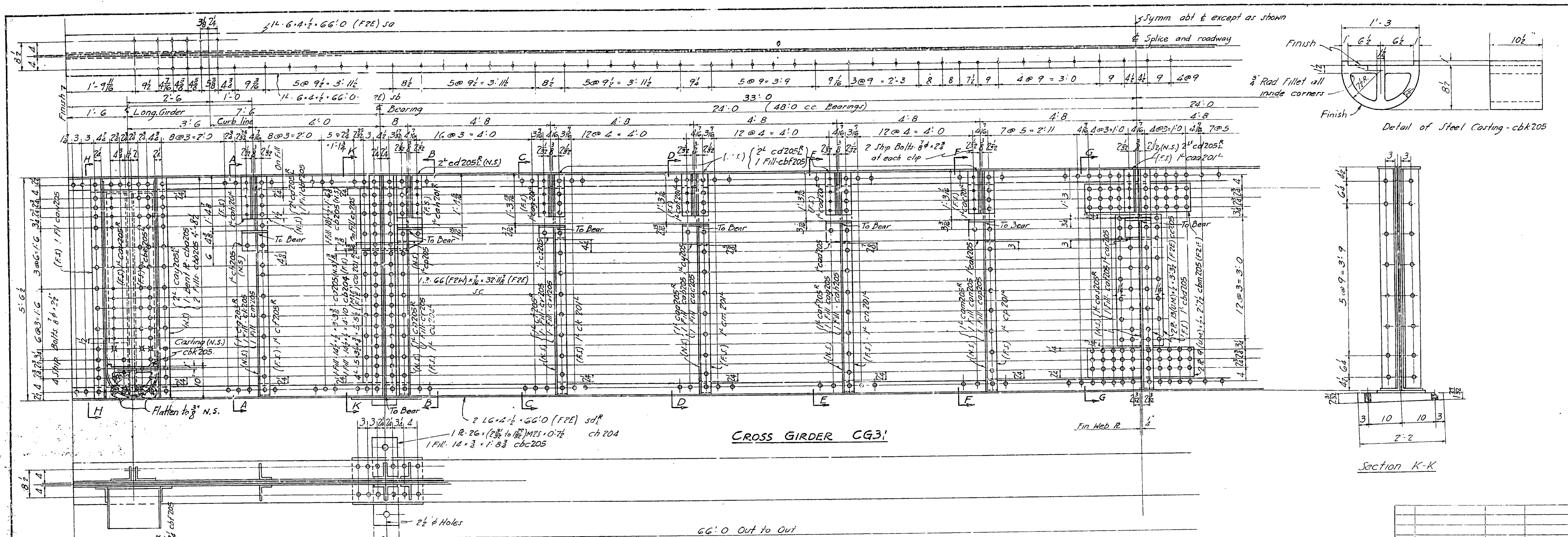
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc., for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS: ⅞ ℄
OPEN HOLES: 15/16" ℄ Unless Noted.
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing and d'splrags may be punched full size. Holes in main material ¾" thick or less to be sub-punched 1/4" and reamed to size after assembly. Also see Note "A"
DRILLING: Holes in material over ¾" thick to be sub-drilled 1/4" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance e'.' where indicated are to be planed so as to remove at least 1/4" of metal.
Edge Distance 1½" Unless Noted.
SHOP PAINT: None, except Contact surfaces of parts bolted for shipm't. and surfaces between conn. ll' on web not readily accessible for Field sandblasting, to be given one coat "Acid Resisting Liquid" after thoroughly cleaning acid scraping such surfaces. Bolted parts to be dry before assembly. Bottom surfaces of bearing pillas to be given one coat "Acid Resisting Liquid"

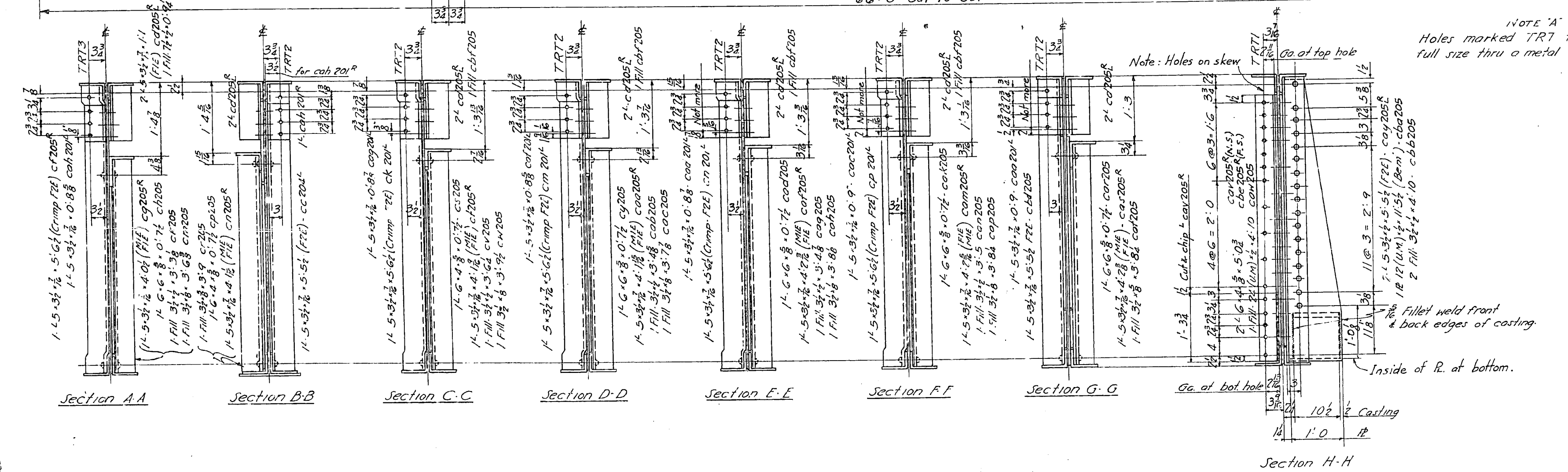
Date	Revision	Appr'd
APPROVED		
Glenn B. Woodruff		Engineer of Design
Chas. E. Andrus		Bridge Engineer
C. H. Purcell		Chief Engineer
Date 9/7/34		

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Mole Plate Girder Spans Piers E23-33
McCLINTIC-MARSHALL CORPORATION
Alameda DRAWING ROOM Alameda WORKS
DESIGNED BY F.F.B. LOADING BY H.E.B.
CHECKED BY — TRACED BY D.F.G.
LAST ASSGNS. SIR. —

CONTRACT 07T5802 SHEET T204

30-1





NOTE "A"
Holes marked TR7 to be reamed or drilled full size thru a metal templet.

		No.	Description	Mark	Remarks	Weight each Tons
1		1	Cross Girder	CG31		
Span E30						
Req'd by Spans		REQUIRED LIST				

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS: 7/8 ϕ Unless Noted
OPEN HOLES: 15/16 ϕ Unless Noted
PUNCHING: Holes in material 3/4" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material 3/4" thick or less to be sub-punched 1/4" and reamed to size after assembly. Also see note "A"
DRILLING: Holes in material over 3/4" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
Edge distance 1½" unless noted.
SHOP PAINT: None, except contact surfaces of parts bolted for shipment and surfaces between conn. Ls on web not readily accessible for field sandblasting to be given one coat "Acid Resisting Liquid" after thoroughly cleaning and scraping such surfaces. Bolted parts to be assembled after dry. Bottom surface of bearing plates and machined surfaces of castings to be given one coat Blue Lacquer.

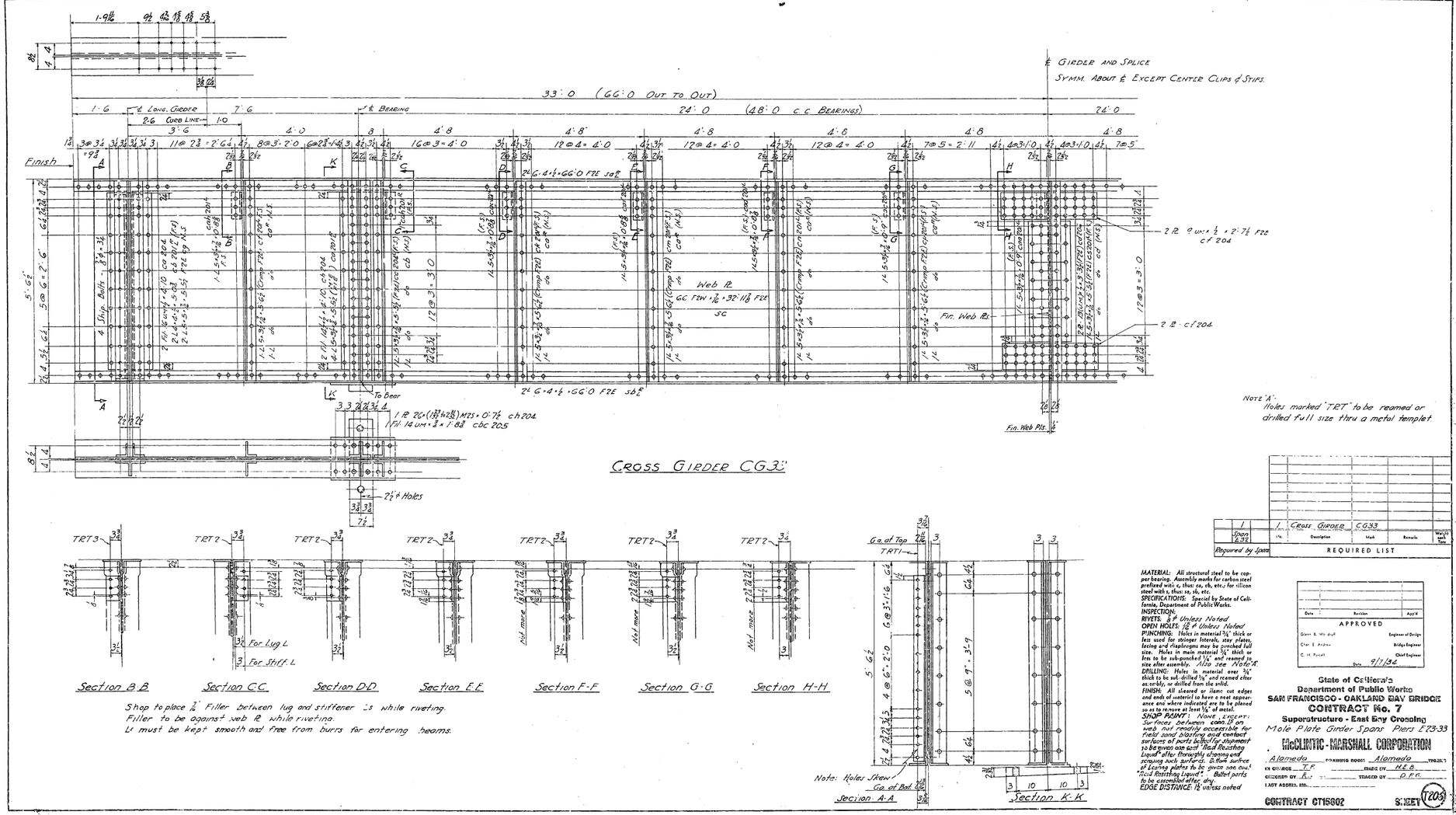
Date	Revision	App'd
10/2/34	Holes in top flange	10/5/34

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 9/7/34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Mole Plate Girder Spans Piers E23-33
McCLINTIC-MARSHALL CORPORATION

Alameda DRAWING ROOM Alameda WORKS
IN CHARGE T. MADE BY H.E.B.
CHECKED BY TRACED BY D.F.G.
LAST ASSEM. MK

CONTRACT CT15802 SHEET T205



Note 'A'
Holes marked 'TRT' to be reamed or drilled full size thru a metal templet

Span	Unit	Cross Girder	CG33		
		Description	Mark	Remarks	Weight each Piece
Required by Span		REQUIRED LIST			

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS: ⅞ ø Unless Noted
OPEN HOLES: 1⅛ ø Unless Noted
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly. Also see Note 'A'.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
SHOP PAINT: None, Except: Surfaces between contact web not readily accessible for field paint painting and contact surfaces of parts before shipment to be given one coat "Rust Resisting Liquid" after thoroughly cleaning and scraping such surfaces. Bottom surface of bearing plates to be given one coat "Acid Resisting Liquid". Bolted parts to be assembled after dry.
EDGE DISTANCE: 1½ unless noted

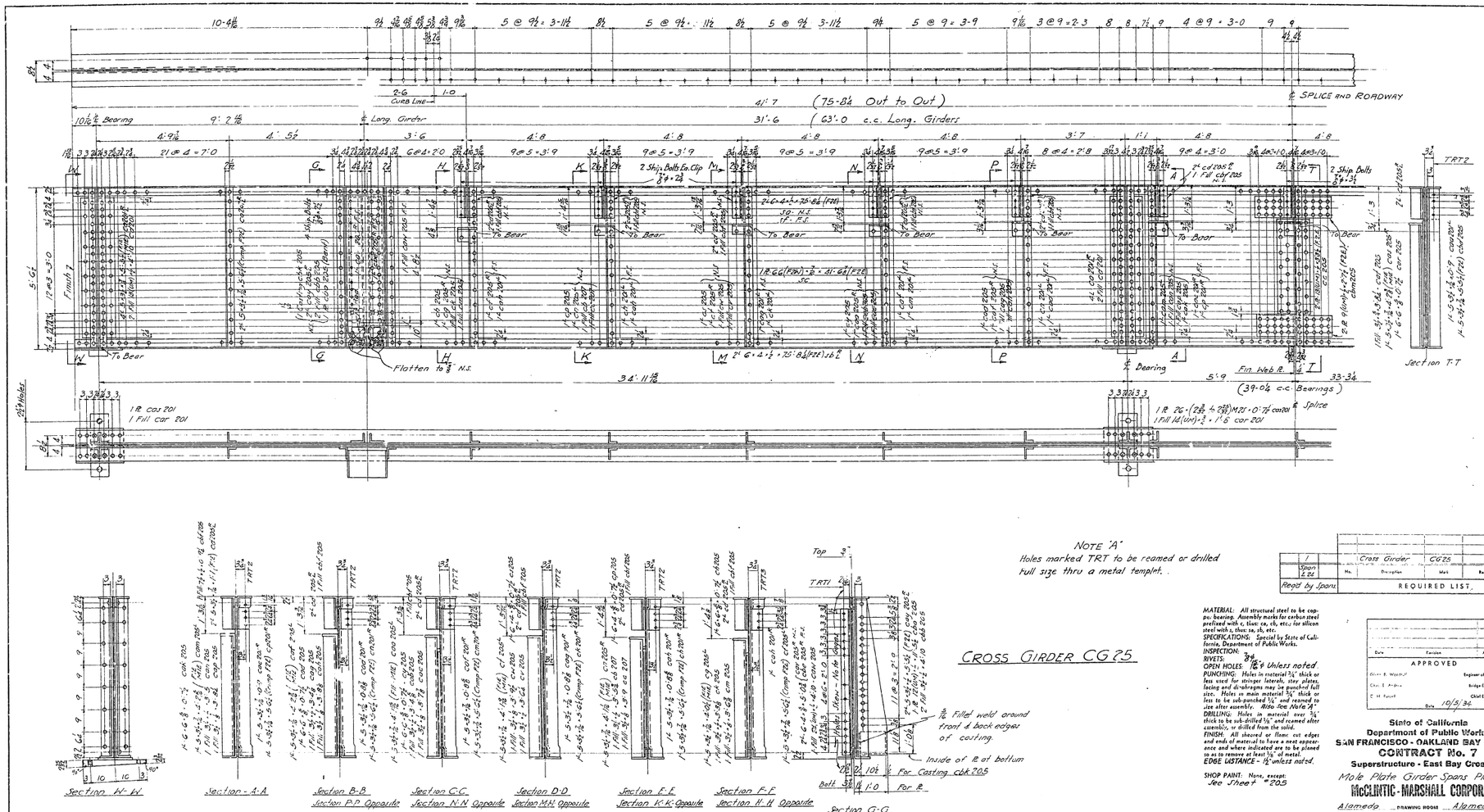
Date	Revision	App'd
APPROVED		
Glenn B. Woodruff		Engineer of Design
Chas. E. Andrew		Bridge Engineer
C. H. Purcell		Chief Engineer
Date 9/1/32		

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Mole Plate Girder Spans Piers E23-33
McCLINTIC-MARSHALL CORPORATION

Alameda	DRAWING ROOM	Alameda	TRACING
DESIGNED BY T.F.		TRACED BY H.E.A.	
CHECKED BY R.L.		TRACED BY D.F.C.	
LADY ADDED, ETC.			

CONTRACT CTI5602 SHEET 1203

30-1



CROSS GIRDER CG25

Note: Work this sheet with Sheet T208

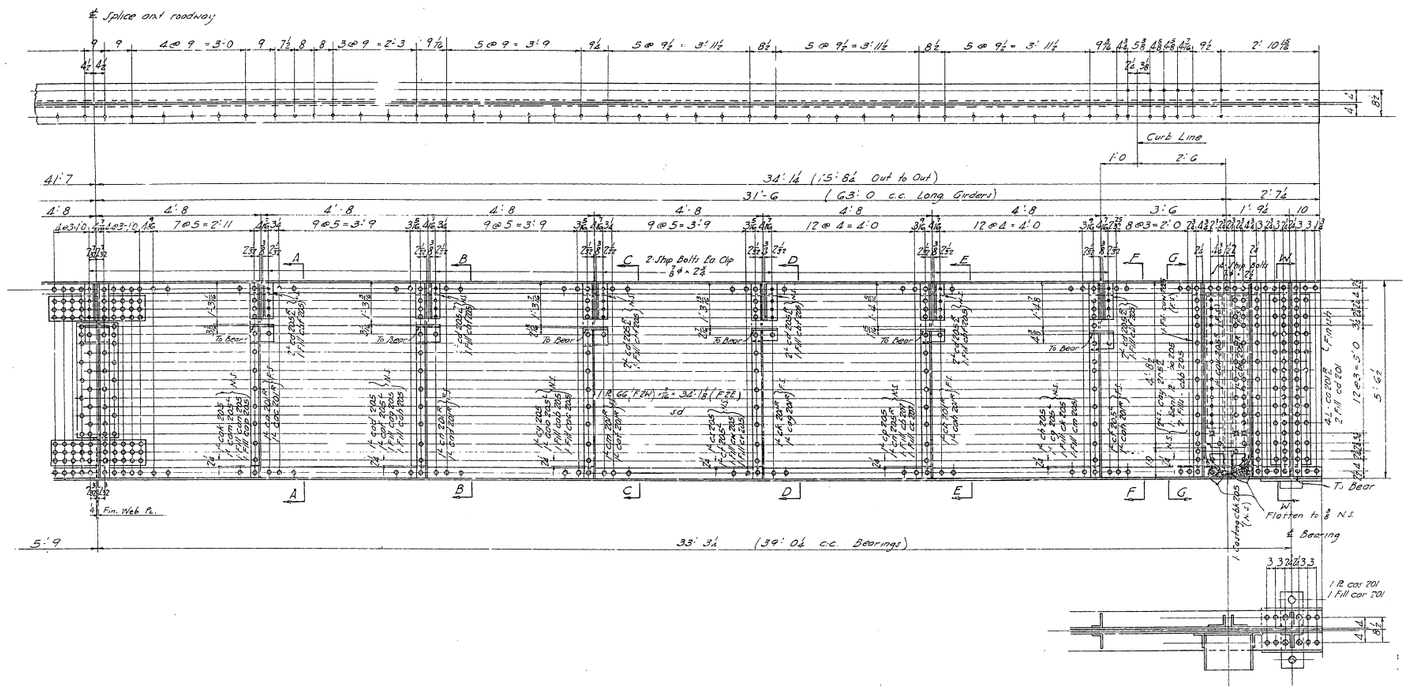
Span	No.	Description	Mark	Remarks	Weight each	Total
L 24		Cross Girder	CG25			
Reqd by Spans		REQUIRED LIST.				

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: cs, cb, etc.; for silicon steel with s, thus: ss, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS: ¾ ϕ
OPEN HOLES: 13/16 ϕ Unless noted.
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, facing and dia-phragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched 1/4" and reamed to size after assembly. Also see Note "A".
DRILLING: Holes in material over ¾" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
EDGE DISTANCE - 1½" unless noted.
SHOP PAINT: None, except: See Sheet #205

Date	Revision	Appr'd
APPROVED		
Engineer of Design		
Bridge Engineer		
Chief Engineer		
Date 10/5/36		

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Mole Plate Girder Spans Piers 23-33
McCLINTIC-MARSHALL CORPORATION
Alameda DRAWING ROOM Alameda WORKS
IN CHARGE T.F.B. GRADE CY. H.E.B.
CHECKED BY J. TRACED CY. D.F.G.
LAST ASSEM. MK.

CONTRACT GT1980Z SHEET T207



CROSS GIRDER CG25

Note- Work this sheet with sheet T207

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc., for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: At Shop
RIVETS: ⅞"ø
OPEN HOLES: 15/16" Unless Noted
PUNCHING: Holes in material ¾" thick or less used for tringer laterals, stay plates, facing and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched 1/4" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled 1/8" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
EDGE DISTANCE - 1½" unless noted.
SHOP PAINT: See Sheet T205

See Sheet T207

No.	Description	Mark	Remarks	Approved with Turn

REQUIRED LIST

Date	Revision	Appd.

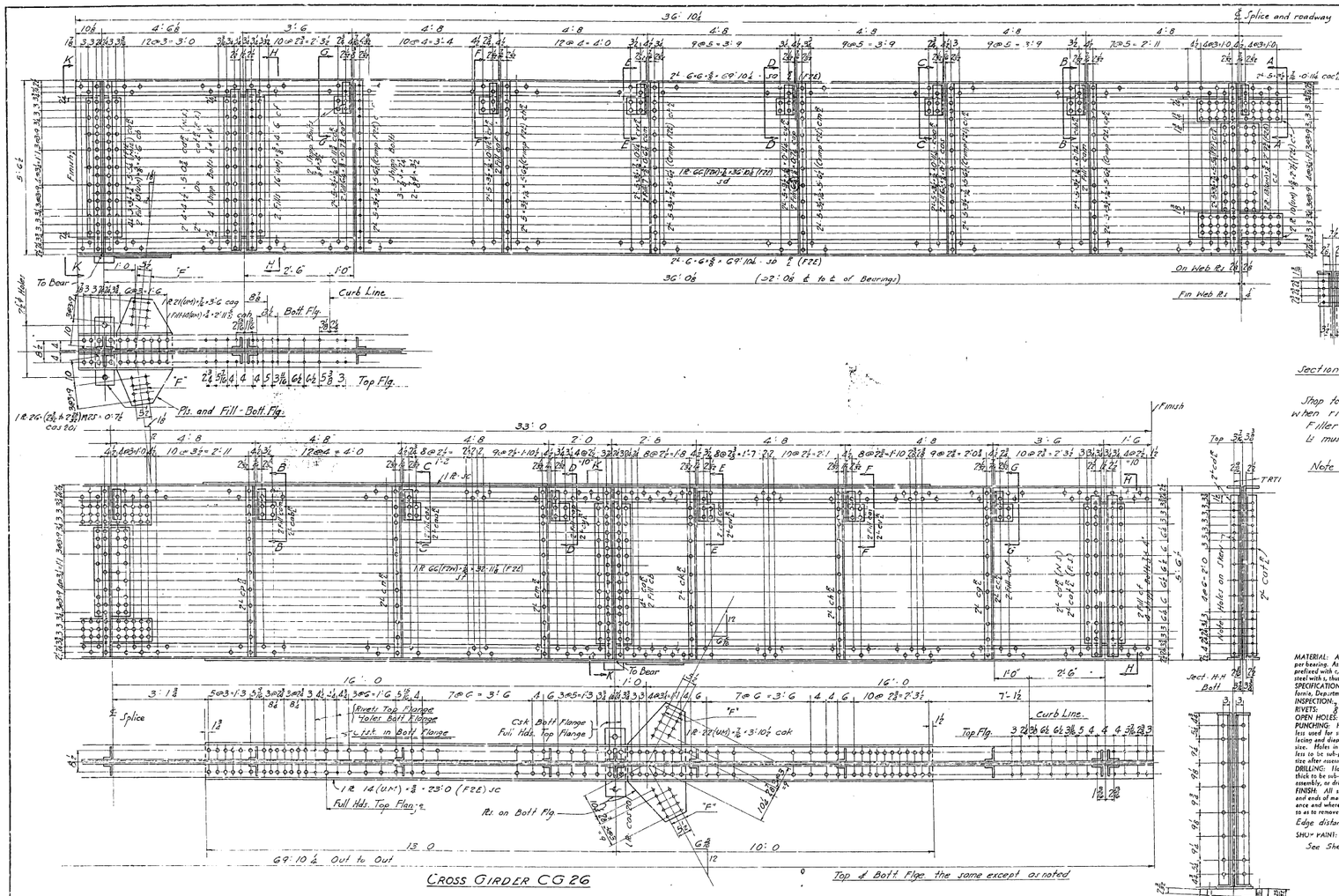
APPROVED

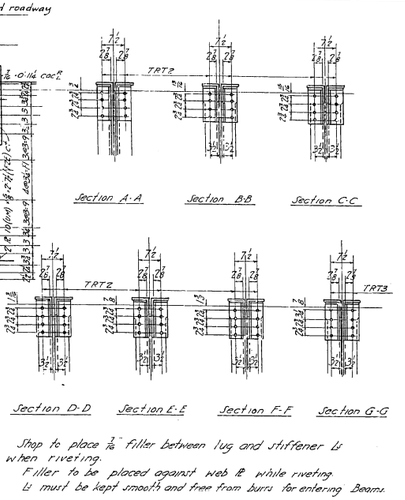
Engineer of Design
Bridge Engineer
Chief Engineer
Date 10/5/34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Male Plate Girder Spans Piers E23-33
McCLINTIC-MARSHALL CORPORATION
Alameda DRAWING ROOM Alameda WORKS
IN CHARGE T.F.F. MADE BY H.E.A.
CHECKED BY TRACED BY D.F.G.
LAST ASSEM. MK.

CONTRACT CT15802 SHEET T206

30-1





Shop to place ¼" filler between lug and stiffener & when riveting.
Filler to be placed against web ℄ while riveting & must be kept smooth and free from burrs for entering Beams.

Note "A" - Holes marked TRT to be reamed or drilled full size thru a metal template.
Holes marked "F" may be punched full size.

Span CG 26	1	Cross Girder CG 26			
	No.	Description	Mark	Pieces	Weight each Piece
Weight by Spans	REQUIRED LIST				

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc., for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION.
RIVETS: ⅞"ø
OPEN HOLES: 15/16"ø Unless Noted
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly. Also see Note "A"
DRILLING: Holes in material over ¾" thick to be sub-drilled 1/16" and reamed after assembly, or drilled from the solid.
FINISH. All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
Edge distance 1¼" unless noted.
SHOP PAINT:
See Sheet T201

9/18/34	Fills under clip "A" extended	9/28/34
Date	Revision	Appd.

APPROVED

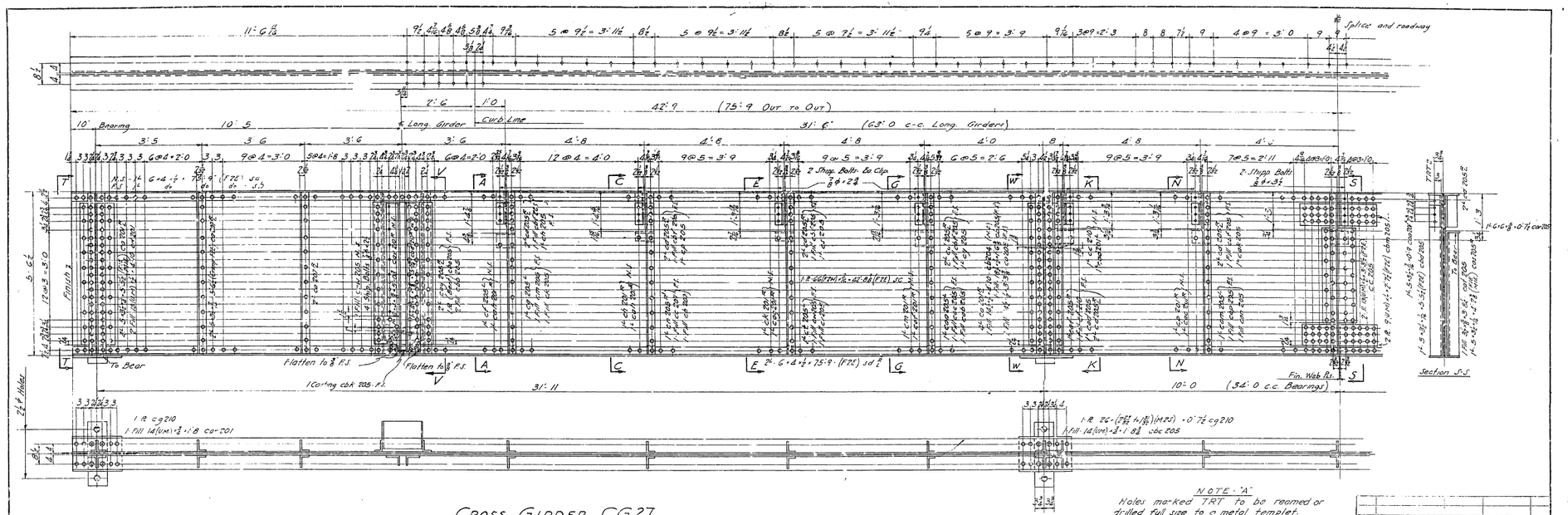
Engineer of Design
Bridge Engineer
Chief Engineer
Date 9/7/34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Mole Plate Girder Spans - Piers E23-33

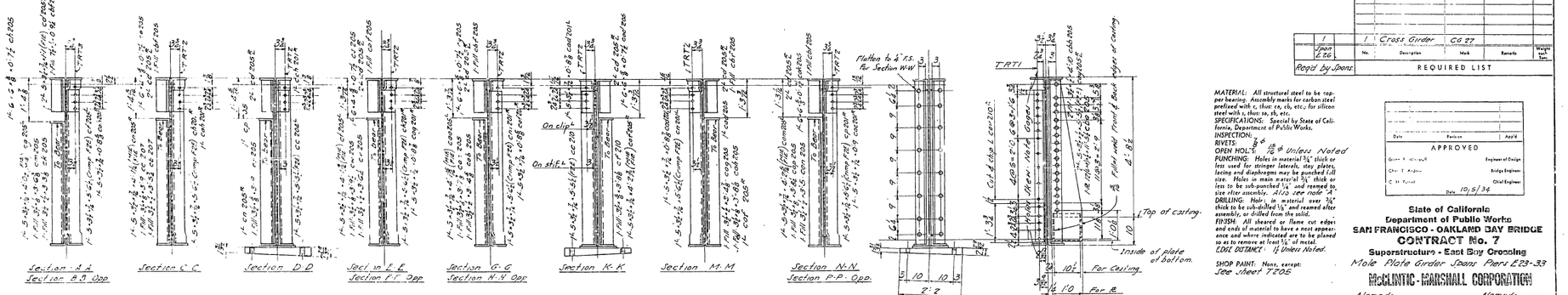
McCLINTIC-MARSHALL CORPORATION

Alameda DRAWING ROOM Alameda 1/16/1933
IN CHARGE T.F. MADE BY H.L.B.
CHECKED BY TRACED BY O.F.G.
LAST ASSEM. MK.

CONTRACT 37-1560-2 SHEET T204



CROSS GIRDER CG27



NOTE - "A"
Holes marked T.R.T. to be reamed or drilled full size to a metal templet.

Mark	No.	Description	Remarks	Weight each Item
Joint E.E.	1	Cross Girder CG 27		
Rigid by Joints		REQUIRED LIST		

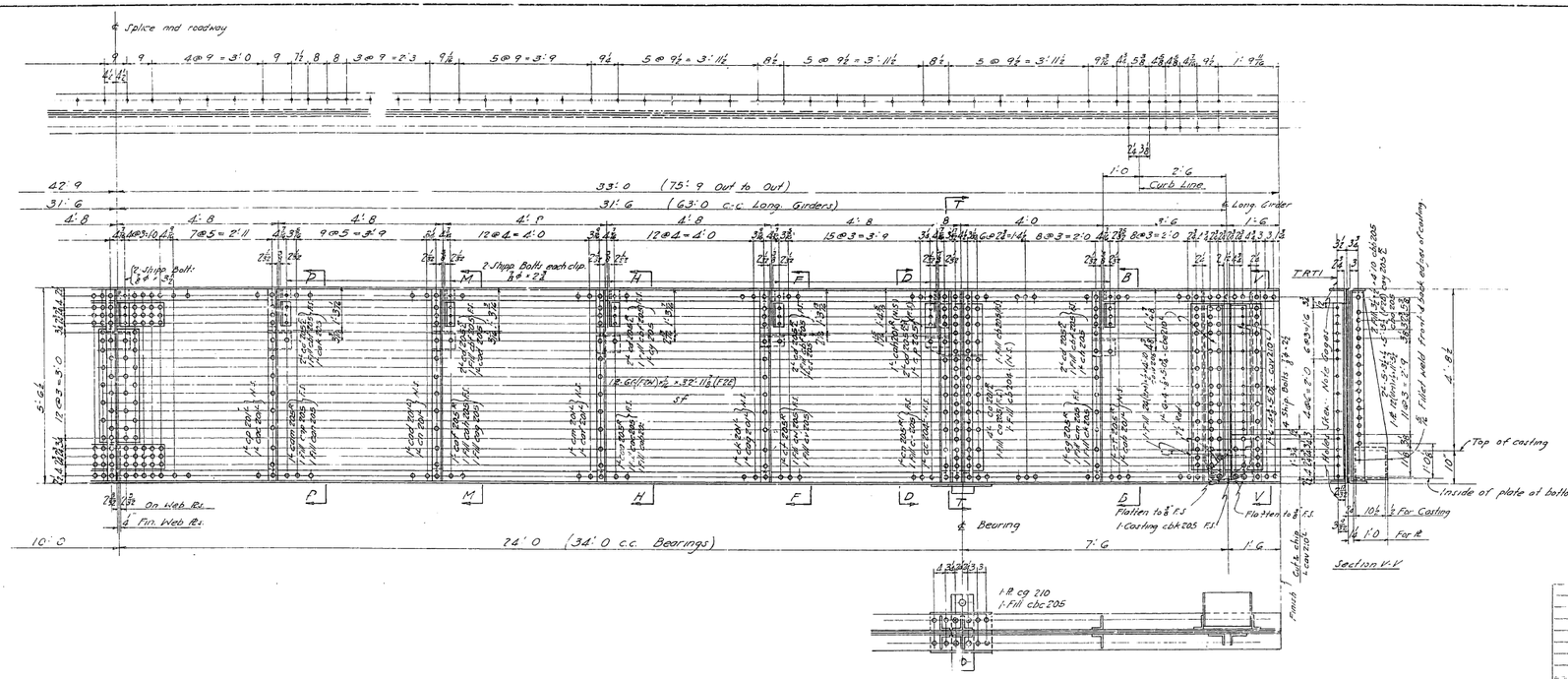
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: cs, cb, etc.; for silicon steel with s, thus: ss, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS: ⅞ ø
OPEN HOLES: 1⅛ ø Unless Noted
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly. Also see note "A"
DRILLING: Hole in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
EDGE DISTANCE: 1¼ Unless Noted.
SHOP PAINT: None, except: See Sheet T205

Date	Revision	App'd
APPROVED		
Engineer of Design		
Bridge Engineer		
Chief Engineer		
Date 10/5/34		

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Mole Plate Girder Joints Piers E23-33
McCLINTIC-MARSHALL CORPORATION
Alameda ...WING ROOTS Alameda ...WORKS
IN CHARGE ... T. B. ...MADE BY ... H.E.B. ...
CHECKED BY ... J. ...TRACED BY ... D.R.G. ...
LAGT ASSEM. MIL. ...

Note: Work this sheet with sheet T211

CONTRACT CT7B02 SHEET T210



CROSS GIRDER CG 27

No.	Description	Mark	Remarks	Weight each Item
	See Sheet 210			

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc., for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS:
OPEN HOLES: ⅛" Unless Noted
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, facing and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid.
FINISH: All shears & or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
EDGE DISTANCE: 1½ Unless noted
SHOP PAINT: None, except: See Sheet T205

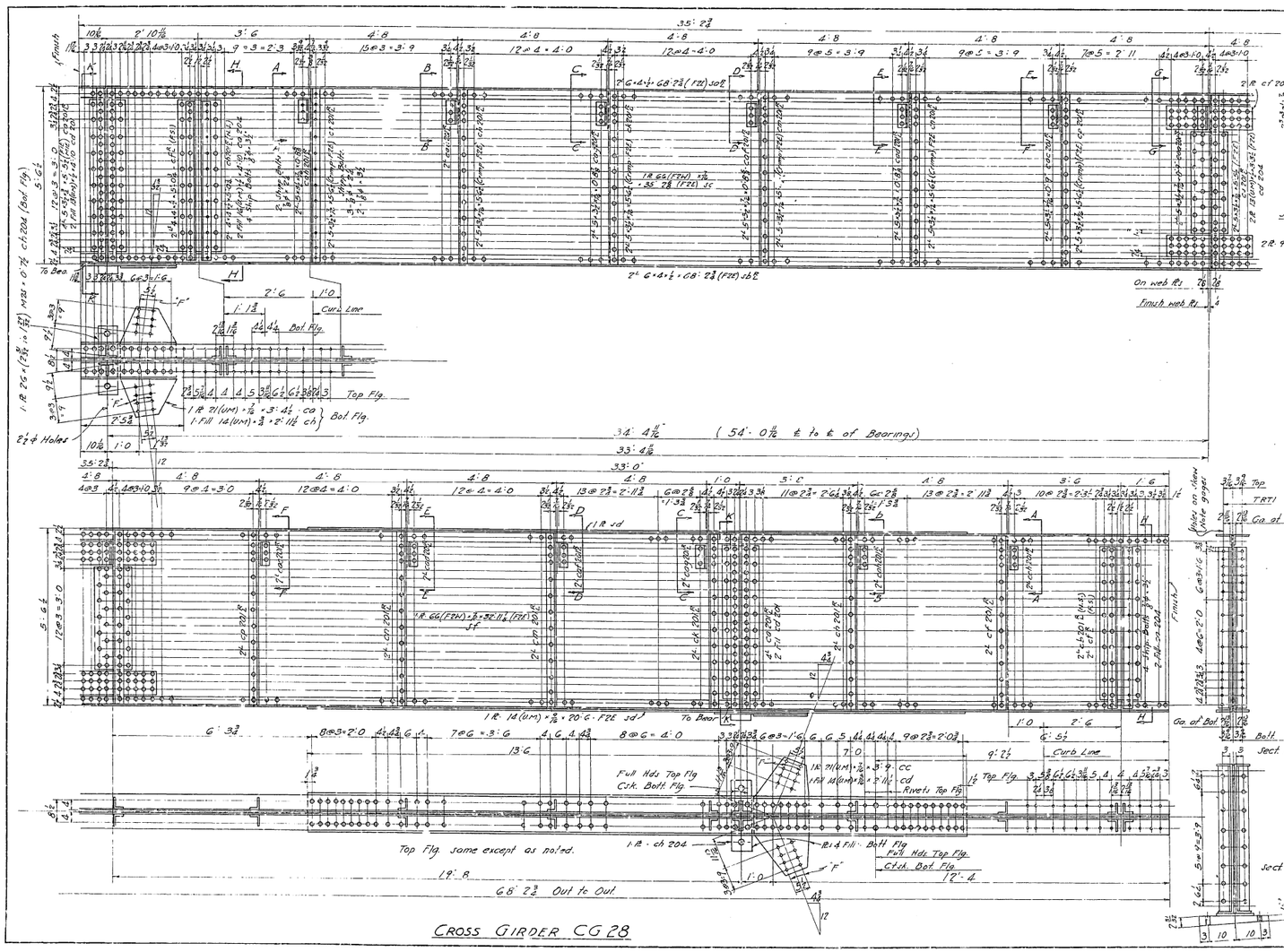
Date	Revision	App'd

APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date 10/5/34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Main Plate Girder Spans Piers E23-33
McCLINTIC-MARSHALL CORPORATION
Alameda DRAWING ROOM Alameda WORKS
IN CHARGE T.F.P. MADE BY H.F.B.
CHECKED BY J. TRACED BY D.F.G.
LAST ASSEM. MK.
CONTRACT CT15802 SHEET T211

Note: Work this sheet with sheet T210

30-1



Section A-A Section B-B Section C-C Section D-D

Section E-E Section F-F Section G-G

Shop to place ½ Filler between lug and stiffener L's when riveting. Filler to be placed against web ℄ while riveting. L's must be kept smooth and free from burrs for entering beams.

Note 'A':
Holes marked TRT to be reamed or drilled full size to a metal templet.
Holes marked 'F' may be punched full size

Reqd by Span	No.	Description	Mark	Remarks	Weight each Item
1 Span E 27	1	Cross Girder	CG 28		

REQUIRED LIST

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc., for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS: ⅞ ϕ
OPEN HOLES: 1⅛ ϕ Unless noted
PUNCHING: Holes in material ⅝" thick or less used for stringer laterals, stay plates, facing and diaphragms may be punched full size. Holes in main material ⅝" thick or less to be sub-punched 1/4" and reamed to size after assembly. Also see Note 'A'
DRILLING: Holes in material over ⅝" thick to be sub-drilled 1/4" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/4" of metal.

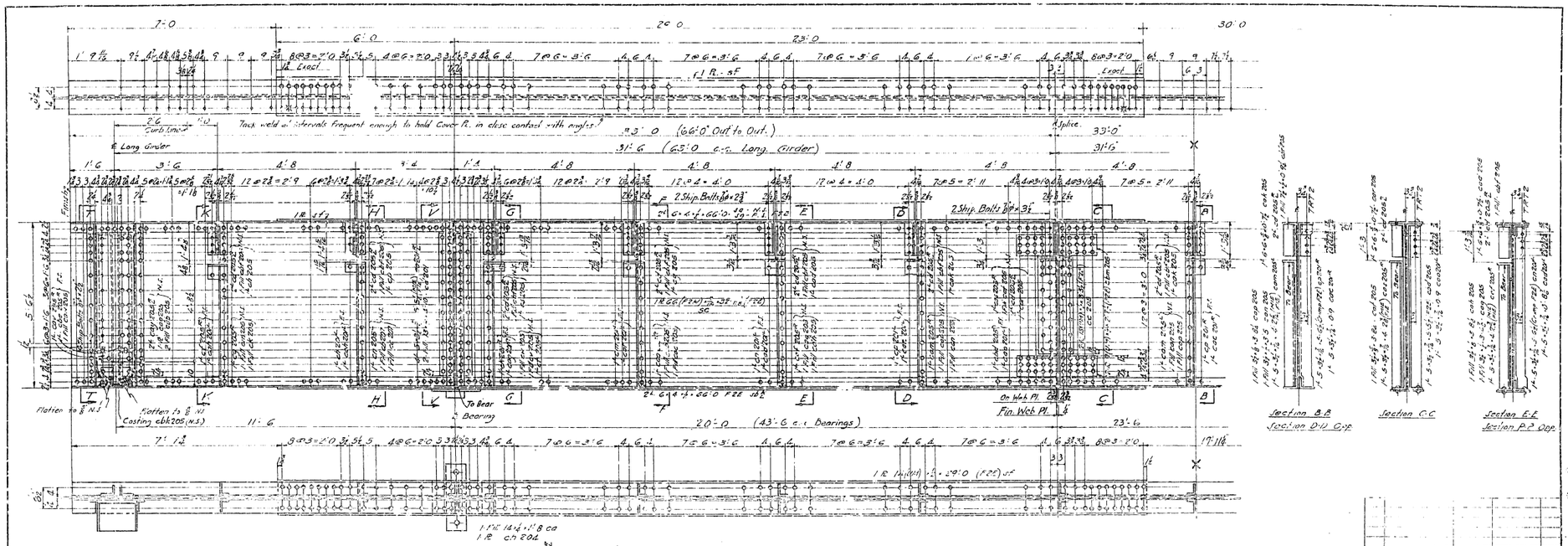
SHOP PAINT: None, except: See sheet 7201

APPROVED
Date ____ Revision ____ Appd ____
Gerwin S. Wendt, Jr. — Engineer of Design
Chas. E. Andrews — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 7/28/33

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Mole Plate Girder Spans Piers E23-33
McCLINTIC-MARSHALL CORPORATION

Alameda DRAWING DOORS Alameda WORMS
IN CHARGE T. F. F. MADE BY H. E. B.
CHECKED BY — TRACED BY D. P. C.
LAST ASSEM. MK. —

CONTRACT CT15802 SHEET 1212



NOTE 'A'
Holes marked TRT to be reamed or drilled full size to a metal templet

CROSS GIRDER CG29

Mark	Spaces	No.	Description	Mark	Remarks	Weight Each
Reqd by Spans			REQUIRED LIST			

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for alloy steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS: ⅞"ø
OPEN HOLES: ⅞"ø Unless Noted
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, struc. plates, facing and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly. 4000 lbs per sq. in.
DRILLING: Holes in material over ¾" thick, to be sub-drilled ¼" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a smooth appearance and where indicated are to be planed so as to remove at least ¼" of metal.
EDGE DISTANCE 1¼ Unless Noted

SHOP PAINT: None, except See Sht. T206

Date	Revision	Appd
APPROVED		
Engineer of Design		
Bridge Engineer		
Chief Engineer		
Date 10/1/39		

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Plate Girder Spans Piers E23-33
McCLINTIC-MARSHALL CORPORATION
Alameda BUILDING DOCKS, Alameda YOUNG'S
IN CHARGE T.F.H. DRAWN BY N.F.E.
CHECKED BY TRACED BY D.F.G.
LAST ASSIST. DR.

CONTRACT CT19302 SHEET T213

Work this sheet with sheet T214

30-1

33'-0" (66'-0" Out to Out)

31'-6" (63'-0" c.c. Long. Girders.)

23'-6" (43'-6" c.c. Bearings.)

19'-11½

Curb Line

℄ Long. Girder.

℄ of Stringer

1'-6" ∥ Finish

See Sec. M-M

2 Ship Bolts-Ea. Clip

2 Ship Bolts

2 Ship Bolts

℄ Bearing

8'-0"

1'-6"

Inside of ℞ at bottom

Flatten to 8" N.S.

Weld around front & back edges of casting For Casting cbk 205

Section S-S
Section T-T Opp.

Stringer

On Fill cs.

Grind plate ⊂p to fillet

Section R-R

View A'-A'

View B'-B'

Section M-M

CROSS GIRDER CG29

See Sheet T213

REQUIRED LIST

No.	Description	Mark	Remarks	Weight each Piece

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: cx, cb, etc.; for silicon steel with s, thus: sx, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS: ⅞ ϕ
OPEN HOLES: ⅞ ϕ Unless Noted
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ½" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ¼" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ½" of metal.
EDGE DISTANCE: 1¼ Unless noted

SHOP PAINT: None, except: See Sheet T205

Date	Revision	Appd

APPROVED

Engineer-in-Charge
Bridge Engineer
Chief Engineer

Date 10/5/34

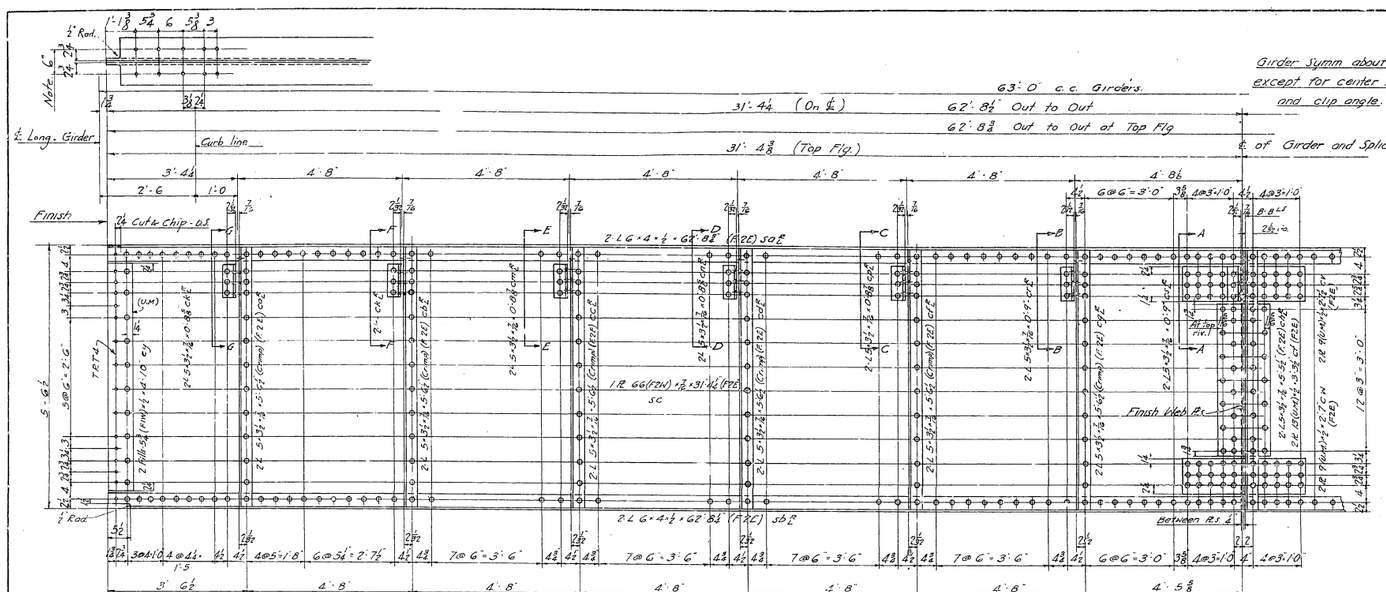
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Mole Plate Girder Spans Piers E23-33

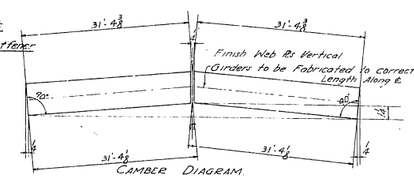
McCLINTIC-MARSHALL CORPORATION

Alameda DRAW: ROOF: Alameda WORK:
IN CHARGE T.T.P. MADE BY H.K.R.
CHECKED BY J. TRACED BY D.F.G.
LAST ASSEM. MK.

CONTRACT CT15302 SHEET T214

Work this sheet with sheet T213

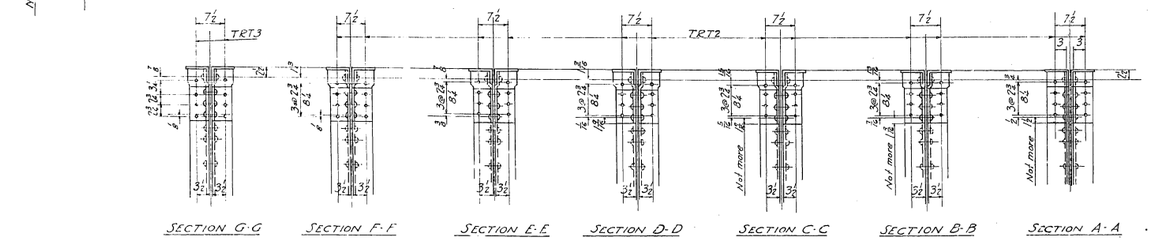




Note "A"

Holes marked TRT to be reamed or drilled full size thru a metal templet

Edge distance 1½" unless noted otherwise.



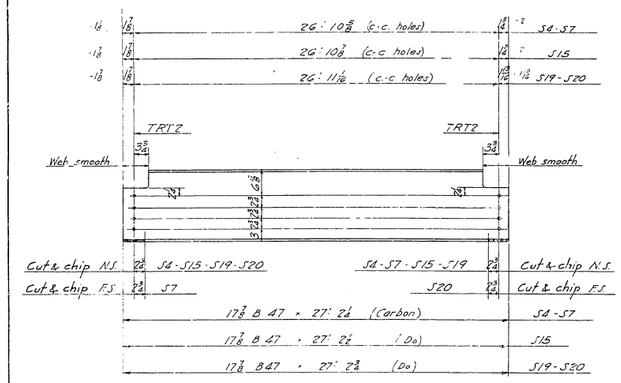
Shop to place ⅞ filler between lug and stiffener ℄ when riveting.
Filler to be set against web ℞ while riveting.
℄ Must be kept smooth and free from burrs for entering beam.

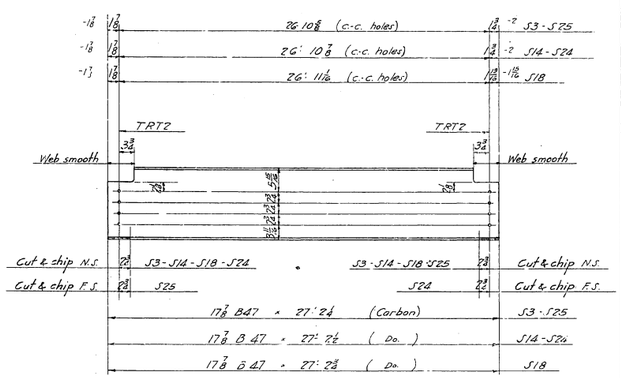
MATERIAL: All structural steel to be copper bearing. Assembly steels for carbon steel prefixed with c, thus: cs, cb, etc.; for silicon steel with s, thus: ss, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS: ⅞ ø Unless noted
OPEN HOLES: ⅞ ø
PUNCHING: Holes in material ⅜" thick or less used for stringer laterals, stay plates, facing and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¾" and reamed to size after assembly. Also see Note A
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅝" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
SHOP PAINT: None except contact surfaces of parts bolted for shipt., surfaces between lug ℄ stiffener not readily accessible for field sand blasting, to be given one coat "Acid Resisting Liquid" after thoroughly cleaning and scraping such surfaces.

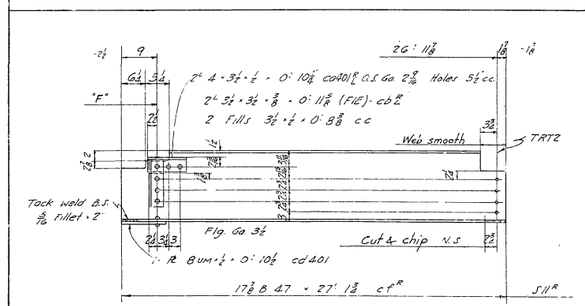
APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date 7/1/34

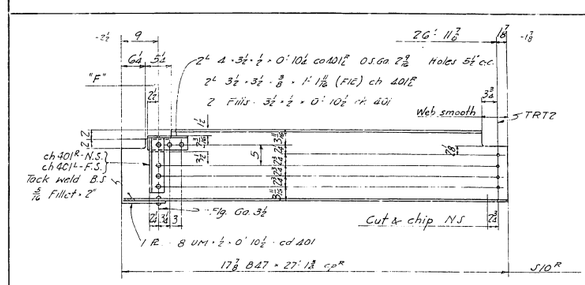
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Male Plate Girder Spans - Piers E25-33
McCLINTIC-MARSHALL CORPORATION
Alameda DRAWN: A ROOM Alameda TRACED
IN CHARGE T.F.B. GRADE BY H.E.D.
CHECKED BY R.E.D. TRACED BY D.F.G.
LAST ISSUED, SIZE (11) (C4)

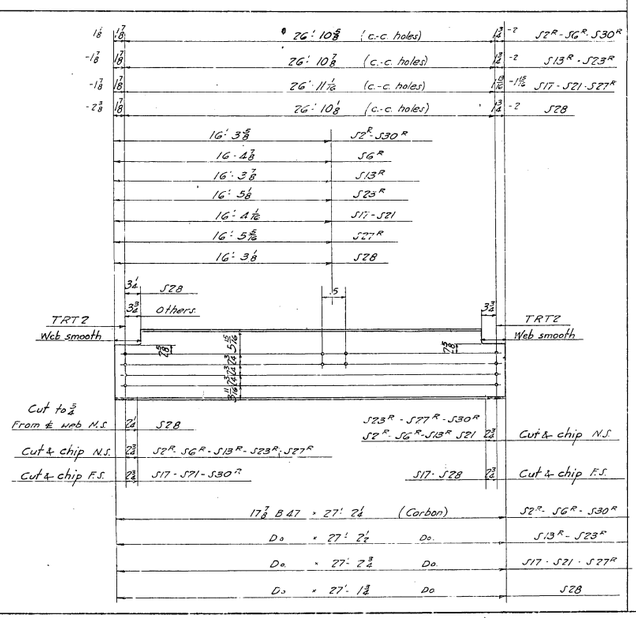
CONTRACT CT15803 SHEET T301











Span 23	24	25	26	27	28	29	30	31	32	No.	Description	Mark	Remarks	Weight each Item
									2	2	1			
									2	2	1			
									7	6	4	2		
									41	37	"	S13		
									118	14	7	14	7	14
									4	1	1	1		
									4	1	1	1		
									1	1				
									4	1		1		
									4		1	1		
									12		3	3		
									16		4	4		
									2		1	1		
									2		1	1		
									5		3	2		
									21		14	7		
									1			1		
									12		2	2		
									42		6	6		
									1			1		
									1			1		
									1			1		
									1			1		
									2			2		
									5			1		
									5			1		
									1			1		
									6			1		
									6			1		

Stringer S2R — Opp to S13R
S2L — Opp to S13R
S3 — S6L — Opp to S13R
S7 — S10R — S10L — Opp to S10R — S11R — S11L — Opp to S11R — S13R — S13L — Opp to S13R — S14 — S15 — S17 — S18 — S19 — S20 — S21 — S23R — S23L — Opp to S23R — S24 — S25 — S27R — S27L — Opp to S27R — S28 — S30R — S30L — Opp to S30R

REQUIRED By SPANS. — REQUIRED LIST

Note: All reentrant cuts to be Filleted to ½" rad.

NOTE "A"
Holes marked TRT to be reamed or drilled full size to a metal templet. In setting reaming templets for end connections on stringers shopmust take extra precautions to maintain center to center distance of end holes as noted on details.
Open holes marked "F" may be punched full size.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS: ⅞ ϕ
OPEN HOLES: 15/16 ϕ Unless Noted
PUNCHING: Holes in material ¾" thick or less used for string-r laterals, stay plates, facing and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched 1/4" and reamed to size after assembly. Also see Note "A"
DRILLING: Holes in material over ¾" thick to be sub-drilled 5/16" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least 1/8" of metal.
EDGE DISTANCE - 1½ Unless Noted
SHOP PAINT - None.

Date	Revision	Appr'd

APPROVED

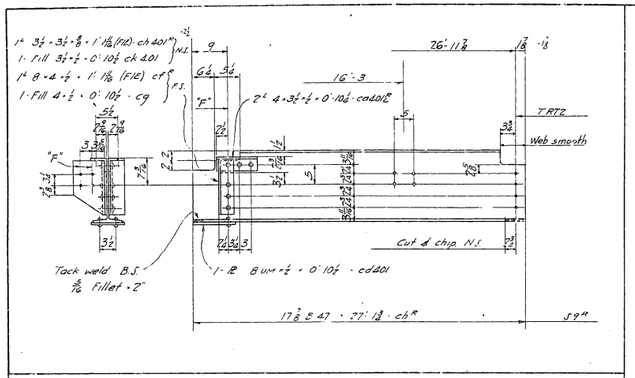
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 9-7-34

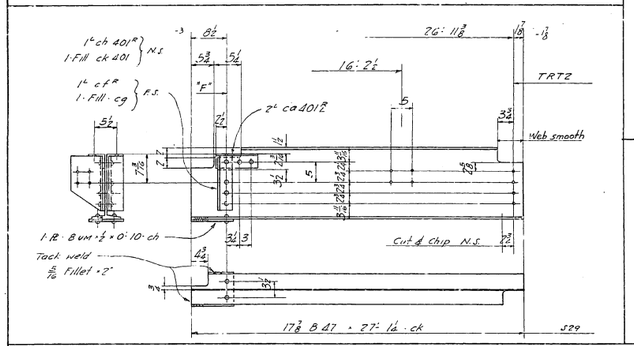
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Mole Plate Girder Spans - Piers E23-33
McCLINTIC-MARSHALL CORPORATION

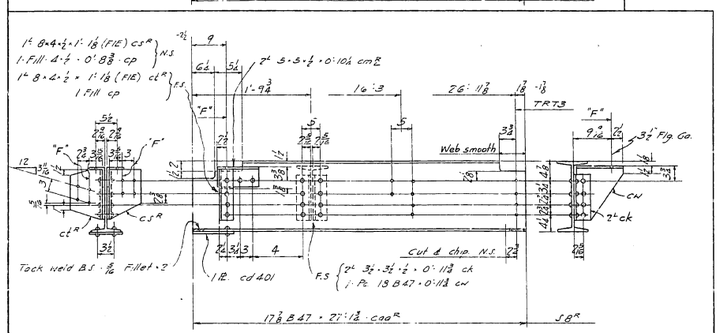
Alameda DRAWN Alamede WORKED
III CHADE T.F.B. STARE CY. D.F.B.
CHECKED BY J. TRACED BY D.F.C.
LAST ABSEM. SIK.

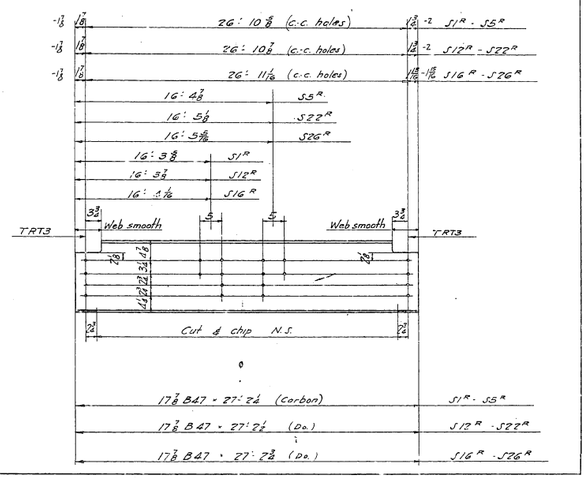
CONTRACT C71500.4 SHEET (140)

30-1









Note: All re-entrant cuts to be filleted to ½" radius.

NOTE "A"

Holes marked TRT to be reamed or drilled full size, thru a metal template. In setting reaming templates for end connections on stringers, shop must take extra precautions to maintain center to center distance of end holes as noted on details.
Open holes marked "F" may be punched full size.

2	2	1			2	1	2	1	2	13	Stringer	S1ᴿ	
2	2	1			2	1	2	1	2	13	"	S1ᴸ	Opp. to S1ᴿ
1	1	1	1							4	"	S5ᴿ	
1	1	1	1							4	"	S5ᴸ	Opp. to S5ᴿ
		1		1		1		1		4	"	S8ᴿ	
		1		1		1		1		4	"	S8ᴸ	Opp. to S8ᴿ
		1		1				1		3	"	S9ᴿ	
		1		1		1		1		4	"	S9ᴸ	Opp. to S9ᴿ
			1	1						2	"	S12ᴿ	
			1	1						2	"	S12ᴸ	Opp. to S12ᴿ
			1							1	"	S16ᴿ	
			1							1	"	S16ᴸ	Opp. to S16ᴿ
				1						1	"	S22ᴿ	
				1						1	"	S22ᴸ	Opp. to S22ᴿ
					1	1	1	1	1	5	"	S26ᴿ	
					1	1	1	.	1	5	"	S26ᴸ	Opp. to S26ᴿ
						1				1	"	S24	
Unas'd 23	24	25	26	27	28	29	30	31	32	No.	Description	Mark	Remarks / Weight each Type

REQUIRED BY SPANS — REQUIRED LIST

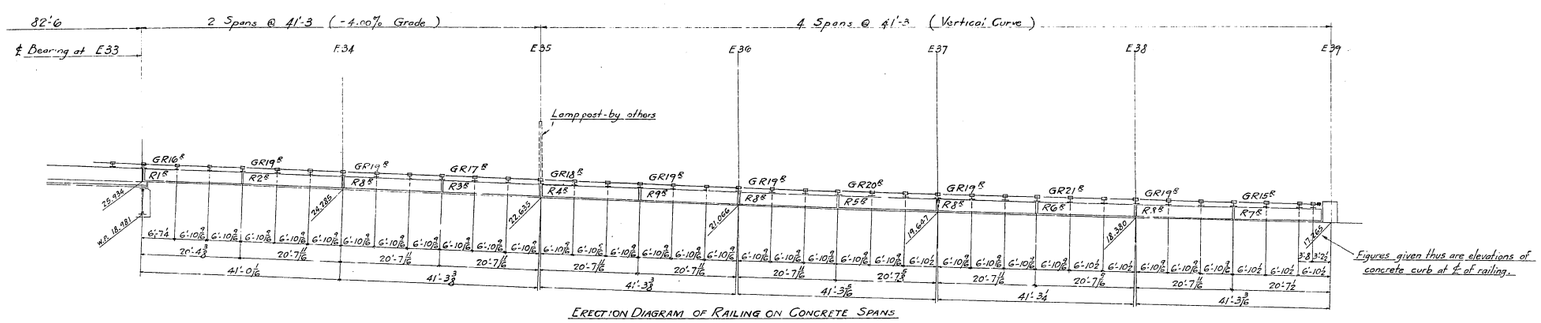
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS: ⅞"ϕ
OPEN HOLES: 1⅛" ϕ Unless Noted
PUNCHING: Holes in material ½" thick or less used for stringer laterals, stay plates, facing and diaphragms may be punched full size. Holes in main material ½" thick or less to be sub-punched 1/16" and reamed to size after assembly. Also See Note "A"
DRILLING: Holes in material over ¾" thick to be sub-drilled 1/16" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
EDGE DISTANCE: 1½ Unless Noted
SHOP PAINT: None.

7-13-34	Bracket moved on S8	T-21-34
Date	Revision	Appd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrus — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 9-7-34

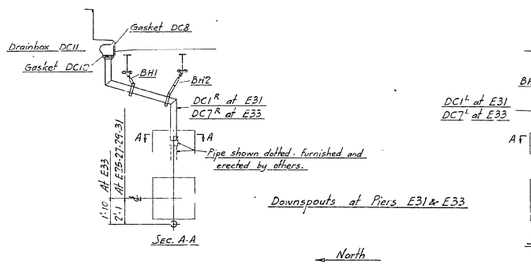
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Main Plate Girder Spans - Piers E25-33
PACIFIC-AMERICAN STEEL CORPORATION
Alameda DRA./ELG. HOUSE Alameda VIGGILS
IN CHARGE T.F.B. MADE BY R.E.B.
CHECKED BY T. TRACED BY D.F.C.
LAST ASSEM. TER.

CONTRACT CT15004 SHEET T402

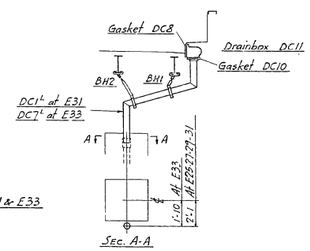


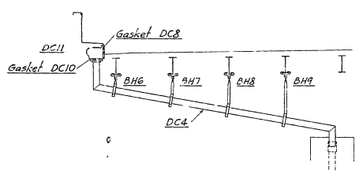
ERECTION DIAGRAM OF RAILING ON CONCRETE SPANS.
North Railing Shown.
South Railing Opp. Hand

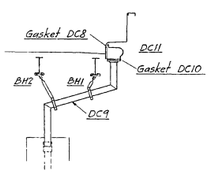
Note: Members to be erected with mark upright and in position shown on plan.
All field connections to be made with ⅞" Round Hd. Bolts



Downspouts at Piers E31 & E33

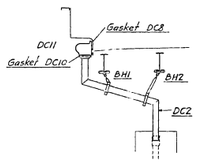


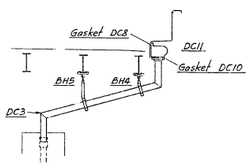




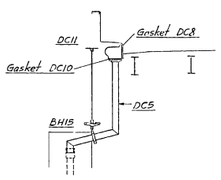
Downspouts at Pier E27

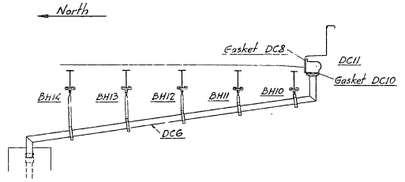
North





Downspouts at Pier E29





Downspouts at Pier E25

ERECTION DIAGRAM FOR DRAINAGE SYSTEM
PLATE GIRDER SPANS E23-E33

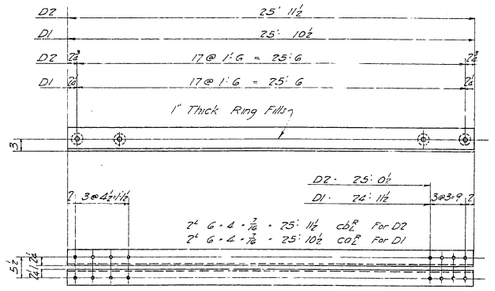
Date	Revision	Appd.
	APPROVED	
		Engineer of Design
		Bridge Engineer
		Chief Engineer
	Date 4-1-35	

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing

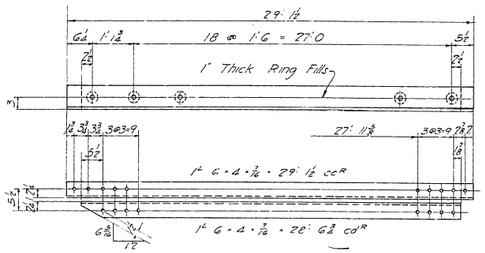
McCLINTIC-MARSHALL CORPORATION

ALAMEDA DRAWING DOCKET ALAMEDA WORKS
IN CHARGE T.F.D. MADE BY R.E.S.
CHECKED BY TRACED BY R.A.
LAST ASSEM. MK.

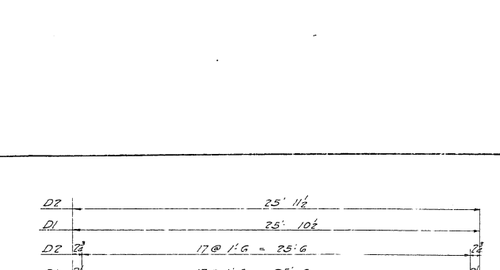
CONTRACT CT1580.5 SHEET TF3



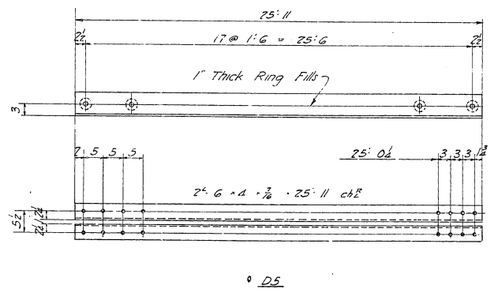
D1 - D2



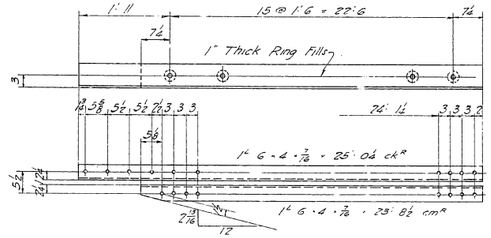
D3R



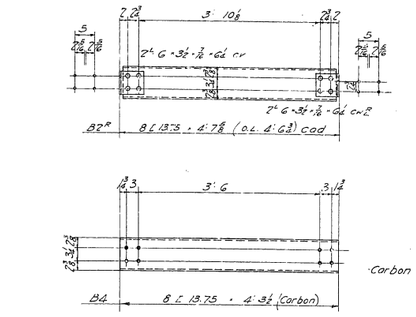
D4R

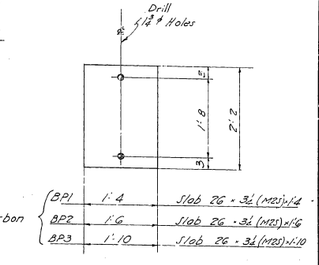


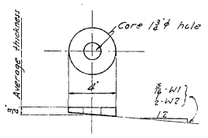
D5

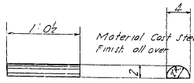


D6R





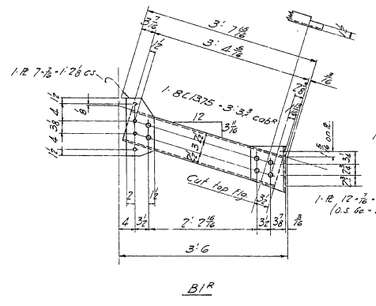




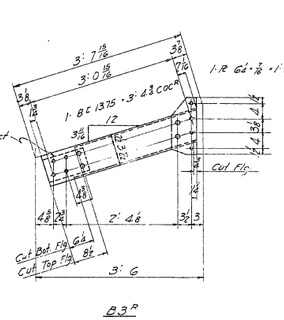
Expansion Bearing Block: BB1

8	6	4								18	WASHERS	W1	
			6	4	4	4	4	4	4	30	do.	W2	
		2		2		2				8	BEARING BLOCK	BB1	
1	1									2	DIAGONAL BRACING	D1	
		1	1							2	do	D2	
		1	1							1	do	D3R	
		1								1	do	D3L	Opp. Hand
				1						1	do	D4R	
				1						1	do	D4L	Opp. Hand
					1	1	1	1		4	do	D5	
					1	1	1	1		4	do	D6R	
						1	1	1	1	4	do	D6L	Opp. Hand
3	3	3	3	3	3	3	3	3	3	30	BRACING STRUT	B1R	
3	3	3	3	3	3	3	3	3	3	30	do	B1L	Opp. Hand
3	3	3	3	3	3	3	3	3	3	30	do	B2R	
3	3	3	3	3	3	3	3	3	3	30	do	B2L	Opp. Hand
		1		1				1		4	do	BBR	
		1		1		1		1		4	do	BBL	Opp. Hand
		2		2		2		2		8	do	B4	
4	3	1	3	1	1	2	2	2	2	21	BASE PLATE	BP1	
					1					1	do	BP2	
		1								2	do	BP3	
Span 23	Span 24	Span 25	Span 26	Span 27	Span 28	Span 29	Span 30	Span 31	Span 32	Total no	Description	Mark	Remarks	Weight each item

REQUIRED BY SPANS — REQUIRED LIST



B1R



B3R

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS:
OPLH HOLES: ¹³/₁₆ ϕ Unless Noted
PUNCHING: All punching on this sheet may be full size unless otherwise noted.

DRILLING: Holes in material over ¾" thick to be sub-drilled 3/16" and reamed after assembly, or drilled from the solid.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.

SHOP PAINT: None, except One coat "Acid Resisting Liquid" to surfaces between, is not readily accessible for field sandblasting, and to base plates and bearing blocks.

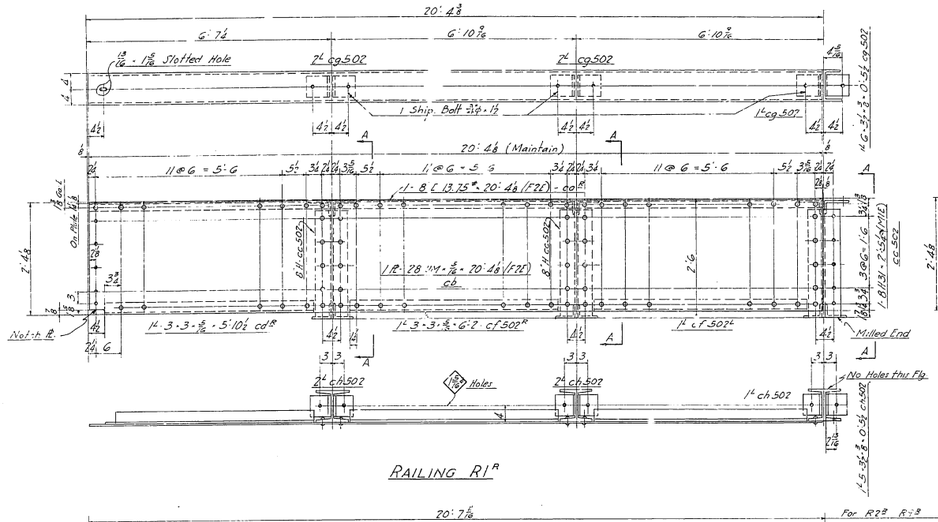
Date	Revision	Appd.
	APPROVED	
Chas. B. Wilson, Jr.		Engineer of Design
Chas. E. Andrew		Bridge Engineer
C. H. Purcell		Chief Engineer
	Date 9-28-36	

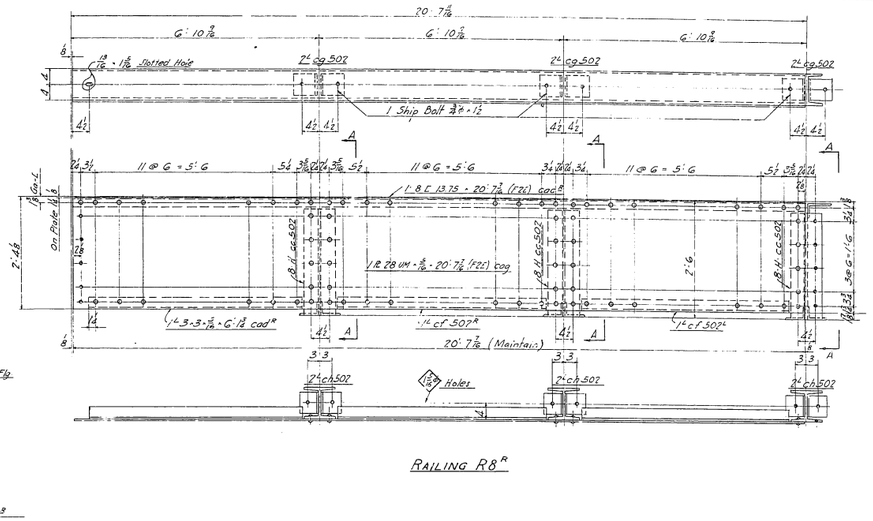
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Male Plate Girder Spans - Piers E23-33
McCLINTIC-MARSHALL CORPORATION

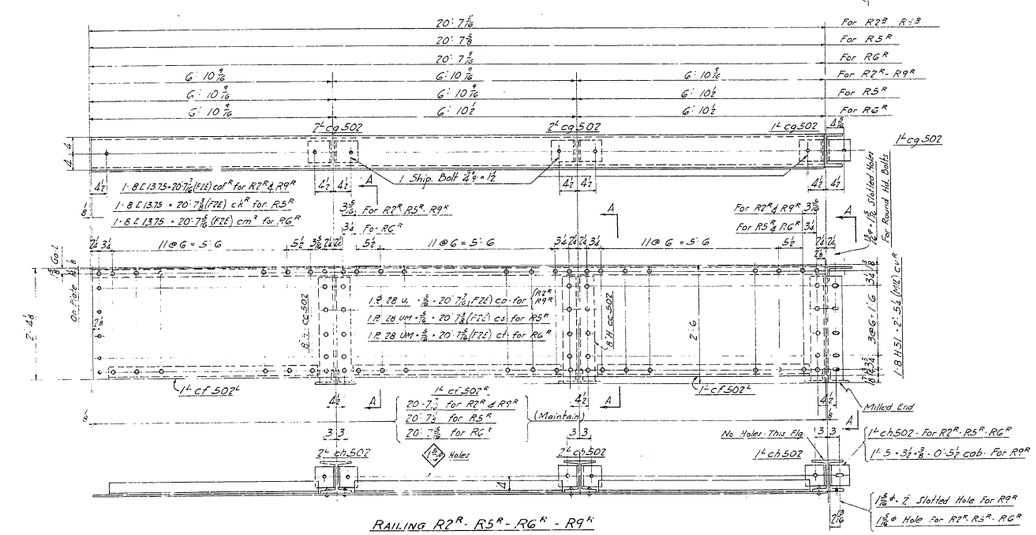
Alameda DRAWING ROOM Alameda W'WORKS
IN CHARGE T.F.B. MADE BY D.F.G.
CHECKED BY J. TRACED BY D.F.G.
LAST ASSESS. NO.

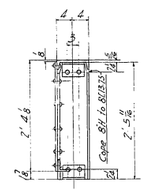
CONTRACT CT15005 SHEET 150

30-1









Span E33	Span E34	Span E35	Span E36	Span E37	Span E38	Total No	Description	Mark	Remarks	Weight each Item
1					1	1	Railing	R1R		
1					1	1	do	R1L	Opp. Hand	
1					1	1	do	R2R		
1					1	1	do	R2L	Opp. Hand	
		1			1	1	do	R5R		
		1			1	1	do	R5L	Opp. Hand	
			1		1	1	do	RGR		
			1		1	1	do	RGL	Opp. Hand	
1		1	1	1	1	4	do	R8R		
1		1	1	1	1	4	do	R8L	Opp. Hand	
	1				1	1	do	R9R		
	1				1	1	do	R9L	Opp. Hand	

REQUIRED LIST

Notes:

Material: All Structural Steel to be copper bearing

Specifications: Special by State of California Dept of Public Works

Inspection:

Rivets: ⅞ ø

Open Holes: 7/8 ø Unless Noted

Punching: All Holes to be punched Full size

Finish: All sheared or flame cut edges & ends of material to have a neat appearance and where designated Fig. F2L Shop must sheer & grind, chip & grind, or otherwise cut & finish so that members present a neat appearance and conform to dimensions given on drawing.

Shop Paint None

Date	Revision	Init.	Appd.

APPROVED

Engineer of Design

Bridge Engineer

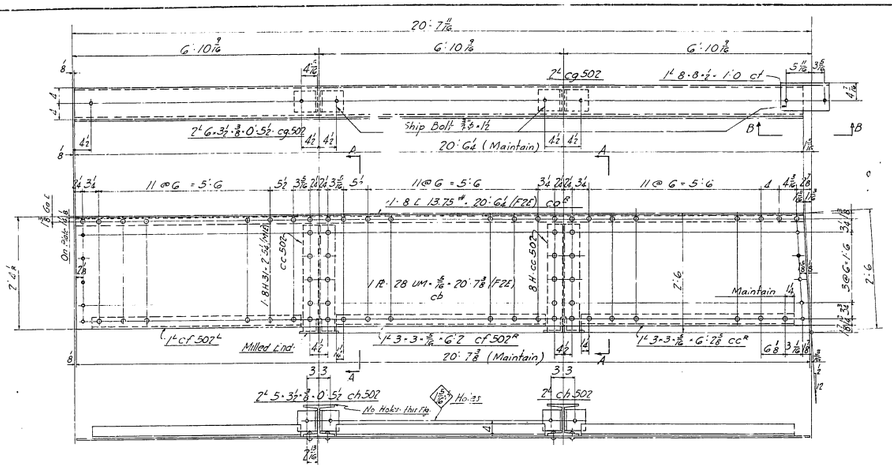
Chief Engineer

Date 1/27/39

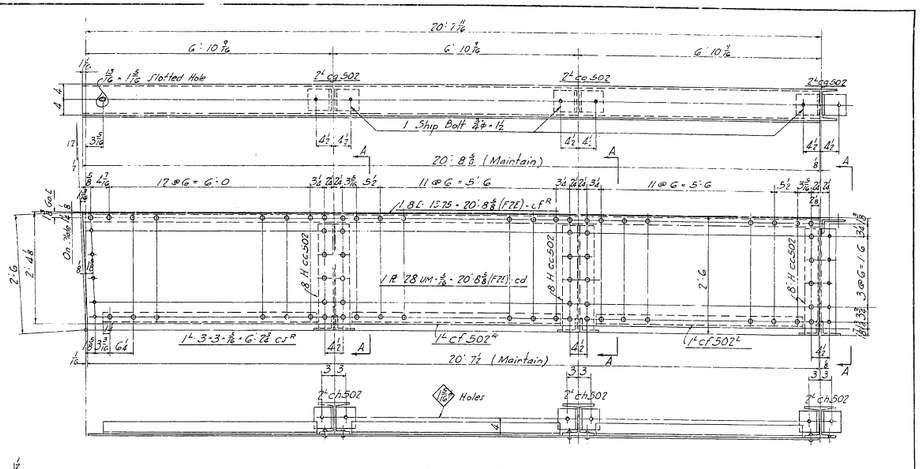
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Railing on Concrete Spans E33 to E39

McCLINTIC - MARSHALL CORPORATION
Alameda DRAWING ROOM Alameda WORKS
IN CHARGE T.P.B. MADE BY R.A.
CHECKED BY J TRACED BY D.F.G.
LAST ASSEM. MK.

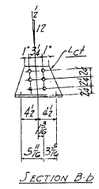
CONTRACT CT15805 SHEET T502



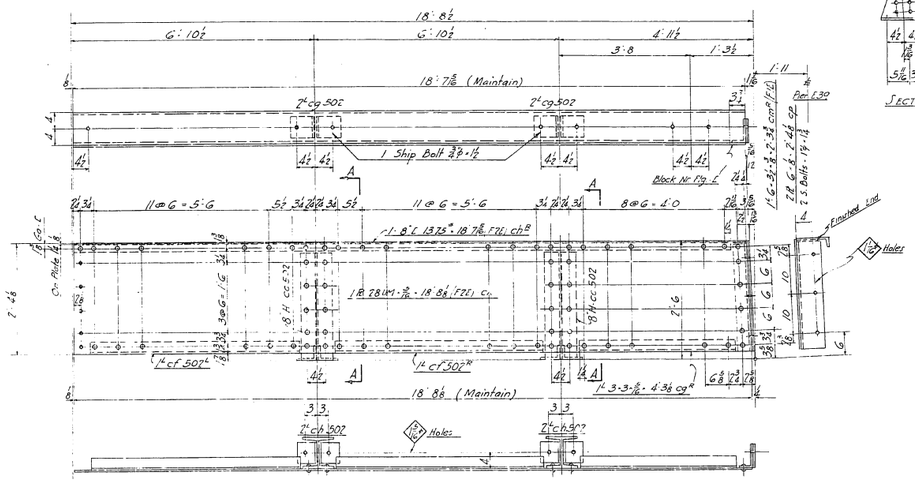
RAILING R3R



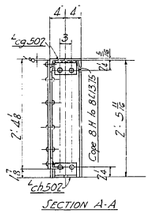
RAILING R4R



SECTION B-B



RAILING R7R



SECTION A-A

Span E34	Span E35	Span E38	Total No.	Description	Mark	Remarks	Weight each Item
		1	1	RAILING	R3R		
		1	1	do.	R3L	Opp Hand	
	1		1	do.	R4R		
	1		1	do.	R4L	Opp Hand	
		1	1	do.	R7R		
		1	1	do.	R7L	Opp Hand	

REQUIRED LIST

Notes:

Material: All Structural Steel to be copper bearing

Specifications: Special by State of California, Dept. of Public Works

Inspection:

Rivets: 7/8 ϕ

Open Holes: 13/16 ϕ Unless Noted

Punching: All Holes to be punched full size

Finish: All sheared or flame cut edges & ends of material to have a neat appearance and where designated, Fig. F2E. Shop must shear & grind, chip & grind or otherwise cut & finish so that members present a neat appearance and conform to dimensions given on drawing.

Shop Paint: None

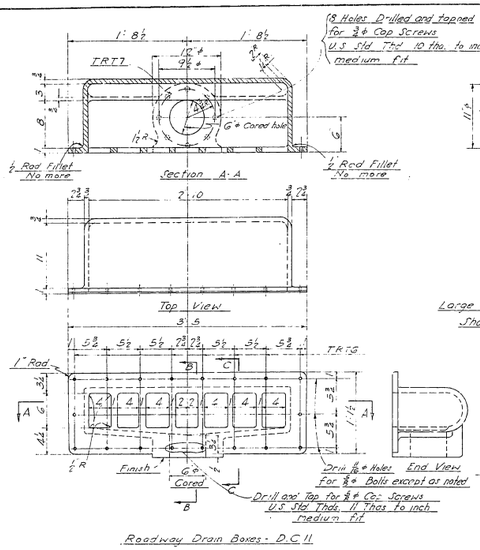
Date	Revision	Appd
APPROVED		
		Engineer of Design
		Bridge Engineer
		Chief Engineer
Date 1/17/35		

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Railing on Concrete Spans E33 to E39
McCLINTIC-MARSHALL CORPORATION

Alameda DRAWING COCM Alameda WORKS
IN CHARGE T.F.D. ISSUE BY R.A.
CHECKED BY " TRACED BY D.A.G.
LAST ASSGN. GBL

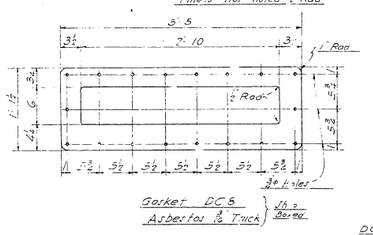
CONTRACT C715805 SHEET T503

30-1

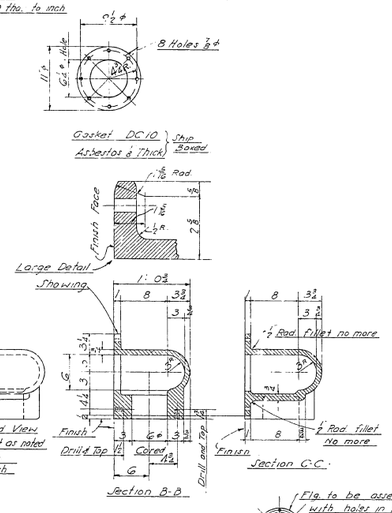


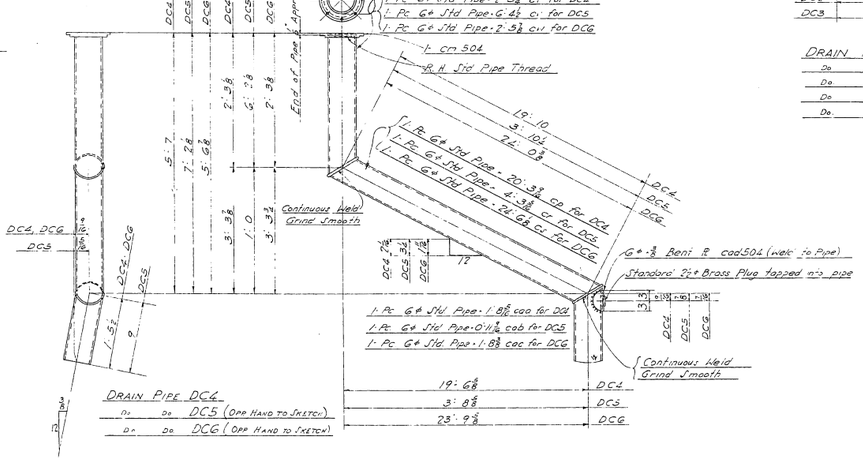
Roadway Drain Boxes - D.C 11

Cast Iron Fillets not noted ½ Rad



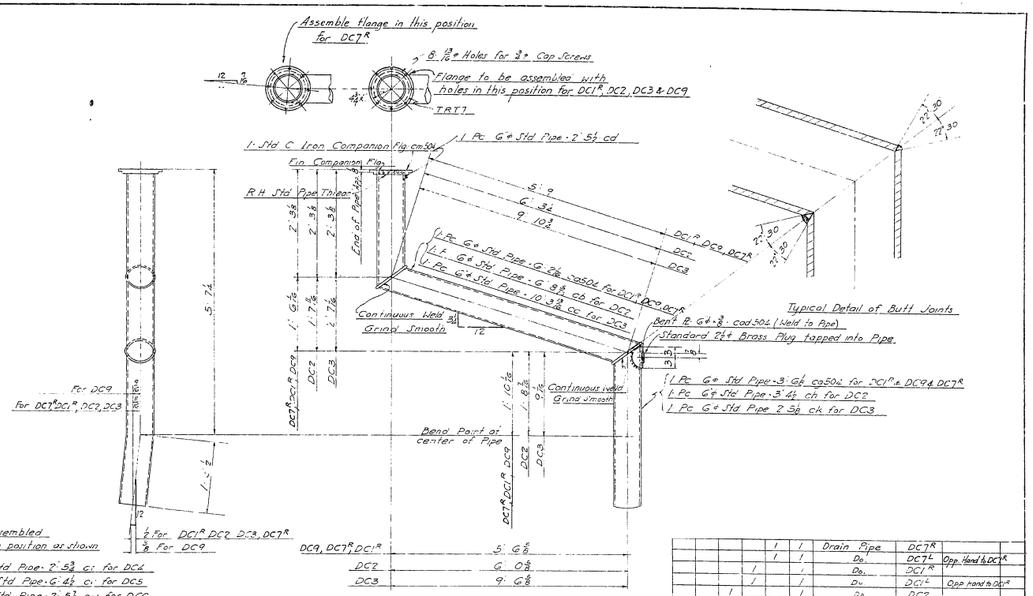
Gasket DC8 Asbestos ⅛ Thick } Ship Boxed





DRAIN PIPE DC4

Do	Do - DC5	(OPP HAND TO SKETCH)
Do	Do - DC6	(OPP HAND TO SKETCH)



DRAIN PIPE DC1R

Do	Do - DC2	
Do	Do - DC3	(OPP HAND TO SKETCH)
Do	Do - DC9	(OPP HAND TO SKETCH)
Do	Do - DC7R	

Span EE4	Span EE6	Span EE8	Span EE30	Span EE32	Item No	Description	Mark	Remarks	Weight each Item
				1	1	Drain Pipe	DC7R		
				1	1	Do	DC7L	Opp. Hand to DC7R	
			1		1	Do	DC1R		
			1		1	Do	DC1L	Opp hand to DC1R	
		1			1	Do	DC9		
		1			1	Do	DC3	Opp. to Sketch	
	1				1	Do	DC2		
	1				1	Do	DC2	Opp. to Sketch	
	1				1	Do	DC6	Opp. to Sketch	
1					1	Do	DC9	Opp. to Sketch	
2	2	2	2	2	10	Gasket	DC8		
2	2	2	2	2	10	Do	DC10		
2	2	2	2	2	10	Drain Box	DC11		

REQUIRED LIST

Cast Iron for Drain Boxes to be as per special specifications of State of California Department of Public Works

Cast Iron Companion Flanges & Asbestos Gaskets to be commercial std materials

G" Std Pipe to be standard commercial grade steel pipe except to contain .20% copper

Contact Surfaces - shown permanently bolted to be cleaned & scraped before painting - Bolts to be drawn up tight to exclude foreign particles during shipment or field sand blasting

Shop Paint - None except one coat of "Acid Resisting Paint" to be applied to the following:

(a) All finished surfaces of castings

(b) All contact surfaces of permanently bolted parts

(c) To portions of items not readily accessible for field sandblasting

Drilling - Holes marked TRTG & TRT7 to be drilled to steel template

Date	Revision	Appd

APPROVED

Engineer of Design

Bridge Engineer

Chief Engr.

From 48-1-35

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Main Plate Girder Spans
McCLINTIC-MARSHALL CORPORATION

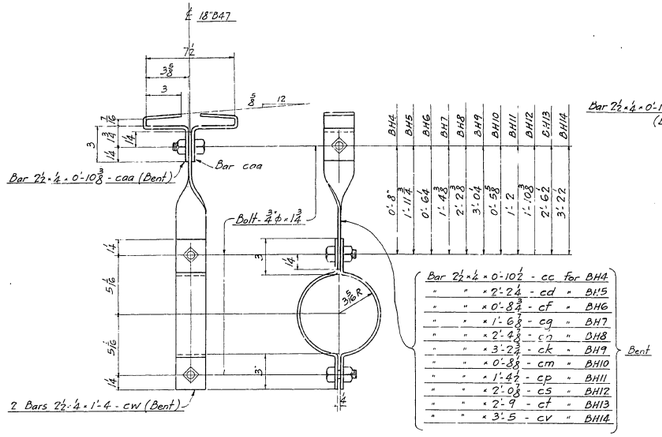
Alameda DRAWING LIST Alameda WORKS

IN CHARGE T.F.B. TRADE BY D.F.G.

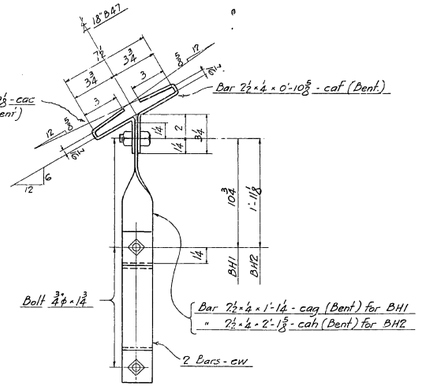
CHECKED BY R.R.D. TRACED BY D.F.G.

LAST ASSEM. MK.

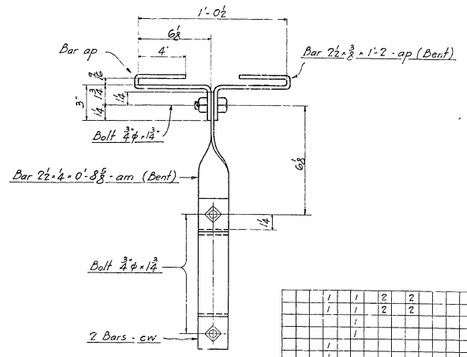
CONTRACT C715905 SHEET T504



PIPE HANGERS BH4, BH5, BH6, BH7, BH8, BH9, BH10, BH11, BH12, BH13, BH14

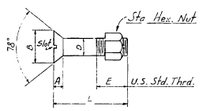


PIPE HANGERS BH1 & BH2

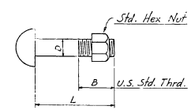


PIPE HANGER BH15

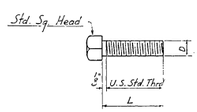
													G	Pipe Hanger	BH1
		1	1	2	2								G	do.	BH2
		1	1	2	2								1	do.	BH4
			1										1	do.	BH5
			1										1	do.	BH6
		1											1	do.	BH7
		1											1	do.	BH8
		1											1	do.	BH9
	1												1	do.	BH10
	1												1	do.	BH11
	1												1	do.	BH12
	1												1	do.	BH13
	1												1	do.	BH14
	1												1	do.	BH15
	20	20	20	20	20								100	105	Flat Hd. Bolts	MB1
56	32	48	32	48	32	48	32	48	32				408	430	do.	MB2
6													6	8	do.	MB3
	12		12		12		12	10	10	32	10	10	142	150	Round Hd. Bolts	MB4
18	24	16	24	16	16	16	24	16	24	10	10	18	10	10	266	279	do.	MB5
	2		2		2		2		2						10	12	do.	MB6
8	4	4	4	4	4	4	4	4	4				4	48	53	do.	MB7
48	48	44	48	44	48	44	48	44	48	24	24	20	28	24	606	635	do.	MB8
4		4		4		4					4				24	27	do.	MB9
	4		4		4		4		4						20	22	Tap Bolts	MB10
	16		16		16		16								80	87	do.	MB11
96	66	74	66	74	66	74	66	74	66	10	10	10	10	10	782	820	Washers	W3
88	84	104	84	104	88	104	88	104	84						924	970	do.	W4
E23	E24	E25	E26	E27	E28	E29	E30	E31	E32	E33	E34	E35	E36	E37	E38	TOTAL REQ'D.	TOTAL PLANS	DESCRIPTION	MARK
REQUIRED BY SPANS																		REQUIRED LIST	



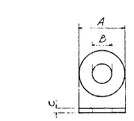
MARK	DESCR.	DIA. "D"	LENGTH "L"	"A"	"B"	"E" MIN.	Wt. EA.
MB1	Flat Hd Bolts	⅝	2½	⅜	⅝	1⅛	1¼
MB2	do.	¾	2¼	⅜	⅝	1⅛	1½
MB3	do.	¾	2¾	⅜	⅝	1⅛	1½



MARK	DESCR.	DIA. "D"	LENGTH "L"	B MIN.	Wt. EA.
MB6	Round Hd Bolt	⅝	1½	1	
ME5	do.	¾	1⅞	1¼	
MB6	do.	¾	2	1½	
MB7	do.	¾	2¼	1½	
MB8	do.	¾	2½	1½	
MB9	do.	¾	3	1½	



MARK	DESCR.	DIA. "D"	LENGTH "L"	THREADS PER INCH	Wt. EA.
MB10	Tap Bolts	⅝	2⅜	11	
MB11	do.	¾	2⅜	10	



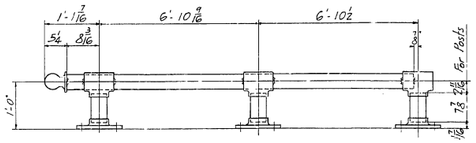
MARK	DESCR.	"A"	"B"	"C"	Wt. EA.
W3	Washers	7/8	13/16	¼	
W4	do.	7/8	13/16	¼	

Material - All material to be carbon steel, copper bearing.
Specifications - Special by State of California Dept. of Public Works.
Inspection -
Punching - All holes may be punched full size
Shop Paint - See note on Sheet T504

APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Dec 4-1-35

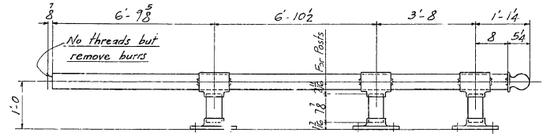
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Mole Plate Girder Spans E23-E39
McCLINTIC-MARSHALL CORPORATION
Alameda DRAWING ROOM Alameda WORKS
IN CHARGE T.F.B. MADE BY K.E.B.
CHECKED BY B. TRACED BY K.E.B.
LAST ASSEM. MK.

CONTRACT C115805 SHEET T505



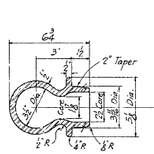
HANDRAIL GR1

1 Pc. 4"ϕ Extra Strong Pipe × 14'-4 3/8
3 Pc. 4"ϕ Extra Strong Pipe × 0'-7 7/8
3 Tees "B" - 3 Bases "d" - 1 Ball Cap "C"

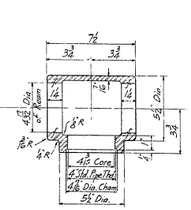


HANDRAIL GR1S

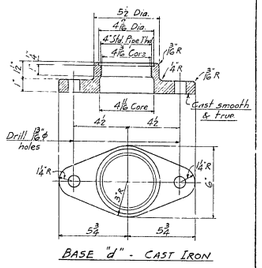
1 Pc. 4"ϕ Extra Strong Pipe × 18'-0 7/8
3 Pc. 4"ϕ Extra Strong Pipe × 0'-7 7/8
3 Tees "B" - 3 Bases "d" - 1 Ball Cap "C"



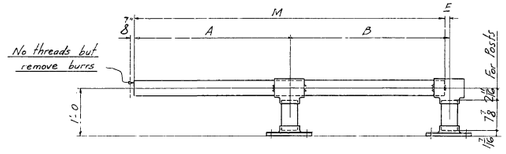
BALL CAP "C"
MALLEABLE IRON



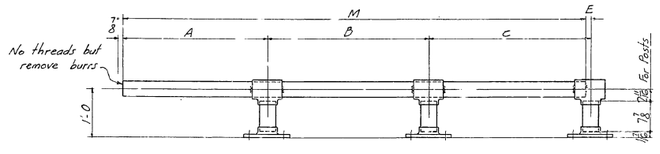
TEE "B"
MALLEABLE IRON



BASE "d" - CAST IRON



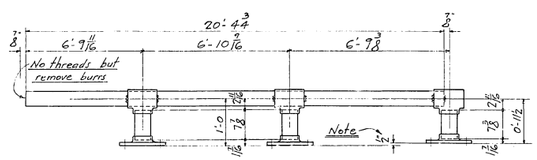
Material for each handrail
1 Pc. 4"ϕ Extra Strong Pipe × M
2 Pc. 4"ϕ Extra Strong Pipe × 0'-7 7/8
2 Tees "B" - 2 Bases "d"



Material for each handrail
1 Pc. 4"ϕ Extra Strong Pipe × M
3 Pc. 4"ϕ Extra Strong Pipe × 0'-7 7/8
3 Tees "B" - 3 Bases "d"

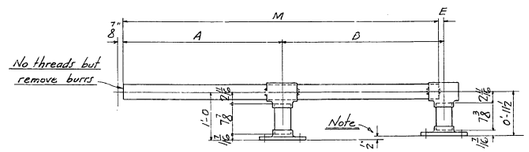
MARK	A	B	E	M
GR2	6'-9 7/8	6'-10½	3/4	13'-7 3/8
GR3	6'-9 1/16	6'-10 1/16	1/8	13'-7 7/8
GR5	6'-10 1/16	6'-10½	1/16	13'-8 3/8
GR6	6'-11 1/4	6'-10½	3/4	13'-9
GR7	6'-9 7/8	6'-11	3/4	13'-7 3/4
GR8	6'-9 1/16	6'-10 1/16	1/8	13'-7 1/2
GR9	6'-9 1/16	6'-10 1/16	1/8	13'-7 1/2
GR11	6'-11 1/16	6'-10½	1/16	13'-9 1/4
GR12	6'-9 1/16	6'-10 25/32	3/32	13'-7 1/2
GR13	6'-9 29/32	6'-10 1/16	3/32	13'-7 1/2

MARK	A	B	C	E	M
GR16	6'-6 3/4	6'-10 1/16	6'-10 1/16	7/8	20'-2 3/8
GR18	6'-10 3/4	6'-10 1/16	6'-10 1/16	7/8	20'-7 3/8
GR19	6'-9 1/16	6'-10 1/16	6'-10 1/16	1/16	20'-6
GR20	6'-9 1/16	6'-10 1/16	6'-10½	3/4	20'-6
GR21	6'-9 1/16	6'-10½	6'-10½	1/16	20'-6



HANDRAIL GR17

1 Pc. 4"ϕ Extra Strong Pipe × 20'-4 3/4
2 Pc. 4"ϕ Extra Strong Pipe × 0'-7 7/8
1 Pc. 4"ϕ Extra Strong Pipe × 0'-7 3/8
3 Tees "B" - 3 Bases "d"



Material for each handrail
1 Pc. 4"ϕ Extra Strong Pipe × M
1 Pc. 4"ϕ Extra Strong Pipe × 0'-7 7/8
1 Pc. 4"ϕ Extra Strong Pipe × 0'-7 3/8
2 Tees "B" - 2 Bases "d"

MARK	A	D	E	M
GR4	6'-9 7/8	6'-9 1/16	1/16	13'-6
GR10	6'-9 3/8	6'-9	3/8	13'-5 3/4
GR14	6'-9 3/8	6'-8 1/16	1/16	13'-5 1/2

E23	E24	E25	E26	E27	E28	E29	E30	E31	E32	E33	E34	E35	E36	E37	E38	TOTAL	DESCRIPTION	MARK	REMARKS
																2	HANDRAIL	GR1	
4	4	6	4	6	4	6	4	6	4							43	"	GR2	
4	6	4	4		2		2		2							24	"	GR3	
2		2														4	"	GR4	
	2															2	"	GR5	
			2													2	"	GR6	
			2													2	"	GR7	
		2														2	"	GR8	
		2														2	"	GR9	
		2														2	"	GR10	
			2		2		2									6	"	GR11	
			2	2	2	2	2									10	"	GR12	
			2	2	2	2	2									10	"	GR13	
				2		2										4	"	GR14	
															2	2	"	GR15	
										2						2	"	GR16	
											2					2	"	GR17	
												2				2	"	GR18	
										2	2	2	2	2	2	12	"	GR19	
													2			2	"	GR20	
														2		2	"	GR21	

REQUIRED LIST

Material - All pipe to be steel pipe, standard commercial grade, except to contain 20% copper.
All bases to be cast iron - Spec. A.S.T.M. - A48
All other fittings to be malleable iron, standard commercial grade.
Threading - All posts to be threaded into bases and top fittings. All railing to have slip joints to posts - welded as shown.
Welding - All welds ¼" Fillet × 1½" long - b.s. of pipe.
Inspection. -
Shop Paint - None

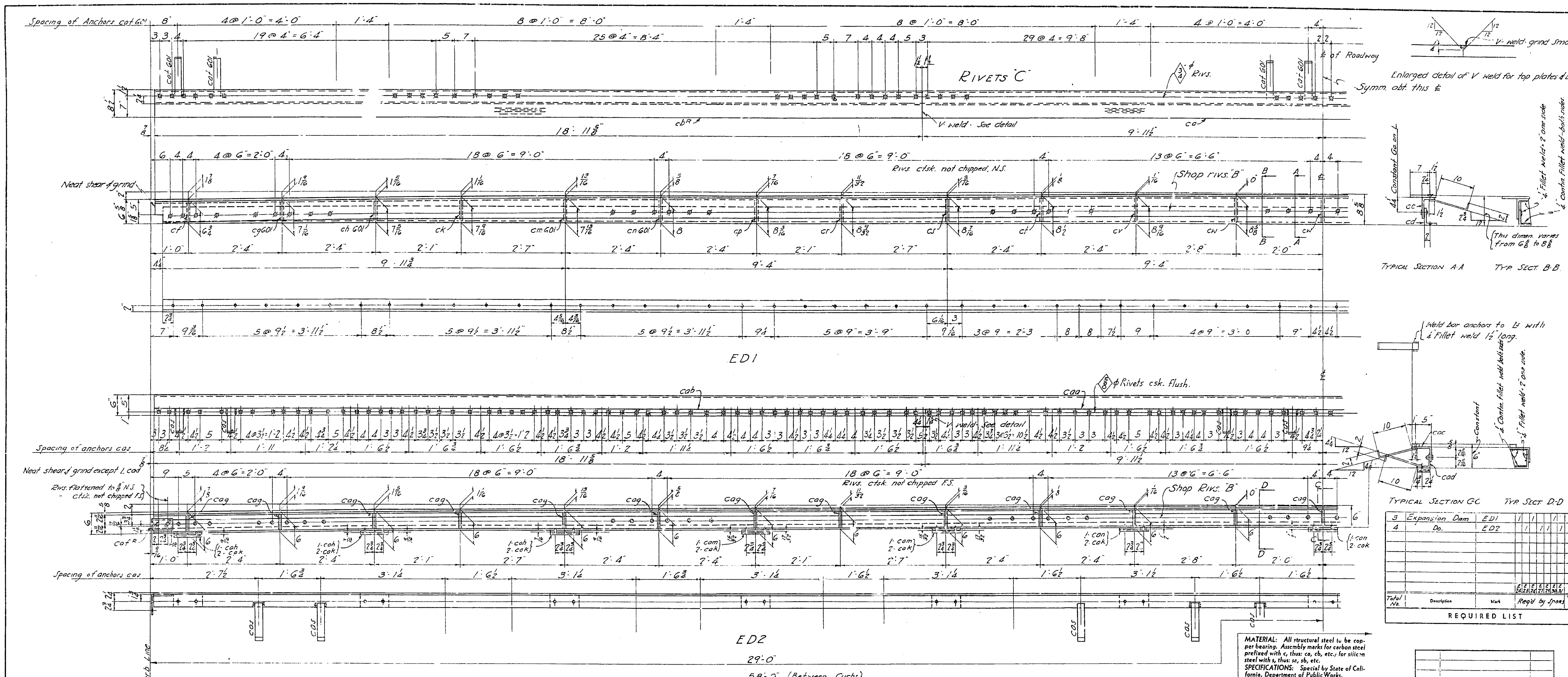
Date | Revised | Appd
APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Dec. 4/1/35

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing

McCLINTIC-MARSHALL CORPORATION
Alameda DRAWING ROOM Alameda WORKS
IN CHARGE T.F.D. MADE BY R.E.B.
CHECKED BY E. TRACED BY R.E.B.
LAST ASSEM. FAIL

CONTRACT CT15305 SHEET T506

30-1



Total No.	Description	Mark	E 24	E 25	E 26	E 27	E 29	E 30	E 31	Weight each Tons
3	Expansion Dam	ED1	1		1			1		
4	Do.	ED2		1		1	1		1	

REQUIRED LIST (Req'd by Spans)

Material for ED1

1 - Central Knobby Fl. Pl. 8½ × ⅝ × 19' 11 F2E ca
2 - " " do × 18' 11⅝ F2E cb
1 - Bent L 6 × 3½ × ½ × 57' 10¼ F2E cc
1 - L 5 × 3½ × ½ × 57' 3½ cd
56 - Bent Bars 1½ × 5/16 × 1' 1½ cct G01
2 - Pls 3 × ⅜ × 5⅜ - cf
2 - Pls do × 5 7/16 - cg G01
2 - Pls do × 5 11/16 - ch G01
2 - Pls do × 5 15/16 ck
2 - Pls do × 6 3/16 - cm G01
2 - Pls do × 6⅜ - cn G01
2 - Pls do × 6 9/16 - cp
2 Pls do × 6 21/32 - cr
2 - Pls do × 6 13/16 - cs
2 - Pls do × 6⅞ - ct
2 - Pls do × 6 15/16 - cv
3 - Pls do × 7 - cw

Material for ED2

1 - Bar 2(UM) × ⅝ × 19' 11 F2E caa
2 - Bars 2(UM) × ⅝ × 18' 11⅝ F2E cab
1 - Bent L 6 × 4 × ½ × 57' 10¼ F2E cac
1 - Bent L 4 × 4 × ½ × 57' 10¼ (Trim only) cad
2 - L 6 × 6 × ½ × 0' 3¼ caf
75 Pl 5 × ⅜ × 0' 4⅜ cag
6 Bevel Fills 8½ × 9/16 × 7/16 × 4 cah (F/S) } Tack weld to L.
3 Fills 4 × ½ × 8½ can }
4 Bevel Fills 8½ × 17/32 × 15/32 × 4 (F/S) cam }
26 Fills 4 × ⅛ × 8½ cak - Bolt to ship.
62 Bent Bars 1½ × 5/16 × 1' 1½ cas

Shop Note-

Shop to place all erection marks on left hand end of members as detailed, and in an upright position. "Rivets C" in Central Knobby Fl. Pls. need not be chipped unless they project above pattern on plates.

MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION:
RIVETS: ⅞ ϕ } Unless Noted
OPEN HOLES: 15/16 ϕ }
PUNCHING: All holes for shop and field rivets may be punched full size except holes for shop rivets marked "B", which are to be subpunched ¼ and reamed to size after assembly.
FINISH: All sheared or flame cut edges and ends of material to appear neat & where designated F.I.W., F.2.E. etc., shop must shear & grind or otherwise cut & finish so that members present a finished appearance and conform to dimensions on drawing. Ends of all assembled members must present a neat appearance.
SHOP PAINT: None, except contact surfaces of parts bolted which shall be given one coat of "Acid Resisting Liquid" after such surfaces have been thoroughly cleaned and scraped. Parts to be assembled after paint is dry and bolts pulled up tight.

Date	Revision	App'd

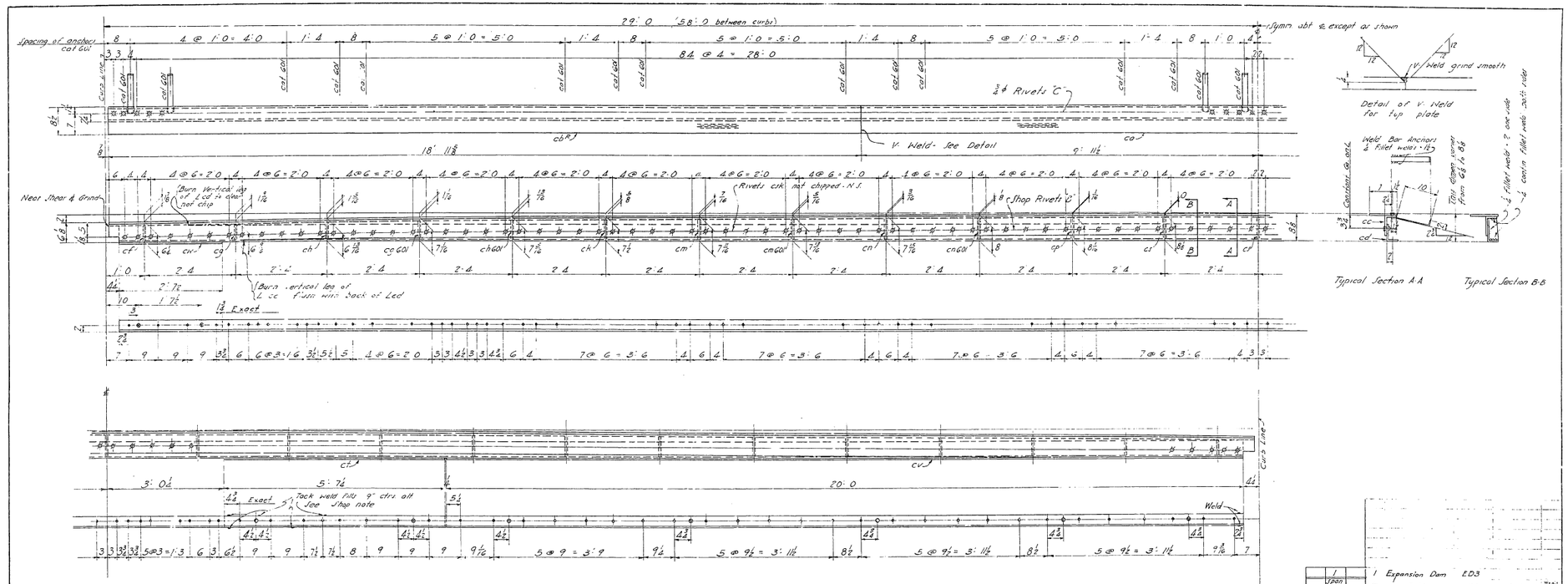
APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 10/5/34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Mole Plate Girder Spans Piers E23-33
McCLINTIC-MARSHALL CORPORATION

Alameda DR. ROOM Judson-Pacific WORKS
IN CHARGE T. F. B. MADE BY D. F. G.
CHECKED BY J. TRACED BY D. F. G.
LAST ASSEM. MK.

CONTRACT CT15806 SHEET T601

30-1



ED3

MATERIAL FOR ED3

1 - Central Knobby Fl R. 8½ - ⅞ × 19'-11 FPE cc
2 - " " " " " 18'-11⅞ FPE cbR
1 - Bent L 6 - 3½ - ½ - 57'-10½ FPE - cc
1 - L 5 - 3½ - ½ - 57'-3½ cd
2 - " 3 - ⅞ - 4⅝ cf
2 - " do. - 4⅞ cg
2 - " do. - 5⅛ ch
2 - " do. - 5⅛ ch G01
2 - " do. - 5⅛ ch G01
2 - " do. - 5⅛ ck
2 - " do. - 5⅛ cm
2 - " do. - 5⅛ cm G01
2 - " do. - 6⅛ cn
2 - " do. - 6⅛ cn G01
2 - " do. - 6⅛ cp
3 - " do. - 6½ cr
1 - Fill R 3½ - ½ - 5'-7½ ct
1 - " do. 20'-0 cv
1 - " do. 2'-7½ cw
53 Bent Bars ½ - ⅞ - 1'-1½ cat G01

SHOP NOTE
Where parts are tack welded contact surfaces must be thoroughly cleaned and scraped before assembly. Parts to be tightly clamped while welding and welded in such a manner so as to permit entering of no foreign substance during field sandblasting.
Shop to paint all erection marks on left hand end of members as detailed and in an upright position. Rivets 'C' in Central Knobby Fl R. need not be chipped unless they project above pattern on R.

For Material, Specifications, Rivets, Open holes, Finish, Shop Paint, Punching and general notes see Sheet T601

1	1	Expansion Dam	ED3		
1939 228	No.	Description	Mark	Remarks	Wt. per Unit

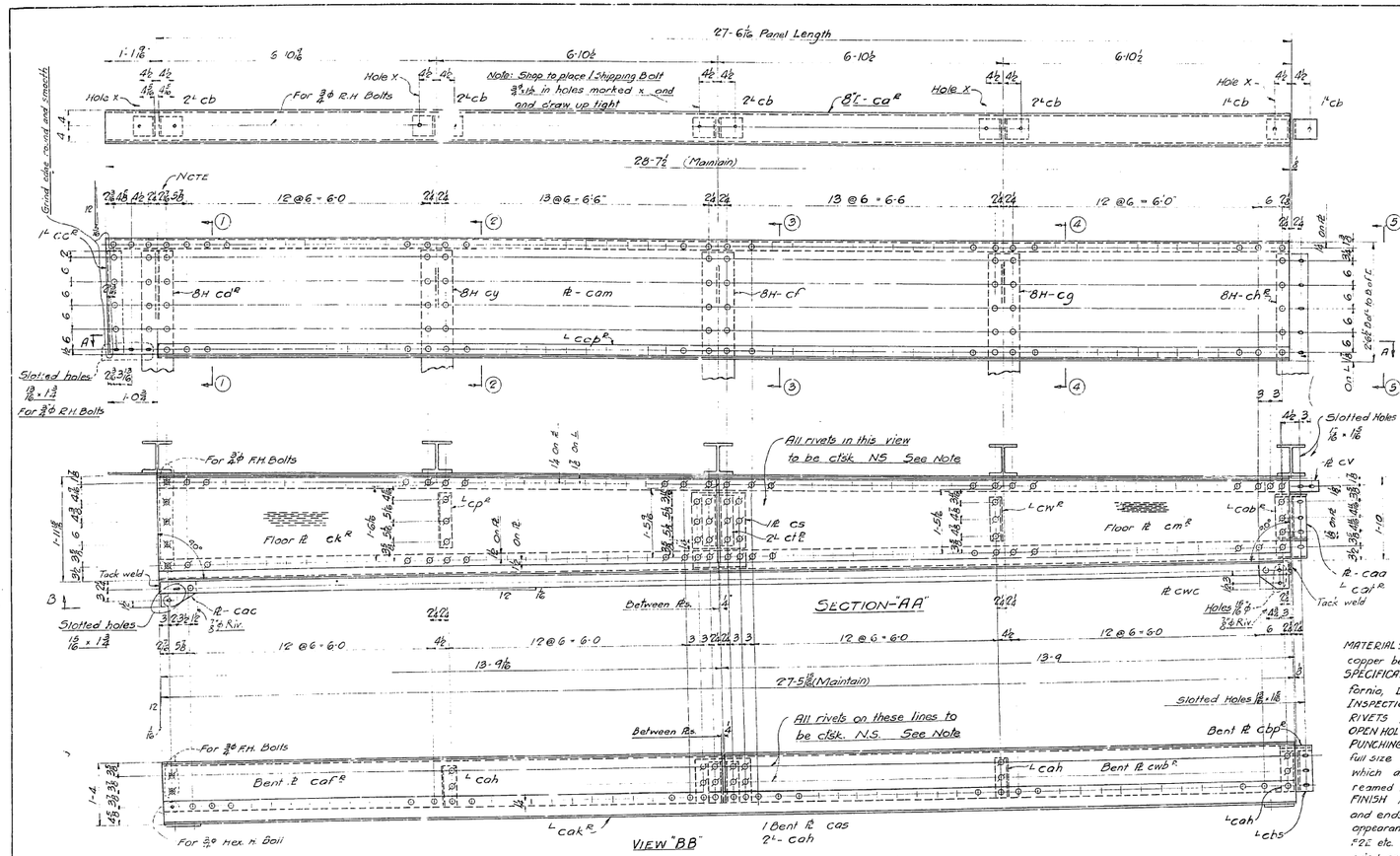
REQUIRED LIST

Date	Revision	Appd
APPROVED		
	Engineer-in-Charge	
	Bridge Engineer	
Dec. 10/5/34	Chief Engineer	

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Mole Plate Girder Joint Plan ED3.93
McCLINTIC-MARSHALL CORPORATION
Alameda DRAWING ROOM Judson Pacific WORKS

IN CHARGE	T.F.B.	MADE BY	D.F.G.
CHECKED BY	J	TRACED BY	D.F.G.
LAST ASSEM. MK			

CONTRACT CT15806 SHEET T602



WALKWAY C1^R

Work this sheet with sheets T603 BJ to JJ

MATERIAL FOR ONE WALKWAY C1^R

1	L 8 x 1.3125	28'-7½	co^R (FPE)	
1	Pl 30 UM x 5/16	28'-7½	cam (FPE)	
1	L 3 x 3 x 3/8	27'-5 15/16	cap^R (FPE)	
1	Floor Pl 21 3/16 x 3/8	13'-8 15/16	ck^R (FPE)	(Central Knobby)
1	Do. 20 3/16 x 3/8	13'-8 3/8	cm^R (FPE)	(Central Knobby)
1	Pl 16 UM x ½	15'-8 15/16	cof^R (FPE)	Beat
1	Pl Do	13'-0 3/8	cwb^R (FPE)	Do.
1	L 6 x 3½ x ½	27'-5 15/16	cak^R (FPE)	
10	L 6 x 3½ x 3/8	0'-5½	cb	
1	Pl 3 x 7/16	1'-1½	cv	
1	L 4 x 4 x 3/8	2'-3½	cc^R	
1	H 8 x 31	3'-9 3/8	cd^R	
1	Do.	2'-9½	cy	
1	Do.	2'-9½	cf	
1	Do.	2'-9	cg	
1	Do.	2'-9¼	ch^R	
1	L 3½ x 3½ x 3/8	1'-1¼	cp^R	
2	L Do	1'-0 3/8	ct^R	
1	L Do	1'-0¼	cw^R	
1	L Do.	0'-11 3/8	cab^R	
1	L Do.	0'-11 3/8	cai^R	
1	L Do	0'-10¼	cbs	
5	L Do	0'-10¼	coh	
1	Pl 13 UM. 3/8	1'-2 3/8	cs	
1	Pl Do.	1'-3¼	cas (Bent)	
1	Pl 7/16 x 3/8	1'-1½	cao	
1	Pl Do	1'-3¼	cbp^R (Bent)	
2	L 8 x 3 x ½	0'-11½	caw^R	
2	Do.	0'-11½	cbd^R	
2	Do.	0'-11 3/8	cbh^R	
2	Do.	1'-0¼	cwh^R	
1	Pl 17 UM. 3/8	0'-11 3/8	cbb (Temp)	
1	Pl 11 UM. 3/8	1'-4 3/8	cbc	"
1	Pl 17 UM. 3/8	0'-11 3/8	cbm	"
1	Pl 14 UM. 3/8	1'-4½	cby	"
1	Pl 7 x 3/8	0'-9½	cac	"
1	Pl Do	0'-8 3/8	cwc	"
2	L 5 x 3½ x 3/8	1'-2 3/8	cca^R	
2	L Do	0'-5½	cay	
1	Fill 33 3/16 x 3/8	0'-5 3/8	cay (Temp)	
1	" 43 3/16 x 3/8	0'-6½	cbf	"
1	" 43 3/16 x 3/8	0'-6½	cbg	"
1	" 62 3/16 x 3/8	0'-5 3/8	cbt	"
4	Shim 8½ x 3/8	1'-0¼	cbw	
8	Shim 8½ x 1/16	1'-0¼	cwa	
	(Bolt to slip) 2 Bolts 3/4 ϕ x 1 3/4			
5	Ship. bolts 3/4 ϕ - 1½ (For holes X)			

MATERIAL: All structural steel to be copper bearing carbon steel.
SPECIFICATION: Special by State of California, Dept of Public Works
INSPECTION
RIVETS 3/4 ϕ Unless Noted
OPEN HOLES 13/16 ϕ Unless Noted
PUNCHING All holes to be punched full size except holes marked RT which are to be sub-punched 1/4" and reamed to size thru a metal template
FINISH All sheared or flame cut edges and ends of material to have a neat appearance, and where designated FIW FPE etc. shop must shear & grind, chip & grind or otherwise cut & finish so that members present a neat appearance and conform to dimensions given on drawings. Ends of all assembled members must present a neat appearance
SHOP PAINT None, except the following surfaces which shall be given one coat of "Acid Resisting Liquid."
(1) All surfaces exposed to the elements not readily accessible for field sandblasting
(2) Contact surfaces of parts bolted. Surfaces must be thoroughly cleaned and scraped before paint is applied.

NOTE
Rivets shown thus ⓘ thru Central Knobby Floor Plates are to be c'sk. and have a maximum height not more than the height of pattern on plate. All other rivets shown thus ⓘ are to be c'sk and have a maximum height of 1/8".
Shop to paint erection marks on Left Hand end of members as detailed and in an upright position
For Sections see sheet T603 1J
Brackets to be riveted while in a fixture to insure squareness
Where tack welding is called for, contact surfaces must be thoroughly cleaned and scraped before assembly. Parts to be tightly clamped and welded so that no foreign substance may enter during Field sandblasting

Span	Total No.	Description	Mark	Remarks	Weight each Turn
E 23	1	WALKWAY	C1^R		
	1	DO.	C1^L	OPP HAND	

REQUIRED LIST

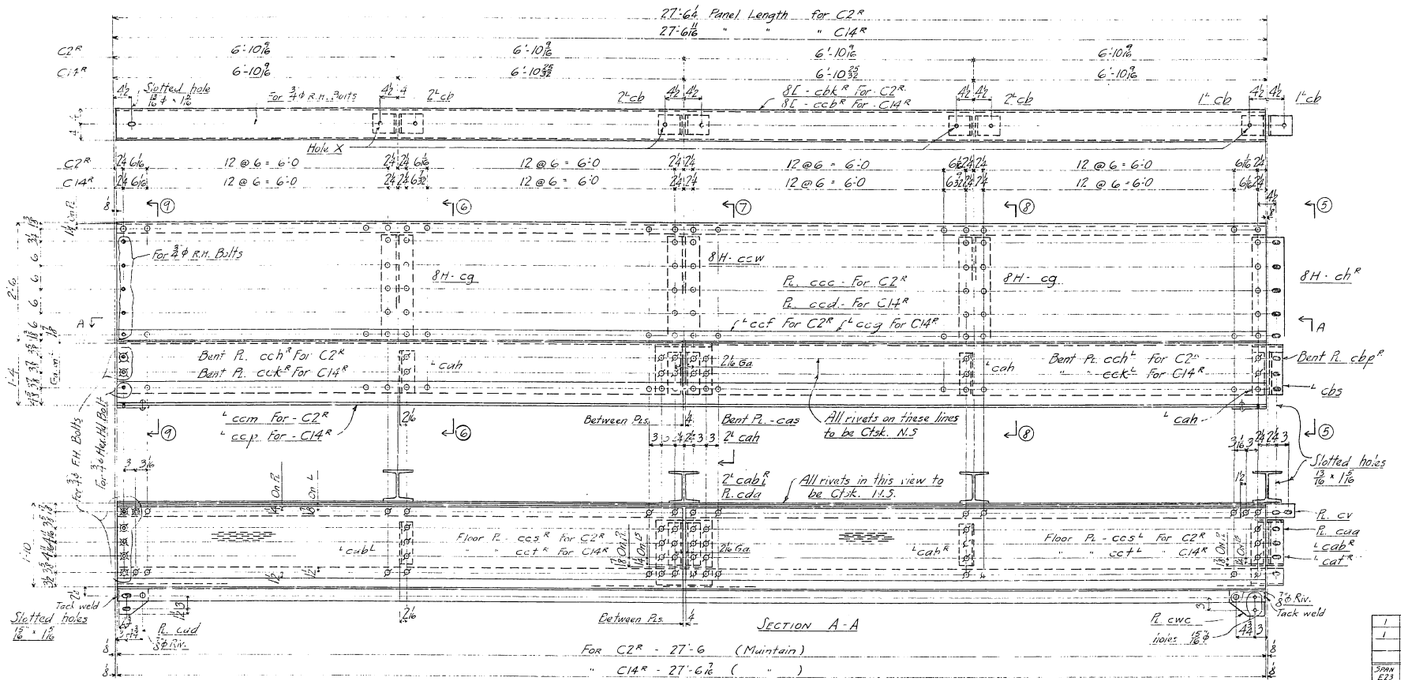
Date	Revision	Appr'd.

APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date 2/18/'48

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Mole Plate Girder Spans - E23 - E33
McCLINTIC - MARSHALL CORPORATION
Alameda DRAWING Judson - Pacific WORKS
IN CHARGE F.F.O. MADE BY G.E.O.
CHECKED BY J TRACED BY D.
LAST ASSEM. MK.

CONTRACT C T15806 SHEET T 603 AJ

30-1



SECTION A-A

FOR C2R - 27'-6 (Maintain)
" C14R - 27'-6 7/16 (")

WALKWAYS - C2R AND C14R

Work this sheet with sheets T603-IJ & JJ
For General Notes see sheet T603 AJ

								3	Walkway	C2R
								3	Do.	C2L Opp Hand
					1	1	1	5	Do.	C14R
					1	1	1	5	Do.	C14L Opp Hand
Span E23	E24	E25	E26	E29	E30	E31	E32	Total No.	Description	Mark
Required By Spans								Required List		

Material for One Walkway C2R

1 - 8" - 3.75 x 27'-6 - cbkR (F2E)	2 - L 8 x 4 x ½ x 1'-0½ - cwhR
1 - Pl. 30 um x 5/16 x 27'-6 - ccc (F2E)	6 - L 8 x 4 x ½ x 1'-0½ - cbvL
1 - L 3 x 3 x ⅜ x 27'-6 - ccf (F2E)	4 - Fills - 6½ x ⅜ x 0'-5⅜ - cbt (Temp)
2 - Bent Pl. 16 x ½ x 13'-8⅞ - cchR (F2E)	1 - Bent Pl. 13um x ⅜ x 1'-3¼ - cas
1 - L 6 x 32 x ½ x 27'-6 - ccm (F2E)	1 - Do. 7½ x ⅜ x 1'-3¼ - cbpR
2 - Floor Pl. 19 3/8 x ⅜ x 13'-8⅞ - ccsL (F2E) (Central Knobby)	1 - Pl. 13um x ⅜ x 1'-1½ - cda
2 - 8 H 31 x 2'-9 - cg	1 - Pl. 7½ x ⅜ x 1'-1½ - cea
1 - Do. x 2'-8½ - ccw	1 - Pl. 3 x ⅜ x 1'-1½ - cv
1 - Do. x 2'-9¼ - chR	1 - Pl. 7 x ⅜ x 0'-8½ - cad (Temp)
8 - L 6 x 3½ x ⅜ x 0'-5½ - cb	1 - Pl. 7 x ⅜ x 0'-8½ - cwc (Temp)
1 - L 3½ x 3½ x ⅜ x 0'-11⅜ - catR	2 - Pl. 11um x ⅜ x 0'-11⅜ - ccy (Temp)
5 - L 32 x 3½ x ⅜ x 0'-10¼ - cah	1 - Pl. 11um x ⅜ x 1'-3¼ - cdb (Temp)
1 - L " " x 0'-10¼ - cbs	1 - Pl. 14 um x ⅜ x 1'-4½ - cby
3 - L Do. x 0'-11⅜ - cabR	2 - L 5 x 3½ x ⅜ x 1'-2¾ - ccaL
2 - L Do. x 0'-11⅜ - cabL	1 - Shim Pl. 8½ x ⅛ x 1'-0¼ - cbw } Bolt to Ship 2 Bolts ⅞ x 1⅞
	2 - Shim Pl. 8½ x 1/16 x 1'-0¼ - cwa
	4 - Slip Bolts - ⅞ x 1½ (For holes X)

Material for One Walkway - C14R

1 - 8I 13.75 x 27'-6 7/16 - cckR (F2E)	2 L cwhL
1 - Pl. 30 um x ⅝ x 27'-6 7/16 - ccd (F2E)	6 L cbvR
1 - L 3 x 3 x ⅜ x 27'-6 7/16 - ccg (F2E)	4 Fill - cbt
2 - Bent Pl. - 16 x ½ x 13'-9 29/32 - cckR (F2E)	1 - Bent Pl. - cas
1 - L 6 x 3½ x ½ x 27'-6 7/16 - ccp (F2E)	1 Do - cbpR
2 - Floor Pls. - 19 3/8 x ⅜ x 13'-9 29/32 - cctR (F2E) (Central Knobby)	1 Pl. - cda
2 - 8H - cg	1 Pl. - cea
1 - 8H - ccw	1 Pl. - cv
1 - 8H - chR	1 Pl. - cad
8 - L cb	1 Pl. - cwc
1 - L catR	2 Pl. - ccy
5 - L cah	1 Pl. - cdb
1 - L cbs	1 Pl. - cby
3 - L cabR	2 L - ccaL
2 L cabL	1 Shim Pl. - cbw } Bolt to Ship 2 Bolts ⅞ x 1⅞
	2 Shim Pl. - cwa
	4 - Ship - Bolts ⅞ x 1½ (For holes X)

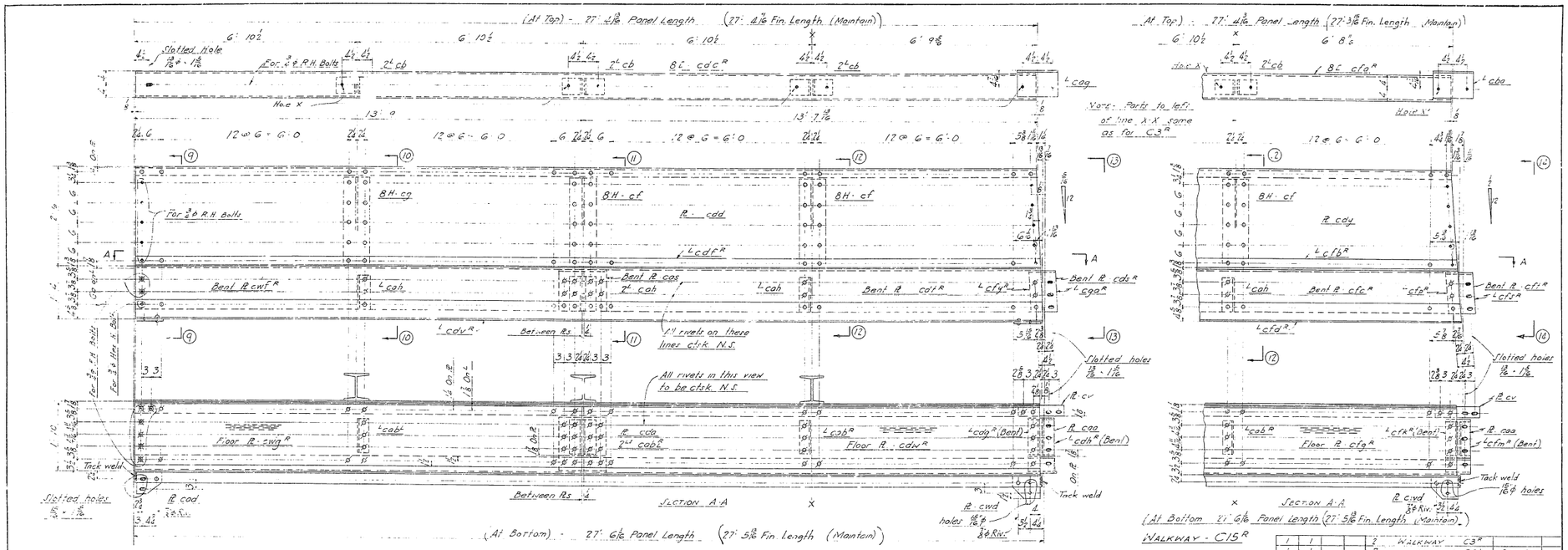
Date No. Appd.
APPROVED
Engr. in Charge
Bridge Engineer
Chief Engr.
Dec. 2/18/35

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Mole Plate Girder Spans E23 - E33

McCLINTIC - MARSHALL CORPORATION

Alameda Drawn Gudgeon-Pacific Works
In Charge T.F.B. Made by R.B.
Checked by J. Traced by G.K.
Last Assem. Mk.

CONTRACT CT15806 SHEET 1 603 Bd



1	1			2	WALKWAY	C3 R					
1	1			2	Do	C3 L	Opp Hand				
		1	1	2	Do	C15 R					
		1	1	2	Do	C15 L	Opp Hand				
Spans E23	Spans E24	Spans E29	Spans E31	Total No	Description	Mark	Remarks	Weight per Span			
REQD BY SPANS				REQUIRED LIST							

Material for One Walkway C3 R

1 - 8 ∠ 13.75 - 27' 3⅞" - cdc " (F24)
1 - R 30 wm - 5/16 - 27' 5⅜" - cdd (F24)
1 - L 3 - 3 - ⅜ - 27' 5⅜" - cdf R (F24)
1 - Bent R 6 wm - ½ - 3' 8¼" - cwf R (F24)
Bent R 6 wm - ½ - 13' 8⅛" - cdf R (F24)
1 - G - 3½ - ½ - 27' 5⅛" - cdv R (F24)
1 - Floor R 19⅛ - ⅜ - 13' 8⅜" - cwg R (F24) } Central Knobby
1 - Floor R 19⅛ - ⅜ - 1' 8⅜" - cdw R (F24) }
6 L G - 3½ - ⅜ - 0' 5?" - cd
1 - BH 31 - 2 - 9 - cg
2 - BH 31 - 2 - 9½ - cf
4 - L 3½ - 3½ - ⅜ - 0' 10¿ - cah
4 - L 3½ - 3½ - ⅜ - 0' 10½ - cfy R
1 - L 2½ - 3½ - ⅜ - 0' 10¿ - cga R
4 - L 3½ - 3½ - ⅛ - 0' 11⅝ - cab R
1 - L 3½ - 3½ - ⅜ - 0' 11⅝ - cdg R Bent

1 - L 3½ - 3½ - ⅜ - 0' 11⅝ - cdh R (Bent)
1 - L 6 - 3½ - ⅜ - 1' 4 - cdk " "
1 - L 6 - 3½ - ⅜ - 1' 4 - cdm " "
1 - Bent R 16 wm - ½ - 1' 9⅜ - cas
1 - R 15 wm - ⅜ - 1' 1½ - cdo
1 - R 7½ - ⅝ - 1' 1½ - cna
1 - Bent R 7½ - ⅝ - 1' 3⅞ - cds R (Temp)
1 - R 7 - ⅝ - 0' 8¾ - coa
1 - R 7 - ⅝ - 0' 8¾ - cwd
1 - R 3 - ⅝ - 1' 1½ - cv
2 - R 17 wm - ⅜ - 0' 11⅝ - ccy (Temp)
1 - R 11 wm - ⅜ - 1' 3⅜ - cob (Temp)
1 - R 14 wm - ⅜ - 1' 6⅜ - cdp
6 L 3 - 2 - ½ - 1' 0¿ - cbv R
3 Fills G2 - ⅜ - 0' 5⅜ - cbt (Temp)
1 L 8 - 8 - ½ - 1' 0 - cag
4 Ship Bolts ⅞ x 1½ (For holes X)
3 Shims 8½ - ⅜ - 1' 0¿ - cbw } Bolt ¼ Ship
6 Shims 8½ - 1/16 - 1' 0¿ - cwa } 2 Bolts ⅞ x 1¾

Material for One Walkway C15 R

1 - 8 ∠ 13.75 - 27' 3⅞" - cfb R (F24)
1 - R 30 wm - 5/16 - 27' 5⅛ - cdy (F24)
1 - L 3 - 3 - ⅜ - 27' 5⅛ - cfb R (F24)
1 - Bent R 16 wm - ½ - 13' 8⅛ - cfc R (F24)
1 L G - 3½ - ½ - 27' 5⅛ - cfd R (F24)
1 - Floor R 19⅛ - ⅜ - 13' 8⅛ - cfa R (F24) (Central Knobby)
1 L 3½ - 3½ - ⅜ - 0' 10⅜ - cfp R
1 L 3½ - 3½ - ⅜ - 0' 10⅜ - cfs R
1 L 3½ - 3½ - ⅜ - 0' 11⅜ - cfk R (Bent)
1 L 3½ - 3½ - ⅜ - 0' 11⅜ - cfm R (Bent)
1 L G - 3½ - ⅜ - 1' 4 - cfv (Bent)
1 L G - 3½ - ⅜ - 1' 4 - cfw (Bent)
1 - Bent R 7½ - ⅜ - 1' 3⅜ - cfl R (Temp - Bent)
1 - Bent R cwf R
1 - Floor R cwg R (Central Knobby)
6 L cb

Work this sheet with sheets T603-1 J4 J1

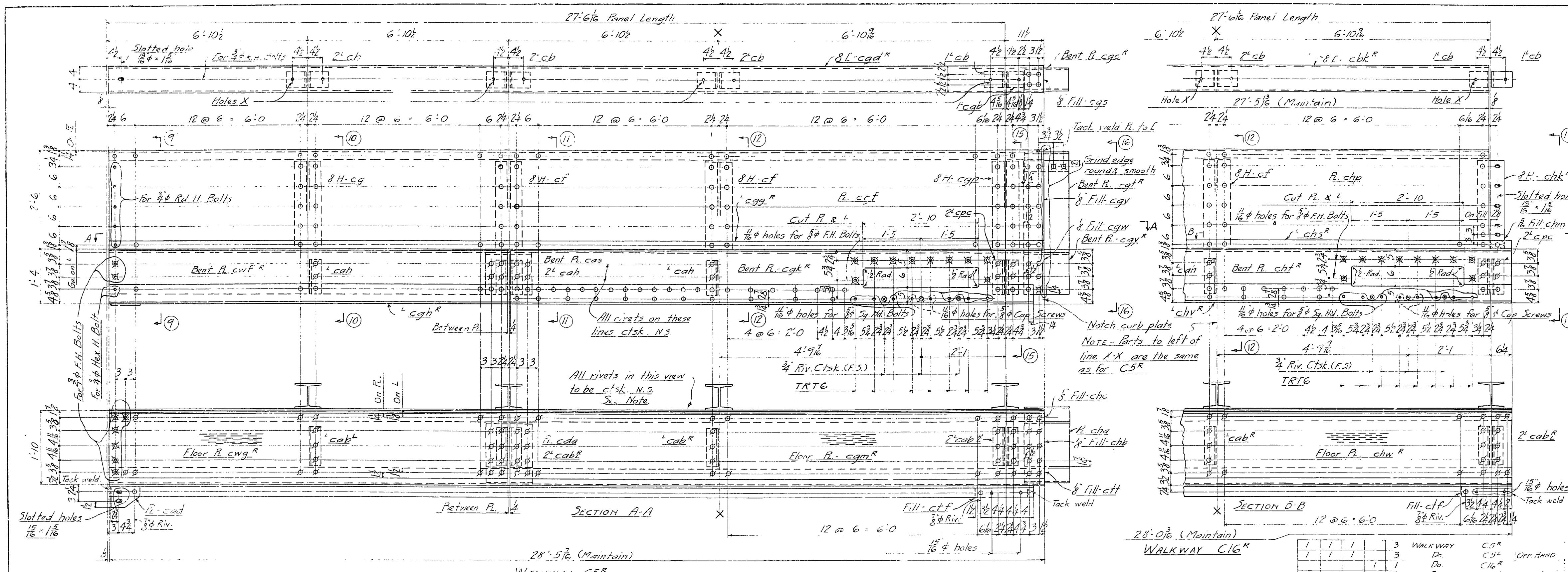
For General Notes see sheet T603A1

1 - BH - cg
2 - BH - cf
4 L cah
4 L cab R
Bent R cas
1 - R cdo
1 - R coa
1 - R cod
1 - R cwd
1 - R cv
2 - R ccy
1 - R cdp
6 L cbv R
3 - Fills cbt
1 - L 8 - 8 - ½ - 1' 0 - cba
4 - Ship Bolts ⅞ x 1½ (For holes X)
3 - Shims - cbw } Bolt ¼ Ship
6 - Shims - cwa } 6 Bolts ⅞ x 1¾

Date	Revision	Appd
APPROVED		
		Engineer of Design
		Bridge Engineer
		Chief Engineer
Date 2/18/35		

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Mole Plate Girder Spans E23-33
McCLINTIC-MARSHALL CORPORATION
Alameda D: 10 ROOM Junction Pacific WORKS
IN CHARGE T.F.B. MADE BY B.E.B.
CHECKED BY TRACED BY D.R.S.
LAST ASSEM. MK.

CONTRACT C71500G SHEET T C.03 27



1	1	1		3	Walkway	C5R		
1	1	1		3	Do.	C5L	Opp. Hand.	
			1	1	Do.	C16R		
			1	1	Do.	C16L	Opp. Hand.	
Span E24	E28	E30	E32	Total No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

Material for One Walkway C5R

1- 8[13.75 × 28'-5 7/16 - cqd R (F2E)
1- Pl. 30um × 5/16 × 28'-5 7/16 - cgf (F2E)
1- L 3×3×3/8 × 28'-5 7/16 - cgg R (F2E)
1- Bent Pl. 16um × 1/2 × 13'-8 3/4 - cwf R (F2E)
1- Do. 19um × 1/2 × 14'-8 7/16 - cgk R (F2E)
1- L 6×3 1/2×1/2 × 28'-2 3/16 - cgh R (F2E)
1- Floor Pl. 17 3/8 × 3/8 × 13'-8 3/4 - cwg R (F2E) } (Central Knobby)
1 Do. 17 3/8 × 3/8 × 14'-8 7/16 - cgm R (F2E) }
7- L 6×3 1/2×3/8 × 0'-5 1/2 - ck
1- L 5 7/16×3 1/2×3/8×0'-5 1/2 - cgp
1 8H 31 × 2'-7 - cg
2- 8H 31 × 2'-9 1/2 - cf
1- 8H 31 × 3'-9 3/4 - cgp
6- L 8×4×1/2 × 1'-0 1/4 - cbv R/L
2- L 6×3 1/2×3/8 × 1'-4 3/4 - chf R/L
2- L 6×3 1/2×3/8 × 0'-5 1/2 - chh
2- L 3 1/2×3 1/2×3/8 × 1'-1 1/2 - chg R/L
4- L 3 1/2×3 1/2×3/8 × 0'-10 1/4 - cah
6- L 3 1/2×3 1/2×3/8 × 0'-11 1/8 - cab R/L

3 Shims cbw } Bolt to Ship.
6 Shims cwa } 6 Bolts 7/8"φ × 1 3/4

1- Pl. 13um × 3/8 × 1'-3 1/4 - cas (Bent)
1- Pl. 13um × 3/8 × 1'-1 1/2 - cda
1- Pl. 12 3/4 × 5/16 × 1'-1 3/4 - cgc R (Bent)
1- Pl. 13um × 5/16 × 2'-7 1/4 - cgt R (Bent)
1- Pl. 13um × 3/8 × 1'-3 1/4 - cgy R (Bent)
1- Pl. 13um × 3/8 × 1'-1 1/2 - chu
2- Pl. 17um × 3/8 × 0'-11 3/8 - ccy (Temp.)
1- Pl. 11um × 3/8 × 1'-3 3/8 - cdb (Temp.)
1- Pl. 15um × 3/8 × 1'-8 1/4 - cad
3- Fill - 6 1/2 × 3/8 × 0'-5 3/8 cbt
1- Fill - 6 × 1/8 × 0'-5 3/4 - cgs
1- Fill - 6 × 1/8 × 2'-3 1/2 - cgv
1- Fill - 6 × 1/8 × 0'-10 1/4 - cgw
1- Fill - 6 × 1/8 × 1'-1 1/2 - chb
1- Fill - 6 × 1/8 × 0'-2 1/2 - ctt
1- Fill - 3 1/2 × 5/8 × 1'-3 1/2 - ctf
1- Pl. 7 × 5/8 × 0'-8 3/4 - cud (Temp.)
2- L 4 × 3 1/2 × 3/8 × 0'-10 1/4 - cpc
1 Fill - 6 × 1/8 × 0'-3 - cnc
4- Ship Bolts - 3/4"φ × 1 1/2 (For holes X)

Material for One Walkway C16R

1- 8[13.75 × 27'-5 13/16 - cbk R (F2E)
1- Pl. 30um × 5/16 × 27'-5 13/16 - chp (F2E)
1- L 3×3×3/8 × 28'-0 3/16 - chs R (F2E)
1- Pl. 19um × 1/2 × 14'-3 3/16 - cht R (F2E) (Bent)
1- L 6×3 1/2×1/2 × 28'-0 3/16 - chv R (F2E)
1- Floor Pl. - 19 3/8 × 3/8 × 14'-3 3/16 - chw R (Central Knobby)
1- 8H 31 × 3'-9 3/4 - chk R
1- Fill 3 × 7/16 × 0'-3 3/4 - chm
1- Pl. - cwf R
1- Floor Pl. - cwg R (Central Knobby)
8- L cb
1- 8H - cg
2- 8H - cf
6- L cbv R/L
2- L chf R/L
2- L chh
2- L chg R/L
4- L cah
6- L cab R/L

1- Pl. cas
1- Pl. cda
2- Pl. ccy
1- Pl. cdb
1- Pl. chd
3- Fill - cbt
1- Fill - ctf
1- Pl. cad
2 L cpc
4- Ship Bolts - 3/4"φ × 1 1/2 (For holes X)
3- Shims - 8 1/2 × 1/8 × 1'-0 1/4 - cbw } Bolt to Ship.
6- Shims - 8 1/2 × 1/16 × 1'-0 1/4 - cwa } 6 Bolts 7/8"φ × 1 3/4

Work this sheet with sheets T603-IJ & JJ
For General Notes see sheet T603 AJ

Date | Revision | Appd.

APPROVED

Engineer of Design
Bridge Engineer
Chief Engineer
Date 2/18/35

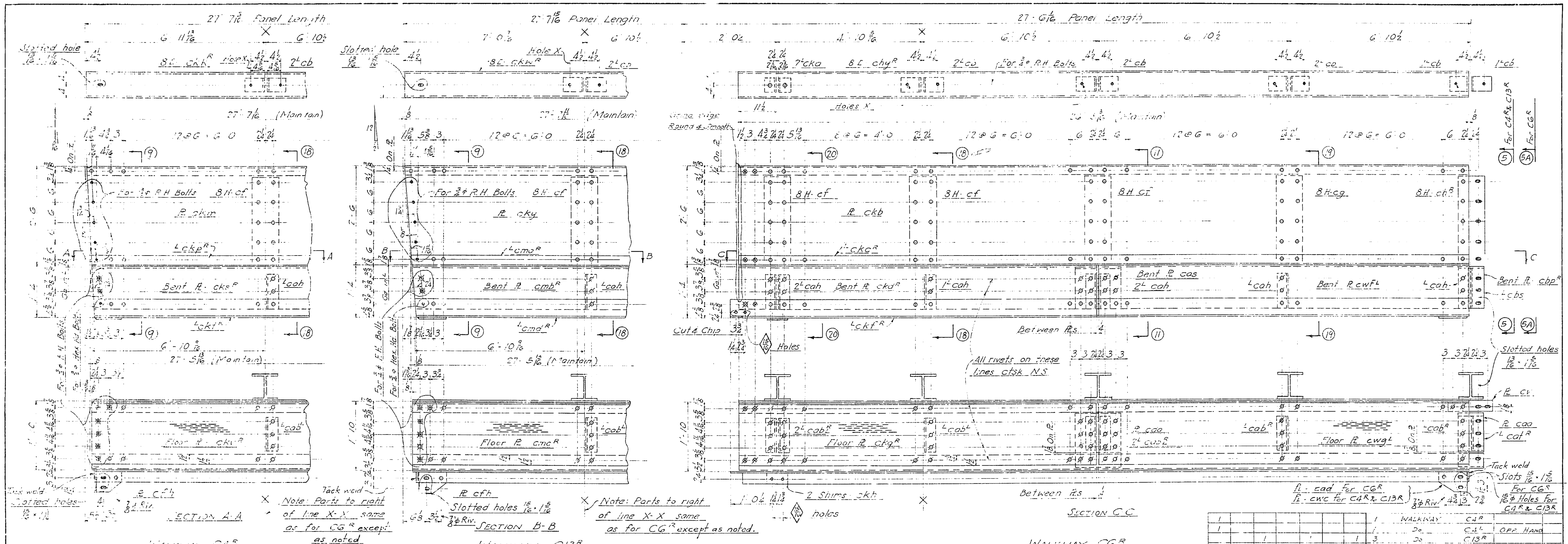
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Mole Plate Girder Spans

McCLINTIC - MARSHALL CORPORATION

Alameda DRAWING Judson-Pacific WORKS
IN CHARGE T.F.B. MADE BY R.E.B.
CHECKED BY TRACED BY G.K.
LAST ASSEM. MK.

CONTRACT CT15806 SHEET T 603 DJ

30-1



Material for One Walkway C4R

1-8 [13.75 - 27' 7 1/16 ckh R (F2E)
1-PL 30 um - 5/16 - 27' 7 1/16 - ckm (F2E)
1-L 3-3-3/8 - 27' 6 5/16 - ckp R (F2E)
1-PL 16 um - 1/2 - 13' 9 1/4 cks R (F2E) Bent
1-L 6 - 3 1/2 - 1/2 - 27' 6 [illegible] ckt R (F2E)
1-Floor PL 19 3/8 - 3/8 - 13' 9 1/4 - ckt R (F2E) Central Knobby)
1-PL 7 - 5/8 - 0' 5 3/4 cfh
1-PL 7 - 5/8 - 0' 5 3/4 - cwc
2-L [illegible] - 3/8 - 1' 2 3/4 - cca L R
Also Items "A"

Material for One Walkway C13R

1-8 [13.75 - 27' 7 11/16 ckw R (F2E)
1 PL 30 um - 5/16 - 27' 7 11/16 cmy (F2E)
1-L 3-3-3/8 - 27' 6 5/8 cma (F2E)
1-PL 16 um - 1/2 - 13' 9 1/2 cmb R (F2E) Bent
1-L 6-3 1/2 - 1/2 - 27' 6 1/16 cmd R (F2E)
1 Floor PL 19 3/8 - 3/8 - 13' 7 1/2 cmc R (F2E) Central Knobby)
1 PL - 7 - 5/8 - 0' 8 1/4 - cfh
1-PL - cwc
2-L cca L R
Also Items "A"

Material for One Walkway C6R

1-8 [13.75 - 26' 5 3/16 chy R (F2E)
1-PL 30 um - 5/16 - 26' 5 3/16 ckb (F2E)
1-L 3-3-3/8 - 26' 5 3/16 ckc R (F2E)
1-PL 16 um - 1/2 - 12' 8 3/16 ckd R (F2E) Bent
1-L 6 - 3 1/2 - 1/2 - 26' 7 11/16 - ckf R (F2E)
1-Floor PL 19 3/8 - 3/8 12' 8 3/16 ckg R (F2E) (Central Knobby)
1-8 H 31 - 2' 9 1/2 cf
2-L 3 1/2 - 3 1/2 - 3/8 - 0' 5 1/2 cka
2-Shims 8 1/2 - 1/8 - 1' 0 1/2 - cbw } Bolt to ship
2- " 3 1/2 - 1/8 - 0' 7 - ckh } 3 Bolts 7/8ϕ - 1 3/4
2L cah
2L cab L R
1 PL ccy
1-Fill cbt
1-PL 7 - 5/8 - 0' 8 3/4 - cad
2L - 5 - 3 1/2 - 3/8 - 1' 2 3/4 - cwk L R
2L - 8 - 4 - 1/2 - 1' 0 1/4 - cbv L R
Also Items "A"

Items "A"

1 PL 16 um - 1/2 - 13' 8 3/4 - cwf L (F2E) Bent
1 Floor PL 19 3/8 - 3/8 - 13' 8 3/4 - cwg L (F2E) (Central Knobby)
8 L 6 - 3 1/2 - 3/8 - 0' 5 1/2 cb
2 L 8 - 4 - 1/2 - 1' 0 1/4 - cwh L R
2 8 H 31 - 2' 9 1/2 cf
1- 8 H 31 - 2' 9" - cg
1- 8 H 31 - 2' 9 1/4 - ch R
6-L 8 - 4 - 1/2 - 1' 0 1/4 - cbv L R
5-L 3 1/2 - 3 1/2 - 3/8 - 0' 10 1/4 - cah
1-L 3 1/2 - 3 1/2 - 3/8 - 0' 10 1/4 cbs
2-L 3 1/2 - 3 1/2 - 3/8 - 0' 11 7/8 - cab L
3L 3 1/2 - 3 1/2 - 3/8 - 0' 11 7/8 - cab R
1 PL 14 um - 3/8 - 1' 4 1/2 - chu (Temp)
1 PL 7 1/2 - 3/8 - 1' 3 1/4 - cop R (Bent)
2 PL 17 um - 3/8 - 0' 11 3/8 ccy (Temp)
1 PL 11 um - 3/8 - 1' 3 7/8 - cob (Temp)
8-Shims - 8 1/2 - 1/16 - 1' 0 1/4 - cwa } Bolt to Ship
4-Shims 8 1/2 - 1/8 - 1' 0 1/4 - cbw } 8 Bolts 7/8ϕ - 1 3/4
1-L 3 1/2 - 3 1/2 - 3/8 - 0' 11 7/8 - caf R
4 Fills 6 1/2 - 3/8 - 0' 5 3/8 - cbt (Temp)
4 Ship bolts - 3/4ϕ - 1 1/2 (For holes X)

1 PL 13 um - 3/8 - 1' 3 1/4 cas (Bent)
1 PL 13 um - 3/8 - 1' 1 1/2 - cda
1 PL 3 - 3/8 - 1' 1 1/2 cv
1 PL 7 1/2 - 3/8 - 1' 1 1/2 caa

Work this sheet with sheets T603 IJ & JJ
For General Notes see sheet T603AJ

Span E24	Span E25	Span E28	Span E29	Span E30	Span E31	Span E32	Total No.	Description	Mark	Remarks	Weight each Tons
1							1	WALKWAY	C4 R		
1							1	Do	C4 L	OFF HAND	
		1		1		1	3	Do	C13 R		
		1		1		1	3	Do	C13 L	OPP HAND	
	1		1		1		3	Do	C6 R		
	1		1		1		3	Do	C6 L	OPP HAND	

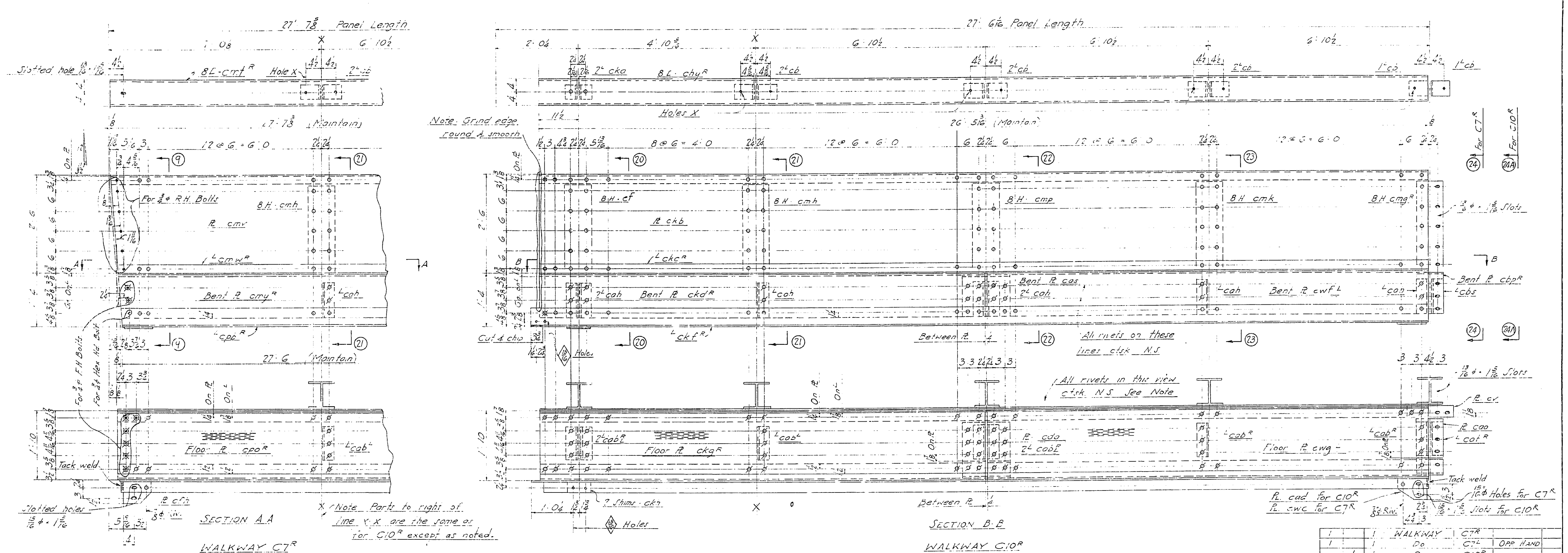
REQUIRED LIST

Date	Revision	App'd

APPROVED
Engineer of Design
Bridge Engineer
Chief Engineer
Date 2/18/35

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Mole Plate Girder Spans E23-33
McCLINTIC-MARSHALL CORPORATION
Alameda DRAWING ROOM Judson-Pacific WORKS
IN CHARGE T F B MADE BY R E B
CHECKED BY J TRACED BY D E G
LAST ASSEM. MK.
CONTRACT C715606 SHEET T 603 EJ

30-1



1		1	WALKWAY	C7R		
1		1	Do	C7L	OPP HAND	
	1	1	Do	C10R		
	1	1	Do	C10L	OPP HAND	
SPAN E26	SPAN E27	TOTAL No.	Description	Mark	Remarks	Weight each Tons

REQUIRED LIST

Material for One Walkway C7R

1- 8E 13.75 · 27' 7 3/8" - cm- R (FZE)
1- PL 30um · 5/16 · 27' 7 3/8" - cm- (FZE)
1- L 3 · 3 · 3/8 · 27' 6 9/16" cm- (FZE)
1- PL 16 um · 1/2 · 13' 9 1/2" - cmy (FZE) Bent
1- L 6 · 3 1/2 · 1/2 · 27' 6 1/4" - cpb R (F[illegible])
1- Floor PL 19 3/8 · 3/8 · 13' [illegible] · cpo R (FZE) (Central Knobby)
1- PL [illegible] · 5/8 · 0' 8 3/4" - c[illegible] (Temp)
1- PL [illegible] · 3/8 · 0' 8 3/4" - cwc (Temp)
[illegible] 2 1/2 · 3/8 · 1' 2 3/4" - [illegible] R
Also Items "A"

Material for One Walkway C10R

1- 8E 13.75 · 26' 5 3/16" - chy R (FZE)
1- PL 30um · 5/16 · 26' 5 3/16" ckb (FZE)
1- L 3 · 3 · 3/8 · 26' 5 3/16" - ckc R (FZE)
1- PL 16 u · 1/2 · 12' 8 3/16" - ckd R (FZE)
1- L 6 · 3 1/2 · 1/2 · 26' 7 11/16" - ckf R (FZE)
1- Floor PL 19 3/8 · 3/8 · 12' 8 3/16" · ckg R (FZE) (Central Knobby)
1- 8 H31 · 2' 9 1/2" - cf
2- [illegible] · 3 1/2 · 3/8 · 0' 5 1/2" - cka
2- Shims 8 1/2 · 1/8 · 1' 0 1/4" · cbw
2- " 3 1/2 · 1/8 · 0' 7" - ckh

Bolt to ship: 3 Bolts 7/8 ϕ × 1 3/4

2 L coh
2 L cab R
1 PL ccy
[illegible] F. cot
1- PL 7 · 3/8 · 0' 8 3/4" - cad
2 L 5 · 3 1/2 · 3/8 · 1' 2 3/4" - cwk R L
2 L 8 · 4 · 1/2 · 1' 0 1/4" - cbv R L
Also Items "A"

Items "A"

1- PL 16 um · 1/2 · 13' 8 3/4" - cwf L (FZE)
1- Floor PL 19 3/8 · 3/8 · 13' 8 3/4" - cwg L (FZE) (Central Knobby)
8 L 6 · 3 1/2 · 3/8 · 0' 5 1/2" - cb
2 L 8 · 4 · 1/2 · 1' 0 1/4" - cwh R L
1- 8 H31 · 2' 9 3/4" - cmh
1- 8 H31 · 2' 10" - cmp
1- 8 H31 · 2' 9 1/2" - cmk
1- 8 H31 · 2' 9 3/4" - cmg R
6 L 8 · 4 · 1/2 · 1' 0 1/4" - cbv R L
5 L 3 1/2 · 3 1/2 · 3/8 · 0' 10 1/4" coh
1 L 3 1/2 · 3 1/2 · 3/8 · 0' 10 1/4" cbs
3 L 3 1/2 · 3 1/2 · 3/8 · 0' 11 7/8" - cab R
2 L 3 1/2 · 3 1/2 · 3/8 · 0' 11 7/8" - cab L
1 L 3 1/2 · 3 1/2 · 3/8 · 0' 11 7/8" - cot R
1- PL 13 um 3/8 · 1' 3 1/4" - cas (Bent R L)
1- PL 14 um · 3/8 · 1' 4 1/2" cby (Temp)
1- PL 13 um · 3/8 · 1' 1 1/2" cdo
1- PL 3 · 3/8 · 1' 1 1/2" cv
1- PL 7 1/2 · 3/8 · 1' 1 1/2" - caa
1- PL 7 1/2 · 3/8 · 1' 3 1/4" · cbp R (Bent)
2 PL 17 um · 3/8 · 0' 11 3/8" ccy (Temp)
1- PL 11 um · 3/8 · 1' 3 7/8" cdb (Temp)
8- Shims · 8 1/2 × 1/16 × 1' 0 1/4" · cwa
4- Fills 6 1/2 · 3/8 · 0' 5 3/8" cbr (Temp)
4- Shim 8 1/2 · 1/8 · 1' 0 1/4" · cow
(Bolt to ship) - 8 Bolts 7/8 ϕ · 1 3/4
4- Ship bolts 3/4 ϕ × 1 1/2 (For holes X)

Work this sheet with sheets T603-W.A.J.J.
For General Notes See sheet T603 A.J.

Date	Revision	App'd

APPROVED

Engineer of Design
Bridge Engineer
Chief Engineer
Date 2/18/35

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
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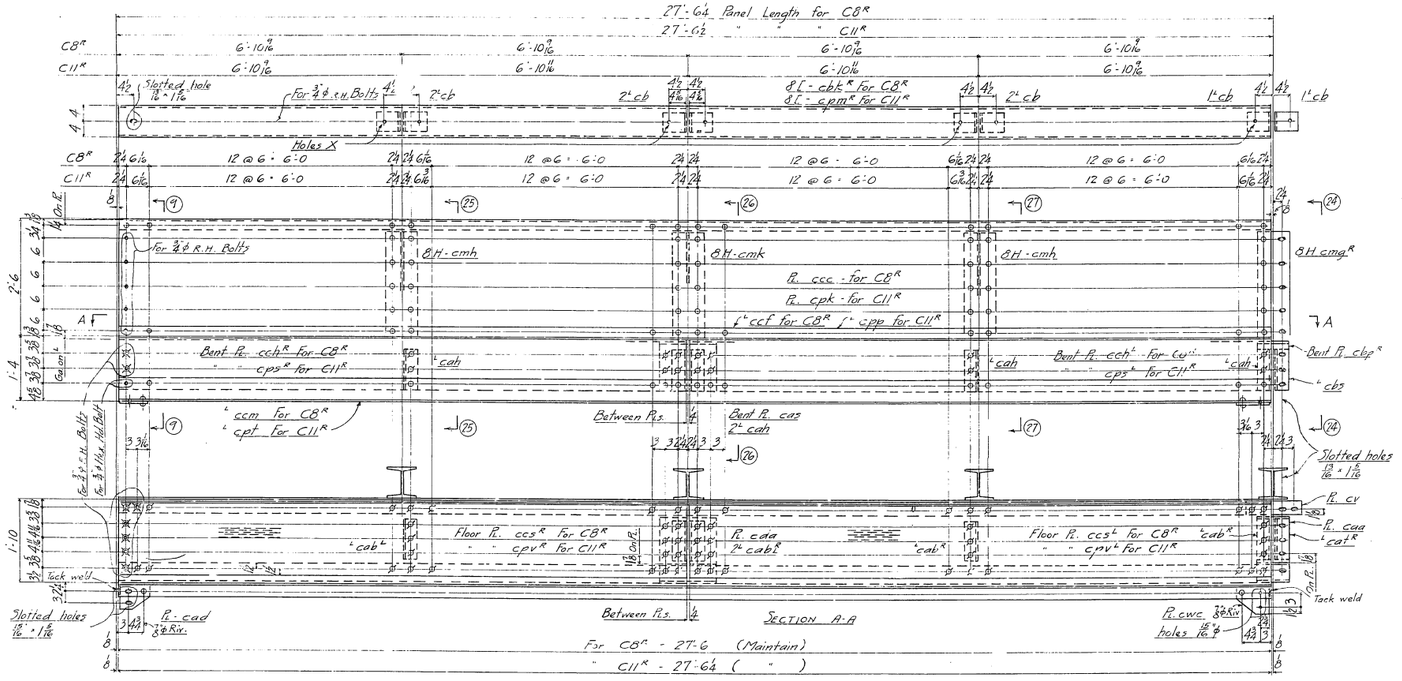
McCLINTIC-MARSHALL CORPORATION

Alameda DRAW ROOM Judson Pacific WORKS
IN CHARGE T.F.B. MADE BY R.E.B.
CHECKED BY J. TRACED BY D.F.G.
LAST ASSEM. MK.

CONTRACT CT15806 SHEET T 603 EJ



WALKWAYS - C8R AND C11R

Work this sheet with sheets TG03-IJ & JJ
For General Notes see sheet TG03 AJ

1		1	WALKWAYS	C8R		
1		1	Do.	C8L	One Hand	
1	1	1	Do.	C11R		
	1	1	Do.	C11L	One Hand	
Shop Edit	EPT	Total No.	Description	Mark	Remarks	Weight each Item

REQUIRED LIST

Material for One Walkway C8R

1-PL 13.75 x 27'-6 - cbkR (FZE)
1-PL 30um x 1/2 x 27'-6 - ccc (FZE)
1-L 3 x 3 x 3/8 x 27'-6 - ccf (FZE)
2-PL 16um x 1/2 x 13'-8 3/8 - cchR (FZE)
1-L 6 x 3½ x ½ x 27'-6 - ccm (FZE)
2-Floor Pl. 17 7/8 x 3/8 x 13'-3 3/8 - ccs R (FZE) (Central Knobby)
Also Items "A"

Material for One Walkway C11R

1-BEL 75 x 27'-6¼ - cpiR (FZE)
1-PL 30um 1/2 x 27'-6¼ - cpk (FZE)
1-L 3 x 3 x 3/8 x 27'-6¼ - cpp (FZE)
2-PL 16um x ½ x 13'-9 - cpsR (FZE) Bent
1-L 6 x 3½ x ½ x 27'-6¼ - cpt (FZE)
2-Floor Pl. 17 7/8 x 3/8 x 13'-9 - cpvR (FZE) (Central Knobby)
Also Items "A"

Items "A"

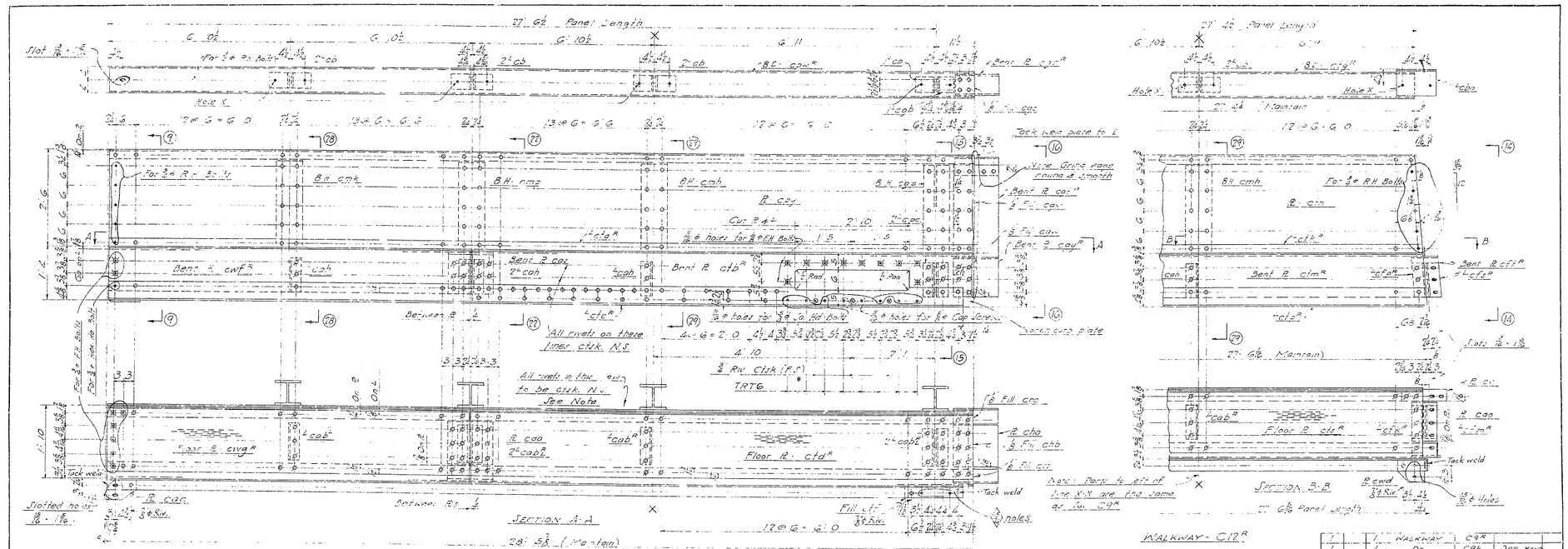
8-L 6 x 3½ x 3/8 x 0'-5½ - cb
2-BH 31 x 2'-9 3/8 - cmh
1-BH 31 x 2'-9 1/2 - cmk
1-BL 11 3/4 x 2'-9 3/8 - cmgR
6-L 8 x 4 x ½ x 1'-0¼ - chvL
5-L 3½ x 3½ x 5/16 x 0'-10¼ - cah
1-L 3½ x 3½ x 5/16 x 0'-10¼ - cbs
3-L 3½ x 3½ x 5/16 x 0'-11⅛ - cabR
2-L 3½ x 3½ x 5/16 x 0'-11⅛ - cabL
1-L 3½ x 3½ x 5/16 x 0'-11⅛ - catR
1-PL 13um x 5/16 x 1'-1⅞ - cda
1-PL 13um x 5/16 x 1'-3¼ - cas (Bent)
1-PL 7½ x 5/16 x 1'-1⅞ - caa

1-PL 7 x 5/16 x 0'-8 3/16 - cwc (Temp)
2-L 8 x 4 x ½ x 1'-0¼ - cwhL
1-PL 7½ x 5/16 x 1'-3¼ - cbpR (Bent)
1-PL 3 x 5/16 x 1'-1½ - cv
1-PL 7 x 5/16 x 0'-8 3/16 - cad (Temp)
2-PL 17um x 5/16 x 0'-11⅜ - ccy (Temp)
1-PL 11um x 5/16 x 1'-3⅜ - cdb (Temp)
1-PL 14um x 5/16 x 1'-4½ - cby (Temp)
2-L 5 x 3½ x 5/16 x 1'-2¾ - ccaL
4-Fills 6½ x 5/16 x 0'-5⅜ - cbt (Temp)
1-Shim - 8½ x ½ x 1'-0¼ - cbw } Bolt to Ship
2-Shims - 8½ x 1/16 x 1'-0¼ - cwa } 2 Bolts - 3/4 x 1¾
4-Shipping bolts - 3/4 x 1½ (For holes X)

Date	Revision	App'd
	APPROVED	
		Engineer of Design
		Bridge Engineer
		Chief Engineer
	Date 2/18/35	

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Mole Plate Girder Spans
McCLINTIC-MARSHALL CORPORATION
Pittsburgh and Los Angeles
IN CHARGE F.F.B. ROOM 40 MADE BY A.F.B.
CHECKED BY J. TRACED BY G.K.
LAST ASSEM. MK. WORKS

CONTRACT CT16306 SHEET TG03 J-2


27' 6½" Panel Length
Slot ⅞" · 1⅜"
For ¾ø A.B. Bolts
Hole X
Bn cmk
Bent 2 cwf R
Bent 2 cah
Bent 2 cay
Bent R ctb R
Bent R cay
Cut 2 ¼"
1" cfc R
⅞ø holes for ¾ø FH Bolts
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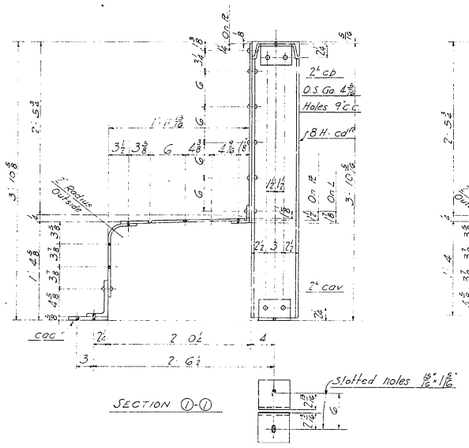
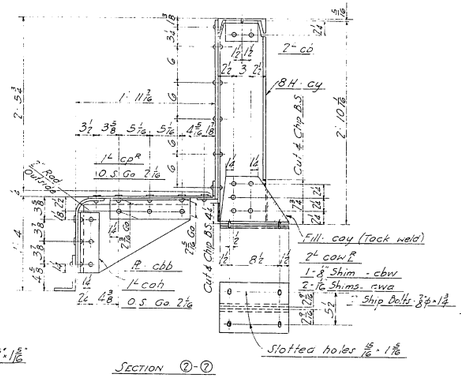
Bent R eyd R
Bent R eye R
Bent R eyf R
Bent R eyg R
Bent R eyh R
Bent R eyi R
Bent R eyj R
Bent R eyk R
Bent R eyl R
Bent R e



SECTION ①-①



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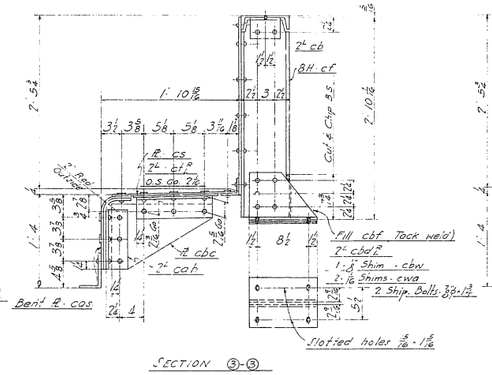

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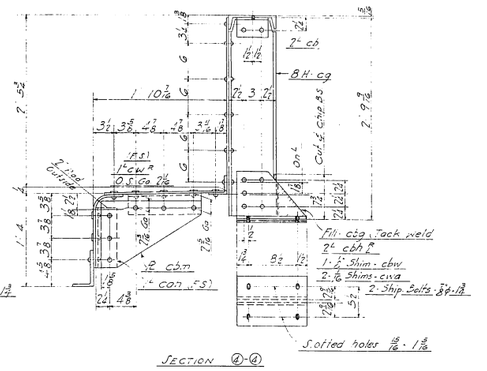

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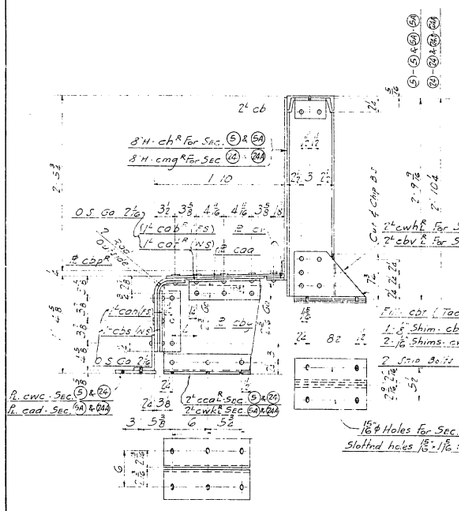
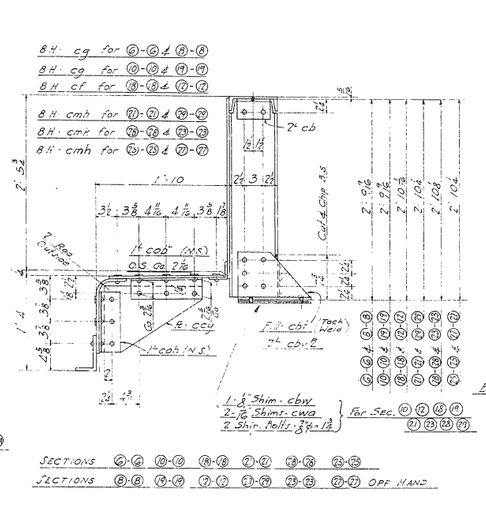
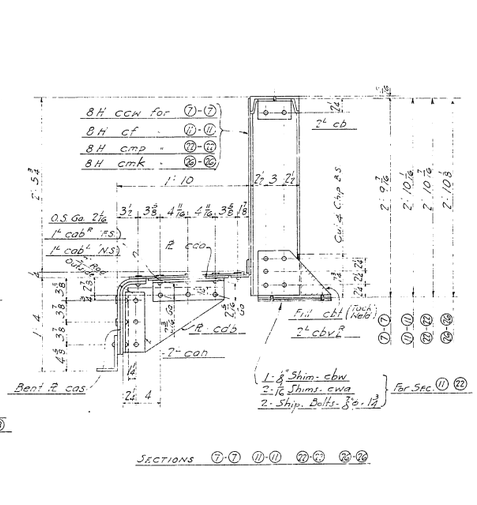


SECTIONS ⑤-⑤ ⑫-⑫ ⑤A-⑤A ⑭A-⑭A



SECTIONS ②-② ⑩-⑩ ⑱-⑱ ⑦-⑦ ㉓-㉓ ㉗-㉗

SECTIONS ⑧-⑧ ⑰-⑰ ②-② ㉑-㉑ ㉕-㉕ DPF HAND



SECTIONS ⑦-⑦ ⑪-⑪ ㉒-㉒ ㉖-㉖

Work this sheet with sheets TG03 A.J to J.J
For General Notes see sheet "TG03 A.J"

REQUIRED LIST

No.	Description	Mark	Remarks	Weight each Sect.

APPROVED

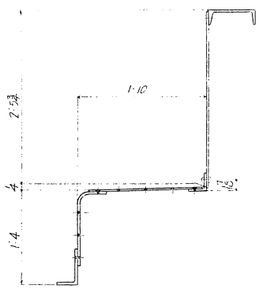
Engineer-in-Charge

Date 2/18/35

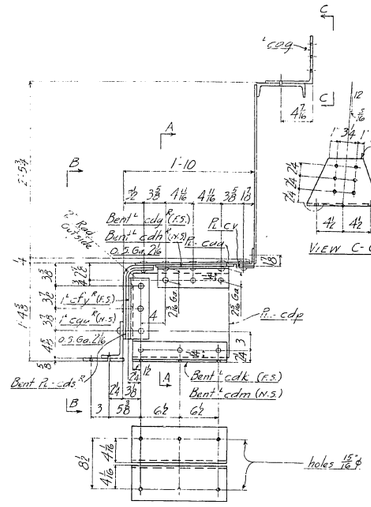
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Mole Plate Girder Spans
McCLINTIC-MARSHALL CORPORATION
Alameda DRAWING ROOM Lusson Pacific WORKS

IN CHARGE	T.F.B	MADE BY	R.E.S
CHECKED BY	J	TRACED BY	D.F.G
LAST ASSEM. MK.			

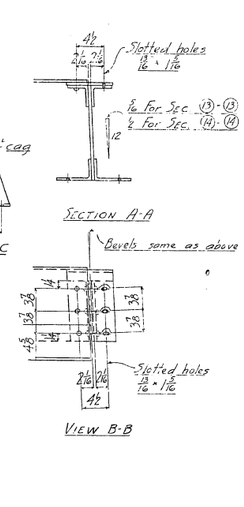
CONTRACT CT15806 SHEET T 603 AJ

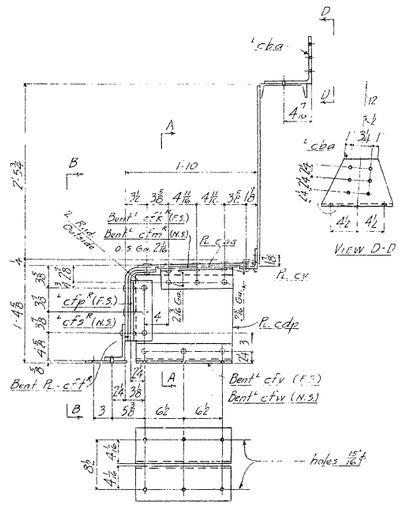


SECTION ⑨ - ⑨

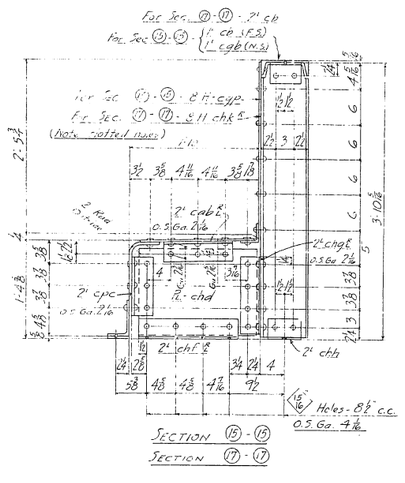


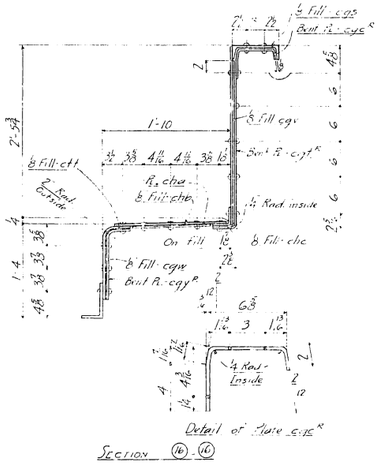
SECTION ③ - ⑬



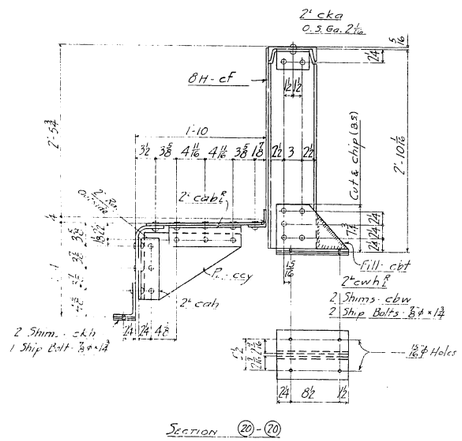


SECTION ⑭ - ⑭

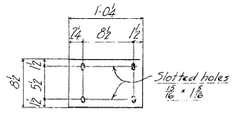




SECTION ⑯ - ⑯



SECTION ⑳ - ⑳



Work this sheet with sheets T603AJ to T603AT
For General Notes see sheet T603AJ

14 SPANS E23	14 E24	14 E25	14 E26	14 E27	14 E28	14 E29	14 E30	14 E31	14 E32	140 Total No.	SHIMS Description	M1 Steel	Weight

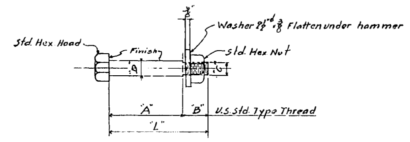
REQUIRED LIST

APPROVED
Date 2/18/35

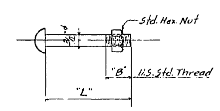
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
Male Plate Girder Spans
McCLINTIC-MARSHALL CORPORATION

DRAWING JOM SHEET WORKS
IN CHARGE T.F.B
CHECKED BY J
LAST ASSEM. MK.
MADE BY C.E.B
TRACED BY C.K

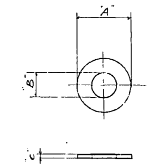
CONTRACT C715806 SHEET T603 J-T



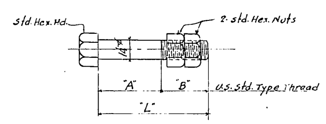
Mark	Description	Dia. "D"	"A"	Lgth "L"	Thrd "B"	Size hole in washer	Where Used	"C"	Wt. Ea.
CB1	Coup. Bolts	1 1/32	5 1/2	7	1 1/2	1 1/8"⌀	Truss Shoes BS1E	1"	
CB2	do	1 1/32	5 3/8	6 3/4	1 3/8	1 1/8"⌀	do	1"	[illegible]
CB3	do	1 1/32	4 3/4	6 1/4	1 1/2	1 1/8"⌀	Truss Shoes BS2E, BS3E, BS4E, BS5E	1"	[illegible]
CB4	do	1 1/32	4 5/8	6	1 3/8	1 1/8"⌀	Truss Shoes BS1E BS2E, BS3E, BS4E, BS5E	1"	[illegible]
CB5	do	1 1/32	3 7/8	5 1/4	1 3/8	1 1/8"⌀	do	1"	
CB6	do	29/32	1 5/8	3	1 3/8	1"⌀	18"⊏s to FB42, FB43 50'-0 Span	7/8"	[illegible]
CB7	do	29/32	1 1/4	2 1/2	1 1/4	1"⌀	do	7/8"	[illegible]



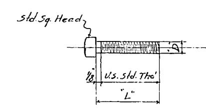
Mark	Description	Lgth. "L"	Min. "B"	Where used	Wt. ea.
MB6	Round Head Bolts	2	1 1/2	Railing, Walkways & Skid Girders	[illegible]
MB7	do	2 1/4	1 1/2	Walkways & Skid Girders	[illegible]
MB8	do	2 1/2	1 1/2	Railing, Walkways & Skid Girders	[illegible]
MB9	do	2 3/4	1 1/2	Railing & Walkways	[illegible]
MB10	do	3	1 1/2	do	[illegible]
MB11	do	3 1/4	1 1/2	Railing	[illegible]
MB12	do	3 1/2	1 1/2	Walkways	[illegible]



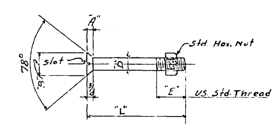
Mark	Description	"A"	"B"	"C"	Where used	Wt. Ea.
W1	Washer	2 1/8	13/16	1/4	Walkways, Railing & Skid Girders	[illegible]
W2	do	2 1/8	15/16	1/4	Walkways	[illegible]



Mark	Description	"A"	Lgth "L"	Thrd. "B"	Where used	Wt Ea.
GB1	Lock Bolts	3 3/4	6 3/4	3	S160 & S161 to Floor Beam 50'-0 Span	[illegible]
GB2	do	4	7	3	S154, S155, S158 to Floor Beam 50'-0 Span	[illegible]
GB3	do	4 1/8	7 1/4	3 1/8	S154, S155, S158, S159 [illegible] to Floor Beam 50'-0 Span	[illegible]



Mark	Description	Dia. "D"	Lgth. "L"	Threads per inch	Where used	Wt. Ea.
MB13	Tap Bolts	5/8	2 3/8	11	DB1 & AG1 to Walkways	[illegible]
MB14	do	3/4	2 5/8	10	Pipe connection to DB1	[illegible]



Mark	Description	Dia. "D"	Lgth "L"	A	B	Min. "E"	Where Used	Wt. Ea.
MB1	Flat head Bolts	5/8	2 1/2	3/8	1 3/16	1 1/4"	DB1 & AG1 to Walkways	.30
MB2	do	3/4	2	3/8	1 5/16	1 1/2"	Walkways & Skid. Girs.	[illegible]
MB3	do	3/4	2 1/4	3/8	1 5/16	1 1/2"	Walkways	.43
MB4	do	3/4	2 1/2	3/8	1 5/16	1 1/2"	do.	[illegible]
MB5	do	3/4	2 3/4	3/8	1 5/16	1 1/2"	do.	[illegible]

SPAN E4	SPAN E5	SPAN E6	SPAN E7	SPAN E8	50'-0 SPAN	Total No. Required	Total No. Furnished	Description	Mark	Remarks	Weight Ea. Tons
354	372	372	372	363		1833	1925	Washers	W2		
733	733	733	733	733	65	3730	3915	do	W1		
64	64	80	64	80		352	370	Tap Bolts	MB14		
16	16	20	16	20		88	95	do	MB13		
					2	2	5	Round Head Bolts	MB12		
52	52	52	52	52		260	275	do	MB11		
2	2	2	2	2	5	15	20	do	MB10		
37	37	37	37	37		185	195	do	MB9		
583	583	583	583	583	66	2981	3130	do	MB8		
122	122	122	122	122	6	616	645	do	MB7		
110	110	110	110	110	19	569	600	do	MB6		
					5	5	8	Slot Head Bolts	MB5		
100	100	100	100	100	7	507	535	do	MB4		
126	126	126	126	126	1	631	665	do	MB3		
53	53	53	53	53	3	268	280	do	MB2		
80	80	100	80	100		440	460	do	MB1		
					16	16	20	Lock Bolts	GB3		
					6	6	8	do	GB2		
					8	8	10	do	GB1		
					15	15	20	Coupling Bolts	CB7		
					173	173	180	do	CB6		
	8	8	8	8		32	35	do	CB5		
4	16	16	16	16		68	72	do	CB4		
	64	64	64	64		256	270	do	CB3		
8						8	10	do	CB2		
40						40	44	do	CB1		
REQUIRED BY SPANS							REQUIRED LIST				

Material: All material to be carbon steel, copper bearing.
Specifications: Special by State of California, Department of Public Works.
Inspection: By John M. Bailey.
Paint: None.

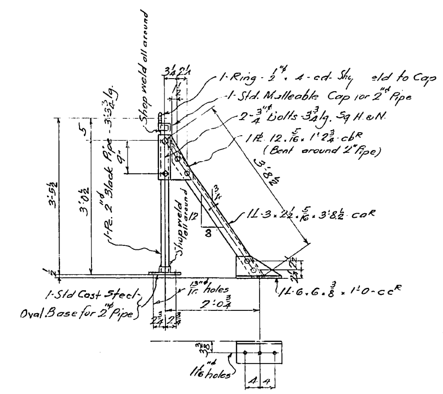
Note:
Samples of flat head bolts to be furnished Judson Pacific Co. for use in providing proper countersunk holes in walkways and skid girders.

Date	Revision	App'd

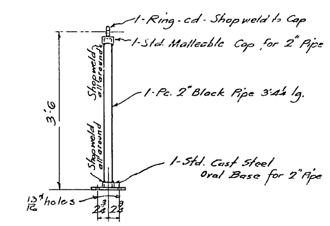
APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date: 8-24-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING

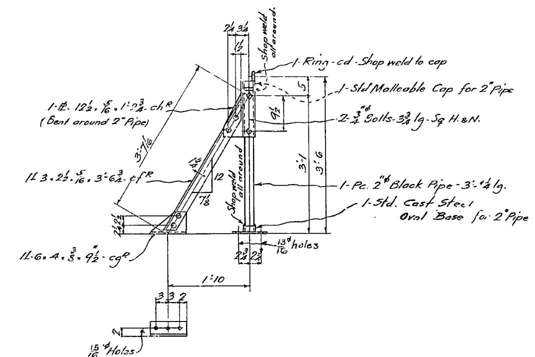
Special Field Bolts + Washers - 504' Spans.
McCLINTIC-MARSHALL CORPORATION
[illegible] DRAWING ROOM Alameda WORKS
IN CHARGE C.W.D. — MADE BY K.C.A.
CHECKED BY H.W.D. 9/17/34. — TRACED BY J.C.W.
LAST ASSEM. MK.
CONTRACT CT 1580-10 — SHEET 826
Rev. 11/22/34



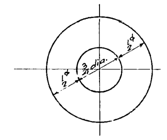
RAILING POST - RP1R



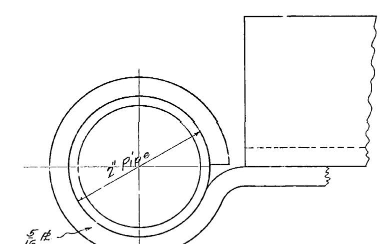
RAILING POST - RP2



RAILING POST - RP3R



FULL SIZE DETAIL OF RING - cd



FULL SIZE DETAIL OF PL. BENT AROUND 2" PIPE

No.	Description	Mark	Remarks	Weight each Tons
10	RAILING POSTS	RP1R	As Shown	
10	" "	RP1L	Opp Hand	
170	" "	RP2		
5	" "	RP3R	As Shown	
5	" "	RP3L	Opp. Hand	

REQUIRED LIST

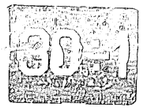
MATERIAL: All structural steel to be copper bearing. Assembly marks for carbon steel prefixed with c, thus: ca, cb, etc.; for silicon steel with s, thus: sa, sb, etc.
SPECIFICATIONS: Special by State of California, Department of Public Works
INSPECTION: by John M. Bailey.
RIVETS: 3/4" ϕ
OPEN HOLES: As noted
PUNCHING: Holes in material ¾" thick or less used for stringer laterals, stay plates, lacing, and diaphragms may be punched full size. Holes in main material ¾" thick or less to be sub-punched ¼" and reamed to size after assembly.
DRILLING: Holes in material over ¾" thick to be sub-drilled ⅛" and reamed after assembly, or drilled from the solid, while assembled.
FINISH: All sheared or flame cut edges and ends of material to have a neat appearance and where indicated are to be planed so as to remove at least ⅛" of metal.
MATCH MARKING: All match marking to be made with both steel stencils and paint.
SHOP PAINT: None except 1 coat No-Ox-Id Filler Red for base and cap of top of Towers, of Bents, and of built up shoes, and 1 coat "Acid Resisting Liquid" to milled ends of members, to machined surfaces of castings, and to inside surfaces of bolted splice plates (or angles) and surfaces of main material in contact therewith; also to projecting portions of splice plates (or angles) which are shop riveted to main material and are not fully accessible for sand blasting.

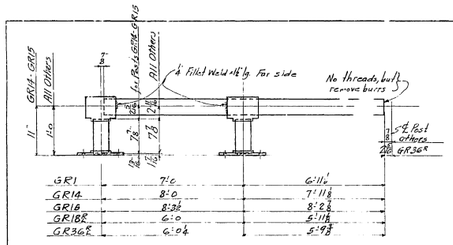
Date	Revision	App'd
8-14-34	Bases changed from Cast Iron to Cast Steel.	8/20/34

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date. 6-27-34

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE EAST BAY CROSSING
504'-0 SPAN
RAILING POSTS AT TOP OF TRUSSES.
McCLINTIC-MARSHALL CORPORATION
Pottstown DRAWING ROOM Alameda WORKS
IN CHARGE - C.W.D.
CHECKED BY Webb 6-7-34
EAST ASSEM. MK.
MADE BY - H.M.
TRACED BY C.K.
CONTRACT CT-1580-10
SHEET J1001





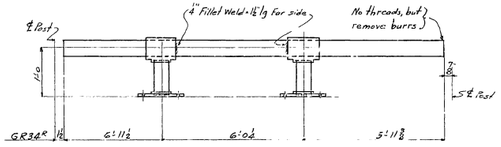
GR1	7'-0	6'-11⅛"
GR14	8'-0	7'-11⅛
GR16	8'-3½	8'-2⅜
GR18R	6'-0	5'-11⅛
GR36R	6'-0¼	5'-7⅜

Hand Rails - GR1 - GR14 - GR15 - GR18R - GR36R

1-pc 4"ϕ Extra strong Pipe × { 18'-10⅛ - GR1 / 15'-10⅛ - GR14 / 16'-5⅜ - GR16 / 11'-10⅛ - GR18R / 11'-8⅜ - GR36R }

2 pcs 4"ϕ Extra strong Pipe × 7'8"

2 - Bases - A 2 - Tees - B



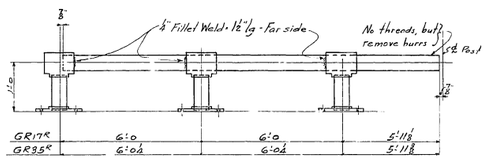
	6'-1½	6'-0¼
		5'-11⅜

Hand Rails GR34R

1-Pc. 4"ϕ Extra Strong Pipe × 18'-11⅜ GR34

2-Pcs-4"ϕ Extra Strong Pipe × 7'8"

2-Bases-A 2-Tees-B



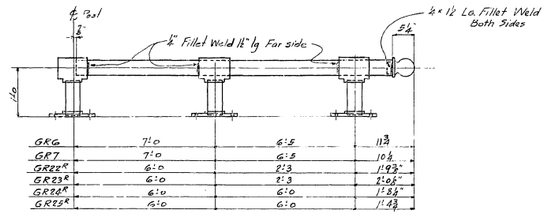
GR17R	6'-0	6'-0	5'-11⅜
GR35R	6'-0¼	6'-0¼	5'-11⅜

Hand Rails - GR17R - GR35R

1-Pc. 4"ϕ Extra strong Pipe × { 17'-10⅛ - GR17R / 17'-11 - GR35R }

3-Pcs. 4"ϕ Extra strong Pipe × 7'8"

3 Bases-A 3-Tees-B



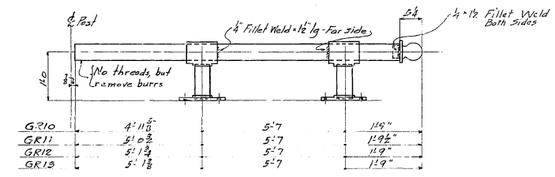
GRG	7'-0	6'-5	11¾
GR7	7'-0	6'-5	10⅛
GR22R	6'-0	2'-3	11'-9⅞"
GR23R	6'-0	2'-3	2'-0½"
GR24R	6'-0	6'-0	11'-8⅜"
GR25R	6'-0	6'-0	11'-4⅞

Hand Rails - GRG - GR7 - GR22R - GR23R - GR24R - GR25R

1-Pc. 4"ϕ Extra strong Pipe × { 13'-10⅜ - GRG / 13'-9⅞ - GR7 / 9'-6⅛ - GR22R / 9'-9 - GR23R / 13'-2⅛ - GR24R / 12'-10⅜ - GR25R }

3 Pcs. 4"ϕ Extra strong Pipe × 7'8"

3-Bases-A 3-Tees-B 1-Ball Cap - C



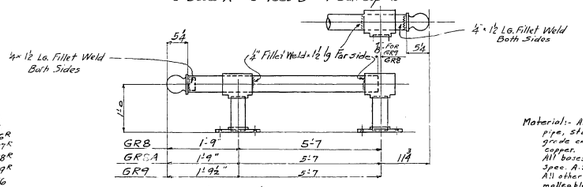
GR10	4'-11⅜"	5'-7	1.19"
GR11	5'-0⅜	5'-7	1.19"
GR12	5'-1⅞	5'-7	1.19"
GR13	5'-1⅞	5'-7	1.19"

Hand Rails - GR10 - GR11 - GR12 - GR13

1-Pc. 4"ϕ Extra Strong Pipe × { 11'-10⅜ - GR10 / 12'-0 - GR11 / 12'-0⅛ - GR12 / 12'-0⅜ - GR13 }

2-Pcs-4"ϕ Extra Strong Pipe × 7'8"

2-Bases-A 2-Tees-B 1-Ball Cap-C



GR8	1'-9	5'-7	
GR9A	1'-9"	5'-7	1¾
GR9	1'-9½"	5'-7	

Hand Rail - GR8 - GR9 - GR8A

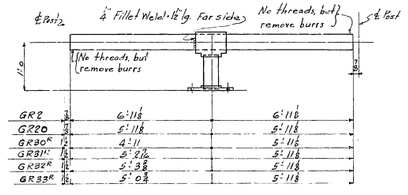
1-Pc - 4"ϕ Extra strong Pipe × { 6'-9⅞ - GR8 / 7'-5⅛ - GR8A / 6'-10⅜ - GR9 }

2-Pcs-4"ϕ Extra Strong Pipe × 7'8"

2-Bases-A 2-Tees-B 1-Ball Cap - C - FOR GR9

2 - " - C - " GR8A

1 " " C - " GR8



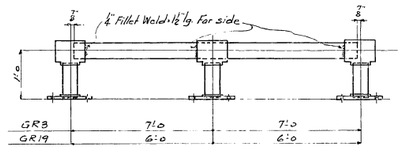
GR2	7/8	6'-11⅛	6'-11⅛
GR20	7/8	5'-11⅛	5'-11⅛
GR30R	1½	4'-11	5'-11⅛
GR31R	1½	5'-2⅛	5'-11⅛
GR32R	1½	5'-3⅜	5'-11⅛
GR33R	1½	5'-0⅜	5'-11⅛

Hand Rails GR2 - GR20 - GR30R - GR31R - GR32R - GR33R

1-Pc-4"ϕ Extra Strong Pipe × { 13'-10⅛ - GR2 / 11'-10⅛ - GR20 / 10'-10½ - GR30R / 11'-1⅞ - GR31R / 11'-2½ - GR32R / 10'-11⅞ - GR33R }

1-Pc-4"ϕ Extra Strong Pipe × 7'8"

1-Base-A 1-Tee-B



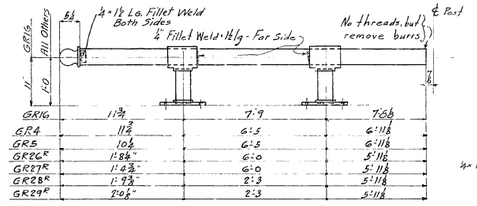
GR3	7'-0	7'-0
GR19	6'-0	6'-0

Hand Rails - GR3 - GR19

1-Pc. 4"ϕ Extra Strong Pipe - { 13'-10⅛ - GR3 / 11'-10⅛ - GR19 }

3-Pcs. 4"ϕ Extra Strong Pipe × 7'8"

3-Bases-A 3-Tees-B



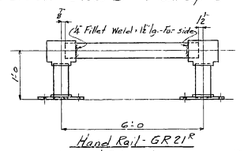
GR16	1'-3¼	7'-9	7'-6⅛
GR4	11⅞	6'-5	6'-11⅛
GR5	10⅛	6'-5	6'-11⅛
GR26R	1'-8⅜"	6'-0	5'-11⅛
GR27R	11'-8⅜"	6'-0	5'-11⅛
GR28R	1'-9⅞"	2'-3	5'-11⅛
GR29R	2'-0⅛"	2'-3	5'-11⅛

Hand Rails - GR4 - GR5 - GR26R - GR27R - GR28R - GR29R - GR16

1-Pc. 4"ϕ Extra strong Pipe × { 13'-10⅜ - GR4 / 13'-9⅞ - GR5 / 13'-2⅜ - GR26R / 12'-10⅜ - GR27R / 9'-9 - GR28R / 13'-11⅞ - GR16 }

2-Pcs-4"ϕ Extra strong Pipe × 7'8"

2-Base-A 2-Tees-B 1-Ball Cap-C



Hand Rail - GR21R

1-Pc. 4"ϕ Extra Strong Pipe × 5'-9⅞

2-Pcs. 4"ϕ Extra Strong Pipe - 7'8"

2-Bases-A 2-Tees-B

4	Hand Rails	GRG		
One		GR7		
4		GR22R	As shown	
1		GR22L	Opp. hand	
One		GR23R	As shown	
One		GR23L	Opp. hand	
4		GR24R	As shown	
4		GR24L	Opp. hand	
One		GR25R	As shown	
One		GR25L	Opp. hand	
3		GR8		
One		GR9		
5		GR1R	As shown	
5		GR1L	Opp. hand	
150		GR1		
One		GR14		
One		GR15		
80		GR18R	As shown	
80		GR18L	Opp. hand	
One		GR36R	As shown	
one		GR36L	Opp. hand	
5		GR2		
10		GR20		
One		GR30R	As shown	
One		GR30L	Opp. hand	
One		GR31R	As shown	
One		GR31L	Opp. hand	
One		GR32R	As shown	
One		GR32L	Opp. hand	
One		GR33R	As shown	
One		GR33L	Opp. hand	
5		GR3		
10		GR19		
One		GR16		
One		GR34R	As shown	
One		GR34L	Opp. hand	
60		GR17R	As shown	
60		GR17L	Opp. hand	
One		GR35R	As shown	
One		GR35L	Opp. hand	
2		GR4		
One		GR5		
4		GR26R	As shown	
4		GR26L	Opp. hand	
One		GR27R	As shown	
One		GR27L	Opp. hand	
8		GR28R	As shown	
4		GR28L	Opp. hand	
One		GR29R	As shown	
One		GR29L	Opp. hand	
One		GR10		
One		GR11		
One		GR12		
One		GR13		
One		GR8A		
No.	Description	Mark	Remarks	Weight each Piece

REQUIRED LIST

Material:- All pipe to be Black Steel pipe, Standard Commercial grade except to contain 80% copper. All bases to be cast iron Spec. A.S.T.M. - A48. All other pipe fittings to be malleable iron, standard commercial grade.

Threading:- All posts to be threaded into bases and top fittings.

Rails to posts are not threaded. Weld as shown.

Shop Notes:- All erection marks to be painted on left handends of railings as detailed. All railings to be straight and true, and heights shown are to be accurately maintained.

Inspection:- By John M. Bailey

Shop Paint:- None.

Date	Revision	Appd
	APPROVED	

Engineer of Design

Asst. Engineer

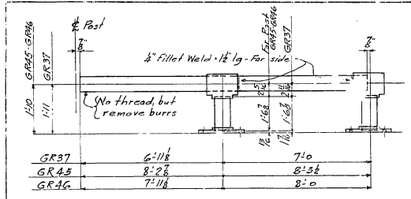
Chief Engineer

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
SUPERSTRUCTURE-EAST BAY CROSSING
504'-0" Spans
Walkway Railing
CLINTON-MARSHALL CORPORATION
Isleton DRAWING DEPT. Alameda WORKS

IN CHARGE E. W. D. CODE BY L. A. H.
CHECKED BY D. Vidal TRACED BY L. K. L.
ST. ASSIST. ENGR.

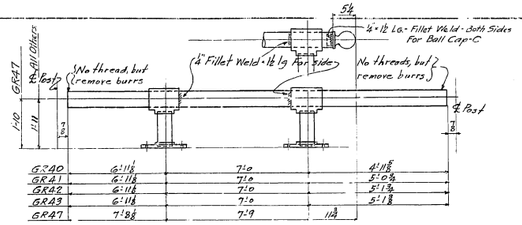
CONTRACT CTI-10 J1002 SHEET AB

Rev 12-13-34
1-16-35 Alameda Dock Revs.
2-25-35



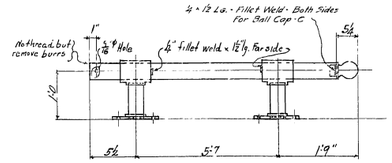
Hand Rails - GR37 - GR45 - GR46

1 - Pc. 4" ℄ Extra Strong Pipe { 18'-10¼ - GR37 / 16'-5½ - GR45 / 15'-10⅛ - GR46
2 - Pcs. - 4" ℄ Extra Strong Pipe × 1'-6⅞
2 - Bases - A 2 - Tees - B



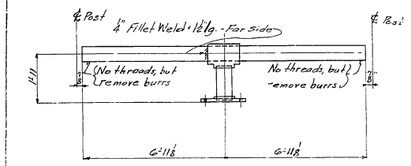
Hand Rails - GR40 - GR41 - GR42 - GR43 - GR47

1 - Pc. - 4" ℄ Extra Strong Pipe × { 18'-10¾ - GR40 / 18'-11⅞ - GR41 / 19'-0⅞ - GR42 / 19'-1⅞ - GR43 / 15'-11⅜ - GR47
2 - Pcs 4½ Extra Strong Pipe × 1'-6⅞
2 - Bases - A 2 - Tees - B
1 - Ball Cap - C for GR47



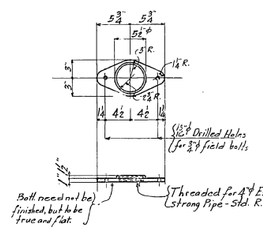
Hand Rail - GR48

1 - Pc. 4" ℄ Extra strong Pipe × 7'-4½"
2 - Pcs. 4" ℄ do do × 7⅞
2 - Bases - A - 2 Tees B - 1 Ball Cap - C

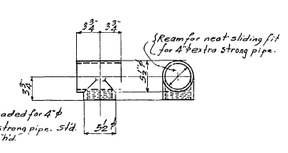


Hand Rail - GR39

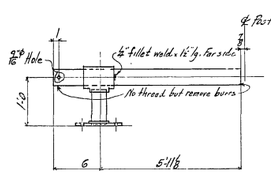
1 - Pc. - 4½" ℄ Extra Strong Pipe × 13'-10½"
1 - Pc. 4" ℄ do do do × 1'-6⅞"
1 - Base - A 1 - Tee - B



Detail of Base "A" Cast Iron

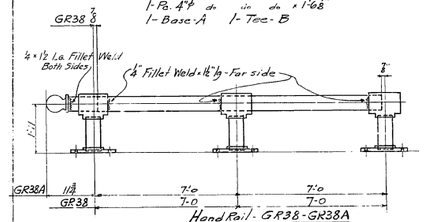


Detail of Toe "B" for 4" ℄ Extra Strong Pipe
Malleable Iron



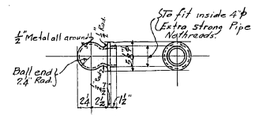
Hand Rail - GR49R

1 - Pc. 4" ℄ Extra strong Pipe × 6'-5½
1 - Pc. 4" ℄ do do do × 7⅛
1 - Base A 1 - Tee B

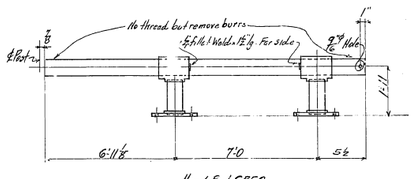


Hand Rail - GR38 - GR38A

1 - Pc. 4 ½ Extra Strong Pipe { 13'-10¼ - GR38 / 14'-5⅝ - GR38A
3 - Pcs 4" ℄ do do do × 1'-6⅞"
3 - Bases A 3 - Tees - B
1 - Ball Cap - C for GR38A



Detail of Ball Ornament Cap "C"
Malleable Iron.



Hand Rail GR50

1 - Pc. 4" ℄ extra strong Pipe × 11'-4⅜" 2 - Bases A
2 - Pc. 4" ℄ do do do × 1'-6⅞ 2 - Tees - B

One	Hand Rail	GR38A	
One	Hand Rail	GR48	
One	do	GR49R	
One	do	GR49L	opp Hand
One	do	GR50	
160	Hand Rails	GR37	
One		GR45	
One		GR46	
5		GR39	
one		GR40	
One		GR41	
one		GR42	
one		GR43	
one		GR47	
9		GR38	

No. | Description | Date | Approved

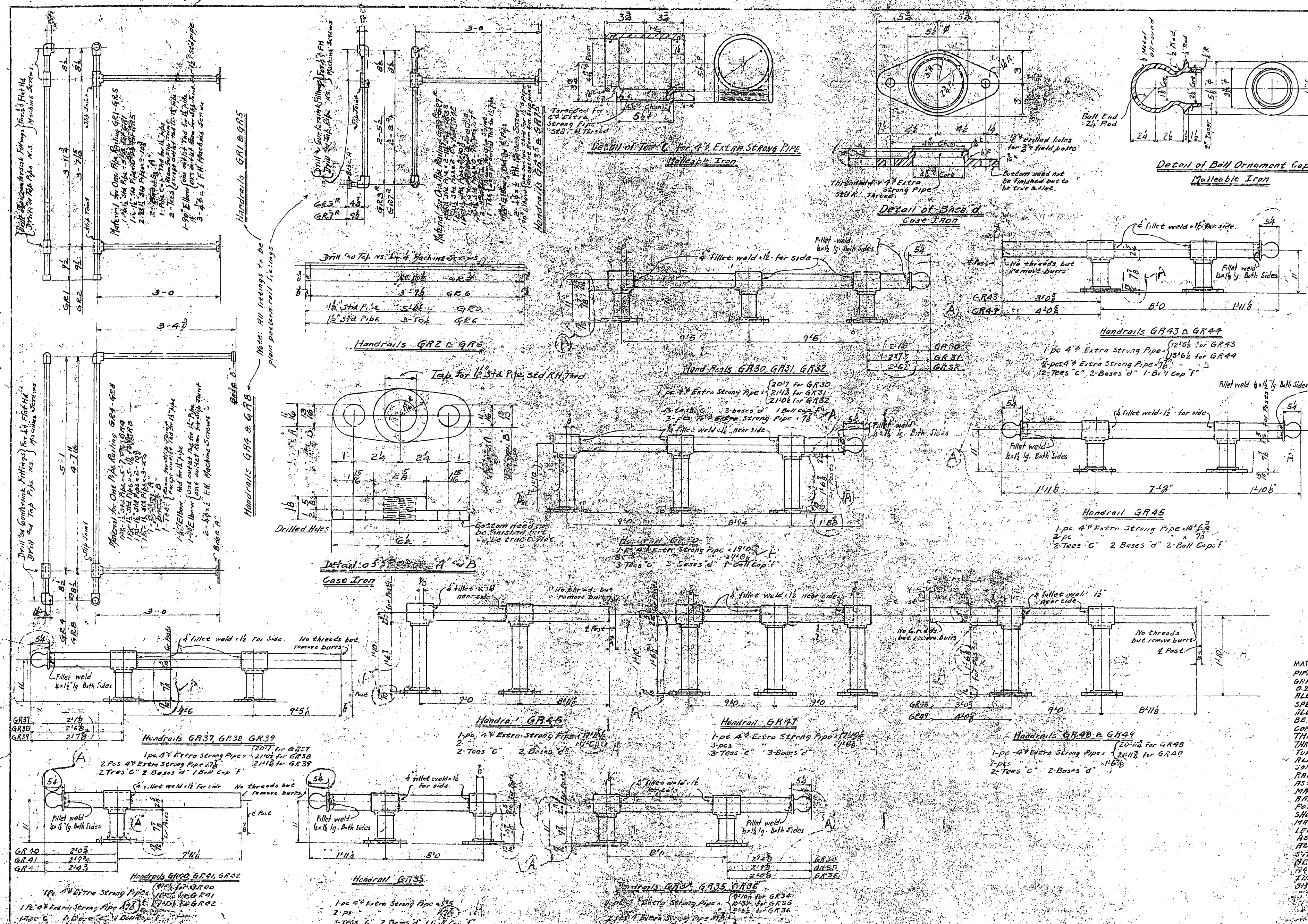
REQUIRED 1 SET

Date 8/19/35
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
CONTRACT NO.
504'-0" Spans
Walkway Railing
Pattersons Alameda
C.W.D. L.A.H.
L.K.L.
Tracing T-10 Sheet BB

Rev. 9-26-34
Rev. 12-13-34

1-16-35
Alameda Drwg. Num.
2-25-35

30-1



SPAN 11	SPANS 12 to 15 incl	SPAN 16	SPANS 17 to 21 incl	SPAN 22	Total No.	Description	Mark	Remarks	Weight each Tons
				1	1	HANDRAILS	GR50		
			1 Each	1	6	"	GR49		
	1 Each	1			5	"	GR48		
1	1 Each	1	1 Each		11	"	GR47		
14	14 Each	14	14 Each	14	168	"	GR46		
				1	1	"	GR45		
			1 Each	1	6	"	GR44		
	1 Each	1			5	"	GR43		
1	1 Each	1	1 Each	1	12	"	GR42		
1	1 Each	1	1 Each	1	12	"	GR41		
1	1 Each	1	1 Each	1	12	"	GR40		
1	1 Each	1	1 Each	1	12	"	GR39		
1	1 Each	1	1 Each	1	12	"	GR38		
2	2 Each	2	2 Each	2	24	"	GR37		
1	1 Each	1	1 Each	1	12	"	GR36		
1	1 Each	1	1 Each	1	12	"	GR35		
1	1 Each	1	1 Each	1	12	"	GR34		
1	1 Each	1	1 Each		11	"	GR33		
1	1 Each	1	1 Each	1	12	"	GR32		
1	1 Each	1	1 Each	1	12	"	GR31		
2	2 Each	2	2 Each	2	24	"	GR30		
1	1 Each	1	1 Each		11	"	GR1	as shown	
2	2 Each	2	2 Each		22	"	GR2	as shown	
1	1 Each	1	1 Each		11	"	GR3R	as shown	
1	1 Each	1	1 Each		11	"	GR3L	opp Hd to GR3R	
1	1 Each	1	1 Each		11	"	GR4	as shown	
				1	1	"	GR5	as shown	
				2	2	"	GR6	as shown	
				1	1	"	GR7R	as shown	
				1	1	"	GR7L	opp Hd to GR7R	
				1	1	"	GR8	as shown	

REQUIRED BY SPANS — REQUIRED LIST

MATERIAL: ALL PIPE TO BE STEEL PIPE, STANDARD COMMERCIAL GRADE EXCEPT TO CONTAIN 0.20% COPPER.
ALL BASES TO BE CAST IRON. SPECS. A.S.T.M.- A48.
ALL OTHER PIPE FITTINGS TO BE MALLEABLE IRON, STANDARD COMMERCIAL GRADE.
THREADING: ALL POSTS TO BE THREADED INTO BASES AND TOP FITTINGS.
ALL RAILS TO HAVE SLIP JOINTS TO POSTS. FOR 1½"ϕ RAILING RAILS TO BE PINNED AS SHOWN WITH ¼"ϕ F.H. MACHINE SCREWS. FOR 4"ϕ RAILING TO BE WELDED TO POSTS AS SHOWN.
SHOP NOTES: ALL ERECTION MARKS TO BE PAINTED ON LEFT HAND ENDS OF RAILINGS AS DETAILED.
ALL RAILINGS TO BE STRAIGHT AND TRUE AND HEIGHTS SHOWN ARE TO BE ACCURATELY MAINTAINED.
INSPECTION: BY JOHN M. BAILEY
SHOP PAINT: NONE.

Date	Revision	App'd

APPROVED

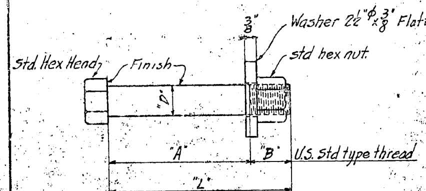
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

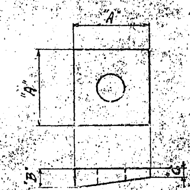
Chicago DRAWING ROOM Ambridge WORKS
IN CHARGE Anthony MADE BY WLM
CHECKED BY 4-6-34 TRACED BY WLM 3/21/34
LAST ASSEMB. SHT.
SHEET 801

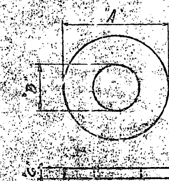
Rev. 4-20-34 REV. (A) Drwg. Room

30-1



MARK	DESCRIPTION	DIA. "D"	"A"	LGTH "L"	THRD "B"	SIZE HOLE IN WASHER	WT. EA.
CB1	Coup Bolts	1 1/32	2 10/16	4¼	1 5/16	1⅛"φ	
CB2	do	1 1/32	3 11/16	5	1 5/16	1⅛"φ	
CB3	do	1 1/32	4 3/16	5½	1 5/16	1⅛"φ	
CB4	do	1 1/32	4 7/16	5¾	1 5/16	1⅛"φ	
CB5	do	1 1/32	4¾	6¼"	1½	1⅛"φ	
CB6	do	1 1/32	5¼	6¾	1½	1⅛"φ	
CB7	do	1 9/32	3⅞	5½	1⅝	1⅜"φ	
CB8	do	1 9/32	4⅝	6¼	1⅝	1⅜"φ	
CB9	do	29/32	1⅞	3¼	1⅜	1"φ	



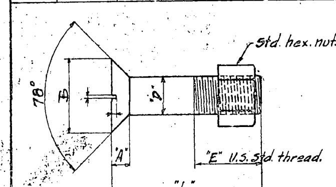


MATERIAL–
Malleable Iron

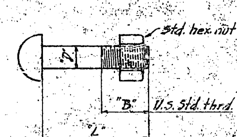
MARK	DESCR.	"A"	"B"	"C"	Diam. of hole	WT. EA.
W2	Bev. Washer	1½	13/32	5/32	11/16	
W3	do	1½	15/32	7/32	13/16	
W4	do	2	9/16	7/32	15/16	

MARK	DESCR.	"A"	"B"	"C"	WT. EA.
W5	Washer	2⅛	13/16"	⅛"	
W6	do	2¼	15/16"	¼"	
W7	do	3"	1 5/16"	¼"	

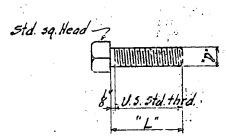
A



MARK	DESCR.	DIAM "D"	LGTH. "L"	"A"	"B"		"E" MIN.	WT. EA.
MB2	Flat Hd. Bolt	⅝"	2½"	⅜	1 3/16		1¼"	
MB3	do	¾"	2"	⅜	1 5/16		1½"	
MB4	do	¾"	2½"	⅜	1 5/16		1½"	
MB5	do	¾"	2[illegible]	⅜	1 5/16		1½"	



MARK	DESCR.	DIAM. "D"	LGTH "L"	[illegible]	WT. EA.
MB8	Round Hd Bolts	⅝"	1½"	1¼"	
MB9½	do	[illegible]	[illegible]	1½"	
MB10	do	¾"	2"	1½"	
MB11	do	¾"	2¼"	1½"	
MB12	do	¾"	2½"	1½"	
MB13	do	¾"	3"	1½"	
MB14	do	¾"	4½	1½"	
MB16	do	¾"	3½	1½	



MARK	DESCR.	DIAM "D"	LGTH "L"	THREADS PER INCH	WT. EA.
MB6	Tap bolts	⅝"	2⅜"	11	
MB7	do	¾"	2⅝"	10	

SPAN 9	SPAN 10	SPAN 11	SPAN 12	SPAN 13	SPAN 14	SPAN 15	SPAN 16	SPAN 17	SPAN 18	SPAN 19	SPAN 20	SPAN 21	SPAN 22	TOTAL Nº REQD.	TOTAL Nº FURNISHED	Description	Mark	Remarks	Weight each Item
		4	4	4	4	4	4	4	4	4	4	4	4	48	52	COUPLING BOLTS	CB9		
		83	83	83	83	83	84	84	84	84	84	84	86	1005	1050	ROUND HEAD BOLTS	MB15		
													2	2	4	ROUND HEAD BOLTS	MB14		
		16	16	16	16	16	14	14	14	14	14	14	14	178	200	do	MB13		
		37	37	37	37	37	37	37	37	37	37	37	37	444	465	do	MB12		
		62	58	58	58	58	61	49	55	55	55	55	51	675	710	do	MB11		
		573	546	546	546	546	546	546	546	546	546	546	547	6580	6900	do	MB10		
		7	7	7	7	7	7	7	7	7	7	7	7	84	90	do	MB16		
		8	4	4	4	4	4	4	4	4	4	4	4	52	55	do	MB8		
		48	48	48	48	48	48	48	48	48	48	48	48	576	600	TAP BOLTS	MB7		
		12	12	12	12	12	12	12	12	12	12	12	12	144	150	do	MB6		
		90	90	90	90	90	90	90	90	90	90	90	90	1080	1130	FLAT HEAD BOLTS	MB5		
		105	105	105	105	105	105	105	105	105	105	105	105	1260	1320	do	MB4		
		54	54	54	54	54	54	54	54	54	54	54	54	648	680	do	MB3		
		40	40	40	40	40	40	40	40	40	40	40	40	480	505	do	MB2		
		28	28	28	28	28	28	28	28	28	28	28	28	336	350	WASHERS	W7		
		216	216	216	216	216	216	216	216	216	216	216	228	2604	2790	do	W6		
		930	911	911	911	911	907	907	907	907	909	907	910	10932	11450	do	W5		
		16	16	16	16	16	16	16	16	16	16	16	16	192	200	BEVELED WASHERS	W4		
		36	34	34	34	34	34	34	34	34	34	34	32	408	420	do	W3		
		20	10	10	10	10	10	10	10	10	10	10	10	130	140	do	W2		
	56		60	64	64	64	64							384	400	COUPLING BOLTS	CB8		
	24		24	24	24	24	24							144	150	do	CB7		
38		6												44	48	do	CB6		
2		50							24	24	24	24	24	172	180	do	CB5		
	24													24	26	do	CB4		
		24												24	26	do	CB3		
	16													16	18	do	CB2		
	20													20	22	do	CB1		

REQUIRED BY SPANS — REQUIRED LIST

B

MATERIAL: All material to be copper bearing.

SPECIFICATIONS: Special by State of California, Department of Public Works.
INSPECTION: By John M Bailey
PAINT: None.

Date	Revision	App'd

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 5/25/34

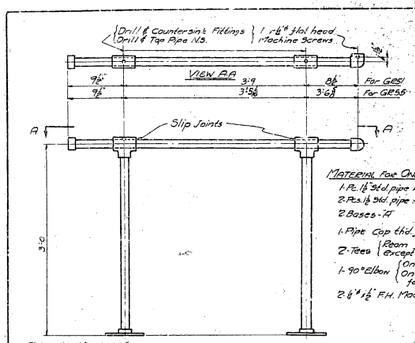
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0" Truss Spans - Piers E9 to E23
McCLINTIC-MARSHALL CORPORATION

Chicago DR. ROOM Alameda WORKS
IN CHARGE Anthon MADE BY A.F.L. 4-16-34
CHECKED BY GAK 5-12-34 TRACED BY A.F.L. 4-16-34
LAST ADDEN. NO.

CONTRACT G802 SHEET G 802

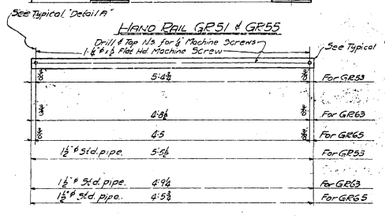
Rev (A) 6/4/34
Rev (B) 11/8/34
Rev (C) 3/28/35

30-1



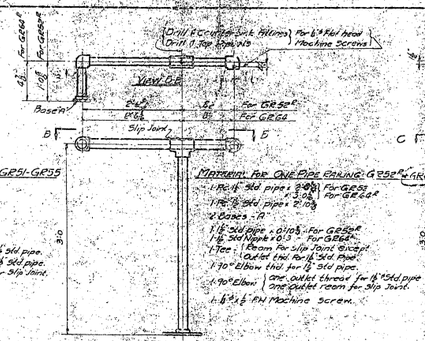
Material For One Pipe Railing GR51-GR55

- 1 Pc. 1½ Std pipe x 7'-7⅜" - For GR51
- 3 Pcs. 1½ Std. pipe x 2'-10⅛" - For GR55
- 2 Bases - "A"
- 1 - Pipe Cap thd for 1½ Std pipe.
- 2 - Tees { Ream for Slip Joint. Except outlet thd. for 1½ Std pipe.
- 1 - 90° Elbow { One outlet thd. for 1½ Std pipe. One outlet ream for Slip Joint. for Std. 1½ pipe
- 2 - 6" x 1/2" F.H. Machine Screws.



HAND RAIL GR51 & GR55

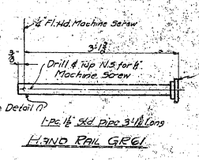
HAND RAIL GR53-GR63-GR65



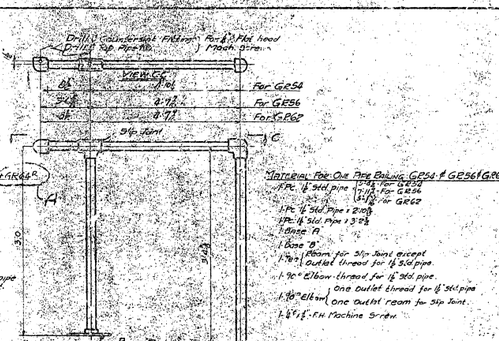
Material For One Pipe Railing: GR52 & GR62

- 1 Pc. 1½ Std pipe x 3'-8⅜" - For GR52
- 1 Pc. 1½ Std pipe x 2'-10⅛" - For GR62
- 2 Bases - "A"
- 1 - 1½ Std pipe x 0'-10⅜" - For GR52
- 1½ Std Nipple x 0'-3" - For GR62
- 1 Tee { Ream for Slip Joint Except Outlet thd. for 1½ Std Pipe.
- 1 - 90° Elbow thd. for 1½ Std pipe.
- 1 - 90° Elbow { One outlet thread for 1½ Std pipe. One outlet ream for Slip Joint.
- 1 - ½" x ½" F.H. Machine Screw.

HAND RAIL GR52 & GR62



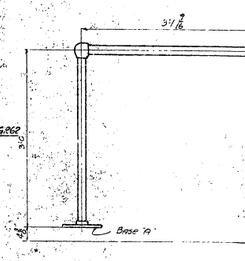
HAND RAIL GR61



Material For One Pipe Railing GR54 & GR56 & GR66

- 1 Pc. 1½ Std pipe { 7'-7⅜" - For GR54 / 6'-6⅜" - For GR56 / 2'-10⅛" - For GR66
- 1 Pc. 1½ Std Pipe x 2'-10⅛"
- 1 Pc. 1½ Std Pipe x 3'-8⅜"
- 1 Base "A"
- 1 Base "B"
- 1 Tee { Ream for Slip Joint, except outlet thread for 1½ Std pipe.
- 1 - 90° Elbow thread for 1½ Std pipe.
- 1 - 90° Elbow { One outlet thread for 1½ Std pipe. One outlet ream for Slip Joint.
- 1 - ½" x ½" F.H. Machine Screw.

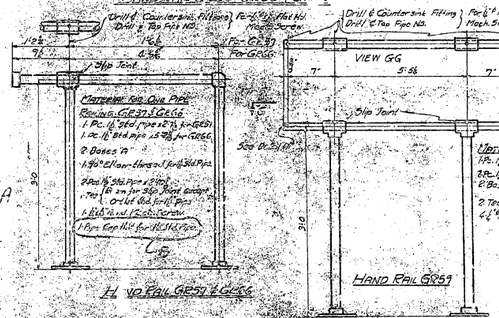
HAND RAIL GR54 GR56 & GR66



Material For One Pipe Railing GR58

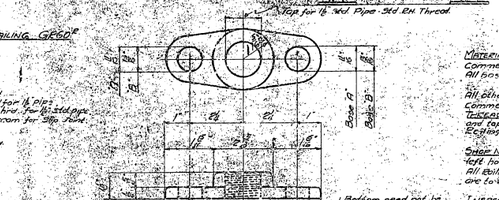
- 1 Pc. 1½ Std. Pipe x 2'-11⅞"
- 1 Pc. 1½ Std Pipe x 2'-10⅛"
- 1 Pc. 1½ Std. Pipe x 3'-8⅜"
- 1 Base - A "
- 1 Base - B "
- 2 - 90° Elbows - Thread for 1½ Std Pipe.

HAND RAIL GR58



Material For One Pipe Railing GR57 & GR67

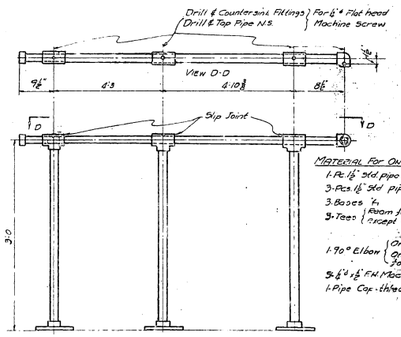
- 1 Pc. 1½ Std pipe x 2'-3½" for GR57
- 1 Pc. 1½ Std pipe x 5'-8⅜" for GR67
- 2 Bases "A"
- 1 - 90° Elbow - thread for 1½ Std Pipe
- 2 Pcs. 1½ Std Pipe x 2'-10⅛"
- 1 Tee { 1½ ø for Slip Joint except Outlet thd. for 1½ Std pipe
- 1 Pipe Cap thd. for 1½ Std Pipe.



Material For One Pipe Railing GR60[R]

- 1 Pc. 1½ Std Pipe x 8'-4½"
- 1 Pc. 1½ Std. pipe x 2'-10⅛"
- 1 Base "A"
- 1 Tee { Ream for Slip Joint Except Outlet thread for 1½ pipe
- 2 - 90° Elbows { One Outlet thrd. for 1½ Std pipe. One Outlet ream for Slip Joint.
- 1½" x ½" F.H. Machine Screw.

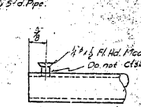
HAND RAIL GR60[R]



Material For One Pipe Railing GR67

- 1 Pc. 1½ Std. pipe x 10'-9⅜"
- 3 Pcs. 1½ Std pipe x 2'-10⅛"
- 3 Bases "A"
- 3 - Tees { Ream for Slip Joint Except Outlet thread for 1½ Std pipe
- 1 - 90° Elbow { One outlet thread 1½ Std. pipe. One Outlet ream, for Slip Joint for 1½ Std. Pipe.
- 3 - ½" x ½" F.H. Machine Screw.
- 1 - Pipe Cap - thread for 1½ Std. Pipe.

HAND RAIL GR67



TYPICAL DETAIL 'G'

DETAIL OF BASES A & B

Cast Iron

Span & R	Span & L	Sheet No.	Description	Mark	Remarks	Weight Each
	1	1	Hand Rail	GR51	As Shown	
	1	1	-	GR52[R]	-	
	1	1	-	GR52[L]	Opp. Hd. to GR52[R]	
	2	2	-	GR53	As Shown	
	1	1	-	GR54	-	
1		1	-	GR55	-	
	1	1	-	GR56	-	
1		1	-	GR57	-	
	1	1	-	GR58	-	
2		2	-	GR59	-	
1		1	-	GR60[R]	-	
	1	1	-	GR60[L]	Opp. Hd. to GR60[R]	
1		1	-	GR61	As Shown	
	1	1	-	GR62	Opp. Hd. to GR62	
1		1	-	GR63	As Shown	
	1	1	-	GR64[R]	-	
	1	1	-	GR64[L]	Opp. Hd. to GR64[R]	
1		1	-	GR65	As Shown	
	1	1	-	GR66	-	
	1	1	-	GR67	-	
Required by Spans		REQUIRED LIST				

Material: All pipe to be Steel Pipe Standard Commercial grade steel to contain 0.20% Copper. All fabrics to be Constructed in accordance with Specifications - A.S.T.M. A96

All other Pipe Fittings to be Malleable Iron Standard Commercial Grade.

Tolerance: All posts to be threaded into Bases and top fittings. All Rails to have Slip Joints to Posts. Railings to be painted as shown, with 8 F.H. Mach. Screws.

Shop Notes: All direction marks to be painted on left hand ends of Railing as detailed. All Railing to be Straight and true and heights shown are to be accurately maintained.

Inspection By: Jack McCully

Shop Paint: None

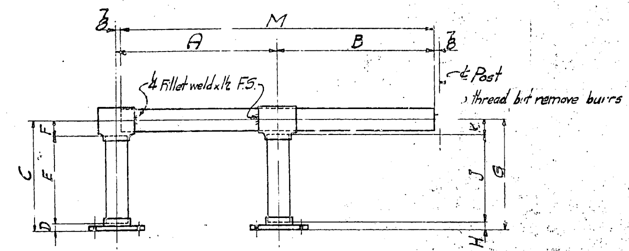
Date	Revision	Angle

APPROVED

Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 6-29-36

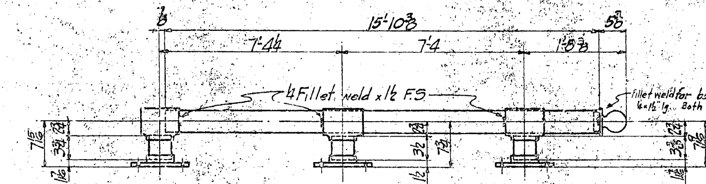
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 Truss Spans - Piers E9 to E23
MCKLETHIE - MARSHALL CORPORATION
Chicago — Alameda
Lengths Jan's — Stadg. by W.L.M.
Checked by A.F. 6-15-36 — Traced by V.C.A. 6-13-36
Lace Accom. Sht.
CONTRACT CT65011
SHEET G 803

Rev. (A) 7/18/36
Rev (B) 7/24/36



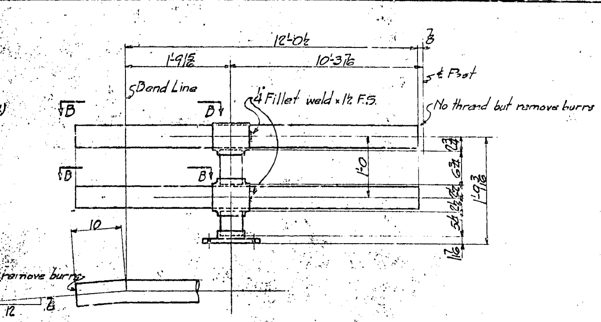
Material for each handrail:
- 1 Pc 4"φ Extra Strong Pipe x M
- 1 Pc 4"φ Extra Strong Pipe x E
- 1 Pc 4"φ Extra Strong Pipe x J
- 2 Tees (a804) 2 Bases (b804)

MARK	A	B	C	D	E	F	G	H	J	K	M
GR9	9'-0	8'-11⅛	7 1/16	1 1/16	3½	2¾	8	1½	3¾	2¾	17'-10½
~~GR10~~	~~9'-0~~	~~8'-11⅛~~	~~8 1/16~~	~~1 1/16~~	~~3⅞~~	~~2¾~~	~~8 13/16~~	~~1 7/16~~	~~4⅝~~	~~2¾~~	~~17'-10½~~
~~GR11~~	~~9'-0~~	~~8'-11⅜~~	~~9⅝~~	~~1 1/16~~	~~5½~~	~~2 1/16~~	~~10⅜~~	~~1 7/16~~	~~6¼~~	~~2 1/16~~	~~17'-10½~~
~~GR12~~	~~9'-0~~	~~8'-11⅛~~	~~11 3/16~~	~~1 7/16~~	~~7~~	~~2¾~~	~~1'-0⅜~~	~~1 7/16~~	~~8¼~~	~~2 1/16~~	~~17'-10½~~
~~GR13~~	~~9'-0~~	~~8'-11⅜~~	~~1'-1½~~	~~1½~~	~~9¼~~	~~2¾~~	~~1'-2⅝~~	~~1 7/16~~	~~10½~~	~~2 1/16~~	~~17'-10½~~
~~GR14~~	~~9'-0~~	~~8'-11⅛~~	~~1'-3⅝~~	~~1 1/16~~	~~11½~~	~~2 1/16~~	~~1'-4⅝~~	~~1 7/16~~	~~1'-0½~~	~~2 1/16~~	~~17'-10½~~
~~GR15~~	~~9'-0~~	~~8'-11⅜~~	~~1'-5 1/16~~	~~1 7/16~~	~~1'-1½~~	~~2¾~~	~~1'-6 1/16~~	~~1 7/16~~	~~1'-2½~~	~~2¾~~	~~17'-10½~~
~~GR16~~	~~9'-0~~	~~8'-11⅛~~	~~1'-7¾~~	~~1½~~	~~1'-3½~~	~~2¾~~	~~1'-8⅜~~	~~1 7/16~~	~~1'-4½~~	~~2 1/16~~	~~17'-10½~~
GR17	9'-0	8'-11⅝	1'-8 15/16	1 7/16	1'-4¾	2¾	1'-9½	1½	1'-5¼	2¾	17'-10½
~~GR18~~	~~9'-0~~	~~8'-11⅛~~	~~1'-10 3/16~~	~~1 7/16~~	~~1'-6~~	~~2¾~~	~~1'-10 5/16~~	~~1 7/16~~	~~1'-6⅛~~	~~2¾~~	~~17'-10½~~
~~GR19~~	~~9'-0~~	~~8'-11⅜~~	~~1'-10 7/16~~	~~1 7/16~~	~~1'-6¼~~	~~2¾~~	~~1'-10 9/16~~	~~1 7/16~~	~~1'-6⅜~~	~~2¾~~	~~17'-10½~~
~~GR20~~	~~9'-0~~	~~8'-11⅛~~	~~1'-10 11/16~~	~~1 7/16~~	~~1'-6½~~	~~2¾~~	~~1'-10¾~~	~~1½~~	~~1'-6½~~	~~2¾~~	~~17'-10½~~
~~GR21~~	~~9'-0~~	~~8'-11⅜~~	~~1'-10 13/16~~	~~1 7/16~~	~~1'-6⅝~~	~~2¾~~	~~1'-10⅞~~	~~1 1/16~~	~~1'-6¾~~	~~2 1/16~~	~~17'-10½~~
~~GR22~~	~~9'-0~~	~~8'-11⅛~~	~~1'-10⅞~~	~~1 7/16~~	~~1'-6¾~~	~~2 11/16~~	~~1'-11 1/16~~	~~1 7/16~~	~~1'-6⅞~~	~~2¾~~	~~17'-10½~~
~~GR23~~	~~10'-3½~~	~~8'-11⅛~~	~~1'-9⅜~~	~~1 7/16~~	~~1'-5¼~~	~~2 11/16~~	~~1'-9½~~	~~1½~~	~~1'-5¼~~	~~2¾~~	~~19'-1¾~~
~~GR24~~	~~9'-0~~	~~8'-11⅛~~	~~1'-9 9/16~~	~~1 7/16~~	~~1'-5⅜~~	~~2¾~~	~~1'-9⅝~~	~~1 7/16~~	~~1'-5½~~	~~2 1/16~~	~~17'-10½~~
~~GR25~~	~~9'-0~~	~~8'-11⅛~~	~~1'-9⅝~~	~~1 7/16~~	~~1'-5½~~	~~2 11/16~~	~~1'-9 11/16~~	~~1 7/16~~	~~1'-5½~~	~~2¾~~	~~17'-10½~~
~~GR68~~	~~9'-0¼~~	~~8'-11⅛~~	~~1'-9¾~~	~~1½~~	~~1'-5½~~	~~2¾~~	~~1'-9 13/16~~	~~1 7/16~~	~~1'-5⅝~~	~~2¾~~	~~17'-10½~~
~~GR69~~	~~9'-0~~	~~8'-11⅛~~	~~1'-9¾~~	~~1½~~	~~1'-5½~~	~~2¾~~	~~1'-9 11/16~~	~~1 7/16~~	~~1'-5½~~	~~2¾~~	~~17'-10½~~
~~GR70~~	~~9'-0¼~~	~~8'-11⅛~~	~~1'-9⅝~~	~~1 7/16~~	~~1'-5½~~	~~2 1/16~~	~~1'-9½~~	~~1½~~	~~1'-5⅛~~	~~2¾~~	~~17'-10½~~
GR71	9'-0	8'-11⅛	1'-9	1½	1'-4¾	2¾	1'-8½	1½	1'-4½	2¾	17'-10½
GR72	9'-0¼	8'-11⅛	1'-8	1½	1'-3¾	2¾	1'-7½	1½	1'-3½	2¾	17'-10½
~~GR73~~	~~9'-0~~	~~8'-11⅛~~	~~1'-6½~~	~~1½~~	~~1'-2¼~~	~~2¾~~	~~1'-5 9/16~~	~~1 7/16~~	~~1'-1⅜~~	~~2¾~~	~~17'-10½~~
~~GR74~~	~~9'-0¼~~	~~8'-11⅛~~	~~1'-4⅝~~	~~1 7/16~~	~~1'-0½~~	~~2 1/16~~	~~1'-3 13/16~~	~~1 7/16~~	~~11⅝~~	~~2¾~~	~~17'-10½~~
~~GR75~~	~~9'-0~~	~~8'-11⅛~~	~~1'-2¾~~	~~1½~~	~~10½~~	~~2¾~~	~~1'-1⅞~~	~~1 7/16~~	~~9½~~	~~2 1/16~~	~~17'-10½~~
~~GR76~~	~~9'-0¼~~	~~8'-11⅛~~	~~1'-0½~~	~~1½~~	~~8¼~~	~~2¾~~	~~11⅜~~	~~1 7/16~~	~~7¼~~	~~2 1/16~~	~~17'-11½~~
~~GR77~~	~~9'-0~~	~~8'-11⅛~~	~~10⅝~~	~~1 7/16~~	~~6½~~	~~2 1/16~~	~~9⅞~~	~~1 7/16~~	~~5¾~~	~~2 1/16~~	~~17'-10½~~
~~GR78~~	~~9'-0¼~~	~~8'-11⅛~~	~~9⅛~~	~~1 7/16~~	~~5~~	~~2 11/16~~	~~8 7/16~~	~~1 7/16~~	~~4¼~~	~~2¾~~	~~17'-10½~~
GR79	9'-0	7'-3⅜	8⅜	1 7/16	4¼	2 1/16	8⅛	1 7/16	4	2 1/16	16'-2½



HANDRAIL GR80

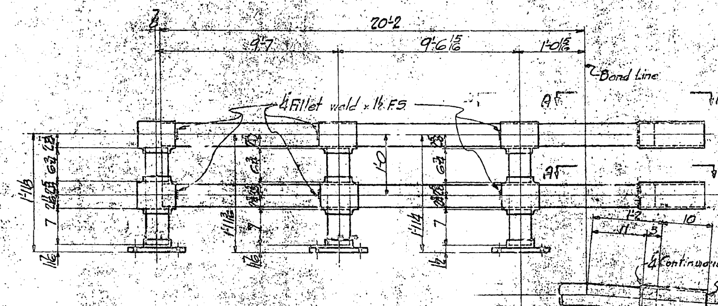
1 Pc 4"φ Extra Strong Pipe x 15'-10⅜
1 Pc 4"φ Extra Strong Pipe x 3⅞
1 Pc 4"φ Extra Strong Pipe x 3½
1 Pc 4"φ Extra Strong Pipe x 3⅜
3 Tees (a804), 3 Bases (b804), 1 Ball Cap (c804)



VIEW B-B

HANDRAIL GR82

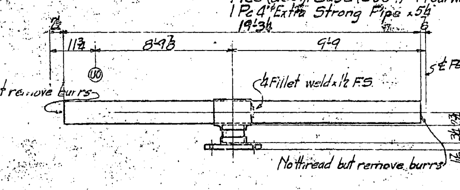
2 Pcs 4"φ Extra Strong Pipe x 12'-0½ Bent
1 Pc 4"φ Extra Strong Pipe x 6⅞
1 Tee (a804) 1 Base (b804) 1 Fourway (a806)
1 Pc 4"φ Extra Strong Pipe x 5⅞



HANDRAIL GR81

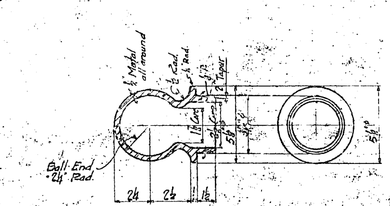
2 Pcs 4"φ Extra Strong Pipe x 21'-1 Bent
3 Pcs 4"φ Extra Strong Pipe x 6⅞
2 Pcs 4"φ Extra Strong Pipe x 1'-1
3 Tees (a806) 3 Bases (b804) 3 Fourways (a806)
3 Pcs 4"φ Extra Strong Pipe x 7

VIEW A-A

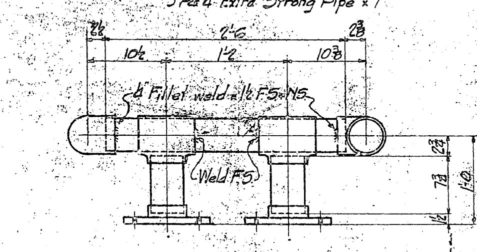


HANDRAIL GR83

1 Pc 4"φ Extra Strong Pipe x 19'-3⅛
1 Pc 4"φ Extra Strong Pipe x 3⅛
1 Tee (a804) - 1 Base (b804)

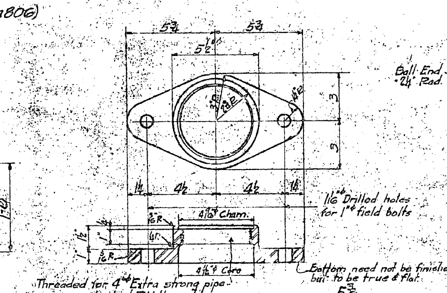


DETAIL OF BALL ORNAMENT CAP (c804)
Malleable Iron



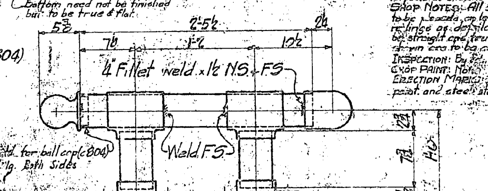
HANDRAIL GR84

1 Pc 4"φ Extra Strong Pipe x 2'-6
2 Pcs 4"φ Extra Strong Pipe x 7⅞
2 Tees (a804) 2 Bases (b804) 2 Elbows "d"



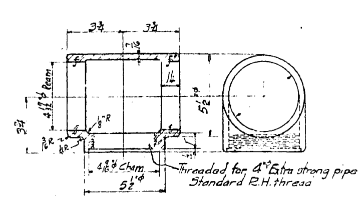
DETAIL OF BASE (b804)
Cast Iron

MATERIAL: All handrails to be of std pipe, std. commercial grade, and all bases and fittings to be cast iron. All bases to be ASTM-A48. All elbows & fittings to be malleable iron, standard commercial grade.
THREADING: All posts to be threaded into bases and top fittings. All rails to have the joints to the posts and welded to rails as shown.
SHOP NOTES: All erection marks to be placed on left hand ends of railings as detailed. All railings to be straight and true and heights as given are to be accurately maintained.
INSPECTION: By R. M. Bailey
SHOP PAINT: None
ERECTION MARKS: Take put on with 1" th paint and steel stencils.

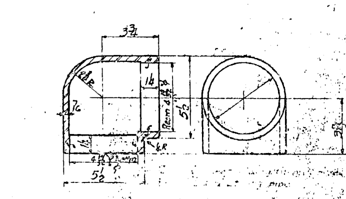


HANDRAIL GR85

1 Pc 4"φ Extra Strong Pipe x 2'-5½
2 Pcs 4"φ Extra Strong Pipe x 7⅞
2 Tees (a804) - 2 Bases (b804) Elbow "d" - 1 Ball Cap (c804)



DETAIL OF TEE (a804) FOR 4" EXTRA STRONG PIPE
Malleable Iron



DETAIL OF ELBOW "d" FOR 4" EXTRA STRONG PIPE
Malleable Iron

Work this sheet with sheet G805 Scheme 6

Span 10	Span 9	Total No. Reqd	Description	Mark	Remarks	Weight each Tons
			HANDRAIL	GR9		
			"	~~GR10~~		
			"	~~GR11~~		
			"	~~GR12~~		
			"	~~GR13~~		
			"	~~GR14~~		
			"	~~GR15~~		
			"	~~GR16~~		
			"	GR17		
			"	~~GR18~~		
			"	~~GR19~~		
			"	~~GR20~~		
			"	~~GR21~~		
			"	~~GR22~~		
			"	~~GR23~~		
			"	~~GR24~~		
			"	~~GR25~~		
			"	~~GR68~~		
			"	~~GR69~~		
			"	~~GR70~~		
			"	GR71		
			"	GR72		
			"	~~GR73~~		
			"	~~GR74~~		
			"	~~GR75~~		
			"	~~GR76~~		
			"	~~GR77~~		
			"	~~GR78~~		
			"	GR79		
			"	GR80		
			"	GR81		
1		1	"	GR82		
	1	1	"	GR83		
	1	1	"	GR84		
	1	1	"	GR85		

REQUIRED BY SPANS — REQUIRED LIST

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8/16/34

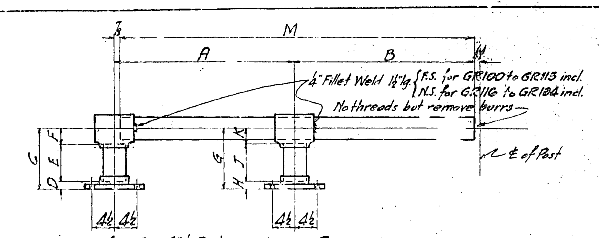
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 SPANS - E9 & E10

McCLINTIC-MARSHALL CORPORATION

Chicago DRAWING ROOM — Alameda WORKS
MADE BY R.J.L. 7-2-34
CHECKED BY E. T. 7/10-34 TRACED BY
E.J.T. 8/27-34

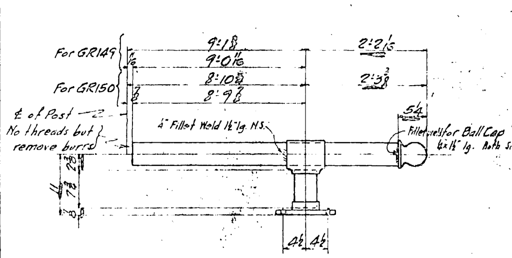
CONTRACT 3011 — SHEET G 804

Rev. 11-20-34

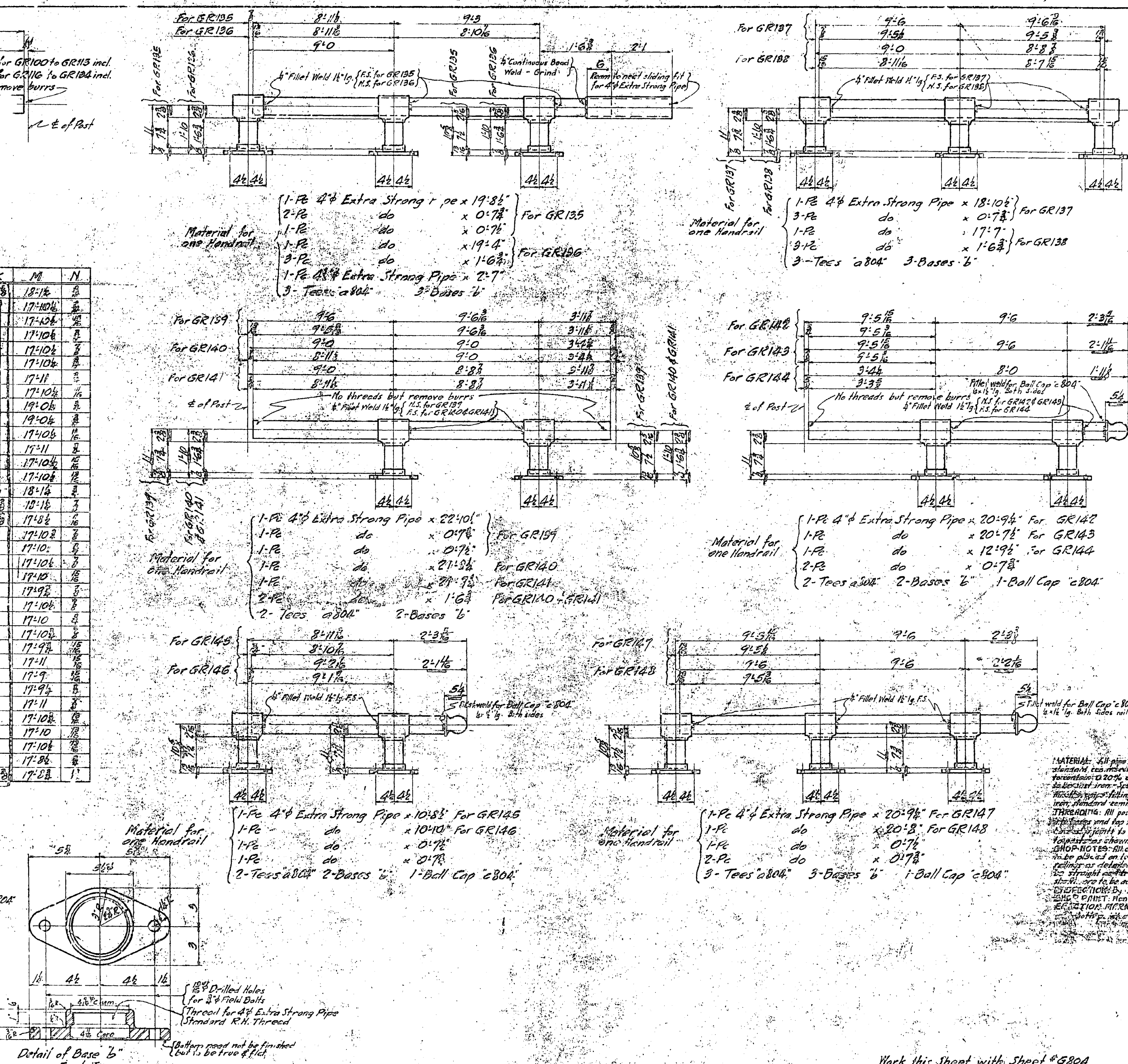


Material for one Handrail { 1-Pc 4"φ Extra Strong Pipe x "M"
1-Pc do x "E"
1-Pc do x "J"
2- Tees "a804" 2-Bases "b"

MARK	A	B	C	D	E	F	G	H	J	K	M	N
GR100	9'-2 7/8	8'-11 1/8	10 5/8	13/16	7 1/2	2 5/16	11	7/8	7 3/4	2 3/8	18'-1 1/2	7/8
GR101	9'-0	8'-11 1/8	11	7/8	7 3/4	2 3/8					17'-10 1/2	7/8
GR102	9'-0 3/16	8'-11 3/8	10 5/8	13/16	7 1/2	2 5/16					17'-10 1/2	13/16
GR103	9'-0 1/8	8'-11 1/4	10 5/8	13/16	7 1/2	2 5/16					17'-10 1/2	7/8
GR104	9'-0	8'-11 3/8	11	7/8	7 3/4	2 3/8					17'-10 1/2	7/8
GR105	8'-11 7/8	8'-11 1/4	10 5/8	13/16	7 1/2	2 5/16					17'-10 1/4	7/8
GR106	9'-0	8'-11 7/8	11	7/8	7 3/4	2 3/8					17'-11	7/8
GR107	8'-11 13/16	8'-11 5/16	10 5/8	13/16	7 1/2	2 5/16					17'-10 1/2	11/16
GR108	9'-6	9'-7 1/8	11	7/8	7 3/4	2 3/8					19'-0 1/2	7/8
GR109	9'-7 7/8	9'-5 1/4	10 5/8	13/16	7 1/2	2 5/16					19'-0 1/2	7/8
GR110	9'-0	8'-11 1/8	11	7/8	7 3/4	2 3/8					17'-10 1/2	11/16
GR111	9'-0 5/8	8'-11 1/4	10 5/8	13/16	7 1/2	2 5/16					17'-11	7/8
GR112	9'-0 5/16	8'-11 13/16	10 5/8	13/16	7 1/2	2 5/16					17'-10 1/2	15/16
GR113	9'-0	8'-11 3/8	11	7/8	7 3/4	2 3/8					17'-10 1/2	13/16
GR114	9'-0	9'-2 1/8	11	7/8	7 3/4	2 3/8					18'-1 1/4	3/4
GR115	9'-3	8'-11 1/8	11	7/8	7 3/4	2 3/8	11	7/8	7 3/4	2 3/8	18'-1 1/8	7/8
GR116	8'-10 1/16	8'-11 5/16	1'-10	7/8	1'-6 3/4	2 3/8	1'-10	7/8	1'-6 3/4	2 3/8	17'-8 1/2	11/16
GR117	9'-0	8'-11 5/8									17'-10 3/4	7/8
GR118	8'-11 5/8	8'-11 1/4									17'-10	7/8
GR119	9'-0	8'-11 3/8									17'-10 1/2	7/8
GR120	8'-11 13/16	8'-11 1/16									17'-10	15/16
GR121	9'-0	8'-10 5/8									17'-9 3/4	7/8
GR122	9'-0 1/4	8'-11 1/8									17'-10 1/2	7/8
GR123	9'-0	8'-10 7/8									17'-10	3/4
GR124	9'-0 1/2	8'-11 1/8									17'-10 3/4	7/8
GR125	9'-0	8'-10 5/8									17'-9 3/4	15/16
GR126	9'-0 13/16	8'-11 1/16									17'-11	15/16
GR127	9'-0	8'-9 7/8									17'-9	15/16
GR128	8'-10 7/8	8'-11 1/2									17'-9 1/4	7/8
GR129	9'-0	8'-11 7/8									17'-11	7/8
GR130	9'-0	8'-11 5/8									17'-10 3/8	13/16
GR131	8'-11 11/16	8'-11 5/16									17'-10	13/16
GR132	9'-0	8'-11 3/8									17'-10 1/2	13/16
GR133	9'-0	8'-9 3/8									17'-8 1/2	3/4
GR134	8'-10 7/16	8'-11 1/16	1'-10	7/8	1'-6 3/4	2 3/8	1'-10	7/8	1'-6 3/4	2 3/8	17'-8 3/4	1



Material for one Handrail { 1-Pc 4"φ Extra Strong Pipe x 10'-9 1/4" For GR149
1-Pc do x 10'-8" For GR150
1-Pc do x 0'-7 3/8"
1- Tee "a804" 1-Base "b" 1-Ball Cap "c804"



Span #9	Span #10	Span #11	Total No.	Description	Mark	Remarks	Weight each Tons
	1		1	Handrail	GR100	As shown	
1	2		3	do	GR101	do	
	1		1	do	GR102	do	
	1		1	do	GR103	do	
	1		1	do	GR104	do	
2	1		3	do	GR105	do	
	1		1	do	GR106	do	
	1		1	do	GR107	do	
	1		1	do	GR108	do	
1			1	do	GR109	do	
1			1	do	GR110	do	
1			1	do	GR111	do	
1			1	do	GR112	do	
2			2	do	GR113	do	
1			1	do	GR114	do	
1			1	do	GR115	do	
	1		1	do	GR116	do	
	2		2	do	GR117	do	
1	2		3	do	GR118	do	
	1		1	do	GR119	do	
1	1		2	do	GR120	do	
1	1		2	do	GR121	do	
1	1		2	do	GR122	do	
2	1		3	do	GR123	do	
2	1		3	do	GR124	do	
	1		1	do	GR125	do	
	1		1	do	GR126	do	
	1		1	do	GR127	do	
1			1	do	GR128	do	
1			1	do	GR129	do	
1			1	do	GR130	do	
1			1	do	GR131	do	
1			1	do	GR132	do	
1			1	do	GR133	do	
1			1	do	GR134	do	
	1		1	do	GR135	do	
	1		1	do	GR136	do	
1			1	do	GR137	do	
1			1	do	GR138	do	
	1		1	do	GR139	do	
		1	1	do	GR140	do	
	1		1	do	GR141	do	
	1		1	do	GR142	do	
1			1	do	GR143	do	
		1	1	do	GR144	do	
	1		1	do	GR145	do	
1			1	do	GR146	do	
1			1	do	GR147	do	
	1		1	do	GR148	do	
	1		1	do	GR149	do	
1			1	do	GR150	do	

Req. by Spans — REQUIRED LIST

MATERIAL: All pipe to be steel pipe, standard commercial grade except to contain 0.20% copper. All bases to be cast iron - Spec. A.S.T.M.-A48. All other pipe fittings to be malleable iron, standard commercial grade.
THREADING: All posts to be threaded into bases and top fittings. All rails to have slip joints to posts and welded to posts as shown.
SHOP NOTES: All erection marks to be placed on left hand ends of railings as detailed. All railings to be straight and true and heights shown are to be accurately maintained.
INSPECTION: By John M. Bailey
SHOP PAINT: None
ERECTION MARKS to be put on with steel stencil.

Date	Revision	App'd

APPROVED
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 8/16/34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 TRUSS SPANS - PIERS E9 TO E23
McCLINTIC - MARSHALL CORPORATION

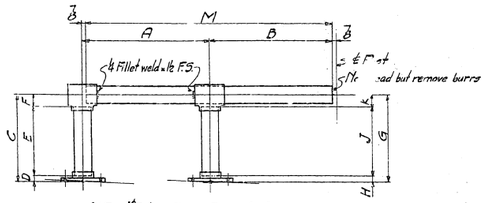
Chicago DRAWING ROOM Alameda WORKS
IN CHARGE Jr MADE BY K.W.S. 7/6/34
CHECKED BY EU 7/12-34 TRACED BY
FC 7-26-34
LAST ACCEPT. MK.

Work this Sheet with Sheet #G804

CONTRACT CT15801I SHEET G 805

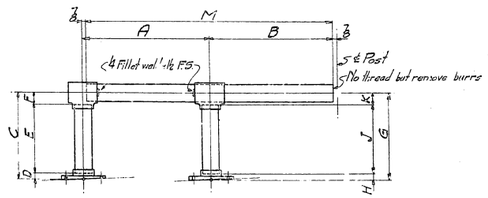
Rev. 11-20-34
Rev. 1-16-35 By Alameda Drwg. Rm.

30-1



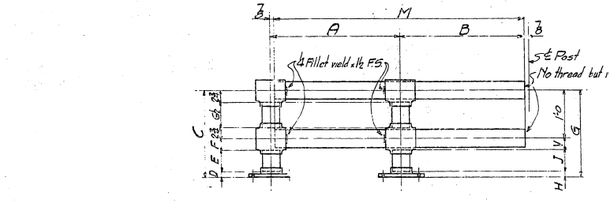
Material for each handrail:
- 1 Pc 4" Extra Strong Pipe × M
- 1 Pc 4" Extra Strong Pipe × E
- 1 Pc 4" Extra Strong Pipe × J
- 2 Tees (a804) 2 Bases N

MARK	A	B	C	D	E	F	G	H	J	K	M	N
GR10	9'-0	8'-11⅛	8⅛	1⅛	3½	2¾	8⅜	1⅛	4¾	2¾	17'-10¼	"f"
GR11	9'-0	8'-11⅜	9⅝	1⅛	5½	2⅛	10⅞	1⅛	6¼	2⅛	17'-10¼	"f"
GR12	9'-0	8'-11⅜	11⅜	1⅛	7	2¾	1'-0⅞	1⅛	8¼	2⅛	17'-10¼	"g"
GR13	9'-0	8'-11⅜	1'-1¼	½	9¼	2¾	1'-2⅞	1⅛	10¼	2⅛	17'-10½	"g"
GR14	9'-0	8'-11⅛	1'-3⅝	1⅛	11¼	2⅛	1'-4⅞	1⅛	1'-0¼	2⅛	17'-10⅛	"g"
GR15	9'-0	8'-11⅜	1'-5⅛	1⅛	1'-1¼	2¾	1'-6⅛	1⅛	1'-2¼	2¾	17'-10¼	"g"
GR16	9'-0	8'-11⅛	1'-7⅜	½	1'-3½	2¾	1'-8⅜	1⅛	1'-4¼	2⅛	17'-10½	"f"



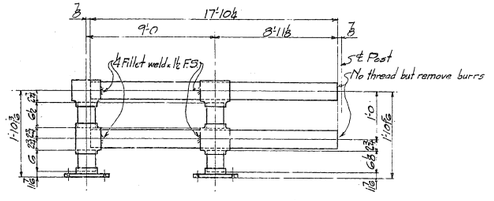
Material for each handrail:
- 1 Pc 4" Extra Strong Pipe × M
- 1 Pc 4" Extra Strong Pipe × E
- 1 Pc 4" Extra Strong Pipe × J
- 2 Tees (a804) 2 Bases N

MARK	A	B	C	D	E	F	G	H	J	K	M	N
GR73	9'-0	8'-11⅛	1'-0½	½	1'-2½	2¾	1'-3⅜	1⅛	1'-1⅜	2¾	17'-10⅛	"g"
GR74	9'-0½	8'-11⅛	1'-4⅜	1⅛	1'-0½	2⅛	1'-3⅞	1⅛	11⅜	2¾	17'-10½	"g"
GR75	9'-0	8'-11⅛	1'-2⅜	½	10½	2¾	1'-1⅜	1⅛	9½	2⅛	17'-10⅛	"g"
GR76	9'-0½	8'-11⅛	1'-0½	½	8½	2¾	11⅜	1⅛	7½	2⅛	17'-10¼	"g"
GR77	9'-0	8'-11⅛	10⅜	1⅛	6½	2⅛	9⅜	1⅛	5¾	2⅛	17'-10¼	"f"
GR78	9'-0½	8'-11⅛	9⅛	1⅛	5	2⅛	8⅛	1⅛	4½	2¾	17'-10½	"f"

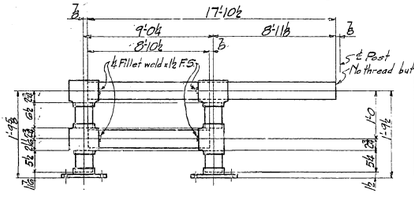


Material for Each Handrail
- 2 Pcs 4" Extra Strong Pipe × M
- 1 Pc 4" Extra Strong Pipe × E
- 2 Pcs 4" Extra Strong Pipe × G'
- 1 Pc 4" Extra Strong Pipe × J
- 2 Tees (a804) 2 Bases (b804) 2 Fourways (a806)

MARK	A	B	C	D	E	F	J	V	H	G	M
GR18	9'-0	8'-11⅛	1'-10⅜	1⅛	G'	2¾	G⅝	2¾	1⅛	1'-10⅜	17'-10¼
GR19	9'-0	8'-11⅜	1'-10⅛	1⅛	G½	2¾	G⅝	2¾	1½	1'-10⅛	17'-10¼
GR20	9'-0	8'-11⅛	1'-10⅛	1⅛	G½	2¾	G½	2¾	1½	1'-10¼	17'-10¼
GR21	9'-0	8'-11⅜	1'-10⅛	1⅛	G⅝	2⅝	G⅝	2½	1½	1'-10⅛	17'-10½
GR22	9'-0	8'-11⅛	1'-10⅜	1⅛	G⅝	2⅛	G⅝	2¾	1½	1'-11⅛	17'-10¼
GR23	10'-3½	8'-11⅛	1'-9⅜	1⅛	5¼	2⅛	5¼	2¾	½	1'-0½	19'-1⅜
GR24	9'-0	8'-11⅛	1'-9⅛	1⅛	5½	2⅜	5½	2½	1⅛	1'-9⅜	17'-10¼
GR25	9'-0	8'-11⅛	1'-9⅜	1⅛	5½	2⅛	5½	2¾	1⅛	1'-9⅛	17'-10¼
GR68	9'-0½	8'-11⅛	1'-9⅜	1¼	5½	2¾	5⅝	2¾	1⅛	1'-9⅛	17'-10½
GR69	9'-0	8'-11⅛	1'-9⅜	1¼	5½	2¾	5½	2¾	1⅛	1'-9⅛	17'-10¼
GR70	9'-0½	8'-11⅛	1'-9⅜	1⅛	5½	2⅛	5¼	2¾	1'	1'-9'	17'-10½



HANDRAIL GR18
- 2 Pcs 4" Extra Strong Pipe × 17'-10¼
- 2 Pcs 4" Extra Strong Pipe × G'
- 1 Pc 4" Extra Strong Pipe × G
- 1 Pc 4" Extra Strong Pipe × G⅝
- 2 Tees (a804) 2 Bases (b804)
- 1 Tee "h" 1 Fourway (a806)

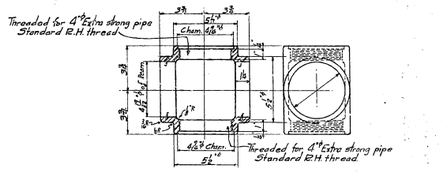


HANDRAIL GR70
- 1 Pc 4" Extra Strong Pipe × 17'-10¼
- 1 Pc 4" Extra Strong Pipe × 8'-10½
- 2 Pcs 4" Extra Strong Pipe × G½
- 1 Pc 4" Extra Strong Pipe × 5¼
- 2 Tees (a804) 2 Bases (b804)
- 1 Tee "h" 1 Fourway (a806)

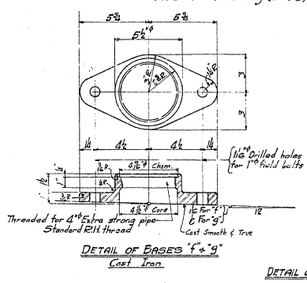
HANDRAIL	GR10
"	GR11
"	GR12
"	GR13
"	GR14
"	GR15
"	GR16
"	GR18
"	GR19
"	GR20
"	GR21
"	GR22
"	GR23
"	GR24
"	GR25
"	GR68
"	GR69
"	GR70
"	GR73
"	GR74
"	GR75
"	GR76
"	GR77
"	GR78

Span No.	Span No. Required by Spans	Total No. Req'd	Description	Mark	Remarks	Weight each Piece

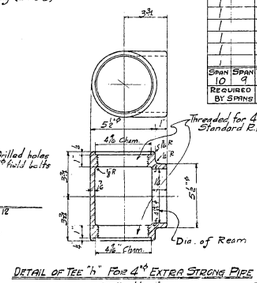
REQUIRED LIST



DETAIL OF FOURWAY (a806) FOR 4" EXTRA STRONG PIPE
Malleable Iron



DETAIL OF BASES "f" & "g"
Cast Iron



DETAIL OF TEE "h" FOR 4" EXTRA STRONG PIPE
Malleable Iron

Date	Revision	App'd

APPROVED

Engineer of Design
Bridge Engineer
Chief Engineer
Date 8-16-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'-0 SPANS - E9 & E10
McCLINTIC-MARSHALL CORPORATION
Chicago DRAWING DOCS Alameda WORTH
TH CHANGE Jenks TRACE OV. R.V.F. B.P.S.M.
CHECKED OV. E.J.F. 1ST. TRACED BY
LAST ARCHES. RIB

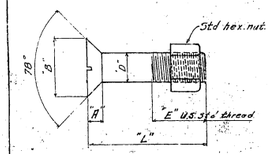
For general notes see sheet #G804

Work this sheet with sheet #G804

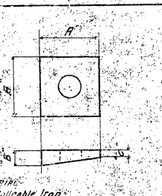
CONTRACT CHANGE

SHEET G 505

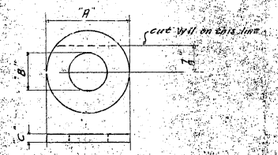
30-1



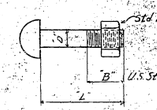
Mark	Descr.	Diam "D"	Lgth "L"	"A"	"B"		"E" Min.	Wt. Ea.
MB2	Flat Hd Bolt	5/8	2½	5/8	1 3/16		1⅛	
MB3	do	¾	2	⅞	1 5/16		1½	
MB4	do	¾	2½	⅞	1 5/16		1½	
MB5	do	¾	2 7/8	⅞	1 5/16		1½	
MB1C	do	⅞	1 5/16	⅞	1 5/16		1½	
MB18	do	⅞	2¼	⅞	1 5/16		1½	
MB22	do	⅞	1½	⅞	1 5/16		1"	
MB28	do	⅞	3⅛	⅞	1 5/16		1½	

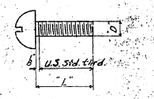


Mark	Descr.	"A"	"B"	"C"	Diam. of hole	Wt. Ea.
W2	Washer	1½	15/32	0/32	11/16	
W3	do.	1½	15/32	7/32	13/16	
W4	do	2	7/16	7/32	17/16	
W8	do	2	7/16	9/32	13/16	
W9	do	2	9/32	9/32	13/16	
W10	do	2	9/32	9/32	15/16	
W12	do	2	5/16	9/16	15/16	
W13	do	1½	9/32	9/16	11/16	

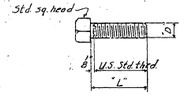


Mark	Descr.	"A"	"B"	"C"	Wt. Ea.
W5	Washer	2⅞	1 3/16	1/8	
W6	do	2⅞	15/16	1/8	
W7	do	3	1 3/16	1/8	
W11	do	3	1 3/16	1/8	





Mark	Descr.	Diam "D"	Lgth "L"	Threads per inch	Wt. Ea.
MB27	Mach. Screws	3/16	1	10	



Mark	Descr.	Diam "D"	Lgth "L"	Threads per inch	Wt. Ea.
MB6	Tap bolts	3/8	2 3/8	11	
MB7	do	3/8	2 3/8	10	

Mark	Descr.	Diam "D"	Lgth "L"	"A" Min.	Wt. Ea.
MB8	Round Hd Bolt	5/8	1 3/4"	11/16	
MB15	do	3/8	2 3/8	1½	
MB10	do	¾	2	1¼	
MB11	do	7/8	2¼	1½	
MB12	do	7/8	2½	1½	
MB13	do	7/8	3	1½	
MB16	do	1/4	3½	1½	
MB17	do	1/4	1 3/4	1¼	
MB20	do	1/4	3½	1½	
MB21	do	9/16	1½	1½	
MB 23	do	1	3½	1 3/4	
MB24	do	1	3½	1 3/4	
MB26	do	1	3	1 3/4	
MB27	do	1	2 3/8	1 3/4	
MB30	do	1	2½	1 3/4	

6	6	12	14	Machine Screws		MB27		
50	20	70	76	Flat Head Bolts		MB2		
41	24	65	70	do		MB3		
	4	4	8	do		MB4		
104	96	200	215	do		MB5		
75	72	147	155	do		MB18		
99	100	199	215	do		MB19		
12	16	28	31	do		MB22		
	1	1	2	do		MB28		
8		8	10	Round Head Bolts		MB8		
23	16	39	43	do		MB15		
160	178	338	354	do		MB10		
52	43	95	102	do		MB11		
141	142	283	296	do		MB12		
14	19	33	36	do		MB13		
6	5	11	13	do		MB16		
428	355	783	820	do		MB17		
6	6	12	16	do		MB20		
8		8	10	do		MB21		
34	34	68	72	do		MB23		
16	16	32	35	do		MB24		
14	18	32	35	do		MB26		
4		4	6	do		MB29		
4		4	6	do		MB30		
50	4	54	58	Tap Bolts		MB6		
	16	16	18	do		MB7		
38		38	42	Beveled Washers		W2		
5	56	61	68	do		W3		
38	38	76	82	do		W4		
4	6	10	12	do		W8		
4	3	7	9	do		W9		
46	49	95	104	do		W10		
8		8	10	do		W12		
8		8	10	do		W13		
1079	946	2025	2225	Washers		W5		
191	237	428	458	do		W6		
18	62	80	85	do		W7		
	22	22	24	do		W11		
Span 9	Span 10	Total Spans	Total Required	Description	Mark	Remarks	Weight Each Item	
Required By Spans				REQUIRED LIST				

Material. All material to be Copper Bearing.

Specifications: Special by State of California, Department of Public Works.
Inspection: By John F. Bailey.
Paint: None

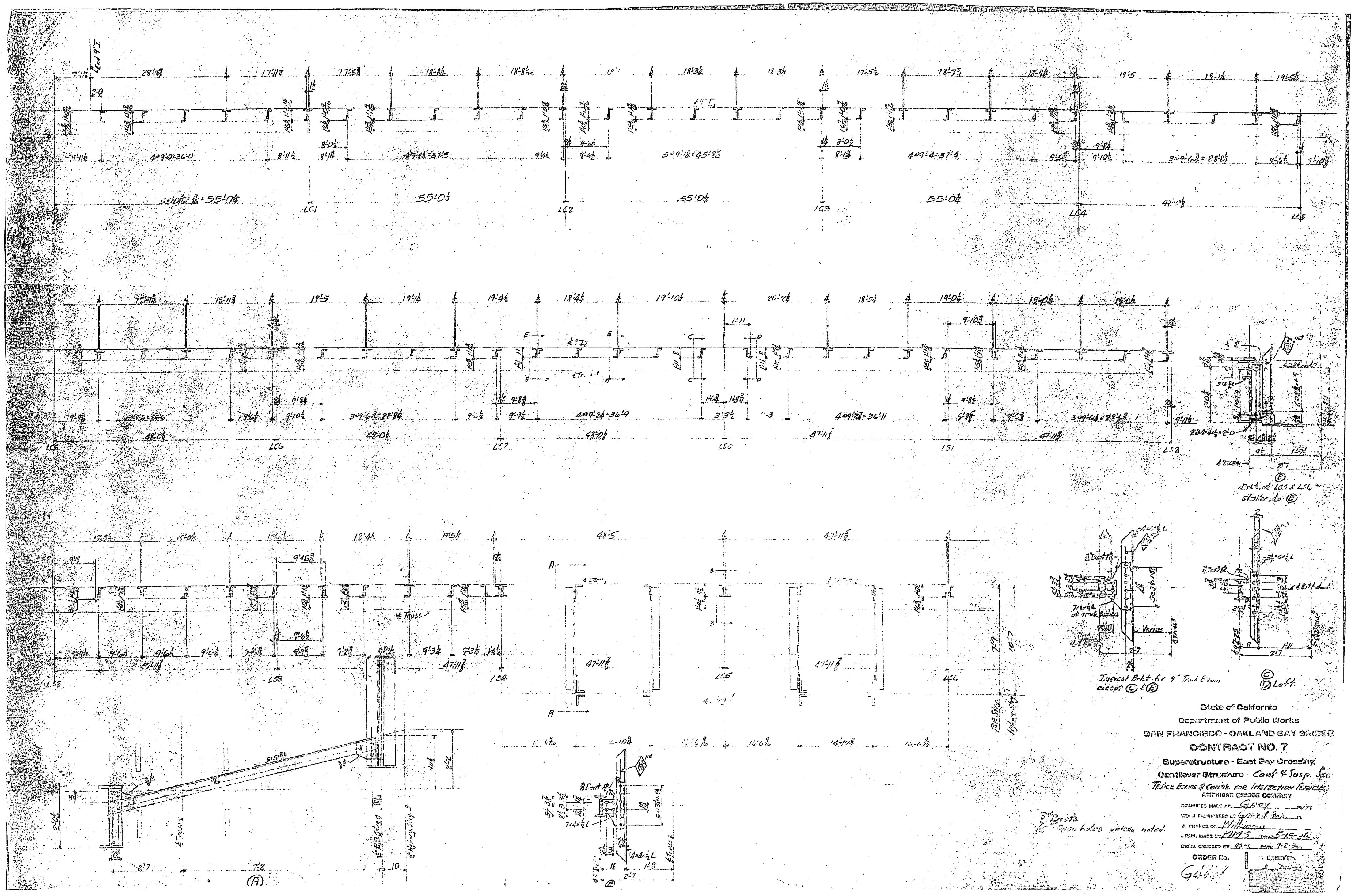
Date	Revised	Appd

APPROVED

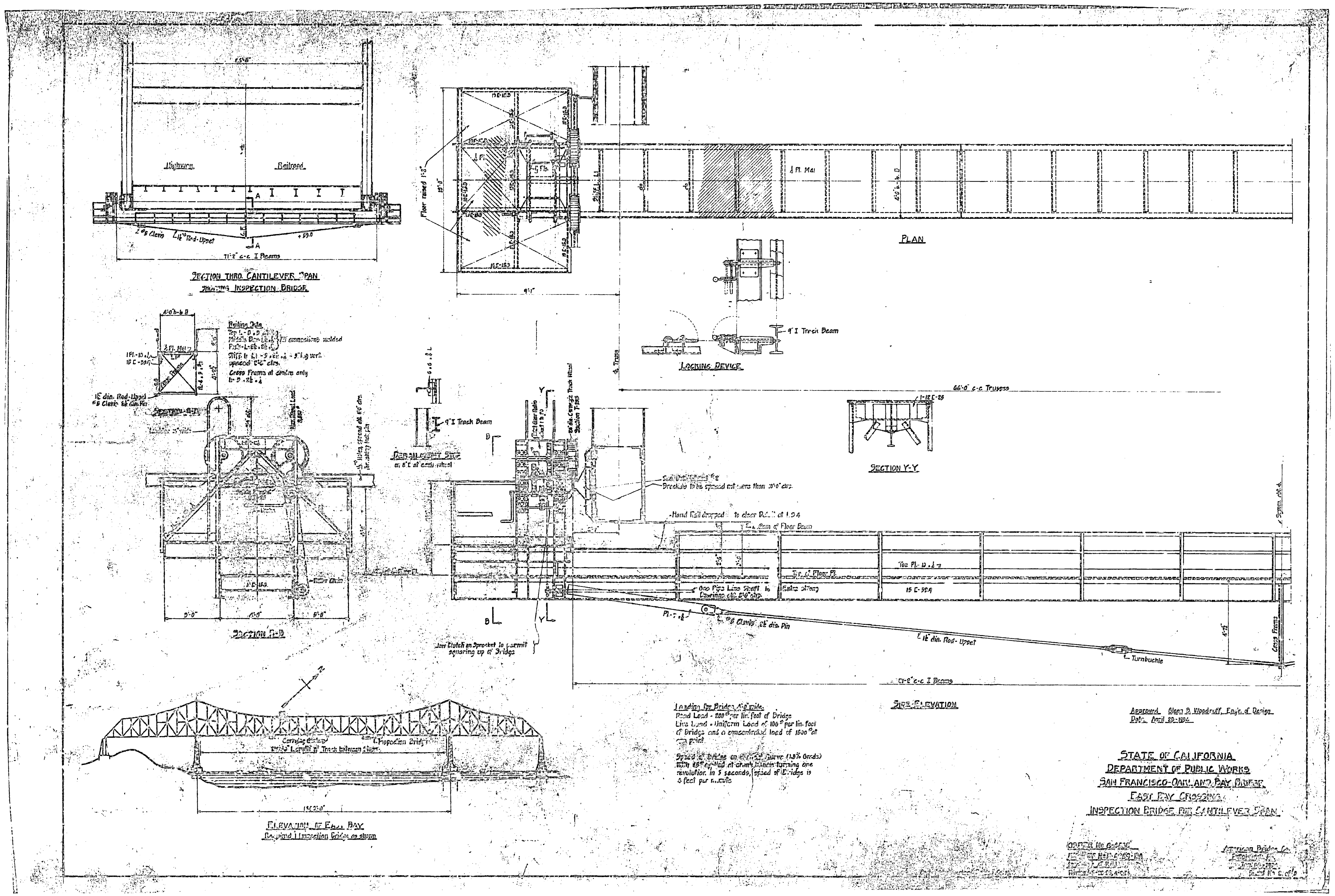
Glenn B. Woodruff — Engineer of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date

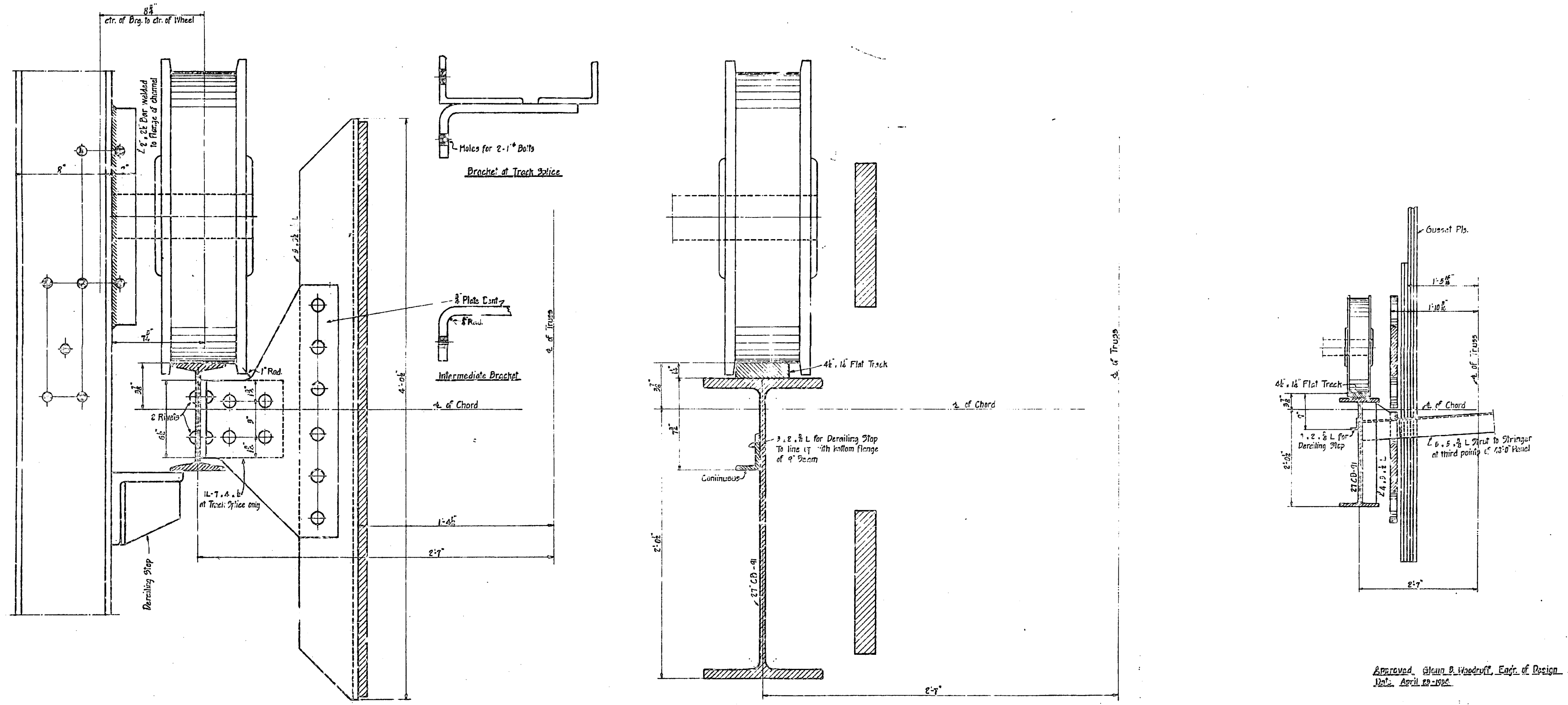
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT No. 7
Superstructure - East Bay Crossing
288'0 Truss Spans. E9 - E23
McCLINTIC-MARSHALL CORPORATION
Chicago District Office Alameda Yard
In charge: Archer Made by: CAR 9-16-30
Checked by: ATA 9-16-30 Traced by: CAR 9-16-30
Last Added Mk.

CONTRACT 07166011 SHEET 13 807



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cant & Susp. Spa
TRACK BEAMS & CONNS. FOR INSPECTION TRAVELERS
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary PLANT
WORK FABRICATED AT Gary & Ambr.
IN CHARGE OF Wilkinson
DRAW. MADE BY MMS DATE 5-15-36
DRAW. CHECKED BY ASM DATE 7-2-36
ORDER No.
SHEET No.


Section thru Cantilever Span
Showing Inspection Bridge
Highway
Railroad
Plan
Locking Device
4" I Track Beam
Section Y-Y
Section B-B
Section A-A
Side Elevation
1½" dia. Rod-Upset
Turnbuckle
Cross Frame
Elevation of East Bay
Loading for Bridge 4'-0" wide.
Dead Load - 200# per lin. foot of Bridge
Live Load - Uniform Load of 100# per lin. foot of Bridge and a concentrated load of 1600# at any point.
Approved Glenn B. Woodruff, Engr. of Design
Date April 20-1934
STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
EAST BAY CROSSING
INSPECTION BRIDGE FOR CANTILEVER SPAN
American Bridge Co.



Track Beams and Brackets when Box Chords occur

Inspection Bridge Wheels shown in position to maintain max. clearance

Track Beams where Ember Girders occur

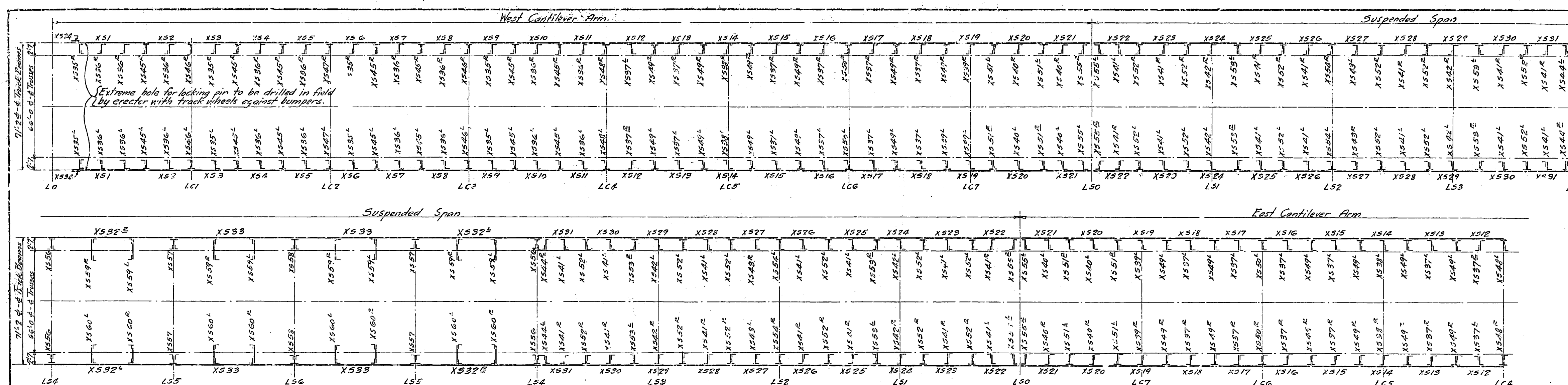
Approved Glenn B. Woodruff, Engr. of Design
Date April 29-1936

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO-OAKLAND BAY BRIDGE
EAST BAY CROSSING
INSPECTION BRIDGE FOR CANTILEVER SPAN

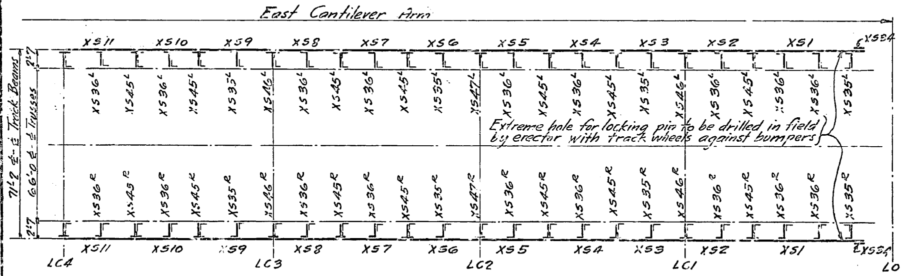
ORDER No. G-8869
In charge of [illegible]
Revised [illegible]

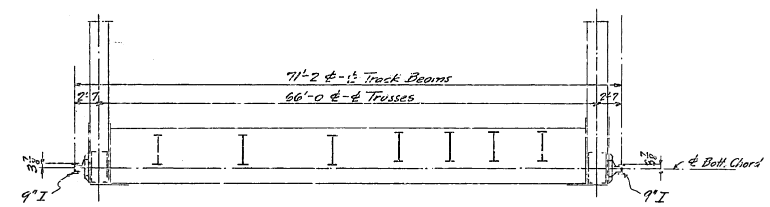
[illegible] Bridge Co.
[illegible]
Sheet No. [illegible] of [illegible]

30-1

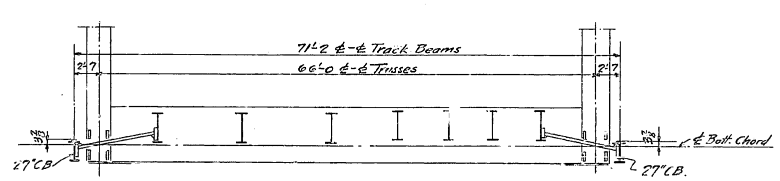


ERECTION PLAN.





Cross Section of Bridge showing Insp. Bridge Track in Panels with Box-Bottom Chord.



Cross Section of Bridge showing Insp. Bridge Track in Panels with Eye Bar-Bottom Chord.

Index to Drawings
E101 Erection Diagram
101+102 Details of Track + Brackets
C101 to C106 Field Rivets
EF101+102 Erection Lists

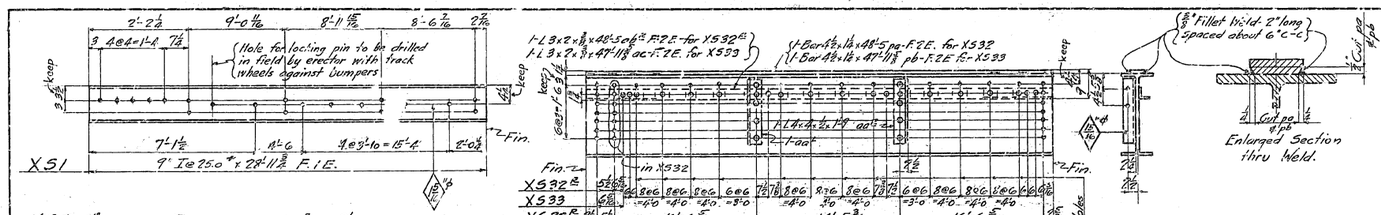
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure {Cantilever Arms and Susp. Span
Erection Plan for Inspection Bridge Track.

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Gary & Ambridge PLANT
IN CHARGE OF Wilkinson
DRAW. MADE BY O.N. DATE 10-10-34
DRAW. CHECKED BY WHG DATE 10-24-34
ORDER No. G4868
SHEET No. E101

Made	Revision	App'd

APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 11-17-34

rr 7MBP. 11-27-34



X52	2 11/16	8'-11 15/16	8'-6 3/8
X53	3 1/8	8'-1 3/8	8'-10 3/8
X54	3	9'-4 1/4	8'-10 3/8
X55	3	9'-4 1/4	3'-11
X56	3	9'-4 7/16	8'-8 7/16
X57	3 1/8	9'-1 11/16	8'-8 7/16
X59	3	8'-1 11/16	8'-10 3/8
X510	2 11/16	9'-4	8'-10 7/16
X511	3	9'-4	9'-0
X512	3	9'-1 4 1/2	9'-7 1/4
X513	3	9'-6 5/8	9'-1 5/8
X514	3	9'-6 1/2	9'-5 5/8
X515	2 7/8	9'-6	9'-0 1/2
X516	2 7/8	9'-6	9'-0 3/8
X517	3	9'-10 1/2	9'-1 3/8
X58	3 1/8	9'-1 7/16	8'-8 7/16

X518	2 11/16	9'-6 7/16	9'-1 7/16
X519	2 11/16	9'-6 7/16	9'-1 7/16
X520	2 7/8	9'-2	8'-9
X523	3	9'-2 3/8	8'-9 1/2
X524	3	9'-2 3/8	9'-3 5/8
X525	3	9'-6 3/8	9'-0 3/8
X526	3	9'-6 3/8	9'-0 3/8
X527	3	9'-6 1/2	9'-6
X528	3	9'-6 3/8	9'-0 3/8
X529	3	9'-6 7/8	9'-3 5/8
X530	2 7/8	9'-2 3/8	8'-8 3/8

X571	9/16	9'-2	9'-2 1/2
X522	7/8	9'-0 1/2	9'-6
X531	3	9'-3 1/16	8'-9 1/2

X571	1'-0	5 @ 3'-5 = 17'-1	1'-9 1/2
X522	1'-0	5 @ 3'-5 = 17'-1	2'-1 1/2
X531	1'-0	5 @ 3'-4 = 16'-8	1'-9 1/2

9" I @ 25.0# x 19'-10 1/2 F.E.E.
9" I @ 25.0# x 20'-2 1/2 F.E.E.
9" I @ 25.0# x 19'-5 1/4 F.E.E.

X52	1'-0	4 @ 3'-6 = 14'-0	2'-11 3/8
X53	1'-0	4 @ 3'-6 = 14'-0	2'-5 3/8
X54	1'-0	4 @ 3'-10 = 15'-4	2'-4 1/2
X55	1'-0	4 @ 3'-10 = 15'-4	2'-4 1/2
X56	1'-0	4 @ 3'-10 = 15'-4	2'-2
X57	1'-0	4 @ 3'-10 = 15'-4	1'-11 1/2
X59	1'-0	4 @ 3'-6 = 14'-0	2'-5 3/8
X510	1'-0	4 @ 3'-10 = 15'-4	2'-5 3/8
X511	1'-0	4 @ 3'-10 = 15'-4	2'-5 1/4
X512	1'-0	4 @ 4'-0 = 16'-0	2'-5
X513	1'-0	4 @ 4'-0 = 16'-0	2'-1 1/2
X514	1'-0	4 @ 4'-0 = 16'-0	2'-5 3/8
X515	1'-0	4 @ 4'-0 = 16'-0	1'-11 3/8
X516	1'-0	4 @ 4'-0 = 16'-0	1'-11 3/8
X517	1'-0	4 @ 4'-0 = 16'-0	2'-5
X58	1'-0	4 @ 3'-11 = 15'-4	1'-11 1/2

9" I @ 25.0# x 17'-11 1/2 F.E.E.
9" I @ 25.0# x 17'-5 3/8 F.E.E.
9" I @ 25.0# x 18'-8 1/2 F.E.E.
9" I @ 25.0# x 19'-2 1/2 F.E.E.
9" I @ 25.0# x 18'-6 F.E.E.
9" I @ 25.0# x 18'-3 3/4 F.E.E.
9" I @ 25.0# x 17'-9 1/2 F.E.E.
9" I @ 25.0# x 18'-7 3/4 F.E.E.
9" I @ 25.0# x 18'-9 1/4 F.E.E.
9" I @ 25.0# x 19'-5 F.E.E.
9" I @ 25.0# x 19'-4 1/2 F.E.E.
9" I @ 25.0# x 19'-5 1/4 F.E.E.
9" I @ 25.0# x 18'-11 1/2 F.E.E.
9" I @ 25.0# x 18'-11 1/2 F.E.E.
9" I @ 25.0# x 19'-3 F.E.E.
9" I @ 25.0# x 18'-3 3/4 F.E.E.

X518	1'-0	4 @ 4'-0 = 16'-0	2'-1 1/2
X519	1'-0	4 @ 4'-0 = 16'-0	2'-4 3/8
X520	1'-0	4 @ 3'-10 = 15'-4	2'-0 3/4
X523	1'-0	4 @ 3'-10 = 15'-4	2'-1 1/2
X524	1'-0	4 @ 4'-0 = 16'-0	2'-0 3/4
X525	1'-0	4 @ 4'-0 = 16'-0	2'-0 3/4
X526	1'-0	4 @ 4'-0 = 16'-0	2'-0 3/4
X527	1'-0	4 @ 4'-0 = 16'-0	2'-5 1/2
X528	1'-0	4 @ 4'-0 = 16'-0	2'-0 3/4
X529	1'-0	4 @ 4'-0 = 16'-0	2'-4 3/4
X530	1'-0	4 @ 3'-10 = 15'-4	2'-0 3/4

9" I @ 25.0# x 19'-1 1/2 F.E.E.
9" I @ 25.0# x 19'-4 1/2 F.E.E.
9" I @ 25.0# x 18'-4 3/4 F.E.E.
9" I @ 25.0# x 18'-5 3/4 F.E.E.
9" I @ 25.0# x 19'-0 3/4 F.E.E.
9" I @ 25.0# x 19'-0 3/4 F.E.E.
9" I @ 25.0# x 19'-0 3/4 F.E.E.
9" I @ 25.0# x 19'-5 1/4 F.E.E.
9" I @ 25.0# x 19'-0 3/4 F.E.E.
9" I @ 25.0# x 19'-4 1/2 F.E.E.
9" I @ 25.0# x 18'-4 3/4 F.E.E.

NOTE:-
Beams must be straight and true to length, and Top Flgs. square with webs.

West Cant.	Susp. Span	East Cant.	Total	REQUIRED	
2		2	4	Inspection Bridge Stringer	X51
2		2	4	do	X52
2		2	4	do	X53
2		2	4	do	X54
2		2	4	do	X55
2		2	4	do	X56
2		2	4	do	X57
2		2	4	do	X59
2		2	4	do	X510
2		2	4	do	X511
2		2	4	do	X512
2		2	4	do	X513
2		2	4	do	X514
2		2	4	do	X515
2		2	4	do	X516
2		2	4	do	X517
2		2	4	do	X518
2		2	4	do	X519
2		2	4	do	X520
2		2	4	do	X521
	4		4	do	X522
	4		4	do	X523
	4		4	do	X524
	4		4	do	X525
	4		4	do	X526
	4		4	do	X527
	4		4	do	X528
	4		4	do	X529
	4		4	do	X530
	4		4	do	X531
	2		2	do	X527R
	2		2	do	X532L
	4		4	do	X533
2		2	4	do	X58

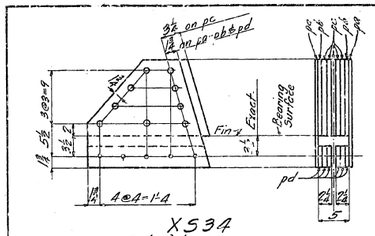
GENERAL NOTES:-
Material:- All material to be of Copper bearing medium carbon steel
Specifications:- Special by State of California Department of Public Works.
Inspection:- John M. Bailey, Chief Inspector.
Rivets:- 7/8" @ (Copper bearing)
Open Holes: 1 1/16". Unless noted.
Reaming:- None
Paint:- None

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure { East & West Cant. Arms / and Suspended Span
Inspection Bridge Stringers
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DRAWN, TRACED BY O.H. DATE 10-4-34
DRAWN, CHECKED BY W.H.G. DATE 10-24-34
ORDER No. G4868
SHEET No. 101

Date	Revision	Appd

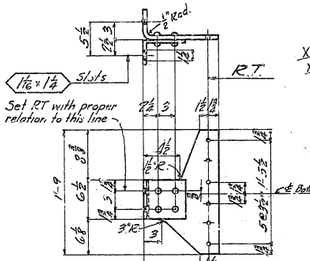
APPROVED
Glenn B. Woodruff, Engr. of Bridges
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 11-17-34

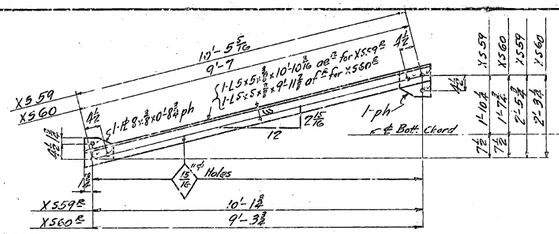
W. H. G. 11-23-34



X534

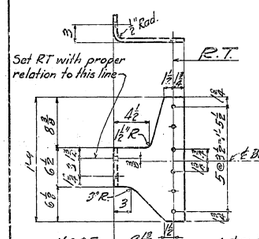
2-L⁵ 12½ x 2½ x ½ x 1'-8 pa
2-L⁵ 12½ x 3½ x ½ x 1'-6½ pb Fin. 1 Edge
5-L⁵ 12½ x 3½ x ½ x 1'-8½ pc Fin. 1 Edge
6-Bars 3½ x ⅞ x 1'-8 pd





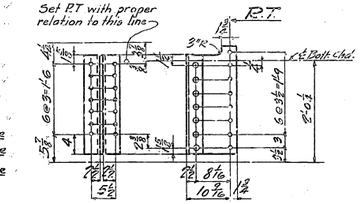
X559℄ & X560℄

10 13/16	X545℄	{1-L 7 x 4 x ½ x 0'-6 oa 1-℄ 21 x 2½ x 1'-5½ ha℄
10 3/16	X546℄	{1-oa 1-℄ 21 x ⅝ x 1'-4½ hb℄
10 1/16	X547℄	{1-oa 1-℄ 21 x ⅝ x 1'-4½ hc℄
9 1/16	X548℄	{1-oa 1-℄ 21 x ⅝ x 1'-3½ hd℄
11½	X549℄	{1-oa 1-℄ 21 x ⅝ x 1'-6½ he℄
10 15/16	X550℄	{1-oa 1-℄ 21 x ⅝ x 1'-5½ hf℄
8¼	X551℄	{1-oa 1-℄ 21 x ⅝ x 1'-2¾ hg℄
11⅜	X552℄	{1-oa 1-℄ 21 x ⅝ x 1'-6⅛ hh℄
11	X553℄	{1-oa 1-℄ 21 x ⅝ x 1'-5½ hk℄
11⅛	X554℄	{1-oa 1-℄ 21 x ¾ x 1'-5⅝ hm℄



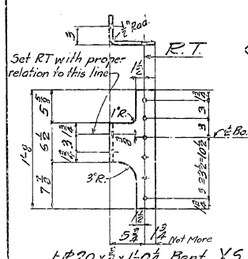
X535	9 13/16
X536	10 15/16
X537	11 7/16
X538	11 1/16
X539	10 15/16
X540	8¼
X541	11⅜
X542	11⅛
X543	11
X544	10 13/16

1-℄ 21 x ⅜ x 1'-4½ Bent. X535℄
1-℄ 21 x ⅜ x 1'-5½ Bent. X536℄
1-℄ 21 x ⅜ x 1'-6½ Bent. X537℄
1-℄ 21 x ⅝ x 1'-5½ Bent. X538℄
1-℄ 21 x ⅜ x 1'-5½ Bent. X539℄
1-℄ 21 x ⅜ x 1'-2¾ Bent. X540℄
1-℄ 21 x ⅜ x 1'-6½ Bent. X541℄
1-℄ 21 x ⅜ x 1'-5½ Bent. X542℄
1-℄ 21 x ⅜ x 1'-5½ Bent. X543℄
1-℄ 21 x ⅜ x 1'-4⅞ Bent. X544℄

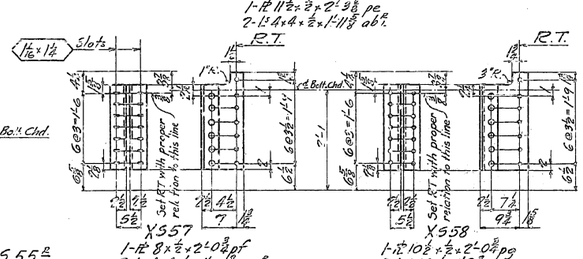


X556

1-℄ 11½ x ½ x 2'-3⅝ pe
2-L 4 x 4 x ½ x 1'-11⅝ ab℄



1-℄ 20 x ⅝ x 1'-0¼ Bent. X555℄



X557

1-℄ 8 x ½ x 2'-0½ pf
2-L 4 x 4 x ½ x 1'-9½ oc℄

X558

1-℄ 10½ x ½ x 2'-0½ pg
2-L 4 x 4 x ½ x 1'-9½ og℄

West Cant.	Susp. Span	East Cant.	Total	REQUIRED	
2		2	4	Crane Stops	X534
4		4	8	Track Supports	X535℄
4		4	8	" "	X535℄
9		9	18	" "	X536℄
9		9	18	" "	X536℄
6		6	12	" "	X537℄
6		6	12	" "	X537℄
1		1	2	" "	X538℄
1		1	2	" "	X539℄
1		1	2	" "	X539℄
1		1	2	" "	X540℄
2		2	4	" "	X540℄
2		2	4	" "	X540℄
	14		14	" "	X541℄
	14		14	" "	X541℄
	4		4	" "	X542℄
	4		4	" "	X542℄
	2		2	" "	X543℄
	2		2	" "	X543℄
	2		2	" "	X544℄
	2		2	" "	X544℄
7		7	14	" "	X545℄
7		7	14	" "	X545℄
2		2	4	" "	X546℄
2		2	4	" "	X546℄
1		1	2	" "	X547℄
1		1	2	" "	X547℄
1		1	2	" "	X548℄
1		1	2	" "	X548℄
6		6	12	" "	X549℄
6		6	12	" "	X549℄
1		1	2	" "	X550℄
1		1	2	" "	X550℄
2		2	4	" "	X551℄
2		2	4	" "	X551℄
	12		12	" "	X552℄
	10		12	" "	X552℄
	4		4	" "	X553℄
	4		4	" "	X553℄
	2		2	" "	X554℄
	2		2	" "	X554℄
1	2	1	4	" "	X555℄
1	2	1	4	" "	X555℄
	4		4	" "	X556
	4		4	" "	X557
	2		2	" "	X558
	4		4	Struts	X559℄
	4		4	do	X559℄
	4		4	do	X560℄
	4		4	do	X560℄

Gen. NOTES:-
Material:- All material to be O.H. copper bearing carbon steel
Specifications:- Special by State of California Department of Public Works.
Inspection:- John M. Bailey, Chief Inspector.
Rivets:- ⅞" (Copper bearing)
Open Holes:- 1/16" Unless noted.
Reaming:- None, except holes marked R.T. to be reamed through a steel templet.
Paint:- None.

(For Shop Rivets see Sh. CF 101)

Date	Revision	Init.

APPROVED
Glenn B. Woodruff, Chas. E. Andrew, C. H. Purcell
Engr. of Design, Bridge Engineer, Chief Engineer
Approved Date: 11-17-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure (Cantilever Arms and Susp. Span)
Crane Stops and Track Supports for Inspecting Bridge
AMERICAN BRIDGE COMPANY

DRAWING MADE AT Gary, Ind. PLANT
TRUSS FABRICATED AT Gary PLANT
IN CHARGE OF W. H. Wilson
DRAWN, TRACED BY O.N. DATE 10-10-34
DRAWN, CHECKED BY W.H.G. DATE 10-24-34
ORDER No. G4868 SHEET No. 102

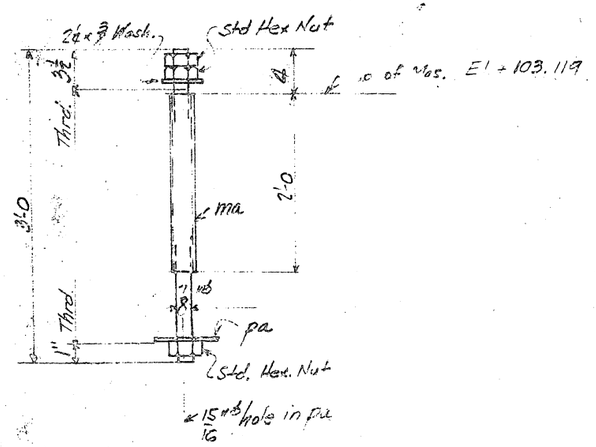
Rev 1-7-35

W M 619 - 11-27-34

DUPLICATE

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



MEMBER NO. PCS	MEMBER NAME	MEMBER MARK	MATERIAL NO. PCS.	MATERIAL SHAPE	LENGTH FT.	LENGTH IN.	+ IN.	REMARKS	TOTAL CALCULATED WEIGHT	ORDERED NO. PCS.	ORDERED LENGTH FT.	ORDERED LENGTH IN.	ORDERED ITEM	SHIPMENTS
32	Rock Bolts	MA7	32	Rods 2¼" ø	3	0			1376				5	
			96	Hex Nuts 2" Tap.					278				5	
			32	Washers 2½" x 2½" x ¾"				End Hole	44				5	
			32	PL 4 x ½	0	4		pa.	43				5	
			32	Rods 1½" ø Pipe	2	0		ma	1744				5	
									4785					
								Bldg. Total -	4785					

Anchor Bolts for Anchorage at Pier E1
Paint - None
Pier Total - 4785

Material - C. H. Copper Bearing Steel.

Made	Revision	App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 3-28-36

Job: San Francisco-Oakland Bay Bridge — Contract No. — East Bay Structures

DUPLICATE

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY

LINE NO.	SKETCH	NO. PCS.	MARK	MATERIAL SHAPE	MATERIAL LENGTH FT.	MATERIAL LENGTH IN.	ORDERED NO. PCS.	ORDERED LENGTH FT.	ORDERED LENGTH IN.	ORDERED ITEM	SHIPMENTS
1											
2											
3											
4	6 x ⅜ x 0-6 2⅜" Hole	16	MA23	2¼" ø Rod	10	0	16	10	0½	1020	
5		16		PL 6 x ¾	0	6				5	
6	10'-0 Thrd. 3" Thrd. 2⅜" ø MA23	16		PL 7 x 1	0	9				5	
7		48		Hex Nuts 2⅜" Tap						Reg. 12946	
8											
9											
10											
11											
12											
13											
14											
15											
16											
17	2-0 Thrd. 3 1" ø MA24	36	MA24	1" ø Rod	2	0				5	
18	4 x ½ x 0-5 ⅞ Hole	36		PL 4 x ½	0	4				5	
19		36		Washers 2½" x 2½" x ⅞" ø Hole						5	
20		72		Hex Nuts 1" ø Tap						5	
21											
22											
23											
24											
25											
26											
27											
28											
29											
30											
31											
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44											
45											
46											

Made	Revision	App'd

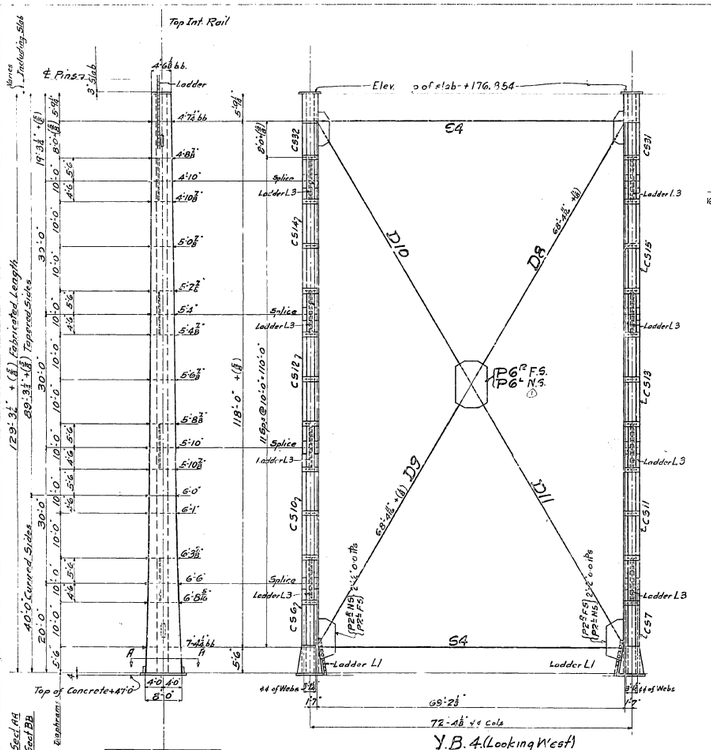
APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date Feb. 20, 1936

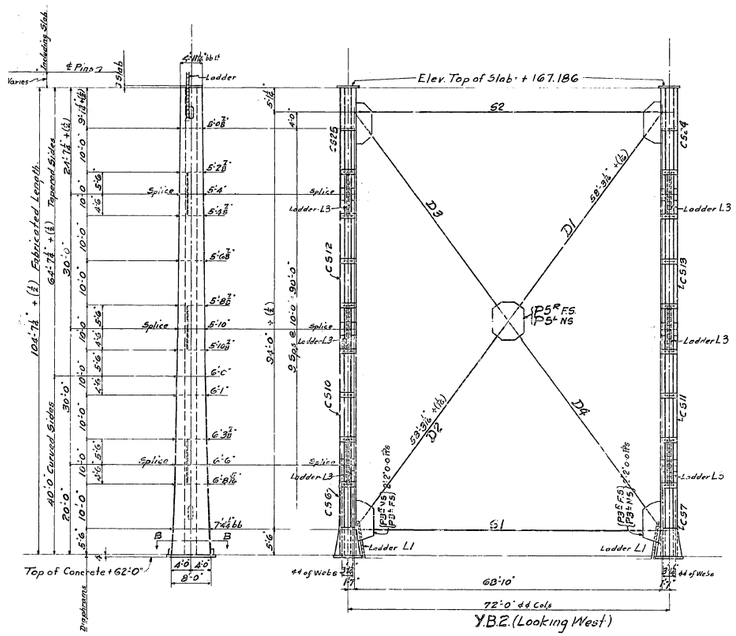
Anchor Bolts for Anchorage at Pier E1
Paint - None
Pier Total - 3243

Job: San Francisco-Oakland Bay Bridge — Contract No. — East Bay Structures

16

30-1





Note to Erector:-
Top Strut S2 on YB2 must be erected before diagonals D1 & D3 are placed.

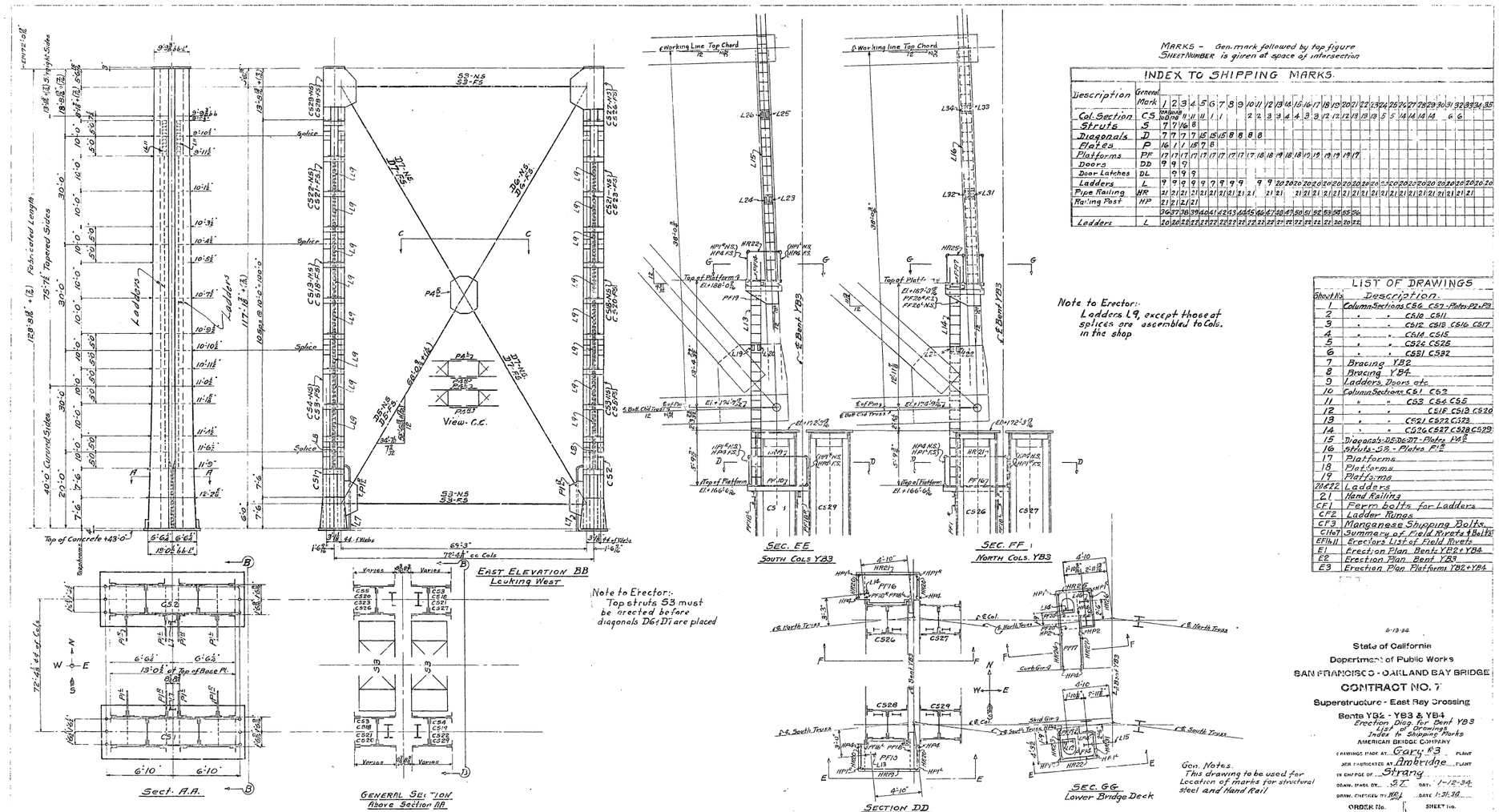
Gen. Notes:-
See sheet E2 for List of Drawings and index to Marks.
See sheet E3 for erection of Platforms and Ladders to roadway level.
This drawing to be used for location of marks for structural steel only.

℄ Strike Erection of Struts

3-30-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Bents YB2 - YB3 & YB4
ERECTION PLAN - BENTS YB2 & YB4
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK LOCATED AT Ambridge PLANT
ENGR. IN CHARGE OF Strang
DRAWN BY G.T. DATE 1-9-34
CHECKED BY R.P.W. DATE 2-16-34
ORDER NO. G5100
SHEET NO. E1

30-1



MARKS – Gen. mark followed by top figure
SHEET NUMBER is given at space of intersection

INDEX TO SHIPPING MARKS

Description	General Mark	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
Col. Section	CS	Embedded 10	10	11	11	11	1	1			2	2	3	3	4	4	3	3	12	12	12	13	13	13	5	5	14	14	14	14	6	6					
Struts	S	7	7	16	8																															
Diagonals	D	7	7	7	7	15	15	15	8	8	8	8	6																							
Plates	P	16	1	1	15	7	8																													
Platforms	PF	17	17	17	17	17	17	17	17	17	17	17	17	18	18	18	19	18	18	19	19	19	19	19	19	17										
Doors	DD	9	9	9																																
Door Latches	DL		9	9	9																															
Ladders	L	9	9	9	9	9	7	9	9	9		9	9	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Pipe Railing	HP	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
Railing Post	HP	21	21	21	21																															
		36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56														
Ladders	L	20	20	22	21	22	22	22	22	22	22	21	22	22	22	22	21	22	22	21	20	20	22													

LIST OF DRAWINGS

Sheet No.	Description.
1	Column Sections CS6 CS7 Plates P2 P3
2	" " CS10 CS11
3	" " CS12 CS13 CS16 CS17
4	" " CS14 CS15
5	" " CS24 CS25
6	" " CS31 CS32
7	Bracing YB2
8	Bracing YB4
9	Ladders, Doors etc.
10	Column Sections CS1 CS3
11	" " CS3 CS4 CS5
12	" " CS18 CS19 CS20
13	" " CS21 CS22 CS23
14	" " CS26 CS27 CS28 CS29
15	Diagonals D5 to D7 - Plates P4 & P5
16	Struts S3 - Plates P1 & P2
17	Platforms
18	Platforms
19	Platforms
20 & 22	Ladders
21	Hand Railing
CF1	Form bolts for Ladders
CF2	Ladder Rungs
CF3	Manganese Shipping Bolts
CH&I	Summary of Field Rivets & Bolts
EF1 & II	Erector's List of Field Rivets
E1	Erection Plan Bents YB2 & YB4
E2	Erection Plan Bent YB3
E3	Erection Plan Platforms YB2 + YB4

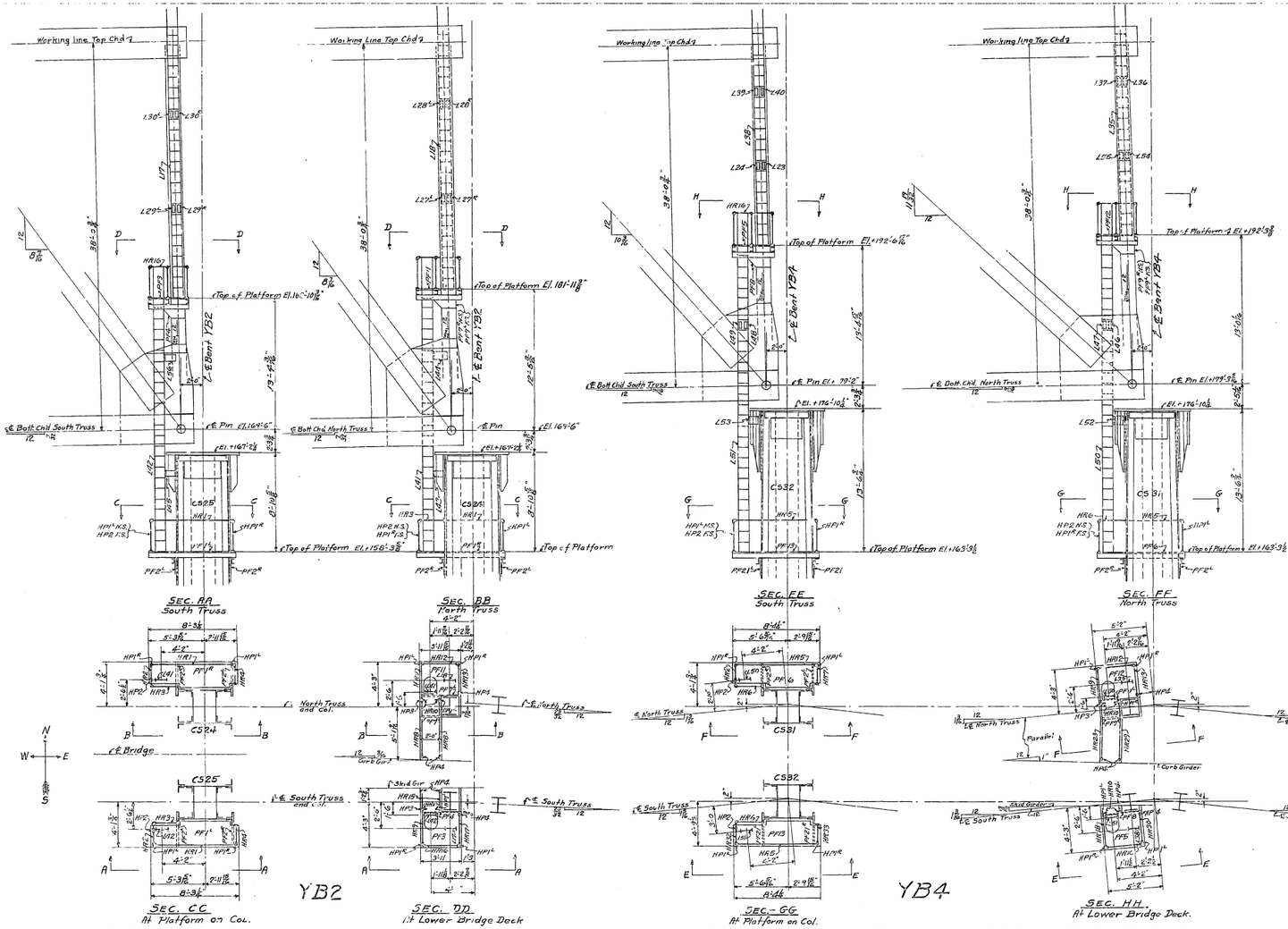
6-13-34.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Bents YB2 - YB3 & YB4
Erection Diag. for Bent YB3
List of Drawings
Index to Shipping Marks
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary, Ind. PLANT
STEEL FABRICATED AT Ambridge PLANT
IN CHARGE OF Strang
DRAWN, TRACED BY SZ DATE 1-12-34
DRAWN, CHECKED BY MPJ DATE 1-31-34

ORDER No. 65100
SHEET No. E2

E3-1



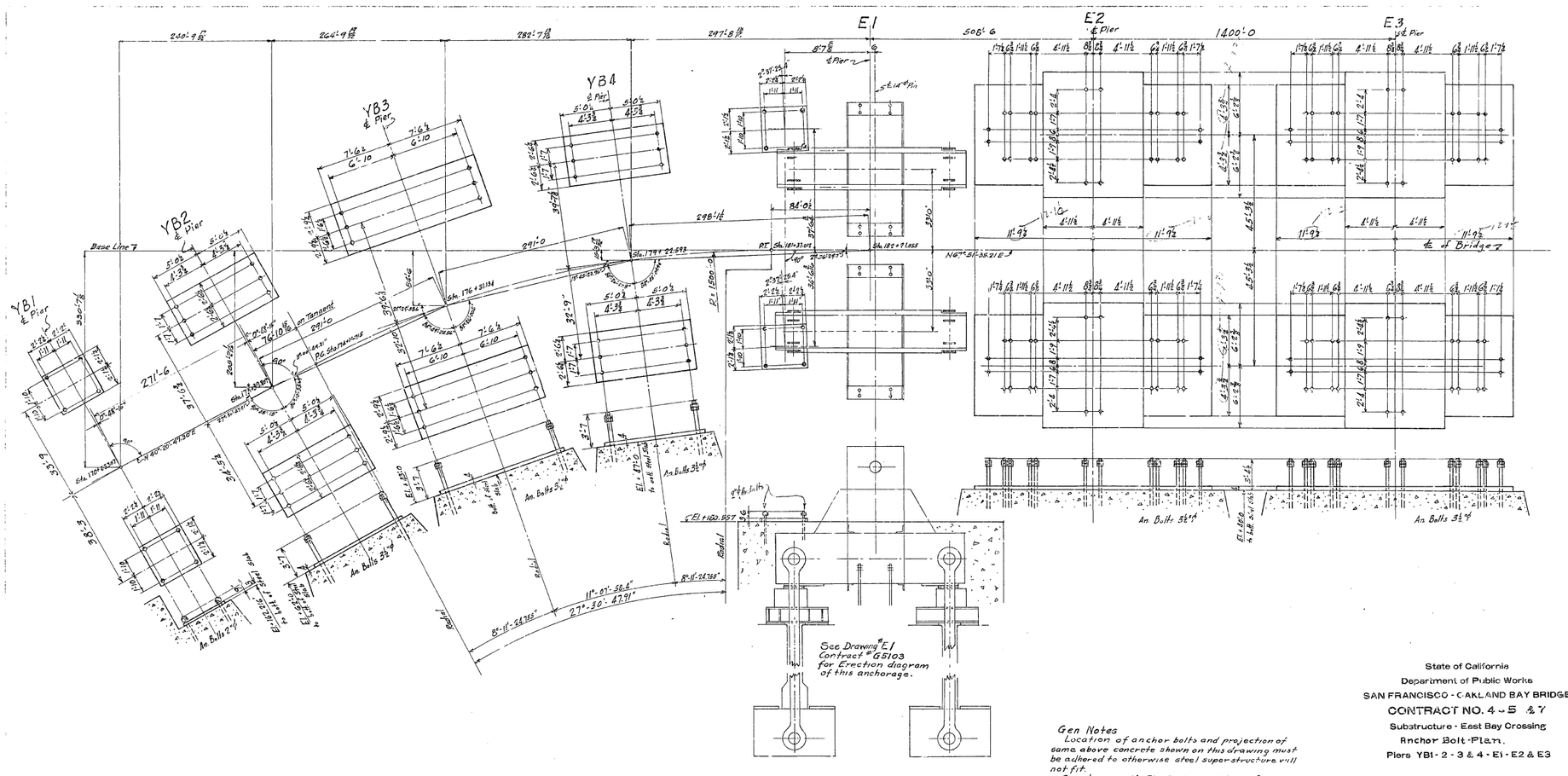
6-13-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Bents YB2 · YB3 & YB4
ERECTION PLAN OF PLATFORMS AT TOP OF BENTS YB2 & YB4

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
& FABRICATED AT Embridge PLANT
A CHANGE OF Strang
DRAWN, MADE BY CHS DATE 4-1-34
DRAWN, CHECKED BY H.M.C. DATE 4-25-34

ORDER No. G5100 | SHEET No. E3

90-1



Gen Notes

Location of anchor bolts and projection of same above concrete shown on this drawing must be adhered to otherwise steel superstructure will not fit.

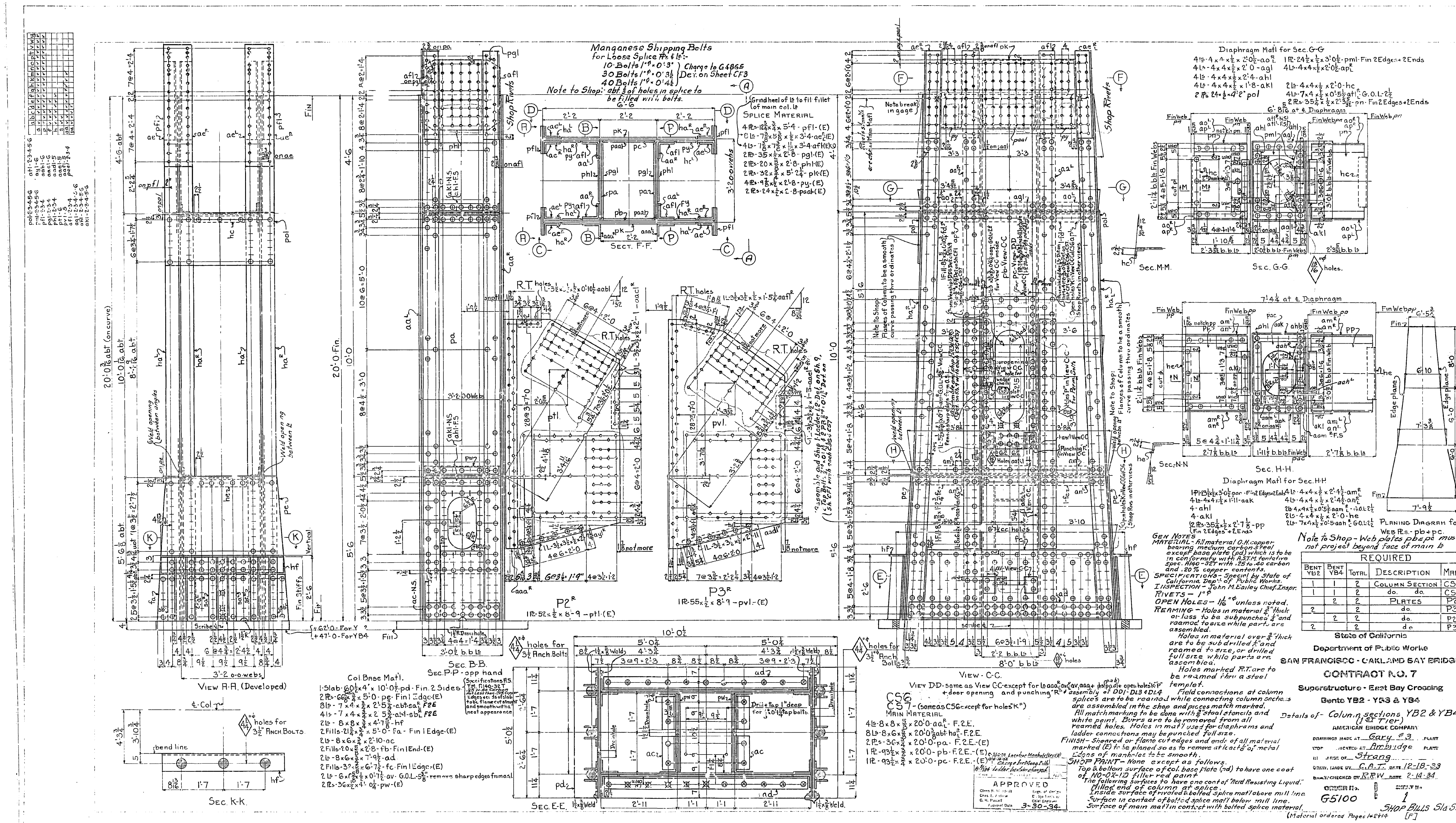
See drawing No E1 Contract No G5103 for erection diagram of anchorage at pier E1.

This plan to be used for Location and elevation of anchor bolts only.

Column base slabs at piers E2 + E3 to be shipped loose. Slabs at piers YB1-2-3-4 and E1 are to be shipped riveted to columns and bridge shoes.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 4 - 5 & 7
Substructure - East Bay Crossing
Anchor Bolt Plan.
Piers YB1 - 2 - 3 & 4 - E1 - E2 & E3

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
FABRICATED AT None PLANT
CHANGE OF Strazza
DRAW. MADE BY L.F.B. DATE 12-2-33
DRAW. CHECKED BY L.H. DATE 12-16-33
ORDER No. G5100-08 SHEET No. E100



Manganese Shipping Bolts for Loose Splice Pls & Ls:-
10 Bolts 1"φ × 0'-3"
30 Bolts 1"φ × 0'-3 1/2"
40 Bolts 1"φ × 0'-4 1/2"
} Charge to G4865 Det. on Sheet CF3

Note to Shop:- abt. 1/3 of holes in splice to be filled with bolts.

Grind heel of Ls to fit fillet of main col. Ls

SPLICE MATERIAL
4 Pls - 12 3/4 × 3/4 × 5'-4 - pf1 - (E)
8 Ls - 7 3/8 × 5 3/8 × 1/2 × 3'-4 - ae R/L (E)
4 Ls - 7 3/8 × 7 3/8 × 11/16 × 3'-4 - af1 (E)
2 Pls - 35 × 1/2 × 2'-8 - pg1 - (E)
2 Pls - 20 × 5/8 × 2'-8 - ph1 - (E)
2 Pls - 32 × 3/4 × 5'-2 1/4 - pk - (E)
4 Pls - 9 7/8 × 1/2 × 2'-8 - py - (E)
2 Pls - 24 × 1/2 × 2'-8 - paa1 - (E)

Diaphragm Mat'l for Sec. G-G
4 Ls - 4 × 4 × 1/2 × 2'-0 1/2 - ao R/L
4 Ls - 4 × 4 × 1/2 × 2'-0 - ag1
4 Ls - 4 × 4 × 1/2 × 2'-4 - ah1
4 Ls - 4 × 4 × 1/2 × 1'-8 - ak1
2 Pls 24 × 1/2 × 4'-2" po1
1 Pl - 24 1/2 × 1/2 × 3'-0 1/2 - pm1 - Fin 2 Edges + 2 Ends
4 Ls - 4 × 4 × 1/2 × 2'-0 1/2 - ap R/L
2 Ls - 4 × 4 × 1/2 × 2'-0 - hc
4 Ls - 7 × 4 × 1/2 × 0'-5 1/2 - at1 R/L - G.O.L. - 2 1/2
2 Pls - 35 1/4 × 1/2 × 2'-3 5/32 - pn - Fin 2 Edges + 2 Ends

Diaphragm Mat'l for Sec. H-H
1 Pl - 23 1/2 × 1/2 × 3'-0 1/2 - pac - Fin 2 Edges + 2 Ends
4 Ls - 4 × 4 × 1/2 × 1'-11 - aak
4 - ah1
4 - ak1
2 Pls - 35 1/4 × 1/2 × 2'-7 1/8 - pp (Fin 2 Edges + 2 Ends)
4 Ls - 4 × 4 × 1/2 × 2'-4 1/2 - am R/L
4 Ls - 4 × 4 × 1/2 × 2'-4 1/2 - an R/L
2 Ls - 4 × 4 × 1/2 × 0'-5 1/2 - aam R/L - G.O.L. 2 1/2
2 Ls - 4 × 4 × 1/2 × 2'-0 - he
2 Ls - 7 × 4 × 1/2 × 0'-5 - aah R/L G.O.L. 2 1/2

Note to Shop - Web plates pb & pc must not project beyond face of main Ls

Col. Base Mat'l.
1 - Slab - 60 1/2 × 4" × 10'-0 1/2 - pd - Fin. 2 Sides.
2 Pls - 66 5/8 × 3/4 × 5'-0 - pe - Fin 1 Edge - (E)
8 Ls - 7 × 4 × 3/4 × 2'-5 3/4 - abt - sa R/L F2E
4 Ls - 7 × 4 × 3/4 × 2'-5 3/4 - abt - sb R/L F2E
2 Ls - 8 × 8 × 3/4 × 4'-7 5/8 - hf
2 Fills - 21 3/4 × 3/4 × 5'-0 - fa - Fin 1 Edge - (E)
2 Ls - 8 × 6 × 3/4 × 2'-10 - ac
2 Fills - 20 × 5/8 × 2'-8 - fb - Fin 1 End - (E)
2 Ls - 8 × 6 × 3/4 × 7'-9 1/2 - ad
2 Fills - 32 × 5/8 × 6'-7 1/2 - fc - Fin 1 Edge - (E)
2 Ls - 6 × 6 5/8 × 1/2 × 0'-7 1/2 - av - G.O.L. - 5 3/8" - remove sharp edges from o.s.l.
2 Pls - 36 × 1/2 × 4'-0 1/4 - pw - (E)

Specifications A.S.T.M. A140-32T .25 to .40 Carbon not less than .20% Copper. Edges & ends of slab to be flame cut straight and smooth with a neat appearance

View D-D - same as View C-C - except for Ls aaa R/L, aw R/L, av, aag + pls (pab) (pad) + open holes "K" "P" + door opening and punching "R" & assembly of DD1 - DL3 & DL4

CS6
CS7 - (same as CS6 except for holes "K")
MAIN MATERIAL
4 Ls - 8 × 8 × 5/8 × 20'-0 - aa R/L - F.2.E.
8 Ls - 8 × 6 × 5/8 × 20'-0 3/8 abt - ha R/L - F.2.E.
2 Pls - 36 × 3/4 × 20'-0 - pa - F.2.E. - (E)
1 Pl - 93 1/2 × 3/4 × 20'-0 - pb - F.2.E. - (E)
1 Pl - 93 1/2 × 3/4 × 20'-0 - pc - F.2.E. - (E)

C 5-16-34 Location Manhole (Sect. B)
B 5-14-34 Charge for Mang. Bolts
A 5-1-34 Ladder location changed.

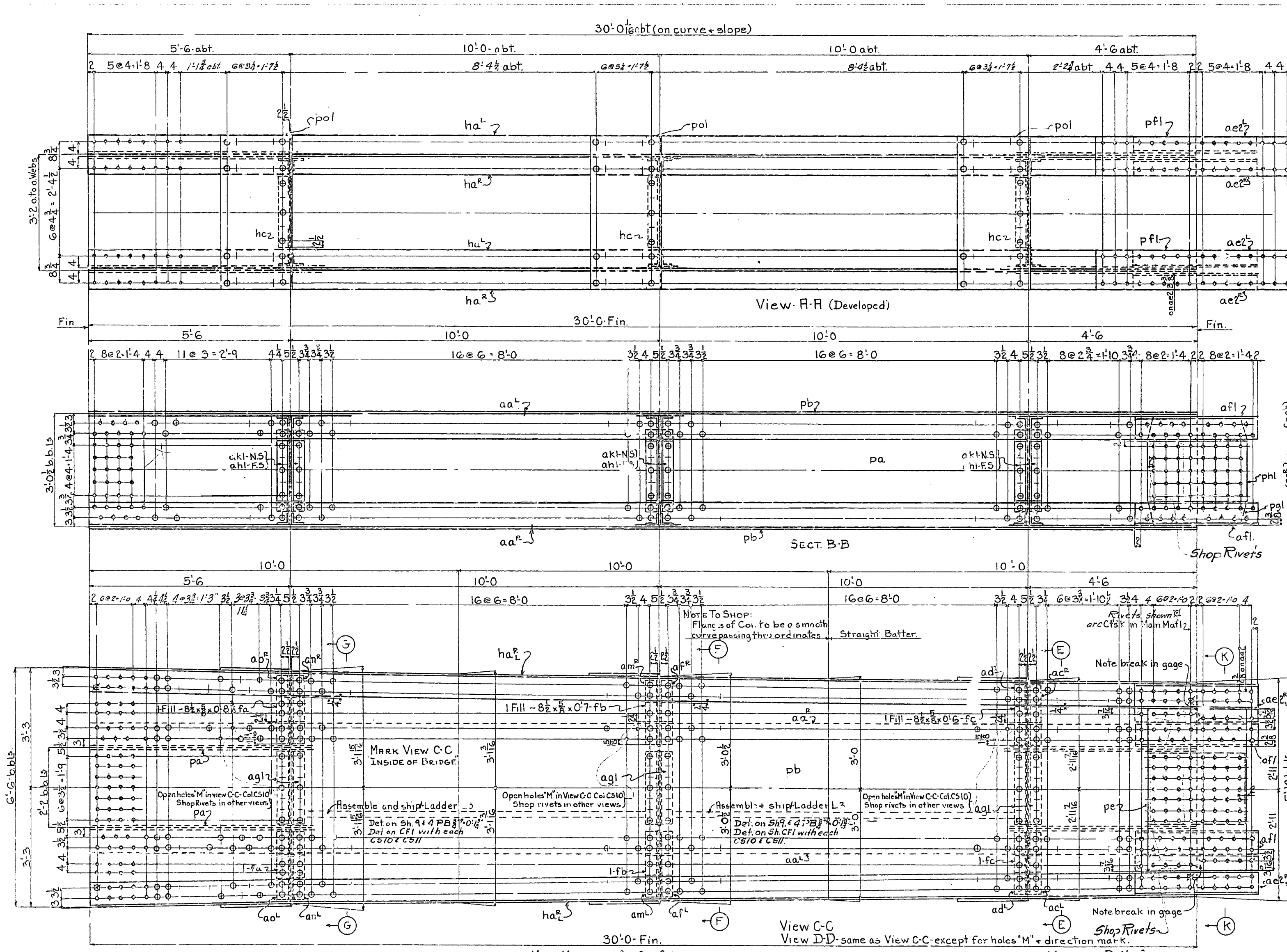
APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 3-30-34

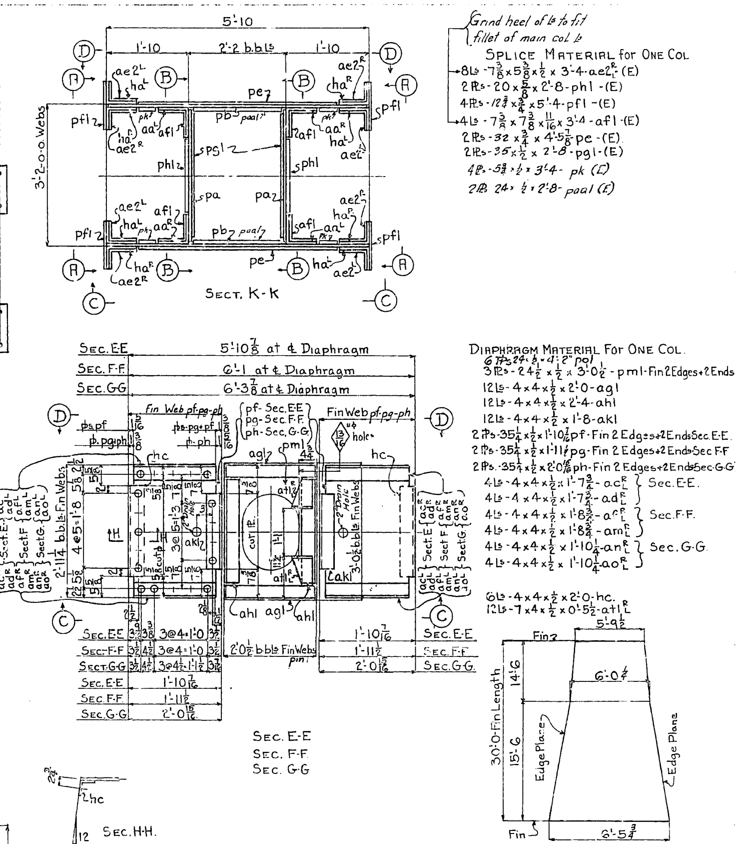
GEN NOTES
MATERIAL - All material O.H. copper bearing medium carbon steel except base plate (pd) which is to be in conformity with A.S.T.M. tentative spec. A140-32T with .25 to .40 carbon and .20% copper contents.
SPECIFICATIONS - Special by State of California Dep't. of Public Works.
INSPECTION - John M. Bailey Chief Inspr.
RIVETS - 1"φ
OPEN HOLES - 1 1/16"φ unless noted.
REAMING - Holes in material 3/4" thick or less to be subpunched 1/4" and reamed to size while parts are assembled.
Holes in material over 3/4" thick are to be subdrilled 1/4" and reamed to size, or drilled full size while parts are assembled.
Holes marked R.T. are to be reamed thru a steel templet.
Field connections at column splices are to be reamed while connecting column sections are assembled in the shop and pieces match marked.
All match marking to be done with 3/4" steel stencils and white paint. Burrs are to be removed from all reamed holes. Holes in mat'l used for diaphrams and ladder connections may be punched full size.
FINISH - Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least 1/8" of metal. Edges of manholes to be smooth.
SHOP PAINT - None except as follows.
Top & bottom surface of col. base plate (pd) to have one coat of NO-OX-ID filler red paint
The following surfaces to have one coat of "Acid Resisting Liquid."
Milled end of column at splice.
Inside surface of riveted & bolted splice mat'l above mill line.
Surface in contact of bolted splice mat'l below mill line.
Surface of main mat'l in contact with bolted splice material.

REQUIRED					
Bent YB2	Bent YB4	Total	Description	Mark	
1	1	2	Column Section	CS6	21 T.
1	1	2	do. do.	CS7	21 T.
	2	2	Plates	P2^R	
2		2	do.	P3^R	
	2	2	do.	P2^L	
2		2	do.	P3^L	

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Bents YB2 - YB3 & YB4
Details of - Column sections YB2 & YB4 (1st Tier)
AMERICAN BRIDGE COMPANY
Drawings made at Gary #3 Plant
Work fabricated at Ambridge Plant
In charge of Strang
Draw. made by C.A.T. Date 12-18-33
Draw. checked by R.R.W. Date 2-14-34
Order No. G5100 Sheet No. 1
SHOP BILLS S1 & S2
(Material ordered Pages 1+2+14) [F]

CO-1





Main Material for One Col

- 4Ls - 8 × 8 × 5/8 × 30'-0 - ca - F.2E
- 8Ls - 8 × 6 × 5/8 × 30'-0 3/16 abt. - ha - F.2E.
- 2 Webs - 36 × 3/4 × 30'-0 - pa - F.2E. - (E)
- 2 Webs - 77 3/4 × 3/4 × 30'-0 - pb - F.2E. - (E)

CS10.

CS11. - same as CS10 except for holes "M"

Manganese Bolts for Splice Plates & Ls:-

- 10 Bolts 1"φ × 0'3"
- 30 Bolts 1"φ × 0'3 1/2"
- 40 Bolts 1"φ × 0'4 1/2"

} Charge to G4865 Det. on Sh. CF3

Note to Shop:- Abt. 1/3 of open holes in Splice to be filled with bolts

Change for Mang. Bolts / Ladder location changed

APPROVED 3-30-34

Shop: Work sheets 2-3 & 4 together.

Note to Shop - Web pl. pb must not project beyond backs of main Ls.

GEN. NOTES.

MATERIAL - All material O.H. copper bearing medium carbon steel.

SPECIFICATIONS - Special by State of California Dep't of Public Works.

INSPECTION -- John M. Bailey Chief Inspr.

RIVETS - 1"φ

OPEN HOLES - 1 1/16"φ unless noted

REAMING - All holes to be subpunched 1/4" and reamed to size while parts are assembled. Field connections at column splices to be reamed while connecting column sections are assembled in the shop and pieces match marked. All match marking to be made with 3/4" steel stencils and white paint.
Burrs to be removed from all reamed holes.
Holes in material used for diaphrams and Ladder connections may be punched full size.

FINISH - Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least 1/8" of metal.
Edges of manholes to be smooth.

SHOP PAINT - None except as follows.
The following surfaces to to have one coat of "Acid Resisting Liquid"
Milled ends of column both ends.
Inside surfaces of riveted & bolted splice material above the mill line.
Surface in contact, of bolted splice mat'l, below the mill line.
Surface of main material in contact with bolted splice material.

	REQUIRED				
	Bent YB2	Bent YB4	Total	Description	Mark
18 T.n	1	1	2	Column Section	CS10
18 T.n	1	1	2	do. do.	CS11

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Bents YB2 - YB3 & YB4

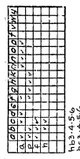
Details of:- Column Sections YB2 & YB4 (2nd Tier)

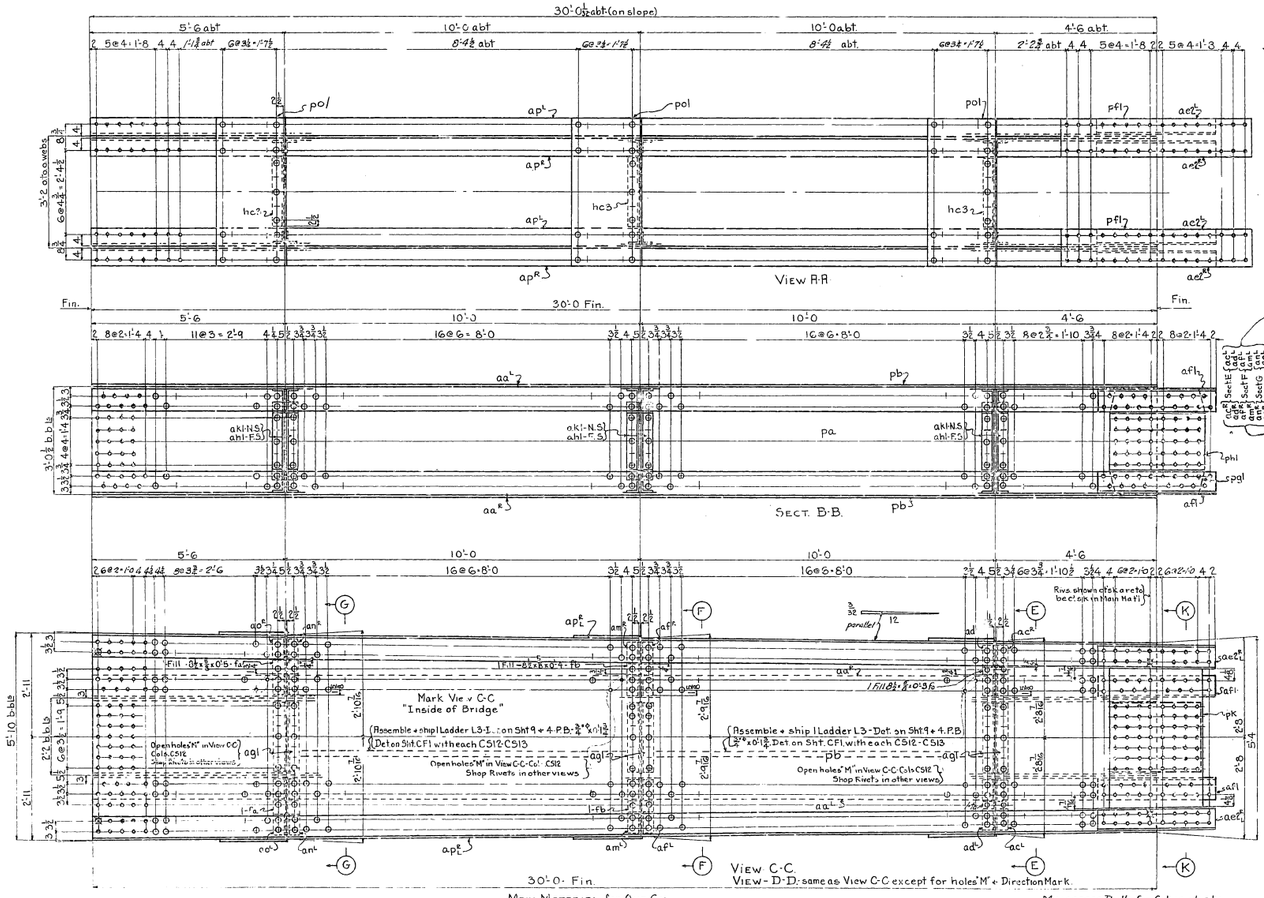
AMERICAN BRIDGE COMPANY
Drawings made at Gary #3 plant
Work fabricated at Ambridge plant
In charge of Strang
Drw. made by C.A.T. date 12-28-33
Drw. checked by R.R.W. date 2-14-34

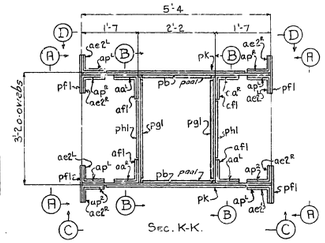
Order No. G5100
Sheet No. 2

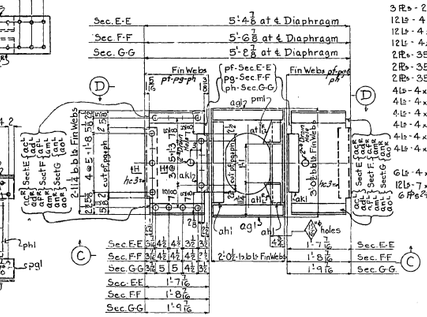
SHOP BILL S3
(Material ordered on Sheets 3 & 14) [F]

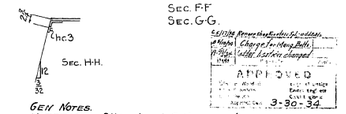
30-1

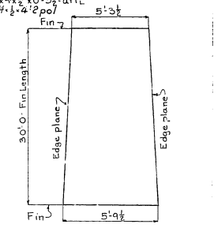












SPLICE MATERIAL for ONE COL.

Grind heel of b & fl fillet of main Col. L

- 8 Lb - 7⅞ x 5½ x ⅞ x 3'-4 - ae2^R (E)
- 2 Pl - 2'-0 x ⅝ x 2'-8 - phl (E)
- 4 Pl - 12½ x ⅝ x 5'-4 - pf (E)
- 4 Lb - 7½ x 7½ x 1⅛ x 3'-4 af (E)
- 2 Pl - 9½ x ⅝ x 3'-11⅜ pk (E)
- 2 Pl - 3'-5 x ⅝ x 2'-8 - pgl (E)
- 2 Pl - 24 x ⅝ x 2'-8 pael (E)

DIAPHRAGM MATERIAL for ONE COL.

- 3 Pl - 24½ x ⅜ x 3'-0½ - pm1 - Fin 2 Edges + 2 Ends
- 12 Lb - 4 x 4 x ¼ x 2'-0 - ag1
- 12 Lb - 4 x 4 x ¼ x 2'-4 - ah1
- 12 Lb - 4 x 4 x ¼ x 1'-8 - ak1
- 2 Pl - 35½ x ⅜ x 1'-7⅞ pf - Fin 2 Edges + 2 End - Sec E-E
- 2 Pl - 35½ x ⅜ x 1'-8⅛ pg - Fin 2 Edges + 2 End - Sec F-F
- 2 Pl - 35½ x ⅜ x 1'-9⅞ ph - Fin 2 Edges + 2 End - Sec G-G
- 4 Lb - 4 x 4 x ¼ x 1'-4½ - ac2^R } Sec. E-E
- 4 Lb - 4 x 4 x ¼ x 1'-4½ - ad1^L }
- 4 Lb - 4 x 4 x ¼ x 1'-5 - af2^R } Sec. F-F
- 4 Lb - 4 x 4 x ¼ x 1'-5 - am1^L }
- 4 Lb - 4 x 4 x ¼ x 1'-6½ - an1^R } Sec. G-G.
- 4 Lb - 4 x 4 x ¼ x 1'-6½ - ao2^L }
- 6 Lb - 4 x 4 x ½ x 2'-0 - hc3.
- 12 Lb - 7 x 4 x ½ x 0'-5½ - at1^R
- 6 Pl - 6⅞ x ½ x 4'-2 pol

MAIN MATERIAL for ONE COL

- 4 Lb - 8 x 8 x ½ x 30'-0 - aa2^L - F.2.E.
- 8 Lb - 8 x 6 x 25/32 x 30'-0 abt - ap1^L - F.2.E.
- 2 Webs - 36 x 25/32 x 30'-0 - pa - F.2.E. - (E)
- 2 Webs - 69½ x ½ x 30'-0 - pb - F.2.E. - (E)

CS12
CS13 - same as CS12 except for holes "M"

Manganese Bolts for Splice pls & Lb:
10 Bolts 1"ø - 0'.3¾ } Det on Sh. CF3
70 Bolts 1"ø - 0'.4½ } Charge to G4865
Note to Shop: Ream ⅛ of open holes in Splice to be filled with bolts

Shop - Work sheets 2, 3 + 4 together.

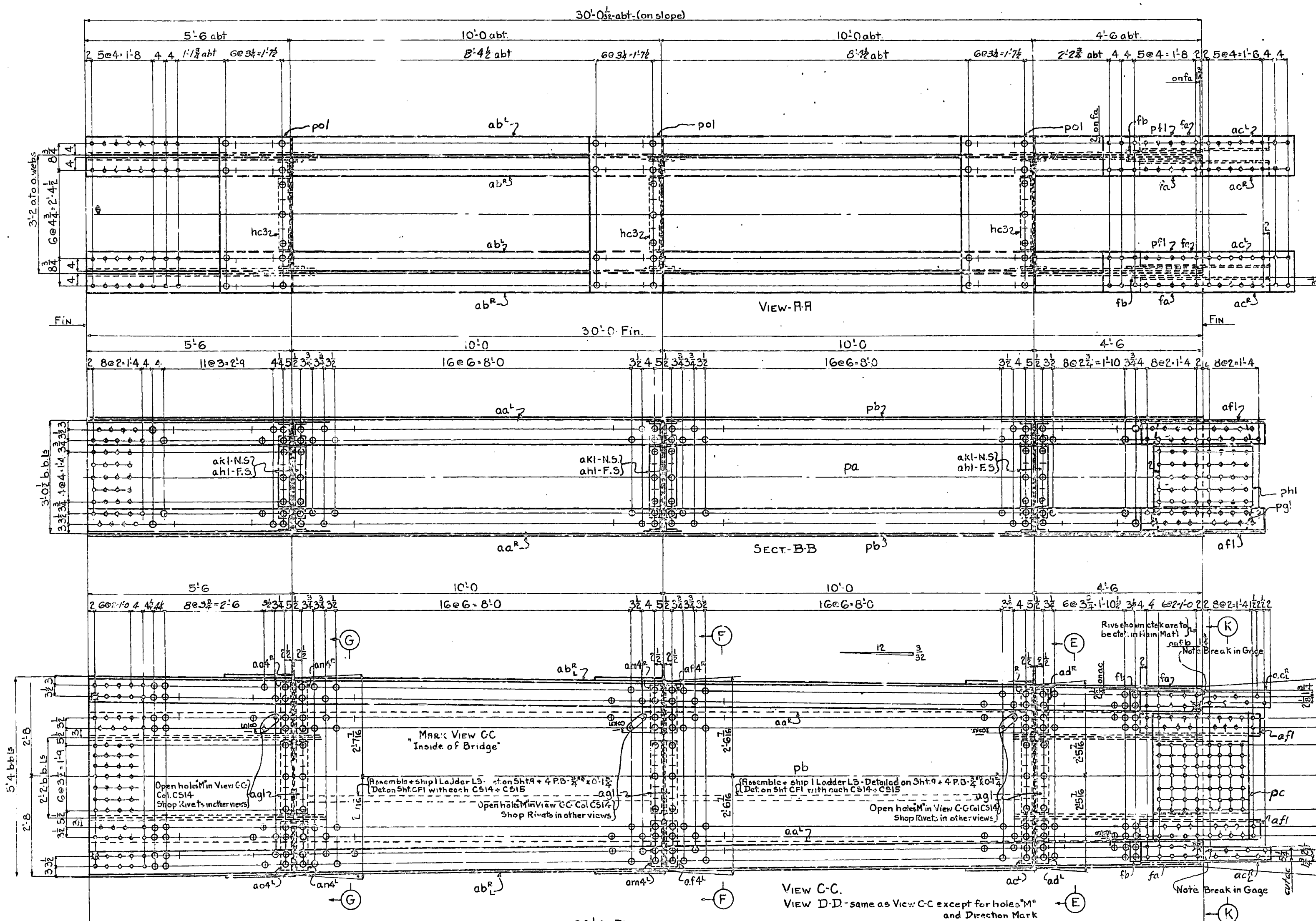
GEN. NOTES.

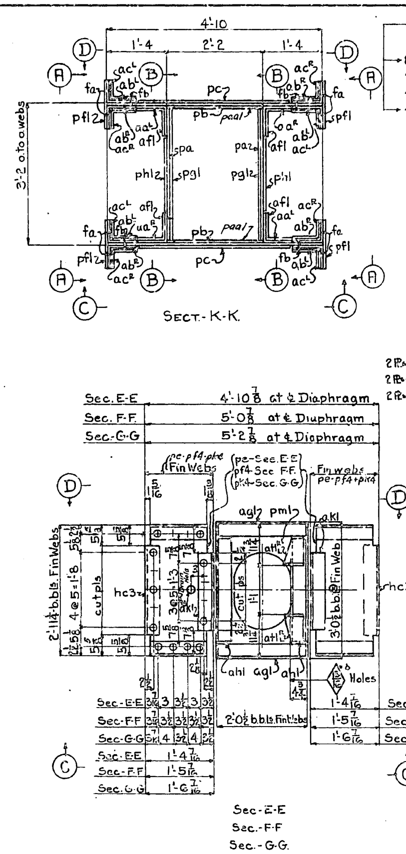
MATERIAL — All material O.H. copper-bearing medium carbon steel.
SPECIFICATIONS — Special by State of California, Dept of Public Works.
INSPECTION — John M. Bailey, Chief Inspr.
RIVETS — ⅞ø
OPEN HOLES — 1⅛ø unless noted.
REAMING — All holes to be subpunched ¼" and reamed to size while parts are assembled. Field connections of column splices to be reamed while connecting column sections are assembled in the shop and pieces match marked. All match marking to be done with ⅜ steel stencils and white paint. Burrs to be removed from all reamed holes. Holes in material used for diaphrams and ladder connections may be punched full size.
FINISH — Sheared or flame cut edges on side of all material marked (E) to be planed so as to remove at least ⅛ of metal. Edges of manholes to be smooth.
SHOP PAINT — None except as follows. The following surfaces to have one coat of Acid Resisting Liquid: Milled ends of column both ends. Inside surfaces of riveted and bolted splice material above the mill line. Contact surfaces of bolted splice material below the mill line. Surfaces of main material in contact with bolted splice material.

REQUIRED				
Bent YB2	Bent YB4	Total	Description	Mark
1	1	2	Column Section	CS12
1	1	2	do. do.	CS13

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Bents YB2 - YB5 & YB4
Details of:- Column Sections YB2 & YB4
(32 Tier)
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Strang
DRAWN BY C.A.T. DATE 12-29-33
TIME CHECKED BY R.R.W. DATE 1-4-34
ORDER No. G5100
SHEET No. 3
(Material ordered Pages 3 + 4 + 16)
SHOP BILL 374
[F]

#30-1



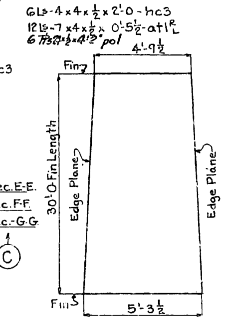


Splice Material for One Col
(Grind heels of Ls to fit fillet of main Col Ls)

- 8Ls - 7 1/4 x 5 1/4 x 1/2 x 3'-8 - ac^R_L - (E)
- 2Pls - 20 x 5/8 x 2'-8 - phl - (E)
- 4Pls - 12 3/4 x 3/4 x 5'-4 - pfl - (E)
- 4Ls - 7 3/8 x 7 3/8 x 11/16 x 3'-4 - afl - (E)
- 2Pls - 35 x 1/2 x 2'-8 - pgl - (E)
- 2Pls - 32 x 3/4 x 3'-5 3/4 - pc - (E)
- 8 Fills - 5 x 1/8 x 1'-7 3/4 - fa
- 8 Fills - 7 x 1/8 x 1'-11 1/2 - fb
- 2 Pl 24 x 1/2 x 2'-8 paal (E)

Diaphragm Material for One Col.

- 3Pls - 24 1/2 x 1/2 x 3'-0 1/2 - pml - Fin 2 Edges + 2 Ends
- 12Ls - 4 x 4 x 1/2 x 2'-0 - agl
- 12Ls - 4 x 4 x 1/2 x 2'-4 - ahl
- 12Ls - 4 x 4 x 1/2 x 1'-8 - akl.
- 2Pls - 35 1/4 x 1/2 x 1'-4 7/16 pe - Fin 2 Edges + 2 Ends Sec. E-E
- 2Pls - 35 1/4 x 1/2 x 1'-5 7/16 pf4 - Fin 2 Edges + 2 Ends Sec F-F
- 2Pls - 35 1/4 x 1/2 x 1'-6 7/16 pk4 - Fin 2 Edges + 2 Ends Sec. G-G.
- 4Ls - 4 x 4 x 1/2 x 1'-1 3/4 - ad^R_L } Sec. E-E
- 4Ls - 4 x 4 x 1/2 x 1'-1 3/4 - ae^R_L } Sec. E-E
- 4Ls - 4 x 4 x 1/2 x 1'-2 3/4 - $af4^R_L$ } Sec F-F
- 4Ls - 4 x 4 x 1/2 x 1'-2 3/4 - $am4^R_L$ } Sec F-F
- 4Ls - 4 x 4 x 1/2 x 1'-3 3/4 - $an4^R_L$ } Sec. G-G
- 4Ls - 4 x 4 x 1/2 x 1'-3 3/4 - $ao4^R_L$ } Sec. G-G
- 6Ls - 4 x 4 x 1/2 x 2'-0 - hc3
- 12Ls - 7 x 4 x 1/2 x 0'-5 1/2 - $at1^R_L$
- 6 Pls 3? x 1/2 x 4'-2" pol



Planing Diagram for Web Plate pb

Required		
Bent YB4	Description	Mark
1	Column Section	CS14
1	do. do.	CS15

(1½ Ton / 16 Ton written beside the rows)

Main Material for One Col.

- 4Ls - 8 x 8 x 5/8 x 30'-0 - aa^R_L - F.2.E.
- 8Ls - 8 x 6 x 5/8 x 30'-0 3/32 abt - cb^R_L - F.2.E
- 2Pls - 36 x 3/4 x 30'-0 - pa - F.2.E - (E)
- 2Pls - 63 1/2 x 3/4 x 30'-0 - pb - F.2.E - (E)

CS14
CS15 - same as CS14 except for holes "M"

Manganese Bolts for Splice pls. & Ls:-

- 10 Bolts 1"φ x 0'-3"
- 70 Bolts 1"φ x 0'-3 1/2
- 25 Bolts 1"φ x 0'-4 1/2
- 15 Bolts 1"φ x 0'-5"

} Det. on Sh. CF3, Charge to G4865

Note to Shop:- Abt 1/3 of open holes in Splice to be filled with bolts.

C 5/11/34 Remove Shop Rivets in Splice & Bolts
D 5/14/34 Charge for Mang. Bolts
A 5/2/34 Ladder location changed.

3-30-34

Shop-Work Sheets 2-3-4 together.

Gen. Notes.

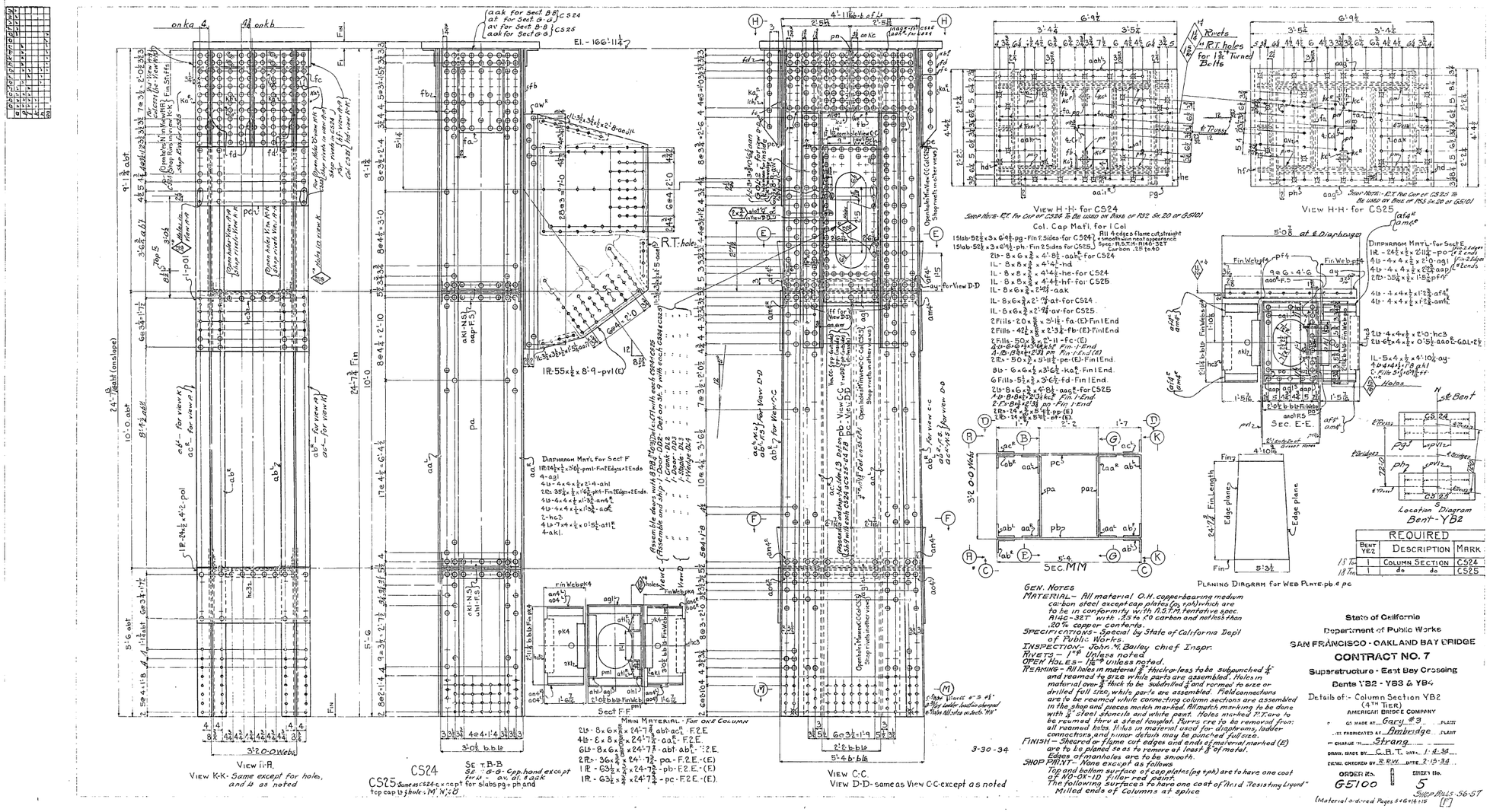
MATERIAL— All material O.H. copper bearing medium carbon steel.
SPECIFICATIONS— Special by State of California Dep't of Public Works
INSPECTION— John M. Bailey Chief Inspr.
RIVETS— 1"φ
OPEN HOLES— 1 1/16"φ unless noted
REAMING— All holes to be subpunched 1/4" and reamed to size while parts are assembled. Field connections at column splices to be reamed while connecting column sections are assembled in the shop and pieces match marked. All match marking to be done with 1/4" steel stencils and white paint.
Burrs to be removed from all reamed holes. Holes in material used for diaphrams and ladder connections may be punched full size.
FINISH - Sheared or flame cut edges or ends of all material marked (E) to be planed so as to remove at least 1/8" of metal. Edges of manholes to be smooth.

SHOP PAINT— None except as follows. The following surfaces to have one coat of "Acid Resisting Liquid". Milled ends of Column both ends. Inside surface of riveted and bolted splice mat'l above the mill line. Surfaces of bolted splice mat'l in contact below the mill line. Surfaces of main material in contact with bolted splice material.

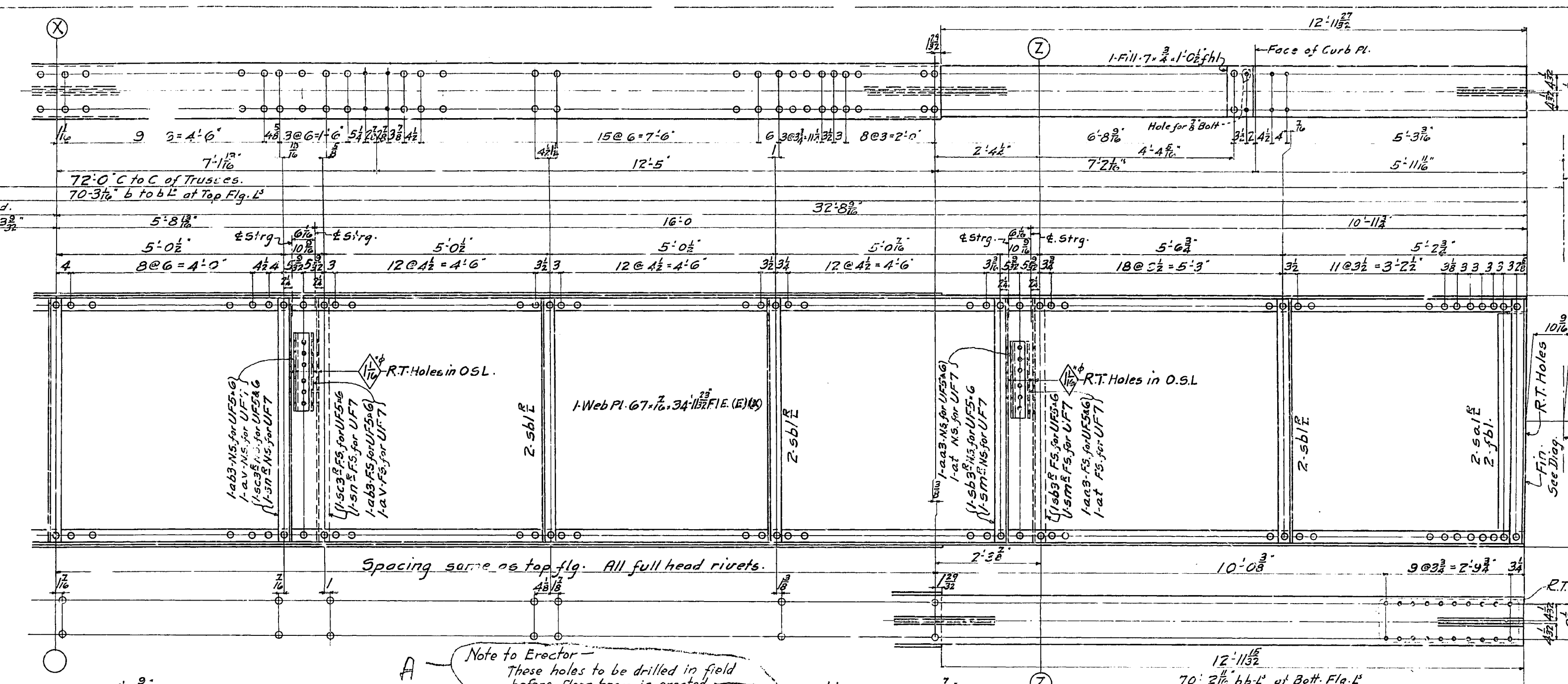
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Bents YB2 - YB3 & YB4
Details of:- Column Section YB4 (4th Tier)

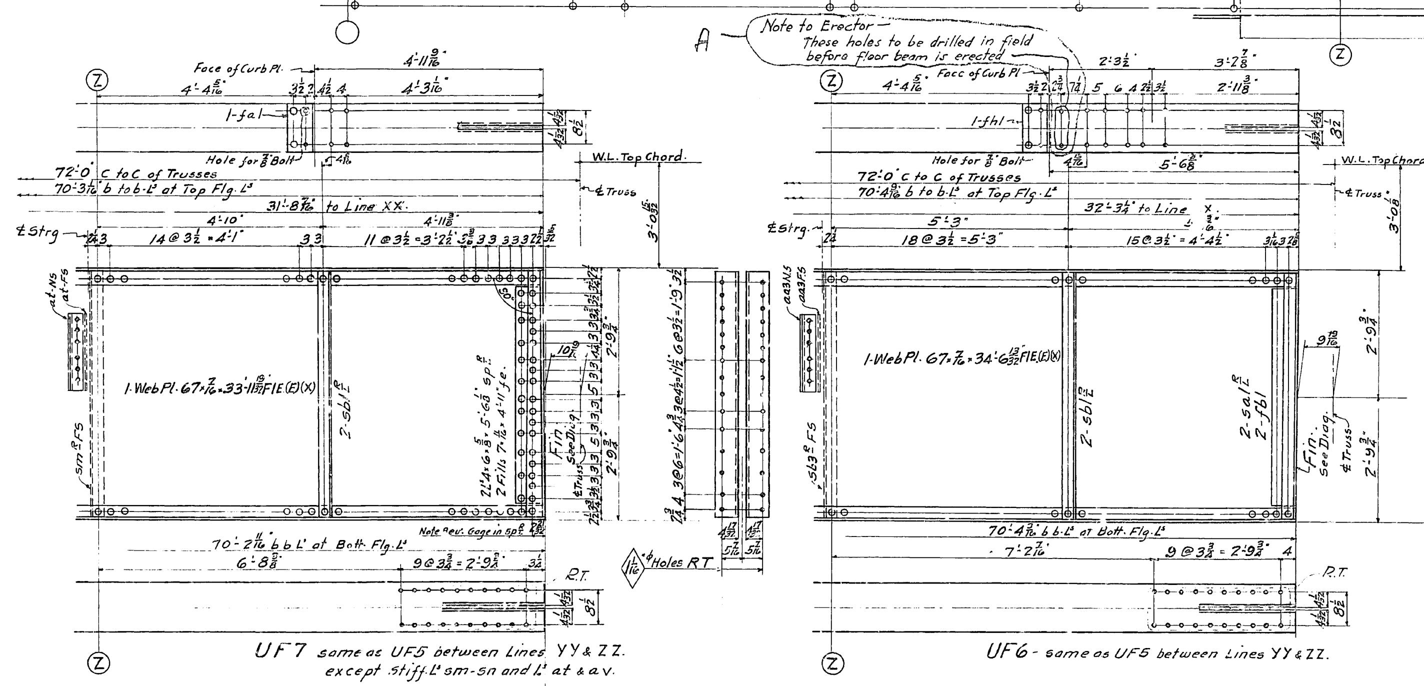
AMERICAN BRIDGE COMPANY
Drawings made at Gary #3 Plant
Work fabricated at Ambridge Plant
In charge of Strong
Drawn by C.A.T. Date 12-29-33
Draw. checked by R.R.W. Date 2-14-34
Order No. G5100 — Sheet No. 4 — Shop Bill - 55

(Material ordered Pages 344+14) [F]


View K-K- Same except for holes, and is as noted
CS25 Same as CS24 except for slabs pg 2 ph and top cap 13 holes M N & O
CS24
Sect B-B
Sect F-F
Main Material - For one Column
View C-C.
View D-D- same as View C-C except as noted
View H-H for CS24
View H-H for CS25
Diagram Mat'l for Sect E
Diagram Mat'l for Sect F
Planing Diagram for Web Plate pb & pc
Sec. E-E
Sec. MM
Location Diagram
Bent-YB2
Gen. Notes
Material - All material O.H. copper bearing medium carbon steel except cap plates (pg 1 ph) which are to be in conformity with A.S.T.M. tentative spec. A142-32T with .25 to .40 carbon and not less than .20% copper contents.
Specifications - Special by State of California Dept of Public Works.
Inspector - John N. Bailey chief Inspr.
Rivets - 1" ϕ Unless noted
Open Holes - 1 1/16" ϕ Unless noted.
Reaming - All holes in material 3/4" thick or less to be subpunched 1/4" and reamed to size while parts are assembled. Holes in material over 3/4" thick to be subdrilled 1/4" and reamed to size or drilled full size, while parts are assembled. Field connections are to be reamed while connecting column sections are assembled in the shop and pieces match marked. All match marking to be done with 3/4" steel shoncils and white paint. Holes marked P.T. are to be reamed thru a steel template. Rivets are to be removed from all reamed holes. Holes in material used for diaphrams, ladder connectors, and minor details may be punched full size.
Finish - Sheared or flame cut edges and ends of material marked (E) are to be planed so as to remove at least 1/8" of metal. Edges of manholes are to be smooth.
Shop Paint - None except as follows
Top and bottom surface of cap plates (pg 1 ph) are to have one coat of No. OX-ID filler red paint.
The following surfaces to have one coat of Field Resisting Liquid
Milled ends of columns at splice
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Bents YB2 - YB3 & YB4
Details of:- Column Section YB2 (4TH TIER)
AMERICAN BRIDGE COMPANY
Gary
Ambridge
Strang
C.B.T.
3-30-34
1-4-34
2-15-34
G5100
5
Shop Bills 56-57
(Material ordered Pages 5 & 6 & 14 & 15)
[F]

30-1





NOTE TO SHOP.

Web and Flg. Spacing between Lines YY and ZZ. on UF5-6 & 7 same as Web and Flg. Spacing between Lines YY and ZZ on UF2-3 & 4.

Work Sheets 3-4 & 5 together

GENERAL NOTES.

MATERIAL - All material O.H. Copper Bearing medium Carbon steel, except material marked (X), which is to be O.H. Copper Bearing Silicon steel.

SPECIFICATIONS - Special by State of California, Dep't of Public Works.

INSPECTION - John M. Bailey - Chief Inspector.

RIVETS - 7/8"φ

OPEN HOLES - 15/16"φ Unless noted.

REAMING - All holes to be subpunched 1/4" and reamed to size while parts are assembled. Holes marked "R.T." to be reamed through a steel templet. Burrs to be removed from all reamed holes.

Sheared or flame cut edges and ends of all mat'l marked (E) to be planed so as to remove at least 1/8" of metal.

SHOP PAINT - None.

Required for YB1-YB2			
	No	Description	Mark
10 - Ton	1	Floor Beam	UF5
10 - "	1	" "	UF6
10 - "	1	" "	UF7

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Floor Beams Upper Deck
Span YB1-YB2.

AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tornpt
MADE BY S.T. DATE 2-9-34
DRAW. CHECKED BY [illegible] DATE 3-6-34

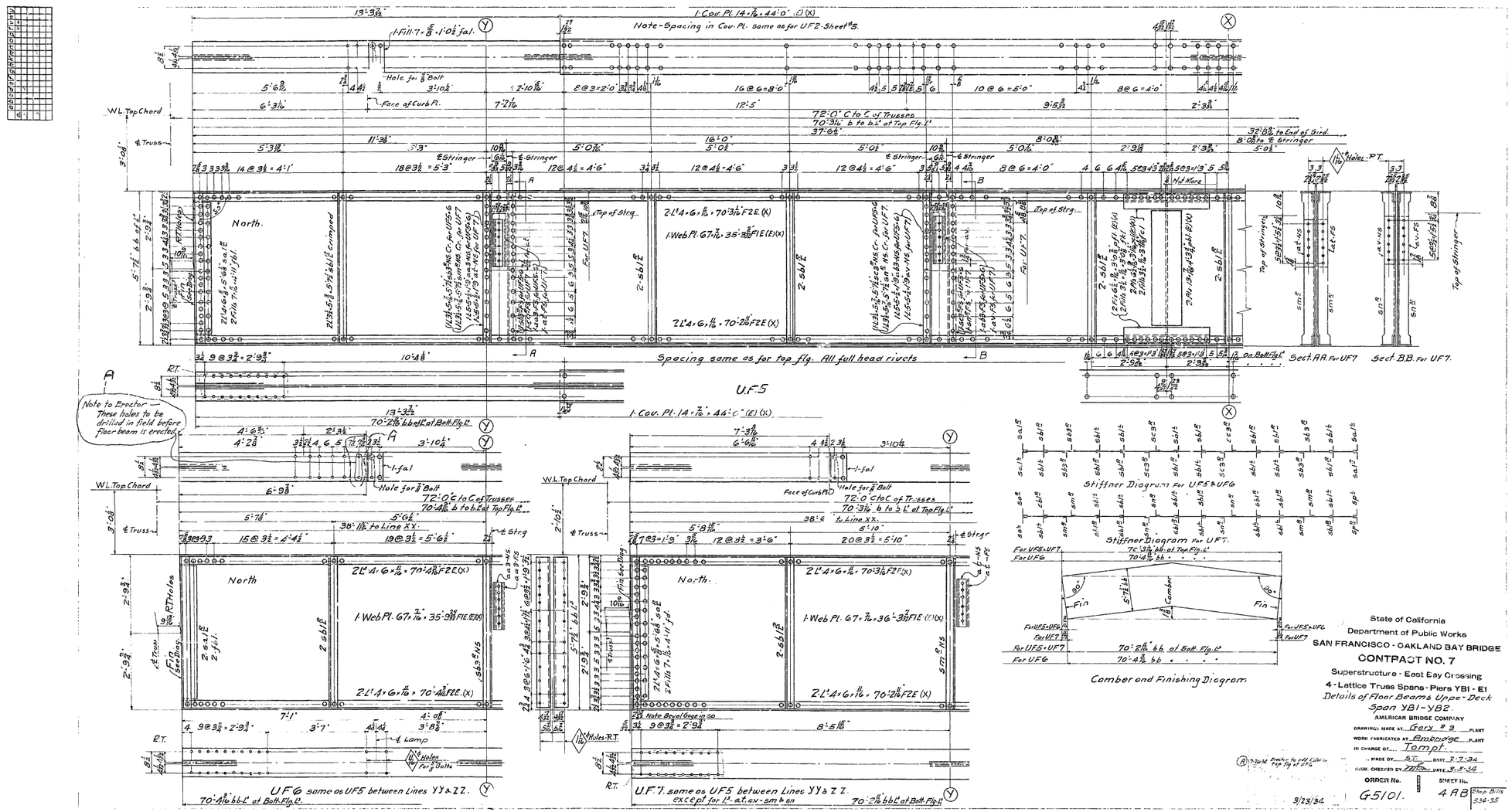
(A) 7-26-34 Erector to add holes in Top Flg. of UF6

3/23/34

ORDER No. G5101. SHEET No. 4.B Shop Bills 534-35

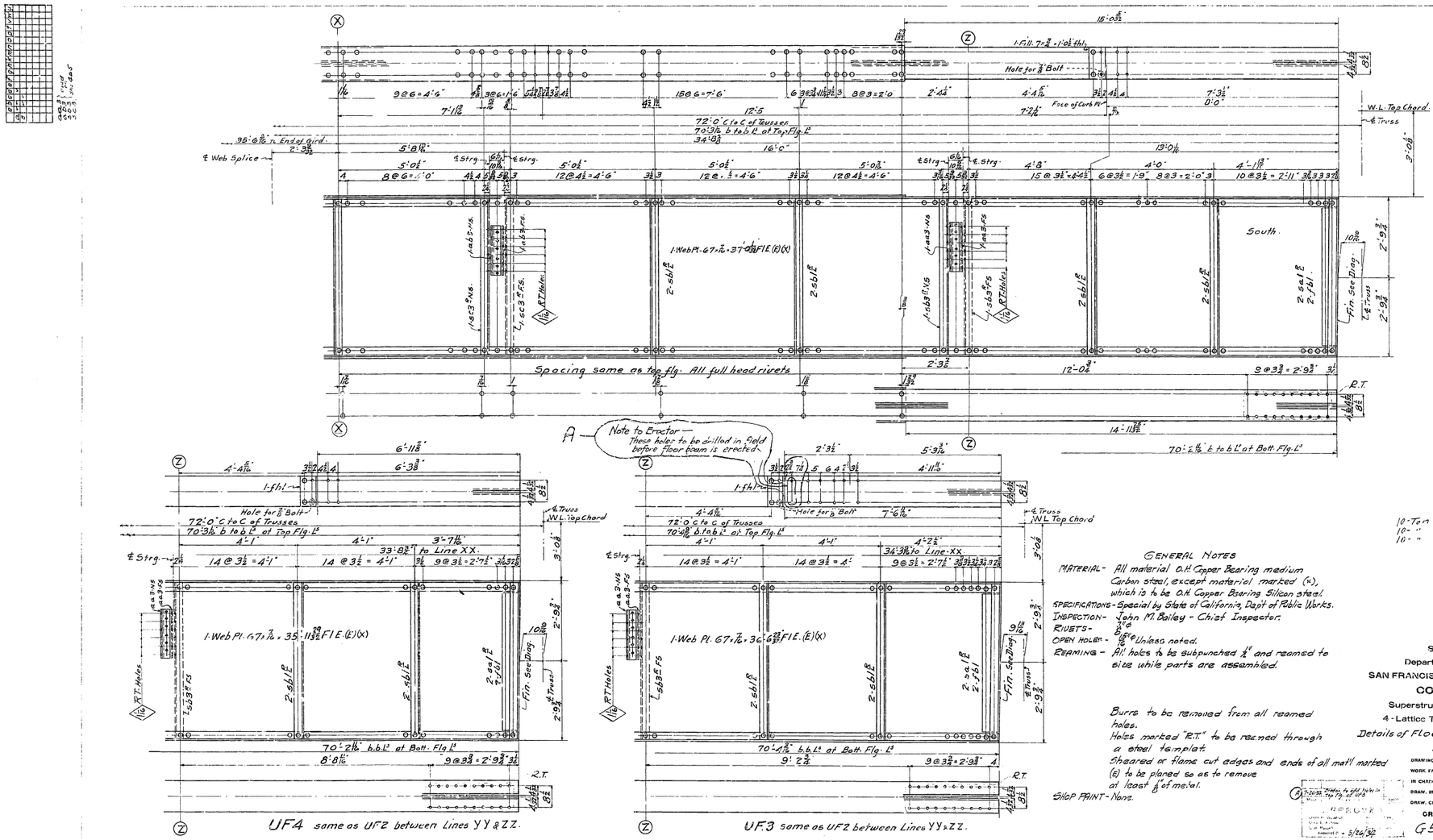
[B&C]

30-1



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Floor Beams Upper Deck
Span YB1 - YB2.

AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary # 3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt.
MADE BY S.T. DATE 2-7-34
CHKD. CHECKED BY [illegible] DATE 3-5-34
ORDER No. G5101. SHEET No. 4 AB
Shop Bills 534-35
3/23/34



Required for YB1-YB2.			
	No	Description	Mark
10-Ton	1	Floor Beam	UF2
10-"	1	" "	UF3
10-"	1	" "	UF4
	14	Brackets	UB16

GENERAL NOTES

MATERIAL - All material O.H. Copper Bearing medium Carbon steel, except material marked (*), which is to be O.H. Copper Bearing Silicon steel.

SPECIFICATIONS - Special by State of California, Dept of Public Works.

INSPECTION - John M. Bailey - Chief Inspector.

RIVETS - ⅞" ø Unless noted.

OPEN HOLES - All holes to be subpunched ½" and reamed to size while parts are assembled.

REAMING - Burrs to be removed from all reamed holes.
Holes marked "R.T." to be reamed through a steel templat
Sheared or flame cut edges and ends of all matl marked (e) to be planed so as to remove at least ⅛" of metal.

SHOP PAINT - None.

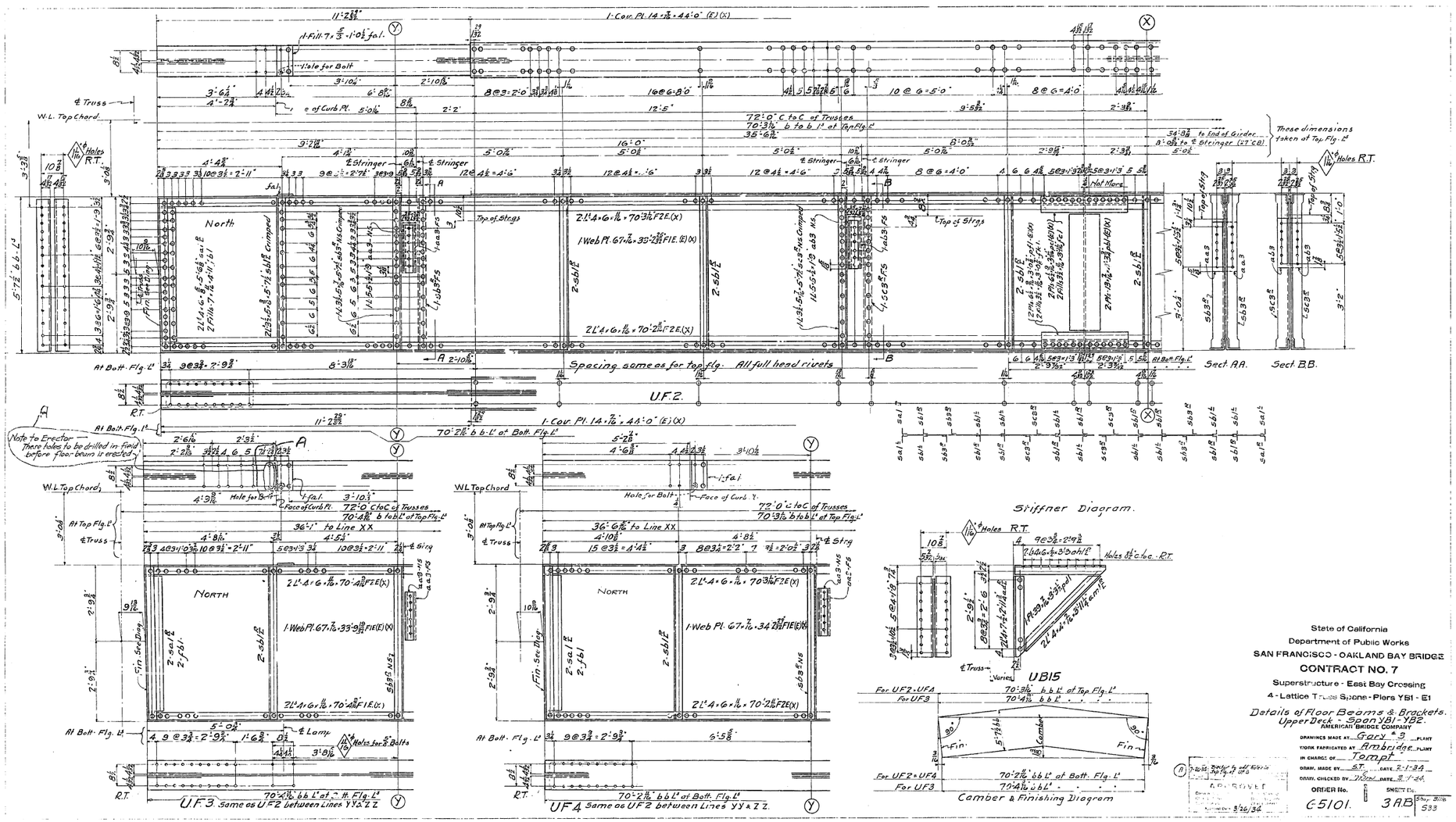
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YS1 - E1
Details of Floor Beams - - - Upper Deck
Span YB1-YB2.
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAW. MADE BY ST DATE 2-2-34
DRAW. CHECKED BY [illegible] DATE 5-1-34

ORDER No. G5101. SHEET No. 3B Sheet Shifts 533

[B&C]

SD-1

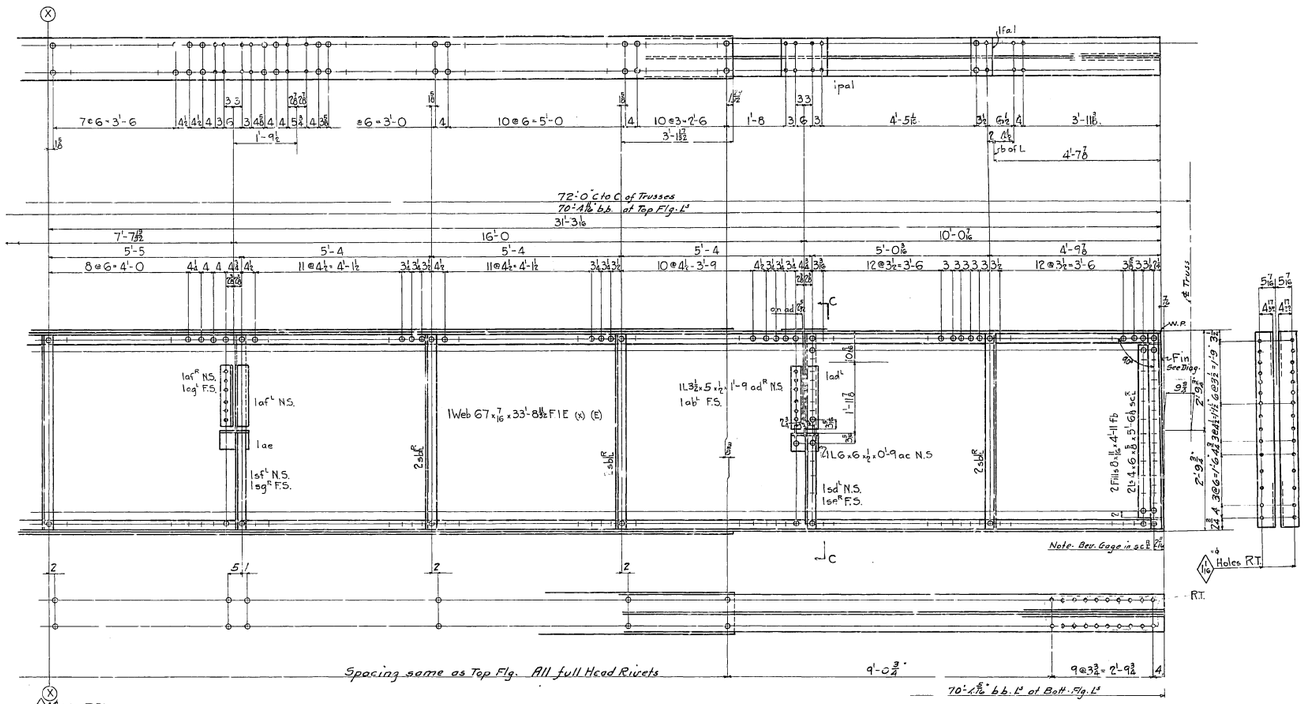


State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1

Details of Floor Beams & Brackets.
Upper Deck - Span YB1 - YB2.

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary * 3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAW. MADE BY S.T. DATE 2-1-34
DRAW. CHECKED BY J.D.M. DATE 2-7-34

ORDER No. C5101. SHEET No. 3 A B | Shop Bills 533



REQUIRED			
10-Ton	1	Upper Deck Fl. Beam	UF9
	1	" " Brkt	UB9
	1	" " "	UB10
	2	" " "	UB11
	2	" " "	UB12
	1	" " "	UB13R
	1	" " "	UB13L
	1	" " "	UB14R
	1	" " "	UB14L

GENERAL NOTES-

MATERIAL - All material o.H. Copper Bearing medium Carbon steel, except material marked (x), which is to be o.H. Copper Bearing Silicon steel.

SPECIFICATIONS - Special by State of California, Dept of Public Works.

INSPECTION - John M. Bailey - Chief Inspector.

RIVETS - ⅞

OPEN HOLES - 15/16 Unless noted.

REAMING - All holes to be subpunched ¾" and reamed to size while parts are assembled. Holes marked "R.T." to be reamed through a steel templat. Burrs to be removed from all holes.

FINISH - Sheared or flame cut edges and ends of all metal marked (E) to be planed so as to remove at least ⅛" of metal.

SHOP PAINT - None.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of - Upper Deck Floor Beam and Brackets

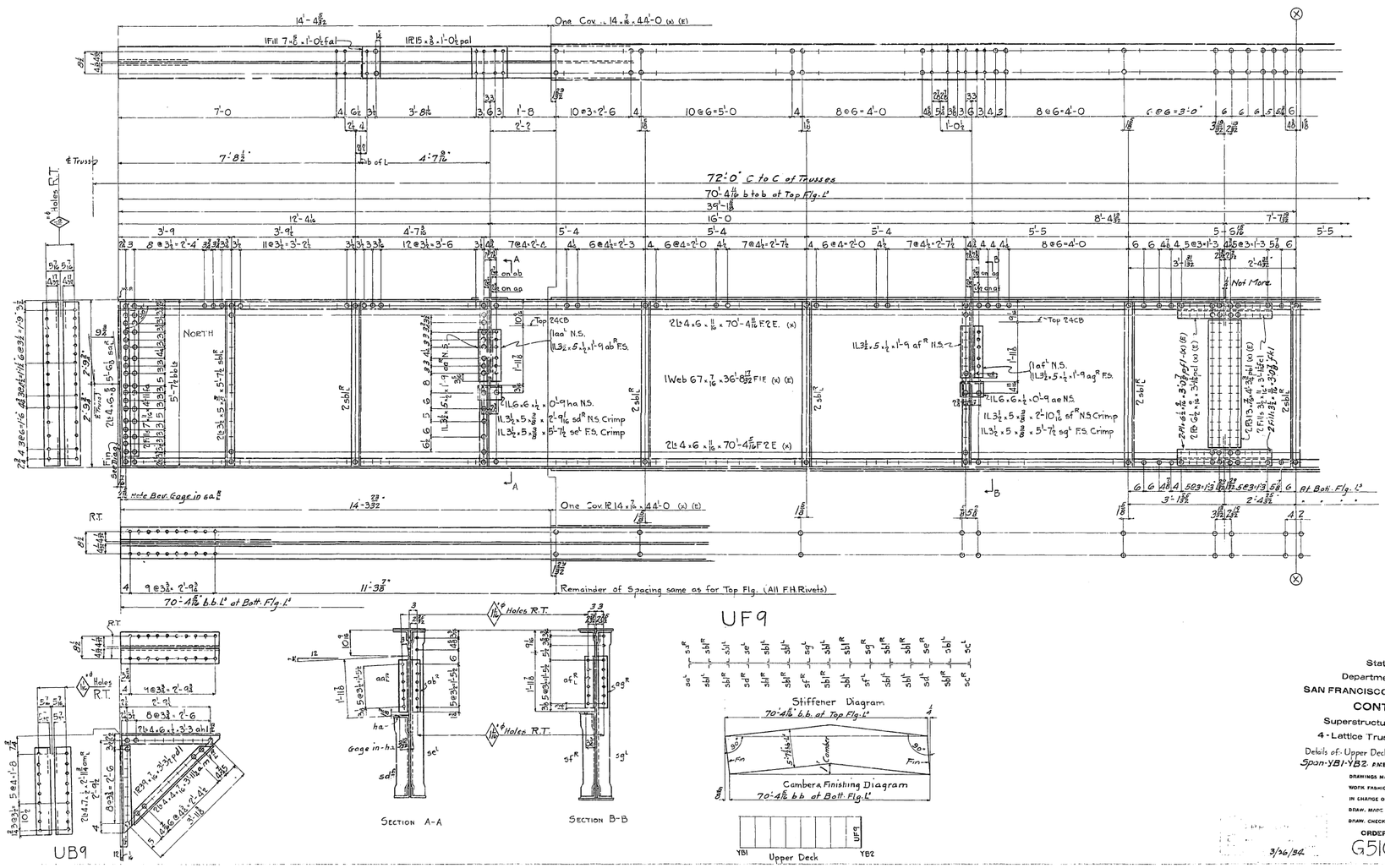
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAW. MADE BY H.A.L. DATE 9-12-34
DRAW. CHECKED BY [illegible] DATE 9-27-34

ORDER No. G5101 | SHEET No. 2B Shop 8-18 930-31-32

3/20/34

[Bec]

Mat. A.B. Pages 3-A-101-31



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Upper Deck Floor Beam & Brackets
Span YB1-YB2 AMERICAN BRIDGE COMPANY

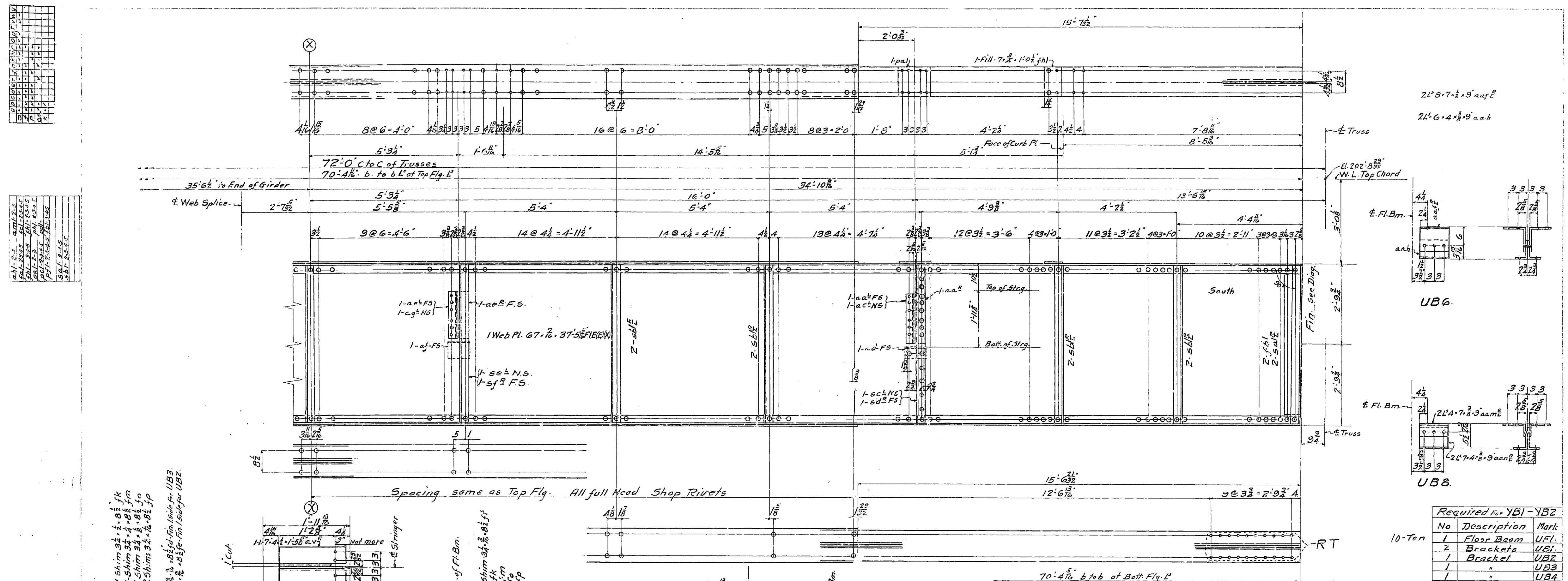
DRAWINGS MADE AT Gary PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAW. MADE BY H.A.L. DATE 2-1-34
DRAW. CHECKED BY [illegible] DATE 3-22-34

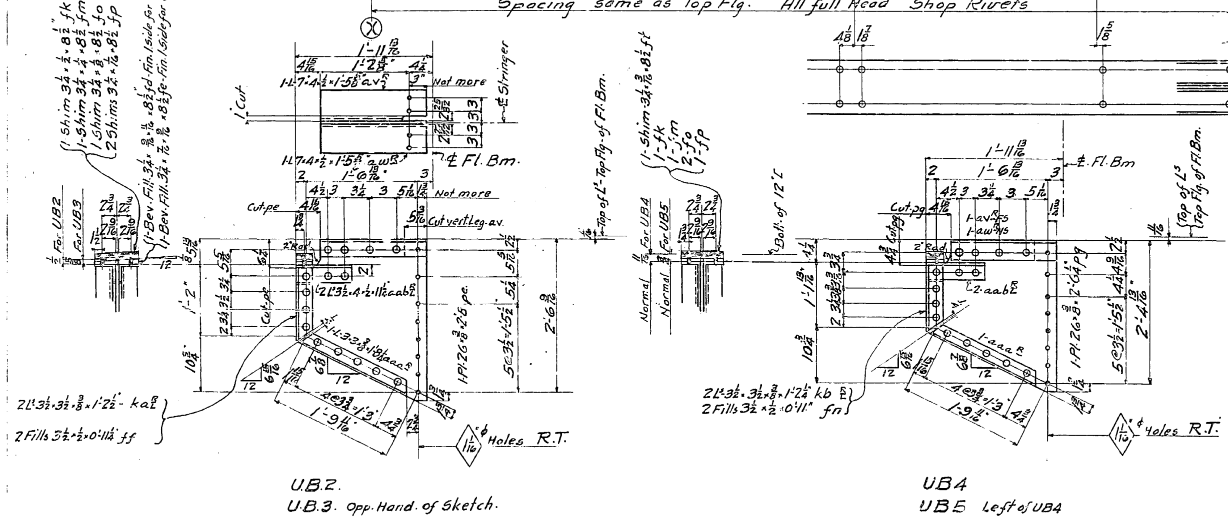
ORDER No. G5101 [D&C] SHEET No. 2AB

3/26/34

Shop Bills 830-31-32

30-1





Required For YB1 - YB2		
No	Description	Mark
1	Floor Beam	UF1.
2	Brackets	UB1.
1	Bracket	UB2
1	"	UB3
1	"	UB4
1	"	UB5
2	"	UB6
2	"	UB8

10-Ton

GENERAL NOTES

MATERIAL - All material O.H. Copper Bearing medium Carbon steel, except material marked (x), which is to be O.H. Copper Bearing Silicon steel.

SPECIFICATIONS - Special by State of California, Dep't of Public Works.

INSPECTION - John M. Bailey - Chief Inspector.

RIVETS - $\frac{7}{8}$"⌀

OPEN HOLES - $\frac{15}{16}$"⌀ Unless noted.

REAMING - All holes to be subpunched $\frac{1}{4}$" and reamed to size while parts are assembled.

Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Sheared or flame cut edges and ends of all mat'l marked (E) to be planed so as to remove at least $\frac{1}{8}$" of metal.

SHOP PAINT - None.

APPROVED
Approval Date 4-6-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1

Details of Fl.Bm & Brackets - Upper Deck.
Span - YB1 - YB2.

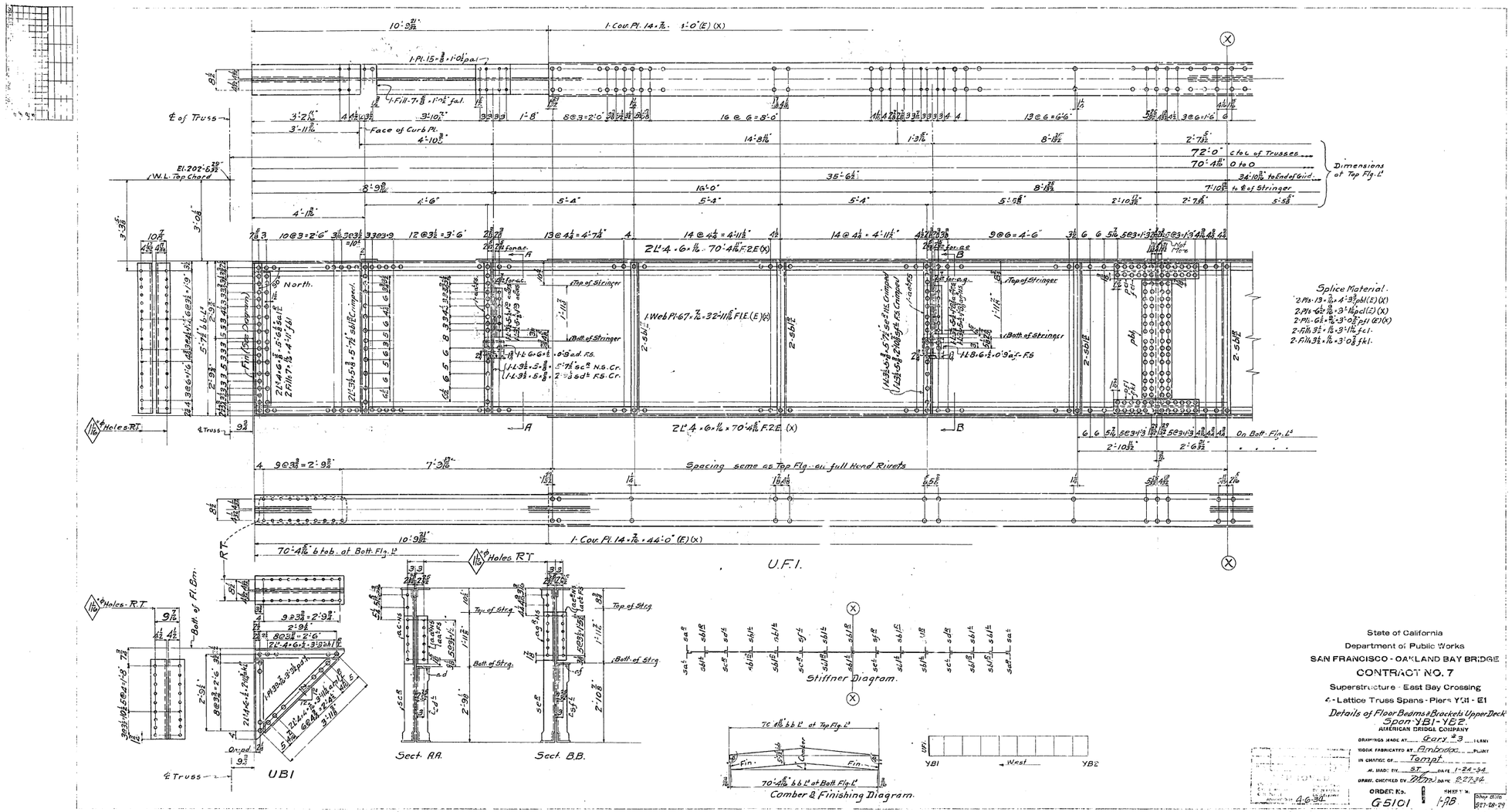
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt.
DRAW. MADE BY S.T. DATE 1-26-34
DRAW. CHECKED BY [illegible] DATE 2-26-34

ORDER No. G-5101. SHEET No. 1B.

Shop Bills 527-28-29

[B&C]

Mat - AB. Pages 1 & 101



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y.H - E1
Details of Floor Beams & Brackets Upper Deck
Span YB1 - YB2.
AMERICAN BRIDGE COMPANY

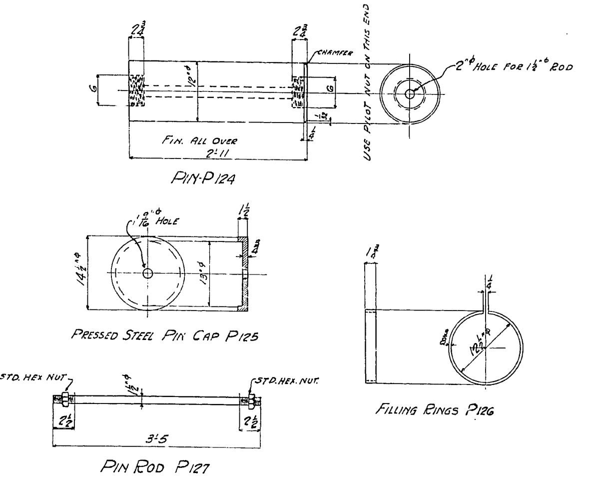
DRAWINGS MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tempt
M. MADE BY ST. DATE 1-24-34
DRAWN CHECKED BY [illegible] DATE 8-27-34
ORDER No. G5101
SHEET No. 1-AB
Orig. 8/16
8-27-34

4-6-34

30-1

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



NOTE:- FINISHED SURFACES TO BE COATED IMMEDIATELY AFTER ACCEPTANCE WITH A HOT MIXTURE OF WHITE LEAD AND TALLOW MIXED 4# TALLOW, 1 QUART LINSEED OIL AND 2# WHITE LEAD

5-15-34

Line No.	Member No. Pcs.	Name	Mark	Material No. Pcs.	Shape	Length Ft.	Length Ins.	± Ins.	Remarks	Calculated Weight	Ordered No. Pcs.		Ordered Length Ft.	Ordered Length Ins.	Item	Shipments
1	4	Pins	P124	4	Pins 12"ϕ	2	11		Fin. All Over							
3	8	Pin Caps	P125	8	Pl. 15½"ϕ x ¾				Pressed ¾	318						
5	8	Filling Rings	P126	8	Bar: 1¾ x ⅜	3	4¼	Abt.								
7	4	Pin Rods	P127	4	Rds. 1½"ϕ	3	5									
8				8	Std. Hex Nuts 1½"ϕ Tap											

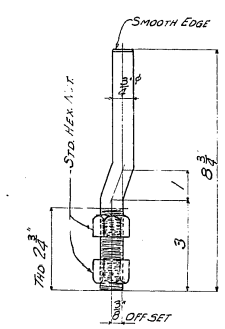
Mat'l. - For Pins P124 Carbon O.H. Steel (Annealed)
For Balance Carbon O.H. Steel Copper Bearing
Spec. State of Cal. S.F. Oak'd. Bay Bridge Contract #7
Insp. John M. Bailey, Chief Insp.
Paint - No Paint (See Note for Fin. Surfaces)

Rivets: None | Holes: As Noted | W.G. 4-6-34 | Date: / 19 | Drawings: Gary #3 | Fabrication: Ambridge | Tompt Order No. G5101 | Sheet No. C 301

NAME OF STRUCTURE: San Francisco - Oakland Bay Bridge East Bay Crossing Span YB3-YB4 [C]

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



Cable Retainer Pin P123

5-15-34

Line No.	Member No. Pcs.	Name	Mark	Material No. Pcs.	Shape	Length Ft.	Length Ins.	± Ins.	Remarks	Calculated Weight	Ordered No. Pcs.		Ordered Length Ft.	Ordered Length Ins.	Item	Shipments
1										Total						
2	17	Cable Retainer Pins	P123	17	Rds. ¾"ϕ	0	8 13/16	Abt.	Bent	19						
3				34	Std. Hex Nuts ¾"ϕ Tap					6						

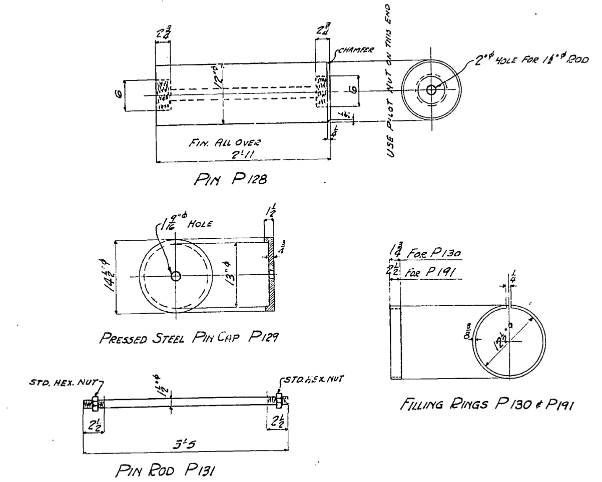
Shop Paint - None
Specifications - Special by State of Cal. Dept. of Public Works
Inspection - John M. Bailey - Chief Insp.
Material - O.H. Copper Bearing Medium Carbon Steel

W.G. 4-6-34 | Date: / 19 | Drawings: Gary #3 | Fabrication: Ambridge | Tompt Order No. G5101 | Sheet No. C 302

NAME OF STRUCTURE: San Francisco - Oakland Bay Bridge East Bay Crossing Span YB3-YB4 [C]

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



NOTE:- FINISHED SURFACES TO BE COATED IMMEDIATELY AFTER ACCEPTANCE WITH A HOT MIXTURE OF WHITE LEAD AND TALLOW. MIXED 4# TALLOW, 1 QUART LINSEED OIL AND 2# WHITE LEAD

6-28-34

Line No.	Member No. Pcs.	Name	Mark	Material No. Pcs.	Shape	Length Ft.	Length Ins.	± Ins.	Remarks	Calculated Weight	Ordered No. Pcs.		Ordered Length Ft.	Ordered Length Ins.	Item	Shipments
1	4	Pins	P128	4	Pins 12"ϕ	2	11		Fin. All Over	1049						
3	8	Pin Caps	P129	8	Pls. 15½"ϕ x ¾				Pressed	41					4334	
5	4	Filling Rings	P130	4	Bars 1¾ x ⅜	3	4¼	Abt.	For L27		1					
7	4	Pin Rods	P131	4	Rds. 1½"ϕ	3	5				1					
8				8	Std. Hex. Nuts 1½"ϕ Tap											
10	4	Filling Rings	P191	4	Bars 2½ x ⅜	3	4¼	Abt.	For L35		1					

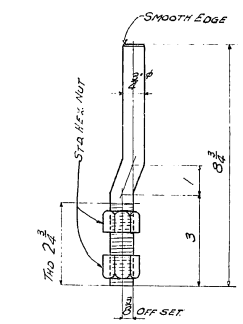
Mat'l. - For Pins P128 Carbon O.H. Steel (Annealed)
For Balance Carbon O.H. Steel Copper Bearing
Spec: State of Cal. S.F.-Oak'd. Bay Bridge Contract #7
Insp. - John M. Bailey, Chief Insp.
Paint - No Paint (See Note for Fin. Surfaces)

Rivets: None | Holes: As Noted | W.G. 4-6-34 | Date: / 19 | Drawings: Gary #3 | Fabrication: Ambridge | Tompt Order No. G5101 | Sheet No. C 401

NAME OF STRUCTURE: San Francisco - Oakland Bay Bridge East Bay Crossing Span YB4-E1 [C]

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



Cable Retainer Pin P132

6-28-34

Line No.	Member No. Pcs.	Name	Mark	Material No. Pcs.	Shape	Length Ft.	Length Ins.	± Ins.	Remarks	Calculated Weight	Ordered No. Pcs.		Ordered Length Ft.	Ordered Length Ins.	Item	Shipments
1										Total Wt.						
2	17	Cable Retainer Pins	P132	17	Rds. ¾"ϕ	0	8 13/16	Abt.	Bent	19					4 STK	
3				34	Std. Hex. Nuts ¾"ϕ Tap					6					A STK	
4										25						

Shop Paint - None
Spec. - Special by State of Cal. Dept. of Public Works
Inspection - John M. Bailey, Chief Insp.
Material - O.H. Copper Bearing Medium Carbon Steel

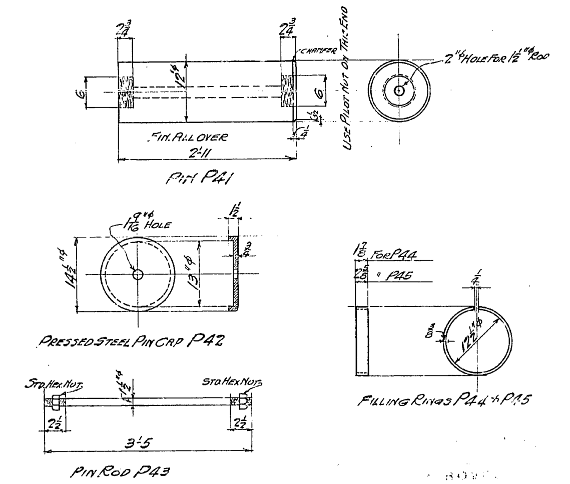
W.G. 4-9-34 | Date: / 19 | Drawings: Gary #3 | Fabrication: Ambridge | Tompt Order No. G5101 | Sheet No. C 402

NAME OF STRUCTURE: San Francisco - Oakland Bay Bridge - East Bay Crossing Span YB4-E1 [C]

30-1

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



4-3-34

NOTE:- FINISHED SURFACES TO BE COATED IMMEDIATELY AFTER ACCEPTANCE WITH A HOT MIXTURE OF WHITE LEAD AND TALLOW, MIXED 4# TALLOW, 1 QUART LINSEED OIL AND 2# WHITE LEAD.

Line No.	Member No. Pcs	Name	Mark	Material No. Pcs	Shape	Length Ft.	Length Ins.	+ Ins.	Remarks	Calculated Weight	Ordered No. Pcs.		Length Ft.	Length Ins.	Item	Shipments
1	4	PINS	P41	4	PINS 12"⌀	2	11		FIN ALL OVER	1053	[illegible]	4	[illegible]	12	[illegible]	
3	8	PIN CAPS	P42	8	PLS 15½"⌀ x ¾					36	1	[illegible]	1[illegible]	9	[illegible]	
5	4	PIN RODS	P43	4	RDS 1½"⌀ x	3	5			87	1		[illegible]	[illegible]	1262	
6				8	STD HEX NUTS 1½"⌀ TAP					11[illegible]						
8	4	FILLING RINGS	P44	4	BARS 1⅞ x ⅜	3	4½	ABT	FOR L8	6	1				[illegible]	
10	4	FILLING RINGS	P45	4	BARS 2⅝ x ⅜	3	4¼	ABT	FOR L10	[illegible]	1		13	6	[illegible]	

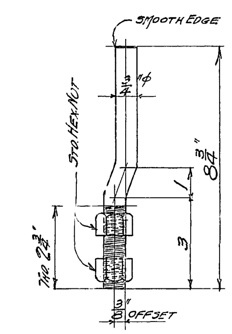
MAT'L:- FOR PINS P41 CARBON O.H. STEEL (ANNEALED)
FOR BALANCE CARBON O.H. STEEL COPPER BEARING
SPEC. STATE OF CAL. S.F. OAK'D BAY BRIDGE CONTRACT #7
INSP.:- JOHN M. BAILEY CHIEF INSP.
PAINT:- NO PAINT (SEE NOTE FOR FIN. SURFACES)

Rivets: NONE — Holes: AS NOTED — E.M.M. 2-15-34; J.H.G. 2-21-34 — Drawings: GARY #3 — Fabrication: AMBRIDGE — TOMPT — ORDER No. G5101 — SHEET No. C1

NAME OF STRUCTURE: SPAN Y81-Y82 EAST BAY CROSSING SAN FRANCISCO-OAKLAND BRIDGE [C]

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



CABLE RETAINER PIN-P61

3-28-34

Line No.	Member No. Pcs	Name	Mark	Material No. Pcs	Shape	Length Ft.	Length Ins.	+ Ins.	Remarks	Calculated Weight	Ordered No. Pcs.		Length Ft.	Length Ins.	Item	Shipments
2	17	CABLE RETAINER PINS	P61	17	RDS ¾"⌀	0	8 13/16	ABT	BENT	19					5	
3				34	STD. HEX. NUTS ¾"⌀ TAP					6					5	
4										25						

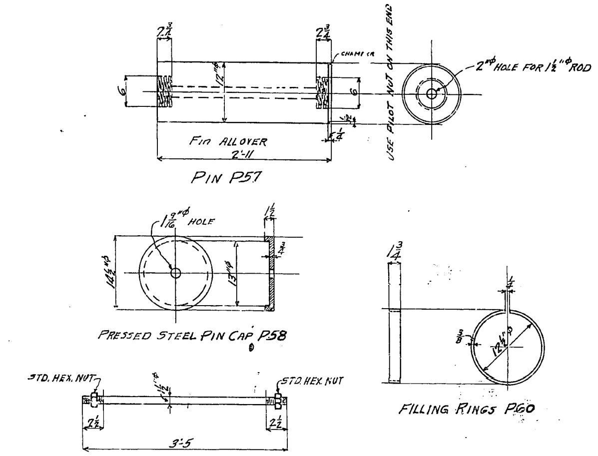
SHOP PAINT:- NONE
SPECIFICATIONS:- SPECIAL BY STATE OF CAL DEPT. OF PUBLIC WORKS.
INSPECTION:- JOHN M. BAILEY CHIEF INSP.
MATERIAL:- O.H. COPPER BEARING MEDIUM CARBON STEEL

E.M.M. [illegible]-34; G.T.N. 3-6-34 — Drawings: GARY #3 — Fabrication: AMBRIDGE — ORDER No. G5101 — SHEET No. C2

NAME OF STRUCTURE: SAN FRANCISCO-OAKLAND BAY BRIDGE - EAST BAY CROSSING SPAN Y81-Y82 [C]

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



PIN ROD P59

NOTE:- FINISHED SURFACES TO BE COATED IMMEDIATELY AFTER ACCEPTANCE WITH A HOT MIXTURE OF WHITE LEAD AND TALLOW, MIXED 4# TALLOW, 1 QUART LINSEED OIL AND 2# WHITE LEAD

3-21-34

Line No.	Member No. Pcs	Name	Mark	Material No. Pcs	Shape	Length Ft.	Length Ins.	+ Ins.	Remarks	Calculated Weight	Ordered No. Pcs.		Length Ft.	Length Ins.	Item	Shipments
1	4	PINS	P57	4	PINS 12"⌀	2	11		FIN. ALL OVER	421[illegible]		[illegible]	[illegible]	[illegible]	29[illegible]	
3	8	PIN CAPS	P58	8	PLS 15½"⌀ x ¾				Pressed 4	3[illegible]	1	[illegible]	1[illegible]	9	22[illegible]	
5	4	PIN RODS	P59	4	RDS 1½"⌀	3	5			[illegible]	1		13	9	2209	
6				8	STD HEX NUTS 1½"⌀ TAP					[illegible]					55	
8	8	FILLING RINGS	P60	8	BARS 1¾ x ⅜	3	4¼	ABT		[illegible]	2		13	9	2208	

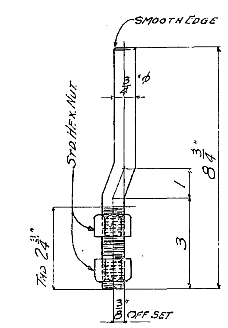
Mat'l:- FOR PINS P57 CARBON O.H. STEEL (ANNEALED)
FOR BALANCE CARBON O.H. STEEL COPPER BEARING
SPEC. STATE OF CAL. S.F.-OAK'D BAY BRIDGE CONTRACT
INSP:- JOHN M. BAILEY CHIEF INSP.
Paint:- NO PAINT (SEE NOTE FOR FIN. SURFACES)

Rivets: NONE — Holes: AS NOTED — H.M.H. 2-28-34; J.H.G. 3-15-34 — Drawings: GARY #3 — Fabrication: AMBRIDGE — TOMPT — ORDER No. G5101 — SHEET No. [illegible]

NAME OF STRUCTURE: SPAN Y82-Y83 EAST BAY CROSSING SAN FRANCISCO-OAKLAND BRIDGE [C]

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



CABLE RETAINER PIN-P113

3-21-34

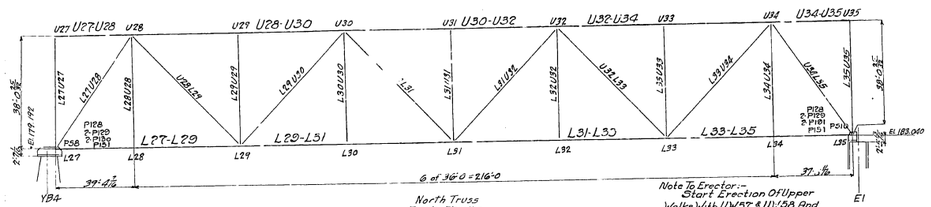
Line No.	Member No. Pcs	Name	Mark	Material No. Pcs	Shape	Length Ft.	Length Ins.	+ Ins.	Remarks	Calculated Weight	Ordered No. Pcs.		Length Ft.	Length Ins.	Item	Shipments
2	17	CABLE RETAINER PINS	P113	17	RDS ¾"⌀	0	8 13/16	ABT	BENT	[illegible]					5	
3				34	STD HEX NUTS ¾"⌀ TAP					[illegible]					5	

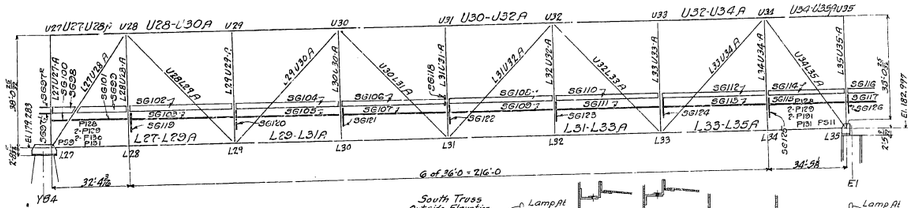
SHOP PAINT - NONE
SPECIFICATIONS - Special by State of CAL. Dept. of PUBLIC WORKS.
INSPECTION - JOHN M BAILEY - CHIEF INSP.
MATERIAL - O.H. Copper BEARING MEDIUM CARBON STEEL

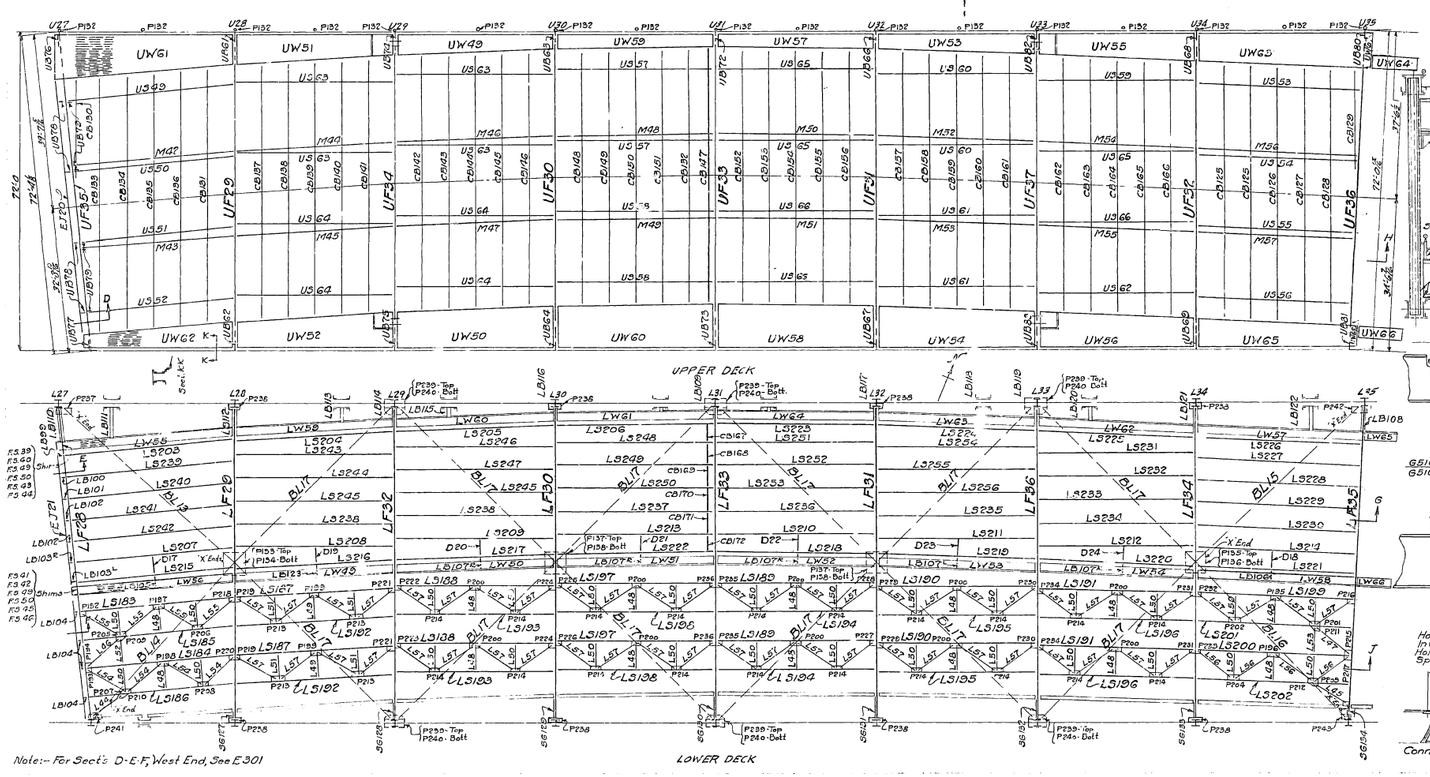
W.G. 3 27 34 — 3 27 34 — Drawings: GARY #3 — Fabrication: AMERIDGE — ORDER No. G5101 — SHEET No. C202

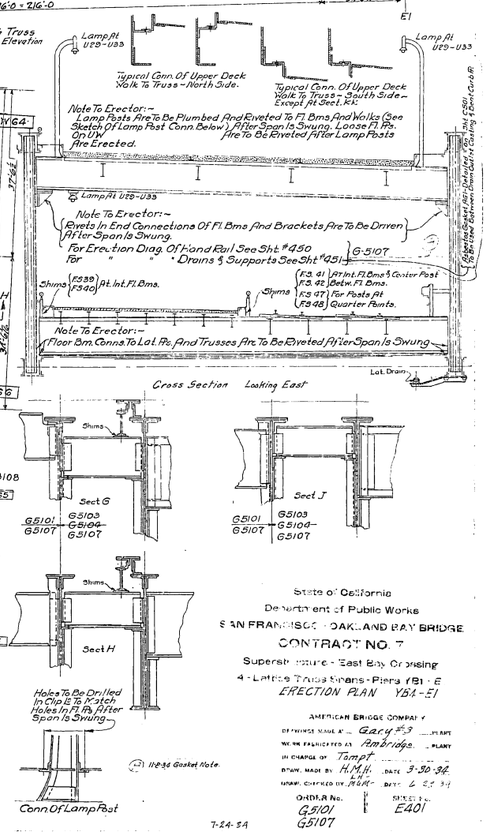
NAME OF STRUCTURE: SAN FRANCISCO - OAKLAND BAY BRIDGE - EAST BAY CROSSING SPAN Y82-Y83 [C]

30-1









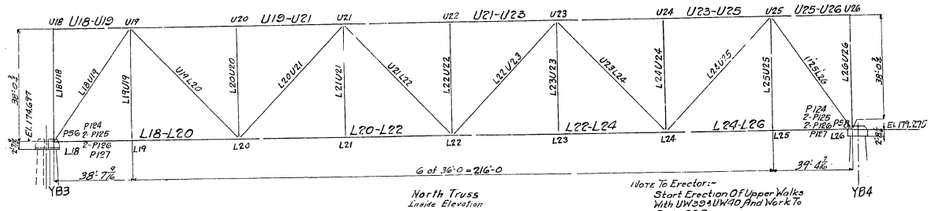
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E
ERECTION PLAN YB1-51

AMERICAN BRIDGE COMPANY
Of Pittsburgh, Penna. At Gary, Ind. Shops
We Are Fabricated As Ambridge Plant
In Charge Of Tampt
Drawn, Made By H.M.H. Date 3-30-36
Name, Checked By A.G.R. Date 6-22-36

Order No. G5101 G5107
Sheet No. E401

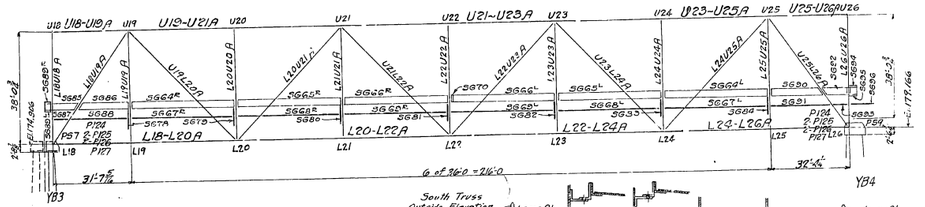
T-24-5A

ARCHIVE COPY
DO NOT REMOVE

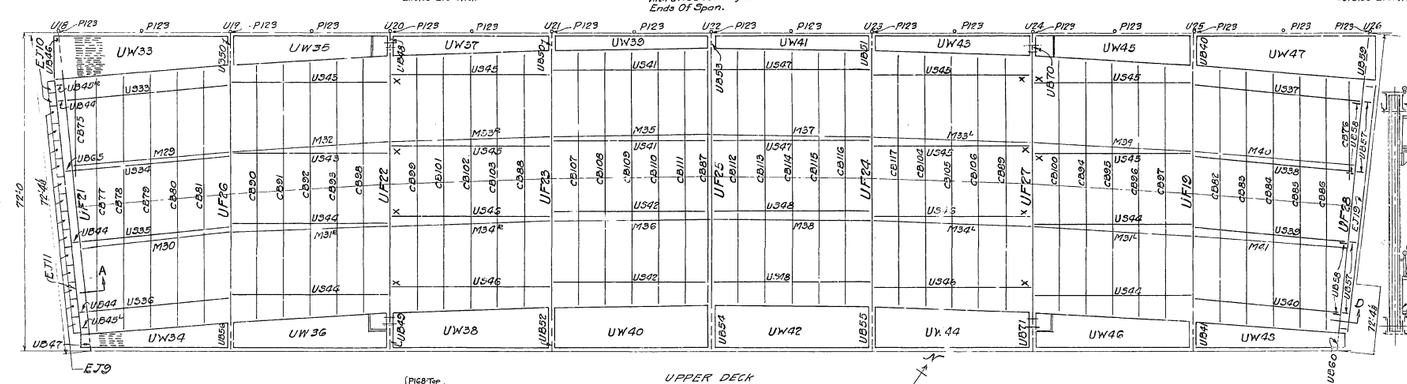


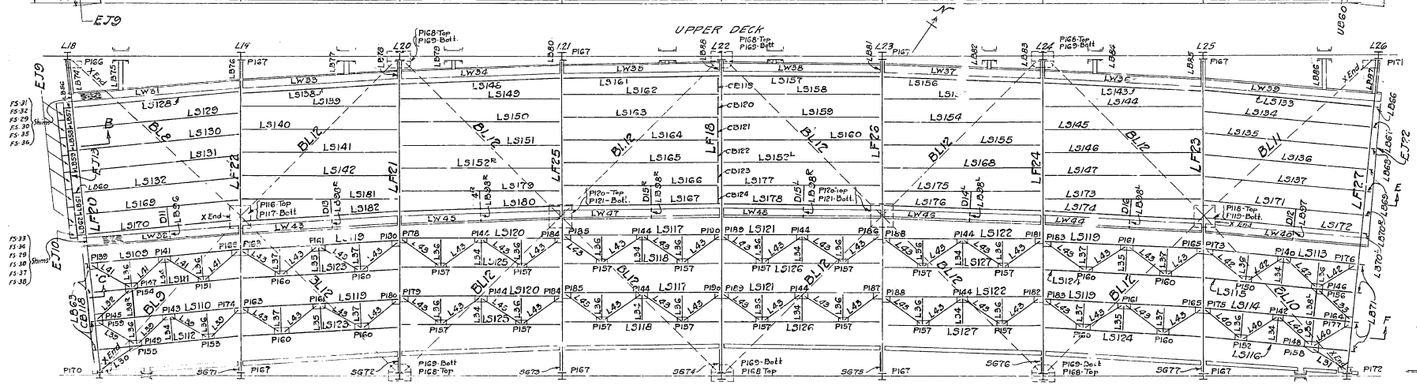
North Truss
Inside Elevation

Note To Erector:-
Start Erection Of Upper Walks With UW33-UW40 And Work To Ends Of Span.

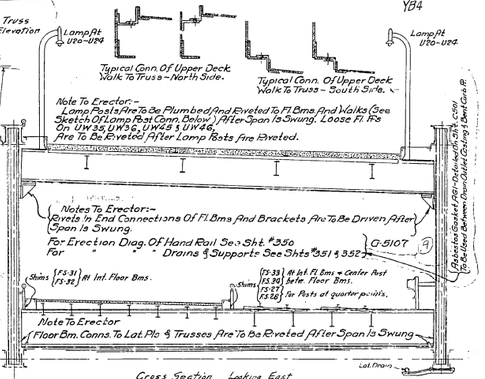


South Truss
Outside Elevation

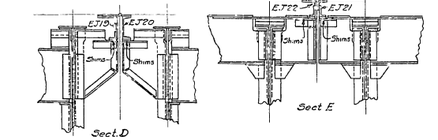


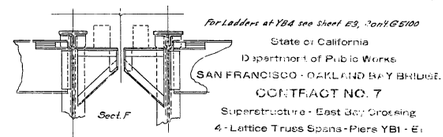


Note:- For Sect's A-B-C West End, See E201



Cross Section Looking East





For Ladders at YB4 see sheet E3, Cont'G 5100

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1

ERECTION PLAN Y83-YB4

AMERICAN BRIDGE COMPANY
SHIPPING ISSUE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tempt
DRAWN BY H.M.A. DATE 3-28-34
DRAWN, CHECKED BY [illegible] DATE E-11-34

ORDER No. G-5101 G5107
SHEET No. E301

7-24-34

Property of Public Works Library

Note to Erector:— Temp. Struts E51 are to be removed after span is swung and used on other spans

North Truss
Inside Elevation

Note to Erector:— Temp. Struts E51 are to be removed after span is swung and used on other spans

South Truss
Outside Elevation

Note to Erector:— Shunt erection of upper deck walks with UW18 & UW32 and mark to ends of span

UPPER DECK

LOWER DECK

Note to Erector:— Small bolts are to be reused to connect Batt Lats. to trusses and to Fl. Bms. and to connect stringers to Fl. Bms. These connections are to be riveted after span is swung.

Note:— For Sects D-E-F, West End, See E101

Typical Conn. of upper deck walk to truss-North Side

Typical Conn. of upper deck walk except UW18-South side

Conn for UW18-South walk

Note to Erector:— Lamp posts are to be plumbed and riveted to Fl. Bms. and walks (see sketch of lamp post conn. below) after span is swung. Loose Fl. Bms. on UW19, UW20, UW29 & UW30 are to be riveted after lamp posts are erected.

Lamp at U11-U15

Notes to Erector:— Rivets in end connections of Fl. Bms. and brackets are to be driven after span is swung.
For Erection Diag. of Hand Rail see St. # 250
For " " " Drains and Supports see St. # 250

G-5107

Note to Erector
Floor bm. conn. to lat pls and trusses are to be riveted after span is swung.

Cross Section. Looking East

Holes to be drilled in clip as to match holes in Fl. Bm. after span is swung.

Note to Erector:— Expansion joints EJ12 & EJ14 are to be adjusted by means of variable shims after EJ11 & EJ13 respectively are bolted in place.

For Ladders at YB3 see sheet E2, Cont. G5100

Conn. of Lamp Post

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1

ERECTION PLAN YB2-YB3

AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary IND. PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAWN BY H.M.H DATE 2-28-34
CHECKED BY DATE
ORDER No. G5101 G5107
SHEET No. E 201
6-26-34

99-1

Note to Erector:- Temp. Struts, E51, are to be removed after) span is swung and used on other spans

Note to Erector:- Temp. Struts, E51, are to be removed after) span is swung and used on other spans

North Truss
Inside Elevation

South Truss
Outside Elevation.

Upper Deck

Lower Deck

Note to Erector:- Short section of upper walks with UW14 & UW16 to end work to ends of span.

Typical conn. of Upper Deck Walk to Truss.

Conn. of Upper Deck Walk to truss for UW18 & UW13

Notes to Erector:- Small bolts are to be used to connect Walks and Fl. Beams during erection. Lamp Posts are to be plumbed and riveted to Fl. Beams and Walks (see sketch of Lamp Post conn. below) after span is swung. Loose Fl. B's on UW5, UW4, UW11 and UW12 are to be riveted after Lamp Posts are erected.

Note to Erector:- Rivets in end connections of floor beams and brackets are to be driven after span is swung

For Erection Diag of Hand Rail see sh. #150
For " " " Drains and Supports see Sh #151

Note to Erector:- Floor beam conns to lateral plates and trusses are to be riveted after span is swung.

Cross Section- Looking East.

Note to be drilled to clip & to match holes in Floor Bs after span is swung

Sect G-G

Sec. B

Sec. C

Sec. D

Sec. E

Sec. F

Conn. of Lamp Post

Note to Erector:- Small bolts are to be used to connect Batt. Lats to Trusses and to Fl. Brs and to connect Stringers to Floor Beams. These connections are to be riveted after span is swung.

Note to Erector:- Exp. Joint EJ8 is to be adjusted to proper elevation by means of Shims after EJ7 is erected. Do not rivet Holes 'D' at LE until Ladders are in place. For Ladder Holes 'D' see Sh 36 Cont. 65101 For Ladders see sheet E3 Cont. 65100

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4-Lattice Trues Spans - Piers Y81 - E1
ERECTION PLAN - SPAN Y81-Y82

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary 3 PLANT
WORK EXECUTED AT Oakland Yard PLANT
IN CHARGE OF Tompt
TRACED BY YMC DATE 12-9-36
DESIGN CHECKED BY DATE

APPROVED
ORDER No. 65101 65107
DRAWING No. E101

Index To Marks - Spans YB1-E1

Description	Mark No.	
Description	Mark No.	191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260
Lateral Plates + Pins	P	C401 447 447 447 447 447 447 447 447 447 447 447 447 447 447 447 447 447 447 447 447 447 447 447 447 447 447 447 447 447 447 447 447 447 447 447 447 447 447 447 447 447 447 447 447 447 447 447 425 425 425 425 426 427 428
Lower Deck Stringers	LS	450 450 450 450 450 450 450 450 450 450 450 450 451 451 451 451 452 452 452 452 452 452 452 452 452 452 452 452 452 452 452 452 452 451 451 451 451 451 451 451 451 451 451 451 451 453 453 453 453 453 453 453 453 453 453 453 453 453 453 453 453 453 454 454 454 454 454 454 454 454
Description	Mark No.	96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190
Lateral Plates + Pins	P	202 202 202 202 202 202 202 202 202 202 202 202 202 202 202 202 202 C202 202 202 303 303 303 303 303 303 201 C302 C301 C301 C301 C301 C401 C401 C401 C401 C402 402 402 402 402 402 402 348 348 348 348 348 348 348 348 348 348 348 348 348 348 348 348 348 348 348 348 348 348 348 348 348 348 326 326 326 326 327 328 321 348 348 348 348 348 348 348 348 348 348 348 348 348 348 348 348 348 348
Lower Deck Stringers	LS	255 255 255 255 255 255 255 255 255 255 255 255 252 351 351 351 351 351 351 351 351 351 351 351 351 351 351 351 351 351 351 351 352 352 352 352 352 352 352 352 352 353 353 353 353 353 353 353 353 353 353 354 354 354 354 354 354 353 355 355 355 354 355 355 355 356 356 356 356 356 356 356 356 354 356 356 357 357 357 357 357 357 357 357 357 357 357 357 450 450 450 450 450 450 450 450
Cross Beams	CB	350 350 350 350 350 350 350 350 350 350 350 350 350 350 350 350 350 350 350 350 350 351 357 357 357 357 357 357 449 449 449 449 449 449 449 449 449 449 449 449 449 449 449 449 449 449 449 449 449 449 449 449 449 449 449 449 449 449 449 449 449 449 449 449 449 449 449 449 449 449 449 449 454 454 454 454 454 454
Lower Deck Brackets	LB	354 355 355 412 412 412 412 412 412 452 452 452 419 415 421 421 421 421 421 421 421 421 421 421 421 421 421 452
Skid Girders	SG	318 416 416 416 416 416 417 417 417 417 417 417 417 417 417 417 417 417 417 417 417 417 417 417 416 416 416 416 416 416 416 416 417 417 417 417 417 417 417 416
Handrail Posts	HP	450 450 450 450 450 450 450 450
Description	Mark No.	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 4 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 32 83 84 85 86 87 88 89 90 91 92 93 94 95
Skid Girders	SG	113 113 113 113 114 114 114 114 114 115 115 115 115 115 115 117 117 117 117 117 117 117 116 116 116 116 116 116 210 210 210 210 210 210 210 210 210 210 210 211 211 211 211 211 211 211 211 211 211 211 211 211 211 211 211 211 211 211 211 211 211 211 211 316 316 316 316 316 316 316 316 316 316 316 316 316 316 316 316 316 316 316 316 316 316 317 317 317 317 317 318 318 318 318 318 318
Lower Deck Stringer	LS	6 6 6 6 6 6 6 6 6 6 7 7 7 7 7 7 7 7 7 7 7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 251 251 251 251 251 251 251 251 251 251 251 251 251 251 252 252 252 252 252 252 252 252 252 252 252 252 252 252 252 252 252 253 253 253 253 252 252 253 253 253 253 252 253 253 253 254 254 254 254 254 254 254 254 254 255 255 255 255 255 255
Lower Deck Brackets	LB	11 11 11 11 12 12 12 12 12 110 110 110 110 110 110 110 110 110 110 110 110 110 110 110 214 214 214 214 214 214 239 239 239 239 216 216 216 216 216 216 216 216 216 216 216 216 216 247 247 247 247 247 247 247 247 313 313 313 313 313 313 313 313 239 239 321 321 321 321 321 321 7 7 311 311 311 311 311 311 312 312 311 311 311 311 311 312 311 254 254 254 254 254 254 254
Cross Beams	CB	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 249 249 249 249 249 249 249 249 249 249 249 249 249 249 249 249 249 249 249 249 249 249 249 249 249 250 250 250 250 250 250 250 250 250 250 250 250 250 250 250 250 250 250 250 250 250 250 254 254 254 254 254 254 254 255 350 350 350 350 350 350 350 350 350 350 350 350 350 350 350 350 350 350 350 350 350
Lateral Plates + Pins	P	30 30 30 30 36 201 201 201 201 210 210 10 10 10 10 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 202 202 C1 C1 C1 C1 C1 24 24 24 25 25 202 202 202 202 25 C201 C201 C201 C201 C2 203 203 203 203 204 205 206 202 202 202 202 202 202 202 202 202 202 202 202 202 202 202 202
Drain Spouts	DS	151 151 151 151 151 151 151 151 151 151 151 151 151 151 151 151 151 151 151 151 151 151 151 151 151 151 251 251 251 251 251 251 251 251 251 251 251 251 251 251 251 251 251 251 351 351 351 351 351 351 351 351 351 351 351 351 351 351 351 351 351 351 351 351 351 351 351 351 351 351 351 251 451 451 451 451 451 451 451 451 451 451 451 451 451 451 451 451 451 451 451 451
Upper Deck Brackets	UB	1 1 1 1 1 1 1 2 2 2 2 2 2 3 230 230 230 230 230 230 230 230 232 232 237 237 238 238 238 238 238 231 231 234 234 233 233 311 311 235 235 304 304 304 304 306 306 305 309 307 308 308 309 305 312 312 312 312 404 404 406 406 304 408 408 410 410 308 308 407 407 405 405 403 403 403 403 411 411 409 409
Drain Fasteners	DF	151 151 151 151 151 151 151 151 151 151 151 151 151 151 151 151 151 151 151 151 151 151 151 151 151 251 251 251 251 251 251 251 251 352 352 352 352 352 352 352 352 352 352 352 352 352 352 352 352 352 352 251 251 251 251 451 451 451 451 451 451 451 451 451 451 451 451 451 151 151 251 251 352 352 451 451
Upper Deck Walks	UW	101 101 102 102 103 103 104 104 105 105 106 106 107 107 108 108 201 201 209 202 203 203 204 204 205 205 206 206 207 207 208 209 301 301 302 302 303 303 304 304 305 305 306 306 307 307 308 308 403 403 402 402 406 406 407 407 405 405 404 404 401 401 408 408 409 409 408 409
Handrail Posts	HP	150 150 150 150 150 150 150 150 150 150 150 150 250 250 250 250 250 250 250 250 250 250 250 250 250 250 250 250 250 250 250 350 350 350 350 350 350 350 350 350 350 350 350 350 350 350 350 350 350 350 250 250 250 250 250 250 250 250 350 350 350 350 350 450 450 450 450 450 450 450 450 450 450 450 450 450 450 450 450 450 450 450 450 450 450 450 450 450
Lower Deck Walks	LW	109 110 110 110 110 110 110 112 111 111 118 118 118 118 212 214 214 215 215 216 216 213 212 217 217 217 218 218 218 213 309 309 312 312 312 311 311 311 310 310 313 313 313 313 313 313 411 411 411 412 411 412 410 410 413 413 414 414 414 415 415 415 419 419
Upper Deck Stringers	US	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 248 248 248 248 248 248 248 248 248 248 248 248 248 248 349 349 349 349 349 349 349 349 349 349 349 349 349 349 349 349 349 349 349 349 349 349 349 448 448 448 448 448 448 448 448 448 448 448 448 448 448 448 448 448 448 448 448
Handrailing	HR	150 150 150 150 150 150 150 150 150 150 150 150 150 150 150 250 250 250 250 250 250 250 250 250 250 250 250 250 250 250 250 350 350 350 350 350 350 350 350 350 350 350 350 350 350 350 350 350 350 350 350 350 350 350 450 350 450 450 450 450 450 450 450 450 450 450 450 350
Stringer Laterals	L	202 202 202 202 202 202 202 202 202 202 202 202 202 202 202 202 9 9 9 9 9 9 9 9 9 9 9 9 9 348 348 348 348 348 348 348 348 348 348 348 348 348 348 348 447 447 447 447 447 447 447 447 447 447 447 447 447 447 447 447 447
Miscellaneous	M	112 112 119 119 119 119 119 119 119 119 121 121 221 221 221 221 221 221 222 222 222 222 222 222 222 222 222 314 314 314 314 314 314 314 314 314 314 314 314 314 418 418 418 418 418 418 418 418 418 418 418 418 418 418 420 420 420 420 420 420
Field Shims	FS	118 118 118 118 118 118 118 118 118 118 118 118 217 217 217 217 217 217 217 217 217 217 111 111 212 212 313 313 313 313 309 309 309 309 309 309 309 309 412 412 412 412 412 412 412 412 412 412 412 412 412 412 412 412 412 412 212 212 212 201 201 201 201
Upper Deck Floor Beams	UF	1 3 3 3 4 4 4 2 5 230 232 237 238 236 231 234 233 311 235 304 306 307 309 308 305 310 312 404 406 408 410 407 405 403 411 409
Lower Deck Floor Beams	LF	11 12 17 14 15 16 19 13 18 239 242 244 240 243 241 245 247 317 246 313 315 314 320 319 316 318 321 412 413 415 417 414 416 419 420 418
Diaphragms	D	7 7 7 254 254 254 254 254 254 254 354 354 355 355 355 355 452 452 452 452 452 452 452 452
Expansion Joints	EJ	109 109 120 120 120 120 121 121 219 219 219 219 220 220 121 121 319 319 315 315
Bottom Laterals	BL	10 10 201 201 201 201 201 303 303 303 303 303 402 402 402 402 402
Shoes	PS	10 20 20 221 221 302 302 301 301 401 401
Drip Pans	DP	352 352
Strut	S	8
Erection Strut	ES	28
Asbestos Gasket	*AG*	*C501*

FOR ALL SPANS

E1	*Paint Sheets.*
E2	*Index to Marks.*
C501	*Asbestos Gaskets*

G5101 — SPAN YB1-YB2 (Ambridge Plant)

Sheet	Description
1 to 5 incl.	Floor Bms Upper Deck
6 to 8 incl.	Stringers-Upper-Lower Dk
9	Stringer Laterals Lower Dk
10	Bott. Laterals - Shoes
11 to 19 incl.	Floor Bms - Lower Deck
20	Shoes
21 to 23 incl.	Top Chord
24 + 25	Bott. Chord
26 to 29 incl.	Truss Diagonal
30	Bott. Chord
31 + 32	Post + Hangers
33	Top Chord
34 + 35	End Post
36	Bott Chord
37	Truss Diagonal
E101	Erection Diagram
C1	Pins
C2	Cable Support
C3 to C9	*Summary of Field Rivs & Bolts*
EF1 to EF17	*Erectors List - Field Rivs & Bolts*

G5101 — SPAN YB2-YB3 (Ambridge Plant)

Sheet	Description
201	Bott. Laterals.
202	Stringer Laterals-Lower Dk.
203 to 206 incl.	Bott. Chord.
207 to 210 incl.	Top Chord
211 + 212	Diagonals
213 to 216 incl.	End Post.
217 to 220 incl.	Post + Hangers
221	Shoes
222 to 225 incl.	Top Chord
226 to 229 incl.	Bott. Chord
230 to 247 incl.	Floor Bms - Upper-Lower Dk.
248 to 255 incl.	Stringers-Upper-Lower Dk
E201	Erection Diagram
C201	Pins
C202	Cable Support.
C203 to C209 incl.	*Field Rivets & Bolts*
EF201 to EF221	*Erectors List - Field Rivs & Bolts*

G5101 — SPAN YB3-YB4 (Ambridge Plant)

Sheet	Description
301 + 302	Shoes
303	Bott. Laterals
304 to 321 incl.	Floor Bms - Upper-Lower Dk
322 to 325 incl.	End Posts
326 to 333 incl.	Bott. Chord
334 to 341 incl.	Top Chord
342 to 345 incl.	Post - Hangers
346 + 347	Diagonals
348	*Stringer Laterals*
349 + 350	Upper Deck Stringers
351	R.R. Stringers
352 to 357 incl.	Lower Deck Stringers
E301	Erection Diagram
C301	Pins
C302	Cable Supports
C303	*Turned Bolts (Field)*
C304 to C309	*Summary of Field Rivs & Bolts*
EF301 to EF318	*Erectors List - Field Rivs & Bolts*

G5101 — SPAN YB4-E1 (Ambridge Plant)

Sheet	Description
401	Shoes
402	Bott. Laterals
403 to 411 incl.	Upper Deck Floor Bms
412 to 420 incl.	Lower Deck Floor Bms
421 to 424 incl.	End Posts
425 to 432 incl.	Bott. Chords
433 to 440 incl.	Top Chords
441 to 444 incl.	Posts + Hangers.
445 + 446	Diagonals.
447	R.R. Stringer Lat. + Pls.
448 + 449	Upper Deck Stringers
450	R.R. Stringers
451 to 454 incl.	Lower Deck Stringers
E401	Erection Diagram
C401	Pins
C402	Cable Supports
C403	*Turned Bolts (Field)*
C404 to C409	*Summary Field Rivs & Bolts*
EF401 to EF416	*Erectors List - Field Rivs & Bolts*

Span YB1-YB2

Member	Bottom Chord				Top Chord				Diagonals					Hangers	Posts			
	L_0-L_2, L_0-L_2A	L_2-L_4, L_2-L_4A	L_4-L_6, L_4-L_6A	L_6-L_8, L_6-L_8A	U_0-U_1, U_0-U_1A, U_7-U_8, U_7-U_8A	U_1-U_3, U_1-U_3A	U_3-U_5, U_3-U_5A	U_5-U_7, U_5-U_7A	U_1-L_2A, L_6-U_7A	L_2-U_3A, U_5-L_6A	U_3-L_4A, L_4-U_5A	U_1-L_2, L_2-U_3, U_3-L_4, L_4-U_5	U_5-L_6, L_6-U_7	L_1-U_1, L_1-U_1A, L_7-U_7, L_7-U_7A, L_3-U_3, L_3-U_3A, L_5-U_5, L_5-U_5A	L_0-U_0, L_0-U_0A, L_8-U_8, L_8-U_8A, L_2-U_2, L_2-U_2A, L_4-U_4, L_4-U_4A	L_0-U_1A, U_7-L_8A	L_0-U_1B, U_7-L_8B	L_6 U_6, L_6-U_6A
Sheet No.	30	25	24	36	21	22	23	33	26	27	28	29	37	32	31	34	35	32

Span YB2-YB3

Member	Bottom Chord								Top Chord							
	L_9-L_{11}	L_9-L_{11}A	L_{11}-L_{13}A	L_{11}-L_{13}	L_{13}-L_{15}A	L_{13}-L_{15}	L_{15}-L_{17}	L_{15}-L_{17}A	U_9-U_{10}, U_9-U_{10}A	U_{10}-U_{12}	U_{10}-U_{12}A	U_{12}-U_{14}	U_{12}-U_{14}A	U_{14}-U_{16}	U_{14}-U_{16}A	U_{16}-U_{17}, U_{16}-U_{17}A
Sheet No.	203	204	228	229	226	227	205	206	207	209	210	224	225	222	223	208

Member	Diagonals		Hangers		Posts					
	U_{10}-L_{11}, U_{10}-L_{11}A, U_{12}-L_{13}, U_{12}-L_{13}A, L_{13}-U_{14}, L_{13}-U_{14}A, L_{15}-U_{16}, L_{15}-U_{16}A	L_{11}-U_{12}, L_{11}-U_{12}A, U_{14}-L_{15}, U_{14}-L_{15}A	L_{10}-U_{10}, L_{10}-U_{10}A, L_{11}-U_{11}, L_{11}-U_{11}A	L_{12}-U_{12}, L_{12}-U_{12}A, L_{14}-U_{14}, L_{14}-U_{14}A, L_{16}-U_{16}, L_{16}-U_{16}A	L_9-U_{10}	L_9-U_{10}A	L_9-U_9, L_9-U_9A, L_{17}-U_{17}, L_{17}-U_{17}A	L_{13}-U_{13}, L_{13}-U_{13}A, L_{15}-U_{15}, L_{15}-U_{15}A	U_{16}-L_{17}	U_{16}-L_{17}A
Sheet No.	2	212	218	219	214	213	217	220	216	215

Span YB3-YB4

Member	Bottom Chord								Top Chord							
	L_{18}-L_{20}	L_{18}-L_{20}A	L_{20}-L_{22}	L_{20}-L_{22}A	L_{22}-L_{24}	L_{22}-L_{24}A	L_{24}-L_{26}	L_{24}-L_{26}A	U_{18}-U_{19}, U_{18}-U_{19}A	U_{19}-U_{21}	U_{19}-U_{21}A	U_{21}-U_{23}	U_{21}-U_{23}A	U_{23}-U_{25}	U_{23}-U_{25}A	U_{25}-U_{26}, U_{25}-U_{26}A
Sheet No.	326	327	333	332	331	330	328	329	340	334	335	336	337	338	339	341

Member	Diagonals		Hangers		Posts					
	U_{19}-L_{20}, U_{19}-L_{20}A, L_{24}-U_{25}, L_{24}-U_{25}A, U_{21}-L_{22}, U_{21}-L_{22}A, L_{22}-U_{23}, L_{22}-U_{23}A	L_{20}-U_{21}, L_{20}-U_{21}A, U_{23}-L_{24}, U_{23}-L_{24}A	L_{19}-U_{19}, L_{19}-U_{19}A	L_{21}-U_{21}, L_{21}-U_{21}A, L_{23}-U_{23}, L_{23}-U_{23}A, L_{25}-U_{25}, L_{25}-U_{25}A	L_{18}-U_{19}	L_{18}-U_{19}A	L_{18}-U_{18}, L_{18}-U_{18}A, L_{26}-U_{26}, L_{26}-U_{26}A	L_{20}-U_{20}, L_{20}-U_{20}A	L_{22}-U_{22}, L_{22}-U_{22}A, L_{24}-U_{24}, L_{24}-U_{24}A	U_{25}-L_{26}	U_{25}-L_{26}A
Sheet No.	346	347	343	344	322	323	342	343	345	324	325

Span YB4-E1

Member	Bottom Chord								Top Chord							
	L_{27}-L_{29}	L_{27}-L_{29}A	L_{29}-L_{31}	L_{29}-L_{31}A	L_{31}-L_{33}	L_{31}-L_{33}A	L_{33}-L_{35}	L_{33}-L_{35}A	U_{27}-U_{28}, U_{27}-U_{28}A	U_{28}-U_{30}	U_{28}-U_{30}A	U_{30}-U_{32}	U_{30}-U_{32}A	U_{32}-U_{34}	U_{32}-U_{34}A	U_{34}-U_{35}, U_{34}-U_{35}A
Sheet No.	425	426	432	431	430	429	427	428	439	433	434	435	436	437	438	440

Member	Diagonals		Hangers			Posts					
	U_{28}-L_{29}, U_{28}-L_{29}A, U_{30}-L_{31}, U_{30}-L_{31}A, L_{31}-U_{32}, L_{31}-U_{32}A, L_{33}-U_{34}, L_{33}-U_{34}A	L_{29}-U_{30}, L_{29}-U_{30}A, U_{32}-L_{33}, U_{32}-L_{33}A	L_{28}-U_{28}, L_{28}-U_{28}A	L_{30}-U_{30}, L_{30}-U_{30}A, L_{32}-U_{32}, L_{32}-U_{32}A, L_{34}-U_{34}, L_{34}-U_{34}A	L_{31}-U_{31}, L_{31}-U_{31}A, L_{33}-U_{33}, L_{33}-U_{33}A	L_{27}-U_{28}	L_{27}-U_{28}A	L_{27}-U_{27}, L_{27}-U_{27}A, L_{35}-U_{35}, L_{35}-U_{35}A	L_{29}-U_{29}, L_{29}-U_{29}A	U_{34}-L_{35}	U_{34}-L_{35}A
Sheet No.	445	446	442	443	444	421	422	441	442	424	423

G5107 — SPAN YB1-YB2

Plant	Sheet	Description
Ambridge Plant	150	Hand Rail
Ambridge Plant	151	Drain Pipe
Ambridge Plant	CF101	Drain Casting
Judson Pacific Co	101 to 108 incl.	Upper Deck Walks
Judson Pacific Co	109 to 112 incl.	Lower Deck Walks
Judson Pacific Co	118	" " "
Judson Pacific Co	113 to 117 incl.	Skid Girders
Judson Pacific Co	112, 119 + 121	Roadway Angles
Judson Pacific Co	109, 120 + 121	Expansion Joints
Ambridge Plant	*C101 to C103*	*Summary of Field Rivs. & Bolts*
Ambridge Plant	*EF101 to EF104*	*Erectors List - Field Rivs & Bolts.*

G5107 — SPAN YB2-YB3

Plant	Sheet	Description
Ambridge Plant	250	Hand Rail
Ambridge Plant	251	Drain Pipe
Judson Pacific Co	201-209 incl	Upper Deck Walks
Judson Pacific Co	212-218 incl.	Lower Deck Walks
Judson Pacific Co	210 + 211	Skid Girders
Judson Pacific Co	221 + 222	Roadway Angles
Judson Pacific Co	219 + 220	Expansion Joints
Ambridge Plant	*C250-C253*	*Field Rivets & Bolts*
Ambridge Plant	*EF250-EF251-EF252*	*Erectors List - Field Riv & Bolts*

G5107 — SPAN YB3-YB4

Plant	Sheet	Description
Ambridge Plant	350	Hand Rail
Ambridge Plant	351	Drains
Ambridge Plant	352	Drain Supports
Judson Pacific Co	301 to 308 incl	Upper Deck Walks
Judson Pacific Co	309 to 313 incl.	Lower Deck Walks
Judson Pacific Co	316 to 318 incl	Skid Girders
Judson Pacific Co	314	Roadway Angles
Judson Pacific Co	315 + 319	Expansion Joints.
Ambridge Plant	*C351 to C354*	*Summary of Field Rivs. & Bolts*
Ambridge Plant	*EF351 + EF352*	*Erectors List - Field Rivs & Bolts*

G5107 — SPAN YB4-E1.

Plant	Sheet	Description
Ambridge Plant	450	Hand Rail
Ambridge Plant	451	Drains
Judson Pacific Co	401 to 409 incl.	Upper Deck Walks
Judson Pacific Co	410 to 415 incl.	Lower Deck Walks
Judson Pacific Co	419	" " "
Judson Pacific Co	416 + 417	Skid Girders
Judson Pacific Co	418 + 420	Roadway Angles
Judson Pacific Co	421	Lower Deck Brackets
Ambridge Plant	*C451 to C454*	*Summary Field Rivs. & Bolts*
Ambridge Plant	*EF451 + EF452*	*Erectors List - Field Rivs. & Bolts*

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Index To Marks - List of Drawings
Index To Truss Members
AMERICAN BRIDGE COMPANY

Drawings made at Gary #3 Plant
Work fabricated at Ambridge & Judson Pacific Plant
In charge of Tompt
Draw. made by C.R.T. Date 6-26-34
Draw. checked by [illegible] Date 6/28/34

Order No. G5101, G5107 — Sheet No. E2

See Detail 'A' for Punching of Holes for Ladder Rounds

Section-A-A

L38

L41

L42

L50

L51

L40

L39

L43

L44

L45

L47

L48
L49

L52

L53

L56

Detail 'A'
Holes in ladder bars for round rnb.

View Z-Z Developed

View B-B Developed

View C-C Developed

View D-D Developed

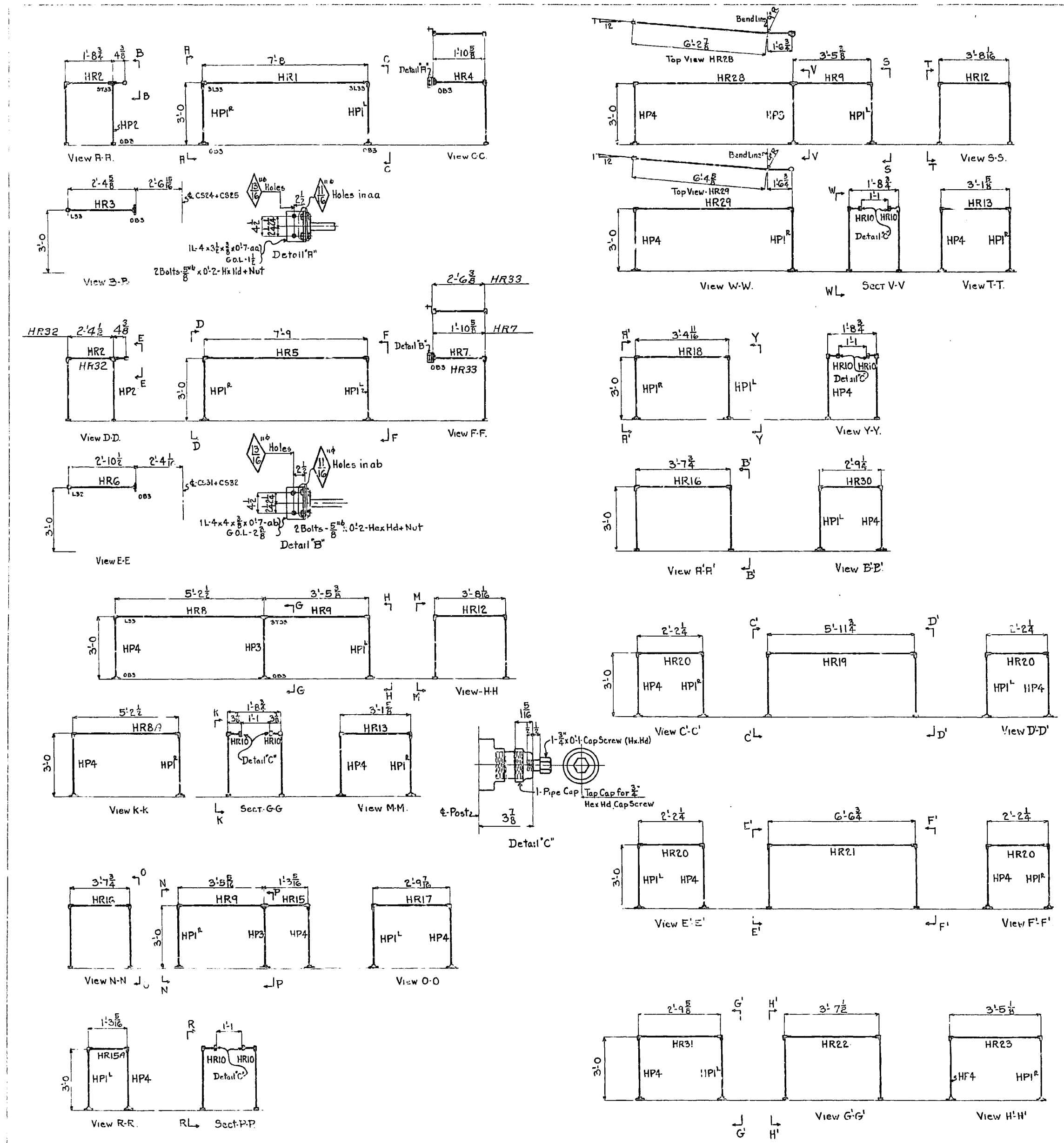
REQUIRED				
Wes	Nas	Total	Description	Mark
		1	Ladder	L38
/		1	do	L41
/		1	do	L42
	/	1	do	L50
	/	1	do	L51
	/	1	Bracket	L39
	/	1	do	L40
/		1	do	L43
/		1	do	L56
/		1	do	L44
/		1	do	L45
	/	1	do	L47
	/	1	do	L48
	/	1	do	L49
	/	1	do	L52
	/	1	do	L53

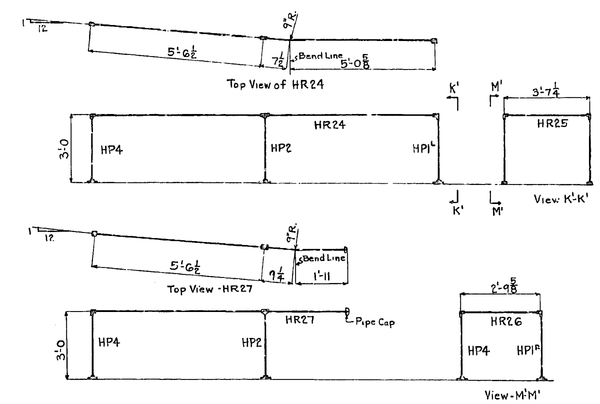
APPROVED
Chas. D. Wenzell — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date G-13-36

Gen. Notes:-
Material:- All material to be O-H-Copper bearing medium Carbon Steel.
Specifications: Special by State of California, Dep't. of Public Works.
Inspection:- John M. Bailey, Chief Inspector.
Rivets:- 7/8" ø
Open Holes:- 13/16" Unless Noted
Reaming:- None.
Finish:- All edges of Ladders to be smooth with no ragged edges.
Stop Paint:- None

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Bents YB2 - YB3 & YB4

Details of:- Ladders & Brackets
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Strang
DRWG. MADE BY H.OAK DATE 5-16-36
DRWG. CHECKED BY H.M.C. DATE 5-31-36
ORDER No. G5100
SHEET No. 22
Shop Drwgs. 544 to 547





REQUIRED								Assemble With								
Bent YB2	Bent YB3	Bent YB4	Total	Mark	Description	ϕ	Length-c-c	Cast Iron Base-Type OB3	Slip Tee-Type ST33	Side Outl. Ell-Type 3L33	Standard Ell-L33	Side Outlet Tee-3T33	1½" Malleable Iron Cap with ⅜" Hx.Hd.Cap Scr.	Connection L	1½" Std Pipe Cap	All Pipe threaded Both Ends.
2			2	HR1	Hand Rail	1½	7'-8									
2		1	3	HR2	"	"	2'-1⅛									
		2	2	HR5	"	"	7'-9									
1 1			1 1	HR8 HR8A	"	"	5'-2½									
2		1	3	HR9	"	"	3'-5⅜									
1		1	2	HR12	"	"	3'-8 1/16									
1		1	2	HR13	"	"	3'-1 5/16									
1 1			1 1	HR15 HR15A	"	"	1'-3 5/16									
1		1	2	HR16	"	"	3'-7¾									
1			1	HR17	"	"	2'-9 7/16									
		1	1	HR18	"	"	3'-4 11/16									
	1		1	HR19	"	"	5'-11¾									
	4		4	HR20	"	"	2'-2¼									
	1		1	HR21	"	"	6'-6¾									
	1		1	HR22	"	"	3'-7½									
	1		1	HR23	"	"	3'-5⅛									
	1		1	HR24	"	"	11'-2⅝ abt.									
	1		1	HR25	"	"	3'-7¼									
	1		1	HR26	"	"	2'-9⅝									
		1	1	HR28	"	"	7'-9⅝ abt									
		1	1	HR29	"	"	7'-11⅜ abt.									
		1	1	HR30	"	"	2'-9¼									
							Length ℄ Ell to bk of L									
2			2	HR4	"	"	1'-10⅝	2						2-aa		
		1	1	HR7	"	"	1'-10⅝	1						1-ab		
							Length-Bk of base to ℄ of Ell.									
2			2	HR3	"	"	2'-4⅝	2			2					
		2	2	HR6	"	"	2'-10½	2			2					
							Length-℄ Tee to Bk of Cap									
4		4	8	HR10	"	"	0'-3⅞						8			
							Length-℄-Ell to End of Pipe Cap									
	1		1	HR27	"	"	8'-2¾-abt.								1	
							Length-Bott. to ℄ Tee or Ell.									
5	4	5	14	HP1R	Hand Rail Post	"	3'-0	14		14						
5	4	5	14	HP1L	"	"	3'-0	14		14						
2	2	2	6	HP2	"	"	3'-0	6	6							
2		1	3	HP3	"	"	3'-0	3				3				
6	9	5	20	HP4	"	"	3'-0	20			20					
							Length-c-c									
	1		1	HR31	Hand Rail	"	2'-9⅝									
		1	1	HR32	"	"	2'-8⅞									
							Length ℄ Ell to bk of L									
		1	1	HR33	"	"	2'-6⅜	1						1-ab		

Gen'l. Notes:-

Material - Posts & Rails - 1½" ø Pipe -
Black - Copper Bearing Steel
Fittings - Malleable Iron except Bases Which are to be of Cast Iron

Threads - All R.H.

Open Holes - ¾" ø cored holes in C.I. Bases
Other holes as noted.

Paint - None - Purch. Dept. to instruct pipe mill not to use paint as identification of Copper Bearing Steel, on this order

For Plan Views of Railing See Sheets E2 & E3

APPROVED
Approval Date 5-7-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Bents YB2 - YB3 & YB4

HAND RAILING - BENTS YB2 - YB3 + YB4

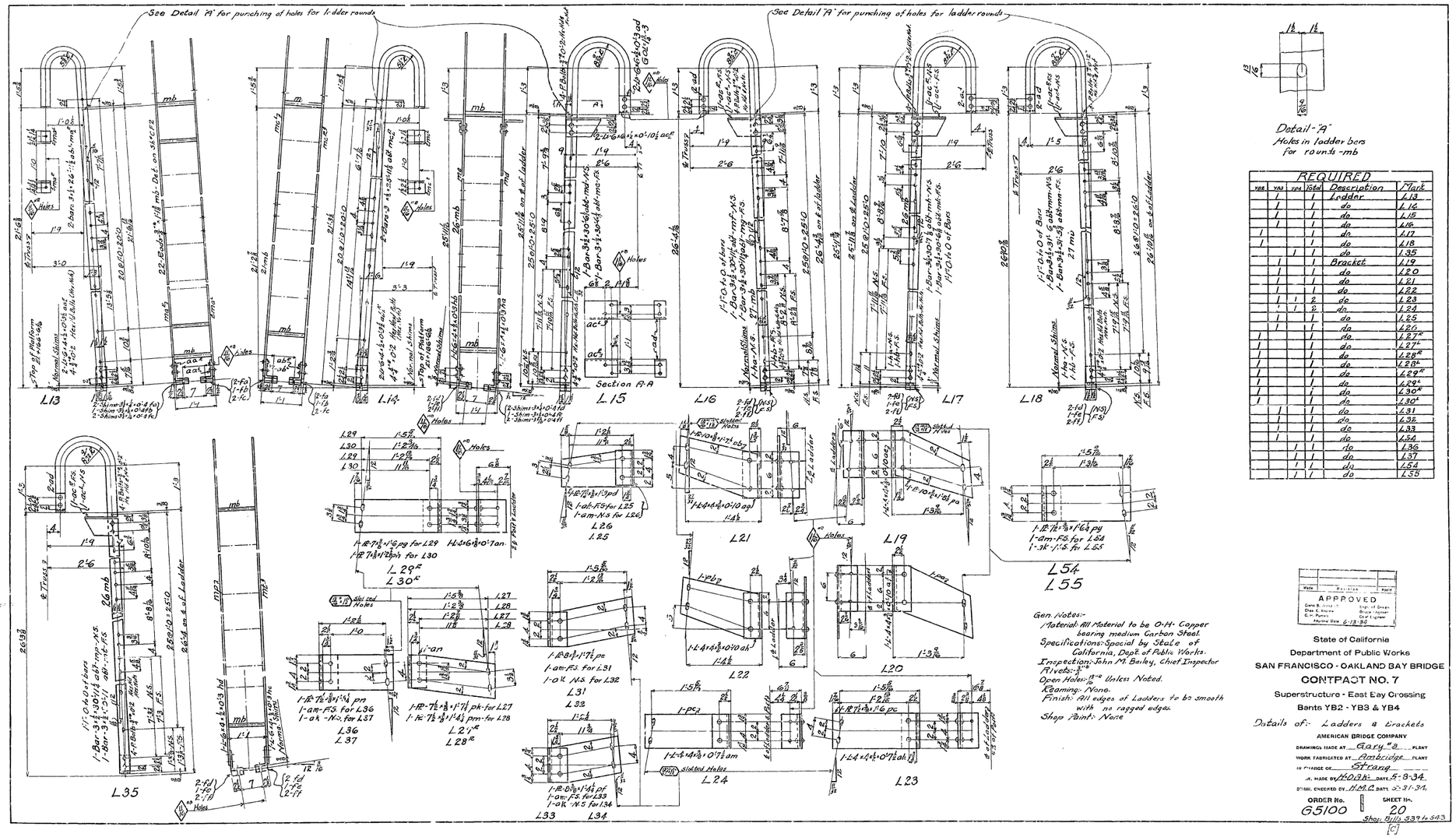
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT GARY #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Strong
DR. MADE BY C.R.T. DATE 4-19-34
DRAW. CHECKED BY H.M.C. DATE 4-24-34

ORDER No. G5100
SHEET No. 21

Shop Bills 527-528-529-530+531

[C]

	a	b	c	d	e	f	g	h	k	m	n	o	p	t	v	w	x	y
a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
b	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
c	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
e	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
f	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
g	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
h	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
k	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
m	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

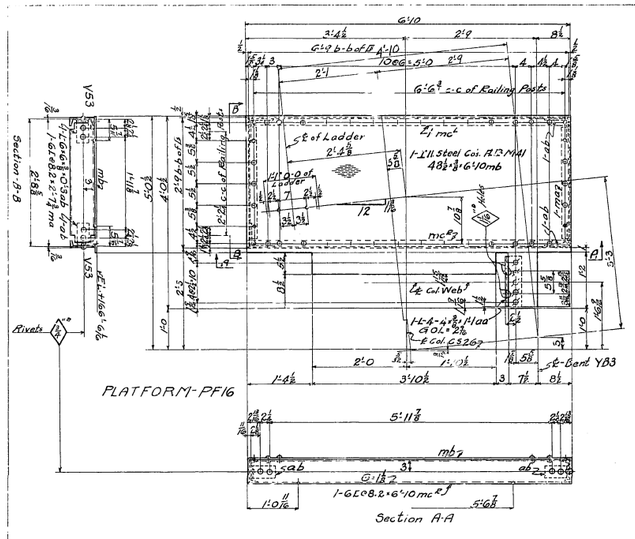


REQUIRED				
YBB	YB3	YB4	Total	Description	Mark
	1		1	Ladder	L13
	1		1	do	L14
	1		1	do	L15
	1		1	do	L16
1			1	do	L17
1			1	do	L18
		1	1	do	L35
	1		1	Bracket	L19
	1		1	do	L20
	1		1	do	L21
	1		1	do	L22
	1	1	2	do	L23
	1	1	2	do	L24
	1		1	do	L25
	1		1	do	L26
1			1	do	L27*
1			1	do	L27*
1			1	do	L28*
1			1	do	L28*
1			1	do	L29*
1			1	do	L29*
1			1	do	L30*
1			1	do	L30*
	1		1	do	L31
	1		1	do	L32
	1		1	do	L33
	1		1	do	L34
1	1		1	do	L36
	1	1	1	do	L37
	1	1	1	do	L54
	1	1	1	do	L55

Gen. Notes:-
Material: All Material to be O.H. Copper bearing medium Carbon Steel.
Specifications: Special by State of California, Dept. of Public Works.
Inspection: John M. Bailey, Chief Inspector
Rivets: 7/8" ø
Open Holes: 13/16" ø Unless Noted.
Reaming: None.
Finish: All edges of Ladders to be smooth with no ragged edges.
Shop Paint: None

APPROVED
Chief Engineer
Date 6-13-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Bents YB2 - YB3 & YB4
Details of:- Ladders & Brackets
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Strang
DR. MADE BY HOAH DATE 5-8-34
DRW. CHECKED BY H.M.C. DATE 5-31-34
ORDER No. G5100
SHEET No. 20
Shop Bills 3391 to 3413
[C]


PLATFORM-PF16
Section A-A
Section B-B
Rivets
Holes
V53
YB3
mb2
ab2
mk2
1-GL68.2×6'10 mc
1-GL68.2×4'0⅝ mh
1-GL68.2×3'10⅛ mk
1-GL68.2×4'0⅝ ma
1-GL68.2×3'7½ mb
1-GL68.2×3'10⅛ mm
1-GL68.2×3'7½ mp
1-GL68.2×3'10⅛ mn
1-GL68.2×3'8½ mo
1-GL68.2×3'8½ mq
1-GL68.2×3'8½ mr
1-GL68.2×3'8½ ms
1-GL68.2×3'8½ mt
1-GL68.2×3'8½ mu
1-GL68.2×3'8½ mv
1-GL68.2×3'8½ mw
1-GL68.2×3'8½ mx
1-GL68.2×3'8½ my
1-GL68.2×3'8½ mz
1-GL68.2×3'8½ ma2
1-GL68.2×3'8½ mb2
1-GL68.2×3'8½ mc2
1-GL68.2×3'8½ mn2
1-GL68.2×3'8½ mo2
1-GL68.2×3'8½ mp2
1-GL68.2×3'8½ mq2
1-GL68.2×3'8½ mr2
1-GL68.2×3'8½ ms2
1-GL68.2×3'8½ mt2
1-GL68.2×3'8½ mu2
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1-GL68.2×3'8½ mx2
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1-GL68.2×3'8½ mz2
1-GL68.2×3'8½ ma3
1-GL68.2×3'8½ mb3
1-GL68.2×3'8½ mc3
1-GL68.2×3'8½ mn3
1-GL68.2×3'8½ mo3
1-GL68.2×3'8½ mp3
1-GL68.2×3'8½ mq3
1-GL68.2×3'8½ mr3
1-GL68.2×3'8½ ms3
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1-GL68.2×3'8½ mu3
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1-GL68.2×3'8½ mb4
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1-GL68.2×3'8½ mu4
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1-GL68.2×3'8½ mw4
1-GL68.2×3'8½ mx4
1-GL68.2×3'8½ my4
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1-GL68.2×3'8½ mb5
1-GL68.2×3'8½ mc5
1-GL68.2×3'8½ mn5
1-GL68.2×3'8½ mo5
1-GL68.2×3'8½ mp5
1-GL68.2×3'8½ mq5
1-GL68.2×3'8½ mr5
1-GL68.2×3'8½ ms5
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1-GL68.2×3'8½ mv5
1-GL68.2×3'8½ mw5
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1-GL68.2×3'8½ my6
1-GL68.2×3'8½ mz6
1-GL68.2×3'8½ ma7
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1-GL68.2×3'8½ mn7
1-GL68.2×3'8½ mo7
1-GL68.2×3'8½ mp7
1-GL68.2×3'8½ mq7
1-GL68.2×3'8½ mr7
1-GL68.2×3'8½ ms7
1-GL68.2×3'8½ mt7
1-GL68.2×3'8½ mu7
1-GL68.2×3'8½ mv7
1-GL68.2×3'8½ mw7
1-GL68.2×3'8½ mx7
1-GL68.2×3'8½ my7
1-GL68.2×3'8½ mz7
1-GL68.2×3'8½ ma8
1-GL68.2×3'8½ mb8
1-GL68.2×3'8½ mc8
1-GL68.2×3'8½ mn8
1-GL68.2×3'8½ mo8
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1-GL68.2×3'8½ mr8
1-GL68.2×3'8½ ms8
1-GL68.2×3'8½ mt8
1-GL68.2×3'8½ mu8
1-GL68.2×3'8½ mv8
1-GL68.2×3'8½ mw8
1-GL68.2×3'8½ mx8
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1-GL68.2×3'8½ mn9
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1-GL68.2×3'8½ mq9
1-GL68.2×3'8½ mr9
1-GL68.2×3'8½ ms9
1-GL68.2×3'8½ mt9
1-GL68.2×3'8½ mu9
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1-GL68.2×3'8½ mw9
1-GL68.2×3'8½ mx9
1-GL68.2×3'8½ my9
1-GL68.2×3'8½ mz9
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1-GL68.2×3'8½ mb10
1-GL68.2×3'8½ mc10
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1-GL68.2×3'8½ mt10
1-GL68.2×3'8½ mu10
1-GL68.2×3'8½ mv10
1-GL68.2×3'8½ mw10
1-GL68.2×3'8½ mx10
1-GL68.2×3'8½ my10
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1-GL68.2×3'8½ mq11
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1-GL68.2×3'8½ mt11
1-GL68.2×3'8½ mu11
1-GL68.2×3'8½ mv11
1-GL68.2×3'8½ mw11
1-GL68.2×3'8½ mx11
1-GL68.2×3'8½ my11
1-GL68.2×3'8½ mz11
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1-GL68.2×3'8½ mb12
1-GL68.2×3'8½ mc12
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1-GL68.2×3'8½ mp12
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1-GL68.2×3'8½ mr12
1-GL68.2×3'8½ ms12
1-GL68.2×3'8½ mt12
1-GL68.2×3'8½ mu12
1-GL68.2×3'8½ mv12
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1-GL68.2×3'8½ mx12
1-GL68.2×3'8½ my12
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1-GL68.2×3'8½ mz45
1-GL68.2×3'8½ ma46
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1-GL68.2×3'8½ mn46
1-GL68.2×3'8½ mo46
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1-GL68.2×3'8½ mb59
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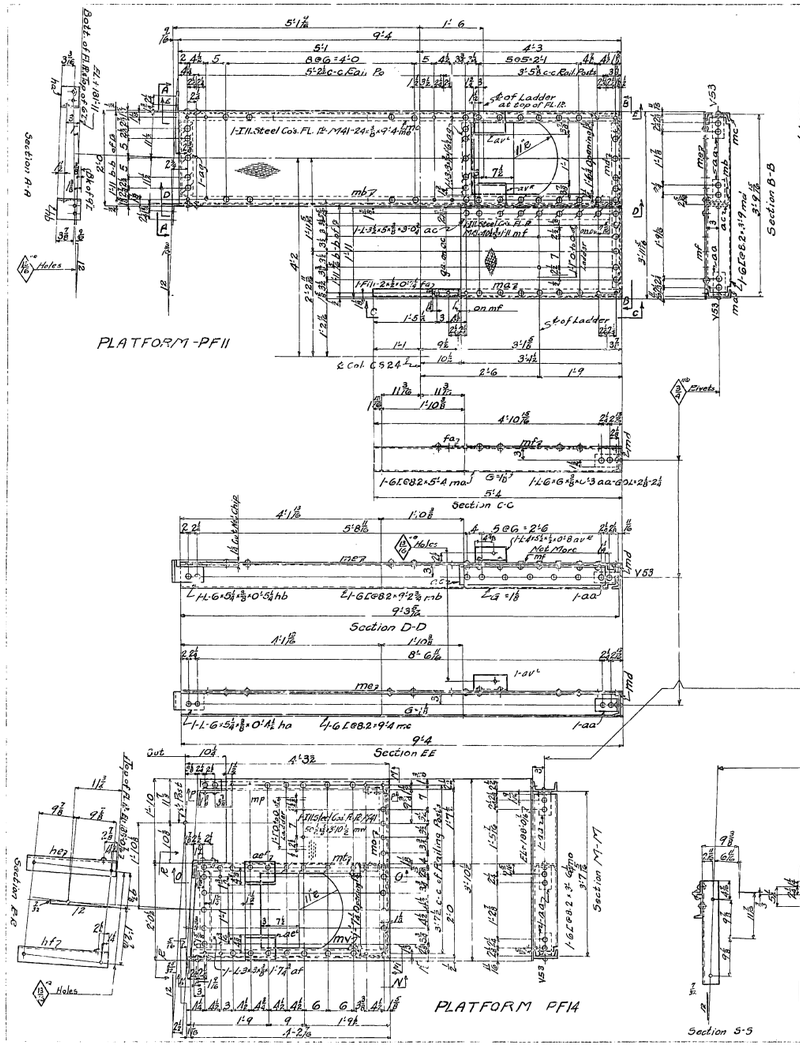
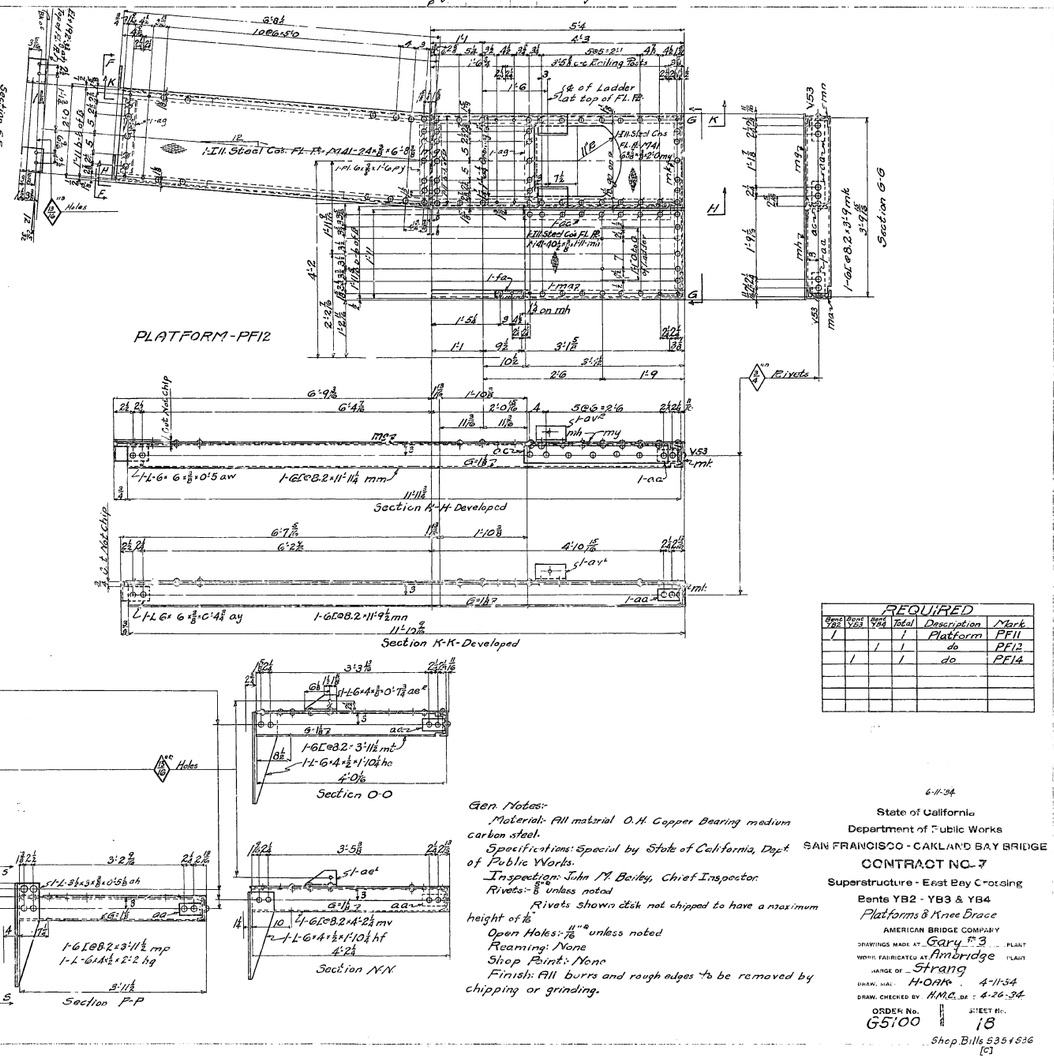
1-GL68.2×3'8½ mp





REQUIRED					
Bents YB2	Bent YB3	Bent YB4	Total	Description	Mark
1			1	Platform	PF11
	1		1	do	PF12
	1		1	do	PF14

Gen. Notes:
Material: All material O.H. Copper Bearing medium carbon steel.
Specifications: Special by State of California, Dept of Public Works.
Inspection: John M. Boiley, Chief Inspector.
Rivets: $\frac{7}{8}$" unless noted
Rivets shown dck not chipped to have a maximum height of $\frac{1}{16}$"
Open Holes: $\frac{11}{16}$" unless noted
Reaming: None
Shop Paint: None
Finish: All burrs and rough edges to be removed by chipping or grinding.

6-11-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Bents YB2 - YB3 & YB4
Platforms & Knee Brace
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary PLANT
WORK FABRICATED AT Ambridge PLANT
CHARGE OF Strang
DRAW. NO. H-OAK-4 4-11-34
DRAW. CHECKED BY H.M.C. DE. 4-26-34
ORDER No. G5100 SHEET No. 18

Shop Bills 5354536
[C]

PLATFORM - PF1B

Section A-A

BRACKET - PF2E
" PF2'E

PLATFORM PF6

BRACKET - PF7E

BRACKET - PF8

PLATFORM-PF3

Section C-C

Section D-D

BRACKET-PF4

PLATFORM-PF5

Section H-H

Section K-K

Section M-M

Section E-E

Section N-N

PLATFORM-PF10

Section O-O

BRACKET-PF9E

REQUIRED				Mark
Description				
1	-	1	1	Platform PF1E
1	-	1	1	do PF1'
-	-	1	1	do PF3
-	-	1	1	do PF5
-	-	1	1	do PF6
1	-	1	1	do PF10
2	-	1	3	Brackets PF2E
2	-	1	3	do PF2'
1	-	1	1	do PF4
1	-	1	1	do PF7E
-	-	1	1	do PF8
-	-	1	1	do PF9E
-	-	1	1	do PF9'
-	-	1	1	do PF21E
-	-	1	1	do PF21'

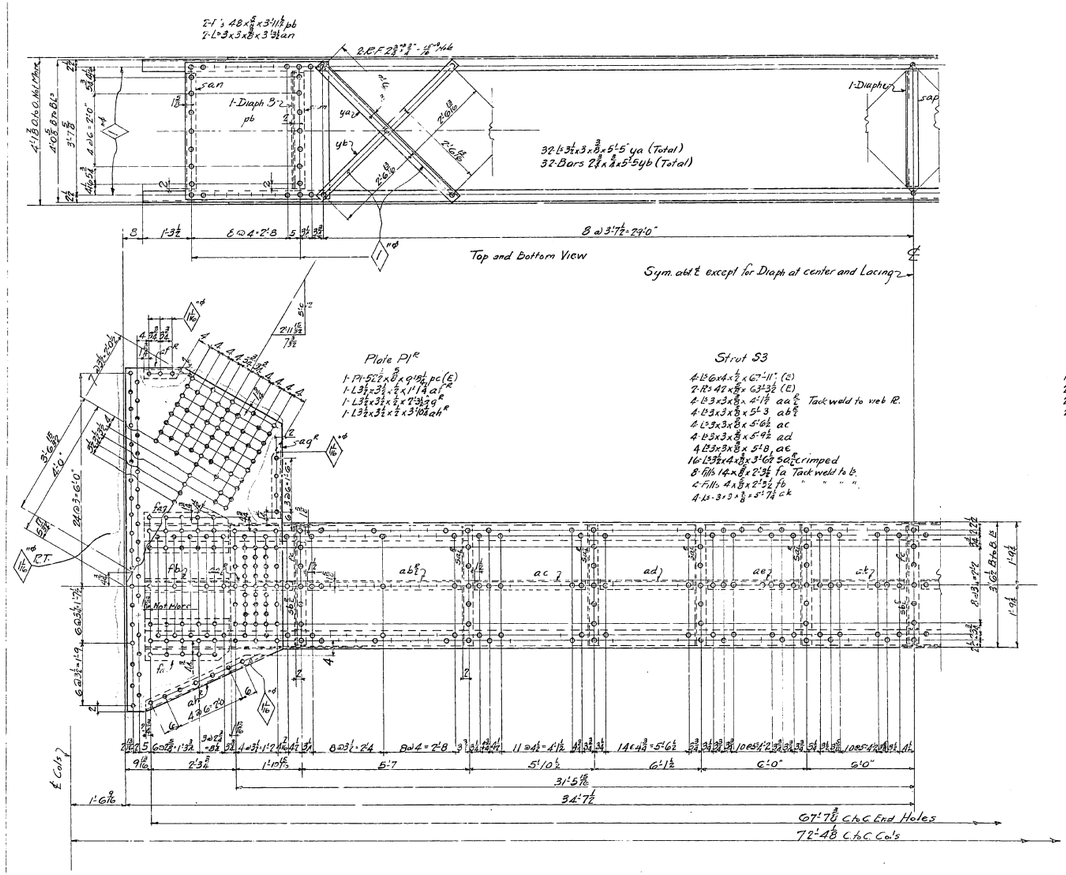
Gen. Notes:-
Material:-All material O.H. copper bearing medium carbon steel.
Specifications:- Special by State of California, Dept of Public Works.
Inspection:- John M Bailey- Chief Inspector.
Rivets:- ⅞" Unless Noted
Rivets shown dist. not chipped to have a max. mum height of ⅛"
Open Holes:- ⅞" Unless noted.
Reaming:- None
Shop Paint:- None
Finish:- All burrs and rough edges to be removed by chipping or grinding.

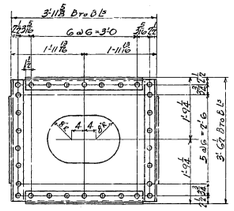
6-11-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Bents YB2 - YB3 & YB4
Platforms & Brackets- Bents-YB2-YB3 & YB4

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #5 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Strang
DRAW. MADE BY H.O.A.M. DATE 6-2-34.
DRAW. CHECKED BY [illegible] DATE 6-25-34.
ORDER No. 75100
SHEET No. 17
Shop Bills 532-533 534
[c]

E90-1





YB3	REQUIRED		
4	St-uts	S3	(2 Tr)
4	Plates	P1R	
4		P1L	

GEN. NOTES.

MATERIAL – All material O.H. copper bearing medium carbon steel
SPECIFICATIONS – Special by State of California Dept of Public Works.
INSPECTION – John M. Bailey Chief Insp.
RIVETS – ⅞" ø unless noted
OPEN HOLES – As noted
REAMING – All holes to be subpunched ¼" and reamed to size while parts are assembled except holes in material used for facing bars, and angles, stay plates, diaphrams and other minor details, which may be punched full size
Holes marked F.T. are to be reamed thru a steel templet.
Burrs are to be removed from all reamed holes.
FINISH – Sheared or flame cut edges and ends of material marked (E) are to be planed so as to remove at least ½" of metal.
Edges of manholes are to be smooth.
SHOP PAINT – None.

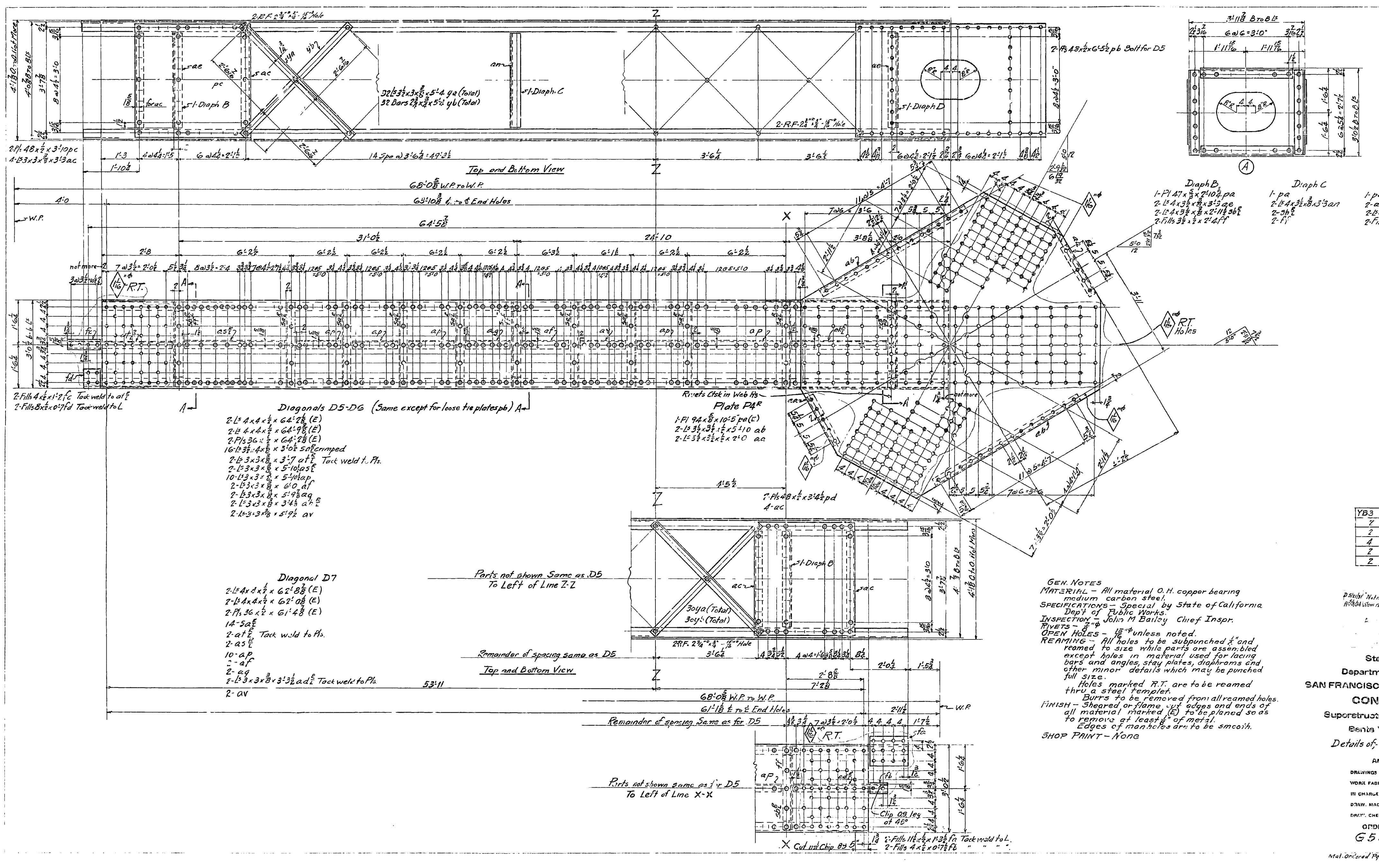
4-5-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Bents YB2 - YB3 & YB4
Details of Bracing Struts Bent YB3

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
ITEMS FABRICATED AT Ambridge PLANT
IN CHARGE OF Strang
DETAIL MADE BY L.P.T. DATE 12-26-33
DETAIL CHECKED BY W.R.I. DATE 1-31-34

ORDER NO. G5100
SHEET No. 16
Mat ordered Page 60 #15
Shop Bill - 526

30-1



YB3	REQUIRED		
7	Diagonals	D5	9 Ton
2	"	D6	9 Ton
4	"	D7	9 Ton
2	Plates	P4K	
2		P4L	

GEN. NOTES
MATERIAL – All material O.H. copper bearing medium carbon steel.
SPECIFICATIONS – Special by State of California Dep't of Public Works.
INSPECTION – John M Bailey Chief Inspr.
RIVETS – 7/8"φ
OPEN HOLES – 15/16"φ unless noted.
REAMING – All holes to be subpunched 1/4" and reamed to size while parts are assembled except holes in material used for lacing bars and angles, stay plates, diaphrams and other minor details which may be punched full size.
Holes marked R.T. are to be reamed thru a steel templet.
Burrs to be removed from all reamed holes.
FINISH – Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least 1/8" of metal.
Edges of manholes are to be smooth.
SHOP PAINT – None

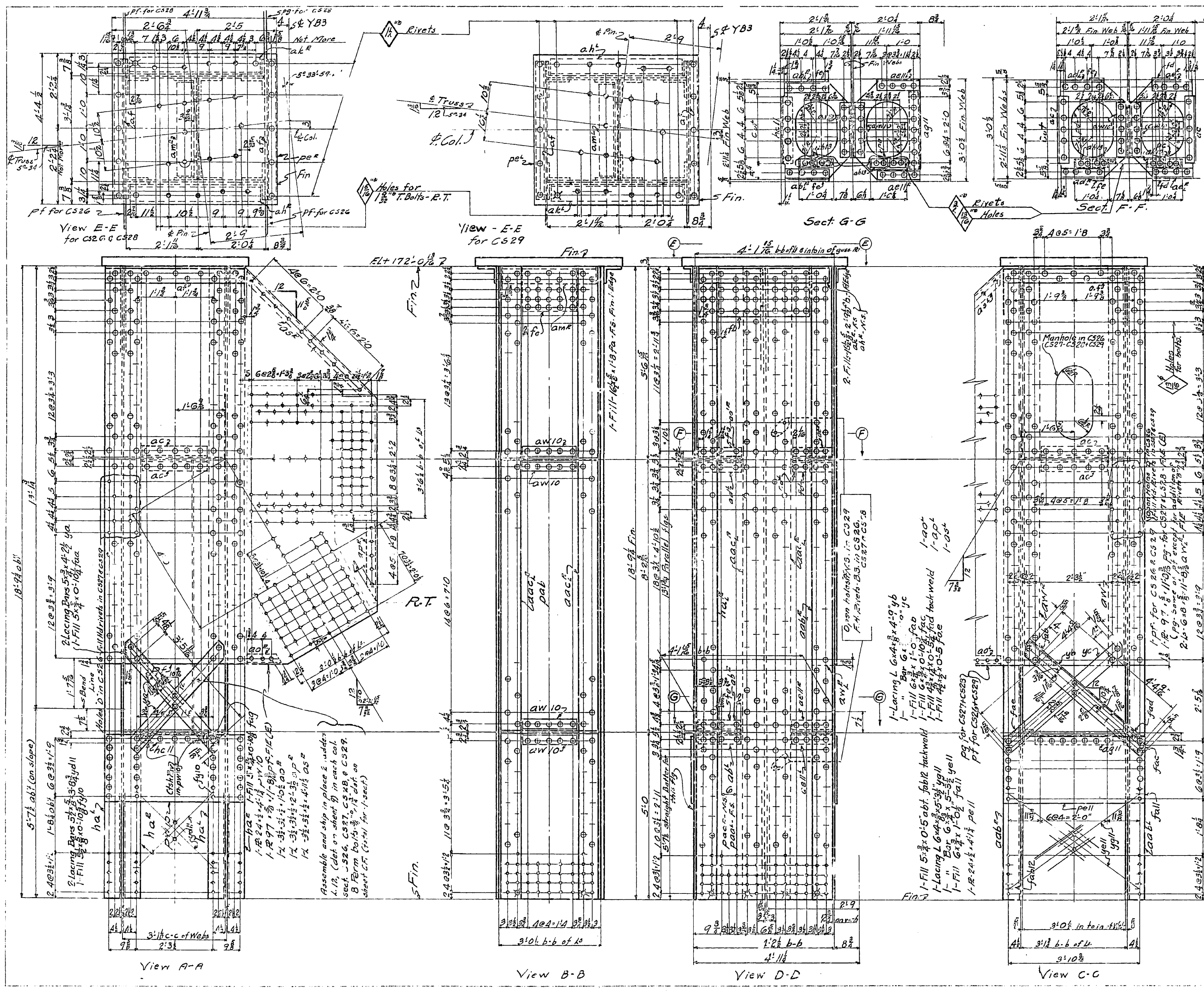
P 5/21/31 "Not more" on edges
R 5/3/34 Show riv. in web view

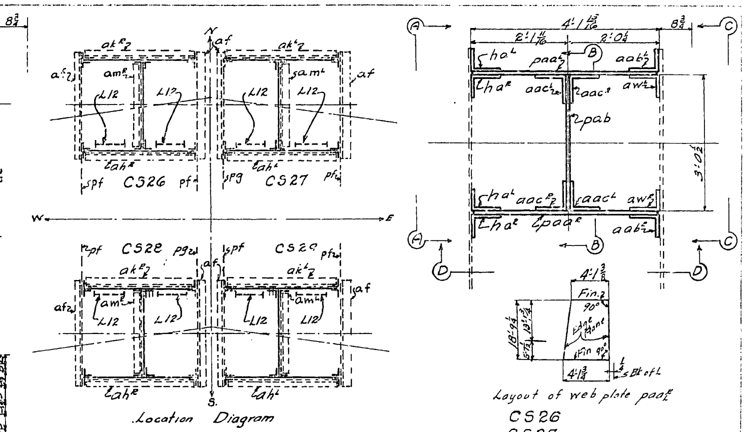
4-5-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Bents YB2 - YB3 & YB4
Details of:- Diagonal Bracing Bent YB3

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Strong
DRAW. MADE BY J.D.T. DATE 12-28-33
DRAW. CHECKED BY W.R.L. DATE 1-31-34
ORDER No. G5100
SHEET No. 15
SHOP BILLS-524-525
[F]
Mat. Ordered Pgs. 5960+15

30-1





CS26

CS27

CS27-Opp. Hand to CS26 except for gusset plate pg + Holes "D"

CS29

CS29-Same as CS26 except for cap plate pe; cpls-am-ak & ah, and holes "A" & "D"

CS28

CS28-Opp. Hand to CS26 except for gusset plate pg, and for col. cap pl.-pe & cap ls-am ak & ah. See location diagram for assembly of ls-pf & pg, and cap mat'l.

DIAPHRAGM MATERIAL

Material for Section G-G.

4-Ls 4×4×½×1'-8 aw10
1-L-4×4×½×2'-0 hc11
1-L-4×4×½×2'-4 ag11
4-Ls-4×4×½×1'-3½ ae11
8-Ls-6×4×½×0'-3 ah13
4-Ls-4×4×½×1'-4 ab
1-Pl-36½×½×1'-11¾ pa } Fin. 2 Edges & 1 End.
1-Pl-35¼×½×2'-1½ pb
2-Fills-9×⅝×0'-8½ fe

Material for Sect. F-F

4-Ls 4×4×½×2'-0 ac — 2-fe
4-ah13 — 4-aw10 — 2-Fills-7½×⅝×0'-8½ fd
4-Ls-4×4×½×1'-3¾ acl
4-Ls-4×4×½×1'-2½ ae
1-Pl-35¼×½×1'-11 15/16 pc } Fin. 2 Edges & 2 Ends.
1-Pl-35¼×½×2'-1⅜ pd

MAIN MATERIAL

4-Ls-8×6×⅝×18'-9¼ ab & ha F2E
2-Ls-8×6×⅝×18'-9¼ aab F2E
4-Ls-3×8×⅝×18'-9¼ aac F2E
2-Pls-47¾×⅝×18'-9¼ paa F2E
1-Pl-36×⅝×18'-9¼ pab F2E

CAP MATERIAL

For CS26

1-slab-52½×3×4'-11¾ pe. Fin-2 sides & 1-End
2-1-7×4×⅝×4'-1¾ af

{ A.S.T.M.-Spec. A140-32T
Carbon-.25 to .40
Copper content not less than 0.20%
Edges of slab to be flame-cut straight and smooth with a neat appearance }

1-L-6×6×⅝×3'-11 7/16 ah
1-L-6×6×⅝×3'-11 7/16 ak
1-L-6×6×⅝×2'-10 am

For CS27

1-pe 2-af 1-ah 1-ak 1-am

For CS28

1-pe 2-af 1-ah 1-ak 1-am

For CS29

1-pe 2-af 1-ah 1-ak 1-am

SHOP NOTE { R.T. FOR CAP OF CS26 TO BE USED FOR BASE OF PS.4 SH. 221 OF G5101
R.T. " " " CS27 " " " " " " PS.6 SH. 302 " "
R.T. " " " CS28 " " " " " " PS.5 SH. 221 " "
R.T. " " " CS29 " " " " " " PS.7 SH. 302 " " }

(A) 5-28-34 Bolts & ao for Shipment

APPROVED 4-5-34

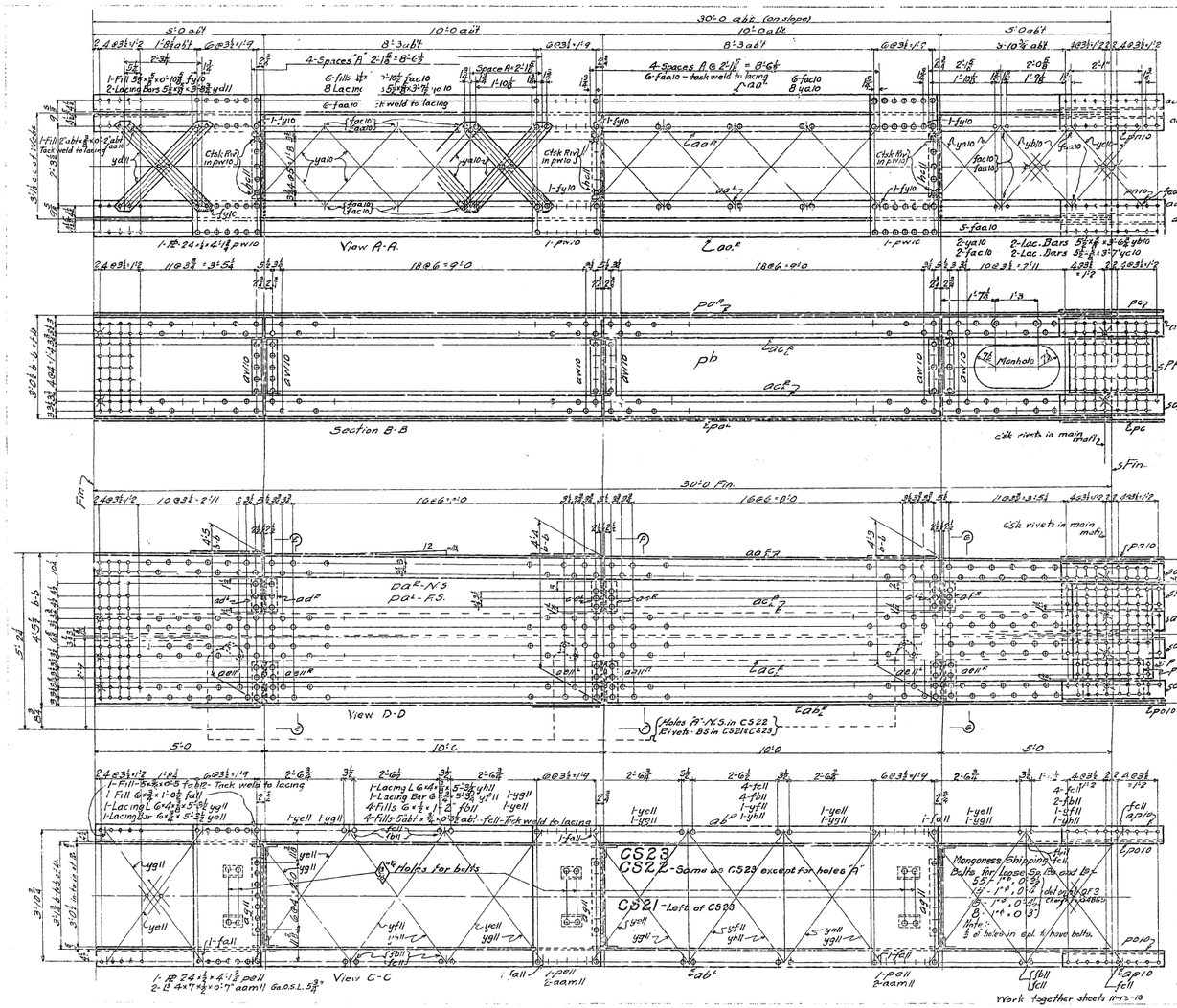
REQUIRED			
Bent YB3	Description	Mark	
One	Column Section	CS26	11 Ton
One	do	CS27	11 Ton
One	do	CS28	11 Ton
One	do	CS29	11 Ton

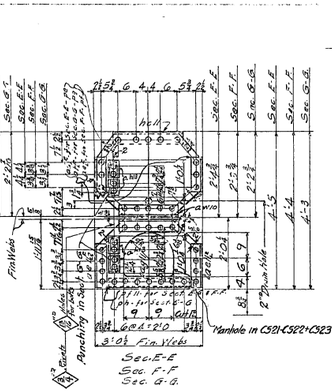
GEN. NOTES

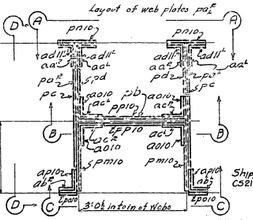
MATERIAL- All material O.H. copper bearing medium carbon steel except cap plates (pe) which are to be in conformity with A.S.T.M. tentative spec. A140-32T with .25 to .40 carbon and not less than .20% copper contents.
SPECIFICATIONS.- Special by State of Calif. Dep't of Public Works.
INSPECTION- John M Bailey Chief Inspr.
RIVETS- 1"φ unless noted.
OPEN HOLES- 1 1/16"φ unless noted.
REAMING- All holes in material ¾" thick or less to be subpunched ¼" and reamed to size while parts are assembled.
Holes in material over ¾" thick to be subdrilled ¼" and reamed to size or drilled full size while parts are assembled.
Field connections are to be reamed while connecting column sections are assembled in the shop and pieces match marked. All match marking to be done with ¾" steel stencils and white paint.
Holes marked R.T. are to be reamed thru a steel templet.
Burrs are to be removed from all reamed holes.
Holes in material used for diaphrams, ladder connections and minor details may be punched full size.
FINISH- Sheared or flame cut edges and ends of material marked (E) are to be planed so as to remove at least ⅛" of metal. Edges of manholes are to be smooth.
SHOP PAINT- None except as follows.
Top and bottom surface of cap plates (pe) are to have one coat of NO-OX-ID filler red paint.
The following surfaces to have one coat of "Acid Resisting Liquid"
Milled ends of columns at splice.

Shop Note:- All open spaces between lacing and column material, where fillers are not billed, to be closed by shop with fillers. Tack weld loose fillers to lacing.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Bents YB2 - YB3 & YB4
Details of:- Column Sections - YB3
5th Tier
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Strang
DRAW. MADE BY M.OAK DATE 12-16-33
DRAW. CHECKED BY W.R.L. DATE 1-31-34
ORDER No. G5100
SHEET No. 14
SHOP BILL-523-523½
Mat. ord. Pgs. 57 & 58 + 14







C521 C523 N C522 C521

Location Diagram

Diaphragm Material

Material for Sec. E-E

4-L8-4×4×½×1'-8 aw10
4-L6 4×4×½×1'-3½ ae11²
1-L- 4×4×½×2'-4 ag11
1-PL-36½×½×1'-11½ pf11 - Fin. 2 edges & 1 end.
4-L4-4×4×½×1'-0 ad11²
1-L- 4×4×½×2'-0 h11
1-PL-36½×½×2'-4½ pe Fin. 2 edges & 1 end.

Material for Sec. F-F

4-aw10 1-pf11 1-ag11 4-ae11²
4-L8-4×4×½×0'-11 ae11²
1-h11
1-PL-36½×½×2'-3¾ pf Fin. 2 edges & 1 end.

Material for Sec. G-G.

4-aw10 1-ag11 4-ae11²
4-L8-4×4×½×0'-10 af11²
1-h11
1-PL-36½×½×2'-2½ pg - Fin. 2 edges & 1 end.
1-PL-36½×½×1'-11⅞ ph - Fin. 2 edges & 1 end.
4-L7-6½×4×½×0'-3" ah13 GOL=2⅞

Main Mat'l.

4-L6 - 8×6×⅝×30'-0 ab11 aa2 - F2-E.
2-L8 - 8×6×⅝×30'-0 ab2 - F2-E.
4-L7-8×8×⅝×30'-0 ac2 - F2-E.
2-PL-58×⅝×30'-0 pa2 - F2-E (2)
1-PL-36×⅝×30'-0 pb - F2-E (1)
Grind heel of ℓ to fit fillet of main Cat ℓ.

Splice Material

2-PL-12⅝×½×2'-1½ pa10 (C)
4-L6-7⅞×7⅞×½×2'-11½ aa10 (C)
2-L6-7⅞×5⅝×½×2'-11½ ap10 (C)
2-PL-6×½×2'-11½ pa10 (C)
2-PL-21½×½×1'-3¾ pm10 (C)
2-PL-20×½×2'-4½ pa10 (C)
4-L6-7⅞×5⅝×⅜×2'-11½ a ell² (E)
2-PL-28½×½×2'-10 pc (E)
2-PL-9⅝×½×2'-11½ pd (E)

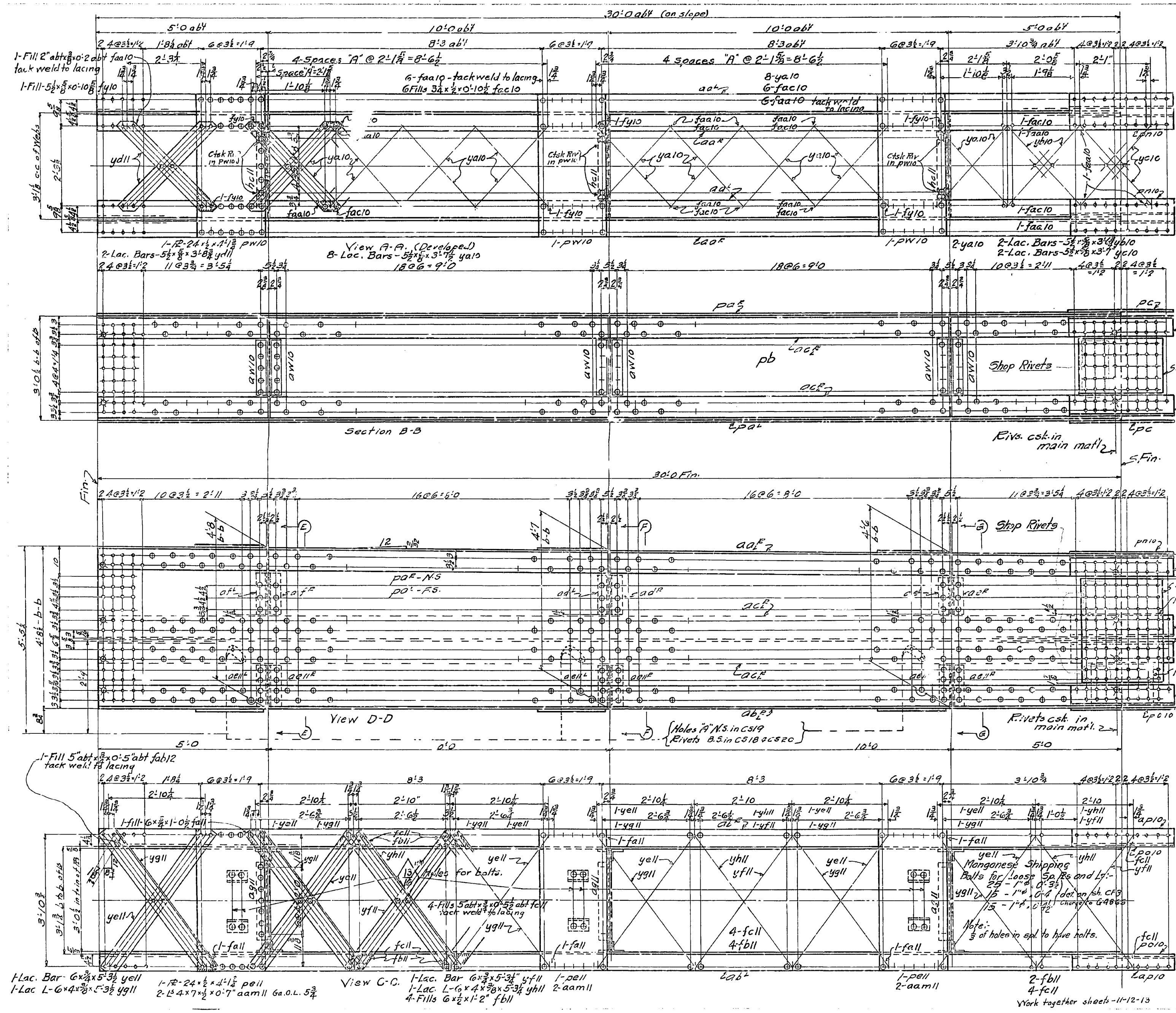
YB3	REQUIRED		
2	Column Section	C521	16 Ton
One	do	C522	13 Ton
One	do	C523	10 Ton

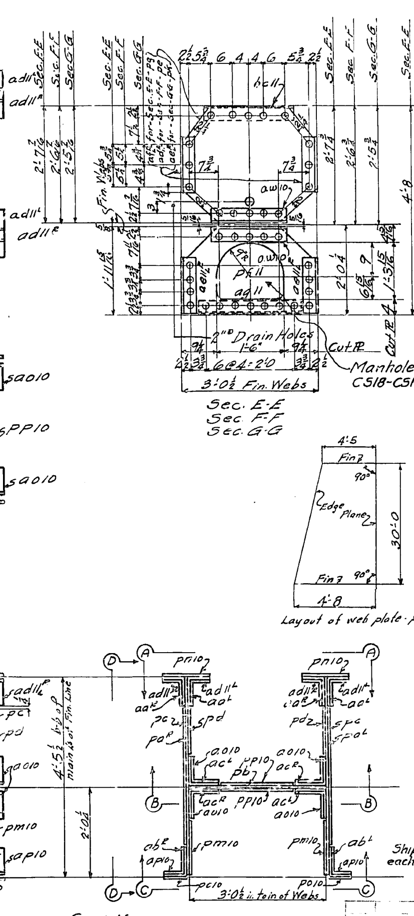
GEN NOTES
MATERIAL - All material O.H. copper bearing medium carbon steel.
SPECIFICATIONS - Special by State of California Dept. of Public Works
INSPECTION - John M. Bailey Chief Inspr.
RIVETS - 1"ø
OPEN HOLES - 1 1/16"ø unless noted
REAMING - All holes to be subpunched 1½" and reamed to size while parts are assembled.
Field connections are to be reamed while connecting column sections assembled in the shop and pieces match marked. All match marking to be done with ¼" steel stencils and white paint.
Burrs are to be removed from all reamed holes.
Holes in material used for diaphragms and ladder connections may be punched full size.
FINISH - Sheared or flame cut edges and ends of all material marked (E) are to be planed so as to remove at least ⅛"o/ metal. Edges of manholes are to be smooth.
SHOP PAINT - None except as follows
The following surfaces to have one coat of "Acid Resisting Liquid"
Milled ends of columns at both ends.
Inside surface of riveted and bolted splice mat'l above the mill line.
Contact surfaces of bolted splice mat'l below the mill line.
Surfaces of main mat'l in contact with bolted splice material.
Shop Note - fill open spaces between lacing and column material where fillers are not billed are to be closed by shop with fillers tack weld fillers to lacing.

Shipping Note:- Ship assembled 2-Ladders 1.9 Tot on Shf.9 with each C521-C522-C523 - 6-RB ¾"x4½" x 1'-0" Det. on Sh.CF1

Mat. ordered May 26 1934

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Bents YB6 - YB5 & YB4
Details of:- Column Sections YB3
(4TH Type)
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary Ind PLANT
WORK FABRICATED AT Ambridge PLANT
CHECKED BY Strang
TRACED BY H.O.R.Jr. DATE 12-5-33
DET. CHECKED BY W.B.L. DATE 1-24-34
DRAWING NO. G-5100
ENGR'S NO. 13
SHOP BILL 522-522½
[F]
4-5-34





CS18 CS20 CS19 CS18 → N

Location Diagram

Diaphragm Material

Material for Sec. E-E.

4-Ls-4×4×½×1'8 aw10
4-Ls-4×4×½×1'3½ aell$_L^E$
1-L-4×4×½×2'4 ag11
1-PL-36½×½×1'11¾ pf11- Fin. 2 edges & 1 end.
4-Ls-4×4×½×1'3 af$_L^E$
1-L-4×4×½×2'0 hc11
1-PL-36½×½×2'7¼ pg Fin. 2 edges & 1 end.

Material for Sec. F-F.

4-aw10- 1-pf11- 1-ag11 -4-aell$_L^E$
1-hc11
4-Ls-4×4×½×1'2 ad$_L^E$
1-PL-36½×½×2'6¼ pe-Fin. 2 edges & 1 end.

Material for Sec. G-G

4-aw10- 1-pf11 1-ag11 4-aell$_L^E$
1-hc11
4-Ls-4×4×½×1'1 ae$_L^E$
1-PL-36½×½×2'5¼ pk-Fin 2 edges & 1 end.

CS18
CS19 - Same as CS18 except for holes "A"
CS20 - Same as CS18

Main Material.

4-Ls-8×6×⅝×30'0⅛ abt-aa$_L^E$ F-2-E.
2-Ls-8×6×⅝×30'0 ab$_L^E$ F-2-E.
4-Ls-8×8×⅝×30'0 ac$_L^E$ F-2-E.
2-PLs-56×⅝×30'0 pa$_L^E$ - F-2-E. (E)
1-PL-36×⅝×30'0 pb - F-2-E. (E)

Splice Material

Grind heel of Ls to fit fillet of main Col. Ls

2-PLs-12⅝×½×2'11½ pn10 (E)
4-Ls-7⅜×7⅜×½×2'11½ ao10 (E)
2-Ls-7⅜×5⅜×9/16×2'11½ ap10 (E)
2-PLs-6×½×2'11½ po10 (E)
2-PLs-21½×½×1'3½ pm10 (E)
2-PLs-20×½×2'4½ pp10 (E)
4-Ls-7⅜×5⅜×9/16×2'11½ adll$_L^E$ (E)
2-PLs-28½×½×3'1⅛ pc (E)
2-PLs-28½×½×1'0⅝ pd (E)

Shipping Note - Ship 2 Ladders L9 Det. on sh #7 assembled with each CS18-CS19+CS20. Bolt with 8. P.B. ¾"φ×0'1¾ Det. on sh. CF1

YB3	REQUIRED		
2	Column Section	CS18	12 T
1	do	CS19	12 T
1	do	CS20	12 T

GEN NOTES

MATERIAL - All material O.H. copper bearing medium carbon steel.
SPECIFICATIONS - Special by State of California Dep't of Public Works.
INSPECTION - John M Bailey Chief Insp.

RIVETS - 1"φ
OPEN HOLES - 1 1/16"φ unless noted

REAMING - All holes to be subpunched ¼" and reamed to size while parts are assembled.
Field connections are to be reamed while connecting column sections are assembled in the shop and pieces match marked. All match marking to be done with ¾" steel stencils and white paint.
Burrs are to be removed from all reamed holes.
Holes in material used for diaphrams and ladder connections may be punched full size.

FINISH - Sheared or flame cut edges and ends of all material marked (E) are to be planed so as to remove at least ⅛" of metal.

SHOP PAINT - None except as follows
The following surfaces to have one coat of "Acid Resisting Liquid"
Milled ends of columns at both ends
Inside surface of riveted and bolted splice mat'l above the mill line
Contact surface of bolted splice mat'l below the mill line.
Surfaces of main material in contact with bolted splice material.

Shop Note:- All open spaces between lacing and column material where fillers are not billed, are to be closed by shop with fillers. Tack weld loose fillers to lacing.

Work together sheets - 11-12-13

Made	Revision
A 5/14/34	Charges for Mang. Bolts

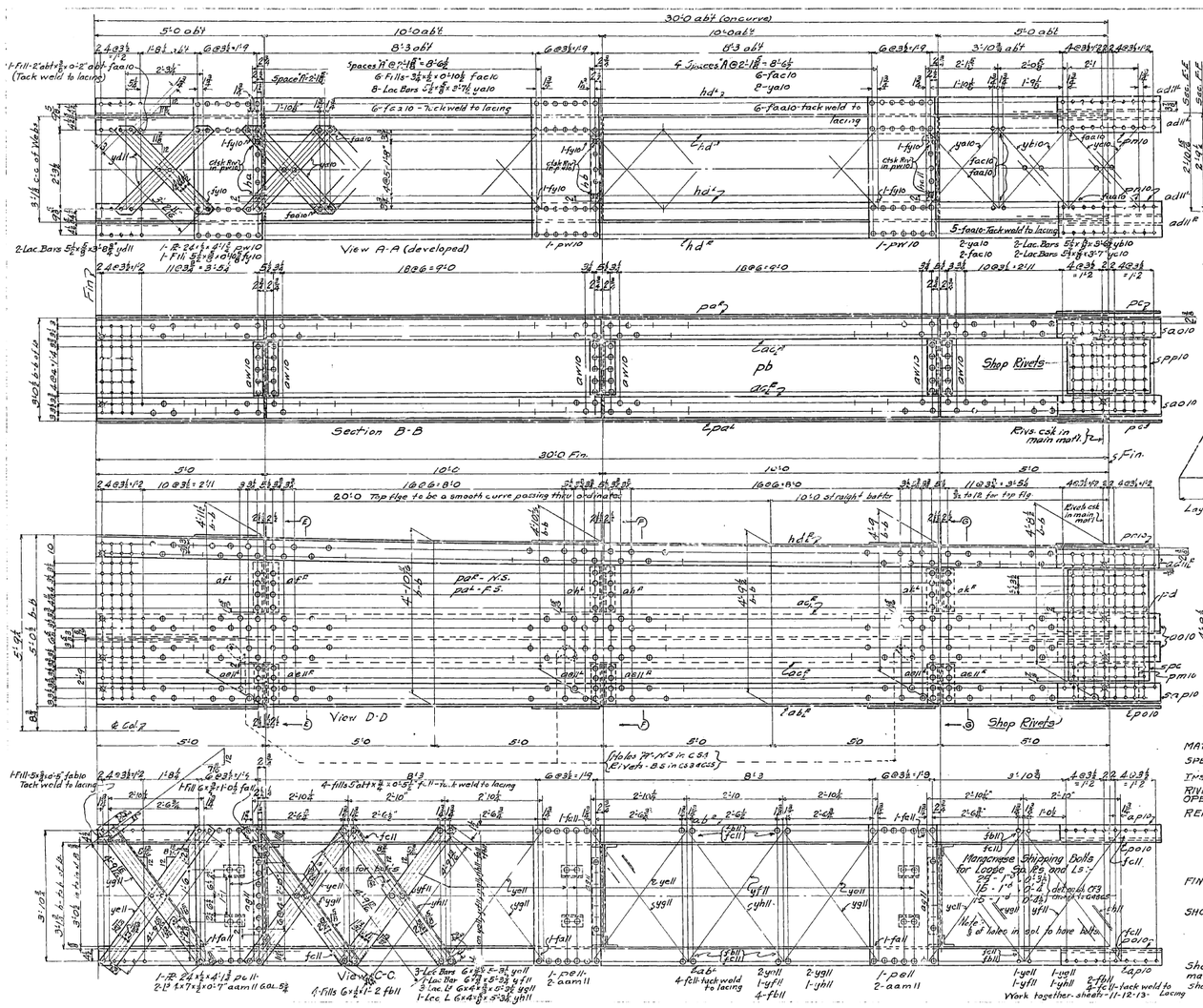
APPROVED
4-5-34

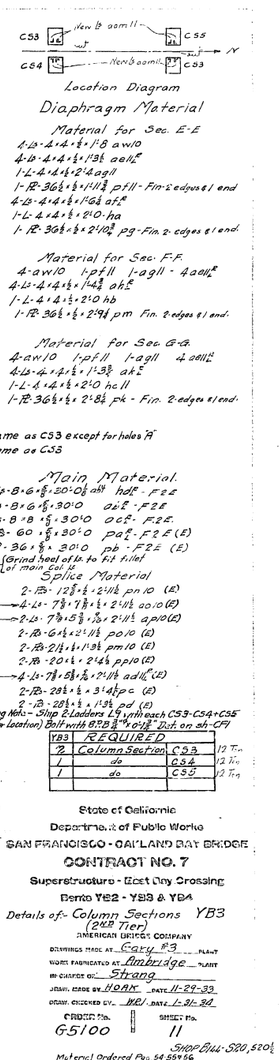
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Bents YB2 - YB3 & YB4

Details of:- Column Sections YB3 (3rd Tier)

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Strang
DRAW. MADE BY H.O.A.K DATE 12-5-33
CHECKED BY W.R.L. DATE 1-31-34
ORDER No. G5100
SHEET No. 12
SHOP BILL-S21-S21½
[F]
Material ordered Pgs. 54-55 & 56

30-1





Diaphragm Material

Material for Sec. E-E

4-Ls-4×4×½×1'-8 aw10
4-Pl-4'4×½ 1'3½ aell
1-L-4×4×½×2'-4 agll
1-PL-36½×½×1'-11⅛ pfll - Fin. 2 edges & 1 end
4-Ls-4×4×½×1'-6⅝ afl
1-L-4×4×½×2'0 ha
1-PL-36½×½×2'-10⅛ pg - Fin. 2 edges & 1 end.

Material for Sec. F-F

4-aw10 1-pfll 1-agll - 4 aell
4-Ls-4×4×½×1'-4½ ahl
1-L-4×4×½×2'0 hb
1-PL-36½×½×2'-9¼ pm Fin. 2 edges & 1 end.

Material for Sec. G-G

4-aw10 1-pfll 1-agll 4 aell
4-Ls-4×4×½×1'-3⅜ akl
1-L-4×4×½×2'0 hc ll
1-PL-36½×½×2'-8⅜ pk - Fin. 2 edges & 1 end.

C53
C54 - Same as C53 except for holes 'A'
C55 - Same as C53

Main Material.

4-Ls-8×6×⅞×30'-0⅞ abl hdl - F2E
2-Ls-8×6×⅞×30'0 adE - F2E
4-Ls-8×8×⅝×30'0 ocE - F2E
2-PL-60×⅝×30'0 paE - F2E (E)
1-PL-36×⅝×30'0 pb - F2E (E)
(Grind heel of lb to fit fillet of main Solle)

Splice Material

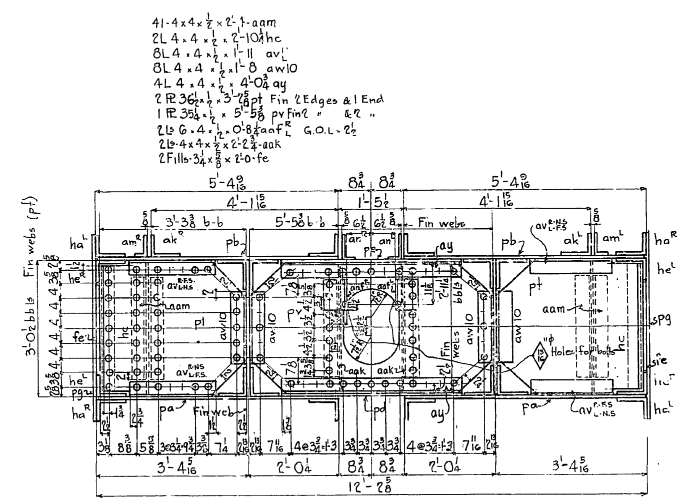
2-PL-12⅜×½×2'-1⅛ pn10 (E)
4-Ls-7⅜×7⅜×½×2'-1½ ao10 (E)
2-Ls-7⅜×5⅜×⅞×2'-1½ ap10 (E)
2-PL-6½×2'-1½ po10 (E)
2-PL-2½×1'-11⅜ pm10 (E)
2-PL-20½×2'-6⅛ pp10 (E)
4-Ls-7⅜×5⅜×⅝×2'-1⅛ adll (E)
2-PL-28½×½×3'-4½ pc (E)
2-PL-28½×½×1'-8½ pd (E)

YB3	REQUIRED		
2	Column Section	C53	12 Tons
1	do	C54	12 Tons
1	do	C55	12 Tons

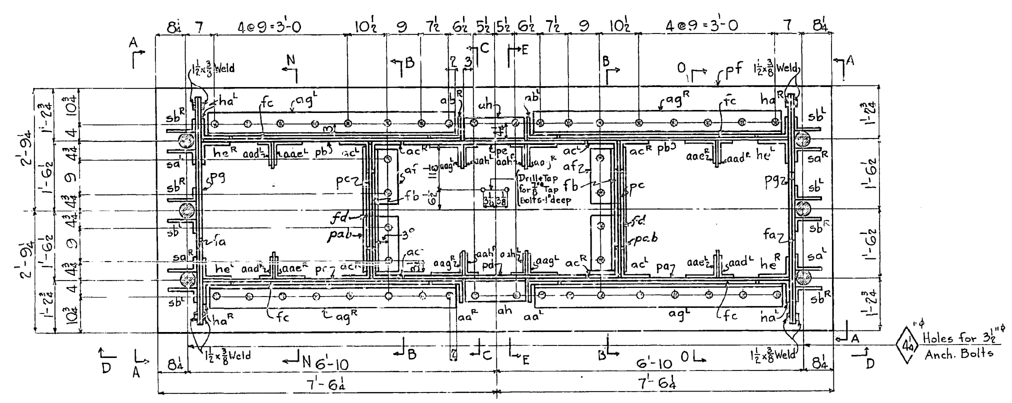
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Bents YB2 - YB3 & YB4
Details of - Column Sections YB3
(208 Ton)
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Strang
DRAWN, TRACED BY HOAK DATE 11-29-33
DRAWN, CHECKED BY WRJ DATE 1-31-34
CHECKED No. G5100
SHEET No. 11
SHOP BILL 520,520#
Material Ordered Pg. No. 54 55 56 G
[F]

GEN. NOTES.
MATERIAL - All material O.H. copper bearing medium carbon steel.
SPECIFICATIONS - Specs. by Dept. of California Dept. of Public Works.
INSPECTION - John M. Deeley Chief Insp.
RIVETS - 1" ø
OPEN HOLES - 1⅛" ø unless noted
REAMING - All holes to be subpunched ¼" and reamed to size while parts are assembled. Field connections are to be reamed while connecting column sections are assembled in the shop and pieces match marked. All match marking to be done with ⅜" steel stencils and white paint. Burrs are to be removed from all reamed holes. Holes in material used for diaphrams and ladder connections may be punched full size.
FINISH - Sheared or flame cut edges and ends of all material marked (E) are to be planed so as to remove at least ⅛" of metal.
SHOP PAINT - None except as follows. The following surfaces to have one coat of "Acid Resisting Liquid" Milled ends of columns at both ends. Inside surfaces of riveted and bolted splice matl above the mill line. Contact surfaces of bolted splice matl below the mill line. Surfaces of main matl in contact with bolted splice matl.
Shop Notes:- All span spaces between lacing and column material, where fillers are not bolted, are to be closed by shop with fillers. Tack weld loose fillers to lacing.

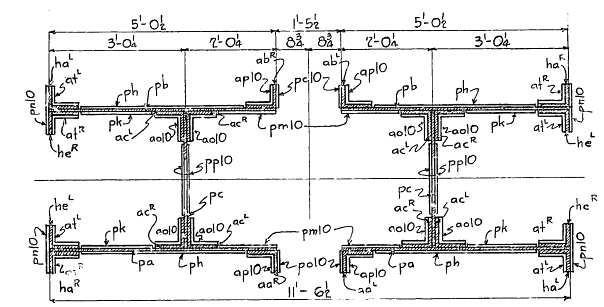
90-1



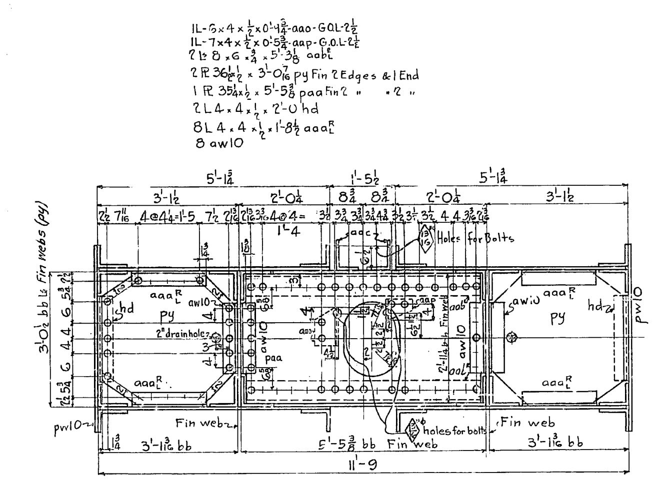
Sect. K-K



Col. Base

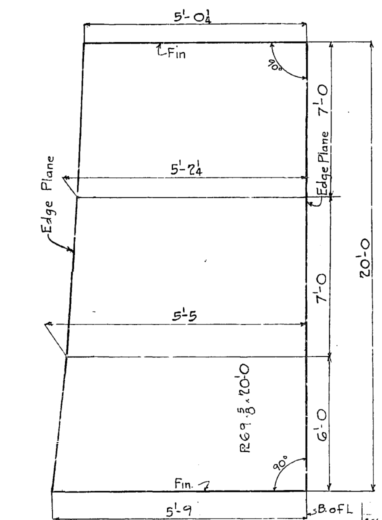


Sect. F-F



Sect. G-G

Shipping Note:-
Assemble and Ship with each CS1 and CS2, one ladder L5 and one ladder L6 det. on sheet 9.



Layout of plates pa & pb

A 5/4/34 Charge for Mang. Bolts

APPROVED 4-5-34

GEN. NOTES

MATERIAL – All materials O. H. copper bearing medium carbon steel, except col. base plate (pf) which must be in conformity with A.S.T.M. spec. A140-32T of .25 to .40 carbon and not less than .20% copper contents.

SPECIFICATIONS – Special by State of California Dep't of Public Works.

INSPECTION – John M Bailey Chief Inspr.

RIVETS – 1"ϕ

OPEN HOLES – $1\frac{1}{16}$"ϕ unless noted.

REAMING – Holes in material $\frac{3}{4}$" thick or less to be subpunched $\frac{1}{4}$ and reamed to size while parts are assembled. Holes in material over $\frac{3}{4}$" thick to be subdrilled $\frac{1}{4}$" and reamed to size or drilled full size while parts are assembled. Holes marked R.T. are to be reamed thru a steel templet. Field connections at column splices to be reamed while connecting column sections are assembled in the shop and pieces match marked. All match marking to be done with $\frac{3}{4}$" steel stencils and white paint. Burrs to be removed from all reamed holes. Holes in material used for diaphrams and ladder connections may be punched full size.

FINISH – Sheared or flame cut edges or ends of all material marked (E) to be planed so as to remove at least $\frac{1}{8}$" of metal. Edges of manholes are to be smooth.

SHOP PAINT – None except as follows.
Top and bottom surfaces of column base plate (pf) to have one coat of NO-OX-ID filler red paint.
The following surfaces to have one coat of "Acid Resisting Liquid"
Milled end of Column at splice.
Inside surfaces of Riveted and bolted splice mat'l above the mill line.
Contact surfaces of bolted splice mat'l below the mill line.
Surface of main material in contact with bolted splice material.

	YB3	REQUIRED	
32 Ton	1	Column Section	CS1
32 Ton	1	do	CS2

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Bents YB2 - YB3 & Y34

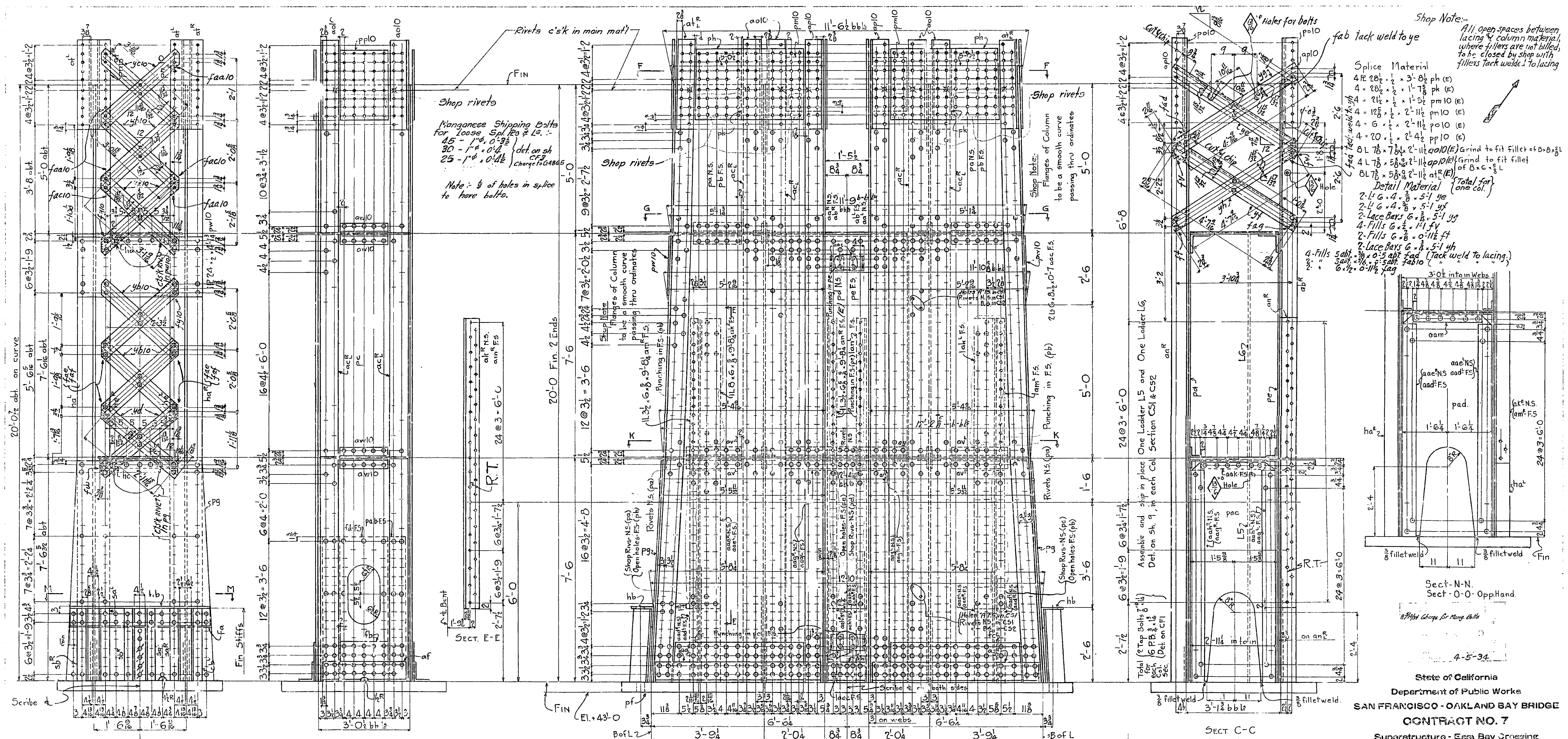
Details of:- Column Sections YB3 (1st Tier)

AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary #3 PLANT
FABRICATED AT Ambridge PLANT
CHARGE OF Strang
DRAW. MADE BY HAL DATE 11-23-33
DRAW. CHECKED BY W.R.L. DATE 1-31-34

ORDER No. G5100 | SHEET No. 10B

SHOP BILLS 518 & 519 & 519½
Mat ordered Pgs. 54-55-56+15
[F]



Detail Material {Total for one Col.}

4-Lace Bars 5½ × ⅝ × 3'-7½ ya10
12- " 5½ × ⅝ × 3'-6¼ yb10
4- " 5½ × ⅝ × 3'-7 yc10
4- " 5½ × ⅝ × 3'-6 yd
4-Fills 5½ × ⅝ × 0'-10⅝ fy10
2- " 5½ × ⅝ × 0'-10⅞ fw
8- " 2 abt. × ⅝ × 0'-2 abt. faa10
(Tack weld to lacing)
4-Fills 3¼ × ½ × 0'-10½ fac10
8- " 3¼ × ½ × 0'-10 fae
8- " 2 abt. × ½ × 0'-2 abt. faf
(Tack weld to lacing)

Col. Base Mat'l {A.S.T.M. Spec. A140-32T Carbon .25 to .40 and copper content not less than 0.20% Fin. 2 Sides}

1 Slab 66½ × 4 × 15'-0½ pf
2 PL-59⅛ × ¾ × 7'-5¼ - pg Fin. 1 Edge (E)
2 Fills 21¾ × ¾ × 4'-11⅛ fa " 1 " (E)
2 Ls 8 × 8 × ¾ × 4'-8 hb
4 Ls 7 × 4 × ¾ × 2'-5¾ sa R/L } Fin 2 ends
8 Ls 7 × 4 × ¾ × 2'-5¾ sb R/L }
2 Ls 8 × 6 × ¾ × 2'-10 af
2 Fills 16 × ⅝ × 1'-8 fb Fin. 1 Edge
4 Ls 8 × 6 × ¾ × 5'-6½ ag R/L
2 L 8 × 6 × ¾ × 1'-5 ah
4 Fills 16 × ⅝ × 4'-4⅞ fc Fin 1 Edge
2 PLs - 34 × ⅝ × 4'-[illegible] - pab-Fin 1 End-(E)

Note:- Edges of slab pf to be flame cut straight and smooth with a neat appearance

2 PLs-36 × ⅝ × 7'-5 - pad - Fin 1 End-(E).
2 PLs-35 × ⅝ × 7'-5 - pac - Fin 1 End (E)
4 Ls-6 × 3½ × ⅝ × 7'-1½ - aad R/L - Fin 1 End
4 Ls-8 × 6 × ⅝ × 7'-1½ - aae R/L " 1 "
4 Ls-8 × 6 × ⅝ × 7'-1½ - aag R/L " 1 "
4 Ls-6 × 3½ × ⅝ × 7'-1½ - aah R/L " 1 "
2 Fills-20 × ⅝ × 4'-9¾ fd - Fin 1 End.

Main Material

4 Ls 8 × 6 × ⅝ × 20'-0½ (abt) ha R/L Fin 2 Ends
2 Ls 8 × 6 × ⅝ × 20'-0 aa R/L Fin. 2 Ends.
2 Ls 8 × 6 × ⅝ × 20'-0 ab R/L " 2 "
8 Ls 8 × 8 × ⅝ × 20'-0 ac R/L " 2 "
2 PL 69 × ⅝ × 20'-0 pa Fin 2 Ends (E)
2 " 69 × ⅝ × 20'-0 pb " 2 " (E)
2 " 36 × ⅝ × 20'-0 pc " 2 " (E)
1 " 40 × ⅝ × 14'-11¾ pd " 1 " (E)
1 " 49 × ⅝ × 14'-11¾ pe " 1 " (E)
4 Ls 8 × 6 × ⅝ × 20'-0½ abt he R/L F. 2. E

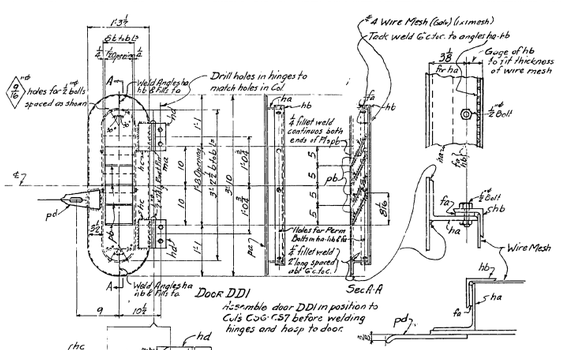
CS1
CS2 (Same as CS1 except for Holes "H")

8/5/34 Change for Mang. Bolts
4-5-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Bents YB2 - YB3 & YB4
Details of - Column Sections YB3 (1st Tier)

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Strang
DRAW. MADE BY H.A.L. DATE 11-23-33
DRAW. CHECKED BY W.R.L. DATE 1-30-34
ORDER No. G5100
SHEET No. 10AB

Mat. ordered pgs. 51-52 & 53 + 15 [F]



SHIPPING NOTES

Ship 1-Door DD1 and 1-DL3 of DL4 assembled with each C56-C57 Det. on Sh. 1
Ship 1-Door DD1-1 Crank DL2 assembled with each C526-C535 Det. on Sh. 5
" " C531-C532 " " " 6
Ship 1-Door DD3 and 1-Wedge DL4 and 1-Wedge DL4 assembled with each
C524-C525 Det. on Sh. 5
C531-C532 " " " 6
Ship 1-Ladder L2 assembled with each
C56-C57 Det. on Sh. 1
Ship 1-Ladder L3 assembled with each
C56-C57 Det. on Sh. 1
C514-C515 " " " 5
Ship 2-Ladders L3 assembled with each
C510-C511 Det. on Sh. 2
C512-C513 " " " 3
C516-C515 " " " 4
Ship 1-Ladder L4 assembled with each
C531-C532 Det. on Sh. 6
Ship 1-Ladder L5 and 1-Ladder L6 assembled with each C51-C52 Det. on Sh. 10.5
Ship 2-Ladders L12 assembled with each
C526-C527-C528-C529 Det. on Sh. 14
Ship 2-Ladders L9 with each C53, C54, & C55 det. on Sh. 11, C518-C519-C520- det. on Sh. 12, C521-C522-C523- det. on Sh. 13
Ship the following Items loose.
4- Ladders L1
12- " L3
2 - " L7
4 - " L8
8 - " L9
8 - " L11

REQUIRED

Bent Y82	Bent Y83	Bent Y84	Total	DESCRIPTION	MARK
2		2	4	Doors	DD1
2		2	4	"	DD2
2		2	4	"	DD3
2		2	4	Cranks	DL2
4		4	8	Staples	DL3
4		4	8	Wedges	DL4
2		2	4	Ladders	L1
2		2	4	"	L2
18		22	40	"	L3
	2	2	4	"	L4
	2		2	"	L5
	2		2	"	L6
	2		2	"	L7
	4		4	"	L8
	32		32	"	L9
	8		8	"	L11
	8		8	"	L12

GEN. NOTES
MATERIAL – All material to be O.H. copper bearing medium carbon steel except for wire mesh, Wedges DL4 & Staples DL3, which are to be ordinary carbon steel galvanized.
SPECIFICATIONS – Special by State of California Dept of Public Works.
INSPECTION – John M Bailey Chief Inspr.
OPEN HOLES – 13/16" unless noted
REAMING – None
FINISH – All edges of Ladders, Doors and fastenings are to be smooth with no ragged edges
SHOP PAINT – None

4-5-34

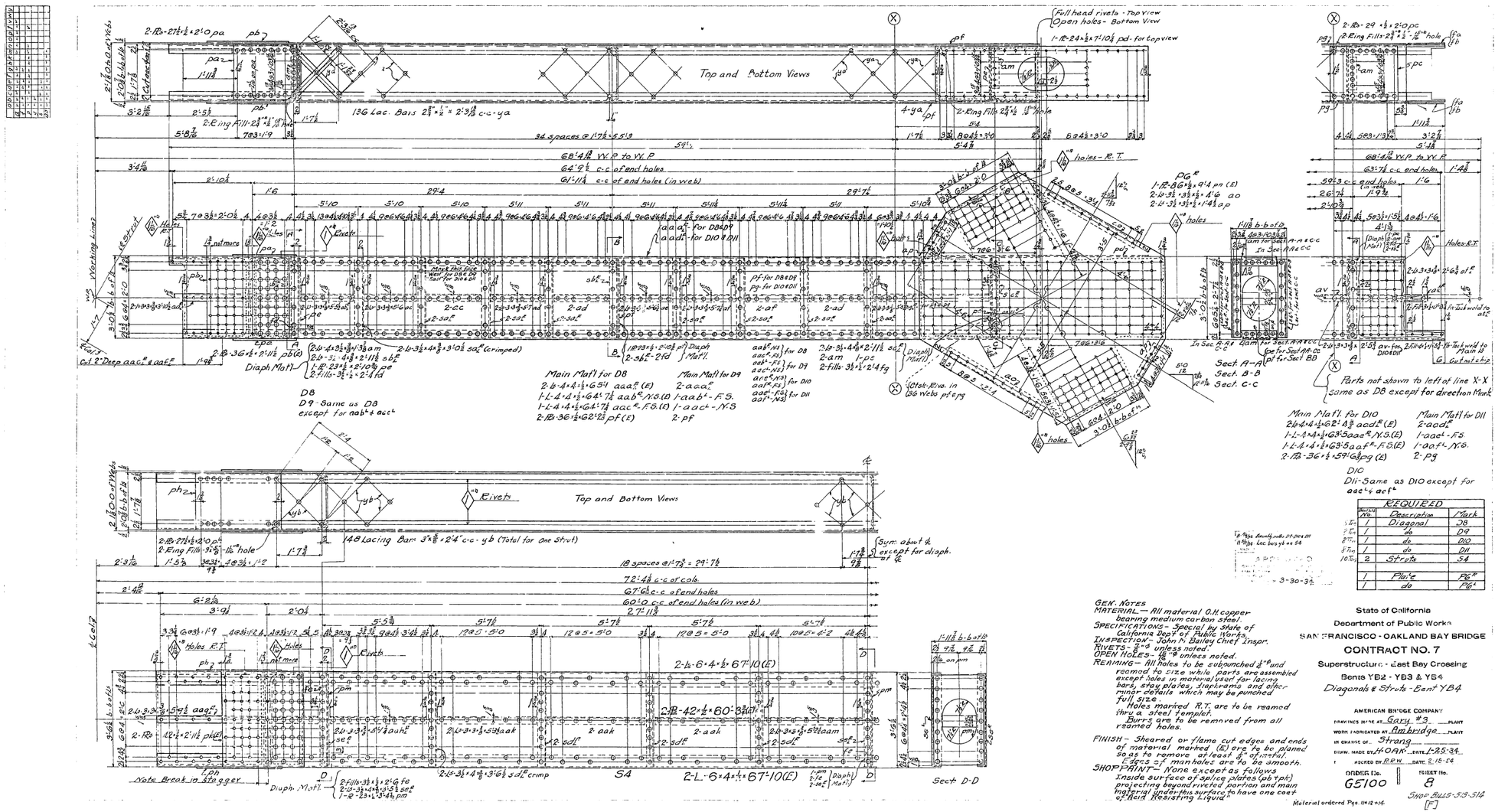
(Mat'l and on Page #10)

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Bents YB2 - YB3 & YB4
Details; Doors, Door Fastenings & Ladders.
Bents YB2-YB3 & YB4
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Strang
DRAWN BY W.D.T. DATE 1-12-34
DRAWN, CHECKED BY R.R.W DATE 2-16-34
ORDER No. G5100
SHEET No. 9

Ship P Bills 315, 316, 317, 317½

[F]

80-1



REQUIRED			
Shipping No.	No.	Description	Mark
1st	1	Diagonal	D8
2nd	1	do	D9
8th	1	do	D10
9th	1	do	D11
10th	2	Struts	S4
	1	Plate	PG^R
	1	do	PG^L

GEN. NOTES
MATERIAL — All material O.H. copper bearing medium carbon steel.
SPECIFICATIONS - Special by State of California Dept of Public Works.
INSPECTION - John H. Bailey Chief Inspr.
RIVETS - ⅞" ø unless noted.
OPEN HOLES - ⅞" ø unless noted.
REAMING — All holes to be subpunched ¼" and reamed to size while parts are assembled except holes in material used for facing bars, stay plates, diaphragms and other minor details which may be punched full size.
Holes marked R.T. are to be reamed thru a steel templet.
Burrs are to be removed from all reamed holes.
FINISH - Sheared or flame cut edges and ends of material marked (E) are to be planed so as to remove at least ¼" of metal.
Edges of manholes are to be smooth.
SHOP PAINT — None except as follows:
Inside surface of splice plates (pa & pb) projecting beyond riveted portion and main material under this surface to have one coat of Red Resisting Liquid.

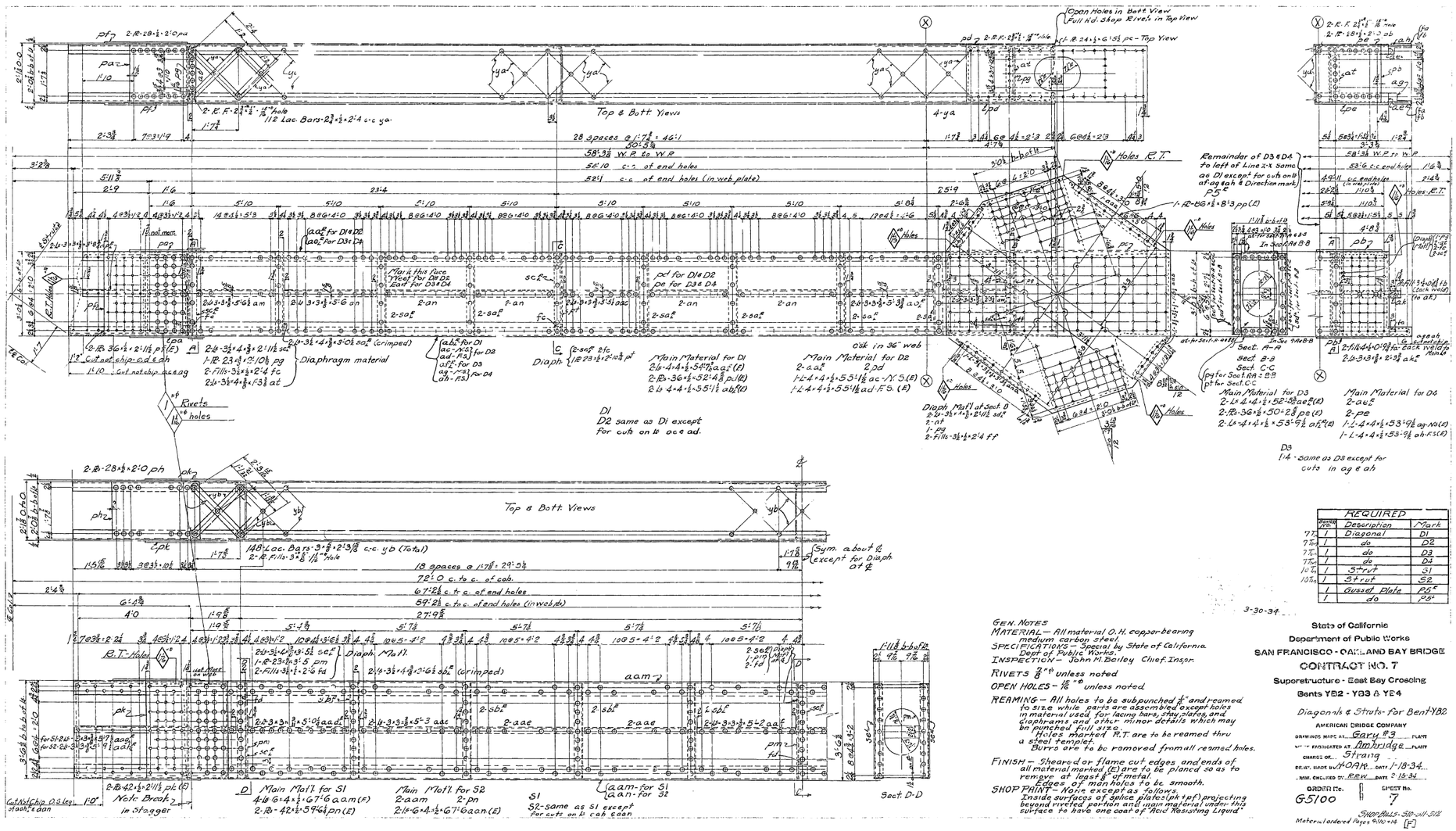
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Bents YB2 - YB3 & YB4
Diagonals & Struts - Bent YB4

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Strang
DRAWN, TRACED BY H.O.A.K. DATE 1-25-34
CHECKED BY R.P.W. DATE 2-16-34

ORDER No. G5100 | SHEET No. 8

SHOP BILLS 513-514
[F]

Material ordered Pgs. 1912 & 1913.



REQUIRED			
Assembly Mark	No.	Description	Mark
7 T1	1	Diagonal	D1
7 T2	1	do	D2
7 T3	1	do	D3
7 T4	1	do	D4
10 T1	1	Strut	S1
10 T2	1	Strut	S2
	1	Gusset Plate	PbF
	1	do	PdF

3-30-34

GEN. NOTES

MATERIAL — All material O.H. copper-bearing medium carbon steel.

SPECIFICATIONS — Special by State of California Dept of Public Works.

INSPECTION — John M. Bailey Chief Insp.

RIVETS ⅞" ϕ unless noted

OPEN HOLES — 1⅛" ϕ unless noted

REAMING — All holes to be subpunched ¼" and reamed to size while parts are assembled except holes in material used for lacing bars, stay plates, and diaphrams and other minor details which may be punched full size.
Holes marked R.T. are to be reamed thru a steel templet.
Burrs are to be removed from all reamed holes.

FINISH — Sheared or flame cut edges and ends of all material marked (E) are to be planed so as to remove at least ⅛" of metal.
Edges of man holes to be smooth.

SHOP PAINT — None except as follows.
Inside surfaces of splice plates (pk, tpf) projecting beyond riveted portion and main material under this surface to have one coat of "Acid Resisting Liquid"

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Bents YB2 - YB3 & YB4

Diagonals & Struts for Bent YB2

AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary #3 PLANT
MATERIAL FABRICATED AT Ambridge PLANT
CHARGE OF... Strang
DRAWN, MADE BY HOAR DATE 1-18-34
EXAM. CHECKED BY: MRW DATE 2-15-34

ORDER No. G5100 | SHEET No. 7

SHOP RULES - 510-511-512

Material ordered Pages 9(10) + 14

C531

Cap Matl for One Col.
2 Pls - 35 x 3'-6½ - po-F.I.E.-(E)-for C531
1-po-for C532
15 lab 52½ x 3 x 7'-11½ pe Fin 2 Sides
2 PL 5.. x 1'-1½ pf Fin 1 End
2-PL 8 x 1/2 pm " 1 "
4-L 8 x 8 x 1/2 LL w " " 1 "
2-Fills 1/2 x 2½ x 5'-1 - fd (E)
6 Pls 13½ x ½ x 5'-0½ pg Fin. 1 End (E)
2 PL 20 x ⅝ x 2'-11 ph Fin. 1 End (E)
1 - 35 x ⅝ x 3'-6½ ph Fin 1 End (E)-For C532
2 L 8 x 8 x ½ x 4'-4½ ha^R
1 L 8 x 6 x ½ x 4'-4½ ak
1 L 8 x 6 x ½ x 4'-1⅞ am
2 L 8 x 6 x ½ x 2'-10 an^R
8 L 8 x 6 x ⅝ x 5'-8½ ka^R - Fin. 1 End
4 L 8 x 6 x ⅝ x 5'-6¼ kb^L " 1 "
12 L 6 x 4 x ⅝ x 3'-1½ ku^L - Fin. 1 End
2 Fills - 6 x ½ x 4'-5½ - ff
2 Pls - 27 x ½ x 3'-3½ - pp - (E)

(Fill 4 edges & ends to be flame cut straight and smooth with a neat appearance Specifications - special - ASTM A140 - 32T. Carbon content .25 to .40

Short Notes:- R.T. for Cut on C531 to be Used on Base of P38 Sh. 301 or G5101

R.T. Holes for 1⅛ Turned Bolts

Bent - YB4
Location Diagram

View G-G for C531

View G-G for C532 - (Same as view G-G for C531 - rotated 180°)
Short Notes:- R.T. for Cut on C8.52 to be Used on Base of P38 Sh. 301 or G5101

Sect E-E

Diaph. Matl.
1 PL 24½ x 1 - 3'-0½ pml Fin. 2 edges and ends.
4 L 4 x 4 x ½ - 2'-4 ahl
4 L 4 x 4 x ½ - 2'-0 aql
2 L 7 x 4 x ½ - 0'-5½ at^R
2 L 4 x 4 x ½ - 2'-0 hd.
2 L 4 x 4 x ½ - 2'-0 hc3
4 L 4 x 4 x ½ - 1'-0 ahl
4 L 4 x 4 x ½ x 1'-0⅝ ae^R
4 L 4 x 4 x ½ x 1'-0⅝ aa^R
2 PL 35 x ½ x 1'-2⅝ pc. Fin 2 Edges & 2 Ends
4 Fills 5½ x ½ x 0'-6½ fa

Sect M-M.

Sect F-F
Diaph. Matl
1 pml
4 ahl
4 aql
4 at^R
2 hc3
1 ahl
4 L 4 x 4 x ½ x 1'-1⅝ ae^R
4 L 4 x 4 x ½ x 1'-1⅝ af^R
2 PL 35 x ½ x 1'-3½ pd Fin 2 Edges & 2 Ends
4 fa
2 PL 24 x ½ x 1'-2 - pol.
1 L 4 x 5 x ½ x 4'-0 ½ aq
1 Fill 5 x ½ x 3'-0⅝ b

Planing Diag. for Webs pe & pm's.

Main Matl.
6 L 6 x 6 x ¾ x 19'-3⅝ (abl) a o^R
2 L 6 x 6 x ¾ x 19'-2⅝ (abl) a p^L
4 L 3 x 3 x ½ x 19'-3⅝ a a^L
1 Web 57½ x ⅜ x 19'-3⅞ pa (E)
2 Web 36 x ¾ x 19'-3⅞ pb (E)
1 Web 57½ x ⅜ x 19'-3⅞ pm (E)

Assemble and Ship - 1-Door D03, Det. on sht 9 on New H-Cal C531
1-Crank D12
1-Door D03
1-Shack D13
1-Wedge D14
Assemble doors with 8 PBL 4.05 bolts on C531 or C532

C531
C532 - same as C531 except for holes 'O' & 'P', and assembly of cap plate, pp and cap & hat pk, ak, an see as shown in View G-G

Note break in stagger

View A-A
View B-B - Same as View A except for Holes & Rivets, ⅛ hat^R
Sect C-C
Sect D-D Opp. Hand
View H-H
View K-K same as H-H except as noted

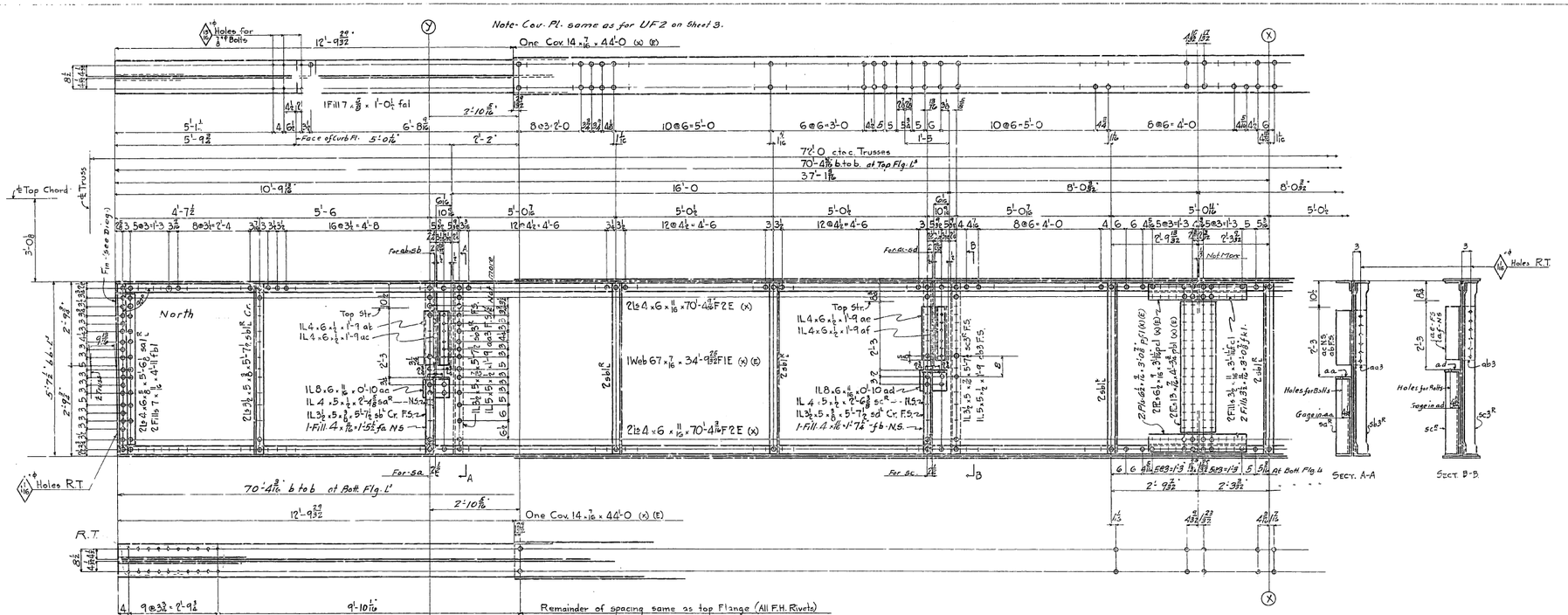
Gen. Notes
MATERIAL - All material O.H. copper bearing medium carbon steel except cap plates (pe) which are to be in conformity with A.S.T.M. tentative spec A140-32T with .28 to .30 carbon and not less than .20% copper contents.
SPECIFICATIONS - Special by State of California. Dept. of Public Works.
INSPECTION - John M Bailey Chief. Insp.
RIVETS - 1" unless noted
OPEN HOLES - 1⅛" unless noted
REAMING - All holes in material ¾" thick or less to be subpunched ¼" and reamed to size while parts are assembled.
Holes in material over ¾" thick are to be subdrilled ¼" and reamed to size or drilled full size while parts are assembled.
Field connections are to be reamed while connecting column sections are assembled in the shop and pieces match marked. All match marking to be done with ¾" steel stencils and white paint.
Holes marked R.T. are to be reamed thru a steel templet.
Burrs are to be removed from all reamed holes.
Holes in material used for diaphragms, ladder connections and minor details may be punched full size.
FINISH - Sheared or flame cut edges and ends of all material marked (E) are to be planed so as to remove at least ¼" of metal.
Edges of all main holes are to be smooth.
SHOP PAINT - None except as follows
Top and bottom surfaces of cap plates (pe) are to have one coat of No. 04-42 Filler red paint. The following surfaces to have one coat of "Acid Resisting Liquid"
Milled ends of columns at splice

Bottom flange ladder bracket changed & Note 18 holes as since '36

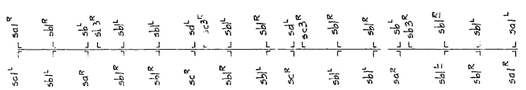
Revised Dec. 3-30-34

YB4	REQUIRED	
17 Top	One	Column Section C531
17 Top	One	do C532

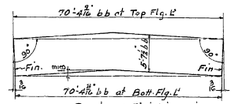
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Bents YB2 - YB3 & YB4
Column Sections C531 - C532
5th Tier YB4
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
VISION OF STATE OF Ambridge PLANT
BY S. Strang
DRAWN, TRACED BY H.A.L. DATE 1-9-34
DRAWN, CHECKED BY R.P.W. DATE 2-15-34
ORDER No. G5100
SHEET No. 6
SHOP BILLS 583.39
(Total erected on these Pages 7+8+114+15)
[F]



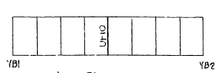
UF10



Stiffener Diagram



Camber & Finishing Diagram.



key Diagram

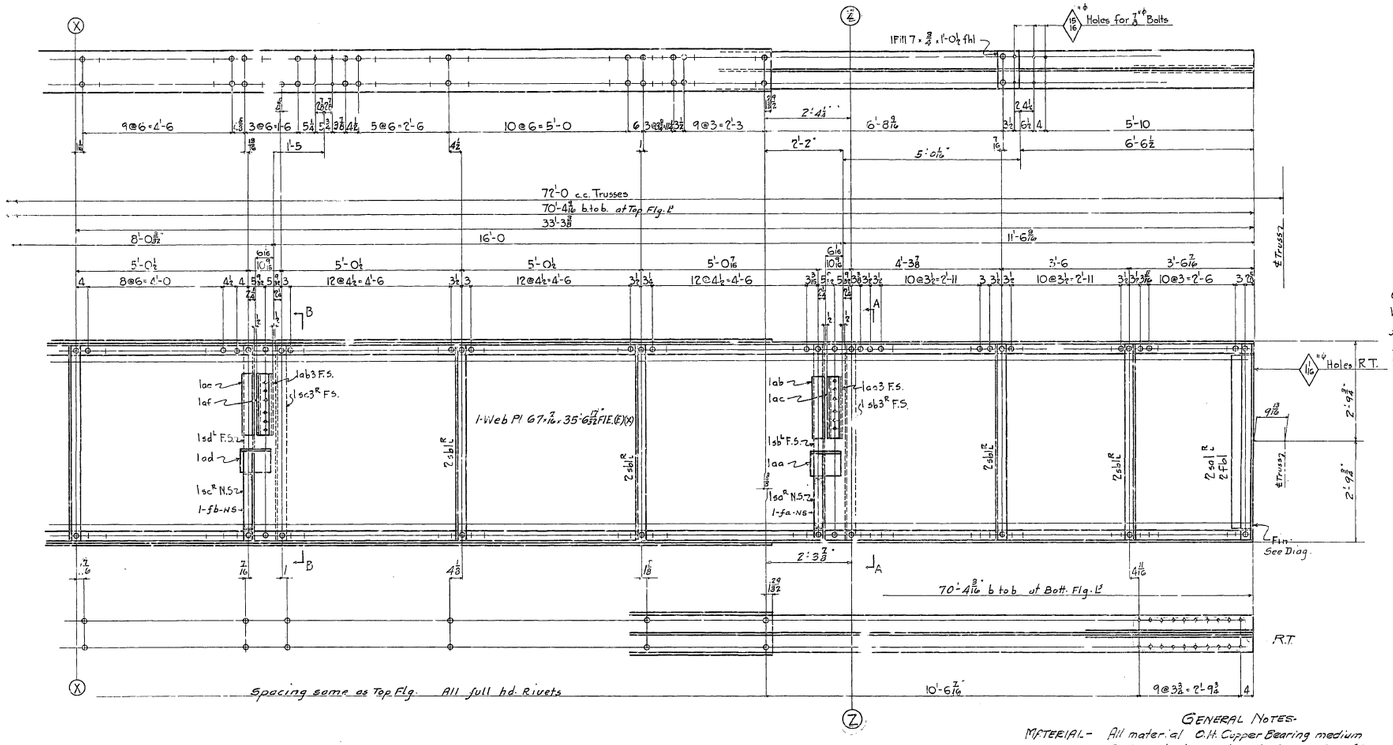
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Span YB1 - YB2
Details of Upper Deck Floor Beam
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAWN, TRACED BY H.A.L. DATE 2-5-34
DRAWN, CHECKED BY [illegible] DATE 3-6-34

4-6-34

ORDER No. G5101

SHEET No. 5AB

Shop 15.5 536



NOTE TO SHOP.
Cover Pls same as for UF2 - Sheet 3.
Web and Flg. Spacing between Lines YY & ZZ.
for UF10 same as Web and Flg. Spacing
between Lines YY & ZZ for UF2 - Sheet 3.
Work Sheets 3-4 & 5 together

GENERAL NOTES.

MATERIAL - All material O.H. Copper Bearing medium Carbon steel, except material marked (X) which is to be O.H. Copper Bearing Silicon steel.

SPECIFICATIONS - Special by State of California, Dept of Public Works.

INSPECTION - John M. Bailey - Chief Inspector.

RIVETS - 7/8" ø

OPEN HOLES - 13/16" ø Unless noted.

REAMING - All holes to be subpunched 1/4" and reamed to size while parts are assembled. Burrs to be removed from all reamed holes. Holes marked "R.T." to be reamed through a steel templet. Sheared or flame cut edges and ends of all matl marked (e) to be planed so as to remove at least 1/8" of metal.

SHOP PAINT - None.

10-Ton

REQUIRED		
1	Upper Deck Flr Bm	UF10

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of: Upper Deck Floor Beam
Span YB1 - YB2.
AMERICAN BRIDGE COMPANY

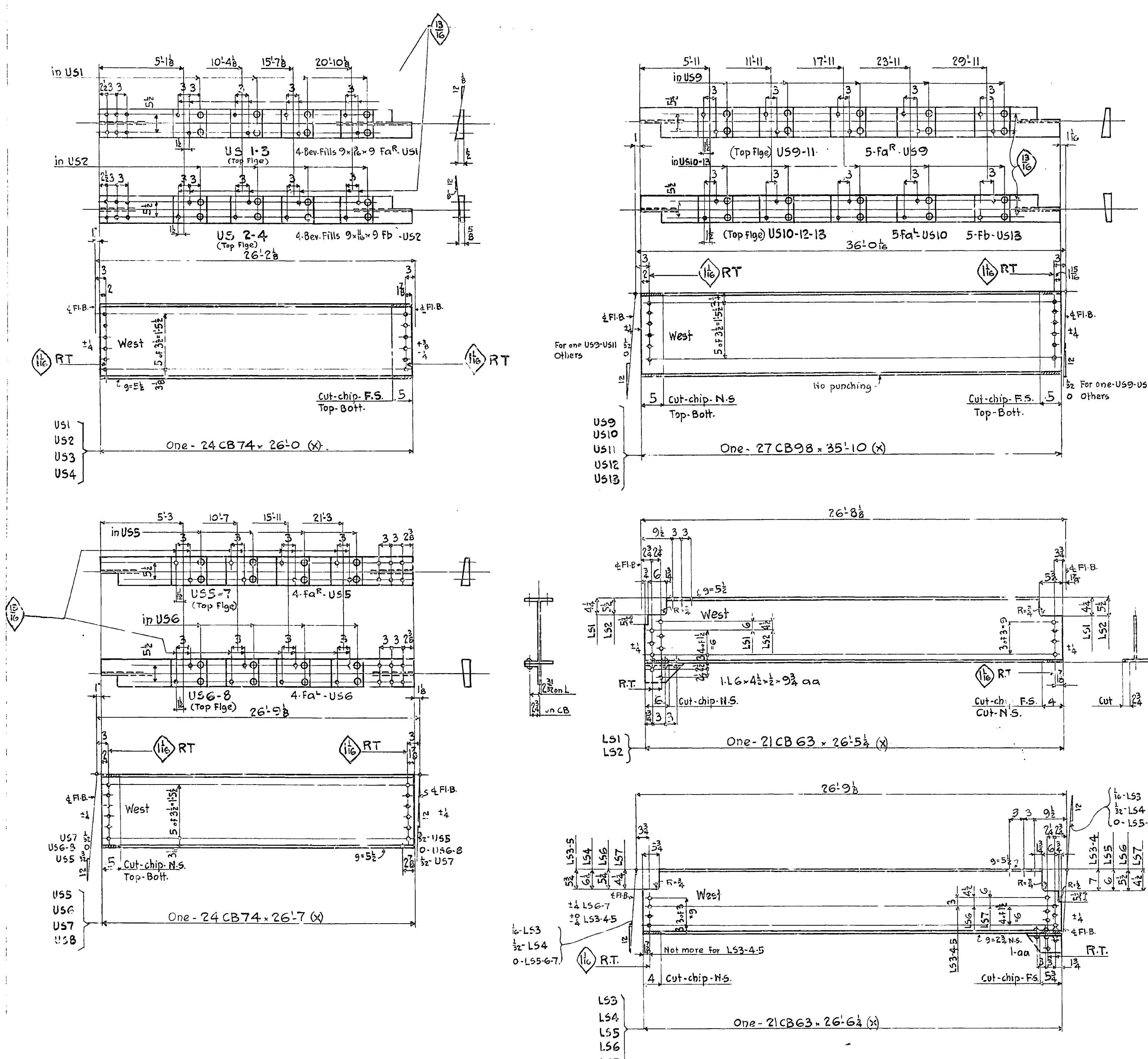
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLAN
IN CHARGE OF Tompt
DETAIL MADE BY H.A.L. DATE 2-6-36
DRWG. CHECKED BY [illegible] DATE 3-6-36

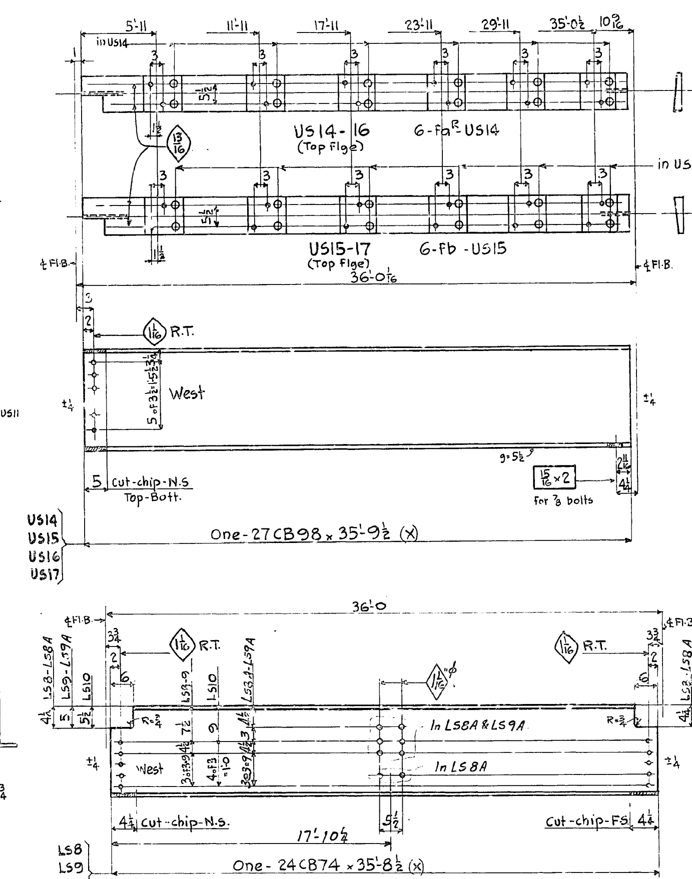
ORDER No. G5101 | SHEET No. 5B | Shop Bills 5-36

4-6-36.

[B&C]

30-1





Required		
1	Upper Stringer	US1
1	"	US2
1	"	US3
1	"	US4
1	"	US5
1	"	US6
1	"	US7
1	"	US8
5	"	US9
1	"	US10
5	"	US11
5	"	US12
4	"	US13
1	"	US14
1	"	US15
1	"	US16
1	"	US17
2	Lower Stringer	LS1
5	"	LS2
1	"	LS3
3	"	LS4
1	"	LS5
1	"	LS6
1	"	LS7
3	"	LS8
3	"	LS9
9	"	LS10
3	"	LS8A
3	"	LS9A

A-5-2-34 Sustitute Prints

APPROVED 4-13-34

GEN. NOTES-

Material - All material O.H. Copper Bearing medium Carbon steel, except material marked (x), which is to be O.H. Copper Bearing Silicon steel.

Specifications - Special by State of California, Dep't of Public Works.

Inspection - John M. Bailey - Chief Inspector.

Rivets - ¾"ϕ.

Open Holes - 15/16"ϕ Unless noted.

Reaming - Holes in material ¾" thick or less to be subpunched ¼" and reamed to size while parts are assembled. Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.

Finish - C.B. material to be "hot-sawed" to length at the mill.

Shop Paint - None.

Mat'l P. 108

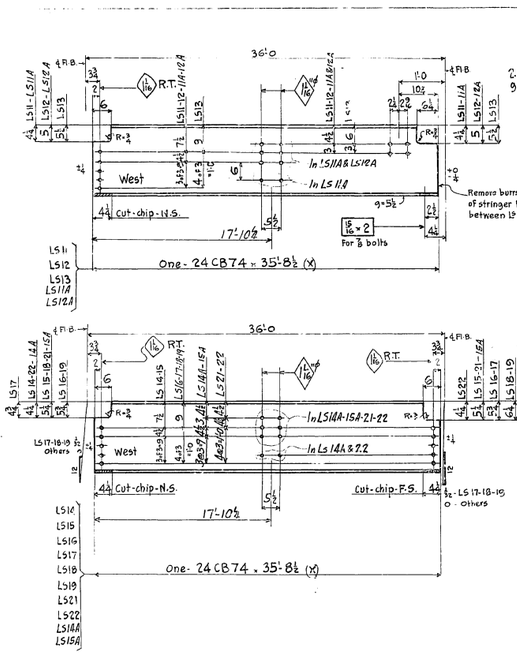
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
UPPER & LOWER DECK STRINGERS
SPAN YB1 - YB2
AMERICAN BRIDGE COMPANY

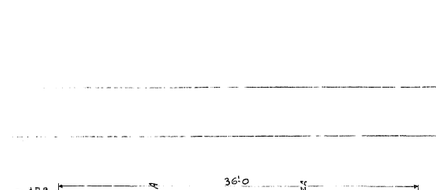
DRAWINGS MADE AT Gary 3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Toropt
DRAW. MADE BY WK. DATE 2-6-34
DRAW. CHECKED BY MEm DATE 3-9-34

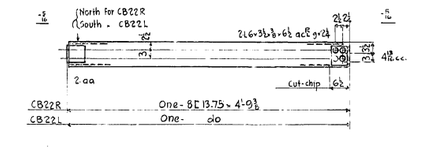
ORDER No. G5101 SHEET No. 6

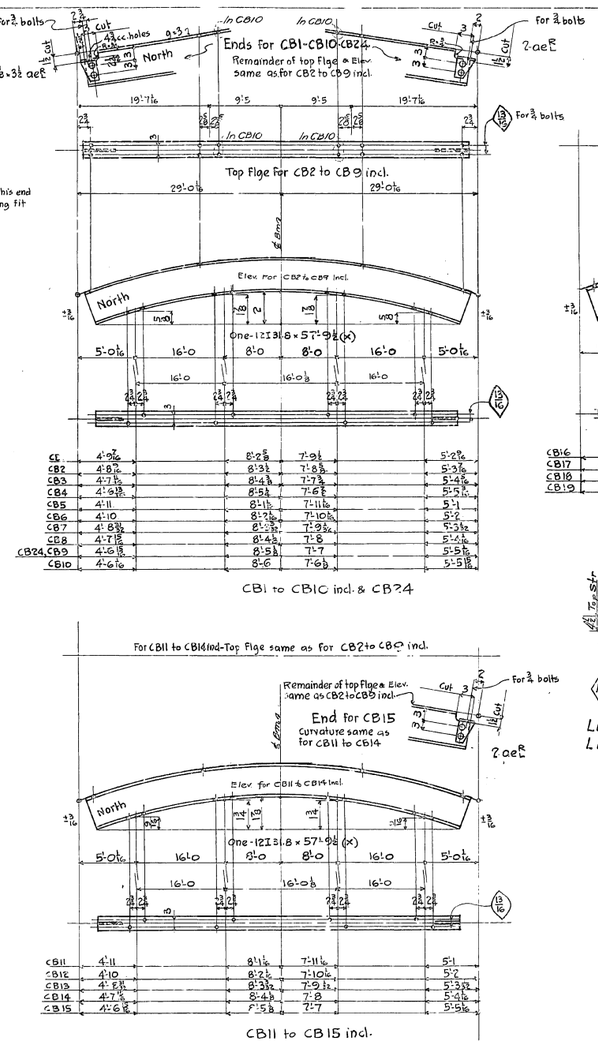
Shop Bills 542-543-544

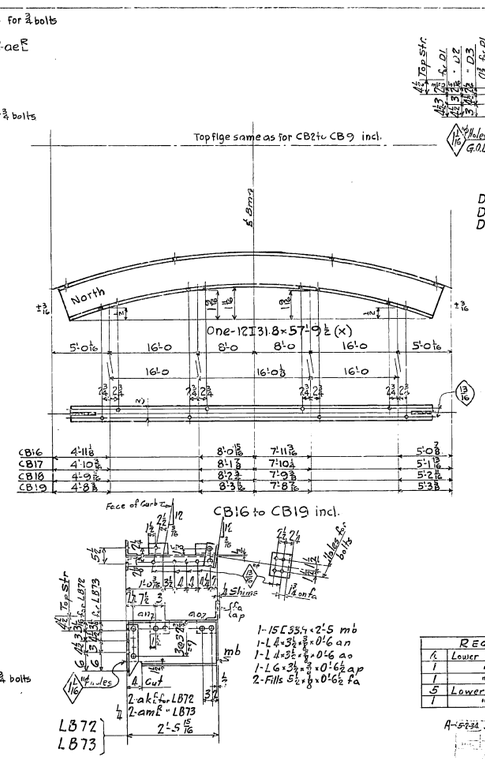
[B&C]











Required		
1	Lower Stringer	LS11
1	"	LS12
3	"	LS13
1	"	LS14
1	"	LS15
4	"	LS16
1	"	LS17
1	"	LS18
2	"	LS19
1	"	LS11A
1	"	LS21
1	"	LS22
1	Cross Beam	CB1
1	"	CB2
1	"	CB3
1	"	CB4
5	"	CB5
5	"	CB6
5	"	CB7
5	"	CB8
4	"	CB9
1	"	CB10
1	"	CB11
1	"	CB12
1	"	CB13
1	"	CB14
1	"	CB15
1	"	CB16
1	"	CB17
1	"	CB18
1	"	CB19
1	"	CB20
1	"	CB21
1	"	CB22R
1	"	CB22L
1	"	CB23R
1	"	CB23L
1	"	CB24
1	Lower Stringer	LS11A
1	"	LS12A
1	"	LS15A

REQUIRED		
6	Lower Diaphragm	D1
1	"	D2
1	"	D3
6	Lower Bracket	LB72
1	"	LB73

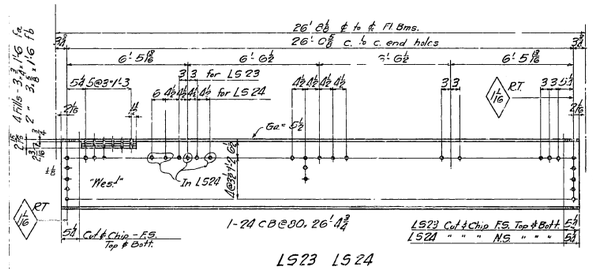
A-6-38 Substitute Finals

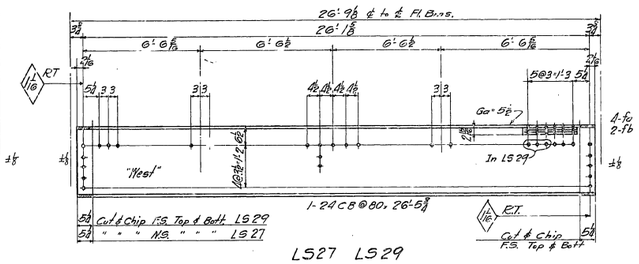
GEN. NOTES.
Material - All material O.H. Copper Bearing medium Carbon steel, except material marked (H.) which is to be O.H. Copper Bearing Silicon steel.
Specifications - Special by State of California, Dept. of Public Works.
Inspection - John M. Bailey - Chief Inspector.
Rivets - ⅞ ø
Open Holes - 15/16" Unless noted.
Reaming - Holes in material 1" thick or less to be subpunched 1/4" and reamed to size while parts are assembled, except holes in Lower Diaphragms D1-D2-D3 and Lower Brackets LB72-LB73 which may be punched full size. Holes marked "R.T." to be reamed through a steel templet. Burrs to be removed from all reamed holes.
Finish - Beams LS11 to LS22 incl. to be "hot-sawed" to length at the mill.
Shop Paint - None.

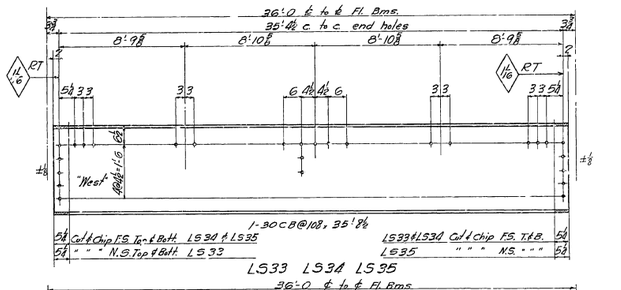
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
LOWER DECK STRINGERS - CROSS BEAMS
SPAN YB1-YB2
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary 3 PLANT
WORK FABRICATED AT Ambridge PLANT
CHARGE OF Tempt
DRAWN, MADE BY WK DATE 2-7-34
DRAWN, CHECKED BY Wilson DATE 5-7-34
ORDER No. G5101 | SHEET No. 7 | Shop B.175 S45-S46

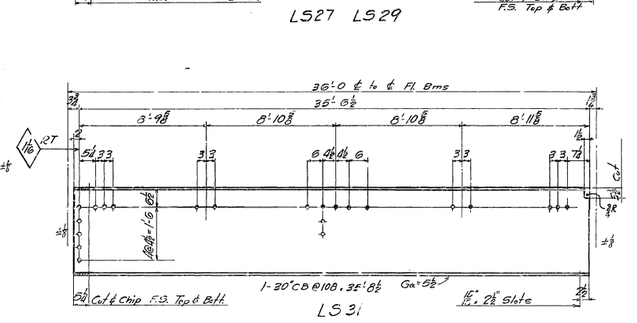
Mail. P. 108

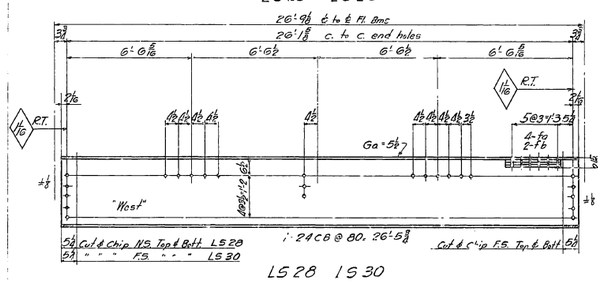
[B&C]

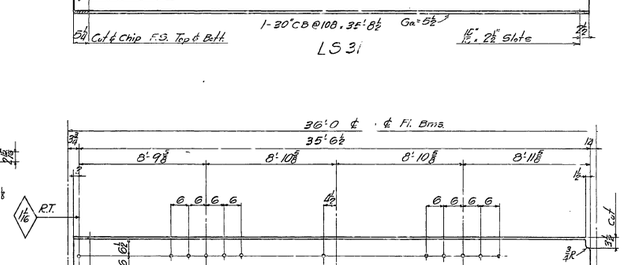












REQUIRED		
1	Stringer	LS23
1	"	LS24
1	"	LS25
1	"	LS26
1	"	LS27
1	"	LS28
1	"	LS29
1	"	LS30
2	"	LS31
2	"	LS32
4	"	LS33
4	"	LS34
2	"	LS35
4	"	LS36
4	"	LS37
2	"	LS38

General Notes.

Material - All material O.H. copper bearing medium carbon steel.

Specifications - Special by State of California Dept. of Public Works.

Inspection - John M Bailey, Chief Insp.

Rivets - ⅞ ϕ

Open Holes - 15/16" unless noted.

Reaming - Holes in material ⅞" thick or less to be subpunched ¼" and reamed to size while parts are assembled. Holes reamed R.T. to be reamed thru a steel template.

Finish - Sheared or flame cut edges to be planed so as to remove at least ⅛" of metal.

C.B. material to be hot-sawed to length at the mill.

Shop Paint - None.

SHOP BILLS 56 and 57

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
R.R. Track Stringers
Span YB1 - YB2
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary # 3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tempf
DRAW. MADE BY WRL DATE 2-6-34
DRAW. CHECKED BY [illegible] DATE 2-23-34

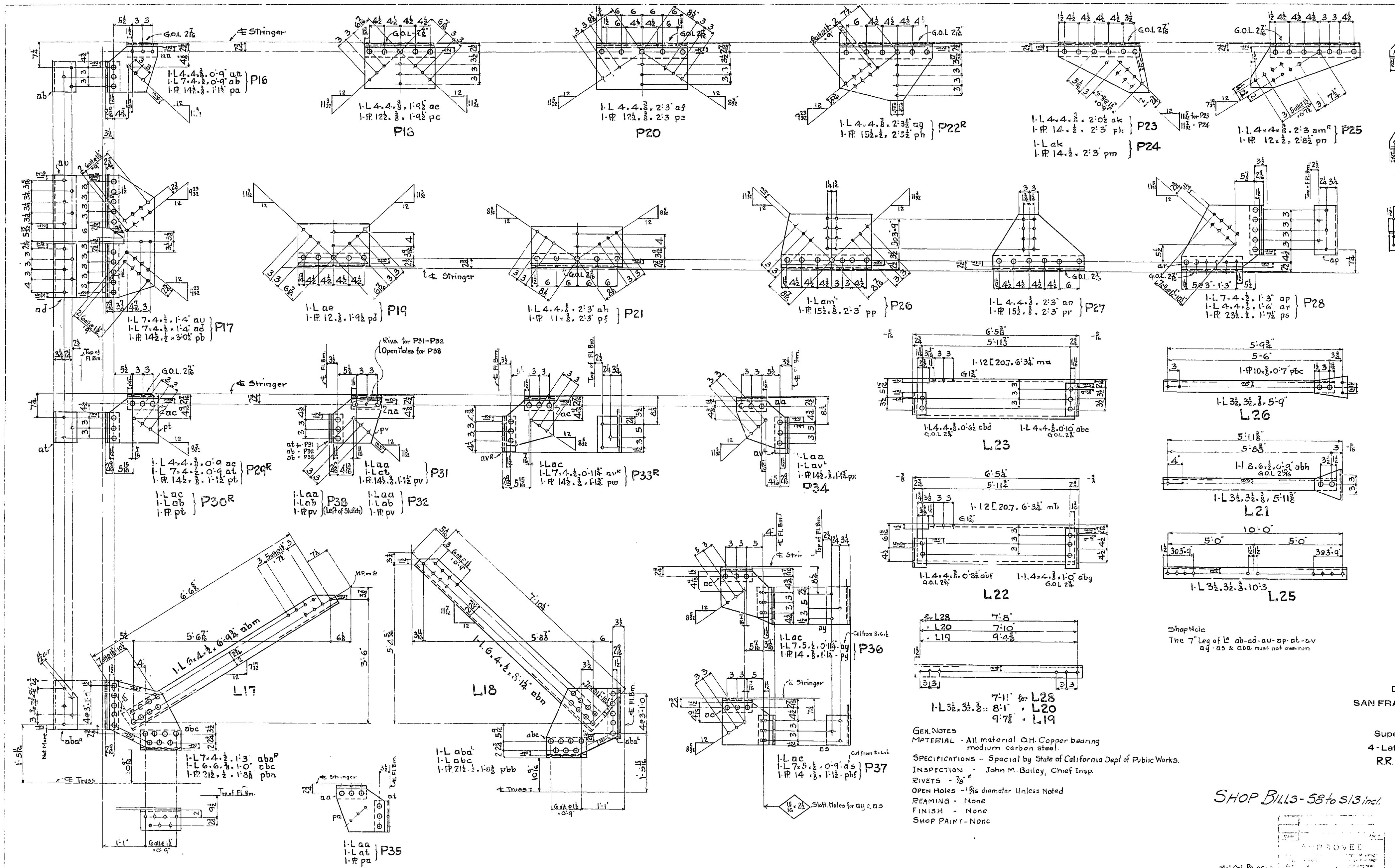
ORDER No. G5101 SHEET No. 8

RECEIVED 4-3-34

Mat'l Orig. Pg 12 WRL-Pg 26
" " for S1 Pg 20 LRB

[C]

30-1



REQUIRED		
2	Lateral Plates	P16
One	do.	P17
4	do.	P18
7	do.	P19
12	do.	P20
24	do.	P21
One	do.	P22R
One	do.	P22L
One	do.	P23
One	do.	P24
One	do.	P25
One	do.	P26
One	do.	P27
One	do.	P28
4	do.	P29R
2	do.	P29L
4	do.	P30R
5	do.	P30L
One	do.	P31
One	do.	P32
2	do.	P38
4	do.	P33R
3	do.	P33L
One	do.	P34
One	do.	P35
One	do.	P36
One	do.	P37
One	Stringer Laterals	L17
One	do.	L18
48	do.	L19
14	do.	L20
31	do.	L21
12	do.	L22
4	do.	L23
One	do.	L24
One	do.	L25
One	do.	L26
2	do.	L27
2	do.	L28
One	do.	L29

Shop Note
The 7" Leg of Ls ab-ad-au-ap-at-av ay-as & aba must not overrun

GEN. NOTES
MATERIAL - All material O.H. Copper bearing medium carbon steel.
SPECIFICATIONS - Special by State of California Dept of Public Works.
INSPECTION - John M. Bailey, Chief Insp.
RIVETS - ⅞"ϕ
OPEN HOLES - 15/16 diameter Unless Noted
REAMING - None
FINISH - None
SHOP PAINT - None

SHOP BILLS - S8 to S13 incl.

Mat. Ord. Pg. 25+31

APPROVED 3/20/34

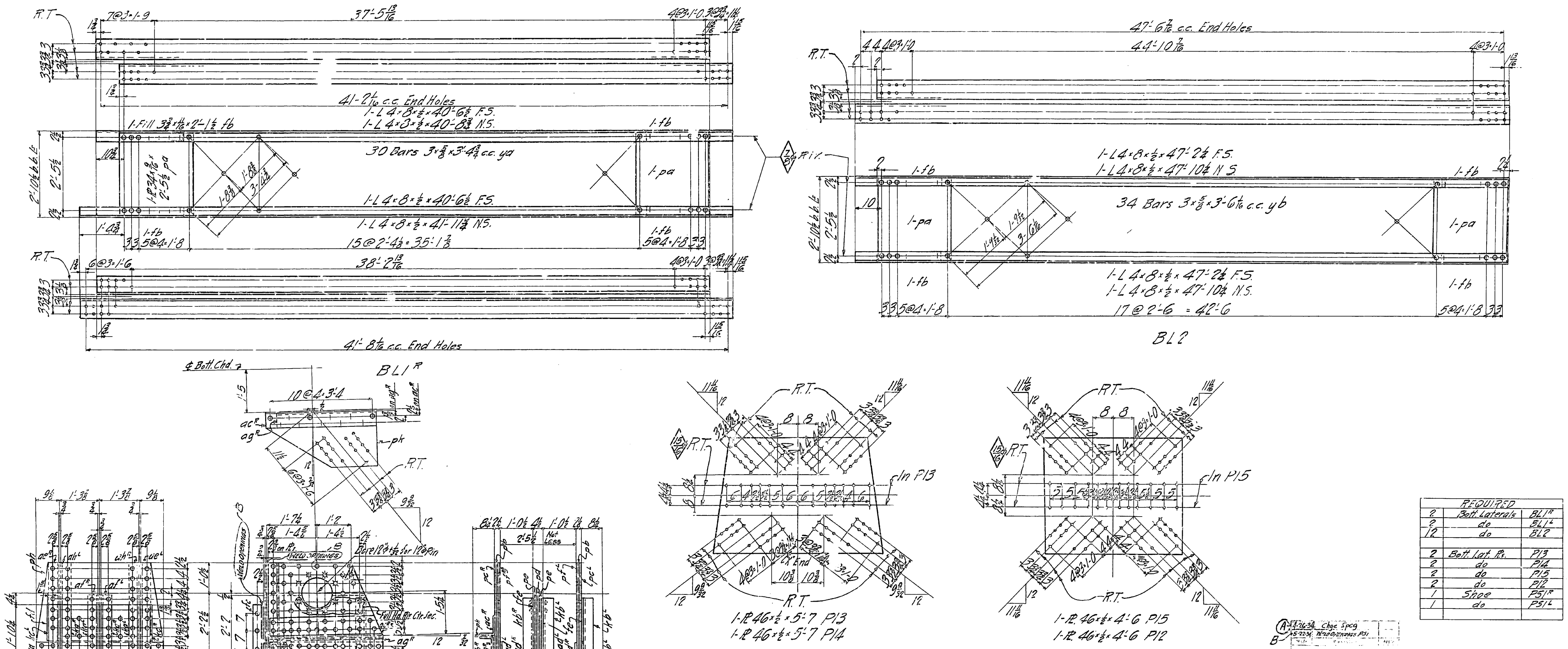
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
R.R. STRINGER LATERALS & PLATES
SPAN YB1-YB2
AMERICAN BRIDGE COMPANY

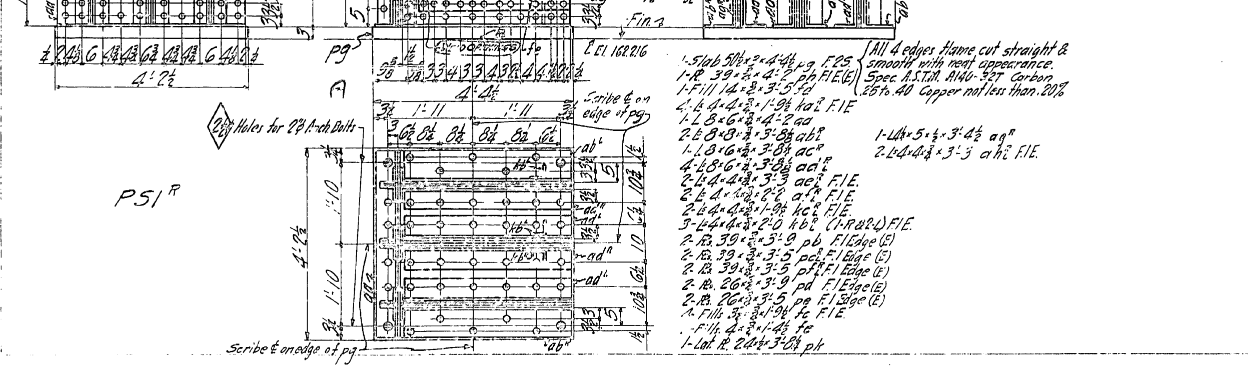
DRAWINGS MADE AT GARY #3 PLANT
WORK FABRICATED AT AMBRIDGE PLANT
IN CHARGE OF Tomer
DRAW. MADE BY HH DATE 2-14-34
DRAW. CHECKED BY [illegible] DATE 2-22-34

ORDER No. G5101
SHEET No. 9

[C]

30-1





Gen. Note:

MATERIAL: All material O.H. Copper Bearing medium carbon steel except slabs, which are Carbon steel A.S.T.M.-A140-32T Carbon .25 to .40, Copper not less than .20%

SPECIFICATIONS: Special by State of California Dept. of Public Works.

INSPECTION: John M. Bailey Chief Insp.

RIVETS: 1"φ Unless noted.

OPEN HOLES: 1 1/16 φ Unless noted.

REAMING: Holes in material 3/4" thick or less to be subpunched 1/4 and reamed to size while parts are assembled. Holes in material over 3/4" thick to be subdrilled 1/4 and reamed to size or drilled full size while parts are assembled. Carbon steel 3/4 thick or less for lacing & stay PLs. may be punched full size.
Holes marked R.T. to be reamed thru a steel templet. Burrs to be removed from all reamed holes.

FINISH: Sheared or flame cut edges and ends of all material marked (F) to be planed to remove at least 1/8" of metal.

SHOP PAINT: None except top & bottom of base PLs. of shoes PS1R/L to be painted with one coat NO-OX-ID Filler red paint. All pin holes to be painted one coat of white lead & tallow.

REQUIRED		
2	Bott. Laterals	BL1R
2	do	BL1L
12	do	BL2
2	Bott. Lat. PLs.	P13
2	do	P14
2	do	P15
2	do	P12
1	Shoe	PS1R
1	do	PS1L

(A) 4-26-34 Chge Spcg
(B) 5-22-34 [illegible] OPENINGS PS1

APPROVED 4-3-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1

DETAILS OF SHOES & BOTT. LATERALS
SPAN YB1-YB2
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
CHARGE OF Tompt
DRAW. MADE BY H.C.G. DATE 2-7-34
DRAW. CHECKED BY J.H.G. DATE 2-20-34

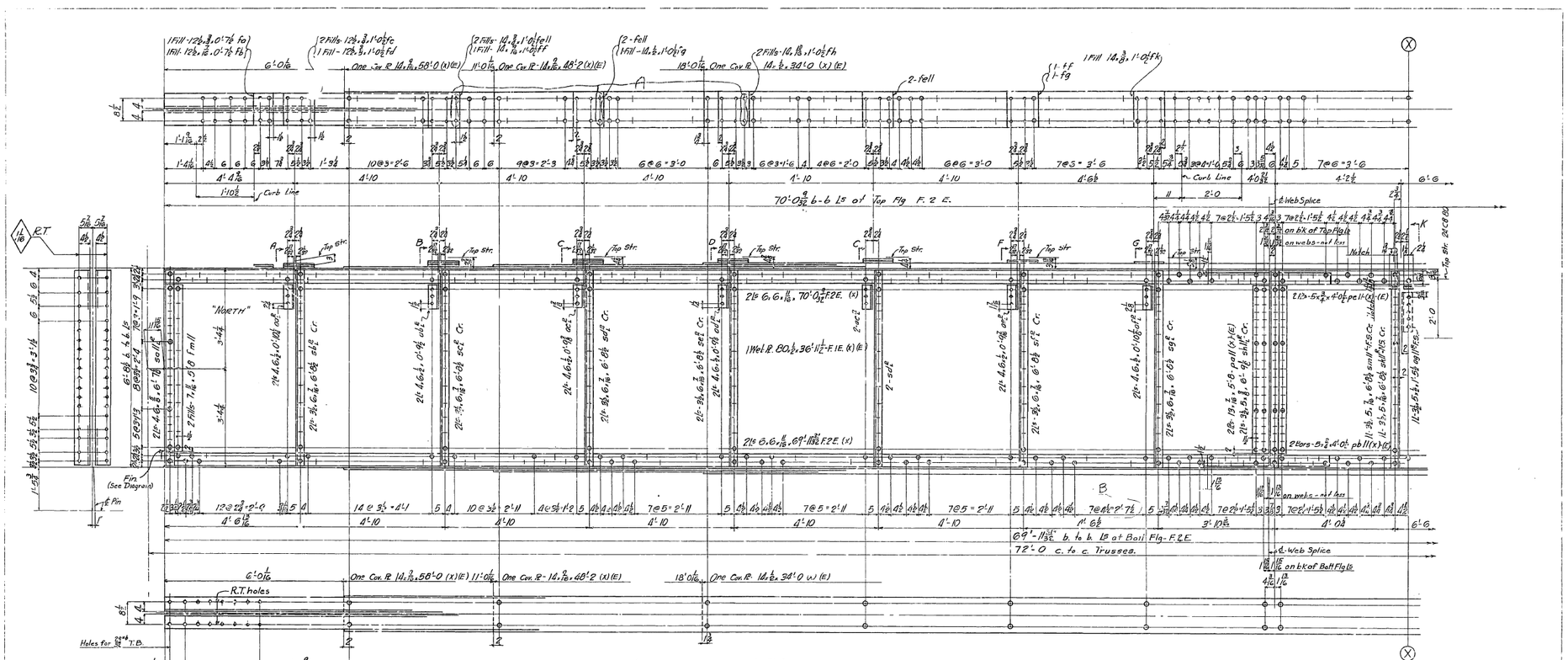
SHOP BILLS - S14 and S15

ORDER No. G5101 SHEET No. 10

Mat. Ord. P20 & 22 H.C.G.

[C]

30-1

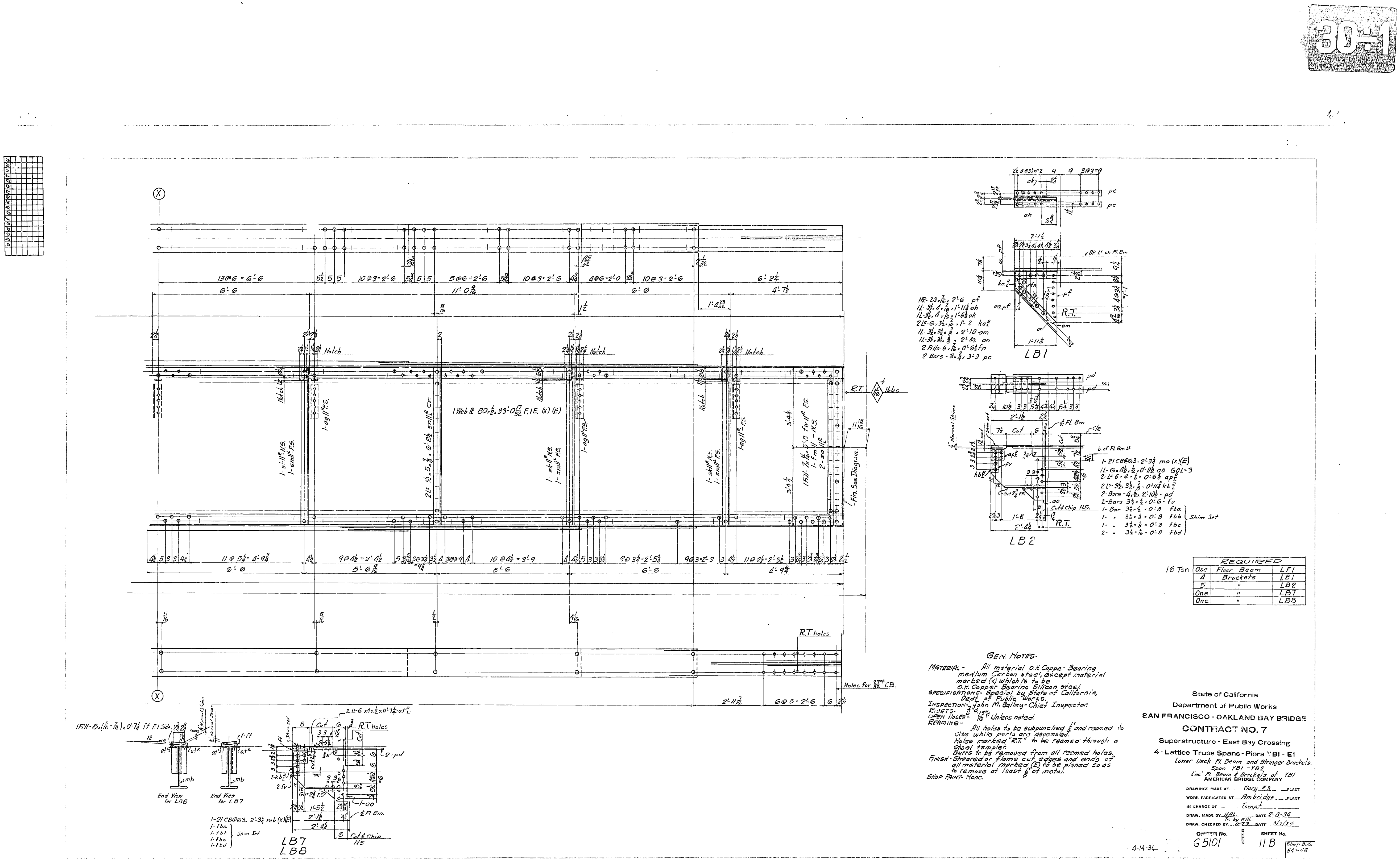


State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Lower Deck Floor Beams
Span YB1 - YB2
End Fl. Bm. at YB1
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Trapp
DRAWN BY H.A.L. DATE 2-8-30
DRAWN CHECKED BY M.F.S. DATE 2-11-30

ORDER No. G5101 SHT. 11 AB

Shop Bills 647, 648



Required		
One	Floor Beam	LF1
4	Brackets	LB1
5	"	LB2
One	"	LB7
One	"	LB8

16 Ton

GEN. NOTES.

MATERIAL - All material O.H. Copper-Bearing medium Carbon steel, except material marked (X) which is to be O.H. Copper Bearing Silicon steel.
SPECIFICATIONS - Special by State of California, Dept of Public Works.
INSPECTION - John M. Bailey - Chief Inspector.
RIVETS - 7/8" φ. 15/16
OPEN HOLES - 15/16" Unless noted.
REAMING - All holes to be subpunched 3/4" and reamed to size while parts are assembled.
Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
FINISH - Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least 1/8" of metal.
SHOP PAINT - None.

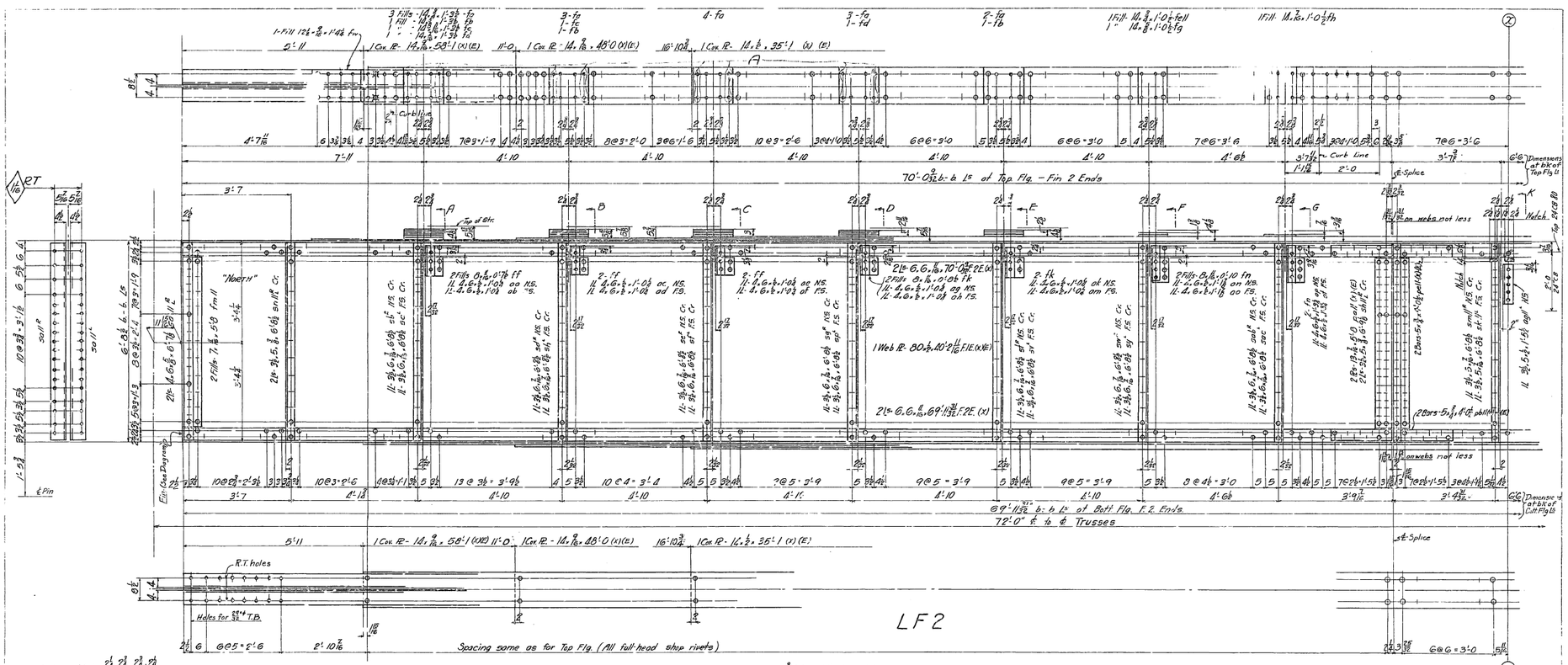
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Lower Deck Fl. Beam and Stringer Brackets.
Span YB1 - YB2
End Fl. Beam & Brackets at YB1
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Temp.
DRAW. MADE BY H.A.L. DATE 2-8-34
Tr. by W.R.L.
DRAW. CHECKED BY DATE 3/7/34

ORDER No. G5101
SHEET No. 11B
Shop Bills 547-48

4-14-34

[B&C]



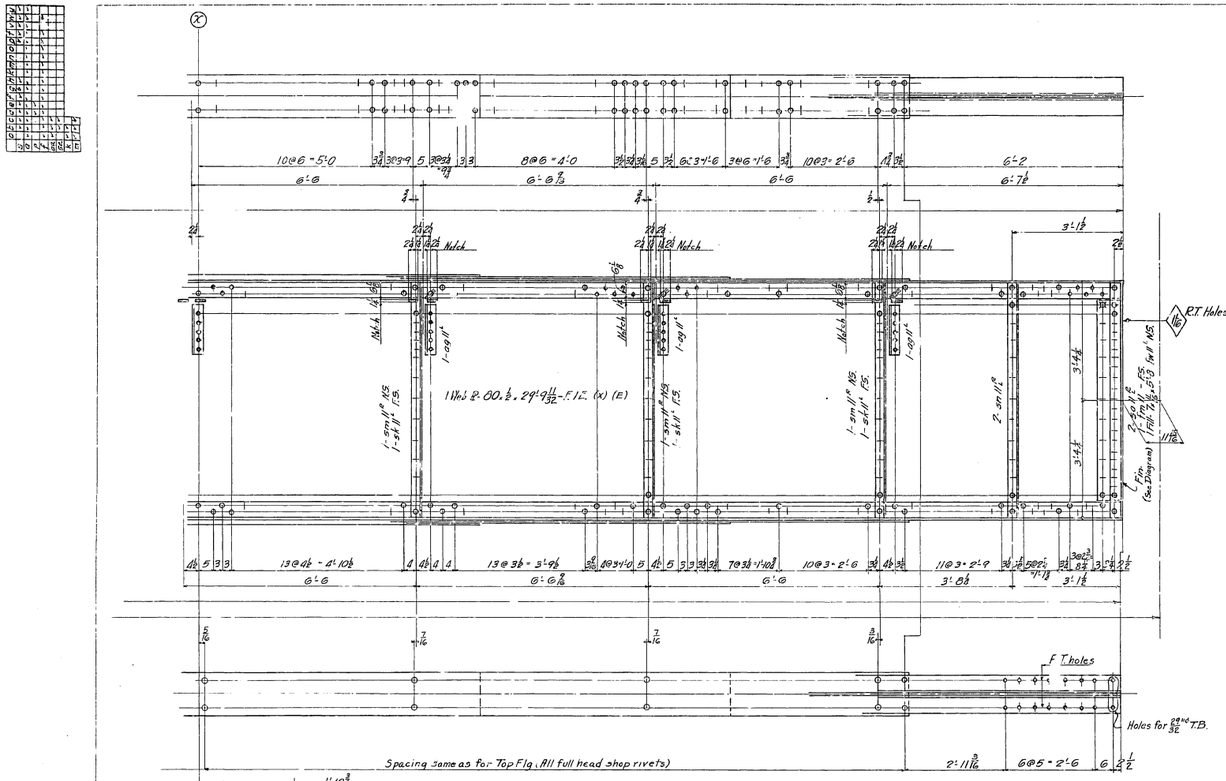
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Lower Deck Fl. Beams — Span YB1 - YB2
End Fl. Bm. of YB2
AMERICAN BRIDGE COMPANY

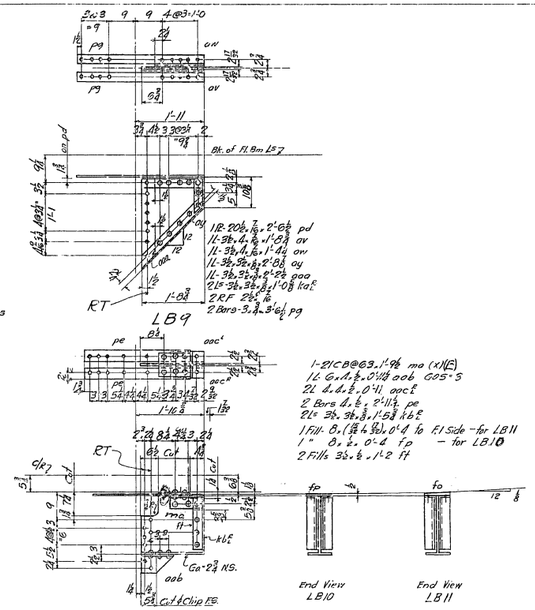
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Pittsburgh PLANT
IN CHARGE OF Tempf
ASST. MADE BY W.R.L. DATE 2-19-34
DRAWN CHECKED BY J.H.B. DATE 3-1-34

ORDER No. G5101
SHEET No. 12 AB

3-23-34

Shop Bills 594-16-51





Gen. Notes

MATERIAL - All material O.H. Copper Bearing medium carbon steel except material marked (x), which is to be O.H. Copper Bearing silicon steel.
SPECIFICATIONS - Special by State of California - Dept. of Public Works.
INSPECTION - John M. Bailey - Chief Inspector.
Rivets - 7/8"
Open Holes - 15/16" Unless noted.
Reaming - Holes in material 3/4" thick or less to be subpunched & and reamed to size while parts are assembled.
Holes marked "R.T." to be reamed through a steel template.
Burrs to be removed from reamed holes.
FINISH - Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least 1/2 of metal.
SHOP PAINT - None.

16 Ton.

REQUIRED		
One	Floor Beam	LB2
4	Brackets	LB9
3	"	LB10
2	"	LB11
One	"	LB12
One	"	LB13

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Lower Deck Fl. Brs. - Span YB1-YB2
End Fl. Brs. at YB2
AMERICAN BRIDGE COMPANY

DRAWING MADE AT Gary Ind. PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tarr PLANT
DRAWN BY MRL DATE 2-20-34
CHECKED BY J.M.G. DATE 3-1-34

ORDER No. G5101 SHEET No. 12B

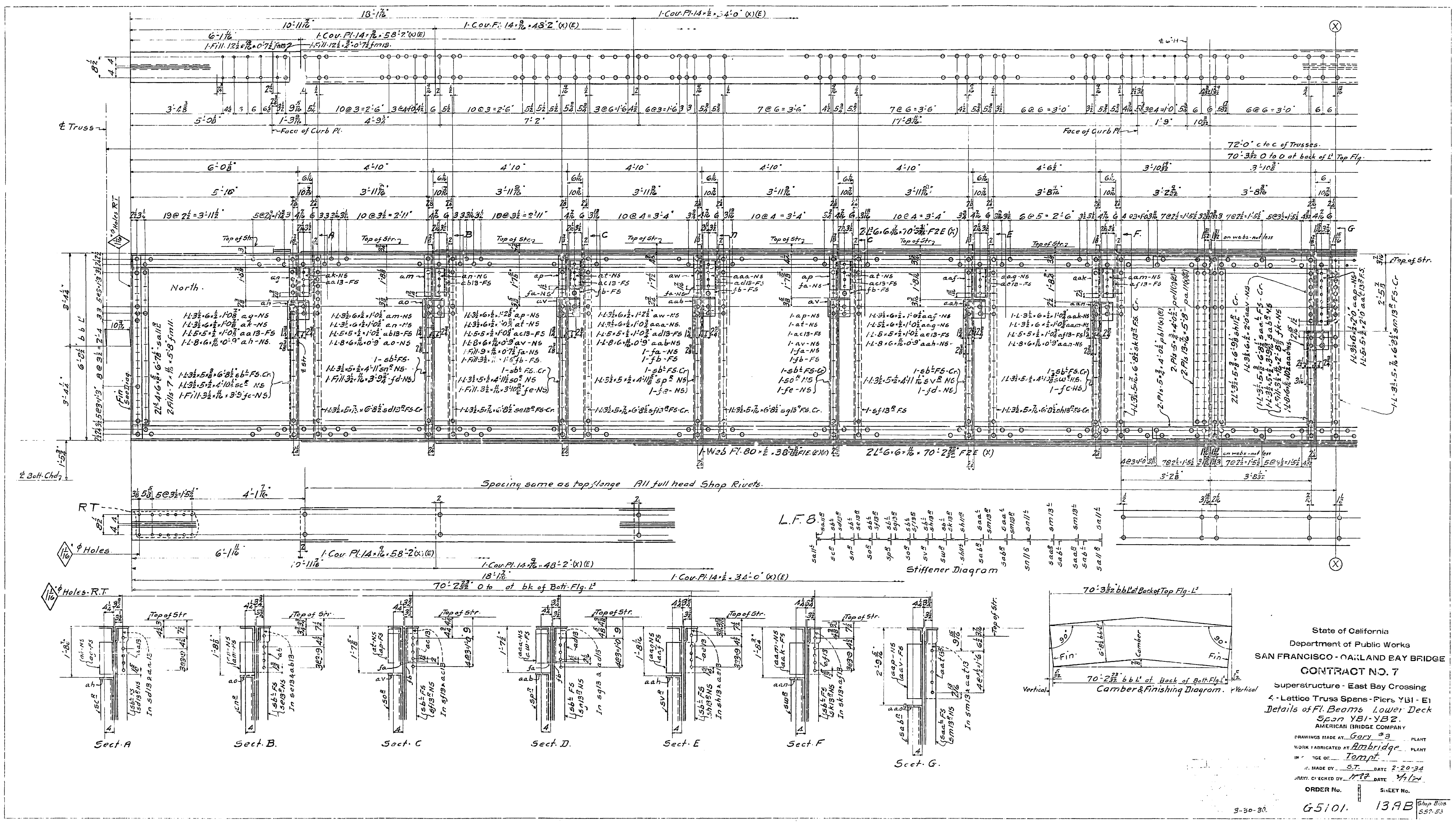
Shop Bills 949-50-51

3-23-34

Mod. Ord Pgs 94 & 105 A.R.A.

[81C]

30-1



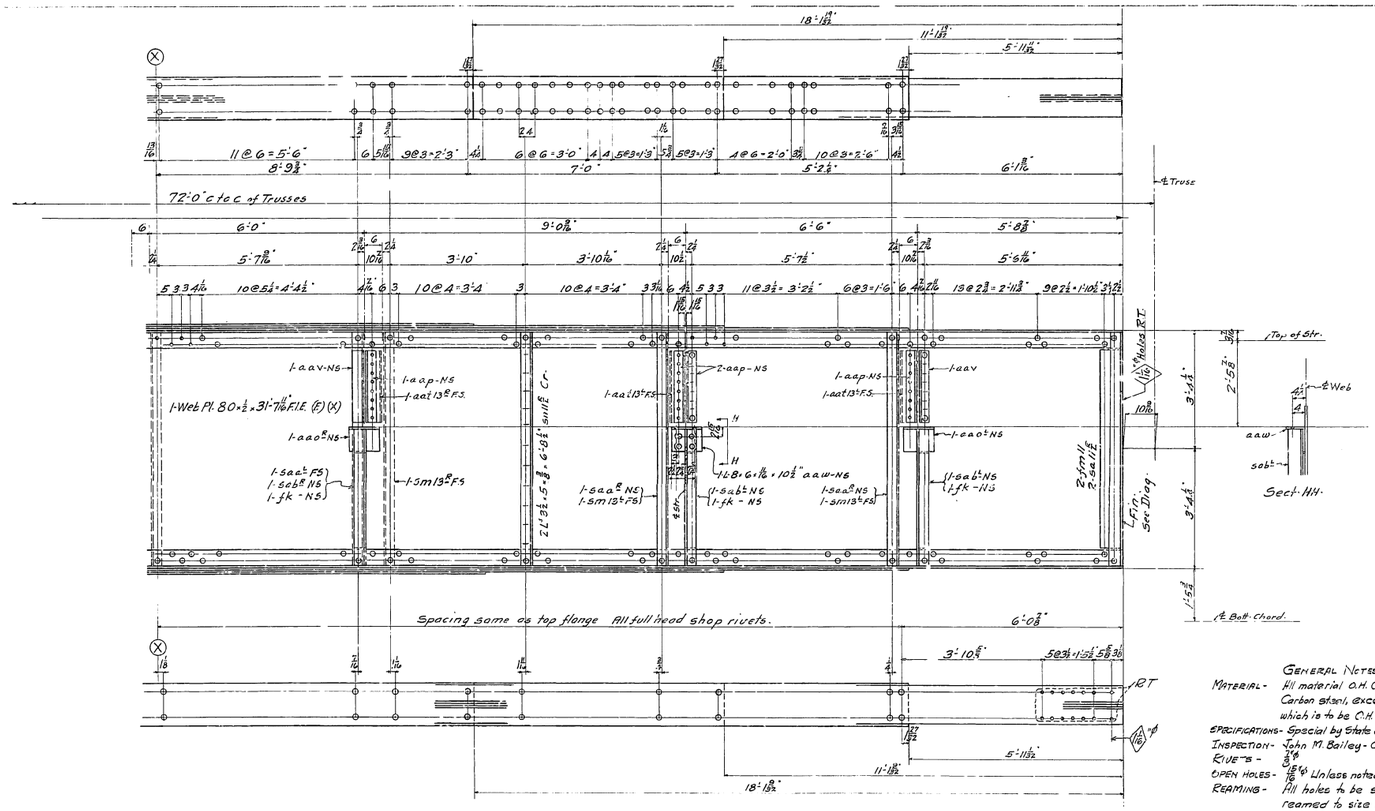
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Fl. Beams Lower Deck
Span YB1-YB2.
AMERICAN BRIDGE COMPANY
Drawings made at Gary #3 Plant
Work fabricated at Ambridge Plant
In … ge of Tompt.
… Made by S.T. Date 2-20-34
Checked by Date

Order No. G5101. Sheet No. 13AB

Shop Bills 557-53

3-30-30

50-1



GENERAL NOTES.

MATERIAL - All material O.H. Copper Bearing medium Carbon steel, except material marked (x) which is to be O.H. Copper Bearing Silicon steel.

SPECIFICATIONS - Special by State of California, Dept of Public Works.

INSPECTION - John M. Bailey - Chief Inspector.

RIVETS - ⅞" ϕ

OPEN HOLES - 15/16" ϕ Unless noted.

REAMING - All holes to be subpunched ¼" and reamed to size while parts are assembled.

Burrs to be removed from all reamed holes.
Holes marked "F.T." to be reamed through a steel templet.

FINISH - Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least ¼" of metal.

SHOP PAINT - None.

	Required		
16 Tot.	1	Floor Beam	LF8

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Fl. Beam Lower Deck
Span YB1 - YB2.
AMERICAN BRIDGE COMPANY

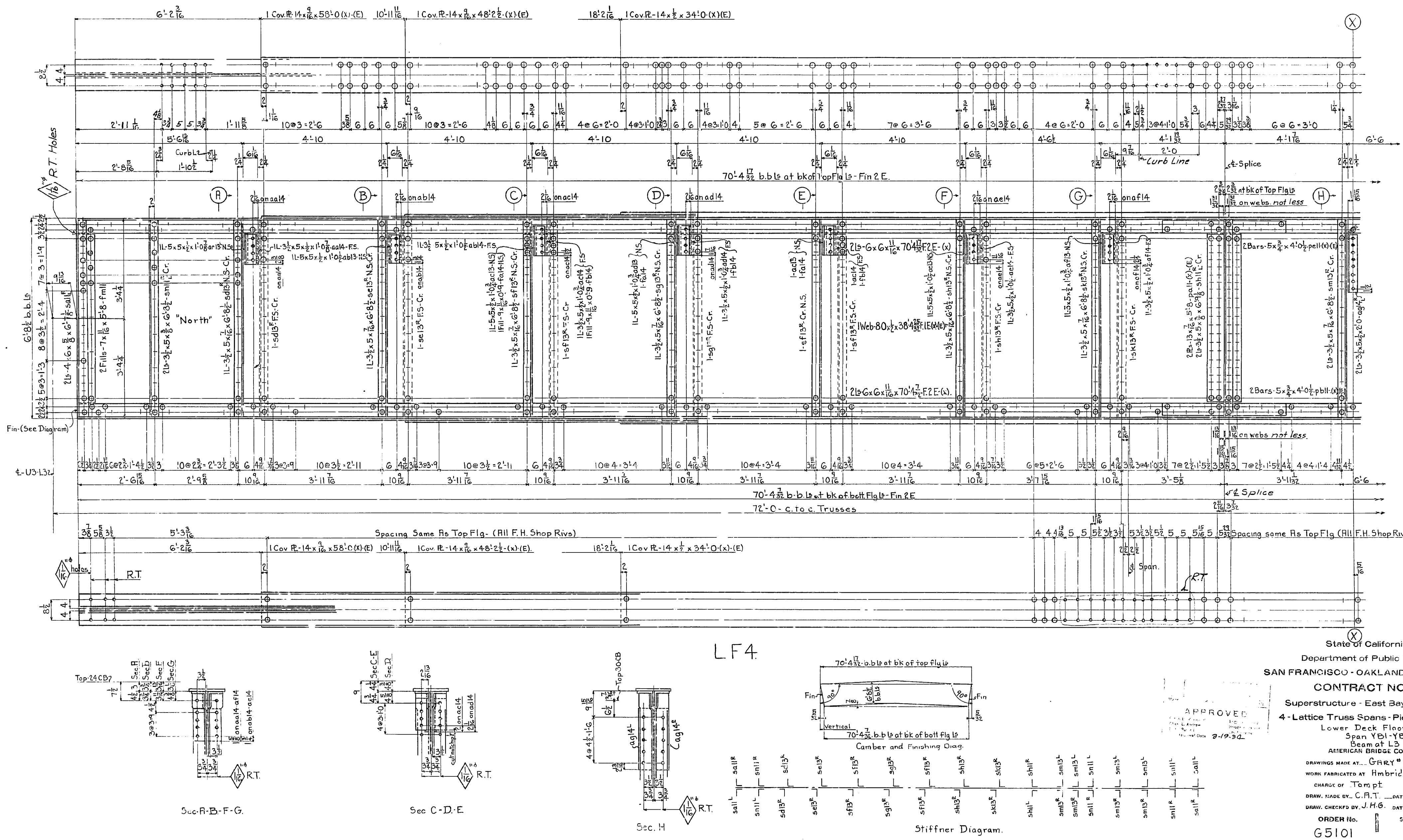
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
CHARGE OF Tempt:
DRAWN. MADE BY SJ DATE 2-21-34
TRW. CHECKED BY TFK DATE 3/1/34

ORDER No. G5101.
SHEET No. 13B.
Shop Bills 552-53

3-30-34.

Mat. A.B. Pages 11 & 106

[Bec]

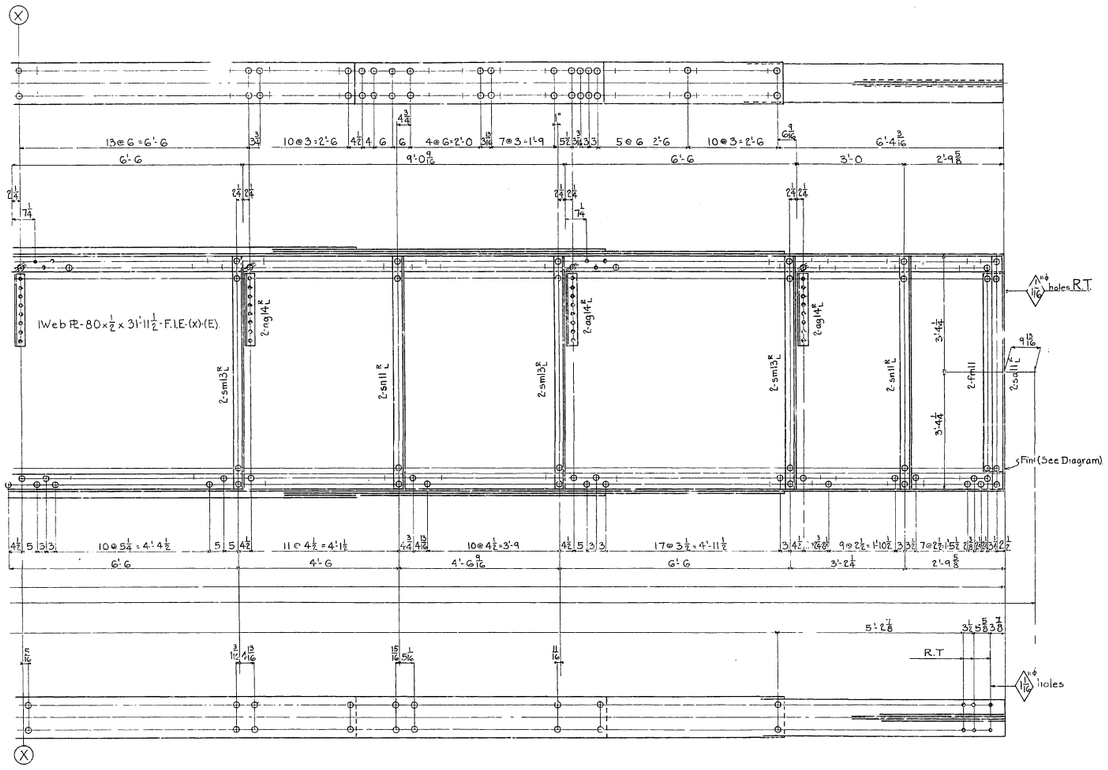


State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Lower Deck Floor Beams
Span YB1-YB2
Beam at L3

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
CHARGE OF Tompt
DRAW. MADE BY C.A.T. DATE 2-19-34
DRAW. CHECKED BY J.H.G. DATE 3-2-34

APPROVED ... Date 3-19-34

ORDER No. G5101
SHEET No. 14 AB
Shop Bills S54



Gen. Notes:

Material - All Material O.H. Copper Bearing *medium carbon steel except material marked (S) which is to be O.H. copper bearing silicon steel.*

Specifications - Special by State of California Dept. of Public Works

Inspection - John M. Bailey - Chief Inspector

Rivets - $\frac{7}{8}\phi$

Open holes $\frac{15}{16}\phi$ Unless Noted

Reaming - Holes in Material $\frac{3}{4}$" Thick or Less to be subpunched $\frac{1}{4}$" and reamed to size while parts are assembled. Holes marked R.T. to be reamed thru a Steel Templet. Burrs to be removed from reamed holes.

Finish - Sheared or Flame Cut Edges and Ends of all Material marked (L) to be Planed to remove at least $\frac{1}{8}$" of metal.

Shop Paint - None

REQUIRED			
16 Tons	One	Floor Beam	LF4

State of California

Department of Public Works

SAN FRANCISCO - OAKLAND BAY BRIDGE

CONTRACT NO. 7

Superstructure - East Bay Crossing

4 - Lattice Truss Spans - Piers YB1 - E1

Lower Deck Floor Beams

Span YB1-YB2

Beam at L3

AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary # 3 PLANT

WORK FABRICATED AT Ambridge UNIT

IN CHARGE OF Tompt

MTH. MADE BY C.A.T. DATE 2-20-34

DRAW. CHECKED BY J.H.G. DATE 3-2-34

ORDER No. G5101

SHEET No. 14B

Shop Ptr. No. 554

3-9-34.

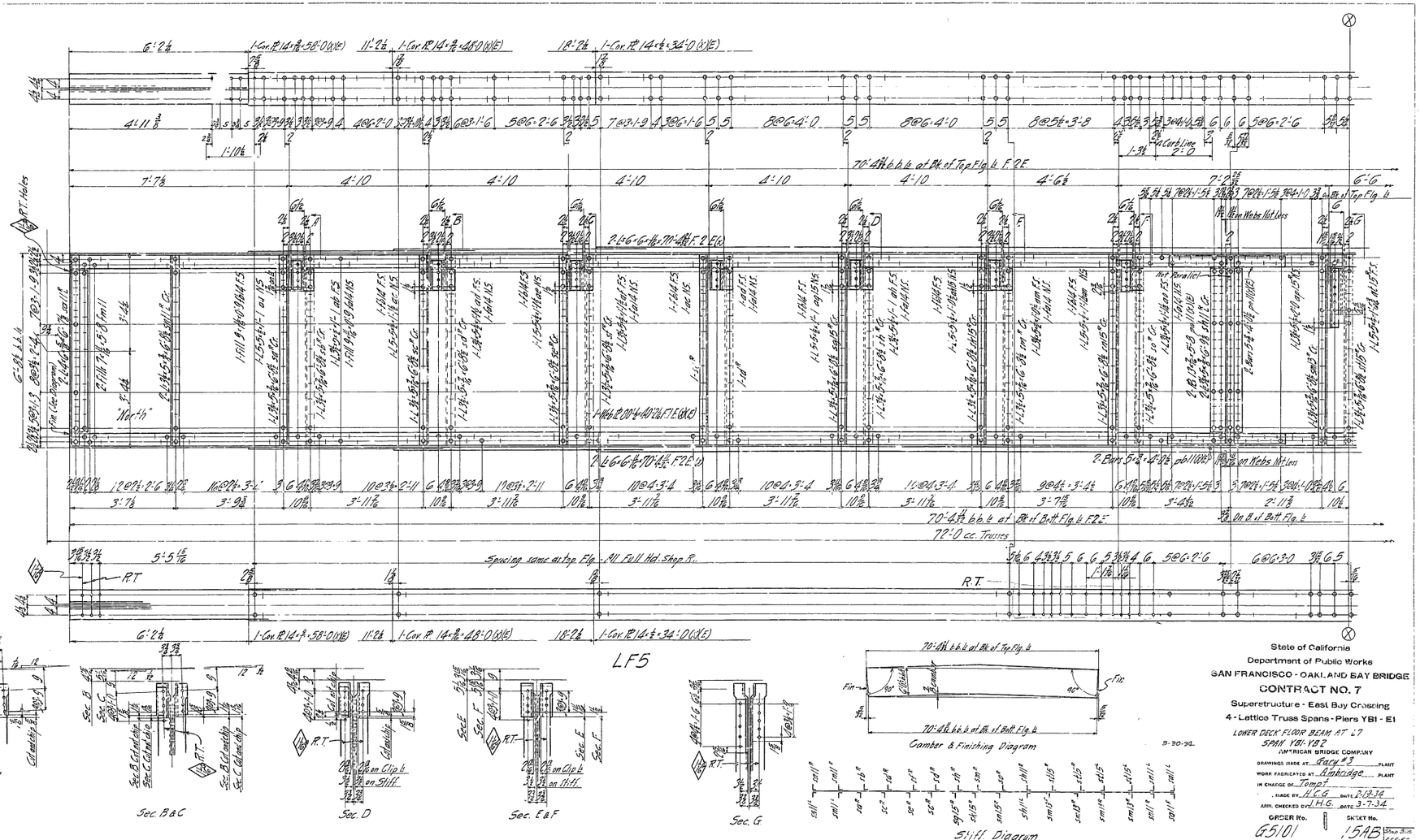
Matl-Ord-Pgs-10-10G-21-C.A.T.

[Old]

1.5 - WITHOUT WELDS

30-1

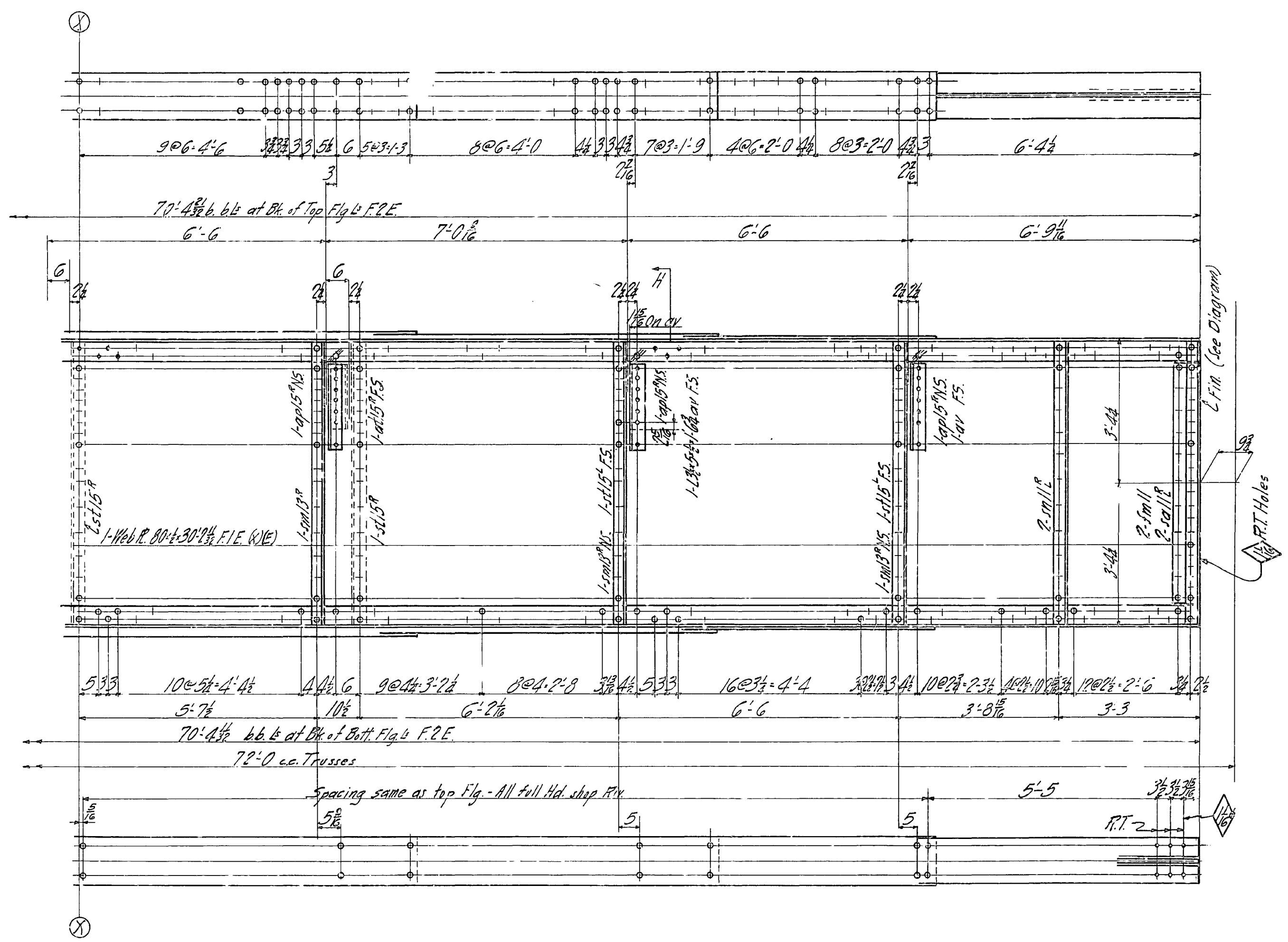
0'-0 - 5'-1 1/2	1/2" - 3w 10
5'-1 1/2 - 12'-0	5/16" - 3w 10
12'-0 - 17'-1 1/2	1/2" - 3w 16
17'-1 1/2 - 24'-1 1/2	5/16" - 3w 16

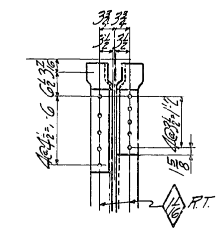


LF5

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
LOWER DECK FLOOR BEAM AT L7
SPAN YB1-YB2
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tomat
MADE BY L.C.G. DATE 2-12-34
ARM. CHECKED BY J.H.G. DATE 3-7-34
ORDER No. G5101
SHEET No. 15AB
Shop 3105
555-55

30-1





Sec. H

	REQUIRED	
1	Floor Beam	LF5

16 Ton

GEN. NOTES-

MATERIAL- All material O.H. Copper Bearing medium Carbon steel, except material marked (x) which is to be O.H. Copper Bearing Silicon steel.

SPECIFICATIONS- Special by State of California, Dep't of Public Works.

INSPECTION- John M. Bailey - Chief Inspector.

RIVETS- $\frac{7}{8}$"ϕ

OPEN HOLES- $\frac{15}{16}$"ϕ Unless noted.

REAMING- All holes to be subpunched $\frac{1}{4}$" and reamed to size while parts are assembled. Holes marked "R.T." to be reamed through a steel templet. Burrs to be removed from all reamed holes.

FINISH- Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least $\frac{1}{8}$" of metal.

SHOP PAINT- None.

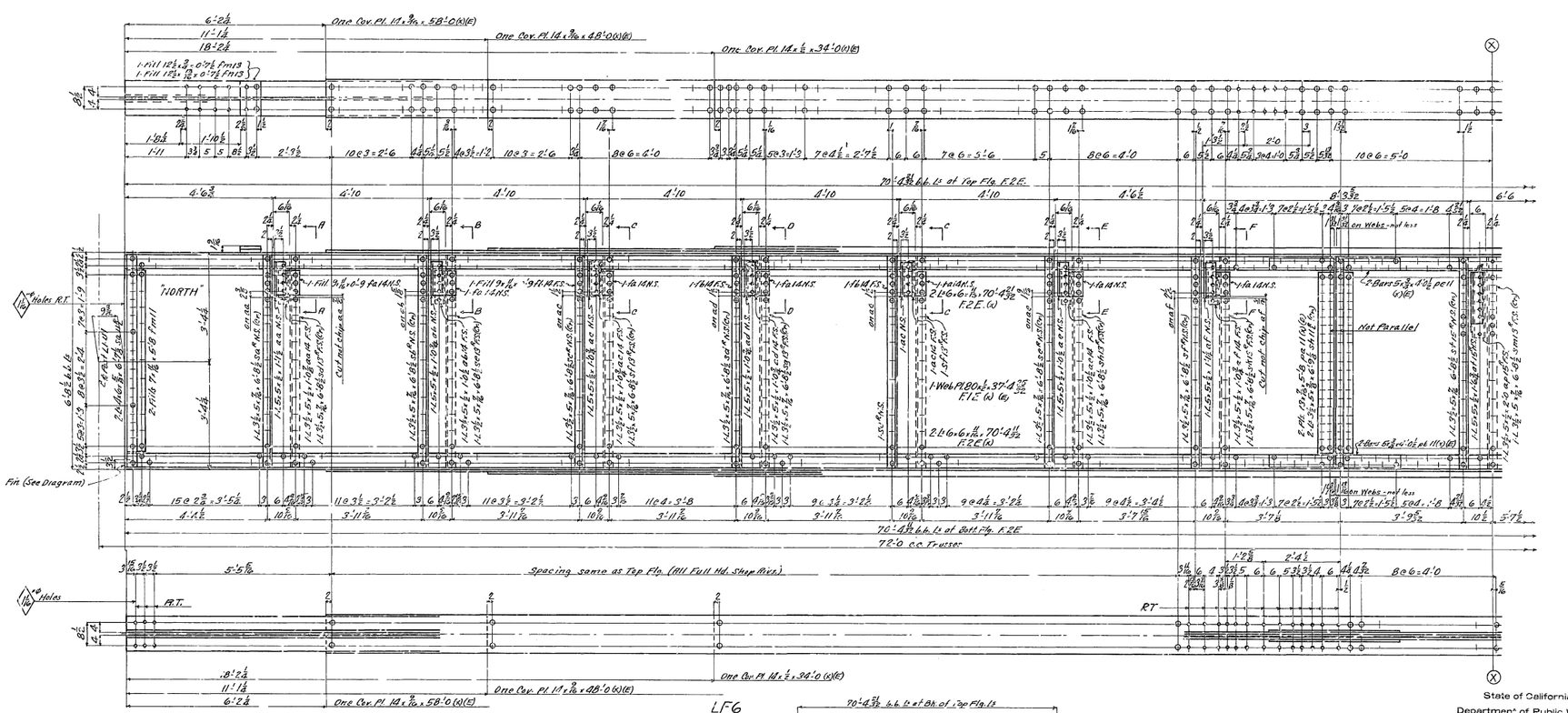
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
LOWER DECK FLOOR BEAM AT L7
SPAN YB1-YB2
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
CHARGE OF Tompt
DRAW. MADE BY H.E.G. DATE 2-20-34
DRAW. CHECKED BY J.H.G. DATE 3-7-34

3-30-34

ORDER No.	SHEET No.	
G5101	15B	Shop Bills 555-56

[B&C]



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Lower Deck Floor Beams
Span YB1 - YB2
Floor Beam at L1

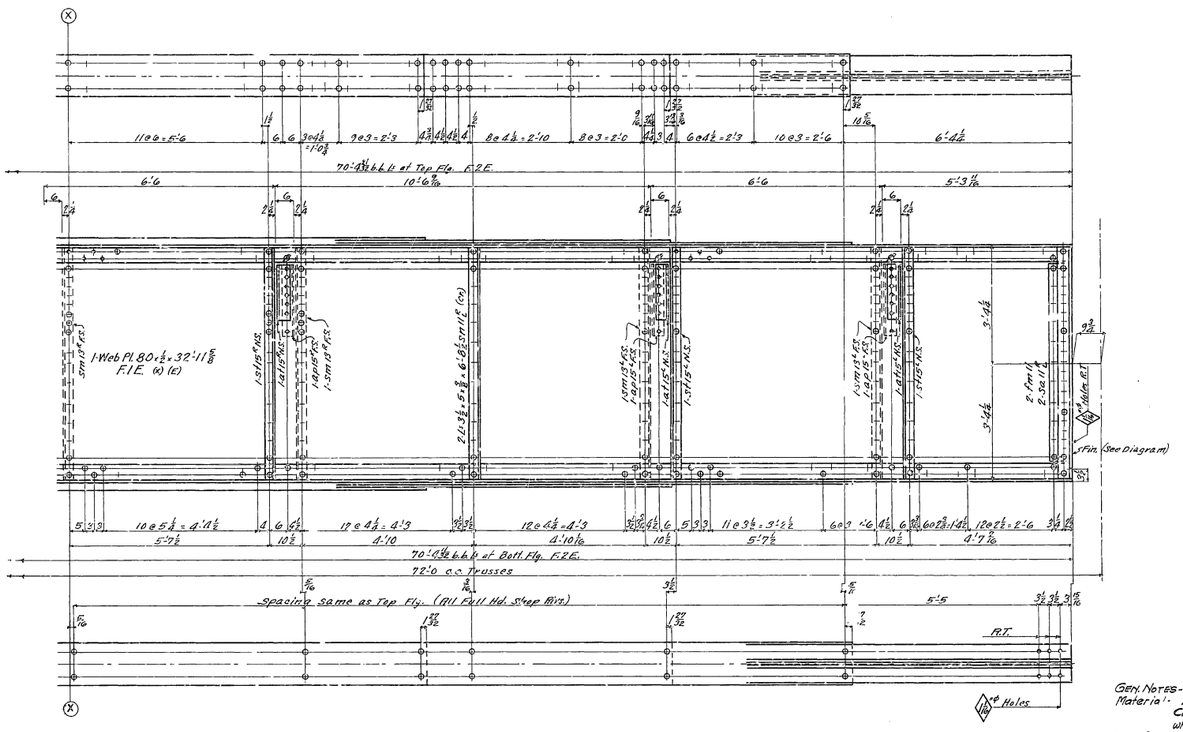
AMERICAN BRIDGE COMPANY

DRAWING MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tempt
DRAW. MADE BY H.M.C. DATE 2-20-34
DRAW. CHECKED BY [illegible] DATE 7/1/34

ORDER No. G5101
SHEET No. 16 AB

3-30-34

Barry & Co. 557-58



16 Ton	REQUIRED
One	Floor Beam LFG

Gen. Notes-
Material- All material O.H. Copper Bearing medium Carbon steel, except material marked (x) which is to be O.H. Copper Bearing Silicon steel.
Specifications- Special by State of California, Dept of Public Works.
Inspection- John M. Bailey - Chief Inspector.
Rivets- ⅞" ⌀ Unless noted.
Bolts- ⅞" ⌀
Reaming- All holes to be subpunched & reamed to size while parts are assembled. Holes marked P.T. to be reamed thru a steel templet. Burrs to be removed from all reamed holes.
Finish- Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least ⅛" of metal.
Shop Paint - None.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Lower Deck Floor Beam
Span YB1-YB2
Floor Beam at L1

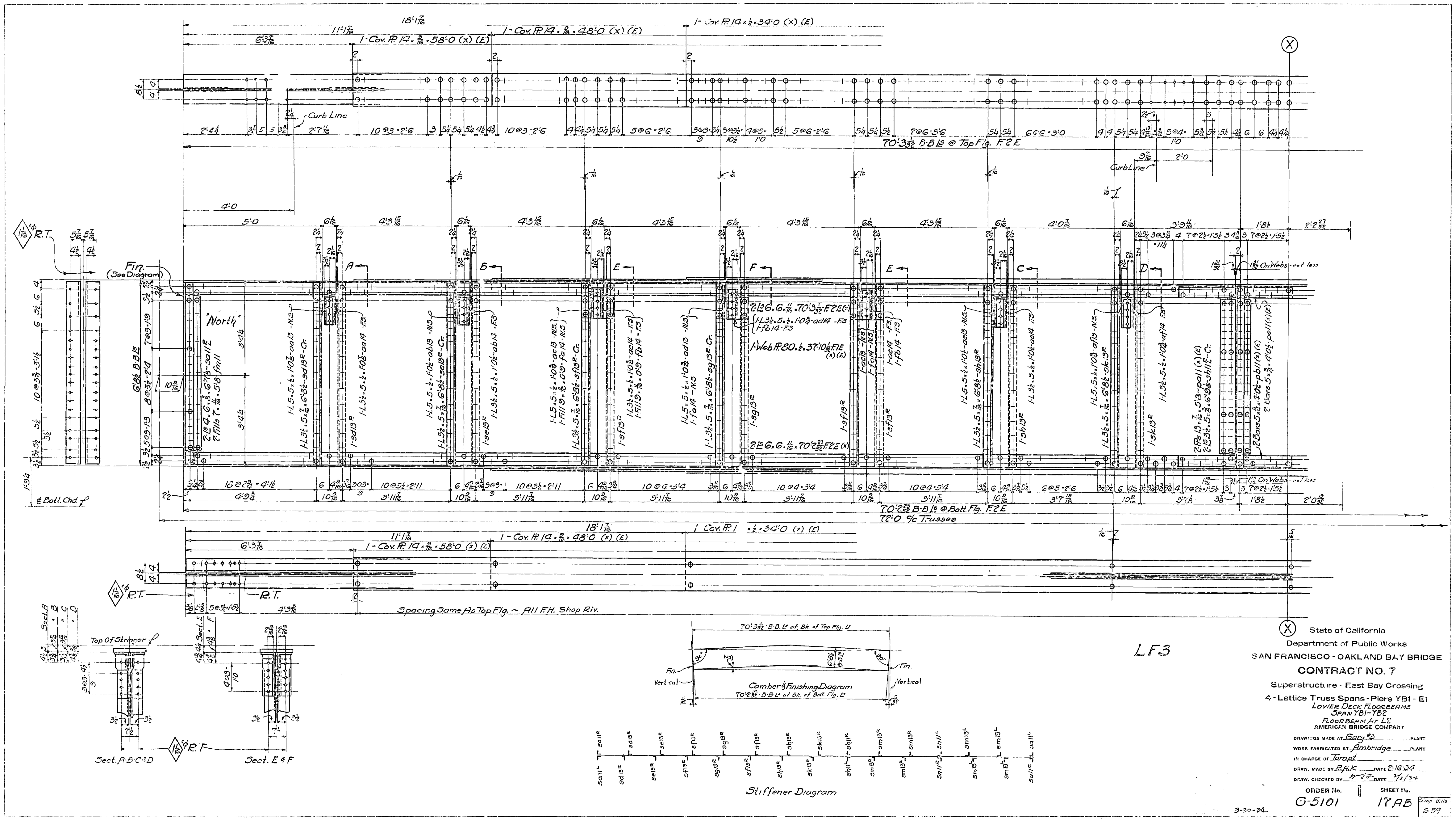
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary IND PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tempel
DRAWN BY H.M.C. DATE 7-20-36
TRACED BY [illegible] DATE 3/1/37
CHECKED BY [illegible] DATE 3-30-37

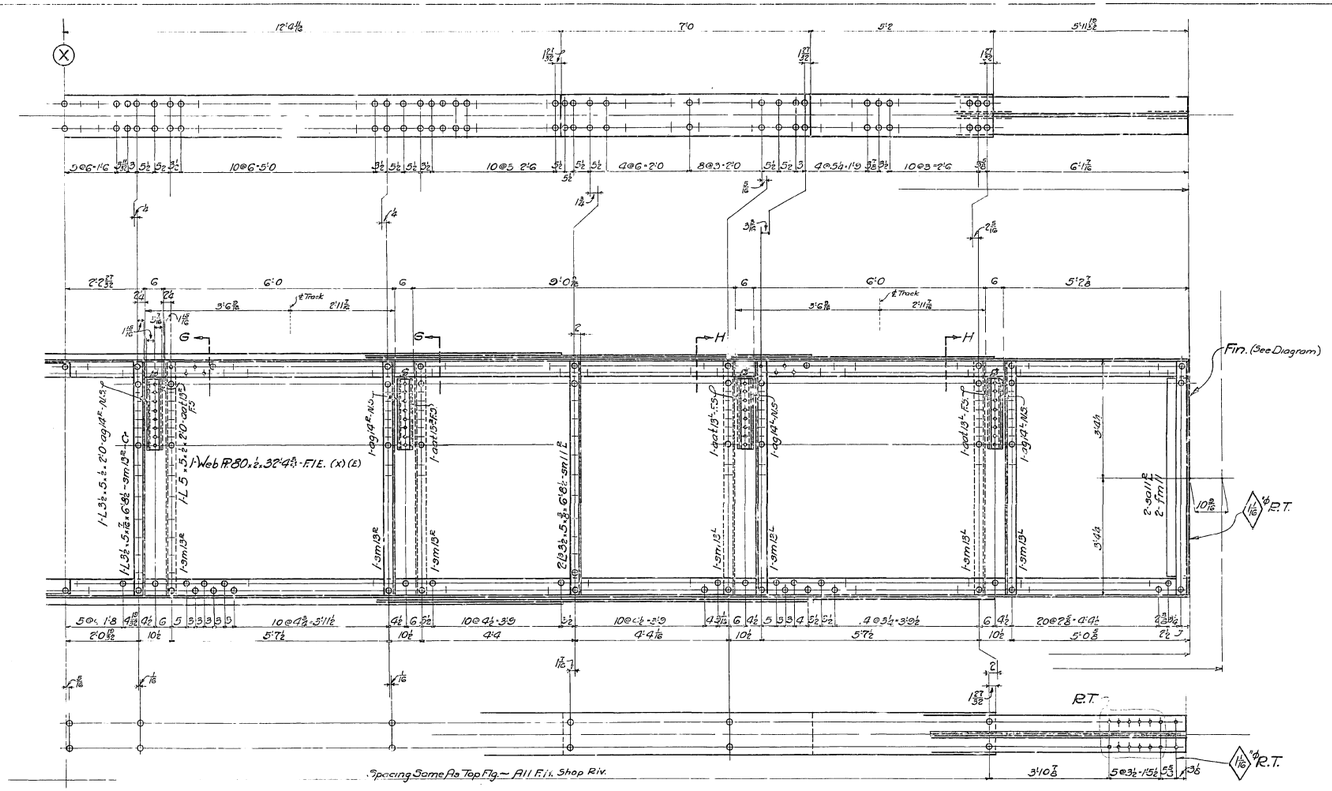
ORDER No. G5101 SHEET No. 16B Sheet 2 of 557-56

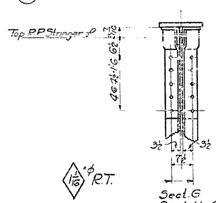
M.H.Ord. F.10 & F.10G H.M.C.

[B6C]

30-1


"North"
Camber & Finishing Diagram
Stiffener Diagram
Sect. A-B-C-D
Sect. E & F
Top Of Stringer
Spacing Same As Top Flg. ~ All F.H. Shop Riv.
70'-2 B-B Ls @ Bott. Flg. F2E
72'-0 c/c Trusses
LF3
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
LOWER DECK FLOORBEAMS
SPAN YB1-YB2
FLOORBEAM AT L2
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tempt
DRAW. MADE BY R.A.K. DATE 2-16-34
ORDER No. G-5101
SHEET No. 17AB
Shop Bills S59
3-30-34





Sect. G
Sect. H - Opp. Hand.

	REQ'D		
16 Tot.	1	Floorbeam	LF3

GEN. NOTES -

Material - All material o.h. Copper Bearing medium Carbon steel, except material marked (x) which is to be o.h. Copper Bearing Silicon steel.

Specifications - Special by State of California, Dept of Public Works.

Inspection - John M. Bailey - Chief Inspector.

Rivets - 7/8" ⌀ - 15/16" Open Holes.

Reaming - All holes to be subpunched & reamed to size while parts are assembled. Holes marked "R.T." to be reamed through a steel template. Burrs to be removed from all reamed holes.

Finish - Sheared or flame cut edges and ends of all material, marked (E) to be planed to as to remove at least 1/8" of metal.

Shop Paint - None.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y51 - E1
LOWER DECK FLOORBEAMS
SPAN Y31-Y32
FLOORBEAM PT L2
AMERICAN BRIDGE COMPANY

DRAWING MADE AT Gary IND. PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAWN, MADE BY R.P.K. DATE 2-19-34
DRAW. CHECKED BY L.F.F. DATE 4-11-34

ORDER No. G-5101 SHEET No. 17B (Shop B-15 559)

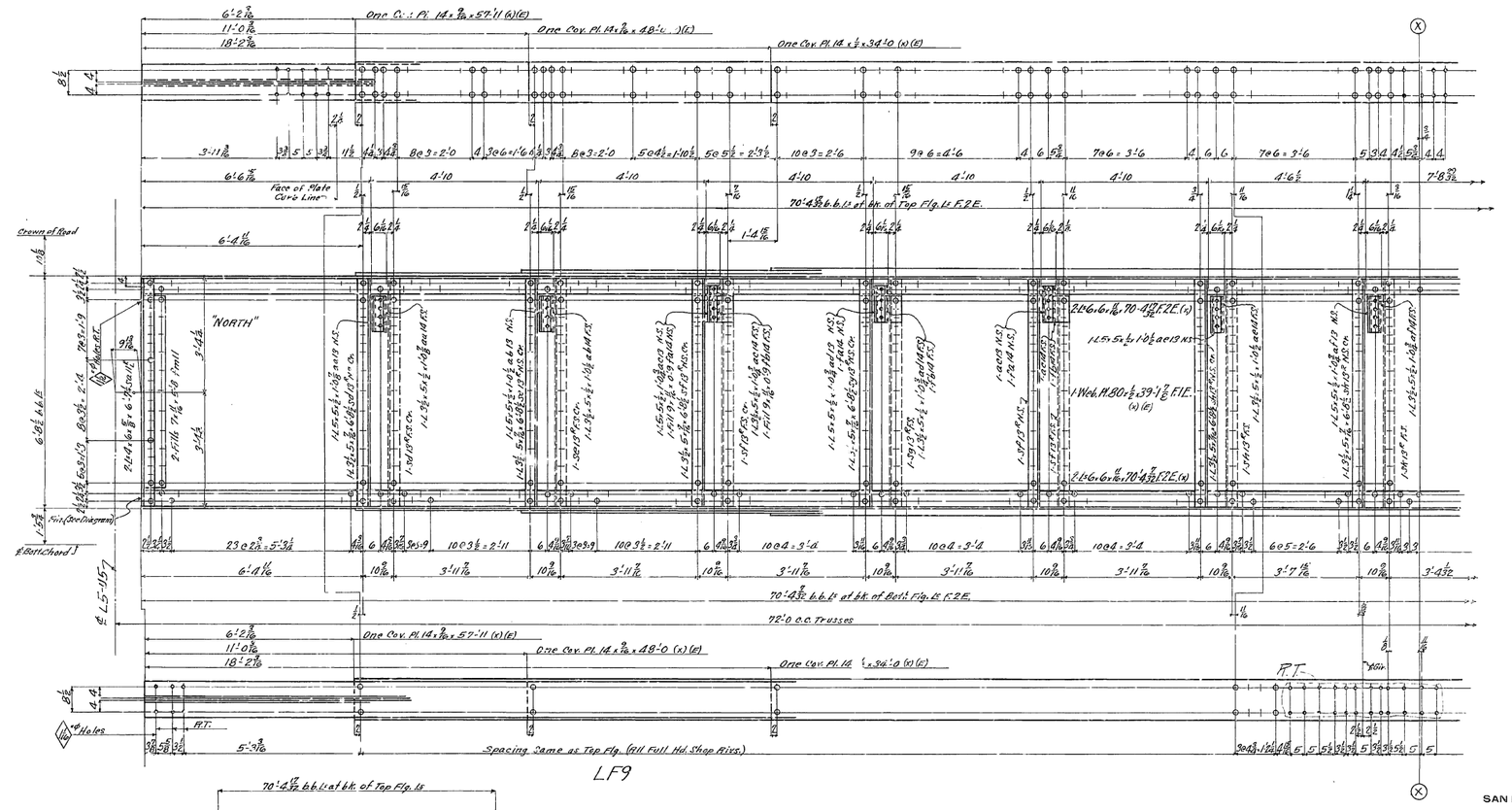
9-30-36

(Mall) Ord. Pages 104 & 102

[Sec]

1.5 - ultra - weight

30-1



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Lower Deck Floor Beams
Span YB1-YB2
Floor Beams at L.C.
AMERICAN BRIDGE COMPANY

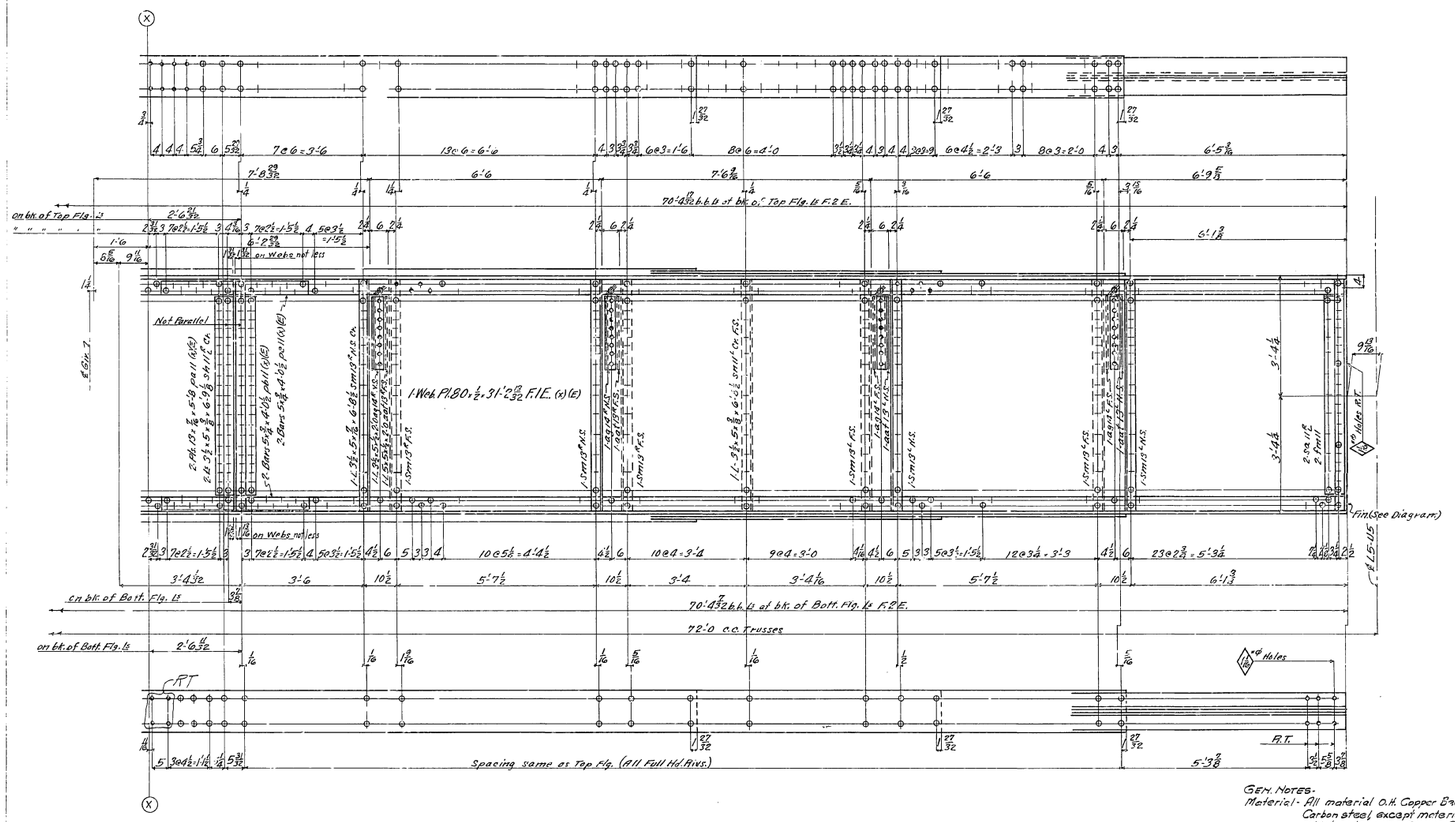
DRAWINGS MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tempel
DRAW. MADE BY H.M.S. DATE 2-22-34
DRAW. CHECKED BY J.H.G. DATE 3-9-34

ORDER No. G5101
SHEET No. 18AB

Bldg. Plan 560

4-14-34

6051



REQUIRED		
One	Floor Beam	LF9

16 Ton

4-14-34.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Lower Deck Floor Beam
Span YB1-YB2
Floor Beam at L5
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary #9 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tarnet
DRAW. MADE BY H.M.C. DATE 2-22-34
DRAW. CHECKED BY J.H.B. DATE 3-9-34

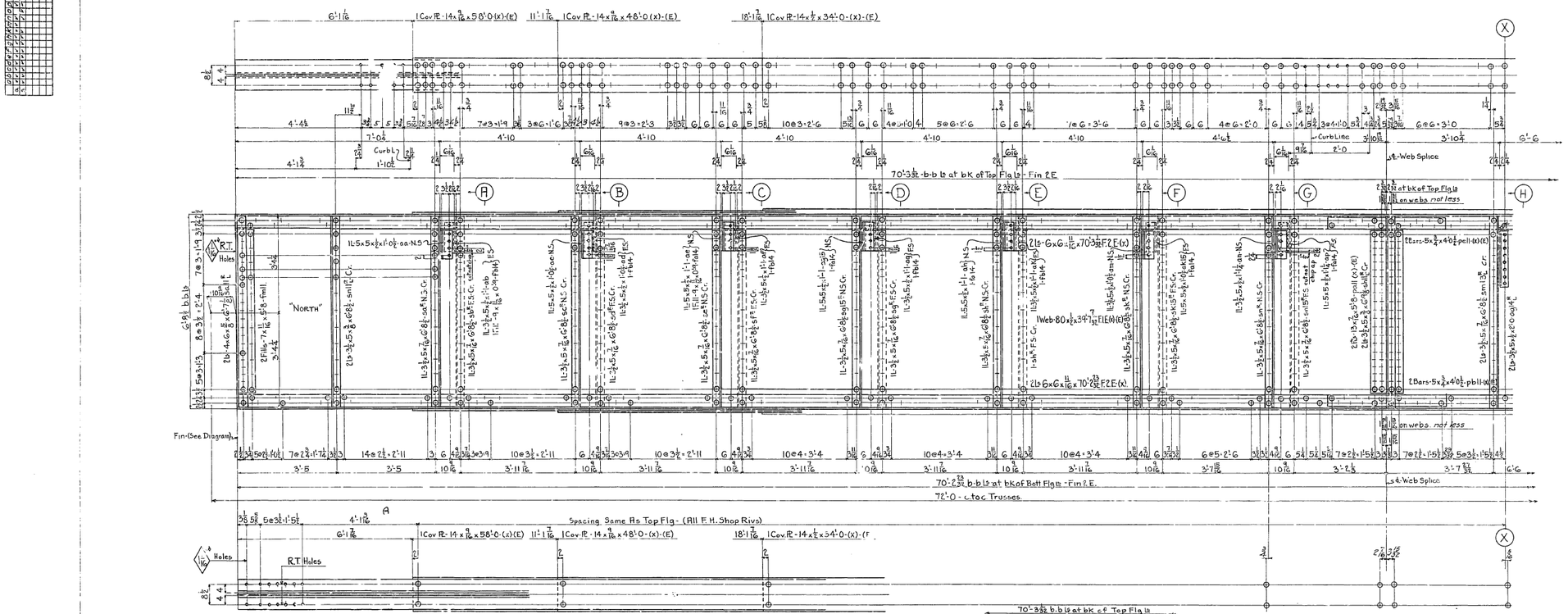
ORDER No. 65101 | SHEET No. 18B | Shop Bills 560

GEN. NOTES.
Material - All material O.H. Copper Bearing medium Carbon steel except material marked (S) which is to be O.H. Copper Bearing Silicon steel.
Specifications - Special by State of California, Dept. of Public Works.
Inspection - John M. Bailey - Chief Inspector.
Rivets - 7/8"
Open Holes - 15/16" Unless noted.
Reaming - All holes to be subpunched 1/4" and reamed to size while parts are assembled. Holes marked F.T. to be reamed thru a steel templet. Burrs to be removed from all reamed holes.
Finish - Shearing or flame cut edges and ends of all material marked (E) to be planed so as to remove at least 1/8" of metal.
Shop Paint - None.

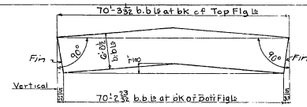
Mfr's Ord. P.10 E P.106

[BEC]

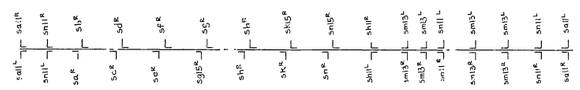
1.S. - without Weights



LF7



Camber and Finishing Diag



Stiffner Diagram

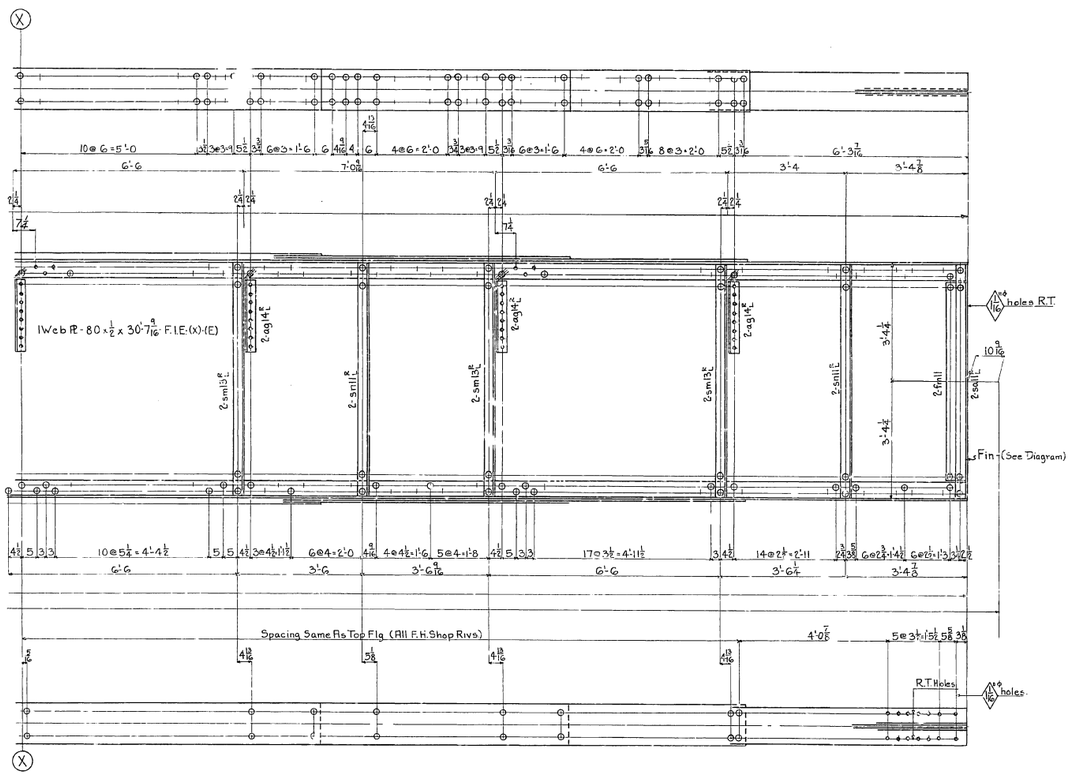
4-14-39

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Lower Deck Floor Beam
Span YB1-YB2
Beam at L6
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT GARY #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt.
DRAW. MADE BY C.B.T. DATE 2-22-34
DRAW. CHECKED BY J.H.G. DATE 3-6-34

ORDER No. G5101
SHEET No. 19AB
Shop Bills 561-62

15 - without weight.



REQUIRED		
16 Ton	One	Floor Beam LF 7

GEN. NOTES -
Material - All material O.H. Copper Bearing medium Carbon steel except material marked (x) which is to be O.H. Copper Bearing Silicon steel.
Specifications - Special by State of California, Dept of Public Works.
Inspection - John M. Bailey - Chief Inspector
Rivets - 7/8"
Open Holes - 13/16" Unless noted.
Reaming - All holes to be subpunched 1/4" and reamed to size while parts are assembled. Holes marked R.T. to be reamed thru a steel templet. Burrs to be removed from all reamed holes.
Finish - Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least 1/8" of metal.
Shop Paint - None.

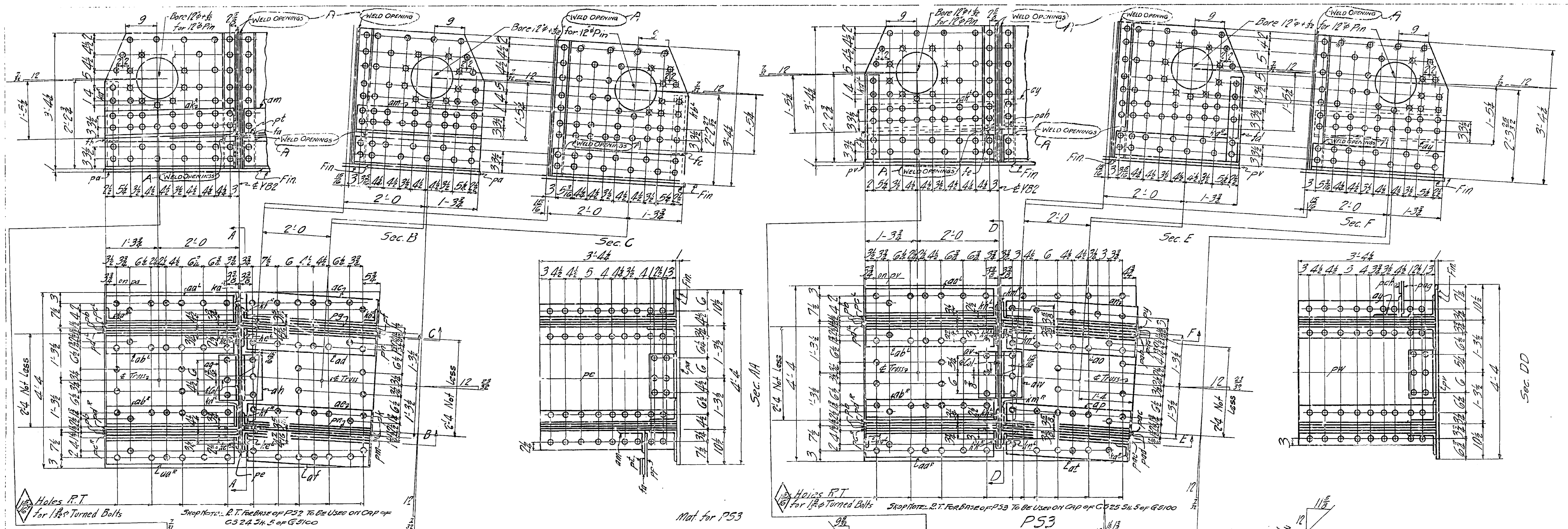
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Lower Deck Floor Beam
Span YB1-YB2
Beam at L.C.
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tampt
DRAWN BY C.R.T. DATE 2-22-34
DRAWN CHECKED BY J.H.G. DATE 3-6-34
ORDER No. G5101
SHEET No. 19B
Shop Bldg. 5G1-G2
4-14-34

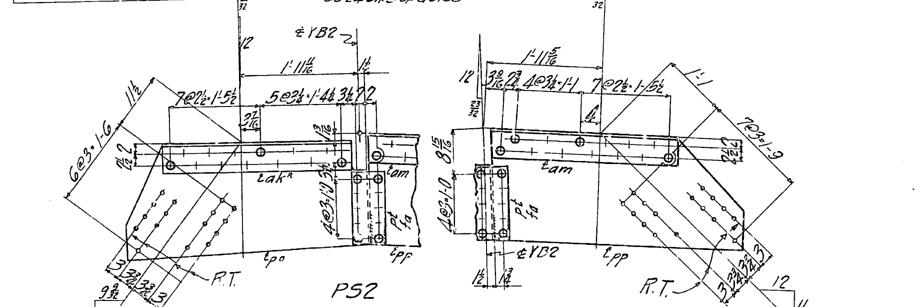
Mat'l Ord. - Pgs. 10-21-106 - C.R.T.

[Bec]

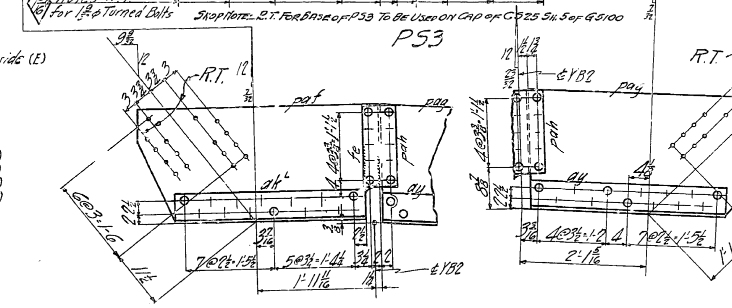
15 - with 1 welds

30-1





PS2



PS3

REQUIRED		
1	Shoe	PS2
1	do	PS3

1-Pl 52×1×6'-10 pa Fin. Bott. side (E)
4-Pls 31×¾×3'-4½ pb F.I.E. (E)
2-Pls 35×¾×3'-4½ pc^R_L F.I.E. (E)
2-Pls 35×¾×3'-4½ pd^R_L F.I.E. (E)
1-Pl 43½×¾×3'-4½ pe F.I.E. (E)
2-Pls 40×¾×3'-4½ pf F.I.E. (E)
1-Pl 36×¾×3'-4½ pg F.I.E. (E)
1-Pl 36×¾×3'-4½ ph F.I.E. (E)
2-Pls 38×¾×3'-4½ pk F.I.E. (E)
1-Pl 34×¾×3'-4½ pm F.I.E. (E)
1-Pl 34½×¾×3'-4½ pn F.I.E. (E)
1-Pl 23×½×4'-0½ po
1-Pl 22×½×4'-3 pp
1-Pl 7½×½×1'-3 pt
1-Fill 3½×⅝×1'-3 fa
1-Fill 4×¾×1'-6 fb

1-Fill 4×¾×1'-6 fc
1-L 4×4×¾×2'-1½ ka^R F.I.E.
1-L 4×4×¾×2'-1½ kb^L F.I.E.
2-Ls 4×4×¾×3'-4½ kc^R F.I.E.
2-Ls 6×4×¾×3'-4½ kd^L F.I.E.
2-Ls 6×4×¾×3'-4½ ke^L Bent F.I.E.
2-Ls 4×4×¾×3'-4½ kf^R Bent F.I.E.
2-Ls 8×8×¾×3'-2¼ aa^R_L
2-Ls 6×8×¾×3'-2 ab^R_L
1-L 8×8×¾×3'-3⅜ ac
1-L 6×8×¾×3'-3⅜ ad
1-L 6×8×¾×3'-1¾ ae
1-L 8×8×¾×3'-1¾ af
1-L 6×8×¾×1'-1½ ag
1-L 6×8×¾×1'-1½ ah
1-L 8×6×¾×3'-2¼ ak^R
1-L 8×6×¾×3'-1¼ am

Mat. for PS3

1-Pl 52×1×6'-9 pv Fin. Bott. side (E)
4-pb F.I.E. (E)
2-pc^R_L F.I.E. (E)
2-pd^R_L F.I.E. (E)
1-Pl 44¼×¾×3'-4½ pw F.I.E. (E)
1-Pl 36×¾×3'-4½ py F.I.E. (E)
2-Pl 40×¾×3'-4½ paa F.I.E. (E)
1-Pl 36×¾×3'-4½ pab F.I.E. (E)
1-Pl 34¼×¾×3'-4½ pac F.I.E. (E)
2-Pls 38×¾×3'-4½ pad F.I.E. (E)
1-Pl 34×¾×3'-4½ pae F.I.E. (E)
1-Pl 23×½×4'-0½ paf
1-Pl 24×½×4'-5½ pag
1-Pl 7½×½×1'-4½ pah
1-Fill 3½×⅝×1'-4½ fe
1-Fill 4×¾×1'-6 fd
1-fb
1-ka^L F.I.E.
1-L 4×4×¾×2'-1½ kg^R F.I.E.
2-Ls 4×4×¾×3'-4½ kh^L F.I.E.
2-Ls 6×4×¾×3'-4½ kk^R F.I.E.
2-Ls 6×4×¾×3'-4½ km^R Bent F.I.E.
2-Ls 4×4×¾×3'-4½ kn^L Bent F.I.E.
2-aa^R_L
2-ab^R_L
1-L 6×8×¾×3'-3⅝ an
1-L 6×8×¾×3'-3 ao
1-L 6×8×¾×3'-1¾ ap
1-L 6×8×¾×3'-1¾ at
1-L 6×8×¾×1'-2½ av
1-L 6×8×¾×1'-2¼ aw
1-ak^L
1-L 8×6×¾×3'-3½ ay

Gen. Notes:

MATERIAL: All material O.H. Copper Bearing medium carbon steel.
SPECIFICATIONS: Special by State of California Dept. of Public Works.
INSPECTION: John M. Bailey Chief Insp.
RIVETS: 1" φ
OPEN HOLES: 1 1/16 φ Unless noted.
REAMING: Holes in material ¾" thick or less to be subpunched ¼" and reamed to size while parts are assembled. Holes in material over ¾" are to be subdrilled ¼" and reamed to size or drilled full size while parts are assembled. Holes marked R.T. to be reamed to a steel templet. Burrs to be removed from all reamed holes.
FINISH: Sheared or flame cut edge and ends of all material marked (E) to be planed to remove at least ⅛" of material.
SHOP PAINT: None except as follows: Top and bottom surfaces of base plates of shoes to be painted with one coat of NO-OX-ID filler red paint. All pin holes are to be painted with one coat of white lead & tallow.

SHOP BILLS - S16 and S17

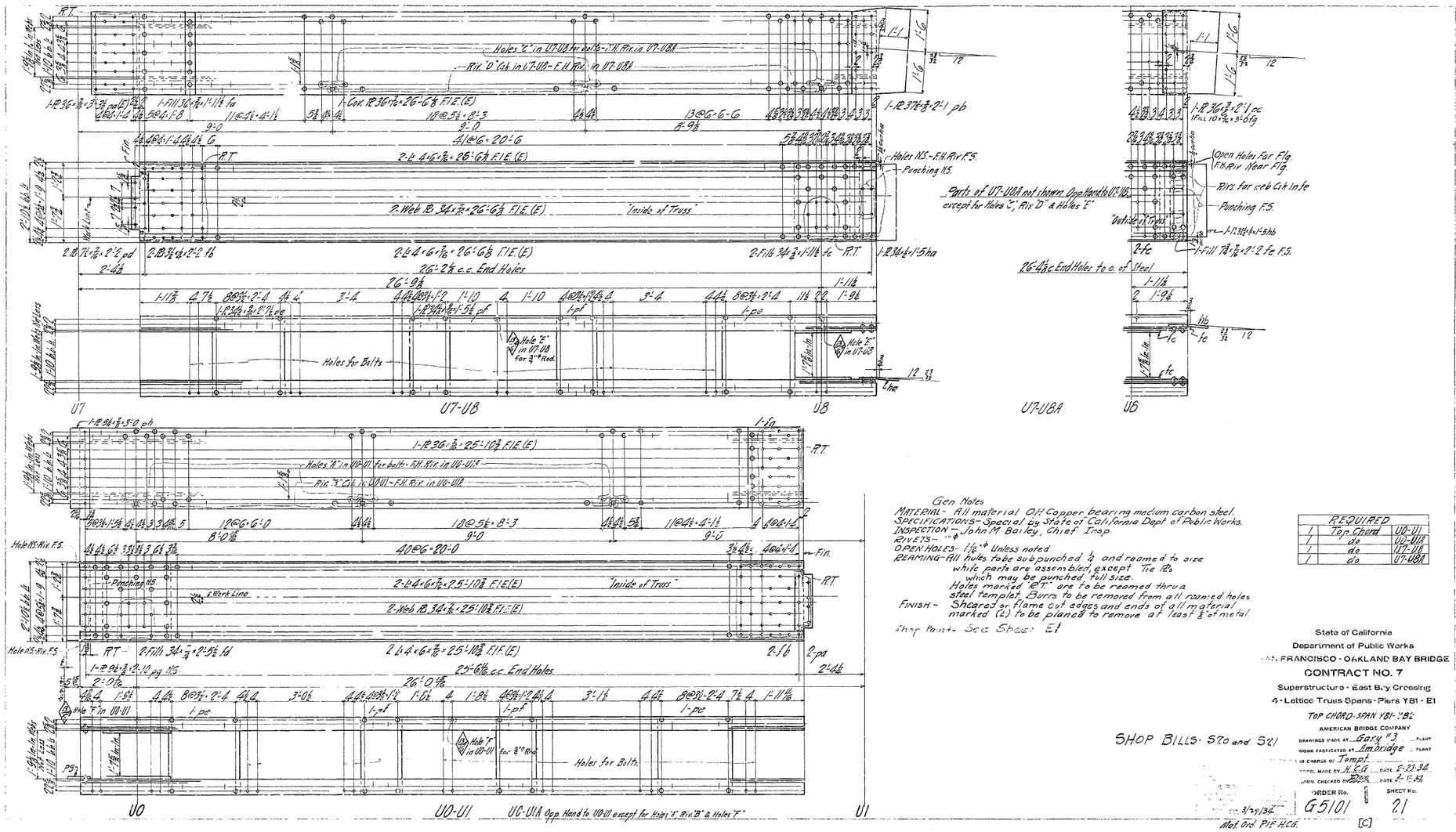
A — 5/21/34 WELD OPENINGS

APPROVED
Approval Date 4-3-34

Mat. Ord. P.23 & 24 H.C.G.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
SHOES PIER YB2
SPAN YB1 - YB2
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAWN MADE BY H.C.G. DATE 2-14-34
DRAWN CHECKED BY J.H.G. DATE 2-22-34
ORDER No. G5101 SHEET No. 20

[C]



Gen Notes

MATERIAL - All material OH Copper bearing medium carbon steel.
SPECIFICATIONS - Special by State of California Dept of Public Works.
INSPECTION - John M. Bailey, Chief Insp.
RIVETS - 7/8" ϕ
OPEN HOLES - 1 1/16" ϕ Unless noted
REAMING - All holes to be subpunched 1/4 and reamed to size while parts are assembled, except Tie 12's which may be punched full size. Holes marked "F.P." are to be reamed thru a steel templet. Burrs to be removed from all reamed holes.
FINISH - Sheared or flame cut edges and ends of all material marked (c) to be planed to remove at least 1/8" of metal.

Shop Paint - See Spec. E1

REQUIRED		
1	Top Chord	U0-U1
1	do	U0-U1A
1	do	U7-U8
1	do	U7-U8A

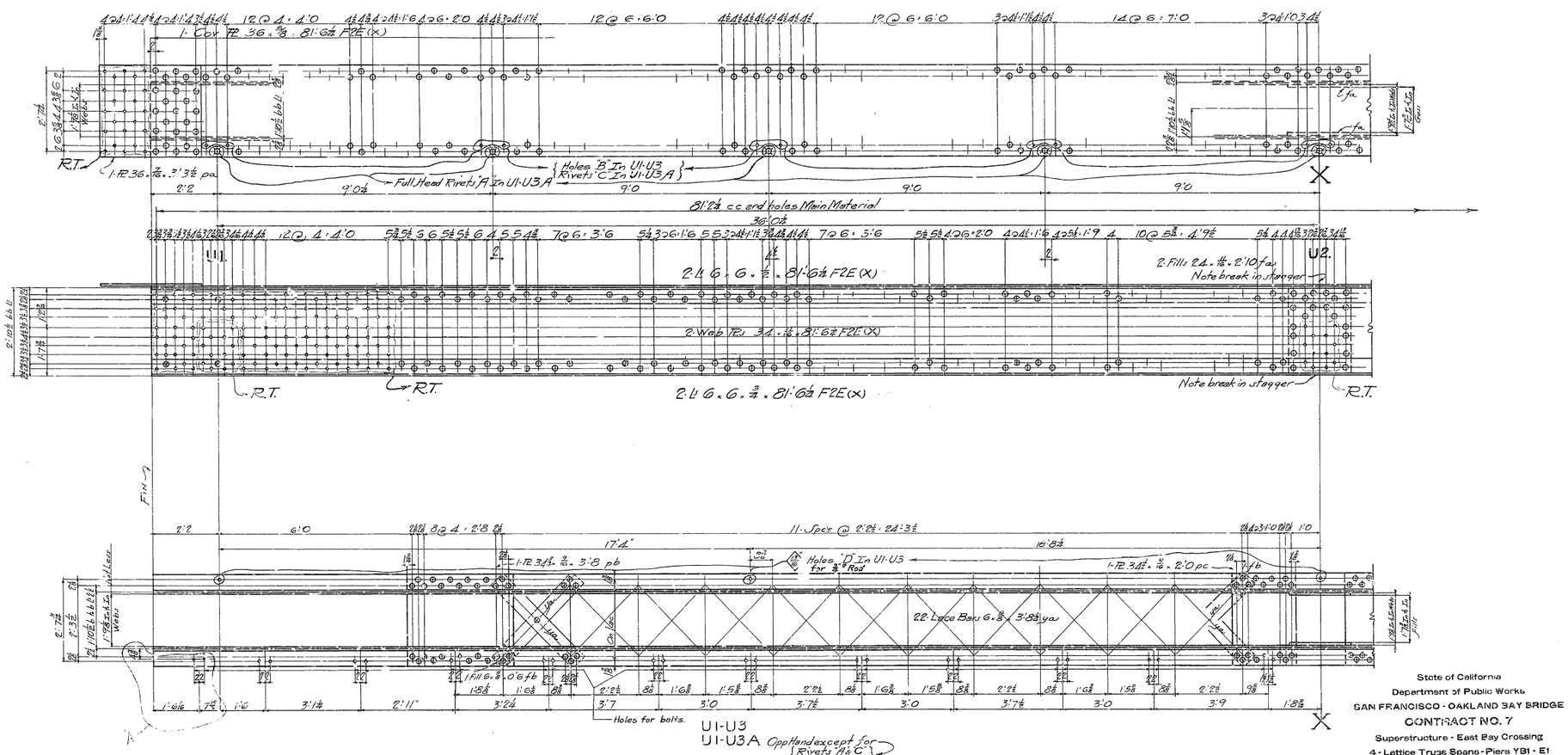
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
TOP CHORD-SPAN YB1-YB2
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
APPD. MADE BY H.C.G. DATE 2-23-34
APPD. CHECKED BY [illegible] DATE 2-[illegible]-34
ORDER No. G5101
SHEET No. 21

SHOP BILLS - 570 and 571

Mat. Ord. PIE H.C.G. 3/29/34

[C]

3951



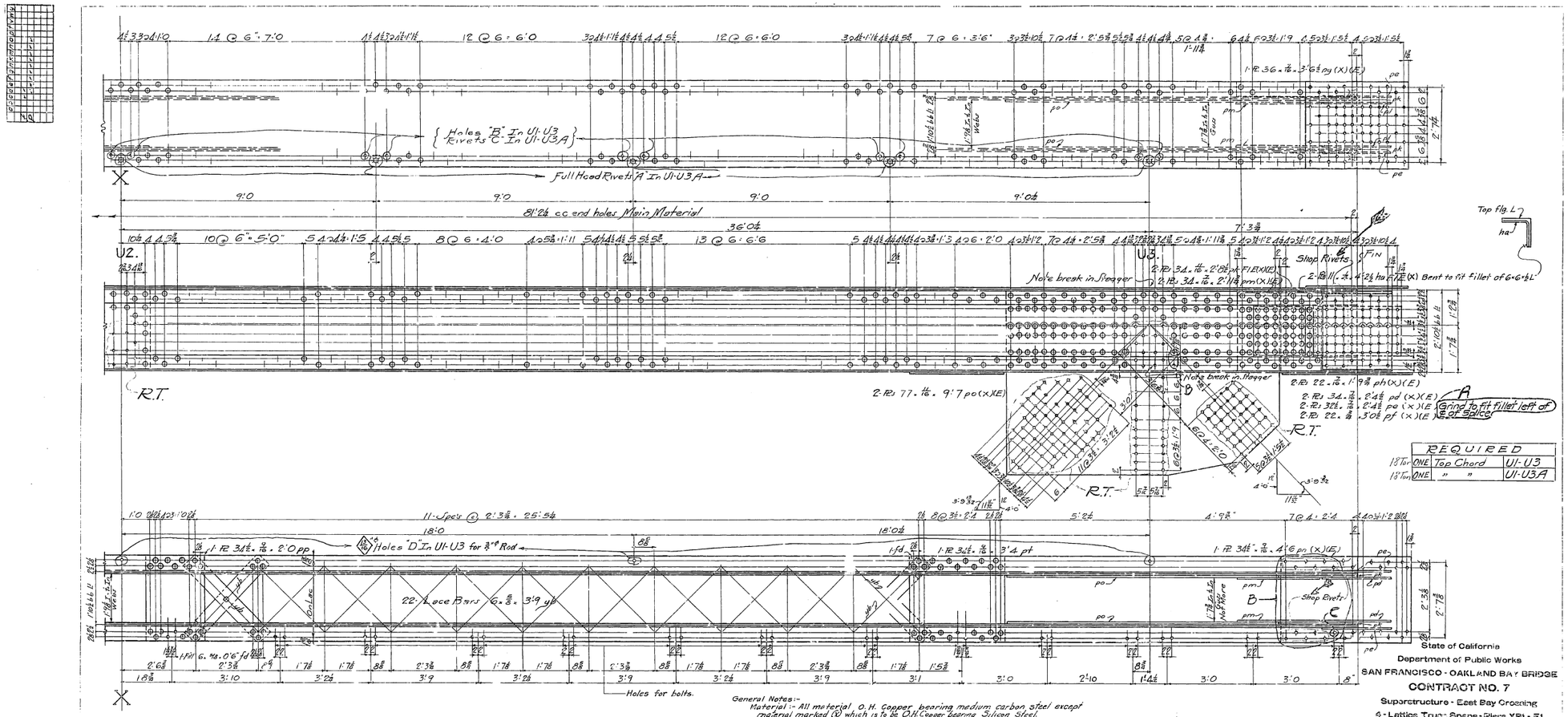
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Top Chord U1-U3 U1-U3A
Span YB1-YB2
AMERICAN BRIDGE COMPANY

SHOP BILL - 524

A - 1 3/16" Add Holes at U1

DRAWINGS MADE AT GARY #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
A. MADE BY G.J.M. DATE 12/26/34
DR.W. CHECKED BY G.T.N. DATE 3-5-35
ORDER No. G5101
SHEET No. 22-AB
3/9/35

Mstr Ord p111 GJM p18



REQUIRED			
18 Tor	ONE	Top Chord	U1-U3
18 Tor	ONE	" "	U1-U3A

General Notes:-
Material:- All material O.H. Copper bearing medium carbon steel except material marked (X) which is to be O.H. Copper bearing Silicon Steel.
Specifications:- Special by State of California, Dept. of Public Works.
Inspection:- John M. Bailey, Chief Inspector.
Rivets:- 1" diam.
Open Holes:- 1⅛ diam. unless noted.
Reaming:- Holes in material ¾" thick or less to be subpunched ⅝" and reamed to size while parts are assembled. Carbon steel ¾" thick or less, used for lacing and stay plates may be punched full size. Chords of trusses shall be laid out in lengths of not less than 6 panels and the chord splices reamed while so assembled in shop and pieces match-marked. Holes marked R.T. to be reamed through a steel templet. Burrs to be removed from all reamed holes. Match-marking to be made with ⅛" steel stencils and white paint.
Finish:- Sheared or flame cut edges and ends of all material marked (E) to be planed to remove at least ¼ of metal.
Shop Paint:- See Sheet E1

(C)	6-17-36	Cut Rivets to Open Holes
(D)	6-17-36	Cut Rivets to Open Holes (Shop Bvets to Open Holes Field Bolts)
(A)	8-4-36	Grind Splice Pcs

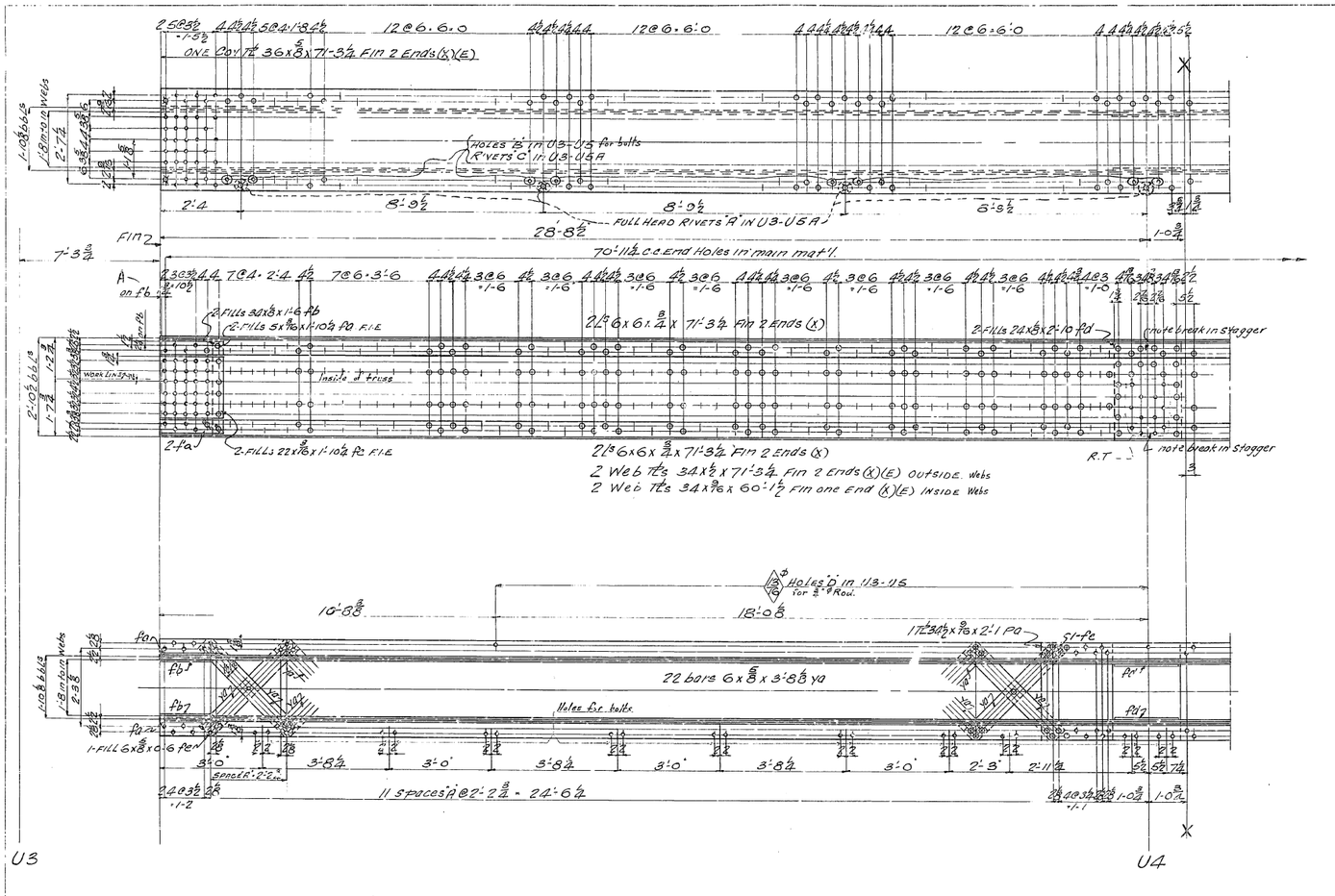
APPROVED
Date: 8/10/34

SHOP BILL - S24

Mat'l Ord p111 GJM

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Top Chord U1-U3 U1-U3A
Span YB1 - YB2
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAW. MADE BY GJM DATE 8/24/34
DRAW. CHECKED BY G.T.N. DATE 9-5-34
ORDER No. G5101 SHEET No. 22-B
[BRC]

30-1



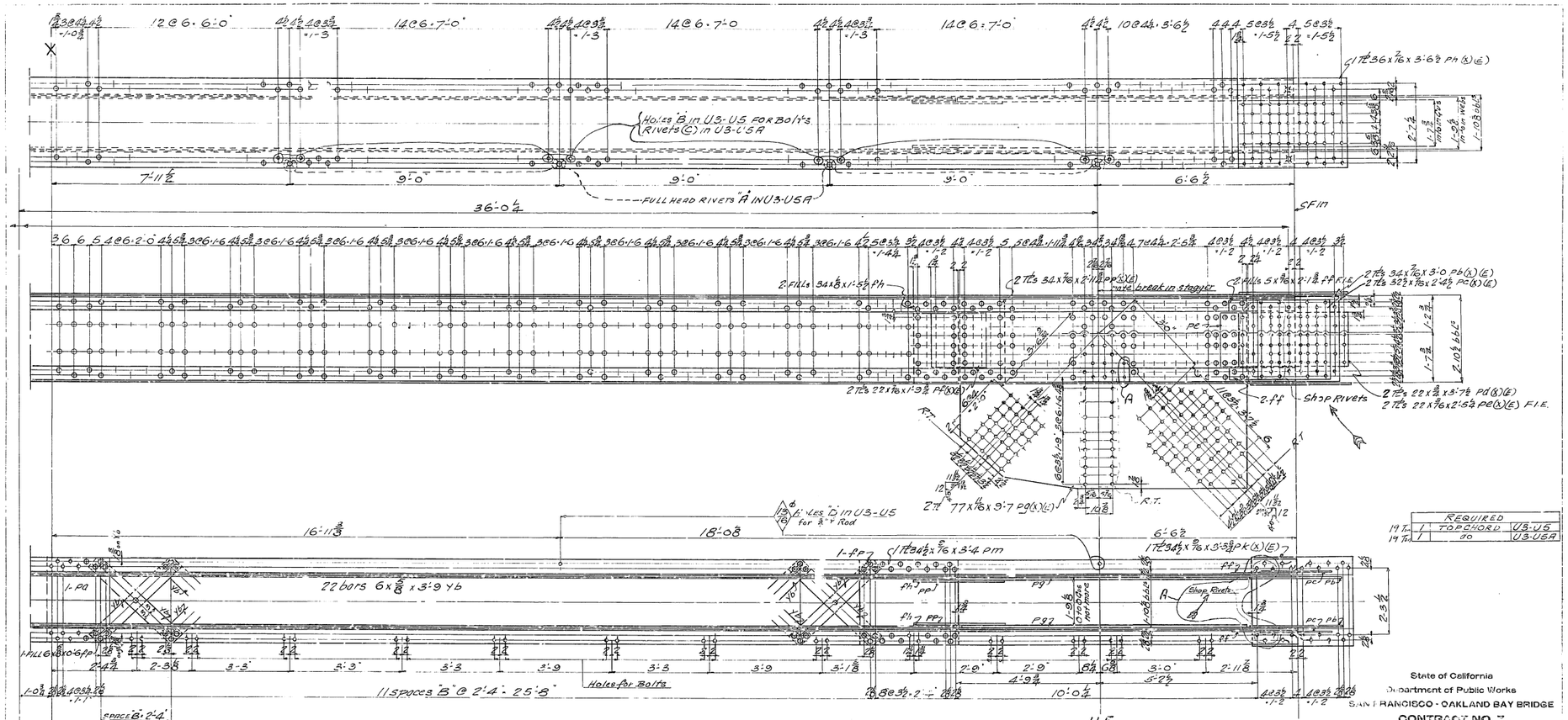
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
TOP CHORD U3-U5; U3-U5A
SPAN YB1-YB2
AMERICAN BRIDGE COMPANY

SHOP BILL-525

A 4-7-34 Chge edge Dist.

9/28/34

DRAWINGS MADE AT GARY "B" PLANT
WORK FABRICATED AT AMBRIDGE PLANT
IN CHARGE OF TOMPT
DRAWN BY EW DATE 2-25-34
DRAWN CHECKED BY L.F.B. DATE 3-7-34
ORDER No. G5101
SHEET No. 234B



REQUIRED			
19 Tm	1	TOP CHORD	U3-U5
19 Tm	1	"	U3-U5A

GEN NOTES:-
MATERIAL:- All material O.H. Copper bearing medium carbon steel except material marked (X) which is to be O.H. Copper bearing silicon steel
SPECIFICATIONS:- special by the State of California Dept of Public Works.
INSPECTION:- John M Bailey Chief Inspector.
RIVETS 7/8"
OPEN HOLES:- 1/16" unless noted.
REAMING:- Holes in material ½" thick or less to be subpunched ⅛" and reamed ¼" size while parts are assembled.
Carbon steel ⅝" thick or less used for bracing or stay plates may be punched full size. The chords of the trusses shall be laid out in lengths of not less than six panels and the chord splices reamed while so assembled in shop, and pieces match marked.
Holes marked R.T. to be reamed thru steel templet.
Burrs to be removed from all reamed holes. Fit match marking to be made with ½" steel stencils and white paint.
FINISH:- Sheared or flame cut edges and ends of all material marked (E) to be planed to remove at least ⅛" of metal.
SHOP PAINT:- See Sheet E1

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
TOP CHORD U5-L5
SPAN YB1 to YB2
AMERICAN BRIDGE COMPANY
SHOP BILL-525
DRAWINGS MADE AT GARY PLANT
WORK FABRICATED AT AMBRIDGE PLANT
IN CHARGE OF TOMPT
DETAIL MADE BY F.W. DATE 2-23-34
WORK CHECKED BY L.E.B. DATE 3-7-34
ORDER No. G5101
SHEET No. 23B
8/28/34
[SOC]

Matl ord P 111-112 F.W.

Main Mall
Ala G-G x 7/8 x 72"-11/8
2 Webs 3/4 x 3/8 x 72"-11/8
2 Webs 3/4 x 7/16 x 62"-11/8
(X)(E)

2 Spl Pls 34 x 3/8 x 4'-3 3/8 pf (X)(E)
2 Spl Pls 22 x 3/8 x 3'-7 3/8 pc

Inside Of Truss

Note break in stagger

2 Gus Pls 76 1/2 x 1 1/8 x 9'-11 1/2 pe (X)(E)

2 Spl Pls 34 x 1/2 x 5'-7 3/8 pd (E)

(Shop Rivets)

GEN. NOTES
Material - All material O.H. Copper Bearing medium carbon steel, except material marked (E) which is to be O.H. Copper Bearing silicon steel. Specifications: Special by State of California, Dept. of Public Works.
Inspection - John M. Bailey, Chief Insp.
Rivets - 7/8"
Open Holes - 1 1/16" Unless noted.
Reaming - Holes in material 3/4" thick or less to be punched 1/16" undersized & reamed 1/16" size while parts are assembled. Carbon steel, 3/4" thick or less, used for lacing and stay plates, may be punched Full Size.

A A Top Chords of Trusses shall be laid out in lengths of not less than six panels and the chord splices and pls. 1 of L4-L6A and L6-L7 shall match marked while so assembled. Holes marked "E" to be reamed through a steel templet.
Camber to be formed from all truss holes. All match marking to be made with 3/16" stencils and white paint.
Finish - Sheared end plates, cut edges and ends of all Main members (G) to be planed to remove at least 1/8" of metal.

	REQUIRED		
19-Ton	ONE	Bottom Chord	L4-L6A
19-Ton	ONE	do	L4-L6A
	TWO	Plates	P46
	TWO	do	P47
	TWO	do	P48

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y81 - E1
Bottom Chord - L4 L6 - Span Y81-Y82

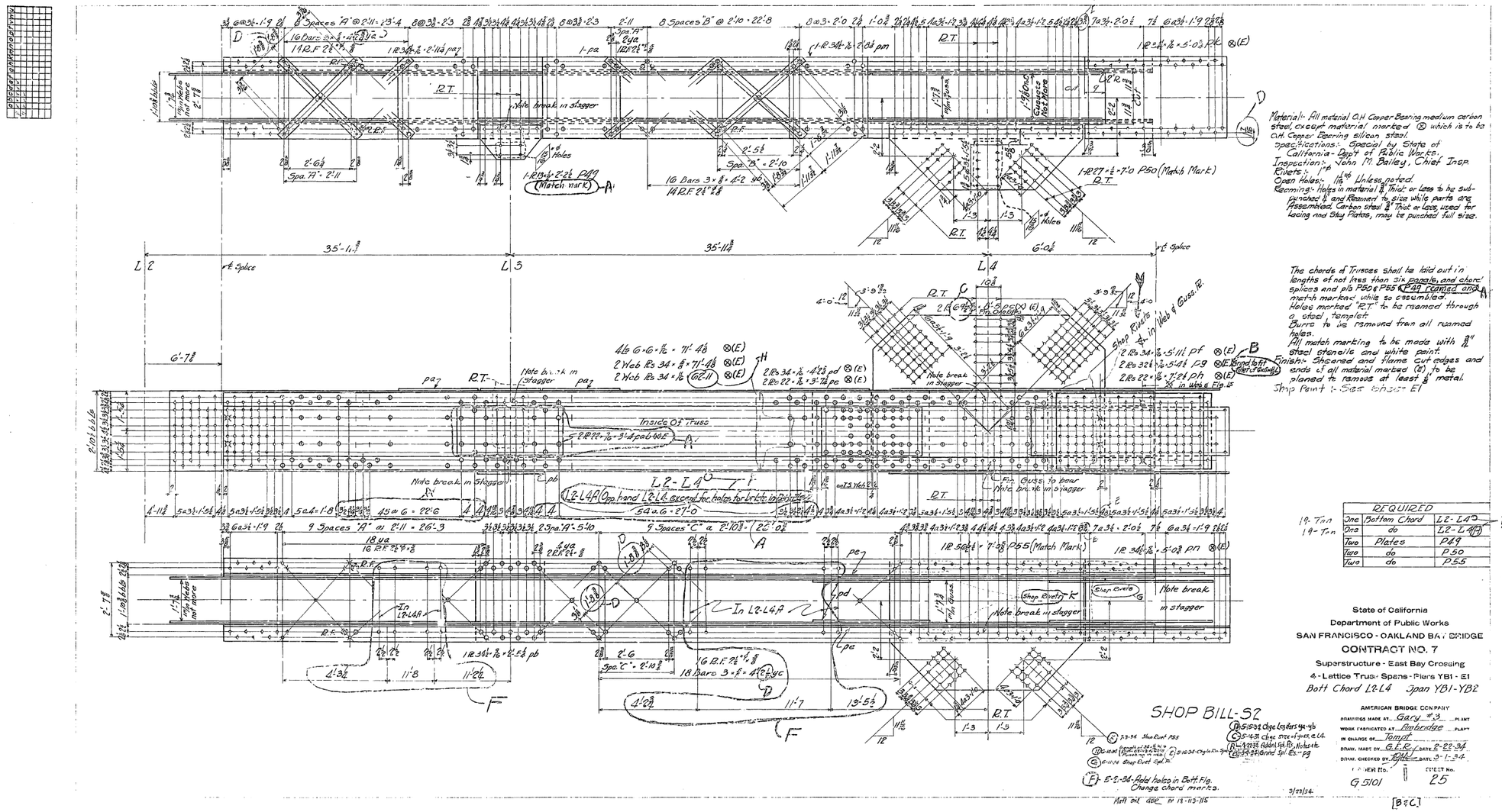
AMERICAN BRIDGE COMPANY
DRAWING MADE IN Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAWN MADE BY H.M.H. DATE 2-23-34
WORK CHECKED BY [illegible] DATE 2-28-34
CADER No. G.5101 SHEET No. 24

SHOP BILL-51
Add holes in Batt Plg.
Change chord marks.

SHOP PAINT
See Sheet E1

Main Ord P17-113 H.M.H.
115

[B & C]



REQUIRED		
One	Bottom Chord	L2-L4A
One	do	L2-L4A
Two	Plates	P49
Two	do	P50
Two	do	P55

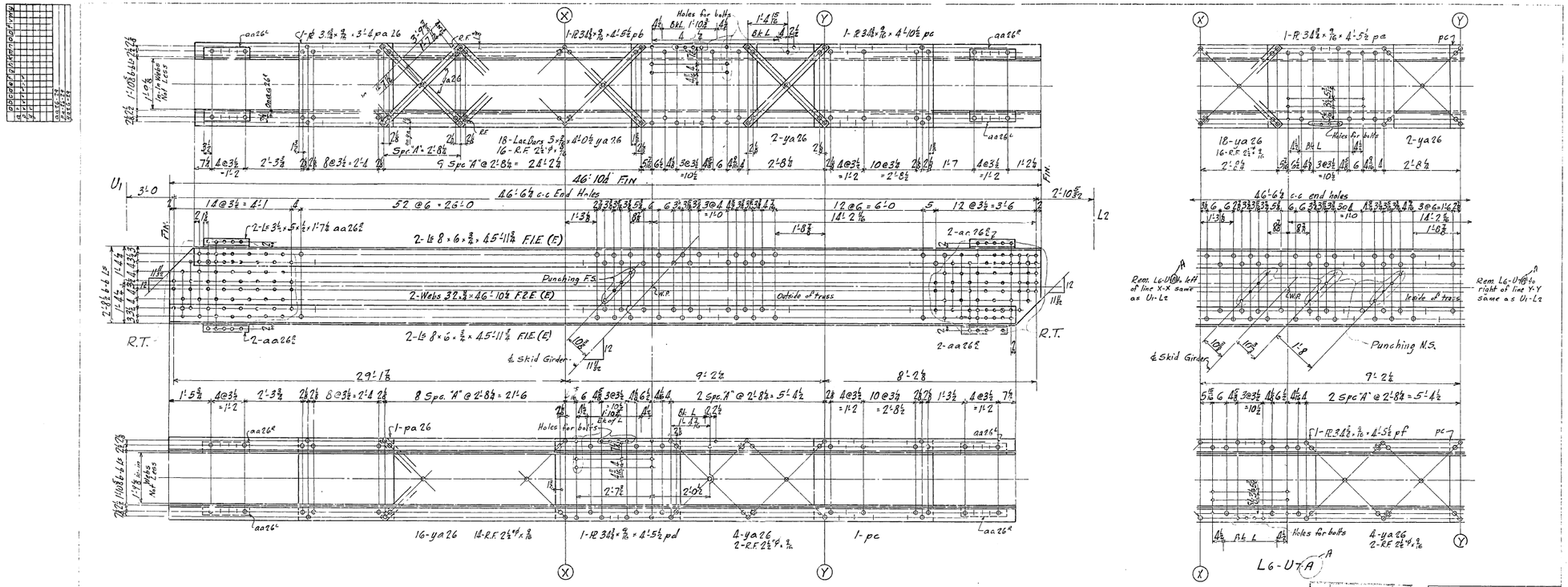
19-Ton
19-Ton

SHOP BILL-52

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Bott Chord L2-L4 Span YB1-YB2

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Cambridge PLANT
IN CHARGE OF Tempt
DRAW. MADE BY G.E.R. DATE 2-22-34
DRAW. CHECKED BY [illegible] DATE 3-1-34
ORDER No. G 5101
SHEET No. 25

3/23/34
[B&C]



General Notes:
Material: All material a.h. Copper bearing medium carbon steel.
Specifications: Special by State of California, Dept. of Public Works.
Inspection: John M. Bailey, Chief Inspector.
Rivets: 1" ϕ
Open Holes: 1 1/16" ϕ
Reaming: Holes in material ¾" thick or less to be subpunched ¼" and reamed to size while parts are assembled. Carbon steel ⅞" thick or less used for lacing and stay plates may be punched full size. Holes marked R.T. to be reamed to a steel templet. Burns to be removed from all reamed holes.
Finish: Sheared or flame cut edges and ends of all material marked (E) to be planed to remove at least ⅛" of metal.
Shop paint = None

SHOP BILL 537

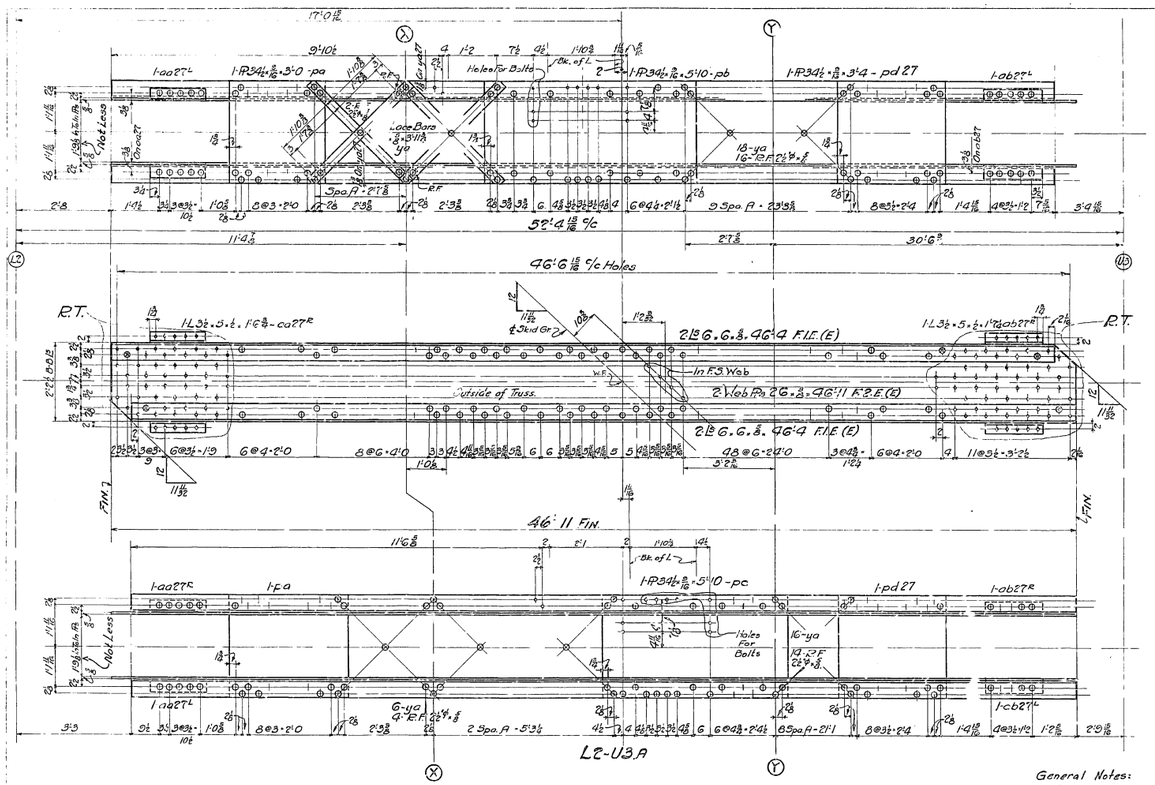
Matl. ord. pgs. 13 L.F.B.

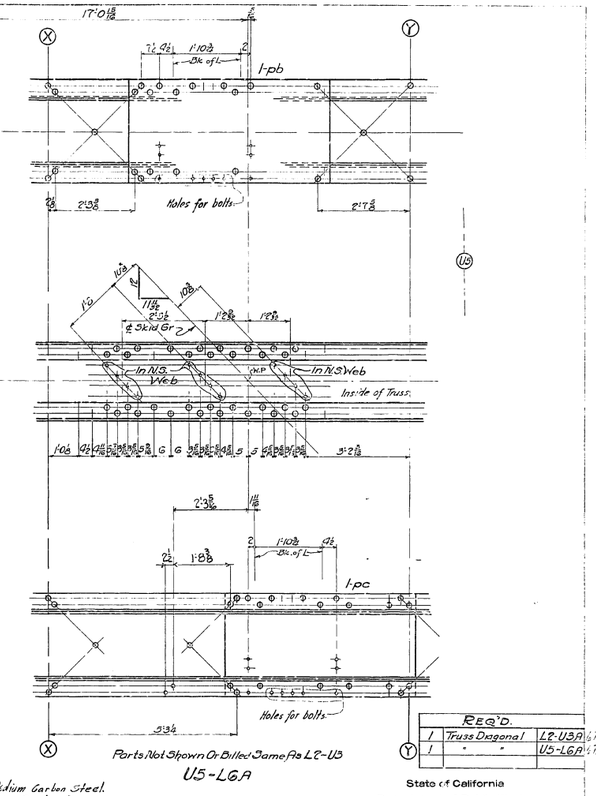
REQUIRED		
1	Truss Diagonal	U1-L2 A
1	do	L6-U7 A

APPROVED
Chief Engineer
Asst. Engineer
Bridge Engineer
Assistant Engineer
Date 3/9/34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Truss Diagonals, South Truss Spans YB1 & YB2
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary #3 PLANT
WORK FABRICATED BY Ambridge PLANT
IN CHARGE OF Tempt
DRAW. MADE BY L.F.B. DATE 2/22/34
DRAW. CHECKED BY J.N.S. DATE 2-23-34
ORDER No. G5101
SHEET No. 26

[C]





REQ'D.		
1	Truss Diagonal	L2-U3A & Fin
1	" "	U5-L6A & Fin

General Notes:
Material: All material O.H. Copper Bearing Medium Carbon Steel.
Specifications: Special by State of California Dept. of Public Works.
Inspection - John M. Bailey, Chief Inspector.
Rivets - 1" ϕ
Open Holes: 1 1/16" ϕ
Reaming: Holes in material 3/4" thick or less to be subpunched 1/4" and reamed to size while parts are assembled.
Carbon Steel 3/4" thick or less used for lacing and stay plates may be punched full size.
Holes marked R.T. to be reamed to a steel templet.
Burrs to be removed from all reamed holes.

Finish: Sheared or Flame cut edges and ends of all material marked (E) to be planed to remove at least 1/8" of metal.
Shop Paint: None

Mail Ord. Page 15

SHOP BILL 538

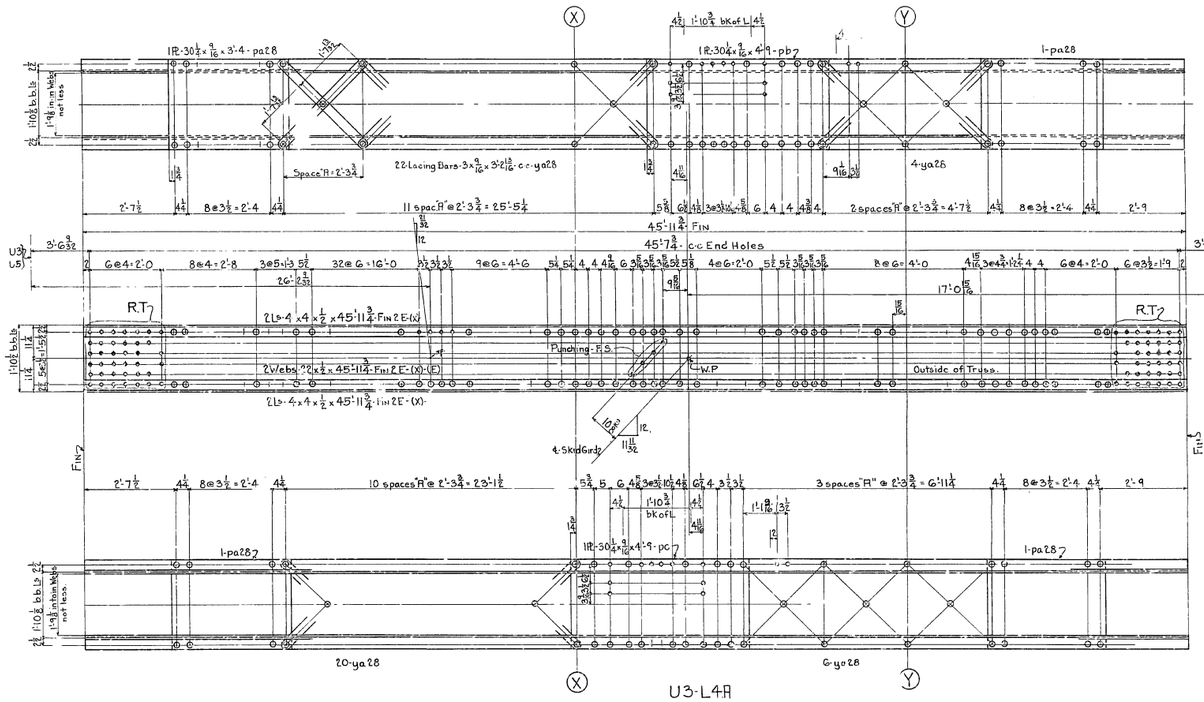
APPROVED 5/19/32

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
TRUSS DIAGONALS - SOUTH TRUSS - SPANS B1-B2

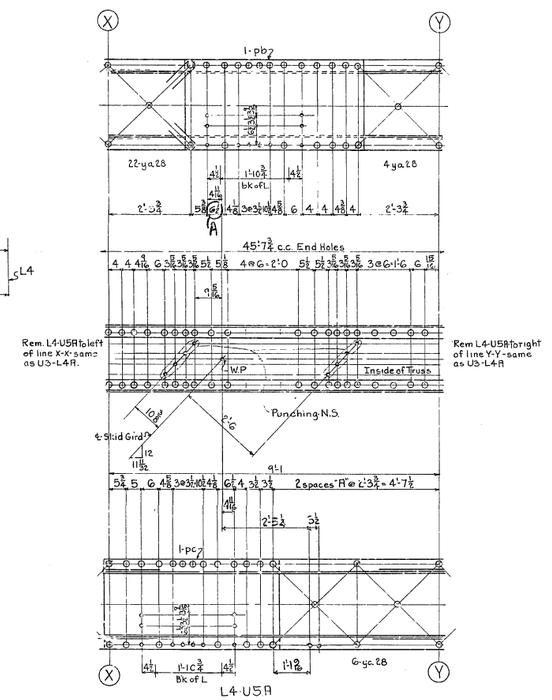
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Jomat
DRAWN BY RAK DATE 2-20-32
DESIGN CHECKED BY J.J.S DATE 2-27-32
ORDER No. G-5101 SHEET No. 27

[C]

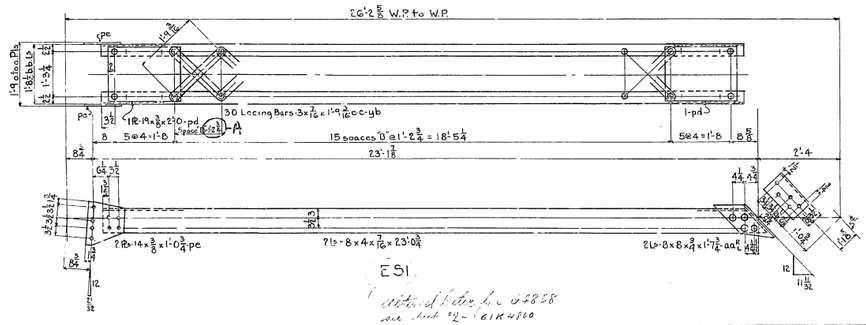
30-1



U3-L4A



L4-U5A



	Required	
1	Truss Diagonal	U3-L4A
1	do.	L4-U5A
4	Struts	E51

Charge to G5106

General Notes:-

Material: All material - O.H. copper bearing medium carbon steel, except material marked (X) which is to be O.H. copper bearing silicon steel.

Specifications:- Special by State of California Dept. of Public Works

Inspection:- John M. Bailey, - Chief Inspector

Rivets - 1" Ø diam.

Open Holes - 1 1/16" diam.

Reaming:- Holes in material ⅜" thick or less to be subpunched 1/4" and reamed to size while parts are assembled. Carbon steel ½" thick or less used for lacing + stay plates may be punched full size.

Holes marked RT to be reamed to a steel templet. Burrs to be removed from all reamed holes.

Finish:- Sheared or flame cut edges and ends of all material marked (E) to be planed to remove at least ⅛" of metal.

Shop Paint:- None

(A) - 5238A Chge Spcg E51 & L4-U5A

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y91 - E1
Truss Diagonals + Struts - North + South Trusses - Span Y81-Y82

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT ... GARY "3" ... PLANT
WORK FABRICATED AT ... Pittsburgh ... PLANT
IN CHARGE OF ... Tompt
DRAW. MADE BY ... C.A.T. ... DATE 2-27-34
DRAW. CHECKED BY ... J.J.S. ... DATE 3-2-34

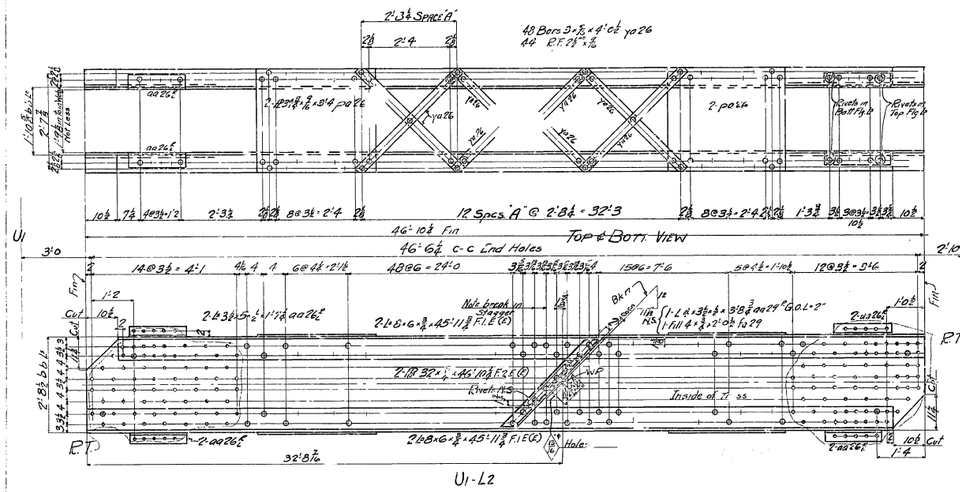
ORDER No. G5101
SHEET No. 28

SHOP BILL - 539

3/13/34

Math - Ord - Pgs 26-27-112 - C.A.T.

BFC



REQUIRED		
4 Tr.	One	DIAGONAL	U1-L2
4 Tr.	One	"	L2-U3
4 Tr.	One	"	U3-L4
4 Tr.	One	"	L4-U5

GEN. NOTES-

Material- All material O.H. Copper Bearing medium Carbon steel, except material marked (S) which is to be O.H. Copper Bearing Silicon steel.

Specifications- Special by State of California, Dept. of Public Works.

Inspecting - John M. Bailey - Chief Inspector

Rivets - ¾"ø

Open Holes - 1⅛"ø Unless noted.

Reaming - Holes in material ⅞" thick or less to be subpunched ¼" and reamed to size while parts are assembled. Carbon steel ⅞" thick or less used for facing end stay plates, may be punched full size. Holes marked "RT" to be reamed through a steel template. Burrs to be removed from all reamed holes.

Finish - Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least ⅛" of metal.

Shop Paint - None.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1

Truss Diagonals North Truss Spans YB1-YB2

AMERICAN BRIDGE COMPANY
DRAWING MADE AT GARY '3 PLANT
WORK FABRICATED AT AMBRIDGE PLANT
CHECKED IN CHARGE OF TOMPI DATE 2-27-34
DESIGNED DRAFTED BY W.G DATE 2-27-34
TRACED CHECKED BY L.H DATE 3-13-34

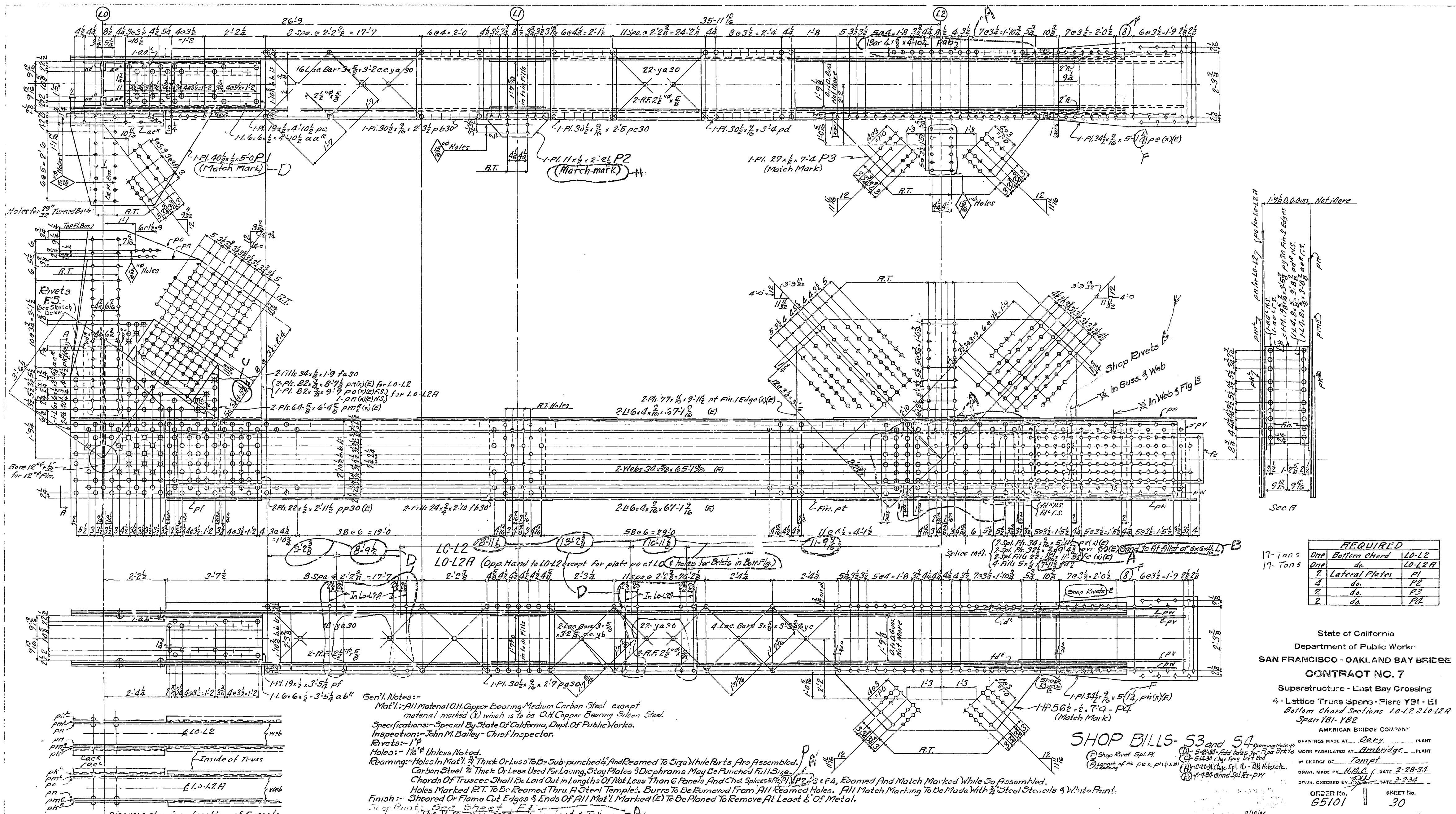
ORDER No. G5101 SHEET No. 29

4-3-34.

SHOP BILL- 540

Mat'l Ord P13 P112

[B&C]



Gen'l. Notes:-

Mat'l.:- All Material O.H. Copper Bearing Medium Carbon Steel except material marked (X) which is to be O.H. Copper Bearing Silcon Steel.

Specifications:- Special By State Of California, Dept. Of Public Works.

Inspection:- John M. Bailey - Chief Inspector.

Rivets:- 1"φ

Holes:- 1 1/16"φ Unless Noted.

Reaming:- Holes In Mat'l. 3/4" Thick Or Less To Be Sub-punched 1/4" And Reamed To Size While Parts Are Assembled. Carbon Steel 3/4" Thick Or Less Used For Lacing, Stay Plates & Diaphrams May Be Punched Full Size. Chords Of Trusses Shall Be Laid Out In Lengths Of Not Less Than 6 Panels And Chd. Splices & Pls. P1, P2, P3 & P4, Reamed And Match Marked While So Assembled. Holes Marked R.T. To Be Reamed Thru. A Steel Templet. Burrs To Be Removed From All Reamed Holes. All Match Marking To Be Made With 3/4" Steel Stencils & White Paint.

Finish:- Sheared Or Flame Cut Edges & Ends Of All Mat'l. Marked (E) To Be Planed To Remove At Least 1/8" Of Metal.

Shop Paint: See Sheet E1

Pin Holes - One coat White Lead & Tallow. - A

Diagram showing location of Gussets

Mt'l. Ord. P. 16 & P109

17-Tons
17-Tons

REQUIRED		
One	Bottom Chord	L0-L2
One	do.	L0-L2A
2	Lateral Plates	P1
4	do.	P2
2	do.	P3
2	do.	P4

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Bottom Chord Sections L0-L2 & L0-L2A
Span YB1-YB2

SHOP BILLS - S3 and S4

(E) Shop Rivet Spl. Pl.
(F) Length of Pls pe & ph (7-3-34) & Spacing

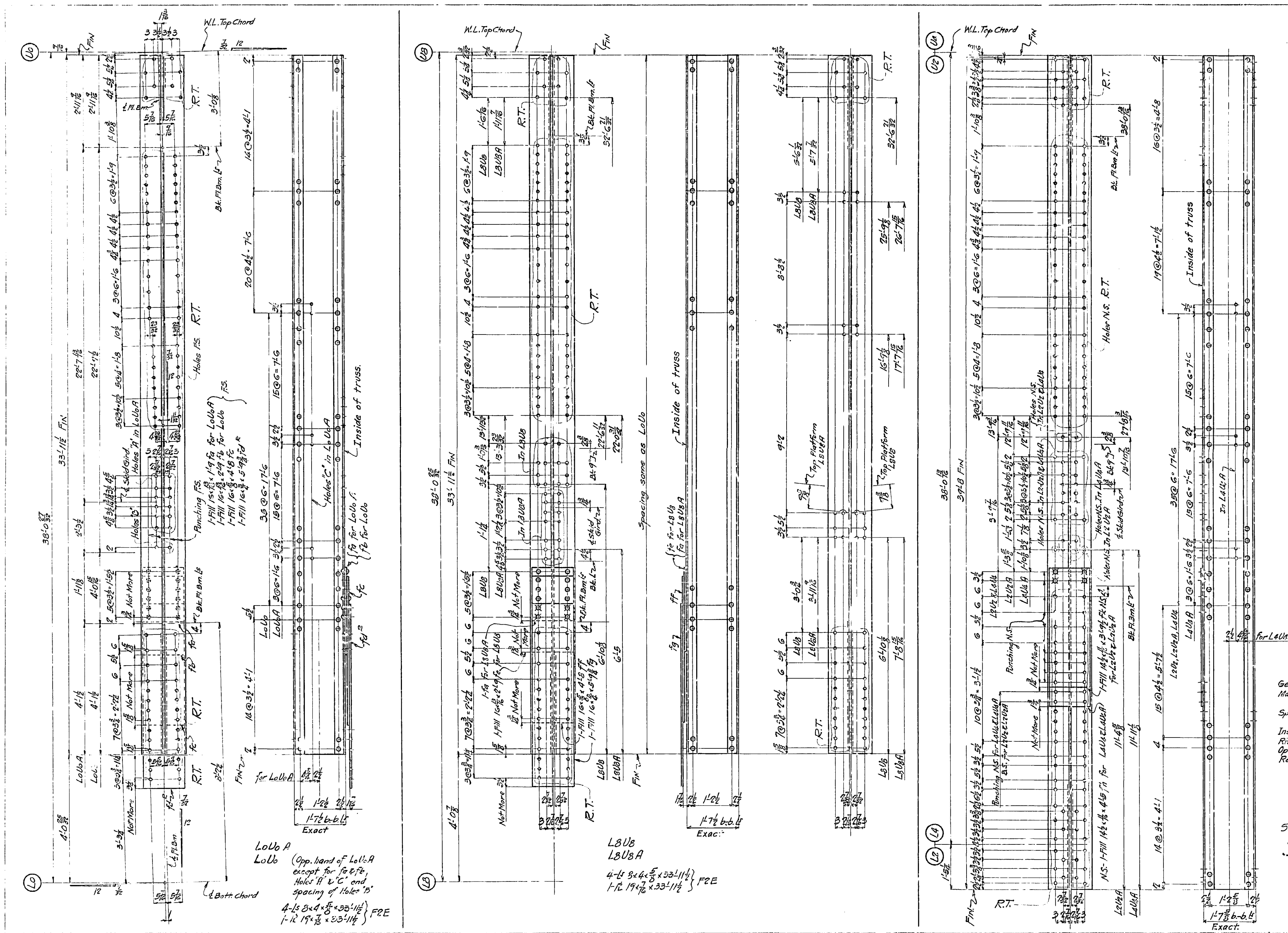
Reaming Note - P1
(D) - 5-21-34 - Add holes for Pipe Brkts
(C) - 5-14-34 Chge Spcg Left End
(B) - 4-22-34 Chge Spl. Pls - Add Notes etc.
(A) - 5-9-34 Grind Spl. Pls - PW

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAW. MADE BY H.M.C. DATE 2-28-34
DRAW. CHECKED BY [signature] DATE 3-2-34
ORDER No. 65101
SHEET No. 30

3/19/34

[B&C]

30-1



L2U2
L2U2A
L4U4
L4U4A

4-Ls 8×4×5/8×39'-8 } F2E
1-Pl 19×7/16×39'-8 }

REQUIRED		
1	Post	L0U0
1	do	L0U0A
1	do	L8U8
1	do	L8U8A
1	do	L2U2
1	do	L2U2A
1	do	L4U4
1	do	L4U4A

Gen. Notes:-
Material:- All materials O.H. Copper bearing medium carbon steel.
Specifications:- Special by State of California, Dep't of Public Works.
Inspection:- John M. Bailey, Chief Insp.
Rivets:- 1" diameter.
Open Holes:- 1 1/16" diameter.
Reaming:- Holes in material 3/4" thick or less to be subpunched 1/4" and reamed to size while parts are assembled. Holes marked R.T. to be reamed to a steel templet. Burrs to be removed from all reamed holes.
Shop Paint: SEE SHEET E1

SHOP BILL-518

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of: Posts
SPAN YB1-YB2
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT GARY #3 PLANT
WORK FABRICATED AT AMBRIDGE PLANT
IN CHARGE OF TOMPT
DRAW. MADE BY L.H. DATE 2-26-34
DRAW. CHECKED BY G.T.N. DATE 3-1-34

APPROVED
Approval Date 3/23/34

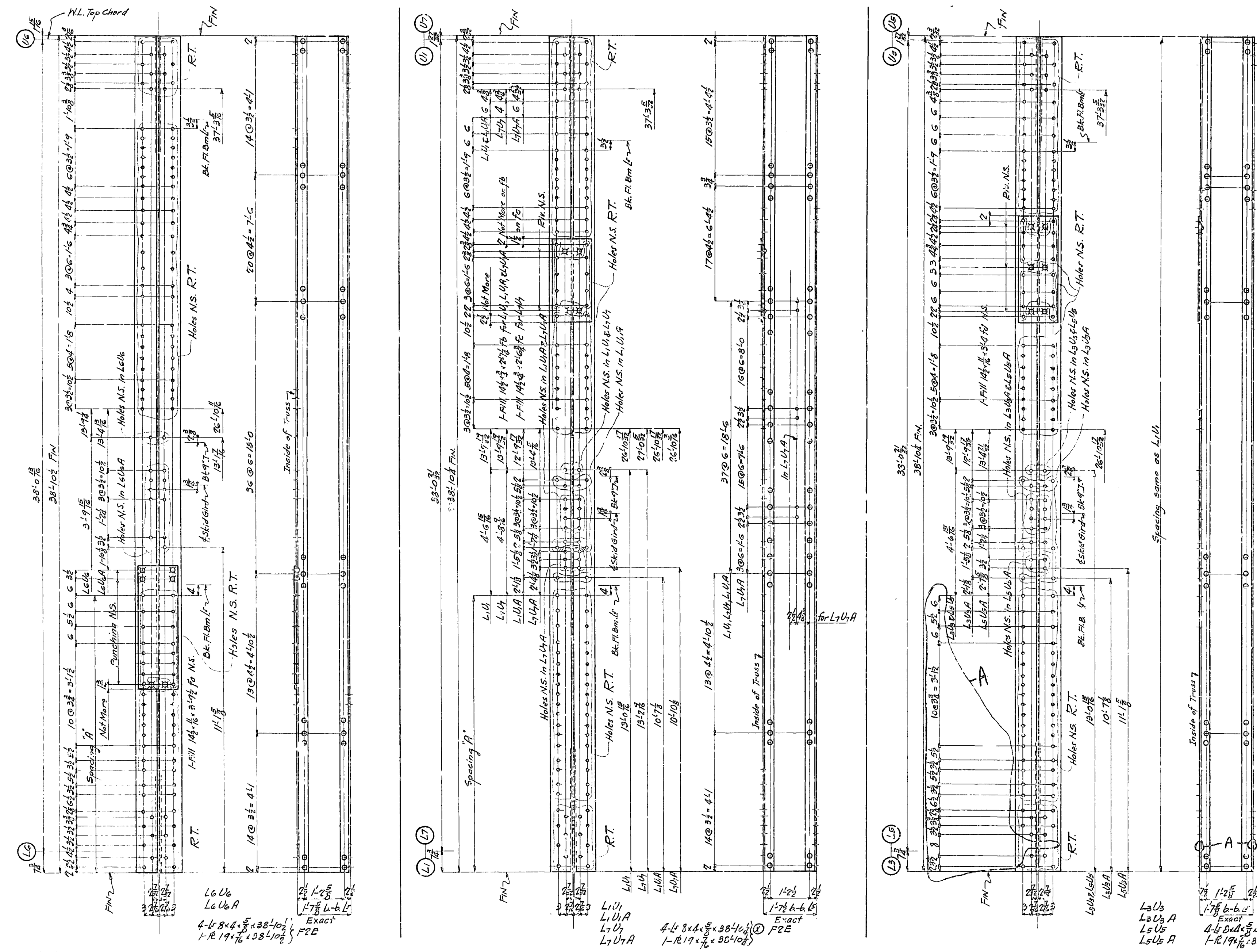
ORDER No. G5101
SHEET No. 31

Mat'l. Ord. Pgs. 14 & 15 L.H.

[C]

In Shop 4-9

30-1



REQUIRED		
1	Post	L_6U_6
1	do	L_6U_6A
1	Hanger	L_1U_1
1	do	L_1U_1A
1	do	L_7U_7
1	do	L_7U_7A
1	do	L_3U_3
1	do	L_3U_3A
1	do	L_5U_5
1	do	L_5U_5A

Gen. Notes:-

Material:-All material O.H. copper bearing medium carbon steel, except material marked (X) which is to be O.H. copper bearing silicon steel.

Specifications:-Special by State of California, Dept of Public Works.

Inspection:- John M. Bailey, Chief Insp.

Rivets:- 1" diameter.

Open Holes:- $1\frac{1}{16}$" diameter.

Reaming:-Holes in material $\frac{3}{4}$" thick or less to be subpunched $\frac{1}{4}$" and reamed to size while parts are assembled. Holes marked R.T. to be reamed to a steel templet. Burrs to be removed from all reamed holes.

Shop Paint: See Sheet E1

SHOP BILL-519

(A)-4-22-34 Change Spcg - omit Hks

3/23/34

Mat'l. Ord. Pgs. 14 & 110 L.H.

State of California

Department of Public Works

SAN FRANCISCO - OAKLAND BAY BRIDGE

CONTRACT NO. 7

Superstructure - East Bay Crossing

4 - Lattice Truss Spans - Piers YB1 - E1

Details of:- Posts & Hangers Span YB1-YB2

AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT GARY #3 PLANT

WORK FABRICATED AT AMBRIDGE PLANT

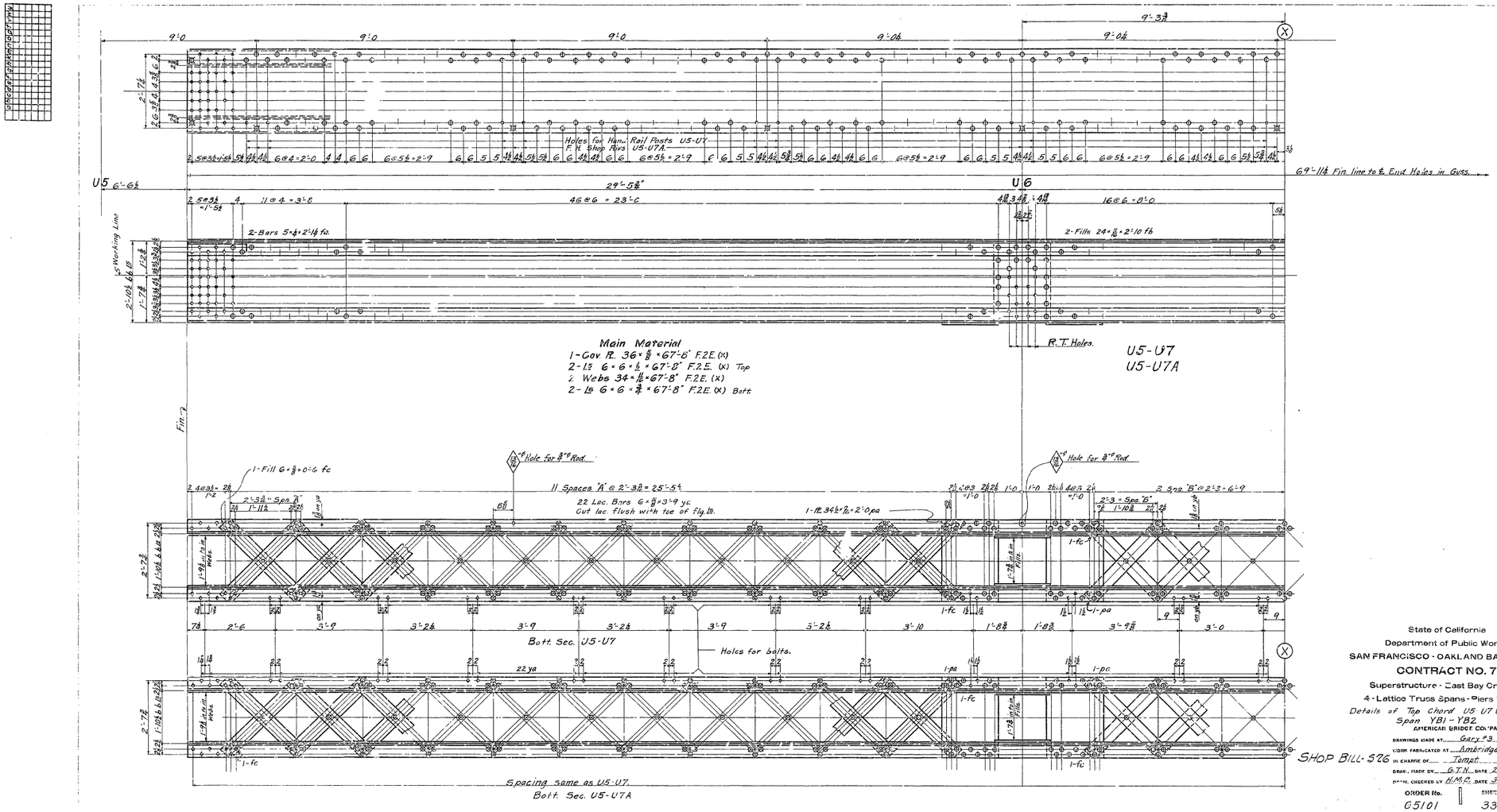
IN CHARGE OF TOMPT

MADE BY L.H. DATE 3-2-34

DRAW. CHECKED BY G.T.N. DATE 3-5-34

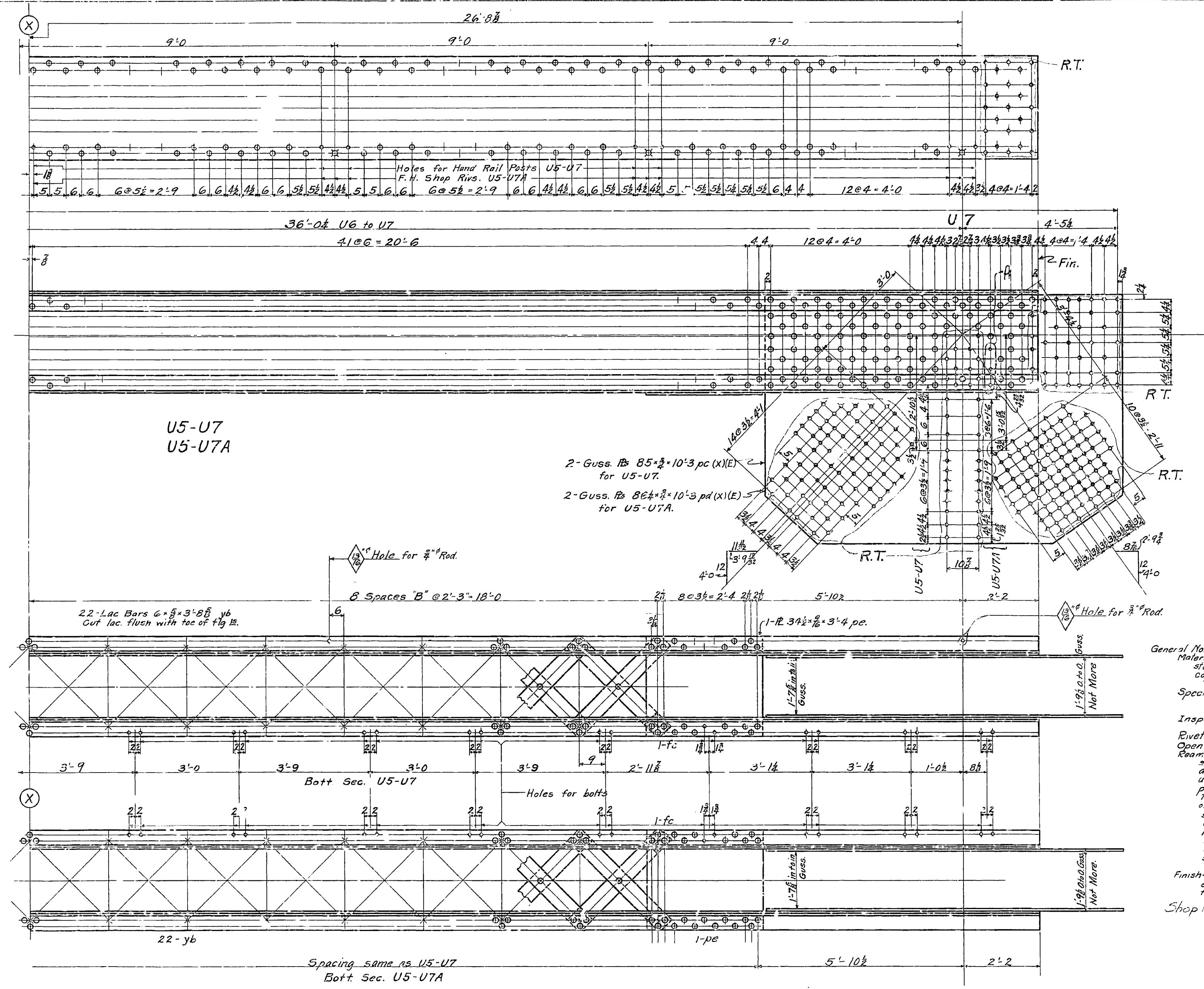
ORDER No.	SHEET No.
G5101	32

[B&C]



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Top Chord U5-U7 & U5-U7A
Span YB1 - YB2
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
WORK IN CHARGE OF Tempt
DRAW. MADE BY G.T.N. DATE 2-23-34
DRAW. CHECKED BY H.M.C. DATE 3-6-34
ORDER No. C5101
SHEET No. 33AB
SHOP BILL-526
3/28/34

30-1



General Notes -
Material - All material O.H Copper Bearing medium Carbon steel except material marked (X) which is to be O.H copper bearing Silicon Steel

Specifications - Special by State of California Dept. of Public Works

Inspection - John M. Bailey, Chief Insp.

Rivets - 1"φ
Open Holes - 1 1/16"φ unless noted.
Reaming - Holes in material 3/4" thick or less to be subpunched 1/4" and reamed to size while parts are assembled. Carbon steel 3/4" thick or less used for lacing and stay plates may be punched full size.
The chords of trusses shall be laid out in lengths of not less than 6 panels and the chord splices reamed while so assembled in shop and pieces match marked. Holes marked R.T. to be reamed thru a steel templet.
Burrs to be removed from all reamed holes.
All match marking to be made with 3/4" steel stencils and white paint.

Finish - Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least 1/8" of metal.

Shop Paint - See Sheet E1

	REQUIRED			
15 Ton	1	Top Chord	U5-U7
15 Ton	1	do.	U5-U7A

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Top Chord U5-U7 & U5-U7A.
Span YB1-YB2
AMERICAN BRIDGE COMPANY

SHOP BILL - S26

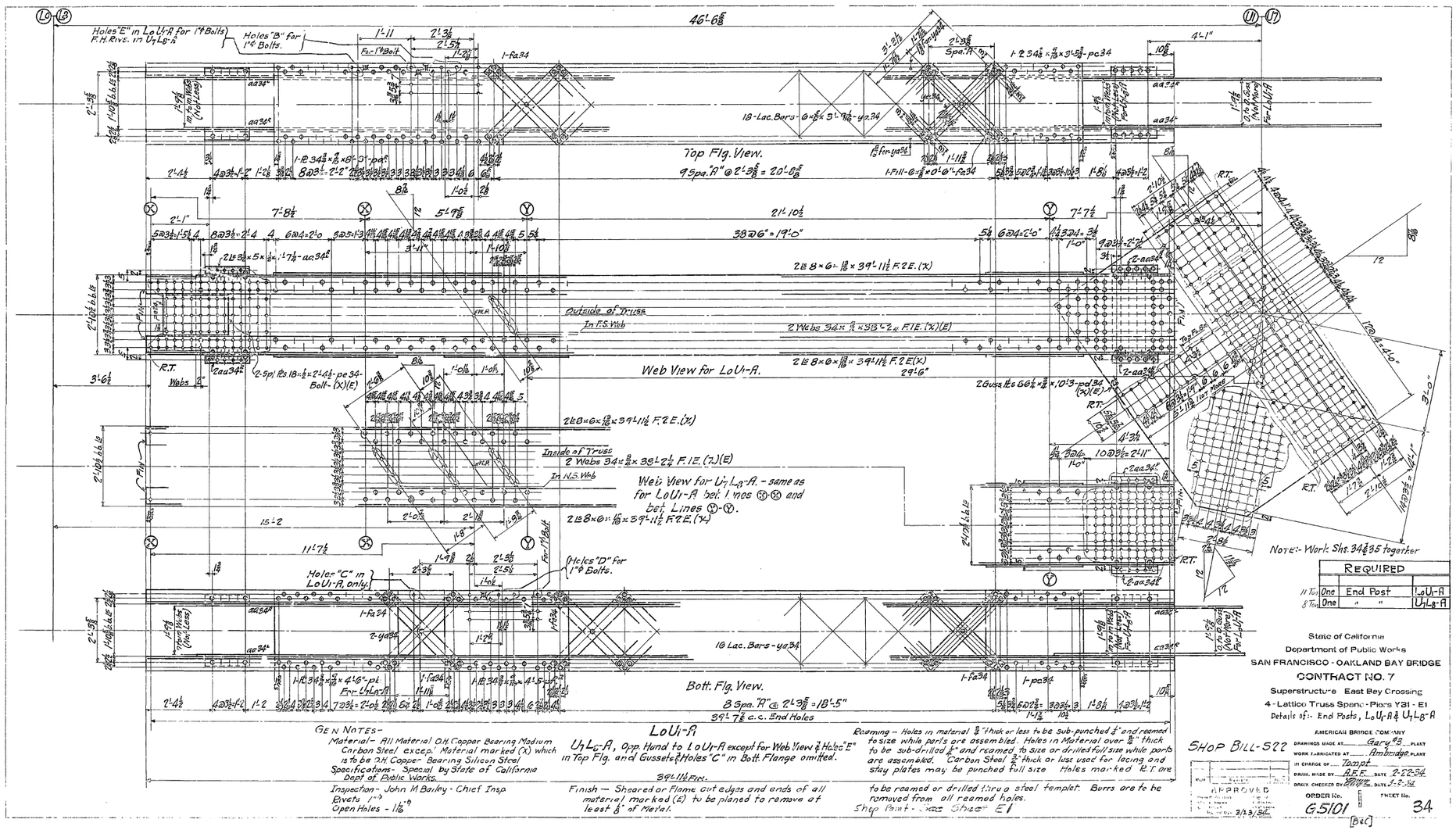
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAW. MADE BY G.T.N. DATE 2-23-34
DRAW. CHECKED BY H.M.C. DATE 3-6-34
ORDER No. G5101
SHEET No. 33B

(A) 6-11-34 Chg. Riv. to Open Holes — Made — Revision — App'd

APPROVED
Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 3/28/34

Mat'l Ord. A.B. Pgs. 19, 109 & 112 G.T.N.

[B&C]



REQUIRED		
11 Top	One	End Post	LoU-A
8 Top	One	" "	U1L8-A

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure East Bay Crossing
4 - Lattice Truss Spans - Piers Y31 - E1
Details of:- End Posts, LoU-A & U1L8-A

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAW. MADE BY A.E.F. DATE 2-22-34
DRAW. CHECKED BY [illegible] DATE 3-2-34

SHOP BILL-522

APPROVED 3/23/34

ORDER No. G5101

SHEET No. 34

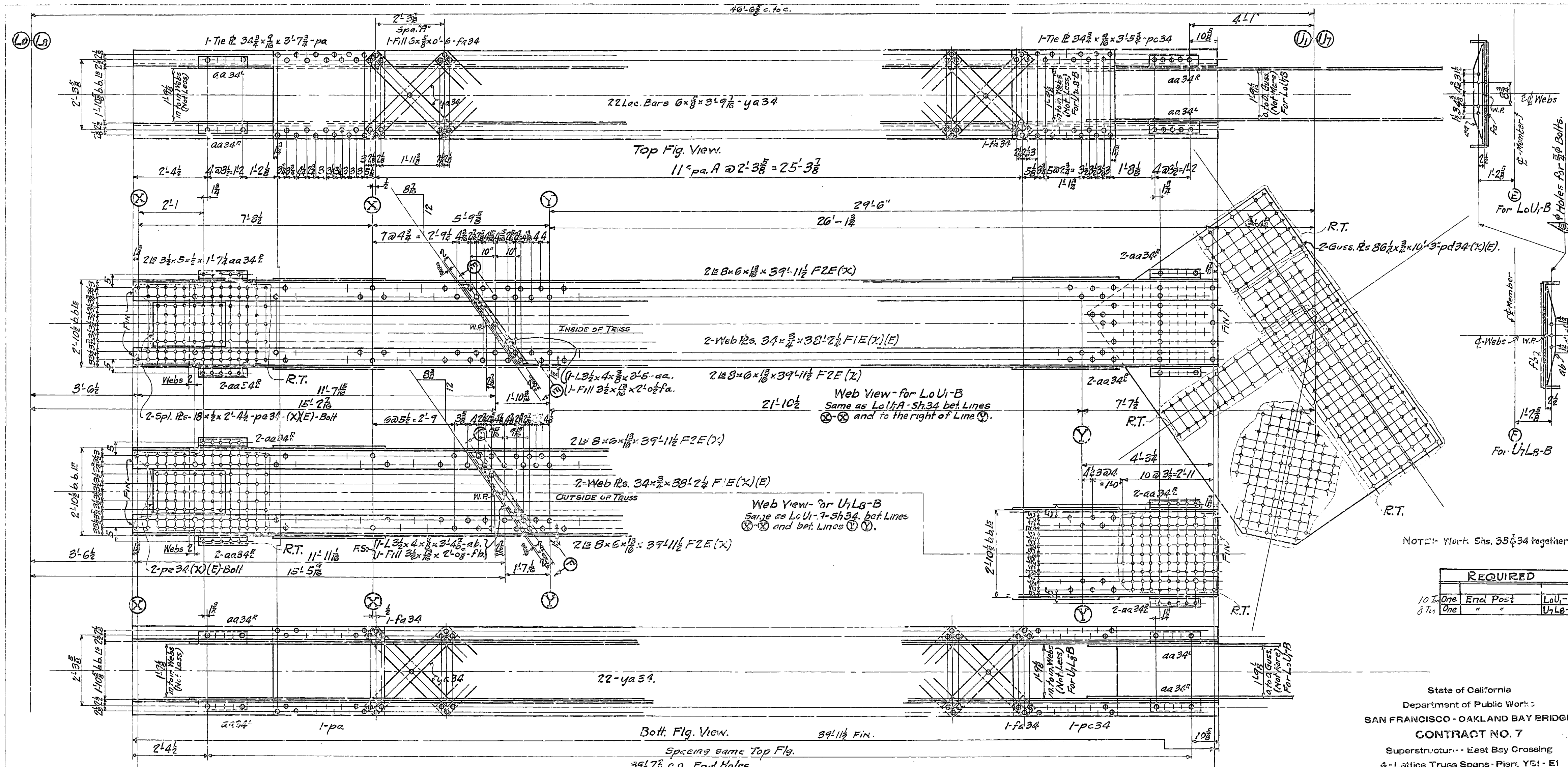
GEN NOTES-
Material- All Material O.H. Copper Bearing Medium Carbon Steel except Material marked (X) which is to be O.H. Copper Bearing Silicon Steel
Specifications- Special by State of California Dept of Public Works.
Inspection- John M Bailey - Chief Insp.
Rivets 1"Ø
Open Holes - 1 1/16"Ø

LoU1-A
U1Lc-A, Opp. Hand to LoU1-A except for Web View & Holes "E" in Top Flg. and Gussets & Holes "C" in Bott. Flange omitted.
39'-11½ F.IN.
Finish — Sheared or Flame cut edges and ends of all material marked (F) to be planed to remove at least ⅛" of Metal.

Reaming - Holes in material ⅜" thick or less to be sub-punched ¼" and reamed to size while parts are assembled. Holes in Material over ⅜" thick to be sub-drilled ¼" and reamed to size or drilled full size while parts are assembled. Carbon Steel ⅜" thick or less used for lacing and stay plates may be punched full size. Holes marked R.T. are to be reamed or drilled thru a steel templet. Burrs are to be removed from all reamed holes.
Shop Paint - Iron Shop E1

Mat. Ord. {Pg 109 - L 21 to 27 / Pg 13 - L 26 to 29} APP.

[Bec]



REQUIRED			
10 Ton	One	End Post	LoU1-B
8 Ton	One	" "	U7L8-B

LoU1-B & U7L8-B

GEN NOTES

Material - All Material OH Copper Bearing Medium Carbon Steel except material marked (X) which is to be O.H Copper Bearing Silicon Steel.
Specifications - Special by State of California Dept of Public Works.
Inspection: - John M Bailey Chief Insp.
Rivets - 1"φ
Open Holes - 1 1/16"φ unless noted
Reaming - Holes in Material 3/4" thick or less to be sub-punched 1/4" and reamed to size while parts are assembled. Holes in Material over 3/4" thick to be sub-drilled 1/4" and reamed to size or drilled full size while parts are assembled. Carbon Steel 3/4" thick or less used for lacing & stay plates may be punched full size. Holes marked R.T. are to be reamed or drilled thru a steel templet. Burrs are to be removed from all reamed holes.
Finish - Sheared or Flame cut edges and ends of all material marked (E) to be planed to remove at least 1/8" of Metal.
Shop Paint - See Sheet E1

SHOP BILL - S23

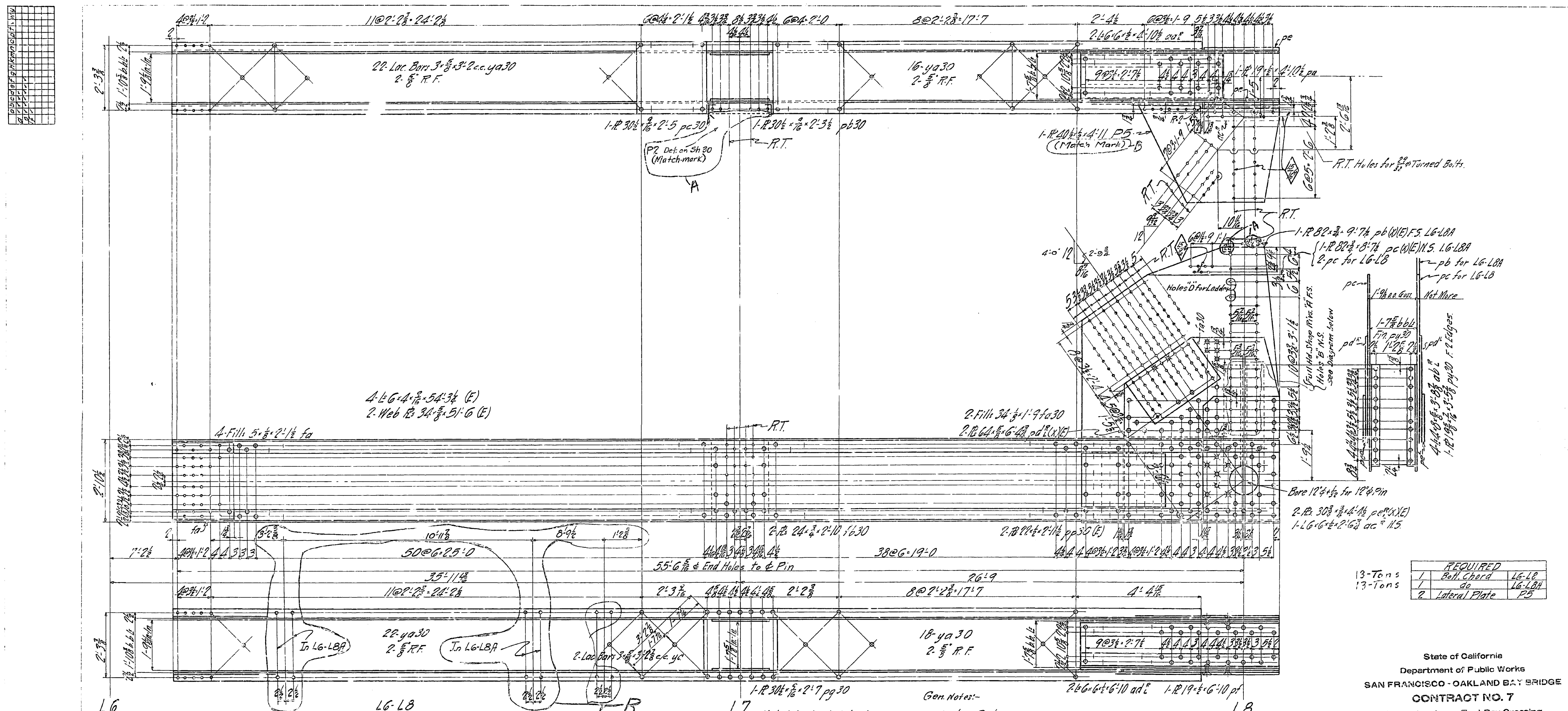
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y51 - E1
Details of:- End Posts - LoU1-B & U7L8-B

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAW. MADE BY A.F.F. DATE 2-28-34
DRAW. CHECKED BY [illegible] DATE 3-5-33
ORDER No. G5101 SHEET No. 35

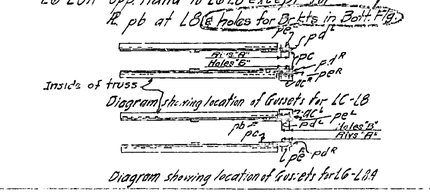
3/23/34

[B&C]

Mat'l. Ord. {Pg 109 - L21-22-26-27 / Pg 13 - L25 to L29} - A.F.F.



REQUIRED			
13-Tons	1	Bott. Chord	L6-L8
13-Tons	1	do	L6-L8A
	2	Lateral Plate	P5



Gen. Notes:-

Material: All material O.H. Copper Bearing Medium Carbon Steel except material marked (x) which is to be O.H. Copper Bearing Silicon Steel.
Specifications: Special by State of California, Dept of Public Works.
Inspection: John M. Bailey, Chief Insp.
Rivets: 1"φ
Open Holes: 1¹⁄₁₆"φ Unless noted.
Reaming: Holes in Material ¾" thick or less to be subpunched ¼" and reamed to size while parts are assembled.
Carbon Steel ¾" thick or less used for Lacing, Stay Plates, & Diaphragms may be punched full size.
Chords of Trusses shall be laid out in lengths of not less than 6 panels and the Chord Splices (& Pls. P2) (P5) Reamed while so assembled in Shop & pieces match marked.
Holes marked R.T. to be reamed thru a Steel Templet. Burrs to be removed from all reamed Holes.
All match marking to be made with ⅜" Steel Stencils and White Paint.
Finish: Sheared or Flame cut Edges and ends of all Material marked (E) to be planed to remove at least ⅛" of Metal.
Shop Paint: ~~See Sheet E1~~
(Pin Holes - one coat White Lead and Tallow) - A

SHOP BILL-55

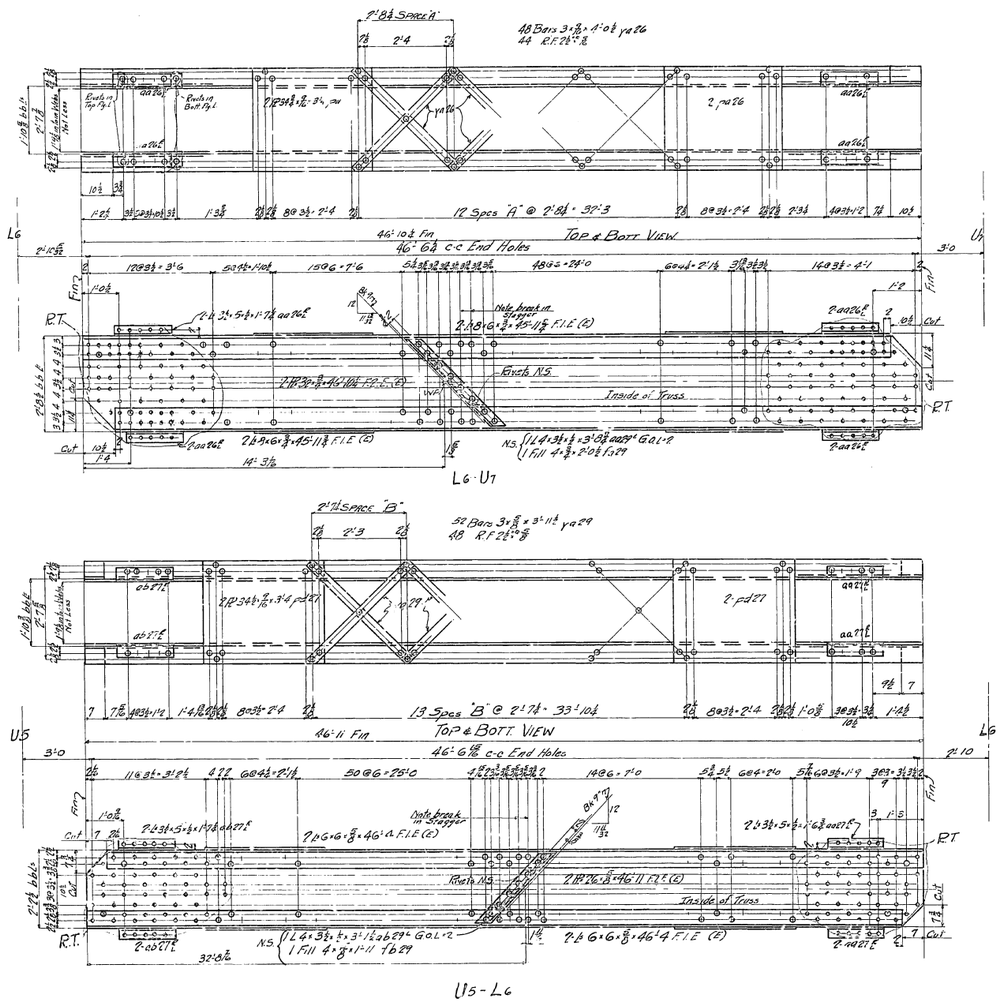
(B) 5-21-34 - Add holes in Bott. Flg. Reaming Note P5
(A) 4-24-34 Paint Note, Match mark P5

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1

BOTT. CHORD ~ SPAN YB1-YB2

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAW. MADE BY H.C.G. DATE 2-27-34
DRAW. CHECKED BY H.M.C. DATE 3-1-34
ORDER No. G5101
SHEET No. 36

3/19/34
Mat. Ord. P17-18-28-110 H.C.G.
[B & C]



GEN NOTES-

Material- All material O.H. Copper Bearing medium Carbon Steel
Specifications- Special by State of California, Dept of Public Works.
Inspection- John M. Bailey - Chief Inspector.
Rivets-
Open Holes- 1⅛" Unless noted.
Reaming- Holes in material ⅞" thick or less to be subpunched ¼" and reamed to size while parts are assembled. Carbon Steel ⅞" thick or less used for lacing and stay plates, may be punched full size.
Holes marked "PT" to be reamed through a steel templat.
Burrs to be removed from all reamed holes.
Finish- Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least ⅛" of metal.
Shop Paint- None.

REQUIRED			
One	DIAGONAL	L6-U7	9 Ton (E.)
One		U5-L6	

SHOP BILL 541

Mat'l Ord. P/S

4-3-34

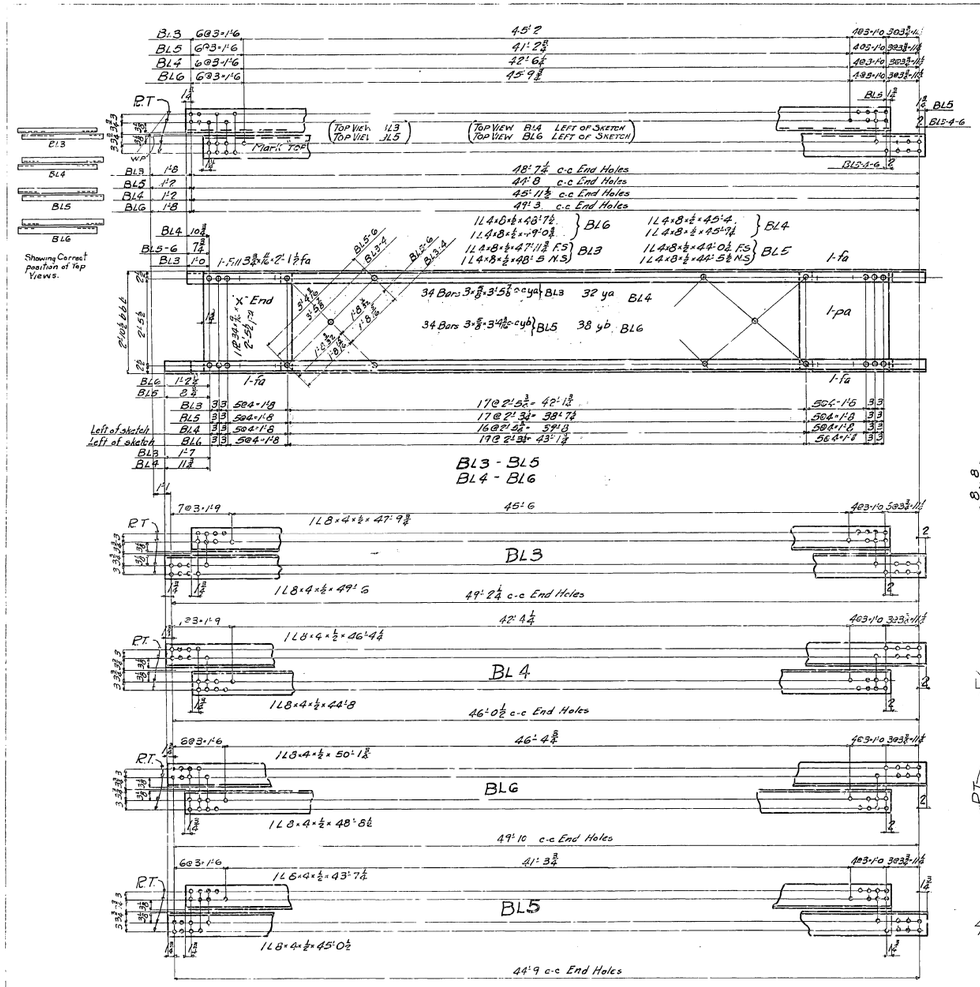
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y81 - E1

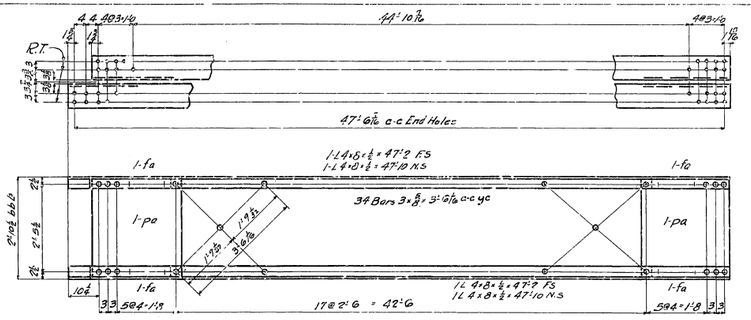
Truss Diagonals North Truss Span Y81-Y82

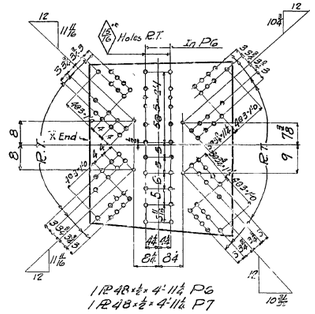
AMERICAN BRIDGE COMPANY

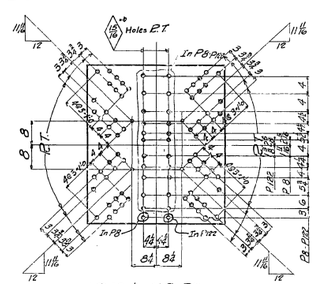
DRAWING NO.	Gary '3	PLANT
WORK FABRICATED	Ambridge	UNIT
IN CHARGE OF	Tompt.	
DRAW. TRACE BY	WG	2-28-34
DRAW. CHECKED BY	L.H.	3-13-34
ORDER No.	G5101	SHEET No. 37

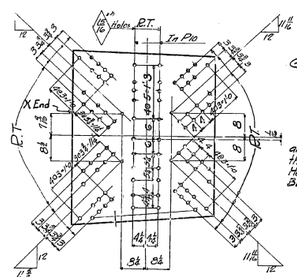
E30-1











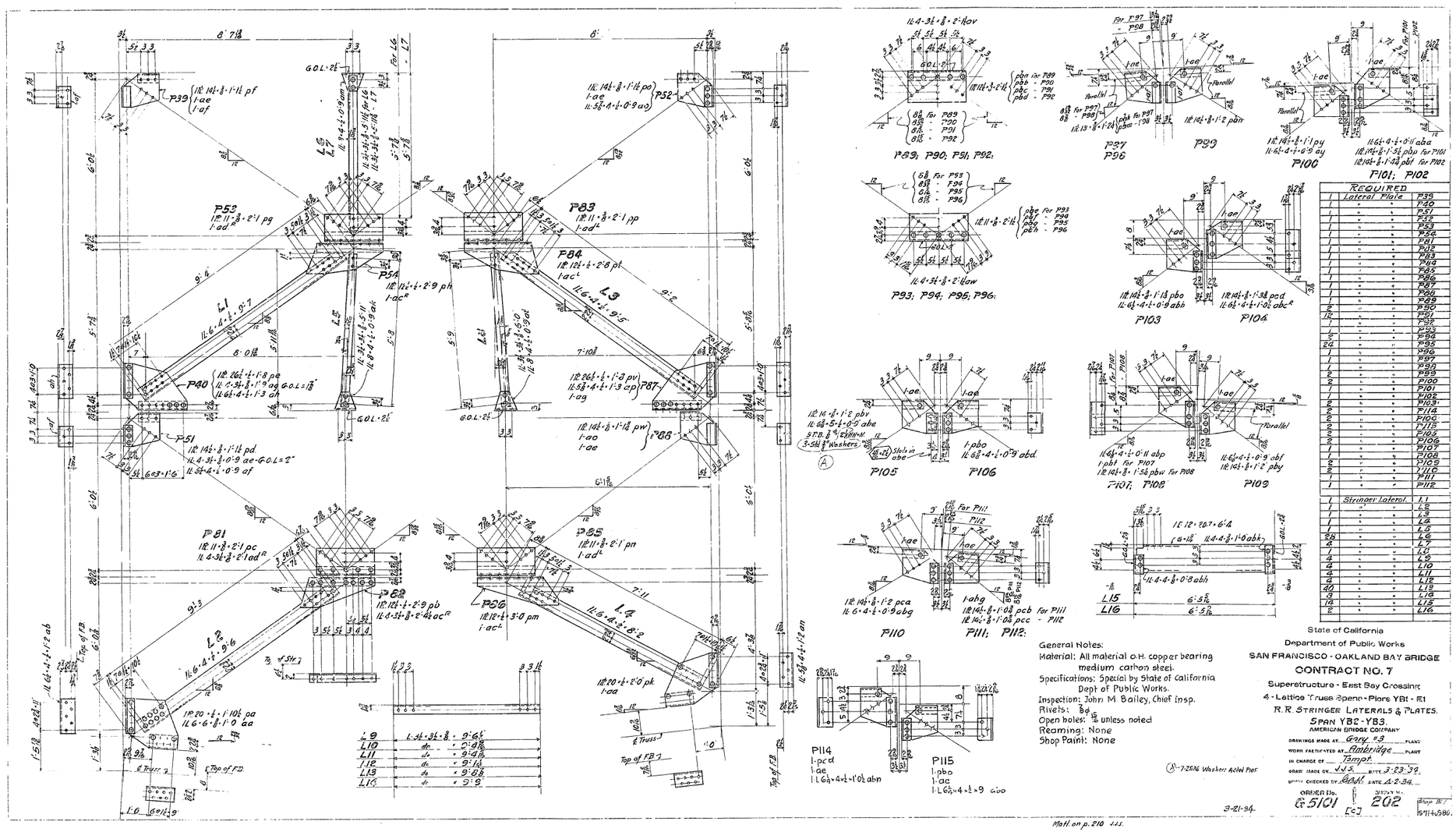
GENERAL NOTES-
Material- All material O.H. Copper Bearing medium Carbon steel.
Specifications- Special by State of California, Dept of Public Works.
Inspection- John M. Bailey - Chief Inspector.
Rivets- ⅞"
Open Holes- 1⅛" Unless noted.
Reaming- Holes in material ⅞" thick or less to be subpunched 1" and reamed to size while parts are assembled. Carbon steel ⅞" thick or less, used for facing and stay plates, may be punched full size. Holes marked "P.T." to be reamed thru a steel template. Burrs to be removed from all reamed holes.
Shop Paint- None

REQUIRED		
One	Batt. Lateral	BL3
One	do	BL4
One	do	BL5
One	do	BL6
12	do	BL7
One	Batt. Lat. Rr.	P6
One	do	P7
One	do	P8
2	do	P9
One	do	P10
One	do	P11
One	do	P122

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y51 - E1

Details of Batt. Laterals Span Y52-Y53
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT... Gary PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAWN MADE BY W.G. DATE 3-9-34
CHECKED BY J.H.G. DATE 3-21-34
ORDER No. G 5101 SHEET No. [c] 201
Shop Bill 5145-166

Mail ord. 827 W.G. 5-2-34



REQUIRED		
1	Lateral Plate	P89
1	" "	P90
1	" "	P91
1	" "	P92
1	" "	P93
1	" "	P94
1	" "	P95
1	" "	P96
1	" "	P83
1	" "	P84
1	" "	P85
1	" "	P86
1	" "	P87
1	" "	P88
2	" "	P89
2	" "	P90
2	" "	P91
2	" "	P92
2	" "	P93
2	" "	P94
2	" "	P95
2	" "	P96
1	" "	P97
1	" "	P98
1	" "	P99
2	" "	P100
2	" "	P101
2	" "	P102
2	" "	P103
2	" "	P114
2	" "	P104
2	" "	P105
2	" "	P106
2	" "	L113
2	" "	P103
2	" "	P109
1	" "	P107
2	" "	P108
2	" "	P109
2	" "	L110
1	" "	P111
1	" "	P112
1	Stringer Lateral	L1
1	" "	L2
1	" "	L3
1	" "	L4
28	" "	L5
2	" "	L6
1	" "	L7
4	" "	L8
4	" "	L9
4	" "	L10
4	" "	L11
4	" "	L12
40	" "	L13
8	" "	L14
14	" "	L15
2	" "	L16

General Notes:
Material: All material o.h. copper bearing medium carbon steel.
Specifications: Special by State of California Dept of Public Works.
Inspection: John M. Bailey, Chief Insp.
Rivets: ⅞ϕ
Open holes: 15/16 unless noted
Reaming: None
Shop Paint: None

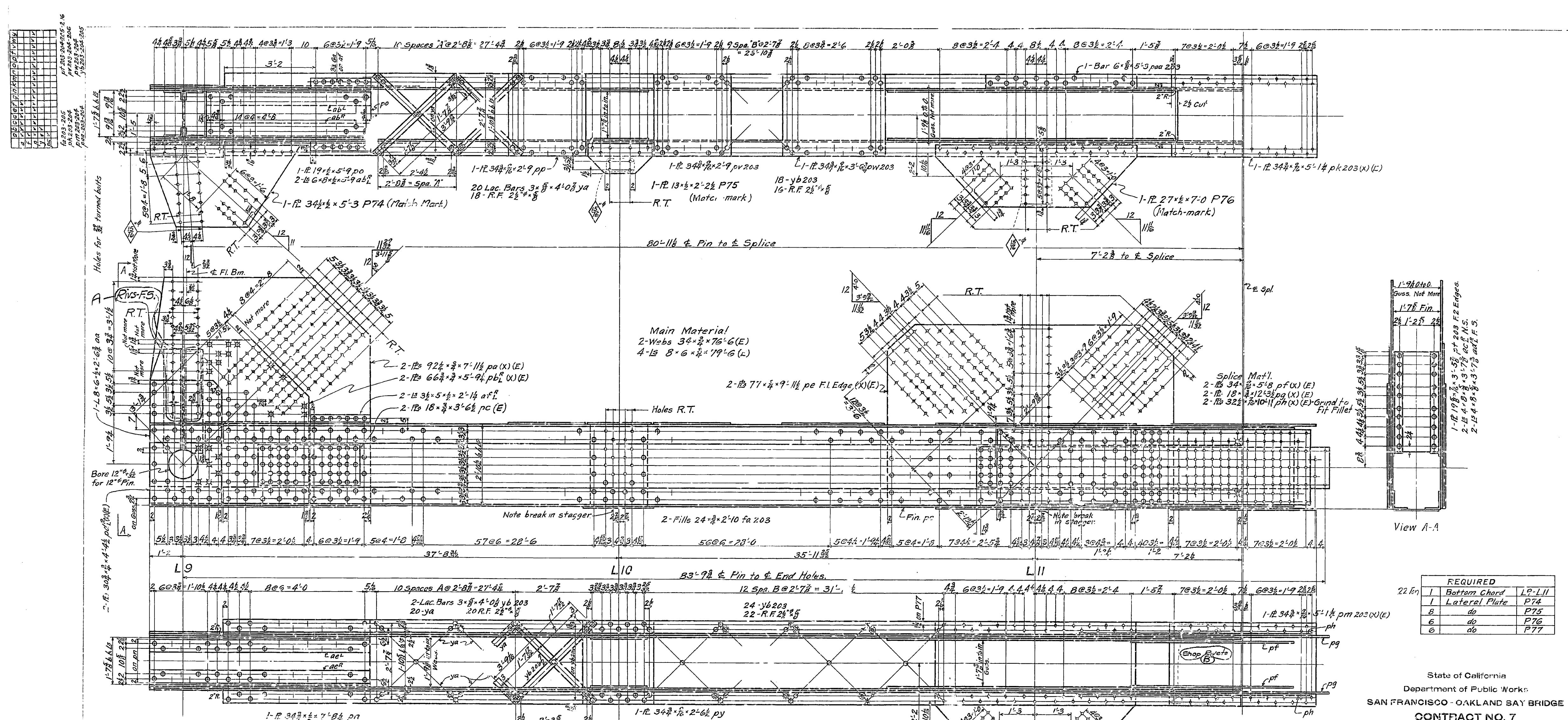
Ⓐ-7-2836 Washers: Acted Plan

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
R.R. STRINGER LATERALS & PLATES.
SPAN YB2 - YB3.
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tampt
DRAW CHKD BY JVS DATE 3-23-34
QUANT CHECKED BY GAM DATE 4-2-34
ORDER No. E5101 DRAW No. 202 Shop 31
5714580

3-21-34

Mall on p. 210 ###

30-1



General Notes:-
Material:-All material O.H Copper bearing medium carbon steel, except material marked (x) which is to be O.H. Copper bearing silicon steel.
Specifications :- Special by State of California, Dep't of Public Works.
Inspection :- John M. Bailey - Chief Inspector.
Rivets :- 1" diam.
Open Holes :- 1⅛" diam. unless noted.
Reaming :- Holes in material ¾" thick or less to be subpunched ¾" and reamed to size while parts are assembled.
Carbon steel ¾" thick or less, used for lacing, stay plates & diaphragms may be punched full size.
When reaming field splices, the chords of trusses shall be laid out in lengths of not less than 6 panels and chord splices, & Pls, P74; P75, P76 & P77 reamed and match-marked while so assembled. Holes marked R.T. to be reamed thru a steel templet.
Burrs to be removed from all reamed holes. All match-marking to be made with ¾" steel stencils and white paint.
Finish:- Sheared or flame cut edges and ends of all mat'l marked (E) to be planed to remove at least ⅛" of metal.
Shop Paint:- See Sh. E1.
White Lead and Tallow on pin holes.

22 Ton

REQUIRED		
1	Bottom Chord	L9-L11
1	Lateral Plate	P74
8	do	P75
6	do	P76
6	do	P77

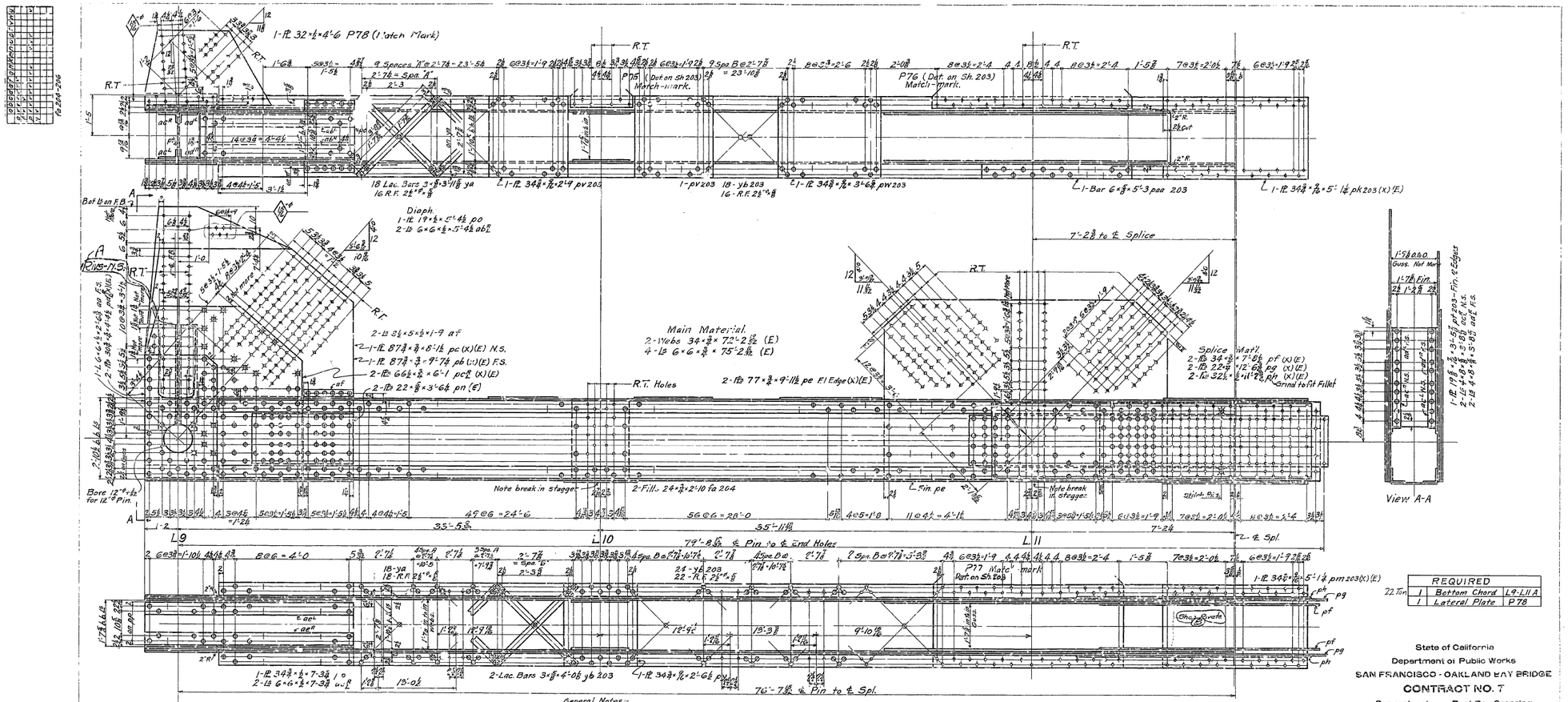
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Bottom Chord L9-L11 North Truss.
Span YB2-YB3
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAW. MADE BY G.T.N. DATE 3-20-34
DRAW. CHECKED BY C.F.C. DATE 3-30-34
ORDER No. G5101 [B¢C] SHEET No. 203
Shop Bill 584-585

(A) - 6-6-34 Rivs. F.S. at L9
(B) - 6-11-34 Shop Riv. Spl. Pl.

5-2-34

Mat'l ord A.B. Pgs. 211, 214 & 278 G.T.N.

89-1



REQUIRED			
22 Tons	1	Bottom Chord	L9-L11 A
	1	Lateral Plate	P78

General Notes:-
Material:- All material O.H. Copper bearing medium carbon steel, except material marked (X), which is to be O.H. Copper bearing Silicon steel.
Specifications:- Special by State of California, Dept. of Public Works.
Inspection:- John M. Bailey - Chief Inspector.
Rivets:- 1" diameter.
Open Holes:- 1⅛" unless noted.
Reaming:- Holes in material ⅞" thick or less to be subpunched ⅝" and reamed to size while parts are assembled.
Carbon steel ⅞" thick or less, used for lacing, stay plates & diaphragms may be punched full size.
When reaming field splices, the chords of trusses shall be laid out in lengths of not less than 6 panels and Chord Splices, Plate P10, and plates P75, P76, P77, P78 & P79, reamed and match-marked while so assembled. Holes marked R.T. to be reamed thru a steel template.
Burrs to be removed from all reamed holes. All match-marking to be made with ⅜" steel stencils and white paint.
Finish:- Sheared or flame cut edges and ends of all matl. marked (E) to be planed to remove at least ⅛" of metal.
Shop Paint:- See Sh. El.
White Lead and Tallow on pin holes.

(A) 5-31-34 Eliminate N.S. at L9
(B) 6-6-34 Change Shop Det. Spl. Pl.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4-Lattice Truss Spans - Piers YB1 - E1
Details of Bottom Chord L9-L11A
South Truss, Span YB2-YB3
AMERICAN BRIDGE COMPANY

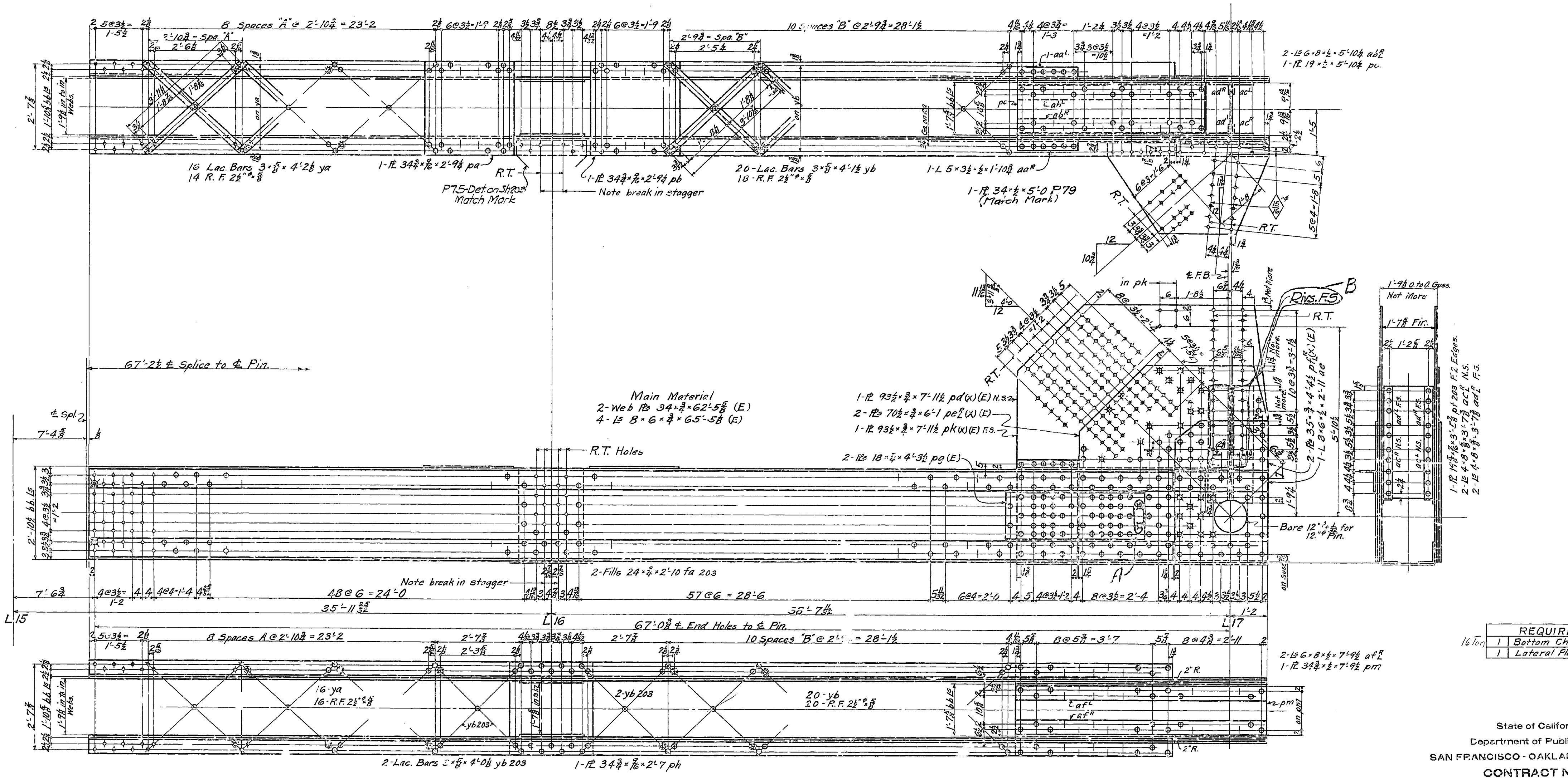
DRAWINGS MADE AT Gary PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF — Tompt
DRAWN MADE BY G.T.N. DATE 3-16-34
DWG CHECKED BY C.F.C. DATE 5-30-34

ORDER No. G5101 [D&C]
SHEET No. L 204
PROVISIONAL 386

5-2-34

Matl Ord pgs. 211,212 & 280 G.T.N.

30-1



	REQUIRED	
1	Bottom Chord	L15-L17
1	Lateral Plate	P79

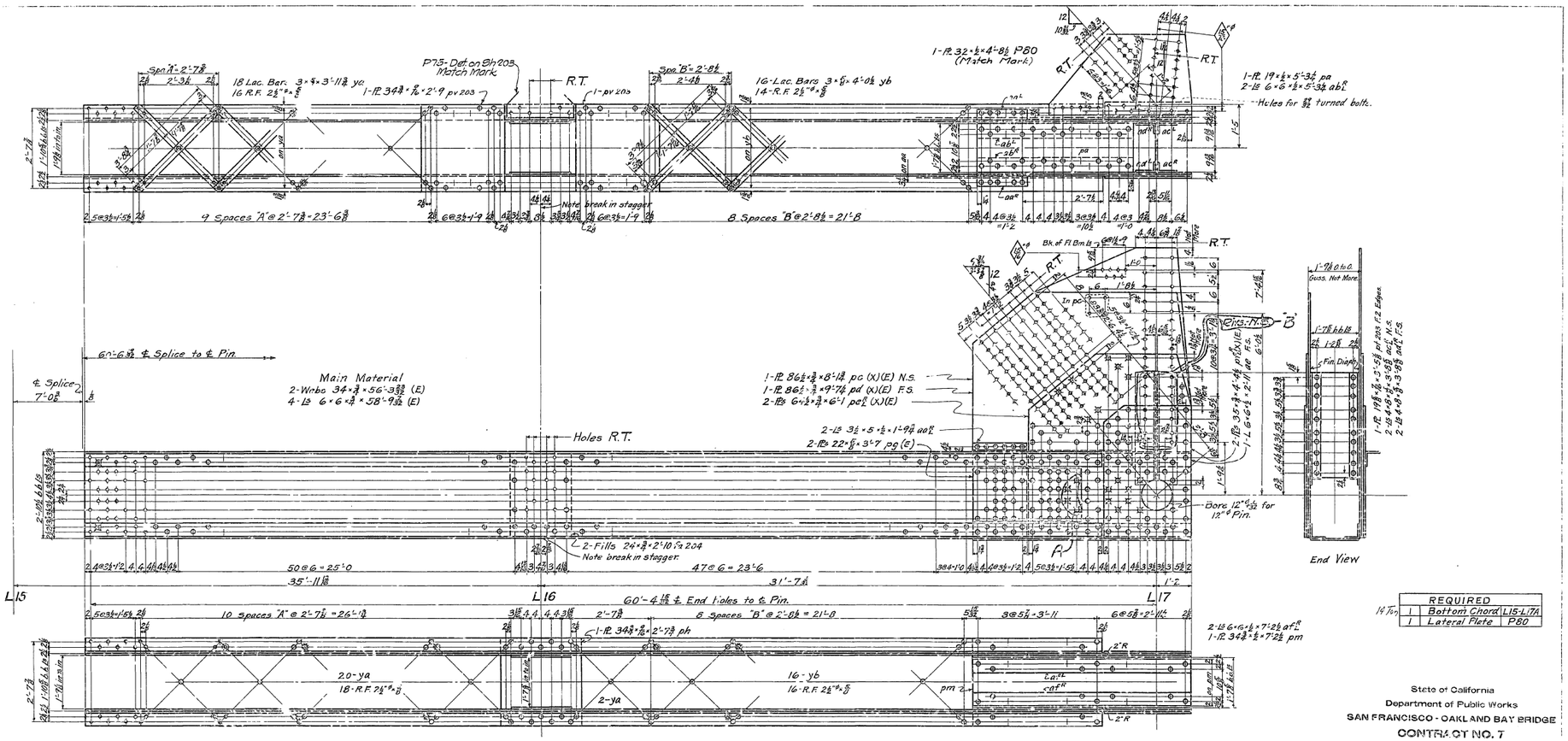
16 Ton

General Notes:-
Material:- All material O.H. Copper bearing medium carbon steel, except material marked (X) which is to be O.H. Copper bearing silicon steel.
Specifications:- Special by State of California, Dep't of Public Works.
Inspection:- John M. Bailey - Chief Inspector.
Rivets:- 1" diam.
Open Holes:- 1⅛" diam. unless noted.
Reaming:- Holes in material ¾" thick or less to be subpunched ¼" and reamed to size while parts are assembled.
Carbon steel ¾" thick or less, used for lacing, stay plates & diaphragms may be punched full size.
When reaming field splices, the chords of trusses shall be laid out in lengths of not less than 6 panels, and chord splices, Plate P79, and P75 Det. on Sh. 203 reamed and match-marked while so assembled. Holes marked R.T. to be reamed thru a steel template.
Burrs to be removed from all reamed holes. All match-marking to be made with ¾" steel stencils and white paint.
Finish:- Sheared or flame cut edges and ends of all mat'l marked (S) to be planed to remove at least ⅛" of metal.
Shop Paint:- See Sh E1
White Lead and Tallow on pin holes

(A) 5-31-34 Ctsk. Rivs in Web Sp. ℄s.
(B) 6-6-34 Rivs. F.S. at L17

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Bottom Chord L15-L17 - North Truss
Span YB2-YB3
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAW. MADE BY G.T.N. DATE 3-20-34
DRAW. CHECKED BY C.T.C. DATE 3-30-34
ORDER No. G5101 SHEET No. 205
[B&C]
SHOP BILL 587
4-18-34

Mat'l Ord. A.B. Pgs. 211, 215, 223 & 279 G.T.N.



REQUIRED		
14 Top	1	Bottom Chord L15-L17A
	1	Lateral Plate P80

General Notes:-
Material:- All material O. H Copper bearing medium carbon steel, except material marked (X) which is to be O.H. Copper bearing Silicon steel.
Specifications:- Special by State of California, Dept of Public Works.
Inspection:- John M. Briley - Chief Inspector.
Rivets:- 1" diam.
Open Holes:- 11/16" diam. unless noted.
Reaming:- Holes in material ⅞" thick or less to be subpunched ¾" and reamed to size while parts are assembled.
Carbon Steel ⅞" thick or less, used for lacing, stay plates & diaphragms may be punched full size.
When reaming field splices, the chords of trusses shall be laid out in lengths of not less than 6 panels and chord splices, Plate P80 and P75 Def. on Sh. 203 reamed and match-marked while as assembled. Holes marked R.T. to be reamed thru a steel templet.
Burrs to be removed from all reamed holes. All match-marking to be made with ⅜" steel stencils and white paint.
Finish:- Sheared or flame cut edges and ends of all mat'l marked (E) to be planed to remove at least ⅛" of metal.
Shop Point:- See Sh. 21
Angle Leads and Tacks to be pin holes

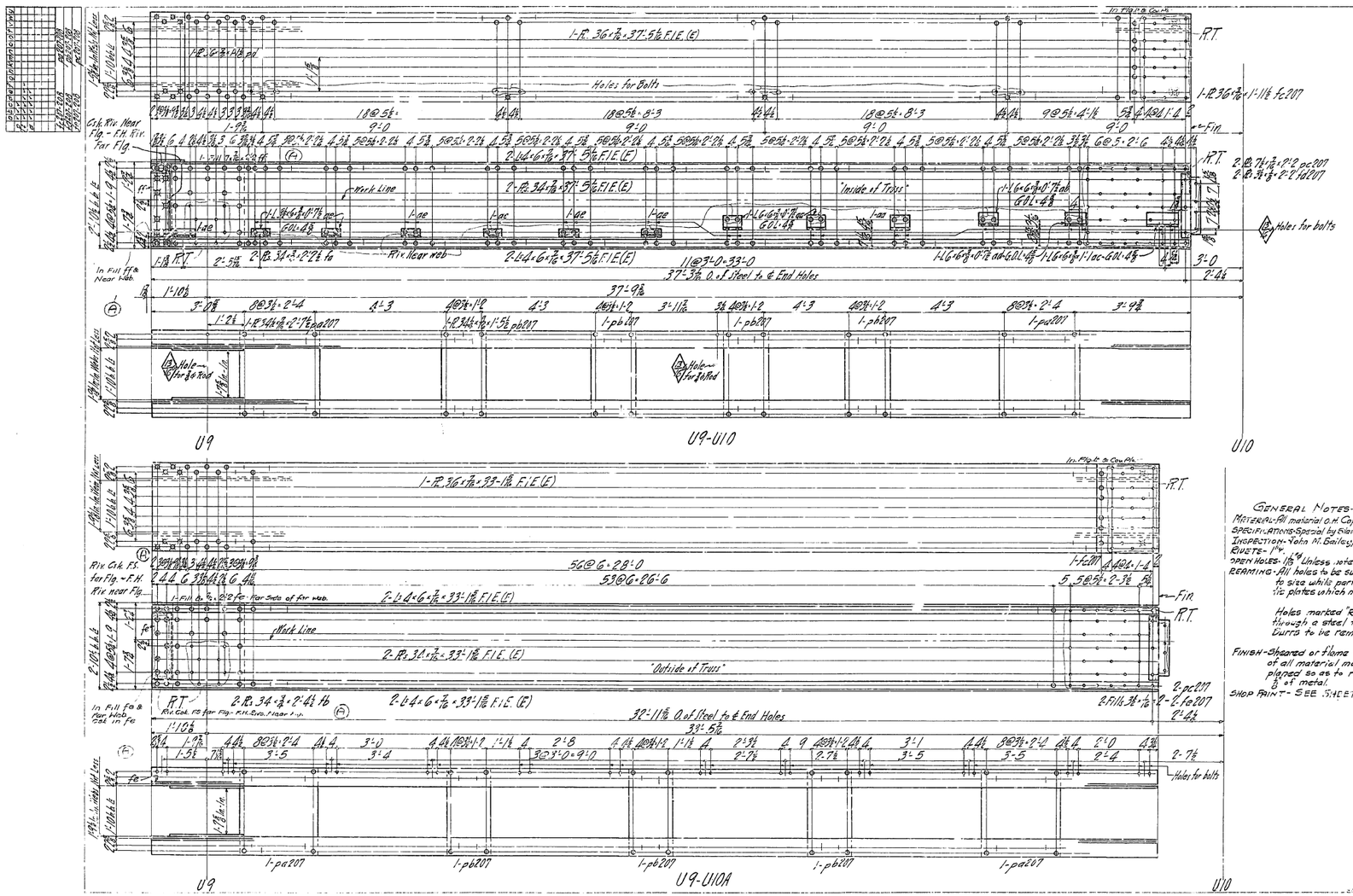
Mat'l Ord. A.B. Pgs. 211, 213, 217, 231 & 282 G.T.N.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Bottom Chord L15-L17, South Truss
Span YB2-YB3
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tarrant
DRAWN BY G.T.N. DATE 3-22-34
CHECKED BY C.F.C. DATE 3-29-34

APPROVED
Chief Engr. Bridge Engineer
Approved Date 4-18-34

ORDER No. G5101
DWG'S No. 206
SHEET BILL 588



GENERAL NOTES.

MATERIAL-All material of Copper Bearing medium Carbon Steel.
SPECIFICATIONS-Special by State of California, Dept of Public Works.
INSPECTION-John M. Bailey, Chief Inspector.
RIVETS-1" ϕ.
OPEN HOLES-1 1/8" ϕ Unless noted.
REAMING-All holes to be subpunched 1/4" and reamed to size while parts are assembled except fit plates which may be punched full size.

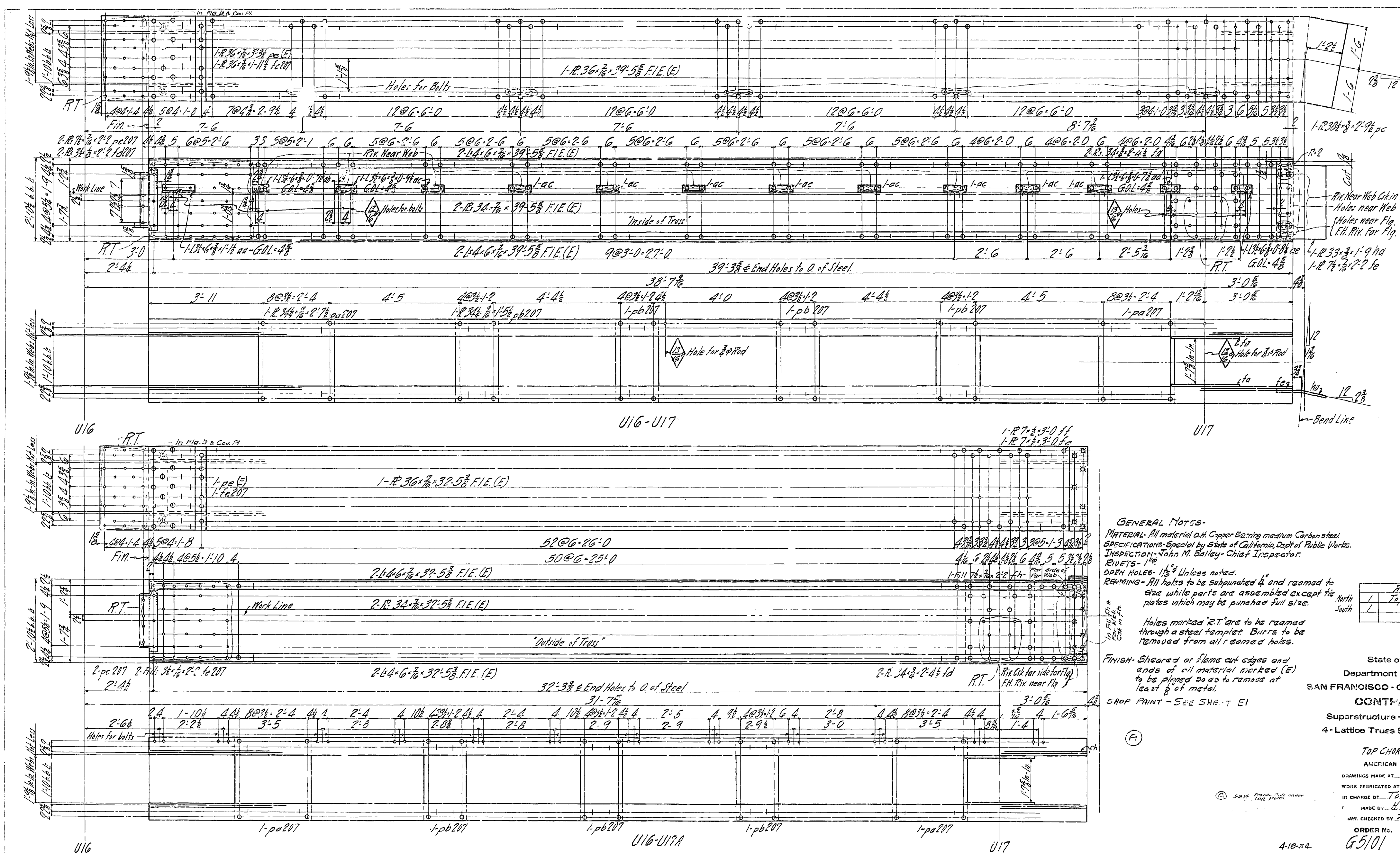
Holes marked "R.T." are to be reamed through a steel templet.
Burrs to be removed from all reamed holes.

FINISH-Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least 1/2" of metal.
SHOP PAINT-SEE SHEET E1

REQUIRED			
North	1	Top Chord	U9-U10
South	1	do	U9-U10A

State of California
Department of Public Works
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4-Lattice Truss Spans-Piers Y81-E1
TOP CHORD-SPAN Y82-Y83
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Pittsburgh PLANT
IN CHARGE OF... Tomei
DRAWN BY... HCG DATE 3-14-36
TRACED BY... DATE 3-21-36
CHECKED BY... DATE
DES No. G5101 [C] SHEET No. 207
Shop Bill 563
4-18-36
Mat'l Ord P 219.222-223-230 HCG.

30-1



GENERAL NOTES-

MATERIAL- All material O.H. Copper Bearing medium Carbon steel.
SPECIFICATIONS- Special by State of California, Dep't of Public Works.
INSPECTION- John M. Bailey- Chief Inspector.
RIVETS- 1"ϕ
OPEN HOLES- 1 1/16"ϕ Unless noted.
REAMING- All holes to be subpunched 3/4" and reamed to size while parts are assembled except tie plates which may be punched full size.

Holes marked "R.T." are to be reamed through a steel templet. Burrs to be removed from all reamed holes.

FINISH- Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least 1/8" of metal.

SHOP PAINT - SEE SHEET E1

	REQUIRED		
North	1	Top Chord	U16-U17
South	1	do	U16-U17A

6-Ton
5 Ton

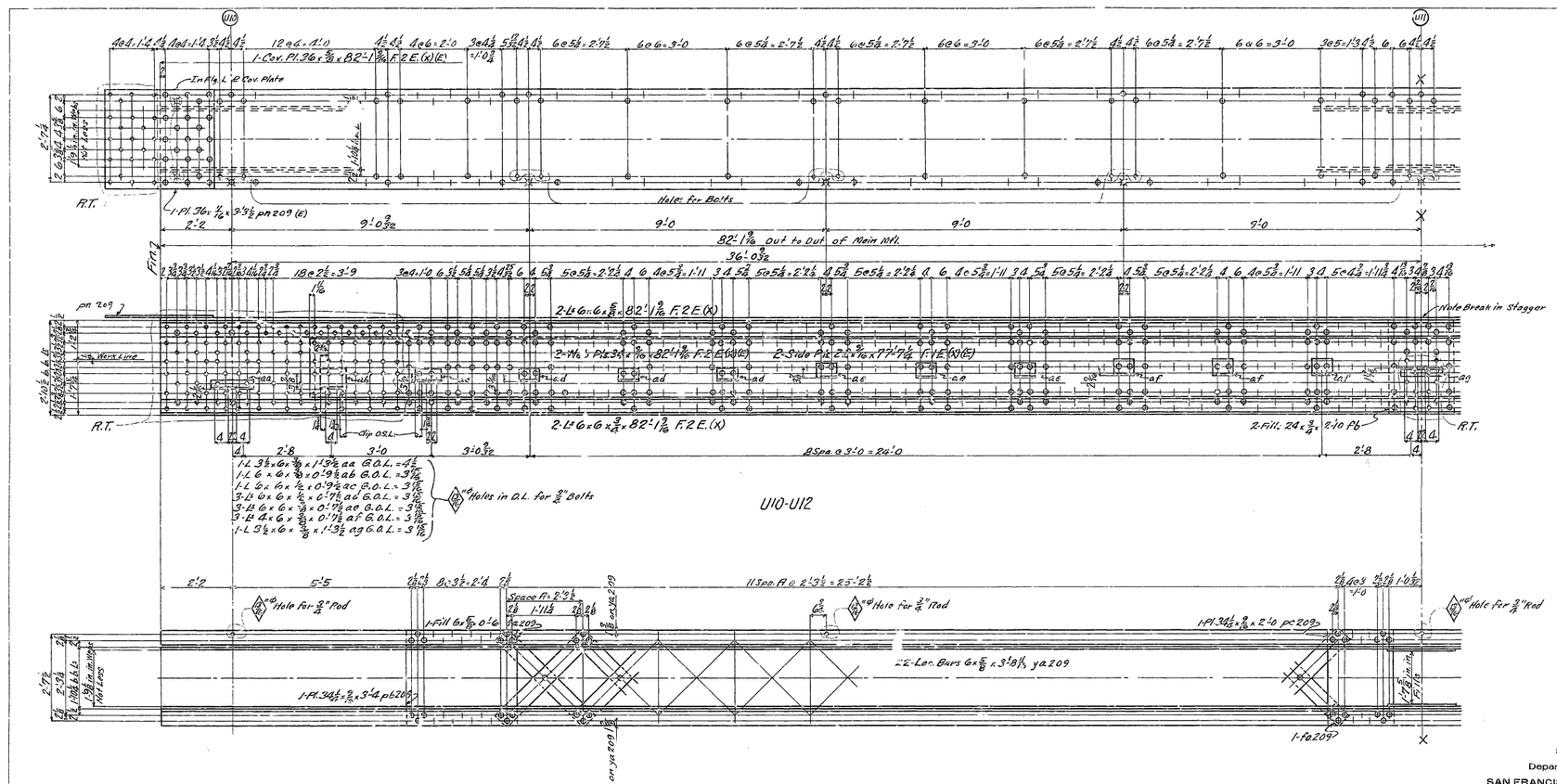
(A) 5-15-37 Provide Fills under Lap Plates.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1

TOP CHORD SPAN YB2-YB3

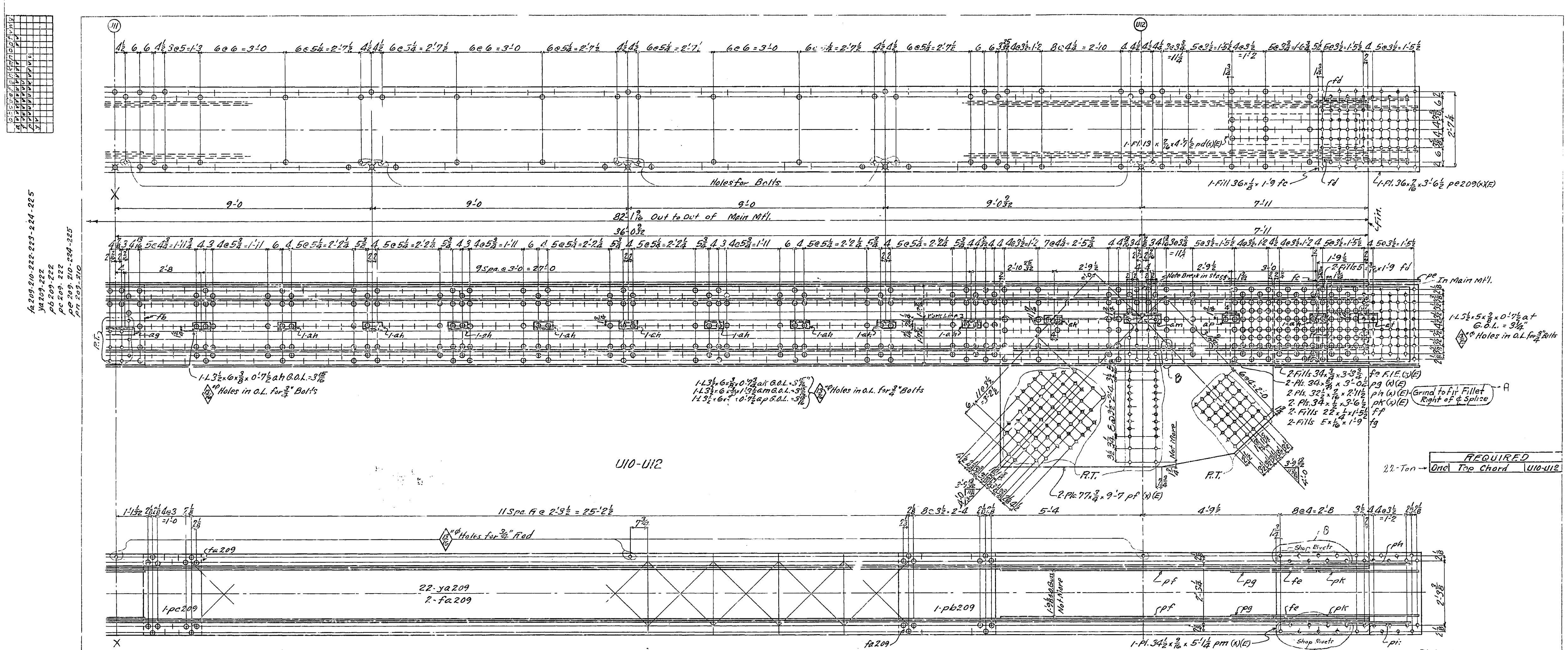
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
MADE BY H.C.G. DATE 3-15-34
CHECKED BY [illegible] DATE 3-21-34

4-18-34
ORDER No. G5101 [C] SHEET No. 208
Shop Bill 564
Mat. Ord. P. 221-225-226 H.C.G. 230



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Top Chord U10-U12 North Truss
Span No 2 — YB2 to YB3
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary 43 PLANT
WORK FLOOR DATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAW. MADE BY H.M.C. DATE 2-21-34
CHECKED BY [illegible] DATE 4-3-34
ORDER No. E5101
SHEET No. 209AB
Shop Bill 535

4-18-34.



GEN. NOTES-
Material- All mat'l O.H. Copper Bearing medium Carbon steel, except mat'l marked (x) which is to be O.H. Copper Bearing silicon steel.
Specifications-Special by State of California, Dep't of Public Works.
Inspection- John M. Bailey-Chief Inspector.
Rivets- 1"φ
Open Holes- 1 1/16"φ Unless noted.
Reaming- Holes in material 3/4" thick or less to be subpunched 1/4" and reamed to size while parts are assembled. Carbon steel 3/4" thick or less, used for lacing or stay plates, may be punched full size.
The chords of trusses shall be laid out in lengths of not less than 6 panels and the chord splices reamed while so assembled in shop and pieces match marked.
Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
All match marking to be made with 3/4" steel stencils and white paint.
Finish- Sheared or flame cut edges and ends of all mat'l marked (E) to be planed so as to remove at least 1/8" of metal.
Shop Paint: SEE SHEET E1

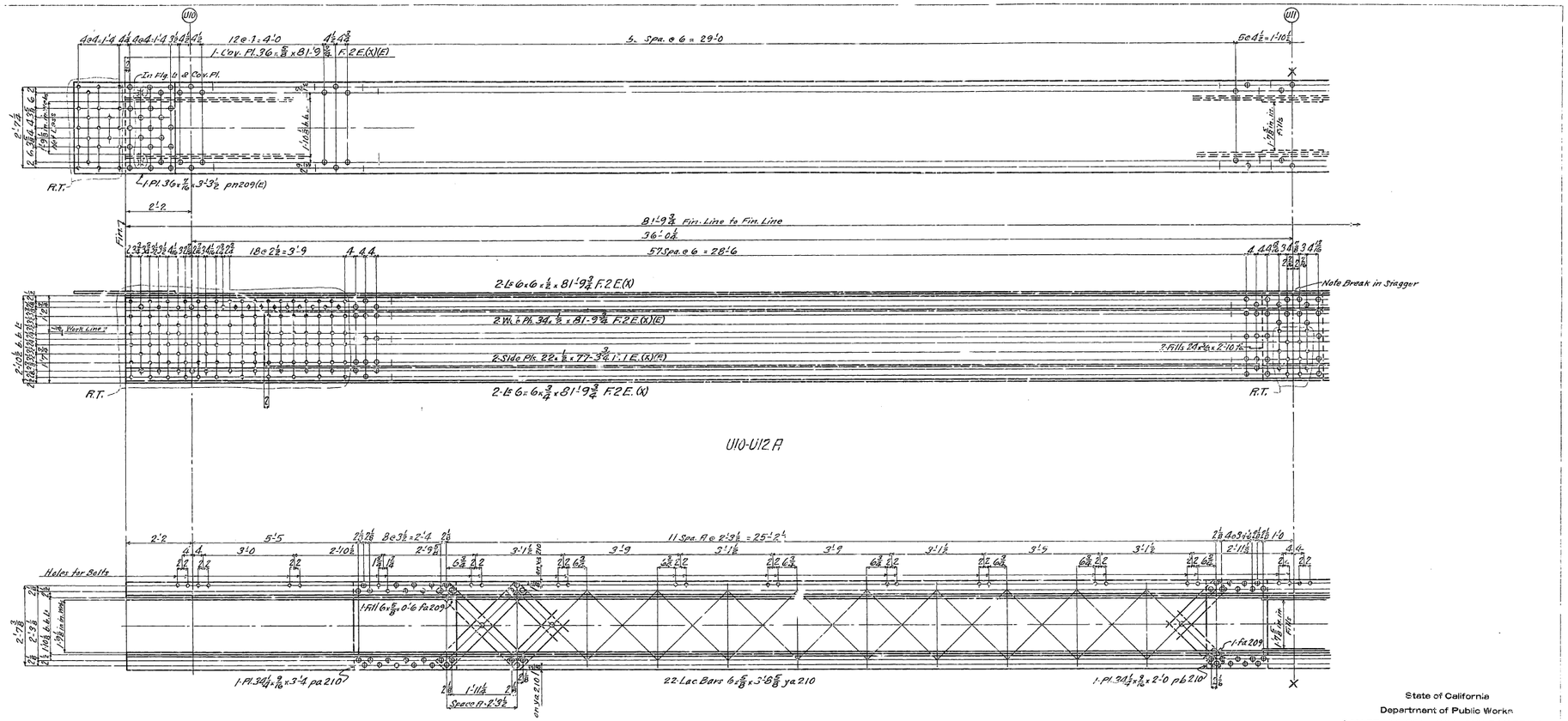
(B) 6-11-34 Chg. Riv. to Open Holes; Shop Riv. Spl. Pl. "pm"
(A) 5-9-34 Grind Spl. Pls. for Fillet

4-18-34.

Mt'l. Ord. P. 222, 279, 284

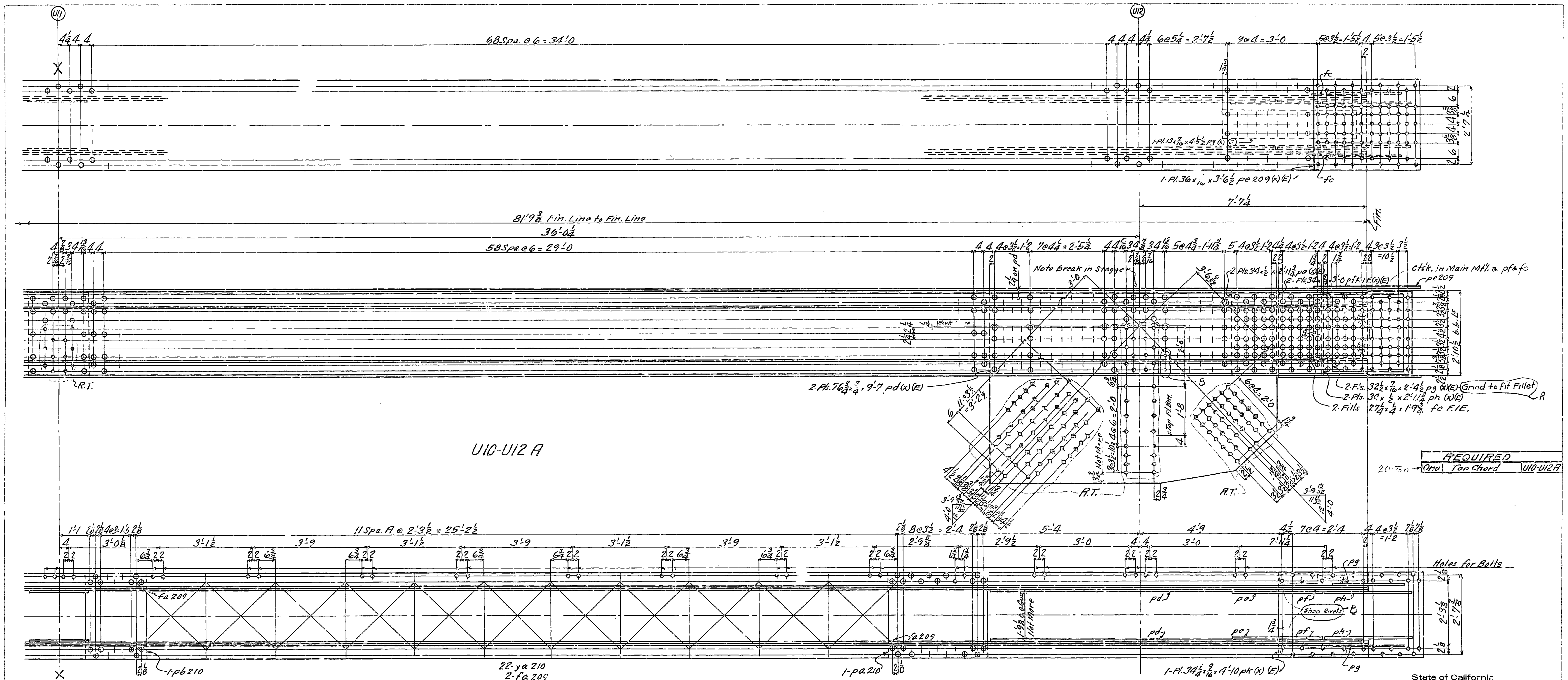
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Top Chord U10-U12 North Truss
Span #2 - YB2 to YB3
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAW. MADE BY H.M.C. DATE 3-21-34
DRAW. CHECKED BY [illegible] DATE 4-3-34
ORDER No. G5101 [B&C]
SHEET No. 209 B
Shop Bill 565

30-F-1



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Top Chord U10-U12 A
Span YB2 - YB3 - South Truss
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tempt
DRAW. MADE BY H.M.C. DATE 3-19-36
DRAW. CHECKED BY [illegible] DATE 4-1-36
4-18-36.
ORDER No. 65101
SHEET No. 210 AB
Temp Bill 566

30-1



GENERAL NOTES-

Material- All material O.H. Copper Bearing medium Carbon steel, except material marked (x) which is to be O.H. Copper Bearing Silicon steel.

Specifications- Special by State of California, Dep't of Public Works.

Inspection- John M. Bailey - Chief Inspector.

Rivets- 1"φ.

Open holes- 1 1/16"φ.

Reaming- Holes in material ¾" thick or less to be subpunched ¼" and reamed to size while parts are assembled. Carbon steel ¾" thick or less, used for lacing and stay plates, may be punched full size.
The chords of trusses shall be laid out in lengths of not less than 6 panels and the chord splices reamed while so assembled in shop and pieces match marked. Holes marked "R.T." to be reamed thru a steel templet. Burrs to be removed from all reamed holes.
All match marking to be made with ⅜" steel stencils and white paint.

Finish- Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least ⅛" of metal.

Shop paint- SEE SHEET E1

(B) 6-11-34 Chg. Riv. to Open Holes; Shop Riv. Spl. 12 "pk"
(A) 5-9-34 Grind Spl. Plt. for Fillet

4-18-34

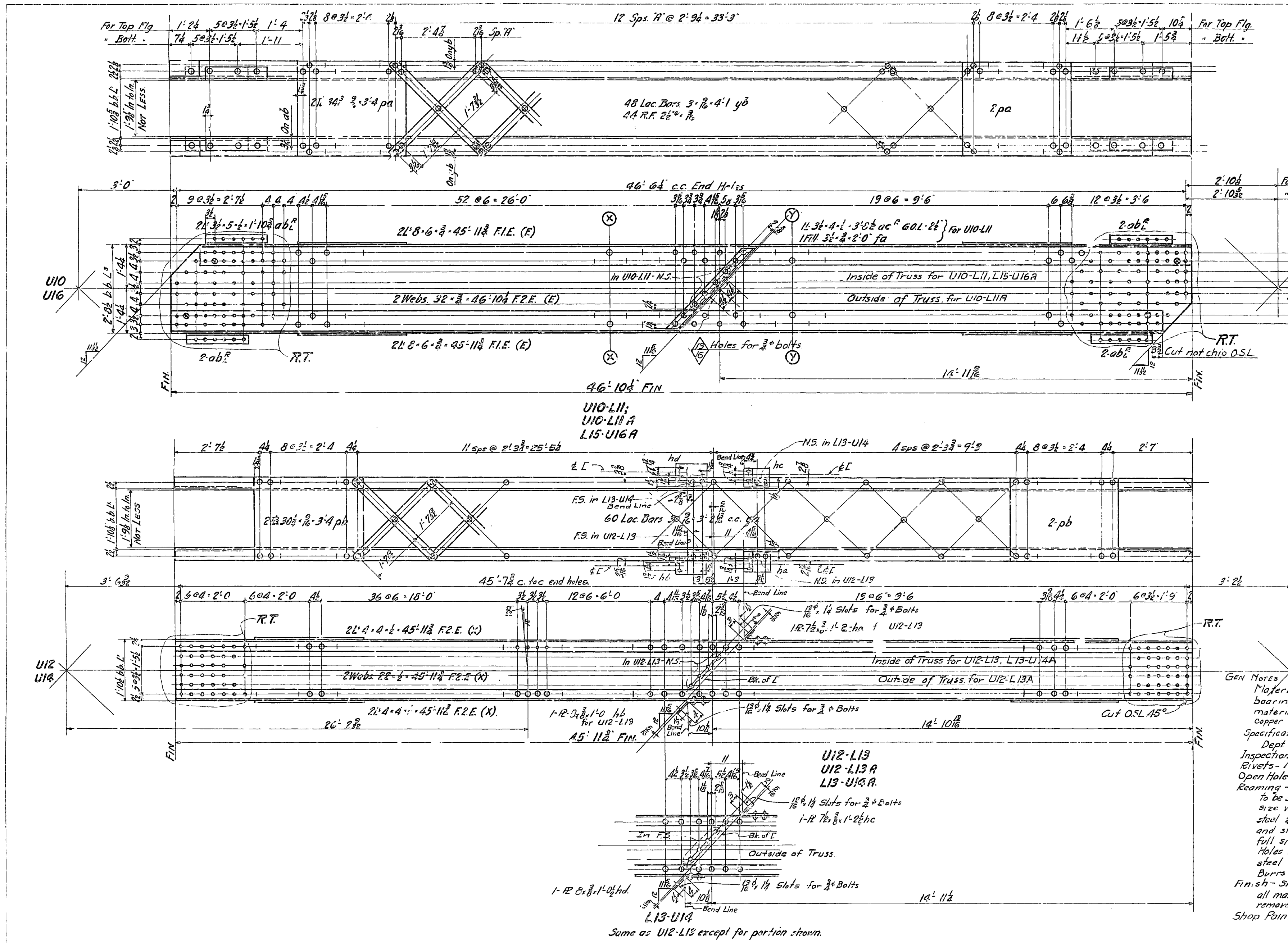
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Top Chord U10-U12 A South Truss
Span #2 YB2 to YB3

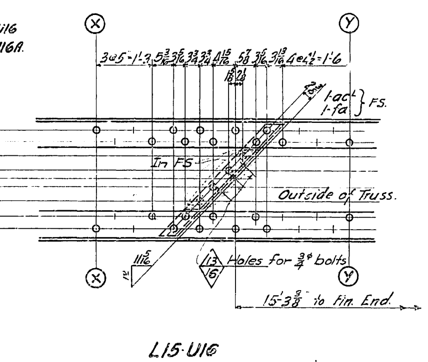
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAW. MADE BY H.M.C. DATE 3-19-34
DRAW. CHECKED BY MDW DATE 4-4-34

ORDER No. 65101
SHEET No. 210 B
[B&C]
Shop Bill 566

Mt'l. Ord. P. 219, 225, 282, 283, 286.





Same as U10-L11 except for portion shown between lines X+Y.

REQUIRED				
9 Ton	1	Truss Diagonal.		U10-L11
9 Ton	1	"	"	L15-U16
9 Ton	1	"	"	U10-L11 A
9 Ton	1	"	"	L15-U16 A
	1	"	"	U12-L13
	1	"	"	L13-U14
	1	"	"	U12-L13 A
	1	"	"	L13-U14 A

GEN NOTES

Material – All material O.H copper bearing medium carbon steel except material marked (X) which is to be O.H copper bearing silicon steel.

Specifications – Special by State of California Dept of Public Works

Inspection – John M Bailey Chief Insp.

Rivets – 1"φ

Open Holes – 1 1/16"φ unless noted.

Reaming – Holes in material 3/4" thick or less to be subpunched 1/4" and reamed to size while parts are assembled. Carbon steel 3/4" thick or less used for lacing and stay plates may be punched full size.

Holes marked R.T. to be reamed to a steel templet

Burrs to be removed from all reamed holes.

Finish – Sheared or flame cut edges & ends of all material marked (E) to be planed to remove at least 1/8" of metal.

Shop Paint: None.

APPROVED 3-21-34

State of California

Department of Public Works

SAN FRANCISCO - OAKLAND BAY BRIDGE

CONTRACT NO. 7

Superstructure - East Bay Crossing

4 - Lattice Truss Spans - Piers YB1 - E1

Truss Diagonals - North & South Trusses - Span YB2-YB3

AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary #3 PLANT

WORK FABRICATED AT Ambridge PLANT

IN CHARGE OF Tompt

DRAW. MADE BY J.J.S. DATE 3-19-34

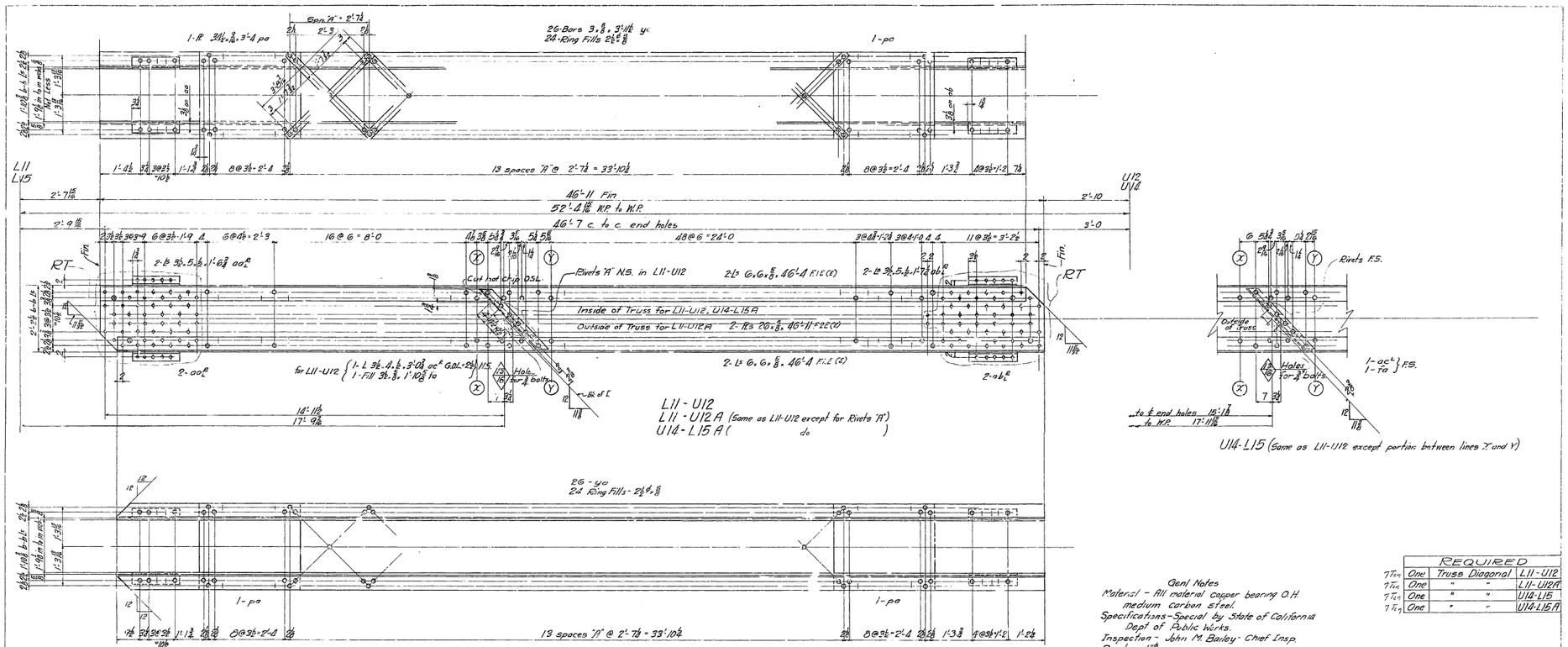
DRAW. CHECKED BY J.H.G. DATE 3-27-34

ORDER No. G-5101 [B&C]

SHEET No. 211

Shop Bill 581

Matl. Ord. Pgs. 216-220-281.



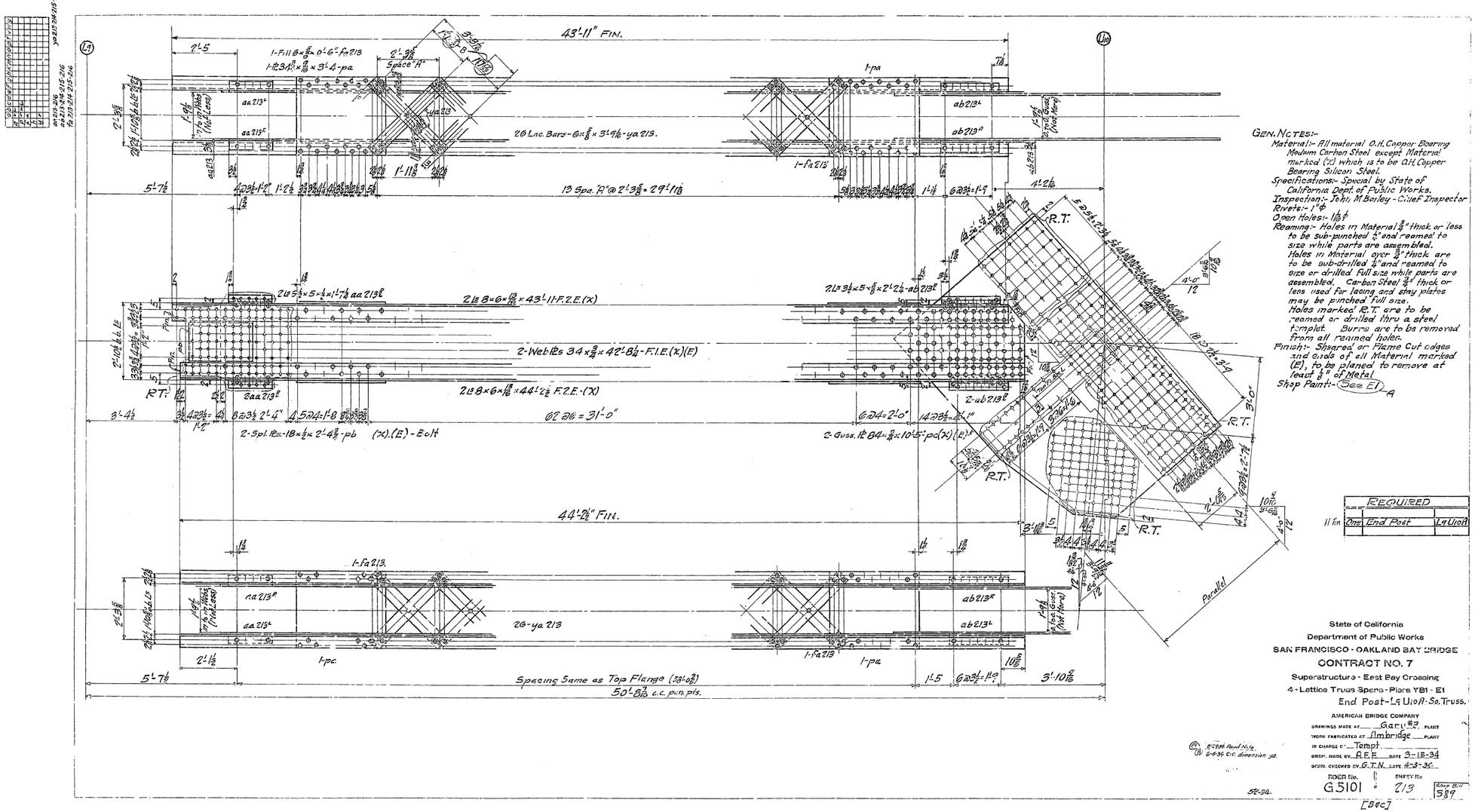
REQUIRED			
7 Trs	One	Truss Diagonal	L11-U12
7 Trs	One	"	L11-U12A
7 Trs	One	"	U14-L15
7 Trs	One	"	U14-L15A

Genl Notes

Material - All material copper bearing O.H. medium carbon steel.
Specifications - Special by State of California Dept of Public Works.
Inspection - John M. Bailey - Chief Insp.
Rivets - 1"ϕ
Open Holes - 1⅛"ϕ Unless noted
Reaming - Holes in material ⅝" thick or less to be subpunched ⅜" and reamed to size while parts are assembled. Lacing bars and tie plates may be punched full size. Holes marked "RT" to be reamed thru a steel templet.
Burrs to be removed from reamed holes.
Finish - Sheared or flame cut edges and ends of all material marked (E) to be planed to remove at least ⅛" of metal.
Shop Paint: - None.

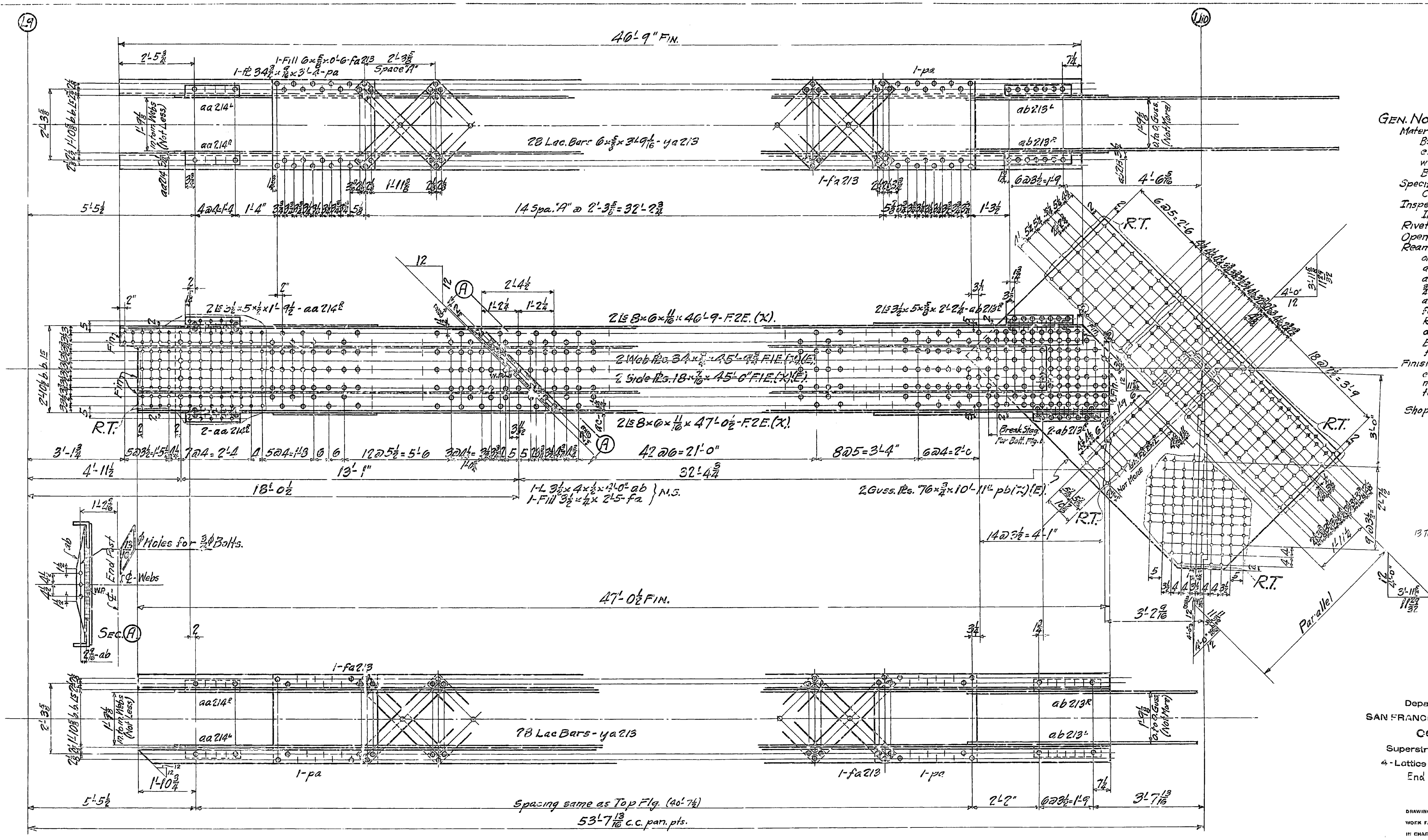
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans Piers Y51 - E1
TRUSS DIAGONALS - NORTH & SOUTH TRUSSES
SPANS Y52 - Y53
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary "B" PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tempel
DRAW. MADE BY W.R.L. DATE 3-15-34
CHECKED BY J.H.G. DATE 3-28-34
ORDER No. G5101 [C] SHEET No. 212 Shop Dwg 582

5-21-34A
Mat. Ord. Pgs 218, 217 & 220 W.R.E.



Mat'l. Ord. - pgs. 218-277 - A.F.F.

30-1



GEN. NOTES:-

Material:- All Material O.H. Copper Bearing Medium Carbon Steel except Material marked (X) which is to be O.H. Copper Bearing Silicon Steel.

Specifications:- Special by State of California Dept. of Public Works.

Inspection:- John M Bailey, Chief Inspector.

Rivets:- 1"φ

Open holes:- 1 1/16"φ, unless noted.

Reaming:- Holes in Material ¾" thick or less to be sub-punched ¾" and reamed to size while parts are assembled. Carbon Steel ¾" thick or less used for lacing and stay plates may be punched full size. Holes marked R.T. are to be reamed or drilled thru a steel templet. Burrs. are to be removed from all reamed Holes.

Finish:- Sheared or Flame Cut edges and ends of all Material marked (E) to be planed to to remove at least ⅛" of Metal.

Shop Paint:- None.

REQUIRED			
13 Ton	One	End Post	L9-U10

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
End Post - L9-U10 - No. Truss

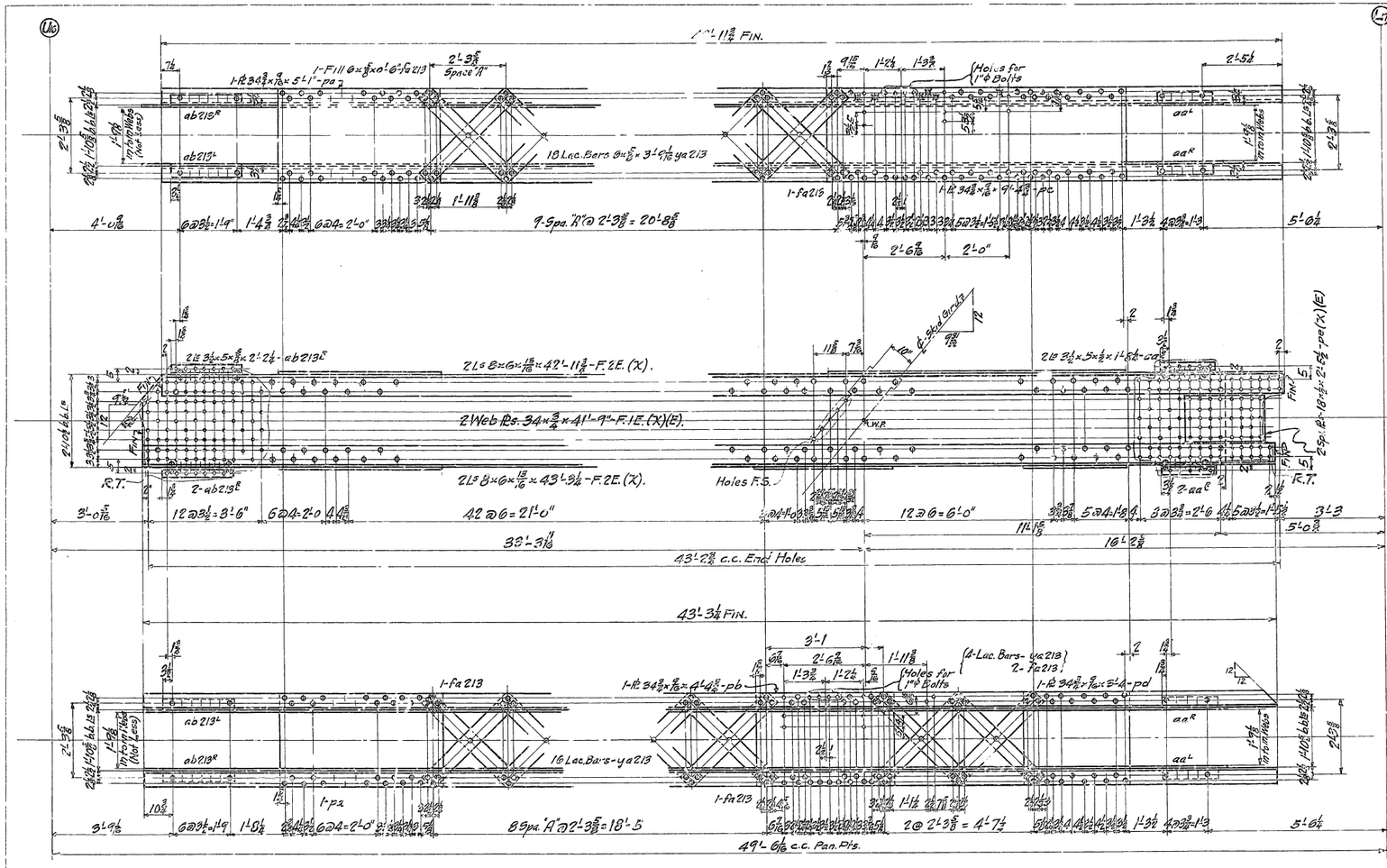
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAW. MADE BY A.E.F. DATE 3-20-34
DRAW. CHECKED BY G.T.N. DATE 4-3-34
ORDER No. G5101 SHEET No. 214
Shop Bill 590

5-2-34

[Bec]

Mat'l. Ord. - pgs 218-277 - A.F.F.

Record Drawing



GEN NOTES:-
Material:- All material O.H. Copper Bearing Medium Carbon Steel except Material marked (X) which is to be O.H. Copper Bearing Silicon Steel.
Specifications:- Special by State of California Dept of Public Works.
Inspection:- John M Bailey - Chief Inspector
Rivets:- 1"ϕ
Open Holes:- 1⅛ϕ
Reaming:- Holes in Material ⅞" thick or less to be sub-punched ¼" and reamed to size while parts are assembled. Holes in Material over ⅞" thick are to be sub-drilled ¼" and reamed to size or drilled full size while parts are assembled. Carbon Steel ⅞" thick or less used for lacing and stay plates may be punched full size
Holes marked R.T. are to be reamed or drilled thru a steel templet.
Burrs are to be removed from all reamed Holes.
Finish:- Sheared or Flame Cut edges and ends of Material marked (E) are to be planed to remove at least ¼" of Metal.
Shop Paint:- (See E1) - A

REQUIRED		
9 Ton	One End Post	U6L7R

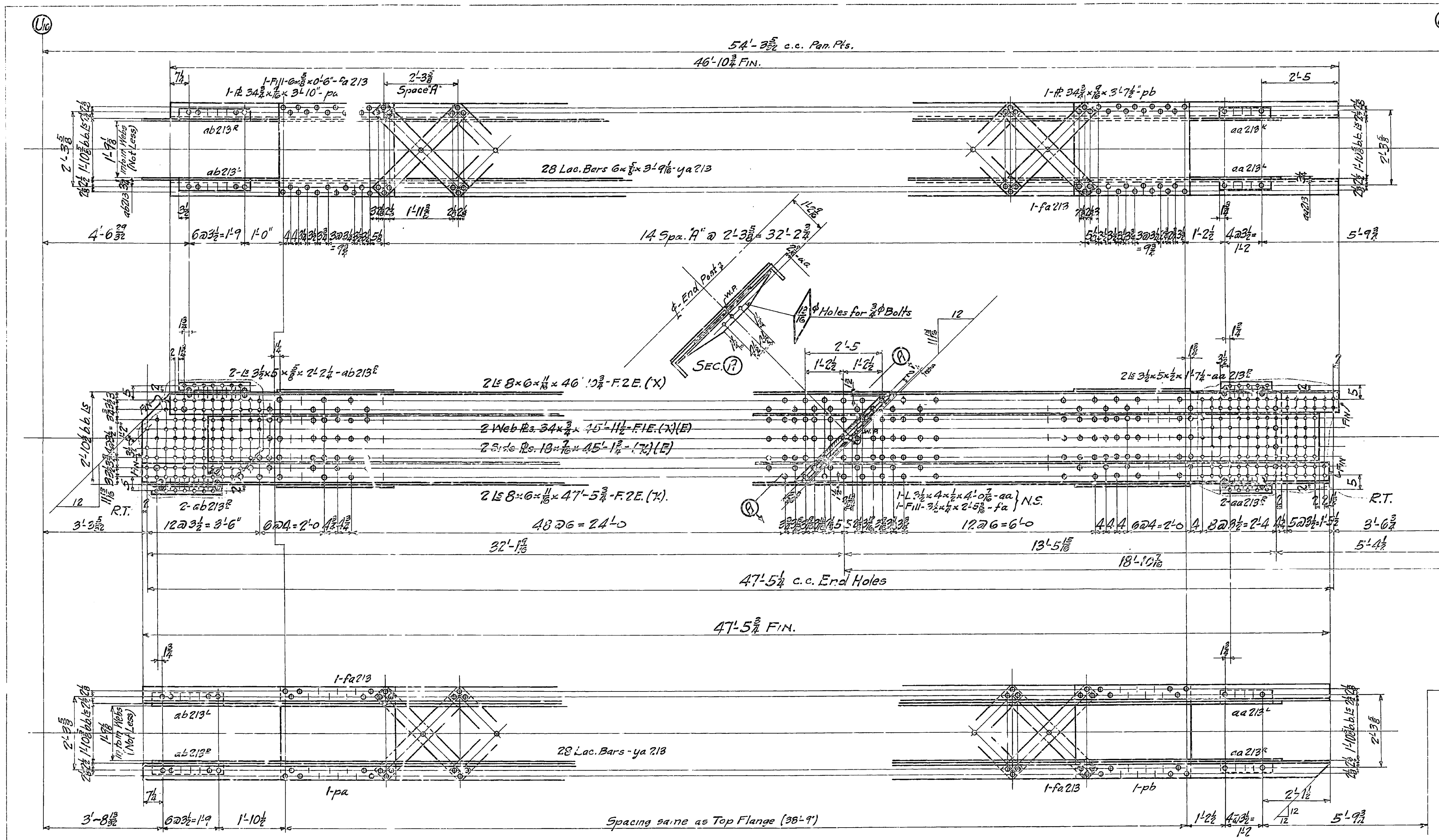
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of:- End Post - U6L7R - So. Truss.

AMERICAN BRIDGE COMPANY
DRAWING MADE AT ..... Gary #3 ..... PLANT
WORK FABRICATED AT ..... Ambridge ..... PLANT
IN CHARGE OF ..... Tompl .....
DRAWN, TRACED BY ..... A.P.F. ..... DATE 3-29-34
DESIGN, CHECKED BY ..... G.T.N. ..... DATE 4-3-34
ORDER No. G5101 | SHEET No. 215 | Shop Bill 591

[Bar]

Mat'l Ord'd - pgs. 218-281-231

30-1



GEN. NOTES:-

Material:- All Material O.H. Copper Bearing Medium Carbon Steel except Material marked (X) which is to be O.H. Copper Bearing Silicon Steel.

Specifications:- Special by State of California, Dept. of Public Works.

Inspection:- John M Bailey, Chief Inspector.

Rivets:- 1"φ

Open Holes:- 1 1/16 φ, unless noted.

Reaming:- Holes in Material 3/4" thick or less to be sub-punched 1/4" and reamed to size while parts are assembled. Carbon Steel 3/4" thick or less used for lacing and stay plates may be punched full size. Holes marked R.T. are to be reamed thru a steel templet. Burrs are to be removed from all reamed Holes.

Finish:- Sheared or Flame-Cut edges and ends of all Material marked (E), to be planed to remove at least 1/8" of Material.

Shop Paint:- None

	REQUIRED		
9 1/2 Ton	One	End Post	U16 L17

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
End Post - U16-L17 - No. Truss.

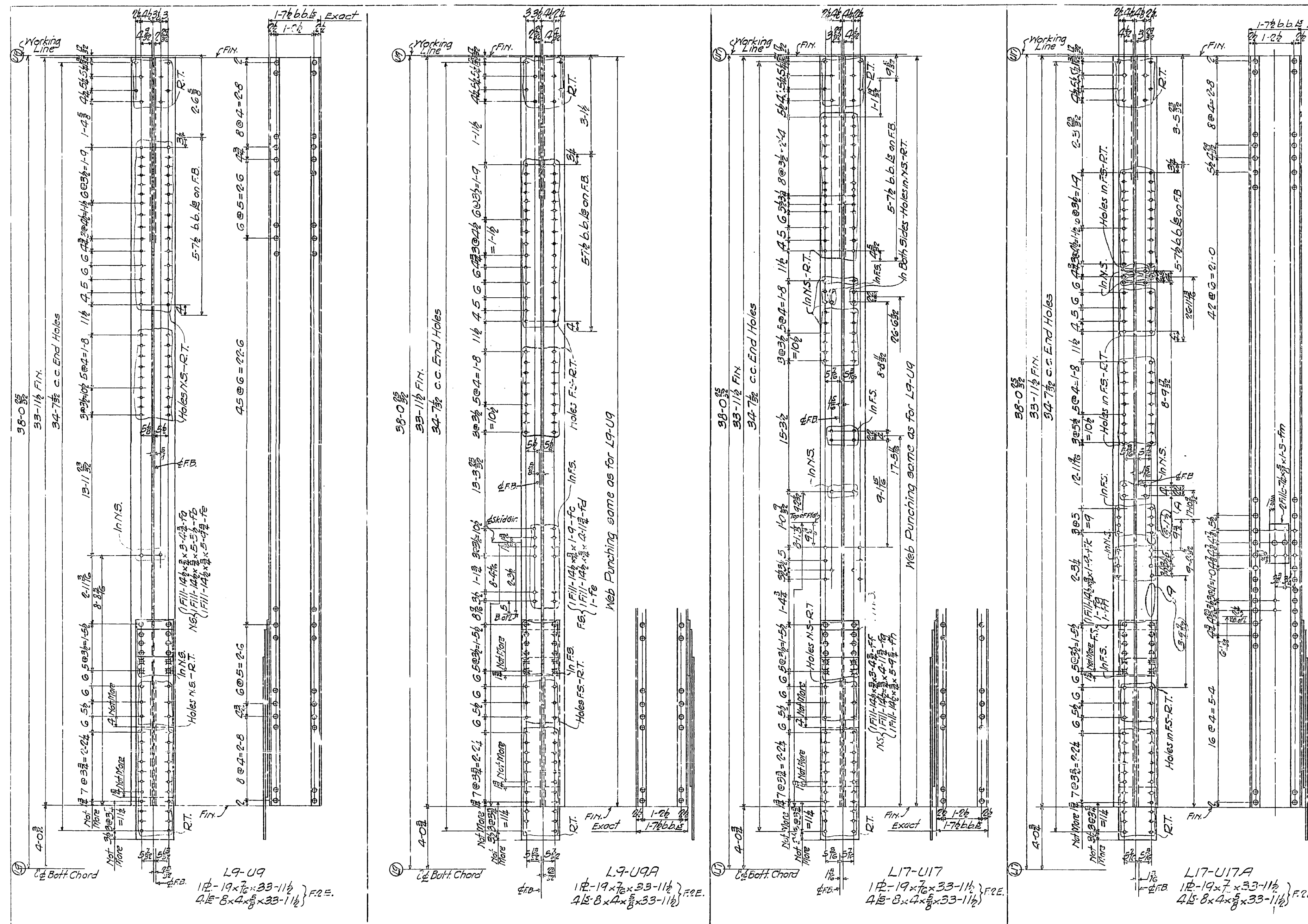
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAW. MADE BY A.F.F. DATE 4-4-34
DRAW. CHECKED BY G.T.N. DATE 4-5-34

ORDER No. G5101 | SHEET No. 216 [B&C] | Shop Bill 592

4-27-34

Mat'l. Ord. pgs. 218-230-281

30-1



GEN. NOTES:-
Material:- All material O.H. Copper Bearing Medium Carbon Steel.
Specifications:- Special by State of California Dept. of Public Works
Inspection:- John M. Bailey-Chief Insp.
Rivets:- 1"φ
Open Holes:- 1 1/16"φ
Reaming:- Holes in material ¾" thick or less to be subpunched ¾" and reamed to size while parts are assembled. Holes marked R.T. to be reamed to a steel templet. Burrs to be removed from all reamed holes.
Shop Paint: SEE SHEET E1

REQUIRED		
One	Post	L9-U9
One	"	L9-U9A
One	"	L17-U17
One	"	L17-U17A

(A) 6-19-34 Take out Holes in L17-U17A

State of California

Department of Public Works

SAN FRANCISCO - OAKLAND BAY BRIDGE

CONTRACT NO. 7

Superstructure - East Bay Crossing

4 - Lattice Truss Spans - Piers YB1 - E1

Posts - L9-U9 & L17-U17 - North Tr.

L9-U9A & L17-U17A - South Tr.

AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary #3 PLANT

WORK FABRICATED AT Ambridge PLANT

IN CHARGE OF Tompt

DR. MADE BY C.F.C. DATE 3-19-34

CHECKED BY C.B.H. DATE 3-30-34

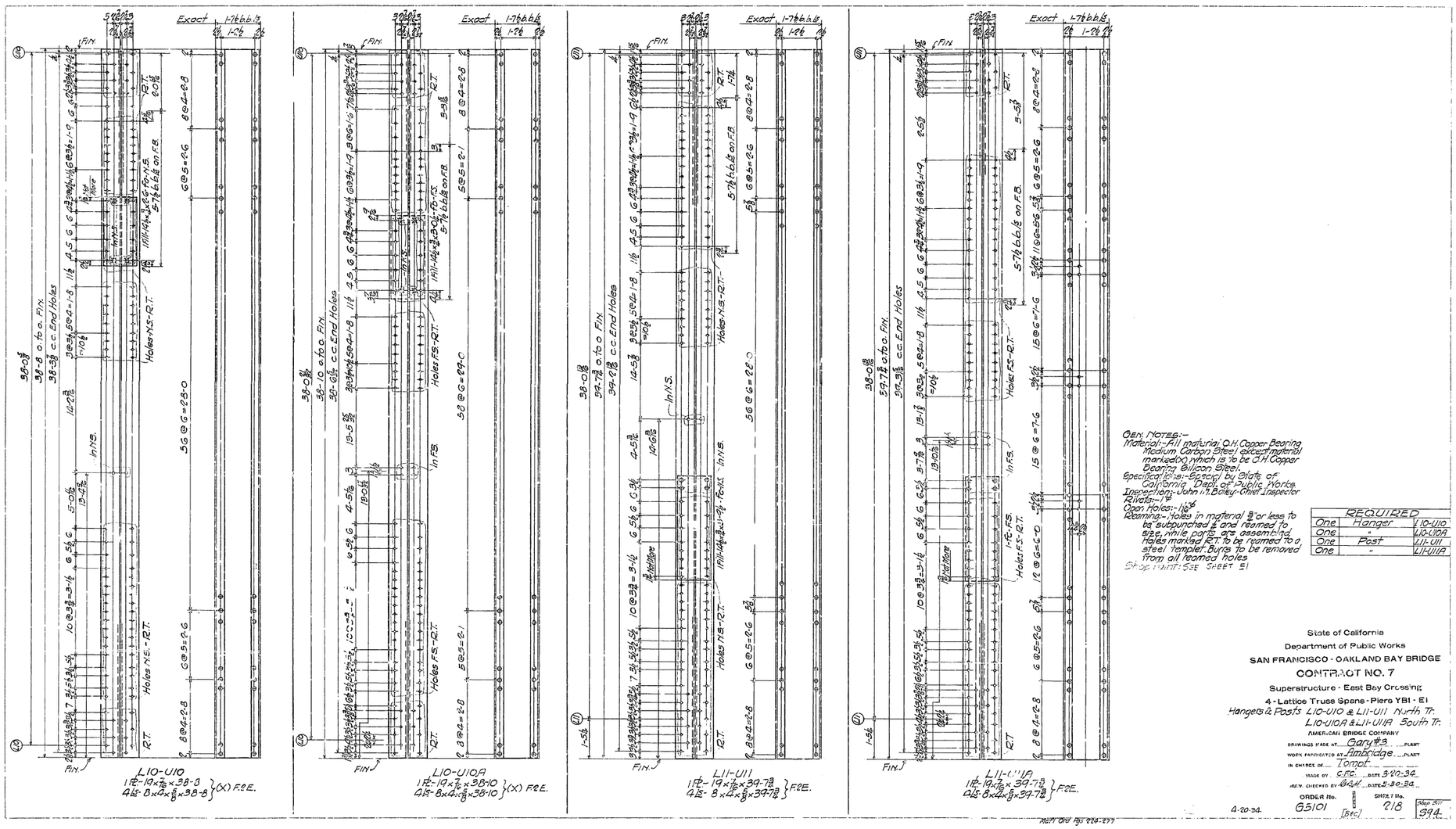
ORDER No. G5101 [C]

SHEET No. 217

Shop Bill 593

5-2-34

Mat'l Ord Fg. 211



Gen. NOTES:—
Material:-All material O.H. Copper Bearing Medium Carbon Steel except material marked(x) which is to be O.H. Copper Bearing Silicon Steel
Specifications:-Accept by State of California Dept. of Public Works
Inspection:-John N. Bailey-Chief Inspector
Rivets:-1"ø
Open Holes:-1 1/16"
Reaming:-Holes in material 3/8" or less to be subpunched & reamed to size, while parts are assembled. Holes marked R.T. to be reamed to a steel templet. Burrs to be removed from all reamed holes

SHOP PRINT: SEE SHEET E1

REQUIRED		
One	Hanger	L10-U10
One	"	L10-U10A
One	Post	L11-U11
One	"	L11-U11A

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Hangers & Posts L10-U10 & L11-U11 North Tr.
L10-U10A & L11-U11A South Tr.
AMERICAN BRIDGE COMPANY

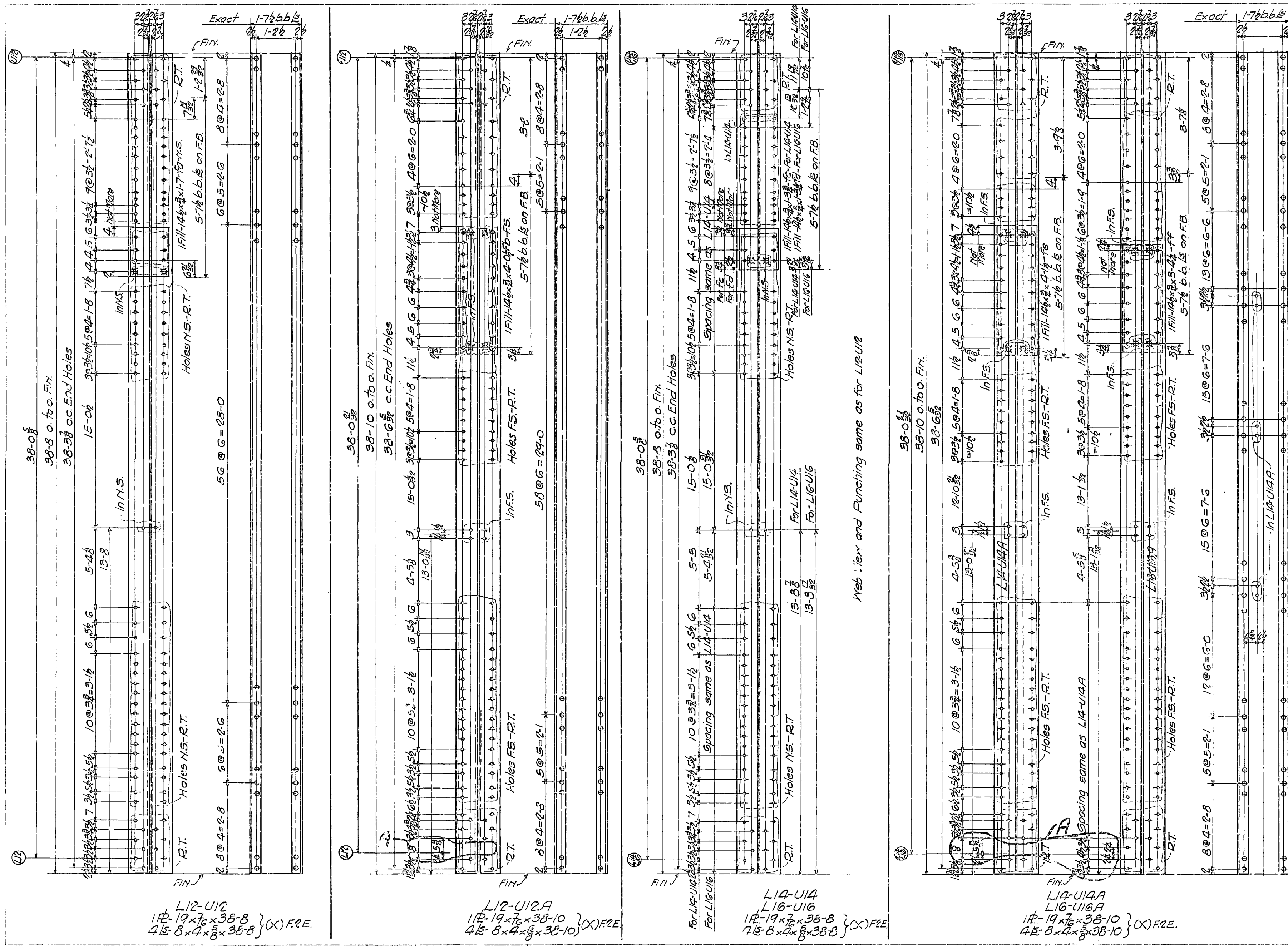
DRAWINGS MADE AT Gary #3 ...PLANT
WORK FABRICATED AT Ambridge ...PLANT
IN CHARGE OF Tompt
MADE BY C.F.C. DATE 3-20-34
REVD. CHECKED BY W.A.K. DATE 3-30-34

ORDER No. G5101 [Rec] SHEET No. 218 Shop Bill 394

4-20-34

Mem Ord Bk 226-277

30-1



GEN. NOTES:-

Material:-All material O.H. Copper Bearing Medium Carbon Steel except material marked (X) which is to be O.H. Copper Bearing Silicon Steel.

Specifications:-Special by State of California-Dept of Public Works

Inspection:-John M. Bailey-Chief Insp.

Rivets:-1"φ

Open Holes:-1 1/16"φ

Reaming:-Holes in material 3/4" thick or less to be subpunched 1/4" and reamed to size while parts are assembled. Holes marked R.T. to be reamed to a steel templet. Burrs to be removed from all reamed holes.

Shop Print: SEE SHEET E1

REQUIRED		
One	Hanger	L12-U12
One	"	L12-U12A
One	"	L14-U14
One	"	L14-U14A
One	"	L16-U16
One	"	L16-U16A

State of California

Department of Public Works

SAN FRANCISCO - OAKLAND BAY BRIDGE

CONTRACT NO. 7

Superstructure - East Bay Crossing

4 - Lattice Truss Spans - Piers YB1 - E1

Hangers-L12-U12, L14-U14, L16-U16-North Tr.
L12-U12A, L14-U14A, L16-U16A-South Tr.

AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary #3 PLANT

WORK FABRICATED AT Ambridge PLANT

IN CHARGE OF Tompt

DRAW. MADE BY C.F.C. DATE 3-21-34

DRAW. CHECKED BY C.A.H. DATE 3-30-34

(R) 6-14-34 Holes out-L12-U12A & L14-U14A

5-2-34

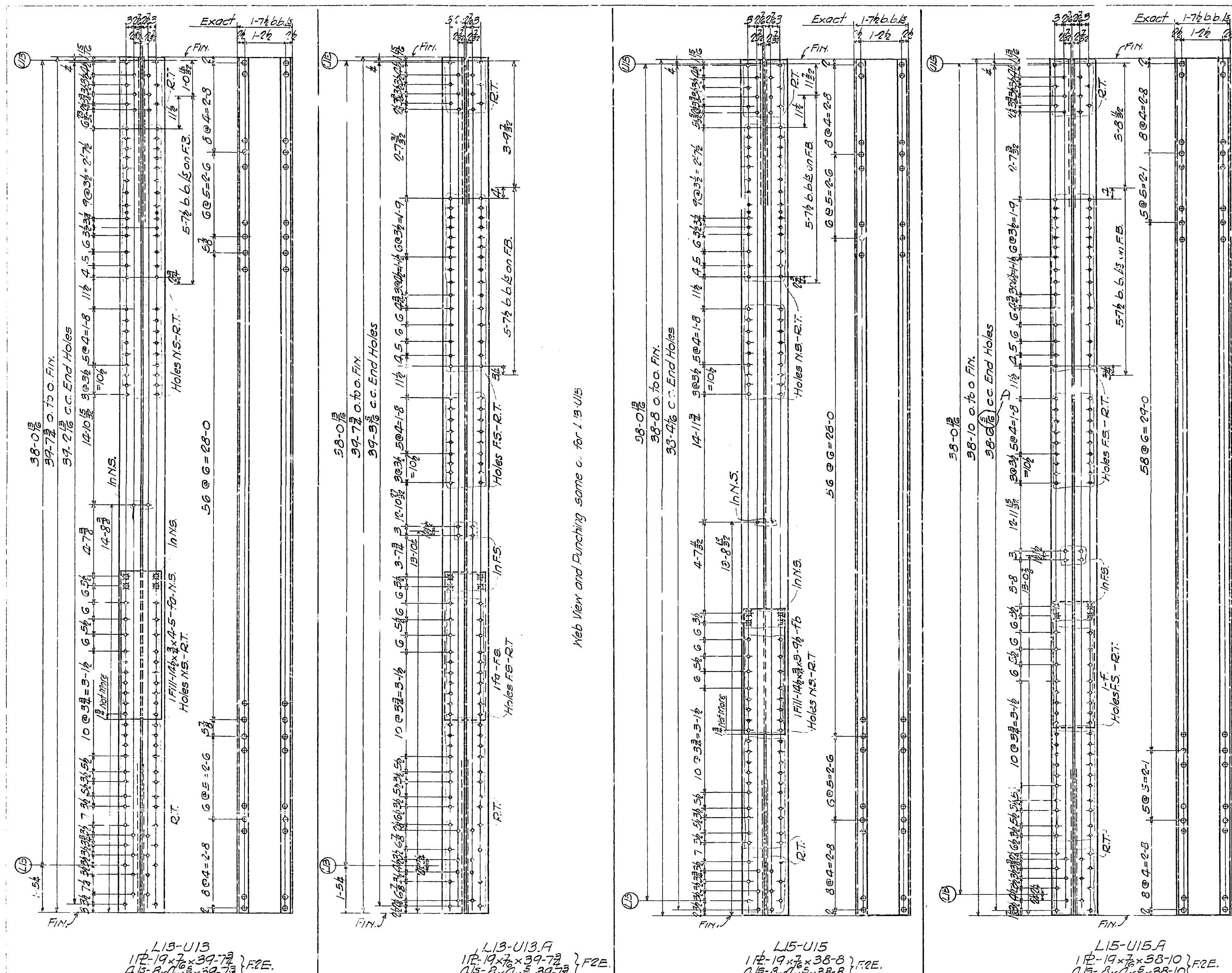
ORDER No. G5101 [B&C]

SHEET No. 219

Shop Bill 595

Mat'l Ord Pgs. 224-277

30-1



GEN. NOTES:-
Material:- All material O.H. Copper Bearing Medium Carbon Steel.
Specifications:- Special by State of California Dept. of Public Works.
Inspection:- John M. Bailey - Chief Inspector
Rivets:- 1"φ
Open Holes:- 1 1/16"φ
Reaming:- Holes in material 3/4" or less to be subpunched 1/4" and reamed to size while parts are assembled. Holes marked R.T. to be reamed to a steel templet. Burrs are to be removed from all reamed holes.
Shop Paint: SEE SHEET E1

REQUIRED		
One	Post	L13-U13
One	"	L13-U13A
One	"	L15-U15
One	"	L15-U15A

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Posts L13-U13 & L15-U15 - North Tr.
L13-U13A & L15-U15A - South Tr.

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #5 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAW. MADE BY C.F.C. DATE 3-22-34
DRAW. CHECKED BY G.A.H. DATE 3-30-34

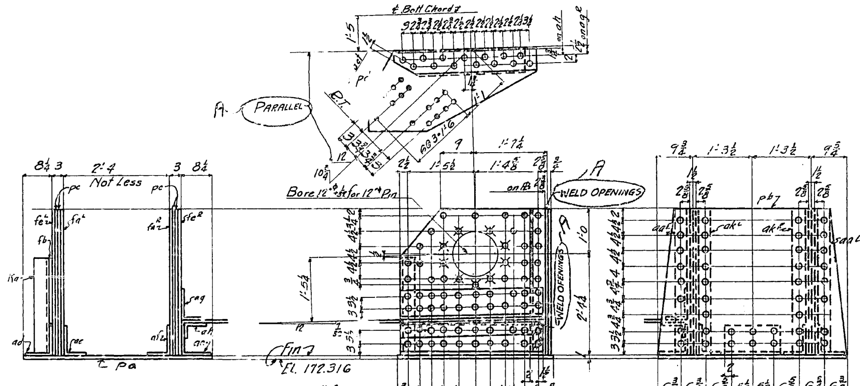
(A) 6-4-34 Chg c.c. End Holes - L15-U15A

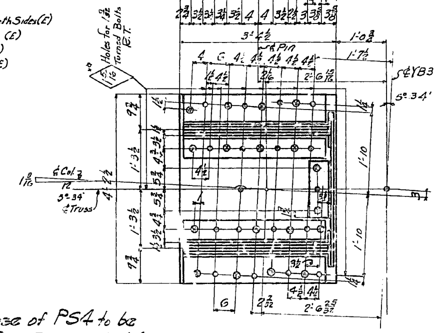
5-2-34

ORDER No. 65101 [C]
SHEET No. 220
Shop Bill 596

Mat'l Ord Ry. 224

30-1

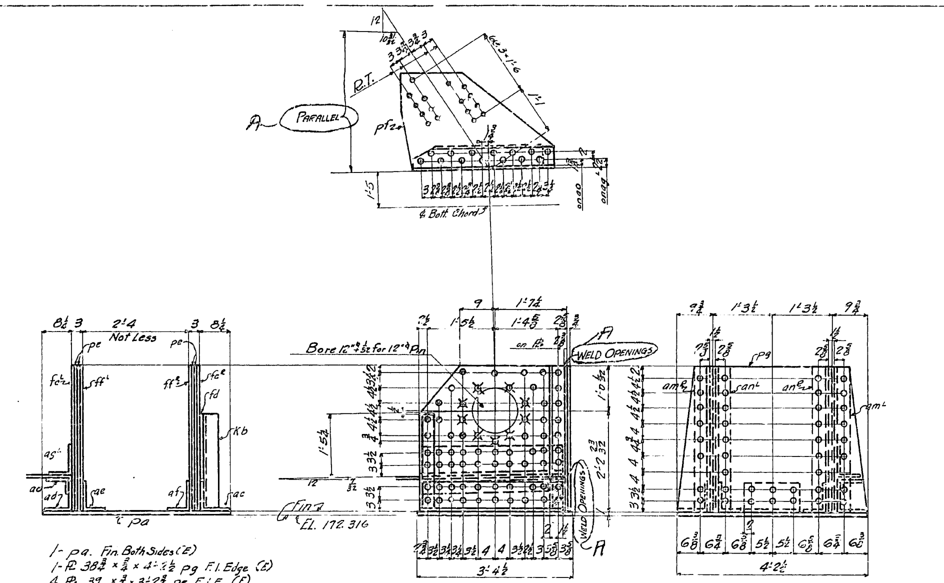




PS4

1-Slab 40½ × 1 × 4'-2½ pa Fin. Both Sides (E)
1-PL 40¼ × ¾ × 4'-2½ pb F.I.Edge (E)
4 PLs 39 × ¾ × 3'-4¼ pc F.I.E (E)
2 Fills 35 × ¾ × 3'-4¼ fa F.I.E (E)
1-Lat PL 21 × ½ × 3'-9 pd
2 Ls 4 × 4 × ¾ × 3'-4¼ aa F.I.E
1 L 8 × 6 × ¾ × 1'-3 ab
1 L 8 × 8 × ¾ × 3'-2⅛ ac
1 L 8 × 8 × ¾ × 3'-2⅛ ad
1 L 6 × 8 × ¾ × 3'-2⅛ ae
1 L 6 × 8 × ¾ × 3'-2⅛ af
1 L 8 × 6 × ¾ × 3'-2⅛ ag
1 L 6 × 6 × ½ × 2'-11 ah
1 L 4 × 4 × ¾ × 2'-3 Ka F.I.E.
1 Fill 4 × ¾ × 1'-7½ fb
2 Ls 4 × 4 × ¾ × 3'-4¼ ak F.I.E
2 Fills 35 × ¾ × 3'-4¼ fe F.I.E (E)

SHOP NOTE- R.T. for Base of PS4 to be used on Cap CS26- Sh. 14 G5100.



PS5

1- pa. Fin. Both Sides (E)
1-PL 38¾ × ¾ × 4'-2½ pg F.I. Edge (E)
4 PLs 39 × ¾ × 3'-2¾ pe F.I.E. (E)
2 Fills 35 × ¾ × 3'-2¾ fc F.I.E (E)
1-Lat. PL. 21¾ × ½ × 3'-8 pf.
2 Ls 4 × 4 × ¾ × 3'-2¾ am F.I.E
1-ab
1-ac
1-ad
1-ae
1-af
1-ag
1-L 4 × 6 × ½ × 2'-11 ao
1-L 4 × 4 × ¾ × 2'-1½ Kb F.I.E.
1 Fill 4 × ¾ × 1'-6 rd
2 Ls 4 × 4 × ¾ × 3'-2¾ [illegible] F.I.E
2 Fills 35 × ¾ × 3'-2¾ ff F.I.E (E)

Bott. View Same as PS4

SHOP NOTE- R.T. for Base of PS5 to be used on Cap of CS28- Sh. 14 G5100.

REQUIRED		
One	Shoe	PS4
One	do	PS5

GENERAL NOTES-
Material- All material O.H. Copper Bearing medium Carbon steel.
Specifications- Special by State of California, Dept of Public Works.
Inspection- John M. Bailey- Chief Inspector.
Rivets - 1"φ.
Open Holes - 1$\frac{1}{16}$"φ Unless noted.
Reaming- Holes in material ⅞" thick or less to be subpunched ¼" and reamed to size while parts are assembled. Holes in material over ⅞" thick to be subdrilled ¼" and reamed to size or drilled full size while parts are assembled.
Holes marked "R.T." to be reamed through a steel templet. Burrs to be removed from all reamed holes.
Finish- Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least ⅛" of metal.
Shop Paint - None, except top and bottom of base plates of shoes to be painted with one coat of NO-OX-ID Filler Red paint. All pin holes to be painted one coat of white lead and tallow.

A → 5-21-34 WELD OPENINGS

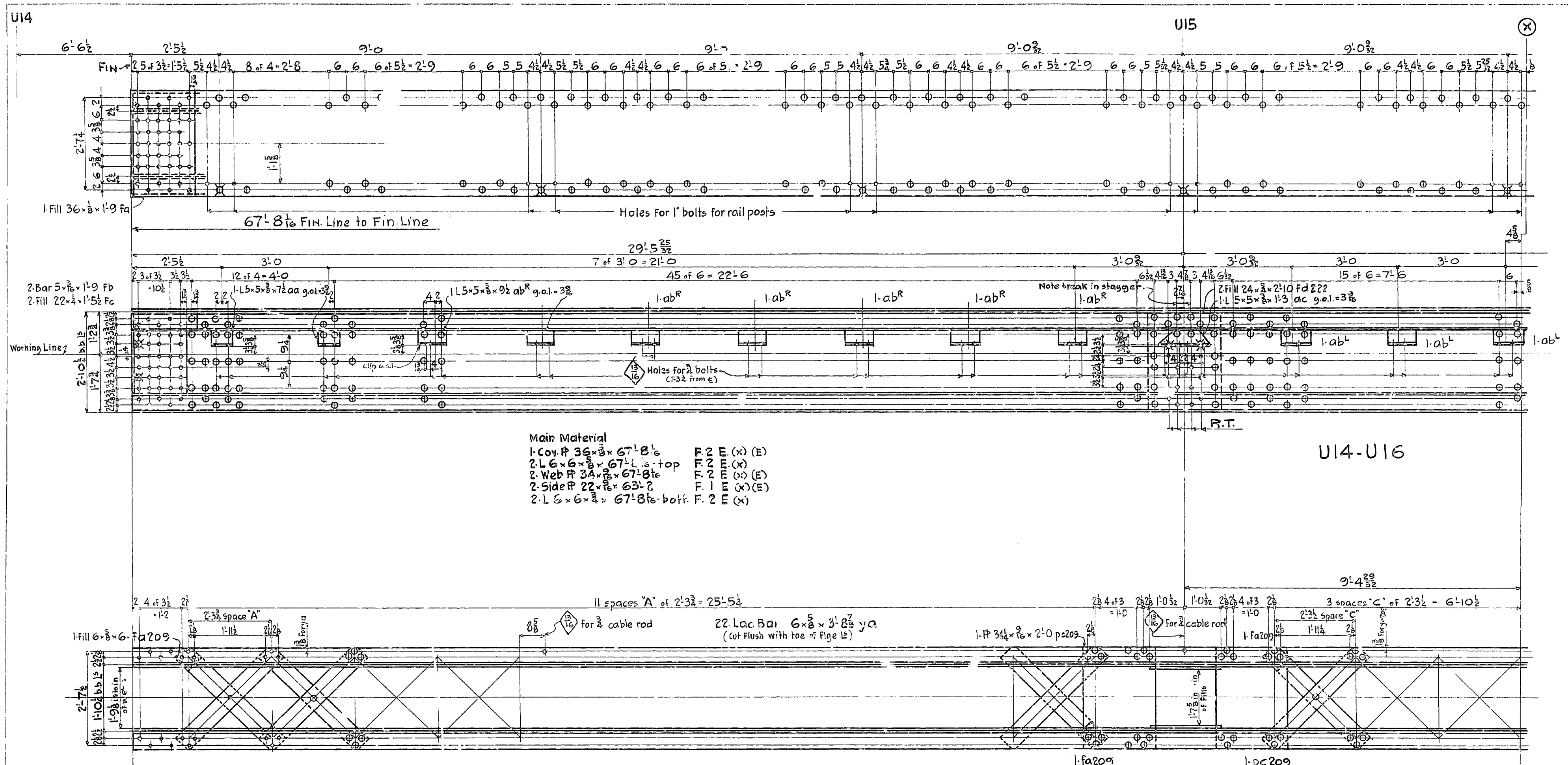
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Detail of Shoes at YB3
Span YB2-YB3

AMERICAN BRIDGE CO.
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAW. MADE BY W.G. DATE 3-13-34
DRAW. CHECKED BY J.H.G. DATE 3-21-34
ORDER No. G5101 SHEET No. 221 [c]
Shop Bill 583

3-21-34

Mat'l. Ord. P228

30-1



State of California

Department of Public Works

SAN FRANCISCO - OAKLAND BAY BRIDGE

CONTRACT NO. 7

Superstructure · East Bay Crossing

4 - Lattice Truss Spans - Piers YB1 - E1

DETAILS of TOP CHORD U14-U16 · NORTH TR.

SPAN YB2 - YB3

AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary 3 PLANT

WORK FABRICATED AT Ambridge PLANT

IN CHARGE OF Tompt

DRAW. MADE BY WK. DATE 3.13.34.

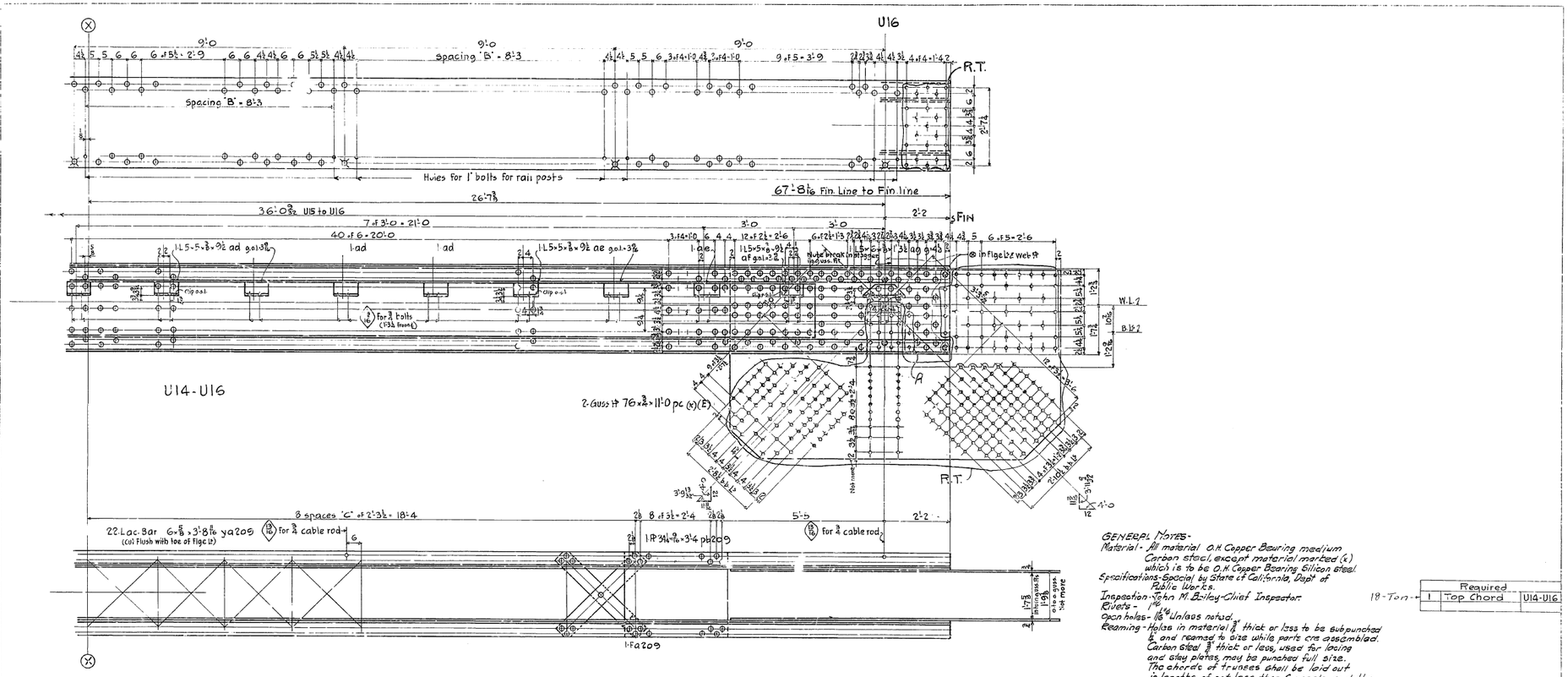
CHECKED BY MMN DATE 4-4-34

4-18-34

ORDER No. G5101

SHEET No. 222 A B

Shop Bill 567



GENERAL NOTES-

Material - All material O.H. Copper Bearing medium Carbon steel, except material marked (L) which is to be O.H. Copper Bearing Silicon steel.

Specifications - Special by State of California, Dept of Public Works.

Inspection - John M. Bailey - Chief Inspector.

Rivets - 1"

Open holes - 1/16" Unless noted.

Reaming - Holes in material 7/8" thick or less to be subpunched & reamed to size while parts are assembled. Carbon steel 7/8" thick or less, used for lacing and stay plates, may be punched full size. The chords of trusses shall be laid out in lengths of not less than 6 panels and the chord splices reamed while so assembled in shop and pieces match marked. Holes marked "R.T." to be reamed thru a steel templet. Burrs to be removed from all reamed holes. All match marking to be made with 1/4" steel stencils and white paint.

Finish - Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least 1/4" of metal.

Ship point - SEE SHEET E1

Required		
1	Top Chord	U14-U16

18-Ton

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
DETAILS OF TOP CHORD U14-U16 NORTH TRUSS
SPAN YB2-YB3
AMERICAN BRIDGE COMPANY

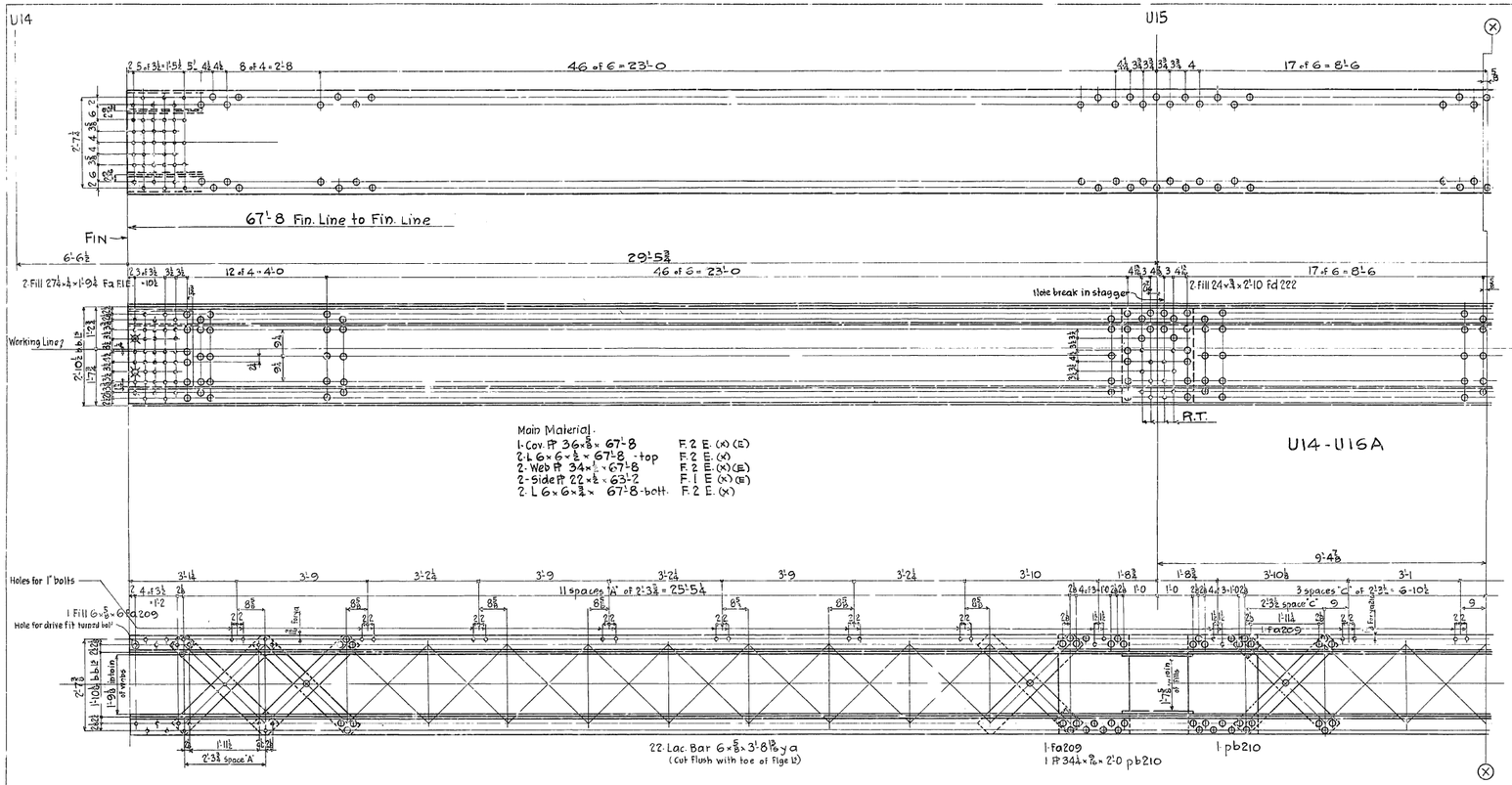
DRAWINGS MADE AT Gary 3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DETAIL MADE BY WK DATE 3-14-34
DRAWN CHECKED BY DeCon DATE 4-2-34

ORDER No. G5101 (Sec 7) SHEET No. 222 B (Shop Bill 567)

(A) 6-18-34 Chg Rivets to Open Holes

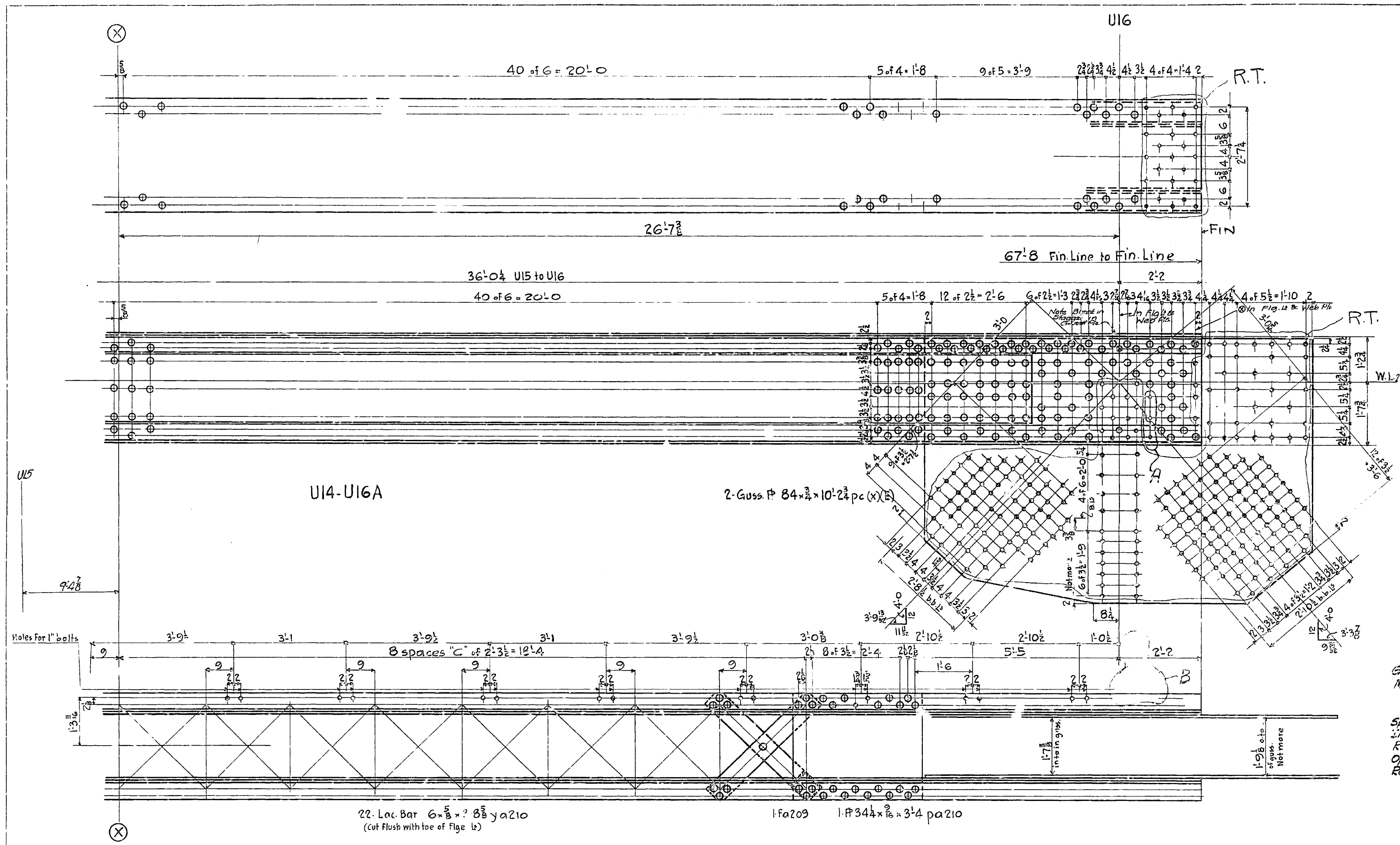
4-18-34

Mail P. 280, 221, 222



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
DETAILS OF TOP CHORD U14-U16A SOUTH TRUSS
SPAN YB2-YB3
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary 3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAWN MADE BY WK DATE 3.15.34
CHECKED BY [illegible] DATE 4.2.34
ORDER No. G5101
SHEET No. 223 A B
Shop Dr. 568

4-19-34



GENERAL NOTES-

Material- All material O.H. Copper Bearing medium Carbon steel except material marked (x) which is to be O.H. Copper Bearing Silicon steel.

Specifications-Special by State of California, Dep't of Public Works.

Inspection-John M. Bailey-Chief Inspector.

Rivets- 1" ⌀

Open holes- 1 1/16

Reaming- Holes in material 3/4" thick or less to be subpunched 1/4" and reamed to size while parts are assembled. Carbon steel 3/4" thick or less, used for lacing and stay plates, may be punched full size. The chords of trusses shall be laid out in lengths of not less than 6 panels and the chord splices reamed while so assembled in shop and pieces match marked. Holes marked "R.T." to be reamed thru a steel templet. Burrs to be removed from all reamed holes. All match marking to be made with 3/8" steel stencils and white paint.

Finish- Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least 1/8" of metal.

Shop paint- SEE SHEET E1

17-Ton →

Required		
1	Top Chord	U14-U16A

(B) 7-2-34 Remove Open Holes
(A) 6-11-34 Chg. Riv. to Open Holes

State of California

Department of Public Works

SAN FRANCISCO - OAKLAND BAY BRIDGE

CONTRACT NO. 7

Superstructure - East Bay Crossing

4-Lattice Truss Spans - Piers YB1 - E1

DETAILS OF TOP CHORD U14-U16A - SOUTH TRUSS SPAN YB2-YB3

AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary 3 PLANT

WORK FABRICATED AT Ambridge PLANT

IN CHARGE OF Tompt

DRAW. MADE BY WK. DATE 3.16.34.

DRAW. CHECKED BY MBM DATE 4-4-34

ORDER No. G5101 [B&C]

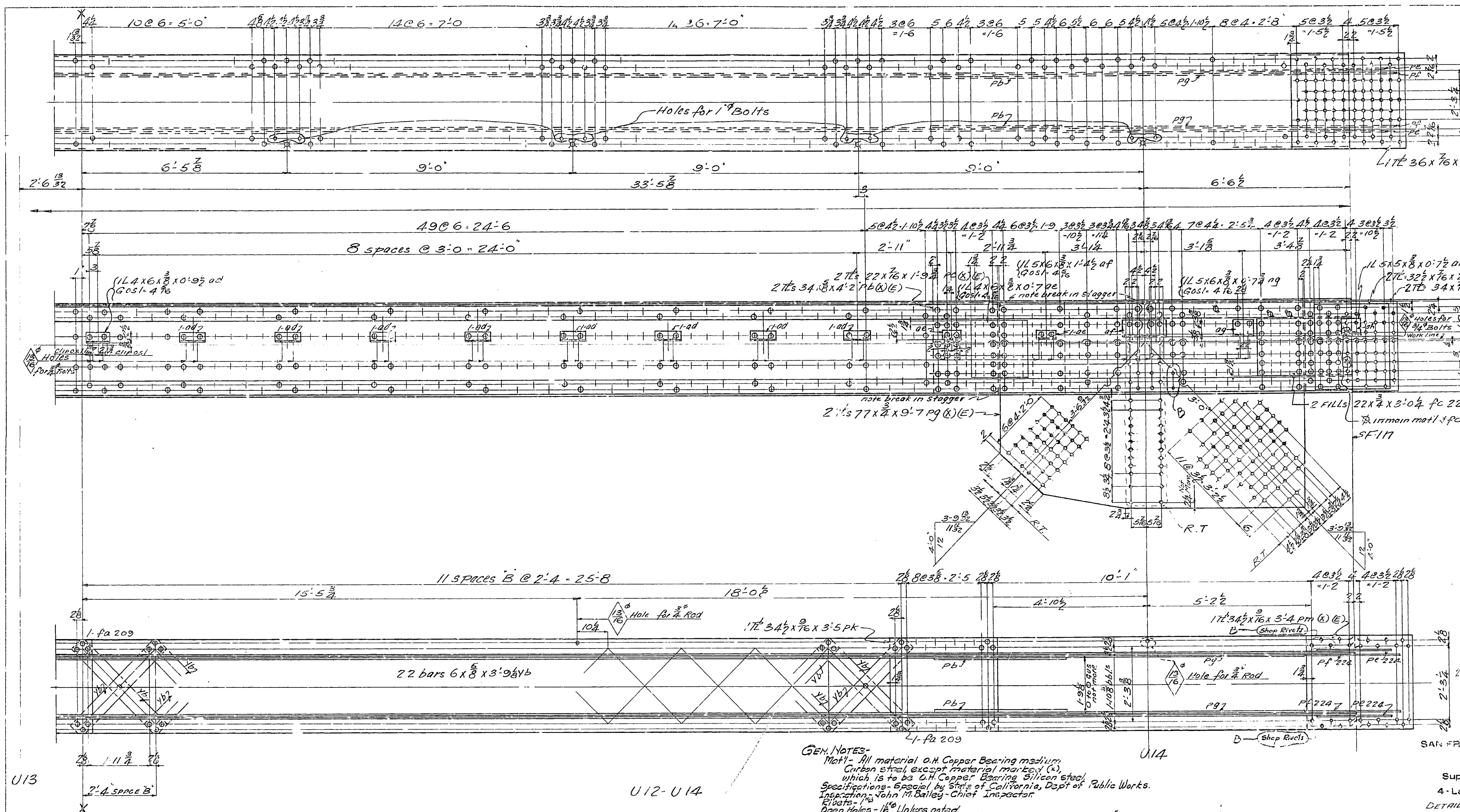
SHEET No. 223B

Shop Bill 568

4-19-34

Mat'l P. 285, 225, 226

30-1



REQUIRED		
23-T- 1	TOP CHORD	U12-U14

GEN. NOTES-
Mat'l- All material O.H. Copper Bearing medium Carbon steel, except material marked (x), which is to be O.H. Copper Bearing Silicon steel.
Specifications- Special by State of California, Dep't of Public Works.
Inspection- John M. Bailey- Chief Inspector.
Rivets- 1"Ø
Open Holes- 1 1/16"Ø Unless noted.
Reaming- Holes in material 5/8" or less to be subpunched 1/4" and reamed to size while parts are assembled.
Carbon steel 3/4" thick or less, used for lacing or stay plates, may be punched 4 full size. The chords of trusses shall be laid out in lengths of not less than 6 panels and the chord splices reamed while so assembled in shop and pieces match marked.
Holes marked "E.T." to be reamed through a steel templet. Burrs to be removed from all reamed holes. All match-marking to be made with 3/4" steel stencils and white paint.
Finish- Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least 1/8" of metal.

SHOP PAINT- SEE SHEET E1

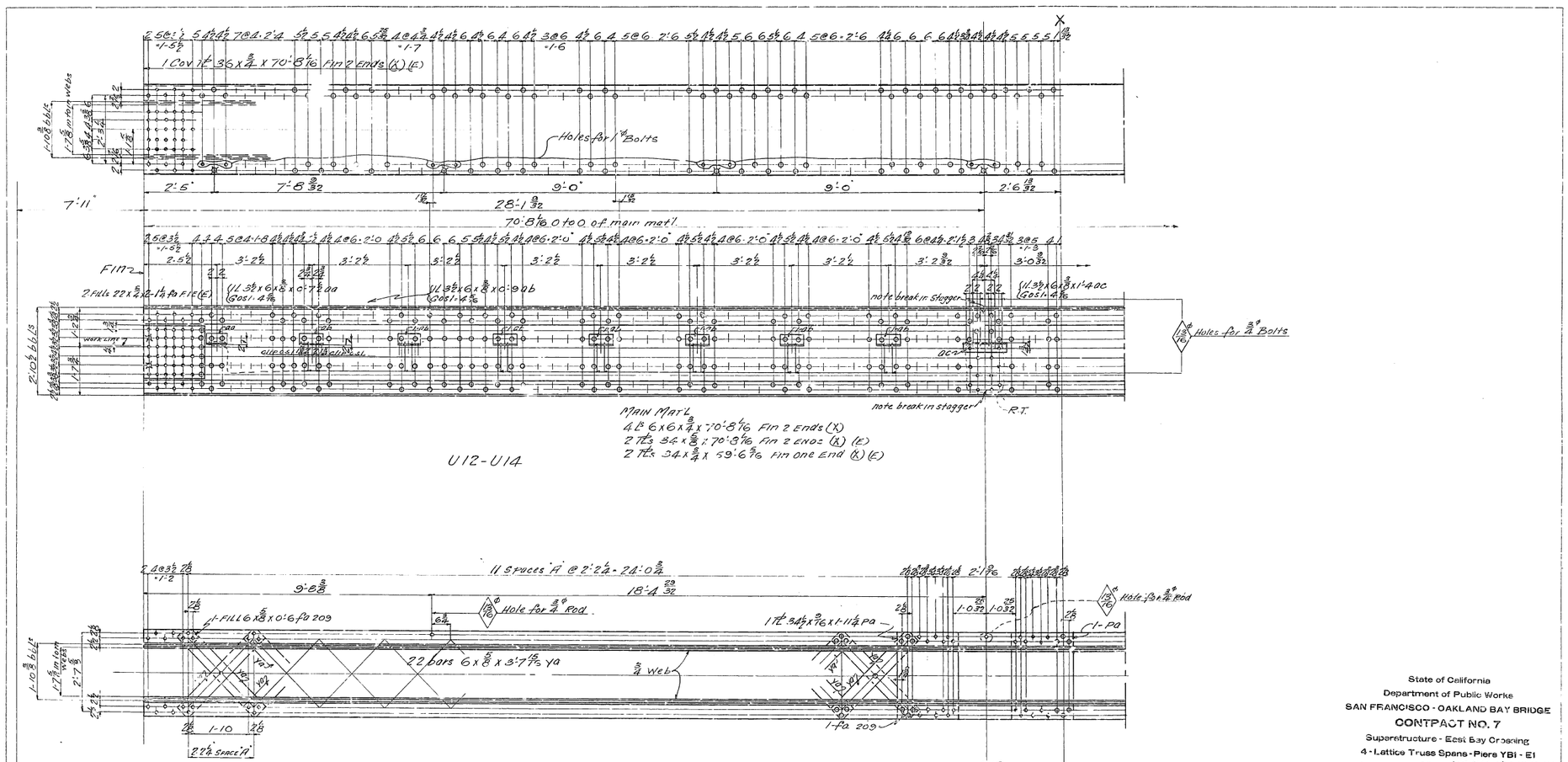
(B) 6-11-34 {Chg. Riv. to Open Holes, Shop Riv. Spl. R "pm"}
(A) 5-9-34 Grind Spl. Pls. for Fillet

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
DETAILS TOP CHORD U12-U14 NORTH TRUSS
SPAN YB2-YB3
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT GARY #3 PLANT
WORK FABRICATED AT AMBRIDGE PLANT
IN CHARGE OF TOMPT
DRAW. MADE BY F.W. DATE 3-23-34
DRAW. CHECKED BY [illegible] DATE 4-3-34
ORDER No. G 5101 [B&C] SHEET No. 224 B Shop Bill 569

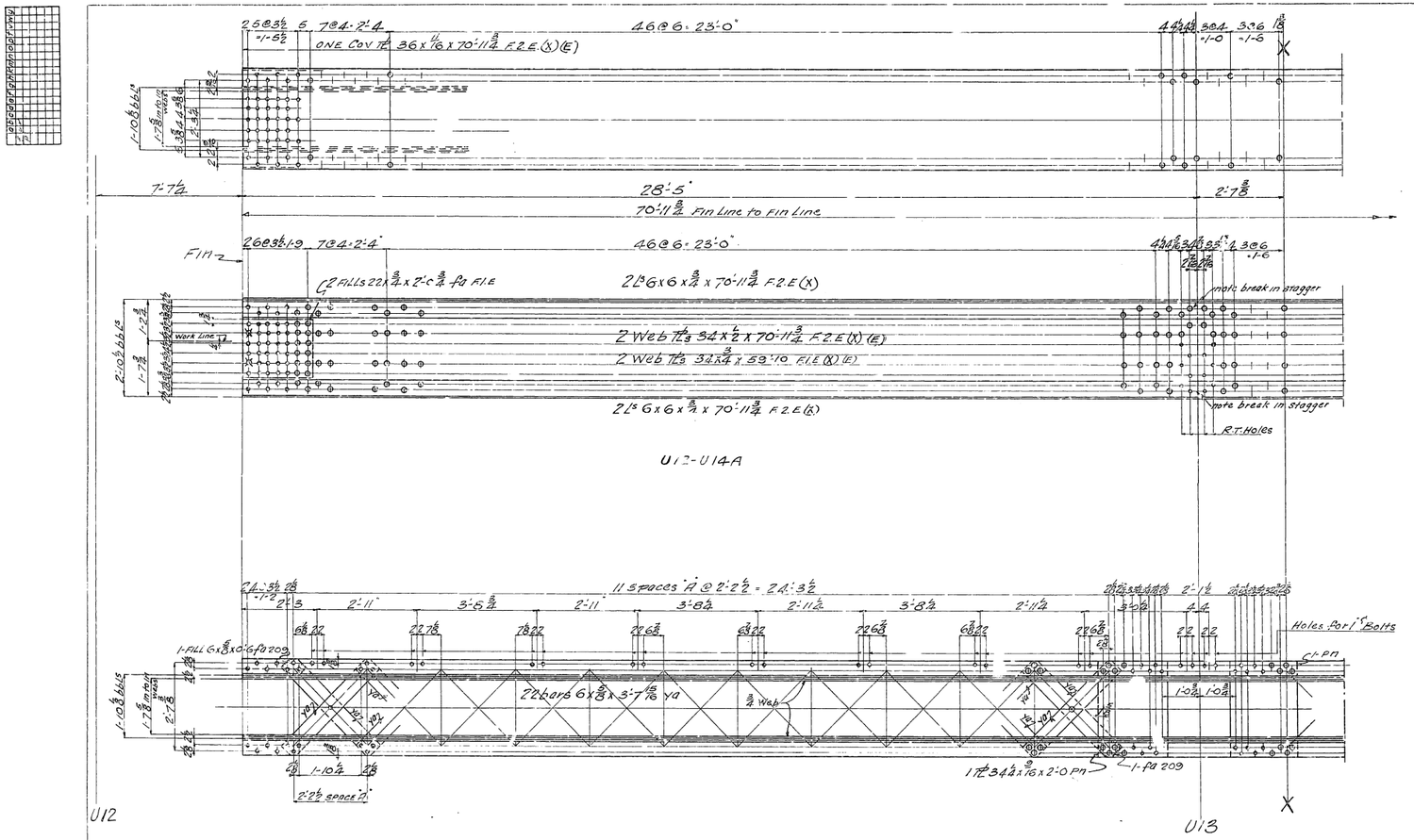
4-19-34

Mat'l ord P 284. L 16-17-18-19-22 & 24 to 30 incl
" P 285 L 2 to 9 incl
" P 222 L 23-29.
} F.W.

PC 224-235
PP 224-215
PC 224-215

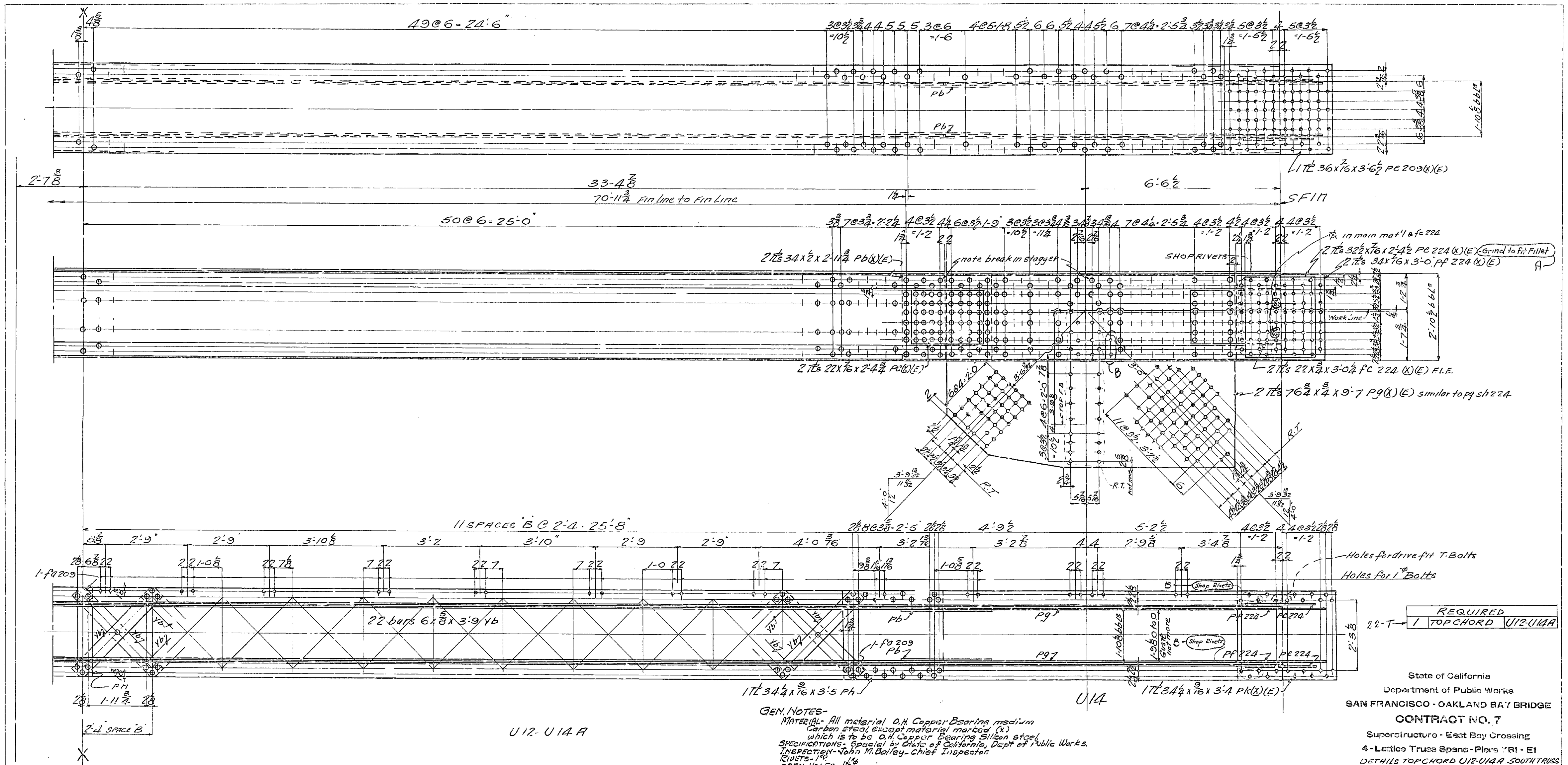


State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
DETAILS TOP CHORD U12-U14 NO 8TH TRUSS
SPAN YB2-YB3
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT GARY #3 PLANT
WORK FABRICATED AT AMBRIDGE PLANT
IN CHARGE OF TOMPT
MADE BY F.W. DATE 5-21-34
CHK. CHECKED BY [illegible] DATE 6-3-34
ORDER No. G5101 CONST. NO. 224-AD
Shop Dr. 589
4-19-34



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
DETAILS TOP CHORD U12-U14A SOUTH TRUSS
SPAN YB2-YB3
AMERICAN BRIDGE COMPANY
DRAWING MADE AT GARY #3 PLANT
WORK FABRICATED AT EMBARCADERO PLANT
IN CHARGE OF TOMPT
DRAWN BY F.W. DATE 3-16-34
DETAIL CHECKED BY DWOH DATE 4-4-34
ORDER NO. 75101 SHEET NO. 225-A-B (Shop Dwg 570)
4-19-34

30-1



GEN. NOTES-
MATERIAL- All material O.H. Copper Bearing medium Carbon steel, except material marked (X) which is to be O.H. Copper Bearing Silicon steel.
SPECIFICATIONS- Special by State of California, Dept of Public Works.
INSPECTION- John M. Bailey- Chief Inspector.
RIVETS- 1"⌀.
OPEN HOLES- 1 1/16"⌀
REAMING- Holes in material ¾" thick or less to be subpunched ¼" and reamed to size while parts are assembled.
Carbon steel ⅜" thick or less, used for lacing and stay plates, may be punched full size. The chords of the trusses shall be laid out in lengths of not less than 6 panels and the chord splices reamed while so assembled in shop and pieces match marked.

Holes marked "R.T." to be reamed through a steel templet. Burrs to be removed from all reamed holes. All match marking to be made with ¾" steel stencils and white paint.
FINISH- Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least ⅛" of metal.

Shop Paint- SEE SHEET E1

(B) 6-11-34 { Chg. Riv. to Open Holes / Shop Riv. Spl. Pl "pk"
(A) 5-9-34 Grind Spl. Pls. for Fillet

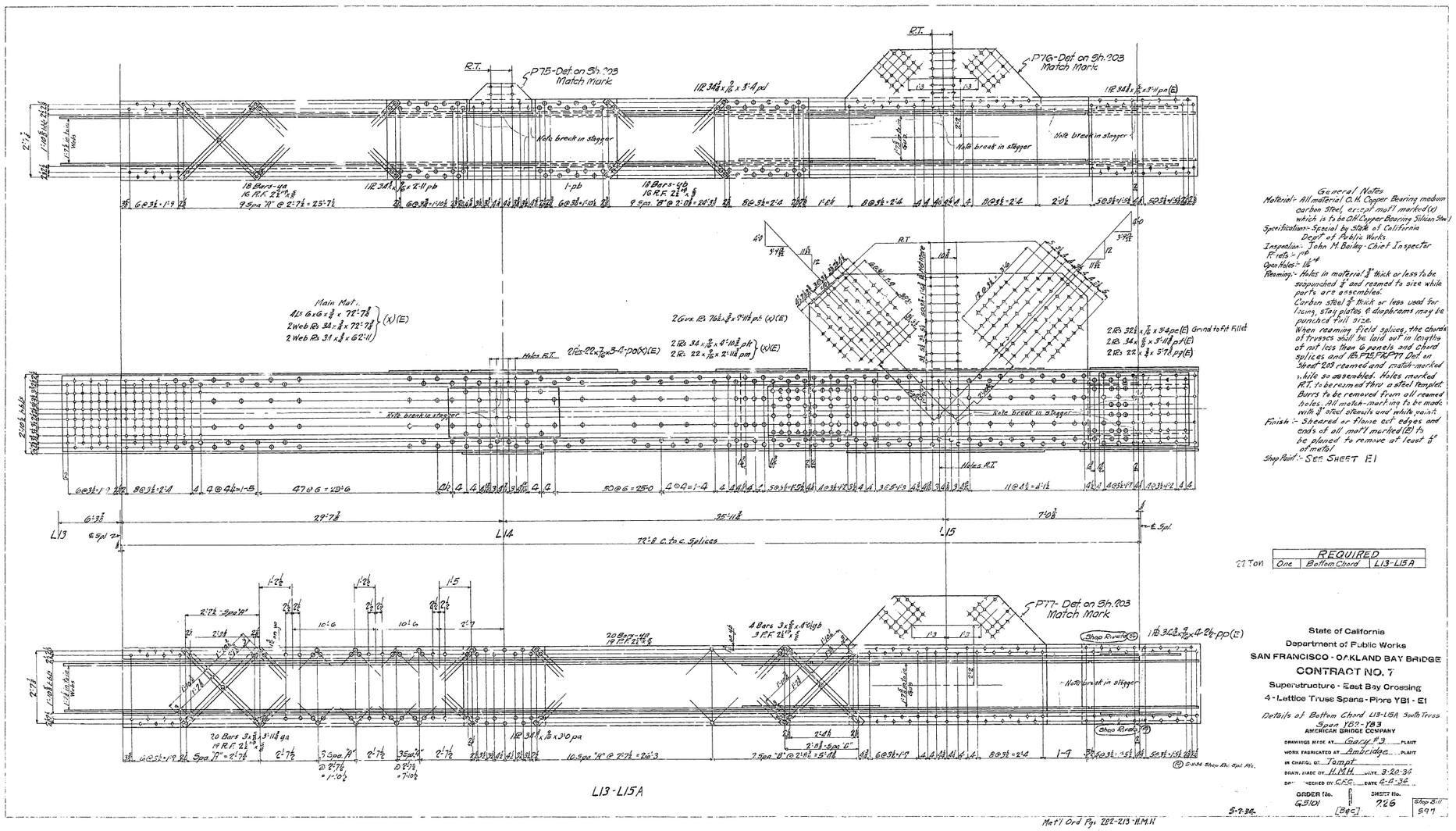
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
DETAILS TOPCHORD U12-U14A SOUTH TRUSS
SPAN YB2-YB3
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT GARY #3 PLANT
WORK FABRICATED AT AMBRIDGE PLANT
IN CHARGE OF TOMPT
DRAW. MADE BY E.W. DATE 3-19-34
DRAW. CHECKED BY MGM DATE 4-4-34

4-19-34

ORDER No. G5101 [Bec] SHEET No. 225 B | Shop Bill S70

Mat'l P283 L 21-24
P 285 L 2-3-4-6-7-8-9 } F.W.
P 225 L12-L15, P 226 L17

801-1



General Notes

Material:- All material O.H. Copper Bearing medium carbon Steel, except mat'l marked (X) which is to be O.H. Copper Bearing Silicon Steel

Specification:- Special by State of California Dept. of Public Works

Inspection:- John M. Bailey - Chief Inspector

Pl. thicks:- 1" th.

Open Holes:- 11/16"

Reaming:- Holes in material 3/4" thick or less to be subpunched 3/4" and reamed to size while parts are assembled.
Carbon steel 3/4" thick or less used for lacing, stay plates & diaphrams may be punched full size.
When reaming field splices, the chords of trusses shall be laid out in lengths of not less than 6 panels and chord splices and BR. FIELD RIVETS Det. on Sheet 203 reamed and match-marked while so assembled. Holes marked R.T. to be reamed thru a steel templet. Burrs to be removed from all reamed holes. All match-marking to be made with 3/4" steel stencils and white paint.

Finish:- Sheared or flame cut edges and ends of all mat'l marked (E) to be planed to remove at least 1/4" of metal

Shop Paint:- SEE SHEET E1

22 Ton

REQUIRED		
One	Bottom Chord	L13-L15A

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1

Details of Bottom Chord L13-L15A South Truss
Span YB2 - YB3
AMERICAN BRIDGE COMPANY

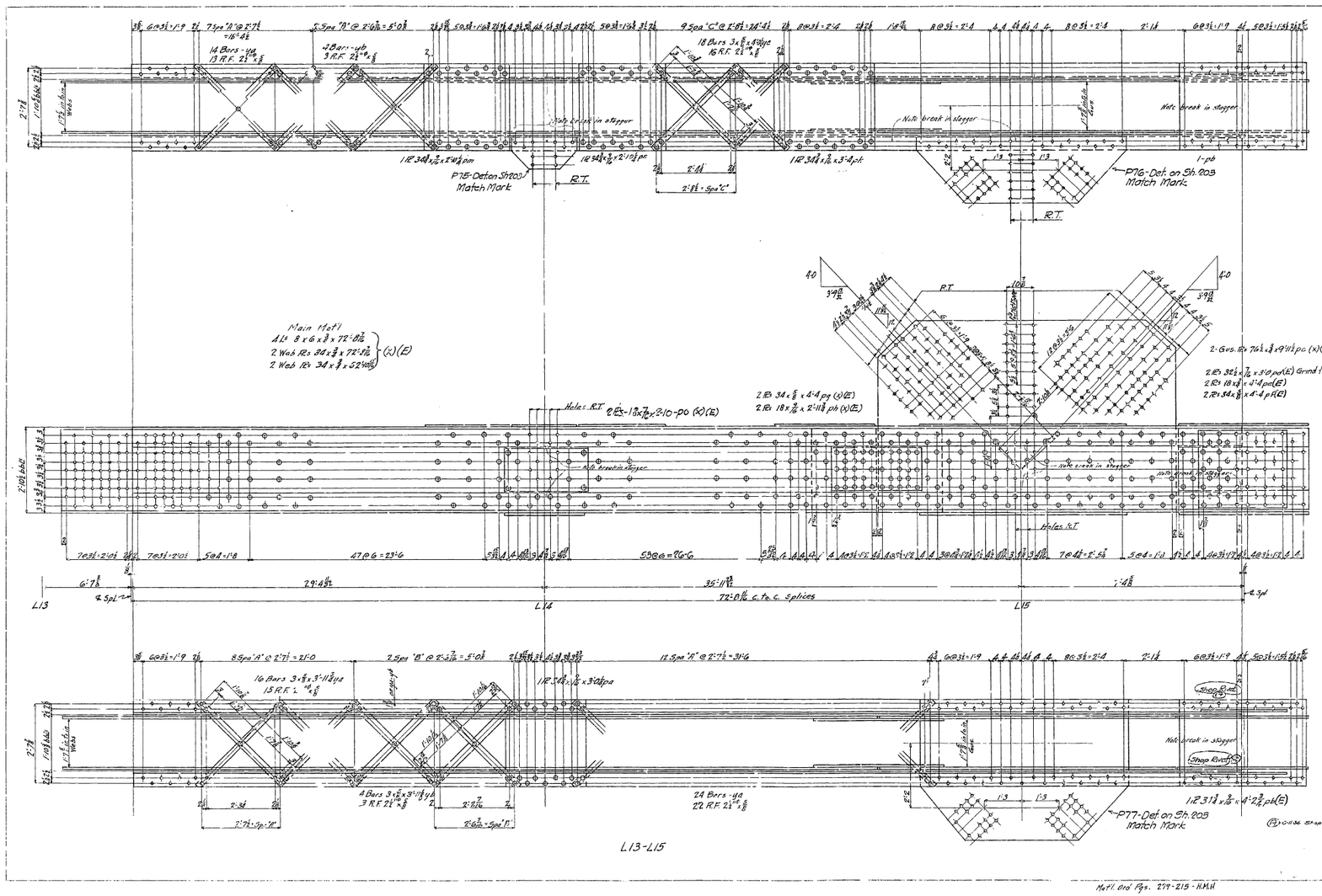
DRAWINGS MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAWN BY H.M.H. DATE 3-20-36
CHECKED BY C.F.C. DATE 4-2-36

GDDER Lic. G.5101 | SHEET No. 726 | Shop S-11 S99

5-7-36

Mat'l Ord Pgs 282-213-H.M.H

30-A



General Notes

Material:- All material O.H. Copper bearing medium carbon steel except material marked (x) which is to be O.H. Copper bearing silicon steel

Specifications:- Special by State of California, Dept of Public Works.

Inspection:- John M. Bailey - Chief Inspector

Punch:- 1/16"

Open Holes:- 1/16"

Reaming:- Holes in material 3/4" thick or less to be subpunched 1/4" and reamed to size while parts are assembled. Carbon Steel 3/4" thick or less used for lacing, stay plates and diaphrams may be punched full size. When reaming field splices, the chords of Trusses shall be laid out in lengths of not less than 6 panels and chord splices and EBPTS, P76, P77, Det. on Sheet 203 reamed and match-marked while so assembled. Holes marked R.T. to be reamed thru steel Templet. Burrs to be removed from all reamed holes. All match marking to be made with 1/2" steel stencils and white paint.

Finish:- Sheared or flame cut edges and ends of all mat'l marked (E) to be planed to remove at least 1/4" of metal.

Shop Paint:- SEE SHEET E1

13 Ton	REQUIRED		
	One	Bottom Chord	L13-L15

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y81 - E1
Details of Bottom Chord L13-L15 North Truss
Span Y82-Y83

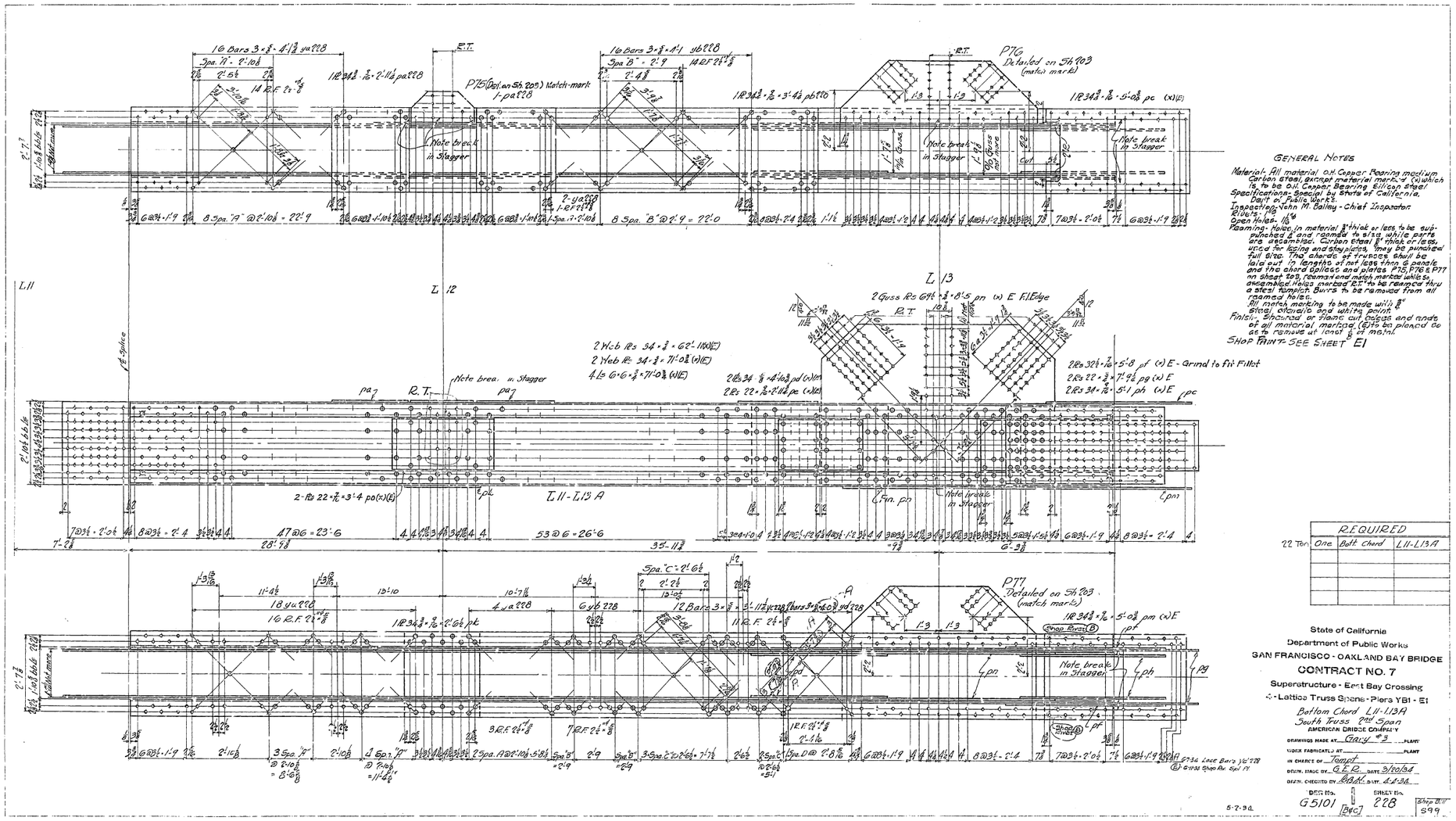
AMERICAN BRIDGE COMPANY

DRAWINGS ISSUED AT Gary PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tempt
DETAILED BY H.L.H. DATE 3-22-34
CHECKED BY C.F.C. DATE 4-6-34

ORDER No. G5101 [Bec] SHEET No. 27 Shop Bill 598

5-2-36

Mat'l Ord Pgs. 279-215 - H.M.H.



GENERAL NOTES

Material: All material o.h. Copper Bearing medium Carbon steel, except material marked "A" (which is to be o.h. Copper Bearing Silicon steel Specifications: Special by State of California Dept. of Public Works.
Inspection: John M. Bailey - Chief Inspector.
Rivets: ⅞"
Open Holes: 1⅛"
Reaming: Holes in material ⅝" thick or less to be punched ⅛" and reamed to size while parts are assembled. Carbon steel ⅝" thick or less, used for lacing and stay plates, may be punched full size. The chords of trusses shall be laid out in lengths of not less than 6 panels and the chord splices and plates P75, P76 & P77 on sheet 203, reamed and match marked while assembled. Holes overbored ⅛" to be reamed thru a steel Template Burrs to be removed from all reamed holes.
All match marking to be made with ⅛" steel chisels and white paint.
Finish: Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least ⅛" of metal.
SHOP PAINT - SEE SHEET E1

REQUIRED		
22 Ton	One Bolt Chord	L11-L13A

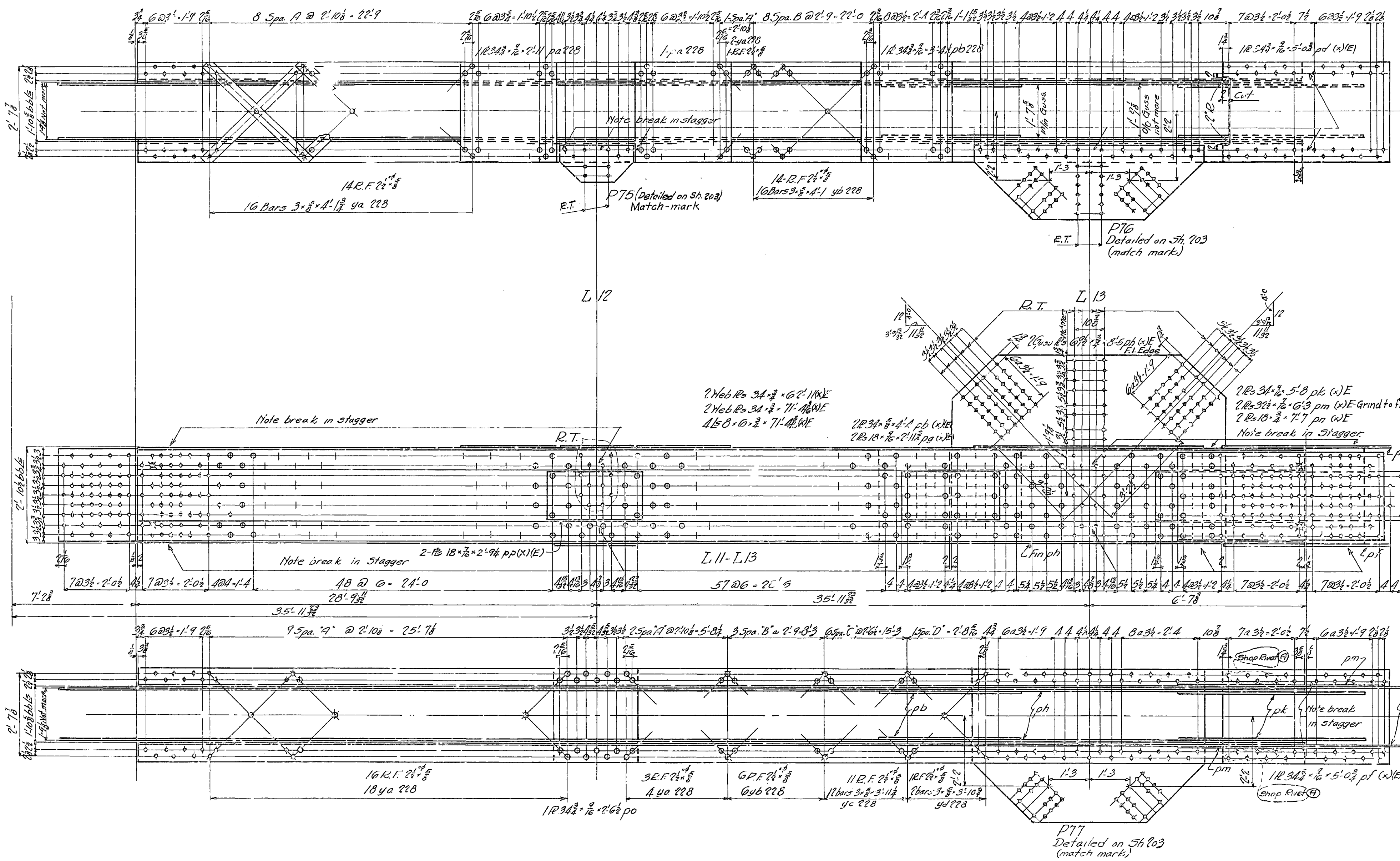
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Lattice Truss Spans - Piers YB1 - E1
Bottom Chord L11-L13A
South Truss 2nd Span
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT _____ PLANT
IN CHARGE OF Tompt
DRAWN, TRACED BY G.E.D. DATE 3/20/34
DRAWN, CHECKED BY [illegible] DATE 4-4-34

DES No. G5101 [Dec] SHEET No. 228 Ship Bill S99

5-2-34

30-1



GENERAL NOTES-

MATERIAL- All material O.H. Copper Bearing medium Carbon steel, except material marked (x) which is to be O.H. Copper Bearing Silicon steel.

SPECIFICATIONS- Special by State of California, Dep't of Public Works.

INSPECTION- John M. Bailey - Chief Inspector.

RIVETS- 1"φ

OPEN HOLES- 1 1/16"φ.

REAMING- Holes in material 5/8" thick or less to be subpunched 1/4" and reamed to size while parts are assembled. Carbon steel 3/4" thick or less, used for lacing bars and stay plates, may be punched full size. The chords of trusses shall be laid out in lengths of not less than 6 panels and the chord splices and plates P75, P76 & P77 on sheet 203, reamed and match marked while so assembled. Holes marked "R.T." to be reamed through a steel templet. Burrs to be removed from all reamed holes. All match marking to be made with 3/4" steel stencil and white paint.

FINISH- Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least 1/8" of metal.

SHOP PAINT- SEE SHEET E1

	REQUIRED		
23 Ton	One	Bott Chord	L11-L13

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y31 - E1
Bottom Chord L11-L13
North Truss Span YB2-YB3
AMERICAN BRIDGE COMPANY

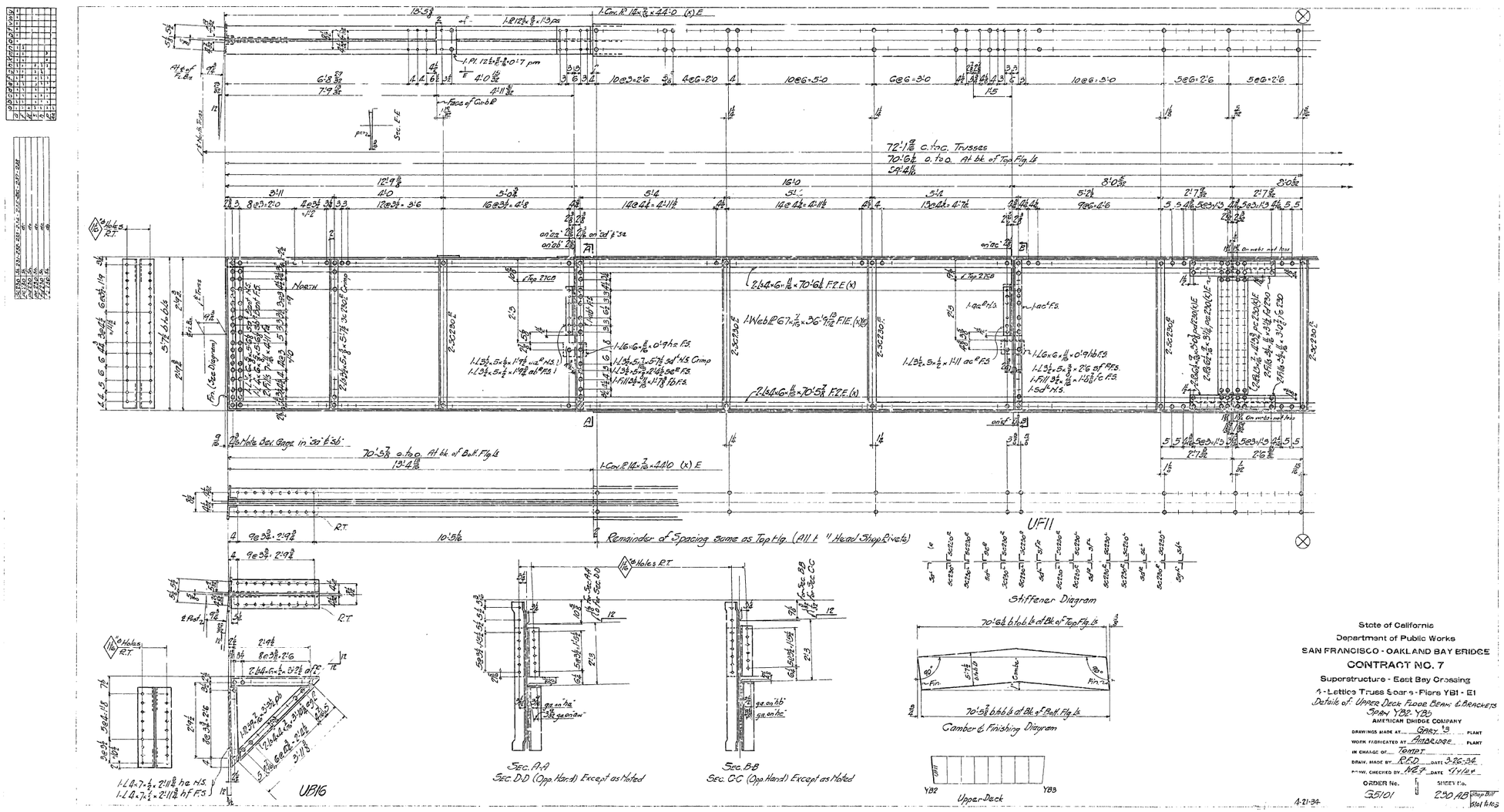
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT ______ PLANT
IN CHARGE OF Tompt
DRAW. MADE BY G.E.R. DATE 3/22/34
DRAW. CHECKED BY G.B.H. DATE 4-4-34

ORDER No. G5101 [B&C] SHEET No. 229

Shop Bill S100

G-11-34 Shop Riv. Spl. Fl.

5-2-34



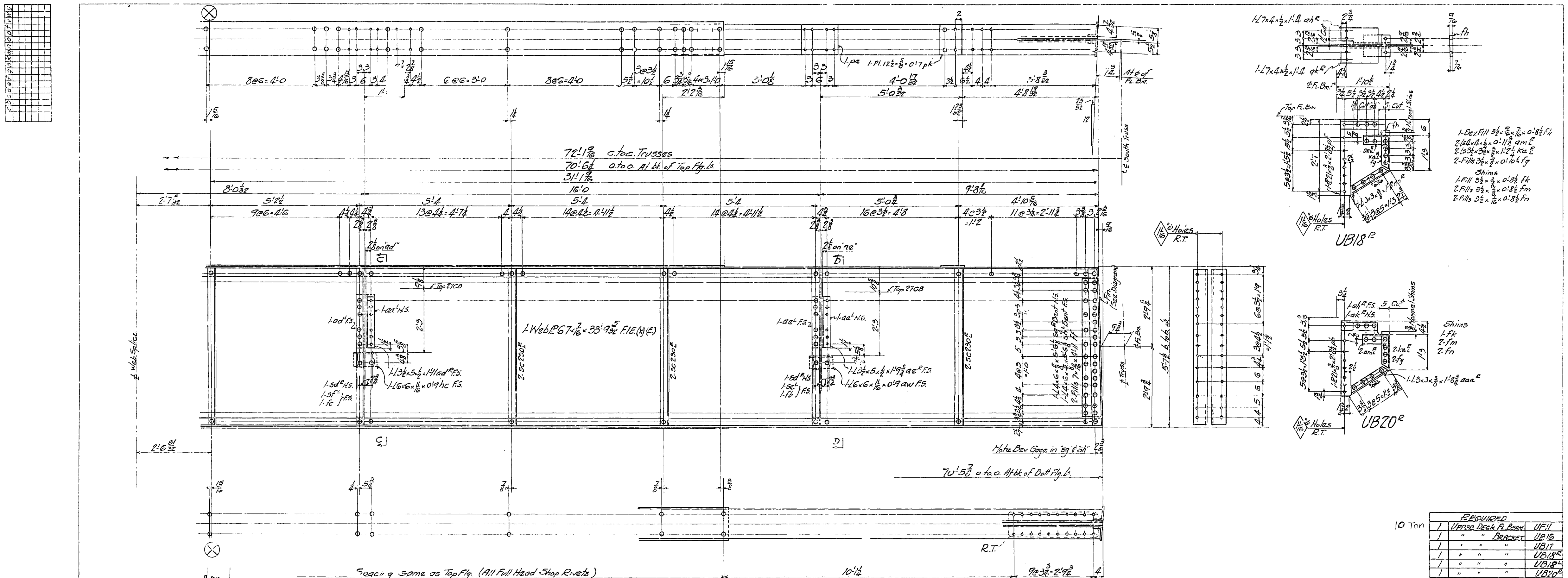
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Trues Spans - Piers YB1 - E1
Details of: Upper Deck Floor Beam & Brackets
Span YB2, YB3
AMERICAN BRIDGE COMPANY

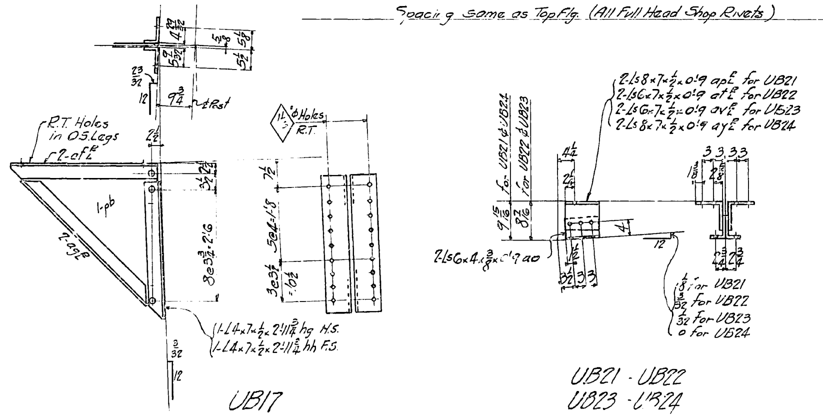
DRAWINGS MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAW. MADE BY R.R.D. DATE 3-26-34
DRAW. CHECKED BY W.E.T. DATE 4-1-34

ORDER No. 35101 | SHEET No. 230 AB (Shop Bill 6161 Pcs.)

4-21-34

30-1





GEN. NOTES:

Material: All material O.H. Copper Bearing medium carbon steel, except material marked (X) which is to be O.H. Copper Bearing Silicon Steel.

Specifications:- Special by State of California Dept. of Public Works.

Inspection: J[illegible]n M. Bailey - Chief Inspector.

Rivets: 7/8"ϕ

Open Holes: 15/16"ϕ Unless Noted.

Reaming: All holes to be subpunched 1/4" and reamed to size while parts are assembled. Holes marked R.T. to be reamed thru a Steel Templet. Burrs to be removed from reamed holes.

Finish: Sheared or Flame Cut Edges and Ends of all material marked (E) to be Planed to remove at least 1/8" of metal.

Shop Paint:- None

10 Ton

Required		
1	Upper Deck Fl. Beam	UF11
1	" " Bracket	UB16
1	" " "	UB17
1	" " "	UB18R
1	" " "	UB18L
1	" " "	UB20R
1	" " "	UB20L
1	" " "	UB21
1	" " "	UB22
1	" " "	UB23
1	" " "	UB24

State of California

Department of Public Works

SAN FRANCISCO - OAKLAND BAY BRIDGE

CONTRACT NO. 7

Superstructure - East Bay Crossing

4 - Lattice Truss Spans - Piers YB1 - E1

Details of: Upper Deck Floor Beam & Brackets
Span YB2 - YB3

AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary #3 PLANT

WORK FABRICATED AT Ambridge PLANT

IN CHARGE OF Tompt

MADE BY R.F.D. DATE 3-28-34

CHECKED BY [illegible] DATE [illegible]

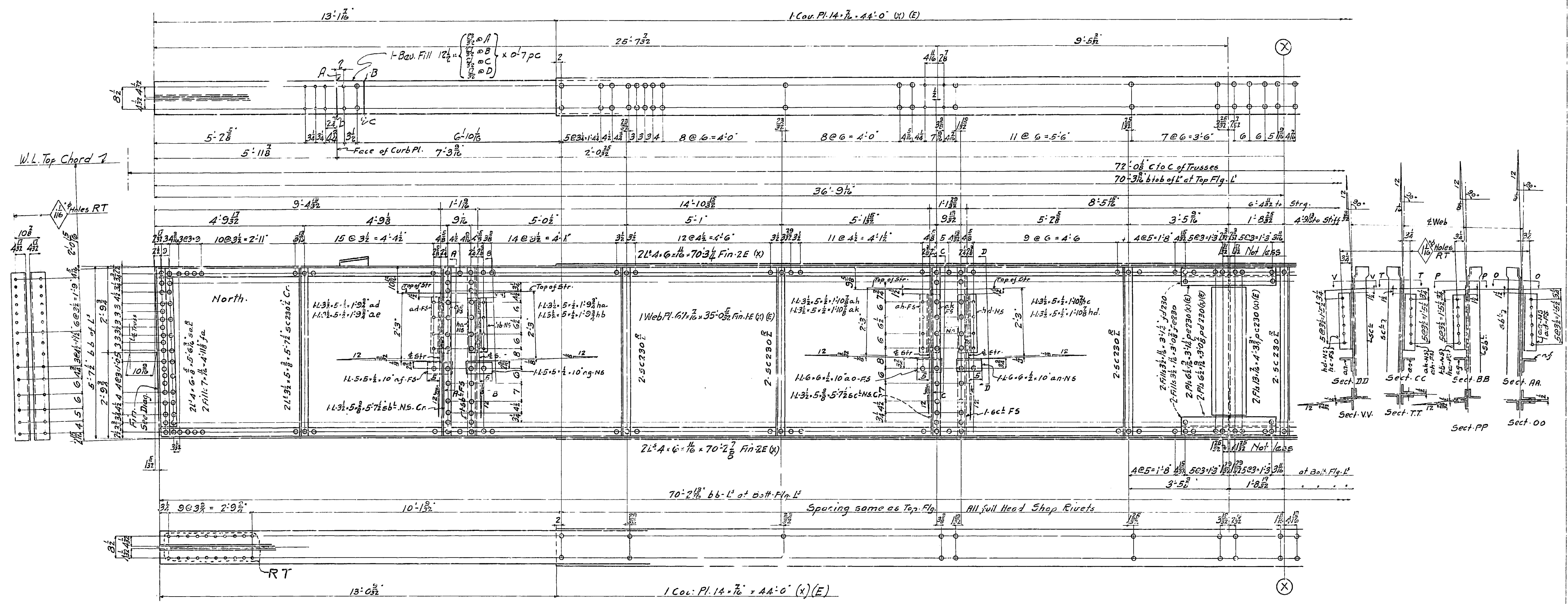
ORDER No. G5101 SHEET No. 230B

Shop Bill 5101 to 103

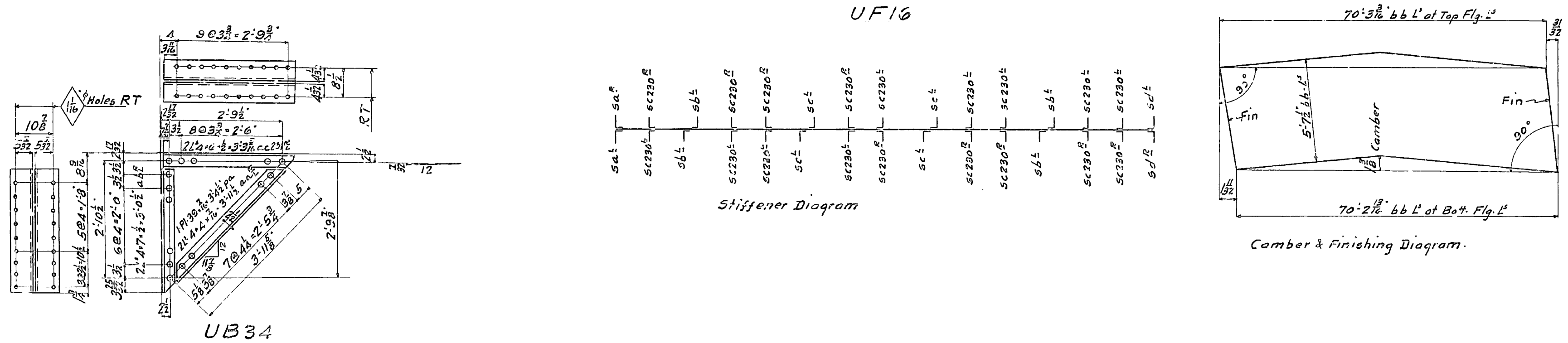
4-21-34

Mat'l Ord. pgs. 204, 205, 209, 230 & 272 Page 314-Line 2

[B&C]



UF16



UB34

Stiffener Diagram

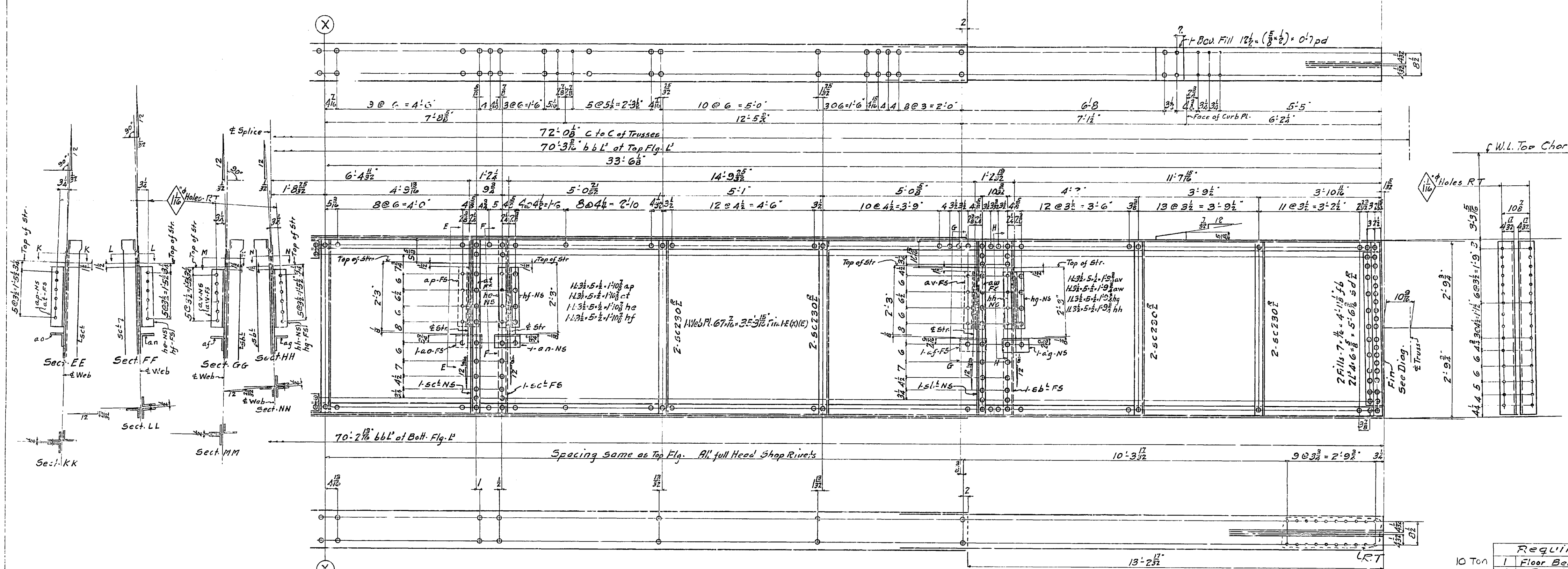
Camber & Finishing Diagram

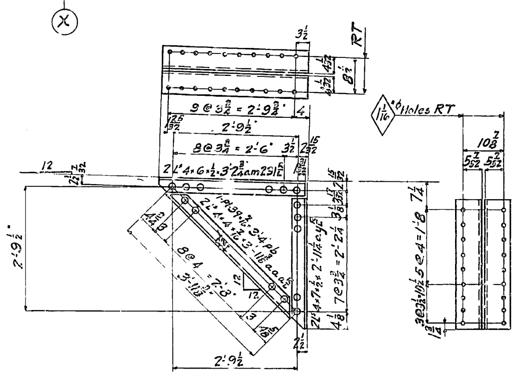
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Fl. Bm. & Brackets Upper Deck
Span YB2 - YB3.
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT *Gary #3* PLANT
WORK FABRICATED AT ______ PLANT
IN CHARGE OF *Tompt*
DRAW. MADE BY *ST.* DATE *3-30-34*
DRAW. CHECKED BY *GBH* DATE *4-6-34*
ORDER No. *G5101* SHEET No. *231-AB*
Shop Bill *5104-105*

4-27-34

Mat. A.B. Pages 205-272. ST.

30-1





10 Ton

Required		
1	Floor Beam	UF16
1	Bracket	UB34
1	"	UB35

GENERAL NOTES-

MATERIAL- All material O.H. Copper Bearing medium Carbon steel except material marked (x) which is to be O.H. Copper Bearing Silicon steel.

SPECIFICATIONS- Special by State of California, Dep't of Public Works.

INSPECTION- John M. Bailey- Chief Inspector.

RIVETS- 7/8"ϕ

OPEN HOLES- 15/16"ϕ Unless noted.

REAMING- All holes to be subpunched 1/4" and reamed to size while parts are assembled.
Burrs to be removed from all reamed holes.
Holes marked "R.T." to be reamed through a steel templet.

FINISH- Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least 1/8" of metal.

SHOP PAINT- None.

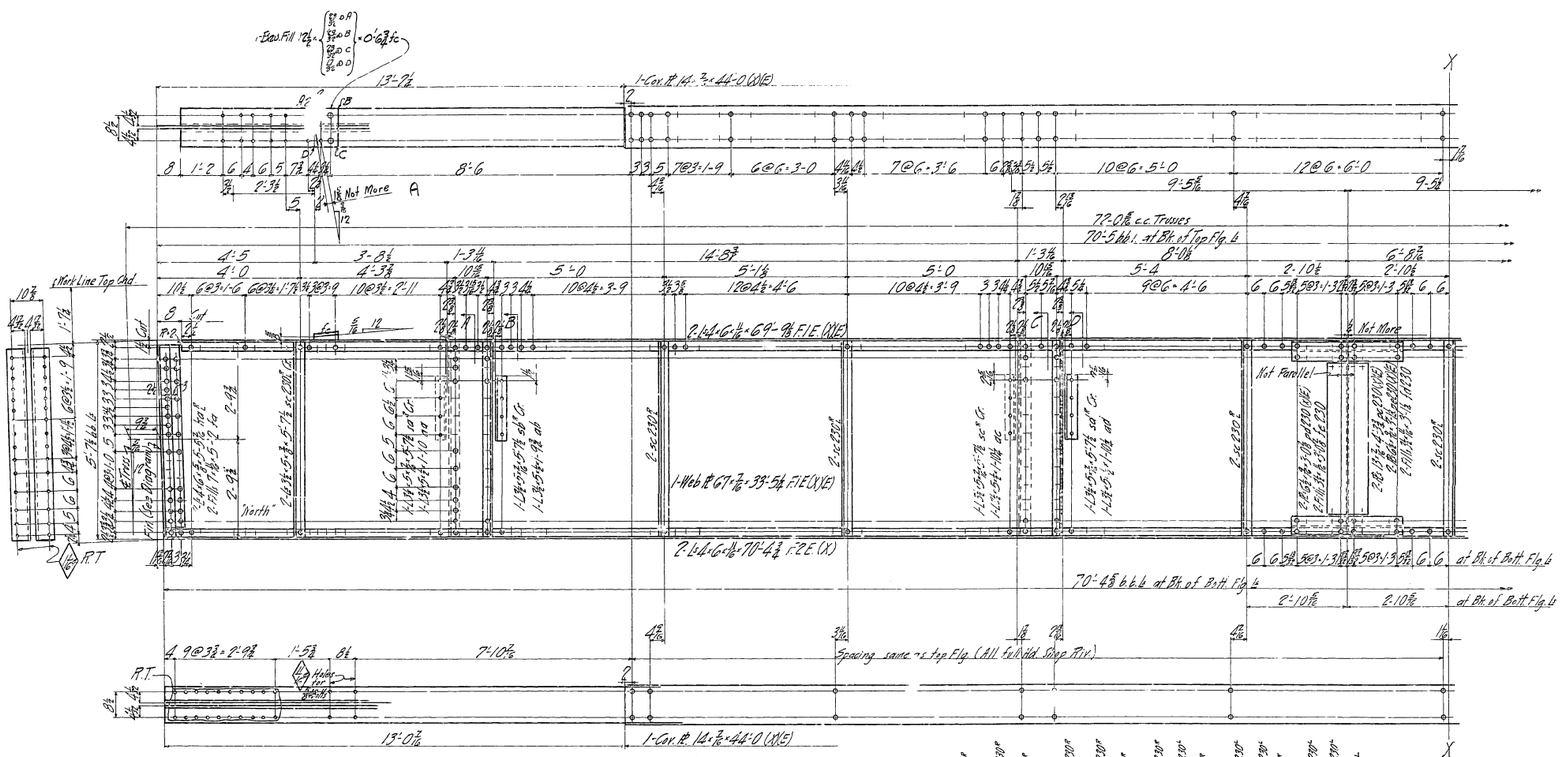
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Fl. Bms & Brackets Upper Deck
Span YB2 - YB3
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT ______ PLANT
IN CHARGE OF Tompt.
DRAW. MADE BY S.T. DATE 3-23-34
DRAW. CHECKED BY C.B.H. DATE 8-6-34

ORDER No. 5101. [B&C] SHEET No. 231.B Shop Bill 5104-105

4-27-34

Mat. A.B. Pages 205-272 ST.

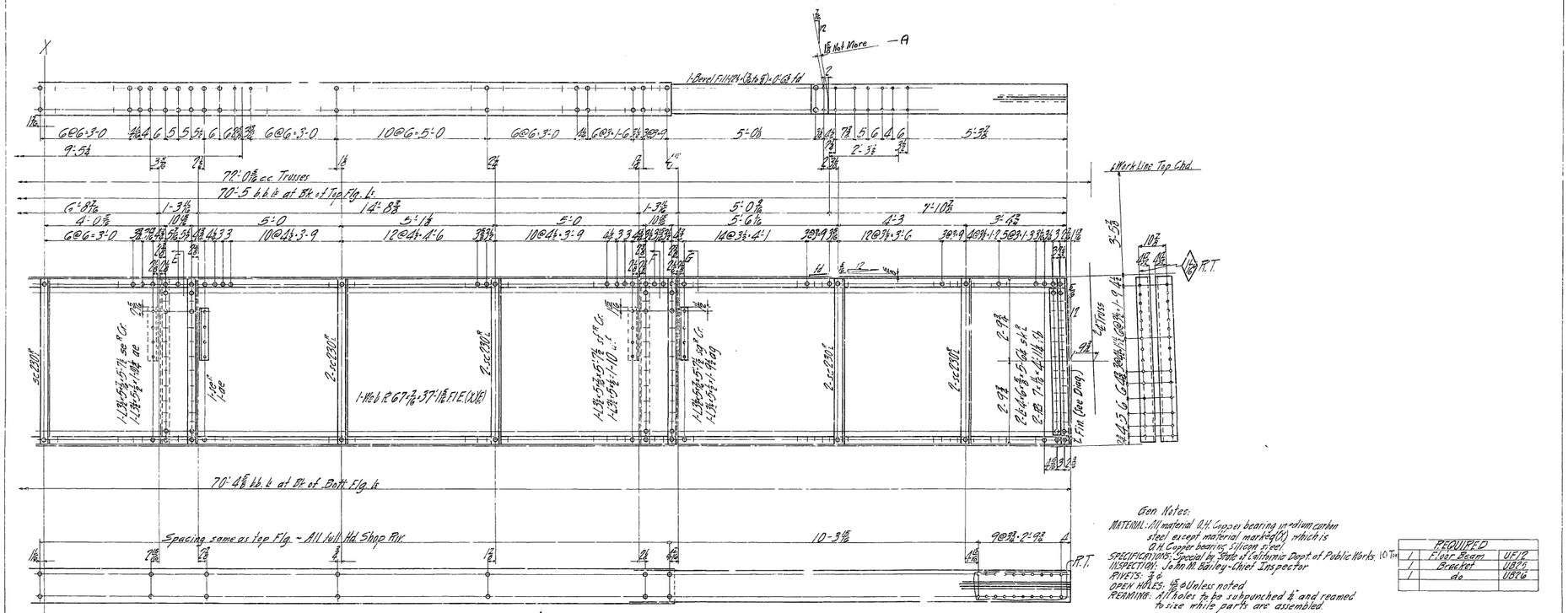


State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
DETAILS OF FLOOR BEAM & BRACKETS
UPPER DECK - SPAN YB2 - YB3
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tomat
DRW. MADE BY H.C.B. DATE 1-29-34
DRAW. CHECKED BY J.H.G. DATE 2-5-34
ORDER No. G5101
SHEET No. 232 AB

@-6-1934 Fill Fc

4-21-34
Mod. Ind. P 805-307-672 H.C.B.
2.11



Gen. Notes:

MATERIAL: All material O.H. Copper bearing medium carbon steel except material marked (X) which is O.H. Copper bearing Silicon steel.
SPECIFICATIONS: Special by State of California Dept. of Public Works
INSPECTION: John M. Bailey - Chief Inspector
RIVETS: 7/8 ø
OPEN HOLES: 7/8 ø Unless noted
REAMING: All holes to be subpunched 1/4" and reamed to size while parts are assembled.

Holes marked R.T. to be reamed thru a steel templet
Burrs to be removed from all reamed holes.

FINISH: Sheared or flame cut edges and ends of all material marked (F) to be planed to remove at least 1/4" of metal.

SHOP PAINT: None

REQUIRED		
1	Floor Beam	UF19
1	Bracket	UB25
1	do	UB26

(A) 6-13-34 Fill Rd

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y31 - E1
Details of FLOOR BEAM & BRACKETS
UPPER DECK - SPAN YB2-YB3
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary IND PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tempf
DRAWN MADE BY H.C.G. DATE 3-21-34
DRAWN CHECKED BY J.H.G. DATE 4-5-34

ORDER No. G510 | DETAIL No. 232B

Shop 2711
5106-167

4-21-34

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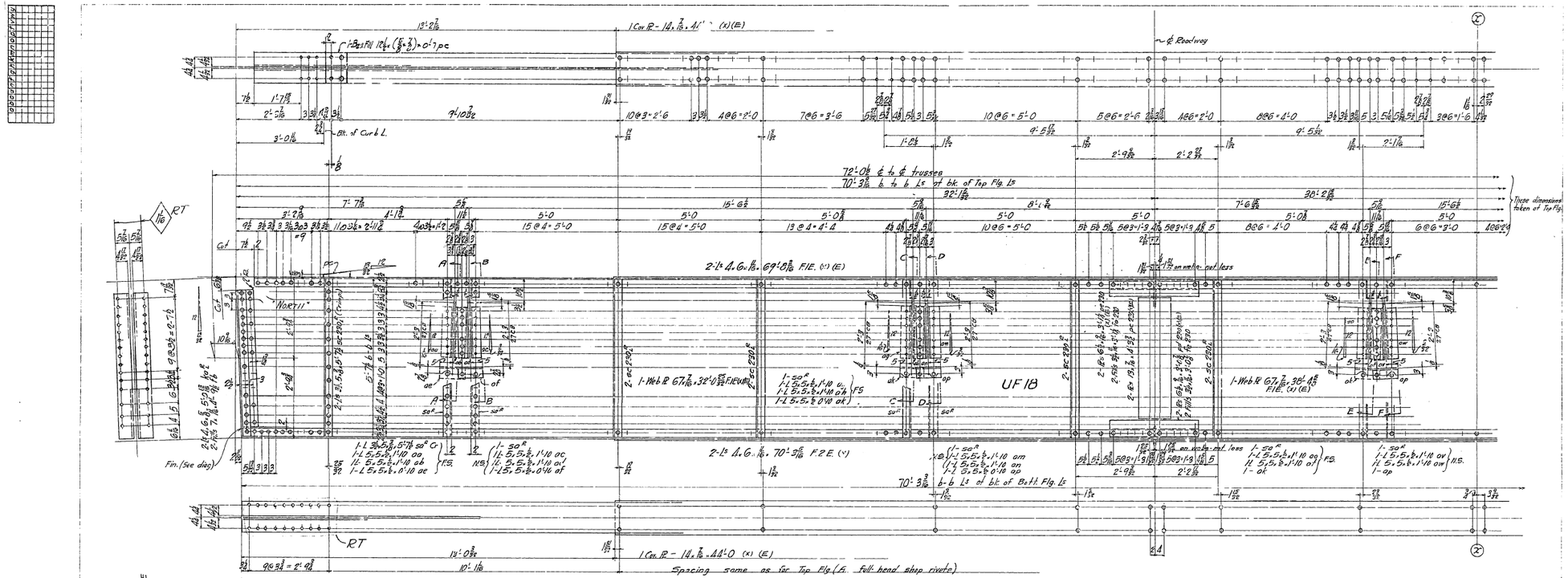


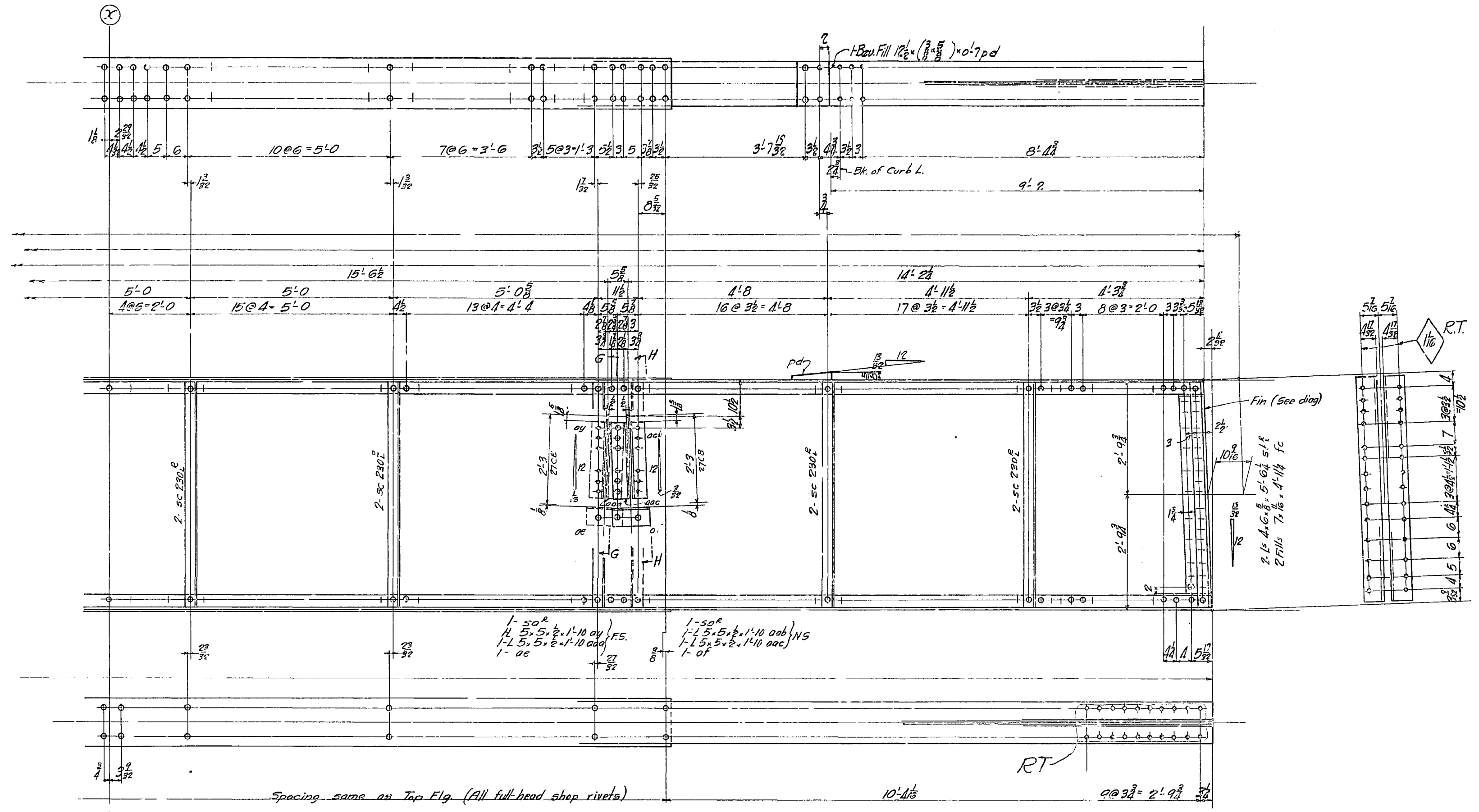
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1

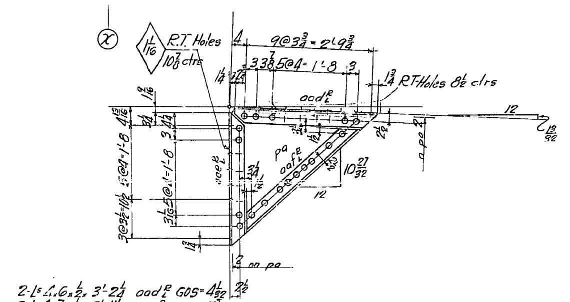
Details of Upper Deck Floor Beams & Brackets Span YB2 - YB3

AMERICAN BRIDGE COMPANY

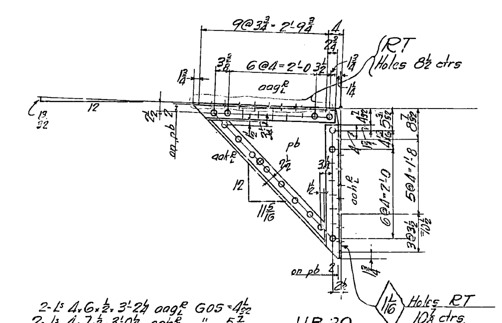
DRAWINGS MADE AT Gary Ind. PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tampl
DRAW. MADE BY M.R.L. DATE 3-27-34
DRAW. CHECKED BY C.F.C. DATE 4-12-34
ORDER No. G5101
TRACED No. 233 AB

4-27-34





UB38



UB39

REQUIRED		
One	Floor Beam	UF18
One	Bracket	UB38
One		UB39

10 T

Genl. Notes.

Material – All mat'l O.H. copper-bearing medium carbon steel except mat'l marked (X) which is O.H. copper-bearing silicon steel.
Specifications – Special by State of California Dept. of Public Works.
Inspection – John M. Bailey, Chief Insp.
Rivets – $\frac{7}{8}$ϕ
Open Holes $\frac{15}{16}$ϕ unless noted.
Reaming – All holes to be subpunched $\frac{1}{4}$" and reamed to size while parts are assembled.
Holes marked "RT" to be reamed thru a steel templet.
Burrs to be removed from all reamed holes.
Finish – Sheared or flame-cut edges and ends of material marked (E) to be planed to remove at least $\frac{1}{8}$" of metal.
Shop Paint – None.

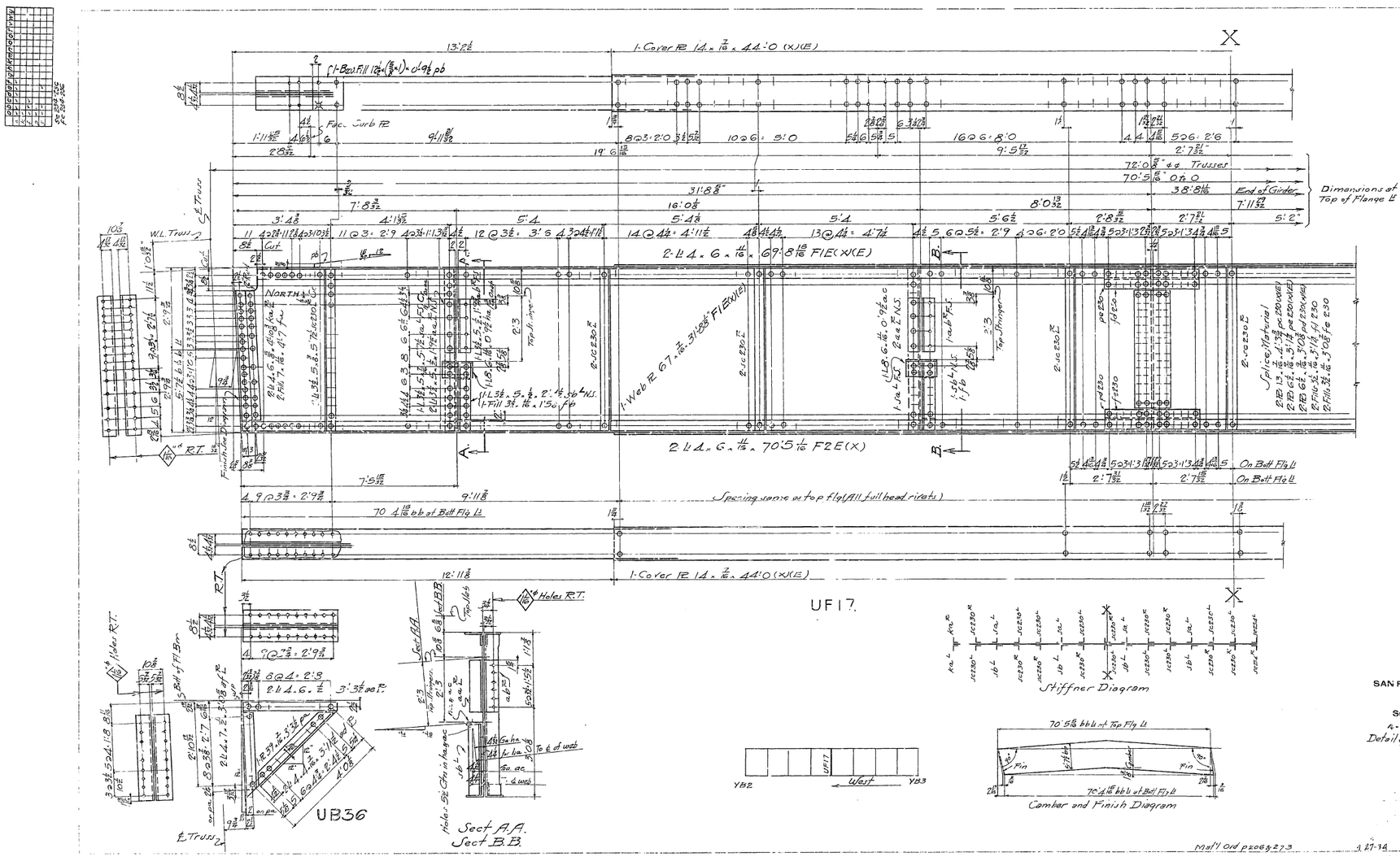
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Upper Deck Floor Beams & Brackets
Span YB2 - YB3

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAW. MADE BY WRL DATE 3-29-34
DRAW. CHECKED BY C.F.C. DATE 4-12-34
ORDER No. G5101
SHEET No. 233 B
Shop Bill 5108-109

4-27-34

[B&C]

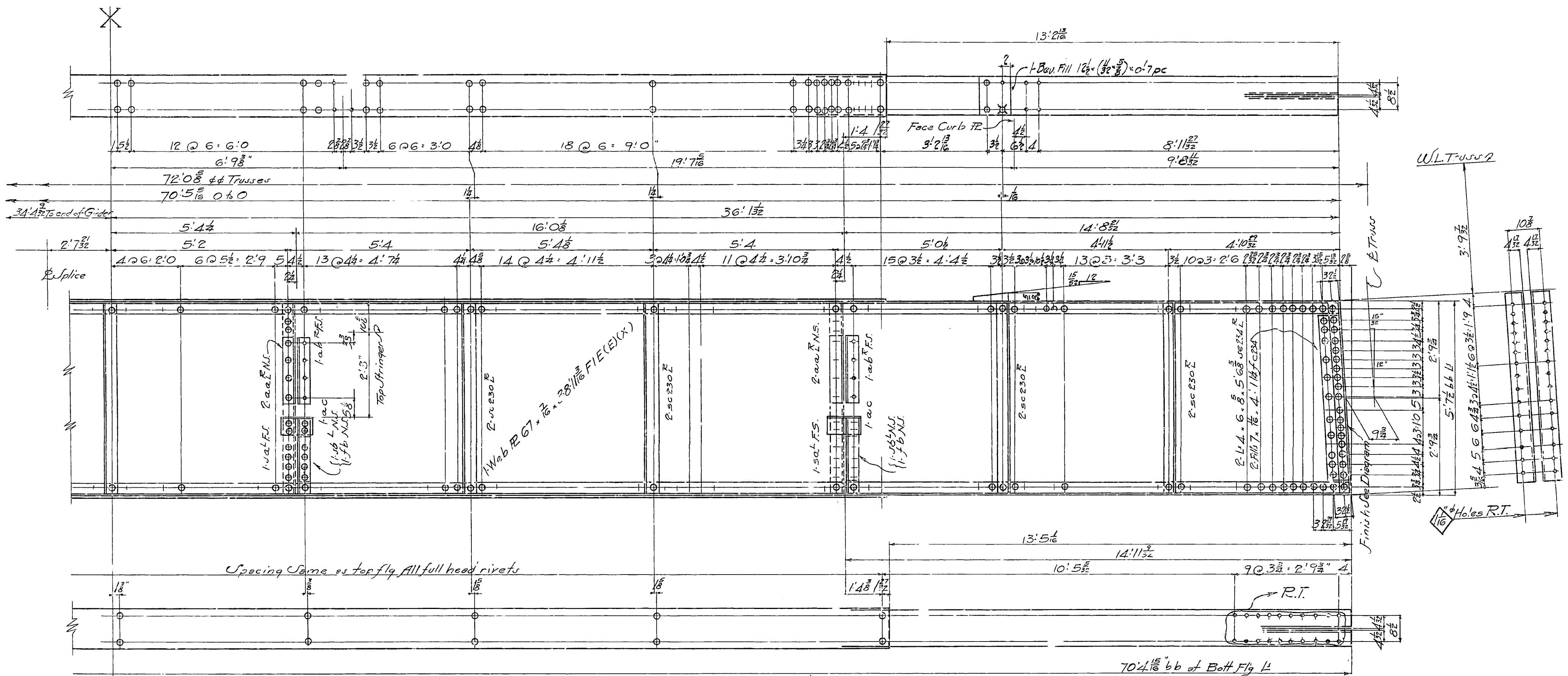
30-F1

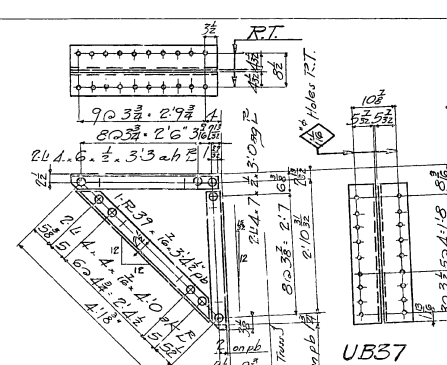


State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4-Lattice Truss Spans - Piers YB1 - E1
Detail of PE Beams, Brackets, Upper Deck
Span YB2-YB3
AMERICAN BRIDGE COMPANY
DRAWING MADE AT GARY WKS. PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAW. MADE BY G.I.N. DATE 9/23/34
DESIGN CHECKED BY G.I.N. DATE 4-5-34
ORDER No. G5101
SHEET No. 934-AB
Shop Bill S110-111

Mod'l Ord pz065-27-3 4-27-34

30-1





REQUIRED for YB2-YB3		
1	Floor Beam	UF17
2	Brackets	UB36
2	"	UB37

10 Ton

GENERAL NOTES

MATERIAL. All material, O.H. Copper bearing medium carbon steel, except material marked (X) which is to be O.H. Copper bearing Silicon Steel

SPECIFICATIONS. Special by State of California Dept of Public Works

INSPECTION. John M. Bailey - Chief Inspector

RIVETS. 7/8"ϕ Diameter

OPEN HOLES. 15/16"ϕ Diameter unless noted

REAMING. All holes to be sub punched 3/4" and reamed to size while parts are assembled
Holes marked R.T. to be reamed through a steel templet
Burrs to be removed from all reamed holes
Sheared or flame cut edges and ends of all mat'l marked (E) to be planed to remove at least 1/8" of metal

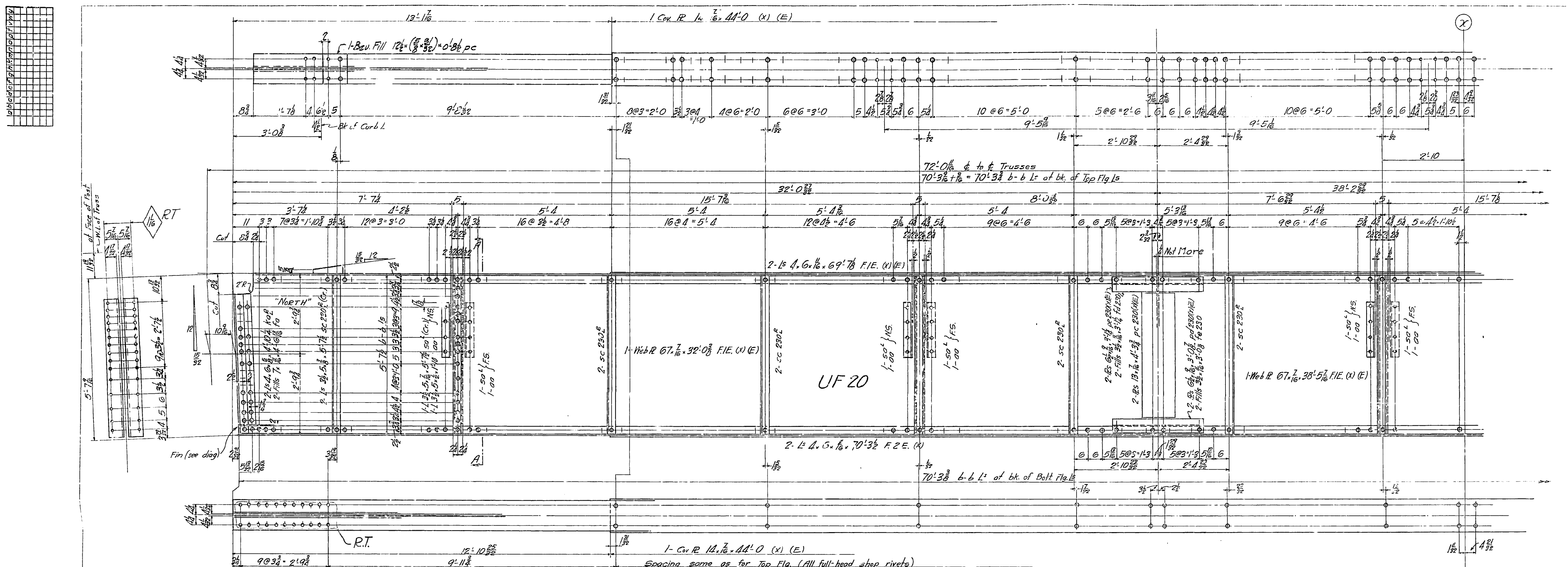
SHOP PAINT. None

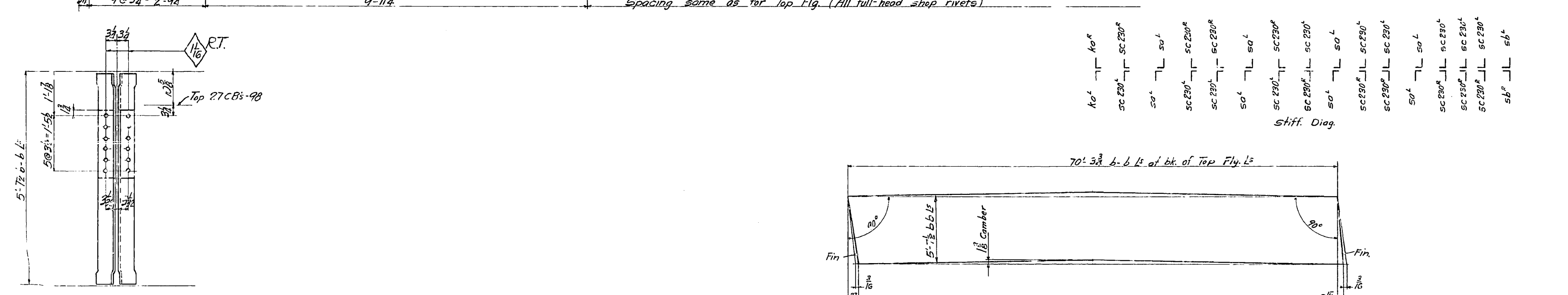
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Floor Beam & Brackets Upper Deck
Span YB2-YB3
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAW. MADE BY GJM DATE 3/19/34
DRAW. CKED BY G.T.N. DATE 4-5-34
ORDER No. G5101
SHEET No. 234-B
Shop Bill 5110-111

4-27-34

[B¢C]

30-1





Sect. A-A

Camber and Fin. Diag.

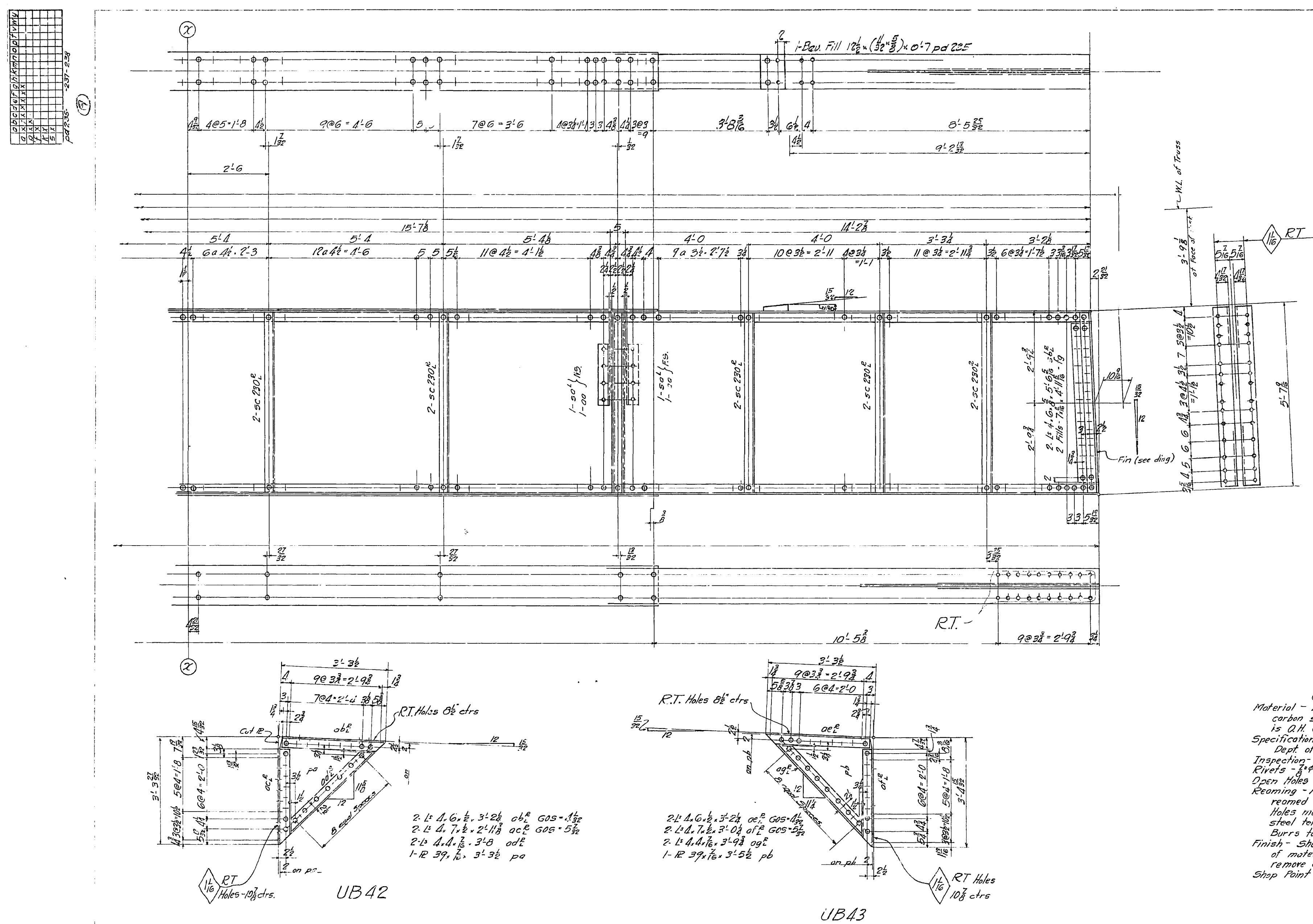
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Upper Deck Floor Beams & Brackets
Span YB2 - YB3

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAW. MADE BY W.K.L. DATE 4-3-34
DRAW. CHECKED BY J.H.G. DATE 4-11-34

ORDER No.	SHEET No.
G 5101	235 AB

5-2-34

Shop Bill 5112



10 Ton	REQUIRED		
	One	Floor Beam	UF20
	One	Bracket	UB42
	One	"	UB43

Gen'l Notes

Material – All material O.H. copper-bearing medium carbon steel except material marked (X) which is O.H. copper-bearing silicon steel.
Specifications – Special by State of California – Dept. of Public Works.
Inspection – John M Bailey, Chief Insp.
Rivets – $\frac{7}{8}$"ϕ
Open Holes – $\frac{15}{16}$"ϕ unless noted.
Reaming – All holes to be subpunched $\frac{1}{4}$" and reamed to size while parts are assembled. Holes marked "RT" to be reamed thru a steel templet.
Burrs to be removed from all reamed holes.
Finish – Sheared or flame-cut edges and ends of material marked (E) to be planed to remove at least $\frac{1}{8}$" of metal.
Shop Point – None.

Ⓐ 6-15-34 Assembly mark 2d 235 on sh. 236

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Upper Deck Floor Bm & Brackets
Span YB2 - YB3
AMERICAN BRIDGE COMPANY

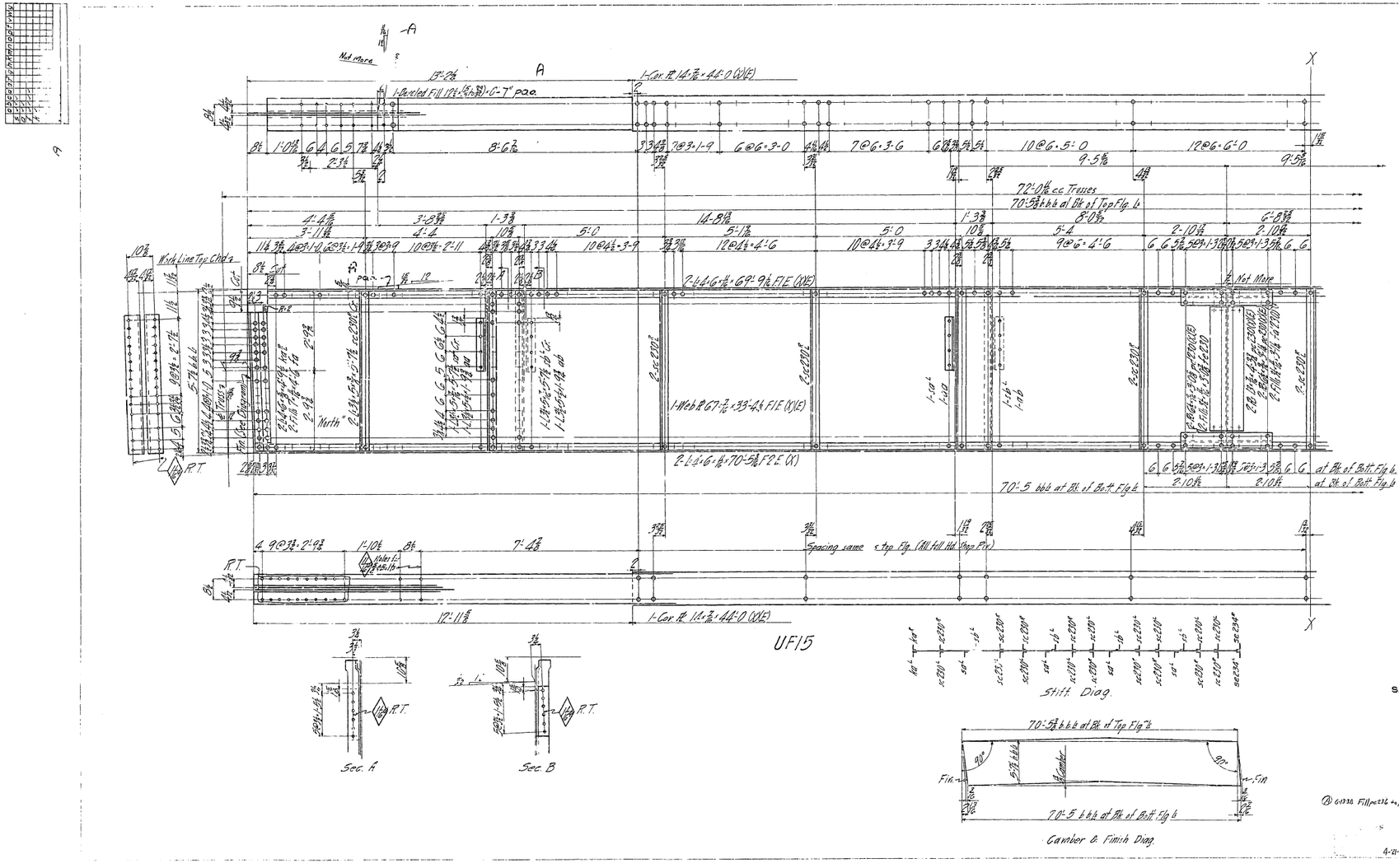
DRAWINGS MADE AT Gary PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAW. MADE BY MRL DATE 4-5-34
DRAW. CHECKED BY J.H.G. DATE 4-11-34

ORDER No. G5101 [8&C] SHEET No. 235 B Shop Bill 5112

5-2-34

Mat Ord Pgs 207 & 273 MRL

39-1

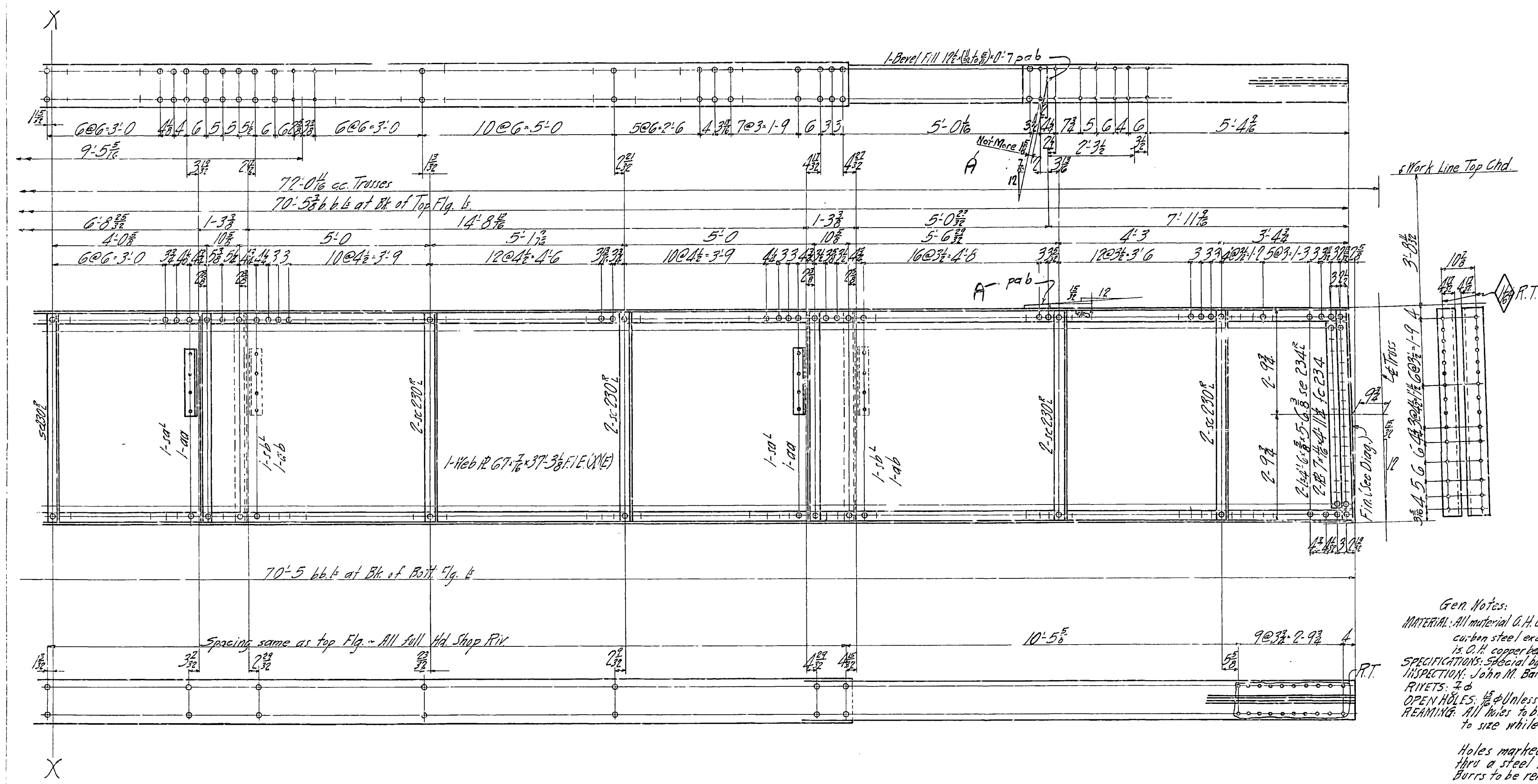


State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
DETAILS OF FLOOR BEAM
UPPER DECK - SPAN YB2-YB3
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tapp
DRAW. MADE BY H.C.G. DATE 3-23-34
DRAW. CHECKED BY J.H.G. DATE 4-5-34

ORDER No. G5101
SHEET No. 236AB
Shop Dwg 5113

4-21-34



Gen. Notes:

MATERIAL: All material O.H. Copper bearing medium carbon steel except material marked (X) which is O.H. copper bearing silicon steel.
SPECIFICATIONS: Special by State of California Dept. of Public Works.
INSPECTION: John M. Bailey - Chief Inspector.
RIVETS: 7/8 ϕ
OPEN HOLES: 15/16 ϕ Unless noted.
REAMING: All holes to be subpunched 1/4" and reamed to size while parts are assembled.

Holes marked R.T. to be reamed thru a steel templet.
Burrs to be removed from all reamed holes.

FINISH: Sheared or flame cut edges and ends of all material marked (E) to be planed to remove at least 1/8" of metal.

SHOP PAINT: None.

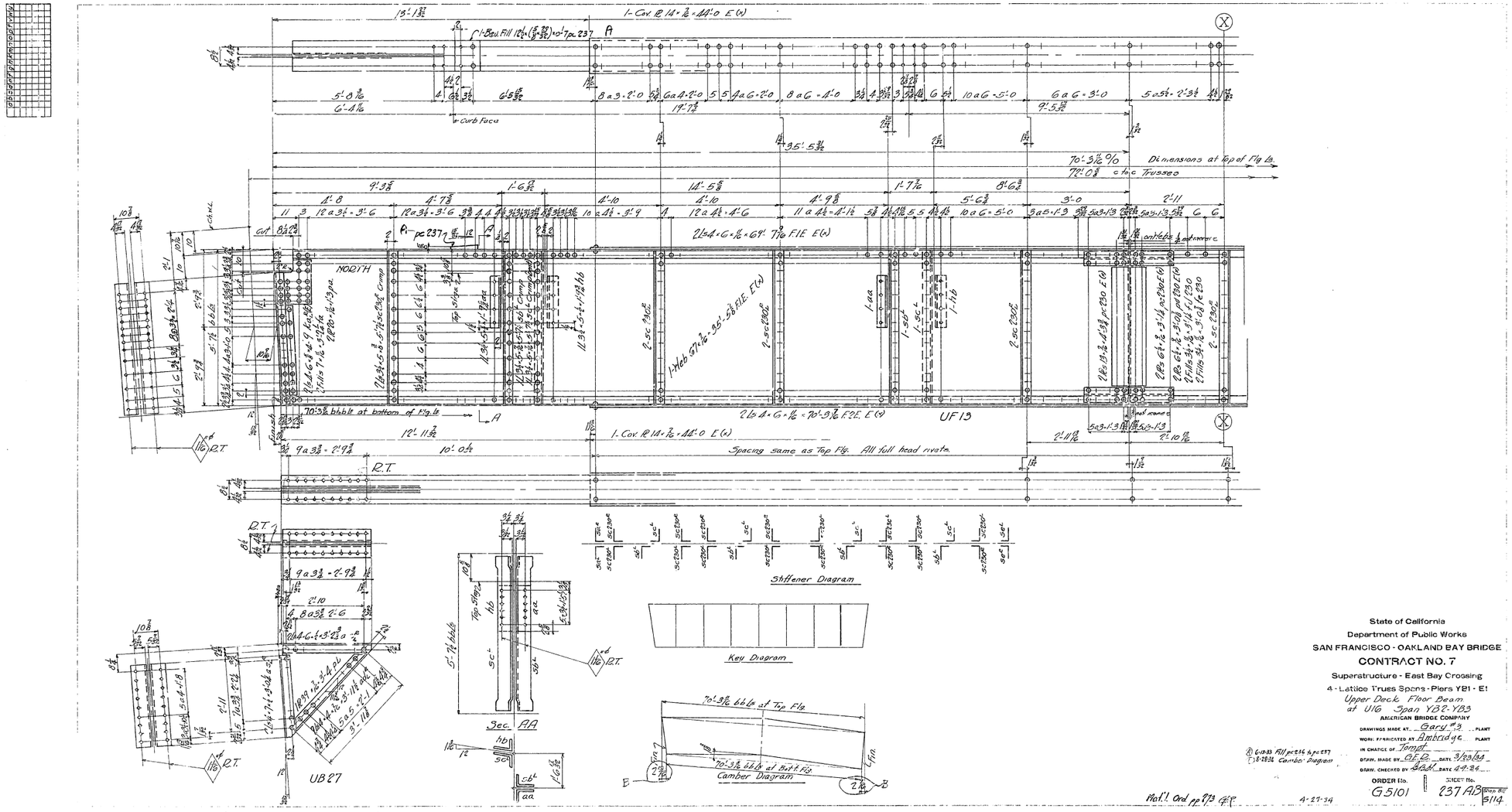
REQUIRED			
10 Ton	1	Floor Beam	UF15

Ⓐ 6-13-34 Fill pd 235 to pab

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
DETAILS OF FLOOR BEAM
UPPER DECK - SPAN YB2-YB3
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAW. MADE BY H.C.G. DATE 3-23-34
DRAW. CHECKED BY J.H.G. DATE 4-5-34
ORDER No. G5101
SHEET No. 236B
Shop Bill 5113

4-21-34
Mat. Ord. P. 207-272 H.C.G.
231
[B&C]

837-1



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Trues Spans - Piers YB1 - E1
Upper Deck Floor Beam
at U16 Span YB2-YB3
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAW. MADE BY G.E.D. DATE 3/23/34
DRAW. CHECKED BY Brdt. DATE 4-9-34

2) 6-13-33 Fill pc 236 & pc 237
1) 8-28-34 Camber Diagram

Mat'l Ord pp 8/3 4/7

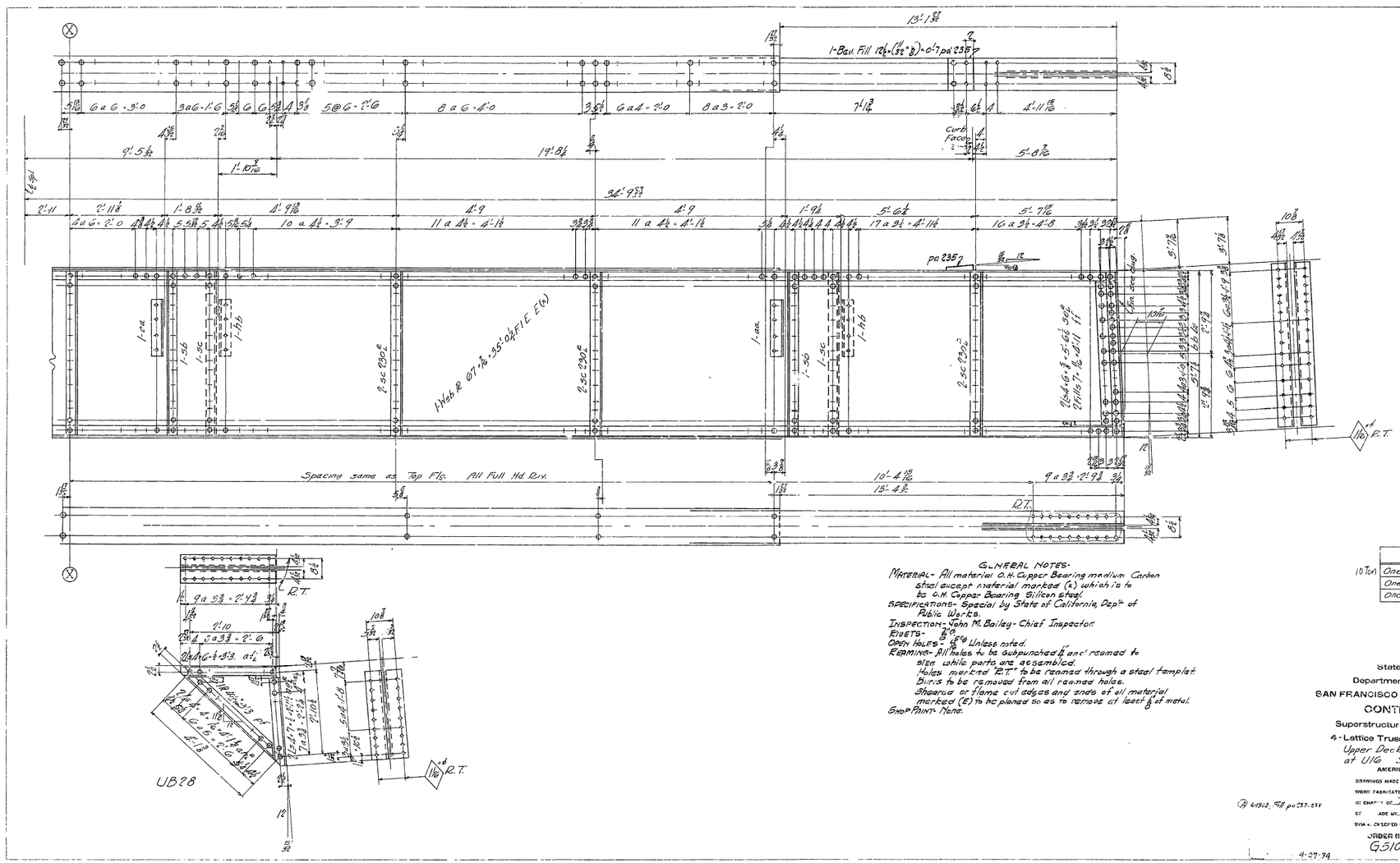
4-27-34

ORDER No. G5101

SHEET No. 237 AB Drwg No. 5114

60-54

pc 237-238



GENERAL NOTES.

MATERIAL- All material O.H. Copper Bearing medium Carbon steel except material marked (X) which is to be O.H. Copper Bearing Silicon steel.
SPECIFICATIONS- Special by State of California, Dept of Public Works.
INSPECTION- John M. Bailey- Chief Inspector.
RIVETS- ⅞" Ø
OPEN HOLES- ⅞" Ø Unless noted.
REAMING- All holes to be subpunched ¼" and reamed to size while parts are assembled.
Holes marked "R.T." to be reamed through a steel templat.
Burrs to be removed from all reamed holes.
Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least ⅛" of metal.
SHOP PAINT- None.

10 Tons	REQUIRED		
	One	Floor Beam	UF13
	One	Bracket	UB27
	One	do	UB28

Ⓐ 6-30-54; 7/8 pa 237-238

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Upper Deck Floor Bm. at U16 Span YB2-YB3

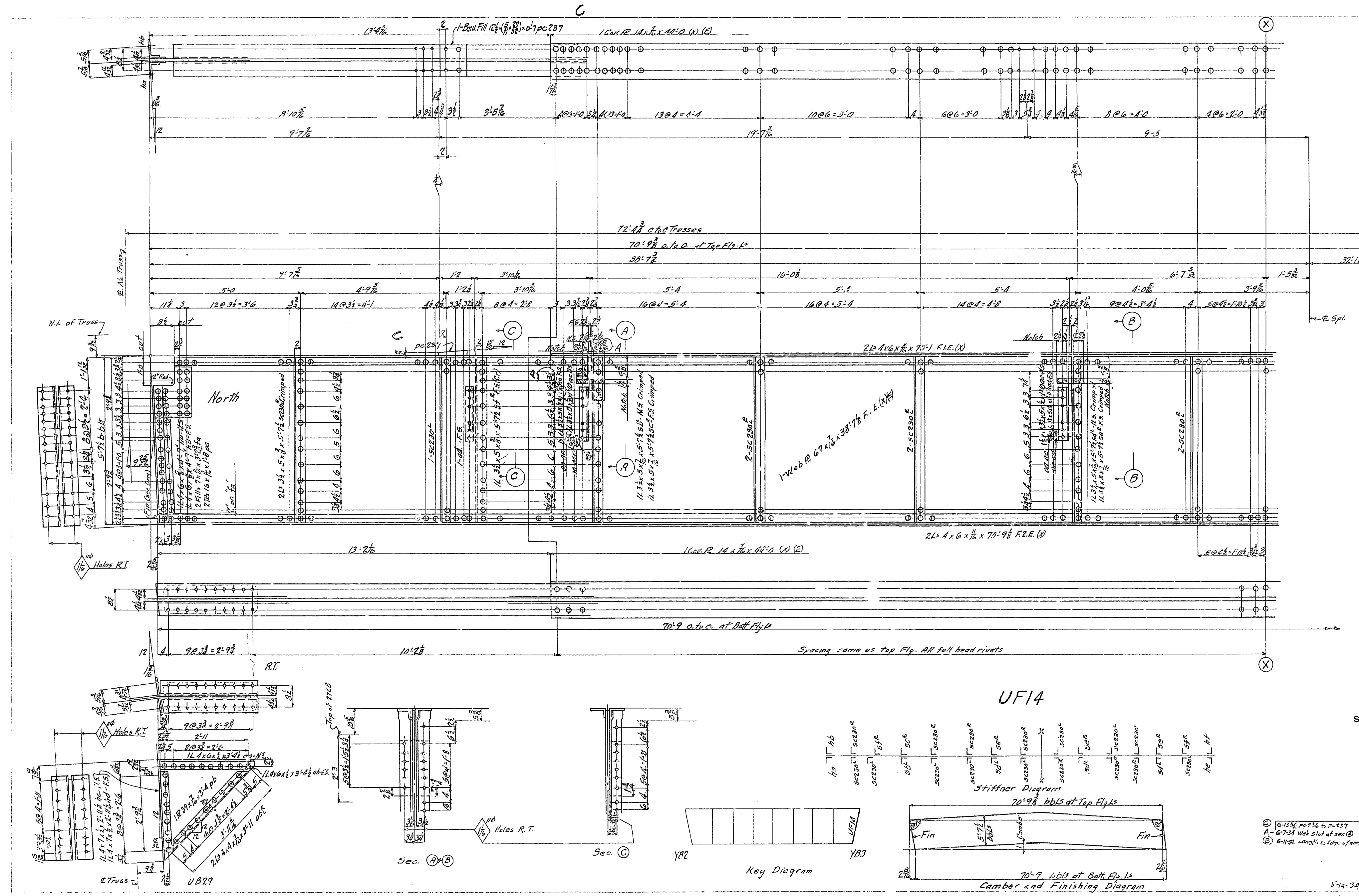
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tomat
DETAILED BY G.E.D. DATE 3/26/54
TRACED BY [illegible] DATE 4-9-54
CHECKED BY [illegible] DATE 4-9-54

ORDER No. G5101 | SHEET No. 237B | Shop Bill S114

9-27-54

[B&C]

30-1



(C) G-13-34 pc236 to pc237
A - 6-7-34 Web slot at sec (A)
(B) G-11-34 Length & Edge of ...

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Floor Beam & Brackets Upper Deck
Span YB2 - YB3
AMERICAN BRIDGE COMPANY

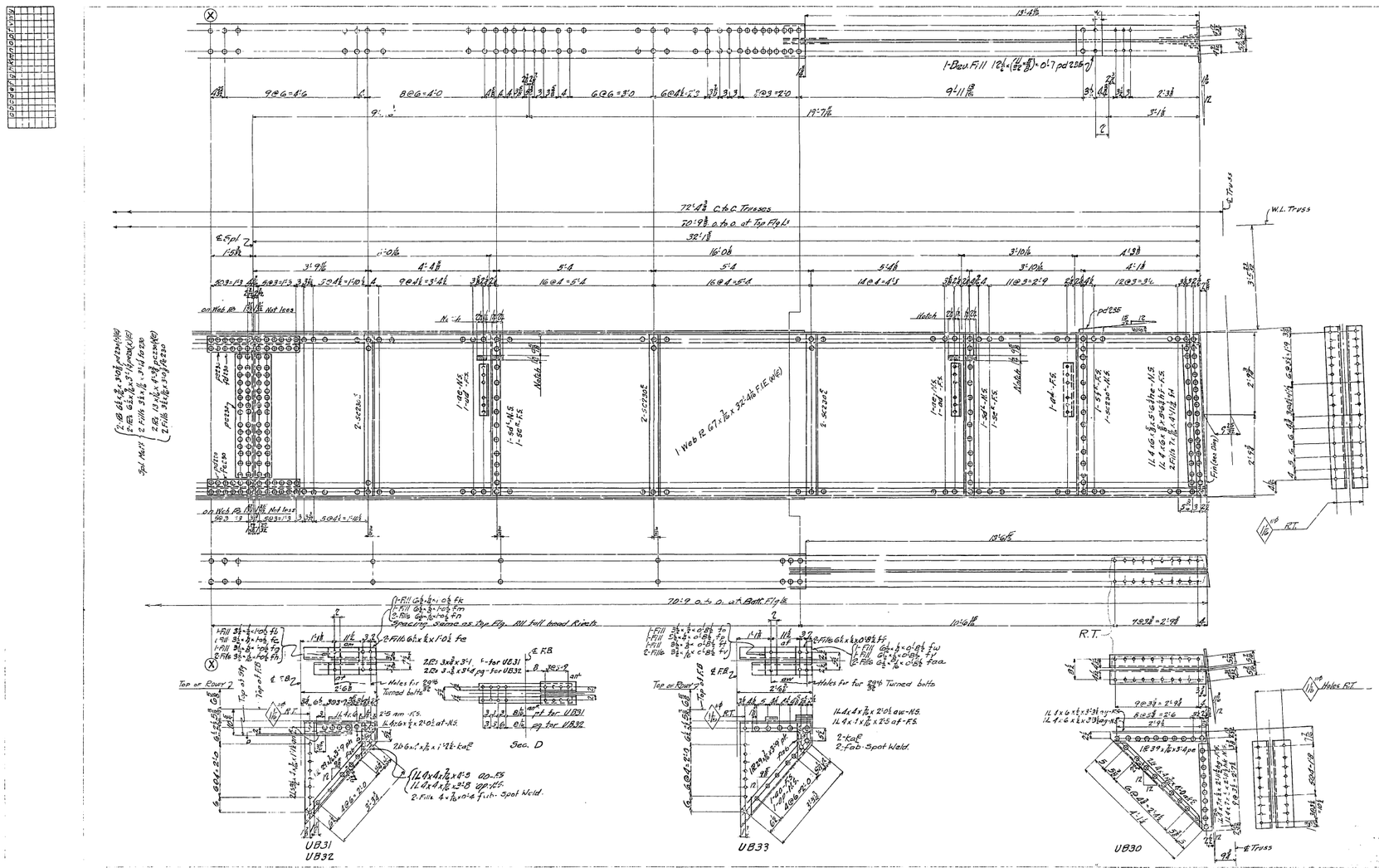
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tampt
DRAW. MADE BY H.M.H DATE 3-27-34
DRAW. CHECKED BY W.E.F. DATE 4/20/34

ORDER G. 101
SHEET No. 238AB
Shop Bill 5115 to 117

5-14-34

Mat'l Ord. Pgs. 207-274-200-230 - (Pg 3-L18) H.M.H.
Pg. 314 - Line 22

30-1



GENERAL NOTES

Material - All material O.H. Copper-Bearing medium Carbon steel except mat'l marked (W) which is to be O.H. Copper-Bearing Silicon steel.

Specifications - Special by State of California, Dept. of Public Works.

Inspection - John M. Bailey - Chief Inspector

Rivets - ⅞ ø B & H

Open Holes - Unless noted "All holes to be subpunched ½" and reamed to size while parts are assembled.

Reaming - Holes marked "R.T." to be reamed through a steel template. Burrs to be removed from all reamed holes.

Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least ¼" of metal.

Shop Paint - None.

16 Ton

REQUIRED		
1	Floor Beam	UF14
1	Bracket	UB29
1	do	UB30
3	Brackets	UB31
1	do	UB32
2	do	UB33

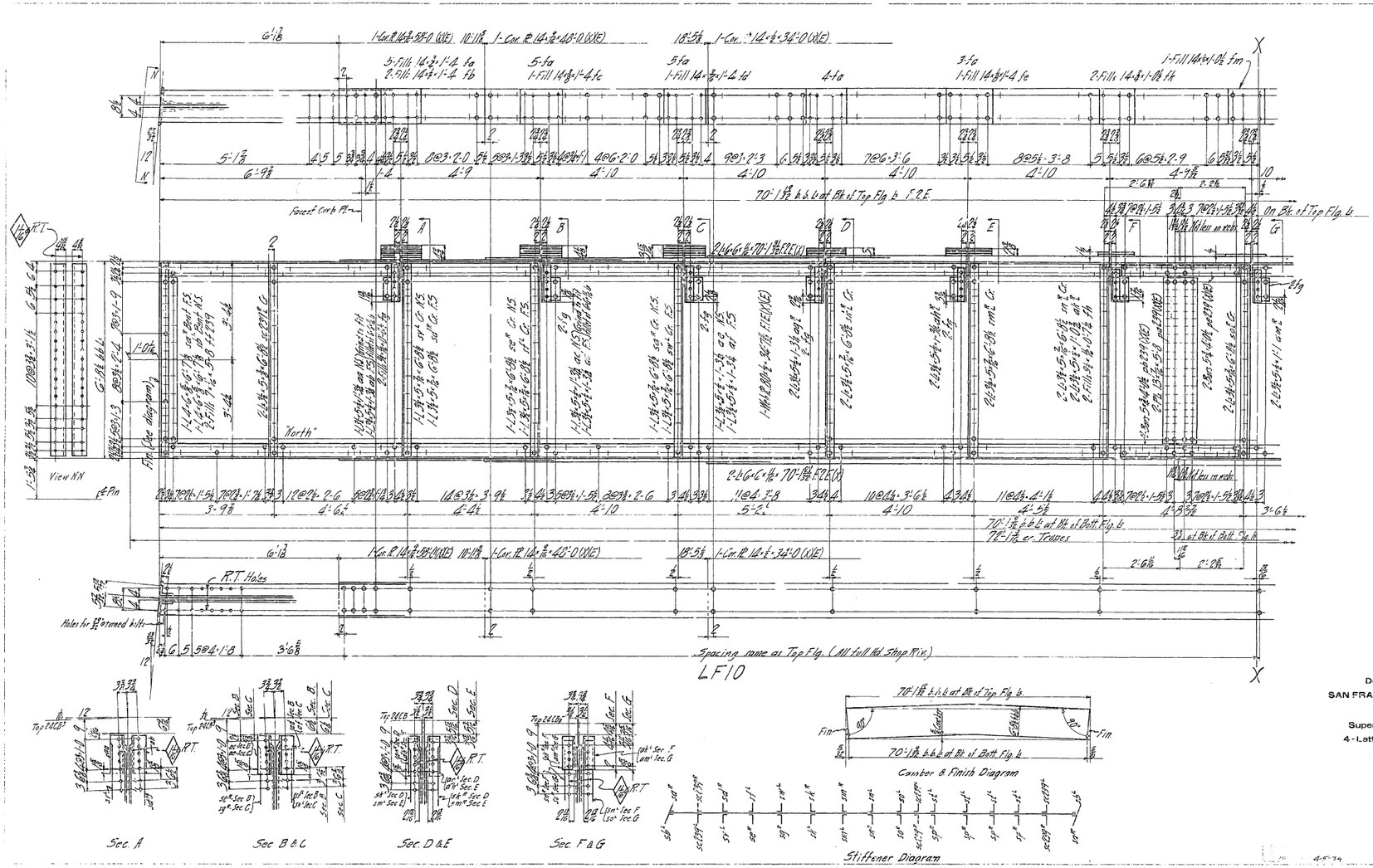
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YBi - E1
Details of Floor Beam & Brackets Upper Deck
Span YB2 - YB3

AMERICAN BRIDGE COMPANY

DRAWING MADE AT Gary ____ PLANT
WORK FABRICATED AT Ambridge ____ PLANT
IN CHARGE OF Tompt
DRW. MADE BY H.M.H. DATE 3-26-34
DRW. CHECKED BY H.T.P. DATE 4/10/34

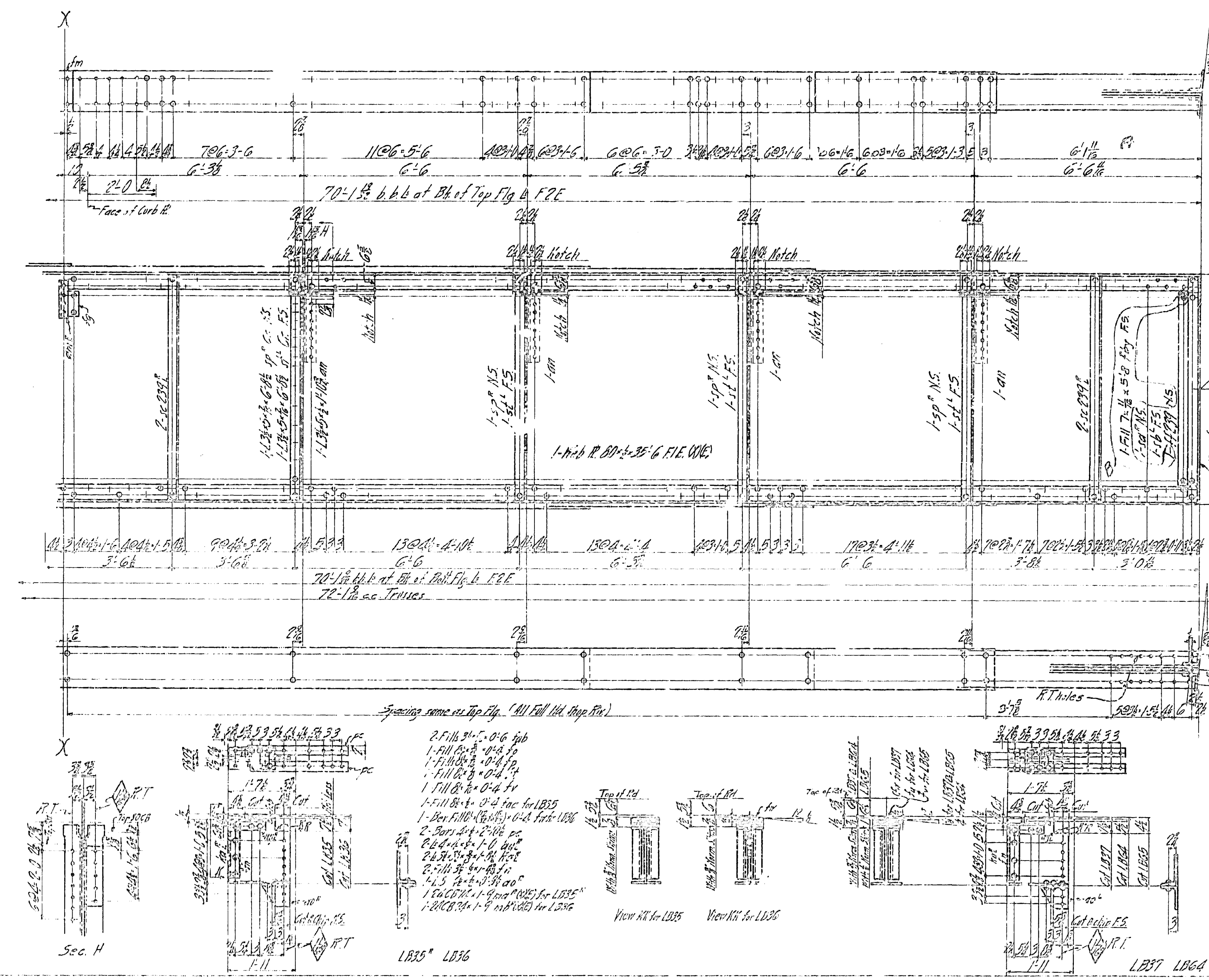
ORDER No. G.5101 [B&C]
SHEET No. 238B Shop Bill 115 to 117

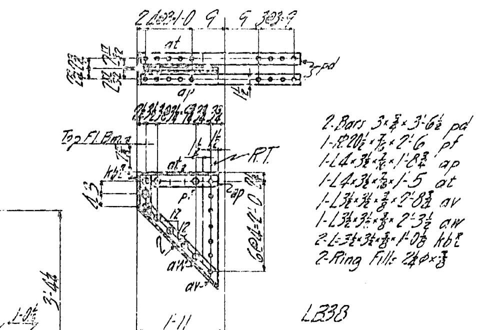
5-14-34



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
LOWER DECK FLOOR BEAMS
SPAN YB2 YB3
AMERICAN BRIDGE COMPANY

DRAWN IS MADE AT... Gary #3 ... PLANT
WORK FABRICATED AT Ambridge ... PLANT
IN CHARGE OF Tampi
DRAWN, MADE BY H.C.G. DATE 3-28-34
EXAM. CHECKED BY [illegible] DATE 4-20-34
ORDER No. G5101 SHEET No. 239AB





GENERAL NOTES-

MATERIAL- All material O.H. Copper Bearing medium Carbon steel except material marked (Si) which is to be O.H. Copper Bearing Silicon steel.
SPECIFICATIONS- Special by State of California, Dep't of Public Works.
INSPECTION- John M. Bailey Chief Inspector.
RIVETS- ⅞"
OPEN HOLES- 15/16" Unless noted.
REAMING- All holes to be subpunched ¾" and reamed to size while parts are assembled.
Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
FINISH- Sheared or flame cut edges and ends of all material marked (Z) to be planed so as to remove at least ⅛" of metal.
SHOP PAINT- None.

6 Tons

REQUIRED		
1	Floor Beam	LF10
1	Brackets	LB35^R
1	do	LB35^L
2	do	LB36
1	do	LB64
1	do	LB37
1	do	LB65
4	do	LB38

2-fab
1-fo
1-fp
1-ft for LB37 & LB64
1-fv
2-ft for LB65
1-Bev. Fill 6½(1/16 to ⅞) x 0'-4 fy for LB64
1-fw for LB65 & LB37
2-pc
2-ay^L
2-ka^L
2-fu
1-ao^L
1-ma^L for LB37
1-24 (37½ x 1-9 mc^R (Si) for LB64
1-J(37½ x 1-9 md^R (Si) for LB65

LB37 LB64 LB65

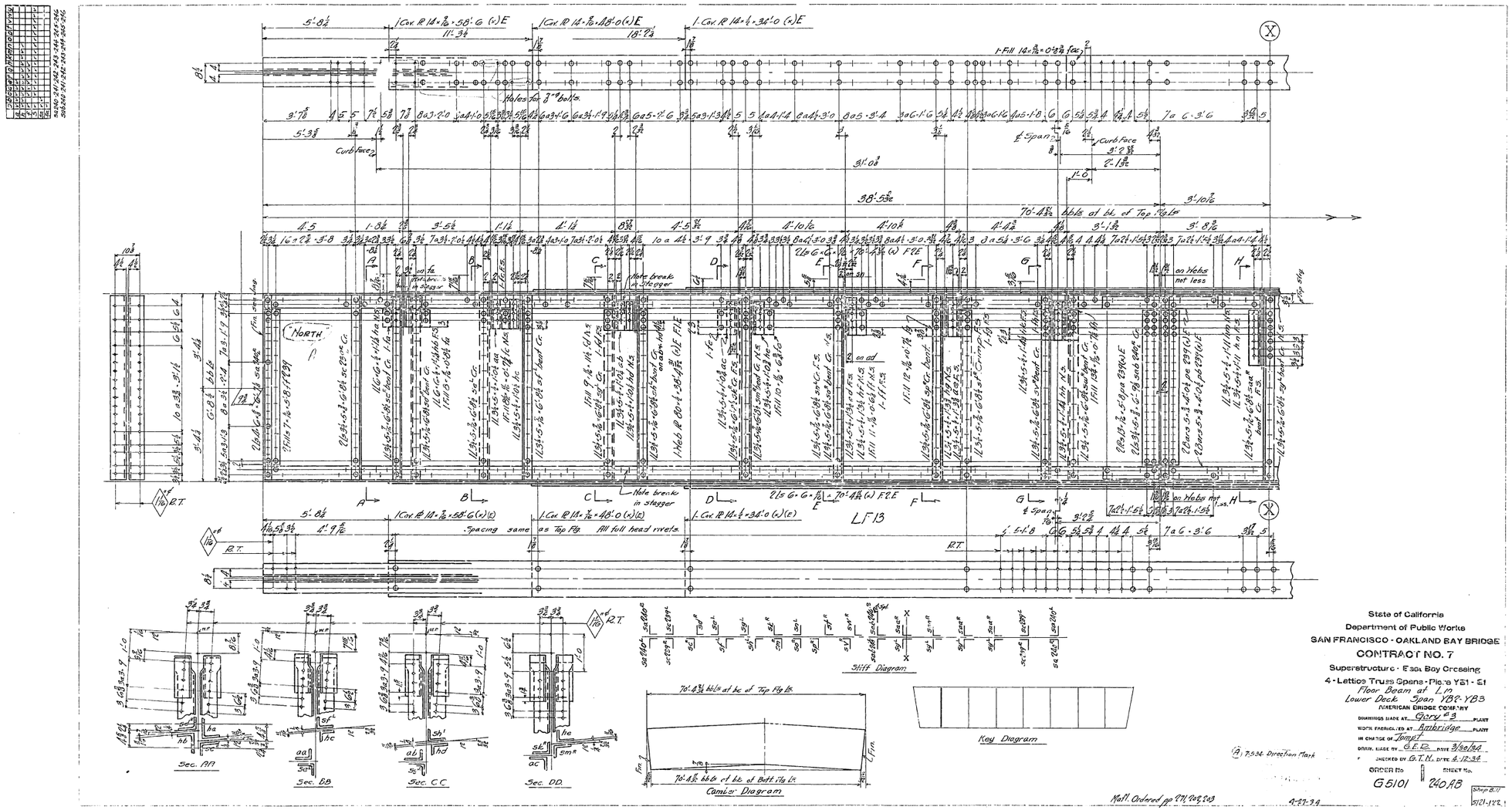
4-5-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
LOWER DECK FLOOR BEAMS
SPAN YB2 - YB3

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary P.S. PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAW. MADE BY H.C.G. DATE 3-29-34
DRAW. CHECKED BY [illegible] DATE 4-2-34

ORDER No. G5101 [Dec]
SHEET No. 239B

Std. Ord. PE01-203-270 Acc. 281-282



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y51 - E1
Floor Beam at L12
Lower Deck Span Y38-Y33
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAWN BY G.E.R. DATE 3/26/34
CHECKED BY G.T.N. DATE 4-12-34
ORDER No. G5101
SHEET No. 240.AB

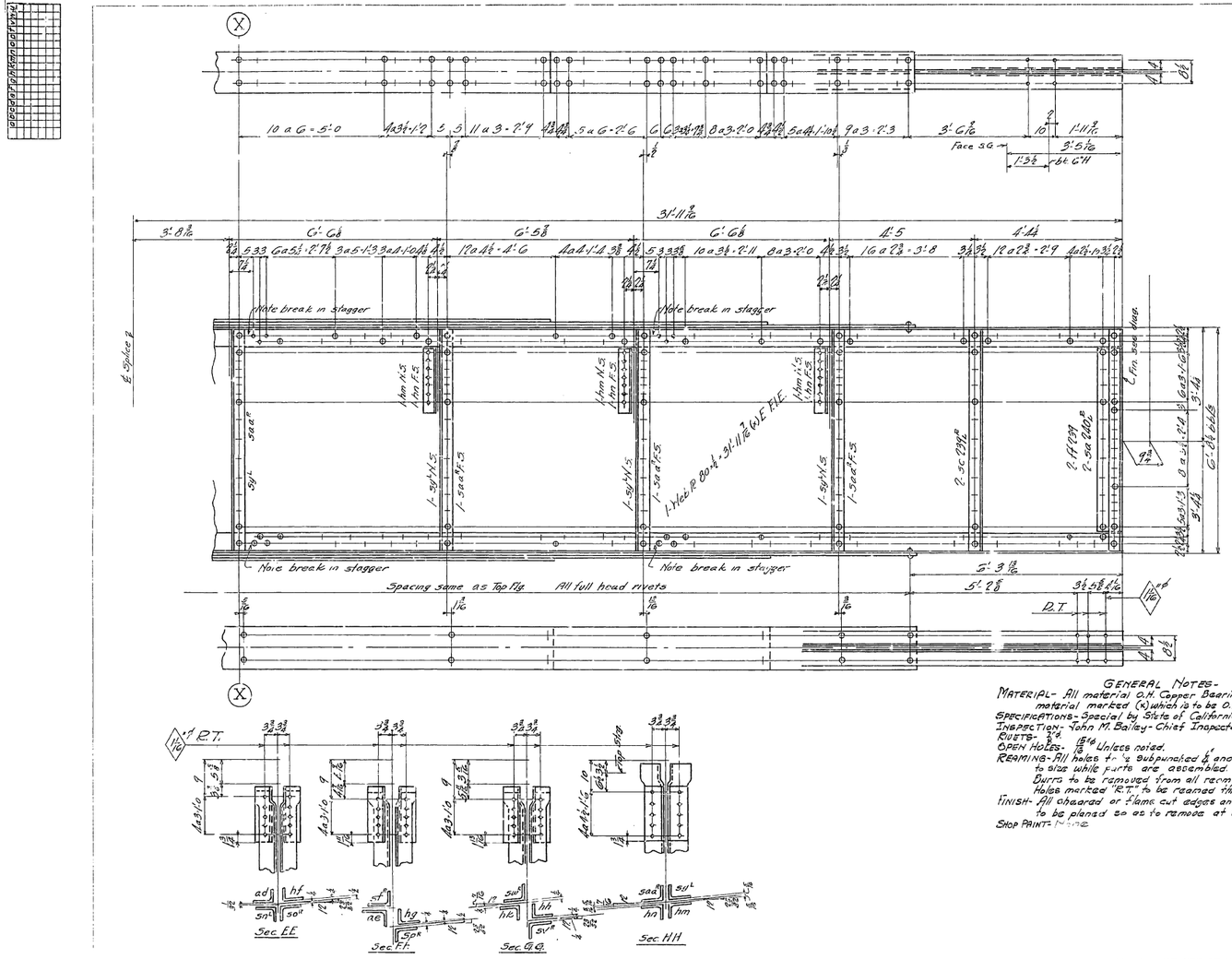
(A) 7.5.34. Direction Mark

Mail Ordered pp 271, 272, 273

4-27-34

Shop B.M. 5121-142

39-1



GENERAL NOTES-

MATERIAL- All material O.H. Copper Bearing medium Carbon steel except material marked (X) which is to be O.H. Copper Bearing Silicon steel.
SPECIFICATIONS- Special by State of California, Dept of Public Works.
INSPECTION- John M. Bailey - Chief Inspector.
RIVETS- 7/8" Unless noted.
OPEN HOLES- 13/16"
REAMING- All holes for 1/2 subpunched 1/4" and reamed to size while parts are assembled.
Burrs to be removed from all reamed holes.
Holes marked "R.T." to be reamed thru a steel templet.
FINISH- All sheared or flame cut edges and ends of material marked (E) to be planed so as to remove at least 1/8" of metal.
SHOP PAINT- None

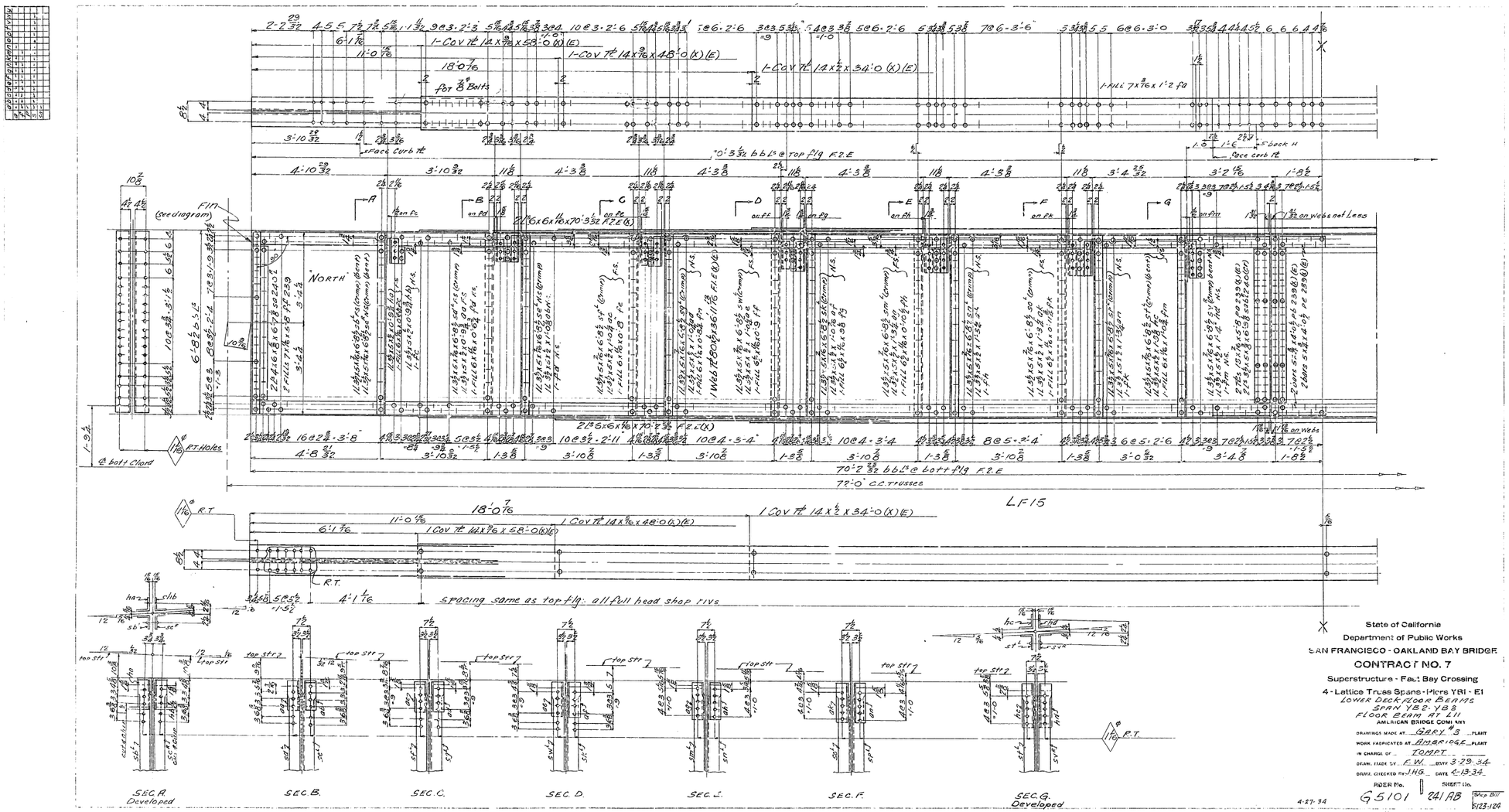
16 Ton	REQUIRED		
	One	Floor Beam	LF13

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y31 - E1
Floor Beam at L10
Lower Deck Span Y32-Y33
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary Ind PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAW. MADE BY G.E.D. DATE 3/28/34
DRAW. CHECKED BY G.T.N. DATE 4-12-34

ORDER No. G5101 | SHEET No. 240B

4-21-34 [Blue] Shop Dr. 5121-122

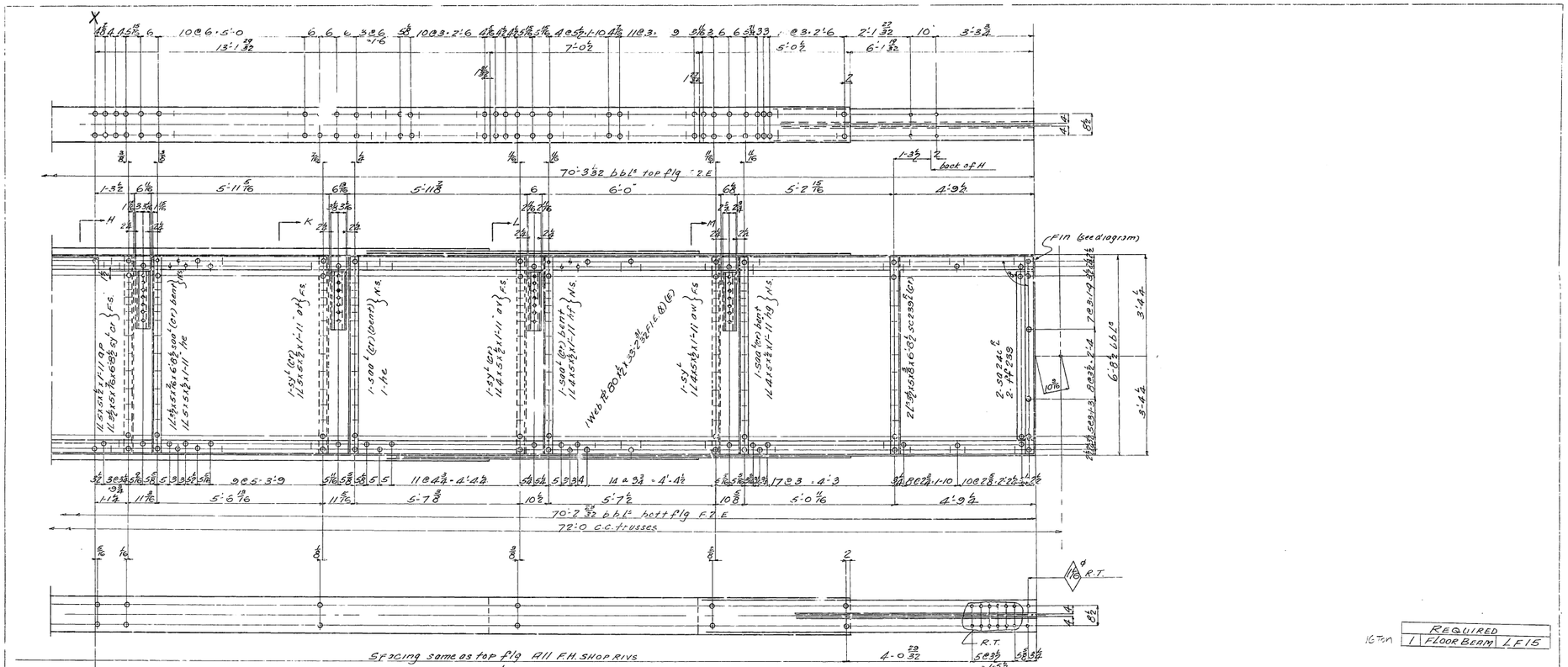


State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
LOWER DECK FLOOR BEAMS
SPAN YB2-YB3
FLOOR BEAM AT L11
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT GARY PLANT
WORK FABRICATED AT AMBRIDGE PLANT
IN CHARGE OF TOMPT
DRAWN BY F.W. DATE 3-29-34
CHECKED BY J.H.G. DATE 4-13-34
RIDER No. G5101 SHEET No. 241 AB Shop Bill 5123-124

4-27-34

Record of Alterations

30 D 1



LF15

GENERAL NOTES-
MATERIAL- All material O.H. Copper Bearing medium Carbon steel except material marked (x) which is to be O.H. Copper Bearing Silicon steel.
SPECIFICATIONS- Special, by State of California, Dept of Public Works.
INSPECTION- John M. Bailey- Chief Inspector.
RIVETS- Ø 7/8" Unless noted.
OPEN HOLES- Ø 15/16"
REAMING- All holes to be subpunched 1/4" and reamed to size while parts are assembled.
Holes marked "R" to be reamed thru a steel templet
Burrs to be removed from all reamed holes.
FINISH- Sheared or flame cut edges and ends of all material marked (F) to be planed 3/8 to remove at least 1/4" of metal.
SHOP PAINT- None.

Maitland P.271, L.S. 6-13-14-16-18-19-24-25 } F.W.
" P.203

16 Tons	REQUIRED		
	1	FLOOR BEAM	LF15

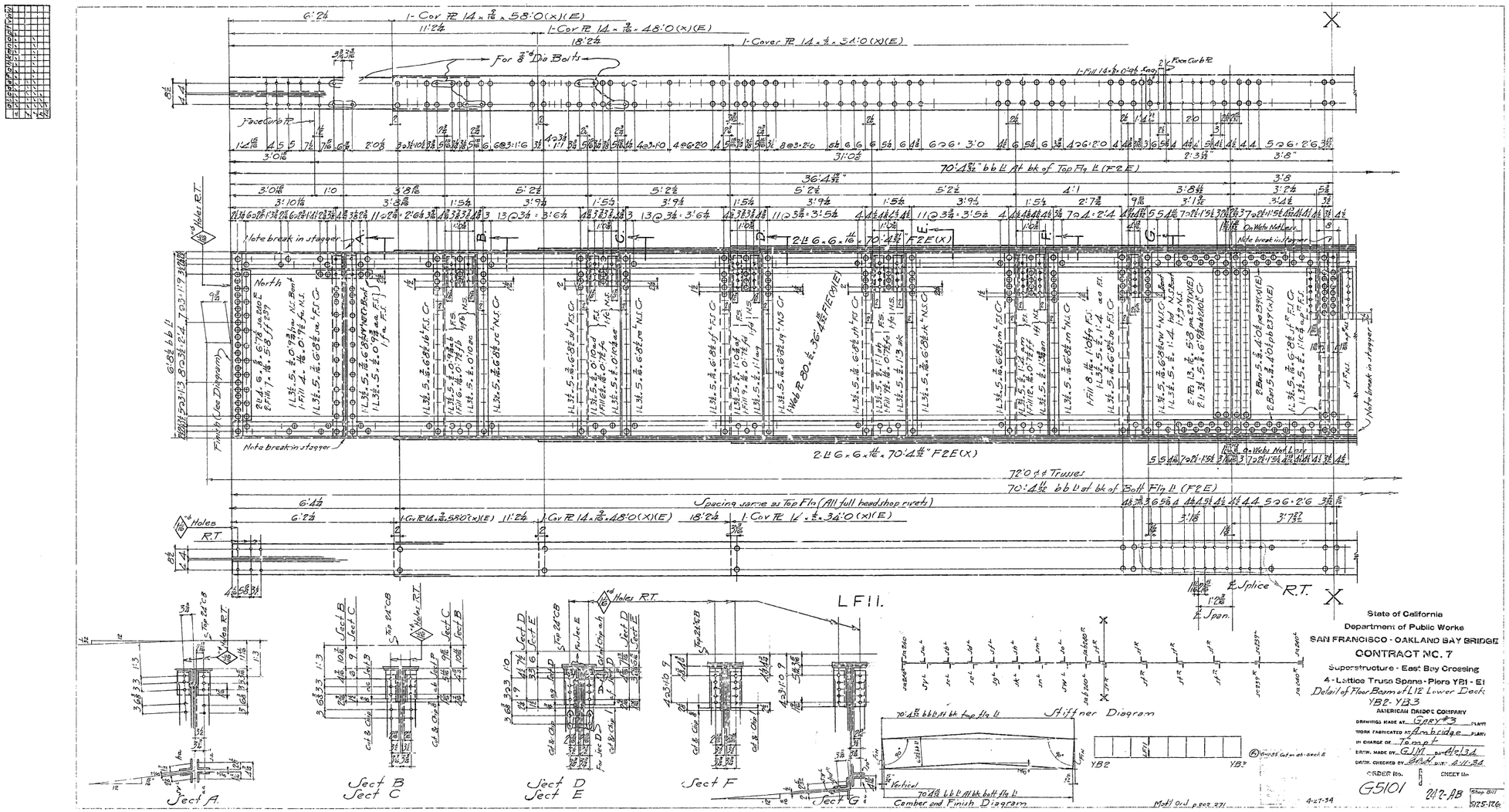
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers "B1" - E1
LOWER DECK FLOOR BEAMS
SPAN YB2-YB3
FLOOR BEAM AT L11
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT ..... GARY ..... PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF TOMPT
DRAWN, MADE BY F.W. DATE 3-29-34
DRAWN, CHECKED BY J.H.G. DATE 4-13-34

APPROVED 5-7-34

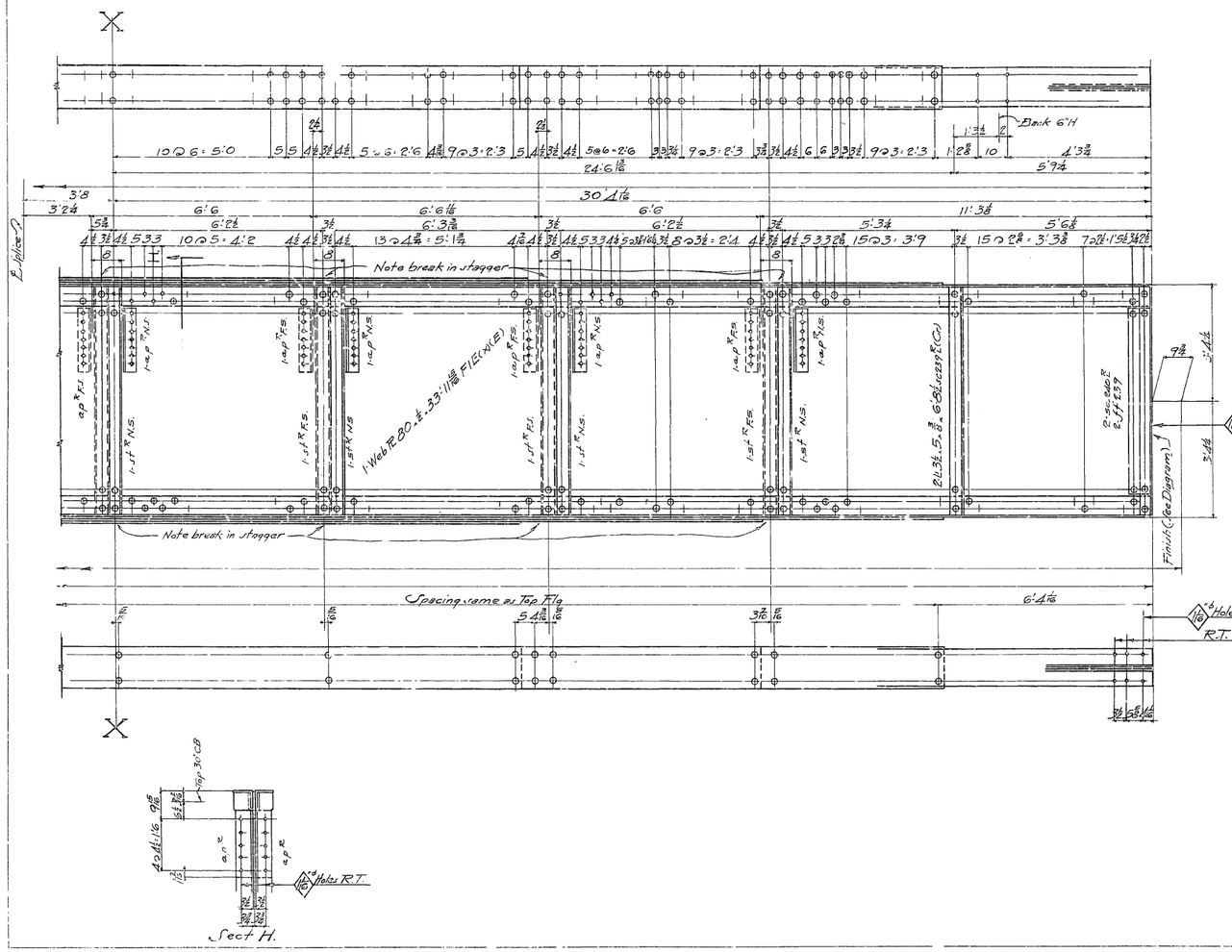
ORDER No. G5101 | SHEET No. 241-B | Shop Bill 5123-12A

[B4C]



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Detail of Floor Beam at L12 Lower Deck
YB2 - YB3
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tarpy
DRW. MADE BY GJM DATE Apr 34
DRW. CHECKED BY Bell DATE 4-11-34
ORDER No. G5101
SHEET No. 247-AB
Shop Bill 5125-126

30-F-1



General Notes

Material. All material O.H. Copper Bearing medium Carbon Steel except material marked (X) which is to be O.H. Copper Bearing Silicon steel

Specifications. Special by State of California Dept. of Public Works

Inspection. J.M. Bailey Chief Inspector

Rivets 7/8"

Open Holes 15/16" Unless noted

Reaming. Holes in material 3/4" thick or less to be sub-punched 3/4" and reamed to size while parts are assembled

Holes marked R.T. to be reamed thru steel templet burrs to be removed from reamed holes

Finish. Sheared or flame cut edges and ends of all material marked (F) to be planed to remove at least 1/8" of metal

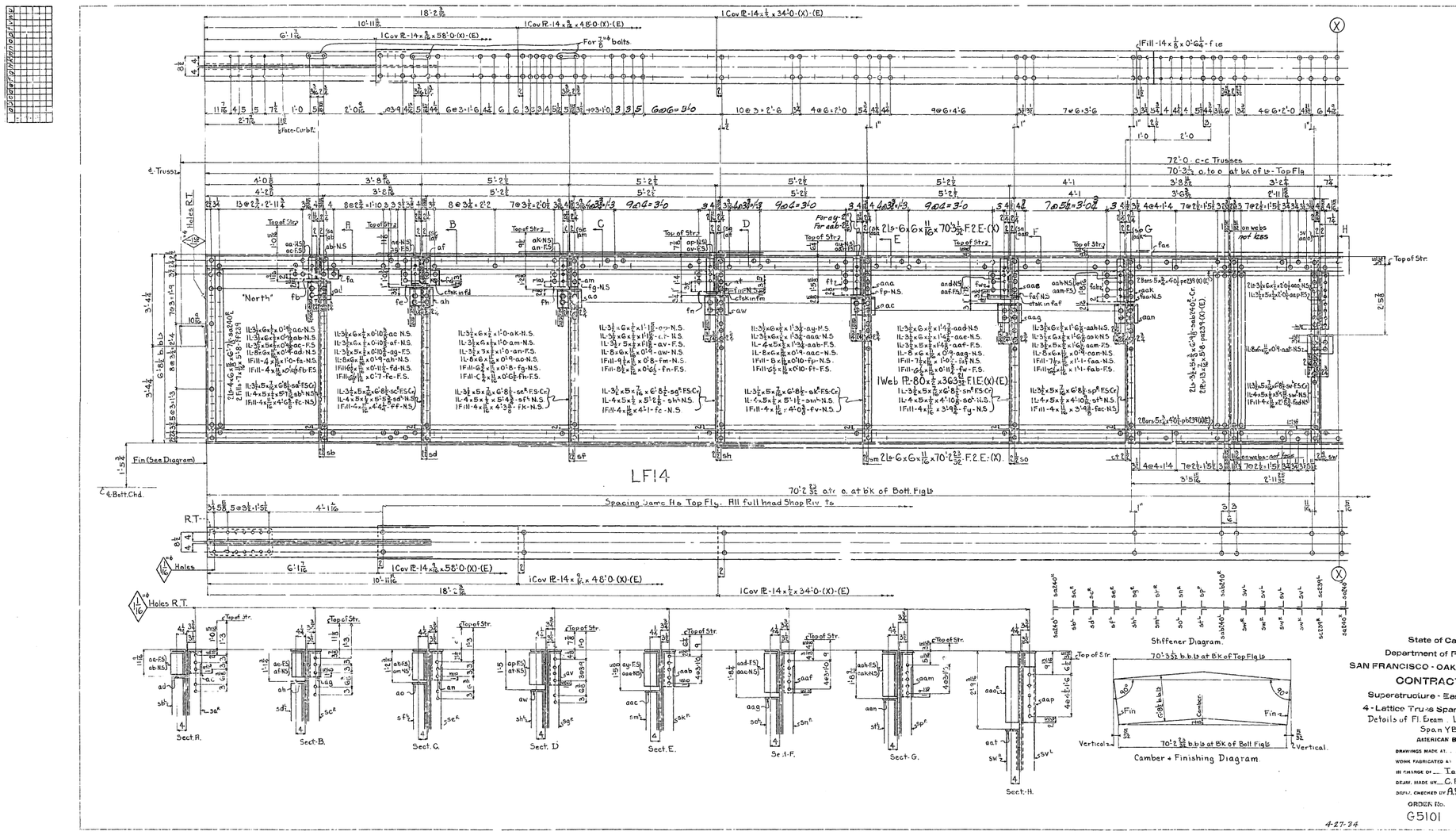
Shop Paint. None

REQUIRED
ONE Floor Beam L F11
16 Ton

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Detail of Floor Beam at L12 Lower Deck
YB2 Y33
AMERICAN BRIDGE COMPANY
DRAWING MADE AT GARY #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAWN BY GJM DATE 3/29/34
DESIGN CHECKED BY Welch DATE 4-11-34
ORDER No. G5101 SHEET No. 242 B

Mat'l Ord. p202 271 4-27-34

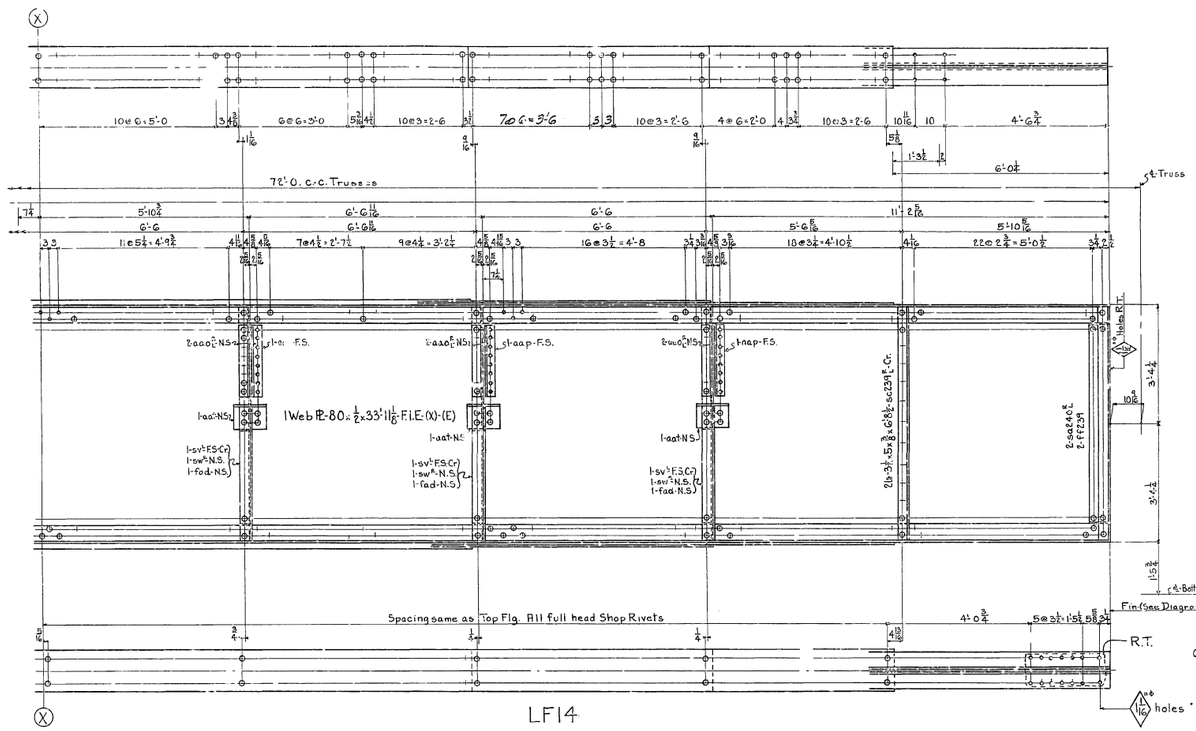
Standard Blue Print [B&C]



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4-Lattice Truss Spans - Flors YB1 - E1
Details of Fl. Beam. Lower Deck.
Span YB2-YB3
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT .. GARY, IND. PLANT
WORK FABRICATED AT .. Ambridge PLANT
IN CHARGE OF .. Tempf
DRAWN BY .. C.A.T. DATE .. 4-2-34
DESIGN CHECKED BY .. A.F.F. DATE .. 4-11-34
ORDER No. G5101
SHEET No. 243-AB
Shop Bill 5277.109

4-27-34

30-1



GENERAL NOTES-

Material - All material O.H. Copper Bearing medium Carbon steel except material marked (x) which is to be O.H. Copper Bearing Silicon steel.

Specifications - Special by State of California, Dept of Public Works.

Inspection - John M. Bailey - Chief Inspector.

Rivets - 7/8" ø, 15/16" ø Unless noted.

Open holes

Reaming - All holes to be subpunched & and reamed to size, while parts are assembled. Burrs to be removed from all reamed holes. Holes marked "R.T." to be reamed through a steel template.

Finish - Sheared or flame cut edges and ends of all material marked (F) to be planed so as to remove at least 1/4" of metal.

Shop paint - None.

		Required	
16 Ton	1	Floor Beam	LF14

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Fl. Beam Lower Deck
Span YB2 - YB3

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary "3" PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAW. MADE BY C.A.T. DATE 4-3-34
DRAW. CHECKED BY A.F.E. DATE 4-11-34
ORDER No. G5101 SHEET No. 243B

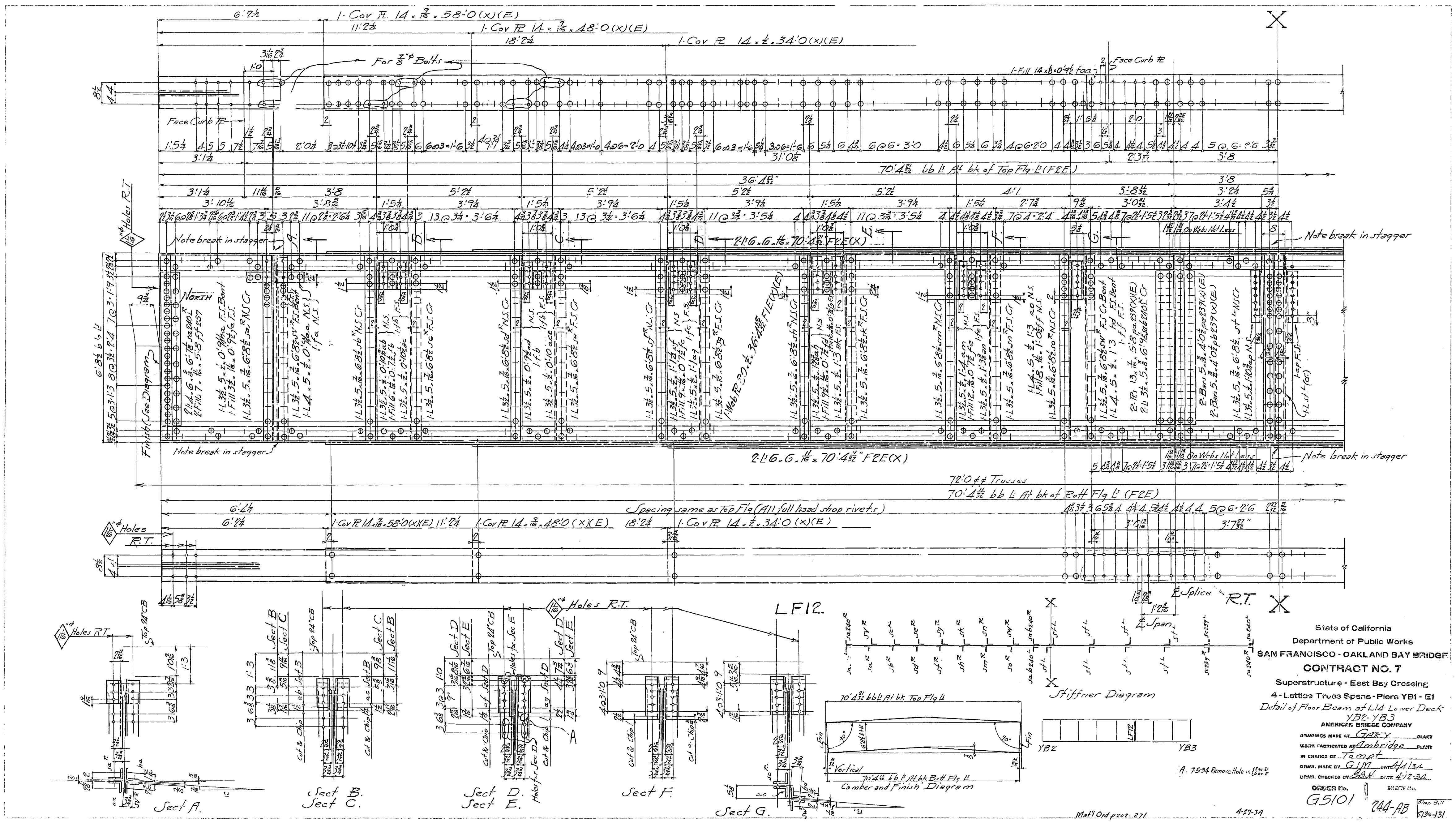
[Bac]

4-27-34

Mat. Ord. Pgs 202, 203, 271 - C.A.T.

Shop 2017
8/21/1919

30-1



A. 7-5-34 Remove Hole in {Sec. D / Sec. E}

Mat'l Ord. p.202-271

4-27-34

State of California

Department of Public Works

SAN FRANCISCO - OAKLAND BAY BRIDGE

CONTRACT NO. 7

Superstructure - East Bay Crossing

4 - Lattice Truss Spans - Piers YB1 - E1

Detail of Floor Beam at L14 Lower Deck YB2-YB3

AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary PLANT

WORK FABRICATED AT Ambridge PLANT

IN CHARGE OF Tampt

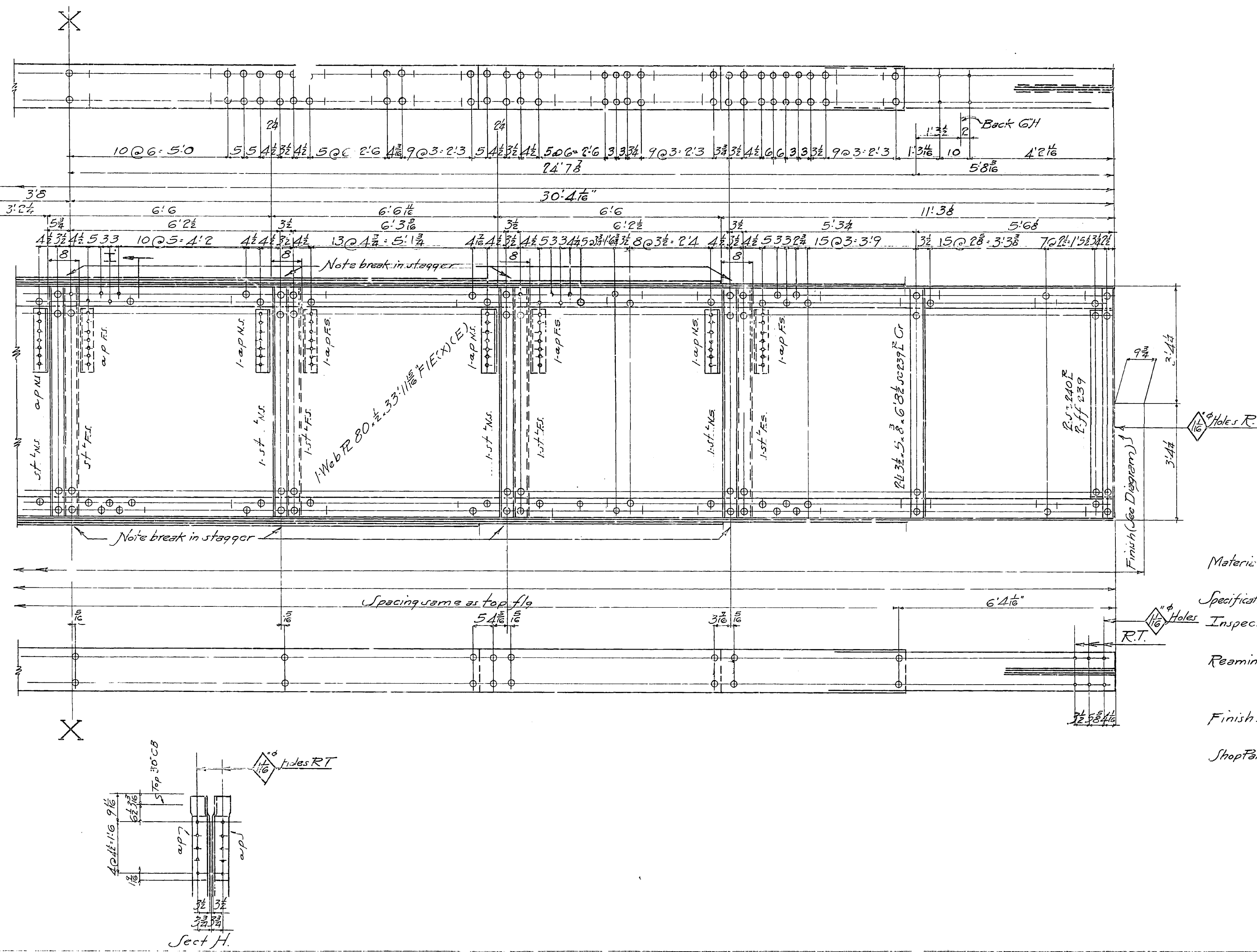
DRAW. MADE BY GJM DATE 4/4/34

DRAW. CHECKED BY G.B.H. DATE 4-12-34

ORDER No. G5101 SHEET No. 244-AB

Shop Bill 5130-131

30-1



General Notes

Material: All material O.H. Copper Bearing medium Carbon Steel, except material marked (X) which is to be O.H. Copper Bearing Silicon Steel

Specifications: Special by State of California Dep't of Public Works

Inspection: J.M. Bailey Chief Inspector

Rivets 7/8"φ

Open Holes 15/16"φ Unless noted

Reaming: Holes in material 3/4" thick or over to be sub-punched 1/4" and reamed to size while parts are assembled

Holes marked R.T. to be reamed thru steel templet burrs to be removed from reamed Holes

Finish: Sheared or flame cut edges and ends of all material marked (E) to be planed to remove at least 1/8" of metal

Shop Paint None

REQUIRED		
ONE	Floor Beam	LF12

16 Ton

State of California

Department of Public Works

SAN FRANCISCO - OAKLAND BAY BRIDGE

CONTRACT NO. 7

Superstructure - East Bay Crossing

4 - Lattice Truss Spans - Piers YB1 - E1

Detail of Floor Beam at L14 Lower Deck YB2-YB3

AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary #3 PLANT

WORK FABRICATED AT Ambridge PLANT

IN CHARGE OF Tompt

DRAW. MADE BY G.J.M. DATE 4/4/34

DRAW. CHECKED BY G.B.H. DATE 4-12-34

ORDER No. G5101

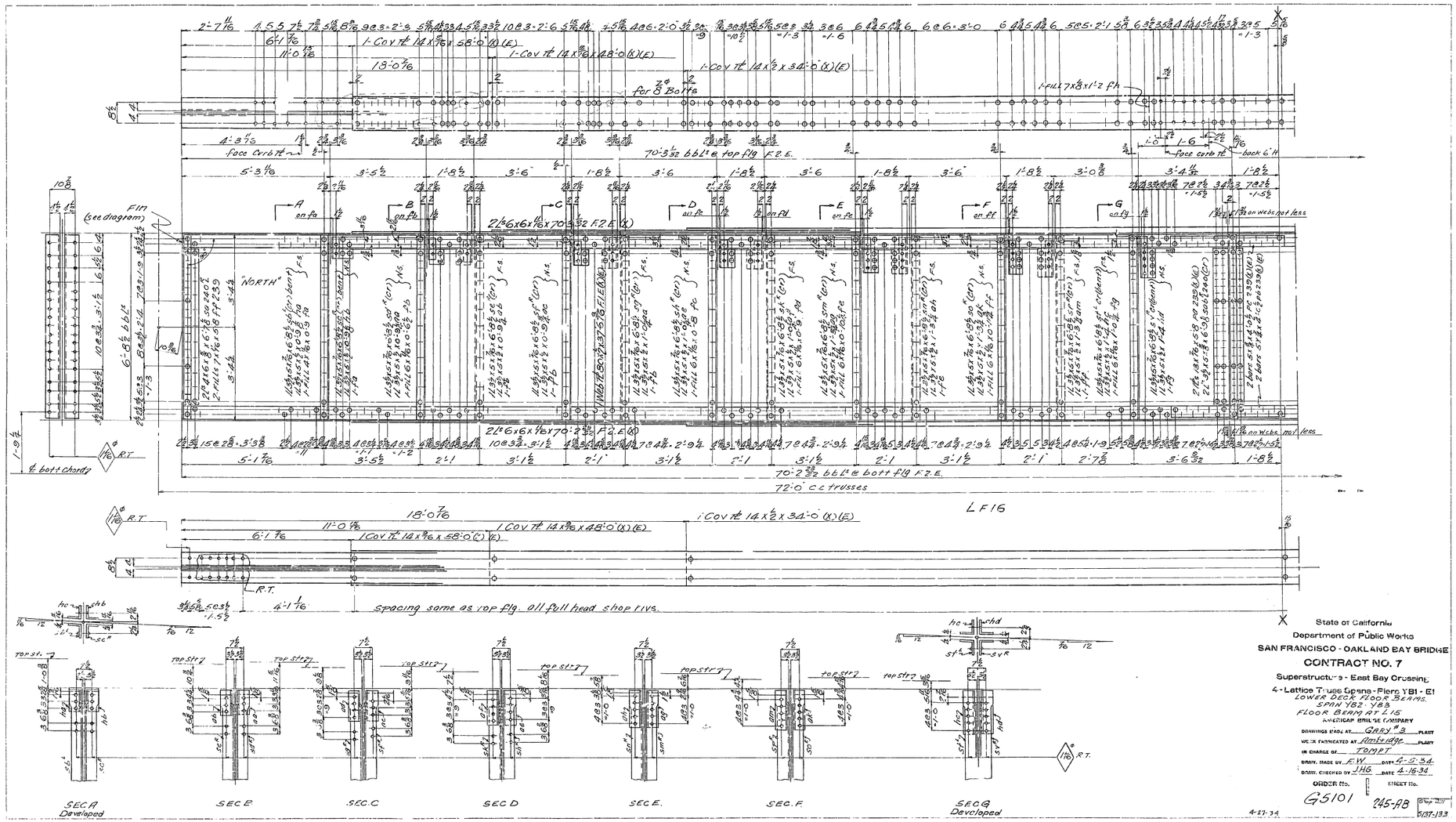
SHEET No. 244-B

Shop Bill 5130-130

[B&C]

Mat'l Ord. P.202-271

4-27-34



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
LOWER DECK FLOOR BEAMS
SPAN YB2 - YB3
FLOOR BEAM AT L 15
AMERICAN BRIDGE COMPANY

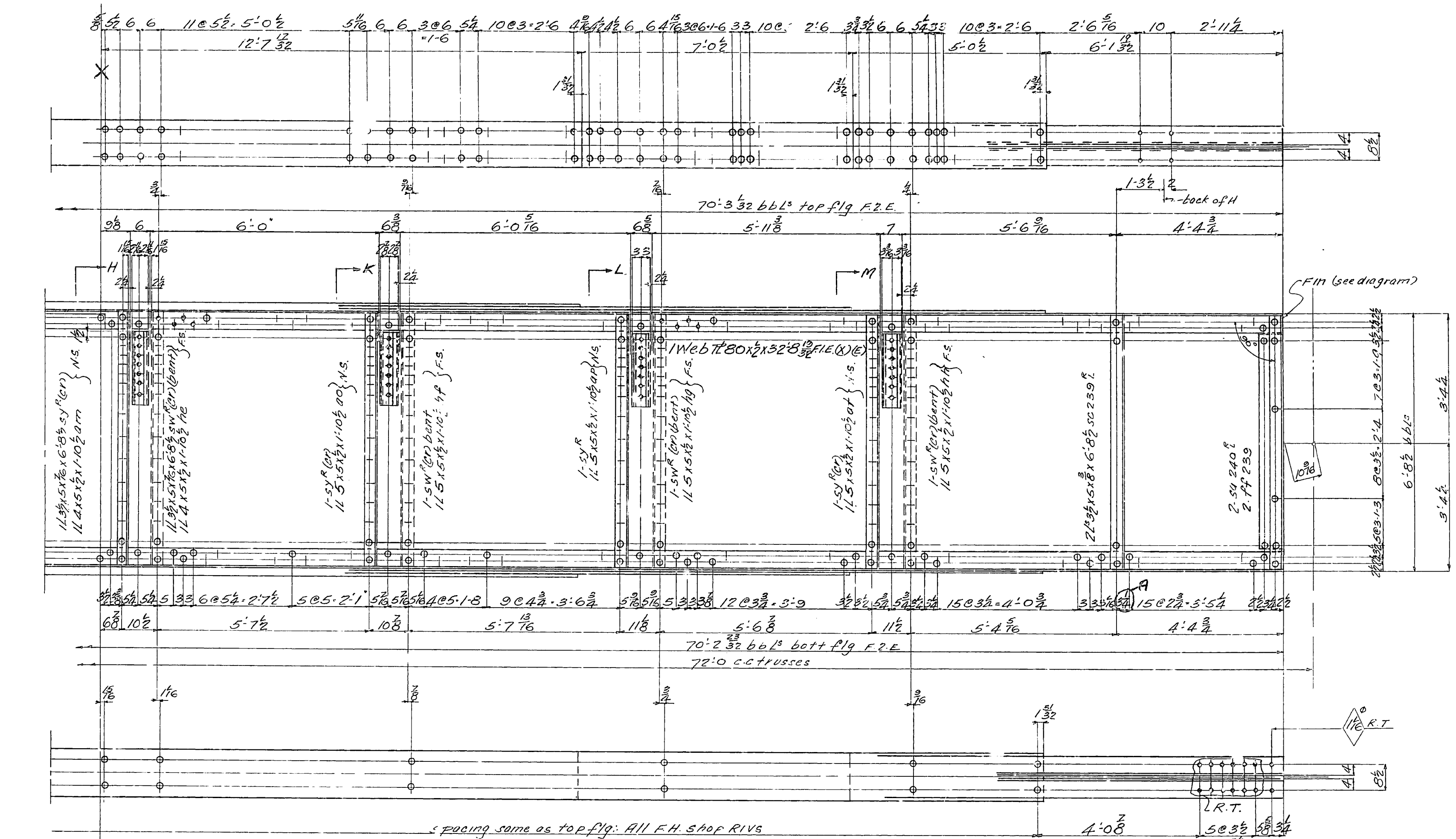
DRAWING MADE AT Gary "3" PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF TOMPT
DRAWN MADE BY E.W. DATE 4-5-34
DRAWN CHECKED BY JHG DATE 4-16-34

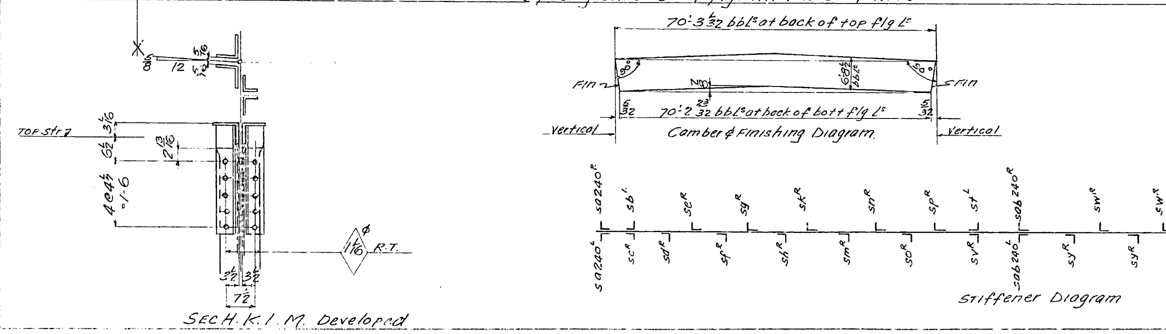
ORDER No. G5101 SHEET No. 245-AB

4-27-34

5137-133

30-1





GENERAL NOTES:

MATERIAL- All material O.H. Copper Bearing medium Carbon steel except material marked (x) which is to be O.H. Copper Bearing Silicon steel.

SPECIFICATIONS- Special by State of California, Dep't of Public Works.

INSPECTION- John M. Bailey- Chief Inspector.

RIVETS- 7/8"φ

OPEN HOLES- 15/16"φ Unless noted.

REAMING- All holes to be subpunched 1/4" and reamed to size while parts are assembled. Holes marked "R.T." to be reamed thru a steel templet. Burrs to be removed from all reamed holes.

FINISH- Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least 1/8" of metal.

SHOP PAINT- None.

	REQUIRED	
1	FLOOR BEAM	LF16

16 Ton

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
LOWER DECK FLOOR BEAMS.
SPAN YB2-YB3
FLOOR BEAM AT L15

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF TOMPT
DRAW. MADE BY F.W. DATE 4-5-34
DRAW. CHECKED BY J.H.G. DATE 4-16-34

(A)- 6-20-34 Net Sdg Pl. End

ORDER No. G5101 SKELT No. 245-B

Shop Bill 5132-133

5-7-34

[B&C]

Mat'l ord. P271 L-9-10-11-14-16-17-19 F.W.

80-1

Holes for 8" bolts

Face of Curb

Spacing same as Top Flg All full head rivets.

Note break in stagger

LF19

NORTH

Sec. AH

Sec. DD

Sec. CC

Sec. DD

Stiff. Diagram

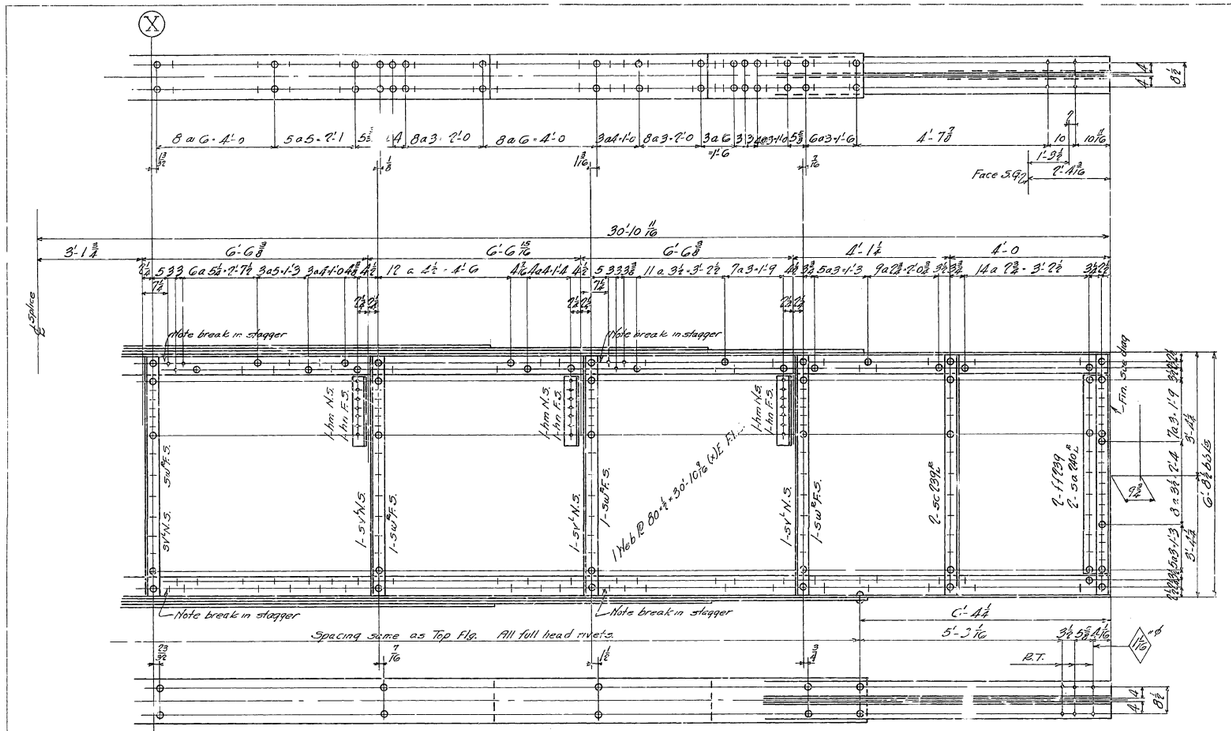
Finish + Camber Diagram

Key Diagram

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Floor Beam at L16
Lower Deck Span YB2-YB3
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary #3 PLANT
WORK FABRICATED AT PLANT
IN CHARGE OF Tompt
DRAWN, TRACED BY GLD DATE 4/10/36
CHECKED BY [illegible] DATE 10-4-36
ORDER No. G5101
DETAIL No. 246-AB
Shop Bill 9134-135

5-10-38

30-1



GENERAL NOTES.

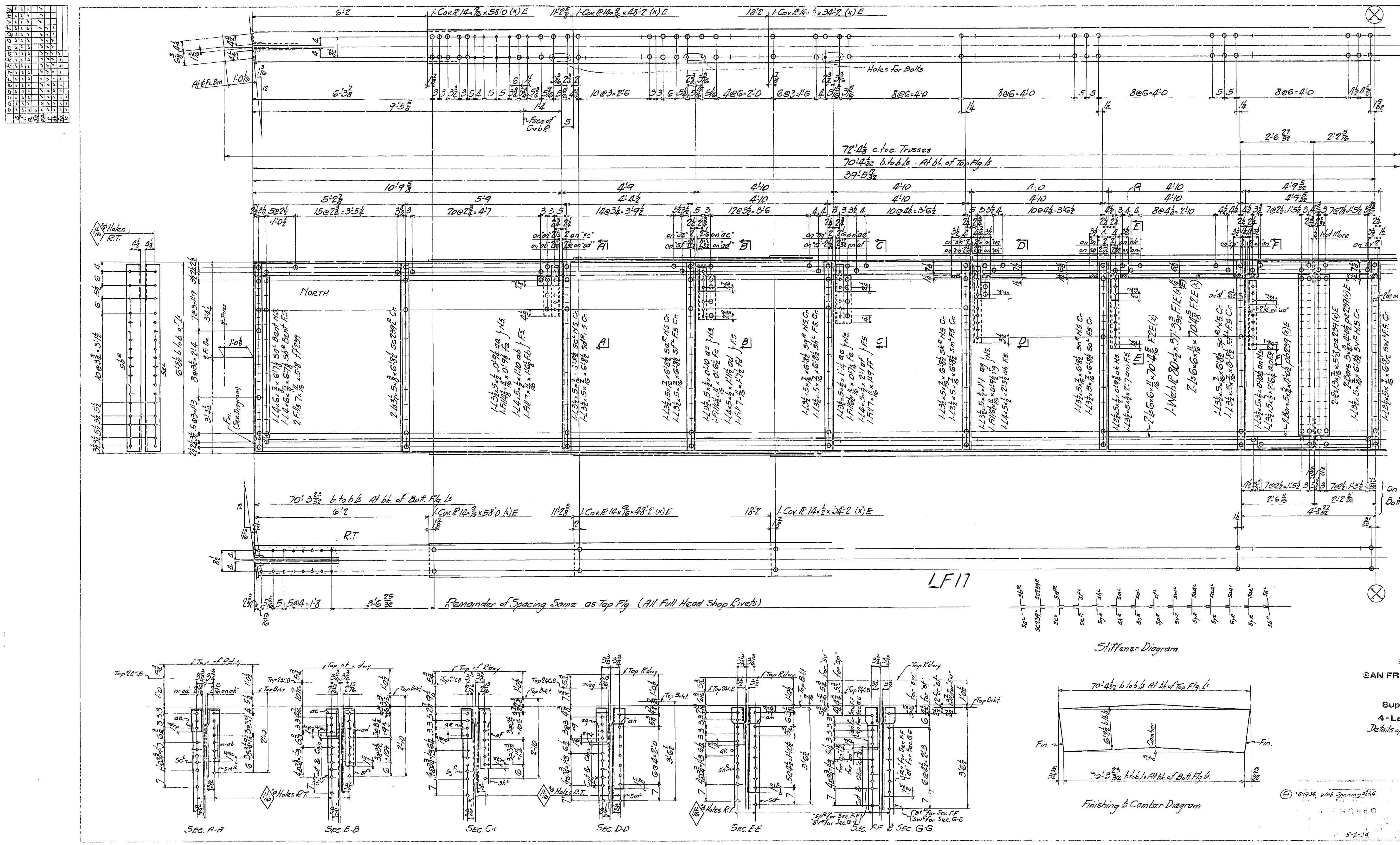
MATERIAL- All material O.H. Copper Bearing medium Carbon steel except material marked (x) which is to be O.H. Copper Bearing Silicon steel.
SPECIFICATIONS- Special by State of California, Dept of Public Works.
INSPECTION- John M. Bailey - Chief Inspector.
RIVETS- 7/8"
OPEN HOLES- 13/16" Unless noted.
REAMING- All holes to be subpunched 1/4" and reamed to size while parts are assembled. Holes marked "R.T." to be reamed thru a steel templat. Burrs to be removed from all reamed holes.
FINISH- Sheared or flame cut edges and ends of all material marked (S) to be planed so as to remove at least 1/8" of metal.
SHOP PAINT- None.

REQUIRED			
16 Ton	One	Floor Bm.	LF 19

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Floor Beam at L 16
Lower Deck Span YB2-YB3
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary "B" PLANT
WORK FABRICATED BY _____ PLANT
IN CHARGE OF Tongt
DRAFT. EXAM. BY G.E.P. DATE 4/11/34
DRAW. CHECKED BY Bell DATE 4-18-34
ORDER No. G5101 [Bec] SHEET No. 246.B

30-1



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of: Lower Deck Floor Beam & Brackets
Span YB2-YB3
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAW. MADE BY R.F.D. DATE 4-6-34
DRAW. CHECKED BY M.O.M. DATE 4-18-34

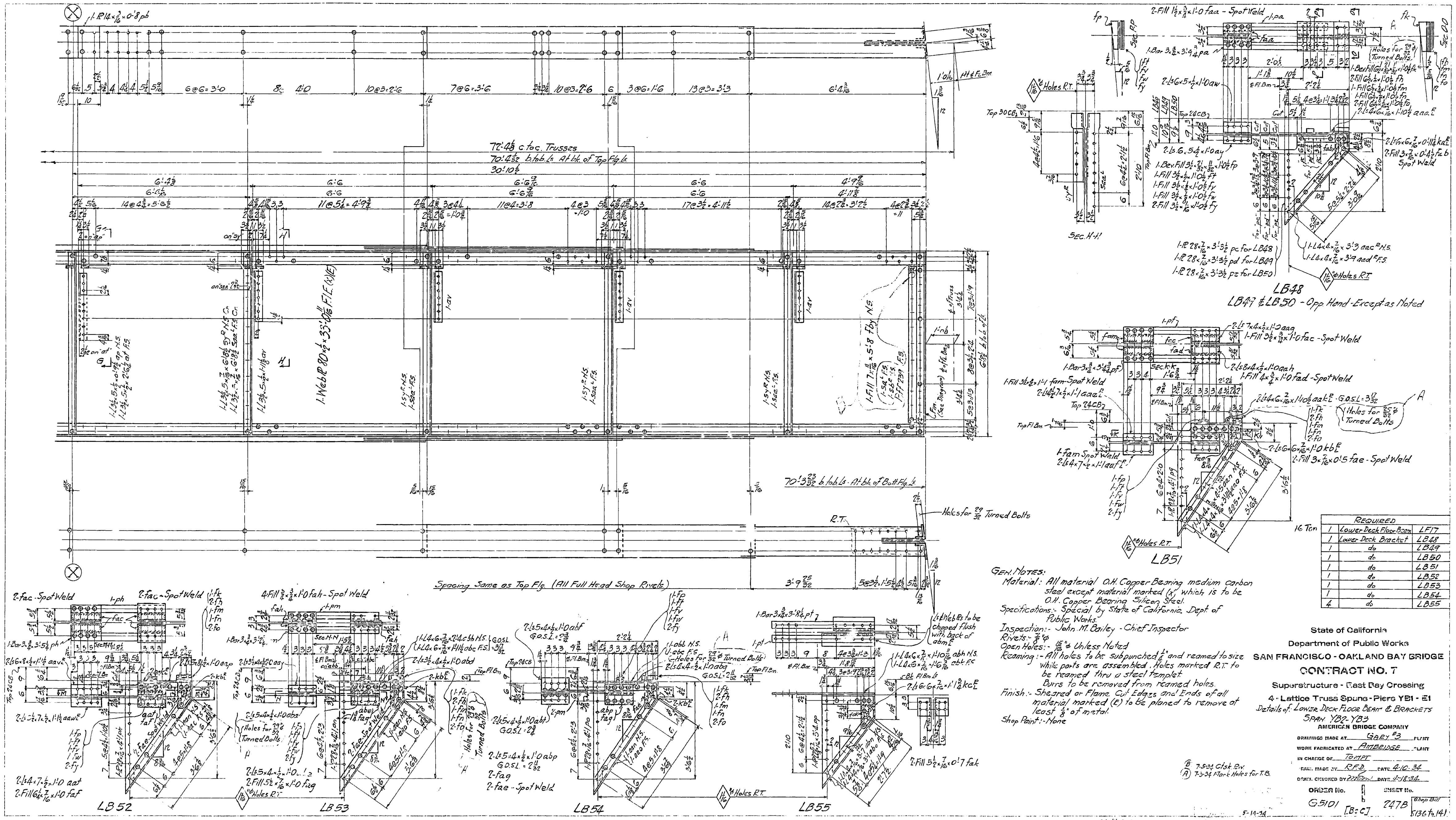
(A) 6-19-34 Web Spacing 3&4

5-2-34

ORDER No.	SHEET No.
G5101	247AB

Shop Bill 5136 to 141

30-1



Gen. Notes:

Material: All material O.H. Copper Bearing medium carbon steel except material marked (x) which is to be O.H. Copper Bearing Silicon Steel.

Specifications:- Special by State of California Dept. of Public Works.

Inspection:- John M. Bailey - Chief Inspector

Rivets:- 7/8" φ

Open Holes:- 15/16" φ Unless Noted

Reaming:- All holes to be subpunched 1/4" and reamed to size while parts are assembled. Holes marked R.T. to be reamed thru a steel templet. Burrs to be removed from reamed holes.

Finish:- Sheared or Flame Cut Edges and Ends of all material marked (E) to be planed to remove at least 1/8" of metal.

Shop Paint:- None

16 Ton

Required		
1	Lower Deck Floor Beam	LF17
1	Lower Deck Bracket	LB48
1	do	LB49
1	do	LB50
1	do	LB51
1	do	LB52
1	do	LB53
1	do	LB54
4	do	LB55

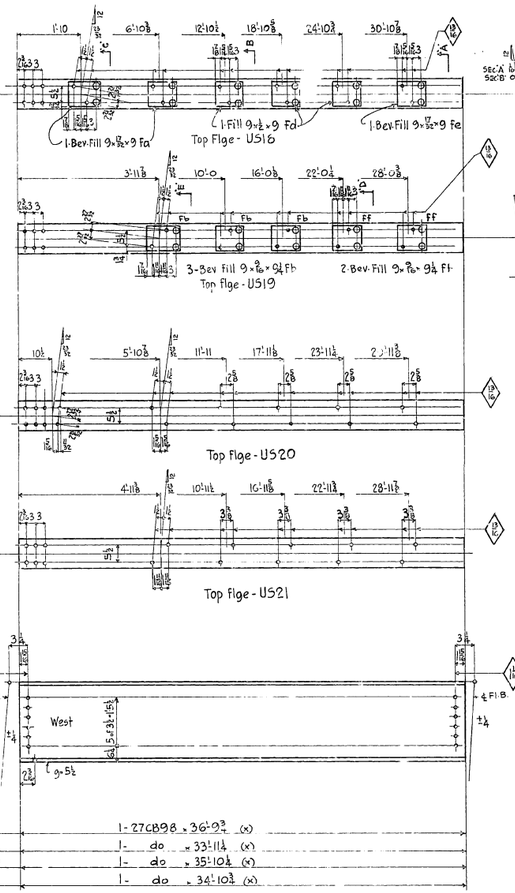
(B) 7-5-34 Ctsk. Elv.
(A) 7-3-34 Mark Holes for T.B.

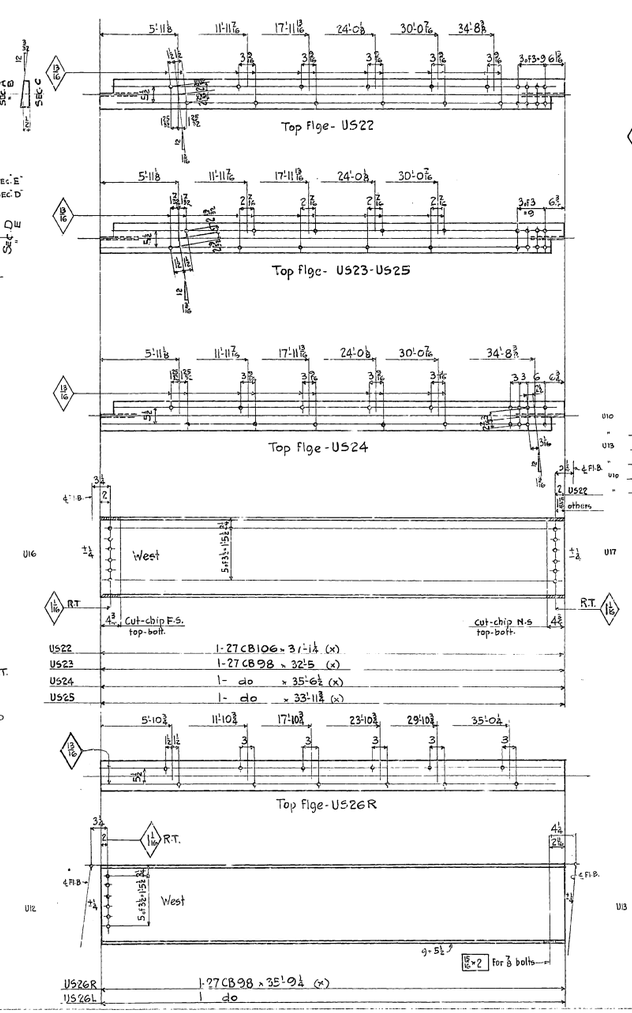
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Lower Deck Floor Beam & Brackets
Span YB2-YB3

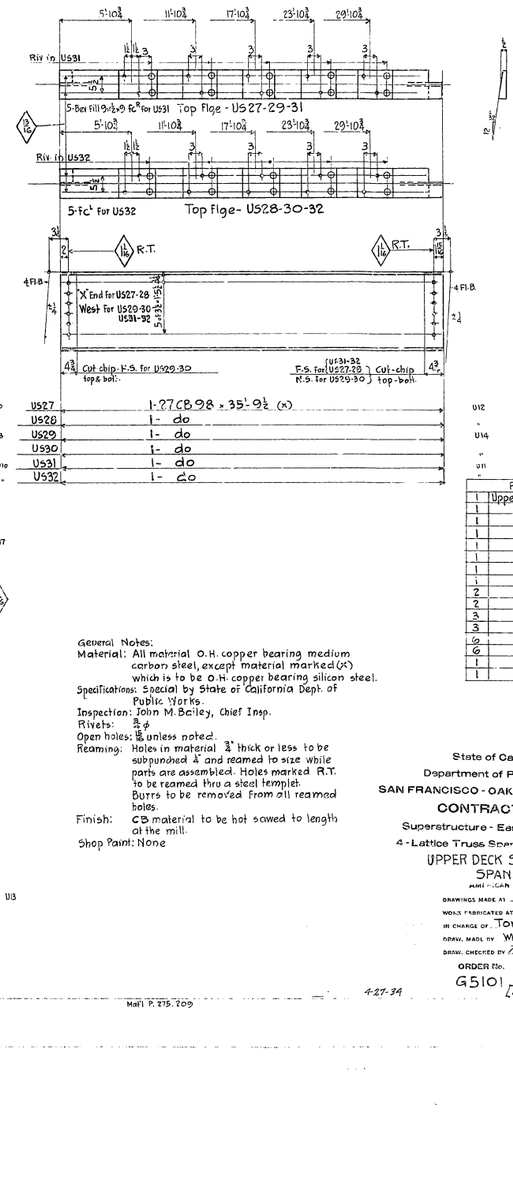
AMERICAN BRIDGE COMPANY
Drawings made at Gary #3 Plant
Work fabricated at Ambridge Plant
In charge of Tompt
Draw. made by R.F.D. Date 4-10-34
Draw. checked by [illegible] Date 4-18-34
Order No. G5101 [B:C]
Sheet No. 247B
Shop Bill 136 to 141

5-11-34

Mat'l. Ord. pgs. 201, 203, 231, 232 & 270







Required		
1	Upper Stringer	U518
1	"	U519
1	"	U520
1	"	U521
1	"	U522
1	"	U523
1	"	U524
1	"	U525
2	"	U526R
2	"	U526L
3	"	U527
3	"	U528
6	"	U529
6	"	U530
1		U531
1		U532

General Notes:

Material: All material O.H. copper bearing medium carbon steel, except material marked (x) which is to be O.H. copper bearing silicon steel.

Specifications: Special by State of California Dept. of Public Works.

Inspection: John M. Bailey, Chief Insp.

Rivets: ⅞ ø

Open holes: 1⅛ unless noted.

Reaming: Holes in material ¾" thick or less to be subpunched ¼" and reamed to size while parts are assembled. Holes marked R.T. to be reamed thru a steel templet. Burrs to be removed from all reamed holes.

Finish: CB material to be hot sawed to length at the mill.

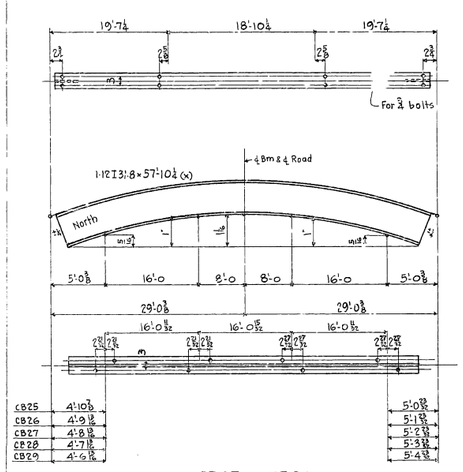
Shop Paint: None

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4-Lattice Truss Spans - Piers YB1 - E1
UPPER DECK STRINGERS
SPAN YB2-YB3
AMERICAN BRIDGE COMPANY

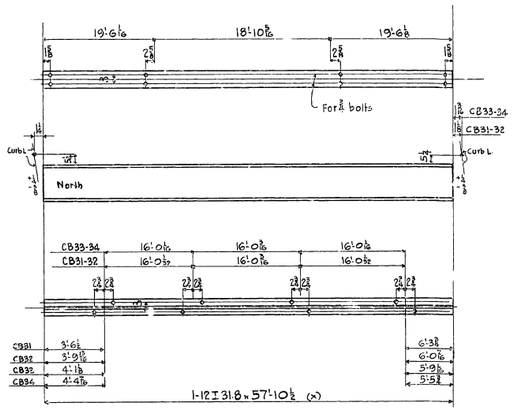
DRAWINGS MADE AT Gary 3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAW. MADE BY WK DATE 3.28.34
DRAW. CHECKED BY [illegible] DATE 4.15.-.4
ORDER No. G5101 [Sec] SHEET No. 248 Shop Bill 5142-143

4-27-34

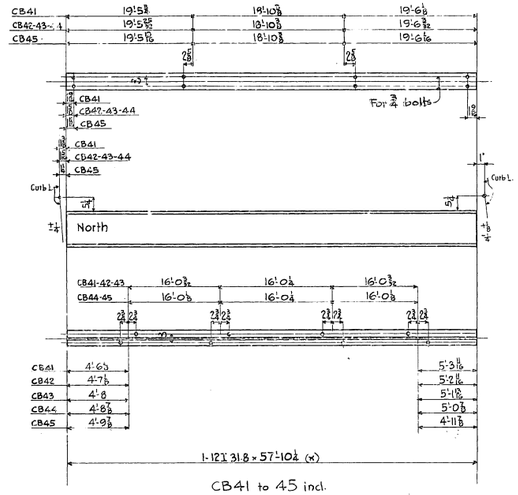
Mail P. 275.209



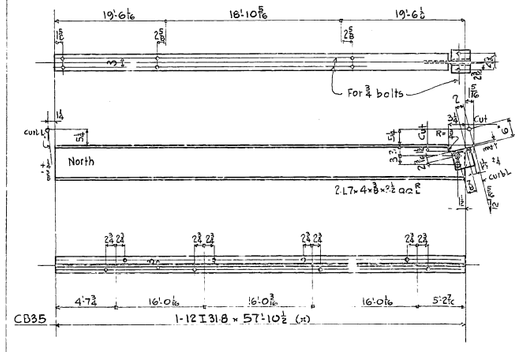
CB25 to CB29 incl.

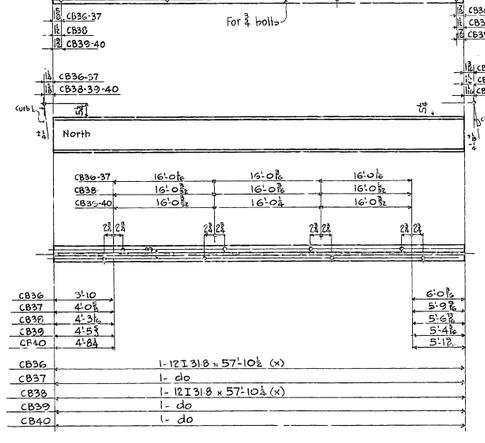


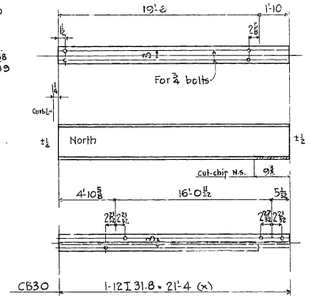
CB31 to 34 incl.



CB41 to 45 incl.







Required		
1	Cross Beam	CB25
1		CB26
1		CB27
1		CB28
1		CB29
1		CB30
1		CB31
1		CB32
1		CB33
1		CB34
1		CB35
1		CB36
1		CB37
1		CB38
1		CB39
1		CB40
1		CB41
1		CB42
1		CB43
1		CB44
1		CB45

General Notes:
Material: All material O.H. copper bearing medium carbon steel, except material marked (X) which is to be O.H. copper bearing silicon steel.
Specifications: Special by State of California Dept. of Public Works.
Inspection: John M. Bailey, Chief Insp.
Rivets: ¾ ϕ
Open holes: 13/16 ϕ
Reaming: Holes in material ⅜" thick or less to be subpunched ¼" and reamed to size while parts are assembled. Burrs to be removed from all reamed holes.
Shop Paint: None.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YE1 - E1
UPPER DECK CROSS BEAMS
SPAN YB2-YB3
AMERICAN BRIDGE COMPANY

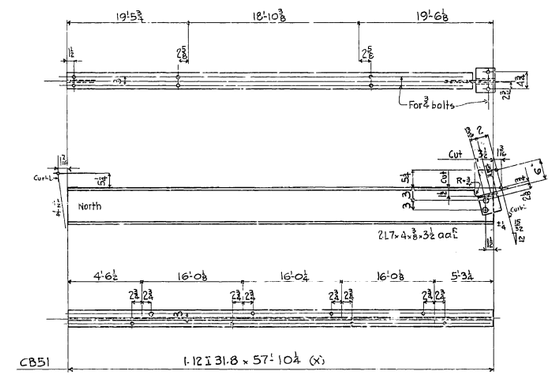
DRAWING MADE AT Gary 3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAW. MADE BY WM DATE 3.29.34.
ENG. CHECKED BY [illegible] DATE [illegible]

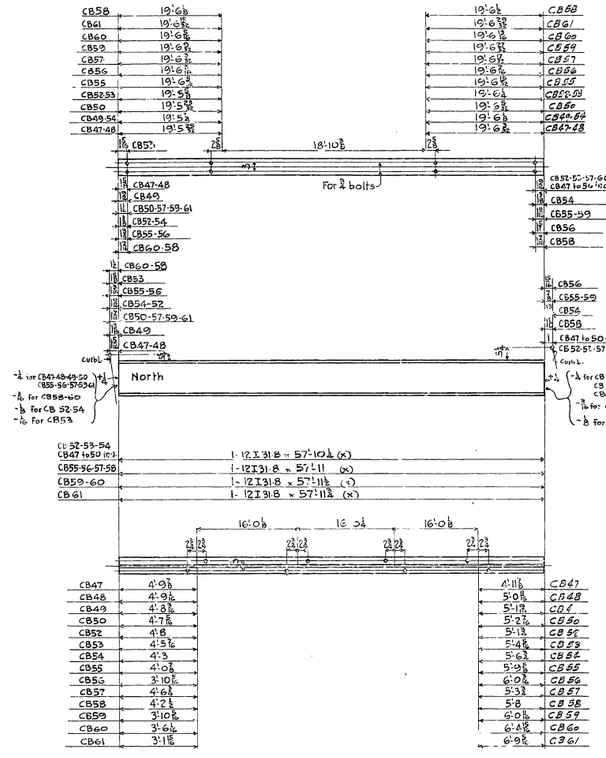
© 1934 by The American Bridge Co.

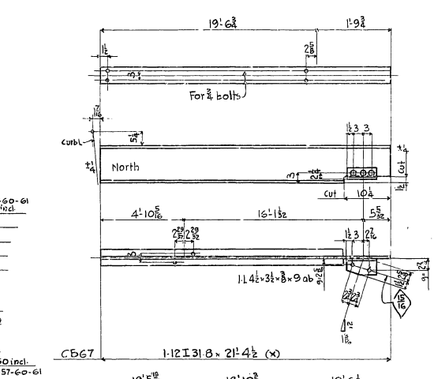
ORDER No. G5101 [illegible] SHEET No. 249 Shop Drill SMA

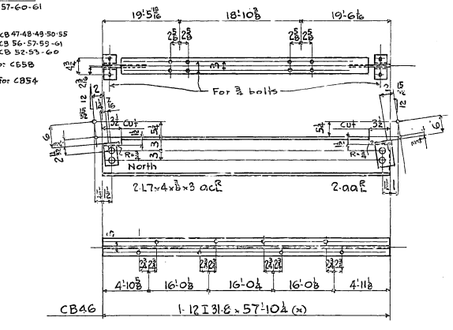
4.27.34

Matl. IS 275,276









Required		
1	Cross Beam	CB46
1	"	CB47
1	"	CB48
1	"	CB49
1	"	CB50
1	"	CB51
1	"	CB52
1	"	CB53
1	"	CB54
1	"	CB55
1	"	CB56
1	"	CB57
1	"	CB58
1	"	CB59
1	"	CB60
1	"	CB61
1	"	CB62
1	"	CB63
1	"	CB64
1	"	CB65
1	"	CB66
1	"	CB67

General Notes.
Material: All material O.H. copper bearing medium carbon steel, except material marked (X) which is to be O.H. copper bearing silicon steel.
Specifications:
Special by State of California Dept. of Public Works.
Inspection: John M. Boiley, Chief Insp.
Rivets: ⅞ ϕ
Open holes: ⅛ unless noted.
Reaming: Holes in material ⅞" thick or less to be subpunched 4" and reamed to size while parts are assembled. Burrs to be removed from all reamed holes.
Shop Paint: None.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
UPPER DECK CROSS BEAMS
SPAN YB2-YB3
AMERICAN BRIDGE COMPANY

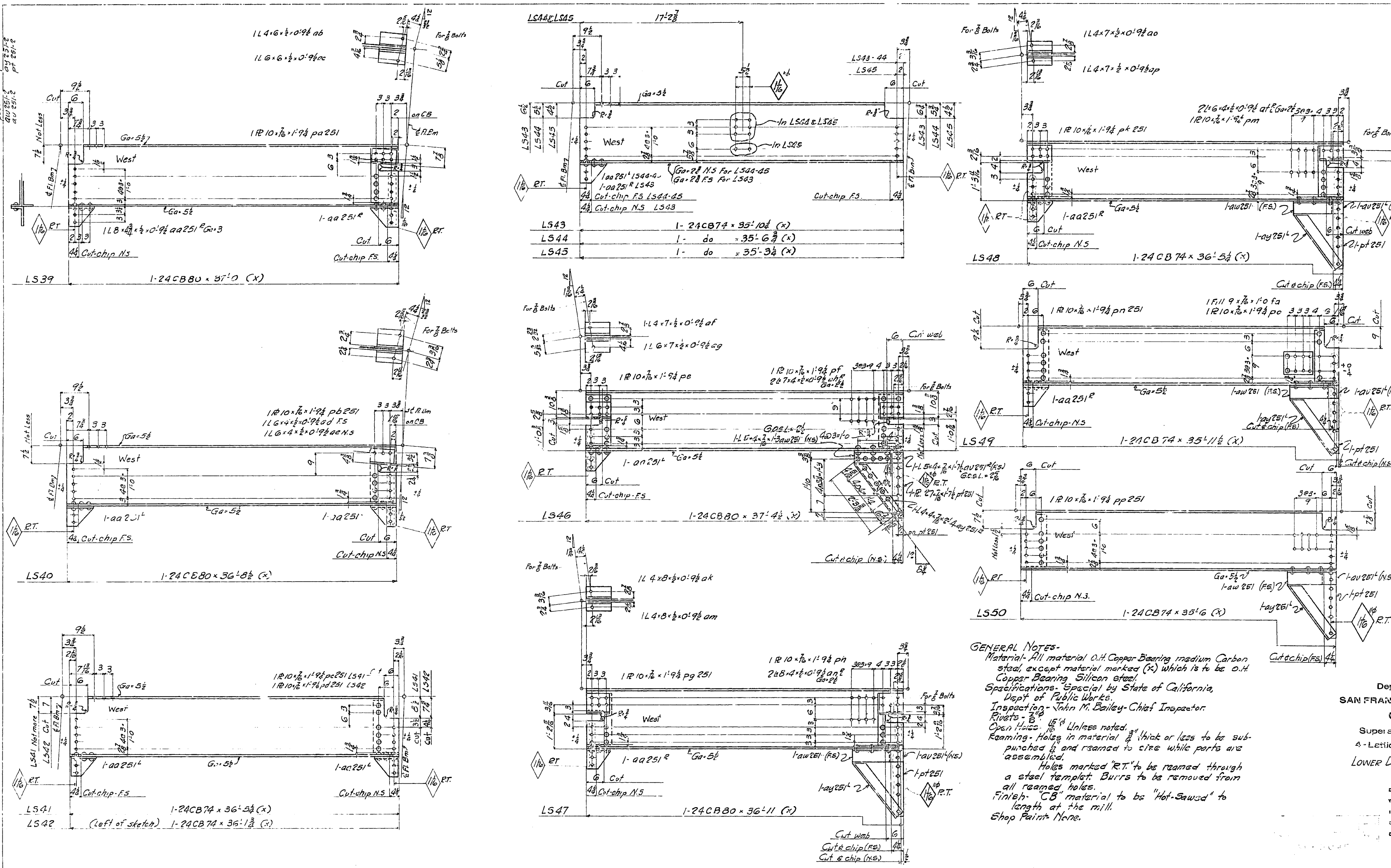
DRAWINGS MADE AT Gary 3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAWN, MADE BY WK DATE 3 29 36
DRAWN, CHECKED BY [illegible] DATE 4-15-36

ORDER No. G5101 [Dec] SHEET No. 250 ShopBlue 8/45/146

4-27-54

Mall P. 276

30-1



GENERAL NOTES-

Material- All material O.H. Copper Bearing medium Carbon steel, except material marked (x) which is to be O.H. Copper Bearing Silicon steel.

Specifications- Special by State of California, Dep't of Public Works.

Inspection- John M. Bailey- Chief Inspector.

Rivets - ⅞"ϕ

Open Holes- 15/16"ϕ Unless noted.

Reaming- Holes in material ¾" thick or less to be sub-punched 1/16" and reamed to size while parts are assembled.

Holes marked "R.T." to be reamed through a steel templet. Burrs to be removed from all reamed holes.

Finish- "CB" material to be "Hot-Sawed" to length at the mill.

Shop Paint- None.

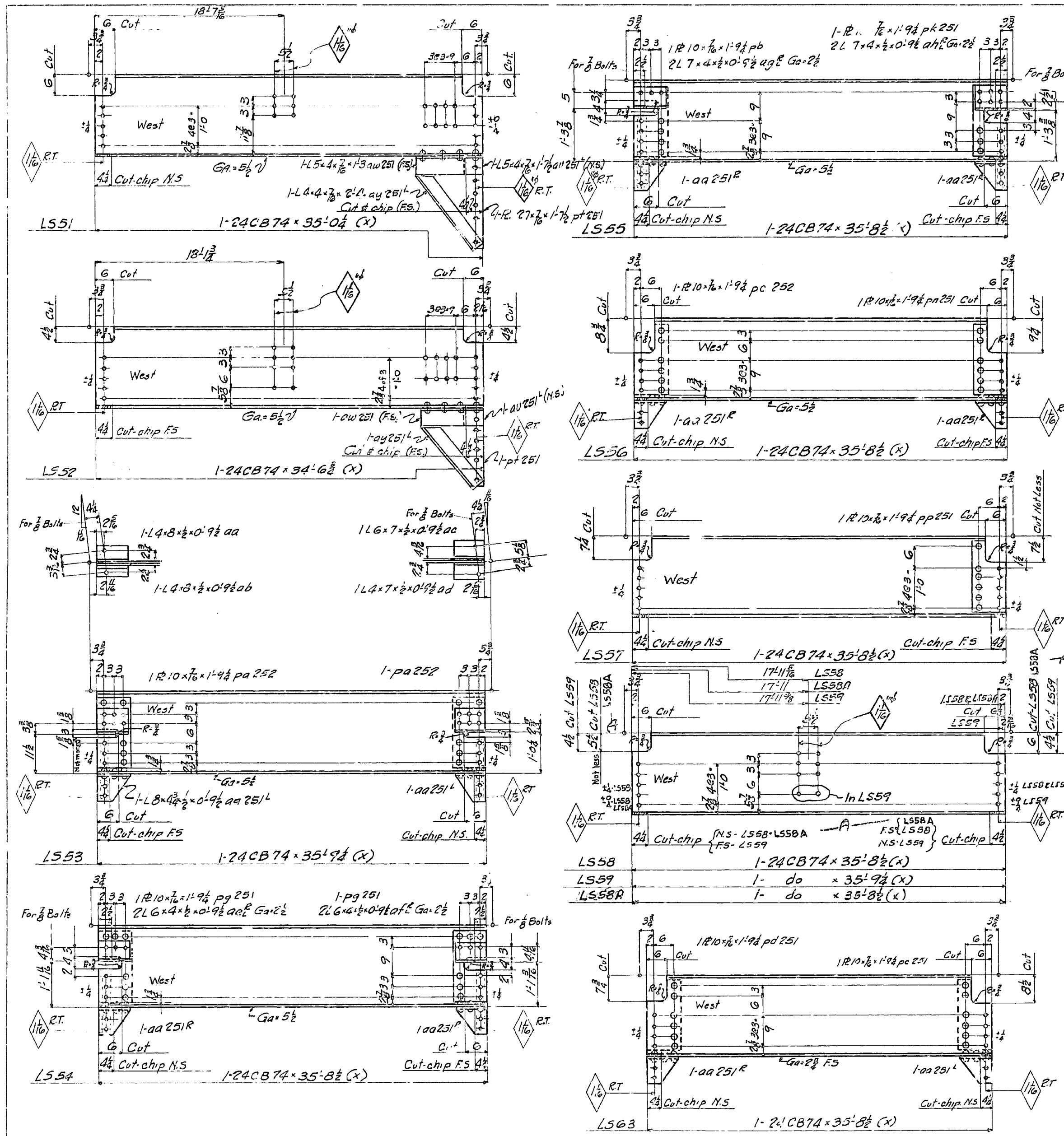
REQUIRED		
One	Lower Stringer	LS39
One	do	LS40
One	do	LS41
One	do	LS42
One	do	LS43
One	do	LS44
One	do	LS45
One	do	LS46
One	do	LS47
One	do	LS48
One	do	LS49
One	do	LS50

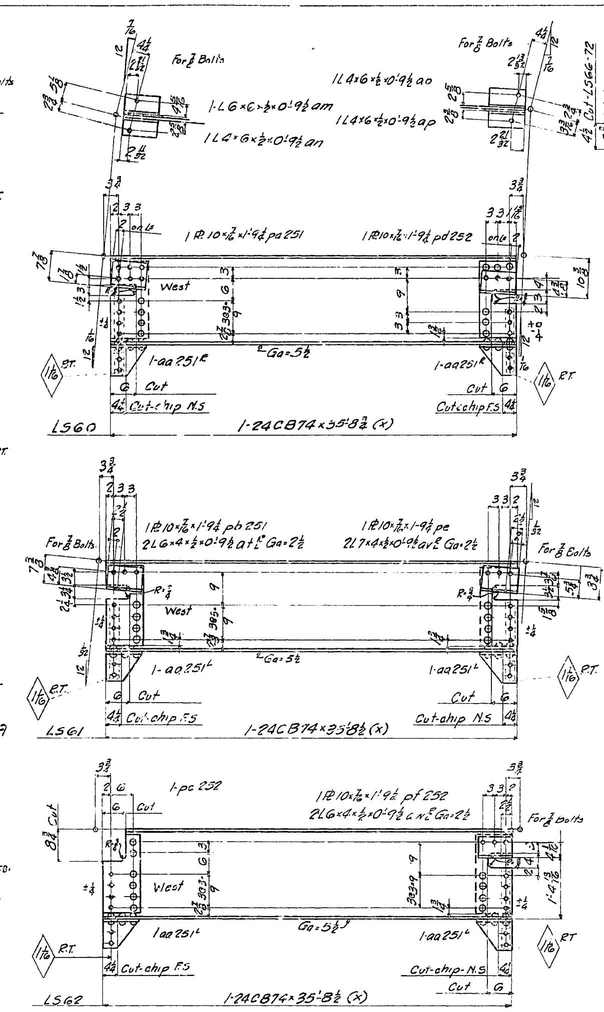
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
LOWER DECK STRINGERS SPAN YB2-YB3

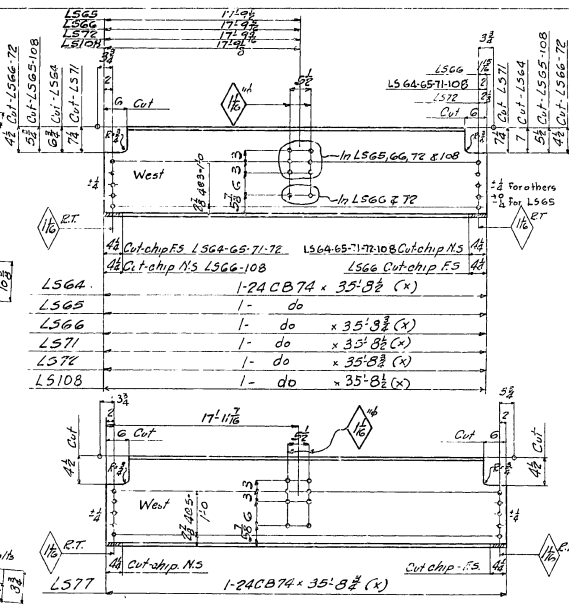
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT GARY #3 PLANT
WORK FABRICATED AT AMBRIDGE PLANT
IN CHARGE OF TOMPT
DRAW. MADE BY WK. DATE 4-10-34
DRAW. CHECKED BY MSn DATE 4-23-34
ORDER No. G5101
SHEET No. 251
[B&C]
5147 to 5159

Material ? 276, 203, 209, 233, 237

80-1







REQUIRED		
One	Lower Stringer	LS51
One	do	LS52
One	do	LS53
One	do	LS54
One	do	LS55
One	do	LS56
3	do	LS57
One	do	LS58
One	do	LS59
One	do	LS60
One	do	LS61
One	do	LS62
One	do	LS63
One	do	LS64
One	do	LS65
One	do	LS66
One	do	LS71
One	do	LS72
One	do	LS77
One	do	LS108
One	do	LS58A

GENERAL NOTES-
Material - All material O.H. Copper Bearing medium Carbon steel except material marked (x) which is to be O.H. Copper Bearing Silicon steel.
Specifications - Special by State of California, Dep't of Public Works.
Inspection - John M. Bailey, Chief Inspector.
Rivets - ⅞"φ.
Open Holes - $\frac{15}{16}$"φ Unless noted.
Reaming - Holes in material ¾" thick or less to be subpunched ⅛" and reamed to size while parts are assembled.
Holes marked "R.T." to be reamed through a steel templet. Burrs to be removed, from all reamed holes.
Finish - CB material to be "Hot-Sawed" to length at the mill.
Shop Paint - None.

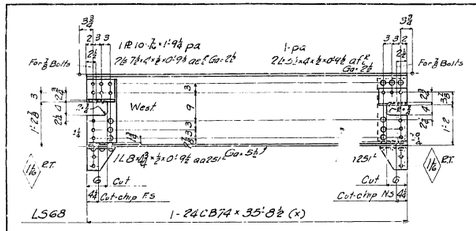
(A) - 6-12-36 Cuts on LS57A

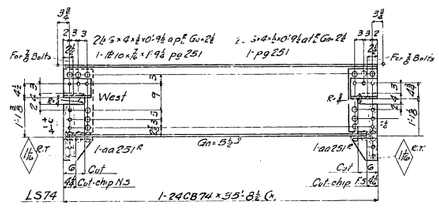
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Lower Deck Stringers Span YB2-YB3

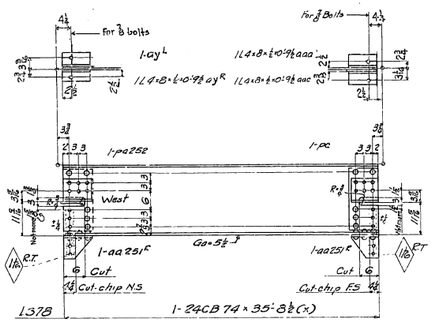
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAW. MADE BY W.K. DATE 4-12-34
DRAW. CHECKED BY MEM DATE 4-23-34
ORDER No. G5101 [B&C]
SHEET No. 252
Shop Bill 5150 to 5155

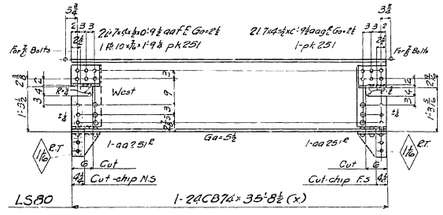
5-29-34

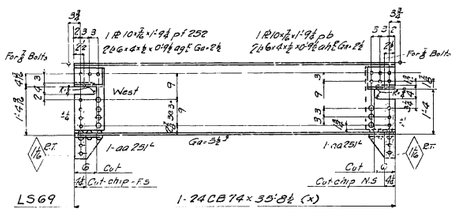
Material P. 276, 203, 209, 233, 131

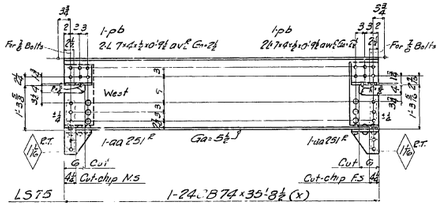


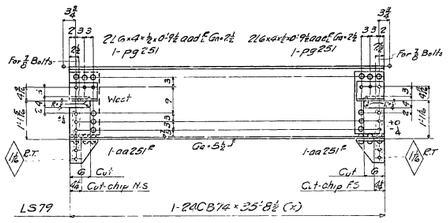


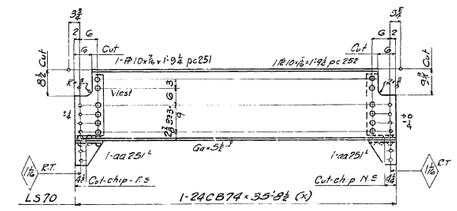


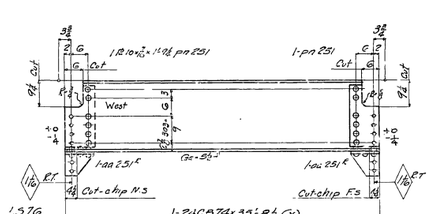


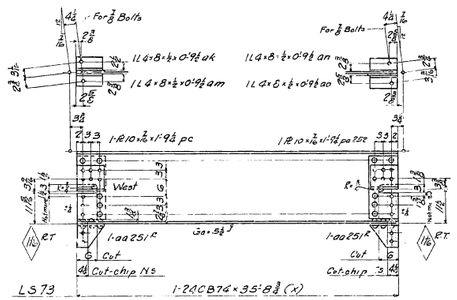


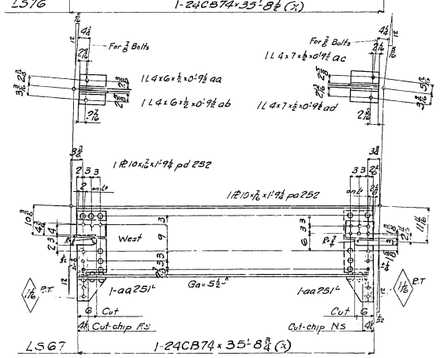












GENERAL NOTES-
Material- All material O.H. Copper-Bearing medium Carbon Steel, except material marked (x) which is to be O.H. Copper-Bearing Silicon steel.
Specifications- Special by State of California, Dept of Public Works.
Inspection- John M. Bailey- Chief Inspector.
Rivets- ⅞" ø
Open Holes- ⅛" Unless noted.
Reaming- Holes in material ¾" thick or less to be subpunched ¼" and reamed to 1/32" while parts are assembled.
Holes marked "R.T." to be reamed through a steel templet. Burrs to be removed from all reamed holes.
Finish- "CB" material to be "Hot-sawed" to length at the mill.
Shop Paint- None.

REQUIRED		
One	Lower Stringer	LS68
One	do	LS69
One	do	LS70
One	do	LS73
One	do	LS74
One	do	LS75
2	do	LS76
One	do	LS78
One	do	LS79
One	do	LS80

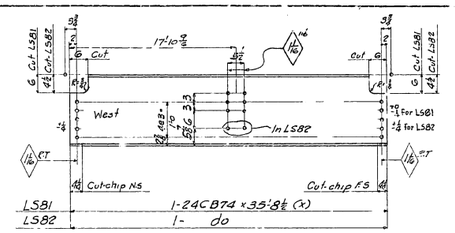
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Lower Deck Stringers - Span YB2-YB3

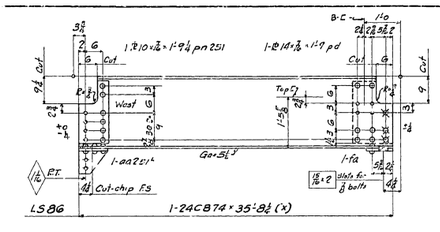
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tempt
CLK'D, TRACED BY WK DATE 4-16-34
DRAWN, CHECKED BY Peterson DATE 4-25-34

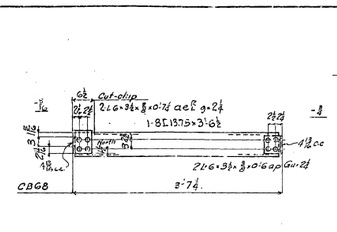
ORDER No. G5101 [B&C] | CHIEF'S No. 253

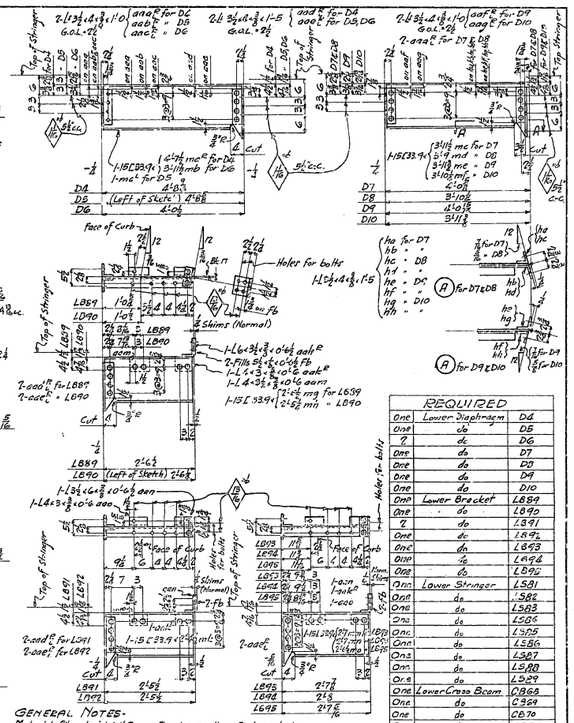
Shop Dft. Sheet No. 5126

4-5-34









REQUIRED		
One	Lower Diaphragm	DA
One	do	DB
2	do	DG
One	do	D7
One	do	D8
One	do	D9
One	do	D10
One	Lower Bracket	LB89
One	do	LB90
2	do	LB91
One	do	LB92
One	do	LB93
One	do	LB94
One	do	LB95
One	Lower Stringer	LS81
One	do	LS82
One	do	LS83
One	do	LS84
One	do	LS85
One	do	LS86
One	do	LS87
One	do	LS88
One	do	LS89
One	Lower Cross Beam	CB68
One	do	CB69
One	do	CB70
One	do	CB71
One	do	CB72
One	do	CB73

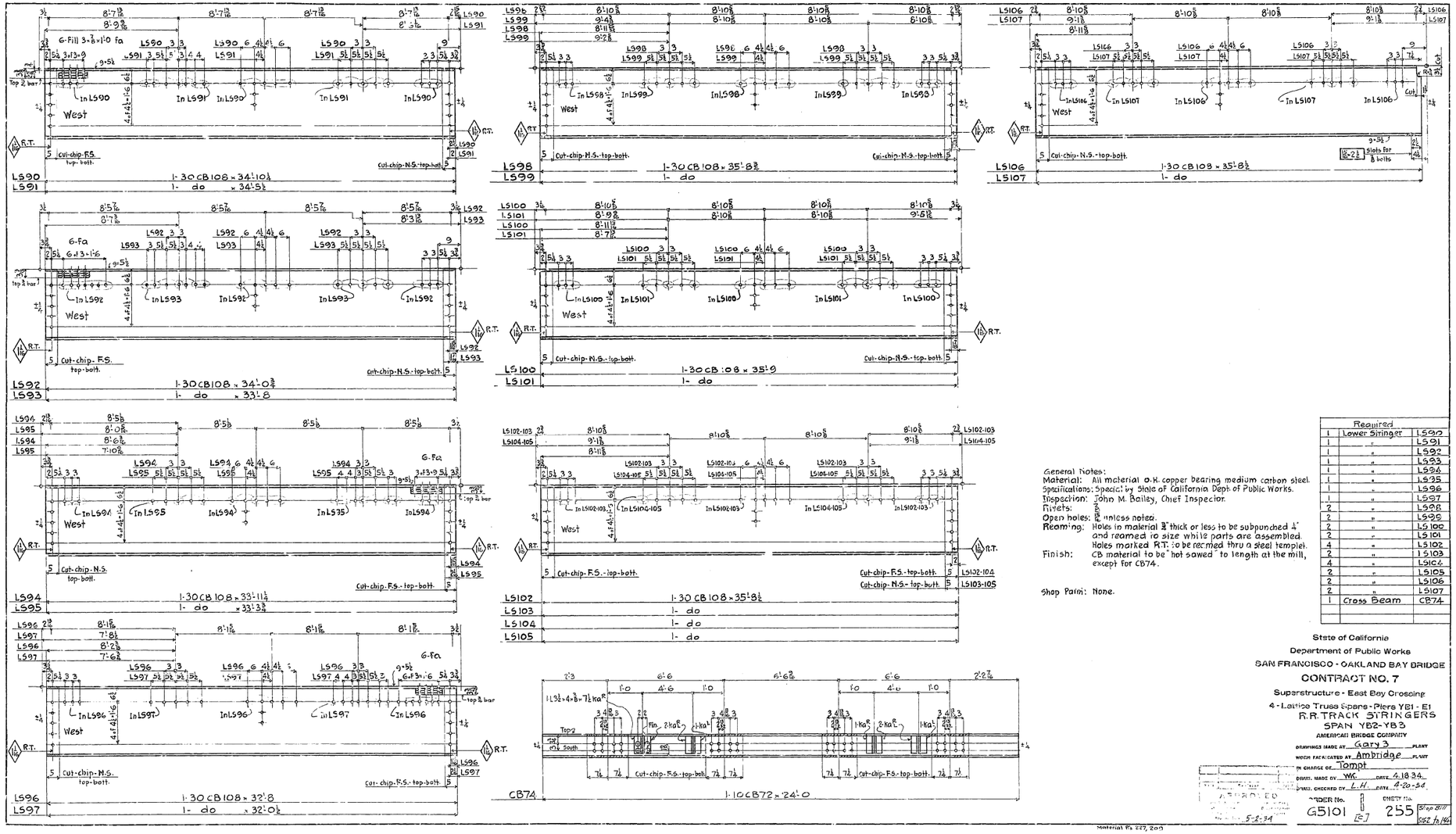
GENERAL NOTES-
Material- All material O.H. Copper Bearing medium Carbon steel except material marked (x) which is to be O.H. Copper Bearing Silicon steel
Specifications- Special by State of California, Dept of Public Works.
Inspection- John M. Bailey - Chief Inspector.
Rivets- ⅞ Ø
Open Holes- 15/16 Ø unless noted.
Reaming- Holes in material 2" thick or less to be punched ¾ Ø and reamed to size while parts are assembled, except holes in Lower Diaphragms D4 to D10 incl. and Lower Brackets LB89 to LB95 incl. which may be punched full size.
Holes marked "T" to be reamed thru a steel templet. Burrs to be removed from all reamed holes.
Finish- Beams LS81 to LS89 incl. to be Hot-Sawed to length at the mill.
Shop Paint- None.

Ⓐ 7-1-34 35'-8½ to Eng. of CB

5-29-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4-Lattice Truss Spans - Piers YB1 - E1
LOWER DECK STRINGERS - CROSS BEAMS
SPAN - YB2 - Y13
AMERICAN BRIDGE COMPANY
DRAWING MADE AT GARY, IND. PLANT
WORK FABRICATED AT PHOENIXVILLE PLANT
IN CHARGE OF TEMPT
DESIGN, CALCS BY WG DATE 4-18-34
DRAWN, CHECKED BY [illegible] DATE 4-25-34
GENDER No. G5101
ENDER No. 254
Shop Bill 8247 to 8361

Material P. 270, 203, 209, 233



Required		
1	Lower Stringer	L590
1	"	L591
1	"	L592
1	"	L593
1	"	L594
1	"	L595
1	"	L596
1	"	L597
2	"	L598
2	"	L599
2	"	L5100
2	"	L5101
4	"	L5102
2	"	L5103
4	"	L5104
2	"	L5105
2	"	L5106
2	"	L5107
1	Cross Beam	CB74

General Notes:
Material: All material O.H. copper bearing medium carbon steel.
Specifications: Specially State of California Dept. of Public Works.
Inspection: John M. Bailey, Chief Inspector.
Rivets: ⅞ Ø
Open holes: ⅞ Ø unless noted.
Reaming: Holes in material ¾" thick or less to be subpunched ¼" and reamed to size while parts are assembled. Holes marked R.T. to be reamed thru a steel templet.
Finish: CB material to be "hot sawed" to length at the mill, except for CB74.

Shop Parm: None.

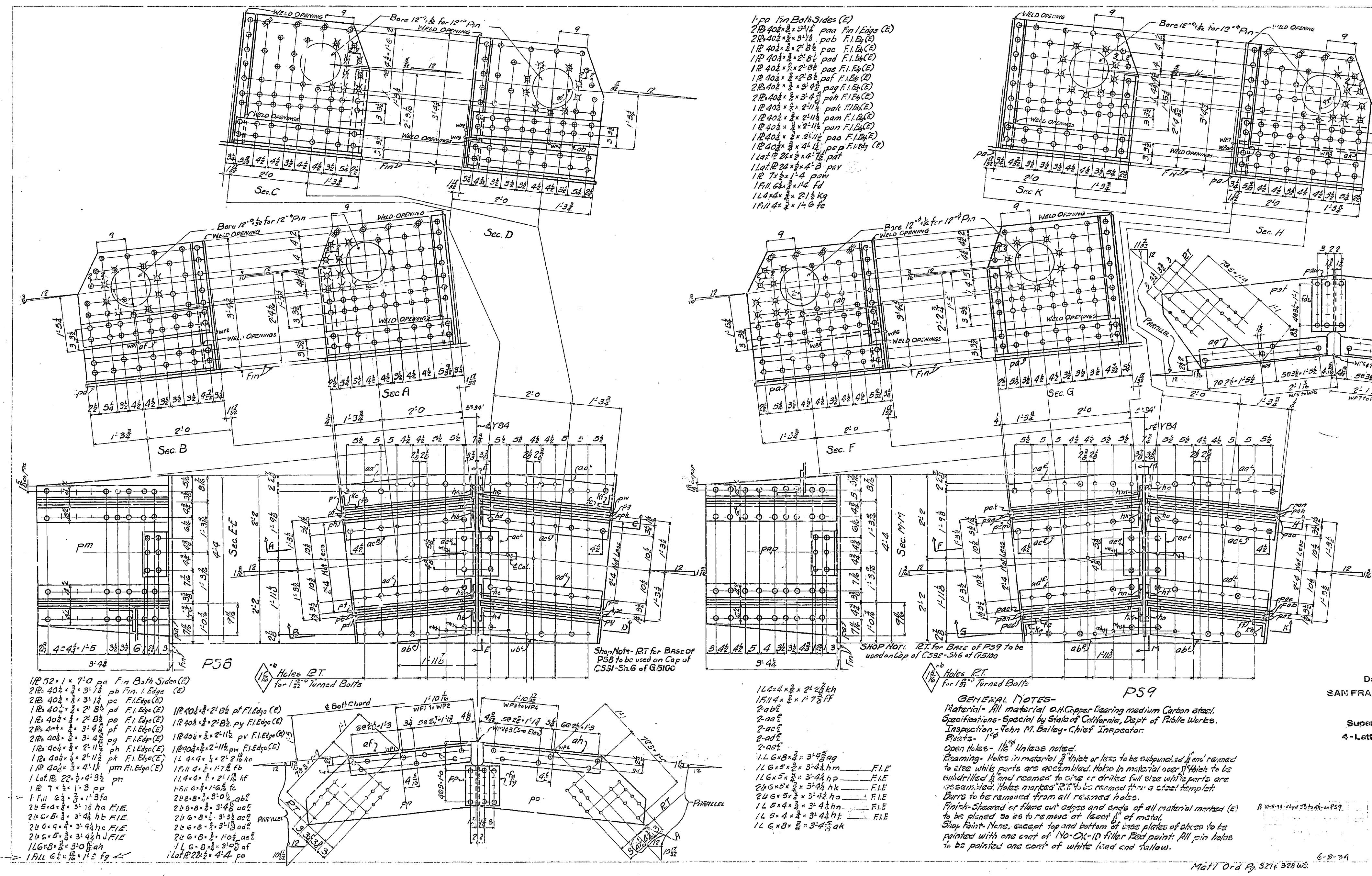
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
R.R. TRACK STRINGERS
SPAN YB2-YB3
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary 3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAWN MADE BY WK DATE 4.18.34
DRAWG. CHECKED BY L.H. DATE 4-20-34

APPROVED 5-2-34

ORDER No. G5101 | E-1 | SHEET No. 255 | Shop Bill 582 lb/ea

Material Rs 227, 200



GENERAL NOTES-

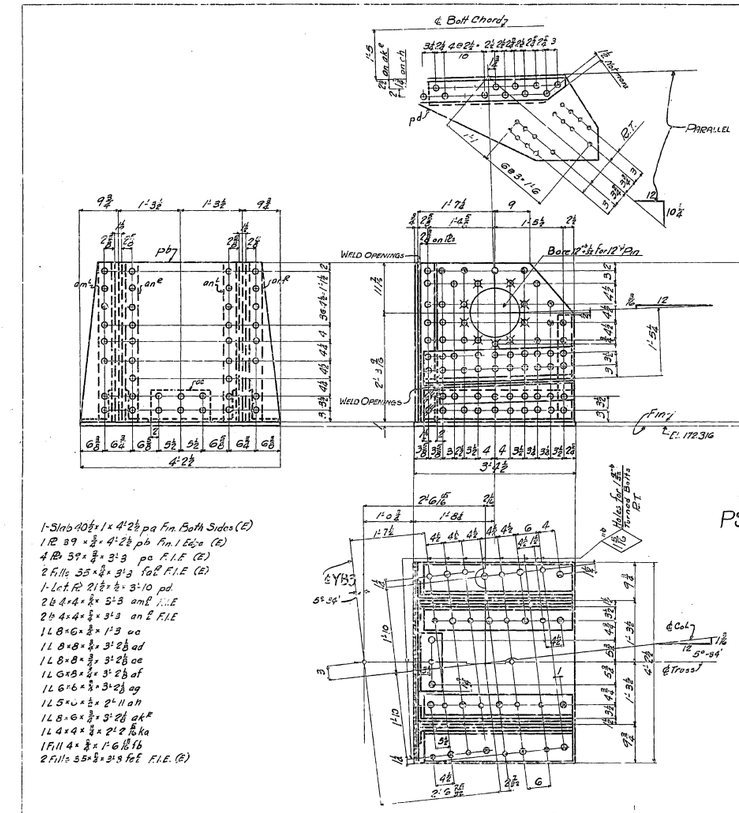
Material- All material O.H. Copper Bearing medium Carbon steel.
Specifications- Special by State of California, Dep't of Public Works.
Inspection- John M. Bailey- Chief Inspector.
Rivets- 1"φ
Open Holes- 1 1/16"φ Unless noted.
Reaming- Holes in material 3/4" thick or less to be subpunched 1/8" and reamed to size while parts are assembled. Holes in material over 3/4" thick to be subdrilled 1/8" and reamed to size or drilled full size while parts are assembled. Holes marked "R.T." to be reamed thru a steel templet.
Burrs to be removed from all reamed holes.
Finish- Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least 1/8" of metal.
Shop Paint- None, except top and bottom of base plates of shoes to be painted with one coat of NO-OX-ID filler Red paint. All pin holes to be painted one coat of white lead and tallow.

REQUIRED		
One	Shoe	P58
One	Shoe	P59

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
SHOES PIER YB4
SPAN YB3-YB4
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAW. MADE BY W.G. DATE 3-28-34
DRAW. CHECKED BY [illegible] DATE 4-19-34
ORDER No. G5101 [C] SHEET No. 301
Shop Bill 5167-169

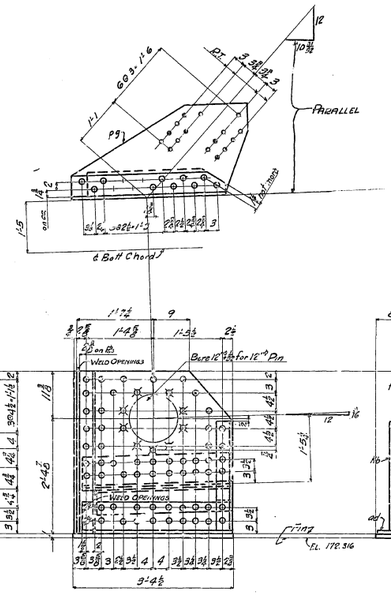
R 10-15-34: chg'd 3 3/4 to 4h- on P59.
6-8-34
Mat'l Ord Pg. 327 & 328 WS.

30-1



1-Slab 10½ x 1 x 4'-2½ pa Fin. Both Sides (E)
1 PL 89 x ⅞ x 4'-2½ pb Fin. 1 Edge (E)
4 PL 39 x ⅞ x 3'-3 pc F.I.E (E)
2 Fills 35 x ⅛ x 3'-3 fac F.I.E (E)
1-Lat. PL 21½ x ½ x 3'-10 pd.
2 L 4 x 4 x ⅞ x 5'-3 am[L] F.I.E
2 L 4 x 4 x ⅞ x 3'-3 an[L] F.I.E
1 L 8 x 6 x ⅞ x 1'-3 ao
1 L 8 x 8 x ⅞ x 3'-2⅝ ad
1 L 8 x 8 x ⅞ x 3'-2⅝ ae
1 L 6 x 6 x ⅞ x 3'-2⅝ af
1 L 6 x 6 x ⅞ x 3'-2⅝ ag
1 L 5 x 3½ x ½ x 2'-11 ah
1 L 8 x 6 x ⅞ x 3'-2⅝ ak[R]
1 L 4 x 4 x ⅞ x 2'-0 ⅝ ka
1 Fill 4 x ⅜ x 1'-6 ⅛ fb
2 Fills 35 x ⅜ x 3'-3 fae F.I.E. (E)

Shop Note - RT for base of PS6 to be used on cap of CS27 sh.14 of G5100



1-pa. Fin. Both Sides (E)
1 PL 402 x ¼ x 4'-2½ pe Fin. 1 Edge (E)
4 PLs 39 x ⅞ x 3'-4⅛ pf F.I.E (E)
2 Fill 85 x ⅜ x 3'-4⅛ fae F.I.E (E)
1 Lat. PL 23 x ⅛ x 3'-9 pg
2 L 4 x 4 x ⅜ x 3'-4⅛ ao[L] F.I.E
2 L 4 x 4 x ⅜ x 3'-4⅛ ap[L] F.I.E
1-ae
1-ad
1-ag
1-af
1-ag
1-ak[L]
1-1 6 x 6 x ½ x 2'-11 aa
1-L 4 x 4 x ⅞ x 2'-3⅝ kb
1 Fill 4 x ⅜ x 1'-0⅛ fd
2 Fill 95 x ⅜ x 3'-4⅛ fae F.I.E (E)

Shop Note - RT for base of PS7 to be used on cap of CS29 sh.14 of G5100

Ball View Same as PS6

GENERAL NOTES-
Material- All material of St. Copper Bearing medium Carbon steel.
Specifications- Special by State of California, Dept. of Public Works.
Inspection - John M. Bailey - Chief Inspector.
Rivets - 1".
Open Holes - 1 1/16" Unless noted.
Reaming - Holes in material ¾" thick or less to be subpunched ¼" and reamed to size while parts are assembled. Holes in material over ¾" thick to be subdrilled ¼" and reamed to size or drilled full size while parts are assembled. Holes marked "D.R." to be reamed thru a steel templat. Burrs to be removed from all reamed holes.
Finish - Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least ¼" of metal.
Shop Paint - None, except the end portion of bases, plates of shoe to be painted with one coat of NO-OX-ID filler and paint. All pin holes to be painted with one coat of white lead and tallow.

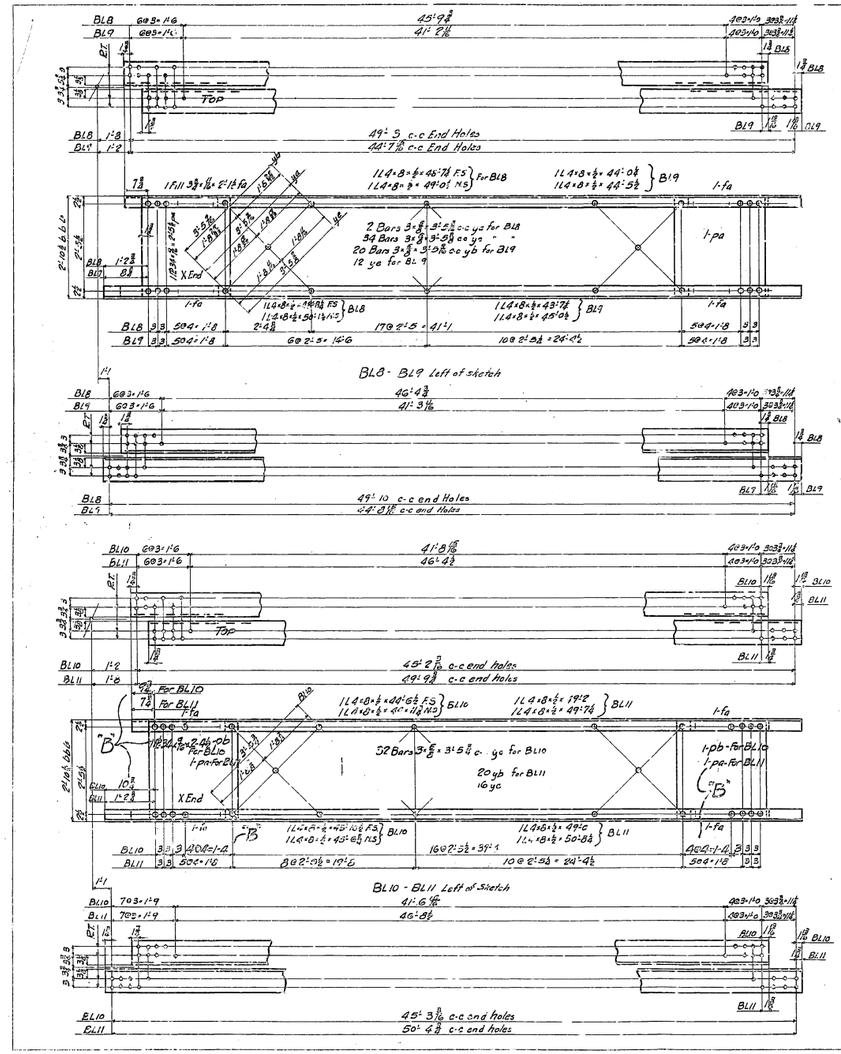
REQUIRED		
One	Shoe	PS6
One	Shoe	PS7

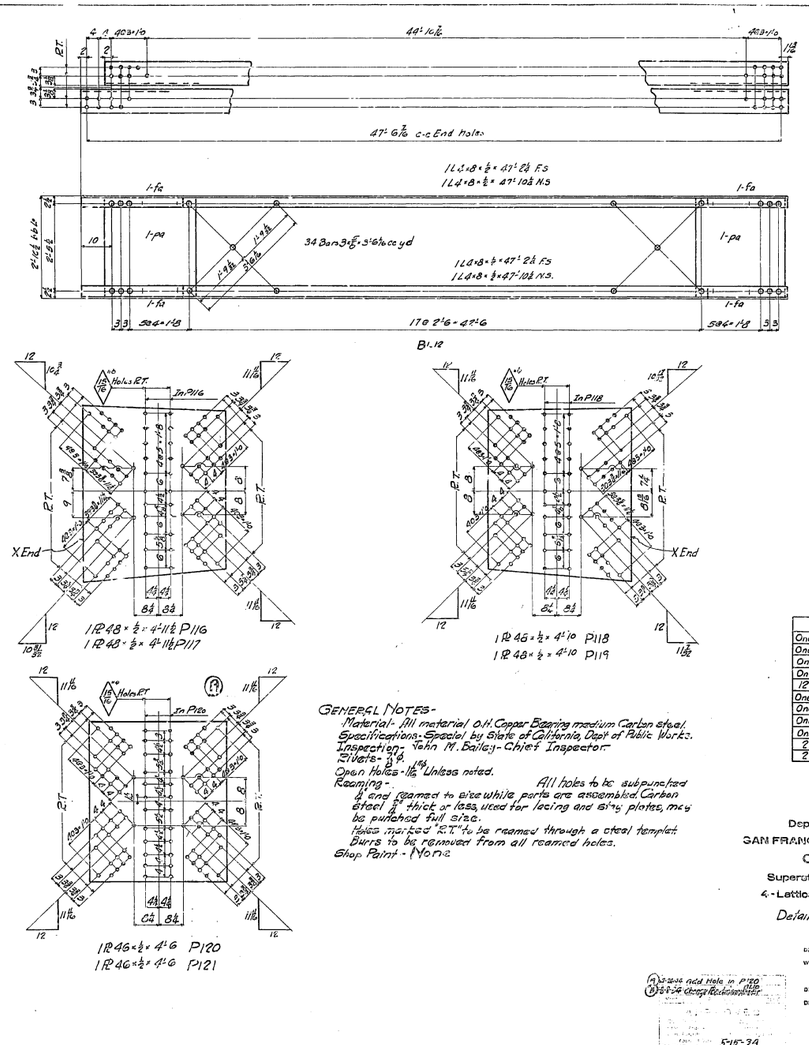
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
SHOES - PIER YB3
SPAN YB3 - YB4
AMERICAN BRIDGE COMPANY

DRAWING MADE AT Gary "S" PLANT
DETAIL MADE BY W.G. DATE 3-29-36
DRGNL. CHECKED BY [illegible] DATE 4-10-36
ORDER No. G5101 | E-7 | SHEET No. 302 | Shop 511 | S-169

Mark. Ord. Pg. 326 We.

P26 North
P29 South





GENERAL NOTES-

Material- All material O.H. Copper Bearing medium Carbon steel
Specifications- Special by State of California Dept of Public Works.
Inspection- John M. Bailey - Chief Inspector.
Rivets- 7/8"ø
Open Holes- 1 1/16" Unless noted.
Reaming- All holes to be subpunched
4 end reamed to size while parts are assembled. Carbon steel 1" thick or less, used for lacing and filler plates, may be punched full size.
Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Shop Paint - None.

REQUIRED		
One	Bott. Lateral	BL8
One	do	BL9
One	do	BL10
One	do	BL11
12	do	BL12
One	Bott Lat. PL	P116
One	do	P117
One	do	P118
One	do	P119
2	do	P120
2	do	P121

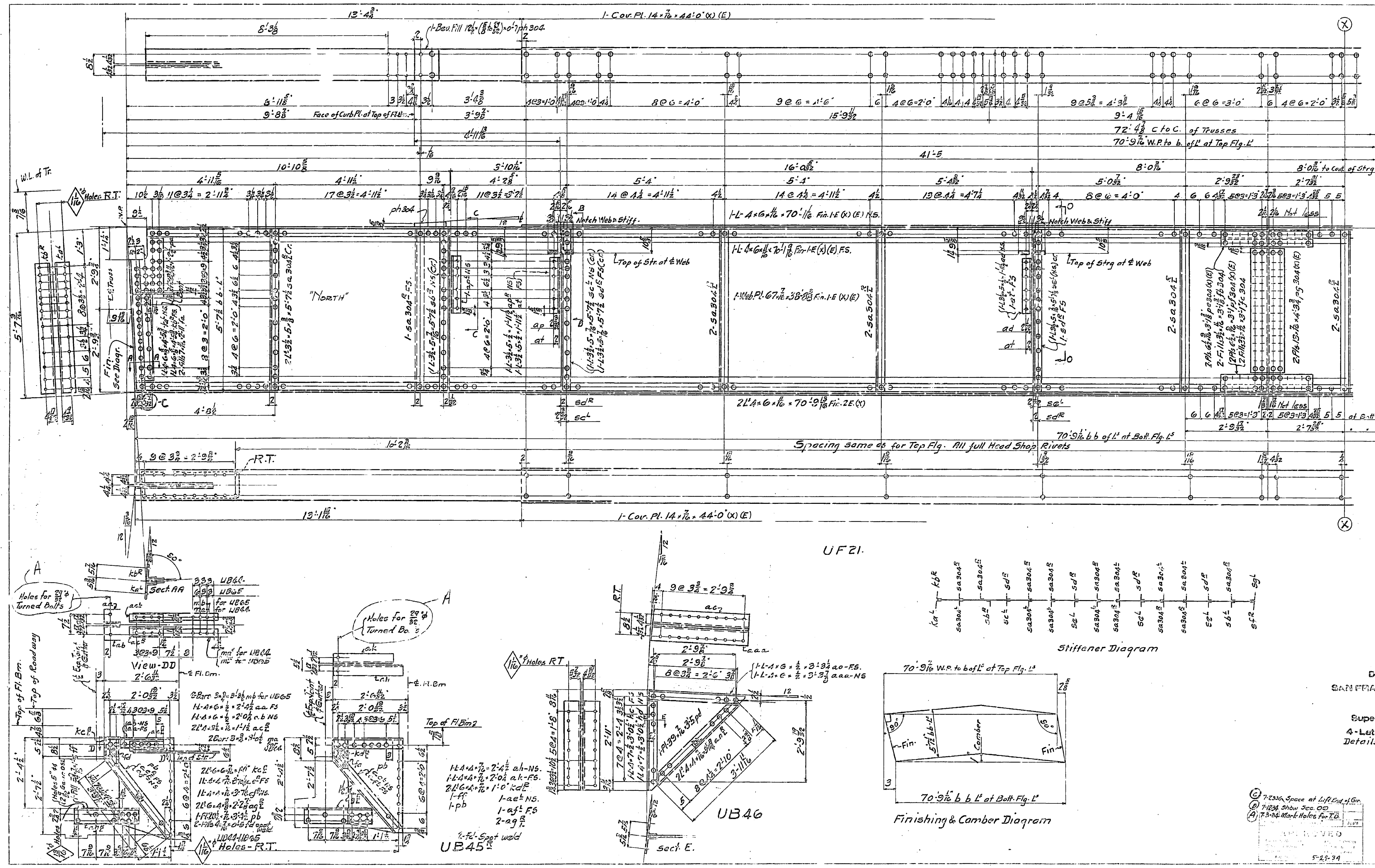
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y81 - E1
Detail of Bott. Laterals Span YB3 - YB4

AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary "S" PLANT
WORK FABRICATED AT Pittsburgh PLANT
CHARGE OF Tooze
DRAW. MADE BY W.G. DATE 4-6-34
DRAW. CHECKED BY C.F.C. DATE 5-2-34
ORDER No. G5101 [C] FACTORY No. 503 Shop Mill

(A) 5-5-34 Add Holes in P120 P121
(B) 5-8-34 Change Reinforcement
5-15-34
Mat'l. and Fy. P325

9/10-171

30-1



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Fl. Bm. and Brackets Upper Deck.
Span YB3 - YB4
AMERICAN BRIDGE COMPANY

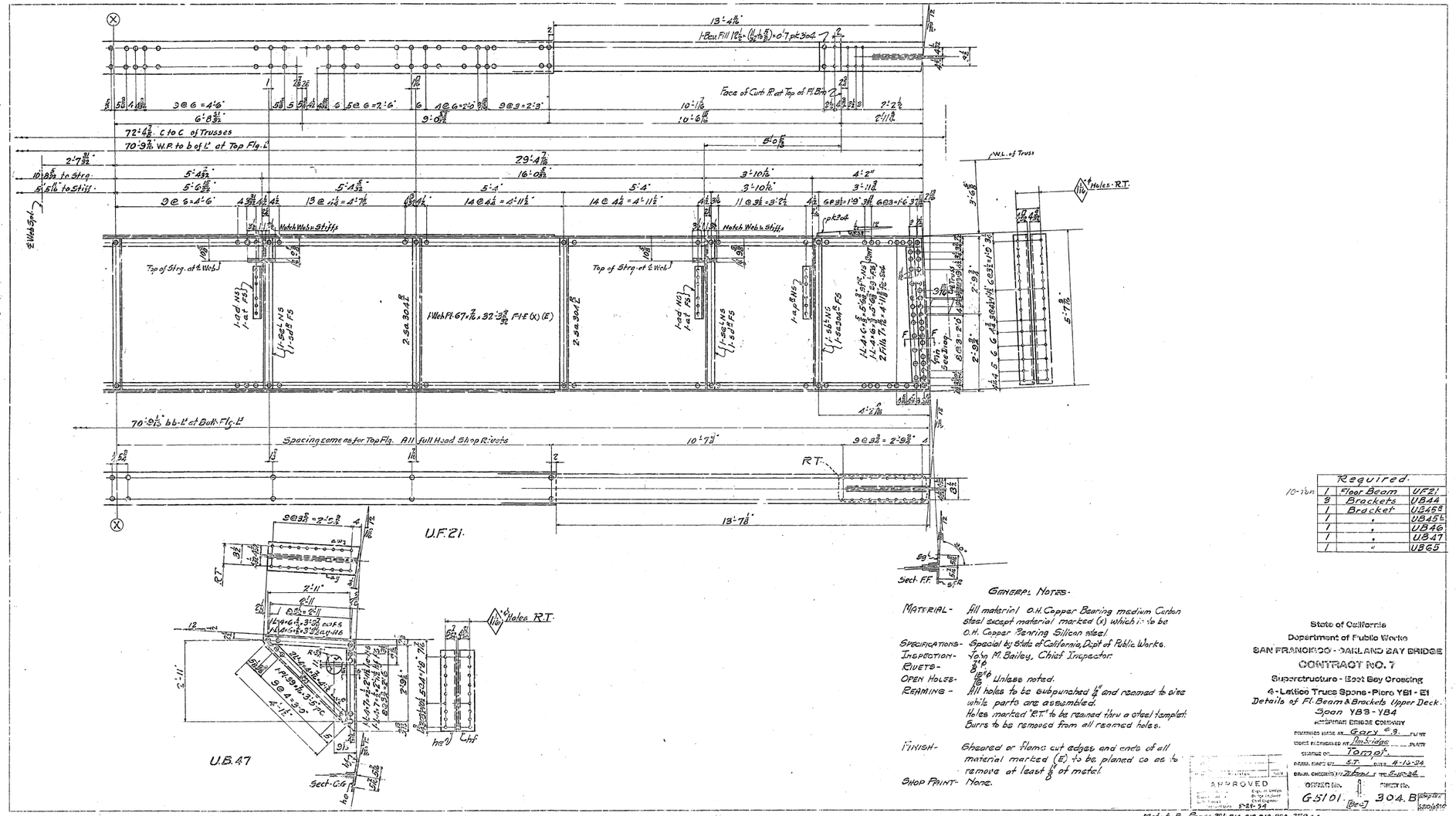
Drawings made at Gary #3 Plant
Work fabricated at Ambridge Plant
Charge of Tompt.
Draw. made by ST Date 4-5-34
Draw. checked by Mow Date 5-15-34

(C) 7-23-34 Space at Left End of Gir.
(B) 7-12-34 Show Sec. DD
(A) 7-3-34 Mark Holes for T.B.

APPROVED 5-29-34

Order No. G5101 · Sheet No. 304 AB

Shop Bill S210 to S212



Required.			
10-Ton	1	Floor Beam	UF21
	2	Brackets	UB44
	1	Bracket	UB45
	1	"	UB45L
	1	"	UB46
	1	"	UB47
	1	"	UB65

GENERAL NOTES.

MATERIAL - All material O.H. Copper Bearing medium Carbon Steel except material marked (x) which is to be O.H. Copper Bearing Silicon steel.

SPECIFICATIONS - Special by State of California, Dept of Public Works.

INSPECTION - John M. Bailey, Chief Inspector.

RIVETS - 7/8" Unless noted.

OPEN HOLES - 15/16"

REAMING - All holes to be subpunched 1/4" and reamed to size while parts are assembled. Holes marked "RT" to be reamed thru a steel template. Burrs to be removed from all reamed holes.

FINISH - Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least 1/4" of metal.

SHOP PAINT - None.

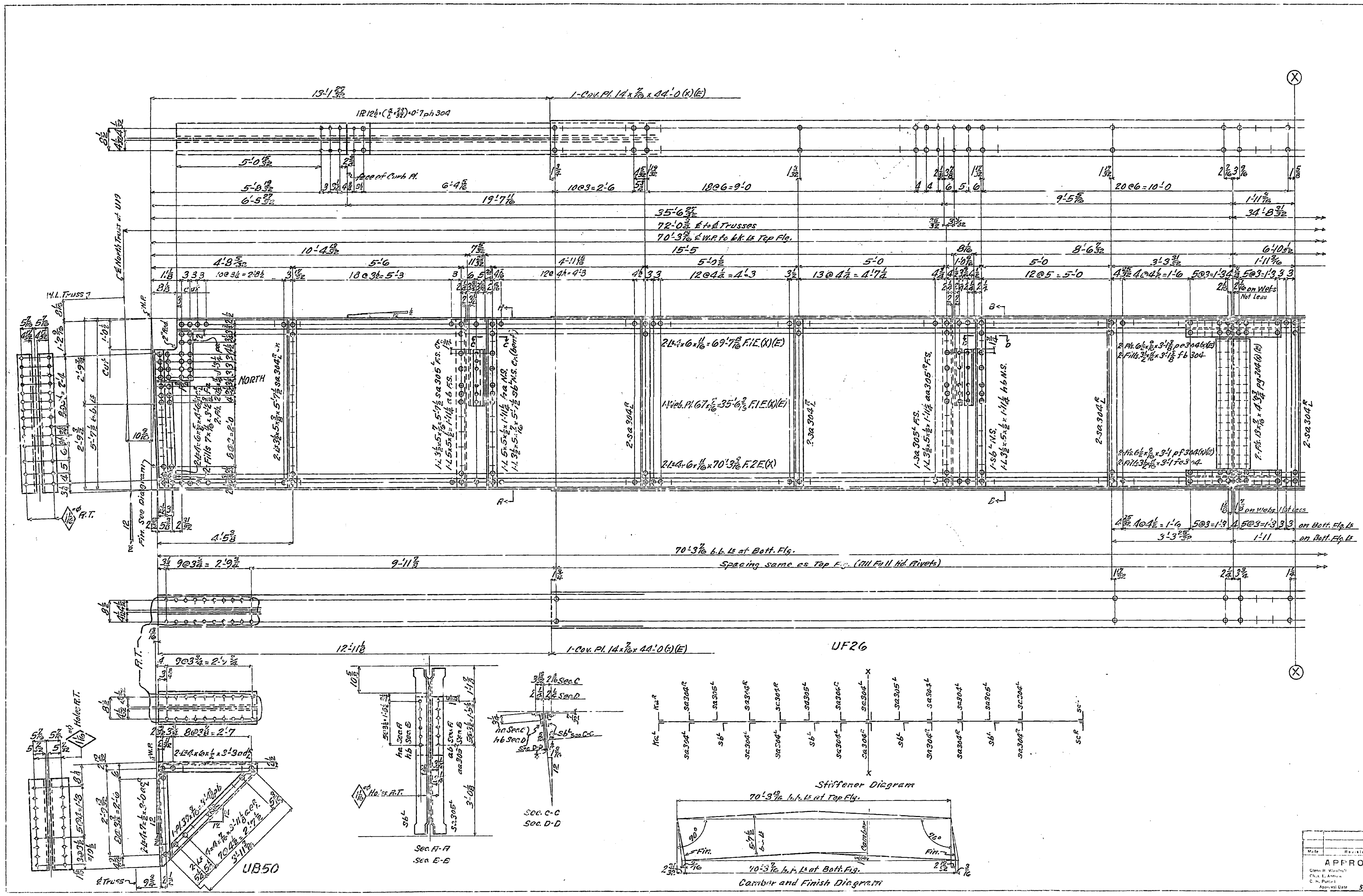
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4-Lattice Truss Spans - Piers YB1 - E1
Details of Fl. Beam & Brackets Upper Deck.
Span YB3 - YB4
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary Ind. PLANT
WORK FABRICATED AT Am. Bridge PLANT
DRAWN UNDER CHARGE OF Tompt.
DRAWN BY S.T. DATE 4-16-34
DRAWN, CHECKED BY [illegible] DATE 5-26-34

APPROVED
Engr. in Charge
Chief Engineer
5-24-34

CONTRACT No. G5101 (Rev.) SHEET No. 304.B

Mat-A-B-Pages-201-314-317-318-350-379 &c
Page 4, Line 15; Fig 4, Line 24.

30-1



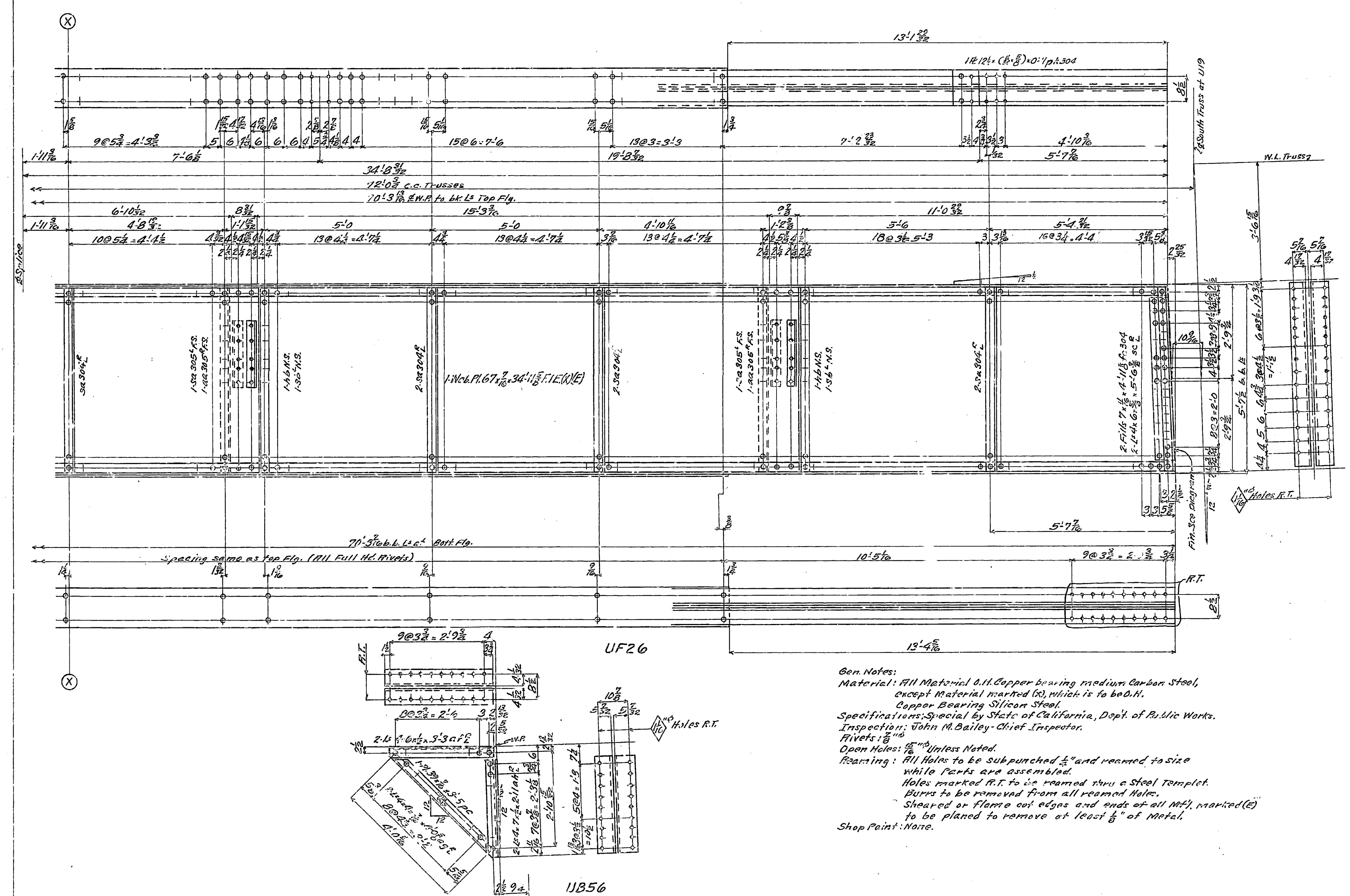
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Fl. Beam at U19 & Brackets
Upper Deck - Span #3 - YB3 to YB4

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
FABRICATED AT Ambridge PLANT
CHARGE OF Tompt
DRAW. MADE BY H.M.C. DATE 4-16-34
DRAW. CHECKED BY G.T.N. DATE 5-15-34
ORDER No. 65101
SHEET No. 305AB
Shop Bills S213-2K

Made	Revision	App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 5-29-34

30-1



Gen. Notes:
Material: All Material O.H. Copper bearing medium Carbon Steel, except Material marked (X), which is to be O.H. Copper Bearing Silicon Steel.
Specifications: Special by State of California, Dep't. of Public Works.
Inspection: John M. Bailey - Chief Inspector.
Rivets: 7/8"ϕ
Open Holes: 15/16"ϕ Unless Noted.
Reaming: All Holes to be subpunched 1/4" and reamed to size while Parts are assembled.
Holes marked R.T. to be reamed thru a Steel Templet.
Burrs to be removed from all reamed Holes.
Sheared or flame cut edges and ends of all Mt'l. marked (E) to be planed to remove at least 1/8" of Metal.
Shop Paint: None.

10 ton

REQUIRED		
No.	Description	Mark
One	Floor Beam	UF26
2	Brackets	UB50
One	Bracket	UB56

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Fl. Beam at U19 & Brackets
Upper Deck - Span #3 - YB3 to YB4
AMERICAN BRIDGE COMPANY

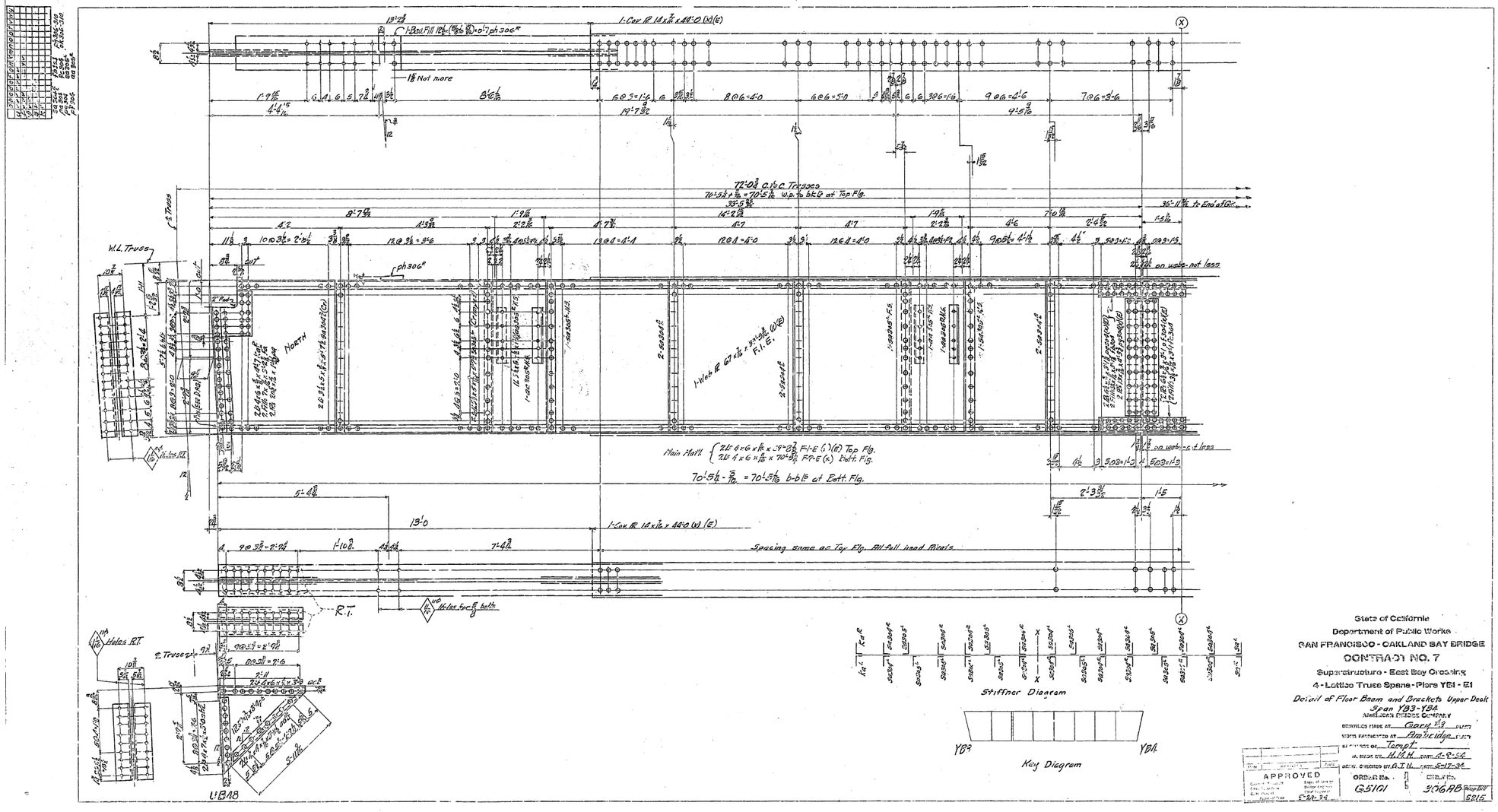
Drawings made at Gary #3 Plant
Work fabricated at Ambridge Plant
Charge of Tompt
Draw. made by H.M.C. Date 4-16-34
Draw. checked by G.T.N. Date 5-15-34

APPROVED
Approval Date 5-29-34

Order No. 65101 [B-C] Sheet No. 305B

Shop Bills S213-212

Mt'l. Ord. P6 L5, P205 L20, P206 L22, p316, p317 & p379

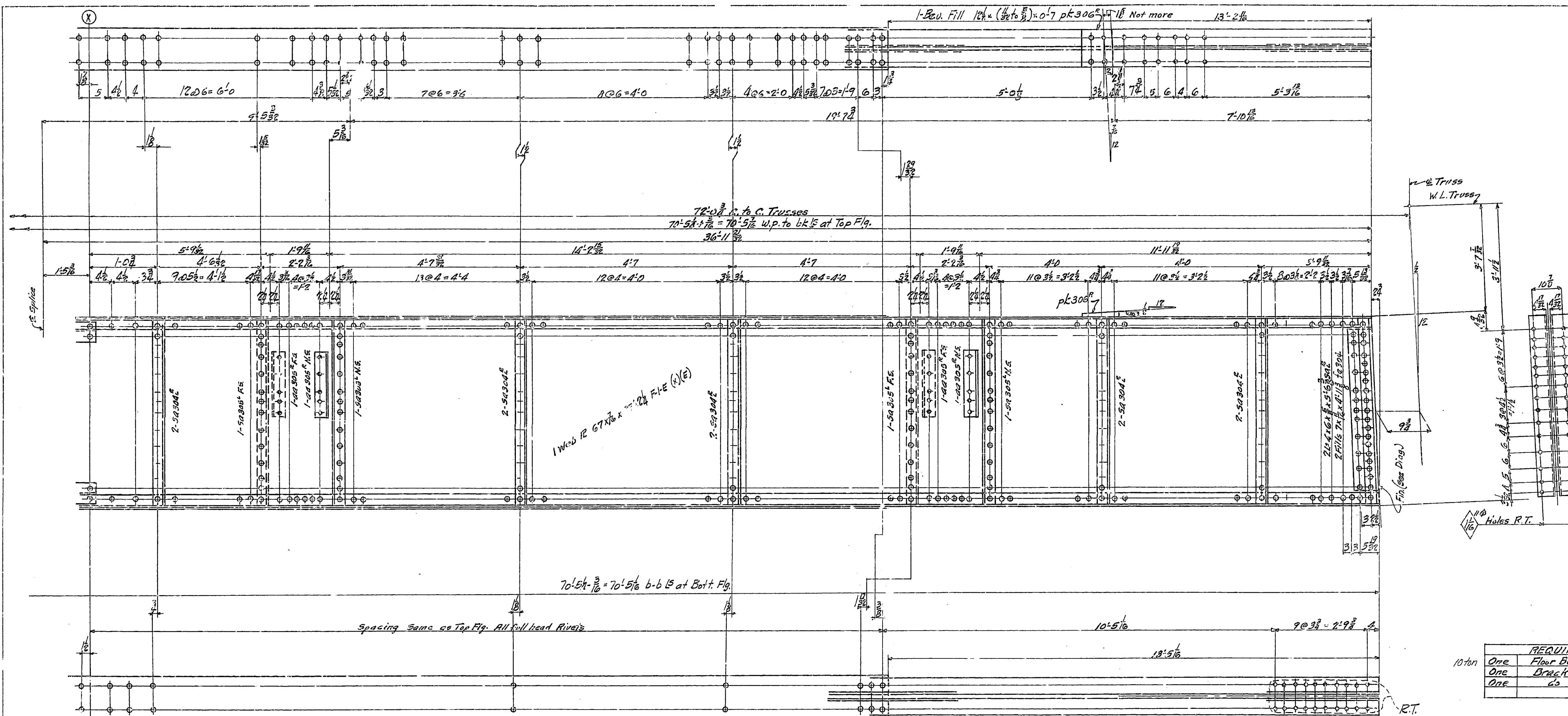


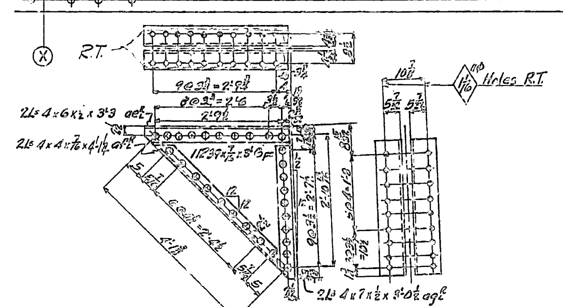
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Detail of Floor Beam and Brackets Upper Deck
Span YB3-YB4
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Ambridge, Pa. PLANT
BY [illegible] TEST OF Temp't.
A. BECK CO. W.H.H. DATE 2-8-34
DETAIL CHECKED BY A.J.H. DATE 2-12-34

APPROVED
Engr. of Unit
Bridge Engineer
Chief Engineer
2-24-34

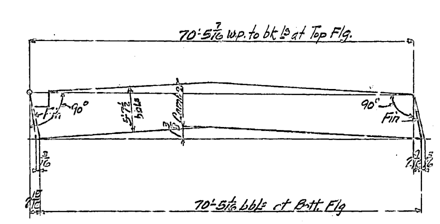
ORDER No. G5101
DETAIL No. 306AB
Supv'g Engr 5215

30-1





UB49



Camber and Finishing Diagram

GENERAL NOTES-

Material- All material O.H. Copper Bearing medium Carbon steel except material marked (x) which is to be O.H. Copper Bearing Silicon steel.
Specifications- Special by State of California, Dep't of Public Works.
Inspection- John M. Bailey- Chief Inspector.
Rivets- 7/8"φ.
Open Holes- 15/16"φ Unless noted.
Reaming- All holes to be subpunched 1/4" and reamed to size while parts are assembled. Holes marked "R.T." to be reamed thru a steel templet. Burrs to be removed from all reamed holes.
Finish- Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least 1/8" of metal.
Shop Paint- None.

10 ton

REQUIRED		
One	Floor Beam	UF22
One	Bracket	UB48
One	do	UB49

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Floor Beam and Brackets Upper Deck
Span YB3 - YB4

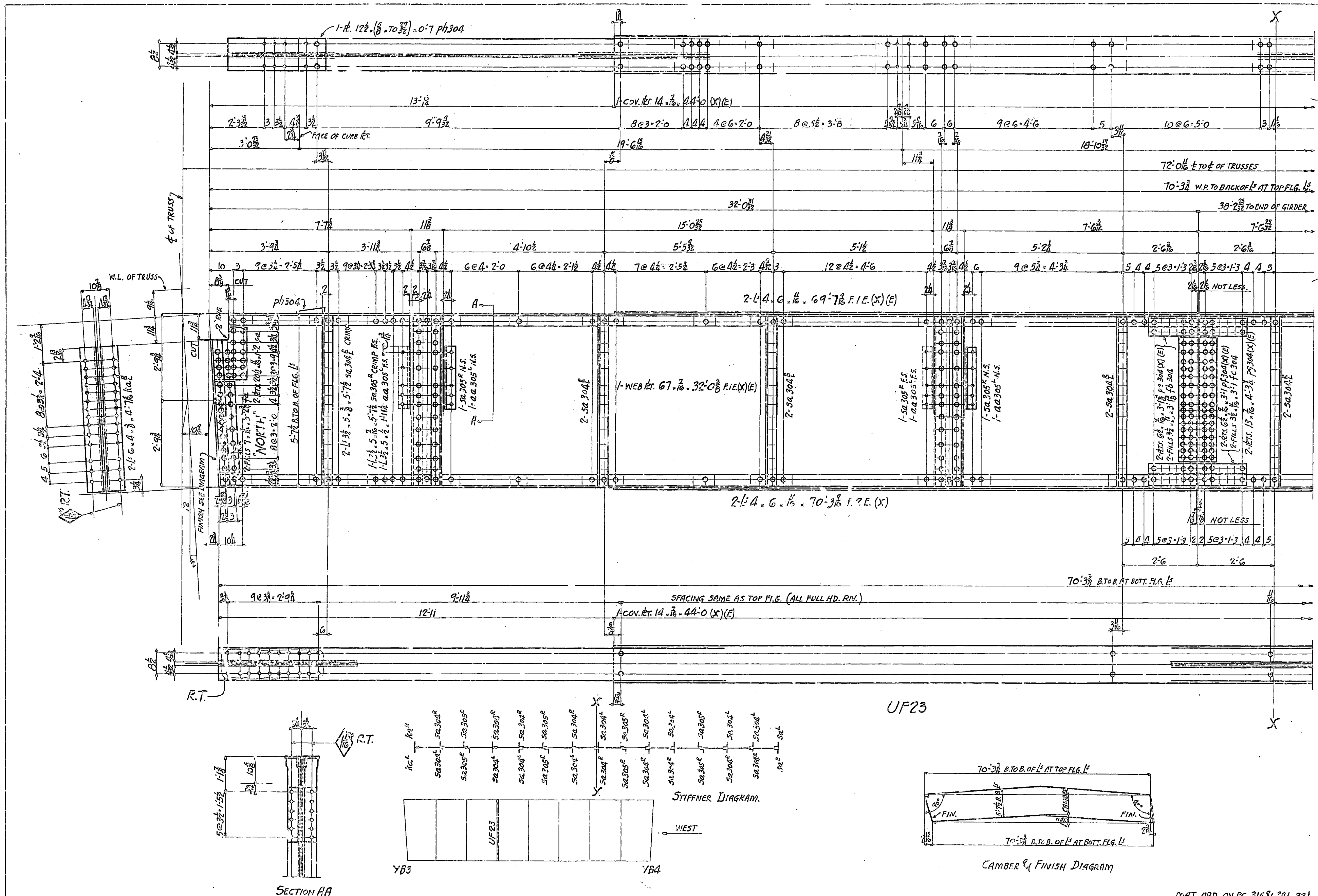
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tempt
DRAW. MADE BY H.M.H. DATE 4-10-34
DRAW. CHECKED BY G.T.N. DATE 5-17-34

Made	Revision	App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Charles Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 5-29-34

ORDER No. G5101 [B&C]
SHEET No. 306B
Shop Bill S215

Mat'l Ord. Pgs. 309-314-207 Line 10-317-H.M.H
Page 331

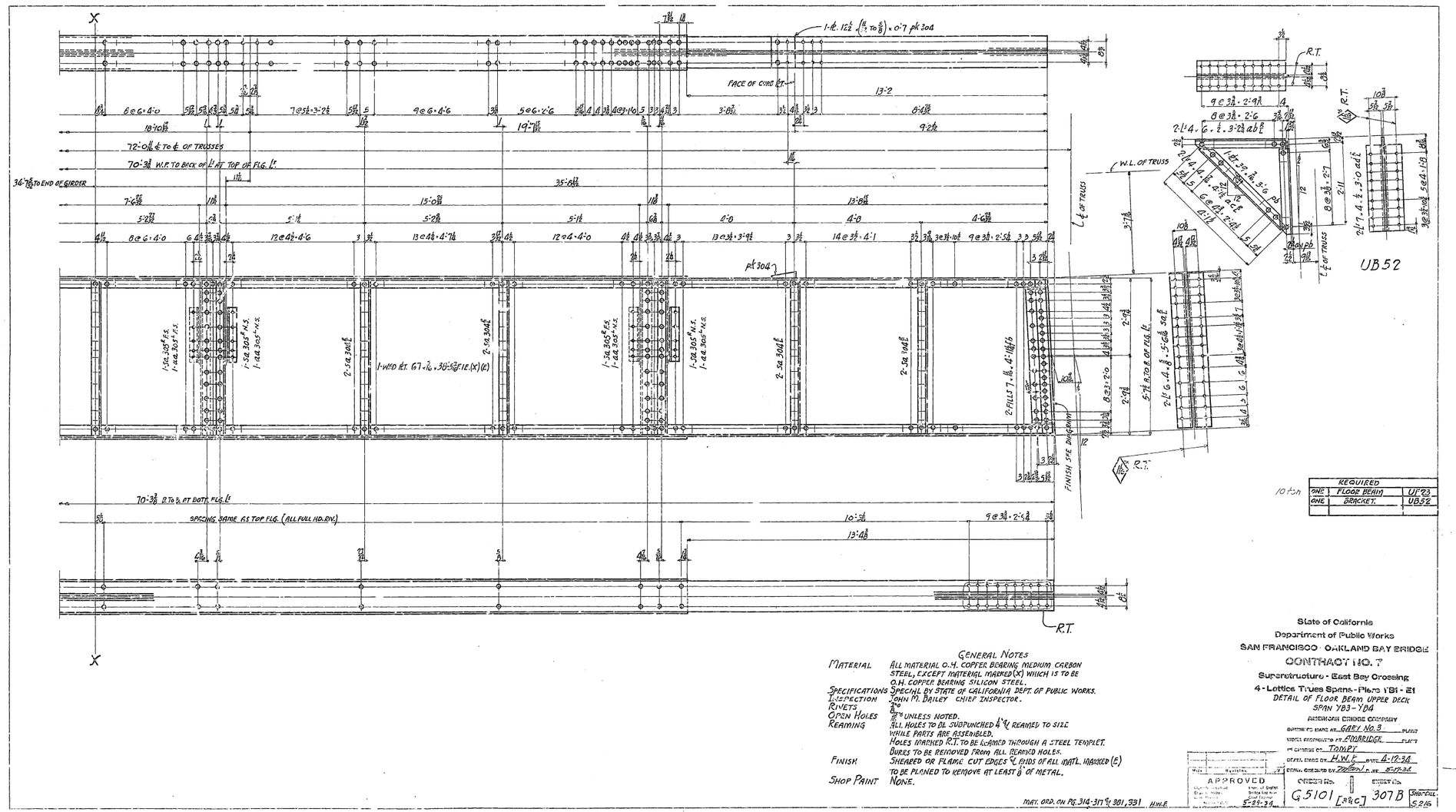


State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
DETAIL OF FLOOR BEAM UPPER DECK
SPAN YB3-YB4

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT GARY NO. 3 PLANT
WORK FABRICATED AT AMBRIDGE PLANT
IN CHARGE OF TOMPT
DRAWN BY H.W.F. DATE 4-10-34
DRAWN. CHECKED BY [illegible] DATE 5-17-34

APPROVED
5-29-34

ORDER No.	SHEET No.	SHOP BILL
G5101	307AB	S216



10 tons

General Notes

MATERIAL	ALL MATERIAL O.H. COPPER BEARING MEDIUM CARBON STEEL, EXCEPT MATERIAL MARKED (X) WHICH IS TO BE O.H. COPPER BEARING SILICON STEEL.
SPECIFICATIONS	SPECIAL BY STATE OF CALIFORNIA DEPT. OF PUBLIC WORKS.
INSPECTION	JOHN M. DAILEY CHIEF INSPECTOR.
RIVETS	7/8" UNLESS NOTED.
OPEN HOLES	ALL HOLES TO BE SUBPUNCHED 4" ℄ REAMED TO SIZE WHILE PARTS ARE ASSEMBLED.
REAMING	HOLES MARKED R.T. TO BE REAMED THROUGH A STEEL TEMPLET. BURRS TO BE REMOVED FROM ALL REAMED HOLES.
FINISH	SHEARED OR FLAME CUT EDGES ℄ ENDS OF ALL MATL. MARKED (E) TO BE PLANED TO REMOVE AT LEAST 1/8" OF METAL.
SHOP PAINT	NONE.

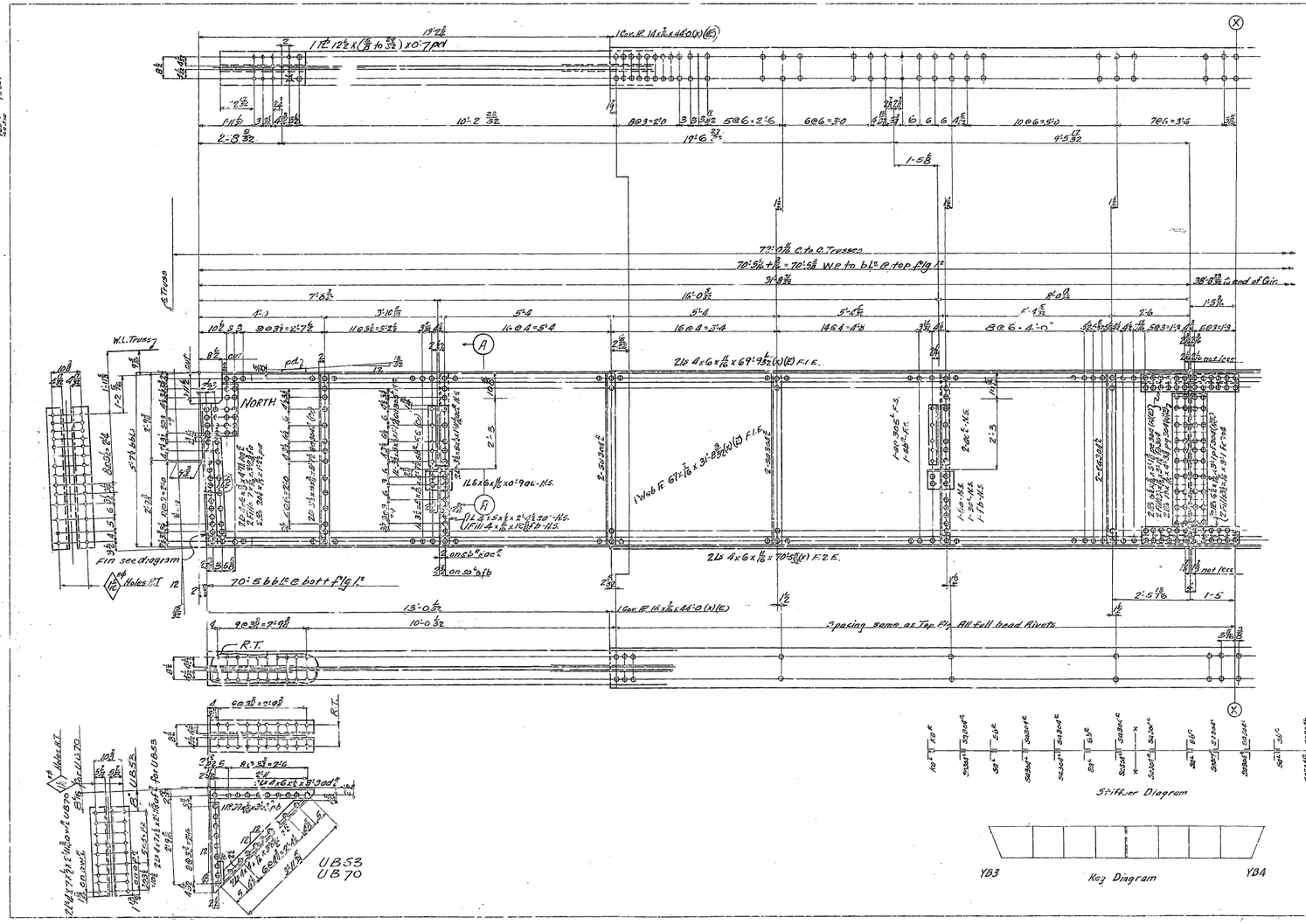
MAT. ORD. ON PG. 314-317 & 301, 331 H.W.E

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Trusses Spans - Piers YB1 - 21
DETAIL OF FLOOR BEAM UPPER DECK
SPAN YB3 - YD4

AMERICAN BRIDGE COMPANY
DRAWING STAND AT GARY No. 3 PLANT
WORK FABRICATED AT EMERYVILLE PLANT
IN CHARGE OF TOMPT
DETAIL DRAWN BY H.W.E DATE 4-17-34
DETAIL CHECKED BY [illegible] DATE 5-17-34

APPROVED
Chief Engineer
Director of Public Works
5-24-34

ORDER NO. G5101 [illegible] 307B
SHEET NO. SHEET 6216

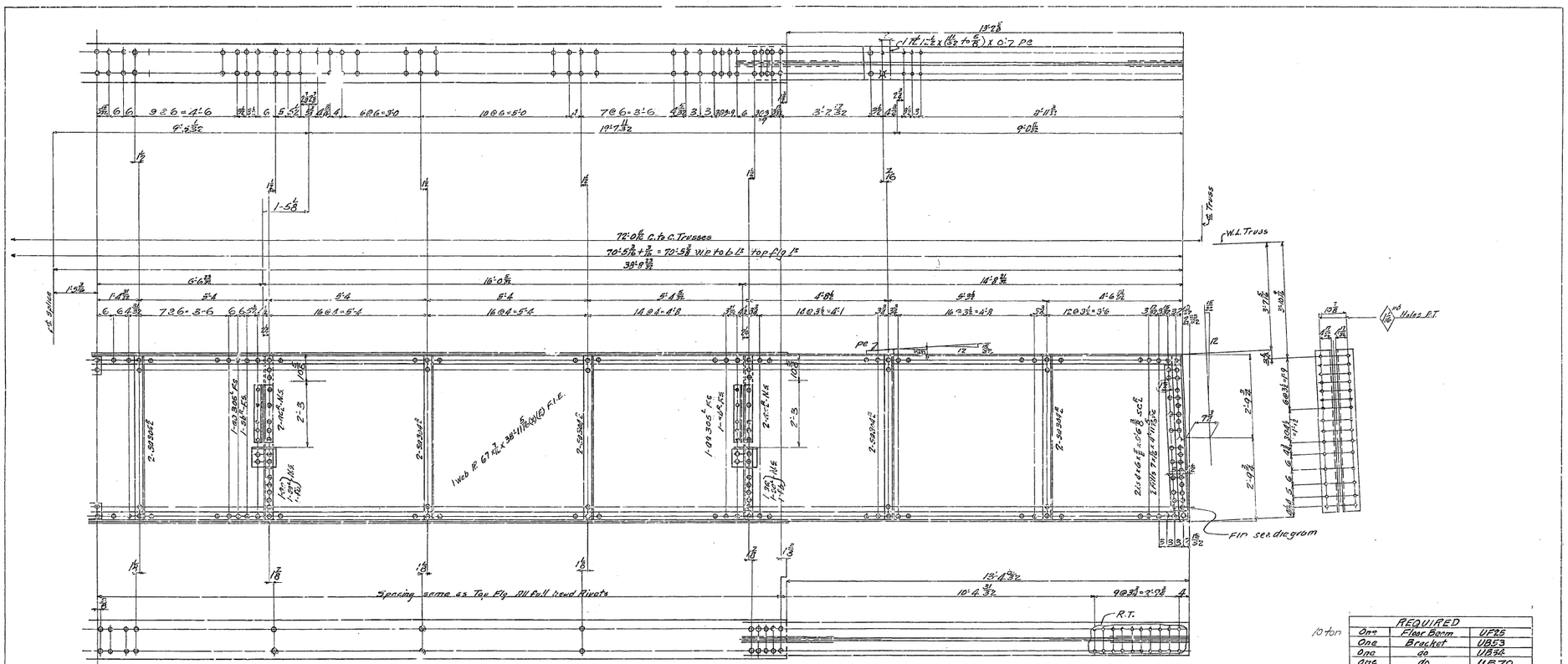


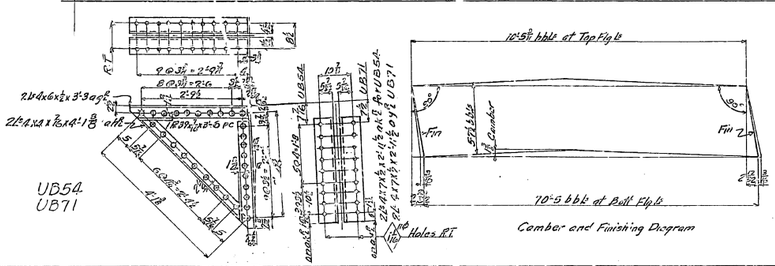
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YE1 - E1
Details of Floor Beam and Brackets Upper Deck
Span YB3 - YB4
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary Ind. PLANT
WORK FABRICATED AT Ambridge PLANT
CHARGE OF Tampt
DRAWN, TRACED BY W.M.H. DATE 4-18-34
PASSED, CHECKED BY Peters DATE 5-16-34

APPROVED
5-25-34

DRAWING NO. G5101
CONTR. NO. 30BAD
SHOP DWG. 6917-23

30-1





General Notes:-

Material:- All material O.H. Copper Bearing medium carbon steel, except material marked (E) which is to be O.H. Copper Bearing Silicon Steel.

Specifications:- Special by State of California Dept of Public Works.

Inspection:- John M Bailey Chief Inspector

Rivets:- 7/8" unless noted.

Open Holes:- 15/16" unless noted.

Reaming:- All holes to be subpunched 1/4" and reamed to size while parts are assembled. Holes marked R.T. to be reamed using steel templet. Burrs to be removed from all reamed holes.

Finish:- Sheared or flame cut edges and ends of all material marked (E) to be planed to remove at least 1/8" metal.

Shop Point:- None.

10 ton

REQUIRED		
One	Floor Beam	UF25
One	Bracket	UB53
One	do	UB54
One	do	UB70
One	do	UB71

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YF1 - E1
Details of Floor Beam and Brackets Upper Deck
Spans Y33-Y34
MACHINERY DESIGN COMPANY

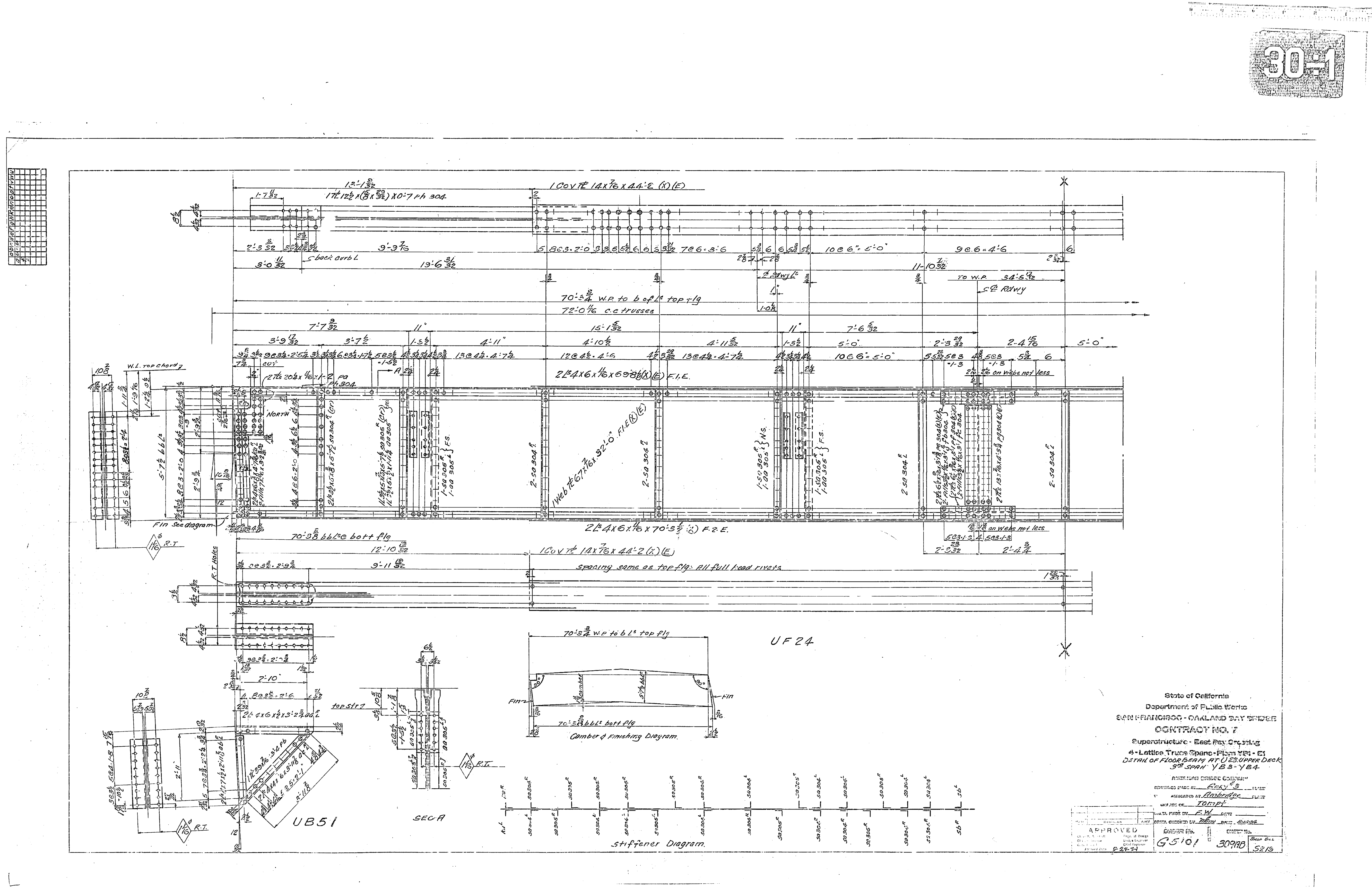
ORIGINAL MADE BY Gary #3 PLATE
WORK PERFORMED BY Rawlings DATE
APPD BY Tompkins
PERS. CHKD BY H.M.H. DATE 1-13-36
DETAIL CHECKED BY W.Bond DATE 5-10-33

Mark	Revision	Appd

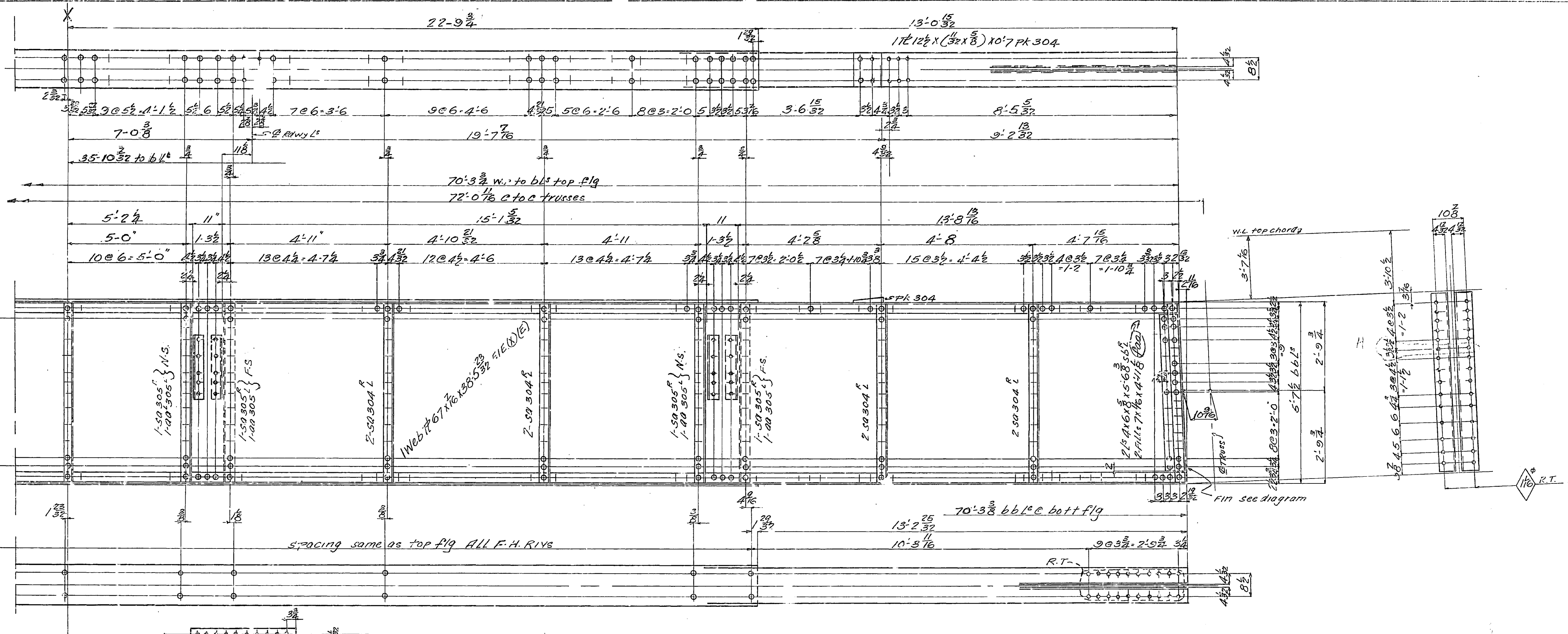
APPROVED
Engr. of Design — Bridge Engineer — Chief Engineer
Approved Nov. 25-29

ORDER No. G-5101 [DLC]
SHEET No. 3083
SHEET SHELL 6217-218

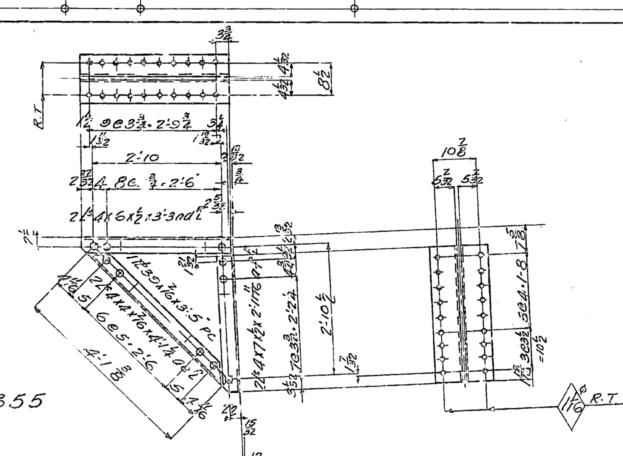
Mat'l Ord. Pgs SBC-513-517-H.M.H.


30-1
1 Cov ℞ 14x7/16x44'-2 (X)(E)
70'-3 3/4 W.P. to b of L^s top flg
72'-0 11/16 c.c trusses
2L^s 4x6x11/16x69'-8 (X)(E) F.I.E.
1 Web ℞ 67x7/16x32'-0 F.I.E.(X)(E)
2L^s 4x6x11/16x70'-5 1/2 F.2.E.
70'-3 3/8 bbl^s @ bott flg
Spacing same as top flg: All full head rivets
UF24
UB51
SEC A
Camber & Finishing Diagram.
Stiffener Diagram.
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
DETAIL OF FLOOR BEAM AT U23 UPPER DECK
3rd SPAN YB3-YB4
AMERICAN BRIDGE COMPANY
APPROVED
Approval Date 5-29-34
G5101
309AB
SHOP BILL
5219

30-1



UF24



UB55

GEN NOTES:-

MATERIAL:- All material O.H. Copper bearing medium carbon steel except material marked (X) which is O.H. Copper bearing Silicon Steel.

SPECIFICATIONS:- Special by State of California Dept of Public Works.

INSPECTION:- John M Bailey Chief Inspector.

RIVETS ⅞ϕ

OPEN HOLES 15/16ϕ Unless noted.

REAMING:- All holes to be subpunched ¼" and reamed to size while parts are assembled. Holes marked R.T to be reamed thru a steel templet. Burrs to be removed from all reamed holes.

FINISH:- Sheared or flame cut edges and ends of all material marked (E) to be planed to remove at least ⅛" of metal.

SHOP PAINT:- None.

10 ton

REQUIRED		
1	FLOOR BEAM	UF24
1	BRACKET	UB51
1	"	UB55

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
DETAIL FLOOR BEAM AT U23 UPPER DECK
3rd SPAN YB3-YB4

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
... Tompt
DR. MADE BY F.W. DATE 4-12-34
DRAW. CHECKED BY MM DATE 5-15-34

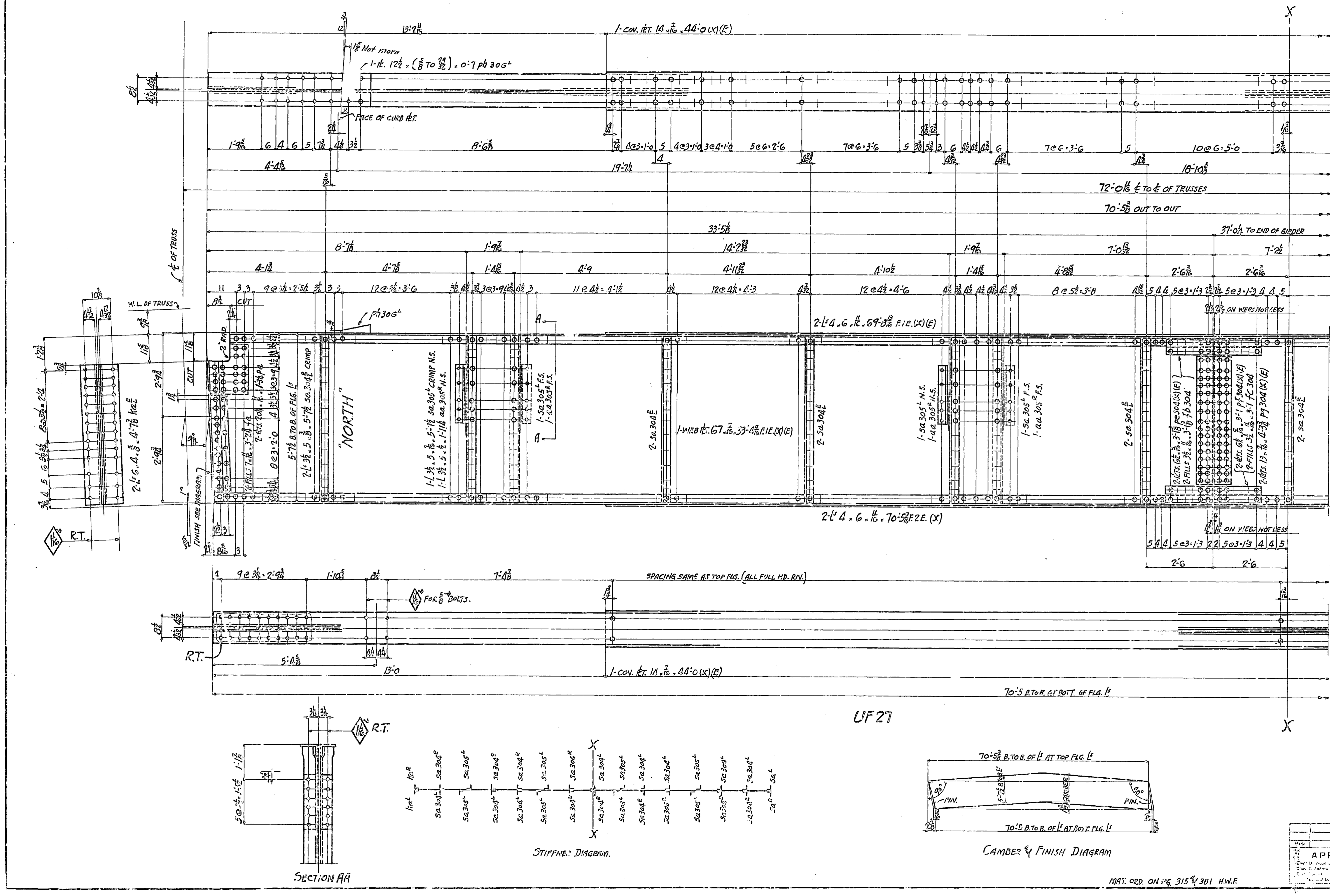
(A)	7-13-35	Holes in sb. Assembly Mark for	
Mark		Revision	Appd

APPROVED
Approved Date 5-29-34

ORDER No. G5101 [BoC] SHEET No. 309B SHOP BILL S219

Mat'l ord P380 L18 to 19 (Incl)

30-1



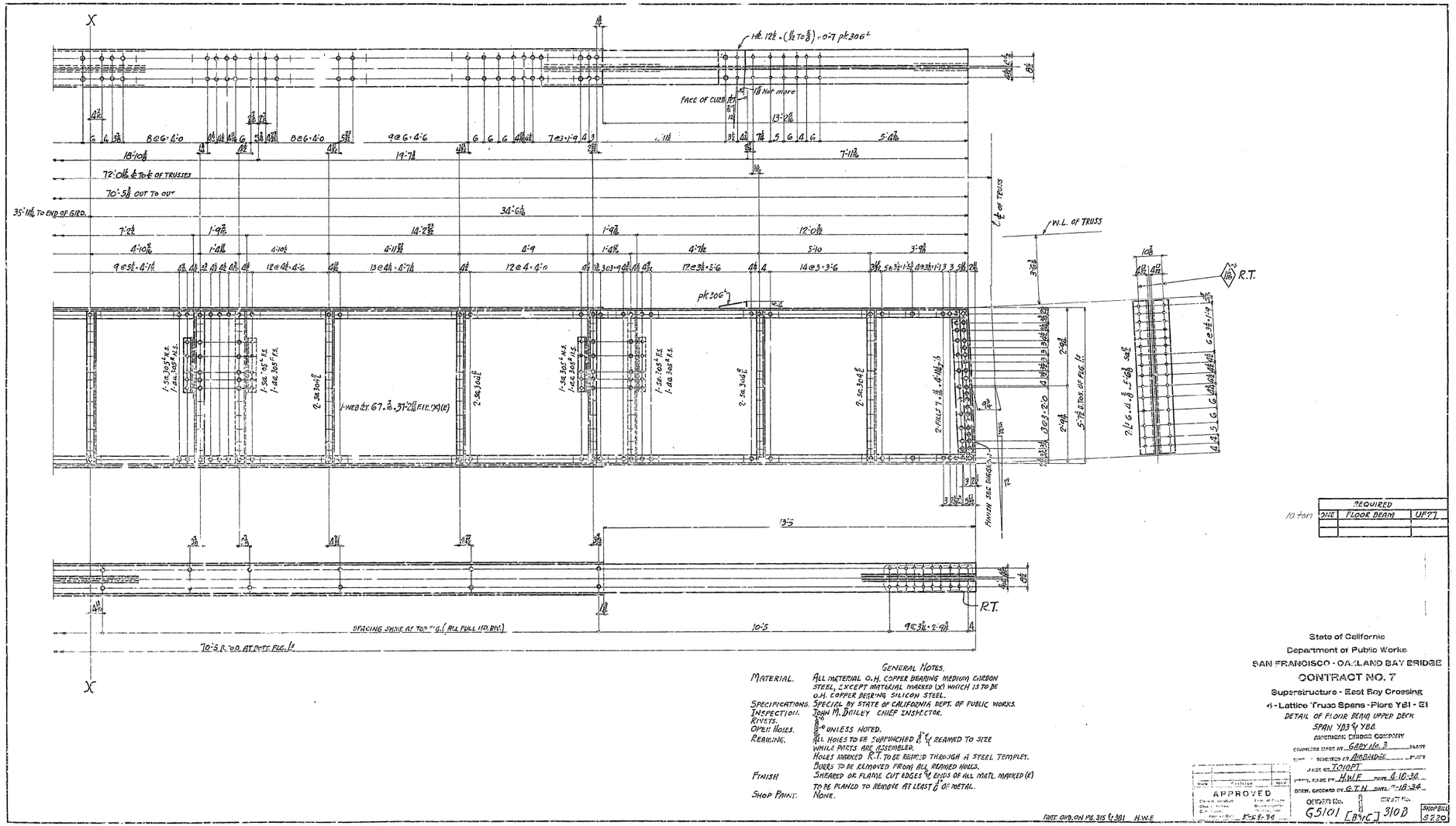
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
DETAIL OF FLOOR BEAM UPPER DECK
SPAN YB3 - YB4

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT GARY NO. 3 PLANT
WORK FABRICATED AT AMBRIDGE PLANT
IN ... OF TOMPT
DRAW. MADE BY H.W.F. DATE 4-16-34
DRAW. CHECKED BY G.T.N. DATE 5-18-34
ORDER No. G5101
SHEET No. 310 AB
SHOP BILL S220

Made	Revision	App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 5-29-34

305-1



REQUIRED		
ONE	FLOOR BEAM	UP 27

10 ton

General Notes.

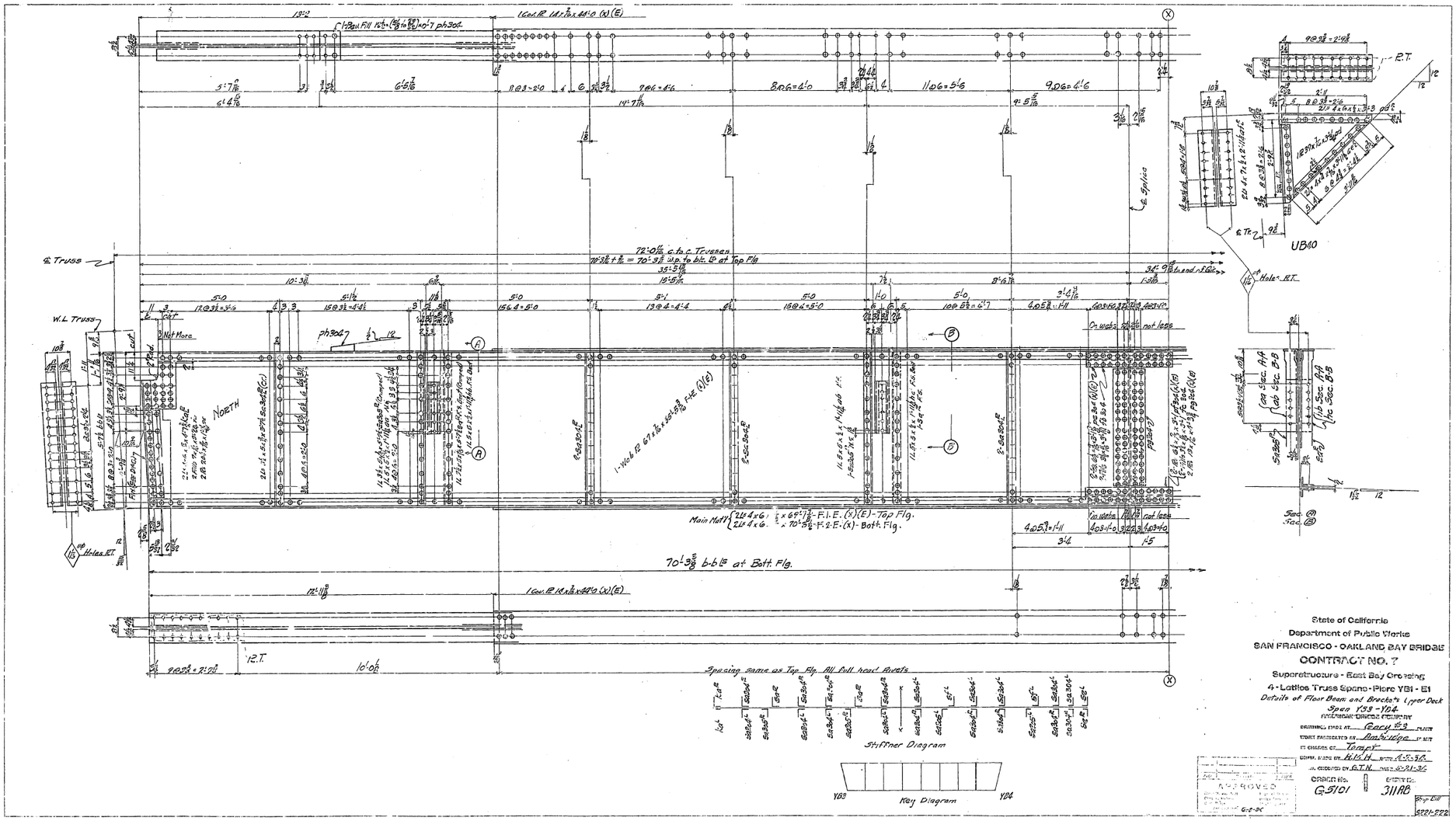
MATERIAL.	ALL MATERIAL O.H. COPPER BEARING MEDIUM CARBON STEEL, EXCEPT MATERIAL MARKED (X) WHICH IS TO BE O.H. COPPER BEARING SILICON STEEL.
SPECIFICATIONS.	SPECIAL BY STATE OF CALIFORNIA DEPT. OF PUBLIC WORKS.
INSPECTION.	JOHN M. DAILEY CHIEF INSPECTOR.
RIVETS.	¾" ø UNLESS NOTED.
OPEN HOLES.	ALL HOLES TO BE SUBPUNCHED ¼" & REAMED TO SIZE WHILE PARTS ARE ASSEMBLED.
REAMING.	HOLES MARKED R.T. TO BE REAMED THROUGH A STEEL TEMPLET. BURRS TO BE REMOVED FROM ALL REAMED HOLES.
FINISH	SHEARED OR FLAME CUT EDGES & ENDS OF ALL MATL. MARKED (E) TO BE PLANED TO REMOVE AT LEAST ⅛" OF METAL.
SHOP PAINT.	NONE.

NOT SHD. ON PG. 315 (381 H.W.E.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
6 - Lattice Truss Spans - Piers Y31 - E1
DETAIL OF FLOOR BEAM UPPER DECK
SPAN Y33 & Y32
AMERICAN BRIDGE COMPANY
DRAWING MADE AT GARY No. 3 PLANT
TURN - SHRUNK TO AMBRIDGE PLANT
ISSUED ON 7/21/37
MATL. PLACED BY H.W.F DATE 4-10-38
DRAW. CHECKED BY G.T.N DATE 4-10-38

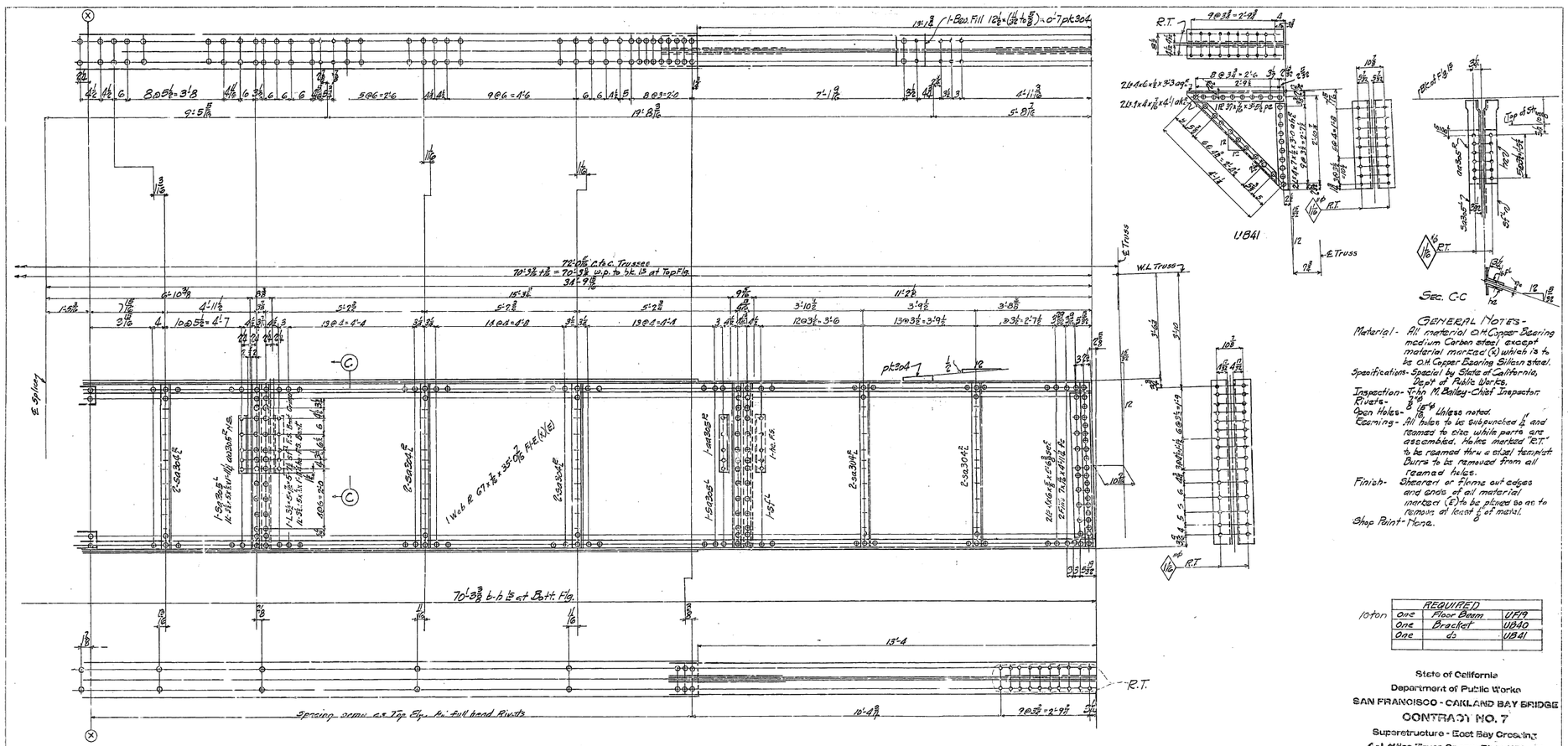
No.	Position	Date
	APPROVED	
	Engr. of Tests	
	Supervising Engr.	
	Asst. Engr.	5-23-38

DESIGN No. G5101 [B4C] CONTR'T No. 310 D SHOP BILL 9220



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y03 - E1
Details of Floor Beam and Brackets Upper Deck
Spans Y03 - Y04
SOUTHERN PACIFIC COMPANY
DRAWING MADE AT Gary Ind. PLANT
WORK FABRICATED BY Pacific Coast Co. OF MILPITAS
IT CHARGES OF Tompt
DRAWN BY H.V.H. DATE 4-5-36
CHECKED BY G.T.N. DATE 6-21-36
ORDER No. G-5101
DRAWING No. 311AB
APPROVED
6-8-36
6221-222

30-1



GENERAL NOTES

Material - All material of M Copper Bearing medium Carbon steel, except material marked (K) which is to be of M Copper Bearing Silicon steel.

Specifications - Special by State of California, Dept of Public Works.

Inspection - John M. Bailey - Chief Inspector.

Rivets - ⅞" ø, 15/16" ø unless noted.

Open Holes - Burrs to be removed from all reamed holes.

Reaming - All holes to be subpunched 1" and reamed to size while parts are assembled. Holes marked "R.T." to be reamed thru a steel template.

Finish - Sheared or flame cut edges and ends of all material inspected (E) to be planed so as to remove at least ½" of metal.

Shop Paint - None.

10 ton	REQUIRED		
	One	Floor Beam	UB19
	One	Bracket	UB40
	One	do	UB41

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers - YB1 - E1
Details of Floor Beam and Brackets Type-Deck
Spans YB4-YB6
AMERICAN BRIDGE COMPANY
DRAWING'S MADE AT Gary #9 PLANT
WORK SUPERVISED BY Ambridge IN CHARGE OF Tempit
DRAWN BY M.M.H. DATE 6-9-34
CHECKED BY G.T.N. DATE 5-21-34
ORDER No. G-5101 CHART No. 311B [B&C] Shop Bill S221-222

G&S 31

Mat'l Ord Pys. 381-315-317-M.M.H.

1 Con. IR 14-7/16 x 44'-0 (X) (E)

1-Bev. Fill 12-1/2 x (5/8 to 29/32) x 0'-7 ph30#

℄ Truss 2

℄ Roadway

R.T. Holes

"NORTH"

Fin (sec deg)

1-L 4 x 6 x 7/16 x 70'-0-3/8 (X) (E)-NS.

1-L 4 x 6 x 7/16 x 70'-1-1/8 (X) (E)-NS.

1-Web IR 67-7/16 x 36'-8 (X) (E)

UF28

2-L 4 x 6 x 7/16 x 70'-9 9/16 (X) F-E

1-Web IR 67-7/16 x 32'-3 29/32 (X)(E)

70'-9 5/8 - 7/8 = 70'-8 3/4 b-b LS of bk. of Bolt Flg. Is

72'-1 29/32 ℄ to ℄ Trusses

70'-9 5/8 + 7/8 - 70'-9 1/2 upstands of bt. of Top Flg. Is

30'-0 7/8

32'-0 29/32

8'-0 1/8

2'-0 1/8

Not More 2½ on web

Spacing same as for Top Flg (All full-head shop rivets)

1- Con. IR 14 x 7/16 x 44'-0 (X) (E)

R.T.

Sects A-A, B-B & C-C

STIFF DIAG.

70'-9 29/32 b-b ℄ of bk. of Top Flg. Is

Face of Conn.

Fin.

Camber

70'-8 29/32 b-b Is of bk. of Bolt Flg. Is

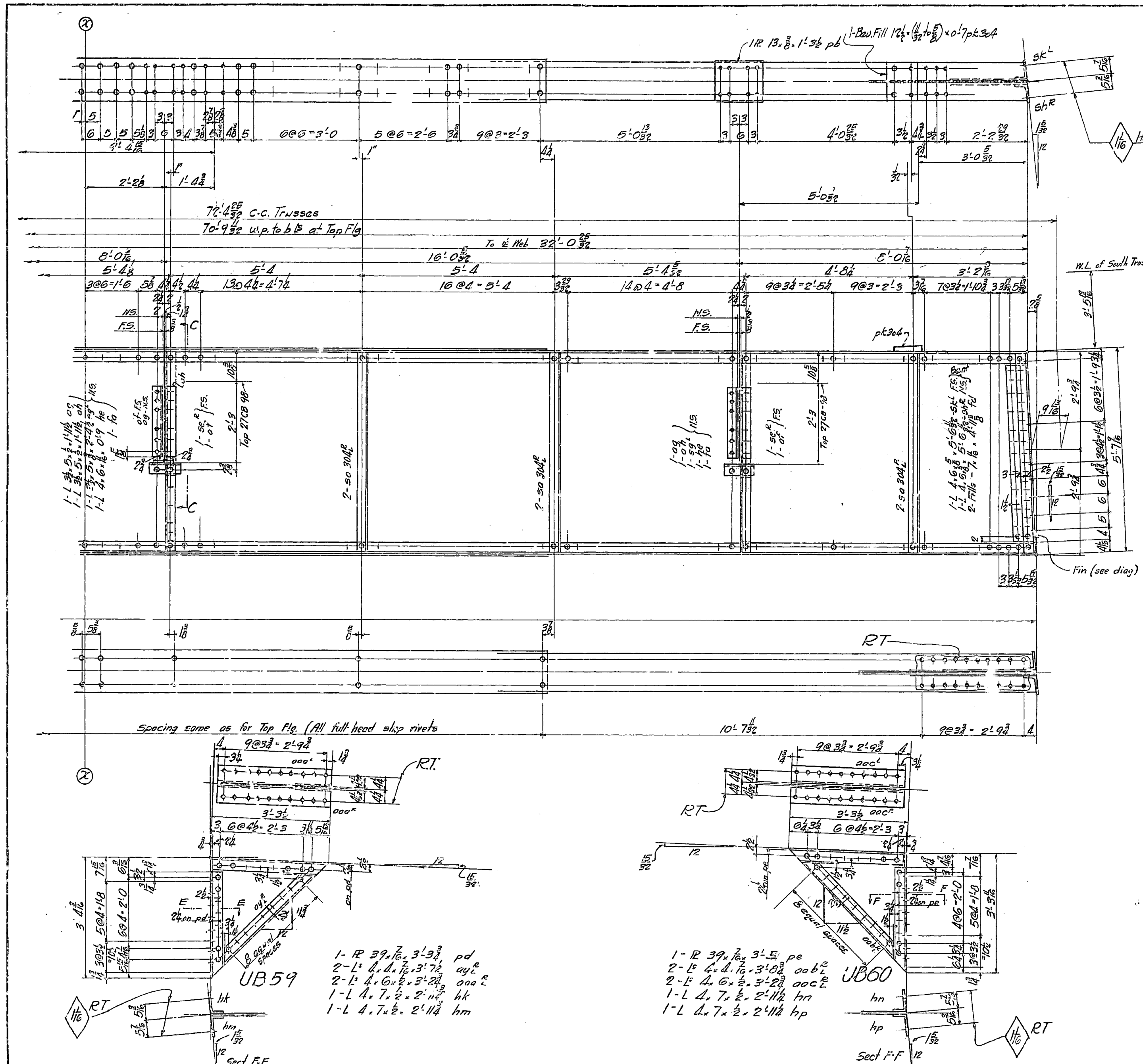
FINISHING & CAMBER DIAG.

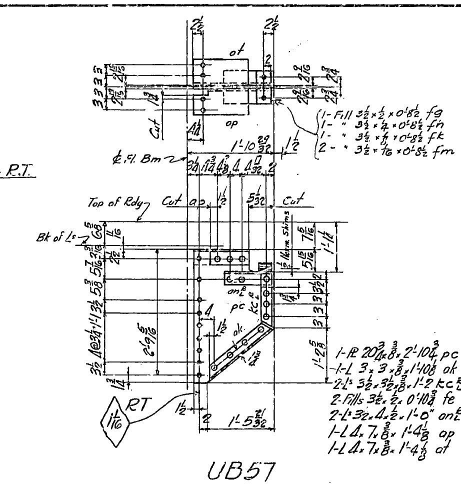
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y31 - E1
Details of Upper Deck Fl. Bms & Brackets
Span 1183 - 1184
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Ambridge, Pa. PLANT
INSPECTED BY Tamot
DETAIL MADE BY DRP DATE 4-16-34
CHECKED BY [illegible] DATE 5-10-34

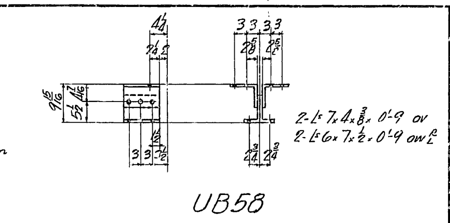
APPROVED
5-29-34

ORDER No. G5101
DWG. No. 312 AB

30-1







REQUIRED			
10-ton	One	Floor Beam	UF28
	4	Brackets	UB57
	4	"	UB58
	One	"	UB59
	One	"	UB60

Gen'l Notes –
Material – All material O.H. copper-bearing medium carbon steel except material marked (X) which is O.H copper-bearing silicon steel.
Specifications – Special by State of California – Dept of Public Works.
Inspection – John M. Bailey – Chief Insp.
Rivets – ⅞"φ
Open Holes – $\frac{15}{16}$"φ unless noted.
Reaming – All holes to be subpunched ¾" and reamed to size while parts are assembled.
Holes marked "RT" to be reamed thru a steel templet.
Burrs to be removed from all reamed holes.
Finish – Sheared or flame-cut edges and ends of material marked (E) to be planed to remove at least ⅛" of metal.
Shop Paint – None.

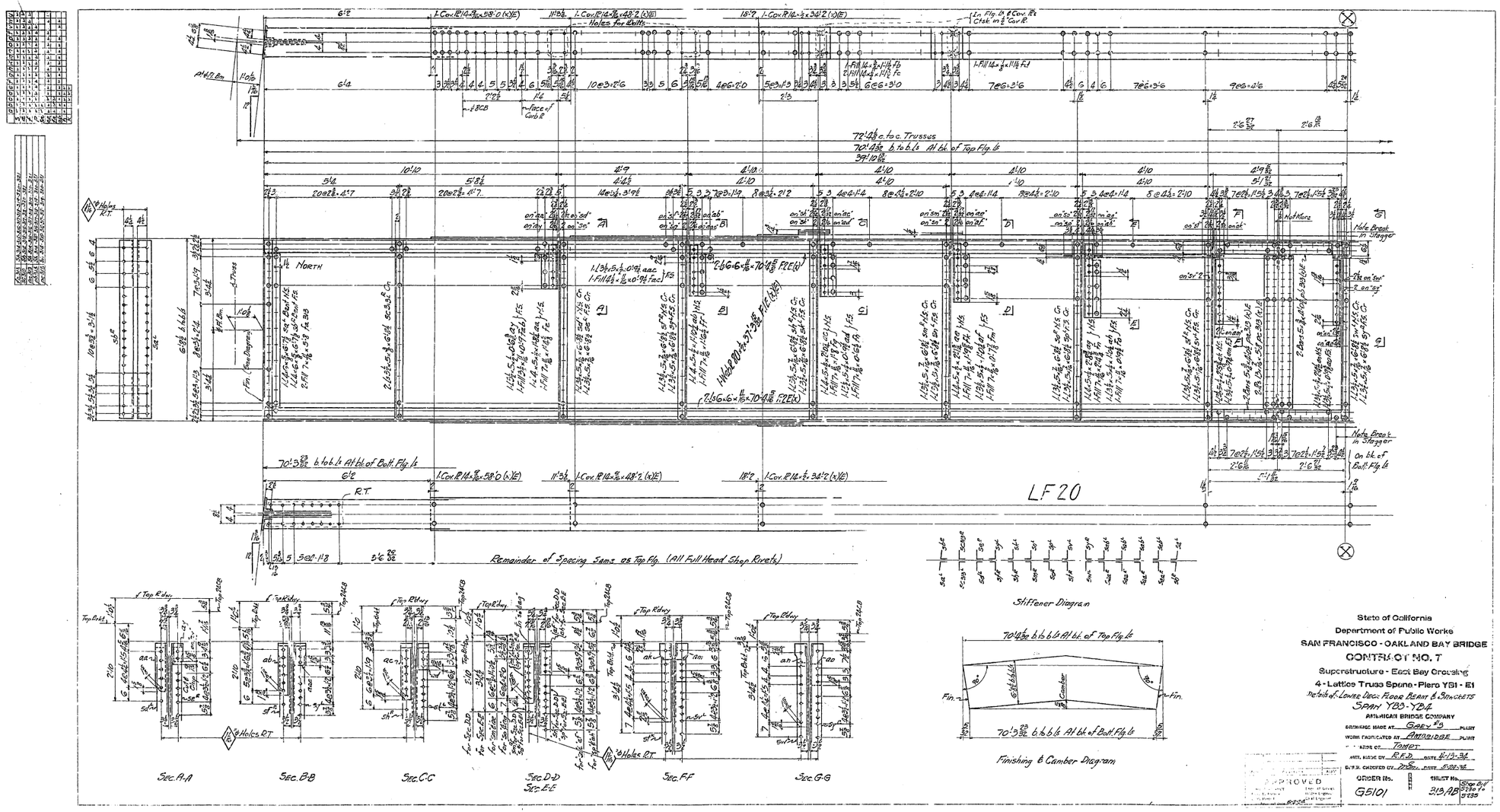
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Upper Deck Fl. Bm. & Brackets
Span YB3 - YB4

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
CHARGE OF Tompt
DRAW. MADE BY H.R.L. DATE 4-17-34
DRAW. CHECKED BY M.B.W. DATE 5-15-34
ORDER NO. G5101 [B&C] SHEET NO. 312 B
Shop Bill 8223-224

APPROVED
5-29-34

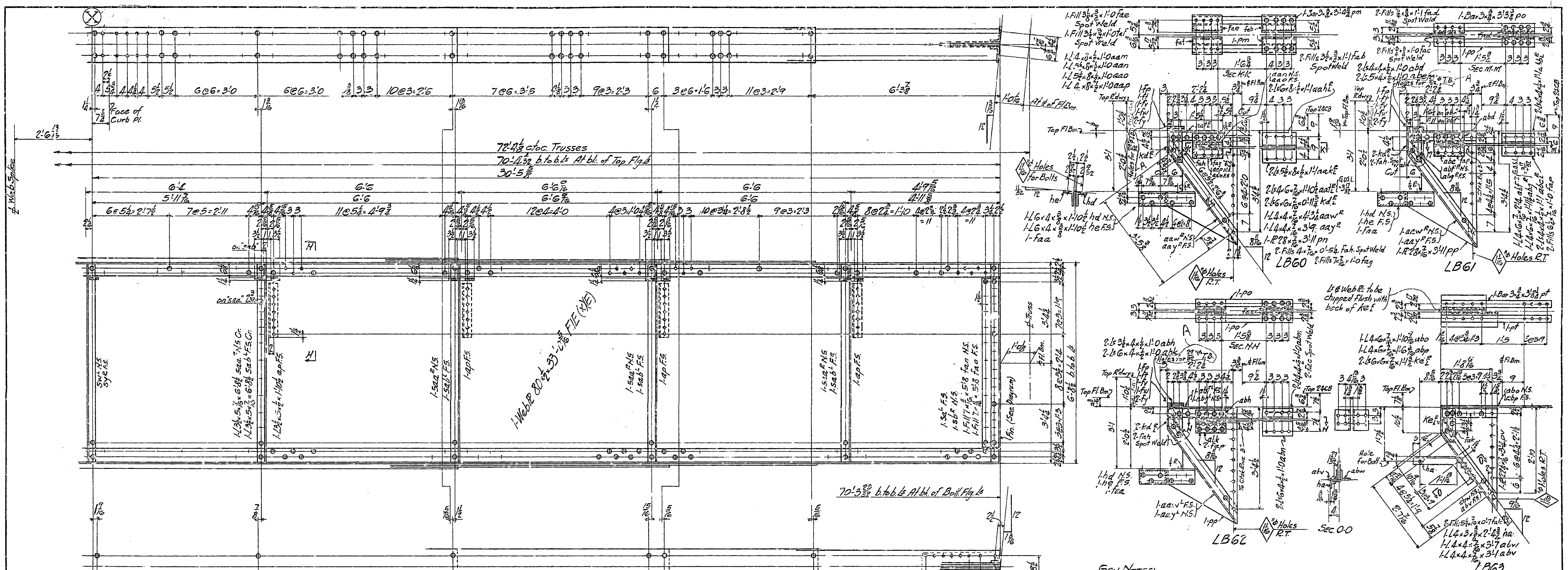
Mat Ord Pgs 317; 379 H.R.L.
Pg 5,L22; 331

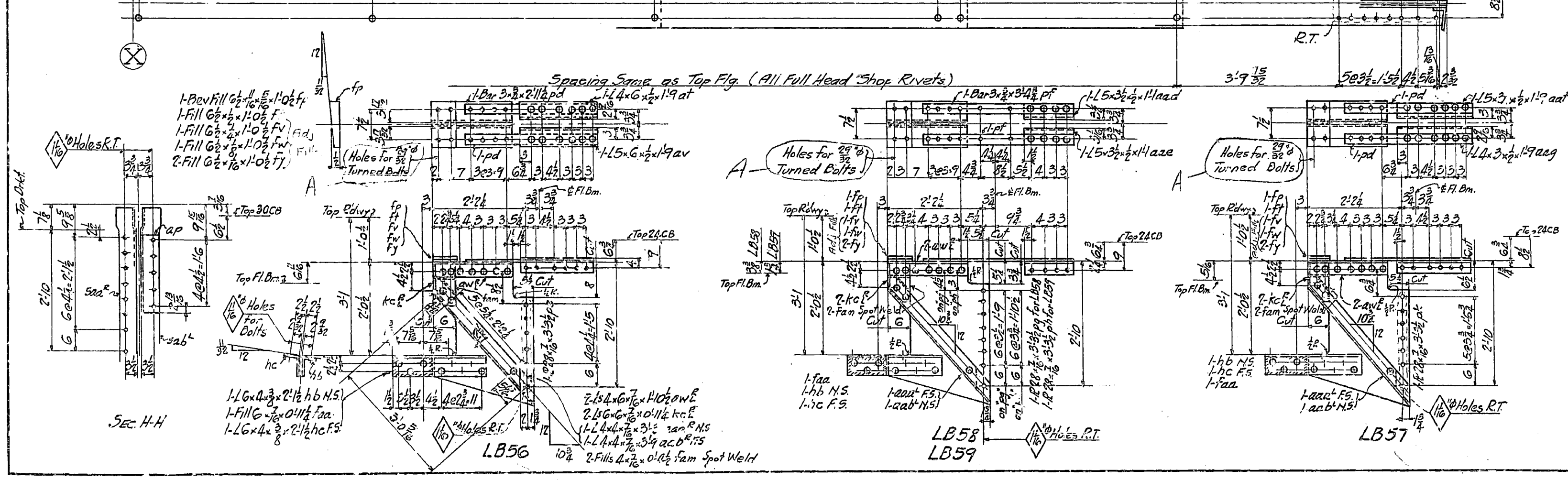
30-1



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Lower Deck Floor Beam & Brackets
SPAN YB3 - YB4
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Ambridge PLANT
" " ASSD. BY Tomot
ANTI. ASSD. BY R.F.D. DATE 4-13-36
E.B.B. CHECKED BY [illegible] DATE 5-20-36

APPROVED
ORDER No. G5101
SHEET No. 313AB
Stage B of 5230 to 5235





GEN. NOTES:-
Material: All material O.H. Copper Bearing medium carbon steel except material marked (x) which is to be O.H. Copper Bearing Silicon Steel.
Specifications:- Special by State of California Dept. of Public Works.
Inspection:- John M. Bailey - Chief Inspector.
Rivets:- 7/8"⌀
Open Holes:- 15/16"⌀ Unless Noted
Reaming:- All holes to be subpunched 1/4" and reamed to size while parts are assembled. Holes marked R.T. to be reamed thru a steel templet. Burrs to be removed from reamed holes.
Finish:- Sheared or Flame Cut Edges and Ends of all material marked (E) to be planed to remove at least 1/8" of metal.
Shop Paint:- None.

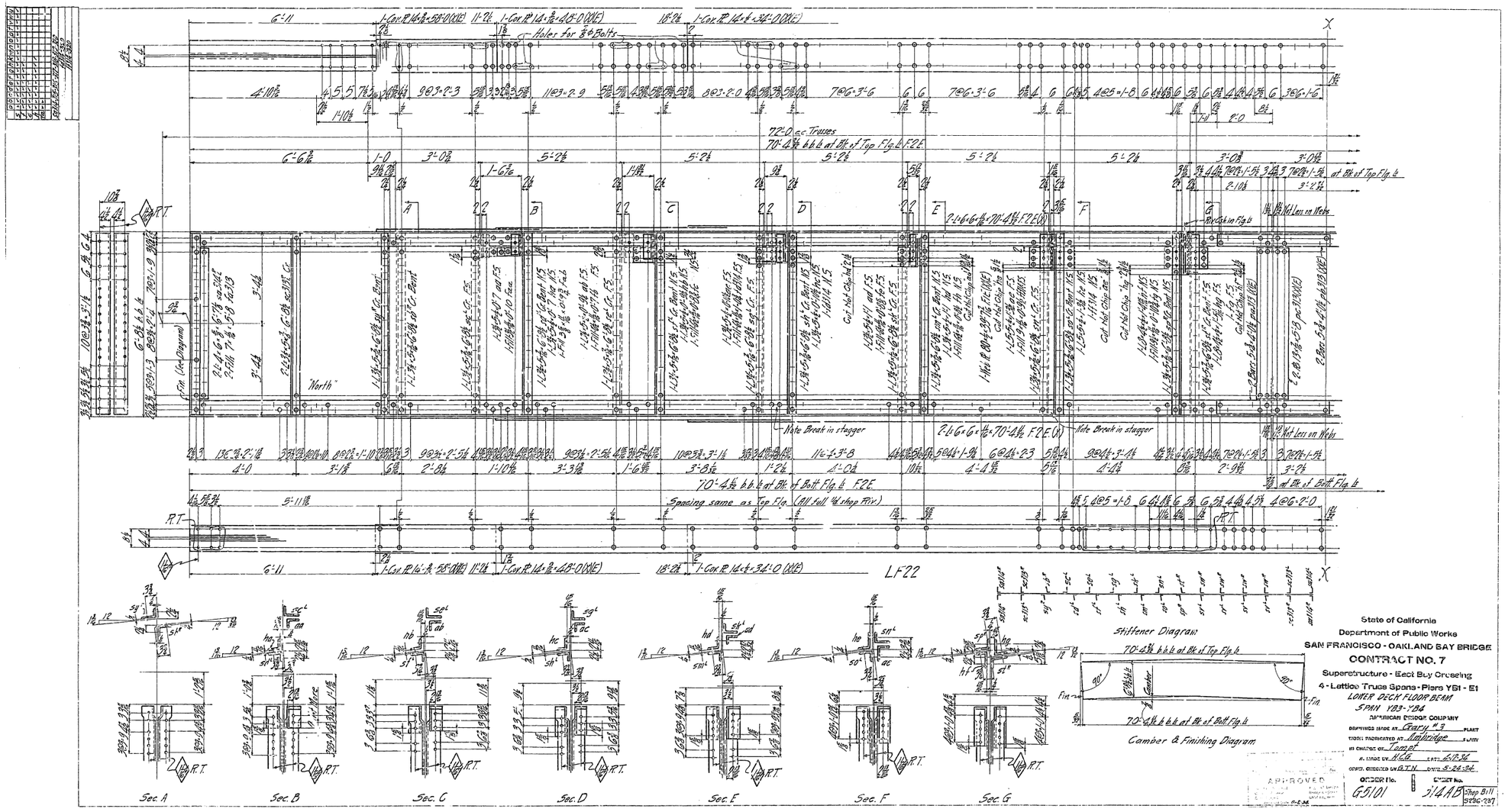
	REQUIRED		
16 Ton	1	Lower Deck Floor Beam	LF20
–	1	Lower Deck Bracket	LB56
–	1	do	LB57
–	1	do	LB58
–	1	do	LB59
	1	do	LB60
	1	do	LB61
	1	do	LB62
	4	do	LB63

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of: Lower Deck Floor Beam & Brackets
Span YB3-YB4

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
ARGS OF Tompt
DRAW. MADE BY R.F.D. DATE 4-20-34
DRAW. CHECKED BY [illegible] DATE 5-24-34
ORDER No. G5101 [B&C] SHEET No. 313B Shop Bill 5230 to 5235

A 7-3-34 Mark Holes for T.B.
APPROVED
Approval Date 6-8-34

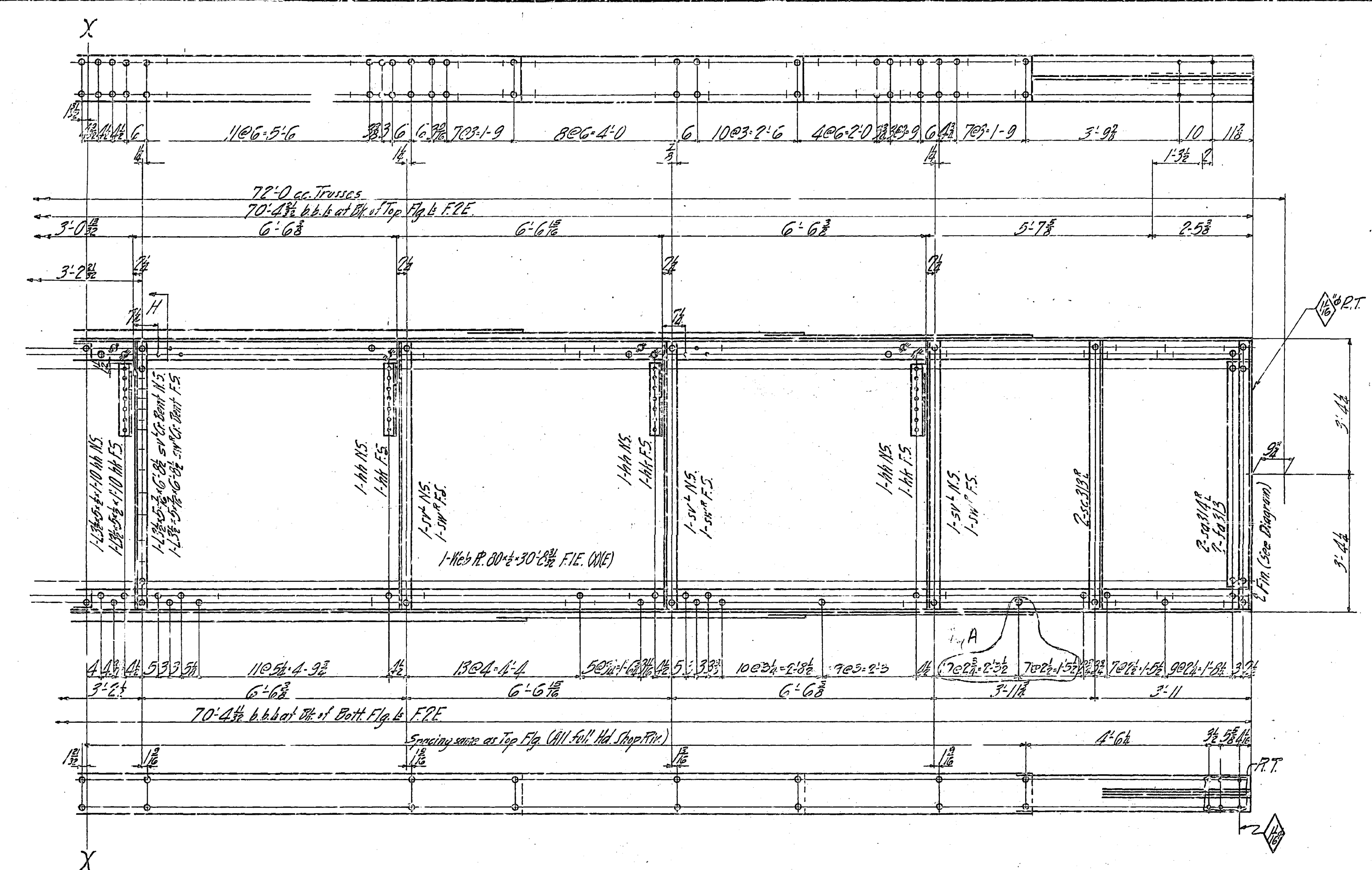
Mat'l. Ord. pgs. 382, 319, 322, 323 & 330

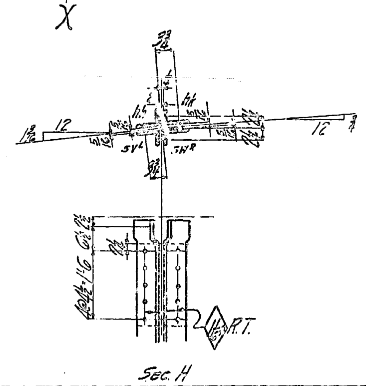


State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
LOWER DECK FLOOR BEAM
SPAN YB3-YB4
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary No 3 PLANT
WORK FABRICATED AT Ambridge SHOPS
IN CHARGE OF Tampt
A. DRAWN BY W.H.E. DATE 6-12-34
CHECKED BY B.T.N. DATE 5-24-34
ORDER No. G5101 CHECK No. 3/4AB Shop Bill 9286-287

APPROVED

30-1





16 T

REQUIRED		
1	Floor Beam	LF22

Gen. Notes:
MATERIAL: All material O.H. Copper Bearing medium Carbon Steel, except material marked (X) which is O.H. Copper Bearing Silicon Steel
SPECIFICATIONS: Special by State of California, Dept. of Public Works.
INSPECTION: John M. Bailey - Chief Inspector
RIVETS: ⅞ φ ~ OPEN HOLES: $\frac{15}{16}$ φ Unless noted
REAMING: All Holes to be subpunched ¼" and reamed to size while parts are assembled. Holes marked "R.T." to be reamed thru a steel templet. Burrs to be removed from all reamed holes.
FINISH: Sheared or flame cut edges and ends of all material marked (E) to be planed to remove at least ⅛ of metal
SHOP PAINT: None.

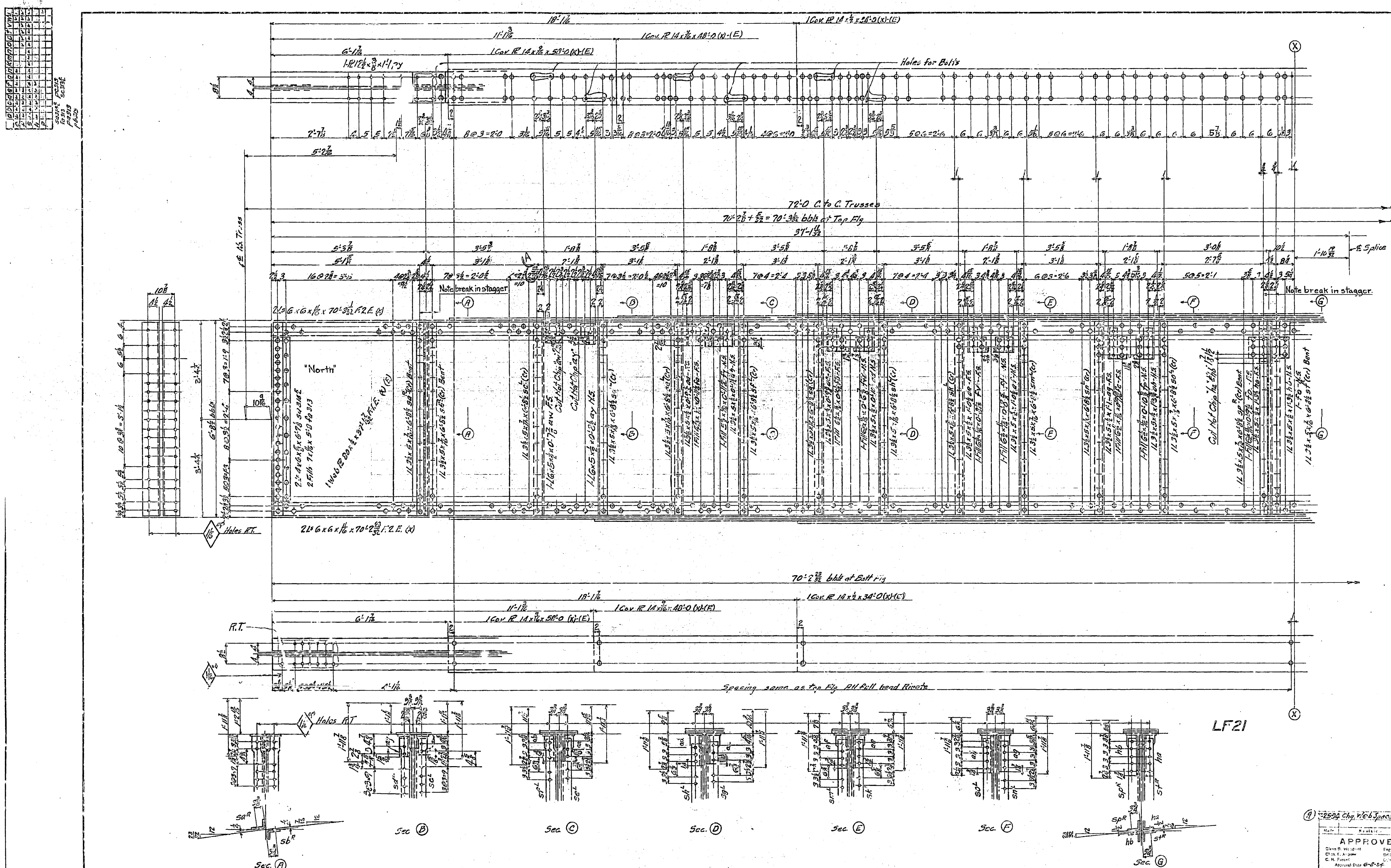
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
LOWER DECK FLOOR-BEAM
SPAN YB3 - YB4
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
... Tompt
DWG. MADE BY H.C.G. DATE 4-16-34
DRAW. CHECKED BY G.T.N. DATE 5-24-34
ORDER No. G5101 [B&C]
SHEET No. 314B
Shop Bill 5226-237

(A) T-253 Chg. Web Spacing
Made | Revision | App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 6-8-34

Mat. Ord. P. 320-2589 H.C.G.

30-1



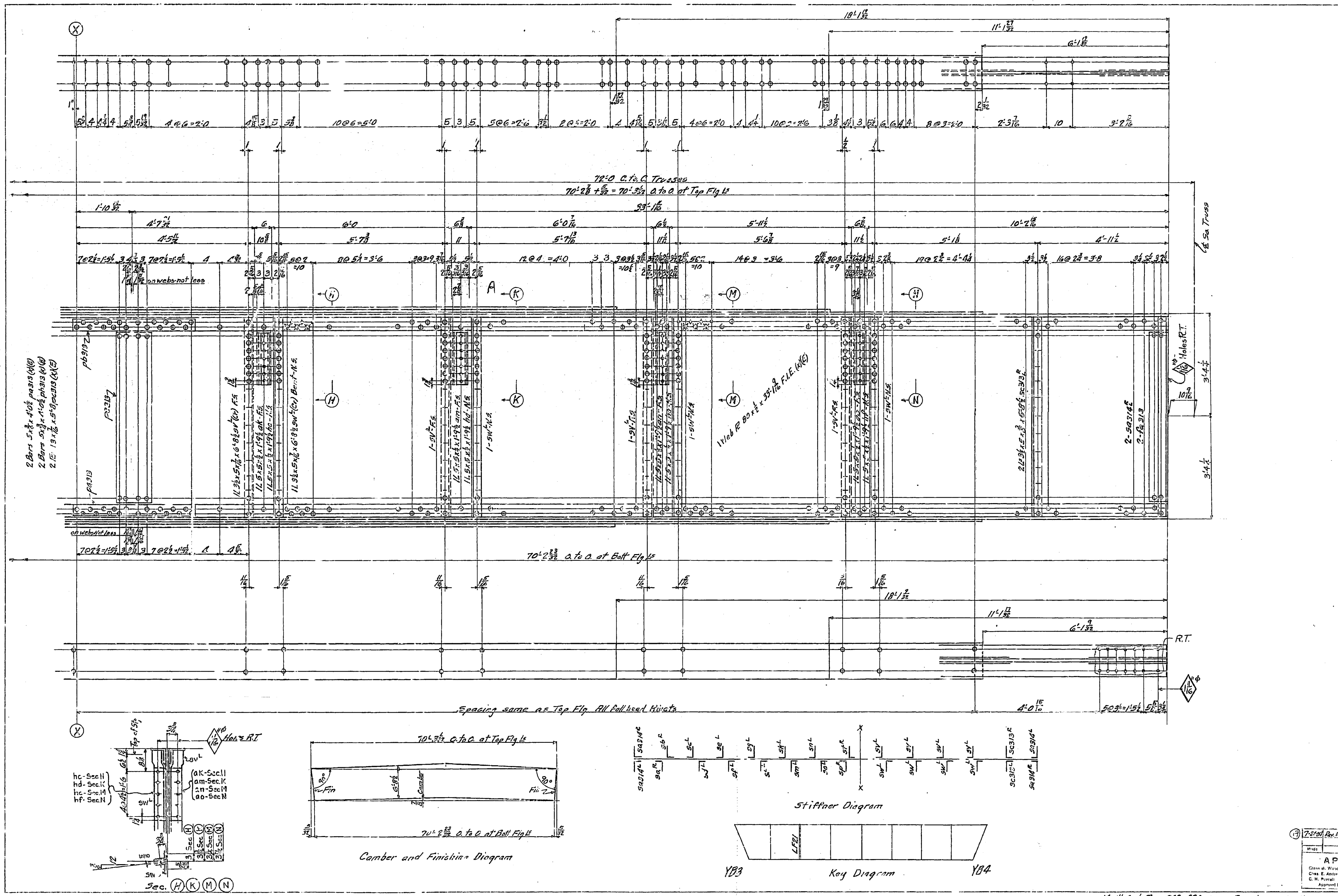
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Floor Beam at L20 - Lower Deck
Span YB3-YB4

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
... Tempt
DRAW. MADE BY H.M.H. DATE 4-19-34
DRAW. CHECKED BY G.T.N. DATE 5-24-34

Made	Revision	App'd
(A) 7-25-34	Chg. Web Space	

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 6-8-34

ORDER No. G5101
SHEET No. 315AB
Shop Bills 5734-739



General Notes.

Material:- All material O.H. Copper Bearing medium carbon steel except material marked (X) which is to be O.H. Copper Bearing Silicon Steel

Specifications:- Special by State of California Dept of Public Works.

Inspection:- John M. Bailey - Chief Inspector

Rivets:- $\frac{7}{8}$"ϕ

Open Holes:- $\frac{15}{16}$"ϕ Unless Noted

Reaming:- All holes to be subpunched $\frac{1}{4}$" and reamed to size while parts are assembled. Holes marked R.T. to be reamed thru a steel templet. Burrs to be removed from all reamed holes

Finish:- Sheared or flame cut edges and ends of all material marked (E) to be planed to remove at least $\frac{1}{8}$" of metal.

Shop Paint:- None.

16T

REQUIRED		
One	Floor Beam	LF21

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1

Details of Floor Beam at L20 - Lower Deck
Span YB3-YB4

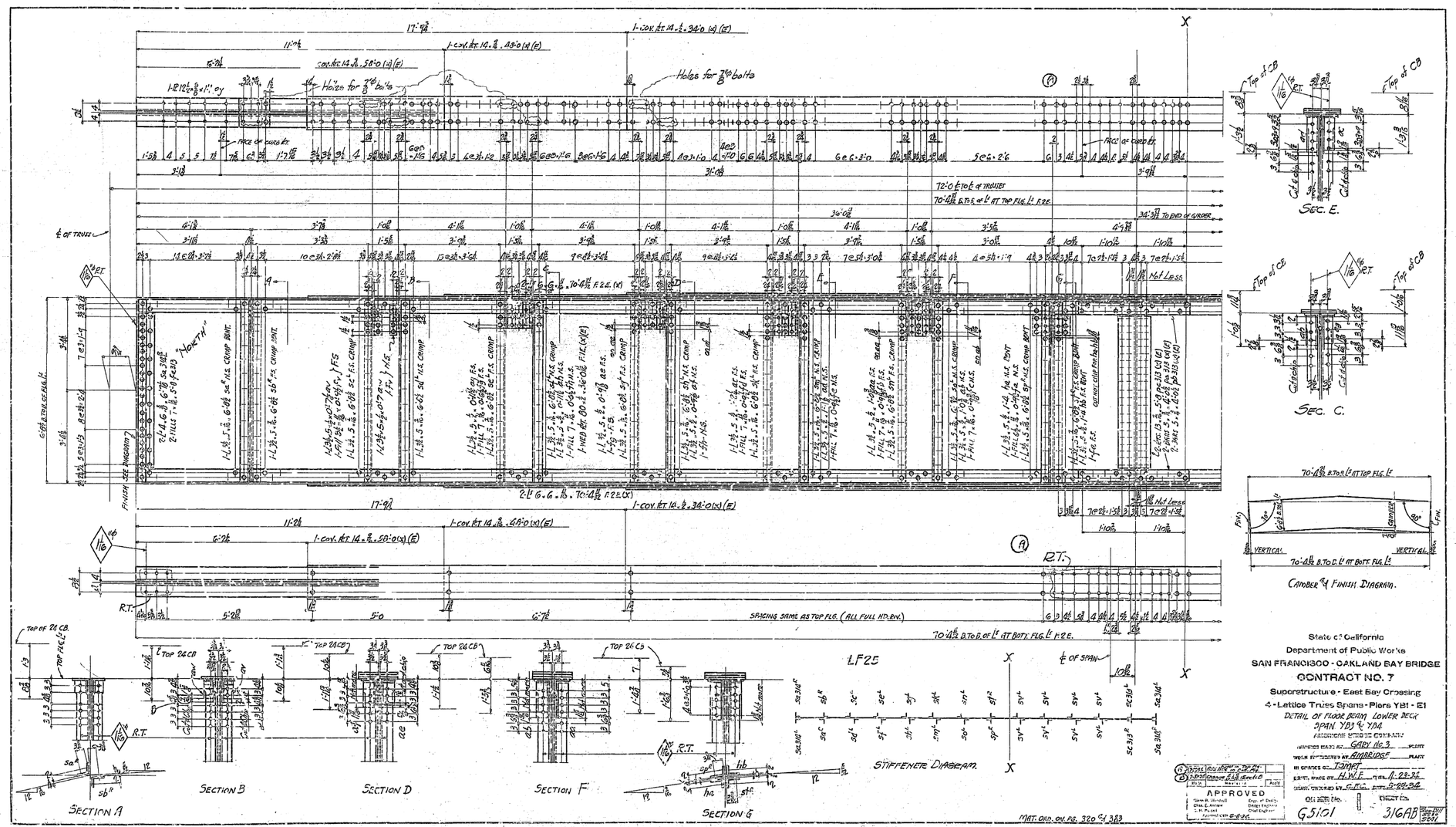
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Pazbridge PLANT
GRADE OF Tempt
DRAW. MADE BY H.M.H DATE 4-29-34
DRAW. CHECKED BY G.T.N. DATE 5-22-34

(17) 7-21-34	Rev. Web Spcg @ Sec K	
Made	Revision	App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 6-8-34

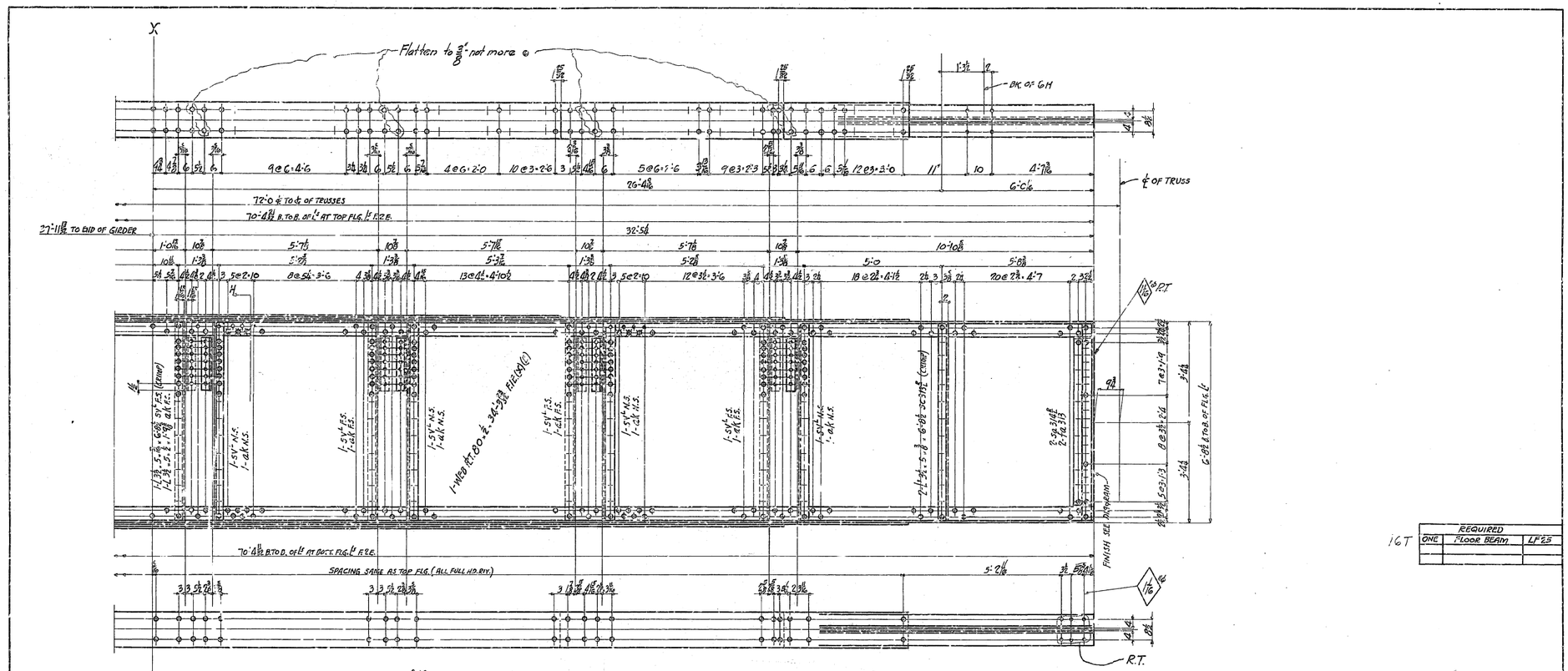
ORDER No. G5101 [B+C]
SHEET No. 315B
Shop Bills 5238 5239

Mat'l Ord Pgs-323-320 - Pg10-Line 9 - H.17H.



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4-Lattice Trusses Spans - Piers Y8T - E1
DETAIL OF FLOOR BEAM LOWER DECK
SPAN Y8J & Y9A

DRAWING G5101 — SHEET 316AB



REQUIRED		
ONE	FLOOR BEAM	LF25

16T

General Notes

MATERIAL	ALL MATERIAL O.H. COPPER BEARING MEDIUM CARBON STEEL, EXCEPT MATERIAL MARKED (X) WHICH IS TO BE O.H. COPPER BEARING SILICON STEEL.
SPECIFICATIONS	SPECIAL BY STATE OF CALIFORNIA DEPT. OF PUBLIC WORKS.
INSPECTION	JOHN M. BAILEY CHIEF INSPECTOR.
RIVETS	3/4" ø UNLESS NOTED.
OPEN HOLES	ALL HOLES TO BE SUBPUNCHED 4 1/4" & REAMED TO SIZE WHILE PARTS ARE ASSEMBLED.
REAMING	HOLES MARKED R.T. TO BE REAMED THROUGH A STEEL TEMPLET. BORES TO BE REMOVED FROM ALL REAMED HOLES. SHEARED OR FLAME CUT EDGES 3/4" & ENDS OF ALL MATL. MARKED (E) TO BE PLANED TO REMOVE AT LEAST 1/8" OF METAL.
SHOP PAINT	NONE.

MAT. ORD. ON PG. 320-383

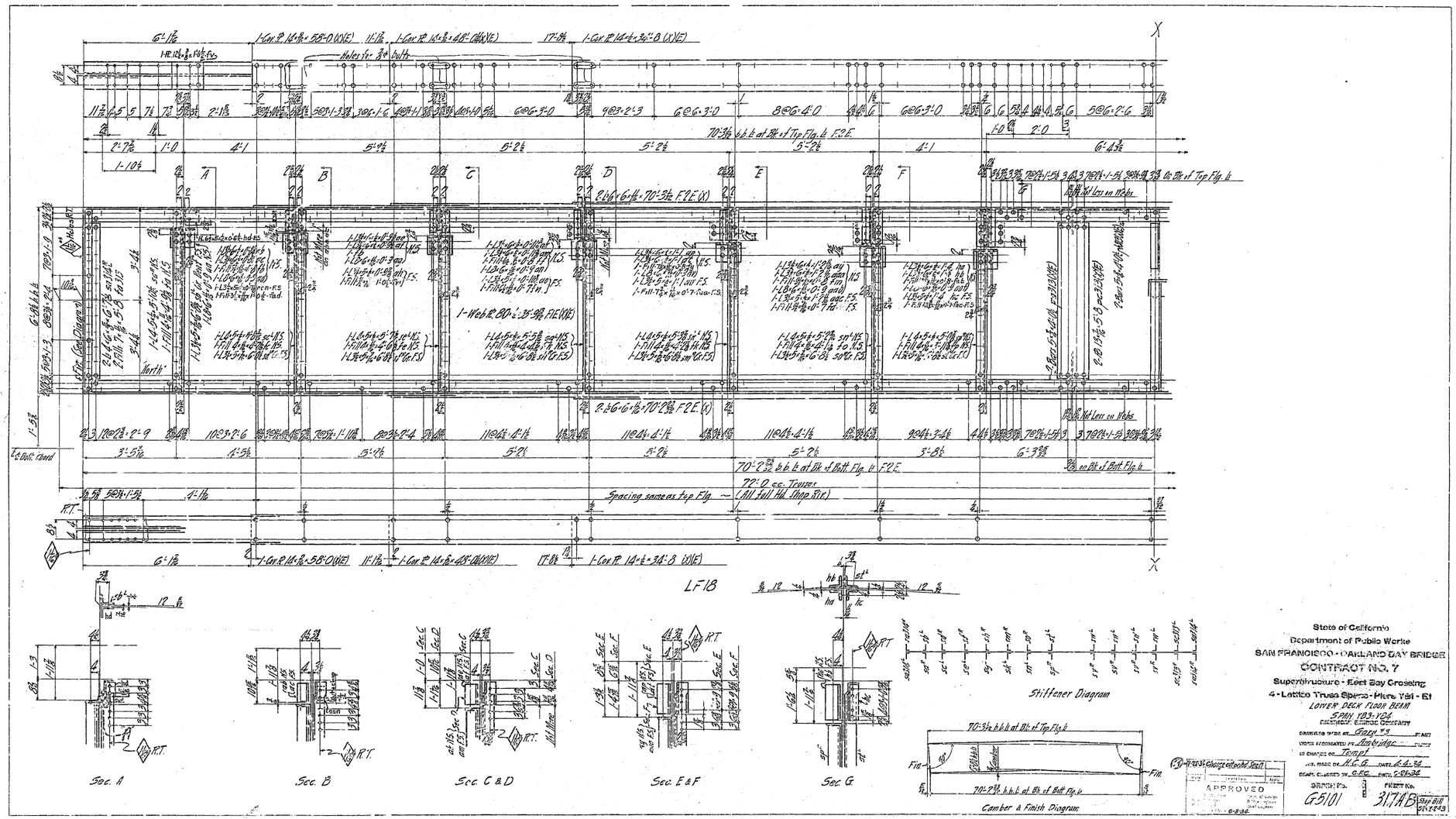
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
DETAIL OF FLOOR BEAM LOWER DECK
SPAN YB3 - YB4
AMERICAN BRIDGE COMPANY
DRAWN MADE AT GARY NO. 3 PLANT
WDR. FABRICATED AT AMBRIDGE PLANT
IN CHARGE OF TOMPT
DRAWN MADE BY H.W.F. DATE 4-25-34
DRAW. CHECKED BY C.F.G. DATE 5-24-34

Mark	Revision	Appd.

APPROVED
Chas. B. Wilson — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approved Date Oct-36

ORDER No. G 5101 [Dec] 316B
SHEET No. Shop Bill 2000-201

30-F1

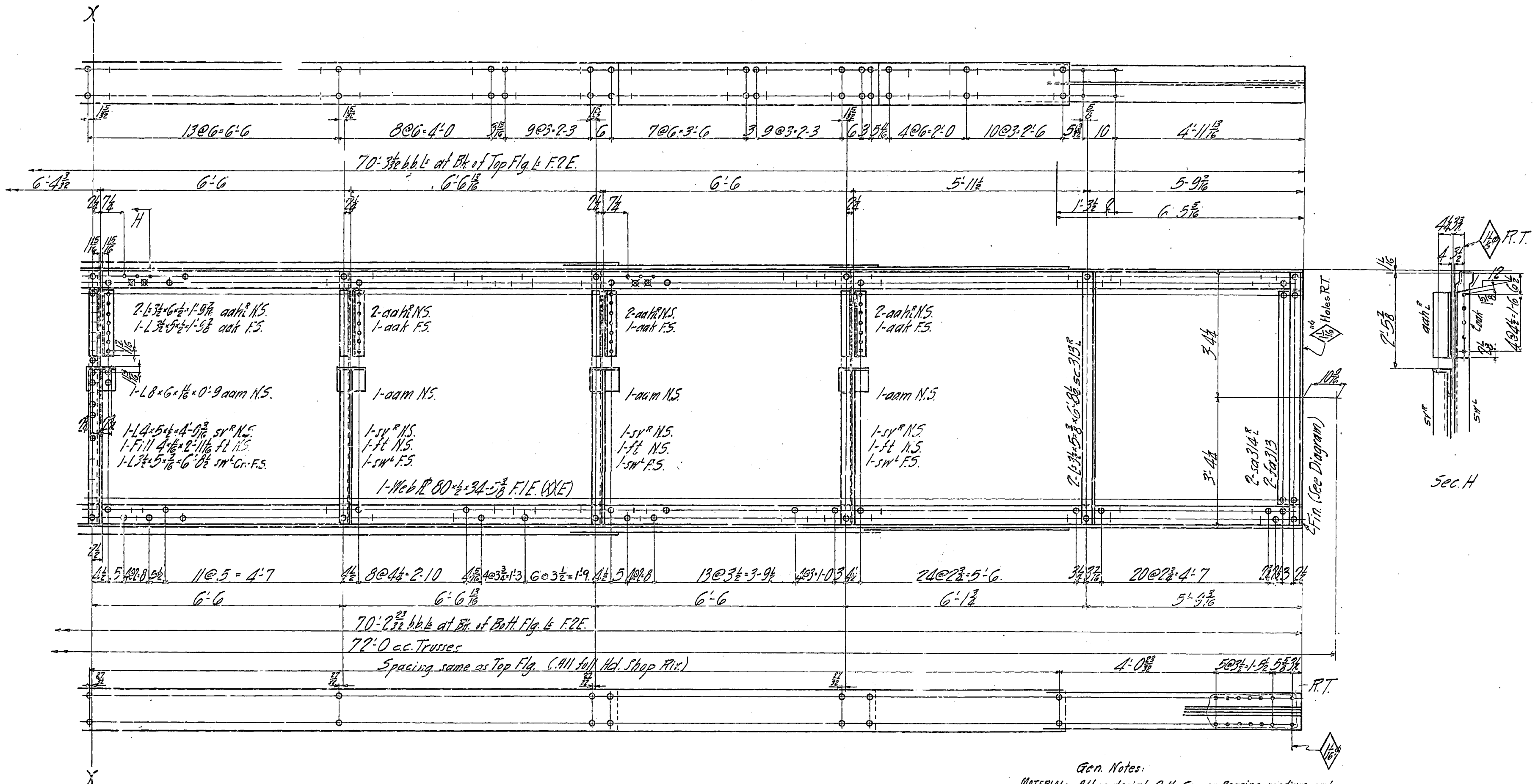


State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y61 - E1
LOWER DECK FLOOR BEAM
STRS 193-194
ENGINEER: GEORGE DEMPSTER

DRAWING TRACED BY Gapp '39 PLANS
WORK FABRICATED BY Alameda Bridge PLANTS
IN CHARGE OF Tempf
MDS. MADE BY H.C.G. DATE 4-4-39
DRAWN CHECKED BY C.F.C. DATE 5-24-39

APPROVED
6-8-39

DRAWING NO. G5101
SHEET NO. 31.7AB



16T	REQUIRED	
1	Floor Beam	LF18

Gen. Notes:

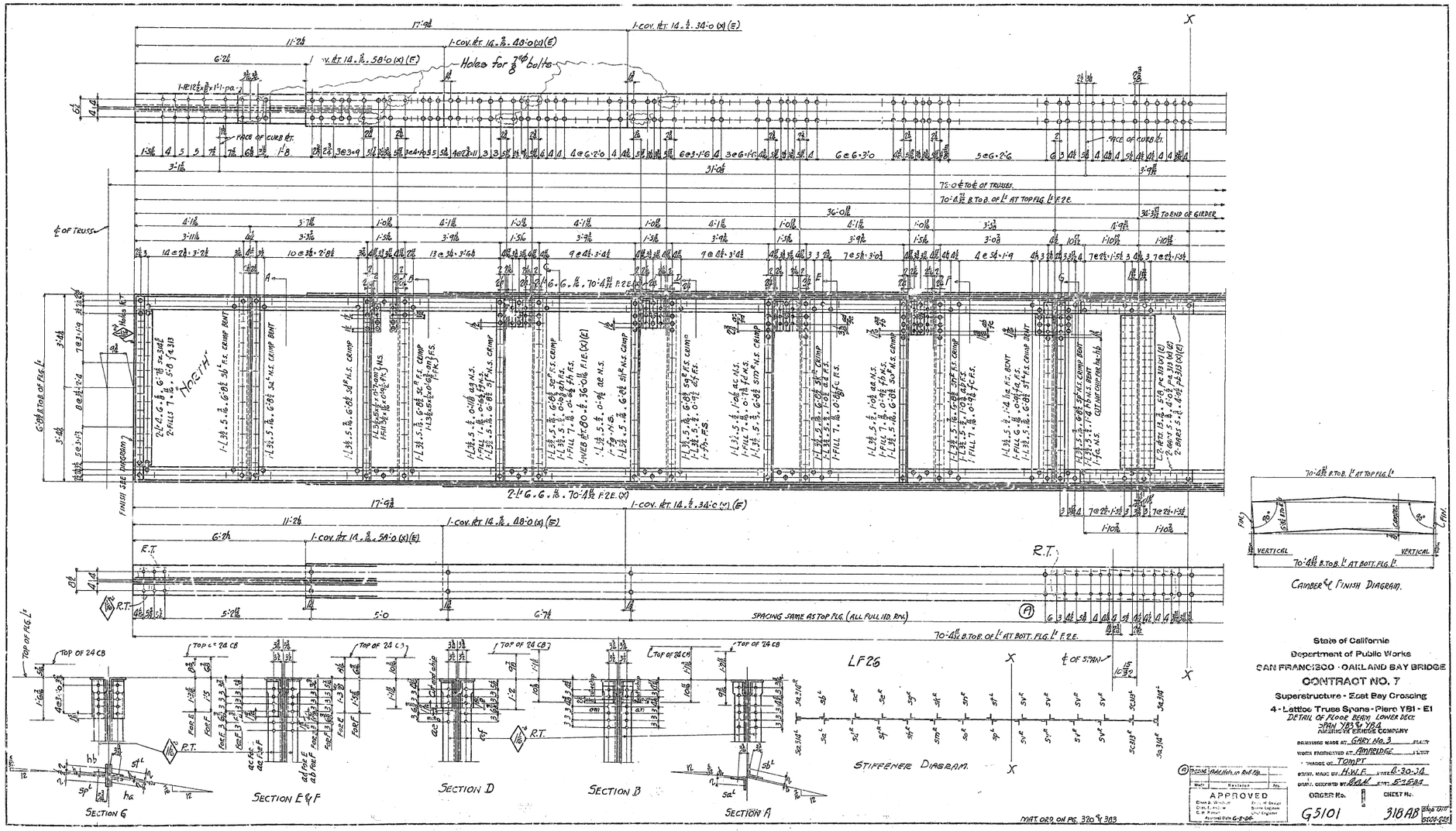
MATERIAL: All material O.H. Copper Bearing medium carbon steel, except material marked (X) which is O.H. Copper bearing silicon steel.
SPECIFICATIONS: Special by State of California, Dep't of Public Works.
INSPECTION: John M. Bailey - Chief Inspector.
RIVETS: 7/8 ϕ
OPEN HOLES: 15/16 ϕ Unless noted.
REAMING: All holes to be subpunched 3/4" and reamed to size while parts are assembled.
Holes marked "R.T." to be reamed thru a steel templet.
Burrs to be removed from all reamed Holes.
FINISH: Sheared or flame cut edges and ends of all material marked (E) to be planed to remove at least 1/8" of metal
SHOP PAINT: None

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y31 - E1
LOWER DECK FLOOR BEAM
SPAN YB3 - YB4
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRW. MADE BY H.C.G. DATE 4-6-34
DRAW. CHECKED BY G.F.C. DATE 5-28-34
ORDER NO. G5101 [B&C]
SHEET NO. 317B
Shop Bill 5242-243

APPROVED 6-8-34

Mat. Ord. P. 320 & 383 H.C.G.

304

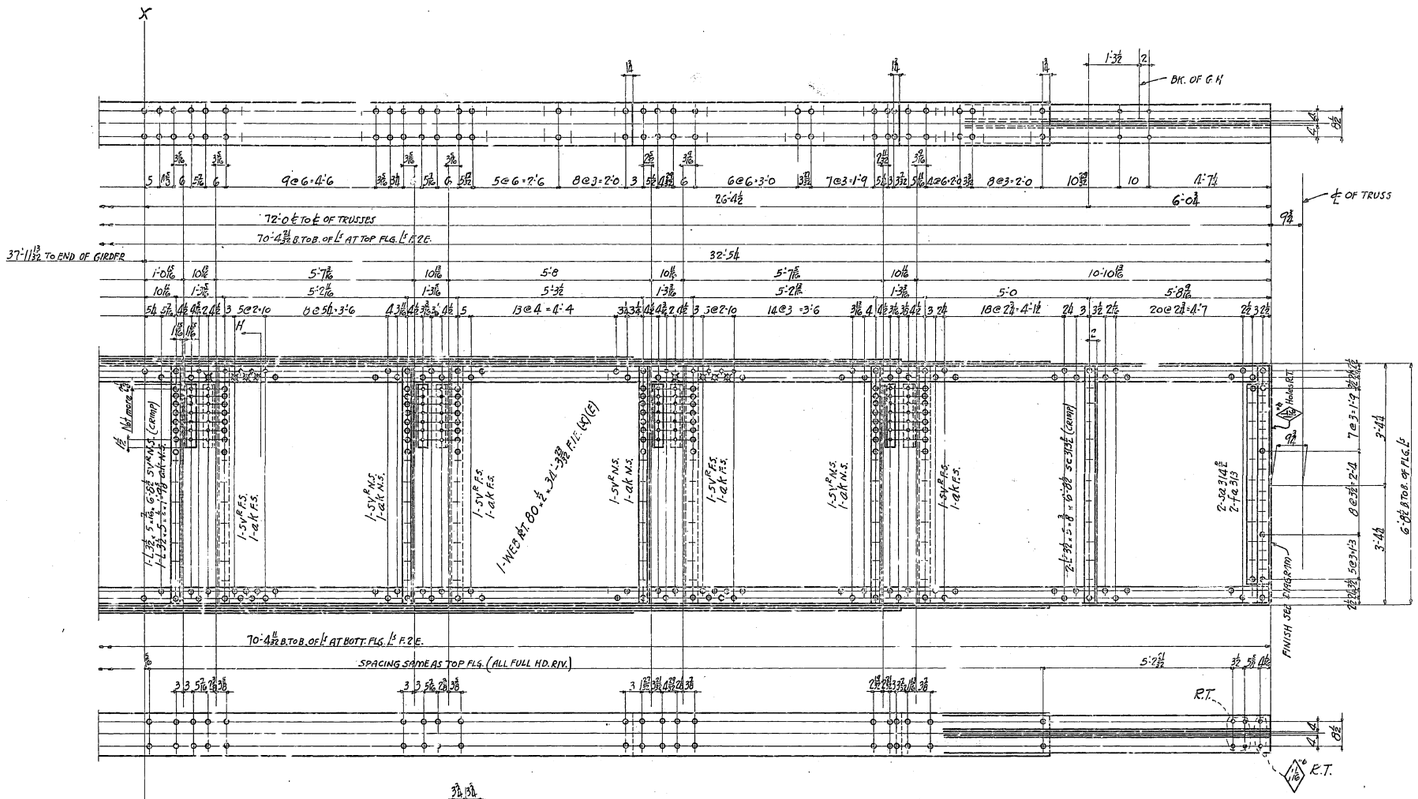


State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
DETAIL OF FLOOR BEAM LOWER DECK
SHEET 1 OF 2 SHEETS
AMERICAN BRIDGE COMPANY

DRAWING MADE AT GARY, No. 3 PLANT
WORK PROJECTED AT AMBRIDGE UNIT
CHARGE NO. TOMPT
DRAWN, TRACED BY H.W.F. DATE 8-30-34
DRAWN, CHECKED BY BAK DATE 5-15-35

APPROVED
Chief Engineer
Asst. Chief Engineer
Asst. Engineer
Asst. Engineer
Assistant Engineer
Approved Date 6-8-36

ORDER No. G5101
SHEET No. 318 AB



REQUIRED		
ONE	FLOOR BEAM	LF26

16T

General Notes.

MATERIAL — ALL MATERIAL O.H. COPPER BEARING (MEDIUM CARBON) STEEL, EXCEPT MATERIAL MARKED (X) WHICH IS TO BE O.H. COPPER BEARING SILICON STEEL.

SPECIFICATIONS — SPECIAL BY STATE OF CALIFORNIA DEPT. OF PUBLIC WORKS.

INSPECTION — JOHN M. BAILEY CHIEF INSPECTOR.

RIVETS — $\frac{7}{8}$" ø UNLESS NOTED.

OPEN HOLES — ALL HOLES TO BE SUBPUNCHED $\frac{1}{4}$" & REAMED TO SIZE WHILE PARTS ARE ASSEMBLED.

REAMING — HOLES MARKED R.T. TO BE REAMED THROUGH A STEEL TEMPLET. BOLTS TO BE REMOVED FROM ALL REAMED HOLES. SHEARED OR FLAME CUT EDGES & ENDS OF ALL MATL. MARKED (C) TO BE PLANED TO REMOVE AT LEAST $\frac{1}{8}$" OF METAL.

SHOP PAINT — NONE.

MAT. ORD. ON PG. 320 & 383

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
DETAIL OF FLOOR BEAM LOWER DECK
SPAN YB3 & YB4
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT GARY NO. 3 PLANT
WORK FABRICATED AT AMBRIDGE PLANT
IN CHARGE OF TOMPT
DET. MADE BY H.W.F. DATE 4-26-36
DRAW. CHECKED BY [illegible] DATE 5-25-36

(A) 7-753 Chg. mark in Gen. C

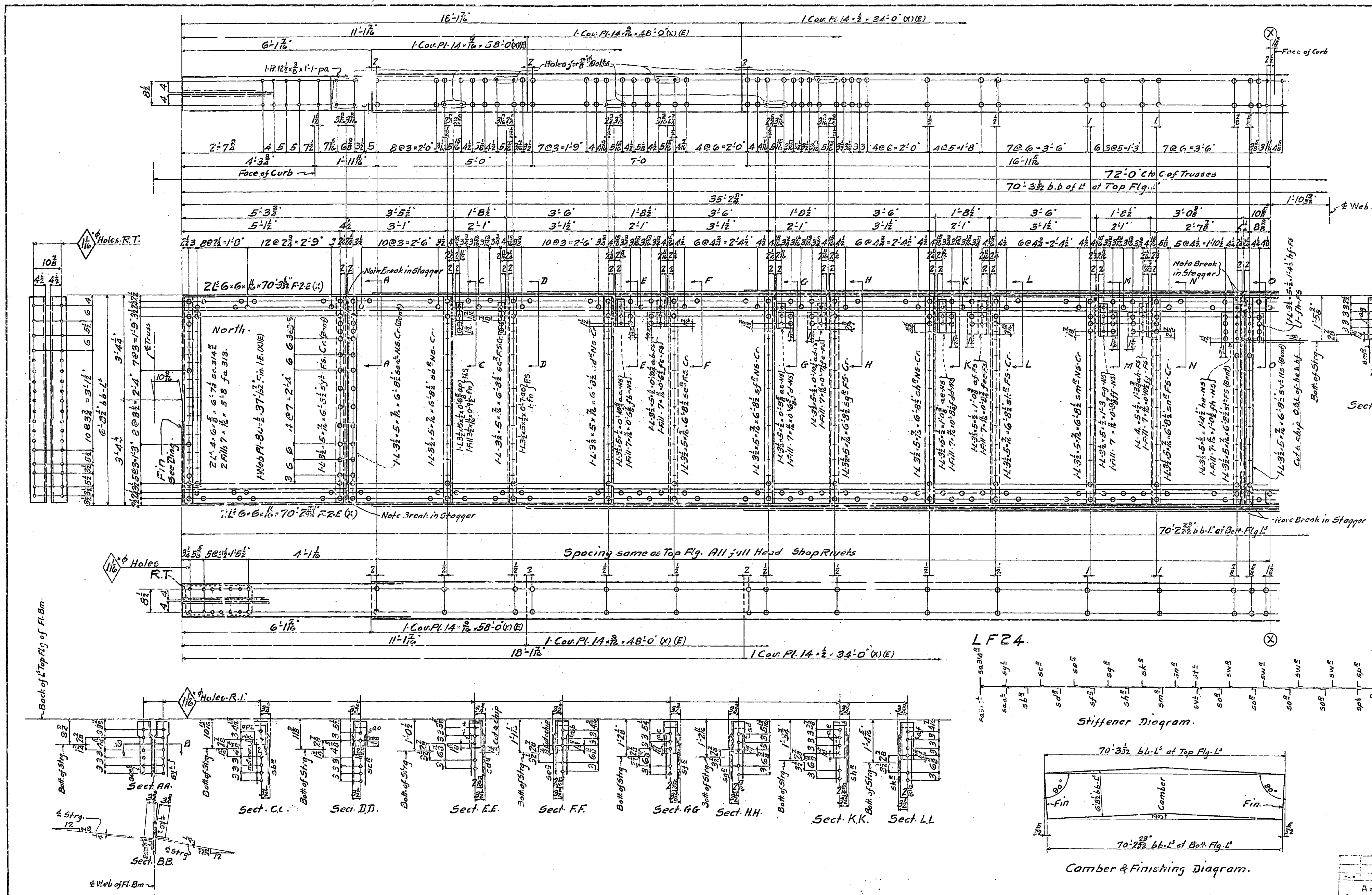
Mark	Revision	Appd.

APPROVED
Chas. D. Wadsworth, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 6-2-36

ORDER No. G5101 [illegible] SHEET No. 313B

Shop Bill 2047.2015

30-1



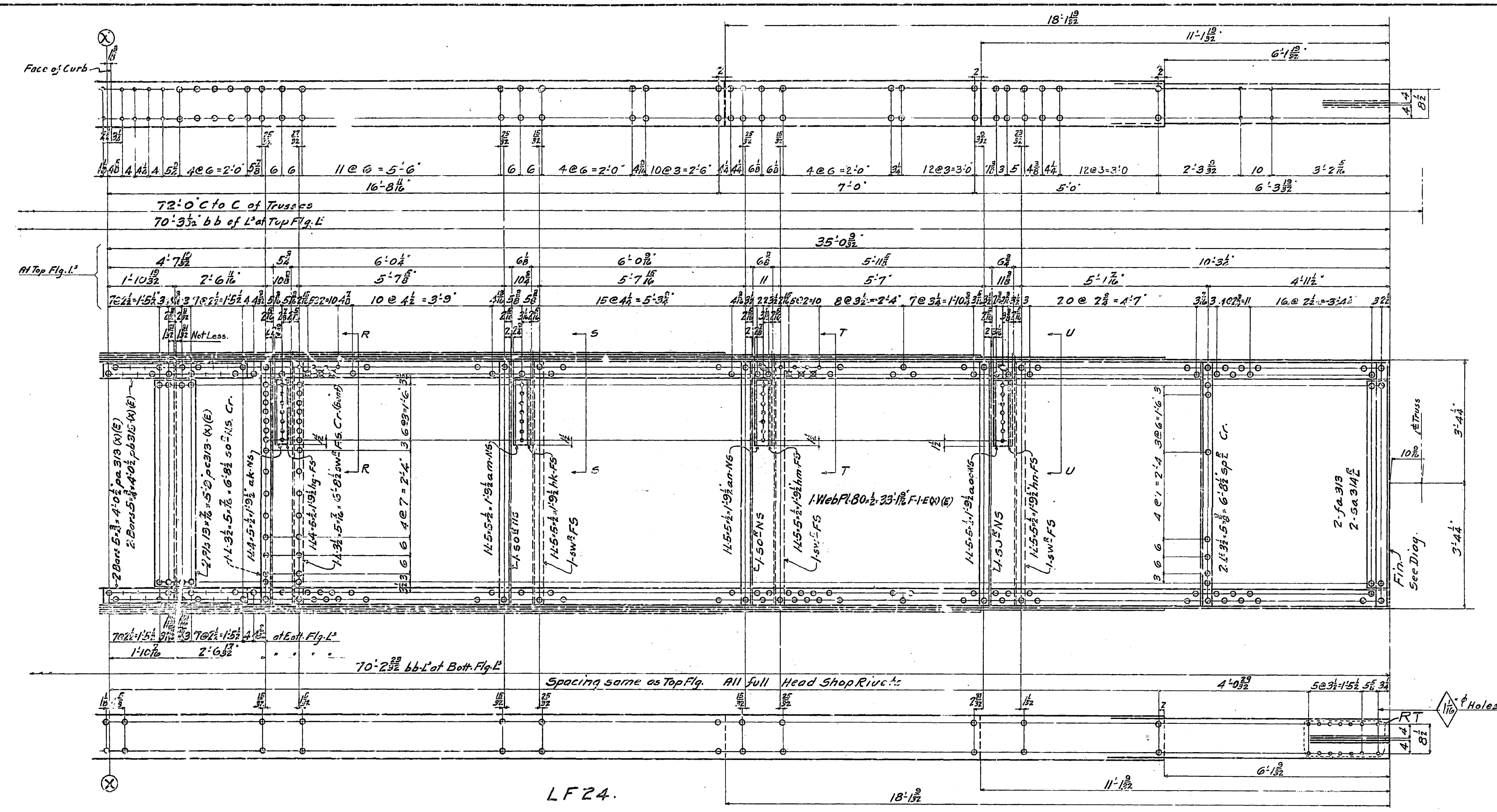
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Floor Beam. Lower Deck
Span YB3 - YB4
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
Tompt.
S.T. DATE 4-20-34
DRAW. CHECKED BY G.B.K. DATE 5-23-34

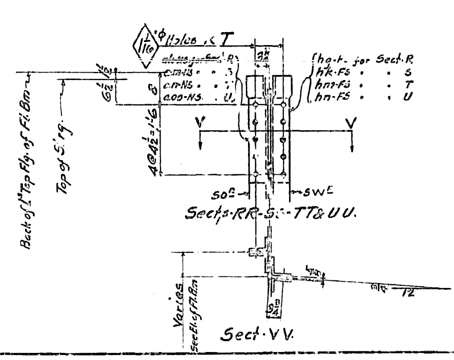
Made	Revision	App'd

APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 6-8-34

ORDER No.	SHEET No.	Shop Bill
G5101 [B&C]	319 A.B.	5246 5247

30-1





Required.			
16T	1	Floor Beam	LF24

General Notes-

Material- All material O.H. Copper Bearing medium Carbon steel except material marked (x) which is to be O.H. Copper Bearing Silicon steel.

Specifications- Special by State of California, Dep't of Public Works.

Inspection- John M. Bailey - Chief Inspector.

Rivets- 7/8"⌀

Open Holes- 15/16"⌀ Unless noted.

Reaming- Holes in material 3/4" thick or less to be subpunched 1/4" and reamed to size while parts are assembled. Holes marked "R.T." to be reamed thru a steel templet. Burrs to be removed from all reamed holes.

Finish- Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least 1/8" of metal.

Shop Paint- None.

Made	Revision	App'd

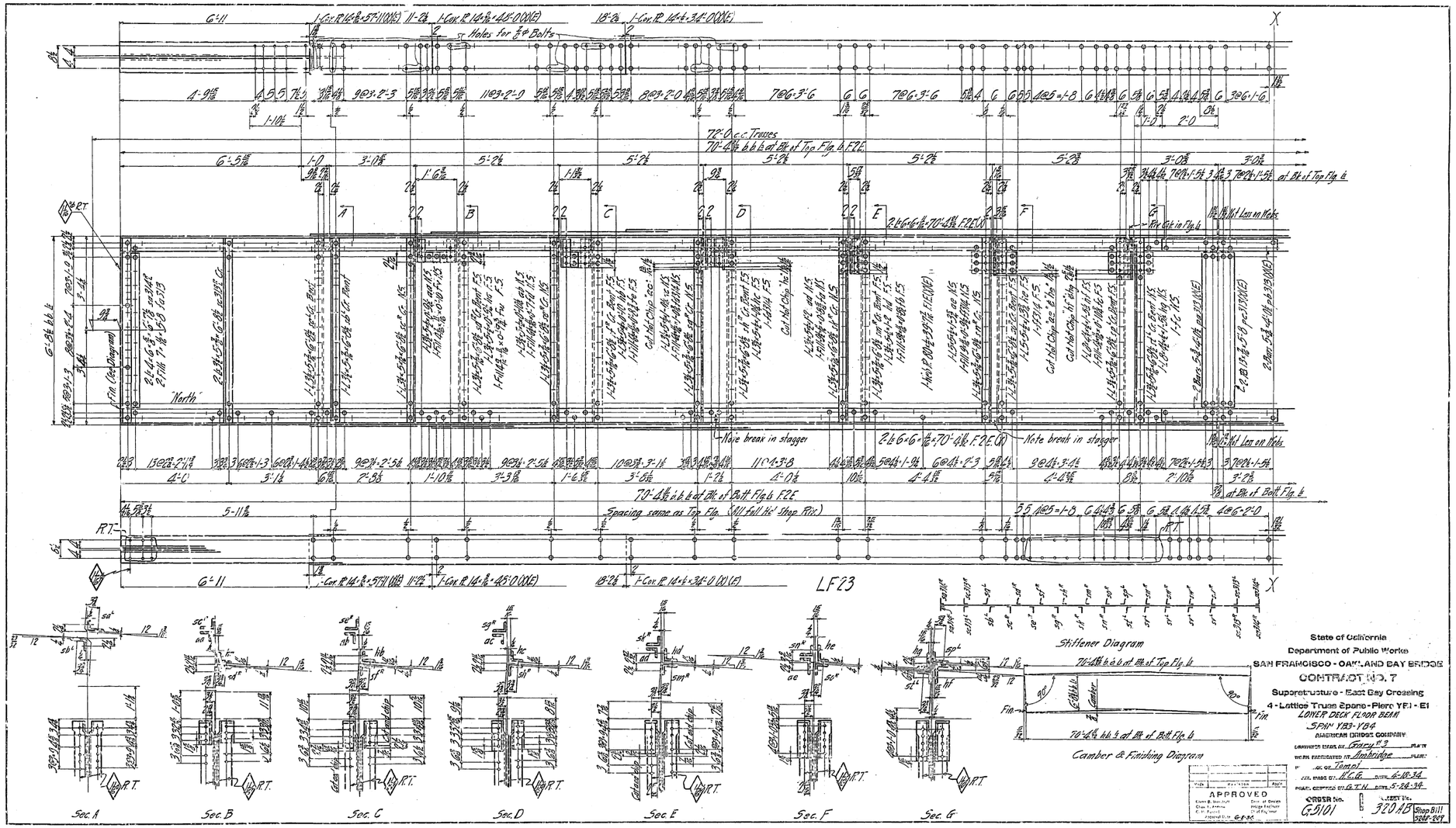
APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 6-8-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Floor Beam - Lower Deck
Span YB3 - YB4
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAW. MADE BY ST DATE 4-24-34
DRAW. CHECKED BY [illegible] DATE 5-23-34
ORDER No. G5101 [B&C] SHEET No. 319B.
Shop Bill 5246-247

Mat. A. B. Pages 320-330-383 & Page 16 - L9. ST.

30-1

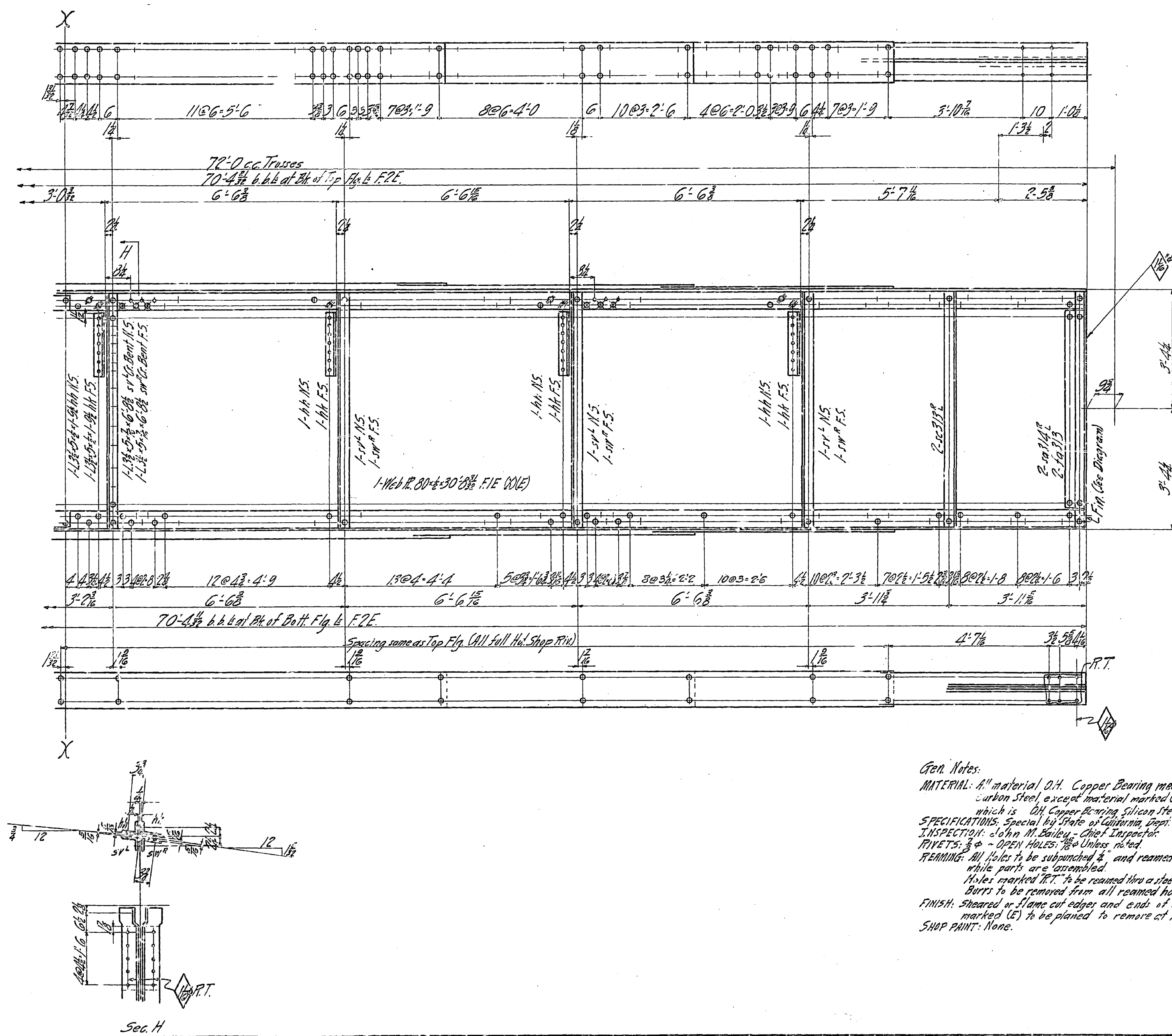


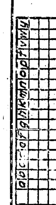
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YE1 - E1
LOWER DECK FLOOR BEAM
SPAN YB3-YB4
AMERICAN BRIDGE COMPANY

APPROVED
Chief Bridge Engineer
State of California
Department of Public Works

ORDER No. G.5101
320 AB
Shop Bill 5268-569

30-1





	REQUIRED	
1	Floor Beam	LF23

16T

Gen. Notes:

MATERIAL: All material O.H. Copper Bearing medium Carbon Steel, except material marked (X) which is O.H. Copper Bearing Silicon Steel.
SPECIFICATIONS: Special by State of California, Dept. of Public Works.
INSPECTION: John M. Bailey - Chief Inspector.
RIVETS: 7/8 φ ~ OPEN HOLES: 15/16 φ Unless noted.
REAMING: All Holes to be subpunched 1/4" and reamed to size while parts are assembled.
Holes marked "R.T." to be reamed thru a steel templet.
Burrs to be removed from all reamed holes.
FINISH: Sheared or flame cut edges and ends of all material marked (E) to be planed to remore at least 1/8" of metal.
SHOP PAINT: None.

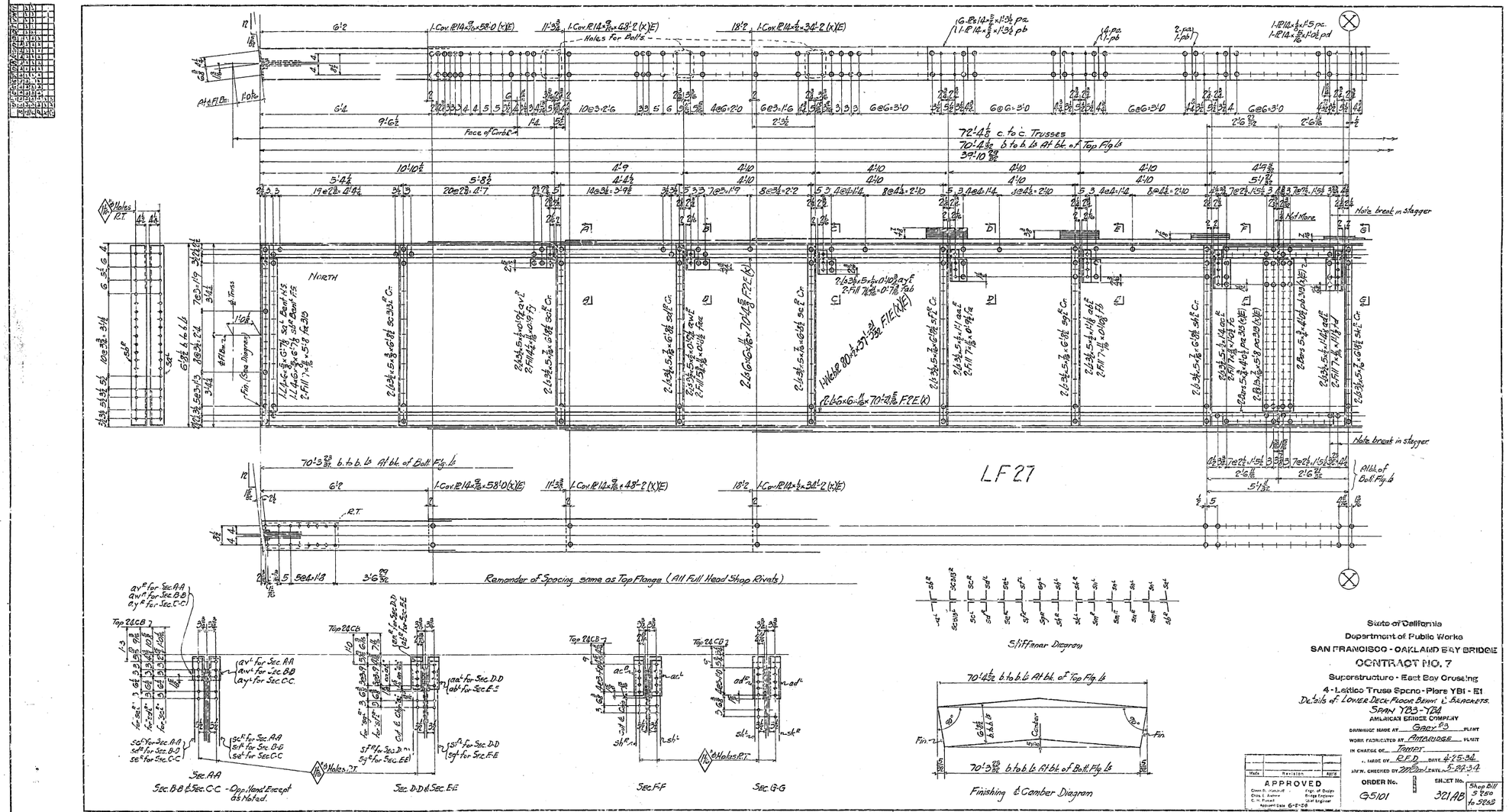
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
LOWER DECK FLOOR BEAM
SPAN YB3-YB4
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
MADE BY H.C.G. DATE 4-18-34
DRAW. CHECKED BY G.T.N. DATE 5-24-34

Made	Revision	App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 6-8-34

ORDER No. G5101 [B&C] SHEET No. 320B
Shop Bill 5248-249
Mat. Ord. P. 320 & 383 H.C.G.

30-51

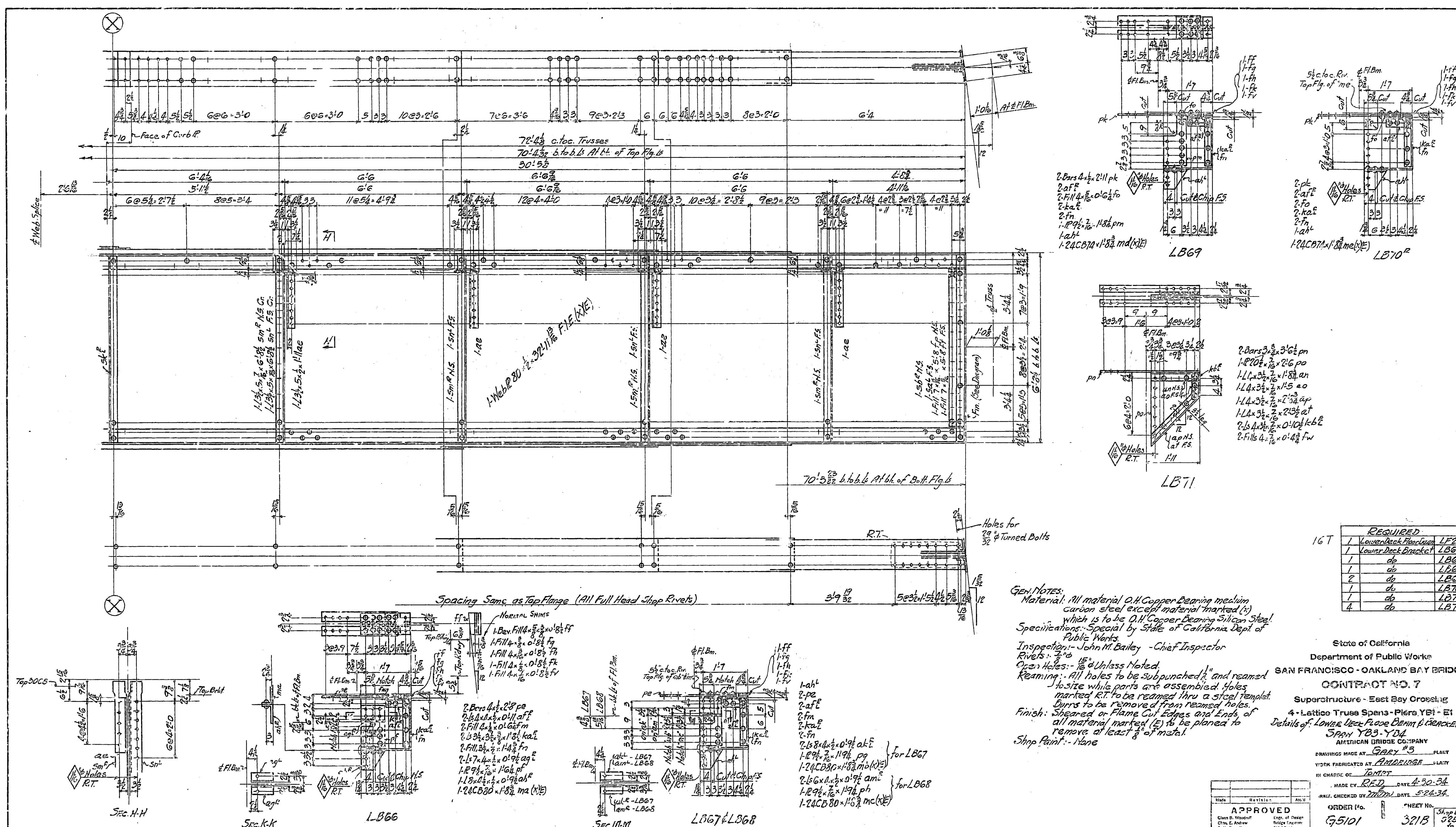


State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of LOWER DECK FLOOR BEAMS & BRACKETS.
SPAN YB3 - YB4
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Ambridge, Pa. PLANT
IN CHARGE OF Tompt
TRACED BY R.F.D. DATE 4-25-34
DRAWN CHECKED BY [illegible] DATE 5-22-34

Mark	Revision	Appd

APPROVED
Glenn B. Woodruff, Engr. of Bridges
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approved Date 6-12-34

ORDER No. G-5101
SHEET No. 321AB
Shop Bill 3 Sets to 3123



16T

REQUIRED		
1	Lower Deck Floor Beam	LF27
1	Lower Deck Bracket	LB66
1	do	LB67
1	do	LB68
2	do	LB69
1	do	LB70R
1	do	LB70L
4	do	LB71

GEN. NOTES:
Material: All material O.H. Copper Bearing medium carbon steel except material marked (x) which is to be O.H. Copper Bearing Silicon Steel.
Specifications: Special by State of California Dept. of Public Works.
Inspection: John M. Bailey - Chief Inspector
Rivets: 7/8" φ
Open Holes: 15/16" φ Unless Noted.
Reaming: All holes to be subpunched 1/4" and reamed to size while parts are assembled. Holes marked R.T. to be reamed thru a steel templet. Burrs to be removed from reamed holes.
Finish: Sheared or Flame Cut Edges and Ends of all material marked (E) to be planed to remove at least 1/8" of metal.
Shop Paint: None

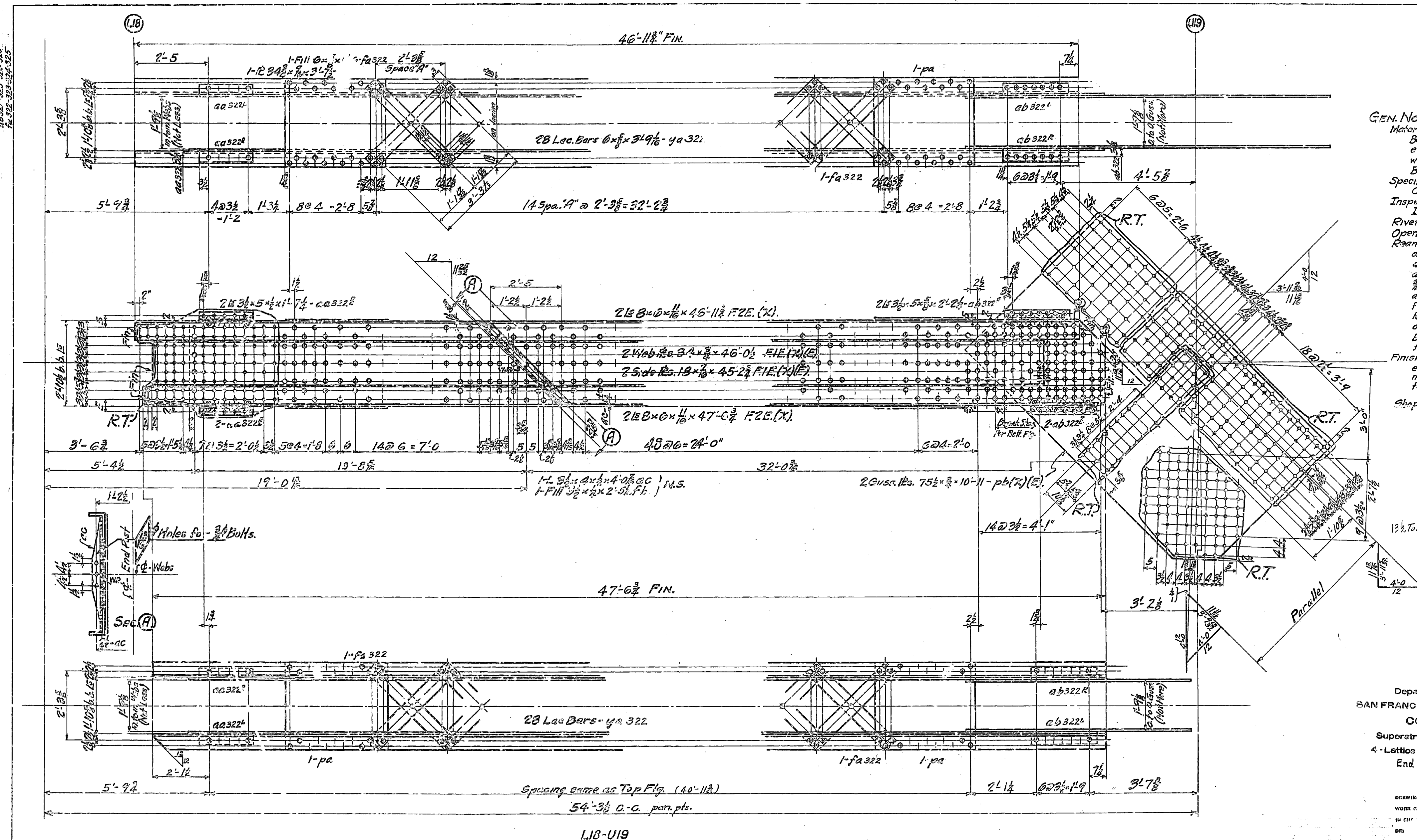
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of: Lower Deck Floor Beam & Brackets.
Span YB3-YB4
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
MADE BY RED DATE 4-30-34
DRAW. CHECKED BY MBM DATE 5-24-34
ORDER No. G5101 [B&C]
SHEET No. 321B
Shop Bill 5250 to 5255

Made	Revision	App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 6-8-34

Mat'l Ord. pgs. 387, 385, 319, 322, 323, 330 & 331

30-1



GEN. NOTES:-

Material:- All Material O.H. Copper Bearing Medium Carbon Steel except Material marked (X) which is to be O.H. Copper Bearing Silicon Steel.

Specifications:- Special by State of California Dept. of Public Works.

Inspection:- John M Bailey, Chief Inspector.

Rivets:- 1"φ

Open Holes:- 1¹⁄₁₆ φ, unless noted.

Reaming:- Holes in Material ¾" thick or less to be sub-punched ¼" and reamed to size while parts are assembled. Carbon Steel ¾" thick or less used for lacing and stay plates may be punched full size. Holes marked R.T. are to be reamed or drilled thru a steel templet. Burrs. are to be removed from all reamed Holes.

Finish:- Sheared or Flame Cut edges and ends of all Material marked (E) to be planed to to remove at least ⅛" of Metal.

Shop Paint:- None.

	REQUIRED	
13½ Ton	One End Post	L18-U19

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
End Post - L18-U19 No. Truss
SPAN YB3 - YB4
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CH[illegible] Tampi
DR[illegible] MADE BY G.T.N. DATE 4-17-34
DRAW. CHECKED BY [illegible] DATE 5-4-34

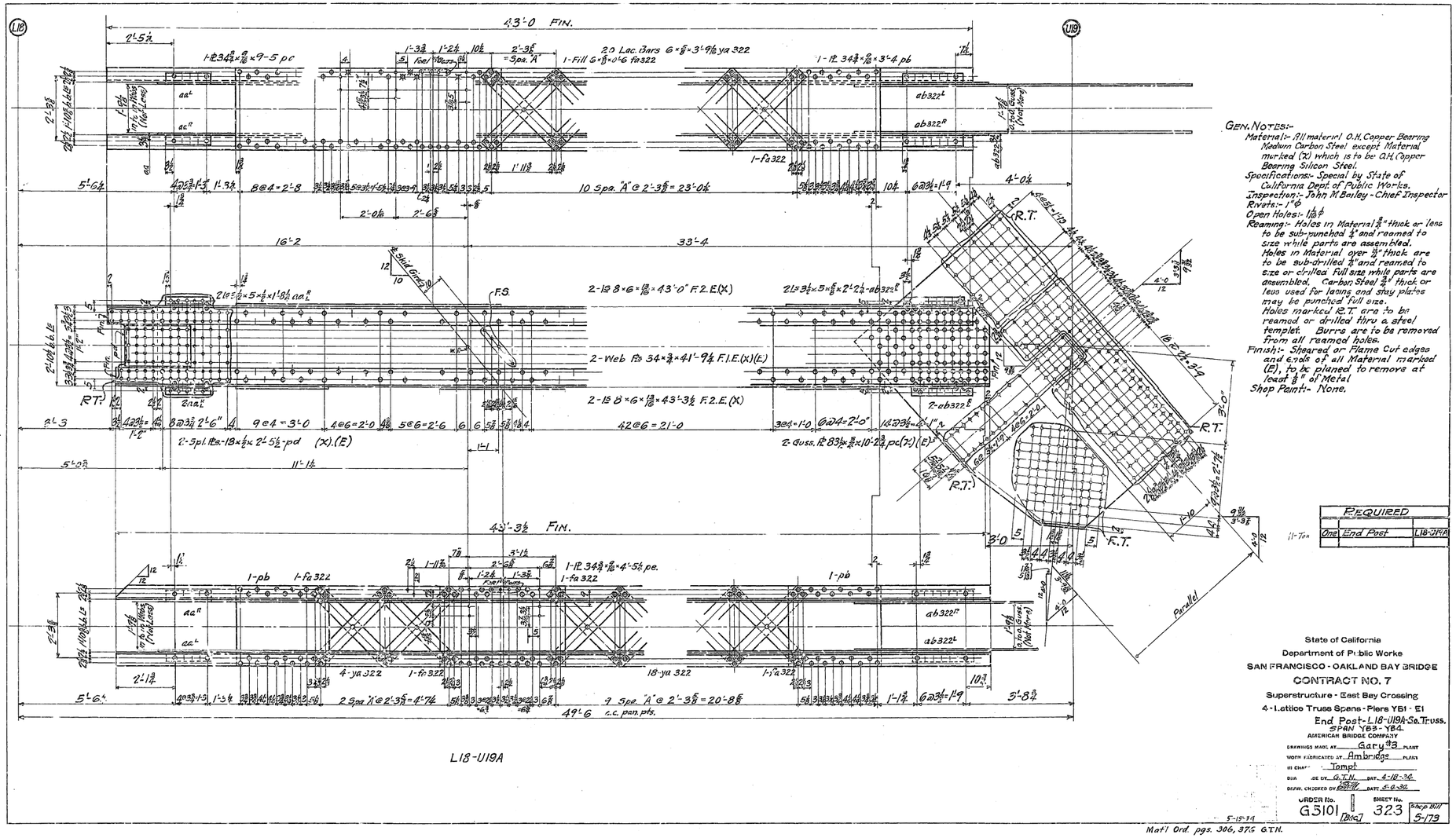
Approval Date 5-15-34

ORDER No.	SHEET No.	Shop Bill
G5101 [Bec]	322	S-172

Mat'l Ord. pgs 306, 307, 377 G.T.N.

3RD Span

30-1



L18-U19A

GEN. NOTES:-
Material:- All material O.H. Copper Bearing Medium Carbon Steel except Material marked (Si) which is to be O.H. Copper Bearing Silicon Steel.
Specifications:- Special by State of California Dept. of Public Works.
Inspection:- John M. Bailey - Chief Inspector
Rivets:- 1" ϕ
Open Holes:- 1 1/16" ϕ
Reaming:- Holes in Material ⅞" thick or less to be sub-punched ¾" and reamed to size while parts are assembled. Holes in Material over ⅞" thick are to be sub-drilled ¾" and reamed to size or drilled full size while parts are assembled. Carbon Steel ⅞" thick or less used for lacing and stay plates may be punched full size. Holes marked R.T. are to be reamed or drilled thru a steel templet. Burrs are to be removed from all reamed holes.
Finish:- Sheared or Flame Cut edges and ends of all Material marked (E), to be planed to remove at least ⅛" of Metal
Shop Paint:- None.

REQUIRED	
One End Post	L18-U19A

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y61 - E1
End Post - L18-U19A - Sa. Truss.
SPAN Y63 - Y64.
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary Ind. PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE Tompt
DIA. DE BY G.T.N. DAT. 4-18-36
DRAWN, CHECKED BY [illegible] DATE 5-6-36

ORDER No. G3101 [Blue] SHEET No. 323 Shop Bill 5-179

5-15-36

Mat'l Ord. pgs. 306, 376 G.T.N.

3 ED Spans

30-1

U25

L26

54'-9⅞ c.c. Pan. Pts.

47'-5 Fin.

1-Fill-Ga⅜×0'-6"-fa 322

1-L 34½×⅞×3'-11½"-pa

2'-3⅝ Space "A"

1-pa

2'-5

ab 322R

aa 322C

28 Lac. Bars 6×⅞×3'-9⅓"-ya 322

1-fa 322

4'-6⅞

6@3½=1'-9

1'-0

7@3½=2'-2½

3@3½=0'-10½

5@3½=1'-5½

14 Spa. "A" @ 2'-3⅜ = 32'-2¾

1'-1½

¾ ϕ Holes for ¾ ϕ Bolts

End Post

SEC. (A)

2-L 3½×5×⅝×2'-2½-ab 322L

2 Web Pls. 34×⅜×46'-5½-F.I.E.(X)(E)

2 Side Pls. 16×⅞×45'-8-(7/16)(E)

2 L's 8×6×11/16×48'-0 -F.2E.(X).

2 L 8×6×11/16×4'-5 -F.2E.(X)

2 L 8×6×11/16×48'-0 -F.2E.(X).

2 L 3½×5×½×7'-7½-aa 322L

2-ab 322R

2-aa 322L

R.T.

3'-2⅛

12@3=3'-6"

6@4=2'-0

48@6=24'-0

12@6=6'-0

4@4=1'-4

8@3½=2'-4

5@3½=1'-5½

3'-7½

5'-5

32'-5⅝

13'-8⅜

15'-1⅞

47'-11½ c.c. End Holes

48'-0 Fin.

1-fa 322

28 Lac. Bars - ya 322

1-pa

3'-8½

6@3½=1'-9

1'-10½

Spacing same as Top Flange (39'-2¼

1'-3½

4@3½=1'-2

5'-10¼

U25-L26

GEN. NOTES:-

Material:- All Material O.H. Copper Bearing Medium Carbon Steel except Material marked (X) which is to be O.H. Copper Bearing Silicon Steel.

Specifications:- Special by State of California, Dept. of Public Works.

Inspection:- John M. Bailey, Chief Inspector.

Rivets:- 1" ϕ

Open Holes:- 1⅛ ϕ, unless noted.

Reaming:- Holes in Material ¾" thick or less to be sub-punched ¼" and reamed to size while parts are assembled. Carbon Steel ⅞" thick or less used for lacing and stay plates may be punched full size. Holes marked R.T. are to be reamed thru a steel templet. Burrs are to be removed from all reamed Holes.

Finish:- Sheared or Flame-Cut edges and ends of all Material marked (E), to be planed to remove at least ⅛" of Material.

Shop Paint:- None

REQUIRED			
10-Ton	One	End Post	U25-L26

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
End Post - U25-L26 - No. Trusses.
SPAN YB3 - YB4

AMERICAN BRIDGE COMPANY

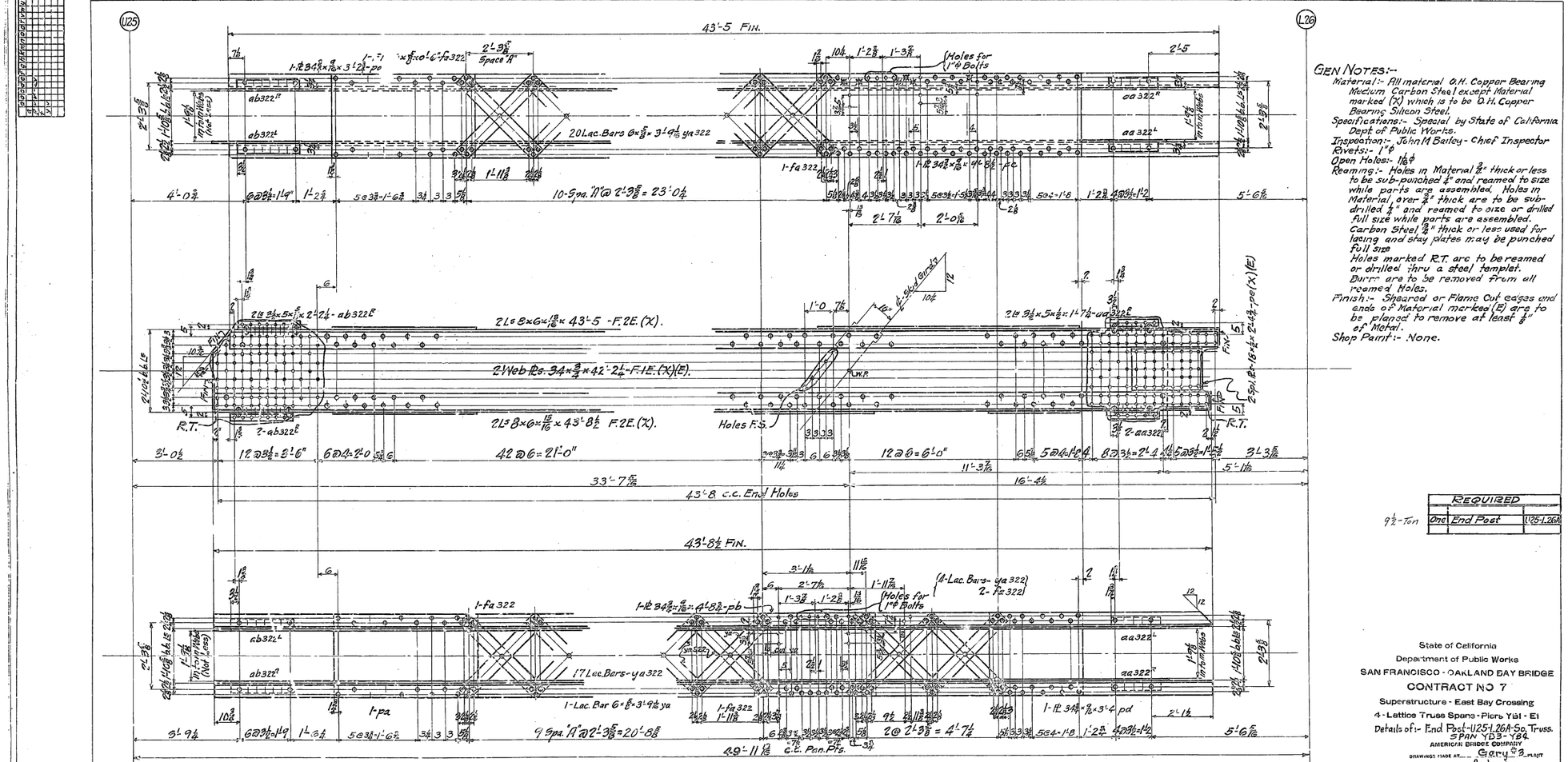
DRAWINGS MADE AT Gary PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAWN BY G.T.N. DATE 4-26-34
CHECKED BY [illegible] DATE 5-4-34
ORDER No. G5101 SHEET No. 324
[Blue] Shop Bill 5-7/4

5-15-34

Mat'l Ord. pgs. 306, 377 G.T.N.

3RD SUBDIV

304-1



GEN NOTES:-
Material:- All material O.H. Copper Bearing Medium Carbon Steel except Material marked (X) which is to be O.H. Copper Bearing Silicon Steel.
Specifications:- Special by State of California Dept of Public Works.
Inspection:- John M Bailey - Chief Inspector
Rivets:- 1"ϕ
Open Holes:- 1 1/16 ϕ
Reaming:- Holes in Material ⅞" thick or less to be sub-punched ¼" and reamed to size while parts are assembled. Holes in Material over ⅞" thick are to be sub-drilled ¼" and reamed to size or drilled full size while parts are assembled. Carbon Steel ⅞" thick or less used for lacing and stay plates may be punched full size
Holes marked R.T. are to be reamed or drilled thru a steel templet.
Burr are to be removed from all reamed Holes.
Finish:- Sheared or Flame Cut edges and ends of Material marked (E) are to be planed to remove at least ⅛" of Metal.
Shop Paint:- None.

REQUIRED		
One	End Post	U25-L26A

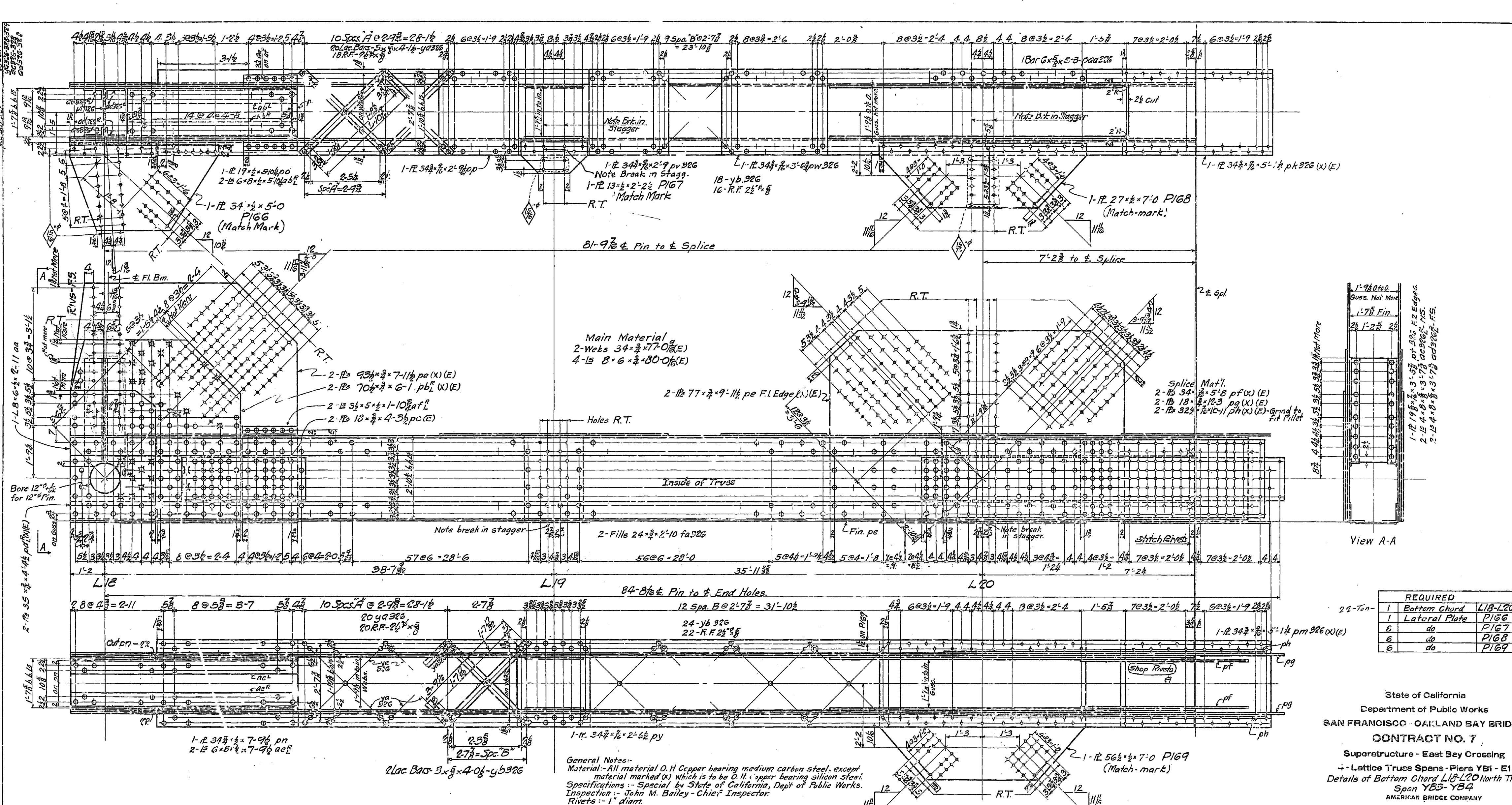
9½-Ton

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y31 - E1
Details of:- End Post-U25-L26A-Sa. Truss.
SPAN YD3-Y84
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary PLANT
FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompl
DRAW. MADE BY G.T.N. DATE 4-25-34
DRAW. CHECKED BY [illegible] DATE 5-5-34
ORDER No. G5101 SHEET No. 325 Shop Dill 5-116

Matl Ord. pgs. 306, 376 G.T.N.
5-15-34
[E & C]

3 RD Span

30-1



General Notes:-
Material:-All material O.H Copper bearing medium carbon steel, except material marked (X) which is to be O.H. Copper bearing silicon steel.
Specifications:- Special by State of California, Dep't of Public Works.
Inspection:- John M. Bailey - Chief Inspector.
Rivets:- 1" diam.
Open Holes:- 1 1/16" diam. unless noted.
Reaming:- Holes in material ¾" thick or less to be subpunched ¼" and reamed to size while parts are assembled.
Carbon steel ¾" thick or less, used for lacing, stay plates & diaphragms may be punched full size.
When reaming field splices, the chords of trusses shall be laid out in lengths of not less than 6 panels and chord splices and plates P166, P167, P168 & P169 reamed and match-marked while so assembled. Holes marked R.T. to be reamed thru a steel templet.
Burrs to be removed from all reamed holes. All match-marking to be made with ¾" steel stencils and white paint.
Finish:-Sheared or flame cut edges and ends of all mat'l marked (E) to be planed to remove at least ⅛" of metal.
Shop Paint:- See sheet E1.
White Lead and Tallow on pin holes.

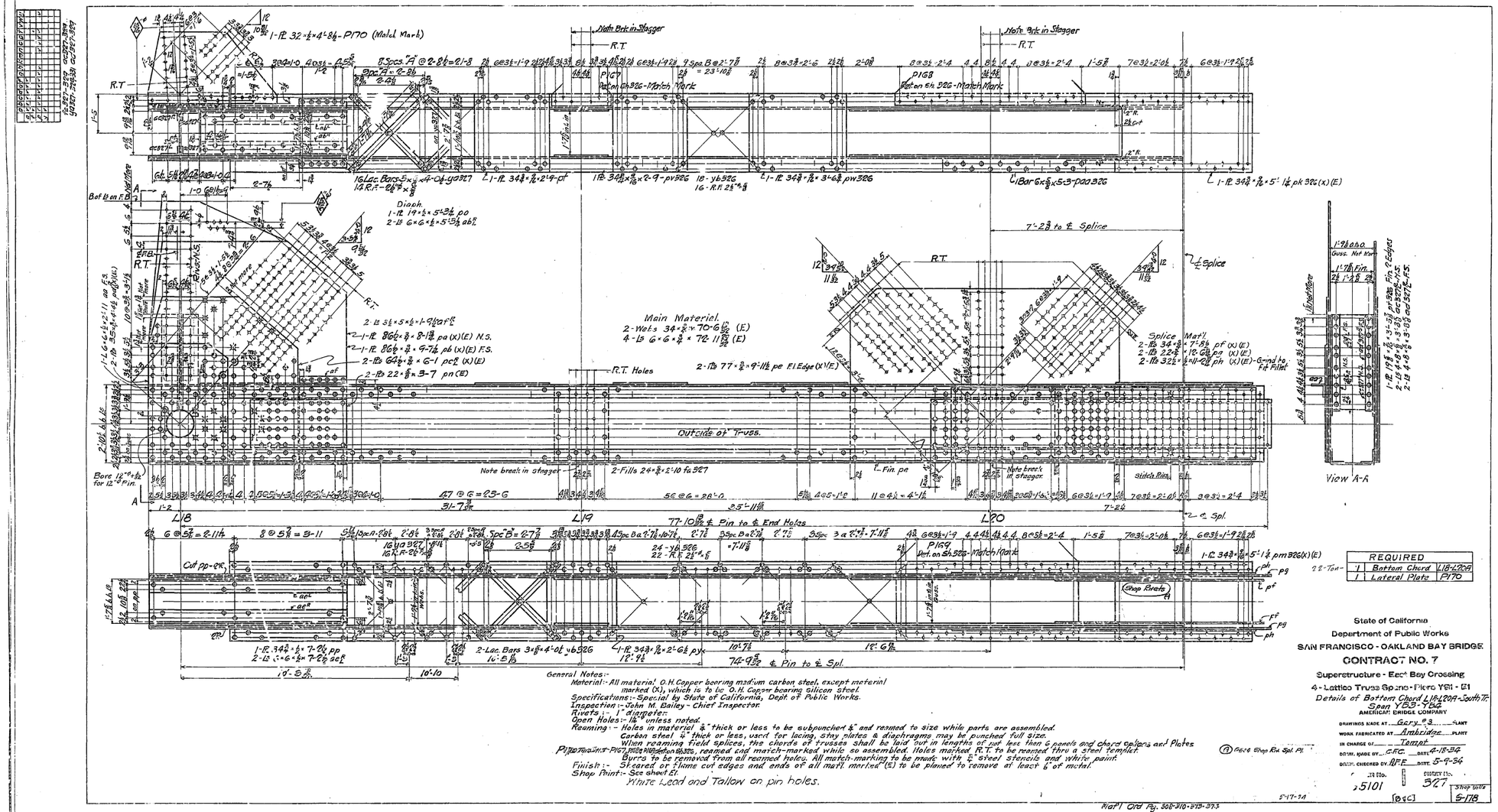
22-Ton-

REQUIRED		
1	Bottom Chord	L18-L20
1	Lateral Plate	P166
8	do	P167
6	do	P168
6	do	P169

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Lattice Truss Spans - Piers YB1 - E1
Details of Bottom Chord L18-L20 North Truss.
Span YB3-YB4
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAWINGS MADE BY C.F.C. DATE 4-17-34
DRAWINGS CHECKED BY A.F.F. DATE 5-8-34

(A) 6-11-34 Shop Rivet Spl. Pl.

ORDER No. G5101
SHEET No. 326
[B&C]
Shop Bills S-176-177
5-17-34
Mat'l Ord Pg. 308-309-310-378



REQUIRED		
22-Ton-	1	Bottom Chord L18-L20A
	1	Lateral Plate P170

General Notes:-
Material:- All material O.H. Copper bearing medium carbon steel, except material marked (X), which is to be O.H. Copper bearing Silicon steel.
Specifications:- Special by State of California, Dept. of Public Works.
Inspection:- John M. Bailey - Chief Inspector.
Rivets:- 1" diameter.
Open Holes:- ⅛" unless noted.
Reaming:- Holes in material ¾" thick or less to be subpunched ¼" and reamed to size while parts are assembled.
Carbon steel ⅞" thick or less, used for lacing, stay plates & diaphragms may be punched full size.
When reaming field splices, the chords of trusses shall be laid out in lengths of not less than 6 panels and chord splices and Plates
Pilot Holes:- PIG7, PIG8 Vert. on Sh 326, reamed and match-marked while so assembled. Holes marked R.T. to be reamed thru a Steel Templet.
Burrs to be removed from all reamed holes. All match-marking to be made with ¼" Steel stencils and white paint.
Finish:- Sheared or flame cut edges and ends of all mat'l. marked (E) to be planed to remove at least ⅛" of metal.
Shop Paint:- See sheet 2.
White Lead and Tallow on pin holes.

(A) Face Shop Rivs. Spl. Pl.

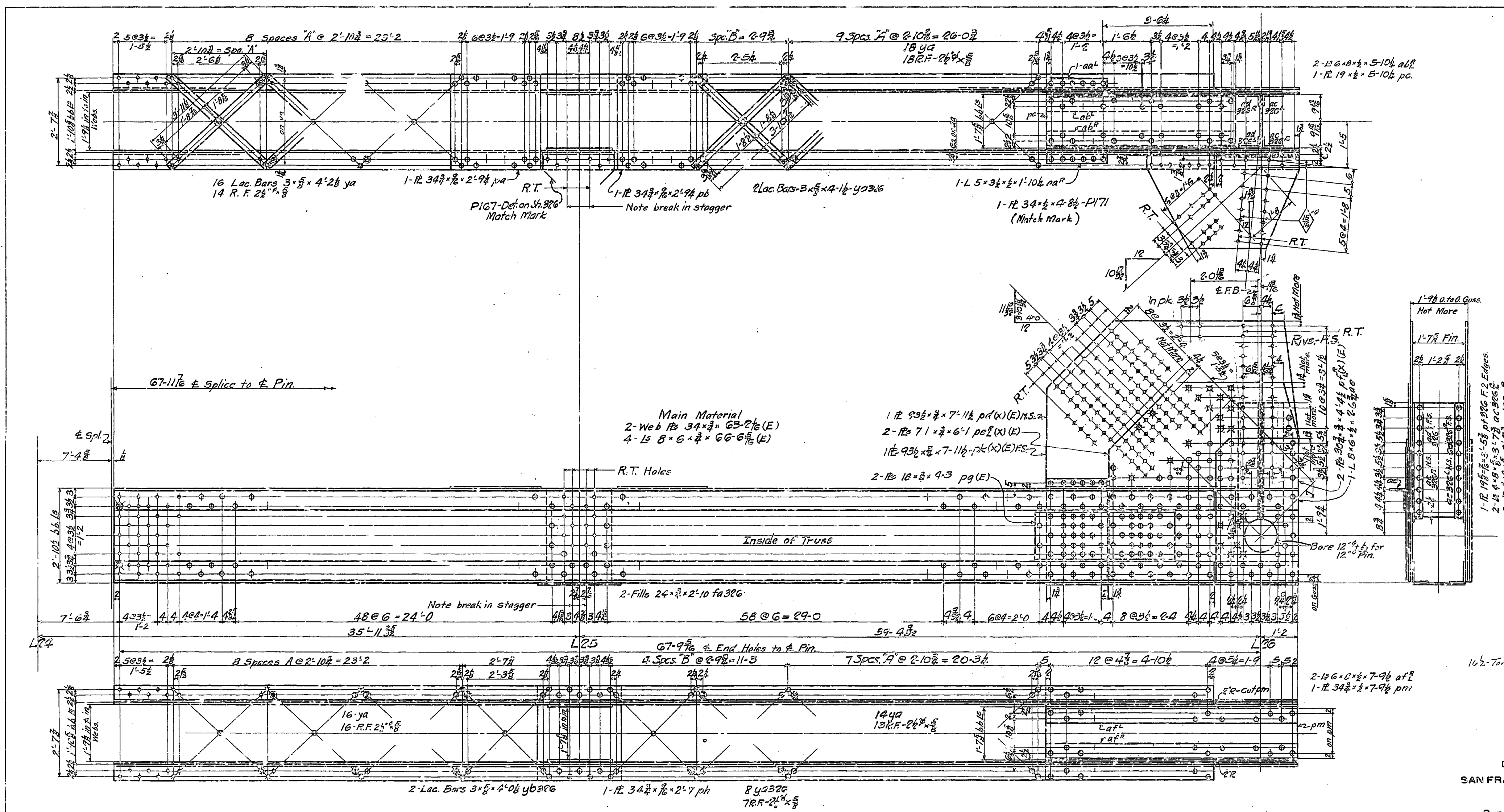
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4-Lattice Truss Spans - Piers Y21 - E1
Details of Bottom Chord L18-L20A - South Tr.
Span Y25-Y26
AMERICAN BRIDGE COMPANY

DRAWING MADE AT Gary PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tempt
DRAWN MADE BY G.F.C. DATE 4-18-34
DRAWN CHECKED BY W.F.F. DATE 5-9-34

JOB No. 5101 | DRAWING No. 327 | Shop Order S-178

5-17-34 [D & C]

Mat'l Ord Pg. 308-310-313-373



10½-Ton

REQUIRED		
1	Bottom Chord	L24-L26
1	Lateral Plate	P171

General Notes:-

Material:- All material O.H. Copper bearing medium carbon steel, except material marked (X) which is to be O.H. Copper bearing silicon steel.
Specifications:- Special by State of California, Dept of Public Works.
Inspection:- John M. Bailey - Chief Inspector.
Rivets:- 1" diam.
Open Holes:- 1 1/16" diam. unless noted.
Reaming:- Holes in material 3/4" thick or less to be subpunched 1/4" and reamed to size while parts are assembled.
Carbon steel 3/4" thick or less, used for lacing, stay plates & diaphragms may be punched full size.
When reaming field splices, the chords of trusses shall be laid out in lengths of not less than 6 panels, and chord splices and P171 (This Sh.) and P167 Det. on Sh. 326 reamed and match-marked while so assembled. Holes marked R.T. to be reamed thru a steel templet.
Burrs to be removed from all reamed holes. All match-marking to be made with 3/4" steel stencils and white paint.
Finish:- Sheared or flame cut edges and ends of all mat'l marked (E) to be planed to remove at least 1/8" of metal.
Shop Paint:- None.
White Lead and Tallow on pin holes.

Mat'l Ord Pg. 301-308-310-373

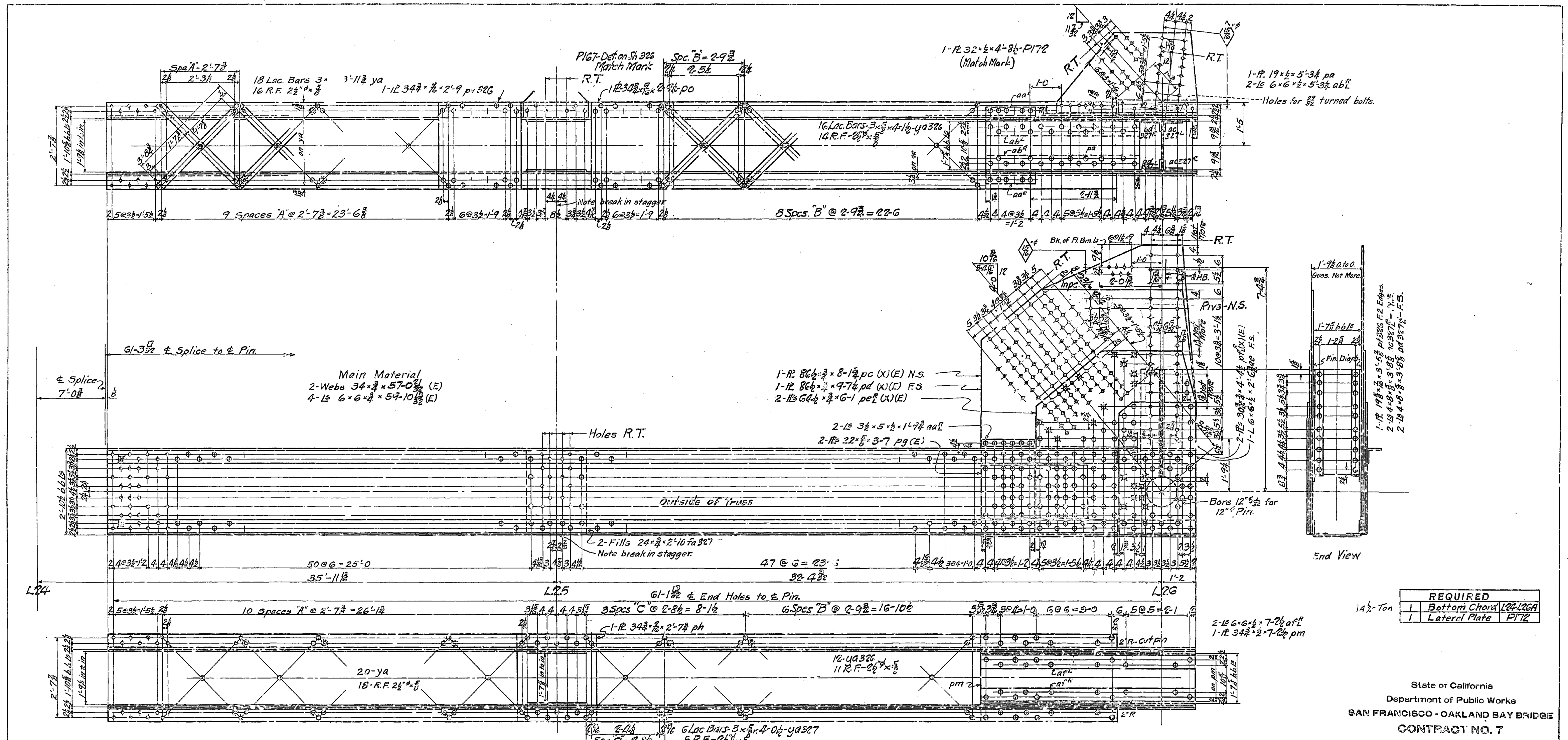
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Bottom Chord L24-L26 - North Truss
Span YB3-YB4
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAWN BY CFC DATE 4-25-34
DRAW. CHECKED BY A.F.F. DATE 5-9-34
ORDER No. G5101 [B+C] SHEET No. 328
Shop Bills S-179.

APPROVED 5-17-34

3rd Span

30-1



14½-Ton

REQUIRED		
1	Bottom Chord	L24-L26A
1	Lateral Plate	P172

General Notes:-
Material:- All material O. H. Copper bearing medium carbon steel, except material marked (X) which is to be O. H. Copper bearing silicon steel.
Specifications:- Special by State of California, Dep't of Public Works.
Inspection:- John M. Bailey - Chief Inspector.
Rivets:- 1" diam.
Open Holes:- 1$\frac{1}{16}$" diam. unless noted.
Reaming:- Holes in material ¾" thick or less to be subpunched ¼" and reamed to size while parts are assembled.
Carbon steel ¾" thick or less, used for lacing, stay plates & diaphragms may be punched full size.
When reaming field splices, the chords of trusses shall be laid out in lengths of not less than 3 panels and chord splices & ℞ P172 and ℞ P167 Det. on Sh326 reamed and match-marked while so assembled. Holes marked R.T. to be reamed thru a steel templet.
Burrs to be removed from all reamed holes. All match-marking to be made with ¾" steel stencils and white paint.
Finish:- Sheared or flame cut edges and ends of all mat'l marked (E) to be planed to remove at least ⅛" of metal.
Shop Paint:- None
White Lead and Tallow on pin holes

Mat'l Ord Pg. 908-911-312-978

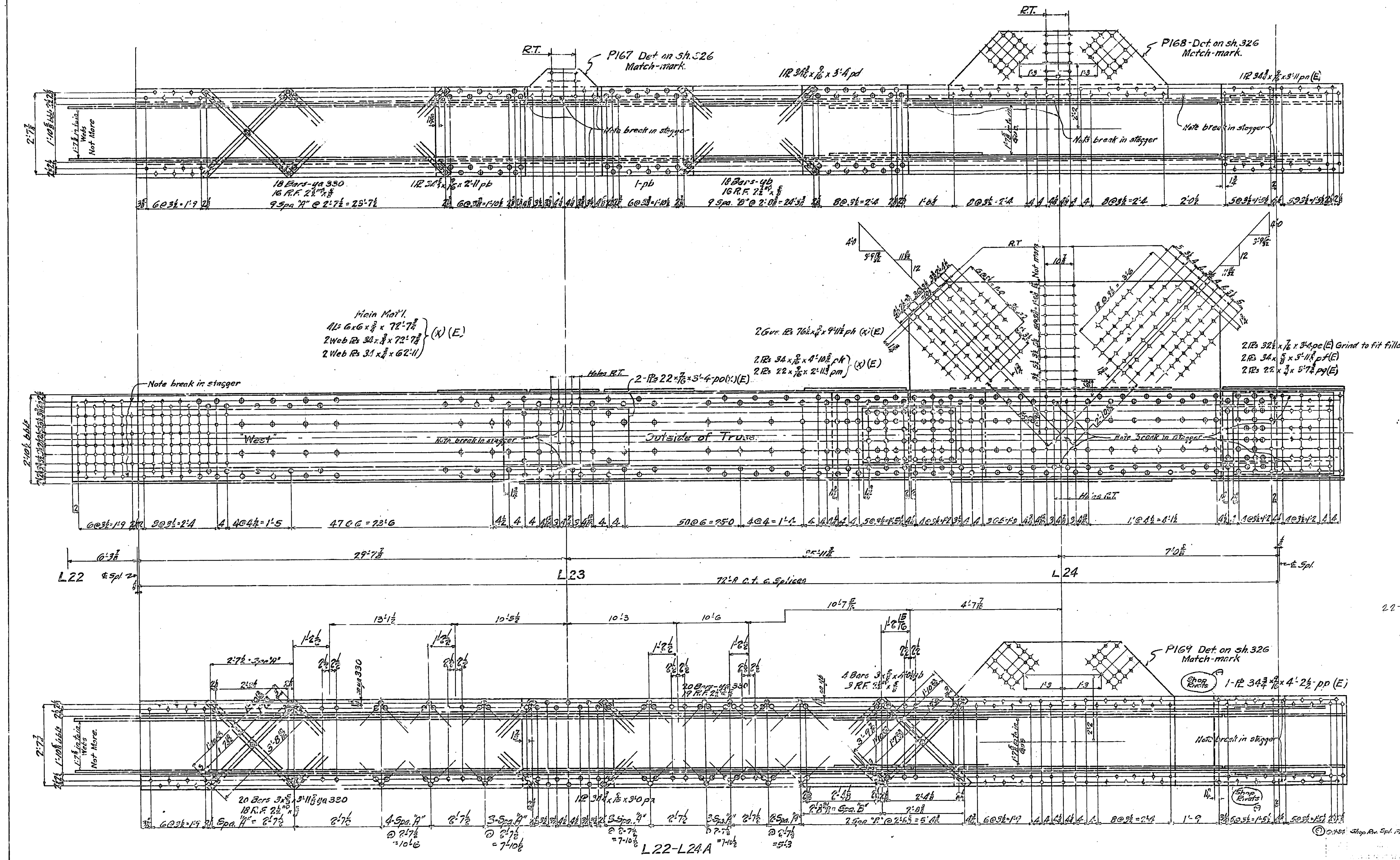
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Bottom Chord L24-L26A, South Truss
Span YB3-YB4
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAW. BY C.F.C. DATE 4-25-34
DRAW. CHECKED BY A.F.E. DATE 5-9-34

APPROVED 5-17-34

ORDER No. G5101 [B&C]
SHEET No. 329
Shop Bills S-180

3rd Span

30-1



General Notes

Material:- All material O.H. Copper Bearing medium carbon Steel, except mat'l marked (X) which is to be O.H. Copper Bearing Silicon Steel

Specifications:- Special by State of California Dep't of Public Works.

Inspection:- John M. Bailey - Chief Inspector

Rivets:- 1"φ

Open Holes:- 1 1/16"φ

Reaming:- Holes in material 3/4" thick or less to be subpunched 1/4" and reamed to size while parts are assembled.
Carbon steel 3/4" thick or less used for lacing bars and stay plates may be punched full size.
When reaming field splices, the chords of trusses shall be laid out in lengths of not less than 6 panels and chord splices and Pls. P167, P168 & P169 Det. on sh 326, reamed and match-marked while so assembled. Holes marked R.T. to be reamed thru a steel templet. Burrs to be removed from all reamed holes. All match-marking to be made with 3/4" steel stencils and white paint.

Finish:- Sheared or flame cut edges and ends of all mat'l marked (E) to be planed to remove at least 1/8" of metal.

Shop Paint:- See Sheet E1

22-Ton

REQUIRED		
One	Bottom Chord	L22-L24A

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YP1 - E1

Details of Bottom Chord-L22-L24A South Truss
Span YB3-YB4

AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAW. MADE BY G.T.N. DATE 4-25-34
DRAW. CHECKED BY [signature] DATE 5-10-34

ORDER No.	SHEET No.	Shop Bills
G5101	330	S-181

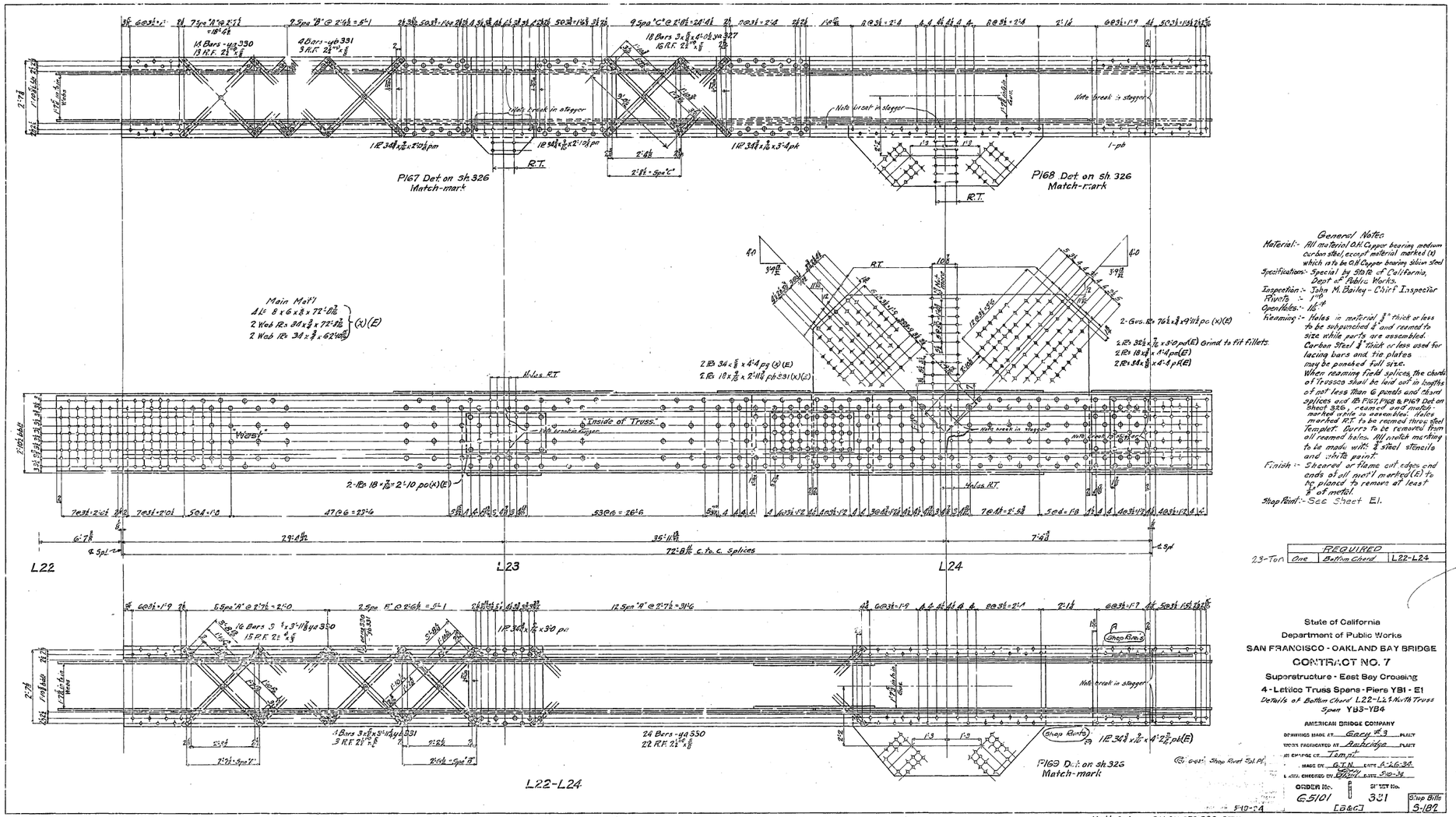
[B&C]

5-19-34

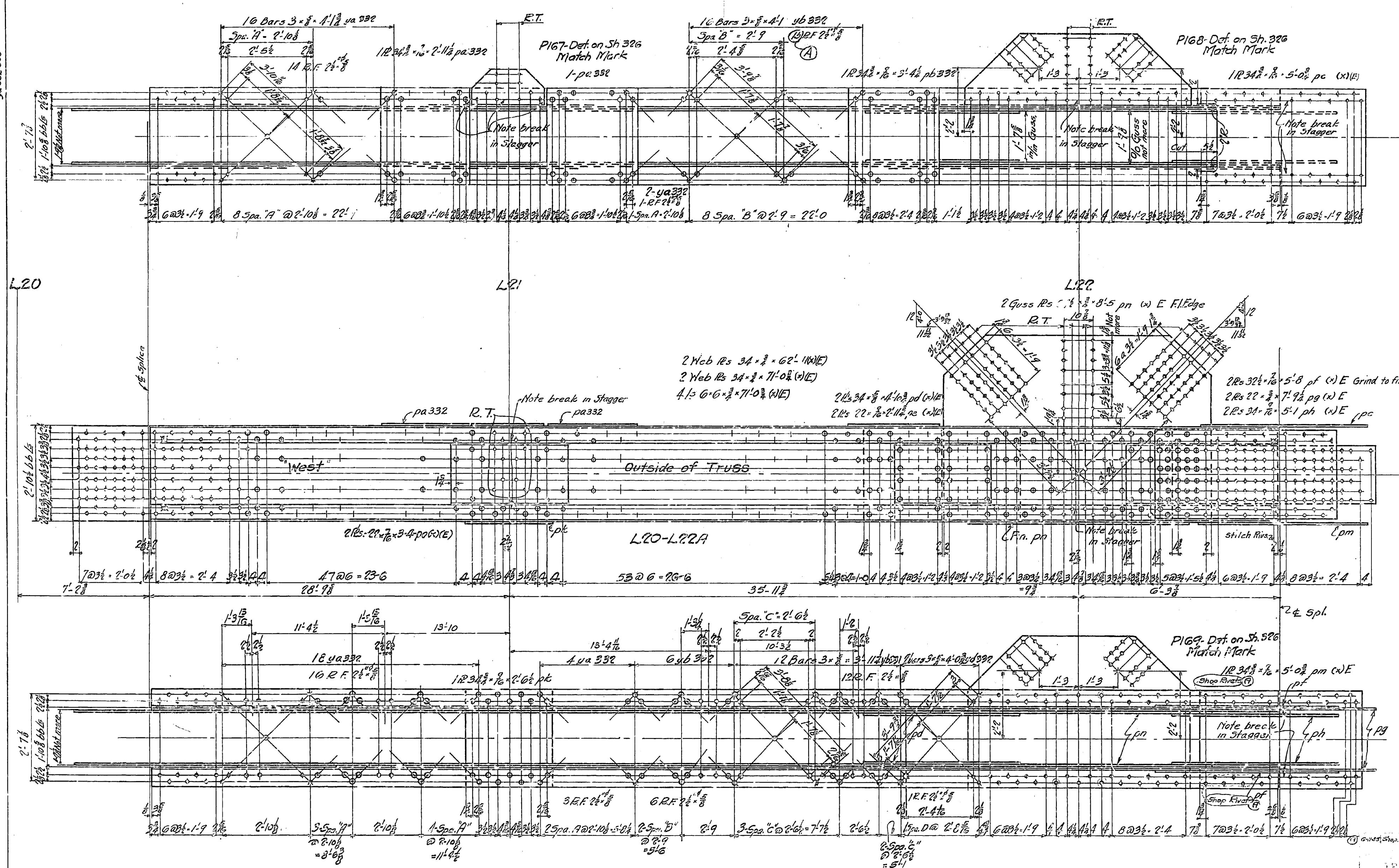
Mat'l Ord. pg. 311, 312, 374, 336 G.T.N.

3RD Span

301


P167 Det. on Sh. 326 Match-mark
P168 Det. on Sh. 326 Match-mark
P169 Det. on Sh. 326 Match-mark
Main Mat'l
4 L's 8 x 6 x 8 x 72'-10 3/8
2 Web Pls 38 x 3/8 x 72'-11 3/8
2 Web Pls 34 x 3/8 x 62'-10 5/8
(X)(E)
Inside of Truss
"West"
L22
L23
L24
L22-L24
General Notes
Material:- All material O.H. Copper bearing medium carbon steel, except material marked (X) which is to be O.H. Copper bearing silicon steel
Specifications:- Special by State of California, Dept. of Public Works.
Inspection:- John M. Bailey - Chief Inspector
Rivets:- 1"ø
Open Holes:- 1 1/16"ø
Reaming:- Holes in material 3/4" thick or less to be subpunched 3/4" and reamed to size while parts are assembled. Carbon Steel 3/4" thick or less used for lacing bars and tie plates may be punched full size. When reaming field splices, the chords of Trusses shall be laid out in lengths of not less than 6 panels and chord splices and P8 F167, P168 & P169 Det on Sheet 326, reamed and match-marked while in assembly. Holes marked R.T. to be reamed thru' steel Templet. Burrs to be removed from all reamed holes. All work in reaming to be made with 3/4 steel stencils and white paint.
Finish:- Sheared or flame cut edges and ends of all members marked (E) to be planed to remove at least 1/4 of metal.
Shop Paint:- See Sheet E1.
23-Ton | REQUIRED | One | Bottom Chord | L22-L24
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Bottom Chord L22-L24 North Truss
Span YB3-YB4
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Ambridge PLANT
AS CHECKED BY Tempt
MADE BY G.T.H. DATE 4-16-36
& CORR. CHECKED BY Gray DATE 5-10-36
ORDER No. G5101 ST'CTST No. 331 Shop Bills 3-182
5-10-36
EB&GJ
Matl. Ord. pgs. 301, 310, 375, 336 G.T.H.
3RD Span

30-1



GENERAL NOTES

Material- All material O.H. Copper Bearing medium Carbon steel, except material marked (x) which is to be O.H. Copper Bearing Silicon steel.
Specifications- Special by State of California, Dep't of Public Works.
Inspection- John M. Bailey - Chief Inspector.
Rivets- 1"
Open Holes- 1$\frac{1}{16}$
Reaming- Holes in material ⅞" thick or less to be sub-punched ⅞" and reamed to size while parts are assembled. Carbon steel ⅞" thick or less, used for lacing and stayplates, may be punched full size. The chords of trusses shall be laid out in lengths of not less than 6 panels and the chord splices and plates P167, P168, P169 Det. on Sh 326, reamed and match marked while so assembled. Holes marked "R.T." to be reamed thru a steel templet. Burrs to be removed from all reamed holes.
All match marking to be made with ⅜" steel stencils and white paint.
Finish- Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least ⅛" of metal.
SHOP PAINT:- See Sh E1

REQUIRED			
22-Ton	One	Bott. Chord	L20-L22A

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Bottom Chord L20-L22A
South Truss Span YB3-YB4

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE Tompt
DRAW. MADE BY C.F.C. DATE 4-26-34
DRAW. CHECKED BY [signature] DATE 5-11-34
ORDER No. G5101 [B&C]
SHEET No. 332
Shop Bills 5-183

Approved 5-18-34

Rev'd Ord Sh. 311, 312, 374, 336 C.F.C.

15WW

36B Span

30-1

L20 L21 L22

P167 Det on sh 326 Match-mark

P168 Det on sh 326 Match-mark.

P169 Det on sh 326 Match-mark

L20-L22

GENERAL NOTES-

MATERIAL- All material O.H. Copper Bearing medium Carbon steel, except material marked (x) which is to be O.H. Copper Lining Silicon steel.

SPECIFICATIONS- Special by State of California, Dept of Public Works.

INSPECTION- John M. Dailey - Chief Inspector.

RIVETS- 1"ø

OPEN HOLES- 1⅛"ø

REAMING - Holes in material ⅞" thick or less to be subpunched ¼" and reamed to size while parts are assembled. Carbon steel ⅞" thick or less, used for lacing bars and stay plates, may be punched full size. The chords of trusses shall be laid out in lengths of not less than 6 panels and the chord splices and plates P167, P168, P169 Det on sh 326, reamed and match marked while so assembled. Holes marked "R.T." to be reamed through a steel template. Burrs to be removed from all reamed holes. All match marking to be made with ⅜" steel stencil and white paint.

FINISH - Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least ⅛" of metal.

Shop Paint :- See Sheet E1

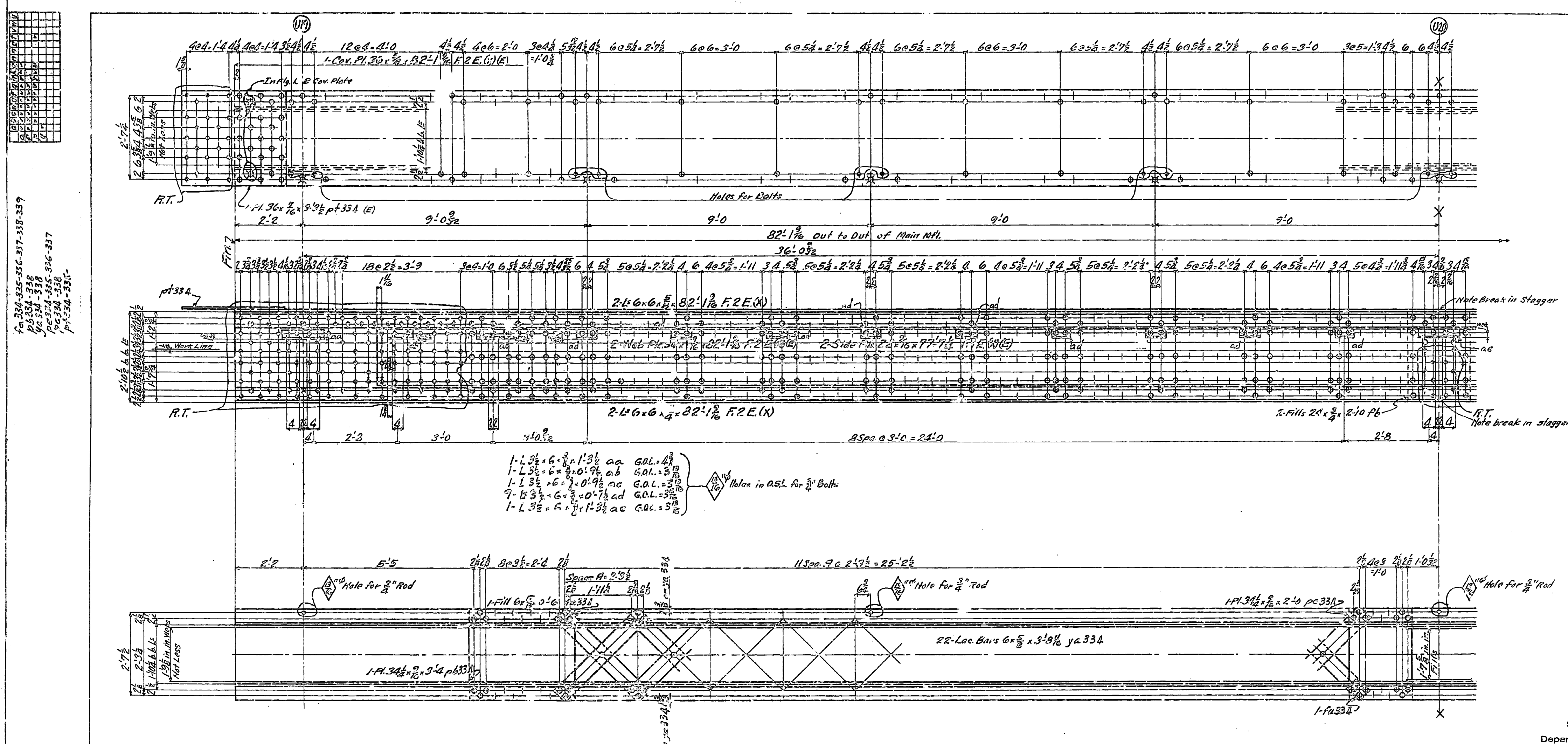
REQUIRED		
25-Ton One	Bott. Chord	L20-L22

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Bottom Chord L20-L22
North Truss Span YB3-YB4
AMERICAN BRIDGE COMPANY
DRAWING LIGHT BY Gary #3 PLANT
WORK FABRICATED AT Rankridge PLANT
IN CHARGE OF Tonyff
DESIGN. BY G.T.N. DATE 4-26-34
DRAWN BY [illegible] DATE 5-1-34
TRACED BY [illegible] DATE 5-18-34
ORDER No. G5101 [BBC] SHEET No. 333
Ship Bills S-184

McH. Ord pgs. 301, 310, 376, 378, 386 G.T.N.

Span

30-1



U19-U21

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Top Chord U19-U21 North Truss
Span YB3-YB4
AMERICAN BRIDGE COMPANY

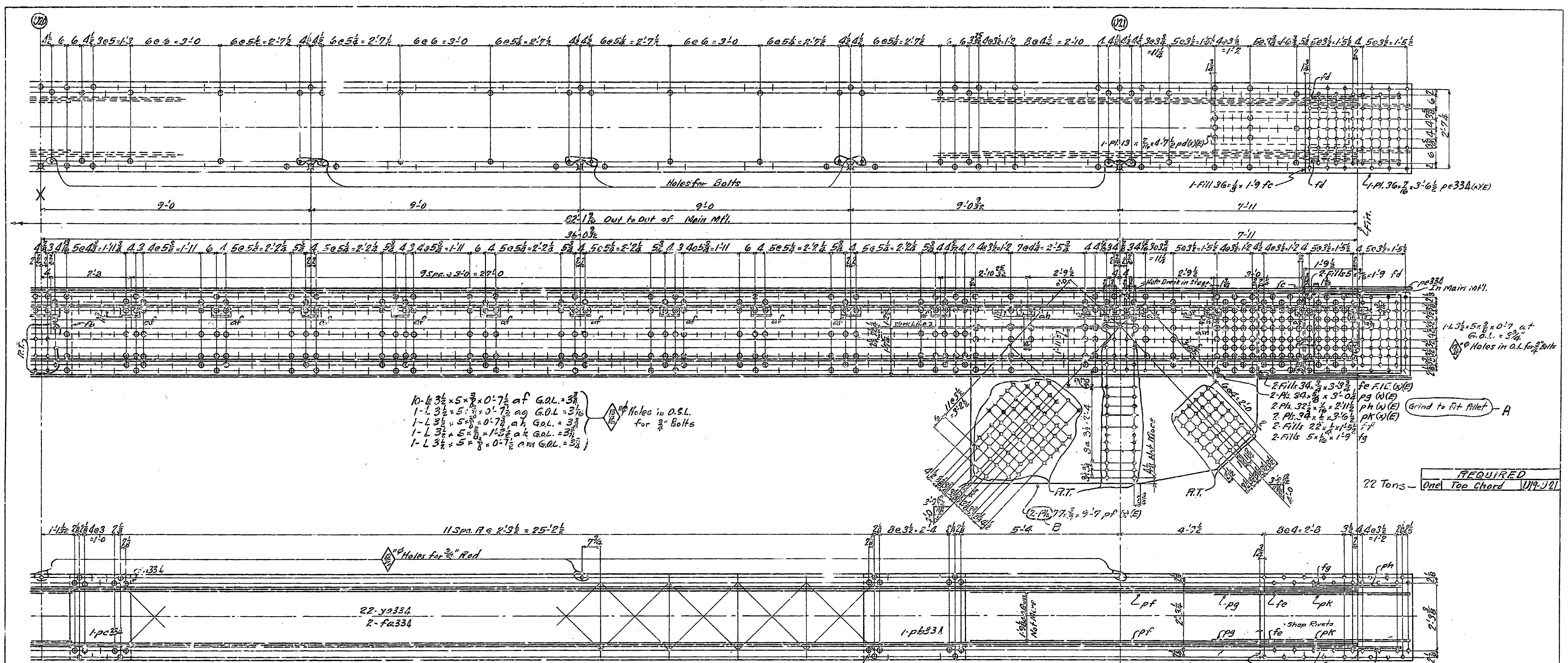
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAWN BY L.F.B. DATE 4-23-34
DRAW. CHECKED BY J.H.G. DATE 5-4-34

ORDER No. 65101 | SHEET No. 334Ab | Shop Bill 5185

5-15-34

1SWW 6-12 3rd Span

30-1



U19-U21

GEN. NOTES-
Material- All mat'l O.H. Copper Bearing medium Carbon steel, except mat'l marked (x) which is to be O.H. Copper Bearing silicon steel.
Specifications-Special by State of California, Dep't of Public Works.
Inspection-John M. Bailey-Chief Inspector.
Rivets- 1"⌀
Open Holes- 1 1/16"⌀ Unless noted.
Reaming- Holes in material 3/4" thick or less to be subpunched 1/4" and reamed to size while parts are assembled. Carbon steel 3/4" thick or less, used for lacing or stay plates, may be punched full size.
The chords of trusses shall be laid out in lengths of not less than 6 panels and the chord splices reamed while so assembled in shop and pieces match marked.
Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
All match marking to be made with 3/4" steel stencils and white paint.
Finish- Sheared or flame cut edges and ends of all mat'l marked (E) to be planed so as to remove at least 1/8" of metal.
Shop Paint ; See Sheet E1

(B) 7-10-34 2-Guss to pf
(A) 7-3-34 Grind R "ph" to fit fillet

APPROVED
Approval Date 5-15-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Top Chord U19-U21 North Truss
Span YB3-YB4
AMERICAN BRIDGE COMPANY

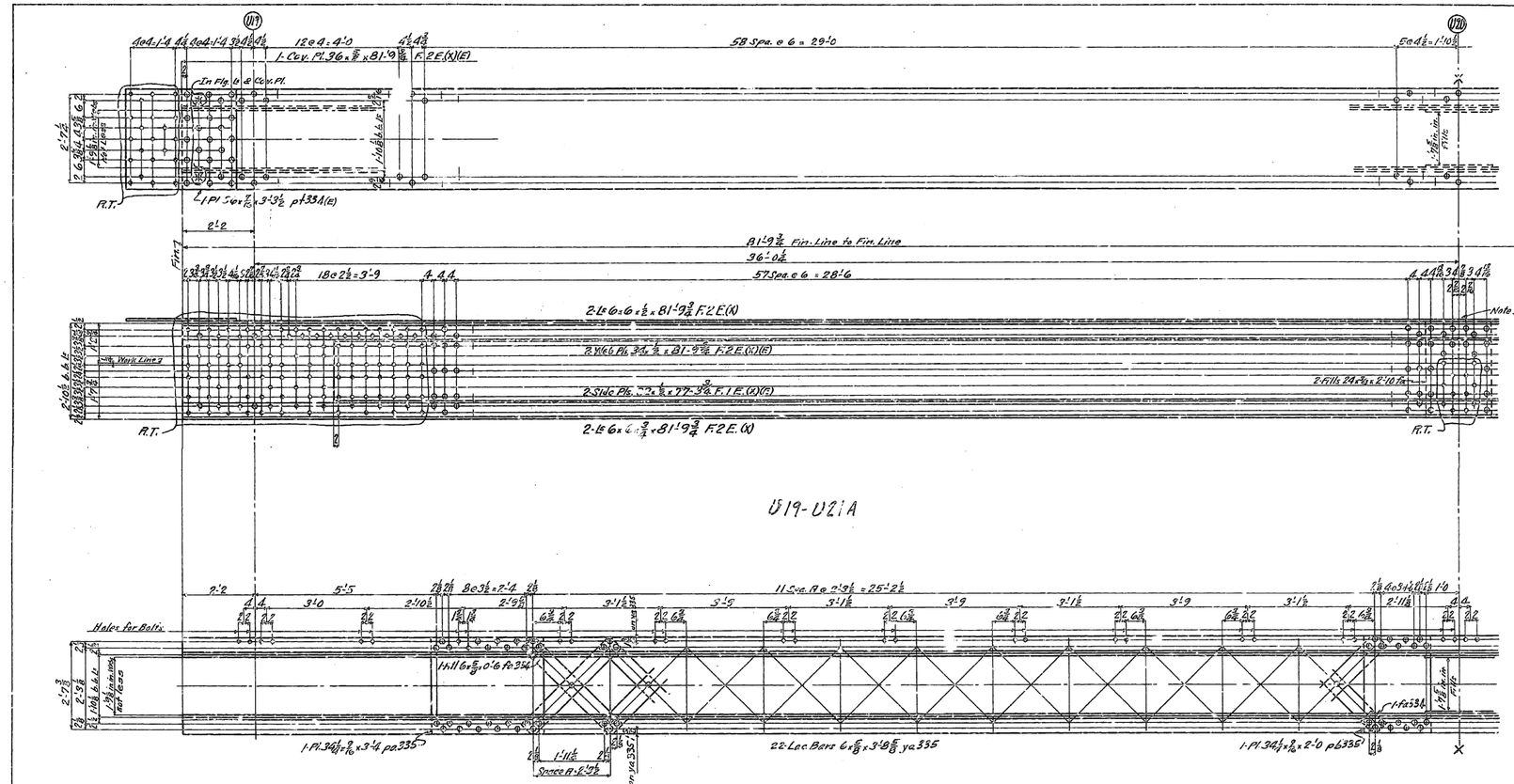
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAWN BY L.F.B. DATE 4-28-34
CHECKED BY J.H.G. DATE 5-4-34

ORDER No.	SHEET No.	Shop Bill
65101 [B&C]	33AB	5185

Mat'l. Ord. pgs. 370-376-303-304 L.F.B. 331

3rd span

30-1



U19-U21A

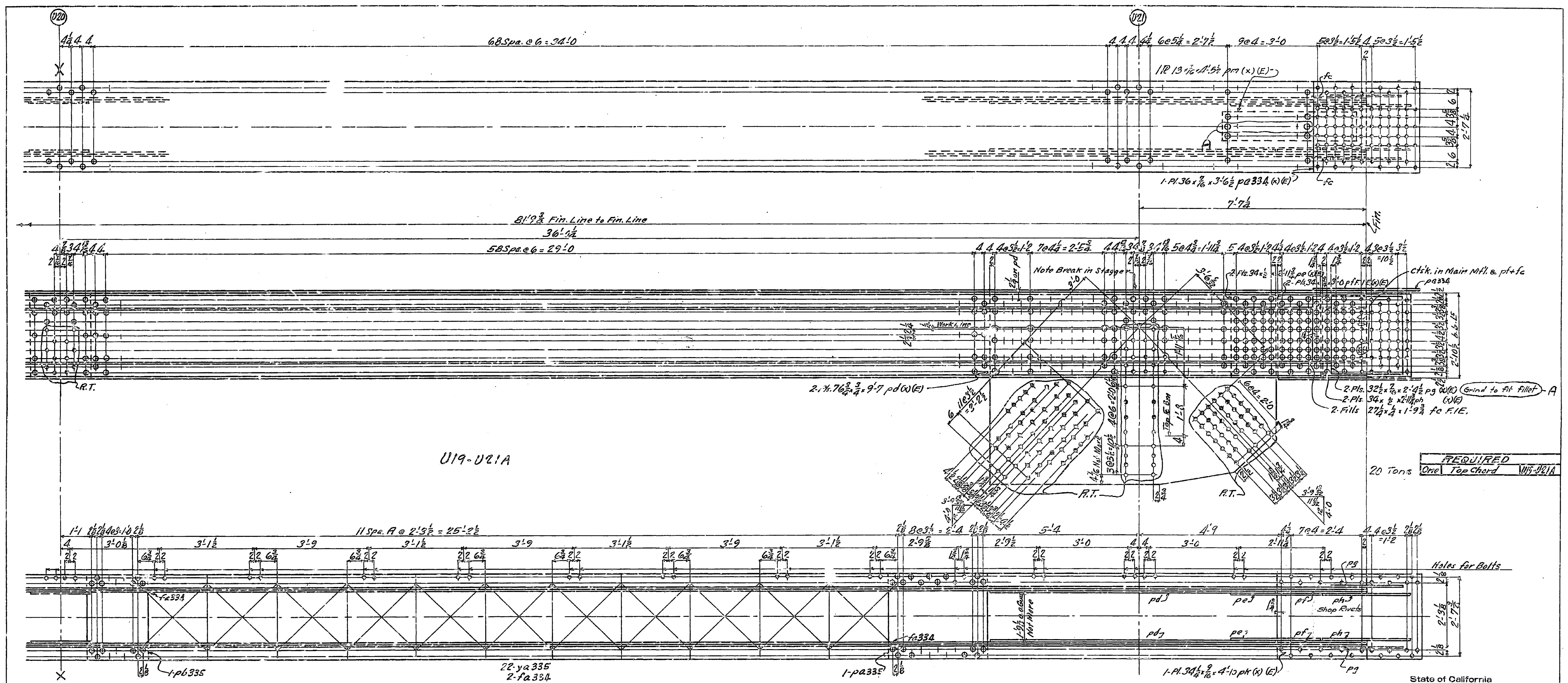
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Top Chord U19-U21A
Span V22-Y22 South Truss
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Pittsburgh PLANT
IN CHARGE OF Tempel
DRAWN BY J.F.B. DATE 4-24-34
TRACED BY J.H.G. DATE 5-7-34
CHECKED BY DATE 5-15-34

ORDER No. 65101
DRAWING No. 335A3
Shop 2077
5106

Issue 6-12

30-1



GENERAL NOTES-

Material- All material O.H. Copper Bearing medium Carbon steel, except material marked (x) which is to be O.H. Copper Bearing Silicon steel.

Specifications- Special by State of California, Dep't of Public Works.

Inspection- John M. Bailey- Chief Inspector.

Rivets- 1"⌀.

Open holes- 1 1/16"⌀.

Reaming- Holes in material ¾" thick or less to be subpunched ¼" and reamed to size while parts are assembled. Carbon steel ¾" thick or less, used for lacing and stay plates, may be punched full size.
The chords of trusses shall be laid out in lengths of not less than 6 panels and the chord splices reamed while so assembled in shop and pieces match marked. Holes marked "R.T." to be reamed thru a steel templet. Burrs to be removed from all reamed holes.
All match marking to be made with ¾" steel stencils and white paint.

Finish- Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least ⅛" of metal.

Shop paint- See Sheet E1.

Mat'l. Ord. pgs.- 371-372-302-303-309 L.F.B.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Top Chord U19-U21A South Truss
Span YB3-YB4

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAWING MADE BY L.F.B. DATE 4-24-34
CHECKED BY J.H.G. DATE 5-7-34

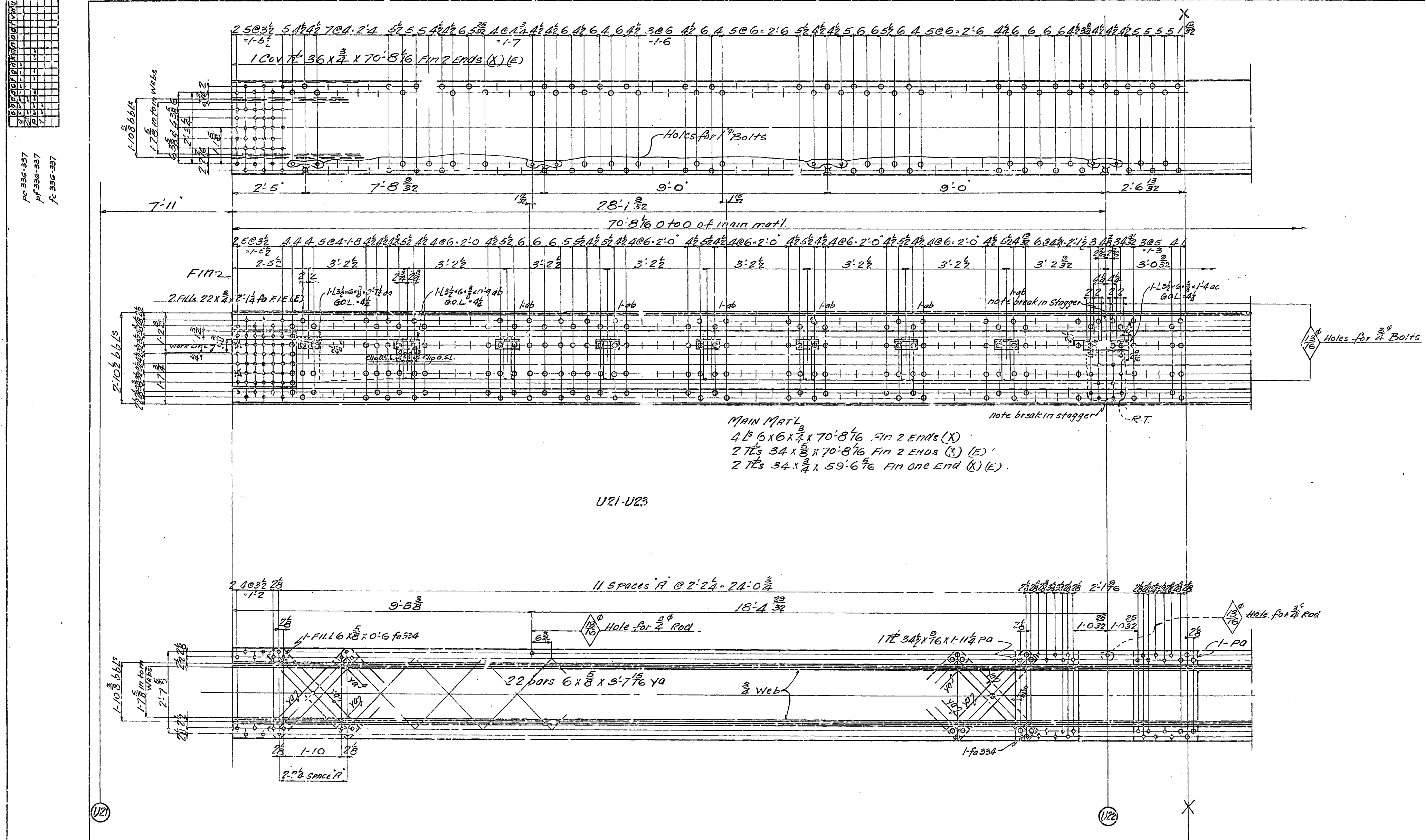
(A) 7-3-34 Grind ⅜" pg to fit fillet. Add rivets in cov. Pl.

5-15-34

ORDER No. 6510! [B&C]
SHEET No. 3353
Shop Bill 9186

15WW G-W

30-1



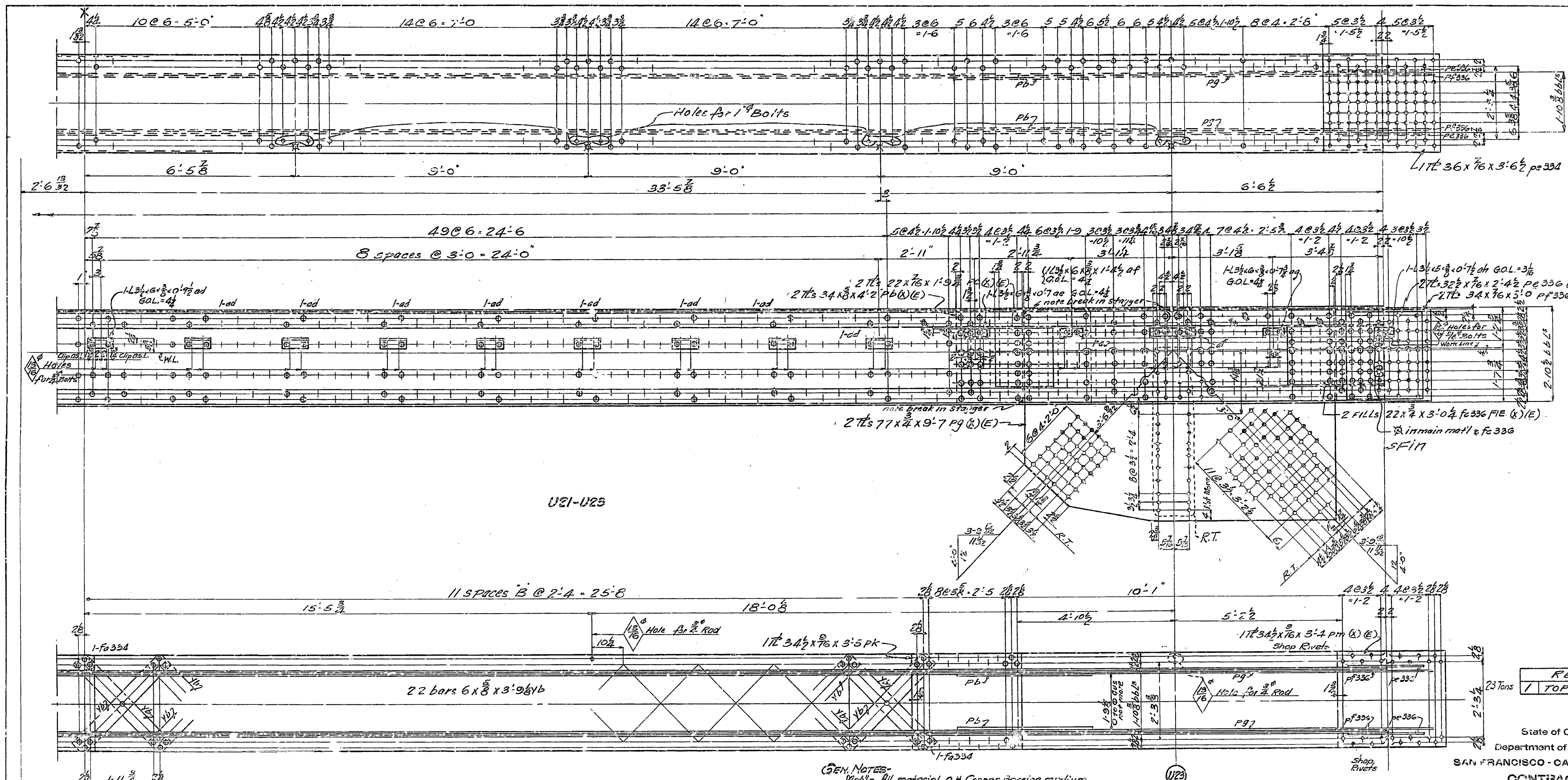
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
DETAILS TOP CHORD U21-U23 NORTH TRUSS
SPAN YB3-YB4
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT GARY #3 PLANT
WORK FABRICATED AT AMBRIDGE PLANT
IN CHARGE OF TOMPT
DRAW. MADE BY L.H. DATE 4-23-34
CHECKED BY J.H.O. DATE 5-4-34

ORDER No.	SHEET No.	Shop Bill
G5101	336PB	5187

5-15-34

30-1



REQUIRED		
1	TOPCHORD	U21-U23

23 Tons

GEN. NOTES-
Mat'l - All material O.H. Copper Bearing medium Carbon steel, except material marked (x), which is to be O.H. Copper Bearing Silicon steel.
Specifications - Special by State of California, Dep't of Public Works.
Inspection - John M. Bailey - Chief Inspector.
Rivets - 1"
Open Holes - 1 1/16" Unless noted.
Reaming - Holes in material 3/4" or less to be subpunched 3/4" and reamed to size while parts are assembled.
Carbon steel 5/8" thick or less, used for lacing or stay plates, may be punched full size. The chords of trusses shall be laid out in lengths of not less than 6 panels and the chord splices reamed while so assembled in shop and pieces match marked.
Holes marked "R.T." to be reamed through a steel templet. Burrs to be removed from all reamed holes. All match-marking to be made with 1/4" steel stencils and white paint.
Finish - Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least 1/8" of metal.
Shop Paint - See sheet E1

(A) 7-3-34 Grind 1/2" pe336 to fit fillet

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
DETAILS TOP CHORD U21-U23 NORTH TRUSS
SPAN YB3 - YB4
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT GARY #3 PLANT
WORK FABRICATED AT AMBRIDGE PLANT
IN CHARGE OF TOMPT
DRAWN BY L.H. DATE 4-23-34
CHECKED BY J.H.G. DATE 5-4-34

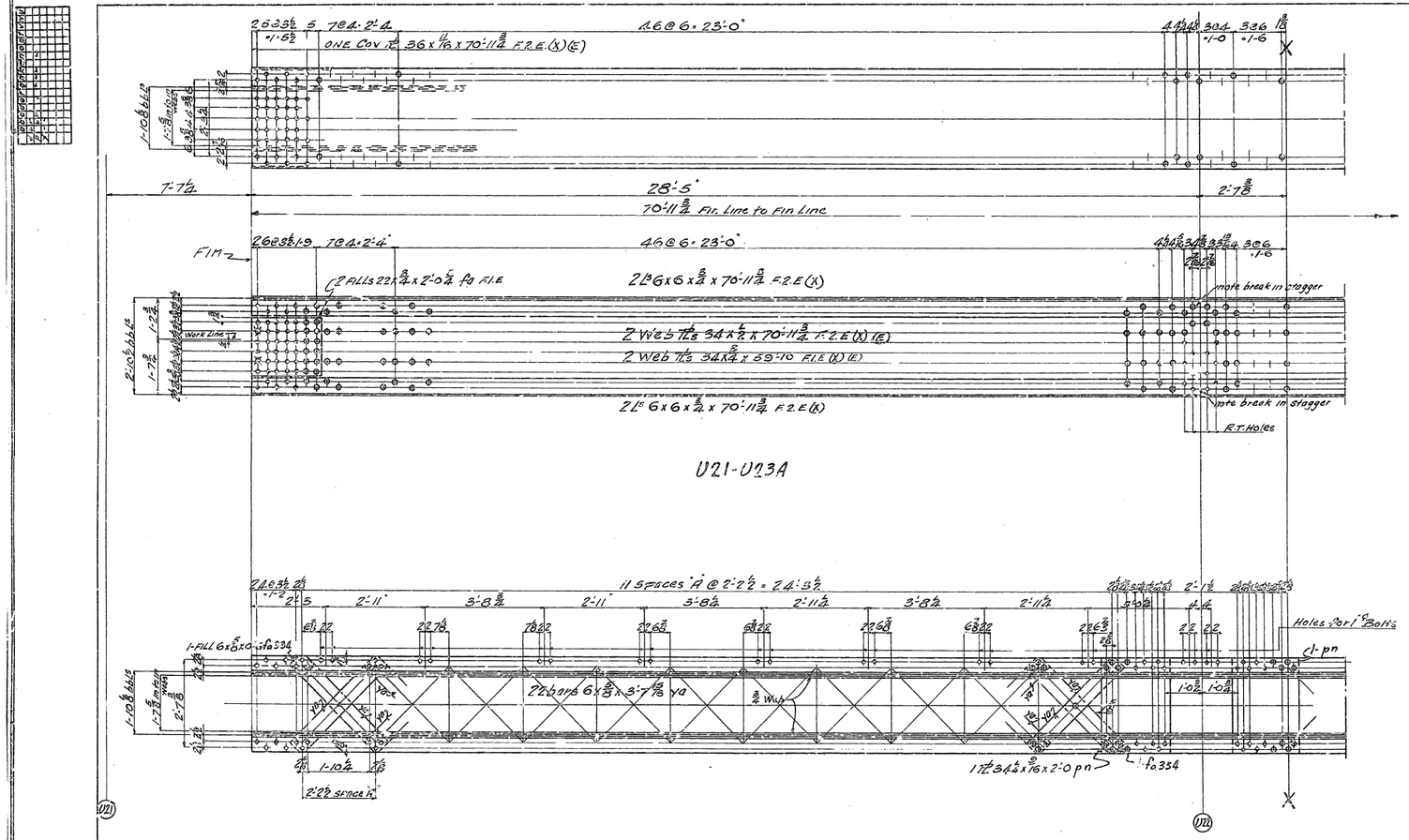
ORDER No. G 5101 [BAC] SHEET No. 3368

Shop Bill 5187

5-15-34

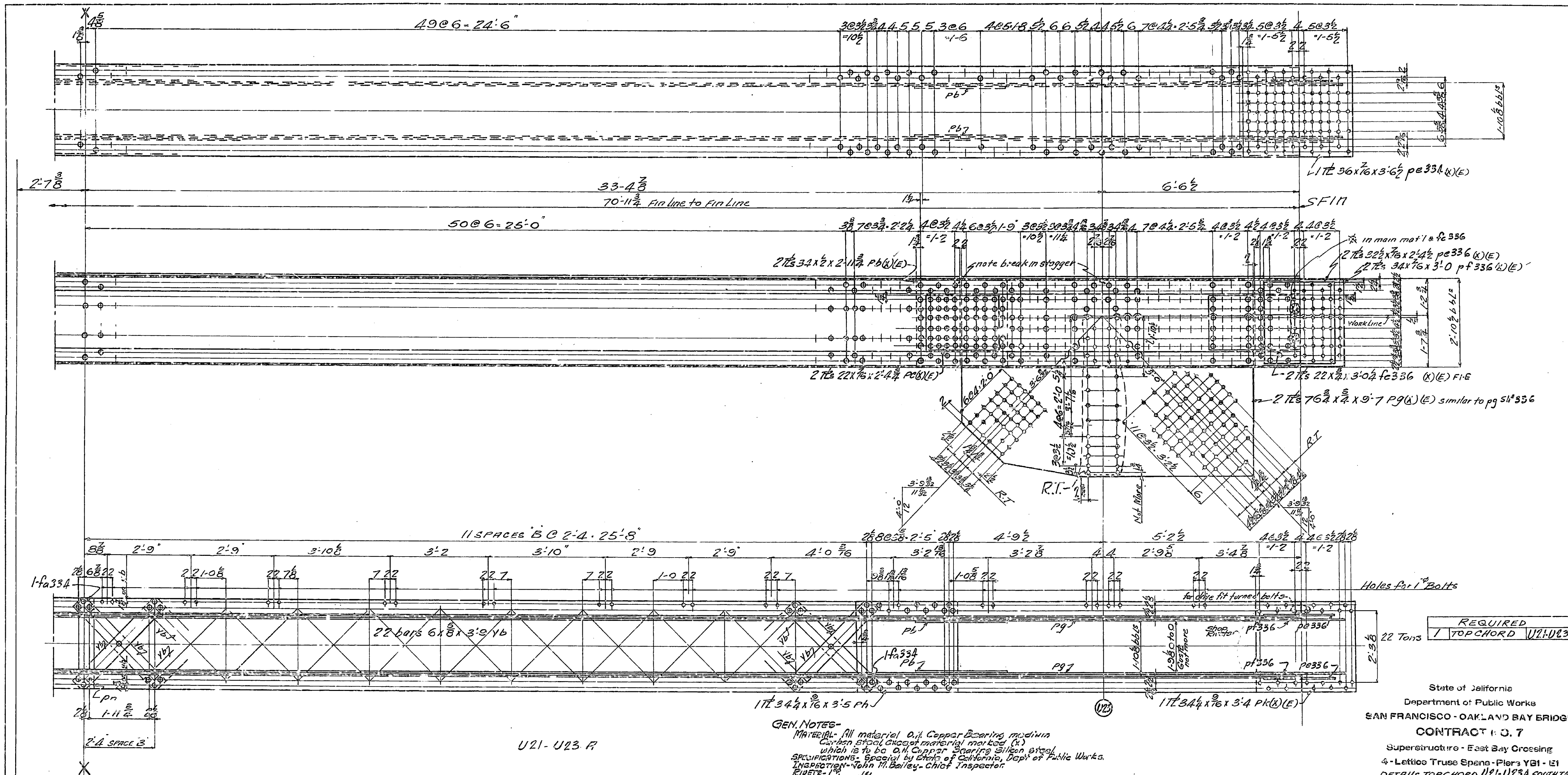
Mat'l. Ord. Pg. 303, 370, 371, 331 L.H.

30-1



U21-U23A

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y8 - 11
DETAILS TOP CHORD U21-U23A SOUTH TRUSS
Spans Y8 3 - Y8 4
AMERICAN BRIDGE COMPANY
DRAWING MADE AT GARY No 3 PLANT
WORK FABRICATED AT AMBRIDGE PLANT
IN CHARGE OF TOMPT
DRAWN BY L.F.B. DATE 4-24-34
TRACED BY J.H.G. DATE 5-1-34
ORDER No. G5101 DRAFT No. 337A6
Shop 2111 5148
5-15-34



GEN. NOTES-
MATERIAL- All material O.H. Copper Bearing medium Carbon steel except material marked (x) which is to be O.H. Copper Bearing Silicon steel.
SPECIFICATIONS- Special by State of California, Dep't of Public Works.
INSPECTION- John M. Bailey - Chief Inspector.
RIVETS- 1"Φ.
OPEN HOLES- 1$\frac{1}{16}$"Φ
REAMING- Holes in material ¾" thick or less to be subpunched ¼" and reamed to size while parts are assembled.
Carbon steel ⅞" thick or less, used for lacing and stay plates, may be punched full size. The chords of the trusses shall be laid out in lengths of not less than 3 panels and the chord splices reamed while so assembled in shop and pieces match marked.

Holes marked "E.T." to be reamed through a steel templet. Burrs to be removed from all reamed holes. All match marking to be made with ⅜" steel stencils and white paint.
FINISH- Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least ⅛" of metal.
SHOP PAINT - SEE SHEET E1

Mat'l. Ord. pgs. 372-302-309 L.F.B.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
DETAILS TOPCHORD U21-U23A SOUTH TRUSS
Span YB3-YB4

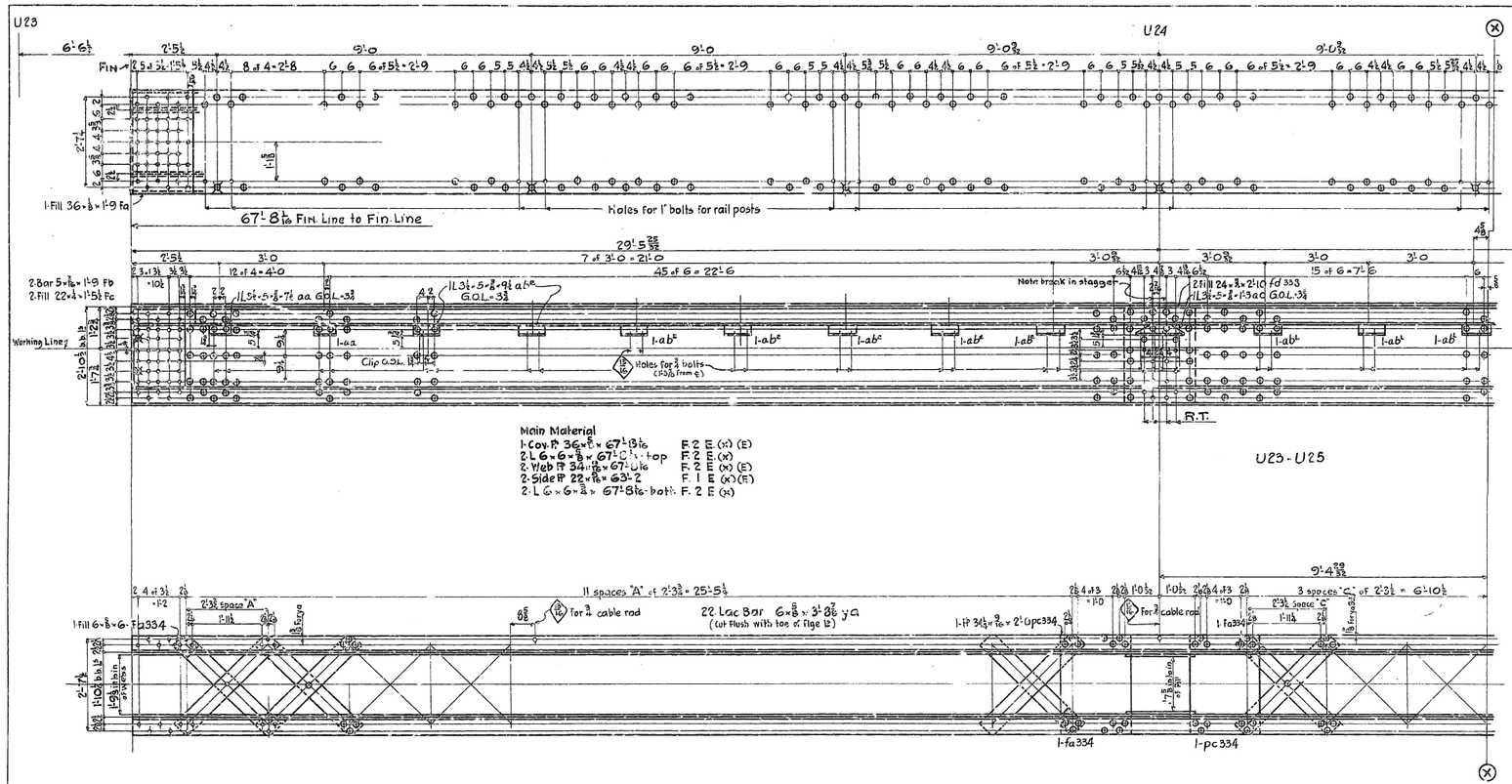
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT GARY #3 PLANT
WORK FABRICATED AT AMBRIDGE PLANT
IN CHARGE OF TOMPT
DRAWN BY L.F.B. DATE 3-24-34
CHECKED BY J.H.G. DATE 5-7-34
ORDER No. G5101 [B&C] SHEET No. 337B
Shop Bill 5188

APPROVED 5-15-34

3041

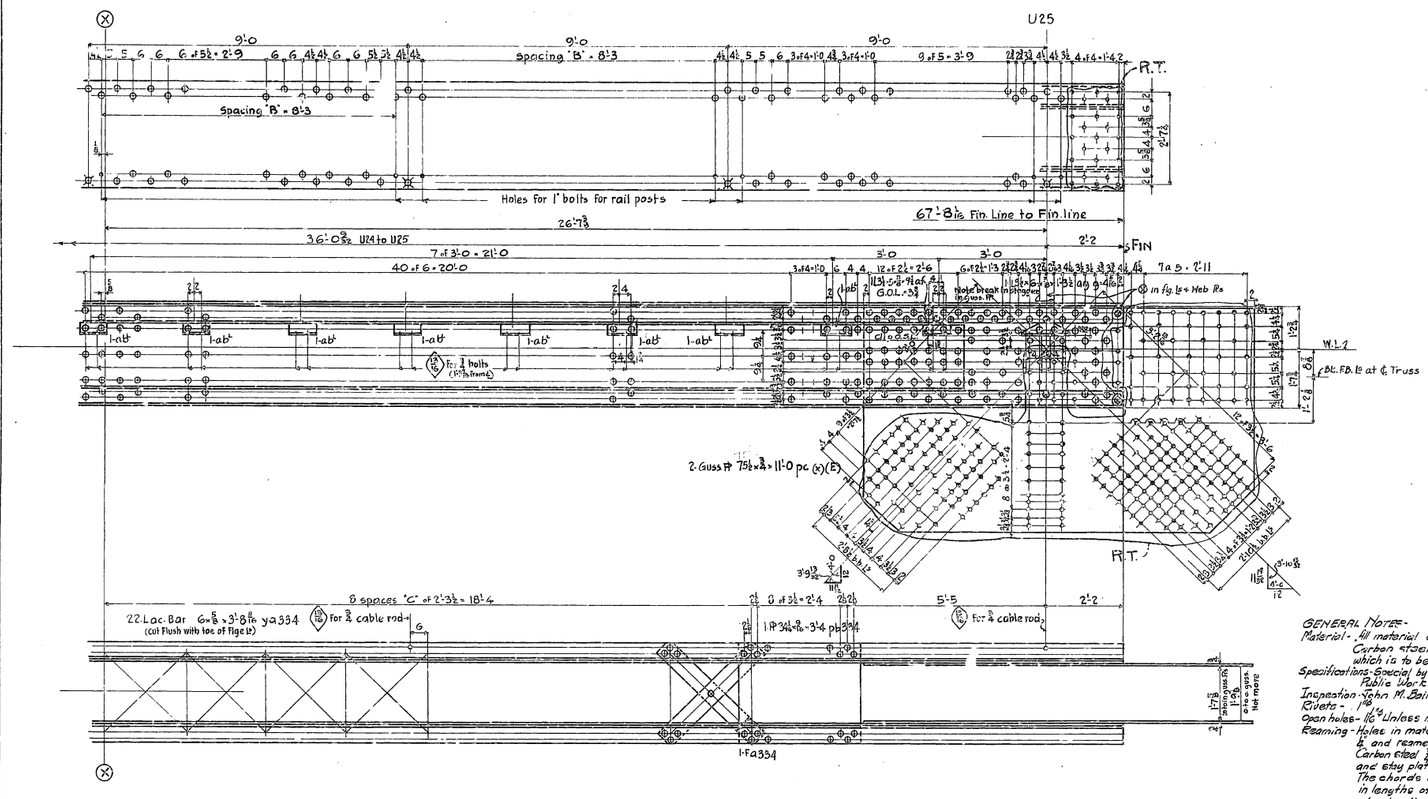
30-1

FC 338 - Sh. 339



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4-Lattice Truss Spans - Piers Y51 - E1
DETAILS of TOP CHORD U23-U25 NORTH E
Span Y33 - Y34
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary 3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tampt
DRAWN BY G.E.D. DATE 1-28-34
TRACED BY JHG DATE 5-4-34
CHECKED BY DATE
ISSUED 5-15-34
DRAWING No. G5101
SHEET No. 338 AB
Shop Bill 5189

30-1



GENERAL NOTES-

Material - All material O.H. Copper Bearing medium Carbon steel, except material marked (x) which is to be O.H. Copper Bearing Silicon steel.

Specifications - Special by State of California, Dept of Public Works.

Inspection - John M. Bailey - Chief Inspector.

Rivets - 7/8" Unless noted.

Open holes - 1 1/16" Unless noted.

Reaming - Holes in material 3/4" thick or less to be subpunched 3/16" and reamed to size while parts are assembled. Carbon steel 3/4" thick or less, used for lacing and stay plates, may be punched full size. The chords of trusses shall be laid out in lengths of not less than 6 panels and the chord splices reamed while so assembled in shop and pieces match marked. Holes marked "R.T." to be reamed thru a steel templet. Burrs to be removed from all reamed holes. All match marking to be made with 1/4" steel stencils and white paint.

Finish - Sheared or flame cut edges and ends of all material marked (x) to be planed so as to remove at least 1/8" of metal.

Shop paint - NONE

Required		
1	Top Chord	U23-U25

18 Tons

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y21 - E1
DETAILS OF TOP CHORD U23 - U25 NORTH TRUSS
Span Y23 - Y24
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary, 3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAWN BY G.E.R. DATE 1/23/34
CHECKED BY J.H.C. DATE 5-4-34
ORDER No. G5101 SHEET No. Beg 338B Shop Bill 5187

Mat'l. Ord. pp 371 - 331 F-15-34

1 SHT 6-12

30-1

U23

U24

2 5 at 3½ = 17½ 5½ 4½ 4½ 8 at 4 = 2'-8

46 at 6 = 23'-0

4½ 3¾ 3¾ 3¾ 3¾ 4

17 at 6 = 8'-6

67'-8 Fin. Line to Fin. Line

FIN

6'-6½

29'-5⅜

2 3 at 3½ 3½ 3½

12 at 4 = 4'-0

46 at 6 = 23'-0

4½ 3¾ 4½ 3 4½

17 at 6 = 8'-6

2 Fill 27¼ x ¼ = 1'-9½ Fc Ele. = 10½

2 Fill 24 x ⅜ x 2'-10 fd 338

Note break in stagger

Working Line

R.F.

U23 - U25 A

Main Material

1 Cov Pl 36 x ⅝ x 67'-8	F.2 E. (W) (E)
2 L 6 x 6 x ½ x 67'-8 - top	F.2 E. (W)
2 Web Pl 34 x ½ x 67'-8	F.2 E. (W) (E)
2 Side Pl 22 x ½ x 63'-2	F.1 E (W) (E)
2 L 6 x 6 x ¾ x 67'-8 - bolt	F.2 E. (W)

Holes for 1" bolts

3'-1½ 3'-9 3'-2½ 3'-9 3'-2½ 3'-9 3'-2½ 3'-10 1'-6¾ 9'-4⅜

2 4 at 3½ = 1'-2

11 spaces 'A' at 2'-3 = 25'-5½

1'-6¾ 3'-10½ 1'-0 1'-0 2 at 4 = 1'-0 2

3 spaces 'C' at 2'-3½ = 6'-10½

1 Fill 6 x ⅝ fa 334

Hole for turned bolt Drive Fit

2'-3 space 'C'

1 fa 334

2'-1½ 1-10 bolt in 1-9½ shop rivets

1-7½ shop rivets

2'-3 space 'A'

22 Lac Bar 6 x ⅝ x 3'-8⅝ p y a
(Cut Flush with toe of Flge L)

1 - fa 334
1 - Pl 34½ x ⅝ x 2'-0 pb 335

1 - pb 335

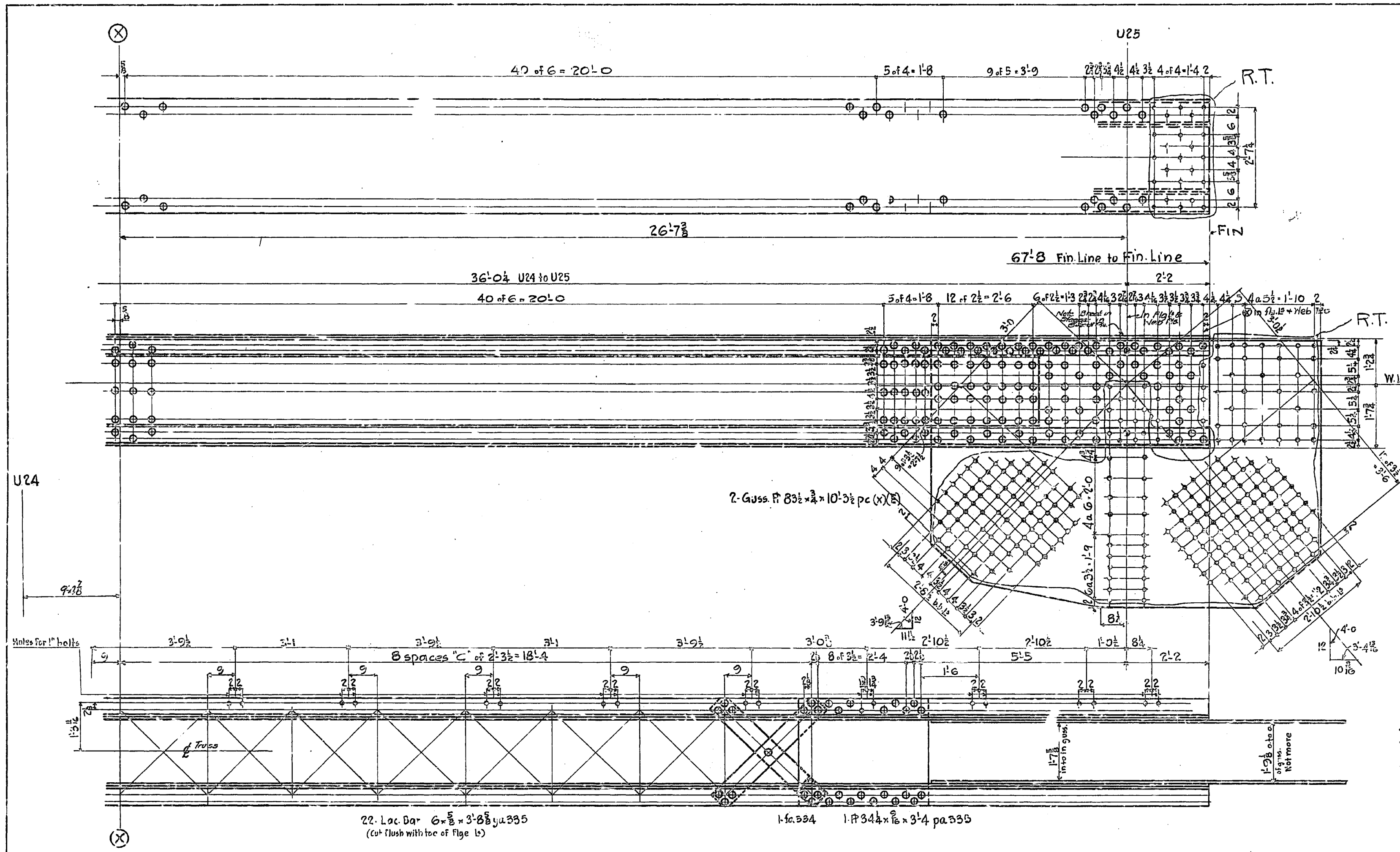
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
3 - Lattice Truss Spans - Piers YB1 - E1
DETAILS OF TOP CHORD U23 - U26A - SOUTH TRUSS

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary 3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAWN BY GR 12 DATE 1-24-34
CHECKED BY J.H.G. DATE 5-4-34

5-15-34

CROWN No. G5101 | ENGR'G No. 339 PB | Shop Bill 5.90

30-1



GENERAL NOTES-

Material- All material O.H. Copper Bearing medium Carbon steel except material marked (x) which is to be O.H. Copper Bearing Silicon steel.

Specifications- Special by State of California, Dep't of Public Works.

Inspection- John M. Bailey - Chief Inspector.

Rivets- ⅞"

Open holes- 1⅛

Reaming- Holes in material ⅞" thick or less to be subpunched ⅞" and reamed to size while parts are assembled. Carbon steel ⅞" thick or less, used for lacing and stay plates, may be punched full size.
The chords of trusses shall be laid out in lengths of not less than 6 panels and the chord splices reamed while so assembled in shop and pieces match marked. Holes marked "R.T." to be reamed thru a steel templet.
Burrs to be removed from all reamed holes.
All match marking to be made with ⅞" steel stencils and white paint.

Finish- Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least ⅛" of metal.

Shop paint- NONE

	Required		
17 Tons	1	Top Chord	U23-U25A

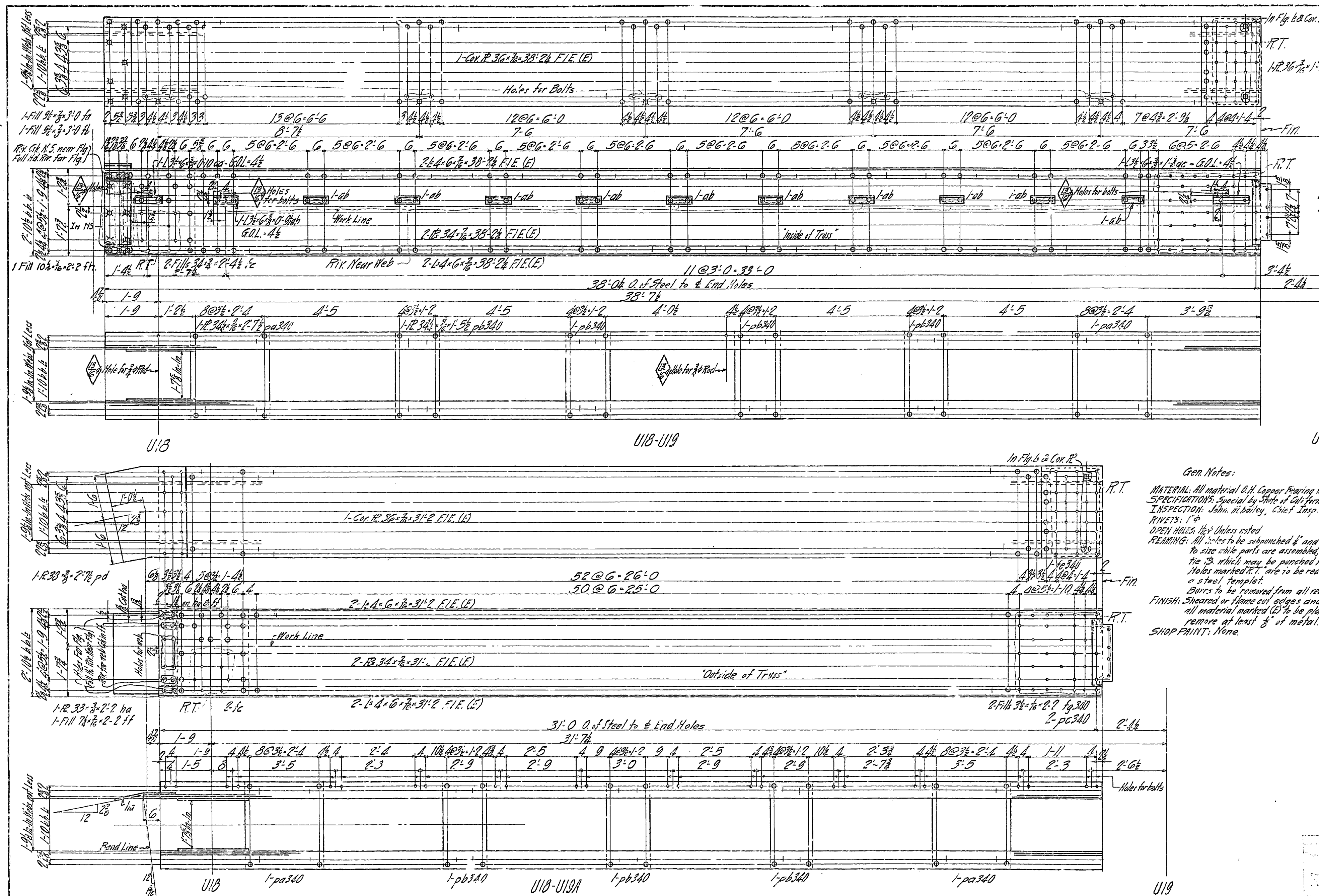
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
DETAILS OF TOP CHORD U23-U25A - SOUTH TRUSS
SPAN YB3-YB4
AMERICAN BRIDGE COMPANY

Drawings made at Gary 3 plant
Work fabricated at Ambridge plant
In charge of Tompt
Drawn by G.E.D. Date 4-24-34
Checked by I.H.G. Date 5-4-34
Order No. G5101 [Doc]
Sheet No. 339B
Shop Bill 5190

APPROVED 5-15-34

Mat'l. Ord. pp 372-378

30-1



Gen. Notes:

MATERIAL: All material O.H. Copper Bearing medium carbon steel.
SPECIFICATIONS: Special by State of California Dept. of Public Works.
INSPECTION: John M. Bailey, Chief Insp.
RIVETS: 1"⌀
OPEN HOLES: 1 1/16"⌀ Unless noted
REAMING: All holes to be subpunched ¼" and reamed to size while parts are assembled, except tie ℞ which may be punched full size. Holes marked "R.T." are to be reamed thru a steel templet. Burrs to be removed from all reamed holes.
FINISH: Sheared or flame cut edges and ends of all material marked (E) to be planed to remove at least ⅛" of metal.
SHOP PAINT: None.

		REQUIRED		
6 Tons	North	1	Top Chord	U18-U19
5 Tons	South	1	do	U18-U19A

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1

TOP CHORD - SPAN YB3 - YB4
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
MADE BY H.C.G. DATE 5-2-34
DRAW. CHECKED BY J.H.G. DATE 5-10-34

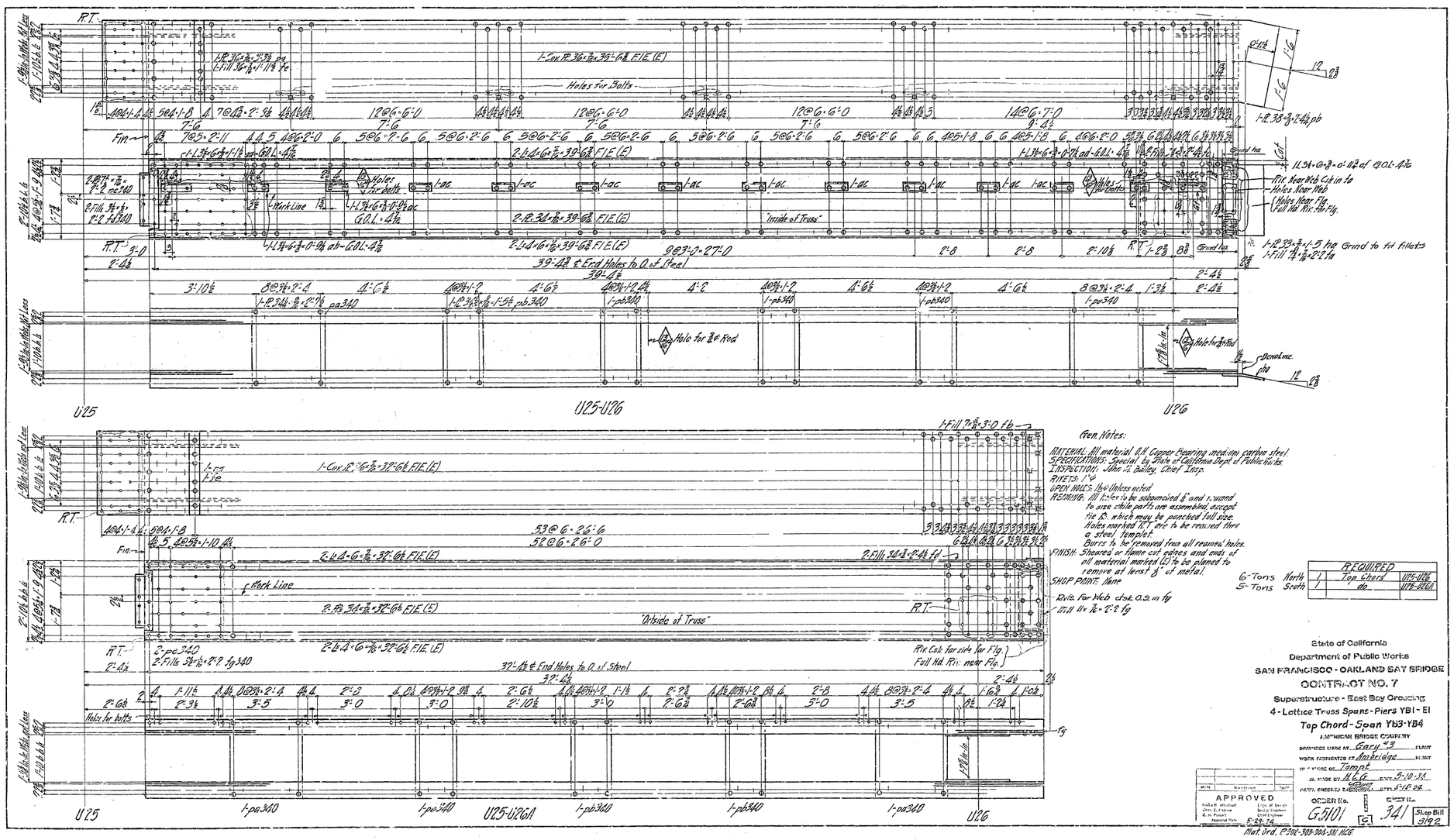
APPROVED
Approval Date 5-18-34

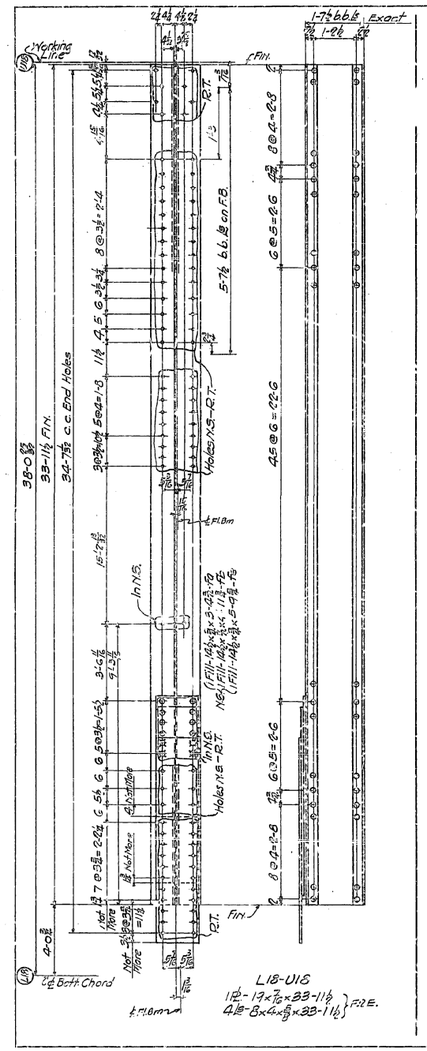
ORDER No. G5101 [C] SHEET No. 340

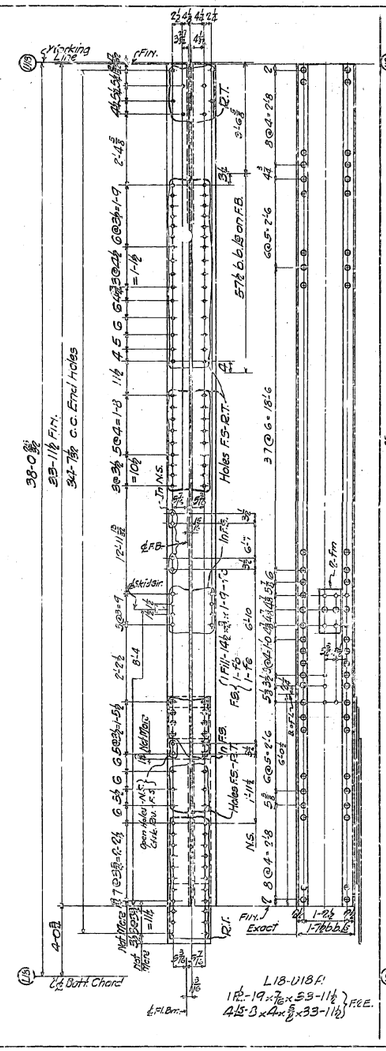
Shop Bill 5191

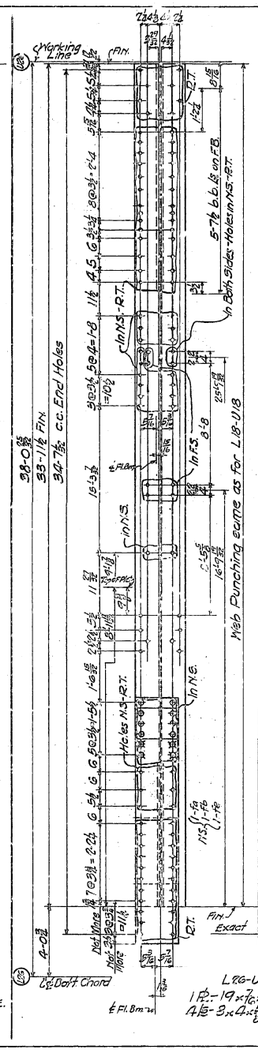
Mat. Ord. 226, 303, 304, 305, 331 H.C.G.

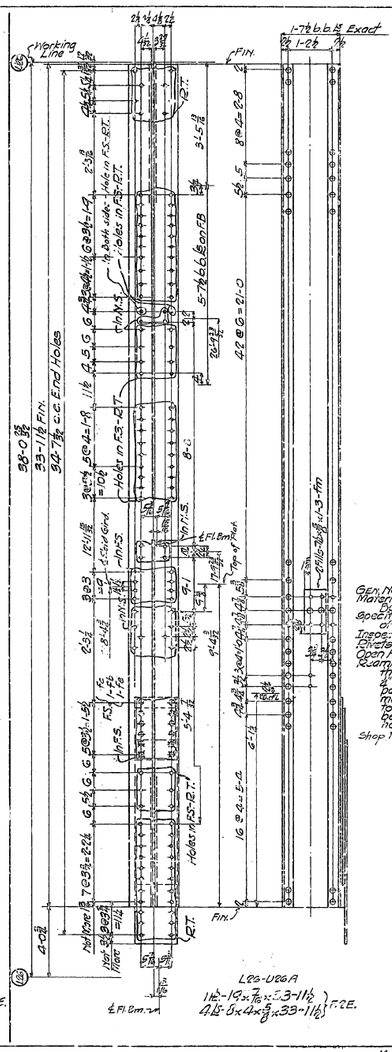
30-1


U25
U25-U26
U26
U25-U26A
Gen. Notes:
MATERIAL: All material O.H. Copper bearing medium carbon steel
SPECIFICATIONS: Special, by State of California Dept of Public Works
INSPECTION: John A. Bailey, Chief Insp.
RIVETS: 1"ø
OPEN HOLES: 13/16" Unless noted
REAMING: All holes to be subpunched 3/16" and reamed to size while parts are assembled, except tie ℄, which may be punched full size. Holes marked R.T. are to be reamed thru a steel Templet.
Burrs to be removed from all reamed holes.
FINISH: Sheared or flame cut edges and ends of all material marked (F) to be planed to remove at least 1/8" of metal.
SHOP POINT: None
REQUIRED
6 Tons North 1 Top Chord U25-U26
5 Tons South 1 " U25-U26A
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Top Chord - Span YB3-YB4
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary 43 PLANT
WORK FABRICATED AT Ambridge PLANT
DETAILING OF Tempt
W. MADE BY H.C.G. DATE 5-10-24
CHECKED BY [illegible] DATE 5-15-24
APPROVED
ORDER No. G5101
SHEET No. 341
Shop Bill 5192
Mat. Ord. P.301-303-304-331 HGE







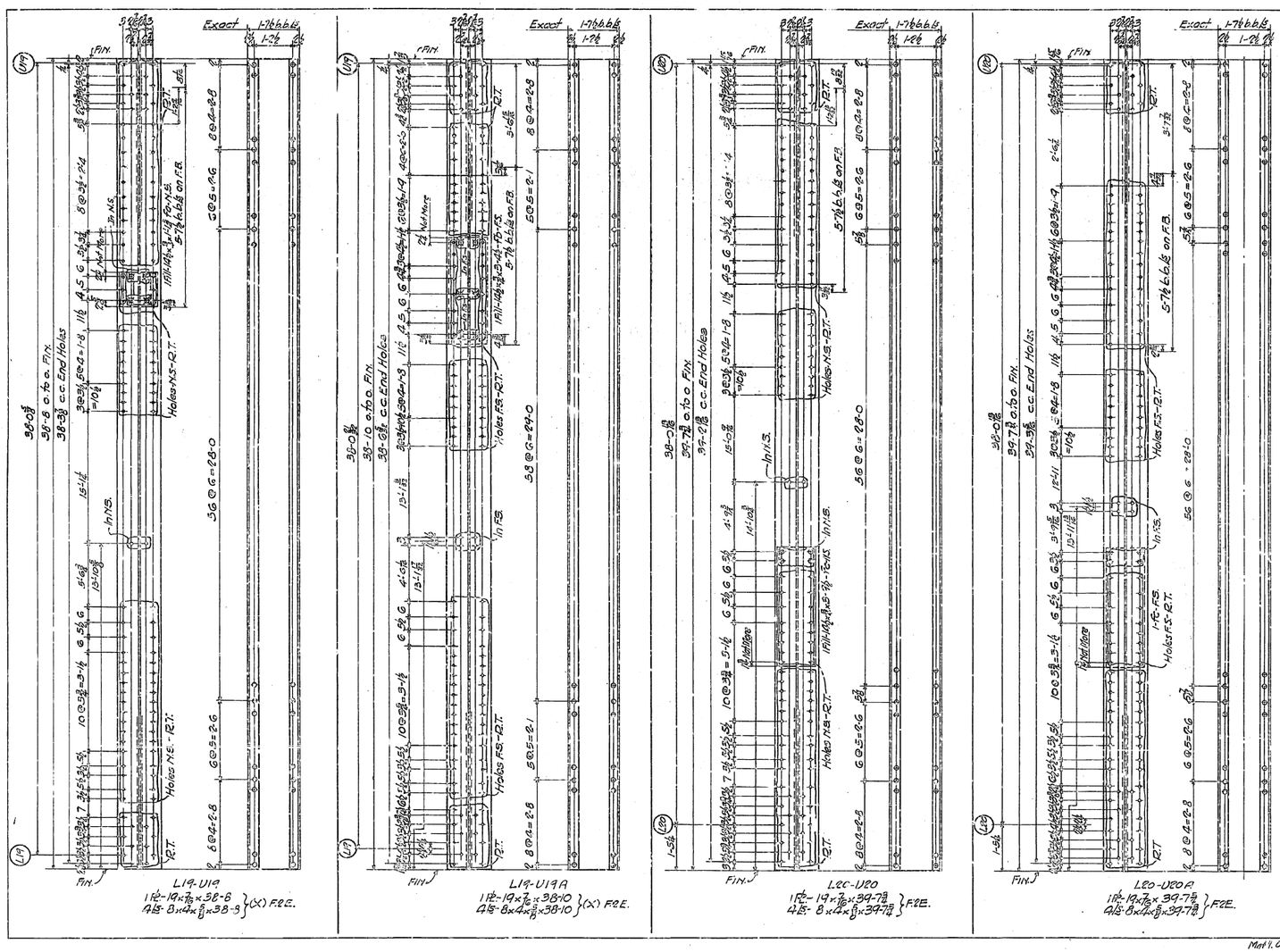


Gen. Notes:-
Material:- All material O.H. Copper Bearing Medium Carbon Steel.
Specifications:- Special Hy. Strike of California Dept. of Public Works
Inspection:- John M. Bailey - Chief Insp.
Rivets:- 1"ø
Open Holes:- 1½"ø
Reaming:- Holes in material ⅜" thick or less to be subpunched & and reamed to size while parts are assembled. Holes marked R.- to be reamed to ¼ steel templet. Burrs to be removed from all reamed holes.
Shop Paint:- See Sh. E1

REQUIRED		
One	Post	L18-U18
One	"	L18-U18A
One	"	L26-U26
One	"	L26-U26A

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Posts - L18-U18 & L26-U26 North Truss
L18-U18A & L26-U26A South Truss
SPANS YB2-YB4
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tempf
DRAWN H. L.H. DATE 5-1-34.
TRACED CHK. C.F.C. DATE 5-9-34
ORDER No. C.5101 SHEET No. 342
Stmp. Bill 5199

5-15-34
Mat'l Ord. By 307 L.H.



Gen. Notes:—
Material:- All material O.H. Copper Bearing Medium Carbon Steel except material marked (x) which is to be O.H. Copper Bearing Silicon Steel
Specifications:- Special by State of Calif. Dept. of Public Works
Inspection:- John M. Bailey- Chief Inspector
Rivets:- 1"ø
Open Holes:- 1 1/16"
Reaming:- Holes in material 3/4" or less to be subpunched & reamed to size, while parts are assembled. Holes marked F.T. to be reamed to a steel templet. Burrs to be removed from all reamed holes
Shop Paint:- See Sh. E1

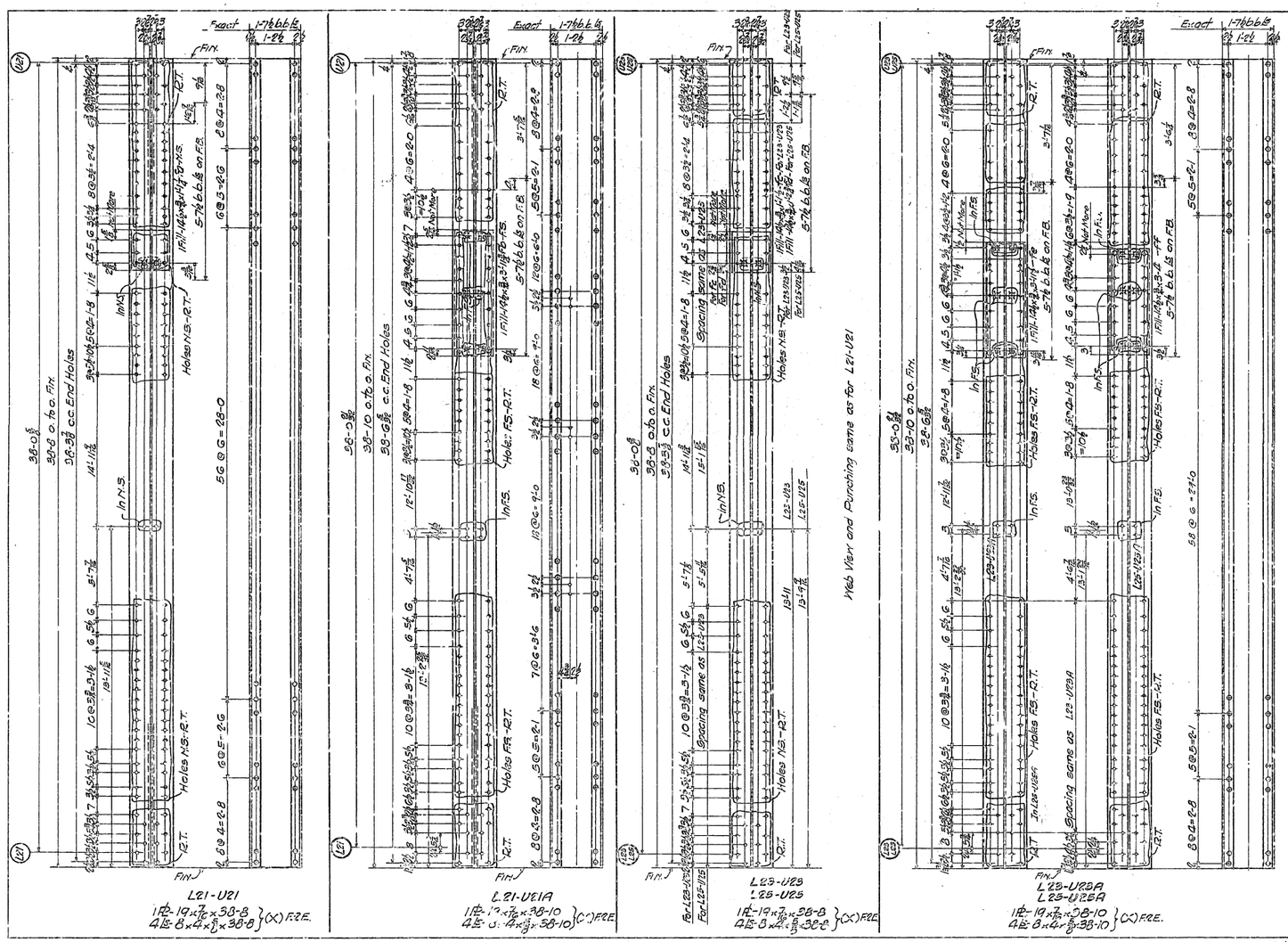
REQUIRED		
One	Hanger	L19-U19
One	"	L19-U19A
One	Post	L20-U20
One	"	L20-U20A

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y81 - E1
Posts:- L19-U19 & L20-U20 North Truss
L19-U19A & L20-U20A South Truss
Span Y83-Y84
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary, Ind. PLANT
WORK ERECTED BY Ambridge P. O.
U. S. DEPT. OF Tempt
DRWG. MADE BY L.H. DATE 4-30-34
DRWG. CHECKED BY C.F.C. DATE 5-6-34
ORDER No. 75101 (L & C) SHEET No. 343
Shop Bill 5194

5-15-34

Mat'l. Ord. Pg. 207, 208, 377 L.H.

15444-6-2



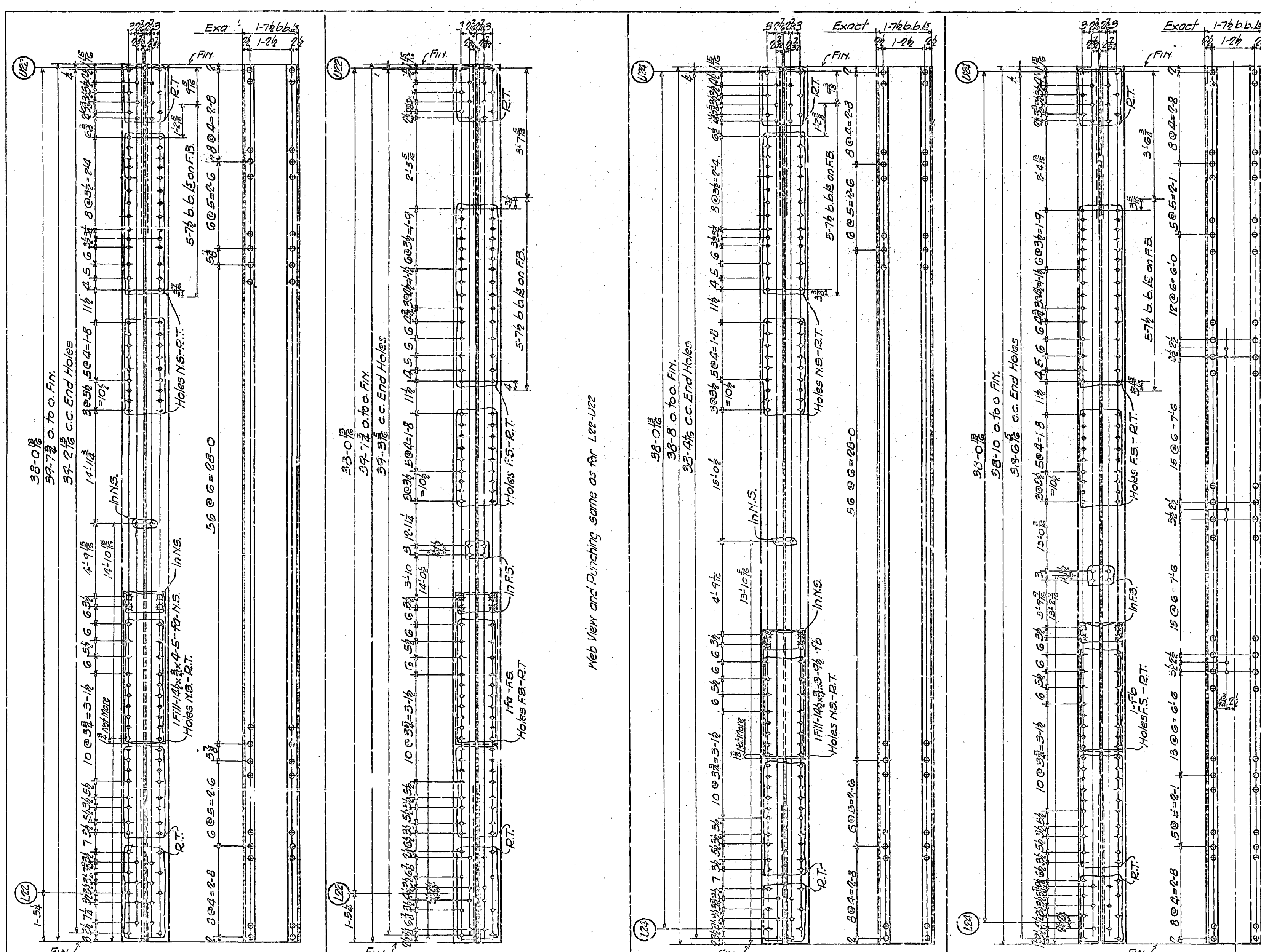
Gen. Notes:-
Material:-All material O.H. Copper Bearing Medium Carbon Steel except material marked (X) which is to be O.H. Copper Bearing Silicon Steel.
Specifications:-Special by State of California-Dept. of Public Works
Inspection:-John M. Bailey-Chief Insp.
Rivets:-1"ø
Oper Holes:-1 1/16"ø
Reaming:-Holes in material 3/4" thick or less to be subpunched 3/16" and reamed to size while parts are assembled. Holes marked R.T. to be reamed to a steel Templet. Burrs to be removed from all reamed holes.
Shop paint:- See Sh. E1

REQUIRED		
One	Hanger	L21-U21
One	"	L21-U21A
One	"	L23-U23
One	"	L23-U23A
One	"	L25-U25
One	"	L25-U25A

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Posts - L21-U21, L23-U23, L23-U23 North Truss
L21-U21A, L23-U23A, L25-U25A South Truss
Span 733-12a
AMERICAN BRIDGE COMPANY
ELEVATIONS MADE AT Gary #5 PLANT
WORK FABRICATED IN Ambridge PLANT
IN CHARGE OF Tonini
DETAILED BY L.H. DATE 4-26-34
DRAWN CHECKED BY C.M.C. DATE 5-4-34
ORDER No. 6510! CHECK No. [illegible] 341
Shop Bill 3145

Matl. Ord. Pg. 277, 302, 308, 311 L.H.

5-11-34



L22-U22
1 Pl-19 x 7/16 x 39-7 3/4 } F.2E.
4 Ls-8 x 4 x 5/8 x 39-7 3/4

L22-U22A
1 Pl-19 x 7/16 x 39-7 3/4 } F.2E.
4 Ls-8 x 4 x 5/8 x 39-7 3/4

L24-U24
1 Pl-19 x 1/2 x 38-8 } F.2E.
4 Ls-8 x 4 x 5/8 x 38-8

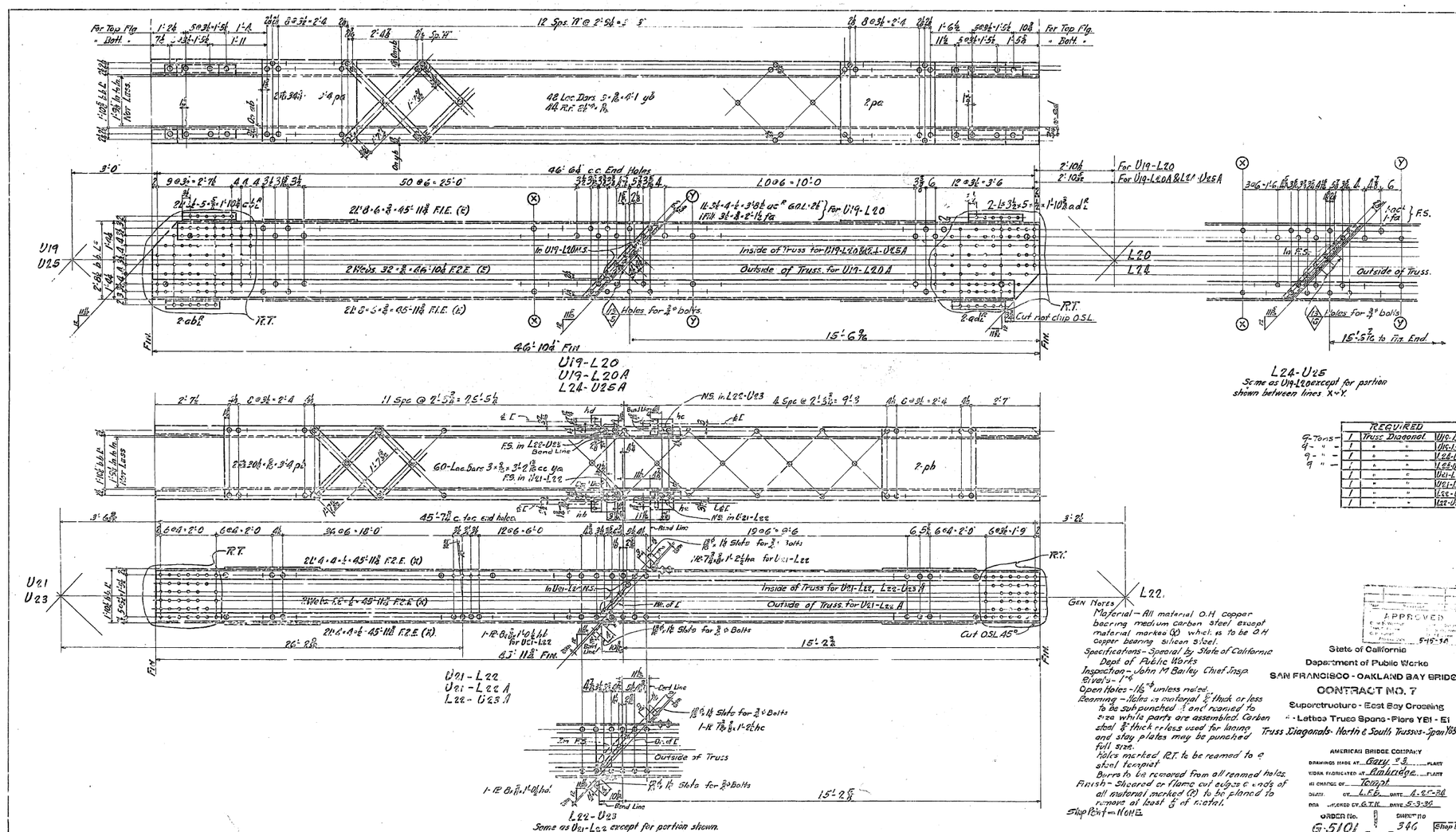
L24-U24A
1 Pl-19 x 1/2 x 38-10 } F.2E.
4 Ls-6 x 4 x 5/8 x 3-10

GEN. NOTES:-
Material:- All material O.H. Copper Bearing Medium Carbon Steel.
Specifications:- Special by State of California Dept. of Public Works.
Inspection:- John M. Bailey - Chief Inspector
Rivets:- 1"φ
Open Holes:- 1 1/16"φ
Reaming:- Holes in material 3/4" or less to be subpunched 1/4" and reamed to size while parts are assembled. Holes marked R.T. to be reamed to a steel templet. Burrs are to be removed from all reamed holes.
Shop Point:- See Sh. E1

REQUIRED		
One	Post	L22-U22
One	"	L22-U22A
One	"	L24-U24
One	"	L24-U24A

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Posts L22-U22 & L24-U24 North Truss
L22-U22A & L24-U24A South Truss
SPAN YB3-YB4
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN C OF Tompt
DR. MADE BY L.H. DATE 4-27-34
DRWG. CHECKED BY C.R.C. DATE 5-4-34
ORDER No. 65101
SHEET No. 345
[C]
Shop Bill 5196
5-15-34

Mat'l. Ord. Pg. 307 L.H.
15110-6-12



U19-L20
U19-L20A
L24-U25A

L24-U25
Same as U19-L20 except for portion shown between lines X-Y.

U21-L22
U21-L22A
L22-U23A

L22-U23
Same as U19-L20 except for portion shown.

REQUIRED			
Tons	/	Truss Diagonal	U19-L20
"	/	"	U19-L20A
"	/	"	L24-U25
"	/	"	L24-U25A
	/	"	U21-L22
	/	"	U21-L22A
	/	"	L22-U23
	/	"	L22-U23A

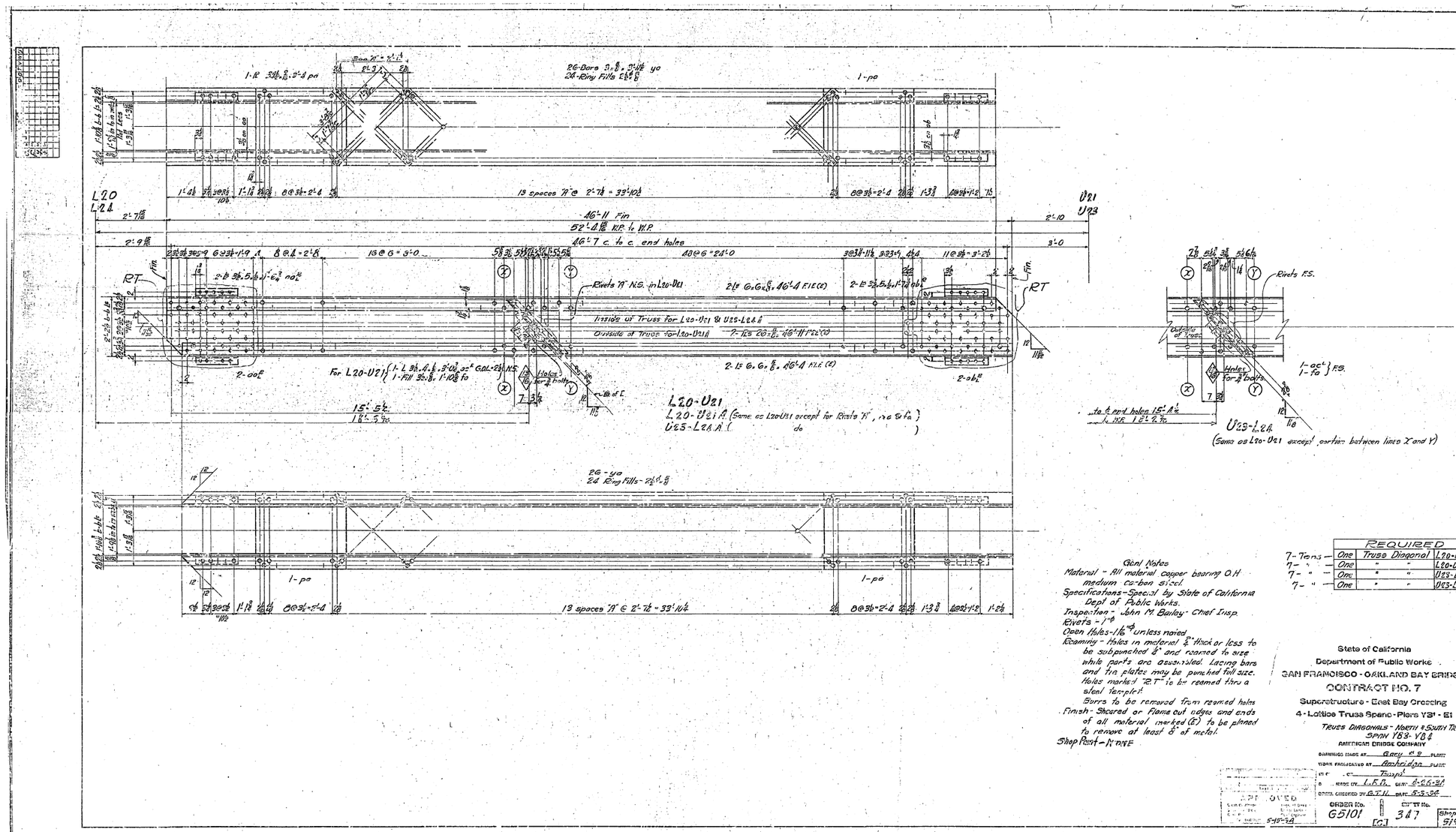
Gen Notes
Material – All material O.H. copper bearing medium carbon steel except material marked (Q) which is to be O.H. copper bearing silicon steel.
Specifications – Special by State of California Dept. of Public Works
Inspection – John M. Bailey Chief Insp.
Rivets – 1"ø
Open Holes – 1⅛" ø unless noted.
Reaming – Holes in material ⅝" thick or less to be subpunched ¼" and reamed to size while parts are assembled. Carbon steel ⅝" thick or less used for lacing and stay plates may be punched full size.
Holes marked R.T. to be reamed to a steel template.
Burrs to be removed from all reamed holes.
Finish – Sheared or flame cut edges & ends of all material marked (F) to be planed to remove at least ⅛" of metal.
Shop Paint – NONE.

APPROVED
5-15-36

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Lattice Truss Spans - Piers YB1 - E1
Truss Diagonals - North & South Trusses - Spans YB5-YB6

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tempt
DRAWN BY L.F.B. DATE 4-27-36
TRACED BY G.T.R. DATE 5-3-36
ORDER No. G-5101 [B&C]
DRAWING No. 346
Shop Bill 5197

Mat'l. Ord. pgs. 376-306-311-305-331 1/2 pg 11 Lts.
L.F.B.



REQUIRED			
7- Trans —	One	Truss Diagonal	L20-U21
7- " —	One	" "	L20-U21A
7- " —	One	" "	U23-L24
7- " —	One	" "	U23-L24A

Genl Notes

Material - All material copper bearing O.H. medium Carbon steel.
Specifications - Special by State of California Dept of Public Works.
Inspection - John M. Bailey - Chief Insp.
Rivets - ⅞"
Open Holes - 1⅛" unless noted.
Reaming - Holes in material ¾" thick or less to be subpunched ¼" and reamed to size while parts are assembled. Lacing bars and tie plates may be punched full size. Holes marked "R" to be reamed thru a steel Templet.
Burrs to be removed from reamed holes.
Finish - Sheared or Flame cut edges and ends of all material marked (E) to be planed to remove at least ⅛" of metal.
Shop Paint - NONE

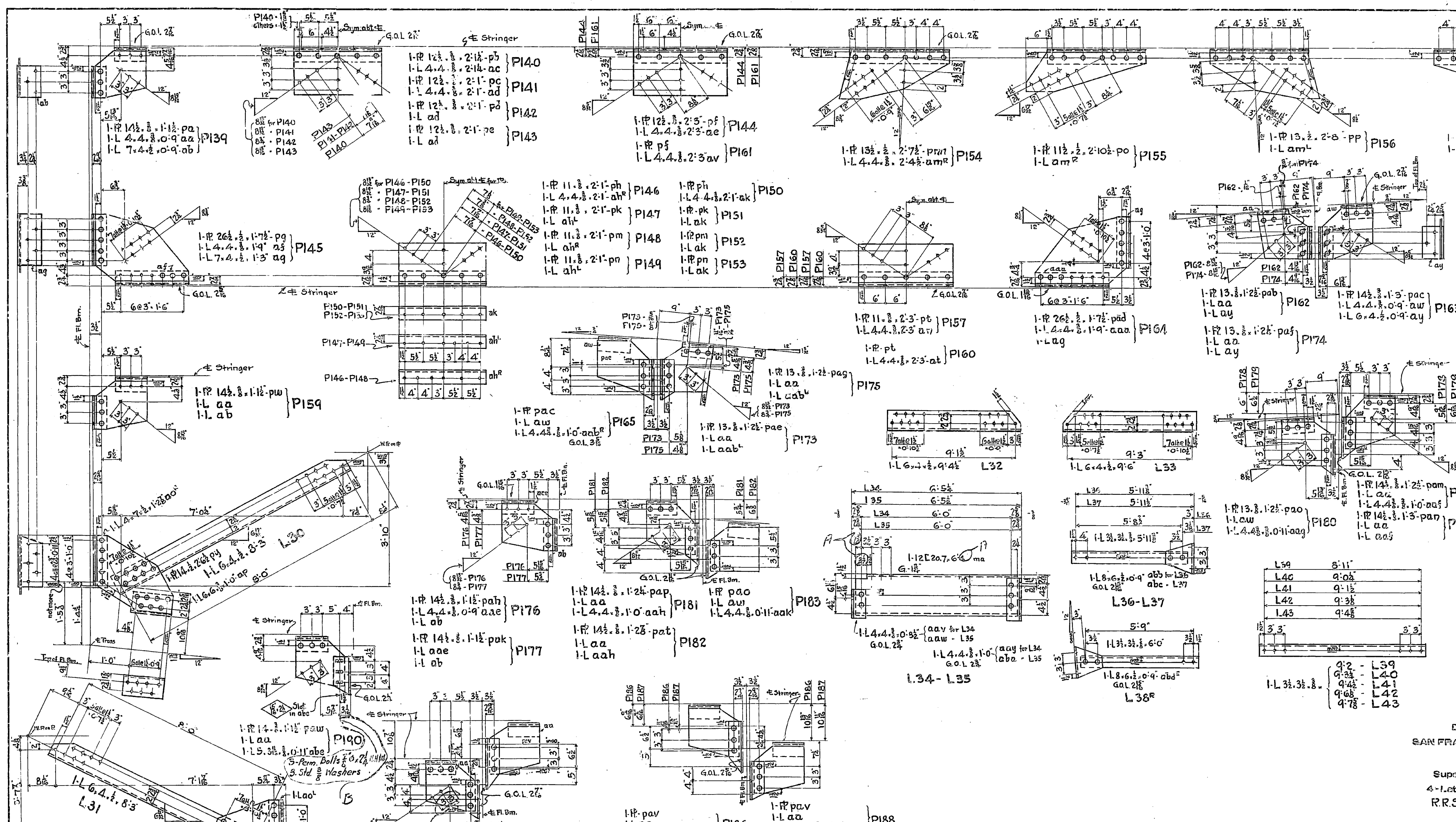
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y3' - E1
TRUSS DIAGONALS - NORTH & SOUTH TRUSSES
Spans Y3-Y2 & Y2-Y1
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary Ind PLANT
WORK FABRICATED AT Ambridge PLANT
UNITS OF Trusses
DESIGN MADE BY L.F.B. DATE 8-26-31
DRAWN CHECKED BY G.T.H. DATE 5-5-36

APPROVED 5-10-32
ORDER No. 65101
CONTRACT No. 347 [C.]
Shop Bill 5198

Math. Ord. pgs. 305-311 L.F.B.

Issue - 6-12



REQUIRED		
One	Lateral Plate	P139
One	do.	P140
One	do.	P141
One	do.	P142
One	do.	P143
8	do.	P144
One	do.	P145
One	do.	P146
One	do	P147
One	do	P148
One	do.	P149
One	do.	P150
One	do.	P151
One	do.	P152
One	do.	P153
One	do	P154
One	do.	P155
One	do.	P156
16	do.	P157
One	do.	P158
One	do.	P159
8	do.	P160
4	do.	P161
One	do.	P162
2	do.	P163
One	do.	P164
2	do.	P165
One	do.	P173
One	do.	P174
One	do.	P175
One	do.	P176
One	do.	P177
One	do.	P178
One	do.	P179
2	do.	P180
One	do	P181
One	do.	P182
2	do.	P183
2	do.	P184
2	do.	P185
One	do.	P186
One	do.	P187
2	do.	P188
2	do.	P189
2	do.	P190
One	Stringer Laterals	L30
One	do.	L31
One	do.	L32
One	do.	L33
12	do.	L34
4	do.	L35
24	do.	L36
8	do.	L37
One	do.	L38R
One	do.	L38L
4	do.	L39
4	do.	L40
4	do.	L41
4	do.	L42
48	do.	L43

GEN. NOTES
MATERIAL ~ All material O.H. Copper Bearing Medium Carbon Steel
SPECIFICATIONS ~ Special by State of California Dept. of Public Works
INSPECTION ~ John M. Bailey, Chief Insp.
RIVETS ~ 7/8 diameter
OPEN HOLES ~ 15/16 diameter Unless Noted
REAMING ~ None
FINISH ~ None
SHOP PAINT ~ None

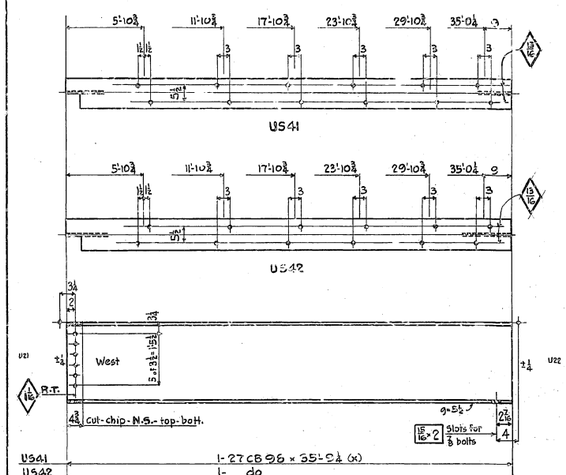
Mat. Ord. Page 324

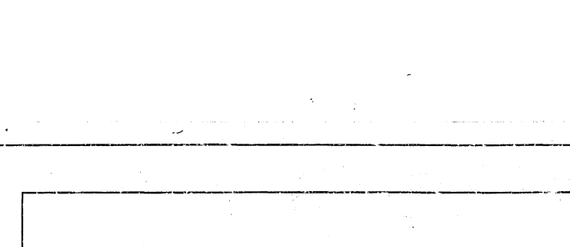
	Made	Revision	App'd
D	10-10-34	4 1/2 on L31	
C	7-27-34	Spacing of Holes ...	
A	6-27-34	Length of 176	
B	7-25-34	Add Bolts & Washers for P190	

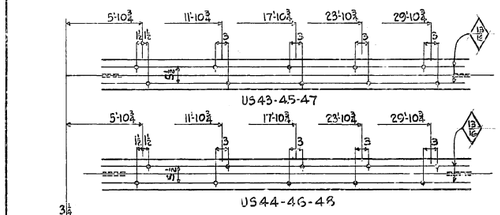
APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 5-31-34

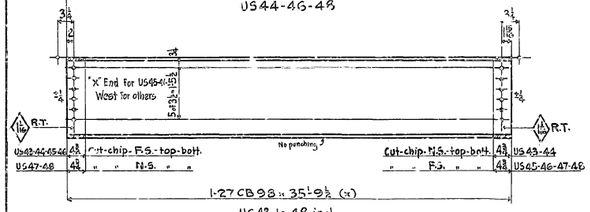
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
R.R. STRINGER LATERALS & PLATES
SPAN YB3-YB4.
AMERICAN BRIDGE COMPANY

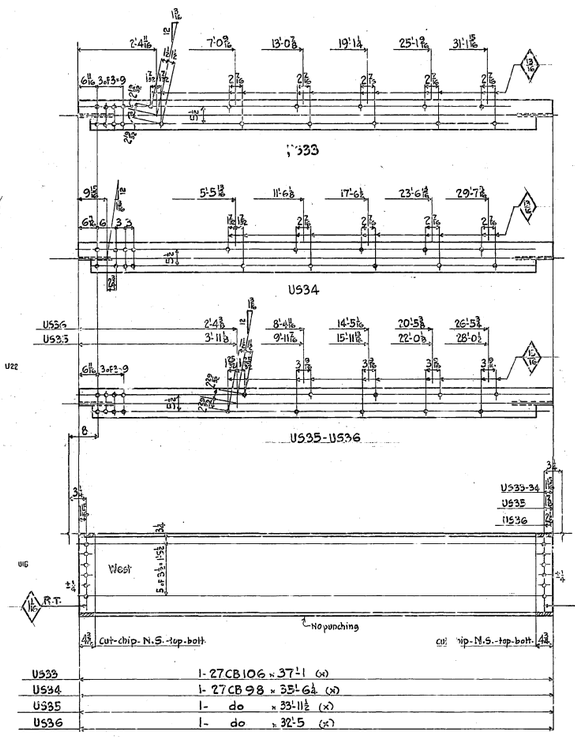
DRAWINGS MADE AT GARY 3 PLANT
WORK FABRICATED AT AMBRIDGE PLANT
IN CHARGE OF TOMPT
DR. BY HH DATE 4-26-34
D. W. CHECKED BY BAH DATE 5-18-34
ORDER No. G5101 SHEET No. 348 [C]
Shop Bill 5199 + 5209

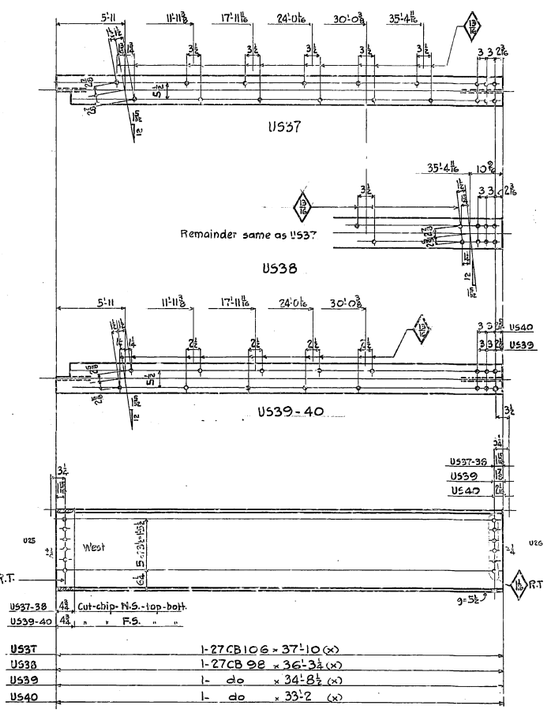












Required		
1	Upper Stringer	U533
1		U534
1		U535
1		U536
1		U537
1		U538
1		U539
1		U540
2		U541
2		U542
2		U543
4		U544
6		U545
4		U546
2		U547
2		U548

General Notes:

Material: All material O.H. copper bearing medium carbon steel, except material marked (x) which is to be O.H. copper bearing silicon steel.

Specifications: Special by State of California Dept of Public Works.

Inspection: John M. Bailey, Chief Inspector

Open Holes: 15/16 unless noted.

Reaming: Holes in material ¾" thick or less to be subpunched 4" and reamed to size. Holes marked R.T. to be reamed thru a steel templet. Burrs to be removed from all reamed holes.

Finish: CB material to be hot-sawed to length at the mill.

Shop Paint: None.

State of California
Department of Public Works
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4-Lattice Truss Spans-Piers YB1-E1
UPPER DECK STRINGERS
SPAN Y33-YB4
AMERICAN BRIDGE COMPANY

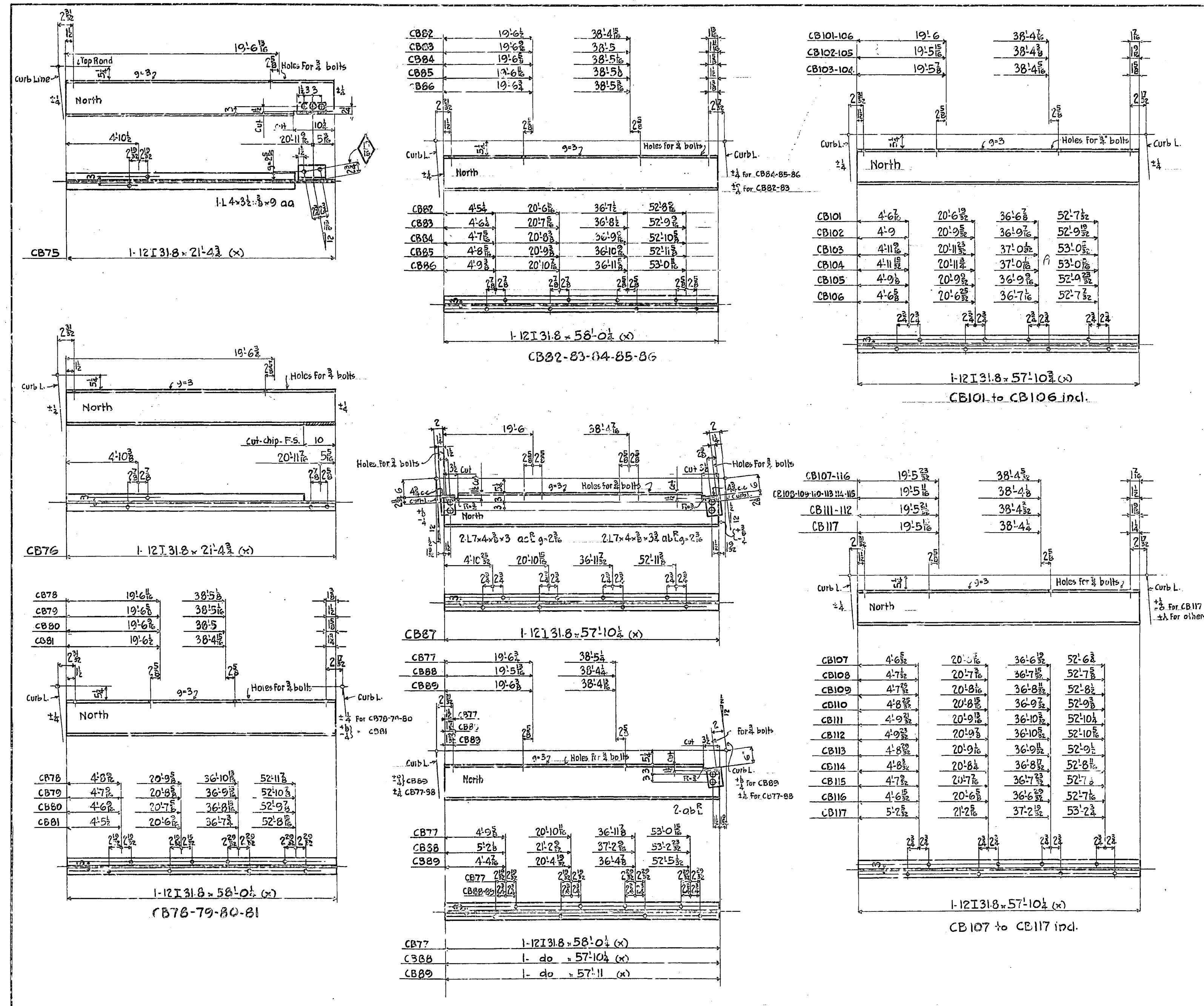
DRAWINGS MADE AT Gary 3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DETAILED BY WK DATE 4.26.34
CHECKED BY MSM DATE 5-2-34

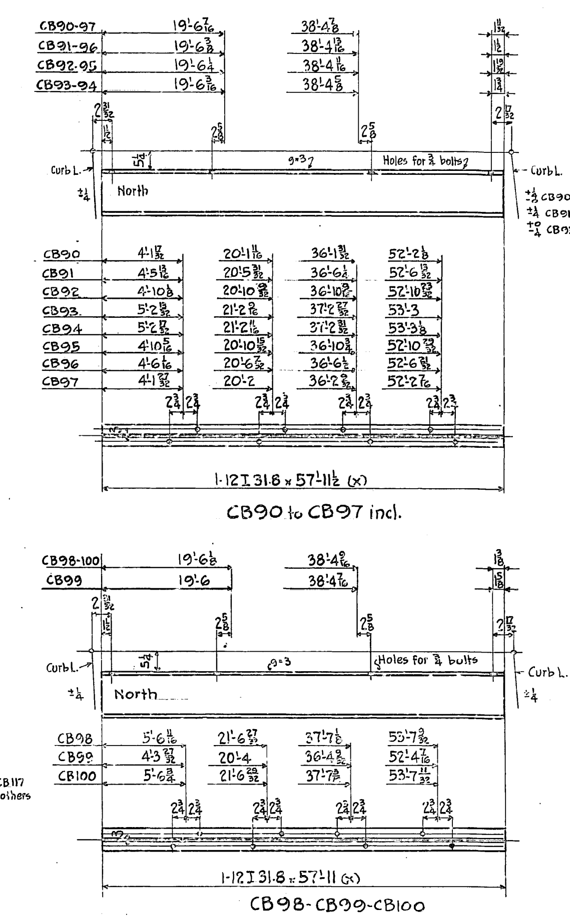
Mark	Revision	Date

APPROVED
Chief Engr. W. Woodward
Chief of Design
Bridge Engineer
Chief Engr. W.
Dist. E. Woodward
D. H. Prescott
Approved June 6-1934

ORDER No. G5101
CHECK No. [B]
SHEET No. 319
Shop Bill

Mch. P. 544





Required			
1	Cross Beam		CB75
1	↑		CB76
1			CB77
1			CB78
1			CB79
1			CB80
1			CB81
1			CB82
1			CB83
1			CB84
1			CB85
1			CB86
1			CB87
1			CB88
1			CB89
1			CB90
1			CB91
1			CB92
1			CB93
1			CB94
1			CB95
1			CB96
1			CB97
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1			CB99
1			CB100
1			CB101
1			CB102
1			CB103
1			CB104
1			CB105
1			CB106
1			CB107
1			CB108
1			CB109
1			CB110
1			CB111
1			CB112
1			CB113
1			CB114
1			CB115
1			CB116
1	↓		CB117

General Notes:

Material: All material O.H. copper bearing medium carbon steel, except material marked (x) which is to be O.H. copper bearing silicon steel.
Specifications: Special by State of California Dept of Public Works.
Inspection: John M. Bailey, Chief Inspector.
Rivets: ¾
Open Holes: 13/16 unless noted.
Reaming: Holes in material ¾" thick or less to be subpunched ¼" and reamed to size while parts are assembled.
Burrs to be removed from all reamed holes.
Shop Paint: None.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
UPPER DECK CROSS BEAMS.
SPAN YB3-YB4
AMERICAN BRIDGE COMPANY

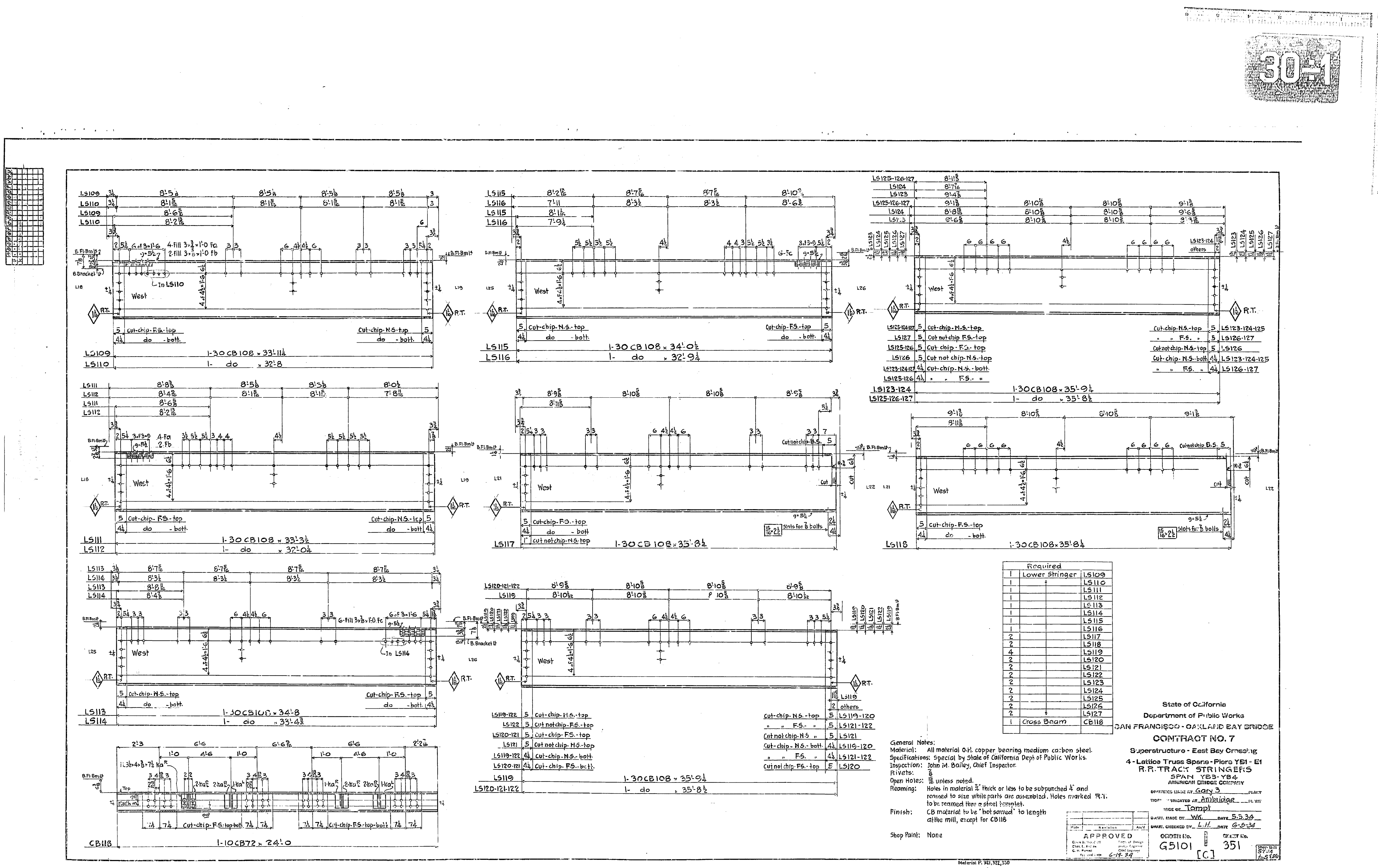
Drawings made at Gary 3 plant
Work fabricated at Ambridge plant
In c... of Tempt
Dr. made by WC date 5.1.34.
Draw. checked by [signature] date 5-31-34

Made	Revision	App'd
(A) 8-17-34	CB109 Bott. Flg. Dim. 57'0½	

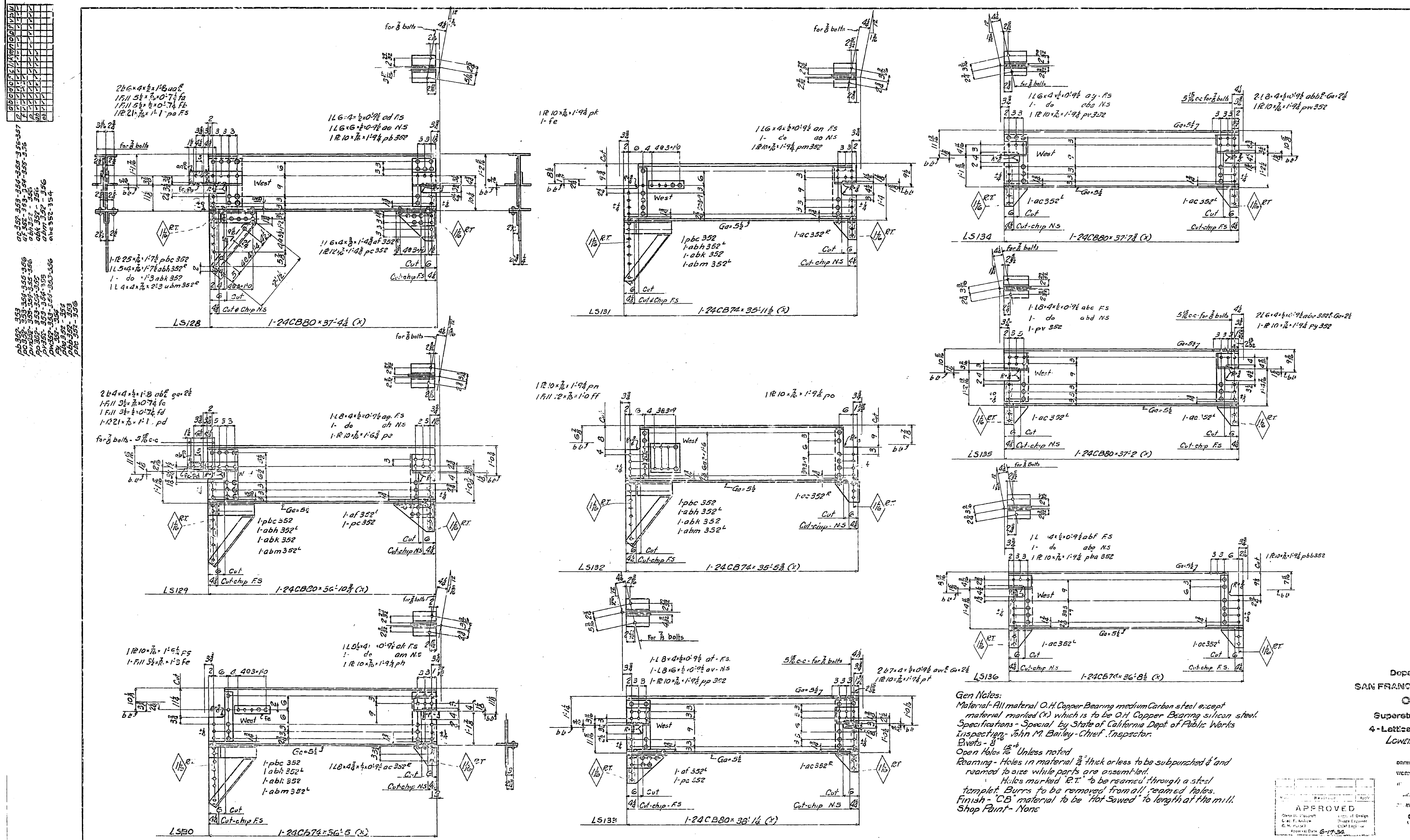
APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 6-15-34

Order No. G5101 [B&C]
Sheet No. 350
Shop Bill 5227 to 5229

Material P. 384


30-1
Required
1 Lower Stringer LS109
1 LS110
1 LS111
1 LS112
1 LS113
1 LS114
1 LS115
1 LS116
2 LS117
2 LS118
4 LS119
2 LS120
2 LS121
2 LS122
2 LS123
2 LS124
2 LS125
2 LS126
2 LS127
1 Cross Beam CB118
General Notes:
Material: All material O.H. copper bearing medium carbon steel.
Specifications: Special by State of California Dept. of Public Works.
Inspection: John M. Bailey, Chief Inspector.
Rivets: 7/8
Open Holes: 15/16 unless noted.
Reaming: Holes in material 3/4" thick or less to be subpunched 3/4" and reamed to size while parts are assembled. Holes marked R.T. to be reamed thru a steel templet.
Finish: CB material to be "hot sawed" to length at the mill, except for CB118
Shop Paint: None
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
R.R. TRACK STRINGERS
SPAN YB3-YB4
AMERICAN BRIDGE COMPANY
Drawings made at Gary 3 Plant
Fabricated at Ambridge Plant
Tompt
Draw. made by WK. Date 5.3.34
Draw. checked by L.H. Date 6-5-34
APPROVED
Approval date 6-19-34
Order No. G5101
Sheet No. 351
[C]
Shop Bill S254 to S256
Material P. 321,322,330
1-30CB108 x 33'-11 1/4
1-30CB108 x 34'-0 1/2
1-30CB108 x 35'-9 1/4
1-30CB108 x 33'-3 1/2
1-30CB108 x 35'-8 1/4
1-30CB108 x 34'-8
1-30CB108 x 35'-9 1/4
1-10CB72 x 24'-0
West
R.T.

30-1



Gen Notes:
Material - All material O.H. Copper Bearing medium Carbon steel except material marked (X) which is to be O.H. Copper Bearing silicon steel.
Specifications - Special by State of California Dept. of Public Works
Inspection - John M. Bailey - Chief Inspector.
Rivets - ⅞"ϕ
Open Holes 15/16" Unless noted
Reaming - Holes in material ¾" thick or less to be subpunched ¾" and reamed to size while parts are assembled.
Holes marked "R.T." to be reamed through a steel templet. Burrs to be removed from all reamed holes.
Finish - "CB" material to be "Hot Sawed" to length at the mill.
Shop Paint - None

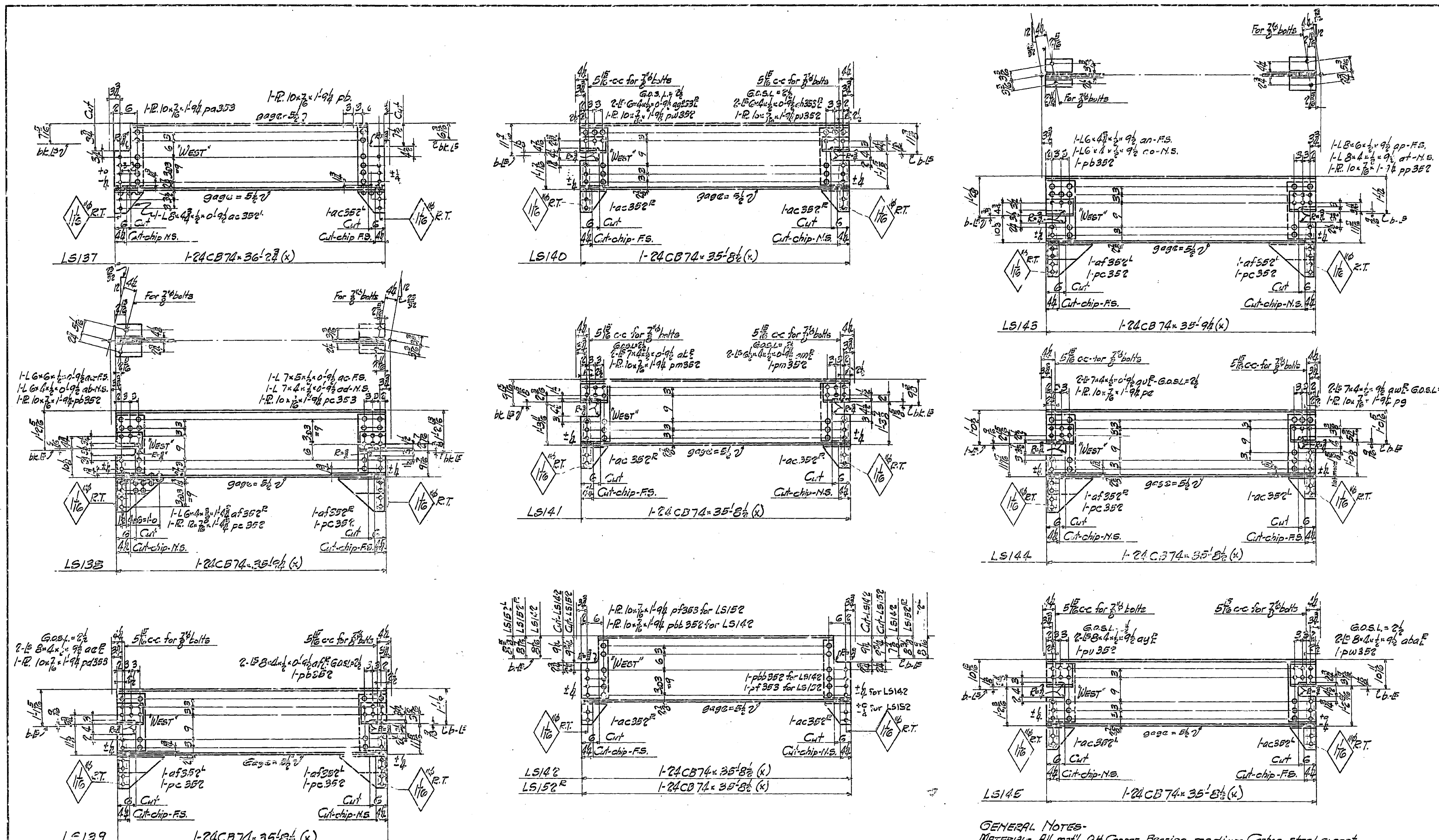
REQUIRED		
1	Lower Stringer	LS128
1	do	LS129
1	do	LS130
1	do	LS131
1	do	LS132
1	do	LS133
1	do	LS134
1	do	LS135
1	do	LS136

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Lower Deck Stringers Span YB3-YB4
AMERICAN BRIDGE COMPANY
Drawings made at Gary #3 Plant
Work fabricated at Ambridge Plant
Tompt.
Made by W.K. Date 5-9-34
Tr. by W.G.
Checked by M.M. Date 6-4-34
Order No. G5101 [B-C] Sheet No. 352
Shop Bill 5257 & 260

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 6-17-34

Mat'l P. 385-322-333, 433

30-1



REQUIRED		
1	LOWER STRINGER	LS137
1	(do)	LS138
1	(do)	LS139
1	(do)	LS140
1	(do)	LS141
1	(do)	LS142
1	(do)	LS143
1	(do)	LS144
1	(do)	LS145
1	(do)	LS152R
1	(do)	LS152L

GENERAL NOTES-

MATERIAL- All mat'l O.H. Copper Bearing medium Carbon steel except mat'l marked (x) which is to be O.H. Copper Bearing Silicon steel.
SPECIFICATIONS- Special by State of California, Dep't of Public Works.
INSPECTION- John M. Bailey- Chief Inspector.
RIVETS- 7/8"Φ.
OPEN HOLES- 15/16"Φ Unless noted.
REAMING- All mat'l 3/4" thick or less to be subpunched 1/4" and reamed to size while parts are assembled. Holes marked "R.T." to be reamed through a steel templet. Burrs to be removed from all reamed holes.
FINISH- All "CB" mat'l to be "Hot-Sawed" to length at the mill.
SHOP PAINT- None.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
LOWER DECK STRINGERS - YB3-YB4

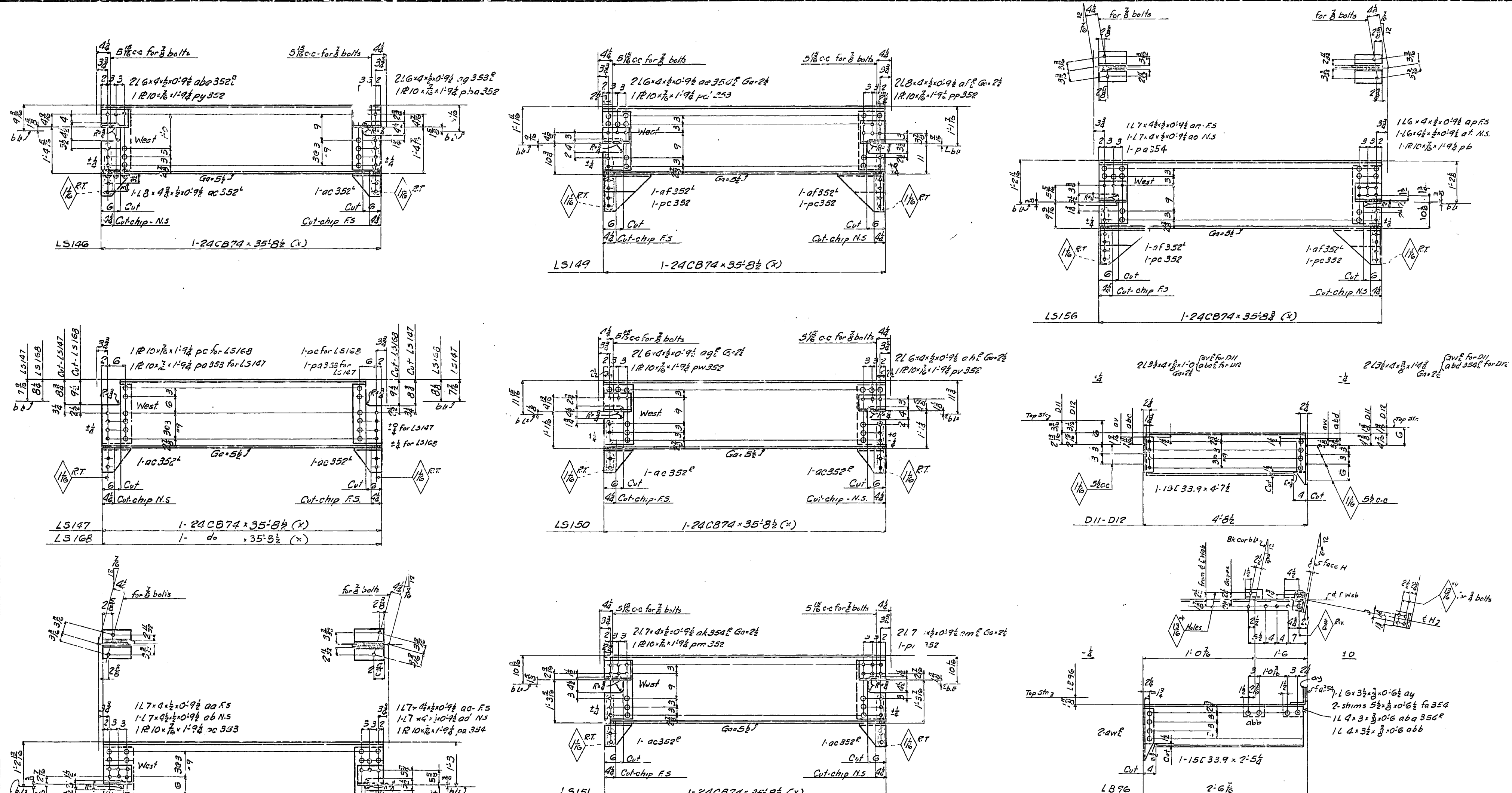
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF TOMPT
MADE BY W.K. DATE 5-29-34
Traced by R.F.T.
DWG. CHECKED BY [illegible] DATE 6-6-34

Mark	Revision	App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 6-19-34

ORDER No. 65101
SHEET No. 353
[BEC]
Shop Bill 5261 to 263

Mat'l-pg 385, 322, 333; Pg. 31, L13; Pg 209, L22



Gen Notes-

Material- All material O.H. Copper Bearing medium carbon steel except material marked (x) which is to be O.H. Copper Bearing Silicon steel.

Specifications- Special by State of California Dept of Public Works.

Inspection- John M. Bailey - Chief Inspector

Rivets- ⅞"⌀ Unless Noted.

Open Holes- 15/16"⌀ Unless Noted

Reaming- Holes in material ¾" thick or less to be subpunched ¾" and reamed to size while parts are assembled.
Holes marked "RT" to be reamed through a steel templet. Burrs to be removed from all reamed holes

Finish- "CB" material to be "Hot Sawed" to length at the mill.

Shop Paint- None.

REQUIRED		
1	Lower Stringer	LS146
1	do	LS147
1	do	LS168
1	do	LS148
1	do	LS149
1	do	LS150
1	do	LS151
1	do	LS156
1	Lower Diaphragm	D11
1	do	D12
1	Lower Bracket	LB96

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Lower Deck Stringers Span YB3-YB4
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAW. MADE BY W.K. DATE 5-21-34
Tr. by - W.G.
DRAW. CHECKED BY M.M. DATE 6-11-34

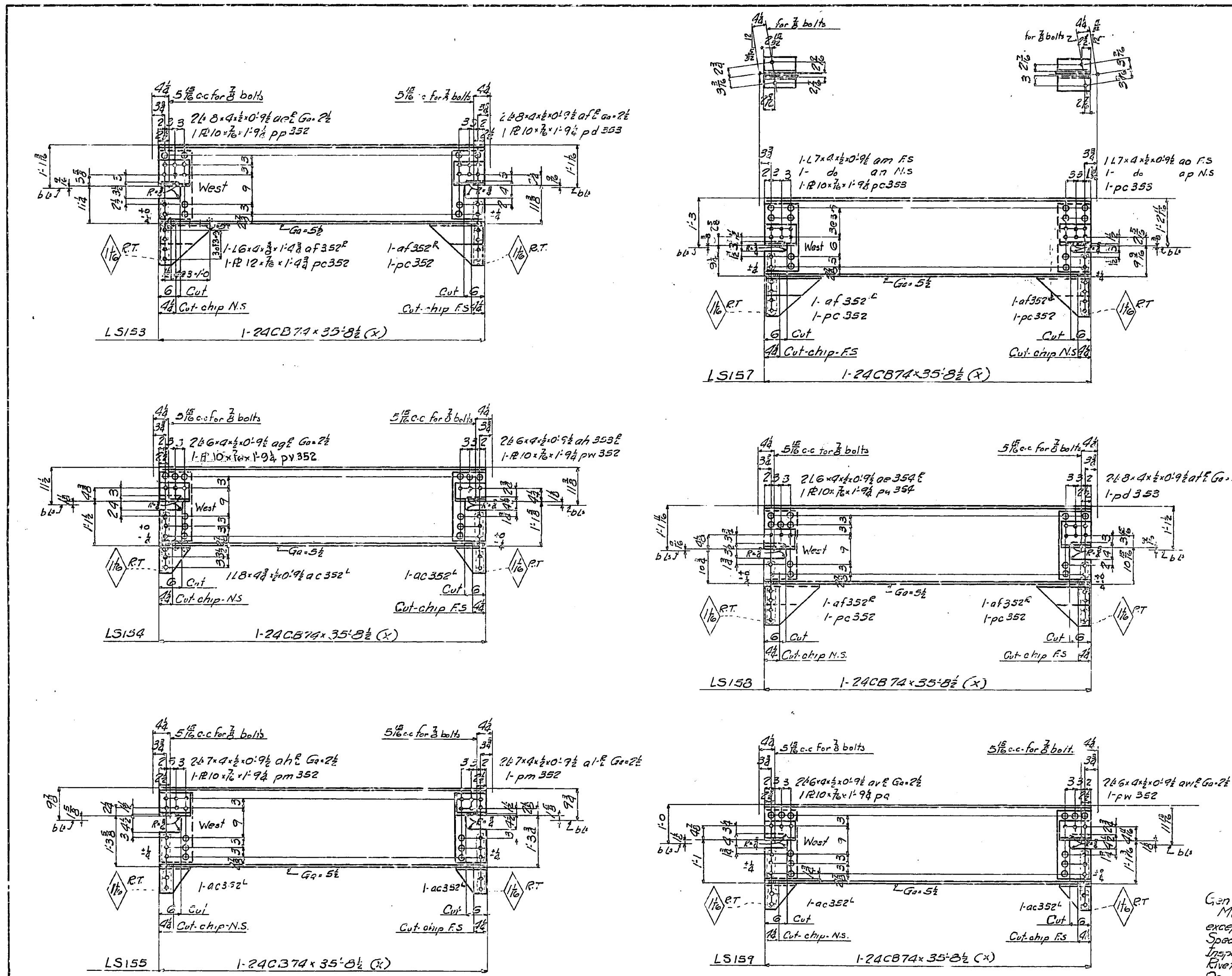
Made	Revision	App'd

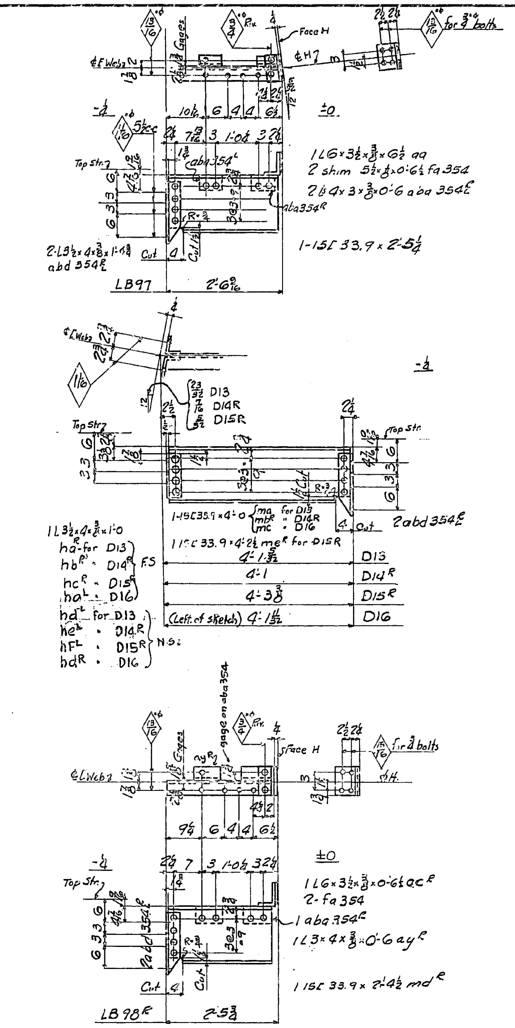
APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 6-17-34

ORDER No. G5101
SHEET No. 354
B-C
Shop Bill

Mat'l P. 385-322-333

30-1





REQUIRED		
1	Lower Stringer	LS153
1	do	LS154
1	do	LS155
1	do	LS157
1	do	LS158
1	do	LS159
1	Lower Bracket	LB97
4	do	LB98R
2	do	LB98L
1	Lower Diaphragm	D13
1	do	D14R
1	do	D14L
1	do	D15R
1	do	D15L
1	do	D16

Gen Notes
Material - All material O.H Copper Bearing medium carbon steel except material marked (x) which is to be O.H. Copper Bearing Silicon steel.
Specifications - Special by State of California Dept of Public Works
Inspection - John M Bailey - Chief Inspector
Rivets - 7/8"⌀ Unless noted
Open Holes 15/16"⌀ Unless noted
Reaming - Holes in material 3/4" thick or less to be subpunched & and reamed to size while parts are assembled.
Holes marked "R.T." to be reamed through a steel templet. Burrs to be removed from all reamed holes.
Finish - "CB" material to be "Hot Sawed" to length at the mill.
Shop Paint - None

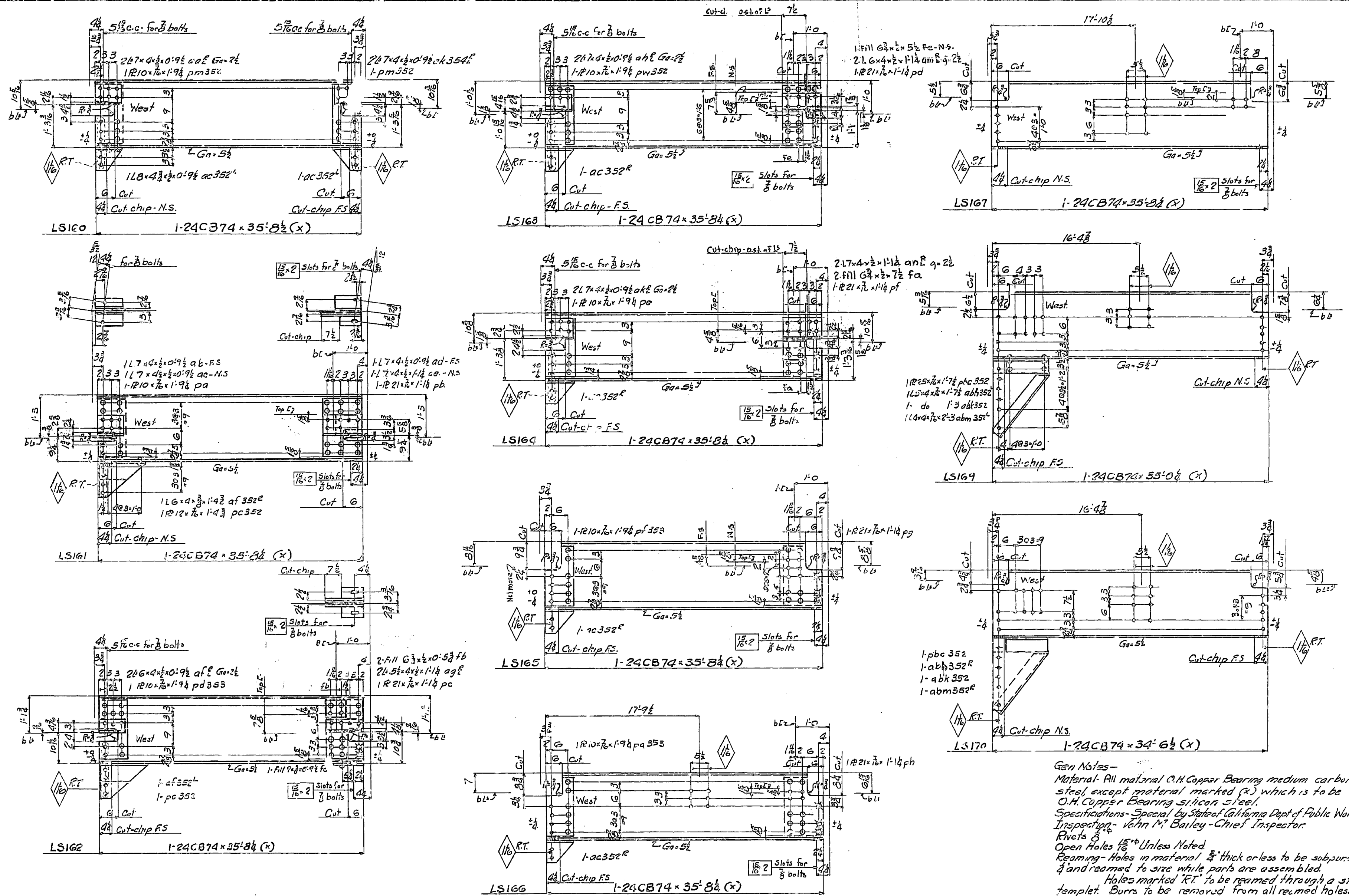
Made	Revision	App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 6-19-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YD1 - E1
LOWER DECK STRINGERS SPAN YB3 YB4
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT GARY #3 PLANT
WORK FABRICATED AT AMBRIDGE PLANT
IN CHARGE OF TOMPT
MADE BY WK DATE 5-21-34
R. by - W.G.
DRAW. CHECKED BY MSm DATE 6-11-34
ORDER No. G5101 B-C
SHEET No. 355
Shop Bill S267 to 269

Mat'l Ord P.385-322-333 - P31, L13 - P209, L22

30-1



REQUIRED		
1	LOWER STRINGER	LS160
1	do	LS161
1	do	LS162
1	do	LS163
1	do	LS164
1	do	LS165
1	do	LS166
1	do	LS167
1	do	LS169
1	do	LS170

Gen Notes—
Material- All material O.H. Copper Bearing medium carbon steel, except material marked (x) which is to be O.H. Copper Bearing silicon steel.
Specifications- Special by State of California Dept of Public Works
Inspection- John M. Bailey - Chief Inspector.
Rivets ⅞"ϕ
Open Holes 15/16"ϕ Unless Noted.
Reaming- Holes in material ¾" thick or less to be subpunched & and reamed to size while parts are assembled.
Holes marked "RT" to be reamed through a steel templet. Burrs to be removed from all reamed holes.
Finish- "CB" material to be "Hot Sawed" to length at the mill.
Shop Paint- None.

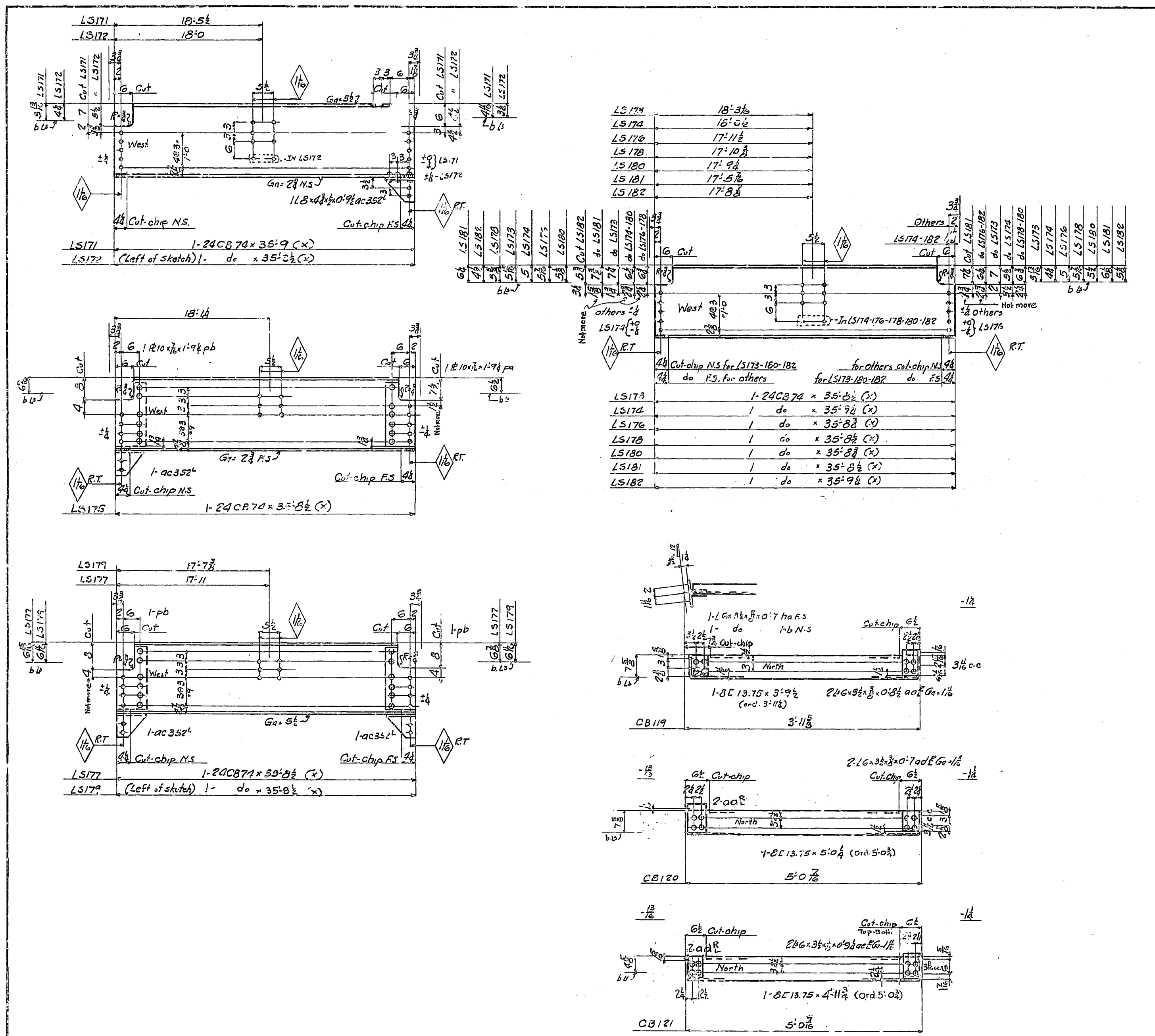
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YR1 - E1
LOWER DECK STRINGERS - SPAN YB3-YB4
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT GARY #3 PLANT
WORK FABRICATED AT AMBRIDGE PLANT
IN CHARGE OF TOMPT
MADE BY WK DATE 5-23-34
Tr. by - W.G.
DRAW. CHECKED BY mm DATE 6-6-34
ORDER No. G5101
SHEET No. 356
B-C
Shop Bill 9270 to 277

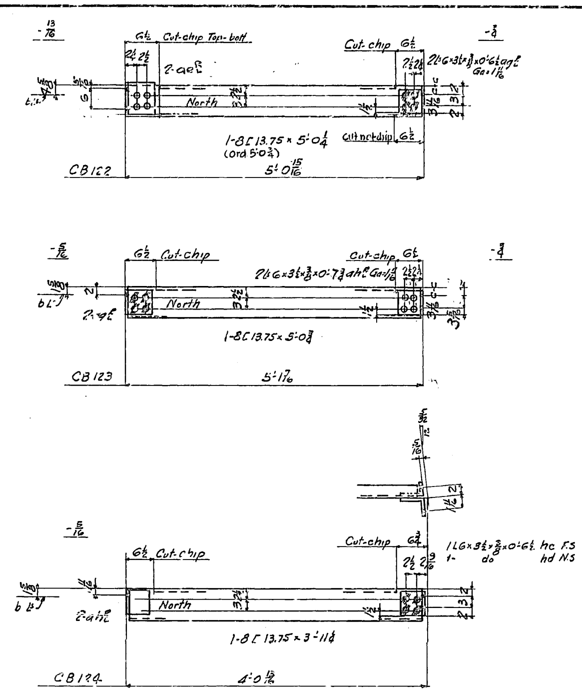
Made	Revision	App'd

APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 6-30-34

Mat'l. Ord. P. 385-322-333-P31-L13-P209-L22

30-1





Gen Notes-
Material- All material O.H Copper Bearing medium carbon steel, except material marked (Si) which is to be O.H Copper Bearing Silicon Steel.
Specifications - Special by State of California Dept. of Public Works
Inspection - John M. Bailey - Chief Inspector.
Rivets - 7/8"φ
Open Holes - 15/16"φ Unless noted.
Reaming - Holes in material 3/4" thick or less to be subpunched 1/4" and reamed to size while parts are assembled.
Holes marked "RT" to be reamed through a steel templet. Burrs to be removed from all reamed holes
Finish - "CB" material to be "Hot Sawed" to length at the mill.
Shop Paint - None.

REQUIRED		
1	Lower Stringer	LS171
1	do	LS172
1	do	LS175
1	do	LS177
1	do	LS179
1	do	LS173
1	do	LS174
1	do	LS176
1	do	LS178
1	do	LS180
1	do	LS181
1	do	LS182
1	Cross Beam	CB119
1	do	CB120
1	do	CB121
1	do	CB122
1	do	CB123
1	do	CB124

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Lower Deck Stringers - Cross Beams - Span YB3 - YB4

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DWG. MADE BY VK DATE 5-24-34
Tr. by W.G.
DWG. CHECKED BY [illegible] DATE 6-11-34

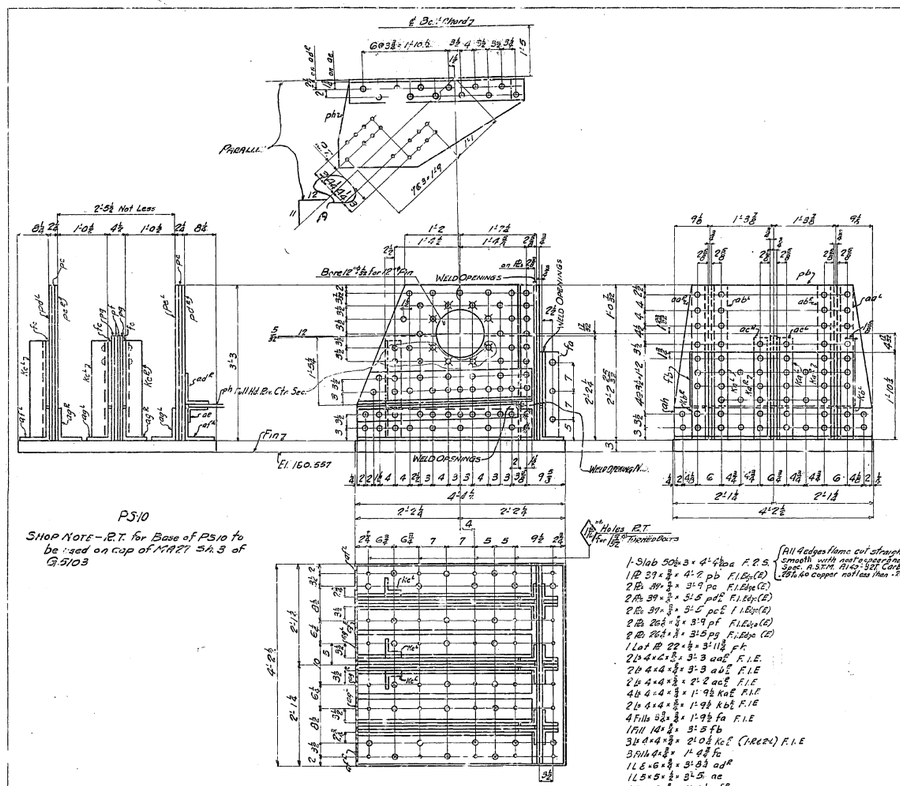
Made	Revision	App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 6-19-34

ORDER No. G5101 B-C SHEET No. 357

Shop Bills 5273 / 275

Mat'l. ord. P385-322-333-321
P31-L13 — P209-L22



GEN. NOTES-

Material- All material O.H. Copper Bearing medium Carbon steel, except plate which are Carbon steel A.S.T.M. Spec. A7 or A9-36T. Carbon .25% to .30% Copper not less than .20%

Specifications- Special by State of California, Dept of Public Works.

Inspection- John M. Bailey - Chief Inspector.

Rivets- 7/8"

Open Holes- 1 1/16" Unless noted.

Reaming- Holes in material 3/4" thick or less to be subpunched 1/4" and reamed to size while parts are assembled. Holes in material over 3/4" thick to be subdrilled 1/4" and reamed to size or drilled full size while parts are assembled.

Holes marked R.T. to be reamed through a steel templet. Burrs to be removed from all reamed holes.

Finish- Sheared or flame cut edges and ends of all material marked (E) to be planed to remove at least 1/4" of metal.

Shop Paint- None, except Top and Bottom of base plates of shoes to be painted with one coat of NO-OX-ID Filler Red paint. All Pin holes to be painted one coat of White lead and tallow.

REQUIRED		
One	Shoe	PS10
One	Shoe	PS11

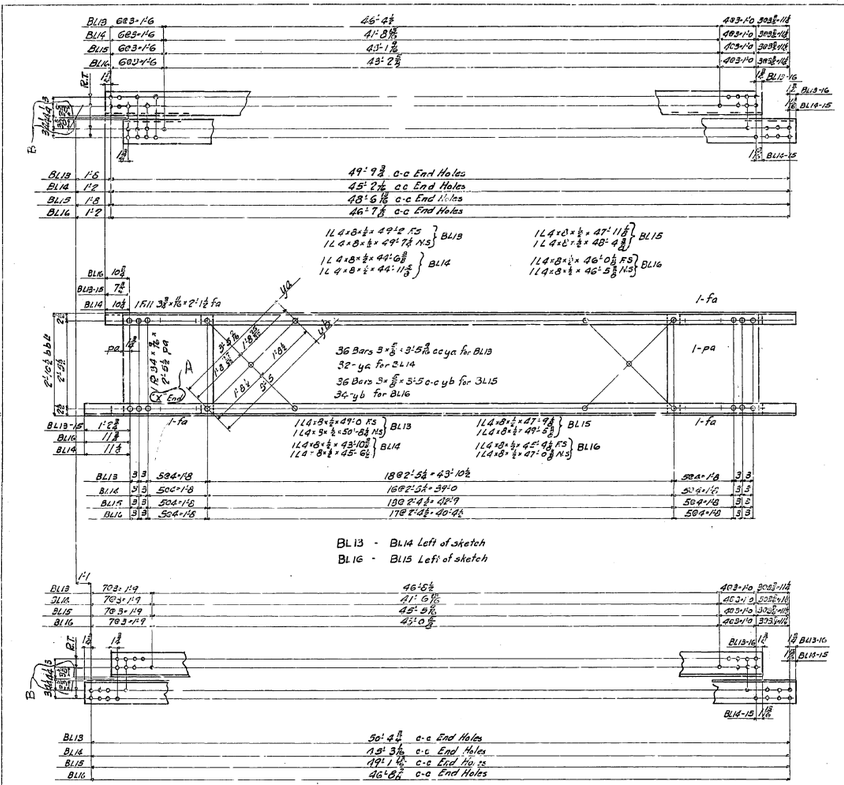
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Shoes Pier E1
Span YB4 - E1
AMERICAN BRIDGE COMPANY

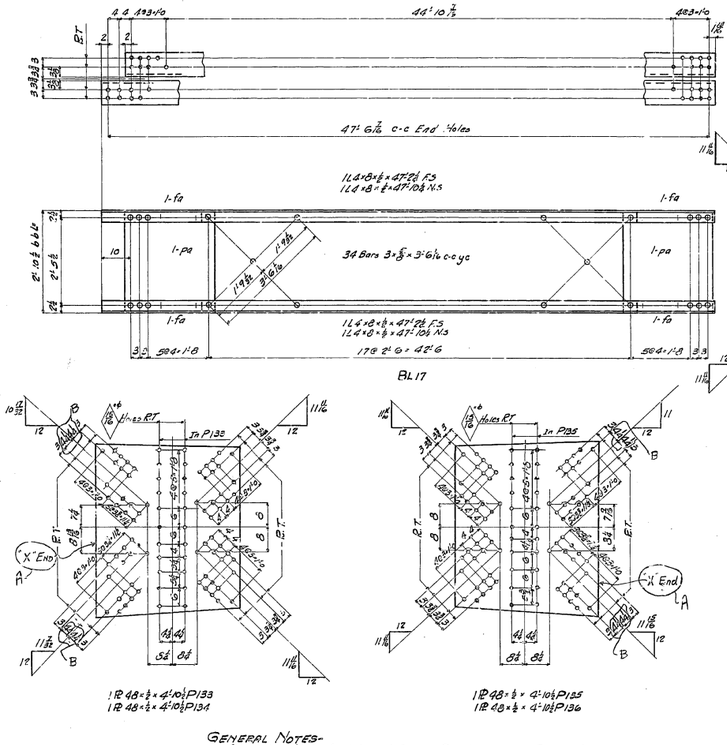
DRAWING MADE AT Gary '3 PLANT
WORK PERFORMED AT Ambridge PLANT
BY DIRECT OF Tampt
TRACED BY WG DATE 6-2-34
DETAILS CHECKED BY Shaw DATE 6-29-34

APPROVED 7-2-34

ORDER No. G5101 [c] SHEET No. 401 Shop Drills 62764-277

Mat'l Grd Pg. 428-429





GENERAL NOTES-
Material- All material O.H. Copper Bearing medium Carbon steel.
Specifications- Special by State of California, Dept of Public Works.
Inspec - by John M. Bailey - Chief Inspector.
Rivets - ⅞ ø
Open Holes - 1⅛" Unless noted.
Reaming- Holes in material ⅝" thick or less to be subpunched ¼" and reamed to size while parts are assembled. Carbon steel ⅝" thick or less used for lacing and stay plates, may be punched full size.
Holes marked "R.R." to be reamed through a steel templat
Burrs to be removed from all reamed holes.
Shop Paint- None.

REQUIRED		
One	Bolt Lateral	BL13
One	do	BL14
One	do	BL15
One	do	BL16
12	do	BL17
One	Bolt Lat 12	P133
One	do	P134
One	do	P135
One	do	P136
2	do	P137
2	do	P138

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Detail of Bolt Laterals Span YB4-E1

AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tampt
TRACED BY W.G. DATE 4-11-34
WORK CHECKED BY Wind. DATE 6-15-34

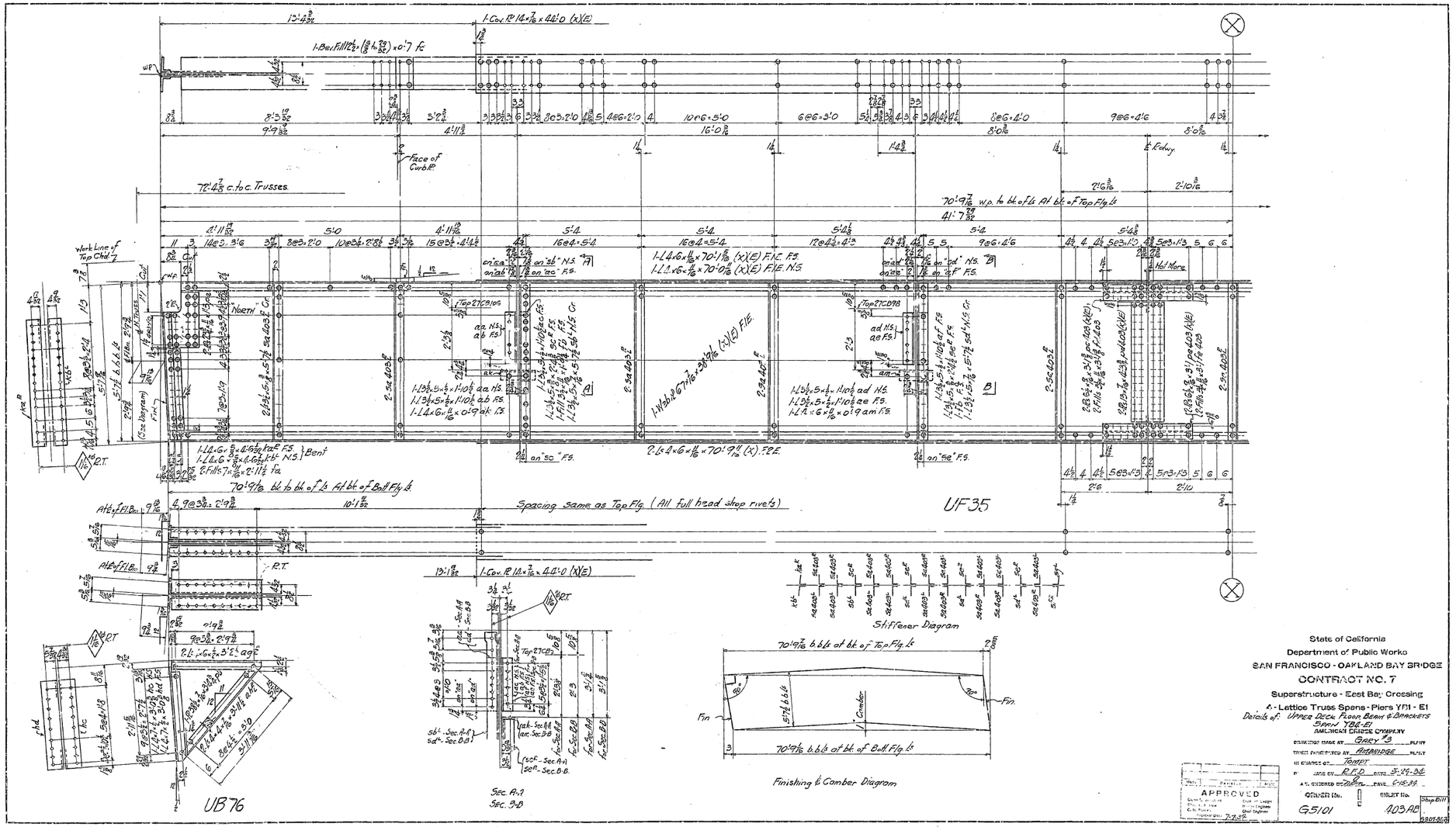
B 11-15-34 Changed gages
A 8-3-34 Add direction marks

APPROVED
[illegible]
7-7-34

ORDER No. G5101 123
DRAWING No. 402
Shop Order
5305-306

Mat'l Ord Pg. 421

30-51

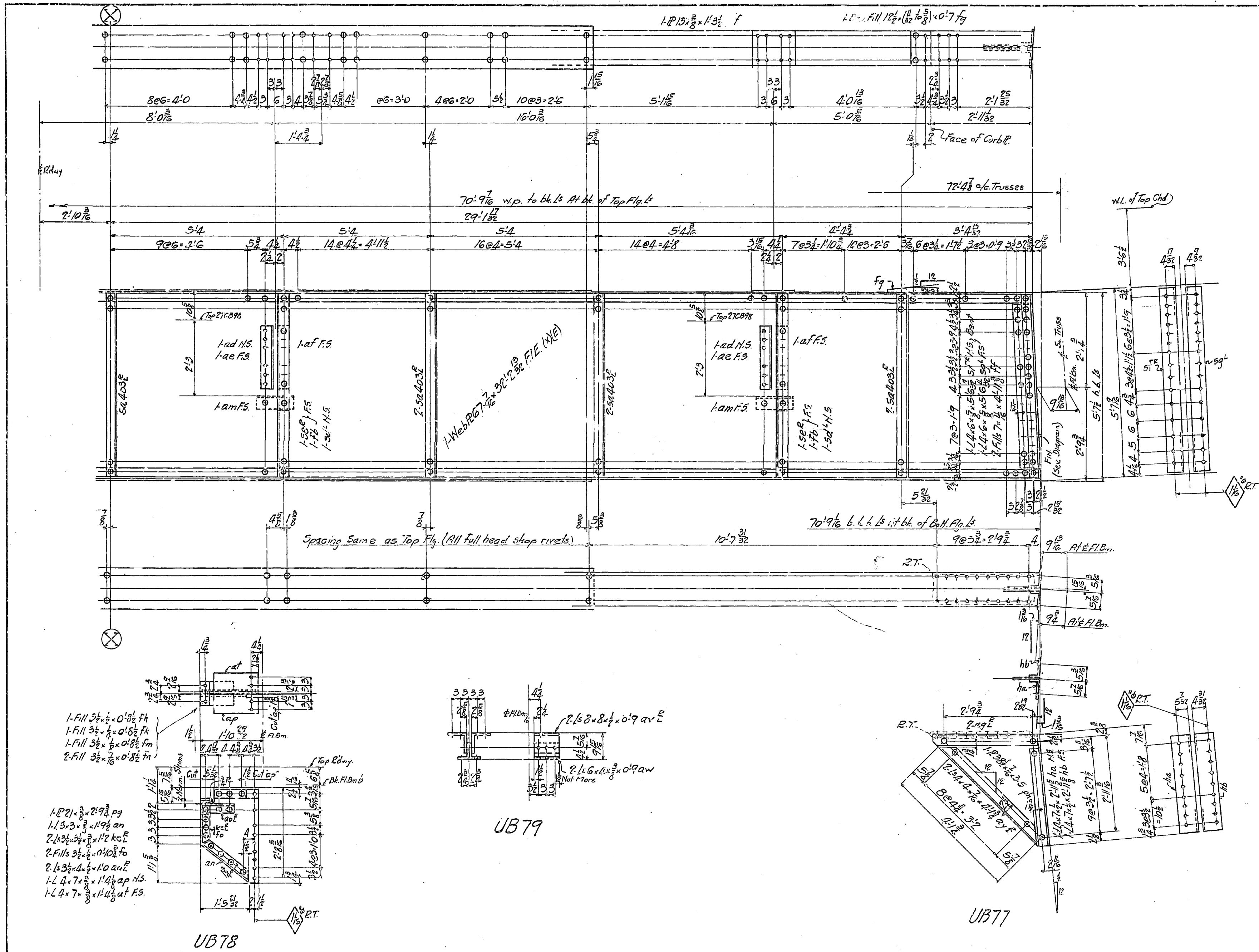


State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of: Upper Deck Floor Beam & Brackets
Span YB2-E1
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary #3 PLANT
TRACED PATENTED BY Anbridge PLANT
IN CHARGE OF Tompt
CHECKED BY R.F.D. DATE 5-24-38
A.T. ORDERED BY Allen DATE 6-15-38

APPROVED
Chief Engr.
Asst. Chief Engr.
Dist. Engr.
Bridge Engineer
Asst. Bridge Engineer
7-7-38

DRAWING No. G5101
SHEET No. 403 AB
Shop Bill
5201-3/8

30-1



GEN. NOTES:-
Material:- All material O.H. copper-bearing medium carbon steel except material marked (X) which is O.H. copper-bearing silicon steel.
Specifications: Special by State of California Dept. of Public Works.
Inspection: John M. Bailey - Chief Inspector
Rivets: - $\frac{7}{8}$"ϕ
Open Holes: $\frac{15}{16}$ϕ Unless Noted
Reaming:- All holes to be subpunched $\frac{1}{4}$" and reamed to size while parts are assembled. Holes marked R.T. to be reamed thru a steel templet - Burrs to be removed from all reamed holes.
Finish:- Sheared or Flame-cut edges and ends of material marked (E) to be planed to remove at least $\frac{1}{8}$" of metal.
Shop Paint. - None

REQUIRED		
1	Upper Deck Floor Beam	UF35
1	Upper Deck Bracket	UB76
1	do	UB77
4	do	UB78
4	do	UB79

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of:- Upper Deck Floor Beam & Brackets
Span YB4 - E1
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
MADE BY R.F.D. DATE 5-31-34
CHECKED BY [illegible] DATE 6-15-34

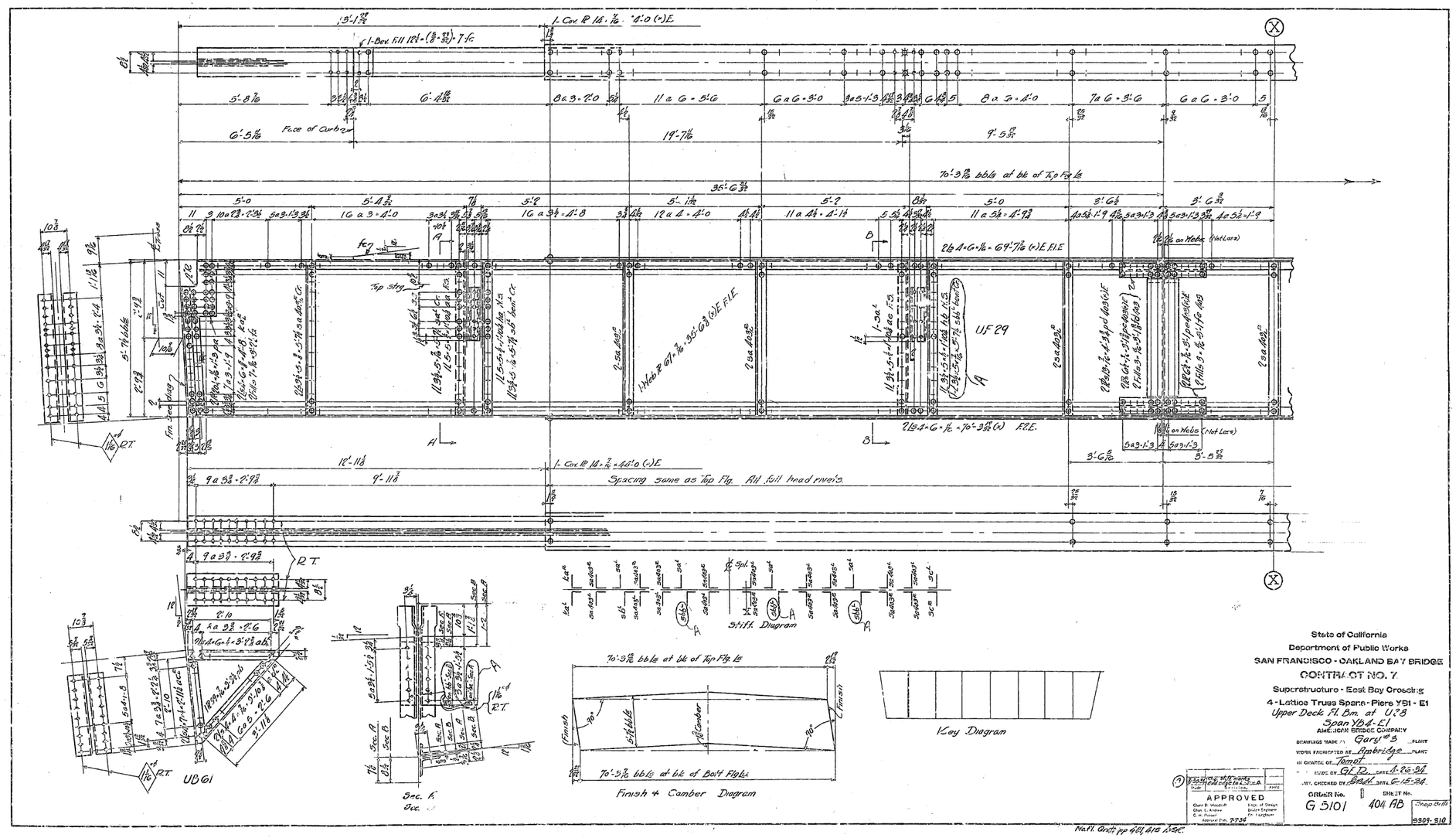
Mark	Revision	App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 7-7-34

ORDER No. G5101 [B&C]
SHEET No. 403B
Shop Bill 5307-308

Mat'l. Ord. pgs. 416, 417 & 283 & 451

30-51



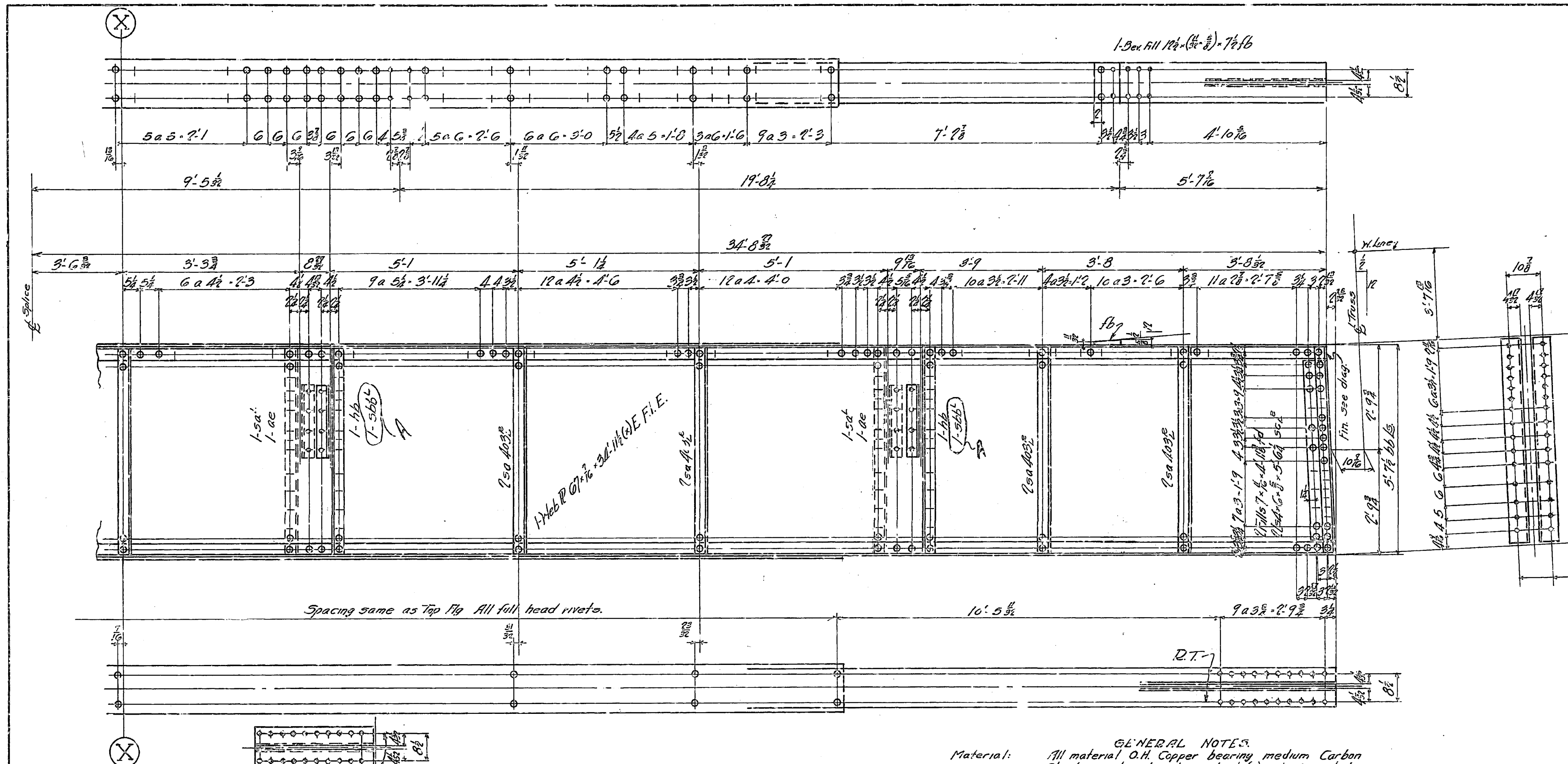
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7.
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y51 - E1
Upper Deck Fl. Bm. at U28
Span YB4-E1
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Ramet
TRACED BY GLD DATE 1-26-34
MAT. CHECKED BY Grad DATE 6-15-34

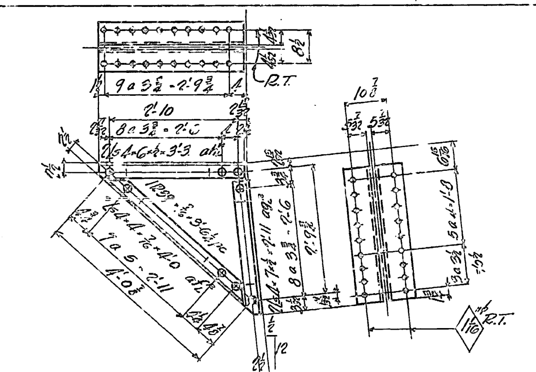
APPROVED
Glen B. Woodruff, Chief Engr.
Chas. L. Andrew, Bridge Engineer
C. H. Purcell, Asst. Chf. Engineer
Approval Dec. 7, 1934

Office No. G 5101 | Sht. No. 404 AB | Shop Dwg. No. 5309-310

Mat'l. Cert's pp 407, 415 Spec.

30-1





UB G2

GENERAL NOTES.

Material: All material O.H. Copper bearing medium Carbon Steel except material marked (x) which is to be O.H. Copper bearing Silicon Steel.

Specifications: Special by State of California Dep't. of Public Works.

Inspection: John M. Bailey Chief Insp.

Rivets: 7/8"φ

Open Holes 15/16"φ Unless noted.

Reaming: All holes to be subpunched 1/4" and reamed to size while parts are assembled. Holes marked R.T. to be reamed thru a steel templet. Burrs to be removed from all reamed holes.

Finish: Sheared or flame cut edges and ends of all material marked "E" to be planed to remove at least 1/8" of metal.

Shop Paint: None.

REQUIRED		
One	Floor Beam	U.F 29
One	F.B. Bracket	UB G1
One	do	UB G2

State of California

Department of Public Works

SAN FRANCISCO - OAKLAND BAY BRIDGE

CONTRACT NO. 7

Superstructure - East Bay Crossing

4 - Lattice Truss Spans - Piers YB1 - E1

Upper Deck Fl. Bm. at U28

Span YB4 - E1

AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary #3 PLANT

WORK FABRICATED AT Ambridge PLANT

IN CHARGE OF Tompt.

DRAW. MADE BY G.F.D. DATE 4-30-31

DW. CHECKED BY G.B.H. DATE 6-15-34

(17) 6-30-34	Chg. stiff. mark.	
Mk'd	Revision	App'd

APPROVED

Glenn B. Woodruff — Engr. of Design

Chas. E. Andrew — Bridge Engineer

C. H. Purcell — Chief Engineer

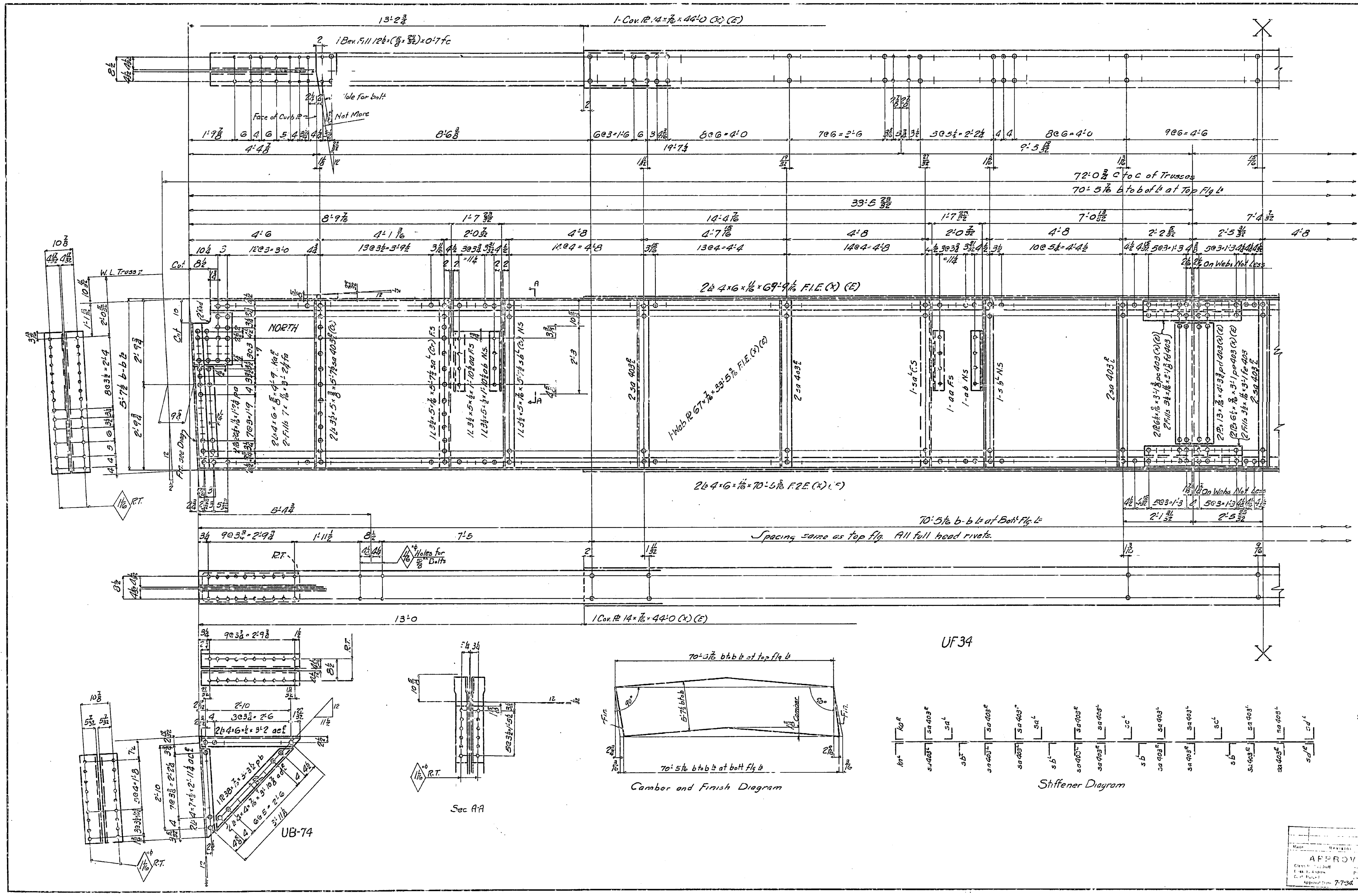
Approval Date 7-7-34

ORDER No. G5101 [B&C]

SHEET No. 401 B

Shop Bills 5309-310

30-1



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Fl. Bm. & Brkt. at U29 Upper Deck
Span YB4 - E1

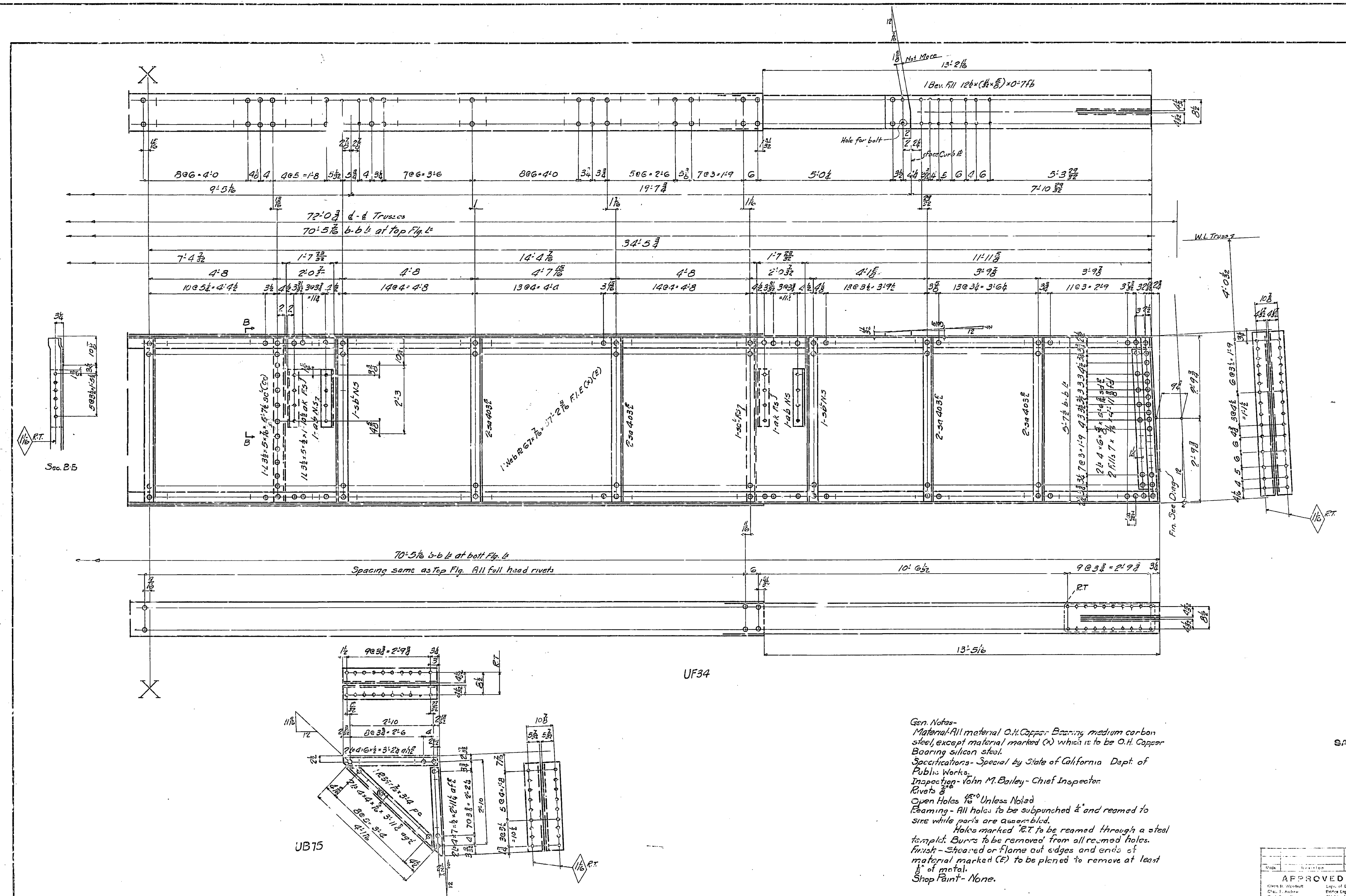
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT GARY #3 PLANT
WORK FABRICATED AT AMBRIDGE PLANT
IN CHARGE OF TOMPT
DRAW. MADE BY W.G. DATE 5-22-34
DRAW. CHECKED BY L.H. DATE 6-14-34

ORDER No.	SHEET No.
G5101	405AB

Shop Bills. S911-S12

Made	Revision	App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 7-7-34



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REQUIRED		
1	FLOOR BEAM	UF34
1	BRACKET	UB74
1	do	UB75

Gen. Notes-
Material-All material O.H. Copper Bearing medium carbon steel, except material marked (x) which is to be O.H. Copper Bearing silicon steel.
Specifications- Special by State of California Dept. of Public Works.
Inspection- John M. Bailey- Chief Inspector.
Rivets 7/8"ϕ
Open Holes 15/16"ϕ Unless Noted
Reaming- All holes to be subpunched 3/4" and reamed to size while parts are assembled.
Holes marked "R.T. to be reamed through a steel templt. Burrs to be removed from all reamed holes.
Finish- Sheared or flame cut edges and ends of material marked (E) to be planed to remove at least 1/8" of metal.
Shop Paint- None.

Made	Revision	App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 7-7-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y31 - E1
Details of Fl. Bm.- Brkt. at U29 - Upper Deck
SPAN YB4-E1
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
[illegible] Tolzpt
DRAW. MADE BY W.G. DATE 5-22-34
DRAW. CHECKED BY L.H. DATE 6-14-34
ORDER No. G5101 [3EC]
SHEET No. 405B
Shop Bills 5311-312

Mat'l. ord. P-414-P413-P481 - P5-L5-L22

30-1

UF30

Sec AA

UB63

Camber & Finishing Diagram

Key Diagram

Stiffener Diagram

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Detail of Pier Beam at U30 Upper Deck
Span YB4-E1
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tempt
DRAW. MADE BY W.G. DATE 4-27-34
DRAW. CHECKED BY L.H. DATE 5-19-34

Mde	Revision	Appd

APPROVED
Chf. E. Woodruff, Engr. of Design
Chas. B. Andrus, Bridge Engineer
C. H. Purcell, Consulting Engineer
Approval Date 7-26-34

ORDER No. G5101
SHEET No. 406AB
Shop Bills [B&C]
5219

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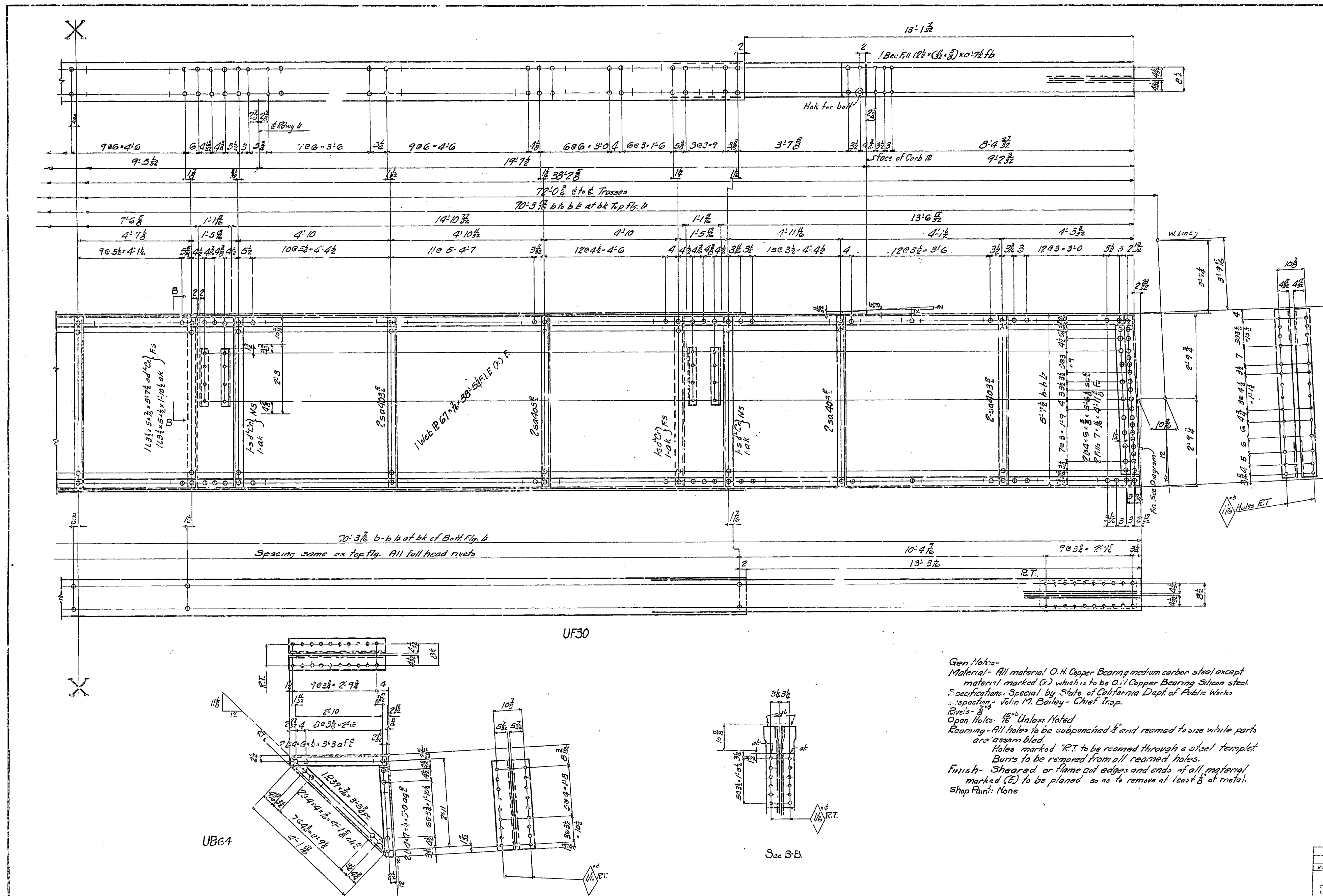


Gen Notes-
Material- All material O.H. Copper Bearing medium carbon steel except material marked (x) which is to be O.H Copper Bearing Silicon steel.
Specifications- Special by State of California Dept. of Public Works
Inspection- John M. Bailey- Chief Insp.
Rivets- ⅞"ϕ
Open Holes- 15/16" Unless Noted
Reaming- All holes to be subpunched ⅛" and reamed to size while parts are assembled.
Holes marked "R.T. to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Finish- Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least ⅛" of metal.
Shop Paint: None

REQUIRED		
1	FLOOR BEAM	UF30
1	BRACKET	UB63
1	do	UB64

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Detail of Floor Beam at U30 Upper Deck
Span YB4 - E1

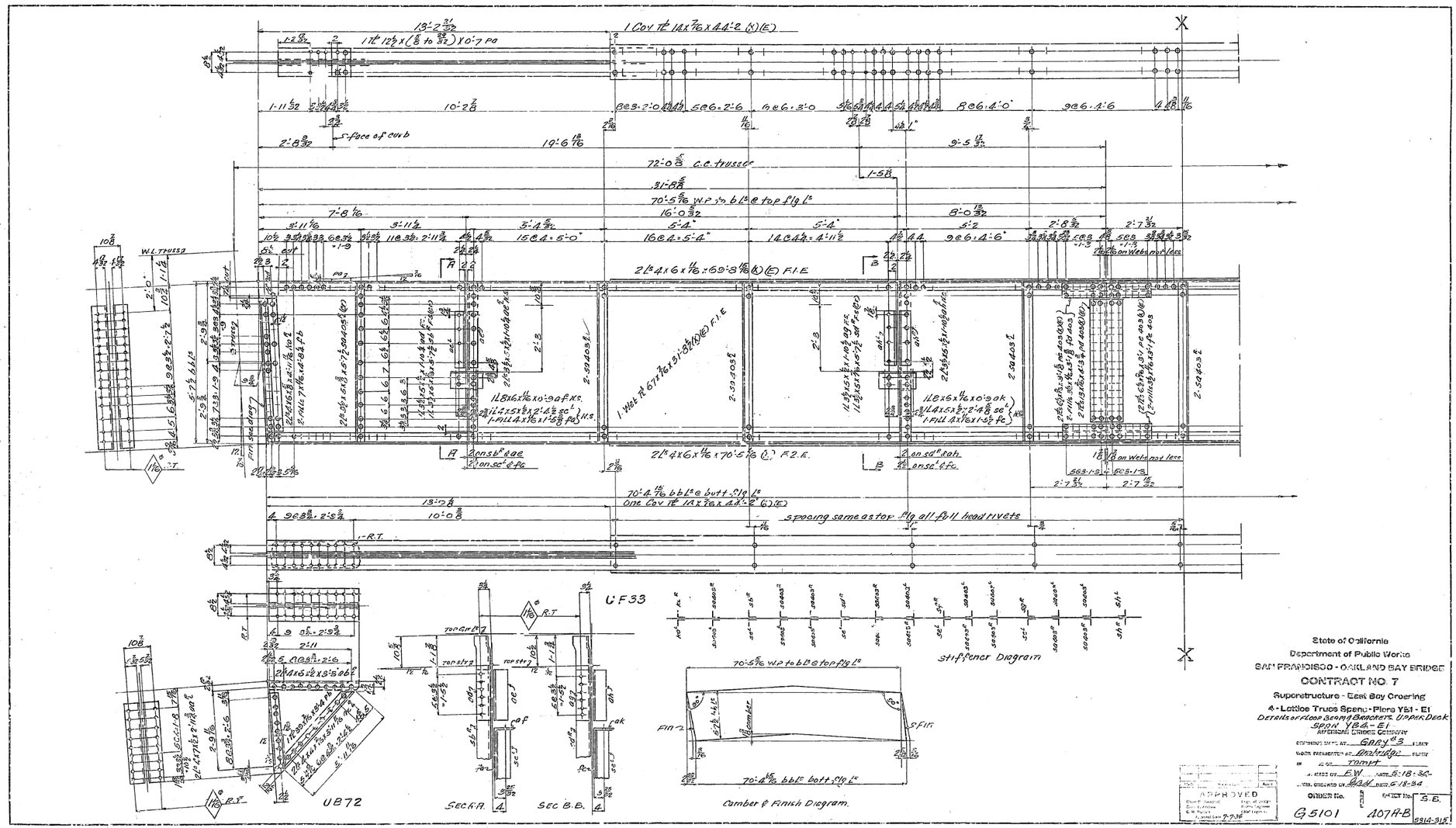
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAW. MADE BY W.G DATE 5-2-34
DRAW. CHECKED BY L.H. DATE 6-19-34
ORDER No. G5101
SHEET No. 406B
[B&C]
Shop Bills 5313

Made	Revision	App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 7-20-34

Mat'l Ord. P482-418

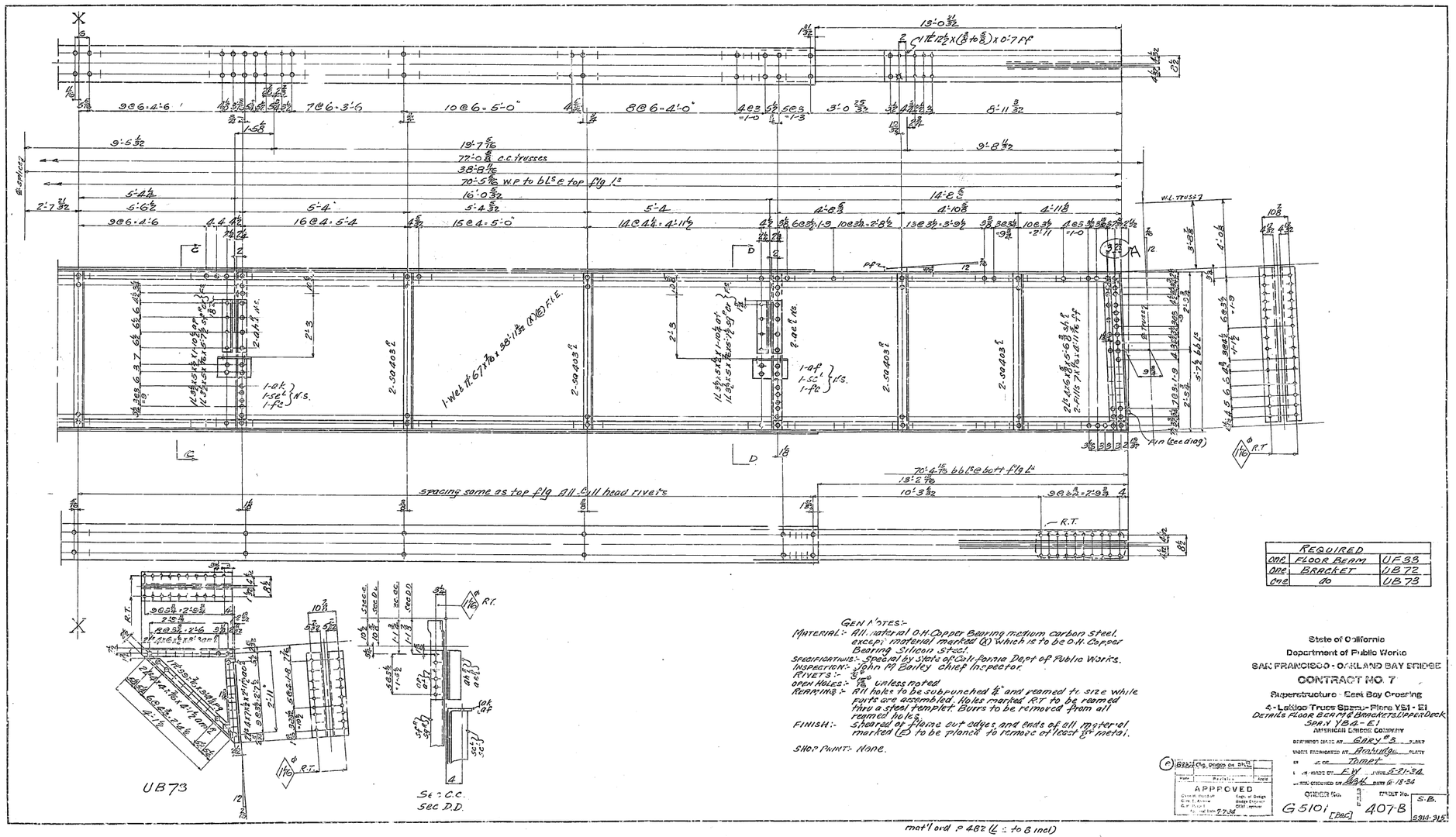
80-1



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
DETAILS of FLOOR SYSTEM & BRACKETS, UPPER DECK
Span YB2 - E1
AMERICAN BRIDGE COMPANY
DRAWING SHEET NO. GARY #3 SHEET
WORK PERFORMED AT Ambridge PLANT
BY CO. Tompt
CHECKED BY F.W. DATE 6-18-34
DRAWN BY B.A.H. DATE 6-18-34

ORDER No. G5101 | DRAWING No. 107H-B | SHEET No. S.B. | 5814-315

30-51



GEN'L NOTES:-

MATERIAL:- All material O.H. Copper Bearing medium Carbon Steel, except material marked (X) which is to be O.H. Copper Bearing Silicon Steel.

SPECIFICATIONS:- Spread by State of Calif. Dept of Public Works.

INSPECTION:- John M. Bailey Chief Inspector.

RIVETS:- 7/8"

OPEN HOLES:- 15/16" unless noted

REAMING:- All holes to be subpunched 1/4" and reamed to size while parts are assembled. Holes marked R.T. to be reamed thru a steel templet. Burrs to be removed from all reamed holes.

FINISH:- Sheared or flame cut edges and ends of all material marked (C) to be planed to remove at least 1/8" metal.

SHOP PAINT:- None.

REQUIRED		
One	FLOOR BEAM	UF33
One	BRACKET	UB72
One	do	UB73

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YS1 - E1
Details FLOOR BEAMS & BRACKETS (UPPER Deck
Span YS2 - E1
AMERICAN BRIDGE COMPANY

DRAWING MADE AT GARY No. 3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN ACCORDANCE WITH Tomat
TRACED BY E.W. DATE 5-21-34
CHECKED BY BAK DATE 6-18-34

APPROVED
Chief Engr.
Engr. of Design
Bridge Engineer
Chief Inspector
Dated June 27-34

CONTRACT No. G5101 [Rev]
STRUCT. No. 407-B
S.B. 5314-318

mat'l ord. p 482 (L 1 to 8 incl)

30-1

UF31

U866

Stiffener Diagram

Camber & Finishing Diagram

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers: YB: - E1
Detail of Floor Bm at U32 Upper Deck
Spar YB4 - E1
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
AND OF Tampt
APPD. MADE BY WG DATE 5-7-54
DRWG. CHECKED BY [illegible] DATE 6-20-54

APPROVED
Chief Engineer
Approved 7-7-54

ORDER No. G.5101
CONTR. No. 408AB
Shop Dwg. 9316-217

30-1

Sec H-H Sec G-G Sec F-F Sec E-E

UB67

Gen Notes-
Material- All material O.H Copper Bearing medium carbon steel except material marked (x) which is to be O.H Copper Bearing Silicon steel.
Specifications - Special by state of California Dept of Public Works
Inspection - Vahn M. Bailey, Chief Inspector
Rivets - ⅞"ø
Open holes 15/16" ø Unless Noted
Reaming - All holes to be subpunched ¼" and reamed to size while parts are assembled. Burrs to be removed from all reamed holes.
Holes marked "R.T." to be reamed through a steel templet.
Finish - Sheared or flame cut edges and ends of all material marked (C) to be planed so as to remove at least ¼" of metal.
Shop Paint - None

REQUIRED		
1	FLOOR BEAM	UF31
1	BRACKET	UB66
1	do	UB67

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Detail of Floor Beam at U32 Upper Deck
Span YB4 - E1

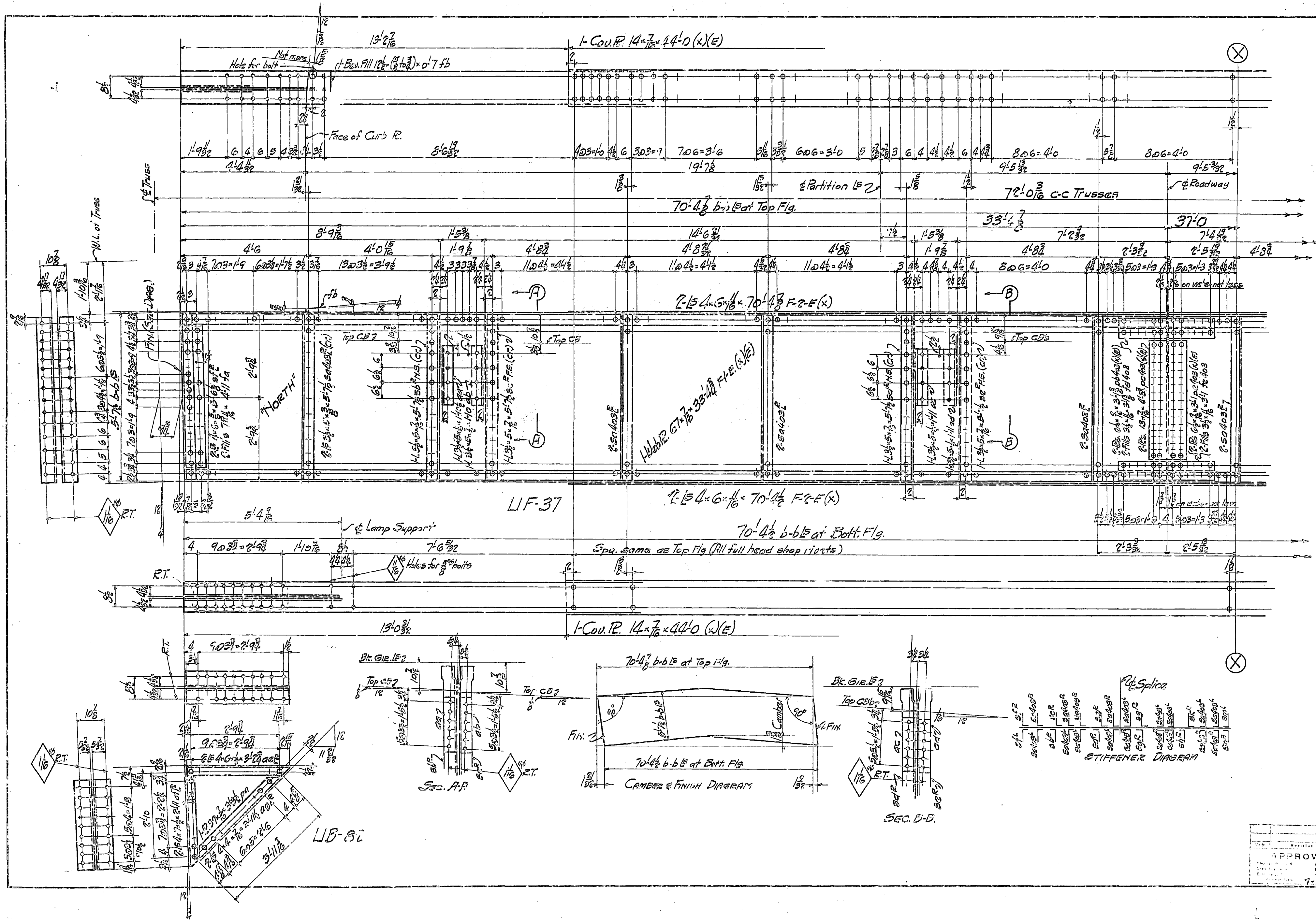
DRAWING MADE AT Gary
WORK FABRICATED AT Ambridge
BY Tempt
CHKD. MADE BY VG DATE 6-10-34
DRAW. CHECKED BY [illegible] DATE 6-22-34

APPROVED
Chief Engineer 7-7-34

ORDER NO. E-5101 CONTR. NO. 408B

Mat'l Ord. P 985 #416 WG

30-1



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Floor Beam and Bkts. at U33 - Upper Deck - Span YB4-E1.

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT GARY #3 PLANT
WORK FABRICATED AT AMBRIDGE PLANT
IN CHARGE OF TOMPT
MADE BY A.F.T. DATE 6-6-34
CHECKED BY L.H. DATE 6-19-34

ORDER No.	SHEET No.
G5101 [Bdc]	409-AB

Shop Bill 9318-319

Revision	App'd

APPROVED
Engr. of Design
Bridge Engineer
Chief Engineer
7-20-34

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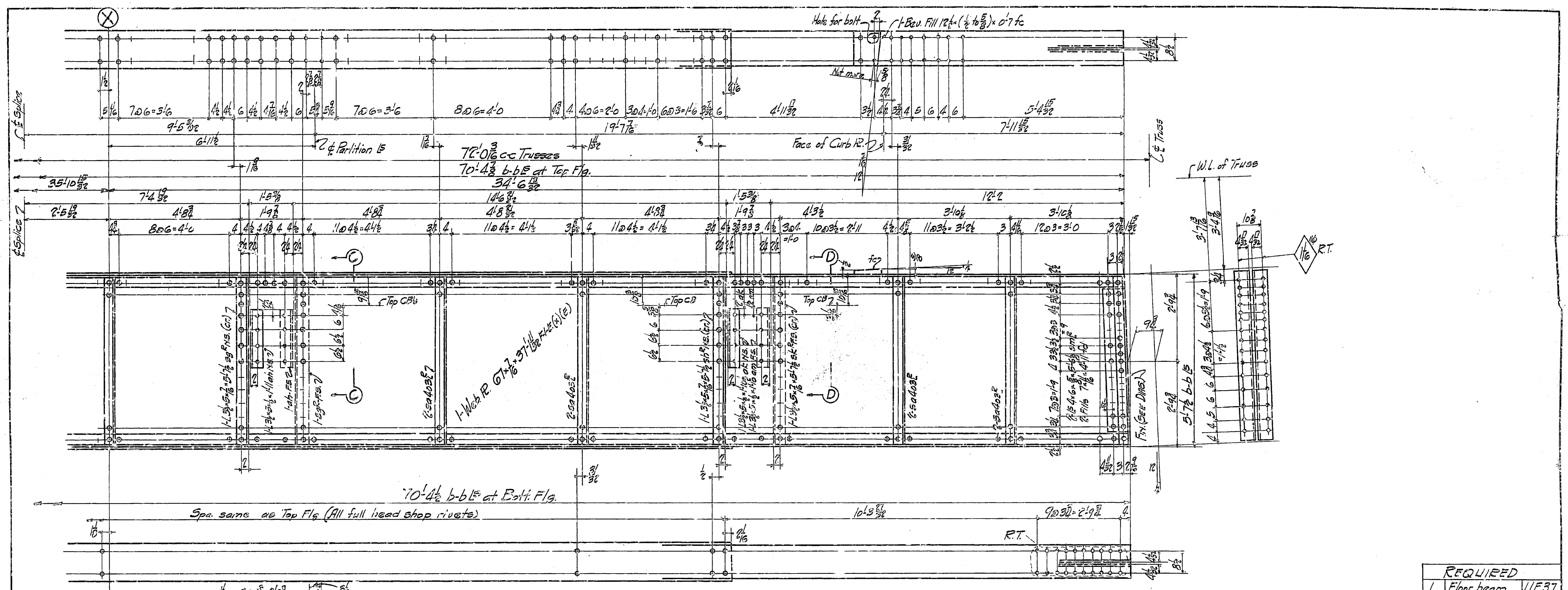
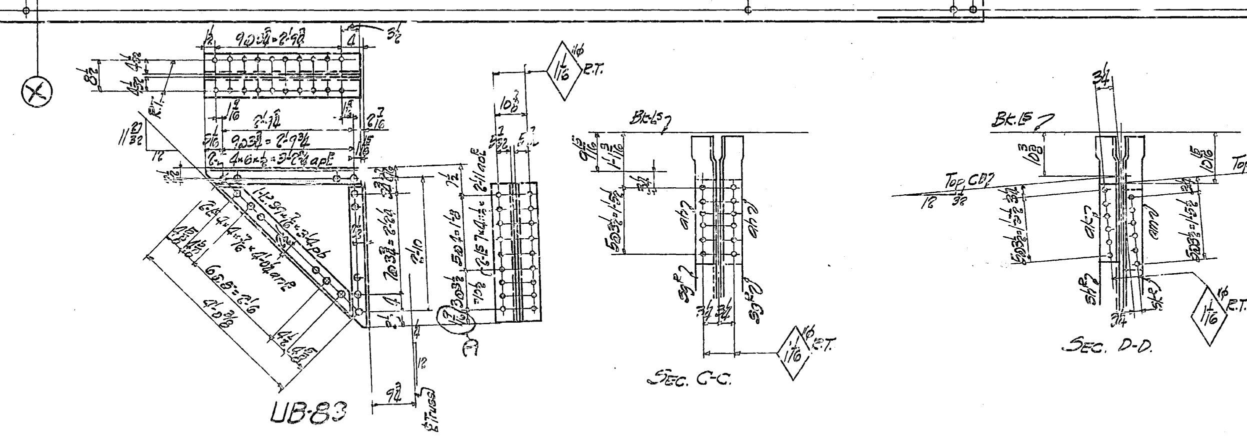




Required		
1	Floor beam	UF37
1	Bracket	UB82
1	Bracket	UB83

GENERAL NOTES-

MATERIAL- All material O.H. Copper Bearing medium Carbon Steel except material marked (x) which is to be O.H. Copper Bearing Silicon steel.

SPECIFICATIONS- Special by State of California, Dept. of Public Works.

INSPECTION- John M. Bailey- Chief Inspector.

RIVETS- 7/8"

OPEN HOLES- 15/16 Unless noted.

REAMING- All holes to be subpunched 3/4" and reamed to size while parts are assembled. Holes marked "R.T." to be reamed thru a steel templet. Burrs to be removed from all reamed holes. Sheared or flame-cut edges and ends of all material marked (E) to be planed so as to remove at least 1/8" of metal.

SHOP PAINT- None.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Floor Beam and Bkts. at U33 - Upper Deck - Span YB4-E1

AMERICAN BRIDGE COMPANY
Drawings made at Gary #3 Plant
Work fabricated at Ambridge Plant
Tompt
Plan made by A.F.T. Date 6-6-34
Draw. checked by L.H. Date 6-19-34
Order No. G5101 [Dec.] 409-B
Shop Bill 5318-319

(A) 8-23-34 Chg 1 1/16 to 1 3/8 on UB83

Made	Revision	App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 7-20-34

Mat'l ord. Pgs 418, 482 A.F.T.

UF32

UBGB

Stiffener Diagram

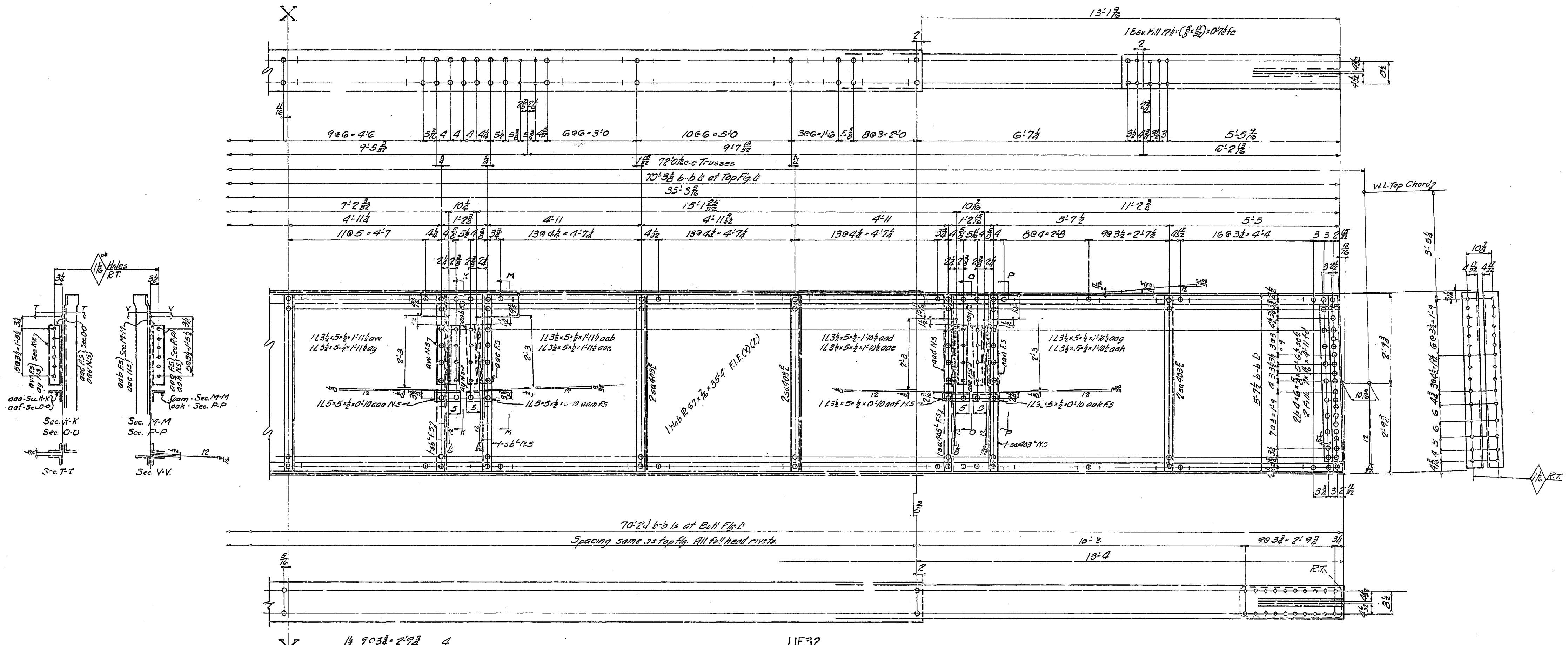
Camber & Finishing Diagram

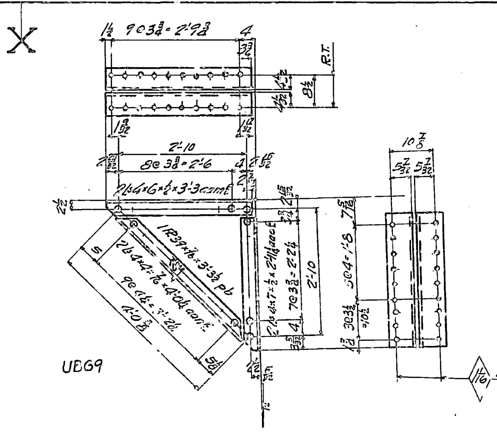
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Span - Piers Y61 - E1
Detail of Fl. Bm & Brkt at U39 Upper Deck
Span Y61 - E1
AMERICAN BRIDGE COMPANY
DRAWING MADE AT... Gary, Ind. PLANT
WORK FABRICATED BY... Ambridge PLANT
CK'D BY... Tampt
W. LAYOUT BY... W.L.P. DATE 8-16-34
W. CHECKED BY... R.A.M. DATE 6-10-35

APPROVED
Chief Engineer
Chief Engineer
Date: 7-12-34

ORDER No. G5101
SHEET No. 410AB

30-1





Gen. Notes
Material - All material O.H. Copper Bearing medium Carbon steel except material marked (X) which is to be O.H. Copper Bearing silicon steel.
Specifications - Special by State of California, Dept. of Public Works
Inspection - John M. Bailey - Chief Inspector.
Rivets - 7/8"⌀
Open Holes - 15/16"⌀ Unless noted.
Reaming - All holes to be subpunched 3/4" and reamed to size while parts are assembled. Burrs to be removed from all reamed holes. Holes marked "R.T." to be reamed through a steel templet.
Finish - Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least 1/8" of metal.
Shop Paint - None

REQUIRED		
1	Floor Beam	UF32
1	Bracket	UB68
1	do	UB69

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Detail of Fl. Bm. & Brkt. at U34 Upper Deck
Span YB4-E1

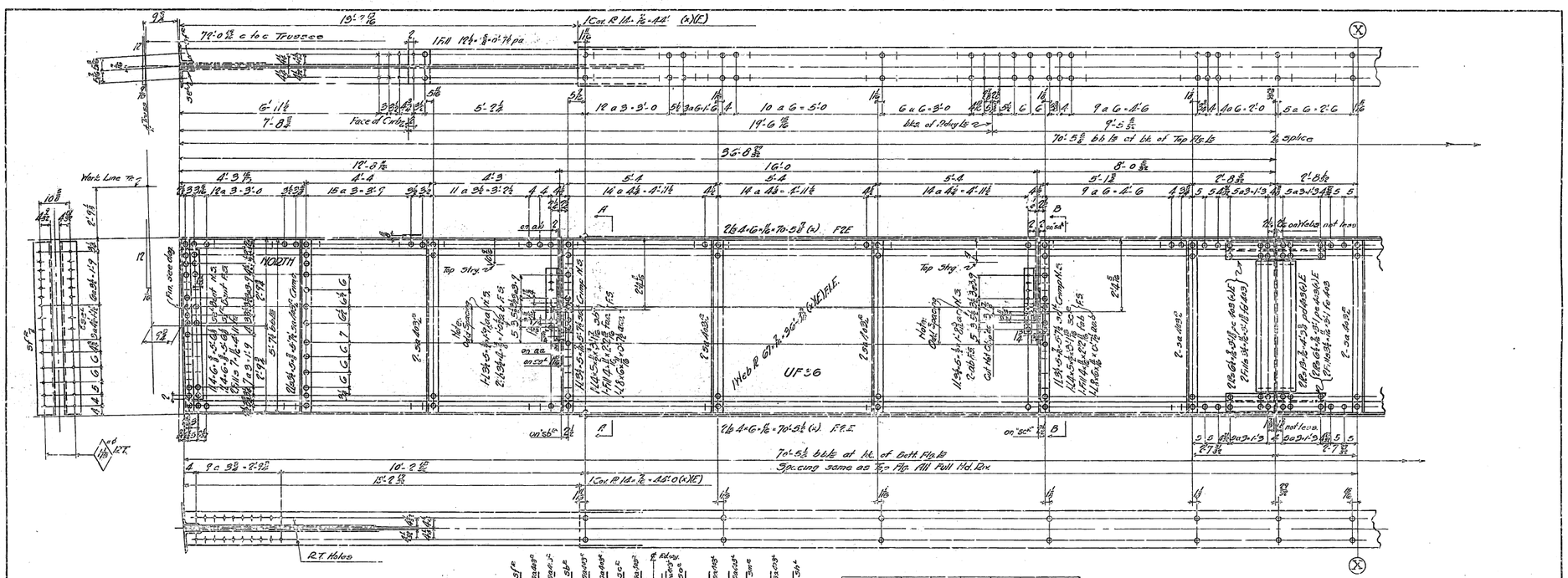
AMERICAN BRIDGE COMPANY
Drawings made at Gary #3 plant
Work fabricated at Ambridge plant
In office of Tompt
Dr. N. made by W.G. date 5-17-34
Draw. checked by [illegible] date 6-20-34
Order No. G5101 Sheet No. 410B
[B & C]
Shop Bill 5320-321

Made	Revision	App'd

APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 7-12-34

Mat'l Ord. P 415 - L19 to L26 & 401 - L11 to L17

30-1



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Upper Deck Pl. Brn. at 1155
Span YB4 - E1
AMERICAN BRIDGE COMPANY

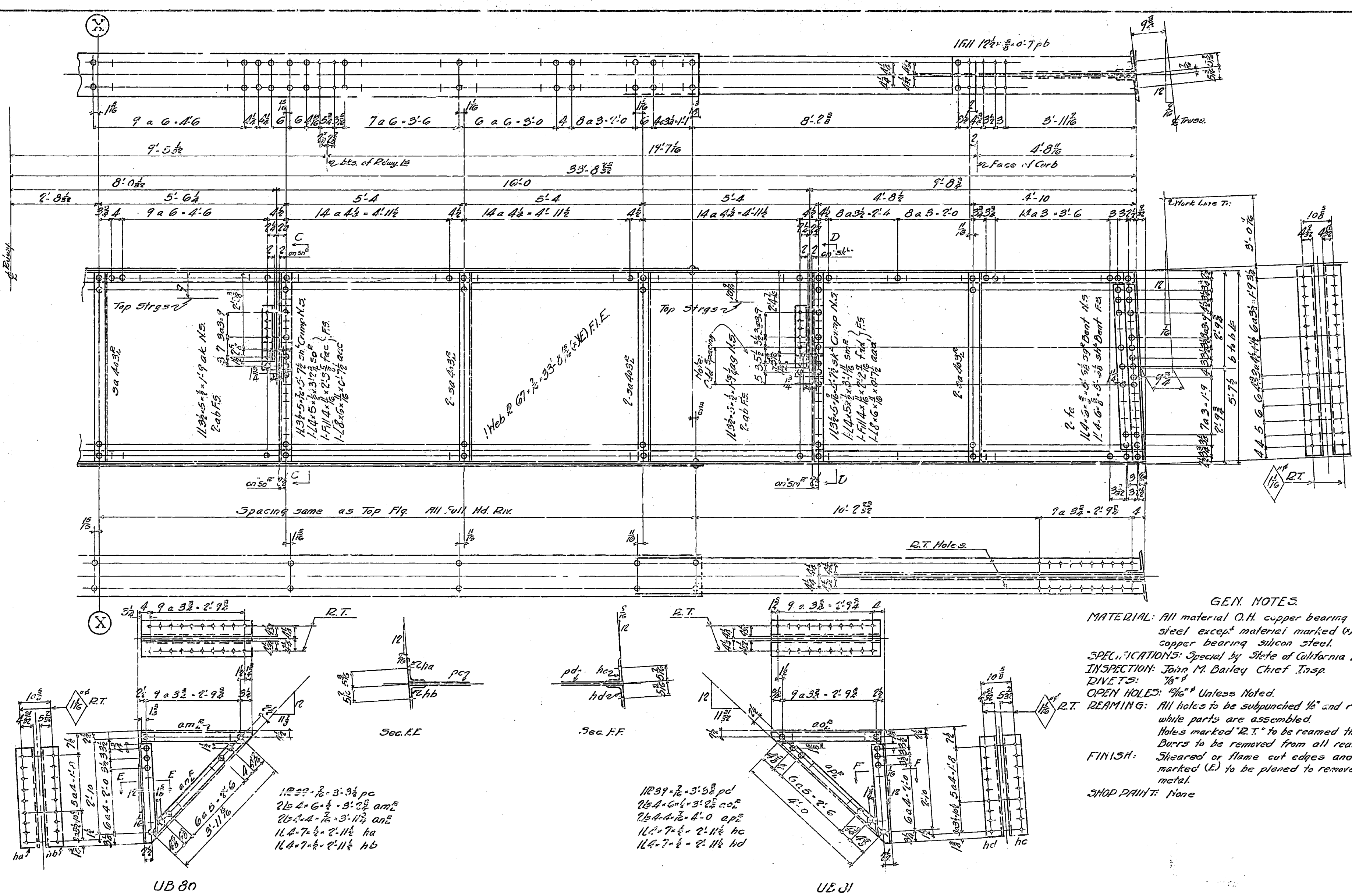
DRAWING SPACE AT Gary "S" PLANT
WORK FABRICATED AT Ambridge PLANT
TO BE ERECTED BY Tempt. AND
DRAWN BY G.E.D. DATE 6/21/34
WHEN CHECKED BY [illegible] DATE 6-19-34

Mark	Revision	Date

APPROVED
Chief Engr.
Bridge Engineer
Supt. of Const.

DRAWING NO. G 5131 SHEET NO. 111 AB

Shop Bill
5382-369



GEN. NOTES.

MATERIAL: All material O.H. copper bearing medium carbon steel except material marked (x) which is O.H. copper bearing silicon steel.

SPECIFICATIONS: Special by State of California Dept. of Pub. Works.

INSPECTION: John M. Bailey Chief Insp.

RIVETS: 7/8" ϕ

OPEN HOLES: 15/16" ϕ Unless Noted.

REAMING: All holes to be subpunched 1/4" and reamed to size while parts are assembled. Holes marked "R.T." to be reamed thru a steel templet. Burrs to be removed from all reamed holes.

FINISH: Sheared or flame cut edges and ends of material marked (E) to be planed to remove at least 1/8" of metal.

SHOP PAINT: None

REQUIRED		
One	Floor Beam	UF 36
One	Bracket	UB 80
One	do	UB 81

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Upper Deck Fl. Bm. at U35
Span YB4-E1.

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Amb. PLANT
IN CHARGE OF Tompt.
DR. MADE BY G.E.D. DATE 6/15/34
DRAWG. CHECKED BY [illegible] DATE 6-19-34
ORDER No. G5101
SHEET No. 411 B
Shop Bills 5322-325

Made	Revision	App'd

APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 7-25-34

Mat'l. Ord. pp. 402, 417 incl.

30-1

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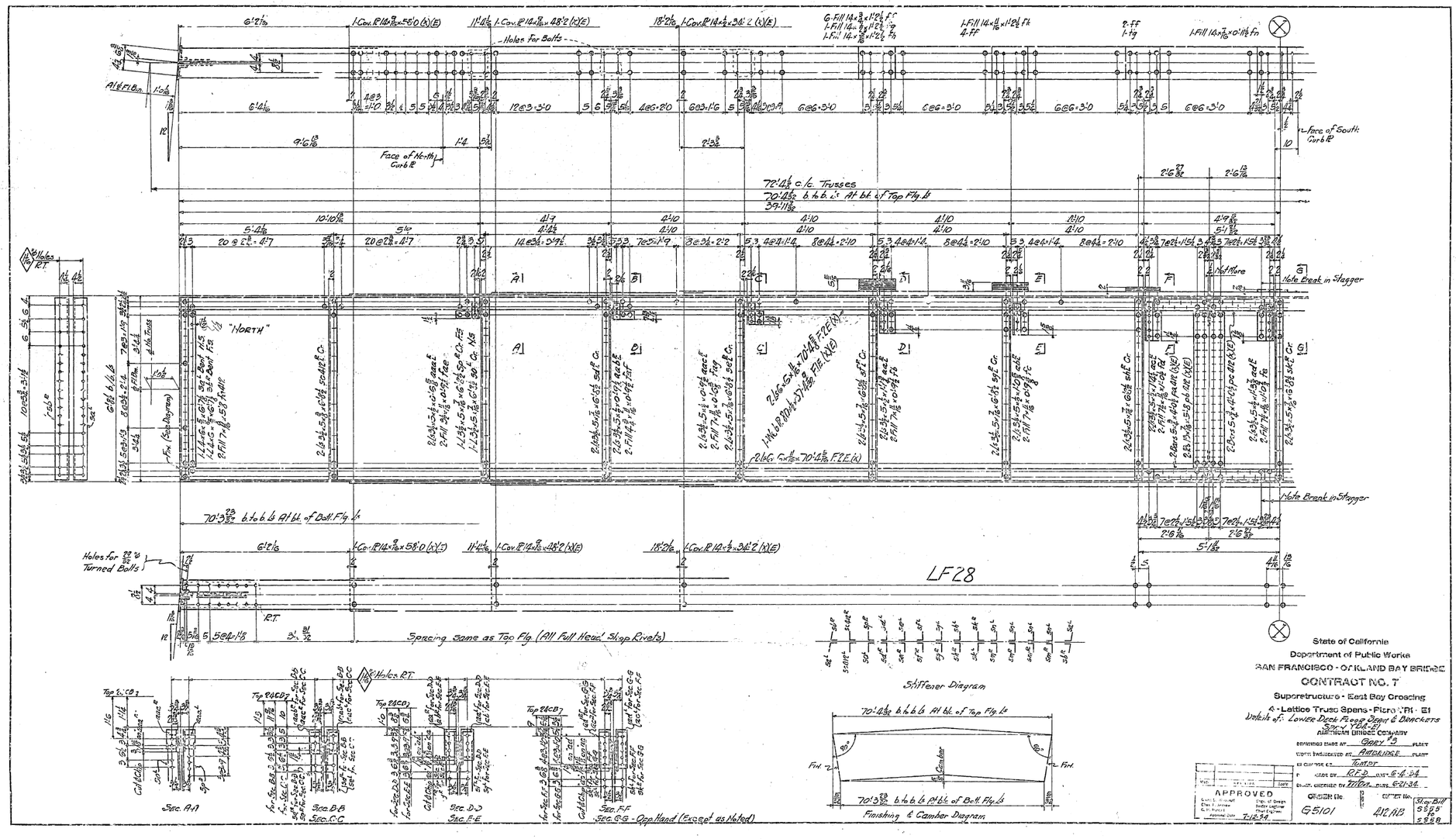


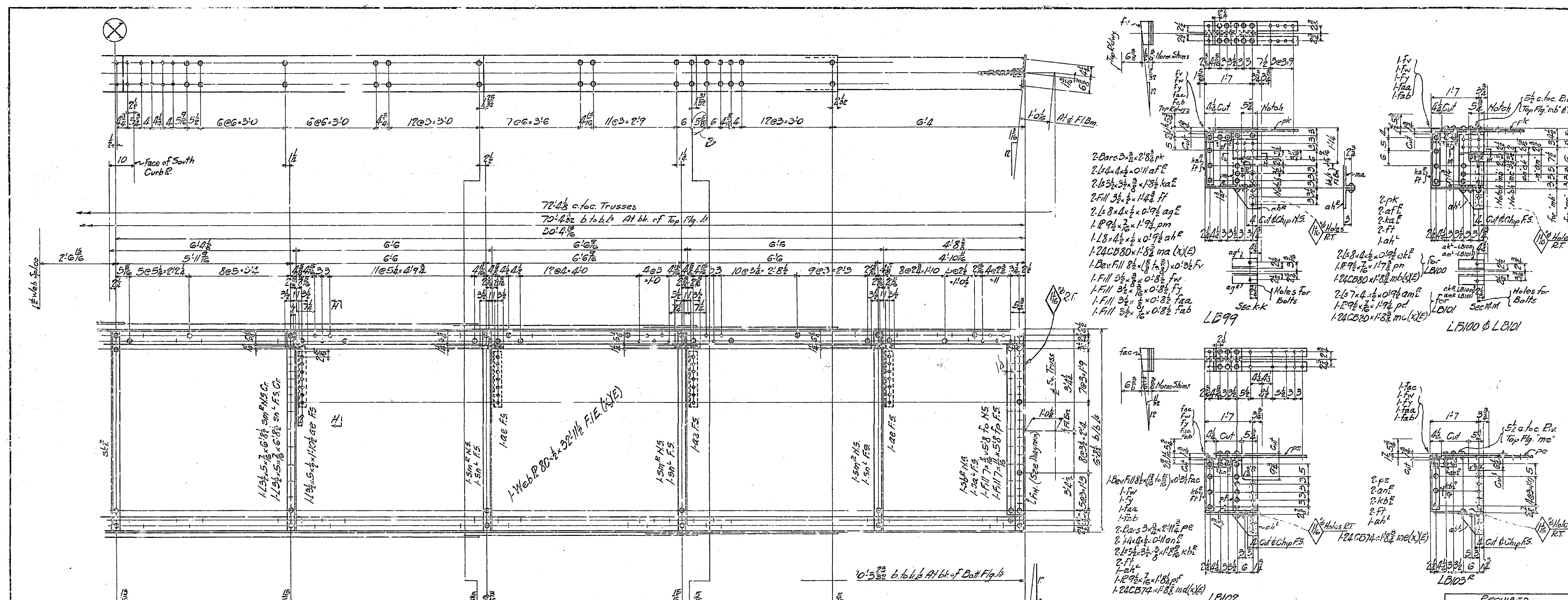
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Pier "R" - E1
Details of: LOWER DECK Floor Beams & Brackets
Sheet 4 of 184 Sheets
AMERICAN BRIDGE COMPANY

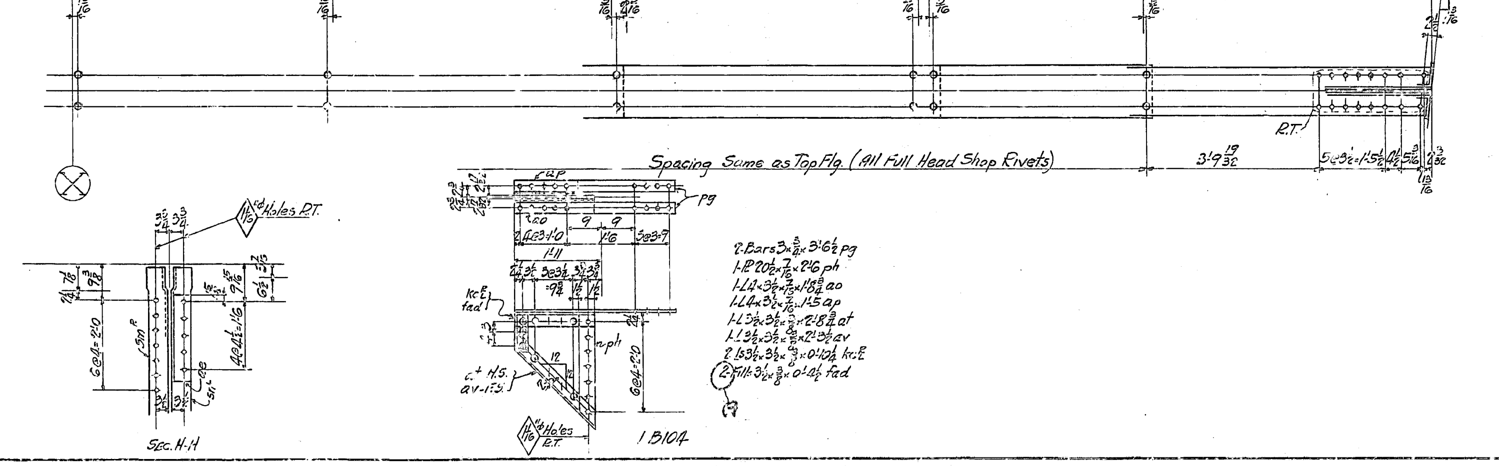
DRAWING LOADED AT: GARY, IND. PLANT
WORK FABRICATED AT: ANDERSON PLANT
AS CHECKED BY: [illegible] DATE: [illegible]
TRACED BY: RCD DATE: 6-6-34
DESIGN CHECKED BY: TMcA DATE: 6-21-34

APPROVED
Asst. Engr. in Charge
Chief Engr.
Approved Date 7-12-34

ORDER No. G5101
CUTTER No. 41E/AB
Stock Bill Nos. 5525 to 5528

30-1





GEN. NOTES:-
Material:- All material O.H. copper-bearing medium carbon steel except material marked (x) which is O.H. copper-bearing silicon steel.
Specifications:- Special by State of California. Dept. of Public Works.
Inspection:- John M. Bailey - Chief Inspector
Rivets:- 7/8"φ
Open Holes:- 15/16"φ Unless Noted.
Reaming:- All holes to be subpunched 1/4" and reamed to size while parts are assembled. Holes marked R.T. to be reamed thru a steel templet.
Burrs to be removed from all reamed holes.
Finish:- Sheared or Flame cut edges and ends of material marked (E) to be planed to remove at least 1/8" of metal.
Shop Paint:- None

REQUIRED		
1	Lower Deck Floor Beam	LF28
1	Lower Deck Bracket	LB99
1	do	LB100
1	do	LB101
2	do	LB102
1	do	LB103R
1	do	LB103L
4	do	LB104

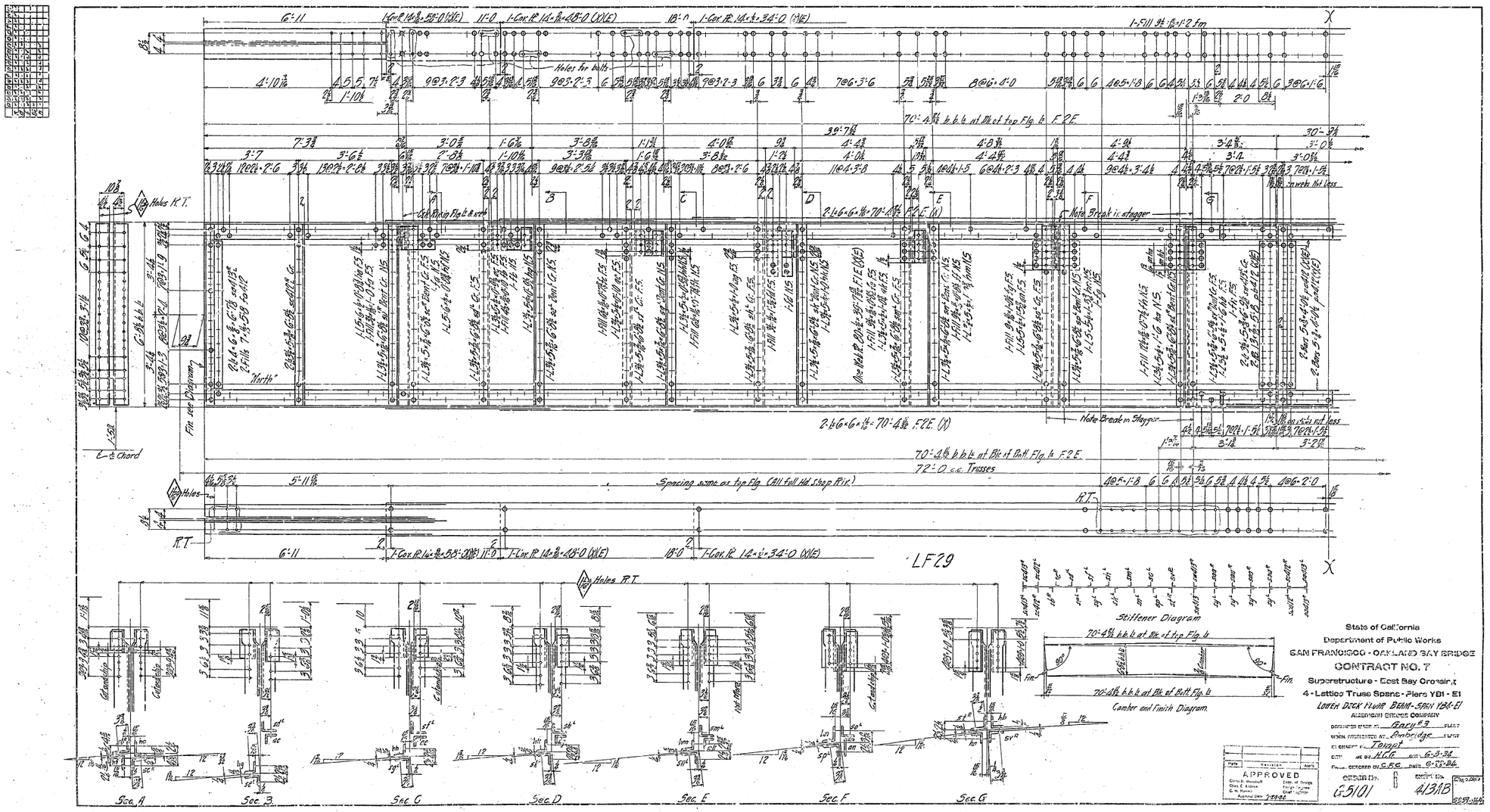
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 Lattice Truss Spans - Piers Y31 - E1
Details of:- Lower Deck Floor Beam & Brackets
Span Y34-E1
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
Tompt
DRAWING MADE BY R.F.D. DATE 6-5-34
DRAWING CHECKED BY [illegible] DATE 6-21-34
ORDER No. G5101 [B&C]
SHEET No. 412B
Shop Bill 5355 to 5358

A	C-2553	Change 1-fad to 2 fad	
B	9-17-34	" Size in General	
Made		Revision	App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 7-12-34

Mat'l. Ord. pgs. 422, 423, 479, 485 & 492

30-1



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
LOWER DECK MAIN BEAM - SPAN YB4-E1
AMERICAN BRIDGE COMPANY

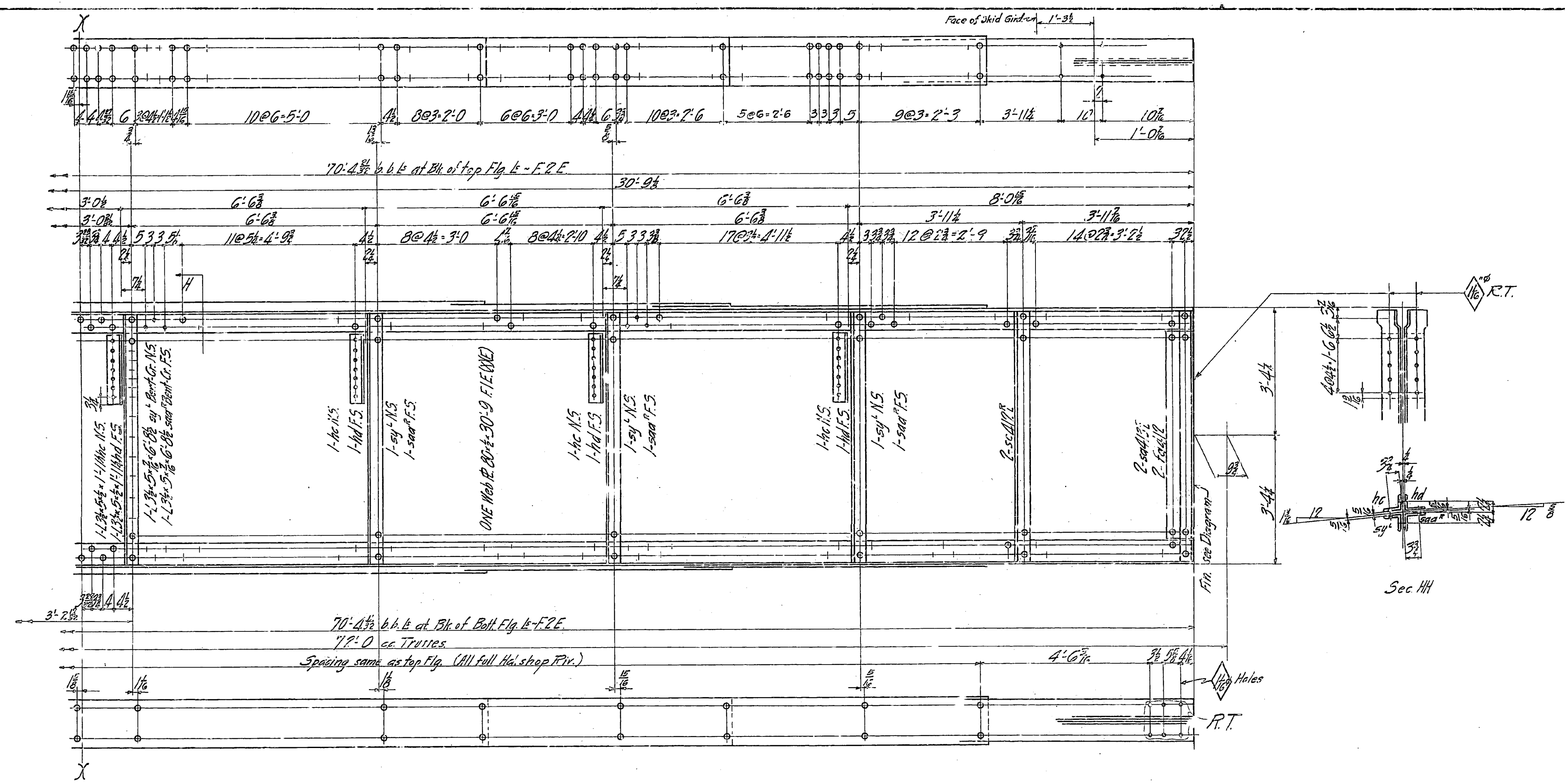
DRAWING MADE BY Gary 4-3 PLACE
WHEN APPROVED BY Ambridge PLACE
IN CHARGE OF Tenant
CHKD BY H.C.G. DATE 6-3-36
TRACED BY G.B.C. DATE 6-23-36

Date	Revision	Appd.

APPROVED
Chief Engr. Chas. E. Andrew
Asst. Chief Engr. C. H. Purcell
Approval Date 7-22-36

ORDER No. 65101
DRAWING No. 413B

30-1



REQUIRED		
1	Floor Beam	LF29

Gen. Notes:

MATERIAL: All material O.H. Copper Bearing medium Carbon Steel, except material marked (X) which is O.H. Copper Bearing Silicon Steel.

SPECIFICATIONS: Special by State of California, Dept. of Public Works.

INSPECTION: John M. Bailey - Chief Inspector

RIVETS: ⅞ φ

OPEN HOLES: $\frac{15}{16}$ φ Unless noted

REAMING: All Holes to be subpunched ¼" and reamed to size while parts are assembled. Holes marked R.T. to be reamed thru a steel templet. Burrs to be removed from all reamed holes.

FINISH: Sheared or flame cut edges and ends of all material marked (E) to be planed to remove at least ⅛" of metal.

SHOP PAINT: None

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YE1 - E1
LOWER DECK FLOOR BEAM - SPAN YB4-E1

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DR. MADE BY H.C.G. DATE 6-6-34
DRAW. CHECKED BY C.F.C. DATE 6-28-34

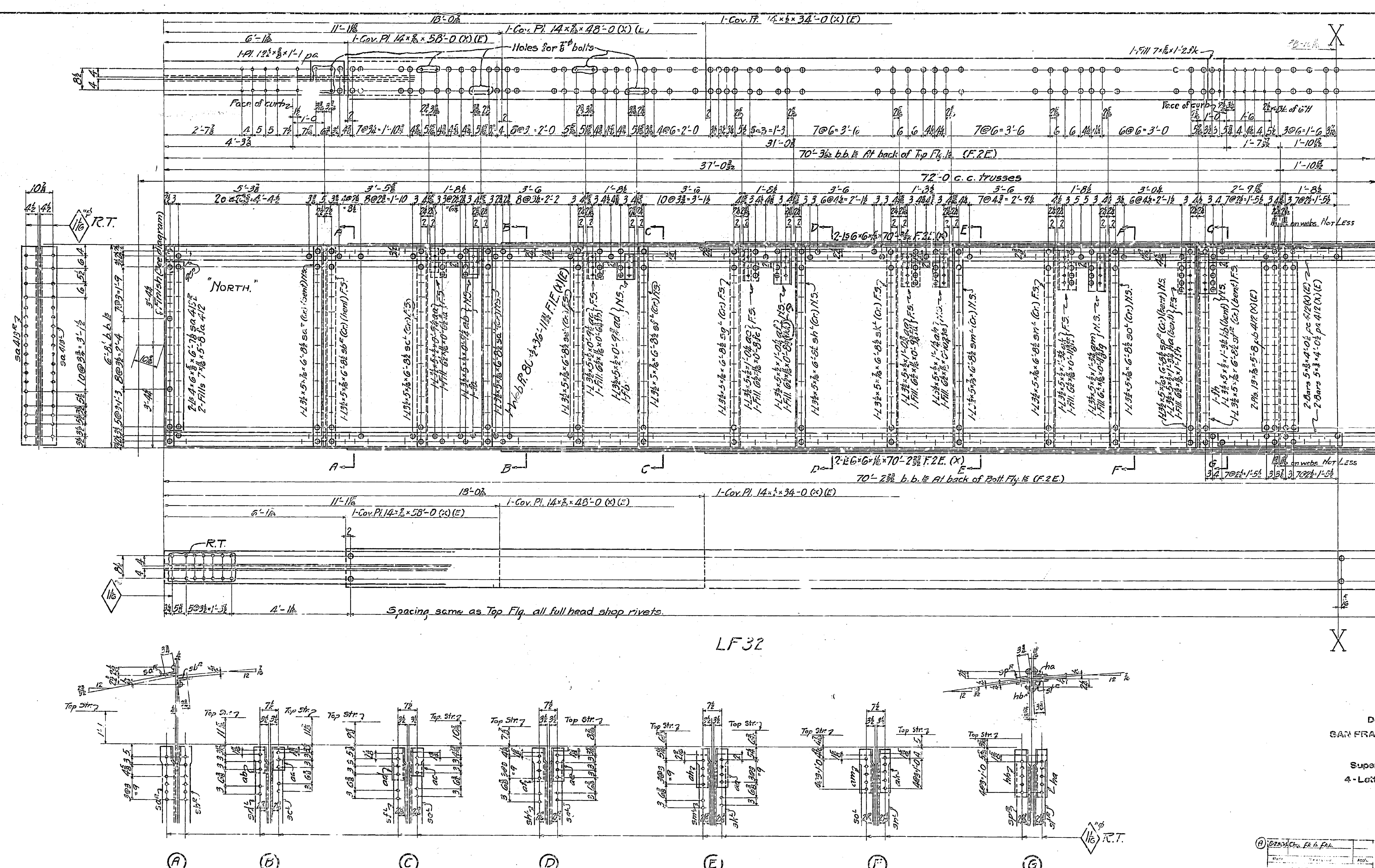
Made	Revision	App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 7-24-34

ORDER No. G5101 [B&C]
SHEET No. 413B
Shop Bills 5359-360

Mat. Ord. P.419 & 486 HCG.

30-1



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
LOWER DECK FLOOR BEAM
SPAN YB4-E1
FLOOR BEAM AT L29
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary PLANT
WORK FABRICATED AT Ambridge PLANT
ACC OF Tamet
DRN. MADE BY M.E.W. DATE 6-11-34
DRAW. CHECKED BY G.B.H. DATE 6-25-34

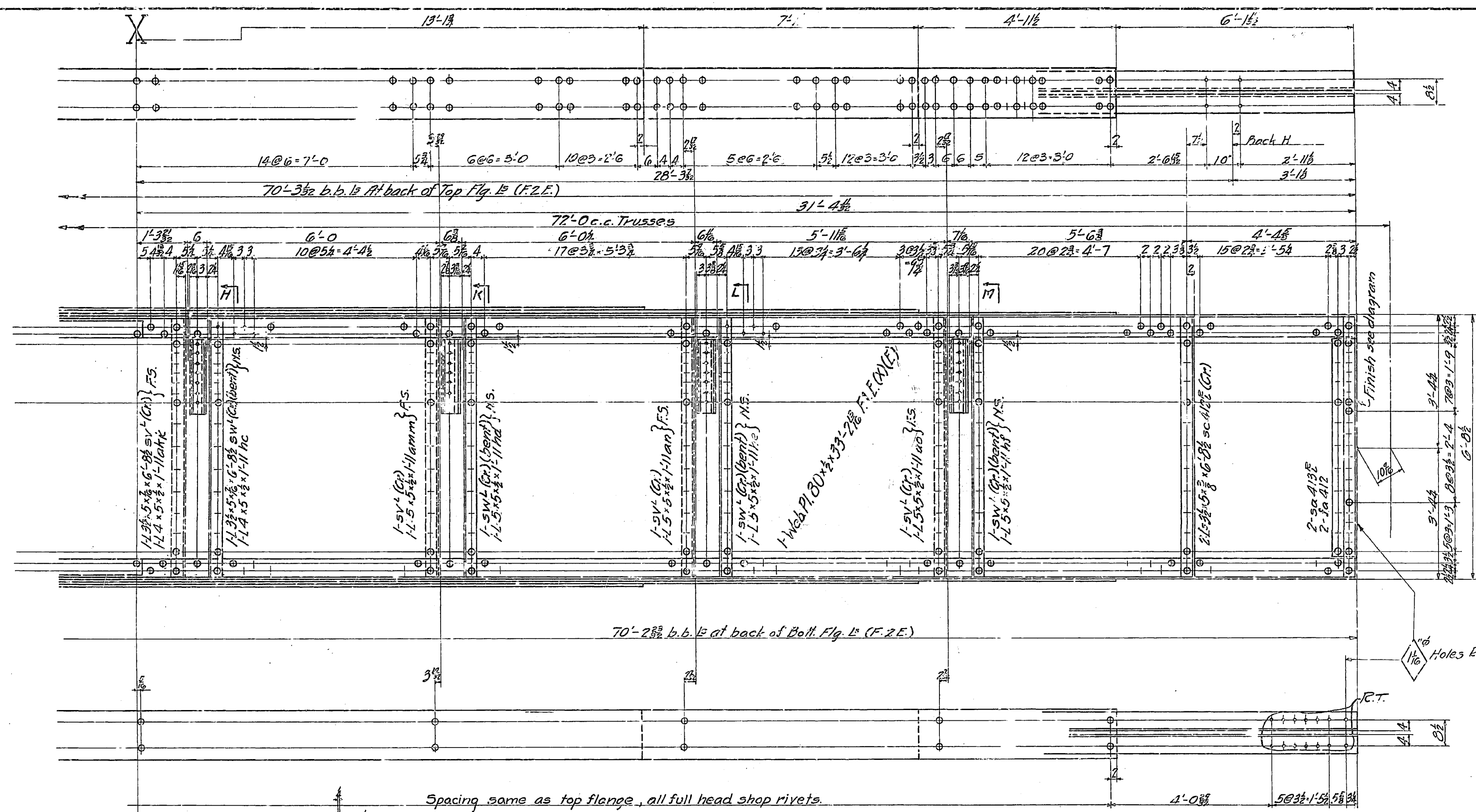
(A) 6-29-34 Chg. Fk to Fkk.

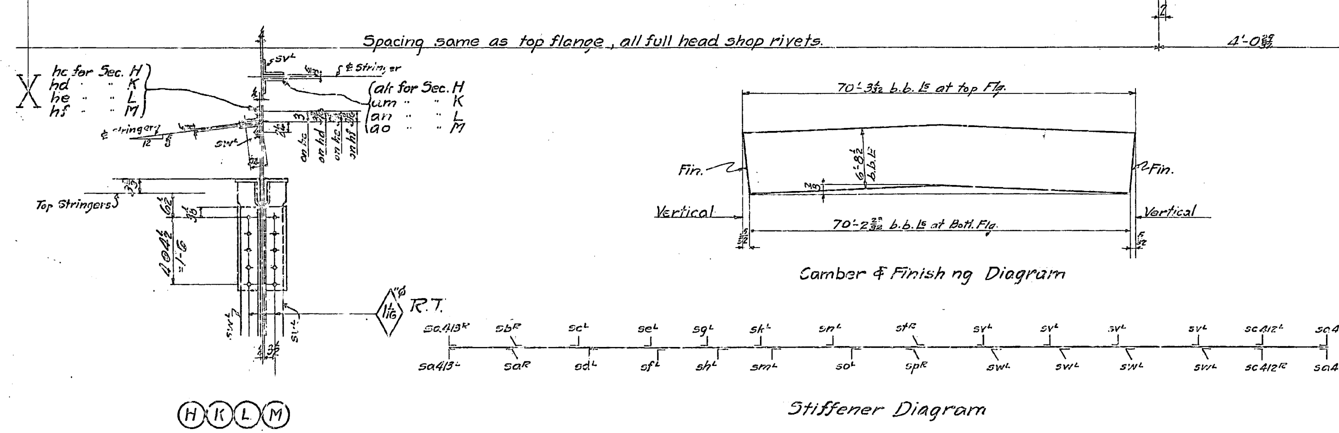
Made	Revision	App'd

APPROVED
Approval Date 7-25-34

ORDER No.	SHEET No.	Shop Bills
G5101	414 AB	5-641-362

30-1





Gen. Notes:
MATERIAL: All material O.H. Copper Bearing medium Carbon Steel, except material marked (X) which is O.H. Copper Bearing Silicon Steel.
SPECIFICATIONS: Special by State of California Dept. of Public Works.
INSPECTION: John M. Bailey-Chief Inspector.
RIVETS: ⅞"φ
OPEN HOLES: $\frac{15}{16}$"φ Unless noted.
REAMING: All Holes to be subpunched ¼" and reamed to size while parts are assembled. Holes marked R.T. to be reamed thru a steel templet. Burrs to be removed from all reamed holes.
FINISH: Sheared or flame cut edges and ends of all material marked (E) to be planed to remove at least ⅛ of metal.
SHOP PAIN: None

REQUIRED		
1	Floor Beam	LF32

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
LOWER DECK FLOOR BEAM
SPAN YB4-E1
FLOOR BEAM AT L29
AMERICAN BRIDGE COMPANY

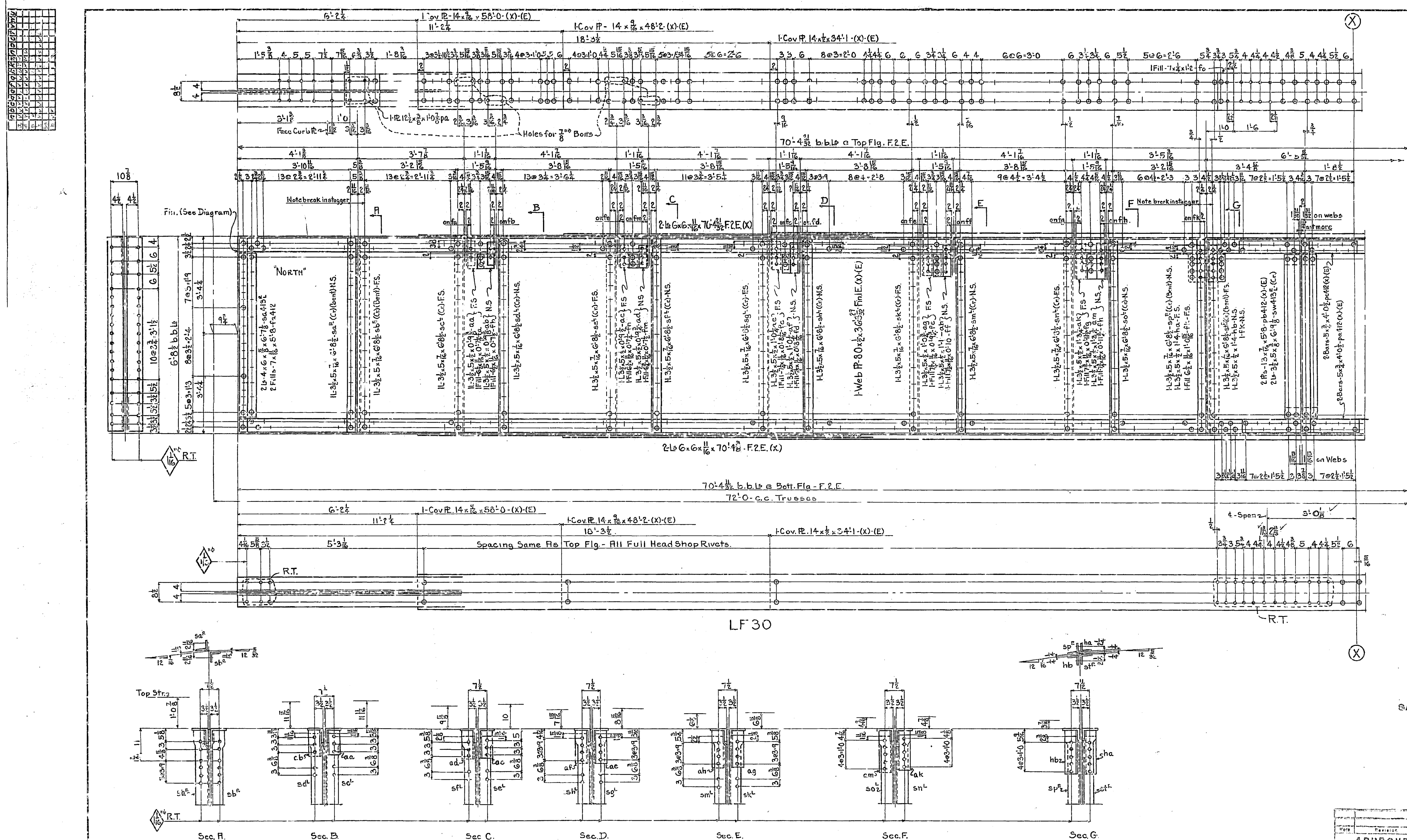
DRAWINGS MADE AT GARY #3 PLANT
WORK FABRICATED AT AMBRIDGE PLANT
IN C... TOMPT
... MADE BY M.E.W. DATE 6-11-34
DRAW. CHECKED BY B.B.H. DATE 6-25-34

APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 7-25-34

ORDER No. G 5101 [B&C]
SHEET No. 414B
Shop Bills 9361-367

Mat'l order pages 486-417

30-1



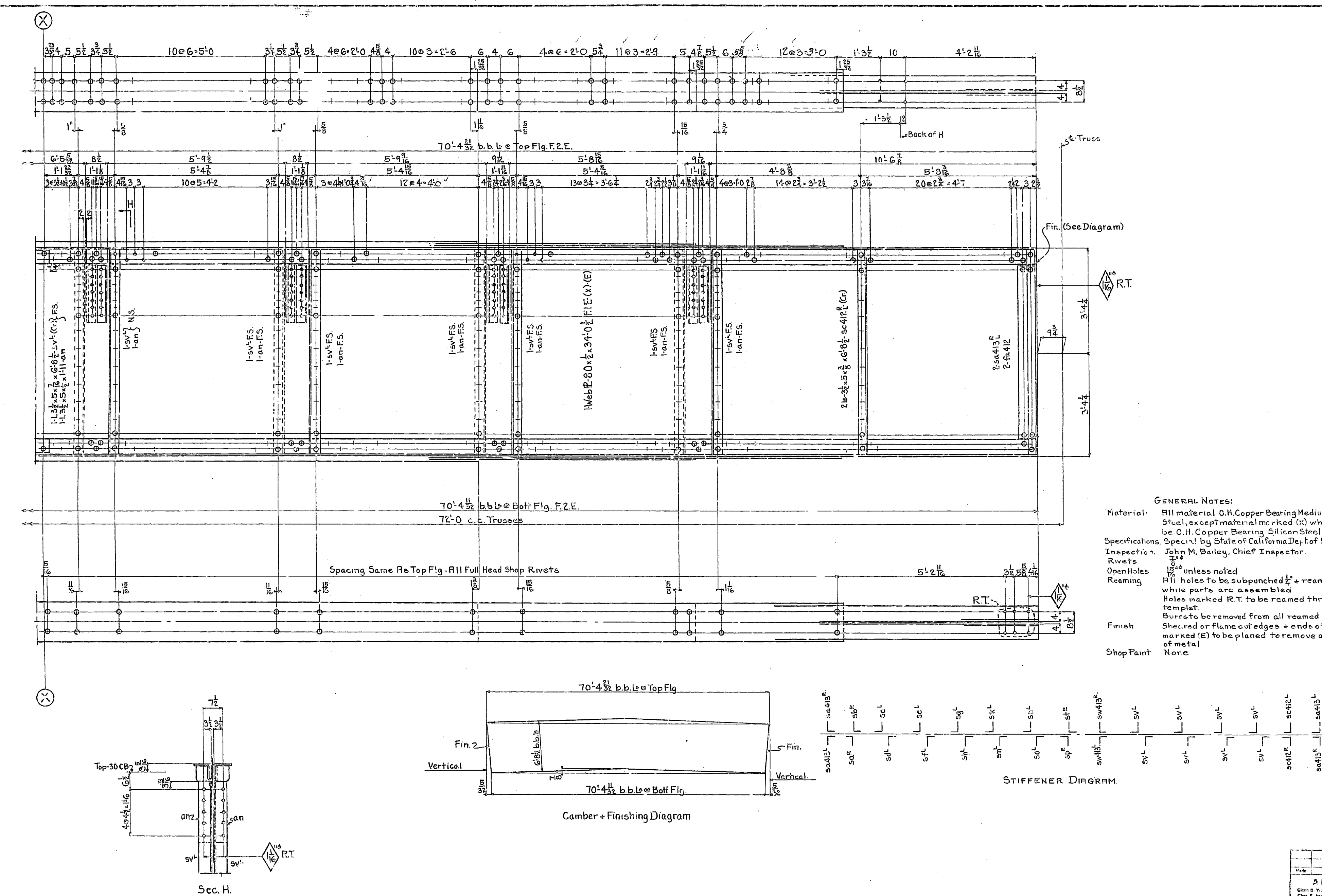
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y31 - E1
Lower Deck Floor Beam
Span Y54-E1
Floor Beam at L30
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
CHARGE OF Tampt
DRWN. MADE BY C.B.T. DATE 6-5-34
DRWN. CHECKED BY [illegible] DATE 6-26-34

Made	Revision	App'd

APPROVED

Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 7-5-34

ORDER No. G5101.
SHEET No. 415 AB
Shop Bills



GENERAL NOTES:

Material: All material O.H. Copper Bearing Medium Carbon Steel, except material marked (X) which is to be O.H. Copper Bearing Silicon Steel.
Specifications. Spec'n! by State of California Dept. of Public Works
Inspection. John M. Bailey, Chief Inspector.
Rivets: 7/8" φ
Open Holes: 15/16" φ unless noted
Reaming: All holes to be subpunched 1/4" + reamed to size while parts are assembled. Holes marked R.T. to be reamed thru a steel templet. Burrs to be removed from all reamed holes
Finish: Sheared or flame cut edges + ends of all material marked (E) to be planed to remove at least 1/8" of metal
Shop Paint: None

REQUIRED		
1	FLOOR BEAM	LF30

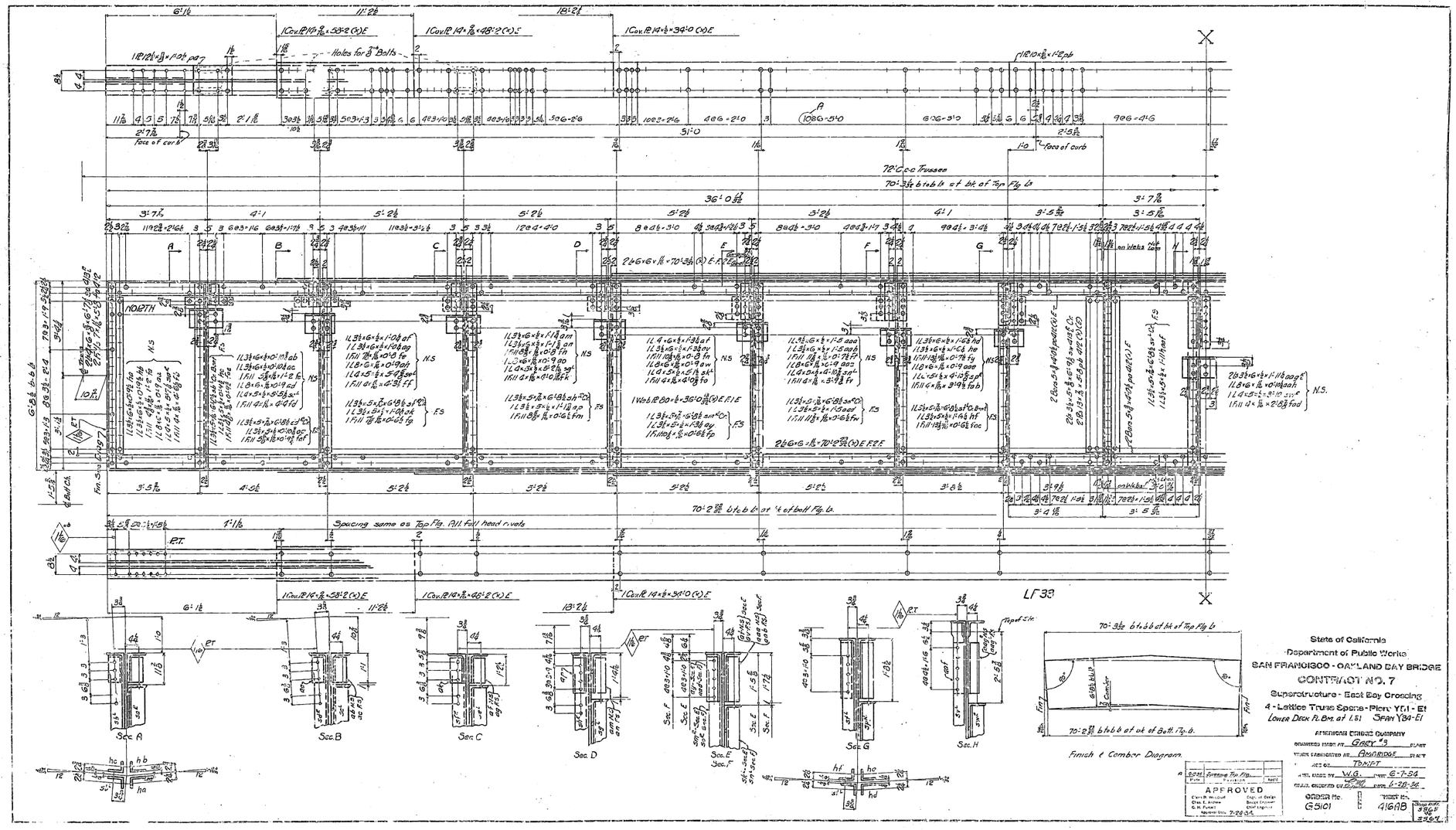
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Lower Deck Floor Beam
Span YB4-E1
Floor Beam at L30
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
... OF Tarapt
MADE BY C.B.T. DATE 6-7-34
DRAW. CHECKED BY [signature] DATE 6-25-34

APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Da: 7-3/34

ORDER No. G5101 [DAC]
SHEET No. 415B
Shop Bills
5963-364

3091



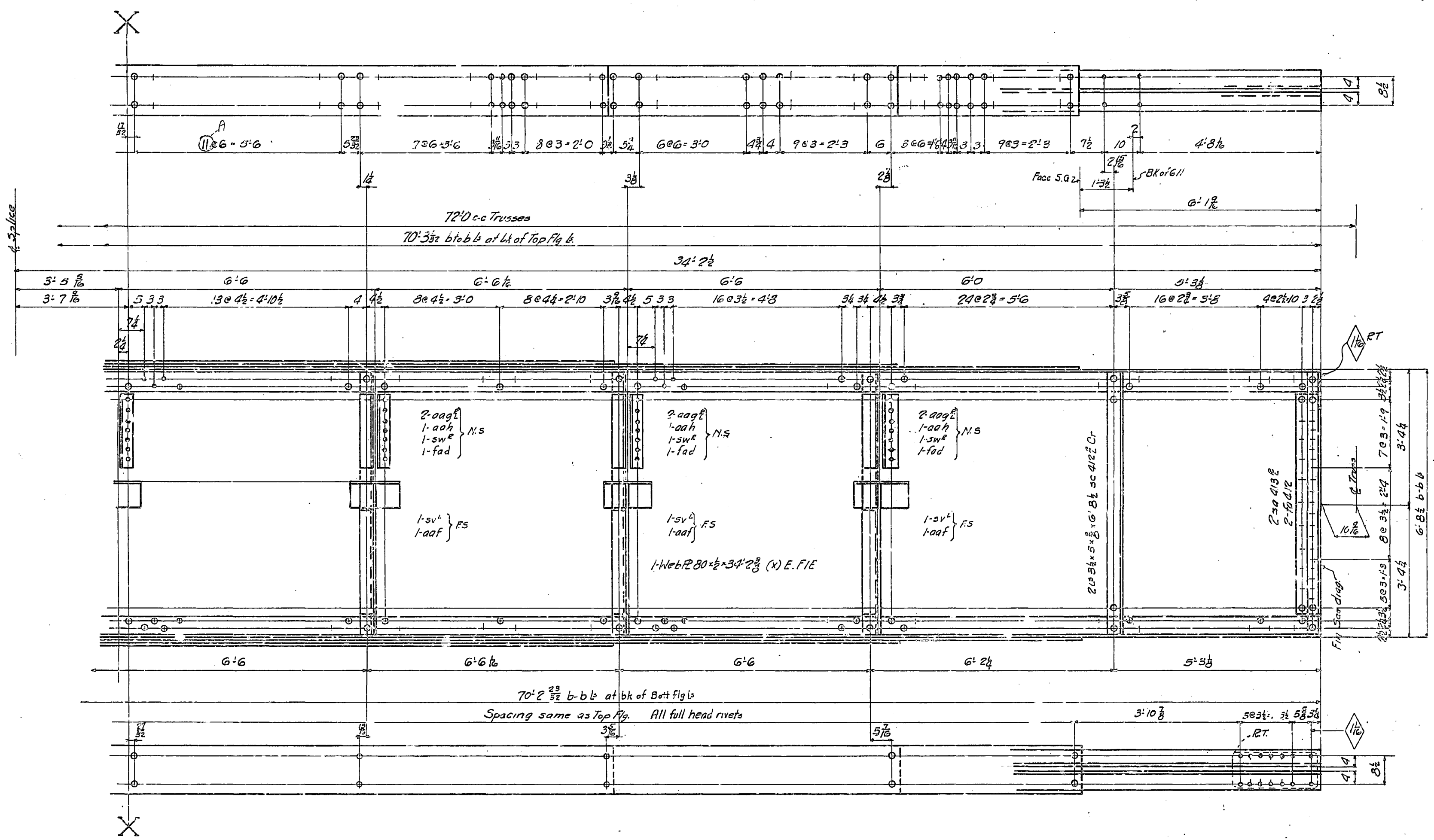
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y1, 1 - E1
Lower Deck Pt. Brs. at I.S. Span Y34-E1

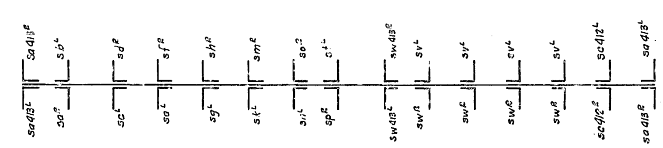
AMERICAN BRIDGE COMPANY
DRAWING SENT IN Gary "3" PLANT
WORK FABRICATED IN Ambridge PLANT
ACC'D TO Tentt
CHKD. BOOK BY W.G. DATE 6-7-34
CHKD. ORDERED OUT DATE 6-28-34

APPROVED
Chief Engr. Bridge Engineer
Approved Oct. 2-28-34

ORDER No. G5101
DRAWING No. 416AB

30-1





STIFFENER DIAGRAM

REQUIRED		
1	FLOOR BEAM	LF33

Gen. Notes

Material - All material O.H Copper Bearing medium carbon steel except material marked (x) which is to be O.H. Copper bearing silicon steel.

Specifications - Special by State of California Dep't of Public Works

Inspection - John M. Bailey - Chief Inspector

Rivets - 7/8"φ

Open Holes 15/16"φ Unless Noted

Reaming - All holes to be subpunched 1/4" and reamed to size while parts are assembled.
Holes marked "R.T." to be reamed through a steel templet. Burrs to be removed from all reamed holes.

Finish - Sheared or flame cut edges and ends of all material marked (E) to be planed, to remove at least 1/8" of metal.

Shop Paint - None

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
LOWER DECK FL. BM. AT L31 - SPAN YB4-E1

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT GARY "3" PLANT
WORK FABRICATED AT AMBRIDGE PLANT
TEMPT
DRAW. MADE BY W.G DATE 6-11-34
DRAW. CHECKED BY [signature] DATE 6-28-34

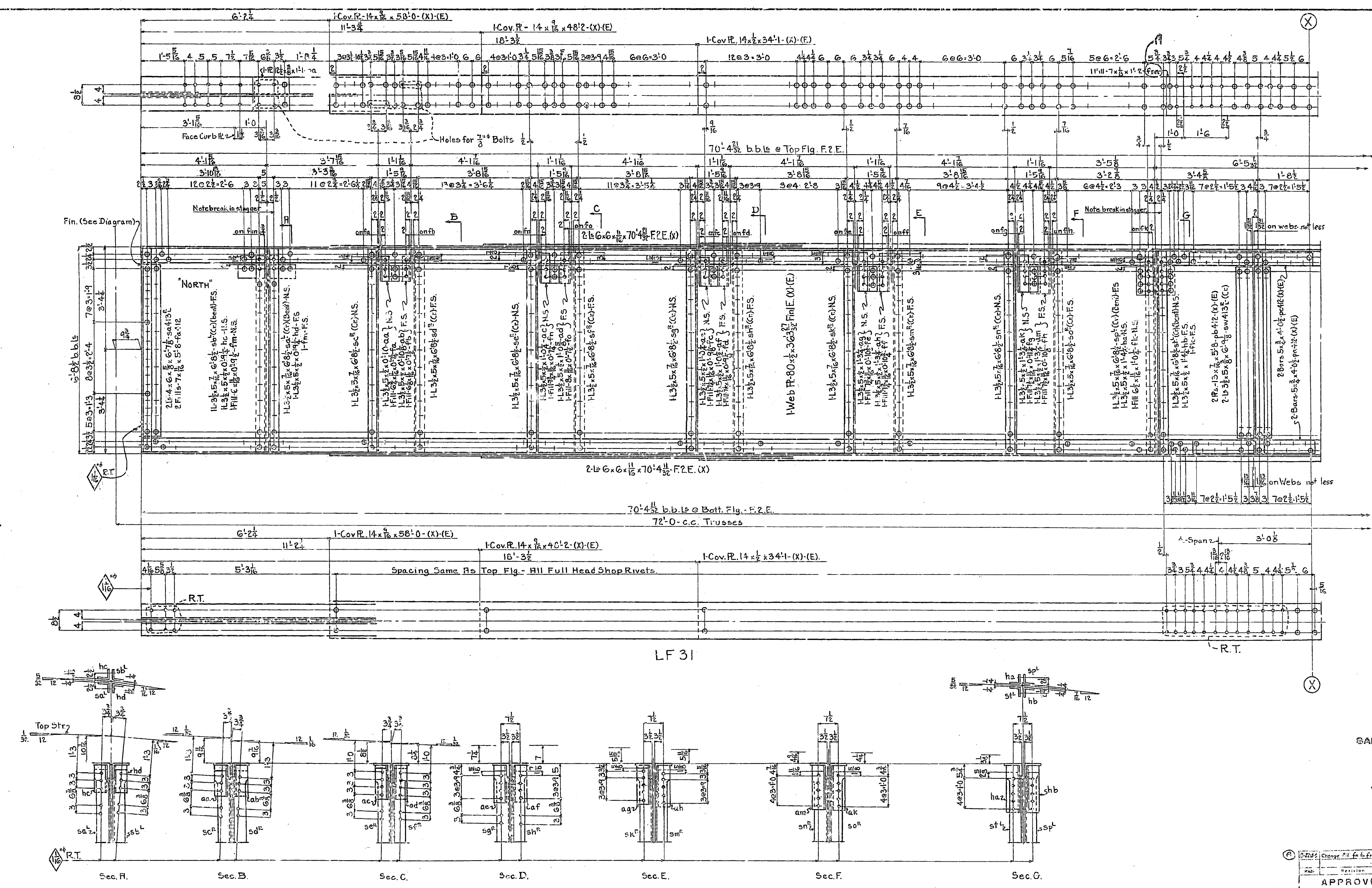
(A)	9-1-34	Spreme Ten Me.	
	Made	Revision	App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 7-24-34

ORDER No. G5101 [B&G]
SHEET No. 416B
Shop Bills 536.5 537

Mat'l. Ord. P-484-420

30-1



State of California
Department of Public Works
SAN FRANCISCO · OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YD1 - E1
Lower Deck Floor Beam
Span YD4 - E1
Floor Beam at L22
AMERICAN BRIDGE COMPANY

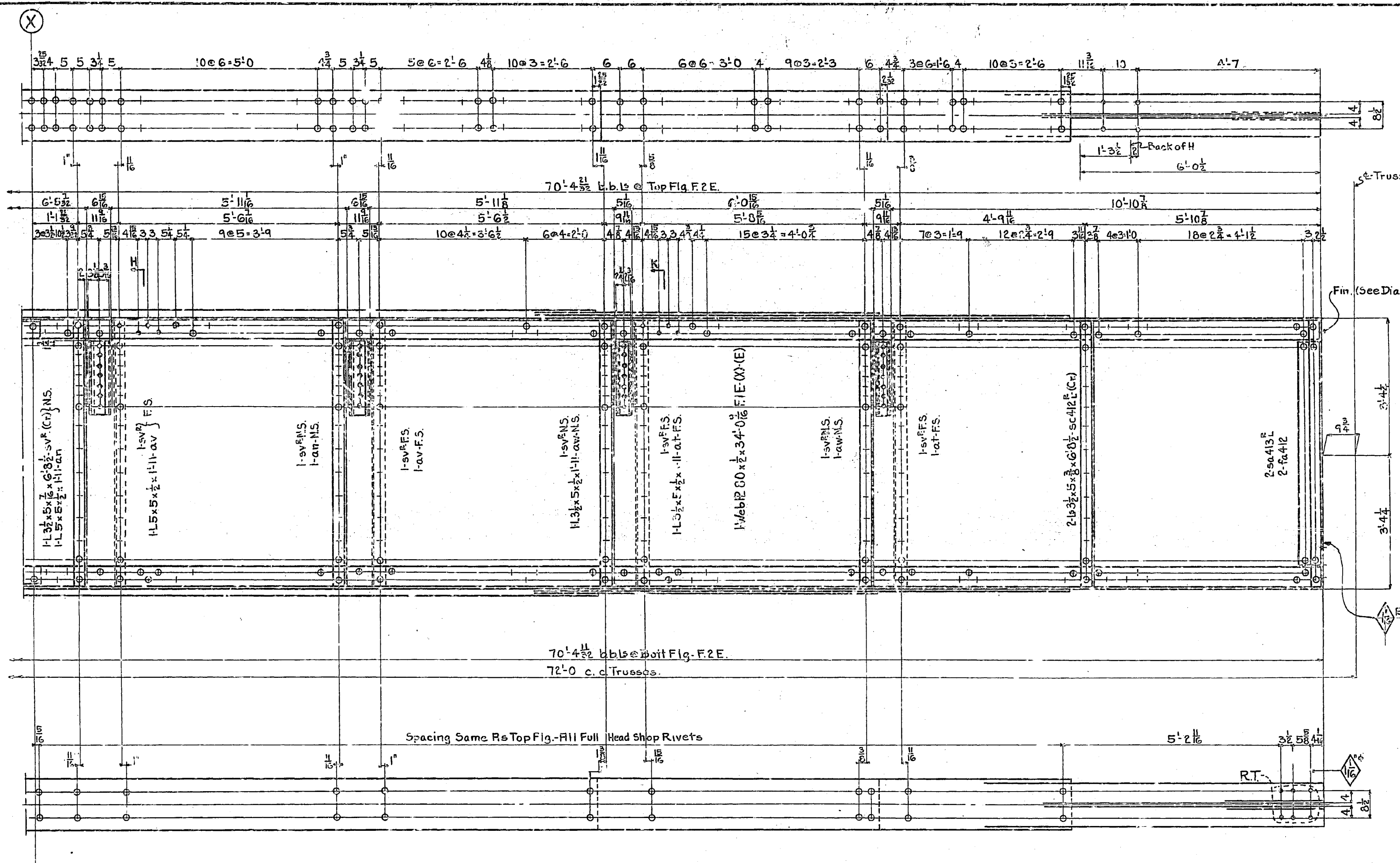
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
ORDER OF Tempt
DRAWN BY C.B.T. DATE 6-11-34
CHECKED BY C.B.H. DATE 6-21-34

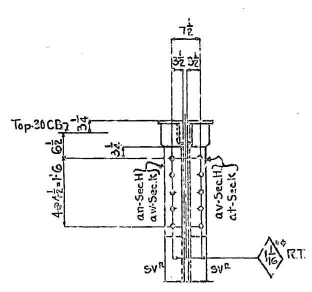
(A)	8-22-34	Change Fill fn to fnn	
	Made	Revision	App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 7-12-34

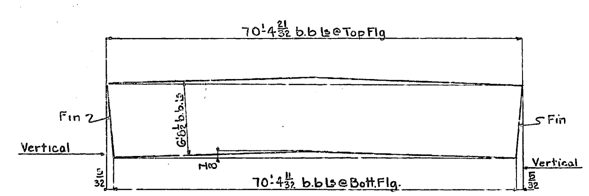
ORDER No. G5101
SHEET No. 417 RB
Shop Bill 2369-365

30-1

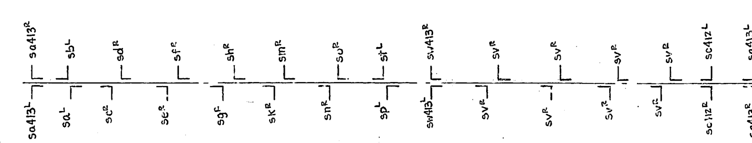




Sec. H.
Sec. K.



Camber + Finishing Diagram



Stiffener Diagram.

GENERAL NOTES:

Material: All material O.H. Copper Bearing Medium Carbon Steel, except material marked (X) which is to be O.H. Copper Bearing Silicon Steel.

Specifications. Special by State of California Dept. of Public Works.

Inspection John M. Bailey, Chief Inspector.

Rivets: $\frac{7}{8}$"φ

Open Holes $\frac{15}{16}$"φ unless noted

Reaming All holes to be subpunched $\frac{1}{4}$" + reamed to size while parts are assembled
Holes marked R.T. to be reamed thru a steel templet.
Burrs to be removed from all reamed holes.

Finish. Sheared or flame cut edges + ends of all material marked (F) to be planed to remove at least $\frac{1}{8}$" of metal.

Shop Paint - None

Required		
1	Floor Beam	LF31

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Lower Deck Floor Beam
Span YB4-E1
Floor Beam at L32

AMERICAN BRIDGE COMPANY
Drawings made at Gary #3 plant
Work fabricated at Ambridge plant
In charge of Tempt
Drawn by C.B.T. date 5-19-34
Checked by G.A.H. date 6-21-34

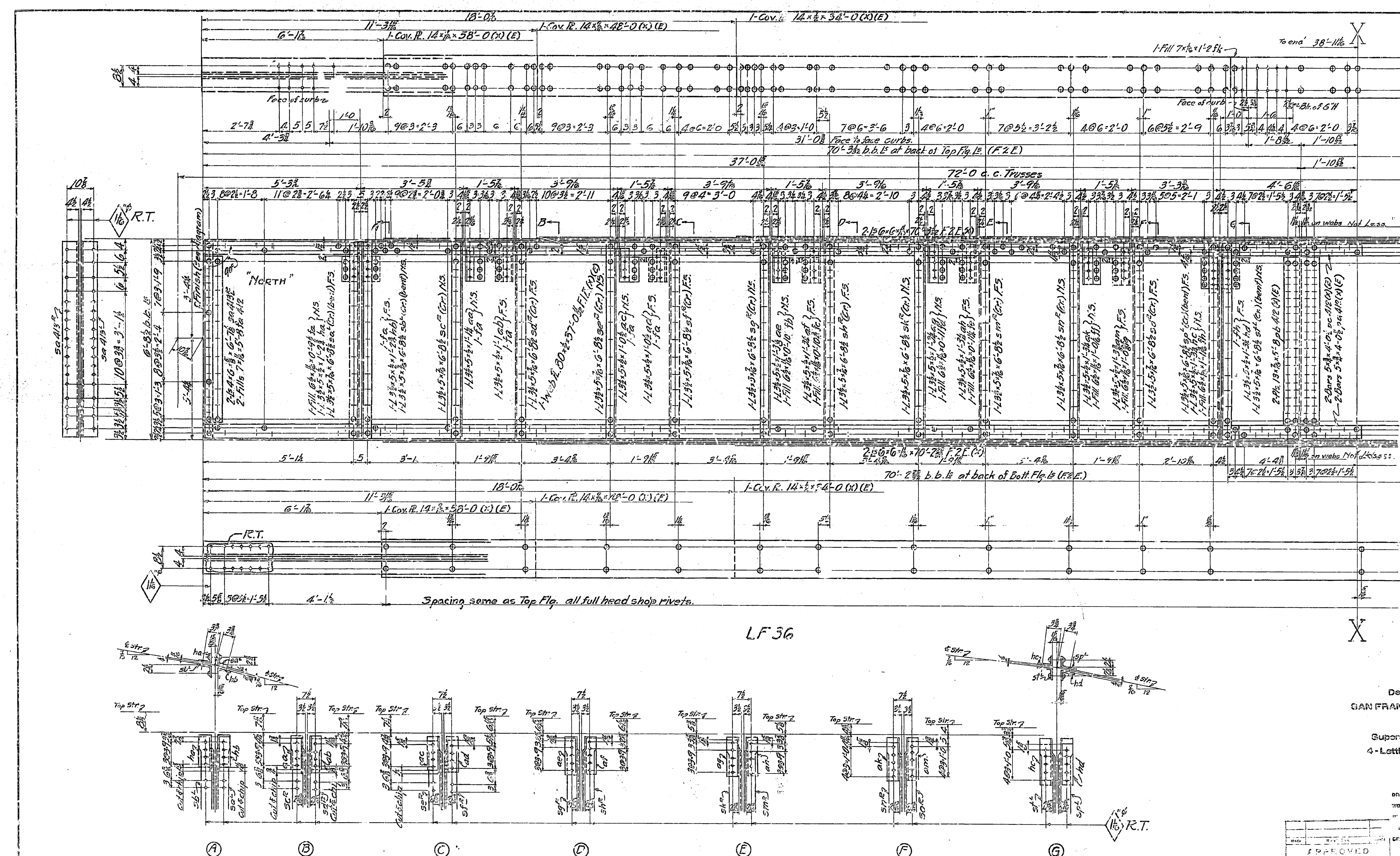
Made	Revision	App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 7-12-34

Order No. G5101
Sheet No. 47B
[B&C]
Shop Bill 9369-969

Int. Ord. Pos. 424-485

30-1



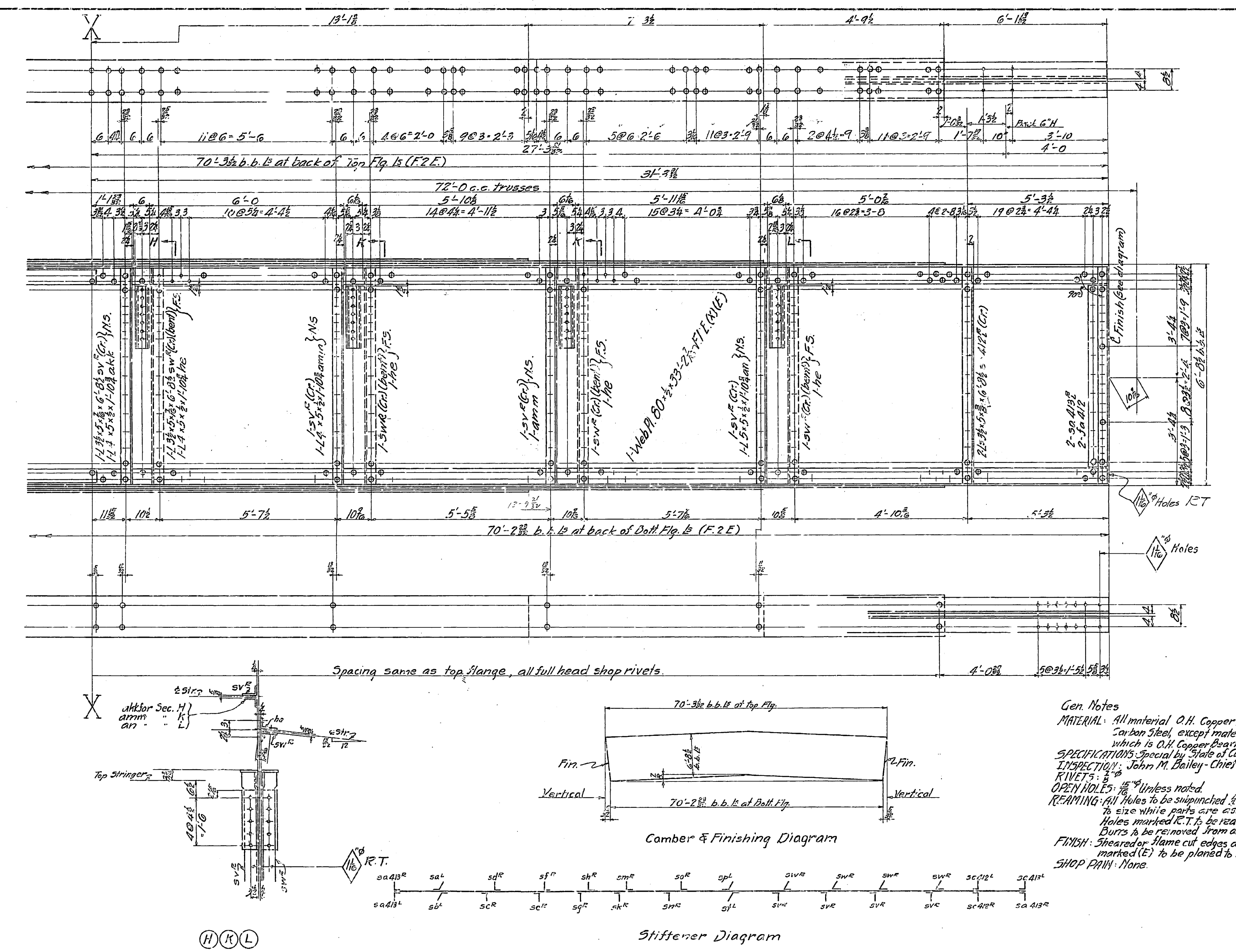
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Lower Deck Floor Beam
Span YB4-E1
Floor Beam at L33
AMERICAN BRIDGE COMPANY
Drawings made at Gary #3 plant
Work fabricated at Ambridge plant
In charge of Trompi
Drw. made by M.E.W. date 6/15/34
Draw. checked by B.A.H. date 6-25-34

Made	Revision	

APPROVED
Approval Date 7-19-34

Order No. G5101
Sheet No. 418AB
Shop Bills 5870-27

30-1



Camber & Finishing Diagram

Stiffener Diagram

Gen. Notes

MATERIAL: All material O.H. Copper Bearing medium Carbon Steel, except material marked (X) which is O.H. Copper Bearing Silicon Steel.

SPECIFICATIONS: Special by State of California Dept. of Public Works.

INSPECTION: John M. Bailey - Chief Inspector.

RIVETS: ⅞"ϕ

OPEN HOLES: $\frac{15}{16}$"ϕ Unless noted.

REAMING: All Holes to be subpunched ¼" and reamed to size while parts are assembled. Holes marked R.T. to be reamed thru a steel templet. Burrs to be removed from all reamed holes.

FINISH: Sheared or flame cut edges and ends of all material marked (E) to be planed to remove at least ⅛" of metal.

SHOP PAINT: None.

REQUIRED		
1	Floor Beam	LF38

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
LOWER DECK FLOOR BEAM
SPAN YB4-E1.
FLOOR BEAM AT L33
AMERICAN BRIDGE COMPANY

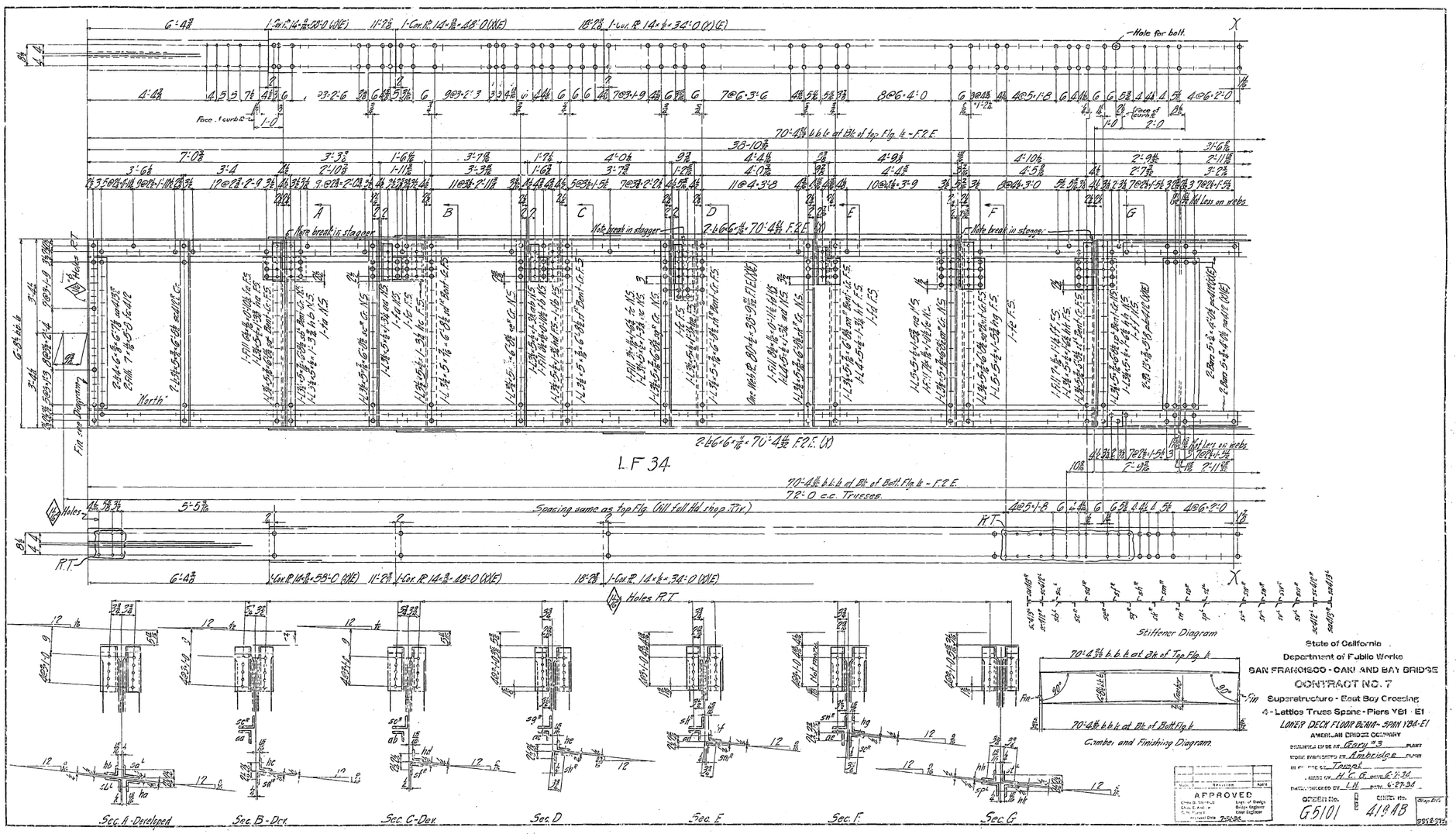
DRAWINGS MADE AT Gary #5 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
MADE BY M.E.W. DATE 6/15/34
CHECKED BY B.B.H. DATE 6-15-34
ORDER No. CHART No.

Made	Revision	App'd

APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 7-19-34

G 5101 [Ba67] 418B

Shop Bills: S3'10-371

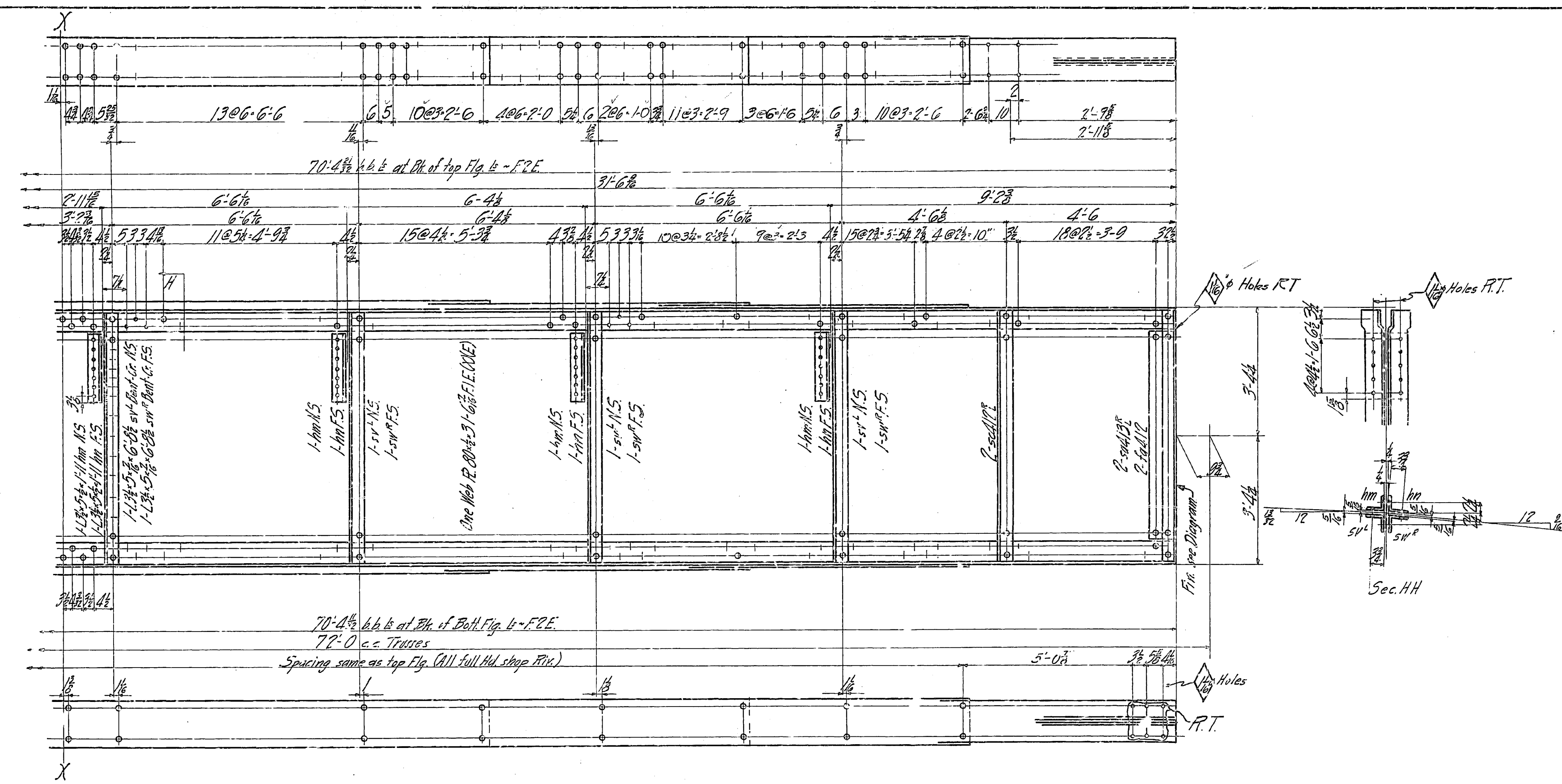


State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
LOWER DECK FLOOR BEAMS - SPAN YB4-E1
AMERICAN BRIDGE COMPANY

APPROVED

ORDER No. G5101
DRAWING No. 418 AB

30-1



REQUIRED		
1	Floor Beam	LF34

Gen. Notes:

MATERIAL: All material O.H. Copper Bearing medium Carbon Steel, except material marked (X) which is O.H. Copper Bearing Silicon Steel.

SPECIFICATIONS: Special by State of California Dept. of Public Works.

INSPECTION: John M. Bailey - Chief Inspector.

RIVETS: $\frac{7}{8}\phi$

OPEN HOLES: $\frac{15}{16}\phi$ Unless noted.

REAMING: All Holes to be subpunched $\frac{1}{4}''$ and reamed to size while parts are assembled.
Holes marked R.T. to be reamed thru a steel templet.
Burrs to be removed from all reamed holes.

FINISH: Sheared or flame cut edges and ends of all material marked (E) to be planed to remove at least $\frac{1}{8}''$ of metal.

SHOP PAINT: None

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y 91 - E1
LOWER DECK FLOOR BEAM - SPAN Y84-E1
AMERICAN BRIDGE COMPANY

Drawings made at Gary #3 Plant
Work fabricated at Ambridge Plant
Acct. of Tompt
Drawn made by H.C.G. Date 6-11-34
Drawn checked by L.H. Date 6-27-34

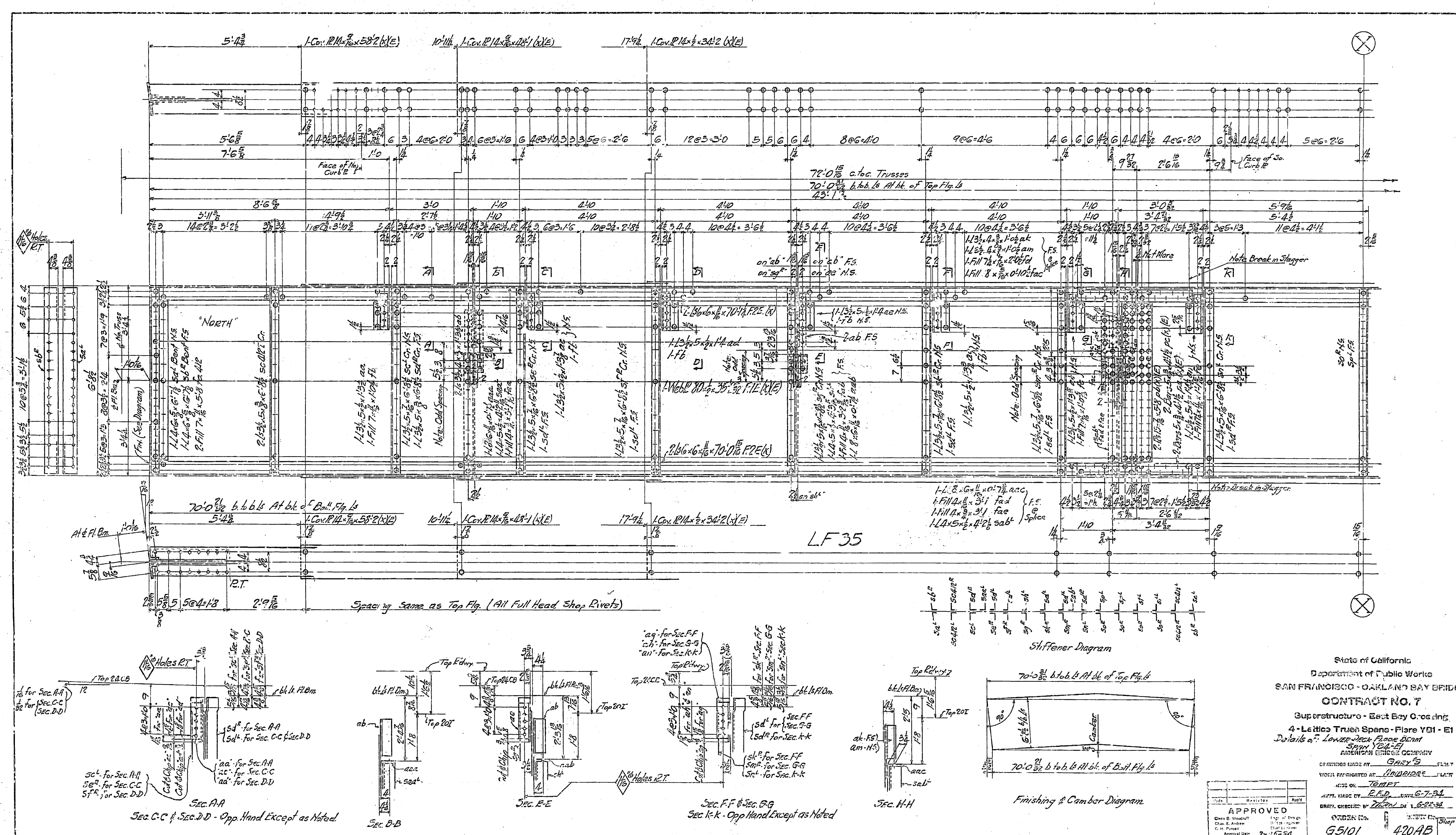
Made	Revision	App'd

APPROVED
Chas. D. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 7-31-34

Order No. G5101 [DBC]
Sheet No. 419B
Shop Bill 9372-373

Mat. Ord. P422 & 484 H.C.G.

30-1



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of: Lower Deck Floor Beam
Span YB4-E1

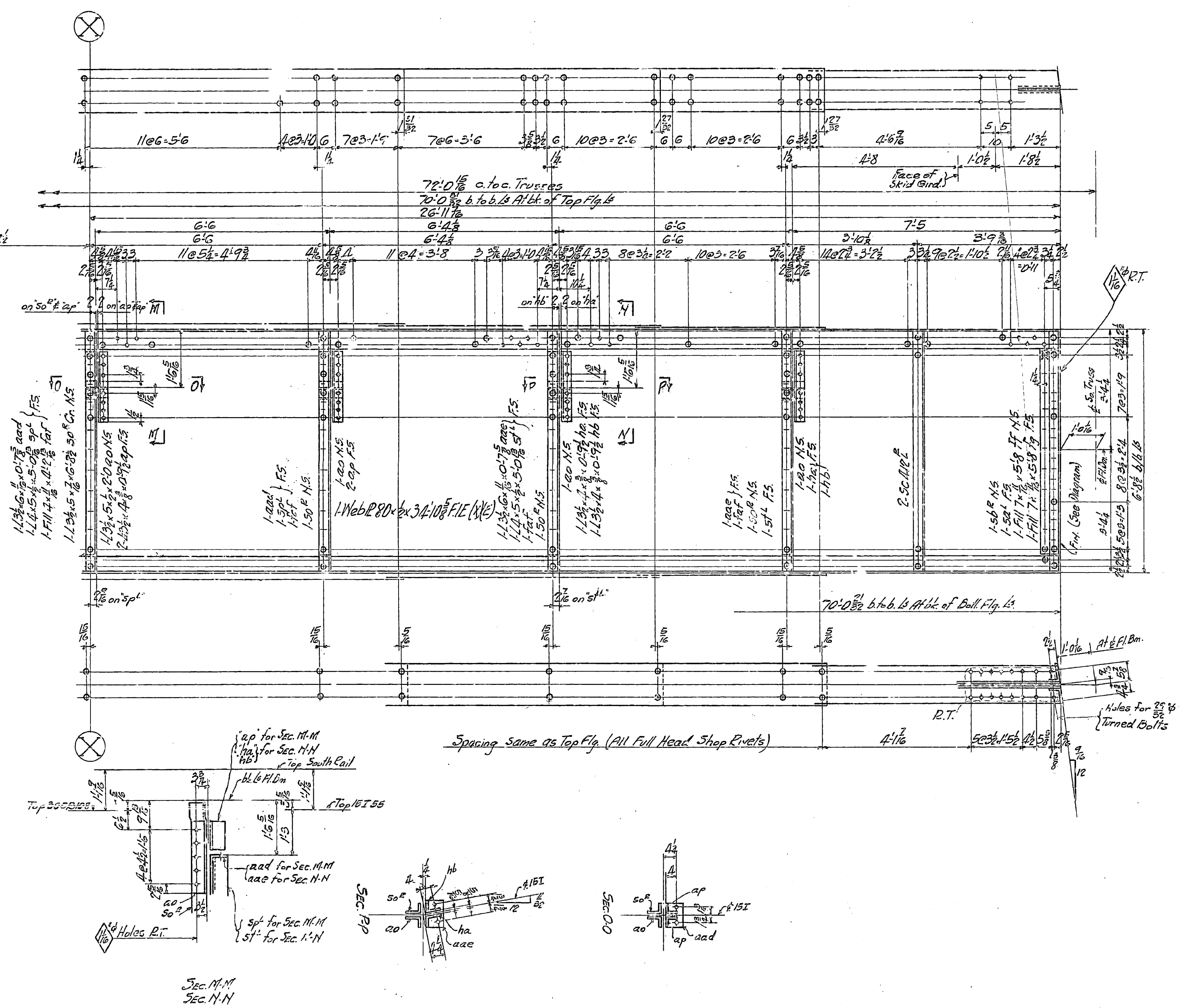
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
... OF Tompt
DRAW. MADE BY R.F.D. DATE 6-7-34
DRAW. CHECKED BY [illegible] DATE 6-22-34

Made	Revision	App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 2-25-34

ORDER No. G5101
SHEET No. 420AB
Shop Bill 6374-345

30-1



GEN. NOTES:-
Material:- All material O.H. copper-bearing medium carbon steel, except material marked (X) which is O.H. copper-bearing Silicon steel.
Specifications:- Special by State of California Dept. of Public Works.
Inspection: John M. Bailey - Chief Inspector
Rivets:- 7/8"φ
Open Holes:- 15/16"φ Unless Noted
Reaming:- All holes to be subpunched 1/4" and reamed to size while parts are assembled. Holes marked R.T. to be reamed thru a steel templet. - Burrs to be removed from all reamed holes.
Finish:- Sheared or Flame-cut edges and ends of all material marked (E) to be planed to remove at least 1/8" of metal.
Shop Paint:- None

REQUIRED		
1	Lower Deck Flr. Beam	LF35

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of:- Lower Deck Floor Beam
Span YB4-E1

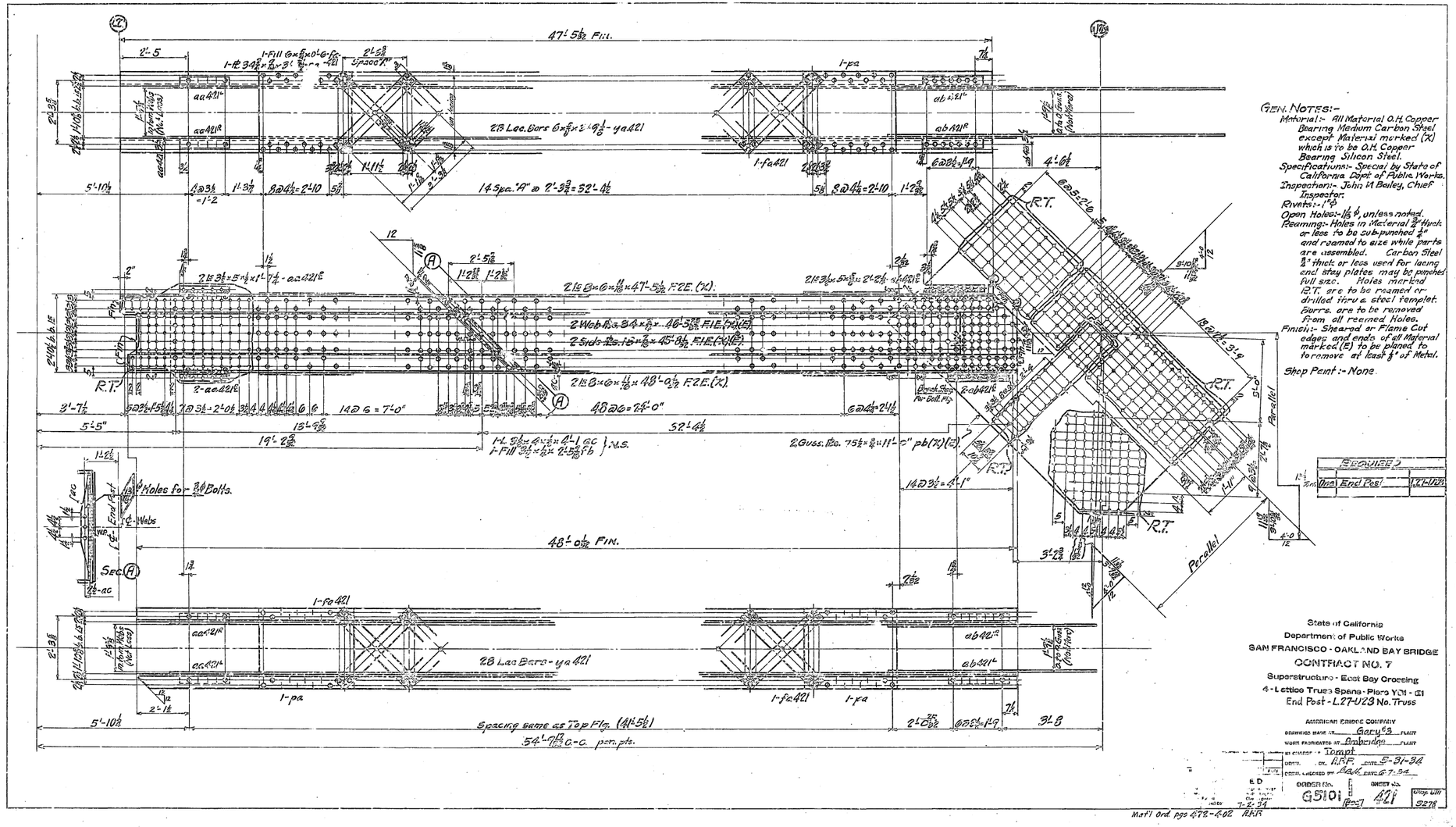
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE Tompt
DRAWN BY R.F.D. DATE 6-11-34
DRAW. CHECKED BY mbm DATE 6-22-34

Made	Revision	App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 7-25-34

ORDER No. G5101 [B&C]
SHEET No. 420B
Shop Bill 5374-375

Mat'l. Ord. pgs. 486 & 419



GEN. NOTES:-

Material:- All Material O.H. Copper Bearing Medium Carbon Steel except Material marked (X) which is to be O.H. Copper Bearing Silican Steel.

Specifications:- Special by State of California Dept. of Public Works.

Inspection:- John M. Bailey, Chief Inspector.

Rivets:- 1" ϕ

Open Holes:- 1⅛ ϕ, unless noted.

Reaming:- Holes in Material ¾" Thick. or less to be sub-punched ¾" and reamed to size while parts are assembled. Carbon Steel ¾" thick or less used for lacing and stay plates may be punched full size. Holes marked R.T. are to be reamed or drilled thru a steel templet. Burrs are to be removed from all reamed Holes.

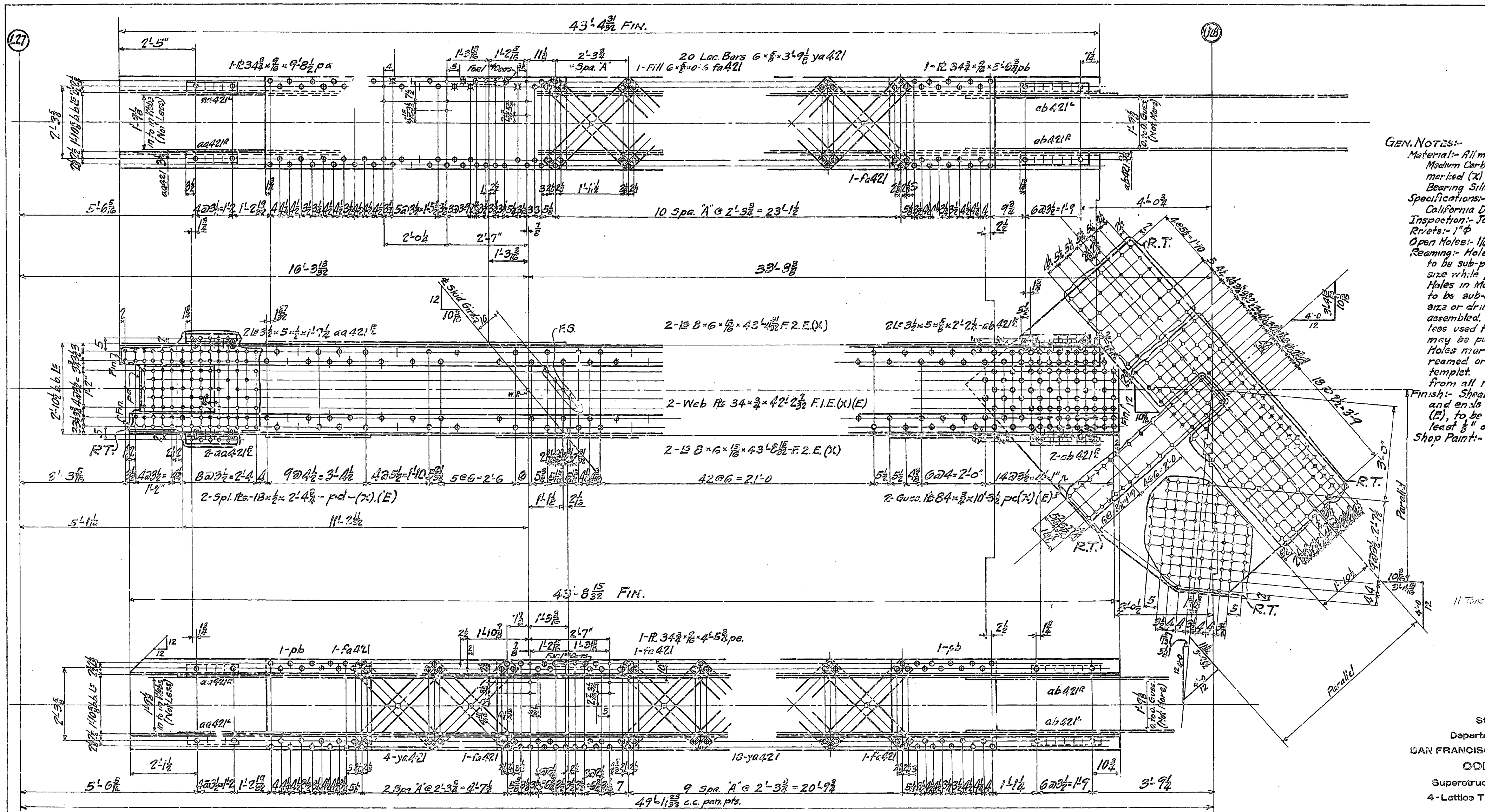
Finish:- Sheared or Flame Cut edges and ends of all Material marked (E) to be planed to to remove at least ⅛" of Metal.

Shop Paint:- None.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y21 - 31
End Post - L.27-U23 No. Truss

AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary Ind. PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE Tompt
DRFT'D. BY H.R.R. DATE 5-31-34
DESIGN CHECKED BY Black DATE 6-7-34
E.D. DATE 7-2-34
ORDER No. G5101
SHEET No. 421
SHOP MK 3278

Mat'l Ord. pgs 472-8-02 H.R.R.



GEN. NOTES:-

Material:- All material O.H. Copper Bearing Medium Carbon Steel except Material marked (X) which is to be O.H. Copper Bearing Silicon Steel.

Specifications:- Special by State of California Dept. of Public Works.

Inspection:- John M Bailey - Chief Inspector

Rivets:- 1" φ

Open Holes:- 1 1/16 φ

Reaming:- Holes in Material 3/4" thick or less to be sub-punched 1/4" and reamed to size while parts are assembled. Holes in Material over 3/4" thick are to be sub-drilled 1/4" and reamed to size or drilled full size while parts are assembled. Carbon Steel 3/4" thick or less used for lacing and stay plates may be punched full size. Holes marked R.T. are to be reamed or drilled thru a steel templet. Burrs are to be removed from all reamed holes.

Finish:- Sheared or Flame Cut edges and ends of all Material marked (E), to be planed to remove at least 1/8" of Metal

Shop Paint:- See Sh. E1

REQUIRED			
11 Tons	One	End Post	L27-U28

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
End Post-L27-U28 4th So. Truss.

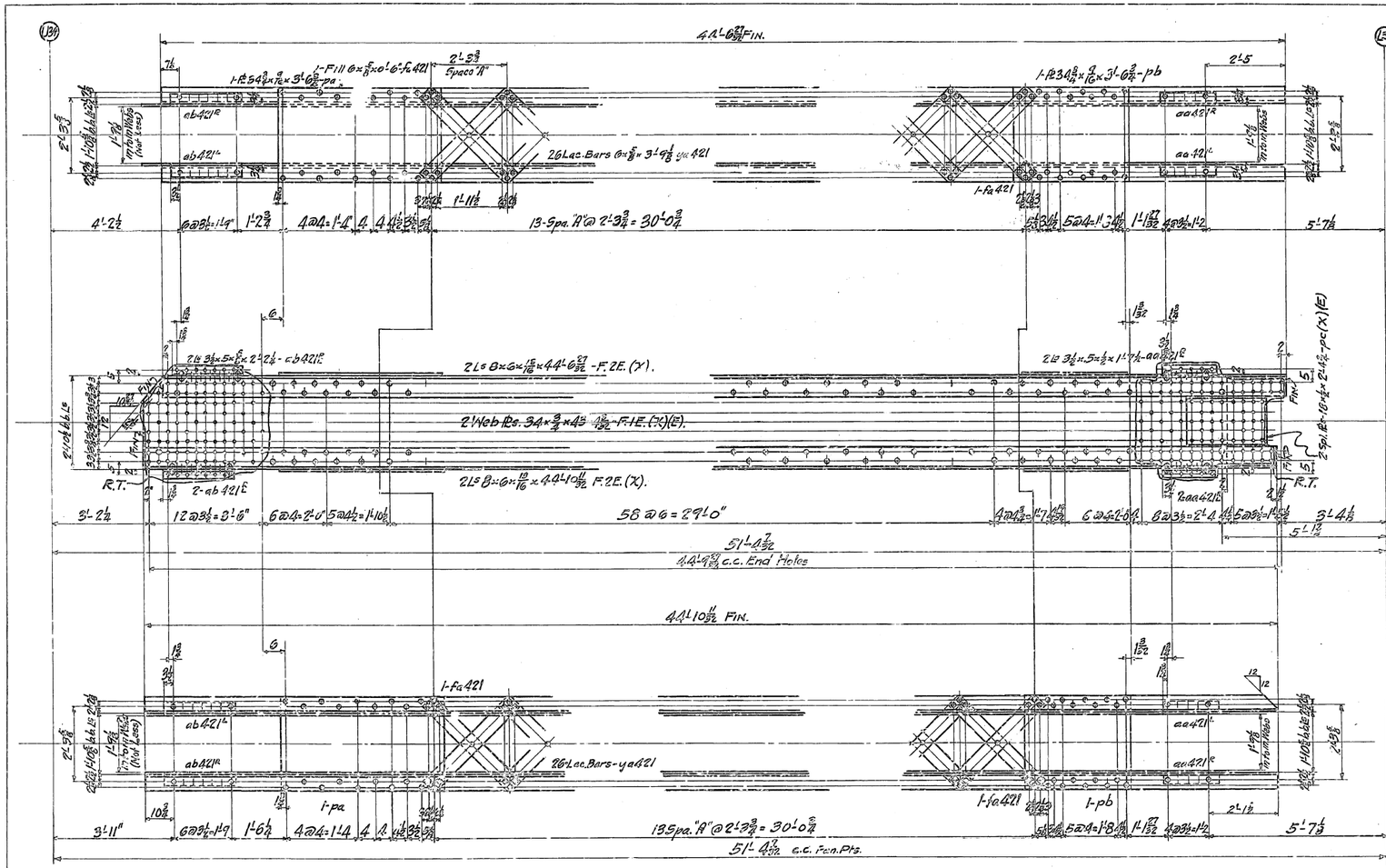
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAWN BY A.F.F. DATE 6-5-34
DRAWING CHECKED BY G.B.H. DATE 6-7-34
ORDER No. G5101 [Boc] SHEET No. 422
Shop Bill 5279

APPROVED
Approval Date 7-2-34

Mat'l Ord. pgs. 404-471 - A.F.F.

4th Span

30-1



GEN NOTES:-

Material:- All material O.H. Copper-Bearing Medium Carbon Steel except Material marked (X) which is to be O.H. Copper Bearing Silicon Steel.
Specifications:- Special by State of California Dept. of Public Works.
Inspection:- John M. Bailey - Chief Inspector
Rivets:- 1" ϕ
Open Holes:- 1 1/8" ϕ
Reaming:- Holes in Material 3/4" thick or less to be sub-punched 1/4" and reamed to size while parts are assembled. Holes in Material over 3/4" thick are to be sub-drilled 1/4" and reamed to size or drilled full size while parts are assembled.
Carbon Steel 5/8" thick or less used for lacing and stay plates may be punched full size.
Holes marked R.T. are to be reamed or drilled thru a steel templet.
Burrs are to be removed from all reamed holes.
Finish:- Sheared or Flame Cut edges and ends of Material marked (E) are to be planed to remove at least 1/8" of Metal.
Shop Paint:- See Sh. E1.

REQUIRED
One End Post: U34-U35

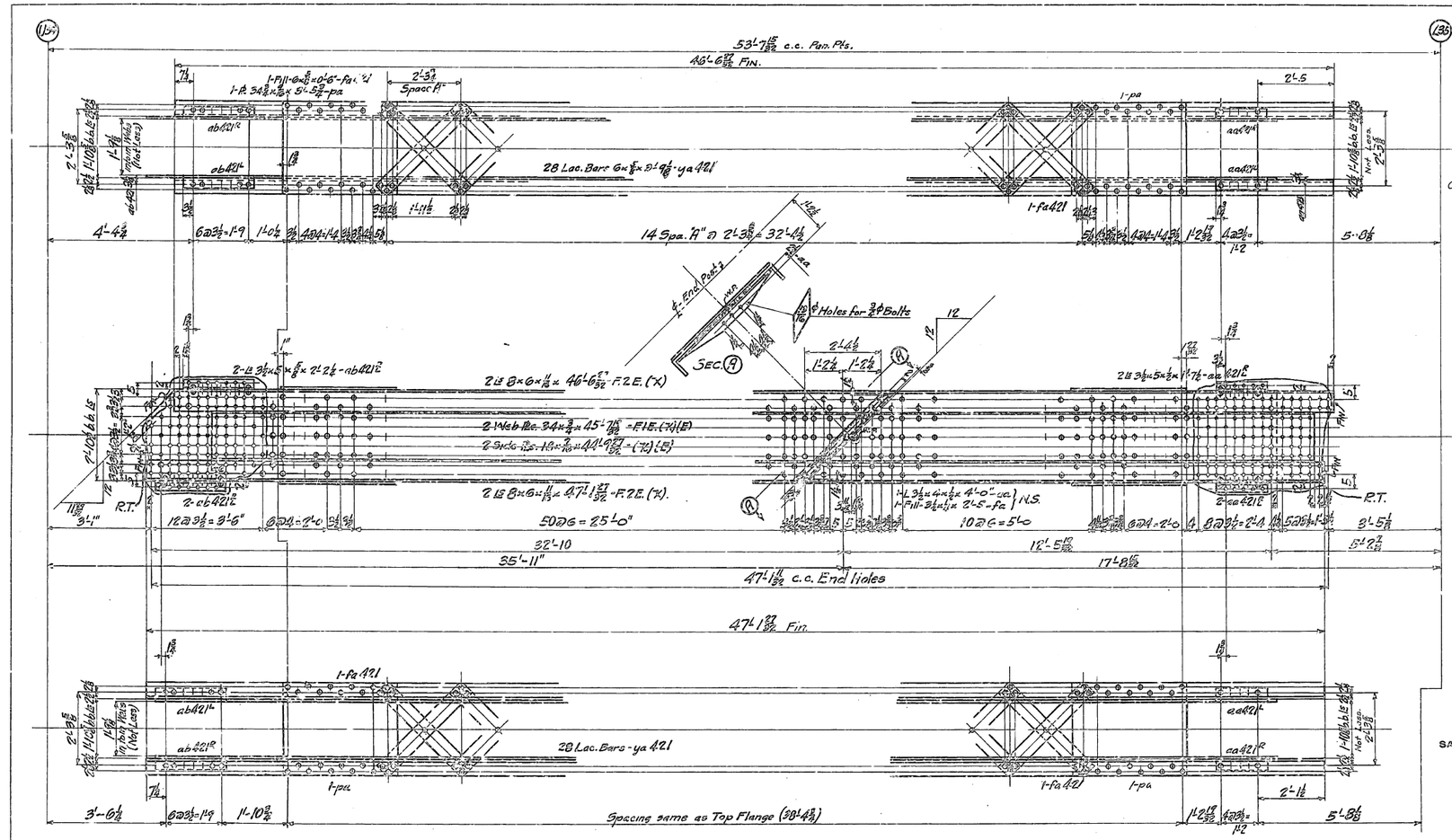
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y81 - E1
Details of:- End Post-U34-U35A Subtruss.

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Ambridge PLANT
TO CHARGE OF Tompt DATE 6-5-34
DRAWN BY A.F.F. DATE 6-5-34
TRACED BY Blank DATE 6-12-34
CHECKED BY DATE
APPROVED
ORDER No. G5101 CARDEX No. 4.13 Shop Unit 3280

Mat'l Ord. pgs. 406-471-A.F.F.

[B&C]

4TH SPAN



GEN. NOTES:-
Material:- All Material Of. Copper Bearing Medium Carbon Steel except Material marked (X) which is to be O.H. Copper Bearing Silicon Steel.
Specifications:- Special by State of California, Dept. of Public Works.
Inspection:- John M Bailey, Chief Inspector.
Rivets:- 1" ϕ
Open Holes:- 1 1/16 ϕ, unless noted.
Reaming:- Holes in Material 3/4" thick or less to be sub-punched 3/16" and reamed to size while parts are assembled. Carbon Steel 3/4" thick or less used for lacing and stay plates may be punched full size. Holes marked R.T. are to be reamed thru a steel templet. Burrs are to be removed from all reamed Holes.
Finish:- Sheared or Flame-Cut edges and ends of all Material marked (E), to be planed to remove at least 1/8" of Material.
Shop Paint:- None

REQUIRED		
10 Tons	One End Post	U34-L35

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YP1 - E1
End Post - U34-L35 - No. Truss.

AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary's PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAWN MADE BY A.F.R. DATE 6-8-36
CHKD. BY Clark DATE 6-11-36

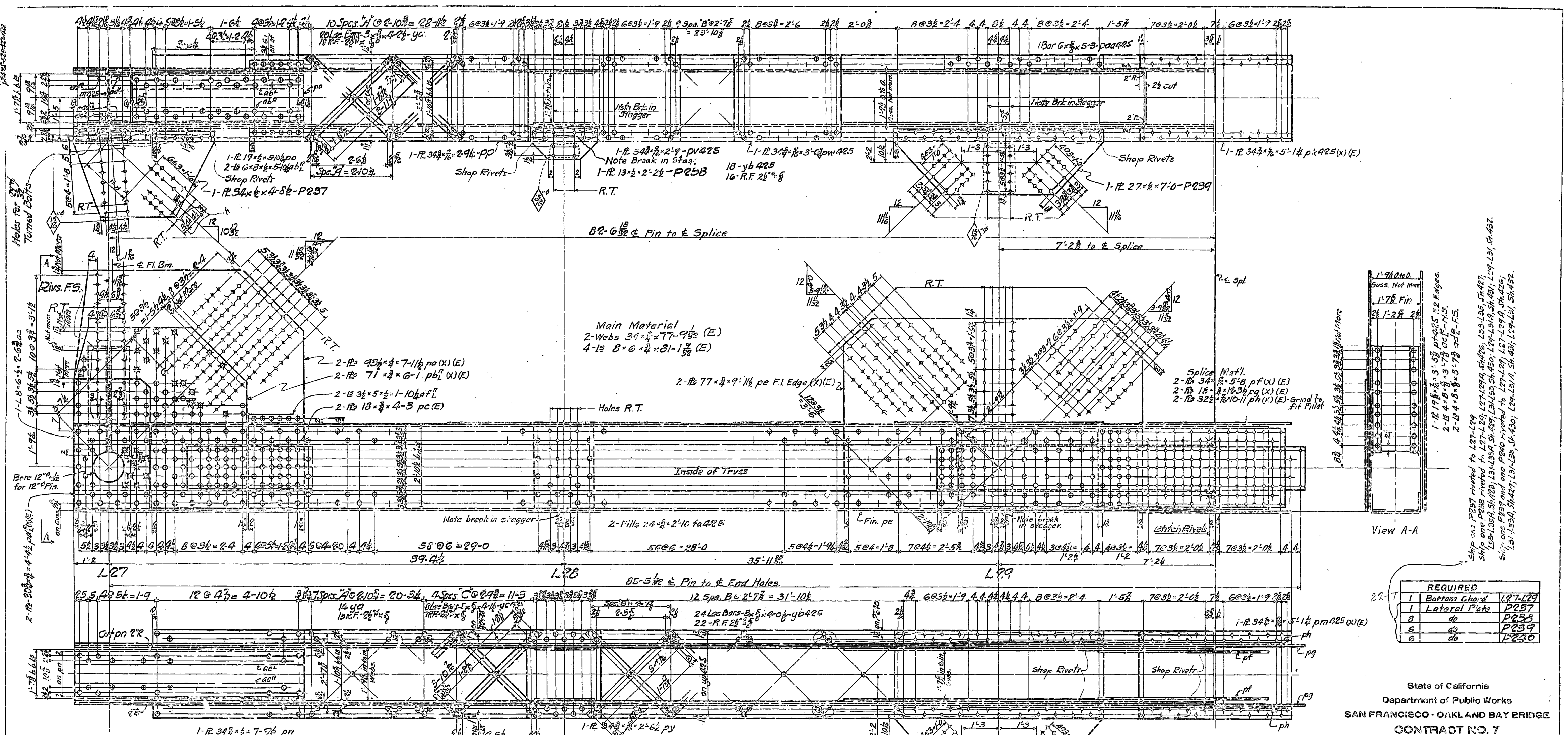
APPROVED 7-2-36

DRAWING No. G5101 SHEET No. 424
[B&C] Shop Bill 3281

Matl Ord pgs. 402-472

4 SPAN

30-1



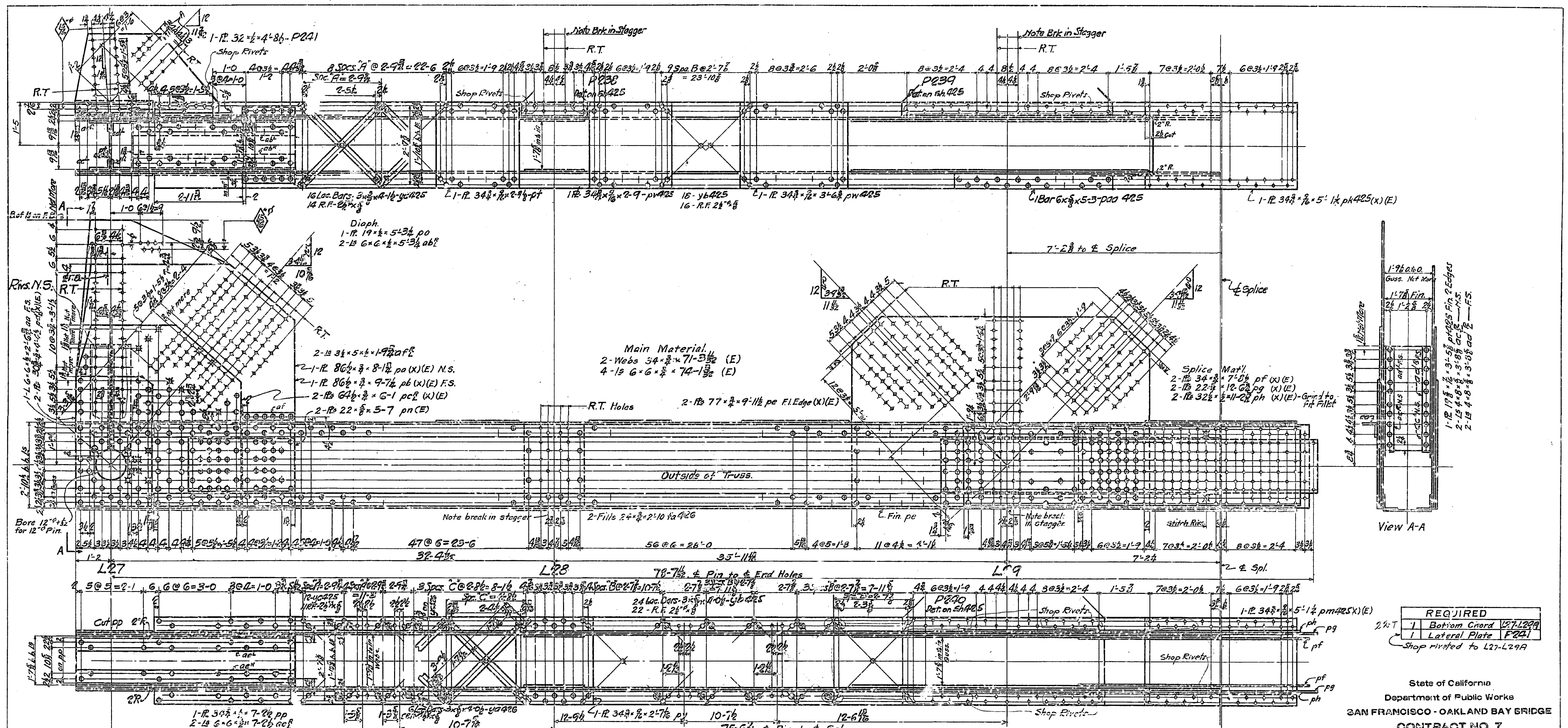
REQUIRED		
1	Bottom Chord	L27-L29
1	Lateral Plate	P237
8	do	P238
6	do	P239
6	do	P240

General Notes:-
Material:- All material O.H Copper bearing medium carbon steel, except material marked (:) which is to be O.H. Copper bearing silicon steel.
Specifications:- Special by State of California, Dep't of Public Works.
Inspection:- John M. Bailey - Chief Inspector.
Rivets:- 1" diam.
Open Holes:- 1$\frac{1}{16}$" diam. unless noted.
Reaming:- Holes in material ¾" thick or less to be subpunched ¼" and reamed to size while parts are assembled.
Carbon steel ¾" thick or less, used for lacing, stay plates & diaphragms may be punched full size.
When reaming field splices, the chords of trusses shall be laid out in lengths of not less than 6 panels and chord splices reamed and match-marked while so assembled. Holes marked R.T. to be reamed thru a steel templet.
Burrs to be removed from all reamed holes. All match-marking to be made with ⅝" steel stencils and white paint.
Finish:- Sheared or flame cut edges and ends of all mat'l marked (E) to be planed to remove at least ⅛" of metal.
Shop Paint:- See Sh. E1
White Lead and Tallow on pin holes.

Mat'l Ord Pgs 401,402,403,407,408,409,412,470-C.F.C.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y31 - E1
Details of Bottom Chord L27-L29 North Truss.
Span Y84-E1
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAW. MADE BY C.F.C. DATE 5-28-34
DRAW. CHECKED BY L.H. DATE 6-11-34
ORDER No. G5101 [OBC]
SHEET No. 425
Shop Bill S282-283

APPROVED
Bridge Engineer
Chief Engineer
7-2-34



REQUIRED		
1	Bottom Chord	L27-L29A
1	Lateral Plate	P241

2½ T — Shop riveted to L27-L29A

General Notes:-
Material:- All material O.H. Copper bearing medium carbon steel, except material marked (X), which is to be O.H. Copper bearing silicon steel.
Specifications:- Special by State of California, Dept. of Public Works.
Inspection:- John M. Bailey - Chief Inspector.
Rivets:- 1" diameter.
Open Holes:- 1⅛" unless noted.
Reaming:- Holes in material ¾" thick or less to be subpunched ¾" and reamed to size while parts are assembled.
Carbon steel ⅜" thick or less, used for lacing, stay plates & diaphragms may be punched full size.
When reaming field splices, the chords of trusses shall be laid out in lengths of not less than 6 panels and chord splices reamed and match-marked while so assembled. Holes marked R.T. to be reamed thru a steel templet.
Burrs to be removed from all reamed holes. All match-marking to be made with ⅜" steel stencils and white paint.
Finish:- Sheared or flame cut edges and ends of all mat'l. marked (E) to be planed to remove at least ⅛" of metal.
Shop Paint:- See Sh. E1
White Lead and Tallow on pin holes.

Mat'l Ord Pg. 401, 402, 404, 411, 416, 417 G.R.C.

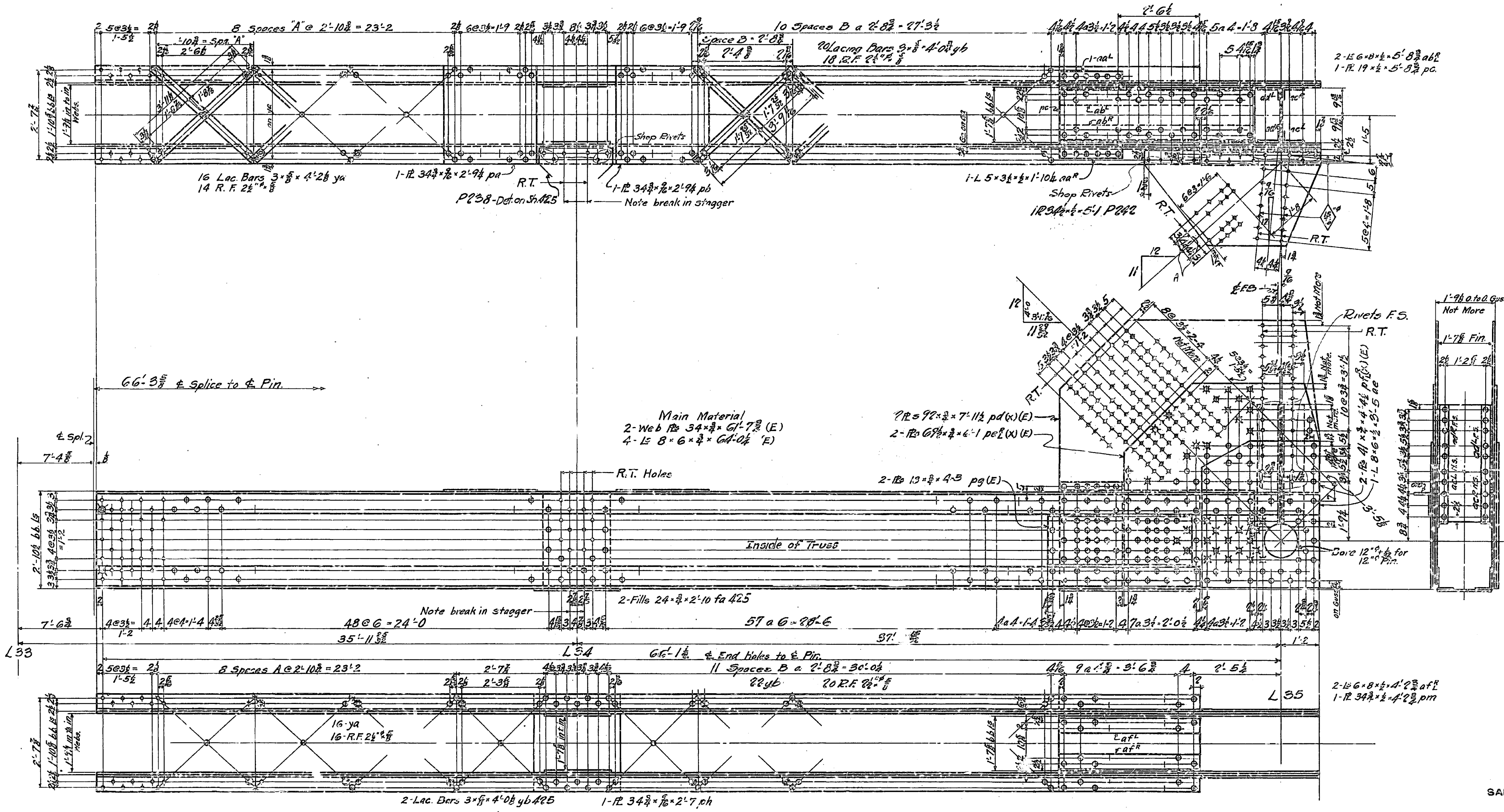
A	10-15-34	Was 44 ... - P241	
Date	Revision		App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 7-2-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Bottom Chord L27-L29A South Tr.
Span YB4-E1
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAWN MADE BY GFC. DATE 6-4-34
CHECKED BY L.H. DATE 6-11-34
ORDER No. G5101 [BBC]
SHEET No. 426
Shop Bill 5234

15-7-25

30-1



REQUIRED		
1	Bottom Chord	L33-L35
1	Lateral Plate	P242

16½-T

Shop Riveted to L33-L35

General Notes:-
Material:- All material O. H. Copper bearing medium carbon steel, except material marked (X) which is to be O. H. Copper bearing silicon steel.
Specifications:- Special by State of California, Dept of Public Works.
Inspection:- John M. Bailey - Chief Inspector.
Rivets:- 1" diam.
Open Holes:- 1⅟₁₆" diam. unless noted.
Reaming:- Holes in material ¾" thick or less to be subpunched ¼" and reamed to size while parts are assembled.
Carbon steel ¾" thick or less, used for lacing, stay plates & diaphragms may be punched full size.
When reaming field splices, the chords of trusses shall be laid out in lengths of not less than 6 panels, and chord splices
And P242 Det. on This Sh., and P238 Det. on Sh. 425 reamed and match-marked while so assembled. Holes marked R.T. to be reamed thru a steel templet.
Burrs to be removed from all reamed holes. All match-marking to be made with ¾" steel stencils and white paint.
Finish:- Sheared or flame cut edges and ends of all mat'l marked (E) to be planed to remove at least ⅛" of metal.
Shop Paint:- See Sh. F.I.
White Lead and Tallow on pin holes.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Bottom Chord L33-L35 North Truss
Span YB4-E1
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAWN BY G.E.D. DATE 5/31/34
CHECKED BY G.T.N. DATE 6-8-34

A	10-18-34	Chgd 3⅞ - ak-P242	
Mark	Revision		App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 7-2-34

ORDER No. G5101 [BEC]
SHEET No. 427
SHOP BILL S235

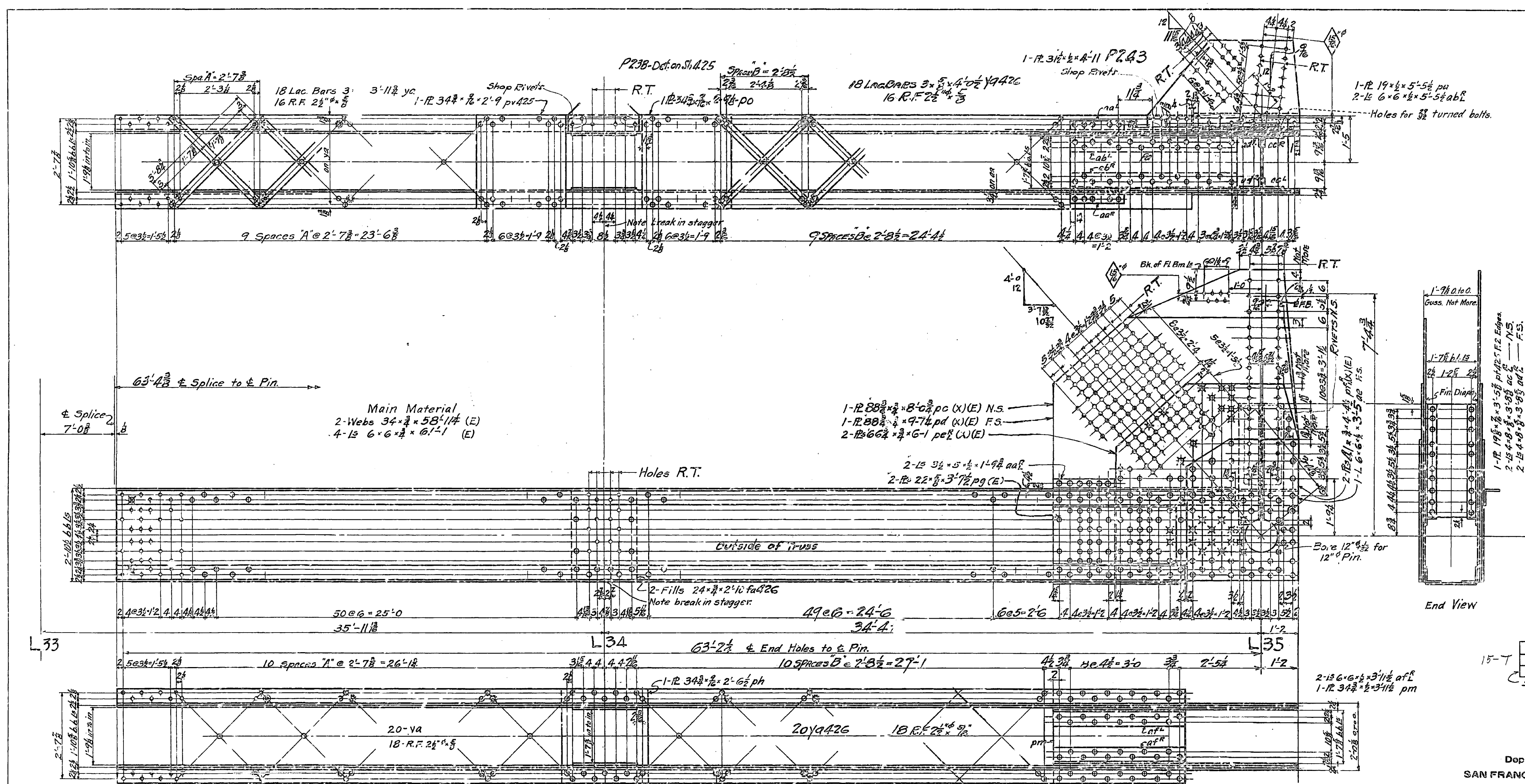
Mat'l Ord Pg. 474, 407, 409. S&R

15-7-25

A-Shop error

4th Span

30-1



REQUIRED		
1	Bottom Chord	L33-L35A
1	Lateral Plate	P243

15-T
Shop Riveted to L33-L35A

General Notes:-
Material:- All material O. H. Copper bearing medium carbon steel, except material marked (X) which is to be O. H. Copper bearing silicon steel.
Specifications:- Special by State of California, Dep't of Public Works.
Inspection:- John M. Bailey - Chief Inspector.
Rivets:- 1" diam.
Open Holes:- 1 1/16" diam. unless noted.
Reaming:- Holes in material ¾" thick or less to be subpunched ⅛" and reamed to size while parts are assembled.
Carbon steel ¾" thick or less, used for lacing, stay plates & diaphragms may be punched full size.
When reaming field splices, the chords of trusses shall be laid out in lengths of not less than 6 panels and chord splices (Also P243 Det. on this Sh. Also P238 on Sh. 425) reamed and match-marked while so assembled. Holes marked R.T. to be reamed thru a steel templet.
Burrs to be removed from all reamed holes. All match-marking to be made with ¾" steel stencils and white paint.
Finish:- Sheared or flame cut edges and ends of all mat'l marked (E) to be planed to remove at least ⅛" of metal.
Shop Paint:- See Sh. E1
White Lead and Tallow on pin holes

10-15-34	3⅞ to 4½ on P245	
Made	Revision	App'd

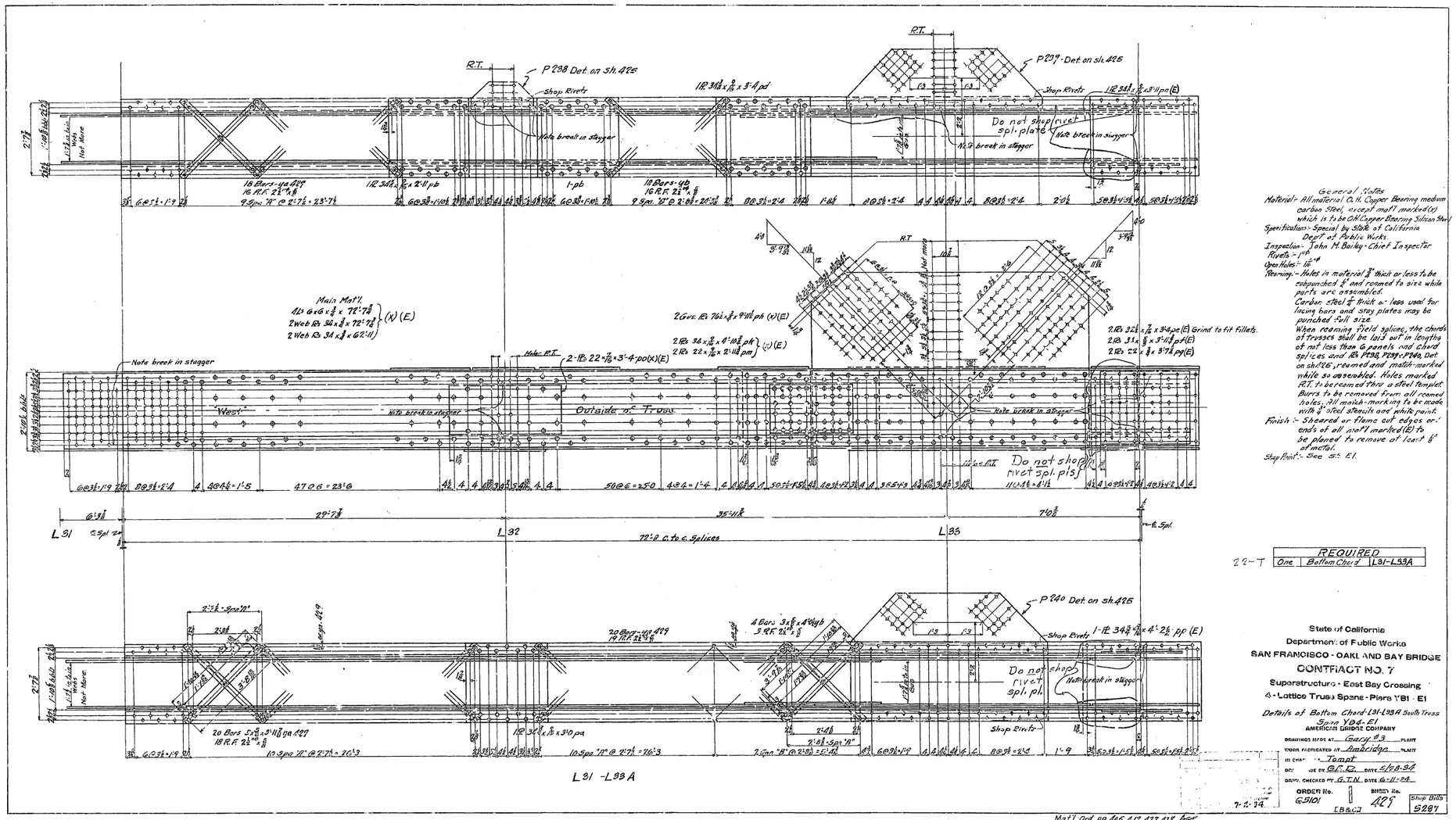
APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 7-2-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Bottom Chord L33-L35A South Truss
Span YB4-E1
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAWN BY [illegible] DATE 6-4-34
DRAWING CHECKED BY G.T.N. DATE 6-8-34
ORDER No. 35101 B+C
SHEET No. 428
SHOP BILLS 5286

Mat'l Ord Pgs 403-411-412-470

15-7-35
Am. Spec.
A Shop error

30-1



General Notes

Material:- All material O.H. Copper Bearing medium carbon Steel, except mat'l marked (X) which is to be O.H. Copper Bearing Silicon Steel

Specifications:- Special by State of California Dept. of Public Works.

Inspection:- John M. Bailey - Chief Inspector

Rivets:- 1" ϕ

Open Holes:- 1 1/16"

Reaming:- Holes in material 3/4" thick or less to be subpunched 1/4" and reamed to size while parts are assembled.
Carbon Steel 7/8" thick or less used for lacing bars and stay plates may be punched full size.
When reaming field splices, the chords of trusses shall be laid out in lengths of not less than 6 panels and chord splices and Pls P238, P239 - P240, Det. on Sh. 425, reamed and match-marked while so assembled. Holes marked R.T. to be reamed thru a steel templet. Burrs to be removed from all reamed holes; all match-marking to be made with 3/4" steel stensils and white paint.

Finish:- Sheared or flame cut edges or ends of all mat'l marked (E) to be planed to remove at least 1/4" of metal.

Shop Paint:- See Sp. El.

22-T

REQUIRED		
One	Bottom Chord	L31-L33A

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1

Details of Bottom Chord L31-L33A South Truss
Span YB1-E1

AMERICAN BRIDGE COMPANY

DRAWINGS READ AT: Gary, Ind. PLANT
WORK FABRICATED AT: Ambridge PLANT
IN CHAR: Tampt
BY: JOE BY G.L.C. DATE 5/18-24
DRWG. CHECKED BY G.T.N. DATE 6-11-24

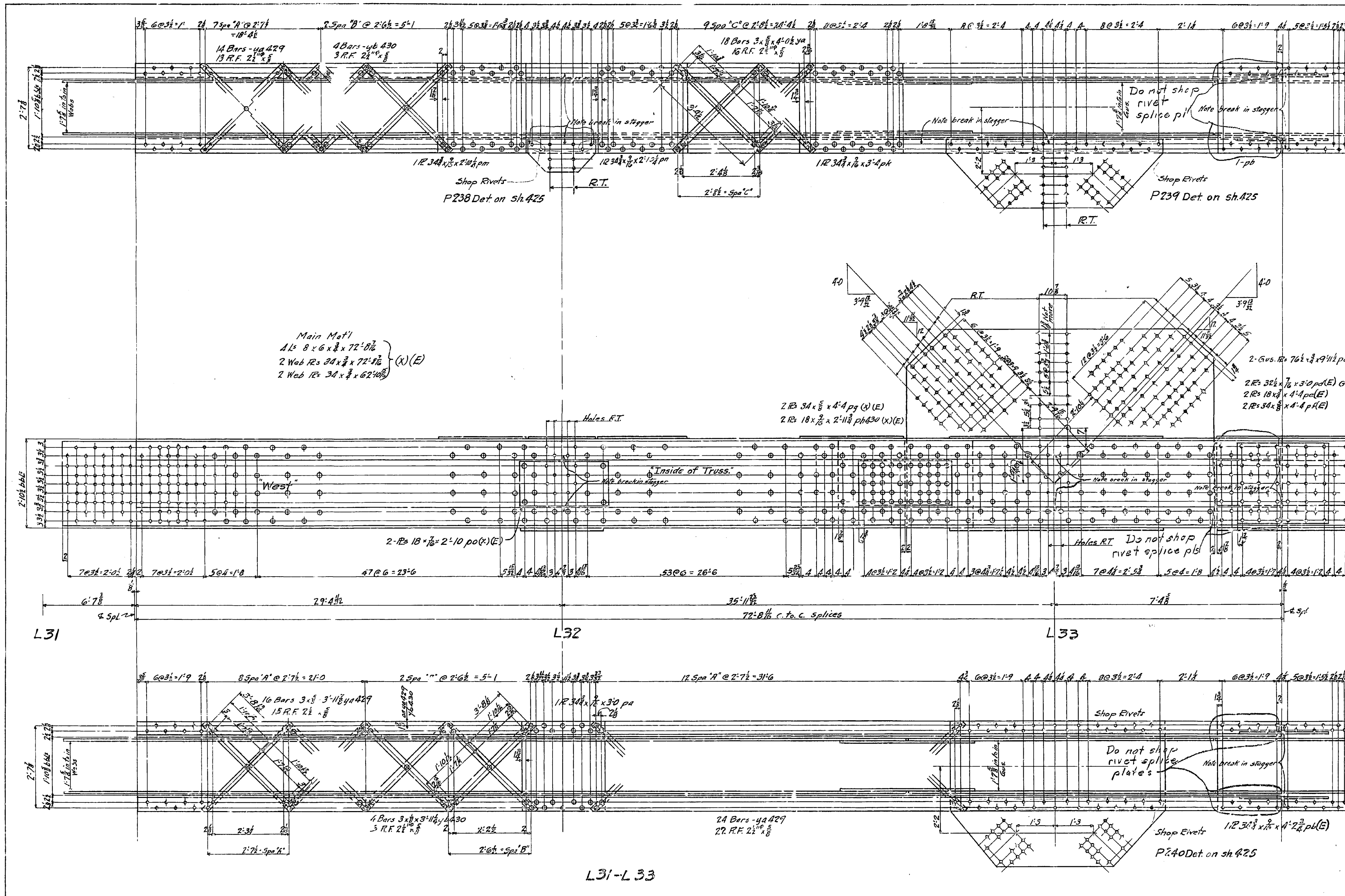
ORDER No. G5101 | SHEET No. 427 | Shop Bills 5287

7-2-34 EB&CO

Mat'l Ord. pg. 406, 412, 417, 418 Bal.

15-7-25

30-1



General Notes

Material:- All material O.H. Copper bearing medium carbon steel, except material marked (x) which is to be O.H. Copper bearing silicon steel

Specifications:- Special by State of California, Dept of Public Works.

Inspection:- John M. Bailey - Chief Inspector

Rivets:- 1"

Oper. Holes:- 1 1/16"

Reaming:- Holes in material ¾" thick or less to be subpunched ¼" and reamed to size while parts are assembled. Carbon Steel ¾" thick or less used for lacing bars and tie plates may be punched full size. When reaming field splices, the chords of Trusses shall be laid out in lengths of not less than 6 panels and chord splices and Pls P238, P239 + P240 Det on sheet 425, reamed and match-marked while so assembled. Holes marked R.T. to be reamed thru steel Templet. Burrs to be removed from all reamed holes. All match marking to be made with ¾" steel stencils and white paint.

Finish:- Sheared or flame cut edges and ends of all mat'l marked (E) to be planed to remove at least ⅛" of metal.

Shop Paint:- See Sheet E1.

23-T

REQUIRED		
One	Bottom Chord	L31-L33

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Bottom Chord L31-L33 North Truss Span YB4-E1

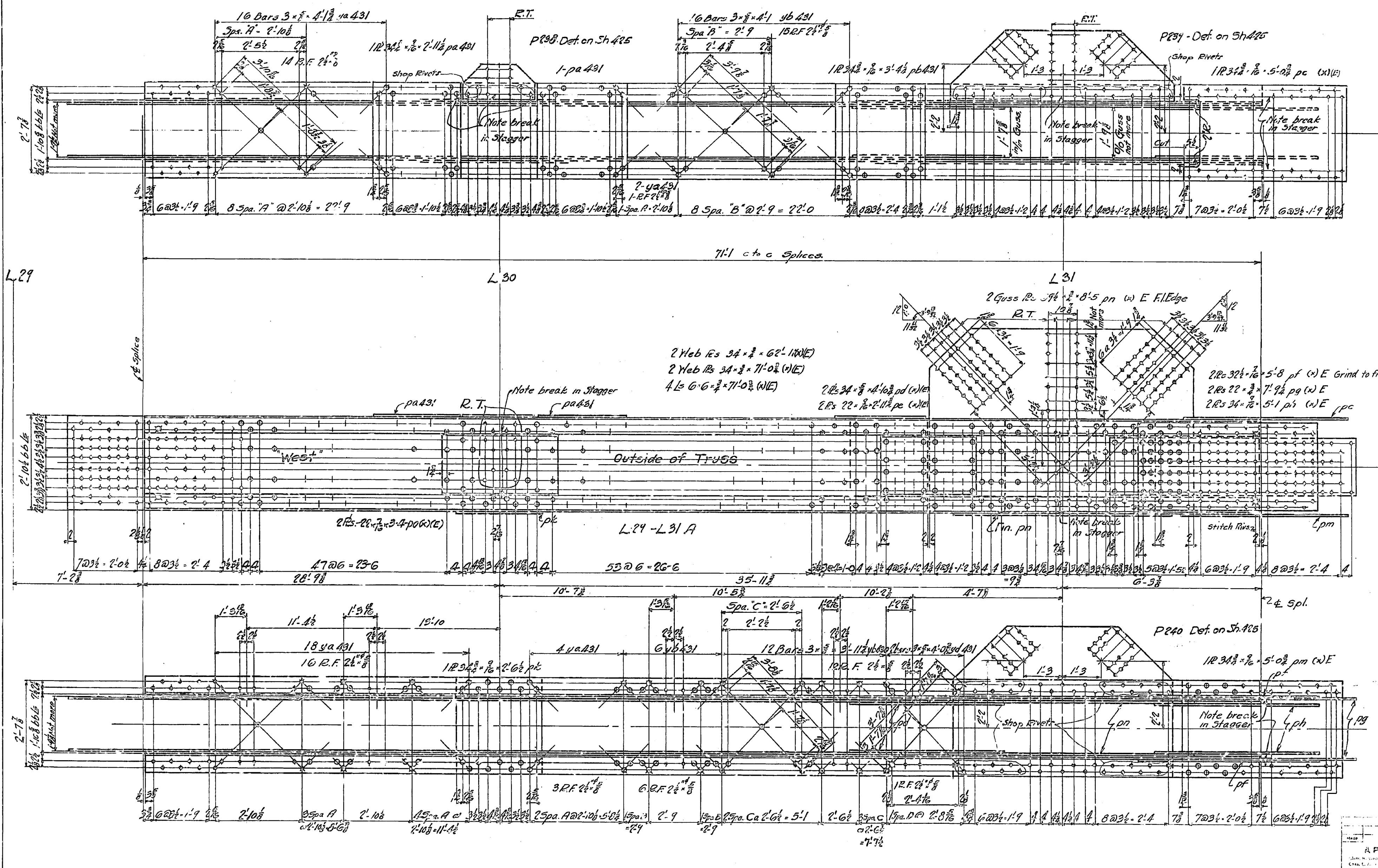
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE Tompt
DRAWN BY [illegible] DATE 5-29-34
DRAWING CHECKED BY G.T.N. DATE 6-11-34
ORDER No. G5101 SHEET No. 430
[B&C]
Shop Bills 5288

7-2-34

Mat'l. Ord. pgs. 407-409, 476-477

15-7-25

4TH-Span



GENERAL NOTES

Material- All material O.H. Copper Bearing medium Carbon steel, except material marked (x) which is to be O.H. Copper Bearing Silicon steel.
Specifications- Special by State of California, Dep't of Public Works.
Inspection- John M. Bailey - Chief Inspector.
Rivets- 1"?
Open Holes- 1$\frac{1}{16}$
Reaming- Holes in material ¾" thick or less to be sub-punched ⅛" and reamed to size while parts are assembled. Carbon steel ¾" thick or less, used for lacing and stay plates, may be punched full size. The chords of trusses shall be laid out in lengths of not less than 6 panels and the chord splices and plates P238, P239 + P240 Det. on Sh.425, reamed and match marked while so assembled. Holes marked "R.T." to be reamed thru a steel templet. Burrs to be removed from all reamed holes.
All match marking to be made with ¾" steel stencils and white paint.
Finish- Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least ⅛" of metal.

22-T

REQUIRED		
One	Bott. Chord	L29-L31 A

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Bottom Chord L29-L31A
South Truss Span YB4-E1

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
CHAR Tompt
DRAWN MADE BY GED. DATE 5/29/34
DRAW. CHECKED BY G.T.N. DATE 6-12-34

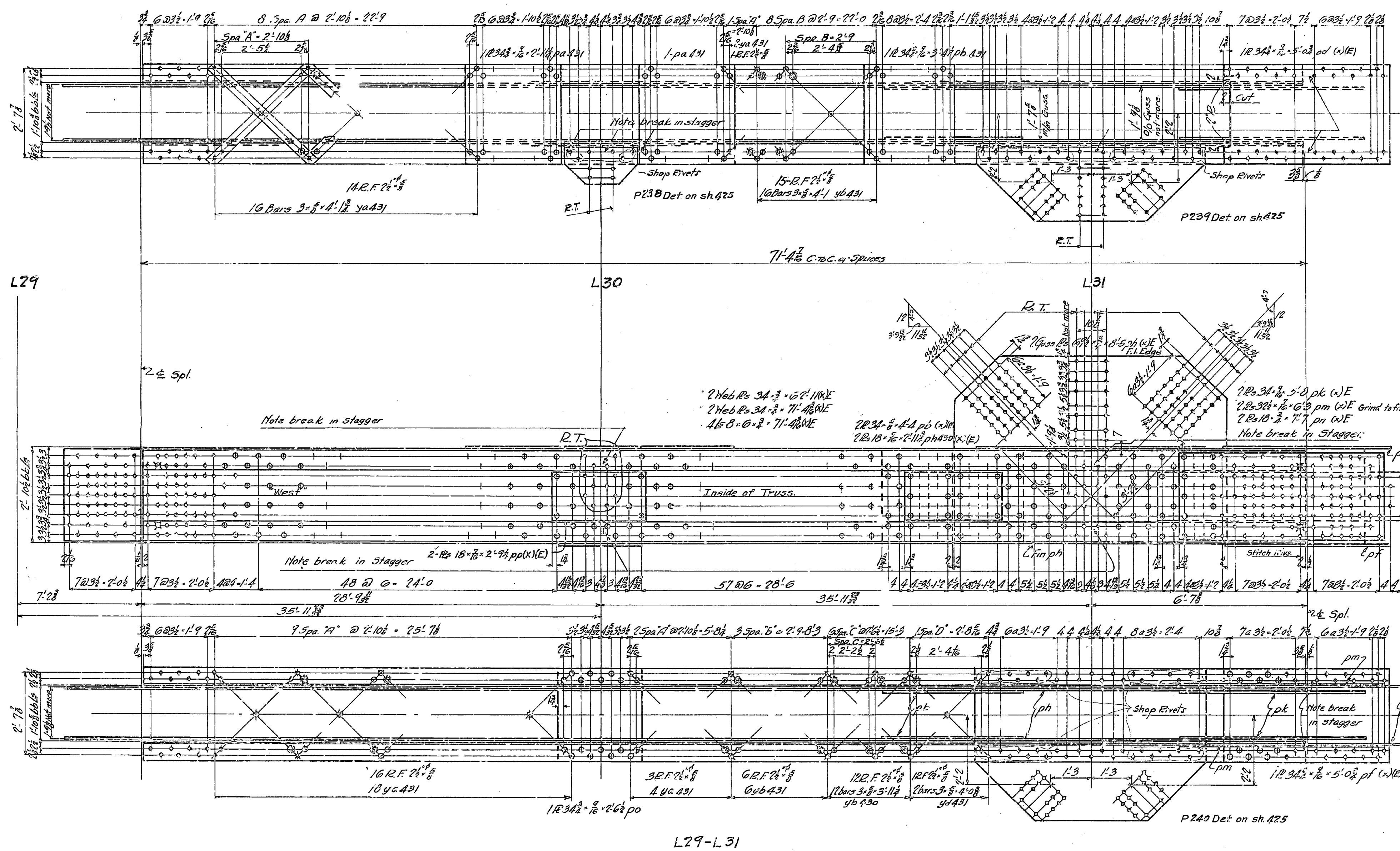
APPROVED
Glenn B. Woodruff, Engineer of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 7-2-34

ORDER No. G5101 [B&C]
SHEET No. 431
Shop Bills 5289

Mat'l Ord Pg. 477-412

15-7-25

30-1



GENERAL NOTES-
MATERIAL- All material O.H. Copper Bearing medium Carbon steel, except material marked (x) which is to be O.H. Copper Bearing Silicon steel.
SPECIFICATIONS- Special by State of California, Dept. of Public Works.
INSPECTION- John M. Bailey - Chief Inspector.
RIVETS- 1"φ
OPEN HOLES- 1 1/16"φ.
REAMING- Holes in material 3/4" thick or less to be subpunched 1/4" and reamed to size while parts are assembled. Carbon steel 3/4" thick or less, used for lacing bars and stay plates, may be punched full size.
The chords of trusses shall be laid out in lengths of not less than 6 panels and the chord splices and plates P238, P239 & P240 Det. on sh. 425, reamed and match marked while so assembled. Holes marked "R.T." to be reamed through a steel templet. Burrs to be removed from all reamed holes. All match marking to be made with 3/4" steel stencil and white paint.
FINISH- Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least 1/8" of metal.
SHOP PAINT:- SEE SH. E1

REQUIRED		
One	Bott. Chord	L29-L31

23-T

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Bottom Chord L29-L31
North Truss Span YB4-E1
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAWN BY [illegible] DATE 5-29-34
DRAWING CHECKED BY G.T.N. DATE 6-12-34
ORDER No. G5101 [B&C]
SHEET No. 432
Shop Bills 5290

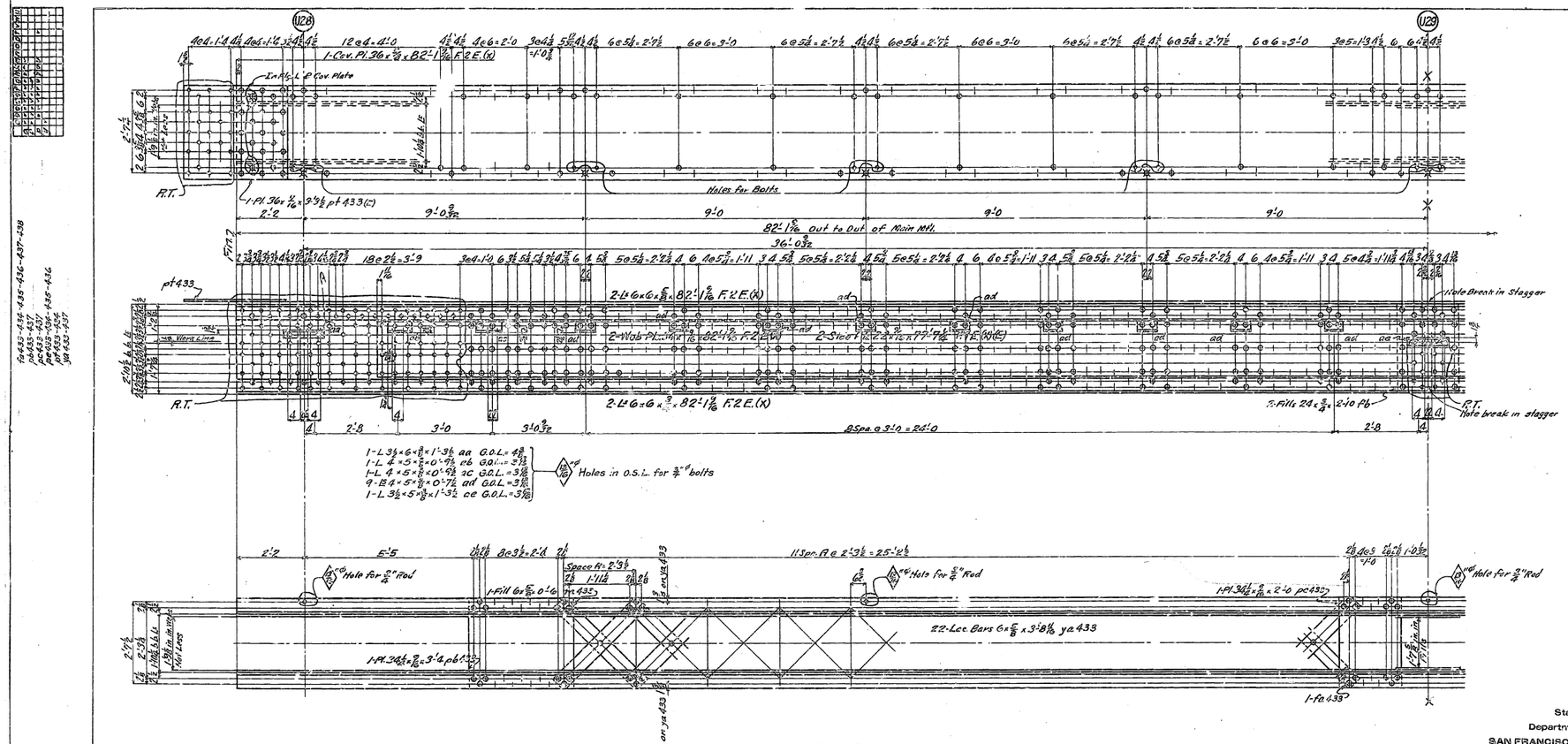
Approval Date 7-2-34

Mat'l. Ord pgs. 409, 470, 474 & 477

15-7-25

4TH. - Span

301

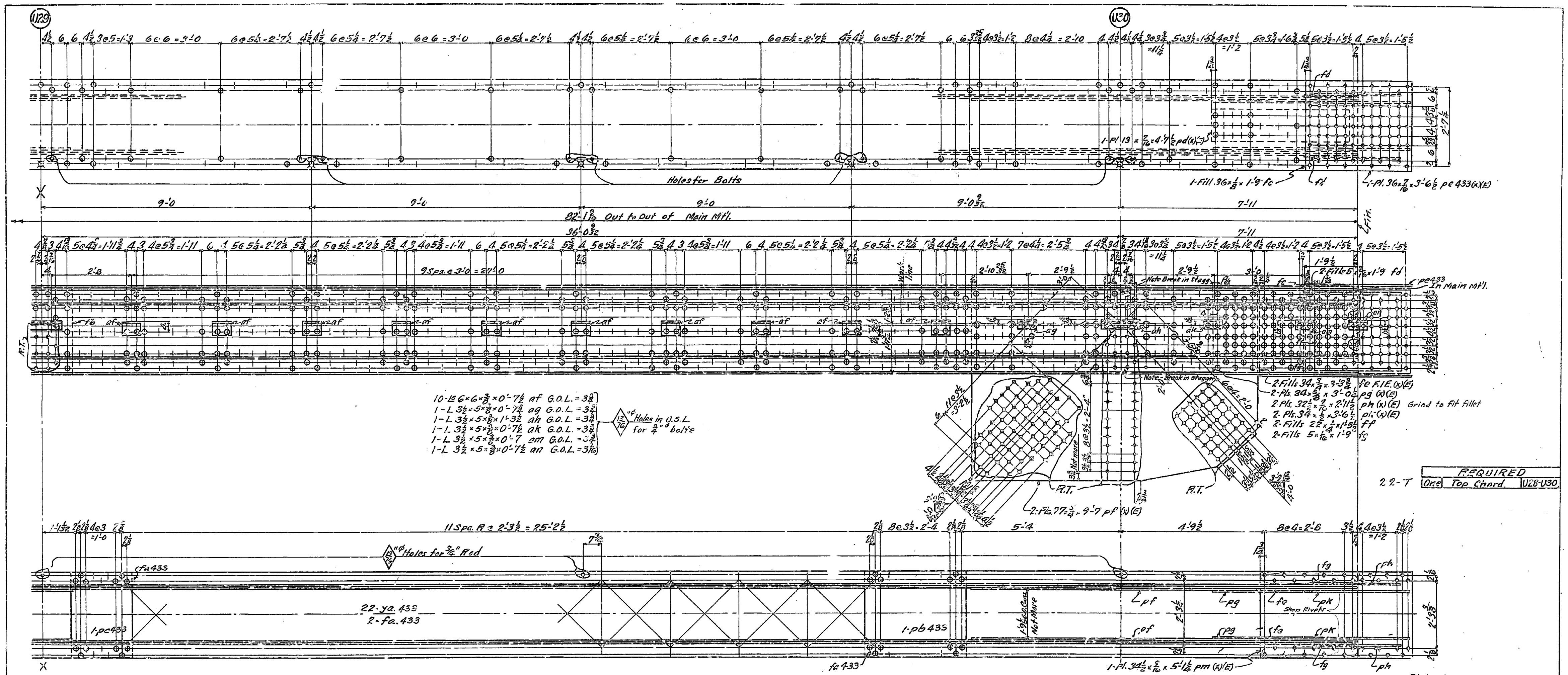


State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Top Chord U28-U30 North Truss
Span YB4-E1
AMERICAN BRIDGE COMPANY

DRAWING MADE AT: Berry 43 PLANT
WORK FABRICATED AT: Ambridge PLANT
ITS CHARGE OF: Tempt
DRAWN BY: G.T.N. DATE: 5-24-36
TRACED BY: [illegible] CHKD BY: [illegible] DATE: 6-1-36

APPROVED
[illegible] Engineer
7-2-36

ORDER No. 65101
DRAWING No. 433AE
Shop Dwg 5241



U28-U30

GEN. NOTES-
Material- All mat'l O.H. Copper Bearing medium Carbon steel, except mat'l marked (x) which is to be O.H. Copper Bearing silicon steel.
Specifications-Special by State of California, Dep't of Public Works.
Inspection-John M. Bailey-Chief Inspector.
Rivets- 1"Ø
Open Holes- 1 1/16"Ø Unless noted.
Reaming- Holes in material 3/4" thick or less to be subpunched 3/4"Ø and reamed to size while parts are assembled. Carbon steel 3/4" thick or less, used for lacing or stay plates, may be punched full size.
The chords of trusses shall be laid out in lengths of not less than 6 panels and the chord splices reamed while so assembled in shop and pieces match marked.
Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
All match marking to be made with 3/4" steel stencils and white paint.
Finish- Sheared or flame cut edges and ends of all mat'l marked (E) to be planed so as to remove at least 1/8" of metal.
Shop Paint-See sheet E1.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Top Chord U28-U30 - North Truss.
Span YB4-E1
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary 48 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAWN BY G.T.N. DATE 5-24-34
DRAWN & CHECKED BY W.B.H. DATE 6-1-34

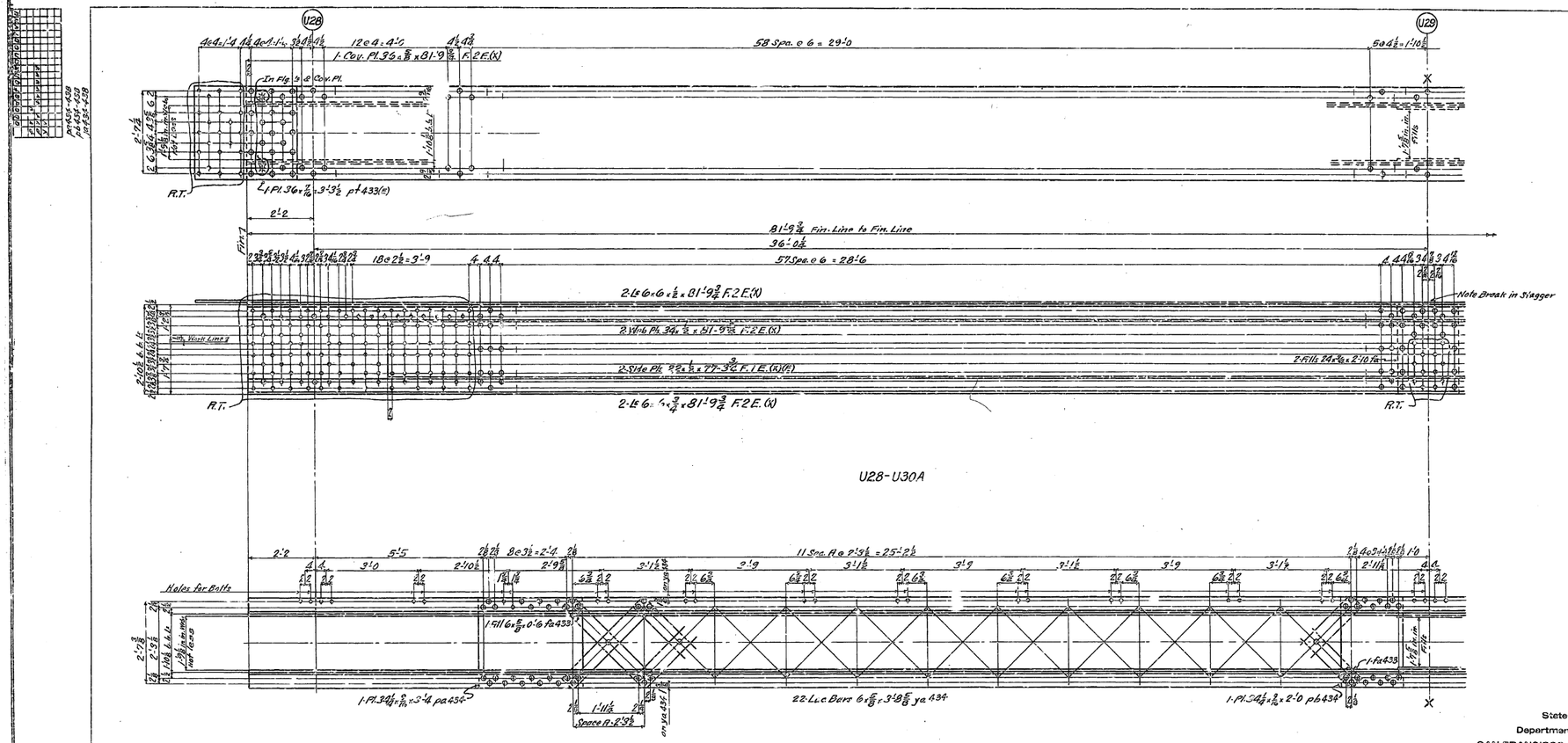
APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 7-2-34

ORDER No. 65101 [B&C]
SHEET No. 433B
Shop Bill S291

Mat'l: Ord. pgs. 405, 406, 408, 471, 473, 431 G.T.N.

15-7-25

4th Span



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
43 - Lattice Truss Spans - Piers YB1 - E1
Details of Top Chord U28-U30A
Span YB1-E1 South Truss
AMERICAN BRIDGE COMPANY

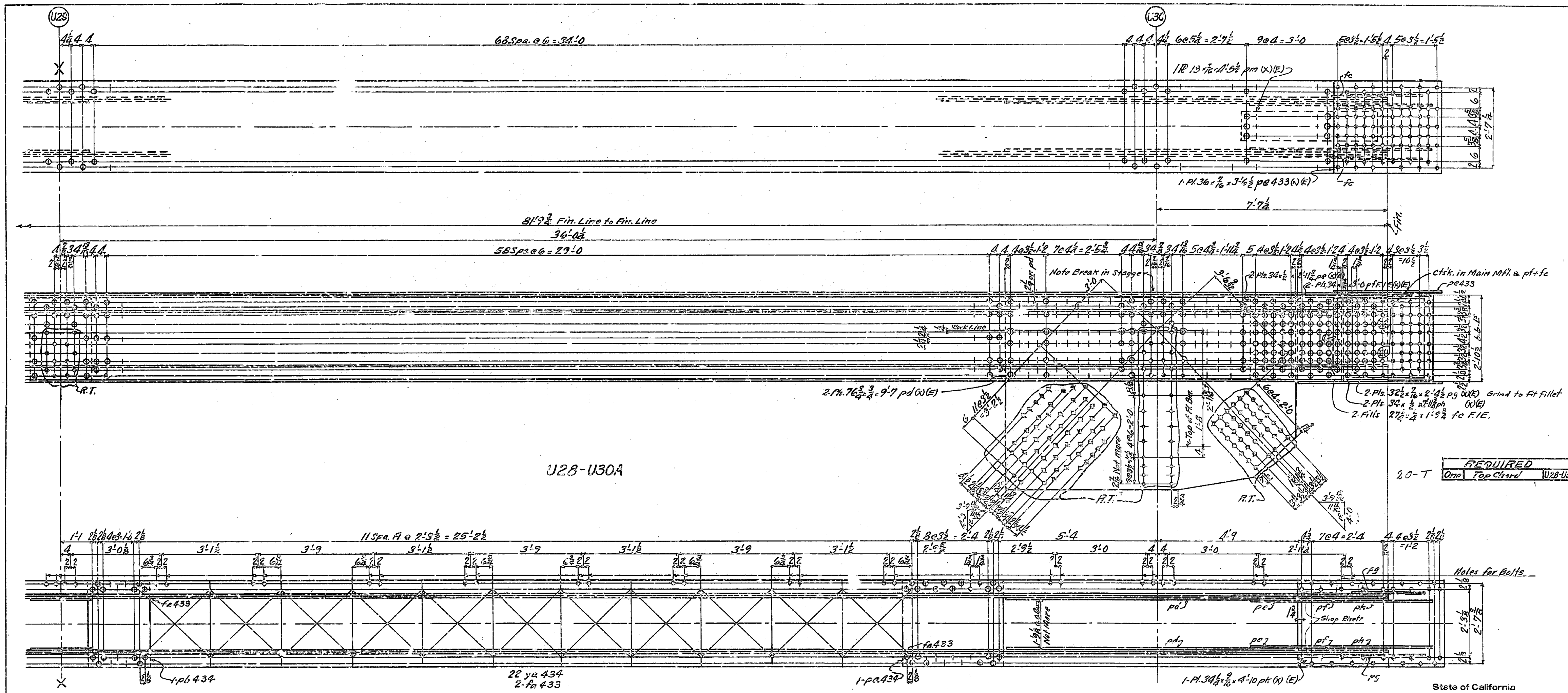
DRAWING MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tarrant
DESIGN, STUDY J. T. N. DATE 5-29-34
DRAWN, CHK. ED. T. V. Clark DATE 6-5-34

APPROVED
Chas. B. Wardwell, Chief Engr. of Design
Chas. E. Andrew, Engr. Director
F. W. Panhorst, Asst. Engineer
Approved Date 7-2-34

ORIG. No. 65101
SHEET No. 434AB
Shop Bill 5298

15-7-25

30-1



GENERAL NOTES-

Material- All material O.H. Copper Bearing medium Carbon steel, except material marked (x) which is to be O.H. Copper Bearing Silicon steel.

Specifications- Special by State of California, Dep't of Public Works.

Inspection- John M. Bailey- Chief Inspector.

Rivets- 1"φ.

Open holes- 1 1/16"φ.

Reaming- Holes in material 3/4" thick or less to be subpunched 1/4" and reamed to size while parts are assembled. Carbon steel 3/4" thick or less, used for lacing and stay plates, may be punched full size.
The chords of trusses shall be laid out in lengths of not less than 6 panels and the chord splices reamed while so assembled in shop and pieces match marked. Holes marked "R.T." to be reamed thru a steel templet. Burrs to be removed from all reamed holes.
All matchmarking to be made with 3/8" steel stencils and white paint.

Finish- Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least 1/8 of metal.

Shop paint- See Sheet E1.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Top Chord U28-U30A South Truss
Span YB4-E1

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAWN BY G.T.N. DATE 5-31-34
DRAWING CHECKED BY L.B.H. DATE 6-5-34

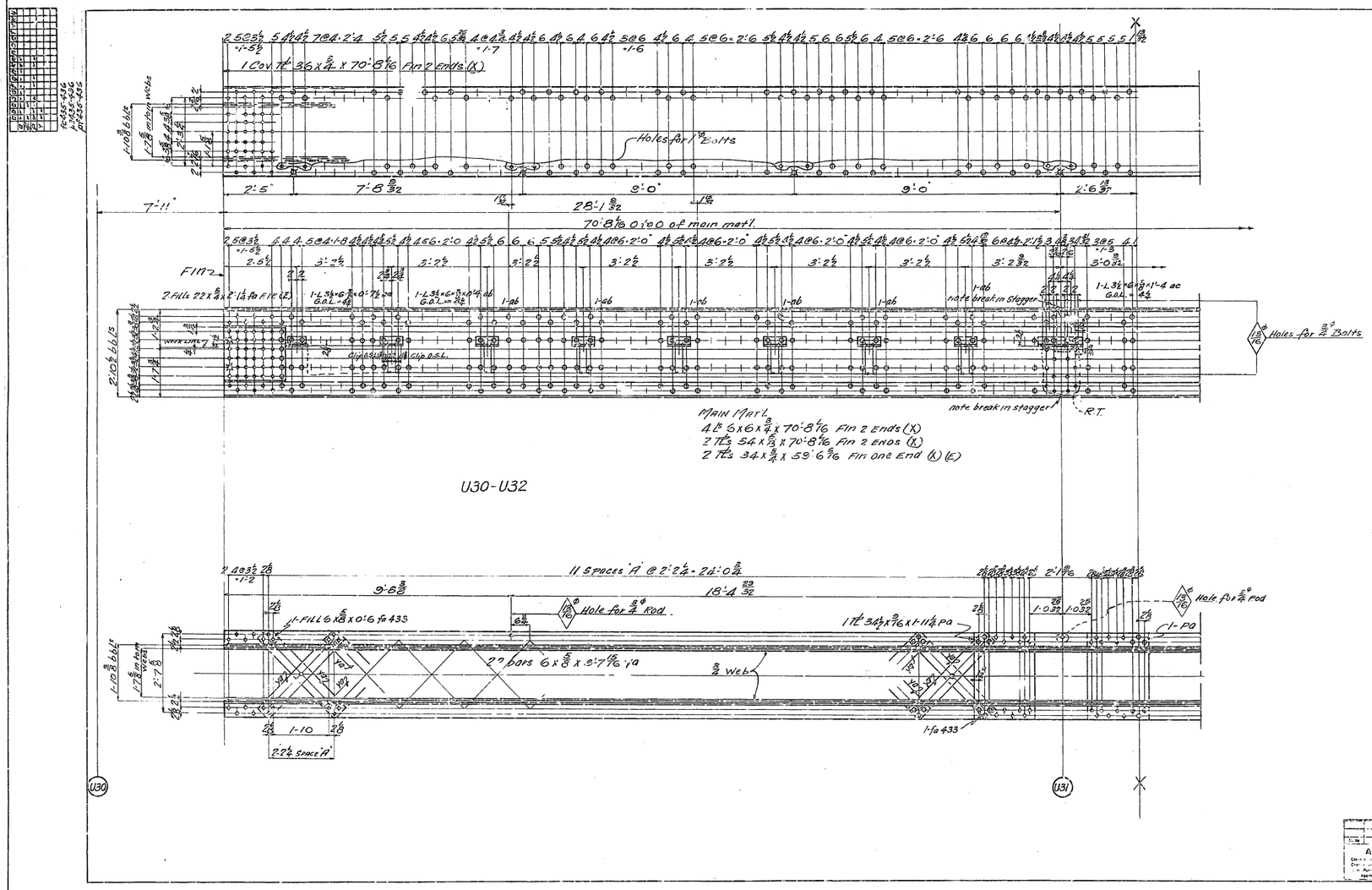
APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 7-2-34

ORDER No. 65101
SHEET No. 434 B
[B&C]
Shop Bill 5292

Mat'l. Ord. pgs.- 401, 409, 473, 475, 410 G.T.N.

15-7-25

30 of 31



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E
DETAILS TOP CHORD U30-U32-NORTH TRUSS
Span YB4-E1
AMERICAN BRIDGE COMPANY
DRAWING MADE AT GARY PLANT
WORK FABRICATED AT AMBRIDGE PLANT
IN CHARGE OF TONIOLI
DRAWN BY G.T.N. DATE 8-25-36
DRAWING CHECKED BY DAK DATE 6-1-36

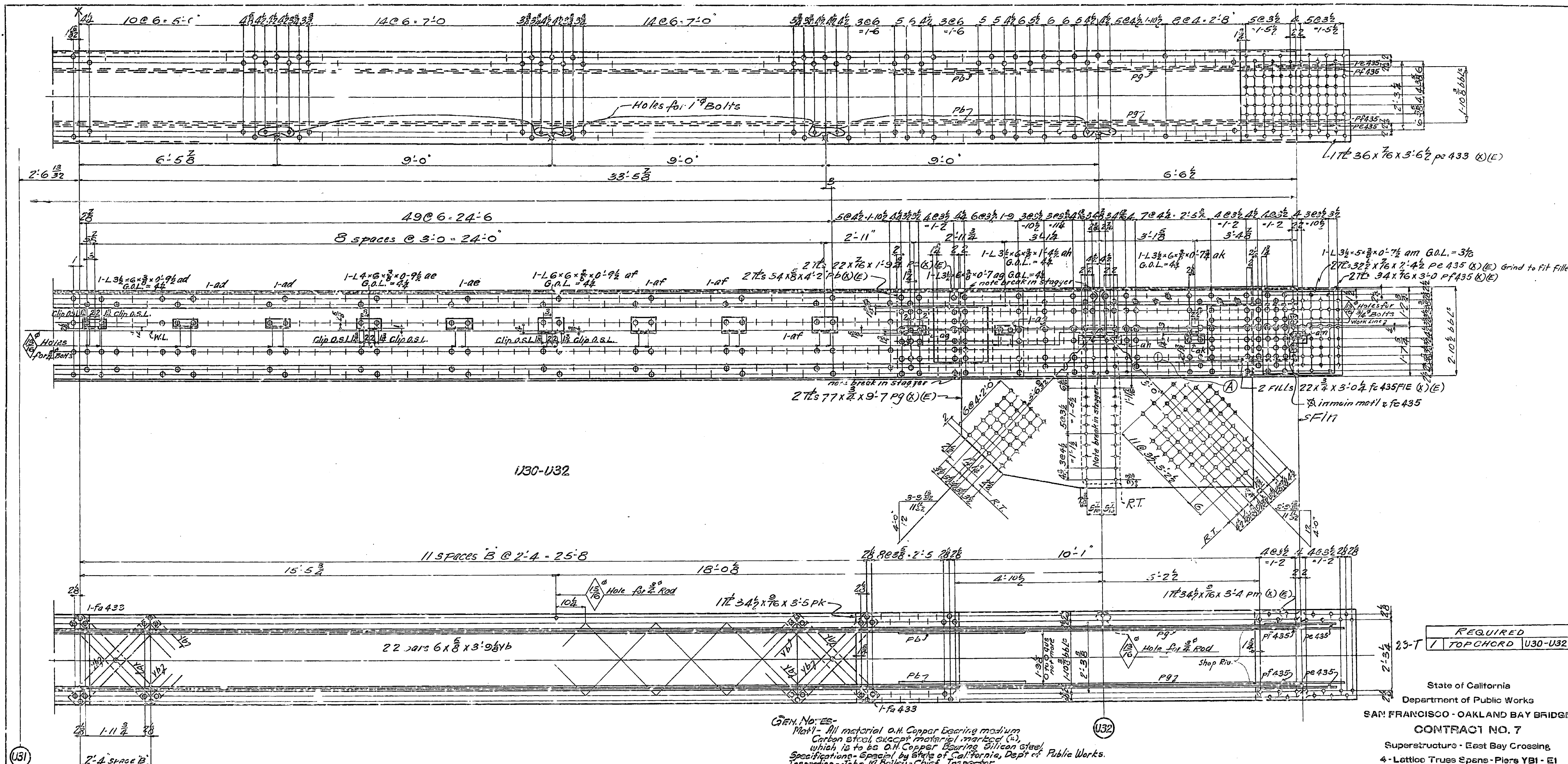
No.	Revision	Date

APPROVED
Chief of Design
Engineer of Design
Bridge Engineer
Approval Date 7-2-36

ORDER No. G5101 | SHEET K. 435AB | Shop Drw. 5293

15-7-25

30-1



GEN. NOTES-

Mat'l- All material O.H. Copper Bearing medium Carbon steel, except material marked (x), which is to be O.H. Copper Bearing Silicon steel.

Specifications- Special by State of California, Dept of Public Works.

Inspection- John M. Bailey - Chief Inspector.

Rivets- 1"

Open Holes - 1 1/16" Unless noted.

Reaming- Holes in material 5/8" or less to be subpunched 1/4" and reamed to size while parts are assembled.

Carbon steel 5/8" thick or less, used for lacing or stay plates, may be punched full size. The chords of trusses shall be laid out in lengths of not less than 6 panels and the chord splices reamed while so assembled in shop and pieces match marked.

Holes marked "R.T." to be reamed through a steel templet. Burrs to be removed from all reamed holes. All match-marking to be made with 3/4" steel stencils and white paint.

Finish- Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least 1/8" of metal.

Shop Paint:- See sheet E1.

REQUIRED		
1	TOPCHORD	U30-U32

23-T

State of California

Department of Public Works

SAN FRANCISCO - OAKLAND BAY BRIDGE

CONTRACT NO. 7

Superstructure - East Bay Crossing

4 - Lattice Truss Spans - Piers YB1 - E1

DETAILS TOP CHORD U30-U32 NORTH TRUSS

SPAN YB4-E1

AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT GARY #3 PLANT

WORK FABRICATED AT AMBRIDGE PLANT

IN CHARGE OF TOMPT

DRAW. MADE BY G.T.N. DATE 5-28-34

DRAW. CHECKED BY G.B.H. DATE 6-1-34

ORDER No. G5101 [B&C] SHEET No. 435B

Shop Bill S295

Ⓐ	6-8-34 Add Riv. at U32	
Date	Revision	App'd

APPROVED

D. Woodruff, Engr. of Design; E. Andrew, Bridge Engineer; Purcell, Chief Engineer

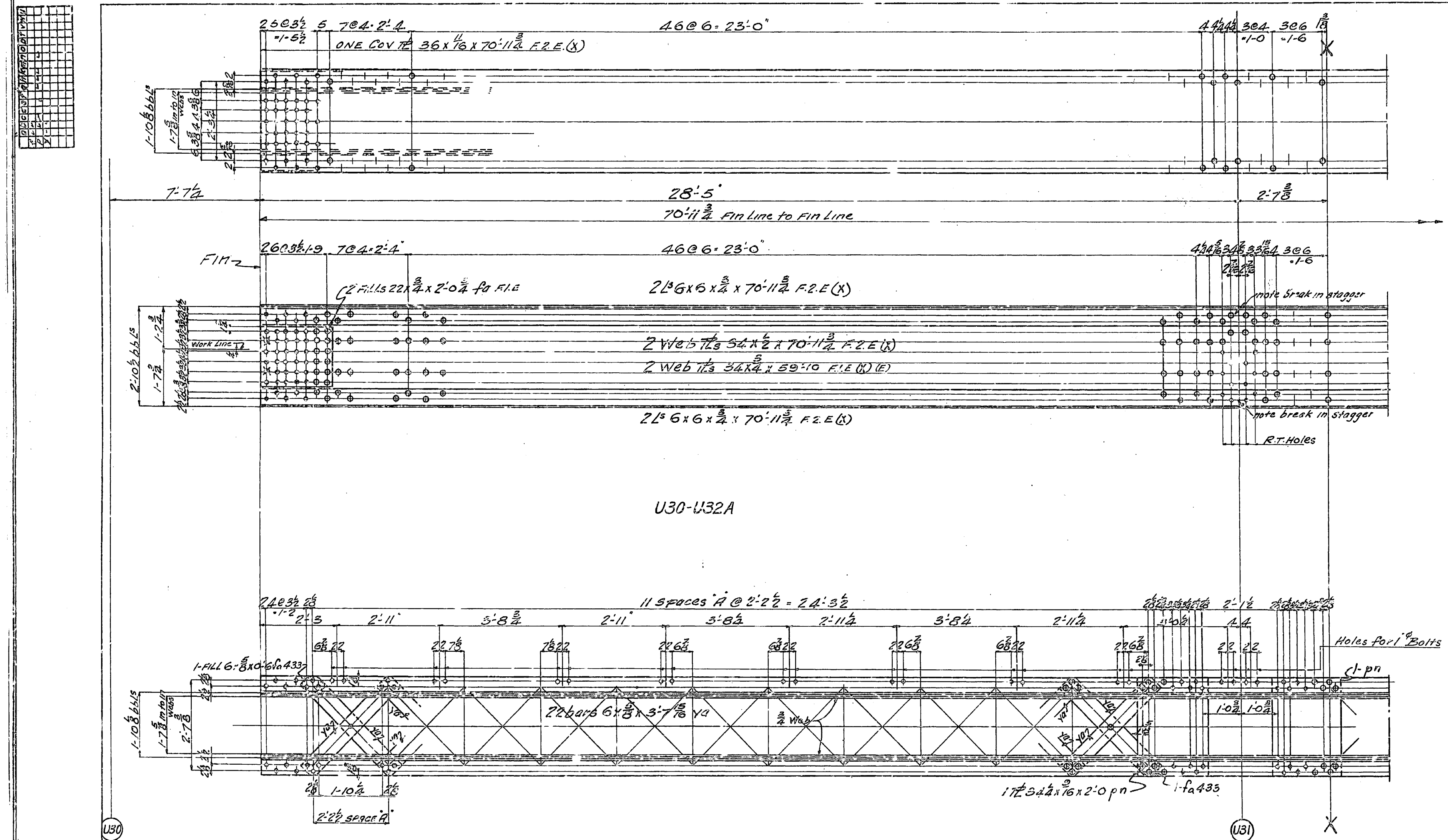
Approval Date 7-2-34

Mat'l. Ord. Pg. 408, 431, 473 G.T.N.

15-7-25

4th Span

30-1



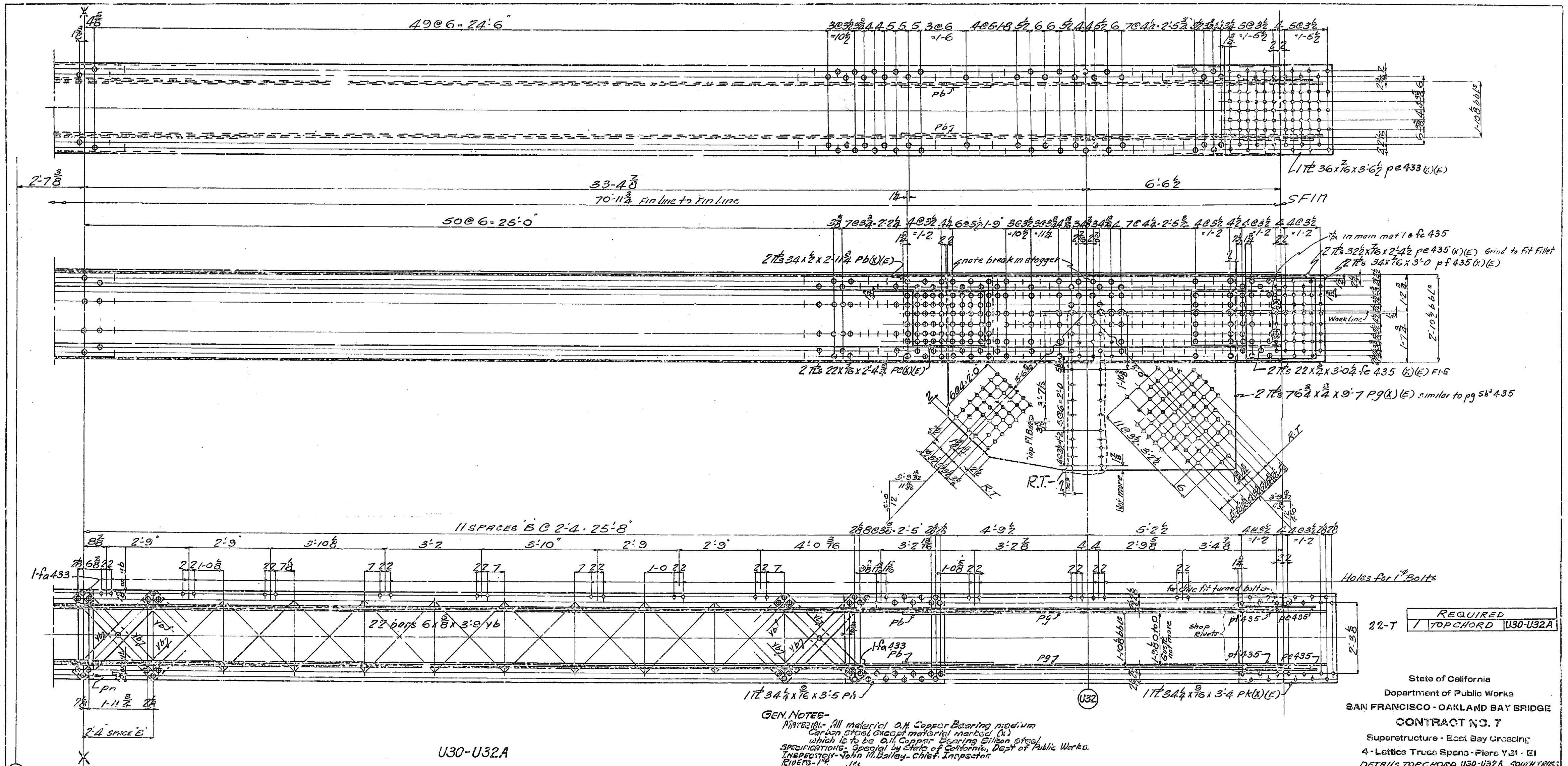
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
DETAILS TOP CHORD U30-U32A SOUTH TRUSS
Span YB4-E1
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT GARY #3 PLANT
WORK FABRICATED AT AMBRIDGE PLANT
IN CHARGE OF TOMPT
DRAWN BY G.T.N. DATE 5-31-34
DRAW. CHECKED BY GBH DATE 6-5-34

	Revision	App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 7-2-34

ORDER No. G5101 | SHEET No. 436AB | Shop Bill 5294

30-1



REQUIRED		
1	TOPCHORD	U30-U32A

GEN. NOTES-
MATERIAL- All material O.H. Copper Bearing medium Carbon steel except material marked (x) which is to be O.H. Copper Bearing Silicon steel.
SPECIFICATIONS- Special by State of California, Dept of Public Works.
INSPECTION- John M. Bailey - Chief Inspector.
RIVETS- 1"ø.
OPEN HOLES- 1 1/16"ø
REAMING- Holes in material ⅞" thick or less to be subpunched ¾" and reamed to size while parts are assembled.
Carbon steel ⅞" thick or less, used for lacing and stay plates, may be punched full size. The chords of the trusses shall be laid out in lengths of not less than 6 panels and the chord splices reamed while so assembled in shop and pieces match marked.

Holes marked "R.T." to be reamed through a steel templet. Burrs to be removed from all reamed holes. All match marking to be made with ⅜" steel stencils and white paint.
FINISH- Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least ⅛" of metal.
SHOP PAINT - See Sheet E1.

Mat'l. Ord. pgs. 401, 410, 475, 476

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y31 - E1
DETAILS TOPCHORD U30-U32A SOUTH TRUSS
Span YB4-E1
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT GARY #3 PLANT
WORK FABRICATED AT AMBRIDGE PLANT
IN CHARGE OF TOMPT
DRAWN BY G.T.N. DATE 5-31-34
DRAWN CHECKED BY C.G.H. DATE 6-5-34

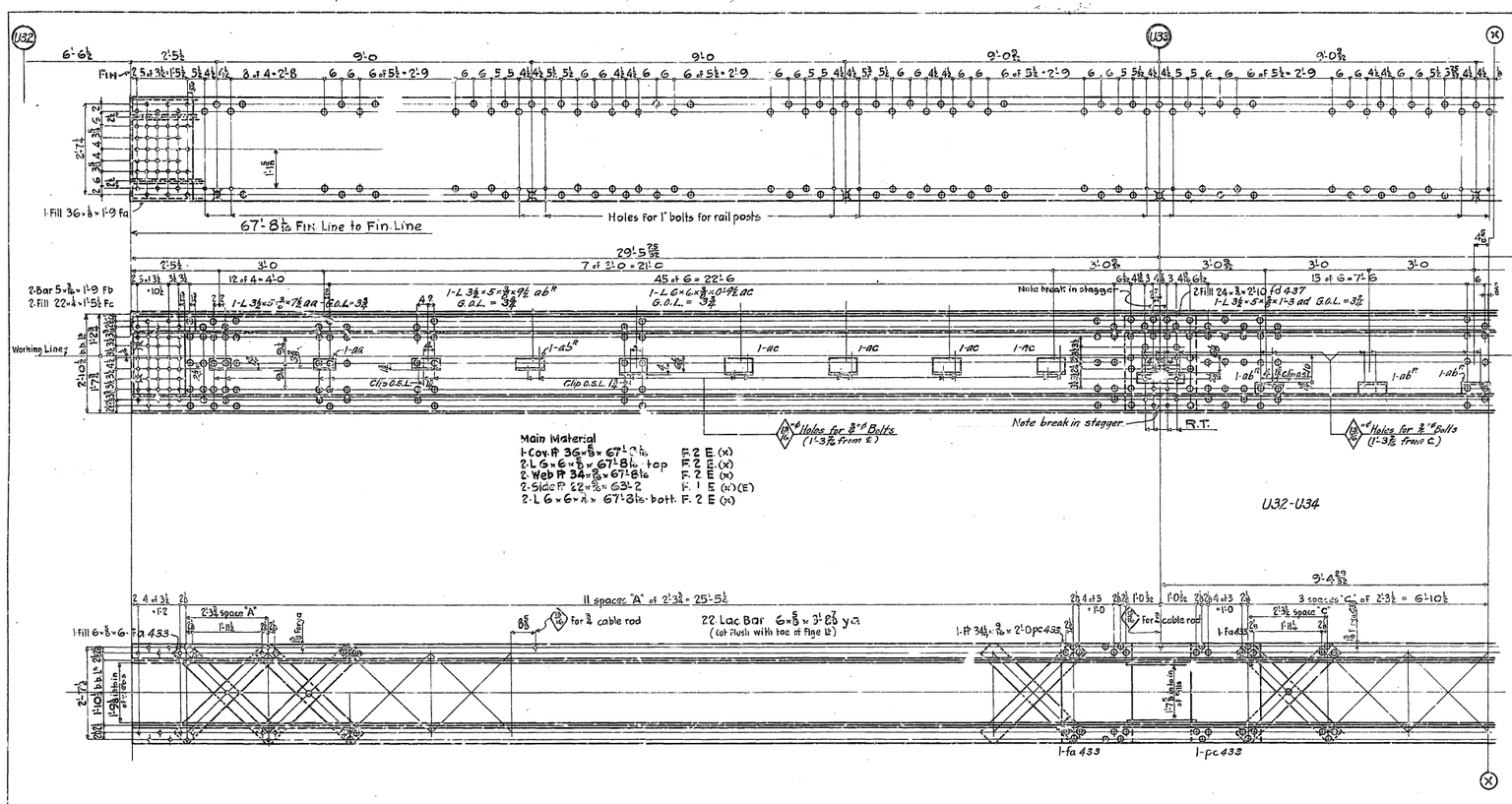
Made	Revision	Date

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 7-2-34

ORDER No. G5101 [B&C] SHEET No. 436B
Shop Bill 5299

15-7-25

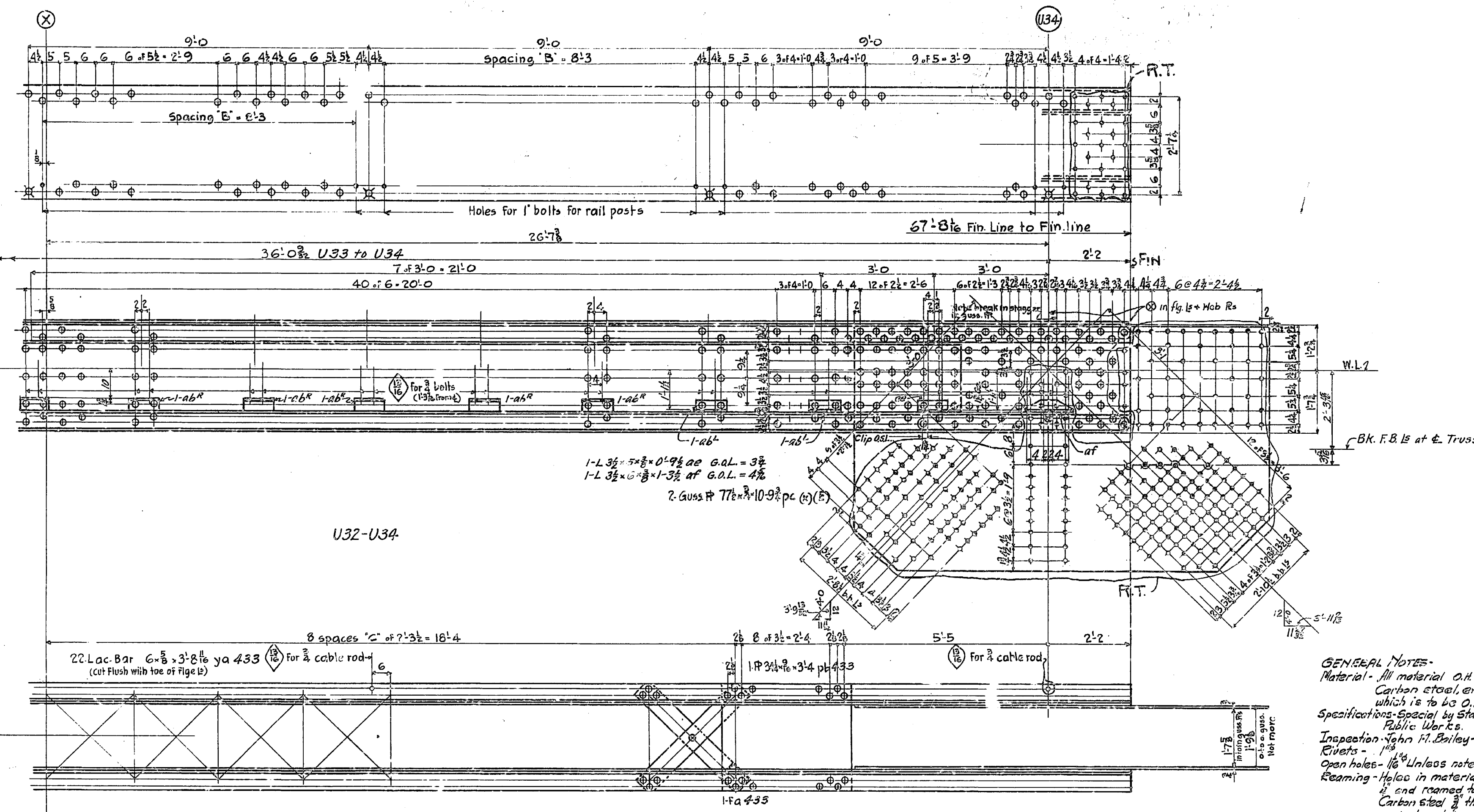
30-E1



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
DETAILS OF TOP CHORD U32-U34 NORTH 1/2
Span YB4-E1
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary 3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DESN. BY G.T.M. DATE 6-29-36
DRAWN BY [illegible] DATE 6-1-36
CHKD. BY [illegible] DATE 6-1-36
APPROVED
Chief Engr. DATE 7-2-36
ORDER No. G5101
SHEET No. 437AB
Ships Dft. 5865

4th Span

30-1



GENERAL NOTES-

Material - All material O.H. Copper Bearing medium Carbon steel, except material marked (x) which is to be O.H. Copper Bearing Silicon steel.

Specifications - Special by State of California, Dept of Public Works.

Inspection - John M. Bailey - Chief Inspector.

Rivets - 1"

Open holes - 1 1/16" Unless noted.

Reaming - Holes in material ¾" thick or less to be subpunched ¼" and reamed to size while parts are assembled. Carbon steel ¾" thick or less, used for lacing and stay plates, may be punched full size. The chords of trusses shall be laid out in lengths of not less than 6 panels and the chord splices reamed while so assembled in shop and pieces match marked. Holes marked "R.T." to be reamed thru a steel templet. Burrs to be removed from all reamed holes. All match marking to be made with ¾" steel stencils and white paint.

Finish - Sheared or flame cut edges and ends of all material marked (E) to be planed so as to remove at least ⅛" of metal.

Shop paint - See sheet E1.

19-T

Required		
1	Top Chord	U32-U34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
DETAILS OF TOP CHORD U32-U34 NORTH TRUSS
Span YB4 - E1.
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary 3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAWN BY G.T.N. DATE 5-29-34
DRAWN. CHECKED BY G.B.H. DATE 6-1-34

APPROVED
Approval Date 7-2-34

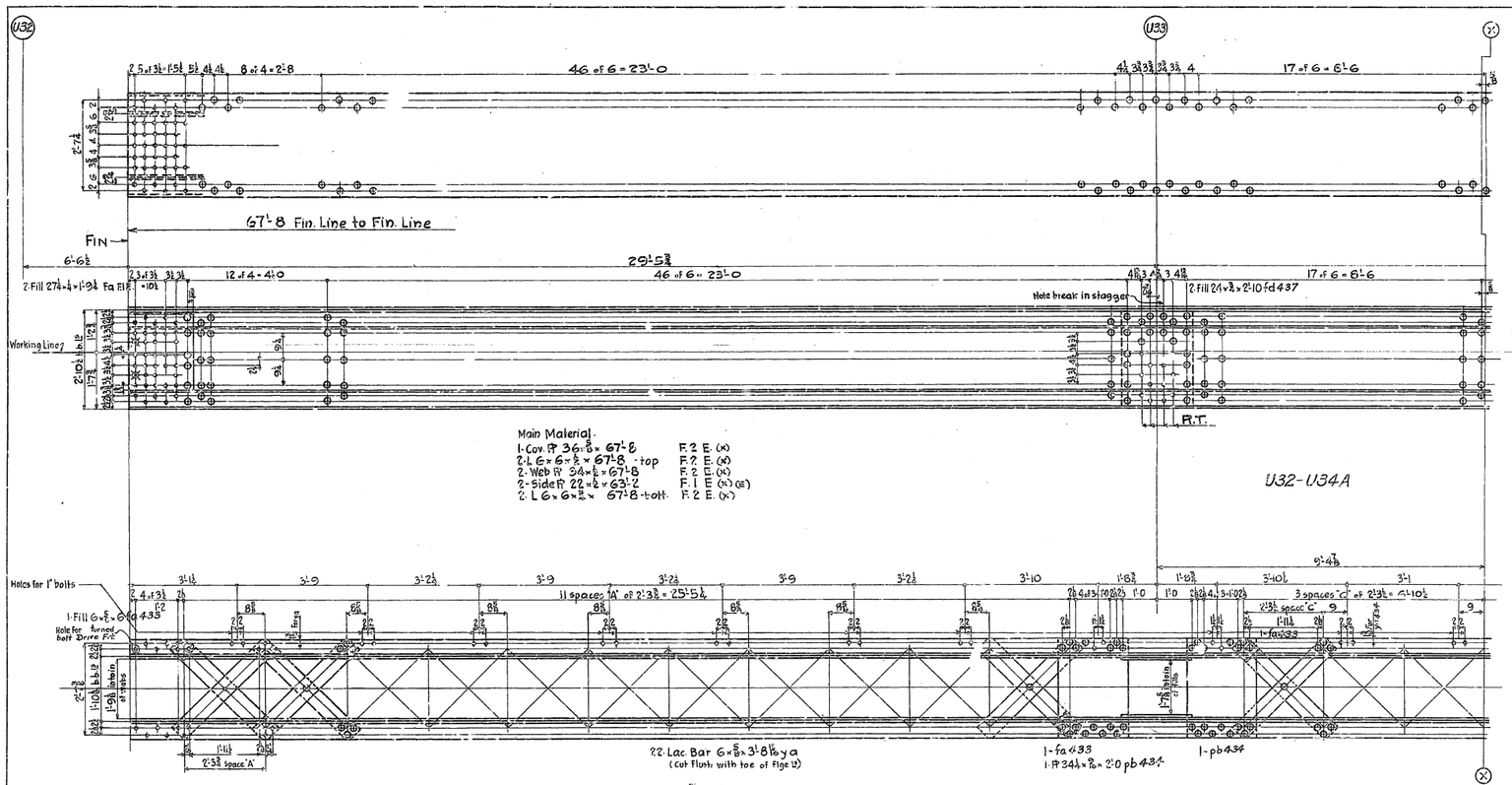
ORDER No. G5101 [Boc] SHEET No. 437B

Shop Bill S295

Mat'l Ord. A.B. pgs. 406, 408, 470, 431 G.T.N.

4th Span

30-1



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4-Lattice Truss Spans - Piers YB1 - E1
DETAILS OF TOP CHORD U32-U34A SOUTH TRUSS
SPAN YB4-E1
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary 3 PLANT
STEEL FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAFT. MAN'S INITIALS J.T.N. DATE 5-21-36
DRAFT. CHIEF'S INITIALS Buck DATE 5-22-36

Mark	Revisions	Date

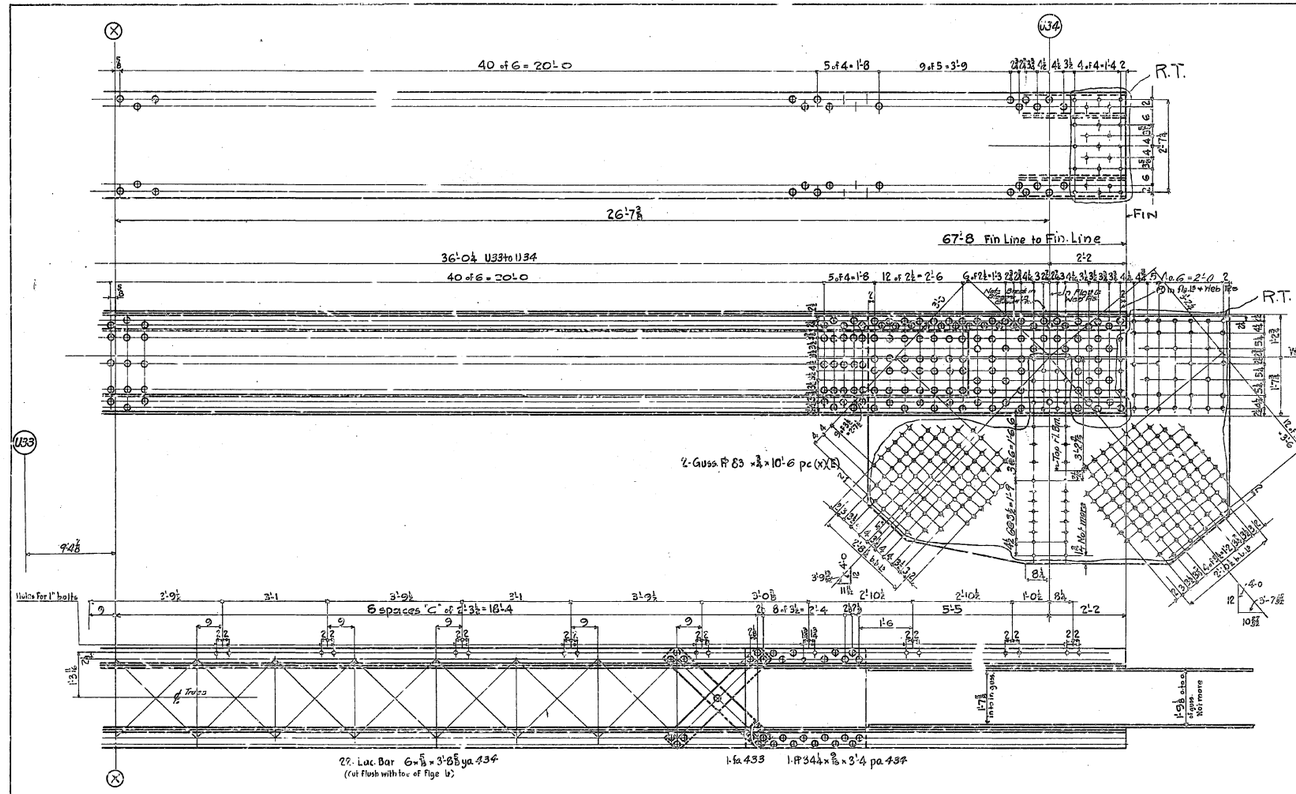
APPROVED
Chief Engr. of Works
Chief Engineer
Asst. Engineer
Asst. Engineer
Approved Dec. 7-2-36

ORDER No. G5101
SHEET No. 438AB
Bridge Book 5296

4th Span.

15-7-25

30-41



GENERAL NOTES-
Material- All material O.H. Copper Bearing medium Carbon steel except material marked (*) which is to be O.H. Copper Bearing Silicon steel.
Specifications - Special by State of California, Dept of Public Works.
Inspection - John M. Bailey - Chief Inspector.
Rivets - 1 1/8" ø
Open holes - 1 1/8"
Reaming - Holes in material 5/8" thick or less to be subpunched 1/4" and reamed to size while parts are assembled. Carbon steel 3/4" thick or less, used for lacing and stay plates, may be punched full size. The chords of trusses shall be laid out in lengths of not less than 10 panels and the chord splices reamed while so assembled in shop and placed match marked. Holes marked "R.T." to be reamed thru a steel templet. Burrs to be removed from all reamed holes. All match marking to be made with 3/4" steel stencils and white paint.
Finish- Sheared or flame cut edges and ends of all material marked (2) to be planed so as to remove at least 1/8" of metal.
Shop paint - See Sheet E1.

17-T

	Required	
1	Top Chord	U32-U34A

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
A - Lattice Truss Spans - Piers Y61 - E1
DETAILS OF TOP CHORD-U32-U34A-SOUTH TR 1155
SPAN Y64-E1
AMERICAN BRIDGE COMPANY
DRAWING ISSUED AT Gary 3 PLANT
WORK FABRICATED AT Ambridge PLANT
ITS CHIEF Tempk
DRAWN BY G.T.N. DATE 8-31-34
TRACED BY DATE
CHECKED BY Bak DATE 6-5-34

Mark	Revision	Appd

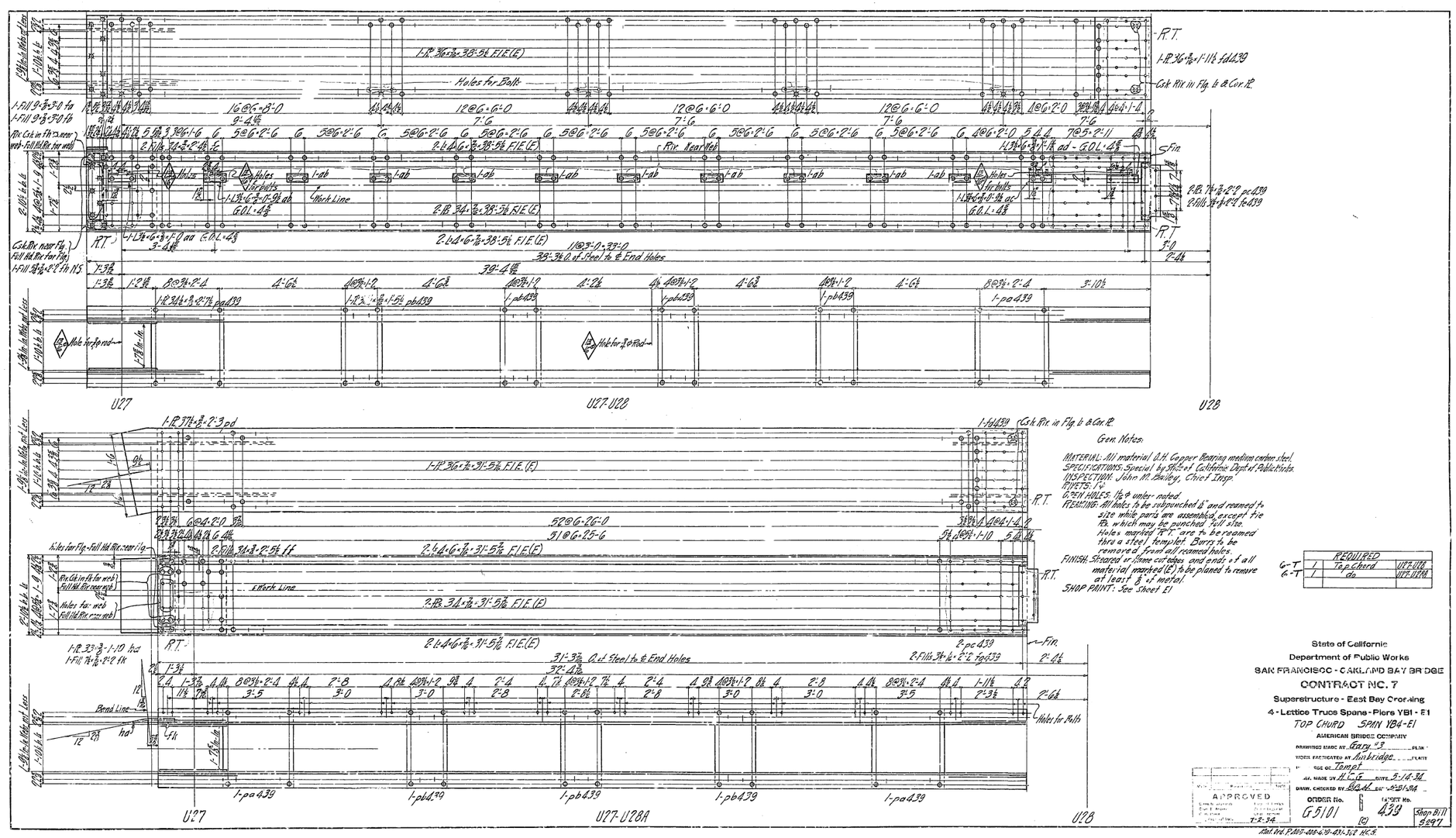
APPROVED
Glenn B. Woodruff, Chief, S. Archer, L. H. Prahl
Engr. of Design, Bridge Engineer, Chief Engineer
7-2-34

ORDER No. G5101 (Rec) SHEET No. 438B Shop Dwg S296

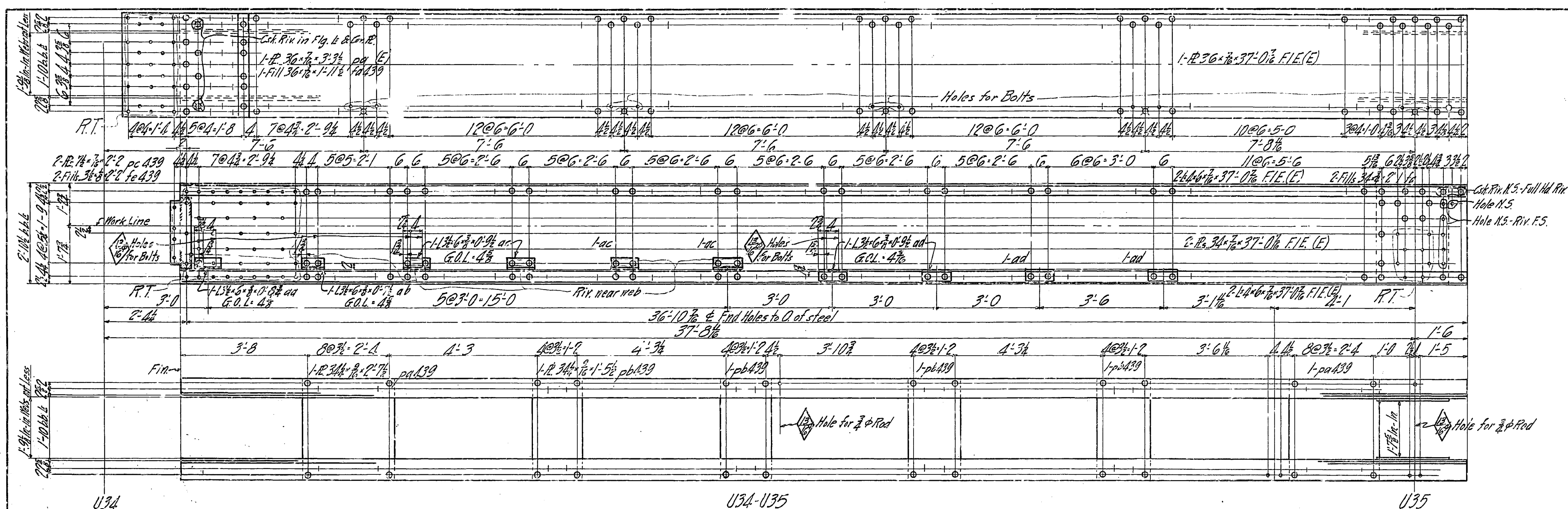
Mat'l Ord. pgs. 401, 410, 476

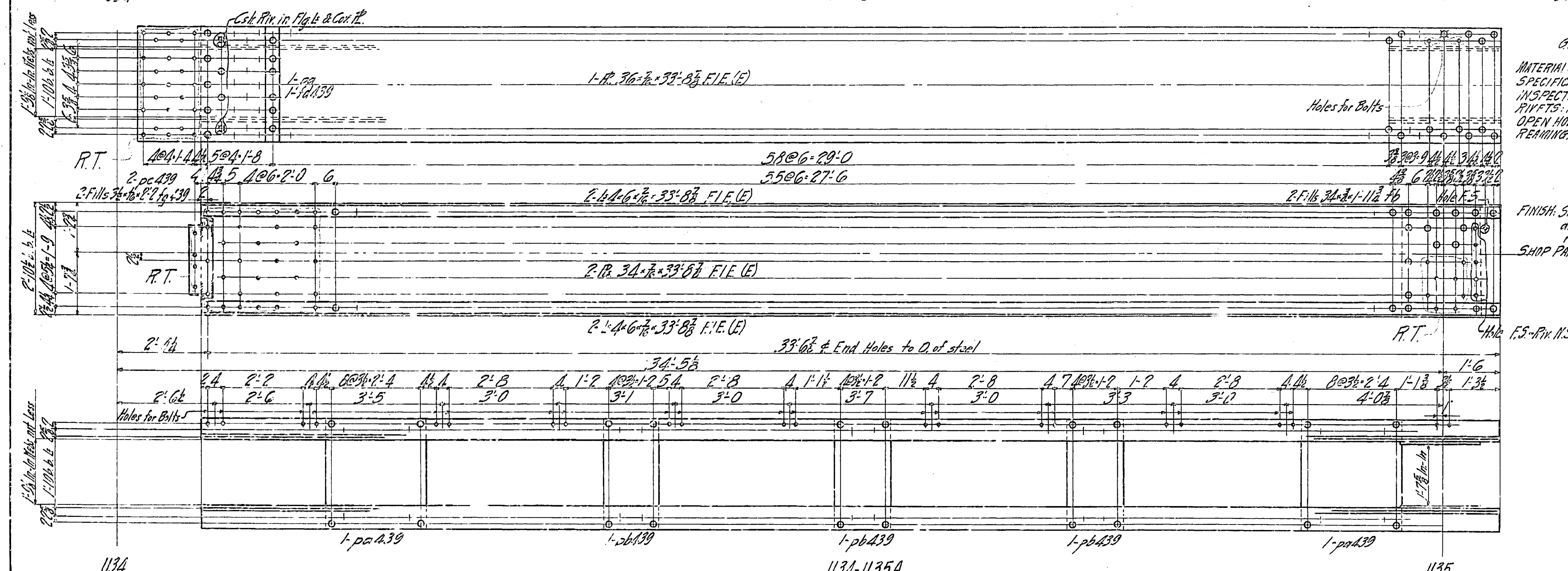
4th Span

30-1


U27
U27-U28
U28
R.T.
Fin.
Holes for Bolts
Work Line
Gen Notes.
MATERIAL: All material O.H. Copper Bearing medium carbon steel.
SPECIFICATIONS: Special by State of California Dept of Public Works
INSPECTION: John M. Bailey, Chief Insp.
RIVETS: ⅞
GEN. HOLES: ⅞ & under- punched
REAMING: All holes to be subpunched ⅛" and reamed to size while parts are assembled, except the Fix. which may be punched full size. Holes marked "R.T." are to be reamed thru a steel templet. Burrs to be removed from all reamed holes.
FINISH: Sheared or flame cut edges and ends of all material marked (F) to be planed to remove at least ¼" of metal.
SHOP PAINT: See Sheet E1
REQUIRED
G-T 1 Top Chord U27-U28
G-T 1 do U27-U28A
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
TOP CHORD SPAN YB4-E1
AMERICAN BRIDGE COMPANY
DRAWING BASIC AT Gary
WORK FABRICATED AT Ambridge
TOS OK. Tamot
APPROVED
ORDER No. G5101
SHEET No. 439
Shop Bill 5297

30-1





Gen. Notes:

MATERIAL: All material O.H. Copper Bearing medium carbon steel.
SPECIFICATIONS: Special by State of California Dept. of Public Works.
INSPECTION: John M. Bailey, Chief Insp.
RIVETS: 1" φ
OPEN HOLES: $1\frac{1}{16}$" φ unless noted.
REAMING: All holes to be subpunched ¼" and reamed to size while parts are assembled, except tie Ps. which may be punched full size. Holes marked "R.T." are to be reamed thru a steel templet. Burrs to be removed from all reamed holes.
FINISH: Sheared or flame cut edges and ends of all material marked (E) to be planed to remove at least ⅛" of metal.
SHOP PAINT: See sheet E1

	REQUIRED			
North	1	Top Chord	U34-U35	6-T
South	1	do	U34-U35A	6-T

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
TOP CHORD SPAN YB4-E1

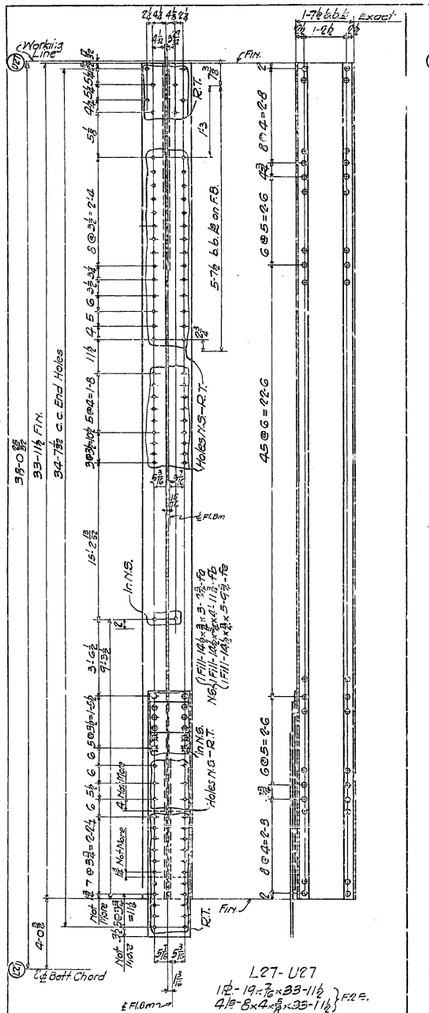
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
Tempt
DW. MADE BY H.C.G. DATE 5-31-34
DW. CHECKED BY G.A.K. DATE 6-1-34

APPROVED
Approval Date 7-2-34

ORDER No. G5101 [C]
SHEET No. 440
Shop Bill. S278

Mat. Ord. P.406-408-410-431 H.C.G.

305



Web Punching same as for L27-U27

Gen. NOTES:-
Material:- All material O.H. Copper Bearing Medium Carbon Steel.
Specifications:- Bessel by State of California Dept. of Public Works
Inspection:- John M. Bailey - Chief Insp.
Erects:- 1-7
Open Holes:- 1-7/8
Reaming:- Holes in material 3" thick or less to be subpunched & and reamed to size while parts are assembled. Holes marked R :- To be reamed to a steel template. Burrs to be removed from all reamed holes.
Shop Paint:- See Sh. E1

REQUIRED		
One	Post	L27-U27
One	"	L27-U27A
One	"	L35-U35
One	"	L35-U35A

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y81 - E1
Posts - L27-U27 & L35-U35 North Truss
L27-U27A & L35-U35A South Truss
SAN Y81-E1
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary, Ind. PLANT
STORE FABRICATED AT Ambridge PLANT
IN CHARGE Tampl
DESIGN L.H. DATE 5-28-34
DETAIL CHECKED BY J.V.S. DATE 5-29-34.

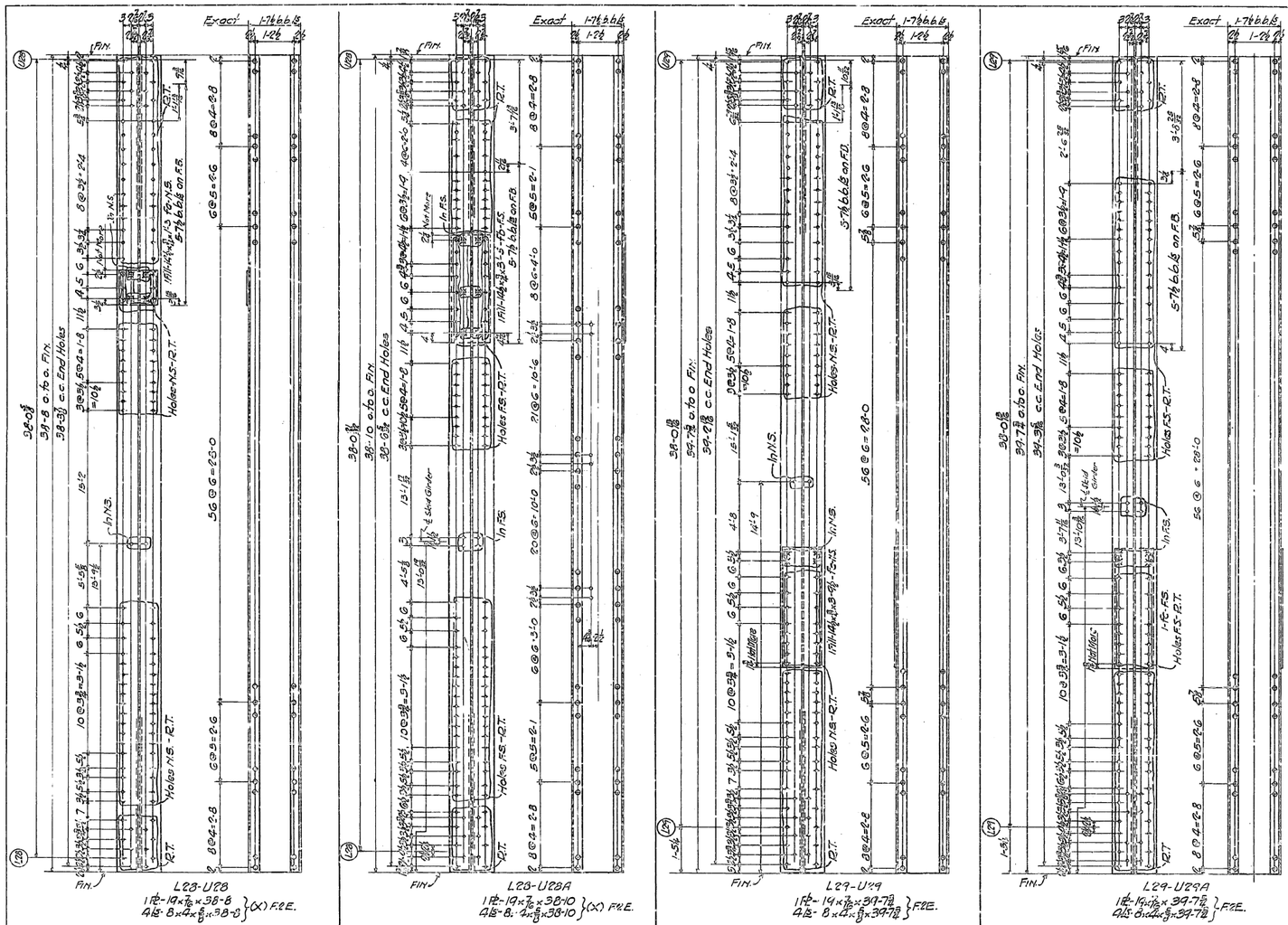
Date	Revision	Appd.

APPROVED
Chief Engr. of Design
Bridge Engineer
Chief Engineer
Approval Date 6-28-34

UNDER No. G5101 [C] SHEET No. 441 Shop Bill 5299

Ref'l Ord. Pg. 406 L.H.

15- 7-15



Gen. Notes:-
Material:- All material O.H. Copper Bearing Medium Carbon Steel except material marked (X) which is to be O.H. Copper Bearing Silicon Steel
Specifications:- Accept by State of California, Dept. of Public Works
Inspection:- John M. Bailey - Chief Inspector
Rivets:- ⅞
Open Holes:- 1⅛
Reaming:- Holes in material ⅞" or less to be subpunched & reamed to gage, while parts are assembled. Holes marked R.T. to be reamed to a steel templet. Burrs to be removed from all reamed holes
Shop Paint:- See Sh. E1

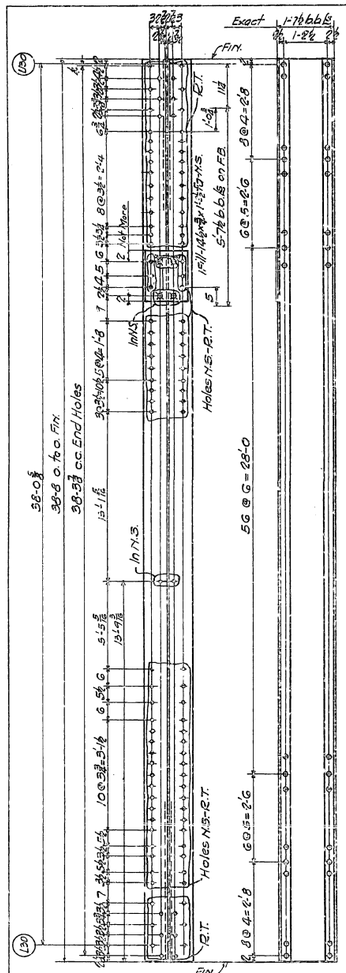
REQUIRED		
One	Hanger	L28-U28
One	"	L28-U28A
One	Post	L29-U29
One	"	L29-U29A

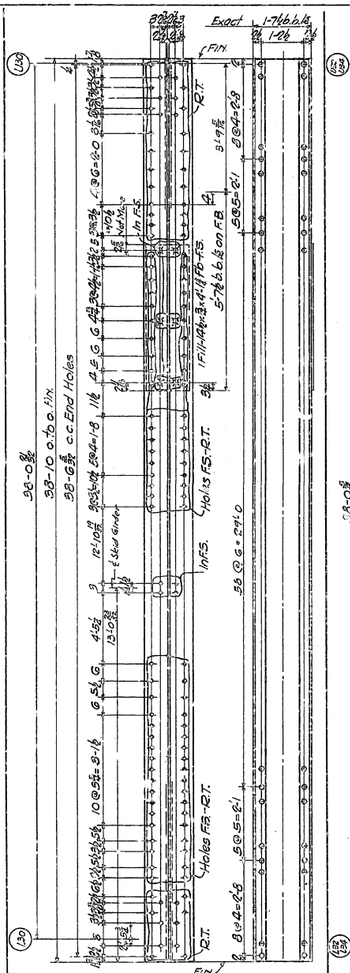
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Posts:- L28-U28 & L28-U29 North Truss
L28-U28A & L29-U29A South Truss
S.P.N. YB4-E1
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DESN. W. L.H. DATE 5-28-34
DRAWN, CH. CHKD BY W.S. DATE 5-31-34
ORDER No. G5101 SHEET N. 448 Sheet No. 9300
APPROVED 6-22-34

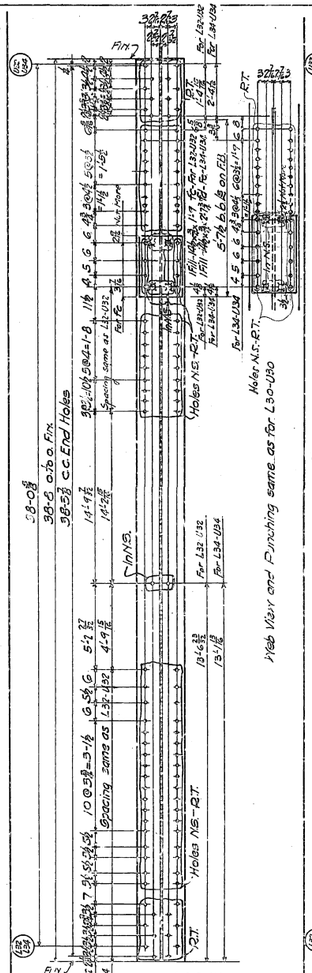
Mat'l. Ord. Pg. 402, 403, 472 L.H.

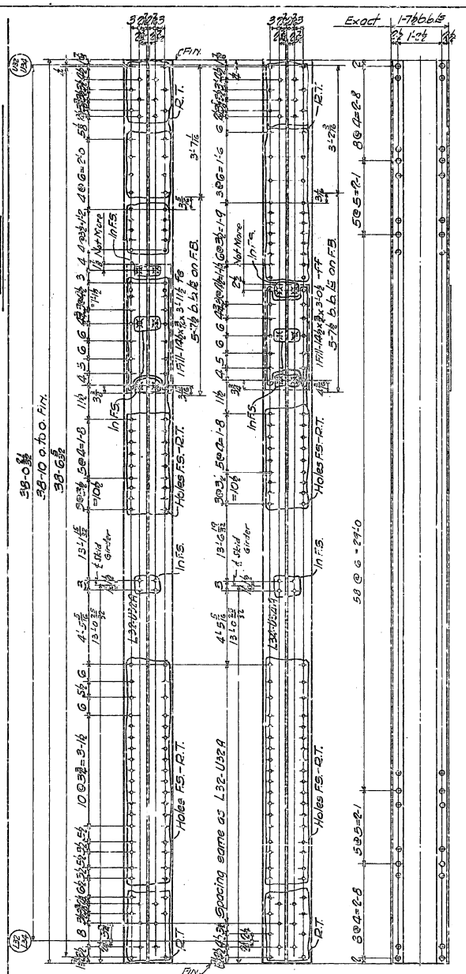
15-7-23

30-1









Web Warp and Punching same as for L30-U30

GEN. NOTES:-
Material:-All material O.H. Copper Bearing, Medium Carbon Steel except material marked (X) which is to be O.H. Copper Bearing Silicon Steel.
Specifications:-Special by State of California - Dept. of Public Works
Inspection:- John M. Bailey-Chief Insp.
Paint:- As noted
Open Holes:-1/16"
Reaming:- Holes in material 5/8" thick or less to be subpunched 1/4" and reamed to size while parts are assembled. Holes marked RT. to be reamed to a steel templet. burrs to be removed from all reamed holes.
Shop paint:- See Sh. E1

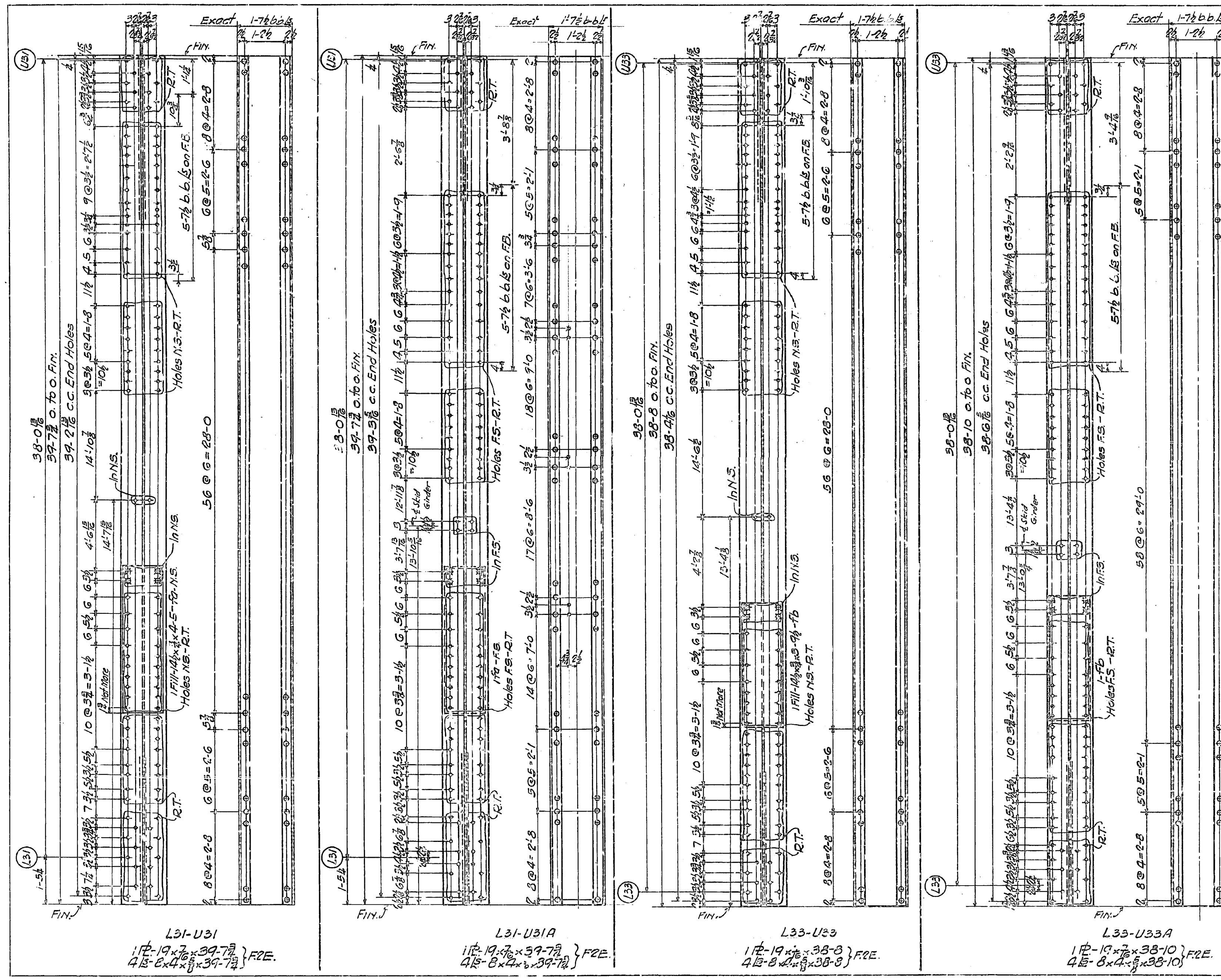
REQUIRED		
One	Hanger	L30-U30
One	"	L30-U30A
One	"	L32-U32
One	"	L32-U32A
One	"	L34-U34
One	"	L34-U34A

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4-Lattice Truss Spans - Piers YB1 - E1
Hangers - L30-U30, L32-U32, L34-U34 North Truss
L30-U30A, L32-U32A, L34-U34A South Truss
Span Y34-E1
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary # 3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DESIGN. STAF L H DATE 5-29-34
DETAILED BY J.J.S. DATE 6-1-34
CHECKED BY DATE
APPROVED 6-22-34
ORDER No. G5101
SHEET No. [B] 443
Shop Bill $901

Mat'l. Ord. by Acc. 500, 872.

15-7-35

30-1



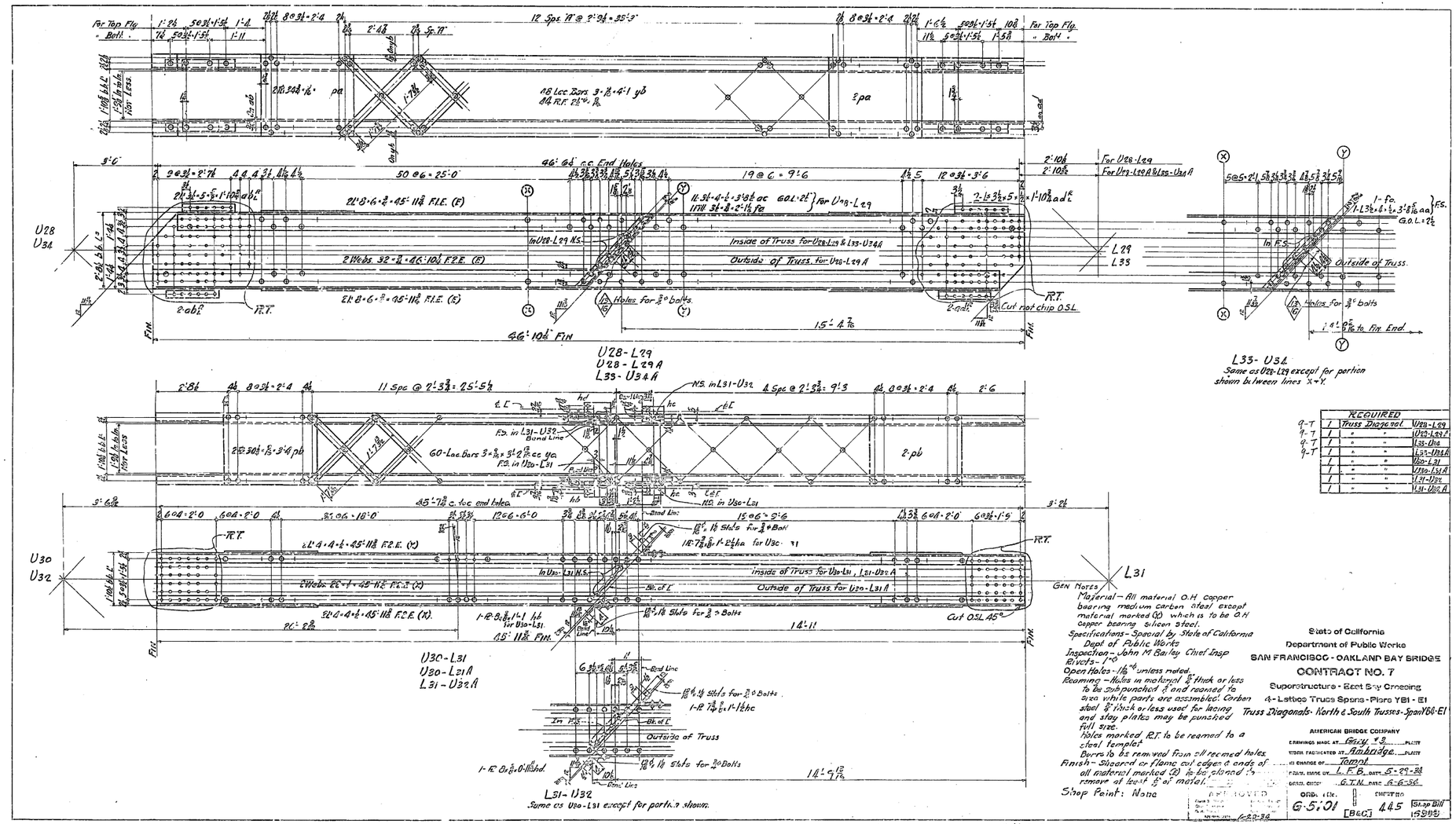
GEN. NOTES:-
Material:-All material O.H. Copper Bearing Medium Carbon Steel.
Specifications:- Special by State of California Dept. of Public Works.
Inspection:-John M. Bailey-Chief Inspector
Rivets:-1"φ
Open Holes:-1 1/16"φ
Reaming:- Holes in material 3/4" or less to be subpunched 1/4" and reamed to size while parts are assembled. Holes marked R.T. to be reamed to a steel templet. Burrs are to be removed from all reamed holes.
Shop Paint:-See Sh. E1

REQUIRED		
One	Post	L31-U31
One	"	L31-U31A
One	"	L33-U33
One	"	L33-U33A

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Posts - L31-U31 & L33-U33 North Truss
L31-U31A & L33-U33A South Truss
SPAN YB4-E1
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DRAW. MADE BY L.H. DATE 5-31-34
DR. CHECKED BY J.V.S. DATE 6-4-34.
APPROVED 6-20-34
ORDER No. 65101 [C]
SHEET No. 444
Shop Bill 5302

Mat'l. Ord. Pg 402-403 L.H.

15-7-25



U28-L29
U28-L29A
L33-U34A

U30-L31
U30-L31A
L31-U32A

L31-U32
Same as U28-L31 except for portion shown.

L33-U34
Same as U28-L29 except for portion shown between lines X-Y.

REQUIRED			
9-T	1	Truss Diagonal	U28-L29
9-T	1	"	U28-L29A
9-T	1	"	L33-U34
9-T	1	"	L33-U34A
	1	"	U30-L31
	1	"	U30-L31A
	1	"	L31-U32
	1	"	L31-U32A

GEN NOTES

Material – All material O.H. copper bearing medium carbon steel except material marked (X) which is to be O.H. copper bearing silicon steel. Specifications – Special by State of California Dept. of Public Works
Inspection – John M Bailey Chief Insp
Rivets – 1"ø
Open Holes – 1⅛"ø unless noted.
Reaming – Holes in material ⅝" thick or less to be subpunched ⅞ and reamed to size while parts are assembled. Carbon steel ⅝" thick or less used for lacing and stay plates may be punched full size.
Holes marked R.T. to be reamed to a steel templet.
Burrs to be removed from all reamed holes.
Finish – Sheared or flame cut edges & ends of all material marked (2) to be planed to remove at least ½" of metal.
Shop Point: None

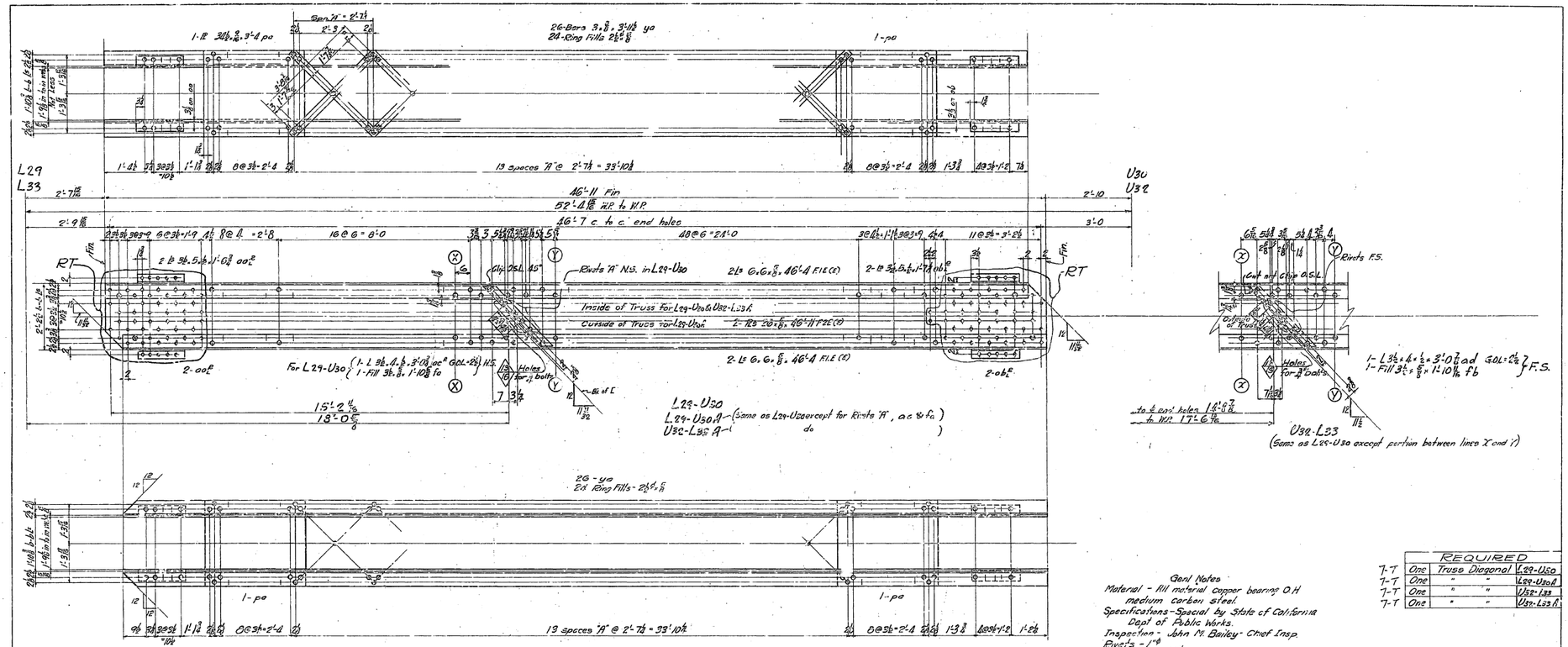
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y81 - E1
Truss Diagonals - North & South Trusses - Span Y86-E1

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary, Ind. PLATE
WORK FABRICATED AT Ambridge, PLATE
IN CHARGE OF Tampt
DRAWN, CHKD. BY L.F.B. DATE 5-29-36
DESIGN. CHIEF G.T.N. DATE 6-6-36

APPROVED
6-20-36

ORIG. DWG. G-5.01 [BEC] CONTRACT NO. 445 Shop Bill 15895

M.Y. Ord. pgs 406-405-471-431 & Pls L9 L.F.B.



Gen'l Notes

Material - All material copper bearing O.H medium carbon steel.
Specifications - Special by State of California Dept of Public Works.
Inspection - John M. Bailey - Chief Insp.
Rivets - 7/8"ø
Open Holes - 1 1/16"ø unless noted
Reaming - Holes in material 2" thick or less to be "subpunched & reamed to size while parts are assembled. Lacing bars and tie plates may be punched full size. Holes marked "R.T." to be reamed thru a steel templet.
Burrs to be removed from reamed holes
Finish - Sheared or Flame cut edges and ends of all material marked (E) to be planed to remove at least 1/4" of metal.
Shop Paint: None

REQUIRED			
7-T	One	Truss Diagonal	L29-U30
7-T	One	" "	L29-U30A
7-T	One	" "	U32-L33
7-T	One	" "	U32-L33 A

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
3 - Lattice Truss Spans - Piers YB1 - E1
TRUSS DIAGONALS - NORTH & SOUTH TRUSSES
SPAN YB4 - E1
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary Ind PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tempt
DRAWN BY L.F.B. DATE 5-29-36
CHKD. BY JOHN CK'D G.T.N. DATE 6-6-36
ORDER No. G5101 [G] SHEET No. 446 Shop Bill 9360

6-28-36

Math. Ord. pgs - 404-405-431 L.F.B.

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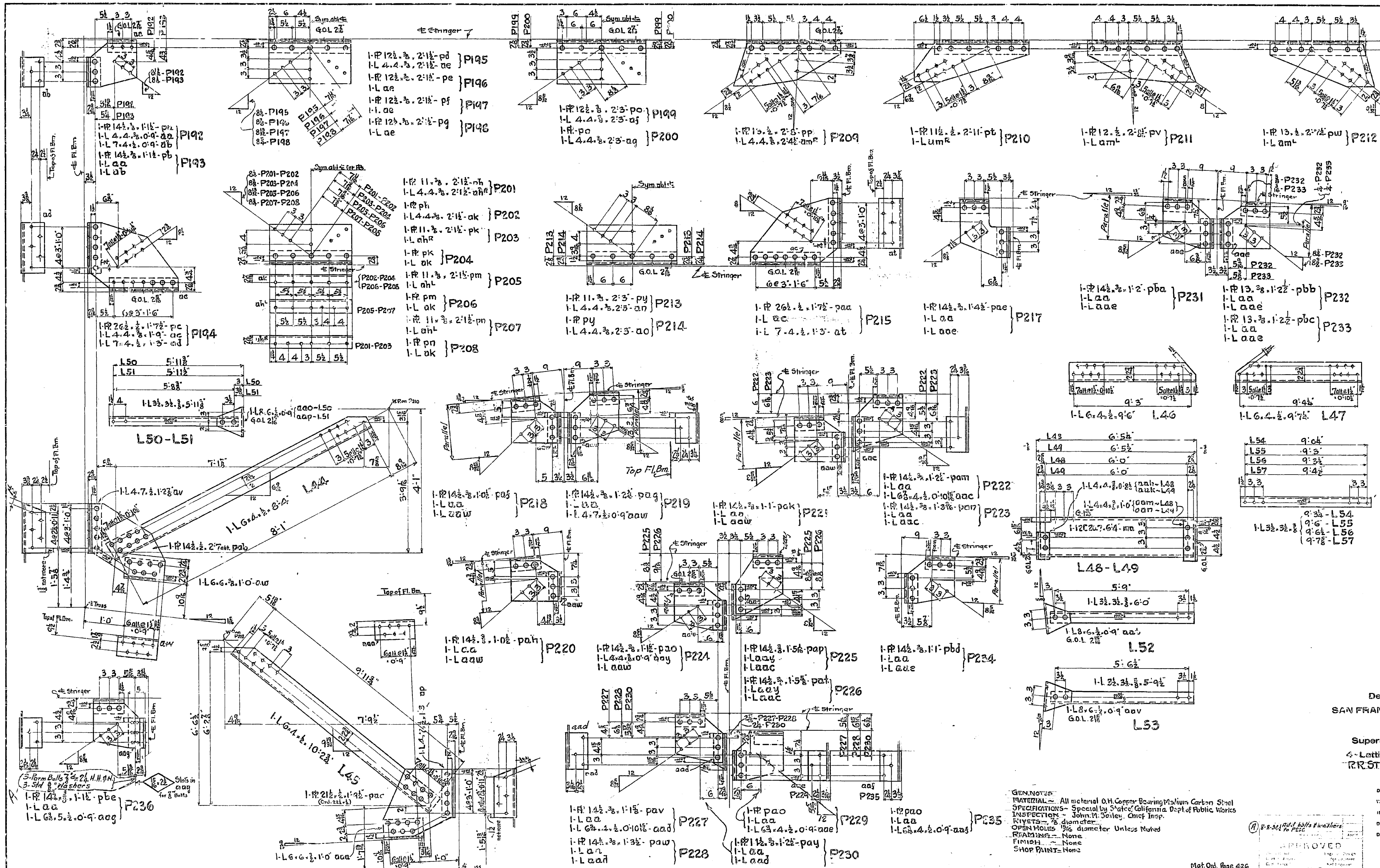


REQUIRED		
One	Lateral Plate	P192
One	do.	P193
One	do.	P194
One	do.	P195
One	do.	P196
One	do.	P197
One	do.	P198
2	do.	P199
10	do.	P200
One	do.	P201
One	do.	P202
One	do.	P203
One	do.	P204
One	do.	P205
One	do.	P206
One	do.	P207
One	do.	P208
One	do.	P209
One	do.	P210
One	do.	P211
One	do.	P212
4	do.	P213
20	do.	P214
One	do.	P215
One	do.	P216
One	do.	P217
One	do.	P218
2	do.	P219
One	do.	P220
2	do.	P221
One	do.	P222
One	do.	P223
2	do.	P224
One	do.	P225
One	do.	P226
One	do.	P227
One	do.	P228
2	do.	P229
2	do.	P230
2	do.	P231
One	do.	P232
One	do.	P233
2	do.	P234
2	do.	P235
2	do.	P236
One	Stringer Laterals	L44
One	do.	L45
One	do.	L46
One	do.	L47
14	do.	L48
2	do.	L49
28	do.	L50
4	do.	L51
One	do.	L52
One	do.	L53
4	do.	L54
4	do.	L55
4	do.	L56
52	do.	L57

GEN. NOTES
MATERIAL ~ All material O.H. Copper Bearing Medium Carbon Steel
SPECIFICATIONS ~ Special by State of California Dept. of Public Works
INSPECTION ~ John M. Soiley, Chief Insp.
RIVETS ~ 7/8" diameter
OPEN HOLES 15/16 diameter Unless Noted
REAMING ~ None
FINISH ~ None
SHOP PAINT ~ None

Mat. Ord. Page 426

(A) 8-8-34 Add bolts & washers to P236

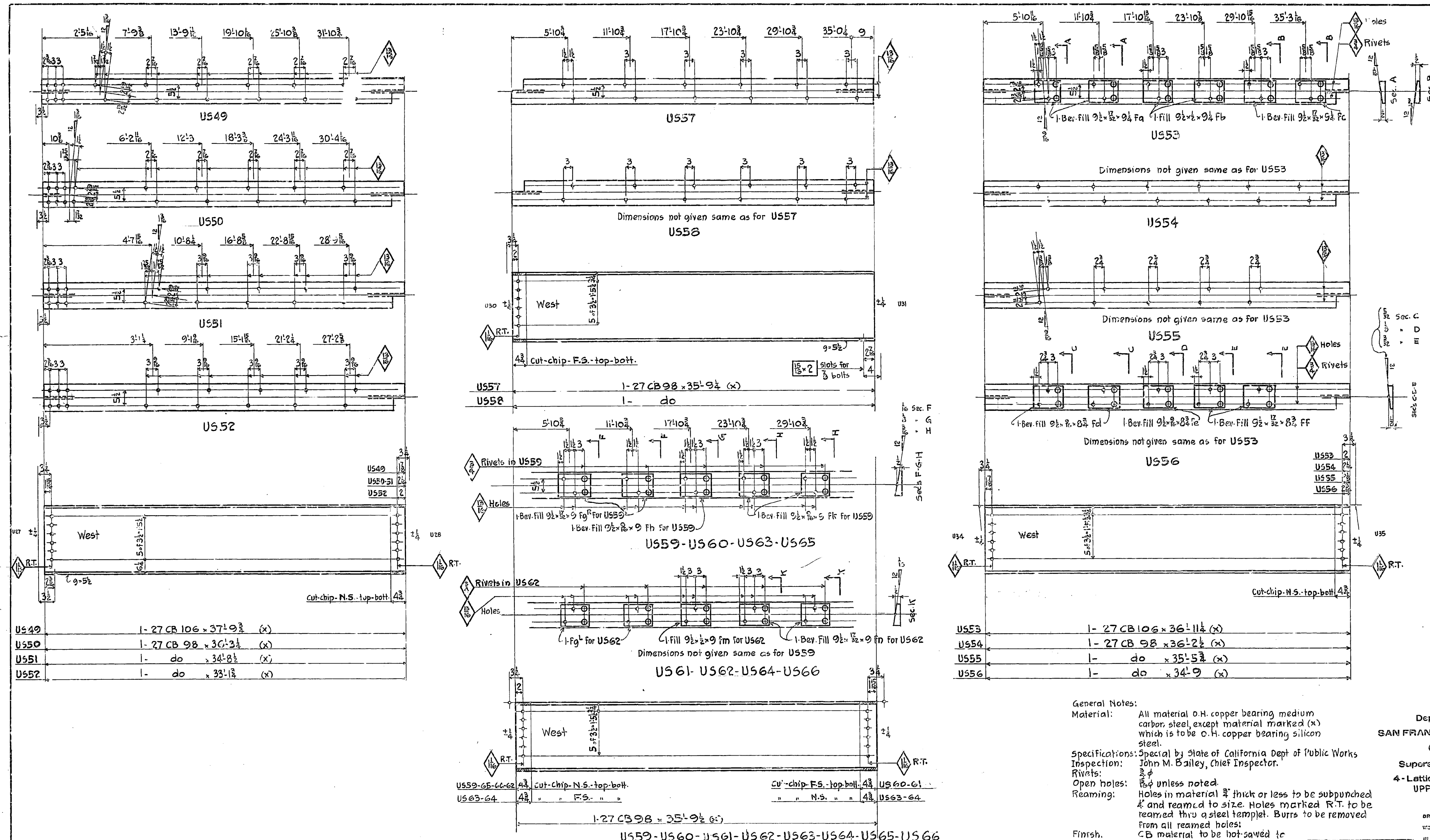
APPROVED 7-15-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
R.R. STRINGER LATERALS & PLATES
SPAN YB4-E1
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT GARY #2 PLANT
WORK FABRICATED AT AMBRIDGE PLANT
IN CHARGE OF TOMPT
DRAWN BY HB DATE 5-24-34
CHECKED BY A.E.F. DATE 6-27-34

ORDER No. G5101 [C]
SHEET No. 447
Shop Bills 5524 to 5333

30-1



Required		
1	Upper Stringer	US49
1		US50
1		US51
1		US52
1		US53
1		US54
1		US55
1		US56
2		US57
2		US58
1		US59
2		US60
2		US61
1		US62
4		US63
4		US64
3		US65
3		US66

General Notes:

Material: All material O.H. copper bearing medium carbon steel, except material marked (x) which is to be O.H. copper bearing silicon steel.

Specifications: Special by State of California Dept of Public Works

Inspection: John M. Bailey, Chief Inspector.

Rivets: 3/4 ϕ

Open holes: 15/16 ϕ unless noted.

Reaming: Holes in material 3/4" thick or less to be subpunched 1/4" and reamed to size. Holes marked R.T. to be reamed thru a steel templet. Burrs to be removed from all reamed holes.

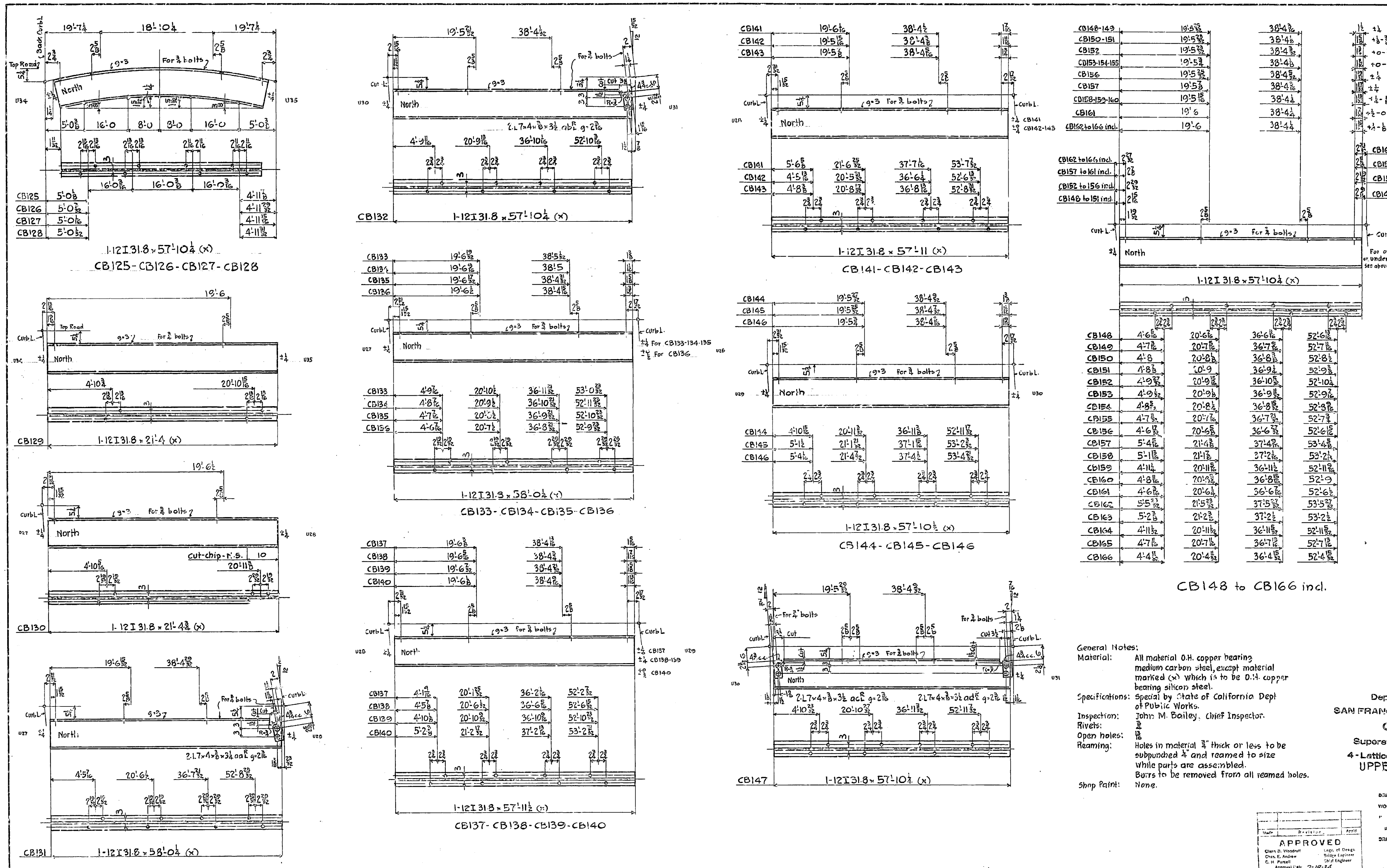
Finish. CB material to be hot-sawed to length at the mill.

Shop Paint: None.

Material: P. 480, 481

APPROVED
Approval Date 7-19-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
UPPER DECK STRINGERS
SPAN YB4-E1
AMERICAN BRIDGE COMPANY
Drawings made at Gary 3 plant
Work fabricated at Ambridge plant
In charge of Tompt
Made by WK. Date 6.4.34
Draw. checked by L.H. Date 6-26-34
Order No. G5101 [B&C]
Sheet No. 448
Shop Bill 5334-335



Required		
2	Cross Beam	CB125
1		CB126
1		CB127
1		CB128
1		CB129
1		CB130
1		CB131
1		CB132
1		CB133
1		CB134
1		CB135
1		CB136
1		CB137
1		CB138
1		CB139
1		CB140
1		CB141
1		CB142
1		CB143
1		CB144
1		CB145
1		CB146
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1		CB148
1		CB149
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1		CB158
1		CB159
1		CB160
1		CB161
1		CB162
1		CB163
1		CB164
1		CB165
1		CB166

General Notes:

Material: All material O.H. copper bearing medium carbon steel, except material marked (x) which is to be O.H. copper bearing silicon steel.

Specifications: Special by State of California Dept of Public Works.

Inspection: John M. Bailey, Chief Inspector.

Rivets: $\frac{3}{4}$

Open holes: $\frac{13}{16}$

Reaming: Holes in material $\frac{3}{4}$" thick or less to be subpunched $\frac{1}{4}$" and reamed to size while parts are assembled. Burrs to be removed from all reamed holes.

Shop Paint: None.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
UPPER DECK CROSS BEAMS
SPAN YB4 - E1
AMERICAN BRIDGE COMPANY

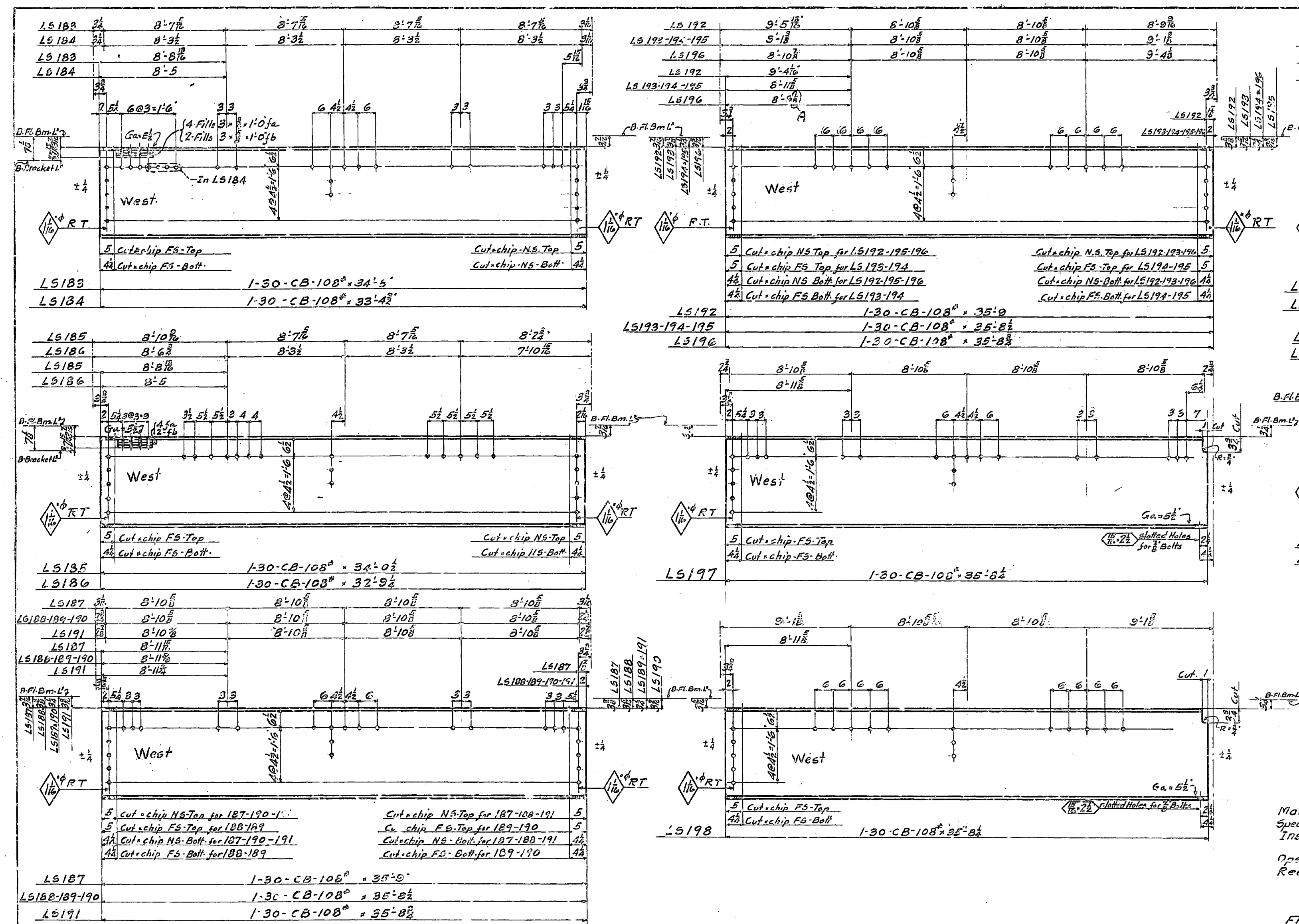
DRAWINGS MADE AT Gary 3 PLANT
WORK FABRICATED AT Ambridge PLANT
... OF Tompt
W.W. MADE BY WK DATE 6.11.34
DRAW. CHECKED BY L.H. DATE 6-26-34
ORDER No. G5101 [B&C] SHEET No. 449
Shop Bill 5396-5397

Made	Revision	App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 7-19-34

Material P.480

30-1



General Notes

Material: All material O.H. copper bearing medium carbon steel
Specifications: Special by State of California Dept of Public Works
Inspection: John M. Bailey Chief Inspector.

Open Holes: $\frac{15}{16}$"ϕ unless noted
Reaming: Holes in material $\frac{3}{4}$" thick or less to be subpunched $\frac{1}{4}$" and reamed to size while parts are assembled. Holes marked-R.T. to be reamed through a steel templet.
Finish: CB. material to be "hot sawed" to length at mill.
Shop Paint: None.

Required		
1	Lower Stringer	LS183
1	" "	LS184
1	" "	LS185
1	" "	LS186
2	" "	LS187
2	" "	LS188
2	" "	LS189
2	" "	LS190
2	" "	LS191
2	" "	LS192
2	" "	LS193
2	" "	LS194
2	" "	LS195
2	" "	LS196
2	" "	LS197
2	" "	LS198
1	" "	LS199
1	" "	LS200
1	" "	LS201
1	" "	LS202

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB4 - E1
R.R. TRACK STRINGERS
SPAN YB4 - E1.

AMERICAN BRIDGE COMPANY
Drawings made at Gary #3 Plant
Work fabricated at Ambridge Plant
In charge of Tompt.
Draw. made by S.T. Date 6-13-34
Draw. checked by L.H. Date 6-20-34

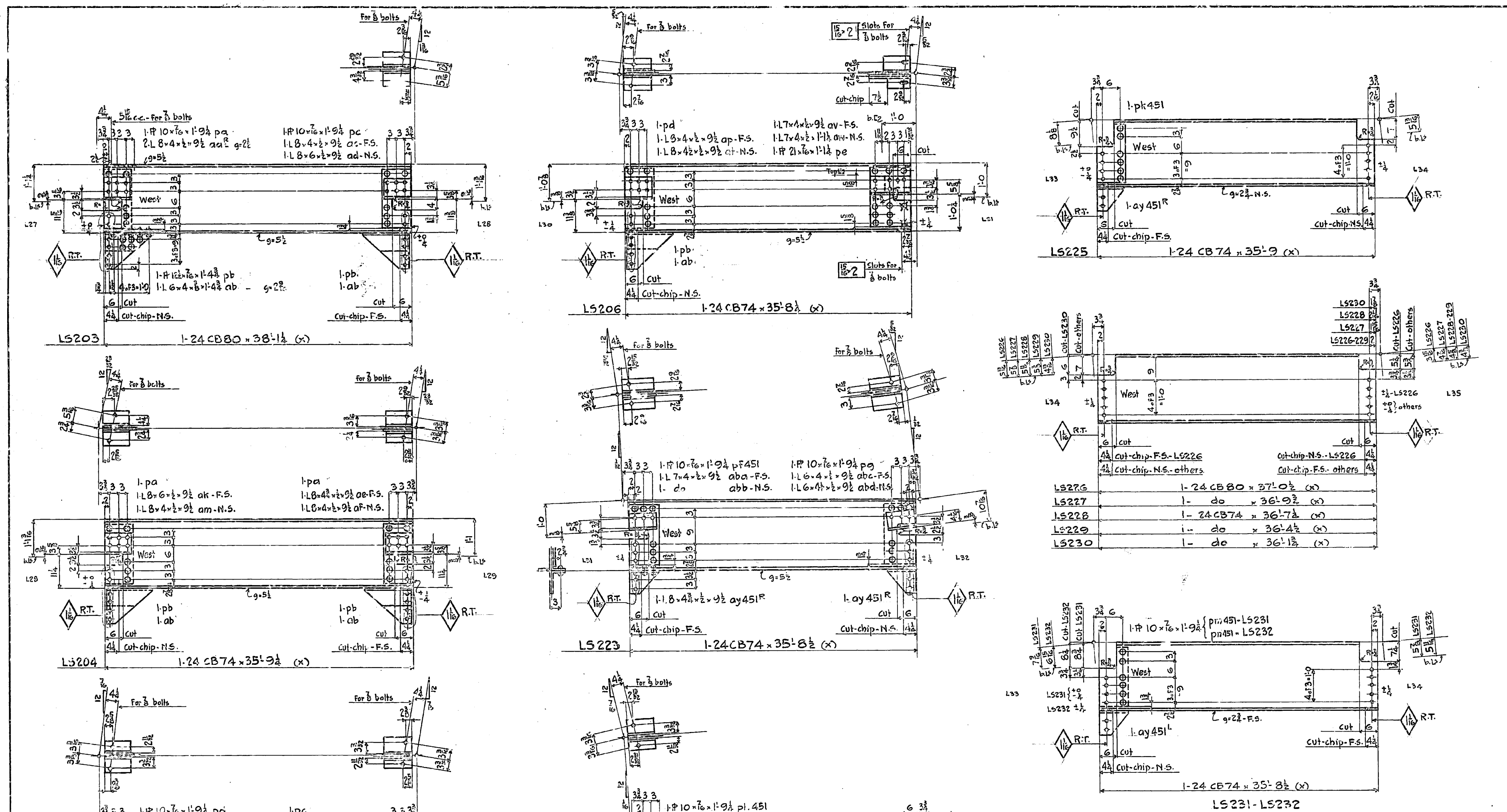
(A) 9-6-34	Web Dim. on LS196	
Made	Revision	App'd

APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 7-12-34

Order No. G5101 [C]   Sheet No. 450
Shop Bill 5338 to 5340

Material - P. 413.

3091



General Notes:

Material:	All material O.H. copper bearing medium carbon steel, except material marked (x) which is to be O.H. copper bearing silicon steel.
Specifications:	Special by State of California Dept of Public Works.
Inspection:	John M. Bailey, Chief Inspector.
Rivets	⅞ ϕ
Open holes:	15/16 unless noted.
Reaming:	Holes in material ¾" thick or less to be subpunched ¾" and reamed to size while parts are assembled. Holes marked R.T. to be reamed through a steel templet. Burrs to be removed from all reamed holes.
Finish:	CB material to be "hot sawed" to length at the mill.
Shop Paint:	None.

Required		
1	Lower Stringer	LS203
1		LS204
1		LS205
1		LS206
1		LS223
1		LS224
1		LS225
1		LS226
1		LS227
1		LS228
1		LS229
1		LS230
1		LS231
1		LS232

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
LOWER DECK STRINGERS.
SPAN YB4-E1
AMERICAN BRIDGE COMPANY

Drawings made at Gary 3 plant
Work fabricated at Ambridge plant
[illegible] Tompt
Draw. made by WK. date 6.20.34.
Draw. checked by [illegible] date 6-26-34

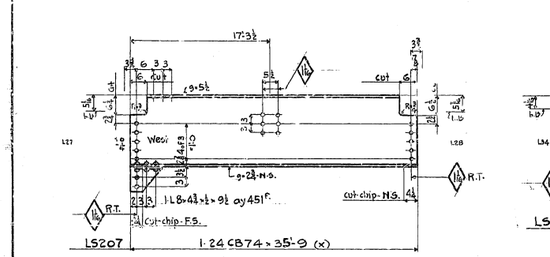
Made	Revision	App'd

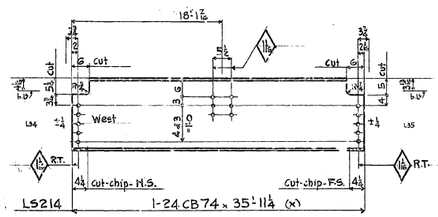
APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 7-19-34

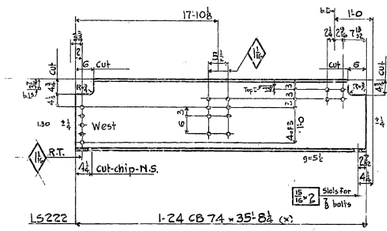
Order No. G5101 [B&C] Sheet No. 451

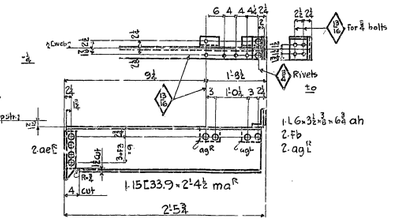
Shop Bills 5341 to 5345

Material P 479, 425, 433

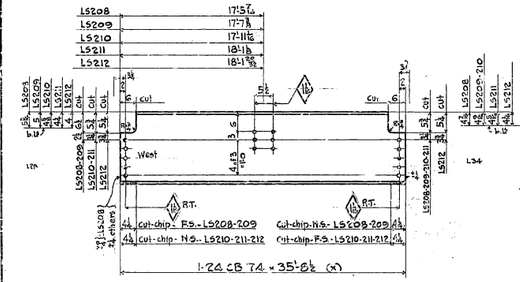




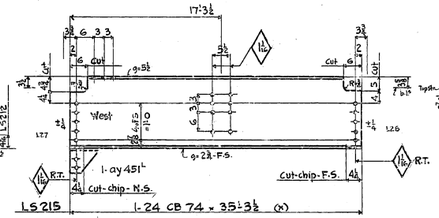


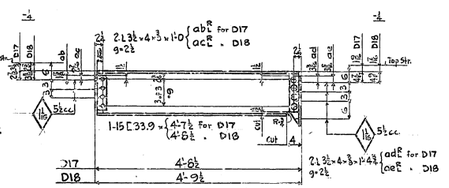


LB106

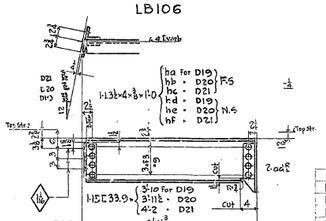


L5208-L5209-L5210-L5211-L5212

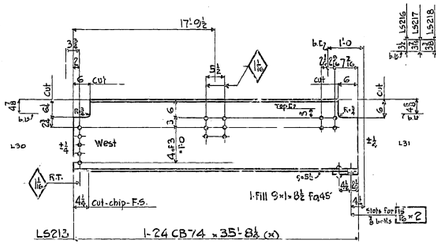


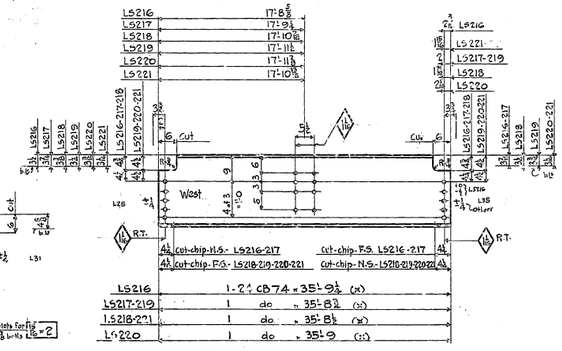


D17-D18

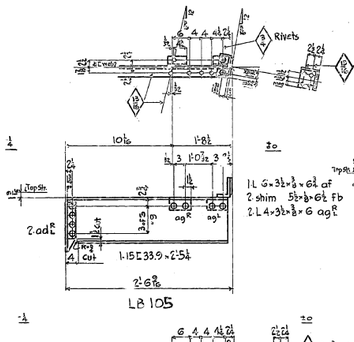


D19-D20-D21

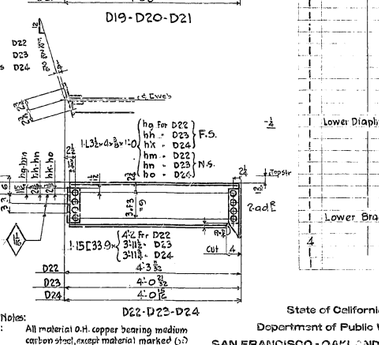




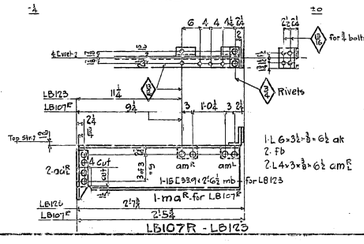
L5216-L5217-L5218-L5219-L5220-L5221



LB 105



D22-D23-D24



LB107R - LB123

Required		
1	Lower Stringer	L5207
1		L5208
1		L5209
1		L5210
1		L5211
1		L5212
1		L5213
1		L5214
1		L5215
1		L5216
1		L5217
1		L5218
1		L5219
1		L5220
1		L5221
1		L5222
1	Lower Diaphragm	D17
1		D18
1		D19
1		D20
1		D21
1		D22
1		D23
1		D24
1	Lower Bracket	LB105
1		LB106
4		LB107R
1		LB107L
1		LB123

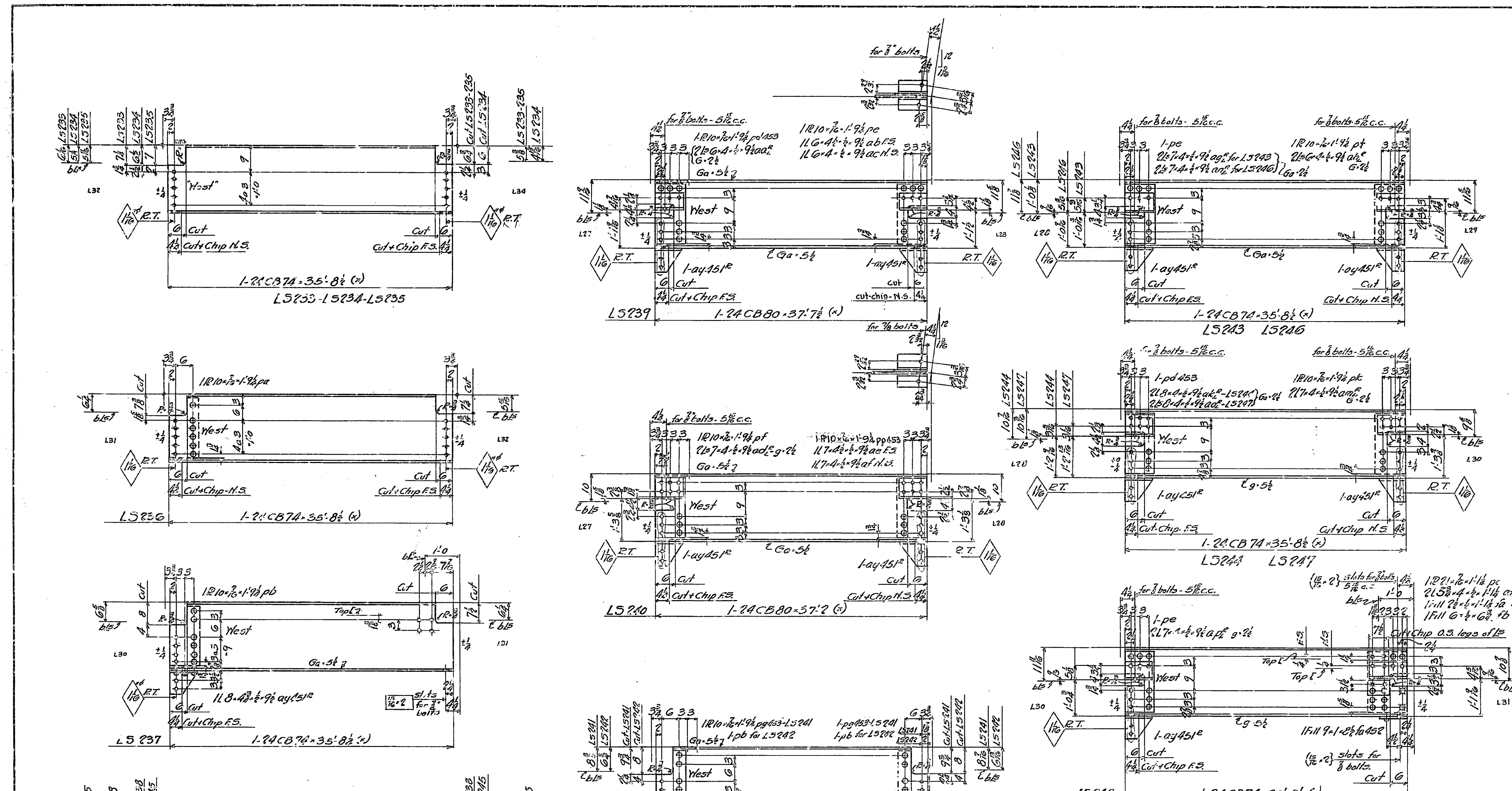
General Notes:
Material: All material O.H. copper bearing medium carbon steel, except material marked (+) which is to be O.H. copper bearing silicon steel.
Specifications: Special by State of California Dept. of Public Works.
Inspection: John M. Bailey, Chief Inspector.
Rivets: ⅞ unless noted.
Open holes: ⅞ unless noted.
Reaming: Holes in material ⅜ thick or less to be subpunched ⅛" and reamed to size while parts are assembled. Holes marked R.T. to be reamed thru a steel template). Burrs to be removed from all reamed holes.
Finish: All CB material to be "hot sawed" to length at the mill.
Shop Paint: None.

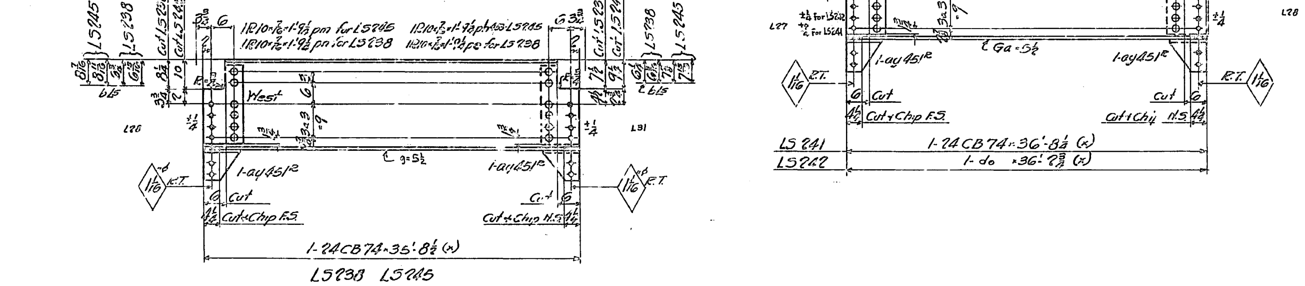
State of California
Department of Public Works
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
A - Lattice Truss Spans - Piers Y21 - E1
LOWER DECK STRINGERS.
SPAN YB4-E1
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary, Ind. PLANT
WORK SUPERVISED BY Ambridge PLANT
DES. BY Tompt
DRN. TRACED BY WK DATE 6-19-34
CHECK. CHECKED BY [illegible] DATE 6-20-34

APPROVED
Chief Engr.
Chief Engr. Bridges
Chief Engr. Equipment
Asst. Engr.
Approval Date 7-20-34

CONTR. NO. G5101
STATE P. NO. 452
Shop Bldg's 3941 to 3947

30-1





REQUIRED		
1	Lower Stringer	LS 233
1	do	LS 234
1	do	LS 235
1	do	LS 236
1	do	LS 237
2	do	LS 238
1	do	LS 239
1	do	LS 240
1	do	LS 241
1	do	LS 242
1	do	LS 243
1	do	LS 244
2	do	LS 245
1	do	LS 246
1	do	LS 247
1	do	LS 248

GENERAL NOTES:

MATERIAL: All material O.H. Copper Bearing medium Carbon steel, except mat'l marked (x) which is to be O.H. Copper bearing silicon steel.

SPECIFICATIONS: Special by State of Cal. Dept. of Public Works.

INSPECTION: John M. Bailey Chief Insp.

RIVETS: 7/8"⌀

OPEN HOLES: 15/16"⌀ Unless Noted.

REAMING: Holes in mat'l 3/4" thick or less to be subpunched 1/4" and reamed to size while parts are assembled. Holes marked R.T. to be reamed thru a steel templet. Burrs to be removed from all reamed holes.

FINISH: C.B. mat'l. to be "hot sawed" to length at the mill.

SHOP PAINT: None

Made	Revision	App'd

APPROVED

Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 7-24-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
LOWER DECK STRINGERS
Span YB4-E1
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN C OF Tompt.
D MADE BY WK. DATE 6/26/34
Traced by G.E.B.
DRAW. CHECKED BY [illegible] DATE 6-28-34

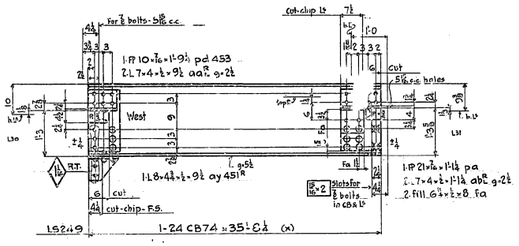
ORDER No. G5101 — SHEET No. 453

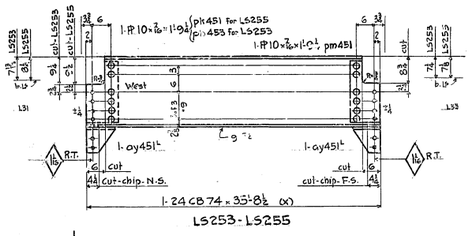
[B&C]

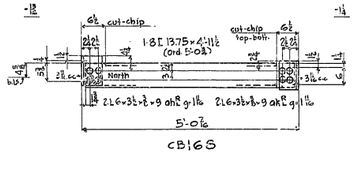
Shop D No. 5340 to 5351

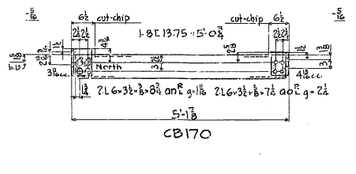
Mat'l. Ord. pp. 479, 425, 833.

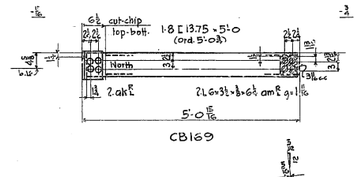
30-1

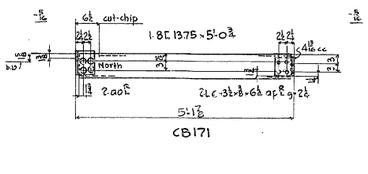


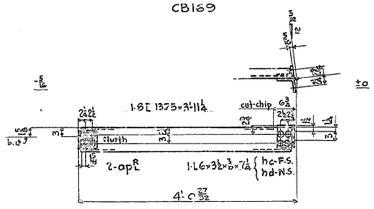


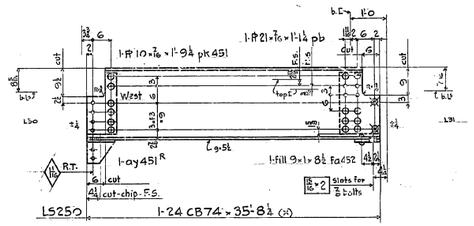


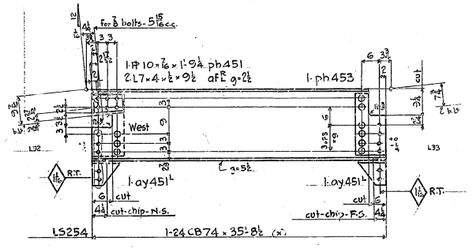


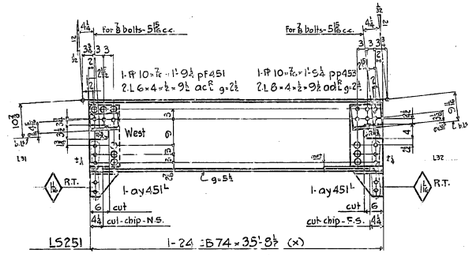


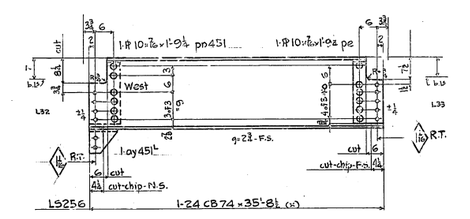


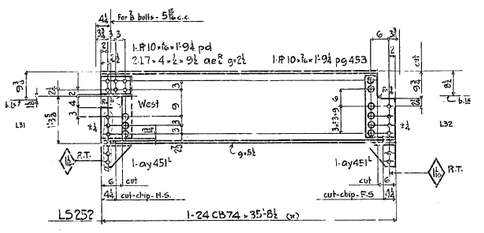


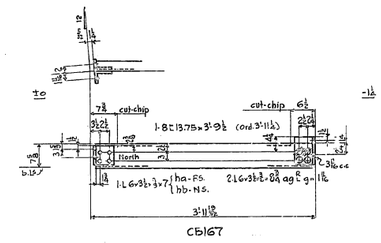












Required		
1	Lower Stringer	LS249
1		LS250
1		LS251
1		LS252
1		LS253
1		LS254
1		LS255
1		LS256
1	Cross Beam	CB167
1		CB168
1		CB169
1		CB170
1		CB171
1		CB172

General Notes:
Material: All material O.H. copper bearing medium carbon steel, except material marked (x) which is to be O.H. copper bearing silicon steel.
Specifications: Special by State of California Dept of Public Works.
Inspection: John M. Bailey, chief Inspector.
Rivets: ⅞
Open holes: 1⅛ unless noted.
Reaming: Holes in material ¾" thick or less to be subpunched ¼" and reamed to size while parts are assembled. Holes marked R.T. to be reamed thru a steel templet. Burrs to be removed from all reamed holes.
Finish: All CB material to be "hot sawed" to length at the mill.
Shop Paint: None

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y81 - E1
LOWER DECK STRINGERS
SPAN Y84 - S1
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary 3 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Tompt
DETAILED BY WH. DATE 6-28-36
TRACED BY [illegible] DATE 6-29-36
CHECKED BY [illegible] DATE 6-29-36

No.	Revision	Date

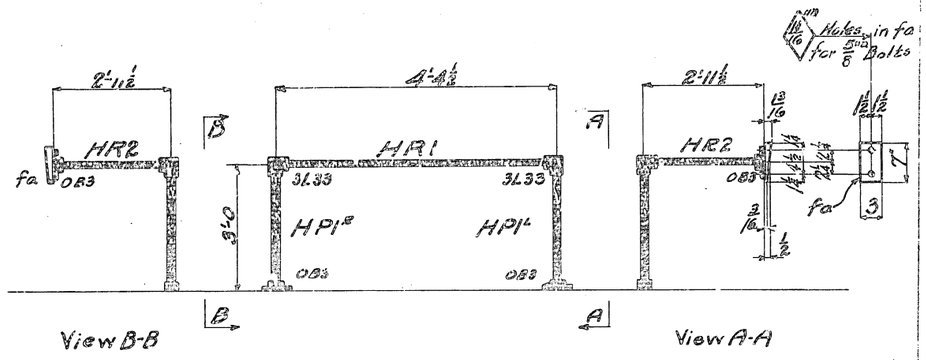
APPROVED
Engr. of Design
Bridge Engineer
Chief Engineer
Approval Date 7-24-36

ORDER No. G5101
DRAWING No. 454 [82.C]
Shop Mks. 7852 to 7870

Material: P 479, 413, 425, 433

SKETCH SHEET

AMERICAN BRIDGE COMPANY



REQUIRED								Assemble With			
Bent E2	Bent E3	Total	Mark	Description	#	Length-c-c		Cast Iron Base Type OB3	Side Outlet Ell Type 3L33	Shim 3/16 to fit OT-fa	All Pipe Threaded Both Ends
2	2	4	HR1	Hand Rail	1½	4'-4½"					
						Length back of Base to ℄ Ell					
4	4	8	HR2	"	1½	2'-11½"		8		8	
						Length bottom to ℄ Ell					
2	2	4	HP1R	Hand Rail Post	1½	3'-0		4	4		
2	2	4	HP1L	"	1½	3'-0		4	4		

Gen. Notes:-

Material:- Posts & Rails - 1½" ⌀ Pipe Black - Copper Bearing Steel

Fittings:- Malleable Iron except Bases, which are to be Cast Iron

Threads:- All right hand.

Open Holes:- ¾" ⌀ Cored Holes in C.I. Bases. Other holes as noted

Paint:- None.

Purch. Dept. to instruct pipe mill not to use paint as identification of Copper Bearing Steel on this order

Mark	Revision	App'd

APPROVED

Chief Engineer

6-22-34

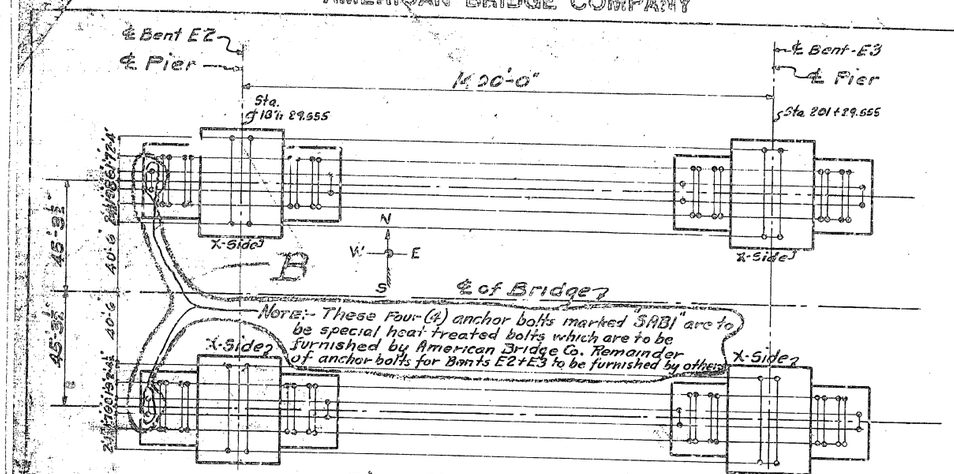
	RIVETS	HOLES	DATE: Made	DATE: Ship'd	DATE	DRAWINGS		ORDER No.	SHEET No.
Bents E2 & E3 Platform Hand Railing	—	—	6-24-34	6-24-34	/ 10	Gary #9	FABRICATION Gary	G5102	F1

NAME OF STRUCTURE

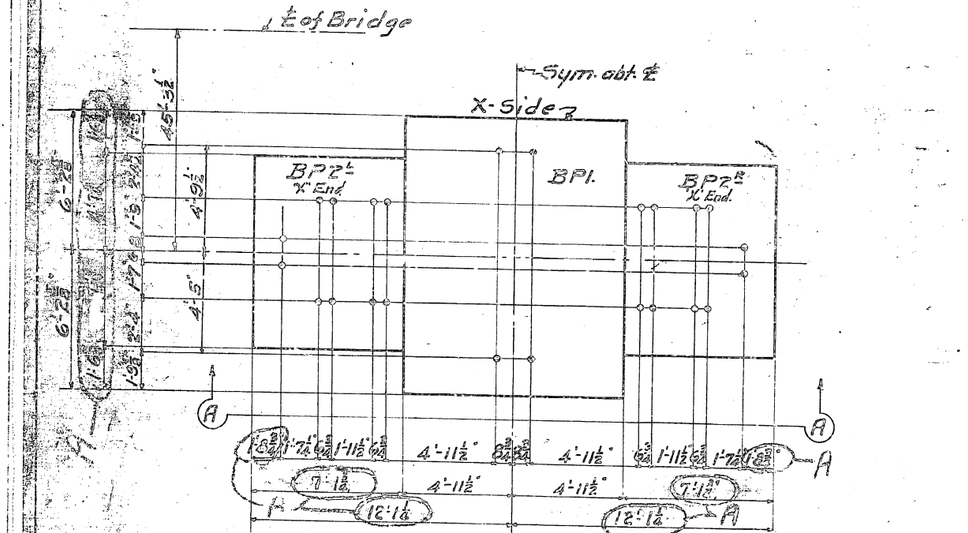
San Francisco - Oakland Bay Bridge

SKETCH SHEET

AMERICAN BRIDGE COMPANY

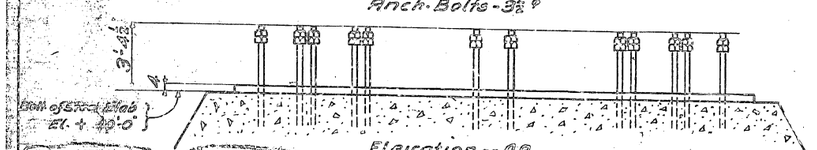


Pier Plan for Bents E2 & E3.



Large Sketch showing Location of Anch. Bolts for - E2 & E3 - South E2 & E3 - North reverse. (See pier plan above)

Anch. Bolts - 3½" ⌀



Elevation -- A.A.

Anchor Bolts furnished & Set by others.

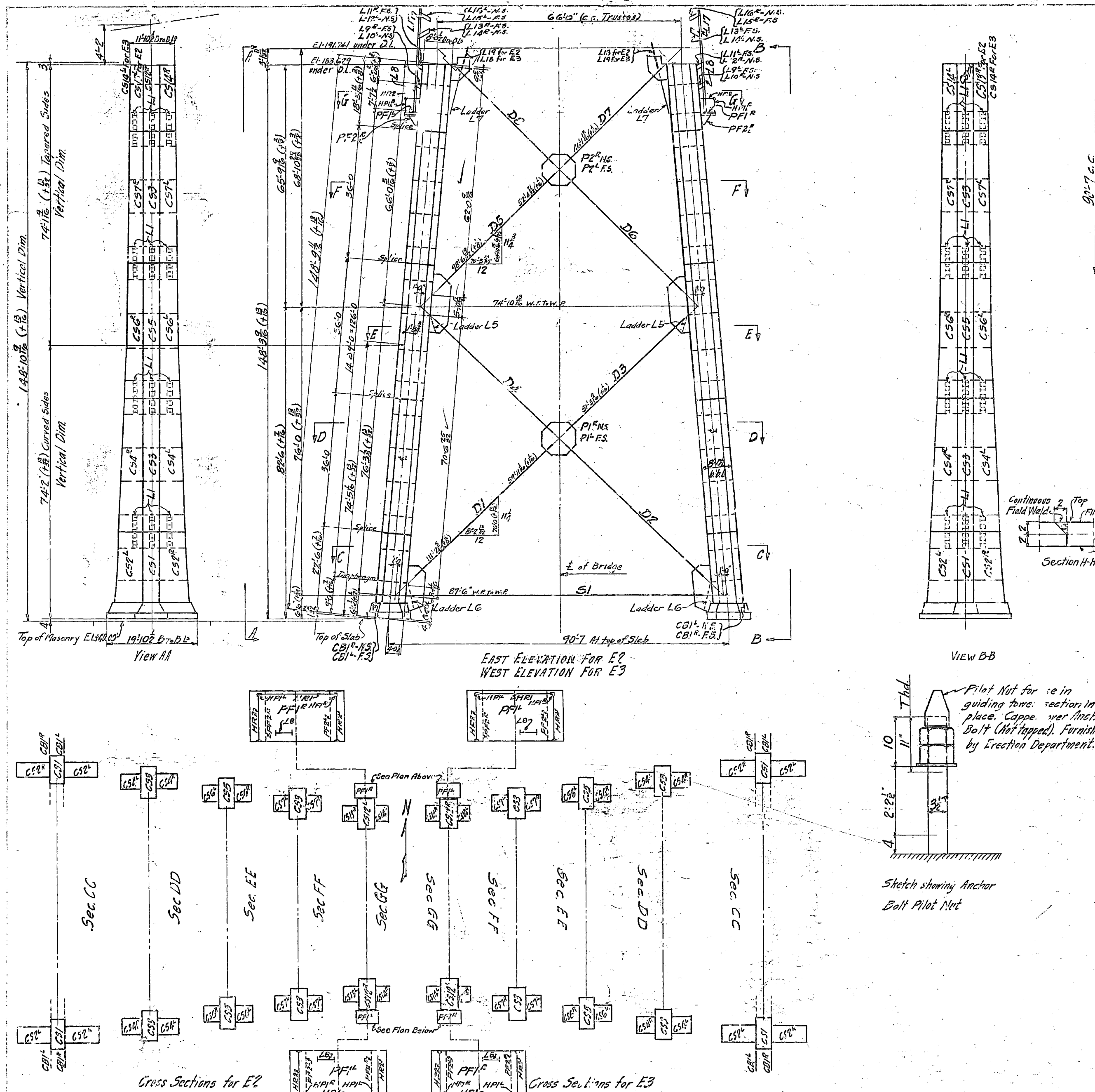
Rev. "A" Oct 4-34 Rev. "B" 6-22-34

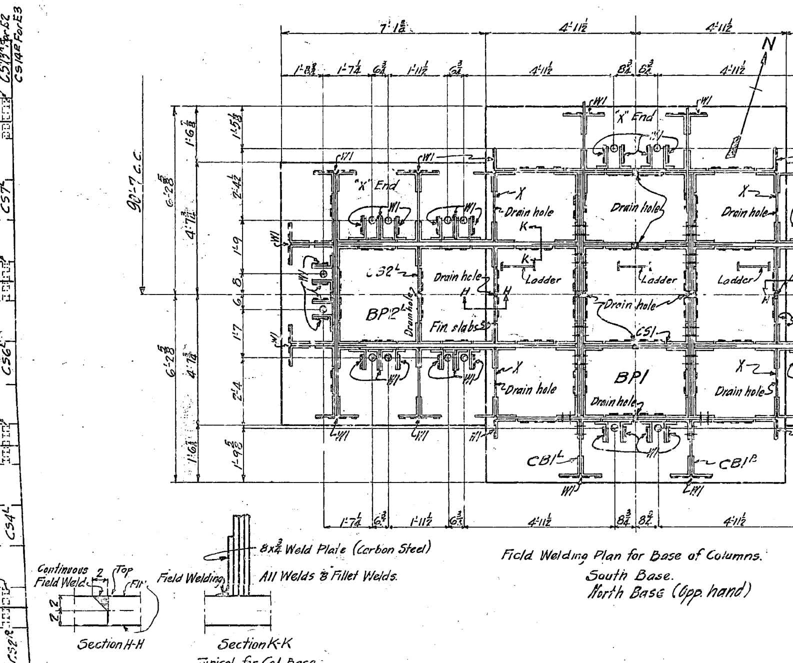
	RIVETS	HOLES	DATE: Made	DATE: Ship'd	DATE	DRAWINGS		ORDER No.	SHEET No.
Bents E2 & E3	—	46	5-1-34	1-17-35	/ 10	Gary #3	FABRICATION Gary	G5102.	E1

NAME OF STRUCTURE

SAN FRANCISCO OAKLAND BAY BRIDGE.

30-1





LIST OF DRAWINGS	
Sheet No.	Description
1	Col. Sec. CS1 & Bkt. CB1 R/L
2	Col. Sec. CS2 R/L
3	Col. Sec. CS3
4	Col. Sec. CS4 R/L
5	Col. Sec. CS5
6	Col. Sec. CS6 R/L
7	Col. Sec. CS7 R/L
8	Col. Sec. CS12 R/L
9	Col. Sec. CS13 R/L & CS14 R/L
10	Bracing D1 to D4
11	Bracing D5 to D8
12	Strut S1 & Pls. P1 R/L & P2 R/L
13	Ladders & Doors
14	Platform & Ladders
E1	Anchor Bolt Plan
E2	Erection Plan
E3	Centering Block Diagram
F1	Hand Railing
C1 & C2	Field Rivets
C5 & C6	Field Rivets
C3	Steel Inserts for welding plugs
C4	Reaming templets
C201	Centering Blocks
CF1	Ladder Rungs
CF2	Perm. Bolts
CF3	Manganese Bolts
EF1 to EF6	Erector's Field Rivet List

Gen. Notes:

This drawing to be used for location and marks of Structural Steel members and information as to field welding only.
Erect slabs BP1 & BP2 R/L with lifting Lugs M1 & tap bolts used in erection of main towers, Cont. G4850 & G4851
Slabs BP1 & BP2 R/L to be welded together with a continuous field weld as shown in Sec. H.
Col. Base sections to be welded to base Pls. with 3/8" fillet welds. Welds marked W1 are to be about 1½" long. All other welds are to be about 3" long.
All welds to be peened while hot to relieve internal stresses
Brackets CB1 R/L must be riveted complete to Col. Sec. CS1 before CS1 is erected into position.
Brackets marked "X" to be removed while erecting CS2 R/L
Loose Ls ag R/L & ah R/L at ends of strut S1 must be removed while erecting strut.
All ladders are to be bolted.
Loose cap Ls on top sections CS12 R/L to be removed during erection of wings CS13 R/L & CS14 R/L
CS12 R/L, CS13 R/L & CS14 R/L & cap Ls at top must be riveted complete before erecting L0 joint of truss
Field rivets in Ls ar R/L on CS12 R/L sheet 8B to be flattened to 3/8" for entering 1 9/32" ⌀ turned bolts in cap
Plate insets to be inserted and welded in 9" ⌀ Hand holes in CS13 R/L & CS14 R/L after erection has been completed.

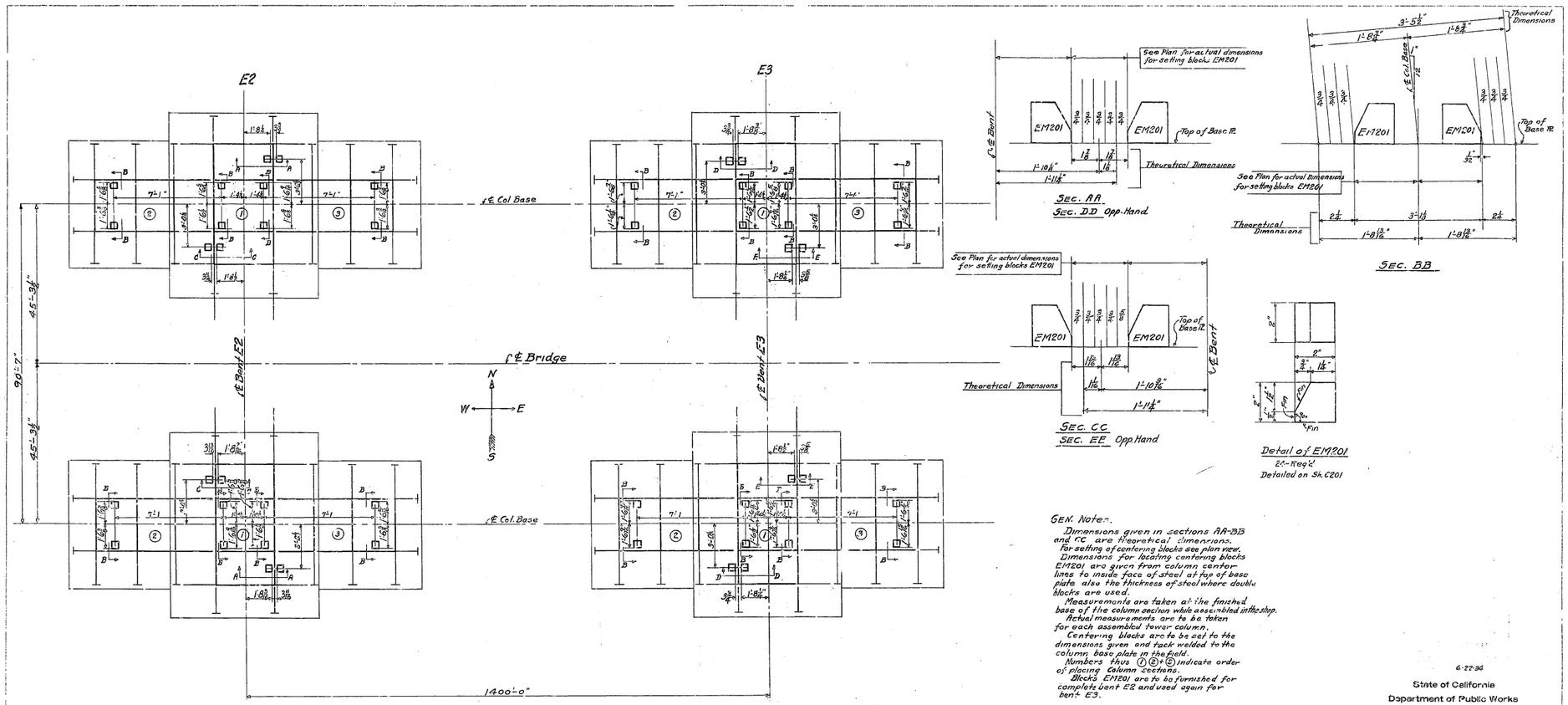
INDEX TO SHIPPING MARKS																
Description	General Mark	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Col. Sec	CS	1	2	3	4	5	6	7					8	9	9	
Struts	S	12														
Diagonals	D	10	10	10	10	11	11	11	11							
Base slabs	BP	2	2													
Doors	DD	13														
Door latches	DL	13	13													
Ladders & Brk.	L	13	13	13	13	13	13	13	14	14	14	14	14	14	14	14
Base Bracket	CB	1														
Plates	P	12	12													
Platforms	PF1	14	14													
Hand Rail	HR	F1	F1													
Railing Posts	HP	F1	F1													
Description	Mark	16	17	18	19	20	21									
Ladder & Brk't.	L	14	14	14												

APPROVED
Approval Date 6-22-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Bents E2 & E3

ERECTION PLAN

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Strong
MADE BY J.D.T. DATE 12-8-33
DRAW. CHECKED BY R.P.W. DATE 5-23-34
ORDER No. G5102
SHEET No. E2.



GEN. Notes.

Dimensions given in sections AA-BB and CC are theoretical dimensions.

For setting of centering blocks see plan view.

Dimensions for locating centering blocks EM201 are given from column center lines to inside face of steel at top of base plate also the thickness of steel where double blocks are used.

Measurements are taken at the finished base of the column section while assembled in the shop.

Actual measurements are to be taken for each assembled tower column.

Centering blocks are to be set to the dimensions given and tack welded to the column base plate in the field.

Numbers thus (1)(2)(3) indicate order of placing column sections.

Blocks EM201 are to be furnished for complete bent E2 and used again for bent E3.

6-22-36

State of California

Department of Public Works

SAN FRANCISCO - OAKLAND BAY BRIDGE

CONTRACT NO. 7

Superstructure - East Bay Crossing.

Bents E2 & E3

Column Centering Block Plan

AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary PLANT

WORK TO BE DONE AT Gary PLANT

ST. CHA. OF Strang

DRAWN MADE BY CHS DATE 3-8-34

DRAWN CHECKED BY REW DATE 5-23-36

ORDER No. G5102 SHEET No. E3

Rev 6-11-35 - Dimensions added for Bent E3

30-1

C.S. Rivets in Main Material

Longnose Shipping Bolts for Loose Spl. Rs & Lts
For One CS1
12 Bolts 1"ø , 0'-9½
8 " 1"ø , 0'-8½
14 " 1"ø , 0'-7
68 " 1"ø , 0'-5½
12 " 1"ø , 0'-6
20 " 1"ø , 0'-6½
Note: Abt ½ of holes to be filled with bolts.
Add on sh CF3 Charge to GATES

Fig. 7

Material for one Bracket CS1 B2
2 Pls 8, 6.8 x ⅜ x 5'-0 L apaB F.I End (X) (E)
2 Pls 8, 0.8 x ⅜ x 1'-6 abf " " " (X) (E)
1 L 8, 0.8 x ⅜ x 4'-8 ½ aaf B2 " " " (X) (E)
1 R 23 x ⅜ x 2'-10½ apn " " " (X) (E)
2 Fills 10, ½ x 0'-7½ fp " " Edge
2 " 12, ½ x 2'-1½ fp

Total Mat'l for Brackets "A" for one CS1
2 Pls 8, 6 x ⅝ x 5'-3½ aaam F. I End (X) (E)
2 Pls 8, 6 x ⅜ x 2'-3½ abm " " " (X) (E)
2 Pls 8, 0 x ½ x 1'-6 apa " " " (X) (E)
2 Fills 17, ½ x 1'-6 fp " " "
2 Fills 16, ½ x 1'-6 fk " " "
2 " 21, ½ x 0'-5 fpp
2 " 21, ½ x 3'-1½ fn

Manhole Reinf. Material for one CS1
2-Pl 35, ⅝ x G 10½ ppa1 (X) (E)
2-Fill 22, ½ x G 10½ fd1 (X) (E)

Gusset Plate Material for one CS1
2-Pl 7/8 x 5'-5, 14-1½ ø rp F.I. End. (")
2-L 4 x 4 x ½ x 1'-0½ abf F
2-L 4 x 4 x ½ x 1'-8½ aaf F
3-L 4 x 4 x ½ x 3'-0½ aaf F

Base Material.
for one CS1
2-L 8 x 8 x ⅞ x 22'-11½ apa F.I.E. (X) (E)
4-Pl 11 x ⅛ x 0'-8½ ppa F.I. End.
4-Pl 22 x ⅜ x 0'-3½ pa F.I. End
2-Pl 11 x ½ x 0'-3½ ppv F.I. End.
1-Pl 8 x ⅜ x 2'-1½ pa F.I. edge
1-Pl 11 2/16 x ⅜ x 3'-2½ pa F.I. edge (X) (E)
2-L 8 x 8 x ⅞ x 4'-8½ abaF F.I.End (X) (E)

Material for Anchor Bolt Blkts (Near E)
2-L 8 x 6 x ⅞ x 2'-3½ abt F.I.E. (X) (E)
2-L 8 x 4 x ⅞ x 2'-3½ abt F.I.E. (X) (E)
4-Pl 7 x ⅜ x 2'-3½ pw F.B. End (X) (E)
1-Fill 27, ⅜ x 2'-7½ abt Sc. F.I. End (X)-(E)
1-Bent Pl 34 x ⅜ x 1'-1½ ha (X) (E)
1-Washer 4" x ⅜ x 2½ fw

Splice Material Sec. A-A for one CS1
12-Pl 22.2 x 7/16 x 6'-3-2½ aa1 (X) (E)
4-Pl 22.2 x 4-4½ pa1 (X) (E)
4-Pl 11 x ⅜ x 6-1½ pb1 (X) (E)
4-Pl 11 x ½ x 3-5½ pc1 (X) (E)
4-Pl 15-⅜ x 6-1½ pd1 (X) (E)
4-Pl 15, ½ x 3-2½ pe1 (X) (E)
4 Pl 7, ½ x 2-11½ pf1 (X) (E)
4-Pl 25, ⅜ x 3-7½ pg1 (X) (E)

Diaphragm Material Sec. B-B for one CS1.
2 L 4 x 4 x ⅜ x 3-5½ ab1
4 L 4 x 4 x ⅜ x 1'-6½ ac1
4 L 4 x 4 x ⅜ x 1'-3 ad1
4 L 4 x 4 x ⅜ x 1'-10 ae1
5 L 4 x 4 x ⅜ x 2'-1½ af1
3 L - 8 x 6 x ½ x 0'-3 gah1 - GOS = 2½ (Sharp corners to be removed from OS leg)
1-R - 28 x ⅜ x 5'-5½ pn1
2 Pl 42.5/8 x 2'-3½ phl - Fin 2 Edges & 1 End.
1 Pl 42.5/8 x 3'-2½ pkl Fin 2 " & 2 Ends
1L - 4½ x 4½ x ⅜ x 0'-2½ abal K
1 Fl 24'-2 x 5'-2½ ppy

6 Perm. Bolts - 1"ø 2½ } for bolting Usahl cabel
1 " Bolt 1"ø, 2½ } del on sh CF2

Sec. A-A

Sec. B-B

Detail of abel K

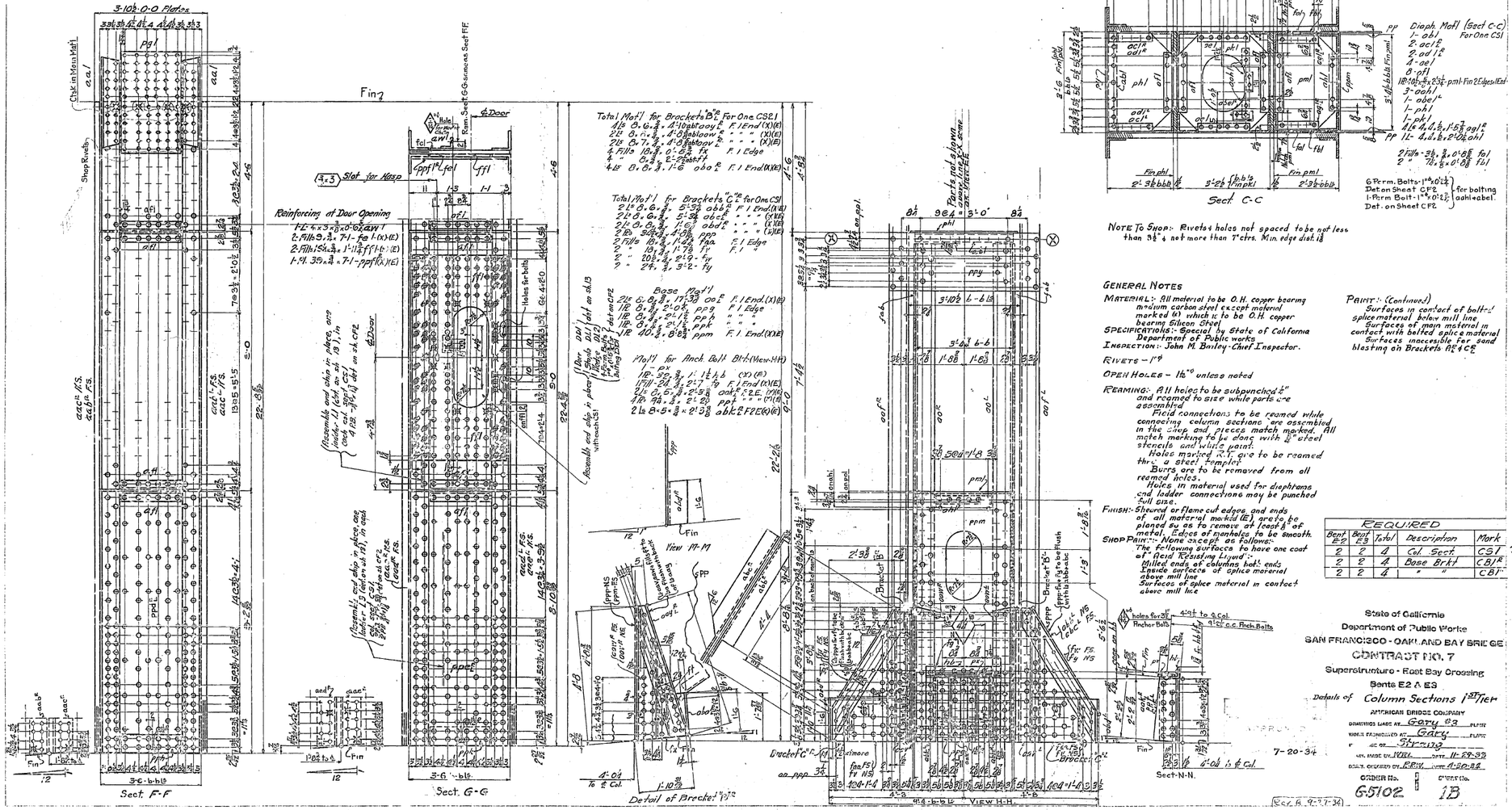
Base Section

CS1
Main Material.
2 L 8 x 8 x ⅞ x 22'-10½ F2E caa E (X)
2 L 8 x 8 x ⅞ x 22'-5 5/16 F2E aab E (X)
2 L 8 x 8 x ⅞ x 22'-5½ F2E aac E (X)
2 L 8 x 8 x ⅞ x 22'-5½ F2E aad E (X)
2 L 8 x 8 x ⅞ x 22'-4⅞ F2E aae E (X)
2 L 8 x 8 x ⅞ x 22'-3⅝ F2E aaf E (X)
2 Pl 36 x ⅞ x 22'-10½ F2E ppa E (X)
2 Pl 36 x ⅞ x 22'-10½ F2E ppb (X) (E)
2 Pl 36 x ⅞ x 22'-10½ F2E ppc E (X) (E)
2 Fl 41½ x ⅞ x 22'-10½ F2E ppd E (X) (E)
2 Fl 41½ x ⅞ x 22'-10½ F2E ppe E (X) (E)

Rev 21 1-8-35

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Bents E2 & E3
Details of Col. Sections 1st Tier
AMERICAN BRIDGE COMPANY
STRUCTURE MADE AT Gary, Ind. PLANT
LOCATED AT Gary PLANT
CHIEF ENGR. Strang
DRAWN BY EC & WW DATE 11-29-32
TRACED BY R.E.W. DATE 12-20-34
CONTRACT NO. 6-5102 SHEET NO. 1AB

30-51



NOTE To Shop:- Rivets & holes not spaced to be not less than 3½"ø not more than 7" ctrs. Min. edge dist. 1⅛

GENERAL NOTES

MATERIAL:- All material to be O.H. copper bearing medium carbon steel except material marked (X) which is to be O.H. copper bearing Silicon Steel

SPECIFICATIONS:- Special by State of California Department of Public Works

INSPECTION:- John M. Bailey - Chief Inspector.

RIVETS - 1"ø

OPEN HOLES - 1⅛"ø unless noted

REAMING:- All holes to be subpunched ¼" and reamed to size while parts are assembled

Field connections to be reamed while connecting column sections are assembled in the shop and pieces match marked. All match marking to be done with ½" steel stencils and white paint.

Holes marked R.R. are to be reamed thru a steel templet

Burrs are to be removed from all reamed holes.

Holes in material used for diaphragms and ladder connections may be punched full size.

FINISH:- Sheared or flame cut edges and ends of all material marked (E), are to be planed so as to remove at least ⅛" of metal. Edges of manholes to be smooth.

SHOP PAINT:- None except as follows:-

The following surfaces to have one coat of "Red Rusting Liquid":-

Milled ends of columns bolt ends

Inside surfaces of splice material above mill line

Surfaces of splice material in contact above mill line

PAINT:- (Continued)

Surfaces in contact of bolt-head splice material below mill line

Surfaces of main material in contact with bolted splice material

Surfaces inaccessible for sand blasting on Brackets AE & CE

REQUIRED				
Bent E2	Bent E3	Total	Description	Mark
2	2	4	Col. Sect.	CS1
2	2	4	Base Brkt	CB1
2	2	4	" "	CB1'

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Bents E2 & E3
Details of Column Sections 1st Tier
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Gary PLANT
OF OR Structural
MAT'L MADE BY ____ DATE 11-29-33
DRAWN, CHECKED BY F.R.W. DATE 4-20-34
ORDER No. 65102
DWG'S No. 1B

7-20-34

Sect A 9-27-34

39T

Sect. K-K

Sect. V-V

Sect. H-H

Manganese Shipping Bolts for Loose Splice R + b for One CS2

Sect. N-N

Splice Mat'l (Sect G-G) for One CS2

CS2

Main Mat'l

Sect. M-M

Sect. P-P

Base Section

Mat'l for Brkt H

Mat'l for Brkt K

Note: This Material to be bent slightly to fit curving Flange of Column

Cov. PL Splice Mat'l

Sect. Q-Q

Sect. R-R

Sect. S-S

Sect. O-O

View W-W

View A-A

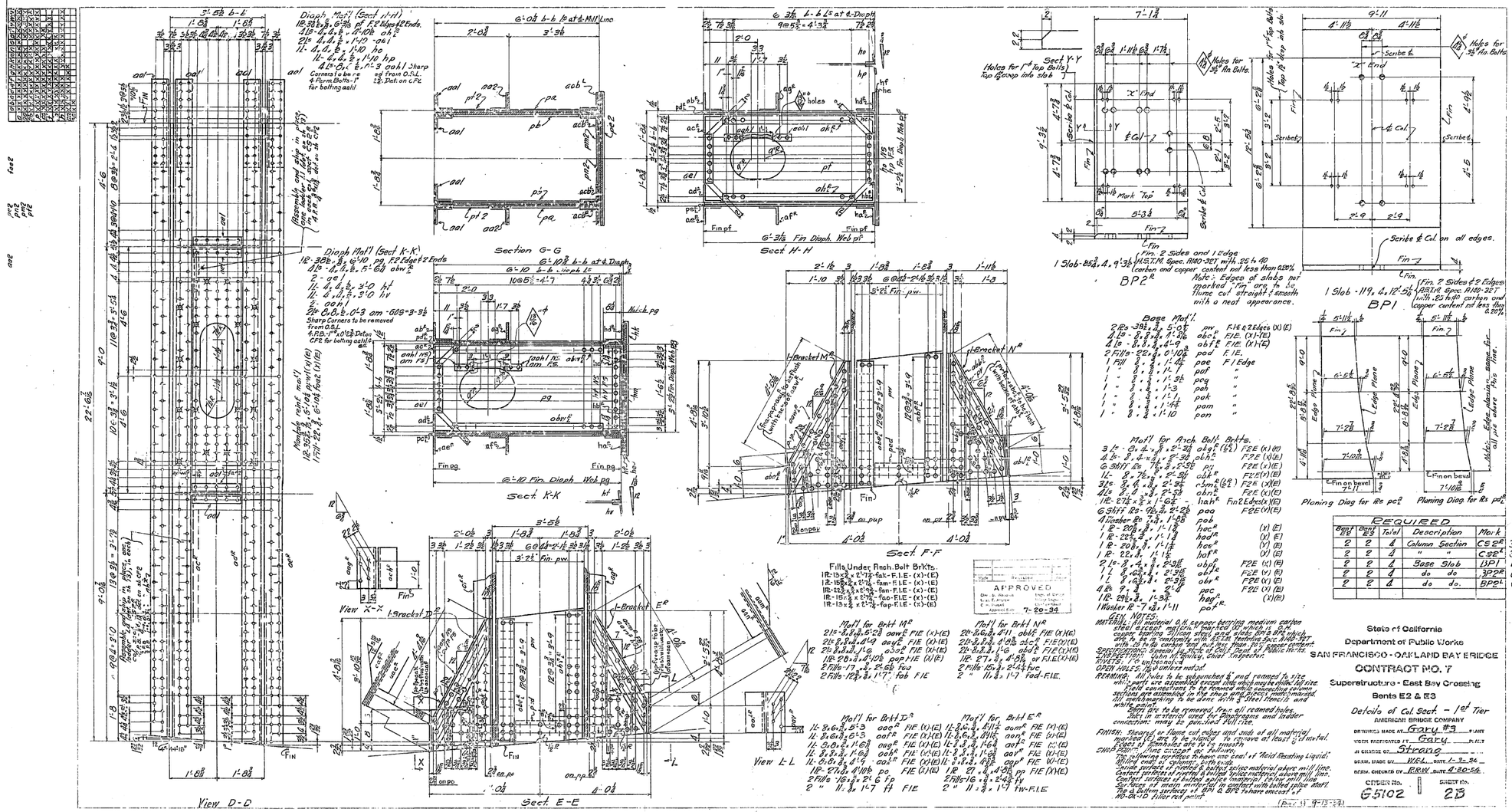
View B-B (Shown Developed)

View T-T

Mat'l for Brkt G

Note: Remainder of View C-C opp. hand to View A-A

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Ordering:
Bents E2 & E3
Details of Col. Sect. — 1st Tier
AMERICAN BRIDGE COMPANY
FABRICATED MADE AT Gary #3 PLANT
WORK FABRICATED AT Gary PLANT
ORD. OF Strang
MAT'L MADE BY W.P.L. DATE 1-2-34
DRAWN BY J.R.W. DATE 1-20-34
CHECKED BY
ORDER NO. G5102
DRAW NO. 2AB



1 Slob-85⅜ x 4 x 9'-3½ (F.S.T.M. Spec. A140-327 with .25 to .40 carbon and copper content not less than .020%

BPP2

Fin. 2 Sides and 1 Edge

Note: Edges of slabs not marked "Fin" are to be Flume cut straight & smooth with a neat appearance.

1 Slob-119 x 4 x 12'-5½ (F.S.T.M. Spec. A140-327 with .25 to .40 carbon and copper content not less than .020%

BP1

Fin. 2 Sides & 2 Edges

Scribe & Col on all edges.

Base Mat'l.			
2 Rs - 39⅜ x 4 x 5'-0½	psw	F.I.E. & 2 Edges (X) (E)	
4 Ls - 8 x 8 x ½ x 1'-8⅛	abc¹	F.I.E. (X)-(E)	
4 Ls - 8 x 8 x ½ x 1'-9	abf²	F.I.E. (X)-(E)	
2 Fills - 22½ x 8 x 0'-10⅜	pad	F.I.E.	
1 Fill 8 x ¾ x 1'-4½	poe	F.I.E. & 1 Edge	
1 " 8 x ¾ x 1'-7	paf	"	
1 " 8 x ¾ x 1'-9½	peg	"	
1 " 8 x ¾ x 1'-11	pah	"	
1 " 8 x ¾ x 1'-11	pak	"	
1 " 8 x ¾ x 1'-11½	pam	"	
1 " 8 x ¾ x 1'-10	pan	"	

Mat'l for Arch. Bolt Brkts.		
3 Ls - 8 x 4 x ½ x 2'-3½	abg² (L½)	F2E (x) (E)
4 Ls - 8 x 4 x ½ x 2'-3½	abh²	F2E (x) (E)
6 Stiff Rs - 9½ x 3 x 2'-2⅝	pay	F2E (x) (E)
4 Stiff Rs - 9½ x 3 x 2'-2⅝	pax	F1E (x) (E)
312 Rs - 8 x 4 x ¾ x 2'-5½	abk²	F1E (x) (E)
4 Ls - 8 x 4 x ¾ x 2'-5½	rbm² (L½)	F2E (x) (E)
4 Ls - 8 x 4 x ¾ x 2'-5½	abn²	F2E (x) (E)
1 Rs - 27½ x 1'-6½ -	hah²	F in E edges (x) (E)
6 Stiff Rs - 9½ x 3 x 2'-2⅝	pao	F2E (x) (E)
4 Timber Rs 7.5 x 1'-6⅜	pab	
1 R - 20⅜ x ⅞ x 1'-1½	hoc²	(x) (E)
1 R - 22½ x ⅞ x 1'-1½	hod²	(x) (E)
1 R - 20⅜ x ⅞ x 1'-1½	hoe²	(x) (E)
1 R - 22½ x ⅞ x 1'-1½	hof²	(x) (E)
2 Ls - 8 x 4 x ¾ x 2'-3½	abj²	F2E (x) (E)
1 " 8 x 2½ x ¾ x 2'-5½	abl²	F2E (x) (E)
1 " 8 x 2½ x ¾ x 2'-3½	abr²	F2E (x) (E)
4 Rs 7 x ⅞ " 2'-0	pac	F2E (x) (E)
1 R - 29½ x ⅞ x 1'-3⅜	hag²	(x) (E)
1 Washer R - 7 x ⅜ x 1'-11	pat	

GEN. NOTES:

MATERIAL: All material O.H. copper bearing medium carbon steel except materials marked (C) which is S.M. copper bearing silicon steel rivet steel plates, bars & Rs which are to be used exclusively with A.S.T.M. Tentative Spec. A140-327 with .25 to .40 carbon and .020% min. copper content.

SPECIFICATIONS: Standard Specs. of Dept. of Public Works.

INSPECTION: John M. Finley, Chief Inspector.

RIVETS: To be countersunk.

OPEN HOLES: ⅞ø unless noted.

REAMING: All holes to be subpunched & reamed to size while parts are assembled except slots which may be drilled. All rivet & field connections to be reamed while connecting columns, bracing are assembled in the shop and bevel matchmarked. All matchmarking to be done with steel stencils and white paint.

Burrs are to be removed from all reamed holes.

Slots in material used for bridges and ladder connection may be punched full size.

FINISH: Sheared or flame cut edges and ends of all material marked "Fin" to be planed to receive at least ½" of metal. Edges of thickness are to be smooth.

SHOP PAINTING: Shop coat as follows:

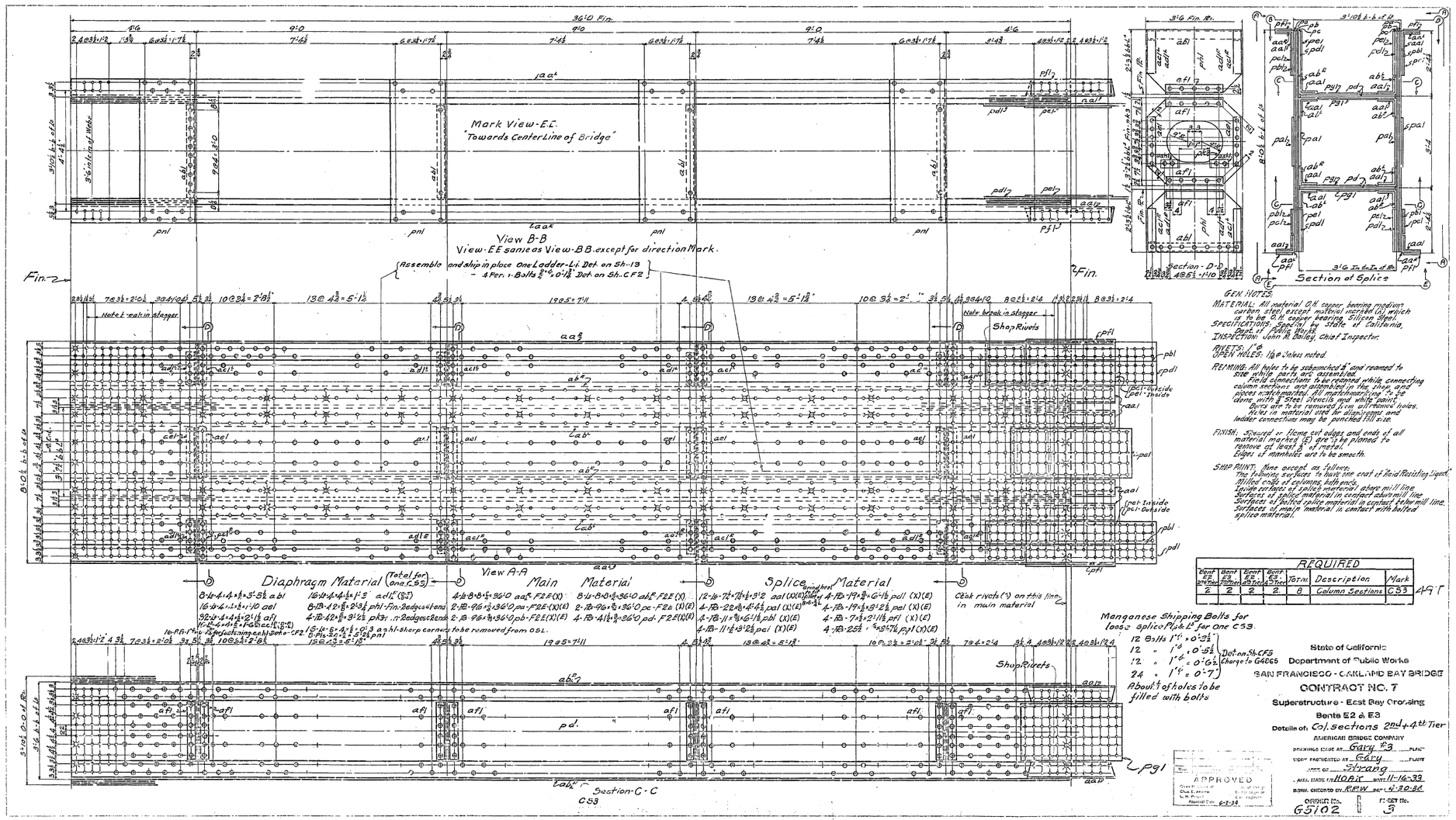
The following surfaces to have one coat of Acid Resisting Liquid: Milling ends of columns, both webs, inside surfaces of riveted & bolted splice material above mill line. Contact surfaces of riveted & bolted splice material above mill line. Contact surfaces of bolted splice material below mill line. Surfaces of main material in contact with bolted splice plates. Top & bottom surfaces of Rs & BPE to have one coat of W.B.-2410 Filler no. paint.

REQUIRED				
Sent E2	Sent E3	Total	Description	Mark
2	2	4	Column Section	CS2[E] 35T
2	2	4	" "	CS2[E] 35T
2	2	4	Base Slab	BP1 10T
2	2	4	do do	BP2[E] 6T
2	2	4	do do.	BPP2[E] 6T

State of California
Department of Public Works
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Bents E2 & E3
Details of Col. Sect. - 1st Tier
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary #3 PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Strang
DRAWN BY W.E.L. DATE 1-2-34
DRAWN CHECKED BY R.R.W. DATE 4-20-34
CIPHER No. G5102 SHEET No. 23

(Rev'd 9-13-34)

30-T



GEN. NOTES:

MATERIAL: All material O.H. copper bearing medium carbon steel, except material marked (X) which is to be O.H. copper bearing Silicon steel.

SPECIFICATIONS: Special, by State of California, Dept. of Public Works.

INSPECTION: John A. Bolley, Chief Inspector.

RIVETS: 1" ø

OPEN HOLES: 1⅛" ø unless noted.

REAMING: All holes to be subpunched ¾" and reamed to size while parts are assembled. Field connections to be reamed while connecting column sections are assembled in the shop, and pieces match-marked. All matchmarking to be done with ¾" Steel stencils and white paint. Burrs are to be removed from all reamed holes. Holes in material used for diaphragms and ladder connections may be punched full size.

FINISH: Sheared or flame cut edges and ends of all material marked (E) are to be planed to remove at least ¼" of metal. Edges of manholes are to be smooth.

SHIP PAINT: None except as follows. The following surfaces to have one coat of Acid Resisting Paint: Milled ends of columns, both ends. Inside surfaces of splice material above mill line. Surfaces of splice material in contact above mill line. Surfaces of milled splice material in contact below mill line. Surfaces of main material in contact with milled splice material.

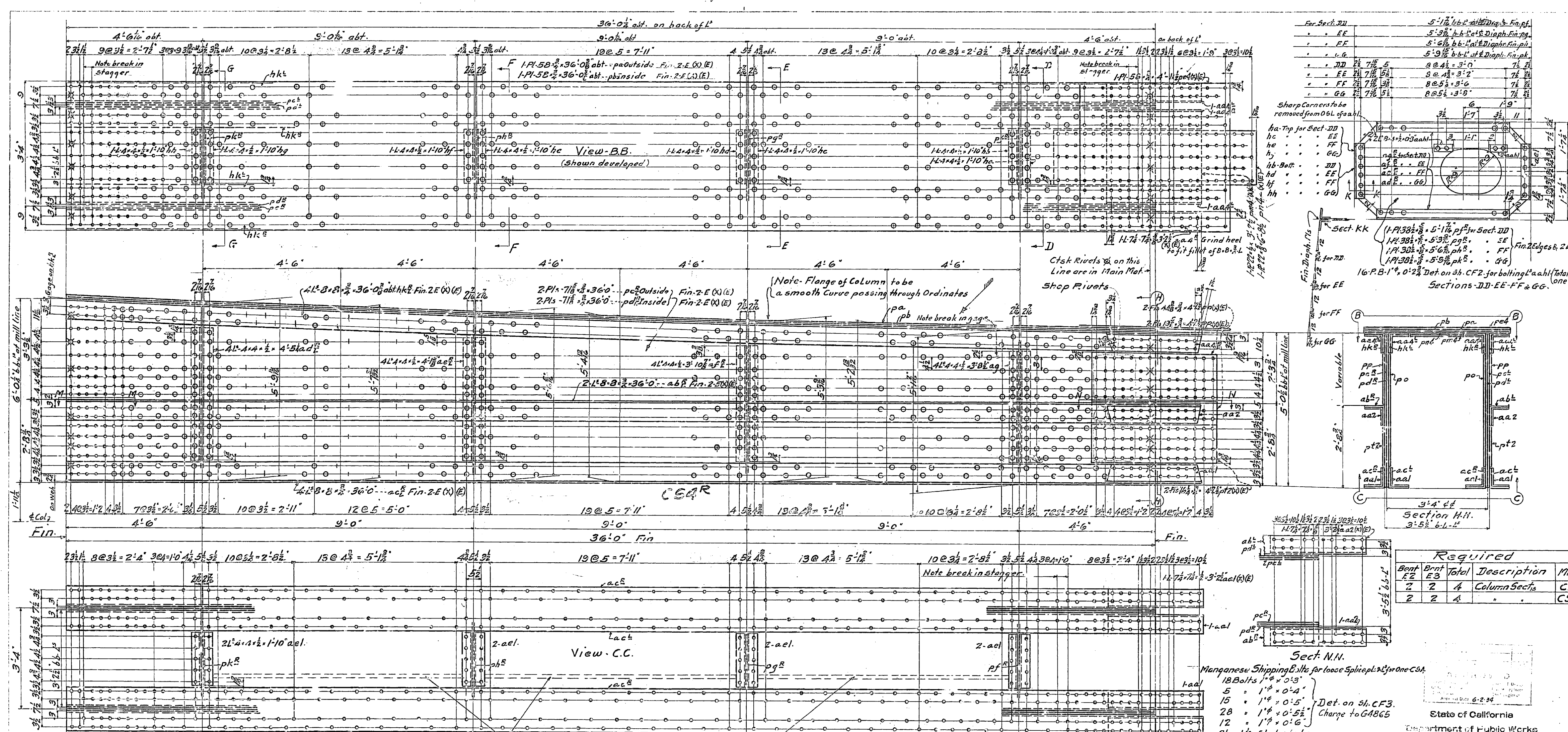
REQUIRED						
Bent E2 2nd Tier	Bent E3 2nd Tier	Bent E2 4th Tier	Bent E3 4th Tier	Total	Description	Mark
2	2	2	2	8	Column Sections	C53

49T

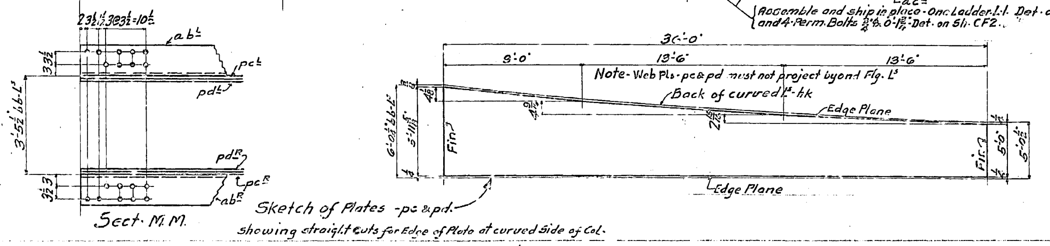
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Bents E2 & E3
Details of Col. Sections 2nd & 4th Tier
AMERICAN BRIDGE COMPANY
DRAWING ISSUED AT Gary #3 PLANT
WORK FABRICATED AT Gary PLANT
UNDER OF Strang
ASST. ENGR. IN CHARGE NORIX DATE 11-16-33
DRAWN, CHECKED BY REW DATE 2-20-34
ORDER No. G5102
SHEET No. 3

APPROVED
Chief Engineer
By Engineer
Assistant Date 6-2-34

30-1



Required				
Bent E2	Bent E3	Total	Description	Mark
2	2	4	Column Sect's	CS4R 30T
2	2	4	" "	CS4L 30T



GEN. NOTES;

MATERIAL: All material O.H. copper bearing medium carbon steel except material marked (X) which is to be O.H. copper bearing Silicon Steel.

SPECIFICATIONS: Special by State of California, Dept. of Public Works.

INSPECTION: John M. Bailey, Chief Inspector.

RIVETS: 1"φ

OPEN HOLES: 1 1/16"φ unless noted.

REAMING: All holes to be subpunched ¾" and reamed to size while parts are assembled.
Field connections to be reamed while connecting column sections are assembled in the shop and pieces matchmarked. All matchmarking to be done with ⅜" Steel Stencils and white paint.
Burrs to be removed from all reamed holes.

REAMING (Cont'd.): Holes in material used for diaphragms and ladder connections may be punched full size.

FINISH: Sheared or flame cut edges and ends of all material marked (E) are to be planed to remove at least ⅛" of metal.
Edges of manholes to be smooth.

SHOP PAINT: None except as follows:
The following surfaces to have one coat of "Acid Resisting Liquid":
Milled ends of columns, both ends.
Inside surfaces of riveted & bolted splice Mat'l above mill line.
Contact surfaces of riveted & bolted splice Mat'l above mill line.
Contact surfaces of bolted splice Mat'l below mill line.
Surfaces of main Mat'l in contact with bolted splice Mat'l.

Approval Date 6-2-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Bents E2 & E3
Details of: Col. Sections 2nd Tier
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
FABRICATED AT Gary PLANT
CHARGE OF Strang
DRAW. MADE BY S.T. DATE 11-13-33
DRAW. CHECKED BY R.R.W. DATE 4-30-34
ORDER No. G5102 SHEET No. 4

3051

VIEW DD

VIEW CC

VIEW PP (left of View CC)

View QQ

Main Mat'l. (Total for One CSB)

Mat'l for Diaphragm at Section LL

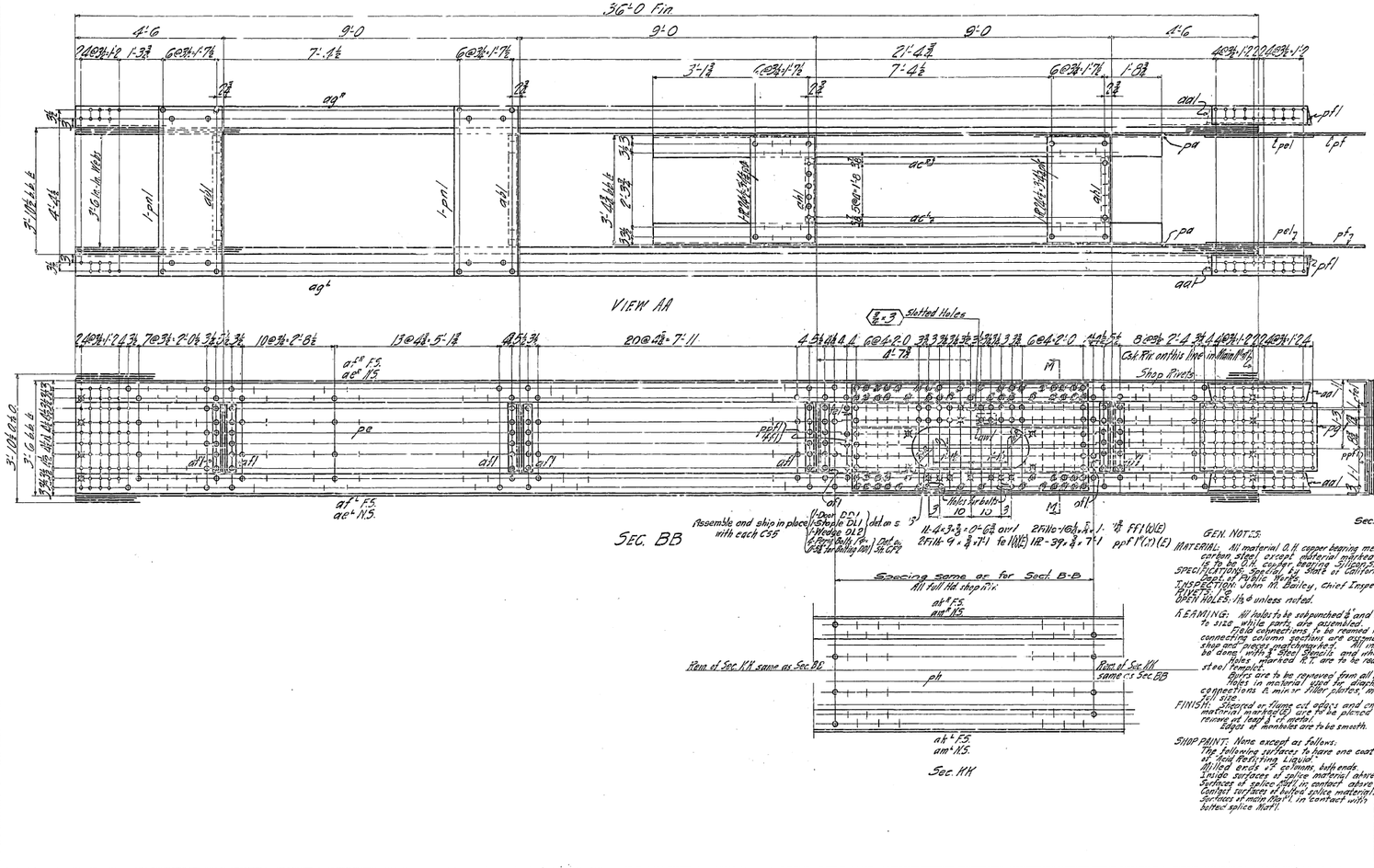
Splice Mat'l (Total for one CSB)

Manganese Shipping Bolts for Loose Splice B & b (For One CSB)

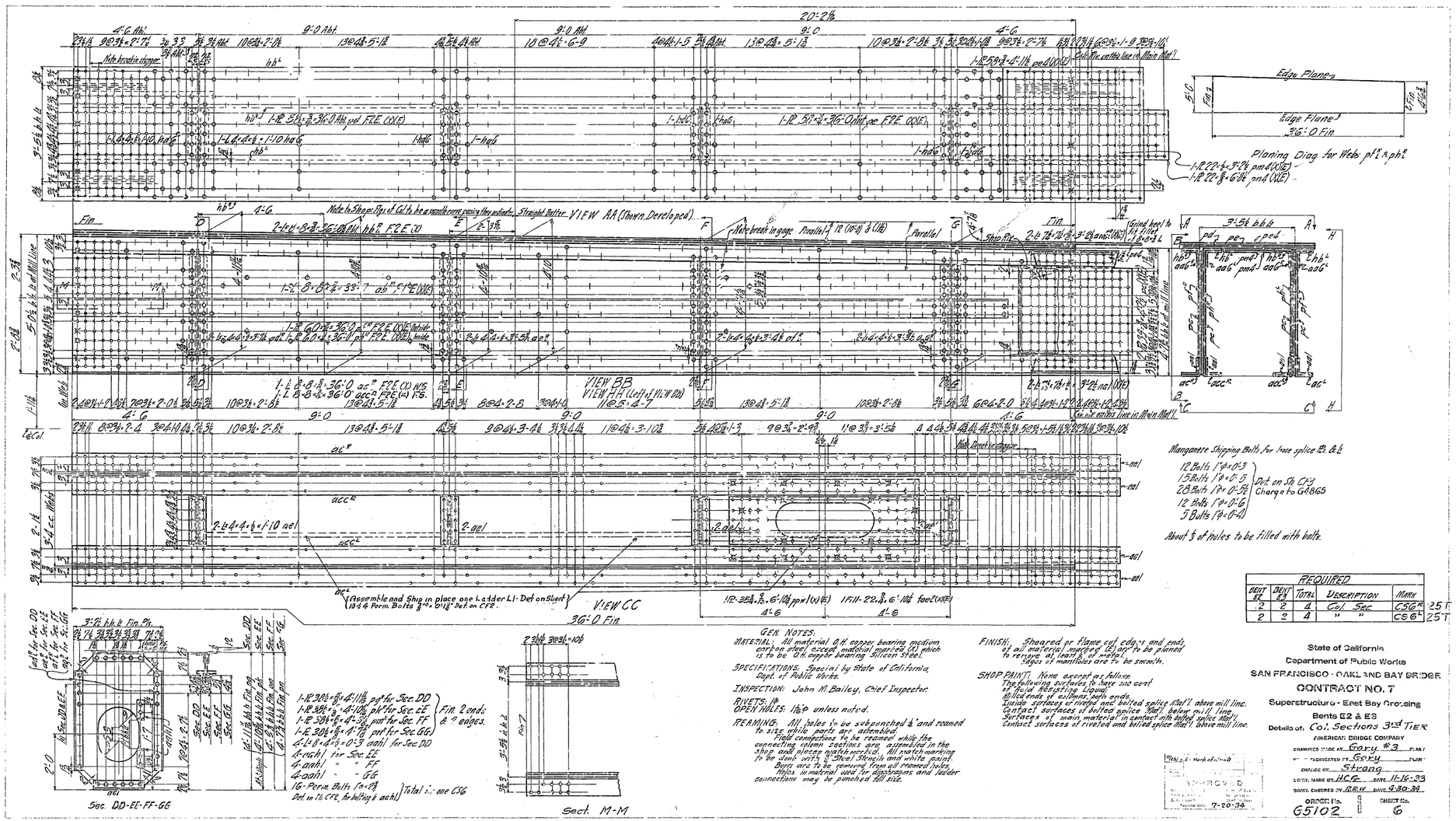
APPROVED 7-20-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Bents E2 & E3
Details of: Col. Sections 3rd Tier
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary #3 PLANT
WORK FABRICATED AT Gary PLANT
LOCATION OF Strang
DRAWN BY HCG DATE 11-21-35
DES'D, CHECKED BY R.R.W. DATE 4-30-34
ORDER No. G-5102
SHEET No. 5AB

30-1


VIEW AA
SEC. BB
Sec. KK
Sec. NN
Sec. FF
Sec. H-H
Slotted Holes
Shop Rivets
Assemble and ship in place with each CSS
Spacing same as for Sect. B-B
All full fld shop rivets
Rem of Sec KK same as Sec BB
Rem of Sec NN same as Sec BB
Mat'l for Diaph at Sect H-H
Mat'l for Diaphragms at Sec. FF & NN (Earth Sec.)
GEN. NOTES:
MATERIAL: All material O.H. copper bearing medium carbon steel except material painted (M) which is to be U.S. copper bearing silicon steel.
SPECIFICATIONS: Special, by State of California, Dept. of Public Works.
INSPECTION: John M. Bailey, Chief Inspector.
RIVETS: 7/8 ϕ
OPEN HOLES: 1 1/16 ϕ unless noted.
REAMING: All holes to be subpunched 3/16 and reamed to size while parts are assembled. Field connections to be reamed while the connecting column sections are assembled in the shop and pieces matchmarked. All match marking to be done with a steel stencil and white paint. Holes marked R.T. are to be reamed thru a steel template.
Burrs are to be removed from all reamed holes.
Holes in material filler for diaphragm & girder connections & main or filler plates must be punched full size.
FINISH: Sheared or flame cut edges and ends of all material marked (E) are to be planed to remove at least 1/4 metal.
Edges of manholes are to be smooth.
SHOP PAINT: None except as follows:
The following surfaces to have one coat of Red Rattling Liquid:
Milled ends of columns, both ends.
Inside surfaces of splice material above mill line.
Surfaces of splice plate in contact above mill line.
Contact surfaces of butted splice material below mill line.
Surfaces of main mat'l. in contact with butted splice mat'l.
APPROVED
7-20-34
REQUIRED
Bent E2 | Bent E3 | Total | Description | Mark
2 | 2 | 4 | Col. Sec. | C55
5-2T
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Bents E2 & E3
Details of: Col. Sections 3rd Tier
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Gary PLANT
ERECTED AT Strang
DRAWN BY MCC DATE 11-22-33
CHECKED BY RBW DATE 2-20-34
ORDER No. G5102
SHEET No. 5B

30-1



REQUIRED				
BENT E2	BENT E3	TOTAL	DESCRIPTION	MARK
2	2	4	Col. Sec.	C56R 25T
2	2	4	" "	C56L 25T

GEN. NOTES.

MATERIAL: All material O.H. copper bearing medium carbon steel, except material specified (A) which is to be O.H. copper bearing Silicon steel.

SPECIFICATIONS: Special by State of California, Dept. of Public Works.

INSPECTION: John M. Bailey, Chief Inspector.

RIVETS: ⅞"

OPEN HOLES: 1⅛"ø unless noted.

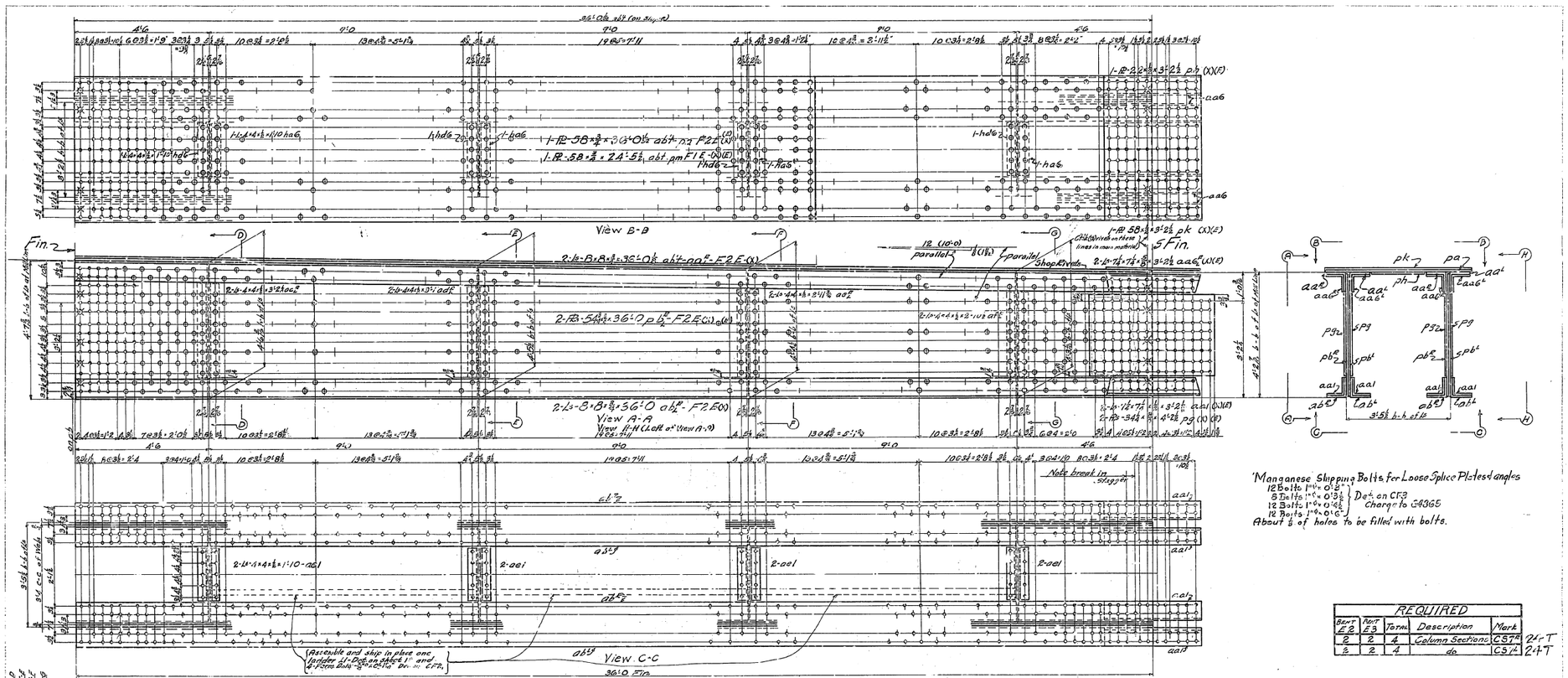
REAMING: All holes to be subpunched & reamed to size while parts are assembled. Field connections to be reamed while the connecting column sections are assembled in the shop and always with the axis vertical. All match marking to be done with ¼" Steel Stencils and white paint. Burrs are to be removed from all reamed holes. Holes in material used for diaphragms and ladder connections may be punched full size.

FINISH: Sheared or flame cut edges and ends of all material marked (E) are to be planed to remove all burr & of metal. Edges of manholes are to be smooth.

SHOP PAINT: None except as follows: The following surfaces to have one coat of Inert Resisting Liquid: Milled ends of columns, both ends. Inside surfaces of webs and bolted splice Mat'l above mill line. Contact surfaces of bolted splice Mat'l below mill line. Surfaces of main material in contact with bolted splice Mat'l. Contact surfaces of riveted and bolted splice Mat'l above mill line.

APPROVED
7-20-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Bents E2 & E3
Details of Col. Sections 3rd TIER
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
MEMBERS FABRICATED BY Gary PLANT
CHARGE OF Strang
DRWG. MADE BY HCG DATE 11-16-33
DRWG. CHECKED BY REW DATE 4-30-34
ORDER No. G5102
SHEET No. 6



'Manganese Slipping Bolts for Loose Splice Plates & angles
12 Bolts 1"dia x 0'-8"
8 Bolts 1"dia x 0'-9½" } Det. on C63
12 Bolts 1"dia x 0'-6½" } Change to C63G5
12 Bolts 1"dia x 0'-6"
About ½ of holes to be filled with bolts.

REQUIRED				
Bent E2	Bent E3	Total	Description	Mark
2	2	4	Column Sections	C57R 24T
2	2	4	do	C57L 24T

GEN. NOTES.
MATERIAL: All material o.h. copper bearing or sodium carbon steel except material marked (X) which is to be O.H. copper bearing Silicon Steel.
SPECIFICATIONS: Special by State of California, Dept. of Public Works.
INSPECTION: John M. Bailey, Chief Inspector.
RIVETS: 1"ø
OPEN HOLES: 1⅛ø unless noted.
REAMING: All holes to be subpunched & reamed to size while parts are assembled. Field connections to be reamed while the connecting column sections are assembled in the ship, mill pieces matchmarked. All match marking to be done with ¾ steel stencils and white paint. Burrs are to be removed from all reamed holes. Holes in material used for pilot prints and loaded connections may be punched full size.

FINISH: Sheared or flame cut edges and ends of all material marked (F) are to be planed to remove at least ¼" of metal. Edges of manholes are to be smooth.
SHOP PAINT: None except as follows: The following surfaces to have one coat of "Red Metallic Paint": Milled ends of columns, bearings. Inside surfaces of riveted and bolted splice mat'l. abuts mill line. Contact surfaces of bolted splice mat'l. below mill line. Surfaces of main material in contact with bolted splice mat'l.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing;
Bents E2 & E3
Details of Col. Sections 4th Tier
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary, Ind. PLANT
" " FABRICATED AT Gary, Ind. PLANT
CHARGE OF Strang
DRAWN BY MORK DATE 11-21-33
DRAWN, CHECKED BY R.R.W. DATE 5-3-34
ORDER No. G5102
SHEET No. 7

Yard & Add'l parts
APPROVED
Chief Engineer
7-20-34

30-1

Main Mark (Total for one CS12)

2	L8 8 x 8 x $\frac{3}{4}$ x 15'-0$\frac{3}{4}$ aa^R	Fin. 2 Ends	(x)
2	L8 8 x 8 x $\frac{3}{4}$ x 16'-2$\frac{15}{16}$ ak^R	" 2 "	(x)
2	L8 8 x 8 x $\frac{3}{4}$ x 18'-3$\frac{1}{16}$ ac^R	" 2 "	(x)
2	L8 8 x 8 x $\frac{3}{4}$ x 18'-5$\frac{3}{4}$ ad^{Fr}	" 2 "	(x)
2	L8 8 x 8 x $\frac{3}{4}$ x 18'-6$\frac{1}{2}$ ae^R	" 2 "	(x)
2	L8 8 x 8 x $\frac{3}{4}$ x 15'-8$\frac{1}{16}$ af^R	" 2 "	(x)
2	PL 96 x $\frac{3}{4}$ x 18'-8$\frac{1}{16}$ P	" 2 "	(x) (E)
2	" 96 x $\frac{3}{4}$ x 18'-8$\frac{1}{16}$ P	" 2 "	(x) (E)
1	" 41$\frac{1}{2}$ x $\frac{3}{4}$ x 18'-2$\frac{3}{8}$ pc^R	" 2 "	(x) (E)
1	" 41$\frac{1}{2}$ x $\frac{3}{4}$ x 18'-2$\frac{7}{16}$ pd^R	" 2 "	(x) (E)
1	" 41$\frac{1}{2}$ x $\frac{3}{4}$ x 18'-5$\frac{1}{4}$ pe^R	" 2 "	(x) (E)
1	" 41$\frac{1}{2}$ x $\frac{3}{4}$ x 18'-5$\frac{13}{16}$ pf^{Fr}	" 2 "	(x) (E)
2	PL 96 x $\frac{3}{4}$ x 18'-8$\frac{7}{16}$ pu$^{F.P.}$	Fin. 2 Ends	(x)(E)

CS12^R

View E-E

View C-C

View D-D Oppo. Hand except for Spacing "A" & bag-ah-ak-am-an-ao-ap-av-aw-ay-baa (See View K)

View F-F

View M-M

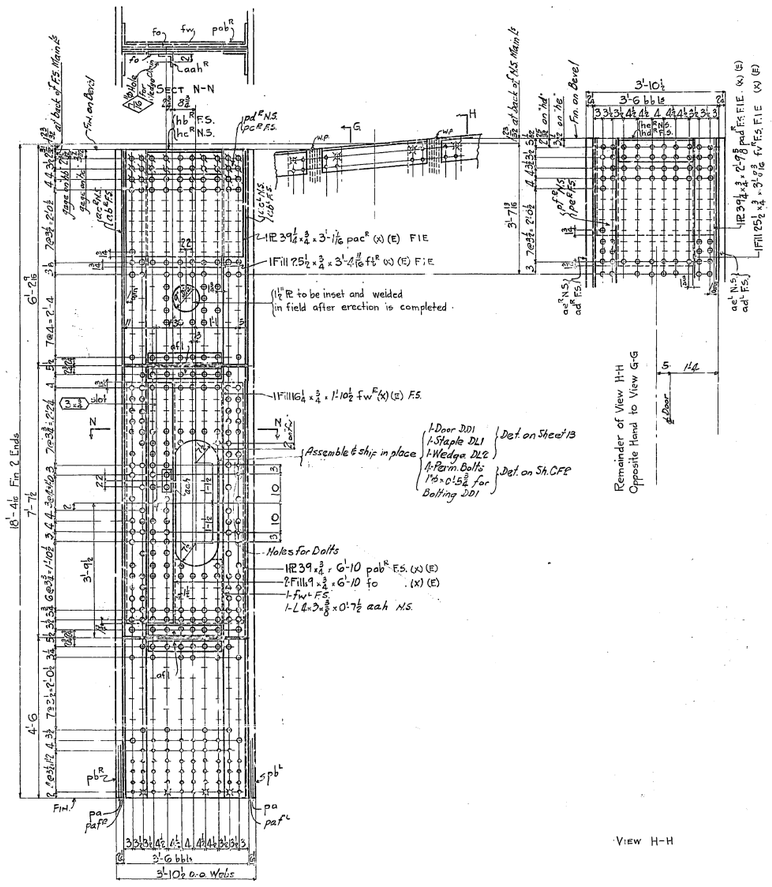
1Fill 23 x $\frac{3}{4}$ x 3'-1$\frac{15}{16}$ fc F1End (x) (E)
1PL 36$\frac{1}{2}$ x $\frac{3}{4}$ x 3'-1$\frac{15}{16}$ pm F1End (x) (E) o.s.
1PL 36$\frac{1}{2}$ x $\frac{3}{4}$ x 3'-1$\frac{15}{16}$ pn F1End (x) (E) i.s.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Bents E2 & E3
Column Sections 5TH Tier For

AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary, W.S. PLANT
WORK FABRICATED AT Gary PLANT
DR. BY H.A.L. DATE 1-18-34
CH. BY R.R.W. DATE 5-15-34

ORDER No. G5102 | SHEET No. 8AB

7-20-34



REQUIRED				
Rect E2	Rect E3	Total	Description	Mark
One	One	2	Column Sections	CS12R 26T
One	One	2	do	CS12L 26T

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Bents E2 & E3
Details of Column Sections 5TH Tier Top

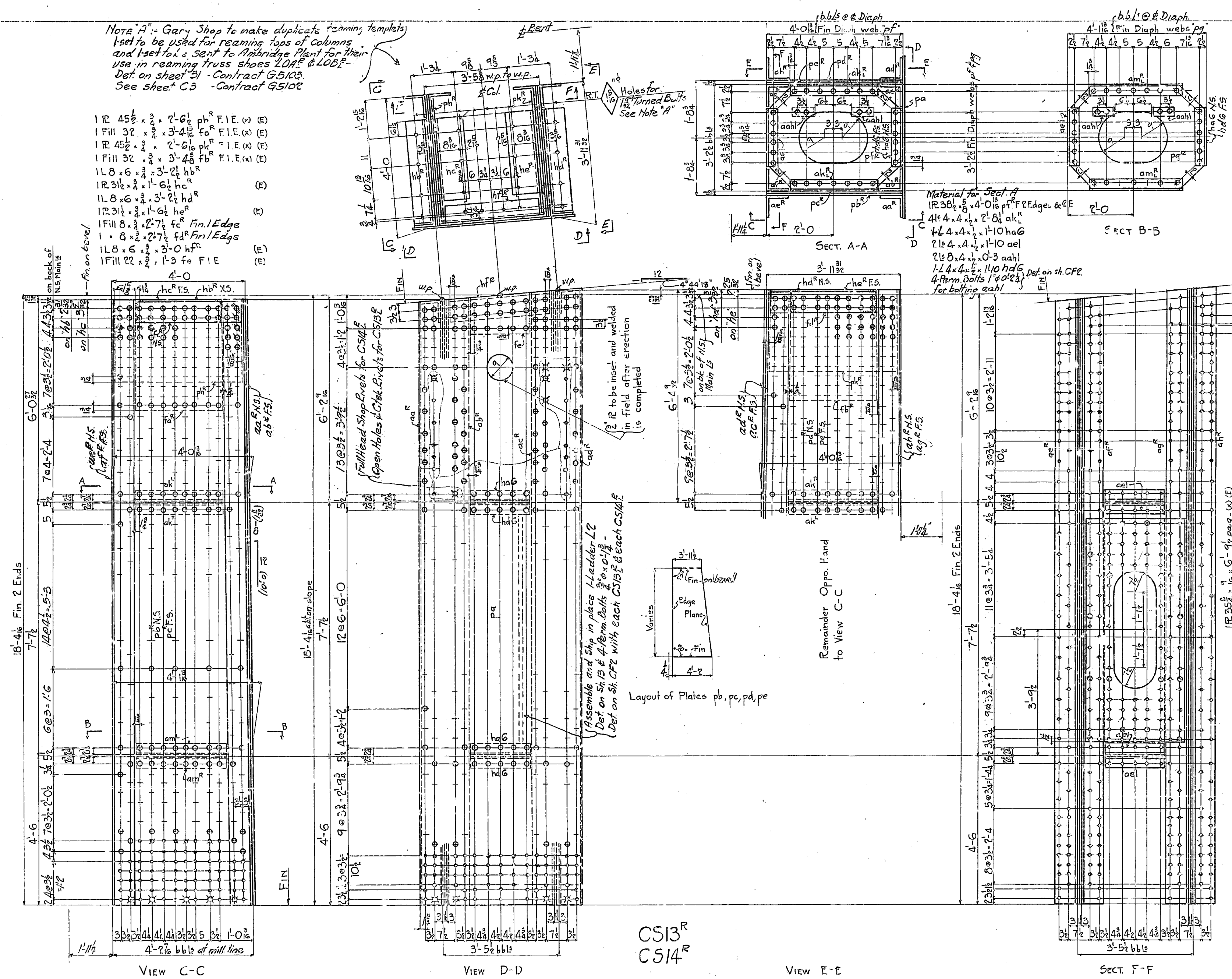
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary IND. PLANT
WORK FABRICATED AT Gary PLANT
CHARGE OF Strang
DETAIL MADE BY H.A.L. DATE 1-19-34
DETAIL CHECKED BY R.E.W. & H.E. 5-23-34

ORDER No. G5102 | SHEET No. 8B

90-1

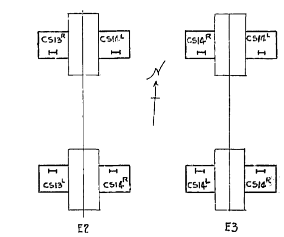
NOTE "A":- Gary Shop to make duplicate reaming templets 1-set to be used for reaming tops of columns and 1-set to be sent to Ambridge Plant for their use in reaming truss shoes LOA^R & LOB^R_L - Det. on sheet 31 - Contract G5103. See sheet C3 - Contract G5102

1 PL 45½ × ¾ × 2'-6½ ph^R F.I.E. (x) (E)
1 Fill 32 × ¾ × 3'-4 15/16 fa^R F.I.E. (x) (E)
1 PL 45½ × ¾ × 2'-6 1/16 pk^R F.I.E. (x) (E)
1 Fill 32 × ¾ × 3'-4⅝ fb^R F.I.E. (x) (E)
1 L 8 × 6 × ¾ × 3'-2½ hb^R
1 PL 31½ × ¾ × 1'-6½ hc^R (E)
1 L 8 × 6 × ¾ × 3'-2½ hd^R
1 PL 31½ × ¾ × 1'-6½ he^R (E)
1 Fill 8 × ¾ × 2'-7½ fc^R Fin. 1 Edge
1 " 8 × ¾ × 2'-7½ fd^R Fin 1 Edge
1 L 8 × 6 × ¾ × 3'-0 hf^R (E)
1 Fill 22 × ¾ × 1'-3 fe F I E (E)



Material for Sect. A
1 PL 38½ × ⅝ × 4'-0 13/16 pf^R F 2 Edges & 2 E
4 Ls 4 × 4 × ½ × 2'-8¼ ak^R_L
1-L 4 × 4 × ½ × 1'-10 ha6
2 Ls 4 × 4 × ½ × 1'-10 ael
2 Ls 8 × 4 × ½ × 0'-3 aahl
1-L 4 × 4 × ½ × 1'-10 hd6
4-Perm. Bolts 1"φ 0'-2¼ for bolting aahl } Det. on sh. CF2.

Material for Sect. B
1 PL 38½ × ⅝ × 4'-1 13/16 pg^R Fin 2 Edges & 2 Ends
4 Ls 4 × 4 × ½ × 2'-9¼ am^R_L
1-ha6
2 ael
4 aahl
1-hd6
4-Perm. Bolts 1"φ × 0'-2¾ for bolting "aahl" } Det. on CF2.



Main Mat'l
1 PL 58 × ¾ × 18'-6½(abt) pa Fin 2 Ends (x) (E)
1 " 50 × ¾ × 18'-2 13/32 pb^R " 2 " (x) (E)
1 " 50 × ¾ × 18'-2 15/32 pc^R " 2 " (x) (E)
1 " 50 × ¾ × 18'-5 25/32 pd^R " 2 " (x) (E)
1 " 50 × ¾ × 18'-5 23/32 pe^R " 2 " (x) (E)
1 L 8 × 8 × ¾ × 18'-2 11/32 aa^R " 2 " (x)
1 L 8 × 8 × ¾ × 18'-3⅛ ab^R " 2 " (x)
1 L 8 × 8 × ¾ × 18'-5 21/32 ac^R " 2 " (x)
1 L 8 × 8 × ¾ × 18'-6 7/16 ad^R " 2 " (x)
1 L 8 × 8 × ¾ × 18'-2 11/32 ae^R " 2 " (x)
1 L 8 × 8 × ¾ × 18'-3⅛ af^R " 2 " (x)
1 L 8 × 8 × ¾ × 18'-5 21/32 ag^R " 2 " (x)
1 L 8 × 8 × ¾ × 18'-6 7/16 ah^R " 2 " (x)

1 PL 35¾ × 9/16 × 6'-9½ pag - (x) (E)
1 Fill 22 × ¾ × 6'-9½ ff - (x) (E)

GEN. NOTES:
MATERIAL: All material O.H. copper bearing medium carbon steel except material marked (X) which is to be O.H. copper bearing Silicon steel.
SPECIFICATIONS: Special by State of California, Dept. of Public Works.
INSPECTION: John M. Bailey, Chief Inspector.
RIVETS: 1"φ
OPEN HOLES: 1 1/16φ unless noted.
REAMING: All holes to be subpunched ¼" and reamed to size while parts are assembled. Field connections are to be reamed while connecting column sections are assembled in the shop and pieces matchmarked. All matchmarking to be done with ⅜" Steel Stencils and white paint. Holes marked R.T. are to be reamed thru a steel templet. Burrs are to be removed from all reamed holes. Holes in material used for diaphragms ladder connections and other minor details may be punched full size.
FINISH: Sheared or flame cut edges and ends of material marked (E) are to be planed to remove at least ⅛" of metal. Edges of manholes are to be smooth.
SHOP PAINT: None except as follows: The following surfaces are to have one coat of "Acid Resisting Liquid": Milled ends of Column, both ends.

(A) 1-25-36 Change in R.T. note

APPROVED
Approval Date 7-20-34

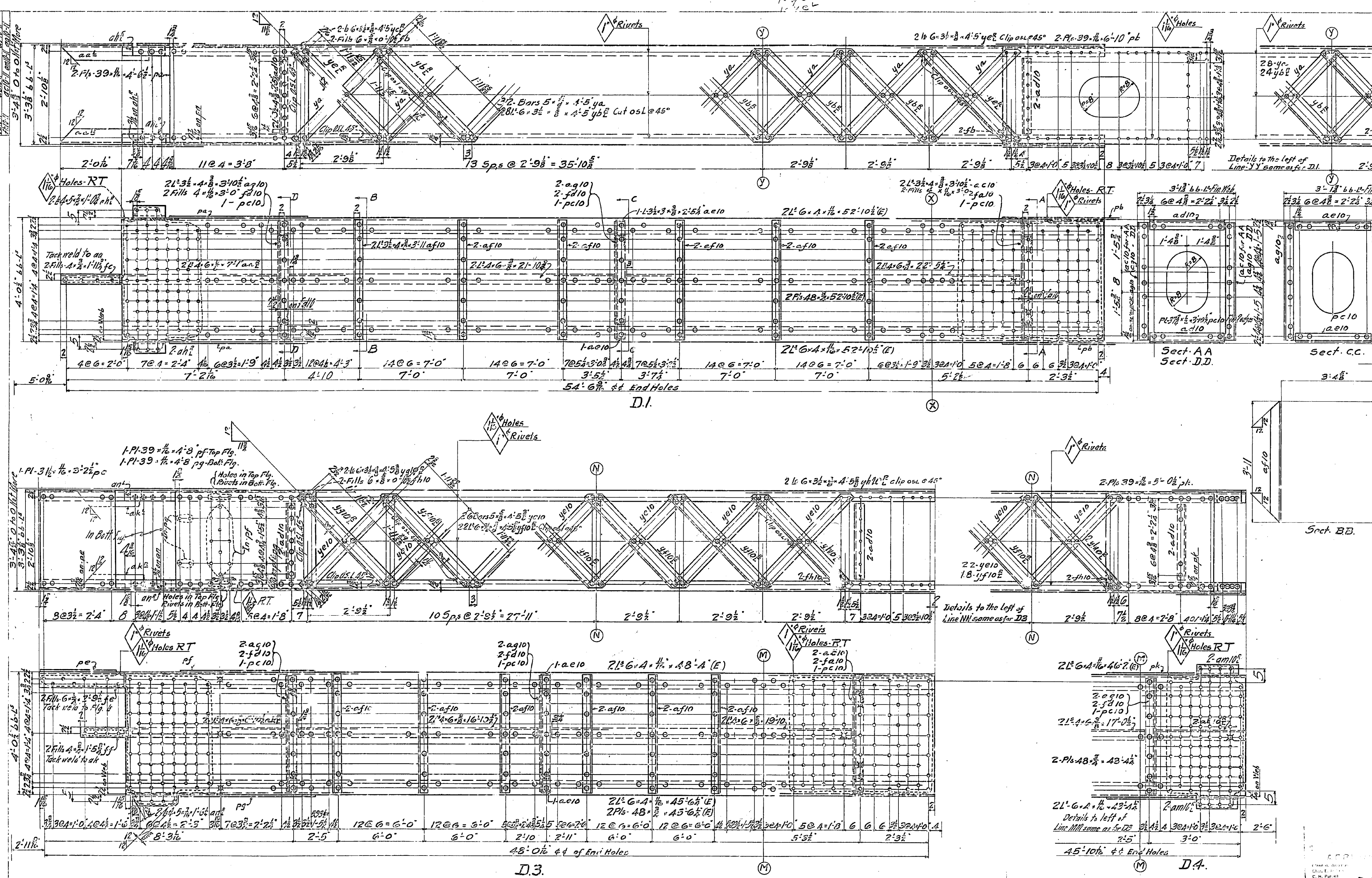
REQUIRED					
Bent E2	Bent E3	Total	Description	Mark	
One		One	Column Section	CS13^R	13T
One		One	do	CS13^L	13T
One	2	3	do	CS14^R	13T
One	2	3	do	CS14^L	13T

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Bents E2 & E3

Column Section CS13 & CS14
5th Tier - Top

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Gary PLANT
CHARGE OF Strang
DRAW. MADE BY HAL DATE 1-22-34
DRAW. CHECKED BY R.R.W. DATE 5-23-34
ORDER No. G5102 SHEET No. 9

30-1



Required

Bent E2	Bent E3	Total	Description	Mark	
1	1	2	Diagonals	D1	13T
1	1	2	"	D2	13T
1	1	2	"	D3	13T
1	1	2	"	D4	13T

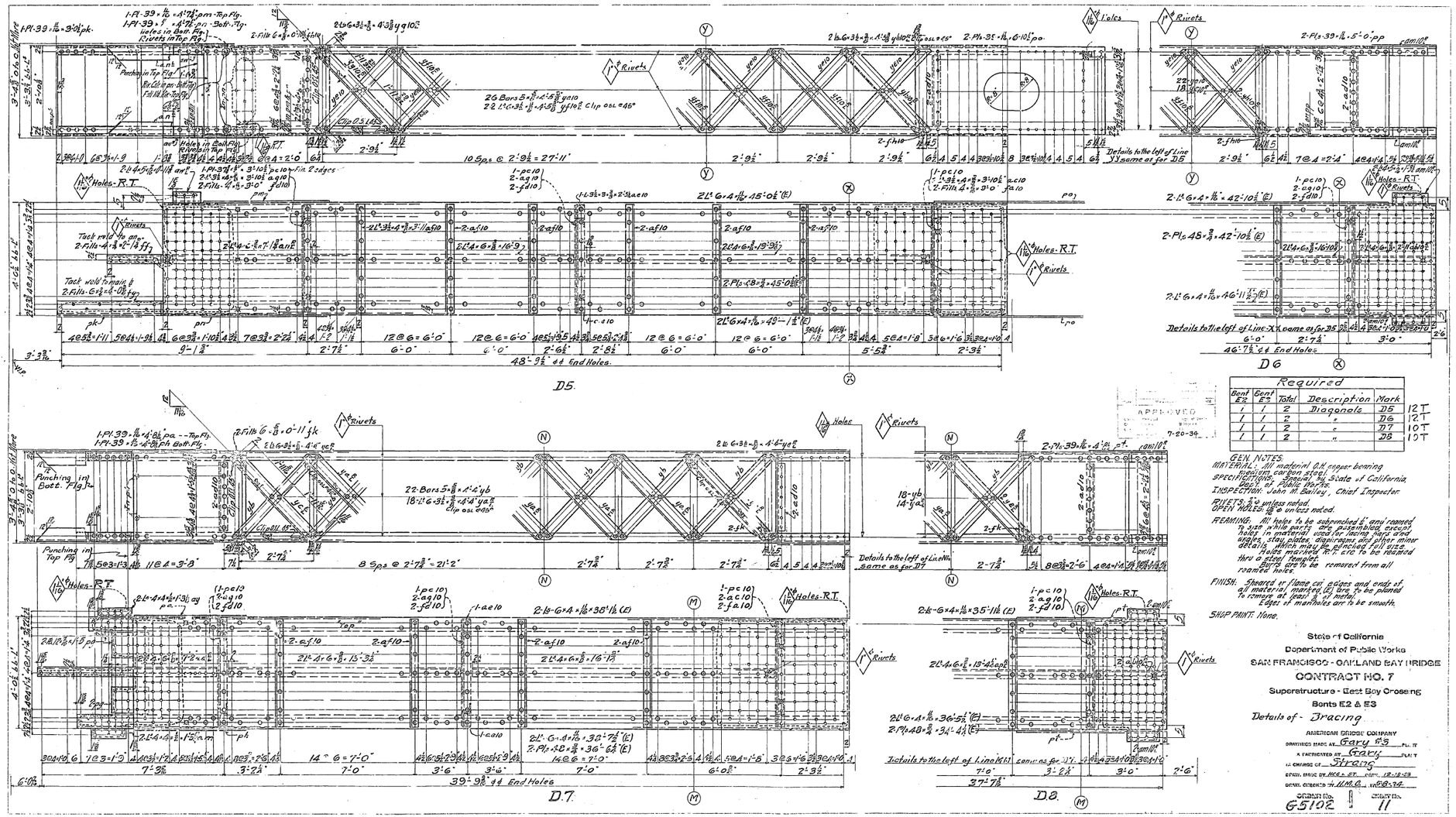
GEN. NOTES:
MATERIAL: All material O.H. copper bearing medium carbon steel.
SPECIFICATIONS: Special by State of California Dept. of Public Works.
INSPECTION: John M. Bailey, Chief Inspector.
RIVETS: $\frac{7}{8}\phi$ unless noted.
OPEN HOLES: $\frac{15}{16}\phi$ unless noted.
REAMING: All holes to be subpunched $\frac{1}{4}$" and reamed to size while parts are assembled, except holes in material used for lacing bars and angles, stay plates, diaphragms and other minor details, which may be punched full size.
Holes marked R.T. are to be reamed thru a steel templet.
Burrs are to be removed from all reamed holes.
FINISH: Sheared or flame cut edges and ends of material marked (E) are to be planed to remove at least $\frac{1}{8}$" of metal.
Edges of manholes are to be smooth.
SHOP PAINT: None

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Bents E2 & E3
Details of - Bracing

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Gary PLANT
CHARGE OF Strang
DRAW. MADE BY HCG - ST DATE 12-27-33
DRAW. CHECKED BY H.M.C. DATE 5-3-34

APPROVED
Approval Date 7-20-34

ORDER No. G5102
SHEET No. 10



Required				
Bent E2	Bent E3	Total	Description	Mark
1	1	2	Diagonals	D5 12T
1	1	2	"	D6 12T
1	1	2	"	D7 10T
1	1	2	"	D8 10T

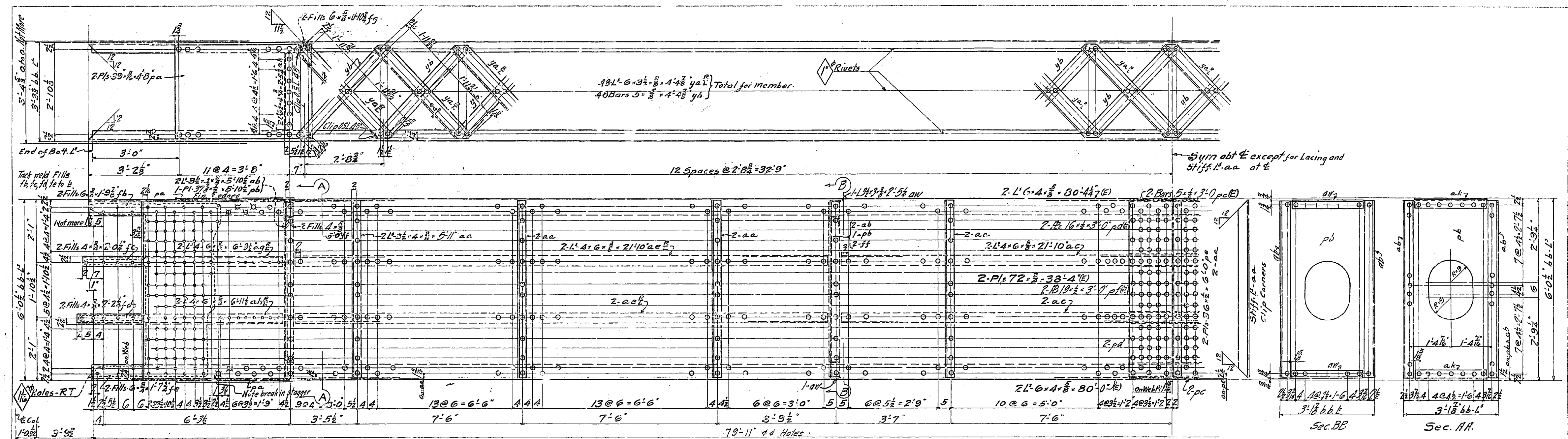
APPROVED
7-20-39

GEN. NOTES:
MATERIAL: All material O.H. copper bearing
Medium carbon steel to State of California, Dept. of Public Works.
SPECIFICATIONS: Special to State of California, Dept. of Public Works.
INSPECTION: John M. Bailey, Chief Inspector.
RIVETS: ¾ unless noted.
OPEN HOLES: ⅞ unless noted.
REAMING: All holes to be subpunched & any reamed to size while parts are assembled, except holes in material used for lacing bars and angles, stay plates, diaphragms and other minor details which may be punched full size. Holes marked R.T. etc. to be reamed thru a steel templet.
Burrs are to be removed from all reamed holes.
FINISH: Sheared or flame cut edges and ends of all material marked (E) are to be planed to remove at least ½" of metal.
Edges of manholes are to be smooth.
SHOP PAINT: None.

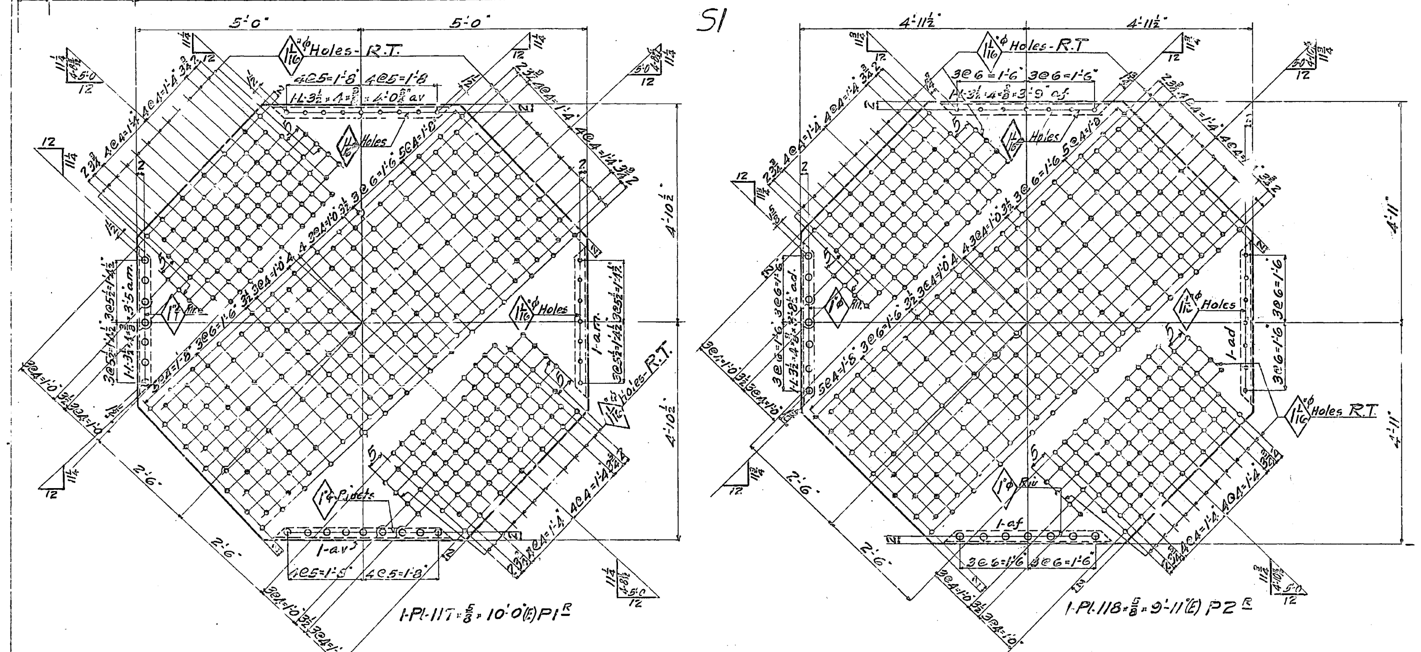
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Bents E2 & E3
Details of - Bracing

AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary, Ind. PL. NO.
& FABRICATED AT Gary PLANT
IN CHARGE OF Strang
DRAWN BY HK & ET CHK'D 12-12-39
DETAIL CHECKED BY WM G 68-34
ORDER NO. 65102 SHEET NO. 11

30-1



S1



Required				
Bent E2	Bent E3	Total	Description	Mark
1	1	2	Struts	S1
1	1	2	Plates	P1R
1	1	2	"	P1L
1	1	2	"	P2R
1	1	2	"	P2L

26T

APPROVED 7-20-34

GEN: NOTES:
MATERIAL: All material O.H copper bearing medium carbon steel.
SPECIFICATIONS: Special by State of California, Dept of Public Works.
INSPECTION: John M. Bailey, Chief Inspector.

RIVETS: ⅞"φ unless noted.

OPEN HOLES: 15/16"φ unless noted.
REAMING: All holes to be subpunched ¾" and reamed to size while parts are assembled, except holes in material used for lacing, stay plates, diaphragms and other minor details which may be punched full size.
Holes marked R.T. are to be reamed thru a steel templet.
Burrs are to be removed from all reamed holes.

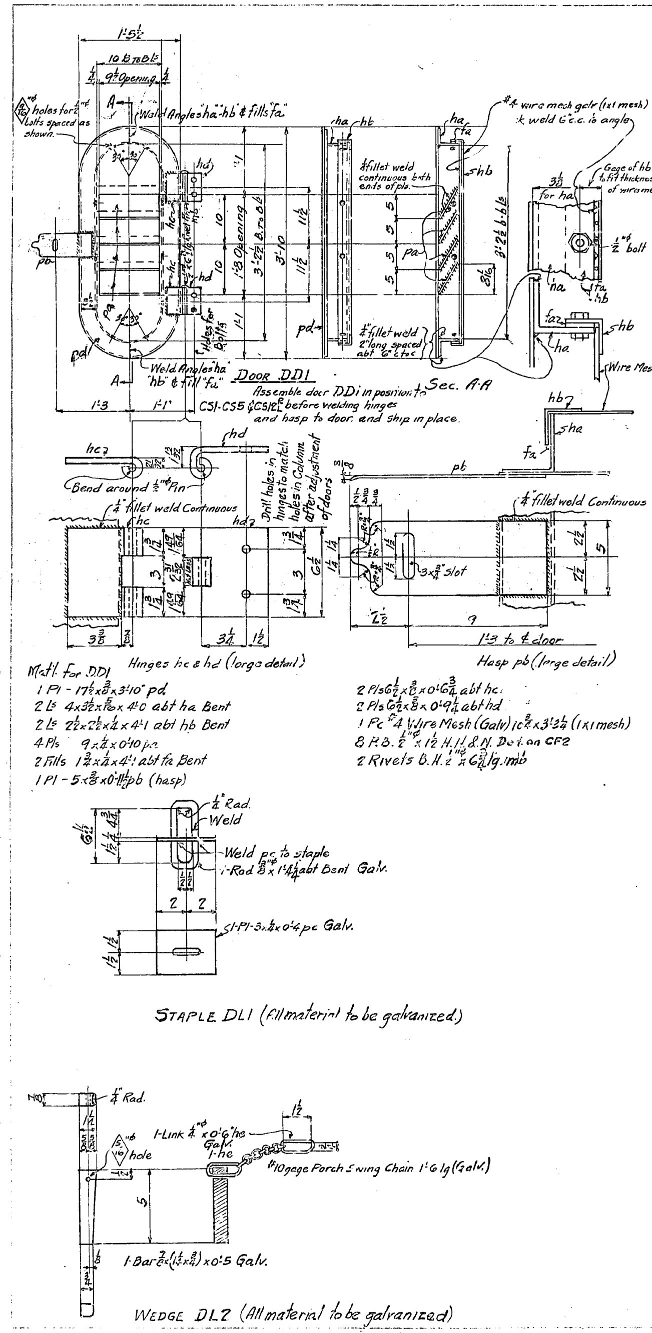
FINISH: Sheared or flame cut edges and ends of all material marked (E) are to be planed to remove at least ⅛" of metal.
Edges of manholes are to be smooth.

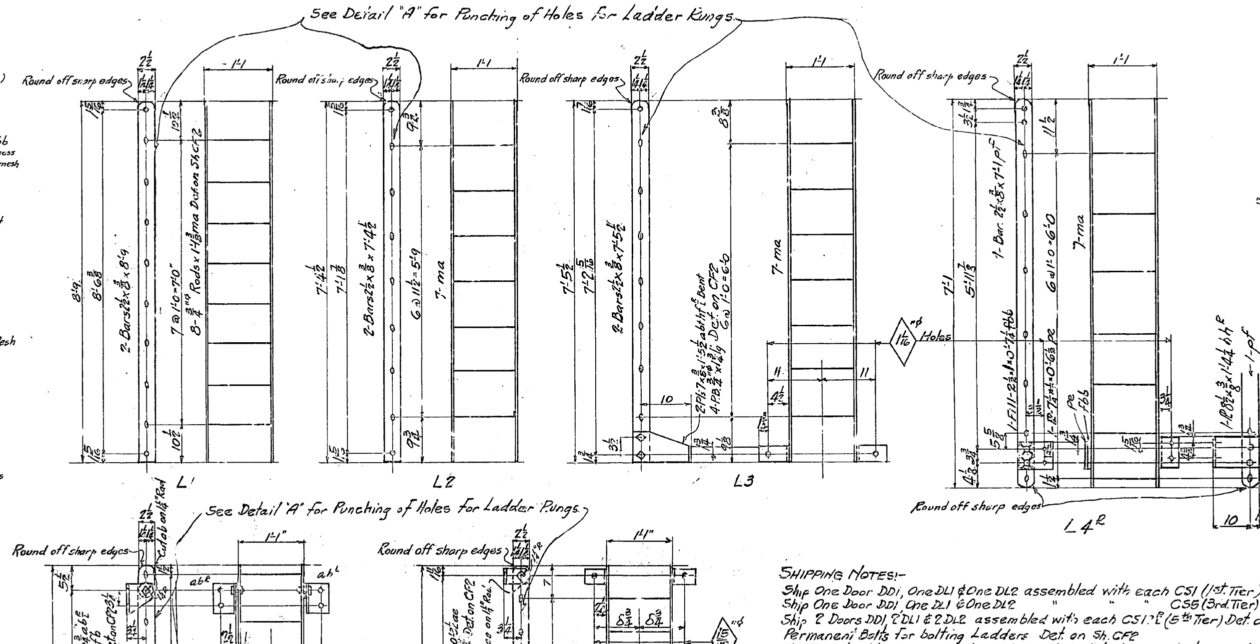
SHOP PAINT: None

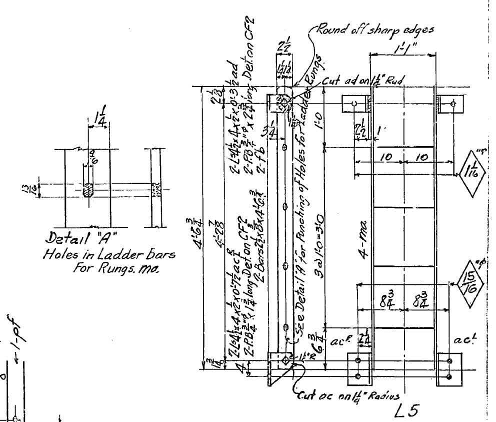
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Bents E2 & E3
Details of:- Bracing Struts & Plates

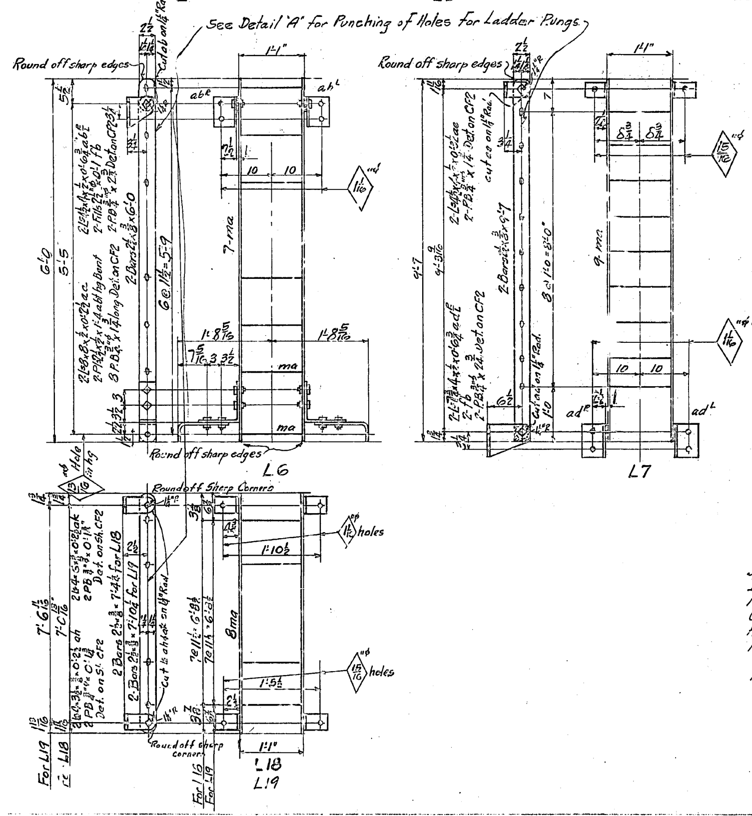
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Strang
DRAW. MADE BY HCG-ST DATE 12-12-33
DRAW. CHECKED BY H.M.C. DATE 5-3-34
ORDER No. G5102
SHEET No. 12

30-1









SHIPPING NOTES:-

Ship One Door DD1, One DL1 & One DL2 assembled with each CS1 (1st. Tier) - Det. on Sheet 1
Ship One Door DD1, One DL1 & One DL2 " " " CS5 (3rd. Tier) - Det. on Sh. 5
Ship 2 Doors DD1, 2 DL1 & 2 DL2 assembled with each CS12ᴿₗ (5th Tier) Det. on Sh. 8
Permanent Bolts for bolting Ladders Det. on Sh. CF2
Ship One Ladder L1 assembled with each CS1 (1st. Tier) - Det. on Sh. 1
Ship One Ladder L1 " " " CS2 (") - Det. on Sh. 2
Ship 3 Ladders L1 " " " CS3 (2nd. & 4th Tiers) " " Sh. 3
Ship 3 " L1 " " " CS4 (2nd. Tier) - " " Sh. 4
Ship 3 " L1 " " " CS5ᴿₗ (3rd. Tier) - " " Sh. 5
Ship 3 " L1 " " " CS6 (3rd Tier) - " " Sh. 6
Ship 3 " L1 " " " CS7 (4th Tier) - " " Sh. 7
Ship One " L2 " " " CS12ᴿₗ (5th Tier) - " " Sh. 8
Ship One " L2 " " " CS13ᴿₗ (" ") - " " Sh. 9
Ship One " L2 " " " CS14ᴿₗ (" ") - " " Sh. 9
Ship One " L3 " " " CS1 (1st. Tier) - " " Sh. 1
Ship One " L ᴿ " " " CS2ᴿ (" ") - " " Sh. 2
Ship One " L4ᴸ " " " CS2ᴸ (" ") - " " Sh. 2
Ship the following items loose:-

48 - Ladders L1
4 - " L5
4 - " L6
4 - " L7
2 - " L18
2 - " L19

REQUIRED				
Bent E2	Bent E3	Total	Description	Mark
84	84	168	Ladders	L1
6	6	12	"	L2
2	2	4	"	L3
2	2	4	"	L4ᴿ
2	2	4	"	L4ᴸ
2	2	4	"	L5
2	2	4	"	L6
2	2	4	"	L7
One	One	2		L19
8	8	16	Doors	DD1
8	8	16	Staples	DL1
8	8	16	Wedges	DL2
One	One	2	Ladders	L18

Gen. Notes:

MATERIAL: All material O.H. Copper Bearing Medium Carbon Steel except for wire mesh, wedges DL2 & staples DL1 which are ordinary carbon steel galvanized.
SPECIFICATIONS: Special by State of California, Dept. of Public Works.
INSPECTION: John M. Bailey, Chief Inspector.
RIVETS: ¾"φ
OPEN HOLES: 13/16φ unless noted.
REAMING: None.
FINISH: All edges of ladders, doors, & fastenings are to be smooth with no ragged edges.
Paint: None

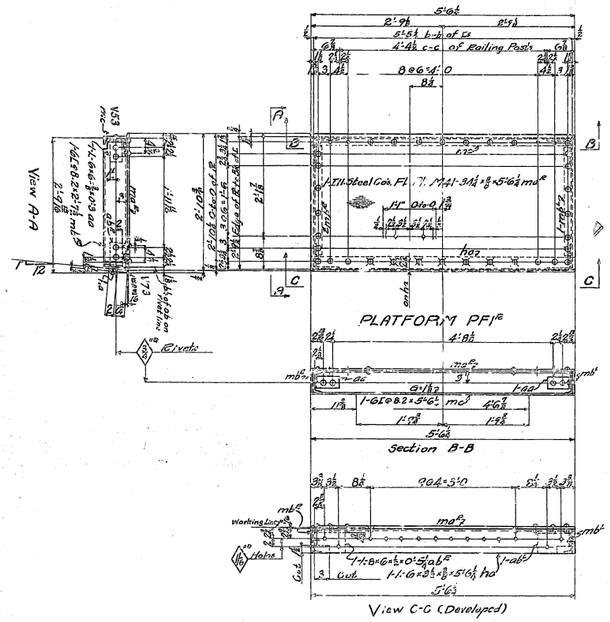
APPROVED
Approval Date 7-20-34

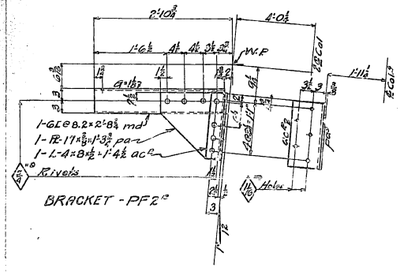
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Bents E2 & E3
Details of:- Ladders & Doors

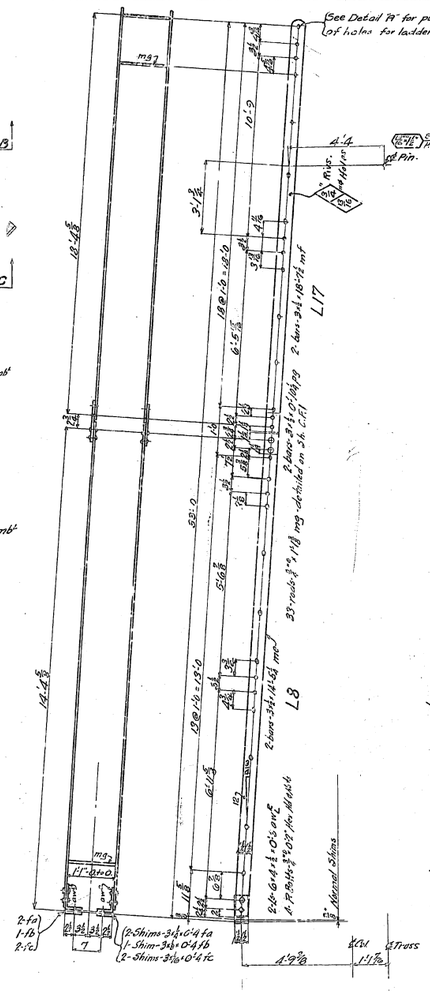
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Strang
DW. MADE BY J.D.T. DATE 12-15-33
DW. CHECKED BY R.R.W. DATE 5-23-34

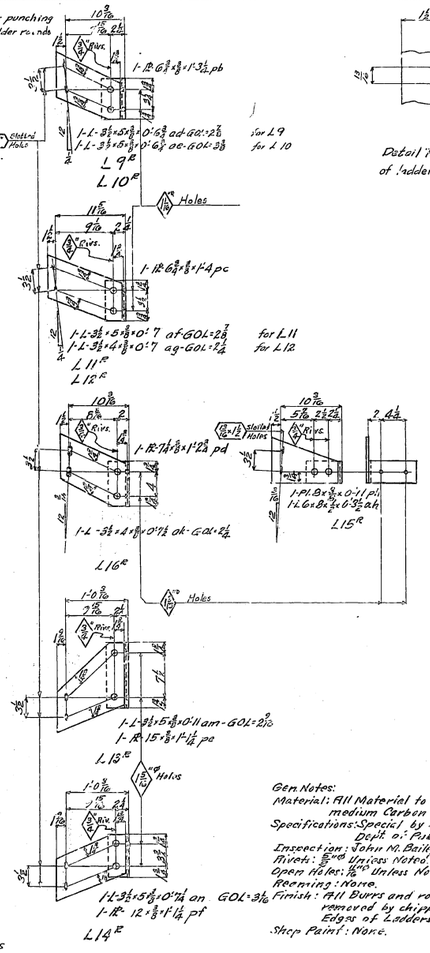
ORDER No. G5102
SHEET No. 13

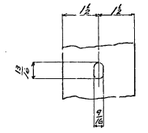
30-31











REQUIRED				
E2	E3	Total	Description	Mark
1	1	2	Platform	PF1E
1	1	2	do	PF1L
2	2	4	Bracket	PF2R
2	2	4	do	PF2L
2	2	4	Ladder	L18
1	1	2	Bracket	L9R
1	1	2	"	L9L
1	1	2	"	L10R
1	1	2	"	L10L
1	1	2	"	L11R
1	1	2	"	L11L
1	1	2	"	L12R
1	1	2	"	L12L
1	1	2	"	L13R
1	1	2	"	L13L
1	1	2	"	L14R
1	1	2	"	L14L
1	1	2	"	L15R
1	1	2	"	L15L
1	1	2	"	L16R
1	1	2	"	L16L
2	2	4	Ladder	L17

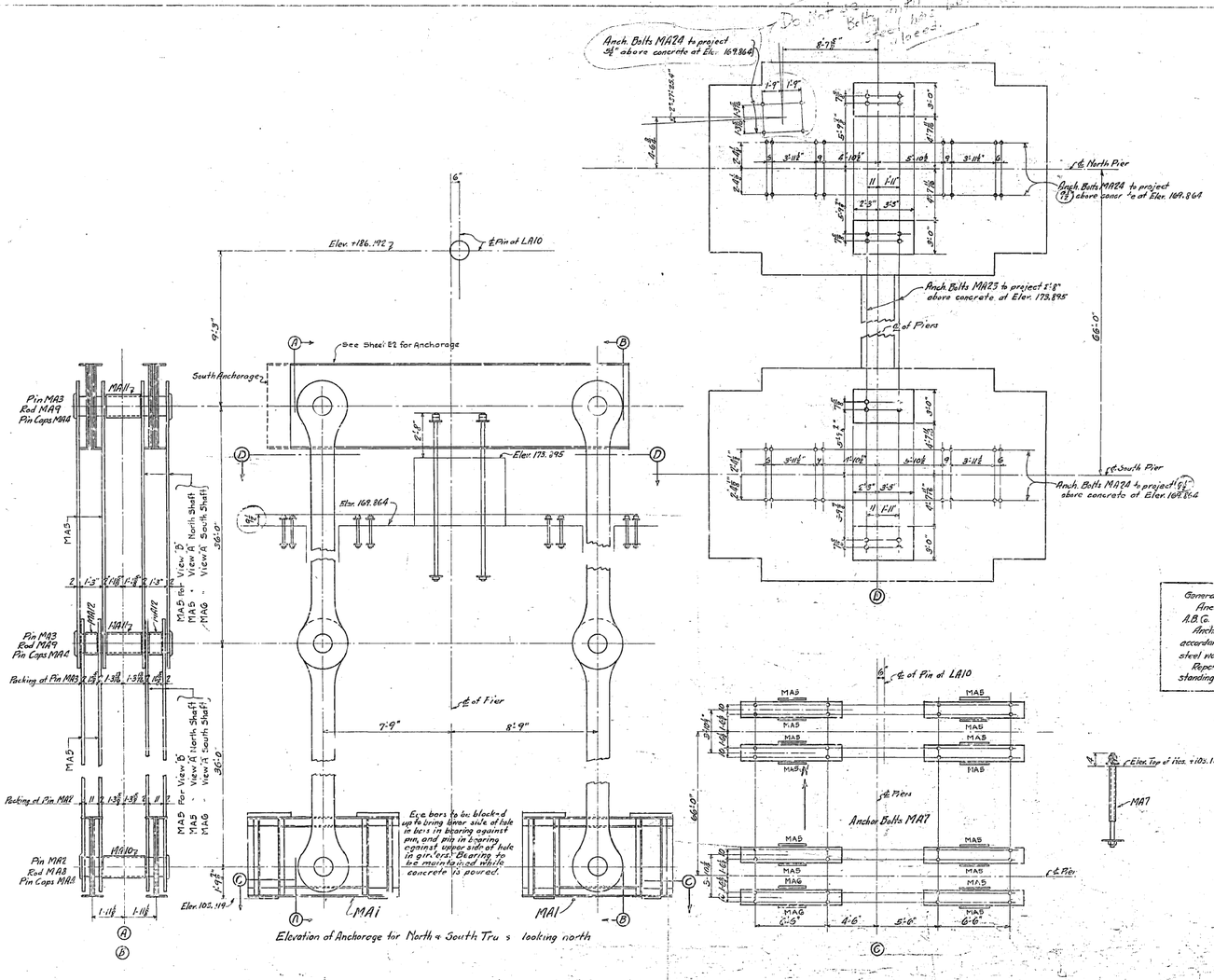
Gen Notes:
Material: All Material to be O.H. Copper-Bearing medium Carbon Steel.
Specifications: Special by State of California, Dept. of Public Works.
Inspection: John M. Bailey, Chief Inspector.
Rivets: 7/8" Unless Noted.
Green Nuts: 1 1/8" Unless Noted.
Reaming: None.
Finish: All Burns and rough edges to be removed by chipping or grinding. Edges of Ladders to be smooth.
Shop Paint: None.

APPROVED
6-22-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Bents E2 & E3

Details of Platform-Ladder & Brackets
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Gary PLANT
BY ... ORDER OF Strang
DET. MADE BY H.O.A.K. DATE 5-26-34
DET'L. CHECKED BY H.O.A.K. DATE 6-4-34
ORDER No. 65102 DRAWING No. 14

30-1

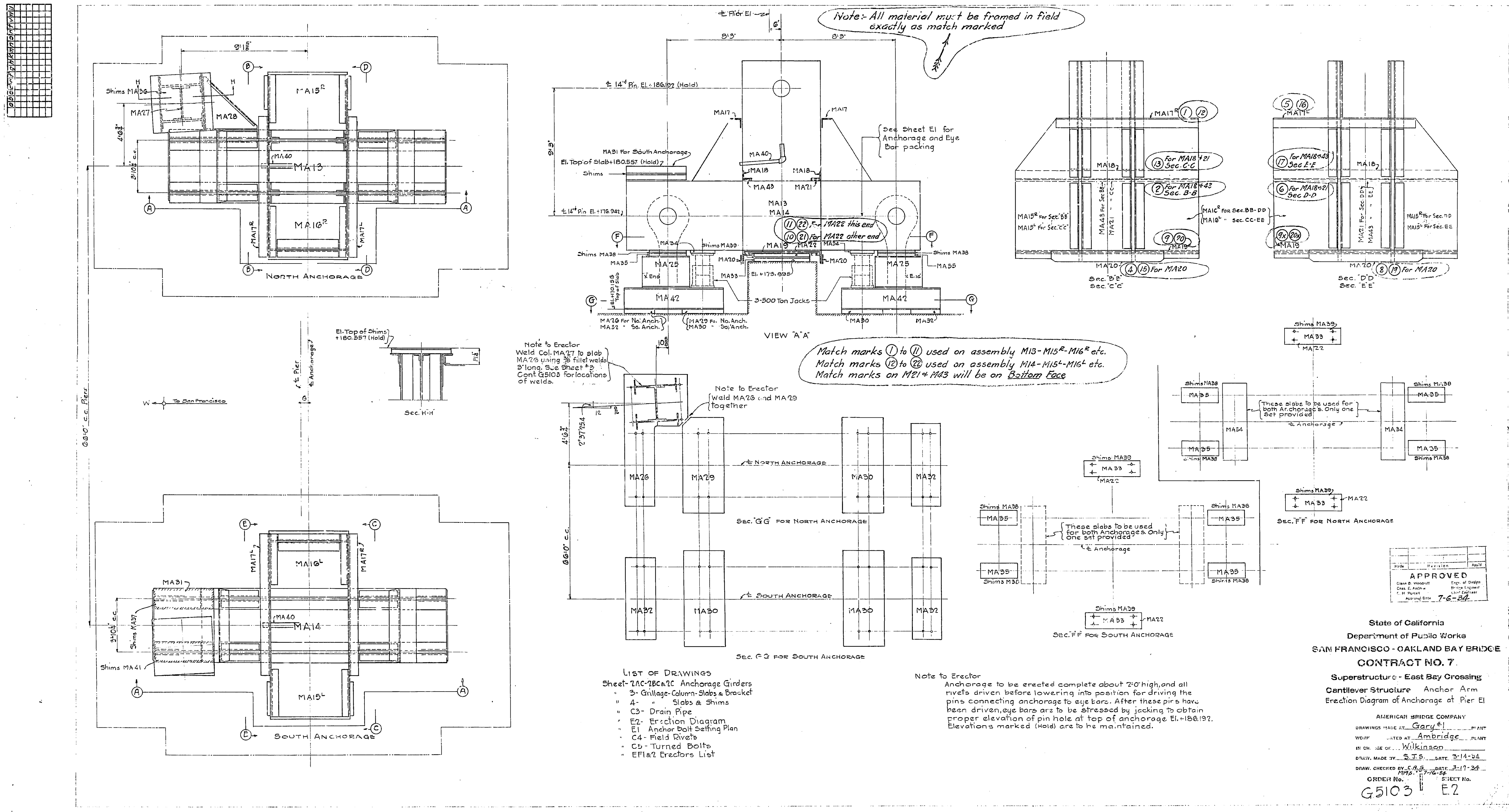


List of Drawings

G510B	sh. 1	Anchorage.
"	" C1	Eye bars
"	" C2	Pins & Spacers
G457L	" F100	Anchor Bolts
"	" F101	" "

General Notes:
Anchor bolts furnished by A.B.G. Set by Others.
Anchor bolts must be set in accordance with this drawing or steel work will not fit.
Report any error or misunder. Standing at once.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure
Anchorage at Pier E1
AMERICAN BRIDGE COMPANY
DRAWN BY Gery "1" PLAN
TRACED BY PLANT
LINE OF Wilkinson
CHECKED BY P.H.C. DATE 2-16-34
RECOMMENDED BY P&M DATE 2-15-34
CONTRACT NO. 7 SHEET NO.
G510B - E1


30-1
Note:- All material must be framed in field exactly as match marked
Match marks ① to ⑪ used on assembly M13-M15R-M16R etc.
Match marks ⑫ to ㉒ used on assembly M14-M15L-M16L etc.
Match marks on M21 & M43 will be on Bottom Face
North Anchorage
South Anchorage
View "A-A"
Sec. "G-G" for North Anchorage
Sec. "F-G" for South Anchorage
Sec. "F-F" for North Anchorage
Sec. "F-F" for South Anchorage
Sec. "B-B" Sec. "C-C"
Sec. "D-D" Sec. "E-E"
Sec. "H-H"
These slabs to be used for both Anchorages & Only one set provided
3-500 Ton Jacks
Note to Erector Weld MA28 and MA29 together
List of Drawings
Sheet- 2AC-2BC & 2C Anchorage Girders
3- Grillage-Column-Slabs & Bracket
4- Slabs & Shims
C3- Drain Pipe
E2- Erection Diagram
E1 Anchor Bolt Setting Plan
C4- Field Rivets
C6- Turned Bolts
EF1 & 2 Erectors List
Note to Erector
Anchorage to be erected complete about 2'0" high, and all rivets driven before lowering into position for driving the pins connecting anchorage to eye bars. After these pins have been driven, eye bars are to be stressed by jacking to obtain proper elevation of pin hole at top of anchorage El. +186.192. Elevations marked (Hold) are to be maintained.
APPROVED 7-6-34
State of California
Department of Public Works
San Francisco - Oakland Bay Bridge
Contract No. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
Erection Diagram of Anchorage at Pier E1
American Bridge Company
Drawings made at Gary #1 Plant
Work located at Ambridge Plant
Wilkinson
Drawn, made by S.J.S. Date 3-14-34
Checked by C.A.G. Date 3-17-34
Order No. G5103
Sheet No. E2

WEST ANCHOR ARM NORTH TRUSS

WEST ANCHOR ARM SOUTH TRUSS

6 Panels at 48'-0" = 288'-0

4 Panels @ 55'-0" = 220'-0

508'-0 c. to c.

To San Francisco

Erection begins at LA10.

For Diagram of Ladders & Rail Posts for Inspection Walk See sheet E2

For Works and Packing of Pins and Eye Bars See G&E Old Sheet El. Bottom chord splices to be reamed with chords assembled in a straight line in shop. NO CAMBER.

All members shown dotted are for Erection Purposes only. After their removal, Erector to consult detail drawings of main members for removal of excess material and filling of extra field holes with rivets.

For temporary blocking of MA3 see GI-K-4895 sheet E2

For arrangement of Jacking member, see GI-K-4595-sh.112.

Crown of Roadway Upper Deck

Crown of Roadway Lower Deck

Note:- Sections (D) & (E) shown on Sh. E4

All 1¼" rivets are copper bearing manganese steel. All other rivets are copper bearing carbon steel.

For Index to Drawings, West Anchor Arm see Sh. E2

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure West Anchor Arm

Erection Diagram

AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary, IN. PLATE
FABRICATED AT Ambridge, PA. PLATE
IN CHARGE OF Williamson
DETAIL MADE BY ____ DATE ____
DETAIL CHECKED BY ____ DATE ____

APPROVED
Glenn B. Woodruff, Chief Engineer
Clyde E. Arenz, Bridge Engineer
C. H. Purcell, Toll Engineer
Approved Date 11-26-38

ORDER No. G5103
SHEET No. E3

30-1

North Truss

UA8 UA7 UA6 UA5 UA4 UA3 UA2 UA1 UA0

66'-0 c. to c. Trusses

South Truss

To San Francisco

TOP LATERALS WEST ANCHOR ARM
506'-0 c. to c.

UPPER DECK FLOOR SYSTEM WEST ANCHOR ARM

6 Panels @ 48'-0 = 288'-0

4 Panels @ 55'-0 = 220'-0

LA10 LA9 LA8 LA7 LA6 LA5 LA4 LA3 LA2 LA1 LA0

LOWER DECK (Bottom Lats, Fl.Brms & Stringers) WEST ANCHOR ARM

LOWER DECK (Highway Deck Brms & Ry. Stringer Lats.) WEST ANCHOR ARM

Drive rivets in P106 to post before erecting balance of sway frame.

Crown of Roadway Upper Deck

Crown of Roadway Lower Deck

℄ Batt. Chord

(D) LA4-UA4

(E) LA4-UA6

INDEX TO DRAWINGS, WEST ANCHOR ARM:

G5103

E2 & E4 Erection Diagrams
Sh. No. 3 to 11 of 14 Inspection Walk and Ladder
Top Chord Truss members
21 to 31 Bottom Chord Truss members
41 to 66 Web, Truss members
71 to 78 Floor Beams Upper Deck
78 to 81 Floor Beams Lower Deck
91 to 96 Portals and Top Struts
97 to 99 Top Laterals
100 to 105 Bottom Laterals
106 to 114 Portals and Plates
121 Upper Rail Stringers
122 to 126 Joints
131 to 143 Railway Stringers and Bracing Lower Dk.
144 to 148 Highway Stringers Lower Deck
C6 Man Hole Covers
C8 Misc. Metal, Inspection Walk
C13 Pilot and Driving Nuts
C15 to C17 Pin Caps, Rods and Ring Fills
C18 to C19 & C19A Field Rivets and Bolts
171 to 176 & 178 to 185 Erectors List of Field Rivets and Bolts

G5104

E1 Packing Diagram
C1 & C2 Eye Bars
C9 to C12 Pins
C3 Eye Bars Used in Erection
C14 Pins Used in Erection

G5107

E 501 to E 506 Erection Diagram
501 to 503 Pipe Railing
504 Drainage
515 Expansion Joint
527 Slab Angles
551 to 558 Skid Rail
581 to 584 Hand Rail, North Curb, Lower Deck
585 to 587 Hand Rail, South Curb, Lower Deck
589 to 592 Hand Rail, North and South Curb, Upper Deck
E71 Cast Iron Drain Scuppers
C1 & C2 Field Bolts (Ambridge)
C8 to C21 Field Rivets and Bolts
E71 to E710 Erectors List of Field Rivets and Bolts
C11 Shims for U.D. Roadway Angles

Erector's Notes:-
All holes used for erection purposes are to be filled with rivets. See detail drawings for notes concerning same. See shop detail drawings for removal of excess material at points where erection members connect.

For Skid Rail, Hand Rail, Curbs and Slab angles See G5107 Sh. E501
For Pipe Hand Rail See G5107 Sheet 501, 502, 503.
For Down Spouts and Drainage See G5107 Sheet 504.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure West Anchor Arm

Erection Diagram

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary IND. PLANT
& FABRICATED AT Ambridge PLANT
UNDER CHARGE OF Wilkinson
DRAWN, NAME CK. DATE
CHECKED, CHECKED BY DATE

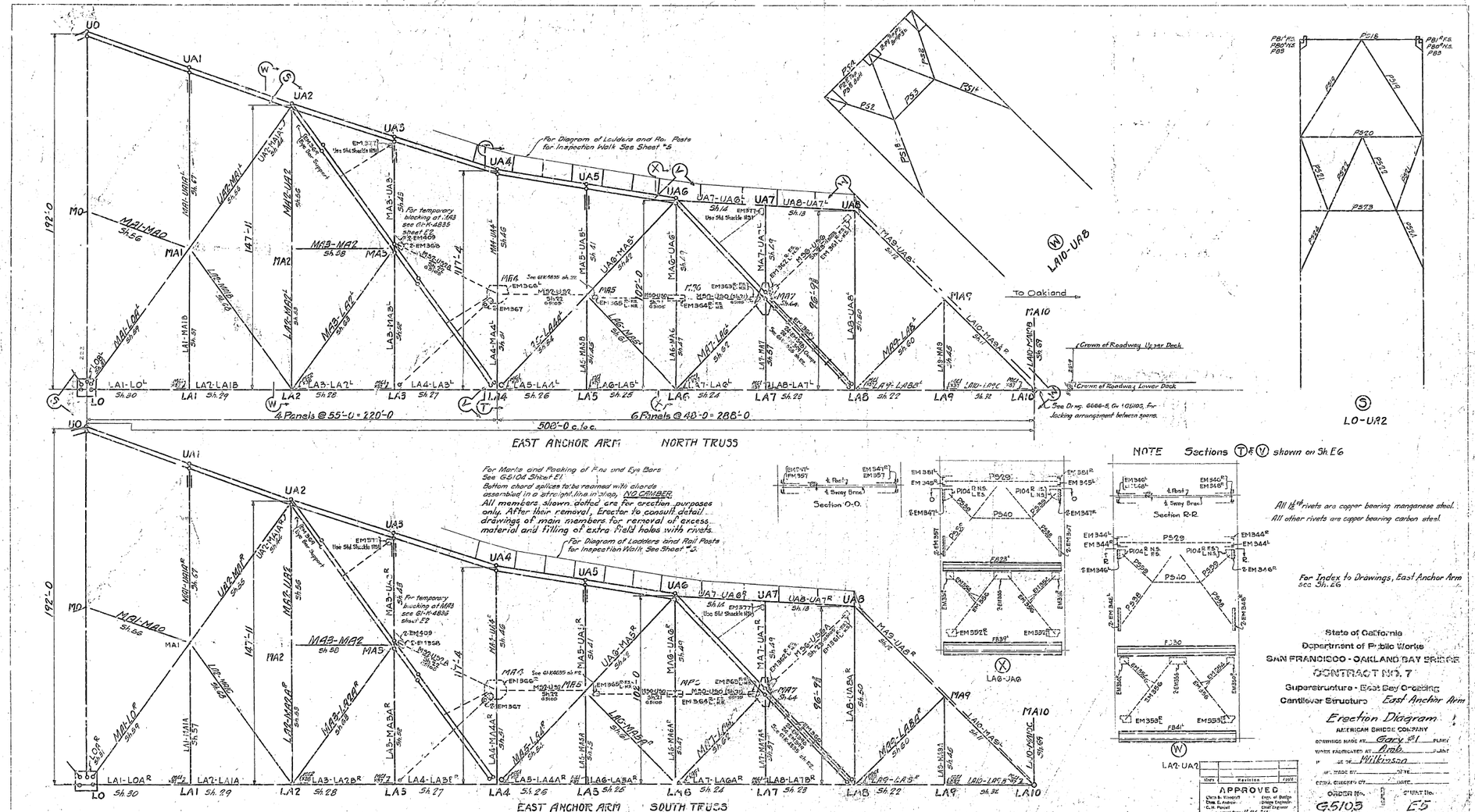
No.	Revision	By

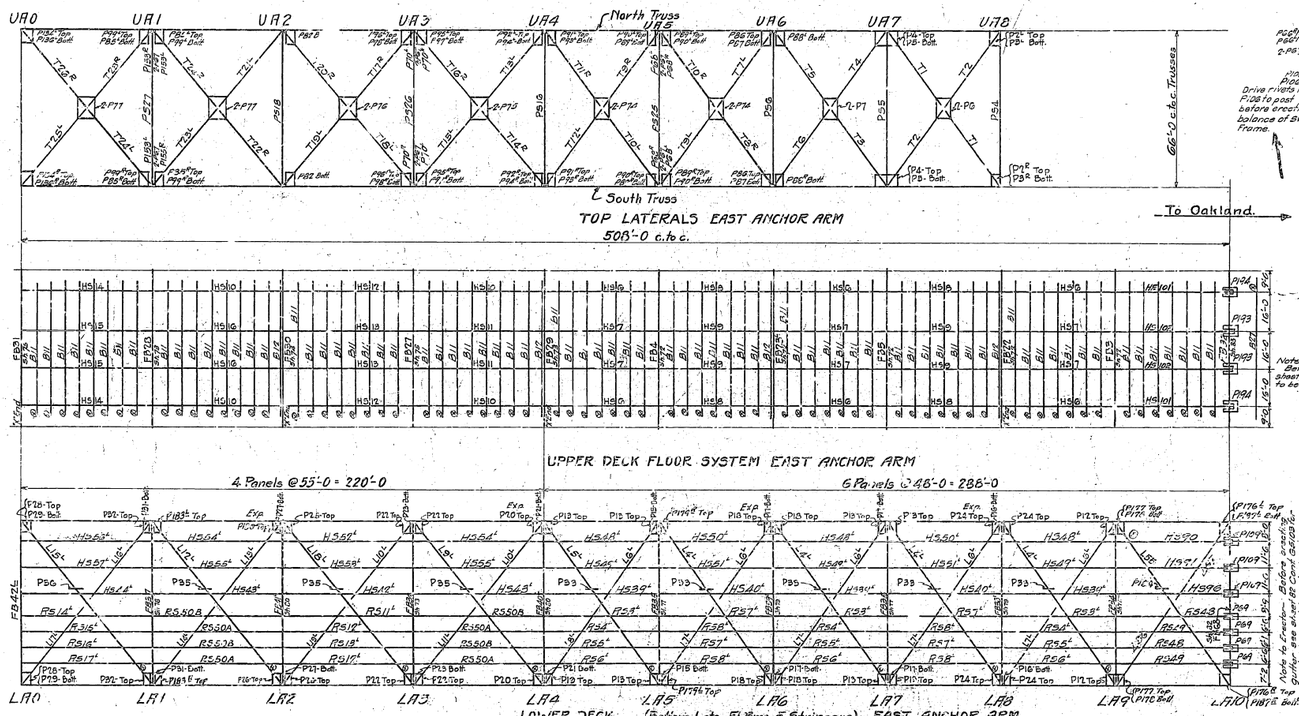
APPROVED
Glenn B. Woodruff, Engr. of Design
L. Hill, C. Asst. Engr. Bridge Engineer
C. M. Purcell, Chief Engineer
Date and Date 11-26-37

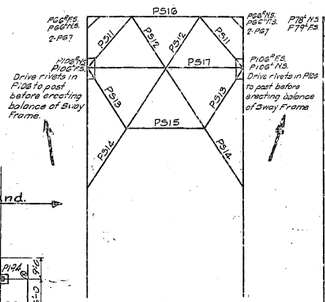
ORDER No. G5103 SHEET No. E4

Rev 4-16-38

30-1


U0
UA1
UA2
UA3
UA4
UA5
UA6
UA7-UA8L
UA7
UA8-UA7L
UA8
M0
MA1
MA2
MA3
MA5
MA6
MA7
MA9
MA10
L0
LA1
LA2
LA3
LA4
LA5
LA6
LA7
LA8
LA9
LA10
192'-0
102'-0
96'-9
4 Panels @ 55'-0 = 220'-0
6 Panels @ 48'-0 = 288'-0
508'-0 c. to c.
EAST ANCHOR ARM NORTH TRUSS
EAST ANCHOR ARM SOUTH TRUSS
For Diagram of Ladders and Rail Posts for Inspection Walk See Sheet #5
For temporary blocking of MA3 see 61-K-483S Sheet E2
For temporary blocking of MA5 see 61-K-483S Sheet E2
For Marks and Packing of Pins and Eye Bars See 661Od Sheet E1
Bottom chord splices to be reamed with chords assembled in a straight line in shop, NO CAMBER.
All members shown dotted are for erection purposes only. After their removal, Erector to consult detail drawings of main members for removal of excess material and filling of extra field holes with rivets.
To Oakland
Crown of Roadway, Upper Deck
Crown of Roadway, Lower Deck
See Dr. no. 6666-S, Sh 10S103, For Jacking arrangement between spans.
Section 0-0.
Section R-R.
LA0-UA6
LA10-UA8
LO-UA2
LA2-UA2
NOTE Sections T & V shown on Sh E6
All 1 1/8" rivets are copper bearing manganese steel.
All other rivets are copper bearing carbon steel.
For Index to Drawings, East Anchor Arm see Sh. 26
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Cantilever Structure East Anchor Arm
Erection Diagram
AMERICAN BRIDGE COMPANY
APPROVED
ORDER No. G5103
DETAIL No. E5





Ⓣ LA4-UA4

Note to Erector- Before erecting gusset as per sheet 88 Cont 68108 fir rivets to be driven in tension piles P1934 P1944

Ⓥ LA4-UA6

INDEX TO DRAWINGS EAST ANCHOR ARM

G5103

E8468 Erection Diagrams
Sh Nos Inspection Walk and Ladder
1 to 14 Top Chord Truss Members
T2 to T32 Bottom Chord Truss Members
A1 to A71 Web Truss Members
A84 to A64 Web Truss Members
G65 to G69 Web Truss Members
T2 to T68 Fl. Beams, Upper Deck
T7 to T82 Floor Beams, Lower Deck
91 to 113 Portals, Struts, Laterals and Plates.
121 Upper Deck Stringers
124 Splices
123 Upper Deck Stringers
131 to 133 Railway Stringers and Stringer Brkts
134 to 138 & 139 Highway Stringers Lower Deck.
151 to 138 Railway Stringers.
C1 Man hole covers
C9 Misc. Material, Inspection Walk
C10 to C12 Pin caps, Rods and Ring Fills
C14 Pilot Nuts and Driving Nuts
C15 to C18 & C20 Summary of Field Erects Bolts
E8475 to E8486 Erectors List of Field Erects Bolts

G5104 E506 Erection Diagram
501 to 508 Pipe Railing
505 Drainage
508 Drain at Ed
527 Stiel Angles
526 to 550 Expansion Grating
531 " Expansion Dam. at Ed
551 to 558 & 582 Stiel Rails
581 to 587, 561 to 576 Hand Rail
Cast Steel Wells and Shims
CF3 Cast Iron Scuppers
C53 to C56 Summary of Field Erects Bolts
E8491 to E8496 Erectors List of Field Erects Bolts
Gll Shims for U.D. Roadway Trucks

G5107 E5034 E506 Erection Diagram

Erector's Notes:
All holes used for erection purposes are to be filled with rivets See Detail Drawings for notes concerning same. See shop detail drawings for removal of excess material at points where erection members connect.

Expansion Dams
For Skid Rail, Hand Rail, Curbs, and Slab 12 See G5107 Sheet E8028
For Pipe Hand Rail See G8107 Sheet 5014502
For Down Spouts and Drainage See G8107 Sh 502 & 505

State of California
Department of Public Works
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure East Anchor Arm

Erection Diagram

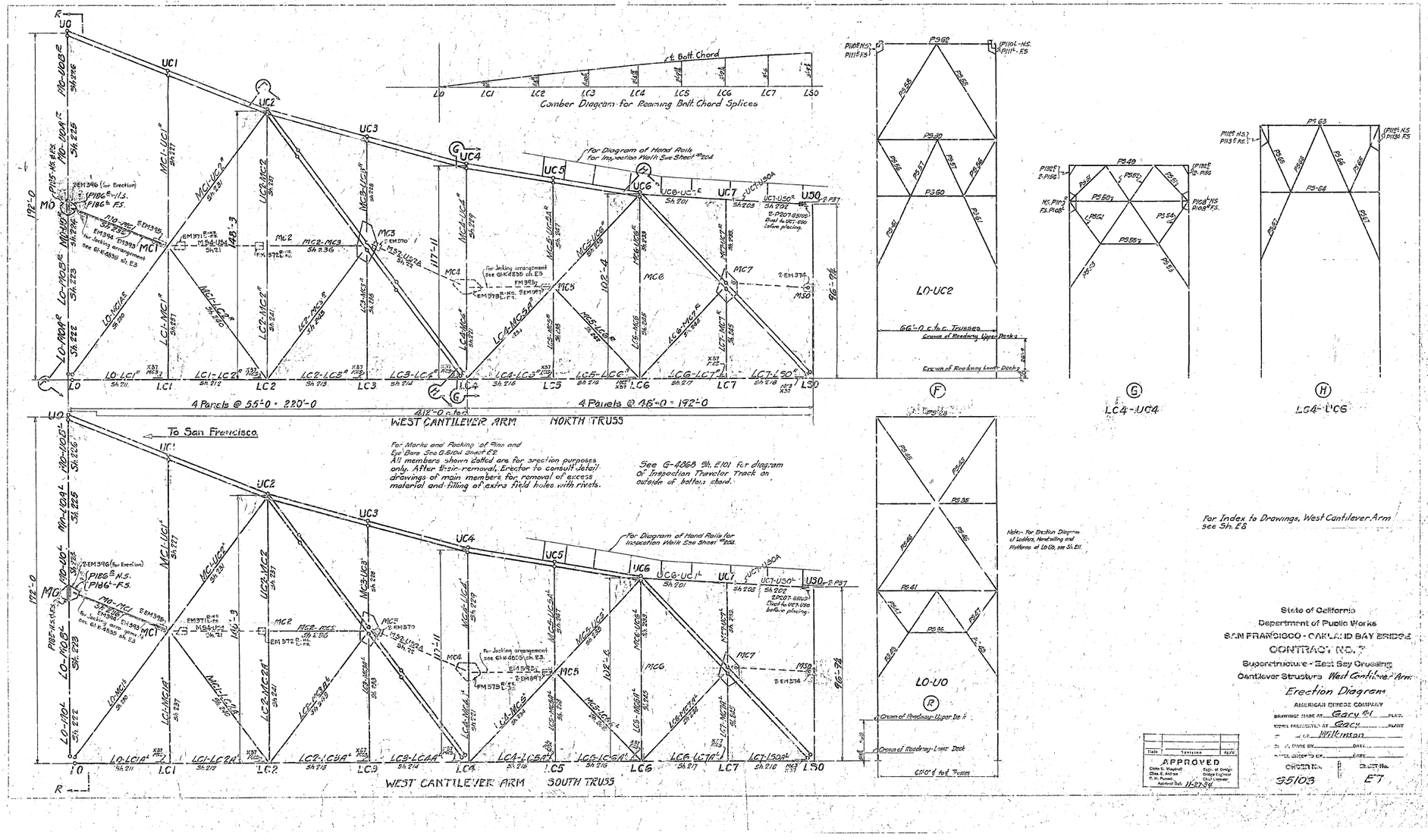
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary, Ind. IN 1937
FINAL TRACINGS AT Pgh. PA. IN 1937
IN CHARGE OF Wilkinson.
MADE BY ... CHKD ...
DATE CHECKED BY ... DATE ...

No.	Revision	Date

APPROVED
Chas. C. Wilputte, Engr. of Design
Chas. E. Andrew, Division Engineer
C. H. Purcell, Chief Engineer
Approval Date 11-21-36

CONTRACT NO. G5103
SHEET NO. E6

(Rev 4-16-35)

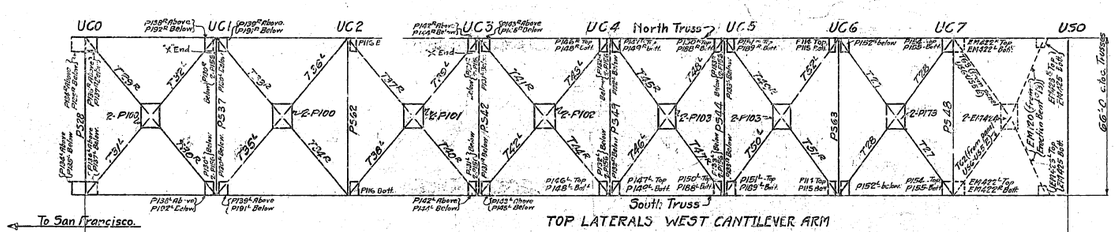


State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure West Cantilever Arm
Erection Diagram
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary Ind. PLANT.
WORK PERFORMED AT Gary PLANT
OF C. E. Wilkinson
DRAWN BY DATE
TRACED BY DATE

Mark	Revisions	Date

APPROVED
Clem O. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
H. H. Purnell, Chief Engineer
Approved Sept. 11-27-34

ORDER No. 35103 SHEET No. E7

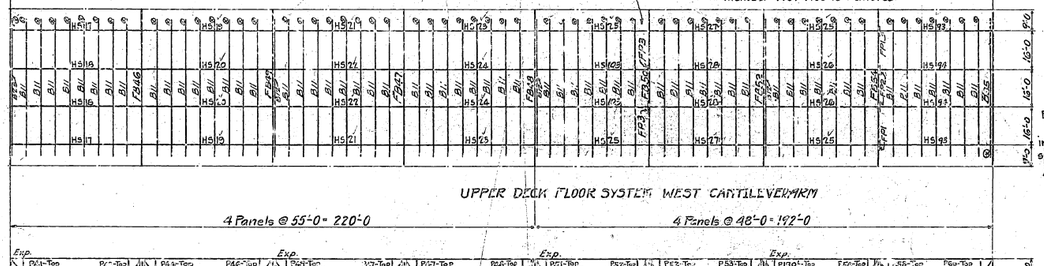


All members shown dotted are for erection purposes only. After their removal, Erector to consult detail drawings of main members for removal of excess material and filling of extra field holes with rivets.

TOP LATERALS WEST CANTILEVER ARM

412'-0 c.to c.

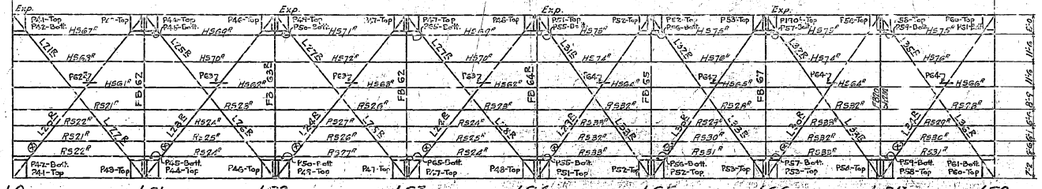
Erectors Note:- FP3 to be placed after temporary member MC4-MC5 is removed.



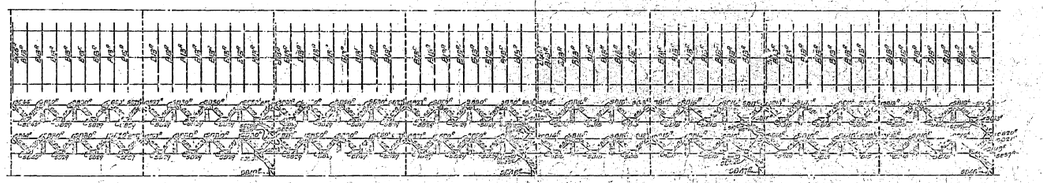
Erectors Note:- Plates FP1-FP2 to be inserted after suspended span is swung for panel LC7-L50

UPPER DECK FLOOR SYSTEM WEST CANTILEVER ARM

4 Panels @ 55'-0 = 220'-0 | 4 Panels @ 48'-0 = 192'-0



LOWER DECK (Bottom Lats, Floors & Stringers) WEST CANTILEVER ARM



LOWER DECK (Highway Deck Drns & Toy Stringer Lats.) WEST CANTILEVER ARM

INDEX TO DRAWINGS, WEST CANTILEVER ARM.

G5103

E7&E8 Erection Diagrams.
E11 Erection Diagrams of Ladders and Platforms
S4,M101 Upper Deck Highway Stringers
10A,12A29 Roadway Joints
201to208 Truss Members, The Chord
204 Inspection Hole
211to218 Truss Members, Bottom Chord
221 to 231, 233 & 247 Truss Members, Web
232 Lower Deck Floor Beams
233to235 Upper Deck Floor Beams
238to249 Lower Deck Floor Beams
271to278 Bottom Laterals
276to277 Top Laterals
278to279 Portal Bracing
280to284 Lateral Plates
301to307 Railway Stringers and Bracing
308to326 Lower Deck Highway Stringers
327to332 Platforms, Ladders & Hand Railing
C13 Pilot & Driving Nuts
C30&C31 Pin Caps, Nuts & Ring Fills
C101 Manhole Covers
C109 Misc. for Inspection Walk
E7&E8 Erection List of Field Rivets & Bolts
C30&C109 Summary of Field Rivets & Bolts

G5104

E7 Pin Packing Diagram
C14,C15 to C21 Eyebars
C14,C15&C20 Pins

G5107

E502 to E506 Erection Diagram
501 to 503 Pipe Railing
505 Drainage
597 Slab Angles
597A,598 Skid Rail
599 to 601 Curbs & Walks
C29 Scuppers
C61 to C66 Summary of Field Rivets & Bolts
E7,E11 to E17 Erection List of Field Rivets & Bolts
C115 Shims for U.D. Roadway Angles

G4868 (Insp. Traveler Track)

E101 Erection Diagram
101 Truck Beams
102 Brackets
C101&C102 Field Rivets & Bolts
EF101 Erectors List of Field Rivets & Bolts

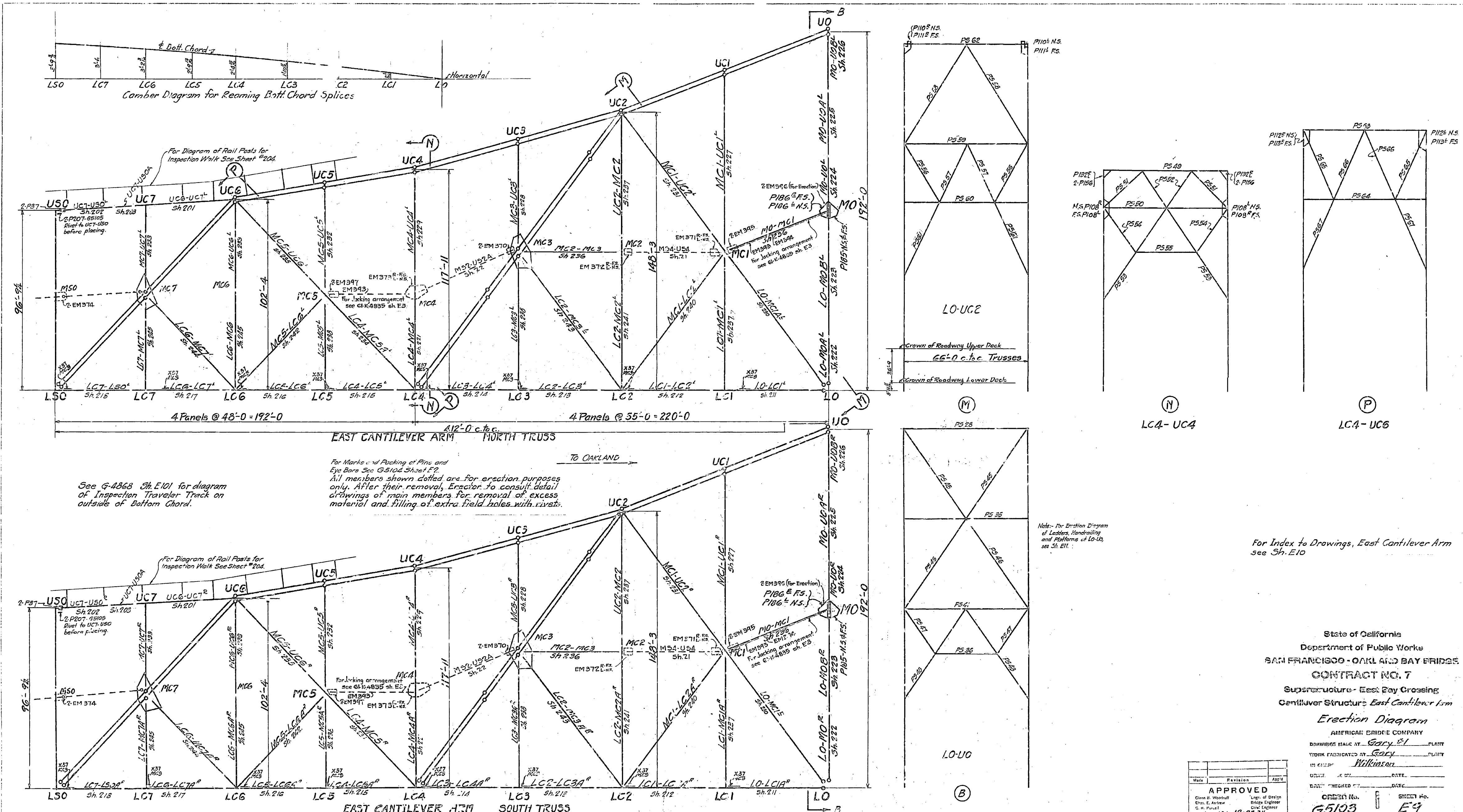
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure West Cantilever Arm
Erection Diagram
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary Ind. PLANT
WORK FABRICATED AT Gary & Amb. PLANT
DRAWN BY Williscroft DATE
TRACED BY DATE
CHECKED BY DATE

Mark	Revision	Appd

APPROVED
Chas. B. Wandell, Engr. of Design
Otto E. Ambsen, Chief Engineer
A. M. Hunt
Approved Date 11-27-36

ORIG. DR. G5103
SHEET No. E8

30-1



For Marks and Packing of Pins and Eye Bars See G5104 Sheet E2.
All members shown dotted are for erection purposes only. After their removal, Erector to consult detail drawings of main members for removal of excess material and filling of extra field holes with rivets.

See G-4868 Sh. E101 for diagram of Inspection Traveler Track on outside of Bottom Chord.

For Index to Drawings, East Cantilever Arm see Sh. E10

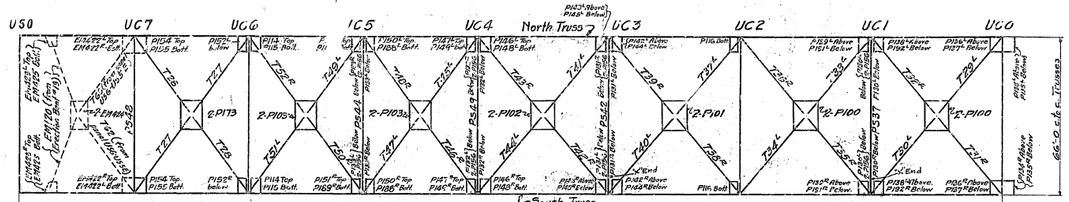
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure East Cantilever Arm

Erection Diagram

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE Wilkinson
DRAWN BY ____ DATE ____
DRAWING CHECKED BY ____ DATE ____
ORDER No. G5103
SHEET No. E9

Made	Revision	App'd

APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 12-28-34

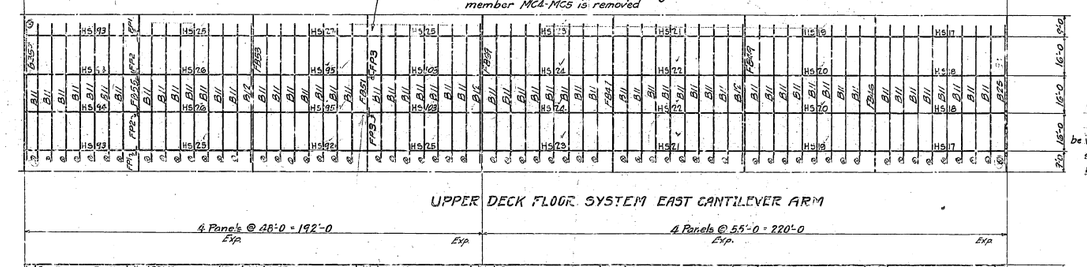


All members shown dotted are for erection purposes only. After their removal, Erector to consult detail drawings of main members for removal of excess material and filling of extra field holes with rivets

TOP LATERALS EAST CANTILEVER ARM

417'-0 c. to c.

Erectors Note:- F.P3 to be placed after temporary member MC4-MC5 is removed

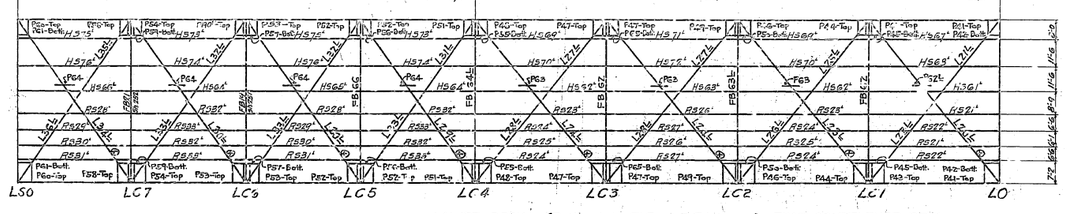


To Oakland

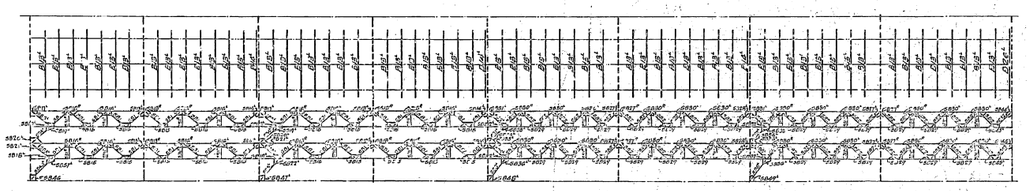
Erectors Note:
Plates FP1 - FP2 to be inserted after suspended span is swung for panel LC7-L50

UPPER DECK FLOOR SYSTEM EAST CANTILEVER ARM

4 Panels @ 48'-0 = 192'-0 | 4 Panels @ 55'-0 = 220'-0



LOWER DECK (Bottom Lats. Fl.Bms. & Stringers) EAST CANTILEVER ARM



LOWER DECK (Highway Deck Bms. & Ry. Stringer Lats.) EAST CANTILEVER ARM

INDEX TO DRAWINGS, EAST CANTILEVER ARM

G5103

E9 & E10	Erection Diagrams
E11	Erection Diagram of Ladders & Platform
121	Upper Deck Highway Stringers
1214 & 1219	Roadway Joists
2014 to 2018	Truss Members, Top Chord
2024	Inspection Walk
2111 to 2118	Truss Members, Bottom Chord
2211 to 2216	Truss Members, Web
2314 & 2325	Lower Deck Floor Beams
2364 to 2765	Upper Deck Floor Beams
2864 to 2865	Lower Deck Floor Beams
271 to 2714	Bottom Laterals
2764 to 2777	Top Laterals
2784 to 2791	Portal Bracing
2934 to 2954	Lateral Plates
301 to 307	Railroad Stringers & Bracing
3024 to 3054	Lower Deck Highway Stringers
3111 to 3121	Platforms, Ladders & Hand Railing
C15	Pilot & Driving Nuts
C21 & C23	Pin Caps, Rods & Ring Fill's
C102	Manhole Covers
C104	Misc. for Inspection Walks
E9101 to E9120	Erector's List of Field Rivets & Bolts
C651 to C653	Summary of Field Rivets & Bolts

G5104

E9	Pin Packing Diagram
C11 to C13	Eyebars
C956 & C96	Pins

G5107

E504 to E506	Erection Diagram
901 to 905	Pipe Railing
905	Drainage
951	Slab Angles
9511 to 961	Skid Rail
9661 to 967	Curbs & Walks
C12	Scuppers
C651 to C653	Summary of Field Rivets & Bolts
E9101 to E9127	Erector's List of Field Rivets & Bolts
C14	Shims for U.P. Roadway Angles

G4868 (Insp. Traveler Track)

E101	Erection Diagram
101	Track Beams
102	Brackets
C1074 to C105	Field Rivets & Bolts
E9101	Erectors List of Field Rivets & Bolts

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure East Cantilever Arm

Erection Diagram

AMERICAN BRIDGE COMPANY

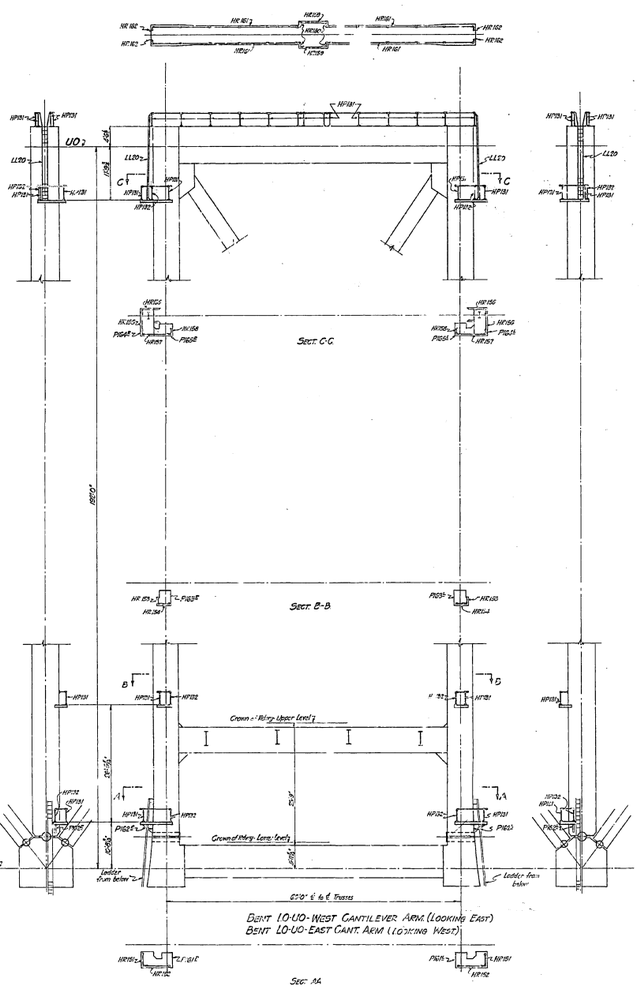
DRAWING MADE BY Gary 5/1 DATE
WORK FABRICATED BY Gary & Ambridge PLANT
BY ... OF Williamson
CHECKED BY ... DATE
... CHECKED BY ... DATE

Mark	Revision	Date

APPROVED
Chas. D. Wadsworth, Engr. of Design
Chas. E. Andrew, Calif. Engineer
C. H. Purcell, Consulting Engineer
Approval Ltr. 12-2898

ORDER No. G5103 | SHEET No. E10

Rev. 2-16-36



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure CANTILEVER ARM
ERECTION DIAGRAM :- PLATFORMS, HAND-RAILING AND OUTSIDE LADDERS AT LO-UO
AMERICAN BRIDGE COMPANY

DRAWN AT Gary, Ind. PLANT
WAS ERECTED AT Gary PLANT
IN CHARGE OF Wilkinson
CHKD. BY DMW DATE 11-1-34
TRACED BY GM DATE 12-8-34

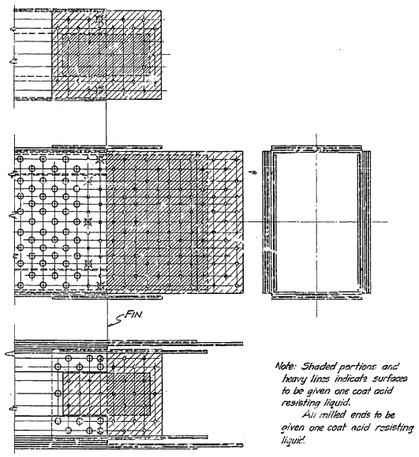
Mark	Revision	Appr.

APPROVED
Chas. H. Wilgram, Engr. of Design
Chas. E. Andrew, Bridge Engineer
J. H. Purcell, Chief Engineer
Approved D. 10-22-34

ORDER No. G-5103 E-11

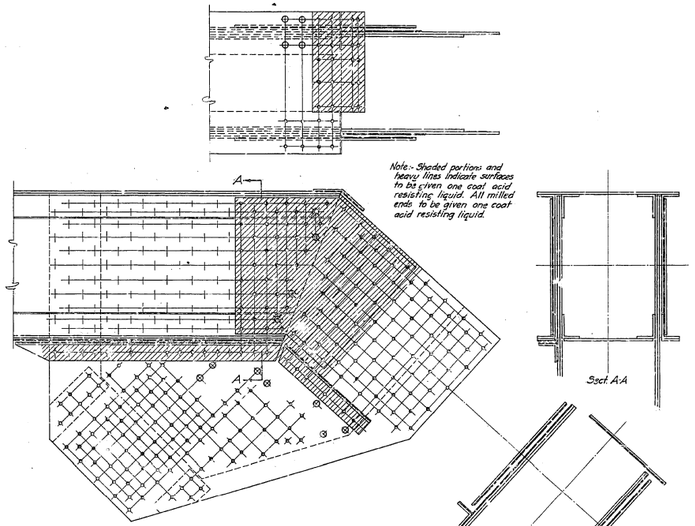
PRINTED 12-8-34

30-1



Note: Shaded portions and heavy lines indicate surfaces to be given one coat acid resisting liquid. All milled ends to be given one coat acid resisting liquid.

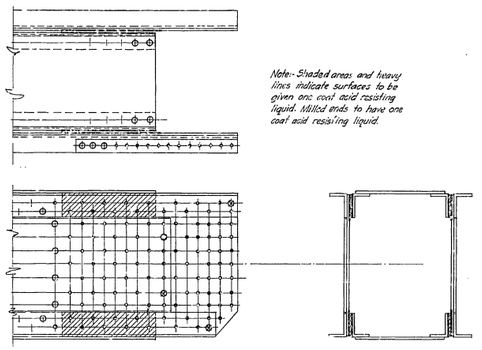
TYPICAL PAINTING DIAGRAM
BOTTOM CHORD SPLICES
EAST & WEST ANCHOR ARMS



Note:- Shaded portions and heavy lines indicate surfaces to be given one coat acid resisting liquid. All milled ends to be given one coat acid resisting liquid.

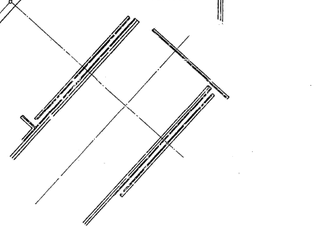
PAINTING DIAGRAM AT SPLICE
FOR MA9-UA8
EAST & WEST ANCHOR ARMS

Sect A-A



Note:- Shaded areas and heavy lines indicate surfaces to be given one coat acid resisting liquid. Milled ends to have one coat acid resisting liquid.

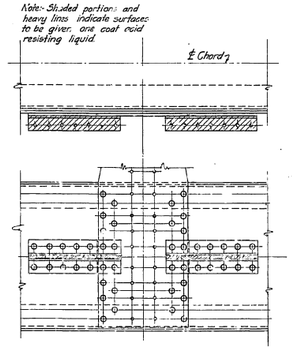
PAINTING DIAGRAM FOR SPLICE
AT UA7-UA6 ; JOINT UA8 ON UA6-UA7 & JOINT LA10 ON LA10-MA9 & LA10-MA9A SIMILAR.
EAST & WEST ANCHOR ARMS



Paint under all ⌀ bolted for shipment.

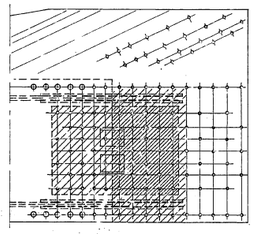
Note: Heavy lines indicate surfaces to be given one coat acid resisting liquid.

PAINTING DIAGRAM
AT ENDS OF TOP STRUTS.
BETWEEN LATERAL CONNS.

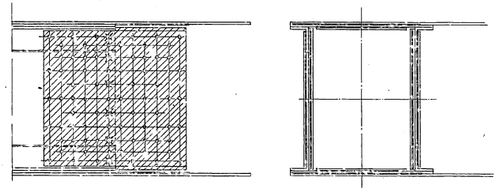


Note:- Shaded portions and heavy lines indicate surfaces to be given one coat acid resisting liquid.

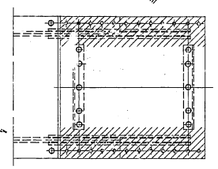
TYPICAL PAINTING DIAGRAM
BOTTOM CHORD LATERAL CONNECTIONS
USE SAME DIAGRAM FOR ALL CASES IN WHICH PAIR OF OUTSTANDING LEGS WILL NOT PERMIT SANDBLASTING

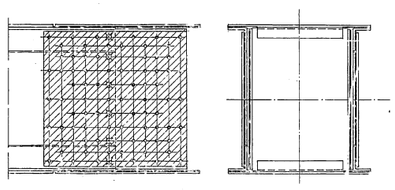


Note:- Shaded portions and heavy lines indicate surfaces to be given one coat acid resisting liquid. Milled ends to have one coat acid resisting liquid.



PAINTING DIAGRAM AT SPLICE MA9
ON LA10-MA9 & LA10-MA9A
EAST & WEST ANCHOR ARMS





PAINTING DIAGRAM AT SPLICE UA7
ON UA8-UA7
EAST & WEST ANCHOR ARMS

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure

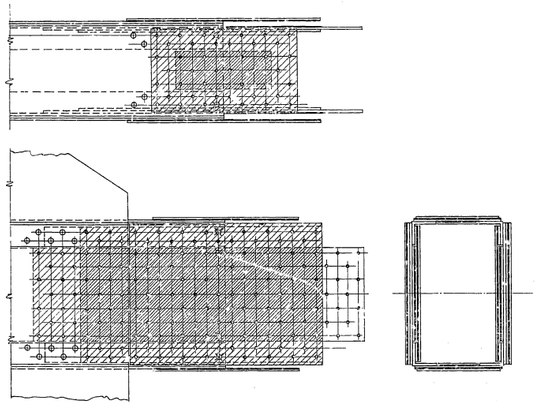
PAINTING DIAGRAMS

AMERICAN BRIDGE COMPANY

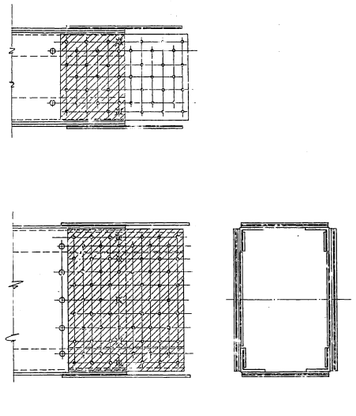
DRAWINGS MADE AT Gary Ind. PLANT
WORK FABRICATED AT Ambridge-Gary PLANT
IN CHARGE OF Wilkinson
DRN. BY TMW DATE 8-27-34
CHKD. CHECKED BY ____ DATE ____

ORDER No. G-5103 G-5105
SHEET No. E 21

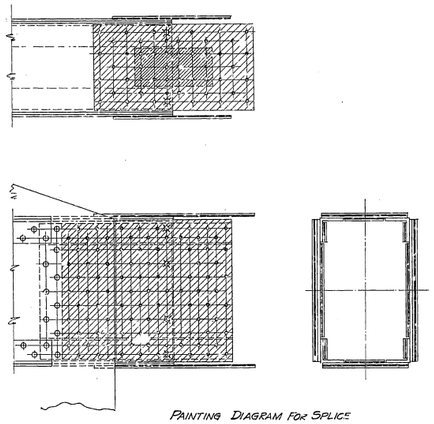
30-51



PAINTING DIAGRAM FOR SPLICE
ON U4G-M4S
EAST & WEST ANCHOR ARMS.



PAINTING DIAGRAM FOR SPLICE
ON U4Z-M4A
EAST & WEST ANCHOR ARMS



PAINTING DIAGRAM FOR SPLICE
ON U4Z-M4
EAST & WEST ANCHOR ARMS

Note:- Shaded portions and heavy lines indicate surfaces to be given one coat acid resisting liquid. Milled ends to have one coat acid resisting liquid.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Centilever Structure
PAINTING DIAGRAMS
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary Ind. PLANT
WORK FABRICATED AT Ambridge-Gary PLANT
BY DE OR Wilkinson
...MADE ON TRACING DATE 8-9-34
...WAS CHECKED BY ... DATE ...

ORDER No. G5103 G5105
SHEET No. E22

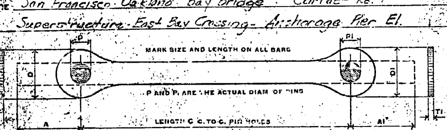
30-1

AMERICAN BRIDGE COMPANY
EYE BARS

DRAWINGS MADE BY Gary #1 — DRAWING FROM

WORK FABRICATED AT Ambridge PLANT

NAME OF STRUCTURE San Francisco-Oakland Bay Bridge. Contract No. 7
Superstructure-East Bay Crossing-Anchorage Pier E1.



TEST BARS TO BE LISTED SEPARATELY AT BOTTOM OF LIST

No. Pcs.	Section	Length Ft.	Length Ins.	Mark	Head D Pin P	Dia D	Thick T	Add A	Head D1 Pin P1	Dia D1	Thick T1	Add A1	Calc. Wt. for One Ship. Pce.	Ordered Length Ft.	Ordered Length Ins.	Item
[illegible]	16x2	35	$11\frac{21}{32}$	MA5	14	36	2	4-9	14	36	2	4-9	4700	45	6	21
[illegible]	16x2	35	$11\frac{21}{32}$	MA6	14	36	2	4-9	14	36	2	4-9	4701	45	6	21

Material: Carbon steel, containing not less than 0.20% Copper as per State of California specifications for San Francisco-Oakland Bay Bridge - Contract No. 7.

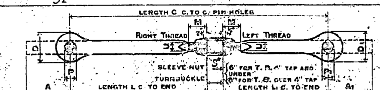
All Eye Bars to be Annealed

TEST BARS

No. Pcs.	Section	Length Ft.	Length Ins.	Mark	Pin P	Dia D	Thick T	Add A	Pin P1	Dia D1	Thick T1	Add A1	Calc. Wt.	Ordered Ft.	Ordered Ins.	Item
[illegible]	16x2	35	$11\frac{21}{32}$	MA5	14	36	2	4-9	14	36	2	4-9	4700	45	6	21

Total 154104

DIAM. OF PIN HOLE = DIAM. OF PIN + $\frac{1}{32}$



NOTE: P, D, & A REFER TO SHORT END — TEST BARS TO BE LISTED SEPARATELY AT BOTTOM OF LIST

APPROVED

DIAM. OF PIN HOLE = DIAM. OF PIN +

Paint: None except pin holes to be coated with white lead and tallow.

Revised

Wilkinson ORDER No. G5103

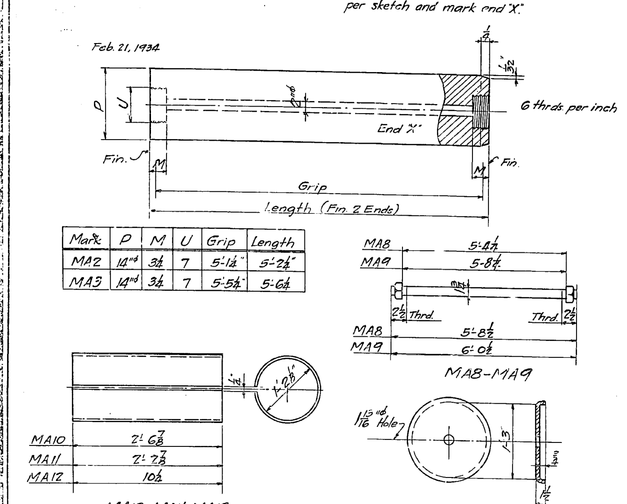
SHEET No. C1

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY

Fin. one end of all pins as per sketch and mark end "X".

Feb. 21, 1934.



Mark	P	M	U	Grip	Length
MA2	14"φ	3¼	7	5-1¼	5-2¼
MA3	14"φ	3¼	7	5-5¼	5-6¼

Specifications: Special, by State of California, Dept. of Public Works, San Francisco-Oakland Bay Bridge - Contract No. 7.

Line No.	Member No. Pcs.	Name	Mark	Material No. Pcs.	Shape	Length Ft.	Length Ins.	Remarks	Calculated Weight for One Member	Ordered No. Pcs.		Length Ft.	Length Ins.	Item	Shipments
1	4	Pins	MA2	4	14"φ	5	2¼	Forged C.S. Fin. all over	[illegible]						
2	8	"	MA3	8	14"φ	5	6¼	"	[illegible]						
3				Pins to be Annealed.											
4															
5	24	Pin Caps	MA4	24	PL 17½"φ x ¾			Pressed Steel	51				1	16	
6															
7															
8	4	Rods	MA8	4	Rods 1¾"φ	5	8½	Thrd. 2 Ends	187	1			11	7	
9				8	Std. Hex Nuts 1¾ Tap.				17						
10	8	Rods	MA9	8	Rods 1¾"φ	6	0½	Thrd. 2 Ends	395	2		14	3	5	
11				16	Std. Hex Nuts 1¾ Tap.				35						
12															
13	4	Spacers	MA10	4	PL 30⅞ x ½	3	9¾ abt	bent	200	1		15	4	14	
14	8	Spacers	MA11	8	PL 26⅞ x ½	3	9¾ abt.	bent	[illegible]	1		30	7	15	
15	8	Spacers	MA12	8	PL 10¼ x ½	3	9¾ abt	bent	66	1		30	7	19	
16															
17															
18															

Billing Subdiv "F"

Paint: None, except pins, one coat white lead and tallow.

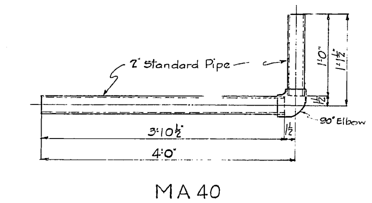
Rivets — Holes As Noted. A.S.M. 2-15-34; 2-16-34; 3-6-34

Drawings Gary #1 — Fabrication Amb. — Wilkinson ORDER No. G5103 — SHEET No. C2

NAME OF STRUCTURE: San Francisco-Oakland-Bay Bridge - Contract No. 7 - East Bay Crossing - Cantilever Structure.

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



MA 40

APPROVED 5-19-34

Line No.	Member No. Pcs.	Name	Mark	Material No. Pcs.	Shape	Length Ft.	Length Ins.	Remarks	Total	Ordered No. Pcs.		Length Ft.	Length Ins.	Item	Shipments
1				2	2" Std. Pipe	3	10½		28					S	
2	2	Drains	MA40	2	2" " "	1	0"		7					S	
3				2	90° Elbow				3					S	
4–16															
17		All Pipe to be Copper Bearing													
18								Total	38						

DRAINS

No Paint

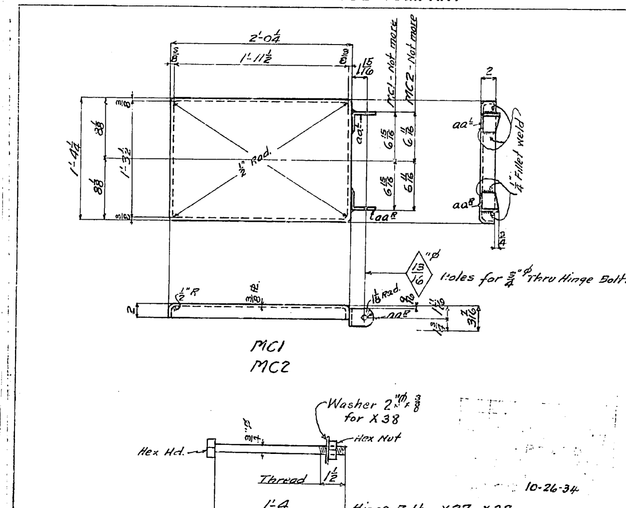
S.J.S. 3-16-34; C.A.S. 3-19-34; W.E. 2-21-34

Drawings Gary #1 — Fabrication Ambridge — Wilkinson ORDER No. G5103 — SHEET No. C3

NAME OF STRUCTURE: STATE OF CALIFORNIA - DEPT. OF PUBLIC WORKS - SAN FRANCISCO-OAKLAND BAY BRIDGE - [F]

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



10-26-34

Manhole Covers for West Anchor Arm
MC2 - Used at LA2
MC1 - Used at LA1-LA3-LA4-LA5-LA6-LA7-LA8-LA9-LA10

Line No.	Member No. Pcs.	Name	Mark	Material No. Pcs.	Shape	Length Ft.	Length Ins.	Remarks	Total Wt.	Ordered No. Pcs.		Length Ft.	Length Ins.	Item	Shipments
1	18	Manhole Covers	MC1	18	PLs 19½ x ⅜	2	3½	Hot pressed to die	1026	4		23	0	2804	
2				36	Ls 3½ 2½ ⅜	0	2¼	aa (Cut 3½x2½)	36	1		15	1	2803	
3									1062						
4															
5	2	Manhole Covers	MC2	2	PLs 19½ x ⅜	2	3½	Hot pressed to die	114			23	0	2804	
6				4	Ls 3½ 2½ ⅜	0	2¼	aa (Cut 3½x2½)	8			15	1	2803	
7									122						
8–11															
12	18	Hinge Bolts	X37	18	¾"φ	1	4	Box for Shipt.	41					S	
13				18	Hex Nuts ¾"φ tap									S	
14															
15	2	Hinge Bolts	X38	2	¾"φ	1	4	Box for Shipt.	5					S	
16				2	Hex Nuts ¾"φ tap									S	
17				2	Washers 2"φ x ⅜									S	
18								Page Total - 1230							

Bill Sub. C

Mat'l - Copper bearing Carbon Steel.
Inspection - John M. Bailey - Chief Inspector.
Specifications - Special by State of California Dept of Public Works.

Holes As Noted. J.W.B. 8-27-34; 10-2-34; 11-8-34; 11-12-34

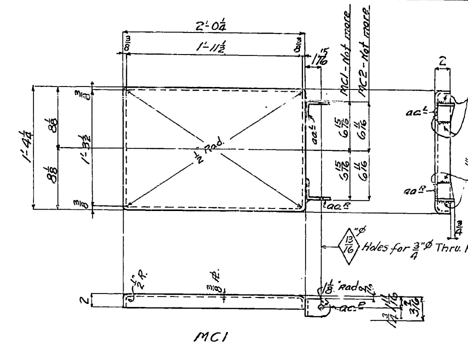
Drawings Gary #1 — Fabrication Ambridge — Wilkinson ORDER No. G5103 — SHEET No. C6

NAME OF STRUCTURE: San Francisco Oakland Bay Bridge - Cantilever Structure - West Anchor Arm

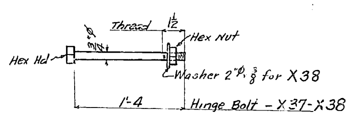
30-1

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



MC1
MC2



Manhole Covers for
East Anchor Arm
MC2 - Used at LA2
MC1 - Used at LA1-LA3-LA4-LA5-LA6-LA7-LA8-LA9-LA10

10-26-34

Line No.	Member No. Pcs.	Member Name	Mark	Material No. Pcs.	Shape	Length Ft.	Length Ins.	Remarks	Total wt	Ordered No. Pcs.	Ordered Length Ft.	Ordered Length Ins.	Item
1	18	Manhole Covers	MC1	18	Ps 19½ ⅜	2	3½	Hot pressed to die	[illegible]		23	0	[illegible]
2				36	Ls 3½ 2½ ⅜	0	2¼	aa^R_L-(cut 3½ x 2½)	[illegible]		15	1	2513
3									1062				
5	2	Manhole Covers	MC2	2	Ps 19½ ⅜	2	3½	Hot pressed to die	[illegible]		23	[illegible]	[illegible]
6				4	Ls 3½ 2½ ⅜	0	2¼	aa^R_L-(cut 3½ x 2½)	[illegible]		15	1	[illegible]
7									122				
11	18	Hinge Bolts	X37	18	¾"φ	1	4	Box for Shipt	41				S
12				18	Hex Nuts ¾"φ Tap								S
13	2	Hinge Bolts	X38	2	¾"φ	1	4	Box for Shipt.	5				S
14				2	Hex Nuts ¾"φ Tap								S
15				2	Washers 2"φ x ⅜								S
17								Page Total	1230#				

Mat'l. - Copper bearing Carbon Steel
Inspection - John M. Bailey - chief Inspector
Specifications - Special by State of California Dep't of Public Works

Rivets: | Holes: As Noted | J.W.B. 8/24/34 | 10/9/34
Drawings: Gary #1 | Fabrication: Ambridge
Wilkinson ORDER No. G5103 | SHEET No. C 7.

NAME OF STRUCTURE: San Francisco Oakland Bay Bridge - Cantilever Structure - East Anchor Arm

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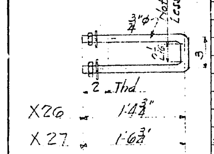
SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



X26 1'-4¾"
X27 1'-6¾"

Line No.	No. Pcs.	Mark	Shape	Length Ft.	Length Ins.	Calculated Weight	Ordered No. Pcs.	Ordered Length Ft.	Ordered Length Ins.	Item
1	24	X26	¾"φ	3	0½	110	3	21	5	2030
2	48		Hex Nuts-Tap ¾"			9				S
3	48		Reliance Lock Washers			2	[illegible]			S
4			for ¾"φ Bolts			121				
6	48	X27	¾"φ	3	4½	243	6	27	1	2029
7	96		Hex Nuts-Tap ¾"			18				S
8	96		Reliance Lock Washer			5	[illegible]			S
9			for ¾"φ Bolts							
10						266				
16	120	X28	Crosby Galv.			120		Req. 15	792	
17			Cable Clips for ⅝"φ Wire							
18			Cable							

APPROVED 10-25-34

Matl: O.H. Copper Bearing medium carbon steel except for Washers & Cable Clips.
Paint: None

U Bolts & Cable Clamps for West Anchor Arm
Page Total - 507# - sub-div "C"

W.S. 8/26/34 | LEH 9/17/34 | KR [illegible]
Drawings: Gary #1 | Fabrication: Amb
Wilkinson ORDER No. G5103 | SHEET No. C 8

NAME OF STRUCTURE: San Francisco-Oakland Bay Bridge East Bay Crossing - Cantilever Structure - West Anchor Arm

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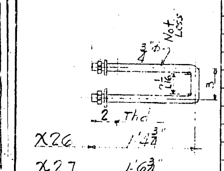
SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



X26 1'-4¾"
X27 1'-6¾"

Line No.	No. Pcs.	Mark	Shape	Length Ft.	Length Ins.	Calculated Weight	Ordered No. Pcs.	Ordered Length Ft.	Ordered Length Ins.	Item
1	24	X26	¾"φ	3	0½	110	3	24	5	2030
2	48		Hex Nuts Tap ¾"			9				S
3	48		Reliance Lock Washer			2	Verona Washer			S
4			for ¾"φ Bolts			121				
6	48	X27	¾"φ	3	4½	243	6	27	1	2029
7	96		Hex Nuts Tap ¾"			18				S
8	96		Reliance Lock Washer			5	Verona Washer			S
9			for ¾"φ Bolts			266				
16	120	X28	Crosby Galv.			120		Req. 15	792	
17			Cable Clips for ⅝"φ Wire							
18			Cable							

APPROVED 10-25-34

Matl: O.H. Copper bearing medium carbon steel except for washers & Cable Clips.
Paint: None

U Bolts & Cable Clamps for East Anchor Arm
Page Total - 507# - Sub.div "C"

[illegible] 8/16/34 | LEH 9/17/34 | KR 10/30/34
Drawings: Gary #1 | Fabrication: Amb
Wilkinson ORDER No. G5103 | SHEET No. C 9

NAME OF STRUCTURE: San Francisco-Oakland Bay Bridge East Bay Crossing - Cantilever Structure - East Anchor Arm

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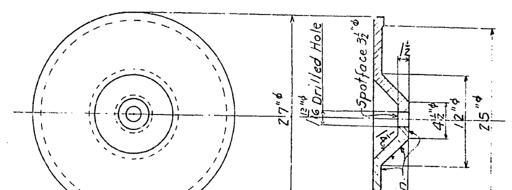
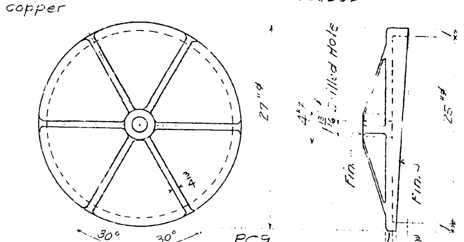
SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



Specifications:
Cast Steel to be in conformity with specifications for San Francisco-Oakland Bay Bridge and must contain at least 0.20 % copper

PC8
Cast Steel - Annealed
Patt No. G3638D



Fillets - ½" Radius

PC9
Cast Steel Annealed
Patt. No. G3639D

Line No.	Member No. Pcs.	Name	Mark	Material No. Pcs.	Shape	Length Ft.	Length Ins.	Remarks	Calculated Weight	Ordered	Item
1	2	Pin Caps	PC8	2	27"φ	0	4¾	Cast Steel Annealed	260		
2								Patt. No. G3638D		Req.	CS3610
4	2	Pin Caps	PC9	2	27"φ	0	6⅛	Cast Steel Annealed	236		
5								Patt. No. G3639D		Req.	CS3610
10		Pin Caps on this sheet to be marked "East Anchor Arm"									
17								Page Total -	272#		

APPROVED
Approval Date 10-6-34

East Anchor Arm Pin Caps
Paint - None except for Fin. Surfaces - One coat white lead + Tallow

L.S.I. 8/20/34 | [illegible] 9/28/34 | [illegible] 10/30/34 | RH 9/4/34 (Contd)
Drawings: Gary #1 | Fabrication: Ambridge
Wilkinson ORDER No. G5103 | SHEET No. C 10

NAME OF STRUCTURE: San Francisco-Oakland Bay Bridge - East Bay Crossing Cantilever Structure

30-1

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY

SKETCH

4 Thrd. Thrd. 4

2-Std. Hex. Nuts-1¼ Tap

X1 4'-0"
X2 4'-2"
X3 4'-2½"
X4 4'-3½"
X5 4'-4"
X6 4'-5"
X7 5'-1"
X8 5'-2"
X9 6'-6½"
X10 4'-9"
X11 3'-10¾"
X12 7'-0"

Date | Revision | Appd.

APPROVED
Chas. B. Wolcott, Engr. of Bridges
Chas. E. Ayres, Bridge Engineer
C. H. Purcell, Consulting Engineer
Approved Date 10-6-36

PC1 12½
PC2 14
PC3 15
PC4 16
PC5 19
PC6 21
PC7 25

Pressed Steel

SHEET NO.	PCS.	MARK	MATERIAL SHAPE	LENGTH FT.	LENGTH IN.	CALCULATED WEIGHT FOR ONE PIECE POUNDS	NO. PCS.	ORDERED LENGTH FT.	ORDERED LENGTH IN.	ITEM	SHIPMENTO
3	4	X1	1¼" ø		40	39	1	16	1	2102	
3	6	X7	1¼" ø		42	58	2	21	1	2897	
3	4	X3	1¼" ø		42½	39		21	1	2597	
3	4	X4	1¼" ø		43½	39	4	17	5	2601	
3	12	X5	1¼" ø		44	39		17	5	2601	
3	12	X6	1¼" ø		46	42	3	18	1	2800	
3	4	X7	1¼" ø		51	49	1	20	5	2899	
3	4	X8	1¼" ø		52	42	1	20	9	2204	
3	4	X9	1¼" ø		46½	53	1	16	3	2896	
3	2	X36	1¼" ø		49	37	1	25	1	2596	
3	4	X11	1¼" ø		3 10¾	32		25	1	2896	
3	2	X12	1¼" ø		70	57	1	14	0	2028	
	124	Std Hex Nuts 1¼ Tap				2170		Reg.	19776		
3½	PC1		15" ø	0	0½	36	2	16½	20	9	2615
24	PC2		16½" ø	0	0½	44	1	17½	38½	1	2616
17	PC3		17½" ø	0	0½	50	1	18½	18	1	2618
40	PC4		18½" ø	0	0¾	67	2	19½	31	9	2612
4	PC5		21½" ø	0	0¾	77	1	22½	7	5	2609
4	PC6		23½" ø	0	0¾	90	1	24½	8	1	2601
4	PC7		27½" ø	0	0¾	104	1	28½	9	5	2603

Rods and Pin caps on this sheet to be marked "East Anchor Arm"

All material to be of Medium Carbon Copper bearing steel containing not less than 0.20% copper.

Pressed Steel

East Anchor Arm Rods, Pin caps
Paint - None
Page Total - 2842#

Gary #1 | Wilkinson | Ambridge | G5163 | SHEET No. C11

San Francisco-Oakland Bay Bridge-East Bay Crossing-Cantilever Structure

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY

SKETCH

RF1 24⅝
RF2 23⅜
RF3 22⅛
RF4 14⅜
RF5 1⅞
RF6 1⅝

RF7 25
RF8 10½
RF9 6⅝
RF10 1½

RF11 4½

RF12 5¾
RF13 5⅜
RF14 4½
RF15 2⅝
RF16 1½

All Ring Fills on this sheet to be marked "East Anchor Arm"

APPROVED
Chas. B. Wolcott, Engr. of Bridges
Chas. E. Ayres, Bridge Engineer
C. H. Purcell, Consulting Engineer
Approved Date 10-6-36

All material to be of Medium Carbon Copper bearing Steel containing not less than 0.20% Copper

SHEET NO.	PCS.	MARK	MATERIAL SHAPE	LENGTH FT.	LENGTH IN.	CALCULATED WEIGHT FOR ONE PIECE POUNDS	NO. PCS.	ORDERED LENGTH FT.	ORDERED LENGTH IN.	ITEM	SHIPMENTS
3	4	RF1	24⅝ x ⅝		32	101	1	12	9	2602	
3	4	RF2	23⅜ x ⅝		32	1001	1	12	5	2602	
3	4	RF3	22⅛ x ⅝		32	1001	1	11	9	2600	
3	4	RF4	14⅜ x ⅝		32	639	1	12	8	2611	
3	8	RF5	1⅞ x ⅝		32	175	1	26	5	2598	
3	8	RF6	1⅝ x ⅝		32	151	1	25	5	2598	
3	4	RF7	25 x ⅝	3	6½	227	1	18	4	2608	
3	4	RF8	10½ x ⅝	3	6½	1001	1	14	6	2607	
3	4	RF9	6⅝ x ⅝	3	6½	1001	1	14	6	2607	
3	4	RF10	1½ x ⅝	3	6½	1001	1	28	4	2607	
3	4	RF11	4½ x ¾	3	9½	401	1	15	6	2606	
3	4	RF12	5¾ x ¾		41	691	2	16	5	2607	
3	4	RF13	5⅜ x ¾		41	691	2	16	5	2607	
3	4	RF14	4½ x ¾		41	691	1	16	5	2607	
3	4	RF15	2⅝ x ¾		41	401	1	16	5	2607	
3	4	RF16	1½ x ¾		41	231	1	16	5	2607	

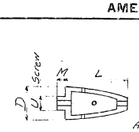
East Anchor Arm Ring Fills
Paint - None
Page Total - 6092#

Gary #1 | Wilkinson | Ambridge | G5163 | SHEET No. C12

San Francisco-Oakland Bay Bridge-East Bay Crossing-Cantilever Structure

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY

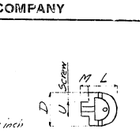


All screws & Threads per inch U.S. std. Thread.

PILOT.

D	U	M	L	Patt. No.
11½	5	2¼	1⅞"	PL44A5
13	7	2¼	2½	PL46A
14	7	2⅜	26	PL47A
15	8	2⅜	27½	PL48A
18	9	3⅜	32	PL51A
20	10	3½	35	PL53A
24	12	3½	41	PL57A

Patt.# PL44A5 (Special) same as PL44A except for outside dia. D.



DRIVING NUT.

D	U	M	L	Patt. No
11½	5	2¼	9⅛	PD15A5
13	7	2¼	10½	PD17A
14	7	2⅜	11	PD18A
15	8	2⅜	12	PD19A
18	9	3⅜	14	PD22A
20	10	3½	15½	PD24A
24	12	3½	17½	PD28A

Patt.# PD15A5 (special) same as PD15A except for outside dia. D.

SHEET NO.	MEMBER PCS.	MEMBER MARK	MATERIAL NO. PCS.	MATERIAL SHAPE	MATERIAL LENGTH FT.	MATERIAL LENGTH IN.	REMARKS	CALCULATED WEIGHT FOR ONE PIECE POUNDS	ORDERED NO. PCS.	ORDERED LENGTH FT.	ORDERED LENGTH IN.	ORDERED ITEM	SHIPMENTS
1	2	PILOTS	PL44A5	1⅞" ø	1	9½		1203					
2	2	do	PL46A	2" ø	1	10		1338		AMB. REQ. CS3622			
3	2	do	PL47A	2⅛" ø	2	2		2202					
4	2	do	PL48A	2⅜" ø	2	3½		1996				5	
5	2	do	PL51A	2⅝" ø	2	8		1802					
6	2	do	PL53A	2⅞" ø	2	11		1002		AMB. REQ. CS3622			
7	2	do	PL57A	2¾" ø	3	5		1596					
8	2	Dr. Nuts	PD15A5	1⅞" ø	0	9⅛		1149					
9	2	do	PD17A	2" ø	0	10½		1299					
10	2	do	PD18A	2⅛" ø	0	11		1349					
11	2	do	PD19A	2⅜" ø	1	0		1231		AMB. REQ. CS3622			
12	2	do	PD22A	2⅝" ø	1	2		1744					
13	2	do	PD24A	2⅞" ø	1	3½		1740					
14	2	do	PD28A	3¾" ø	1	5½		1698					
15	Material on this sheet not to be charged to Contract												

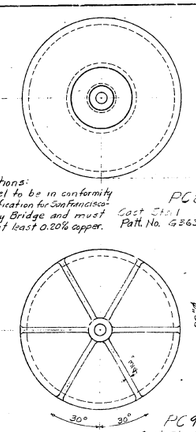
Paint - One coat white lead & tallow on fin. surfaces.
Page Total - 9436#

RIVETS | HOLES | SHOP PAINT | FIELD PAINT | Gary #1 | Ambridge | ORDER No. G5103 | SHEET No. C13

San Francisco-Oakland Bay Bridge - Cantilever Structure

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



Specifications:
Cast Steel to be in conformity with specification for San Francisco-Oakland Bay Bridge and must contain at least 0.20% copper.

PC8 Cast Steel Annealed Patt. No. G5628D

PC9 Cast Steel Annealed Patt. No. 5329D

Fillets - ½ Radius

SHEET NO.	MEMBER NO. PCS	MEMBER NAME	MEMBER MARK	MATERIAL NO. PCS.	MATERIAL SHAPE	MATERIAL LENGTH FT.	MATERIAL LENGTH IN.	REMARKS	CALCULATED WEIGHT FOR ONE PIECE POUNDS	ORDERED NO. PCS.	ORDERED LENGTH FT.	ORDERED LENGTH IN.	ORDERED ITEM #	SHIPMENTS
1	2	Pin Caps	PC8	2	27" ø		0 4½	Cast Steel Annealed Patt. No. G5628D	780		Illegible		3851	
2	2	Pin Caps	PC9	2	27" ø		0 6¾	Cast Steel Annealed Patt. No. 5329D	1206		Illegible		3854	
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														
15														
16														
17														

Pin Caps on this sheet to be marked West Anchor Arm

Paint: None except for Fin Surfaces - one coat White Lead & Tallow

Page Total - 6792#

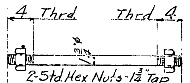
RIVETS | HOLES | SHOP PAINT | FIELD PAINT | Gary #1 | Ambridge | ORDER No. G5103 | SHEET No. C25

San Francisco-Oakland Bay Bridge - East Bay Crossing - Cantilever Structure

30-1

SKETCH, SHOP AND SHIPPING BILL

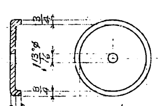
AMERICAN BRIDGE COMPANY



Mark	Length
X1	4'-0
X2	4'-2
X3	4'-$2\frac{1}{2}$
X4	4'-$3\frac{1}{2}$
X5	4'-4
X6	4'-6
X7	5'-1
X8	5'-2
X9	6'-$6\frac{1}{2}$
X10	5'-$0\frac{1}{2}$
X11	3'-$10\frac{1}{2}$
X12	7'-0

No. Pcs.	Mark	Material Shape	Length Ft.	Length Ins.	Calculated Weight	Ordered No. Pcs.		Ordered Length Ft.	Ordered Length Ins.	Item	Shipments
					Total						
4	X1	$1\frac{3}{4}$"φ ×	4	0	131	1		16	1	73	
6	X2	$1\frac{3}{4}$"φ ×	4	2	205	2		21	2	69	
4	X3	$1\frac{3}{4}$"φ ×	4	$2\frac{1}{2}$	138			21	2	69	
4	X4	$1\frac{3}{4}$"φ ×	4	$3\frac{1}{2}$	140	4		17	5	72	
12	X5	$1\frac{3}{4}$"φ ×	4	4	425			17	5	72	
12	X6	$1\frac{3}{4}$"φ ×	4	6	442	3		16	1	71	
4	X7	$1\frac{3}{4}$"φ ×	5	1	166	2		20	9	70	
4	X8	$1\frac{3}{4}$"φ ×	5	2	169			20	9	70	
4	X9	$1\frac{3}{4}$"φ ×	6	$6\frac{1}{2}$	214	1		26	3	67	
2	X10	$1\frac{3}{4}$"φ ×	5	$0\frac{1}{2}$	82	1		25	8	68	
4	X11	$1\frac{3}{4}$"φ ×	3	$10\frac{1}{2}$	127			25	8	68	
2	X12	$1\frac{3}{4}$"φ ×	7	0	115	1		14	0	74	
124	Std. Hex Nuts $1\frac{3}{4}$" Tap				750		Req.	15580			
					2620						
32	PC1	15"φ ×	0	$0\frac{3}{4}$	1120	2	15×$\frac{3}{4}$	20	5	88	
24	PC2	$16\frac{1}{2}$"φ ×	0	$0\frac{3}{4}$	1056	1	$16\frac{1}{2}$×$\frac{3}{4}$	33	7	87	
12	PC3	$17\frac{1}{2}$"φ ×	0	$0\frac{3}{4}$	[illegible]	1	$17\frac{1}{2}$×$\frac{3}{4}$	17	10	86	
40	PC4	$18\frac{1}{2}$"φ ×	0	$0\frac{3}{4}$	2280	2	$18\frac{1}{2}$×$\frac{3}{4}$	31	4	85	
4	PC5	$21\frac{1}{2}$"φ ×	0	$0\frac{3}{4}$	[illegible]	1	$21\frac{1}{2}$×$\frac{3}{4}$	7	4	82	
4	PC6	$23\frac{1}{2}$"φ ×	0	$0\frac{3}{4}$	[illegible]	1	$23\frac{1}{2}$×$\frac{3}{4}$	8	0	80	
4	PC7	$27\frac{1}{2}$"φ ×	0	$0\frac{3}{4}$	[illegible]	1	$27\frac{1}{2}$×$\frac{3}{4}$	9	4	76	
					[illegible]						

Note: All material on this sheet was ordered on G5104 on item no's as shown.



Mark	Dia.
PC1	$12\frac{1}{2}$
PC2	14
PC3	15
PC4	16
PC5	19
PC6	21
PC7	25

Pressed Steel

Made | Revision | App'd
APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 7-24-34

Rods and Pin Caps on this sheet to be marked "West Anchor Arm."

All material to be O.H. Medium Copper bearing steel containing not less than 0.20% Copper.

[C]

West Anchor Arm Rods & Pin Caps
Paint - None
Page Total - 8852#
Drawings: Gary #1 — Fabrication: Ambridge — Wilkinson Order No. G5103 — Sheet No. C26

Name of Structure: San Francisco-Oakland Bay Bridge-East Bay Crossing-Cantilever Structure

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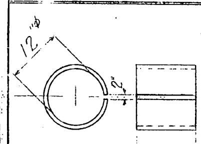
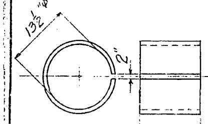
SKETCH, SHOP AND SHIPPING BILL

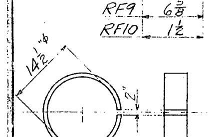
AMERICAN BRIDGE COMPANY

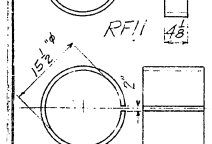


Mark	Length
RF1	$24\frac{3}{8}$
RF2	$23\frac{5}{8}$
RF3	$22\frac{1}{4}$
RF4	$19\frac{5}{8}$
RF5	$1\frac{7}{8}$
RF6	$1\frac{3}{8}$



Mark	Length
RF7	25
RF8	$20\frac{1}{2}$
RF9	$6\frac{5}{8}$
RF10	$1\frac{1}{2}$





Mark	Length
RF12	$5\frac{3}{4}$
RF13	$5\frac{3}{8}$
RF14	$4\frac{1}{4}$
RF15	$2\frac{5}{8}$
RF16	$1\frac{1}{2}$

No. Pcs.	Mark	Material Shape	Length Ft.	Length Ins.	Calculated Weight	Ordered No. Pcs.		Ordered Length Ft.	Ordered Length Ins.	Item	Shipments
					Total						
4	RF1	$24\frac{3}{8}$ × $\frac{3}{4}$	3	2	788	1		12	9	78	
4	RF2	$23\frac{5}{8}$ × $\frac{3}{4}$	3	2	764	1		12	9	79	
4	RF3	$22\frac{1}{4}$ × $\frac{3}{4}$	3	2	719	1		12	9	81	
4	RF4	$19\frac{5}{8}$ × $\frac{3}{4}$	3	2	638	1		12	9	84	
8	RF5	$1\frac{7}{8}$ × $\frac{3}{4}$	3	2	121	2		12	9	62	
8	RF6	$1\frac{3}{8}$ × $\frac{3}{4}$	3	2	89	2		12	9	66	
4	RF7	25 × $\frac{3}{4}$	3	$6\frac{3}{4}$	908	1		14	4	77	
4	RF8	$20\frac{1}{2}$ × $\frac{3}{4}$	3	$6\frac{3}{4}$	744	1		14	4	83	
4	RF9	$6\frac{5}{8}$ × $\frac{3}{4}$	3	$6\frac{1}{4}$	241	1	49×$\frac{3}{4}$	9	1	75	
8	RF10	$1\frac{1}{2}$ × $\frac{3}{4}$	3	$6\frac{3}{4}$	109	2		14	4	65	
4	RF11	$4\frac{1}{8}$ × $\frac{3}{4}$	3	$9\frac{7}{8}$	161		49×$\frac{3}{4}$	9	1	75	
4	RF12	$5\frac{3}{4}$ × $\frac{3}{4}$	4	1	239		49×$\frac{3}{4}$	9	1	75	
4	RF13	$5\frac{3}{8}$ × $\frac{3}{4}$	4	1	224		"	9	1	75	
4	RF14	$4\frac{1}{4}$ × $\frac{3}{4}$	4	1	177		"	9	1	75	
4	RF15	$2\frac{5}{8}$ × $\frac{3}{4}$	4	1	109	1		16	5	62	
4	RF16	$1\frac{1}{2}$ × $\frac{3}{4}$	4	1	62	1		16	5	64	

Made | Revision | App'd
APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 8-4-34

All Ring Fills on this sheet to be marked "West Anchor Arm"

Note: All material on this sheet was ordered on G5104 on item nos shown.

All material to be O.H. Medium Copper bearing steel containing not less than 0.20% Copper.

[C]

West Anchor Arm Ring Fills
Paint - None
Page Total - 6093#
Drawings: Gary #1 — Fabrication: Ambridge — Wilkinson Order No. G5103 — Sheet No. C27

Name of Structure: San Francisco-Oakland Bay Bridge-East Bay Crossing-Cantilever Structure

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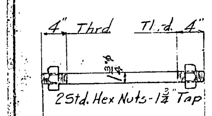
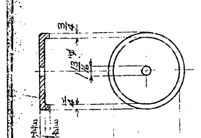
SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



Mark	Length
X13	4'-$4\frac{1}{2}$
X14	4'-5
X15	4'-$5\frac{1}{2}$
X16	4'-6
X17	4'-$6\frac{1}{2}$
X18	4'-$9\frac{1}{2}$
X19	5'-2
X20	5'-$3\frac{1}{2}$
X21	3'-$10\frac{1}{2}$
X22	4'-7
X23	3'-$11\frac{1}{2}$
X24	4'-2
X25	4'-4

No. Pcs.	Mark	Material Shape	Length Ft.	Length Ins.	Calculated Weight for One Member	Ordered No. Pcs.		Ordered Length Ft.	Ordered Length Ins.	Item	Shipments
4	X13	$1\frac{3}{4}$"φ ×	4	$4\frac{1}{2}$	[illegible]	1		17	8	96	
8	X14	$1\frac{3}{4}$"φ ×	4	5	[illegible]	4		27	1	91	
4	X15	$1\frac{3}{4}$"φ ×	4	$5\frac{1}{2}$	[illegible]			27	1	91	
12	X16	$1\frac{3}{4}$"φ ×	4	6	[illegible]			27	1	91	
8	X17	$1\frac{3}{4}$"φ ×	4	$6\frac{1}{2}$	[illegible]	2		[illegible]	0	92	
4	X18	$1\frac{3}{4}$"φ ×	4	$9\frac{1}{2}$	[illegible]	1		19	3	95	
4	X19	$1\frac{3}{4}$"φ ×	5	2	[illegible]	1		20	9	94	
4	X20	$1\frac{3}{4}$"φ ×	5	$3\frac{1}{2}$	[illegible]	1		21	3	93	
2	X21	$1\frac{3}{4}$"φ ×	3	$10\frac{1}{2}$	[illegible]	1		15	9	98	
2	X22	$1\frac{3}{4}$"φ ×	4	7	[illegible]			23	0	92	
2	X23	$1\frac{3}{4}$"φ ×	3	$11\frac{1}{2}$	[illegible]			15	9	98	
2	X24	$1\frac{3}{4}$"φ ×	4	2	[illegible]	1		17	1	97	
2	X25	$1\frac{3}{4}$"φ ×	4	4	[illegible]			17	1	97	
116	Std. Hex Nuts $1\frac{3}{4}$"φ Tap				253		Req.	15580			
					Total Wt. 2405						
80	PC3	$17\frac{1}{2}$"φ ×	0	$0\frac{3}{4}$	[illegible]	4	$17\frac{1}{2}$×$\frac{3}{4}$	[illegible]	1	105	
16	PC4	$18\frac{1}{2}$"φ ×	0	$0\frac{3}{4}$	[illegible]	1	$18\frac{1}{2}$×$\frac{3}{4}$	25	0	104	
12	PC5	$21\frac{1}{2}$"φ ×	0	$0\frac{3}{4}$	[illegible]	1	$21\frac{1}{2}$×$\frac{3}{4}$	22	0	103	
4	PC6	$23\frac{1}{2}$"φ ×	0	$0\frac{3}{4}$	[illegible]	1	$23\frac{1}{2}$×$\frac{3}{4}$	8	1	102	
4	PC7	$27\frac{1}{2}$"φ ×	0	$0\frac{3}{4}$	[illegible]	1	$27\frac{1}{2}$×$\frac{3}{4}$	10	0	101	
					6700						



Mark	Dia.
PC3	15
PC4	16
PC5	19
PC6	21
PC7	25

Pressed Steel

Rods and Pin Caps on this sheet to be marked "West Cantilever Arm."

All material to be O.H. Medium Copper bearing steel containing not less than 0.20% Copper.

Note: All material on this sheet was ordered on G5104 on item nos as shown.

Made | Revision | App'd
APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 8-24-34

[C]

West Cantilever Arm Rods & Pin Caps
Paint - None
Page Total - 9105#
Drawings: Gary #1 — Fabrication: Ambridge — Wilkinson Order No. G5103 — Sheet No. C30

Name of Structure: San Francisco-Oakland Bay Bridge-East Bay Crossing-Cantilever Structure

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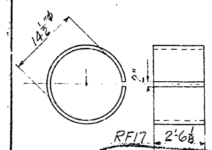
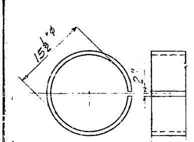
SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



Mark	Length
RF17	2'-$6\frac{1}{8}$
RF19	2'-$1\frac{3}{4}$
RF20	2'-$1\frac{3}{8}$
RF21	1'-$8\frac{1}{2}$
RF22	1'-$7\frac{1}{8}$
RF23	$8\frac{7}{8}$
RF24	$8\frac{3}{4}$
RF25	8
RF26	$5\frac{3}{4}$
RF27	$3\frac{7}{8}$
RF28	$1\frac{5}{8}$
RF29	$1\frac{3}{8}$

No. Pcs.	Mark	Material Shape	Length Ft.	Length Ins.	Calculated Weight for One Member	Ordered No. Pcs.		Ordered Length Ft.	Ordered Length Ins.	Item	Shipments
4	RF17	$30\frac{1}{8}$ × $\frac{3}{4}$	3	$9\frac{7}{8}$	273	1	46×$\frac{3}{4}$	35	11	99	
8	RF19	$25\frac{3}{4}$ × $\frac{3}{4}$	3	$9\frac{7}{8}$	251		"	35	11	99	
4	RF20	$25\frac{3}{8}$ × $\frac{3}{4}$	3	$9\frac{7}{8}$	247		"	35	11	99	
4	RF21	$20\frac{1}{2}$ × $\frac{3}{4}$	3	$9\frac{7}{8}$	200	1	"	28	8	100	
4	RF22	$19\frac{1}{8}$ × $\frac{3}{4}$	3	$9\frac{7}{8}$	186		"	28	8	100	
4	RF23	$8\frac{7}{8}$ × $\frac{3}{4}$	3	$9\frac{7}{8}$	86		"	28	8	100	
4	RF24	$8\frac{3}{4}$ × $\frac{3}{4}$	3	$9\frac{7}{8}$	85		"	28	8	100	
4	RF25	8 × $\frac{3}{4}$	3	$9\frac{7}{8}$	78		"	28	8	100	
4	RF26	$5\frac{3}{4}$ × $\frac{3}{4}$	3	$9\frac{7}{8}$	56		"	28	8	100	
8	RF27	$3\frac{7}{8}$ × $\frac{3}{4}$	3	$9\frac{7}{8}$	37		"	28	8	100	
8	RF28	$1\frac{5}{8}$ × $\frac{3}{4}$	3	$9\frac{7}{8}$	16		"	28	8	100	
8	RF29	$1\frac{3}{8}$ × $\frac{3}{4}$	3	$9\frac{7}{8}$	13		"	28	8	100	
4	RF30	$5\frac{1}{2}$ × $\frac{3}{4}$	4	1	57	1		16	5	89	
4	RF31	$4\frac{1}{4}$ × $\frac{3}{4}$	4	1	44	1		11	5	90	



Mark	Length
RF30	$5\frac{1}{2}$
RF31	$4\frac{1}{4}$

All Ring Fills on this sheet to be marked "West Cantilever Arm"

All material to be O.H. Medium Copper bearing steel containing not less than 0.20% Copper.

Note: All material on this sheet was ordered on G5104 on item numbers as shown.

11-27-34 RF18 taken out
Made | Revision | App'd
APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 8-24-34

[C]

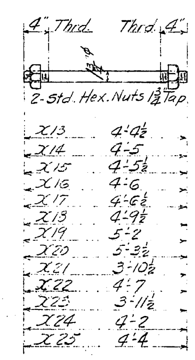
West Cantilever Arm Ring Fills
Paint - None
Page Total - 7822#
Drawings: Gary #1 — Fabrication: Ambridge — Wilkinson Order No. G5103 — Sheet No. C31

Name of Structure: San Francisco-Oakland Bay Bridge-East Bay Crossing-Cantilever Structure

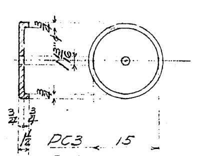
30-1

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



Line No.	No. Pcs.	Mark	Material Shape	Length Ft.	Length Ins.	Calculated Weight for One Member	Ordered No. Pcs.		Ordered Length Ft.	Ordered Length Ins.	Item
3	4	X13	1¾"φ x	4	4½	36	8		22	9	2677
4	8	X14	1¾"φ x	4	5	36			22	9	2677
5	4	X15	1¾"φ x	4	5½	36			22	9	2677
6	12	X16	1¾"φ x	4	6	37			22	9	2677
7	8	X17	1¾"φ x	4	6½	37			22	9	2677
8	4	X18	1¾"φ x	4	9½	39	1		19	3	2679
9	4	X19	1¾"φ x	5	2	42	2		21	3	2678
10	4	X20	1¾"φ x	5	3½	43			21	3	2678
11	2	X21	1¾"φ x	3	10½	32	1		24	11	2676
12	2	X22	1¾"φ x	4	7	37			24	11	2676
13	2	X23	1¾"φ x	3	11½	32			24	11	2676
14	2	X24	1¾"φ x	4	2	34			22	9	2677
15	2	X25	1¾"φ x	4	4	35			22	9	2677
16	116	Std. Hex. Nuts-1¾" Tap	Total			(353)		Req	15976		
23	80	PC3	18"φ x	0	0¾	50	4		30	1	2685
24	16	PC4	19"φ x	0	0¾	57	1		25	5	2692
25	12	PC5	22"φ x	0	0¾	77	1		22	1	[illegible]
26	4	PC6	24"φ x	0	0¾	92	1		8	1	2686
27	4	PC7	28"φ x	0	0¾	120	1		9	5	[illegible]



Rods and Pin Caps on this sheet to be marked "East Cantilever Arm."

All material to be O.H. Medium Copper bearing Carbon steel containing not less than 0.20% Copper.

Made	Revision	App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 10-11-34

[C]

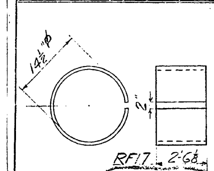
East Cantilever Arm Rods & Pin Caps.
Paint - None
Page Total - 9105#

Name / Date: J.N. 10 1 34; M.S. 10 3 34; Copy 10-31-34
Drawings: Gary #1 — Fabrication: Ambridge
Wilkinson ORDER No. G5103
SHEET No. C32

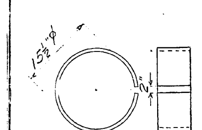
NAME OF STRUCTURE: San Francisco-Oakland Bay Bridge - East Bay Crossing - Cantilever Structure.

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



Line No.	No. Pcs.	Mark	Material Shape	Length Ft.	Length Ins.	Calculated Weight for One Member	Ordered No. Pcs.		Ordered Length Ft.	Ordered Length Ins.	Item
3	4	RF17	30⅛ x ¾	3	9⅞	293	1		15	5	2683
4							1 Pc	26 x ¾	15	5	2685
5	8	RF19	25¾ x ¾	3	9⅞	251	1 Pc	25¾ x ¾	15	5	2686
6	4	RF20	25⅜ x ¾	3	9⅞	247	1		15	5	2687
7	4	RF21	20½ x ¾	3	9⅞	200	1		15	5	2690
8	4	RF22	19⅛ x ¾	3	9⅞	186	1		15	5	2691
9	4	RF23	8⅞ x ¾	3	9⅞	86	1		15	5	2680
10	4	RF24	8¾ x ¾	3	9⅞	85	1		15	5	2681
11	4	RF25	8 x ¾	3	9⅞	78	1		15	5	2682
12	4	RF26	5¾ x ¾	3	9⅞	56	1		15	5	2671
13	8	RF27	3⅞ x ¾	3	9⅞	38	3	4½ x ¾	15	5	2673
14	8	RF28	1⅝ x ¾	3	9⅞	16	2		15	5	2674
15	8	RF29	1⅜ x ¾	3	9⅞	13	2		15	5	2675
26	4	RF30	5½ x ¾	4	1	57	3	5½ x ¾	16	5	2670
27	4	RF31	4½ x ¾	4	1	44	2		16	5	2672



All Ring Fills on this sheet to be marked "East Cantilever Arm".

All material to be O.H. Medium Copper bearing Carbon steel containing not less than 0.20% Copper

Made	Revision	App'd
11-22-34	RF18 taken off	

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 10-11-34

[C]

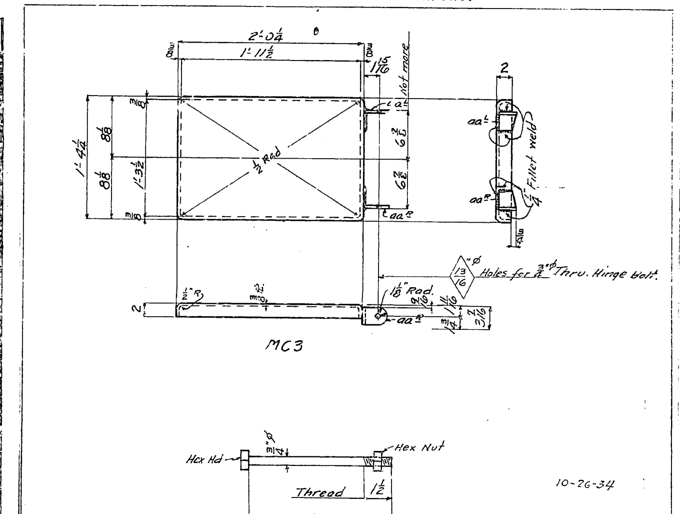
East Cantilever Arm Ring Fills
Paint - None
Page Total - 7872#

Name / Date: J.N. 10 1 34; 10 3 34; Copy 10-31-34
Drawings: Gary #1 — Fabrication: Ambridge
Wilkinson ORDER No. G5103
SHEET No. C33

NAME OF STRUCTURE: San Francisco-Oakland Bay Bridge - East Bay Crossing - Cantilever Structure.

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



10-26-34

Manhole Covers for West Cantilever Arm

Used at LC1-LC2-LC3-LC4-LC5-LC6-LC7-L50

Line No.	Member No. Pcs.	Member Name	Mark	Material No. Pcs.	Shape	Length Ft.	Length Ins.	Remarks	Total Wt.	Ordered No. Pcs.	Ordered Length Ft.	Ordered Length Ins.	Item
1	16	Manhole Covers	MC3	16	Ps. 19½ ⅜	2	3½	Hot pressed to die	912				
2				32	Ls 3½ 2½ ⅜	0	2¼	Cut ac (3½x2½)	36				
3									948				
6	16	Hinge Bolts	X37	16	¾"φ	1	4	Box for Ship't	37				
7				16	Hex Nuts ¾" tap								

Page Total - Carbon [illegible]

Mat'l - Copper bearing Carbon Steel
Inspection - John M. Bailey - Chief Inspector
Specifications - Special by State of California Dep't of Public Works.

Rivets / Holes: As Noted
Name / Date: J.W.B. 8 27 34; 10 9 34; 11 5 34
Drawings: Gary #1 — Fabrication: Gary
Wilkinson ORDER No. G5103
SHEET No. C101

NAME OF STRUCTURE: San Francisco Oakland Bay Bridge - Cant. Structure - West Cantilever Arm

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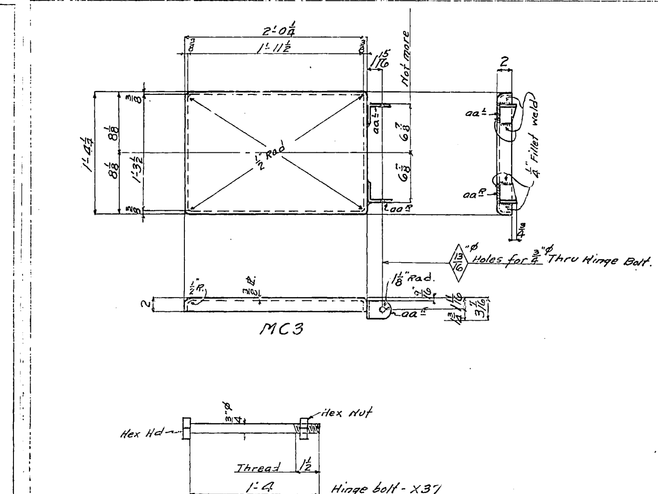
SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



Manhole Covers for East Cantilever Arm

Used at LC1-LC2-LC3-LC4-LC5-LC6-L50-LC7

10-26-34

Line No.	Member No. Pcs.	Member Name	Mark	Material No. Pcs.	Shape	Length Ft.	Length Ins.	Remarks	Total Wt.	Ordered No. Pcs.	Ordered Length Ft.	Ordered Length Ins.	Item
1	16	Manhole Covers	MC3	16	Ps. 19½ ⅜	2	3½	Hot Pressed to die	912				61-1169
2				32	Ls 3½ 2½ ⅜	0	2¼	Cut aa (3½x2½)	36				
3									948		Ship Direct		
8	16	Hinge Bolts	X37	16	¾"φ	1	4	Box for Ship't.	37				61-10837
9				16	Hex Nuts - ¾"φ tap								

Page Total - Carbon [illegible]

Mat'l - Copper bearing Carbon Steel
Inspection - John M. Bailey - Chief Inspector
Specifications - Special by State of California Dep't of Public Works.

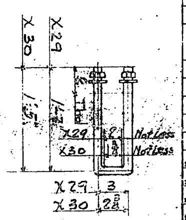
Rivets / Holes: As Noted
Name / Date: J.W.B. 3 27 34; 10 9 34
Drawings: Gary #1 — Fabrication: Gary
Wilkinson ORDER No. G5103
SHEET No. C102

NAME OF STRUCTURE: San Francisco Oakland Bay Bridge - Cant. Structure - East Cantilever Arm

30-1

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



Line No.	No. Pcs.	Mark	Shape	Length Ft.	Length Ins.	Calculated Weight	Ordered
1	24	X29	3/4 ⌀	3	5	113	Ord. 4
2	48		Hex Nuts Tap 3/4"			9	
3	48		Reliance Lock				
4			Washers for 3/4 ⌀			134	
5			Bolts				
9	48	X30	3/4 ⌀	3	0 3/4	220	
10	96		Hex Nuts Tap 3/4"			18	
11	96		Reliance Lock			5	
12			Washers for 3/4 ⌀			243	
13			Bolts				
18	110	X31	Crosby Galv. Cable Clips for 3/8 ⌀ Wire Cable			110	Gary 4

Made | Revision | App'd

APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 10-27-34

Material: All matl. O.H. Copper Bearing medium carbon steel except Washers and Crosby Clips.

Paint:- None

Mat'l Ord on 293-296

U Bolts & Cable Clips for West Cantilever Arm
PAGE TOTAL - 487# Sub. Div. "C"
WCH 8-25-34
LEH 10-9-34
Gary #1
Wilkinson
ORDER No. G5103

NAME OF STRUCTURE: San Francisco-Oakland Bay Bridge
East Bay Crossing - Cantilever Structure - West Cantilever Arm

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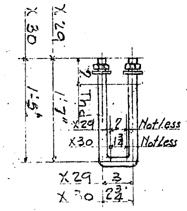
SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



Line No.	No. Pcs.	Mark	Shape	Length Ft.	Length Ins.	Calculated Weight Total	Ordered	Item
1	24	X29	3/4 ⌀	3	5	123		S
2	48		Hex Nuts Tap 3/4"			9		SS
3	48		Reliance Lock					SS
4			Washers for 3/4 ⌀			2		
5			Bolts					
6						134		
9	48	X30	3/4 ⌀	3	0 3/4	221		S
10	96		Hex Nuts Tap 3/4"			18		SS
11	96		Reliance Lock					SS
12			Washers for 3/4 ⌀			5		
13			Bolts					
14						244		
18	110	X31	Crosby Galv. Cable Clips for 3/8 ⌀ Wire Cable			110	Gov. 4	4469

Made | Revision | App'd

APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 10-27-34

Material:- All matl. O.H. Copper Bearing medium carbon steel except washers and Crosby Clips.

Paint:- None

Page Total - 488#

Mat'l Ord on 292-293

[C]

U Bolts & Cable Clips for East Cantilever Arm
WCB 8-26-34
LEH 10-9-34
Gary #1
Fabrication: Gary
Wilkinson
ORDER No. G5103
SHEET No. C104

NAME OF STRUCTURE: San Francisco-Oakland Bay Bridge
East Bay Crossing - Cantilever Structure - East Cantilever Arm

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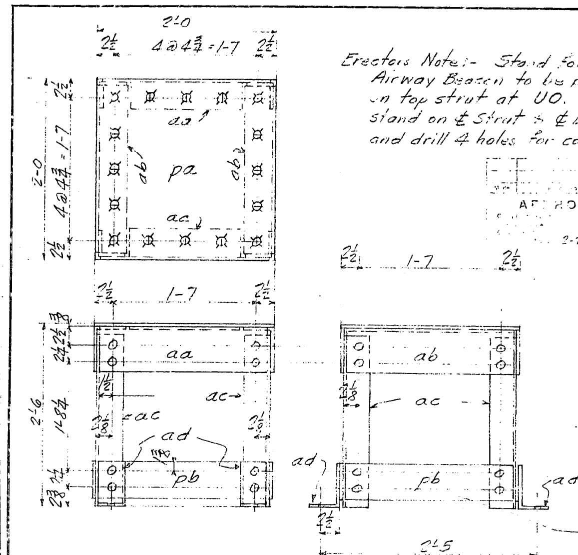
SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



Erectors Note:- Stand for Airway Beacon to be placed on top strut at U0. Locate stand on ℄ Strut & ℄ Bridge and drill 4 holes for connection.

APPROVED 2-26-35

(See Cost Sketch EL-1027)

Line No.	Member No. Pcs	Member Name	Mark	Material No. Pcs.	Shape	Length Ft.	Length Ins.	Remarks	Calculated Weight for One Member	Ordered No. Pcs.	Ordered Length Ft.	Ordered Length Ins.	Item
1								Drd.					
2	2	Stand	BS1	2	24 3/8	2	0	pa	61	1	10	0	1767
3				8	5 3/8	1	10	pb	47				1767
4				4	L 6 4 3/8	1	10	aa	59	1	16	8	1765
5				4	L 6 4 3/8	1	10	ab	45				1765
6				8	L 3 1/2 3 1/2 3/8	2	4 1/2	ac	81	1	19	0	1766
7				8	L 6 4 3/8	0	3	ad	12				1765
8								RH	14				
9									299				

All material including rivets to be copper bearing carbon steel.

Paint - None
598#
Rivets 3/4
Holes 13/16
WTW
JAL 2-27-35
Gary #1
Fabrication: Gary
Wilkinson
ORDER No. G5103
[C]
SHEET No. C105

NAME OF STRUCTURE: San Francisco-Oakland Bay Bridge East Bay Structure

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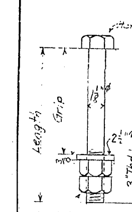
SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



Grip	Line No.	No. Pcs.	Shape	Length Ft.	Length Ins.	Calculated Weight	Item
	1	Bolts for Lower Deck Exp. Gratings					
	2	to Fl. Bm. FB68 at L A10 East					
8 5/16 to 8 3/4	3	6	1 1/8" ⌀ bolts	0	11 1/2	22	S
8 13/16 to 9 1/4	4	10	1 1/8" ⌀ bolts	1	0	39	S
9 5/16 to 9 3/4	5	14	1 1/8" ⌀ bolts	1	0 1/2	58	S
9 13/16 to 10 1/4	6	10	1 1/8" ⌀ bolts	1	1	41	S
	7	40	Washers 2 1/2" ⌀ x 3/8 thick			16	S
	8	80	Hex Nuts 1 1/8" ⌀ Tap			50	S
	11	Bolts for Lower Deck Exp. Gratings to Fl. Bm.					
	12	on 504 ft. span at Pier E4					
7 13/16 to 8 1/4	13	6	1 1/8" ⌀ bolts	0	11	21	S
8 5/16 to 8 3/4	14	10	1 1/8" ⌀ bolts	0	11 1/2	37	S
8 13/16 to 9 1/4	15	18	1 1/8" ⌀ bolts	1	0	69	S
9 5/16 to 9 3/4	16	8	1 1/8" ⌀ bolts	1	0 1/2	32	S
	17	42	Washers 2 1/2" ⌀ x 3/8 thick			17	S
	18	84	Hex. Nuts 1 1/8" ⌀ tap			52	S
	21	Bolts for Upper Deck Exp. Gratings to Fl. Bm.					
	22	on 504 ft span at Pier E4.					
5 5/16 to 5 3/4	23	4	1 1/8" ⌀ bolts	0	8 1/2	12	S
5 13/16 to 6 1/4	24	12	1 1/8" ⌀ bolts	0	9	36	S
6 5/16 to 6 3/4	25	14	1 1/8" ⌀ bolts	0	9 1/2	44	S
6 13/16 to 7 1/4	26	20	1 1/8" ⌀ bolts	0	10	66	S
7 5/16 to 7 3/4	27	28	1 1/8" ⌀ bolts	0	10 1/2	96	S
	28	78	Washers 2 1/2" ⌀ 3/8 thick			31	S
	29	156	Hex. Nuts 1 1/8" ⌀ tap			97	S
	32	Bolts for Upper Deck Exp. Gratings					
	33	to Fl. Bm. FB32 at L A10 East					
5 5/16 to 5 3/4	34	4	1 1/8" ⌀ bolts	0	8 1/2	12	S
5 13/16 to 6 1/4	35	10	1 1/8" ⌀ bolts	0	9	30	S
6 5/16 to 6 3/4	36	12	1 1/8" ⌀ bolts	0	9 1/2	38	S
6 13/16 to 7 1/4	37	20	1 1/8" ⌀ bolts	0	10	66	S
7 5/16 to 7 3/4	38	32	1 1/8" ⌀ bolts	0	10 1/2	110	S
	39	78	Washers 2 1/2" ⌀ x 3/8 thick			31	S
	40	156	Hex. Nuts 1 1/8" ⌀ tap			97	S

Made | Revision | App'd

APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 11-21-34

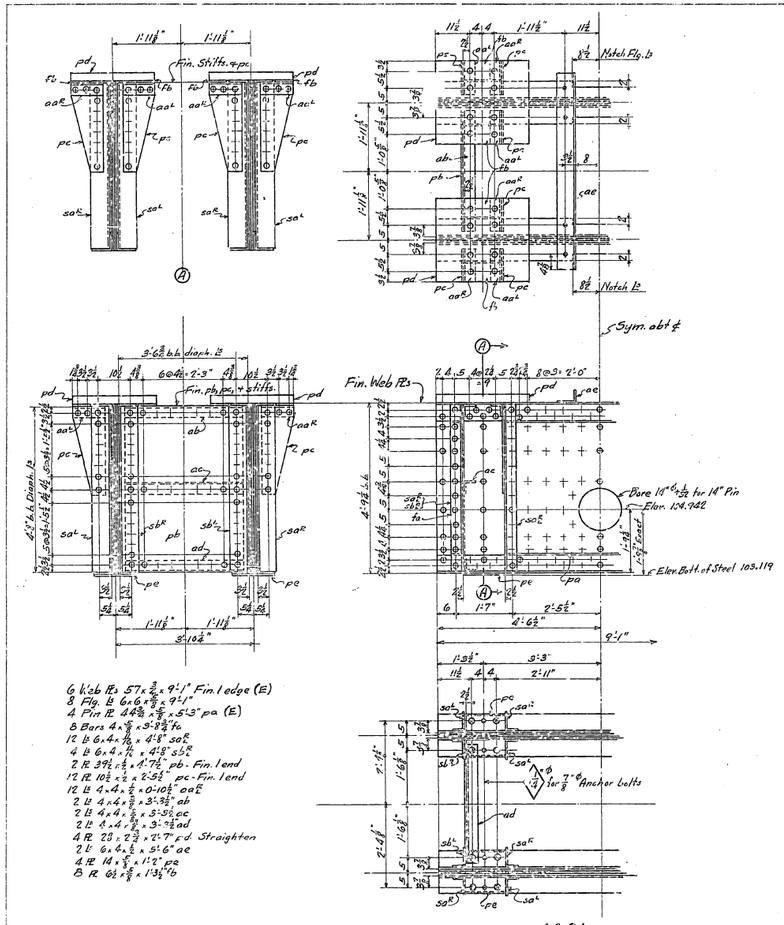
Note:- Bolts, Nuts and washers to be Copper Bearing Steel - containing not less than 0.2% Copper.

[C]

Field Bolts for Exp. Gratings at Pier E4
East Anchor Arm.
Paint - None PAGE Total 1218#
P.H.C. 11-6-34
HAS 11-8-34
Gary #1
Fabrication: Amb.
Wilkinson
ORDER No. G5103
SHEET No. C133

NAME OF STRUCTURE: San Francisco-Oakland Bay Bridge - East Bay Crossing - Cantilever Structure

30-1



6 k'ab Pls 57 x 3/8 x 9'-1" Fin. l edge (E)
8 Flg. L's 6 x 6 x 5/8 x 9'-1"
4 Fin Pl 24 3/8 x 3/8 x 5'-3" pa (E)
8 Bars 4 x 5/8 x 3'-8 3/8" fb
12 L's 6 x 4 x 11/16 x 4'-8" saE
4 L's 6 x 4 x 11/16 x 4'-8" sbE
2 Pl 39 1/2 x 1/2 x 1'-7 1/2" pb - Fin. l end
12 Pl 10 1/2 x 1/2 x 2'-5 1/2" pc - Fin. l end
12 L's 4 x 4 x 1/2 x 0'-10 1/2" aaE
2 L's 4 x 4 x 5/16 x 3'-3 1/2" ab
2 L's 4 x 4 x 5/16 x 5'-3 1/2" ac
2 L's 6 x 4 x 1/2 x 3'-7 1/2" ad
4 Pl 28 x 2 3/4 x 2'-7" r.d. Straighten
2 L's 6 x 4 x 1/2 x 5'-6" ae
4 Pl 14 x 5/8 x 1'-2" pa
8 Pl 6 1/2 x 1/8 x 1'-3 1/2" fb

MAI

No.	Revisions	Appd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
G. H. Purcell — Chief Engineer
Pinnacle Cafe — Feb. 27, 1934

REQUIRED		
4	Eye Bar Anchors	MAI

Gen. Notes:-
Material - All material to be medium O. H. Copper bearing steel.
Specifications - Special by State of California Dept. of Public Works.
Inspection - John W. Bailey, Chief Inspector.
Rivets 7/8" Dia.
Open Holes 1 1/16" Dia unless noted.
Reaming - All holes to be subpunched 3/4" and reamed to size.
Paint - Three coats pin holes to be coated with white lead and tallow
Finish - Sheared or flame cut edges and ends of material marked (E) are to be planed so as to remove at least 1/8" of material. Flame cut edges of slabs to be straight and smooth with a neat appearance.

Billing Subdiv. "E"

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure
Anchorage at Pier E1

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DR. BY F.H.C. DATE 2-15-34
TRA. CHECKED BY A.S.M. DATE 2-16-34
ORDER No. G5103
SHEET No. 1

Crown of Roadway at ℄ of Pin. El. 197.166

SECTION "A-A"

Sketch of plate "pag" showing cuts

Sketch of plate "pap" showing cuts

Sketch of plate "pk" showing cuts

Sketch of plate "pk" showing cuts

Remainder same as MA13 except for L on See Sec "FF" and ℄ an. abs. ag ℄ aay See "AA" & "BB"

MA14

VIEW "NN"

Mark	Rev. Elev.	Appr.

APPROVED

Glenn B. Woodruff — Engr. of Design, Bridge Engineer
Chas. E. Andrew — Chief Engineer
C. H. Purcell
Approval Date 7-6-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure — Anchor Arm
Details of Anchorage Girders at Pier E1

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary, Ind. PLANT
WORK FROM ... AT Ambridge PLANT
BY CW Wilkinson 2-19-34
DRWN. ... AGS BY S.T.S. DATE 3-19-34
DESIGN. CHECKED BY C.H.P. DATE 3-19-34
DRAWING No. G5103 SHEET No. 2AC

30-1

Sketch of plate "pao" showing cuts

SECTION "B"B"

SECTION "C"C"

SECTION "K"K"

SECTION "M"M"

SECTION "E"E"

SECTION "H"H"

VIEW "J"J"
VIEW "Z"Z" Left

SECTION "L"L"

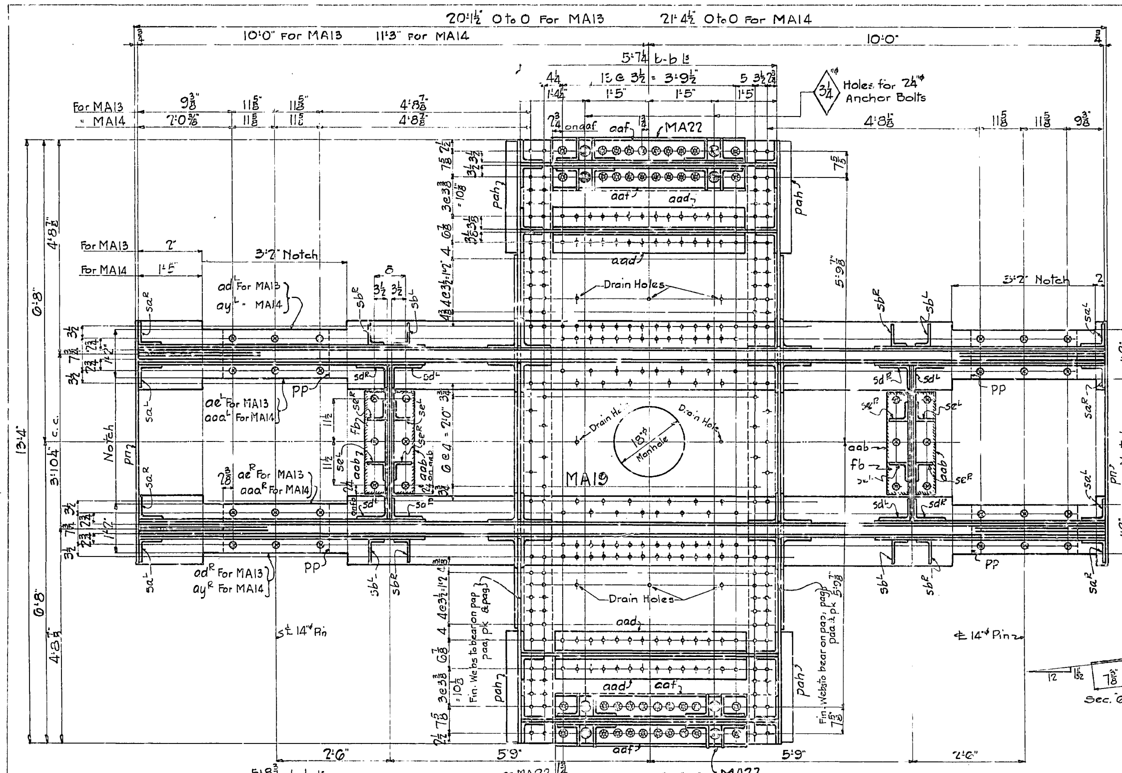
APPROVED
Chas. D. Markwart, Chief of Bridges
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Designing Engineer
Approval Date 7-6-32

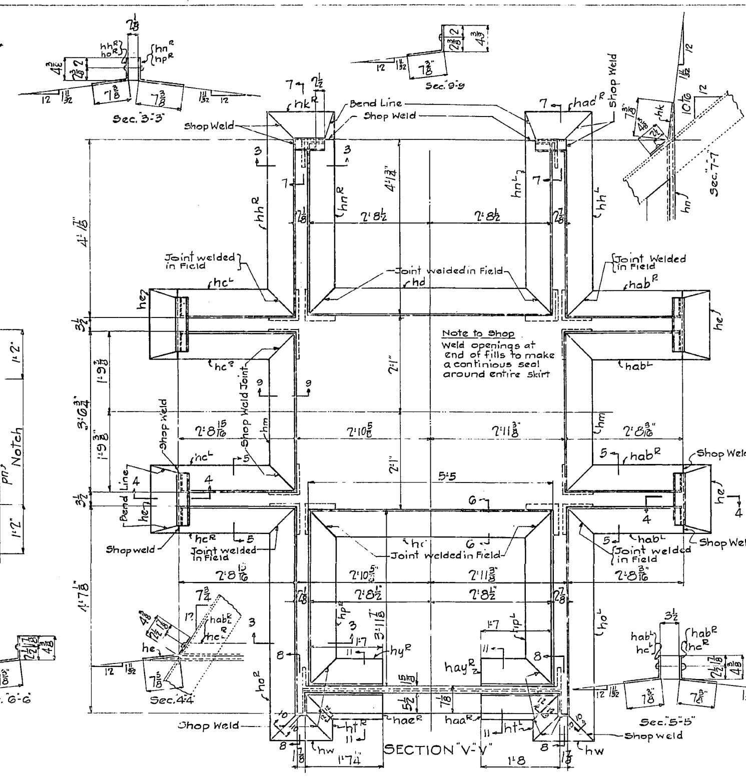
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
Details of Anchorage Girders at Pier E1

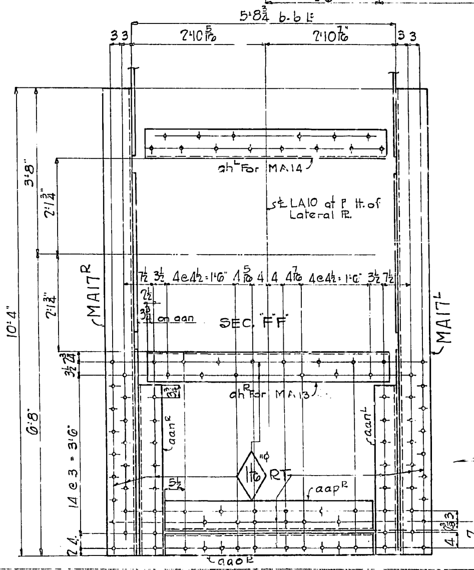
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DRAWN BY S.J.S. DATE 2-22-34
TRACED BY [illegible] DATE 3-19-34
CHECKED BY [illegible] DATE 5-16-34

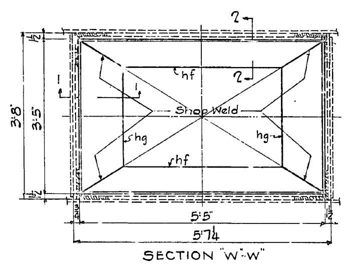
ORDER No. G5103
SHEET No. 280

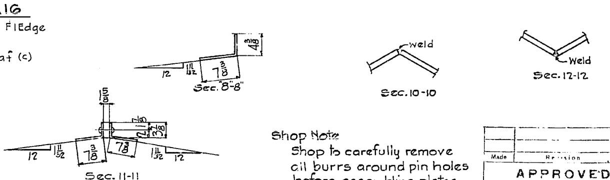
30-1











MATERIAL FOR MA13

1-L 8 x 8 x 3/4 x 19'11 1/2" aa (x) (E)
1-L 8 x 8 x 3/4 x 19'11 1/2" ab (x) (E)
1-L 8 x 8 x 3/4 x 19'11 1/2" aaw (x) (E)
1-L 8 x 8 x 3/4 x 19'11 1/2" ac R (x) (E)
2-Ls 8 x 8 x 3/4 x 19'11 1/2" ad R/L (x) (E)
2-Ls 8 x 8 x 3/4 x 19'11 1/2" ae R/L (x) (E)
6-Webs 114 3/4 x 3/4 x 13'0" pa (x) (E) F2E & 2 Edges
6-Webs 66 x 3/4 x 4'2 1/2" pb (x) (E) F2E
2-Splice Pls. 64 x 3/4 x 5'10 1/2" pc (x) (E) F.I.E
4- " " 50 x 3/4 x 7'10 5/8" pd (x) (E) F.I.E
12-Webs 60 1/4 x 3/4 x 3'5 3/4" pe (x) (E) F.I.E & 1 Edge
8-Splice Pls. 58 x 3/4 x 5'2 3/4" pf (x) (E)
4- " 44 x 3/4 x 7'10 1/2" pg (x) (E)
1-Web 67 1/4 x 3/4 x 3'8" ph (x) F2E & 2 Edges
2-Ls 8 x 8 x 5/8 x 4'1 1/2" af (x) (E)
2-Ls 8 x 8 x 3/4 x 7'10 1/2" ag R/L (x) (E) F.I.E.
2-Ls 8 x 8 x 3/4 x 7'10 1/2" aac R/L (x) (E) F.I.E.
1-Pl. 64 1/2 x 3/4 x 14'6 3/4" pk (x) (E) F.I.E.
1-Pl. 42 x 3/4 x 10'4 1/4" paa (x) (E)
1-L 8 x 8 x 5/8 x 5'4" ah R (x) (E)
8-Ls 6 x 6 x 1/2 x 5'2 1/2" ak R/L (c)
8-Ls 8 x 8 x 5/8 x 3'8 1/4" am R/L (x) (E)
2-Ls 8 x 4 1/2 x 5/8 x 0'6 3/4" an R/L (x) (E) Grind to fit fillet
8-Ls 6 x 4 x 1/2 x 4'11" sa R/L (c)
8-Ls 6 x 4 x 1/2 x 4'11" sb R/L (c)
16-Ls 8 x 8 x 5/8 x 4'10" ao (x) (E)
2-Bars 8 x 3/4 x 8'6 1/2" pm (x) (E) F.I.E.
2-Bars 8 x 3/4 x 4'4 1/4" pab (x) (E)
2-Fills 8 x 1 1/8 x 4'1 1/2 fa (c)
2-Pls. 60 x 3/4 x 5'0 1/4" pn (c)
1-Pl. 64 1/2 x 3/4 x 2'4 1/2" ha (c)
1-Pl. 64 1/2 x 3/4 x 2'6" hb (c)
1-Pl. 8 1/2 x 5/8 x 3'11 1/4" po (c)
4-Bearing Pls. 13 x 2 x 2'4" pp (c) Straighten
8-Ls 8 x 6 x 5/8 x 4'11" sd R/L (c)
8-Ls 5 x 5 x 1/2 x 4'9 1/2" se R/L (c)
4-Ls 6 x 6 x 1/2 x 2'4 aab (c)
4-Ls 6 x 6 x 1/2 x 2'4 aav (c)
4-Pls. 41 x 1/2 x 4'10 1/2" pt (c) F.I.E & 2 Edges
2-Fills 13 x 3/4 x 2'3 1/2" fb (c)
8-Fills 5 x 1/2 x 3'10" fn (c)
4-Pls. 11 3/4 x 3/8 x 2'8 3/4" abt. hc R/L (c)
2- " 11 3/4 x 3/8 x 5'4 7/8" abt. hd (c)
4- " 11 3/4 x 3/8 x 1'6 7/8" abt. he (c)
2- " 11 3/4 x 3/8 x 5'4 7/8" abt. hf (c)
2- " 16 1/4 x 3/8 x 3'4 7/8" abt. hg (c)
2- " 11 3/4 x 3/8 x 3'6 5/8" abt. hm (c)
4-Fills 4 3/8 x 5/8 x 1'5 1/8" fc (c)
2- " 4 3/8 x 5/8 x 2'3 3/4" fm (c)
8- " 4 3/8 x 1/2 x 0'8 3/4" fp (c)
3 " 4 3/4 x 3/4 x 2'3 3/4 fg (c)
1 " 8 x 3/4 x 2'3 1/2" fv (c)
4 Ls 8 x 8 x 3/4 x 7'10 1/2" aay R/L (x) (E) F.I.E
4-Pls. 11 3/4 x 3/8 x 2'8" abt. hab R/L (c)
6-Ls 8 x 4 1/2 x 5/8 x 0'6 3/4" aba R/L (x) (E) Grind to fit fillet
2-Spl. Pls. 64 x 3/4 x 5'10 1/2" pay (x) (E) F.I.E.
4-Spl. Pls. 44 x 3/4 x 7'9 3/4" pba (x) (E)
4-Fills 4 3/8 x 5/8 x 1'5 5/8 fam (c)

MATERIAL FOR MA14

1-L 8 x 8 x 3/4 x 21'2 1/2" ap (x) (E)
1-L 8 x 8 x 3/4 x 21'2 1/2" at (x) (E)
1-L 8 x 8 x 3/4 x 21'2 1/2" av (x) (E)
1-L 8 x 8 x 3/4 x 21'2 1/2" aw (x) (E)
2-L 8 x 8 x 3/4 x 21'2 1/2" ay R/L (x) (E)
2-L 8 x 8 x 3/4 x 21'2 1/2" aaa R/L (x) (E)
6-pa
6-pb
2-pc
4-pd
6-Webs 60 1/2 x 3/4 x 4'8 3/4" pv (x) (E) F.I.E & 2 Edges
4-Splice Pls. 58 x 3/4 x 6'5 3/4 pw (x) (E)
4- " " 44 x 3/4 x 9'1 1/2 py (x) (E)
1-ph
2-af
2-ag R/L
2-aac R/L
1-pk
1-paa
1-ah L
8-ak R/L
8-am R/L
2-an R/L
8-sa R/L
8-sb R/L
16-ao
2-pm
2-pab
2-fa
2-pn
1-ha
1-Pl. 64 1/2 x 3/4 x 2'6" hv (c)
4-pp
8-sd R/L
8-se R/L
4-aob
4-aav
4-pt
2-fb
8-fn
4-hc R/L
2-hd
4-he
2-hf
2-hg
2-hm
4-fc
2-fm
1-Fill 18 1/4 x 3/4 x 3'5 3/4" pac (c) (E)
1- " 18 1/4 x 3/4 x 3'5 3/4" pad (c) (E)
1-Slab 18 1/4 x 5 3/8 x 4'4" pae (c) F2 Sides (E)
1 " 18 1/4 x 5 3/8 x 4'4" paf (c) F2 Sides (E)
6-pe
4-pf
4-pba
4-aay R/L
4-hab R/L
6-aba R/L
2-pay
3-fg
1-fv
8-fp
4-fam

	REQUIRED	
1	Anchorage Gir.	MA13
1	" "	MA14
2	" Bars	MA43
1	" Gir.	MA16R
1	" "	MA16L
2	" Angles	MA17R
2	" "	MA17L
4	" "	MA18
2	" Pls & Ls	MA19
4	" Splice Pls	MA20
2	" Bars	MA21
4	" Slabs	MA22
1	" Gir	MA15R
1	" "	MA15L

40T
40T

MATERIAL FOR MA15

2-Pls. 54 3/4 x 3/4 x 10'4 1/4" pag (x) (E) F.I Edge
2-Bearing Pls. 30 x 3 x 6'0 3/4" pah (c) Straighten (E)
1-Pl. 67 1/4 x 5/8 x 5'1 5/8" pak (c) F2E & 2 Edges
4-Ls 6 x 6 x 1/2 x 5'0 1/8" ka R/L (c) (E)
4-Ls 6 x 6 x 1/2 x 5'0 1/8" kb R/L (c) (E)
1-Pl. 67 1/4 x 5/8 x 5'1 5/8" pam (c) F2E & 2 Edges
4-Ls 6 x 6 x 1/2 x 4'1 1/2" aad (c)
2-Ls 5 x 5 x 5/8 x 4'1 1/2" aae (c)
1-Bearing Pl. 14 x 2 x 5'8 3/4 pan (c) Straighten
2-Ls 8 x 6 x 3/4 x 4'3" aaf (c)
1-Web 67 1/4 x 3/4 x 4'7 3/4" pao (x) (E) F2E & 2 Edges
4-Ls 8 x 6 x 3/4 x 1'4 1/2 aah (c)
8-Ls 6 x 6 x 3/4 x 1'6" sh R/L (c)
4 Fills 3 x 3/4 x 1'3 1/2" fd (c)
2-Ls 6 x 6 x 1/2 x 4'9 3/4" aak R/L (c) (E)
1-L 8 x 8 x 5/8 x 4'1 1/2 aam (x) (E)
1-Fill 8 x 1 1/8 x 4'1 1/2 fe (c)
2-Pls. 11 3/4 x 3/8 x 4'9 3/8" abt. hh R/L (c)
2- " 11 3/4 x 3/8 x 4'1 3/8" abt. hn R/L (c)
1- " 11 3/4 x 3/8 x 1'4 7/8" abt. hk R (c)
2-Fills 4 3/8 x 5/8 x 3'6 3/8 ff (c)
2-Ls 6 x 6 x 1/2 x 4'1 1/2" aag (c)
1-Fill 8 x 3/4 x 3'11 1/2 fw (c) F.I.E
2- " 4 3/8 x 1/2 x 2'10 1/8" faa (c)
1- " 4 3/8 x 1/4 x 3'5 1/4" fab (c)
1- " 4 3/8 x 1 x 3'5 1/4" fae (c)
1-Pl. 11 3/4 x 3/8 x 1'5 7/8" abt. had R (c)

MATERIAL FOR MA16

2-Pls. 54 3/4 x 3/4 x 10'4 1/4" pap (x) (E) F.I Edge
2-pah
1-pak
4-ka R/L
4-kb R/L
1-pam
4-aad
2-aae
1-pan
2-aaf
1-pao
4-aah
8-sh R/L
4-fd
1-aam
1-fc
2-Pls. 11 3/4 x 3/8 x 5'2 3/8" abt. ho R/L (c)
2- " 11 3/4 x 3/8 x 3'11 3/8" abt. hp R/L (c)
2- " 11 3/4 x 3/8 x 1'4 5/8 abt. hw (c)
2- " 11 3/4 x 3/8 x 1'0 3/4" abt. ht R/L (c)
2-Fills 4 3/8 x 5/8 x 3'11 1/2" fh (c)
2-Ls 8 x 6 x 5/8 x 3'9 3/4" aan R/L (x) (E)
1-L 6 x 6 x 1/2 x 4'6 3/4 aao R (c)
1-L 8 x 6 x 1/2 x 4'6 3/4 aap R (c)
4-Ls 6 x 6 x 1/2 x 2'11 1/4 aat R/L (c)
1-Pl. 44 x 5/8 x 5'7 1/4 pat (c) Fin. 1 Edge & 2 E
2-Fills 4 3/8 x 1/2 x 2'10 3/4 ft (c)
1- " 4 3/8 x 1/4 x 3'4 fy R (c)
1 Pls. 11 1/4 x 3/8 x 1'7" abt. hy R (c)
1- " 11 1/4 x 3/8 x 1'8" abt. haa R (c)
2-Fills 3 7/8 x 1/2 x 1'2 5/8" fac (c)
2-aag
1-fw
1-Fill 4 3/8 x 1 x 3'4 fad (c)
1-Pl. 11 1/4 x 3/8 x 1'7" abt. hay R (c)
1-Pl. 11 1/4 x 3/8 x 1'7 1/4 abt. hae R (c)

2-Fills 3 7/8 x 1/2 x 1'1 5/8 faf (c)

MATERIAL FOR MA17

1-L 8 x 8 x 1 1/8 x 10'4" (x) (E)

MATERIAL FOR MA43

1-Bar 8 x 1 1/8 x 13'4" (X) F2E & 1 Edge

MATERIAL FOR MA18

1-L 8 x 8 x 13/16 x 13'4" (x) F2E

MATERIAL FOR MA19

2-Ls 8 x 8 x 3/4 x 13'4" (x) (E)
2-Webs 67 1/4 x 3/4 x 13'4" (x) (E) F2 Edges

MATERIAL FOR MA20

1-Pl. 9 x 3/4 x 8'2" (x) (E)

MATERIAL FOR MA21

1-Bar 8 3/4 x 1 1/8 x 13'4" (x) F2E & 1 Edge

MATERIAL FOR MA22

1-Bearing Pl. 14 x 2 x 4'1 (c) Straighten

Shop Note
Shop to carefully remove oil burrs around pin holes before assembling plates in order to avoid excessive packing

Made	Revision	App'd

APPROVED
Glenn E. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 7-6-34

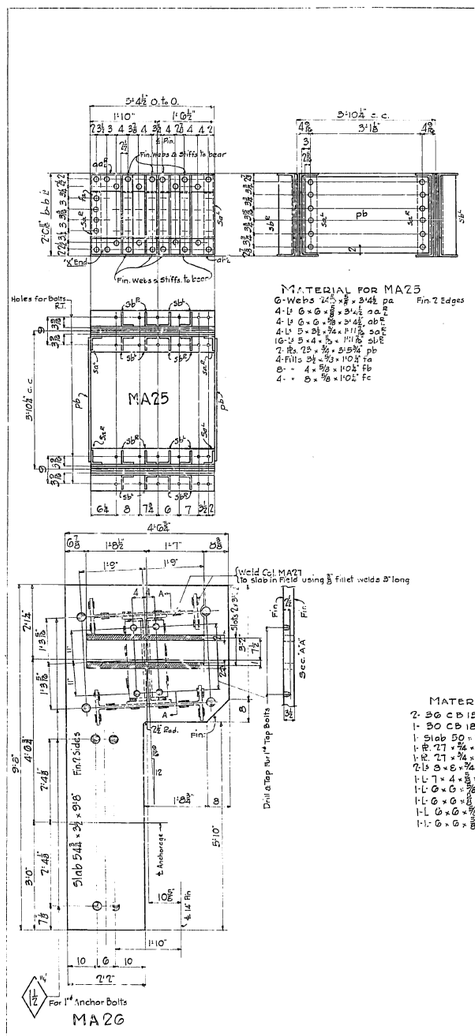
Gen. Notes-
Material- All material to be O.H. Copper bearing Steel.
(X) Denotes Silicon Steel (c) Denotes Carbon Steel
Specifications-Special by State of California Dept. of Public Works
Inspection- John M. Bailey, Chief Inspector
Rivets-1 1/8" Dia.
Open Holes- 1 3/16 Dia. Unless Noted
Paint-None, except Pin holes to have one coat white lead and tallow. Finished surfaces of slabs and Field contact surfaces to have one coat of Acid resisting liquid.
Reaming-All holes to be subpunched or sub drilled 1/4 and reamed to size, while parts are assembled in Shop. Field connections are to be reamed, while connecting pieces are assembled in Shop and pieces matched marked. Match marking to be done with 3/4" steel stencil and white paint. Material over 3/4" thick to be drilled. Burrs to be removed from all reamed holes.
Finish.- Sheared or flame cut edges of all material marked (E) are to be planed so as to remove at least 1/8" of metal. Flame cut edges of slabs to be straight and smooth. Edges of manholes to be smooth.

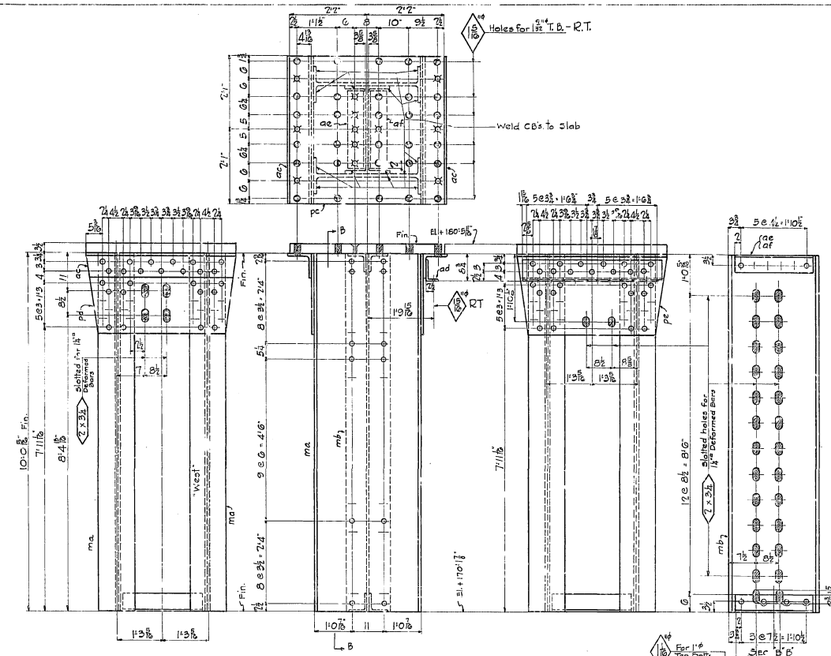
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
Details of Anchorage Girders at Pier E1

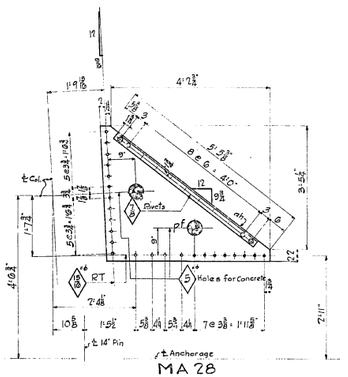
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DRAW. MADE BY SJS DATE 2-28-34
DRAW. CHECKED BY C.A.S. DATE 3-19-34
M.M.S. 7-16-34
ORDER No. G5103
SHEET No. 2C

[E&F]

30-1

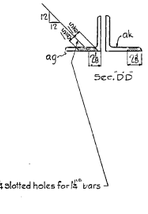


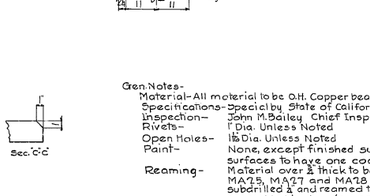




MATERIAL FOR MA28

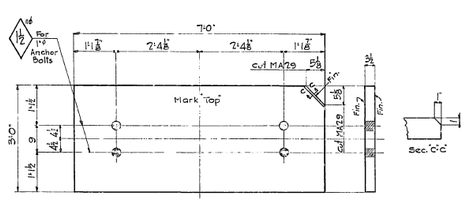
1-PL	45½ × ⅝ × 4'-0½"	pf
FL	3 × 3 × ½ × 4'-9½"	ah





MATERIAL FOR MA27

2- 36 CD 150 × 10:0⅝	ma	Fin. 2 Ends
1- 30 CD 180 × 10:0⅝	mb	Fin. 2 Ends
1- Slab 50 × 8½ × 4'-4"	pc (E)	Fin. 2 Sides
1- PL 27 × ⅞ × 4'-2"	pd	Fin. 1 Edge
1- PL 27 × ¾ × 4'-2"	pe	Fin. 1 Edge
2- L 3 × 3 × ¾ × 4'-10"	ac (E)	
1- L 7 × 4 × ⅝ × 3'-10½"	ad	
1- L 6 × 6 × ⅞ × 2'-7½"	ae	
1- L 6 × 6 × ⅞ × 2'-7½"	af	
1- L 6 × 6 × ⅞ × 2'-7½"	ag	
1- L 6 × 6 × ⅝ × 2'-7½"	ak	



REQUIRED		
4	Grillage	MA25
1	Slab	MA26
1	Column	MA27
1	Bracket	MA28
1	Slab	MA29
3	Slabs	MA30

Change Slabs MA34 to 41-K-8769 giving G5103 credit for same.

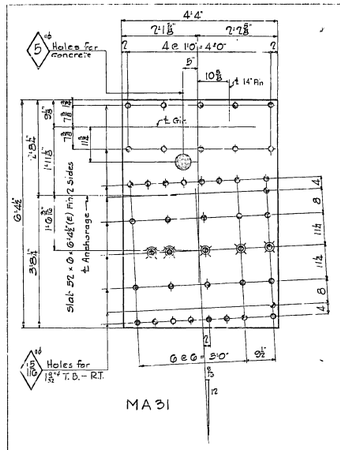
Gen. Notes-

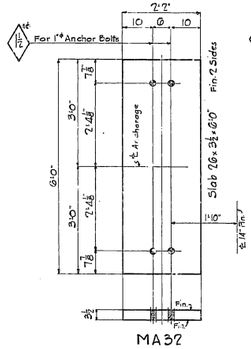
Material- All material to be O.H. Copper bearing medium Carbon Steel
Specifications- Special by State of California Dept. of Public Works
Inspection- John M. Bailey Chief Inspector
Rivets- ⅞" Dia. Unless Noted
Open Holes- 1⅛" Dia. Unless Noted
Paint- None, except finished surfaces and field contact surfaces to have one coat of Acid resisting liquid Material over ½ thick to be drilled. All holes in MA25, MA27 and MA28 to be subpunched or subdrilled ¼" and reamed to size, while parts are assembled in shop, (except slotted holes which may be punched full size) Holes marked R.T. to be reamed to a steel templet. Burrs to be removed from all reamed holes.
Reaming-
Finish- Sheared or flame cut edges of all material marked (E) are to be planed 300 to remove at least ⅛" of metal. Flame cut edges of slabs to be straight and smooth.

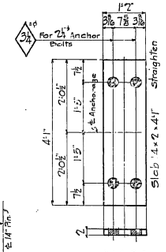
APPROVED
Chief of Design
Bridge Engineer
Asst. Engineer
Approved Dec. 5-17-34

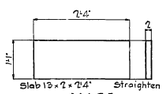
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
Details of Anchorage at Pier E1

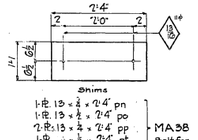
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary PLANT
WORK EXECUTED AT Ambridge PLANT
IN CHARGE Wilkinson
DRAWN BY S.T.S. DATE 3-7-34
DRAWN, CHECKED BY S.T.S. DATE 3-19-34
ORDER No. G5103 SHEET No. 3

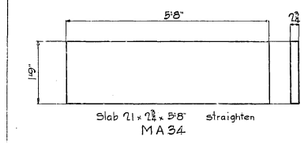


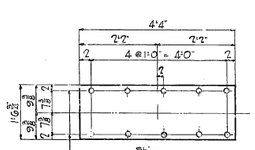


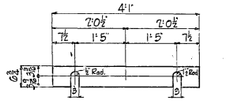


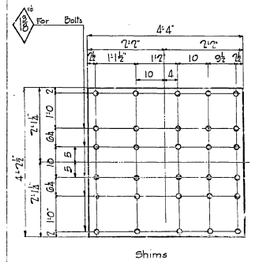


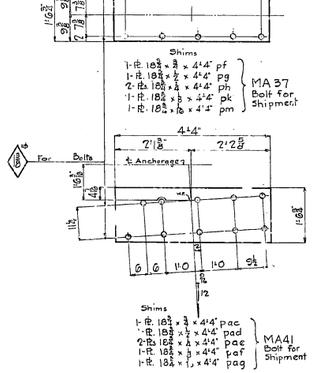




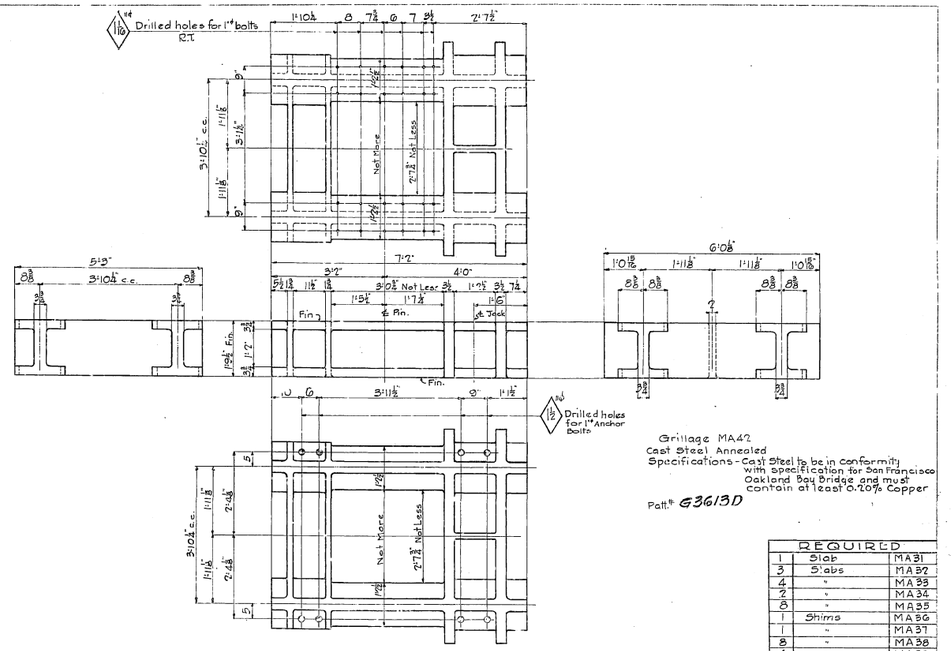








Note to Shop
Shims must be absolutely flat and free from shearing and punching burrs



REQUIRED		
1	Slab	MA31
3	Slabs	MA32
4	"	MA33
2	"	MA34
8	"	MA35
1	Shims	MA36
1	"	MA37
8	"	MA38
4	"	MA39
1	"	MA41
4	Grillage	MA42

Gen. Notes–
Material– All material to be O.H. Copper bearing medium Carbon Steel except Cast Steel.
Specifications– Special by State of California Dept. of Public Works
Inspection– John M. Bailey, Chief Inspector
Open Holes– As noted
Paint– None, except finished surfaces, field contact surfaces and shims to have one coat of Acid resisting liquid.
Reaming– Shims to be punched full size. Material over ¼" thick to be drilled. Holes marked R.T. to be drilled to a steel templat. Burrs to be removed from all reamed holes.
Finish– Sheared or flame cut edges of all material marked (E) are to be planed so as to remove ¼" least ⅛ of metal. Flame cut edges of slabs to be straight and smooth.

Mark	Revision	Date
	APPROVED	

Chief E. Woodruff, Engr. of Design
Geo. E. Andrew, Bridge Engineer
L. H. Pollard, Assistant
Approved Date 5-17-34

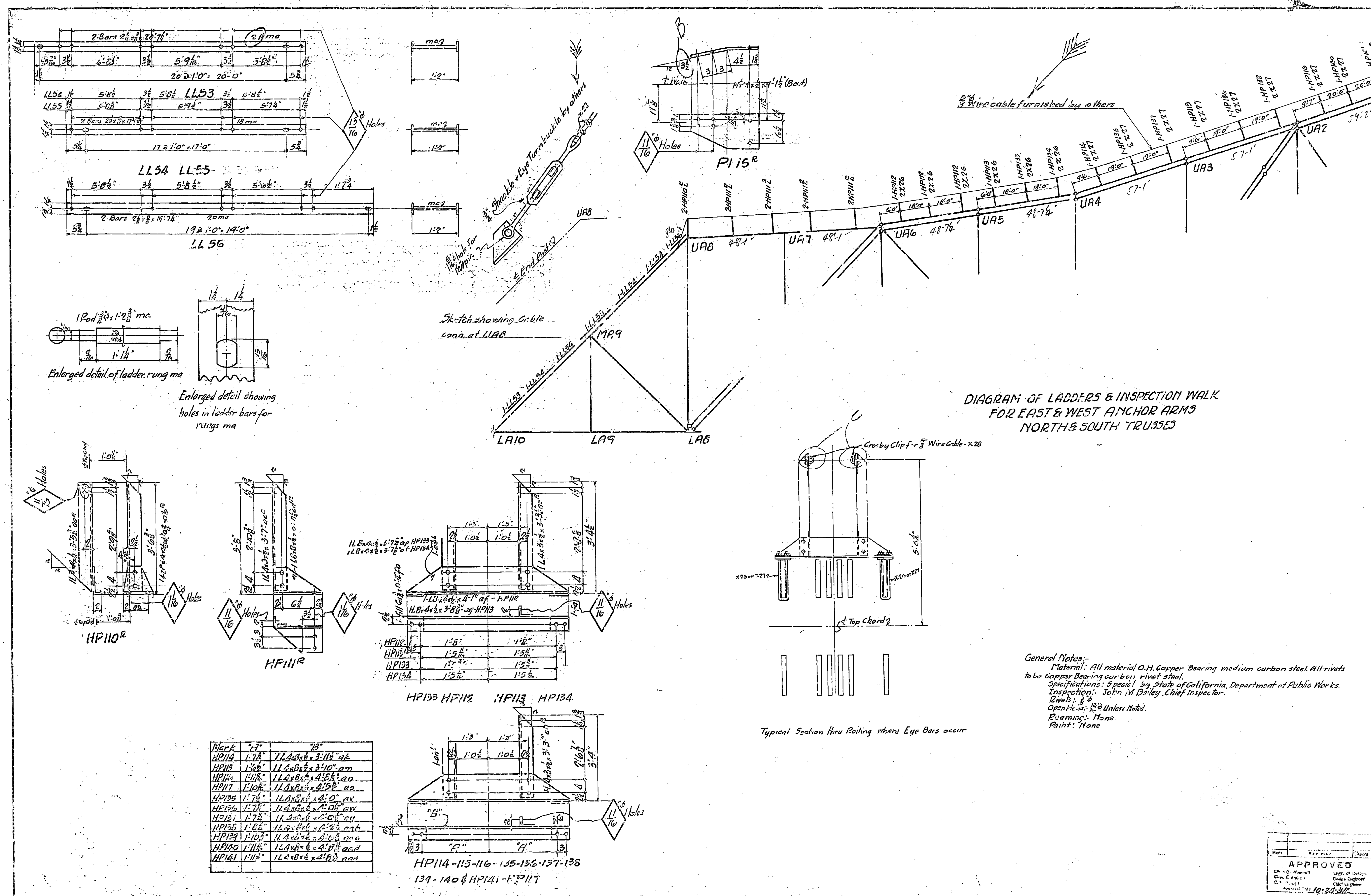
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
Details of Anchorage at Pier E1

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DRAWN BY S.J.S. DATE 5-8-34
TRACED BY C.M.S. DATE 5-20-34
CHECKED BY DATE
ORDER No. G5103
SHEET No. 4

Rev 4-22-35

C for MA42
F for Balance

30-1



Mark	"H"	"B"
HP114	1'-7½"	1L4x8x½x3'-11⅞" ak
HP115	1'-6½"	1L4x8x½x3'-10" am
HP116	1'-11⅝"	1L4x8x½x4'-8⅝" an
HP117	1'-10⅝"	1L4x8x½x4'-5⅝" ao
HP135	1'-7½"	1L4x8x½x4'-0" av
HP136	1'-7⅝"	1L4x8x½x4'-0⅝" aw
HP137	1'-7¾"	1L4x8x½x4'-0½" ay
HP138	1'-8¼"	1L4x8x½x4'-2½" aab
HP139	1'-10⅜"	1L4x8x½x4'-6⅜" aac
HP140	1'-11⅛"	1L4x8x½x4'-8⅞" aad
HP141	1'-11⅞"	1L4x8x½x4'-8⅜" aae

General Notes:-
Material: All material O.H. Copper Bearing medium carbon steel. All rivets to be Copper Bearing carbon rivet steel.
Specifications: Special by State of California, Department of Public Works.
Inspection:- John M Bailey, Chief Inspector.
Rivets:- ⅞"φ
Open Holes:- $\frac{15}{16}$"φ Unless Noted.
Reaming:- None.
Paint: None

West Anchor	East Anchor	Total	REQUIRED	
2	2	4	Ladders	LL53
8	8	16	do	LL54
2	2	4	do	LL55
2	2	4	do	LL56
2	2	4	Rail Posts	HP110R
2	2	4	do	HP110L
8	8	16	do	HP111R
8	8	16	do	HP111L
6	6	12	do	HP112
2	2	4	do	HP113
2	2	4	do	HP114
2	2	4	do	HP115
4	4	8	do	HP116
2	2	4	do	HP117
2	2	4	do	HP133
2	2	4	do	HP134
2	2	4	do	HP135
2	2	4	do	HP136
2	2	4	do	HP137
2	2	4	do	HP138
2	2	4	do	HP139
2	2	4	do	HP140
2	2	4	do	HP141
4	4	8	Plates	P175R
4	4	8	do	P175L

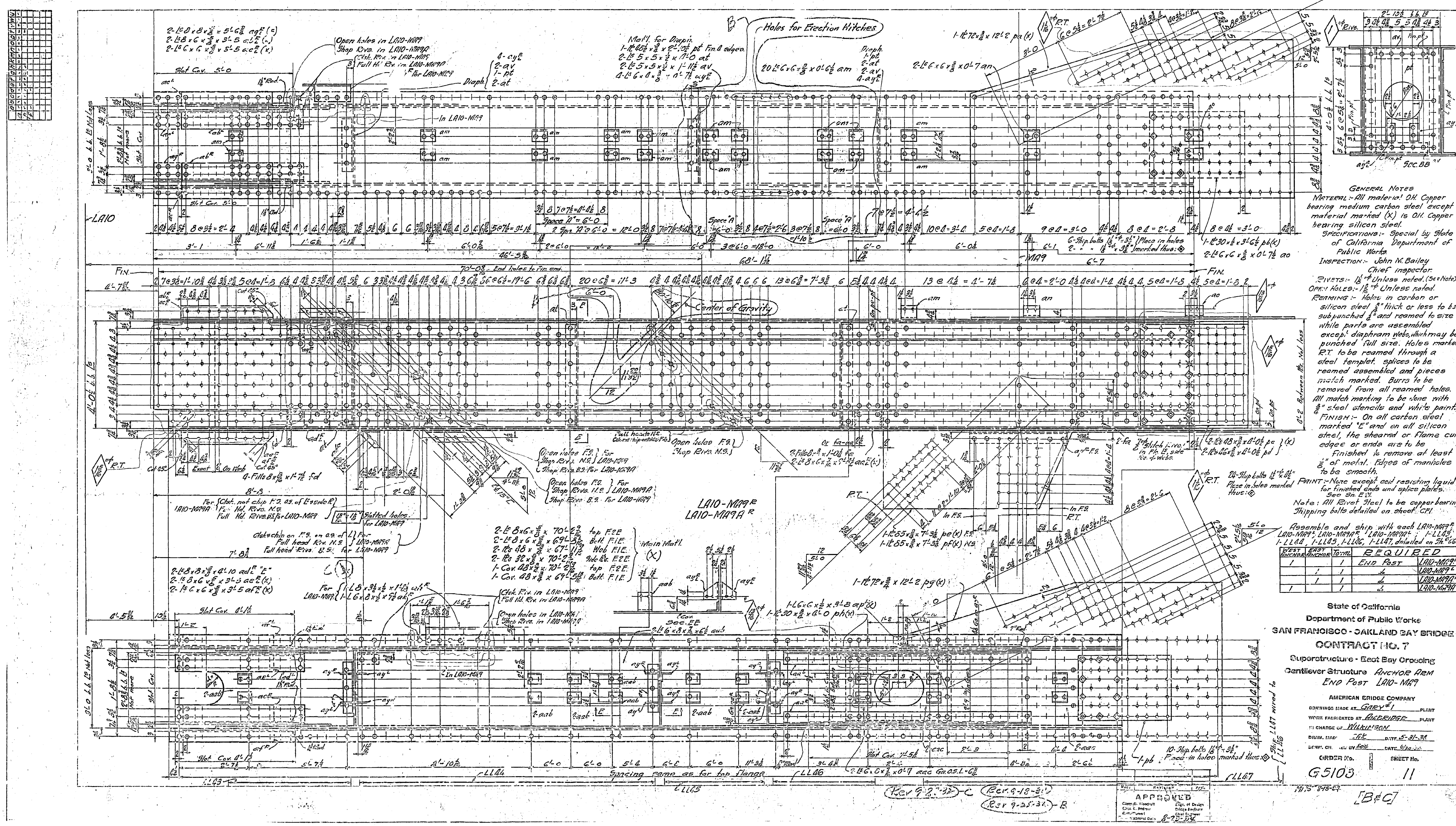
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arms
Ladders LA10-UA8 & Rail Posts UA8 - U0
For Inspection Walk.
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE Wilkinson
DRAWN BY WCB DATE 8-15-34
DRAW. CHECKED BY LEH DATE 9-17-34
11-15-34
ORDER No. G5103 SHEET No. 5

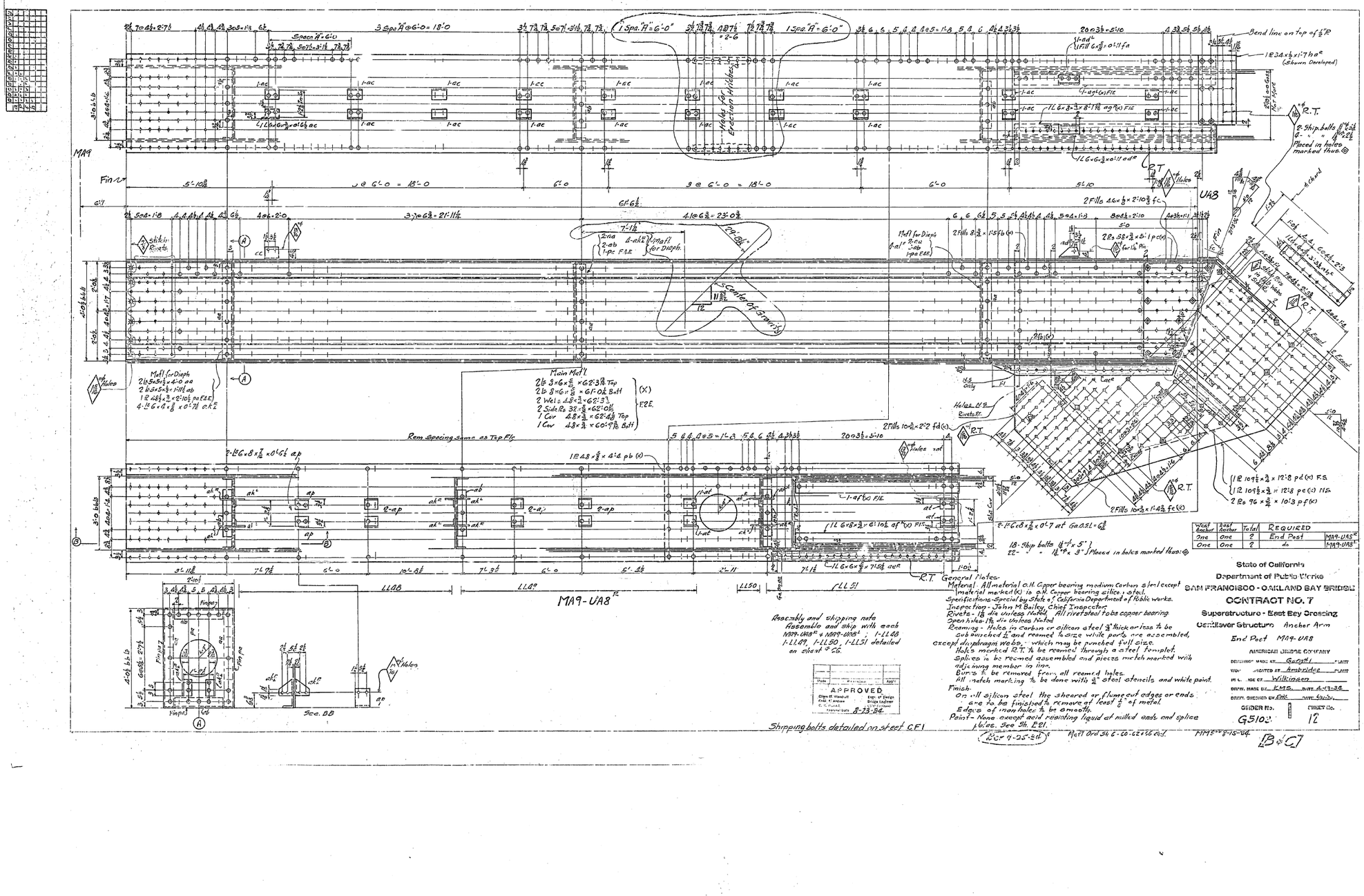
APPROVED
Engr. of Design
Bridge Engineer
Chief Engineer
10-25-34

Rev 1-14-34 (Rev 11-15-34) (Rev 11-2-34)
Mat. Ord. pg 70
[C]

30-1



GENERAL NOTES
MATERIAL:- All material O.H. Copper bearing medium carbon steel except material marked (X) is O.H. Copper bearing silicon steel.
SPECIFICATIONS:- Special by State of California Department of Public Works.
INSPECTION:- John N. Bailey Chief inspector.
RIVETS:- 1⅛"φ Unless noted. (See Note)
OPEN HOLES:- 1 3/16"φ Unless noted.
REAMING:- Holes in carbon or silicon steel ¾" thick or less to be subpunched ¼" and reamed to size while parts are assembled except diaphram webs, which may be punched full size. Holes marked R.T. to be reamed through a steel templet. Splices to be reamed assembled and pieces match marked. Burrs to be removed from all reamed holes. All match marking to be done with ¾" steel stencils and white paint.
FINISH:- On all carbon steel marked "E" and on all silicon steel, the sheared or flame cut edges or ends are to be Finished to remove at least ⅛" of metal. Edges of manholes to be smooth.
PAINT:- None except acid resisting liquid for finished ends and splice plates. See Sh. E21.
Note: All Rivet Steel to be copper bearing. Shipping bolts detailed on sheet CF1.
Assemble and ship with each LA10-MA9R, LA10-MA9L, LA10-MA9AR, LA10-MA9AL; 1-LL43, 1-LL44, 1-LL45, 1-LL46, 1-LL47, detailed on Sh. #66.
WEST ANCHOR | EAST ANCHOR | TOTAL | REQUIRED
1 | | 1 | END POST | LA10-MA9R
| 1 | 1 | do | LA10-MA9L
| 1 | 1 | do | LA10-MA9AR
1 | | 1 | do | LA10-MA9AL
33T
33T
33T
33T
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure ANCHOR ARM
END POST LA10-MA9
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT GARY #1 PLANT
WORK FABRICATED AT AMBRIDGE PLANT
IN CHARGE OF WILKINSON
ORDER No. G5103
SHEET No. 11
Holes for Erection Hitches
Center of Gravity
LA10-MA9R
LA10-MA9AR
SEC. BB
Spacing same as for top flange
APPROVED
Rev 9-22-37 C
Rev 9-18-37
Rev 9-25-37 B
[B&C]



West Anchor	East Anchor	Total	REQUIRED	
One	One	2	End Post	MA9-UA8
One	One	2	do	MA9-UA8

317
317

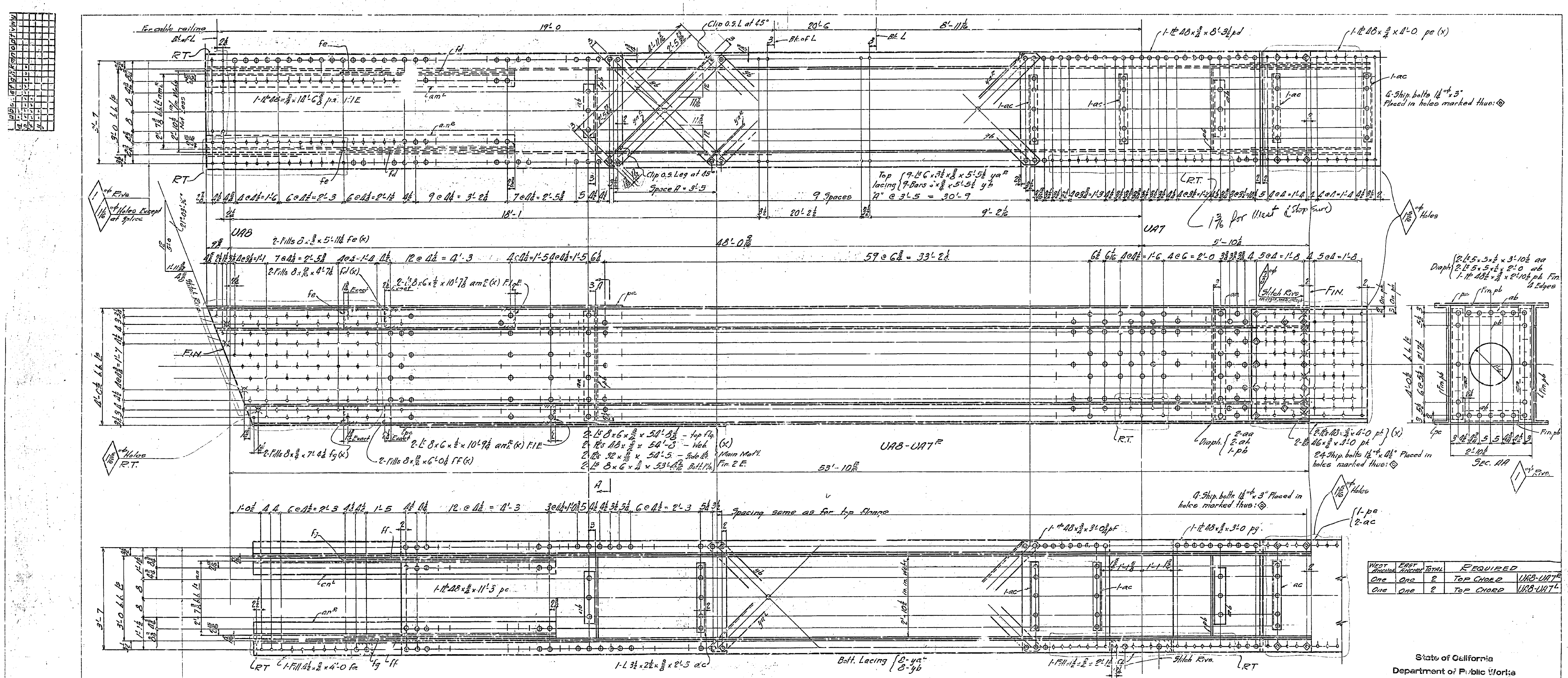
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
End Post MA9-UA8

AMERICAN BRIDGE COMPANY
DESIGNED MADE AT Gary PLATE
WORK ERECTED AT Ambridge PLATE
RIVETS ROLLED BY Wilkinson
DRAWN, TRACED BY KMS DATE 4-13-34
DESIGN, CHECKED BY EHK DATE 5-2-34

ORDER No. G5102 SHEET No. 12

B & C

30-1



WEST ANCHOR	EAST ANCHOR	TOTAL	REQUIRED		
One	One	2	TOP CHORD	UA8-UA7[R]	21T
One	One	2	TOP CHORD	UA8-UA7[L]	21T

GENERAL NOTES:

Material – All material O.H. copper bearing medium carbon steel, except material marked "X" is O.H. copper bearing silicon steel.

Specifications – Special by State of California Department of Public Works.

Inspection – John M. Bailey, Chief Inspector.

Rivets – 1⅛"ϕ unless noted. (See note)

Open Holes – 1³⁄₁₆"ϕ unless noted.

Reaming – Holes in all material to be subpunched ¼" and reamed to size while parts are assembled, except lacing, stay plates, and diaphragm webs, which may be punched full size.

Holes marked "R.T." to be reamed through a steel templet.

Splices to be reamed assembled and pieces match marked.

Burrs to be removed from all reamed holes.

All match marking to be done with ¾" steel stencils and white paint.

Finish – On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal. Edges of manholes to be smooth.

Paint – None, except acid resisting liquid on milled ends, and splices. (See sheet E21)

Note – All rivet steel to be copper bearing.

Shipping bolts detailed on sheet CF1

Made	Revision	App'd
8-7-34	Details at UA8	8-10-34

APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 7-25-34

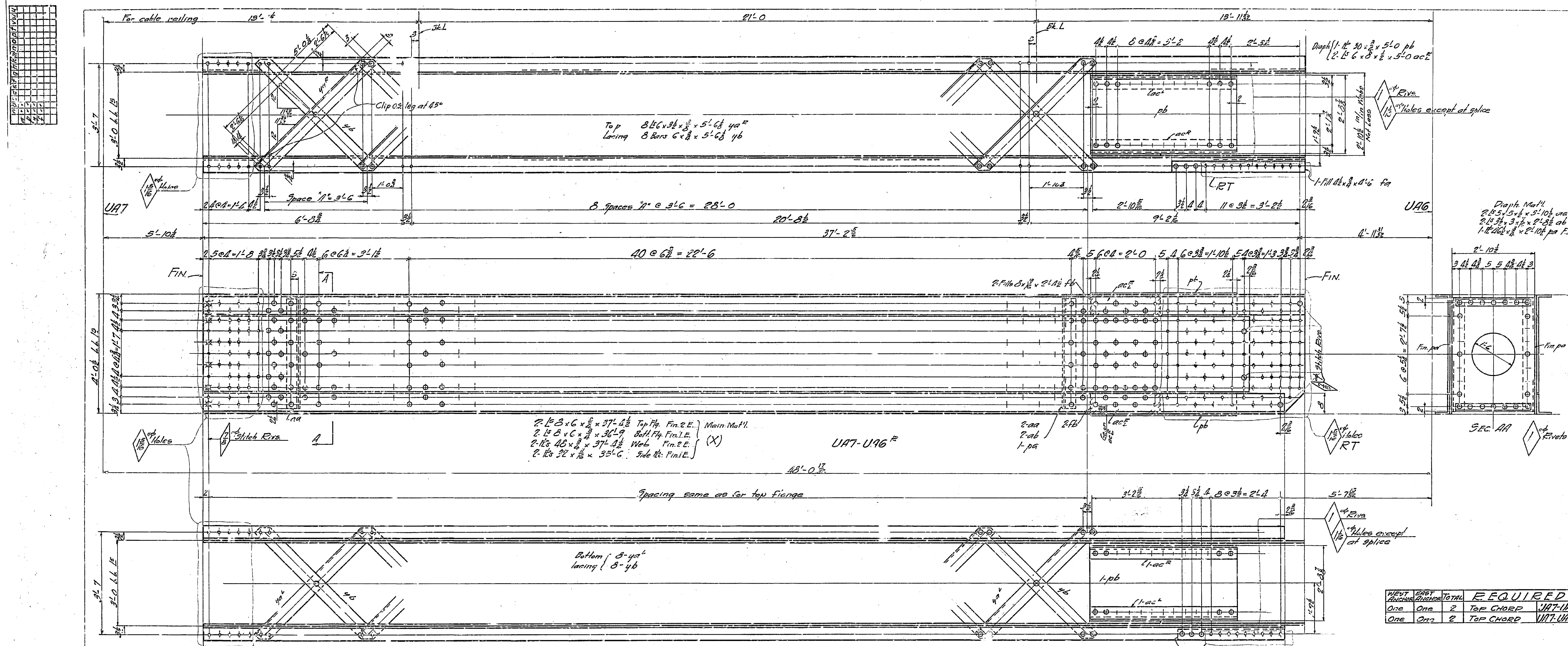
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure ANCHOR ARM
TOP CHORD UA8 - UA7

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT GARY #1 PLANT
WORK FABRICATED AT AMBRIDGE PLANT
IN CHARGE OF WILKINSON
DRAW. MADE BY C.C.K. DATE 5-7-34
DRAW. CHECKED BY R.O.H. DATE 6/29/34

ORDER No. G5103 | SHEET No. 13

MMS 8-15-34

[B&C]



GENERAL NOTES:

Material– All material O.H. copper bearing medium carbon steel, except material marked "X" is O.H. copper bearing silicon steel. All rivet steel to be copper bearing.

Specifications– Special by State of California Department of Public Works.

Inspection– John M. Bailey, Chief Inspector.

Rivets– 1 1/8"φ unless noted.

Open Holes– 1 3/16"φ unless noted.

Reaming– Holes in all material to be subpunched 1/4" and reamed to size while parts are assembled, except lacing, and diaphragm webs which may be punched full size.

Holes marked "R.T." to be reamed through a steel templet.

Splices to be reamed assembled and pieces match marked.

Burrs to be removed from all reamed holes.

All match marking to be done with 3/4" steel stencils and white paint.

Finish– On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least 1/8" of metal. Edges of manholes to be smooth.

Paint– None, except acid resisting liquid at milled ends, and at splices. (See sheet E21).

West Anchor	East Anchor	Total	REQUIRED	
One	One	2	Top Chord	UA7-UA6^R
One	One	2	Top Chord	UA7-UA6^L

13T
13T

Made	Revision	App'd

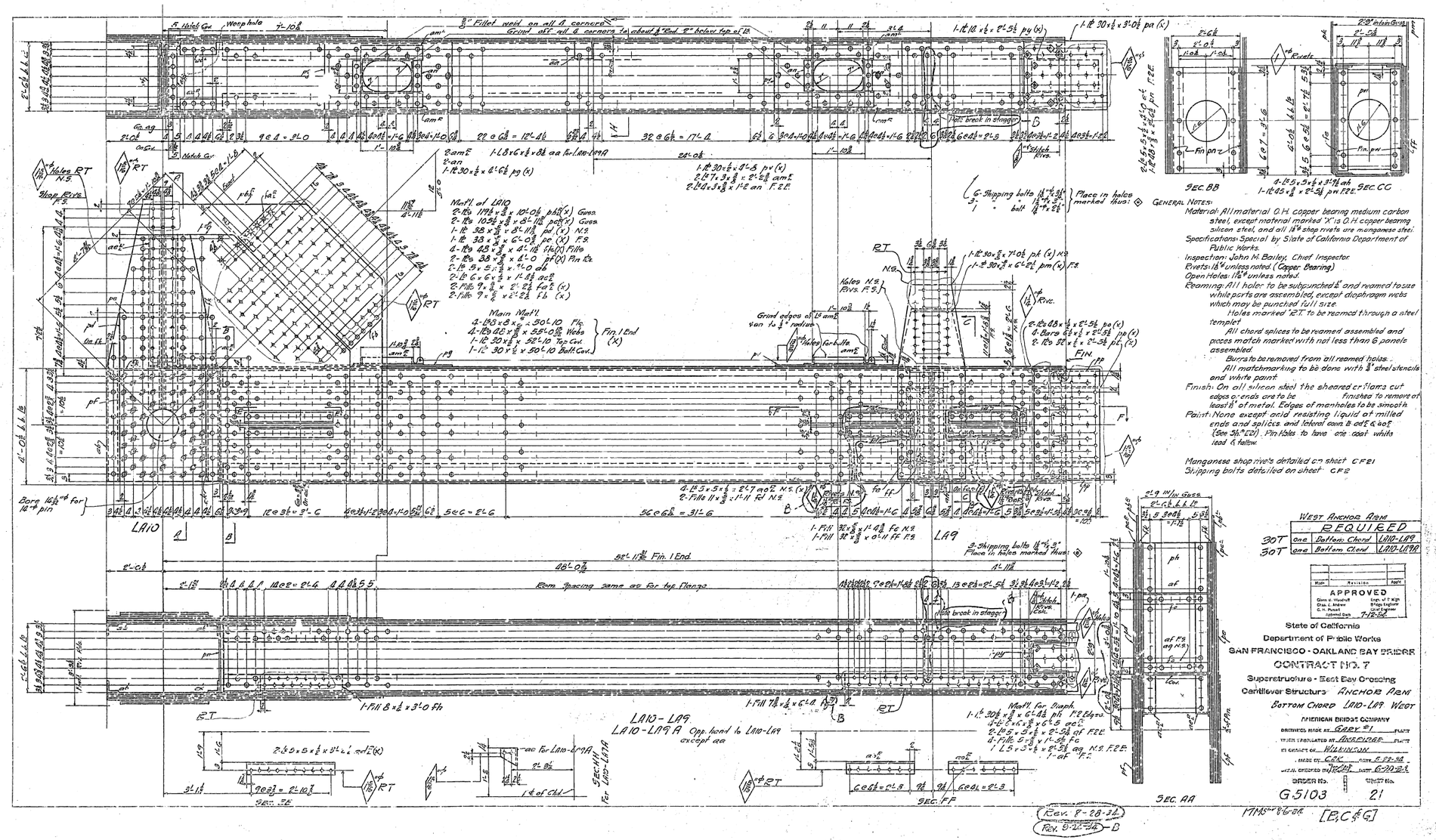
APPROVED
Glenn B. Woodruff – Engr. of Design
Chas. E. Andrew – Bridge Engineer
C. H. Purcell – Chief Engineer
Approval Date 7-25-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure ANCHOR ARM
TOP CHORD UA7-UA6

AMERICAN BRIDGE COMPANY
Drawings made at GARY #1 Plant
Work fabricated at AMBRIDGE Plant
In charge of WILKINSON
Draw. made by CPK Date 5-9-34
Draw. checked by EGH Date 6/29-34
Order No. G 5103
Sheet No. 14

MMS 8-15-37
[B & C]

30-1



WEST ANCHOR ARM REQUIRED			
30T	one	Bottom Chord	LA10-LA9
30T	one	Bottom Chord	LA10-LA9A

Mark	Revision	Appd.

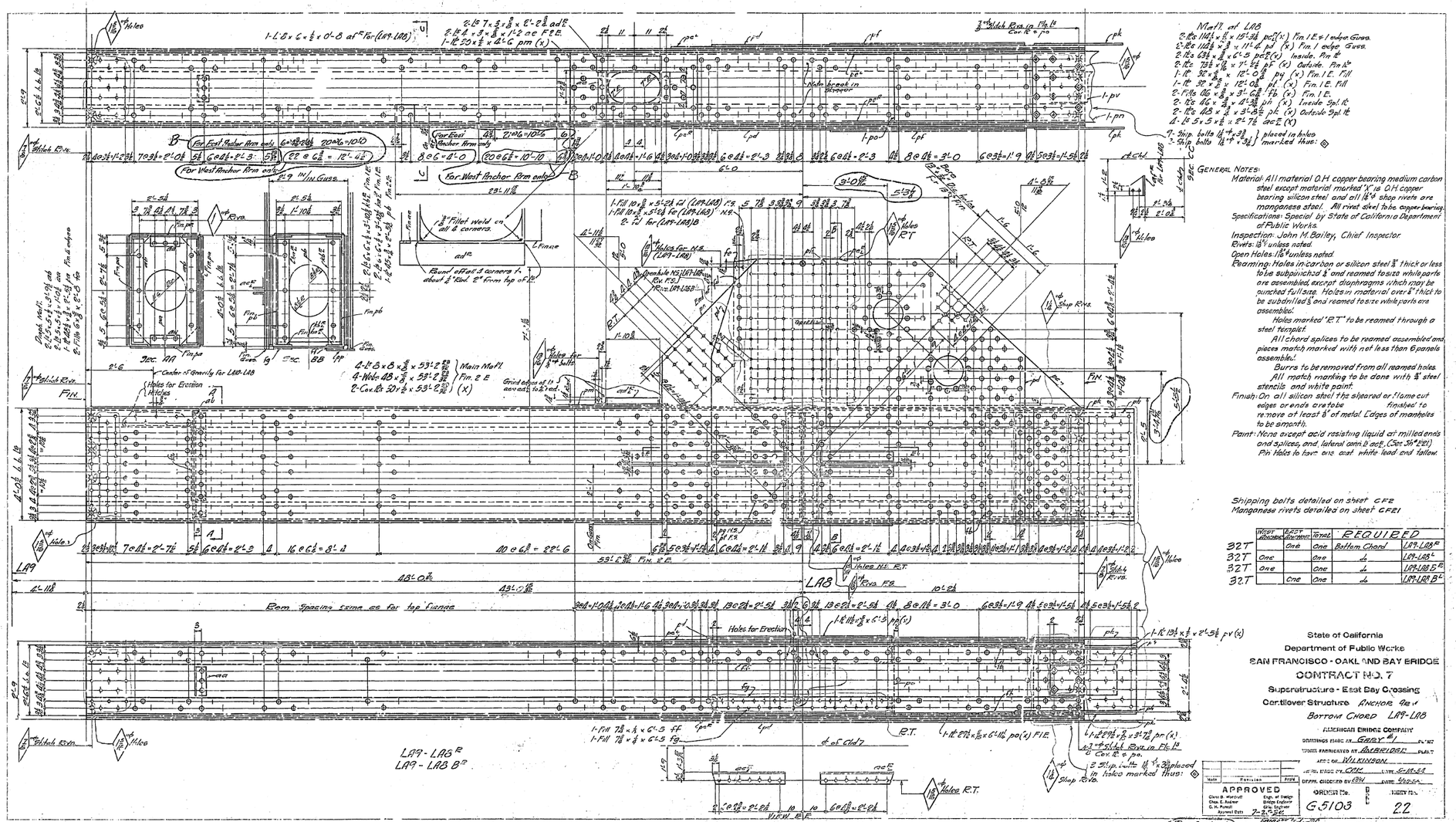
APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. L. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approved Date 7-12-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure ANCHOR ARM
Bottom Chord LA10-LA9 West

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT GARY, IND. PLANT
WORK FABRICATED AT ANDERSON PLANT
ITS CONTRACT NO. WILMINGTON
ERECTED BY C.A.C. DATE 5-28-34
LOCAL CONTRACTOR Pacific DATE 6-20-34

ORDER No. G5103 DWG. No. 21

MMS 86-0A [B,C&G]


Main Mo'll
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(X)
Holes for Erection
Center of Gravity for LA10-LA8
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Fin. pc
Fin. pd
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Fin. pf
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Fin. pk
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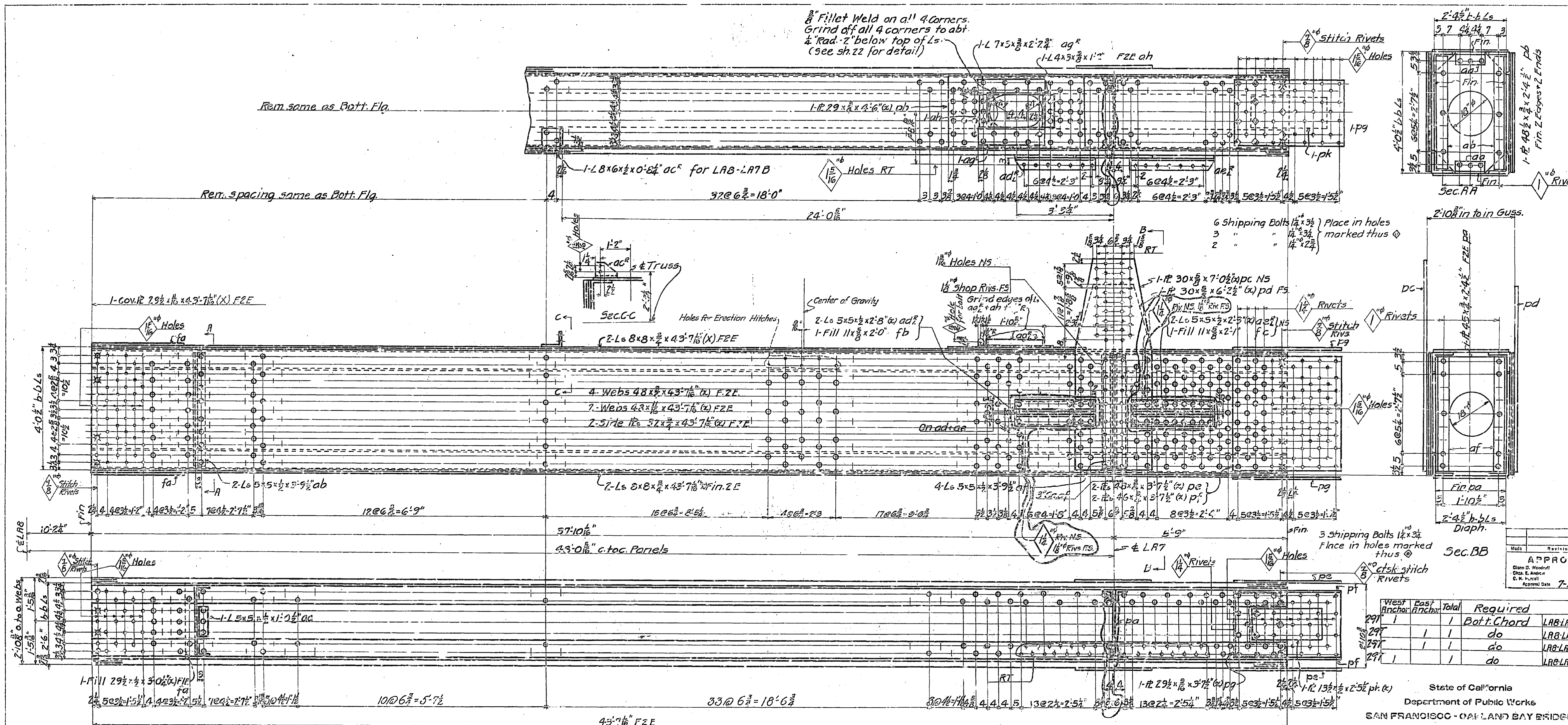


LA8-LA7[R]
LA8-LA7-B[R]

GENERAL NOTES:

Material: All material O.H. copper bearing medium carbon steel, except material marked "X" is O.H. copper bearing silicon steel; and all 1 1/4"⌀ rivets are manganese steel.

Specifications – Special by State of California Department of Public Works.

Inspection – John M. Bailey, Chief Inspector.

Rivets – 1 1/8"⌀ unless noted. (Copper Bearing)

Open Holes – 1 3/16"⌀ unless noted.

Reaming – All holes to be subpunched 1/4" and reamed to size while parts are assembled, except diaphragm webs, which may be punched full size. Holes marked "R.T." to be reamed through a steel templet.

All chord splices to be reamed assembled and pieces match marked with not less than 6 panels assembled. Burrs to be removed from all reamed holes. All match marking to be done with 3/4" steel stencils and white paint.

Finish – On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least 1/4" of metal. Edges of manholes to be smooth.

Paint – None except acid resisting liquid at milled ends and splices, and lateral conn. Ls adf & aef (See Sh. #E21)

Manganese shop rivets detailed on sheet CF21
Shipping bolts detailed on sheet CF2

Made	Revision	App'd

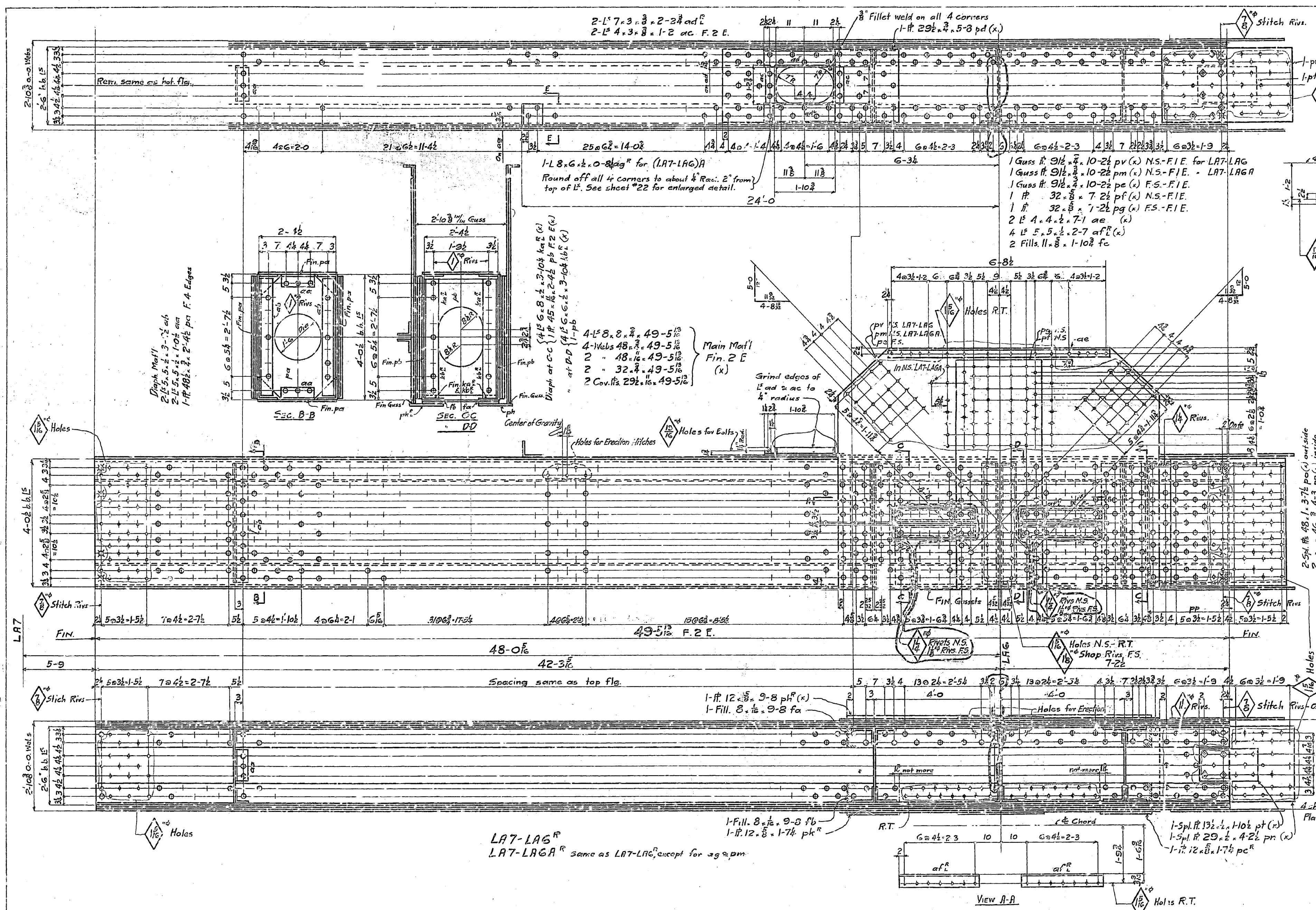
APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 7-12-34

	West Anchor	East Anchor	Total	Required	
29T	1		1	Bott. Chord	LA8-LA7[R]
29T		1	1	do	LA8-LA7[L]
29T		1	1	do	LA8-LA7B[R]
29T	1		1	do	LA8-LA7B[L]

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure - Anchor Arm
Bottom Chord LA8-LA7

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
CHARGE OF Wilkinson
DRAW. MADE BY L.S.I. DATE 5-21-34
DRAW. CHECKED BY M.W.C. DATE 6-21-34
ORDER No. 65103 SHEET No. 23

Rev. 9-25-34
MMS 8-6-34
[B,C & G]



GENERAL NOTES:-

Material: All material O.H. copper bearing medium carbon steel, except material marked (x) is O.H. copper bearing silicon steel, and all 1¼"ϕ shop rivets are manganese steel. All rivet steel copper bearing.

Specifications: Special by state of California Department of Public Works.

Inspection: John M. Briley, chief inspector.

Rivets 1⅛"ϕ unless noted.
Open Holes 1³⁄₁₆"ϕ " "

Reaming: Holes in carbon or silicon steel ⅞" thick or less to be subpunched ¼" and reamed to size while parts are assembled, except diaphragm webs, which may be punched full size. Holes in silicon material over ⅞" thick to be subdrilled ⅛" and reamed to size while parts are assembled.
Holes marked R.T. to be reamed through a steel templet.
All chord splices to be reamed assembled and pieces match marked with not less than 6 panels assembled.
Burrs to be removed from all reamed holes.
All match marking to be done with ⅞" steel stencils and white paint.

Finish: On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal.
Edges of manholes to be smooth.

Paint: None, except acid resisting liquid at milled ends and splices. and Lat. Conn. L's af R L (See Sh. E21)

Manganese shop rivets detailed on sheet # CF21
Shipping Bolts detailed on sheet # CF2

	West Anchor	East Anchor	Total	Required	
36T	One		One	Bottom Chord	LA7-LAG R
36T		One	One	do.	LA7-LAG L
36T		One	One	do.	LA7-LAGA R
36T	One		One	do.	LA7-LAGA L

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
Bottom Chord LA7-LAG

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
[illegible] OF Wilkinson
DRAW. MADE BY W.N. DATE 5-23-34
DRAW. CHECKED BY [illegible] DATE 6-20-34
ORDER No. G5103
SHEET No. 24

APPROVED 7-12-34

Rev. 9-15-34

MMS 8-6-34

[B-C&G]

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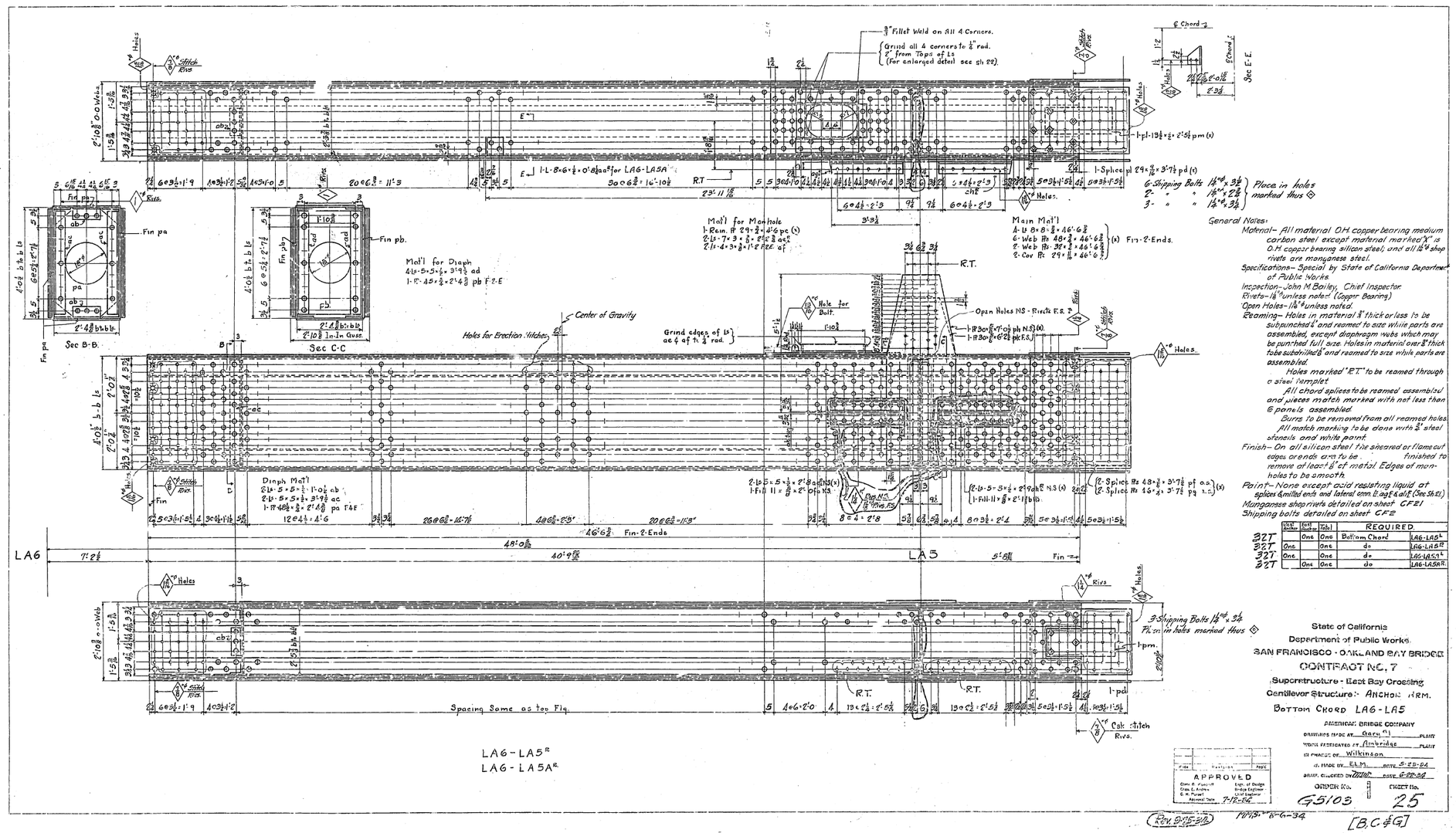
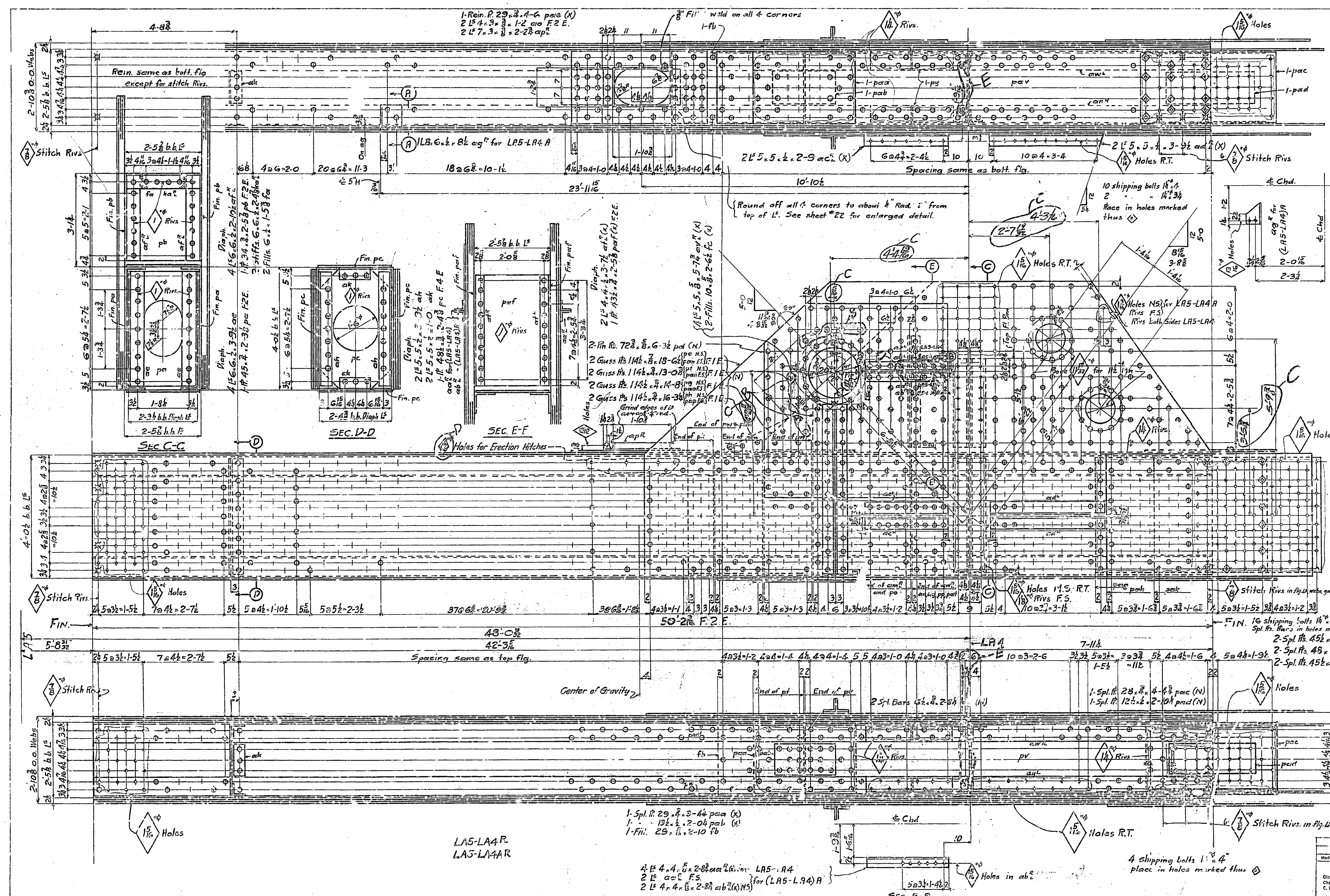


Shop Rivets	Field Rivets	Bolts	REQUIRED	
	One	One	Bottom Chord	LA6-LA5ᴬ
One		One	do	LA6-LA5ᴮ
One		One	do	LA6-LA5Aᴬ
	One	One	do	LA6-LA5Aᴮ

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure :- ANCHOR ARM.
BOTTOM CHORD LA6 - LA5

AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary (Ind.) PLANT
WORK EXECUTED AT Ambridge PLANT
IN CHARGE OF Wilkinson
D. MADE BY E.L.M. DATE 5-28-34
DRAW. CHECKED BY [illegible] DATE 5-30-34
ORDER No. G5103 SHEET No. 25



Main Mat'l

4 Ls 8 x 8 x 3/4 x 40-4 5/16 am R/L (X) F.I.E.
4 Ls 8 x 8 x 3/4 x 9-10 1/16 {aw R/L F.S., an R N.S. top, ay L N.S. bott.} (N) F.I.E.
2 Webs 48 x 3/4 x 33-11 1/16 pk (X) F.I.E.
2 " 48 x 3/4 x 35-6 5/16 pm (X) F.I.E.
2 " 48 x 3/4 x 37-1 9/16 pn (X) F.I.E.
2 " 32 x 3/4 x 40-4 5/16 po (X) F.I.E.
2 " 32 x 3/4 x 9-10 {pp N.S., pat F.S.} (N) F.I.E.
(1) Cov. Pls 29 x 11/16 x 36-10 bott (top) (X) F.I.E.
2 " " 28 x 1 x 13-4 1/4 {pr bott, pav top} (N) F.I.E.
2 Spl. Pls. 45 1/2 x 5/8 x 17-1 1/2 {pw F.S., paw N.S.} (N) F.I.E.
1 Cov. Pl 29 x 1/2 x 36-10 7/16 pt (bott) (X) F.I.E.

GENERAL NOTES:

Material: All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel, material marked (N) is O.H. copper bearing nickel steel, and all 1 1/4"φ shop rivets are manganese steel. All rivet steel to be copper bearing.

Specifications: Special by State of California Department of Public Works.

Inspection: John M. Bailey, chief Inspector.

Rivets 1 1/8"φ unless noted.
Open holes as noted.

Reaming: Holes in carbon or silicon steel 3/4" thick or less to be subpunched 1/4" and reamed to size while parts are assembled, except diaphragm webs, which may be punched full size.
All holes in nickel steel to be subdrilled 1/8" and reamed to size while parts are assembled.
Holes marked R.T. to be reamed to a steel templet.
All chord splices to be reamed assembled and pieces match marked with not less than 6 panels assembled.
Burrs to be removed from all reamed holes.
All match marking to be done with 3/4" steel stencils and white paint.

Finish: On silicon and nickel steel the sheared or flame cut edges or ends are to be finished to remove at least 1/8" of metal.
Edges of manholes to be smooth.

Paint: None except acid resisting liquid at milled ends and splices - and Lat. conn. Ls acE & adE (See Sh. E21). Pin Holes to have one coat white lead & tallow.

Manganese shop rivets detailed on sheet #CF21

1 1/4"φ Shipping Bolts detailed on sheet #CF2

	West Anchor	East Anchor	Total	REQUIRED	
50T	One		One	Bottom Chord	LA5-LA4 R
50T		One	One	do.	LA5-LA4 L
50T		One	One	do.	LA5-LA4 A R
50T	One		One	do	LA5-LA4 A L

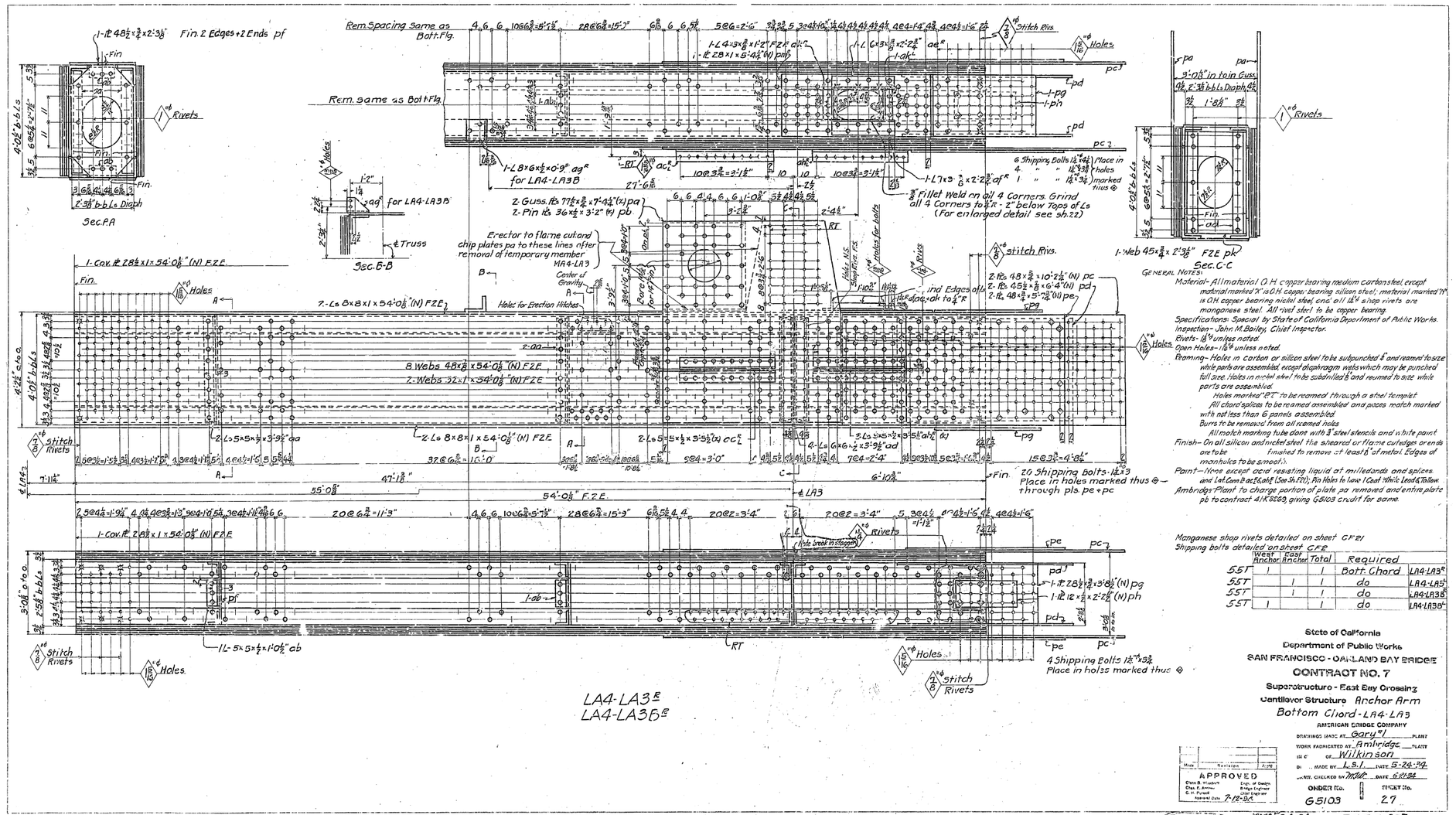
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
Bottom Chord LA5-LA4

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT GARY #1 PLANT
WORK FABRICATED AT AMBRIDGE PLANT
IN CHARGE OF WILKINSON
DRAWING MADE BY W.N. DATE 5-29-34
DRAWING CHECKED BY [illegible] DATE [illegible]
ORDER No. G5103
SHEET No. 26

Made	Revision	App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 7-25-34

D — Rev. [illegible]-34
E — Rev. [illegible]-34
Rev. 8-9-34
B — Rev. 8-13-34
C — Rev. 5-17-34
R.M.S. - 8-6-34
[A,B,C & G]



GENERAL NOTES:

Material- All material O.H. copper bearing medium Carbon steel, except material marked "X" is O.H. copper bearing silicon steel; material marked "Y" is O.H. copper bearing nickel steel and all 1⅛" shop rivets are manganese steel. All rivet steel to be copper bearing.

Specifications: Special by State of California Department of Public Works.

Inspection - John M. Bailey, Chief Inspector.

Rivets - 1⅛" unless noted.

Open Holes - 1⅛" unless noted.

Reaming - Holes in carbon or silicon steel to be subpunched ⅜" and reamed to size while parts are assembled, except diaphragm webs which may be punched full size. Holes in nickel steel to be subdrilled ⅛" and reamed to size while parts are assembled.

Holes marked "PT" to be reamed through a steel templet.

All chord splices to be reamed assembled and pieces match marked with not less than 6 panels assembled.

Burrs to be removed from all reamed holes.

All match marking to be done with ⅜" steel stencils and white paint.

Finish - On all silicon and nickel steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal. Edges of manholes to be smooth.

Paint - None except acid resisting liquid at millends and splices, and Lot Coat Back & Shaft (See Sh. F21); Pin Holes to have 1 Coat White Lead & Tallow.

Ambridge Plant to charge portion of plate pa removed and entire plate pb to contract A1K8269, giving G8103 credit for same.

Manganese shop rivets detailed on sheet CF21

Shipping bolts detailed on sheet CF2

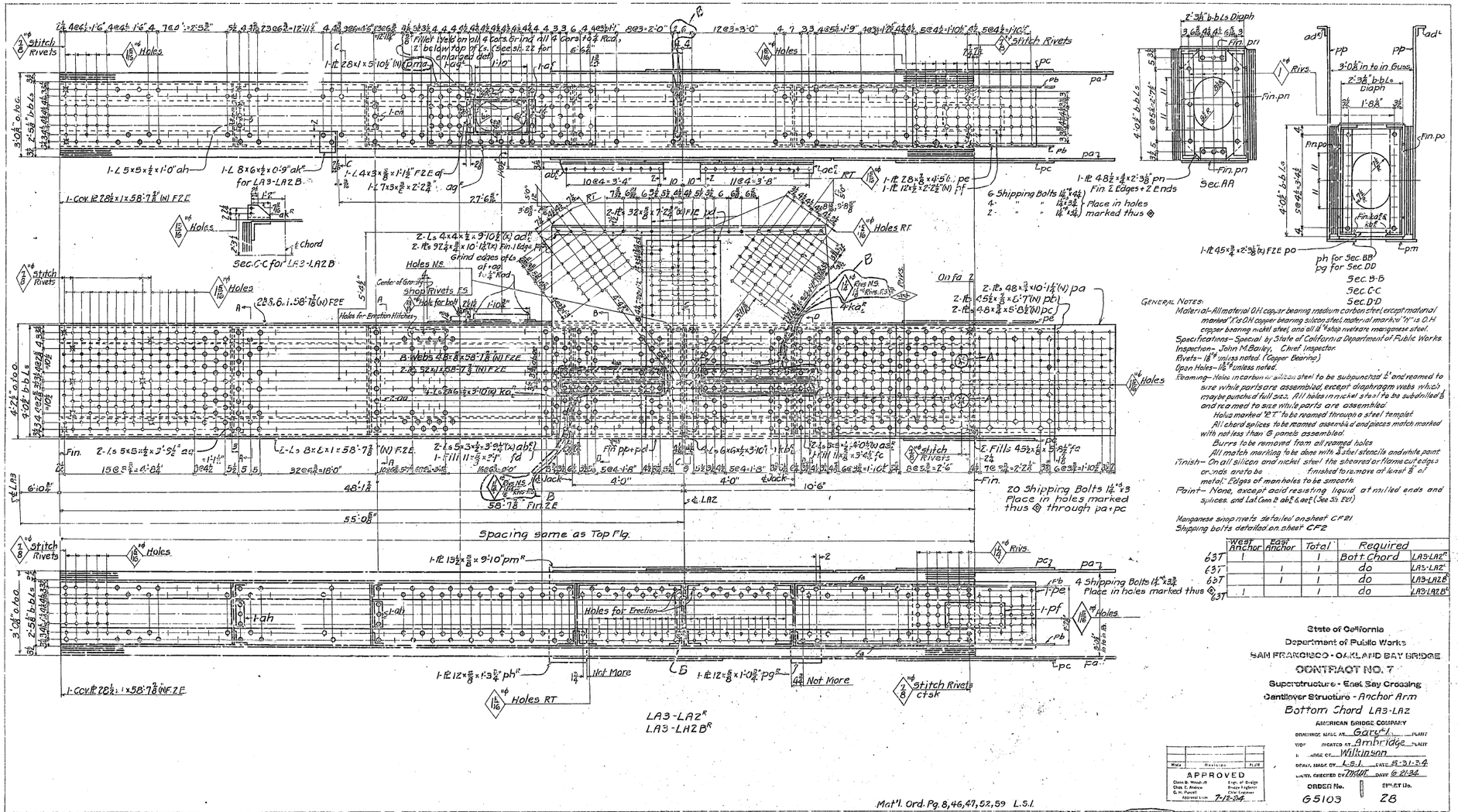
West Anchor	East Anchor	Total	Required	
55T	1	1	Bott. Chord	LA4-LA3
55T		1	do	LA4-LA3B
55T	1	1	do	LA4-LA3B
55T	1	1	do	LA4-LA3B

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
Bottom Chord - LA4-LA3

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary
WORK FABRICATED AT Ambridge PLANT
IN C. OF Wilkinson
DR. MADE BY L.S.I. DATE 5-24-34
QUANTITIES CHECKED BY MMB DATE 6-21-34
ORDER No. G5103
SHEET No. 27

APPROVED
Chas. B. Wilson, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 7-12-34

Rev. 9-20-34 MMB 8-6-34 [A,B,C & G]



GENERAL NOTES.

Material—All material O.H. copper bearing medium carbon steel except material marked "I" is O.H. copper bearing silicon steel; material marked "N" is O.H. copper bearing nickel steel, and all 18" shop rivets are manganese steel.

Specifications—Special by State of California Department of Public Works.

Inspection—John M. Bailey, Chief Inspector.

Rivets—18" unless noted. (Copper Bearing.)

Open Holes—1 1/16" unless noted.

Reaming—Holes in carbon or silicon steel to be subpunched 1/4" and reamed to size while parts are assembled, except diaphragm webs which may be punched full size. All holes in nickel steel to be subdrilled 1/8" and reamed to size while parts are assembled.

Holes marked "RT" to be reamed through a steel templet.

All chord splices to be reamed assembled and pieces match marked with not less than 6 panels assembled.

Burrs to be removed from all reamed holes.

All match marking to be done with 3/8" steel stencils and white paint.

Finish—On all silicon and nickel steel the sheared or flame cut edges or ends are to be finished to remove at least 1/8" of metal. Edges of manholes to be smooth.

Paint—None, except acid resisting liquid at milled ends and splices, and Lat Conn B ab & ae (See Sh. E21)

Manganese shop rivets detailed on sheet CF21

Shipping bolts detailed on sheet CF2

	West Anchor	East Anchor	Total	Required	
637	1		1	Bott. Chord	LA3-LA2R
637		1	1	do	LA3-LA2L
637		1	1	do	LA3-LA2BR
637	1		1	do	LA3-LA2BL

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure - Anchor Arm
Bottom Chord LA3-LA2

AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary PLANT
VISED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DRAWN, MADE BY L.S.I. DATE 5-31-34
CHKD. CHECKED BY TMW DATE 6-21-34
ORDER No. G5103
DRAWING No. 28

Mark	Revision	Init.
	APPROVED	
	Glenn B. Woodruff, Chief Engr.	
	Chas. E. Andrew, Bridge Engineer	
	G. H. Purcell, Chief Engineer	
	Approved June 7-12-34	

(Rev 8-15-34)-B (Rev 8-17-34)
(Rev. 9-12-34) A

MMS 8-6-34.

[A, B, C, E, G]

Design Data Not Approved

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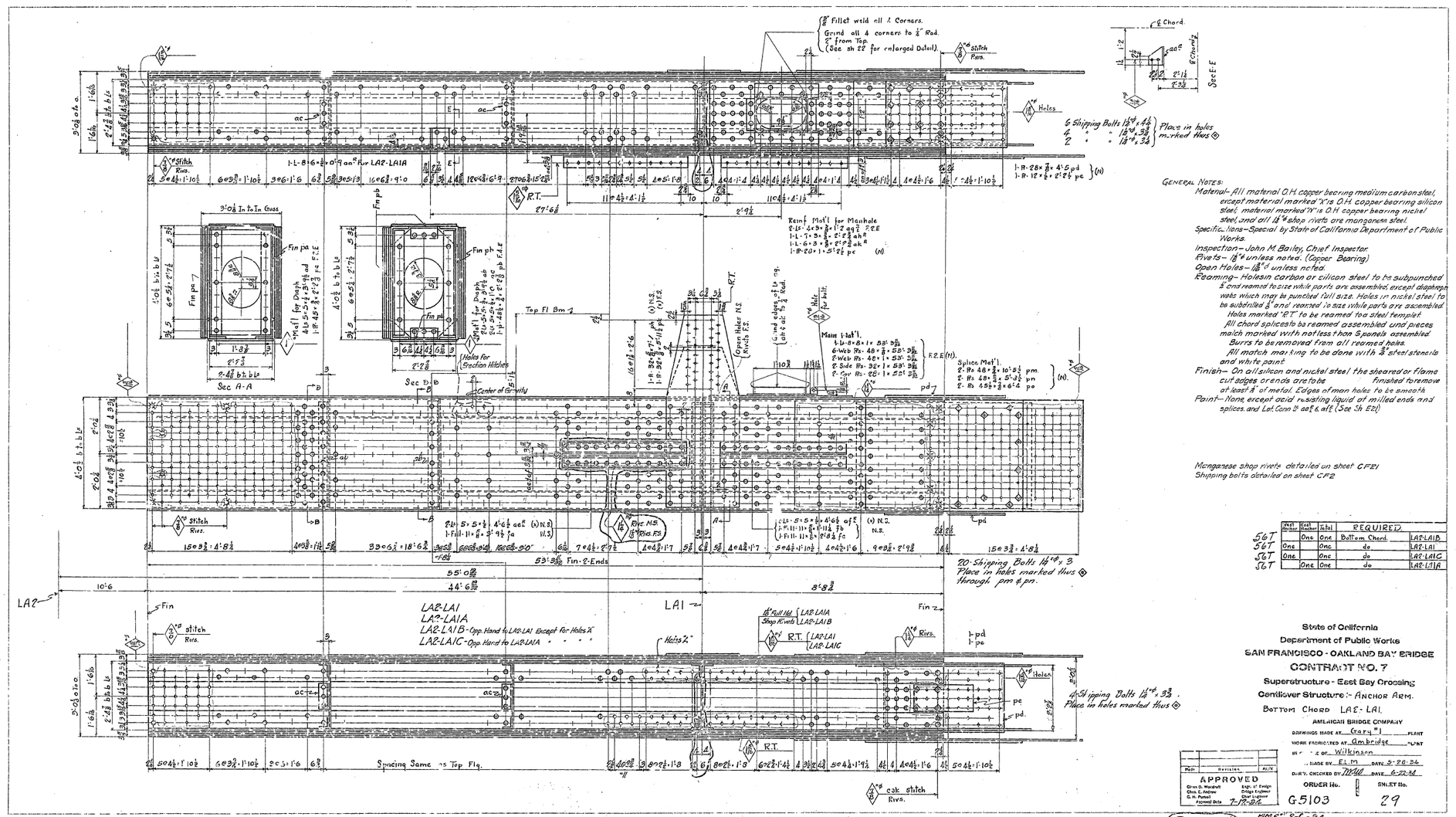

GENERAL NOTES:

Material– All material O.H. copper bearing medium carbon steel, except material marked "X" is O.H. copper bearing silicon steel, material marked "N" is O.H. copper bearing nickel steel, and all 1⅛"ø shop rivets are manganese steel.
Specifications– Special by State of California Department of Public Works.
Inspection– John M. Bailey, Chief Inspector.
Rivets– 1⅛"ø unless noted. (Copper Bearing)
Open Holes– 1⅛" d unless noted.
Reaming– Holes in carbon or silicon steel to be subpunched 1" and reamed to size while parts are assembled, except diaphragm webs which may be punched full size. Holes in nickel steel to be subdrilled ⅞" and reamed to size while parts are assembled. Holes marked "RT" to be reamed to a steel templet. All chord splices to be reamed assembled and pieces match marked with not less than 5 panels assembled. Burrs to be removed from all reamed holes. All match marking to be done with ⅜" steel stencils and white paint.
Finish– On all silicon and nickel steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal. Edges of man holes to be smooth.
Paint– None, except acid resisting liquid at milled ends and splices, and Let. Conn^s a & a^E (See Sh E21)

Manganese shop rivets detailed on sheet CF21
Shipping bolts detailed on sheet CF2

Shop Number	Field Number	Total	REQUIRED	
	One	One	Bottom Chord.	LA2-LA1B
One		One	do	LA2-LA1
One		One	do	LA2-LA1C
	One	One	do	LA2-LA1A

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure :- ANCHOR ARM.
BOTTOM CHORD LA2-LA1.
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary "1" PLANT
WORK FABRICATED AT Ambridge "PLANT
IN ^C OF Wilkinson
MADE BY E.L.M. DATE 5-20-34
DRAWN CHECKED BY TMM DATE 6-22-34
ORDER No. G5103
SHEET No. 29

Mark	Revision	Appr'd

APPROVED
Chas D. Wardell — Engr. of Design
Chas E. Andrew — Chief Engineer
C. H. Purcell — Engineer
Approved Date 7-12-34

Rev. 9-25-34 11795 8-6-34 [A.B.C.&G.]

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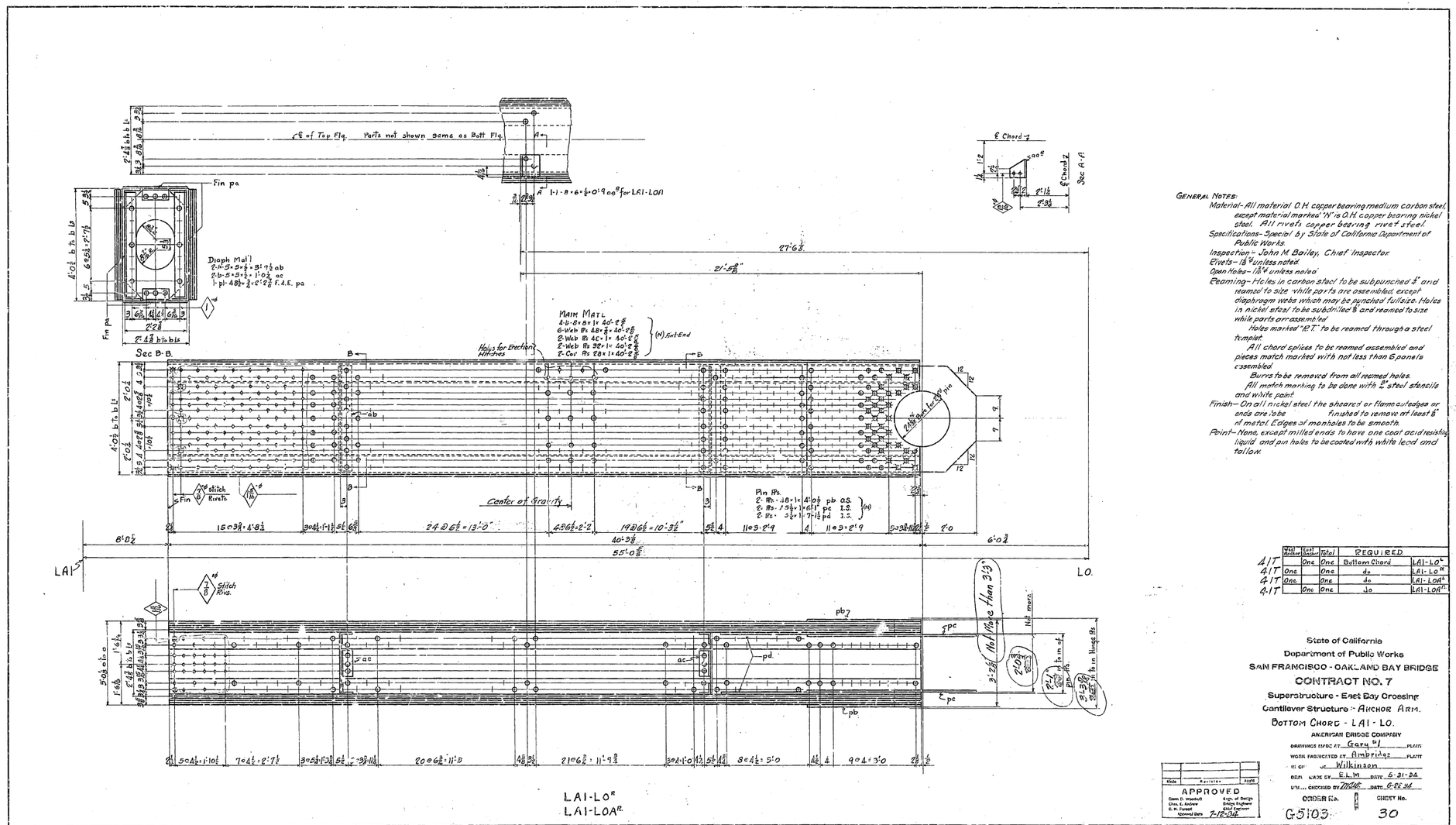

GENERAL NOTES:

Material– All material O.H. copper bearing medium carbon steel, except material marked "N" is O.H. copper bearing nickel steel. All rivets copper bearing rivet steel.

Specifications– Special by State of California Department of Public Works.

Inspection – John M. Bailey, Chief Inspector.

Rivets – 1⅛" unless noted.

Open Holes – 1⅛" unless noted.

Reaming – Holes in carbon steel to be subpunched ¼" and reamed to size while parts are assembled, except diaphragm webs which may be punched full size. Holes in nickel steel to be subdrilled ⅝" and reamed to size while parts are assembled.

Holes marked "R.T." to be reamed through a steel templet.

All chord splices to be reamed assembled and pieces match marked with not less than 6 panels assembled.

Burrs to be removed from all reamed holes.

All match marking to be done with ½" steel stencils and white paint.

Finish– On all nickel steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal. Edges of manholes to be smooth.

Paint– None, except milled ends to have one coat acid resisting liquid and pin holes to be coated with white lead and tallow.

Web Anchor	Cover Anchor	Total	REQUIRED	
	One	One	Bottom Chord	LA1-LO^L
One		One	do	LA1-LO^M
One		One	do	LA1-LOA^L
	One	One	do	LA1-LOA^M

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure :: Anchor Arm.
Bottom Chord - LA1 - LO.
AMERICAN BRIDGE COMPANY
DRAWINGS ERECTED AT Gary Ind. PLANT
WORK FABRICATED AT Ambridge PLANT
DETAILED BY W. Wilkinson
DESIGN MADE BY E.L.M. DATE 5-31-34
DETAIL CHECKED BY [illegible] DATE 6-22-34
ORDER No. G5103 SHEET No. 30

Mark	Revisions	Appd.

APPROVED
Chief Engr. of Design
Assist Engineer
Approval Date 7-12-34

(Rec. 11-14-34) MMS 8-6-34 [AEC]

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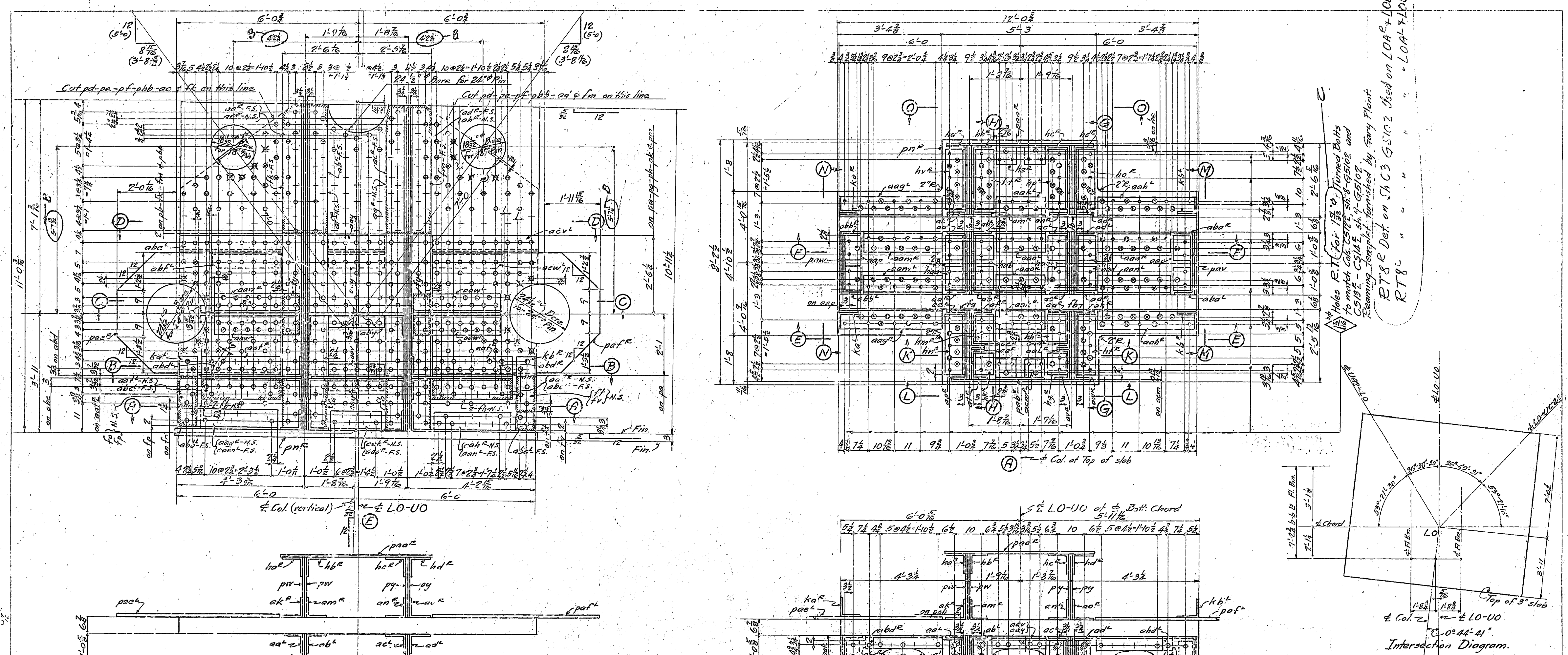


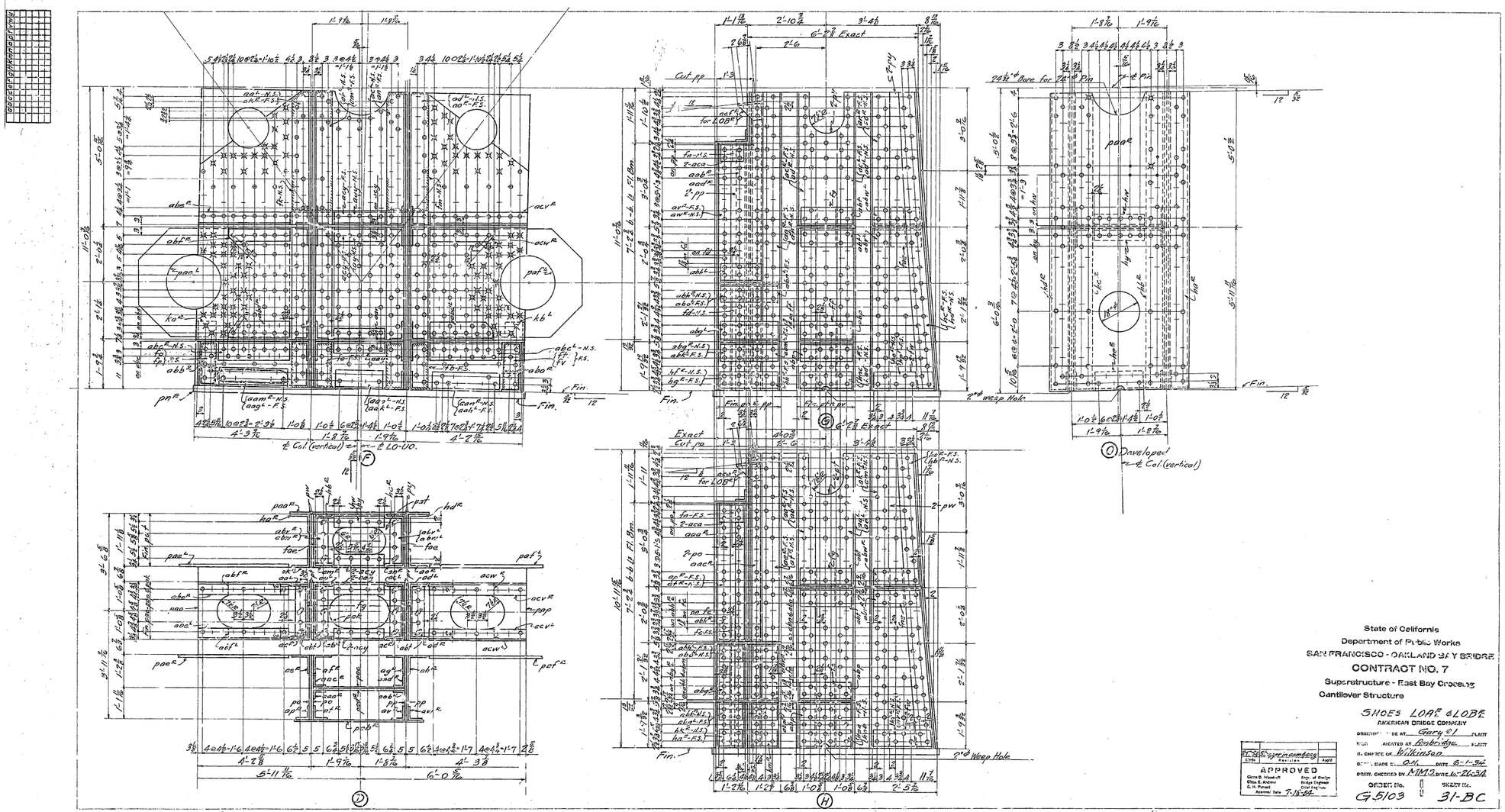
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure

SHOES LOAR & LOBR

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DRAWN BY O.N. DATE 6-1-34
CHECKED BY MMS. DATE 6-26-34
ORDER No. G5103
SHEET No. 31 AG

APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 7-18-34

Rev. 8-29-34
B- Rev. 9-21-34
C- Rev. 1-26-35



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure

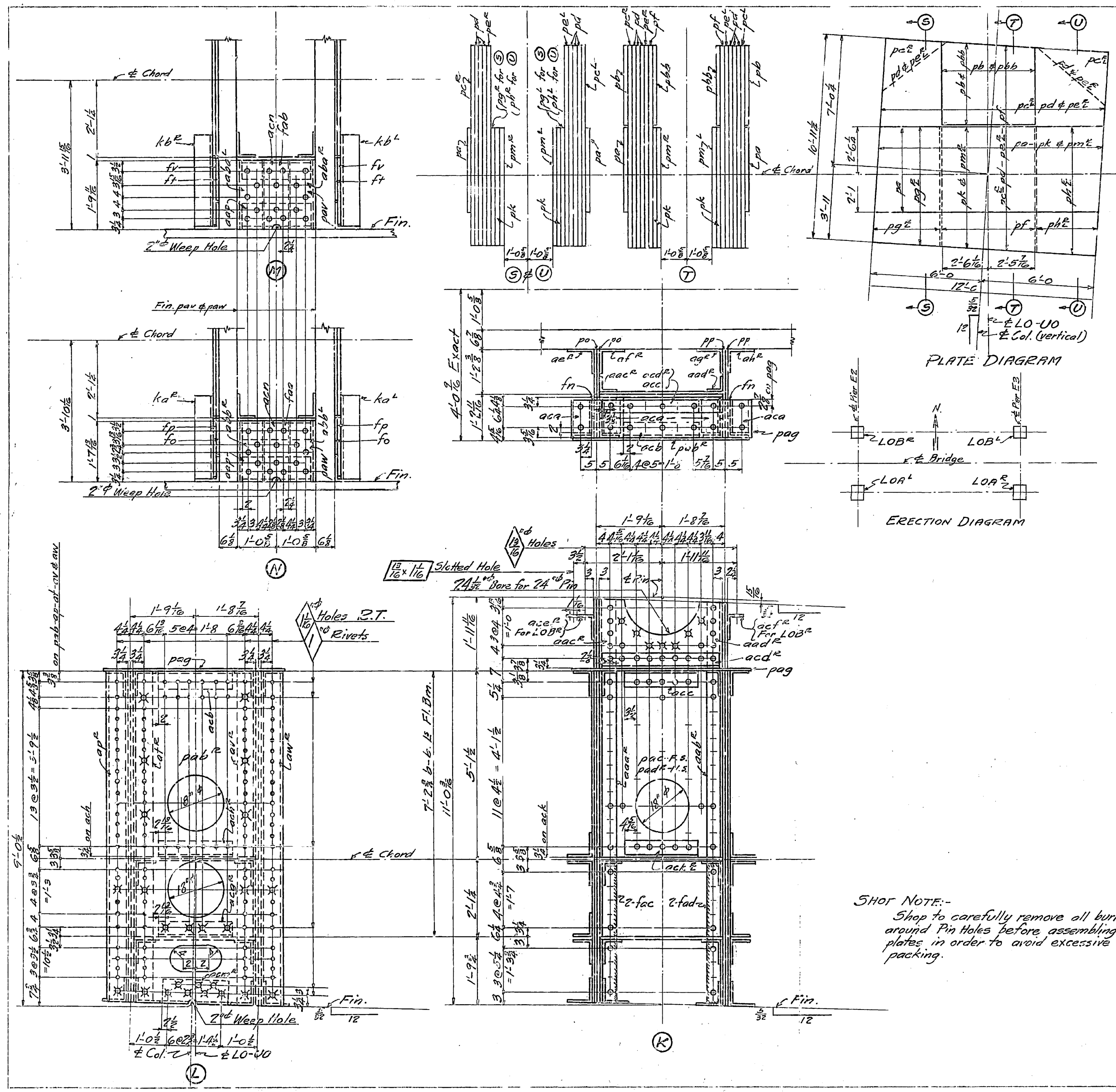
SHOES LOAE & GLOBE
AMERICAN BRIDGE COMPANY

DRAWING MADE AT Gary, Ind. PLANT
VIS. ORIENTED AT Roebridge PLANT
IN CHARGE OF Wilkinson
DETAILS MADE BY A.H. DATE 6-1-36
DRAWN, CHECKED BY MMJ DATE 6-26-36

APPROVED
Chris B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, State Engineer
Approval Date 7-15-36

ORDER No. G5103
SHEET No. 31-BC

30-1



SHOP NOTE:- Shop to carefully remove all burrs around Pin Holes before assembling plates in order to avoid excessive packing.

MATERIAL FOR ONE LOA^R:-

2 Pls 55 1/4 x 3/4 x 12'-0 3/4 pa Ⓝ
2 Pls 59 1/2 x 3/4 x 4'-6 5/8 pb Ⓝ
2 Pls 59 1/2 x 3/4 x 4'-6 1/8 pbb Ⓝ
2 Pls 131 1/4 x 3/4 x 12'-0 pc R/L F.I.E. Ⓝ
6 Pls 131 1/4 x 3/4 x 12'-0 pd F.I.E. Ⓝ
2 Pls 131 1/4 x 3/4 x 12'-0 pe R/L F.I.E. Ⓝ
2 Pls 59 1/2 x 3/4 x 11'-0 pf F.I.E. Ⓝ
2 Pls 42 3/8 x 3/4 x 6'-4 3/8 pg R/L F.I.E. Ⓝ
2 Pls 42 3/4 x 3/4 x 6'-6 3/16 ph R/L F.I.E. Ⓝ
2 Pls 78 1/4 x 3/4 x 12'-0 pk. F.1 Edge Ⓝ
2 Pls 78 1/4 x 3/4 x 12'-0 pm R/L. F.1 Edge Ⓝ

1 slab 98 1/2 x 3 x 12'-0 3/4 F. 2. Sides } pn^R

2 Pls 28 1/16 x 1 x 10'-11 1/4 F.I.E. & 2 Edges } po Ⓝ
2 Pls 28 1/16 x 1 x 10'-11 1/4 F.I.E. & 2 Edges } pp Ⓝ
2 Pls 25 1/4 x 1 x 10'-11 1/4 F.I.E. & 2 Edges } pt Ⓝ
2 Pls 25 1/4 x 1 x 10'-11 1/4 F.I.E. & 2 Edges } pv Ⓝ
2 Pls 28 x 1 x 10'-11 1/4 pw F.I.E. Ⓝ
2 Pls 28 x 1 x 10'-11 1/4 py F.I.E. Ⓝ
1 Pl 60 x 1 x 11'-0 1/4 paa^R (Bent) F.I.E. Ⓝ
1 Pl 56 x 1 x 9'-0 9/16 pab^R F.I.E. Ⓝ
1 Pl 39 x 7/8 x 7'-0 1/2 pac Ⓝ
1 Pl 39 x 7/8 x 7'-0 1/2 pad^R Ⓝ

2 Ls 8 x 8 x 3/4 x 10'-11 1/4 aa R/L F.I.E. Ⓝ
2 Ls 8 x 8 x 3/4 x 10'-11 1/4 ab R/L F.I.E. Ⓝ
2 Ls 8 x 8 x 3/4 x 10'-11 1/4 ac R/L F.I.E. Ⓝ
2 Ls 8 x 8 x 3/4 x 10'-11 1/4 ad R/L F.I.E. Ⓝ
1 L 8 x 8 x 3/4 x 10'-11 1/4 ae^R F.I.E. Ⓝ
1 L 8 x 8 x 3/4 x 10'-11 1/4 af^R F.I.E. Ⓝ
1 L 8 x 8 x 3/4 x 10'-11 1/4 ag^R F.I.E. Ⓝ
1 L 8 x 8 x 3/4 x 10'-11 1/4 ah^R F.I.E. Ⓝ
1 L 8 x 8 x 3/4 x 10'-11 1/4 ak^R F.I.E. Ⓝ
1 L 8 x 8 x 3/4 x 10'-11 1/4 am^R F.I.E. Ⓝ
1 L 8 x 8 x 3/4 x 10'-11 1/4 an^R F.I.E. Ⓝ
1 L 8 x 8 x 3/4 x 10'-11 1/4 ao^R F.I.E. Ⓝ
1 L 8 x 8 x 3/4 x 11'-0 abt. ha^R F.I.E. Ⓝ
1 L 8 x 8 x 3/4 x 11'-0 abt. hb^R F.I.E. Ⓝ
1 L 8 x 8 x 3/4 x 11'-0 abt. hc^R F.I.E. Ⓝ
1 L 8 x 8 x 3/4 x 11'-0 abt. hd^R F.I.E. Ⓝ

1 L 6 x 6 x 3/4 x 9'-0 ap^R F.I.E. Ⓝ
1 L 6 x 6 x 3/4 x 9'-0 1/8 at^R F.I.E. Ⓝ
1 L 6 x 6 x 3/4 x 9'-0 1/2 av^R F.I.E. Ⓝ
1 L 6 x 6 x 3/4 x 9'-0 9/16 aw^R F.I.E. Ⓝ

1-L 5 x 5 x 3/4 x 9'-0 aaa^R F.I.E. Ⓝ
1-L 5 x 5 x 3/4 x 9'-0 1/2 aab^R F.I.E. Ⓝ
1-L 5 x 5 x 3/4 x 10'-11 1/4 aac^R F.I.E. Ⓝ
1-L 5 x 5 x 3/4 x 10'-11 1/4 aad^R F.I.E. Ⓝ

2-Ls 8 x 6 x 3/4 x 2'-4 1/4 ka R/L Ⓝ
2-Ls 8 x 6 x 3/4 x 2'-6 1/4 kb R/L Ⓝ
2-Ls 8 x 8 x 3/4 x 3'-5 3/4 aag R/L
2-Ls 8 x 8 x 3/4 x 3'-5 aah R/L
2-Ls 8 x 8 x 3/4 x 1'-9 1/2 aak R/L
2-Ls 8 x 8 x 3/4 x 2'-7 1/2 aam R/L
2-Ls 8 x 8 x 3/4 x 2'-7 aan R/L
2-Ls 8 x 8 x 3/4 x 1'-9 1/2 aao R/L
2-Ls 8 x 8 x 3/4 x 1'-10 3/4 aap

2-Fills 18 x 3/4 x 1'-9 1/2 fa F.I.E.
2-Fills 18 x 3/4 x 1'-10 fb F.I.E.
2-Fills 8 x 3/4 x 1'-0 1/2 fo
2-Fills 8 x 1 x 1'-7 1/2 fp
2-Fills 8 x 3/4 x 1'-2 1/2 ft
2-Fills 8 x 1 x 1'-10 fv
2-Fills 17 x 1/4 x 0'-6 3/4 fy
4-Fills 8 x 3/8 x 2'-8 fh
2-Fills 18 x 3/4 x 4'-6 11/16 fk Ⓝ
2-Fills 18 x 3/4 x 4'-5 5/8 fm Ⓝ
4-Ls 8 x 8 x 5/8 x 2'-8 aat R/L Ⓧ
3-Ls 5 x 5 x 3/4 x 1'-10 1/2 aav Ⓝ
4-Ls 8 x 8 x 5/8 x 2'-10 aaw R/L Ⓧ

2-Pls 48 x 1 x 5'-6 1/2 pae R/L Ⓝ
2-Pls 48 x 1 x 5'-7 paf R/L Ⓝ

6-Ls 5 x 5 x 3/4 x 1'-10 1/2 aay Ⓝ
1-L 5 x 5 x 3/4 x 1'-10 1/2 hw Ⓝ
1-L 5 x 5 x 3/4 x 1'-10 1/2 hy Ⓝ
2-Ls 8 x 8 x 3/4 x 1'-9 1/2 aba R/L F.I.E. Ⓝ
2-Ls 8 x 8 x 3/4 x 1'-7 1/2 abb R/L F.I.E. Ⓝ
4-Ls 8 x 6 x 3/4 x 2'-8 3/4 abc R/L Ⓝ
4-Ls 8 x 6 x 3/4 x 2'-3 abd R/L Ⓝ
2-Ls 5 x 5 x 3/4 x 3'-5 3/8 abe R/L Ⓝ
2-Ls 5 x 5 x 3/4 x 2'-3 abf R/L Ⓝ
2-Ls 5 x 5 x 3/4 x 3'-6 3/4 acv R/L Ⓝ
2-Ls 5 x 5 x 3/4 x 2'-4 1/4 acw R/L Ⓝ
2-Ls 5 x 5 x 3/4 x 1'-10 1/2 acy Ⓝ
1-L 8 x 8 x 3/4 x 2'-1 1/2 hf^R
1-L 8 x 8 x 3/4 x 0'-10 1/4 hg^R
1-L 8 x 8 x 3/4 x 0'-10 3/4 hh^R
1-L 8 x 8 x 3/4 x 0'-10 1/4 hk^R
1-L 8 x 8 x 3/4 x 0'-10 3/4 hm^R
1-L 8 x 8 x 3/4 x 2'-1 1/2 hn^R
1-L 8 x 8 x 3/4 x 2'-2 ho^R
2-Fills 5 1/4 x 3/4 x 0'-7 1/2 fn
4-Fills 12 x 3/4 x 0'-8 fw

1-L 8 x 8 x 3/4 x 2'-2 hp^R
1-L 8 x 8 x 3/4 x 2'-2 ht^R
1-L 8 x 8 x 3/4 x 2'-2 hv^R
1-L 8 x 8 x 3/4 x 1'-10 3/4 haa
1-L 8 x 8 x 3/4 x 1'-10 3/4 hab
1-L 8 x 8 x 3/4 x 1'-10 3/4 hac
1-L 8 x 8 x 3/4 x 1'-10 3/4 had
1-L 8 x 8 x 3/4 x 1'-9 1/2 he^R
1-Fill 13 1/2 x 3/4 x 4'-6 3/4 fc
1-Fill 13 1/2 x 3/4 x 4'-7 1/4 fd

4-Ls 8 x 6 x 5/8 x 2'-1 1/2 abg R/L Ⓧ
4-Ls 8 x 8 x 5/8 x 1'-6 1/2 abh R/L Ⓧ
2-Ls 8 x 6 x 3/4 x 0'-10 1/2 abk R/L Ⓝ
2-Ls 8 x 6 x 3/4 x 0'-11 abm R/L Ⓝ
2-Ls 8 x 6 x 3/4 x 0'-11 abn R/L Ⓧ
2-Ls 8 x 6 x 3/4 x 0'-10 1/2 abo R/L Ⓧ

8-Ls 8 x 6 x 3/4 x 1'-10 3/4 abp Ⓝ
8-Ls 8 x 6 x 3/4 x 1'-10 3/4 abt Ⓝ
2-Ls 8 x 6 x 3/4 x 1'-9 abv R/L Ⓝ
2-Ls 8 x 6 x 3/4 x 1'-8 5/8 abw R/L Ⓝ
1-L 5 x 5 x 3/4 x 1'-10 1/2 aby Ⓧ

2-Fills 8 3/4 x 3/4 x 2'-5 fe
2-Fills 8 3/4 x 3/4 x 2'-5 1/2 ff
4-Fills 17 x 3/4 x 0'-8 3/4 fg
2-Fills 17 x 3/4 x 0'-7 1/2 fae
1-Pl 13 x 5/8 x 4'-9 pag Ⓝ
4-Ls 8 x 6 x 3/4 x 0'-10 1/4 aca Ⓝ
1-L 5 x 5 x 3/4 x 2'-0 acb Ⓝ
1-L 5 x 5 x 3/4 x 2'-0 acc Ⓝ
1-L 5 x 5 x 3/4 x 3'-1 3/4 acd^R Ⓝ

2-Pls 25 1/4 x 1 x 4'-0 1/4 pah-F. 2 Edges Ⓝ
2-Pls 25 1/4 x 1 x 3'-2 pak-{F. 2 Edges & 2 Ends} Ⓝ
1-Pl 28 13/16 x 3/4 x 3'-0 1/2 pam-F. 2 Edges Ⓝ
1-Pl 25 1/4 x 1 x 4'-0 pao-F. 2 Edges Ⓝ
1-Pl 28 13/16 x 3/4 x 3'-0 1/2 pan-F. 2 Edges Ⓝ
1-Pl 25 1/4 x 1 x 4'-1 1/4 pap-F. 2 Edges Ⓝ
1-Pl 23 1/8 x 3/4 x 3'-0 1/2 pat-F. 2 Edges Ⓝ

1-L 5 x 5 x 3/4 x 2'-1 acg^R Ⓝ
1-L 5 x 5 x 3/4 x 2'-1 ach^R Ⓧ
2-Ls 5 x 5 x 3/4 x 2'-1 ack R/L Ⓧ
1-L 8 x 8 x 3/4 x 1'-9 1/2 acm^R
2-Ls 6 x 6 x 3/4 x 1'-10 3/4 acn Ⓝ
1-Pl 25 1/4 x 1 x 1'-9 1/2 pav {F. 2 Edges & 1 End} Ⓝ
1-Pl 25 1/4 x 1 x 1'-7 1/2 paw {F. 2 Edges & 1 End} Ⓝ
1-Fill 8 3/4 x 3/4 x 1'-7 faa
1-Fill 8 3/4 x 3/4 x 1'-9 fab
2-Fills 5 x 7/8 x 3'-10 fac- F.I.E. Ⓝ
2-Fills 5 x 7/8 x 3'-10 1/2 fad- F.I.E. Ⓝ

MATERIAL FOR ONE LOB^R

SAME AS FOR LOA^R, EXCEPT FOR FOLLOWING ADDITIONAL MAT'L:-
1-L 8 x 8 x 1/2 x 0'-11 ace^R
1-L 8 x 4 x 1/2 x 0'-11 acf^R

Made	Revision	Appd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 7-6-34

GENERAL NOTES:-

Material:- All material O.H. Copper Bearing medium carbon steel, except material marked Ⓧ is O.H. Copper Bearing silicon steel; material marked Ⓝ is O.H. Copper Bearing nickel steel, and all 1 1/4"ϕ Rivets are manganese copper bearing steel.
Specifications:- Special by State of California Department of Public Works.
Inspection:- John M. Bailey, chief inspector.
Rivets:- 1 1/4"ϕ unless noted. (See Note)
Open Holes:- 1 5/16"ϕ unless noted.
Reaming:- Holes in carbon or silicon steel 3/4" thick or less to be subpunched 1/4" and reamed to size while parts are assembled. Holes in carbon material over 3/4" thick and all holes in nickel steel to be subdrilled 1/8" and reamed to size while parts are assembled.
Holes marked R.T. to be reamed through a steel templet. Burrs to be removed from all reamed holes.
Finish:- On all silicon steel and all nickel steel the sheared or flame cut edges or ends are to be chipped or finished to remove at least 1/8" of metal. Edges of man holes and hand holes to be smooth. Flame cut edges of slabs to be straight and smooth.
Paint:- None except pin holes one coat white lead & tallow.

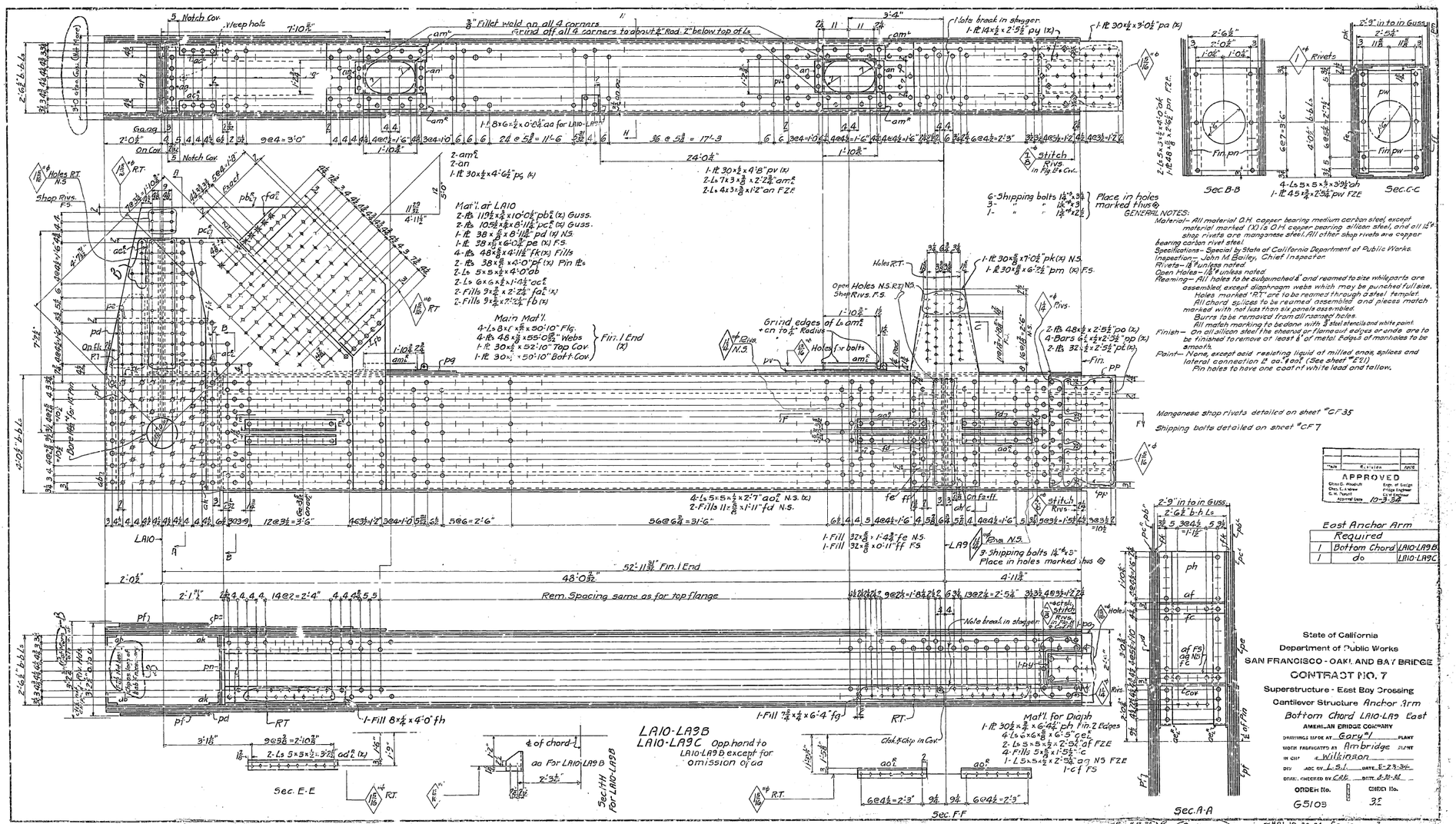
Manganese Shop Rivets detailed on sheet GF22.

Note:- All Rivet steel to be Copper Bearing.

	West Anchor	East Anchor	Total	REQUIRED	
60T		1	1	SHOE	LOA^R
60T	1		1	do	LOA^L
60T	1		1	do	LOB^R
60T		1	1	do	LOB^L

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure
SHOES LOA R/L & LOB R/L
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CH. OF Wilkinson
D. MADE BY O.N. DATE 6-1-34
DRAW. CHECKED BY MMS. DATE 6-26-34
ORDER No. G5103 SHEET No. 31-G

Mat'l. ord. sh. 41-42-43-44 & 45 O.N.
(Rev. 8-24-34)
[A, B, C & G]



GENERAL NOTES:

Material— All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel, and all 1¼" shop rivets are manganese steel. All other shop rivets are copper bearing carbon rivet steel.

Specifications— Special by State of California Department of Public Works.

Inspection— John M. Bailey, Chief Inspector.

Rivets— 1⅛" unless noted.

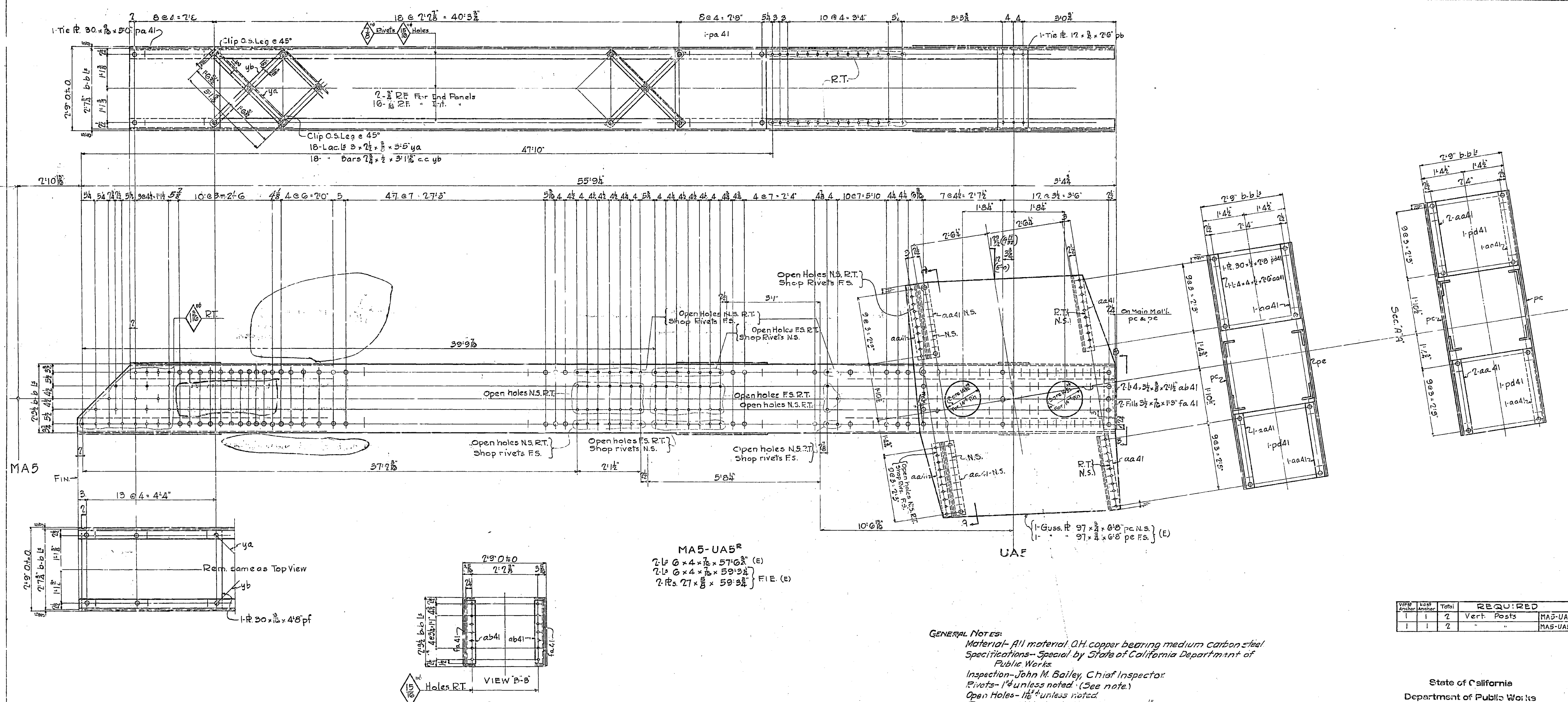
Open Holes— 1⅛" unless noted.

Reaming— All holes to be subpunched & reamed to size while parts are assembled, except diaphragm webs which may be punched full size. Holes marked "RT" are to be reamed through a steel templet. All chord splices to be reamed assembled and pieces match marked with not less than six panels assembled. Burrs to be removed from all reamed holes. All match marking to be done with steel stencils and white paint.

Finish— On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal. Edges of manholes to be smooth.

Paint— None, except acid resisting liquid at milled ends, splices and lateral connection L's as per detail (See sheet "CF 11"). Pin holes to have one coat of white lead and tallow.

30-1



West Anchor	East Anchor	Total	REQUIRED	
1	1	2	Vert. Posts	MA5-UA5R
1	1	2	" "	MA5-UA5L

9T
9T

GENERAL NOTES:

Material- All material O.H. copper bearing medium carbon steel
Specifications- Special by State of California Department of Public Works.
Inspection- John M. Bailey, Chief Inspector.
Rivets- 1"ϕ unless noted. (See note.)
Open Holes- 1 1/16"ϕ unless noted.
Reaming- All holes to be subpunched 1/4" and reamed to size while parts are assembled, except lacing, stay plates, and diaphragms which may be punched full size.
Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Finish- On all material marked "E" the sheared or flame cut edges or ends are to be finished to remove at least 1/8" of metal.
Paint- None, except pin holes one coat white lead & tallow

Note- All rivet steel to be copper bearing.

Mad	Revision	App'd

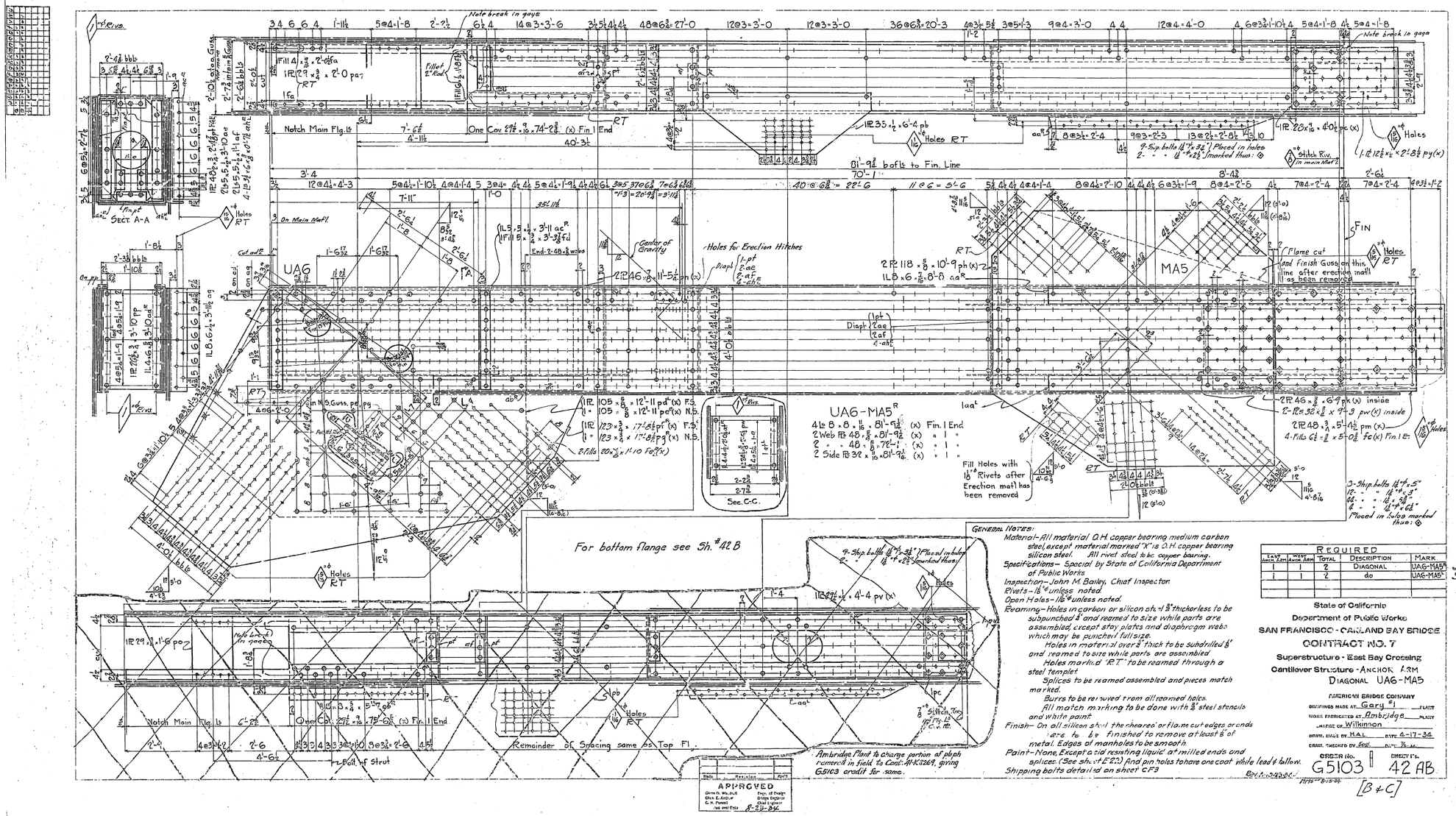
APPROVED
Glenn B. Woodruff — Engr. of Design
Ch... E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 7-25-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
Detail of Vertical Posts MA5-UA5

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DRAW. MADE BY S.T.S. DATE 4-16-34
DRAW. CHECKED BY W.S.P. DATE 7-5-34
ORDER No. G5103
SHEET No. 41

Mat'l. Ord. page 9-64 & S.T.S.
Rev. 8-27-34
MMS 8-22-34
[C]

30-51



General Notes:

Material– All material O.H. copper bearing medium carbon steel except material marked "K" is O.H. copper bearing silicon steel. All rivet steel to be copper bearing.

Specifications– Special by State of California Department of Public Works

Inspection– John M. Bailey, Chief Inspector.

Rivets– 1⅛" ϕ unless noted.

Open Holes– 1⅛" ϕ unless noted.

Reaming– Holes in carbon or silicon steel ½" thick or less to be subpunched 4" and reamed to size while parts are assembled, except stay plates and diaphragm webs which may be punched full size.

Holes in material over ½" thick to be subdrilled ⅜" and reamed to size while parts are assembled

Holes marked "R.T." to be reamed through a steel templet

Splices to be reamed assembled and pieces match marked.

Burrs to be removed from all reamed holes.

All match marking to be done with ⅜" steel stencils and white paint.

Finish– On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal. Edges of manholes to be smooth.

Paint– None. Except as directed resetting liquid at milled ends and splices (See sh. #E21) And pin holes to have one coat white lead & tallow.

Shipping bolts detailed on sheet CF3

Ambridge Plant to charge portion of pl'ph rumored in field to Cont. #14-K3269, giving G5103 credit for same.

Mark	Revision	Date

APPROVED
Glenn D. Wadsworth, Chief Engr.
C. H. Purcell, Asst. Chief Engr. (Res. and Exam.)
Dept. of Public Works, Bridge Engineer
8-29-34

REQUIRED				
East Anch. Arm	West Anch. Arm	Total	Description	Mark
1	1	2	Diagonal	UAG-MA5R
1	1	2	do	UAG-MA5L

State of California
Department of Public Works
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure - Anchor Arm
Diagonal UAG-MA5

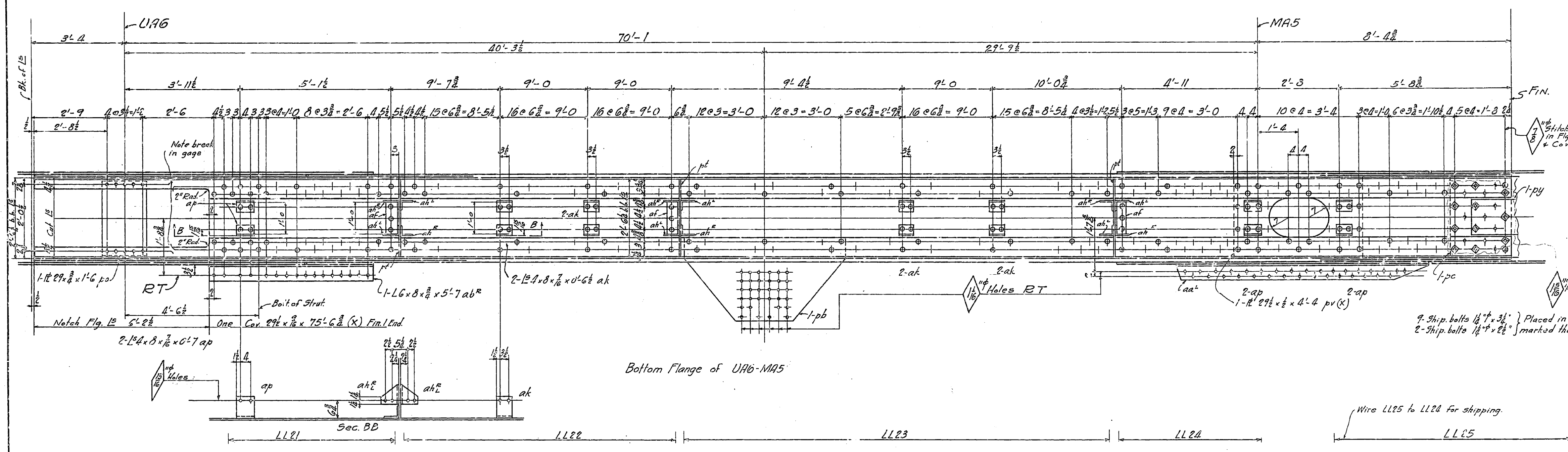
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Ambridge PLANT
UNDER CHARGE OF Wilkinson
DRAWN, TRACED BY H.A.L. DATE 6-17-34
DRAWN, CHECKED BY [illegible] DATE [illegible]

ORDER No. G5103 | SHEET No. 42 AB

Revised 8-15-34

[B+C]

30-1



Assembly and shipping note.
Assemble and ship with each UA6-MA5[R] & UA6-MA5[L], 1-LL21, 1-LL22, 1-LL23, 1-LL24, 1-LL25 detailed on Sh.#66.

Made	Revision	App'd

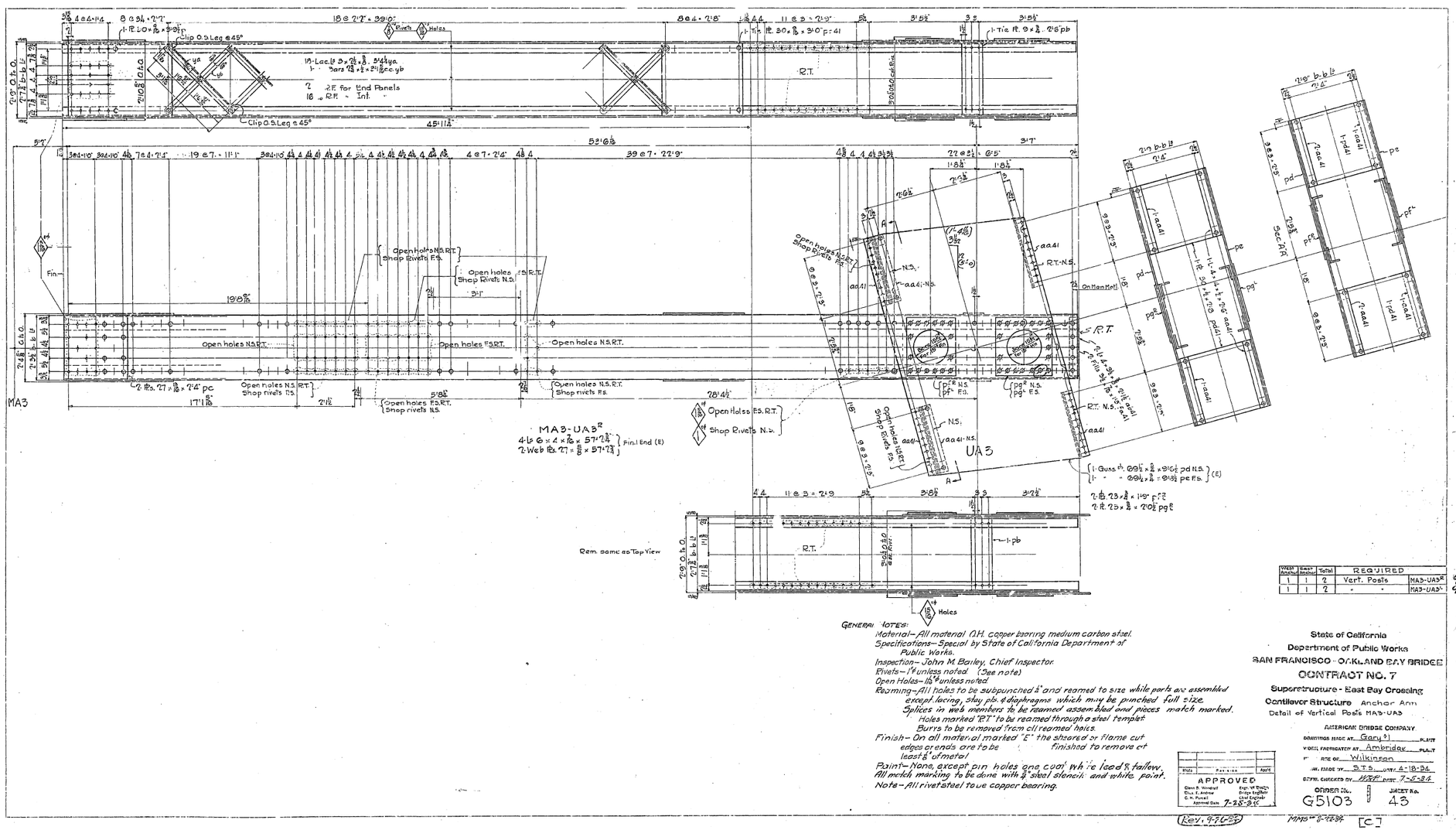
APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 8-23-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure ANCHOR ARM
DIAGONAL UA6-MA5

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DRAW. MADE BY c.p.k. DATE 8-3-34
DRAW. CHECKED BY E.H. DATE 9/6-34
ORDER No. G5103
SHEET No. 42 B

MMS 8-15-34

30-1



Weight Abutment	Weight Anchor	Total	REQUIRED	
1	1	2	Vert. Posts	MA3-UA3R
1	1	2	" "	MA3-UA3L

GENERAL NOTES:
Material – All material O.H. copper bearing medium carbon steel.
Specifications – Special by State of California Department of Public Works.
Inspection – John M. Bailey, Chief Inspector.
Rivets – 1" ϕ unless noted (See note)
Open Holes – 1 1/8" ϕ unless noted.
Reaming – All holes to be subpunched 1/4" and reamed to size while parts are assembled except lacing, stay pls. & diaphragms which may be punched full size.
Splices in web members to be reamed assembled and pieces match marked.
Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Finish – On all material marked "F" the sheared or flame cut edges or ends are to be finished to remove at least 1/8" of metal.
Paint – None, except pin holes one coat white lead & tallow. All match marking to be done with 1/2" steel stencils and white paint.
Note – All rivet steel to be copper bearing.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
Detail of Vertical Posts MA3-UA3

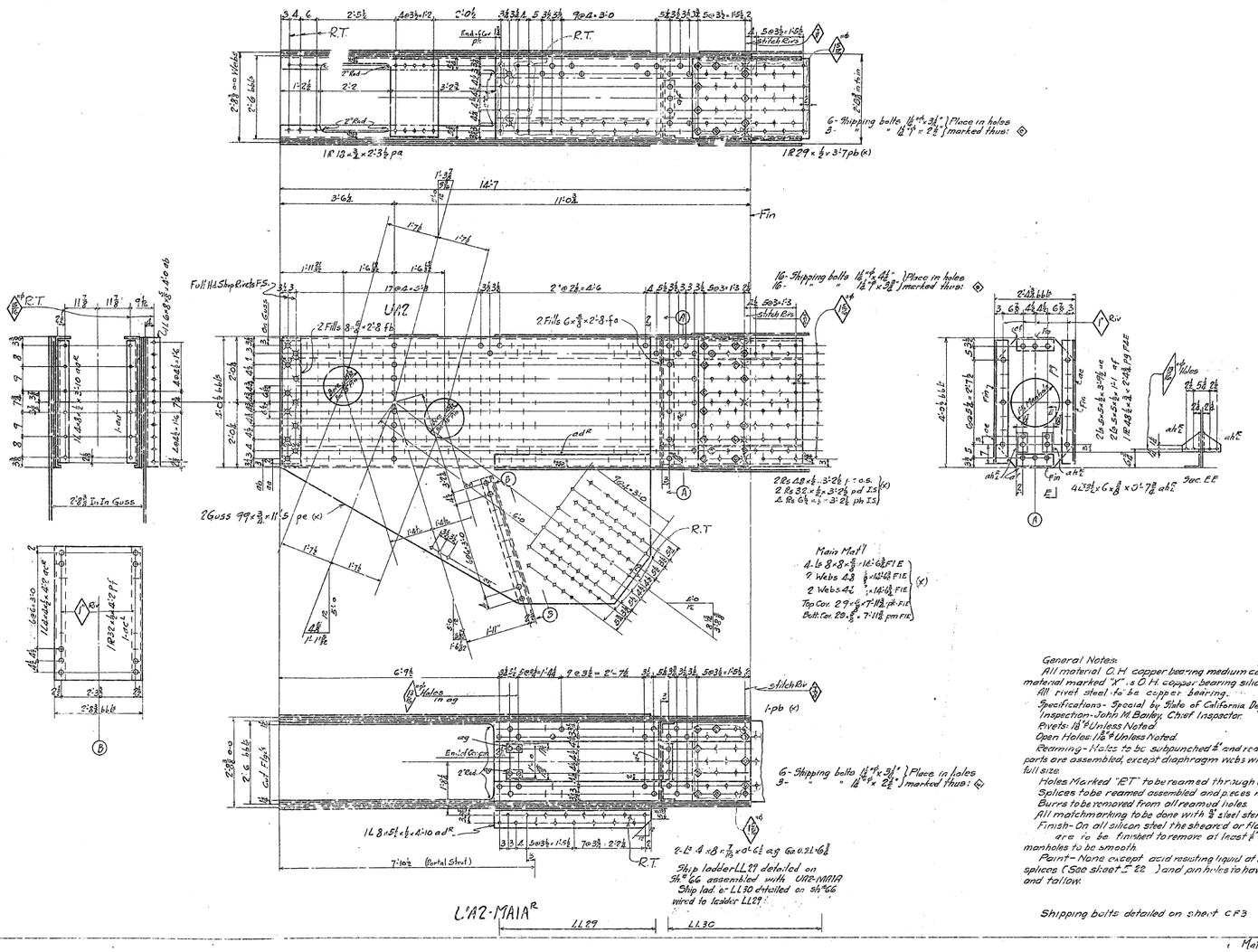
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary (1) PLANT
WORK FABRICATED AT Ambridge PLANT
DRAWN BY Wilkinson
TRACED BY S.T.S. DATE 4-18-34
DETAIL CHECKED BY HSF DATE 7-6-34
ORDER NO. G5103 | SHEET No. 43

Mark	Revision	Appd.

APPROVED
Glenn B. Woodruff, Chief Engineer
C. H. Purcell, Asst. Chief Engineer
Approved Date 7-25-34
Engr. of Steel Bridge Engineer

Rev. 9-7-34

MAPS 8-12-34 [C]



General Notes:

All material O.H. copper bearing medium carbon steel except material marked "X" is O.H. copper bearing silicon steel.

All rivet steel to be copper bearing.

Specifications - Special by State of California Department of Public Works.

Inspection - John M. Bailey, Chief Inspector.

Rivets: ⅞" Unless Noted.

Open Holes: ⅞" Unless Noted.

Reaming - Holes to be subpunched ¼" and reamed to size while parts are assembled, except diaphragm webs which may be punched full size.

Holes Marked "ET" to be reamed through a steel templet.

Splices to be reamed assembled and pieces matchmarked.

Burrs to be removed from all reamed holes.

All matchmarking to be done with ⅜" steel stencils and white paint.

Finish - On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal. Edges of manholes to be smooth.

Paint - None except acid resisting liquid at milled ends and splices (See sheet 5-E2) and pin holes to have one coat white lead and tallow.

Shipping bolts detailed on sheet CF3

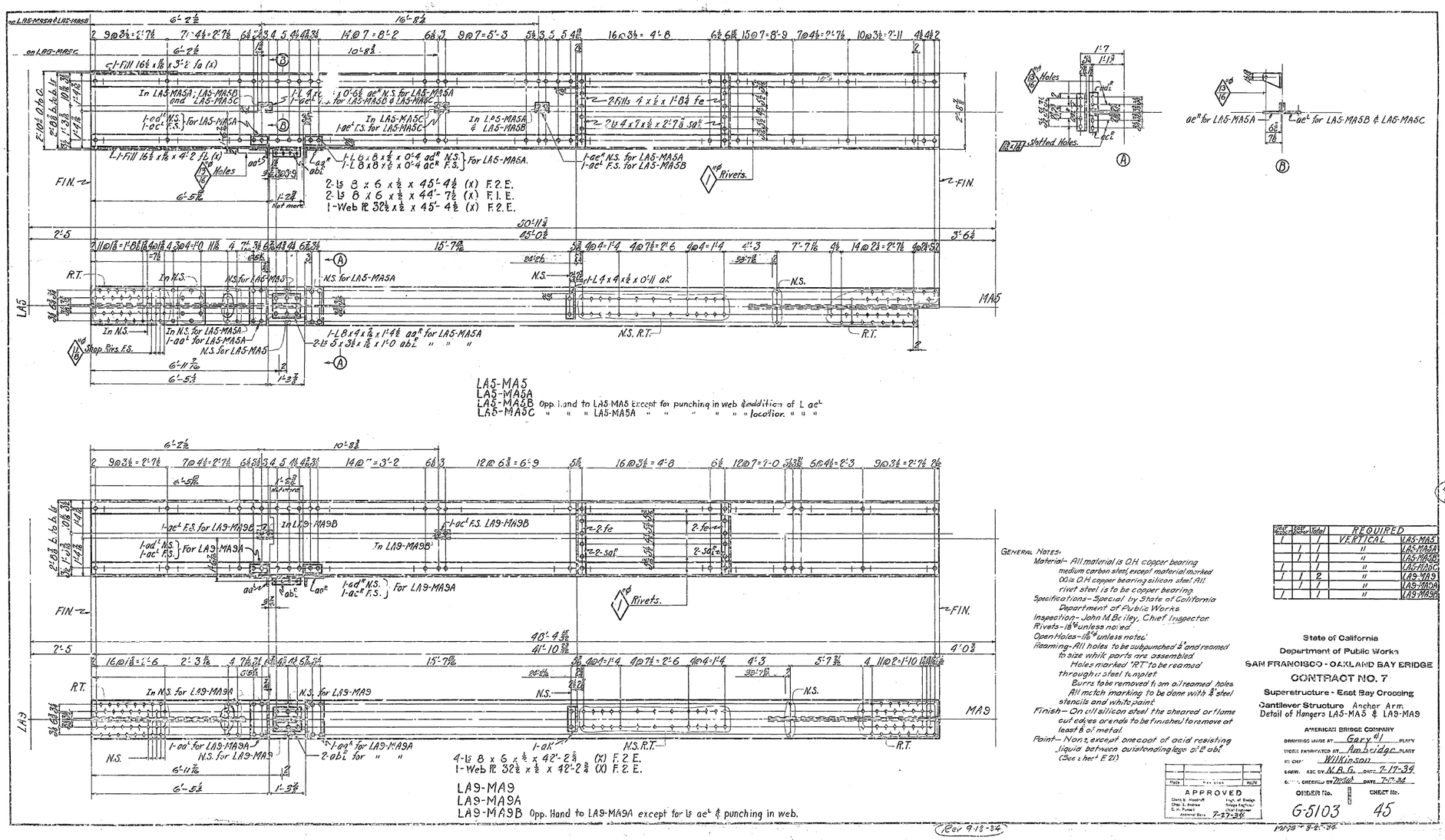
West Anchor	East Anchor	Total	REQUIRED	
1	1	2	Diagonal	UA2-MAIN R
1	1	2	"	UA2-MAIN L

APPROVED
Engr. of Design
Bridge Engineer
Chief Engineer
Approval Date 5-23-36

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
UA2-MAIN
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary 4/1 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DRAWN BY KMB DATE 4-17-36
TRACED BY DATE
CHECKED BY DATE 6-22-36
ORDER No. G5103 SHEET No. 44

Mat'l Ord. Sh. 5-65 to 67 incl.

Mat'l 8-15-36 [B&C]



Shop Rivets	Field Rivets	Total	REQUIRED	
/		/	VERTICAL	LA5-MA5
	/	/	"	LA5-MA5A
	/	/	"	LA5-MA5B
/	/	/	"	LA5-MA5C
/	/	2	"	LA9-MA9
/	/	/	"	LA9-MA9A
/	/	/	"	LA9-MA9B

GENERAL NOTES.

Material– All material is O.H. copper bearing medium carbon steel, except material marked Oδ is O.H. copper bearing silicon steel. All rivet steel is to be copper bearing.

Specifications– Special by State of California Department of Public Works.

Inspection– John M. Bailey, Chief Inspector.

Rivets– 1⅛" unless noted.

Open Holes– 1⅛" unless noted.

Reaming– All holes to be subpunched ½" and reamed to size while parts are assembled. Holes marked "RT" to be reamed through steel template. Burrs to be removed from all reamed holes. All match marking to be done with ⅜" steel stencils and white paint.

Finish– On silicon steel the sheared or flame cut edges are to be finished to remove at least ⅛" of metal.

Paint– None, except one coat of acid resisting liquid between outstanding legs of L abt.

(See sheet E 21)

Mark	Description	Date

APPROVED
Chas. B. Hoadley, Engr. of Bridges
Chas. S. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date: 7-27-34

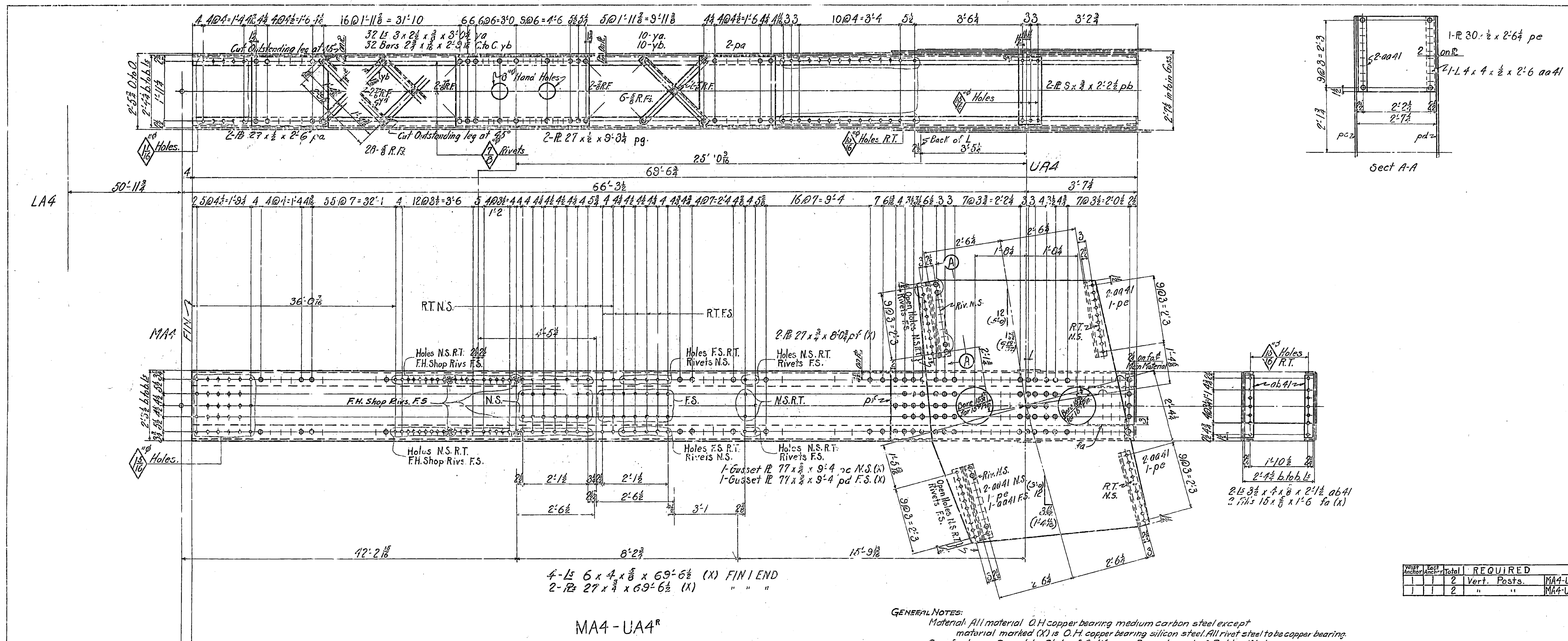
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
Detail of Hangers LA5-MA5 & LA5-MA9

AMERICAN BRIDGE COMPANY
DRAWING MADE AT: Gary, Ind. PLANT
WORK FABRICATED AT: Ambridge PLANT
BY CHIEF: Wilkinson
DRAWN: ABC BY N.B.G. DATE: 7-17-34
DETAILS CHECKED BY: DATE: 7-17-34

ORDER No. G-5103
SHEET No. 45

Rev 9-18-34
Rev 8-2-34

30-1



West Anchor	East Anchor	Total	REQUIRED	
1	1	2	Vert. Posts.	MA4-UA4R
1	1	2	" "	MA4-UA4L

127
127

GENERAL NOTES:

Material: All material O.H copper bearing medium carbon steel except material marked (X) is O.H. copper bearing silicon steel. All rivet steel to be copper bearing.

Specifications— Special by State of California Department of Public Works.

Inspection— John M. Bailey, Chief Inspector.

Rivets— 1"ϕ unless noted.

Open Holes— 1 1/16"ϕ unless noted.

Reaming— All holes to be subpunched ¾" and reamed to size while parts are assembled, except lacing, stay plates, and diaphragm webs which may be punched full size.
Holes marked "R.T." to be reamed through a steel templet.
Splices in web members to be reamed assembled and pieces match marked.
Burrs to be removed from all reamed holes.
All match marking to be done with ¾" steel stencils and white paint.

Finish— On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal. Edges of hand holes to be smooth.

Paint— None except acid resisting liquid at milled ends, and pin holes to have one coat of White Lead & Tallow.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
Detail of Vertical Posts MA4 - UA4.

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
MADE BY N.B.G. DATE 5-9-34
DRAW. CHECKED BY WSP DATE 7-6-34

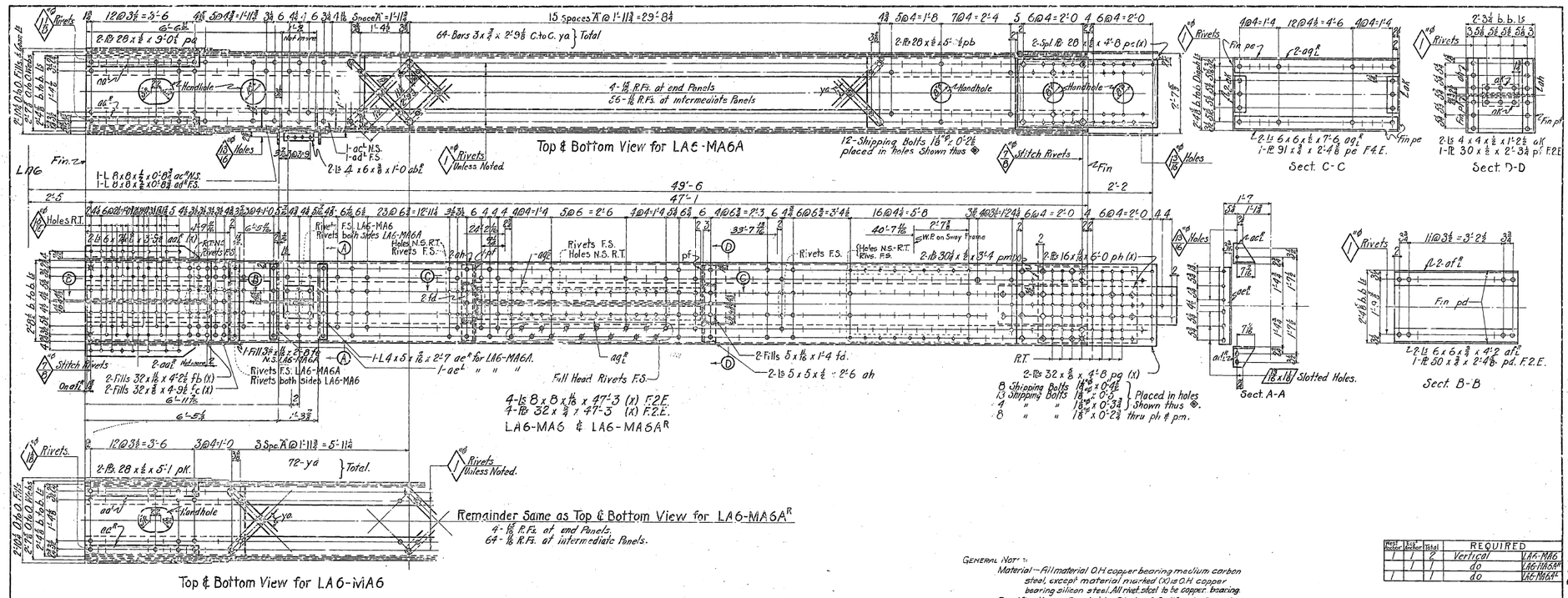
Made	Revision	App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 7-16-34

ORDER No. 65103
SHEET No. 46

Mat'l Ord 3, 64 & 67 MB
MMS 8-22-35
[B-C]

30-1



Weld Position	Weld Anchor	Total	REQUIRED	
/	/	2	Vertical	LA6-MA6
/	/	/	do	LA6-MA6AR
/	/	/	do	LA6-MA6AL

167
167
167

GENERAL NOTES

Material – All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel. All rivet steel to be copper bearing.

Specifications – Special by State of California Department of Public Works.

Inspection – John M. Bailey, Chief Inspector.

Rivets – 1⅛" ø unless noted.

Open Holes – 1⅛" ø unless noted.

Reaming – All holes subpunched & reamed to size while parts are assembled, except diaphragm webs, lacing and stay plates which may be punched full size.

Holes marked "R.T." to be reamed through a steel templet.

√ Splices in web members to be reamed assembled and pieces match marked.

Burrs to be removed from all reamed holes.

√ All match marking to be done with ⅛" steel stencils and white paint.

Finish – On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ½" of metal.

Edges of hand holes to be smooth.

Paint – None, except one coat of acid resisting liquid at milled ends and splices...and between O.S. legs of Le 6x6 (see sheet E21)

Shipping Bolts detailed on Sh. CF3

Mark	Revision	Date
APPROVED		
Glenn D. Woolcott, Engr. of Design		
Chas. E. Andrew, Bridge Engineer		
G. H. Purcell, Chief Engineer		
Approved Date 8-7-34		

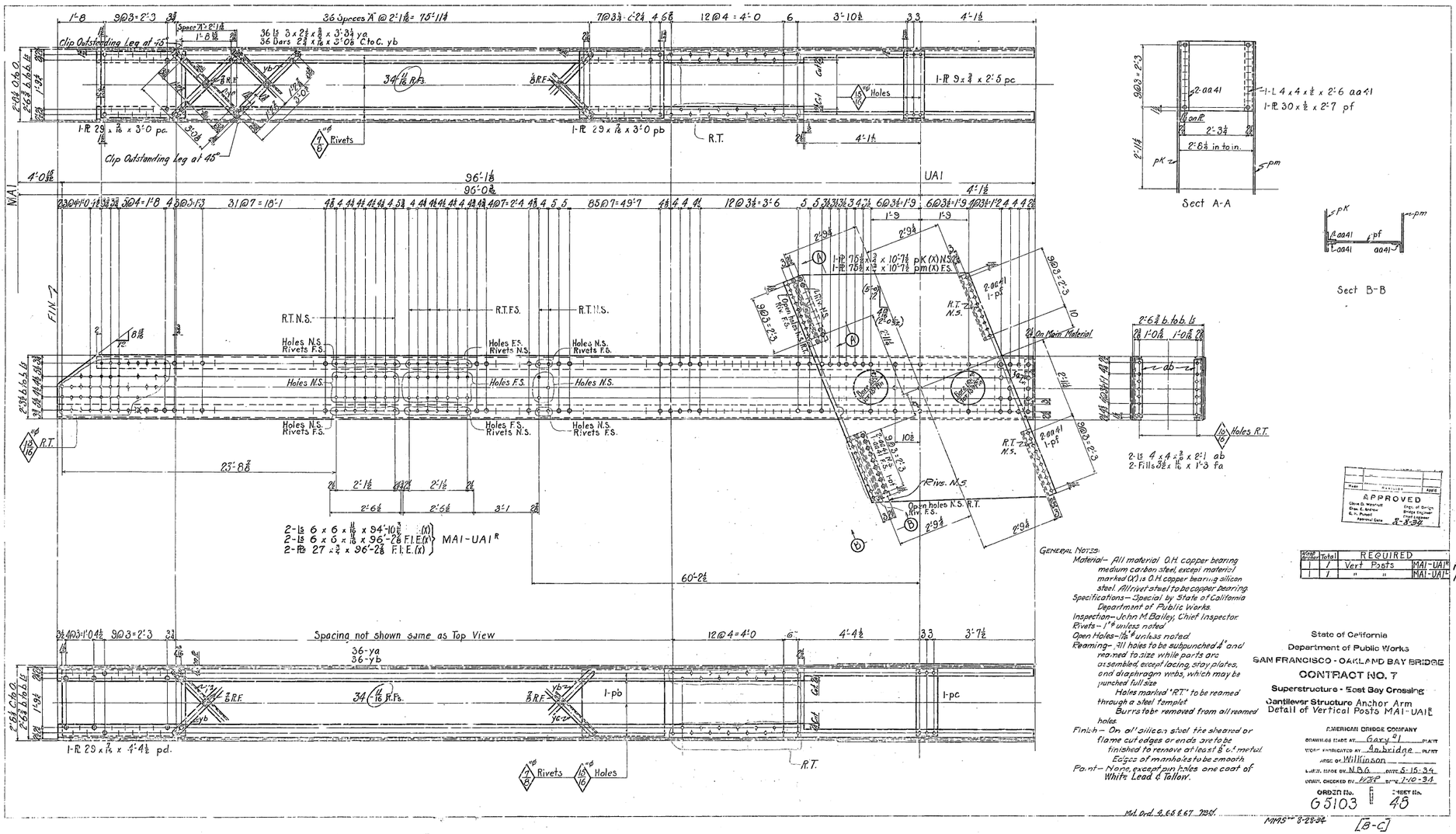
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
Detail of Vertical LA6-MA6 & LA6-MA6AL

AMERICAN BRIDGE COMPANY

DRAWING MADE AT Gary (Ind.) PLANT.
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DETAILED BY N.D.G. DATE 6-7-34
QUANTITIES CHECKED BY Smith DATE 7-10-34

ORDER No. 65103
SHEET No. 47

M715 - 8-11-36



APPROVED
Glen D. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
R. H. Purcell, Chief Engineer
Approval Date 8-8-34

Sheet Number	Total	REQUIRED		
	7	Vert Posts	MAI-UAI M	16 T
	7	" "	MAI-UAI L	16 T

GENERAL NOTES:
Material— All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel. All rivet steel to be copper bearing.
Specifications— Special by State of California Department of Public Works.
Inspection— John M. Bailey, Chief Inspector.
Rivets— ⅞" unless noted.
Open Holes— 1⅛" unless noted.
Reaming— All holes to be subpunched 4" and reamed to size while parts are assembled, except lacing, stay plates, and diaphragm webs, which may be punched full size.
Holes marked "RT" to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Finish— On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal. Edges of manholes to be smooth.
Paint— None, except pin holes one coat of White Lead & Tallow.

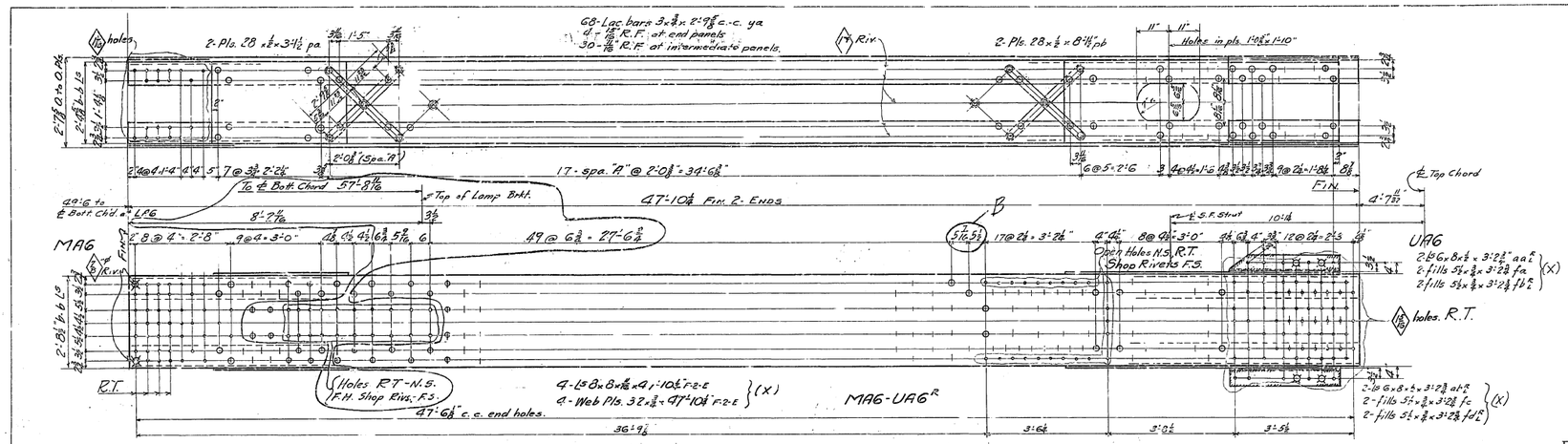
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
Detail of Vertical Posts MAI-UAI L

AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary PLANT
WORK FABRICATED BY Am. Bridge PLANT
AGT. OF Williamson
DRAWN BY N.D.G. DATE 5-15-34
DETAIL CHECKED BY H.B.P. DATE 7-10-34
ORDER No. G 5103
SHEET No. 45

Mod. Ord. A-66 & 67 1936
MMPS 8-28-34
[B-C]

(Rev. 9-5-34)

30-1



Weld Anchor	Cast Anchor	Total	REQUIRED		
1		1	2	POSTS	MAG-UAG R	6T
"	1	1	2	"	MAG-UAG L	6T
1	1	2	"	MAT-UAT R	6T
1	1	2	"	MAT-UAT L	6T

GENERAL NOTES:
Material – All material O.H. copper bearing medium carbon steel except material marked "A" is O.H. copper bearing silicon steel. All rivet steel is to be copper bearing.
Specifications – Special by State of California Department of Public Works.
Inspection – John M. Bailey, Chief Inspector.
Rivets – 1⅛" ø unless noted.
Open Holes – 1⅛" ø unless noted.
Reaming – All holes to be subpunched ⅜" and reamed to size while parts are assembled except lacing and stay plates which may be punched full size.
Holes marked "RT" to be reamed through a steel templet.
Splices in web members to be reamed assembled and pieces match marked.
Burrs to be removed from all reamed holes.
All match marking to be done with ⅜" steel stencils and white paint.
Finish – On all carbon steel marked (E) and on all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal.
Edges of manholes to be smooth.
Paint – None except acid resisting liquid at finish and ends.

Made	Revised	Appd

APPROVED
Chas. D. Wadsworth, Asst. Chief of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
By Direction
Date 7-25-34

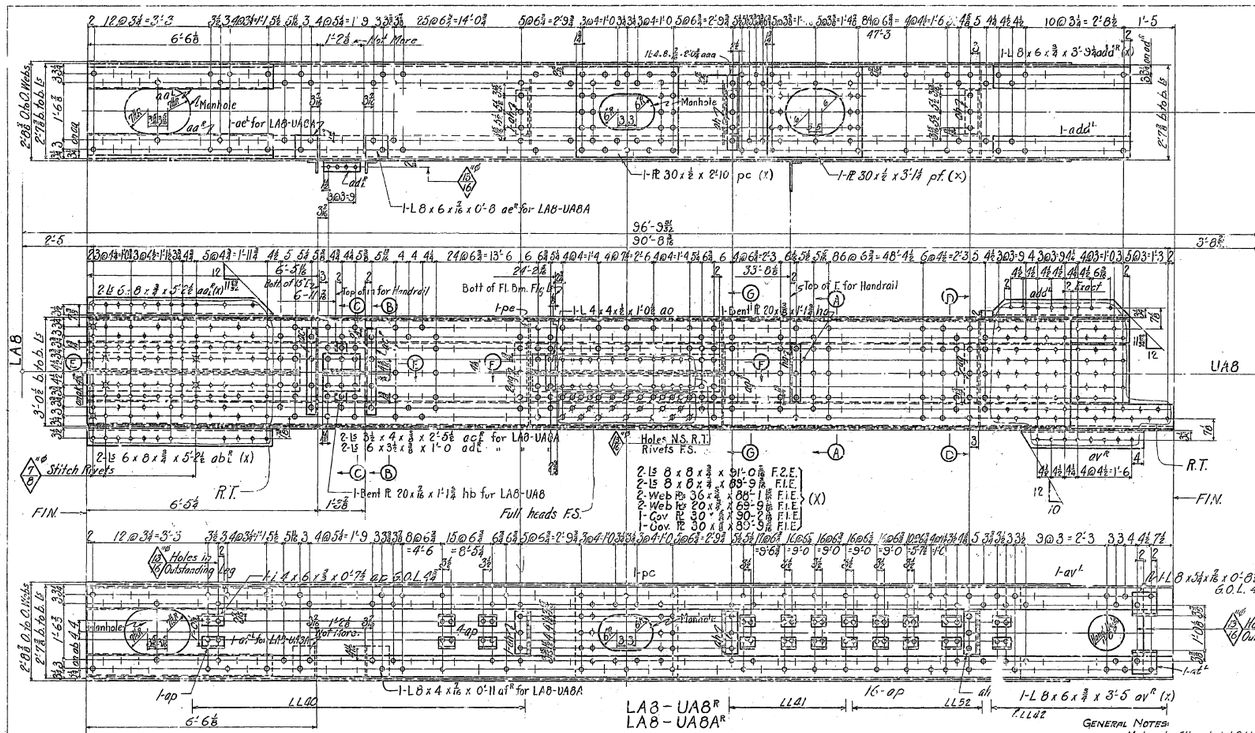
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
Detail of Vertical Posts MAG-UAG R MAT-UAT L

AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary, Ind. PLANT
" FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DRAWN, MADE BY J.H. DATE 6-23-34
DRAWN, CHECKED BY W&P DATE 7-5-34
ORDER No. G.5103
SHEET No. 49

Mat'l. and Paints 3, 9, 62, 66

Rev. 8-27-34
E.W. 9-28-34 -E

Rivs. 8-22-34 -[B-C]



Center	Post	Footer	Total	REQUIRED	
				Vert. Post	
1		1	2	" "	LA8-UA8C 26T
				" "	LA8-UA8 26T
1		1	2	" "	LA8-UA8A 26T
				" "	LA8-UA8AR 26T

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
Detail of Vertical Posts LA8-UA8

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Ambridge, Pa. PLANT
IN CHARGE OF Wilkinson
DRAWN BY N.B.G. DATE 5-25-34
CHECKED BY BSH DATE 7-6-34

ORDER No. G5103 SHEET No. 50

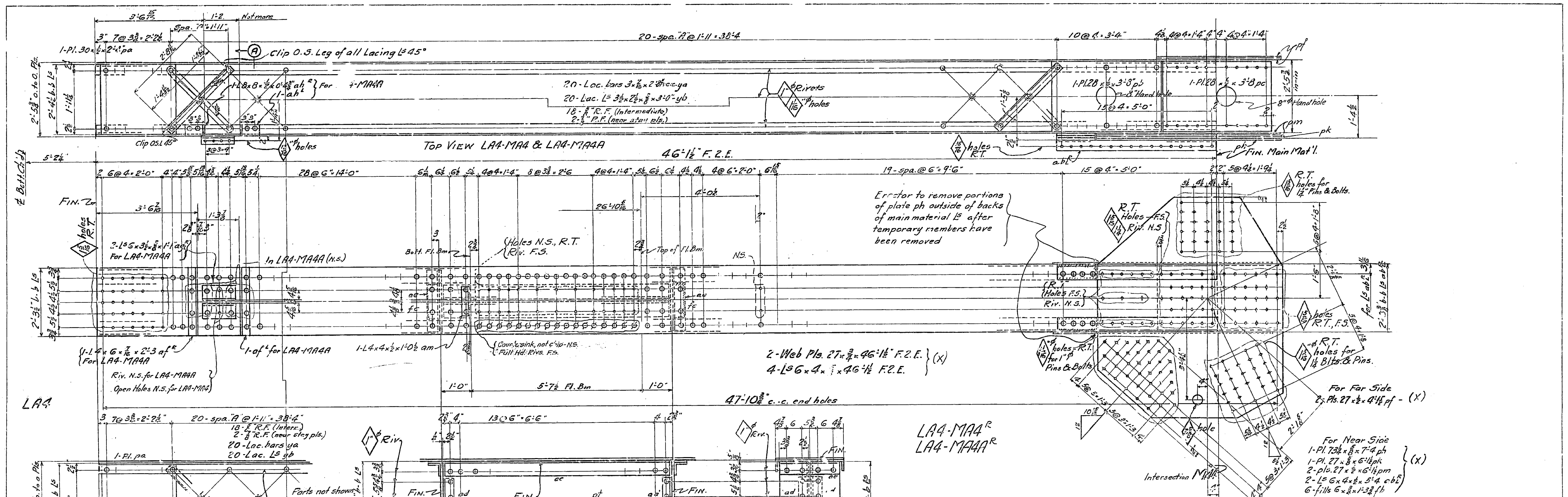
Date	Revision	Appd

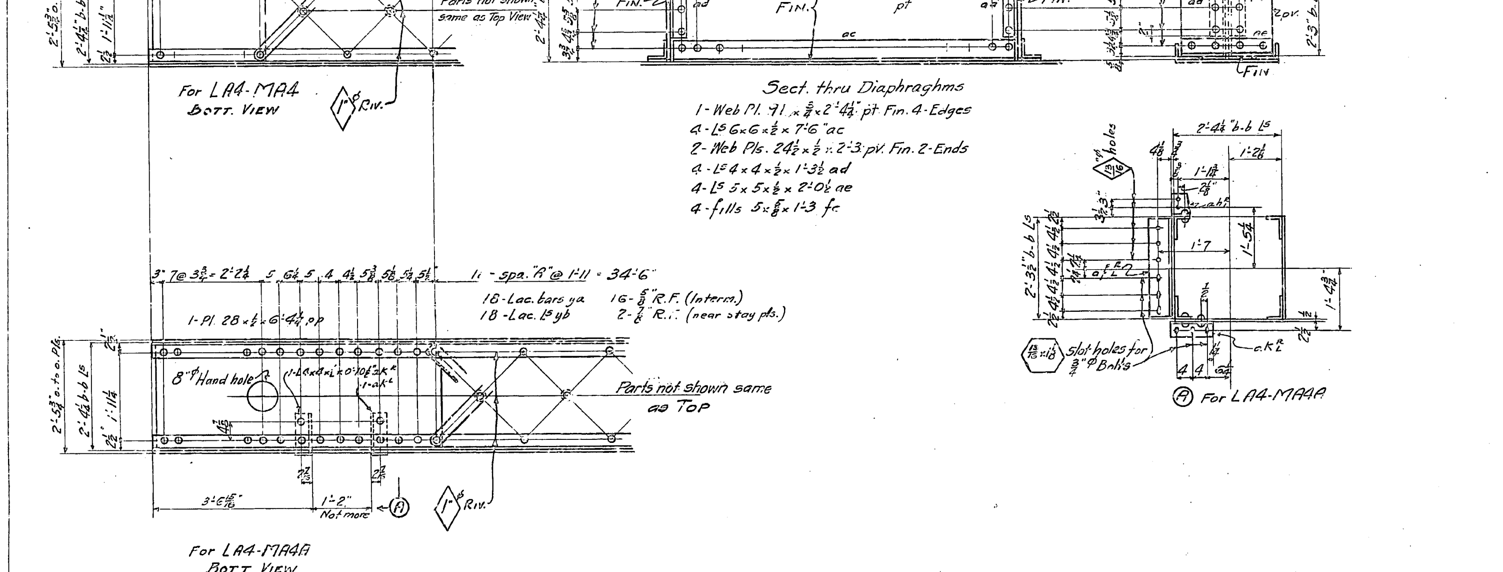
APPROVED
Chas. D. Hurcomb, Engr. of Design
Chas. D. Andrus, Bridge Engineer
S. H. Russell, Chief Engineer
Approval Date 8-25-34

Rec. 9-12-34

M775 9-15-34 [B&C]

30-1





GENERAL NOTES:

Material— All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel, and all $1\frac{1}{4}$"ϕ shop rivets are manganese steel. All rivet steel to be copper bearing.

Specifications—Special by State of California Department of Public Works.

Inspection—John M. Bailey, Chief Inspector.

Rivets—$1\frac{1}{8}$"ϕ unless noted.

Open Holes—$1\frac{3}{16}$"ϕ unless noted.

Reaming—All holes to be subpunched $\frac{1}{4}$" and reamed to size while parts are assembled, except lacing, stay plates and diaphragm webs, which may be punched full size.
Holes marked "R.T." to be reamed to size through a steel templet.
Splices in web members to be reamed assembled and pieces match marked.
Burrs to be removed from all reamed holes.
All match marking to be done with $\frac{3}{4}$" steel stencils and white paint.

Finish—On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least $\frac{1}{8}$" of metal.
Edges of handholes to be smooth.

Paint—None, except for one coat of acid resisting liquid at milled ends and splices, and between O.S. legs of Ls ag$\frac{R}{L}$ (see sheet E 21)

Ambridge Plant to charge portion of plates ph removed in field to contract 41K-0269, giving G5103 credit for same.

Manganese shop rivets detailed on sheet CF 23

Mt'l. ord. on pg. 3, 54, 72

For Near Side
1-Pl. $73\frac{1}{4} \times \frac{5}{8} \times 7'$-4 ph
1-Pl. $27 \times \frac{5}{8} \times 6'$-$1\frac{1}{2}$ pk
2-pls. $27 \times \frac{1}{2} \times 6'$-$1\frac{1}{2}$ pm
2-Ls $6 \times 4 \times \frac{1}{2} \times 5'$-4 ab$\frac{R}{L}$
6-fills $6 \times \frac{3}{4} \times 1'$-$3\frac{3}{4}$ fb
(x)

West Anchor	East Anchor	Total	Required	
1		1	Vertical Post	LA4-MA4R
	1	1	" "	LA4-MA4L
	1	1	" "	LA4-MA4AR
1		1	" "	LA4-MA4AL

Made	Revision	App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 8-7-34

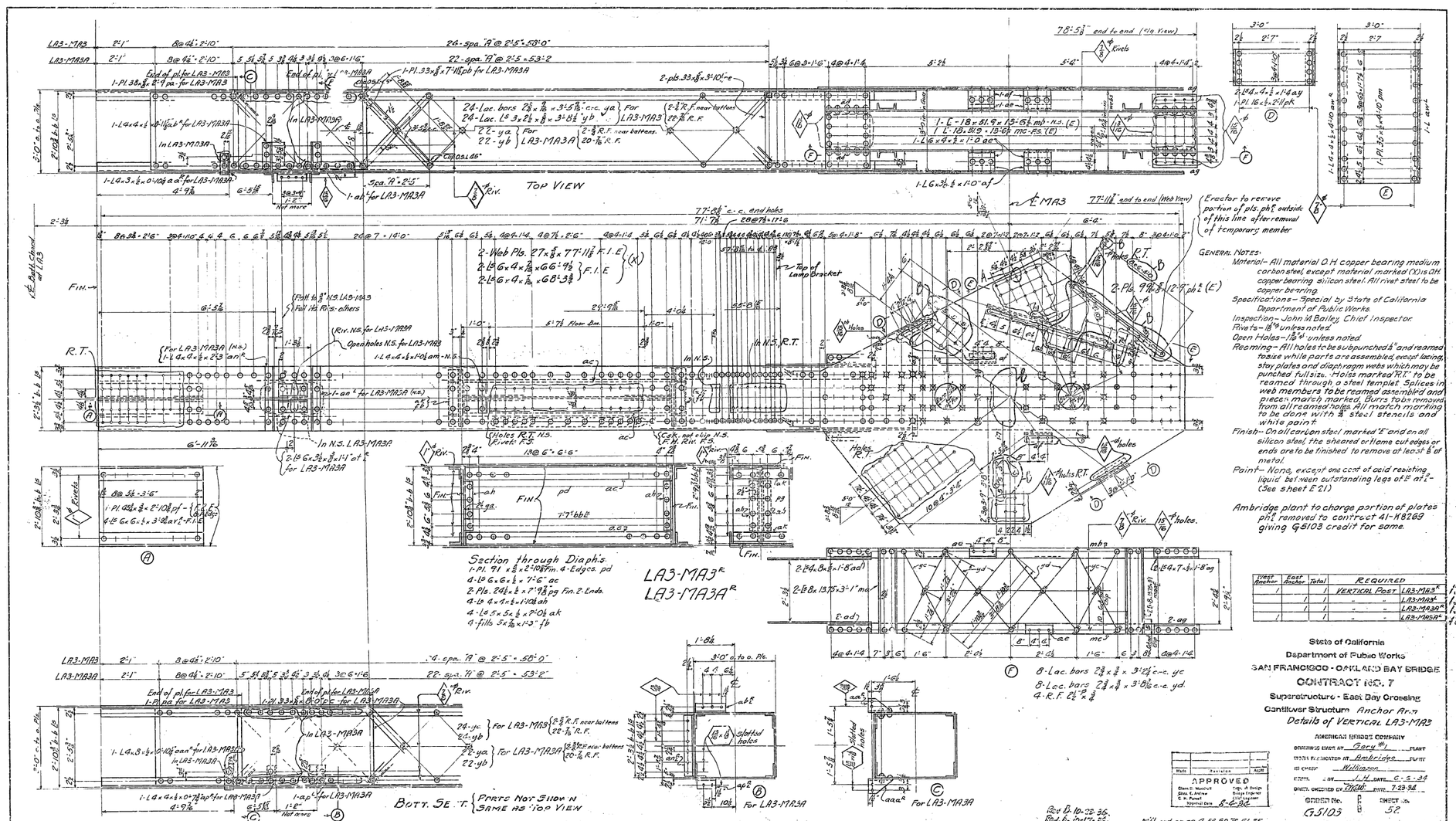
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
Detail of Vertical LA4-MA4

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DRAWN. MADE BY J. H. DATE 5-29-34
DRAW. CHECKED BY MWD DATE 7-10-34

ORDER No. G5103
SHEET No. 51

MMS 8-24-34

[B,C,&G]



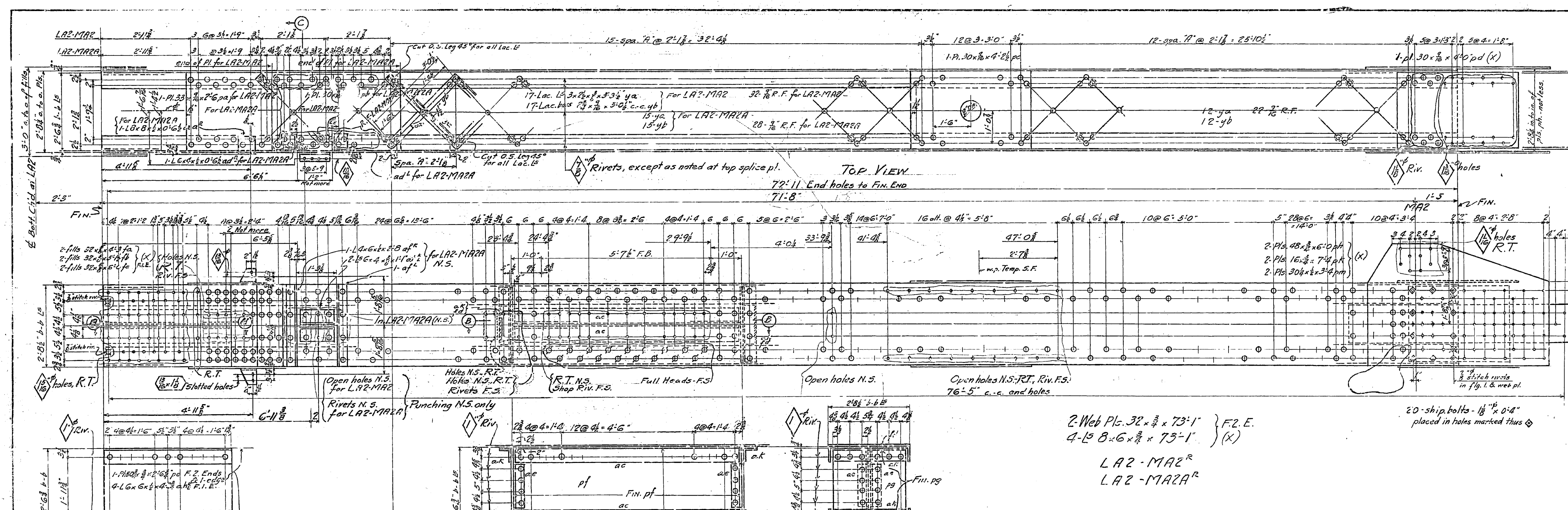
West Anchor	East Anchor	Total	REQUIRED	
/		/	VERTICAL POST	LA3-MA3R
		/	" "	LA3-MA3A
		/	" "	LA3-MA3AR
/		/	" "	LA3-MA3R

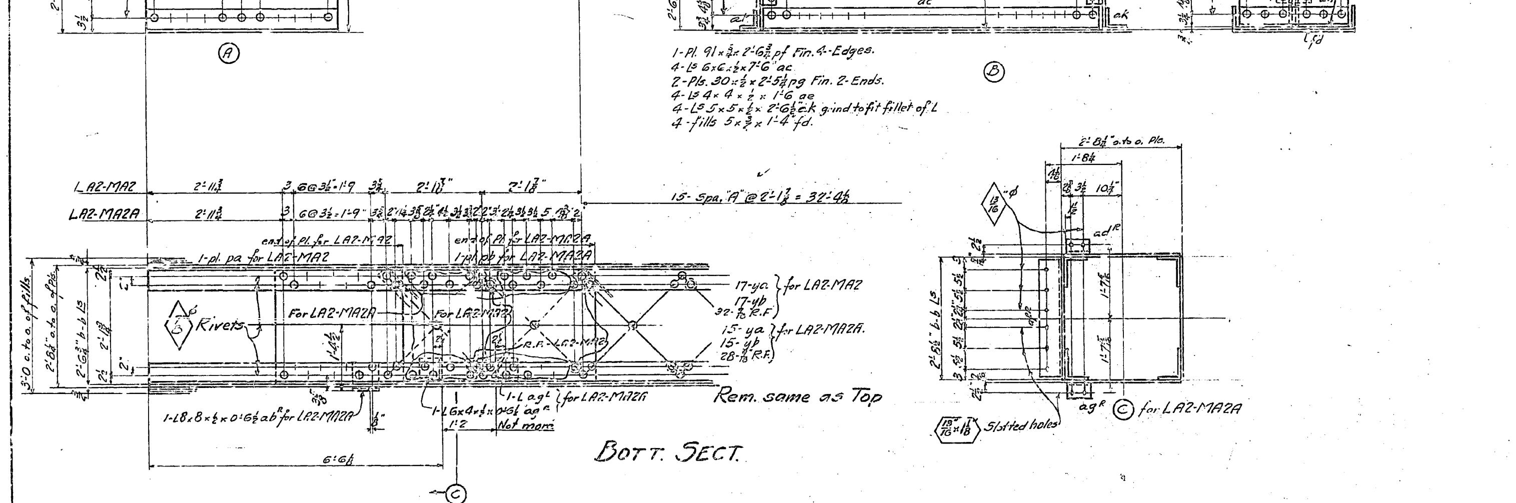
137
137
137
137

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
Details of VERTICAL LA3-MA3

AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary (Ind.) PLANT
STEEL FABRICATED AT Ambridge PLANT
DETAILED BY Williamson
CHECKED J.W. DATE 6-5-34
DRAFT. CHECKED BY Mack DATE 7-23-34
ORDER No. G5103
SHEET No. 32

30-1





2-Web Pls. 32 x 3/4 x 73'-1" } F.2.E.
4-Ls 8 x 6 x 3/4 x 73'-1" } (X)

LAZ-MAZ^R
LAZ-MAZA^R

GENERAL NOTES:

Material – All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel. All rivet steel to be copper bearing.

Specifications – Special by State of California Department of Public Works.

Inspection – John M. Bailey, Chief Inspector.

Rivets – 1 1/8"⌀ unless noted.

Open Holes – 1 3/16"⌀ unless noted.

Reaming – All holes to be subpunched 1/4" and reamed to size while parts are assembled, except lacing, stay plates, and diaphragm webs which may be punched full size.

Holes marked "R.T." to be reamed through a steel templet.

Splices to be reamed assembled and pieces match marked.

Burrs to be removed from all reamed holes.

All match marking to be done with 3/4" steel stencils and white paint.

Finish – On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least 1/8" of metal.

Edges of hand holes to be smooth.

Paint – None, except acid resisting liquid at milled ends and splice plates and between O.S. legs of Ls at L^R (see sheet E.Z.1)

Shipping bolts billed on sheet CF3

West Anchor	East Anchor	Total	REQUIRED		
1		1	VERTICAL POSTS	LAZ-MAZ^R	17T
	1	1	" "	LAZ-MAZ^L	17T
	1	1	" "	LAZ-MAZA^R	17T
1		1	" "	LAZ-MAZA^L	17T

Made	Revision	Appd

APPROVED
Glenn B. Woodruff – Engr. of Design
Chas. E. Andrew – Bridge Engineer
C. H. Purcell – Chief Engineer
Approval Date 8-4-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
Details of Verticals LAZ-MAZ

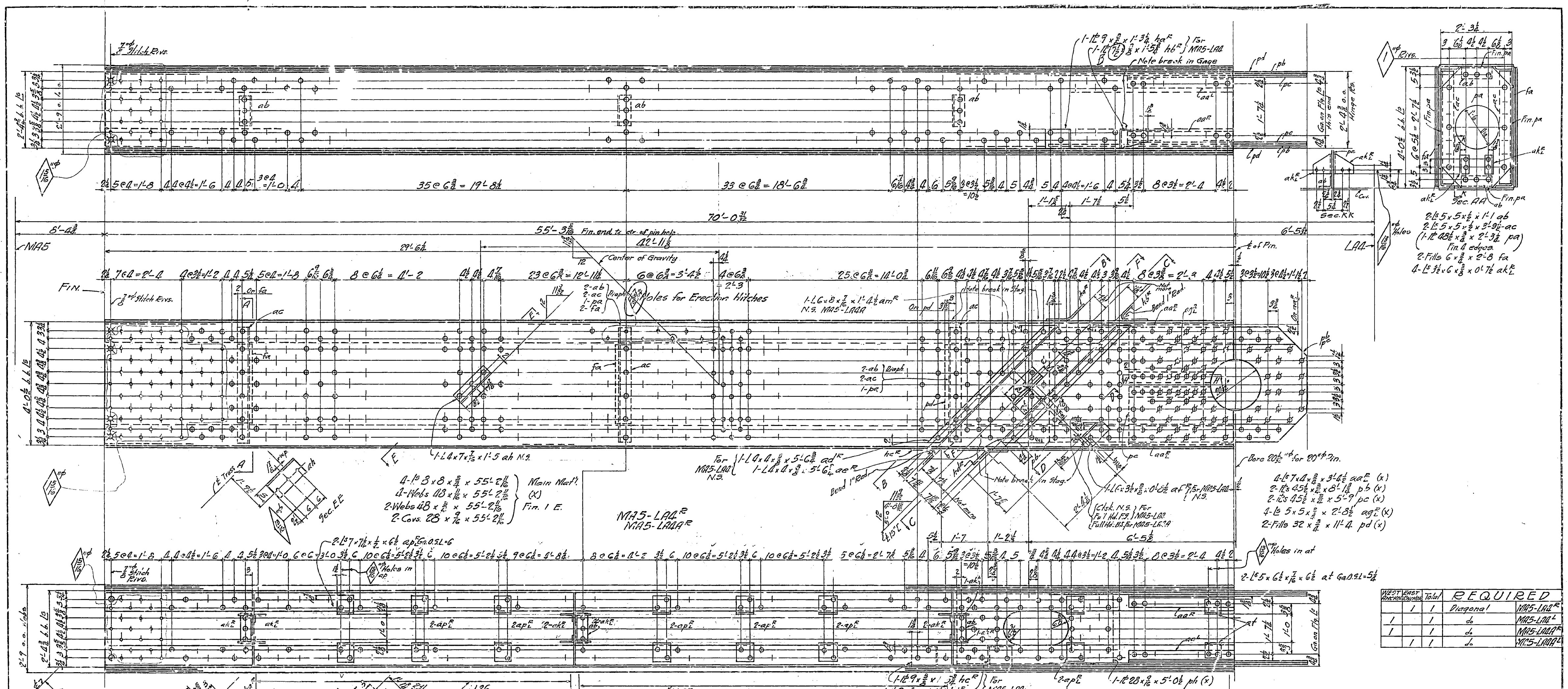
AMERICAN BRIDGE COMPANY
Drawings made at Gary #1 Plant
Work fabricated at Ambridge Plant
In charge of Wilkinson
Dwg. made by J.H. Date June 14, '34
Dwg. checked by E.H. Date 7/25/34
Order No. G5103
Sheet No. 53

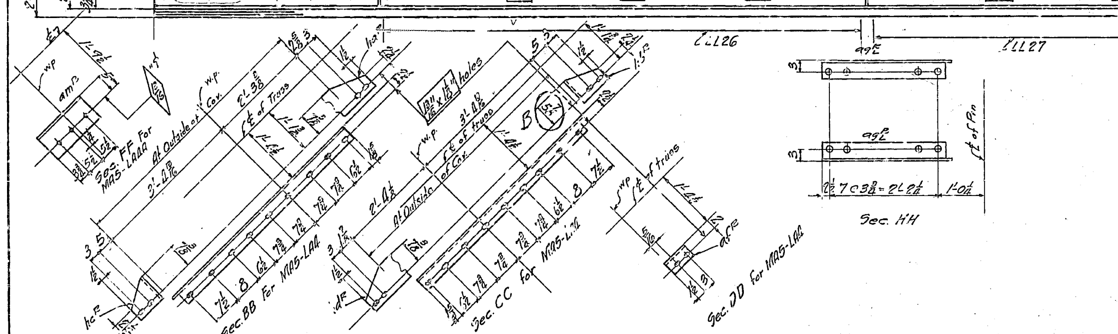
Mt'l. ord. on pg. 4, 52, 54, 85

(Rev. 9-25-34)

[B-C]

30-1





GENERAL NOTES:

Material – All material O.H copper bearing medium carbon steel except material marked "X" is O.H copper bearing silicon steel. All rivet steel to be copper bearing.

Specifications – Special by State of California Department of Public Works.

Inspection – John M. Bailey, Chief inspector.

Rivets – 1⅛"ϕ unless noted.

Open Holes – As noted.

Reaming – Holes in all material to be subpunched ¼" and reamed to size while parts are assembled, except diaphragm webs which may be punched full size.

Splices to be reamed assembled and pieces match marked.

Burrs to be removed from all reamed holes.

All match marking to be done with ¾" steel stencils and white paint.

Finish – On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal. Edges of manholes to be smooth.

Paint – None, except acid resisting liquid at milled end, and pin holes to have one coat of white lead and tallow.

Assemble and ship with each MA5-LAA^R, MA5-LAA^L, MA5-LAAA^R, MA5-LAAA^L, 1-LL26, 1-LL27, 1-LL38, 1-LL28 detailed on Sh. #66

West Anchor	East Anchor	Total	REQUIRED		
	1	1	Diagonal	MA5-LAA^R	31T
1		1	do	MA5-LAA^L	31T
1		1	do	MA5-LAAA^R	31T
	1	1	do	MA5-LAAA^L	31T

Made	Revision	App'd

APPROVED
Glenn B. Woodruff – Engr. of Design
Chas. E. Andrew – Bridge Engineer
C. H. Purcell – Chief Engineer
Approval Date 8-23-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure ANCHOR ARM
DIAGONAL MA5-LAA
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
CHARGE OF Wilkinson
DRAW. MADE BY CAK DATE 6-7-34
DRAW. CHECKED BY [illegible] DATE 7/3/34
ORDER No. G5103
SHEET No. 54

Rev 10-18-34
Rev 11-13-34 B

MM6 8-15-34 [B&C]

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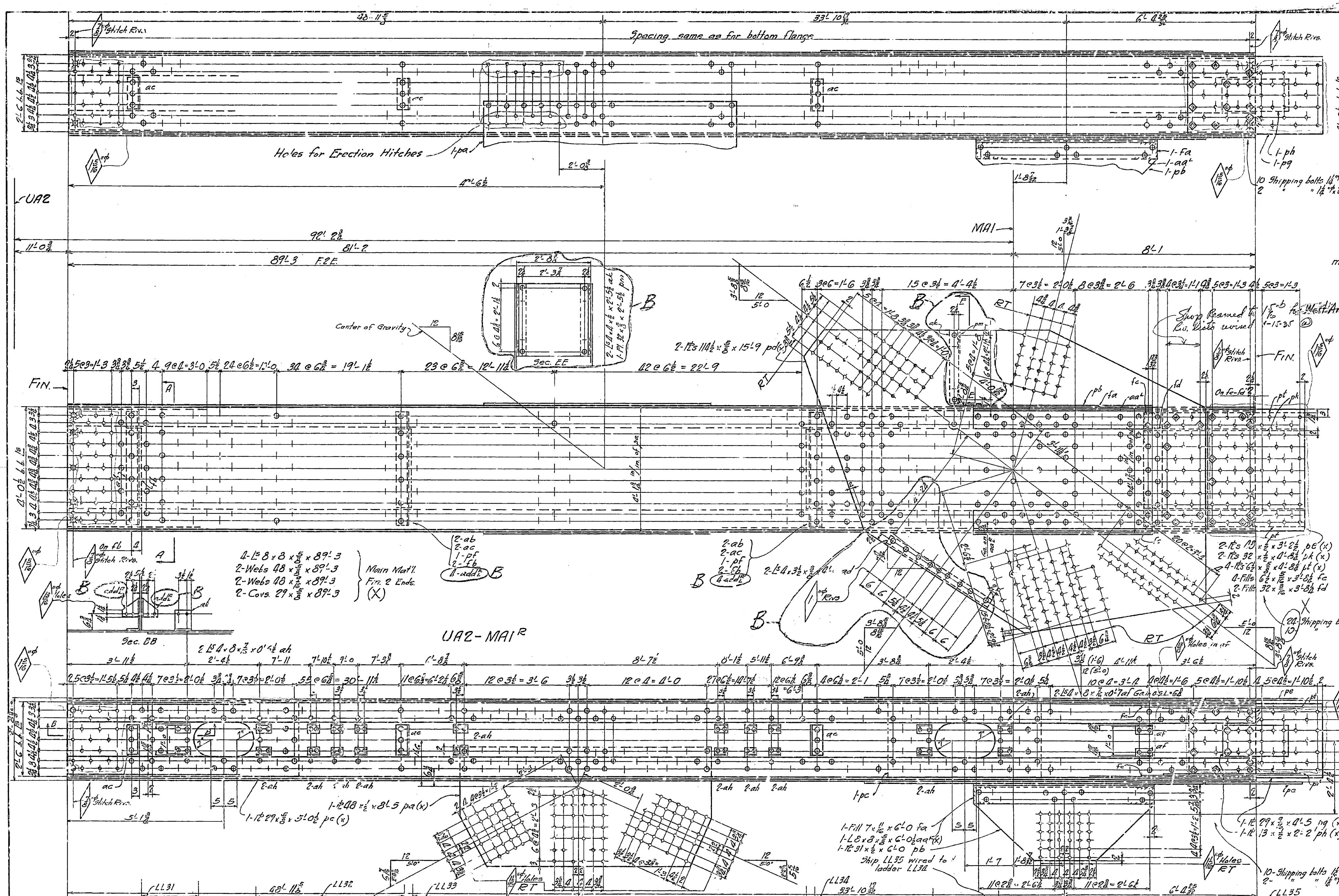


APPROVED

Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 8-23-34

General Notes:

Material- All material O.H. Copper Bearing medium carbon steel except material marked "X" is O.H. copper bearing silicon steel. All Rivet steel to be copper bearing.

Specifications- Special by State of California Department of Public Works.

Inspection- John M. Bailey, Chief Inspector

Rivets: 1 1/8"ϕ Unless Noted.

Open Holes: 1 3/16"ϕ Unless Noted.

Reaming: All holes to be subpunched 1/4" and reamed to size while parts are assembled, except diaphragm webs which may be punched full size.

Holes marked "R.T." to be reamed through a steel templet.

Splices in web members to be reamed assembled and pieces matchmarked.

Burrs to be removed from all reamed holes.

All matchmarking to be done with 3/4" steel stencils and white paint.

Finish- On all silicon steel sheared or flame cut edges or ends are to be finished to remove at least 1/8" of metal. Edges of manholes to be smooth.

Paint: None except acid resisting liquid at milled ends and splices. (See sheet E 22)

Shipping bolts detailed on Sheet CF3

Assemble and ship with each UA2-MA1R & UA2-MA1L, 1-LL31, 1-LL32, 1-LL33, 1-LL34, 1-LL35 detailed on sheet #66

24 Shipping bolts 1 1/4"ϕ x 4 3/4" } Place in holes
10 " " 1 1/4"ϕ x 3 3/4" } marked thus: ◈

West Anchor	East Anchor	Total	REQUIRED	
1	1	2	Diagonal	UA2-MA1R
1	1	2	"	UA2-MA1L

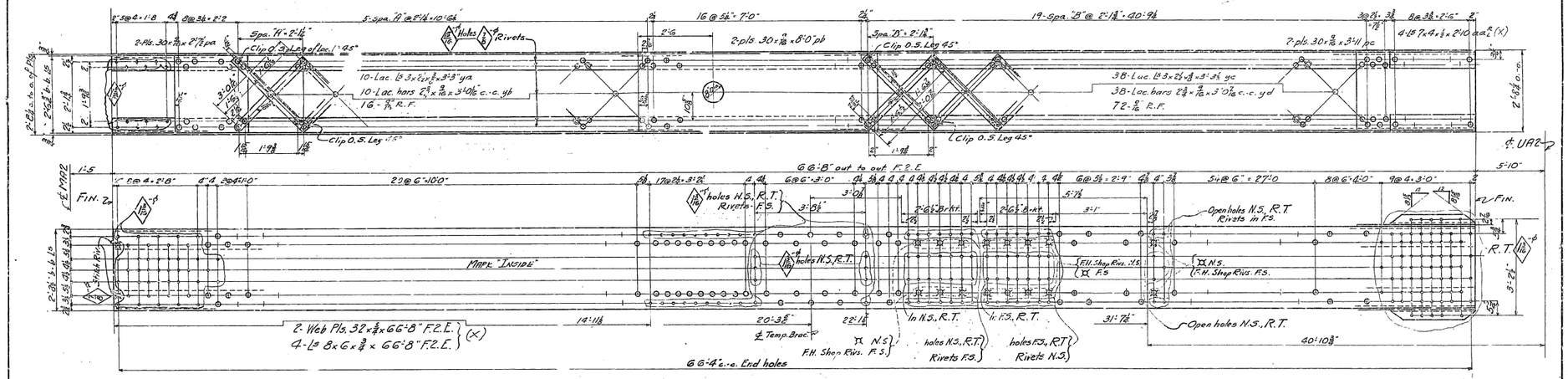
36T
36T

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure ANCHOR ARM
DIAGONAL - UA2 - MA1

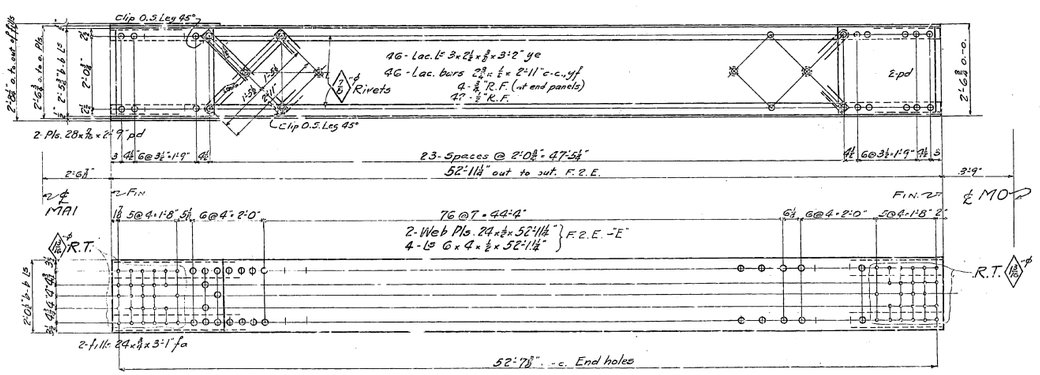
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
CHARGE OF Wilkinson
DRAW. MADE BY CAK DATE 6-13-34
DRAW. CHECKED BY Maut. DATE 6-20-34
ORDER No. G 5103
SHEET No. 55

MMS 8-16-34
[B&C]
Rev. C 9-11-35
Rev. B 9-26-34

DEC 2002 RESEARCH



MA2-UA2



MA1-MA0

GENERAL NOTES:

Material— All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel. All rivet steel to be copper bearing.
Specifications— Special by State of California Department of Public Works.
Inspection— John M Bailey, Chief Inspector.
Rivets— 1"ø unless noted.
Open Holes— 1⅛"ø unless noted.
Reaming— All material subpunched ¼" and reamed to size while parts are assembled, except lacing and stay plates which may be punched full size.
Holes marked "RT" to be reamed to a steel templet.
Splices in two members to be reamed assembled and pieces match marked.
Burrs to be removed from all reamed holes.
All match marking to be done with ¼" steel stencils and white paint.
Finish— On all carbon steel marked (E), and on all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ½" of metal.
Edges of bond holes to be smooth.
Paint— None, except acid resisting liquid at finished ends.

West Anchor	East Anchor	Total	REQUIRED	
2	2	4	VERTICAL POSTS	MA2-UA2
2	2	4	STRUTS	MA1-MA0

12 T
57 S

Mark	Revision	Appd.
	APPROVED	
	Glenn B. Woodruff, Engr. of Design	
	Chas. E. Andrew, Bridge Engineer	
	O. H. Fennell, Chief Engineer	
	Approved Date 8-7-34	

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossings
Cantilever Structure Anchor Arm
Detail of { Vertical Posts MA2-UA2 / Struts MA1-MA0

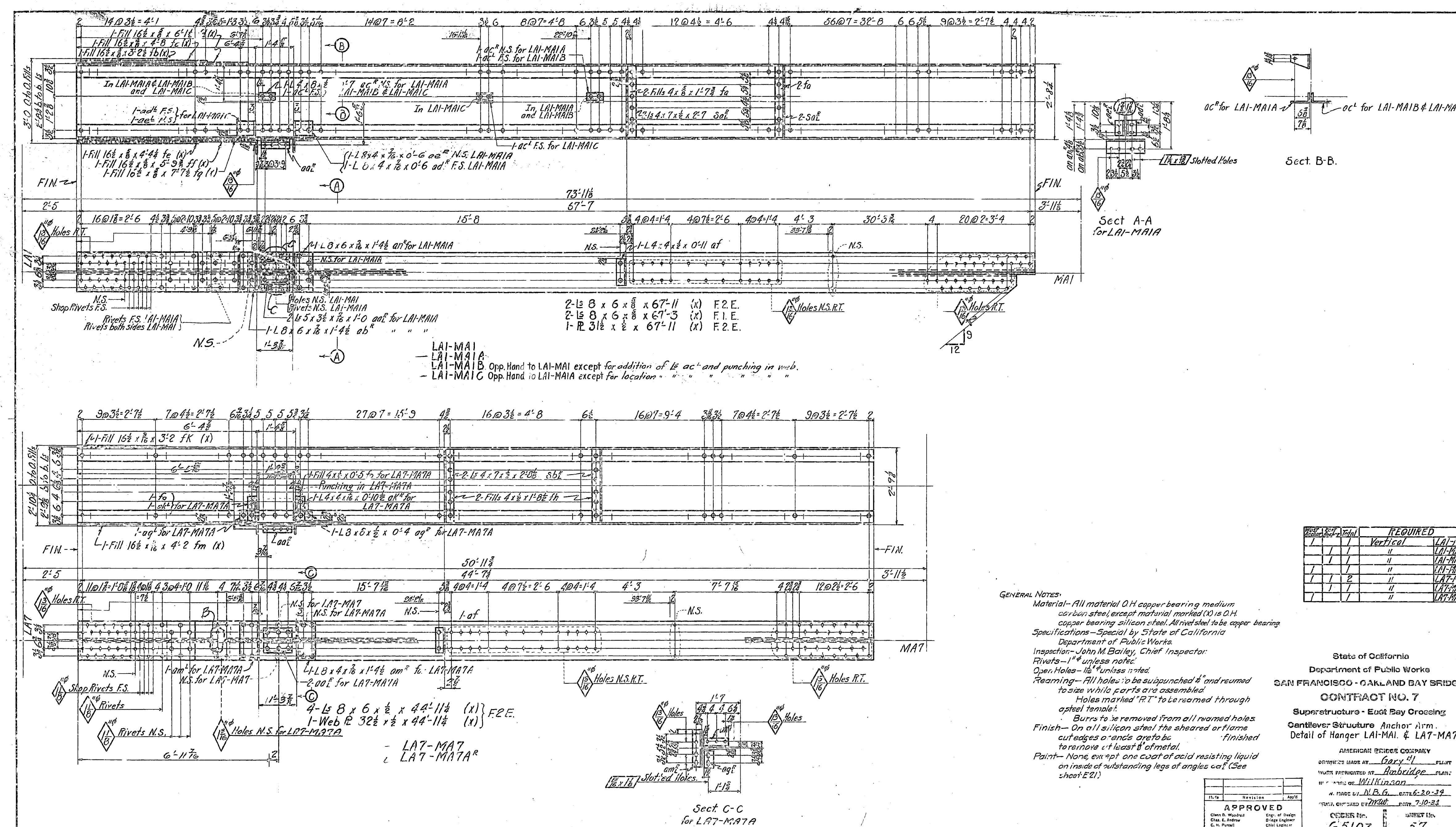
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary PLANT
TRACE TRANSFERRED AT Ambridge PLANT
DET'R BY Williamson
CK'D BY J.H. DATE 6-19-34
SHOP CHECKED BY W.S.P. DATE 7-9-34

CONTR. NO. G5103
SHEET NO. 56

Mat'l. and pages 6, 10, 61, 67

MMS 8-27-34 [B-C]

30-1



West Anchor	East Anchor	Total	REQUIRED	
1		1	Vertical	LAI-MAI
	1	1	"	LAI-MAIA
	1	1	"	LAI-MAIB
1		1	"	LAI-MAIC
1	1	2	"	LA7-MA7
	1	1	"	LA7-MA7A[R]
1		1	"	LA7-MA7A[L]

GENERAL NOTES:

Material– All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel. All rivet steel to be copper bearing.

Specifications– Special by State of California Department of Public Works.

Inspection– John M. Bailey, Chief Inspector.

Rivets– 1"ϕ unless noted.

Open Holes– 1 1/16"ϕ unless noted.

Reaming– All holes to be subpunched ¼" and reamed to size while parts are assembled.
Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.

Finish– On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal.

Paint– None, except one coat of acid resisting liquid on inside of outstanding legs of angles ca. (See sheet E21.)

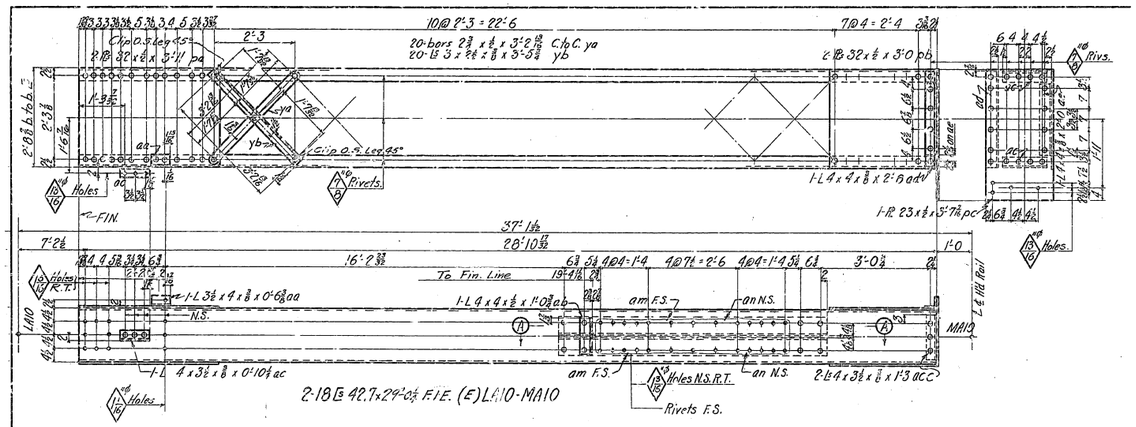
Made	Revision	App'd

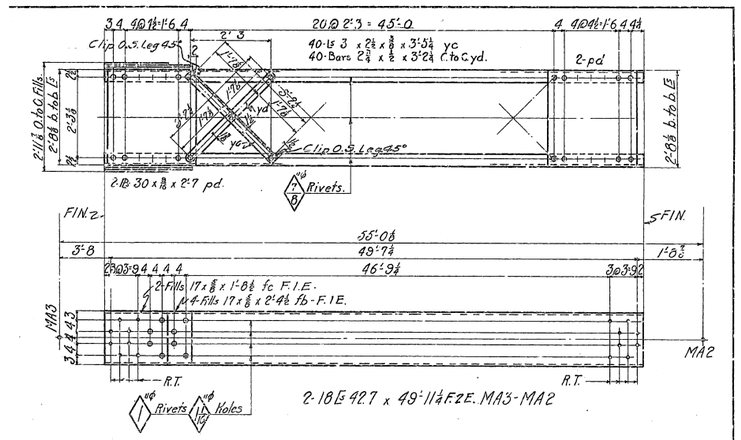
APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 8-7-34

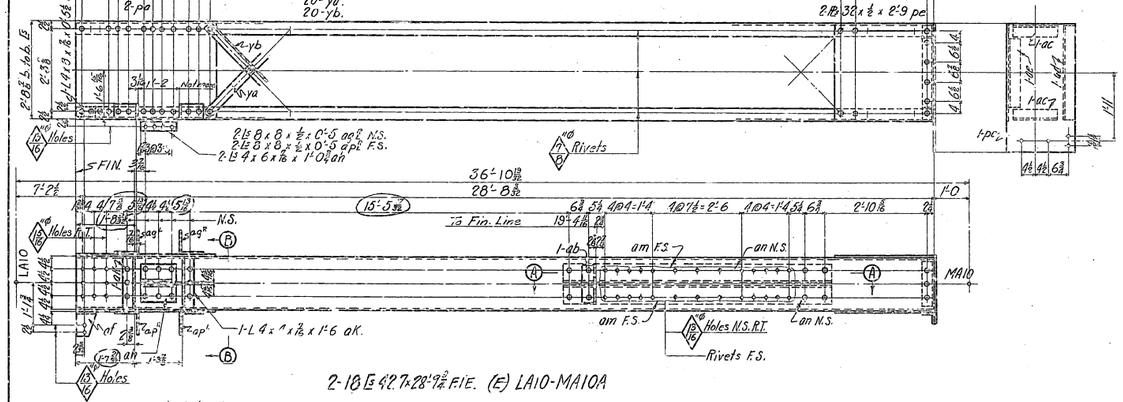
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm.
Detail of Hanger LAI-MAI. & LA7-MA7

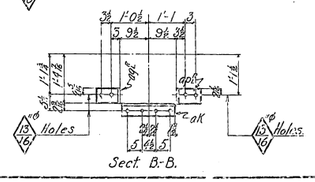
AMERICAN BRIDGE COMPANY
Drawings made at Gary #1 plant
Work fabricated at Ambridge plant
In charge of Wilkinson
Dr. made by N.B.G. date 6-20-34
Draw. checked by MW. date 7-10-34
Order No. G5103 Sheet No. 57

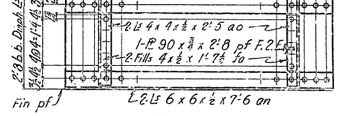
M. t. Ord. Pc's 3&4 MB
C-(Rev. 10-17-34)
(Rev. 8-27-34)
(Rev 9-18-34)-B
MMS 8-26-34
[B&C]











GENERAL NOTES.

Material—All material O.H. copper bearing medium carbon steel

Specifications—Special by State of California Department of Public Works.

Inspection—John M. Bailey, Chief Inspector.

Rivets—18⁸ unless noted. (Copper bearing)

Open Holes—As noted.

Reaming—All holes to be subpunched 3/16" and reamed to size while parts are assembled, except lacing, stay plates and diaphragm webs which may be punched full size. Holes marked "R.T." to be reamed through a steel templet. Burrs to be removed from all reamed holes.

Finish—On all material marked (E) the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal.

Paint—None, except one coat acid resisting liquid between O.S. laps of ℄ ah (See Sheet "E21")

West Anchor	East Anchor	Total	REQUIRED	
1		1	Post	LA10-MA10
			"	LA10-MA10A
2	2	4	Nominals	MA3-MA2

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm.
Detail of Posts LA10-MA10 and LA10-MA10A.
Nominal Member MA3-MA2

AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DRWG. MADE BY N.B.G. DATE 6-20-34
DRWG. CHECKED BY [illegible] DATE [illegible]

Mark	Notation	Appd.
APPROVED		

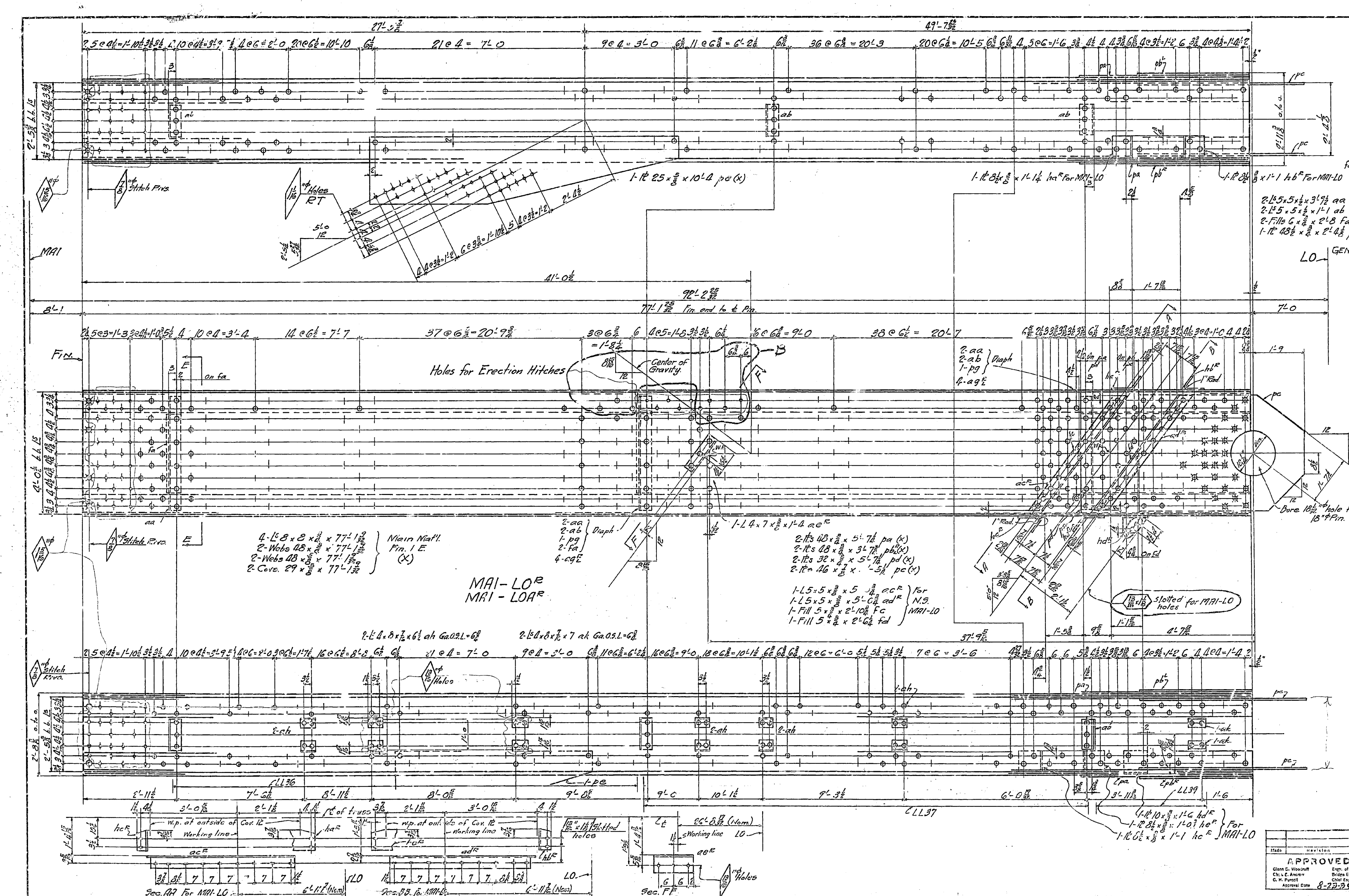
Chief Engr. of Public Works
Chas. E. Andrew
Bridge Engineer
C. H. Purcell
Approval Date 7-26-34

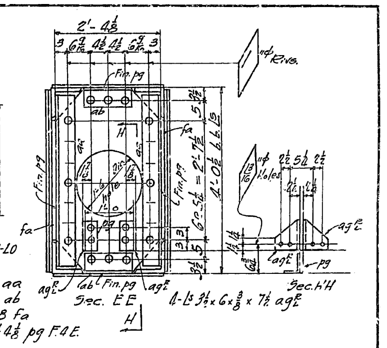
JOB No. G5103
SHEET No. 58

Rev. 9-18-34 MA3 - 8-24-34

[C]

30-1





GENERAL NOTES:

Material- All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel.

Specifications- Special by State of California Department of Public Works.

Inspection- John M. Bailey, Chief Inspector.

Rivets- 1⅛"φ unless noted.

Open Holes- 1 3/16"φ unless noted.

Reaming- All holes in carbon steel and holes in silicon steel ¾" thick or less to be subpunched ¾" and reamed to size while parts are assembled, except diaphragm webs which may be punched full size. Holes in silicon steel over ¾" thick to be subdrilled ⅛" and reamed to size while parts are assembled.

Holes marked "RT" to be reamed through a steel templet.

Splices in web members to be reamed assembled and pieces match marked.

Burrs to be removed from all reamed holes.

All match marking to be done with ¾" steel stencils and white paint.

Finish- On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal.

Edges of manholes to be smooth.

Paint- None, except pin holes to have one coat White Lead & Tallow; and acid resisting liquid on milled end.

Assemble and ship with each MAI-LO^R, MAI-LO^L, MAI-LOA^R, MAI-LOA^L; 1-LL36, 1-LL37, 1-LL39 detailed on Sh.# 66.

West Anchor	East Anchor	Total	REQUIRED		
	1	1	Diagonal	MAI-LO^R	33T
1		1	do	MAI-LO^L	33T
1		1	do	MAI-LOA^R	33T
	1	1	do	MAI-LOA^L	33T

Made	Revision	App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 8-22-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure ANCHOR ARM
DIAGONAL MAI-LO

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT GARY #1 PLANT
WORK FABRICATED AT AMBRIDGE PLANT
WILKINSON
MADE BY C.A.K. DATE 6-26-34
DRAW. CHECKED BY M.A.W. DATE 7-3-34
ORDER No. G5103
SHEET No. 59

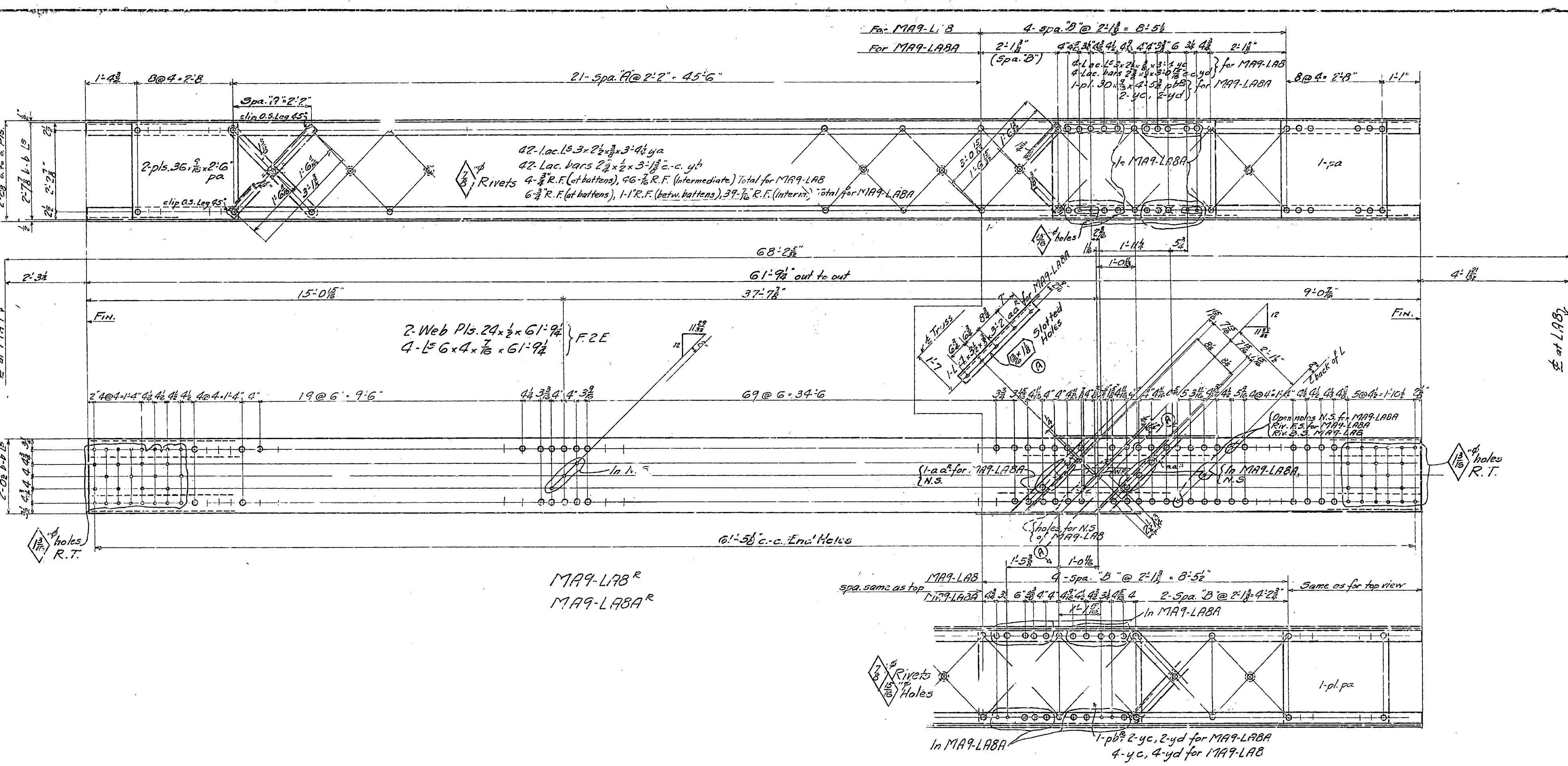
MMS 8-16-34

[B&C]

(Rev 9-18-34)

(Rev. B 11-26-34) - B

30-1



West Anchor	East Anchor	Total	REQUIRED		
1		1	DIAGONAL	MA9-LAB R	6T
	1	1	"	MA9-LAB L	6T
	1	1	"	MA9-LABA R	6T
1		1	"	MA9-LABA L	6T

GENERAL NOTES:

Material- All material O.H. copper bearing medium carbon steel.
Specifications- Special by State of California Department of Public Works.
Inspection- John M. Bailey, Chief Inspector.
Rivets - 1"ϕ unless Noted (See note)
Open Holes - 1 1/16"ϕ unless noted.
Reaming- Holes to be subpunched 1/4" and reamed to size while parts are assembled, except lacing and stay plates, which may be punched full size.
Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Paint- None.

Note- All rivet steel to be copper bearing.

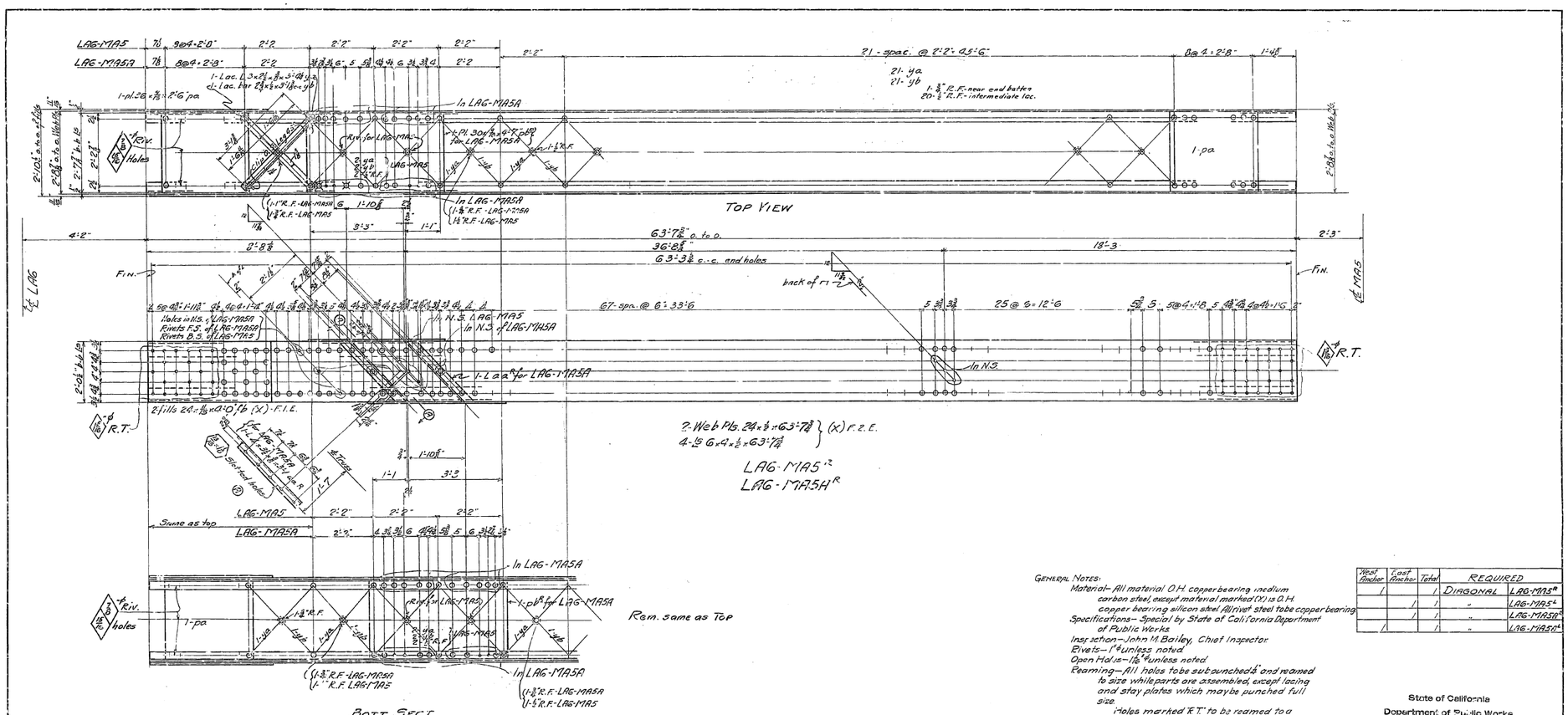
Made	Revision	App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 7-25-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
DIAGONAL MA9-LA8

AMERICAN BRIDGE COMPANY
Drawings made at Gary #1 Plant
Work fabricated at Ambridge Plant
In Charge Wilkinson
Drawn by J.H. Date 6-22-34
Draw. checked by [illegible] Date 7/2-34
Order No. G5103 Sheet No. 60

MM5 8-22-34 [C]



General Notes:

Material – All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel. All rivet steel to be copper bearing.
Specifications – Special by State of California Department of Public Works.
Inspection – John M. Bailey, Chief Inspector.
Rivets – 1" ϕ unless noted.
Open Holes – 13/16" ϕ unless noted.
Reaming – All holes to be subpunched 5/16" and reamed to size while parts are assembled, except lacing and stay plates which may be punched full size.
Holes marked "R.T." to be reamed to a steel templet.
Burrs to be removed from all reamed holes.
Finish – On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least 1/8" of metal.
Paint – None

Weld Anchor	Cast Anchor	Total	REQUIRED		
/		/	DIAGONAL	LAG-MAS[R]	7T
	/	/	"	LAG-MAS[L]	7T
/		/	"	LAG-MASA[R]	7T
	/	/	"	LAG-MASA[L]	7T

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm.
DIAGONALS LAG-MAS
AMERICAN BRIDGE COMPANY
DRAWINGS ENGR. AT Gary, Ind. PLANT
WORK FABRICATED BY Ambridge PLANT
IN CH. OF Wilkinson
DRWN. CHKD BY J.H. DATE 6-27-34
DRWN. CHKD BY E.H. DATE 7-6-34

Mark	Revision	Appd.

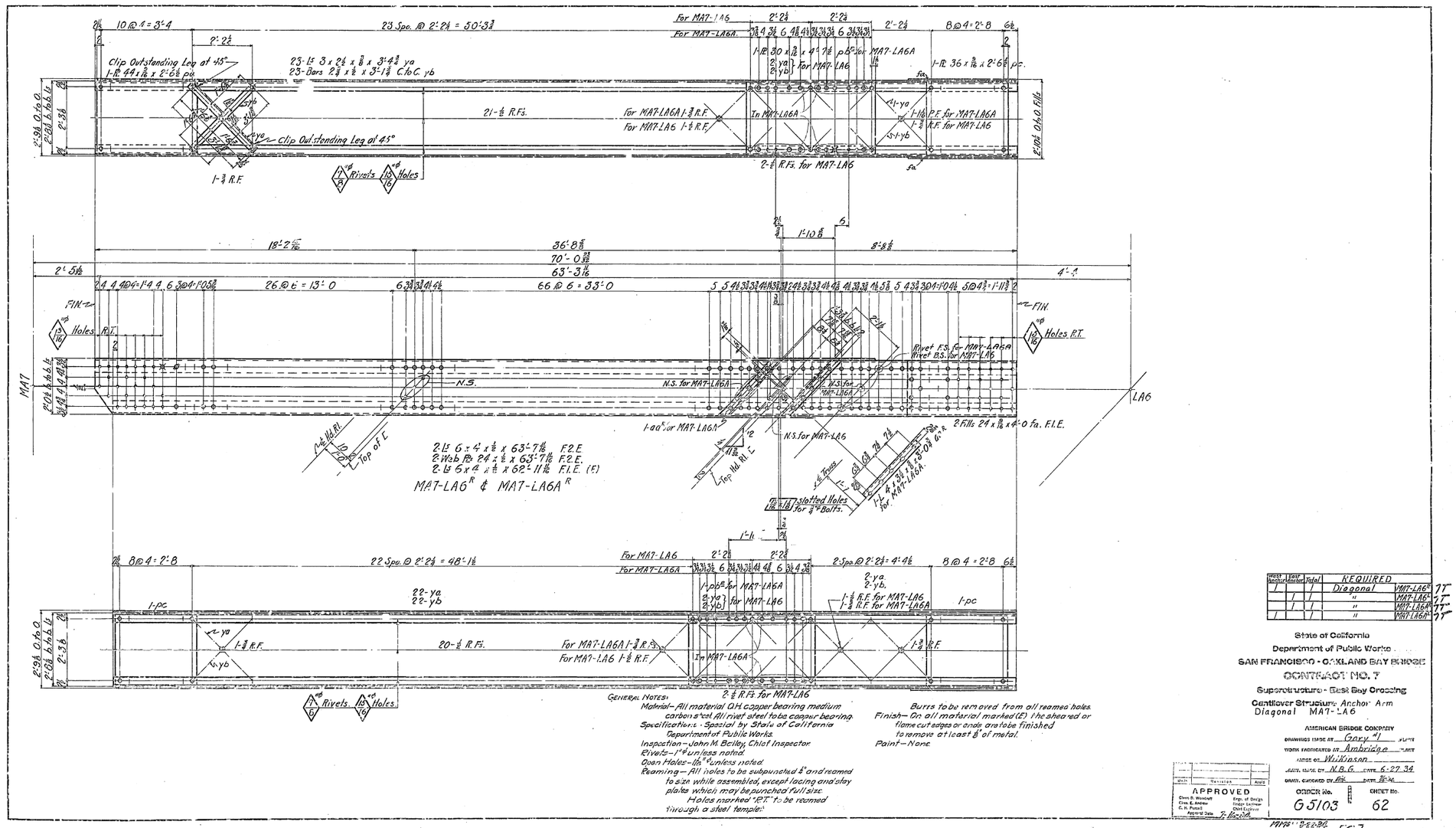
APPROVED
Chas. D. Wadsell, Chas. E. Andrew, C. H. Purcell, Assistant Engineers
Engr. of Design, Bridge Engineer
7-16-34

CONTR. No. G5103
DRWG. No. G1

Revised 6-25-35

MAS-7-6-34 [B#C]

30-1



Weight	Lever Section	Center	Total	REQUIRED	
			1	Diagonal	MAT-LAG^R
			1	"	MAT-LAGA^R
			1	"	MAT-LAG^R
			1	"	MAT-LAGA^R

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
Diagonal MAT-LA6

AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Ambridge PLANT
MADE BY W. Winson
DESIGN, MADE BY N.B.G. DATE 6-27-34
DRAWN, CHECKED BY [illegible] DATE [illegible]

Mark	Revision	Appd

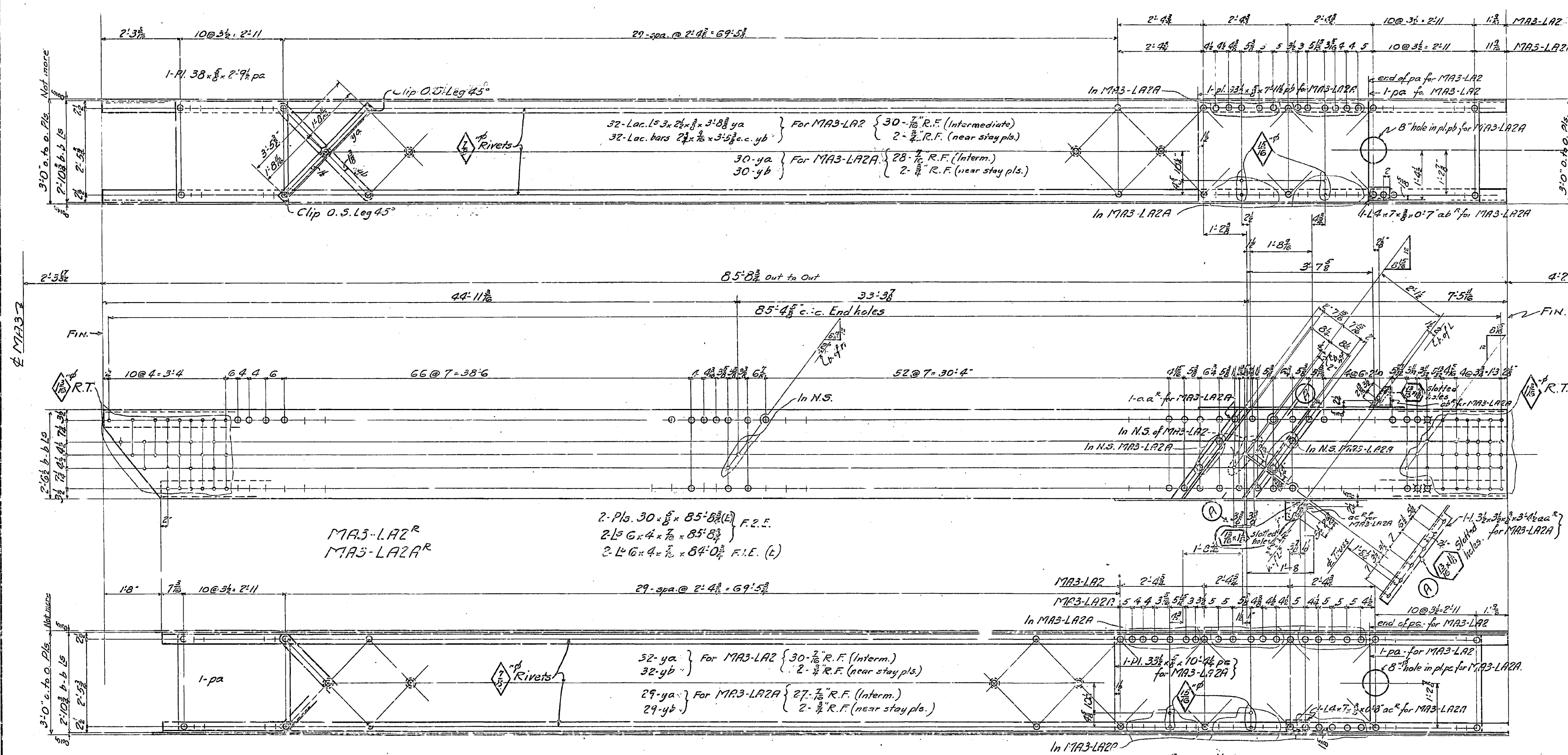
APPROVED
Chas. B. Wendell, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 7-11-34

ORDER No. G5103
SHEET No. 62

GENERAL NOTES:
Material - All material OH copper bearing medium carbon steel. All rivet steel to be copper bearing.
Specifications - Special by State of California Department of Public Works.
Inspection - John M. Bailey, Chief Inspector.
Rivets - 1" ø unless noted.
Open Holes - 1⅛" ø unless noted.
Reaming - All holes to be subpunched ¼" and reamed to size while assembled, except lacing and stay plates which may be punched full size. Holes marked "F.T." to be reamed through a steel template.

Burrs to be removed from all reamed holes.
Finish - On all material marked (F) the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal.
Paint - None.

[C]



West Anchor	East Anchor	Total	REQUIRED		
1		1	DIAGONAL	MA3-LAZ^R	10T
	1	1	"	MA3-LAZ^L	10T
	1	1	"	MA3-LAZA^R	10T
1		1	"	MA3-LAZA^L	10T

GENERAL NOTES:

Material–All material O.H. copper bearing medium carbon steel.
Specifications–Special by State of California Department of Public Works.
Inspection– John M. Bailey, Chief Inspector.
Rivets– 1"ϕ unless noted. (Copper bearing)
Open Holes–1 1/16"ϕ unless noted.
Reaming– All holes to be subpunched 1/4" and reamed to size while parts are assembled, except lacing, and stay plates which may be punched full size.
Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes
Finish– On all material marked (E) the sheared or flame cut edges or ends are to be finished to remove at least 1/8" of metal.
Edges of hand holes to be smooth.
Paint– None.

Made	Revision	App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. H. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 7-26-34

Mill ord. on pg. 9

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing,
Cantilever Structure Anchor Arm
DIAGONALS MA3-LAZ
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE Wilkinson
DRAW. MADE BY J.H. DATE 7-5-34
DRAW. CHECKED BY [illegible] DATE [illegible]
ORDER No. G510.3 SHEET No. 63

Rev 9-18-34

MMS 8-24-34

[C]

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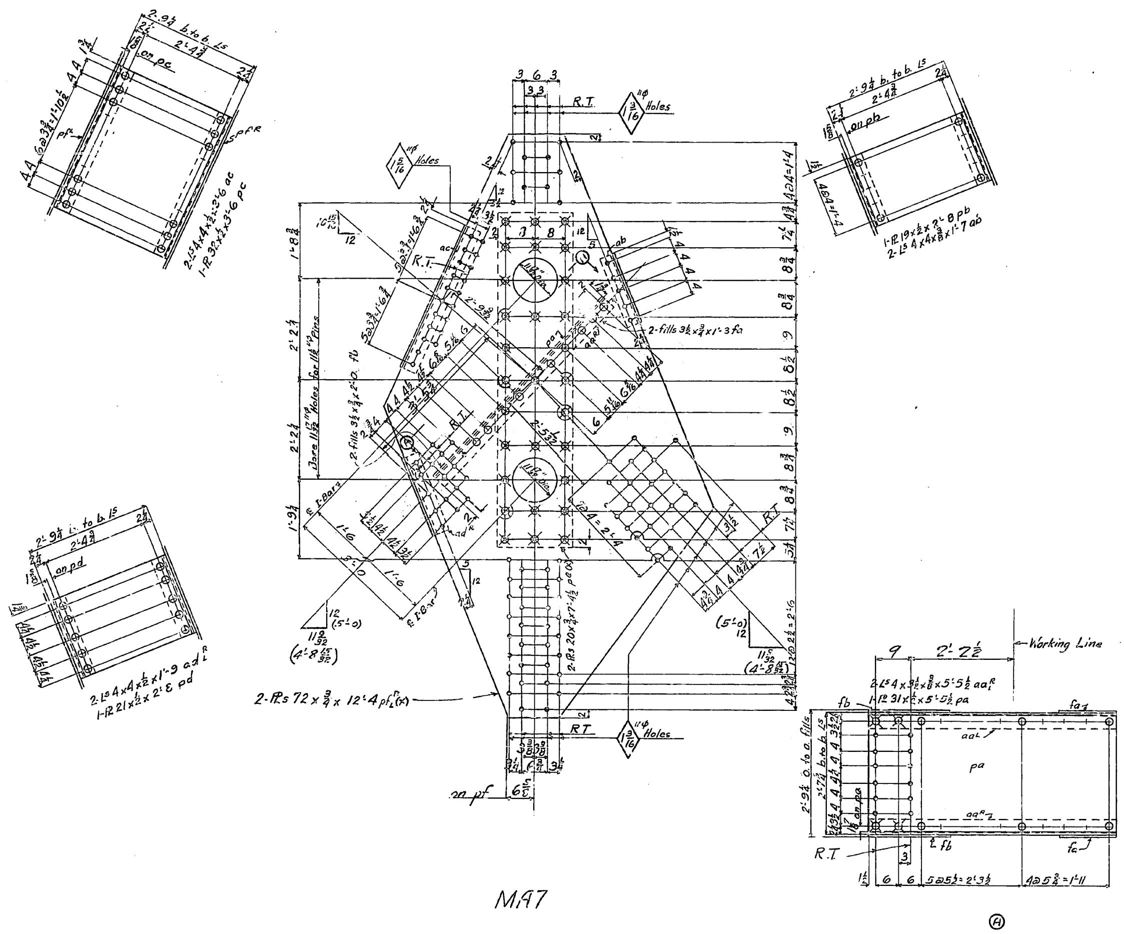

West Anchor Arm	East Anchor Arm	Total	REQUIRED	
2	2	4	Plates	MA7

GENERAL NOTES:

Material—All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel.

Specifications—Special by State of California Department of Public Works.

Inspection—John M. Bailey, Chief Inspector.

Rivets—7/8"ϕ (See note)

Open Holes—15/16"ϕ unless noted.

Reaming—All holes to be subpunched 1/4" and reamed to size while parts are assembled, except diaphragm webs which may be punched full size.
Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.

Finish—On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least 1/8" of metal.

Paint—None, except pin holes to have one coat of white lead and tallow.

Note—All rivet steel to be copper bearing.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
Gussets MA7
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DRAWN BY RPB DATE 7-11-34
CHECKED BY Eck. DATE 7/17/34
ORDER No. G5103
SHEET No. 64

APPROVED 7-27-34

Add'l. ord. Sh# 53&60 RPB MMS 8-22-34 [B-C]

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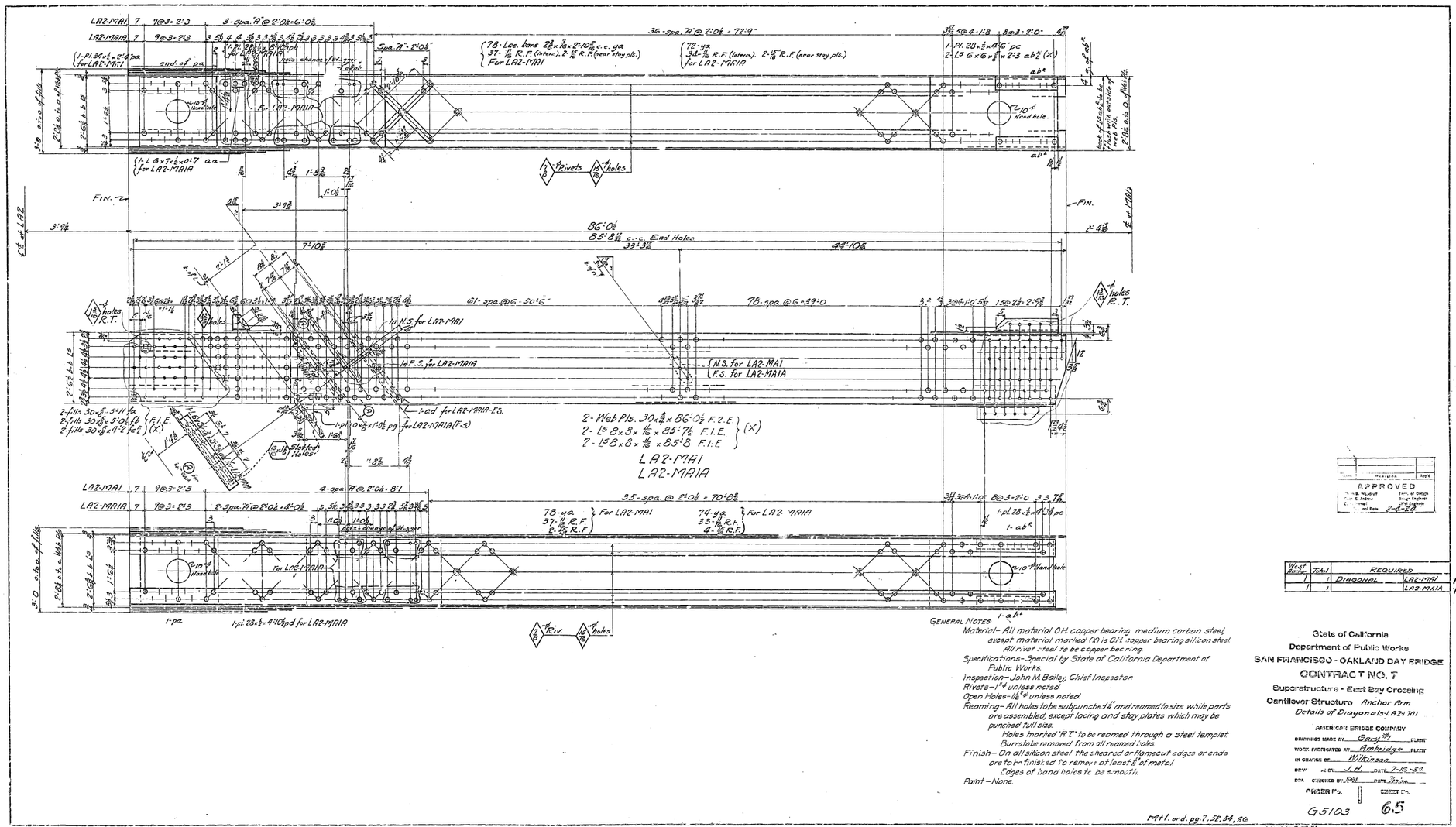


Mark	Date	Revision	Init.

APPROVED
Chief of Design
Bridge Engineer
Bridge Engineer
Date 8-2-36

West Anchr.	Total	REQUIRED		
1	1	DIAGONAL	LA2-MAI	16T
1	1		LA2-MAIA	16T

GENERAL NOTES:
Material – All material O.H. copper bearing medium carbon steel except material marked (X) is O.H. copper bearing silicon steel All rivet steel to be copper bearing.
Specifications – Special by State of California Department of Public Works.
Inspection – John M. Bailey, Chief Inspector.
Rivets – 1st q unless noted.
Open Holes – 1⅛ ø unless noted.
Reaming – All holes to be subpunched ¼" and reamed to size while parts are assembled, except facing and stay plates which may be punched full size.
Holes marked "R.T." to be reamed through a steel templet. Burr to be removed from all reamed holes.
Finish – On all silicon steel the sheared or flamecut edges or ends are to be finished to remove at least ⅛" of metal.
Edges of hand holes to be smooth.
Paint – None.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
Details of Diagonals LA2-MAI

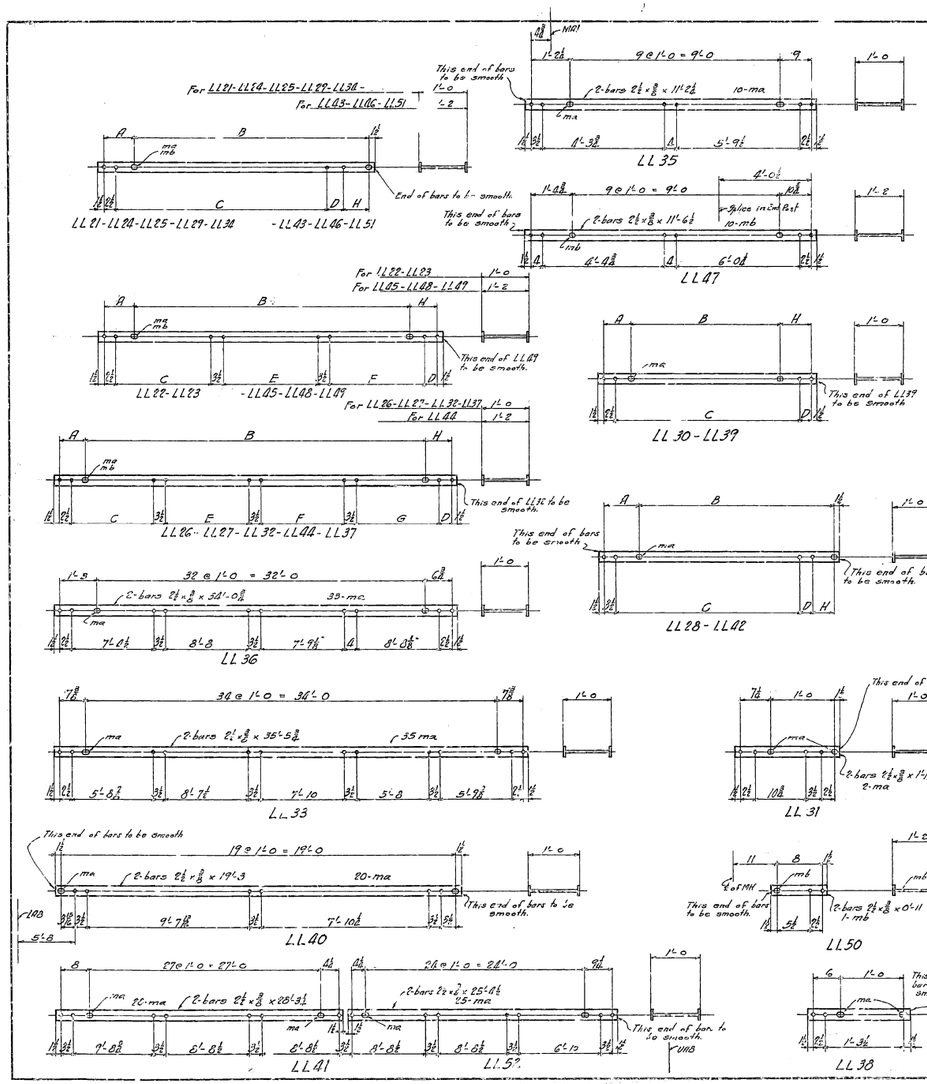
AMERICAN BRIDGE COMPANY
DRAWINGS MADE BY Gary PLANT
WORK FABRICATED BY Ambridge PLANT
IN CHARGE OF Wilkinson
CHK'D BY J.H. DATE 7-19-36
CHK'D BY Pgl DATE 7-29-36
ORDER No. G-5103 SHEET No. 6.5

Mtl. ord. pg. 7, 32, 54, 86

MMS 8-28-36

[B&C]

30-1



Assembly and shipping notes

Assemble and ship with each URE-MA5R & UNE-MA5L detailed on Sh.# 82A-82B :- 1-LL21, 1-LL22, 1-LL23 1-LL24, 1-LL25

Assemble and ship with each MA5-LOA1R & MA5-LOA1L, MA5-LOA1C & MA5-LOAAL detailed on Sh.# 80 :- 1-LL26, 1-LL27, 1-LL28, 1-LL38

Assemble and ship with each URE-MA1AR & UAE-, MA1AL detailed on Sh.# 88 :- 1-LL29, 1-LL30

Assemble and ship with each URE-MA1R & URE-MA1L detailed on Sh.# 85 :- 1-LL31, 1-LL32, 1-LL33, 1-LL34, 1-LL35.

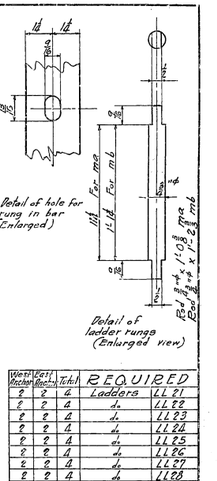
Assemble and ship with each MA1-LOR & MA1-LOL, MA1-LOAR & MA1-LOAL detailed on Sh.# 89 :- 1-LL36, 1-LL37, 1-LL39

Assemble and ship with each LA8-UA8R & LA8E-UA8L. LA8-UA6AR & LA8-UA8AL detailed on Sh.# 90 1-LL40, 1-LL41, 1-LL42, 1-LL52

Assemble and ship with each LA10-MA5R, LA10-MA9L, LA10-MA9AR & LA10-MA9AL detailed on Sh.# 91 1-LL43, 1-LL44, 1-LL45, 1-LL46 1-LL47.

Assemble and ship with each MA9-UA8R & MA9-UA8L detailed on Sh.# 92 :- 1-LL48, 1-LL49 1-LL50 , 1-LL51

Mark	A	B	C	D	E	F	G	H	Material Rungs	Material Bars
LL21	7/8	5@1'-0=5'-0	4'-7⅜	4					5	6-mc
LL24	1'-2⅜	4@1'-0=4'-0	4'-5⅞	4					3	5-ma
LL25	1'-6⅜	9@1'-0=9'-0	11'-7⅜	4					3	10-ma
LL29	9	4@1'-0=4'-0	4'-0	3½					3	5-ma
LL34	1'-0	3@1'-0=3'-0	3'-3½	3½					2½	4-ma
LL43	1'-2⅜	3@1'-0=3'-0	3'-5⅞	3½					3	4-mb
LL46	3⅛	3@1'-0=3'-0	2'-11	4					2½	4-mb
LL51	7/8	7@1'-0=7'-0	6'-11⅜	4					3	8-mb
LL22	8⅜	21@1'-0=21'-0	8'-11⅜	2½	8'-0⅜	7'-6⅜			5⅜	27-mb
LL23	6⅜	26@1'-0=26'-0	8'-8	2½	8'-0⅜	9'-0⅜			10⅜	27-ma
LL27	5⅞	33@1'-0=33'-0	12'-10⅜	2½	9'-10	8'-8⅜	3'-10⅜		7⅜	34-ma
LL45	9⅜	28@1'-0=28'-0	11'-11⅜	2½	8'-8⅜	10'-3⅜			14⅛	32-mb
LL48	11	22@1'-0=22'-0	7'-0⅜	2½	8'-8⅜	7'-8⅜			6⅜	23-mb
LL49	1'-0	20@1'-0=20'-0	7'-1⅜	4	8'-8⅜	7'-9			8⅜	21-mb
LL26	7⅞	19@1'-0=19'-0	3'-9	2½	8'-8⅜	8'-8⅜	3'-11⅜		9⅜	20-ma
LL27	9⅛	18@1'-0=18'-0	8'-10⅜	2½	8'-8⅜	8'-8⅜	3'-7⅜		7	20-ma
LL32	7⅛	31@1'-0=31'-0	12'-10⅜	3½	8'-8⅜	7'-7	7'-7⅜		6⅜	32-ma
LL44	11⅜	28@1'-0=28'-0	8'-1⅜	2½	8'-8⅜	8'-8⅜	4'-10⅜		9	28-mb
LL30	10⅜	39@1'-0=39'-0	16'-3⅜	2½					10⅜	40-ma
LL39	7⅜	20@1'-0=20'-0	2'-10⅜	4					9⅜	3-ma
LL28	11⅛	40@1'-0=40'-0	3'-11⅜	3½					1⅞	5-ma
LL42	7⅛	40@1'-0=40'-0	3'-7⅛	4½					4	5-ma



Weld Factor Mach.	Weld Factor Hand	Tchk	REQUIRED	
2	2	4	Ladders	LL21
2	2	4	do	LL22
2	2	4	do	LL23
2	2	4	do	LL24
2	2	4	do	LL25
2	2	4	do	LL26
2	2	4	do	LL27
2	2	4	do	LL28
2	2	4	do	LL29
2	2	4	do	LL30
2	2	4	do	LL31
2	2	4	do	LL32
2	2	4	do	LL33
2	2	4	do	LL34
2	2	4	do	LL35
2	2	4	do	LL36
2	2	4	do	LL37
2	2	4	do	LL38
2	2	4	do	LL39
2	2	4	do	LL40
2	2	4	do	LL41
2	2	4	do	LL42
2	2	4	do	LL43
2	2	4	do	LL44
2	2	4	do	LL45
2	2	4	do	LL46
2	2	4	do	LL47
2	2	4	do	LL48
2	2	4	do	LL49
2	2	4	do	LL50
2	2	4	do	LL51
2	2	4	do	LL52

GENERAL NOTES
Material: All material O.H. copper bearing medium carbon steel.
Specifications: Special by State of California Department of Public Works
Inspection: John M. Bailey, chief inspector.
Rivets: None
Oven holes: 13/16" ø
Paint: None

Mark	Revisions	Appd
APPROVED		
Chas. E. Wendell, Engr. of Design		
Chas. E. Andrew, Bridge Engineer		
C. H. Purcell, Assistant Engineer		
Approval Date 2-1-34		

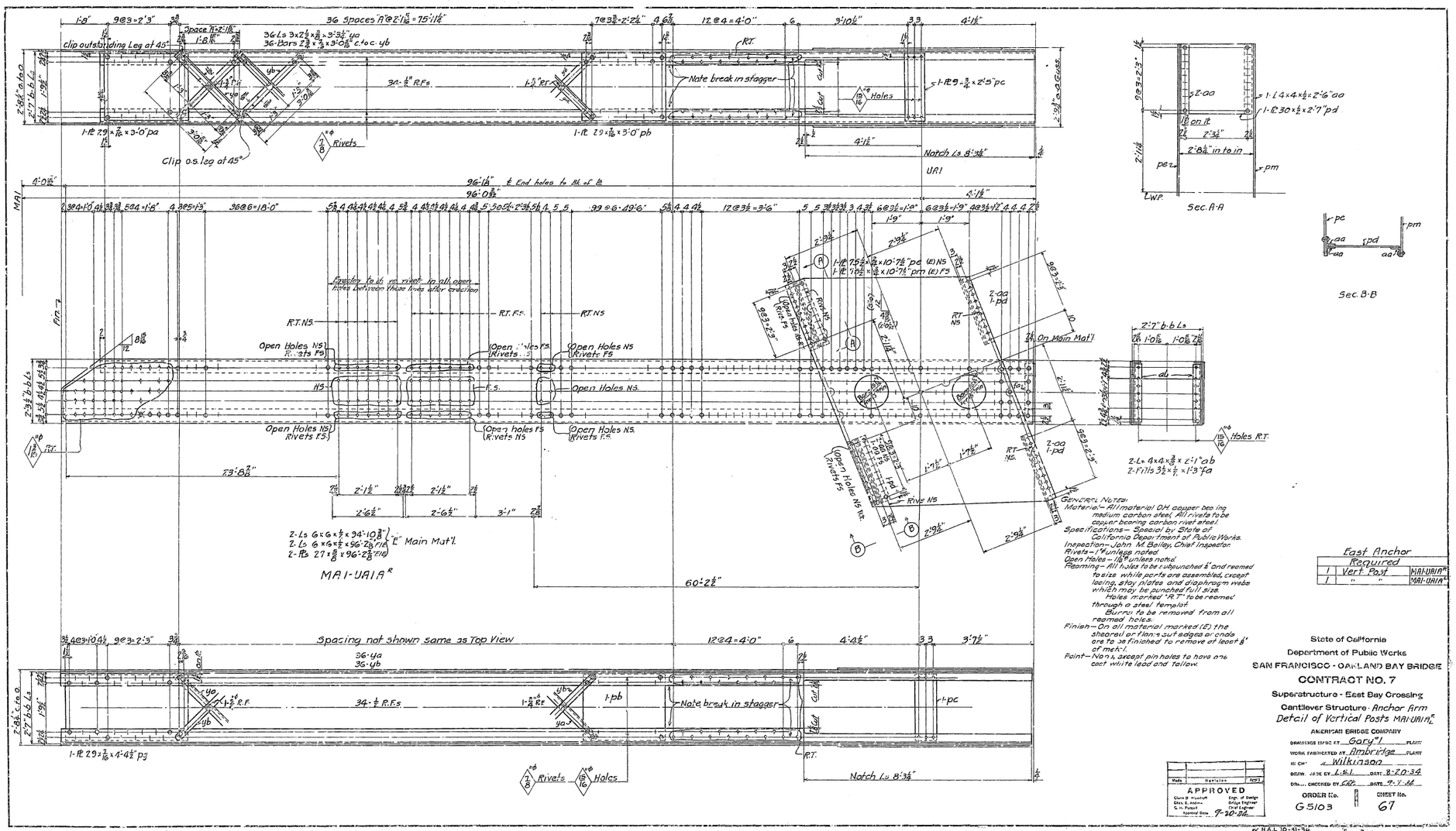
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure ANCHOR ARM
Int. Ladders for LA10-MA9, LA10-UA8, LA8-UA8, UA6-MA5, MA5-LOA1, UA1-MA1, MA1-LO

AMERICAN BRIDGE COMPANY

DRAWING MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Ambridge, Pa. PLANT
BY ORDER OF Williams
DRAWN BY Sch. TRACED BY Sch. DATE 8-8-34
CHECKED BY FHC DATE 10-30-34

ORDER No. G 5103 | DETAIL No. 66

MM3** 8-28-34



GENERAL NOTES:
Material — All material OH copper bearing medium carbon steel. All rivets to be copper bearing carbon rivet steel.
Specifications — Special by State of California Department of Public Works.
Inspection — John M. Bailey, Chief Inspector.
Rivets — 1" unless noted.
Open Holes — 1 1/8" unless noted.
Reaming — All holes to be subpunched 1/4" and reamed to size while parts are assembled, except lacing, stay plates and diaphragm webs which may be punched full size. Holes marked "R.T." to be reamed through a steel templet. Burrs to be removed from all reamed holes.
Finish — On all material marked (E) the sheared or flame cut edges or ends are to be finished to remove at least 1/4" of metal.
Paint — Non-slip, except pin holes to have one coat white lead and tallow.

East Anchor Required

1	Vert. Post	MA1-UA1A
1	" "	MA1-UA1A

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure - Anchor Arm
Detail of Vertical Posts MA1-UA1A

AMERICAN BRIDGE COMPANY
DRAWINGS DETAILED AT Gary "1" PLANT
WORK FABRICATED AT Ambridge PLANT
H. CH. H. Wilkinson
DESIGN. JOB BY L.S.L. DATE 8-20-34
DR.... CHECKED BY C.H.C. DATE 9-7-34

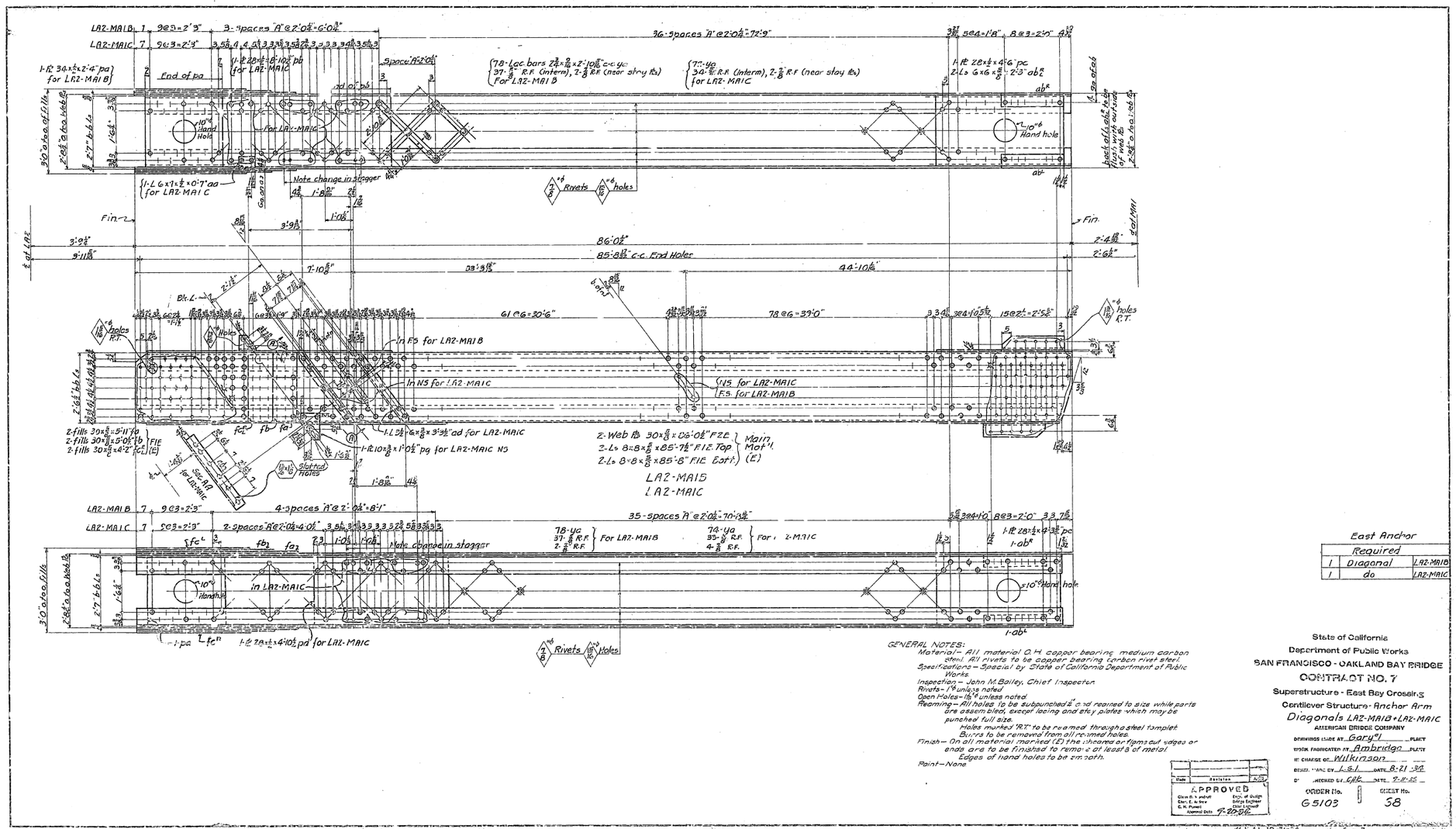
Mark	Notation	Date
	APPROVED	

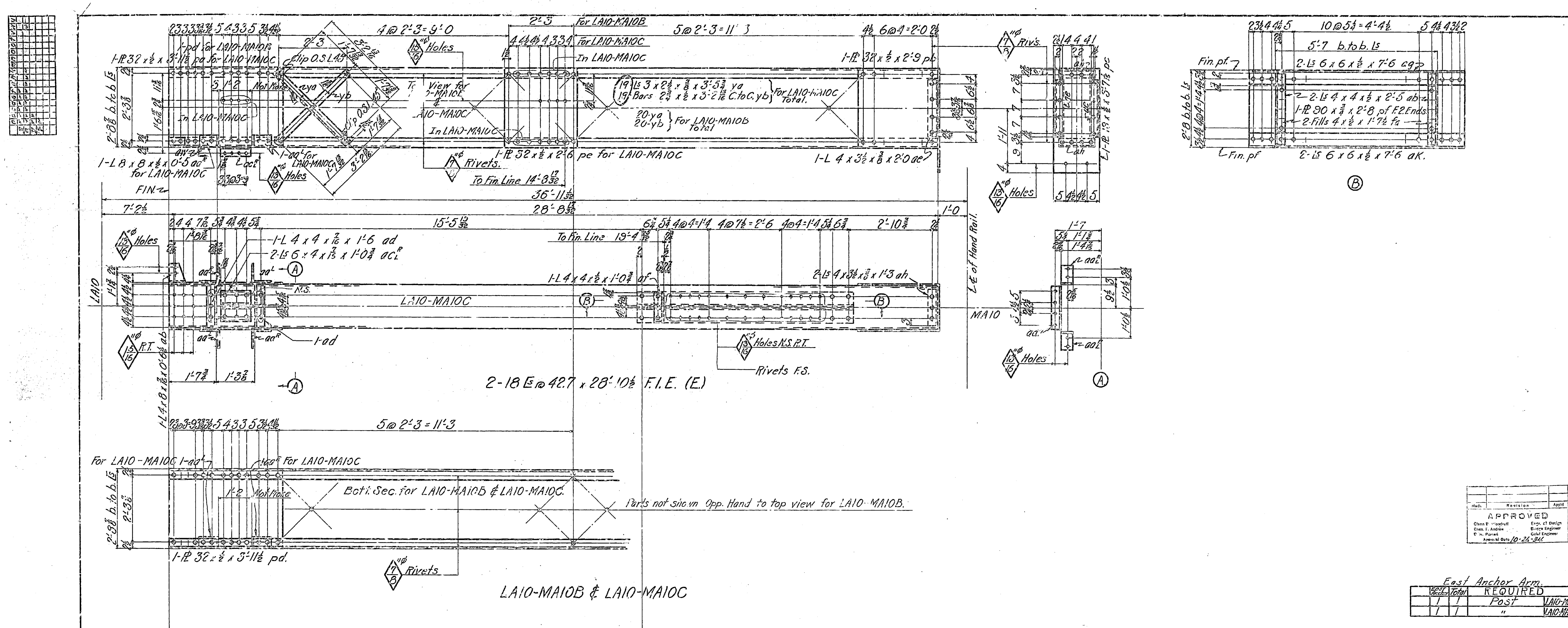
Chief D. Engr. — Engr. of Design — Bridge Engineer
9-20-34

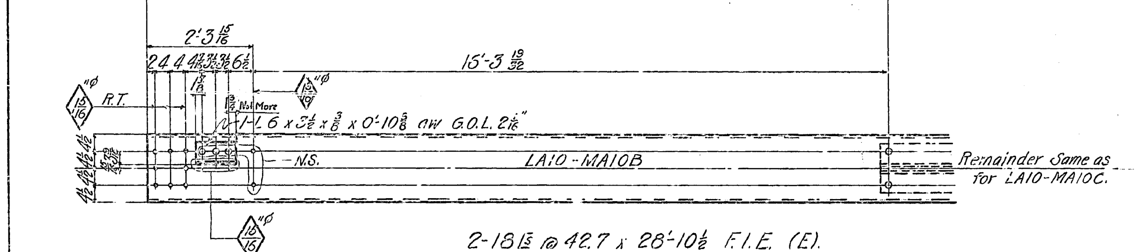
ORDER No. G5103
SHEET No. 67

W. H. A. L. 10-31-34

[C]


LA2-MAIB 1 9@3=2'-9" 3-spaces 'A'@2'-0½"=6'-0½"
LA2-MAIC 7 9@3=2'-9"
36-spaces 'A'@2'-0½"=72'-9"
3@3=2'-9" 5@3=2'-9" 4-spaces 'A'@2'-0½"=8'-1"
1-Fl 30"x½"x2'-4" pa for LA2-MAIB
1-Fl 28"x½"x4'-6" pa for LA2-MAIC
End of pa
Space 'A'=2'-0½"
(78-Loc bars 7⅞"ø x 2'-10⅞" c-c. vc
37-⅞" R.F. (interm), 2-⅞" R.F. (near stay fls) For LA2-MAIB
(77-Ug
34-⅞" R.F. (interm), 2-⅞" R.F (near stay fls) for LA2-MAIC
1-Fl 28"x½"x4'-6" pc
2-Ls 6"x6"x½"x2'-3" ab
10"ø Hand Hole
For LA2-MAIC
Note change in stagger
1-L 6"x1"x½"x0'-7" aa for LA2-MAIC
Rivets
holes
Fin.
3'-0½"
9'-11⅝"
3'-9⅛"
7'-10⅝"
86'-0½"
85'-8½" c-c. End Holes
83'-3⅛"
44'-10⅛"
2'-4⅛"
2'-6½"
Blk. L
61 @ 6=30'-6"
78 @ 6=39'-0"
15 @ 2½"=2'-5½"
holes R.T.
11 FS for LA2-MAIB
14 NS for LA2-MAIC
14 FS for LA2-MAIC
2-fills 30"x⅜"x5'-11" fb
2-fills 30"x⅜"x5'-0½" fb
2-fills 30"x½"x4'-2" fc
FIE (E)
1-L 2½"x6"x⅜"x3'-3½" ad for LA2-MAIC
1-Pl 10"x⅞"x1'-0½" pg for LA2-MAIC NS
Slotted Holes
See A4 for LA2-MAIC
2-Web fb 30"x⅞"x 26'-0½" FZE
2-Ls 8"x8"x⅞"x85'-7½" FIE Top
2-Ls 8"x8"x⅞"x85'-8" FIE Bott.
Main Mat'l (E)
LA2-MAIB
LA2-MAIC
35-spaces 'A'@2'-0½"=70'-1½"
78-Ug 37-⅞" R.F. 2-⅞" R.F. For LA2-MAIB
74-Ug 33-⅞" R.F. 4-⅞" R.F. For LA2-MAIC
1-pa
1-Fl 7"x½"x4'-10½" pd for LA2-MAIC
1-abL
East Anchor
Required
1 Diagonal LA2-MAIB
1 do LA2-MAIC
GENERAL NOTES:
Material— All material O.H. copper bearing medium carbon steel. All rivets to be copper bearing carbon rivet steel.
Specifications— Special by State of California Department of Public Works.
Inspection— John M. Bailey, Chief Inspector.
Rivets— ⅞" unless noted
Open Holes— 15/16" unless noted
Reaming— All holes to be subpunched 2" and reamed to size while parts are assembled, except facing and stay plates which may be punched full size.
Holes marked 'R.T.' to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Finish— On all material marked (E) the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal.
Edges of hand holes to be smooth.
Paint— None
Date Revision Appd
APPROVED
Engr. of Bridges
Bridge Engineer
Chief Engineer
Approval Date 7-20-36
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure- Anchor Arm
Diagonals LA2-MAIB & LA2-MAIC
AMERICAN BRIDGE COMPANY
DRAWINGS ISSUED AT Gary, Ind. PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DRAWN BY L.S.L. DATE 8-21-36
CHECKED BY GRK DATE 9-11-36
ORDER No. G5103
SHEET No. 58
M.A.L. 10-31-36
[C]





	East Anchor	Total	REQUIRED	
	1	1	Post	LA10-MA10B
	1	1	"	LA10-MA10C

East Anchor Arm.

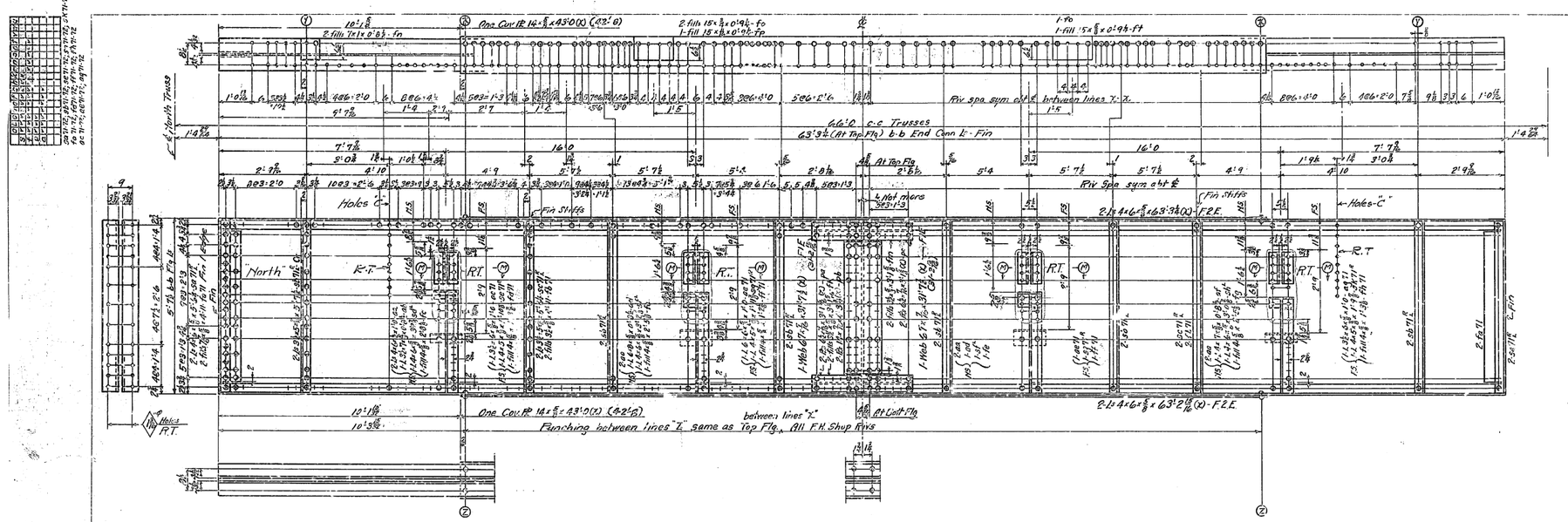
General Notes:
Material– All material O.H. copper bearing medium carbon steel. All rivets are copper bearing carbon rivet steel.
Specifications– Special by State of California Department of Public Works.
Inspection– John M. Bailey, Chief Inspector.
Rivets– ⅞"φ unless noted.
Open Holes– As noted.
Reaming– All holes to be subpunched ⅛" and reamed to size while parts are assembled, except lacing, stay plates and diaphragm webs which may be punched full size.
Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Finish– On all material marked (E) the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal.
Paint– None, except one coat acid resisting liquid between outstanding legs of angles ac (See sheet E21)

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
Details of Posts LA10-MA10B & LA10-MA10C

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DRAWN BY N.B.G. DATE 10-1-34
CHECKED BY LEH DATE 10-8-34
ORDER No. G-5103
SHEET No. 69

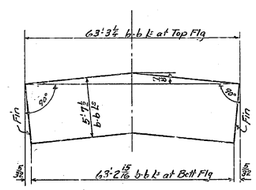
H.A.L. 10-30-34
[C]
Rev 11-12-34

30-1



FB1

(M) Surfaces indicated by heavy lines to be given one coat acid resisting liquid



Camber and Fin Diag.

GENERAL NOTES:
Material – All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel. All rivet steel to be copper bearing.
Specifications – Special by State of California Department of Public Works.
Inspection – John M. Bailey, Chief Inspector
Rivets – ⅞"ø
Open Holes – 15/16"ø unless noted
Reaming – All holes to be subpunched ¼" and reamed to size while parts are assembled.
Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Finish – On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal.
Paint – None except to: one coat of acid resisting liquid as shown in section (M) and on milled ends – B

Erectors Note: Holes "C" to be filled with rivets after use during erection.

Shop Note –
Work sheets 71-72-73-74 together.

Mark	Revision	Date
	APPROVED	
Chas. D. Woodruff	Engr. of Design	
Chas. E. Andrew	Bridge Engineer	
C. H. Purcell	Approval Date 8-8-34	

West Anchor
REQUIRED
1 | Floor Bm. | FB1 | 97

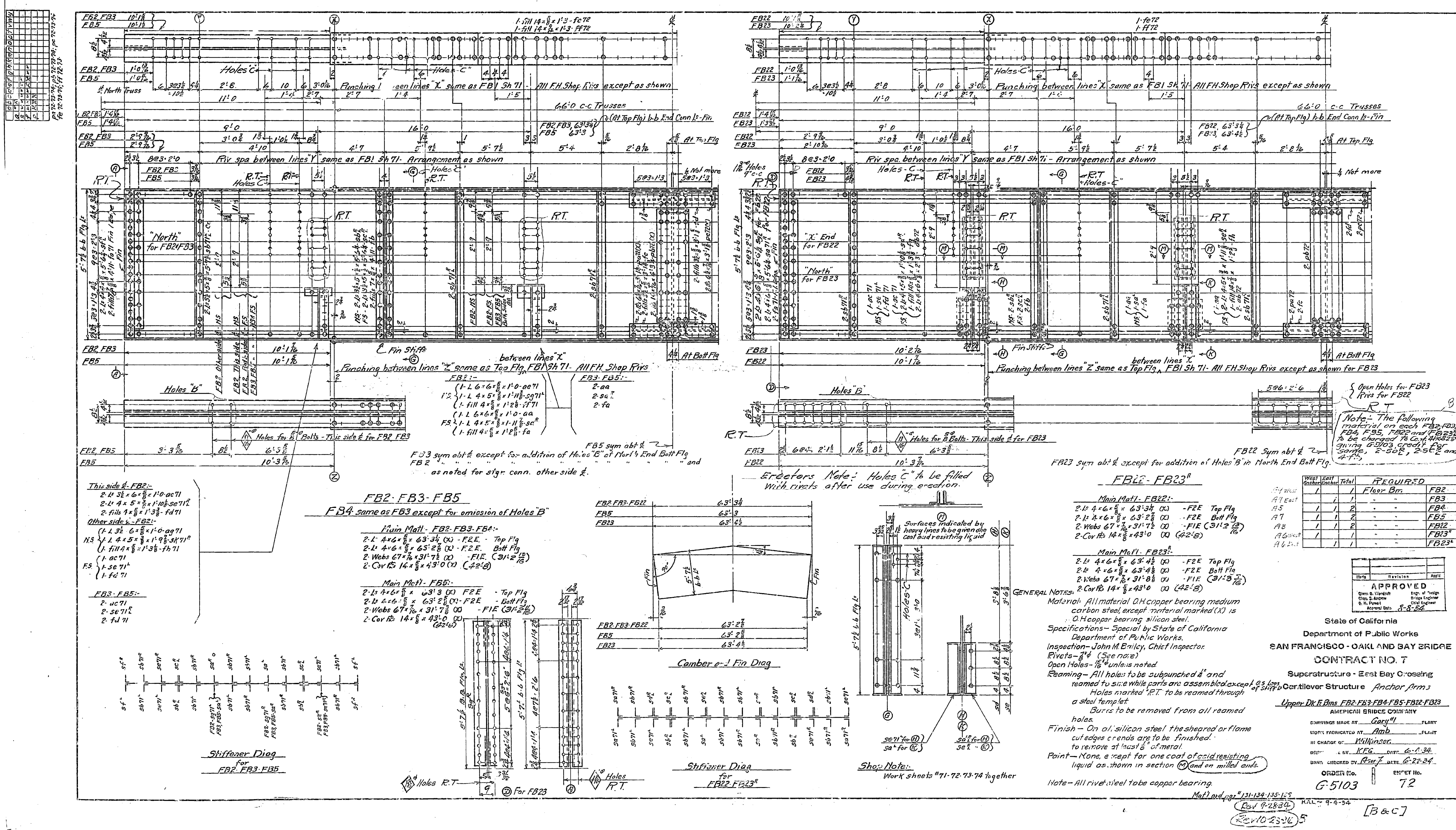
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm.
Upper Dk. Fl. Bm. - FB1
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary "A" PLANT
WORK LOCATED AT Amb. PLANT
IN CHARGE OF Wilkinson
DRAWN BY MFG DATE 5-28-34
DRAWING CHECKED BY Rez DATE 6-8-34
ORDER No. G-5103 SHEET No. 71

Mat'l ord pgs 131, 135, 135, 139
Mat'l 9-4-34

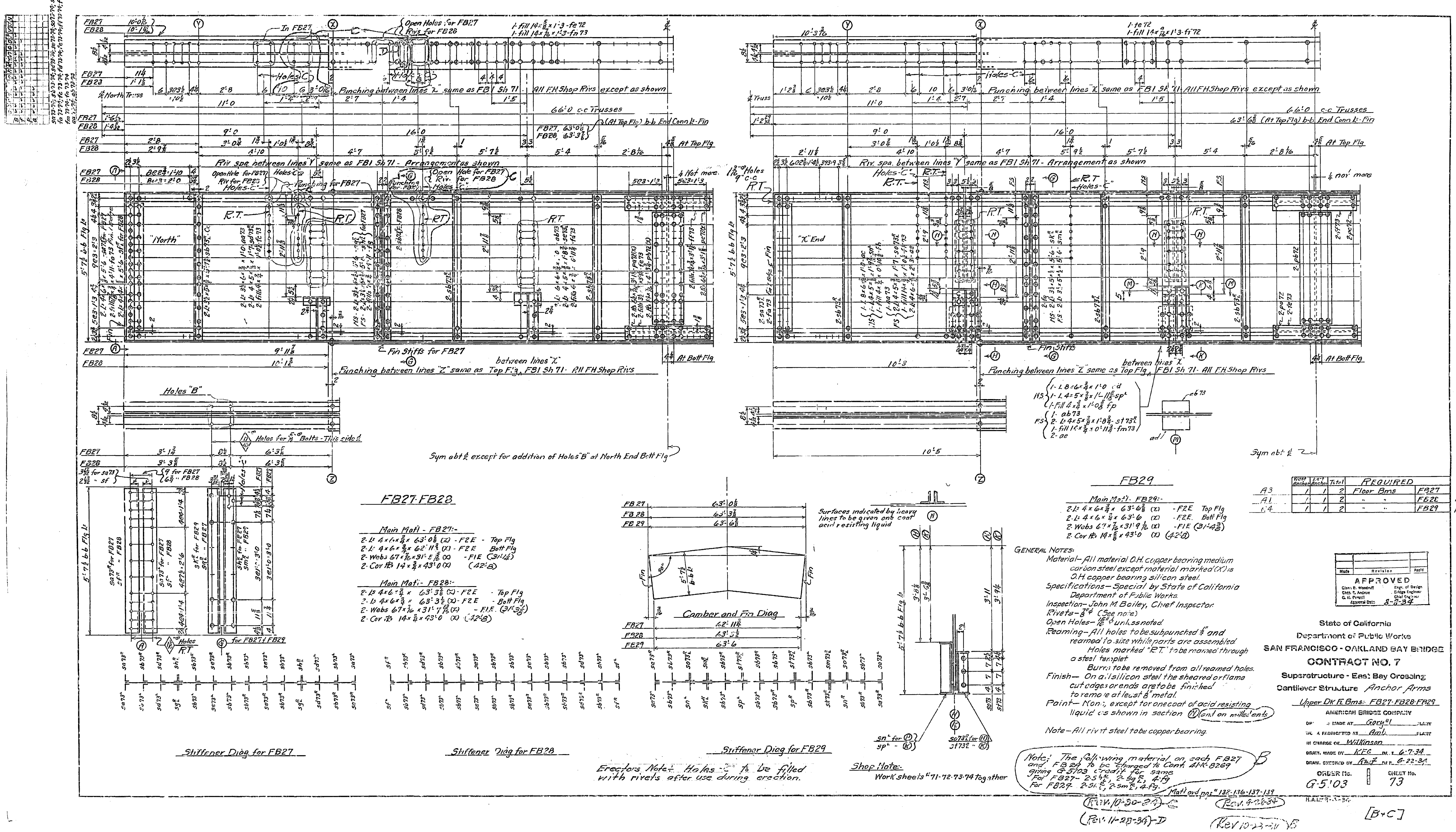
B – Rev. 9-28-36

[B & C]

30-1

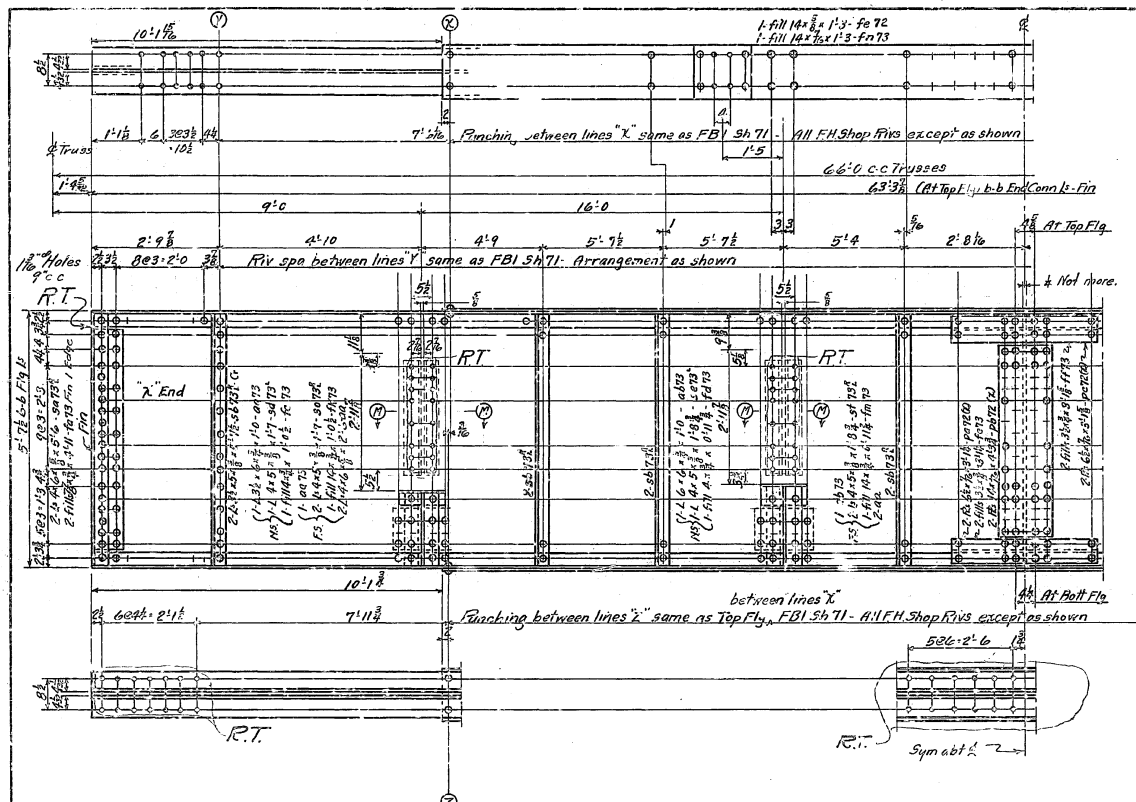

FB2-FB3-FB5
FB4 same as FB3 except for omission of Holes "B"
Main Mat'l - FB5:-
Camber and Fin Diag
Stiffener Diag for FB2-FB3-FB5
Stiffener Diag for FB22-FB23R
Shop Note:- Work Sheets #71-72-73-74 together
Erectors Note:- Holes "C" to be filled with rivets after use during erection.
FB23 sym abt ℄ except for addition of Holes "B" in North End Bott Flg.
FB22 Sym abt ℄
Note:- The following material on each FB2, FB3, FB4, FB5, FB22 and FB23R/L to be charged to Cont. 4K8259 giving G5103 credit for same, 2-sbR/L, 2-seR/L and 4-fb.
FB22-FB23R
Main Mat'l - FB22:-
2-Ls 4×6×5/8×63'-3¾ (X) -F2E Top Flg
2-Ls 4×6×5/8×63'-2⅞ (X) -F2E Bott Flg
2-Webs 67×7/16×31'-7½ (X) -F1E (31'-2 13/16)
2-Cov Pls 14×5/8×43'-0 (X) (42'-8)
Main Mat'l - FB23R:-
2-Ls 4×6×5/8×63'-4½ (X) -F2E Top Flg
2-Ls 4×6×5/8×63'-4⅛ (X) -F2E Bott Flg
2-Webs 67×7/16×31'-8⅛ (X) -F1E (31'-3 7/16)
2-Cov Pls 14×5/8×43'-0 (X) (42'-8)
West Anchor | East Anchor | Total | Required
A4 West | 1 | | 1 | Floor Bm | FB2 | 9T
A4 East | | 1 | 1 | " " | FB3 | 9T
A5 | 1 | 1 | 2 | " " | FB4 | 9T
A7 | 1 | 1 | 2 | " " | FB5 | 9T
A8 | 1 | 1 | 2 | " " | FB22 | 9T
A6 West | 1 | | 1 | " " | FB23R | 9T
A6 East | | 1 | 1 | " " | FB23L | 9T
GENERAL NOTES:
Material: All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel.
Specifications - Special by State of California Department of Public Works.
Inspection - John M. Bailey, Chief Inspector.
Rivets - 7/8"φ (See note)
Open Holes - 15/16"φ unless noted.
Reaming - All holes to be subpunched ¾" and reamed to size while parts are assembled except 0.S. Legs of Stiff Ls. Holes marked "R.T." to be reamed through a steel templet. Burrs to be removed from all reamed holes.
Finish - On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal.
Paint - None, except for one coat of acid resisting liquid as shown in section (M) and on milled ends.
Note - All rivet steel to be copper bearing.
Made | Revision | App'd
APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 8-8-34
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arms
Upper Dk Fl Bms FB2-FB3-FB4-FB5-FB22-FB23
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Amb PLANT
IN CHARGE OF Wilkinson
DRAWN BY KFG DATE 6-1-34
CHECKED BY AmJ DATE 6-22-34
ORDER No. G-5103
SHEET No. 72
Mat'l ord pgs # 131-134-135-139
Rev 9-28-34
Rev 10-23-34
H.A.L. 9-4-34
[B & C]

30-1



FB27·FB28
Main Mat'l - FB27:-
2-Ls 4×6×3/4× 63'-0 5/8 (X) - F2E - Top Flg
2-Ls 4×6×3/4× 62'-11 7/8 (X) - F2E - Bott Flg
2-Webs 67×7/16×31'-2 3/16 (X) - F1E (31'-4 3/8)
2-Cov Pls 14×5/8×43'-0 (X) (42'-8)
Main Mat'l - FB28:-
2-Ls 4×6×3/4× 63'-3 1/2 (X) - F2E - Top Flg
2-Ls 4×6×3/4× 63'-3 1/2 (X) - F2E - Bott Flg
2-Webs 67×7/16×31'-7 7/8 (X) - F1E (31'-4 3/8)
2-Cov Pls 14×5/8×43'-0 (X) (42'-8)
Camber and Fin Diag
Stiffener Diag for FB27
Stiffener Diag for FB28
Stiffener Diag for FB29
Erectors Note: Holes "C" to be filled with rivets after use during erection.
Shop Note: Work sheets 71-72-73-74 together
Sym abt ℄ except for addition of Holes "B" at North End Bott Flg
Sym abt ℄
FB29
Main Mat'l - FB29:-
2-Ls 4×6×3/4× 63'-6 3/8 (X) - F2E Top Flg
2-Ls 4×6×3/4× 63'-6 (X) - F2E Bott Flg
2-Webs 67×7/16×31'-9 1/16 (X) - F1E (31'-4 3/8)
2-Cov Pls 14×5/8×43'-0 (X) (42'-8)
GENERAL NOTES:
Material - All material O.H. copper bearing medium carbon steel except material marked (X) is O.H. copper bearing silicon steel.
Specifications - Special by State of California Department of Public Works.
Inspection - John M. Bailey, Chief Inspector.
Rivets - 7/8"φ (See note)
Open Holes - 15/16"φ unless noted.
Reaming - All holes to be subpunched 3/4" and reamed to size while parts are assembled.
Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Finish - On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least 1/8" metal.
Paint - None, except for one coat of acid resisting liquid as shown in section (N) and on milled ends
Note - All rivet steel to be copper bearing.
Note: The following material on each FB27 and FB29 to be charged to Cont. 41-K-8269 giving G5103 credit for same
For FB27 - 2-sh, 2-sg, 4-fg
For FB29 - 2-sk, 2-sm, 4-fg.
Mat'l ord pgs # 132-136-137-139
Surfaces indicated by heavy lines to be given one coat acid resisting liquid
West Anchor | East Anchor | Total | REQUIRED
A3 | 1 | 1 | 2 | Floor Bms | FB27 | 10T
A1 | 1 | 1 | 2 | " " | FB28 | 10T
A4 | 1 | 1 | 2 | " " | FB29 | 10T
Made | Revision | App'd
APPROVED
Glenn B. Woodruff Engr. of Design
Chas. E. Andrew Bridge Engineer
C. H. Purcell Chief Engineer
Approval Date 8-8-34
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arms
Upper Dk Fl Bms:- FB27-FB28-FB29
AMERICAN BRIDGE COMPANY
Drawings made at Gary #1 plant
Work fabricated at Amb. plant
In charge of Wilkinson
Draw. made by KFG Date 6-7-34
Draw. checked by RWF Date 6-22-34
ORDER No. G-5103
SHEET No. 73
Rev. 9-28-34
Rev. 10-23-34 B
Rev. 10-30-34 C
Rev. 11-28-34 D
[B+C]

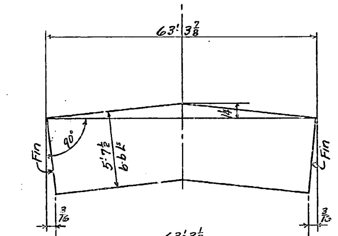
30-1



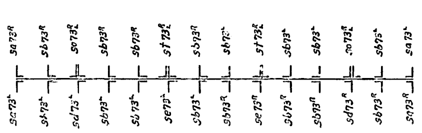
Surfaces indicated by heavy lines to be given one coat acid resisting liquid

FB30

Main Mat'l - FB30:-
2-Ls 6x6x⅞x 63'3⅞ (X) - F2E - Top Flg
2-Ls 6x6x⅞x 63'3⅞ (X) - F2E - Bott Flg
2-Webs 67x⅞x 31'1 (X) - F1E (31'3)
2-Cov Pls 14x⅞x 43'0 (X) (42'8)



Camber and Fin Diag



Stiffener Diag for FB30

GENERAL NOTES:
Material- All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel. All rivet steel to be copper bearing.
Specifications- Special by State of California Department of Public Works.
Inspection- John M. Bailey, Chief Inspector.
Rivets- ⅞"φ
Open Holes- 15/16"φ unless noted
Reaming- All holes to be subpunched ⅛" and reamed to size while parts are assembled.
Holes marked "R.T." to be reamed to a steel templet.
Burrs to be removed from all reamed holes.
Finish- On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal.
Paint- None, except for one coat of acid resisting liquid as shown in section (M) and on milled ends.

Shop Note:
Work sheets 71-72-73-74 together.

West Anchor	East Anchor	Total	REQUIRED	
1	1	2	Floor Bm	FB30

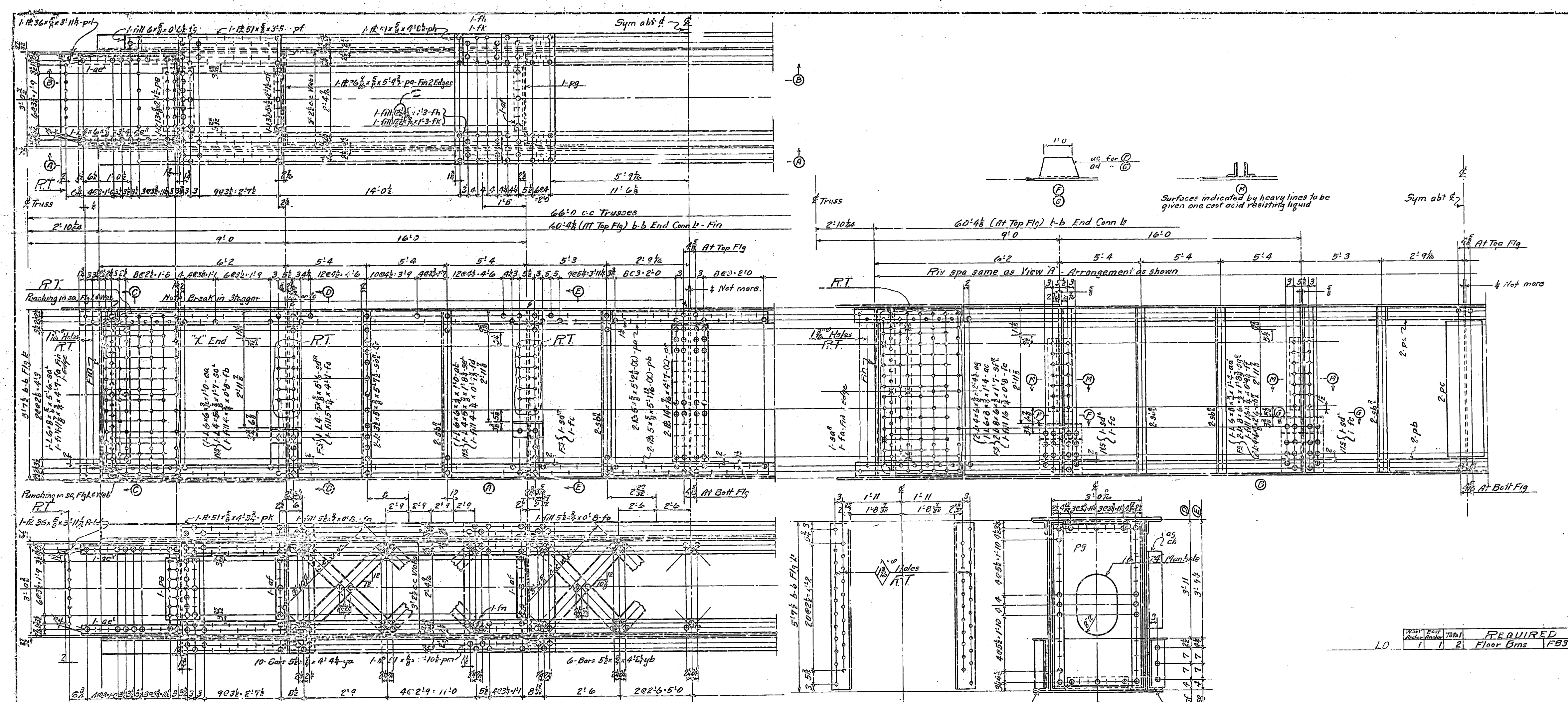
A2 10T

Made	Revision	App'd

APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 8-8-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arms
Upper Dk F. Bm FB30
AMERICAN BRIDGE COMPANY
MADE AT Gary #1 PLANT
FABRICATED AT Amb. PLANT
IN CHARGE OF Wilkinson
DRAW. MADE BY KFG DATE 6-11-34
DRAW. CHECKED BY ArnF DATE 6-22-34
ORDER No. G-5103 SHEET No. 74

Mat'l ord pgs 137-136-137 (Rev. 9-28-34)
H.A.L. 9-4-34
[B+C]



West Anchor	East Anchor	Total	REQUIRED	
1	1	2	Floor Bms	FB31

LO

ZIT

FB31

Main Mat'l for FB31:-

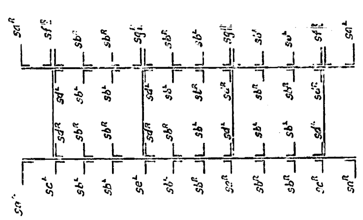
2-Ls 6×6×$\frac{3}{4}$×60'4$\frac{1}{8}$ (x) F.2.E Top Flg

2-Ls 6×6×$\frac{3}{4}$×54'11$\frac{5}{8}$ (x) " "

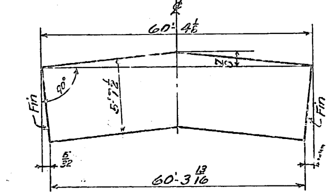
2-Ls 6×6×$\frac{3}{4}$×60'3$\frac{13}{16}$ (x) F.2.E Bott Flg

2-Ls 6×6×$\frac{3}{4}$×54'11$\frac{5}{16}$ (x) " "

4-Webs 67×$\frac{7}{16}$×30'1$\frac{15}{16}$ (x) F.1.E (29'9$\frac{1}{4}$)



Stiffener Diag



Camber and Fin Diag

GENERAL NOTES:

Material- All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel.

Specifications- Special by State of California Department of Public Works.

Inspection- John M. Bailey, Chief Inspector.

Rivets- $\frac{7}{8}$"φ (See note)

Open Holes- $\frac{15}{16}$"φ unless noted.

Reaming- All holes to be subpunched $\frac{1}{4}$" and reamed to size while parts are assembled, except lacing, stay plates, and diaphragm webs which may be punched full size.

Holes marked "R.T." to be reamed through a steel templet.

Burrs to be removed from all reamed holes.

Finish- On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least $\frac{1}{8}$" of metal.

Edges of manholes to be smooth.

Paint- None, except for one coat of acid resisting liquid as shown in section (M) and on milled ends. —B

Note- All rivet steel to be copper bearing.

Made	Revision	App'd

APPROVED

Glenn B. Woodruff — Engr. of Design

Chas. E. Andrew — Bridge Engineer

C. H. Purcell — Chief Engineer

Approval Date 8-8-34

Mat'l ord pgs # 132-138-139

Rev 9-11-36

B- Rev. 9-28-34

C- Rev. 10-3-34

State of California

Department of Public Works

SAN FRANCISCO - OAKLAND BAY BRIDGE

CONTRACT NO. 7

Superstructure - East Bay Crossing

Cantilever Structure Anchor Arms

Upper Dk Fl Bms - FB31

AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary #1 PLANT

WORK FABRICATED AT Amb PLANT

IN CHARGE OF Wilkinson

DRAWN BY KFG DATE 6-15-34

CHECKED BY [illegible] DATE 7-2-34

ORDER No.	SHEET No.
G-5103	75

H.A.L. 8-6-34

[B+C]

30-1

FB33

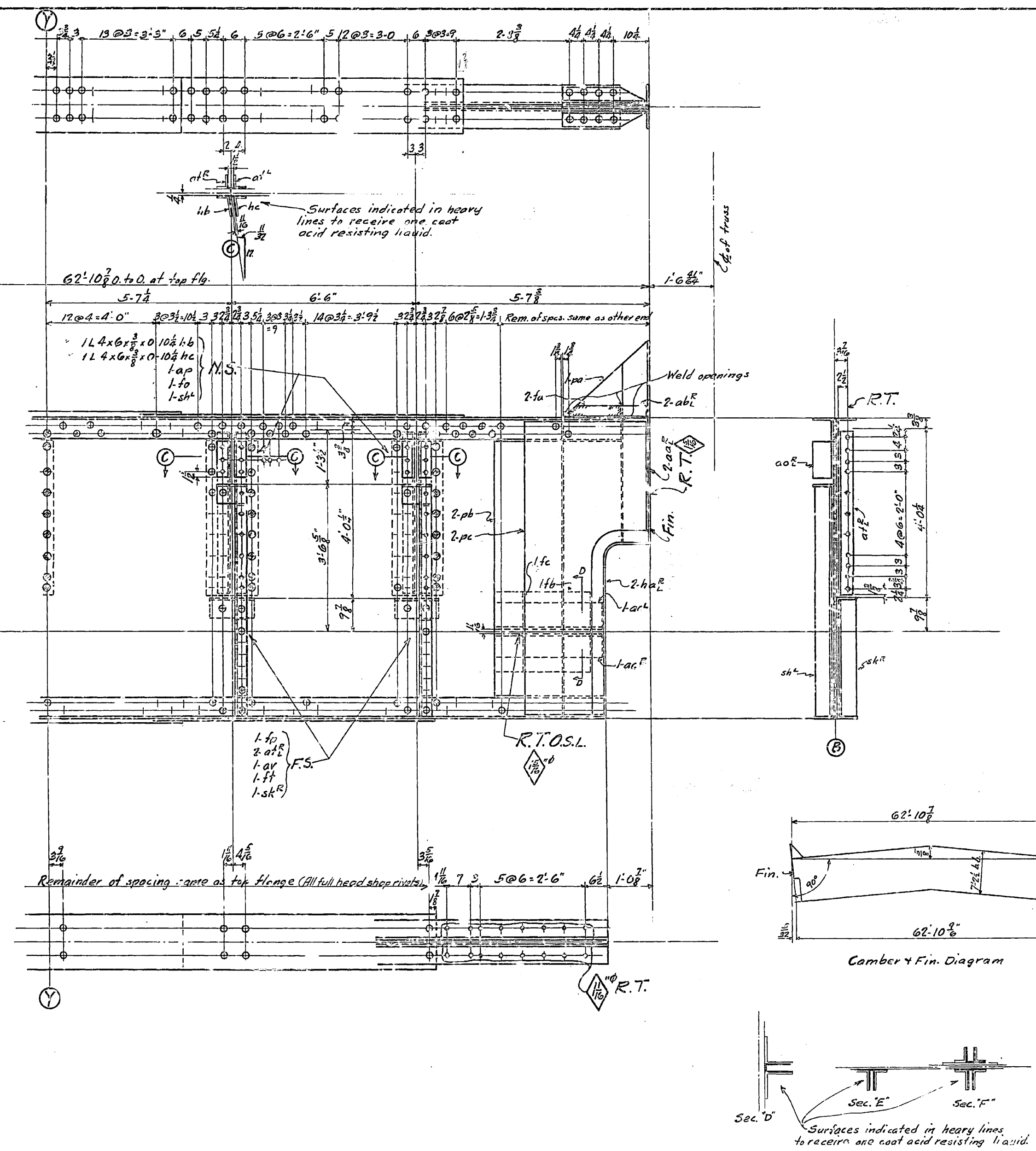
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure
Anchor Arm
Lower Deck Floor Beam
AMERICAN BRIDGE COMPANY

DRAWING MADE BY Gary 4-1
TRACED BY Ambridge
DETAILED BY Wilkinson
CHECKED BY P.H.C. DATE 6-21-34
DRAWN, CHECKED BY A.C.H.S. DATE 7-20-34

CONTRACT NO. G5103
DRAWING NO. 76AB

APPROVED
Chief Engr. Bridge Engineer
Asst. Engr. Bridge Engineer
Approved Date 8-16-34

30-1



GENERAL NOTES:

Material– All material O.H. copperbearing medium carbon steel except material marked (X) is O.H. copper bearing silicon steel, and all 1¼"φ shop rivets are manganese steel. All rivet steel to be copper bearing.

Specifications– Special by State of California Department of Public Works.

Inspection– John M. Bailey, Chief Inspector.

Rivets– 7/8"φ unless noted.

Open Holes– 15/16"φ unless noted.

Reaming– Holes to be subpunched ¾" and reamed to size while parts are assembled.
Holes marked "R.T." to be reamed to a steel templet.
Burrs to be removed from all reamed holes.

Finish– On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least 1/8" of metal.

Paint– None, except for one coat of acid resisting liquid as noted on sections "D", "E", "F", "C" (and on milled ends)

Manganese shop rivets detailed on sheet

West Anchor Arm

REQUIRED			
1	Floor Beam	FB33	16T

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure
Anchor Arm
Lower Deck Floor Beam
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DRAW. MADE BY R.H.C. DATE 6-22-34
DRAW. CHECKED BY [illegible] DATE 7-20-34
ORDER No. G5103
SHEET No. 76B

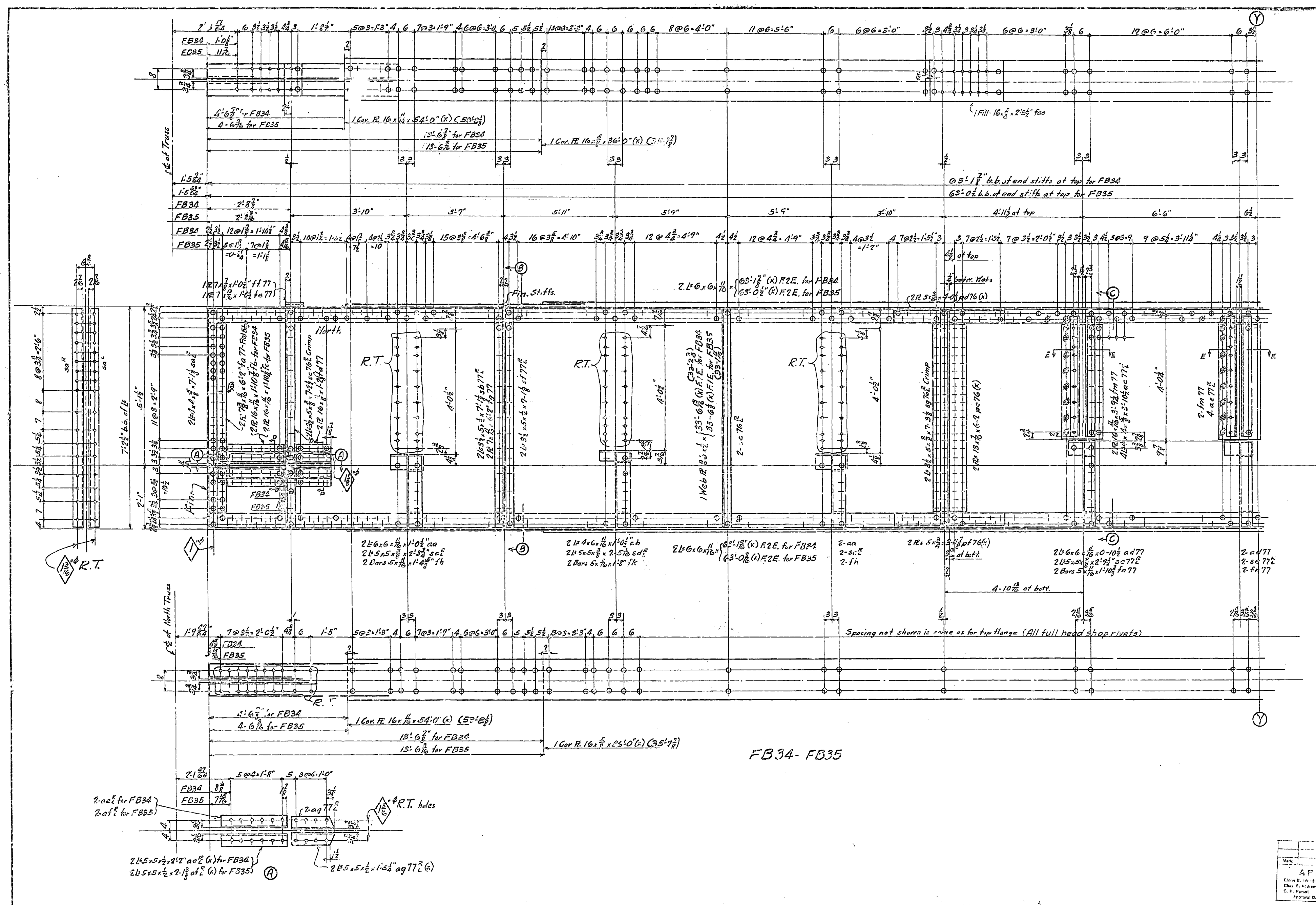
Made	Revision	Appd.

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 8-14-34

(Rev. 9-28-34) [illegible] 9-10-34 [BC&G]

Mat. ord. pp. 101-107-108

30-1



FB34- FB35

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure
Anchor Arm
Lower Deck Floor Beams

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
MADE BY P.H.C. DATE 6-26-34
CHECKED BY [illegible] DATE 7-20-34

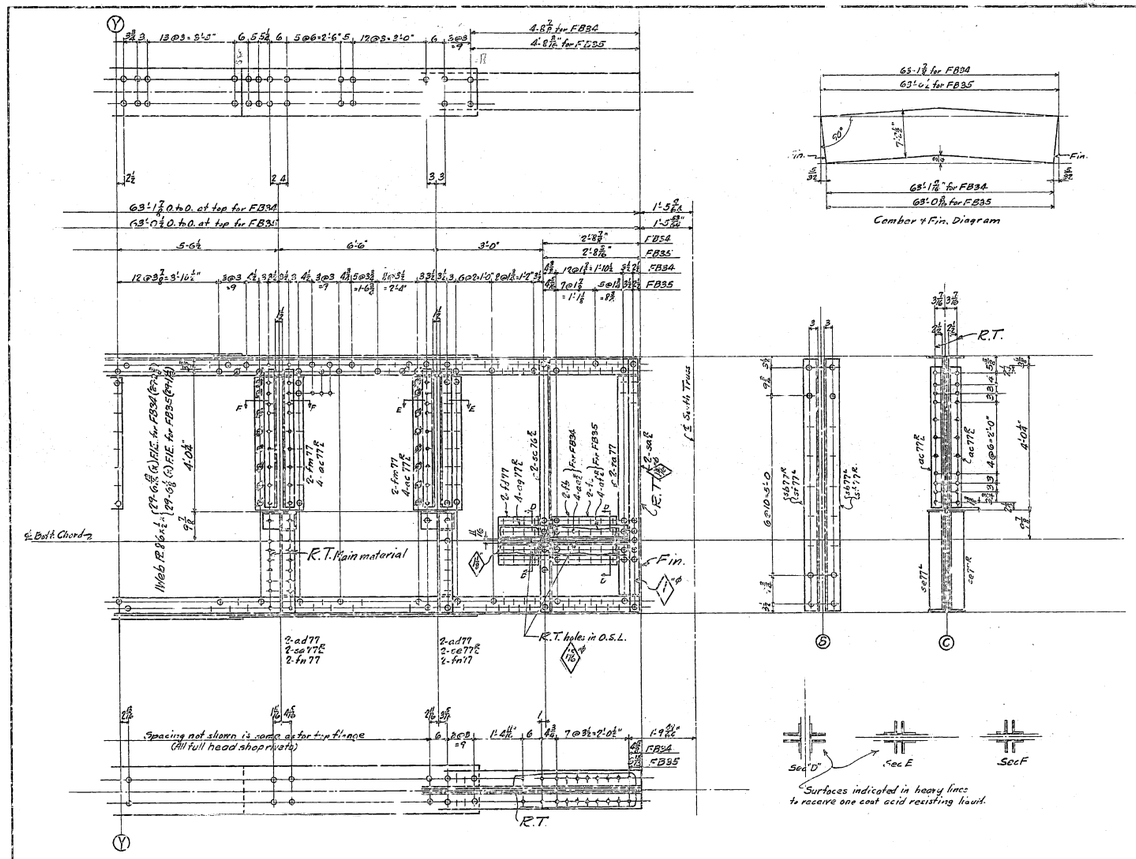
ORDER No.	SHEET No.
G5103	77AB

Made	Revision	App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 8-14-34

Rev. 9-14-34. W.T.W 7-10-34

30-51



Note:—
The following material on each FB34 and FB35 to be charged to Cont. 41 K BE 09 giving G5103 credit for same:
2-ab77, 2-fm77

GENERAL NOTES:
Material— All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel
Specifications— Special by State of California Department of Public Works.
Inspection— John M. Bailey, Chief Inspector
Rivets— ⅞" unless noted. (See note)
Open Holes— 15/16" unless noted.
Reaming— All holes to be subpunched ⅜" and reamed to size while parts are assembled.
Holes marked "RT" to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Finish— On all silicon steel the sheared or flame cut edges and ends are to be finished to remove at least ⅛" of material.

Paint— None, except for one coat of acid resisting liquid as noted on sections 50, 55, 57 and on milled ends

Note— All rivet steel to be copper bearing.

REQUIRED				
West Anchor	East Anchor	Total	Description	Mark
1	1	2	Floor Beam	FB34
2	2	4	" "	FB35

1ST
1ST

Mark	Revision	App'd
APPROVED		
Chas. B. Wendell, Chief C. Engr.	Engr. of Design	
C. H. Purcell, Material Engr.	Bridge Engineer	
Date 9-18-34	Chief Engineer	

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure
Anchor Arms
Lower Deck Floor Beams
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary PLANT
WORK FABRICATED BY Ambridge PLANT
IN CHARGE OF Wilkinson
DRAWN BY P.H.C. DATE 6-27-34
DESIGN CHECKED BY MPB DATE 7-20-34
ORDER No. G5103
ENGR'S No. 77B

Rev. 10-23-36 B Rev. 9-28-36 [B&C]

Mat. ord. pp. 101-102-108-109 for West Anch. Arm

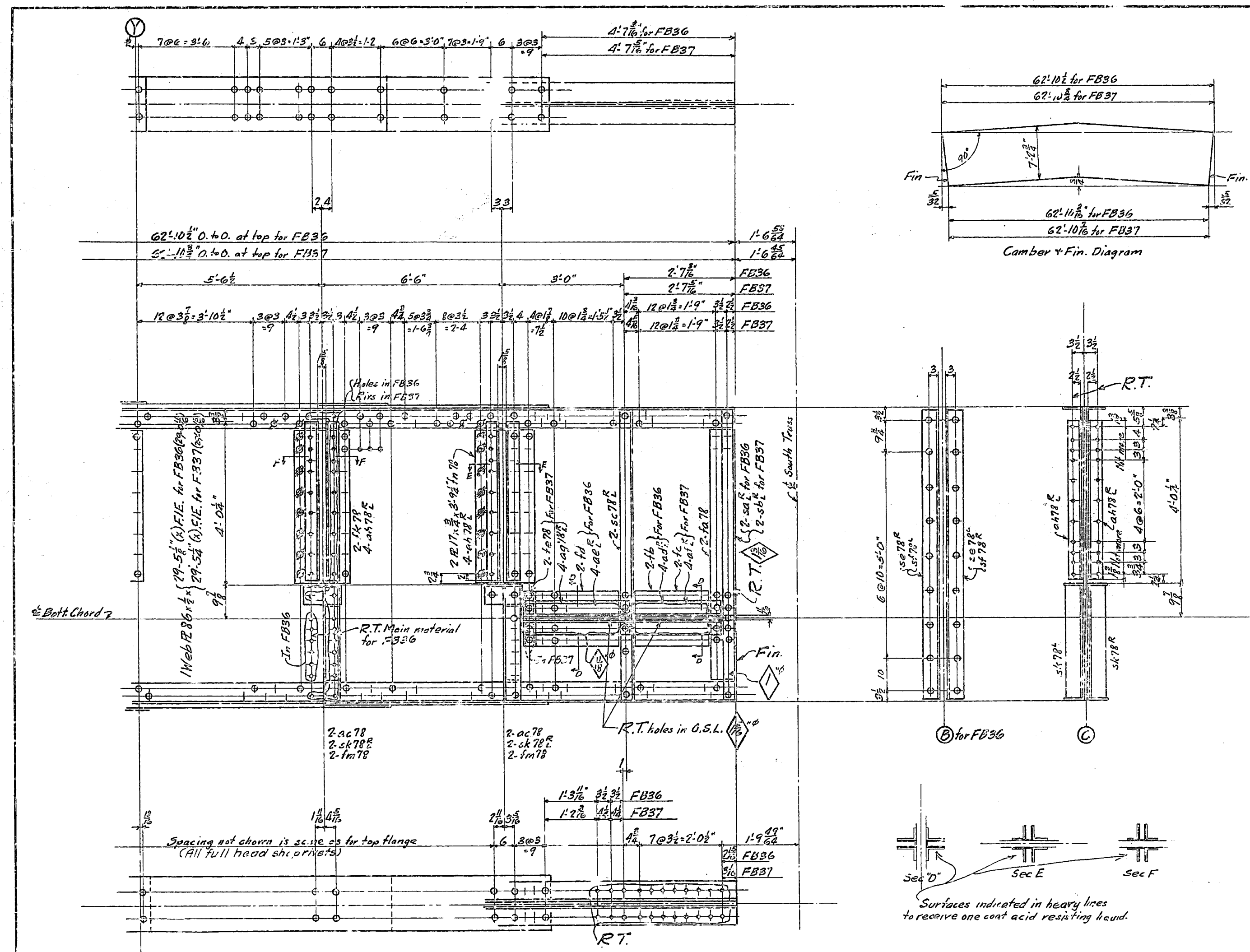
30-1

FB36 - FB37

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Cantilever Structure
Anchor Arms
Lower Deck Floor Beams
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DRWN. BY P.H.C. DATE 6-28-34
TRACED BY [illegible] DATE 7-20-34
CHKD. BY [illegible] DATE 7-20-34

APPROVED
Chief Engr. of Bridges
Chief Engineer
Assistant Engineer
Approval Date 8-10-34

ORDER NO. G5103
SHEET NO. 78AB



NOTE:-
The following material on each FB36 to be charged to Cont. 41K8269 giving G5103 credit for same: 2-se 78 R/L, 2fg78. B

GENERAL NOTES:
Material– All material O.H. copperbearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel. All rivet steel is to be copper bearing.
Specifications– Special by State of California Department of Public Works.
Inspection– John M. Bailey, Chief Inspector.
Rivets– ⅞"ϕ unless noted.
Open Holes– 15/16"ϕ unless noted.
Reaming– All holes to be subpunched ¾" and reamed to size while parts are assembled.
Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Finish– On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal.

Paint– None, except for one coat of acid resisting liquid as noted on sections "D" & "E" & "F" (and on milled ends.)

REQUIRED				
West Anchor	East Anchor	Total	Description	Mark
1	1	2	Floor Beam	FB36
1	1	2	" "	FB37

16F
16F

Made	Revision	App'd

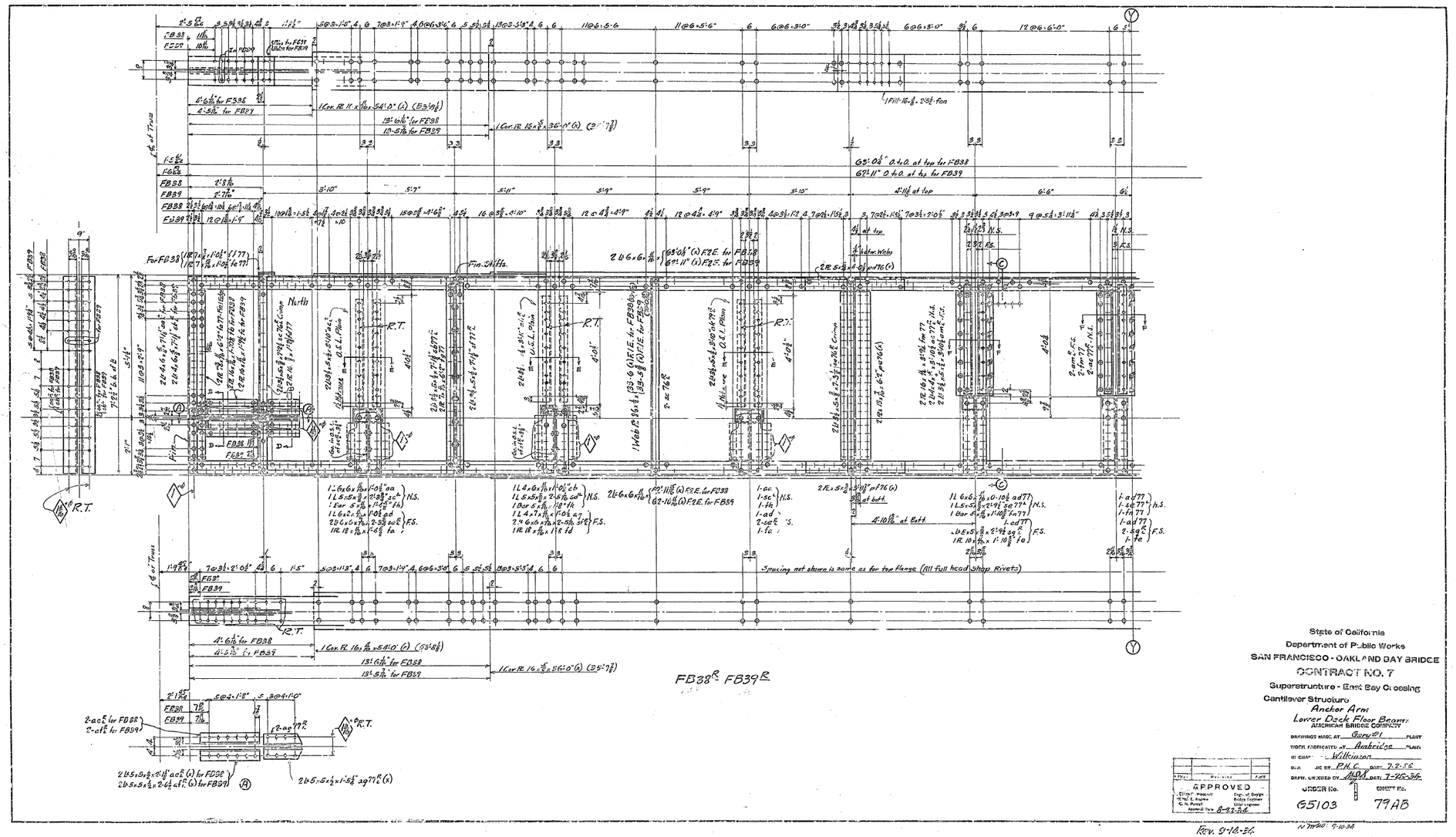
APPROVED
Chas. E. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 8-14-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure
Anchor Arms
Lower Deck Floor Beams

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DR. MADE BY P.H.C. DATE 6-29-34
DR. CHECKED BY [illegible] DATE 7-20-34
ORDER No. G5103
SHEET No. 78B

(Rev 1-23-35) B (Rev. 9-28-34) [B&C]

Mat. ord. pp. 103-104-112 for West Anch. Arm



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure
Anchor Arm
Lower Deck Floor Beams
AMERICAN BRIDGE COMPANY

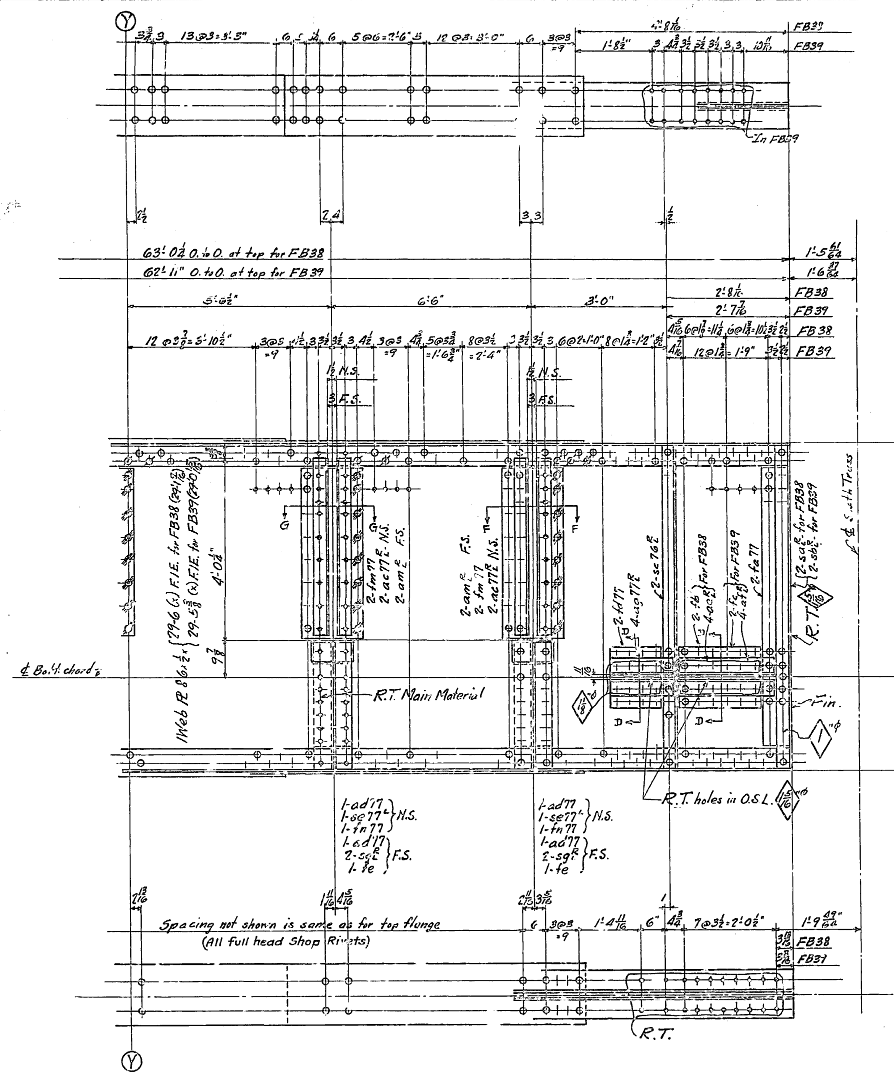
DRAWING MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Ambridge PLANT
DETAIL CHIEF Wilkinson
DRAWN BY P.M.C. DATE 7-2-36
DRAFT. CHECKED BY A.P.P. DATE 7-15-36

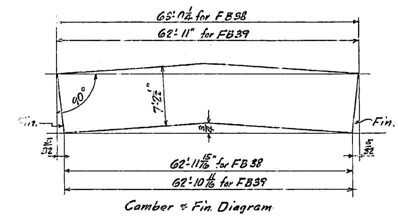
APPROVED
Chief Engineer
Engr. of Design
Bridge Engineer
Asst. Engineer
Asst. Engineer
Approval Date 8-22-36

ORDER No. 65103
CONTR. No. 79AB

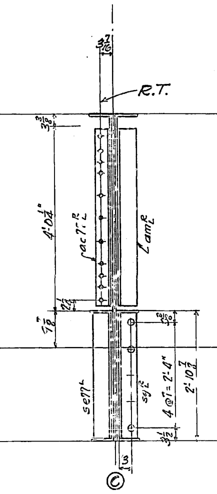
Rev. 9-10-36

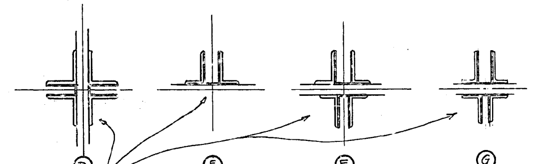
30-1





Camber & Fin Diagram





Surfaces indicated in heavy lines to receive one coat of acid resisting liquid.

NOTE:-
The following material on each FB38 and FB39 to be charged to Cont. 41 K 6269 giving G5103 credit for same: 2 sb77E, 2-fg77

GENERAL NOTES:
Material – All material O.H. copperbearing medium carbon steel, except material marked (X) is copper bearing silicon steel. All rivet steel is to be copper bearing.
Specifications – Special by State of California Department of Public Works.
Inspection – John M. Bailey, Chief Inspector.
Rivets – ⅞"ϕ unless noted
Open Holes – 15/16"ϕ unless noted.
Reaming – All holes to be subpunched ¼" and reamed to size while parts are assembled.
Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Finish – On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal.

Paint – None, except for one coat of acid resisting liquid as noted on sections (D)(E)(F)(G) and on milled ends.

REQUIRED				
West Anchor	East Anchor	Total	Description	Mark
1		1	Floor Beam	FB38R 16T
	1	1	" "	FB38L 16T
1		1	" "	FB39R 16T
	1	1	" "	FB39L 16T

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure
Anchor Arms
Lower Deck Floor Beams
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary #1 PLANT
WORK LOCATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DRAW. MADE BY P.H.C. DATE 7-3-34
DRAW. CHECKED BY H.G.S. DATE 7-26-34

Made	Revision	App'd

APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 8-22-34

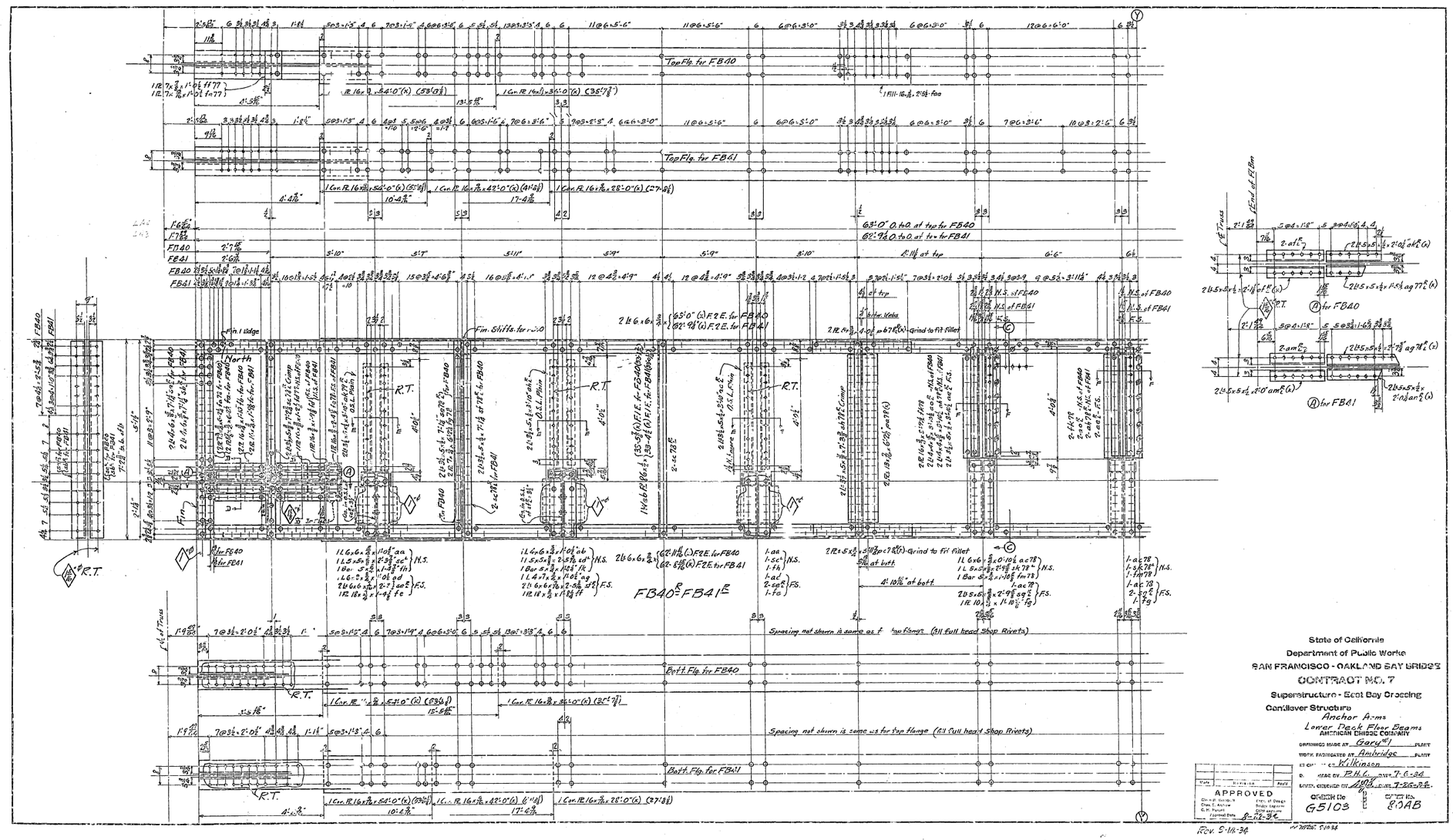
ORDER No. G5103
SHEET No. 79B

Rev. 9-28-34
Rev. 10-25-34 B

[B & C]

Mat'l. ord. pg. 102-109-110

30-1



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure
Anchor Arms
Lower Deck Floor Beams
AMERICAN BRIDGE COMPANY

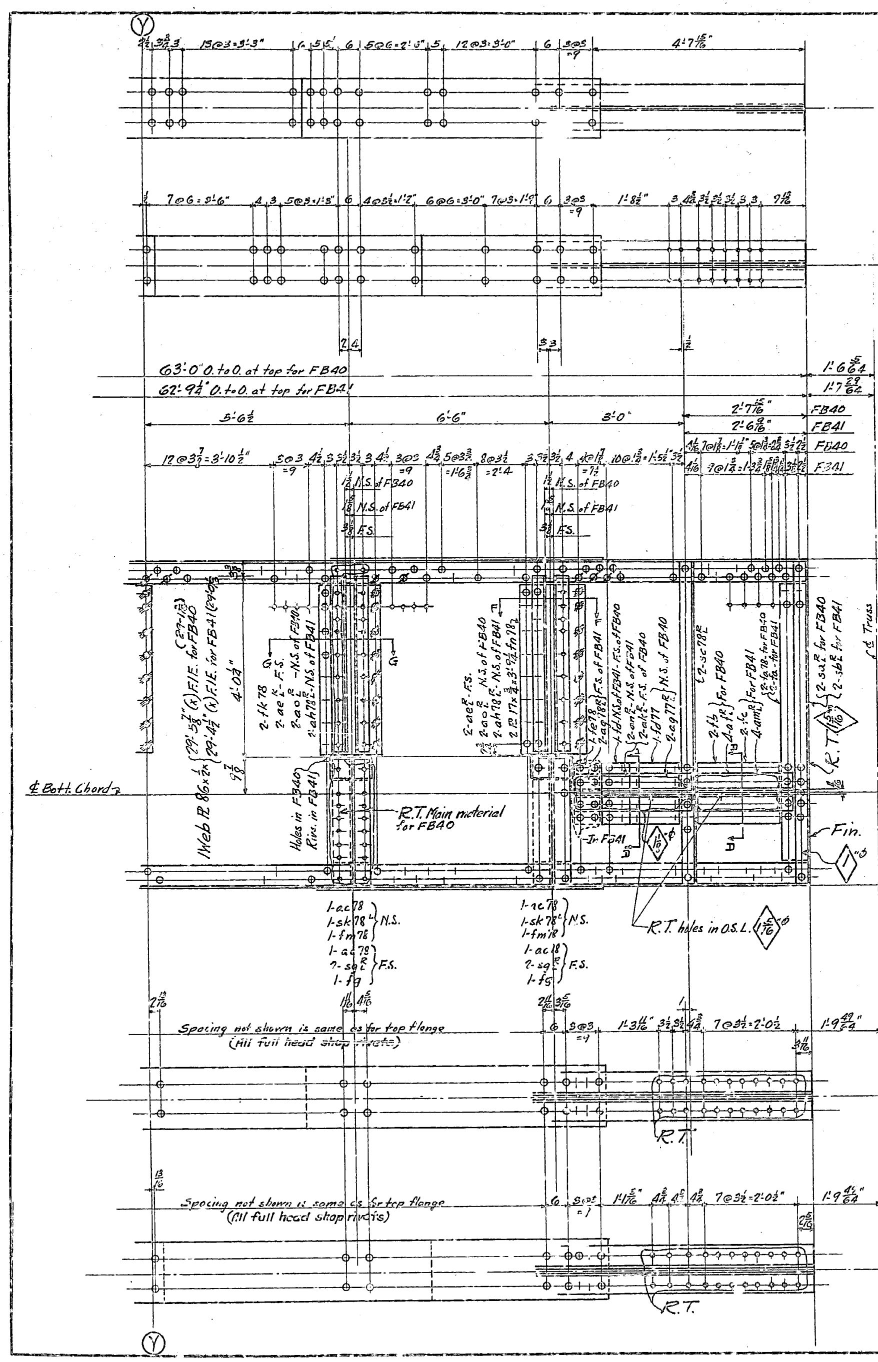
DRAWINGS MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Ambridge PLANT
CHECKED BY K. Hansen
DETAILED BY P.H.L. DATE 7-6-34
LAYOUT CHECKED BY [illegible] DATE 7-25-34

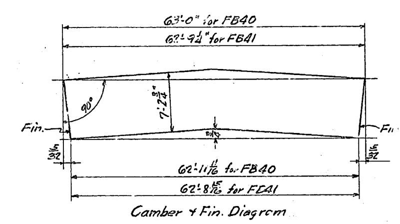
State	Revision	Date

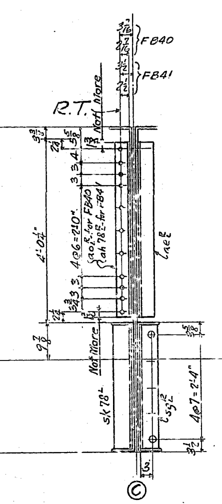
APPROVED
Div. of Bridges
Chas. E. Andrew
C. H. Purcell
Formal Date 8-22-34

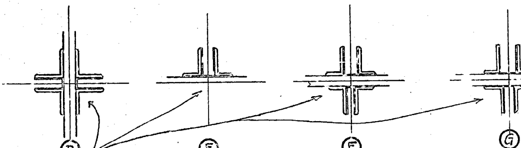
DRAWING No. G5103
CONTR. No. 8-SAB

Rev. 9-11-34
W. 7/7/34. 5.10.34









Surfaces indicated in heavy lines to receive one coat of acid resisting liquid.

NOTE:
The following material on each FB40 to be charged to Cont. 41 K-0264 giving G5103 credit for same: 2-sa 78², 2 fg 78

GENERAL NOTES:

Material—All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel. All rivet steel is to be copper bearing.

Specifications—Special by State of California Department of Public Works.

Inspection—John M. Bailey, Chief Inspector.

Rivets—⅞"φ unless noted.

Open Holes—15/16"φ unless noted.

Reaming—All holes to be subpunched ¼" and reamed to size while parts are assembled. Holes marked "R.T." to be reamed through a steel templet. Burrs to be removed from all reamed holes.

Finish—On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal.

Paint—None, except for one coat of acid resisting liquid as noted on sections Ⓓ Ⓔ Ⓕ Ⓖ (and on milled ends)

REQUIRED					
West Anchor	East Anchor	Total	Description	Mark	
1		1	Floor Beam	FB40R	17T
	1	1	" "	FB40L	17T
1		1	" "	FB41R	17T
	1	1	" "	FB41L	17T

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure
Anchor Arms
Lower Deck Floor Beams

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DRAWN BY P.H.C. DATE 7-9-34
CHECKED BY [illegible] DATE 7-26-34

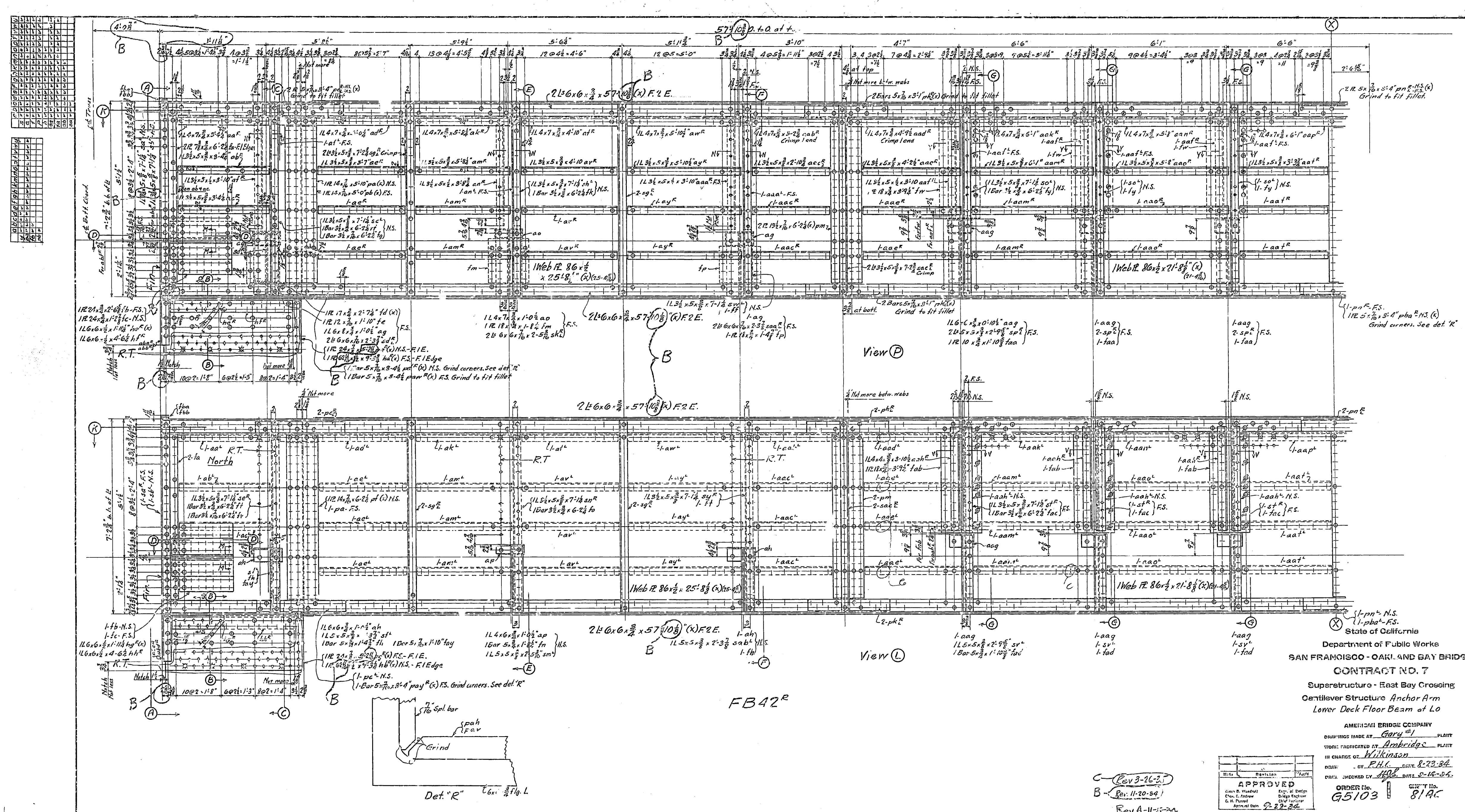
Made	Revision	App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 8-22-34

ORDER No. G5103
SHEET No. 80B

Rev. 9-28-34
Rev 10-25-34 B
MCW 9-10-34
[B+C]

Ref. and. pp. 103-110-111



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
Lower Deck Floor Beam at Lo

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DRAW BY P.H.C. DATE 8-23-34
DRAW CHECKED BY H.J.S. DATE 9-14-34

Made	Revision	App'd

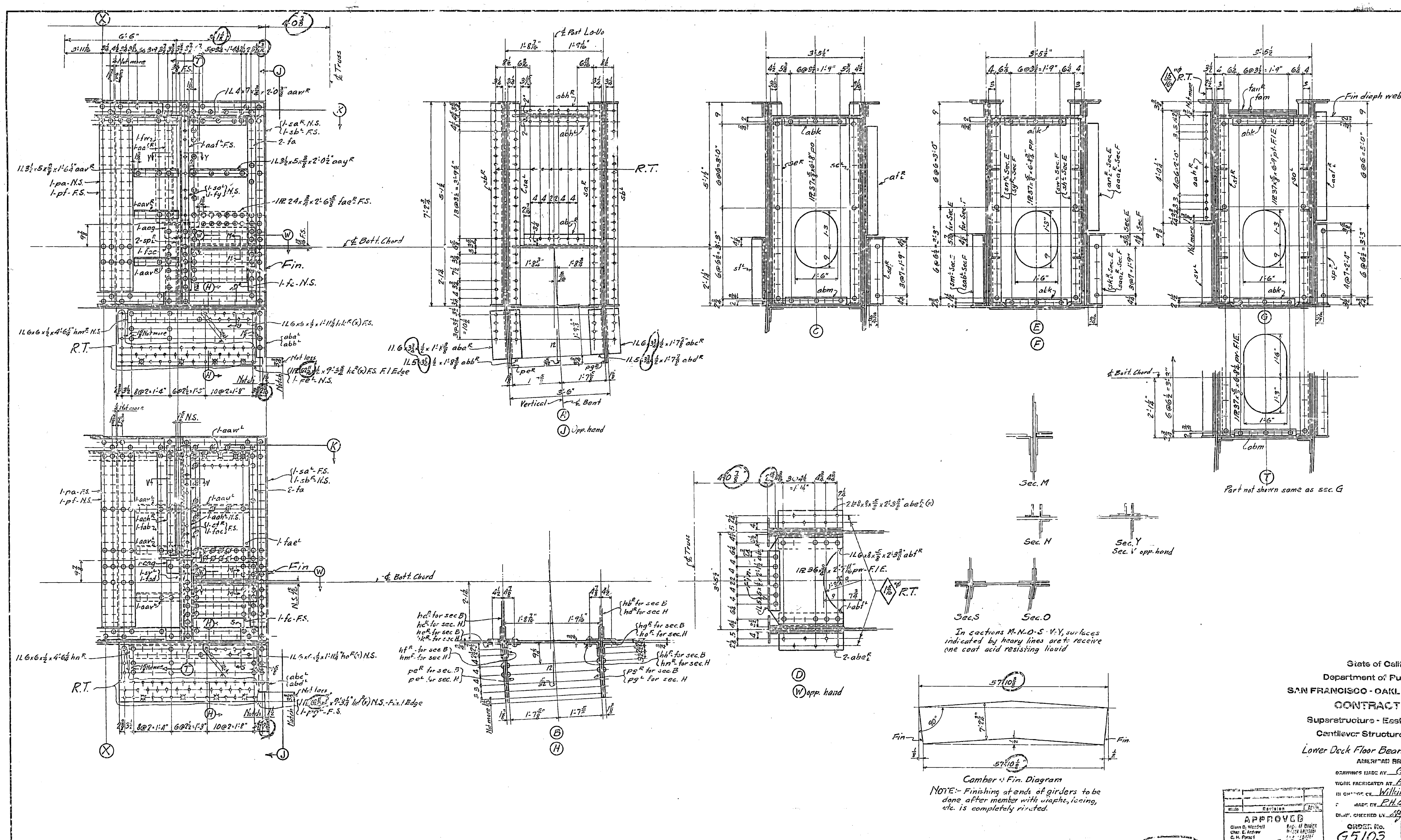
APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 9-29-34

ORDER No. G5103
SHEET No. 81AC

C - Rev. 3-26-35
B - Rev. 11-20-34
Rev. A-11-15-34

MSW 9-15-34

[B & C]

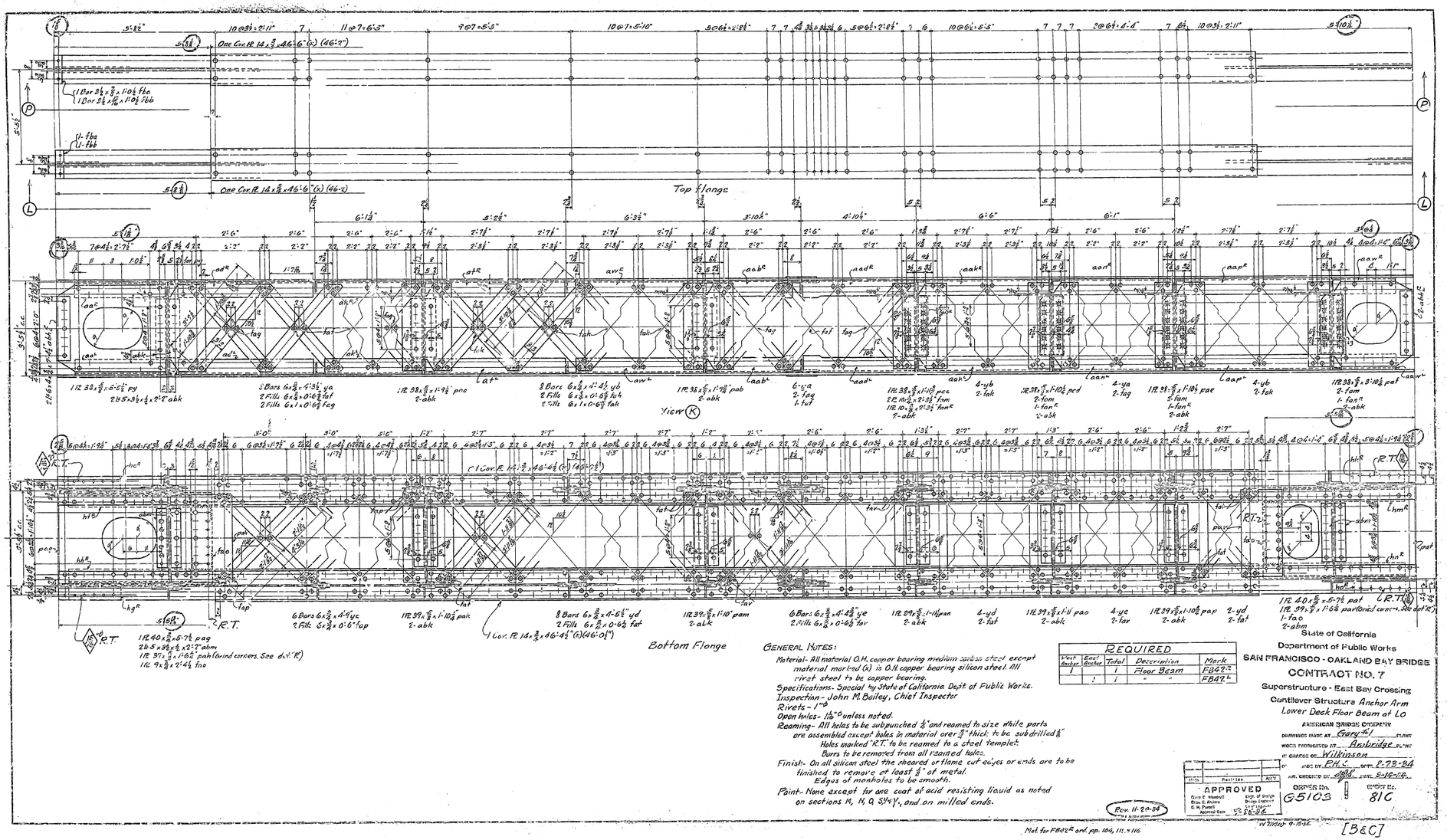


State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
Lower Deck Floor Beam at Lo

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
MADE BY P.H.L. DATE 8-23-34
DRAW. CHECKED BY [illegible] DATE 9-10-34
ORDER No. G5103
SHEET No. 81BC

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell
Approval Date 9-28-34

Re. 11-20-34



GENERAL NOTES:

Material- All material O.H. copper bearing medium carbon steel except material marked (x) is O.H. copper bearing silicon steel. All rivet steel to be copper bearing.
Specifications- Special by State of California Dept. of Public Works.
Inspection- John M. Bailey, Chief Inspector
Rivets - 1" ø
Open holes - 1 1/16" ø unless noted.
Reaming- All holes to be subpunched 7/8" and reamed to size while parts are assembled except holes in material over 3/4" thick; to be subdrilled 13/16" ø. Holes marked "R.T." to be reamed to a steel templet.
Burrs to be removed from all reamed holes.
Finish- On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least 1/8" of metal. Edges of manholes to be smooth.
Paint- None except for one coat of acid resisting liquid as noted on sections M, N, Q, S, T & Y, and on milled ends.

REQUIRED				
West Anchor	East Anchor	Total	Description	Mark
1		1	Floor Beam	FB42-S
	1	1	"	FB42-L

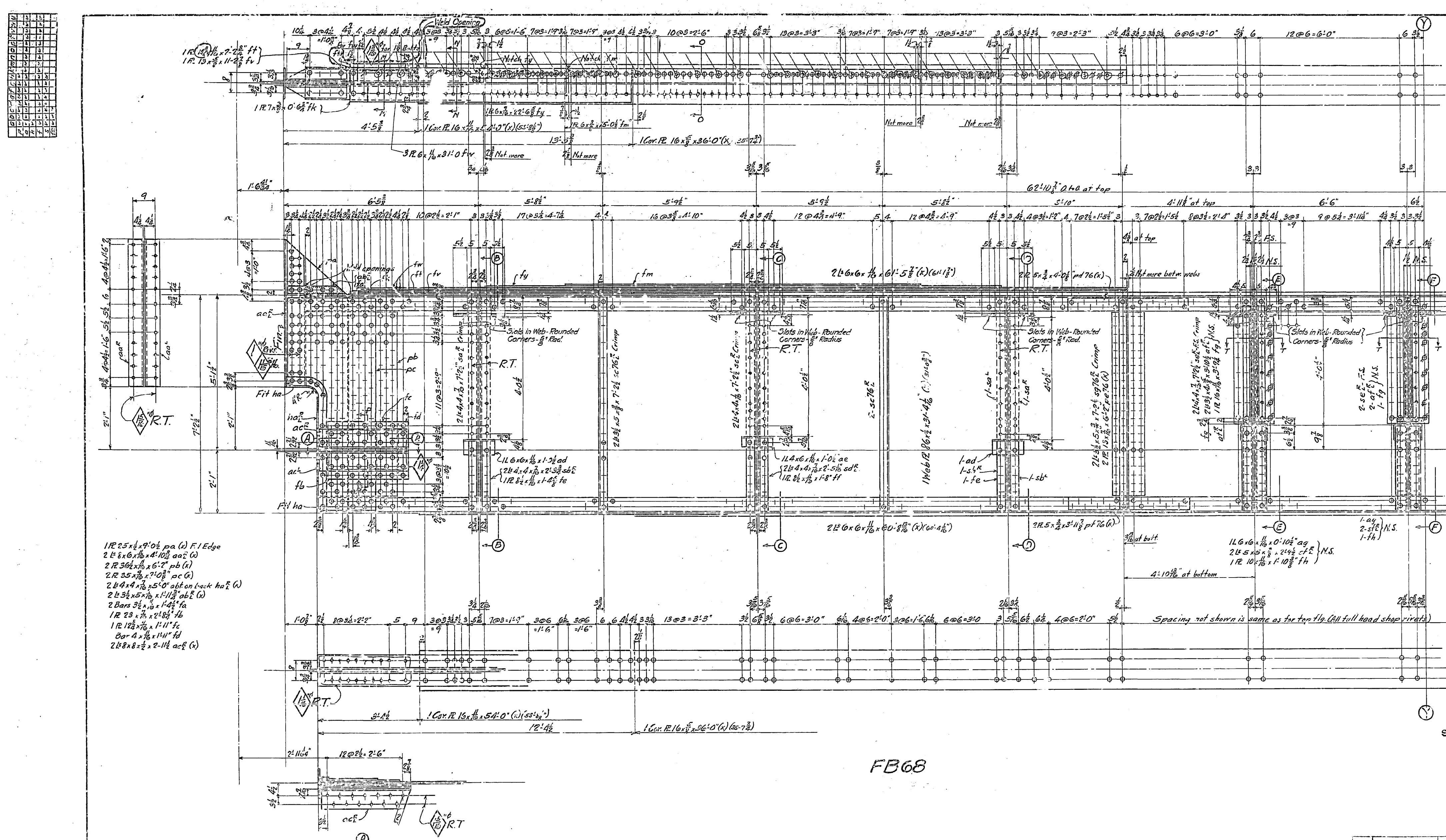
Mark	Revision	Appd	

APPROVED
Frank E. Woodruff, Engr. of Bridges
Elias S. Walters, Bridge Engineer
C. M. Purcell, Asst. Engineer
Approval Date 12-28-54

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
Lower Deck Floor Beam at L0
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Ambridge, Pa. PLANT
IN CHARGE OF Wilkinson
DET. BY P.H.C. DATE 8-23-54
APP. CHECKED BY [illegible] DATE 9-10-54
ORDER No. G5103
SHEET No. 81C

Rev. 11-20-54
Rev. 9-10-54
Mat. for FB42S and pp. 104, 111, & 116.
[B&C]

30-1



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure
East Anchor Arm
Lower Deck Floor Beam at LA10

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK [illegible]ED AT Ambridge PLANT
IN CH[illegible] OF Wilkinson
DRAW. MADE BY P.H.C. DATE 9-21-34
DRAW. CHECKED BY [illegible] DATE 10-8-34

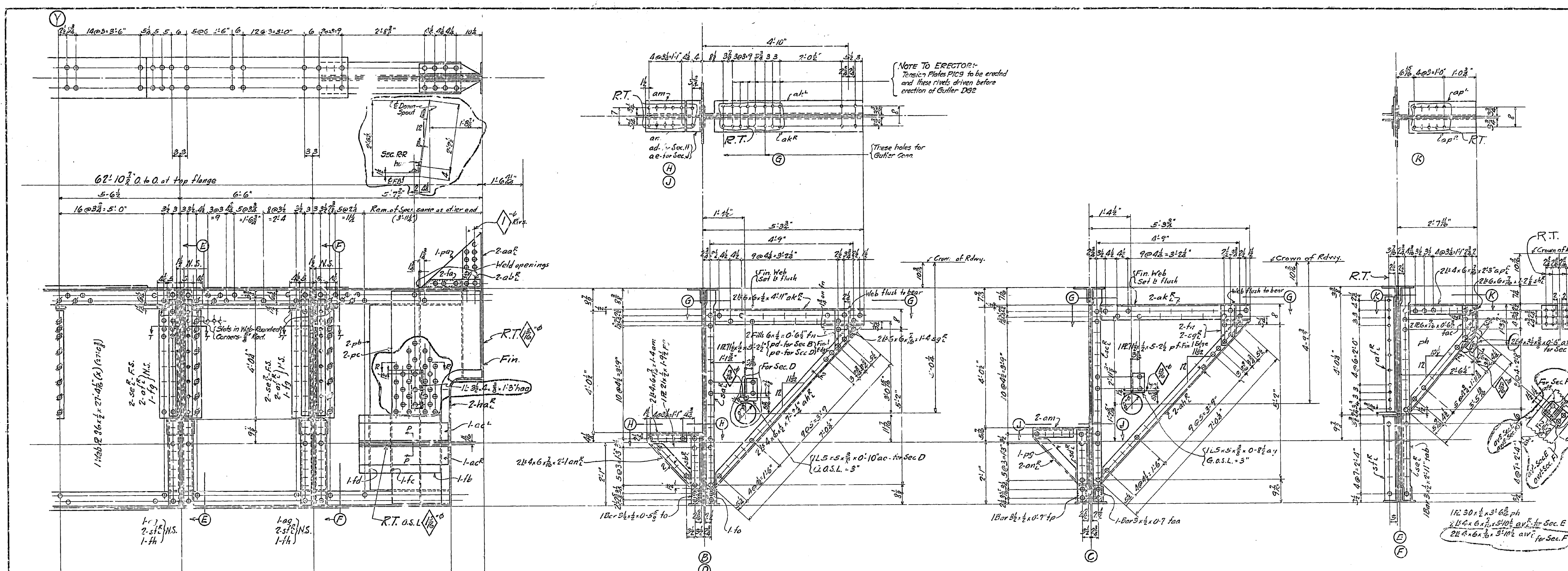
Made	Revision	App'd

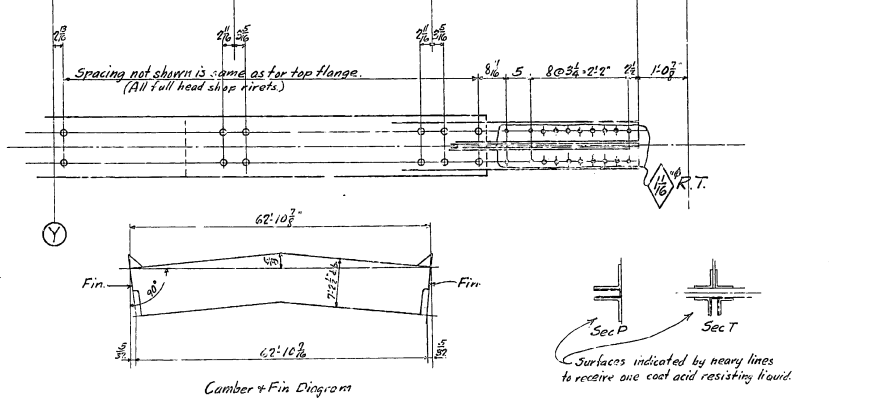
APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 10-25-34

ORDER No. G5103
SHEET No. 82AB

Rev. 11-19-34

30-1





GENERAL NOTES:

Material- All material O.H. Copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel, and all 1 1/4"φ shop rivets are manganese steel. All rivet steel to be copper bearing.

Specifications- Special by State of California Department of Public Works.

Inspection- John M. Bailey, Chief Inspector.

Rivets- 7/8"φ unless noted.

Open Holes- 15/16"φ unless noted.

Reaming- Holes to be subpunched 1/4" and reamed to size while parts are assembled.

Holes marked "R.T." to be reamed to a steel templet.

Burrs to be removed from all reamed holes.

Finish- On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least 1/8" of metal.

Paint- None, except for one coat of acid resisting liquid as noted on sections "P" & "T" and on milled ends.

Manganese shop rivets detailed on sheet CF67

East Anchor Arm

	REQUIRD	
1	Floor Beam	FB68

APPROVED 10-25-34

State of California

Department of Public Works

SAN FRANCISCO - OAKLAND BAY BRIDGE

CONTRACT NO. 7

Superstructure - East Bay Crossing

Cantilever Structure
East Anchor Arm
Lower Deck Floor Beam

AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary #1 PLANT

WORK FABRICATED AT Ambridge PLANT

IN CHARGE OF Wilkinson

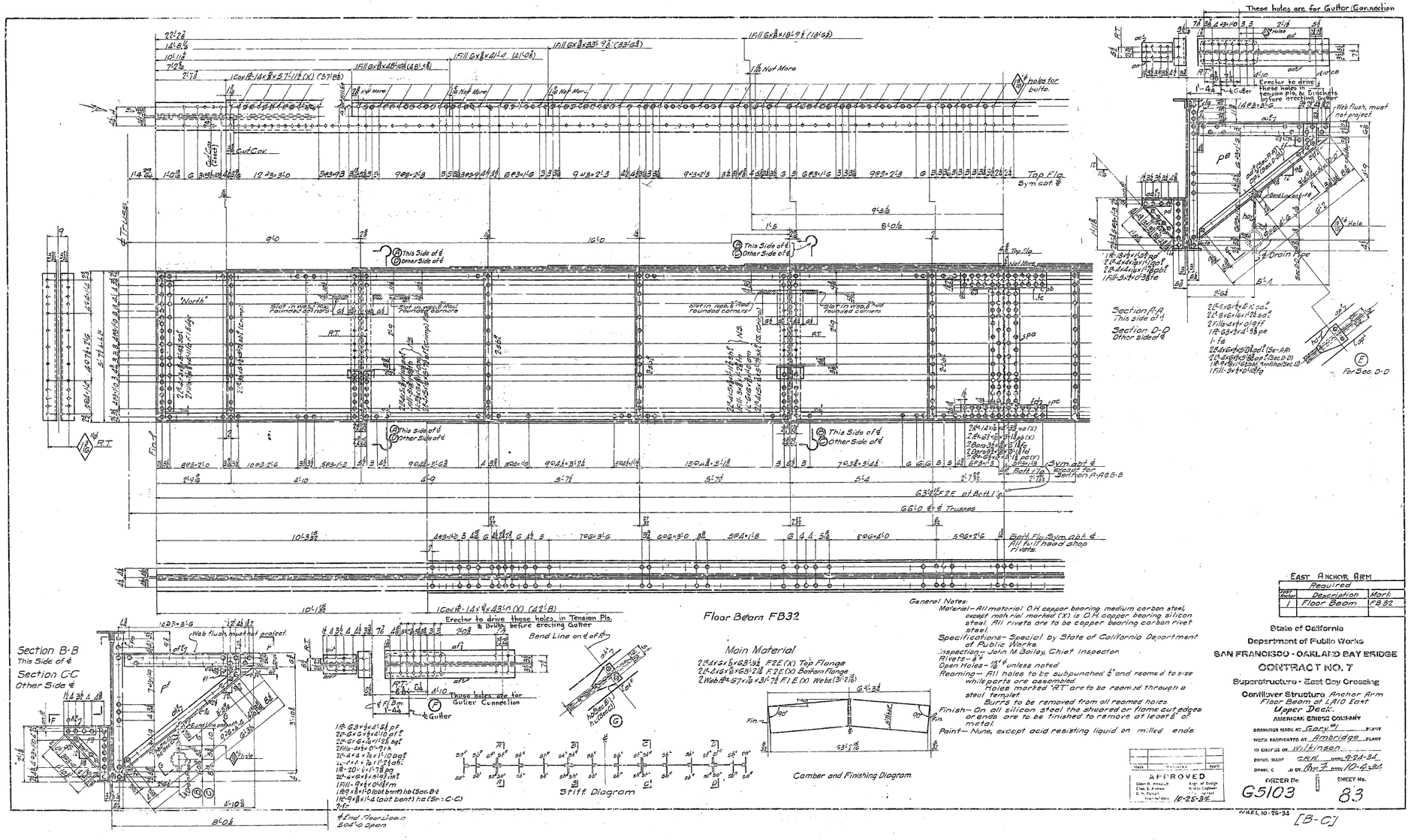
DRAWN BY P.H.C. DATE 9-21-34

CHECKED BY [illegible] DATE 10-8-34

ORDER No. G5103 SHEET No. 82B

Rev 11-19-34

[B-C-G]



General Notes:

Material— All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel. All rivets are to be copper bearing carbon rivet steel.

Specifications— Special by State of California Department of Public Works.

Inspection— John M. Bailey, Chief Inspector.

Rivets— ⅞" ℄

Open Holes— 1⅛" ℄ unless noted.

Reaming— All holes to be subpunched ⅝" and reamed to size while parts are assembled. Holes marked "RT" are to be reamed through a steel templet.

Burrs to be removed from all reamed holes.

Finish— On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal.

Paint— None, except acid resisting liquid on milled ends.

Mark	Revisions	Date

APPROVED
Glenn B. Woodruff, Engr. of Bridge & Bldg. Design
Chas. E. Purcell, Bridge Engineer
C. H. Purcell, Principal Asst. Engr.
10-25-34

EAST ANCHOR ARM

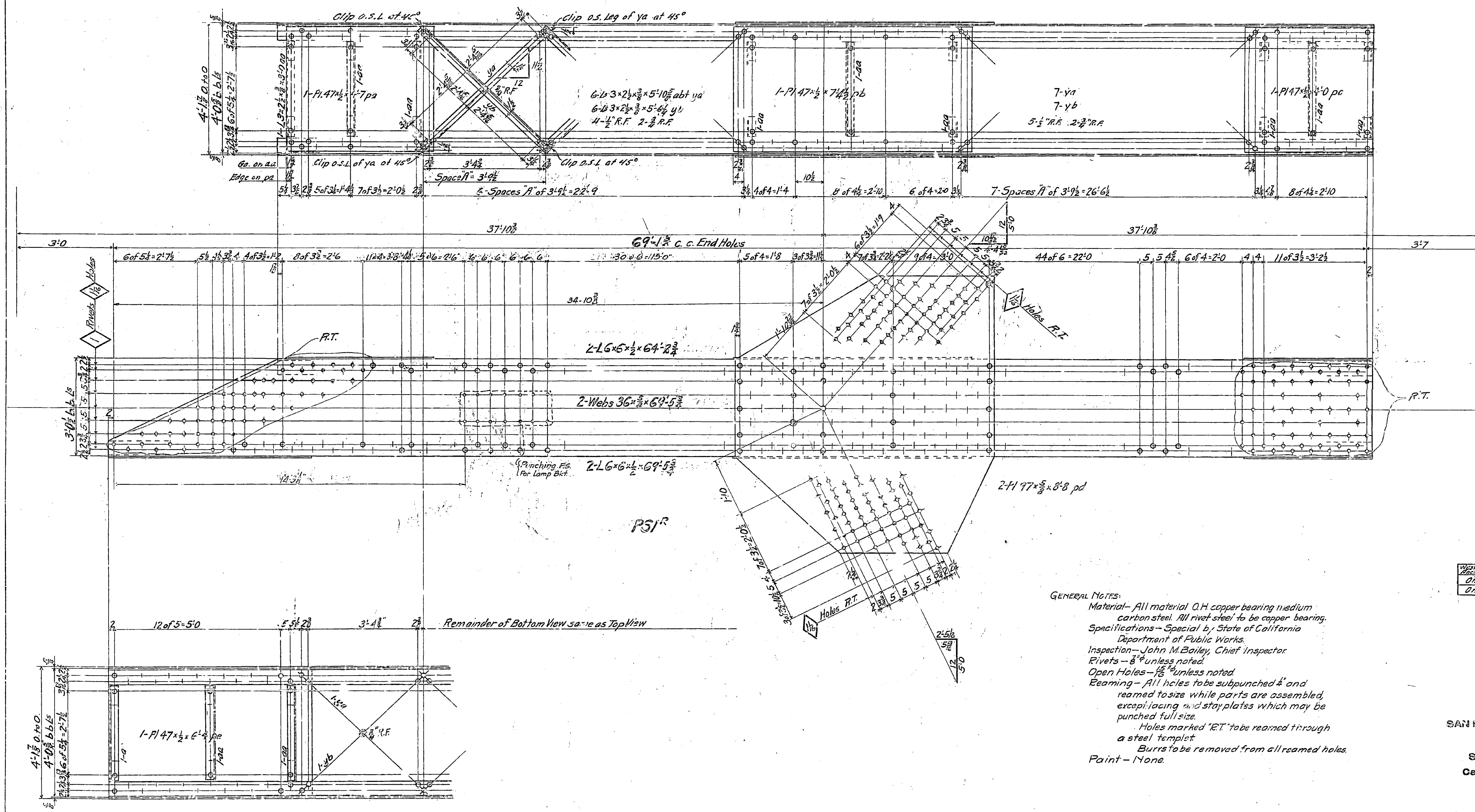
Item Number	Required Description	Mark
1	Floor Beam	FB32

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
Floor Beam at L A10 East
Upper Deck.
AMERICAN BRIDGE COMPANY

DRAWING MADE AT Gary (Ind.) PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DRAWN BY GRW DATE 9-24-34
TRACED BY Ron F. DATE 10-12-34
CHECKED BY DATE
ORDER No. G5103
SHEET No. 83

W.H.R.L. 10-26-34 [B-C]

30-1



GENERAL NOTES:

Material— All material O.H. copper bearing medium carbon steel. All rivet steel to be copper bearing.

Specifications— Special by State of California Department of Public Works.

Inspection— John M. Bailey, Chief Inspector.

Rivets— ⅞"ϕ unless noted.

Open Holes— $\frac{15}{16}$"ϕ unless noted.

Reaming— All holes to be subpunched ¼" and reamed to size while parts are assembled, except lacing and stay plates which may be punched full size.

Holes marked "R.T." to be reamed through a steel templet.

Burrs to be removed from all reamed holes.

Paint— None.

West Anchor	East Anchor	Total	REQUIRED	
One	One	2	PORTAL STRUTS	PS1R
One	One	2	" "	PS1L

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure
PORTAL STRUTS

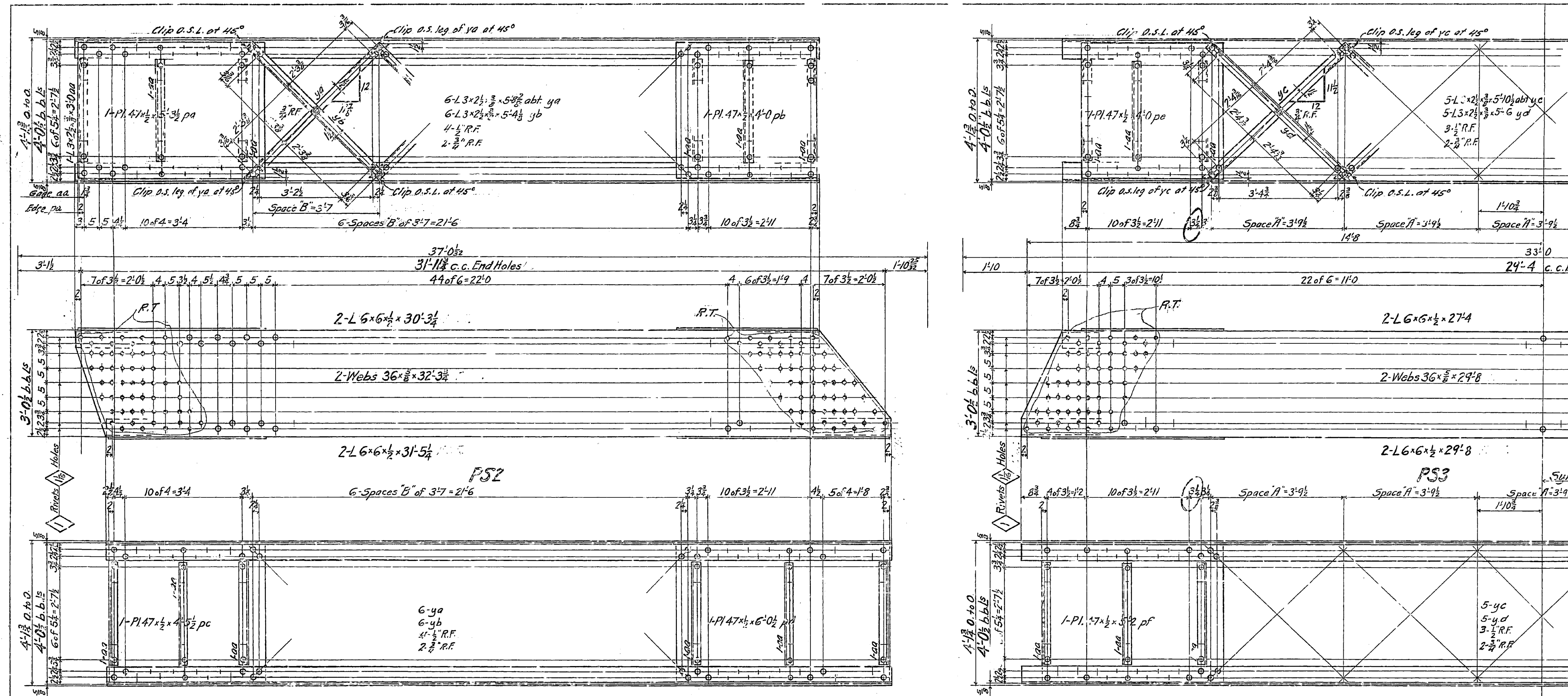
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
E OF Wilkinson
MADE BY TJK DATE 4-2-34
DRAW. CHECKED BY A.S.M. DATE 7-10-34.
ORDER No. G5103
SHEET No. 91

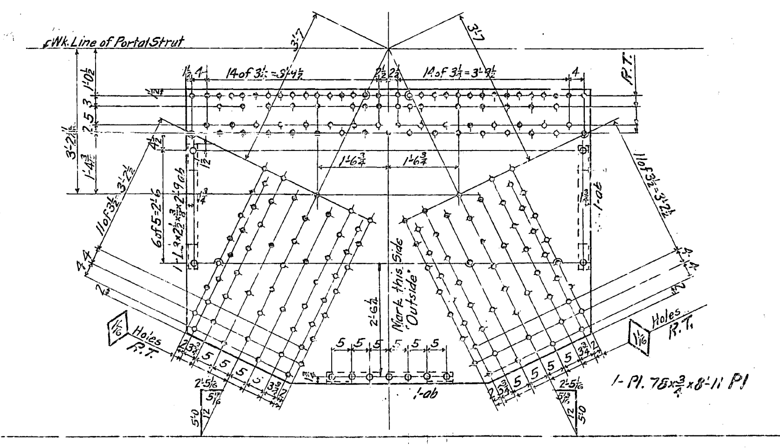
Made	Revision	Appd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 8-7-34

Mtl. Ord. Pg. 172 - A.S.M. MMS 8-19-34 [C]

30-1





West Anchor	East Anchor	Total	REQUIRED	
2	2	4	PORTAL STRUTS.	PS2
1	1	2	" "	PS3
2	2	4	PLATES	P1

GENERAL NOTES:

Material-- All material O.H. copper bearing medium carbon steel.
Specifications--Special by State of California Department of Public Works.
Inspection--John M. Bailey, Chief Inspector.
Rivets-- ⅞"ϕ unless noted. - See Note.
Open Holes-- $\frac{15}{16}$"ϕ unless noted.
Reaming--All holes to be subpunched ¼" and reamed to size while parts are assembled, except lacing and stay plates which may be punched full size.
Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Paint--None.
Note- All rivet steel to be copper bearing.

Made	Revision	App'd

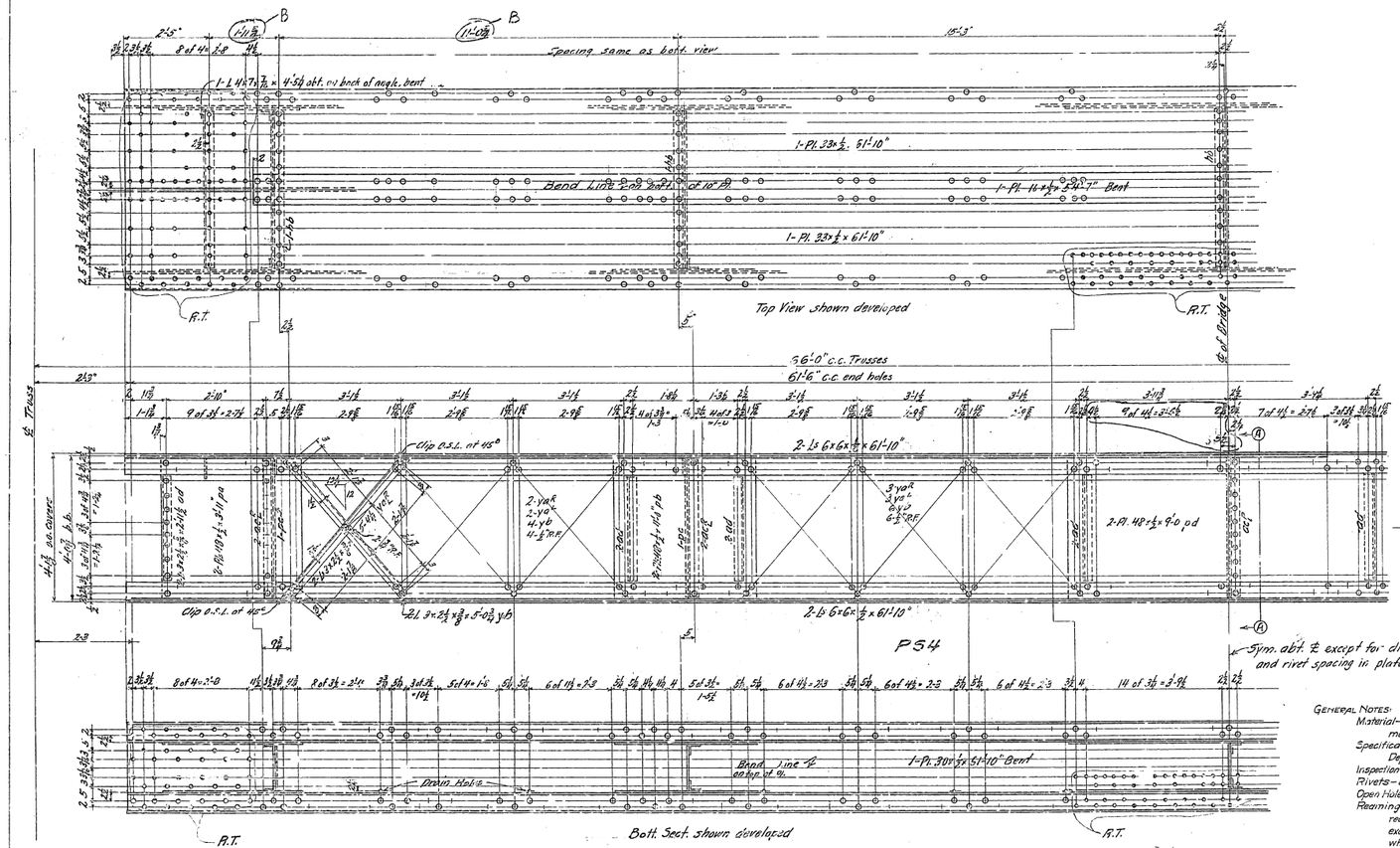
APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 8-7-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure
PORTAL STRUTS & PLATES

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DRAWN. MADE BY TJK DATE 4-4-34
DRAWING CHECKED BY A.S.M. DATE 7-10-34
ORDER No. G5103
SHEET No. 92

Rev 9-25-34
Mtl. Ord. Pg. 172 A.S.M. MMS 9-29-34 [C]

30-1



Fast Anchor	Slot Anchor	Total	REQUIRED	
1	1	2	Portal Struts	PS4

GENERAL NOTES:

Material – All material OH. copper bearing medium carbon steel

Specifications – Special by State of California Department of Public Works

Inspection – John M. Bailey, Chief Inspector.

Rivets – 8/8 ϕ - See Note.

Open Holes – 15/16 ϕ

Reaming – All holes to be subpunched 1/8" and reamed to size while parts are assembled, except lacing, stay plates and diaphragms which may be punched full size.

Holes marked "AT" to be reamed through a steel templet.

Burrs to be removed from all reamed holes.

Paint – None.

Note – All rivet steel to be copper bearing.

Mark	Revision	Appr.

APPROVED
Chas. B. Woodruff, Chief Engr.
Chas. C. Andrew, Engr. of Design
C. H. Purcell, Bridge Engineer
Approved Date 8-7-34 Chief Engineer

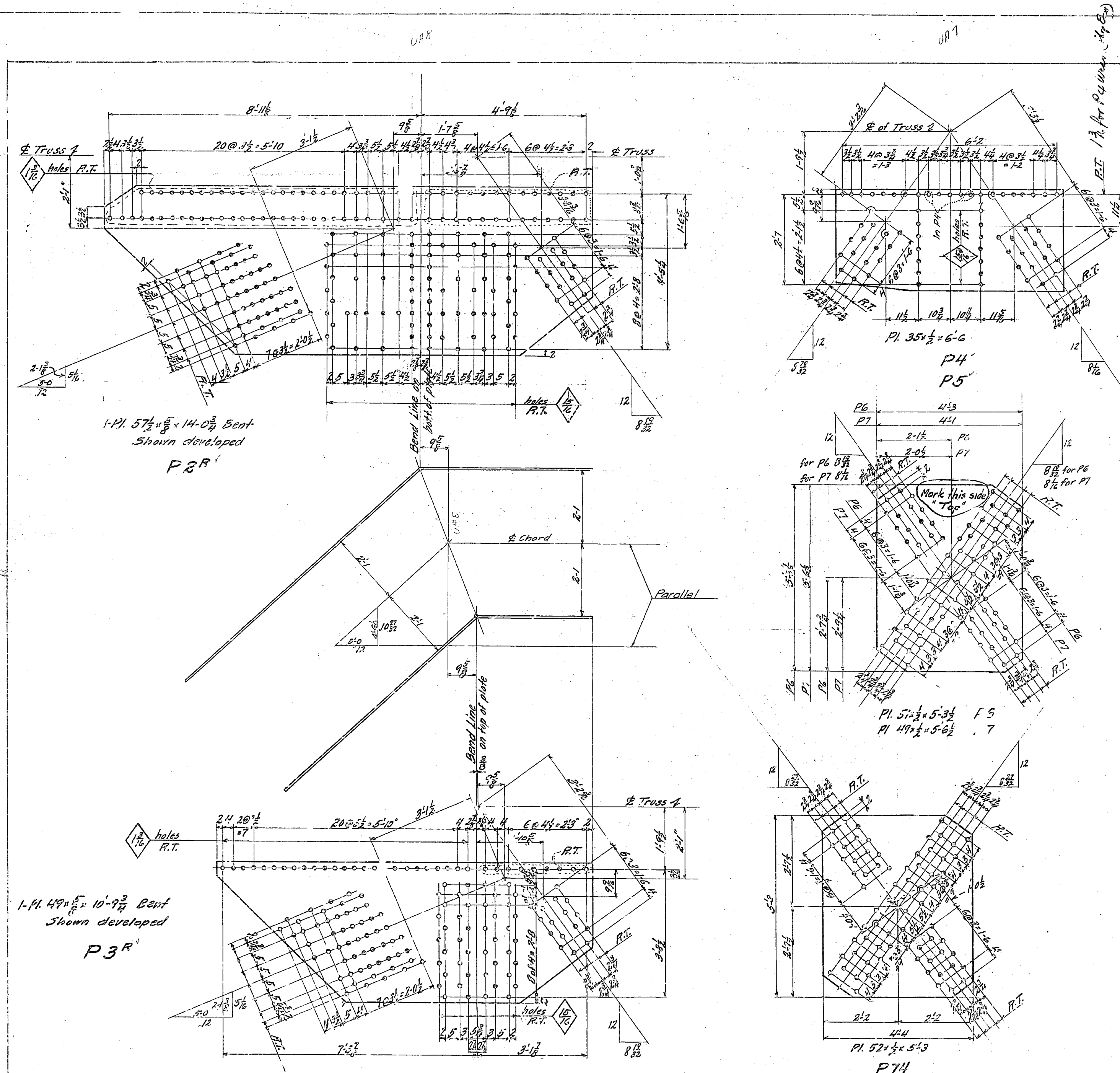
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
PORTAL STRUT AT A/B

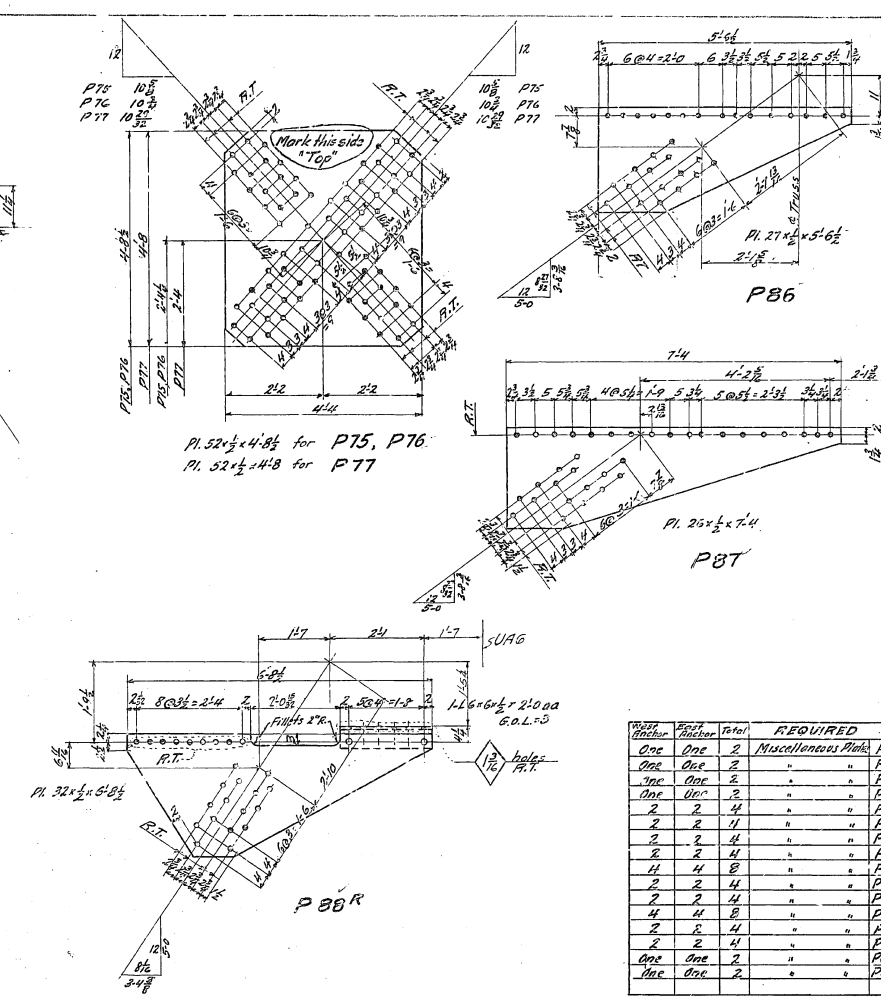
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT GARY, IND. PLANT
WORK FABRICATED AT AMB PLANT
IN CHARGE OF Wilkinson
DRAW. MADE BY B.S.D. DATE 4-4-34
DRAW. CHKD BY A.E.M. DATE 7-10-34
DR. ER No. G5103 SHEET No. 93

Rev 9-14-34
Rev 1-30-34-B

Mill Cert. Pg. 112, A.E.M. MHS 8-21-34 [C]





West Anchor	East Anchor	Total	REQUIRED	
One	One	2	Miscellaneous Plates	P2R
One	One	2	" "	P2L
One	One	2	" "	P3R
One	One	2	" "	P3L
2	2	4	" "	P4
2	2	4	" "	P5
2	2	4	" "	P6
2	2	4	" "	P7
4	4	8	" "	P74
2	2	4	" "	P75
2	2	4	" "	P76
4	4	8	" "	P77
2	2	4	" "	P86
2	2	4	" "	P87
One	One	2	" "	P88R
One	One	2	" "	P88L

GENERAL NOTES:

Material – All material O.H. copper bearing medium carbon steel.
Specifications – Special by State of California Department of Public Works.
Inspection – John M. Bailey, Chief Inspector.
Rivets – 1"ϕ All rivet steel to be copper bearing.
Open Holes – 1 1/16"ϕ unless noted.
Reaming – All holes to be subpunched ¾" and reamed to size.
Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Paint – None.

Made	Revision	App'd

APPROVED
Glenn B. Woodruff – Engr. of Design
Chas. E. Andrew – Bridge Engineer
C. H. Purcell – Chief Engineer
Approval Date 7-25-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure   Anchor Arm

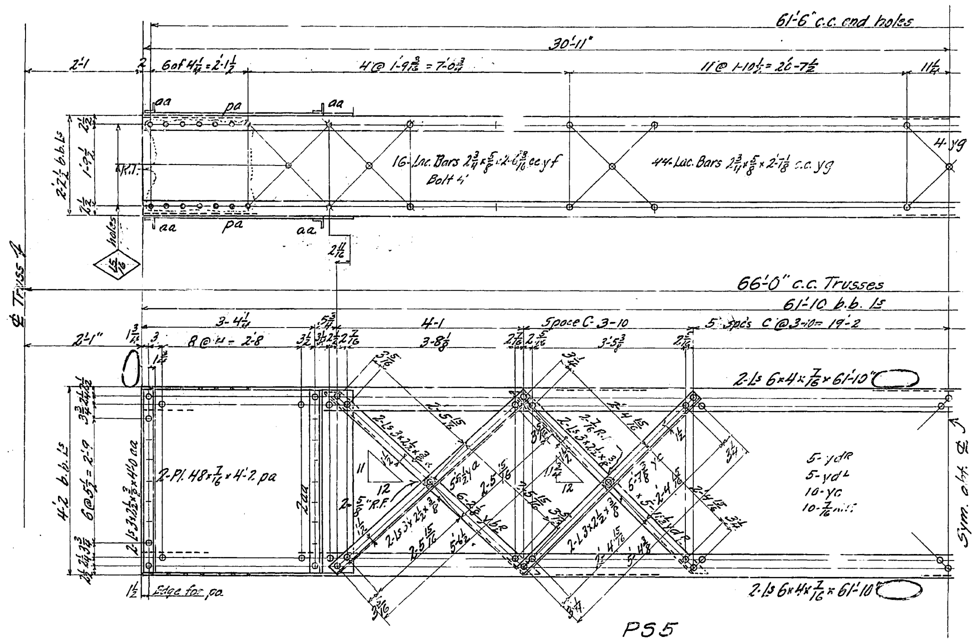
TOP LATERAL PLATES

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT GARY #1 PLANT
WORK FABRICATED AT AMB PLANT
IN CHARGE OF WILKINSON
DRAW. MADE BY DHD DATE 6-29-34
DRAW. CHECKED BY WBP, ASM DATE 7-13-34

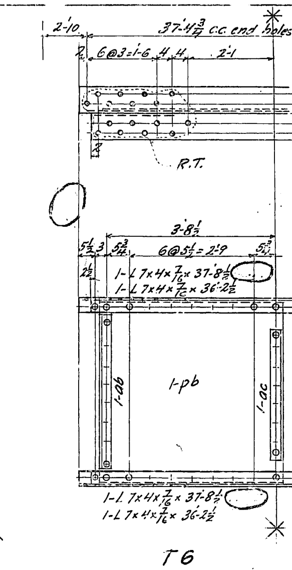
ORDER No. G5103   SHEET No. 94

Mat. ord. pg. 170, 171   MMS 8-30-34   [C]

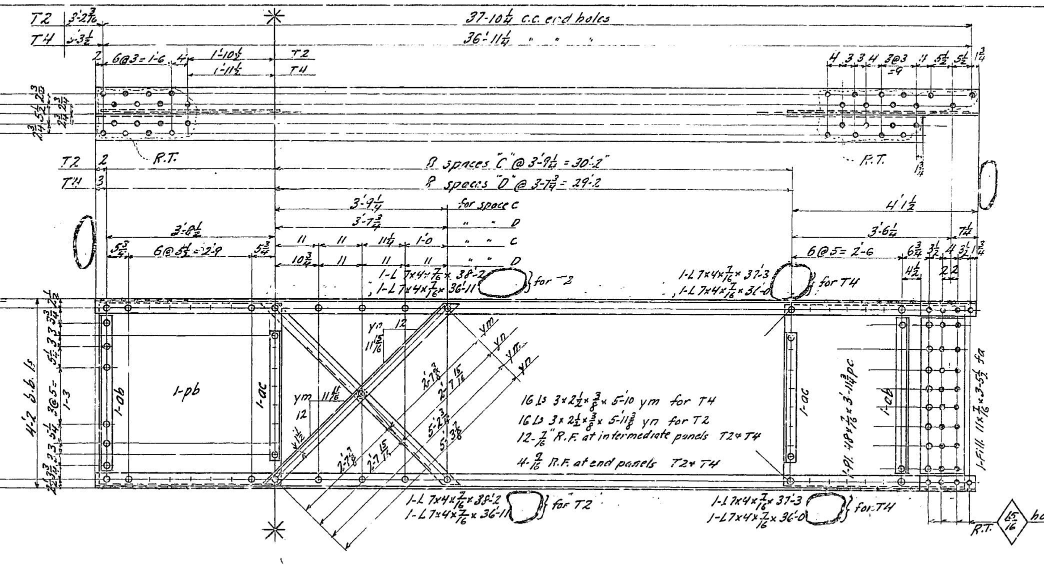
30-1



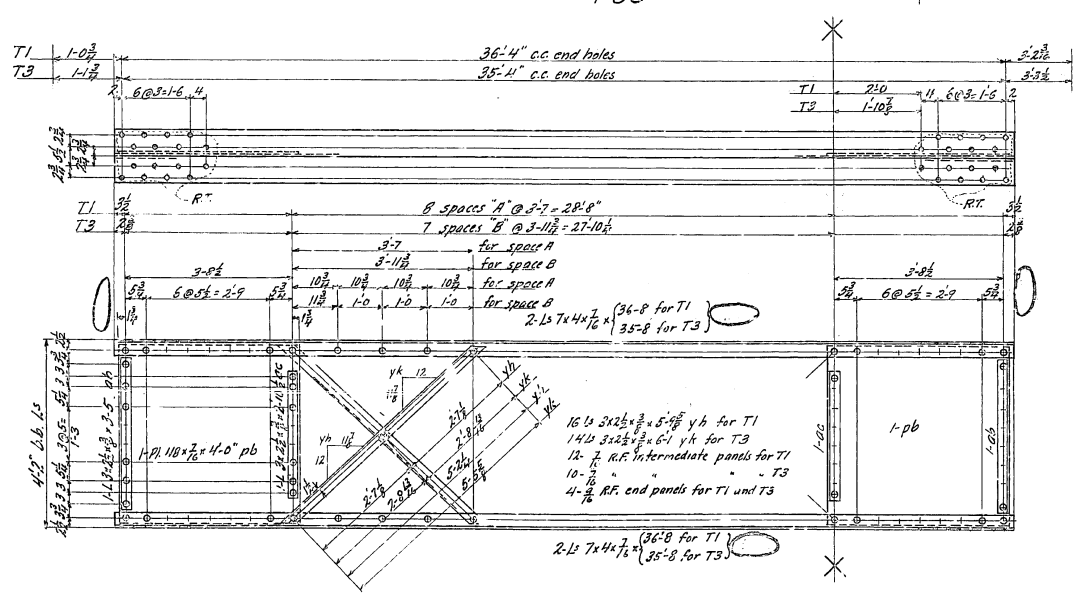
PS5



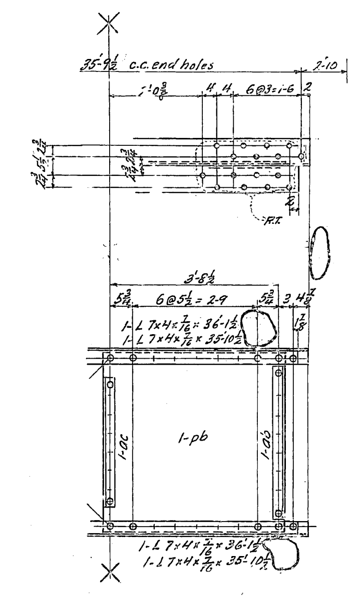
T6
Part not shown same as T4



T2 T4



T1 T3



T5
Part not shown same as T3

GENERAL NOTES:
Material— All material O.H. copper bearing medium carbon steel. All rivet steel to be copper bearing.
Specifications— Special by State of California Department of Public Works.
Inspection— John M. Bailey, Chief Inspector.
Rivets— 7/8"φ
Open Holes— 1 1/16"φ unless noted.
Reaming— All holes to be subpunched 3/4" and reamed to size while parts are assembled, except lacing and stay plates which may be punched full size.
Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Paint— None.

West Anchor	East Anchor	Total	REQUIRED	
One	One	2	Portal Strut	PS5
2	2	4	Top Lateral	T1
2	2	4	" "	T2
One	One	2	" "	T3
One	One	2	" "	T4
One	One	2	" "	T5
One	One	2	" "	T6

Made	Revision	App'd

APPROVED
Clark B. Woodruff — Engr. of Design
Ch. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approved Date 7-26-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
PORTAL STRUT AT U A 7 TOP LATERALS

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT GARY #1 PLANT
WORK FABRICATED AT AMB PLANT
CHARGE OF WILKINSON
DRAW. MADE BY D.B. DATE 5-16-34
DRAW. CHECKED BY W.S.P. DATE 7-10-34
ORDER No. G5103 SHEET No. 95

Mat'l. ord. pages 116;173
(Rev. 11-7-34)
MMS 8-30-34
[C]

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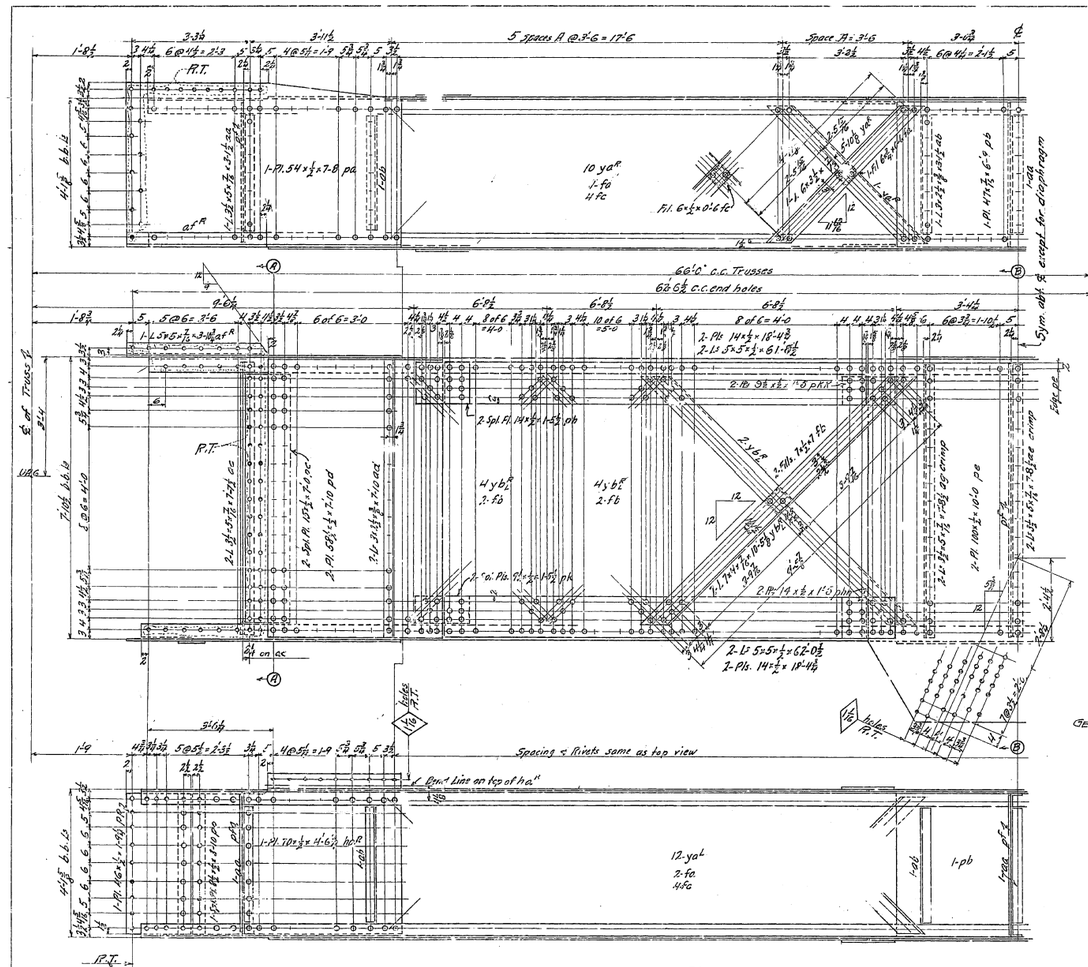
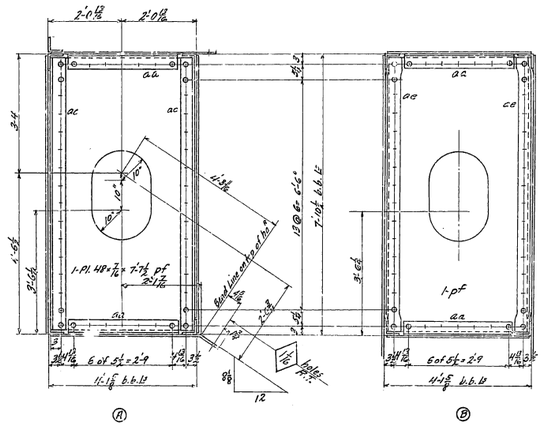


PS6



GENERAL NOTES:
Material - All material O.H. copper bearing medium carbon steel.
Specifications - Special by State of California Department of Public Works.
Inspection - John M. Bailey, Chief Inspector.
Rivets: ⅞" - See Note.
Open Holes: 15/16" Unless Noted.
Reaming - All holes to be subpunched ¼" and reamed to size while parts are assembled, except lacing, stay plates, and diaphragms, which may be punched full size.
Holes marked R.T. to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Finish - Edges of main holes to be smooth.
Paint - None.
Note - All rivet steel to be copper bearing.

West Anchor	East Anchor	Total	REQUIRED		
One	One	2	Portal Strut	PS6	10T

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
PORTAL STRUT AT U8S

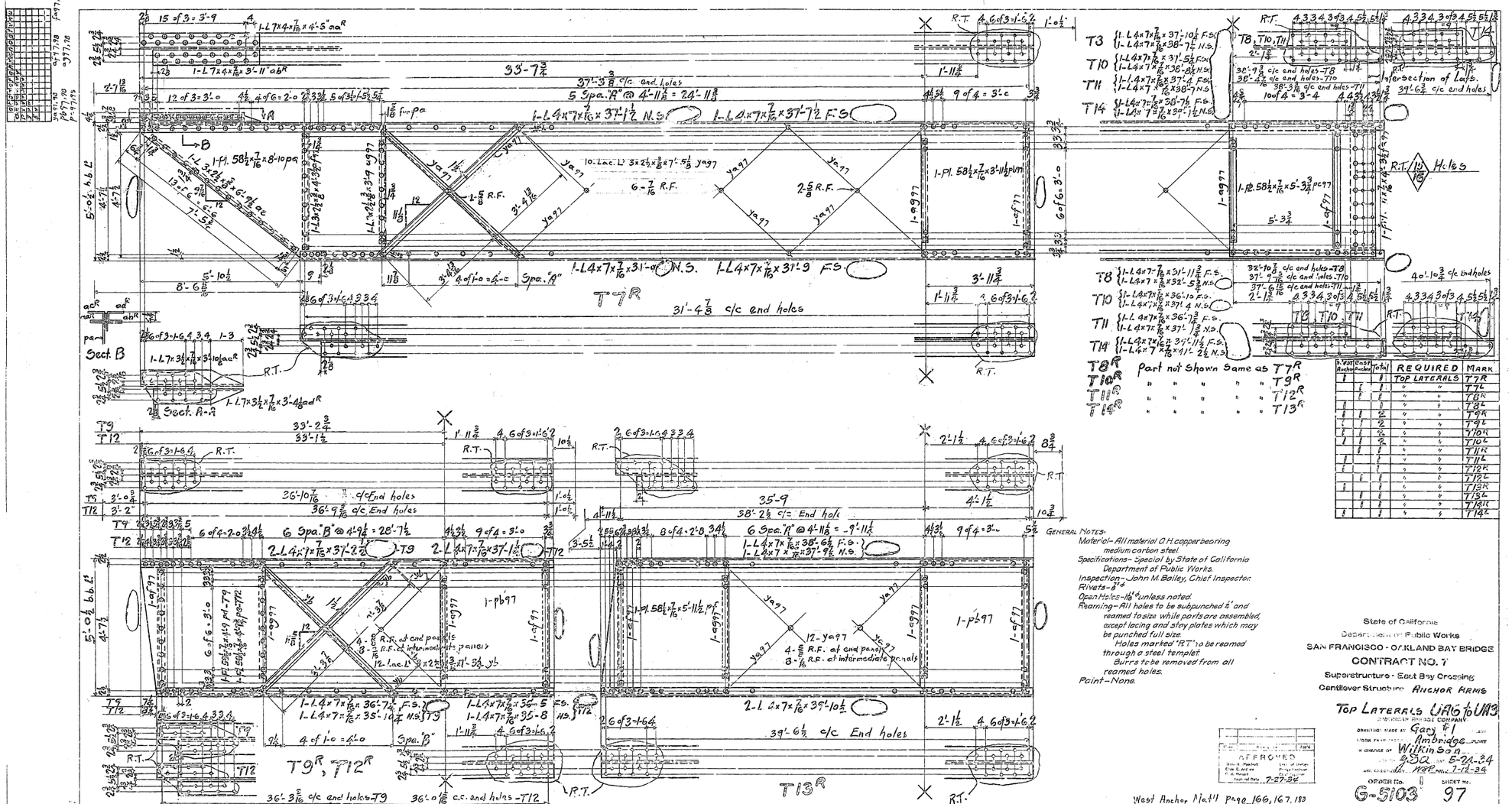
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT GARY, ILL. PLANT
WORK FABRICATED AT PGH. PLANT
BY WE OF F.H. WILKINSON
D. M. MADE BY BDB DATE 4-17-36
DETAIL CHECKED BY R.S.M. DATE 7-13-36
ORDER No. 65103 SHT. No. 96

APPROVED
Chief Engr. of Bridge
Bridge Engineer
Asst. Chief Engr.
7-28-36

Tech. ord. Pks. 113,174 Dwb

NHS 8-30-34

[C]



Panel Point	Anchor Members	Total	REQUIRED	MARK
		1	TOP LATERALS	T7R
		1	" "	T7L
		1	" "	T8R
		1	" "	T8L
		1/2	" "	T9R
		1/2	" "	T9L
		1/2	" "	T10R
		1/2	" "	T10L
		1	" "	T11R
		1	" "	T11L
		1	" "	T12R
		1	" "	T12L
		1	" "	T13R
		1	" "	T13L
		1	" "	T14R
		1	" "	T14L

GENERAL NOTES:
Material- All material O.H. copper bearing medium carbon steel
Specifications- Special by State of California Department of Public Works.
Inspection- John M. Bailey, Chief Inspector.
Rivets- $\frac{7}{8}$"ø
Open Holes- $1\frac{1}{16}$" ø unless noted.
Reaming- All holes to be subpunched $\frac{1}{4}$" and reamed to size while parts are assembled, except lacing and stay plates which may be punched full size.
Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Paint- None.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure ANCHOR ARMS

TOP LATERALS UA6 to UA3

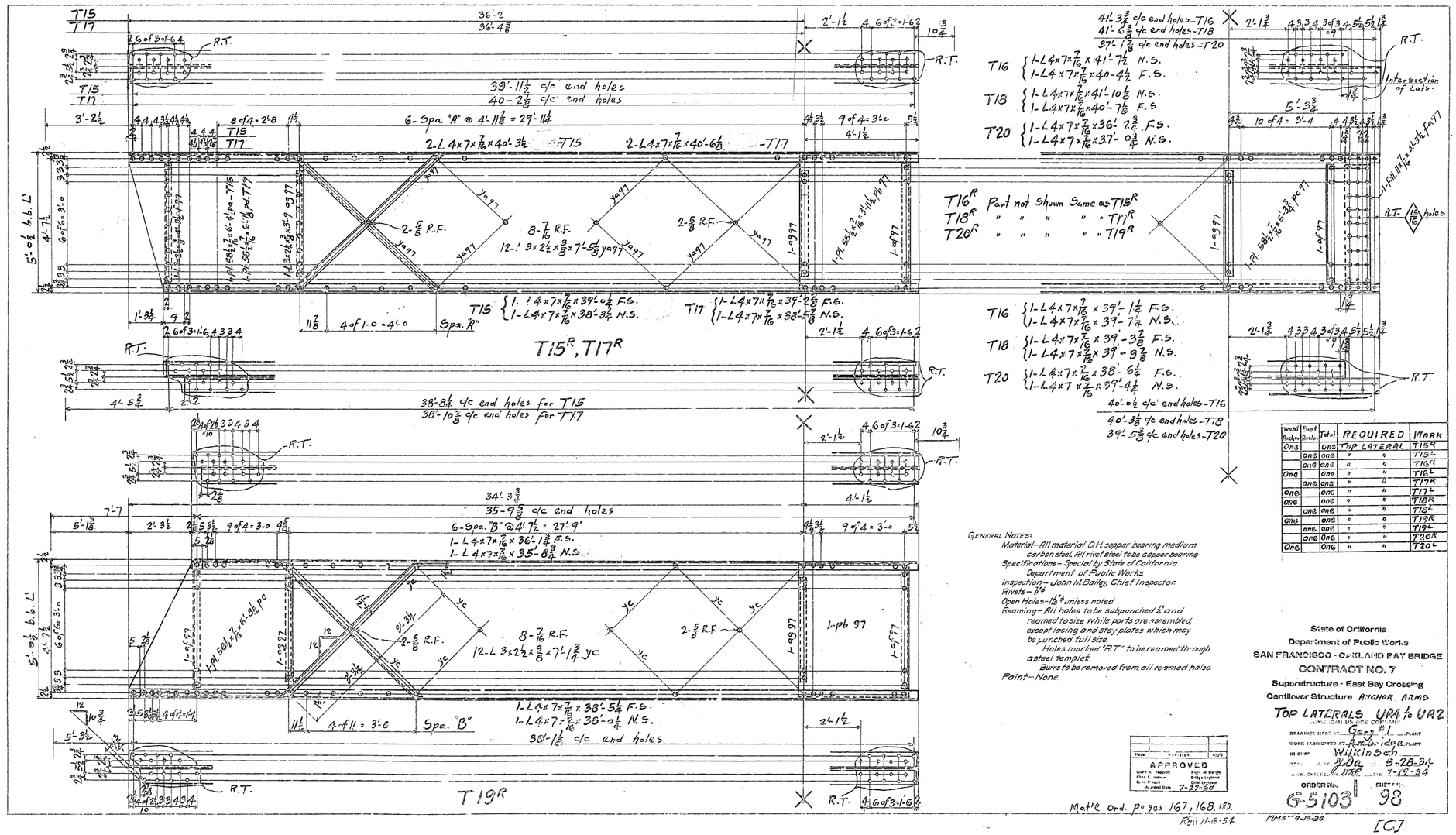
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary, Ind.
WORK PERFORMED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DATE 4-30-34 DATE 5-21-34
APPROVED ... DATE 7-12-34

APPROVED
Chief Engineer
Asst. Chief Engineer
Principal Assistant Engineer
Asst. Engineer
Date 7-27-34

ORDER No. G-5103 SHEET No. 97

West Anchor Mat'l page 166, 167, 183
Rev. 11-6-34
Rev. 7-18-34
[C]

30-1



Weld Marker	End Rivets	Total	REQUIRED	MARK
One		One	TOP LATERAL	T15R
	One	One	"	T15L
	One	One	"	T16R
One		One	"	T16L
	One	One	"	T17R
One		One	"	T17L
One		One	"	T18R
	One	One	"	T18L
One		One	"	T19R
	One	One	"	T19L
	One	One	"	T20R
One		One	"	T20L

GENERAL NOTES:
Material – All material O.H. copper bearing medium carbon steel. All rivet steel to be copper bearing
Specifications – Special by State of California Department of Public Works
Inspection – John M. Bailey, Chief Inspector.
Rivets – 7/8"ϕ
Open Holes – 1 1/16" unless noted
Reaming – All holes to be subpunched 1/4" and reamed to size while parts are assembled, except lacing and stay plates which may be punched full size.
Holes marked "R.T." to be reamed through a steel templet
Burrs to be removed from all reamed holes.
Paint – None.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure ANCHOR ARMS
TOP LATERALS U A1 to U A2

Mark	Revision	Date	
APPROVED			
Chief Engineer		For Chief Engineer	
Chief Engineer		Bridge Engineer	
Asst. Engineer		Chief Engineer	
		7-27-34	

AMERICAN BRIDGE COMPANY
DRAWING SUBMITTED BY Gary #1 PLANT
WORK FABRICATED AT Am. Bridge PLANT
IN CHARGE Wilkinson
DRAWN BY Wa DATE 5-28-34
ALIGN. CHECKED BY WSP DATE 7-19-34
ORDER No. G-5103 SHEET No. 98
MMS 9-13-34

Metric Drd. Pages 167, 168, 183.
Rel: 11-6-54

[C]

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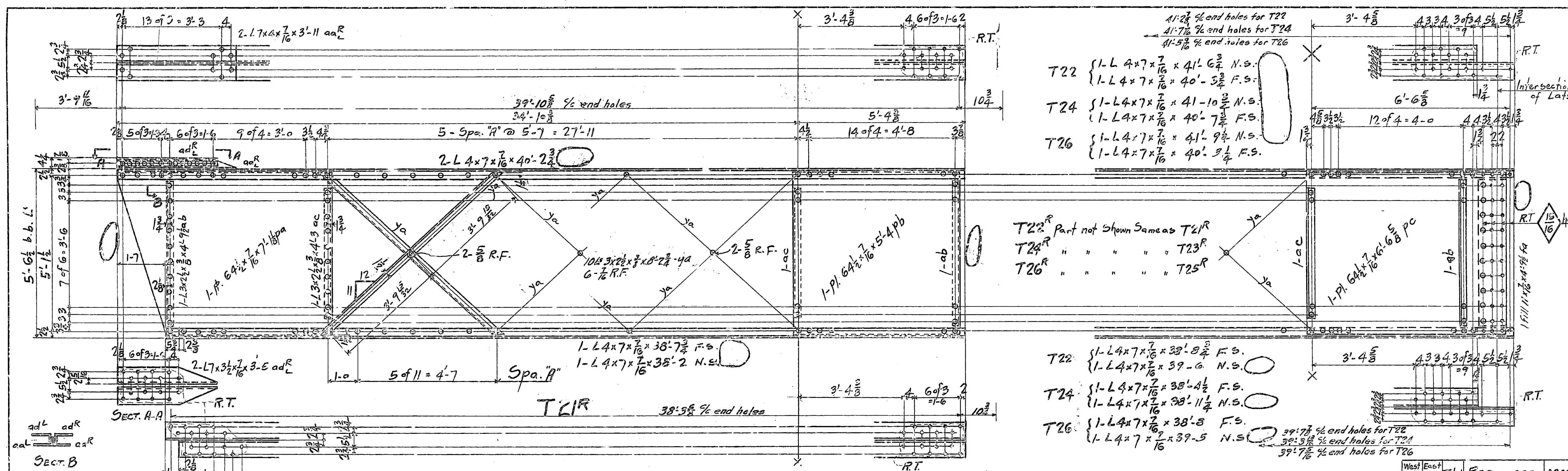
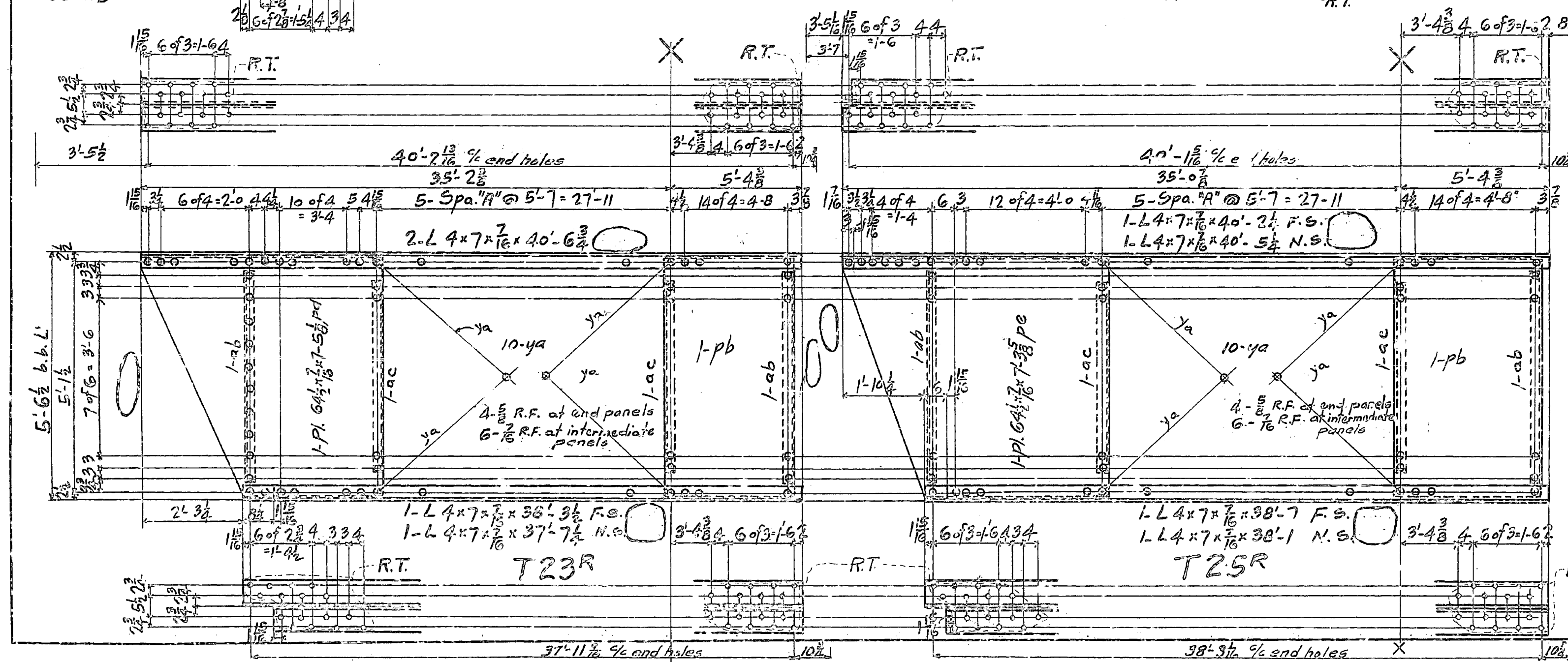




West Anchor	East Anchor	Total	Required	Mark
One		One	Top Lateral	T21R
	One	One	" "	T21L
	One	One	" "	T22R
One		One	" "	T22L
One	One	2	" "	T23R
One	One	2	" "	T23L
One	One	2	" "	T24R
One	One	2	" "	T24L
One		One	" "	T25R
	One	One	" "	T25L
	One	One	" "	T26R
One		One	" "	T26L

General Notes:

Material– All material O.H. copper bearing medium carbon steel. All rivet steel to be copper bearing.

Specifications– Special by State of California Department of Public Works.

Inspection– John M. Bailey, Chief Inspector.

Rivets– 7/8" ϕ

Open Holes– 1 1/16" ϕ unless noted.

Reaming– All holes to be subpunched 1/4" and reamed to size while parts are assembled, except lacing and stay plates which may be punched full size.

Holes marked "R.T." to be reamed through a steel templet.

Burrs to be removed from all reamed holes.

Paint– None.

Made	Revision	App'd

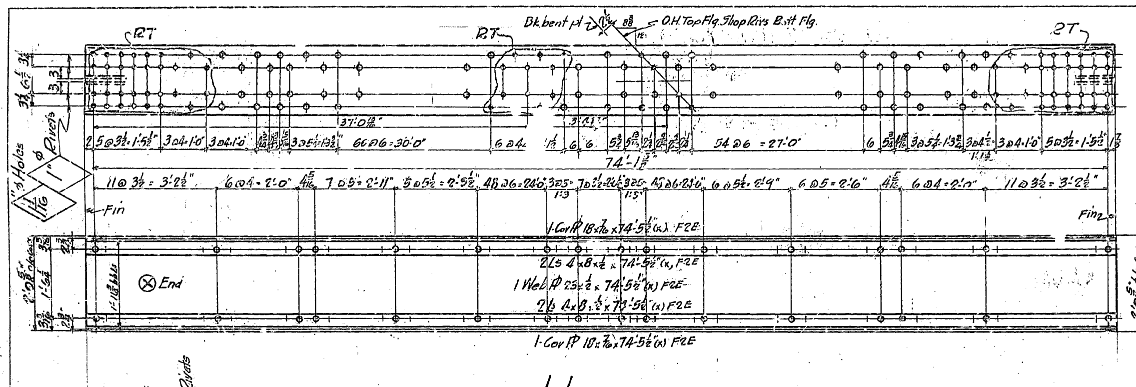
APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 7-27-34

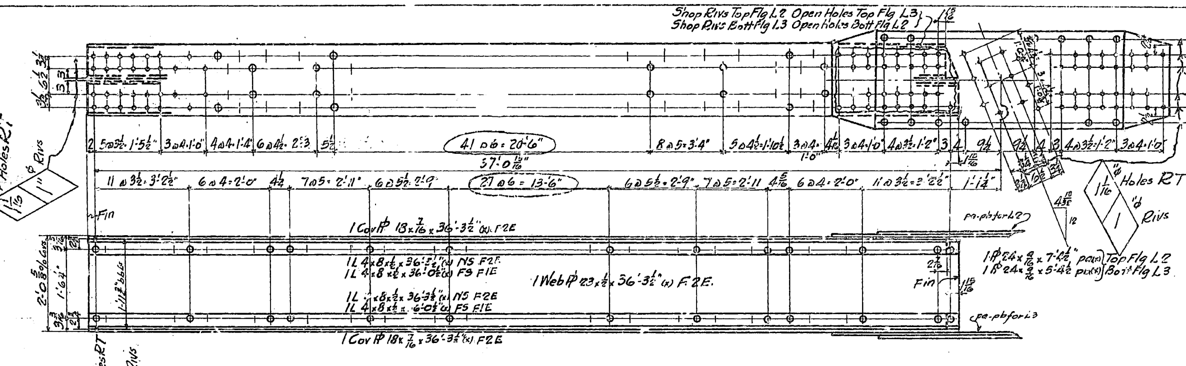
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arms
TOP LATERALS UH2 to Uo

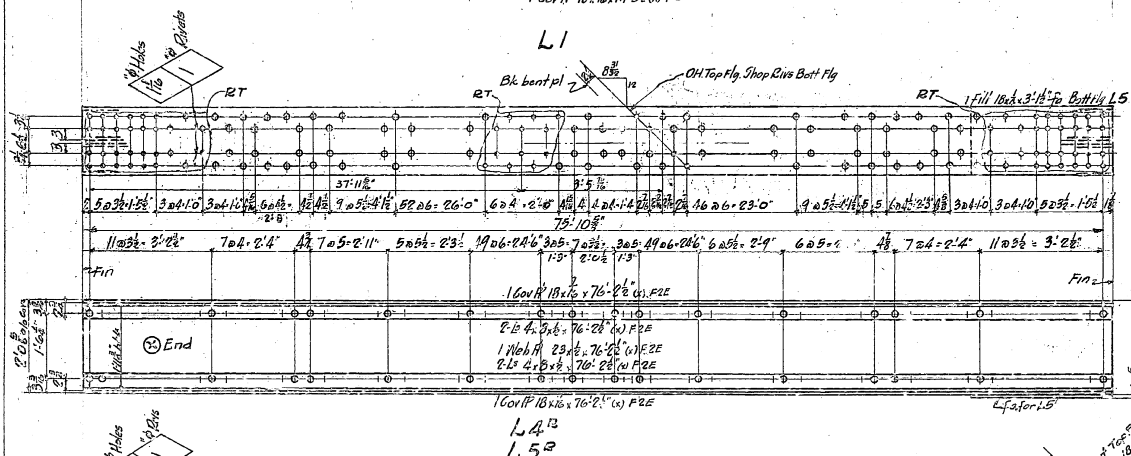
American Bridge Company
Drawings made at Gary #1 Plant
Work fabricated at Ambridge Plant
In charge of Wilkinson
Dr. by GDa date 5-31-34
Checked by WSP date 7-19-34
Order No. G-5103
Sheet No. 99

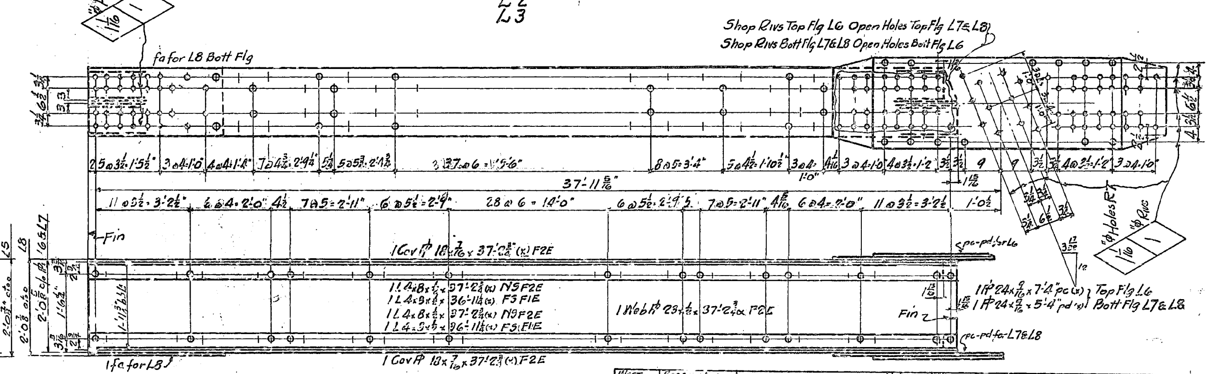
(Rev. 11-7-34)
Mat'l Ord. Pgs 168-169-184 GDa
MHS 9-13-34
[C]

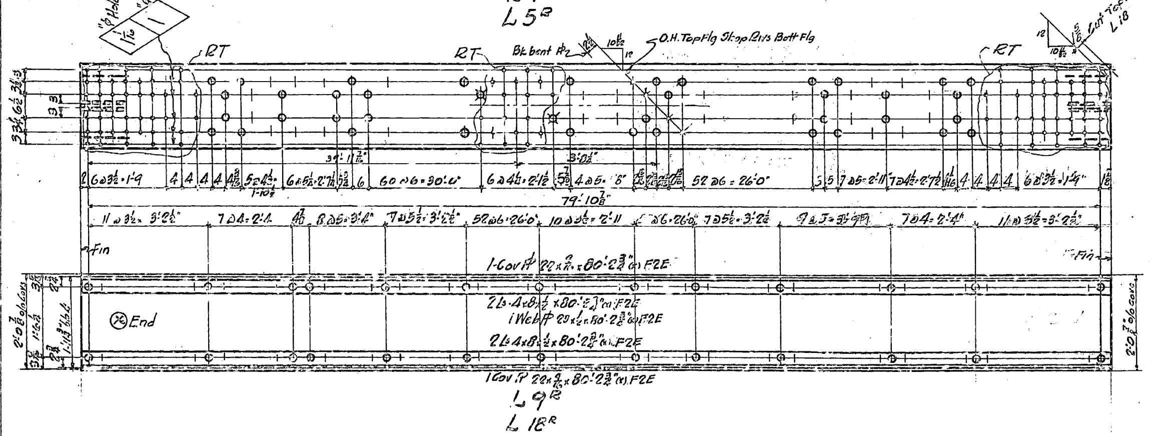
30-1











	West Anchor	East Anchor	Total	Required	
9T	One		One	Bottom Lateral Bracing	L18R
9T		One	One	do	L18L

West Anchor	East Anchor	Total	Required		
One		One	Bottom Lateral Bracing	L1	7T
One		One	do	L2	
One		One	do	L3	
4		4	do	L4R	7T
	4	4	do	L4L	7T
One		One	do	L5R	7T
	One	One	do	L5L	7T
5		5	do	L6R	
	5	5	do	L6L	
4		4	do	L7R	
	4	4	do	L7L	
One		One	do	L8R	
	One	One	do	L8L	
One		One	do	L9R	9T
	One	One	do	L9L	9T

GENERAL NOTES:

Material– All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel. All rivet steel to be copper bearing.
Specification:–Special by State of California Department of Public Works.
Inspection– John M. Bailey, Chief Inspector.
Rivets–7/8"ϕ unless noted.
Open Holes– As noted.
Reaming– All material to be subpunched 3/4" and reamed to size while parts are assembled.
Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Finish– On all silicon steel the sheared or flame cut edges or ends are to be chipped or finished to remove at least 1/8" of metal.
Paint– None.

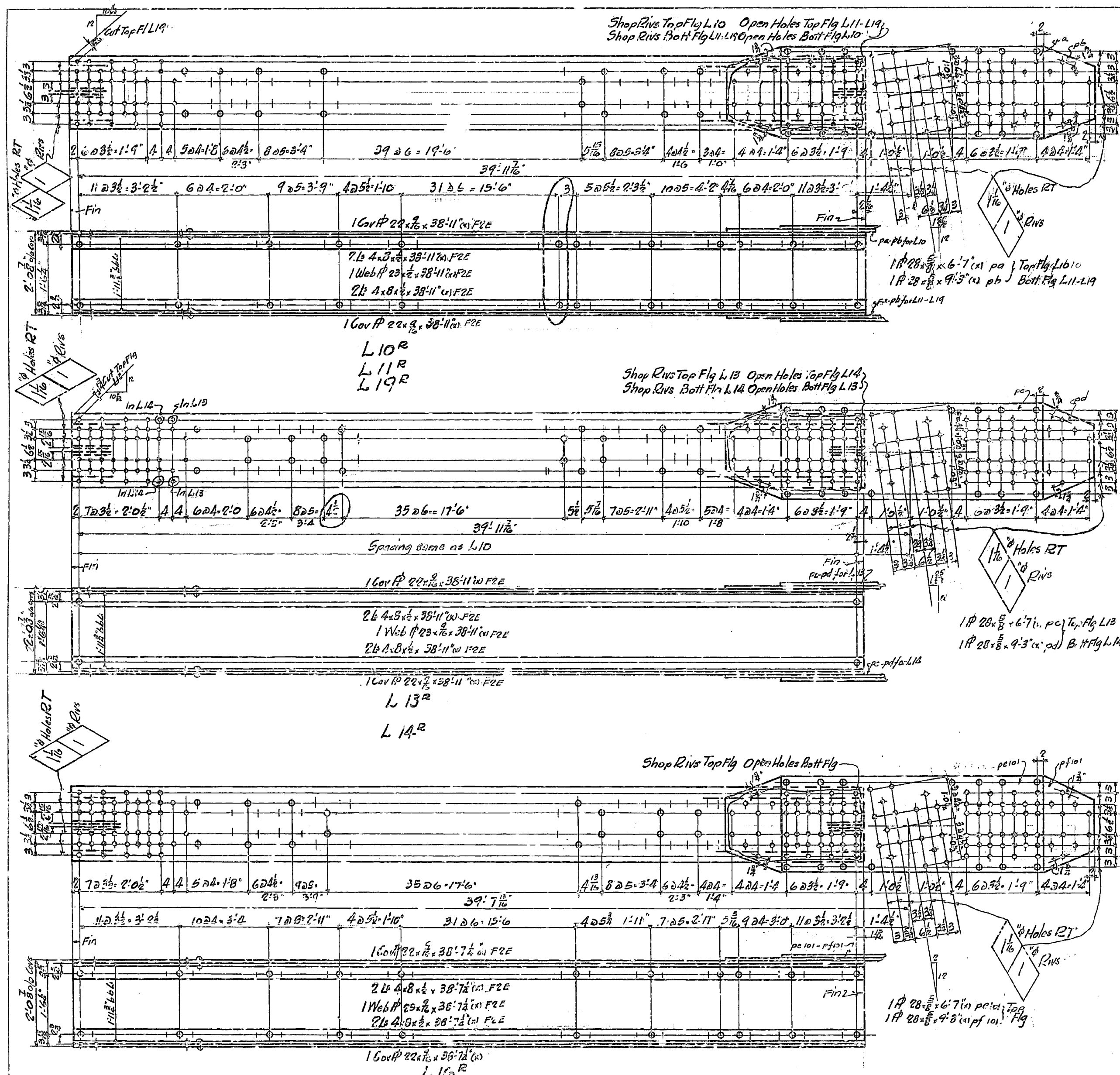
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
Bottom Lateral Bracing

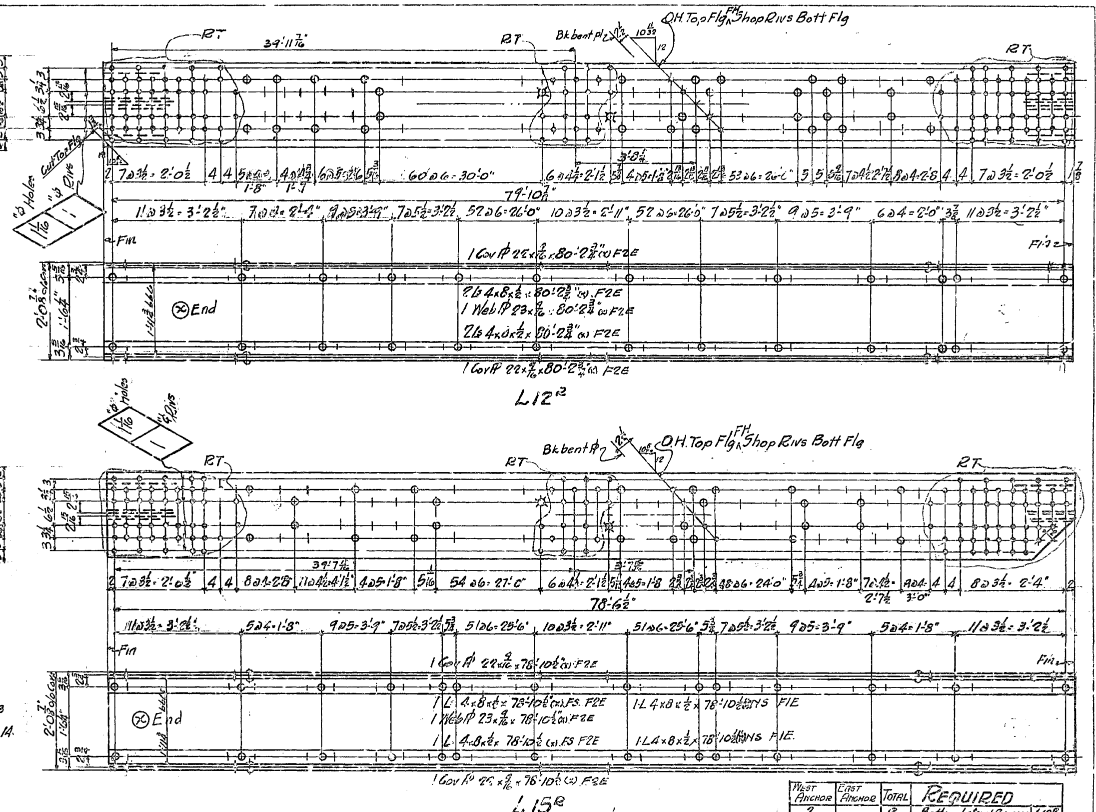
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DRAW. MADE BY W.C.B. DATE 5/21/34
CHECKED BY K.M.S. DATE 7-3-34
ORDER No. G5103 SHEET No. 100

Made	Revision	App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 7-20-34

Rev 10-2-34 vv MAW 9-4-34 Mat'l Ord 161-2-35 W.C.B. [B&C]





West Anchor	East Anchor	Total	Required	
One		One	Bottom Lateral Bracing	L19R
	One	One	do	L19L

West Anchor	East Anchor	Total	Required		
2		2	Bottom Lateral Bracing	L10R	
	2	2	do	L10L	
One		One	do	L11R	
	One	One	do	L11L	
One		One	do	L12R	9T
	One	One	do	L12L	9T
One		One	do	L13R	
	One	One	do	L13L	
One		One	do	L14R	
	One	One	do	L14L	
One		One	do	L15R	9T
	One	One	do	L15L	9T
One		One	do	L16R	
	One	One	do	L16L	

GENERAL NOTES:

Material– All material O.H. copper bearing carbon steel, except material marked (X) is O.H. copper bearing silicon steel.

Specifications– Special by State of California Department of Public Works.

Inspection– John M. Bailey, Chief Inspector.

Rivets– 7/8"φ unless noted (See note)

Open Holes– As noted.

Reaming– All material to be subpunched 1/4" and reamed to size while parts are assembled.
Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.

Finish– On all silicon steel the sheared or flame cut edges or ends are to be chipped or finished to remove at least 1/8" of metal.

Paint– None

Note– All rivet steel to be copper bearing.

Mad.	Revision	App'd

APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 7-20-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
Bottom Lateral Bracing

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DRAW. MADE BY WCB DATE 5/24/34
DRAW. CKED BY MMS DATE 7-6-34
ORDER No. G5103 SHEET No. 101

Rev 10-3-34 WMLW-9-4-34 Mat'l Ord Sl. #165DCB [B&C]

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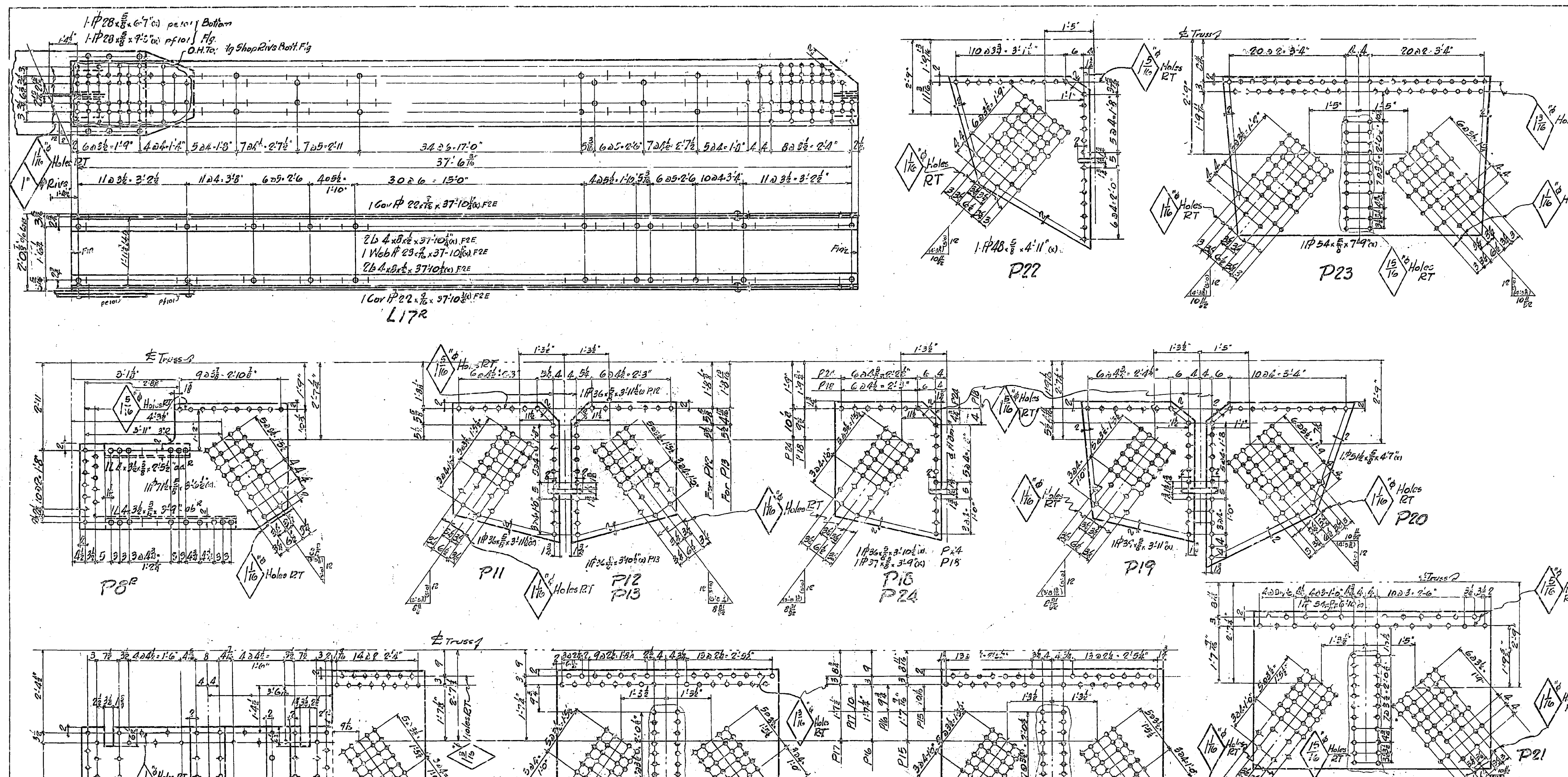
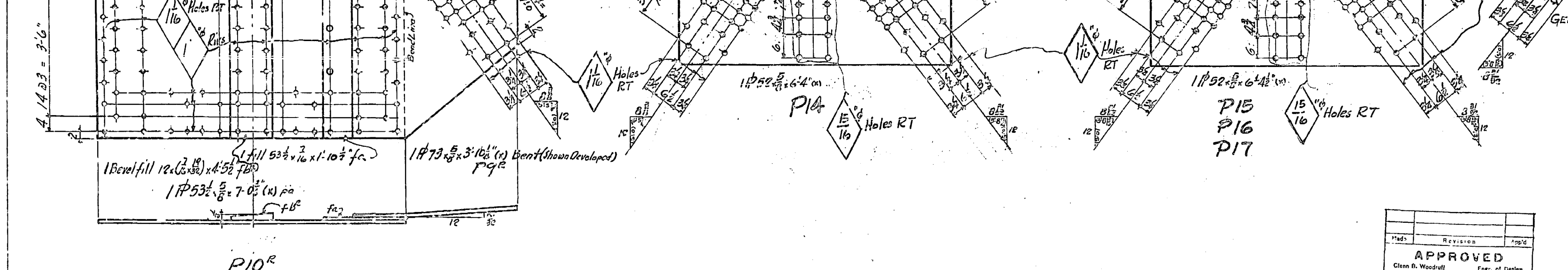




West Anchor	East Anchor	Total	Required	
One		One	Bottom Lateral Bracing	L17R
	One	One	do	L17L
One		One	Bott. Lat. Bracing Pl	P8R
One		One	do	P8L
One		One	do	P9R
One		One	do	P9L
One		One	do	P10R
One		One	do	P10L
2		2	do	P11
2	2	4	do	P12
8	6	14	do	P13
2		2	do	P14
2	2	4	do	P15
2	2	4	do	P16
4	4	8	do	P17
4	4	8	do	P18
2	2	4	do	P19
2	2	4	do	P20
2	2	4	do	P21
4	4	8	do	P22
2	2	4	do	P23
4	4	8	do	P24

GENERAL NOTES:

Material– All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel. All rivet steel to be copper bearing.

Specifications–Special by State of California Department of Public Works.

Inspection–John M. Bailey, Chief Inspector.

Rivets–⅞"ϕ unless noted.

Open Holes–As noted.

Reaming–All material to be subpunched ¼" and reamed to size while parts are assembled.
Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.

Finish– On all silicon steel the sheared or flame cut edges or ends are to be chipped or finished to remove at least ⅛" of metal.

Paint–None

APPROVED
Approval Date 7-20-34

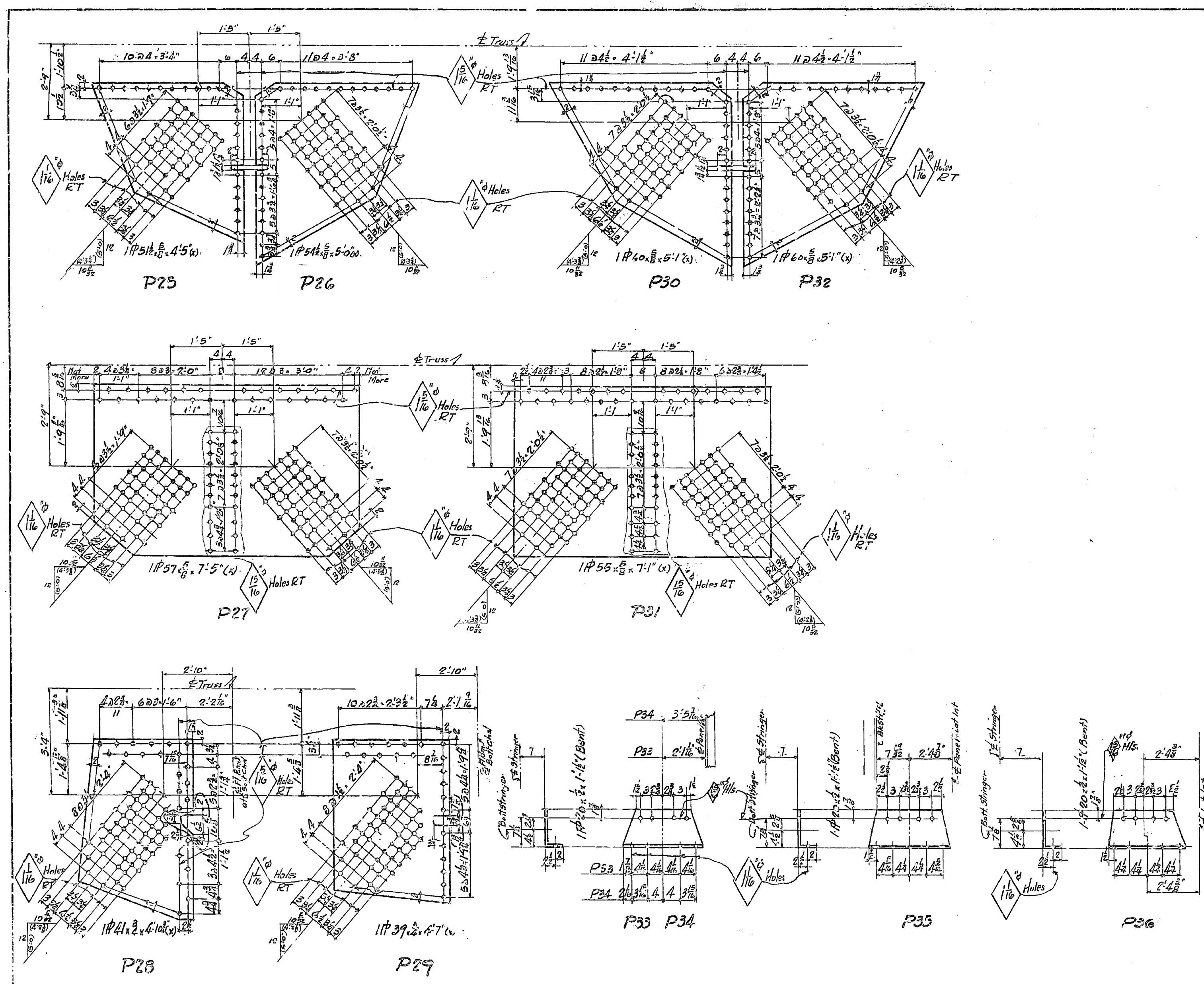
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
Bottom Lateral Bracing & Plates

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
MADE BY W.C.B. DATE 5/31/34
DRAW. CHECKED BY MMS DATE 7-6-34

ORDER No. G5103
SHEET No. 102

WMW 9-4-34
Mat'l Ord Sk 161-2-3-5 WCB
[B & C]

30-1



West Anchor	East Anchor	Total	Required	
2	2	4	Bottom Lateral Pl's	P25
2	One	3	do	P26
2	2	4	do	P27
2	2	4	do	P28
2	2	4	do	P29
2		2	do	P30
2	2	4	do	P31
2	2	4	do	P32
One		One	Bott Lat. Hanger Pl's	P34
5	5	10	do	P33
3	3	6	do	P35
One	One	2	do	P36

GENERAL NOTES:

Material– All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel. All rivet steel to be copper bearing.

Specifications– Special by State of California Department of Public Works.

Inspection– John M. Bailey, Chief Inspector

Rivets– 7/8"ϕ unless noted

Open Holes– As noted

Reaming– All material to be subpunched 1/4" and reamed to size while parts are assembled.
Holes marked "R.T." to be reamed to a steel templet.
Burrs to be removed from all reamed holes.

Finish– On all silicon steel, the sheared edges or ends are to be chipped or finished to remove at least 1/8" of metal.

Paint– None

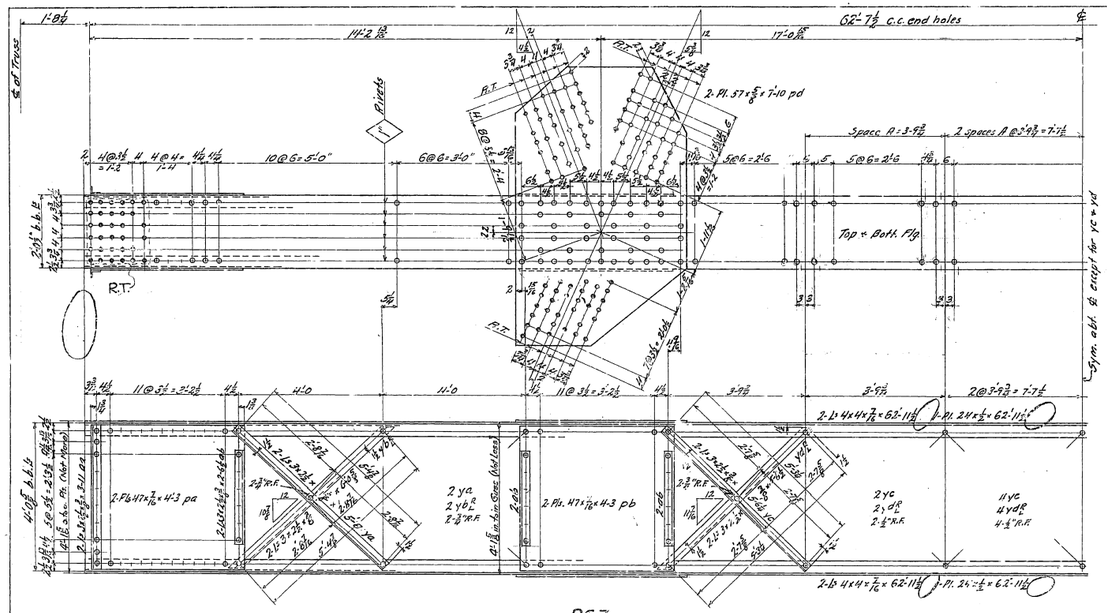
Made	Revision	App'd

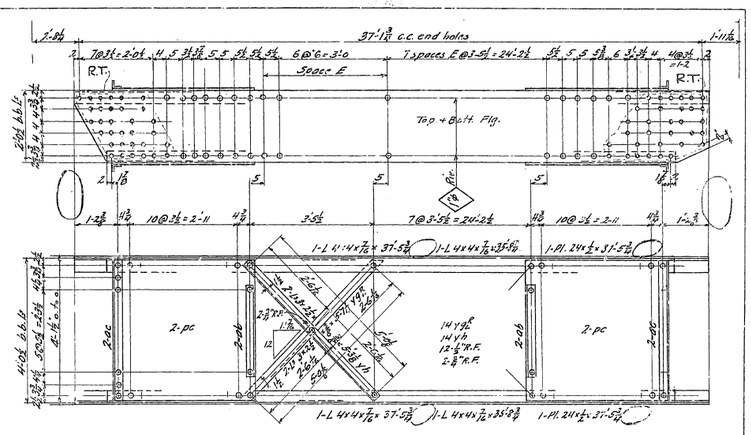
APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 7-20-34

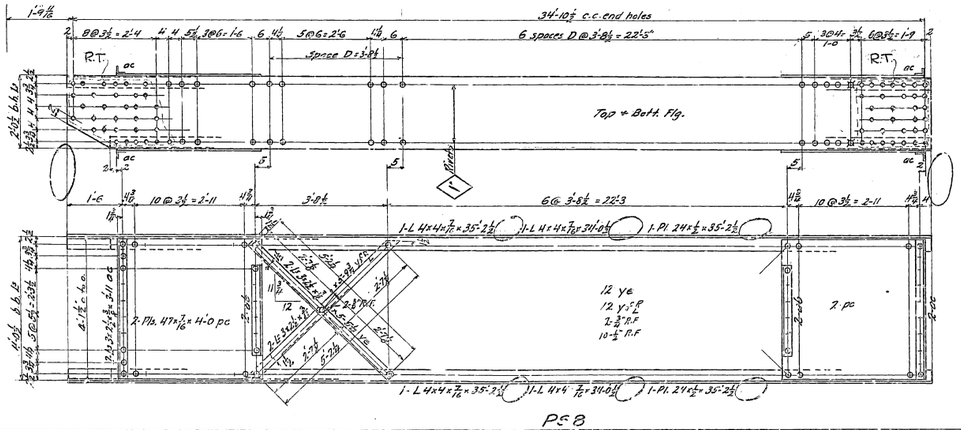
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm.
Bottom Lateral & Hanger Plates
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
MADE BY WCB. DATE 6/4/34
DRAW. CHECKED BY MMS DATE 7-6-34
ORDER No. G5103
SHEET No. 103

W MMW 9-4-34 – Mat'l Ord Sh. 1-2-4 WCB [B & C]

Rev 11-20-34







GENERAL NOTES:
Material - All material O.H. copper bearing medium carbon steel.
Specifications - Special by State of California Department of Public Works.
Inspection - John M. Bailey, Chief Inspector.
Rivets - 7/8" Unless Noted. (Copper Bearing)
Open Holes - 1 1/16"
Reaming - All holes to be subpunched ¼" and reamed to size while parts are assembled, except lacing and stay plates which may be punched full size.
Holes marked R.T. to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Paint - None.

Weight Number	Weight Another	Total	REQUIRED	
One	One	2	Portal Strut	P57
2	2	4	" "	P58
2	2	4	" "	P59

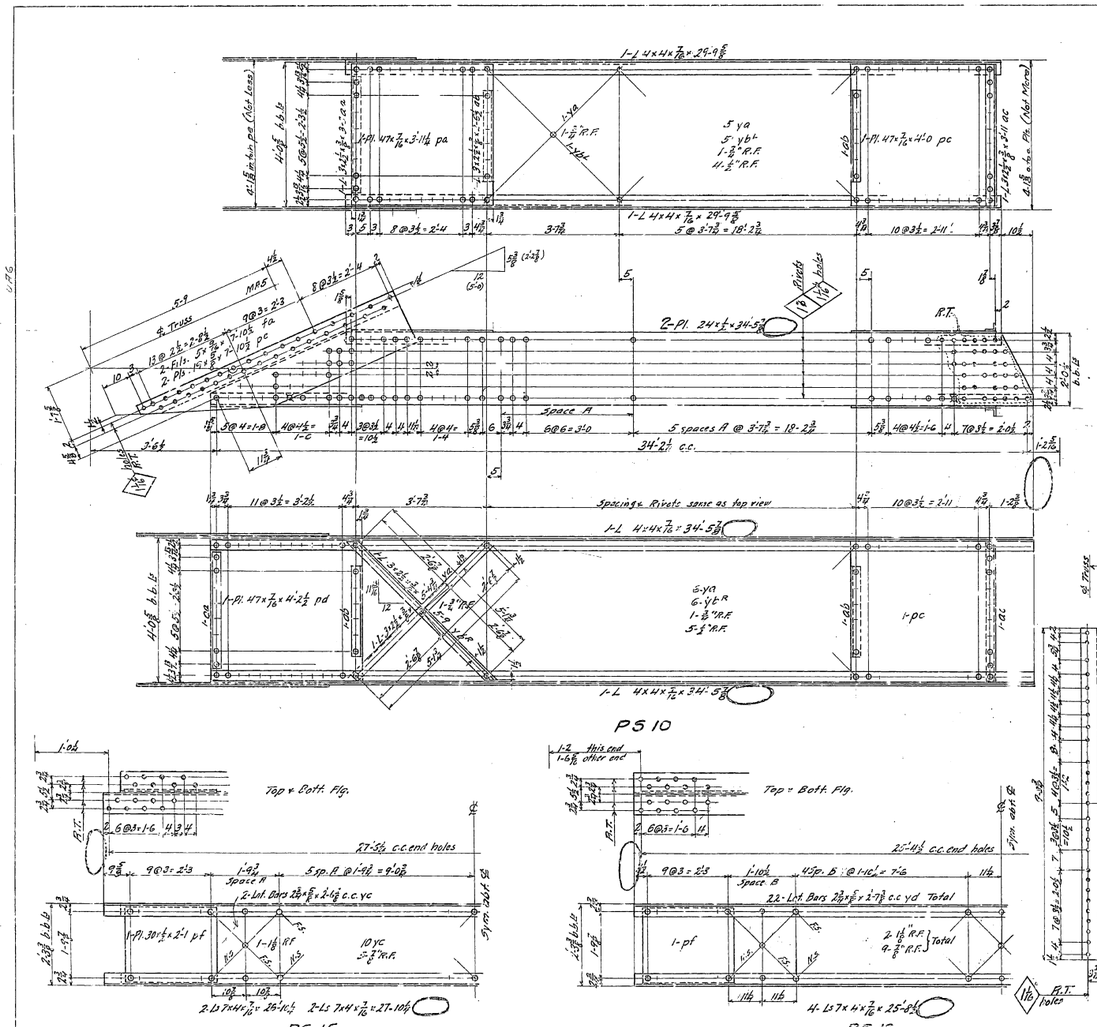
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure

PORTAL STRUTS AT L26

AMERICAN BRIDGE COMPANY
DRAWING MADE AT BAY CITY PLANT
WORK PROMOTED AT AMES PLANT
IN CHARGE OF WILKINSON
BY A.N.E. DATE 5-22-34
D. N. CHECKED BY A.S.M. DATE 7-12-34
ORDER No. 6 5103 SHEET No. '04

APPROVED
Chief Engr. of Design
by Chief Engineer
Date 7-25-34

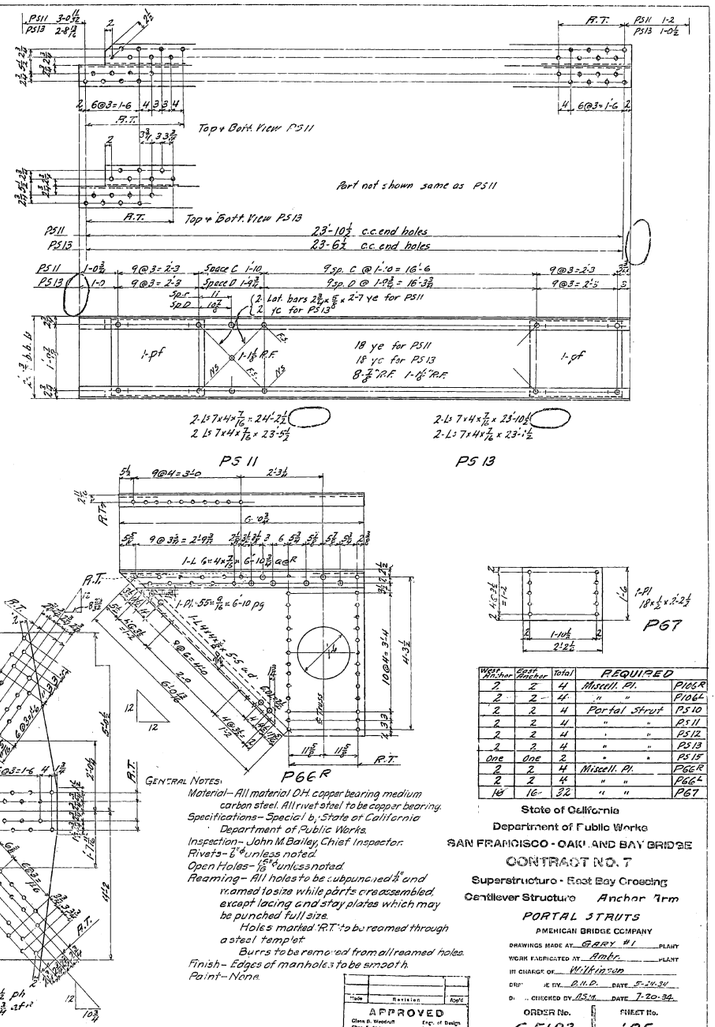
(Rev. 9-26-34) Mat. ord. pg. 180-182. M/35. 9-4-34. [C]



PS 10

PS 15

PS 12



PS 11 — PS 13

P67

Weld Anchor	Weld Fitchor	Total	REQUIRED	
2	2	4	Miscell. Pl.	P106R
2	2	4	" "	P106L
2	2	4	Portal Strut	PS10
2	2	4	" "	PS11
2	2	4	" "	PS12
2	2	4	" "	PS13
One	One	2	" "	PS15
2	2	4	Miscell. Pl.	P66R
2	2	4	" "	P66L
16	16	32	" "	P67

P66R

GENERAL NOTES:
Material – All material O.H. copper bearing medium carbon steel. All rivet steel to be copper bearing.
Specifications – Special b, State of California Department of Public Works.
Inspection – John M. Bailey, Chief Inspector.
Rivets – 3/4" ø unless noted.
Open Holes – 1/8" ø unless noted.
Reaming – All holes to be subpunched 1/8" and reamed to size while parts are assembled, except facing and stay plates which may be punched full size.
Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Finish – Edges of manholes to be smooth.
Paint – None.

No.	Revision	Appd.

APPROVED
Clem B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 7-25-36

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
PORTAL STRUTS
AMERICAN BRIDGE COMPANY

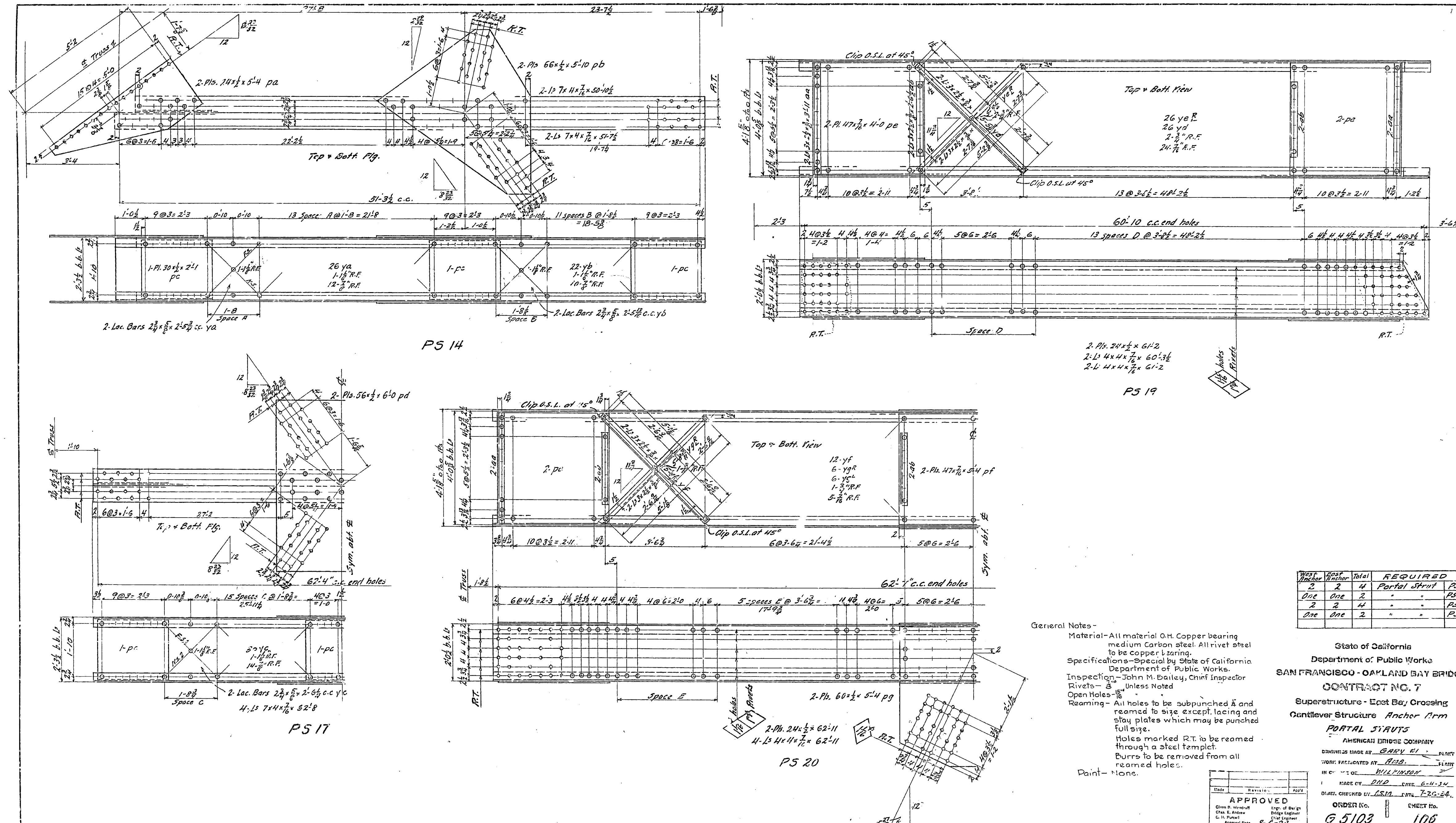
DRAWINGS MADE AT GARY #1 PLANT
WORK FABRICATED AT Ambr. PLANT
IN CHARGE OF W.H. Finton
DR'T. AE TR. D.H.D. DATE 5-24-36
D. CHECKED BY R.S.H. DATE 7-20-36

ORDER No. E5103
SHEET No. 105

(Rev 9-25-36)

Mat. Ord. Pg. 170, 180, 181, 174, 178, 179, 185 Plates 9-5-36 [C]

30-1



West Anchor	East Anchor	Total	REQUIRED	
2	2	4	Portal Strut	PS14
One	One	2	" "	PS 17
2	2	4	" "	PS 19
One	One	2	" "	PS 20

General Notes-

Material- All material O.H. Copper bearing medium Carbon steel. All rivet steel to be copper bearing.

Specifications- Special by State of California Department of Public Works.

Inspection- John M. Bailey, Chief Inspector

Rivets- 7/8" Unless Noted

Open Holes- 15/16" " "

Reaming- All holes to be subpunched 1/4" and reamed to size except lacing and stay plates which may be punched full size.

Holes marked R.T. to be reamed through a steel templet.

Burrs to be removed from all reamed holes.

Paint- None.

State of California

Department of Public Works

SAN FRANCISCO - OAKLAND BAY BRIDGE

CONTRACT NO. 7

Superstructure - East Bay Crossing

Cantilever Structure Anchor Arm

PORTAL STRUTS

AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT GARY #1 PLANT

WORK FABRICATED AT AMB. PLANT

IN CHARGE OF WILKINSON

MADE BY DHD DATE 6-4-34

DRAW. CHECKED BY ASM DATE 7-26-34

Made	Revision	App'd

APPROVED

Glenn B. Woodruff — Engr. of Design

Chas. E. Andrew — Bridge Engineer

C. H. Purcell — Chief Engineer

Approval Date 8-6-34

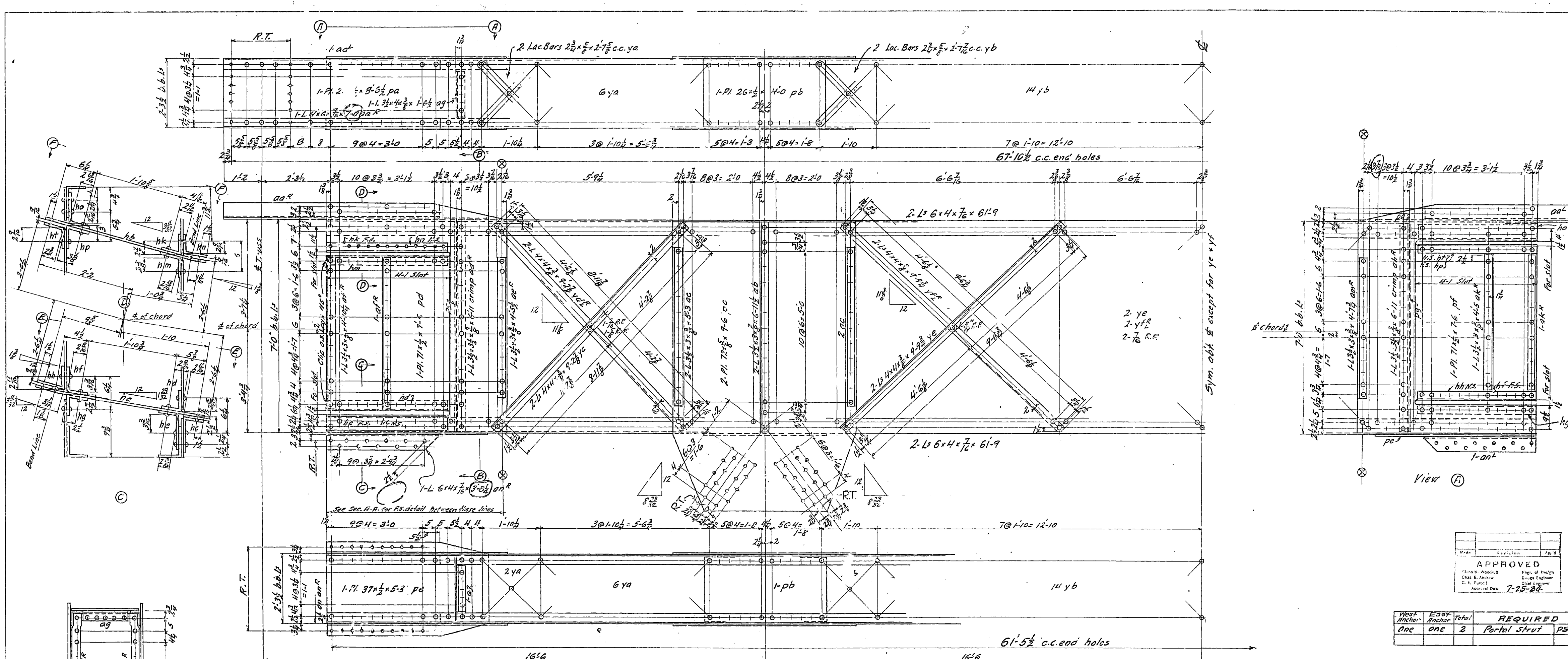
ORDER No. G 5103

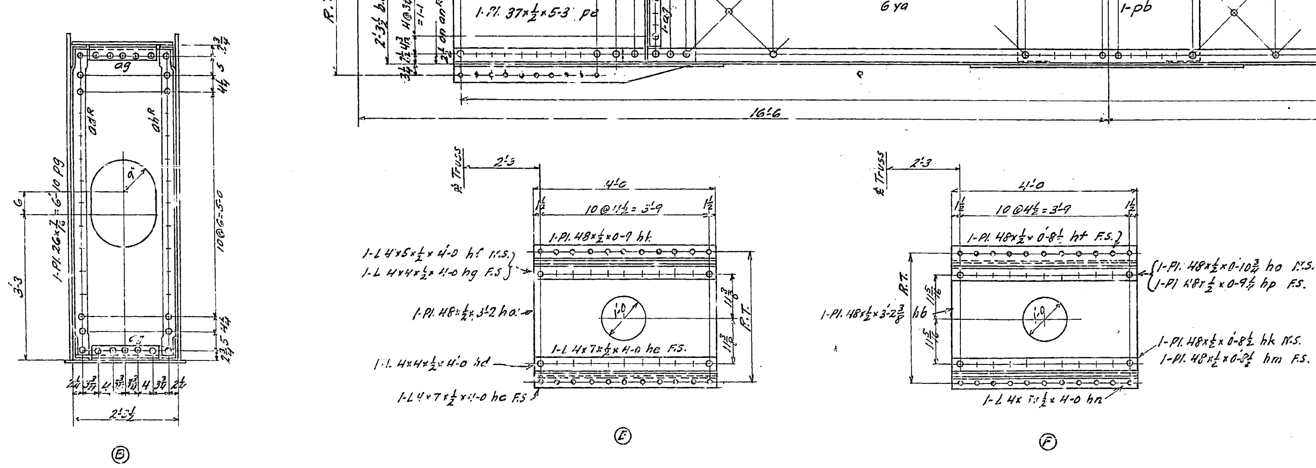
SHEET No. 106

MMS 9-5-34 Mat. Ord. Fgs 180, 181, 86

[C]

30-1





West Anchor	East Anchor	Total	REQUIRED	
One	one	2	Portal Strut	PS 16

GENERAL NOTES:

Material–All material O.H. copper bearing medium carbon steel. All rivet steel to be copper bearing.

Specifications–Special by State of California. Department of Public Works.

Inspection–John M. Bailey, Chief Inspector.

Rivets–$\frac{7}{8}$"ϕ

Open Holes–$\frac{15}{16}$"ϕ

Reaming–All holes to be subpunched $\frac{1}{4}$" and reamed to size while parts are assembled, except lacing, stay plates and diaphragm webs which may be punched full size.

Holes marked "R.T." to be reamed through a steel templet.

Burrs to be removed from all reamed holes.

Finish–Edges of manholes and hand holes to be smooth.

Paint–None, except one coat acid resisting liquid between lateral conn's (See Sh. E21) –B

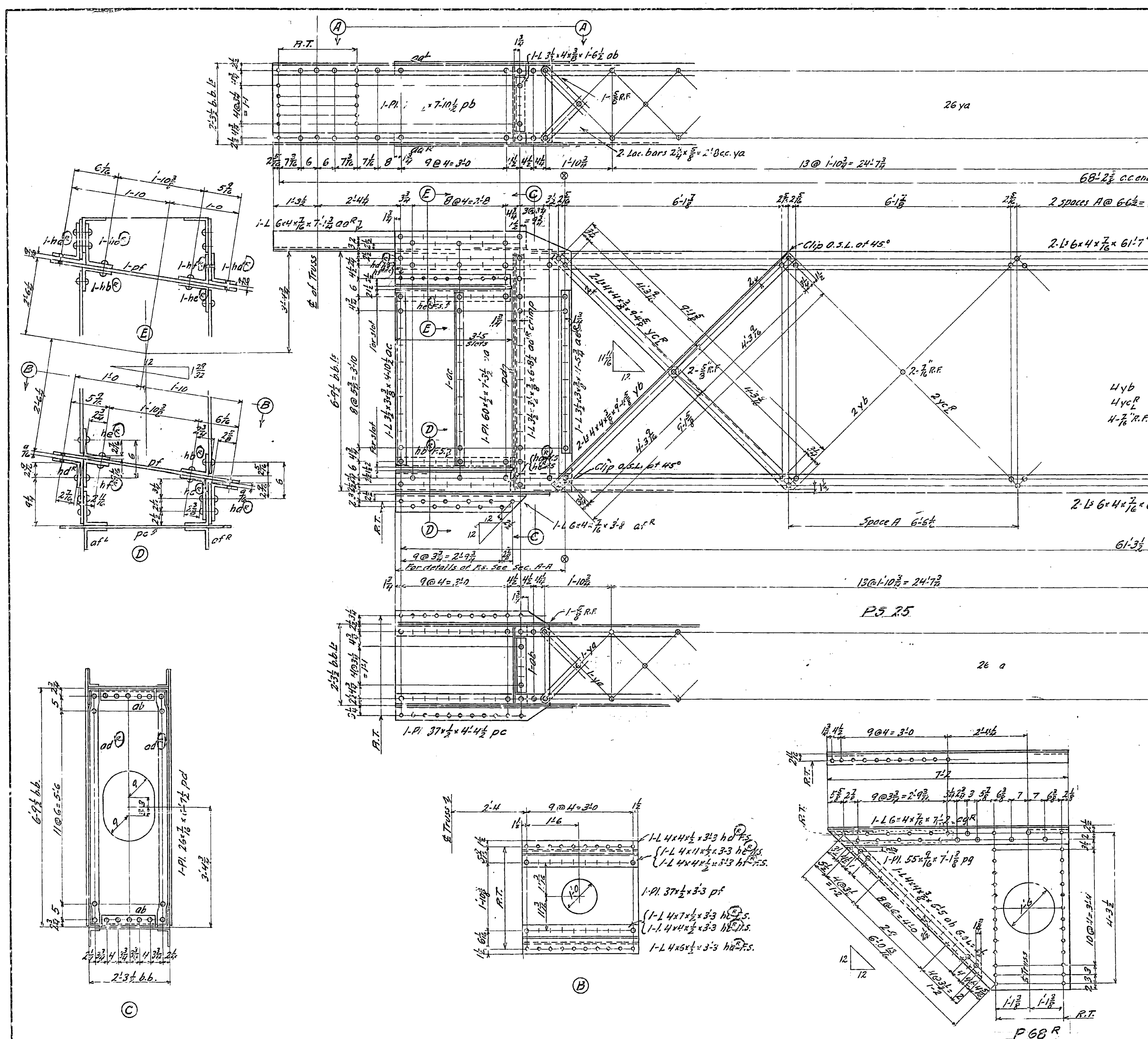
Rev. 10-1-34 –B

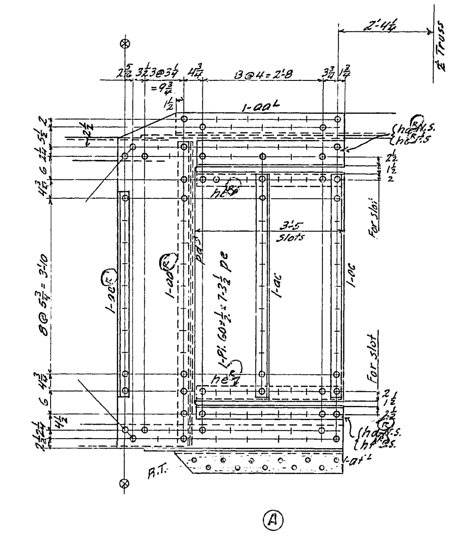
Rev. 9-19-34

Mat. ord. Pg. 175, 176, 185.   MMS 9-5-34   [C]

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
PORTAL STRUT AT UA4
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT GARY PLANT
WORK FABRICATED AT AMB. PLANT
IN CHARGE OF WILKINSON
DRAW. MADE BY D.H.D. DATE 5-31-34
DRAW. CHECKED BY A.S.M. DATE 7-20-34
ORDER No. G5103 SHEET No. 107





GENERAL NOTES:

Material – All material O.H. copper bearing medium carbon steel. All rivets are copper bearing carbon rivet steel.
Specifications – Special by State of California Department of Public Works.
Inspection – John M. Bailey, Chief Inspector.
Rivets – 7/8" ϕ
Open Holes – 15/16" ϕ
Reaming – All holes to be subpunched 1/4" and reamed to size while parts are assembled, except lacing, stay plates and diaphragm webs which may be punched full size.
Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Finish – Edges of manholes to be smooth.
Paint – None except one coat acid resisting liquid between Lateral Conn's. (See Sh. E21) – B

West Anchor	East Anchor	Total	REQUIRED	
One	One	2	Portal Strut	PS25
2	2	4	Miscell. Pl.	P68R
2	2	4	" "	P68L

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure. Anchor Arm

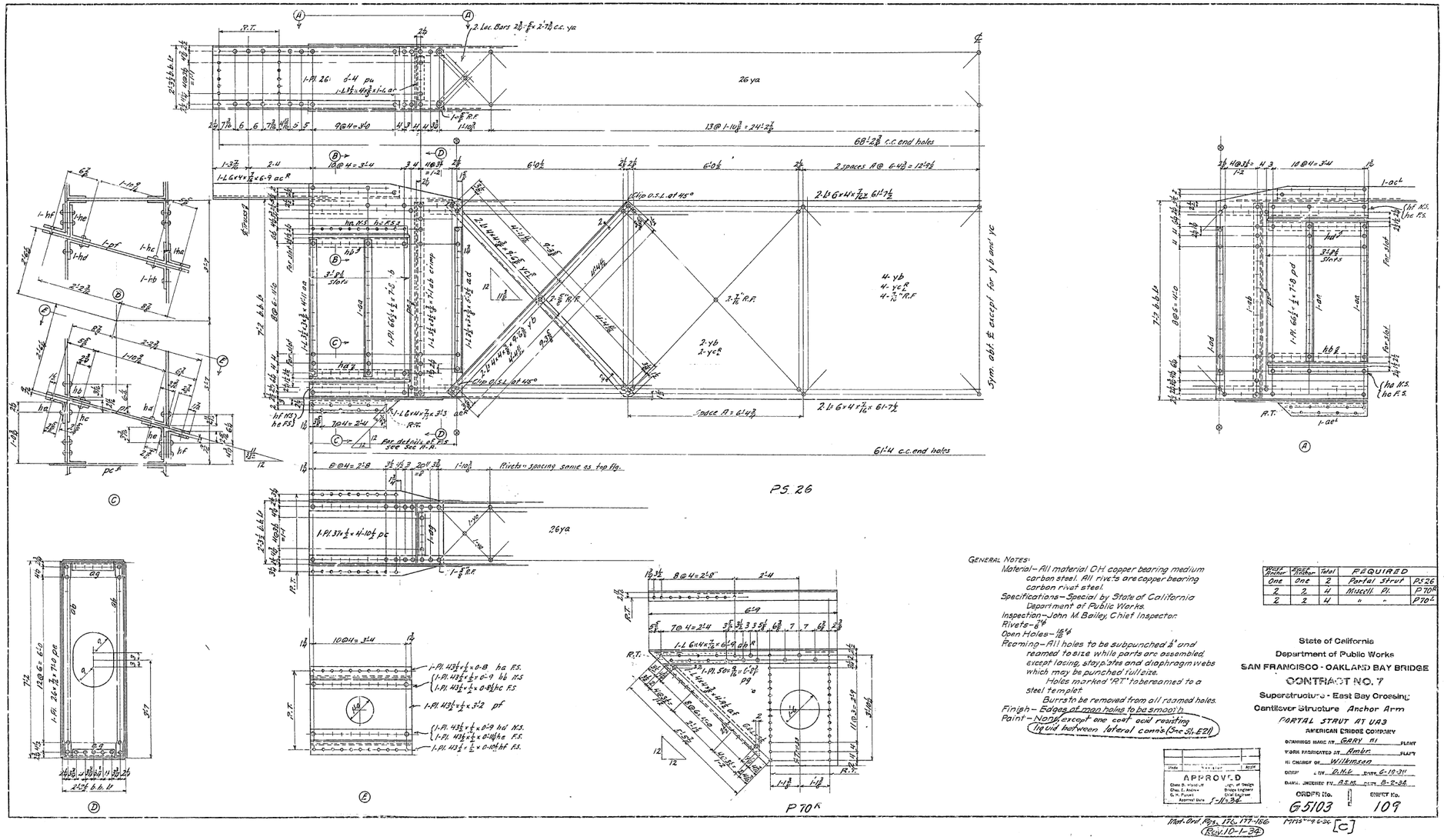
PORTAL STRUT AT UA5

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT GARY #1 PLANT
WORK FABRICATED AT AMBR. PLANT
IN CHARGE OF WILKINSON
DRAW. MADE BY DHD DATE 6-13-34
DRAW. CHECKED BY ASM. DATE 8-2-34
ORDER No. G 5103
SHEET No. 108

Made | Revision | App'd

APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 8-11-34

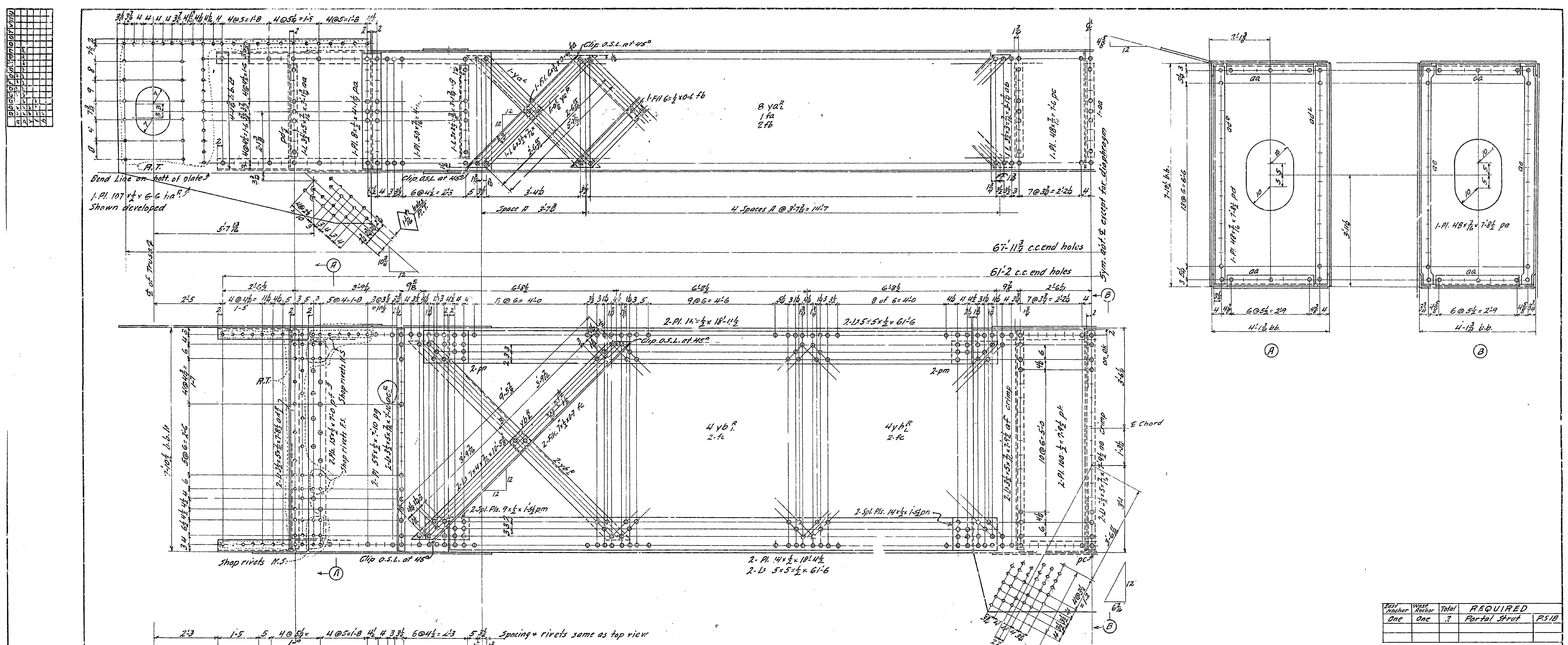
Mar. Ord. Pgs. 174, 175, 136
[C]

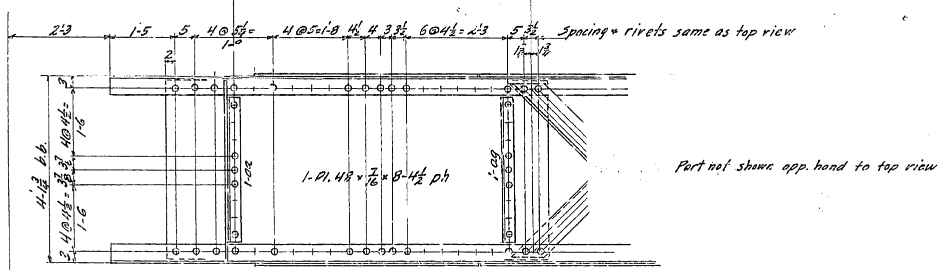


Weld Anchor	Rivet Anchor	Total	REQUIRED	
One	One	2	Portal Strut	P5.26
2	2	4	Midcell Fl.	P70R
2	2	4	" "	P70L

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
PORTAL STRUT AT U43
AMERICAN BRIDGE COMPANY
DRAWINGS MADE IN GARY, IND. PLANT
WORK FABRICATED AT Ambr. PLANT
IN CHARGE OF Wilkinson
DRAWN J.W.H.G. DATE 6-10-34
CHKD. INSPECTED BY A.S.M. DATE 8-2-34
ORDER No. G5103 DETAIL No. 109

30-1





East Anchor	West Anchor	Total	REQUIRED	
One	One	2	Portal Strut	PS18

General Notes:
Material – All material to be O.H. Copper bearing medium carbon steel. All rivet steel to be copper bearing.
Specifications – Special by State of California Department of Public Works.
Inspection – John M. Bailey, Chief Inspector
Rivets – 7/8"ϕ
Open Holes – 15/16" Unless Noted
Reaming – All holes to be subpunched 1/4" and reamed to size while parts are assembled except, lacing, stay plates and diaphragms which may be punched full size. Holes marked R.T. to be reamed through a steel templet. Burrs to be removed from all reamed holes.
Finish – Edges of manholes to be smooth.
Paint – None

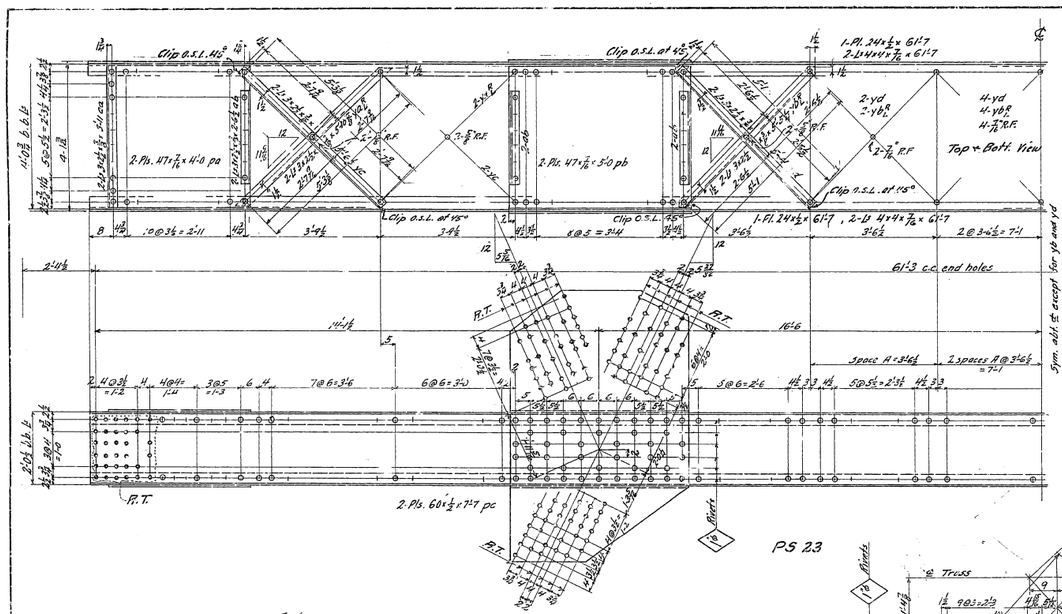
Made	Revision	App'd

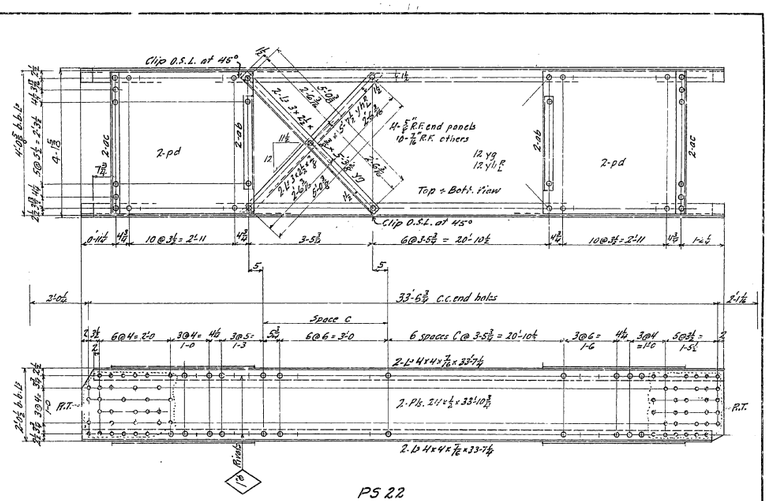
APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 8-2-34

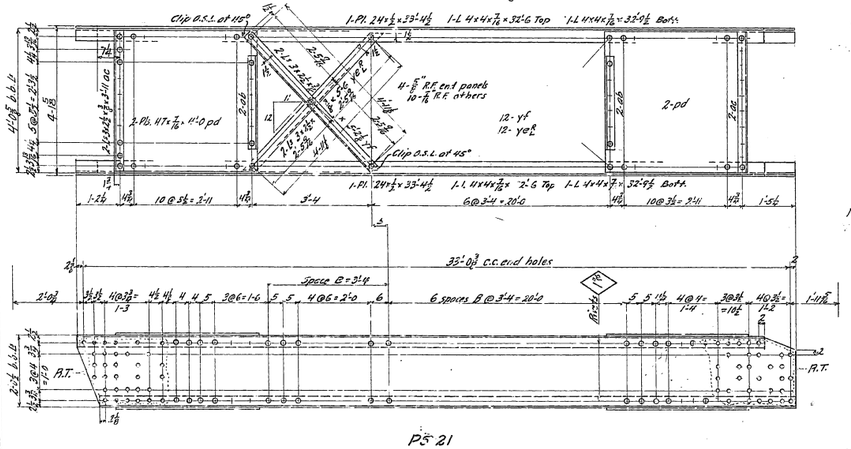
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
PORTAL STRUT AT UA2
AMERICAN BRIDGE COMPANY
Drawings made at Gary #1 Plant
Work fabricated at AmB Plant
In charge of Wilkinson
Drawing made by D.H.D. Date 6-6-34
Checked by A.S.M. Date 7-26-34
Order No. G 5103 Sheet No. 110

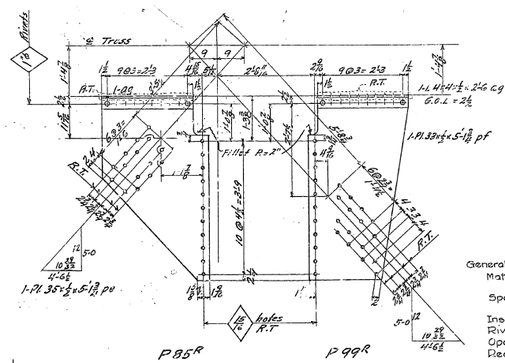
Mat. Ord. Pgs. 177, 178, 87 MMS 9-6-34 [C]

30-1









General Notes:
Material – All material to be O.H. Copper bearing medium carbon steel. All rivet steel to be copper bearing.
Specifications – Special by State of California Department of Public Works.
Inspection – John M. Bailey, Chief Inspector
Rivets – 7/8" Unless Noted
Open Holes – 1 1/8"
Reaming – All holes to be subpunched & reamed to size, except lacing and stay plates which may be punched full size.
Holes marked R.T. to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Paint – None.

Work Anchor	Erect Anchor	Total	REQUIRED	
2	2	4	Portal Strut	PS 21
2	2	4	" "	PS 22
One	One	2	" "	PS 23
2	2	4	Miscell. Plate	P85R
2	2	4	" "	P85L
2	2	4	" "	P99R
2	2	4	" "	P99L

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
PORTAL STRUTS U42-L6
AMERICAN BRIDGE COMPANY

DRAWING MADE BY GANX 41 PLANT
PIECES FABRICATED AT AMAR PLANT
BY DRAWING OF WILKINSON
DRAWN: BY D.H.P. DATE 12-11-34
CHECKED BY A.S.M. DATE 7-26-35

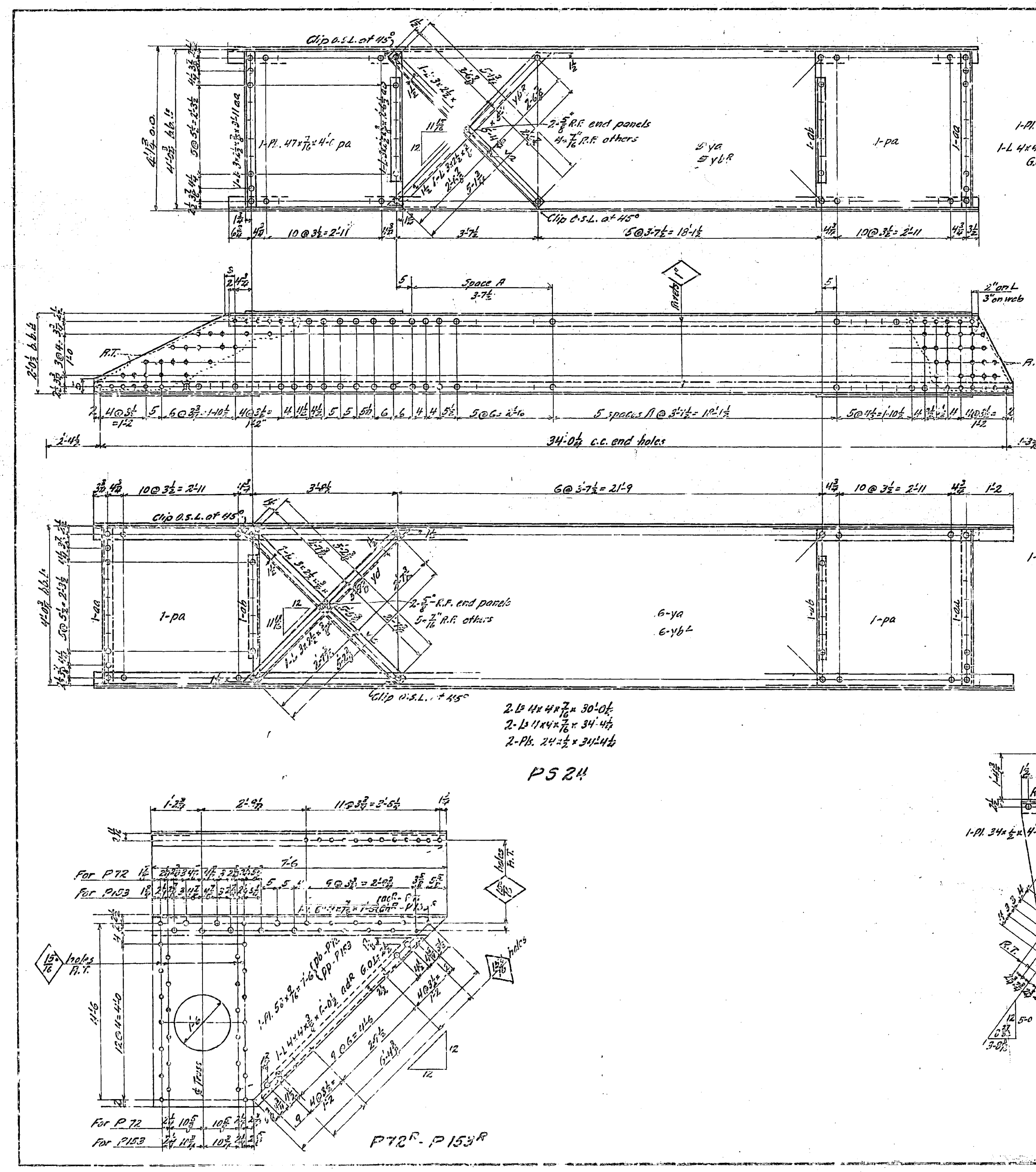
Mark	Revisions	Appd.

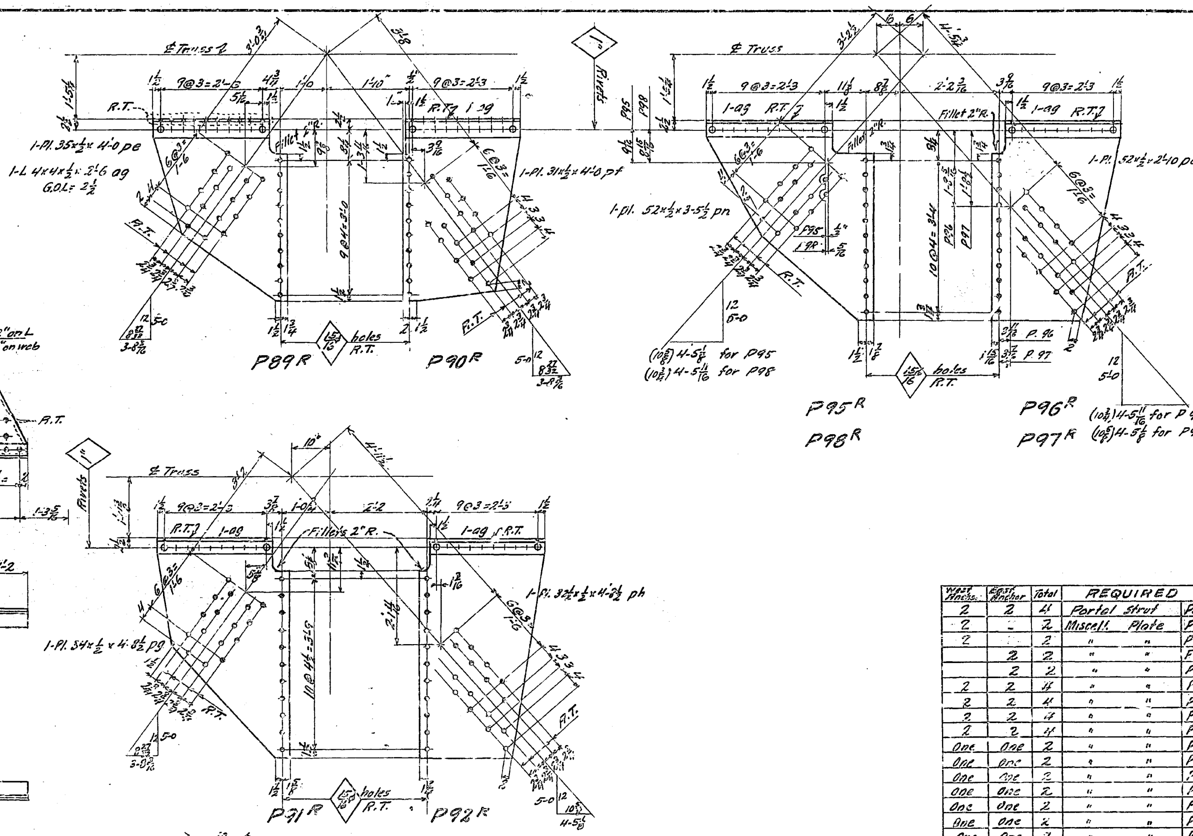
APPROVED
Gen. M. B. Woodruff, Engr. of Bridges
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Assistant Dir. 8-2-35

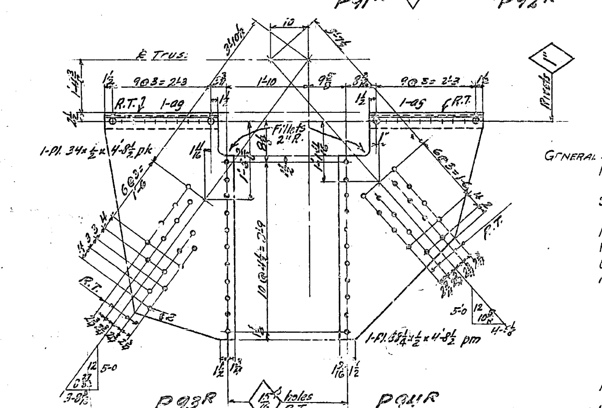
ORDER No. G 5103
SHEET No. 111

Mat. Bul. Spp. 171, 181, 187

[C]







West Anchor	East Anchor	Total	REQUIRED	
2	2	4	Portal Strut	PS 24
2	-	2	Miscell. Plate	P72R
2		2	" "	P72L
	2	2	" "	P153R
	2	2	" "	P153L
2	2	4	" "	P89R
2	2	4	" "	P89L
2	2	4	" "	P90R
2	2	4	" "	P90L
One	One	2	" "	P91R
One	One	2	" "	P91L
One	One	2	" "	P92R
One	One	2	" "	P92L
One	One	2	" "	P93R
One	One	2	" "	P93L
One	One	2	" "	P94R
One	One	2	" "	P94L
One	One	2	" "	P95R
One	One	2	" "	P95L
One	One	2	" "	P96R
One	One	2	" "	P96L
One	One	2	" "	P97R
One	One	2	" "	P97L
One	One	2	" "	P98R
One	One	2	" "	P98L

GENERAL NOTES:

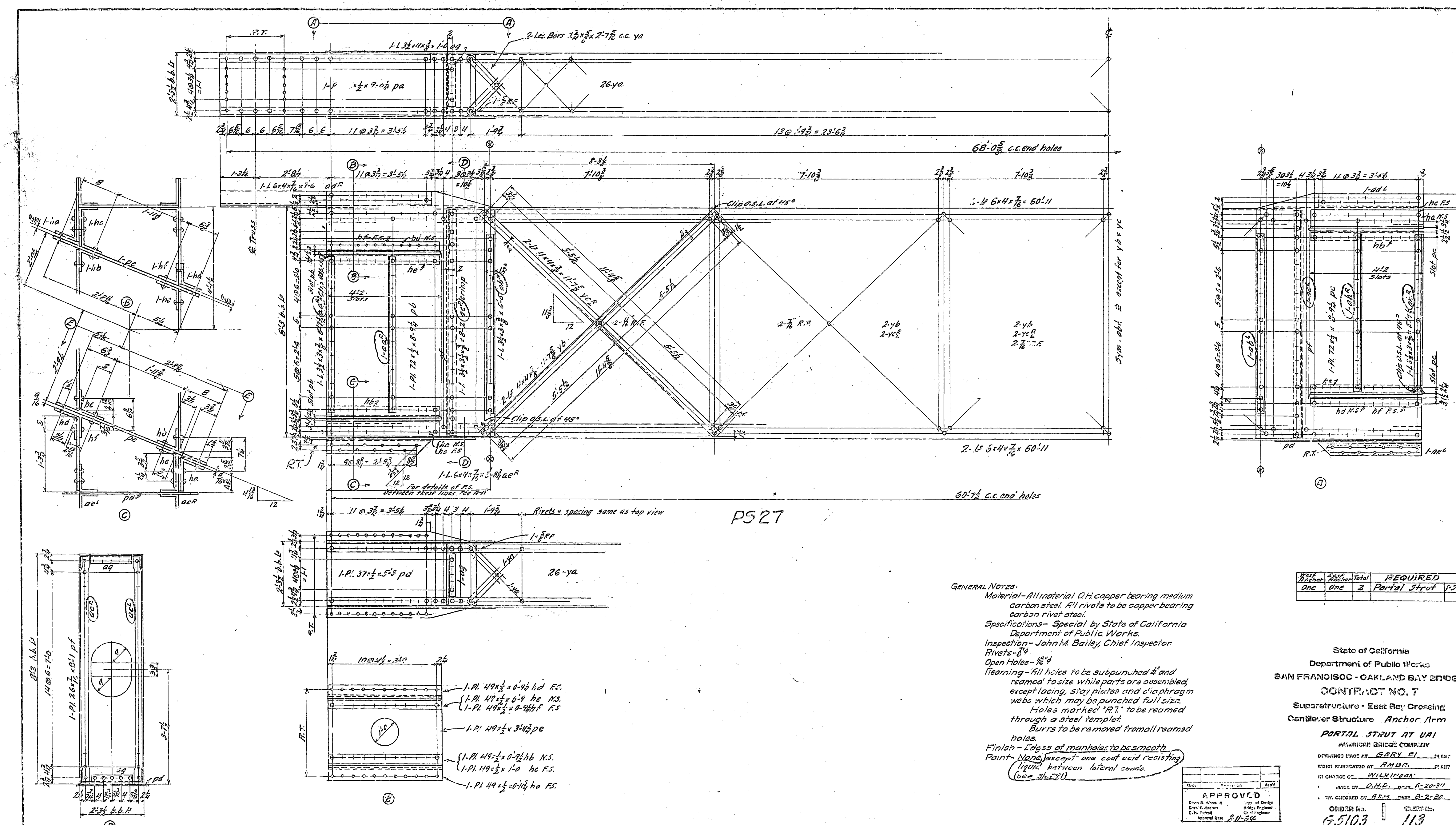
Material- All material O.H. copper bearing medium carbon steel. All rivet steel to be copper bearing.
Specifications- Special by State of California Department of Public Works.
Inspection- John M. Bailey, Chief Inspector.
Rivets- 7/8"ϕ unless noted.
Open Holes- 15/16"ϕ unless noted.
Reaming- All holes to be subpunched 11/16" and reamed to size except lacing and stay plates which may be punched full size.
Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Finish- Edges of manholes to be smooth.
Paint- None.

Made	Revision	App'd

APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 8-4-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
PORTAL STRUT & LATERAL PLATES
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT GARY 61 PLANT
WORK FABRICATED AT AMBR. PLANT
... OF WILKINSON
DRAW. MADE BY D.H.D DATE 7-2-34
DRAW. CHECKED BY WBR-ASM DATE 7-26-34
ORDER No. G 5103
SHEET No. 112

Mat. Ord. Pgs. 170, 177, 182, 88 MFFS 9-1934 [C]



GENERAL NOTES:

Material- All material O.H. copper bearing medium carbon steel. All rivets to be copper bearing carbon rivet steel.

Specifications- Special by State of California Department of Public Works.

Inspection- John M. Bailey, Chief Inspector.

Rivets- 7/8"ϕ

Open Holes- 15/16"ϕ

Reaming- All holes to be subpunched 3/4" and reamed to size while parts are assembled, except lacing, stay plates and diaphragm webs which may be punched full size.

Holes marked "R.T." to be reamed through a steel templet.

Burrs to be removed from all reamed holes.

Finish- Edges of manholes to be smooth.

Paint- None, except one coat acid resisting liquid between lateral conn's. (see Sh. E71)

West Anchor	East Anchor	Total	REQUIRED	
One	One	2	Portal Strut	PS27

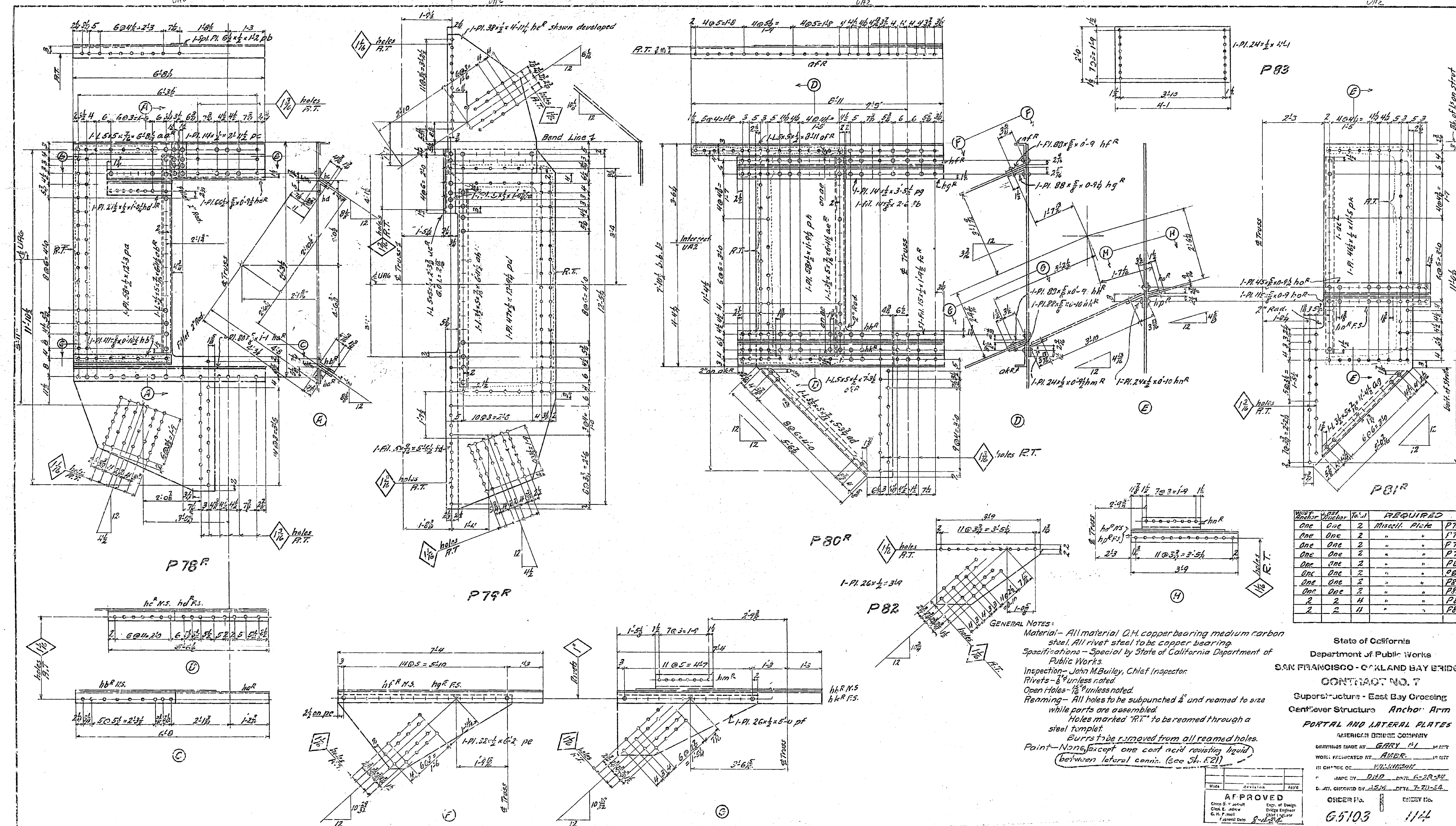
Made	Revision	App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 8-11-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
PORTAL STRUT AT UA1
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT GARY #1 PLANT
WORK FABRICATED AT AMBR. PLANT
IN CHARGE OF WILKINSON
MADE BY D.H.L. DATE 6-20-34
DRAW. CHECKED BY A.S.M. DATE 8-2-34
ORDER No. G5103 SHEET No. 113

(Rev. 10-1-34) Mat. Ord. Pg. 179-186 [C] MTS 9-7-34

30-1



West Anchor	East Anchor	Total	REQUIRED		
One	One	2	Miscell.	Plate	P78R
One	One	2	"	"	P78L
One	One	2	"	"	P79R
One	One	2	"	"	P79L
One	One	2	"	"	P80R
One	One	2	"	"	P80L
One	One	2	"	"	P81R
One	One	2	"	"	P81L
2	2	4	"	"	P82
2	2	4	"	"	P83

GENERAL NOTES:

Material– All material O.H. copper bearing medium carbon steel. All rivet steel to be copper bearing.

Specifications– Special by State of California Department of Public Works.

Inspection– John M. Bailey, Chief Inspector.

Rivets– 7/8"⌀ unless noted.

Open Holes– 15/16"⌀ unless noted.

Reaming– All holes to be subpunched 1/4" and reamed to size while parts are assembled.

Holes marked "R.T." to be reamed through a steel templet.

Burrs to be removed from all reamed holes.

Paint– None, except one coat acid resisting liquid between lateral conns. (See Sh. E21)

Made	Revision	App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 8-4-34

State of California

Department of Public Works

SAN FRANCISCO - OAKLAND BAY BRIDGE

CONTRACT NO. 7

Superstructure - East Bay Crossing

Cantilever Structure Anchor Arm

PORTAL AND LATERAL PLATES

AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT GARY PL PLANT

WORK FABRICATED AT AMBR. PLANT

IN CHARGE OF WILKINSON

MADE BY DHD DATE 6-28-34

DRAW. CHECKED BY ASM DATE 7-23-34

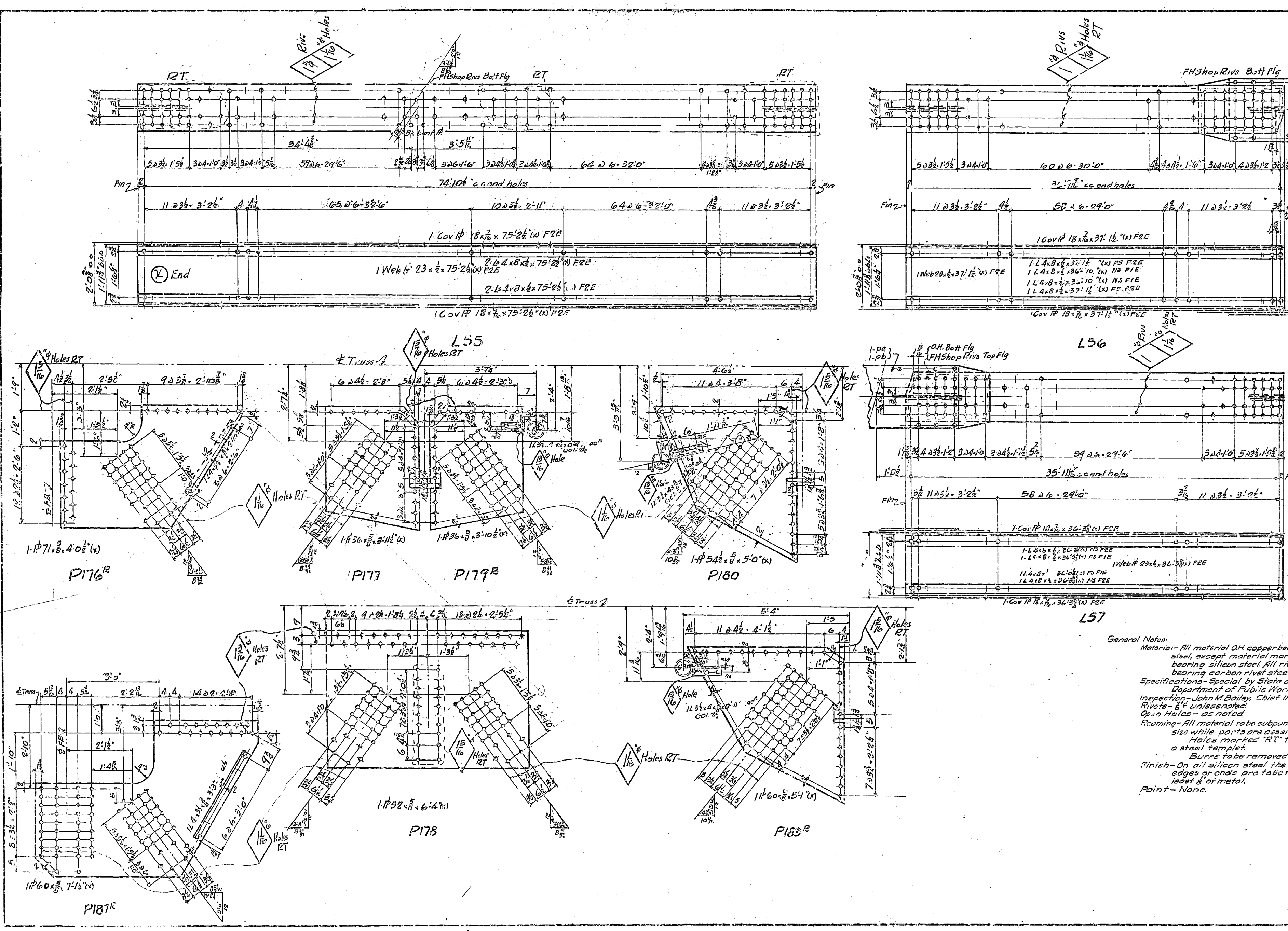
ORDER No. G5103

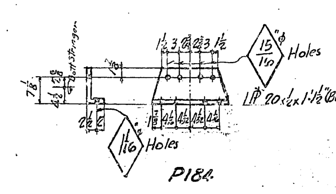
SHEET No. 114

Mat. Ord. Pgs. 174, 175, 171, 170 — Rev. 10-1-34 — MMS 9-7-34

[C]

30-1





General Notes:

Material — All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel. All rivets to be copper bearing carbon rivet steel.
Specifications — Special by State of California Department of Public Works.
Inspection — John M. Bailey, Chief Inspector.
Rivets — 7/8"φ unless noted.
Open Holes — as noted.
Reaming — All material to be subpunched 1/4" and reamed to size while parts are assembled.
Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Finish — On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least 1/8" of metal.
Paint — None.

East Anchor Arm

Required		
One	Bottom Lateral	L55
One	do	L56
One	do	L57
One	Bottom Lateral Pls	P176R
One	do	P176L
2	do	P177
2	do	P178
One	do	P179R
One	do	P179L
One	do	P180
One	do	P183R
One	do	P183L
One	do Hanger Pl	P184
One	Bottom Lateral Pls	P187R
One	do	P187L

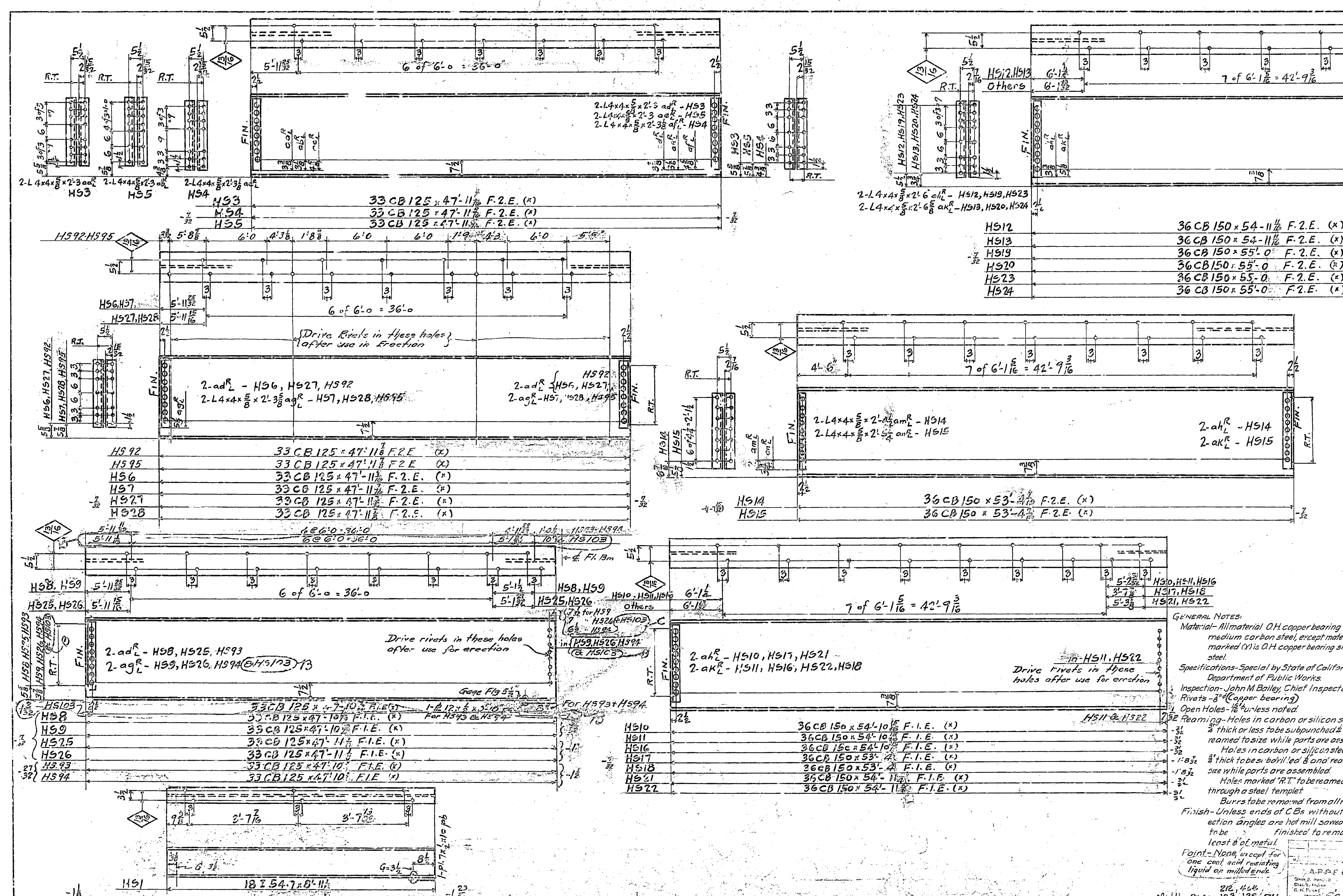
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure East Anchor Arm
Bottom Laterals & Plates

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK [illegible]CATED AT Ambr PLANT
IN [illegible]GE OF Wilkinson
DRAW. MADE BY W.C.B. DATE 9-13-34
DRAW. CHECKED BY J.W.A.B. DATE 10-2-34
ORDER No. G5103 SHEET No. 115

APPROVED
Engr. of Design
Bridge Engineer
Chief Engineer
10-19-34

MSW-11-1-34 Matl Crd

30-1



West Anchor	East Anchor	West Cantilever	East Cantilever	Total	REQUIRED	MARK
4				4	Hwy. STRINGERS	HS1
1				1	" "	HS3
2				2	" "	HS4
1				1	" "	HS5
6	6			12	" "	HS6
6	6			12	" "	HS7
4	4			8	" "	HS8
4	4			8	" "	HS9
4	4			8	" "	HS10
2	2			4	" "	HS11
2	2			4	" "	HS12
2	2			4	" "	HS13
2	2			4	" "	HS14
2	2			4	" "	HS15
2	2			4	" "	HS16
		2	2	4	" "	HS17
		2	2	4	" "	HS18
		2	2	4	" "	HS19
		2	2	4	" "	HS20
		2	2	4	" "	HS21
		2	2	4	" "	HS22
		2	2	4	" "	HS23
		2	2	4	" "	HS24
		4	4	8	" "	HS25
	B-	2	2	4	" "	HS26
		2	1	3	" "	HS27
		2		2	" "	HS28
			1	1		HS92
		2	2	4	" "	HS93
		2	2	4	" "	HS94
			2	2	" "	HS95
		2	2	4	" "	HS103

B

GENERAL NOTES:
Material- All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel.
Specifications- Special by State of California Department of Public Works.
Inspection- John M. Bailey, Chief Inspector.
Rivets - 7/8"φ (Copper bearing)
Open Holes - 15/16"φ unless noted.
Reaming- Holes in carbon or silicon steel 3/4" thick or less to be subpunched 1/4" and reamed to size while parts are assembled.
Holes in carbon or silicon steel over 3/4" thick to be subdrilled 1/8" and reamed to size while parts are assembled.
Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Finish- Unless ends of CBs without connection angles are hot mill sawed same to be finished to remove at least 1/8" of metal.
Paint- None, except for one coat acid resisting liquid on milled ends.

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval date 9-12-34 9-19-34

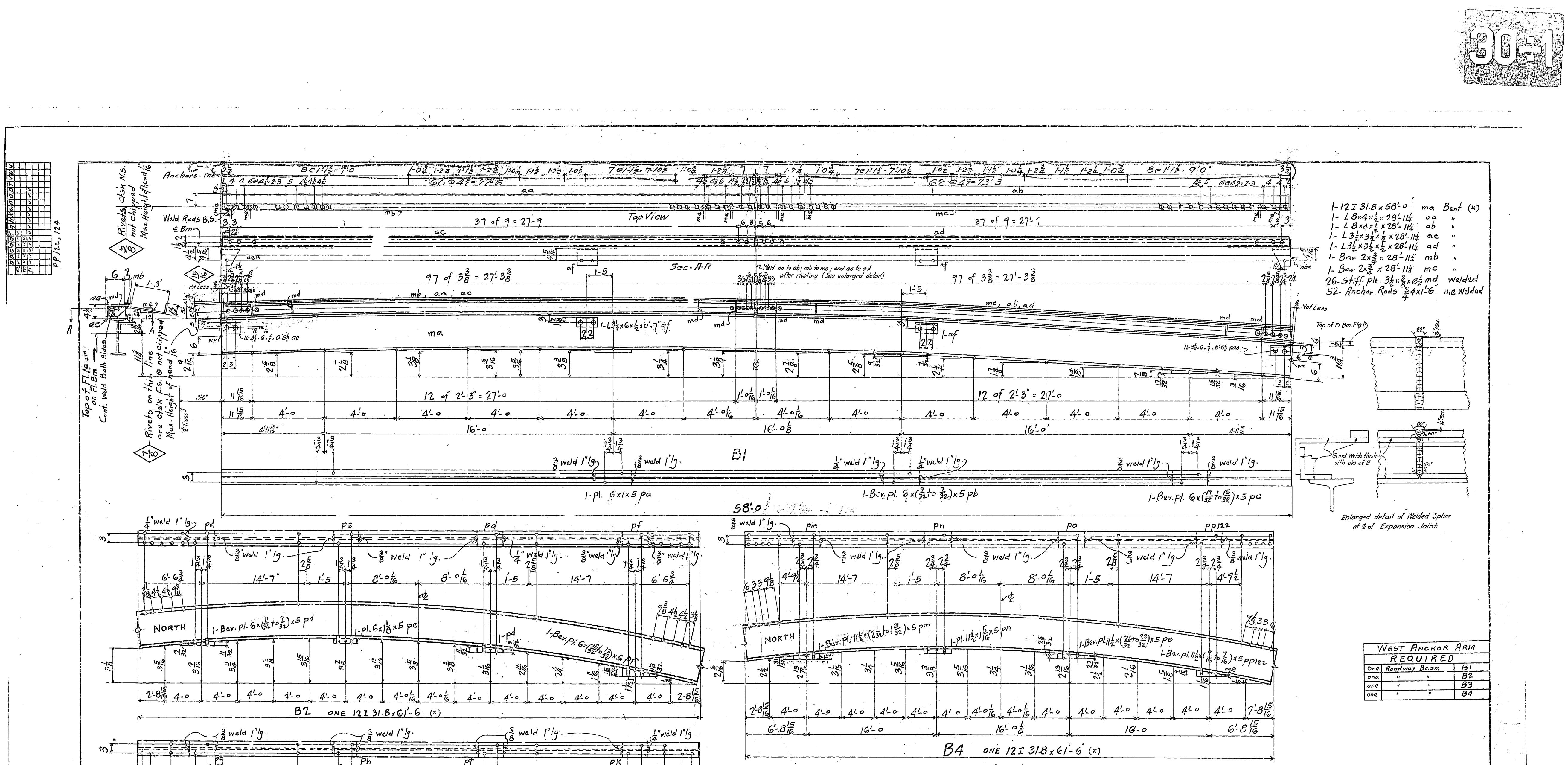
Mat'l page 133, 139-211, 212, 464

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor & Cantilever Arms

UPPER DECK STRINGERS

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
MADE BY G.D.A. DATE 6-7-34
DRAWN. CHECKED BY R.M.F. DATE 7-12-34
ORDER No. G-5103 SHEET No. 121

1- HS92 } Used for the erection of the
2- HS95 } West & East Anchor Arms.



West Anchor Area		
REQUIRED		
One	Roadway Beam	B1
one	" "	B2
one	" "	B3
one	" "	B4

GENERAL NOTES:

Material– All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel. All rivet stee to be copperbearing.

Specifications– Special by State of California Department of Public Works.

Inspection– John M. Bailey, Chief Inspector.

Rivets– ¾"φ unless noted.

Open Holes– 13/16"φ unless noted.

Reaming– None; except holes in bottom flanges and sole plates to be subpunched ¼" or subdrilled ⅛" and reamed to size while parts are assembled. Burrs to be removed from all reamed holes.

Paint– None.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure West Anchor
Upper Deck Roadway Beams
AMERICAN BRIDGE COMPANY

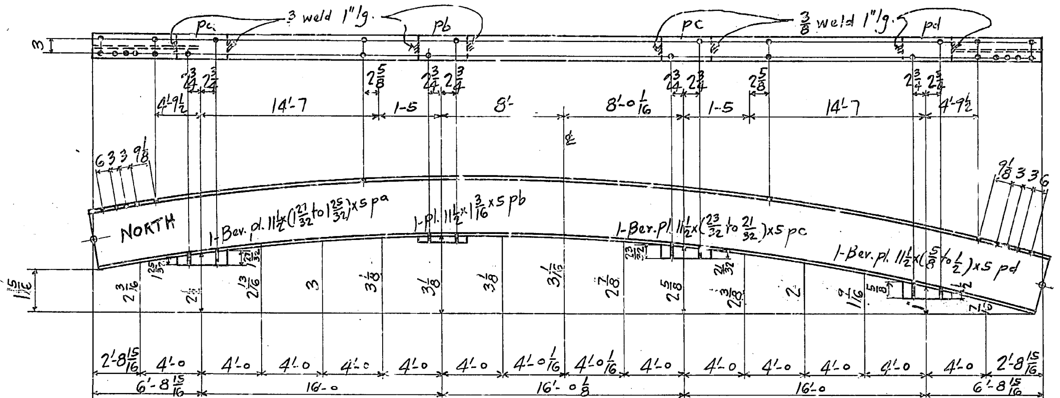
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DRW. MADE BY YDa DATE 6-14-34
DRW. CHECKED BY RWF DATE 7-20-34

9-19-34 Gen. Notes 9-26-34
APPROVED
Approval Date 8-22-34

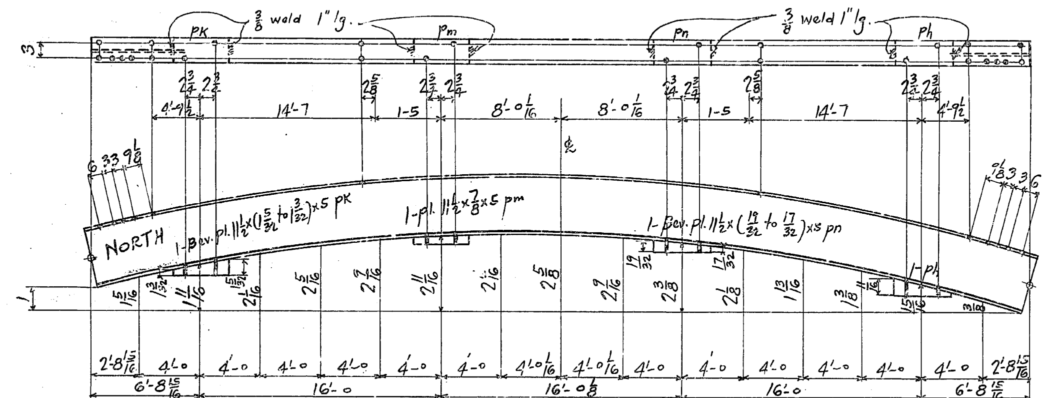
ORDER No. G5103
SHEET No. 122

Mat'l page 135, 139, 140, 122
(Rev. 11-13-34)-C
Rev. 9-19-34
Rev. 9-26-34 -B
MJW 9-19-34 [B&C]

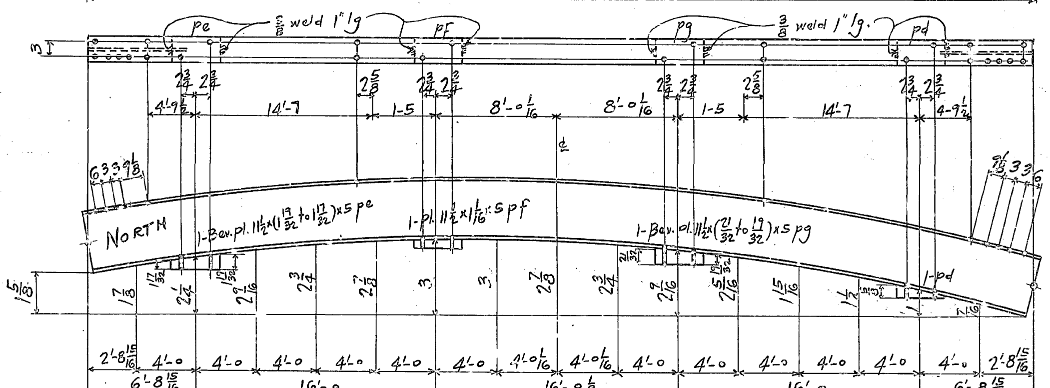
30-1



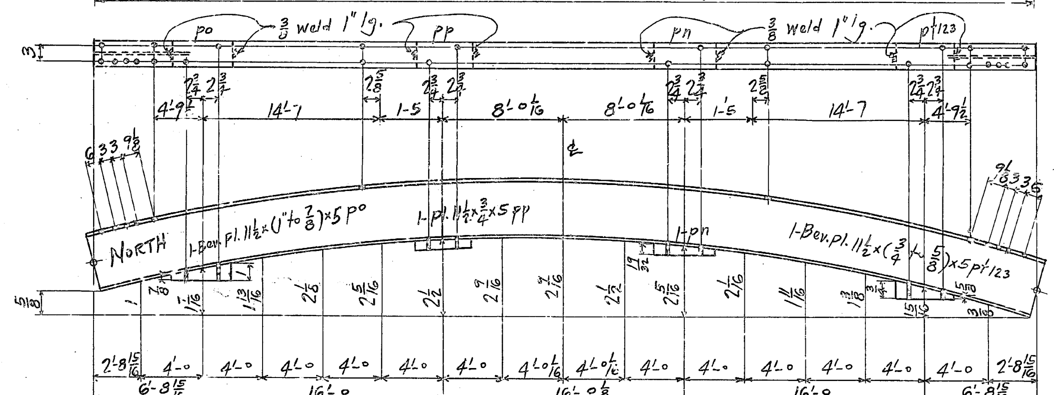
B5 ONE 12 I 31.8 x 61'-6" (x)



B8 ONE 12 I 31.8 x 61'-6" (x)

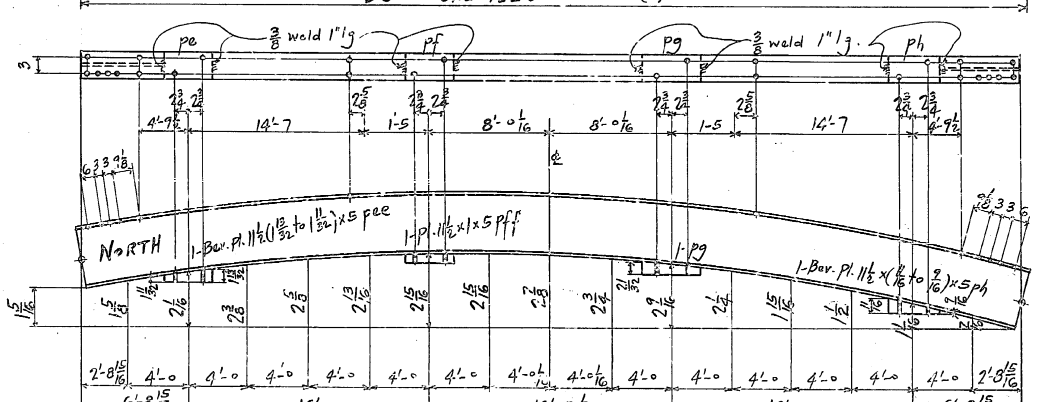


B6 ONE - 12 I 31.8 x 61'-6 (x)



B9 ONE 12 I 31.8 x 61'-6" (x)

WEST ANCHOR ARM		
REQUIRED		
ONE	Roadway Beam	B5
ONE	" "	B6
ONE	" "	B7
ONE	" "	B8
ONE	" "	B9



B7 ONE 12 I 31.8 x 61'-6" (x)

GENERAL NOTES:

Material - All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel.

Specifications - Special by State of California Department of Public Works.

Inspection - John M. Bailey, Chief Inspector.

Open Holes - 13/16"

Reaming - None, except holes in bottom flanges and sole plates to be subpunched 1/4" or subdrilled 1/8" and reamed to size while parts are assembled. Burrs to be removed from all reamed holes.

Paint - None.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure West Anchor

Upper Deck Roadway Beams

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE Wilkinson
DRAW. MADE BY [illegible] DATE 6-18-34
DRAW. CHECKED BY [illegible] DATE 7-25-34
ORDER No. G5103
SHEET No. 123

9-19-34	Gen. Notes	9-26-34
Made	Revision	Appd.

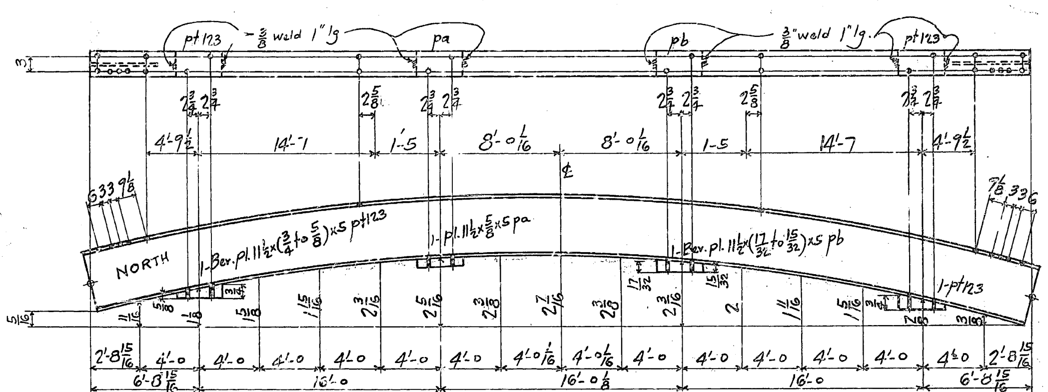
APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 8-22-34

Mat'l page 133, 139, 140

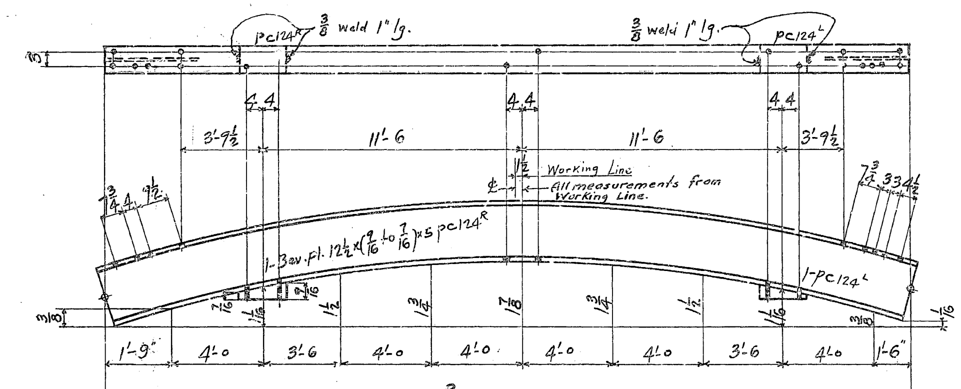
Rev 9-19-34

w. M.S.W. 9-19-34

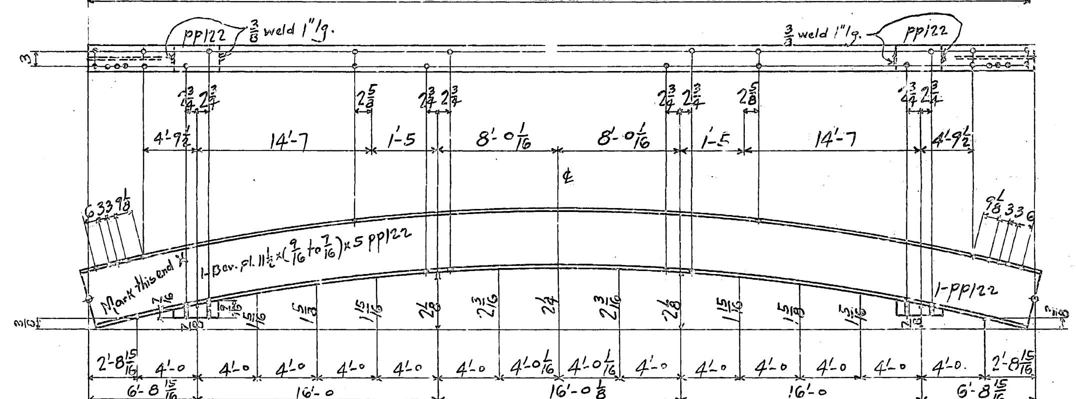
[B+C]



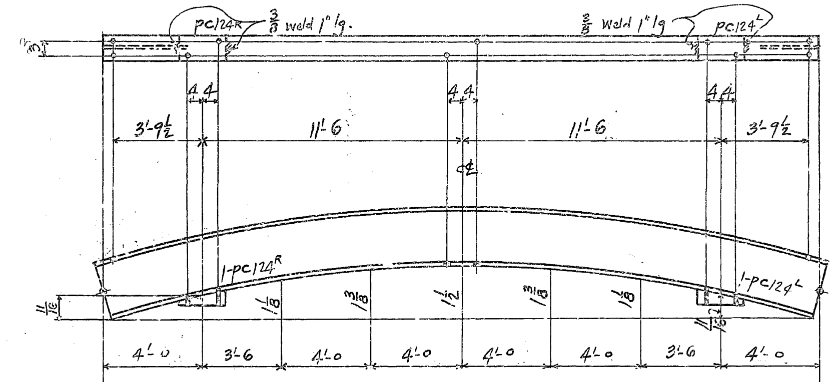
B10 ONE 12 I 31.8 x 61'-6 (x)



B13[R] ONE 12 I 31.8 x 34'-3" (x)

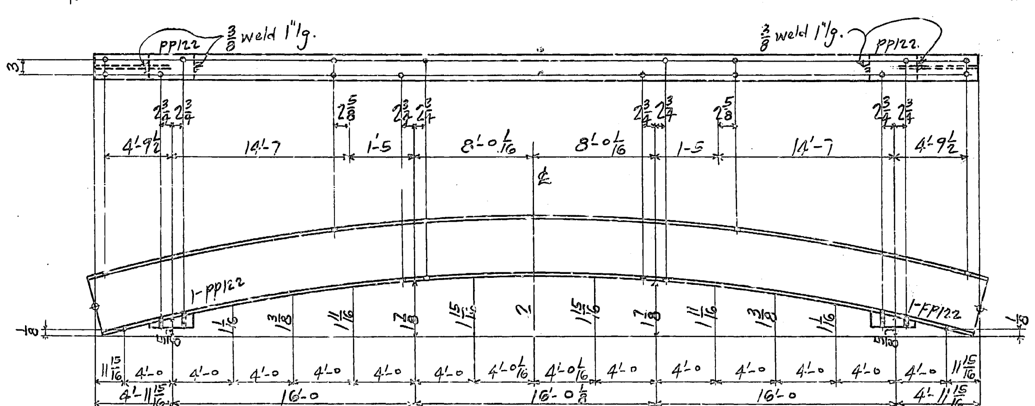


B11 ONE 12 I 31.8 x 61'-6" (x)



B14[R] ONE 12 I 31.8 x 31'-0" (x)

West Anchor	East Anchor	West Cantilever	East Cantilever	Total	REQUIRED		MARK
one				one	Roadway	Beams	B10
67	74	60	60	261	"	"	B11
4	4	3	3	14	"	"	B12
67		60		127	"	"	B13R
	74		60	134	"	"	B13L
4		3		7	"	"	B14R
	4		3	7	"	"	B14L



B12 ONE 12 I 31.8 x 58'-0" (x)

General Notes–
Material–All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel.
Specifications–Special by State of California Department of Public Works.
Inspection– John M. Bailey, Chief Inspector
Open Holes– 13/16"ϕ
Reaming– None, except holes in bottom flanges and sole plates to be subpunched 1/4" or subdrilled 1/8" and reamed to size while parts are assembled.
Burrs to be removed from all reamed holes.
Paint–None.

Note: All curved beams on this sheet may overrun 1/2" at either or both ends.

9-19-34	Gen. Notes	7-26-34
Made	Revision	App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 8-22-34

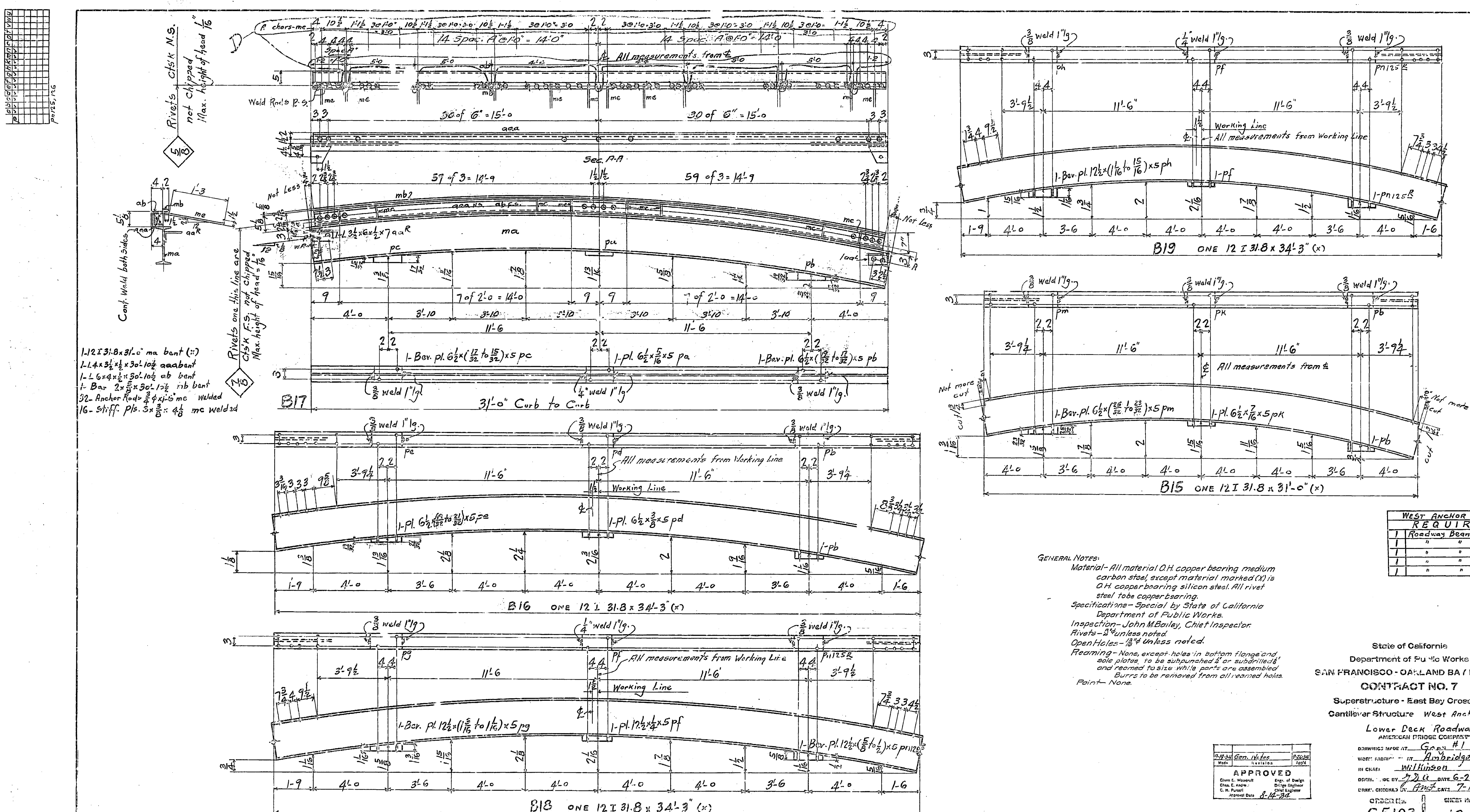
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor & Cantilever Arms
Upper and Lower Deck Roadway Beams

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
MADE BY [illegible] DATE
DRAW. CHECKED BY [illegible] DATE 7-26-34
MMS 11-6-34
ORDER No. G5103
SHEET No. 124

Mat'l Page 213-214-215 133, 139, 140, 106, 116
Rev. 9-19-34.
Rev-7-25-34 B.
C MMW 9-19-34 (Anchor Arms Only)
[B-C]
HAL. 10-22-34 C (Cant. Arms Upper Deck)

30-1

30-1



WEST ANCHOR ARM		
REQUIRED		
1	Roadway Beam	B15
1	" "	B16
1	" "	B17
1	" "	B18
1	" "	B19

GENERAL NOTES:

Material- All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copperbearing silicon steel. All rivet steel tobe copperbearing.

Specifications- Special by State of California Department of Public Works.

Inspection- John M.Bailey, Chief Inspector.

Rivets- $\frac{3}{4}$"ϕ unless noted.

Open Holes- $\frac{13}{16}$"ϕ Unless noted.

Reaming- None, except holes in bottom flange and sole plates, to be subpunched $\frac{1}{4}$" or subdrilled $\frac{1}{8}$" and reamed to size while parts are assembled. Burrs to be removed from all reamed holes.

Paint- None.

Made	Revision	App'd
9-19-34	Gen. Notes	9-26-34

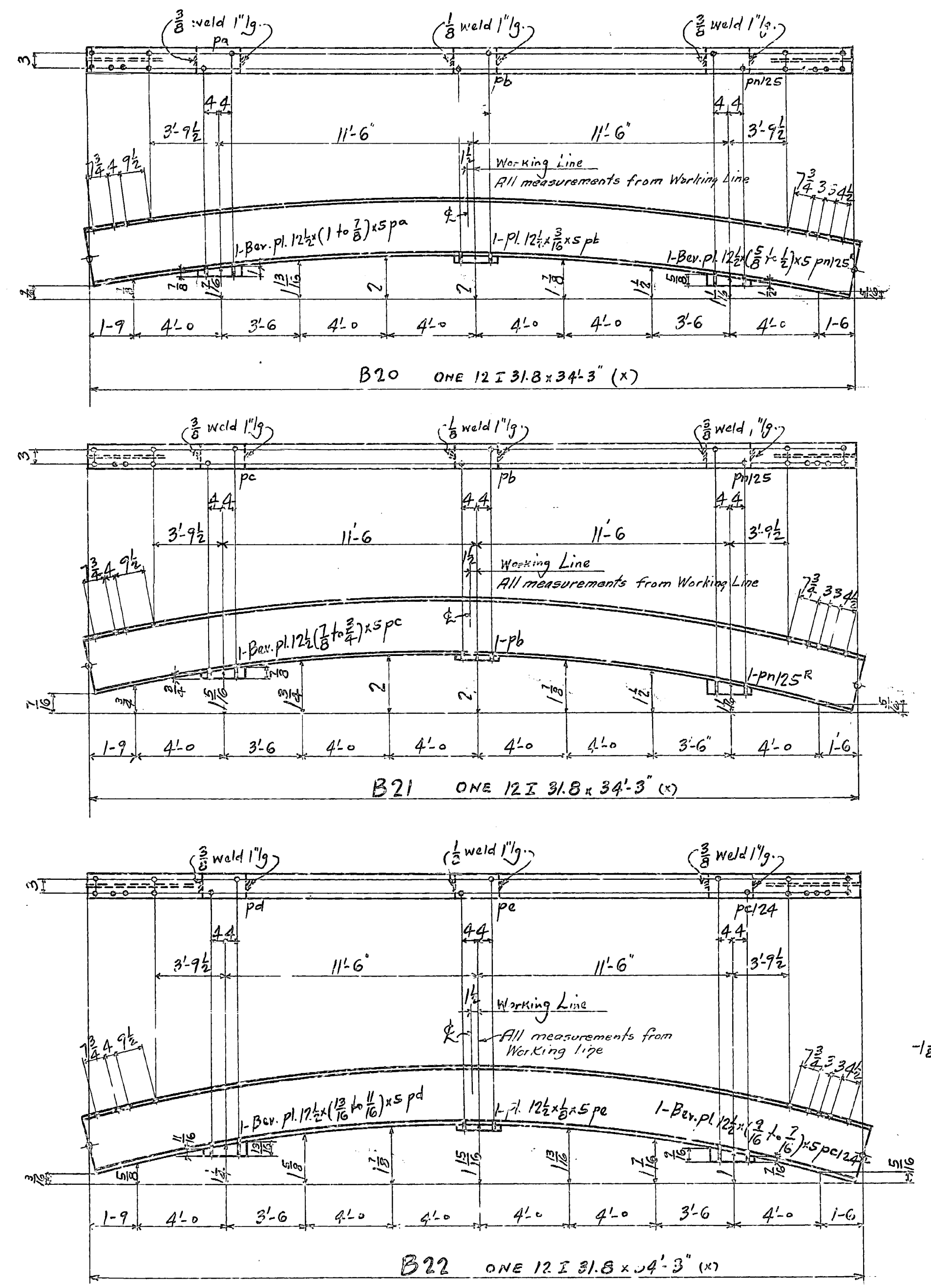
APPROVED

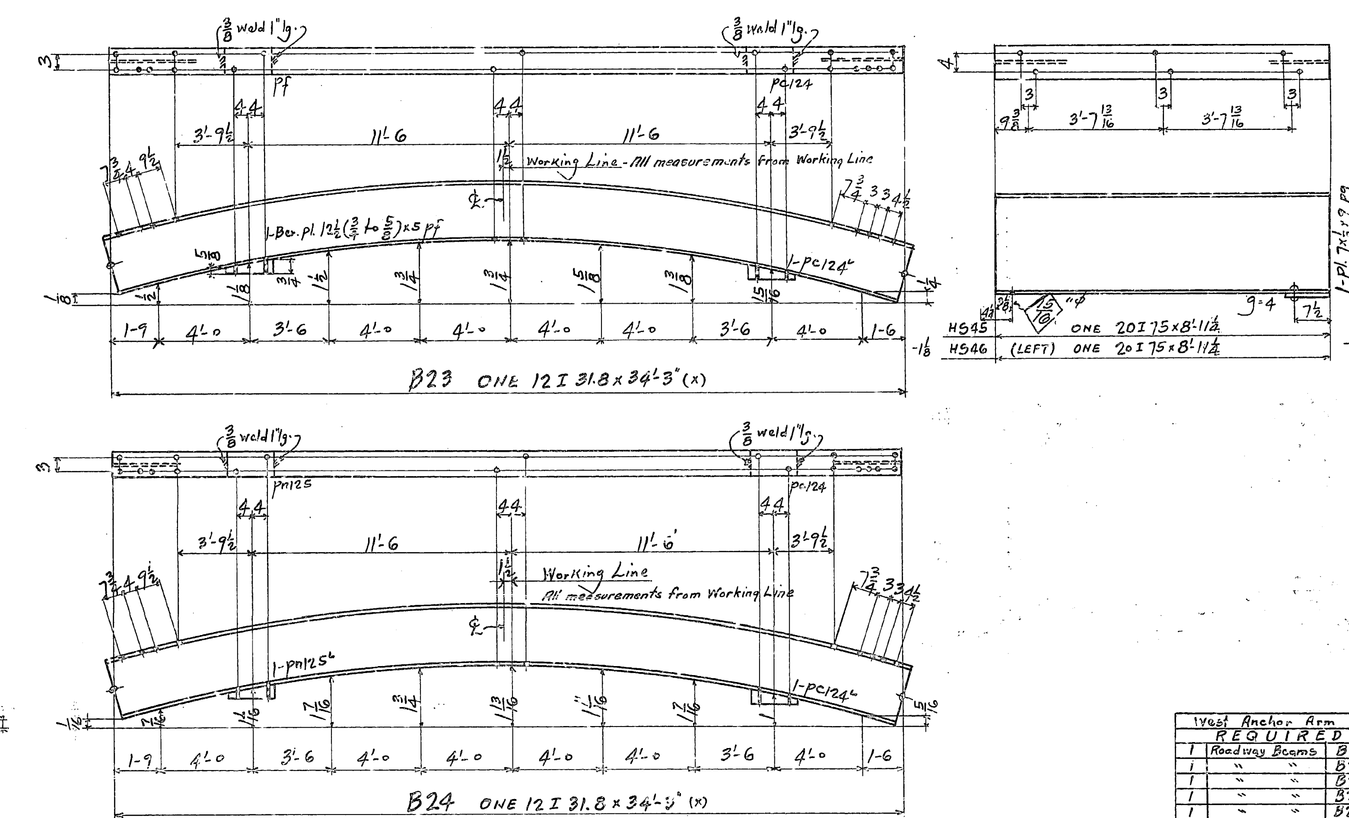
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 8-14-34

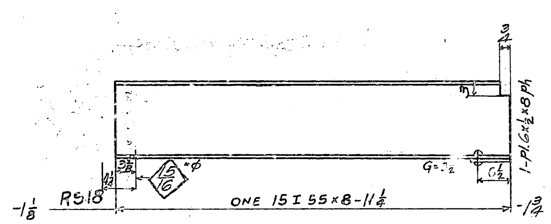
State of California
Department of Pu lic Works
SAN FRANCISCO - OAKLAND BA / BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure West Anchor Arm
Lower Deck Roadway Beams

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE Wilkinson
DRAW. MADE BY J.D.A. DATE 6-25-34
DRAW. CHECKED BY A.M.F. DATE 7-19-34
ORDER No. G5103 SHEET No. 125

Mat'l Page 116, 106, 115-122
(Rev. 9-7-34) - C
(Rev. 11-13-34) - D
(Rev. 9-7-34) - C
(Rev. 9-19-34) - B
MW 9-17-34
[B&C]







GENERAL NOTES:

Material—All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel. All rivet steel to be copper bearing.

Specifications— Special by State of California Department of Public Works.

Inspection— John M. Bailey, Chief Inspector.

Rivets— ¾"ϕ unless noted.

Open Holes— $\frac{15}{16}$"ϕ Unless Noted.

Reaming— None, except holes in bottom flanges and sole plates to be subpunched ¼" or subdrilled ⅛" and reamed to size while parts are assembled.

Burrs to be removed from all reamed holes.

Paint— None.

West Anchor Arm		
REQUIRED		
1	Roadway Beams	B20
1	" "	B21
1	" "	B22
1	" "	B23
1	" "	B24
4	Railway Stringers	RS18
2	Highway "	HS45
1	" "	HS46

9-19-34	Gen. Notes	9-26-34
Made	Revision	App.

APPROVED

Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 8-14-34

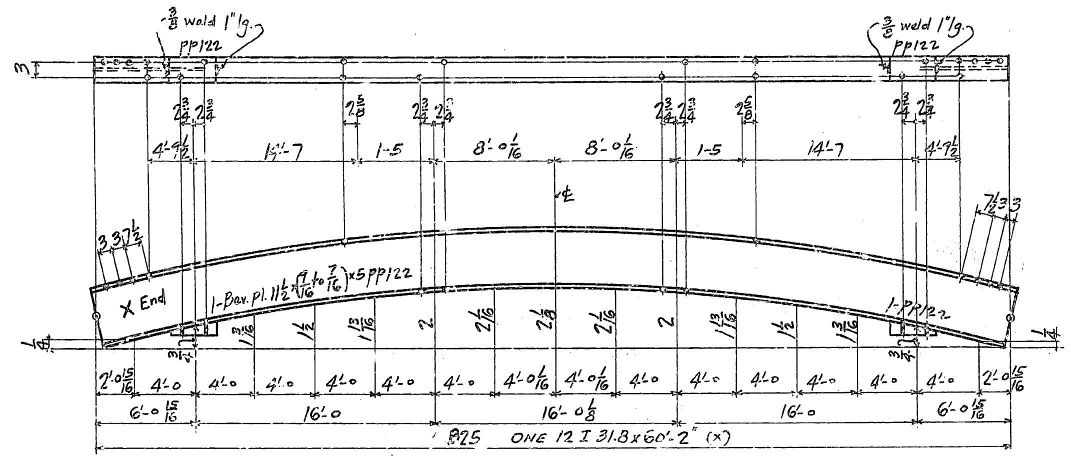
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure West Anchor Arm
Lower Deck
Roadway Beams & Railway Stringers

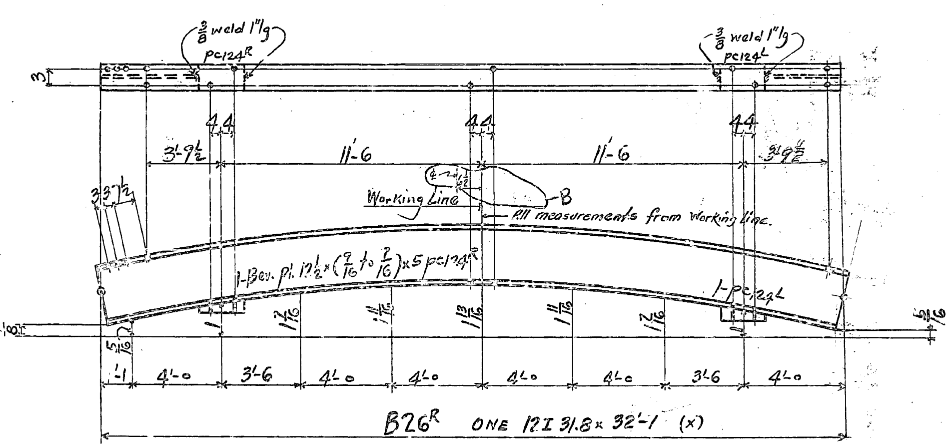
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DRAW. MADE BY JDa DATE 6-26-34
CHECKED BY Am DATE 7-20-34

ORDER No. G5103 SHEET No. 126

Mat'l page 106, 116, 115
Rev 9-17-34
Rev. 9-15-34 - B
WMW 9-17-34
[B&C]

30-1





West Cantilever	East Cantilever	Total	REQUIRED	MARK
1	1	2	Roadway Beams	B25
1		1	" "	B26R
	1	1	" "	B26L

General Notes-

Material—All material O.H. copper bearing medium carbon steel, except material marked (x) is O.H. copper bearing silicon steel.

Specifications—Special by State of California Department of Public Works.

Inspection— John M. Bailey, Chief Inspector

Open Holes— 13/16"

Reaming—None, except holes in bottom flanges and sole plates to be subpunched 4" or subdrilled 6" and reamed to size while parts are assembled.

Burrs to be removed from all reamed holes.

Paint—None.

Made	Revision	App'd
9-19-34	Gen. Notes	9-26-34

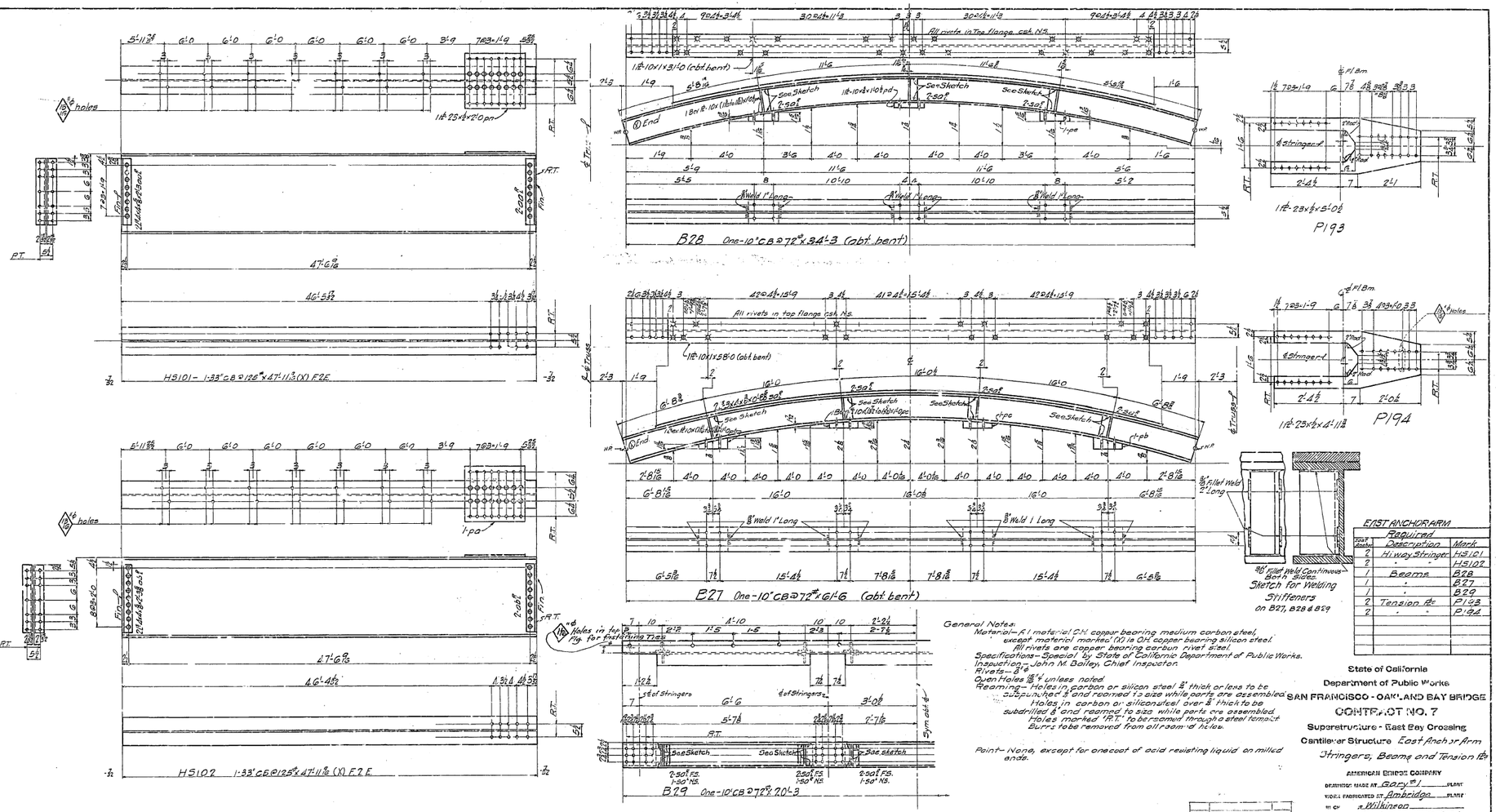
APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 8-22-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arms
Upper and Lower Deck Roadway Beams

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DRAWN BY GDa DATE 7-26-34
CHECKED BY Amf DATE 7-26-34
MMS 11-6-34
ORDER No. G5103
SHEET No. 127

(Rev. 9-19-34)
(Rev. 11-6-34)—E
Mat'l. ord. pg. 213 & 214-215
[B-C]
H.A.L. 10-22-34
E (Upper deck only)

30-31



EAST ANCHOR ARM

Sheet Sketch	Required Description	Mark
2	Hiway Stringer	HS101
2	"	HS102
1	Beams	B28
1	"	B27
1	"	B29
2	Tension Rc	P193
2	"	P194

General Notes:
Material – All material OH copper bearing medium carbon steel, except material marked (X) is OH copper bearing silicon steel. All rivets are copper bearing carbon rivet steel.
Specifications – Special by State of California Department of Public Works.
Inspection – John M Bailey, Chief Inspector.
Rivets – 8 ø
Oven Holes ⅛" ø unless noted.
Reaming – Holes in carbon or silicon steel ⅝" thick or less to be subpunched ⅜" and reamed to size while parts are assembled. Holes in carbon or silicon steel over ⅝" thick to be subdrilled ⅜" and reamed to size while parts are assembled. Holes marked "RT." to be reamed through a steel templet. Burrs to be removed from all reamed holes.
Paint – None, except for one coat of acid resisting liquid on milled ends.

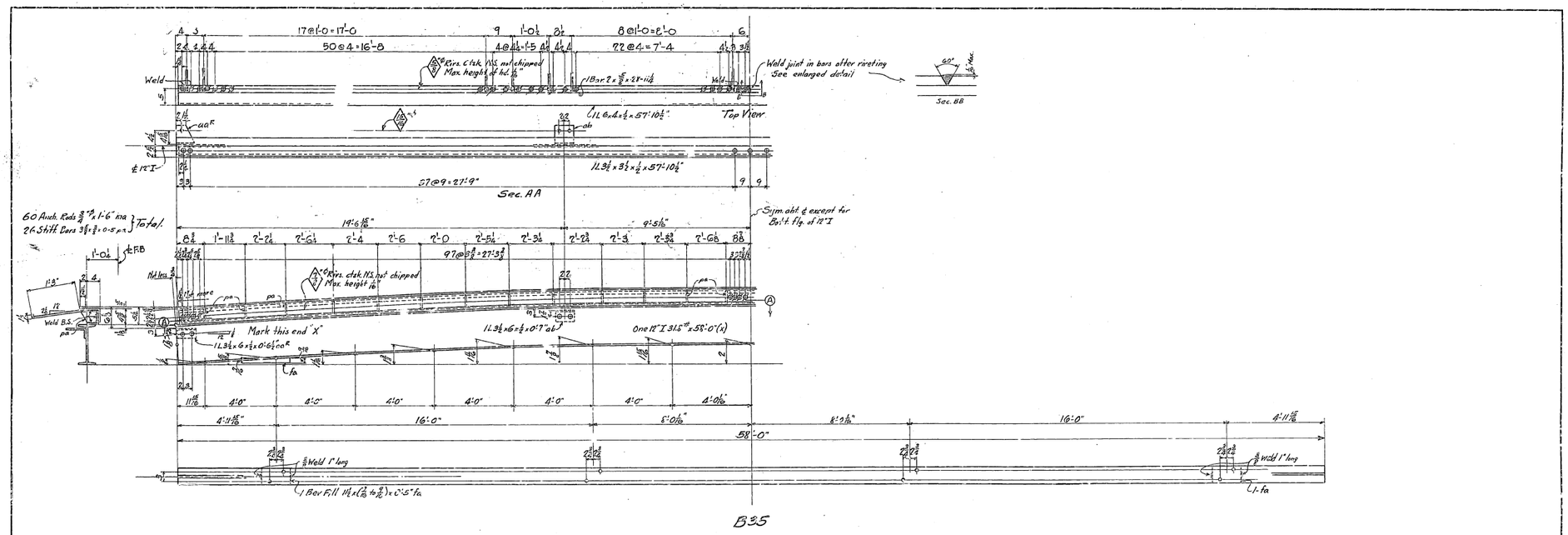
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure East Anchor Arm
Stringers, Beams and Tension Rs

AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Ambridge PLANT
BY OF R. Wilkinson
BTD MADE BY S.R.W. DATE 10-8-36
CHKD. CHECKED BY Kent DATE 10-12-36
ORDER No. G5103 DR. KEY No. 178

No.	Revision	Ap'd
	APPROVED	
Chief E. Hood Jr.	Exec. Lt. Design	
Chas. E. Andrew	Engineer-Manager	
C. H. Purcell	Chief Engineer	
Approval Date 11-26-36		

W.H.R.L. 10-26-36

[B&C]



GENERAL NOTES:-
Material-All material O.H. copper bearing medium carbon str. el. except material marked (c) which is O.H. copper bearing silicon steel. All rivet steel to be copper bearing.
Specifications- Special by State of California Department of Public Works.
Inspection- John M. Bailey, Chief Inspector.
Rivets-⅞" ø unless noted.
Open holes-13/16" unless noted.
Reaming- None, except holes in bottom flange and sole plates to be subpunched ¼ or subdrilled ¼ and reamed to size while parts are assembled. Burrs to be removed from all reamed holes.
Paint- None

NOTE:
Curved beams may overrun ½" at either or both ends.

West Cast	East Cast	Total	REQUIRED	MARK
1	1	2	Roadway beams	B35

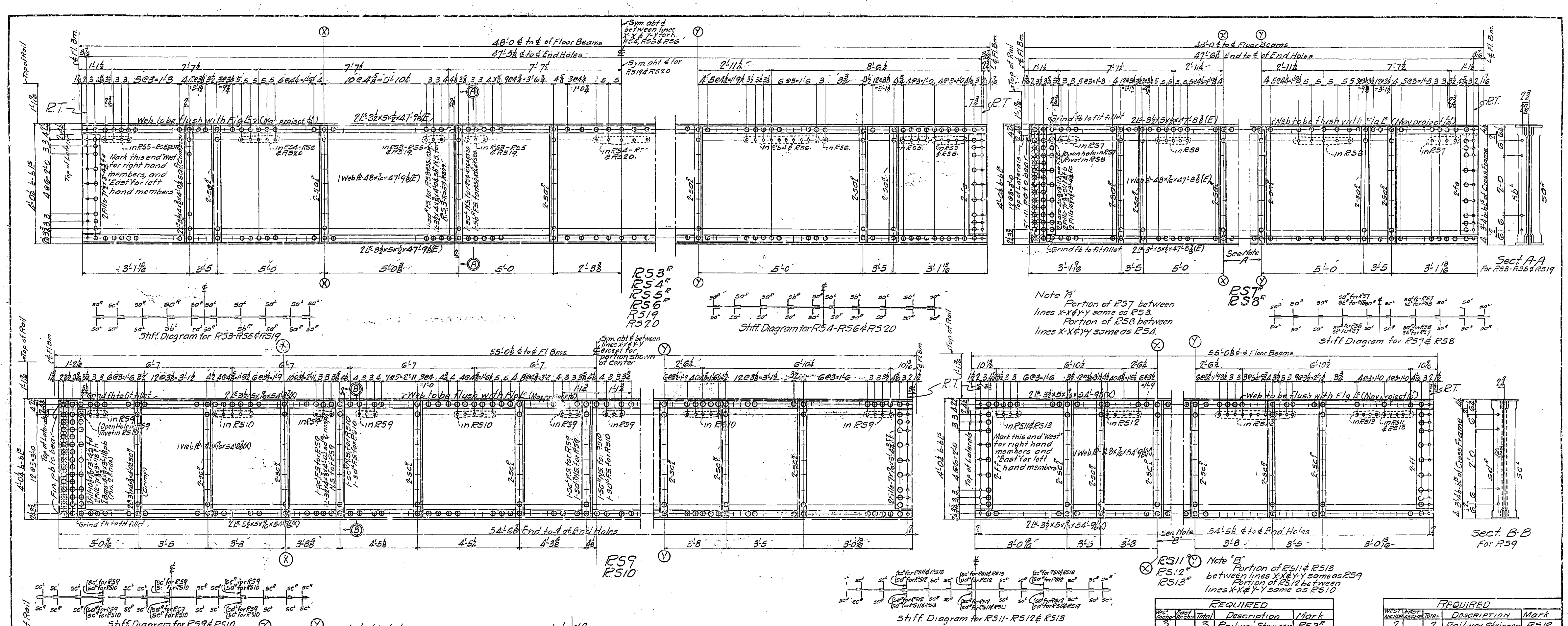
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure West & East Cantilever Arms
Upper Deck Roadway Beams
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary, Ind. PLANT
WORK PROJECTED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DRAWN BY P.H.C. DATE 10-19-54
TRACED CHECKED BY Ahrt DATE 10-23-54
ORDER No. G5103
SHEET No. 129

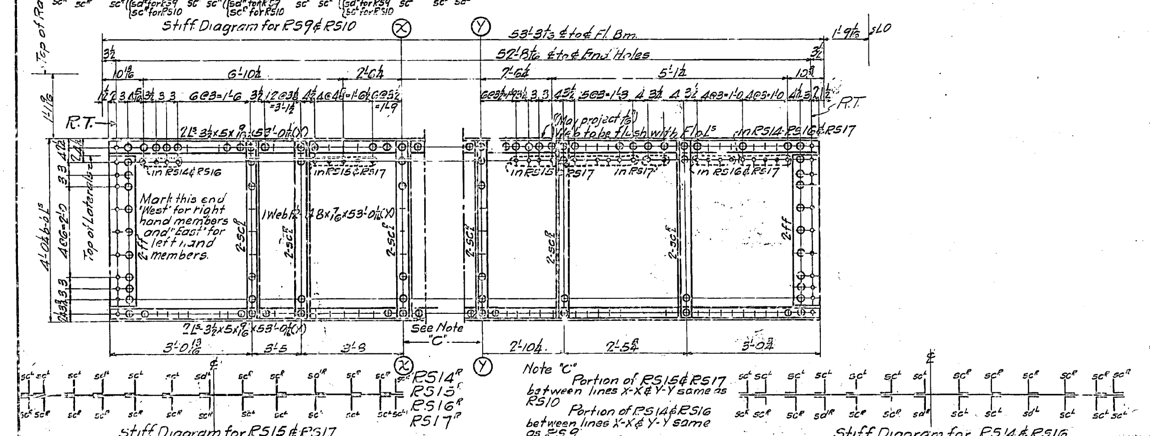
APPROVED
Chief Engr.
Dep. Chief Engr.
Bridge Engr.
Asst. Bridge Engr.
Date 11-8-54

W.H.A.S. 11-9-54

Mat. ord. pages 215-213-216

[B+C]





GENERAL NOTES:

Material– All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel. All rivet steel to be copper bearing.

Specifications– Special by State of California Department of Public Works.

Inspection– John M. Bailey, Chief Inspector.

Rivets– ⅞"⌀

Open Holes– 15/16"⌀

Reaming– All holes to be subpunched ¼" and reamed to size while parts are assembled.
Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.

Finish– On all carbon steel marked (E) and on all silicon steel, the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal.

Paint– None.

Made	Revision	App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 9-5-34

Mat'l. Ord. Pg. 106-116 C.R.W. 123

REQUIRED

West Anchor	East Anchor	Total	Description	Mark
3		3	Railway Stringers	RS3R
	3	3	" "	RS3L
3		3	" "	RS4R
	3	3	" "	RS4L
3		3	" "	RS5R
	3	3	" "	RS5L
3		3	" "	RS6R
	3	3	" "	RS6L
4		4	" "	RS7R
	4	4	" "	RS7L
4		4	" "	RS8R
	4	4	" "	RS8L
4		4	" "	RS9
4		4	" "	RS10
1		1	" "	RS11R
	1	1	" "	RS11L
2		2	" "	RS12R
	2	2	" "	RS12L
1		1	" "	RS13R
	1	1	" "	RS13L
1		1	" "	RS14R
	1	1	" "	RS14L
1		1	" "	RS15R
	1	1	" "	RS15L
1		1	" "	RS16R
	1	1	" "	RS16L
1		1	" "	RS17R
	1	1	" "	RS17L

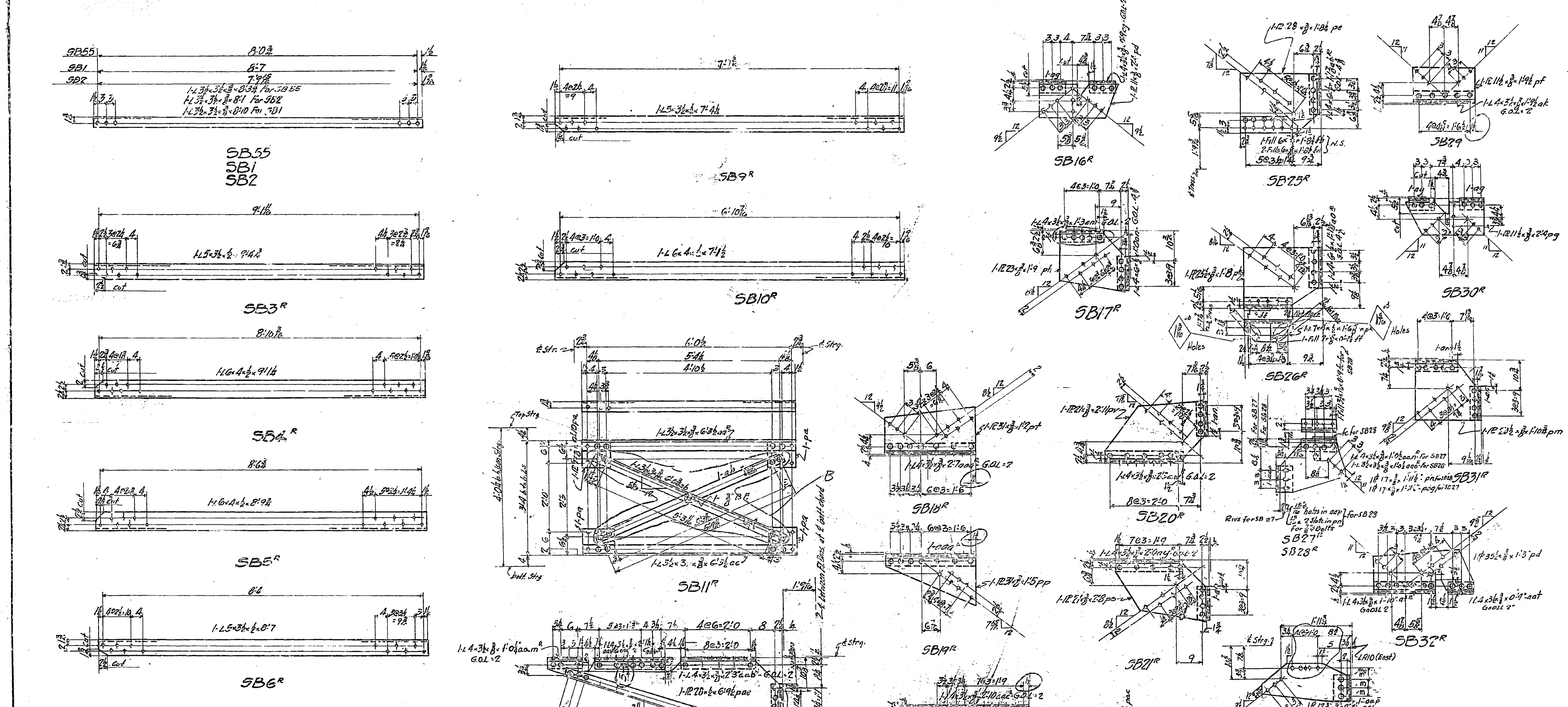
REQUIRED

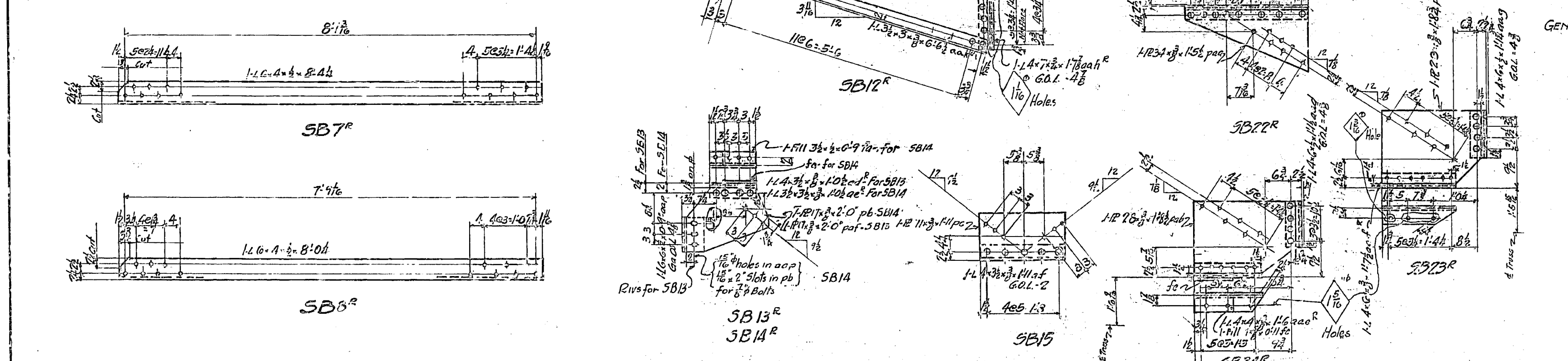
West Anchor	East Anchor	Total	Description	Mark
2		2	Railway Stringers	RS19
2		2	" "	RS20

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
Lower Deck- Railway Stringers

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
... Wilkinson
... MADE BY C.R.W. DATE 6-26-34
DRAW. CHECKED BY M.H.L. DATE 7-16-34
ORDER No. G5103
SHEET No. 131

[B&C]





GENERAL NOTES.

Material - All material O.H. copper bearing medium carbon steel. All rivet steel to be copper bearing.
Specifications - Special by State of California Department of Public Works.
Inspection - John M. Bailey, Chief Inspector.
Rivets - $\frac{7}{8}$" ϕ
Open Holes - $\frac{15}{16}$" ϕ unless noted.
Reaming - None.
Finish - None.
Paint - None.

West Anchor	East Anchor	Total	Required	
66	64	130	Stgr. Laterals	SB1
60	60	120	do	SB2
6		6	do	SB3ᴿ
	6	6	do	SB3ᴸ
3		3	do	SB4ᴿ
	3	3	do	SB4ᴸ
3		3	do	SB5ᴿ
	3	3	do	SB5ᴸ
2		2	do	SB6ᴿ
	2	2	do	SB6ᴸ
1		1	do	SB7ᴿ
	1	1	do	SB7ᴸ
1		1	do	SB8ᴿ
	1	1	do	SB8ᴸ
2		2	do	SB9ᴿ
	2	2	do	SB9ᴸ
1		1	do	SB10ᴿ
	1	1	do	SB10ᴸ
20	28	48	Stgr. Cross Frames	SB11ᴿ
28	20	48	do	SB11ᴸ
1		1	Str. Lat. Plates	SB12ᴿ
	1	1	do	SB12ᴸ
8	6	14	do	SB13ᴿ
6	6	12	do	SB13ᴸ
4		4	do	SB14ᴿ
	4	4	do	SB14ᴸ
30	30	60	do	SB15
12	12	24	do	SB16ᴿ
12	12	24	do	SB16ᴸ
3		3	do	SB17ᴿ
	3	3	do	SB17ᴸ
6		6	do	SB18ᴿ
	6	6	do	SB18ᴸ
3		3	do	SB19ᴿ
	3	3	do	SB19ᴸ
3		3	do	SB20ᴿ
	3	3	do	SB20ᴸ
3		3	do	SB21ᴿ
	3	3	do	SB21ᴸ
3		3	do	SB22ᴿ
	3	3	do	SB22ᴸ
1		1	do	SB23ᴿ
	1	1	do	SB23ᴸ
1		1	do	SB24ᴿ
	1	1	do	SB24ᴸ
1		1	do	SB25ᴿ
	1	1	do	SB25ᴸ
1		1	do	SB26ᴿ
	1	1	do	SB26ᴸ
4	4	8	do	SB27ᴿ
4	4	8	do	SB27ᴸ
4		4	do	SB28ᴿ
	4	4	do	SB28ᴸ
28	28	56	do	SB29
16	8	24	do	SB30ᴿ
8	16	24	do	SB30ᴸ
1		1	do	SB31ᴿ
	1	1	do	SB31ᴸ
2		2	do	SB32ᴿ
	2	2	do	SB32ᴸ
	2	2	Stringer Laterals	SB55
	2	2	Str. Lat. Plates	SB56

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 9-5-34

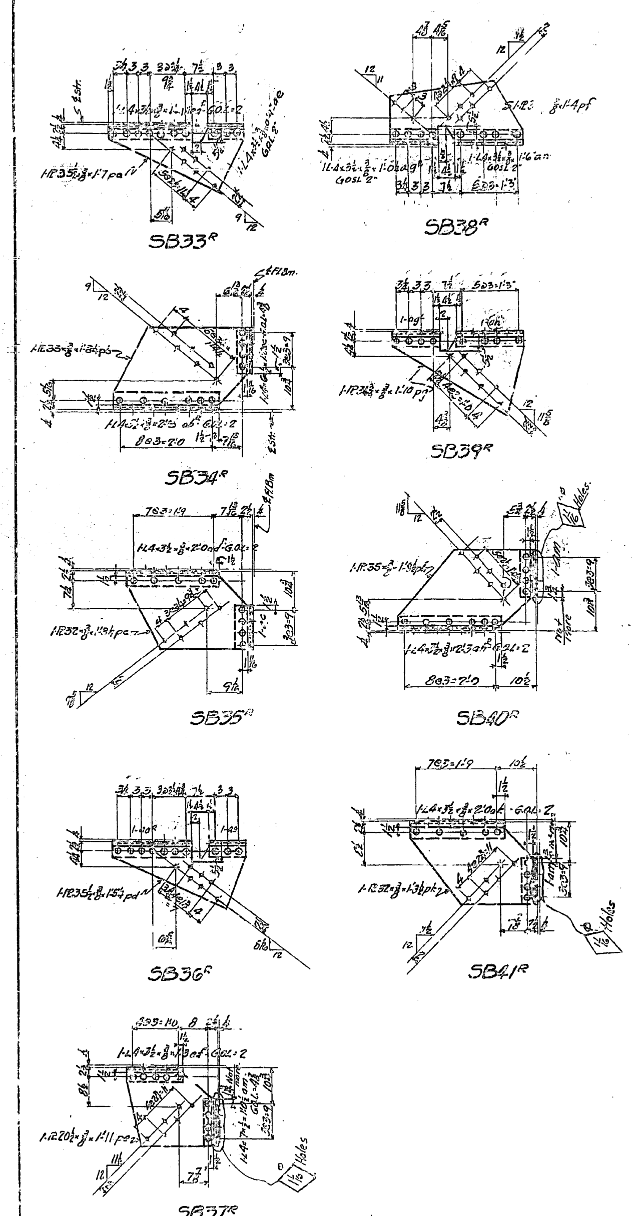
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure — Anchor Arm
Details of R.R. Stringer Bracing

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DRAW. MADE BY E.C.G. DATE 6-26-34
DRAW. CHECKED BY MJL DATE 7-16-34
ORDER No. G5103 SHEET No. 132

Mat. Ord. 117-118-119 E.C.G. 9-1-34
(Rev. 9-14-34)
(Rev. 2-1-35) - B
[C]

30-1

30-1



West Anchor	East Anchor	Total	Required	
1		1	Str. Lat. Pls.	SB33R
	1	1	do	SB33L
1		1	do	SB34R
	1	1	do	SB34L
1		1	do	SB35R
	1	1	do	SB35L
1		1	do	SB36R
	1	1	do	SB36L
1		1	do	SB37R
	1	1	do	SB37L
2		2	do	SB38R
	2	2	do	SB38L
1		1	do	SB39R
	1	1	do	SB39L
1		1	do	SB40R
	1	1	do	SB40L
1		1	do	SB41R
	1	1	do	SB41L

GENERAL NOTES:
- Material – All material O.H. copper bearing medium carbon steel. All rivet steel to be copper bearing.
- Specifications – Special by State of California Department of Public Works.
- Inspection – John M. Bailey, Chief Inspector.
- Rivets – $\frac{7}{8}$"φ
- Open Holes – $\frac{15}{16}$"φ unless noted.
- Reaming – None.
- Finish – None.
- Paint – None.

Made	Revision	App'd

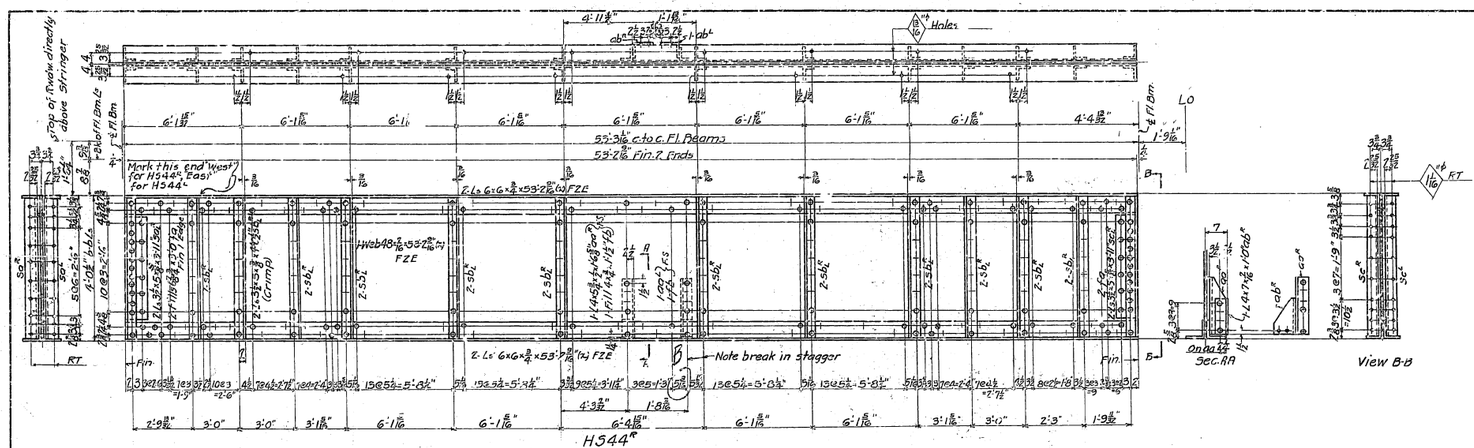
APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 9-5-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
Details of R.R. Stringers Bracing

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DRAWN BY E.C.G. DATE 6-27-34
DRAWING CHECKED BY M.H. DATE 7-16-34.
ORDER No. G5103 SHEET No. 133

Mat. Ord. 116-117 E.C.G.

[C]



Required				
West Anchor	East Anchor	Total	Description	Mark
1	-	1	Stringer	H544R
	1	1	do	H544L

GENERAL NOTES:

Material– All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel. All rivet steel to be copper bearing.
Specifications– Special by State of California Department of Public Works.
Inspection– John M. Bailey, Chief Inspector.
Rivets– 8/8
Open Holes– 15/16 unless noted.
Reaming– All material to be subpunched 1/4" and reamed to size while parts are assembled.
Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Finish– On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least 1/8" of metal.
Paint– None, except one coat acid resist (in) liquid on milled ends.

Date	Revision	Appr.

APPROVED
Clem S. Wigerhoff, Chas. E. Andrew, C. H. Purcell
Approval Date 9-5-34
Engr. of Design, Bridge Engineer

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Cantilever
Cantilever Structure - Anchor Arm
Lower Deck Highway Stringers

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DRAWN BY L.S.L. DATE 6-27-34
CHECKED BY MMc DATE 7-20-34
ORDER No. G 5103
SHEET No. 134

Mat'l. Ord. Pgs. 105, 115 LIST 123

(Rev. 9-25-34)
(Rev. 10-17-34)

W 11-29-34 [B&C]

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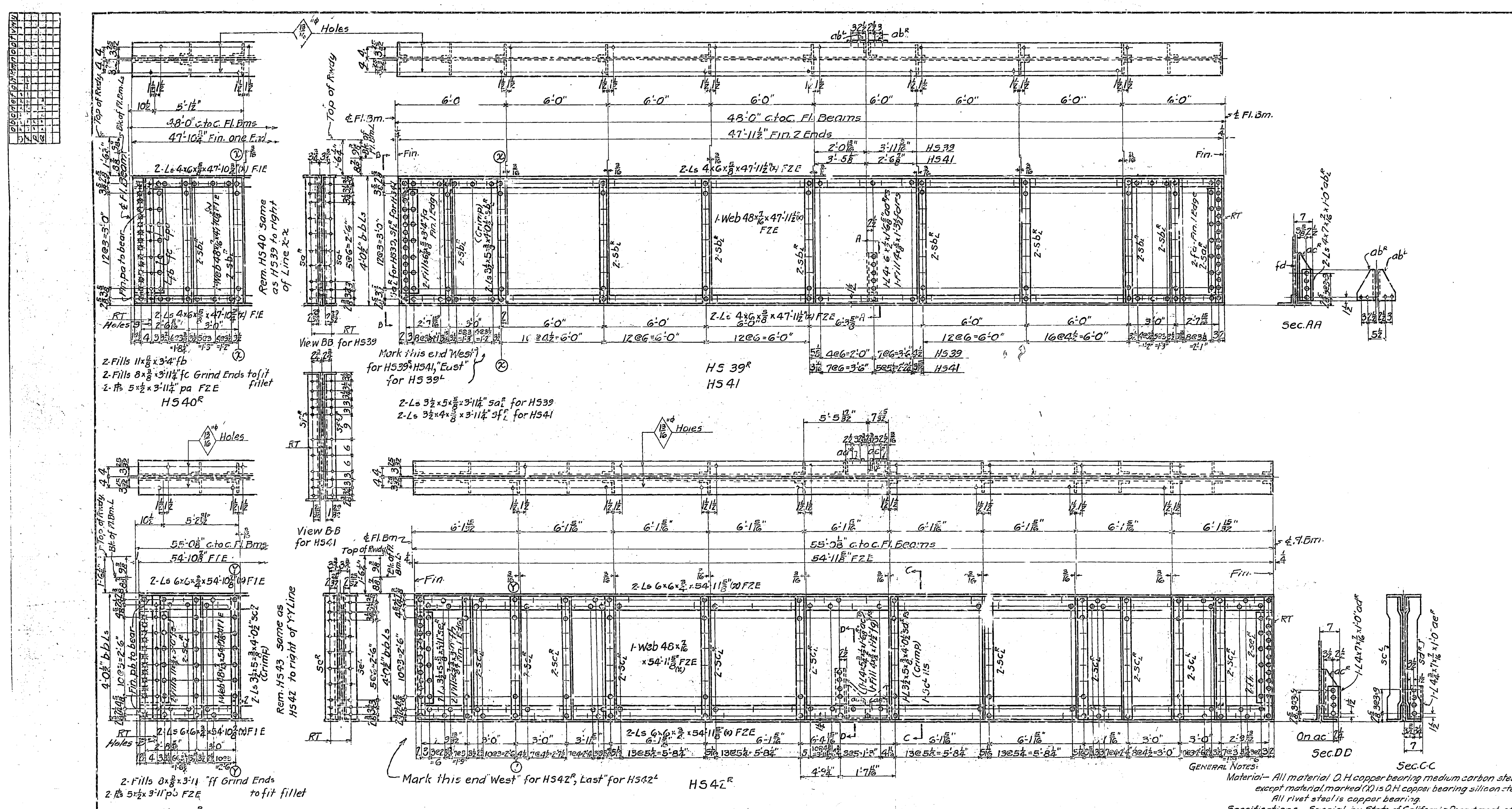


Required				
West Anchor	East Anchor	Total	Description	Mark
3		3	Stringers	HS39[R]
	3	3	do	HS39[L]
2		2	do	HS40[R]
	2	2	do	HS40[L]
1		1	do	HS41
1		1	do	HS42[R]
	1	1	do	HS42[L]
2		2	do	HS43[R]
	2	2	do	HS43[L]

GENERAL NOTES:

Material– All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel. All rivet steel is copper bearing.

Specifications– Special by State of California Department of Public Works.

Inspection– John M. Bailey, Chief Inspector.

Rivets– ⅞"φ

Open Holes– $\frac{15}{16}$"φ unless noted

Reaming– All material to be subpunched ⅛" and reamed to size while parts are assembled. Holes marked "RT" to be reamed through a steel templet. Burrs to be removed from all reamed holes.

Finish– On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal.

Paint– None, except one coat acid resisting liquid on milled ends. –B

Mat'l. Ord. P's 105, 115 L.S.I. 123

Erectors Note:– Holes "B" to be filled with rivets after use during erection

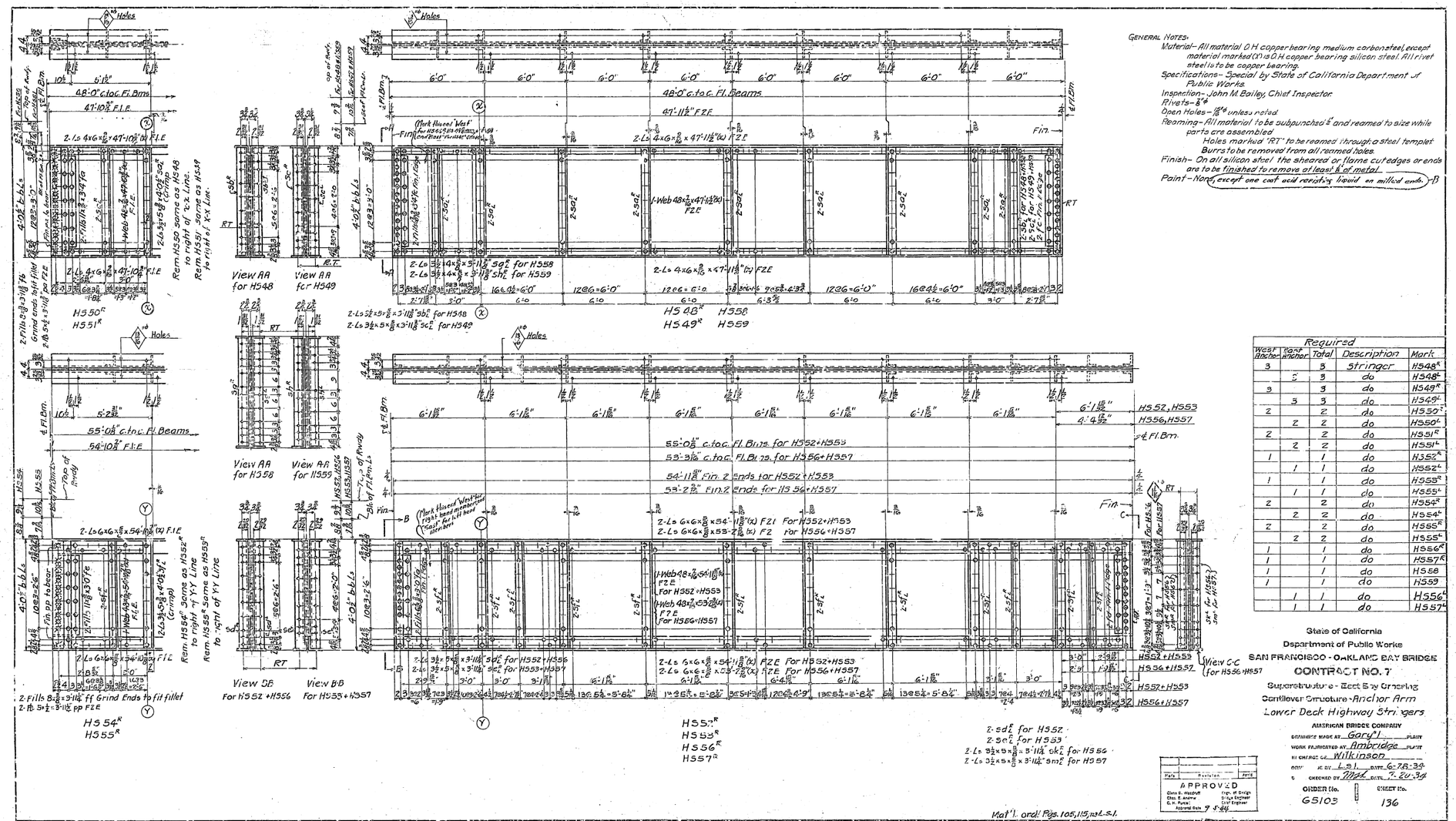
APPROVED

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure - Anchor Arm
Lower Deck Highway Stringers
AMERICAN BRIDGE COMPANY

Drawings made at Gary, Ill. plant
Work fabricated at Ambridge plant
In charge of Wilkinson
Drawn by L.S.I. date 6-25-34
Drawn. checked by [illegible] date 7-20-34

Order No. 65103
Sheet No. 135

Rev. 9-11-34
B– Rev. 9-18-34
Wonder 9-11-34
[B&C]



GENERAL NOTES:

Material- All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel. All rivet steel is to be copper bearing.
Specifications- Special by State of California Department of Public Works.
Inspection- John M. Bailey, Chief Inspector.
Rivets- ⅞" ϕ
Open Holes- 15/16" ϕ unless noted.
Reaming- All material to be subpunched ¼" and reamed to size while parts are assembled.
Holes marked "RT" to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Finish- On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ¼" of metal.
Paint- None, except one coat acid resisting liquid on milled ends. FB

Required				
West Anchor	East Anchor	Total	Description	Mark
3		3	Stringer	H548[R]
	3	3	do	H548[L]
3		3	do	H549[R]
	3	3	do	H549[L]
2		2	do	H550[R]
	2	2	do	H550[L]
2		2	do	H551[R]
	2	2	do	H551[L]
1		1	do	H552[R]
	1	1	do	H552[L]
1		1	do	H555[R]
	1	1	do	H555[L]
2		2	do	H554[R]
	2	2	do	H554[L]
2		2	do	H555[R]
	2	2	do	H555[L]
1		1	do	H556[R]
1		1	do	H557[R]
1		1	do	H558
1		1	do	H559
	1	1	do	H556[L]
	1	1	do	H557[L]

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Cantilever Structure - Anchor Arm
Lower Deck Highway Stringers

AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary, I. PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
CONV. JC BY L.S.L. DATE 6-28-39
CHECKED BY [illegible] DATE 7-20-39

ORDER No. GS103
SHEET No. 136

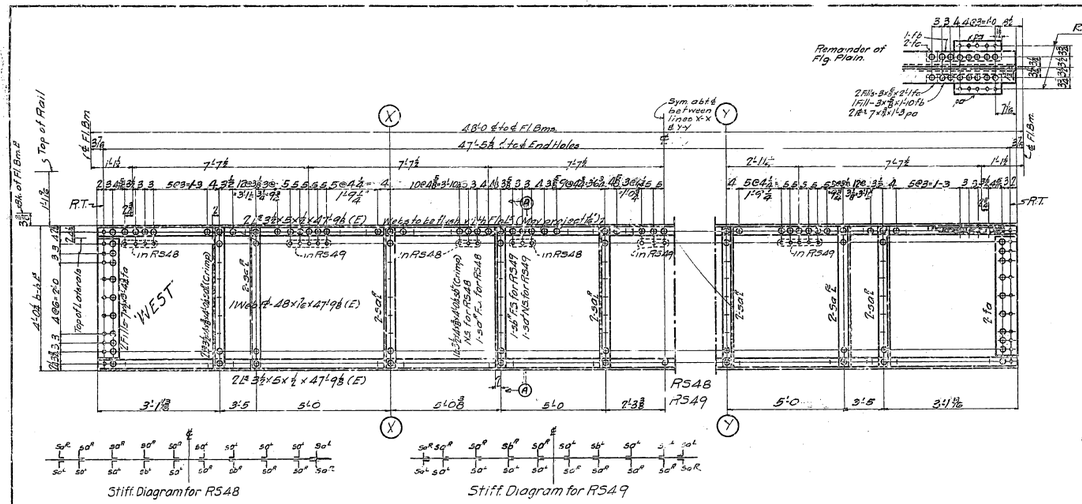
APPROVED
Chas. H. Purcell, Engr. of Bridges
Chas. E. Andrew, Bridge Engineer
O. H. Parkin, Chief Engineer
Approval Date 7-5-39

Mat'l. ord'd Pgs. 105, 115, not L.S.L.

Rev 9-19-40
Rev 6-28-42

[B&C]

30-1



GENERAL NOTES:

Material – All material O.H. copper bearing medium carbon steel. All rivets to be copper bearing carbon rivet steel.
Specifications – Special by State of California Department of Public Works.
Inspection – John M. Bailey, Chief Inspector.
Rivets – ⅞"ø
Open Holes – 15/16"ø
Reaming – All holes to be subpunched ¼" and reamed to size while parts are assembled.
Holes marked "RT" to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Finish – On all carbon steel marked "F" the sheared or flame cut edges or ends are to be finished to remove at least ½" of metal.
Paint – None.

Mark	Revisions	Appd

APPROVED
Chas. D. Wood, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Assistant Engrs.

EAST ANCHOR ARM.

No.	REQUIRED Description	Mark
2	Railway Stringers	RS48
2	" "	RS49
4	Tension Plates	P69

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure East Anchor Arm – Railway Stringers & Tension Plates.

AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary (#1) PLANT
WORK FABRICATED BY Ambridge PLANT
IN CHARGE OF Wilkinson
DRAWN, TRACED BY G.R.W. DATE 8-1-34
CHECKED BY [illegible] DATE 8-2-34

ORDER No. G5103 | SHEET No. 137

W. Mill. 9-1-34.

[C]

Flame cut+chi Girders on this line for use in Permanent Structure

Flame cut+chip Girders on this line for use in Permanent Structure

Charge Main Matl to Cont. 41-K8269

54'-6⅞" End to ¼ End Holes after Flame Cutting

56'-9" o to o.

55'-0⅝" c. to c. Fl. Bms.

Charge Main Matl to Cont. 41-K8269

Web to be flush w. Fl. Fig. 6 (May project ⅛" in)

Rivet in F.S. Girder in N.S. Girder

Fin. pb to bear

Fin. Stiffs

No finish this end

No finish This End

2-Webs 98 x ⅞ x 56'-9" Fin. 1" Edge

4-L- 3½ x 5 x ⅝ x 56'-9" (x)

4-Ls 3½ x 5 x ⅝ x 56'-9" (x)

Sec. A-A

Sec. B-B

Sec. C-C

Sec. D-D

Holes for 2½" Pins

Mark for Erection Purposes R550 {F.S. Gir.- R550A for Perm. Structure / N.S. Gir.- R550B for Perm. Structure

2-Ls 8 x 4 x ⅞ : 3'-5¼" ae
4-Ls 3½ x 3½ x ⅝ x 0'-11½" ab
2-Ls 3½ x 3½ x ⅝ x 1'-1½" ac.
2-Ls 6 x 3½ x ⅝ x 1'-2" ad
4-Pls 11½ x ⅝ x 2'-0" pa
60-P.B. ⅞" x 2¼
4-P.Bs ⅝ x 2¼
4-Ls 3½ x 3½ x ⅝ x 0'-6½" ae
2-Pls 12½ x ⅝ x 3'-6" pc
4-P.Bs ⅝ x 2⅛
2-Fills 3½ x ⅜ x 0'-6" fe

Note:- All material marked thus * to be charged to Cont. 41-K8269

Note to Erector:-
After Girders are erected in permanent structure, Erector to drive rivets or use soft steel screw plugs in all holes not required for connections.

General Notes:-
Material:- All material O.H. copper bearing medium carbon steel, except material marked (x) is O.H. copper bearing silicon steel. All rivets to be copper bearing carbon rivet steel.
Specifications: Special by State of California, Department of Public Works
Inspection: John M. Bailey, Chief Inspector.
Rivets ⅞"ø
Open Holes: 15/16 unless noted
Reaming: All holes to be sub-punched ¼" and reamed to size while parts are assembled, except vertical and horizontal diaphragms and outrigger details which may be punched full size. Holes marked "R.T." to be reamed through a steel templet. Burrs to be removed from all reamed holes.
Finish:- On all silicon steel, the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal.
Paint:- None

Perm. Bolts detailed on Sh. CF4.

Mat'l. ord. Pg 120-121, 123 L.S.I.

Railway stringers used temporarily for Traveler Skids.

East Anchor Arm		
Required		
4	Railway Stringers	R550

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure - Anchor Arm
Lower Deck Railway Stringers
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary "1" PLANT
WORK FABRICATED AT Ambridge SHOP
IN CHARGE OF Wilkinson
DRAWN BY L.S.I. DATE 8-16-34
CHECKED BY GHH DATE 8-24-34
ORDER No. G5105
SHEET No. 138

APPROVED
Dean D. Hyzer, Engr. of Bridges
C.W. Purcell, Engineer
Approved Date 9-1-36

[B+C]

P109

View A-A for H590

View A-A For H591

H590
H591

H596

Sec. B-B

Remainder of Bottom Flange Plain

GENERAL NOTES:
Material- All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel. All rivets are copper bearing carbon rivet steel.
Specifications- Special by State of California Department of Public Works.
Inspection- John M. Bailey, Chief Inspector
Fin. 13- 8 ft
Open Holes- 1 1/8" ϕ Unless noted.
Reaming- All material to be subpunched 5/8" and reamed to size while parts are assembled. Holes marked "R.T." to be reamed through a steel templet.
Burns to be removed from all reamed holes.
Finish- On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least 1/8" of metal.
Paint- None, except one coat acid resisting liquid on milled ends.

East Anchor Arm.
Required

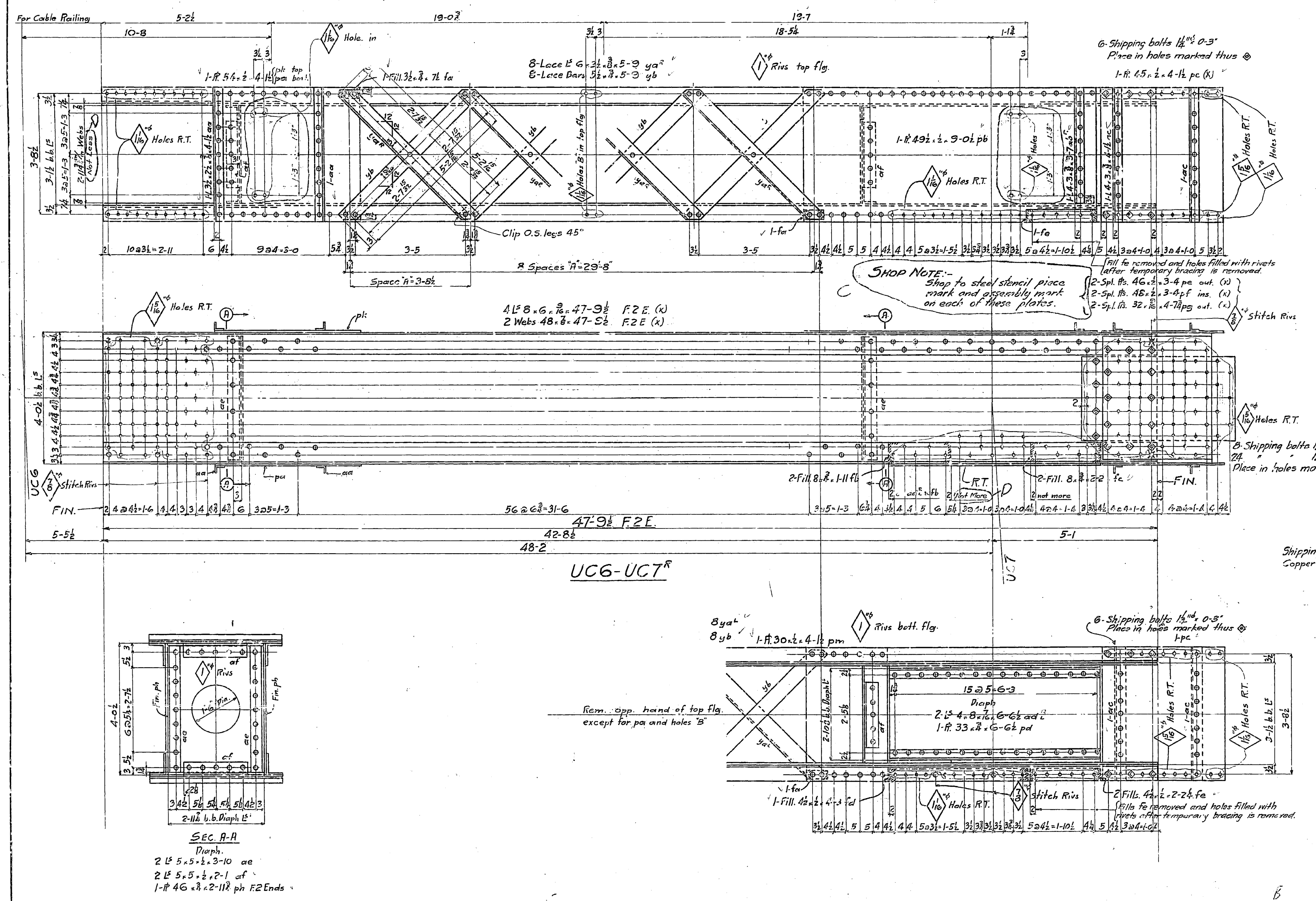
Pcs.	Description	Mark
2	Tension Plates	P109
1	Highway Stringers	H590
1	" "	H591
1	" "	H596

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure East Anchor Arm- Tension Plates and Highway Stringers L.O.H.
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
MADE BY CRH DATE 9-21-34
CHKD. CHECKED BY RWF DATE 10-10-34

APPROVED
Chief Engr. of Design
Bridge Engineer
Chief Engineer
Date 10-24-34

ORDER No. G5103
CHIEF No. 139

[B&C]



GENERAL NOTES:

Material: All material O.H. copper bearing medium carbon steel, except material marked (X) is copper bearing silicon steel. All rivets to be copper bearing carbon rivet steel.

Specifications: Special by State of California Department of Public Works.

Inspection: John M. Bailey, Chief Inspector.

Rivets 1⅛"φ unless noted.

Open Holes 1 3/16"φ " "

Reaming: Holes in carbon or silicon steel ¾" thick or less to be subpunched ¼" and reamed to size while parts are assembled, except lacing, stay plates and diaphragm webs may be punched full size. Holes in silicon steel over ¾" thick to be sub-drilled ⅛" and reamed to size with parts assembled. Holes marked R.T. to be reamed through a steel templet.

Burrs to be removed from all reamed holes.

Finish: On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal. Edges of manholes to be smooth.

Paint: None, except acid resisting liquid at milled ends and splices (See Sheet E21).

West Cant.	East Cant.	Total	Required	
One	One	2	Top Chords	UC6-UC7[R]
One	One	2	do	UC6-UC7[L]

14T
14T

Made	Revision	App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 8-17-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm
Top Chord UC6-UC7

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
DRAWING MADE BY W.N. DATE 6-4-34
DRAW. CHECKED BY A.S.M. DATE 6-26-34
ORDER No. G5103 SHEET No. 201

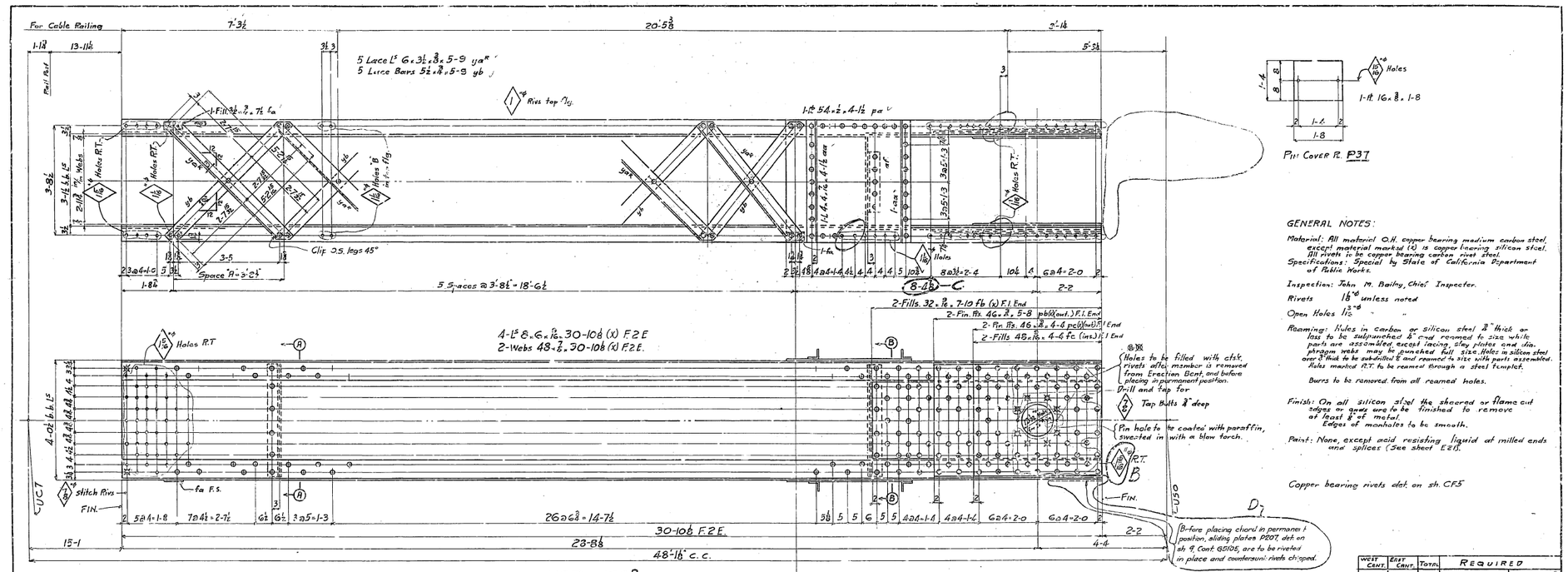
2-UC6-UC7[L] — West Cantilever Arm used for Erection Bents under West Anchor
2-UC6-UC7[L] — East & West Cantilever Arm used for Erection Bents under East Anchor

Mill Ord. Pg. 201-202-201, 225-262-263

[B+C]

(Rev 11-19-34) D. C (Rev 10-29-34) (Rev 10 ...) Rev 10 ...

30-F1



WEST CANT.	EAST CANT.	TOTAL	REQUIRED	
One	One	2	Top Chords	UC7-U50R 10T.
One	One	2	do.	UC7-U50L 10T.
4	4	8	Pin Cover Pls	P37

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm
Top Chord UC7-U50
AMERICAN BRIDGE COMPANY
DRAWING ERECTED AT GARY, IND. PLANT
STEEL FABRICATED AT GARY PLANT
DRAWN BY J.P. WILKERSON
TRACED BY W.N. CHKD. G-6-34
DESIGN CHECKED BY A.S.M. CHKD. 6-26-34

Mark	Revision	Date

APPROVED
Chas. B. Woodruff, Engr. of Design
Chas. E. Palmer, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 8-1-1934

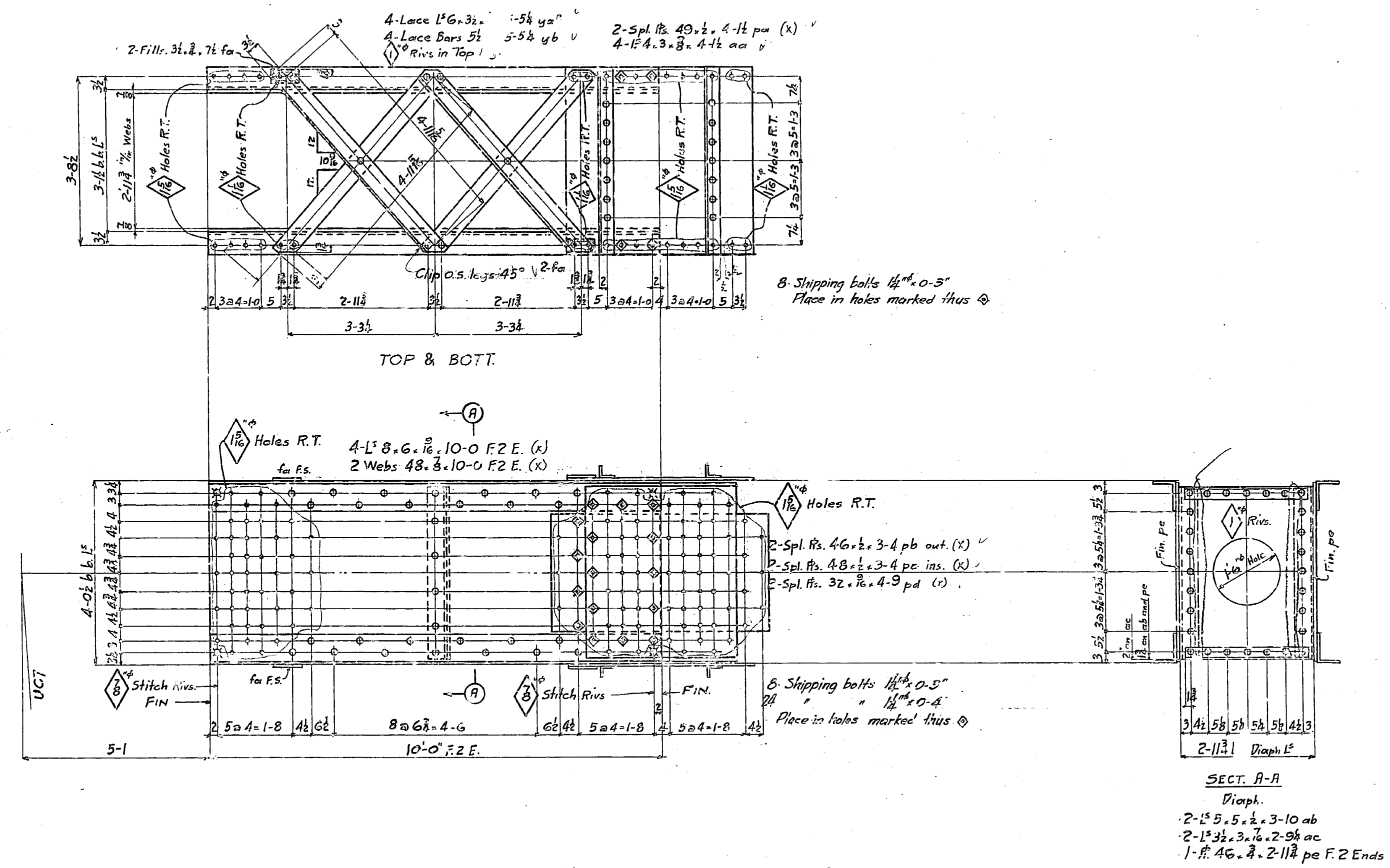
ORDER NO. G5103 SHEET NO. 202

4-UC7-U50L used temporarily in Erection Bents for West and East Anchor Arms.

Mill Ord. Fy. 201, 202 I.S.M. 263

[B+C]

30-1



GENERAL NOTES:

Material: All material O.H. copper bearing medium carbon steel, except material marked (x) is copper bearing silicon steel. All rivets to be copper bearing carbon rivet steel.
Specifications: Special by State of California Department of Public Works.

Inspection: John M. Bailey, Chief Inspector.

Rivets 1⅛"⌀ unless noted.

Open Holes as noted.

Reaming: Holes in carbon or silicon steel ¾" thick or less to be subpunched ⅜" and reamed to size while parts are assembled, except lacing, stay plates and diaphragm webs may be punched full size. Holes in silicon steel over ¾" thick to be sub-drilled ⅛" and reamed to size with parts assembled. Holes marked R.T. to be reamed through a steel templet. Burrs to be removed from all reamed holes.

Finish: On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal. Edges of manholes to be smooth.

Paint: None, except acid resisting liquid at milled ends and splices (See sheet E21).

Shipping bolts det. on sh. CF12.
Copper bearing rivets det. on sh. CF9

West Cant.	East Cant.	Total	Required	
2	2	4	Top Chords	UC7-U5OA

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm
Top Chord UC7-U5OA

AMERICAN BRIDGE COMPANY
Drawings made at Gary #1 plant
Fabricated at Gary plant
Charge of Wilkinson
Draw. made by W.N. date 6-8-34
Draw. checked by A.S.M. date 6-26-34
Order No. G5103
Sheet No. 203

Made	Revision	App'd

APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 8-17-34

Rev. 1-14-35

All material on this sheet used temporarily in Erection Cant. for East Anchor Arm.

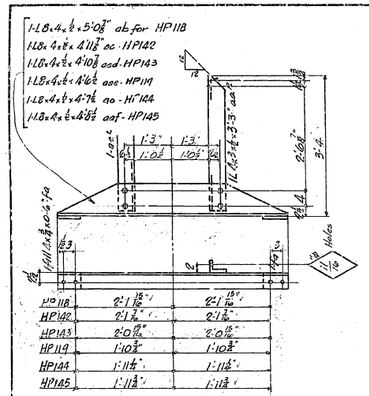
Mill Ord Is: 229, 262, 269, A.S.M.

MMS 9-25-34

[B+C]

30-51

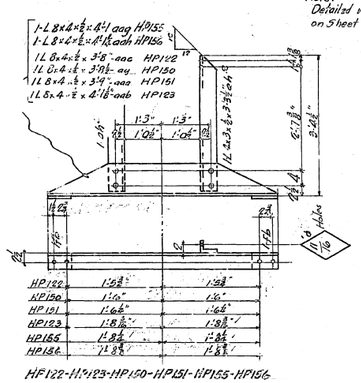
1-L 8"×4"×½"×5'-0⅜" ab for HP118
1-L 8"×4"×½"×4'-11⅜" ac - HP142
1-L 8"×4"×½"×4'-10⅜" asd - HP143
1-L 8"×4"×½"×4'-6½" aae - HP119
1-L 8"×4"×½"×4'-7¾" ao - HP144
1-L 8"×4"×½"×4'-8½" aaf - HP145



HP 118	2'-1 15/16"	2'-1 15/16"
HP 142	2'-1 7/8"	2'-1 7/8"
HP 143	2'-0 13/16"	2'-0 15/16"
HP 119	1'-10 3/8"	1'-10 3/8"
HP 144	1'-11 1/4"	1'-11 1/4"
HP 145	1'-11 3/8"	1'-11 3/8"

HP 118 · HP 142 · HP 143 · HP 119 · HP 144 · HP 145

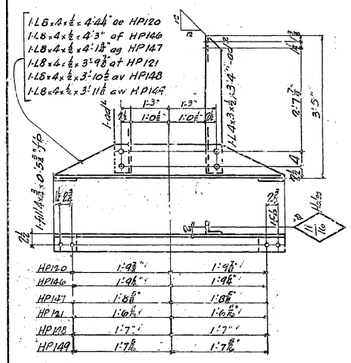
1-L 8"×4"×½"×4'-4½" aag HP155
1-L 8"×4"×½"×4'-1⅝" ach HP156
1-L 8"×4"×½"×3'-8" aac HP 152
1-L 8"×4"×½"×3'-11½" ay HP 150
1-L 8"×4"×½"×3'-9" aaa HP 151
1-L 8"×4"×½"×4'-1⅝" aab HP 123



HP 122	1'-6 3/8"	1'-5 3/8"
HP 150	1'-7"	1'-6"
HP 151	1'-6 5/8"	1'-6 5/8"
HP 123	1'-8 5/16"	1'-8 5/16"
HP 155	1'-8 1/2"	1'-8 1/2"
HP 156	1'-8 3/8"	1'-8 3/8"

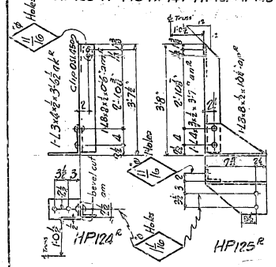
HP 122 · HP 123 · HP 150 · HP 151 · HP 155 · HP 156

1-L 8"×4"×½"×4'-4½" oe HP 120
1-L 8"×4"×½"×4'-3" af HP 146
1-L 8"×4"×½"×4'-1⅜" ag HP 147
1-L 8"×4"×½"×3'-9⅜" at HP 121
1-L 8"×4"×½"×3'-10½" av HP 148
1-L 8"×4"×½"×3'-11⅛" aw HP 149



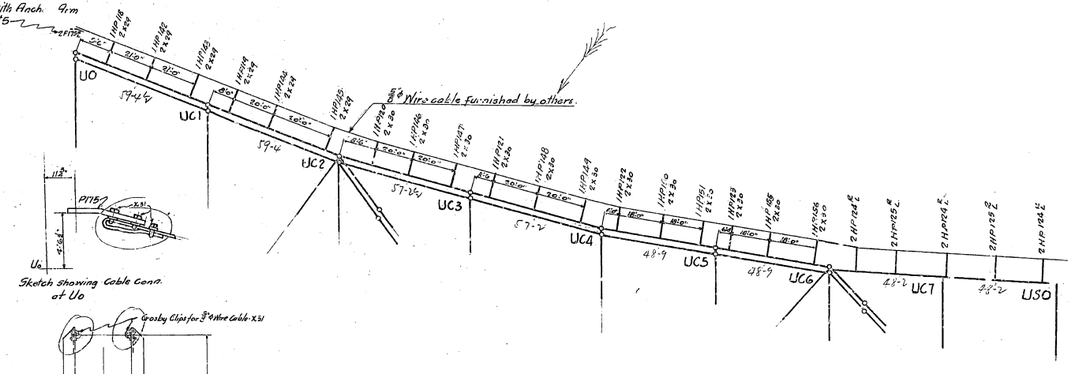
HP 120	1'-9 3/8"	1'-9 3/8"
HP 146	1'-9 1/2"	1'-9 3/8"
HP 147	1'-8 5/8"	1'-8 5/8"
HP 121	1'-6 5/8"	1'-6 5/8"
HP 148	1'-7"	1'-7"
HP 149	1'-7 1/8"	1'-7 1/8"

HP 120 · HP 146 · HP 147 · HP 121 · HP 148 · HP 149

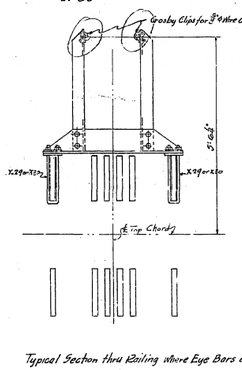


HP 124 E — HP 125 E

Note:- Detailed with Anch. q.m on Sheet "5"



Sketch showing Cable Conn. at U0



Typical Section thru Railing where Eye Bars occur

DIAGRAM OF INSPECTION WALK FOR EAST & WEST CANTILEVER ARM NORTH & SOUTH TRUSSES

WEST CANT	EAST CANT	TOTAL	REQUIRED	
2	2	4	Rail Posts	HP 118
2	2	4	do	HP 119
2	2	4	do	HP 120
2	2	4	do	HP 121
2	2	4	do	HP 122
2	2	4	do	HP 123
6	6	12	do	HP 124 E
6	6	12	do	HP 125 E
4	4	8	do	HP 126 E
4	4	8	do	HP 127 E
2	2	4	do	HP 142
2	2	4	do	HP 143
2	2	4	do	HP 144
2	2	4	do	HP 145
2	2	4	do	HP 146
2	2	4	do	HP 147
2	2	4	do	HP 148
2	2	4	do	HP 149
2	2	4	do	HP 150
2	2	4	do	HP 151
2	2	4	do	HP 155
2	2	4	do	HP 156

General Notes:
Material - All material O.H. copper bearing medium carbon steel. All rivets are copper bearing carbon rivet steel.
Specifications - Special by State of California Department of Public Works.
Inspection - John M. Bailey, Chief Inspector.
Rivets - 8/8 unless noted.
Open Holes - 13/16" unless noted.
Reaming - None.
Paint - None.

Copper bearing carbon steel rivets detailed on sheet C-F66

Mark	Revision	Date

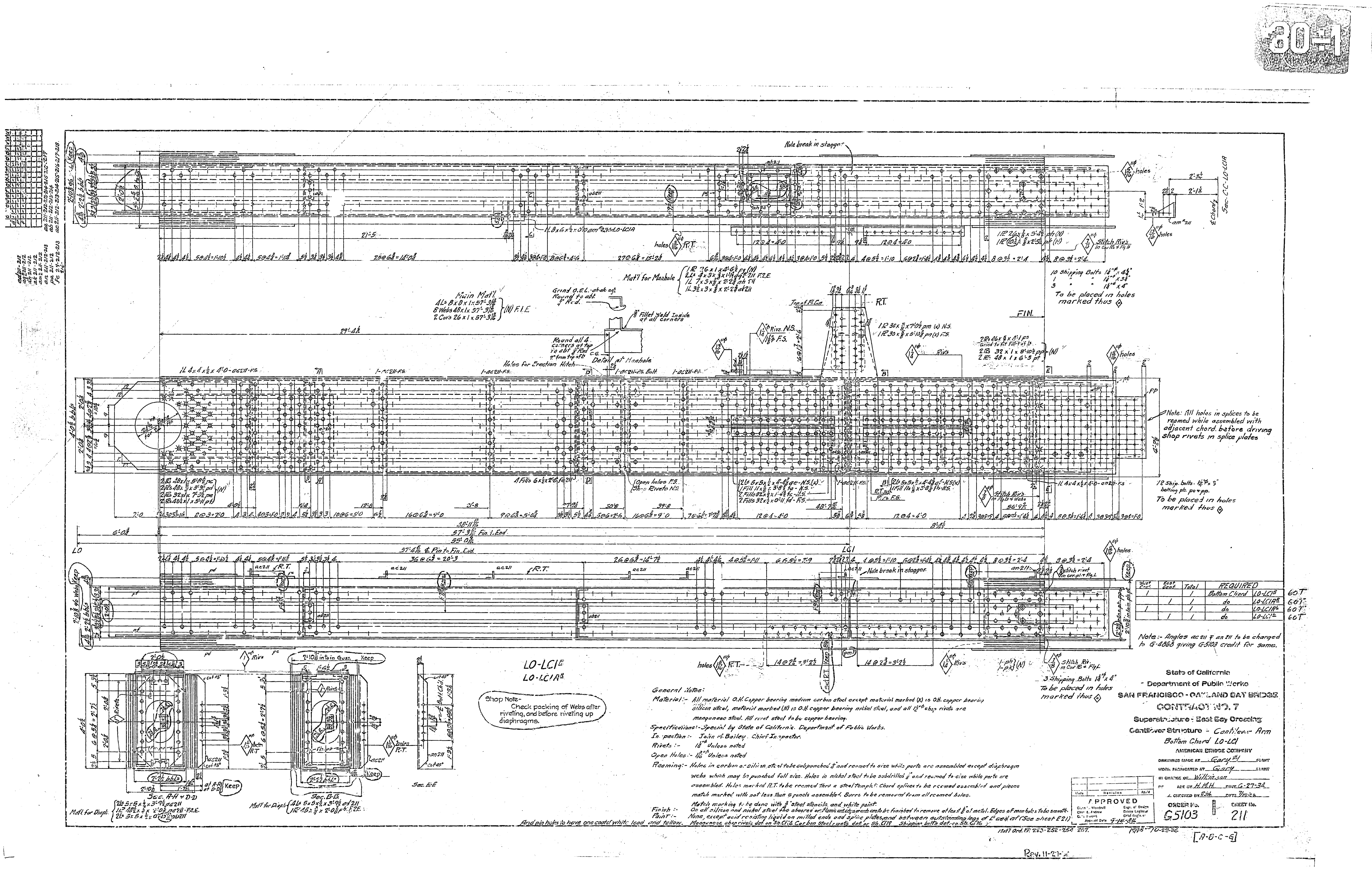
APPROVED
Lyle B. Hardy, Engr. of Design
Otis L. Andrew, Bridge Engineer
C. H. Purcell, Engr. Director
Approved D. 11-21-34

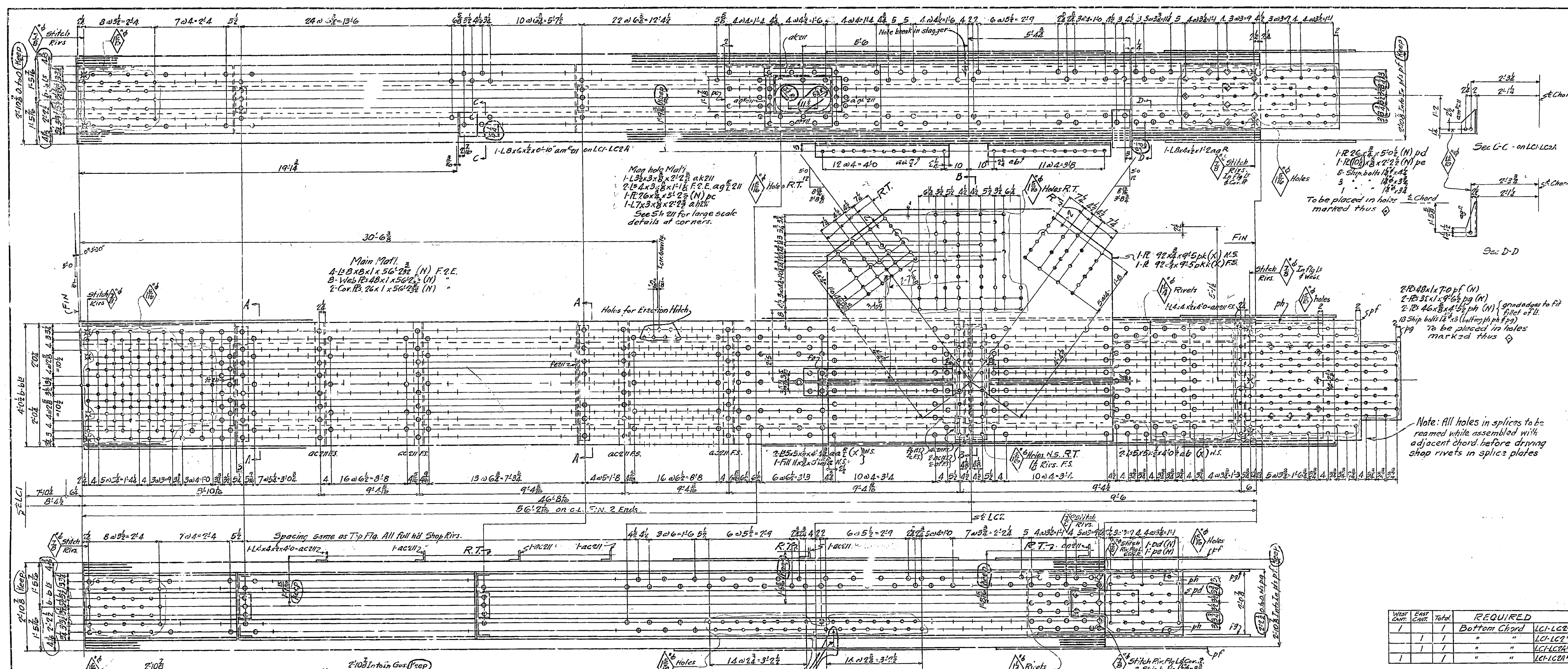
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm
Hand Rail Posts. Inspection Wall.
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary # 1 PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
DRWG. MADE BY WOB DATE 8-20-34
DRAWING CHKD BY LCH DATE 10-9-34
TRACED BY [illegible] DATE 11-15-34
USER No. G5103
DRAWING No. 204

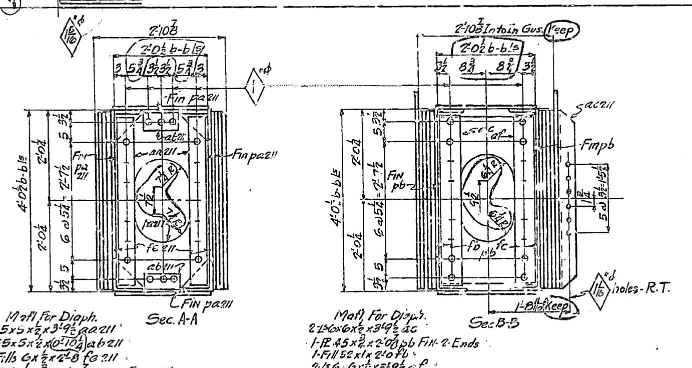
Rev. 1-15-35

Mail. O-4 F 3 892

[C]


30-1
Note break in stagger
Mat'l for Manhole
Main Mat'l
FIN.
10 Shipping Bolts
To be placed in holes marked thus
Note: All holes in splices to be reamed while assembled with adjacent chord before driving shop rivets in splice plates
12 Ship. bolts
To be placed in holes marked thus
57'-3 1/2" Fin. 1. End.
LO
LC1
REQUIRED
Bottom Chord LO-LC1
Note:- Angles ac211 & an211 to be charged to G-4868 giving G-5103 credit for same.
3 Shipping Bolts 1 1/4" x 4"
To be placed in holes marked thus
LO-LC1
LO-LC1A
Shop Note- Check packing of Webs after riveting, and before riveting up diaphragms.
Sec. AA & DD
Sec. BB
Sec. EE
General Notes:
Material:- All material O.H. Copper bearing medium carbon steel except material marked (X) is O.H. copper bearing silicon steel, material marked (N) is O.H. copper bearing nickel steel, and all 1 1/2" shop rivets are manganese steel. All rivet steel to be copper bearing.
Specifications:- Special by State of California. Department of Public Works.
Inspection:- John M. Bailey. Chief Inspector.
Rivets:- 1 1/8" Unless noted
Open Holes:- 1 3/16" Unless noted
Reaming:- Holes in carbon or silicon steel to be subpunched 1/4" and reamed to size while parts are assembled except diaphragm webs which may be punched full size. Holes in nickel steel to be subdrilled 1/8" and reamed to size while parts are assembled. Holes marked R.T. to be reamed thru a steel templet. Chord splices to be reamed assembled and pieces match marked with not less than 6 panels assembled. Burrs to be removed from all reamed holes.
Match marking to be done with 3/8" steel stencils and white paint.
Finish:- On all silicon and nickel steel the sheared or flame cut edges or ends are to be finished to remove at least 1/8" of metal. Edges of manholes to be smooth.
Paint:- None, except acid resisting liquid on milled ends and splice plates, and between outstanding legs of Ls ae & af (See sheet E21)
And pin holes to have one coat of white lead and tallow. Manganese shop rivets det. on Sh. CF14 Carbon steel rivets det. on Sh. CT19 Shipping bolts det. on Sh. CF16
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure - Cantilever Arm
Bottom Chord LO-LC1
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
MADE BY H.M.H. DATE 6-27-34
CHECKED BY DATE
APPROVED
Approval Date 9-14-34
ORDER No. G5103
SHEET No. 211
Mat'l Ord. P.P. 223-252-254 257.
[A-B-C-G]
Rev. 11-21-34





LC1-LC2R
LC1-LC2AR

Shop Note:- Check packing of webs after riveting, and before riveting up diaphragms.

GENERAL NOTES:

Material— All material O.H. cop[per] bearing medium carbon steel except material marked (X) is O.H. copper bearing silicon steel; material marked (N) is O.H. copper bearing nickel steel, and all 1¼"ϕ shop rivets are copper bearing manganese steel. All other rivets are copper bearing carbon rivet steel.

Specifications— Special by State of California Department of Public Works.

Inspection— John M. Bailey, Chief Inspector.

Rivets— 1⅛"ϕ unless noted.

Open Holes— 1³⁄₁₆"ϕ unless noted.

Reaming— Holes in carbon or silicon steel to be subpunched ¼" and reamed to size while parts are assembled, except diaphragm webs which may be punched full size. Holes in nickel steel to be subdrilled ⅛" and reamed to size while parts are assembled.

Holes marked "R.T." to be reamed through a steel templet.

Chord splices to be reamed assembled and pieces match marked with not less than six panels assembled.

Burrs to be removed from all reamed holes.

Match marking to be done with ¾" steel stencils and white paint.

Finish— On all silicon and nickel steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal.

Edges of manholes to be smooth.

Paint— None, except acid resisting liquid on milled ends and splice plates, and between outstanding legs of angles as ¢ ab. (See sheet E21).

Manganese shop rivets detailed on sheet CF14.

Copper bearing carbon steel rivets detailed on sheet CF20.

Shipping bolts detailed on sheet CF16.

Angles ac211 & an211 to be charged to G4868 giving G5103 credit for same.

West Cant.	East Cant.	Total	REQUIRED		
1		1	Bottom Chord	LC1-LC2R	58T
	1	1	" "	LC1-LC2L	58T
	1	1	" "	LC1-LC2AR	58T
1		1	" "	LC1-LC2AL	58T

Mark	Revision	App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 9-14-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure — Cantilever Arms
Bottom Chord LC1-LC2

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
DRAW. MADE BY J.D.T. DATE 6-27-34
DRAW. CHECKED BY [illegible] DATE 8/2-34

ORDER No. G5103 — SHEET No. 212

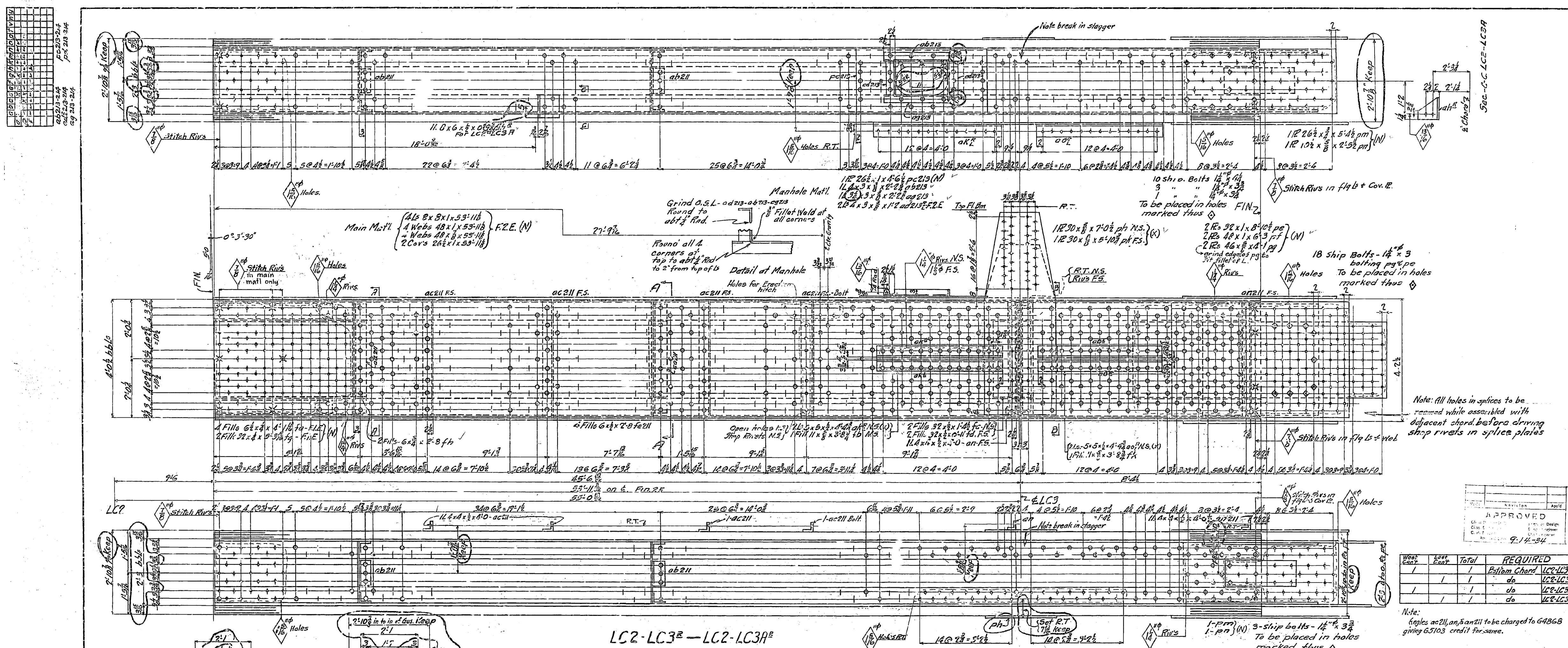
(Rev. 11-27-34)

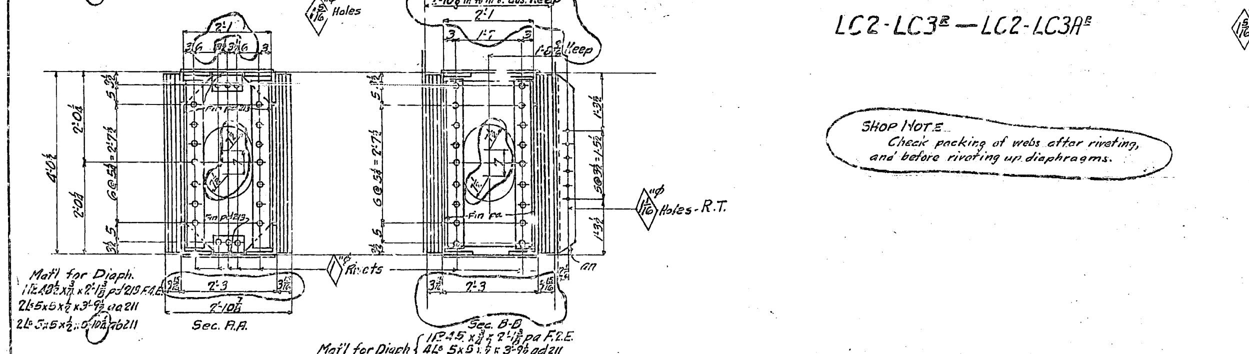
Mat'l. Ord. PP. 223-252-254-257-258 — MMS 10-22-34

[A-B-C & G]

30-1

30-1





GENERAL NOTES:

Material—All mater 'O.H. coppe' bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel; material marked (N) is O.H. copper bearing nickel steel, and all 1¼"φ shop rivets are copper bearing manganese steel, all other rivets are copper bearing carbon rivet steel.

Specifications—Special by State of California Department of Public Works.

Inspection—John M. Bailey, Chief Inspector.

Rivets—1⅛"φ unless noted.

Open Holes—1$\frac{3}{16}$"φ unless noted.

Reaming—All holes in carbon or silicon steel to be subpunched ¼" and reamed to size while parts are assembled, except diaphragm webs which may be punched full size. All holes in nickel steel to be subdrilled ⅛" and reamed to size while parts are assembled.

Holes marked "R.T." to be reamed through a steel templet.

All chord splices to be reamed assembled and pieces match marked with not less than six panels assembled.

Burrs to be removed from all reamed holes.

All match marking to be done with ¾" steel stencils and white paint

Finish—On all silicon and nickel steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal.

Edges of manholes to be smooth.

Paint—None, excep acid resisting liquid on milled ends and splice plates, and between O.S. legs of Ls ok & ao. (See Sheet E21).

Shipping bolts detailed on sheet CF16

Manganese shop rivets detailed on sheet CF14

Copper bearing carbon steel rivets detailed on sheet CF25

Revision	App'd

APPROVED 9-14-34

West Can't	East Can't	Total	REQUIRED		
1		1	Bottom Chord	LC2-LC3^E	52T
	1	1	do	LC2-LC3^E	52T
1		1	do	LC2-LC3A^E	52T
	1	1	do	LC2-LC3A^E	52T

Note:
Angles ac211, an, & an211 to be charged to G4868 giving G5103 credit for same.

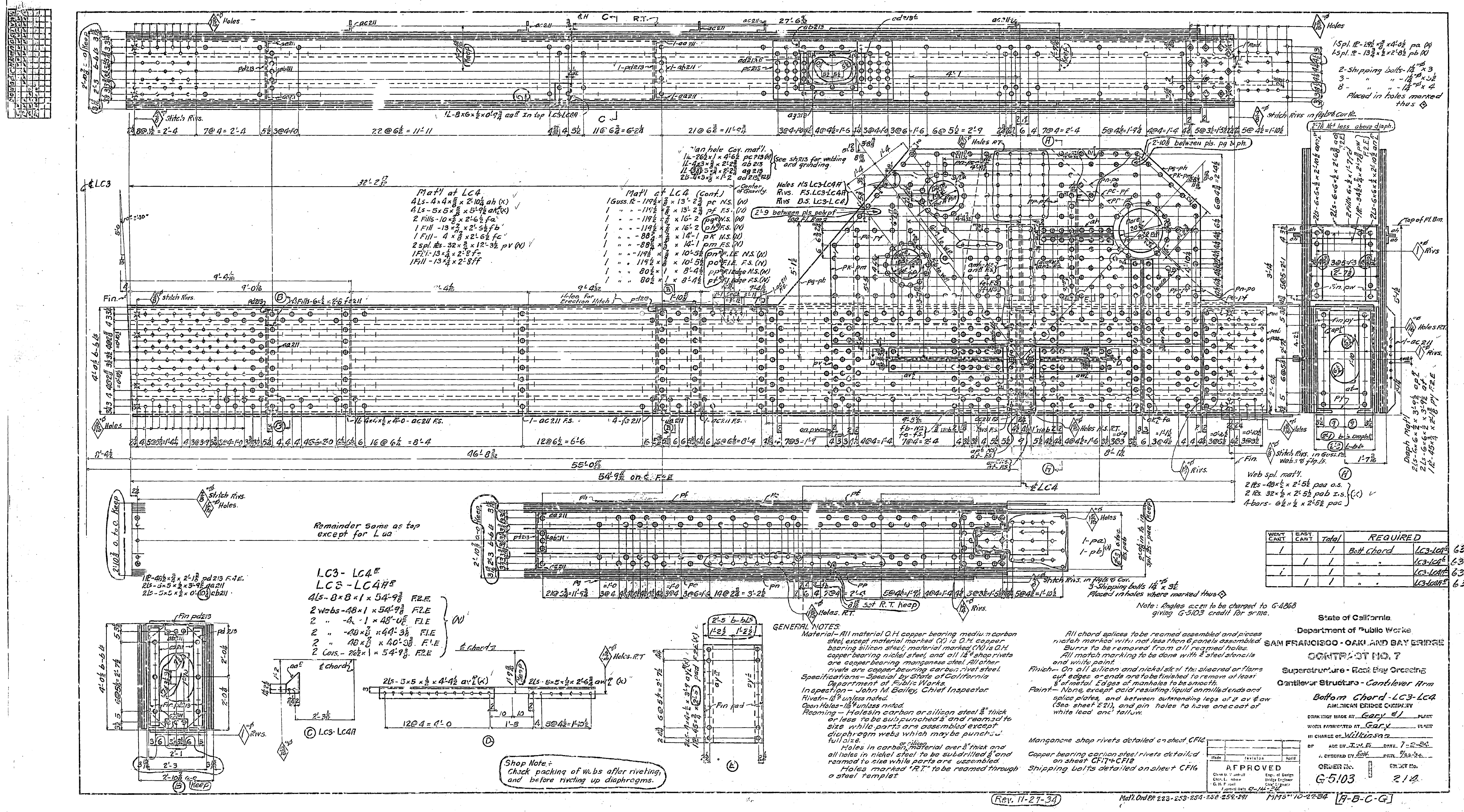
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure - Cantilever Arm
Bottom Chord — LC2-LC3

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
DRAW. MADE BY H.M.H. DATE 7-9-34
DRAW. CHECKED BY [illegible] DATE 7-31-34
ORDER No. G5103 SHEET No. 213

Mat'l Ord. P.P. 223-252-253-254-258.
MMS 10-22-34.

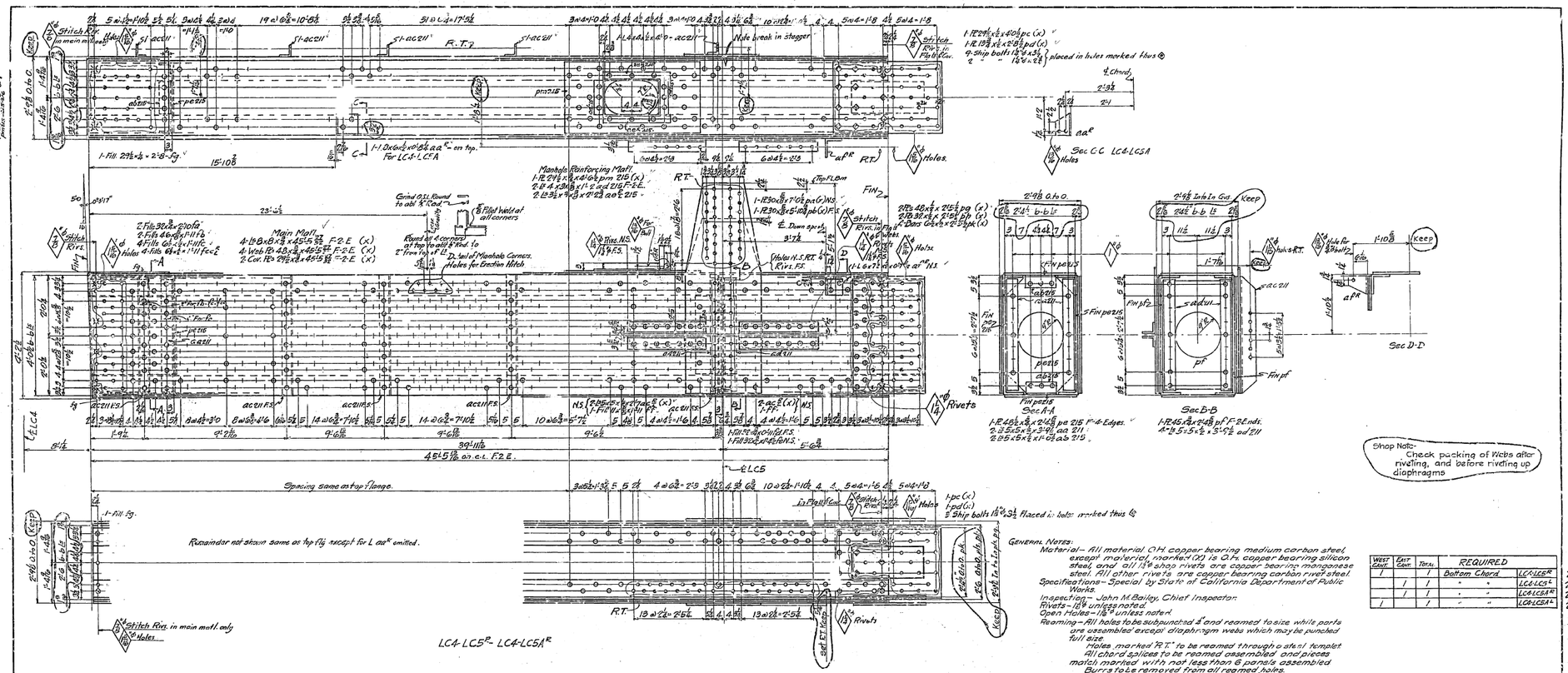
Rev. 11-27-34

[A-B C & G]



WEST CANT	EAST CANT	Total	REQUIRED		
1		1	Bott Chord	LC3-LC4E	63T
	1	1	" "	LC3-LC4E	63T
1		1	" "	LC3-LC4H5	63T
	1	1	" "	LC3-LC4H5	63T

30-F1



General Notes:

Material – All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel, and all 1⅜" shop rivets are copper bearing manganese steel. All other rivets are copper bearing carbon rivet steel.

Specifications – Special by State of California Department of Public Works.

Inspection – John M. Bailey, Chief Inspector.

Rivets – 1⅜" unless noted.

Open Holes – 1⅛" unless noted.

Reaming – All holes to be subpunched ¼" and reamed to size, while parts are assembled except diaphragm webs which may be punched full size.
Holes marked "R.T." to be reamed through a steel template.
All chord splices to be reamed assembled and pieces match marked with not less than 6 panels assembled.
Burrs to be removed from all reamed holes.
All match marking to be done with ⅜" steel stencils and white paint.

Finish – On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal. Edges of manholes to be smooth.

Paint – None except acid resisting liquid on milled ends and splice plates and between outstanding legs of L's as (See sheet E 21)

Manganese shop rivets detailed on sheet CF14.

Copper bearing carbon steel rivets detailed on sheet CF26

Shipping bolts detailed on sheet CF16

Angles ac 211 to be charged to G456B giving G5103 credit to same.

West Cant.	East Cant.	Total	REQUIRED	
1		1	Bottom Chord	LC4-LC5^R 23 T
	1	1	"	LC4-LC5^L 23 T
	1	1	"	LC4-LC5A^R 23 T
1		1	"	LC4-LC5A^L 23 T

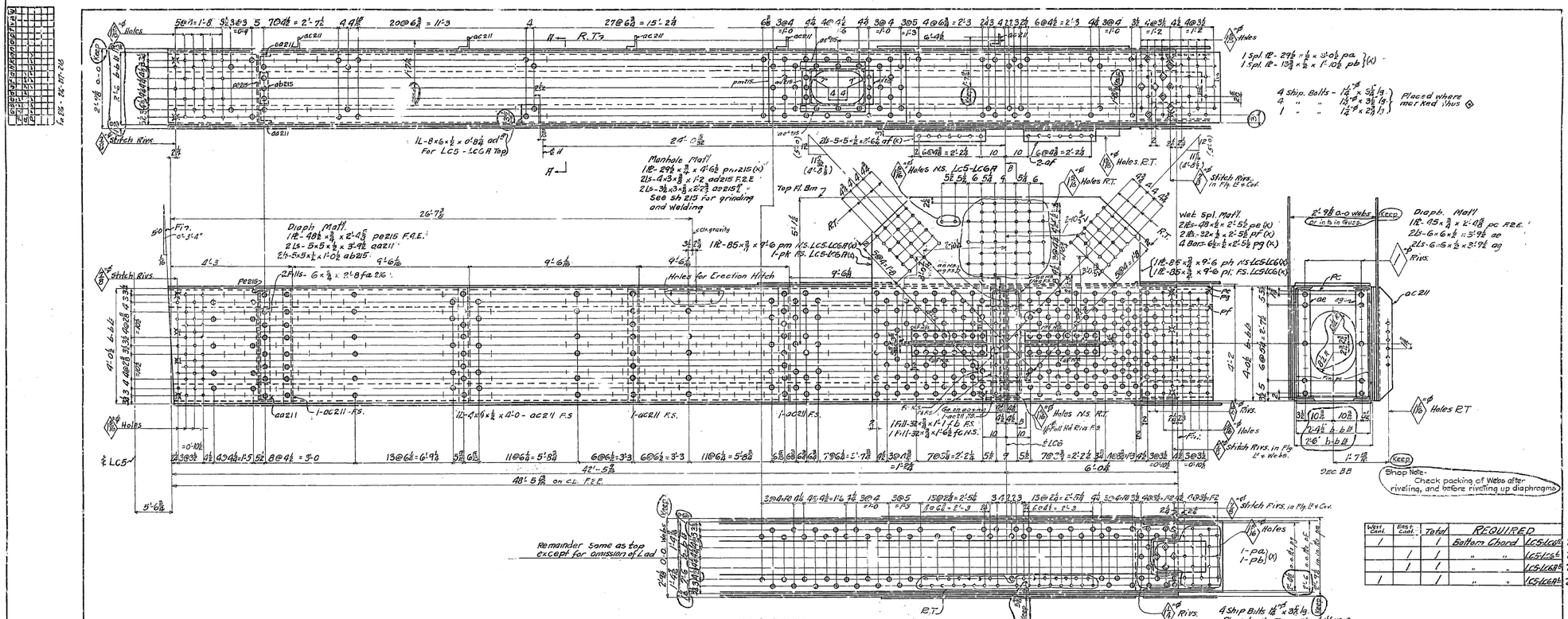
Mark	Revision	Date
	APPROVED	
Glenn B. Woodruff, Engr. of Design		
O. H. Ketrow, Bridge Engineer		
C. H. Purcell, Chief Engineer		
Approved Date 9-14-34		

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm
Bottom Chord LC4-LC5

AMERICAN BRIDGE COMPANY
DRAWING STORED AT Gary #1 PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
DRAWN MADE BY J.D.T. DATE 7-2-34
CHECKED BY Pfaff DATE 9-14-34
ORDER No. G5103
DRAWING No. 215

Kaff. Drg. PP. 214-255-259-260 Traced 10-22-34 [B-C-G]

Rev. 11-27-34



Web Cont.	Bars Cont.	Total	REQUIRED	
/		/	Bottom Chord	LC5-LC6 25T
	/	/	" "	LC5-LC6 25T
	/	/	" "	LC5-LC6A 25T
/		/	" "	LC5-LC6A 25T

GENERAL NOTES:

Material- All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel. All 1⅛ø shop rivets are copper bearing manganese steel. All other rivets are copper bearing carbon rivet steel.

Specifications- Special, by State of California Department of Public Works.

Inspection- John M. Bolley, Chief Inspector.

Rivets- 1⅛ø unless noted.

Open Holes- 1⅛ø unless noted.

Reaming- All holes to be subpunched 4" and reamed to size while parts are assembled except diaphragm webs which may be punched full size.

Holes marked "R.T." to be reamed through a steel templet.

All chord splices to be reamed assembled and pieces match marked with not less than 6 panels assembled.

Burrs to be removed from all reamed holes.

All match marking to be done with ⅜ steel stencils and white paint.

Finish- On all silicon steel fine sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal.

Edges of manholes to be smooth.

Point- None except acid resulting liquid on milled ends and splice plates and between outstanding legs of angles of (See sheet F21)

Manganese shop rivets detailed on sheet CF15

Copper bearing carbon steel rivets detailed on sheet CF28

Shipping bolts detailed on sheet CF16

Angles ac211 to be charged to G4868 giving G5103 credit for same.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure
Bottom Chord.
Cantilever Arm
W. SECTION CLINE CONT. REV

DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
MADE BY J.W.W. DATE 7-4-36
MTL. CHECKED BY [illegible] DATE 9-14-36

Date	Revision	Appd.

APPROVED
Chief Bridge Engr.
Asst. Engr. of Design
Bridge Engineer
Asst. Engineer
As to Mat'l Date 9-16-36

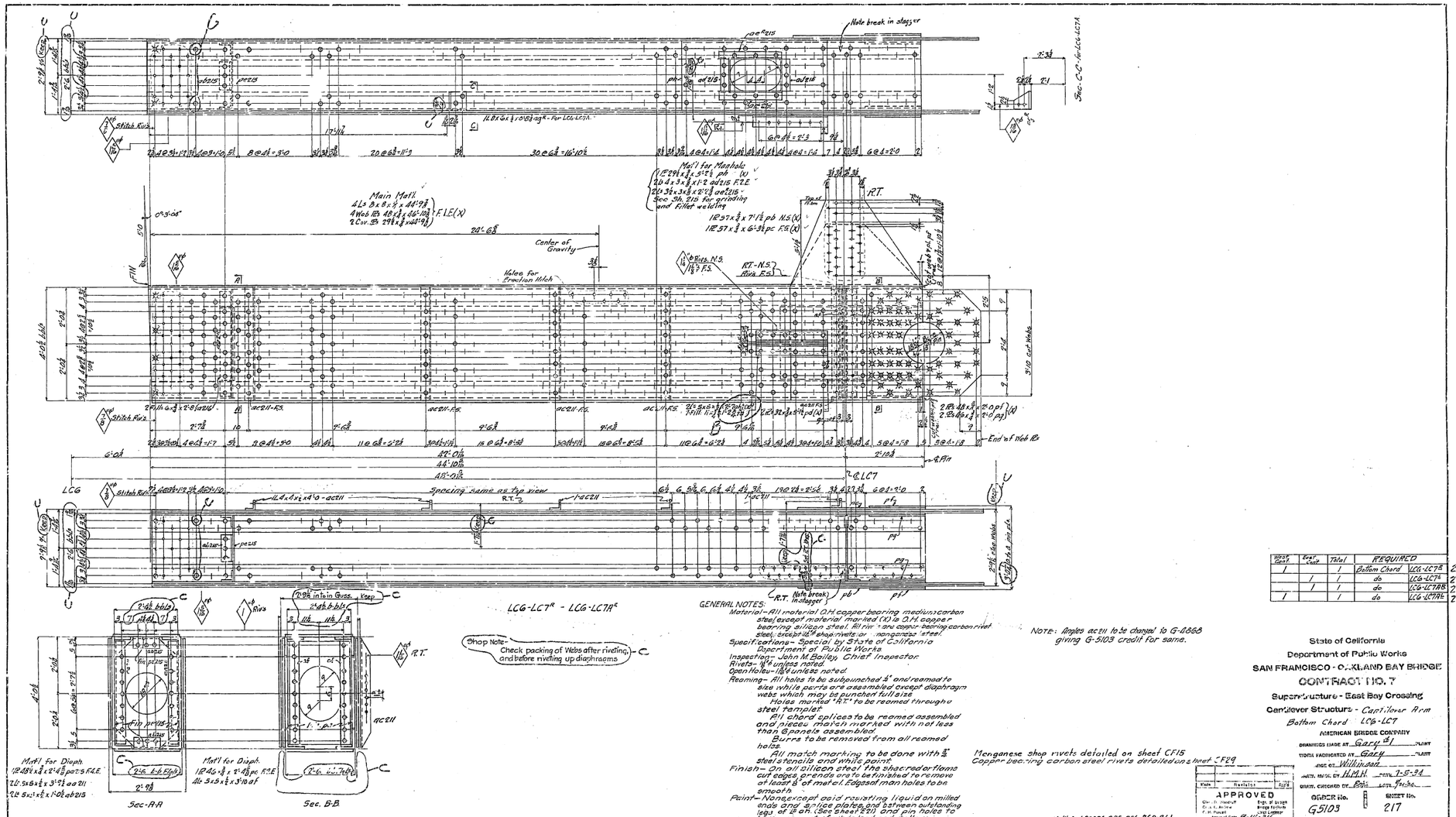
ORDER No. G5103
SHEET No. 216

Mat'l Ord. Dr. 224-255-260 M.T.S.** 10-22-36

[B-C-G]

Rev. 11-27-36

304



Weight Each	Each Total	Total	REQUIRED		
1		1	Bottom Chord	LCG-LC7B	231
	1	1	do	LCG-LC7A	231
	1	1	do	LCG-LC7AR	231
1		1	do	LCG-LC7AL	231

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure - Cantilever Arm
Bottom Chord LCG-LC7
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary (Ind.) PLANT
STEEL FABRICATED AT Gary PLANT
ERECTED AT Williamson
MATL. REVD. BY H.M.H. DATE 1-5-34
DRAWN. CHECKED BY Eds DATE 9-26-34

Mark	Revisions	Date
	APPROVED Chief Engineer / Bridge Engineer / Asst. Engineer	

Approved Date 9-11-34
ORDER No. G5103
SHEET No. 217
TRACED 10-22-34
[B-C-G]

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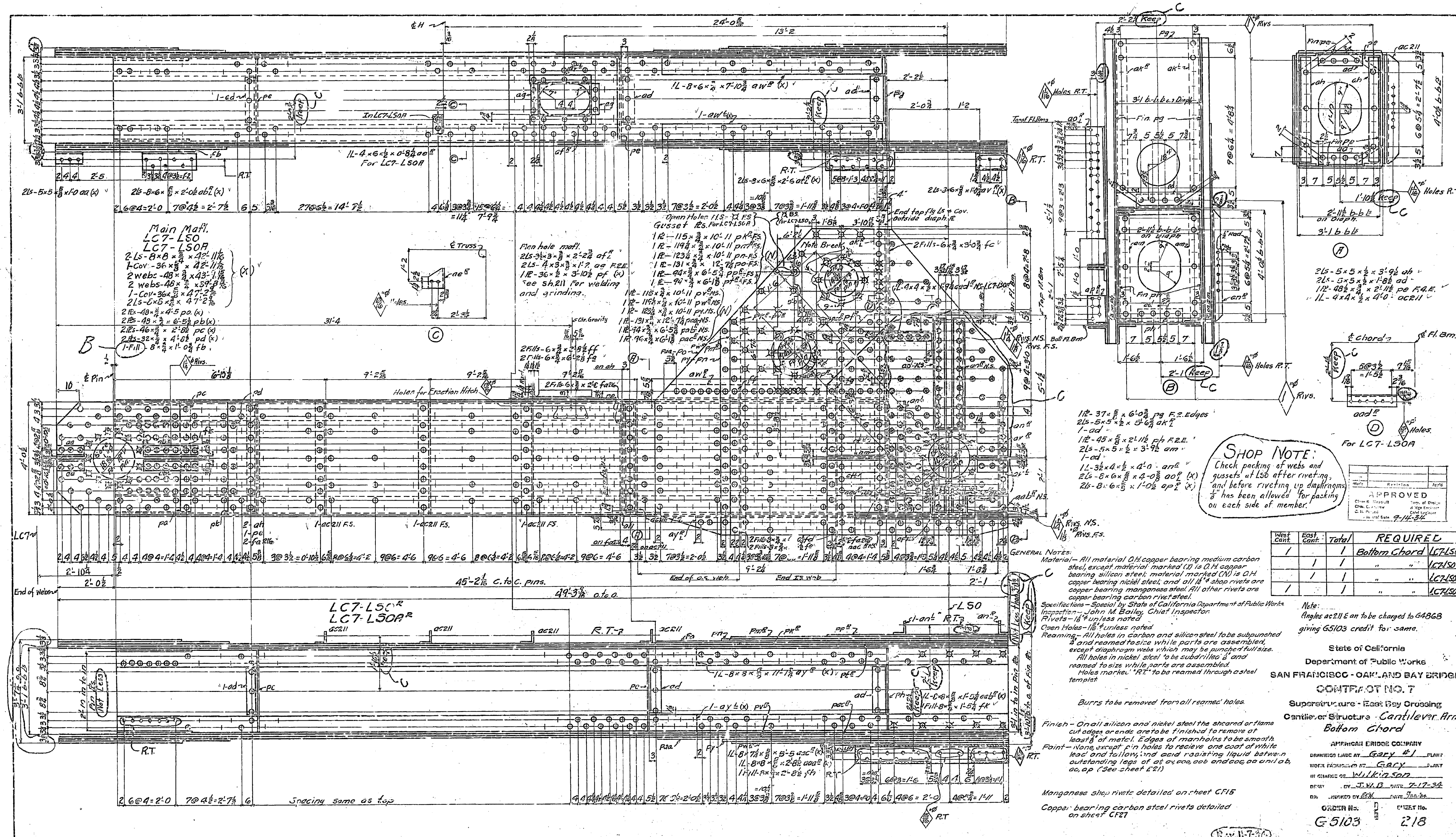
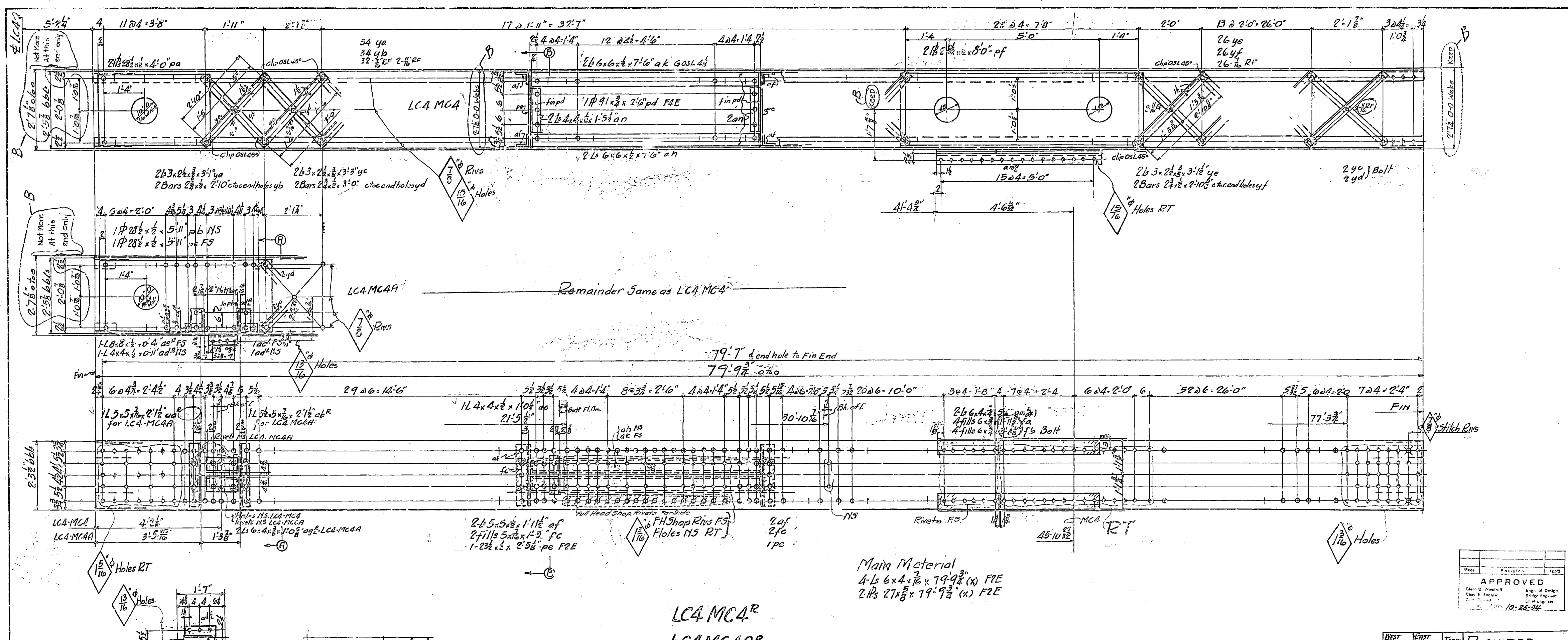
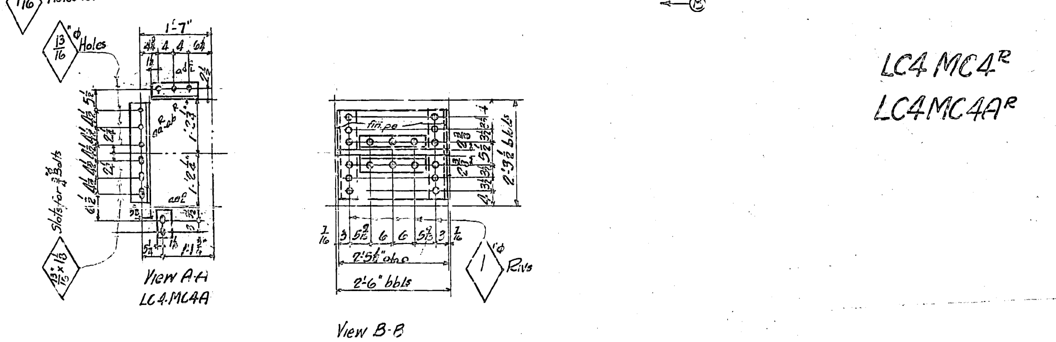


Main Mat'l.
LC7-LS0
LC7-LS0A
SHOP NOTE:
Check packing of webs and gussets at LS0 after riveting, and before riveting up diaphragms. 1/8" has been allowed for packing on each side of member.
APPROVED
Approval Date 9-14-34
West Cant. | East Cant. | Total | REQUIRED
1 | | 1 | Bottom Chord | LC7-LS0R 40T
| 1 | 1 | " " | LC7-LS0L 40T
| 1 | 1 | " " | LC7-LS0AR 40T
1 | | 1 | " " | LC7-LS0AL 40T
GENERAL NOTES:
Material— All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel; material marked (N) is O.H. copper bearing nickel steel, and all 1¼"ϕ shop rivets are copper bearing manganese steel. All other rivets are copper bearing carbon rivet steel.
Specifications — Special by State of California Department of Public Works.
Inspection — John M. Bailey, Chief Inspector.
Rivets — 1⅛"ϕ unless noted
Open Holes — 1 3/16"ϕ unless noted
Reaming — All holes in carbon and silicon steel to be subpunched ¼" and reamed to size while parts are assembled, except diaphragm webs which may be punched full size.
All holes in nickel steel to be subdrilled ⅛" and reamed to size while parts are assembled.
Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Finish — On all silicon and nickel steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal. Edges of manholes to be smooth.
Paint — None, except pin holes to recieve one coat of white lead and tallow, and acid resisting liquid between outstanding legs of at av, aaa, aab and aac, aa and ab, ac, ap (See sheet E21)
Manganese shop rivets detailed on sheet CF15
Copper bearing carbon steel rivets detailed on sheet CF27
Note:
Angles ac211 & an to be charged to G4868 giving G5103 credit for same.
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure - Cantilever Arm
Bottom Chord
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
DRAWN BY J.W.B DATE 7-17-34
ORDER No. G5103
SHEET No. 218
Rev. 11-7-34
Mat'l Ord. PP. 224-253-256-261
[A-B-C-G]
Rev. 11-26-34
Rev. 11-27-34





General Notes–

Material – All material O.H. Copper bearing medium carbon steel except material marked (x) is O.H. Copper bearing Silicon steel. All rivet steel to be copper bearing

Specifications – Special by State of California Dept. of Public Works.

Inspection – John M. Bailey, Chief Inspector.

Rivets – 1" ϕ Unless Noted

Open Holes – 1 1/16" Unless Noted

Reaming – All holes to be subpunched 1/4 and reamed to size while parts are assembled except lacing, stay plates and diaphragm webs which may be punched full size. Holes marked R.T. to be reamed through a steel templet.
Holes for splices to be reamed assembled and pieces match marked. Burrs to be removed from all reamed holes. All match marking to be done with 3/4" steel stencils and white paint.

Finish – On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least 1/8" of metal. Edges of hand holes to be smooth

Paint – None, except acid resisting liquid on milled ends and between outstanding legs of angles (See Sheet E21)

Copper bearing carbon steel rivets detailed on sheet CF63

Made	Revision	App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Date 10-25-34

West Cant.	East Cant.	Total	Required		
One		One	Vertical Post	LC4MC4R	10T
	One	One	do	LC4MC4L	10T
	One	One	do	LC4MC4AR	10T
One		One	do	LC4MC4AL	10T

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm
Vertical Posts LC4MC4R/L LC4MC4AR/L

AMERICAN BRIDGE COMPANY
Drawings made at Gary #1 Plant
Work fabricated at Gary Plant
In charge of Wilkinson
Drawing made by WCB date 6/7/34
Drawing checked by [illegible] date [illegible]
Order No. G5103
Sheet No. 221

Mat'l Ord Sh 201-202-203-267-278 [illegible] [B-C]
Am'd 11-6-34
Rev. 12-3-34

304

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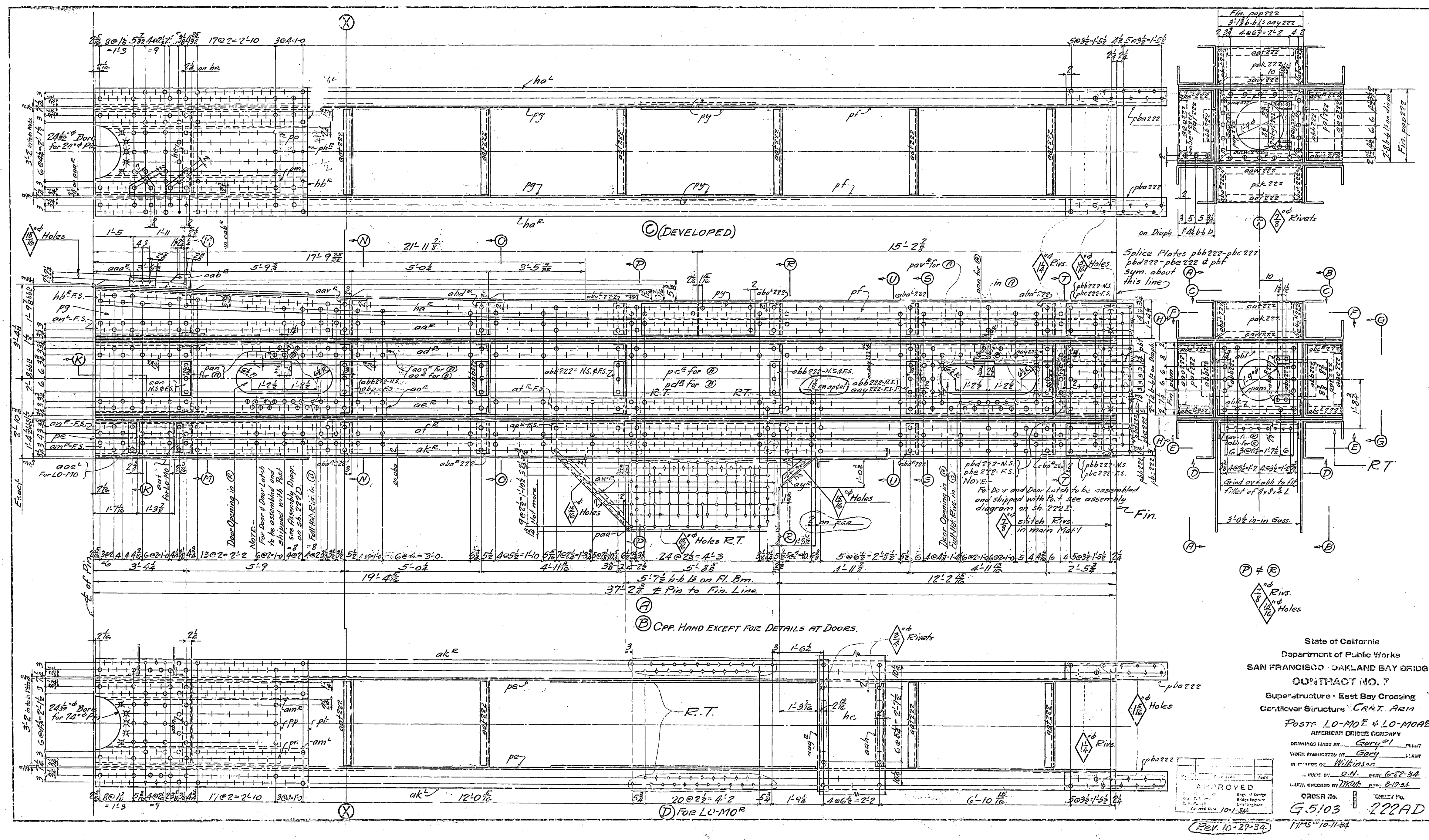
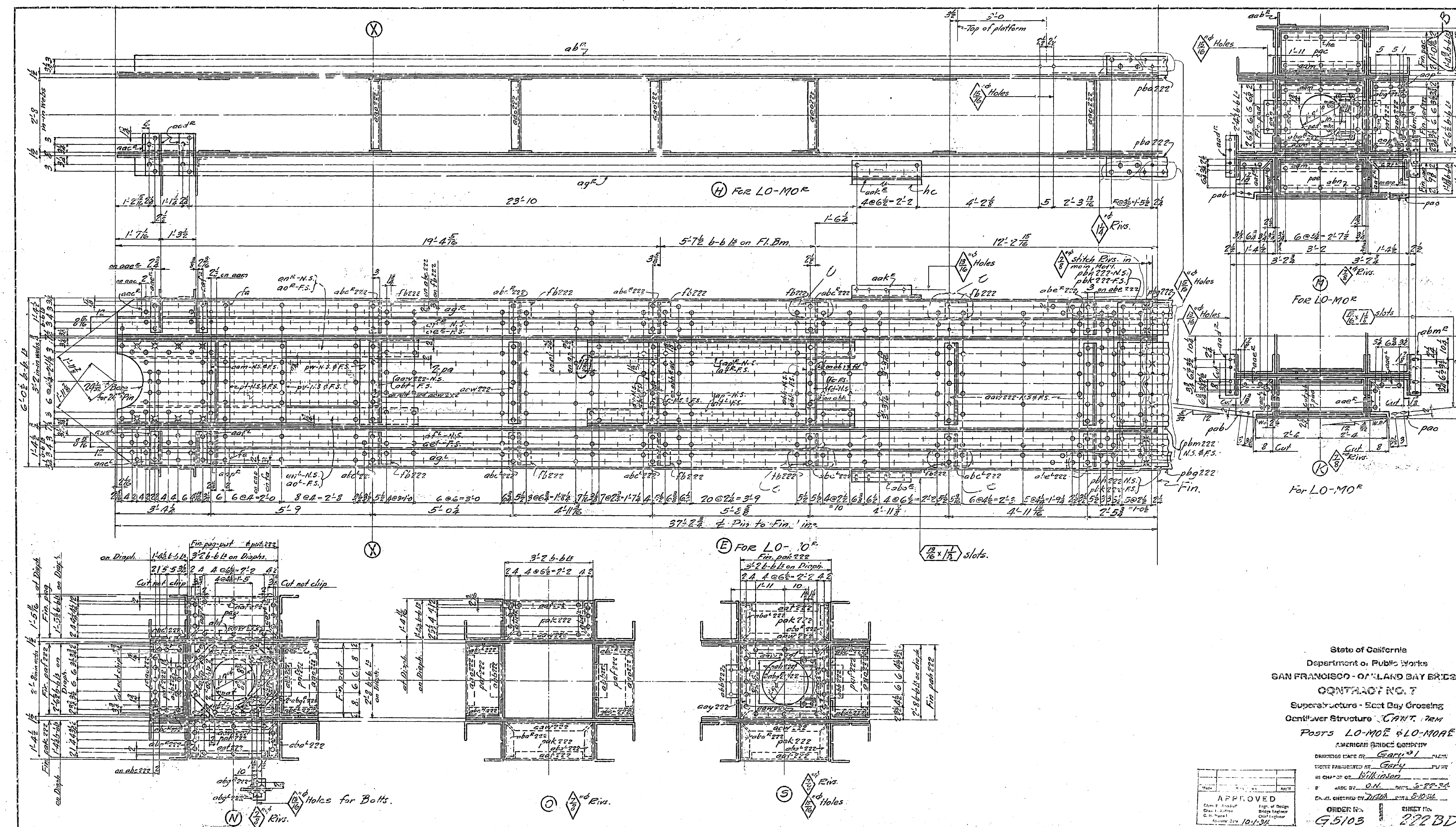


Ⓒ (DEVELOPED)
Splice Plates pbb222-pbc222 pbd222-pba222 & pbf sym. about this line
37'-2⅝" ℄ Pin to Fin. Line
Ⓐ
Ⓑ Opp. Hand except for Details at Doors.
Ⓓ For LO-MO^R
Note:- For Door & Door Latch to be assembled and shipped with Post see Assembly Diag. on sh. 222D
Note:- For Door and Door Latch to be assembled and shipped with Pc.t see assembly diagram on sh. 222 D
Door Opening in Ⓑ
R.T.
Fin.
Ⓟ & Ⓡ
⅞"φ Rivs.
15/16"φ Holes
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure CANT. ARM
POSTS LO-MO^E & LO-MOA^E
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
MADE BY O.N. DATE 6-27-34
DRAW. CHECKED BY MWK DATE 8-17-34
ORDER No. G5103
SHEET No. 222AD
APPROVED
Engr. of Design
Bridge Engineer
Chief Engineer
Approval Date 10-1-34
Rev. 10-29-34
MMS 10-11-34

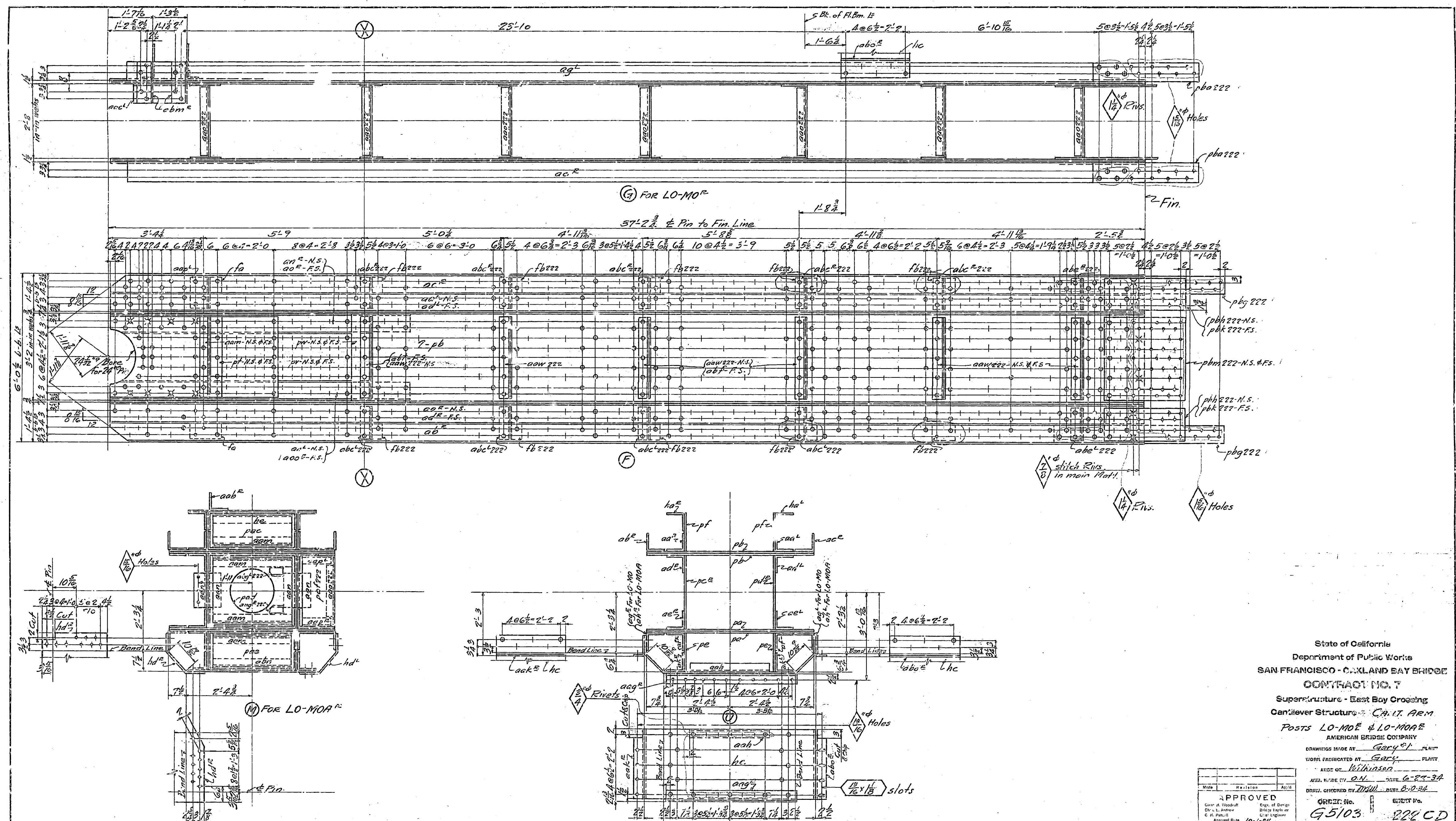


State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cant. Arm
Posts LO-MO[E] & LO-MOA[E]
AMERICAN BRIDGE COMPANY
Drawings made at Gary #1 plant
Work fabricated at Gary plant
In charge of Wilkinson
made by O.N. date 5-22-34
Checked by [illegible] date 8-10-34
ORDER No. G5103
SHEET No. 222 BD

Made	Revision	App'd

APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 10-1-34

Rev 2-21-35 - C
Rev. 10-29-34
Rev 1-2-35 B

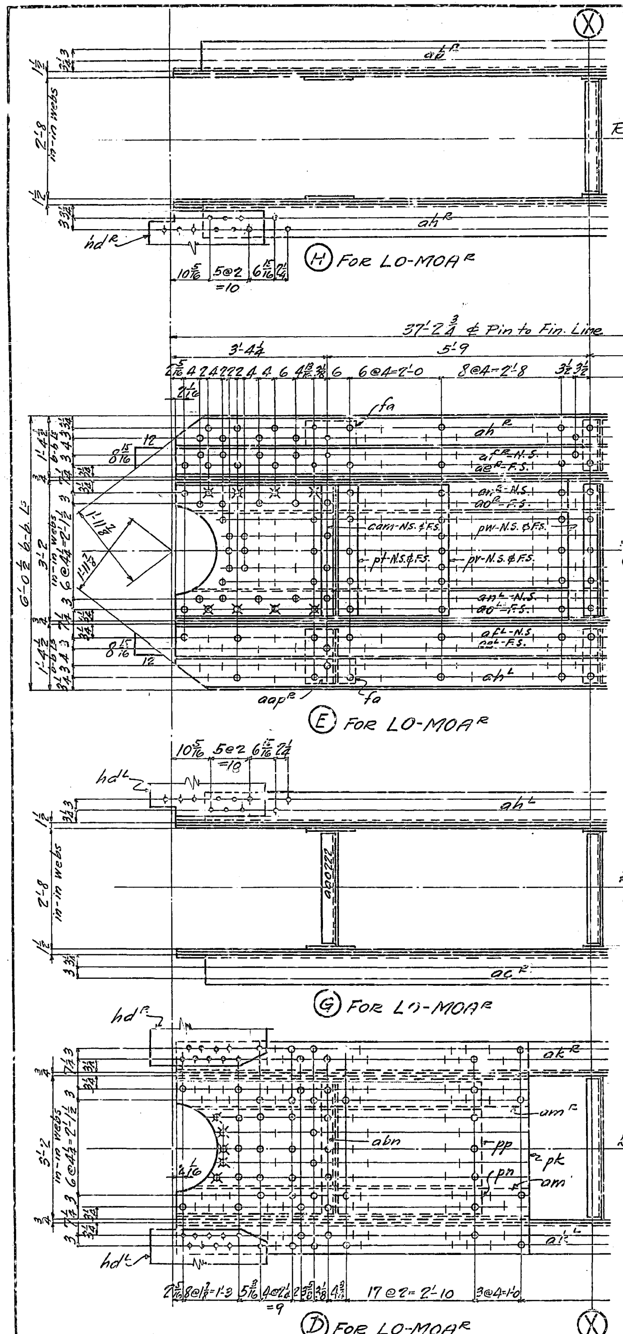


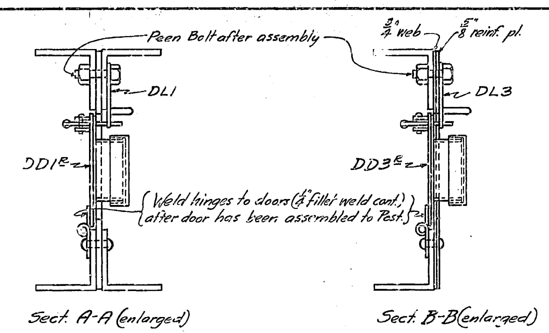
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure – CA. I.T. ARM
POSTS LO-MO & LO-MOA
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Gary PLANT
ARGE OF Wilkinson
DRAW. MADE BY O.N. DATE 6-27-34
DRAW. CHECKED BY MW. DATE 8-10-34
ORDER No. G5103
SHEET No. 222 CD

Made	Revision	App'd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 10-1-34

Rev. 2-21-35
PR'TS 10-11-34





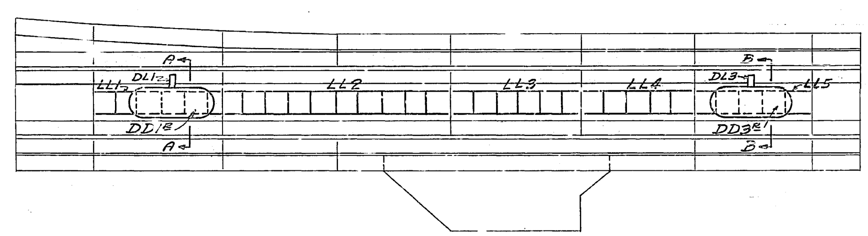


Diagram showing Doors, Door Latches and Ladders to be assembled and shipped with LO-MO^R & LO-MOA^R.
LO-MO^L & LO-MOA^L Opp. Hand.

MATERIAL FOR LO-MO^R & LO-MOA^R

Main Mat'l:-

2-Pls 72 × 3/4 × 37'-2 1/2 — pa
2-Pls 72 × 3/4 × 37'-2 1/2 — pb
1-Pl 31 1/2 × 3/4 × 37'-2 1/2 — pc^R
1-Pl 31 1/2 × 3/4 × 37'-2 1/2 — pd^R
2-Pls 16 × 3/4 × 37'-2 1/2 — pe
2-Pls 16 × 3/4 × 15'-2 5/8 — pf
(above: F.1E. (N))

2-Pls 21 1/4 × 3/4 × 21'-11 5/8 (N) — pg

2-Ls 8 × 8 × 3/4 × 37'-2 1/2 abt. F.1E. (N) — ha^R_L
2-Ls 8 × 8 × 3/4 × 37'-2 1/2 — aa^R_L
1-L 8 × 8 × 3/4 × 37'-2 1/2 — ab^R
1-L 8 × 8 × 3/4 × 37'-2 1/2 — ac^R
2-Ls 8 × 8 × 3/4 × 37'-2 1/2 — ad^R_L
2-Ls 8 × 8 × 3/4 × 37'-2 1/2 — ae^R_L
2-Ls 8 × 8 × 3/4 × 37'-2 1/2 — af^R_L
(above: F.1E. (N))
2-Ls 8 × 8 × 3/4 × 37'-2 1/2 F.1E. (N) For LO-MO — ag^R_L
2-Ls 8 × 8 × 3/4 × 37'-2 1/2 F.1E. (N) For LO-MOA — ah^R_L
2-Ls 8 × 8 × 3/4 × 37'-2 1/2 F.1E. (N) — ak^R_L

Splice Mat'l:- (N)

8-Pls 8 × 1/2 × 3'-7 1/2 pba 222
4-Pls 13 1/2 × 1/2 × 3'-7 1/2 pbb 222
4-Pls 16 × 1/2 × 3'-7 1/2 pbc 222
2-Pls 29 × 1/2 × 3'-7 1/2 pbd 222
2-Pls 31 1/2 × 1/2 × 3'-7 1/2 pbe 222
2-Pls 15 1/2 × 3/4 × 4'-3 1/2 pbf
4-Pls 7 3/4 × 3/4 × 5'-10 1/2 pbg 222
4-Pls 13 1/2 × 1/2 × 2'-9 1/2 pbh 222
4-Pls 14 1/2 × 1/2 × 2'-9 1/2 pbk 222
4-Pls 36 × 1/2 × 2'-9 1/2 pbm 222

Detail Mat'l:-

1-Pin Pl 56 × 3/4 × 7'-8 3/4 (Bent) (N) — ph^R
1-Pin Pl 56 × 3/4 × 7'-8 3/4 (N) — pk
1-Pin Pl 35 × 1/2 × 6'-8 3/4 (Bent) (N) — pm
1-Pin Pl 35 × 1/2 × 6'-8 3/4 (N) — pn
1-Pin Pl 21 1/2 × 3/4 × 6'-8 3/4 (Bent) (N) — po
1-Pin Pl 21 1/2 × 3/4 × 6'-8 3/4 (N) — pp
1-L 8 × 8 × 3/4 × 10'-8 1/2 (N) — aoo^R
2-Ls 8 × 8 × 3/4 × 7'-8 3/4 abt. (N) — hb^R_L
2-Ls 8 × 8 × 3/4 × 7'-8 3/4 — am^R_L
4-Ls 8 × 8 × 3/4 × 8'-8 — an^R_L
2-Ls 8 × 8 × 3/4 × 10'-8 1/2 — ao^R
1-ao^L
(above: (N))
4-Pin Pls 35 × 1/2 × 4'-0 — pt
4-Pin Pls 35 × 5/8 × 6'-0 — pv
4-Pin Pls 21 1/2 × 3/4 × 8'-9 — pw
(above: (N))
4-Spl. Pls 14 × 1/2 × 4'-2 3/4 (N) — py
1-Pl 31 1/2 × 5/8 × 5'-3 9/16 (N) — pav^R
2-Guss. 47 1/4 × 3/4 × 9'-6 1/2 "E" — paa
2-Ls 8 × 8 × 3/4 × 9'-6 1/4 "E" — ap^R_L
2-Ls 8 × 8 × 3/4 × 9'-6 1/4 "E" — at^R_L
1-L 5 × 4 × 5/8 × 2'-10 3/4 — av
1-L 5 × 4 × 5/8 × 2'-10 3/4 — abh
2-Ls 3 1/2 × 3 1/2 × 1/2 × 3'-2 3/4 — aw^R_L
2-Ls 3 1/2 × 3 1/2 × 3/8 × 1'-3 3/4 — ay^R_L
1-L 8 × 4 × 1/2 × 0'-11 3/4 — aaa^R
1-L 8 × 6 × 1/2 × 0'-10 3/4 — aab^R
2-Ls 8 × 8 × 3/4 × 2'-0 — aac^R_L
2-Ls 6 × 4 × 1/2 × 1'-5 1/2 — aad^R
4-Ls 5 × 4 × 3/8 × 1'-1 3/4 — aae^R_L
4-Ls 4 × 4 × 3/8 × 1'-1 3/4 — aaf^R_L
2-Pls 16 × 3/8 × 1'-3 1/4 — pab
2-Pls 16 × 3/8 × 1'-3 1/4 — pao
2-Ls 6 × 4 × 1/2 × 1'-5 1/2 — abm^R
(above: For LO-MO)

1-Pl 29 1/2 × 5/16 × 7'-10 — hc
1-L 5 × 4 × 3/8 × 4'-8 3/4 — aag^R
1-L 3 1/2 × 3 1/2 × 3/8 × 2'-11 1/2 — aah
1-L 8 × 4 × 1/2 × 2'-5 1/2 — aak^R
1-L 8 × 4 × 1/2 × 2'-5 1/2 — abo^R
2-Pls 28 3/4 × 5/16 × 2'-2 5/8 For LO-MOA — hd^R_L
1-Pl 35 × 1/2 × 1'-4 13/16 (B) F.2E. — pac
1-Pl 35 × 5/8 × 2'-4 1/4 F.2E. — pad
1-Pl 35 × 1/2 × 1'-1 3/8 F.2E. — pae
12-Pls 15 × 1/2 × 2'-6 1/2 F.2E. — paf 222
1-Pl 38 × 1/2 × 1'-5 1/2 F.3E. — pag
1-Pls 38 × 5/8 × 2'-8 F.4E. — pah 222
9-Pls 38 × 1/2 × 1'-4 1/4 F.3E — pak 222
2-Pls 35 × 5/8 × 2'-7 1/4 F.2E. — pam
1-L 4 × 3 1/2 × 1/2 × 2'-11 — he
4-Ls 4 × 3 1/2 × 1/2 × 2'-11 — aam
4-Ls 6 × 4 × 1/2 × 1'-3 1/2 — aan
12-Ls 3 1/2 × 3 1/2 × 1/2 × 2'-6 — aao 222
2-Ls 7 × 3 1/2 × 1/2 × 1'-2 — aap^R_L
18-Ls 3 1/2 × 3 1/2 × 1/2 × 3'-1 1/2 — aat 222
2-Ls 5 × 3 1/2 × 1/2 × 1'-3 1/4 — aav^R_L
14-Ls 5 × 3 1/2 × 1/2 × 2'-11 1/2 — aaw 222
4-Ls 5 × 3 1/2 × 1/2 × 2'-6 — aay 222
16-Ls 5 × 3 1/2 × 1/2 × 1'-2 — aba^R_L 222
16-Ls 5 × 5 × 1/2 × 1'-3 1/2 — abb 222
18-Ls 5 × 3 1/2 × 1/2 × 1'-2 — abc^R_L 222
2-Ls 5 × 3 1/2 × 1/2 × 1'-2 1/4 — abd^R_L
4-Ls 5 × 3 1/2 × 1/2 × 1'-2 — abe^R_L 222
2-Ls 5 × 3 1/2 × 1/2 × 2'-11 — abf
1-Fill 4 × 3/4 × 1'-8 — fd
4-Fills 13 × 3/4 × 0'-7 3/4 — fa
20-Fills 9 × 3/4 × 0'-7 3/4 — fb 222
3-Fills 4 × 3/4 × 1'-8 — fc
2-Bars 3 × 3/8 × 0'-7 — pan
22-Ls 3 1/2 × 3 1/2 × 3/8 × 0'-6 — abg^R_L 222
2-Ls 5 × 3 1/2 × 1/2 × 2'-11 — abk
1-L 4 × 3 1/2 × 1/2 × 2'-11 — abn
2-Ls 5 × 3 1/2 × 1/2 × 1'-3 1/2 — abp
2-Ls 5 × 3 1/2 × 1/2 × 1'-9 — abt
1-Pl 37 5/8 × 5/8 × 2'-8 F.4.E. — pap 222
1-Pl 38 × 5/8 × 2'-8 F.4.E. — pat

ASSEMBLY & SHIPPING NOTE:-

Assemble and ship with each LO-MO^R and LO-MOA^R:-
1-DD1^R; 1-DD3^R; 1-DL1; 1-DL3; 1-LL1; 1-LL2; 1-LL3; 1-LL4 & 1-LL5 } Det. on sh. 239
Perm. Bolted

Assemble and ship with each LO-MO^L and LO-MOA^L:-
1-DD1^L; 1-DD3^L; 1-DL1; 1-DL3; 1-LL1; 1-LL2; 1-LL3, 1-LL4 & 1-LL5 } Det. on sh. 239
Perm. Bolted

West Cant.	East Cant.	Total	Required		
	1	1	Post	LO-MO^R	45T
1		1	Do	LO-MO^L	45T
1		1	Do	LO-MOA^R	45T
	1	1	Do	LO-MOA^L	45T

GENERAL NOTES:-

Material:- All material O.H. copper bearing medium carbon steel, except material marked (N) is O.H. copper bearing nickel steel, and all 1 1/4"φ shop rivets are manganese steel. All rivet steel to be copper bearing.
Specifications:- Special by State of California Department of Public Works.
Inspection:- John M. Dailey, Chief Inspector.
Rivets:- 1 1/8"φ - Unless noted.
Open Holes:- 1 3/16"φ Unless noted.
Reaming:- All holes in carbon steel to be subpunched 1/4" and reamed to size while parts are assembled, except diaphragm webs which may be punched full size. All holes in nickel steel to be subdrilled 1/8" and reamed to size while parts are assembled.
Holes marked RT to be reamed through a steel templet.
Splices to be reamed with complete post LO-UO assembled and pieces match marked.
Burrs to be removed from all reamed holes.
All match marking to be done with 3/4" steel stencils and white paint.
Finish:- On all carbon steel marked "E" and on all nickel steel, the sheared or flame cut edges or ends are to be finished so as to remove at least 1/8" of metal. Edges of manholes and door openings to be smooth.
Paint:- None, except pin holes to have one coat white lead and tallow, and milled ends and splice plates to have one coat acid resisting liquid. (See Sh. E21)

Perm. Bolts for Ladders & Doors det. on Sh. CF34

Copper bearing carbon steel rivets detailed on sh. CF30
Manganese Shop rivets detailed on sh. CF13

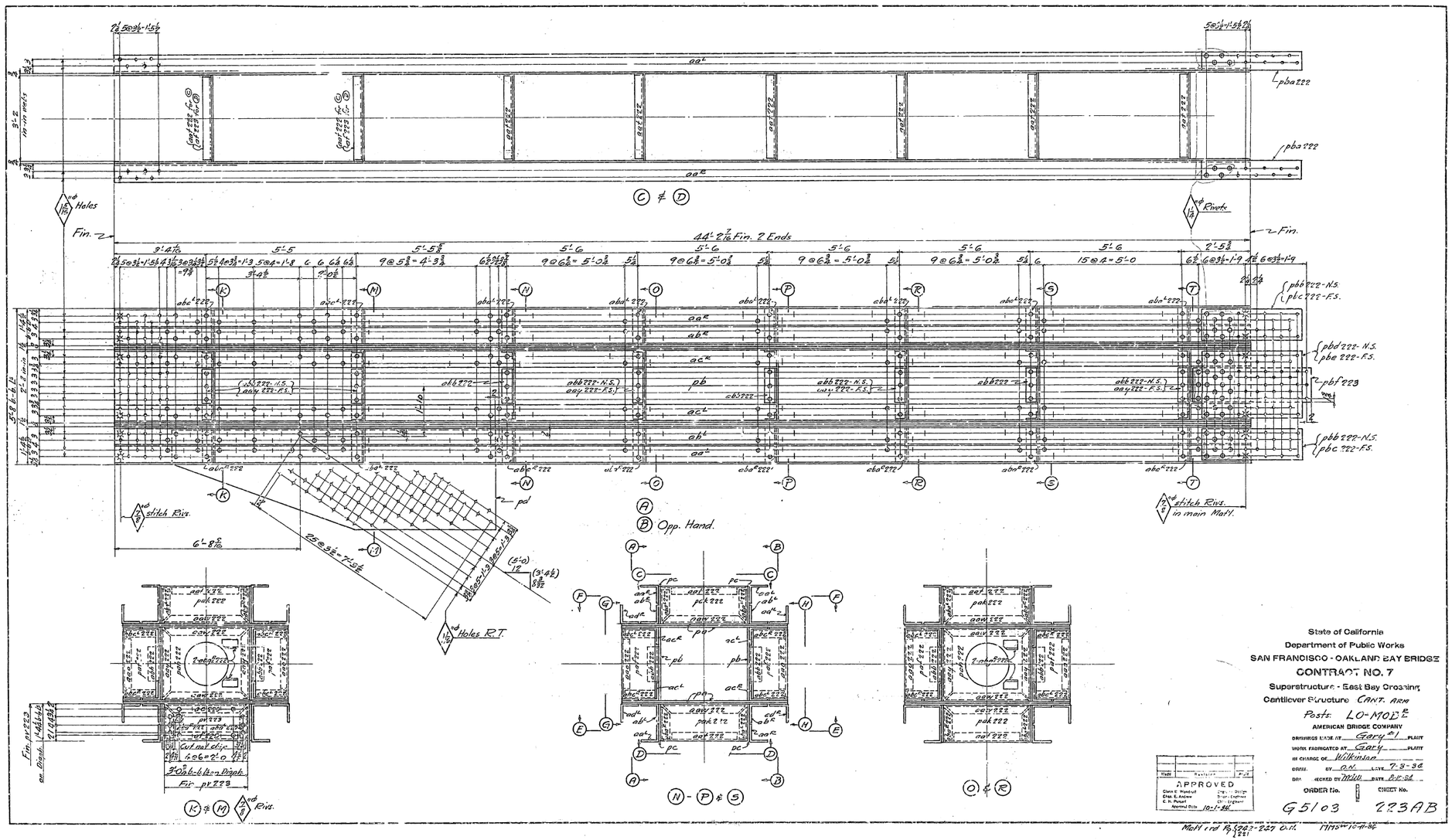
Made	Revision	App'd

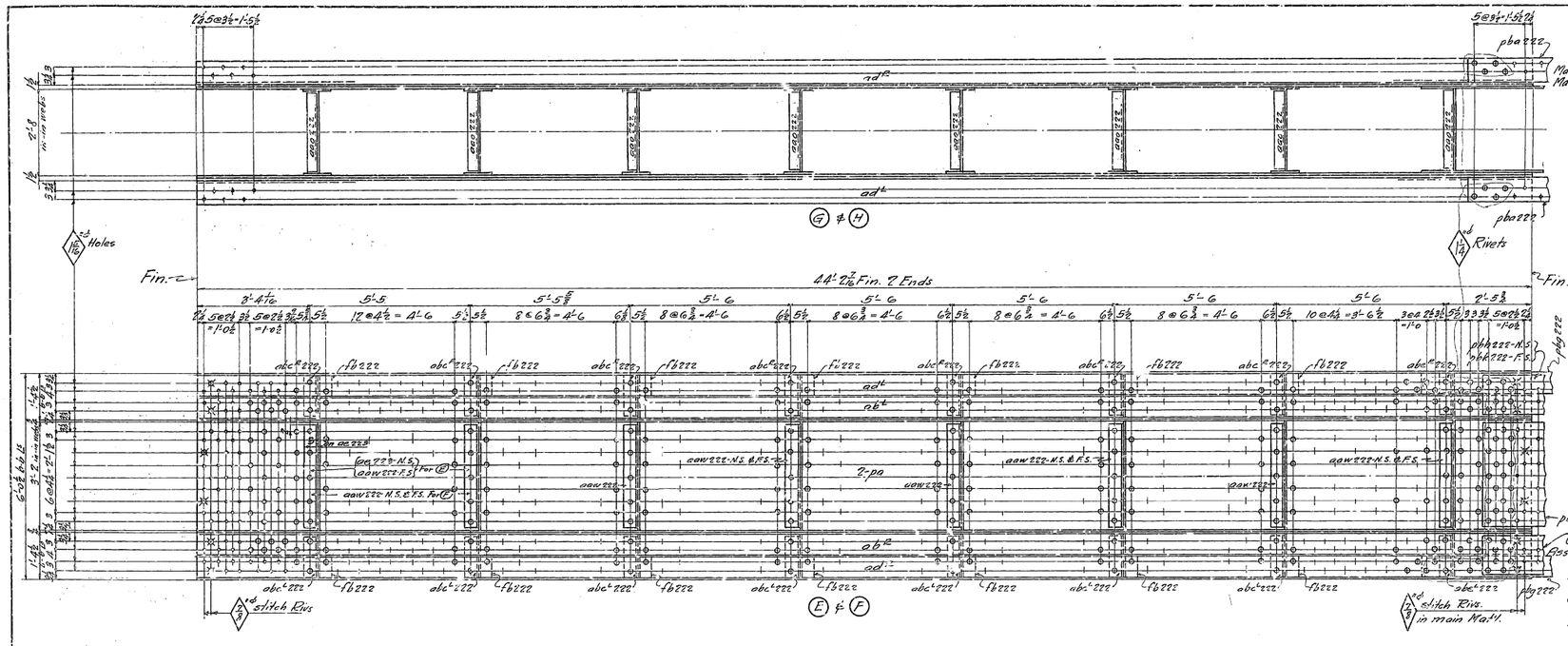
APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 10-1-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure - CANT. ARM
POSTS LO-MO^R_L & LO-MOA^R_L.
AMERICAN BRIDGE COMPANY
Drawings made at Gary #1 Plant
Work fabricated at Gary Plant
In charge of Wilkinson
Drawn, made by O.N. Date 6-22-34
Checked by MWW Date 8-10-34
Order No. G5103
Sheet No. 222D

Rev. 10-29-34
Rev. 1-2-35 B
Mat'l. ord pg. 241-245-246 (221 + 281) O.N. MWS 10-11-34
[A-C-G]

30:1


aa¹
aa²
pba222
pba222
C ≠ D
Holes
Fin.
Rivets
44'-2 7/16" Fin. 2 Ends
Fin.
pbb222-N.S.
pbc222-F.S.
pbd222-N.S.
pbe222-F.S.
pbf223
pbb222-N.S.
pbc222-F.S.
ab²
ac²
pb
ac¹
ab¹
aa¹
K
N
O
P
R
S
T
stitch Rivs.
Holes R.T.
stitch Rivs. in main Wall.
A
B Opp. Hand.
N - P & S
O & R
K & M
Cut out disc
Fin. pt 223
as Desk
Fin. pt 223
Fin. pt 222
Fin. pt 222
Fin. pt 222



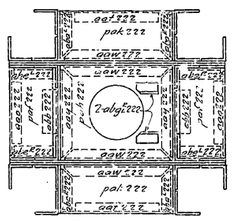


Diagram showing Ladders to be assembled and shipped with LO-MOBE.

MATERIAL FOR ONE LO-MOB^{E}:-

Main Matl. (F.I.E. (N)):
- 4-Pl 72×⅜ × 44'-2 7/16" pa
- 2-Pl 31½ × ⅜ × 44'-2 7/16" pb
- 2-Pl 16 × ½ × 44'-2 7/16" pc
- 4-Ls 8 × 8 × ⅜ × 44'-2 7/16" ak
- 4-Ls 8 × 8 × ½ × 44'-2 7/16" ak^{E}
- 4-Ls 8 × 8 × ⅝ × 44'-2 7/16" ac^{E}
- 4-Ls 8 × 8 × ¾ × 44'-2 7/16" ac^{2}

Detail Matl:- "E" (N):
- 2-Guss $L\Delta$ × ⅞ × 11-3½ pd
- 8-Pl 8 × ½ × 3'-7½ pba222
- 4-(N)Pl 8 × ½ × 3'-7½ pbb222
- 4-Pl 16 × ½ × 3'-7½ pbc222
- 2-Pl 17 × ½ × 3'-7½ pbd222
- 2-Pl 31½ × ½ × 3'-7½ pbe222
- 2-Pl 15½ × ½ × 4'-2½ pbf223
- 4-Pl 7⅞ × ½ × 5'-10⅝ pbg222
- 4-Pl 13½ × ½ × 2'-9½ pbh222
- 4-Pl 11½ × ½ × 2'-9½ pbk222
- 4-B 36 × ½ × 2'-9½ pbm222

- 16-Pl 15½ × ½ × 2'-6½ pal222 F.I.E.
- 5-Pl 38 × ⅝ × 2'-8 pak222 F.4E.
- 14-Pl 38 × ½ × 1'-4½ pak222 F.3E.
- 2-Pl 162 × ½ × 3'-0⅜ pv223 F.3.E.

- 16-Ls 3½ × 3½ × ½ × 2'-6 aaa222
- 14-Ls 3½ × 3½ × ½ × 3'-1½ aal222
- 24-Ls 5 × 3½ × ½ × 2'-11½ aaw222
- 10-Ls 5 × 3½ × ½ × 2'-6 aay222
- 32-Ls 5 × 3½ × ½ × 1'-2 abb222
- 16-Ls 5 × 5 × ⅞ × 1'-3⅜ abb222
- 28-Ls 5 × 3½ × ½ × 1'-2 abc222
- 4-Ls 5 × 3½ × ½ × 1'-2 abe222
- 2-Ls 5 × 3½ × ½ × 2'-11½ ae223
- 2-Ls 3½ × 3½ × ½ × 3'-0 aaf223

- 28-Fills 9 × ⅜ × 0'-7⅞ fb222
- 20-Ls 3½ × 3½ × ⅜ × 0'-6 abg222E

pbm222-N.S. & F.S.
pbh222-N.S.
pbk222-F.S.

ASSEMBLY AND SHIPPING NOTE:- Assemble and ship with each LO-MOB^{E} & LO-MOB^{2}:- 1-LL6, 1-LL7, 1-LL8 & 2-LL9 (Wire LL6 for Shipment) } Det. on sh. 259
Perm. Bolted.
Insert Bolts for LL6 in ends of ladder section.

GENERAL NOTES:-
Material:- All material to be O.H. copper bearing medium carbon steel except material marked (N) is O.H. copper bearing nickel steel, and all ⅞" ϕ shop rivets are manganese steel. All rivet steel to be copper bearing.
Specifications:- Special By State of California Department of Public Works.
Inspection:- John M. Bailey, Chief Inspector.
Rivets:- ⅞" ϕ Unless noted.
Open Holes:- As noted.
Reaming:- All holes in carbon steel to be subpunched ¼" and reamed to size while parts are assembled except diaphragm webs which may be punched full size. All holes in nickel steel to be subdrilled ¼" and reamed to size while parts are assembled. Holes marked RT to be reamed through a steel template.
Splices to be reamed with complete post LO-MOB assembled and pieces matchmarked.
Burrs to be removed from all reamed holes.
All matchmarking to be done with ¼ steel stencils and white paint.
Finish:- On all carbon steel marked 'E' and on all nickel steel the sheared or flame cut edges or ends to be finished so as to remove at least ¼" of metal. Edges of man holes to be smooth.
Paint:- None, except one coat acid resisting liquid on milled ends and at splice plates (See Sh. E21)
Permanent Bolts for Ladders Det. on Sh. CF31
Copper bearing carbon steel rivets detailed on sh. CF31
Manganese Shop rivets detailed on sh. CF13

West Cant.	East Cant.	Terms	REQUIRED	
1	1	2	Posts	LO-MOB^{E} 48T
1	1	2	Do	LO-MOB^{2} 48T

APPROVED
Chief Engr. of Bridges
Chief Engr. of Design
C. H. Purcell
Asst. Chief Engr. of Design
Approved Date 10-1-36

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure CANT. Arm
Posts: LO-MOB^{E}
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary #1 PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
DRAWN, MADE BY O.N. DATE 7-9-36
DRAW. CHECKED BY [illegible] DATE 8-10-36
O.D.E.P. No. G5103
SHEET No. 223B

Matl. o.d. By (222-227) O.N. [illegible] [A-C-G]

30-T

(C) & (D)

(N) & (P)

(A)

(B) Opp. Hand, except for details at man hole.

(K)

(M)

(O) ≡ (R)

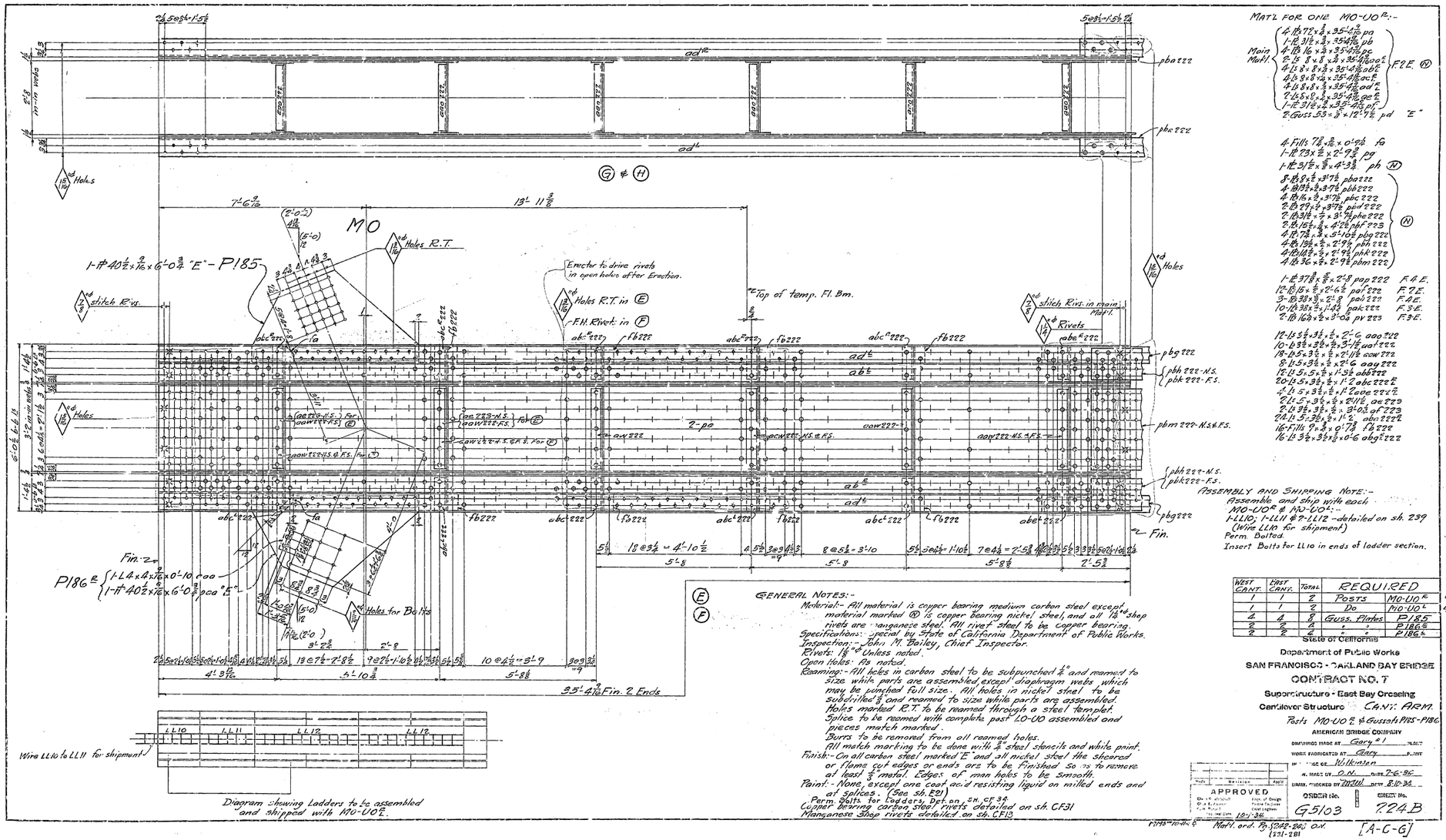
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure CANT. ARM
Posts M10-U0E
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Williamson
DRAWN BY O.N. DATE 7-5-34
INSP. CHECKED BY MMW DATE 8-10-34

MARK	REVISIONS	DATE

APPROVED
Chief Engr. of Bridges
Bridge Engineer
Chief Engineer
for Director of Public Works
10-1-34

ORDER No. G5103
SHEET No. 274AB

MMS 10-11-34



MATL FOR ONE MO-UO2:-

Main Matl { 4-PL 7/8 x 3/8 x 35'-4 1/2 pa; 1-PL 3 1/2 x 3/8 x 35'-4 7/16 pb; 4-PL 16 x 3/8 x 35'-4 7/16 pc; 2-L 8 x 8 x 7/8 x 35'-4 7/16 aa02 E; 4-L 8 x 8 x 7/8 x 35'-4 7/16 aa01 E; 4-L 8 x 8 x 7/8 x 35'-4 7/16 aa E; 4-L 8 x 8 x 7/8 x 35'-4 7/16 ad L; 2-L 8 x 8 x 7/8 x 35'-4 7/16 ae E; 1-PL 31 1/2 x 2 1/2 x 35'-4 7/16 pf; 2-Guss 53 x 3/4 x 12'-7 1/2 pd "E" } F2E (N)

4-Fills 7/8 x 3/8 x 0'-5 3/16 fa
1-PL 23 x 1/2 x 2'-9 3/8 pg
1-PL 5 1/2 x 5/8 x 4'-3 3/4 ph (N)

{ 8-PL 8 1/2 x 3/4 x 3'-7 1/2 pba222; 4-PL 13 1/2 x 3/4 x 3'-7 1/2 pbb222; 4-PL 16 x 3/4 x 3'-7 1/2 pbc222; 2-PL 27 1/2 x 3/4 x 3'-7 1/2 pbd222; 2-PL 3 1/2 x 7/8 x 3'-7 1/2 pbe222; 2-PL 15 1/2 x 3/4 x 4'-2 1/2 pbf223; 4-PL 7 1/2 x 3/4 x 5'-10 1/2 pbg222; 4-PL 13 1/2 x 3/4 x 2'-9 1/2 pbh222; 4-PL 18 1/2 x 3/4 x 2'-9 1/2 pbk222; 4-PL 36 x 3/4 x 2'-9 1/2 pbm222 } (N)

1-PL 37 7/8 x 5/8 x 2'-5 pap222 F4E.
12-PL 15 x 1/2 x 2'-6 1/2 pal222 F2E.
3-PL 33 x 3/4 x 2'-8 pal222 F4E.
10-PL 38 x 3/4 x 1'-4 3/4 pak222 F3E.
2-PL 16 3/4 x 3/4 x 3'-0 3/8 pv223 F3E.

12-L 5 1/2 x 3 1/2 x 1/2 x 2'-6 aaa222
10-L 3 1/2 x 3 1/2 x 1/2 x 3'-1 1/2 aat222
18-L 5 x 3 1/2 x 1/2 x 2'-11 3/8 aaw222
8-L 5 x 3 1/2 x 1/2 x 2'-6 aay222
12-L 5 x 5 x 1/2 x 1'-3 3/8 abb222
20-L 5 x 3 1/2 x 1/2 x 1'-2 abc222 E
4-L 5 x 3 1/2 x 1/2 x 1'-2 abe222 E
2-L 5 x 3 1/2 x 1/2 x 2'-1 1/2 aa223
2-L 4 3/4 x 3 1/2 x 1/2 x 3'-0 3/8 af223
24-L 5 x 3 1/2 x 1/2 x 1'-2 3/8 abc222 E
16-Fills 9 x 3/8 x 0'-7 3/8 fb222
16-L 3 1/2 x 3 1/2 x 5/16 x 0'-6 abg222

ASSEMBLY AND SHIPPING NOTE:-
Assemble and ship with each MO-UO2 & MO-UO1:-
1-LL10, 1-LL11 & 7-LL12 - detailed on sh. 239 (Wire LL10 for shipment)
Perm. Bolted.
Insert Bolts for LL10 in ends of ladder section.

GENERAL NOTES:-
Material:- All material is copper bearing medium carbon steel except material marked (N) is copper bearing nickel steel, and all 7/8" shop rivets are manganese steel. All rivet steel to be copper bearing.
Specifications:- special by State of California Department of Public Works.
Inspection:- John M. Bailey, Chief Inspector.
Rivets: 7/8" Unless noted.
Open Holes: As noted.
Reaming:- All holes in carbon steel to be subpunched 1/4" and reamed to size while parts are assembled, except diaphragm webs which may be punched full size. All holes in nickel steel to be subdrilled 3/4" and reamed to size while parts are assembled. Holes marked R.T. to be reamed through a steel template. Splice to be reamed with complete post LO-UO assembled and pieces match marked.
Burrs to be removed from all reamed holes.
All match marking to be done with 1/2" steel stencils and white paint.
Finish:- On all carbon steel marked E and all nickel steel the sheared or flame cut edges or ends are to be finished so as to remove at least 1/4 inch. Edges of man holes to be smooth.
Paint:- None, except one coat acid resisting liquid on milled ends and at splices. (See sh. E21)
Perm. Bolts for Ladders, Det. on Sh. CF 38.
Copper bearing carbon steel rivets detailed on sh. CF31
Manganese Steel rivets detailed on sh. CF13

WEST CANT.	EAST CANT.	TOTAL	REQUIRED	
1	1	2	POSTS	MO-UO E
1	1	2	Do	MO-UO L
4	4	8	Guss. Plates	P185
2	2	4	" "	P186 E
2	2	4	" "	P186 L

40T
40T

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure CANT. ARM.
Posts MO-UO & Gussets P185-P186
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary, Ind. PROJECT
WORK FABRICATED AT Gary, Ind. JOINT
BY ... OF ... Wilkinson
M. TRACED BY O.M. DATE 7-6-36
DRAWN CHECKED BY Strobl DATE 8-10-36

APPROVED
Chief Engr. Dept. of Public Works
O. K. E. Palmer
Asst. Engineer
Feb. 10, 1936

ORDER No. G5103
CHECK No. 724B

Mat'l. ord. By SDAB-2&3 O.K. (221-281)

[A-C-G]

30-1

C & D

Holes

Fin.

Rivets

Fin.

40'-9 27/32 Fin. 2 Ends

Stitch Rivs.

Holes R.T.

Stitch Rivs. in main Mat'l.

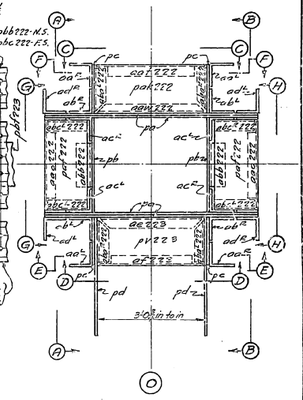
19'-6 7/16

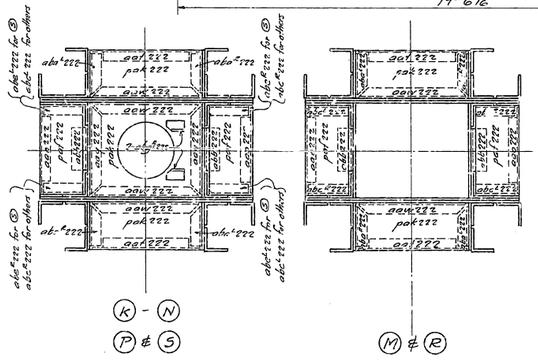
21'-2 15/32

A
B OPP. HAND

K - N
P & S

M & R





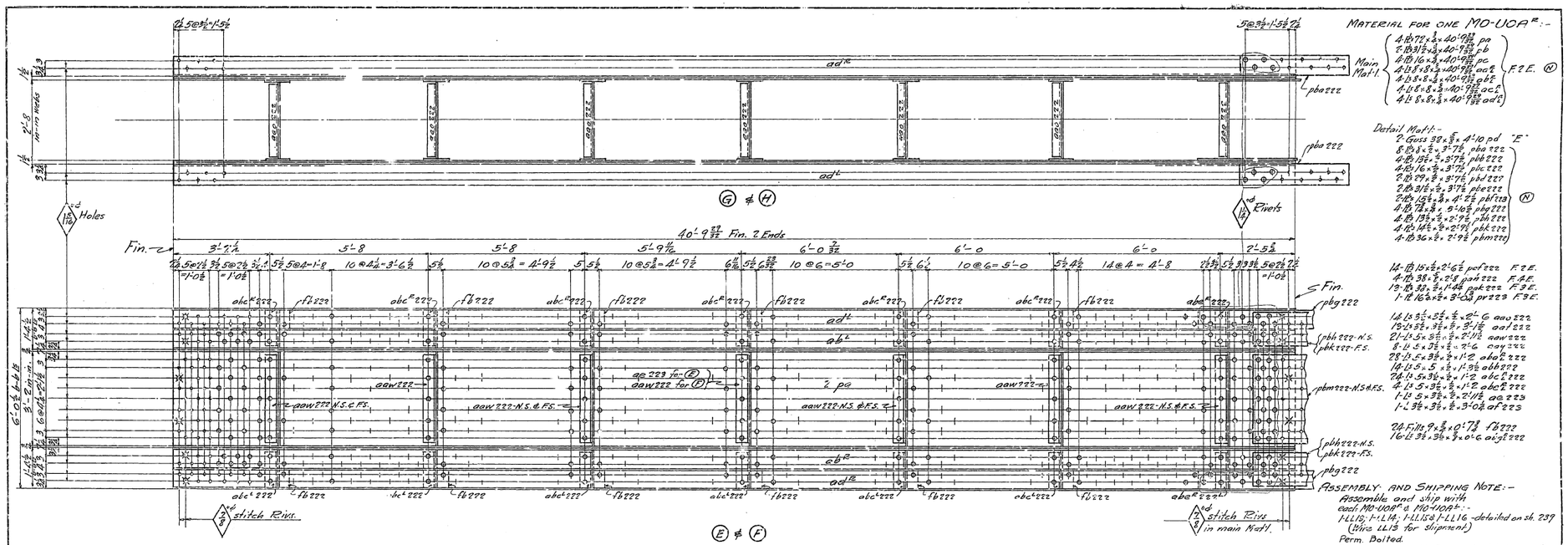
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure CANT. ARM
Posts M0-U0A2

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF W. Wilkinson
DRAWN BY O.N. DATE 7-13-34
CHECKED BY MWH DATE 8-10-34
ORDER No. G5103
SHEET No. 225 AB

APPROVED
Chas. B. Wiswall, Chief Engr. Bridge Engineer
Chas. T. Ryder, Chief Engr.
C. H. Purcell, Chief Engr.
Approval Date, 10-1-34.

AMS 10-11-34

30-1



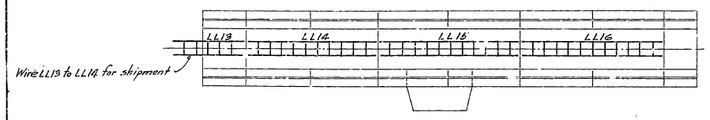


Diagram showing Ladders to be assembled and shipped with MO-UO9F2.

MATERIAL FOR ONE MO-UOAR:-

Main Mat'l (F2E. R)
- 4-⌶ 7/16 x 2 1/2 x 40'-0 3/32 pa
- 2-⌶ 3 1/2 x 1/2 x 40'-9 27/32 pb
- 4-⌶ 16 x 3/8 x 40'-9 27/32 pc
- 4-L 8 x 8 1/2 x 40'-9 27/32 aa E
- 4-L 8 x 8 1/2 x 40'-9 27/32 ab E
- 4-L 8 x 8 x 1/2 x 40'-9 27/32 ac E
- 4-L 8 x 8 1/2 x 40'-9 27/32 ad E

Detail Mat'l:- (N)
- 2 Guss 38 x 3/8 x 4'-10 pd "E"
- 8-⌶ 3 1/2 x 1/2 x 5'-7 1/2 aba 222
- 4-⌶ 13 1/2 x 1/2 x 3'-7 1/2 abb 222
- 4-⌶ 16 x 1/2 x 3'-7 1/2 abc 222
- 2-⌶ 20 x 3/8 x 3'-7 1/2 abd 222
- 2-⌶ 3 1/2 x 1/2 x 3'-7 1/2 abe 222
- 2-⌶ 18 1/2 x 3/8 x 4'-2 1/2 pbf 223
- 4-⌶ 7/8 x 3/8 x 9'-1 1/2 pbg 222
- 4-⌶ 13 1/2 x 1/2 x 21'-7 1/2 abh 222
- 4-⌶ 14 1/2 x 1/2 x 21'-7 1/2 abk 222
- 4-⌶ 36 x 1/2 x 7'-9 1/2 pbm 222

14-⌶ 15 x 1/2 x 2'-6 1/2 pa F2E.
4-⌶ 38 x 3/8 x 2'-6 pa 222 F.A.E.
19-⌶ 38 x 1/2 x 1'-4 pak 222 F2E.
1-⌶ 16 x 1/2 x 3'-6 3/8 pr 223 F3E.

14-L 3 1/2 x 3 1/2 x 1/2 x 2'-6 aa 222
15-⌶ 3 1/2 x 3 1/2 x 1/2 x 3'-1 1/2 aa' 222
21-L 5 x 3 1/2 x 1/2 x 21'-1 1/2 aaw 222
8-L 5 x 3 1/2 x 1/2 x 21'-6 aay 222
28-L 5 x 3 1/2 x 1/2 x 1'-2 abe 222
14-L 5 x 5 x 1/2 x 1'-3 1/2 abb 222
24-L 5 x 3 1/2 x 1/2 x 1'-2 abc 222
4-L 5 x 3 1/2 x 1/2 x 1'-2 abe 222
1-L 5 x 3 1/2 x 1/2 x 2'-1 1/2 aa 223
1-L 3 1/2 x 3 1/2 x 1/2 x 3'-0 1/2 aa' 223

24-Fills 9 x 1/2 x 0'-7 3/8 fb 222
16-L 3 1/2 x 3 1/2 x 1/2 x 0'-6 aig 222

ASSEMBLY AND SHIPPING NOTE:-
Assemble and ship with each MO-UOAR & MO-UOAL:-
LL12; 1-LL14; 1-LL15 & 1-LL16 -detailed on sh. 239
(Wire LL13 for shipment)
Perm. Bolted.
Insert Bolts for LL13 in ends of ladder section.

GENERAL NOTES:-
- Material:- All material is O.H. copper bearing medium carbon steel except material marked (R) is O.H. copper bearing nickel steel, and all 7/8" ø shop rivets are manganese steel. All rivet steel to be copper bearing.
- Specifications:- Special by State of California Department of Public Works.
- Inspection:- John M. Bailey, Chief Inspector.
- Rivets:- 7/8" ø unless noted.
- Open Holes:- As noted.
- Reaming:- All holes in carbon steel to be subpunched 3/4" and reamed to size while parts are assembled, except diaphragm webs which may be punched full size. All holes in nickel steel to be subdrilled 3/4" and reamed to size while parts are assembled.
  Holes marked R.T. to be reamed through a steel templet.
  Splices to be reamed with complete post 10-UO assembled and pieces match marked.
  Burrs to be removed from all reamed holes.
  All match marking to be done with 3/4" steel stencils and white paint.
- Finish:- On all carbon steel marked "E" and on all nickel steel, the sheared or flame cut edges or ends are to be finished so as to remove at least 1/8" of metal. Edges of man holes to be smooth.
- Paint:- None, except one coat acid resisting liquid on milled ends and at splice plates (See sh. E21)

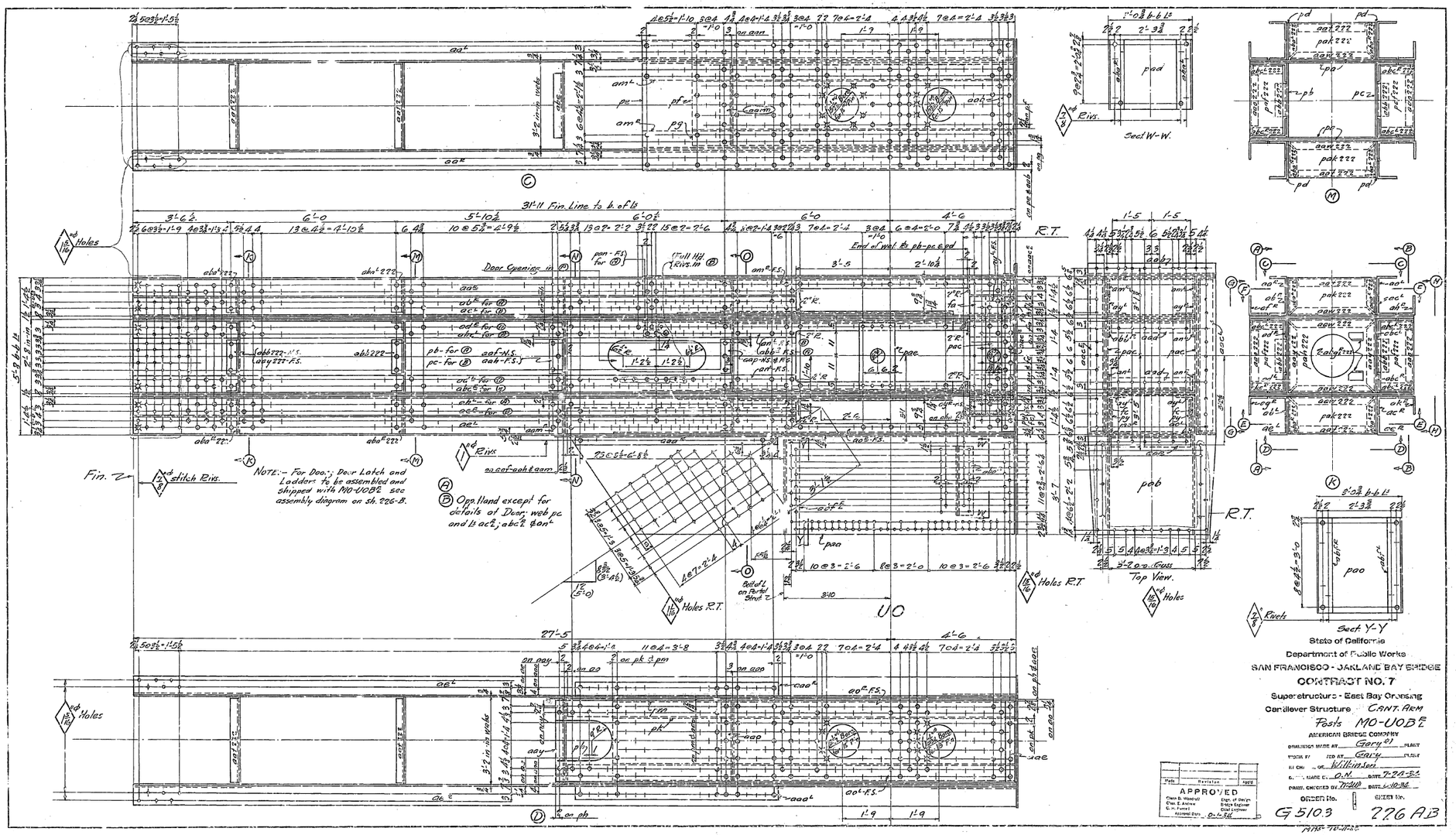
Perm. Bolts for Ladders Det. on Sh. CF 31A
Copper Bearing carbon steel rivets detailed on sh. CF32
Manganese Shop rivets detailed on Sh. CF13

WEST Cant.	EAST Cant.	Total	REQUIRED		
1	1	2	Posts	MO-UOAR	47T
1	1	2	Do	MO-UOAL	47T

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Cracking
Cantilever Structure :: CANT. ARM
Posts MO-UOAL
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary #1 PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
DRAWN BY O.N. DATE 7-13-34
DRAWN CHECKED BY [illegible] DATE 8-10-34
ORDER No. G5103 SHEET No. 225-B.

APPROVED
Chief of Bridge & Tunnel Engineer
10-1-34

Revised Fig. 225-249 o.n. [A-G-G]



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure CANT. ARM
Posts M0-U0B2
AMERICAN BRIDGE COMPANY

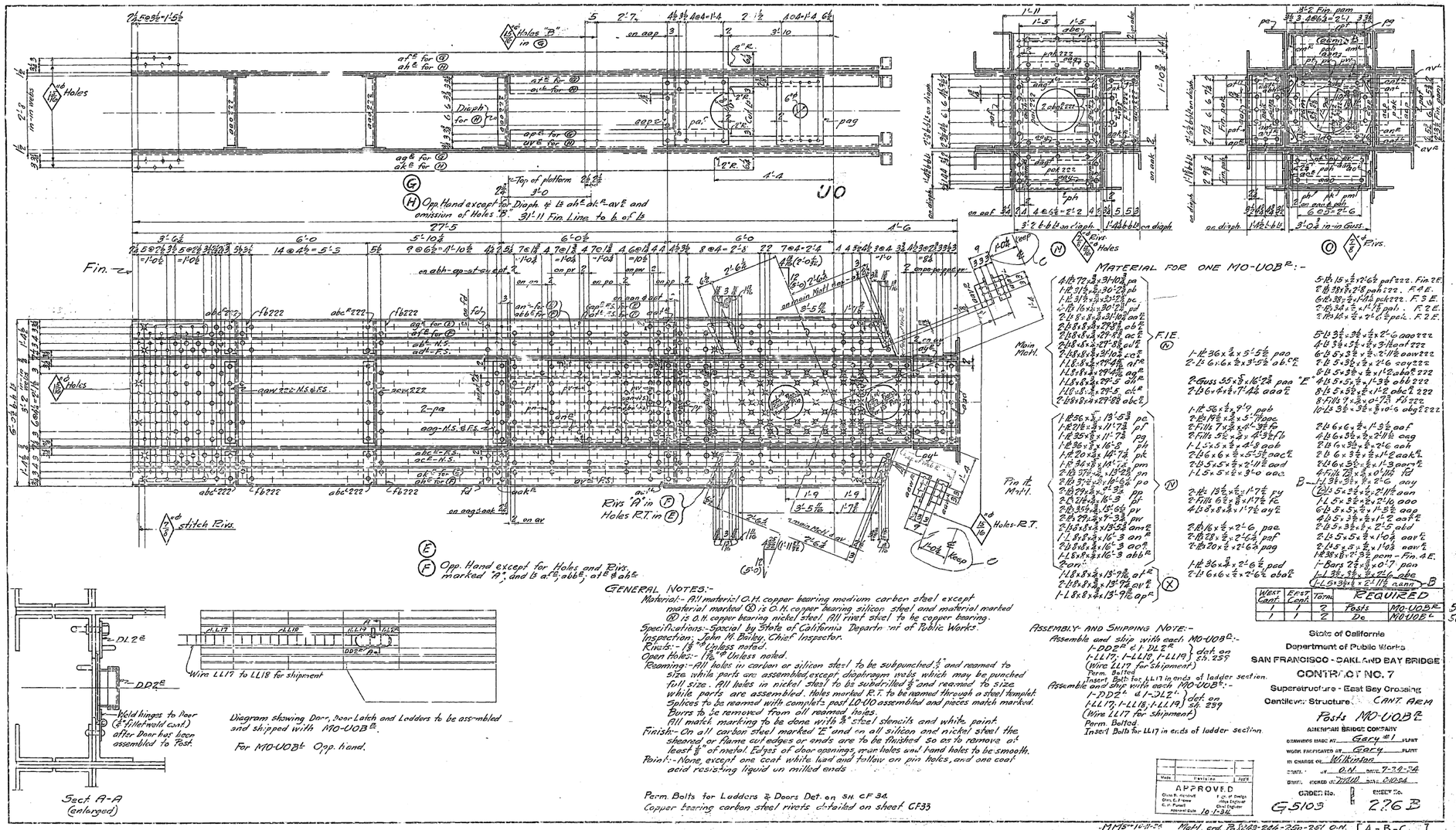
DRAWINGS MADE AT	Gary IND.	PLANT	
WORK BY	FOR AT	Gary	PLANT
RECD.	OK.	Williams	
BLUE PRINTS MADE BY	O.K.	DATE	7-24-36
PAINT CHECKED BY	Smith	DATE	1-10-36

ORDER No. G 5103 SHEET No. 276 AB

Mark	Revision	Date
	APPROVED	
Chas. B. Wandrell	Engr. of Design	
Chas. E. Andrus	Bridge Engineer	
C. H. Purcell	Chief Engineer	
Approved Date	8-12-36	

(Rev 11-30-36)

30-1


Fin.
Holes
Holes "B" in G
Diaph for H
Top of platform
Opp Hand except for Diaph & ls ah^E ak^E av^E and omission of Holes "B". 31'-11 Fin Line to b of ls
Opp Hand except for Holes and Rivs marked "A" and ls a^E, abb^E, at^E & ak^E
stitch Rivs
Holes R.T.
Rivs "A" in F Holes R.T. in E
Main Mem.
Main Mem.
Main Mem.

35 Spaces "A" @ 2'-2 = 75'-10

Clip 0.S. Leg at 45°

Hand Hole

35-Ls. 3 x 2½ x ⅜ x 3'-4⅜ Ya
35-Bars 2½ x ⅞ x 3'-1 ⅞ c.c. to c.c. Yb

1-R 31 x ⅝ x 4'-1-pa

33-7/16"-R.F.B.

1-R 31 x ⅝ x 3'-0-pb

1-R 9 x ¾ x 2'-7-pc

8@4" = 2'-8 4½ 6@4 = 2'-0 6@4½ = 2'-1½ 6½ 4 3½ 33 3'-8½

R.T.

MC1 — UC1

96'-1½
92'-0½

4'-1½

24@4 = 1'-4 5@4 = 1'-8 4 3@4½ = 1'-1½ 43@5½ = 18'-9⅜ 4½ 4 4½ 4½ 4½ 4 5⅜ 4 4½ 4½ 4½ 4 4½ 4⅜ 4⅜ 4@7-2'-4½ 4 111@5½ = 48'-6⅜ 4⅜ 21@4 = 7'-0 3½ 4⅜ 4 3@4½ = 1'-1½ 4@4½ = 1'-5⅜ 3⅜ 4 @4½ = 1'-5⅜ 5 5 3½ 7½ 6⅜

4'-1

Fin.

Holes R.T.

R.T. N.S. — R.T. F.S. — R.T. N.S.

Holes N.S. Rivets F.S. — Rivets N.S. Holes F.S. — Holes N.S. Rivets F.S.

Holes N.S. — Holes F.S. — Holes N.S.

Holes N.S. Rivets F.S. — Rivets N.S. Holes F.S. — Holes N.S. Rivets F.S.

Erection to drive rivets in all open holes after erection

23'-10

2-Ls. 6 x 4 x 7/16 x 96'-1½ F.F. 1E (E)
2-Ls. 6 x 4 x 7/16 x 94'-11½ (E)
2-Pls. 27 x ⅝ x 96'-3½ F.F. 1E (E)
} MC1 — UC1^R

60'-4

1-L 4 x 4½ x 2'-6 - aa227
2-aa227
1-R 30 x ½ x 2'-0½ - pe
9@3 = 2'-3
10½
11/8 on R
2-4¾
2'-9¾ in. to in.
View (A)

pe 7
aa227
aa227
Sec (B)

on Main Mat'l

R.T.
R.T. N.S.
(5'-0) 12
7/8" Rivs. in N.S.
Open Holes N.S. Rivets F.S.
1-aa227 1-pe
1-R. 7½ x ⅜ x 10'-4 - pk - N.S. (E)
1-R. 7½ x ⅜ x 10'-4 - pm - F.S. (E)
2-aa227 1-pe
2'-0½ b. to b. l.s.
2-Ls. 3½ x 4 x ⅜ x 2'-1 - ab
2-Fills 4½ x 1'-3 - fa.
15/16" ø Holes R.T.

2'-9½
2'-0½

9@3 = 2'-3 3¾
Spacing not shown same as Top View
8@4 = 2'-8 4½ 6@4 = 2'-0 6@4½ = 2'-1½ 6⅞ 3'-11½ 33 4'-0½
1-R 31 x ⅝ x 2'-10-pd
35 - Ya
35 - Yb
33-7/16" R.F.B.
1-pb.
1-pc^V
1-¾" R.F.
1-¾" R.F.
R.T.

Rivs. 7/8 ø 15/16 ø Holes

Vert'l Comp't	Horiz'l Comp't	Total	REQUIRED	
1	1	2	Vertical Post	MC1-UC1^R
1	1	2	" "	MC1-UC1^L

General Notes:
Material – All material O.H. copper bearing, medium carbon steel. All rivet steel to be copper bearing.
Specifications – Special by State of California Department of Public Works.
Inspection – John M. Bailey, Chief Inspector.
Rivets – 1" unless noted.
Open Holes – 15/16" unless noted.
Reaming – All holes to be subpunched 4" and reamed to size while parts are assembled, except lacing, stay plates and diaphragm webs which may be punched full size.
Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Finish – On all carbon steel marked (E) the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal. Edges of hand holes to be smooth.
Paint – None, except pin holes to have one coat of white lead and tallow.

Copper bearing carbon steel rivets detailed on sheet CF 29

Main'l Ord. on pg 229 & 272 & 277

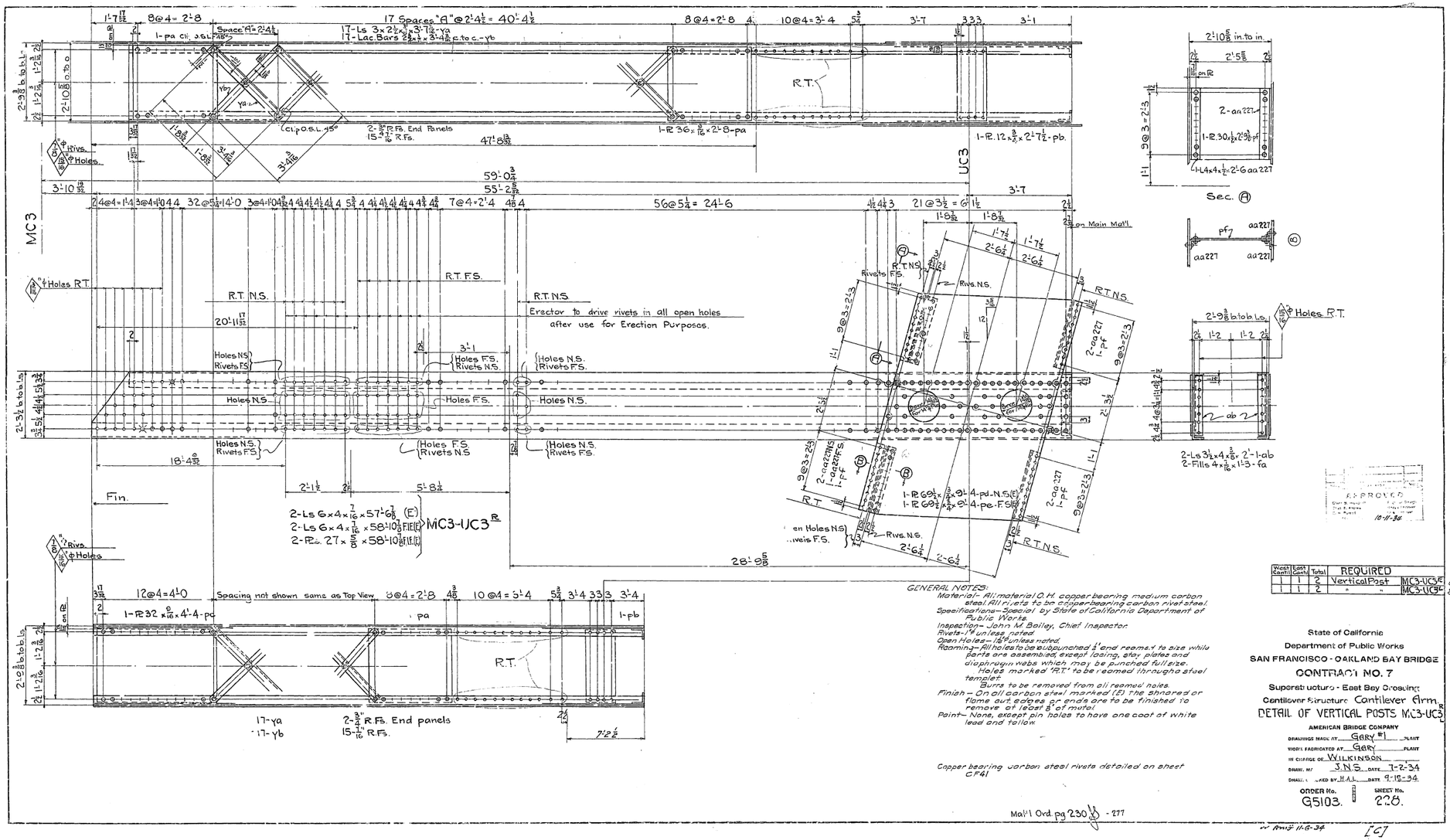
APPROVED
Engr. of Design
Bridge Engineer
Asst. Engineer
Nov. 20th 1934

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm
DETAIL OF VERTICAL POSTS MC1-UC1

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
DESIGN. MADE BY J.N.S. DATE 6-27-34
DRAWN BY H.A.L. DATE 9-12-34
JOB No. G5103. SHEET No. 227

rv 11/8.10-29-34

[C]



Weight Each	Weight Each	Total	REQUIRED	
1	1	2	Vertical Post	MC3-UC3L 8T
1	1	2	" "	MC3-UC3R 8T

GENERAL NOTES:
Material - All material O.H. copper bearing medium carbon steel. All rivets to be copper bearing carbon rivet steel.
Specifications - Special by State of California Department of Public Works.
Inspection - John M. Bailey, Chief Inspector.
Rivets - 7/8" unless noted.
Open Holes - 1 1/16" unless noted.
Reaming - All holes to be subpunched 1/4" and reamed to size while parts are assembled, except lacing, stay plates and diaphragm webs which may be punched full size. Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Finish - On all carbon steel marked (E) the sheared or flame cut edges or ends are to be finished to remove at least 1/8" of metal.
Paint - None, except on holes to have one coat of white lead and tallow.

Copper bearing carbon steel rivets detailed on sheet CF41

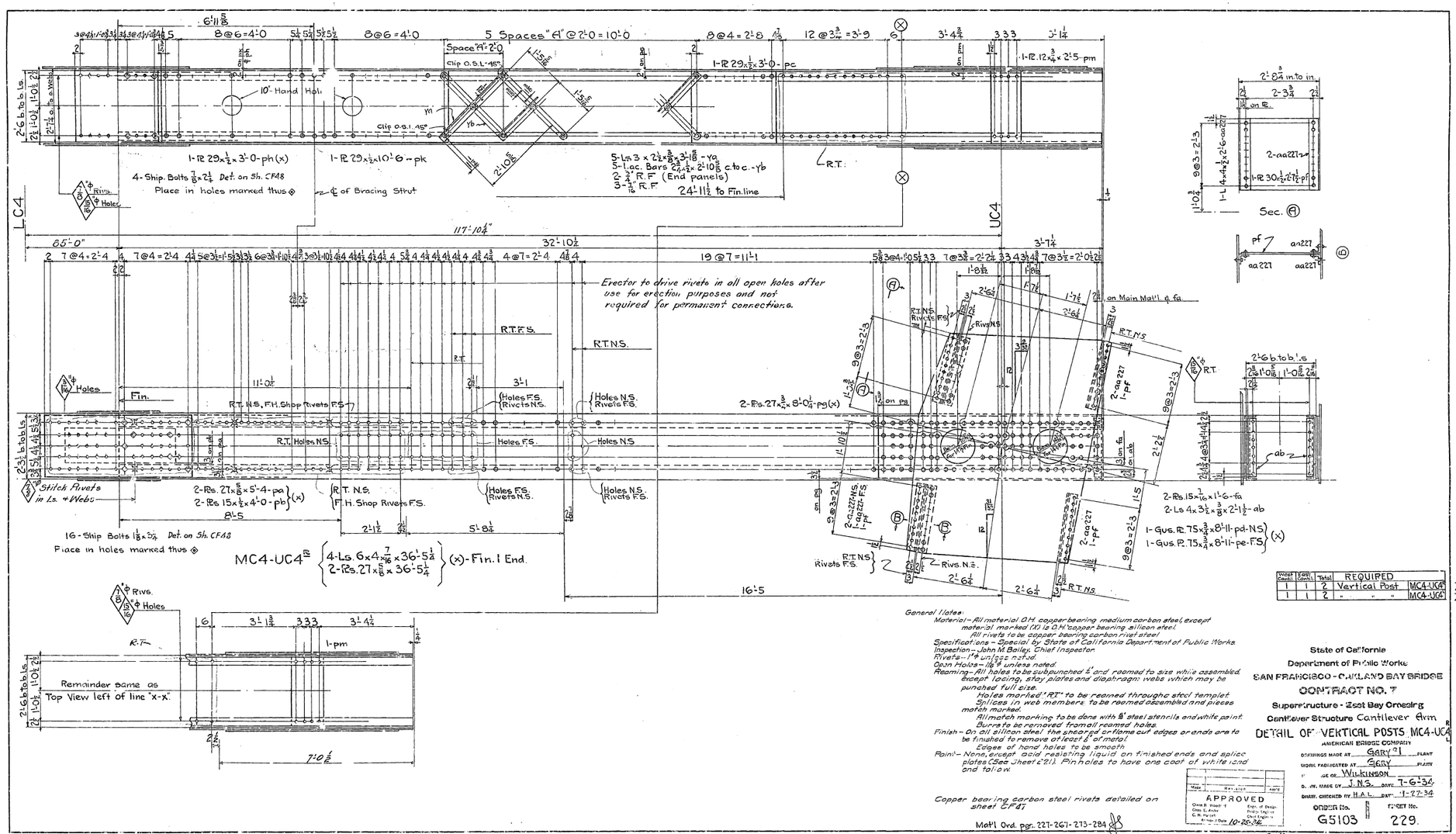
Mat'l Ord. pg 230 - 277

APPROVED
10-11-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm
DETAIL OF VERTICAL POSTS MC3-UC3

AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary #1 PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
DRAWN BY J.N.S. DATE 7-2-34
TRACED BY H.A.L. DATE 9-19-34
ORDER No. 9510.3 SHEET No. 228.

Rec'd Am'f 11-6-34 [C]



West Cantl.	East Cantl.	Total	REQUIRED		
1	1	2	Vertical Post	MC4-UC4	77
1	1	2	" " "	MC4-UC4	77

General Notes.
Material – All material O.H. copper bearing medium carbon steel, except material marked (x) is O.H. copper bearing silicon steel.
All rivets to be copper bearing carbon rivet steel
Specifications – Special by State of California Department of Public Works.
Inspection – John M. Bailey, Chief Inspector.
Rivets – 1" on 2222 n.s.d.
Open Holes – 11/8" unless noted.
Reaming – All holes to be subpunched ¼" and reamed to size while assembled, except lacing, stay plates and diaphragm webs which may be punched full size.
Holes marked "RT" to be reamed through a steel templet.
Splices in web members to be reamed assembled and pieces match marked.
All match marking to be done with ⅛" steel stencils and white paint.
Burrs to be removed from all reamed holes.
Finish – On all silicon steel, the sheared or flame cut edges or ends are to be finished to remove at least ¼" of metal.
Edges of hand holes to be smooth
Paint – None, except acid resisting liquid on finished ends and splice plates (See Sheet C21). Pin holes to have one coat of white lead and tallow.

Copper bearing carbon steel rivets detailed on sheet CF47.

Mat'l Ord. pgs. 227-267-273-284

APPROVED
Chief Engr.
Engr. of Design
Bridge Engineer
Asst. Engr.
Date 10-25-34

State of California
Department of Public Works
SAN FRANCISCO-OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm
DETAIL OF VERTICAL POSTS MC4-UC4
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT GARY PLANT
WORK FABRICATED AT GARY PLANT
CHARGE OF WILKINSON
DRAWN BY J.N.S. DATE 7-6-34
CHECKED BY H.A.L. DATE 1-27-34
ORDER No. G5103
SHEET No. 229.

11-8-34

[B&C]

30-1

Rem. of spacing same as for bott. flange

Holes for erection hitches

Remainder same as bottom view

Sec. FF

Sec. EE

Sec. CC

Sect. G-G

Sec. AA for LO-MC1

Sec. BB for LO-MC

Shop Note— Check packing of webs after riveting, and before riveting up diaphragms

LO-MC1[R]
LO-MC1A[R]

Warm Rivet (X)
F.in. 1 End.

Holes RT

Holes FIN.

Stitch Rivets in Deck on ℄

Working Line of Bott. Chd.

Ctr. of Gravity

Diaph.

Fin. pg

Fin. pl

Borelli

Mfrs. Ord. P.P. 225-265-26 - 299

[B&C]

Rev. 11-23-34 | Rev. 11-10-34 | Rev. 11-5-34

GENERAL NOTES:

Material—All material Oil Copper bearing medium carbon steel, except material marked (O) is O.H. copper bearing silicon steel. All rivets are to be copper bearing carbon rivet steel.

Specifications—Specials by State of California Department of Public Works.

Inspection—John M. Bailey, Chief Inspector.

Rivets—$\frac{7}{8}$" unless noted.

Open Holes—$1\frac{1}{16}$" unless noted.

Reaming—All holes in material $\frac{3}{4}$" thick or under to be subpunched $\frac{1}{4}$" and reamed to size while parts are assembled, except splice webs which may be punched full size. All holes in material over $\frac{3}{4}$" thick to be subdrilled $\frac{1}{4}$" and reamed to size while parts are assembled.

Holes marked "RT" to be reamed through a steel templet.

Splices to be reamed assembled and pieces match marked.

Burrs to be removed from all reamed holes.

All match marking to be done with $\frac{1}{2}$" steel stencils and white paint.

Finish—On all carbon steel marked "F" and on all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least $\frac{1}{8}$" of metal.

Edges of manholes to be smooth.

Paint—None, except one coat of white lead and tallow on pin holes and one coat of acid resisting liquid at splices (See Sheet E22)

Copper bearing carbon steel rivets detailed on sheet C1-38

Shipping bolts detailed on sheet C.F.37

Assemble and ship with each LO-MC1[R] LO-MC1A[R] 1-LL68, LO-MC1[R] 1-LL69, LL68, 1-LL61, 1-LL62, 1-LL63 & 1-LL64 detailed on sheet "246 Wire LL64 to LL62 for shipment."

(6-Pb $\frac{3}{4}$"x 18" Det. on Sh. C.F.61)

(6-Pb $\frac{3}{4}$"x 18" Det. on Sh. C.F.61) Ship in place on LL64

Work Point	Cent.	Total	REQUIRED		
			Diagonal	LO-MC1[R]	4-FT
			do	LO-MC1[L]	4-FT
			do	LO-MC1A[R]	4-FT
			do	LO-MC1A[L]	4-FT

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever structure Cantilever Arm
Diagonal LO-MC1

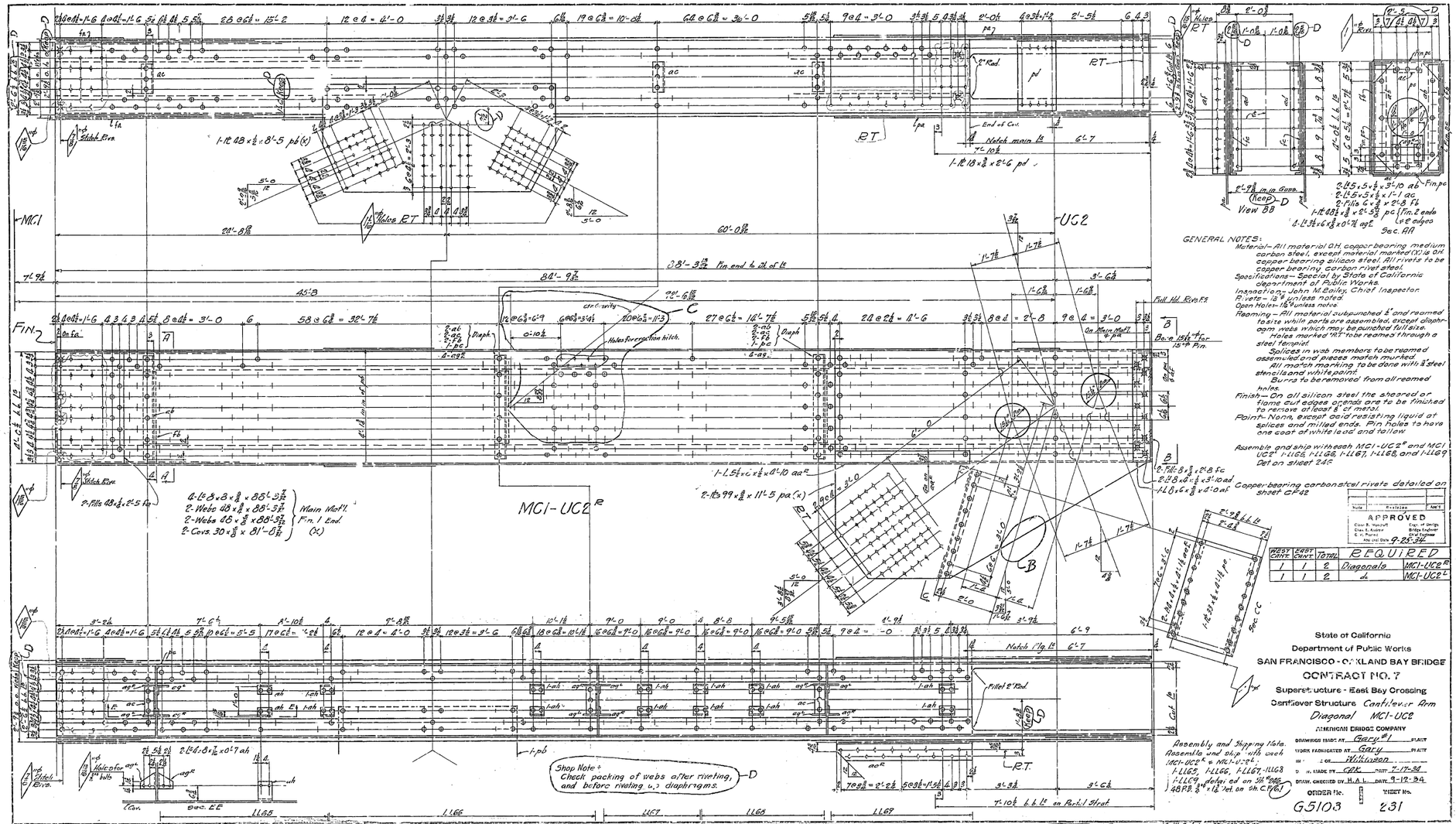
AMERICAN BRIDGE COMPANY

DRAWING MADE AT: Gary PLANT
TO BE FABRICATED AT: Gary PLANT
IN CHARGE OF: Wilkinson
DETAIL BY: GBK DATE: 7-11-34
DRAWN BY: Trittl DATE: 8-28-34
CHKD BY: DATE:

APPROVED
Chief Engr. of Bridges
Chief Engr. of Design
Approved By: 10-9-34

ORDER No. SHEET No.
G 5103 230

9051



GENERAL NOTES:

Material – All material OH, copper bearing medium carbon steel, except material marked (X) is OH copper bearing silicon steel. All rivets to be copper bearing carbon rivet steel.

Specifications – Special by State of California department of Public Works.

Inspection – John M. Bailey, Chief Inspector.

Rivets – $\frac{7}{8}$" unless noted.

Open Holes – $1\frac{1}{16}$" unless noted.

Reaming – All material subpunched $\frac{1}{4}$" and reamed to site when parts are assembled, except diaphragm webs which may be punched full size.

Holes marked "RT" to be reamed through a steel templet.

Splices in web members to be reamed assembled and pieces match marked.

All match marking to be done with $\frac{1}{4}$" steel stencil and white paint.

Burrs to be removed from all reamed holes.

Finish – On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least $\frac{1}{8}$" of metal.

Paint – None, except acid resisting liquid at splices and milled ends. Pin holes to have one coat of white lead and tallow.

Assemble and ship with each MC1-UC2R and MC1-UC2L 1-LL65, 1-LL66, 1-LL67, 1-LL68, and 1-LL69 Det on sheet 24F.

Copper bearing carbon steel rivets detailed on sheet CF42

Mark	Revision	Appd

APPROVED
Chas. B. Ward, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approved Date 9-25-34

Mast Cont.	Shop	Total	REQUIRED	
1	1	2	Diagonals	MC1-UC2R
1	1	2	dL	MC1-UC2L

37T
37T

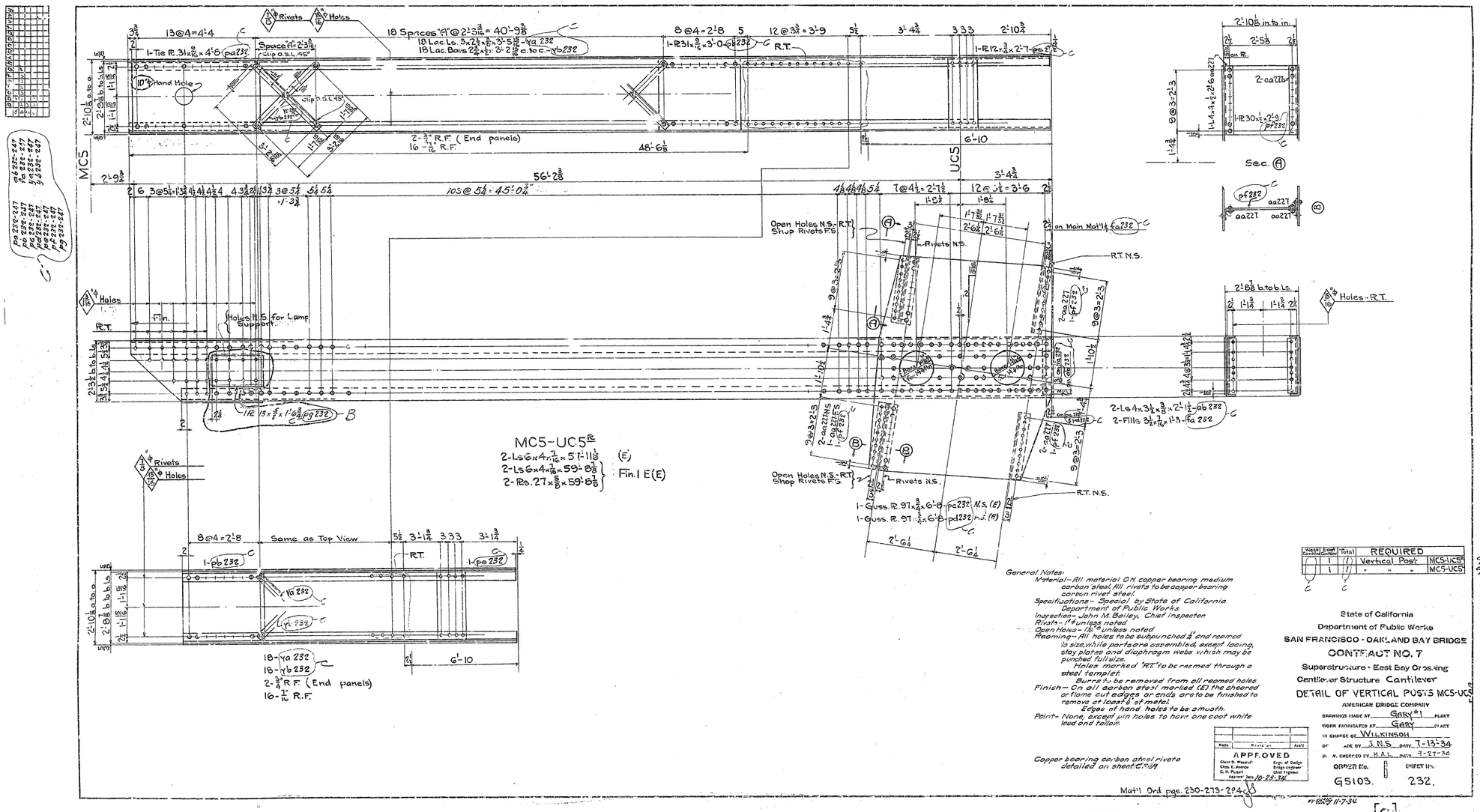
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm
Diagonal MC1-UC2

AMERICAN BRIDGE COMPANY

Assembly and Shipping Note. Assemble and ship with each MC1-UC2R & MC1-UC2L: 1-LL65, 1-LL66, 1-LL67, 1-LL68 & 1-LL69 Rivet ed on Sh. CF42, 48 P.B. $\frac{3}{4}$" x 12" Det. on Sh. CF61

DRAWINGS MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Gary PLANT
ERECTED BY Wilkinson
DRAWN BY C.A.K. DATE 7-17-34
DRAWN CHECKED BY H.A.L. DATE 9-12-34
ORDER No. G5103
SHEET No. 231

D – Rev. 11-27-34
C – Rev. 11-16-34
Rev. 11-7-34
[B & C]



Pa 232-247
Pb 232-247
Pc 232-247
Pd 232-247
Pe 232-247
Pf 232-247
Pg 232-247

General Notes:

Material – All material O.H. copper bearing medium carbon steel. All rivets to be copper bearing carbon rivet steel.

Specifications – Special by State of California Department of Public Works.

Inspection – John M. Bailey, Chief Inspector.

Rivets – 1" ø unless noted.

Open Holes – 15/16" ø unless noted.

Reaming – All holes to be subpunched 1/4" and reamed to size while parts are assembled, except lacing, stay plates and diaphragm webs which may be punched full size.

Holes marked "R" to be reamed through a steel templet.

Burrs to be removed from all reamed holes.

Finish – On all carbon steel marked (E) the sheared or flame cut edges on ends are to be finished to remove at least 1/8" of metal.

Edges of hand holes to be smooth.

Paint – None, except pin holes to have one coat white lead and tallow.

Copper bearing carbon steel rivets detailed on sheet C-99

Invest. Quantities	Check Quantities	Total	REQUIRED	
	1	11	Vertical Post	MC5-UC5 R
	1	11	" " "	MC5-UC5 L

97
97

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever
DETAIL OF VERTICAL POSTS MC5-UC5

AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Gary CITY, STATE
IN CHARGE OF Wilkinson
DETAILED BY J.N.S. DATE 7-13-34
QUANTITIES CHECKED BY H.A.L. DATE 9-27-34
ORDER No. G5103.
SHEET No. 232.

Mark	Revisions	Date

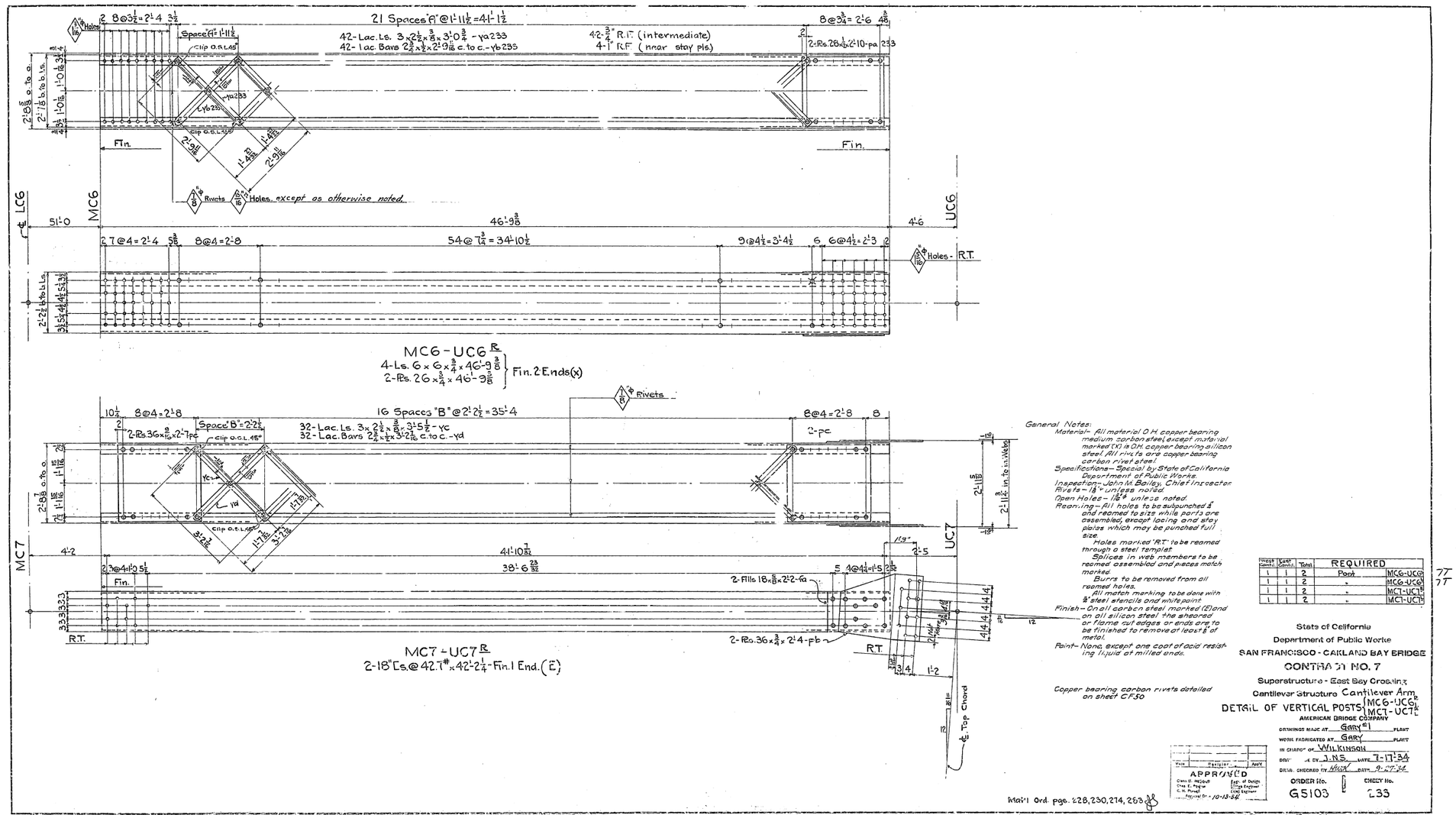
APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrus, Bridge Engineer
C. H. Purcell, Chief Engineer
Approved Jan. 10-25-34

Mat'l Ord. pgs. 230-273-294

Revised 11-7-34

C Rev. 12-20-34 B Rev. 12-3-34 A Rev. 11-20-34

[C]



General Notes:
Material— All material O.H. copper bearing medium carbon steel except material marked (X) is O.H. copper bearing silicon steel. All rivets are copper bearing carbon rivet steel.
Specifications— Special by State of California Department of Public Works.
Inspection— John M. Bailey, Chief Inspector.
Rivets — ⅞" unless noted.
Open Holes — 15/16" unless noted.
Reaming — All holes to be subpunched ¼" and reamed to size while parts are assembled, except lacing and stay plates which may be punched full size.
Holes marked "RT" to be reamed through a steel templet.
Splices in web members to be reamed assembled and pieces match marked.
Burrs to be removed from all reamed holes.
All match marking to be done with ½" steel stencils and white paint.
Finish— On all carbon steel marked (E) and on all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal.
Paint— None, except one coat of acid resisting liquid at milled ends.

Copper bearing carbon rivets detailed on sheet CF50

Inner Cont'l	Outer Cont'l	Total	REQUIRED	
1	1	2	Panel	MC6-UC6 R
1	1	2	"	MC6-UC6 L
1	1	2	"	MC7-UC7 R
1	1	2	"	MC7-UC7 L

77
77

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm
DETAIL OF VERTICAL POSTS MC6-UC6 R, MC7-UC7 L
AMERICAN BRIDGE COMPANY

DRAWING MADE AT Gary 61 PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
DRAWN BY J.N.S. DATE 7-17-34
DRAWN CHECKED BY Huck DATE 9-27-34

Mark	Description	Date

APPROVED
Chas. D. Hezlett, Asst. of Design
Chas. E. Peyton, Engineer
C. H. Purcell, Bridge Engineer
Approved Dr. - 10-13-34

ORDER No. G5103
DRAWING No. 233

Mail Ord. pgs. 228, 230, 214, 263

W. 10-19-11-8-34

[B & C]

30-1

LCA-MC5R
LCA-MC5AR

WEST CANT.	EAST CANT.	TOTAL	REQUIRED	
	/	/	Diagonal	LCA-MC5R 48T
/		/	do.	LCA-MC5L 48T
/		/	do.	LCA-MC5AR 48T
	/	/	do.	LCA-MC5AL 48T

GENERAL NOTES:
Material – All material O.H. copper bearing medium carbon steel, except material marked (S) is O.H. copper bearing silicon steel. All rivets are to be copper bearing carbon rivet steel.
Specifications – Special by State of California Department of Public Works.
Inspection – John M. Bailey, Chief Inspector
Rivets – 13/16" unless noted.
Open Holes – 1 1/16" unless noted.
Reaming – All holes to be subpunched & and reamed to size while parts are assembled, except diaphragm webs which may be punched full size.
Holes marked "RT" to be reamed through sheet templet.
Burrs to be removed from all reamed holes.
Splices in web members to be reamed assembled and pieces match marked.
All match marking to be done with 8" steel stencils and white paint.
FINISH – On all silicon steel the sheared or flame cut edges or endsare to be finished to remove at least 1/8 of metal. Edges of manholes to be smooth.
Paint – None except said resisting liquid on finished ends and splice plates. Pin holes to have one coat white lead and tallow.

Shipping Bolts detailed on Sh. CF27
Copperbearing carbon steel rivets detailed on sheet CF36
Gary Plant to charge portion of plates pf removed to contract 61K4885, giving $2103 credit for same.

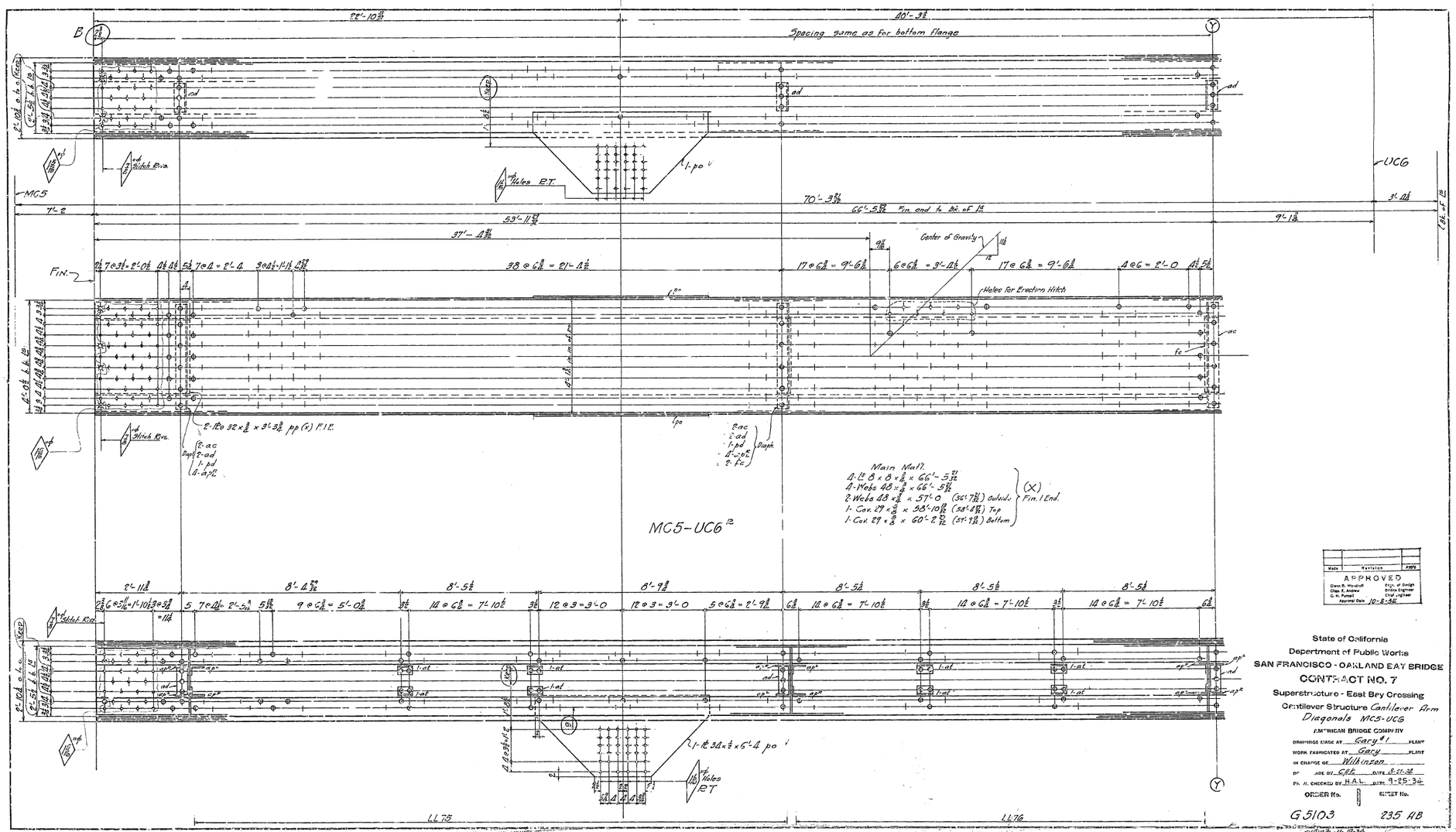
Assembly and Shipping Note
Assemble and ship with each LCA-W.S.E LCA-MC5L, LCA-MC5AL, LCA-MC5AL:
1-LL70, 1-LL71, 1-LL72, 1-LL73, 1-LL74
1-LL74 detailed on sheet 1 286.
Wire LL 71 to LL 73 for shipment.
60 P.B. 3/4 x 1/2 Det. on Sh. C.F. 37
Insert 2 bolts in LL76 for shipment.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm
Diagonal LCA-MC5

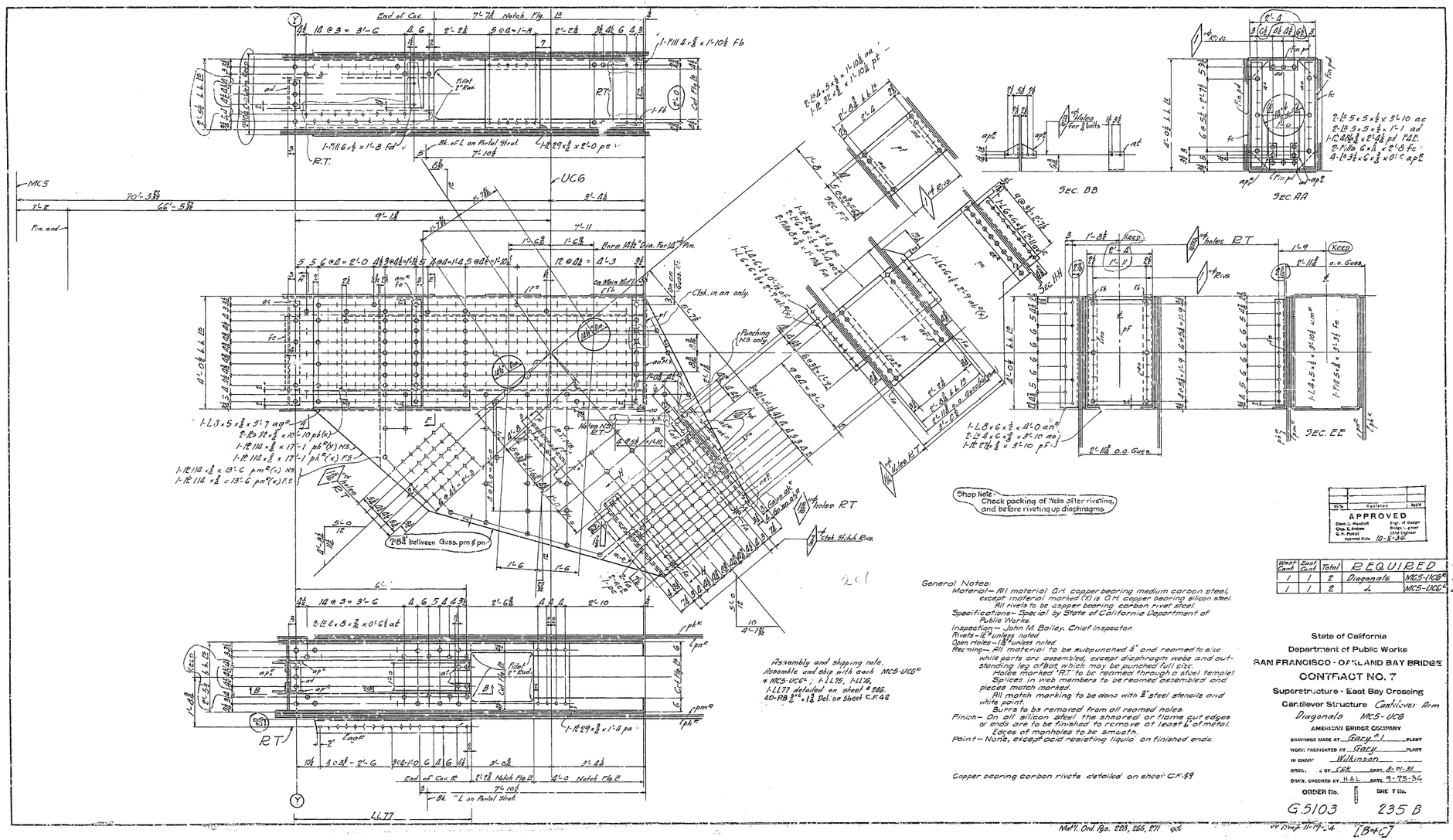
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary 1 PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF W. Wilkinson
DRAWN T. K. Gibb DATE 7-12-34
TRACED BY H. A. L. DATE 9-19-34
CHECKED BY
ORDER No. G 5103
ENTRY No. 234

APPROVED
Chief Engr. of Docks
Chief Engr. Bridges & Ferries
Chief Engr. Hwys.
Approved Dec. 10-7-34

Rev. 11-27-34 - B
Rev. 11-14-34 - A


Spacing same as for bottom flange
Center of Gravity
Holes for Erection Hitch
MC5-UC6 12
Main Matl.
4-12 B x 8 x 7/8 x 66'-5 7/16
4-Webs 48 x 3/8 x 66'-5 7/16
2-Webs 48 x 3/8 x 57'-0 (56'-7 3/16) outside
1-Cov. 29 x 5/16 x 55'-10 9/16 (56'-4 7/16) Top
1-Cov. 29 x 5/16 x 60'-2 5/16 (57'-9 1/16) Bottom
(X) Fin. 1 End.
MC5
UC6
FIN.
LL 78
LL 70
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm
Diagonals MC5-UC6
AMERICAN BRIDGE COMPANY
DRAWINGS STAGE AT Gary #1 PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
DET. AND LAY. BY GER. DATE 8-21-34
DET. CHECKED BY H.A.L. DATE 9-25-34
ORDER No. G5103
SHEET No. 235 AB
APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 10-8-34
Mark | Revision | Date
B (Rev. 2-28-35) (Rev. 11-29-35)

30-1



Work Cent.	Cent.	Total	REQUIRED		
1	1	2	Diagonals	MC5-UC6ᵐ	43T
1	1	2	"	MC5-UC6ᵐ	43T

	Revision	Appd

APPROVED

Engr. of Design: Chas. E. Andrew
Bridge Engineer: O. H. Ponted
Chief Engineer:
Approved Date: 10-8-34

General Notes.

Material— All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel. All rivets to be copper bearing carbon rivet steel

Specifications— Special by State of California Department of Public Works.

Inspection— John M. Bailey, Chief Inspector.

Rivets— ⅞" unless noted

Open holes— 1⅛" unless noted

Reaming— All material to be subpunched ⅛" and reamed to size while parts are assembled, except diaphragm webs and outstanding leg of bot. which may be punched full size. Holes marked "RT." to be reamed through a steel templet. Splices in web members to be reamed assembled and pieces match marked. All match marking to be done with ⅛" steel stencils and white paint. Burrs to be removed from all reamed holes.

Finish— On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal. Edges of manholes to be smooth.

Paint— None, except acid resisting liquid on finished ends.

Copper bearing carbon rivets detailed on sheet CF-39

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm
Diagonals MC5-UC6

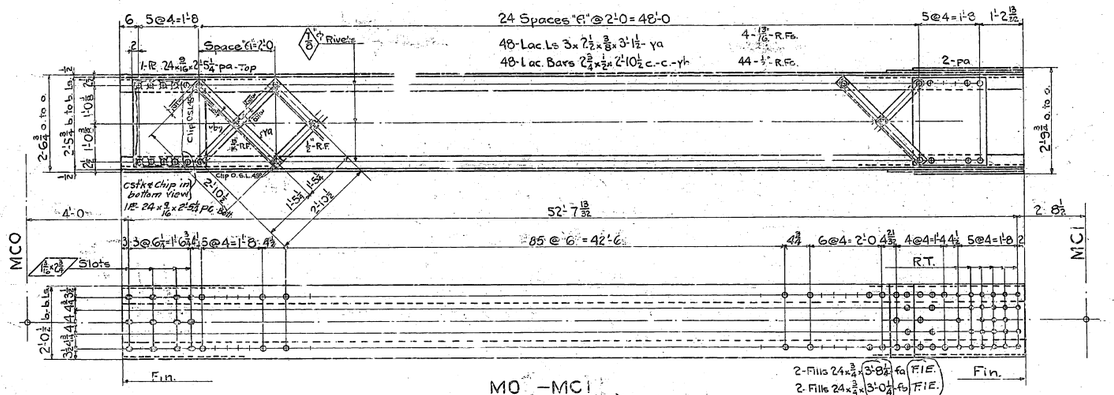
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary No 1 PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE Wilkinson
DRWN. C. BY Ehk DATE 8-21-34
DRWN. CHECKED BY H.A.L. DATE 9-25-34
ORDER No. G 5103
SHOP T No. 235 B

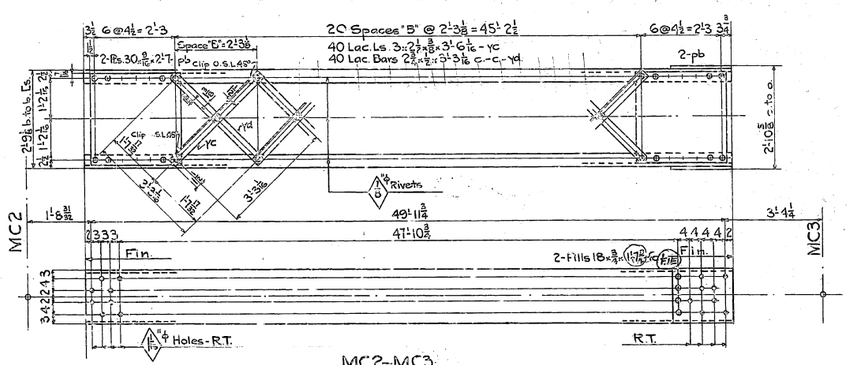
Mat'l. Ord. Pgs. 200, 266, 271

Rev. 11-28-34

[B+G]



MO - MC1
4-Ls 6 x 4 x 1/2 x 53'-0 15/32
2-Pls. 24 x 1/2 x 53'-0 15/32
} Fin. 2 Ends



MC2-MC3
2-15"Ls. @ 42.7# x 50'-3 3/4" - Fin. 2 Ends

Gen. Notes:-

Matl'l- All material O.H. Copper bearing medium carbon steel.
Specification- special by State of California Dept of Public works.
Inspect- Jann M. Bailey, Chief Inspector.
Rivets: 1 1/8" ϕ unless noted (Copper bearing)
Open Holes: 15/16" ϕ *Unless noted*
Reaming: All holes to be subpunched 1/4" and reamed to size while parts are assembled, except facing stay Pls. which may be punched full size.
Holes marked R.T. to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Paint: None.

West Contr.	East Contr.	Total	REQUIRED	
2	2	4	Strut	MO - MC1
2	2	4	Nominal	MC2-MC3

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. T
Superstructure - East Bay Crossing
Cantilever Structure Cantilever
DETAIL OF { STRUTS MCO - MC1 / NOMINALS MC2-MC3
AMERICAN BRIDGE COMPANY
DRAWING MADE AT GARY PLANT
WORK FABRICATED AT GARY PLANT
IN CHARGE OF WILKINSON
CHKD. BY J.N.S. DATE 7-18-34
DRWN. & CHKD. BY J.W.B. DATE 12-20-34
ORDER No. G5103
SHEET No. 236.

Copper bearing carbon steel rivets detailed on Sh. C140

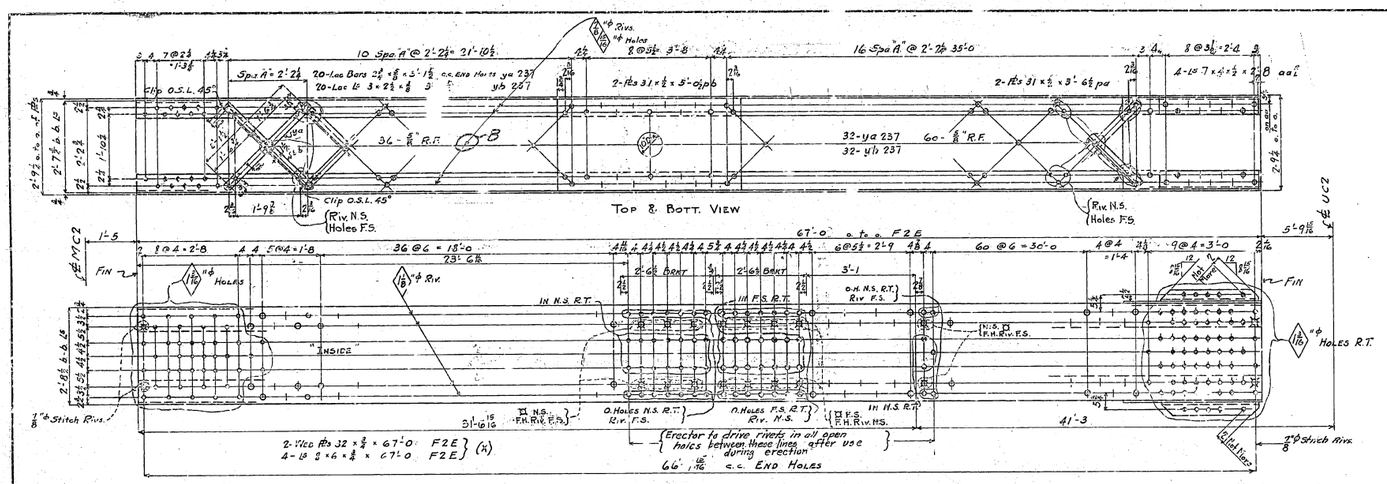
Matl Ord. pgs. 228-275 Main matl'l & fills
284 Tie R & Lac. Matl

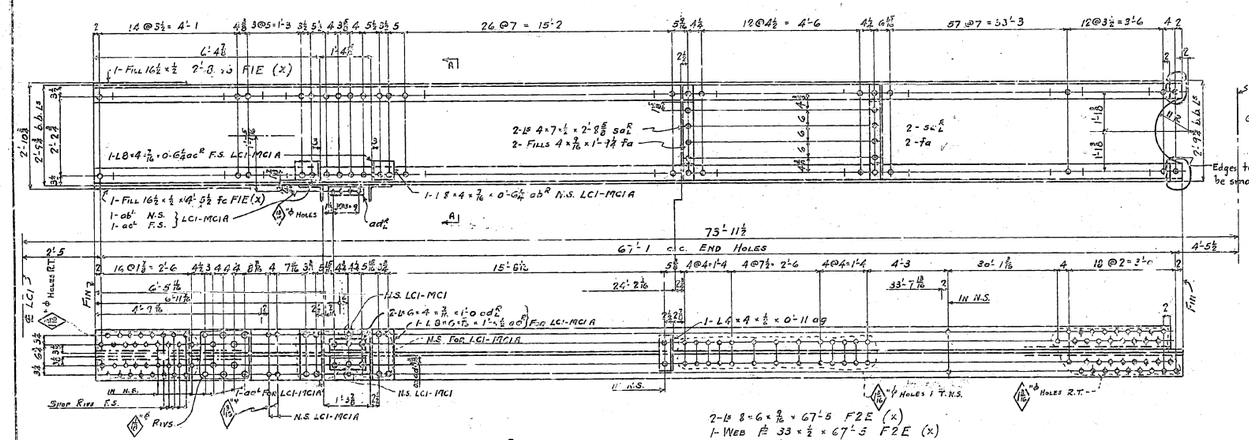
Mode	Revisions	Date
APPROVED		
Chief Engr.	Dist. Engr.	
Asst. Engr.	Proj. Engineer	
Approved		

(Rev. 1-22-35)

[C]

30-1





GENERAL NOTES:
Material—All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel (all rivets to be copper bearing carbon rivetsteel.
Specifications—Special by State of California Department of Public Works.
Inspection—John M. Bailey, Chief Inspector.
Rivets—7/8" unless noted.
Open Holes—13/16" unless noted.
Reaming—All material subpunched 3/4" and reamed to size while parts are assembled, except facing and stay plates which may be punched full size. Holes marked "RT" to be reamed to size through a steel template.
Splices in web members to be reamed assembled and pieces match marked.
Burrs to be removed from all reamed holes.
All match marking to be done with 1/2" steel stencils and white paint.
Finish—On all silicon steel the sheared or flame cut edges on ends are to be finished to remove at least 1/4" of metal.
Edges of end holes to be smooth.
Paint—None, except said retaining liquid at finished ends, and between backings of ad. Sle Sh. E21

Copper bearing carbon steel rivets detailed on sheet CF 43

WEST CANTIL	EAST CANTIL	TOTAL	REQUIRED	
2	2	4	VERTICAL -	UC2-MC2
ONE		ONE	HANGER	LCI-MCI^R
	ONE	ONE	do	LCI-MCI^L
	ONE	ONE	do	LCI-MCI A^R
ONE		ONE	do	LCI-MCI A^L

11T
6T
6T

No.	Revision	By
	APPROVED	

Chief Engr. of Design
Chief Engr. of Bridges
Chief Engineer

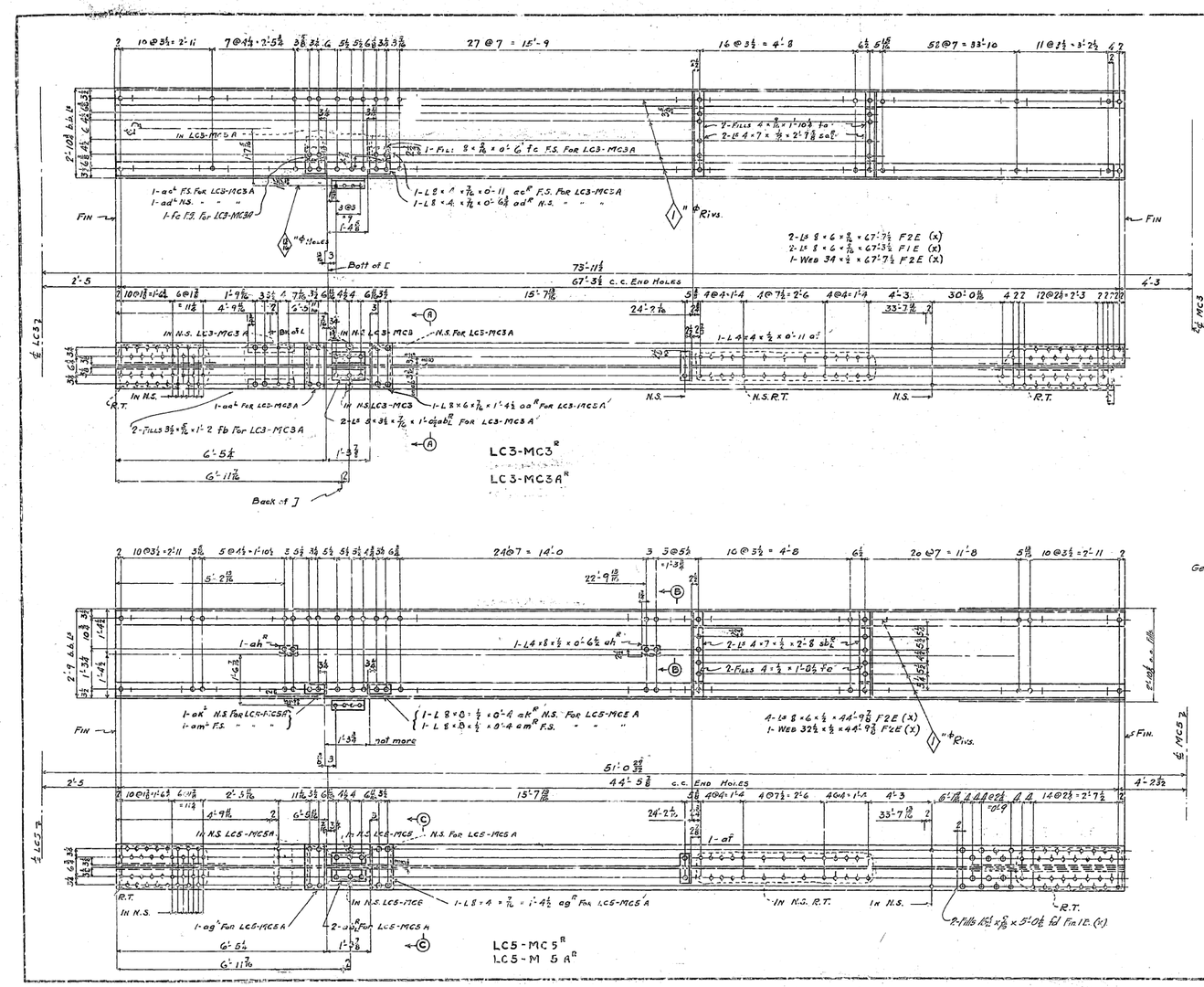
12-11-35

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm
DETAILS OF UC2-MC2 & LCI-MCI
AMERICAN BRIDGE COMPANY

DRAWING MADE AT ... GARY, IND. PLANT
WORK FABRICATED AT ... GARY PLANT
IN CHARGE Williamson
DESIGN BY J.A.R. DATE 7-23-34
DRWG. CHECKED BY H.A.L. DATE 9-12-34
ORDER No. G-5103
ENGR'S No. 237

Matl. Ord. p. 226, 237, 272 W.A.R.
Rev. 12-10-34
Rev. 11-24-35

W. Reg. p. 227-34 [B&C]



EAST END (WEST CANTIL)	WEST END (EAST CANTIL)	TOTAL	REQUIRED VERTICAL		
	ONE	ONE	do	LC3-MC3R	6T
ONE		ONE	do	LC3-MC3AR	6T
	ONE	ONE	do	LC5-MC5R	4T
ONE		ONE	do	LC5-MC5AR	4T

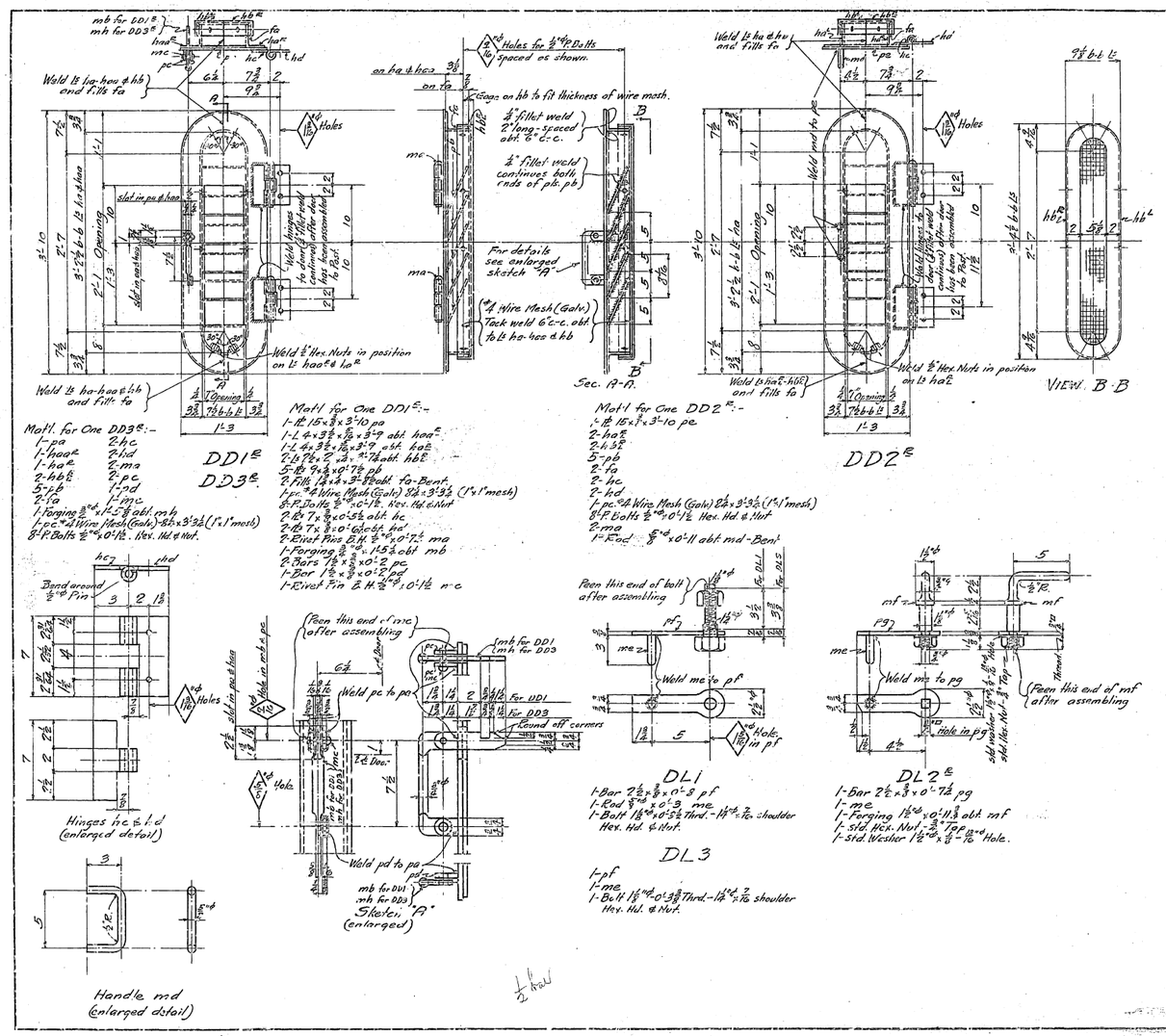
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure CANTILEVER ARM
Details of LC3-MC3 & LC5-MC5
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT GARY [30] PLANT
WORK FABRICATED AT GARY PLANT
IN CHARGE OF Wilkinson
DRAWN BY E.R.S. DATE 7-25-36
CHKD BY [illegible] DATE 9-12-36

Mark	Revision	Date

APPROVED
Glenn B. Woodruff, Engr. of Bridges
Chas. E. Andrew, Bridge Engineer
G. H. Force, Asst. Engr.
Approved Feb. 10-6-36

LATER No. [illegible] ENGR'S No. G-5103 2 38

30-1



MARK	A	B	C	MATERIAL Rungs	MATERIAL Bars
LL1	5'-5 5/8	4'-1"o-4'-1"o	7 7/8	5-mg	2-Bars 2 1/2" x 3/8" x 5'-9 pae
LL2	9'-6 7/8	8'-1"o-8'-1"o	8 1/2	9-mg	2-Bars 2 1/2" x 3/8" x 9'-9 1/2 pak
LL3	5'-4	4'-1"o-4'-1"o	6	5-mg	2-Bars 2 1/2" x 3/8" x 5'-7 pae
LL4	4'-7 7/8	3'-1"o-3'-1"o	4 1/2	4-mg	2-Bars 2 1/2" x 3/8" x 4'-11" pae
LL5	4'-7 7/8	3'-1"o-3'-1"o	4 1/2	4-mg	2-Bars 2 1/2" x 3/8" x 4'-10 pae
LL6	5'-1 1/8	4'-1"o-4'-1"o	7 1/8	5-mg	2-Bars 2 1/2" x 3/8" x 5'-5 7/8 pal
LL7	5'-0 3/8	3'-1"o-3'-1"o	1'-2 1/2	4-mg	2-Bars 2 1/2" x 3/8" x 5'-3 3/8 pag
LL8	10'-7	9'-1"o-9'-1"o	9	10-mg	2-Bars 2 1/2" x 3/8" x 10'-1 pak
LL9	10'-7 1/8	9'-1"o-9'-1"o	9 1/8	10-mg	2-Bars 2 1/2" x 3/8" x 10'-10 1/2 pak
LL10	6'-6 1/2	5'-1"o-5'-1"o	6 1/8	6-mg	2-Bars 2 1/2" x 3/8" x 6'-8 pam
LL11	5'-6 1/4	4'-1"o-4'-1"o	5 3/8	5-mg	2-Bars 2 1/2" x 3/8" x 5'-7 1/8 pan
LL12	10'-11 1/8	9'-1"o-9'-1"o	1'-1 1/8	10-mg	2-Bars 2 1/2" x 3/8" x 11'-2 pao
LL13	5'-3 3/8	4'-1"o-4'-1"o	5 3/8	5-mg	2-Bars 2 1/2" x 3/8" x 5'-5 1/2 map
LL14	10'-11 3/8	9'-1"o-9'-1"o	1'-1 1/4	10-mg	2-Bars 2 1/2" x 3/8" x 11'-2 1/2 pal
LL15	11'-5 3/4	10'-1"o-10'-1"o	7 1/8	11-mg	2-Bars 2 1/2" x 3/8" x 11'-8 1/2 pav
LL16	11'-7 3/8	10'-1"o-10'-1"o	9 3/8	11-mg	2-Bars 2 1/2" x 3/8" x 11'-10 1/2 pam
LL17	5'-7 1/8	4'-1"o-4'-1"o	9 3/8	5-mg	2-Bars 2 1/2" x 3/8" x 5'-10 1/2 pay
LL18	11'-6 3/8	10'-1"o-10'-1"o	6 3/8	11-mg	2-Bars 2 1/2" x 3/8" x 11'-8 pha
LL19	5'-0 3/8	4'-1"o-4'-1"o	10 3/8	5-mg	2-Bars 2 1/2" x 3/8" x 5'-1/4 pbk

ASSEMBLY- & SHIPPING NOTE:-

Assemble and ship with each LO-MOE and LO-MOAE - det. on sh. 222:-
1-DD1E; 1-DL1; 1-LL1, 1-LL2, 1-LL3
1-LL4; 1-LL5; 1-DD3E & 1-DL3

Assemble and ship with each LO-MOL and LO-MOAL - det. on sh. 222:-
1-DD1L; 1-DL1; 1-LL1; 1-LL2; 1-LL3
1-LL4; 1-LL5; 1-DD3L & 1-DL3

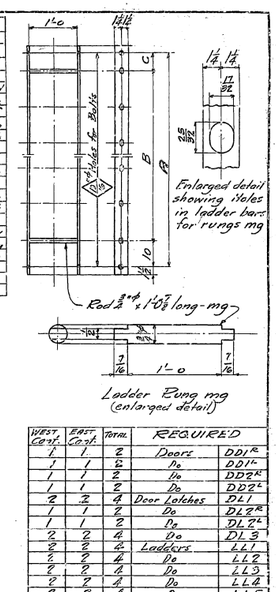
Assemble and ship with each LO-MOBE det. on sh. 223:-
1-LL6-1-LL7; 1-LL8 & 2-LL9
(Wire LL6 for shipment)

Assemble and ship with each MO-UOE det. on sh. 224:-
1-LL10; 1-LL11 & 2-LL12 (Wire LL10 for shipment)

Assemble and ship with each MO-UOAE det. on sh. 225:-
1-LL13; 1-LL14; 1-LL15 & 1-LL16 (Wire LL13 for shipment)

Assemble and ship with each MO-UOBE - det. on sh. 226:-
1-DD2E; 1-DL2E; 1-LL17; 1-LL18 & 1-LL19
(Wire LL17 for shipment)

GENERAL NOTES:-
Material:- All material O.H. copper bearing medium carbon steel. All rivet and bolt steel to be copper bearing.
Specifications:- Special by State of California Department of Public Works.
Inspection:- John M. Bailey, Chief Inspector.
Finish:- Plane.
Open Holes:- As noted.
Reaming:- None.
Finish:- Edges of doors, latches, handles and ladder bars to be smooth.
Paint:- None.

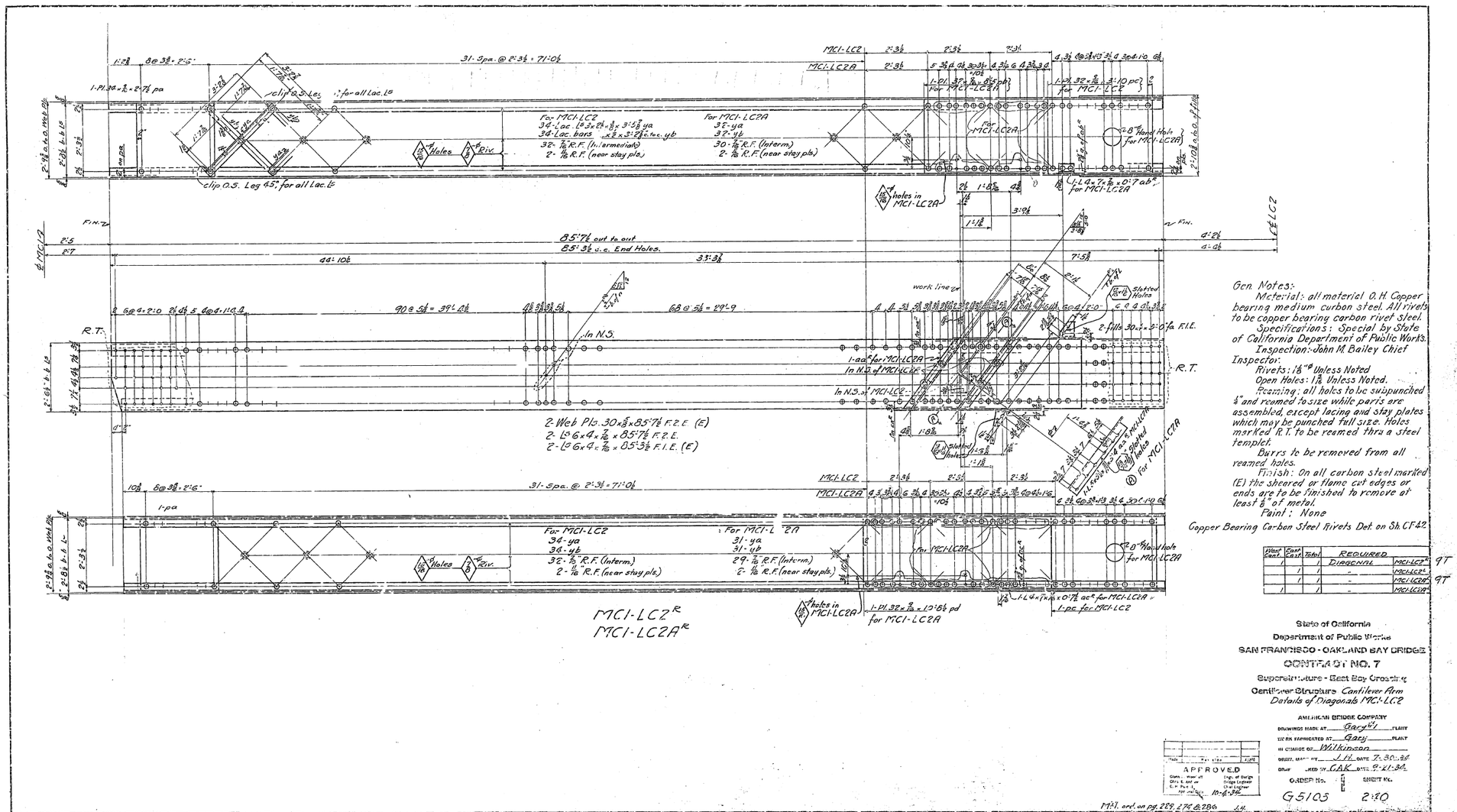


WEST Cont.	EAST Cont.	Term.	REQUIRED	
1	1	2	Doors	DD1E
1	1	2	Do	DD1L
1	1	2	Do	DD2E
1	1	2	Do	DD2L
2	2	4	Door Latches	DL1
1	1	2	Do	DL2E
1	1	2	Do	DL2L
2	2	4	Do	DL3
2	2	4	Ladders	LL1
2	2	4	Do	LL2
2	2	4	Do	LL3
2	2	4	Do	LL4
2	2	4	Do	LL5
2	2	4	Do	LL6
2	2	4	Do	LL7
2	2	4	Do	LL8
4	4	8	Do	LL9
2	2	4	Do	LL10
2	2	4	Do	LL11
4	4	8	Do	LL12
2	2	4	Do	LL13
2	2	4	Do	LL14
2	2	4	Do	LL15
2	2	4	Do	LL16
2	2	4	Do	LL17
2	2	4	Do	LL18
2	2	4	Do	LL19
1	1	2	Doors	DD3E
1	1	2	Do	DD3L

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure CANT. ARM
Doors and Ladders at LO-UO.
AMERICAN BRIDGE COMPANY
DRAWING MADE BY Gary PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
ERECTED BY O.N. DATE 7-30-34
CHECKED BY DATE 8-13-34
ORDER No. G5103
SHEET No. 239

Mark	Revision	Appd.
	APPROVED Chief Engineer	

Mar. 10-15-35 [C]



Gen. Notes:

Material: all material O.H. Copper bearing medium carbon steel. All rivets to be copper bearing carbon rivet steel.

Specifications: Special by State of California Department of Public Works.

Inspection: John M. Bailey Chief Inspector.

Rivets: 1⅛" Unless Noted

Open Holes: 1⅛ Unless Noted.

Reaming: all holes to be subpunched ¼" and reamed to size while parts are assembled, except lacing and stay plates which may be punched full size. Holes marked R.T. to be reamed thru a steel templet.

Burrs to be removed from all reamed holes.

Finish: On all carbon steel marked (E) the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal.

Paint: None

Copper Bearing Carbon Steel Rivets Det. on Sh. CF42

Weld Cont.	Cont.	Total	REQUIRED	
	1	1	DIAGONAL	MCI-LC2
	1	1	"	MCI-LC2A
	1	1	"	MCI-LC2R
	1	1	"	MCI-LC2AR

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm
Details of Diagonals MCI-LC2

AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary Ind. PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
DRAFT. CHECKED BY J.H. DATE 7-30-34
DRAWN CHECKED BY OAK DATE 9-21-34

TRACE	BY	DATE

APPROVED
Chief Engr. of Bridge Design Engineer
10-6-34

CHECK No. G5105 WEIGHT No. 2180

M.S.I. ord. on pg. 279, 276 & 286 L.H.
Jr. Engr. 10-29-34

[C]

TOP & BOTTOM VIEWS FOR LC2-MC2A^R

56 Lac Ls. 3½"x2½"x⅜"x 3'-4½" - √3 237
56 Lac Bars 2⅞"x⅜"x 3'-1½" c.to c. -ya 237
108-⅝" R.Fs.

TOP & BOTTOM VIEWS FOR LC2-MC2A^R

Sec. (B)

Sec. (C)

Sec. (A)

Sec. (D)

LC2-MC2A^R { 4-Ls 8"x6"x⅜"x 73'-1 1/32" }
LC2-MC2E^R { 2-Rs. 32"x⅜"x 73'-1 1/32" } Fin. 2 Ends(x)

GENERAL NOTES:
Material- All material O.H. copper bearing medium carbon steel, except material marked (a) is O.H. copper bearing silicon steel. All rivets to be copper bearing carbon rivet steel.
Specifications- Special by State of California Department of Public Works
Inspection- John A. Bailey, Chief Inspector.
Rivets- ⅞" unless noted.
Open Holes- 1⅛" unless noted.
Reaming- All material subpunched & reamed to size while parts are assembled except facing and stay plates which may be punched full size.
Holes marked 'RT' to be reamed through a steel templet.
Splices in web members to be reamed assembled and piece-mark marked.
Burrs to be removed from all reamed holes.
All match marking to be done with ¾" steel stencils and white paint
Finish- On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ½" of metal.
Edges of hand holes to be smooth.
Paint- None, except acid resisting liquid on finished ends between 0.8 Leys at ak and Splice Pts. See Sh. E21

Copper bearing carbon steel rivets detailed on sheet CF43

Mat'l Ord. on pgs. 226, 261, 272 & 277 288 289

Each Cantilever	Middle Cantilever	Total	REQUIRED	
1		1	Posts	LC2-MC2A^R
	1	1	"	LC2-MC2E^R
	1	1	"	LC2-MC2F^R
1		1	"	LC2-MC2^L

APPROVED
Glenn B. Woodruff, Engr. of Bridges
Chas. E. Andrew, Bridge Engineer
O. H. Ketcham, Chief Engineer
Approval Date 9-26-34

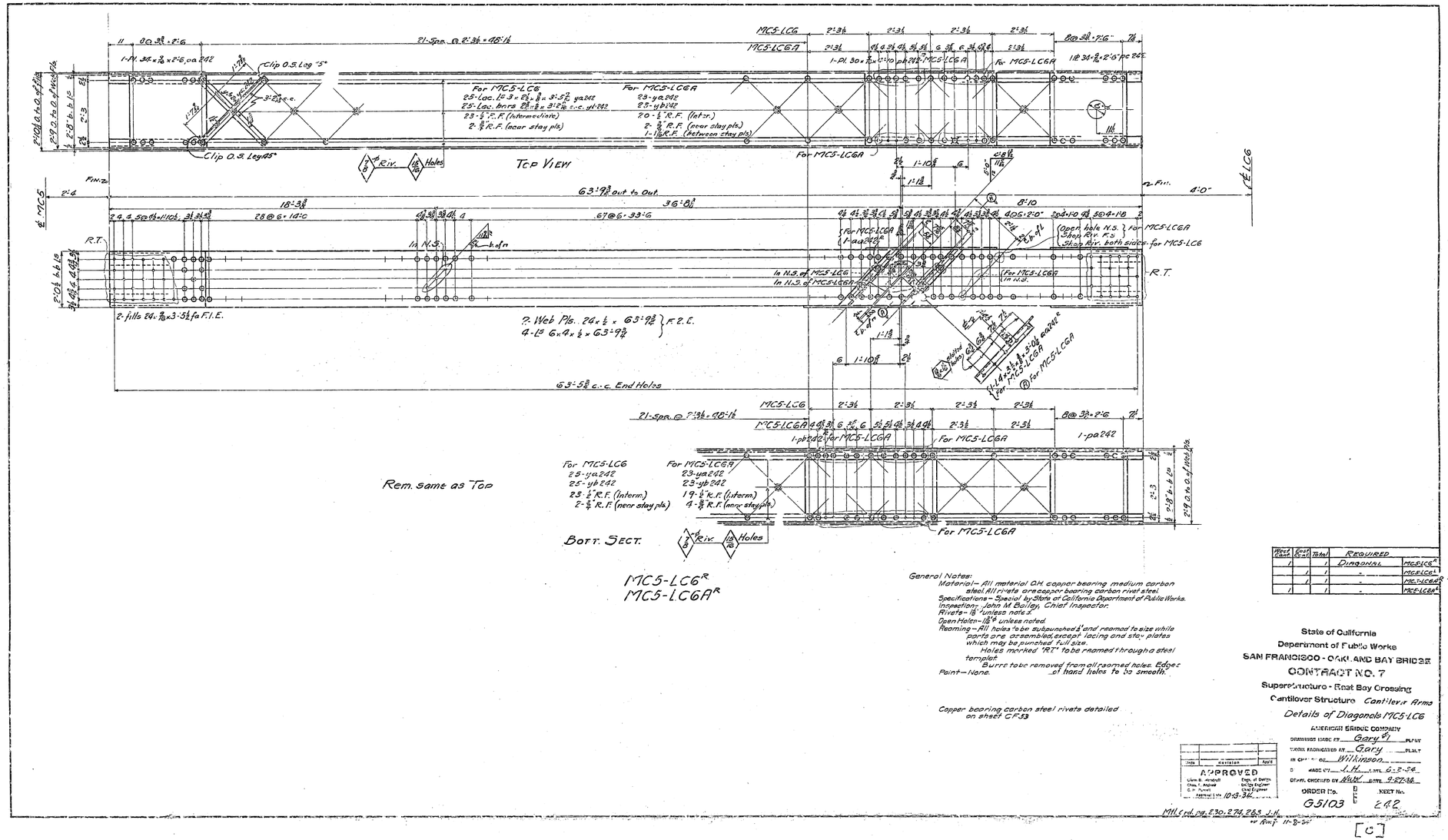
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm
DETAIL OF POSTS: LC2-MC2A^R & LC2-MC2E^R

AMERICAN BRIDGE COMPANY
DRAWING MADE AT GARY PLANT
WORK FABRICATED AT GARY PLANT
BY Cº WILKINSON
DRN. MADE BY J.N.S. DATE 7-31-34
DRAW. CHECKED BY H.A.L. DATE 9-12-34
ORDER No. G5103 S. TEST No. 241.

Rev. 12-12-36-B
Rev. 11-21-36

[B & C]

30-51



Work Chart	Lock Chart	Total	REQUIRED		
	1	1	Diagonal	MC5-LC6R	7T
	1	1	-	MC5-LC6A	7T
	1	1	-	MC5-LC6AR	7T
1		1	-	MC5-LC6A	7T

General Notes:
Material — All material OH copper bearing medium carbon steel. All rivets are copper bearing carbon rivet steel.
Specifications — Special by State of California Department of Public Works.
Inspection: John M Bailey, Chief Inspector.
Rivets — ⅞" unless noted.
Open Holes — 15/16" unless noted.
Reaming — All holes to be subpunched & reamed to size while parts are assembled, except lacing and stay plates which may be punched full size.
Holes marked "RT" to be reamed through a steel templet.
Burrs to be removed from all reamed holes. Edges of hand holes to be smooth.
Paint — None.

Copper bearing carbon steel rivets detailed on sheet CF-53

Mark	Revision	Appd

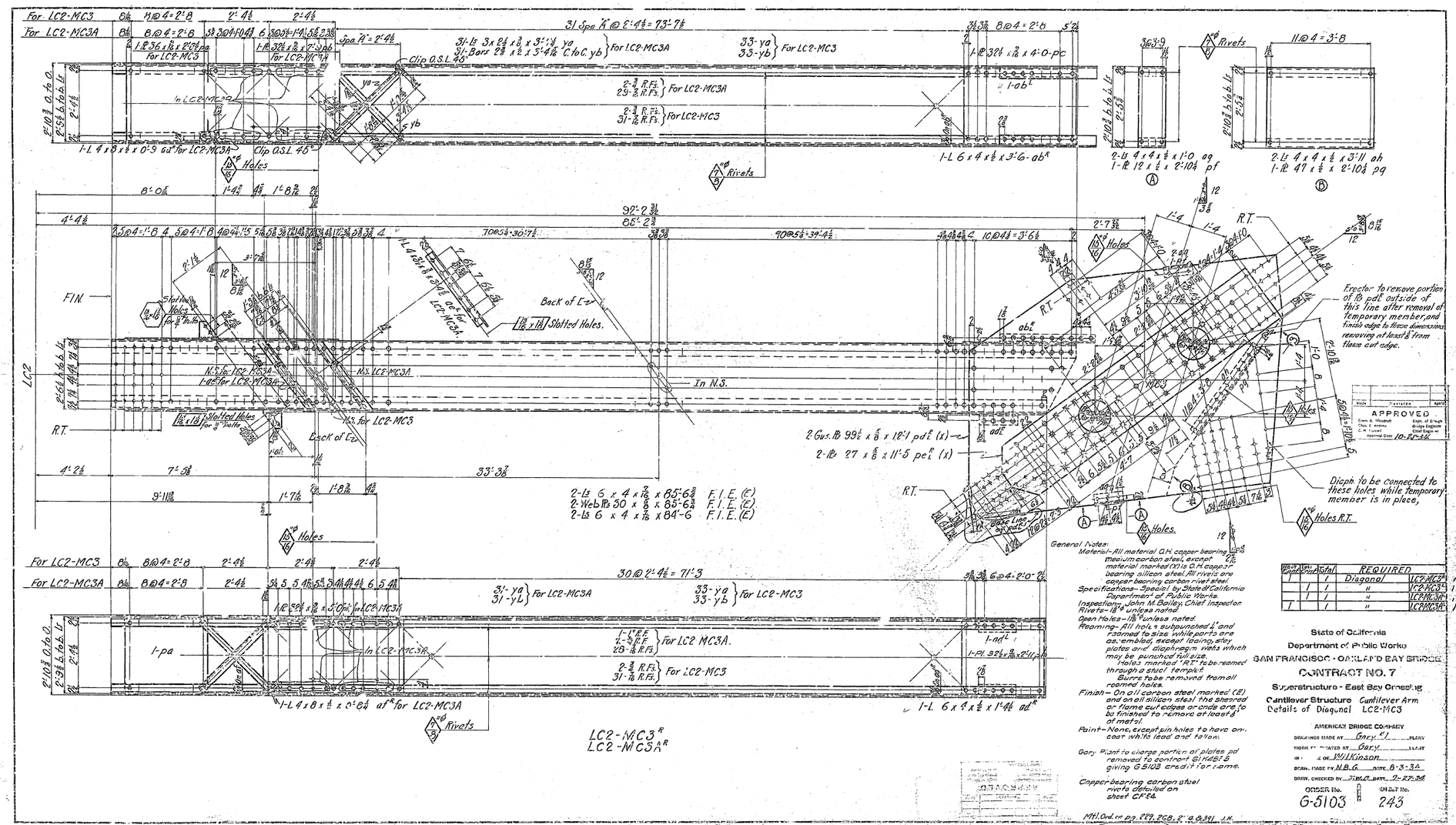
APPROVED
Glen B. Woodruff, Chief Engineer
Dept. of Public Works, Deputy Engineer, Chief Engineer
Approved 10-3-34

Mill Ord. Nos. 230, 274, 263 J.H.
as Amd. 11-8-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arms
Details of Diagonals MC5-LC6

ANDERSON BRIDGE COMPANY
DRAWING MADE AT Gary PLANT
TEMPL. PRODUCED AT Gary PLANT
IN CHARGE OF Wilkinson
MADE BY J.H. DATE 6-2-34
DRAW. CHECKED BY Walk DATE 9-27-34
ORDER No. G5103
SHEET No. 242

[C]



APPROVED

Comm. B. Woodruff — Exam. of Details
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 10-15-34

Mark	Revisions	Appd.

Diagram	Copy	Stock	REQUIRED		
1			Diagonal	LC2-MC3R	1ST
	1		"	LC2-MC3	1ST
			"	LC2-MC3AR	1ST
1			"	LC2-MC3A	1ST

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm
Details of Diagonal LC2-MC3

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary, IND. PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF W.J. Kinson
DRAWN, TRACED BY M.B.G. DATE 8-3-34
DRAWN, CHECKED BY J.W.O. DATE 9-27-34
ORDER No. G-5103
SHOP LIST No. 243

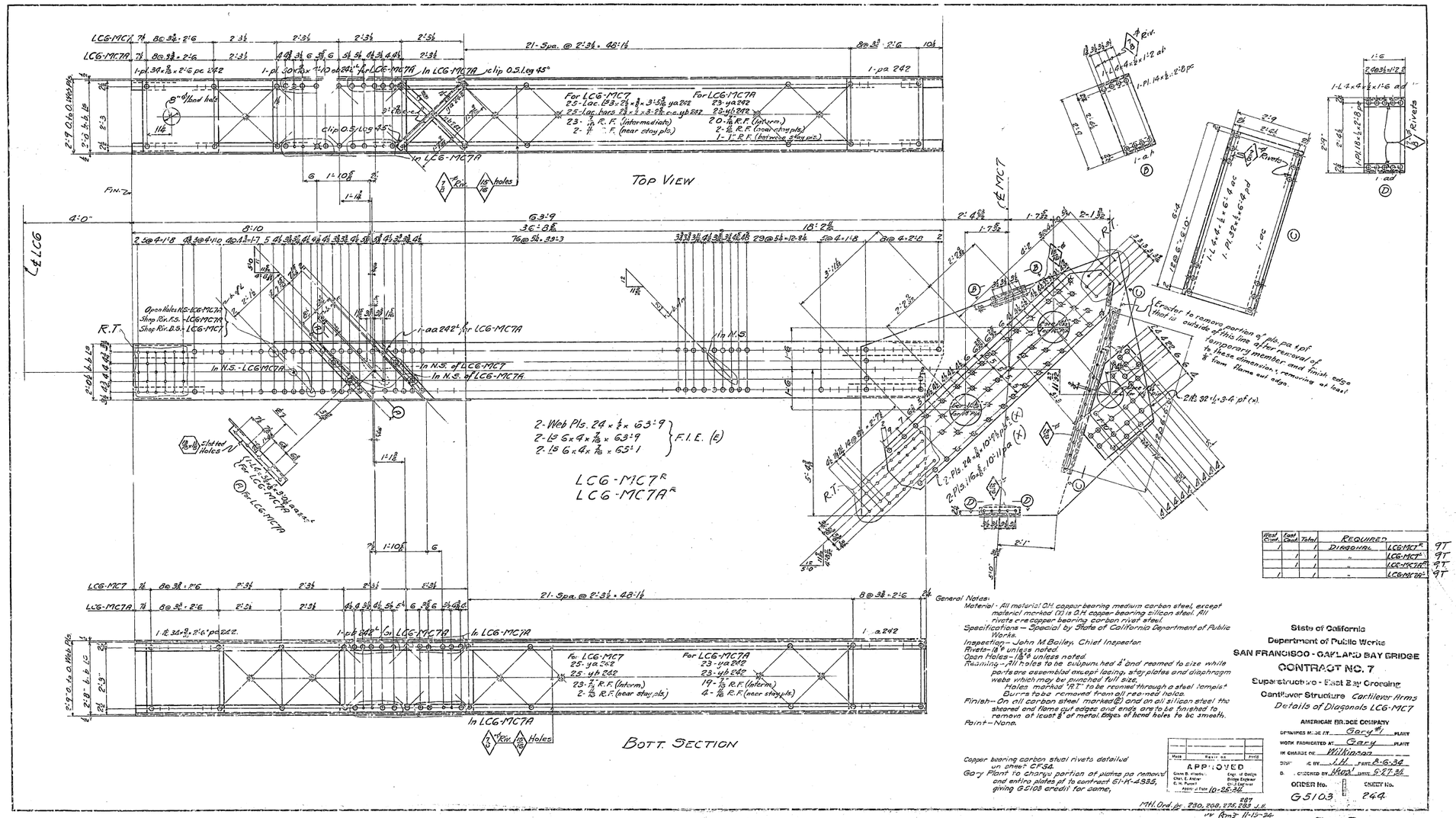
General Notes:
Material—All material O.H. copper bearing medium carbon steel, except material marked (O) is O.H. copper bearing silicon steel. All rivets are copper bearing carbon rivet steel.
Specifications—Special by State of California Department of Public Works.
Inspection—John M. Bailey, Chief Inspector.
Rivets—⅞" ø unless noted.
Open Holes—1⅛" ø unless noted.
Reaming—All holes subpunched ¼" and reamed to size while parts are assembled, except facing splice plates and diaphragm webs which may be punched full size.
Holes marked "RT" to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Finish—On all carbon steel marked (E) and on all silicon steel the sheared or flame cut edges on ends are to be finished to remove at least ⅛" of metal.
Paint—None, except pin holes to have one coat white lead and tallow.
Gary Plant to charge portion of plates pd removed to contract 61 HDET 5 giving G5103 credit for same.
Copper bearing carbon steel rivets detailed on sheet CF 5A.

Mtl. Ord. on pp. 289, 268, 5, 2 & 331 J.H.

Rev. 11-26-34

Rev. 11-5-34

[B-C]



West Cont.	East Cont.	Total	REQUIRED		
/	/	/	DIAGONAL	LCG-MC7R	9T
	/	/	"	LCG-MC7	9T
		/	"	LCG-MC7AR	9T
/		/	"	LCG-MC7A	9T

General Notes:
Material - All material OH copper bearing medium carbon steel, except material marked (X) is OH copper bearing silicon steel. All rivets are copper bearing carbon rivet steel.
Specifications — Special by State of California Department of Public Works.
Inspection — John M. Bailey, Chief Inspector.
Rivets - 1 1/8" ø unless noted.
Open Holes - 1 1/8" ø unless noted.
Punching - All holes to be punched 4" and reamed to size while parts are assembled except lacing, stay plates and diaphragm webs which may be punched full size.
Holes marked "ST" to be reamed through a steel template.
Burrs to be removed from all reamed holes.
Finish - On all carbon steel marked (E) and on all silicon steel the sheared and flame cut edges and ends are to be finished to remain at least 1/8" of metal. Edges of bend holes to be smooth.
Paint - None.

Copper bearing carbon steel rivets detailed on sheet CF54.
Gary Plant to charge portion of plates pa removed and extra plates pf to contract 61-K-4335, giving G5103 credit for same.

Mark | Revision | Appd
APPROVED
Chief Engr. Bridges
Engr. of Design
Bridge Engineer
Asst. Engr. in Charge
Approved Date 10-25-36

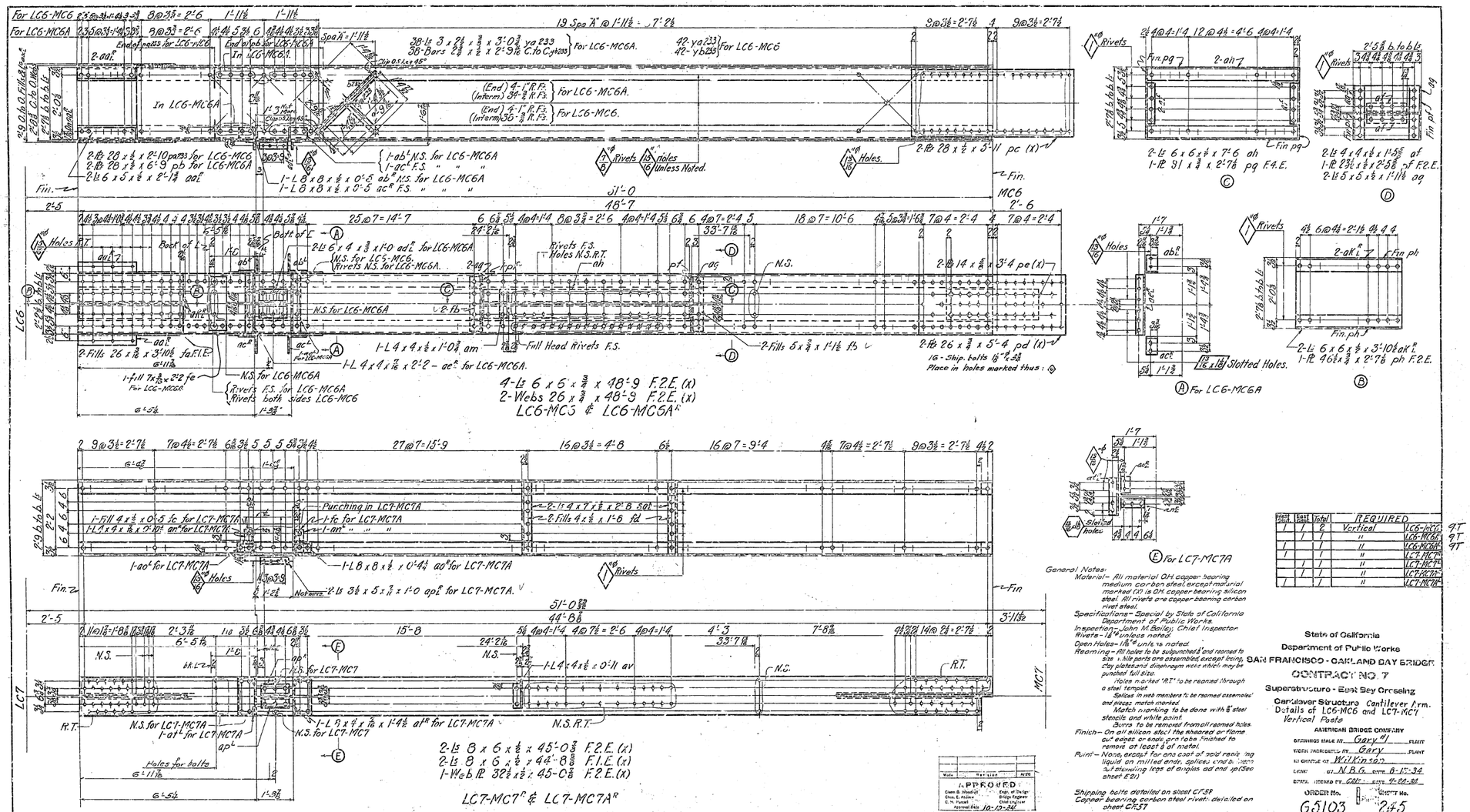
MH. Ord. pp. 230, 268, 276, 283 J.H.
W. Rm 7 11-19-36

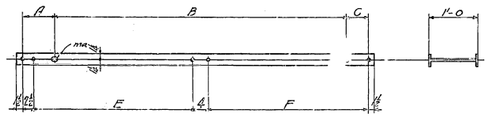
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arms
Details of Diagonals LCG-MC7

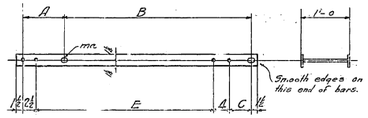
AMERICAN BRIDGE COMPANY
DETAILS MADE AT Gary PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Williamson
DRAWN BY J.H. DATE 8-6-36
DETAILED BY Mead DATE 9-27-36
ORDER No. G5103 CONTRACT No. 244

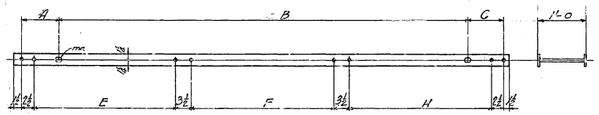
[B&C]

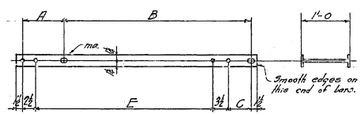
'30-1

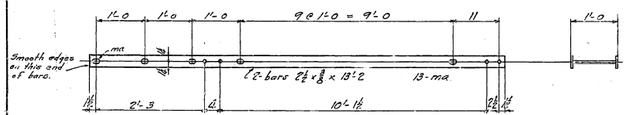

For LC6-MC6
For LC6-MC6A
19 Spa A" @ 1'-11½" = 37'-2½"
28-Ls 3 x 2½ x ⅜ x 3'-0⅜ ya233
30-Bars ⅞ x ½ x 2'-9½ C.to C. Cyl.233
For LC6-MC6A.
42-ya233
42-yb233
For LC6-MC6
(End) 4-1" R.F.
(Interm.) 34-⅞" R.F.s
For LC6-MC6A.
(End) 4-1" R.F.s
(Interm.) 30-⅞" R.F.s
For LC6-MC6.
In LC6-MC6A
In LC6-MC6
2-Pl 28 x ½ x 2'-10 pa233 for LC6-MC6
2-Pl 28 x ½ x 1'-6·9 pb for LC6-MC6A
2-Ls 6 x 5 x ⅜ x 2'-1¾ aaf
1-L8 x 8 x ½ x 0'-5 ab N.S. for LC6-MC6A
1-L8 x 8 x ½ x 0'-5 ac F.S. " " "
1-ab N.S. for LC6-MC6A
1-ac F.S. " " "
Rivets
Holes unless Noted.
Holes.
2-Pl 28 x ½ x 5'-11 pc (x)
Fill
Fin.
MC6
31'-0
48'-7
2'-5
2'-6
Holes in T.
Back of L
2-Ls 6 x 4 x ⅜ x 1'-0 ad for LC6-MC6A
N.S. for LC6-MC6.
Rivets N.S. for LC6-MC6A.
Rivets F.S.
Holes N.S.R.T.
2-Fills 5 x ⅜ x 1'-1½ fb
2-Pl 14 x ⅝ x 3'-4 pe (x)
2-Fills 26 x ⅜ x 5'-4 pd (x)
N.S.
R.T.
2-Fills 26 x ⅜ x 3'-10½ fa F.I.E.
1-Fill 7⅛ x 2'-2 fe
For LC6-MC6A
Rivets F.S. for LC6-MC6A
Rivets both sides LC6-MC6
1-L4 x 4 x ⅞ x 2'-2 – ae for LC6-MC6A.
Full Head Rivets F.S.
1-L4 x 4 x ⅞ x 1'-0¾ am
4-Ls 6 x 6 x ¾ x 48'-9 F.2.E. (x)
2-Webs 26 x ⅜ x 48'-9 F.2.E. (x)
LC6-MC6 & LC6-MC6A
1G - Ship. bolts ⅞" ø
Place in holes marked thus : ◇
Holes
Slotted Holes.
For LC6-MC6A
Fin. ph.
2-aK
2-Ls 6 x 6 x ⅝ x 3'-10½ aK
1-Pl 46½ x ⅜ x 2'-7⅛ ph F.2.E.
2-Ls 6 x 6 x ⅝ x 7'-6 ah
1-Pl 91 x ⅜ x 2'-7⅛ pq F.4.E.
Fin. pq
2-Ls 4 x 4 x ½ x 1'-5⅝ af
1-Pl 23½ x ½ x 2'-5⅝ nf F.2.E.
2-Ls 5 x 5 x ½ x 1'-11⅛ ag
Fin. af
Fin. pg
LC7
LC7-MC7A
Purching in LC7-MC7A
1-Fill 4 x ½ x 0'-5 fc for LC7-MC7A
1-L4 x 4 x ⅞ x 2'-10¾ an for LC7-MC7A
1-fc for LC7-MC7A
1-an " " "
1-ao for LC7-MC7A
1-L8 x 8 x ½ x 0'-4½ ao for LC7-MC7A
Holes
Not shown.
2-Ls 3½ x 5 x ⅞ x 1'-0 ap for LC7-MC7A.
Rivets
Fin.
5'-0 ⅜
44'-8⅝
3'-11⅜
2'-5
15'-8
24'-2⅛
33'-7⅛
N.S.
1-L4 x 4 x ½ x 0'-11 av
R.T.
1-at for LC7-MC7A
1-L9 x 4 x ⅞ x 1'-4½ at for LC7-MC7A
N.S. for LC7-MC7
N.S. for LC7-MC7A
N.S.R.T.
Holes for bolts
2-Ls 8 x 6 x ½ x 45'-0⅜ F.2.E. (x)
2-Ls 8 x 6 x ½ x 44'-8⅝ F.I.E. (x)
1-Web Pl 32⅛ x ½ x 45'-0⅜ F.2.E. (x)
LC7-MC7 & LC7-MC7A
For LC7-MC7A
Slotted holes
General Notes:
Material – All material OH copper bearing medium carbon steel, except material marked (O) is OH copper bearing silicon steel. All rivets are copper bearing carbon rivet steel.
Specifications – Special by State of California Department of Public Works.
Inspection – John M. Bailey, Chief Inspector.
Rivets – ⅞" ø unless noted.
Open Holes – 1⅛" ø unless noted.
Reaming – All holes to be subpunched & reamed to size while parts are assembled, except long splice plates and diaphragm web which may be punched full size.
Holes marked "R.T." to be reamed through a steel templet.
Splices in web members to be reamed assembled and piece mark matched.
Match marking to be done with ⅜" steel stencils and white paint.
Burrs to be removed from all reamed holes.
Finish – On all silicon steel the shearing or flame cut edges or ends are to be finished to remove at least ⅛ of metal.
Paint – None, except for one coat of acid resisting liquid on milled ends, splices and bottom of standing legs of angles ad and ap (See sheet E21)
Shipping bolts detailed on sheet C7.SP
Copper bearing carbon steel rivets detailed on sheet C7.ST.
APPROVED
Chief Engineer
Approved Date 10-12-34
Mail. Ord. Bp. 228, 267, 276 & 276
West End | East End | Total | REQUIRED
1 | 1 | 2 | Vertical | LC6-MC6
1 | 1 | 2 | " | LC6-MC6A
1 | 1 | 2 | " | LC6-MC6A^R
1 | 1 | 2 | " | LC7-MC7
1 | 1 | 2 | " | LC7-MC7A
1 | 1 | 2 | " | LC7-MC7A^R
1 | 1 | 2 | " | LC7-MC7^R
9T
9T
9T
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Frm.
Details of LC6-MC6 and LC7-MC7
Vertical Posts
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary PLANT
VERIFIED TRACINGS AT Gary PLANT
AS CHANGED TO Wilkinson
LICENSE BY N.B.G. DATE 6-15-34
DETAIL RECORD BY Gilc DATE 9-26-34
ORDER No. G5103
SHEET No. 245
Worked 11-12-34 [B & C]

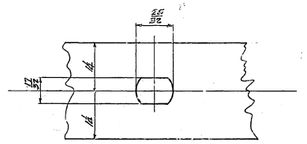


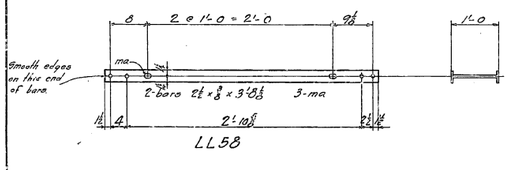


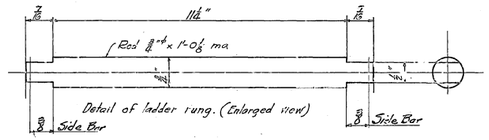


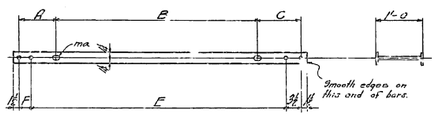


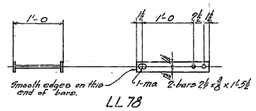












Assembly and Shipping Notes.

Assemble and ship with each LO-MC1[E], LO-MC1[L], LO-MC1A[E], LO-MC1A[L] detailed on sheet # 230 ; 1-LL58, 1-LL59, 1-LL60, 1-LL61, 1-LL62, 1-LL63 & 1-LL64.

Assemble and ship with each MC1-UC2[E] & MC1-UC2[L] detailed on sheet # 231 ; 1-LL65, 1-LL66, 1-LL67, 1-LL68 & 1-LL69.

Assemble and ship with each LC1-MC5[E], LC1-MC5[L], LC1-MC5A[E] & LC1-MC5A[L] detailed on sheet # 232 ; 1-LL70, 1-LL71, 1-LL72, 1-LL73, 1-LL74, 1-LL75, 1-LL76, 1-LL77.

Assemble and ship with each MC5-UC2[E] & MC5-UC2[L] detailed on sheets # 235A0 - 235B ; 1-LL75, 1-LL76, 1-LL77.

Mark	A	B	C	E	F	H	Material: Rungs	Material: Bars
LL59	7⅞	17@1'-0=17'-0	4	8'-8 15/16	8'-8		18-ma	2-bars 2½ x ⅜ x 18'-2⅛
LL60	1'-1⅞	16@1'-0=16'-0	4	8'-3½	8'-8		17-ma	2-bars 2½ x ⅜ x 17'-8⅜
LL61	9⅜	17@1'-0=17'-0	5	8'-10½	8'-9⅞		18-ma	2-bars 2½ x ⅜ x 18'-5⅛
LL62	5⅛	17@1'-0=17'-0	3	8'-5⅜	8'-8		18-ma	2-bars 2½ x ⅜ x 17'-11⅛
LL65	7⅞	15@1'-0=15'-0	3½	6'-9⅞	8'-6½		16-ma	2-bars 2½ x ⅜ x 16'-1⅞
LL66	6½	19@1'-0=19'-0	4 15/16	9'-7⅞	9'-6 15/16		20-ma	2-bars 2½ x ⅜ x 20'-2⅜
LL67	1'-2	16@1'-0=16'-0	4	8'-3½	8'-8		17-ma	2-bars 2½ x ⅜ x 17'-0
LL68	10 5/16	17@1'-0=17'-0	4	8'-11 13/16	8'-6		18-ma	2-bars 2½ x ⅜ x 18'-5⅞
LL71	5⅞	23@1'-0=23'-0	7½	7'-6⅞	7'-10	7'-8½	24-ma	2-bars 2½ x ⅜ x 24'-4½
LL72	11	22@1'-0=22'-0	5½	7'-2	7'-6	7'-8½	23-ma	2-bars 2½ x ⅜ x 23'-7½
LL75	7 15/16	26@1'-0=26'-0	7½	7'-8 13/16	7'-10½	8'-0	25-ma	2-bars 2½ x ⅜ x 25'-5 7/16
LL76	8	23@1'-0=23'-0	8	7'-8⅜	7'-10⅝	7'-8⅜	24-ma	2-bars 2½ x ⅜ x 24'-7
LL70	8½	3@1'-0=3'-0	8½	3'-9½	3½		4-ma	2-bars 2½ x ⅜ x 4'-7½
LL77	7½	5@1'-0=5'-0	6½	5'-7⅞	2½		6-ma	2-bars 2½ x ⅜ x 6'-8⅜
LL63	5 15/16	2@1'-0=2'-0	(4½)	1'-6 15/16			3-ma	2-bars 2½ x ⅜ x 2'-6⅝
LL69	6½	4@1'-0=4'-0	3	3'-6⅜			5-ma	2-bars 2½ x ⅜ x 4'-9⅞
LL73	1'-2½	1'-0	5	1'-3½			2-ma	2-bars 2½ x ⅜ x 2'-5½
LL74	8½	10@1'-0=10'-0	5	9'-9½			11-ma	2-bars 2½ x ⅜ x 10'-11½

Weld Cont.	Elect. Cont.	Total	REQUIRED	
2	2	4	Ladders	LL58
2	2	4	do.	LL59
2	2	4	do.	LL60
2	2	4	do.	LL61
2	2	4	do.	LL62
2	2	4	do.	LL63
2	2	4	do.	LL64
2	2	4	do.	LL65
2	2	4	do.	LL66
2	2	4	do.	LL67
2	2	4	do.	LL68
2	2	4	do.	LL69
2	2	4	do.	LL70
2	2	4	do.	LL71
2	2	4	do.	LL72
2	2	4	do.	LL73
2	2	4	do.	LL74
2	2	4	do.	LL75
2	2	4	do.	LL76
2	2	4	do.	LL77
2	2	4	do.	LL78

GENERAL NOTES.
Material: All material O.H. copper bearing medium carbon steel.
Specifications: Special by State of California Department of Public Works.
Inspection: John M. Bailey, Chief Inspector.
Rivets: None.
Open holes: 1/16" for ⅞" Bolts.
Paint: None.

Mark	Revision	Date

APPROVED
Engr. of Design
Bridge Engineer
Chief Engineer
Approved Oct. 10-17-36

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm
Ladders in LO-MC1, MC1-UC2, LC1-MC5, MC5-UC2

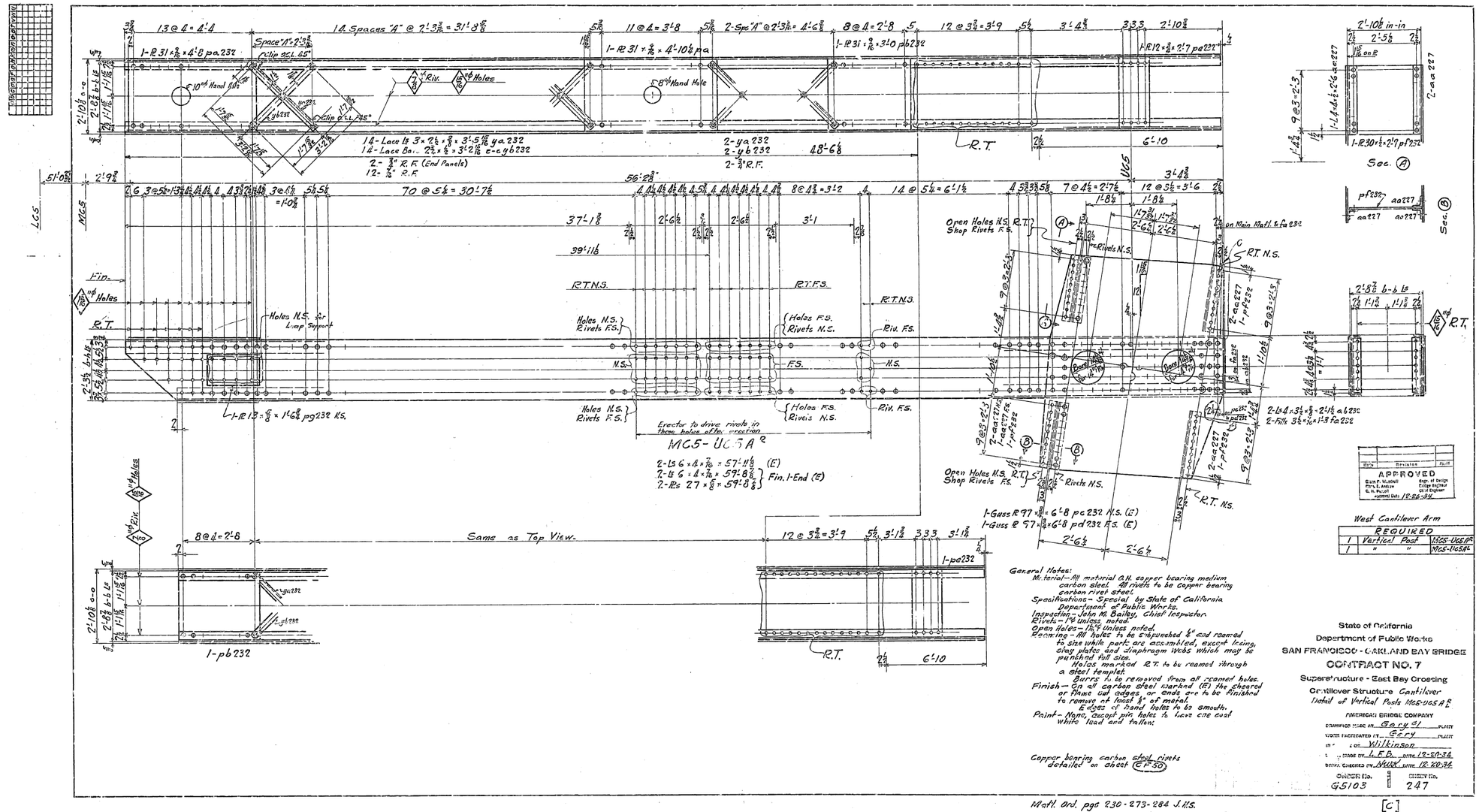
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
CP ...BY CPK... DATE 8-27-36
D ...CHECKED BY H.A.L. DATE 9-29-36
ORDER No. G5103 SHEET No. 246

Mat'l Ord. # 9285

[C]

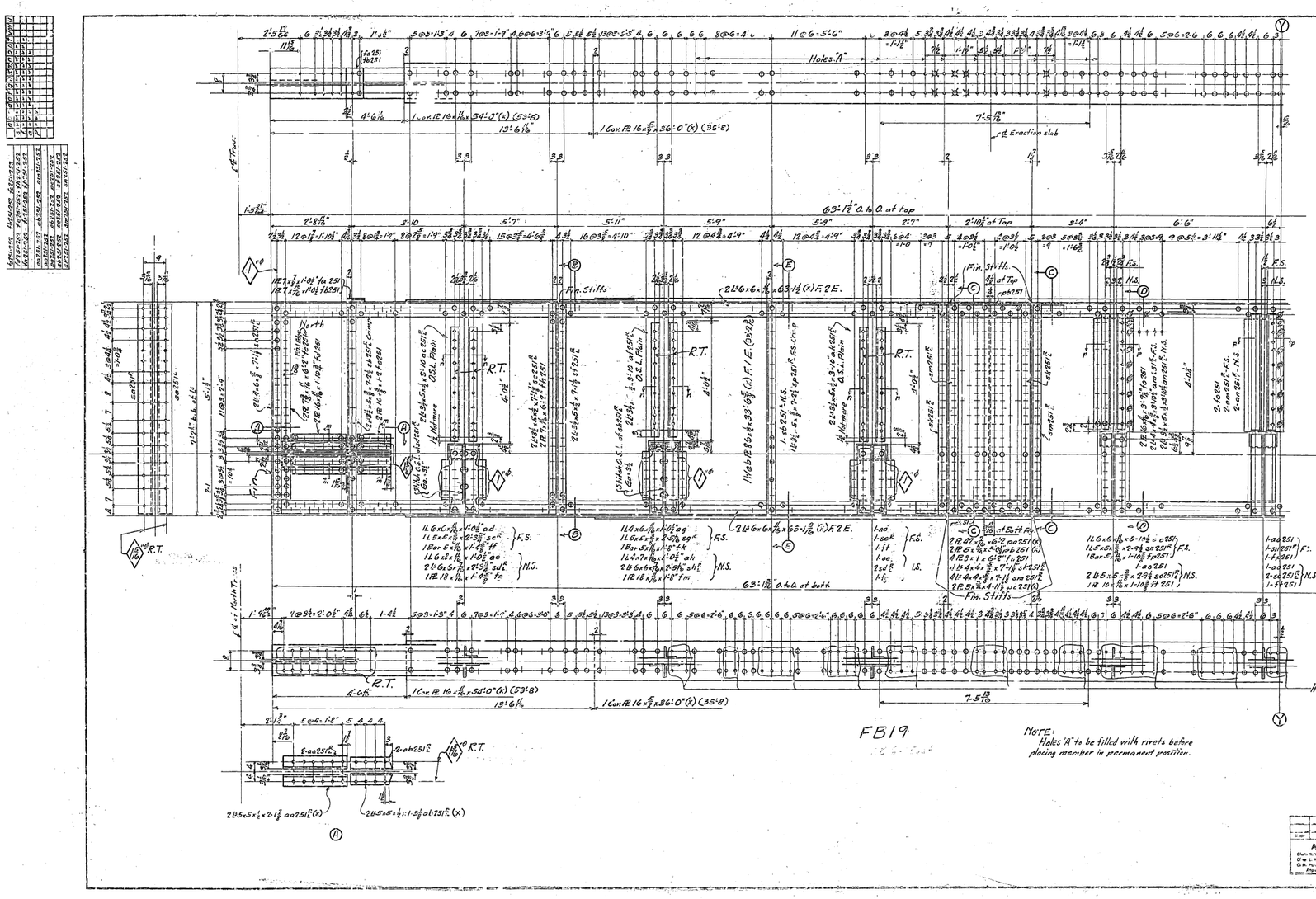
(Rev 12-10-36)

30-F1



Matl. Ord. pgs 230-273-284 J. HS.

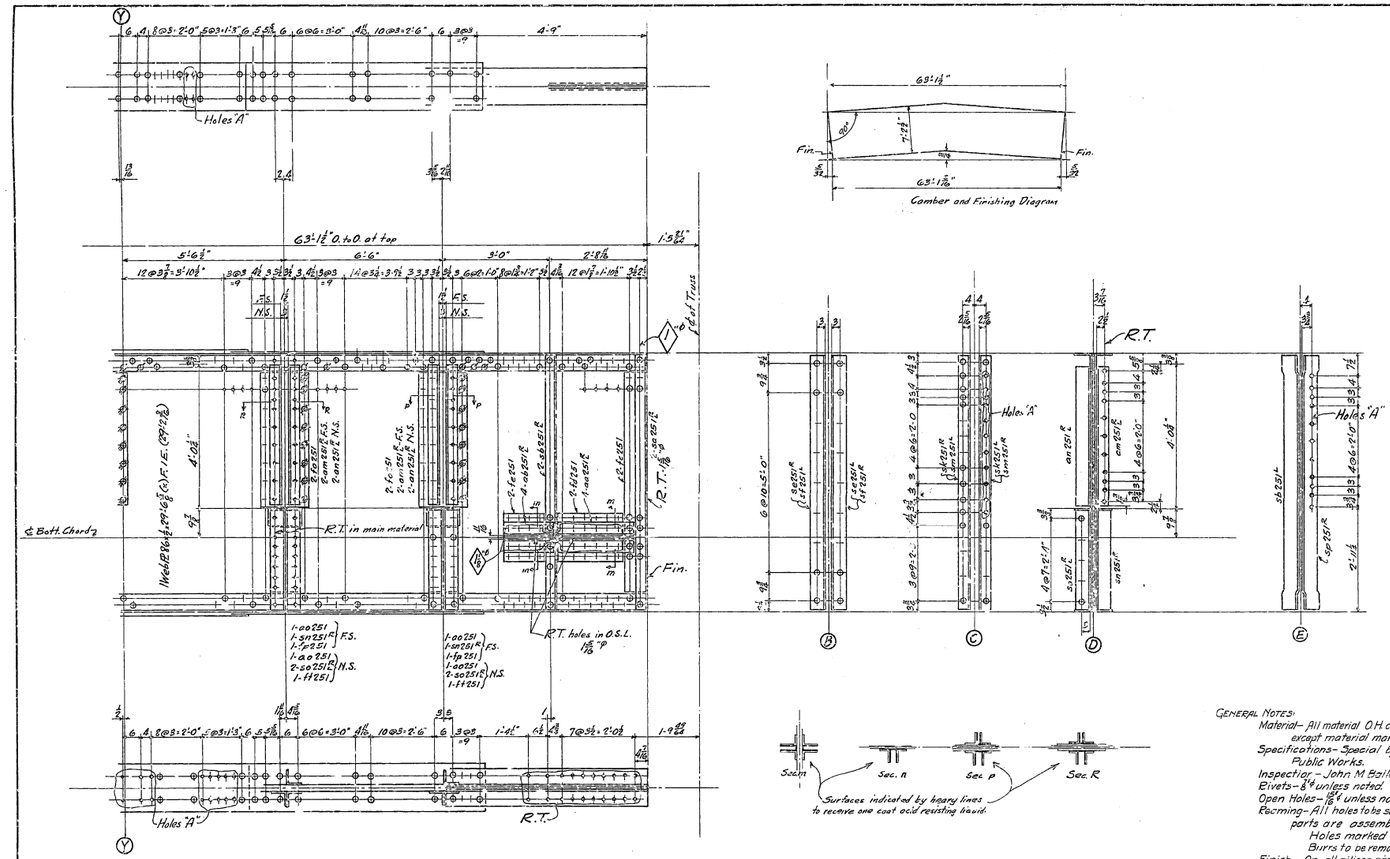
(Rev 12-26-34) (Rev 1-2-35) (Rev 1-11-35)



APPROVED
Chief, Bridge Design
Engr. of Design
Engr. L. Hooker
Bridge Engineer
S. N. Petrucelli
Bridge Engineer
Assistant Engineer
9-27-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East 8by Crossing
Cantilever Structure
East Cantilever Arm
Lower Deck Floor Beams
PACIFIC BRIDGE COMPANY
DRAWING ISSUED BY: Gary 10 DATE
WORK PERFORMED BY: Gary DATE
IN CHARGE OF: Wilkinson DATE
MADE BY: F.H.L. DATE: 6-13-34
DRAWN CHECKED BY: [illegible] DATE: 7-19-34

ORDER No. G5103
SHEET No. 251 AB



Camber and Finishing Diagram

NOTE: Holes "A" to be filled with rivets before placing member in permanent position.

NOTE: The following material on FB 19 to be charged to Cont. 61K 4035 giving G5103 cred.1 for same: 2-sc 25 1/8, 2-fh 251. Charge 61K 4005 with 2054 lbs. excess splice material which has been added for erection purposes, giving G5103 credit for same.

GENERAL NOTES:

Material – All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel.
Specifications – Special by State of California Department of Public Works.
Inspection – John M Bailey, Chief Inspector.
Rivets – ⅞" ϕ unless noted. (See note)
Open Holes – 15/16" ϕ unless noted.
Reaming – All holes to be subpunched ¼" and reamed to size while parts are assembled except holes in mat'l. over ¾" thick to be sub-drilled. Holes marked "R.T." to be reamed through a steel templet. Burrs to be removed from all reamed holes.
Finish – On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal.

Paint – None, except for one coat of acid resisting liquid as noted on sections (B), (n), & (P) & (R) and on milled ends.

Note – All rivet steel to be copper bearing. Copper bearing carbon steel rivets detailed on sheet CF8

East Cantilever Arm

REQUIRED		
1	Floor Beam	FB19

W.T.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure
East Cantilever Arm
Lower Deck Floor Beams
AMERICAN BRIDGE COMPANY

DRAWING MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE Wilkinson
CHECK BY RHC DATE 6-14-34
DETAIL CHECKED BY Stone DATE 7-12-34

APPROVED
Chas. B. Wendell, Chief of Design
Chas. E. Andrews, Bridge Engineer
H. H. Arnold, Chief Engineer
Approved: Date 8-27-34

GREEN No. G5103 S. DEPT. No. 251B

This Floor Beam to be used temporarily in erection bents for West and East Anchor Arms.

Rel. 9-21-36
Rel. 10-23-36 B

Mat. ord. pp. 285-206

[B+C]

30-1

Holes "A"

63'-1⅞" o-o at top

Fin. Stiff. for FB21

2 PL 6 x 6 1/16 x 63-1½ (4) F.2 E.

Fin. Stiff. at top

63'-1⅞" o-o at Bott.

Holes "A"

FB20-FB21

NOTE
Holes "A" are to be filled with rivets before member is placed in permanent position.

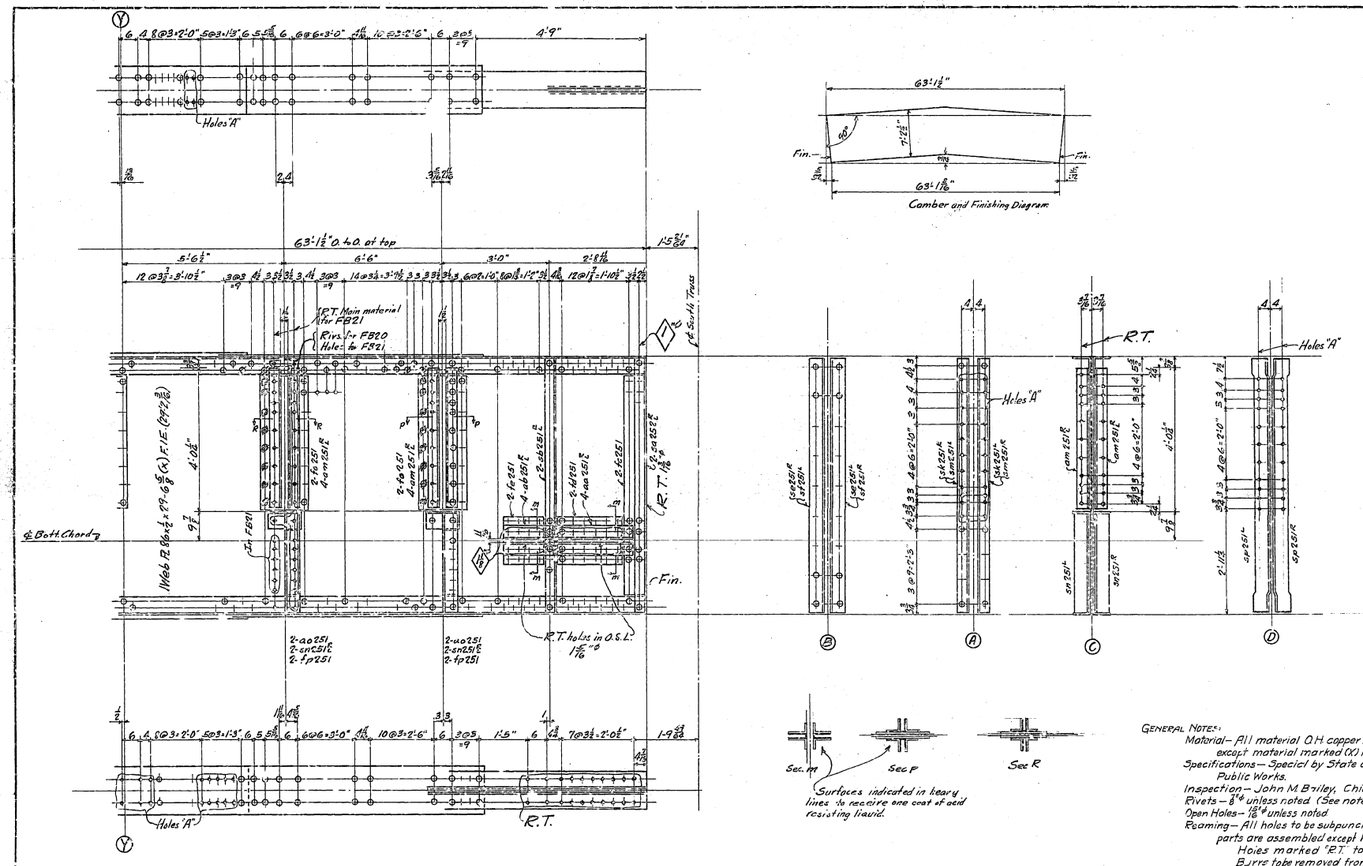
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure
Cantilever Arm
Lower Deck Floor Beams
AMERICAN BRIDGE COMPANY

DRAWING MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
DRAWN BY FHC DATE 6-15-34
DESIGN CHECKED BY [illegible] DATE 7-12-34

APPROVED
Chief Engineer
Approval Date 8-1-34

Drawing No. G5103
Sheet No. 252 AB

30-1



NOTE
Holes "A" to be filled with rivets before member is placed in permanent position

NOTE:-
The following material on FB20 to be charged to Unit GIK4835 giving credit to G5103 for same: 2-ao 251 R, 2-fb 251.
For each FB20 or FB21 charge GIK4835 with 206 lbs. excess splice material which has been added for erection purposes giving G5103 credit for same.

GENERAL NOTES:
Material— All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel
Specifications— Special by State of California Department of Public Works.
Inspection— John M. Bailey, Chief Inspector
Rivets— ⅞" ø unless noted (See note)
Open Holes— 1⅛" ø unless noted
Reaming— All holes to be subpunched ¼" and reamed to size while parts are assembled except holes in mat'l over ¾" thick, to be sub-drilled. Holes marked "R.T." to be reamed through a steel templet. Burrs to be removed from all reamed holes
Finish— On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal.

Paint— None, except for one coat of acid resisting liquid as noted on sections— Ⓜ & Ⓟ & Ⓡ and on milled ends

Note— All rivet steel to be copper bearing. Copper bearing carbon steel rivets detailed on sheet CF9

Made	Revised	Date

APPROVED
Chief Engr.
Engr. of Design
Bridge Engr.
Asst. Engr.
Approved Date 8-27-36

Shop Cont.	Field Cont.	Total	REQUIRED	Mark
1		1	Floor Beam	FB20
	1	1	" "	FB21

15T
15T

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure
Cantilever Arm
Lower Deck Floor Beams
AMERICAN BRIDGE COMPANY

DRAWING MADE BY Gary 10-1
TRACED BY Gary
CHECKED BY Wilkinson
FINISH. ADJ. BY P.H.C. DATE 6-18-36
DRAWN & TRACED BY [illegible] DATE 7-18-36

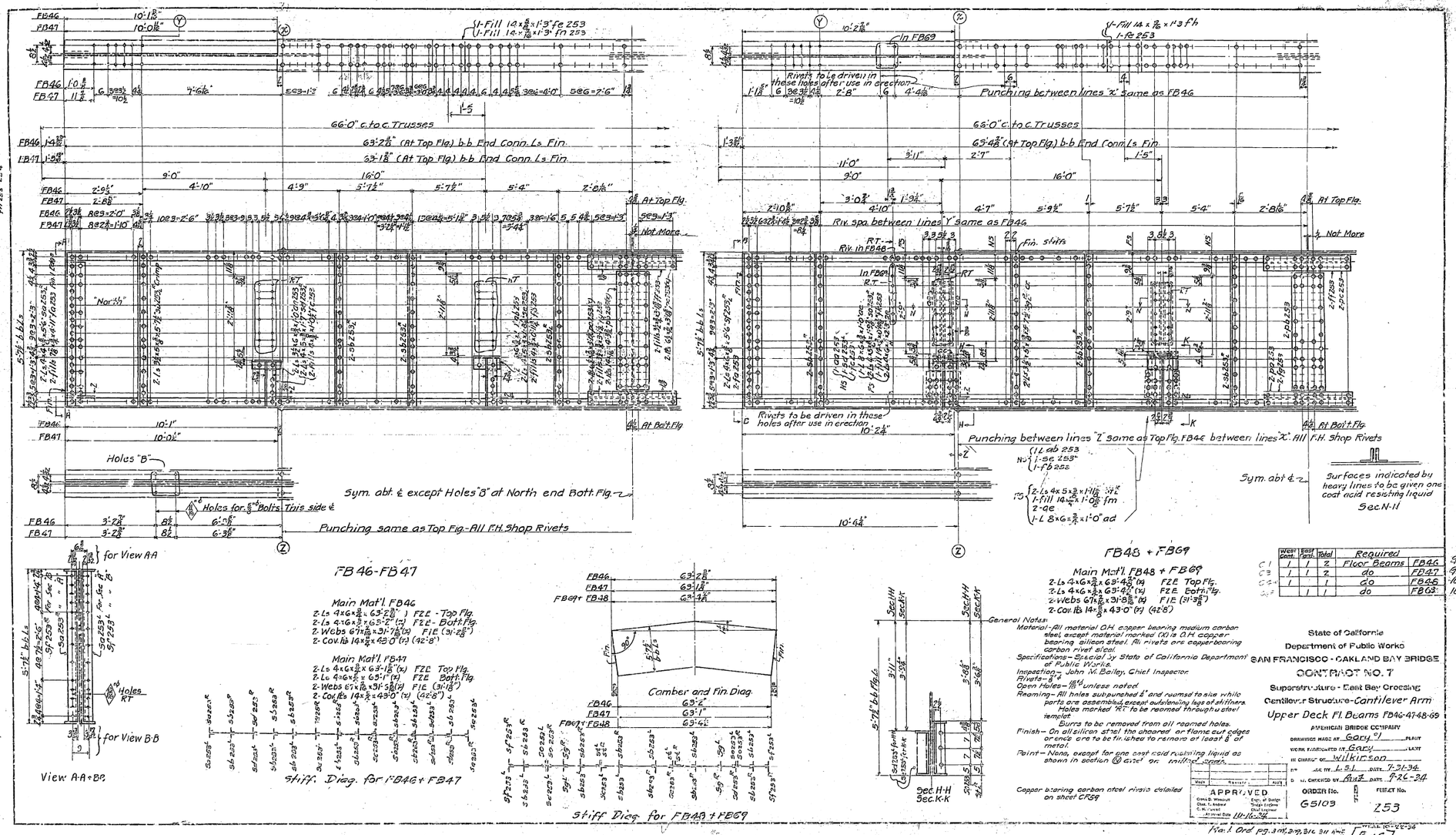
DRAWING NO. G5103
SHEET NO. 252 B

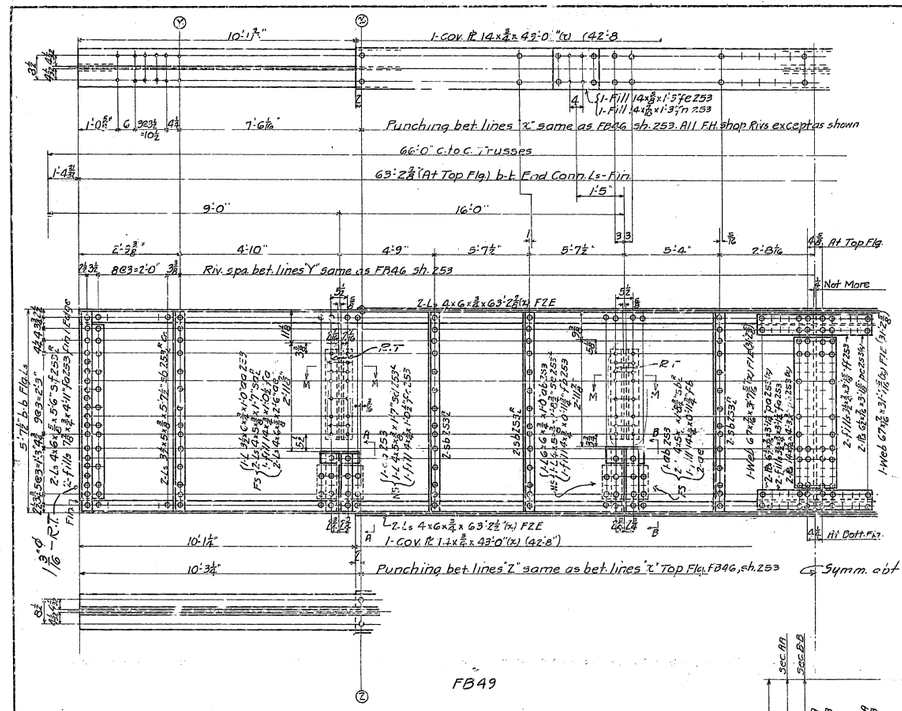
Floor Beams on this sheet to be used temporarily in erection bents for West and East Anchor Arms

Mat. and pp. 207-208

E-9-11-22-36 B

[B+C]


FB46
FB47
10'-1 1/2"
10'-0 1/2"
Y
X
1-Fill 12 x 5/8 x 1'-3" Fe 253
1-Fill 12 x 7/16 x 1'-3" Fn 253
7'-6 1/2"
563=1'-3"
563=2'-6"
1'-5
66'-0" c. to c. Trusses
63'-2 5/8" (At Top Flg.) b.b End Conn. Ls Fin.
63'-1 7/8" (At Top Flg.) b.b End Conn. Ls Fin.
9'-0"
16'-0"
4'-10"
4'-9"
5'-7 1/2"
5'-5 1/4"
2'-8 1/16"
At Top Flg.
563=1'-3"
Not More
At Bot't Flg.
"North"
Holes "B"
Holes for 7/8" Bolts This side ℄
Sym. abt. ℄ except Holes "B" at North end Bott. Flg.
Punching same as Top Flg. - All F.H. Shop Rivets
Z
10'-2 7/16"
In FB69
1-Fill 14 x 7/16 x 1'-3" Fh
1-Fe 253
Rivets to be driven in these holes after use in erection
Punching between lines "X" same as FB46
63'-0" c. to c. Trusses
63'-4 3/8" (At Top Flg.) b.b End Conn. Ls Fin.
11'-0"
3'-11"
2'-7"
1'-5"
3'-0"
4'-10"
4'-7"
5'-9 1/2"
5'-7 1/2"
5'-4"
2'-8 1/16"
Rt Top Flg.
Riv. spa between lines "Y" same as FB46
RT - Riv. in FB46
In FB69 R.T.
Fin. Splts
½ Not More
Rivets to be driven in these holes after use in erection
10'-2 1/4"
Punching between lines "Z" same as Top Flg. FB46 between lines "X". All F.H. Shop Rivets
(1 Lab 253
1-Se 253
1-Fb 253
2-Ls 4x5x 3/8 x 1'-11 1/2" ad
1-fill 14 1/2" x 1'-0 5/8" fm
2-ae
1-L 8 x 6 x 3/8 x 1'-0" ad
Rt Bot't Flg.
Sym. abt ℄
Surfaces indicated by heavy lines to be given one coat cold resisting liquid
Sec. N-11
10'-4 1/4"
Holes for 7/8" Bolts
for View AA
for View B-B
View A-A + B-B
FB46-FB47
Main Mat'l. FB46
2-Ls 4 x 6 x 3/8 x 63'-2 5/8" (x) F2E - Top Flg.
2-Ls 4 x 6 x 3/8 x 63'-2 5/8" (x) F2E - Bott. Flg.
2-Webs 67 x 7/16 x 31'-1 7/16 (x) F1E (31'-2 5/8")
2-Cov. Pls 14 x 1/2 x 43'-0" (x) (42'-8")
Main Mat'l. FB47
2-Ls 4 x 6 x 3/8 x 63'-1 7/8" (x) F2E Top Flg.
2-Ls 4 x 6 x 3/8 x 63'-1" (x) F2E Bott. Flg.
2-Webs 67 x 7/16 x 31'-5 9/16 (x) F1E (31'-1 7/8")
2-Cov. Pls 14 x 1/2 x 43'-0" (x) (42'-8")
Stiff. Diag. for FB46 + FB47
FB46
FB47
FB48 + FB69
63'-2 5/8"
63'-1 7/8"
63'-4 3/8"
Camber and Fin. Diag.
63'-2"
63'-1"
63'-4"
Stiff. Diag. for FB48 + FB69
FB48 + FB69
Main Mat'l. FB48 + FB69
2-Ls 4 x 6 x 3/8 x 63'-4 3/8" (x) F2E Top Flg.
2-Ls 4 x 6 x 3/8 x 63'-4 3/8" (x) F2E Bott. Flg.
2-Webs 67 x 7/16 x 31'-8 5/16 (x) F1E (31'-3 5/8")
2-Cov. Pls 14 x 1/2 x 43'-0" (x) (42'-8")
Sec. H-H
Sec. K-K
5'-7 1/2" b.b. Ls
General Notes:
Material - All material O.H. copper bearing medium carbon steel except material marked (X) is O.H. copper bearing silicon steel. All rivets are copper bearing carbon rivet steel.
Specifications - Stee. ly State of California Department of Public Works.
Inspection - John W. Bailey, Chief Inspector.
Rivets - 3/4" ϕ
Open Holes - 15/16" ϕ unless noted.
Reaming - All holes subpunched 1/4" and reamed to size while parts are assembled, except outstanding legs of stiffners. Holes marked "RT" to be reamed through a steel templat
Burrs to be removed from all reamed holes.
Finish - On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least 1/8" of metal.
Paint - None, except for one coat cold rubbing liquid as shown in section (X) or at contact faces.
Copper bearing carbon steel rivets detailed on sheet CF59
Mark | Number | Adds
APPROVED
Chief Engr. of Design
Bridge Engineer
Bridge Engineer
Asst. Engineer
Date 10-16-34
Weld Cent. | Shop Cent. | Total | Required | |
C1 | 1 | 1 | 2 | Floor Beams | FB46 | 9T
C3 | 1 | 1 | 2 | do | FB47 | 9T
C3-A | 1 | | 1 | do | FB48 | 10T
C3-F | | 1 | 1 | do | FB69 | 10T
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure - Cantilever Arm
Upper Deck Fl. Beams FB46-47-48-69
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary, PLANT
WORK FABRICATED AT Gary, PLANT
IN CHARGE OF Wilkinson
CHKD. BY L.S.L. DATE 7-31-34
D. W. CHECKED BY Asst. DATE 9-26-34
ORDER No. G5103
STRUCT. No. Z53
Trans. Ord. pg. 3 rev. 2nd, 3rd, 5th, 6th, 7th
[E+C]



West Gantt	East Gantt	Total	Required		
1	1	2	Floor Beam	FB49	10T

General Notes:

Material – All material O.H. copper bearing medium carbon steel, except material marked (O) is O.H. copper bearing silicon steel. All rivets are copper bearing carbon rivet steel.

Specifications – Special by State of California Department of Public Works

Inspection – John M. Bailey, Chief Inspector.

Rivets – ⅞"ø

Open Holes – 1⅛"ø Unless Noted.

Reaming – All holes to be subpunched 8" and reamed to size while parts are assembled, except O.S. legs of Stiffs. Holes marked "R.T." to be reamed through a steel templet.

Burrs to be removed from all reamed holes.

Finish – On all silicon steel thicknesses or flame cut edges or ends are to be finished to remove at least ¼" of metal.

Paint – None, except for one coat of acid resisting liquid as shown in section Ⓜ and on milled ends.

Copper bearing carbon steel rivets detailed on sheet CF56

Mark	Revision	Appd

APPROVED
Glenn B. Woodruff, Director of Engineering
Chas. H. Purcell, Chief Engineer
Approval Date: 10-11-34

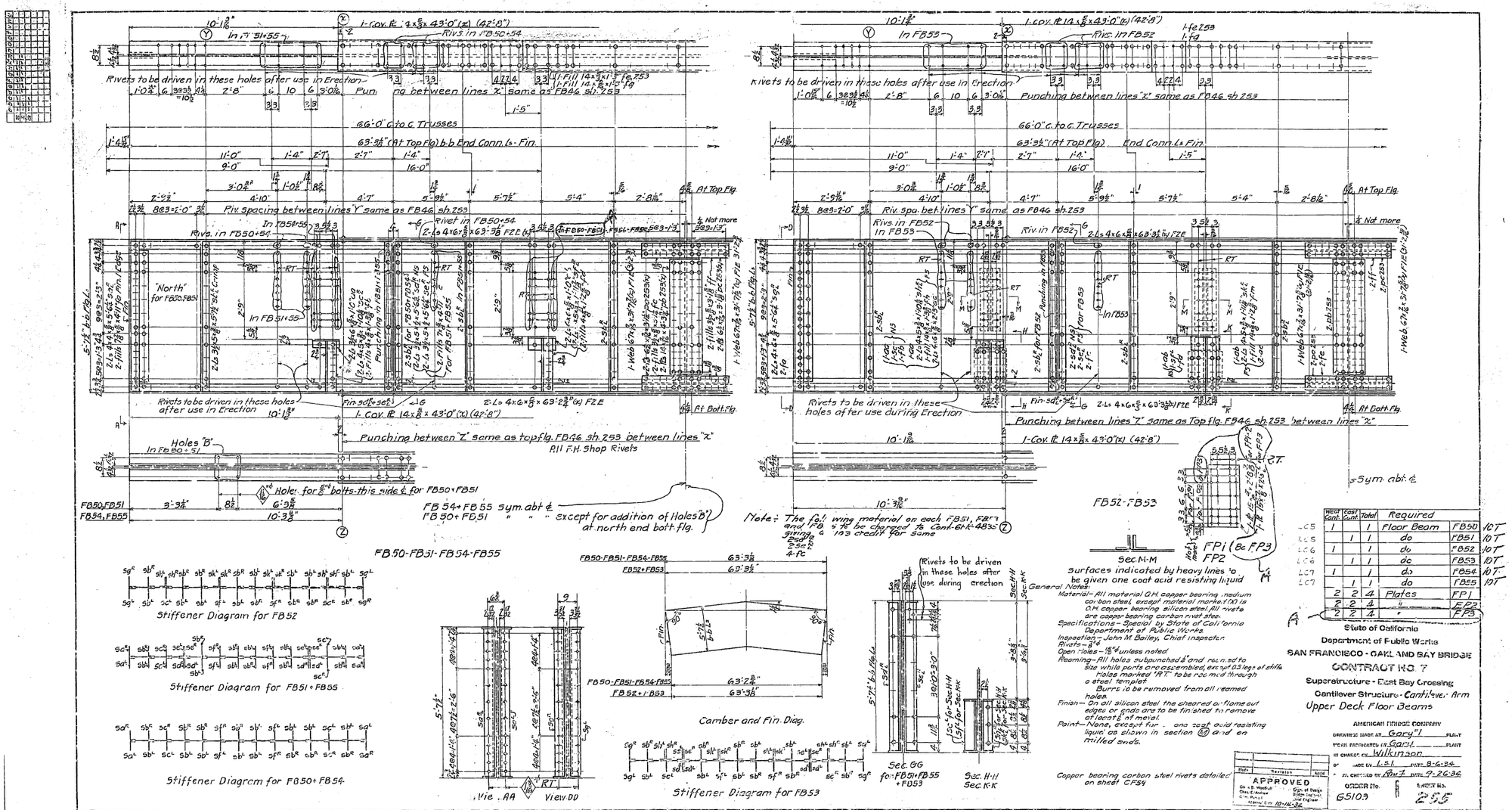
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure - Cantilever Arm
Upper Deck Floor Beams

AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
DE BY L.S.I. DATE 8-7-34
CHECKED BY Ainy DATE 9-26-34

ORDER No. G5103
SHEET No. 254

Vault Ord. Pg 309, 310, 311 Rec'd 10-22-34

[Box 7]



General Notes:
Material – All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel. All rivets are copper bearing carbon rivet steel.
Specifications – Special by State of California Department of Public Works
Inspection – John M. Bailey, Chief Inspector
Rivets – 7/8" ϕ
Open Holes – 15/16" ϕ unless noted.
Reaming – All holes subpunched 1/4" and reamed to size while parts are assembled, except 0.5 legs of stiffs. Holes marked "RT." to be reamed through a steel templet. Burrs to be removed from all reamed holes.
Finish – On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least 1/8" of metal.
Paint – None, except for one coat acid resisting liquid as shown in section M and on milled ends.

Weight Cent.	Cast Cent.	Total	Required	
1		1	Floor Beam	FB50
	1	1	do	FB51
1		1	do	FB52
	1	1	do	FB53
1		1	do	FB54
	1	1	do	FB55
2	2	4	Plates	FP1
2	2	4	"	FP2
2	2	4	"	FP3

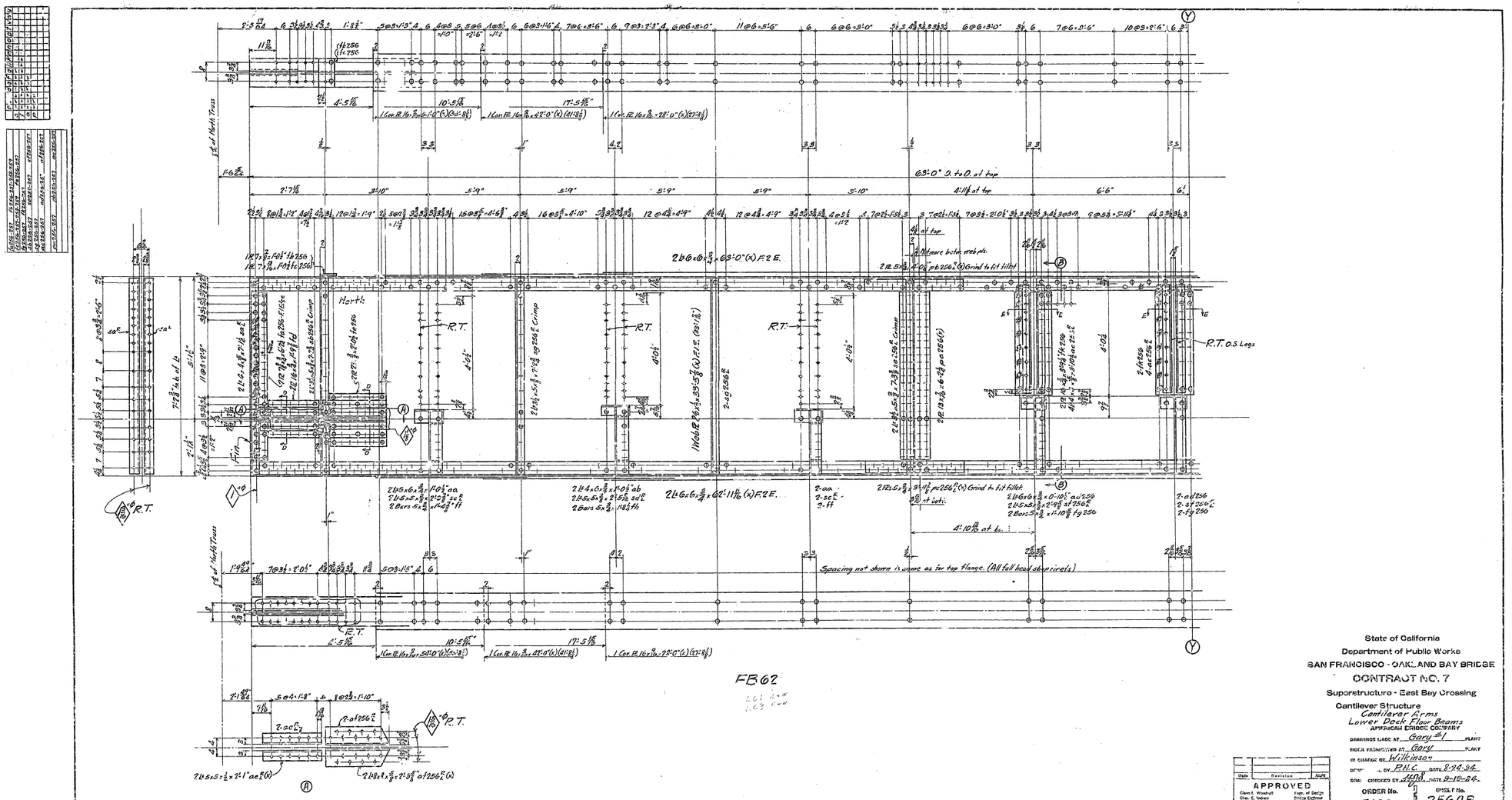
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure - Cantilever Arm
Upper Deck Floor Beams

AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary, IND. PLANT
TRACED FABRICATED BY Gary PLANT
IN CHARGE OF Wilkinson
CHECKED BY L.S.I. DATE 8-6-34
QUANTITIES CHECKED BY Kaw-T DATE 9-26-34

APPROVED
Dir. of Design
State Highway Engineer
Assistant
10-14-36

ORDER No. 6510.3
DRAWING No. 255

(Rev. 11-15-34)-A
Mod. Orig. dtd. 10-22-36
[B+C]



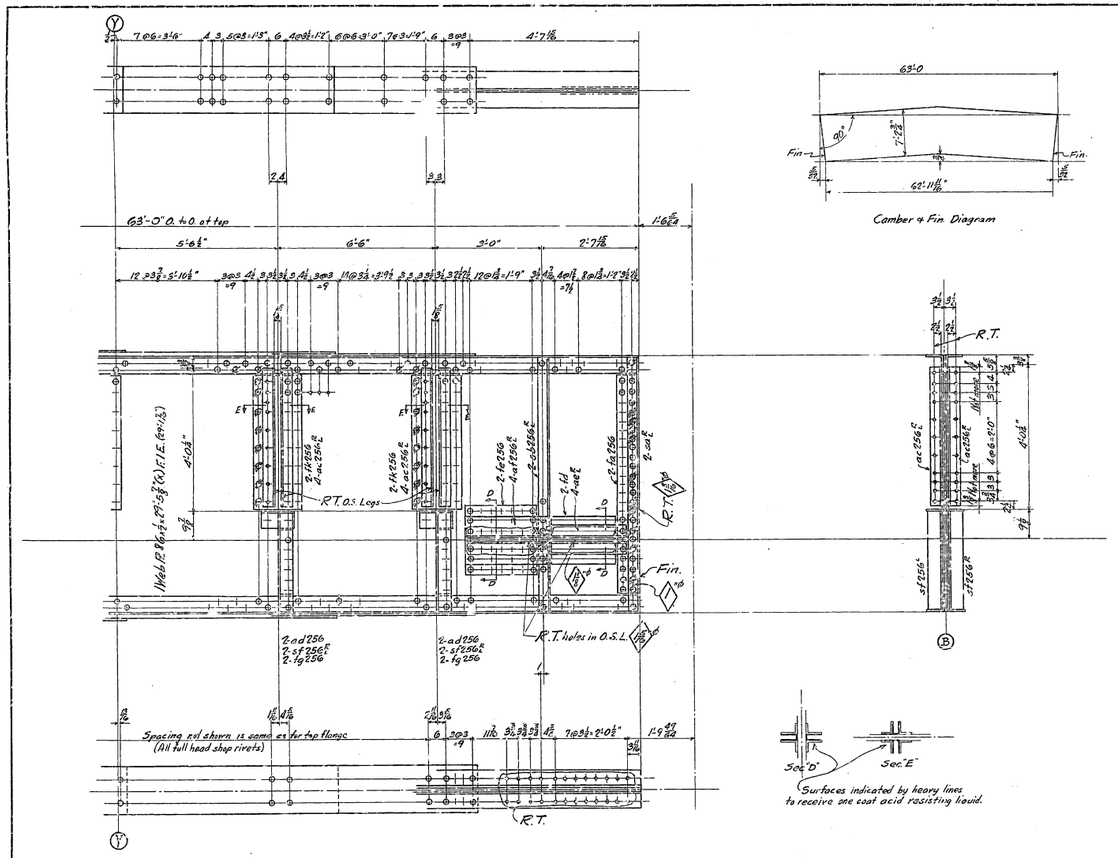
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure
Cantilever Arms
Lower Deck Floor Beams
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary PLANT
WORK PROMOTED AT Gary PLANT
IN CHARGE OF Wilkinson
DETAILED BY P.H.C. DATE 8-24-34
DRAWING CHECKED BY [illegible] DATE 9-18-34

Mark	Revision	Note

APPROVED
Glenn B. Woodruff, Asst. Ch. Engr. Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Asst. Bridge Engineer
Approved Date 10-1-34

ORDER No. G5103
SHEET No. 256AB

30-41



Camber & Fin. Diagram

GENERAL NOTES:

Material- All material O.H. copper bearing medium; carbon steel except material marked(Q)is O.H. copper bearing silicon steel. All rivet steel is to be copper bearing.
Specifications - Special by State of California Department of Public Works.
Inspection - John M. Bailey, Chief Inspector.
Rivets - 7/8" @ unless noted.
Open Holes - 1 1/16" @ unless noted.
Reaming - All holes to be subpunched 1/4" and reamed to size while parts are assembled.
Holes marked "R.T." to be reamed thru a steel templet.
Burrs to be removed from all reamed holes.
Finish - On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least 1/8" of metal.

Paint - None, except for one coat of acid resisting liquid as noted on sections "D" & "E" and on milled ends.

Copper bearing carbon steel rivets detailed on sh. CF41

REQUIRED				
West Cant.	East Cant.	Total	Description	Mark
2	2	4	Floor Beam	FB62

161-

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure
Cantilever Arms
Lower Deck Floor Beams
AMERICAN BRIDGE COMPANY

DRAWING MADE AT Gary PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
DRAWN BY RHC DATE 8-24-34
CHECKED BY JDP DATE 9-10-34

Date	Revision	Appd

APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 10-1-34

ORDER No. G5103
SHEET No. 256B

7/1/35 10-26-34

[B-C]

Mat. ord. pp. 301+306

30-51

Top Flg. for FBG3

Top Flg. for FBG4

Bott. Flg. for FBG3

Bott. Flg. for FBG4

FBG3^R - FBG4^R

Spacing not shown is same as for top flange (R.H. full head shop rivets)

Spacing not shown is same as for top flange. (All full head shop rivets)

(A) for FBG3

(A) for FBG4

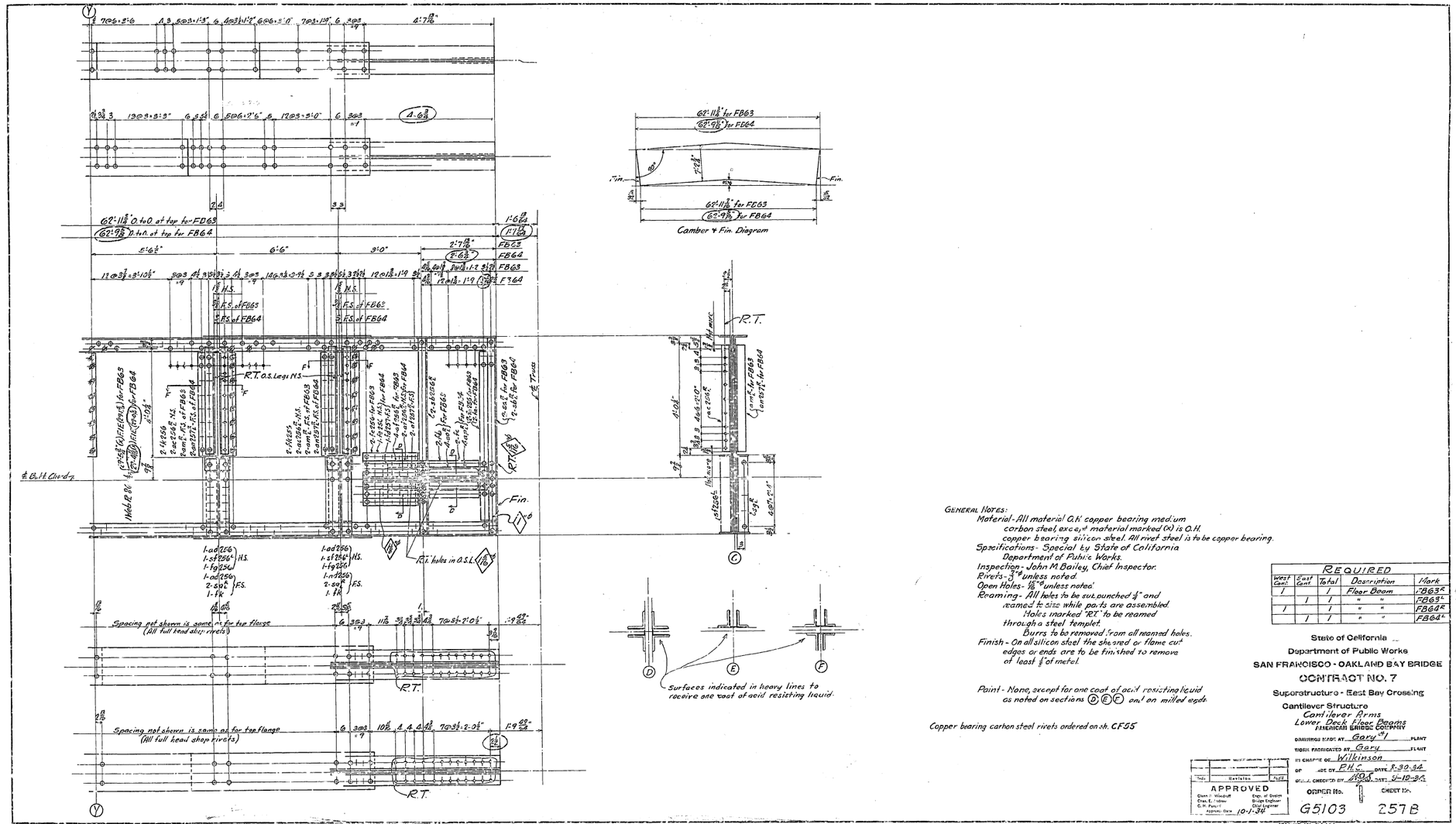
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure
Cant'lever Arms
Lower Deck Floor Beams
AMERICAN BRIDGE COMPANY

DRAWING MADE AT Gary PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF V. Wilkinson
DETAIL MADE BY F.H.C. DATE 2-20-34
BOARD OF ... BY ... DATE 2-12-34

APPROVED
Chief Engr. Bridge Engineer
Chief Engineer
Approved Date: K-1-34

ON ER No. G5103 CONTRACT No. 257 AB

Rev. 12-3-34



GENERAL NOTES:
Material - All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel. All rivet steel is to be copper bearing.
Specifications - Special by State of California Department of Public Works.
Inspection - John M Bailey, Chief Inspector.
Rivets - ⅞" unless noted.
Open Holes - 15/16" unless noted.
Reaming - All holes to be subpunched ⅞" and reamed to size while parts are assembled. Holes marked "RT" to be reamed through a steel templet. Burrs to be removed from all reamed holes.
Finish - On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal.

Paint - None, except for one coat of acid resisting liquid as noted on sections (D)(E)(F) and on milled ends.

Copper bearing carbon steel rivets ordered on sh. CF55

REQUIRED				
West Cant.	East Cant.	Total	Description	Mark
1		1	Floor Beam	FB63R 17F
	1	1	" "	FB63L 17F
1		1	" "	FB64R 17F
	1	1	" "	FB64L 17F

State of California ...
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure
Cantilever Arms
Lower Deck Floor Beams
AMERICAN BRIDGE COMPANY

DRAWING STARTED BY Gary '31 PLANT
WORK FABRICATED BY Gary PLANT
ITS CHARGE OF Wilkinson
DET. BY PHC DATE 8-30-34
QUANT. CHECKED BY JBS DATE 9-10-34

No.	Revision	Date

APPROVED
Chief Engineer
Asst. Chief Engineer
Approved Date 10-1-34

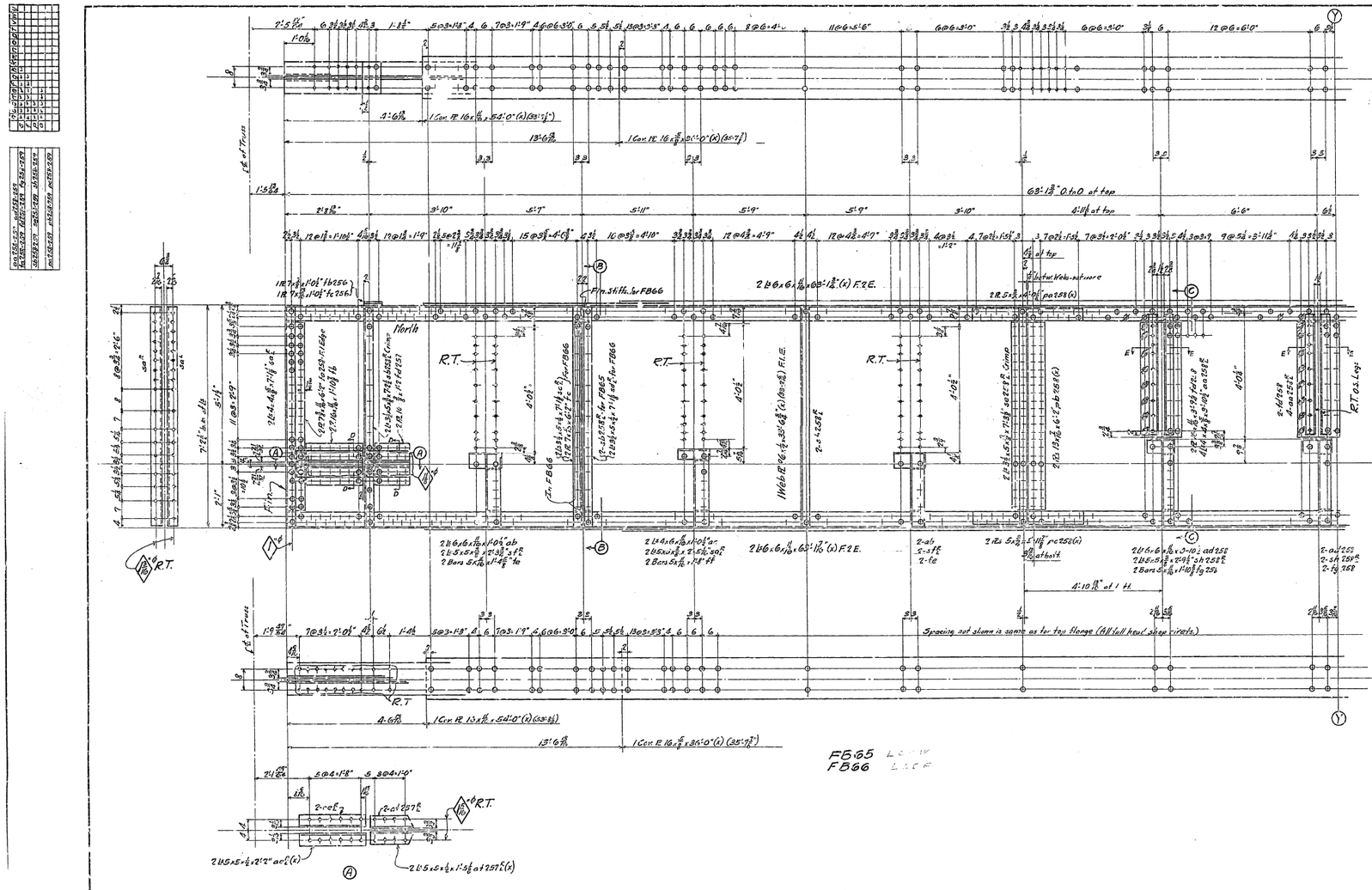
ORDER No. G5103 SHEET No. 257B

M No. 70-26-265

[B-C]

(Rev 12-3-34) Mat'l on pp. 301-302-305

30-51



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure
Cantilever Arms
Lower Deck Floor Beams
AMERICAN BRIDGE COMPANY

DRAWING MADE AT Gary #1 PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
DRAWN BY P.B.L. DATE 8-21-34
CHECKED BY [illegible] DATE 9-18-34

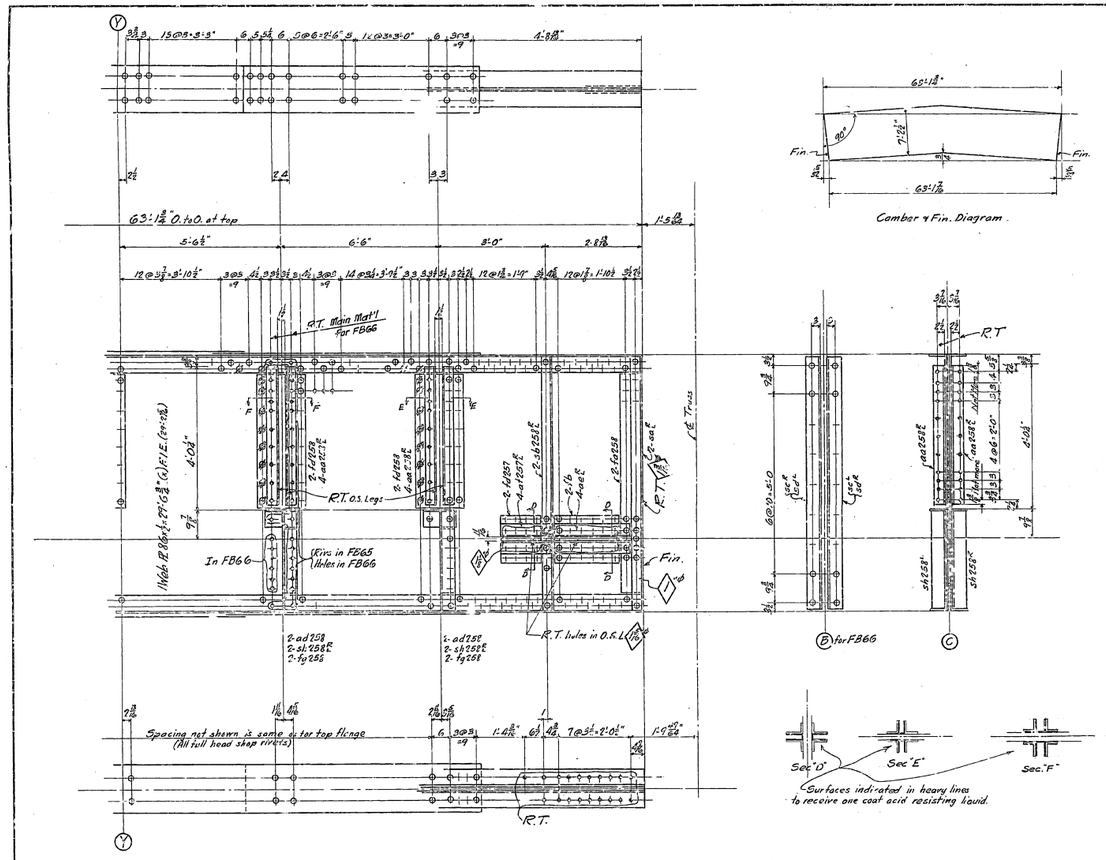
Mark	Revision	Appd.

APPROVED
Chief Engr. of Design
Bridge Engineer
Chief Engineer
Approval Date 10-1-34

ORDER No. G5103
SHEET No. 258AB

M/S 10-20-34

30-51



Camber & Fin. Diagram.

NOTE:-
The following material on FB66 to be charged to Cont. 61K-0833 giving G5103 credit for same:
2-sc 8", 2-fc.

GENERAL NOTES:
Material - All material O.H. copper bearing medium carbon steel, except material marked (x) is O.H. copper bearing silicon steel. All rivet steel is to be copper bearing.
Specifications - Special by State of California Department of Public Works.
Inspection - John M. Bailey, Chief Inspector.
Rivets - 7/8" ø unless noted.
Open Holes - 15/16" ø unless noted.
Reaming - All holes to be subpunched 1/4" and reamed to size while parts are assembled. Holes marked "R.T." to be reamed thru a steel templet. Burrs to be removed from all reamed holes.
Finish - On all silicon steel the sheared or flame cut edges and ends are to be finished to remove at least 1/4" of material.

Paint - None, except for one coat of acid resisting liquid as noted on sections 'D' 'E' & 'F' and on milled ends.

Copper bearing carbon steel rivets detailed on sh. CF44

REQUIRED				
West Cant.	East Cant.	Total	Description	Mark
1		1	Floor Beam	15T. FB65
	1	1	" "	15T. FB66

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure
Cantilever Arms
Lower Deck Floor Beams
AMERICAN BRIDGE COMPANY

DRAWING MADE AT Gary PLANT
WORK FABRICATED AT Gary PLATE
IN CHARGE OF Wilkinson
DRAWN BY RHK DATE 8-31-34
CHECKED BY [illegible] DATE 10-12-34

Mark	Revision	Date

APPROVED
Glenn B. Woodruff, Engr. of Design
Chris. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 10-1-34

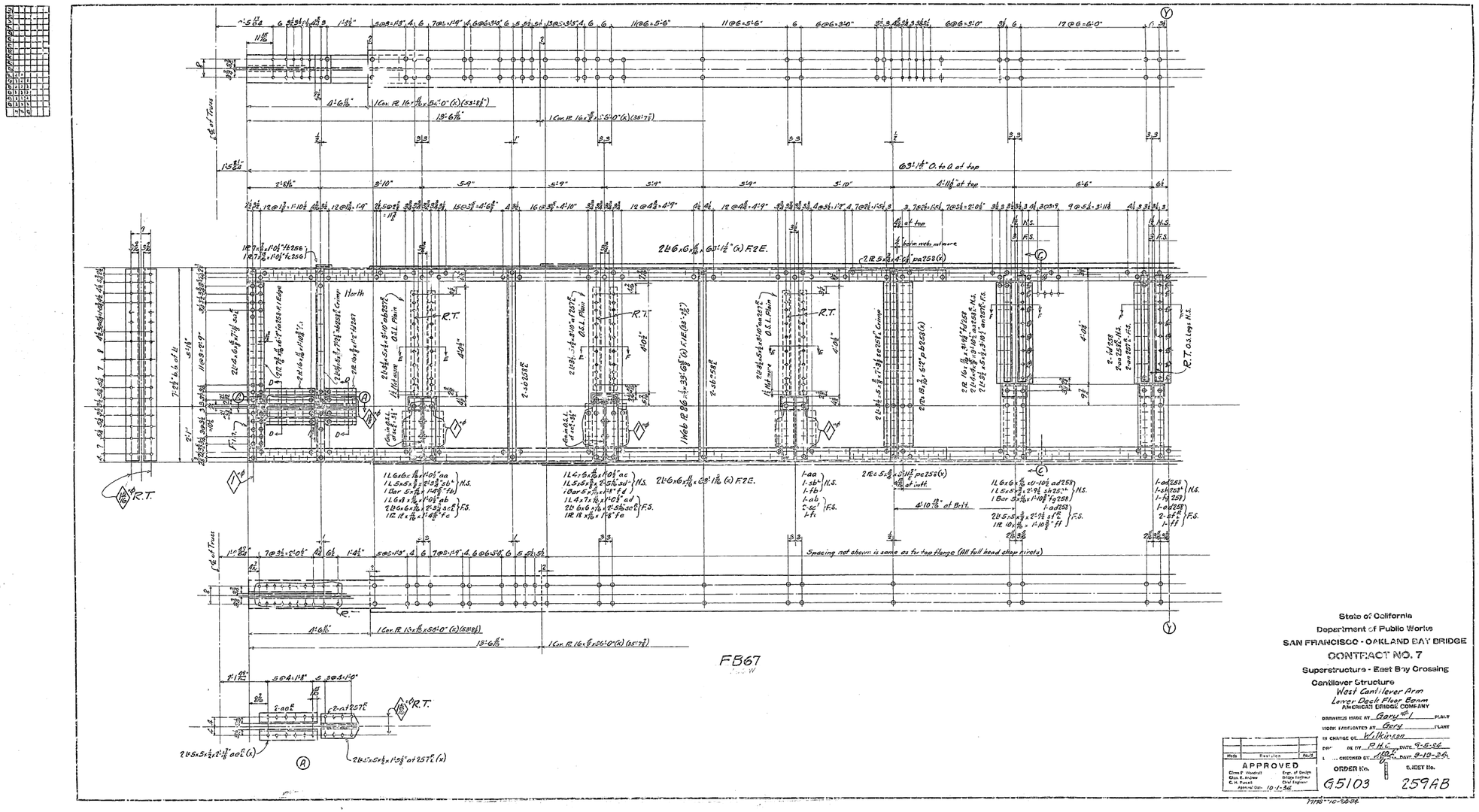
ORDER No. G5103
SHEET No. 258B

[illegible] 10-12-34

[B-C]

Rec'd 11-6-34 Mat. ord. pp. 302 & 306

30-1



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure
West Cantilever Arm
Lower Deck Floor Beams
AMERICAN BRIDGE COMPANY

DRAWING MADE AT Gary 1st PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
DR. BY P.H.C. DATE 9-5-34
CHECKED BY [illegible] DATE 9-13-34

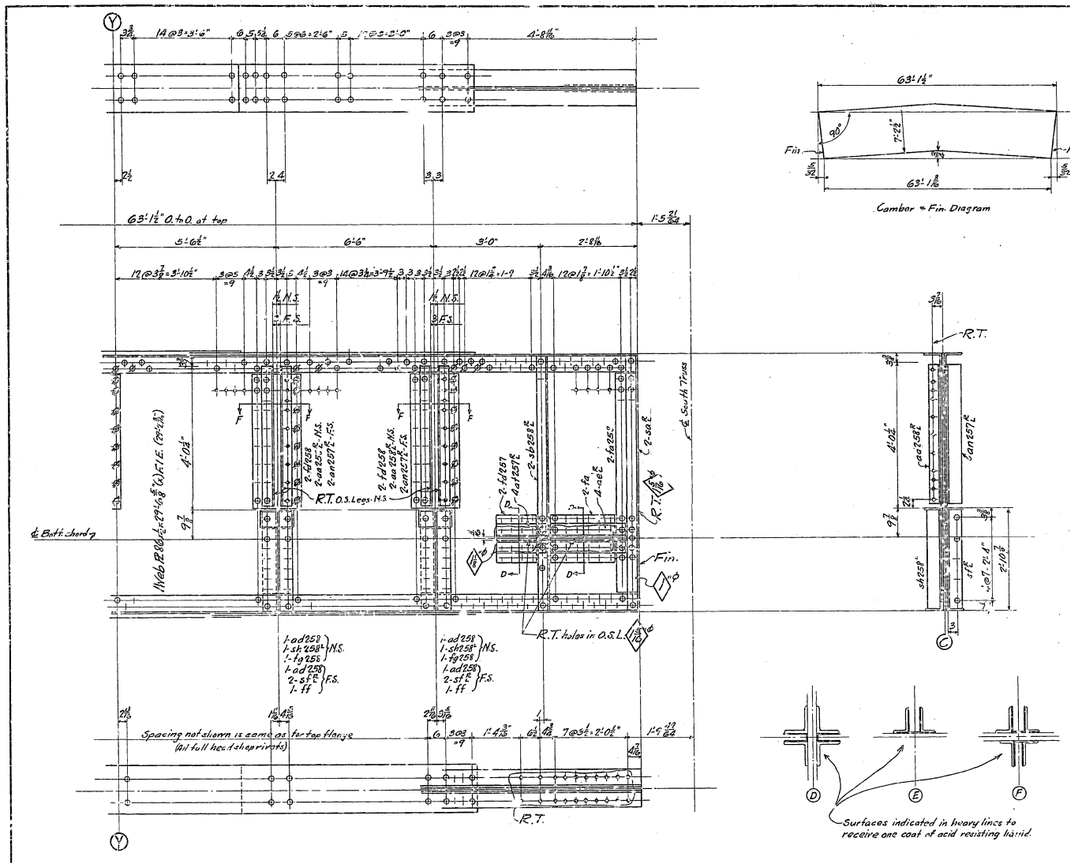
Mark	Revision	Date

APPROVED
Chas. P. Hoadley — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 10-1-34

ORDER No. G5103
SHEET No. 259AB

7776 - 10-26-34

30-1



Camber & Fin. Diagram

GENERAL NOTES:

Material - All material O.H. copper bearing medium carbon steel, except material marked (a) is copper bearing silicon steel. All rivet steel is to be copper bearing
Specifications - Special by State of California Department of Public Works.
Inspection - John M. Bailey, Chief Inspector.
Rivets - ⅞" ø unless noted.
Open Holes - 15/16" ø unless noted.
Reaming - All holes to be subpunched ¼" and reamed to size while parts are assembled.
Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Finish - On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal.

Point - None, except for one coat of acid resisting liquid as noted on sections (D)(E)(F) and on milled ends.

Copper bearing carbon steel rivets detailed on sheet EF-25

West Cantilever Hrm

REQUIRED			
1	Floor Beam	FB-67	1677

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure
West Cantilever Frm
Lower Deck Floor Beam
AMERICAN BRIDGE COMPANY

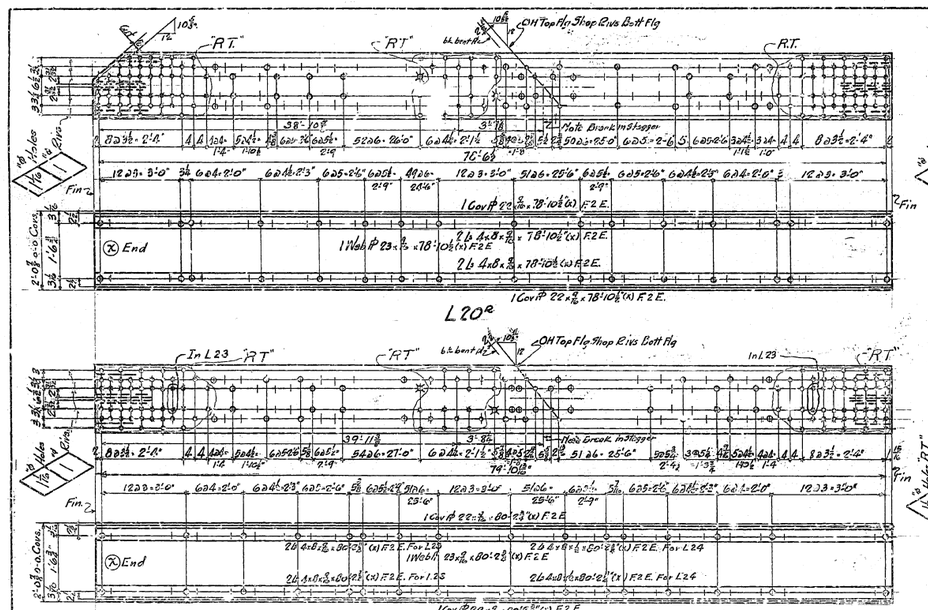
DRAWING MADE AT Gary PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
DRAFT'D BY P.H.C. DATE 9-5-36
CH'D BY [illegible] DATE 9-10-36
ORDER No. G5103 SHEET No. 259B

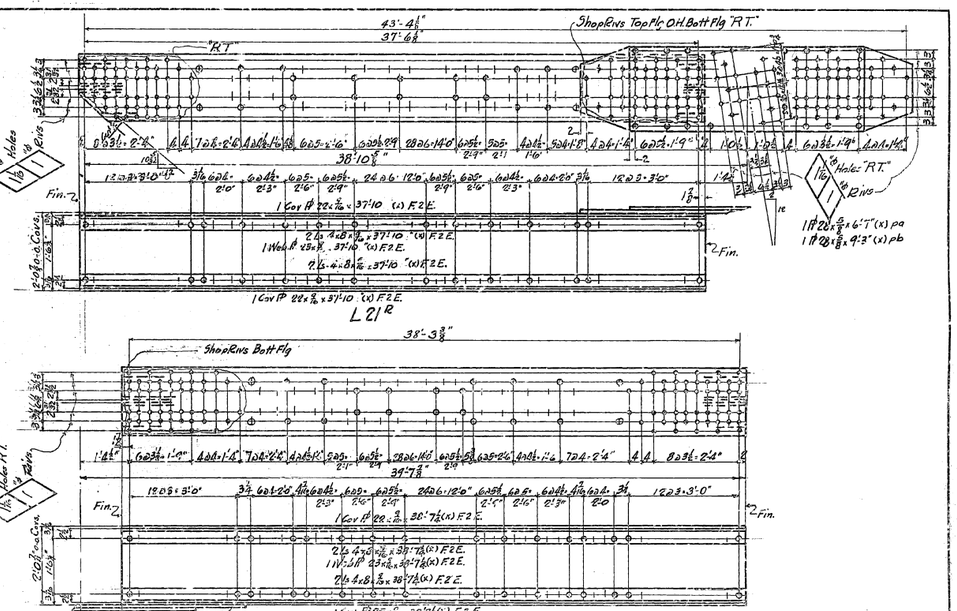
Mark	Revision	Appd

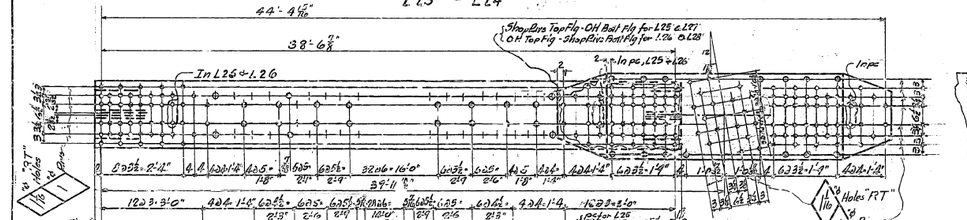
APPROVED
Clark B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approved Date 10-1-36

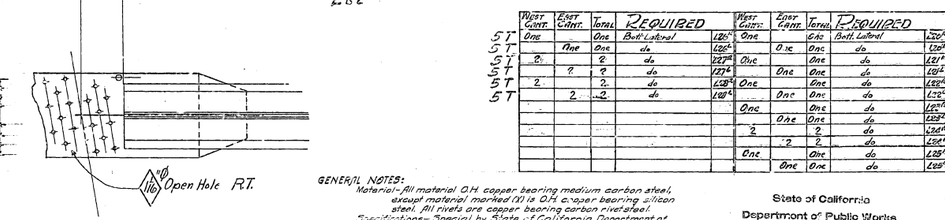
1/M3** 10-26-36

[B-C]









West Cantl.	East Cantl.	Total	REQUIRED		West Cantl.	East Cantl.	Total	REQUIRED	
One		One	Bott. Lateral	121"	One		One	Bott. Lateral	120"
	One	One	do	120"		One	One	do	120"
2		2	do	122"	One		One	do	121"
	?	?	do	122"		One	One	do	120"
2		2	do	120"	One		One	do	120"
	2	2	do	120"		One	One	do	120"
					One		One	do	120"
						One	One	do	120"
					2		2	do	120"
						2	2	do	120"
					One		One	do	120"
						One	One	do	120"

GENERAL NOTES:
Material - All material O.H. copper bearing medium carbon steel, except material marked (x) is O.H. copper bearing silicon steel. All rivets are copper bearing carbon rivet steel.
Specifications - Special by State of California Department of Public Works.
Inspection - John M. Bailey, Chief Inspector.
Rivets - 8/8 unless noted.
Open Holes - As noted.
Reaming - All holes to be subpunched 5/8" and reamed to size while parts are assembled.
Holes marked "R.T." are to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Finish - On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least 1/8" of metal.
Paint - None.

Copper bearing carbon steel rivets detailed on sheet CF64.

No.	REVISION	Init.

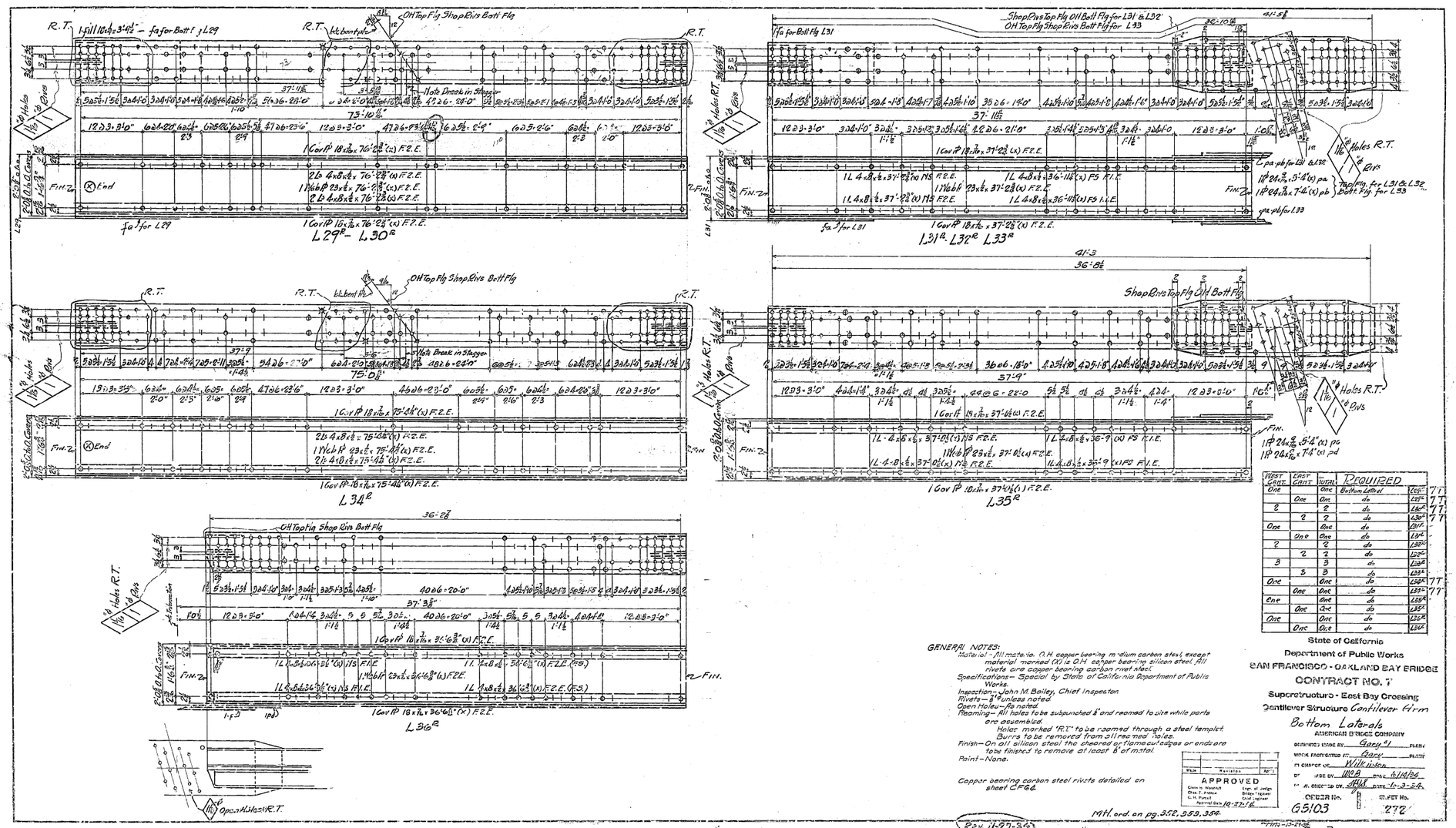
APPROVED
Chas. B. Hamilton, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approved Dec. 27 1934

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Truss
Bottom Lateral Bracing
AMERICAN BRIDGE COMPANY

DRAWING STARTED AT Gary, Ind. PLOTTED
TRACE TRANSFERRED AT Gary, Ind. PLOTTED
IN CHARGE OF W.H.C. Watson
DRAWN A. DW. MDB PLOTTED 6/12/34
DRAWN CHECKED BY WHCW TRACED Jan. 7, 1935
ORDER NO. G5103 DETAIL SHEET No. 271

Mat'l. Drd. pgs. 351-353

[B-C] MMS-10-30-34



West Cant	East Cant	Total	REQUIRED Bottom Lateral	
One		One	Bottom Lateral	L29R 77
	One	One	do	L29L 77
2		2	do	L30R 77
	2	2	do	L30L 77
One		One	do	L31R -
	One	One	do	L31L -
2		2	do	L32R -
	2	2	do	L32L -
3		3	do	L33R -
	3	3	do	L33L -
One		One	do	L34R 77
	One	One	do	L34L 77
One		One	do	L35R -
	One	One	do	L35L -
One		One	do	L36R -
	One	One	do	L36L -

GENERAL NOTES:
Material - All material in O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel. All rivets are copper bearing carbon rivet steel.
Specifications - Special by State of California Department of Public Works.
Inspection - John M. Bailey, Chief Inspector.
Rivets - 7/8" unless noted.
Open Holes - fa noted.
Reaming - All holes to be subpunched 3/4" and reamed to size while parts are assembled.
Holes marked "R.T." to be reamed through a steel templet. Burrs to be removed from all reamed holes.
Finish - On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least 1/8" of metal.
Paint - None.

Copper bearing carbon steel rivets detailed on sheet CF64.

Mark	Revision	Appr.
	APPROVED	

Chief Engineer
Approved Date 10-27-36

MH. ord. on pg. 352, 353, 356.

Rev. 11-27-36

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Girder
Bottom Laterals
AMERICAN BRIDGE COMPANY

DRAWING MADE BY: Gary 4/ PLATE
WORK FABRICATED AT: Gary PLATE
IN CHARGE OF: Wilkinson
BY: WDG DATE: 6/14/36
BY: CHECKED BY: SHB DATE: 6-3-36
ORDER No. G5103
SHEET No. 272

[B-7]

30-1

P41 P42 P43 P44 P45 P46 P47 P48 P49 P50 P51 P52 P53 P54 P55 P56 P57 P58 P59 P60 P61 P62 P63 P64 P65 P180

West Cant	East Cant	Total	REQUIRED	
4	4	8	Hanger Pls	P64
2	2	4	Bott. Lat Pls	P65
One	One		" " "	P66
	One	One	" " "	P67

West Cant	East Cant	Total	REQUIRED	
2	2	4	Bottom Lateral Pls	P41
2	2	4	do	P42
2	2	4	do	P43
2	2	4	do	P44
2	2	4	do	P45
2	2	4	do	P46
2	2	4	do	P47
4	4	8	do	P48
2	2	4	do	P49
2	2	4	do	P50
2	2	4	do	P51
2	2	4	do	P52
2	2	4	do	P53
2	2	4	do	P54
4	4	8	do	P55
3	3	6	do	P56
2	2	4	do	P57
2	2	4	do	P58
2	2	4	do	P59
2	2	4	do	P60
2	2	4	do	P61
2	2	4	do	P62
2	2	4	do	P63
2	2	4	do	P64
3	3	6	do	P65

General Notes:
Material – All material OH copper bearing medium carbon steel except material marked QO is OH copper bearing silicon steel. All rivets are copper bearing carbon rivet steel.
Specifications – Special by State of California Department of Public Works.
Inspection – John M. Bailey, Chief Inspector.
Rivets & Open Holes – As noted
Reaming – All holes subpunched & reamed to size.
Holes marked "RT" to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Finish – On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal.
Paint – None.

Copper bearing carbon steel rivets detailed on sheet CP62

Mark	Revision	Date

APPROVED
Chas. D. Marshall, Engr. of Bridges
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approved Dec. 10-27-34

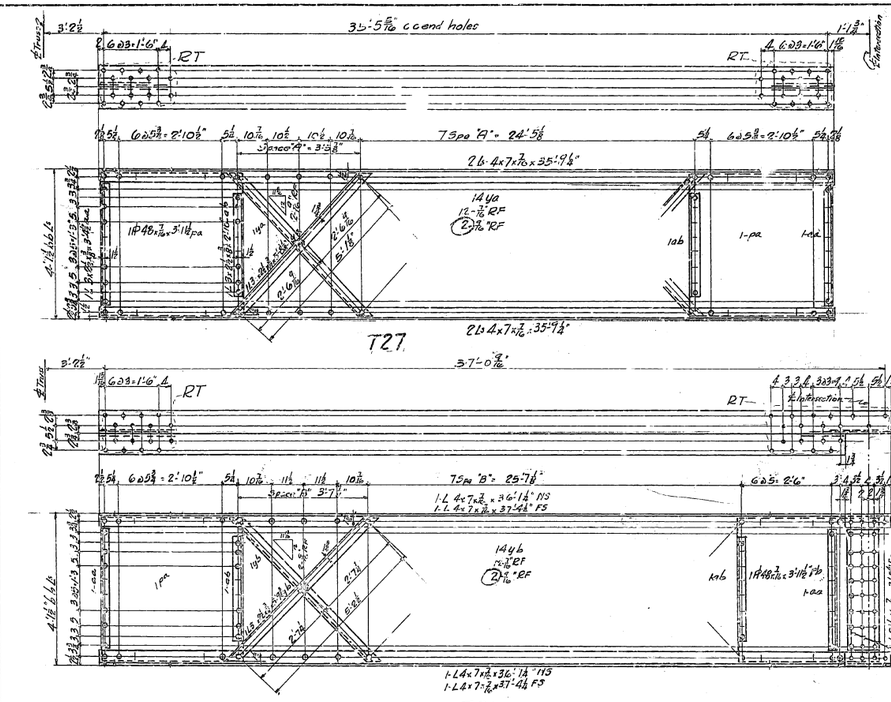
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Span
Bottom Lateral & Hanger Pls
ANDERSON & CHRISTENSEN, ENGINEERS
DRAWING MADE BY Gary KT PLOTTED
WORK SUPERVISED BY Gary PLANED
DETAILED BY Wolfe, Wilson
CHECKED BY Wolfe DATE 1/14/36
CONTROL CHECKED BY [illegible] DATE 10-2-36
Drawing No. G 5103 Sheet No. 275

Mat'l. Ord. pgs. 3534-3514

[B+C] Plotted 10-30-36

(Rev. 12-3-34) (Rev. 11-20-34)

3051



Copper bearing rivets detailed on SK (F11)

West Cant.	East Cant.	Total	REQUIRED	
2	2	4	Top Laterals	T27
2	2	4	"	T28
2	2	4	Top Lateral R.	P173

GENERAL NOTES:-

Material: All material O.H. copper bearing medium carbon steel. All rivets to be copper bearing carbon rivet steel.

Specifications: Special by State of California, Department of Public Works.

Inspection: John M. Bailey, Chief Inspector.

Rivets: 8/8" ø

Open Holes: 1/16" ø Unless Noted.

Reaming: All holes to be subpunched 1/8" and reamed to size while parts are assembled, except lacing angles and the plates which may be punched full size. Holes marked R.T. to be reamed thru a steel templet. Burrs to be removed from all reamed holes.

Paint: None

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm
Top Laterals + A U C-L C 7

AMERICAN BRIDGE COMPANY

DRAWINGS READY AT Gary "A" PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
DRAWN BY AR.B DATE 6/21/34
CHECKED BY [illegible] DATE 9-6-34

ORDER No. G5103
SHEET No. 274

Date	Revisions	By

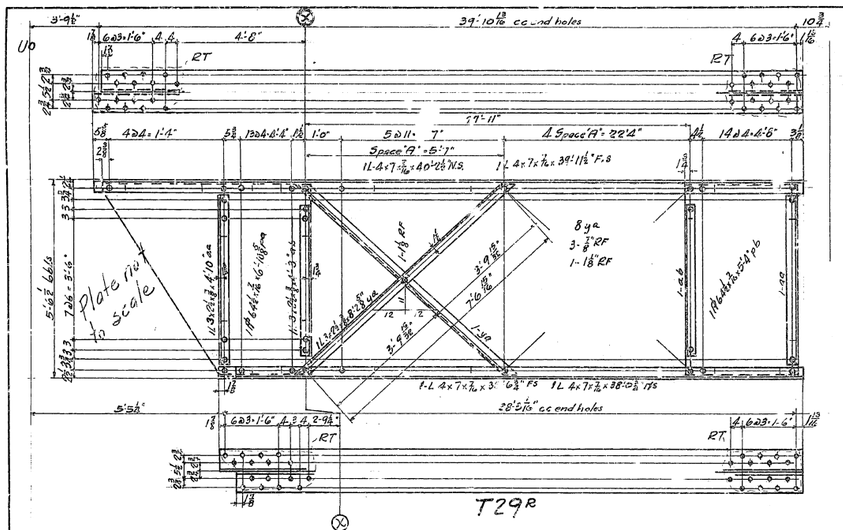
APPROVED
Engr. of Design
Bridge Engineer
Chief Engineer
9-20-34

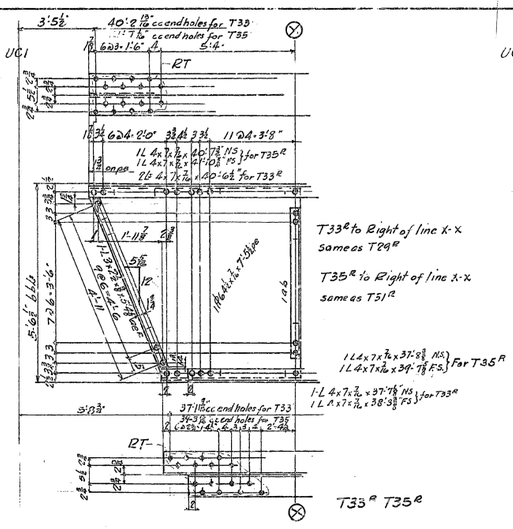
All material on this sheet used temporarily in Erection Bent 16

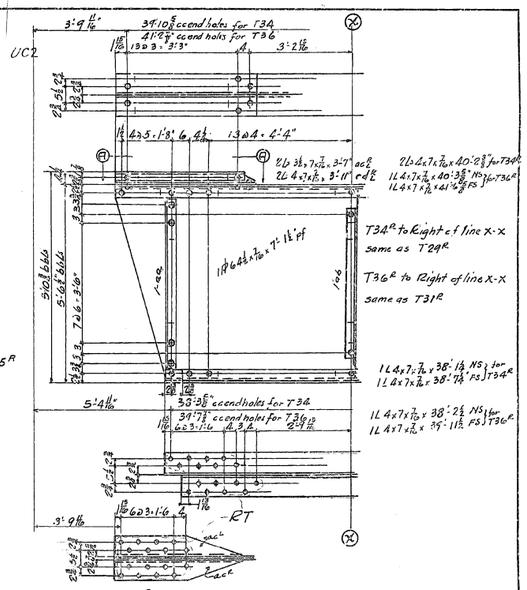
M.I.B. 9-25-34

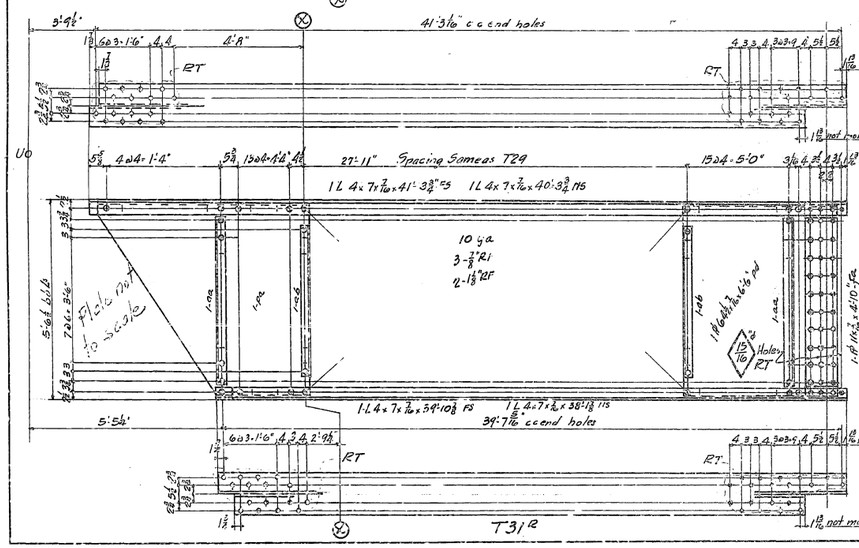
Weld Ord. 5th Corr. 1939 [C.J.]

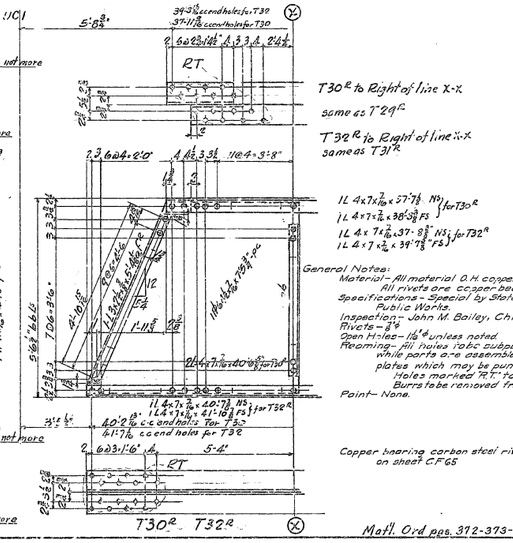
Rev. 10-4-34











General Notes:
Material - All material O.H. copper bearing medium carbon steel.
All rivets are copper bearing carbon rivet steel.
Specifications - Special by State of California Department of Public Works.
Inspection - John M. Bailey, Chief Inspector.
Rivets - ⅞ ϕ
Open Holes - 1⅛ ϕ unless noted.
Reaming - All holes in bolt cluster punched ¼" & reamed to size while parts are assembled, except lacing angles and tie plates which may be punched full size.
Holes marked "RT" to be reamed through a steel templet
Burrs to be removed from all reamed holes.
Paint - None.

Copper bearing carbon steel rivets detailed on sheet CF65

Matl. Ord. pgs. 372-373-392-394

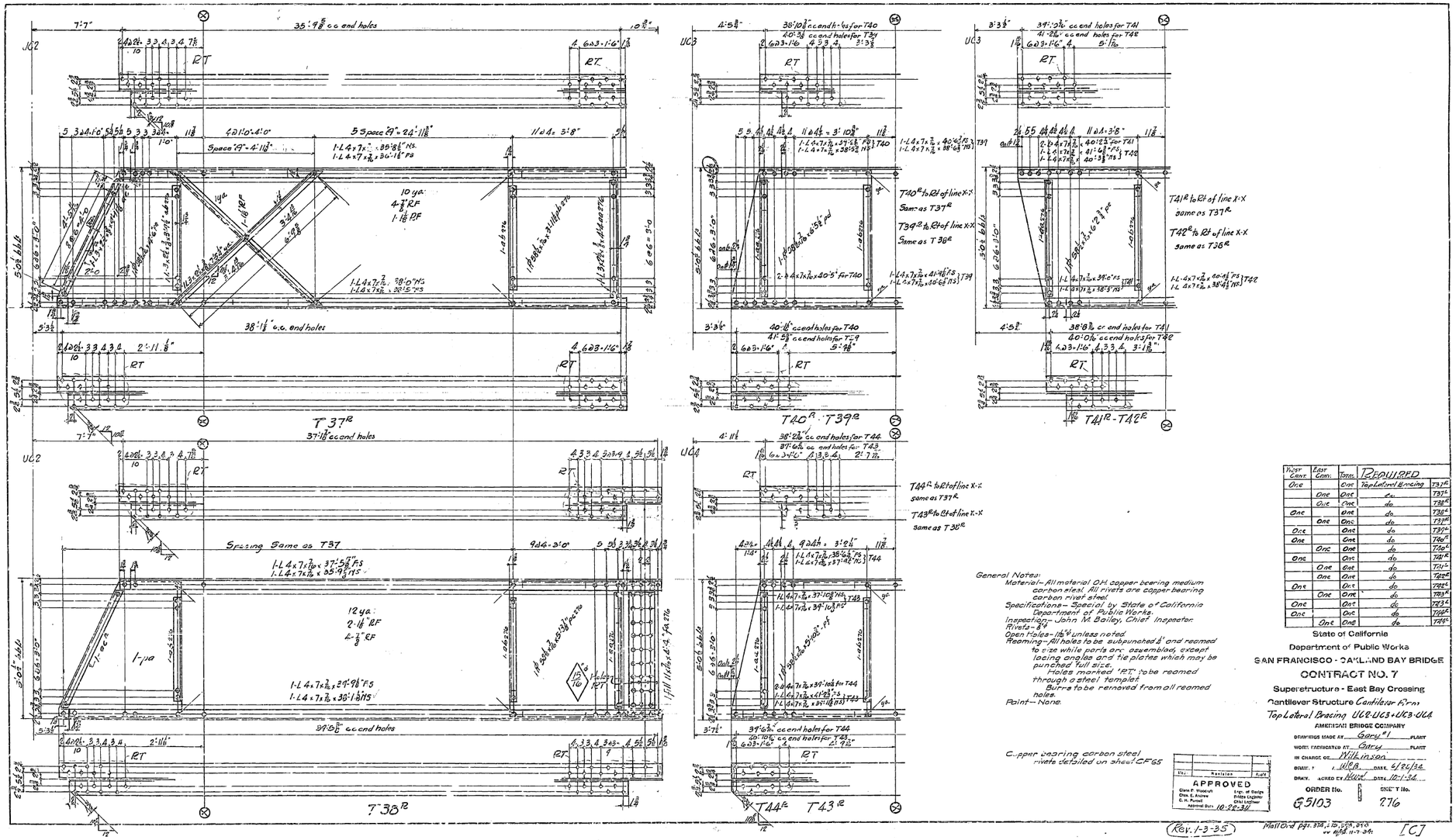
Trade	Revision	Appr.
APPROVED		
Glenn D. Woodrum, Chief, C. H. Purcell, Approved Date 10-22-36	Engr. of Design, Bridge Engineer, Chief Engineer	

West Cant.	East Cant.	Total	REQUIRED	
One		One	Top Lateral Bracing	T29R
	One	One	do	T29L
One		One	do	T30R
	One	One	do	T30L
	One	One	do	T31L
One		One	do	T31R
	One	One	do	T32R
One		One	do	T32L
One		One	do	T33R
	One	One	do	T33L
One		One	do	T34R
	One	One	do	T34L
	One	One	do	T35R
One		One	do	T35L
	One	One	do	T36R
One		One	do	T36L

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm
Top Lateral Bracing U0-UC1, UC1-UC2
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
DRAWN BY WCB DATE 6/26/34
CHECKED BY Wood DATE 10-1-36
ORDER No. G5103 DETAIL No. 275

[C]

30-1



West Cant.	East Cant.	Total	REQUIRED	
One		One	Top Lateral Bracing	737L
	One	One	do	737R
	Duo	Two	do	738R
One		One	do	738L
	One	One	do	739R
One		One	do	739L
One		One	do	740L
	One	One	do	740R
One		One	do	741R
	One	One	do	741L
	One	One	do	742R
One		One	do	742L
	One	One	do	743R
One		One	do	743L
One		One	do	744R
	One	One	do	744L

General Notes:
Material - All material O.H. copper bearing medium carbon steel. All rivets are copper-bearing carbon rivet steel.
Specifications - Special by State of California Department of Public Works.
Inspection - John M. Bailey, Chief Inspector.
Rivets - 7/8".
Open holes - 1 1/16" unless noted.
Reaming - All holes to be subpunched 1/4" and reamed to size while parts are assembled, except lacing and tie plates which may be punched full size.
Holes marked "RT" to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Paint - None.

Copper bearing carbon steel rivets detailed on sheet CF65

No.	Revision	Init.

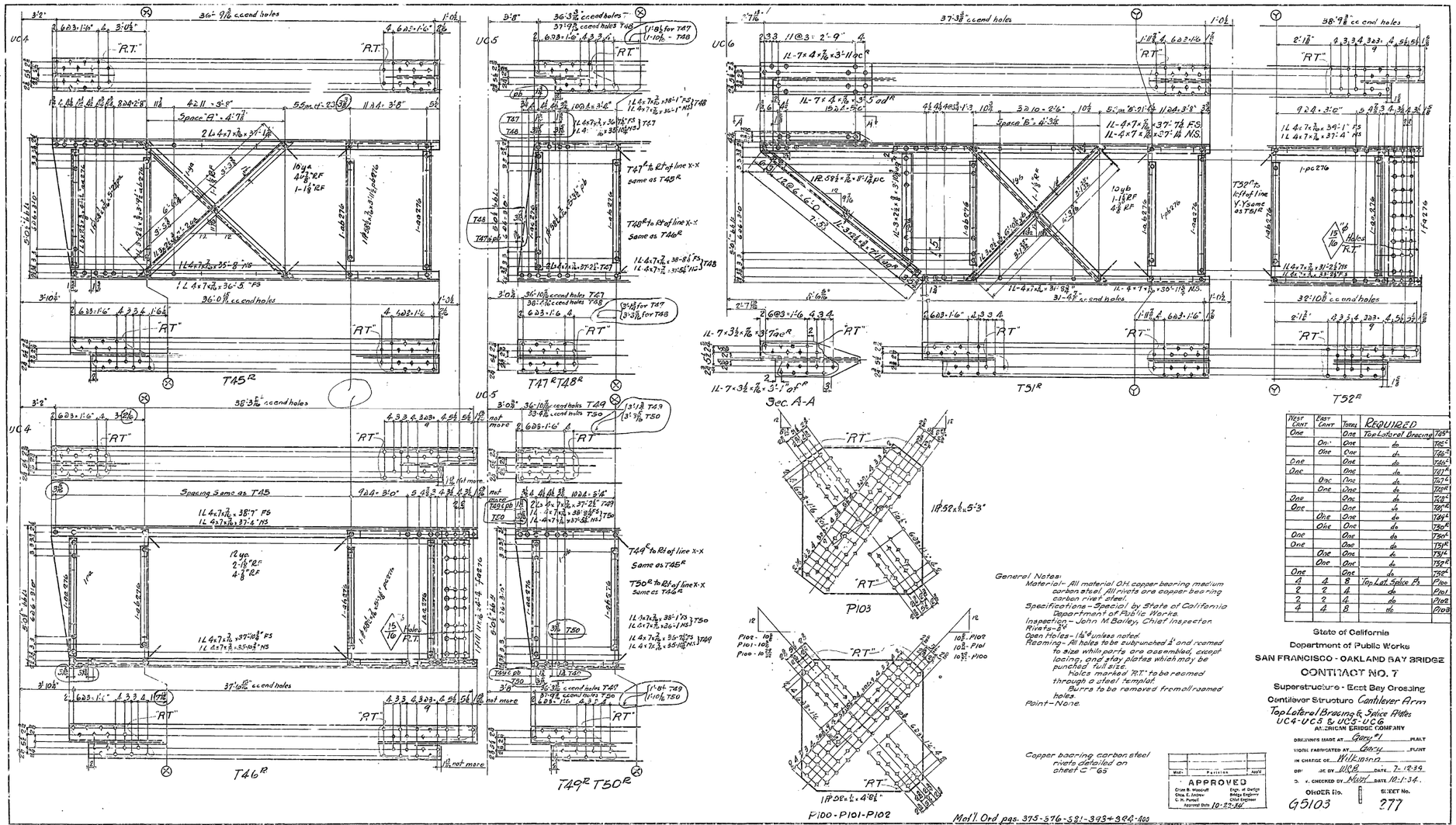
APPROVED
Clem P. Woodcock, Chief Engineer
Chas. E. Andrew, Engr. of Design
C. H. Purcell, Bridge Engineer
Approval Date: 10-22-34
Chief Draftsman

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm
Top Lateral Bracing UC2-UC3-UC3-UC4
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
DRAWN BY I. UCA DATE 6/24/34
TRACED BY Ellicott DATE 10-1-34
CHECKED BY DATE

ORDER No. G5103
SHEET No. 276

(Rev. 1-3-35)
Mail Ord. Pgs. 374, 2 to 378, 378 rev. pgs. 11-7-34
[C]



West Cant	East Cant	Total	REQUIRED	
One		One	Top Lateral Bracing	T45R
	One	One	do	T46R
One		One	do	T47R
	One	One	do	T48R
One		One	do	T49R
	One	One	do	T50R
One		One	do	T51R
	One	One	do	T52R
4	4	8	Top Lat. Splice Pl.	P100
2	2	4	do	P101
2	2	4	do	P102
4	4	8	do	P103

General Notes:
Material - All material O.H. copper bearing medium carbon steel. All rivets are copper bearing carbon rivet steel.
Specifications - Special by State of California Department of Public Works.
Inspection - John M. Bailey, Chief Inspector.
Rivets - ⅞"
Open Holes - 1⅛" unless noted.
Reaming - All holes to be subpunched ¼" and reamed to size while parts are assembled, except lacing, end stay plates which may be punched full size. Holes marked "R.T." to be reamed through a steel templet. Burrs to be removed from all reamed holes.
Point - None.

Copper bearing carbon steel rivets detailed on sheet C-65

Mark	Revision	Appd

APPROVED
Orlan B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approved Date 10-22-34

Mod'l. Ord pgs. 375-376-581-393-394-400

(Revised 12-20-34)

MPMS — 11-20-34

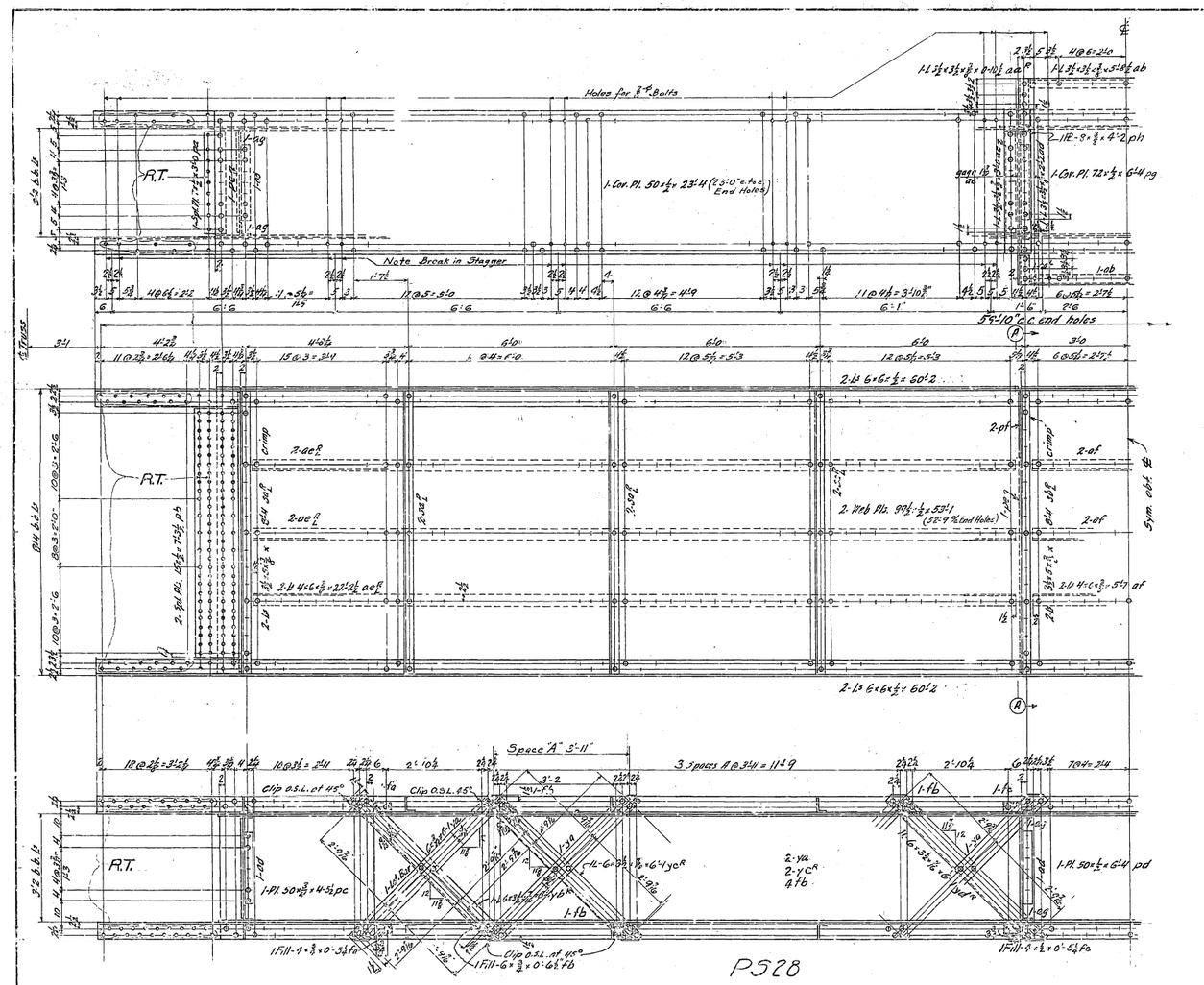
[G]

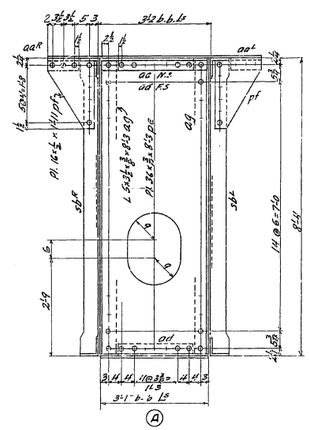
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm
Top Lateral Bracing & Splice Plates
UC4-UC5 & UC5-UC6
AMERICAN BRIDGE COMPANY

DRAWING MADE AT Gary, Ind. PLANT
STEEL FABRICATED AT Gary PLANT
IN CHARGE OF Williams
DR. JOB BY Wilcox DATE 7-12-34
TR. V. CHECKED BY Hurst DATE 10-1-34

OTHER No. G5103
SHEET No. 377

30-1





General Notes:
Material— All material OH. copper bearing medium carbon steel. All rivets to be copper bearing carbon rivet steel.
Specifications— Special by State of California Department of Public Works.
Inspection— John M. Bailey, Chief Inspector.
Rivets— ⅞ ϕ
Open Holes— 1⅛ ϕ
Reaming— All holes to be subpunched 2" and reamed to size while parts are assembled except lacing, stay plates and diaphragm webs which may be punched full size.
Holes marked 'RT' to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Finish— Edges of manholes to be smooth.
Paint— None.

Copper bearing carbon steel rivets detailed on sheet CF52

16 T

Piers Each Haven	Each Cantilever	Total	REQUIRED
One	One	2	Portal Strut P528

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm
PORTAL STRUT AT U0
AMERICAN BRIDGE COMPANY
DRAWING MADE AT GARY, IND. PLANT
WORK FABRICATED AT GARY PLANT
IN CHARGE OF WILKINSON
DETAIL MADE BY P.H.O. DATE 7-9-34
DRAWN, CHECKED BY LEH DATE 7-26-34
ORDER No. G5103
SHEET No. 278

Mark	Revision	Date

APPROVED
Chas. D. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approved Date 10-10-34

Mill ord. on pg. 372, 385 J.H.
3-41
11-13-34 10-2-34
[C]

30-1

WEST CANT.	EAST CANT.	TOTAL	REQUIRED	
One	One	2	Portal Strut	P537

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm
Portal Strut at UC1

AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary, Ind. PLANT
WORK CATED AT Gary PLANT
SH ...GE OF Wilkinson
...WN, TRACED BY W.B.B. DATE 7-12-34
DRAWN, CHECKED BY K.M.C. DATE 7-23-34

ORDER No. G5103 | SHEET No. 279

Rev 12-10-34

General Notes:
Material - All material OH copper bearing medium carbon steel. All rivets are copper bearing carbon rivet steel.
Specifications - Special by State of California Department of Public Works.
Inspection - John M. Bailey Chief Inspector.
Rivets - 7/8"
Open Holes - 1 1/16"
Reaming - All holes to be subpunched & reamed to size while parts are assembled, except facing, stay plates and diaphragm webs which may be punched full size.
Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Finish - Edges of open holes to be smooth.
Paint - None, except for one coat of acid resisting liquid as shown in section (B).

Copper bearing carbon steel rivets detailed on sheet CF65

Mark	Revision	Appr.

APPROVED
Chief Engineer
Approval Date 10-16-34

Sect (B) Showing surfaces that receive acid resisting liquid

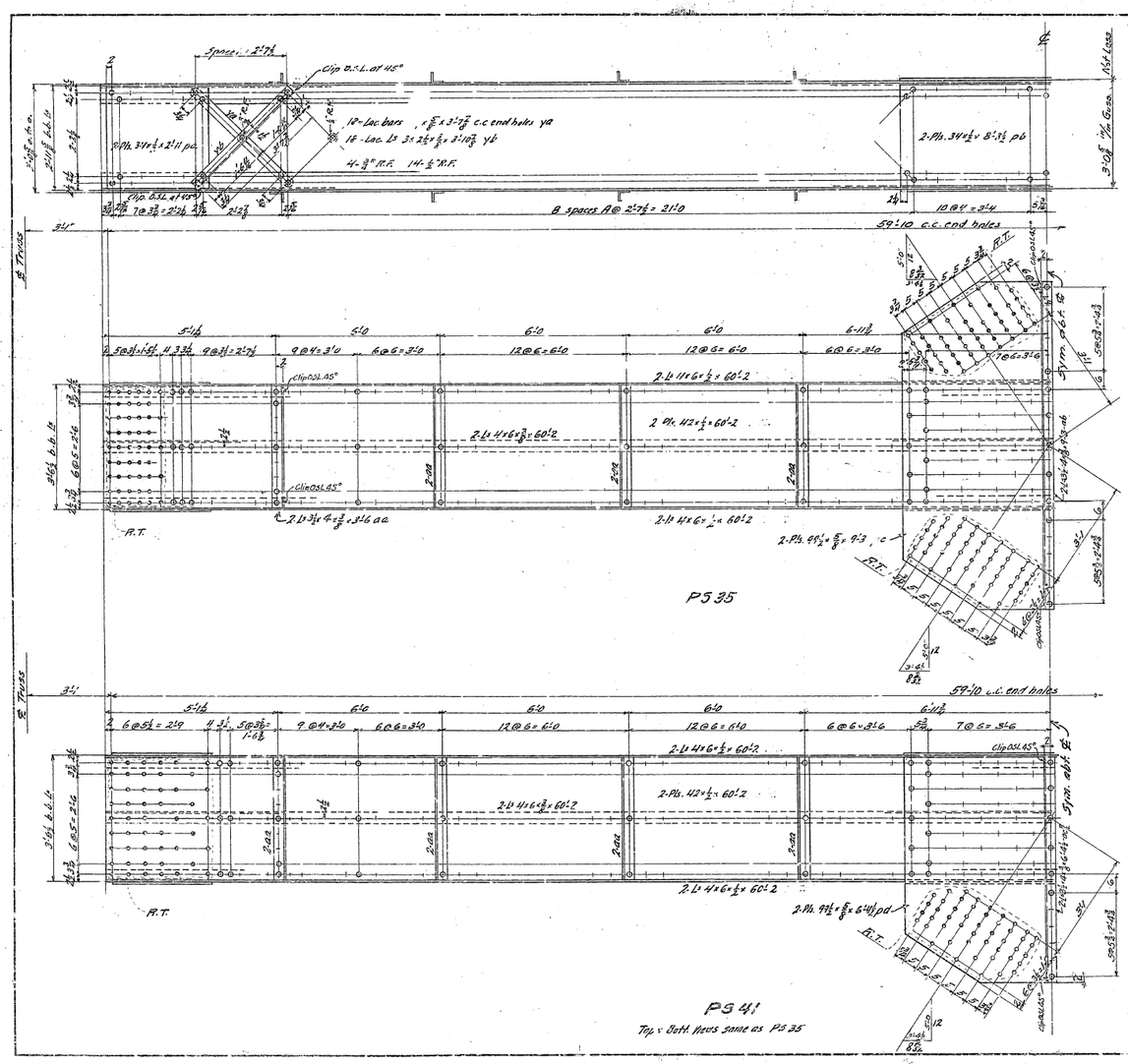
Surfaces indicated by heavy lines to receive one coat of acid resisting liquid

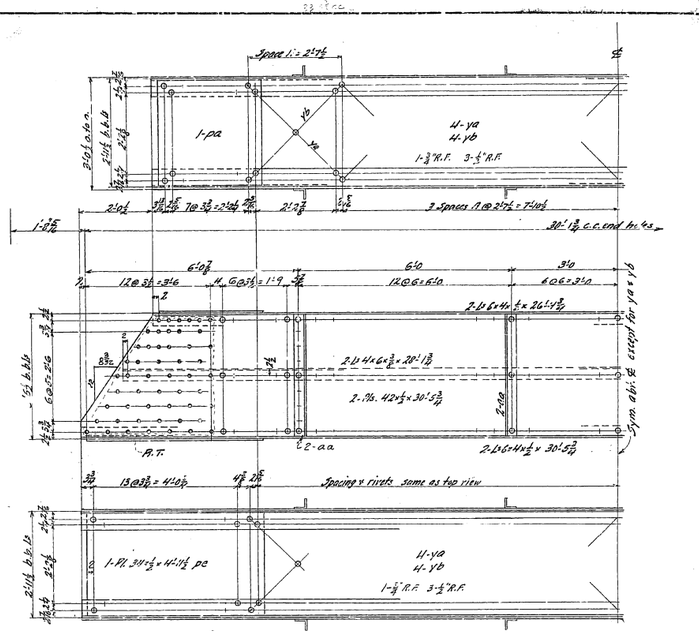
P537

264b

Mail Ord. pg 378-379 acct

[C.]





Upper Chord	Lower Chord	Total	REQUIRED	
One	One	2	Portal Struts	PS35
One	One	2	"	PS36
One	One	2	"	PS41

10T
4T
10T

General Notes:
Material— All material O.H. copper bearing medium carbon steel.
All rivets to be copper bearing carbon rivet steel.
Specifications— Special by State of California Department of Public Works.
Inspection— John M. Bailey, Chief Inspector.
Rivets— ⅞"ø
Open Holes— 1⅛"ø
Reaming— All holes to be subpunched ⅝" and reamed to size while parts are assembled except lacing and stay plates which may be punched full size.
Holes marked 'RT' to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Paint— None.

Copper bearing carbon steel rivets detailed on sheet CF 46.

Mark	Revision	Date

APPROVED
Chas. D. Woodruff, Engr. of Design
Chas. E. Andrew, Chief Engineer
C. H. Purcell
Advert. Date 10-10-34

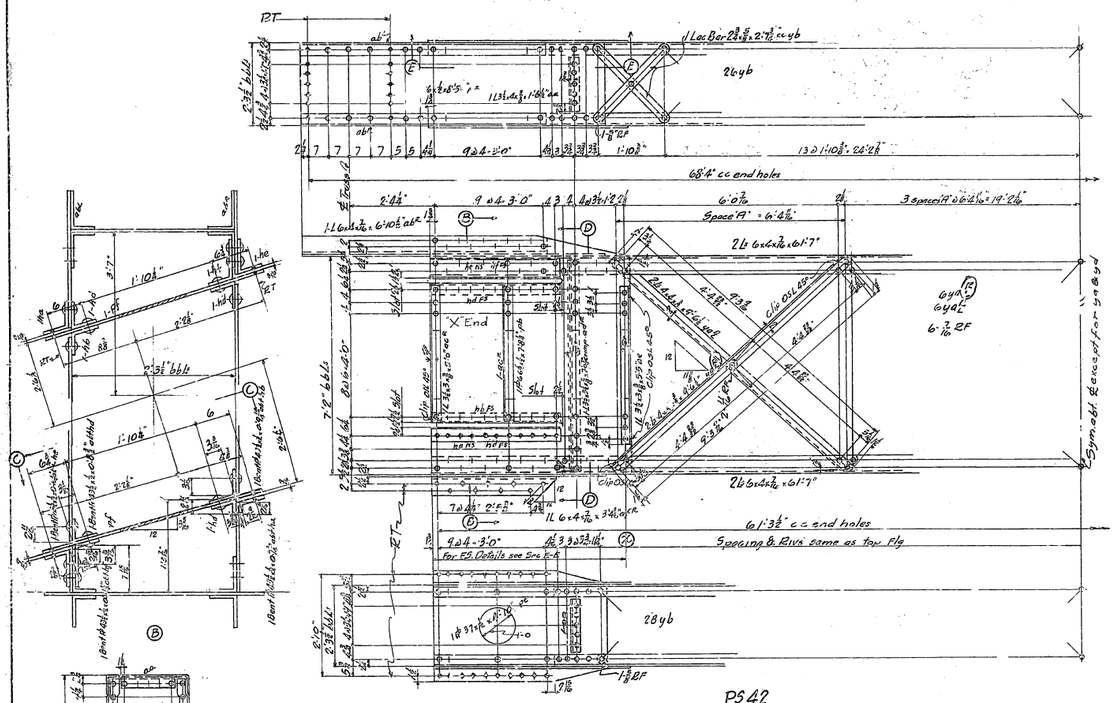
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm
PORTAL STRUTS
AMERICAN BRIDGE COMPANY

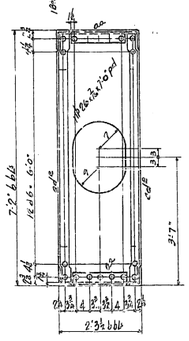
DRAWING MADE AT GARY, IND. PLANT
WORK FABRICATED AT GARY PLANT
IN CHARGE OF WILKINSON
DRAWN BY DMD DATE 7-16-34
TRACED BY — DATE —
CHECKED BY LEH DATE 7-26-34

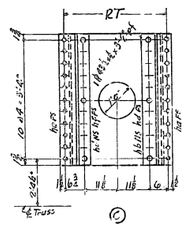
ORDER No. 65103
SHEET No. 280

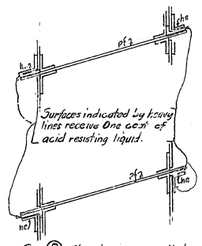
Mtl. ord. on pg. 371 & 385 J.H. 9/11
Prints 10-15-34

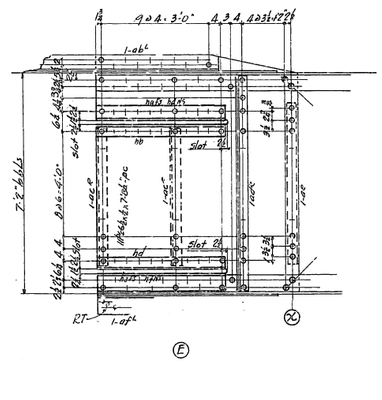
[C]











General Notes:
Material– All material OH copper bearing medium carbon steel All rivets are copper bearing carbon rivet steel.
Specifications– Special by State of California Department of Public Works.
Inspection– John M. Bailey, Chief Inspector.
Rivets– Ø
Open Holes– 1⅛ Ø
Reaming– All holes to be subpunched ⅜" and reamed to size while parts are assembled, except lacing, stay plates and diaphragm webs which may be punched full size. Holes marked "RT" to be reamed through a steel templet. Burrs to be removed from all reamed holes.
Finish– Edges of manholes to be smooth.
Paint– None, except for one coat of acid resisting liquid as shown in section Ⓔ

Copper bearing carbon steel rivets detailed on sheet CF52

APPROVED		
Chief Engr.		Engr. of Design
Chas. E. Andrew		Bridge Engineer
D. M. Purcell		Chief Engineer
Approved Date		10-10-34

West Cantl	East Cantl	Total	REQUIRED	PS42
One	One	2	Portal Strut	

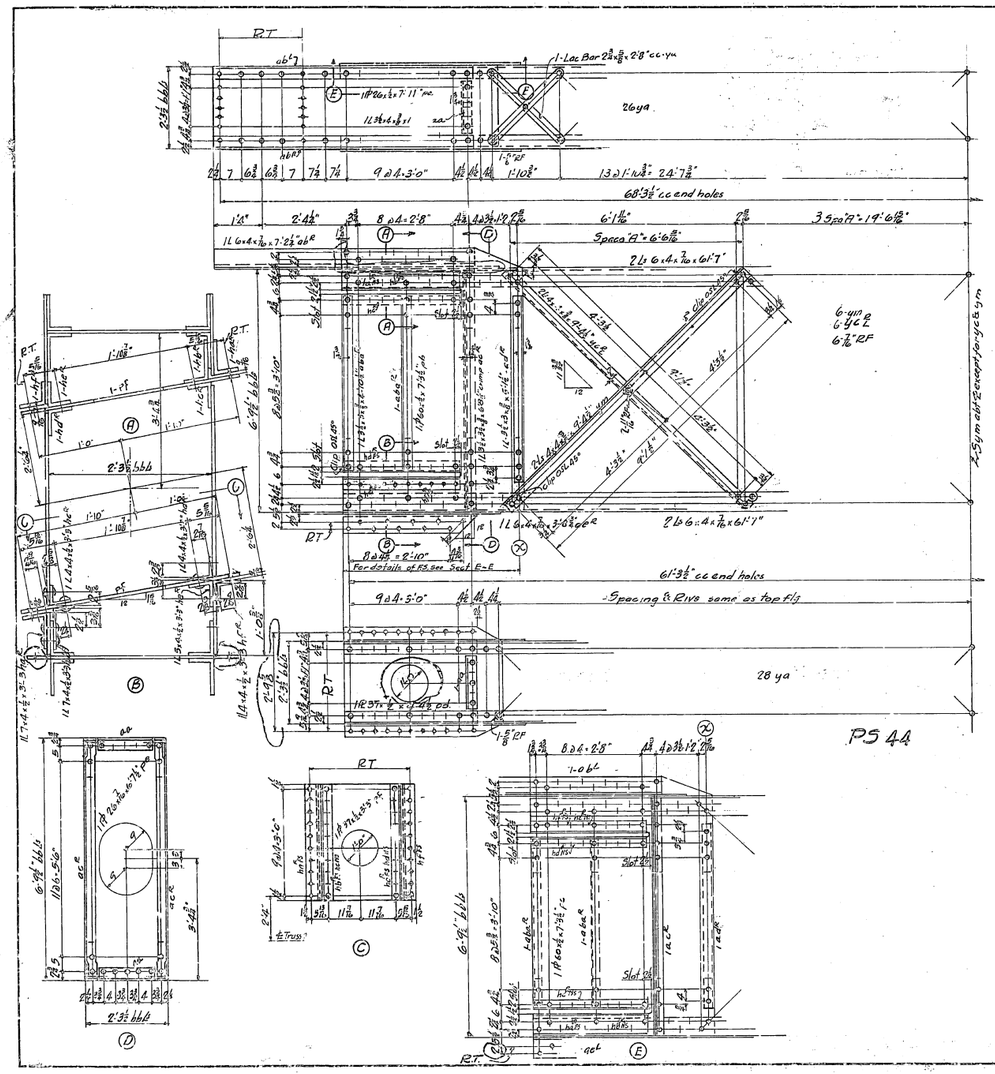
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm
Portal Strut at UC3
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Williston
DRAWN, TRACED BY WRB DATE 7/10/34
CHKD CHKED BY K.M.S. DATE 7-27-34
ORDER No. G5103
SHEET No. 231

Rev. 1-2-35

W. Apg. 11-6-34.

Mail Orders 376-391 Bldg

[C]



Next Cont	Erect Cont	Total	REQUIRED	
One	One	2	Part 1 Sht 4	1564
One	One	2	"	1340

GENERAL NOTES:
Material – All material O.H. copper bearing medium carbon steel. All rivets are copper bearing carbon rivet steel.
Specifications – Special by State of California Department of Public Works.
Inspection – John M. Bailey, Chief Inspector.
Rivets – ⅞"
Open Holes – 1⅛"
Reaming – All holes to be subpunched ⅛" and reamed to size while parts are assembled, except lacing and stay plates which may be punched full size. Holes marked "R.T." are to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Edges of manholes and handholes to be smooth.
Paint – None except one coat cold resisting liquid between bearing surfaces in contact. (See Sht. F21)

Copper bearing carbon steel rivets detailed on sheet CF 10

B (Rev. 11-20-36) (Rev. 11-19-36)

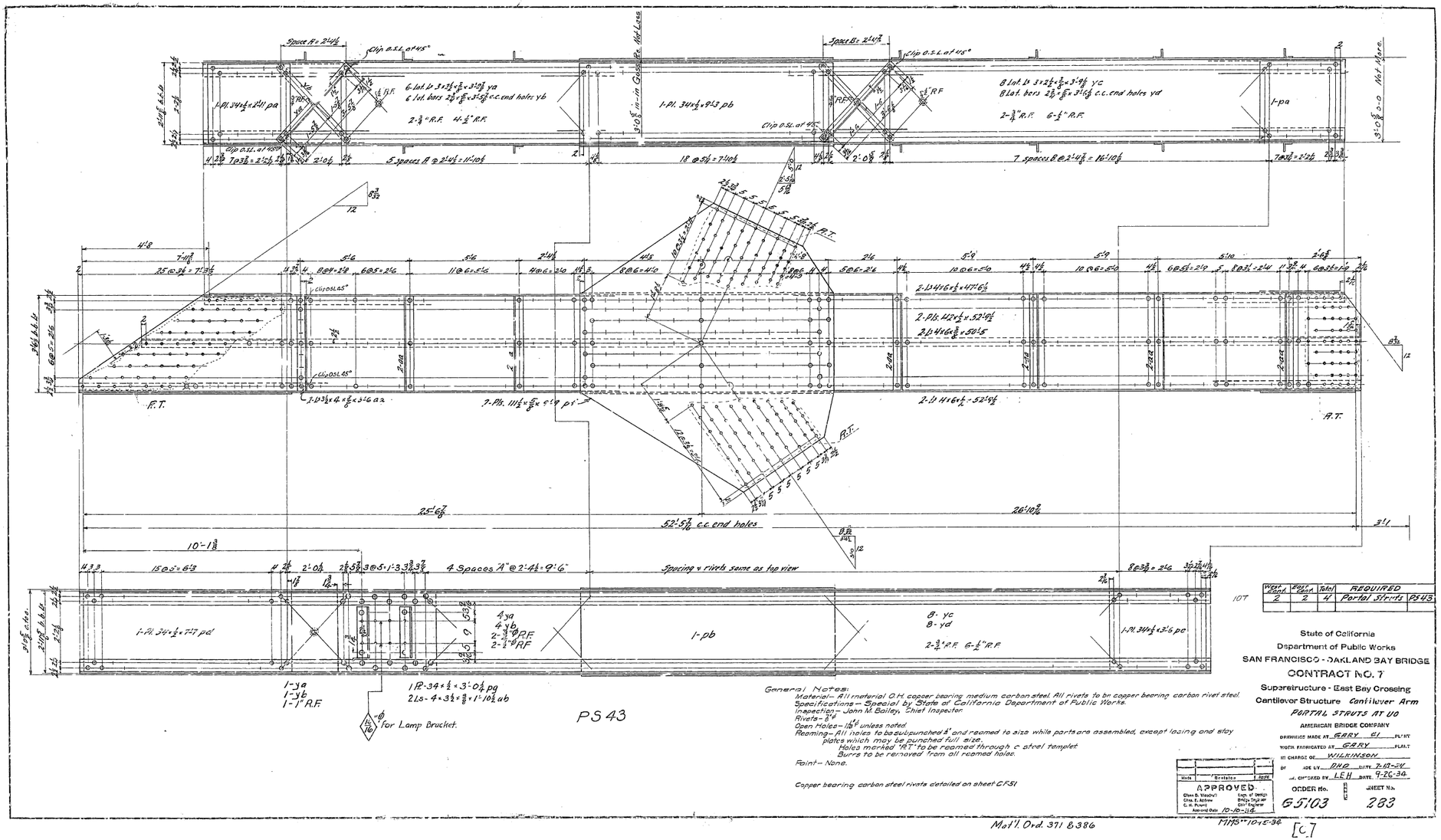
2. P S 48 used temporarily in Erection Bents #15 & 16.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm
Portal Strut at U C 5 & U C 7
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
DRAWN BY DRD DATE 7-18-36
CHECKED BY ASH DATE 8-24-36
ORDER No. G5103
ENGR'S No. 4.82

Mark	Revision	Appd

APPROVED
Chas. D. Wyckoff, Engr. of Design
Chas. T. Andrew, Engineer
C. H. Purcell, Chief Engineer
Approved Date 9-10-36

Mstl Wrd Sl. 204,377 @ 833 lbs = 9-17-36 [C]



PS 43

Weld Mark	Weld Each	Total	REQUIRED
2	2	4	Portal Struts PS43

10T

General Notes:
Material – All material O.H. copper bearing medium carbon steel. All rivets to be copper bearing carbon rivet steel.
Specifications – Special by State of California Department of Public Works.
Inspection – John M. Bailey, Chief Inspector.
Rivets – ⅞" ϕ
Open Holes – 1⅛" ϕ unless noted.
Reaming – All holes to be subpunched ¼" and reamed to size while parts are assembled, except lacing and stay plates which may be punched full size.
Holes marked "RT" to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Paint – None.

Copper bearing carbon steel rivets detailed on sheet CFS1.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm
PORTAL STRUTS AT U0

AMERICAN BRIDGE COMPANY
DRAWING MADE AT GARY, IND. PLANT
WORK FABRICATED AT GARY PLANT
IN CHARGE OF WILKINSON
DETAILED BY JOE LV. DATE 7-10-34
CHECKED BY LEH DATE 9-26-34

Mark	Revisions	Date

APPROVED
Chas. D. Vaudrey
Chas. E. Andrew
C. H. Purcell
Approved Date 10-18-34
Engr. of Design
Engr. in Charge
Chief Engineer

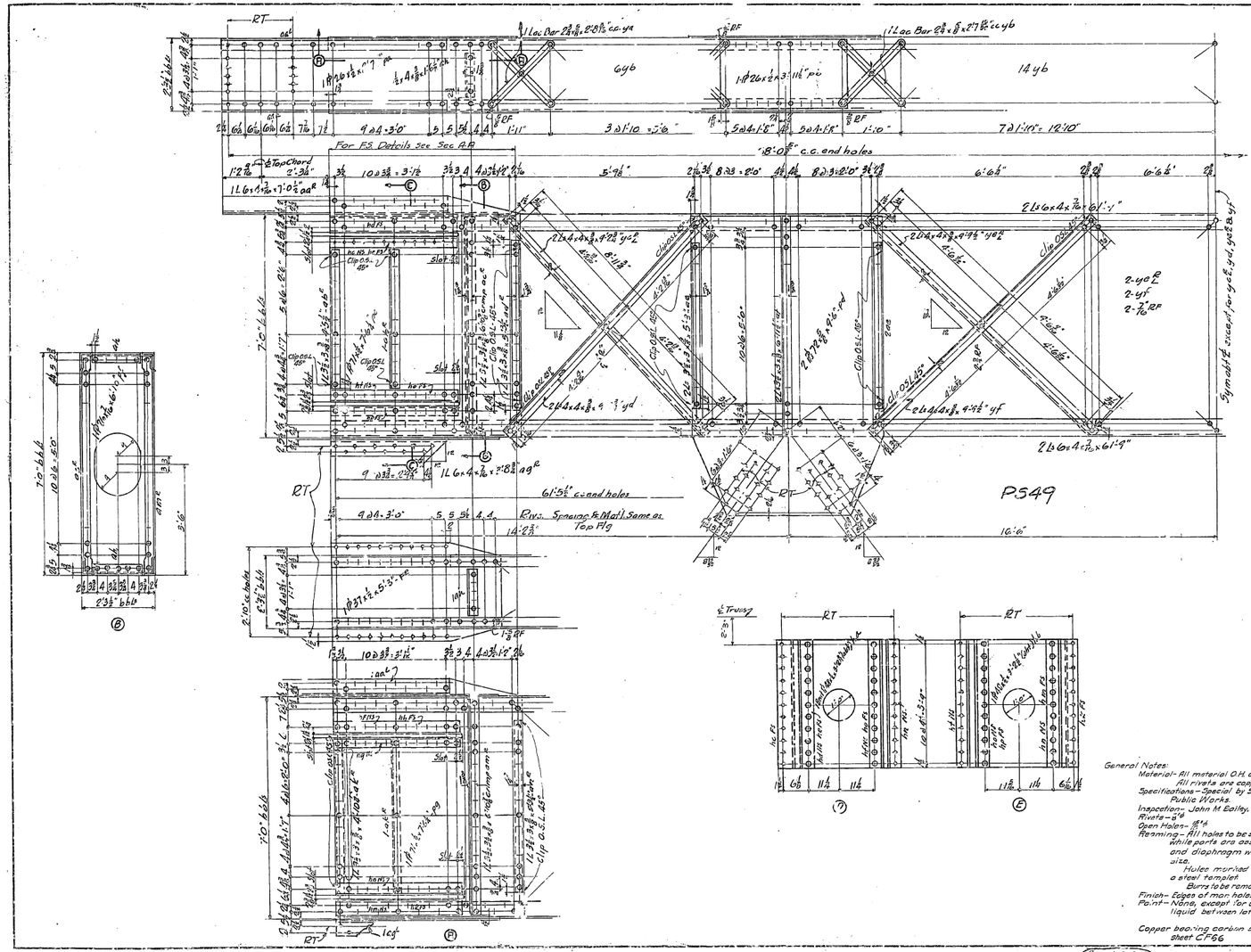
ORDER No. G5103
SHEET No. 283

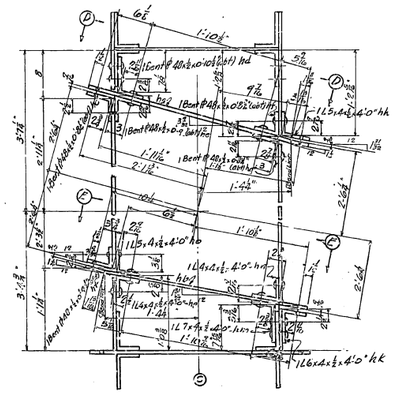
Mat'l. Ord. 371 & 386

MMS** 10-15-36

[C.]

30-1





General Notes:
Material- All material O.H. copper bearing medium carbon steel. All rivets are copper bearing carbon rivet steel
Specifications- Special by State of California Department of Public Works.
Inspection- John M Bailey, Chief Inspector.
Rivets- ⅞"ø
Open Holes- 13/16
Reaming- All holes to be subpunched & reamed to size while parts are assembled, except lacing, stay plates and diaphragm webs which may be punched full size.
Holes marked "RT" to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Finish- Edges of mon. holes to be smooth.
Paint- None, except for one coat of acid resisting liquid between lateral connections (See Sheet F21)

Copper bearing carbon steel rivets detailed on Sheet CT56

Vicks	Revisions	April
APPROVED		
Chas. B. Hyde, Engr. of Design		
Chas. E. Andrew, Bridge Engineer		
C. H. Purcell, Chief Engineer		
Approval Date 10-27-36		

West Cant.	East Cant.	Total	REQUIRED		
One	One	2	Portal Strut	P549	12 T

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Cantilever
Cantilever Structure Cantilever Arm
Portal Strut at U C4

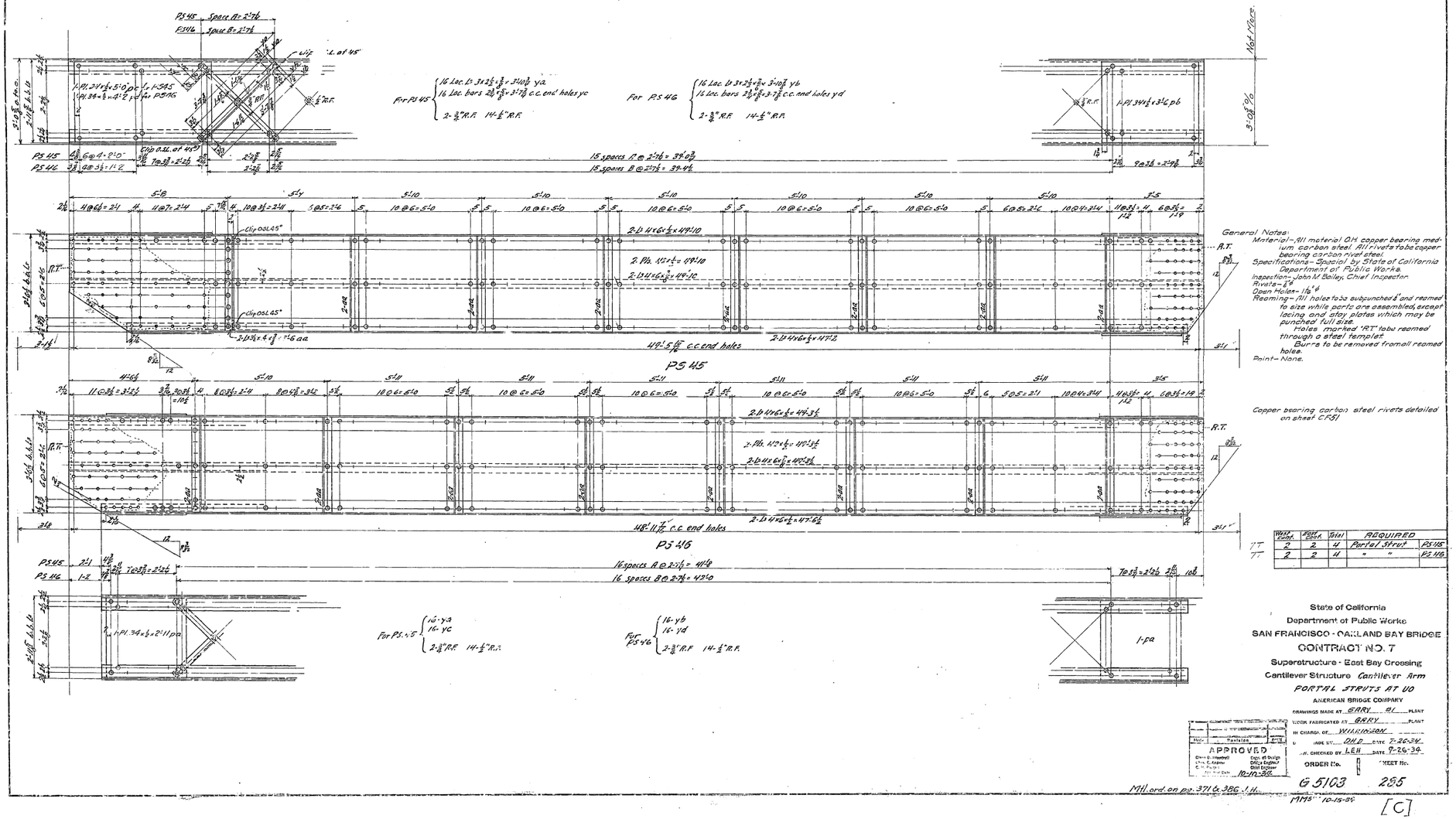
AMERICAN BRIDGE COMPANY

DRAWING ISSUED AT Gary "1" PLANT
WORK FABRICATED AT Gary PLANT
DRAWN BY A. Wilkinson
DESIG. CHKD BY MDB DATE 7-24-36
DRAW. CHECKED BY K.M.S. DATE 10-12-36
ORDER No. G5103 SHEET No. 284

Rev. 1-2-35

Mailed 11-16-36 Mailed Fg 376-397

[C]



General Notes:
Material – All material OH copper bearing medium carbon steel. All rivets to be copper bearing carbon rivet steel.
Specifications – Special by State of California Department of Public Works.
Inspection – John H. Bailey, Chief Inspector.
Rivets – ⅞"ø
Open Holes – 1⅛"ø
Reaming – All holes to be subpunched & reamed to size while parts are assembled, except lacing and stay plates which may be punched full size.
Holes marked 'RT' to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Paint – None.

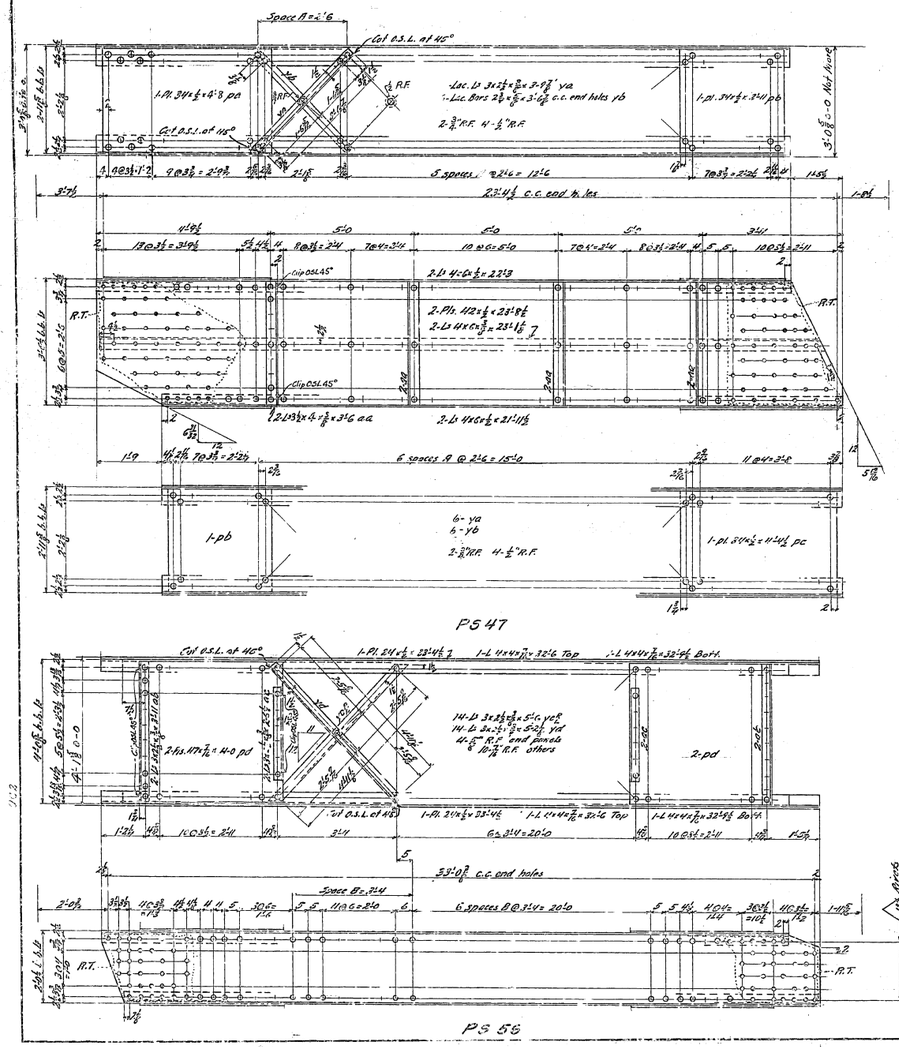
Copper bearing carbon steel rivets detailed on sheet CP51

Web Conn.	Post Conn.	Total	REQUIRED	
2	2	4	Portal Strut	PS 45
2	2	4	"	PS 46

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm
PORTAL STRUTS AT U0
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT GARY, IN. PLANT
WORK FABRICATED AT GARY PLANT
IN CHARGE OF WILKINSON
MADE BY DHD DATE 7-26-34
CHECKED BY LEH DATE 9-26-34
ORDER No. G 5103 SHEET No. 255
APPROVED
Chief Engineer
10-17-34
MMS 10-15-34

[C]

3041



Weight Card	Piece Card	Mark	REQUIRED		
2	2	41	Portal Strut	PS47	ST
2	2	41	" "	PS56	ST
2	2	41	" "	PS57	ST

General Notes:
Material- All material O.H. copper bearing medium carbon steel. All rivets are copper bearing carbon rivet steel.
Specifications- Special by State of California Department of Public Works.
Inspection- John M. Bailey, Chief Inspector
Rivets- ¾" unless noted.
Open Holes- 15/16
Reaming- All holes to be subpunched ¼" and reamed to size when parts are assembled, except lacing and stay plates which may be punched full size.
Holes marked RT. to be reamed through a steel templet. Burrs to be removed from all reamed holes.
Paint- None.

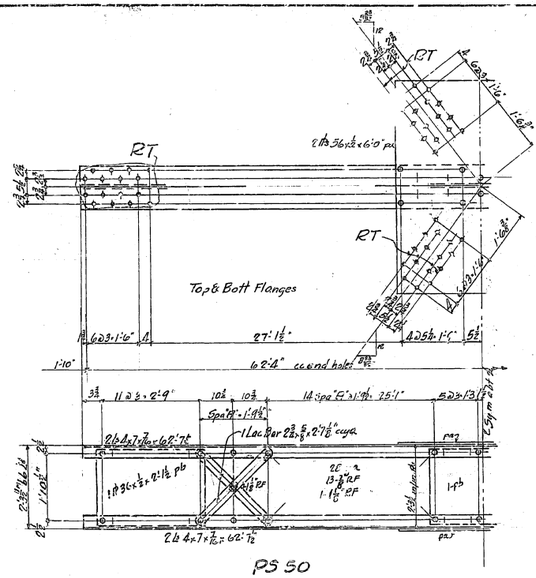
Copper bearing carbon steel rivets detailed on sheet CF52

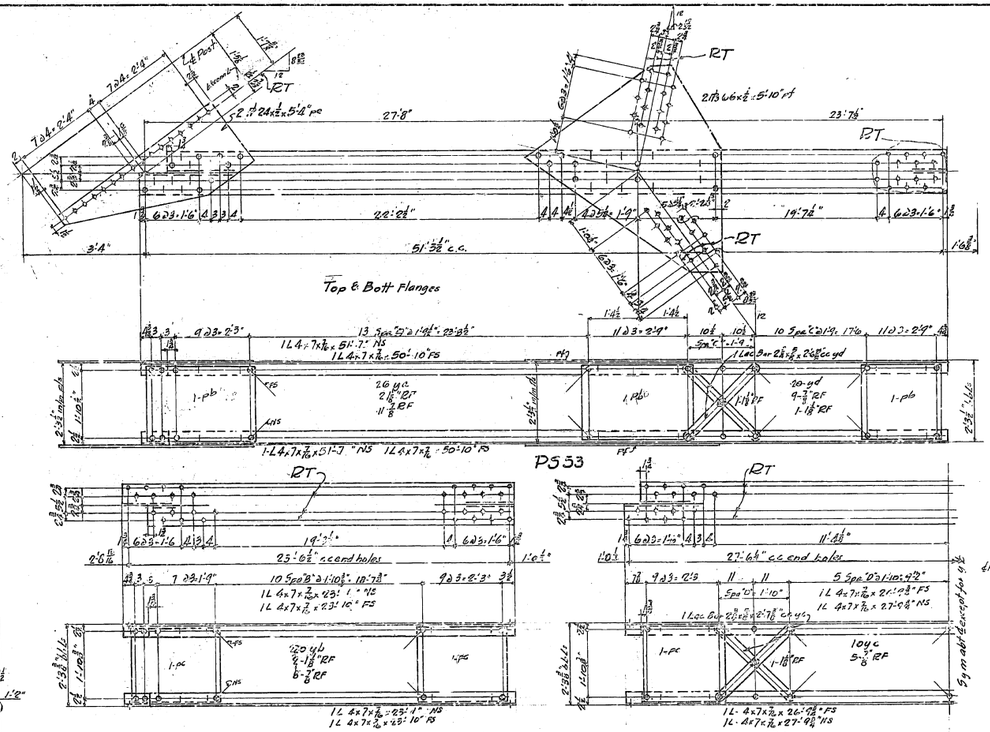
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm
PORTAL STRUTS AT U0 & U2
AMERICAN BRIDGE COMPANY
DRAWING LOAD AT GARY PLANT
WORK FABRICATED AT GARY PLANT
IN CHARGE OF WILKINSON
CHECKED BY D.H.P. DATE 7-20-34
BY CHECKED BY I.E.H. DATE 9-27-34
ORDER No. G5103
SHEET No. 296

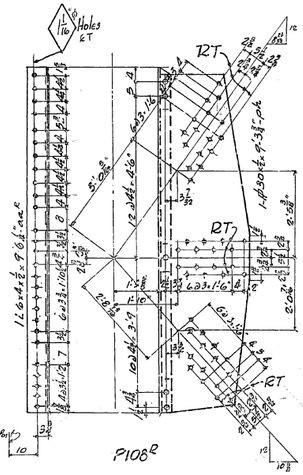
APPROVED
Chief Engineer
Dec. 6, 1934
Approved Date 10-Fri-34

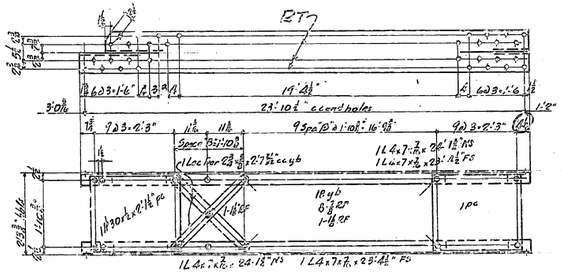
Mat'l Ord. pgs. 371, 374 & 387

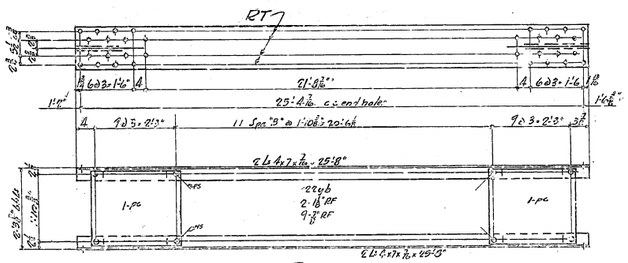
[C]











West Leaf	East Leaf	Total	REQUIRED	
One	One	2	Strut	P550
2	2	4	do	P551
2	2	4	do	P554
2	2	4	do	P553
2	2	4	do	P555
One	One	2	do	P108B
2	2	4	Gusset Pl	P108B
2	2	4	do	P108A

GENERAL NOTES:

Material—All material O.H. copper bearing, medium carbon steel. All rivets are copper bearing carbon rivet steel.
Specifications—Special by State of California Department of Public Works.
Inspection—John M Bailey, Chief Inspector.
Rivets—⅞" ø
Open Holes—15/16 unless noted.
Reaming—All holes to be sub punched ⅛" and reamed to size while parts are assembled, except lacing and stay plates which may be punched full size.
Holes marked "R" to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Paint—None.

Copper bearing carbon steel rivets detailed on sheet CF66

Mark	Revision	Appd.

APPROVED
Chas. S. Woodruff, Dist. Engr.
C. H. Purcell, Asst. Engr. of Design, Bridge Engineer
Approval Date 10-22-36

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm
Portal Bracing at U.C.4.
AMERICAN BRIDGE COMPANY

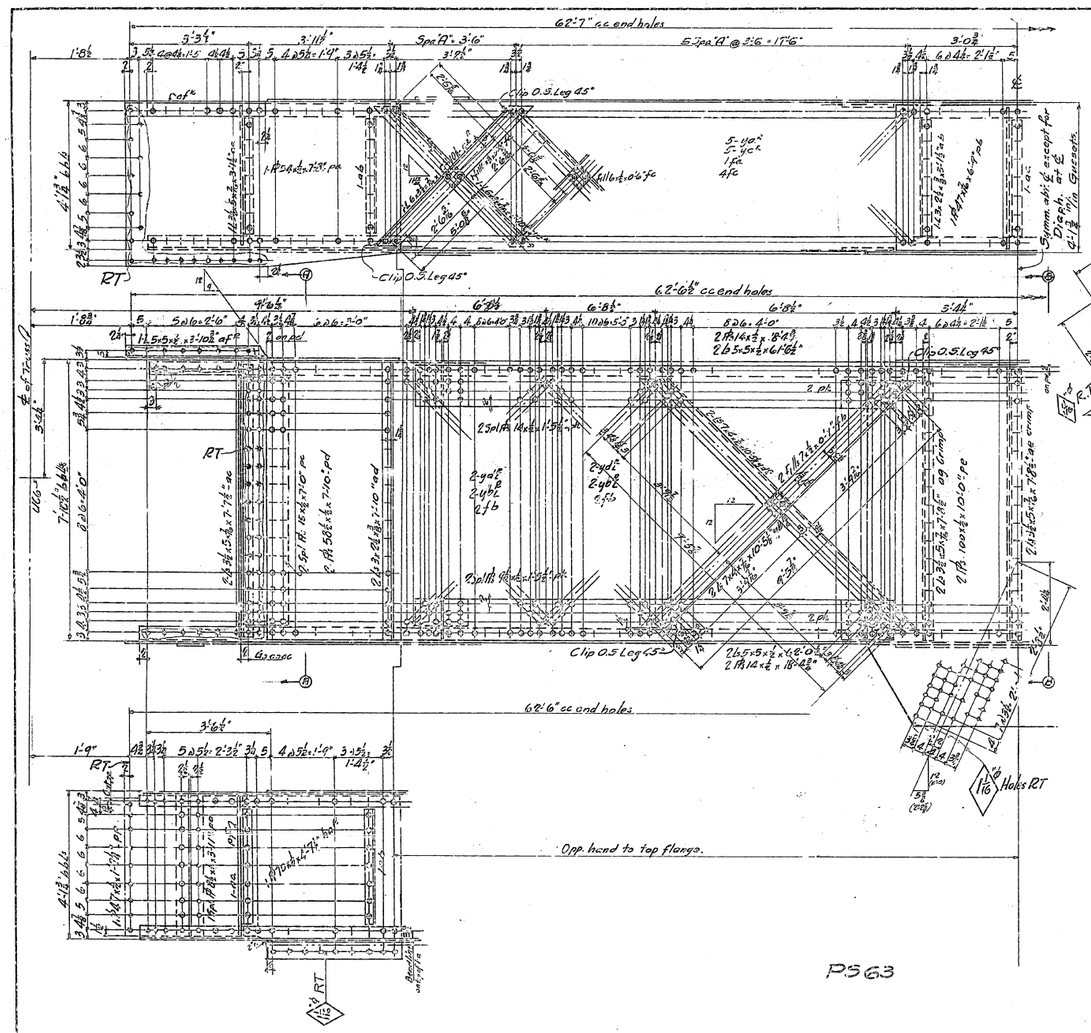
DRAWINGS MADE AT Gary "I" PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
DRAW ___ BY WCB DATE 7/20/36
ORIG. CHECKED BY K.M.S. DATE 10-3-36
ORDER No. G5103 SHEET No. 287

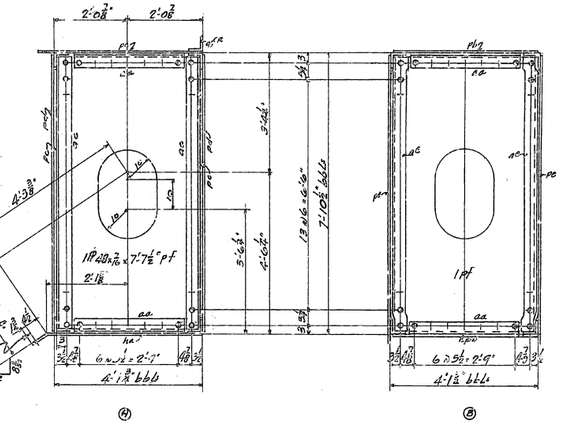
Rev. 11-20-36

Mfd. 11-16-36 Maryland Pg 376-377

[C]

30-1





West Cant	East Cant	Total	REQUIRED	
One	One	2	Portal Strut	PS63

General Notes:
Material– All material O.H. copper bearing medium carbon steel. All rivets are copper bearing carbon rivet steel.
Specifications– Special by State of California Department of Public Works.
Inspection– John M. Bailey, Chief Inspector.
Rivets – ⅞"
Open Holes – 15/16 unless noted.
Reaming– All holes to be subpunched ¼" and reamed to size while parts are assembled, except lacing, stay plates and diaphragm webs which may be punched full size.
Holes marked "RT" to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Finish– Edges of man holes to be smooth.
Paint– None.

Copper bearing carbon steel rivets detailed on sheet CP63.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm
Portal Strut at U.C 6

AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary W. PLANT
WORK FABRICATED BY Gary PLANT
IN CHARGE OF Wilkinson
FILED BY WJD DATE 7/31/38
LAID OUT CHECKED BY LEH DATE 10-4-38

Date	Revision	By
	APPROVED	

Chief Engr. Bridge Engr. Steel Engr.
Approved Date 10-27-38

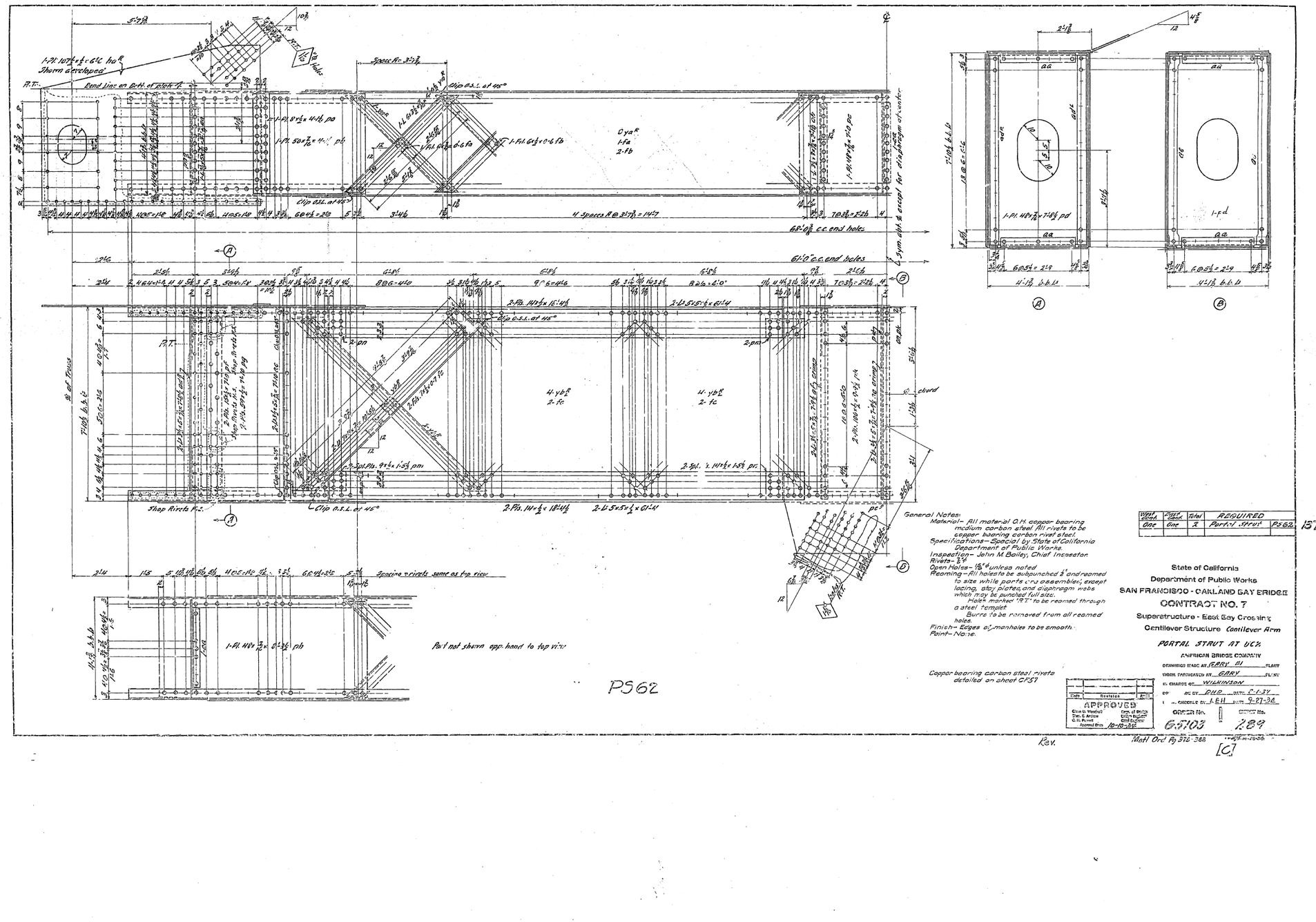
ORDER No. G5103 DETAIL No. 280

M.H. cont. on pg. 377, 395

(7 1/2" x 11" 11-1-38)

[C]

30-1



Work Drgs.	Shop Drgs.	Total	REQUIRED		
One	One	2	Portal Struts	PS62	137

General Notes:
Material – All material O.H. copper bearing medium carbon steel. All rivets to be copper bearing carbon rivet steel.
Specifications – Special by State of California Department of Public Works.
Inspection – John M. Bailey, Chief Inspector.
Rivets – ⅞ ℄
Open holes – 1⅛ ℄ unless noted
Reaming – All holes to be subpunched ⅜" and reamed to size while parts are assembled, except lacing, stay plates and diaphragm webs which may be punched full size.
Holes marked "R" to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Finish – Edges of manholes to be smooth.
Paint – None.

Copper bearing carbon steel rivets detailed on sheet CF57.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure *Cantilever Arm*
PORTAL STRUT AT U.C.
AMERICAN BRIDGE COMPANY
DRAWING MADE AT GARY, IND. PLANT
WORK FABRICATED AT GARY PLANT
IN CHARGE OF WILKINSON
DR. BY DHD DATE 2-1-37
CHD. BY KEH DATE 9-27-36
ORDER No. 6-5103 SHEET No. 289

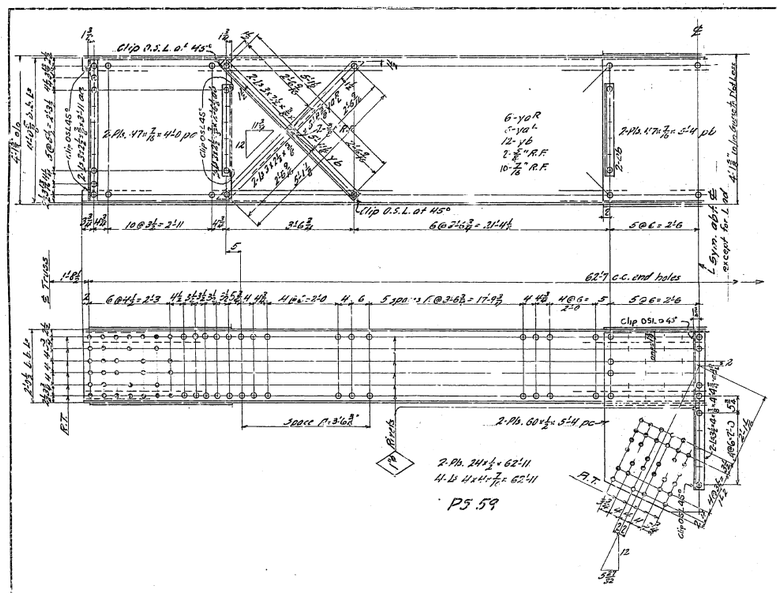
Date	Revision	Init.

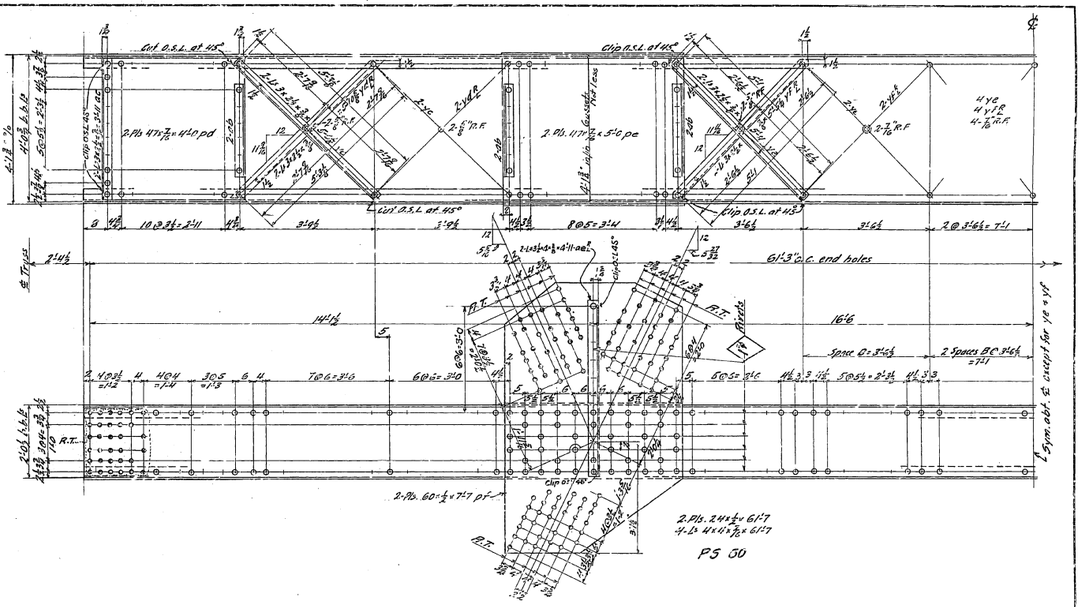
APPROVED
Chief Engineer
Asst. Chief Engineer
Engineer of Bridges
Bridge Engineer
Asst. Engineer
10-10-36

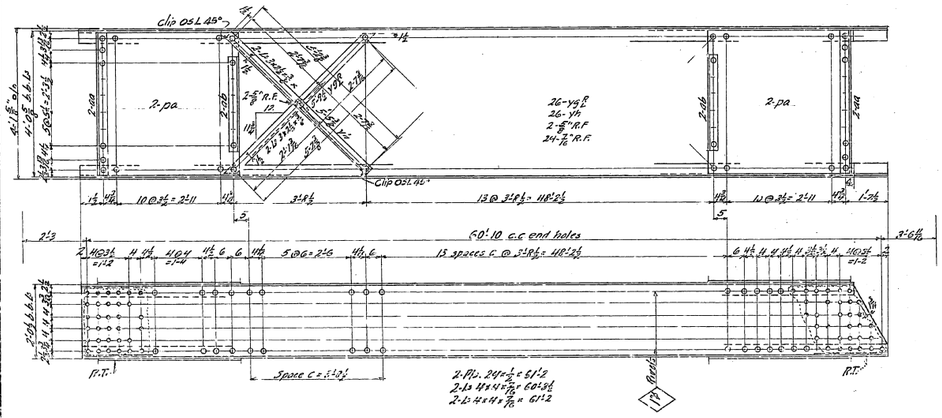
Rev.

Mat'l Ord. Pg. 372-388

[C]







Used on Each	Spare Each	Total	REQUIRED	
2	2	4	Portal Strut	P358 GT
One	One	2	" "	P359 GT
One	One	2	" "	P360 TT

General Notes:
Material- All material O.H. copper bearing medium carbon steel. All rivets are copper bearing carbon rivet steel.
Specifications- Special by State of California Department of Public Work.
Inspection- John M. Bailey, Chief Inspector.
Pitch- 3" unless noted
Open Holes- 13/16"
Reaming- All holes to be subpunched 3/4" and reamed to size while parts are assembled, except lacing and stay plates which may be punched full size. Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Paint- None.

Copper bearing carbon steel rivets detailed on sheet CP 5a.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm
PORTAL STRUTS UC2-MC1
AMERICAN BRIDGE COMPANY

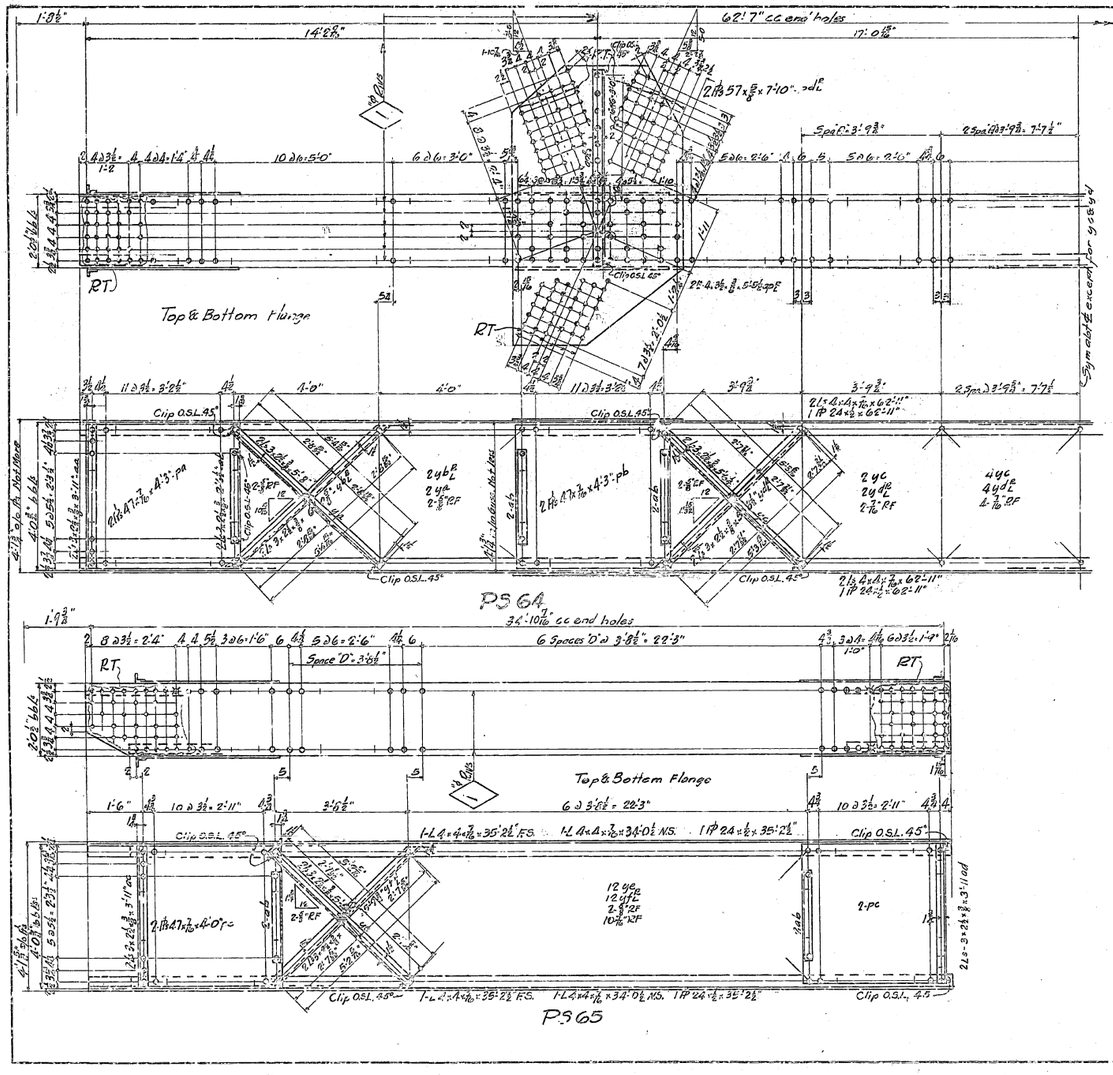
DRAWINGS ISSUED BY	GARY	KY	DT & RY
WORK FABRICATED BY	GARY		PLANT
IN CHARGE OF	WILKINSON		
DET. MADE BY	DHD	DATE	12-1-34
DET. CHECKED BY	LFH	DATE	9-27-34

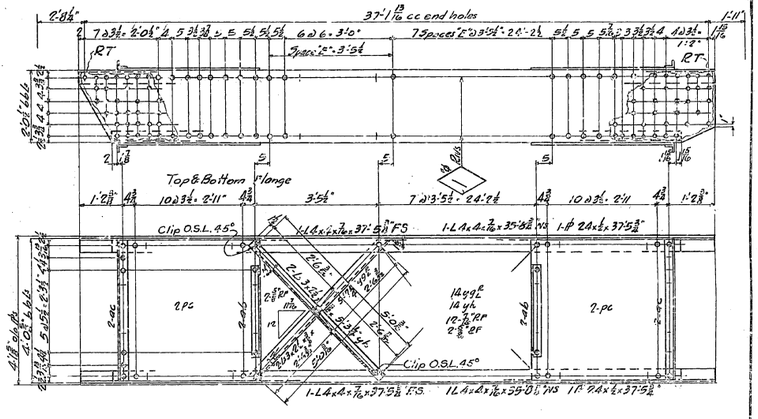
ORDER No. G5103
CONTRACT No. 290

Trade	Ratified	Date
APPROVED	Engr. of Design	
Glenn B. Woodruff	Project Engr.	
Chas. E. Andrew	Chief Engineer	
C. H. Purcell		
Approval Date 12-10-1935		

Mail Grd pj 371-389-390 [illegible] 10-22-36

[C]





West Cant.	East Cant.	Tot.	REQUIRED	
One	One	2	Portal Strut	P564
2	2	4	do	P565
2	2	4	do	P566

General Notes:
Material - All material UH copper bearing medium carbon steel, All rivets to be copper bearing carbon rivet steel.
Specifications - Special by State of California Department of Public Works.
Inspection - John M. Bailey, Chief Inspector.
Rivets - 7/8" unless noted.
Open Holes - 1 1/16"
Reaming - All holes to be subpunched 3/4" and reamed to size while parts are assembled, except lacing and alley plates which may be punched full size.
Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Paint - None.

Copper bearing carbon steel rivets detailed on sheet CF68

Mill ord. pgs. 377-376-370

APPROVED
Chas. B. Wendt, Engr. of Bridge
Chas. E. Andrew, Chief Engineer
C. H. Purcell, Director of Public Works
Approved Date 10-27-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm
Portal Struts at U66
AMERICAN BRIDGE COMPANY

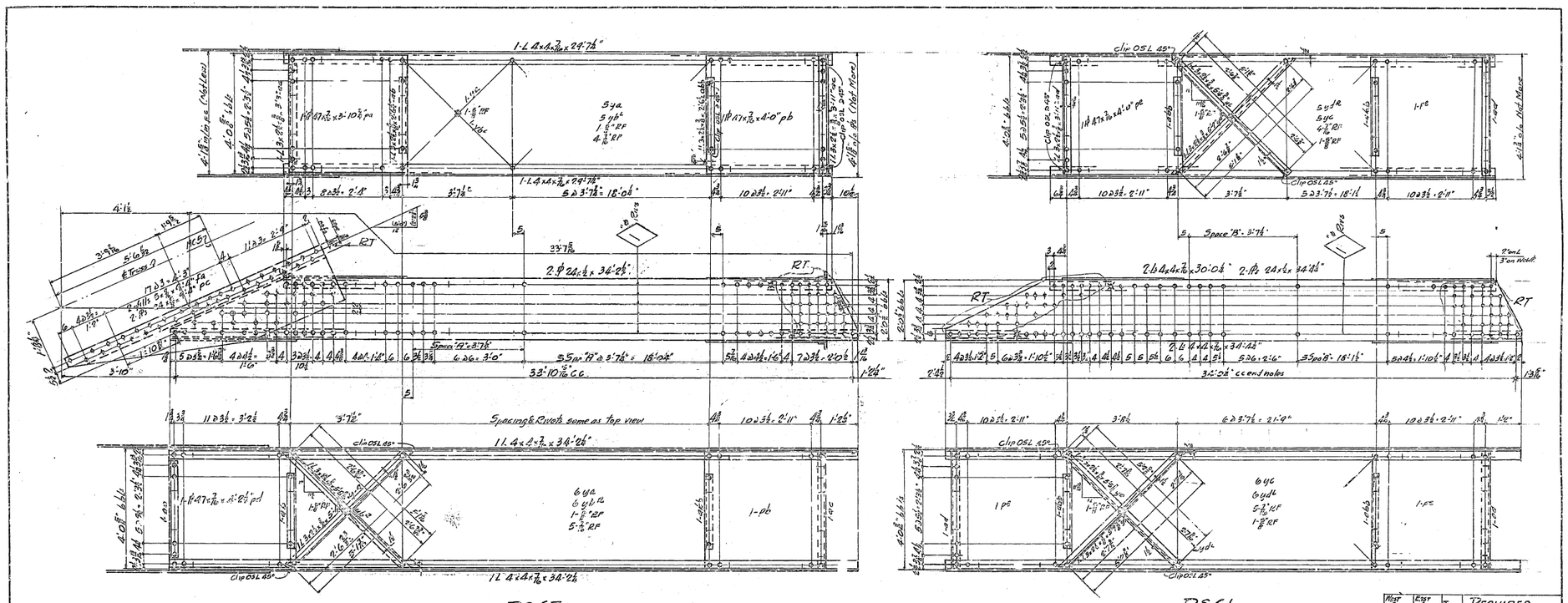
DRAWING MADE AT	Gary Ind.	PLANT
PRINT TABULATED AT	Gary	PLANT
IN CHARGE OF	W.H. Linton	
TRACED BY	W.H.J.	DATE 10-A-34
CHKD. CHECKED BY	L.E.H.	DATE 10-A-34

DRAWING No. G5103
SHEET No. 291

1/16" = 1'-0" 11-20-34

[C]

30-1


PS 67
PS 61
Spacing & Rivets same as top view
Clip 05L 45°
Clip 05L 45°
Space 'A' = 3'-7½"
Space 'B' = 3'-7½"
3"on Web
RT
RT
RT
RT
5 ya
5 yb
1 6/8" RF
4 7/8" RF
6 ya
6 yb
1-6/8" RF
5-7/8" RF
5 yd
5 yc
4-7/8" RF
1-8/8" RF
6 yc
6 yd
5-7/8" RF
1-8/8" RF
1-pb
1-pc
1 pb
1-pc
2 Lb 4x4x7/16 x 30'-0¼"
2 Lb 4x4x7/16 x 34'-2½"
2-Ø 2⅛ x 34'-2⅝"
2-Ø 2⅛ x 34'-0⅝"
1-L 4x4x7/16 x 29'-7⅝"
1-L 4x4x7/16 x 29'-7⅝"
1-L 4x4x7/16 x 34'-2⅝"
1-L 4x4x7/16 x 34'-2⅝"
1-H 47x7/16 x 3'-10⅝" pa
1-H 47x7/16 x 4'-0" pb
1-H 47x7/16 x 4'-0" pc
1-H 47x7/16 x 4'-0½" pd
Clip 05L 45°
Clip 05L 45°
Clip 05L 45°
Clip 05L 45°
32'-10 7/16" C.C.
3'-10"
3'-7½"
3'-8½"
6 @ 3'-7½" = 21'-9"
5 @ 3'-7½" = 18'-0½"
5 @ 3'-7½" = 18'-1½"
3'-0½" c.c. end holes
Spacing & Rivets same as top view
1'-2½"
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1'-9"
1'-10"
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26'-9⅜"
26'-9½"
26'-9⅝"
26'-9¾"
26'-10"
26'-10⅛"
26'-10⅜"
26'-10½"
26'-10⅝"
26'-10¾"
26'-11"
26'-11⅛"
26'-11⅜"
26'-11½"
26'-11⅝"
26'-11¾"
27'-0"
27'-0⅛"
27'-0⅜"
27'-0½"
27'-0⅝"
27'-0¾"
27'-1"
27'-1⅛"
27'-1⅜"
27'-1½"
27'-1⅝"
27'-1¾"
27'-2"
27'-2⅛"
27'-2⅜"
27'-2½"
27'-2⅝"
27'-2¾"
27'-3"
27'-3⅛"
27'-3⅜"
27'-3½"
27'-3⅝"
27'-3¾"
27'-4"
27'-4⅛"
27'-4⅜"
27'-4½"
27'-4⅝"
27'-4¾"
27'-5"
27'-5⅛"
27'-5⅜"
27'-5½"
27'-5⅝"
27'-5¾"
27'-6"
27'-6⅛"
27'-6⅜"
27'-6½"
27'-6⅝"
27'-6¾"
27'-7"
27'-7⅛"
27'-7⅜"
27'-7½"
27'-7⅝"
27'-7¾"
27'-8"
27'-8⅛"
27'-8⅜"
27'-8½"
27'-8⅝"
27'-8¾"
27'-9"
27'-9⅛"
27'-9⅜"
27'-9½"
27'-9⅝"
27'-9¾"
27'-10"
27'-10⅛"
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27'-10½"
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27'-11"
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27'-11⅜"
27'-11½"
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27'-11¾"
28'-0"
28'-0⅛"
28'-0⅜"
28'-0½"
28'-0⅝"
28'-0¾"
28'-1"
28'-1⅛"
28'-1⅜"
28'-1½"
28'-1⅝"
28'-1¾"
28'-2"
28'-2⅛"
28'-2⅜"
28'-2½"
28'-2⅝"
28'-2¾"
28'-3"
28'-3⅛"
28'-3⅜"
28'-3½"
28'-3⅝"
28'-3¾"
28'-4"
28'-4⅛"
28'-4⅜"
28'-4½"
28'-4⅝"
28'-4¾"
28'-5"
28'-5⅛"
28'-5⅜"
28'-5½"

3051

P 110R

P 111E

P 112R

P 113R

P 114

P 115

P 116

Surfaces indicated in heavy lines to receive one coat of acid resisting liquid.

General Notes:
Material - All material O.H. copper bearing medium carbon steel.
All rivets are copper bearing carbon rivet steel.
Specifications - Special by State of California Department of Public Works.
Inspection - John M. Bailey, Chief Inspector.
Rivets - 8/8" unless noted.
Open holes - 25/64" unless noted.
Reaming - All holes tobe subpunched & reamed to size while parts are assembled.
Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Paint - None, except for one coat of acid resisting liquid as noted on sections (K), (L) & (M).

Copper bearing carbon steel rivets detailed on sheet CF 5b

Mark	Mark	No.	REQUIRED
One	One	2	Miscell. Plates P110R
One	One	2	" " P111E
One	One	2	" " P111R
One	One	2	" " P111L
One	One	2	" " P112R
One	One	2	" " P113L
One	One	2	" " P113R
One	One	2	" " P113L
2	2	4	" " P114
2	2	4	" " P115
2	2	4	" " P116

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm
PORTAL & LATERAL PLATES

AMERICAN BRIDGE COMPANY
DRAWING MADE AT GARY, IND. PLANT
PLATES FABRICATED AT GARY PLANT
BY DE OE WILKINSON
CK. MADE BY D.H.P. DATE 8-10-34
PRINT CHECKED BY L.E.H. DATE 10-4-34
ORDER No. G5103 SHEET No. 293

APPROVED
Chief Engineer
Chief Engineer
Chief Engineer
11-15-34

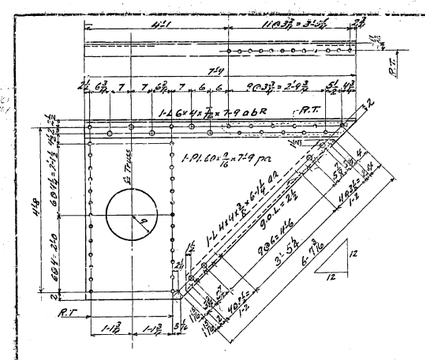
Mark | Revision | Appr.

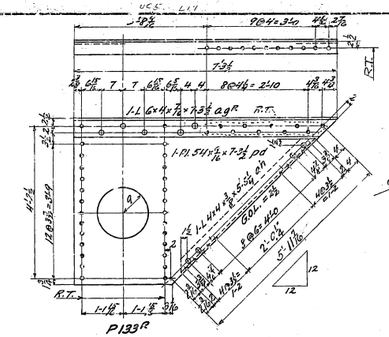
MM. and pp. 370, 391, 395

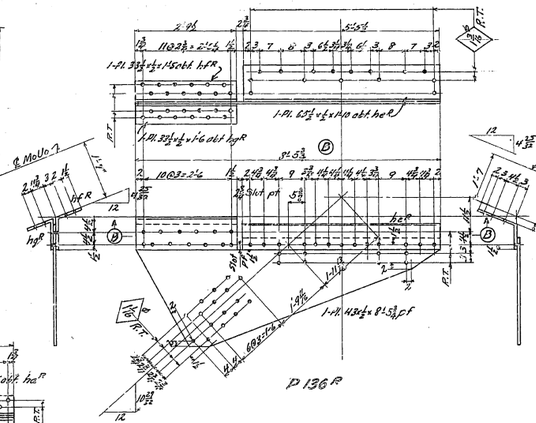
Rev. 12-4-34

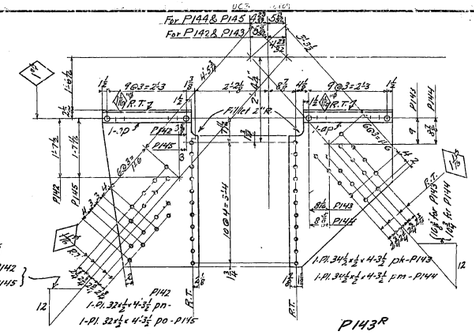
[C]

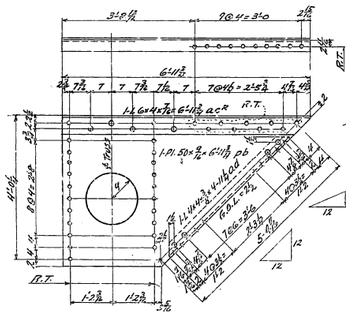
30-1

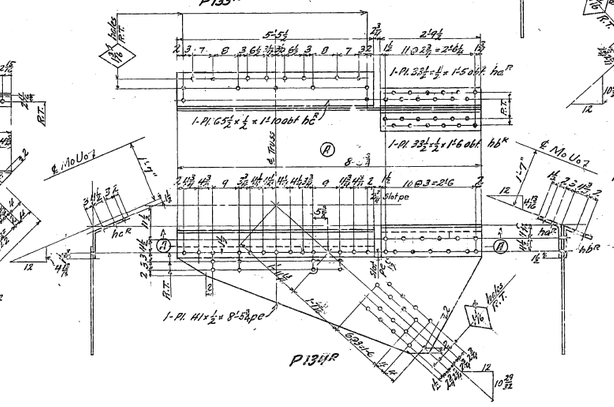


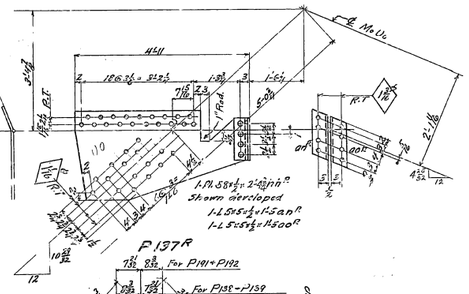


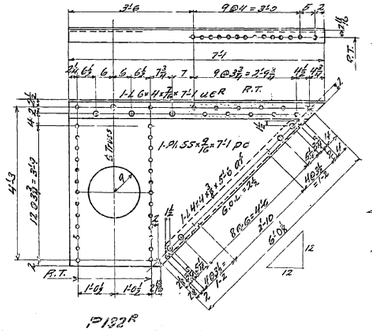


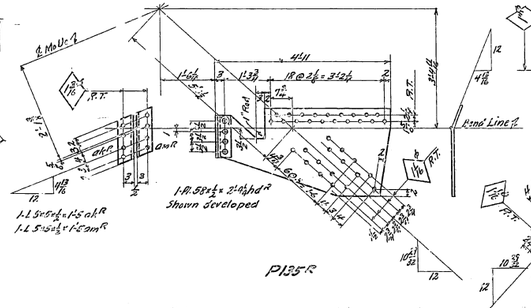


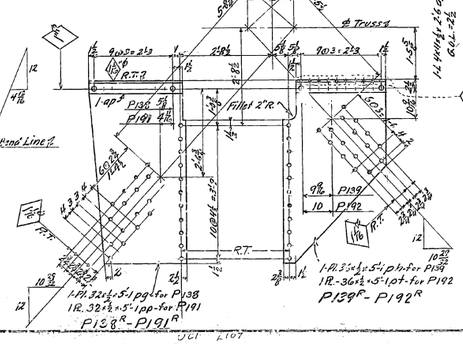












GENERAL NOTES:
Material – All material O.H. copper bearing medium carbon steel. All rivets are copper bearing carbon rivet steel.
Specifications – Except by State of California Department of Public Works.
Inspection – John M. Bailey, Chief Inspector.
Rivets – 7/8" unless noted.
Open Holes – 13/16" unless noted.
Reaming – All holes to be subpunched & end reamed to size while parts are assembled. Holes marked "R.T." to be reamed through a steel templet. Burrs to be removed from all reamed holes.
Paint – None.

Copper bearing carbon steel rivets detailed on sheet C F68

West Cant.	East Cant.	Total	REQUIRED Miscell. Plates	
1	1	2	" "	P191R
1	1	2	" "	P191L
1	1	2	" "	P192R
1	1	2	" "	P192L
2	2	4	" "	P130R
2	2	4	" "	P130L
2	2	4	" "	P131R
2	2	4	" "	P131L
2	2	4	" "	P132R
2	2	4	" "	P132L
2	2	4	" "	P133R
2	2	4	" "	P133L
1	1	2	" "	P134R
1	1	2	" "	P134L
1	1	2	" "	P135R
1	1	2	" "	P135L
1	1	2	" "	P136R
1	1	2	" "	P136L
1	1	2	" "	P137R
1	1	2	" "	P137L
1	1	2	" "	P138R
1	1	2	" "	P138L
1	1	2	" "	P139R
1	1	2	" "	P139L
1	1	2	" "	P142R
1	1	2	" "	P142L
1	1	2	" "	P143R
1	1	2	" "	P143L
1	1	2	" "	P144R
1	1	2	" "	P144L
1	1	2	" "	P145R
1	1	2	" "	P145L

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm
LATERAL PLATES ETC.
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT: GARY PLANT
WORK FABRICATED AT: GARY PLANT
IN CHARGE OF: WILHELMSEN
DRAWN: MADE BY: P.H.D. DATE: 8-14-36
TRACED BY: HUNT DATE: 10-8-36
CHECKED BY: DATE:

APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Asst. Engineer
Approval Date: 10-27-36

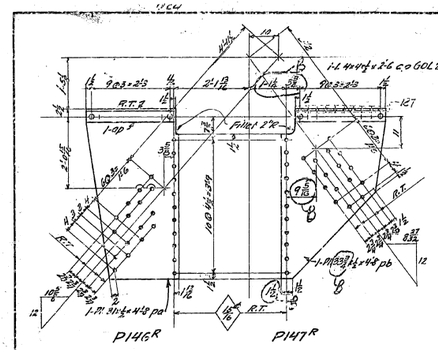
Mark	Revisions	Date

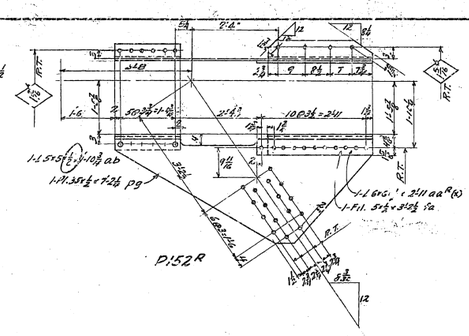
ADDEN No. 65103
SHEET No. 294

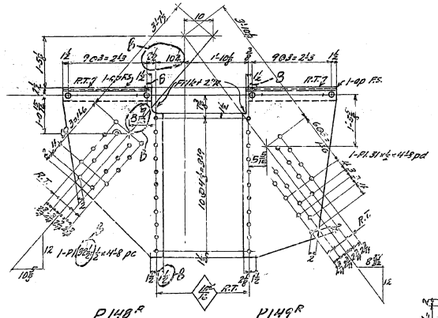
Matl. Ord. pcs. 3794-380

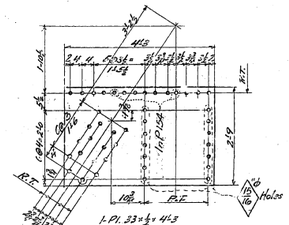
[C]

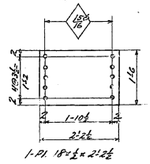
30-1

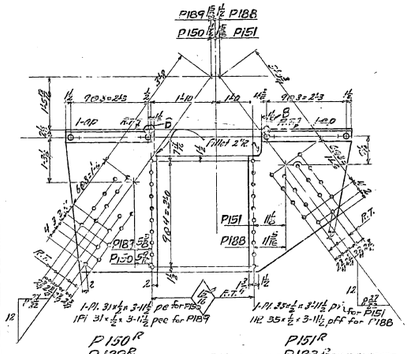












Floor Plates	Floor Beams	Total	REQUIRED	
1	1	2	Riveted - Plates	P146R
1	1	2	" "	P147R
1	1	2	" "	P148R
1	1	2	" "	P149R
1	1	2	" "	P140R
1	1	2	" "	P141R
1	1	2	" "	P142R
1	1	2	" "	P143R
1	1	2	" "	P144R
1	1	2	" "	P145R
1	1	2	" "	P152R
1	1	2	" "	P153R
2	2	4	" "	P154
2	2	4	" "	P155
16	16	32	" "	P156
1	1	2	" "	P138R
1	1	2	" "	P138L
1	1	2	" "	P139R
1	1	2	" "	P139L

General Notes:
Material - All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel. All rivets to be copper bearing cc ton rivet steel.
Specifications - Special by State of California Department of Public Works.
Inspection - John M. Boiley, Chief Inspector.
Rivets - 1"
Open Holes - 1 1/16" unless noted.
Reaming - All holes to be subpunched 3/16" and reamed to size while parts are assembled.
Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Paint - None.

Copper bearing carbon steel rivets detailed on sheet CF 8

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm
LATERAL PLATES ETC.
AMERICAN BRIDGE COMPANY

DRAWING MADE AT: GARY IN PLANT
WORK FABRICATED AT: GARY PLANT
IN CHARGE OF: W. F. KLEINHANS
DRAWN BY: A.H.R. DATE: 8-15-36
TRACED BY: A.S.M. DATE: 9-5-36
OTHER NO.: 65103
SHEET No.: 295

Date	Revision	Initials

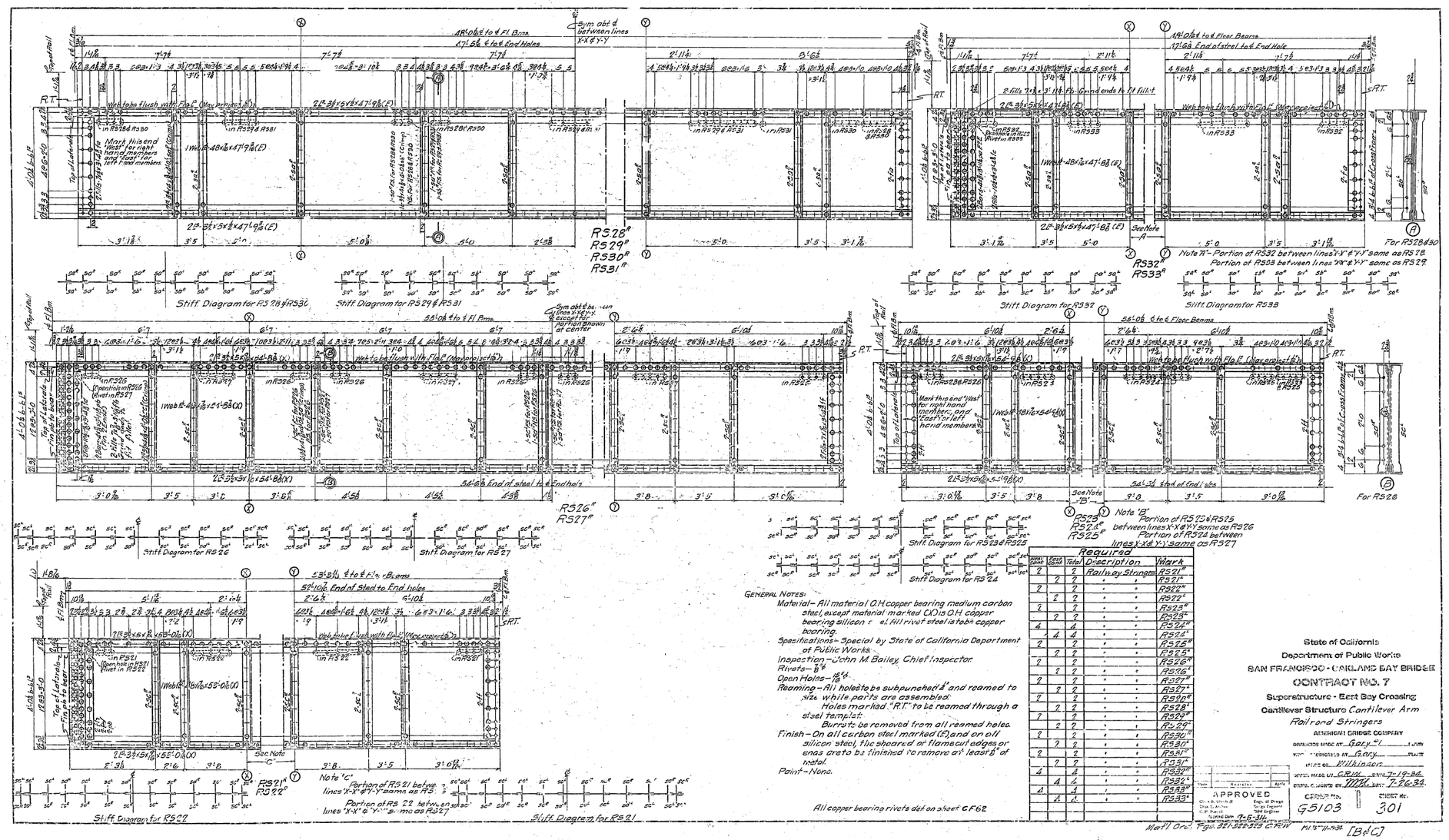
APPROVED
Chief Engineer
Approval Date: 9-17-36

Rev. 11-20-36
Rev 3-28-36

2-P154 (West) & 2-P155 (West) used temporarily in Erection Bents "13 & 16.
2-P154 (East) & 2-P155 (East) " " " Bent "13.

MM&O-4 Pg. 206 - 379-382

[B & C]



GENERAL NOTES:

Material – All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel. All rivet steel is tough copper bearing.

Specifications – Special by State of California Department of Public Works.

Inspection – John M. Bailey, Chief Inspector.

Rivets – ⅞"ø

Open Holes – 15/16"ø

Reaming – All holes to be subpunched ¾" and reamed to size while parts are assembled. Holes marked "R.T." to be reamed through a steel templet. Burrs to be removed from all reamed holes.

Finish – On all carbon steel marked (F) and on all silicon steel, the sheared or flame cut edges or ends are to be finished to remove ½" at least of metal.

Paint – None.

All copper bearing rivets det on sheet CF62

Required				
Under Comb.	Right Comb.	Total	Description	Mark
2		2	Railway Stringers	RS21
	2	2	" "	RS21
2		2	" "	RS22
	2	2	" "	RS22
2		2	" "	RS23
	2	2	" "	RS23
4		4	" "	RS24
	4	4	" "	RS24
2		2	" "	RS25
	2	2	" "	RS25
2		2	" "	RS26
	2	2	" "	RS26
2		2	" "	RS27
	2	2	" "	RS27
2		2	" "	RS28
	2	2	" "	RS28
2		2	" "	RS29
	2	2	" "	RS29
2		2	" "	RS30
	2	2	" "	RS30
2		2	" "	RS31
	2	2	" "	RS31
4		4	" "	RS32
	4	4	" "	RS32
4		4	" "	RS33
	4	4	" "	RS33

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm
Railroad Stringers
AMERICAN BRIDGE COMPANY

DRAWING MADE AT Gary, Ind. — JOB
TRACED BY Gary — PLATE
CHECKED BY Wilkinson
APPROVED CRW — DATE 7-19-34
DETAIL CHECKED BY MHW — DATE 7-26-34

APPROVED
Chief Engr. Bridges
Chief Engr. Maintenance
Asst. Engr. Design
Asst. Engr. Field
Approved Date 7-26-34

CONTR. NO. G5103 — SHEET No. 301

Mail Ord. Pgs. 351-352-353 CRW MHW 11-34 [B+C]

30-1

SB1
SB2
SB42

SB3R

SB4R

SB5R

SB6R

SB7R

SB8R

SB43R

SB35R

SB34R

SB36R

SB11R

SB18R

SB19R

SB15R

SB16R

SD5

SD33R

SB16R

SB17R

SB49R

SB20R

SB21R

SB18R

SB27R
SB28R

SB29

SB30R

SB31R

SB32R

SB57B
SB57E

SB47R

SB46R

Mast'r Detail	Asst'r Layout	Total	Required	
40	48	118	Laterals	SB1
78	38	116	do	SB2
4	4	8	do	SB3R
4	4	8	do	SB4R
2	2	4	do	SB5R
1	1	2	do	SB6R
4	4	8	do	SB7R
4	4	8	do	SB8R
2	2	4	do	SB43R
2	2	4	do	SB35R
2	2	4	do	SB34R
1	1	2	do	SB36R
1½	1.5	3.0	Cross Frames	SB11R
2.0	1.5	3.0	do	SB18R
4	4	8	Str. Lat. Plates	SB19R
4	4	8	do	SB15R
4	4	8	do	SB16R
1	1	2	do	SD5
76	80	80	do	SD33R
8	8	16	do	SB16R
8	8	16	do	SB17R
4	4	8	do	SB49R
2	2	4	do	SB20R
4	4	8	do	SB21R
2	2	4	do	SB18R
4	4	8	do	SB27R
2	2	4	do	SB28R
2	2	4	do	SB29
2	2	4	do	SB30R
4	4	8	do	SB31R
2	2	4	do	SB32R
2	2	4	do	SB57B
2	2	4	do	SB57E
2	2	4	do	SB47R
2	2	4	do	SB46R
1	1	2	do	SB5R
1	1	2	do	SB6R
1	1	2	do	SB7R
1	1	2	do	SB8R
1	1	2	do	SB42
1	1	2	do	SB3R
1	1	2	do	SB4R
1	1	2	do	SB5R
1	1	2	do	SB6R
1	1	2	do	SB7R
1	1	2	do	SB8R
1	1	2	Laterals	SB42
1	1	2	do	SB3R
1	1	2	Str. Lat. Plates	SB4R
2	2	4	do	SB5R
2	2	4	do	SB6R
2	2	4	do	SB7R
1	1	2	do	SB8R
1	1	2	do	SB42
1	1	2	do	SB3R
1	1	2	do	SB4R
1	1	2	do	SB5R
1	1	2	do	SB6R
1	1	2	do	SB7R
1	1	2	do	SB8R

General Notes:
Material - All material O.H. copper bearing medium carbon steel. All rivet steel to be copper bearing.
Specifications - Special by State of California Department of Public Works.
Inspection - John M. Bailey, Chief Inspector.
Rivets - $\frac{7}{8}$"ø
Open Holes - $1\frac{5}{16}$"ø unless noted.
Reaming - None.
Finish - None.
Paint - None.

All copper bearing rivets detailed on sheet C-960

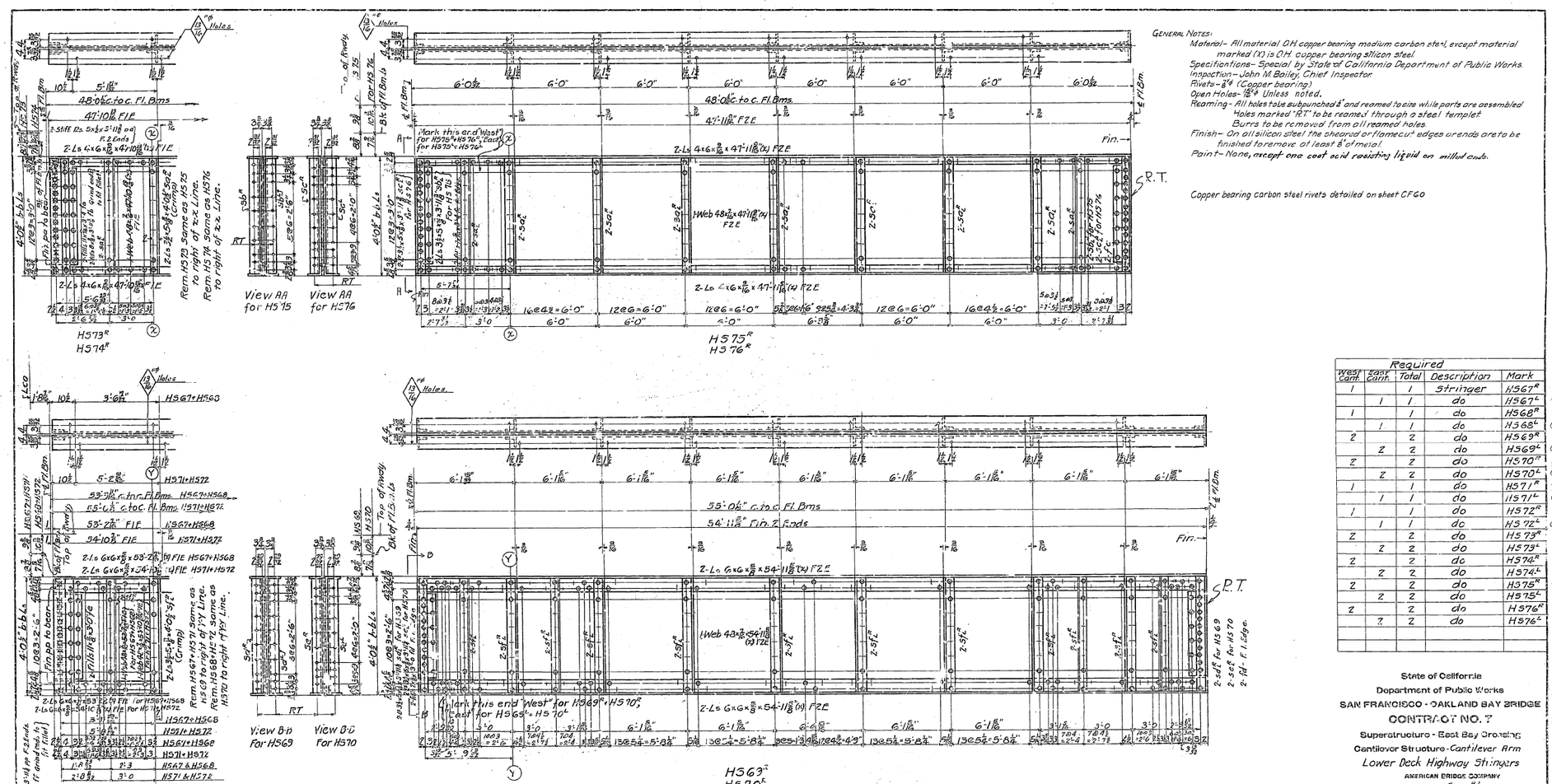
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Centilever Structure Centilever Arm
RR Stringer Bracing
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary Ind. PLANT
WORK FABRICATED AT Gary PLANT
BY CHK'D BY Wilkinson
TRACED BY E.C.G. DATE 7-1-36
DES'D CHECKED BY MK DATE 7-25-36

Mk'r	Revision	Appd

APPROVED
Glenn B. Woodruff, Engr. of Bridges
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
For Consulting Engineers
Date 7-25-36

ORDER No. G5103
DRAWING No. 30.2

Mast'r Ord. Pg. # 32-4-3122-3140-3177-3221 CX-711 Mk'r's Init. [illegible]



General Notes:

Material – All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel.
Specifications – Special by State of California Department of Public Works.
Inspection – John M. Bailey, Chief Inspector.
Rivets – ⅞" ϕ (Copper bearing)
Open Holes – 15/16" ϕ Unless noted.
Reaming – All holes to be subpunched ¾" and reamed to size while parts are assembled. Holes marked "R.T." to be reamed through a steel templet. Burrs to be removed from all reamed holes.
Finish – On all silicon steel the sheared or flamecut edges or ends are to be finished to remove of least ¼" of metal.
Paint – None, except one coat acid resisting liquid on milled ends.

Copper bearing carbon steel rivets detailed on sheet CFG0

Required				
West Cant.	East Cant.	Total	Description	Mark
1		1	Stringer	H567R
	1	1	do	H567L
1		1	do	H568R
	1	1	do	H568L
2		2	do	H569R
	2	2	do	H569L
2		2	do	H570R
	2	2	do	H570L
1		1	do	H571R
	1	1	do	H571L
1		1	do	H572R
	1	1	do	H572L
2		2	do	H573R
	2	2	do	H573L
2		2	do	H574R
	2	2	do	H574L
2		2	do	H575R
	2	2	do	H575L
2		2	do	H576R
	?	2	do	H576L

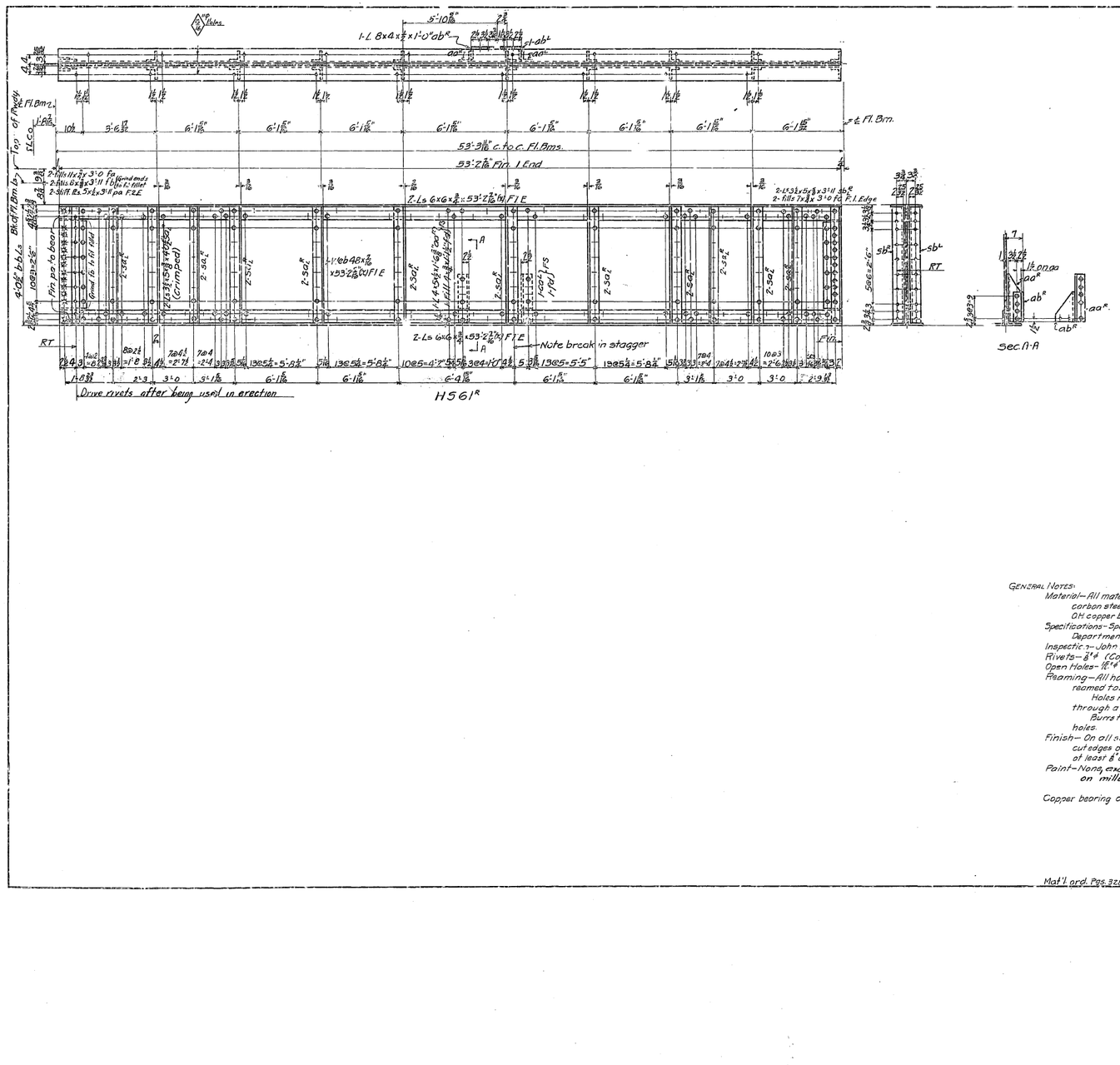
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure - Cantilever Arm
Lower Deck Highway Stringers
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
DET. BY L.S.L. DATE 7-24-34
CHECKED BY [illegible] DATE 7-27-34
ORDER No. G5103
CHEXY No. 303

APPROVED
Glenn B. Woodruff, Chief Engineer
Asst. Chief Engineer
C. H. Purcell, Bridge Engineer
Asst. Engineer of Design
Date 9-5-34

Wat'l Ord. Bks. 328, 329, 330 L.S.L.

MMS** 11-6-34

[167C]



GENERAL NOTES:

Material—All material OH copper bearing medium carbon steel except material marked (Y) is OH copper bearing silicon steel.
Specifications—Special by State of California Department of Public Works
Inspection—John M Bailey, Chief Inspector.
Rivets—7/8" ϕ (Copper bearing.)
Open Holes—13/16" ϕ Unless noted.
Reaming—All holes to be subpunched 1/4" and reamed to size while parts are assembled. Holes marked "R.T." to be reamed through a steel templet. Burrs to be removed from all reamed holes.
Finish—On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least 1/8" of metal.
Paint—None, except one coat acid resisting liquid on milled ends.

Copper bearing carbon steel rivets detailed on sheet CF60

Mat'l ord. Pgs. 328-330 L.S.I.

Required				
West Cant.	East Cant.	Total	Description	Mark
1		1	Stringer	H561R 6T
	1	1	do	H561L 6T

Mark	Revisions	Date

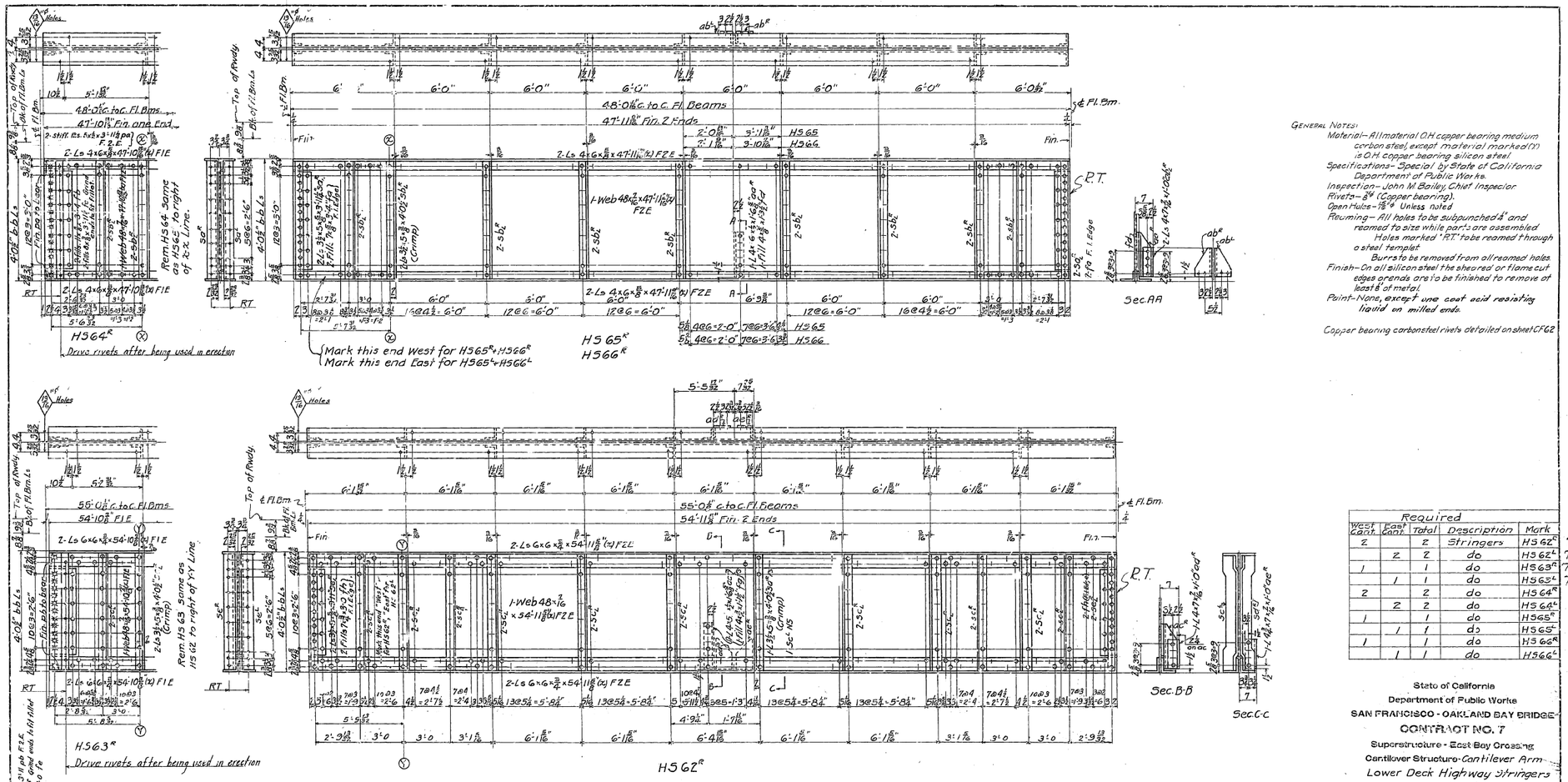
APPROVED
Engr. of Design
Bridge Engineer
Chief Engineer
Approved Date 8-5-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure - Cantilever Arm
Lower Deck Highway Stringers
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary "1" PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
DETAILED BY L.S.I. DATE 7-18-34
QTY. CHECKED BY [illegible] DATE 7-27-34
ORDER No. G-5103
SHEET No. 304

1115-146-72

[B:C]

304



General Notes:
Material – All material O.H. copper bearing medium carbon steel, except material marked (N) is O.H. copper bearing silicon steel
Specifications – Special by State of California Department of Public Works
Inspection – John M. Bailey, Chief Inspector
Rivets – $\frac{7}{8}$" ⌀ (Copper bearing).
Open Holes – $\frac{15}{16}$" ⌀ Unless noted
Reaming – All holes to be subpunched $\frac{1}{4}$" and reamed to size while parts are assembled. Holes marked "P.T." to be reamed through a steel templet
Burrs to be removed from all reamed holes.
Finish – On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least $\frac{1}{8}$" of metal.
Paint – None, except one coat acid resisting liquid on milled ends.

Copper bearing carbonsteel rivets detailed on sheet CF62

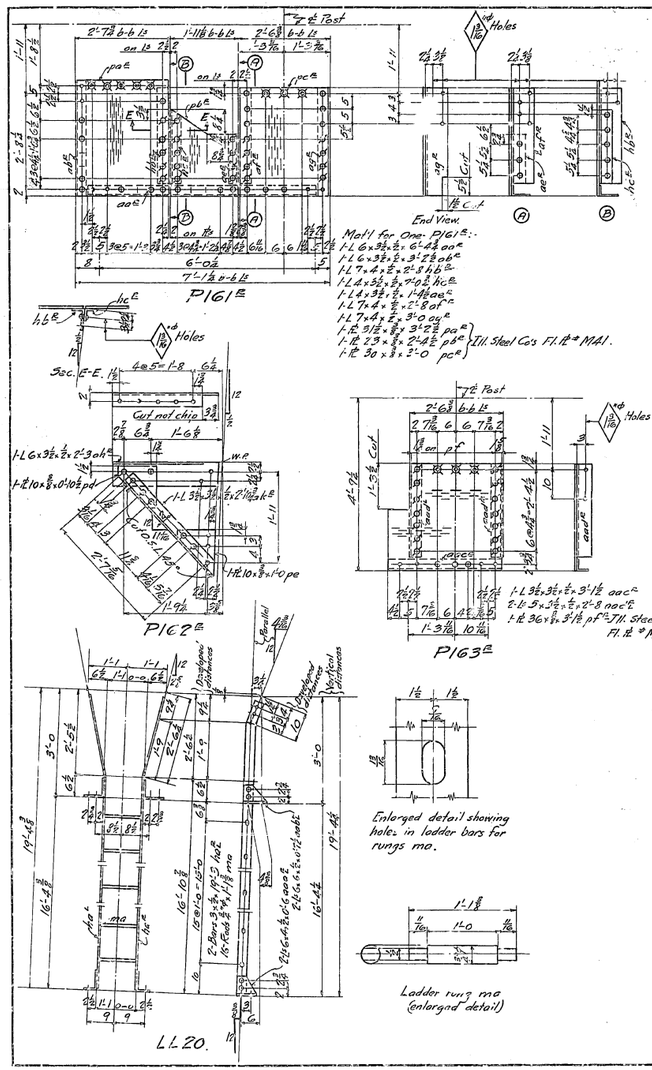
Required				
West Cant.	East Cant.	Total	Description	Mark
2		2	Stringers	H562L
	2	2	do	H562L
1		1	do	H563R
	1	1	do	H563L
2		2	do	H564R
	2	2	do	H564L
1		1	do	H565R
	1	1	do	H565L
1		1	do	H566R
	1	1	do	H566L

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure - Cantilever Arm
Lower Deck Highway Stringers
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
DRAWN BY L.S.I. DATE 7-16-34
TRACED BY [illegible] DATE 7-27-34
CHECKED BY [illegible] DATE
CHECKED BY [illegible] DATE
QUANTITIES No. 65103 ENTRY No. 305

APPROVED
Chief Engineer
Asst. Chief Engineer
Bridge Engineer
Asst. Engineer
Approved Date 9-5-34

Mat'l. and Figs. 328 + 330 L.S.I.

[B + C]



SHOP NOTE:-
All rivets marked ▽ to be countersunk, not chipped, near side - maximum height ⅛".

WEST CONT.	EAST CONT.	TOTAL	REQUIRED	
1	1	2	Platforms	P161E
1	1	2	do	P161L
1	1	2	Platform Brackets	P162E
1	1	2	do	P162L
1	1	2	Platforms	P163E
1	1	2	do	P163L
1	1	2	do	P164E
1	1	2	do	P164L
1	1	2	do	P165E
1	1	2	do	P165L
2	2	4	Ladders	LL20

GEN. NOTES:-
Material:- All material O.H. copper bearing medium carbon steel. All rivet steel to be copper bearing
Specifications:- Special by State of California Department of Public Works.
Inspection:- John M. Bailey, Chief Inspector.
Rivets:- ⅞" ø Unless noted.
Open Holes:- 1/16" ø Unless noted.
Reaming:- None
Finish:- Edges of ladder bars to be smooth.
Paint:- None.

Copper bearing carbon steel rivets detailed on Sheet CF88

No.	Revision	Appd
	APPROVED	

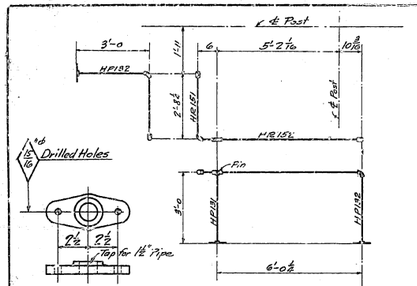
Chief Engr. Bridges & Ferries
Asst. Engr. Design
Asst. Engr. Bridges
Approval Date 10-22-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cont. A&M
Platforms & Ladders at L0-U0.

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary & 1 PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
DRAWN BY O.N. DATE 8-19-34
TRACED BY [illegible] DATE 10-1-34
CHECKED BY [illegible] DATE 10-1-34
ORDER No. G.5103
CHECK No. 321

Mat'l ord. By 279-280 O.N. — Rec'd 11-8-34

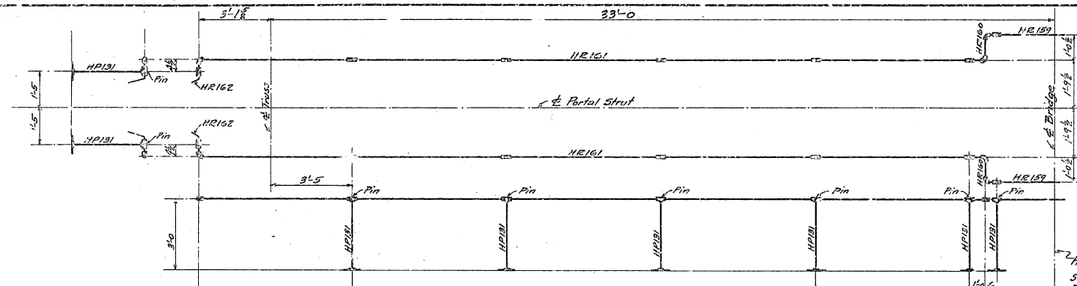
LCJ



Railing around platforms at lower deck on Posts LO-MO^{R} and LO-MOA^{R}. For LO-MO^{L} and LO-MOA^{L} opp. hand.

Enlarged Detail of Base. Path. 0.B.30

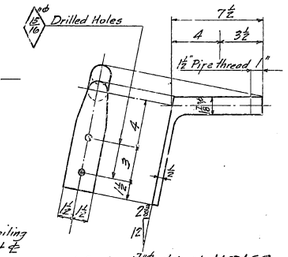
Railing around platform at upper deck on Posts LO-MO^{R} & LO-MOA^{R}. For LO-MO^{L} & LO-MOA^{L} opp. hand.



Hand Railing across portal strut at UO (East & West)

Hand Railing sym. abt ℄

Note to Erector: Erection of hand railing to begin at this point



1-Forging 1 7/16 sq., 1'-4 abt. HR162.

REQUIRED									Assembled with
West Side	East Side	Total	Mark	Description	Dia.	Length			
38	38	76	HP131	Hand Rail Posts	1 1/2	2'-10 1/2	76	76	
2	2	4	HR151	Hand Rails	"	2'-6			4
2	2	4	HR152	do	"	6'-4			
2	2	4	HR153	do	"	1'-5 1/4	4		4
2	2	4	HR154	do	"	2'-5 3/4			
2	2	4	HR155	do	"	7'-1 1/2		4	P.M. Tie-in Fittings
2	2	4	HR156	do	"	5'-7		4	
2	2	4	HR157	do	"	6'-8 1/2		4	
2	2	4	HR158	do	"	1'-2 3/4	4		
2	2	4	HR159	do	"	5'-9 3/4			
4	4	8	HR160	do	"	0'-10 3/8		16	
4	4	8	HR161	do	"	29'-11 5/8			
4	4	8	HR162	Forging	See detail			8	
8	8	16	HP132	Hand Rail Posts	1 1/2"	2'-10 1/2	16	16	
38	38	76		Flues	2	0'-2 3/8	Ship Boxed.		

GEN. NOTES:-
Material:- Posts and Rails 1 1/2" Pipe, black copper bearing steel. Fittings malleable iron, except bases, which are to be cast iron.
Specifications:- Special by State of California Department of Public Works.
Inspection:- John M. Bailey, Chief Inspector.
Threads:- Std. 1 1/2" Pipe Tap. All R. H.
Paint:- None. Purchasing Dept. to instruct Pipe Mill not to use paint as identification of copper bearing steel on this order.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure
Hand Railing
AMERICAN BRIDGE COMPANY
COMMENCE EDGE AT Gary #1 PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
DRAWN BY O.N. DATE 9-6-34
CHECKED BY [illegible] DATE 10-1-34

Mark	Revision	Init.

APPROVED
Clem B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 10-22-34

ORDER No. G5103
SHEET No. 322

Mng. 7-18-34

[C]

INDEX TO MARKS - G5103 - CANTILEVER AND ANCHOR ARMS.

| DESCRIPTION | MARK | No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 |
|---|---|---

INDEX TO MARKS - G5105 - SUSPENDED SPAN

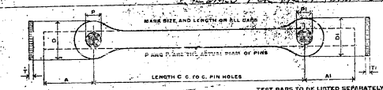
| DESCRIPTION | MARK | NO | 1 | 1A | 2 | 2A | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 |
|---|---|---

AMERICAN BRIDGE COMPANY

DRAWINGS MADE BY GARY #1 DRAWING ROOM — WORK FABRICATED AT AMBRIDGE PLANT

NAME OF STRUCTURE SAN FRANCISCO-OAKLAND BAY BRIDGE

EYEBARS FOR WEST ANCHOR ARM



TEST BARS TO BE LISTED SEPARATELY AT BOTTOM OF BILL

NO. PCS.	SECTION	MATERIAL LENGTH FT.	MATERIAL LENGTH INS.	MARK	HEAD D PIN P	HEAD D DIA D	HEAD D THICK T	HEAD D ADD A	HEAD D1 PIN P1	HEAD D1 DIA D1	HEAD D1 THICK T1	HEAD D1 ADD A1	CALC. WT. FOR ONE SHIP. PCS.	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ITEM
				HEAT TREATED EYE BARS												
18	14-2⅞	49	1⅛	U1A-U1E3	13	33	2¼	4-5½	14	33	2¼	4-5½	5818	55	1	16
12	14-2⅞	48	0	U1E4-U1E5	13	33	2¼	4-5½	14	33	2¼	4-5½	5343	50	11	17
24	14-2⅞	48	6⅜	U1E5-U1A1	14	33	2¼	4-5½	15	34	2¾	5-5	5442	51	11	17
16	16-1⅝	57	0⅝	U1A1-U1A2	15	37½	1⅞	5-4	15	37½	1⅞	5-4	6415	60	7	1
8	16-1⅝	57	0⅝	U1A2-U1A3	15	37½	1⅞	5-4	15	37½	1⅞	5-4	6346	60	3	12
2	16-1⅝	56	6⅝	U1A3-U1A2	15	37½	1⅞	5-4	15	37½	1⅞	5-4	6340	60	2	7
2	16-1⅝	56	6⅝	U1A2-U1A1	15	37½	1⅞	5-4	15	37½	1⅞	5-4	6342	60	2	14
8	16-1⅞	57	6⅝	U1A1-U1A0	15	37½	1⅞	5-4	15	37½	1⅞	5-4	6471	61	2	6
4	16-1⅝	57	6⅜	U1A1-U1C1	15	37½	1⅞	5-4	15	37½	1⅞	5-4	6449	61	2	12
16	16-2	37	9⅝	U1E1-U1A1	15	37½	2	5-4	15	37½	2	5-4	7359	70	1	1
16	16-2	58	7⅜	U1A1-U1A1	15	37½	2	5-4	15	37½	2	5-4	7430	71	1	3
32	16-2	59	2⅜	U1A1-U0	15	37½	2	5-4	15	37½	2	5-4	7241	69	11	2
8	12-11⅞	65	5½	L1A1-M1A	13	29⅝	1⅛	4-8	13	28	1⅛	4-2	5233	74	-	2
8	12-11⅞	62	3⅜	L1M1-M1A	13	29⅝	1⅛	4-8	13	28	1⅛	4-2	5059	71	2	2

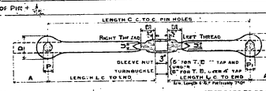
See Sheet C4 for Test Bars

"Eye Bars on this sheet to be marked West Anchor Arm"

Page Total-11,124.128

DIAM. OF PIN HOLE – DIAM. OF PIN + 1/32

LENGTH C. C. TO C. PIN HOLES



APPROVED

Chief Engineer

6-28-34

NOTE: L, P, D & A REFER TO SHORT END

TEST BARS TO BE LISTED SEPARATELY AT BOTTOM OF BILL

NO. PCS.	REQUIRED MARK	REQUIRED LENGTH FT.	REQUIRED LENGTH INS.	MATERIAL NO. PCS.	MATERIAL SECTION	MATERIAL LENGTH FT.	MATERIAL LENGTH INS.	END	HEAD PIN P	HEAD DIA D	HEAD THICK T	HEAD ADD A	UPSET DIA U	UPSET ADD M	CALC. WT. FOR ONE SHIP. PCS.	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ITEM

All Eye Bars on this Sheet to be Heat Treated

Min. Elastic Limit 50,000 #/in²

All material to be Carbon Bearing Steel

containing not less than 0.20% Copper

Specifications: Special by State of California, Dept. of Public Works,

San Francisco-Oakland Bay Bridge - Contract No. 7

DIAM. OF PIN HOLE – DIAM. OF PIN +

MATERIAL — INSPECTION

PAINT None, except Pin Holes to be coated with White Lead & Tallow

ORDER NO. G5104

SHEET NO. C 1

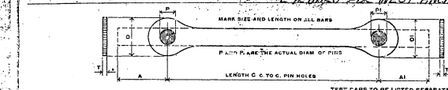
[DJ]

AMERICAN BRIDGE COMPANY

DRAWINGS MADE BY GARY #1 DRAWING ROOM — WORK FABRICATED AT AMBRIDGE PLANT

NAME OF STRUCTURE SAN FRANCISCO-OAKLAND BAY BRIDGE

EYEBARS FOR WEST ANCHOR ARM



TEST BARS TO BE LISTED SEPARATELY AT BOTTOM OF BILL

NO. PCS.	SECTION	MATERIAL LENGTH FT.	MATERIAL LENGTH INS.	MARK	HEAD D PIN P	HEAD D DIA D	HEAD D THICK T	HEAD D ADD A	HEAD D1 PIN P1	HEAD D1 DIA D1	HEAD D1 THICK T1	HEAD D1 ADD A1	CALC. WT. FOR ONE SHIP. PCS.	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ITEM
				HEAT TREATED EYE BARS												
3	12-1⅞	69	10½	M1T-U1E	14	28	1⅝	4-2	13	27½	1⅝	4-2	5950	78	0	24
8	12-1⅞	70	9⅝	U1E1-U1L1	14	28	1⅝	4-2	13	27½	1⅝	4-2	6078	79	3	23
4	12-1⅞	65	0	L1A1-M3A	14	28	1⅝	4-2	13	27½	1⅝	4-2	4700	72	4	22
4	12-1⅞	65	0	L1A1-M3A	14	28	1⅝	4-2	14	28	1⅝	4-2	4721	73	4	2
4	12-1⅞	62	3⅜	L1A1-M3A	14	28	1⅝	4-2	14	28	1⅝	4-2	4520	71	2	24
4	12-1⅞	62	3⅜	L1A1-M3C	14	28	1⅝	4-2	14	28	1⅝	4-2	4648	73	1	21
18	12-1⅞	22	8⅜	Y1G3-1H3	14	28	1⅝	4-7	14	28	1⅝	4-2	1895	30	-	6
8	12-1⅞	22	6⅜	Y1G3-M1A	14	28	1⅝	4-2	14	28	1⅝	4-2	1967	31	-	2
16	12-1⅞	65	0	Y1A3-M2A	14	28	1⅝	4-2	13	27½	1⅝	4-8	5259	72	10	22
8	14-1⅞	26	2⅜	M2C-L1A2	13	33	1⅝	4-10	15	34	1⅞	5-5	7579	8	-	22
8	14-1⅞	27	11⅝	M2C-L1A2	13	33	1⅝	4-10	15	34	1⅞	5-5	7711	8	-	1

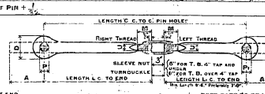
See Sheet C4 for Test Bars.

Eyebars on this sheet to be marked "West Anchor Arm"

Page Total-332,114.28

DIAM. OF PIN HOLE – DIAM. OF PIN + 1/32

LENGTH C. C. TO C. PIN HOLES



APPROVED

Chief Engineer

6-28-34

NOTE: L, P, D & A REFER TO SHORT END

TEST BARS TO BE LISTED SEPARATELY AT BOTTOM OF BILL

NO. PCS.	REQUIRED MARK	REQUIRED LENGTH FT.	REQUIRED LENGTH INS.	MATERIAL NO. PCS.	MATERIAL SECTION	MATERIAL LENGTH FT.	MATERIAL LENGTH INS.	END	HEAD PIN P	HEAD DIA D	HEAD THICK T	HEAD ADD A	UPSET DIA U	UPSET ADD M	CALC. WT. FOR ONE SHIP. PCS.	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ITEM

Eyebars on this sheet to be Heat Treated.

Min. Elastic Limit 50,000 #/in²

All material to be Carbon Bearing Steel

containing not less than 0.20% Copper.

Specifications: Special by State of California, Dept. of Public Works,

San Francisco-Oakland Bay Bridge - Contract No. 7

DIAM. OF PIN HOLE – DIAM. OF PIN

MATERIAL — INSPECTION

PAINT None, except Pin Holes to be coated with White Lead & Tallow

ORDER NO. G5104

SHEET NO. C 2

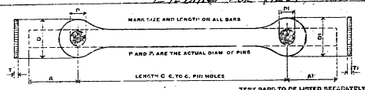
[DJ]

AMERICAN BRIDGE COMPANY

DRAWINGS MADE BY GARY #1 DRAWING ROOM — WORK FABRICATED AT AMBRIDGE PLANT

NAME OF STRUCTURE SAN FRANCISCO-OAKLAND BAY BRIDGE

EYEBARS FOR WEST CANTL. ARM



TEST BARS TO BE LISTED SEPARATELY AT BOTTOM OF BILL

NO. PCS.	SECTION	MATERIAL LENGTH FT.	MATERIAL LENGTH INS.	MARK	HEAD D PIN P	HEAD D DIA D	HEAD D THICK T	HEAD D ADD A	HEAD D1 PIN P1	HEAD D1 DIA D1	HEAD D1 THICK T1	HEAD D1 ADD A1	CALC. WT. FOR ONE SHIP. PCS.	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ITEM
				HEAT TREATED EYE BARS												
4	12-1⅞	64	4⅜	M1C-M1S	14	33	1⅝	4-10	14	33	1⅝	4-10	5723	74	1	8.0

The above bars to be used for Erection purposes

on West Anchor Arm.

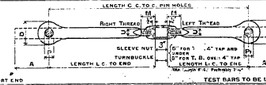
See Sheet C4 for Test Bars

Eyebars on this sheet to be marked "West Cantilever Arm"

Page Total-22,892.2

DIAM. OF PIN HOLE – DIAM. OF PIN +

LENGTH C. C. TO C. PIN HOLES



APPROVED

Chief Engineer

6-28-34

NOTE: L, P, D & A REFER TO SHORT END

TEST BARS TO BE LISTED SEPARATELY AT BOTTOM OF BILL

NO. PCS.	REQUIRED MARK	REQUIRED LENGTH FT.	REQUIRED LENGTH INS.	MATERIAL NO. PCS.	MATERIAL SECTION	MATERIAL LENGTH FT.	MATERIAL LENGTH INS.	END	HEAD PIN P	HEAD DIA D	HEAD THICK T	HEAD ADD A	UPSET DIA U	UPSET ADD M	CALC. WT. FOR ONE SHIP. PCS.	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ITEM

All Eye Bars on this Sheet to be Heat Treated

Min. Elastic Limit 50,000 #/in²

All material to be Carbon Bearing Steel

containing not less than 0.20% Copper

Specifications: Special by State of California, Dept. of Public Works,

San Francisco-Oakland Bay Bridge - Contract No. 7

DIAM. OF PIN HOLE – DIAM. OF PIN +

MATERIAL — INSPECTION

PAINT None, except Pin Holes to be coated with White Lead & Tallow

ORDER NO. G5104

SHEET NO. C 3

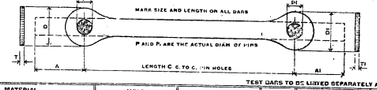
[DJ]

AMERICAN BRIDGE COMPANY

DRAWINGS MADE BY GARY #1 DRAWING ROOM — WORK FABRICATED AT AMBRIDGE PLANT

NAME OF STRUCTURE SAN FRANCISCO-OAKLAND BAY BRIDGE

EYEBARS FOR WEST ANCHOR ARM



TEST BARS TO BE LISTED SEPARATELY AT BOTTOM OF BILL

NO. PCS.	SECTION	MATERIAL LENGTH FT.	MATERIAL LENGTH INS.	MARK	HEAD D PIN P	HEAD D DIA D	HEAD D THICK T	HEAD D ADD A	HEAD D1 PIN P1	HEAD D1 DIA D1	HEAD D1 THICK T1	HEAD D1 ADD A1	CALC. WT. FOR ONE SHIP. PCS.	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ITEM
				HEAT TREATED EYE BARS Test Bars for West Anchor Arm												
2	14-6⅛	48	6⅜	U1E5-U1A1	13	33	2¼	4-5½	15	34	2¾	5-5	5468	51	5	5
1	16-1⅝	57	0⅝	U1A1-U1A2	15	37½	1⅝	5-4	15	37½	1⅝	5-4	6346	60	7	13
3	16-2	59	2⅜	U1A1-U0	15	37½	2	5-4	15	37½	2	5-4	7228	69	11	2
2	12-11⅞	65	5½	L1A1-M1A	13	29⅝	1⅛	4-8	13	28	1⅛	4-2	5236	74	4	20
2	12-1⅞	65	0	L1A1-M3A	14	28	1⅝	4-2	14	28	1⅝	4-2	4679	72	4	23
1	12-1⅞	70	9⅝	M1A1-U1A	14	28	1⅝	4-2	13	27½	1⅝	4-8	6078	79	4	23
1	14-1⅞	27	11⅝	M2C-U1E5	13	33	1⅝	4-10	15	34	1⅞	5-5	2715	32	5	21
2	16-1⅛	57	0⅝	U1E-U1E2	15	37½	1⅞	5-4	15	37½	1⅞	5-4	6615	61	9	9

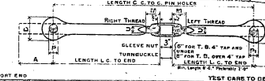
Test bars, representing bars too long for the testing machine, shall be selected from the full length bar material after the heads on each end have been formed and shall have the second head formed upon them after being cut to the proper length, which can be tested in a 35'-0" ch. Pins, maximum length for Testing Machine.

(Sgd.) C. H. Wisdom

Page Total-121,103.1

DIAM. OF PIN HOLE – DIAM. OF PIN +

LENGTH C. C. TO C. PIN HOLES



APPROVED

Chief Engineer

6-28-34

NOTE: L, P, D & A REFER TO SHORT END

TEST BARS TO BE LISTED SEPARATELY AT BOTTOM OF BILL

NO. PCS.	REQUIRED MARK	REQUIRED LENGTH FT.	REQUIRED LENGTH INS.	MATERIAL NO. PCS.	MATERIAL SECTION	MATERIAL LENGTH FT.	MATERIAL LENGTH INS.	END	HEAD PIN P	HEAD DIA D	HEAD THICK T	HEAD ADD A	UPSET DIA U	UPSET ADD M	CALC. WT. FOR ONE SHIP. PCS.	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ITEM

All Eye Bars on this sheet to be Heat Treated.

Min. Elastic Limit 50,000 #/in²

All material to be Carbon Bearing Steel

containing not less than 0.20% Copper

Specifications: Special by State of California, Dept. of Public Works,

San Francisco-Oakland Bay Bridge - Contract No. 7

DIAM. OF PIN HOLE – DIAM. OF PIN +

MATERIAL — INSPECTION

PAINT None

ORDER NO. G5104

SHEET NO. C 4

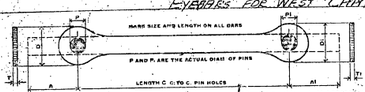
[DJ]

AMERICAN BRIDGE COMPANY

DRAWING MADE BY Gary #1 DRAWING ROOM — WORK FABRICATED AT Ambridge PLANT

NAME OF STRUCTURE SAN FRANCISCO-OAKLAND BAY BRIDGE

EYEBARS FOR WEST CANT. ARM



TEST BARS TO BE LISTED SEPARATELY AT BOTTOM OF BILL

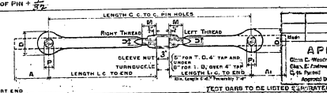
SHT. NO.	PCS.	SECTION	MATERIAL LENGTH FT.	MATERIAL LENGTH INS.	MARK	HEAD D PIN P	HEAD D DIA D	HEAD D THICK T	HEAD D ADD A	HEAD D1 PIN P1	HEAD D1 DIA D1	HEAD D1 THICK T1	HEAD D1 ADD A1	CALC. WT. FOR ONE SHIP. PCS.	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ITEM
					HEAT TREATED EYE BARS												
56	16×2		59	3⅜	U0-UC1	15	3⅞	2	5-4	15	3⅞	2	5-4	7904	70	0	38
76	16×2		57	3⅜	U0-UC1A	15	3⅞	2	5-4	15	3⅞	2	5-4	7903	70	0	38
16	16×2		58	8⅛	UC1-UC2	15	3⅞	2	5-6	15	3⅞	2	5-6	7888	69	4½	39
16	16×2		59	7⅜	UC1-UC2A	15	3⅞	2	5-4	15	3⅞	2	5-4	7861	70	6	37
12	14×1⅛		56	7⅝	UC2-UC3	15	3⅜	1⅛	5-5	14	3⅜	1⅛	4-10	5109	66	10½	53
12	14×1⅛		57	8½	UC2-UC3A	15	3⅜	1⅛	5-5	14	3⅜	1⅛	4-10	5185	67	11	52
12	16×1¼		57	3⅜	UC3-UC4	14	3⅜	1¼	4-10	14	3⅜	1¼	4-10	5134	66	9½	54
12	14×1⅛		57	1⅜	UC3-UC4A	14	3⅜	1⅛	4-10	14	3⅜	1⅛	4-10	5134	66	9½	54
16	14×1⅛		48	8⅛	UC4-UC5	14	3⅜	1⅛	4-10	14	3⅜	1⅛	4-10	4465	58	4½	56
8	14×1⅛		48	8⅛	UC4-UC5A	14	3⅜	1⅛	4-10	14	3⅜	1⅛	4-10	4465	58	4½	56
8	14×1⅛		49	2⅝	UC5-UC6	14	3⅜	1⅛	4-10	14	3⅜	1⅛	4-10	4549	59	9	61
8	14×1⅛		48	1⅛	UC5-UC6A	14	3⅜	1⅛	4-10	14	3⅜	1⅛	4-10	4501	58	11	55
6	14×1¼		49	2⅝	UC6-UC6A	14	3⅜	1¼	4-10	14	3⅜	1¼	4-10	4410	57	9	57
6	14×1¼		48	1⅛	UC5-UC6	14	3⅜	1¼	4-10	14	3⅜	1¼	4-10	4410	57	9	57

See Sheet C 7 for Test Bars

Page Total (127,832)

Eye Bars on this sheet to be marked "West Cant. Arm"

DIAM. OF PIN HOLE – DIAM. OF PIN + 1/32



Mark — Revision — Date

APPROVED
Glenn B. Woodruff, Chief Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approved Date 7-1-36

NOTE: L, P, D, & A REFER TO SHORT END

TEST BARS TO BE LISTED SEPARATELY AT BOTTOM OF BILL

REQUIRED NO. PCS.	REQUIRED MARK	REQUIRED LENGTH FT.	REQUIRED LENGTH INS.	MATERIAL NO. PCS.	MATERIAL SECTION	MATERIAL LENGTH L & L1 FT.	MATERIAL LENGTH L & L1 INS.	END P	END D	END T	END A	UPSET DIA. D	UPSET LENGTH U	UPSET LENGTH M	UPSET ADD	CALC. WT. FOR ONE SHIP. PCS.	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ITEM
					All Eye Bars on this sheet to be Heat Treated														
					Min. Elastic Limit 50,000 "lbs"														
					All materials to be Copper Bearing Steel														
					containing not less than 0.20% Copper														

Specifications Special by State of California, Dept. of Public Works, San Francisco-Oakland Bay Bridge Contract No. 7

DIAM. OF PIN HOLE – DIAM. OF PIN + (Paul Wright 8-35) ID

MATERIAL: Paint None, except Pin Holes to be coated with White Lead & Tallow.

INSPECTION

ORDER NO. G5104

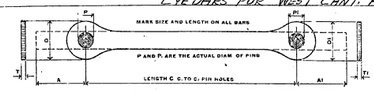
SHEET NO. C 5

AMERICAN BRIDGE COMPANY

DRAWING MADE BY Gary #1 DRAWING ROOM — WORK FABRICATED AT Ambridge PLANT

NAME OF STRUCTURE SAN FRANCISCO-OAKLAND BAY BRIDGE

EYE BARS FOR WEST CANT. ARM



TEST BARS TO BE LISTED SEPARATELY AT BOTTOM OF BILL

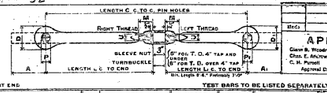
SHT. NO.	PCS.	SECTION	MATERIAL LENGTH FT.	MATERIAL LENGTH INS.	MARK	HEAD D PIN P	HEAD D DIA D	HEAD D THICK T	HEAD D ADD A	HEAD D1 PIN P1	HEAD D1 DIA D1	HEAD D1 THICK T1	HEAD D1 ADD A1	CALC. WT. FOR ONE SHIP. PCS.	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ITEM
					HEAT TREATED EYE BARS												
8	14×1⅜		64	4½	UC6M-7	14	33	1⅛	4-5½	14	23	1⅛	4-5½	6567	78	3½	44
8	14×1⅜		64	0	UC6-M7A	14	33	1⅛	4-5½	14	33	1⅛	4-5½	6668	79	11	43
8	14×1⅛		26	6½	UC2M-MD2	15	34	2	5-5	14	33	1⅛	4-5½	2981	36	5	42
8	14×1⅛		28	2½	UC2-MD2A	15	34	2	5-5	14	33	1⅛	4-5½	3126	38	2	41
16	14×1⅛		65	0	MD2-MC3	14	33	1⅛	4-5½	14	33	1⅛	4-5½	6365	73	11	40
8	14×1⅜		22	2	MC3-MD3	14	33	1⅛	4-10	14	33	1⅛	4-10	2328	31	10	58
8	14×1⅛		22	2	MC3-MD3A	14	33	1⅛	4-5½	14	33	1⅛	4-5½	2316	31	1	47
4	14×1¼		65	0	MD3-UC4	14	33	1⅛	4-10	14	33	1⅛	4-10	3762	104	8	48
4	14×1⅜		65	0	MD3-UC4A	14	33	1⅛	4-5½	14	33	1⅛	4-5½	3705	73	11	45
4	14×1⅜		67	7½	MD3-UC5	14	33	1⅛	4-10	14	33	1⅛	4-10	5580	172	4	50
4	14×1⅜		62	7½	MD3-UC5A	14	33	1⅛	4-5½	14	33	1⅛	4-5½	3790	71	7	46
12	14×1⅜		64	4½	MC4-UC5	14	33	1⅛	4-10	14	33	1⅛	4-10	5119	176	1	47
8	14×1⅛		61	1½	MC4-UC5A	14	33	1⅛	4-10	14	32	1⅛	4-10	5523	171	7½	51

See Sheet C 7 for Test Bars

Page Total (454,472)

Eye Bars on this sheet to be marked "West Cant Arm"

DIAM. OF PIN HOLE – DIAM. OF PIN + 1/32



Mark — Revision — Date

APPROVED
Glenn B. Woodruff, Chief Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approved Date 7-1-36

NOTE: L, P, D, & A REFER TO SHORT END

TEST BARS TO BE LISTED SEPARATELY AT BOTTOM OF BILL

REQUIRED NO. PCS.	REQUIRED MARK	REQUIRED LENGTH FT.	REQUIRED LENGTH INS.	MATERIAL NO. PCS.	MATERIAL SECTION	MATERIAL LENGTH L & L1 FT.	MATERIAL LENGTH L & L1 INS.	END P	END D	END T	END A	UPSET DIA. D	UPSET LENGTH U	UPSET LENGTH M	UPSET ADD	CALC. WT. FOR ONE SHIP. PCS.	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ITEM
					All Eye Bars on this sheet to be Heat Treated														
					Min. Elastic Limit 50,000 "lbs"														
					All materials to be Copper Bearing Steel														
					containing not less than 0.20% Copper														

Specifications Special by State of California, Dept. of Public Works, San Francisco-Oakland Bay Bridge Contract No. 7

DIAM. OF PIN HOLE – DIAM. OF PIN + (Paul Wright 8-35) ID

MATERIAL: Paint None, except Pin Holes to be coated with White Lead & Tallow.

INSPECTION

ORDER NO. G5104

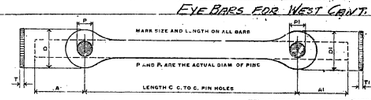
SHEET NO. C 6

AMERICAN BRIDGE COMPANY

DRAWING MADE BY Gary #1 DRAWING ROOM — WORK FABRICATED AT Ambridge PLANT

NAME OF STRUCTURE SAN FRANCISCO-OAKLAND BAY BRIDGE

EYE BARS FOR WEST CANT. ARM.



TEST BARS TO BE LISTED SEPARATELY AT BOTTOM OF BILL

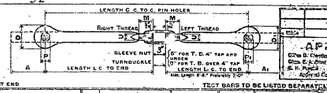
SHT. NO.	PCS.	SECTION	MATERIAL LENGTH FT.	MATERIAL LENGTH INS.	MARK	HEAD D PIN P	HEAD D DIA D	HEAD D THICK T	HEAD D ADD A	HEAD D1 PIN P1	HEAD D1 DIA D1	HEAD D1 THICK T1	HEAD D1 ADD A1	CALC. WT. FOR ONE SHIP. PCS.	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ITEM
					HEAT TREATED EYE BARS												
3	16×2		59	3⅜	U0-UC1	15	3⅞	2	5-4	15	3⅞	2	5-4	7904	70	0	38
2	14×1⅛		57	1⅜	UC3-UC4A	14	33	1⅛	4-10	14	33	1⅛	4-10	5134	66	9½	54
1	14×1⅛		48	8⅛	UC4-UC5A	14	33	1⅛	4-10	14	33	1⅛	4-10	4465	58	4½	56
3	14×1⅛		48	1⅛	UC5-UC6A	14	33	1½	4-10	14	33	1½	4-10	4410	57	9	57
1	14×1⅛		71	0½	UC6-M7A	14	33	1½	4-5½	14	33	1½	4-5½	6668	79	11	43
1	14×1⅛		26	6½	UC2-MD2	15	34	1⅛	5-5	14	33	1⅛	4-5½	2981	36	5	42
1	14×1⅜		22	2	MC3-MD3A	14	33	1⅛	4-5½	14	33	1⅛	4-5½	2316	31	1	47
1	14×1⅛		65	0	MD3-UC4A	14	33	1⅛	4-10	14	33	1⅛	4-10	5168	176	8	48

Page Total (58201)

See Sheet C 7 for Test Bars

Test bars, representing bars to be used for this testing machine, shall be selected from the full length bar material after the heads on one end have been formed and shall have the second head formed upon them after the bar is cut to the proper length which can be tested in the 35 Ore Disc machine for testing Metals.

DIAM. OF PIN HOLE – DIAM. OF PIN + 1/32



Mark — Revision — Date

APPROVED
Glenn B. Woodruff, Chief Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approved Date 7-1-36

NOTE: L, P, D, & A REFER TO SHORT END

TEST BARS TO BE LISTED SEPARATELY AT BOTTOM OF BILL

REQUIRED NO. PCS.	REQUIRED MARK	REQUIRED LENGTH FT.	REQUIRED LENGTH INS.	MATERIAL NO. PCS.	MATERIAL SECTION	MATERIAL LENGTH L & L1 FT.	MATERIAL LENGTH L & L1 INS.	END P	END D	END T	END A	UPSET DIA. D	UPSET LENGTH U	UPSET LENGTH M	UPSET ADD	CALC. WT. FOR ONE SHIP. PCS.	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ITEM
					All Eye Bars on this sheet to be Heat Treated														
					Min. Elastic Limit 50,000 "lbs"														
					All material to be Copper Bearing Steel														
					containing not less than 0.20% Copper														

Specifications Special by State of California, Dept. of Public Works, San Francisco-Oakland Bay Bridge Contract No. 7

DIAM. OF PIN HOLE – DIAM. OF PIN + (Paul Wright 8-35) ID

MATERIAL: Paint None.

INSPECTION

ORDER NO. G5104

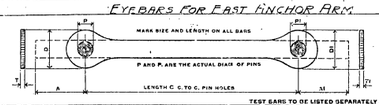
SHEET NO. C

AMERICAN BRIDGE COMPANY

DRAWING MADE BY Gary #1 DRAWING ROOM — WORK FABRICATED AT AMBRIDGE PLANT

NAME OF STRUCTURE SAN FRANCISCO-OAKLAND BAY BRIDGE

EYEBARS FOR EAST ANCHOR ARM



TEST BARS TO BE LISTED SEPARATELY AT BOTTOM OF BILL

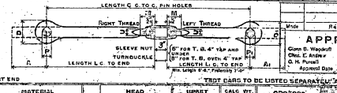
SHT. NO.	PCS.	SECTION	MATERIAL LENGTH FT.	MATERIAL LENGTH INS.	MARK	HEAD D PIN P	HEAD D DIA D	HEAD D THICK T	HEAD D ADD A	HEAD D1 PIN P1	HEAD D1 DIA D1	HEAD D1 THICK T1	HEAD D1 ADD A1	CALC. WT. FOR ONE SHIP. PCS.	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ITEM
					Heat Treated Eye Bars												
12	14×2⅛		49	1½	UA6-UA5	13	33	2⅛	4-5½	14	33	2⅛	4-5½	6892	68	0½	116
12	14×2⅛		48	0	UA6-UA5A	13	33	2⅛	4-5½	14	33	2⅛	4-5½	5365	54	11	117
24	13×2⅛		48	6¾	UA5-UA4	14	33	2⅛	4-5½	15	34	2⅛	5-5	6621	67	8½	115
16	16×1⅞		57	0½	UA4-UA3	15	37⅞	1⅞	5-4	15	37⅞	1⅞	5-4	6615	67	8½	110
8	16×1⅞		57	0½	UA4-UA3A	15	37⅞	1⅞	5-4	15	37⅞	1⅞	5-4	6590	67	1½	113
8	16×1⅞		56	6½	UA3-UA2	15	37⅞	1⅞	5-4	15	37⅞	1⅞	5-4	6560	67	2	111
4	16×1⅞		56	6½	UA3-UA2A	15	37⅞	1⅞	5-4	15	37⅞	1⅞	5-4	6562	67	2	114
16	16×1⅞		57	6½	UA3-UA2B	15	37⅞	1⅞	5-4	15	37⅞	1⅞	5-4	6607	67	3	109
4	16×1⅞		57	6½	UA3-UA2C	15	37⅞	1⅞	5-4	15	37⅞	1⅞	5-4	6649	67	3	112
16	16×2		59	3¾	UA2-UA1	15	37⅞	2	5-4	15	37⅞	2	5-4	7353	76	6	106
16	16×2		58	7⅜	UA2-UA1A	15	37⅞	2	5-4	15	37⅞	2	5-4	7720	79	3½	108
32	16×2		59	2⅜	UA1-U0	15	37⅞	2	5-4	15	37⅞	2	5-4	7291	75	1½	107
8	16×1⅝		65	5⅜	LA8-MA7	13	29½	1⅜	6-3	13	28	1⅜	4-7	5798	70	9	122
8	17×1⅝		62	2⅜	LA8-MA7A	13	29½	1⅜	4-8	13	28	1⅜	4-7	5557	71	1½	124

Page Total (114,124,245)

See Sheet C10 for Test Bars

Eye Bars on this sheet to be marked "East Anchor Arm"

DIAM. OF PIN HOLE – DIAM. OF PIN + 1/32



Mark — Revision — Date

APPROVED
Glenn B. Woodruff, Chief Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approved Date 10-1-36

NOTE: L, P, D, & A REFER TO SHORT END

TEST BARS TO BE LISTED SEPARATELY AT BOTTOM OF BILL

REQUIRED NO. PCS.	REQUIRED MARK	REQUIRED LENGTH FT.	REQUIRED LENGTH INS.	MATERIAL NO. PCS.	MATERIAL SECTION	MATERIAL LENGTH L & L1 FT.	MATERIAL LENGTH L & L1 INS.	END P	END D	END T	END A	UPSET DIA. D	UPSET LENGTH U	UPSET LENGTH M	UPSET ADD	CALC. WT. FOR ONE SHIP. PCS.	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ITEM
					All Eye Bars on this sheet to be Heat Treated														
					Min. Elastic Limit 50,000 "lbs"														
					All material to be Copper Bearing Steel														
					containing not less than 0.20% Copper														

Specifications Special by State of California, Dept. of Public Works, San Francisco-Oakland Bay Bridge Contract No. 7 (DJ)

DIAM. OF PIN HOLE – DIAM. OF PIN + (Paul Wright 8-35) ID

MATERIAL: Paint None, except Pin Holes to be coated with white lead & tallow.

INSPECTION

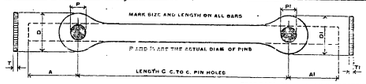
ORDER NO. G5104

SHEET NO. C

AMERICAN BRIDGE COMPANY
EYE BARS

DRAWINGS MADE BY Gary #1 DRAWING ROOM — WORK FABRICATED AT Ambridge PLANT

NAME OF STRUCTURE San Francisco-Oakland Bay Bridge
Eyebars for East Anchor Arm



TEST BARS TO BE LISTED SEPARATELY AT BOTTOM OF BILL

NO. PCS.	SECTION	MATERIAL LENGTH FT.	MATERIAL LENGTH INS.	MARK	HEAD D PIN P	HEAD D DIA D	HEAD D THICK T	HEAD D ADD A	HEAD D1 PIN P1	HEAD D1 DIA D1	HEAD D1 THICK T1	HEAD D1 ADD A1	CALC. WT. FOR ONE SHIP. PCE.	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ITEM
				Heat Treated Eye Bars												
8	12x1 5/16	69	1 5/16	MA7-UA6	11 1/2	7 7/8	1 5/16	4'-7	13	7 7/8	1 5/16	4'-8	3949	78	0	121
8	12x1 5/16	70	9 3/8	MA7-UA6A	11 1/2	7 7/8	1 5/16	4'-7	13	7 7/8	1 5/16	4'-8	4077	79	72	120
4	12x1 5/16	65	0	LA6-MB3	11 1/2	7 7/8	1 5/16	4'-7	11 1/2	7 7/8	1 5/16	4'-7	4699	93	4	128
4	12x1 5/16	65	0	LA6-MB3A	11 1/2	7 7/8	1 5/16	4'-7	11 1/2	7 7/8	1 5/16	4'-7	4881	93	4	125
4	12x1 5/16	67	3 5/8	LA6-MB3B	11 1/2	7 7/8	1 5/16	4'-7	11 1/2	7 7/8	1 5/16	4'-7	4520	93	7	129
4	12x1 5/16	67	3 5/8	LA6-MB3C	11 1/2	7 7/8	1 5/16	4'-7	11 1/2	7 7/8	1 5/16	4'-7	4694	93	7	134
8	12x1 5/16	22	8 1/8	MB3-MA3	11 1/2	7 7/8	1 5/16	4'-7	11 1/2	7 7/8	1 5/16	4'-7	1895	91	6	130
8	12x1 5/16	22	8 1/8	MB3-MA3A	11 1/2	7 7/8	1 5/16	4'-7	11 1/2	7 7/8	1 5/16	4'-7	1967	91	6	127
16	12x1 5/16	65	0	MA3-MB2	11 1/2	7 7/8	1 5/16	4'-7	13	7 7/8	1 5/16	4'-8	5239	93	10	123
8	14x1 5/16	76	2 1/2	MB2-UB2	13	9 3/8	1 5/16	4'-10	15	9 3/8	1 5/16	5'-5	2580	54	55	117
8	14x1 5/16	27	11 3/8	MB2-UB2A	13	9 3/8	1 5/16	4'-10	15	9 3/8	1 5/16	5'-5	2765	33	25	118

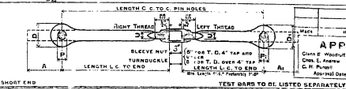
Page Total (22 Pcs 7 Pcs)

See Sheet C10 for Test Bars

Eyebars on this sheet to be marked "East Anchor Arm"

DIAM. OF PIN HOLE – DIAM. OF PIN + 1/32

LENGTH C. C. TO C. PIN HOLES



APPROVED
Chief Engr. of Design
Chief Engineer
C. H. Purcell
Approval Date 10-6-54

NOTE. L. P. D. & A. REFER TO SHORT END

TEST BARS TO BE LISTED SEPARATELY AT BOTTOM OF BILL

NO. PCS.	MARK	REQUIRED LENGTH FT.	REQUIRED LENGTH INS.	NO PCS.	MATERIAL SECTION	HEAD LENGTH OVER ALL FT.	HEAD LENGTH OVER ALL INS.	END	HEAD PIN P	HEAD THICK T	HEAD DIA D	HEAD ADD A	UPSET DIA D1	UPSET ADD A1	CALC WT. FOR ONE SHIP. PCE	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ITEM
	All Eye Bars on this sheet to be Heat Treated																	
	Min. Elastic Limit 50,000 #/a"																	
	All material to be copper Bearing Steel containing not less than 0.20% Copper																	
	Specifications - Special by State of Cal. Dept of Public Works San Francisco-Oakland Bay Bridge - Contract No. 7																	

DIAM. OF PIN HOLE – DIAM. OF PIN + 1/32 (Rev 8-20-54)

[D]

MATERIAL _____ INSPECTION _____

PAINT Note, except Pin Holes to be coated with White Lead + Tallow

SHOP ORDER	MARK	PCS	WEIGHT

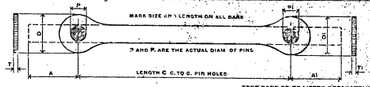
WILKINSON ORDER NO. G5104

SHEET NO. C 9

AMERICAN BRIDGE COMPANY
EYE BARS

DRAWINGS MADE BY Gary #1 DRAWING ROOM — WORK FABRICATED AT Ambridge PLANT

NAME OF STRUCTURE San Francisco-Oakland Bay Bridge
Eyebars for East Anchor Arm



TEST BARS TO BE LISTED SEPARATELY AT BOTTOM OF BILL

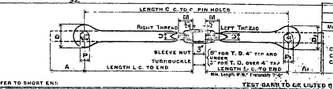
NO. PCS.	SECTION	MATERIAL LENGTH FT.	MATERIAL LENGTH INS.	MARK	HEAD D PIN P	HEAD D DIA D	HEAD D THICK T	HEAD D ADD A	HEAD D1 PIN P1	HEAD D1 DIA D1	HEAD D1 THICK T1	HEAD D1 ADD A1	CALC. WT. FOR ONE SHIP. PCE.	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ITEM
				Heat Treated Eye Bars												
				Test Bars For East Anchor Arm												
2	14x Z	48	6 3/4	UA5-UA4	14	9 3/8	1 5/16	4'-5 1/2	15	9 3/8	1 5/16	5'-5	5442	58	5	115
1	16x1 5/16	57	0 1/2	UA4-UA3A	15	9 7/8	1 5/16	5'-4	15	9 7/8	1 5/16	5'-4	6296	67	8 1/2	119
3	16x Z	59	2 3/8	UA1-UO	15	9 7/8	2	5'-4	15	9 7/8	2	5'-4	7191	49	10 1/2	107
2	12x1 5/16	65	5 1/2	LA8-MA7	13	7 3/8	1 5/16	4'-9	11 1/2	7 7/8	1 5/16	4'-7	5293	74	4	122
2	12x1 5/16	65	0	LA4-MB3	11 1/2	7 7/8	1 5/16	4'-7	11 1/2	7 7/8	1 5/16	4'-7	4699	93	4	128
1	12x1 5/16	70	9 3/8	MA7-UA5A	11 1/2	7 7/8	1 5/16	4'-7	13	7 7/8	1 5/16	4'-8	6077	79	72	120
1	14x1 5/16	27	11 3/8	MB2-UB2A	13	9 3/8	1 5/16	4'-10	15	9 3/8	1 5/16	5'-5	2765	33	25	118
2	16x1 5/16	57	0 1/2	UA4-UA3	15	9 7/8	1 5/16	5'-4	15	9 7/8	1 5/16	5'-4	6646	67	8 1/2	110

Page Total (21 Pcs)

Test bars representing bars too long for the testing machine, shall be selected from the full length material after the heads on one end have been formed and shall have the second head formed upon them after being cut to the longest length which can be tested.
35'-0" Max. Pins max. length for Testing Machine

DIAM. OF PIN HOLE – DIAM. OF PIN + 1/32

LENGTH C. C. TO C. PIN HOLES



APPROVED
Chief Engr. of Design
Chief Engineer
C. H. Purcell
Approval Date 10-6-54

NOTE. L. P. D. & A. REFER TO SHORT END

TEST BARS TO BE LISTED SEPARATELY AT BOTTOM OF BILL

NO. PCS.	MARK	REQUIRED LENGTH FT.	REQUIRED LENGTH INS.	NO PCS.	MATERIAL SECTION	HEAD LENGTH OVER ALL FT.	HEAD LENGTH OVER ALL INS.	END	HEAD PIN P	HEAD THICK T	HEAD DIA D	HEAD ADD A	UPSET DIA D1	UPSET ADD A1	CALC WT. FOR ONE SHIP. PCE	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ITEM
	All Eye Bars on this sheet to be Heat Treated																	
	Min. Elastic Limit 50,000 #/a"																	
	All material to be copper bearing steel containing not less than 0.20% Copper																	
	Specifications - Special by State of Cal. Dept of Public Works San Francisco-Oakland Bay Bridge - Contract No. 7																	

DIAM. OF PIN HOLE – DIAM. OF PIN + 1/32 (Rev 8/28/55 RH)

[D]

MATERIAL _____ INSPECTION _____

PAINT None

SHOP ORDER	MARK	PCS	WEIGHT

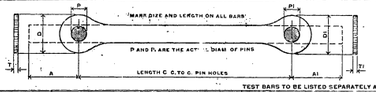
WILKINSON ORDER NO. G5104

SHEET NO. C 10

AMERICAN BRIDGE COMPANY
EYE BARS

DRAWINGS MADE BY Gary #1 DRAWING ROOM — WORK FABRICATED AT Ambridge PLANT

NAME OF STRUCTURE San Francisco-Oakland Bay Bridge
Eye Bars for East Cant. Arm



TEST BARS TO BE LISTED SEPARATELY AT BOTTOM OF BILL

NO. PCS.	SECTION	MATERIAL LENGTH FT.	MATERIAL LENGTH INS.	MARK	HEAD D PIN P	HEAD D DIA D	HEAD D THICK T	HEAD D ADD A	HEAD D1 PIN P1	HEAD D1 DIA D1	HEAD D1 THICK T1	HEAD D1 ADD A1	CALC. WT. FOR ONE SHIP. PCE.	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ITEM
				Heat Treated Eye Bars												
16	16x 2	59	3 3/8	UO-UC1	15	9 7/8	2	5'-4	15	9 7/8	2	5'-4	7304	70	0	132
16	16x 2	59	3 1/2	UO-UC1A	15	9 7/8	2	5'-4	15	9 7/8	2	5'-4	7308	70	0	132
16	16 x 2	58	0 5/8	UC1-UC2	15	9 7/8	2	5'-4	15	9 7/8	2	5'-4	7289	69	5	133
16	16x 2	59	9 1/2	UC1-UC1A	15	9 7/8	2	5' *	15	9 7/8	2	5'-4	7361	70	6	131
14	14 x 1 5/8	76	7 5/8	UC2-UC3	15	9 3/4	1 5/8	5'-5	14	9 3/8	1 5/8	4'-10	5169	66	10	140
18	14 x 1 5/8	97	2 3/4	UC2-UC3A	15	9 3/4	1 5/8	5'-5	14	9 3/8	1 5/8	4'-10	6495	67	11	140
12	14 x 1 5/8	57	1 1/2	UC3-UC4	14	9 3/8	1 5/8	4'-10	14	9 3/8	1 5/8	4'-10	5134	66	9	147
12	14 x 1 5/8	57	1 1/2	UC3-UC4A	14	9 3/8	1 5/8	4'-10	14	9 3/8	1 5/8	4'-10	5134	66	9	147
8	14 x 1 5/8	48	6 1/2	UC4-UC5	14	9 3/8	1 5/8	4'-10	14	9 3/8	1 5/8	4'-10	4454	53	6	147
16	14 x 1 5/8	48	6 1/2	UC4-UC5A	14	9 3/8	1 5/8	4'-10	14	9 3/8	1 5/8	4'-10	4295	53	6	153
8	14 x 1 5/8	49	2 3/8	UC5-UC6	14	9 3/8	1 5/8	4'-10	16	9 3/8	1 5/8	4'-10	4339	58	11	152
8	14 x 1 5/8	50	1 5/8	UC5-UC6A	14	9 3/8	1 5/8	4'-10	16	9 3/8	1 5/8	4'-10	4249	57	9	154
8	14 x 1 5/8	49	2 3/8	UC5-UC6B	16	9 3/8	1 5/8	4'-10	16	9 3/8	1 5/8	4'-10	4391	58	11	145
8	14 x 1 5/8	48	1 5/8	UC5-UC6C	14	9 3/8	1 5/8	4'-10	16	9 3/8	1 5/8	4'-10	4270	57	9	150

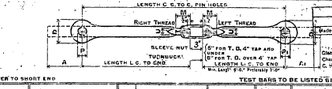
Page Total (82 Pcs 36)

See Sheet C13 for Test Bars

Eye Bars on this sheet to be marked "East Cant. Arm"

DIAM. OF PIN HOLE – DIAM. OF PIN + 1/32

LENGTH C. C. TO C. PIN HOLES



APPROVED
Chief Engr. of Design
Chief Engineer
C. H. Purcell
Approval Date 10-11-54

NOTE. L. P. D. & A. REFER TO SHORT END

TEST BARS TO BE LISTED SEPARATELY AT BOTTOM OF BILL

NO. PCS.	MARK	REQUIRED LENGTH FT.	REQUIRED LENGTH INS.	NO PCS.	MATERIAL SECTION	HEAD LENGTH OVER ALL FT.	HEAD LENGTH OVER ALL INS.	END	HEAD PIN P	HEAD THICK T	HEAD DIA D	HEAD ADD A	UPSET DIA D1	UPSET ADD A1	CALC WT. FOR ONE SHIP. PCE	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ITEM
	All Eye Bars on this sheet to be Heat Treated.																	
	Min Elastic Limit 50,000 #/a"																	
	All materials to be Copper Bearing Steel containing not less than 0.20% Copper																	
	Specifications: Special by State of California, Dept of Public Works, San Francisco-Oakland Bay Bridge Contract No. 7																	

DIAM. OF PIN HOLE – DIAM. OF PIN + 1/32 (Rev 8/28/55 RH)

[D]

MATERIAL _____ INSPECTION _____

PAINT None, except Pin Holes to be coated with White Lead & Tallow

SHOP ORDER	MARK	PCS	WEIGHT

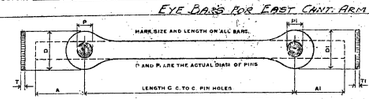
WILKINSON ORDER NO. G5104

SHEET NO. C 11

AMERICAN BRIDGE COMPANY
EYE BARS

DRAWINGS MADE BY Gary #1 DRAWING ROOM — WORK FABRICATED AT Ambridge PLANT

NAME OF STRUCTURE San Francisco-Oakland Bay Bridge
Eye Bars for East Cant. Arm



TEST BARS TO BE LISTED SEPARATELY AT BOTTOM OF BILL

NO. PCS.	SECTION	MATERIAL LENGTH FT.	MATERIAL LENGTH INS.	MARK	HEAD D PIN P	HEAD D DIA D	HEAD D THICK T	HEAD D ADD A	HEAD D1 PIN P1	HEAD D1 DIA D1	HEAD D1 THICK T1	HEAD D1 ADD A1	CALC. WT. FOR ONE SHIP. PCE.	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ITEM
				Heat Treated Eye Bars												
8	14 x 1 5/8	69	4 3/8	UC6-MC7	14	9 3/8	1 5/8	4'-5 1/2	14	9 3/8	1 5/8	4'-5 1/2	5547	78	4	138
8	14 x 1 5/8	71	0 3/8	UC6-MC7A	14	9 3/8	1 5/8	4'-5 1/2	14	9 3/8	1 5/8	4'-5 1/2	5688	79	11	137
8	12 x 1 5/8	26	6 3/4	UC7-MD8	15	9 3/4	1 5/8	5'-5	14	9 3/8	1 5/8	4'-5 1/2	2981	71	6	136
8	14 x 1 5/8	28	2 3/4	UC7-MD8A	15	9 3/4	1 5/8	5'-5	14	9 3/8	1 5/8	4'-5 1/2	3135	35	2	135
16	14 x 1 5/8	65	0	MD7-MC8	14	9 3/8	1 5/8	4'-5 1/2	14	9 3/8	1 5/8	4'-5 1/2	6385	78	11	134
8	14 x 1 5/8	22	2	MC8-MD8	14	9 3/8	1 5/8	4'-10	14	9 3/8	1 5/8	4'-10	2328	31	10	151
8	14 x 1 5/8	22	2	MC8-MD8A	14	9 3/8	1 5/8	4'-5 1/2	14	9 3/8	1 5/8	4'-5 1/2	2316	34	1	141
4	14 x 1 5/8	65	0	MD8-LC9	14	9 3/8	1 5/8	4'-10	14	9 3/8	1 5/8	4'-10	5768	74	8	142
4	14 x 1 5/8	64	0	MD8-LC9A	14	9 3/8	1 5/8	4'-5 1/2	14	9 3/8	1 5/8	4'-5 1/2	5682	73	11	139
4	14 x 1 5/8	62	7 3/4	MD9-LC9B	14	9 3/8	1 5/8	4'-10	14	9 3/8	1 5/8	4'-10	5530	72	8	144
4	14 x 1 5/8	62	7 3/4	MD9-LC9C	14	9 3/8	1 5/8	4'-5 1/2	14	9 3/8	1 5/8	4'-5 1/2	5700	71	7	116
8	14 x 1 5/8	60	4 3/8	MC7-LC9D	14	9 3/8	1 5/8	4'-10	14	9 3/8	1 5/8	4'-10	5779	74	1	143
8	14 x 1 5/8	61	11 3/8	MC7-LC9A	14	9 3/8	1 5/8	4'-10	14	9 3/8	1 5/8	4'-10	5923	71	8	144

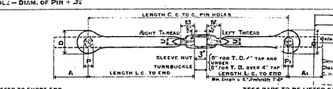
See Sheet C13 for Test Bars

Page Total (47 Pcs 48)

Eye Bars on this sheet to be marked "East Cant. Arm"

DIAM. OF PIN HOLE – DIAM. OF PIN + 1/32

LENGTH C. C. TO C. PIN HOLES



APPROVED
Chief Engr. of Design
Chief Engineer
C. H. Purcell
Approval Date 10-4-54

NOTE. L. P. D. & A. REFER TO SHORT END

TEST BARS TO BE LISTED SEPARATELY AT BOTTOM OF BILL

NO. PCS.	MARK	REQUIRED LENGTH FT.	REQUIRED LENGTH INS.	NO PCS.	MATERIAL SECTION	HEAD LENGTH OVER ALL FT.	HEAD LENGTH OVER ALL INS.	END	HEAD PIN P	HEAD THICK T	HEAD DIA D	HEAD ADD A	UPSET DIA D1	UPSET ADD A1	CALC WT. FOR ONE SHIP. PCE	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ITEM
	All Eye Bars on this sheet to be Heat Treated																	
	Min. Elastic Limit 50,000 #/a"																	
	All materials to be Copper Bearing Steel containing not less than 0.20% Copper.																	
	Specifications: Special by State of California Dept. of Public Works, San Francisco-Oakland Bay Bridge Contract No. 7																	

DIAM. OF PIN HOLE – DIAM. OF PIN + 1/32 (Rev 4/28/55 RH)

[D]

MATERIAL _____ INSPECTION _____

PAINT None, except Pin Holes to be coated with White Lead & Tallow

SHOP ORDER	MARK	PCS	WEIGHT

WILKINSON ORDER NO. G5104

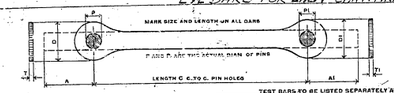
SHEET NO. C 12

AMERICAN BRIDGE COMPANY
EYE BARS

DRAWINGS MADE BY Gary "1" DRAWING ROOM — WORK FABRICATED AT Ambridge PLANT

NAME OF STRUCTURE San Francisco-Oakland Bay Bridge

Eye Bars for East Cant. Arm.



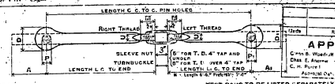
TEST BARS TO BE LISTED SEPARATELY AT BOTTOM OF BILL

NO. PCS.	SECTION	MATERIAL LENGTH FT.	MATERIAL LENGTH INS.	MARK	HEAD D PIN P	HEAD D DIA D	HEAD D THICK T	HEAD D ADD A	HEAD D1 PIN P1	HEAD D1 DIA D1	HEAD D1 THICK T1	HEAD D1 ADD A1	CALC. WT. FOR ONE BUILT PCE	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ITEM
				Heat Treated Eye Bars												
				Test Bars For East Cant. Arm												
6	16 x 2	57	3½	U0-UC1	15	9⅞	2	5'-4	15	5⅞	2	5'-6	7304	70	0	152
2	14 x 1⅞	57	1⅜	UC3-UC4A	14	33	1⅜	4'-10	14	33	1⅜	4'-10	5134	66	9	141
1	14 x 1⅞	48	8½	UC4-UC5A	14	33	1⅜	4'-10	14	33	1⅜	4'-10	4235	53	4	103
1	14 x 1⅞	48	1⅝	UC5-UC6C	14	33	1⅜	4'-10	14	33	1⅜	4'-10	4410	87	9	150
1	14 x 1⅞	71	0½	UC6-MC1A	14	33	1⅜	4'-5⅝	14	33	1⅜	4'-5⅝	6688	77	11	137
1	18 x 1⅞	26	6½	UC2-MD2	15	34	1⅝	5'-5	14	33	1⅜	4'-5⅝	2951	36	5	136
1	14 x 1⅞	22	2	MC3-MD2A	14	33	1⅜	4'-5⅝	14	33	1⅜	4'-5⅝	2416	31	1	141
1	14 x 1⅞	65	0	MD3-LC4	14	33	1⅜	4'-10	14	33	1⅜	4'-10	5768	74	8	142

Page Total (58799)

Test bars, representing bars too long for the testing machine, shall be selected from the full length bar material after the heads on one end have been formed, and shall have the second head formed upon them after being cut to the longest length which can be tested.
55'-0 c-c. Pins maximum length for Testing Machine

DIAM. OF PIN HOLE – DIAM. OF PIN + 1/16



Revisions — Date — Appd

APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approved Dec. 10-24-34

NOTE. L. P. D. & A. REFER TO SHORT END

TEST BARS TO BE LISTED SEPARATELY AT BOTTOM OF BILL

NO. PCS.	REQUIRED MARK	REQUIRED LENGTH FT.	REQUIRED LENGTH INS.	MATERIAL NO. PCS.	MATERIAL SECTION	MATERIAL LENGTH FT.	MATERIAL LENGTH INS.	END	HEAD PIN P	HEAD DIA D	HEAD THICK T	HEAD ADD A	UPSET DIA 1-16 U	UPSET M	UPSET ADD	CALC WT FOR ONE BUILT PCE	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ITEM
	All Eye Bars on this sheet to be Heat Treated. Min. Elastic Limit 50,000 #/□" All material to be Copper Bearing Steel containing not less than 0.20% Copper.																		

Specifications: Special, by State of California, Dept. of Public Works, San Francisco-Oakland Bay Bridge Contract No. 7

DI

DIAM. OF PIN HOLE – DIAM. OF PIN + (As per last EN)

MATERIAL None — INSPECTION — PAINT None

Wind — Date — By

ORDER NO. 63104

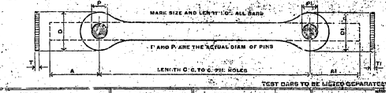
SHEET NO. C13

AMERICAN BRIDGE COMPANY
EYE BARS

DRAWINGS MADE BY Gary "1" DRAWING ROOM — WORK FABRICATED AT Ambridge PLANT

NAME OF STRUCTURE San Francisco-Oakland Bay Bridge

Eye Bars for Suspended Span



TEST BARS TO BE LISTED SEPARATELY AT BOTTOM OF BILL

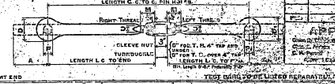
NO. PCS.	SECTION	MATERIAL LENGTH FT.	MATERIAL LENGTH INS.	MARK	HEAD D PIN P	HEAD D DIA D	HEAD D THICK T	HEAD D ADD A	HEAD D1 PIN P1	HEAD D1 DIA D1	HEAD D1 THICK T1	HEAD D1 ADD A1	CALC. WT. FOR ONE BUILT PCE	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ITEM
				Heat Treated Eye Bars												
16	12 x 1⅝	40	4⅝	L54-L55B	11½	28	1⅝	4'-2	11½	28	1⅝	4'-2	3905	48	9	160

The above bars to be used for Erection purposes on M17-M30 and M30-M31

See sheet C16 for Test Bars

Eye bars on this sheet to be marked "Suspended Span"

DIAM. OF PIN HOLE – DIAM. OF PIN + 1/16 — Page Total—52880 — (G5104 C14)



Revisions — Date — Appd

APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approved Dec. 11-22-34

NOTE. L. P. D. & A. REFER TO SHORT END

TEST BARS TO BE LISTED SEPARATELY AT BOTTOM OF BILL

NO. PCS.	REQUIRED MARK	REQUIRED LENGTH FT.	REQUIRED LENGTH INS.	MATERIAL NO. PCS.	MATERIAL SECTION	MATERIAL LENGTH FT.	MATERIAL LENGTH INS.	END	HEAD PIN P	HEAD DIA D	HEAD THICK T	HEAD ADD A	UPSET DIA 1-16 U	UPSET M	UPSET ADD	CALC WT FOR ONE BUILT PCE	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ITEM
	All Eye Bars on this sheet to be Heat Treated. Min. Elastic Limit 50,000 #/□" All material to be copper bearing steel containing not less than 0.20% copper.																		

Specifications: Special, by State of California, Dept. of Public Works, San Francisco-Oakland Bay Bridge Contract No. 7

DI

DIAM. OF PIN HOLE – DIAM. OF PIN + (G5104 C14)

MATERIAL None, except Pin Holes to be coated with White Lead + Tallow — INSPECTION

Wind — Date — By

ORDER NO. G5104

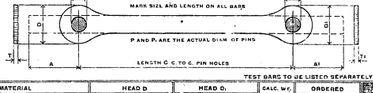
SHEET NO. C14

AMERICAN BRIDGE COMPANY
EYE BARS

DRAWINGS MADE BY Gary "1" DRAWING ROOM — WORK FABRICATED AT Ambridge PLANT

NAME OF STRUCTURE San Francisco-Oakland Bay Bridge

Eye Bars for Suspended Span



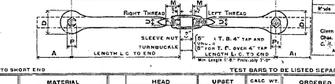
TEST BARS TO BE LISTED SEPARATELY AT BOTTOM OF BILL

NO. PCS.	SECTION	MATERIAL LENGTH FT.	MATERIAL LENGTH INS.	MARK	HEAD D PIN P	HEAD D DIA D	HEAD D THICK T	HEAD D ADD A	HEAD D1 PIN P1	HEAD D1 DIA D1	HEAD D1 THICK T1	HEAD D1 ADD A1	CALC. WT. FOR ONE BUILT PCE	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ITEM
				Heat Treated Eye Bars												
16	12 x 1⅝	45	0⅝	L54-L55	11½	28	1⅝	4'-2	11½	28	1⅝	4'-2	3689	55	5	159
8	12 x 1⅝	45	0⅝	L54-L55B	11½	28	1⅝	4'-2	11½	28	1⅝	4'-2	3769	55	5	159
8	12 x 1⅝	40	4⅝	L54-L55C	11½	28	1⅝	4'-2	11½	28	1⅝	4'-2	3603	49	9	157
96	12 x 1⅝	47	11⅝	L55-L56	11½	28	1⅝	4'-2	11½	28	1⅝	4'-2	3847	56	4	158
16	12 x 1⅝	47	11⅝	L55-L56B	11½	28	1⅝	4'-2	11½	28	1⅝	4'-2	3923	56	4	158

See Sheet C16 for Test Bars

Eye bars on this sheet to be marked "Suspended Span"

DIAM. OF PIN HOLE – DIAM. OF PIN + 1/16 — Page Total—20693 — (Wind 11-9-34)



Revisions — Date — Appd

APPROVED

NOTE. L. P. D. & A. REFER TO SHORT END

TEST BARS TO BE LISTED SEPARATELY AT BOTTOM OF BILL

NO. PCS.	REQUIRED MARK	REQUIRED LENGTH FT.	REQUIRED LENGTH INS.	MATERIAL NO. PCS.	MATERIAL SECTION	MATERIAL LENGTH FT.	MATERIAL LENGTH INS.	END	HEAD PIN P	HEAD DIA D	HEAD THICK T	HEAD ADD A	UPSET DIA 1-16 U	UPSET M	UPSET ADD	CALC WT FOR ONE BUILT PCE	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ITEM
	All Eye Bars on this sheet to be Heat Treated Minimum Elastic Limit 50,000 #/□" All material to be copper bearing steel containing at least 0.20 % copper																		

Specifications - Special, by State of California Dept of Public Works, San Francisco-Oakland Bay Bridge Contract No. 7

DIAM. OF PIN HOLE – DIAM. OF PIN + — Wind 11-9-34 — LDJ

MATERIAL — INSPECTION — PAINT None, except Pin Holes to be coated with White Lead + Tallow

Wind — Date — By

ORDER NO. G5104

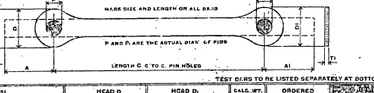
SHEET NO. C15

AMERICAN BRIDGE COMPANY
EYE BARS

DRAWINGS MADE BY Gary "1" DRAWING ROOM — WORK FABRICATED AT Ambridge PLANT

NAME OF STRUCTURE San Francisco-Oakland Bay Bridge

Eye Bars for Suspended Span

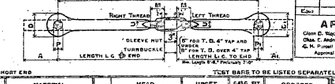


TEST BARS TO BE LISTED SEPARATELY AT BOTTOM OF BILL

NO. PCS.	SECTION	MATERIAL LENGTH FT.	MATERIAL LENGTH INS.	MARK	HEAD D PIN P	HEAD D DIA D	HEAD D THICK T	HEAD D ADD A	HEAD D1 PIN P1	HEAD D1 DIA D1	HEAD D1 THICK T1	HEAD D1 ADD A1	CALC. WT. FOR ONE BUILT PCE	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ITEM
				Heat Treated Eye Bars												
				Test Bars For Suspended Span												
4	12 x 1⅝	65	0⅞	L54-L55	11½	28	1⅝	4'-2	11½	28	1⅝	4'-2	3689	62	5	159
1	12 x 1⅝	40	4⅝	L54-L55B	11½	28	1⅝	4'-2	11½	28	1⅝	4'-2	3705	49	4	160
1	12 x 1⅝	47	11⅝	L55-L56	11½	28	1⅝	4'-2	11½	28	1⅝	4'-2	3847	56	4	158
1	12 x 1⅝	40	4⅝	L54-L55C	11½	28	1⅝	4'-2	11½	28	1⅝	4'-2	3423	49	9	157
1	12 x 1⅝	47	11⅝	L55-L56A	11½	28	1⅝	4'-2	11½	28	1⅝	4'-2	3938	56	4	155

Test bars representing bars too long for the testing machine shall be selected from the full length bar material after the heads on one end have been formed, and shall have the second head formed upon them after being cut to the longest length which can be tested.
55'-0" c-c Pins maximum length for Testing Machine.

DIAM. OF PIN HOLE – DIAM. OF PIN + — Page Total—18197



Revisions — Date — Appd

APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approved Dec. 11-22-34

NOTE. L. P. D. & A. REFER TO SHORT END

TEST BARS TO BE LISTED SEPARATELY AT BOTTOM OF BILL

NO. PCS.	REQUIRED MARK	REQUIRED LENGTH FT.	REQUIRED LENGTH INS.	MATERIAL NO. PCS.	MATERIAL SECTION	MATERIAL LENGTH FT.	MATERIAL LENGTH INS.	END	HEAD PIN P	HEAD DIA D	HEAD THICK T	HEAD ADD A	UPSET DIA 1-16 U	UPSET M	UPSET ADD	CALC WT FOR ONE BUILT PCE	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ITEM
	All Eye Bars on this sheet to be Heat Treated Min. Elastic Limit 50,000 #/□" All material to be Copper Bearing Steel containing not less than 0.20 % Copper. Specifications: Special by State of California Dept of Public Wks San Francisco-Oakland Bay Bridge Contract No. 7																		

DIAM. OF PIN HOLE – DIAM. OF PIN + — Wind — LDJ

MATERIAL None — INSPECTION — PAINT None

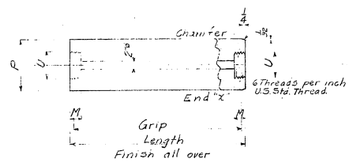
Wind — Date — By

ORDER NO. G5104

SHEET NO. C16

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



Phys. Prop
Min. Y.P. 55000
Min. T.S. 85000
Min. Elong. in 2" 20%
Min. Red. in area 45%
Bend Test 1½" sq. std. spec. man around 7/8-180° Bend

Chem. Prop.
Phos. not over 0.04%
Sul. " " 0.05%

MARK	P	M	U	GRIP	LENGTH
PMA3	11⅝	2¾	5	3'-5"	3'-6"
PLA4	11⅝	2¾	5	3'-5⅜"	3'-6⅜"
PMB3	11⅝	2¾	5	3'-6⅜"	3'-7⅜"
PMA7	11⅝	2¾	5	3'-7⅛"	3'-8⅛"
PMB2	13⅜	2¾	7	3'-1⅞"	3'-3⅜"
PLA8	13⅜	2¾	7	3'-7⅞"	3'-8⅜"
PUA6	13⅜	2¾	7	3'-8⅝"	3'-10"
PUA5	14⅜	3¼	7	3'-9⅞"	3'-10¼"
PLA10	14⅜	3¼	7	4'-3½"	4'-4¼"

Mark	Revision	Appd.

APPROVED
Chas. H. Wendorff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Asst. Chief Engineer
Approval Date 7-26-36

Low Nickel Chrome Alloy Heat Treated Pins

Specifications: Special by State of California, Dept. of Public Works, San Francisco-Oakland Bay Bridge - Contract No. 7

SHEET NO.	MEMBER NO. PCS	MEMBER NAME	MEMBER MARK	MATERIAL NO. PCS.	MATERIAL SHAPE	MATERIAL LENGTH FT.	MATERIAL LENGTH INS.	MATERIAL + INS.	REMARKS	CALCULATED WEIGHT FOR ONE MEMBER	ORDERED NO. PCS.	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ORDERED ITEM	SHIPMENTS
1	4	Pins	PMA3	4	11/4" ø	3	6		Heat Treated Steel See Sh. Note	1170					
2	4	"	PLA4	4	11/4" ø	3	6⅜		"	1180					
3	4	"	PMB3	4	11⅝" ø	3	7⅜		"	1362					
4	4	"	PMA7	4	11⅝" ø	3	8⅛		"	1274					
5	4	"	PMB2	4	13" ø	3	3⅜		"	1205					
6	4	"	PLA8	4	13⅜" ø	3	8⅜		"	1512					
7	4	"	PUA6	4	13⅜" ø	3	10		"	1498					
8	4	"	PUA5	4	14⅜" ø	3	10¼		"	1911					
9	2	"	PLA10	2	14⅜" ø	4	4¼		"	2188					
10															
11															
12															
13															
14															
15	Pins on this sheet to be marked "West Anchor Arm"														
16									Pins Tabs	22974					

West Anchor Arm Pins
Paint: One Coat White Lead and Tallow

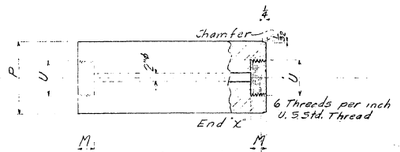
RIVETS — HOLES — DATE — DRAWINGS — ORDER No. 65104

San Francisco-Oakland Bay Bridge - East Bay Crossing - Cantilever Structure

SHEET No. C 21

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



MARK	P	M	U	GRIP	LENGTH
PUA4	15⅝	3¾	8	3'-6⅝"	3'-8"
PUA3	15⅝	3¾	8	3'-8⅝"	3'-9⅞"
PUA2	15⅝	4	8	4'-3⅜"	4'-4⅜"
PUA1	15⅝	3¾	8	4'-4⅞"	4'-5⅞"
PU0	15⅝	3¾	8	5'-1⅜"	5'-10⅛"
PL0A	18⅝	5⅜	9	(3'-2")	(3'-3")
PA4A	20⅝	4	10	3'-1⅜"	3'-2⅝"
PL0	24⅝	4	12	(3'-5⅜")	(3'-6⅜")

Mark	Revision	Appd.

APPROVED
Chas. H. Wendorff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Asst. Chief Engineer
Approval Date 7-26-36

Low Nickel Chrome Alloy Heat Treated Pins
For Physical and Chemical Properties see Sh. C21

Specifications: Special by State of California, Dept. of Public Works, San Francisco-Oakland Bay Bridge - Contract No. 7

SHEET NO.	MEMBER NO. PCS	MEMBER NAME	MEMBER MARK	MATERIAL NO. PCS.	MATERIAL SHAPE	MATERIAL LENGTH FT.	MATERIAL LENGTH INS.	MATERIAL + INS.	REMARKS	CALCULATED WEIGHT FOR ONE MEMBER	ORDERED NO. PCS.	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ORDERED ITEM	SHIPMENTS
1	4	Pins	PUA4	4	15⅝" ø	3	8		Heat Treated Pins all over	2028					
2	4	"	PUA3	4	15⅝" ø	3	9⅞		"	2056					
3	4	"	PUA2	4	15⅝" ø	4	4⅜		"	2515					
4	4	"	PUA1	4	15⅝" ø	4	5⅞		"	2605					
5	4	"	PU0	4	15⅝" ø	5	10⅛		"	3307	7	15540			
6	2	"	PL0A	2	18⅝" ø	3	(3)		"	(2050)					
7	2	"	PA4A	2	20⅝" ø	3	2⅝		"	2116					
8	2	"	PL0	2	24⅝" ø	3	(3'-6⅜")		"	(2327)					
9															
10															
11															
12															
13															
14															
15	Pins on this sheet to be marked "West Anchor Arm"														
16									Pins Tabs	22974					

West Anchor Arm Pins
Paint: One Coat White Lead and Tallow

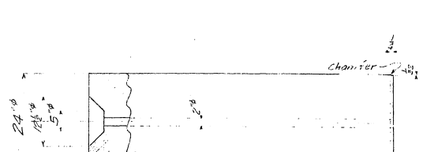
RIVETS — HOLES — DATE — DRAWINGS — ORDER No. 65104

San Francisco-Oakland Bay Bridge - East Bay Crossing - Cantilever Structure

SHEET No. C 22

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



Low Nickel Chrome Alloy Heat Treated Pins
For Physical and Chemical Properties see Sh. C21

Specifications: Special by State of California, Dept. of Public Works, San Francisco-Oakland Bay Bridge - Contract No. 7

SHEET NO.	MEMBER NO. PCS	MEMBER NAME	MEMBER MARK	MATERIAL NO. PCS.	MATERIAL SHAPE	MATERIAL LENGTH FT.	MATERIAL LENGTH INS.	MATERIAL + INS.	REMARKS	CALCULATED WEIGHT FOR ONE MEMBER	ORDERED NO. PCS.	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ORDERED ITEM	SHIPMENTS
1															
2	2	Pins	PL0B	2	6¼" ø	6	4⅜		Heat Treated Pin all over	2080	Reg.	15510			
3															
4															
5															
6															
7															
8															
9															
10															
11	Pins on this sheet to be marked "West Anchor Arm"														
12															
13															
14															
15															
16									Pins Tabs	19340					

West Anchor Arm Pins
Paint: One Coat White Lead and Tallow

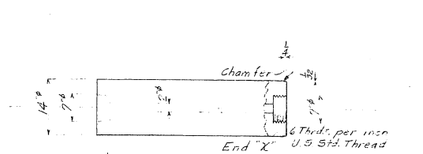
RIVETS — HOLES — DATE — DRAWINGS — ORDER No. 65104

San Francisco-Oakland Bay Bridge - East Bay Crossing - Cantilever Structure

SHEET No. C 23

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



Low Nickel Chrome Alloy Heat Treated Pins
For Physical and Chemical Properties see Sh. C21

Specifications: Special by State of California, Dept. of Public Works, San Francisco-Oakland Bay Bridge - Contract No. 7

The above pins temporarily used for Erection purposes on West Anchor Arm

SHEET NO.	MEMBER NO. PCS	MEMBER NAME	MEMBER MARK	MATERIAL NO. PCS.	MATERIAL SHAPE	MATERIAL LENGTH FT.	MATERIAL LENGTH INS.	MATERIAL + INS.	REMARKS	CALCULATED WEIGHT FOR ONE MEMBER	ORDERED NO. PCS.	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ORDERED ITEM	SHIPMENTS
1															
2															
3	4	Pins	PL50	4	14" ø	4	1½		Heat Treated Pin all over	2050	Reg.	16540			
4															
5															
6															
7															
8															
9															
10															
11															
12	Pins on this sheet to be marked "West Cantilever Arm Pins"														
13															
14															
15															
16									Pins Tabs	5210					

West Cantilever Arm Pins
Paint: One Coat White Lead and Tallow

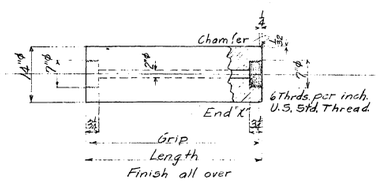
RIVETS — HOLES — DATE — DRAWINGS — ORDER No. 65104

San Francisco-Oakland Bay Bridge - East Bay Crossing - Cantilever Structure

SHEET No. C 24

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



MARK	GRIP	LENGTH
PUC3	3'-9 7/16"	3'-10 3/8"
PUC4	3'-7 7/16"	3'-8 1/2"
PUC5	3'-5 7/16"	3'-6 3/8"
PUC6	3'-3 7/16"	3'-4 3/8"
PMC7	3'-1 7/16"	3'-2"
PMD2	3'-9 3/8"	3'-10 1/2"
PMC3	3'-7 3/8"	3'-8 1/2"
PMD3	3'-5 3/8"	3'-6 1/2"
PLC4	3'-7 1/8"	3'-8 3/8"

Low Nickel Chrome Alloy Heat Treated Pins

Phys. Prop.
Min. Y.P. 55000
Min. T.S. 85000
Min. Elong. in 2" 20%
Min. Reduc. in area 41%
Bend Test 1" Sq. std. specimen around 1½" 180° Bend

Chem. Prop.
Phos. not over 0.04%
Sul. " " 0.05%

Alike except for marks

Specifications: Special by State of California, Dept. of Public Works - San Francisco-Oakland Bay Bridge - Contract No. 7

APPROVED
Chief Engineer
8-6-34

MEMBER NO. PCS	MEMBER NAME	MEMBER MARK	MATERIAL NO. PCS	MATERIAL SHAPE	MATERIAL LENGTH FT.	MATERIAL LENGTH + INS.	MATERIAL LENGTH + FRAC.	REMARKS	CALCULATED WEIGHT FURNISHED POUNDS	ORDERED NO. PCS.	ORDERED LENGTH FT.	ORDERED LENGTH + INS.	ORDERED ITEM	SHIPMENTS
1	4	Pins	PUC3	4	14" ø	3	10 3/8	Heat Treated Steel Pin all over	1716					
2	4	"	PUC4	4	14" ø	3	8 1/2	"	1635					
3	4	"	PUC5	4	14" ø	3	6 3/8	"	1561					
4	4	"	PUC6	4	14" ø	3	4 3/8	"	1491					
5	4	"	PMC7	4	14" ø	3	2	"	1424					
6	4	"	PMD2	4	14" ø	3	10 1/2	"	1703					
7	4	"	PMC3	4	14" ø	3	8 1/2	"	1614					
8	4	"	PMD3	4	14" ø	3	6 1/2	"	1534					
9	4	"	PLC4	4	14" ø	3	8 3/8	"	1636					
10														
11														
12	Pins on this sheet to be marked "West Cantilever Arm"													
13														
14														
15														
16														
17								Page Total	15590					
18														

West Cantilever Arm Pins
Paint - One Coat White Lead and Tallow

RIVETS — HOLES —

DATE	DRAWN BY	CHECKED BY
6/30/34	Gary	Wilkinson
7/2/34	Gary	Wilkinson
7/6/34	Gary	Wilkinson
7/9/34	Gary	Wilkinson
7/11/34	Gary	Wilkinson

NAME OF STRUCTURE: San Francisco-Oakland Bay Bridge - East Bay Crossing - Cantilever Structure

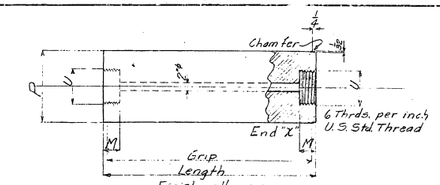
FABRICATION: Ambridge

ORDER No. G5104

SHEET No. C 28

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



MARK	P	M	U	GRIP	LENGTH
PLC7	18" ø	3 1/2	9	3'-7	3'-8
PUC1	15" ø	3 1/2	8	4'-6 3/8	4'-7 7/8
PUC2	15" ø	3 1/2	8	4'-5 3/8	4'-6 7/8
PLO6	18" ø	3 1/2	9	(3'-2)	(3'-3)
PL50A	18" ø	3 1/2	9	3'-10	3'-11
PLC4F	20" ø	4	10	3'-2 3/8	3'-3 3/8
PLOD	24" ø		12	(3'-5 1/2)	(3'-6 1/2)

Low Nickel Chrome Alloy Heat Treated Pins
For Physical and Chemical Properties see Sh. C28

Specifications: Special by State of California, Dept. of Public Works, San Francisco-Oakland Bay Bridge - Contract No. 7

APPROVED
Chief Engineer
8-24-34

MEMBER NO. PCS	MEMBER NAME	MEMBER MARK	MATERIAL NO. PCS	MATERIAL SHAPE	MATERIAL LENGTH FT.	MATERIAL LENGTH + INS.	MATERIAL LENGTH + FRAC.	REMARKS	CALCULATED WEIGHT FURNISHED POUNDS	ORDERED NO. PCS.	ORDERED LENGTH FT.	ORDERED LENGTH + INS.	ORDERED ITEM	SHIPMENTS
1	4	Pins	PUC1	4	15" ø	4	7 7/8	Heat Treated Steel Pin all over	2488					
2	4	"	PUC2	4	15" ø	4	6 3/8	"	2510					
3	2	"	PLC	2	18" ø	3	(3)	"	2040					
4	2	"	150P	2	18" ø	3	11	"	2070					Mfg. 15590
5	2	"	PLC4A	2	20" ø	3	3 3/8	"	2080					
6	2	"	PLOD	2	24" ø	3	(6)	"	(3180)					
7	2	"	PLC7	2	18" ø	3	8	"	2002					
8														
9														
10														
11	Pins on this sheet to be marked "West Cantilever Arm"													
12														
13														
14														
15														
16														
17								Page Total	15590					
18								(Carried Forward)	(33570)					

West Cantilever Arm Pins
Paint - One Coat White Lead and Tallow

RIVETS — HOLES —

DATE	DRAWN BY	CHECKED BY
7/12/34	Gary	Wilkinson
7/16/34	Gary	Wilkinson
7/18/34	Gary	Wilkinson
7/20/34	Gary	Wilkinson
7/23/34	Gary	Wilkinson

NAME OF STRUCTURE: San Francisco-Oakland Bay Bridge - East Bay Crossing - Cantilever Structure

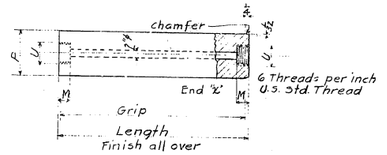
FABRICATION: Ambridge

ORDER No. G5104

SHEET No. C 29

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



Phys. Prop.
Min. Y.P. 55000
Min. T.S. 85000
Min. Elong. in 2" 20%
Min. Reduc. in area 41%
Bend Test 1" Sq. std. specimen around 1½" 180° Bend

Chem. Prop.
Phos. not over 0.04%
Sul. " " 0.05%

Mark	P	M	U	Grip	Length
PMA3	11½" ø	2½	5	3'-5	3'-6
PLA4	11½" ø	2½	5	3'-5 5/8	3'-6 7/8
PMB3	11½" ø	2½	5	3'-6 5/8	3'-7 7/8
PMA7	11½" ø	2½	5	3'-7 5/8	3'-8 7/8
PMB2	13" ø	2½	7	3'-2 5/8	3'-3 7/8
PLA8	13" ø	2½	7	3'-7 5/8	3'-8 7/8
PUA6	13" ø	2½	1	3'-8 5/16	3'-10
PUA5	14" ø	3½	7	3'-9 5/16	3'-10 7/8
PLA10A	14" ø	3½	7	4'-0	4'-1

Low Nickel Chrome Alloy Heat Treated Pins

Specifications:- Special by State of California, Dept. of Public Works, San Francisco-Oakland Bay Bridge.

APPROVED
Chief Engineer
10-6-34

MEMBER NO. PCS	MEMBER NAME	MEMBER MARK	MATERIAL NO. PCS	MATERIAL SHAPE	MATERIAL LENGTH FT.	MATERIAL LENGTH + INS.	MATERIAL LENGTH + FRAC.	REMARKS	CALCULATED WEIGHT FURNISHED POUNDS	ORDERED NO. PCS.	ORDERED LENGTH FT.	ORDERED LENGTH + INS.	ORDERED ITEM	SHIPMENTS
1	4	Pins	PMA3	4	11½" ø	3	6	Heat Treated Steel Finished	1704					
2	4	do.	PLA4	4	11½" ø	3	6 3/8	do	1784					
3	4	do	PMB3	4	11½" ø	3	7 5/8	do	1869					
4	4	do	PMA7	4	11½" ø	3	8 5/8	do	1959					
5	4	do	PMB2	4	13" ø	3	3 3/8	do	1704					
6	4	do	PLA8	4	13" ø	3	8 3/8	do	1871					
7	4	do	PUA6	4	13" ø	3	10	do	1934					
8	4	do	PUA5	4	14" ø	3	10 3/8	do	1970					
9	2	do	PLA10A	2	14" ø	4	1	do	2048					
10														
11														
12														
13														
14														
15	Pins on this sheet to be marked "East Anchor Arm"													
16														
17								Page Total	29408					
18														

East Anchor Arm Pins
Paint: One coat white lead and tallow

RIVETS — HOLES —

DATE	DRAWN BY	CHECKED BY
6/30/34	Gary	Wilkinson
7/2/34	Gary	Wilkinson
7/6/34	Gary	Wilkinson
7/9/34	Gary	Wilkinson
7/11/34	Gary	Wilkinson

NAME OF STRUCTURE: San Francisco-Oakland Bay Bridge - East Bay Crossing - Cantilever Structure

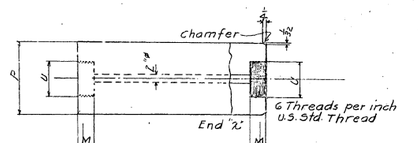
FABRICATION: Ambridge

ORDER No. G5104

SHEET No. C 32

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



Mark	P	M	U	Grip	Length
PUA4	15" ø	3½	8	3'-6 7/8	3'-8
PUA3	15" ø	3½	8	3'-8 1/2	3'-9 3/4
PUA2	15" ø	3½	8	4'-3 3/8	4'-4 5/8
PUA1	15" ø	3½	8	4'-4 3/8	4'-5 5/8
PUO	15" ø	3½	8	5'-9 3/8	5'-10 5/8
PLOA	18" ø	3½	9	(3'-2)	(3'-3)
PLA7Z	22" ø	4	10	3'-1 3/8	3'-2 5/8
PLO	24" ø	4	12	(3'-5 1/2)	(3'-6 1/2)

Low Nickel Chrome Alloy Heat Treated Pins
For Physical and Chemical Properties see Sh. C32

Specifications: Special by State of California, Dept. of Public Works, San Francisco-Oakland Bay Bridge - Contract No. 7

APPROVED
Chief Engineer
10-6-34

MEMBER NO. PCS	MEMBER NAME	MEMBER MARK	MATERIAL NO. PCS	MATERIAL SHAPE	MATERIAL LENGTH FT.	MATERIAL LENGTH + INS.	MATERIAL LENGTH + FRAC.	REMARKS	CALCULATED WEIGHT FURNISHED POUNDS	ORDERED NO. PCS.	ORDERED LENGTH FT.	ORDERED LENGTH + INS.	ORDERED ITEM	SHIPMENTS
1	4	Pins	PUA4	4	15" ø	5	8	Heat Treated Steel Pin all over	2090					
2	4	"	PUA3	4	15" ø	5	9 3/4	"	2171					
3	4	"	PUA2	4	15" ø	4	4 3/4	"	1844					
4	4	"	PUA1	4	15" ø	4	5 3/4	"	1925					Mfg. 15967
5	4	"	PUO	4	15" ø	5	10 3/4	"	2171					
6	2	"	PLOA	2	18" ø	3	(3)	"	(2040)					
7	2	"	PLA7A	2	20" ø	3	2 3/8	"	2016					
8	2	"	PLO	2	24" ø	3	(6)	"	(3180)					
9														
10														
11														
12	Pins on this sheet to be marked "East Anchor Arm"													
13														
14														
15														
16														
17								Page Total	12770					
18								(Carried Forward)	(46338)					

East Anchor Arm Pins
Paint: One coat White Lead and Tallow

RIVETS — HOLES —

DATE	DRAWN BY	CHECKED BY
7/12/34	Gary	Wilkinson
7/16/34	Gary	Wilkinson
7/18/34	Gary	Wilkinson
7/20/34	Gary	Wilkinson
7/23/34	Gary	Wilkinson

NAME OF STRUCTURE: San Francisco-Oakland Bay Bridge - East Bay Crossing - Cantilever Structure

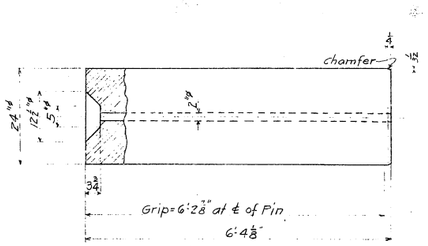
FABRICATION: Ambridge

ORDER No. G5104

SHEET No. C 33

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



PL08

APPROVED		
Glenn B. Woodruff	Engr. of Design	
Chas. E. Andrew	Bridge Engineer	
C. H. Purcell	Chief Engineer	
Approval Date	10-6-34	

Low Nickel Chrome Alloy Heat Treated Pins
For Physical and Chemical Properties See Sh. C32

Specifications: Special by State of California Dept. of Public Works, San Francisco-Oakland Bay Bridge - Contract No. 7

CHECKED	MEMBER NO. PCS.	MEMBER NAME	MEMBER MARK	MATERIAL NO. PCS.	MATERIAL SHAPE	MATERIAL LENGTH FT.	MATERIAL LENGTH + INS.	MATERIAL LENGTH INS.	REMARKS	CALCULATED WEIGHT PER PC. POUNDS	ORDERED NO. PCS.	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ORDERED ITEM	SHIPMENTS
	7	Pins	PL08	7	24" ⌀	6	4⅝		Heat Treated Pin Furnished	988.0		128	15 5/8		
									Pins on this sheet to be marked "East Anchor Arm 10"						
									Page Total - 988.0						

East Anchor Arm Pins
Paint - One coat White Lead and Tallow

RIVETS	HOLES
—	—

WELDS	SIZE	LENGTH	CONTINUOUS
FIELD			
SHOP			

DATE: 10

DRAWINGS: Gen'l — Wilkinson; FABRICATION: Amb.

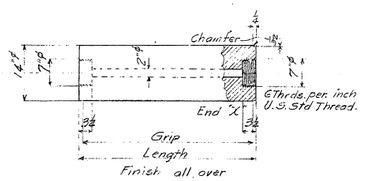
ORDER No. G5104

SHEET No. C34

NAME OF STRUCTURE: San Francisco-Oakland Bay Bridge - East Bay Crossing - Cantilever Structure

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



MAR.	GRIP	LENGTH
PUC3	3'-7⅞"	3'-10⅜"
PUC4	3'-7⅞"	3'-8⅜"
PUC5	3'-8⅛"	3'-9⅜"
PUC6	3'-7⅞"	3'-10⅛"
PMC7	3'-7⅞"	3'-9"
PMD2	3'-9⅛"	3'-10⅜"
PMC3	3'-9⅛"	3'-10⅜"
PMD3	3'-8⅜"	3'-9⅝"
PLC4	3'-7⅜"	3'-8⅝"
PLS0	4'-0⅞"	4'-1½"

Low Nickel Chrome Alloy Heat Treated Pins

Phys. Prop.
Min. Y.P. 55000
Min. T.S. 85000
Min. Elong. in 2" 20%
Min. Red. in area 41%
Bend Test ⅞" Sq. std. specimen around 1⅛" 180° Bend

Chem. Prop.
Phos. not over 0.04%
Sul. " " 0.05%

Alike except for marks.

Specifications: Special by State of California, Dept. of Public Works - San Francisco-Oakland Bay Bridge - Contract No. 7

APPROVED		
Glenn B. Woodruff	Engr. of Design	
Chas. E. Andrew	Bridge Engineer	
C. H. Purcell	Chief Engineer	
Approval Date	10-11-34	

CHECKED	MEMBER NO. PCS.	MEMBER NAME	MEMBER MARK	MATERIAL NO. PCS.	MATERIAL SHAPE	MATERIAL LENGTH FT.	MATERIAL LENGTH + INS.	MATERIAL LENGTH INS.	REMARKS	CALCULATED WEIGHT PER PC. POUNDS	ORDERED NO. PCS.	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ORDERED ITEM	SHIPMENTS
	4	Pins	PUC3	4	14" ⌀	3	10⅜		Heat Treated Pin Furnished	1811.0					
	4	"	PUC4	4	14" ⌀	3	8⅜		"	1634.0					
	4	"	PUC5	4	14" ⌀	3	9⅜		"	1822.0					
	4	"	PUC6	4	14" ⌀	3	10⅛		"	1911.0					
	4	"	PMC7	4	14" ⌀	3	9		"	1689.0				Rec.	
	4	"	PMD2	4	14" ⌀	3	10⅜		"	1905.0				15899	
	4	"	PMC3	4	14" ⌀	3	10⅜		"	1911.0					
	4	"	PMD3	4	14" ⌀	3	9⅝		"	1811.0					
	4	"	PLC4	4	14" ⌀	3	8⅝		"	1634.0					
	4	"	PLS0	4	14" ⌀	4	1⅛		"	2064.0					
									Pins on this sheet to be marked "East Cantilever Arm"						
									Page Total - 16199						

East Cantilever Arm Pins
Paint - One Coat White Lead and Tallow

RIVETS	HOLES
—	—

WELDS	SIZE	LENGTH	CONTINUOUS
FIELD			
SHOP			

DATE: 15

DRAWINGS: Gen'l — Wilkinson; FABRICATION: Amerida

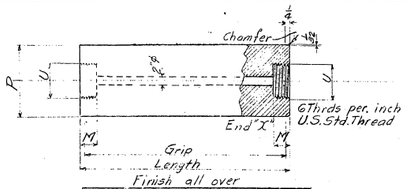
ORDER No. G5104

SHEET No. C35

NAME OF STRUCTURE: San Francisco-Oakland Bay Bridge - East Bay Crossing - Cantilever Structure

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



MARK	P	M	U	GRIP	LENGTH
PLC7	18"	3½	9	3'-7	3'-8
PUC1	15"	3½	8	4'-6⅞"	4'-7⅞"
PUC2	15"	3½	8	4'-5⅞"	4'-6⅞"
PLOC	18"	3½	9	(3'-2)	(3'-3)
PLS0A	18"	3½	9	3'-10	3'-11
PLC4A	20"	4	10	3'-2⅜"	3'-3⅜"
PLOD	24"	4	12	(3'-5⅜")	(3'-6⅜")

Low Nickel Chrome Alloy-Heat Treated Pins
for Physical and Chemical Properties see Sh. C35

Specifications: Special by State of California, Dept. of Public Works, San Francisco-Oakland Bay Bridge - Contract No. 7

APPROVED		
Glenn B. Woodruff	Engr. of Design	
Chas. E. Andrew	Bridge Engineer	
C. H. Purcell	Chief Engineer	
Approval Date	10-1-34	

CHECKED	MEMBER NO. PCS.	MEMBER NAME	MEMBER MARK	MATERIAL NO. PCS.	MATERIAL SHAPE	MATERIAL LENGTH FT.	MATERIAL LENGTH + INS.	MATERIAL LENGTH INS.	REMARKS	CALCULATED WEIGHT PER PC. POUNDS	ORDERED NO. PCS.	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ORDERED ITEM	SHIPMENTS
	4	Pins	PUC1	4	15" ⌀	4	7⅞		Heat Treated Pin Furnished	2589					
	4	"	PUC2	4	15" ⌀	4	6⅞		"	2510					
	2	"	PLOC	2	18" ⌀	3	(3)		"	(2268)					
	2	"	PLS0A	2	18" ⌀	3	11		"	2016				Rec.	
	2	"	PLC4A	2	20" ⌀	3	3⅜		"	2154				15899	
	2	"	PLOD	2	24" ⌀	3	(6⅜)		"	(3167)					
	2	"	PLC7	2	18" ⌀	3	8		"	3002					
									Pins on this sheet to be marked "East Cantilever Arm"						
									Page Total	64446					

East Cantilever Arm Pins
Paint - One Coat White Lead and Tallow

RIVETS	HOLES
—	—

WELDS	SIZE	LENGTH	CONTINUOUS
FIELD			
SHOP			

DATE: 15

DRAWINGS: Gen'l — Wilkinson; FABRICATION: Amerida

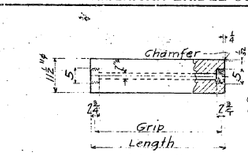
ORDER No. G5104

SHEET No. C36

NAME OF STRUCTURE: San Francisco-Oakland Bay Bridge - East Bay Crossing - Cantilever Structure

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



Mark	Grip	Length
PLS4	3'-8⅝"	3'-10⅜"
PLS5	3'-7"	3'-8"
PLS6	3'-1½"	3'-2½"

APPROVED		
Glenn B. Woodruff	Engr. of Design	
Chas. E. Andrew	Bridge Engineer	
C. H. Purcell	Chief Engineer	
Approval Date	11-15-34	

Low Nickel Chrome Alloy Heat Treated Pins
For Physical & Chemical Properties see Sheet C21
Specifications: Special by State of California, Dept. of Public Works, San Francisco-Oakland Bay Bridge-Cont. No. 7

Pins PLS4 + PLS6 used temporarily for Erection purposes at MC7, MS0 + MS1

CHECKED	MEMBER NO. PCS.	MEMBER NAME	MEMBER MARK	MATERIAL NO. PCS.	MATERIAL SHAPE	MATERIAL LENGTH FT.	MATERIAL LENGTH + INS.	MATERIAL LENGTH INS.	REMARKS	CALCULATED WEIGHT PER PC. POUNDS	ORDERED NO. PCS.	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ORDERED ITEM	SHIPMENTS
	8	Pins	PLS4	8	11½" ⌀	3	10⅜		Temporary Pin Furnished	671					
	8	"	PLS5	8	11½" ⌀	3	8		"	665					
	4	"	PLS6	4	11½" ⌀	3	2½		"	277					
									Pins on this sheet to be marked "Suspended Span"						
									Page Total 2044						

Suspended Span Pins
Paint - One coat white lead and Tallow

RIVETS	HOLES
—	—

WELDS	SIZE	LENGTH	CONTINUOUS
FIELD			
SHOP			

DATE: 10

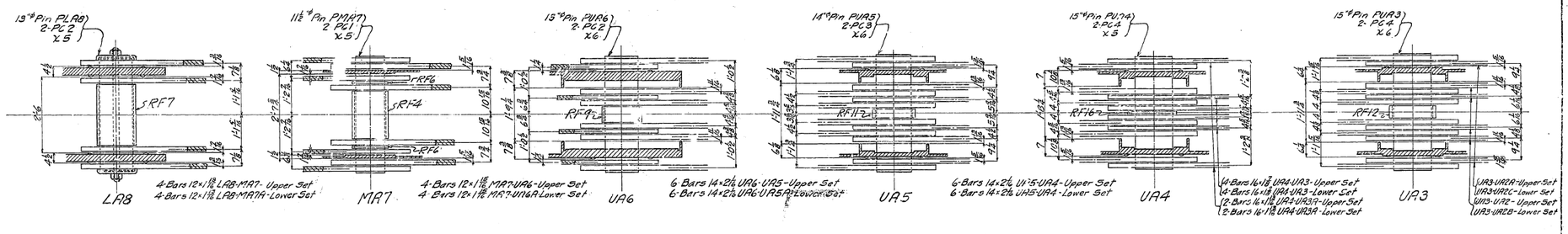
DRAWINGS: Gen'l — Wilkinson; FABRICATION: Amerida

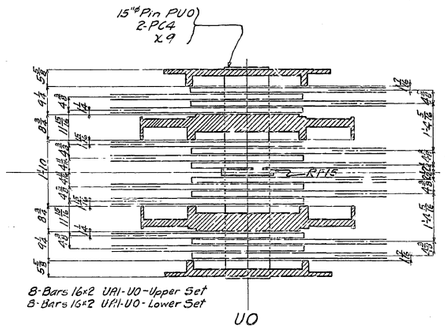
ORDER No. G5104

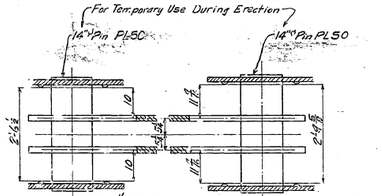
SHEET No. C37

NAME OF STRUCTURE: San Francisco-Oakland Bay Bridge - East Bay Crossing - Suspended Span

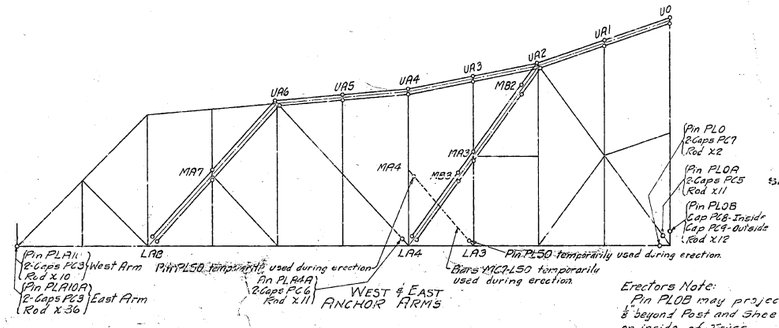
30-1







Note: Erector to use temporary spacing blocks.



Erectors Note:
Pin PL0B may project 8" beyond Post and Shoe on inside of Truss.

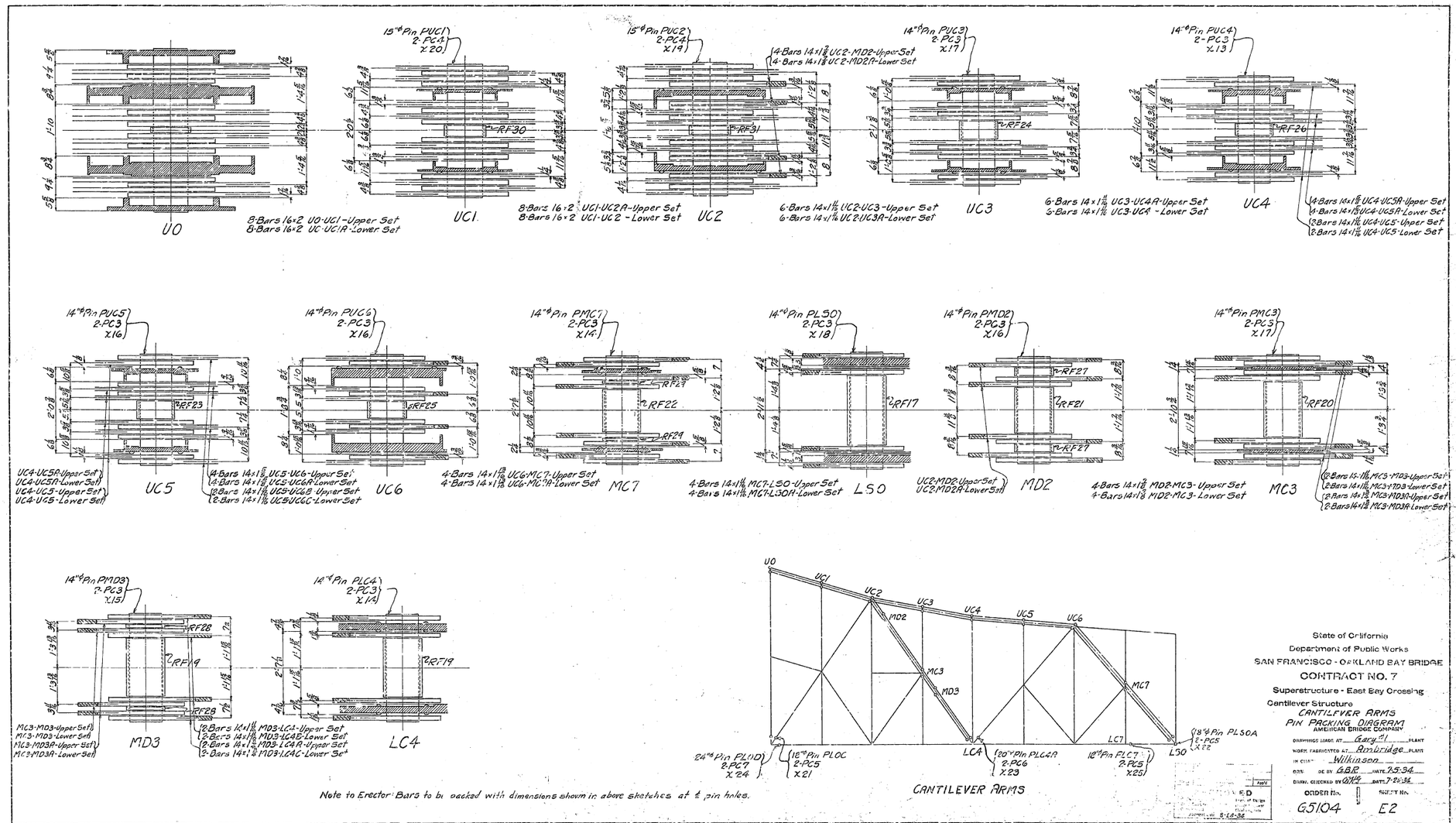
Note to Erector: Bars to be packed with dimensions shown in above sketches at pin holes.

APPROVED
7-22-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure WEST & E 157
ANCHOR ARMS
PIN - PACKING DIAGRAM
AMERICAN BRIDGE COMPANY

DRAWING MADE AT Gary IN PLANT
WHICH FABRICATED AT Ambridge PLANT
BY Wilkinson
BY GBP DATE 6-25-34
TRACED, CHECKED BY [illegible] DATE 7-5-34

ORDER No. G5104 SHEET No. E1
TRACED 7-28-34



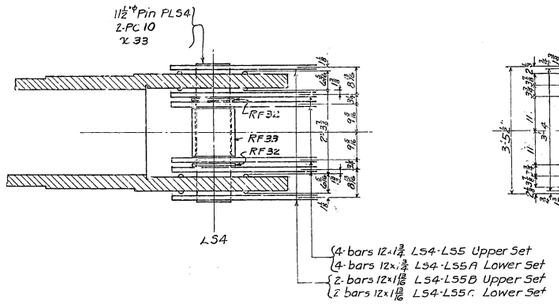
Note to Erector: Bars to be packed with dimensions shown in above sketches at ℄ pin holes.

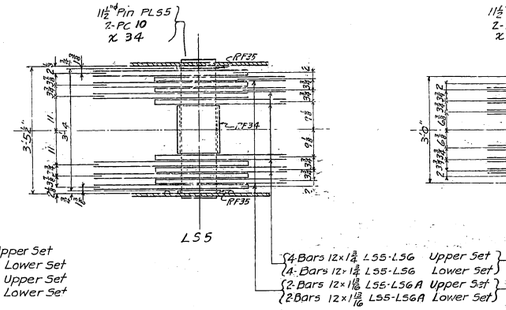
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure
CANTILEVER ARMS
PIN PACKING DIAGRAM
AMERICAN BRIDGE COMPANY

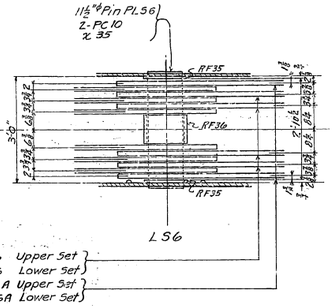
DRAWINGS LOADED AT Gary (1) PLANT
WORK FABRICATED AT Ambridge PLANT
IN CITY Wilkinson
DES. BY G.B.R. DATE 7-5-34
DRAWN BY G.B.R. DATE 7-6-34
CHECKED BY QHH DATE 7-6-34
ORDER No. G5104
SHEET No. E2

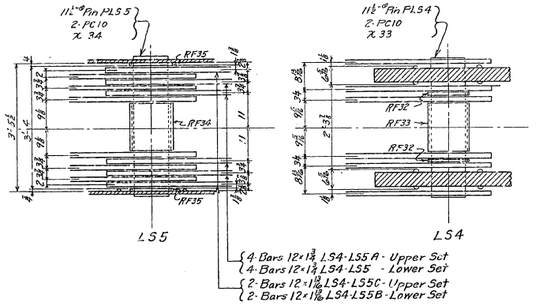
APPD
E.D
Asst. Engr. of Design
Approved 8-14-34

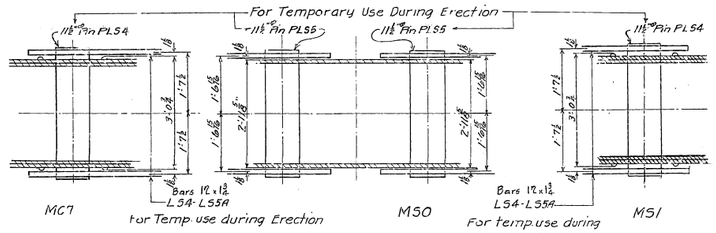
30-1

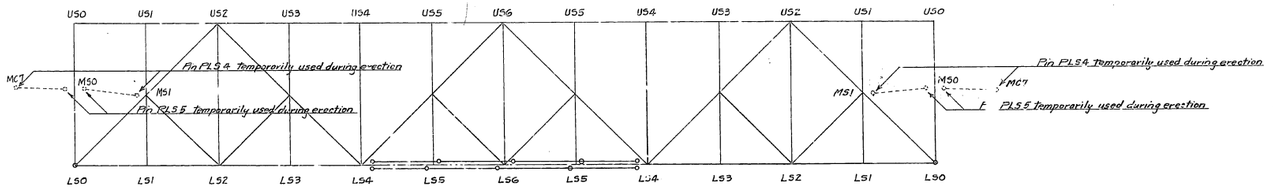












Suspended Span

Note to Erector: Bars to be packed with dimensions shown in above sketches at ℄ Pin holes.

Date	Revision	Init.

APPROVED
Chief Engr.
Bridge Engineer
Asst. Engineer
Approved Dec. 11-27-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span
Pin Packing Diagram
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary PLANT
PINS FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
CHECKED BY T.S.L. DATE 8-30-34
DRAFT, CHECKED BY GHH DATE 10-31-34
W.P. Dow 11-7-34
ORDER No. 65104 SHEET No. E3

30-1

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY

SKETCH	LINE NO.	NO. PCS.	MARK	MATERIAL SHAPE	MATERIAL LENGTH ft.	MATERIAL LENGTH in.	DESIGNATION WEIGHT PER FOOT	NO. PCS.	ORDERED LENGTH ft.	ORDERED LENGTH in.	ORDERED ITEM	SHIPMENTS
	1	125	X32	Cable Clips for 3/4" Cable				104				
	2			Cable								
	3											
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	125											

APPROVED
Chas. B. Woodruff, Chief Engineer
C. H. Purcell, Consulting Engineer
10-31-34

Cable Clips for Suspended Span

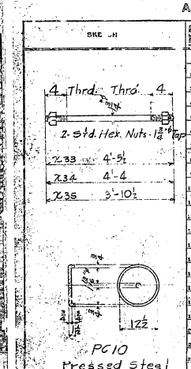
Paint:- None

San Francisco-Oakland Bay Bridge
East Bay Crossing - Cantilever Structure - Suspended Span

Gary / Wilkinson / ORDER No. G5105 / SHEET No. C1

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



LINE NO.	NO. PCS.	MARK	MATERIAL SHAPE	MATERIAL LENGTH ft.	MATERIAL LENGTH in.	DESIGNATION WEIGHT PER FOOT	TOTAL	NO. PCS.	ORDERED LENGTH ft.	ORDERED LENGTH in.	ORDERED ITEM	SHIPMENTS
1												
2												
3	8	X33	1 1/2" ø	4	9 1/2	7.65	244.8	2	17	11	2	
4	8	X34	1 1/2" ø	4	4	7.65	244.8	2	17	5	3	
5	4	X35	1 1/2" ø	3	10 1/2	7.65	127	1	15	7	4	
6												
7	40	Std. Hex. Nuts-1 1/4" Tap					87		Wash. 1 3/4"		NOTE	
8												
9												
10												
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13												
14												
15												
16	40	PC10	15" ø	0	0 3/4	1000.2	62+3	25	11	8		
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Revisions — Date — By

APPROVED
Chas. B. Woodruff, Chief Engineer
C. H. Purcell, Consulting Engineer
Approved Date 11-22-34

All material to be O.H. Medium Copper bearing Steel Contains Not Less than 0.20% Copper.

All Rods, Pin Caps and Pipe Fills on this sheet to be marked "Suspended Span"

Suspended Span Rods, Pin Caps & Pipe Fills

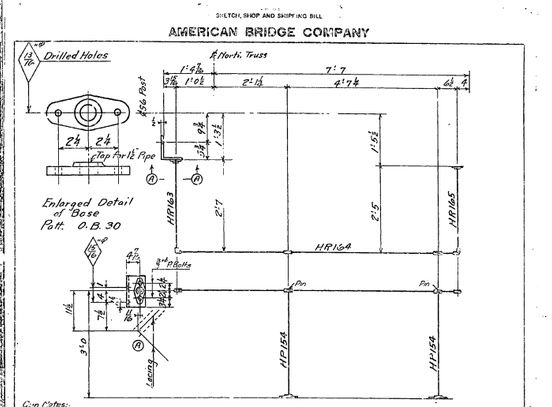
Paint- None Page Total 4968# (Continued on Sheet No.)

Gary / Wilkinson / ORDER No. G5105 / SHEET No. C2

San Francisco-Oakland Bay Bridge East Bay Crossing Suspended Span

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



Gen'l Notes:
Material:- All pipe 15" Dia. black copper bearing steel
rimings malleable iron except bases which are cast iron
Specifications:- Special by State of California Dept. of Public Works
Inspection:- John M. Bailey, Chief Inspector
Threads:- All 11 1/2 N.S. 15" Pipe Tap
Paint:- None. Purchasing Dept. to instruct Pipe Mill not to use paint as identification of Copper Bearing steel on this order.

APPROVED
11-30-34

PIECE MARK	MEMBER NO. PCS.	MEMBER NAME	MARK	NO. PCS.	MATERIAL SHAPE	MATERIAL LENGTH ft.	MATERIAL LENGTH in.	REMARKS	ORDERED NO. PCS.	ORDERED LENGTH ft.	ORDERED LENGTH in.	ORDERED ITEM	SHIPMENTS
	2	Hand Rail Rods	HP154	2	3/4 d Slip Toe	5	7 3/8						
				2	Pipe 1 1/2 Dia.	2	10 1/2	Std. Black Copper bearing	1				
				2	Cast Bases - Patt O.B.30				8				
									2				
	1	Hand Rail	HR163	2	PB 3/8" x	0	2 1/2	HM 4 M	11				
				1	L 8 4 1/2	0	9 1/2		1				
				1	Cast Base - Patt O.B.30				18				
				1	Pipe 1 1/2 Dia.	2	5 1/2	Std. Black Copper bearing	2				
				1	Std. Ell - L 33				7				
									24				
	1	Hand Rail	HR164	1	Pipe 1 1/2 Dia.	8	11	Std. Black Copper bearing	22				
									1				
	1	Hand Rail	HR165	1	Cast Base - Patt O.B.30			Std. Black Copper bearing	6				
				1	Pipe 1 1/2 Dia.	2	3 1/2		1				
				1	Std. Ell - L 33				6				
									6				
	8	Pins		2	Pins 2" ø	0	9 1/2		24				
								Nuts 2" Thd.	60				

Hand Railing for Platform at U56 (North Truss)

Gary / Wilkinson / ORDER No. G5105 / SHEET No. C3

San Frenscisco- Oakland Bay Bridge Suspended Span

North Truss

U50 U51 U52 U53 U54 U55 U56 U55 U54 U53 U52 U51 U50

South Truss

TOP LATERALS SUSPENDED SPAN

To San Francisco.

To Oakland.

For erection material and jacking arrangement at U50 see sh. 9 - G5105.

2 M1 (to be set after closure of span.)

2 P207 (to be set after closure of span.)

U50 sh. 9

M50-U50 M51-U51 M52-U52 M53-U53 M54-U54 M55-U55 M56-U56 M56-U56A

N50 M51 M52 M53 M54 M55 M56 M56A

2-EM 374 EM 375 EM 376 EM 1405 EM 1943 EM 1944

96'-9½" 116'-4⅝" 96'-9½"

L50 L51 L52 L53 L54 L55 L56 L56A

SUSPENDED SPAN NORTH TRUSS

12 Panels @ 48'-0 = 576'-0

SUSPENDED SPAN SOUTH TRUSS

See G-A86B Sh. E101 for diagram of Inspection Traveler Track on outside of Bottom Chord.

Camber Diagram For Reaming Bott. Chord Splices

1/2 Bott. Chord — Horizontal — 1/2 Bott. Chord

L50 L51 L52 L53 L54

L50 - U52

L50 - U50

66'-0 c. to c. Trusses

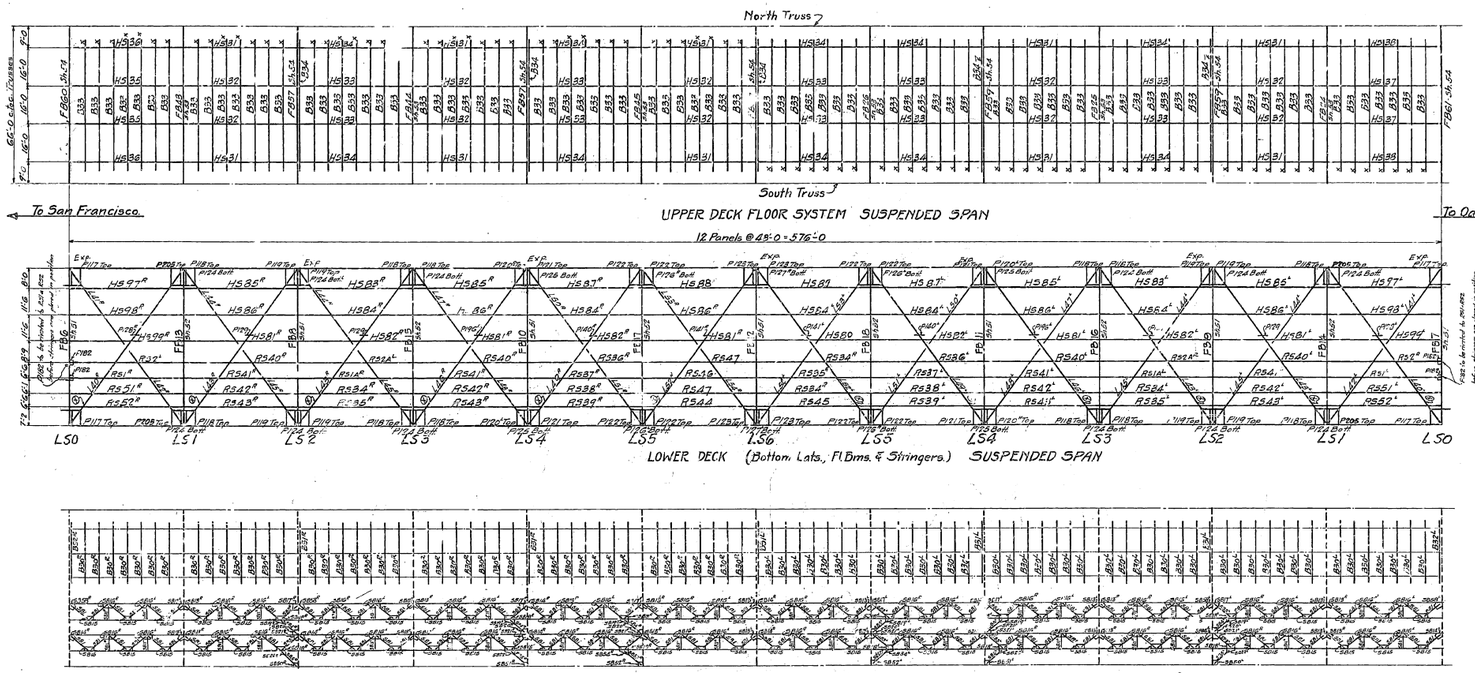
Crown of Roadway Lower Decks

For Index to Drawings, Suspended Span see Sh. E2

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span
Erection Diagram
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary, IND. PLANT
WORK FABRICATED AT Gary PLANT
CHARGE OF Wilkinson
DRAWN MADE BY DATE
BOOK CHECKED BY DATE

ORDER No. G5105
SHEET No. E1

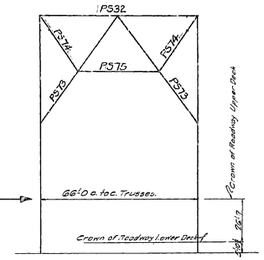
30-1

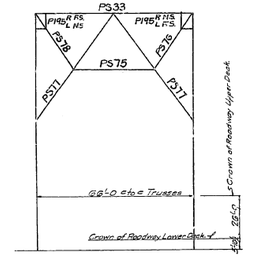


UPPER DECK FLOOR SYSTEM SUSPENDED SPAN

LOWER DECK (Bottom Lats., Fl.Bms. & Stringers.) SUSPENDED SPAN

LOWER DECK (Highway Deck Bms. & Ry. Stringer Lats.) SUSPENDED SPAN





INDEX TO DRAWINGS, SUSPENDED SPAN

G5105

E1 & E2	Erection Diagram
1 to 8	Top Chord
9 & 10	End Post
11	Inspection Walk
9	Gussets at L50
11	Gussets at L50
12 to 15	Bottom Chord
21 to 27	Truss Web Members
31 & 32	Lower Deck Floor Beams
33 & 34	Upper Deck Floor Beams
71 & 72	Top Laterals & Struts
73 & 74	Struts & Portals
75 & 76	Bott.m Laterals
77 to 82	Struts, Portals & Lateral Rates
91 & 92	Ladders & Platforms
101	Upper Deck Stringers
102	Lower Deck Railroad Stringers
103	Railway Stringer Bracing
104	Lower Deck Highway Stringers
121	Upper & Lower Deck Roadway Joists
C1	Misc. for Inspection Walks
C7	Pin Caps, Rods & Ring Fills
C9	Pipe Hand Railing
105	Lower Deck Railroad Stringers
C11 to C20	Field Rivets and Bolts
EF1 to F18	Erection Lists of Field Rivets & Bolts

G5104

E	Pin Packing Diagram
C14 to C16	Eyebars
C21	Pins

G5107

E505 + E506	Erection Diagram
B511 to B93	Pipe Railing
505	Drainage
533	Slab Angles
563 & 564	Skid Rail
605 to 610	Curbs & Walks
C91	Supports
B84	Expansion Dam
C11 to C14	Field Rivets & Bolts
C15	Shims for U.S. Roadway Angles

G4868 (Inspection Traveler Track)

E101	Erection Diagram
101	Track Beams
102	Brackets
C105 & C106	Field Rivets & Bolts
EF102	Erectors List of Field Rivets & Bolts

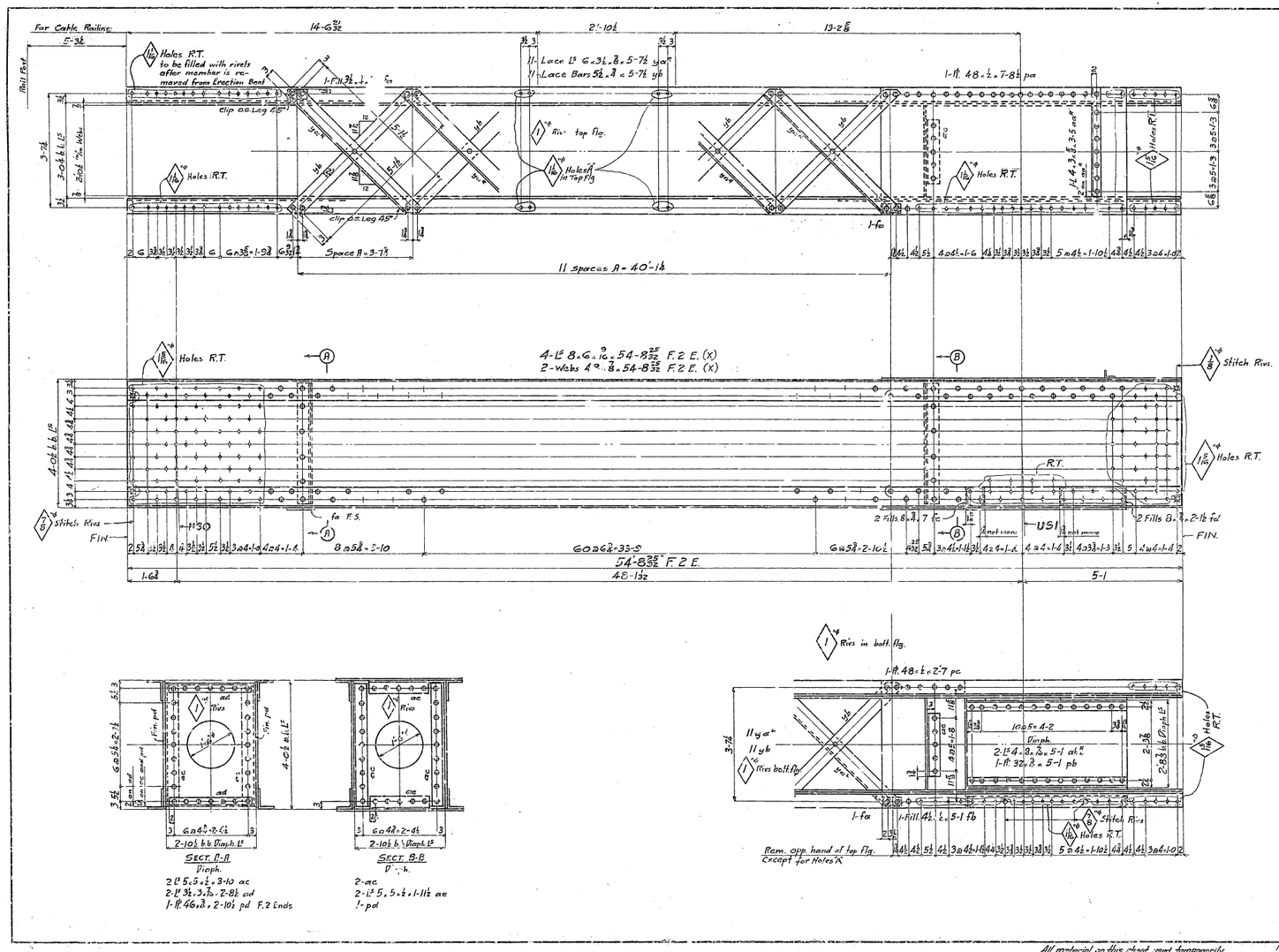
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span

Erection Diagram

AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary Ind. PLANT
WORK FABRICATED AT Gary & Ambridge PLANT
ERECTED BY Wilkinson
METAL WORK BY _____ DATE _____
ERECTION CHECKED BY _____ DATE _____

ORDER No. G5105 SHEET No. E2

W. Ing. 12-21-36
Ex. Mang. 12-21-36



GENERAL NOTES:

Material: All material O.H. copper bearing medium carbon steel, except material marked (c) is copper bearing silicon steel. All rivets to be copper bearing carbon rivet steel.
Specifications: Special by State of California Department of Public Works.
Inspection: John M. Bailey, Chief Inspector.
Rivets 1⅛" unless noted.
Open Holes 1 1/16" " "
Reaming: Holes in carbon or silicon steel ⅝" thick or less to be subpunched ¼" and reamed to size while parts are assembled, except facing, stay plates and diaphragm webs may be punched full size. Holes in silicon steel over ⅝" thick to be subdrilled ⅜" and reamed to size with parts assembled. Holes marked R.T. to be reamed through a steel templet. Burrs to be removed from all reamed holes.
Finish: On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal. Edges of manholes to be smooth.
Paint: None except acid resisting liquid at milled ends.
Copper bearing rivets detailed on sh. CF3

West Pier Suspan	East Pier Suspan	Total	REQUIRED		
One	One	2	Top Chords	U50-U51 E	14 T
One	One	2	do	U50-U51 L	14 T

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span
Top Chord U50 - U51
AMERICAN BRIDGE COMPANY
DRAWING MADE AT GARY IND. PLANT
WORK FABRICATED AT GARY
BY (C OF) WILKINSON
DRAWN, TRACED BY W.N. DATE 6-7-34
DRAWN, CHECKED BY R.E.M. DATE 6-26-34
ORDER No. G5105
DRAWING No. 1

APPROVED
Chief Engineer
Chief Engineer
Asst. Engineer
Approved Date 8-17-34

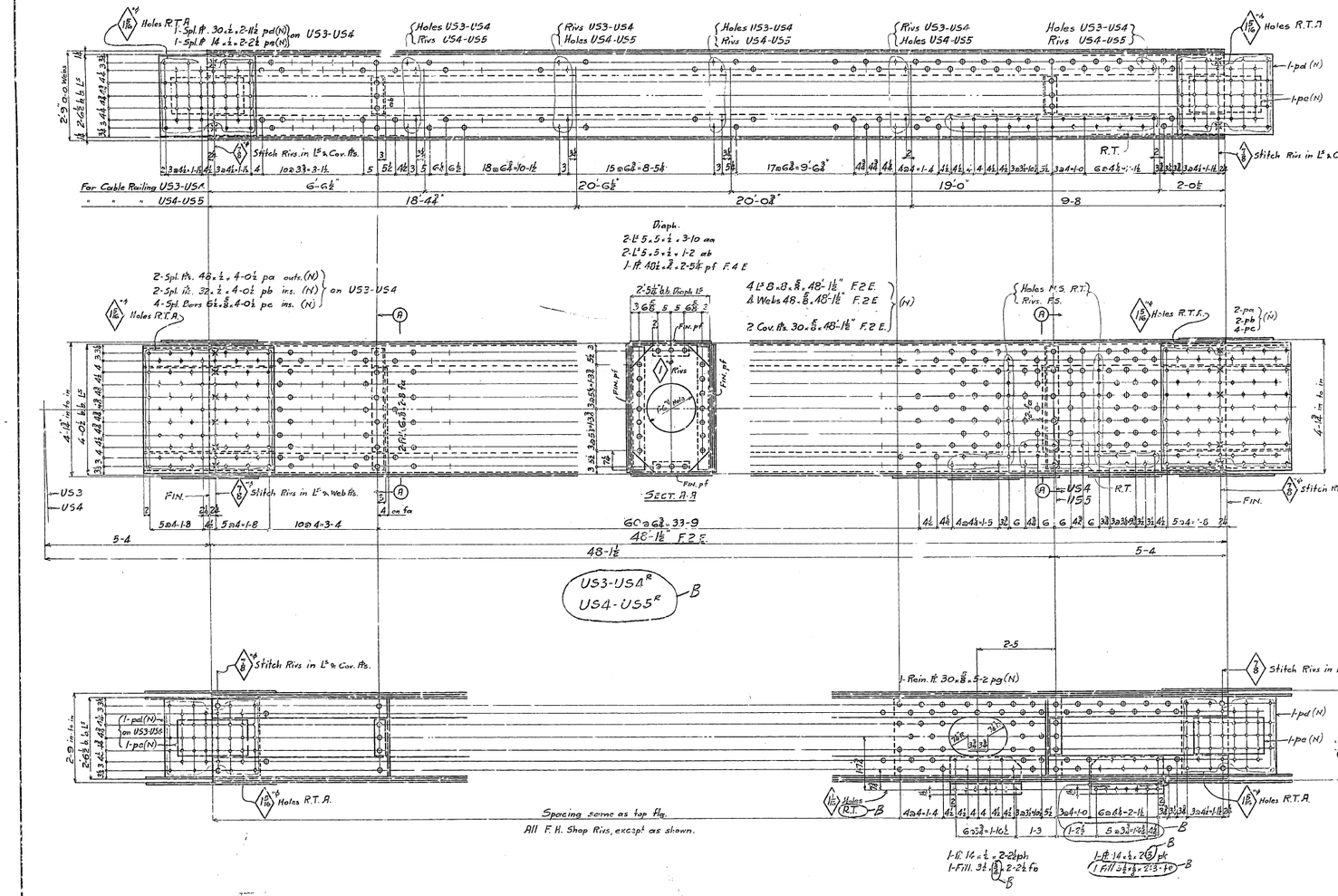
All material on this sheet used temporarily in Erection Decks for West and East Anchor Arms.

Mill Ord. No. 421-427 Inc.

Drawing Revised 11-19-34, 12-3-34

IB-CJ

30-1



GENERAL Notes:-

Material:- All material O.H. copper bearing medium carbon steel, except material marked (N) is O.H copper bearing nickel steel.

All rivets to be copper bearing carbon rivet steel.

Specifications:- Special by State of California Department of Public Works.

Inspection:- John M. Bailey, Chief Inspector.

Rivets 1⅛" ø, unless noted.
Open Holes 1⅛, unless noted

Reaming:- All holes in nickel steel to be sub-drilled ⅞" and all holes in carbon steel ¾" thick or less to be subpunched ⅞" and reamed to size while parts are assembled, except diaphragm webs, which may be punched full size. Holes marked R.T. to be reamed thru a steel templet. Holes marked R.T.A. to be reamed thru a steel templet with chord splices assembled.

All chord splices to be reamed assembled with not less than 6 panels assembled and pieces match marked.

All match marking to be done with ⅜" steel stencils and white paint.

Burrs to be removed from all reamed holes.

Finish:- On all nickel steel thus shown to Plane cut edges or ends are to be finished to remove ol least ¼" of metal.

Paint:- None, except one coat of acid resisting liquid on milled ends of members and splices (See sh. E21).

Copper bearing rivets detailed on sh. CF4

Edges of Manholes to be Smooth — B

Under No. in Sect. Sh	Over No. in Sect. Sh	TOTAL	REQUIRED		
One	One	2	Top Chords	U53-U54R	19T
One	One	2	do.	U53-U54L	19T
One	One	2	do.	U54-U55R	19T
One	One	2	do.	U54-U55L	19T

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span
Top Chords U53-U54 & U54-U55
AMERICAN BRIDGE COMPANY
DRAWING ISSUED AT GARY WORKS PLANT
WORK FABRICATED AT GARY PLANT
IN CHARGE OF WILKINSON
DRAWN BY W.N. DATE 6-11-34
CHECKED BY [illegible] DATE 9-5-34
ORDER No. G5105 SHEET No. 2

APPROVED
Chief Engineer
Approval Date: 10-5-34

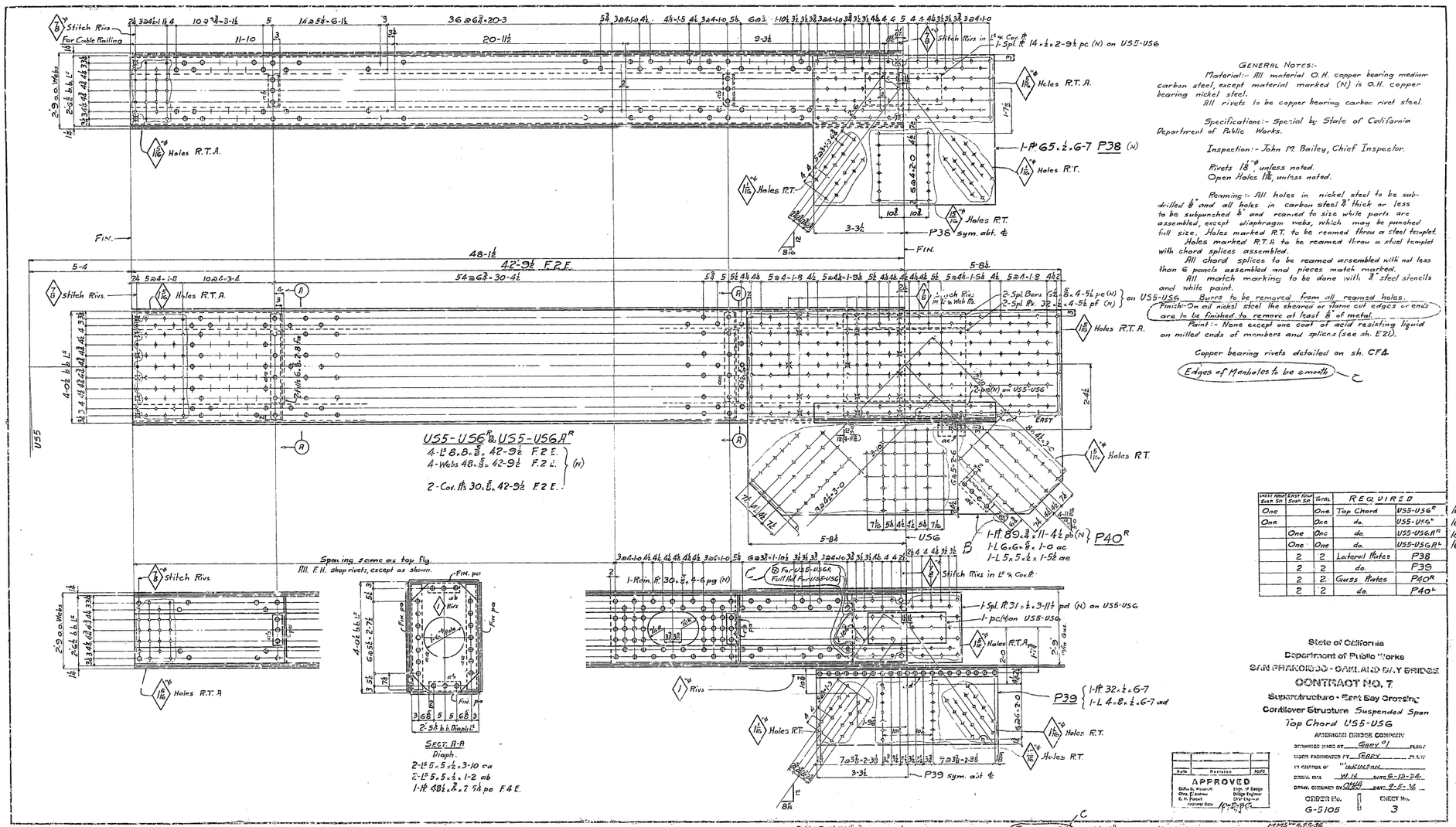
1 U53-U54R } used temporarily in
4 U54-U55R } Erection Bents @ 14, 15 & 17.

B Matl ord pp. 423, 425, ... & 427 W.N.
Revised 11-24-34

Rev 10-1-34

Mar 5-6-35
Rev 12-11-34 [A & C]

30-51



GENERAL NOTES:-

Material:- All material O.H. copper bearing medium carbon steel, except material marked (N) is O.H. copper bearing nickel steel.
All rivets to be copper bearing carbon rivet steel.

Specifications:- Special by State of California Department of Public Works.

Inspection:- John M. Bailey, Chief Inspector.

Rivets 1⅛", unless noted.
Open Holes 1⅛", unless noted.

Reaming:- All holes in nickel steel to be sub-drilled ⅞" and all holes in carbon steel ¾" thick or less to be subpunched ¾" and reamed to size while parts are assembled, except diaphragm webs, which may be punched full size. Holes marked R.T. to be reamed thrau a steel templet.
Holes marked R.T.A. to be reamed thrau a steel templet with chord splices assembled.
All chord splices to be reamed assembled with not less than 6 panels assembled and pieces match marked.
All match marking to be done with ¾" steel stencils and white paint.
Burrs to be removed from all reamed holes.
Finish:- On all nickel steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal.
Paint:- None except one coat of acid resisting liquid on milled ends of members and splices (see sh. E21).

Copper bearing rivets detailed on sh. CFA.

Edges of Manholes to be smooth — C

West Hand Sway Sys	East Hand Sway Sys	Total	REQUIRED	
One		One	Top Chord	US5-US6R
One		One	do.	US5-US6L
	One	One	do.	US5-US6AR
	One	One	do.	US5-US6AL
	2	2	Lateral Plates	P38
	2	2	do.	P39
	2	2	Guss Plates	P40R
	2	2	do.	P40L

16T
16T
16T
16T

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span
Top Chord US5-US6
AMERICAN BRIDGE COMPANY

DRAWING MADE BY	GREY	PLANS
WORK FABRICATED BY	GREY	AS BUILT
IT CHECKED BY	MacKENZIE	
DRAWN BY	W.N.	DATE 6-13-34
DRAW. CHECKED BY	CMB	DATE 9-5-36

Date	Revision	Appd.

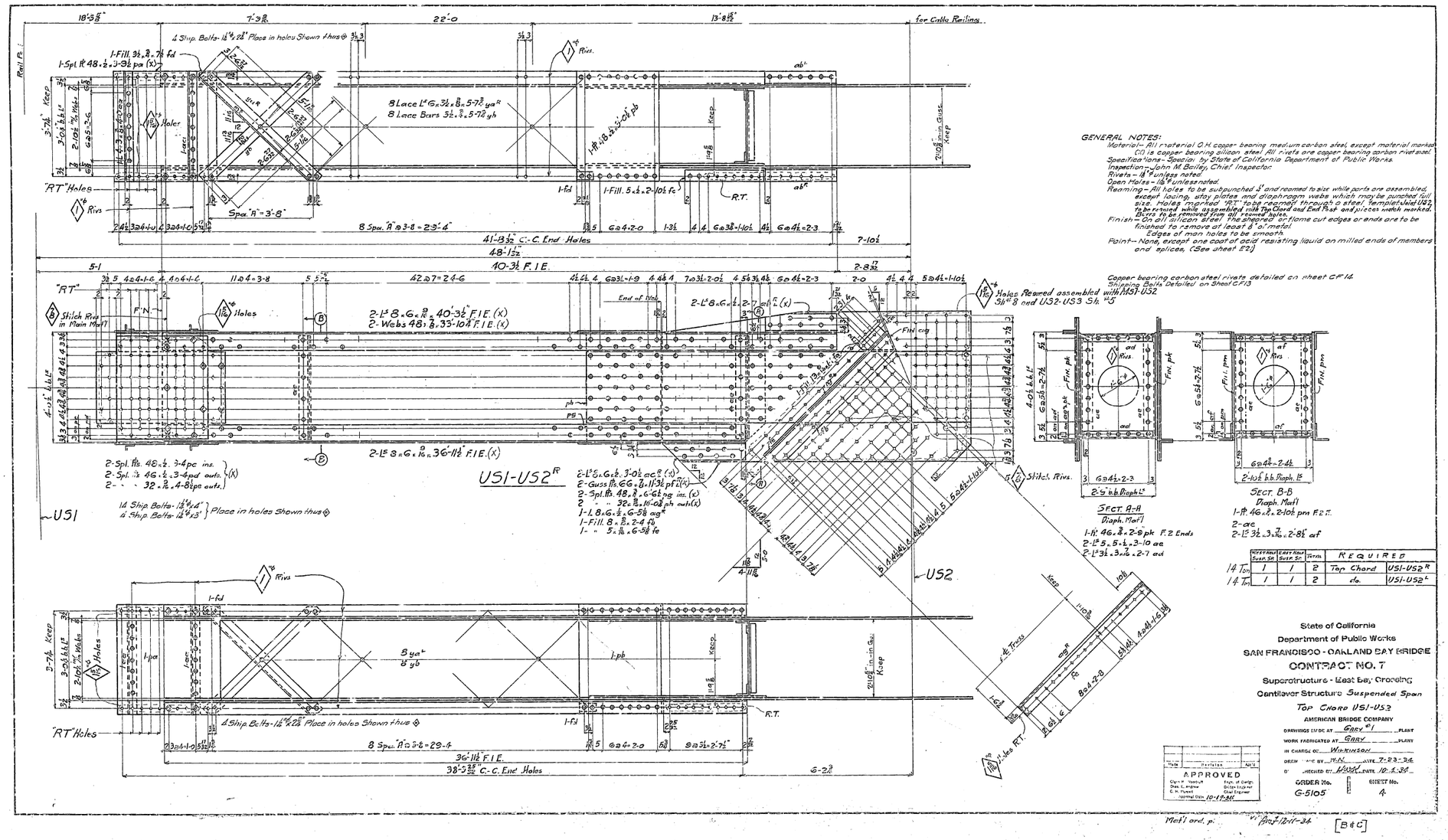
APPROVED
Gdns. S. Wadsworth, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Dir. Engineer
Approval Date

ORDER No. G-5105
SHEET No. 3

2 US5-US6L } used temporarily in
2 US5-US6AL } Erection Berts 16, 15 & 17.
2 P38 & 2 P39 }

Rev 12-12-34 Mail ord pp. 423, 425, 426, 429 & 430 MMS 9-25-36 entered 12-12-34 [A & C]

(Revised 6-21)



GENERAL NOTES:

Material – All material O.H. copper bearing medium carbon steel, except material marked (X) is copper bearing silicon steel. All rivets are copper bearing carbon rivet steel.
Specifications – Special by State of California Department of Public Works.
Inspection – John M. Bailey, Chief Inspector.
Rivets – ⅞" ø unless noted.
Open Holes – 15/16" ø unless noted.
Reaming – All holes to be subpunched ¼" and reamed to size while parts are assembled, except lacing, stay plates, and diaphragm webs which may be punched full size. Holes marked "RT" to be reamed through a steel templet sized US2, to be revised while assembled with Top Chord and End Posts and pieces match marked. Burrs to be removed from all round holes.
Finish – On all silicon steel. The sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal.
Edges of main holes to be smooth.
Paint – None, except one coat of acid resisting liquid on milled ends of members and splices. (See sheet E2)

	West Shop Insp.	East Shop Insp.	Term.	REQUIRED	
14 Ton	1	1	2	Top Chord	US1-US2 R
14 Ton	1	1	2	do.	US1-US2 L

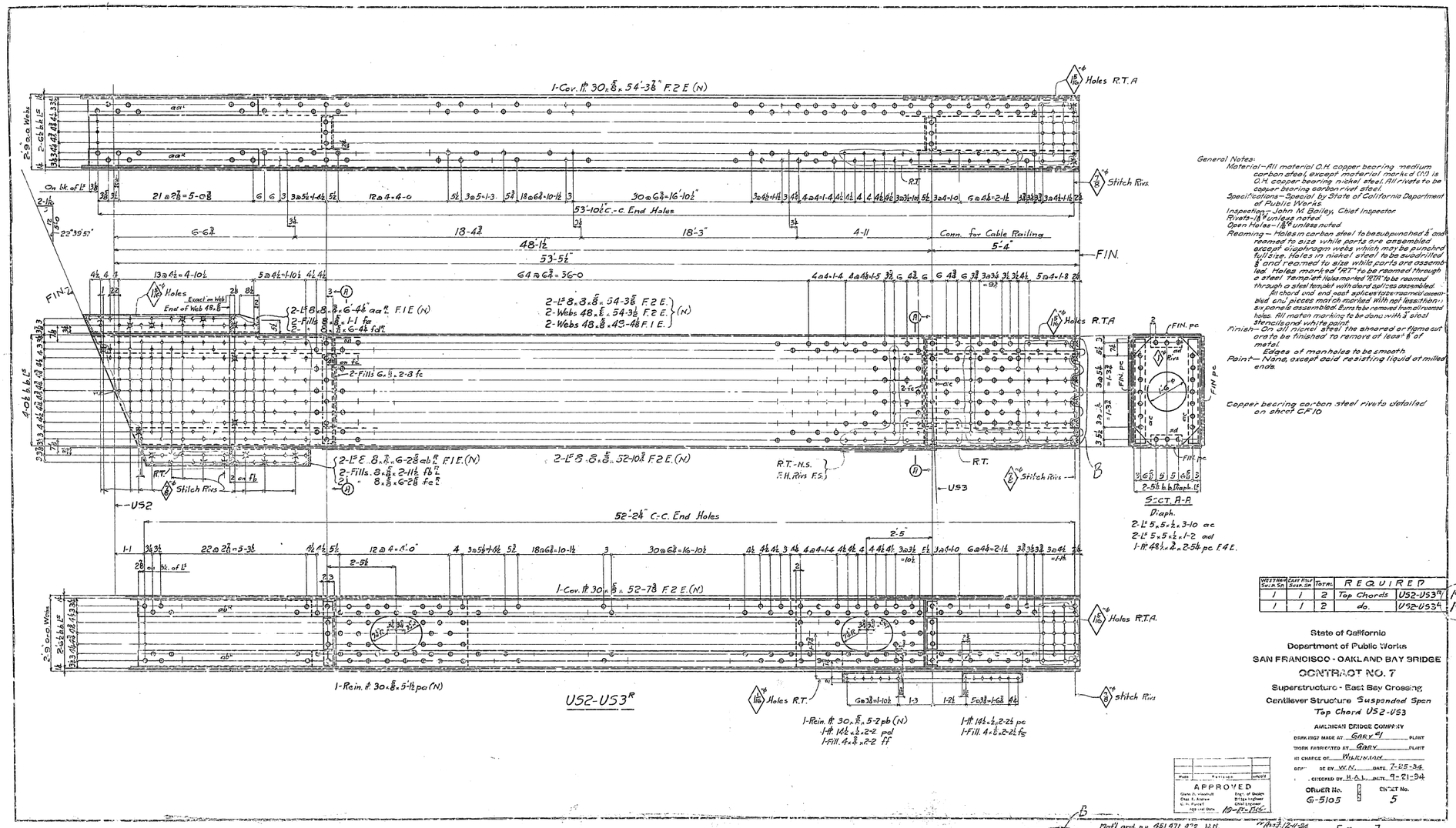
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span
Top Chord US1-US2
AMERICAN BRIDGE COMPANY
DRAWINGS LEFT DC AT Gary #1 PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
DRAWN BY W.N. DATE 7-23-34
CHECKED BY [illegible] DATE 10-1-34
ORDER No. G-5105
SHEET No. 4

No.	Revision	Appd

APPROVED
Chief Engr.
Asst. Engr.
Chief Engineer
Approval Date 10-19-34

Mod'l and. p. Apr 7/12/11-34 [B & C]

30-1



General Notes:

Material—All material O.H. copper bearing medium carbon steel, except material marked (N) is O.H. copper bearing nickel steel. All rivets to be copper bearing carbon rivet steel.

Specifications—Special by State of California Department of Public Works.

Inspection—John M. Bailey, Chief Inspector.

Rivets—7/8" unless noted.

Open Holes—1 1/16" unless noted.

Reaming—Holes in carbon steel to be subpunched 4" and reamed to size while parts are assembled except diaphragm webs which may be punched full size. Holes in nickel steel to be subdrilled 3/4" and reamed to size while parts are assembled. Holes marked "RT" to be reamed through a steel templet. Holes marked "RTA" to be reamed through a steel templet with chord splices assembled.

All chord end and web splices to be reamed, assembled and pieces match marked. With not less than 4 panels assembled. Burrs to be removed from all reamed holes. All match marking to be done with 3/4" steel stencils and white paint.

Finish—On all nickel steel the sheared or flame cut ends to be finished to remove at least 1/8" of metal.

Edges of manholes to be smooth.

Paint—None, except acid resisting liquid at milled ends.

Copper bearing carbon steel rivets detailed on sheet CF 10

WESTBOUND Span	WESTBOUND Sub. Str.	EASTBOUND Span	EASTBOUND Sub. Str.	TOTAL	REQUIRED		
1		1		2	Top Chords	U52-U53R	19T
1		1		2	do.	U52-U53L	19T

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span
Top Chord U52-U53

AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wickersham
DETAILED BY W.K.N. DATE 7-25-34
CHECKED BY H.A.L. DATE 9-21-34

ORDER No. G-5105
CONTRACT No. 5

APPROVED
Glenn B. Woodruff, Chief, Bridge Division
C. H. Purcell, Engineer of Design, Bridge Engineer
Consulting Engineer
10-17-1934

Rev 12-11-34
Mail card p.p. 451,471, 972 W.H.
Rest. 12-3-34
[illegible] 12-14-34
[illegible]
[illegible]
[illegible]

7 Shipping bolts 1⅛"ø, 3½ } Piece in holes
2 " " 1⅛ " 2¾ } marked thus ◇

1-Spl. ft. 30.½ x 3-7½ pce (N)
1- " " 14.½ x ½ 1-10½ pb (N)

General Notes:
Material – All material OH copper bearing medium carbon steel except material marked (X) is OH copper bearing silicon steel, and material marked (N) is OH copper bearing nickel steel. All rivets are copper bearing carbon rivet steel, except all 1⅛" shop rivets are manganese steel.
Specifications – Special by State of California Department of Public Works.
Inspection – John M. Bailey, Chief Inspector.
Rivets – 1⅛" ø unless noted.
Open Holes – 1⅛" ø unless noted.
Reaming – All holes in carbon or silicon steel to be subpunched ⅛" and reamed to size while parts are assembled, except diaphragm webs and outstanding legs of eg and ac which may be punched full size.
Holes in nickel steel to be subdrilled ⅜ and reamed to size while parts are assembled.
Holes marked "RT" to be reamed through a steel templet.
Splices in web members to be reamed assembled and piece mark matched.
Burrs to be removed from all reamed holes.
All match marking to be done with ½" steel stencils and white paint.
Finish – On all silicon or nickel steel the sheared or flame cut edges on ends are to be finished to remove at least ¼" of metal.
Edges of main holes and hand holes to be smooth.
Paint – None, except acid resisting liquid on milled ends and splice plates. (See sheet E21).

Copper bearing carbon steel rivets detailed on sheet CF14.
Copper bearing manganese steel rivets detailed on sheet CF17.
Shipping bolts detailed on sheet CF18.

Gary Plant to charge platess pns and portion of platess pf rest. rvet after erection use to Contr. 61-K-483S giving Contr. G5105 credit for same.

Spacing same as bot. flg.

68'-0⅜"

70'-1⅛" F2E
71'-7½" C.C. End Holes

Flame cut Guss ft on this line after removing temp. member

Stitch Rivs

Holes for Erection Hitch

Holes R.T.

Holes in toe

Holes

Holes for 24 P Bolts

Stitch Rivets

Shop Note – Check packing of webs after riveting, and before riveting up diaphragms

2'-9" in-in Guss. pf Keep

Keep

Ladder Conn.

LL83 — 4'-8⅝"
LL84 — 8'-0½"
LL85 — 8'-0½"
LL86 — 6'-0½"
LL87 — 8'-3 | 8'-2½ | 6'-3 15/32 | 3'-1¼ | 7'-1½

Wire ladder LL87 to LL86 for shipment.

LS0-MS1ᴿ & LS0-MS1Aᴿ
4-L 8.8.⅞ x 70'-1⅛ F2E
2-Webs 48.x ½.70'-1⅛ F2E (N)
2 - 48.⅜ x G7-11 F2E
2-Covs. 30.11/16.70'-1⅛ F2E

ASSEMBLY AND SHIPPING NOTE:-
Assemble and ship with each LS0-MS1E & LS0-MS1AE – LL83, LL84, LL85, LL86 & LL87 detailed on sh. 92. (Wire LL87 to LL86 for shipment) 56-¾ Bolts & ⅛ dia. det. on sh. CP13 (Insert 8 bolts in LL87 for shipment).

Diaph. Mat'l
2-L 5.5.½ x 3-10 ah
2-L 5.5.½ x 1-11 ak
1-fl. 48.x ⅜ x 2-5½ pk F.A.E.

SECT. A-A

SECT. B
4-L G.3½.3.7½ ag

West Side Susp. Sp.	East Side Susp. Sp.	Total	REQUIRED	
1		One	Diagonals	LS0-MS1ᴿ 29 Tons
	1	One	do.	LS0-MS1ᴸ 29 Tons
	1	One	do.	LS0-MS1Aᴿ 29 Tons
1		One	do.	LS0-MS1Aᴸ 29 Tons

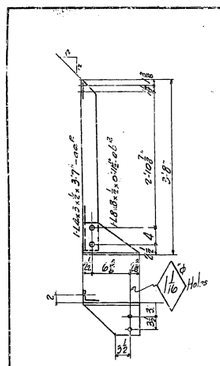
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span
End Diagonal LS0-MS1
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT GARY IND. PLANT
WORK FABRICATED AT GARY PLANT
IN CHARGE OF WM. HANSON
DRAWN BY W.N. DATE 8-1-24
OK STICKED BY H.A.L. DATE 10-4-24
ORDER No. G-5105
SHEET No. 6

APPROVED
Chief Engr. Bridge Engineer
Asst. Engr. in Charge
11-2-24

Rev. 8-7-25

Mail'g wrd. Pt.

[A-B-C-G]



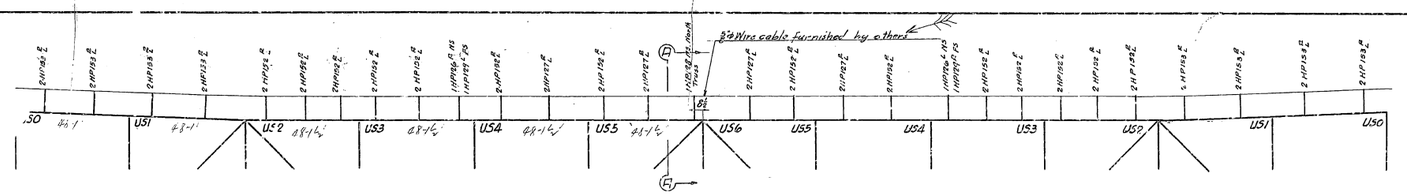
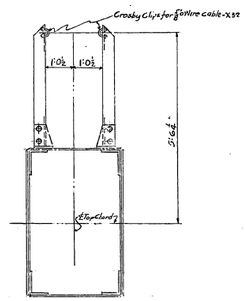
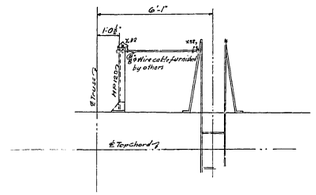


DIAGRAM of INSPECTION WALKS
FOR SUSPENDED SPAN
North Truss - Looking North
South Truss - Looking South.



Typical Section thru Railing



Sec A-A for North Truss

Mast Mem.	Post Mar.	Total	REQUIRED	
8	8	16	Rail Posts	HP153R
8	8	16	do	HP153L
14	14	28	do	HP152R
14	14	28	do	HP152L
One	One	2	do	HP126L
One	One	2	do	HP126R
4	4	8	do	HP127R
4	4	8	do	HP127L
One		One	do	HP128
One	One	2	do	HP129R
One	One	2	do	HP129L

General Notes:
Material- All material O.H. copper bearing medium carbon steel. All rivets are copper bearing carbon rivet steel.
Specifications- Special by State of California Department of Public Works.
Inspection- John M. Bailey, Chief Inspector.
Rivets- 7/8"ø
Open Holes- 1 1/16" unless noted.
Reaming- None.
Paint- None.

Copper bearing carbon steel rivets detailed on sheet CP15

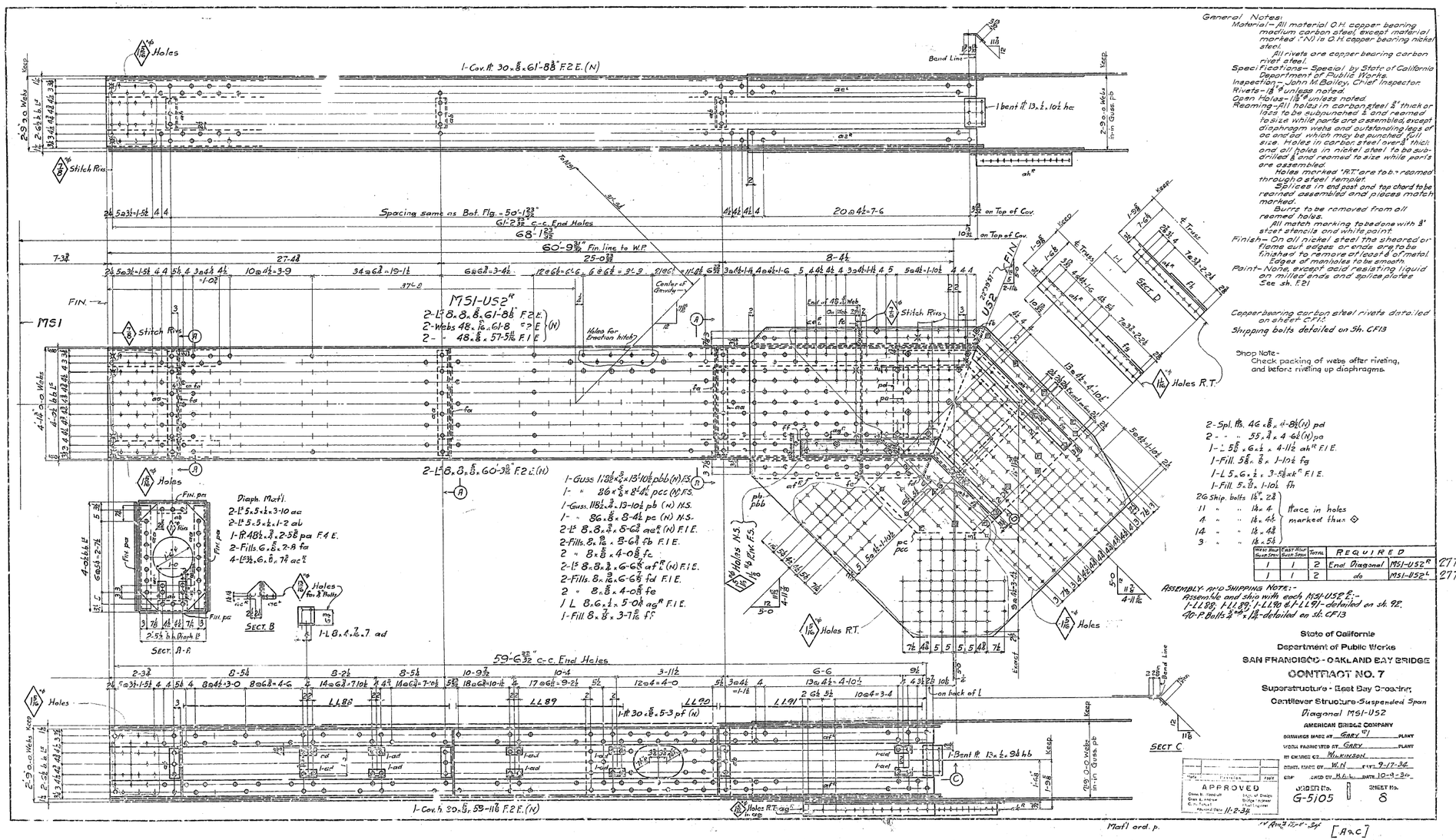
No.	Revisions	Date

APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. F. McIlhiney, Bridge Engineer
C. H. Purcell, Chief Engineer
Approved Date 10-8-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Cantilever Structure Suspended Span
Rail Posts Inspection Walk
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
DETAILED BY WCB DATE 9-6-34
TRACED BY LEH CHECKED BY [illegible] DATE 10-9-34 11-15-34
ORDER No. G5105
SHEET No. 7

Mail Ord.

[C]



General Notes:

Material— All material O.H. copper bearing medium carbon steel, except material marked "N" is O.H. copper bearing nickel steel.
All rivets are copper bearing carbon rivet steel.

Specifications— Special by State of California Department of Public Works.

Inspection— John M. Bailey, Chief Inspector.

Rivets— ⅞" ø unless noted.

Open Holes— 1⅛" ø unless noted.

Reaming— All holes in carbon steel ⅝" thick or less to be subpunched ¼" and reamed to size while parts are assembled, except diaphragm webs and outstanding legs of ac and ad which may be punched full size. Holes in carbon steel over ⅝" thick and all holes in nickel steel to be subdrilled ⅜" and reamed to size while parts are assembled.
Holes marked "R.T." are to be reamed through a steel templet.
Splices in end post and top chord to be reamed assembled and pieces match marked.
Burrs to be removed from all reamed holes.
All match marking to be done with ⅜" steel stencils and white paint.

Finish— On all nickel steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal. Edges of manholes to be smooth.

Paint— None, except acid resisting liquid on milled ends and splice plates.
See sh. F21

Copper bearing carbon steel rivets detailed on sheet CF12.

Shipping bolts detailed on Sh. CF13

Shop Note—
Check packing of webs after riveting, and before riveting up diaphragms.

2-Spl. pls. 46"x⅝"x 4'-8½" (N) pd
2-" " 55"x⅞"x 4'-6½" (N) pa
1-L 5"x3½"x½"x 4'-11½" ak^R F.I.E.
1-Fill. 5⅝"x⅜"x 1'-10½" fg
1-L 5"x3½"x½"x 3'-5⅜" ak^R F.I.E.
1-Fill. 5"x⅜"x 1'-10½" fh
26 Ship. bolts 1⅛"x 2⅜"
11 " " 1⅛"x 4" } Place in holes
4 " " 1⅛"x 4½" } marked thus ◇
14 " " 1⅛"x 4⅜"
3 " " 1⅛"x 5½"

West Half Span Sym.	East Half Span Sym.	Total	REQUIRED		
1	1	2	End Diagonal	M51-U52R	27T
1	1	2	do	M51-U52L	27T

ASSEMBLY AND SHIPPING NOTE:—
Assemble and ship with each M51-U52 R:—
1-LL88, 1-LL89, 1-LL90 & 1-LL91— detailed on sh. 98.
40-P Bolts ⅞"ø x 1⅜"— detailed on sh. CF13

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure-Suspended Span
Diagonal M51-U52
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT GARY, IND. PLANT
WORK FABRICATED AT GARY PLANT
BY CHANGE NO. MCKINSON
DETAIL CHKD BY W.N. DATE 9-17-34
CHKD BY H.A.L. DATE 10-9-34

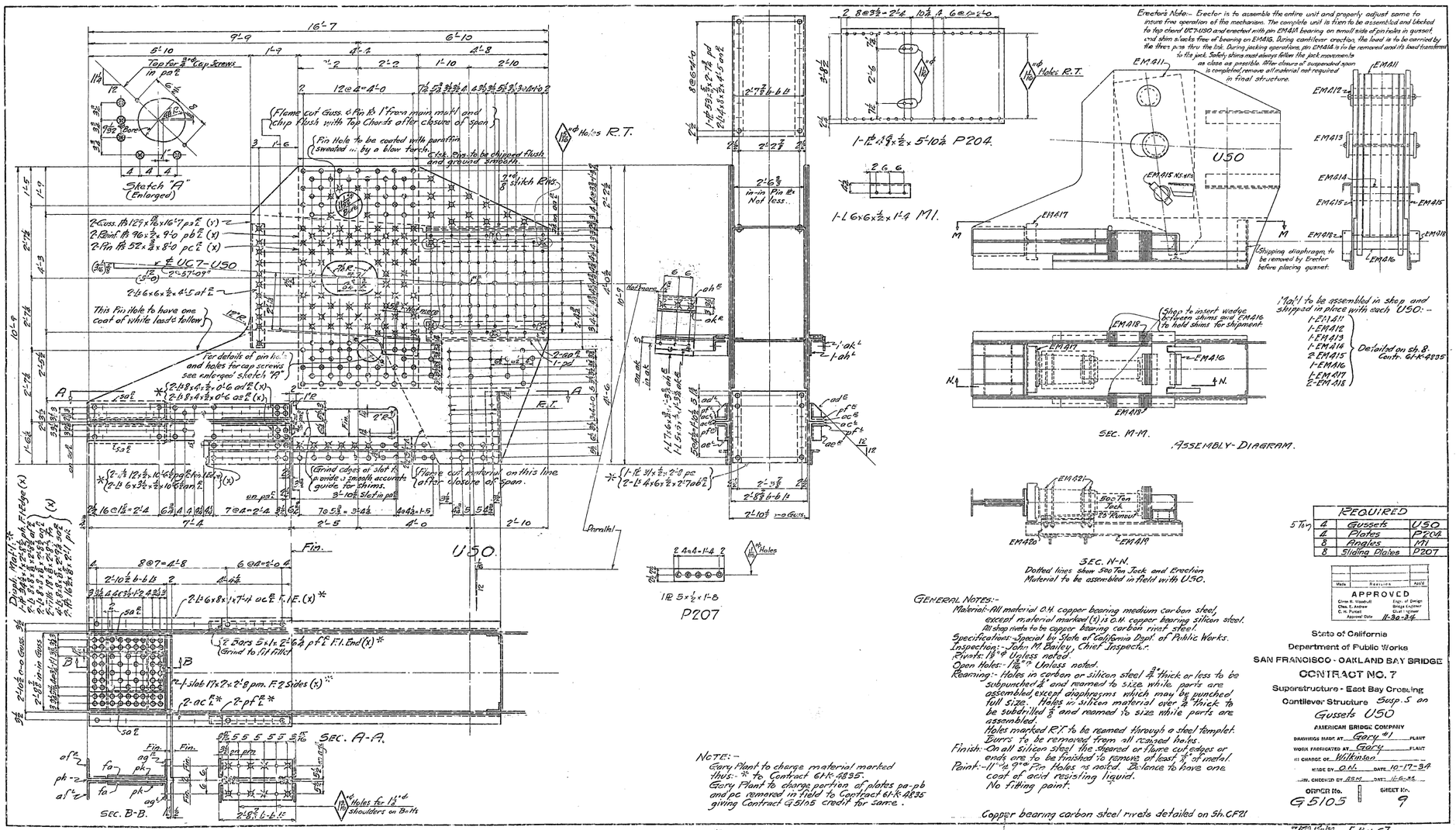
APPROVED
Chief Engineer — Chief of Design — Bridge Engineer
Approved Dec. 11-2-34

ORDER No. G-5105
SHEET No. 8

Am'd 12-6-34

[A.S.C.]

30-1



5 Ton	REQUIRED	
4	Gussets	U50
4	Plates	P204
8	Angles	M1
8	Sliding Plates	P207

Mark	Revision	Appd

APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 11-20-34

NOTE:-
Gary Plant to charge material marked thus:- * to Contract 61-K-9835.
Gary Plant to charge portion of plates pa-pb and pc removed in field to Contract 61-K-9835 giving Contract G5105 credit for same.

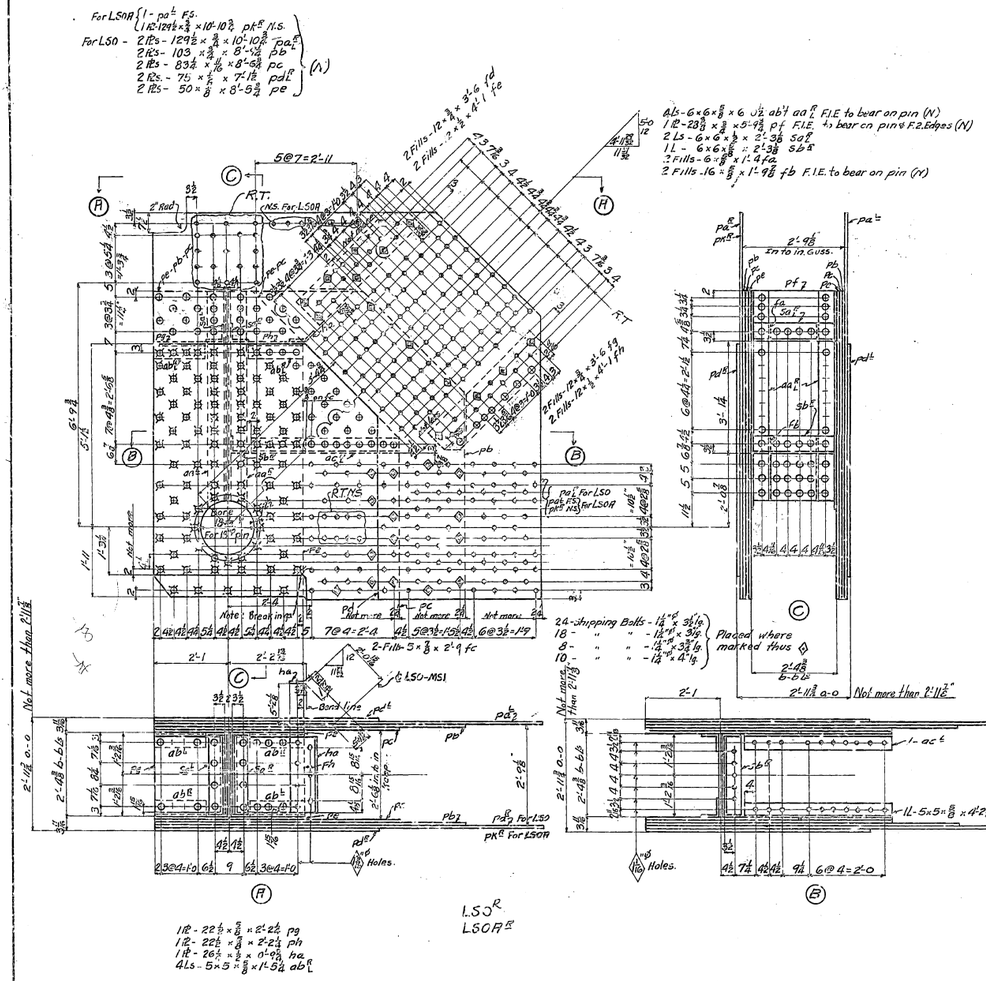
GENERAL NOTES:-
Material:- All material 0.H. copper bearing medium carbon steel, except material marked (x) is O.H. copper bearing silicon steel. All shop rivets to be copper bearing carbon rivet steel.
Specifications:- Special by State of California Dept. of Public Works.
Inspection:- John M. Bailey, Chief Inspector.
Rivets:- 7/8" ø Unless noted.
Open Holes:- 1 1/16" ø Unless noted.
Reaming:- Holes in carbon or silicon steel 3/4" thick or less to be subpunched 1/4" and reamed to size while parts are assembled, except diaphragms which may be punched full size. Holes in silicon material over 3/4" thick to be subdrilled 3/8" and reamed to size while parts are assembled.
Holes marked R.T. to be reamed through a steel templet. Burrs to be removed from all reamed holes.
Finish:- On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least 1/4" of metal.
Paint:- 11" & 9" Fin. Holes as noted. Balance to have one coat of acid resisting liquid. No fitting paint.

Copper bearing carbon steel rivets detailed on Sh. CF21

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Susp. S on Gussets U50
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
MADE BY O.N. DATE 10-17-34
...ED, CHECKED BY ABH DATE 11-6-34
ORDER No. G5105
SHEET No. 9

Vr Apr 7 12-1934 [B & C]

3051



General Notes:

Material—All material O.H. copper bearing medium carbon steel, except material marked (N) is O.H. copper bearing nickel steel.
All rivets are copper bearing carbon rivet steel.

Specifications—Special by State of California Department of Public Works.

Inspection—John M. Bailey, Chief Inspector.

Rivets—7/8".

Open Holes—1 1/16" ø unless noted.

Reaming—All holes in carbon steel to be subpunched 3/4" and reamed to size while parts are assembled, except diaphragm webs which may be punched full size.
Holes in nickel steel to be subdrilled 3/4" and reamed to size while parts are assembled.
Holes marked "R.T." to be reamed through a steel templet.
Holes for bottom chord connection to be reamed to size while assembled with bottom chord and pieces match marked.
Burrs to be removed from all reamed holes.
All match marking to be done with 3/8" steel stencils and white paint.

Finish—On all nickel steel the sheared or flame cut edges or ends are to be finished to remove at least 1/4" of metal.

Paint—None, except pinholes to receive one coat of white lead and tallow.

Copper bearing carbon steel rivets detailed on sheet CF 16.

Shipping bolts detailed on sheet CF 20.

West Half	East Half	Total	REQUIRED	
1		1	Gussets	LS0^R 10T
	1	1	"	LS0A^R 10T
1		1	"	LS0A^L 10T
	1	1	"	LS0^L 10T

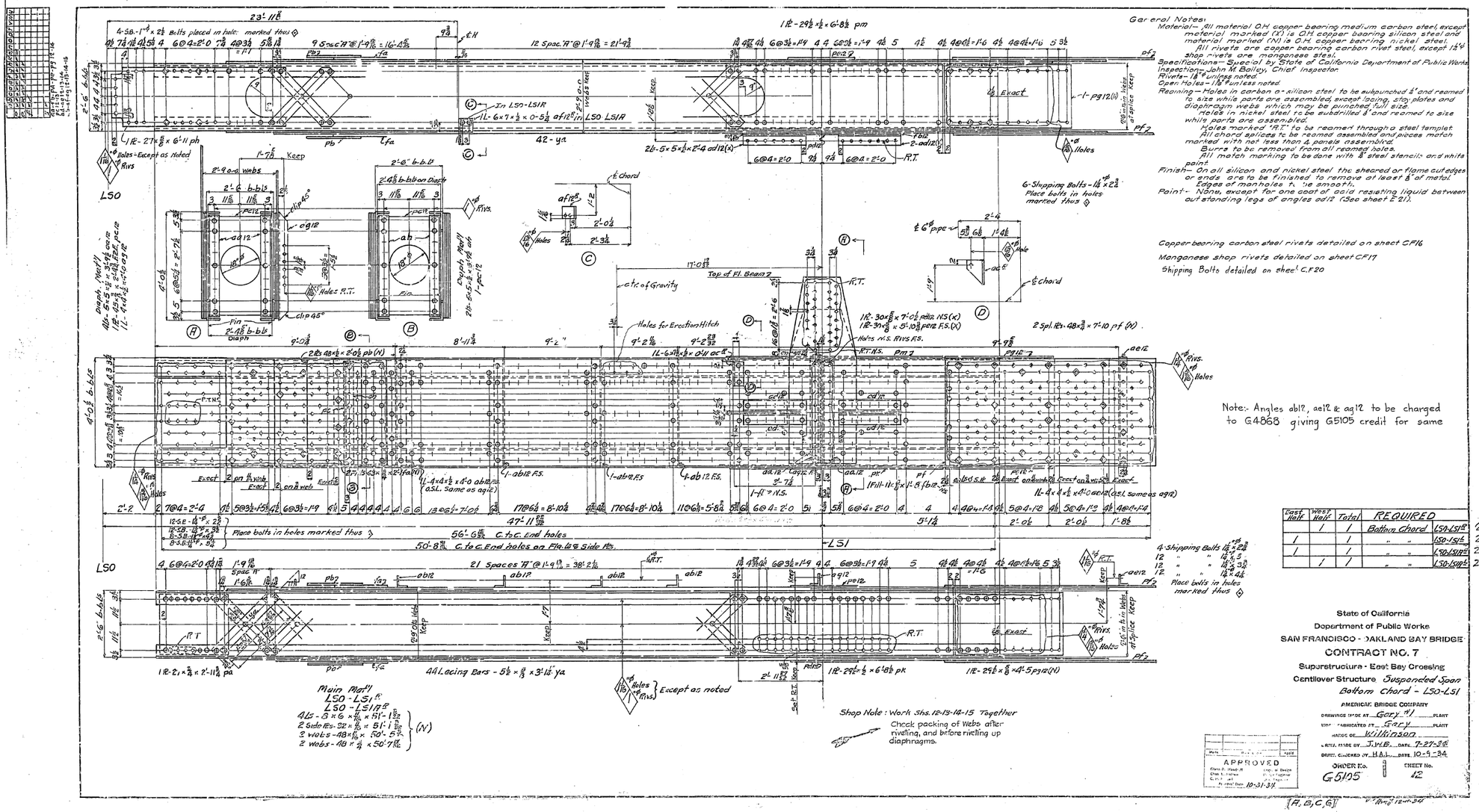
Mark	Revision	Date
APPROVED		
Chas. B. Wendell, Chief Engr.	Engr. of Design	
Chas. E. Andrew, Bridge Engineer		
C. H. Purcell, Chief Engineer		
Approval Date 11-2-34		

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span
Bottom Chord at LS0

AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Gary, Ind. PLANT
CHECKED BY Wilkinson
TRACED BY J.W.A. DATE 11-23-34
DRAWN, CHECKED BY K.M.S. DATE 10-7-34

ORDER No. G 5105 SHEET No. 11

Hall ord. [illegible] [illegible] [illegible]



General Notes:

Material— All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel and material marked (N) is O.H. copper bearing nickel steel. All rivets are copper bearing carbon rivet steel, except 1¼" shop rivets are manganese steel.

Specifications— Special by State of California Department of Public Works.

Inspection— John M. Bailey, Chief Inspector.

Rivets— ⅞" unless noted.

Open Holes— 1⅛" unless noted.

Reaming— Holes in carbon or silicon steel to be subpunched ⅝" and reamed to size while parts are assembled, except lacing, stay plates and diaphragm webs which may be punched full size. Holes in nickel steel to be subdrilled ⅝" and reamed to size while parts are assembled.

Holes marked "R.T." to be reamed through a steel templet.

All chord splices to be reamed assembled and pieces match marked with not less than 4 panels assembled.

Burrs to be removed from all reamed holes.

All match marking to be done with ⅜" steel stencils and white paint.

Finish— On all silicon and nickel steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal. Edges of manholes to be smooth.

Paint— None, except for one coat of acid resisting liquid between out standing legs of angles ad12 (See sheet E 21).

Copper bearing carbon steel rivets detailed on sheet CF16

Manganese shop rivets detailed on sheet CF17

Shipping Bolts detailed on sheet C.F.20

East Half	West Half	Total	REQUIRED	
	/	/	Bottom Chord	LS0-LS1 (E) 24 T
/		/	" "	LS0-LS1 (N) 24 T
/		/	" "	LS0-LS1 (S) 24 T
	/	/	" "	LS0-LS1 (S) 24 T

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span
Bottom Chord - LS0-LS1

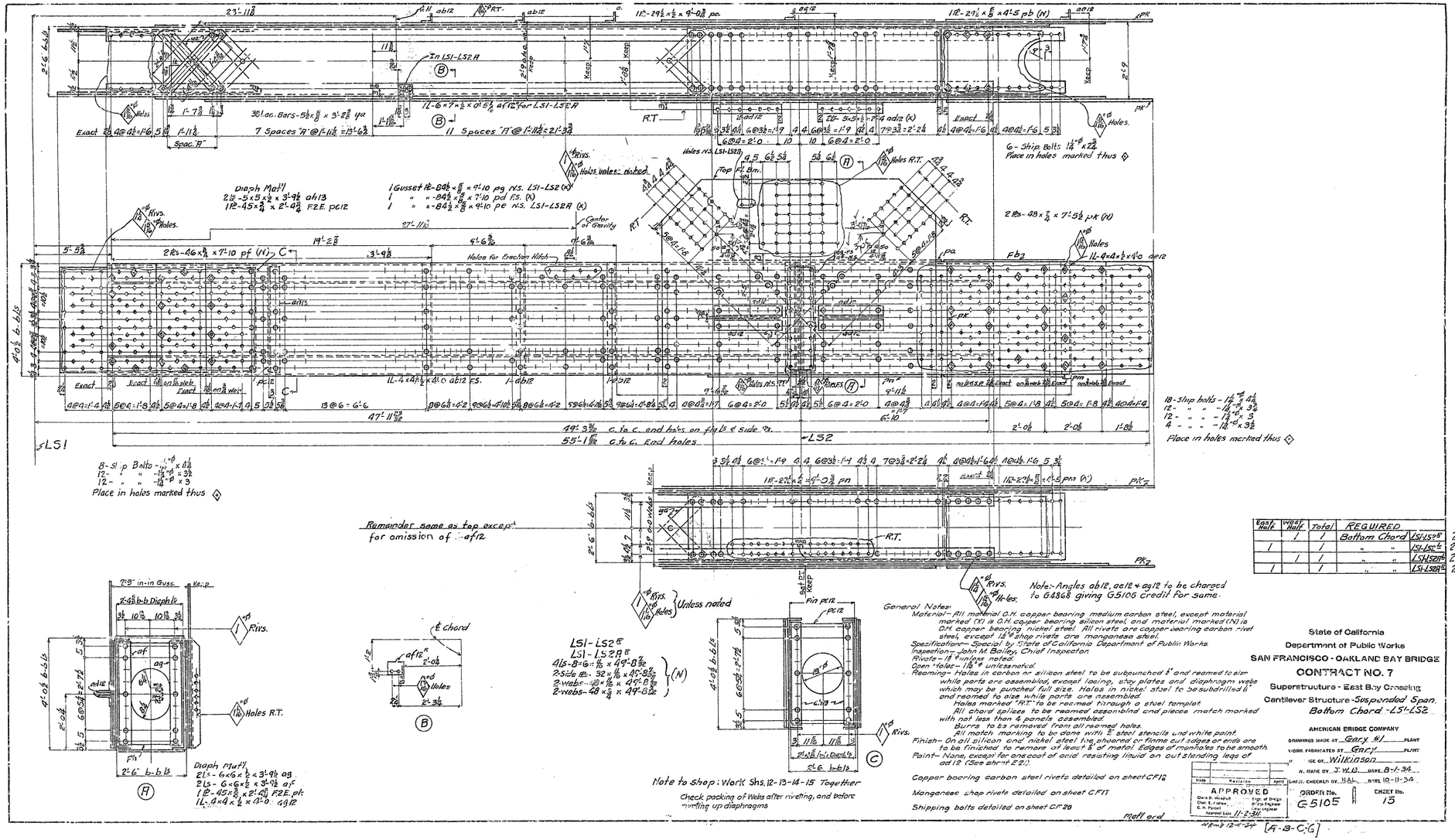
AMERICAN BRIDGE COMPANY

DRAWING MADE AT Gary (1) PLANT
STRUCTURE FABRICATED AT Gary PLANT
DESIGNED BY Wilkinson
LAYOUT MADE BY J.W.B. DATE 7-27-34
DRAWN CHECKED BY H.A.L. DATE 10-9-34

ORDER No. G5105
SHEET No. 12

APPROVED
Chief Engr. of Design
Chief Engr.
Dir. of Pub. Wks.
Asst. Chief Engr.
Date 10-31-34

[A, B, C, G]



East Half	West Half	Total	REQUIRED	
	1	1	Bottom Chord	LS1-LS2B 25T
1		1	" "	LS1-LS2C 25T
	1	1	" "	LS1-LS2BA 25T
1		1	" "	LS1-LS2BA 25T

General Notes:
Material- All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel and material marked (N) is O.H. copper bearing nickel steel. All rivets are copper bearing carbon rivet steel, except 1 1/8" ø shop rivets are manganese steel.
Specifications- Special by State of California Department of Public Works.
Inspection- John M. Bailey, Chief Inspector.
Rivets- 1 1/8" ø unless noted.
Open holes- 1 1/16" ø unless noted.
Reaming- Holes in carbon or silicon steel to be subpunched 1/4" and reamed to size while parts are assembled, except lacing, stay plates and diaphragm webs which may be punched full size. Holes in nickel steel to be subdrilled 0" and reamed to size while parts are assembled.
Holes marked "RT" to be reamed through a steel templet.
All chord splices to be reamed assembled and pieces match marked with not less than 4 panels assembled.
Burrs to be removed from all reamed holes.
All match marking to be done with 2" steel stencils and white paint.
Finish- On all silicon and nickel steel ties, sheared or flame cut edges or ends are to be finished to remove at least 1/8" of metal. Edges of manholes to be smooth.
Paint- None, except for one coat of acid resisting liquid on out standing legs of ad12 (See sheet E2).
Copper bearing carbon steel rivets detailed on sheet CF12
Manganese shop rivets detailed on sheet CF11
Shipping bolts detailed on sheet CF20

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure - Suspended Span.
Bottom Chord - LS1-LS2

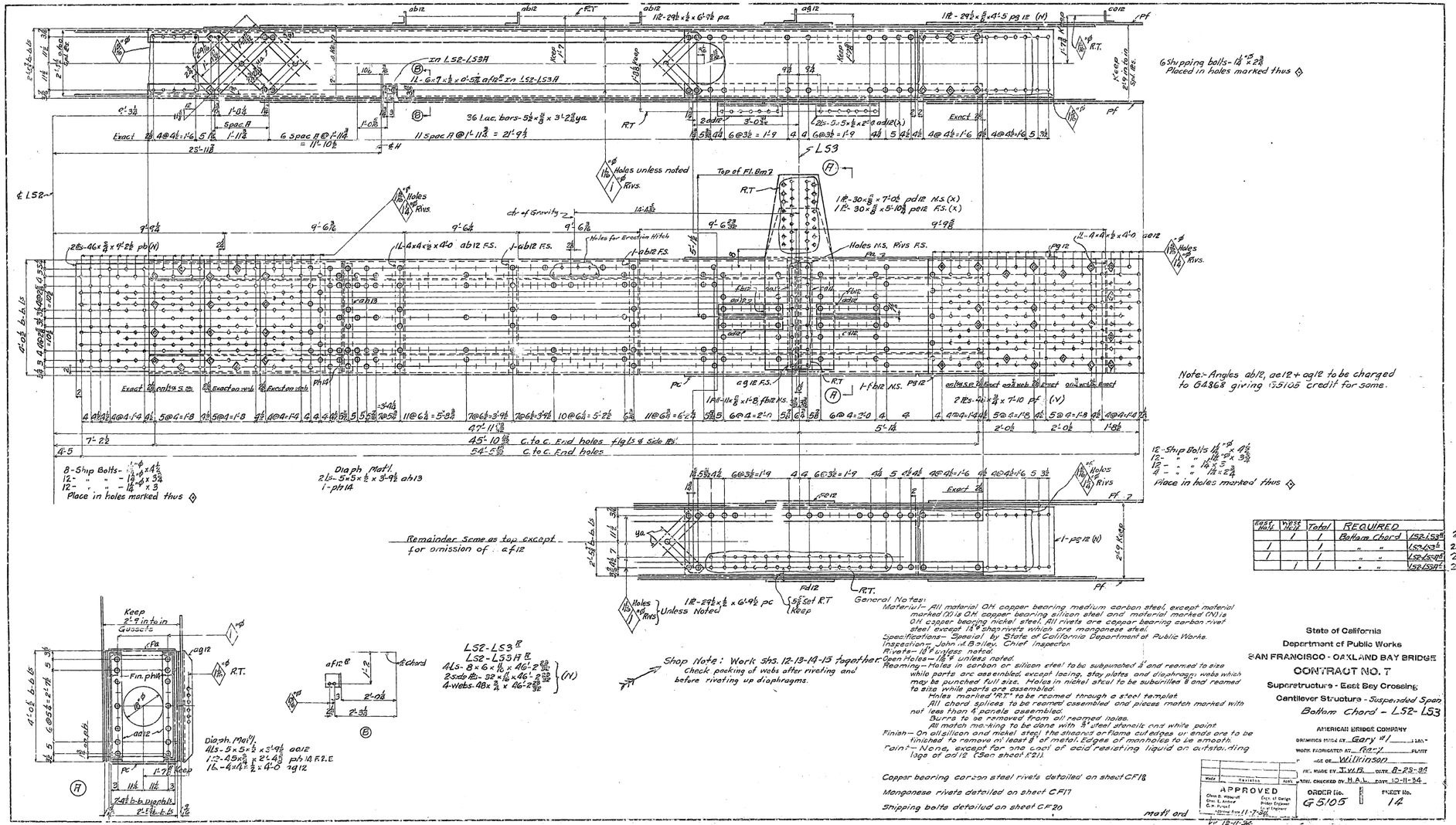
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Gary PLANT
SCALE OF... Wilkinson
H. MADE BY J.W.D. DATE 8-1-34
LINES CHECKED BY H.A.L. DATE 10-11-34

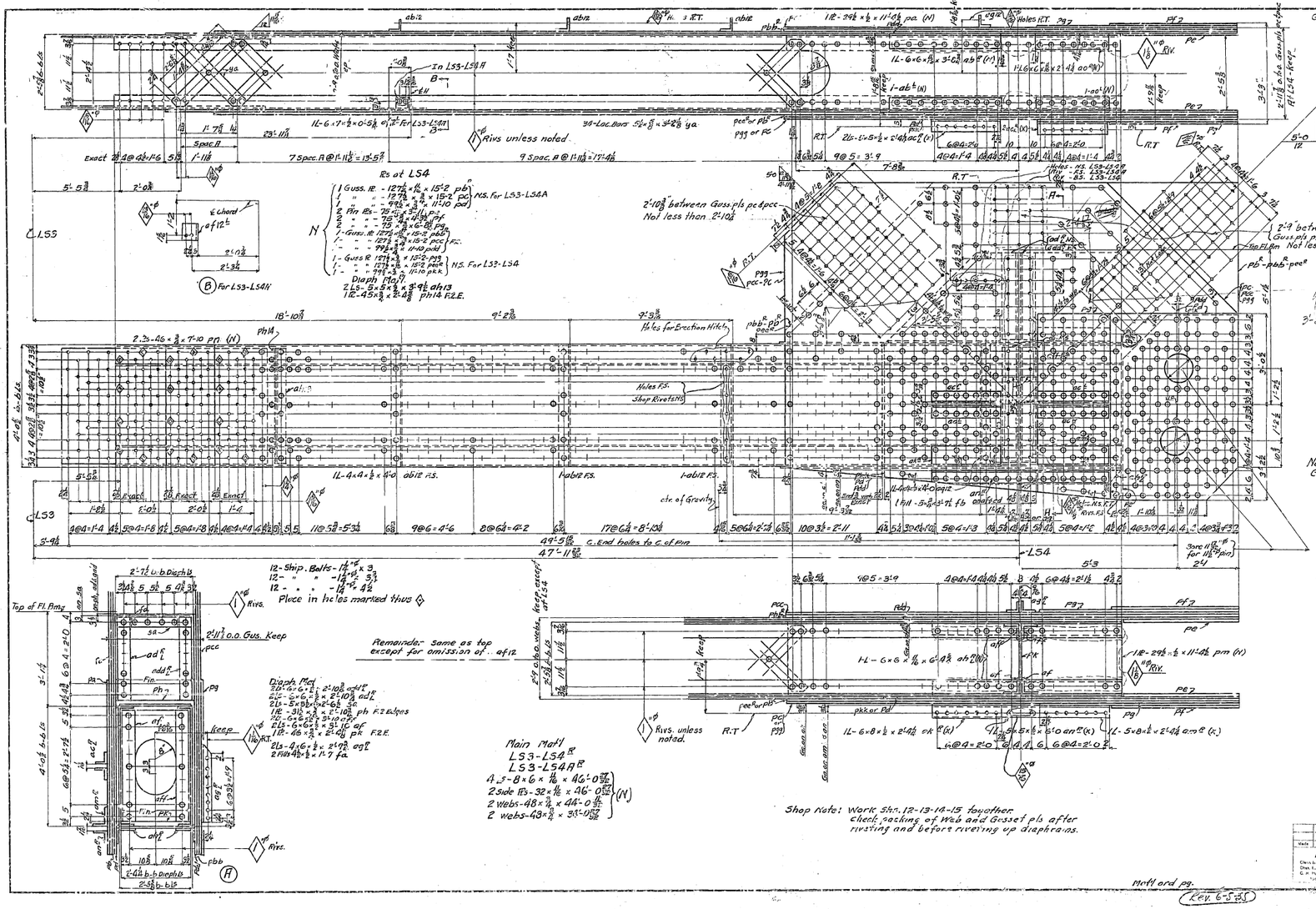
MARK	Revision	DATE

APPROVED
Glen B. Woodruff, Engr. of Design
Chief, E. F. Hetherington, Bridge Engineer
C. H. Purcell, Assistant State Engineer
11-2-34

ORDER No. G-5105
SHEET No. 13

Mar. 3 12-4-34 [A-8-C-16]


6 shipping bolts- 1¼ x 2⅜ Placed in holes marked thus ◇
Note:- Angles ab12, ae12 + ag12 to be charged to 64868 giving 65105 credit for same.
8-Ship Bolts- 1-⅜ x 1½
12- " " - 1⅛ x 3½
12- " " - 1¼ x 3
Place in holes marked thus ◇
12-Ship Bolts ⅞ x 4½
12- " " 1 x 3½
12- " " 1¼ x 3
4- " " 1¼ x 2¾
Place in holes marked thus ◇
Diaph. Matl. 2 ls- 5x5x½ x 3'-9½ ab13 1-pl 14
Remainder same as top except for omission of cf12
Shop Note: Work shs. 12-13-14-15 together Check peaking of webs after riveting and before riveting up diaphragms.
LS2-LS3 R
LS2-LS3 M R
4 ls- 8 x 6 x ½ x 46'-2 25/32
2 sdp pls- 32 x 7/16 x 46'-2 25/32
4 webs- 48 x 3/4 x 46'-2 25/32 (N)
Keep 2'-9 in to in Gussets
Fin. plt
Diaph. Matl. 4 ls- 5 x 5 x ½ x 3'-9½ ab12
1 pl- 3-15/16 x 2'-4 3/8 pb 14 F2.E
16- 4 x 4 x ½ x 4'-0 ag12
Top of Fl. Bm 2
Holes unless noted
Holes N.S. Rivs F.S.
Holes for Erection Hitch
Unless Noted
Keep
Pd12
R.T.
Pf
Pc
Ph13
Ph14
Exact 28 rivs s. m.
Exact 20 rivs web
Exact 20 rivs web
Exact 28 rivs web



General Notes:

Material – All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel, and material marked (N) is O.H. copper bearing nickel steel.
All rivets are copper bearing carbon rivet steel, except 1¼" ϕ shop rivets are manganese steel.

Specifications – Special by State of California Department of Public Works.

Inspection – John M. Bailey, Chief Inspector.

Rivets – 1¼" ϕ unless noted.
Open Holes – 1⅛" ϕ unless noted.

Reaming – Holes in carbon or silicon steel to be subpunched ⅜" and reamed to size while parts are assembled except lacing, stay plates and diaphragm webs which may be punched full size. Holes in nickel steel to be subdrilled ⅜" and reamed to size while parts are assembled.
Holes marked "R.T." to be reamed through a steel template.
All chord splices to be reamed assembled and pieces match marked with not less than 4 pins assembled.
Burrs to be removed from all reamed holes.

All match marking to be done with ½" steel stencils and white paint.

Finish – On all silicon and nickel steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal.
Edges of manholes to be smooth.

Paint – None, except for one coat of acid resisting liquid on outstanding legs of ∠ ang. and outstanding legs of ∠ spacing angles (See sheet CF21), and one coat of white lead and tallow on pin holes.

Copper bearing carbon steel rivets detailed on sheet CF19

Manganese shop rivets detailed on sheet CF17

Shipping bolts detailed on sheet CF20

Note: Angles ab12 ag12 to be charged to G4868 giving G5105 credit for same.

East Half	West Half	Total	REQUIRED		
	1	1	Bottom Chord	LS3-LS4A	35T
1		1	" "	LS3-LS4	35T
1		1	" "	LS3-LS4AR	35T
	1	1	" "	LS-LS4A	35T

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure - Suspended Span
Bottom Chord - LS3-LS4

AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary #1 PLANT
STEEL FABRICATED AT Gary PLANT
CHIEF DRAFTSMAN Wilkinson
TRACED BY J.W.B. DATE 9-18-24
CHECKED BY H.F.L. DATE 10-11-24

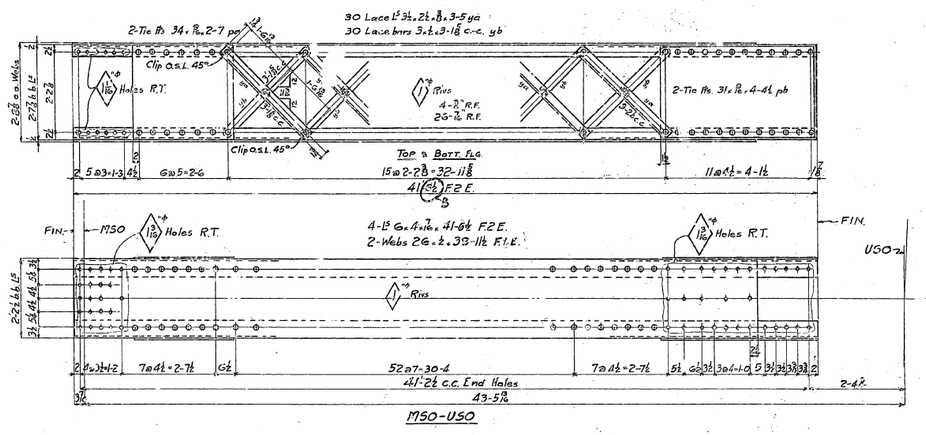
Mark	Revision	Init.	Date

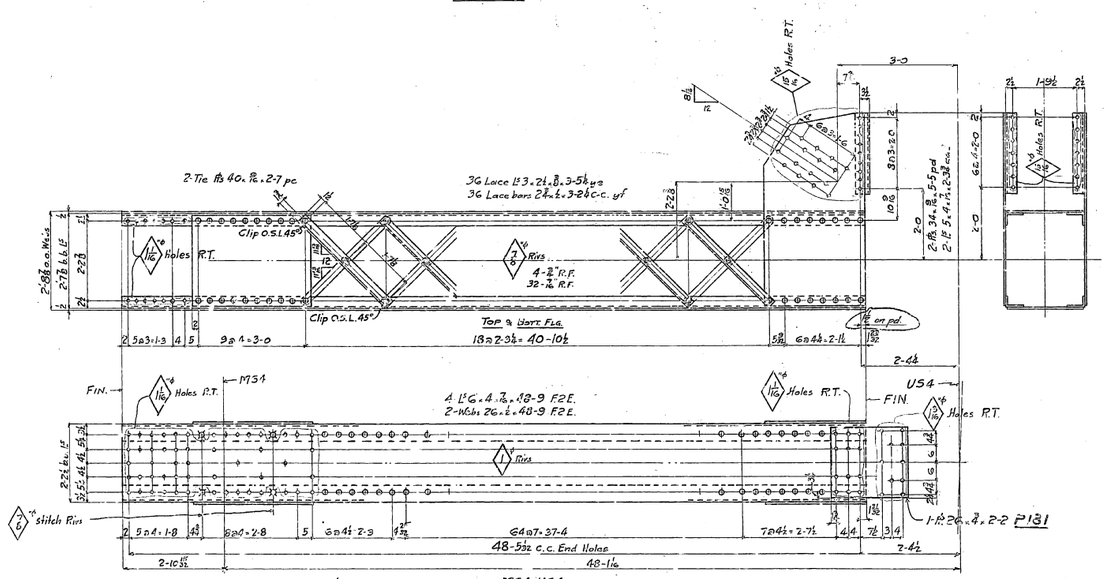
APPROVED
Chief Engr. Division of Bridges and Ferry Boats
C. H. Purcell Supervising Engineer
Date 11-26-24

ORDER No. G5105
SHEET No. 15

Rev. 12-11-24 A-B-C-G

Rev. 6-5-25





West Web Sect. Sh.	East Web Sect Sh	Total	REQUIRED	
2	2	4	Verticals	MSO-USO
2	2	4	do.	MSA-USA
4	4	8	Gusset Pls	P181

General Notes:
Material- All material O.H. copper bearing medium carbon steel. All rivets to be copper bearing carbon rivet steel.
Specifications- Specified by State of California Department of Public Works.
Inspection- John M. Bailey, Chief Inspector.
Rivets- As Noted.
Open Holes- As Noted.
Reaming- All holes to be subpunched ¼" and reamed to size while parts are assembled, except facing and stay plates which may be punched full size.
Holes marked R.T. to be reamed through a steel templet. Burrs to be removed from all reamed holes.
Paint- None except one coat of acid resisting liquid on milled ends of members.

Copper bearing rivets det. on sh. CF2

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span
Verticals MSO-USO & MSA-USA
AMERICAN BRIDGE COMPANY
ERECTION LOADS BY Gary '41 PLANT
WORK FABRICATED AT Gary PLANT
AGT OF Wilkinson
WELDING BY V.D.N. DATE 6-20-41
DRAWN, CHECKED BY A.S.M. DATE 8-14-24
Last Revised 7-17-34
ORDER No. G-5105 SHEET No. 21

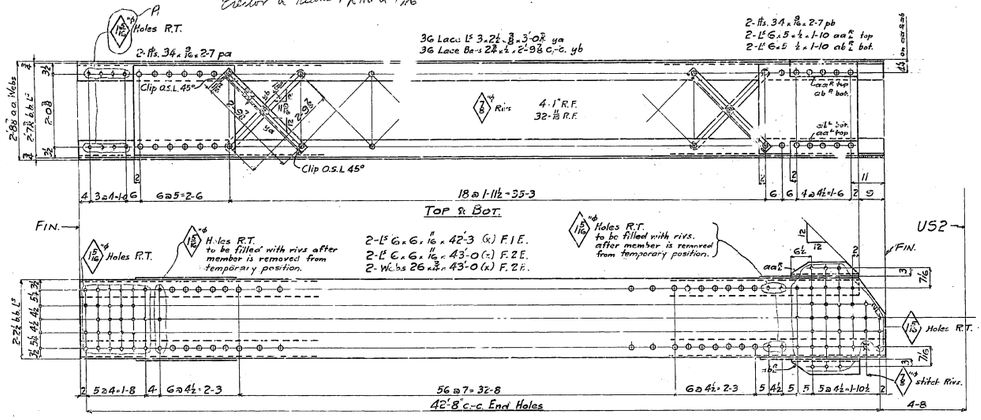
APPROVED
Chief Engineer
Div. Engr.
C.E. in Charge
Inspector
Date 9-7-34

A-MSO-USO
2-MSA-USA west used temporarily for erection of West & East Anchor and Cantilever Arms.

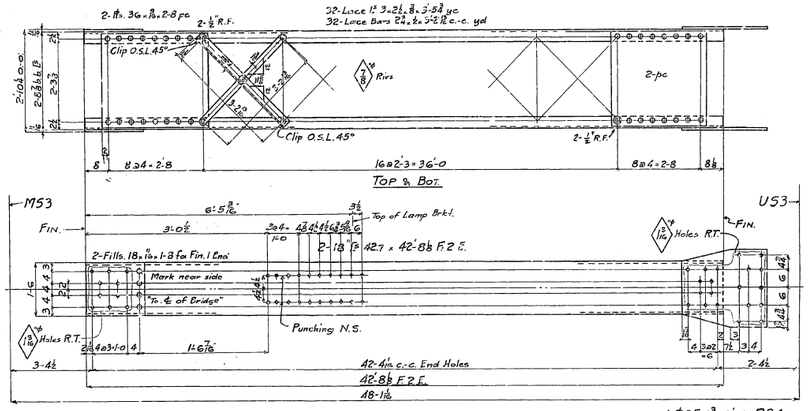
Mail ord. for 922 Sets
700
672
652

[C]

Shipped before Rule A was made.
Erector to ream 1/16 to 1 1/16

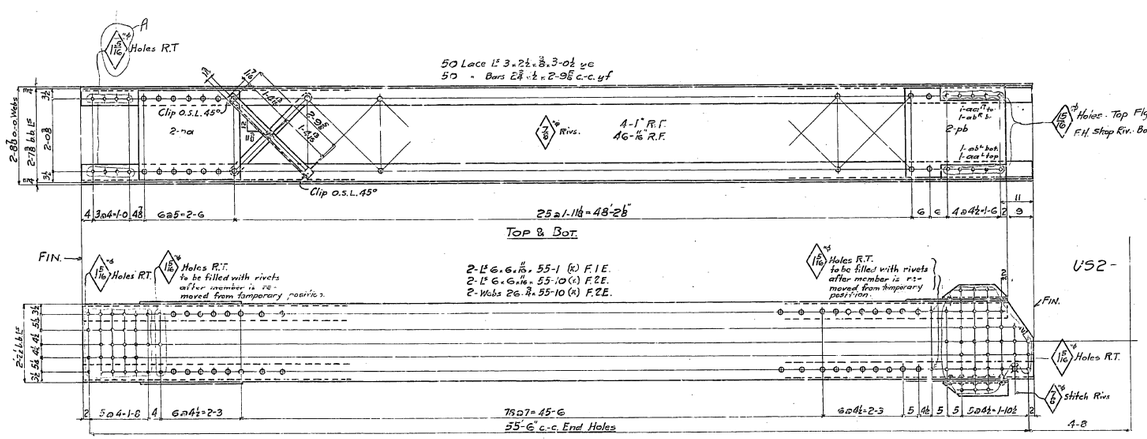


MS2-US2



MS3-US3

1-Pl 25 x ⅞ x 2'-4 P84



MS2-US2A

General Notes:
Material. All material O.H. copper bearing medium carbon steel except material marked (x) is O.H. copper bearing silicon steel. All rivets to be copper bearing carbon rivet steel.
Specifications - Special by State of California Department of Public Works.
Inspection - John M. Bailey, Chief Inspector.
Rivets - 7/8 Unless Noted.
Open Holes 1 1/16 Unless Noted.
Reaming - Holes in carbon or silicon steel to be subpunched ¼" and reamed to size while parts are assembled, except lacing and stay plates, which may be punched full size.

Holes marked R.T. to be reamed through a steel templet. Burrs to be removed from all reamed holes.
Paint - None except one coat of acid resisting liquid on milled ends of members.
Finish - On all silicon steel the shearing or flame cut edges or ends are to be finished to remove at least ¼ of metal.

Copper bearing rivets detailed on Sh. CF3

WEST HALF Susp. Sp.	EAST HALF Susp. Sp.	TOTAL	REQUIRED	
2		2	Vertical	MS2-US2
	2	2	do.	MS2-US2A
2	2	4	do.	MS3-US3
4	4	8	Gusset Pls.	P84

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure - Suspended Span
Verticals MS2-US2 & MS3-US3
AMERICAN BRIDGE COMPANY

DRAWING MADE AT Gary Ind. PLANT
WORK DONE AT Gary PLANT
IN CHARGE OF W. H. Hodson
DRAWN BY W.M. DATE 6-27-36
DIRECT. CHECKED BY A.C.M. DATE 5-14-36
ORDER No. G 5105
SHEET No. 22

Mark	Revision	Appd
	APPROVED Chief of Division Bridge Engineer Chief Engineer	
	Approved Date 9-7-36	

2 MS2-US2, 2 MS2-US2A used temporarily for erection on West-East Anchor-Cantilever Arms.
2 MS3-US3 (Heat) used temporarily for erection on West Anchor Arm.

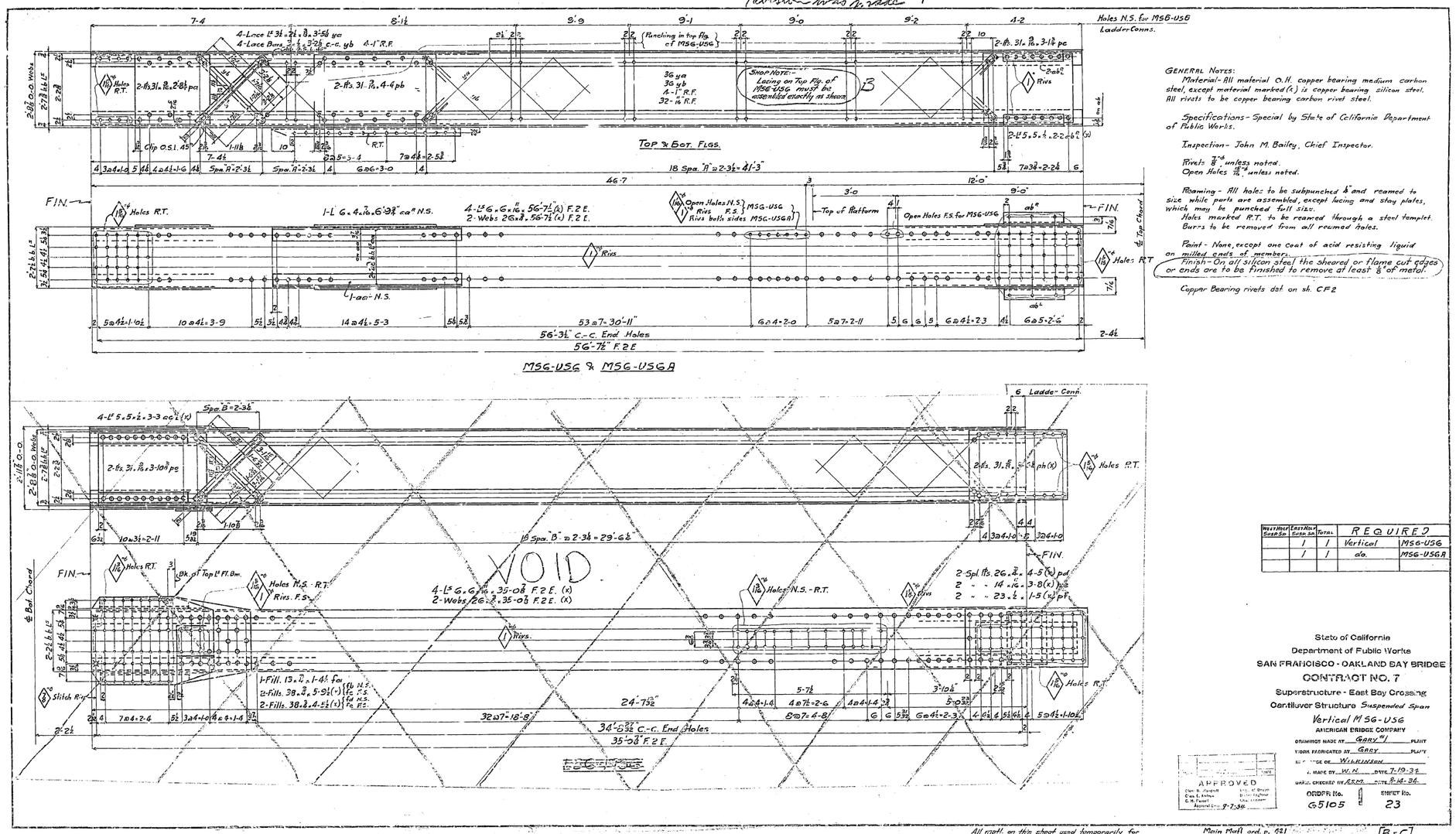
Rev A 12-19-36

Mail. Ord. pg 421, 422, 526 - 43 m. 1870 - 50% 1st Mail 4-18-36

Rev 11-21-41

[B & C]

This piece in the finish after revision was made



West Hole Subs'd	East Hole Subs'd	Total	REQUIRED	
	1	1	Vertical	MSG-USG
	1	1	do.	MSG-USGA

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span
Vertical MSG-USG
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT GARY, IND. PLANT
WORK FABRICATED AT GARY PLANT
IN CHARGE OF WILKINSON
DETAILED BY W.H. DATE 7-19-34
GENERAL CHECKED BY A.R.M. DATE 8-14-34.
ORDER No. G5105
SHEET No. 23

APPROVED
Chief Engineer
Engineer of Bridges
Chief Engineer
Approved 9-7-34

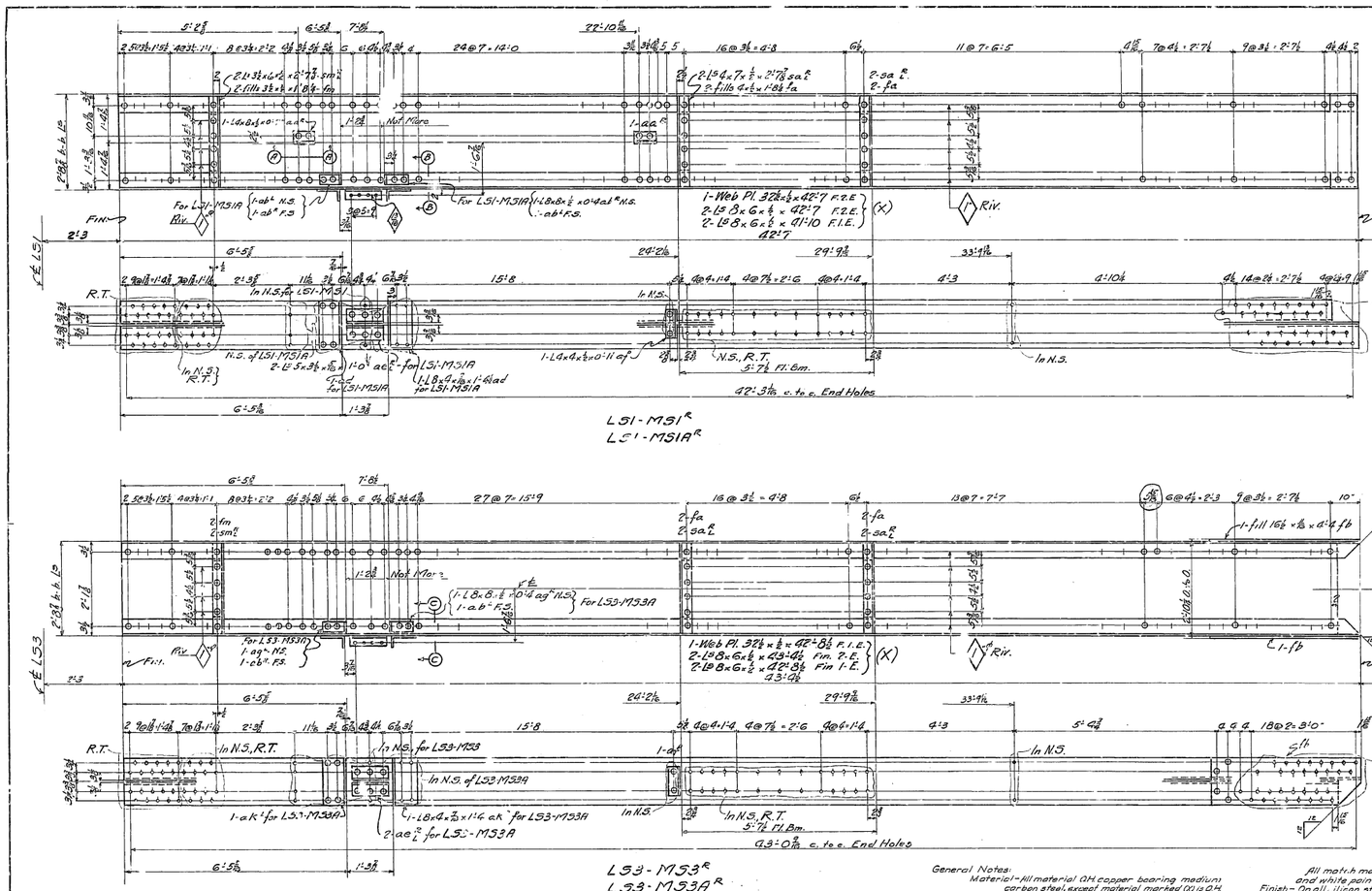
All matl. on this sheet used temporarily for erection of West and East Anchor Arms.

Main Matl and p. 621

Rev 10-3-34 Rev 10-2-34

[B&C]

30-1



General Notes:
Material - All material QH copper bearing medium carbon steel, except material marked (X) is QH copper bearing silicon steel. All rivets are copper bearing carbon rivet steel.
Specifications - Special by State of California Department of Public Works.
Inspection - John M. Bailey, Chief Inspector.
Rivets - 1⅛" ø unless noted.
Open Holes - 1⅛" ø unless noted.
Reaming - All holes to be subpunched ⅝" and reamed to size while parts are assembled.
Holes marked 'RT' to be reamed through a steel templet.

Burrs to be removed from all reamed holes.

All match marking to be done with ⅝" steel stencils and white paint.
Finish - On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal.
Paint - None except for one coat of acid resisting liquid between out standing legs of angles at ℄ (See sheet E21 G5103).

Copper bearing carbon steel rivets detailed on sheet C F22.

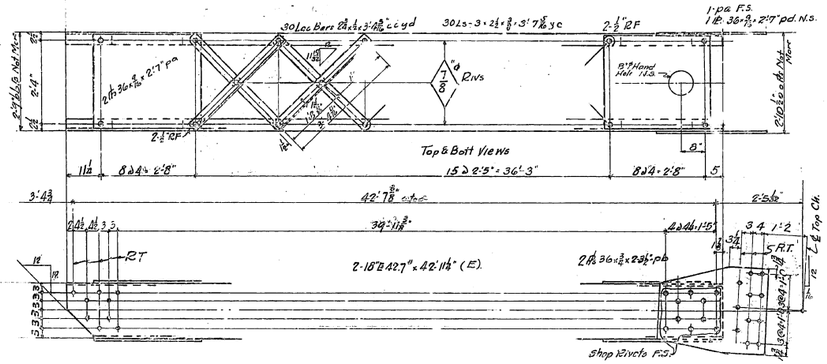
Mark	Revisions	Appd

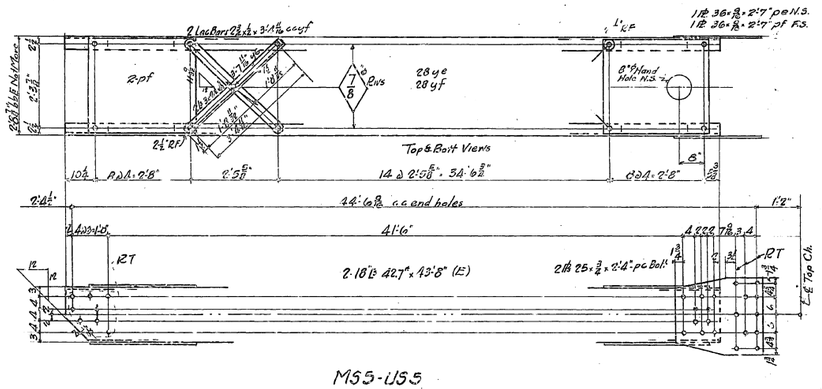
APPROVED
Chas. B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date 10-17-34

At Ends of Span	At Hinges	Total	REQUIRED	
	/	1	VERTICAL	L51-M51R
	/	1	"	L51-M51AL
	/	1	"	L51-M51AR
/	/	1	"	L51-M51AA
/	/	1	"	L53-M53R
/	/	1	"	L53-M53AL
/	/	1	"	L53-M53AR
/	/	1	"	L53-M53AA

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span.
Details of Verticals L51-M51 & L53-M53

AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary #1 PLANT
FABRICATED AT Gary PLANT
CHECKED BY Wilkinson
DETAIL MADE BY J.H. DATE 8-13-34
DETAIL CHECKED BY W.H.B. DATE 10-2-34
ORDER No. G5105 SHEET No. 24





GENERAL NOTES:

Material – All material OH copper bearing medium carbon steel. All rivets are copper bearing carbon rivet steel.
Specifications – Special by State of California Department of Public Works.
Inspection – John M. Bailey, Chief Inspector.
Rivets – ⅞" unless noted.
Open Holes – 1⅛".
Reaming – All holes to be subpunched ⅝" and reamed to size while parts are assembled except lacing and stay plates which may be punched full size.
Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Finish – On all carbon steel marked (E) the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal. Edges of Hand Holes to be smooth.
Paint – None.

Copper bearing carbon steel rivets detailed on sheet CF 23

West Arm	East Arm	Total	REQUIRED	
2	2	4	Vertical Posts	M51-U51
2	2	4	"	M55-U55

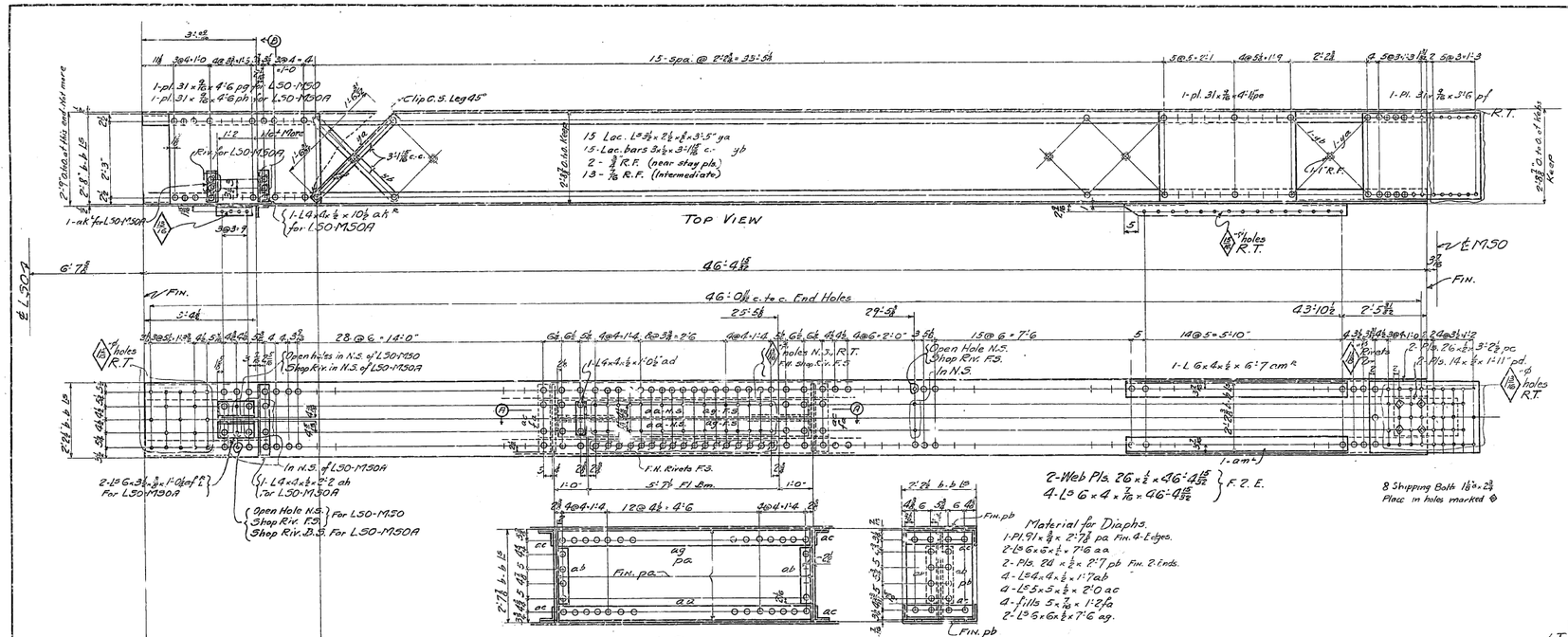
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span
Posts at M51-U51 & M55-U55
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
MADE BY WKB DATE 8-14-34
...AW. CHECKED BY [illegible] DATE 10-2-34
ORDER No. G5105
SHEET No. 25

Mark	Revision	Date

APPROVED
Chas. B. Wadsworth, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 10-19-34

Form 7 12-9-24

[C]



				APPROVED
				Chief Engineer
				Bridge Engineer
				Asst. Engineer
				Nov. 2, 1934

W. Web	E. Web	Hand Sym.	Field Sym.	Total	REQUIRED	
67					VERTICAL	L50-M50R
67					"	L50-M50AR
67					"	L50-M50AR
67					"	L50-M50AR

General Notes:
Material—All material 2H copper bearing medium carbon steel. All rivets are copper bearing carbon rivet steel.
Specifications—Special by State of California Department of Public Works.
Inspection—John M. Bailey, Chief Inspector.
Rivets—1⅛" unless noted.
Open Holes—1⅛" unless noted.
Reaming—All holes subpunched and reamed to size while parts are assembled, except lacing, stay plates and diaphragm webs which may be punched full size.
Holes marked "RT" to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Paint—None, except one coat acid resisting liquid between outstanding legs of all splice, end finished ends (See sheet E51).
Copper bearing carbon steel rivets detailed on sheet CF28.
Shipping bolts detailed on sheet CF28.

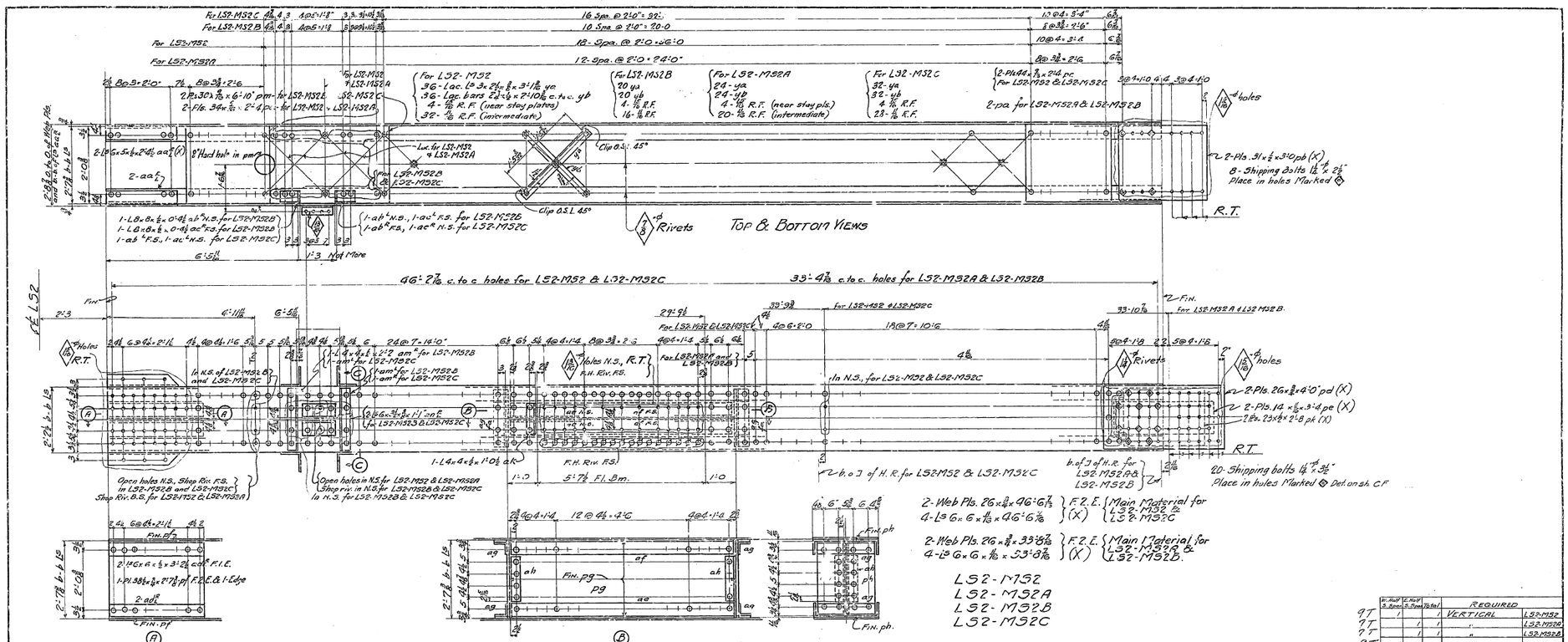
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure, Suspended Span
Details of Verticals L50-M50.

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary (Ind.) PLANT
WORK FABRICATED AT Gary PLANT
ERECTED BY Wilkinson
DETAILED BY J.H. DATE 6-21-34
TRACED BY DATE
CHECKED BY L.E.H. DATE 10-8-34

ORDER No. G5105
SHEET No. 26

Prints 2-4-6-7-9

[C]



W. Roll S. Span	E. Roll S. Span	Total	REQUIRED	
9T		1	VERTICAL	LS2-MS2
9T		1	"	LS2-MS2A
9T		1	"	LS2-MS2B
9T		1	"	LS2-MS2C

General Notes:
Material – All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel. All rivets are copper bearing carbon rivet steel, except 1¼"ø shop rivets are manganese steel.
Specifications – Special by State of California Department of Public Works.
Inspection – John M. Bailey, Chief Inspector.
Rivets – ¾"ø unless noted.
Open Holes – 1⅛"ø unless noted.
Reaming – All holes to be subpunched ¼" and reamed to size while parts are assembled except lacing, stay plates and diaphragm webs which may be punched full size. Holes marked "RT" to be reamed through a steel templet. Burrs to be removed from all reamed holes.
Finish – On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal.
Paint – None, except for one coat of acid resisting liquid at milled ends, splice and bearings on outstanding legs of ∠'s (See sheet E21).

Copper bearing carbon steel rivets detailed on sheet CF23
Manganese shop rivets detailed on sheet CF21
Shipping bolts detailed on sheet CF28

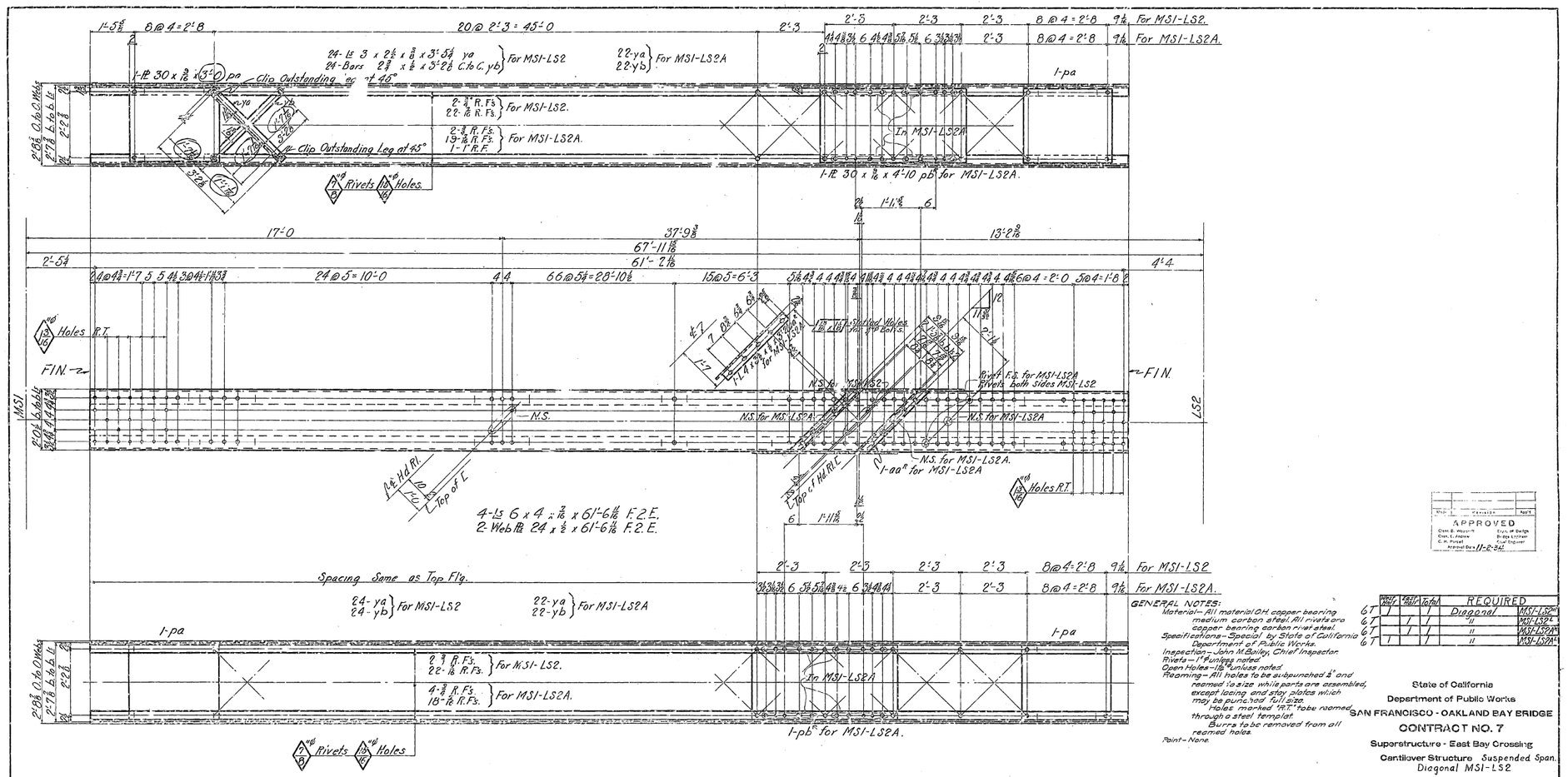
APPROVED
Chief Engineer
Bridge Engineer
Approval Date 10-31-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure, Suspended Span
Details of Verticals LS2-MS2

AMERICAN BRIDGE COMPANY
DRAWINGS STAGE AT Gary PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
MADE BY J.H. DATE 8-23-34
CHKD. CHECKED BY LEH DATE 10-9-34
CHKD. DATE 12-13-34
ORDER No. G5105 SHEET No. 27

B.C.B.J.

30-51



GENERAL NOTES:
Material – All material OH copper bearing medium carbon steel. All rivets are copper bearing carbon rivet steel.
Specifications – Special by State of California Department of Public Works.
Inspection – John M. Bailey, Chief Inspector.
Rivets – 1" Buckles noted.
Open Holes – 13/16" unless noted.
Reaming – All holes to be subpunched 3/4" and reamed to size while parts are assembled, except lacing and stay plates which may be punched full size. Holes marked "RT" to be reamed through a steel templat. Burrs to be removed from all reamed holes.
Paint – None.

Copper bearing carbon steel rivets detailed on sheet CF24.

Web	Flange	Flange	REQUIRED	
			Diagonal	MSI-LS2^R
			11	MSI-LS2^R
			11	MSI-LS2A^R
			11	MSI-LS2A^R

APPROVED
Chief Engr.
Dept. of Public Works
Bridge Engineer
Chief Engineer
Approval Date 11-2-34

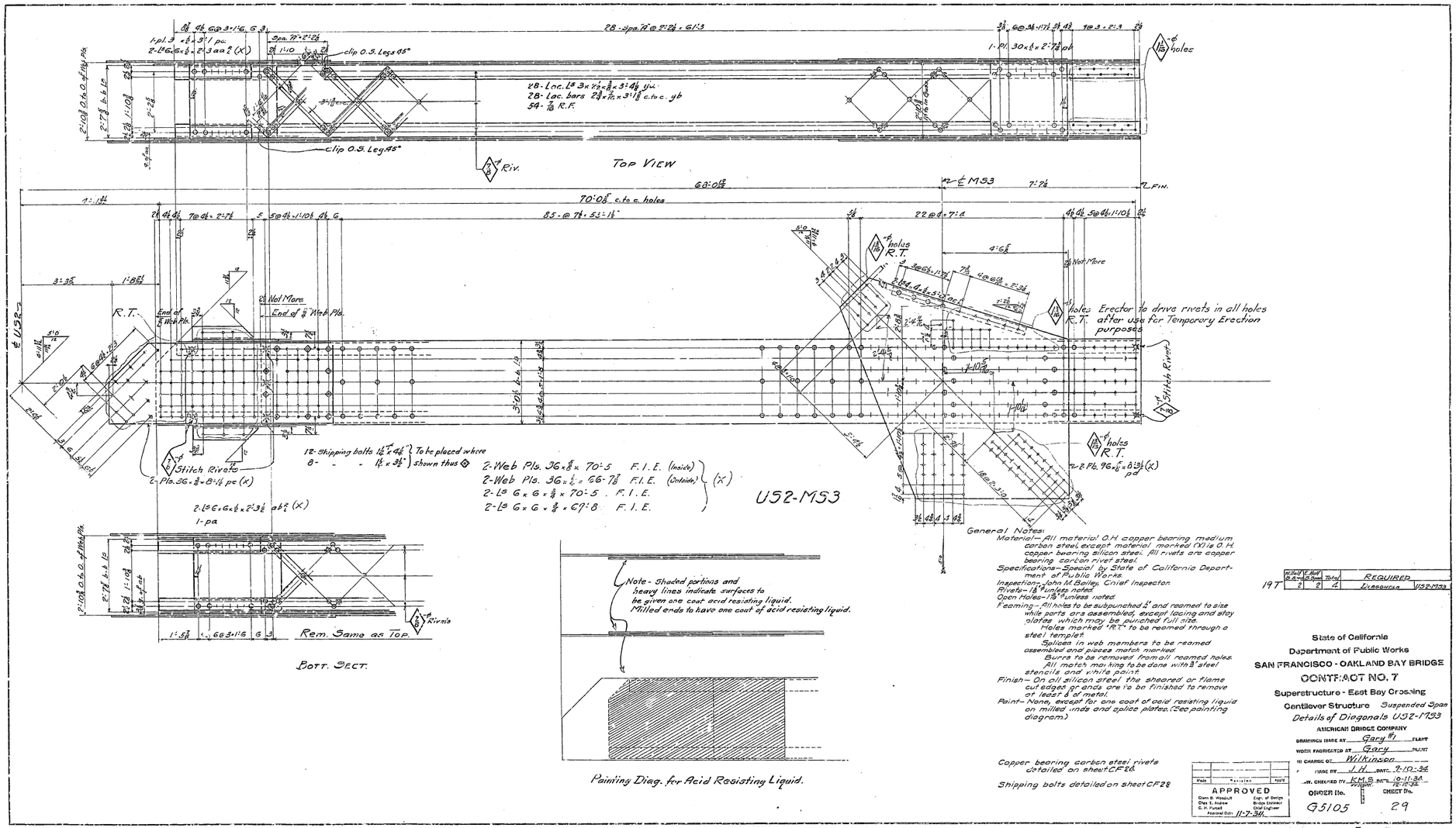
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span.
Diagonal MSI-LS2

AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary #1 PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
DRAWN BY N.B.G. DATE 3-5-34
CHECKED BY LEH DATE 10-8-34
ORDER No. G5105
SHEET No. 23

(2-y. 6-35)

[C]

30-51



General Notes:

Material— All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel. All rivets are copper bearing carbon rivet steel.
Specifications— Special by State of California Department of Public Works.
Inspection— John M. Barclay, Chief Inspector.
Rivets— ⅞" unless noted.
Open Holes— 1⅛" unless noted.
Reaming— All holes to be subpunched ½" and reamed to size while parts are assembled, except lacing and stay plates, which may be punched full size. Holes marked "R.T." to be reamed through a steel templet.
Splices in web members to be reamed assembled and placed match marked.
Burrs to be removed from all reamed holes.
All match marking to be done with ½" steel stencils and white paint.
Finish— On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal.
Paint— None, except for one coat of acid resisting liquid on milled ends and splice plates. (See painting diagram.)

Copper bearing carbon steel rivets detailed on sheet CF26.

Shipping bolts detailed on sheet CF28.

w/Shop Rivets ⅞	w/Shop Rivets 1⅛	Total	REQUIRED
2	2	4	197 Lineholder U52-M53

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span
Details of Diagonals U52-M53

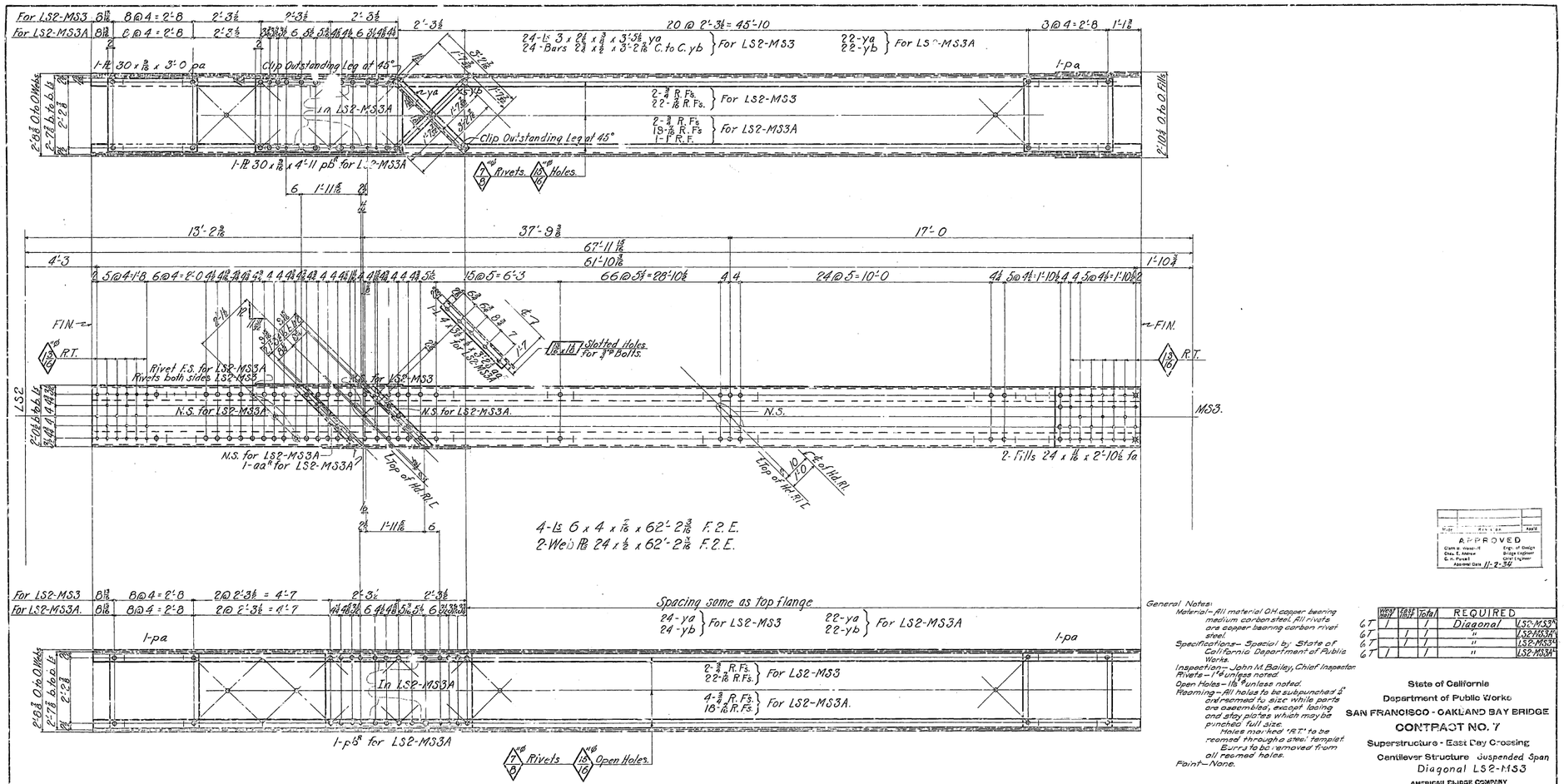
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
DRAWN BY J.H. DATE 9-10-34
CHECKED BY KMB DATE 10-11-34 / 10-12-34
ORDER No. G5105 SHEET No. 29

Mark	Revision	Date

APPROVED
Glenn B. Woodruff, Chas. E. Andrew, O. H. Purcell
Engr. of Design, Bridge Engineer, Chief Engineer
Approval Date: 11-7-34.

[B&C]

30-1



APPROVED
Chief Engr. of Design
Bridge Engineer
Chief Engineer
Approved Date 11-2-34

General Notes:
Material—All material OH copper bearing medium carbon steel. All rivets are copper bearing carbon rivet steel.
Specifications—Special by State of California Department of Public Works.
Inspection—John M. Bailey, Chief Inspector.
Rivets—1" ø unless noted.
Open Holes—1⅛" ø unless noted.
Reaming—All holes to be subpunched ⅜" and reamed to size while parts are assembled, except lacing and stay plates which may be punched full size.
Holes marked 'R.T.' to be reamed through steel templet.
Burrs to be removed from all reamed holes.
Paint—None.

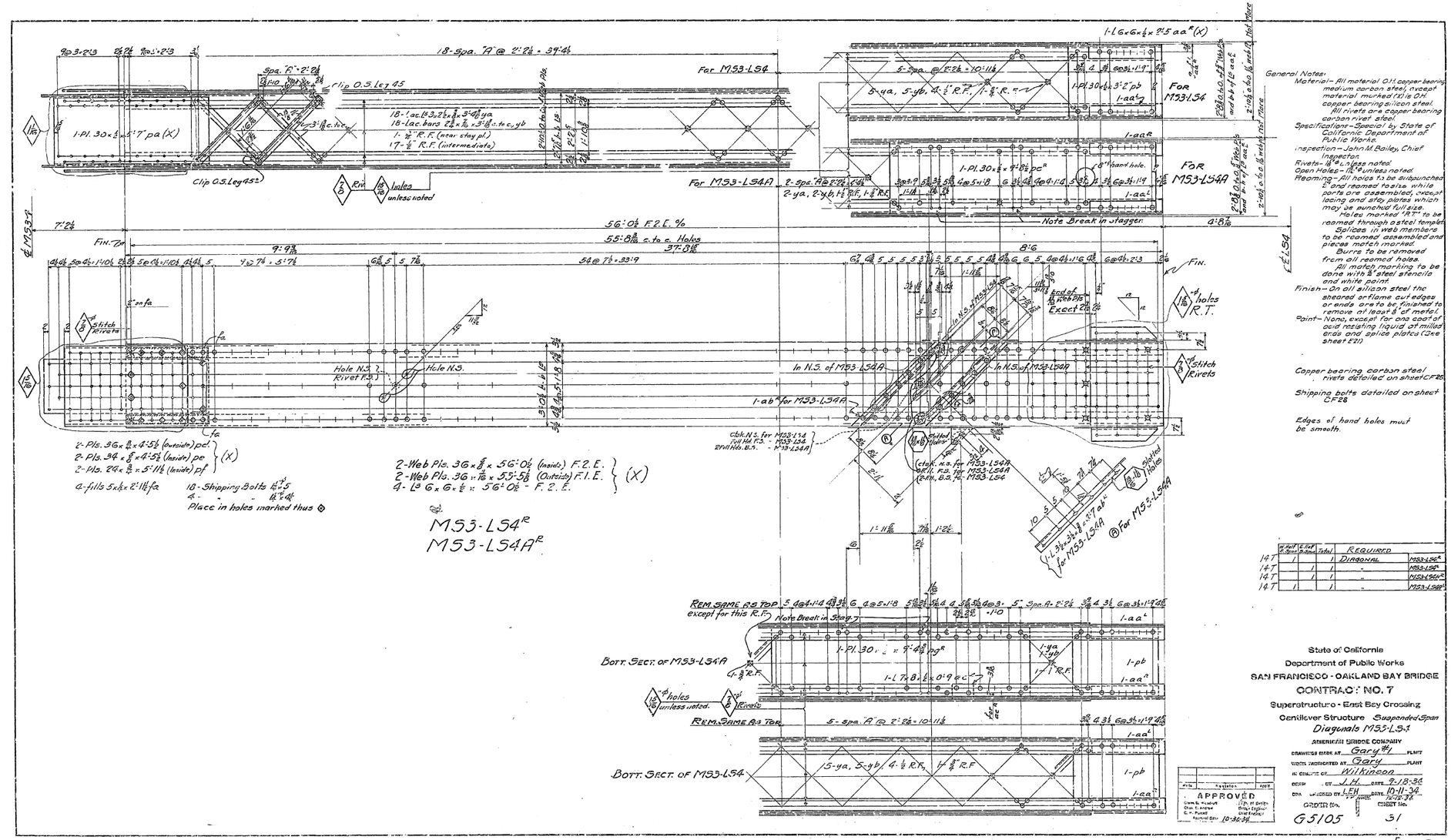
Copper bearing carbon steel rivets detailed on sheet CP24.

	Weight Net	Weight Ext.	Total	REQUIRED	
6	1		1	Diagonal	LS2-MS3R
6		1	1	"	LS2-MS3AR
6	1		1	"	LS2-MS3L
6	1		1	"	LS2-MS3AL

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span
Diagonal LS2-MS3

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
DRAWN BY N.B.G. DATE 9-12-34
DESIGN. CHECKED BY L.E.H. DATE 10-8-34
ORDER No. G-5105
SHEET No. 30

[C]



General Notes:
Material – All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel. All rivets are copper bearing carbon rivet steel.
Specifications – Special by State of California Department of Public Works.
Inspection – John M. Bailey, Chief Inspector.
Rivets – ⅞" ø unless noted.
Open Holes – 1⅛" ø unless noted.
Reaming – All holes to be subpunched 1/4" and reamed to size while parts are assembled, except lacing and stay plates which may be punched full size.
Holes marked "RT" to be reamed through actel template.
Splices in web members to be reamed assembled and pieces match marked.
Burrs to be removed from all reamed holes.
All match marking to be done with ½" steel stencils and white paint.
Finish – On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal. None, except for one coat of acid resisting liquid at milled ends and splice plates (See sheet F21)

Copper bearing carbon steel rivets detailed on sheet CF25

Shipping bolts detailed on sheet CF28

Edges of hand holes must be smooth.

W. Unit E. Unit		Total	REQUIRED	
1		1	DIAGONAL	M33-L54R
	1	1	"	M33-L54AR
	1	1	"	M33-L54AR
1		1	"	M33-L54R

Mk'ds	Variations	Appd

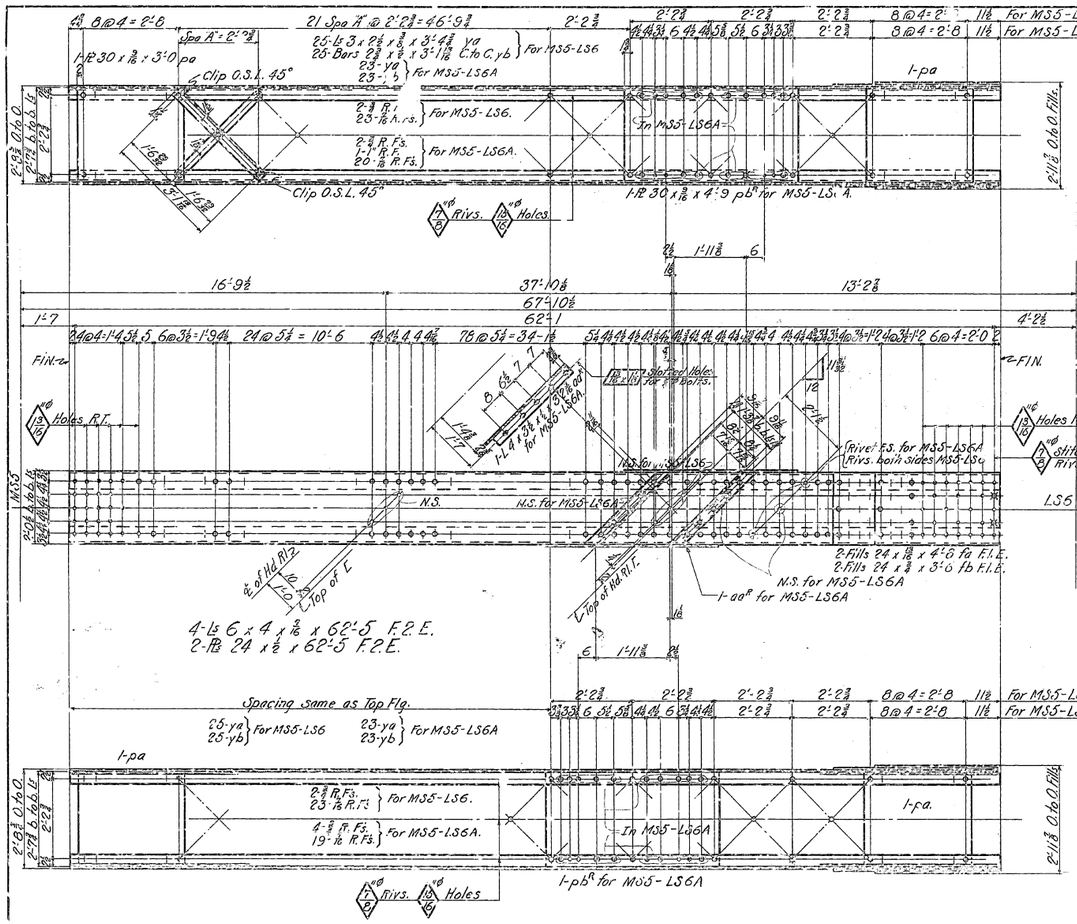
APPROVED
Clem. S. Hyland, Dist. Engineer
Chas. E. Andrew, Chief Engineer
C. H. Purcell, Assistant Engr.
10-30-34

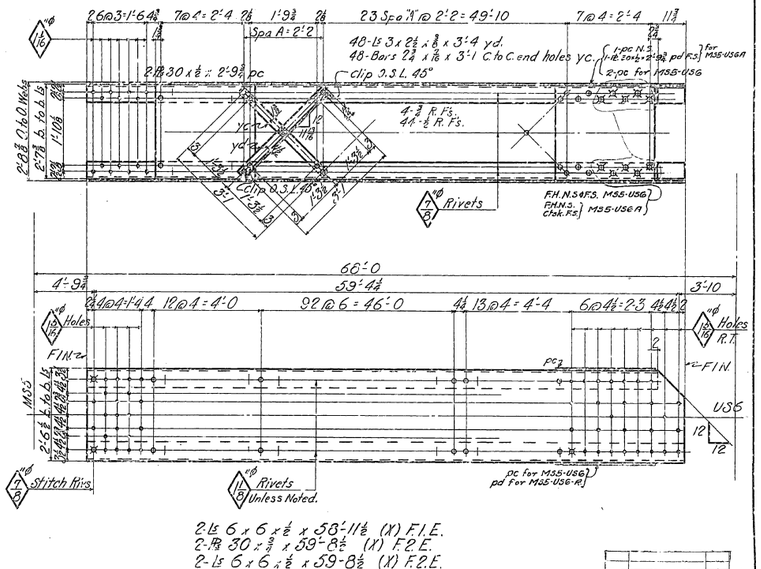
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span
Diagonals M33-L54

AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary, IND. PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
DESIGN BY J.H. DATE 9-18-34
DRN BY LEH DATE 10-11-34
CHKD BY [illegible] DATE 10-26-34

GROUP No. G5105
SHEET No. 31

[B&C]





Mark	Revised	Appd.
	APPROVED	
Chief Engr. Highways		Engr. of Design
Chief Engr. Bridges		Bridge Engineer
Engr. of Tests		Chief Engineer
	Approved Date 11-21-34	

Mark	Part Mark	Total	REQUIRED	
7T	1	1	Diagonal	MS5-LS6R
7T		1	"	MS5-LS6A
7T		1	"	MS5-LS6AR
7T	1	1	"	MS5-US6A
8T	2	2	"	MS5-US6
8T		2	"	MS5-US6A

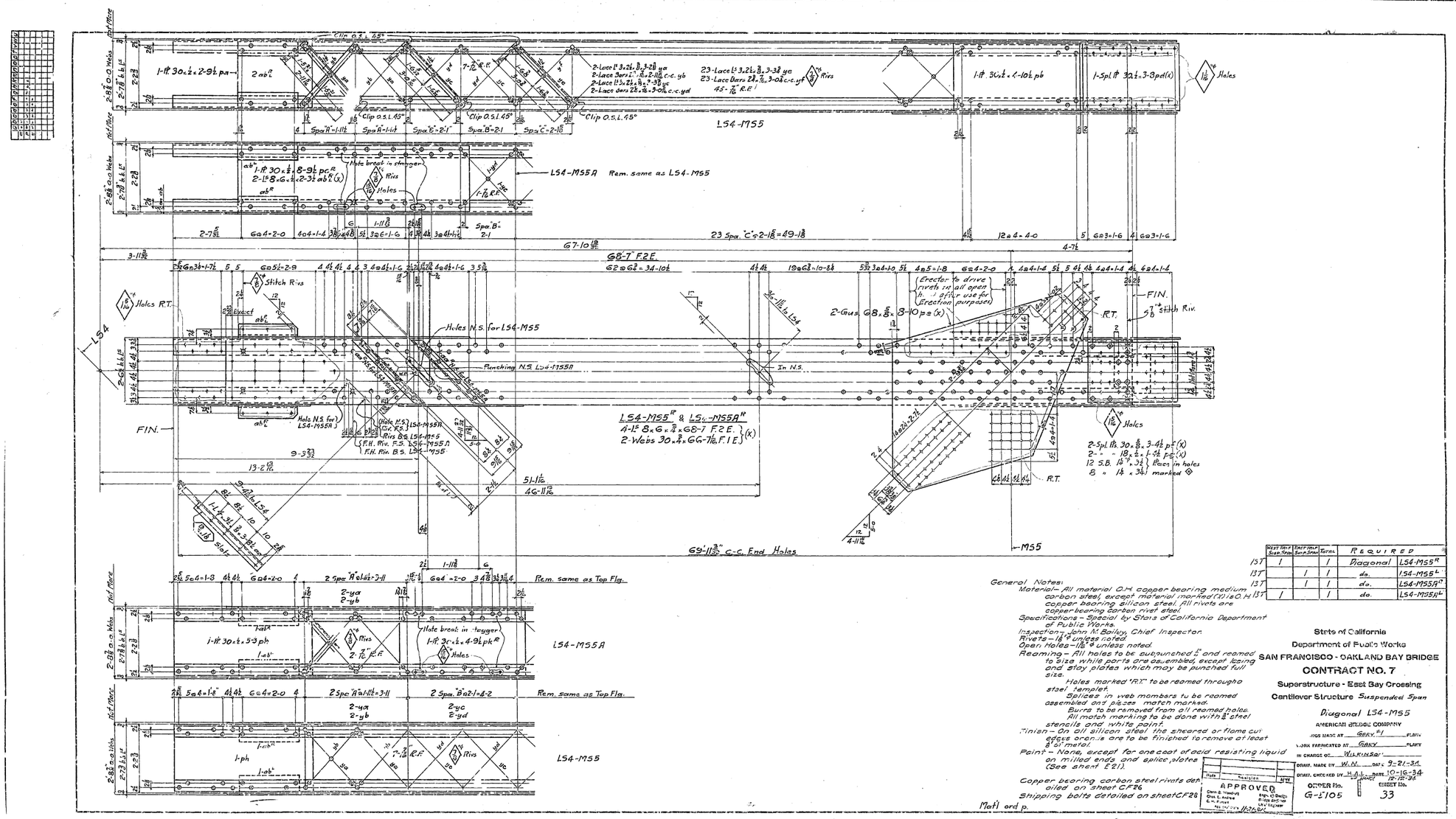
General Notes:
Material- All material OH copper bearing medium carbon steel, except material marked (X) is OH copper bearing silicon steel. All rivets are copper bearing carbon rivet steel.
Specifications- Special by State of California Department of Public Works.
Inspection- John M Bailey, Chief Inspector.
Rivets- 7/8" unless noted.
Open Holes- 1 1/16" unless noted.
Reaming- All holes to be punched 1/4" and reamed to size while parts are assembled, except facing and stay plates which may be punched full size.
Holes marked "RT" to be reamed through a steel templet.
Splices in web members to be reamed assembled and pieces match marked.
Burrs to be removed from all reamed holes.
All match marking to be done with 3/8" steel stencils and white paint.
Finish- On all silicon steel the sheared or flame cut edges or ends are to be finished to remove all scale & of metal.
Paint- None, except for one coat of acid resisting liquid on milled ends.

Copper bearing carbon steel rivets detailed on sheet CF 65

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span
Diagonals MS5-US6 & MS5-LS6

AMERICAN BRIDGE COMPANY
DRAWING FROM AT Gary IND. PLANT
WORK FABRICATED AT Gary PLANT
DATE OF MATERIAL 1934
CHKD. BY M.B.G. DATE 10-19-34
DET'L. CHECKED BY L.E.H. DATE 10-22-34 12-12-34
ORDER No. G-5105 SHEET No. 32

[B&C]



WEST HALF SUPR. SPAN	EAST HALF SUPR SPAN	TOTAL	REQUIRED	
13T	1		1	Diagonal	LS4-M55R
13T		1	1	do.	LS4-M55L
13T		1	1	do.	LS4-M55AR
13T	1		1	do.	LS4-M55AL

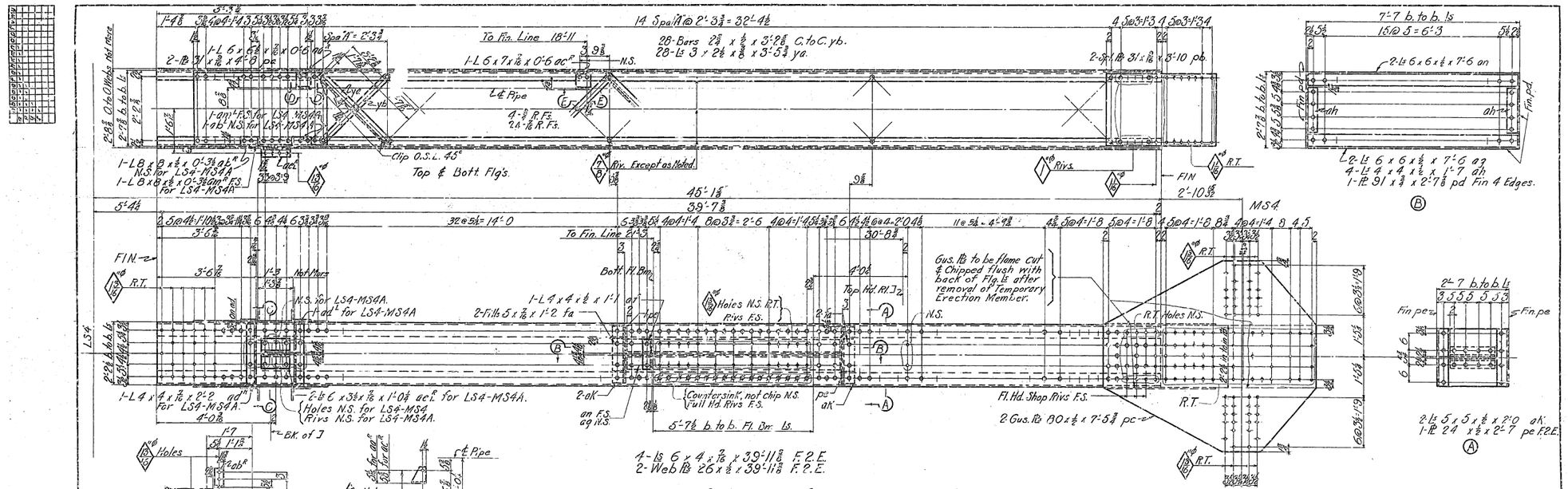
General Notes:
Material – All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel. All rivets are copper bearing carbon rivet steel.
Specifications – Special by State of California Department of Public Works.
Inspection – John M. Bailey, Chief Inspector.
Rivets – 1 1/8" ø unless noted.
Oper. Holes – 1 1/8" ø unless noted.
Reaming – All holes to be subpunched 1/4" and reamed to size while parts are assembled, except lacing and stay plates which may be punched full size.
Holes marked "R.T." to be reamed through a steel templet.
Splices in web members to be reamed assembled and pieces match marked.
Burrs to be removed from all reamed holes.
All match marking to be done with 1/8" steel stencils and white paint.
Finish – On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least 1/4" of metal.
Paint – None, except for one coat of acid resisting liquid on milled ends and splice plates (See sheet E21).
Copper bearing carbon steel rivets def. oiled on sheet CF26
Shipping bolts detailed on sheet CF28

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span
Diagonal LS4-M55
AMERICAN BRIDGE COMPANY
ITEM MADE AT Gary, Ind. PLANT
FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
DRAWN, MADE BY W.N. DATE 9-21-34
DRAWN, CHECKED BY H.G.L. DATE 10-16-34 12-12-34
ORDER No. G-L105
SHEET No. 33

APPROVED
Chas. D. Marx
Chief Engineer
Dec. 12, 1934

[B & C]

30-1



Weld Mat.	Insp.	Rivets	REQUIRED	
ST	/	/	Vertical	LS4-MS4R
ST	/	/	do	LS4-MS4AR
ST	/	/	do	LS4-MS4R
ST	/	/	do	LS4-MS4AR

General Notes:
Material - All material O.H. copper bearing medium carbon steel. All rivets are copper bearing carbon rivet steel.
Specifications - Special by State of California Department of Public Works.
Inspection - John N. Bailey, Chief Inspector.
Rivets - 1" ϕ unless noted.
Open Holes - 1 1/8" ϕ unless noted.
Reaming - All holes to be subpunched & reamed to size while parts are assembled, except lacing, stay plates and diaphragm webs which may be punched full size.
Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Paint - None, except for one coat of acid resisting liquid on milled ends of members and between angles as (See sheet 2.1).
Copper bearing carbon steel rivets detailed on sheet CF26.
Gary Plant to charge portions of plates pc removed in field to contract G14895, giving 68.08 credit for same.

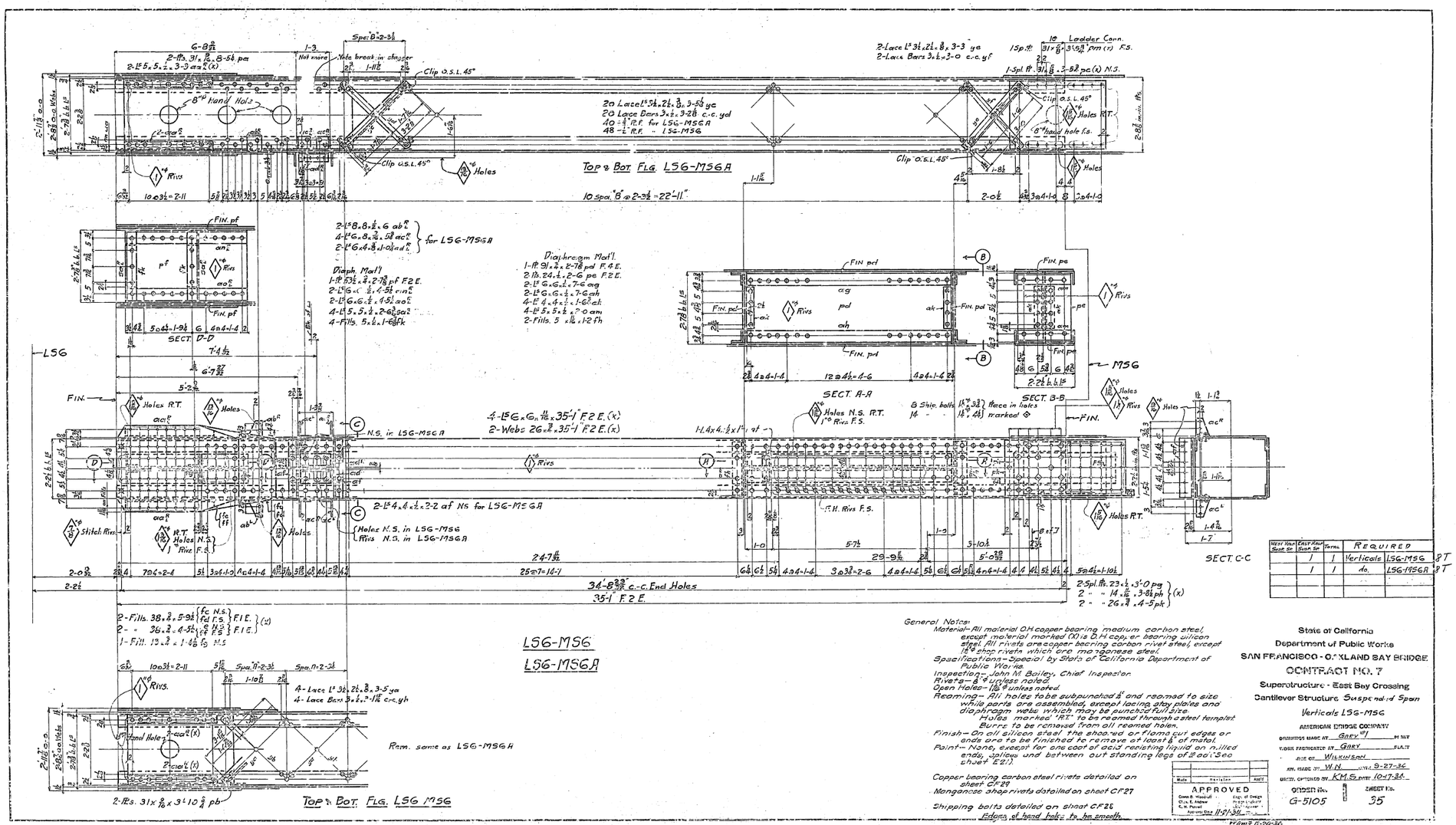
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span
Vertical LS4-MS4

AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary #1 PLANT
WORK FABRICATED AT Gary PLANT
CHIEF OF DIV. J. C. Wilkinson
DRAWN BY N.B.G. DATE 9-24-34
DESIGN. CHECKED BY K.M.S. DATE 10-11-34
SHEET 10-12-34
ORDER No. G-5105
SHEET No. 34.

Mark	Revisions	Appd

APPROVED
Chief Engr. of Div. of Bridges
Chief Engineer
Approved Nov. 11-24-34

[5-7]



General Notes:

Material – All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel. All rivets are copper bearing carbon rivet steel, except 1⅛" shop rivets which are manganese steel.

Specifications – Special by State of California Department of Public Works.

Inspection – John M. Bailey, Chief Inspector.

Rivets – ⅞" unless noted.

Open Holes – 1⅛" unless noted.

Reaming – All holes to be subpunched ¼" and reamed to size while parts are assembled, except lacing bar plates and diaphragm webs, which may be punched full size.
Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.

Finish – On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal.

Paint – None, except for one coat of acid resisting liquid on milled ends, splices and between out standing legs of 8 and 6 (See sheet F2.1).

Copper bearing carbon steel rivets detailed on sheet CF29

Manganese shop rivets detailed on sheet CF27

Shipping bolts detailed on sheet CF26

Edges of hand holes to be smooth.

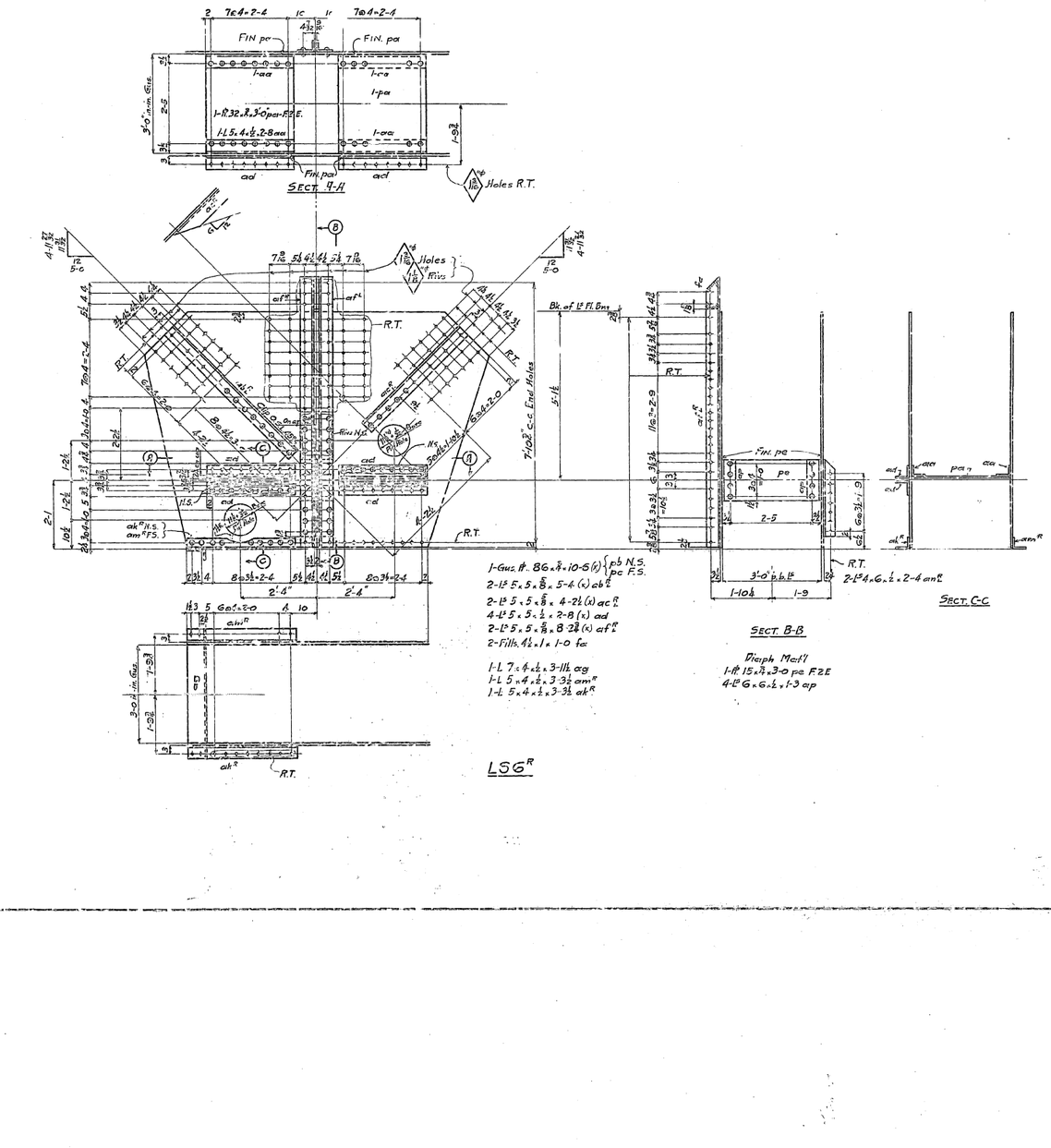
West Haul Span Sp.	East Haul Span Sp.	Total	REQUIRED		
	1	1	Verticals	LSG-MSG	PT
	1	1	do.	LSG-MSG A	PT

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure. Suspended Span
Verticals LSG-MSG

AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary, Ind. BY
WORK FABRICATED AT Gary PLATE
ALSO AT Wilkinsburg
MEN. ISSUED BY W.N. DATE 9-27-34
DRAWN, CHECKED BY K.M.S. DATE 10-17-34

ORDER No. G-5105
SHEET No. 35

[6 & C]



General Notes:
Material– All material O.H. copper bearing medium carbon steel, except material marked (x) is O.H. copper bearing silicon steel. All rivets are copper bearing carbon rivet steel.
Specifications– Special by State of California Department of Public Works.
Inspection – John M. Bailey, Chief Inspector.
Rivets – 1" ϕ unless noted.
Open Holes – 15/16" ϕ unless noted.
Reaming – All holes to be subpunched 1/4" and reamed to size while parts are assembled, except diaphragm webs which may be punched full size. Holes marked "RT" to be reamed through a steel template.
Burrs to be removed from all reamed holes.
Finish – On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least 1/8" of metal.
Paint – None, except for one coat of acid resisting liquid between Outstanding legs of angles ad, af, & an. (See sh. E21) And pin holes to have one coat of white lead and tallow.

Copper bearing carbon steel rivets detailed on sheet CF29

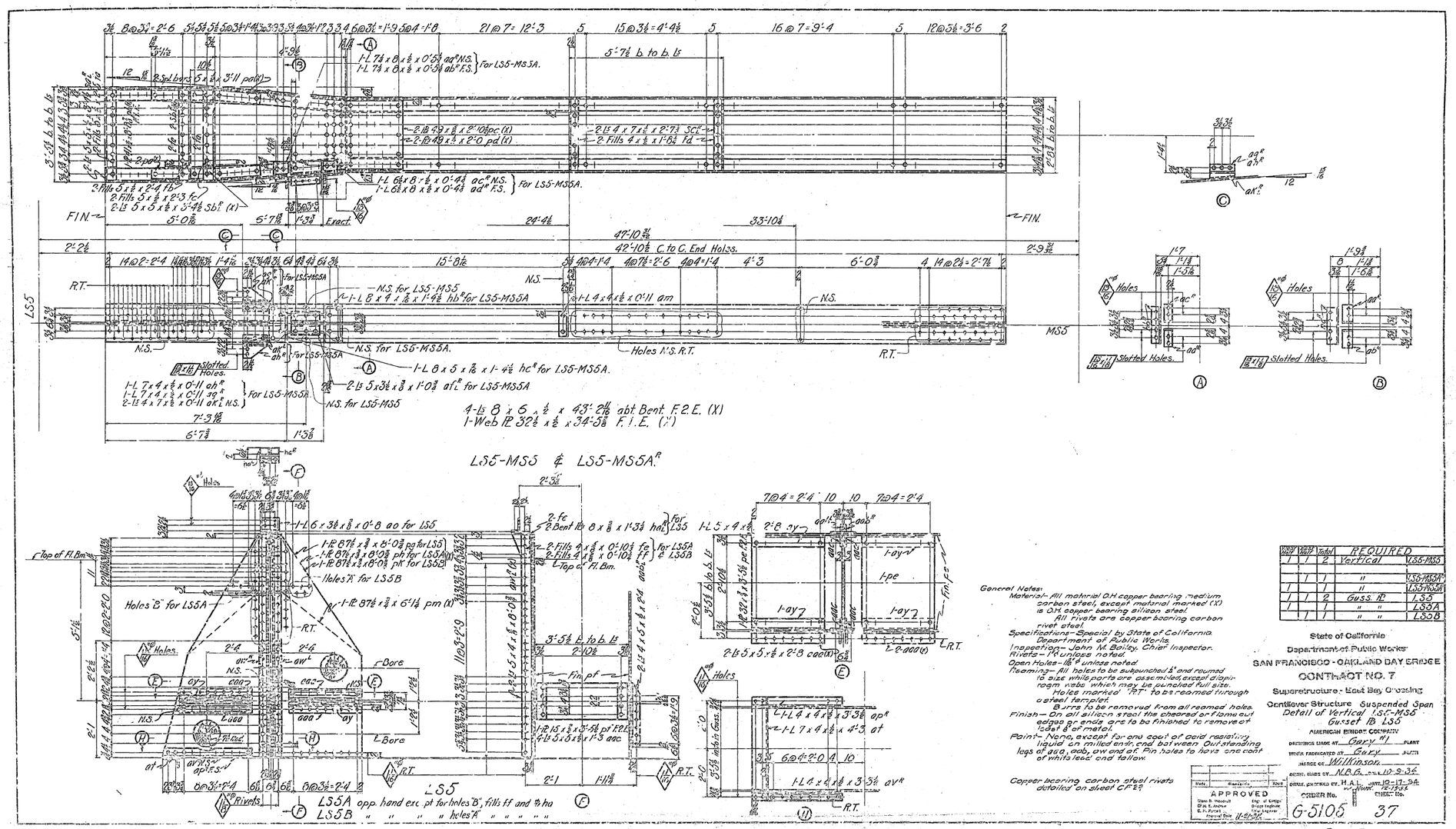
West End Span Shop Mk	East End Span Shop Mk	Parts	REQUIRED	
	1	1	GUSSET	L5G R
	1	1	do.	L5G L

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span
Gussets at L5G
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT GARY, IND. PLATE
WORK FABRICATED AT GARY PLANT
BY DESIGNED BY WILKINSON
TRACED BY W.N. DATE 10-2-34
DETAIL CHECKED BY H.L.L. DATE 10-22-34
ORDER No. G-5105
STRUCT. No. 36

APPROVED
Chas. C. Wendt, Chas. E. Andrew, C. M. Priest
Engr. of Bridges
Division Engineer
Asst. Engineer
Approved Date 11-21-34

Rev. 12-22-34

[B & C]



General Notes:
Material – All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel. All rivets are copper bearing carbon rivet steel.
Specifications – Special by State of California Department of Public Works.
Inspection – John M. Bailey, Chief Inspector.
Rivets – ¾" unless noted.
Open Holes – 1⅛" unless noted.
Reaming – All holes to be subpunched ⅛" and reamed to size while parts are assembling except diaphragm webs which may be punched full size. Holes marked "RT" to be reamed through a steel templet. Burrs to be removed from all reamed holes.
Finish – On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal.
Paint – None, except for one coat of acid resisting liquid on milled ends, and between out-standing legs of aq, ab, aw and af. Pin holes to have one coat of white lead and tallow.
Copper bearing carbon steel rivets detailed on sheet CF 29.

Web	Web	Total	REQUIRED	
/	/	2	Vertical	LS5-MS5
			"	LS5-MS5A
/	/	/	"	LS5^R-MS5A
/	/	2	Guss. PL	LS5
/	/	/	" "	LS5A
		/	" "	LS5B

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span
Detail of Vertical LS5-MS5
Gusset PL LS5
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Gary PLANT
ERECTED BY Wilkinson
DESIGN. MADE BY N.B.G. DATE 10-9-36
DESIGN. CHECKED BY H.A.L. DATE 10-17-36
DRAWN 12-17-36 CHECK No.
ORDER No. G-5105 37

APPROVED
Chas. D. Hossfeld, Engr. of Bridges
O.M.E. Hoehne, Bridge Engineer
E.H. Purkis, Chief Engineer
Approval Date 11-30-36

[B-C]

30-1

FB6-FB8-FB10-FB12

FB7 opp hand of FB6 } except for Rivs. 'A', fm51, sd51'E,
FB11 opp hand of FB10 } ce51'E, at51'E, at sec. 'G'; + holes 'E'

FB9 opp hand of FB8 except for Rivs. 'A', fm51, sd51'E, ce51'E, at51'E, at sec. 'G'; + holes 'C'

NOTE:
Holes 'E' to be filled with rivets before member is placed in permanent position.
Holes 'F' in FB8-FB10-FB12 to be filled with rivets before member is placed in permanent position.

APPROVED
Edwin M. Hastedt, Chief Engr. of Design
Chas. E. Andrew, Bridge Engineer
G. H. Purcell, Assistant Engineer
Approval Date 8-27-34

(Rev 9-26-34)
(Rev 1-10-17-35)-B

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure
Suspended Span
Lower Deck Floor Beams
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary PLANT
WORK FABRICATED AT Gary PLANT
ERECTING OVER Wilkinson
ERECTG. MADE BY P.H.C. DATE 6-5-34
DRAFTG. CHECKED BY Amf DATE 7-12-34
DRAWN 12-19-34

ORDER No. G5105 SHEET No. 51AB

Stiffener Diagrams

Stiffener Diagram for FB6

Camber and Finishing Diagram

NOTE.-
Holes 'E' are to be filled with rivets before member is placed in permanent position.

NOTE:
The following material on each FB7, FB9 & FB11 take charged to Cont. 61 K 4835 giving G5105 credit for same: 2-sq. 5/16", 8 fpp St.
For each FB6, FB7, FB8, FB9, FB10, FB11, and FB12 charge 6 K 4855 with 364 lbs. excess splice material which has been added for erection purposes, giving G5105 credit for same.

GENERAL NOTES:
Material- All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel. All rivet steel to be copper bearing.
Specifications- Special by State of California Department of Public Works.
Inspection- John M. Bailey, Chief Inspector.
Rivets- 7/8" unless noted.
Open Holes- 15/16" unless noted.
Reaming- All holes to be subpunched 1/4" and reamed to size while parts are assembled, except material over 3/4" thick to be sub-drilled.
Holes marked RT. to be reamed through a steel templet.

Burrs to be removed from all reamed holes.
Finish- On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least 1/8" of metal.
Paint- None, except for one coat of acid resisting (paint as shown in sections 'm', 'n', 'p' & 'w' and on milled ends.

Copper bearing carbon steel rivets detailed on sheet CF8

Floor Beams FB6-FB7-FB12 to be used temporarily in erection bents for West & East anchor arms.
Floor Beams FB8-FB9-FB10-FB11 to be used temporarily in erection bent for East anchor arm.

Mat'l for FB12 and pp. 441-461
Mat'l for FB6 & 7 and pp. 637-658

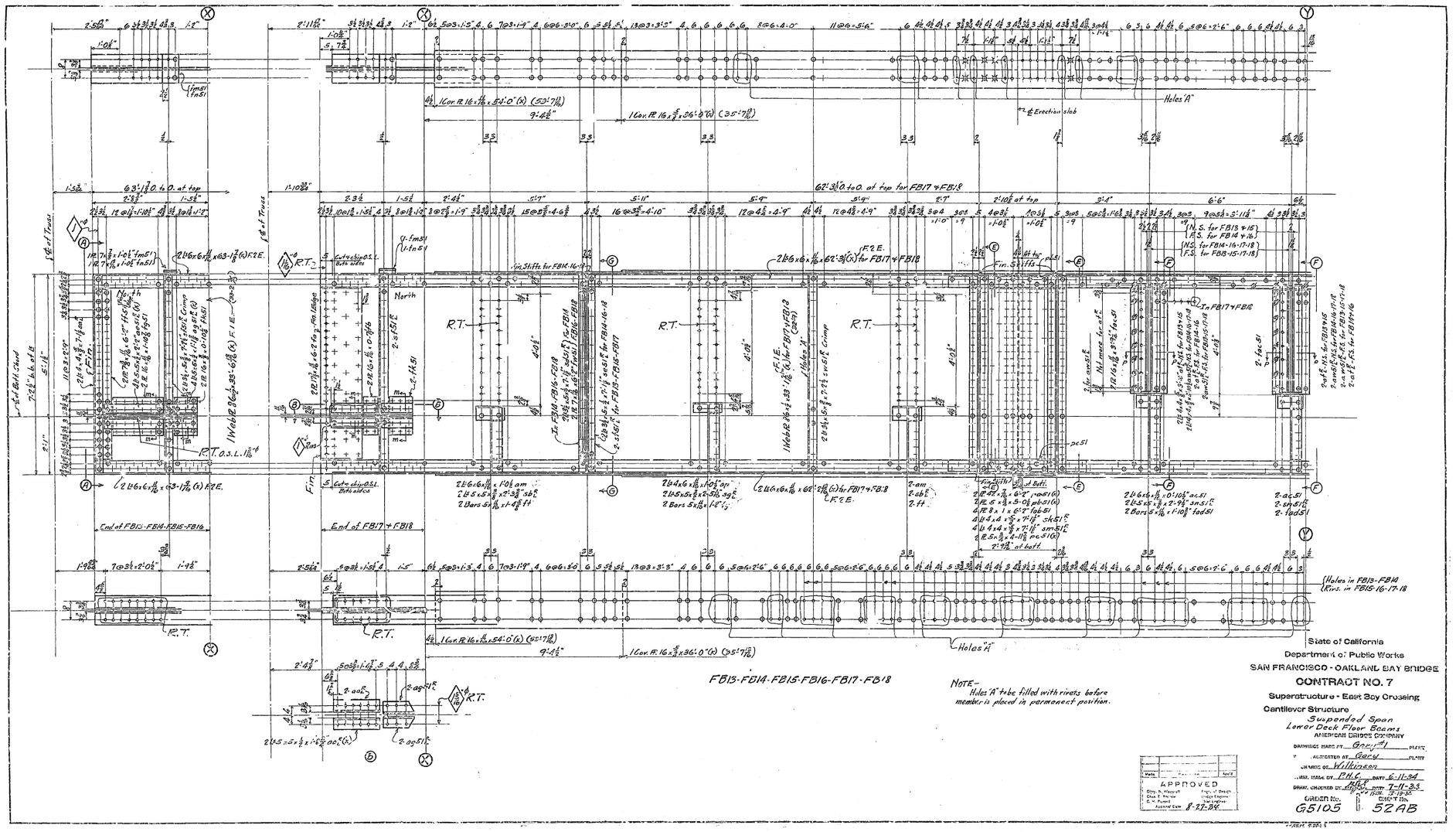
APPROVED		
Mark	Revision	Appd.
Glenn B. Woodruff, Chief Engr.	Engr. of Design, Bridge Engineer	
C. H. Purcell, Approval Date	City of Oakland, 8-27-36	

REQUIRED			
1ST	1	Floor Beam	FB6
1ST	1	" "	FB7
1ST	1	" "	FB8
1ST	1	" "	FB9
1ST	1	" "	FB10
1ST	1	" "	FB11
1ST	1	" "	FB12

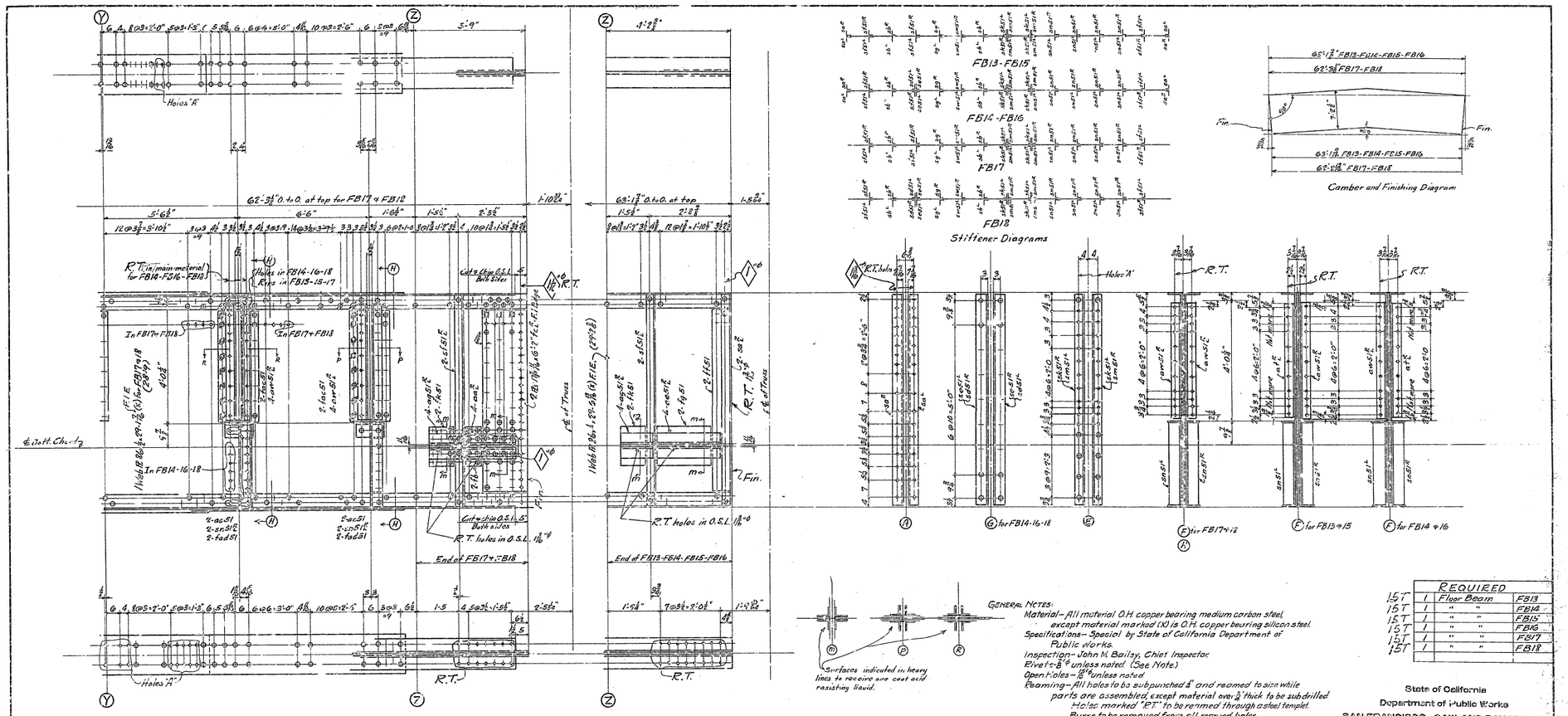
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure
Suspended Span
Lower Deck Floor Beams
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Gary PLANT
CHECK BY Wilkinson
DETAIL MADE BY P.H.C. DATE 6-7-36
TRACE CHECKED BY Ahrt DATE 7-12-36
12-19-36
ORDER No. G5105 SHEET No. 51B

Rev. 7-10-36
Rev. 10-5-36

30-1


FB13-FB14-FB15-FB16-FB17-FB18
NOTE—
Holes "A" to be filled with rivets before member is placed in permanent position.
APPROVED
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure
Suspended Span
Lower Deck Floor Beams
AMERICAN BRIDGE COMPANY
DRAWING MADE BY Gary
TRACED BY Gary
CHECKED BY Wilkinson
LAYOUT MADE BY PHC DATE 6-11-34
DRAWN, CHECKED BY PHC DATE 7-11-34
ORDER No. G5105
SHEET No. 52AB

30-M



Stiffener Diagrams

Camber and Finishing Diagram

NOTE:
Holes 'A' to be filled with rivets before member is placed in permanent position.

NOTE:-
The following material on each FB14, FB16 & FB18 to be charged to Cont. G1K4835 giving G5105 credit for same:
2-sd51E, 2-fw51.
For each FB13, FB14, FB15, FB16, FB17, FB18 charge G1K4835 with 2064 lbs. excess splice material which has been added for erection purposes, giving G5105 credit for same.

General Notes:
Material – All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel.
Specifications – Special by State of California Department of Public Works.
Inspection – John K. Bailey, Chief Inspector.
Rivets – ⅞" ϕ unless noted (See Note)
Open Holes – 15/16" ϕ unless noted
Reaming – All holes to be subpunched ⅞" and reamed to size while parts are assembled, except material over ½" thick to be subdrilled. Holes marked "RT" to be reamed through a steel templet. Burrs to be removed from all reamed holes.
Finish – On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal.

Paint – None, except for one coat of acid resisting liquid as noted on sections (m), (P), (R) and on milled ends.

Note – All rivet steel to be copper bearing.
Copper bearing carbon steel rivets detailed on sheet CF9

REQUIRED			
1 ST	1	Floor Beam	FB13
1 ST	1	" "	FB14
1 ST	1	" "	FB15
1 ST	1	" "	FB16
1 ST	1	" "	FB17
1 ST	1	" "	FB18

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure
Suspended Span
Lower Deck Floor Beams
MICHIGAN BRIDGE COMPANY

DRAWING MADE AT: Gary Ind. PLANT
WORK INSPECTED AT: Gary PLANT
BY: J. C. Wilkins
E. H. C. DATE: 10-12-34
DRAFT. CHECKED BY: [illegible] DATE: 7-11-35
TRACED: 10-19-36
CHECKED: [illegible]
COPIED: [illegible]
COPIED No. G5105
PRINT No. 52B

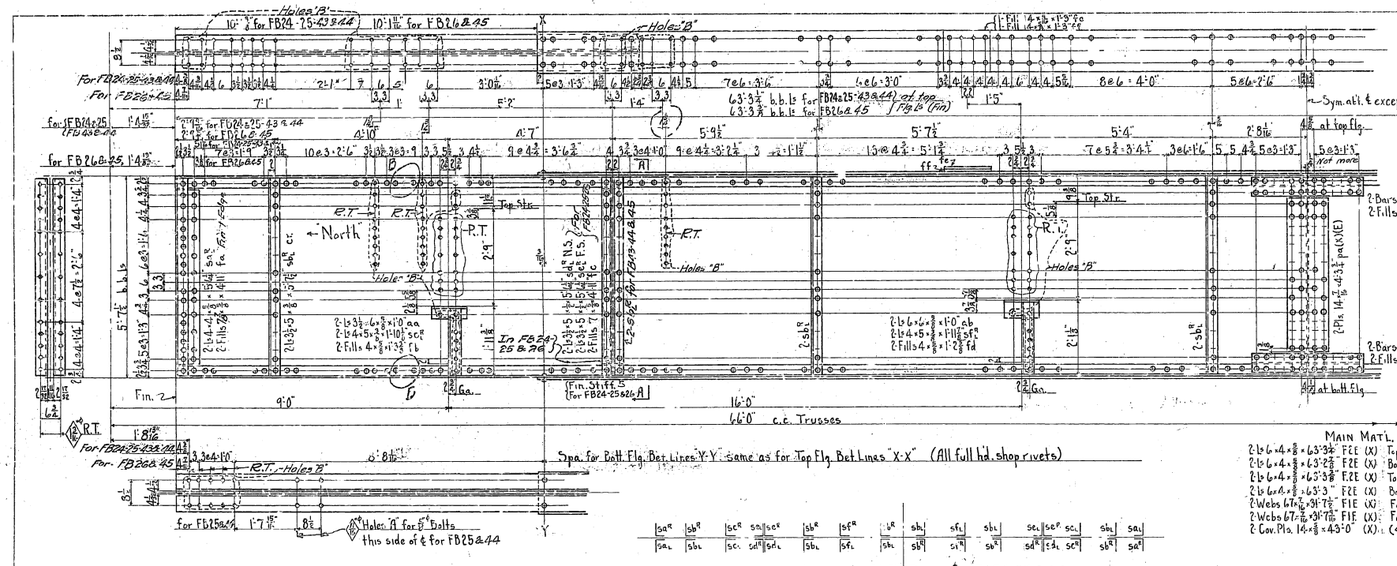
Mark	Notation	Date
	APPROVED	
	Chas. D. Wisely, Engr. of Design	
	Chas. E. Andrew, Bridge Engineer	
	C. H. Purcell, Chief Engineer	
	Approved Date: 8-27-36	

Floor Beams FB13 & FB14 to be used temporarily in erection bents for West and East Anchor Arms.
Floor Beams FB15-FB16-FB17-FB18 to be used temporarily in erection bent for East Anchor Arm.

Draft 4-26-35
Revised 7-18-36
Revised 10-20-36

Draft for FB15-FB16-FB17 & FB18 - G-M sp. 5065507
Mat'l for FB15 & 16 and FB17 & 18 ord. 1-589-040

L64d



Stiff. Diag. for FB 24-25 & 26

Stiff Diag for FB 43-44 & 45

MAIN MATL.

2-PL 6-4 x 7/8 x 63'-3 1/2"	FZE (X)	Top Flg. For FB24-25-43 & 44
2-PL 6-4 x 7/8 x 63'-2 7/8"	FZE (X)	Bott. Flg. For FB24-25-43 & 44
2-PL 6-4 x 7/8 x 63'-3 5/8"	FZE (X)	Top Flg. For FB26 & 45
2-PL 6-4 x 7/8 x 63'-3"	FZE (X)	Bott. Flg. For FB26 & 45
2-Webs 67 7/8 x 31'-7 1/2"	FIE (X)	For FB24-25-43 & 44 (31'-3 7/8")
2-Webs 67 7/8 x 31'-7 5/8"	FIE (X)	For FB 26 & 45 (31'-3 3/8")
2-Cov. Pls. 14 x 3/8 x 43'-0"	(X)	(42'-8)

Erector Note: Holes 'B' to be filled with rivets after member is used during erection.

West End	East End	Total	REQUIRED	MARK
	1	1	Fl. Beams	FB24
	1	1	do	FB25
	1	1	do	FB26
1		1	do	FB43
1		1	do	FB44
1		1	do	FB45

GENERAL NOTES:

Material – All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel. All rivet steel copper bearing.
Specifications – Special by State of California Department of Public Works.
Inspection – John M. Bailey, Chief Inspector.
Rivets – 7/8"ϕ
Open Holes – 15/16"ϕ unless noted
Reaming – All holes to be subpunched 1/4" and reamed to size while parts are assembled.
Holes marked 'RT' to be reamed through a steel templet
Burrs to be removed from all reamed holes.
Finish – On all silicon steel the sheared or flame cut edges or ends are to be finished so as to remove at least 1/8" of metal.
Paint – None except one coat red rusting linseed oil mixed ends.

Copper bearing carbon steel rivets detailed on sheet CF6.

Note: The following material on each of FB24, FB25 & FB26 to be changed to Com. Dwg. A235 giving G5105 detail for same. -2-8-34 -4-7-34

APPROVED
Dept. of Public Works Bridge Engineer
Chief Engineer
8-17-34

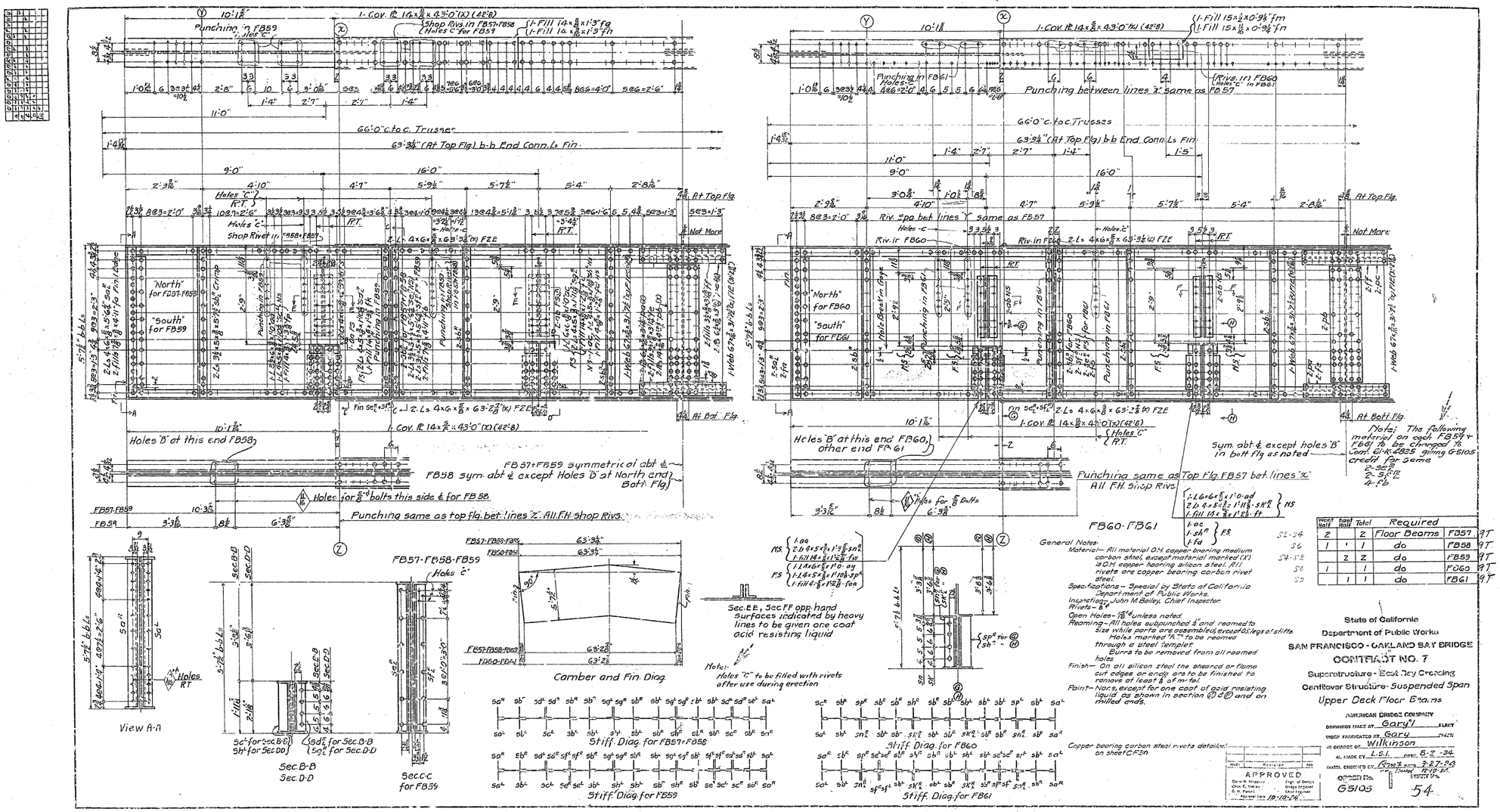
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span
Fl. Bms. Upper Deck.

AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary #1 PLANT
WORK FABRICATED AT Gary PLANT
INDEX OF Wilkinson
DRWG. MADE BY RHA DATE 5/28/34
DRWG. CHECKED BY Rust DATE 6-5-34
ORDER NO. G5105
SHEET NO. 53

All material on this sheet used temporarily for Erection of West & East Anchor Arms.

Prel. Ord. 925, 930 M1-15-1934 [Bhc]
Rev 9-24-34
Rev 10-2-34 K
Rev 10-22-34

30-51



Weight Half	Band Half	Total	Required	
2		2	Floor Beams	FB57 9T
1	1	1	do	FB58 9T
	2	2	do	FB59 9T
1		1	do	FB60 9T
	1	1	do	FB61 9T

S2-S4
S6
S4-S8
S5
S9

General Notes:
Material— All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel. All rivets are copper bearing carbon rivet steel.
Specifications— Special by State of California Department of Public Works.
Inspection— John M. Bailey, Chief Inspector.
Rivets— ⅞"ø
Open Holes— 1⅛"ø unless noted.
Reaming— All holes subpunched ⅝" and reamed to size while parts are assembled, except OS legs of stiffs. Holes marked "R" to be reamed through a steel templet. Burrs to be removed from all reamed holes.
Finish— On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛ of material.
Paint— None, except for one coat of acid resisting liquid as shown in section ⓕ ⓓ ⓔ and on milled ends.
Copper bearing carbon steel rivets detailed on sheet CF3n

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure - Suspended Span
Upper Deck Floor Beams

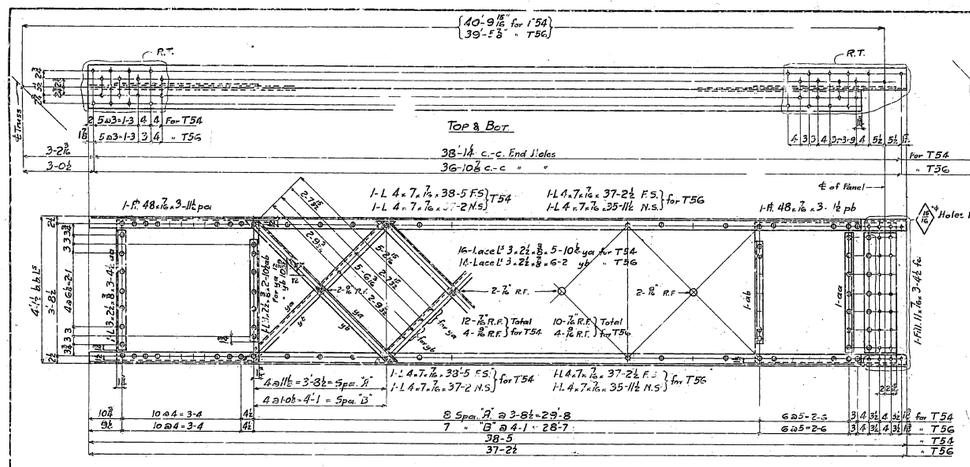
AMERICAN BRIDGE COMPANY
DRAWING TRACED BY Gary — PLATE
WORK FABRICATED BY Gary — PLATE
IN CHARGE OF Wilkinson
AS MADE BY L.S.L. DATE 8-2-34
DETAIL CHECKED BY [illegible] DATE 3-27-34
TRACED 12-10-31

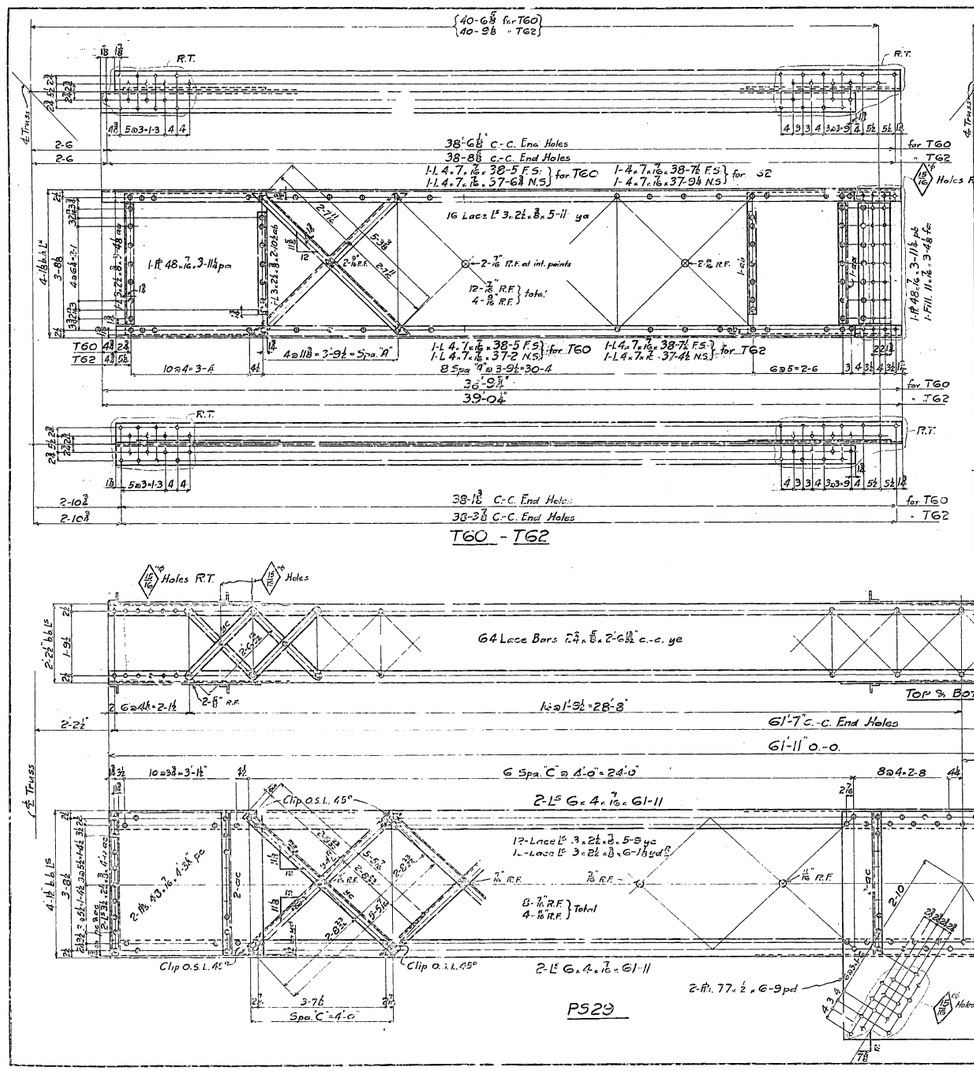
APPROVED
Chief Engr. of Bridges
Chief Engineer
DATE 10-12-34

OFFICE No. G5105
54

[B+C]

30-51


Top & Bot.
38'-1¼ c.-c. End Holes
36'-10⅛ c.-c. "
for T54
" T56
1-L 4 x 7/16 x 38-5 F.S. } T54
1-L 4 x 7/16 x " " N.S. }
1-L 4 x 7/16 x 37-2½ F.S. } for T56
1-L 4 x 7/16 x 35-11¼ N.S. }
1-ft 48 x 7/16 x 3-11¼ pa
1-ft 48 x 7/16 x 3-½ pb
1-Fill 11 x 7/16 x 3-4⅛ fa
Holes R.T.
14-Lace L 3 x 2½ x ⅜ x 5-10⅛ ya for T54
14-Lace L 3 x 2½ x ⅜ x 6-2 " for T56
2-⅞" R.F.
12-⅞" R.F. } Total for T54
4-⅞" R.F. }
10-⅞" R.F. } Total for T56
4-⅞" R.F. }
1-L 4 x 7/16 x 33'-5 F.S. } for T54
1-L 4 x 7/16 x 37'-2 N.S. }
1-L 4 x 7/16 x 37-2½ F.S. } for T56
1-L 4 x 7/16 x 35-11¼ N.S. }
4 @ 11⅛ = 3'-8½ = Spa. "A"
4 @ 10⅝ - 4'-1 = Spa. "B"
8 Spa. "A" @ 3-8½ = 29'-8
7 " "B" @ 4-1 = 28-7
38-5
37-2½
for T54
" T56
T54 & T56
40'-6⅝
Top & Bot.
37'-10⅛" C-C End Holes
1-L 4 x 7/16 x 38-1⅛ F.S.
1-L 4 x 7/16 x 36-10⅛ N.S.
16 Lace L 3 x 2½ x ⅝ x 5-10⅝ yd
1-ft 48 x 7/16 x 3-11¼ pd
1-Fill 11 x 7/16 x 3-4⅝ fb
2-⅞" R.F.
2-⅞" R.F. int. points
12-⅞" R.F. } Total
4-⅞" R.F. }
1-L 4 x 7/16 x 38-1⅛ F.S.
1-L 4 x 7/16 x 36-10⅛ N.S.
4 @ 11⅛ = 3-8½ = Spa "D"
8 Spa. "D" @ 3-8½ = 29'-8
38-1⅛
Holes R.T.
T58
GENERAL NOTES:-
Material:- All material O.H. copper-bearing medium carbon steel. All rivets to be copper bearing carbon rivet steel.
Specifications:- Special by State of California Department of Public Works.
Inspection:- John M. Bailey, Chief Inspector.
Rivets: ⅞"ø
Open Holes 1⅛"ø unless noted.
Reaming:- All holes to be subpunched ¼" and reamed to size while parts are assembled except lacing and tie plates, which may be punched full size.
Holes marked R.T. to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Paint:- None.
Copper bearing rivets detailed on sh. CF3
(10'-9⅞" for T55
(39'-5⅛ " T57)
Top & Bot.
36-7¼ c.c. End Holes
35-3⅜ C. C. End Holes
for T55
" T57
2-L 4.7/16 x 36-11¼ for T55
2-L 4.7/16 x 35-7¼ for T57
14 yb for T55
14 Lace L 3 x 2½ x ⅜ G-0⅞ yc for T57
2-⅞" R.F. int. points
10-⅞" R.F. } Total
4-⅞" R.F. }
2-L 4.7/16 x 36-11¼ for T55
2-L 4.7/16 x 35-7¼ " T57
4 @ 10-0⅜ - 4'-1 = Spa. "B"
4 @ 11⅜ = 3'-11 = Spa. "C"
7 Spa. "B" @ 4-1 = 23-7
7 " "C" @ 3'-11 = 27-5
36-11¼
35-7¼
for T55
" T57
T55 & T57
40'-6⅝
Top & Bot.
36'-4⅜" c.-c. End Holes
4 @ 10-0⅜ - 4-1 = Spa "E"
14 Lace L 3 x 2½ x ⅜ G-1⅜ ye
2-L 4 x 7/16 x 36-8
10-⅞" R.F. } Total
4-⅞" R.F. }
2-⅞" R.F. at ends
8-⅞" R.F. at int. joints
2-L 4 x 7/16 x 36-8
10 @ 4-3-4
7 Spa. E @ 4-1-28-7
10 @ 4-3-4
36-6
T59
WEST Roadway Span No. | EAST Roadway Span No. | Total | REQUIRED
2 | 2 | 4 | Top Laterals | T54
2 | 2 | 4 | do. | T55
2 | 2 | 4 | do. | T56
2 | 2 | 4 | do. | T57
1 | 1 | 2 | do. | T58
1 | 1 | 2 | do | T59
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure - Suspended Span
TOP LATERALS
AMERICAN BRIDGE COMPANY
DRAWING MADE AT GARY "I" PLANT
WORK FABRICATED AT GARY PLANT
IN CHARGE OF W.H. HANSON
MADE BY W.N. DATE 7-2-34
INVST. CHECKED BY OMM DATE 8-21-34
ORDER No. G5105
SHEET No. 71
APPROVED
Chief Engineer
Engr. of Design
Bridge Engineer
Asst. Engineer
9-7-34
4T5A, 4T55, 2T58 & 2T59 used temporarily in Erection Berth #13
(2-T56 (E) Used temporarily in Erection Berth #16)
(Rev. 10-7-34)
Main Matl C.S. p. 429 W.H. [C]
Revd 12-20-34
" A.S.M. 9-12-35



GENERAL NOTES:
Material:- All material O.H. copper bearing medium carbon steel. All rivets to be copper bearing carbon rivet steel.
Specifications: Special by State of California Department of Public Works.
Inspection:- John M. Bailey, Chief Inspector.
Prints:- 6 ea
Open Holes 1⅛" unless noted
Reaming:- All holes to be subpunched ¼" and reamed to size while parts are assembled except lacing and tie plates, which may be punched full size. Holes marked R.T. to be reamed through a steel templet. Burrs to be removed from all reamed holes.
Paint:- None.

Copper bearing rivets detailed on sh. CF4

West End Bent 2A	East End Bent 3	Total	REQUIRED	
1	1	2	Top Laterals	T60
1	1	2	do.	T61
6	6	12	Top Laterals	T62
6	6	12	do.	T63
1	1	2	Top Struts	PS29

6T

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span
Top Laterals and Struts U50
AMERICAN BRIDGE COMPANY
DETAILING MADE AT GARY, IND., PLANT
WORK FABRICATED AT GARY PLANT
IN CHARGE OF WILKINSON
MAT'L MADE BY W.H. DATE 7-9-36
DRWG. CHECKED BY DATE 8-21-36

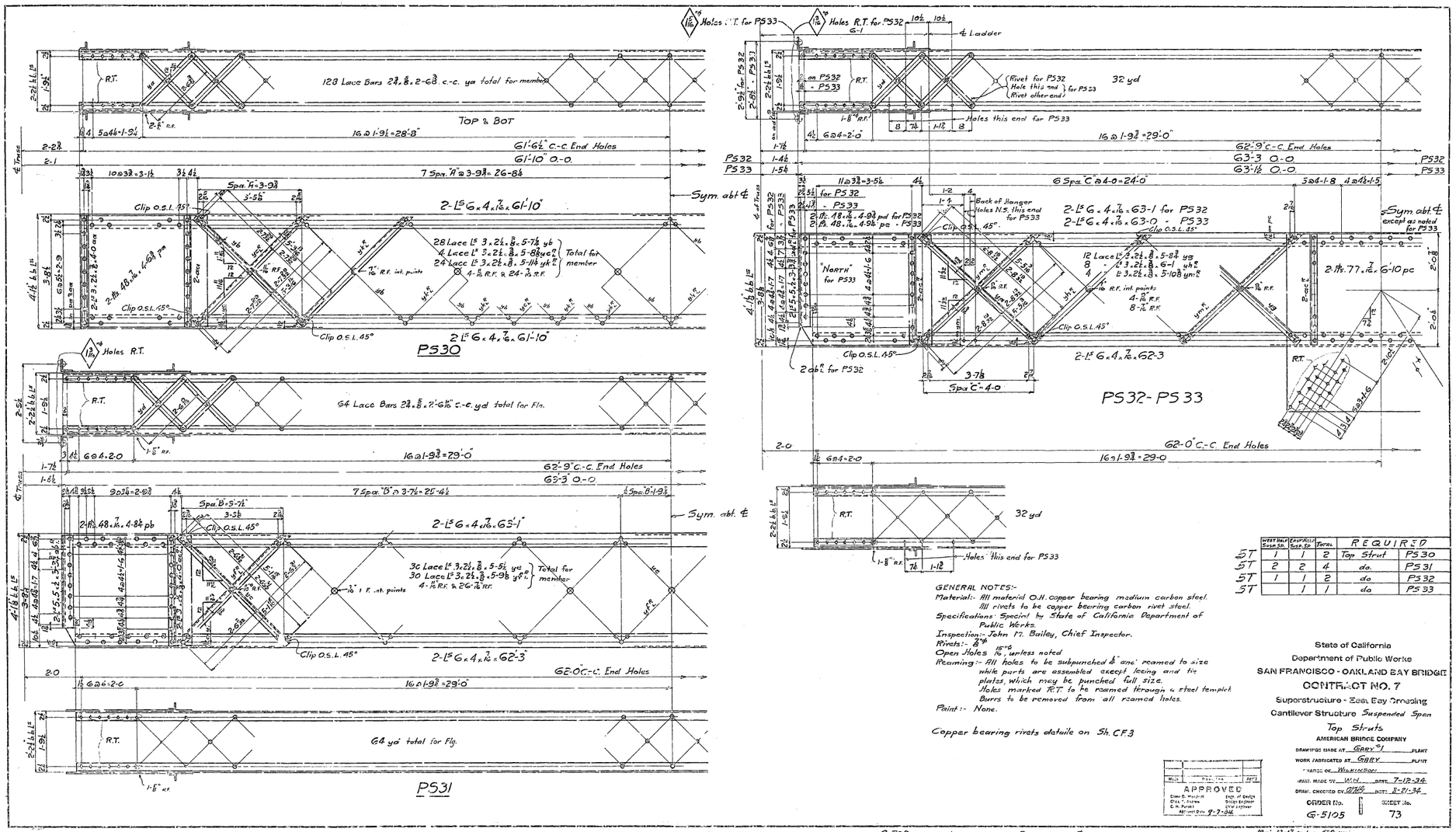
MARK	REVISIONS	DATE
	APPROVED	

ORDER No. G5105
SHEET No. 72

2-PS29 used temporarily at U46 and U42 East & West Anchor Arms.
12-T62 and 12-T63 used temporarily in Erection Bents 14, 15 and 17

Main Mat'l and p. 429 and 430 W.H. 427 and 428.

[C]

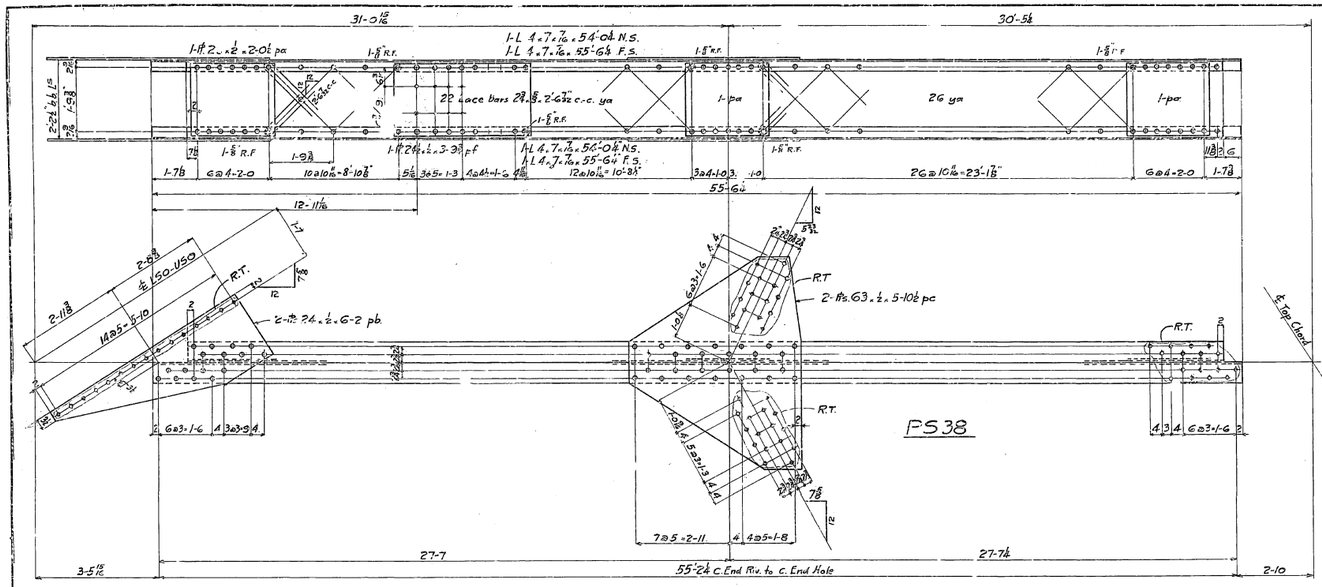


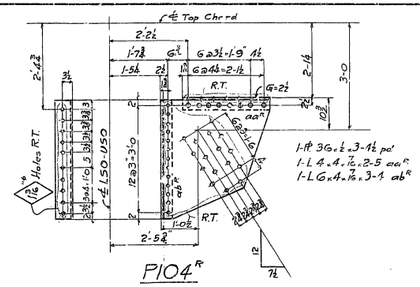
	WEST HALF Sway Sp.	EAST HALF Sway Sp.	Total	REQUIRED	
ST	1	1	2	Top Strut	PS30
ST	2	2	4	do.	PS31
ST	1	1	2	do	PS32
ST		1	1	do	PS33

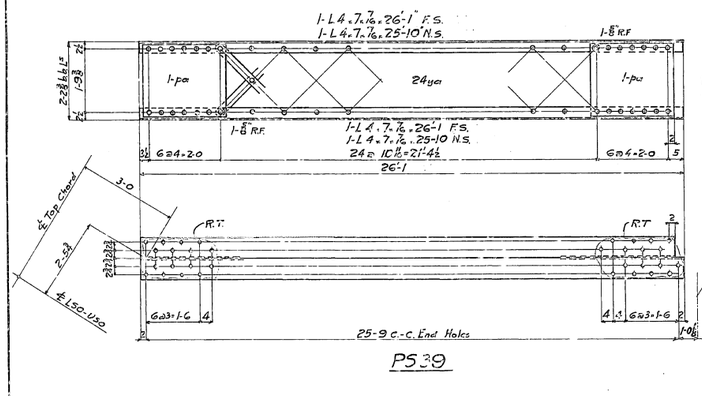
GENERAL NOTES:-
Material:- All material O.H. copper bearing medium carbon steel. All rivets to be copper bearing carbon rivet steel.
Specifications:- Special by State of California Department of Public Works.
Inspection:- John M. Bailey, Chief Inspector.
Rivets:- ⅞" ø
Open Holes 15/16", unless noted
Reaming:- All holes to be subpunched & reamed to size while parts are assembled except facing end tie plates, which may be punched full size. Holes marked R.T. to be reamed through a steel templet. Burrs to be removed from all reamed holes.
Paint:- None.

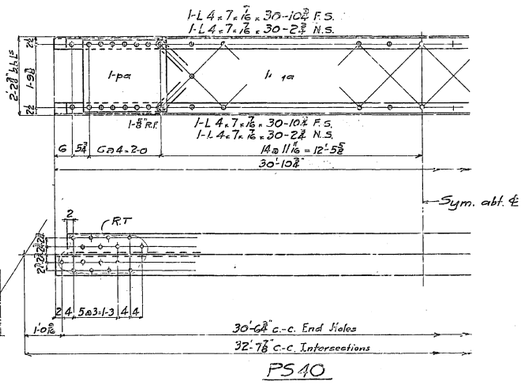
Copper bearing rivets detailed on Sh. C.F.3

APPROVED
Chief Engr. of Bridges
Bridge Engineer
Civil Engineer
Asst. Engr.
Asst. Engr.
Asst. Engr.









GENERAL NOTES:-

Material- All material O.H. copper bearing medium carbon steel. All rivets to be copper bearing carbon rivet steel.

Specifications- Special by State of California Department of Public Works.

Inspection- John M. Bailey, chief Inspector.

Rivets 7/8" Open Holes 15/16" unless noted.

Reaming- All holes to be subpunched ¼" and reamed to size while parts are assembled, except lacing and stay plates which may be punched full size.

Holes marked R.T. to be reamed through a steel templet. Burrs to be removed from reamed holes.

Paint - None.

Copper bearing rivets detailed on Sh CFS

WEST HALF Susp. Span	EAST HALF Cant. Span	TOTAL	REQUIRED	
2	2	4	Sway Bracings	P538
2	2	4	Sway Bracings	P539
1	1	2	do.	P540
2	2	4	Sway Plates	P104R
2	2	4	do.	P104L

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span
Sway Bracing L50-U50
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary Ind. PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wallgren
ASST. MADE BY W.N. DATE 7-16-34
DRAWN, CHECKED BY A.S.M. DATE 8-15-34

Mark	Revision	Appd.

APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 9-7-34

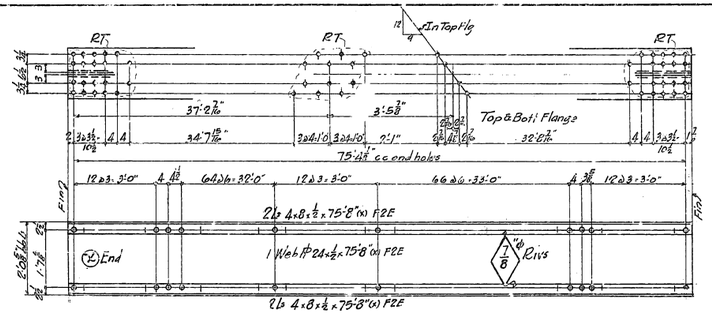
ORDER No. G-5105
SHEET No. 74

All material on this sheet to be used temporarily in erection of West end East Anchor Arms.

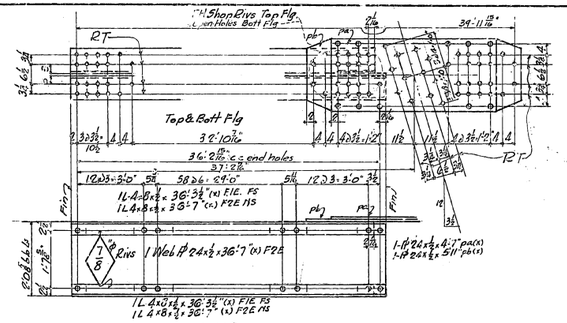
Main Mall ord. pp. 478-480 M.M.

Mar 5th 7-20-34
Rev 2nd 7-20-34

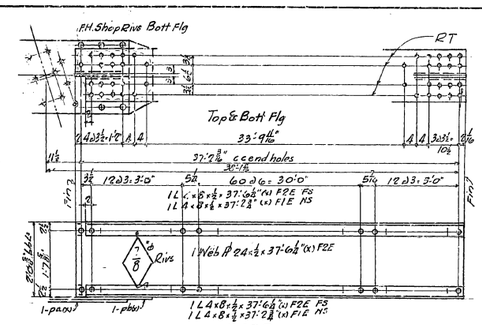
[C]



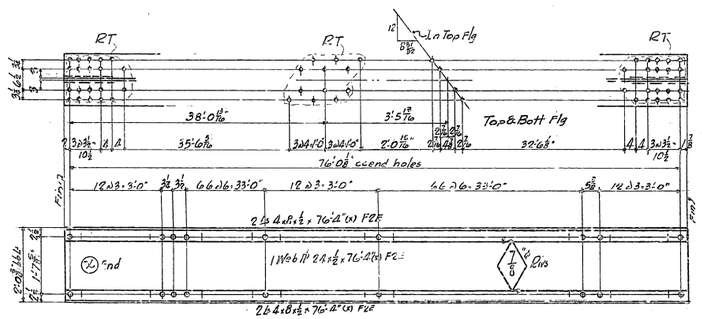
L40R



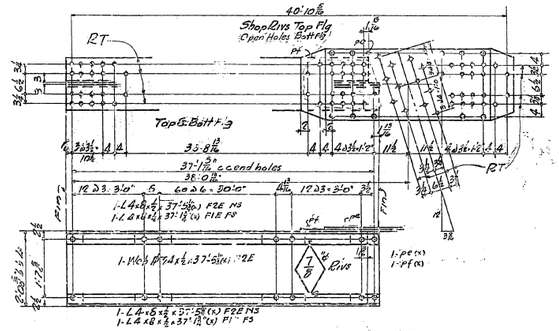
L41R



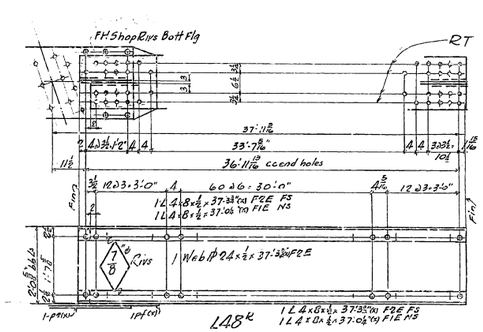
L42R



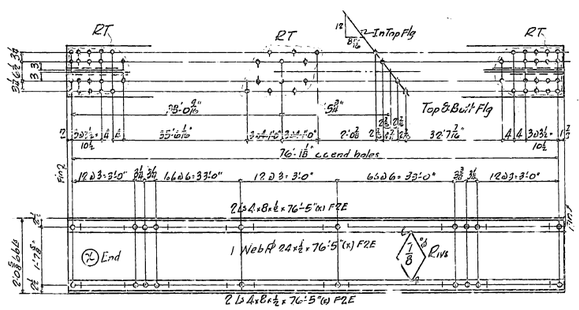
L46R



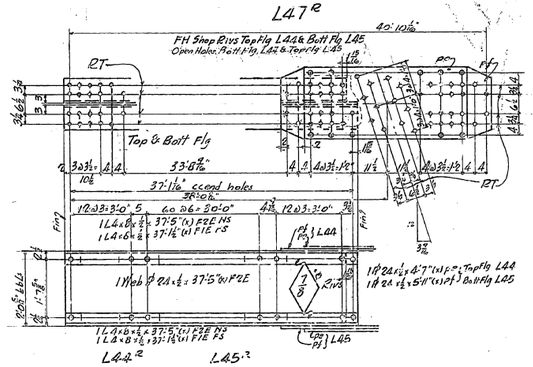
L47R



L48R



L43R



L44-2 L45-2

West Half	East Half	Total	Required		West Half	East Half	Total	Required	
One		One	Bottom Lateral	L40R		2	2	"	L42R
	One	One	"	L40L	2		2	"	L42L
One		One	"	L41R		2	2	"	L43R
	One	One	"	L41L	One		One	"	L46R
One		One	"	L44R		One	One	"	L46L
	One	One	"	L44L	One		One	"	L47R
2		2	"	L43R		One	One	"	L47L
	2	2	"	L43L	One		One	"	L48R
2		2	"	L46R		One	One	"	L48L

General Notes:
Material- All material O.H. copper bearing silicon steel. All rivets are copper bearing carbon rivet steel.
Specifications- Special by State of California Department of Public Works
Inspection- John M. Bailey, Chief Inspector.
Rivets- 7/8" unless noted.
Open Holes- 15/16"ϕ
Reaming- All holes to be subpunched 1/4" and reamed to size while parts are assembled.
Holes marked "R" to be reamed through steel templet.
Burrs to be removed from all reamed holes.
Finish- On all silicon steel the sheared or flame cutedges or ends are to be finished to remove at least 1/8" of metal.
Paint- None

Copper bearing carbon steel rivets detailed on sheet CF31

Mark	Revision	Appd
	APPROVED	
Glenn B. Woodruff, Chief Engr.	Engr. of Design	
Chas. E. Andrew, Bridge Engineer		
C. H. Purcell, Asst. Chief Engineer		
Approval Date 11-27-36		

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span
Bottom Laterals
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Gary PLANT
TRACED BY Wilkinson
EXAM. MADE BY WRB DATE 8-7-36
DETAIL CHECKED BY K.M.G. DATE 10-16-36 *** MARK 12-20-36
ORDER No. G5105
SHEET No. 75

*** Rev. 12-20-36

[B]

30-1

L49R

L50R
L54R

L51R
L53R

L52R

P117

P118
P205

P119

P122

P120R

P121

P123

P126R

P124

P125

P127R

P128R

P129

P140R

P141R

P196R

Sect. F-F

Heavy lines indicate surfaces to receive and coat of acid resisting liquid.

General Notes:
Material- All material O.H. copper bearing medium carbon steel, except material marked (a) is O.H. copper bearing silicon steel.
All rivets are copper-bearing carbon rivet steel.
Specifications- Special by State of California Department of Public Works.
Inspection- John M. Bailey, Chief Inspector.
Rivets- 1"ϕ unless noted.
Open Holes- 1⅛" unless noted.
Reaming- All holes to be subpunched ⅛" and reamed to size while parts are assembled.
Holes marked 'RT' to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Finish- On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal.
Paint- None, except for one coat of acid resisting liquid between connection angles on P126 & P127, see section ⑫.

Copper bearing carbon steel rivets detailed on sheet CF31

Web Plate	Cover Plate	Term.	REQUIRED	
One		One	Bottom Laterals	L49R
	One	One	do	L49L
One		One	do	L50R
	One	One	do	L50L
One		One	do	L51R
	One	One	do	L51L
One		One	do	L52R
	One	One	do	L52L
One		One	do	L53R
	One	One	do	L53L
2	2	4	Laterals-Ftg.	P117
6	6	12	do	P118
4	4	8	do	P119
2	2	4	do	P122
6	6	12	do	P123
2	2	4	do	P124
One	One	2	do	P125L
One	One	2	do	P125R
2	2	4	do	P127
4	4	8	do	P128
	One	One	Hanger Plate	P129R
One	One	2	do	P129L
2	2	4	do	P140R
One		One	do	P140L
	One	One	do	P141R
One		One	do	P141L
	One	One	Batt. Lateral	L54R
One		One	do	L54L
	One	One	Hanger Plate	P196R
One		One	do	P196L
2	2	4	Lateral Plate	P205

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span

Bottom Laterals & Plates
AMERICAN BRIDGE COMPANY

DRAWING MADE AT Gary, Ind. PLANT
WORK ENGINEERED AT Gary PLANT
UNDER DIRECTION OF Wilkinson
DETAIL MADE BY WDB DATE 8-13-34
DRAWN, CHECKED BY KMS DATE 10-15-34
TRACED 11-22-34

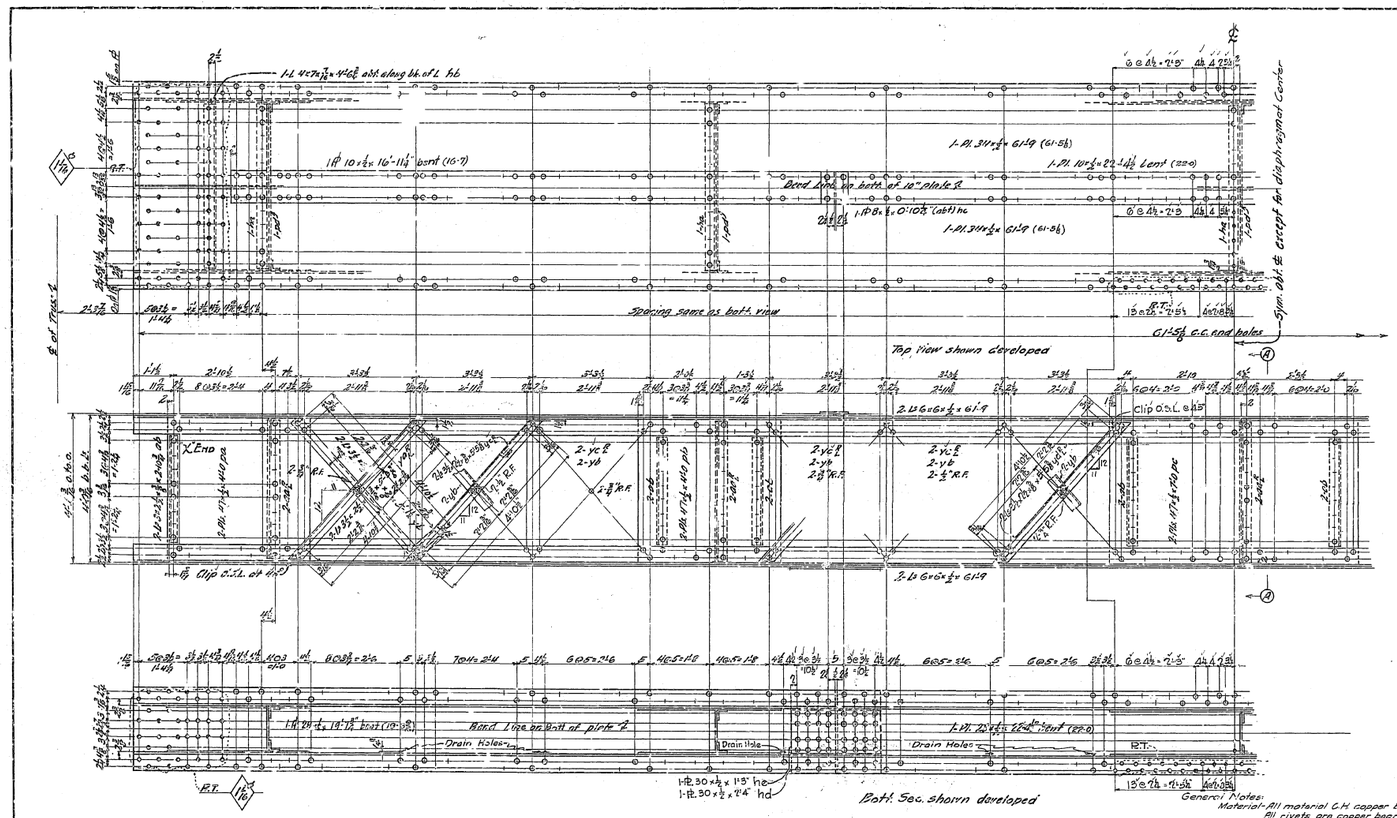
ORDER No. G5105 SHEET No. 76

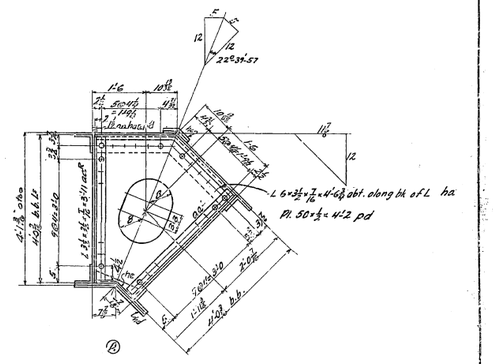
Made	Revised	Appd.

APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approved Date 11-21-34

[B+C]

80-1





PS 68

General Notes:
Material - All material C.H. copper bearing medium carbon steel. All rivets are copper bearing carbon rivet steel.
Specifications - Special by State of California Department of Public Works.
Inspection - John M. Bailey, Chief Inspector.
Rivets - ⅞"ϕ
Open Holes - 15/16" unless noted.
Reaming - All holes to be subpunched ¼" and reamed to size while parts are assembled, except lacing, stay plates and diaphragm webs, which may be punched full size. Holes marked "R.F." to be reamed through a steel templet. Burrs to be removed from all reamed holes.
Paint - None. Edges of manholes to be smooth.

Copper bearing carbon steel rivets detailed on sheet C.P.31

Mark	Revisions	Appd

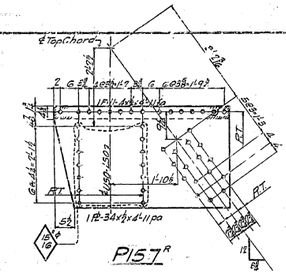
APPROVED
Engr. of Design
Bridge Engineer
Approved Dec. 11-21-34

Mark	Quantity	Total	REQUIRED	
12T	1	2	Portal Strut	1:2.60

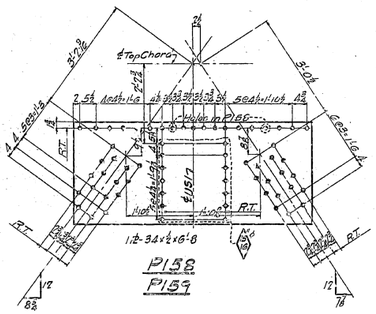
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span
PORTAL STRUT AT U52
AMERICAN BRIDGE COMPANY
DRAWING MADE AT GARY, IND. PLANT
WORK FABRICATED AT GARY PLANT
ERECTED AT WILMINGTON
TRACED BY O.M.D. DATE 6-21-34
PRINT CHECKED BY L.E.H. DATE 10-22-34
ORDER No. G5105
SHEET No. 77

W. Proj. 12-20-33.

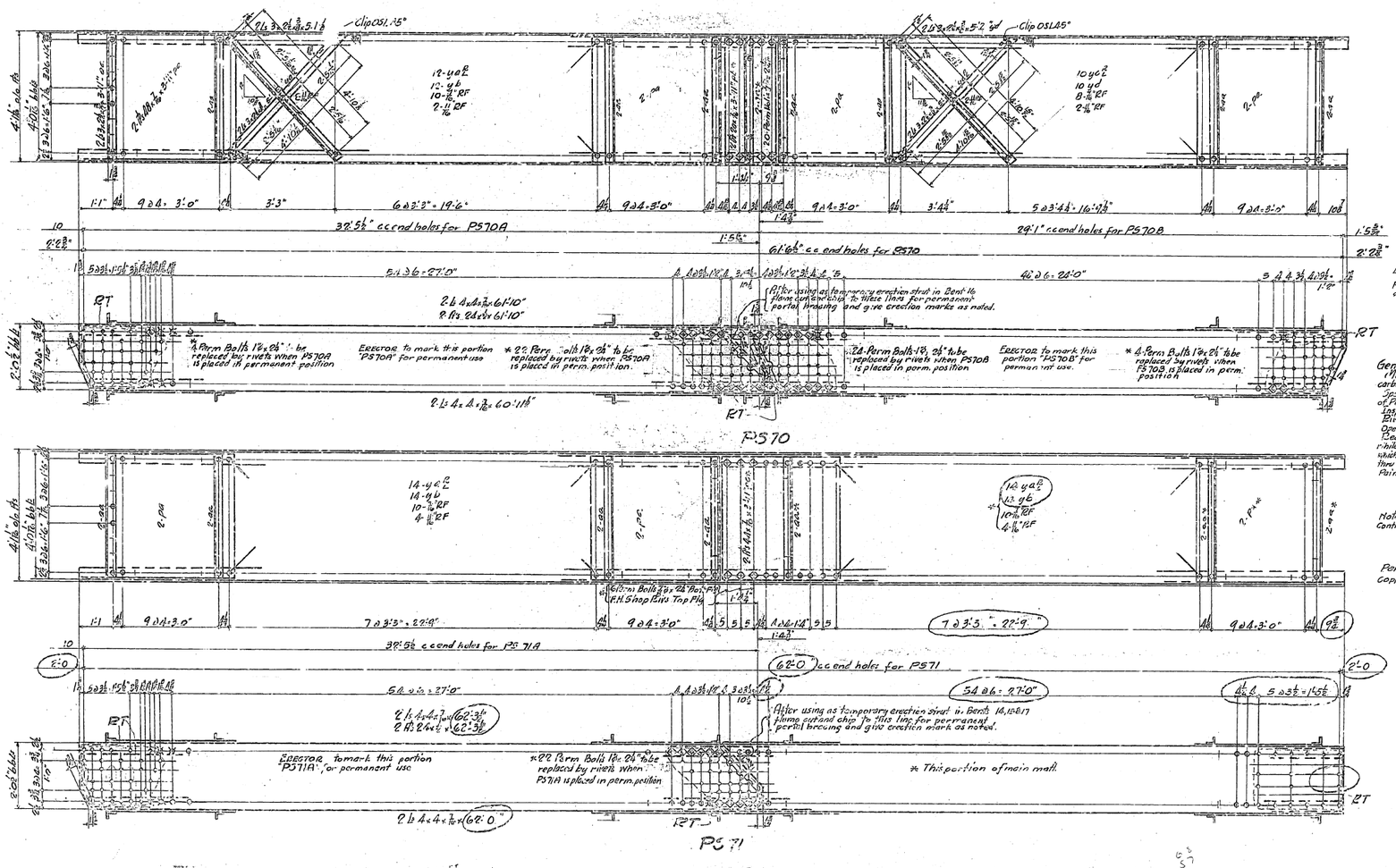
C



P157R


2"
3'-2 1/2"
℄ Top Chord
2 5"
10 @ 11.6
6 @ 2 1/2" = 1'-1"
6 @ 3" = 1'-6"

30-21



Mark	Revision	Appd
	APPROVED	
Chas. B. Wemyss, Chas. E. Kelton, C. H. Purcell. Approved Date 8-17-34	Engr. of Design, Bridge Engineer, Chief Engineer	

Erectors Note:- After struts are erected in permanent position erector to drive rivets in all holes not required for connections.

General Notes:-
Material:- All material O.H. copper bearing medium carbon steel. All rivets to be copper bearing carbon rivet steel.
Specifications:- Special by State of California, Department of Public Works.
Inspection:- John M. Bailey, Chief Inspector.
Rivets:- ⅞"
Open Holes:- 1⅛" Unless Noted
Reaming:- All holes to be sub-punched & reamed to size while parts are assembled except leaving angles and tie plates which may be punched full size. Holes marked RT. to be reamed thru a steel template. Burrs to be removed from all reamed holes
Paint:- None

Note:- All material marked thus * to be charged to Contract 61-K483E.

Perm. Bolts det. on Sh. CF7
Copper bearing rivets detailed on Sheet CF5

West Side	East Side	Total	REQUIRED	
One	One	2	Portal Strut	PS70
	One	One	do	PS71

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure - Suspended Span
Portal Struts U37-M51

AMERICAN BRIDGE COMPANY

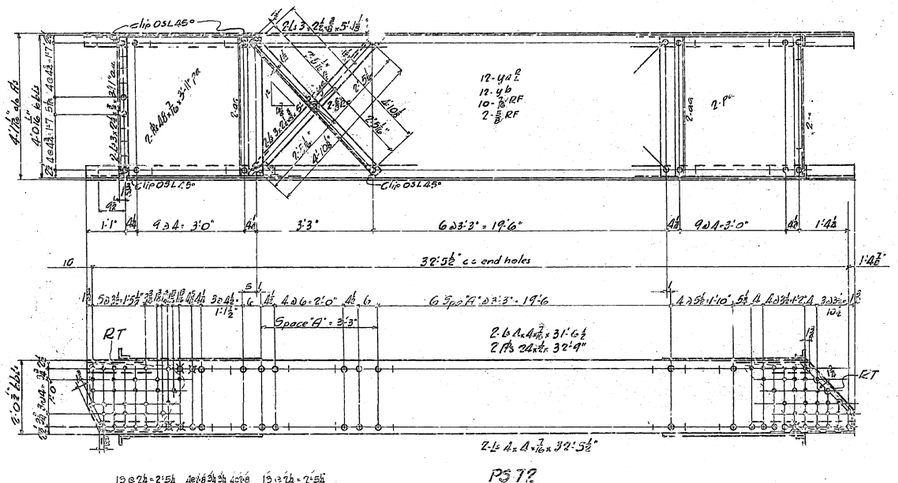
DRAWING APP'D BY	Gary PLANT
WORK FABRICATED BY	Gary PLANT
DETAILED BY	Wilkinson
DRAWN BY	WEB DATE 8-28-34
CHECKED BY	DATE 9-4-34
CONTRACT NO.	SHEET NO.
61105	79

1-PS71 used temporarily in erection Bents 16,15&17
8-PS70 " " " " Bent 16

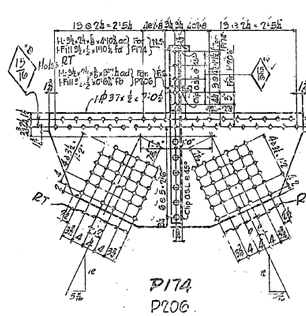
Revised 10-2-34

Tracing O.K. pgs 331-508
W. Web 12-20-34

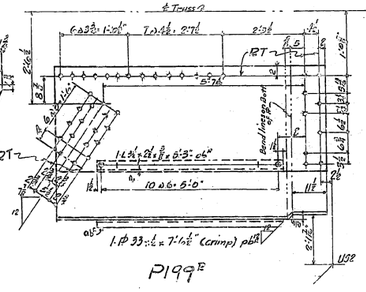
[C]



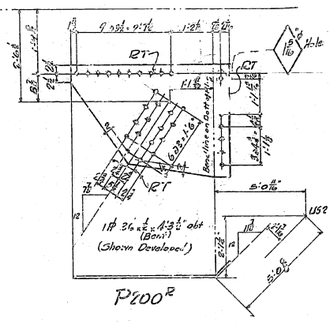
PS7P



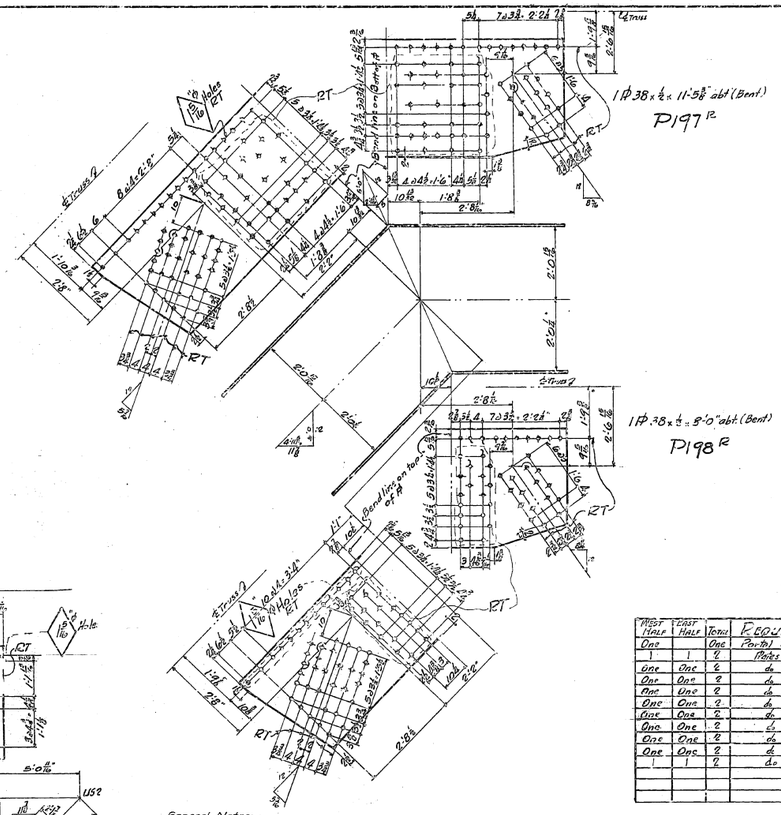
P17A
P206



P199P



P200P



West Half	East Half	Tons	REQUIRED Panel Strut	
One		One	Panel Strut	PS7P
1	1	2	Panel	P17A
One	One	4	do	P17P
One	One	2	do	P17A
One	One	2	do	P17AA
One	One	2	do	P17AP
One	One	2	do	P206P
One	One	2	℄	P17AT
One	One	2	do	P206T
One	One	2	do	P206A
1	1	2	do	P206

General Notes:
Material - All material OH copper bearing medium carbon steel. All rivets are copper-bearing carbon rivet steel.
Specifications - Passed by State of California Department of Public Works.
Inspection - John M. Bailey, Chief Inspector.
Rivets - ¾" unless noted.
Open Holes - 1⅛" unless noted.
Reaming - All holes to be subpunched ¼" and reamed to size while parts are assembled, except lacing and stay plates which may be punched full size. Holes marked "P.R." to be reamed through a steel templet. Burrs to be removed from all reamed holes.
Paint - None.

Copper bearing carbon steel rivets detailed on sheet CP-1

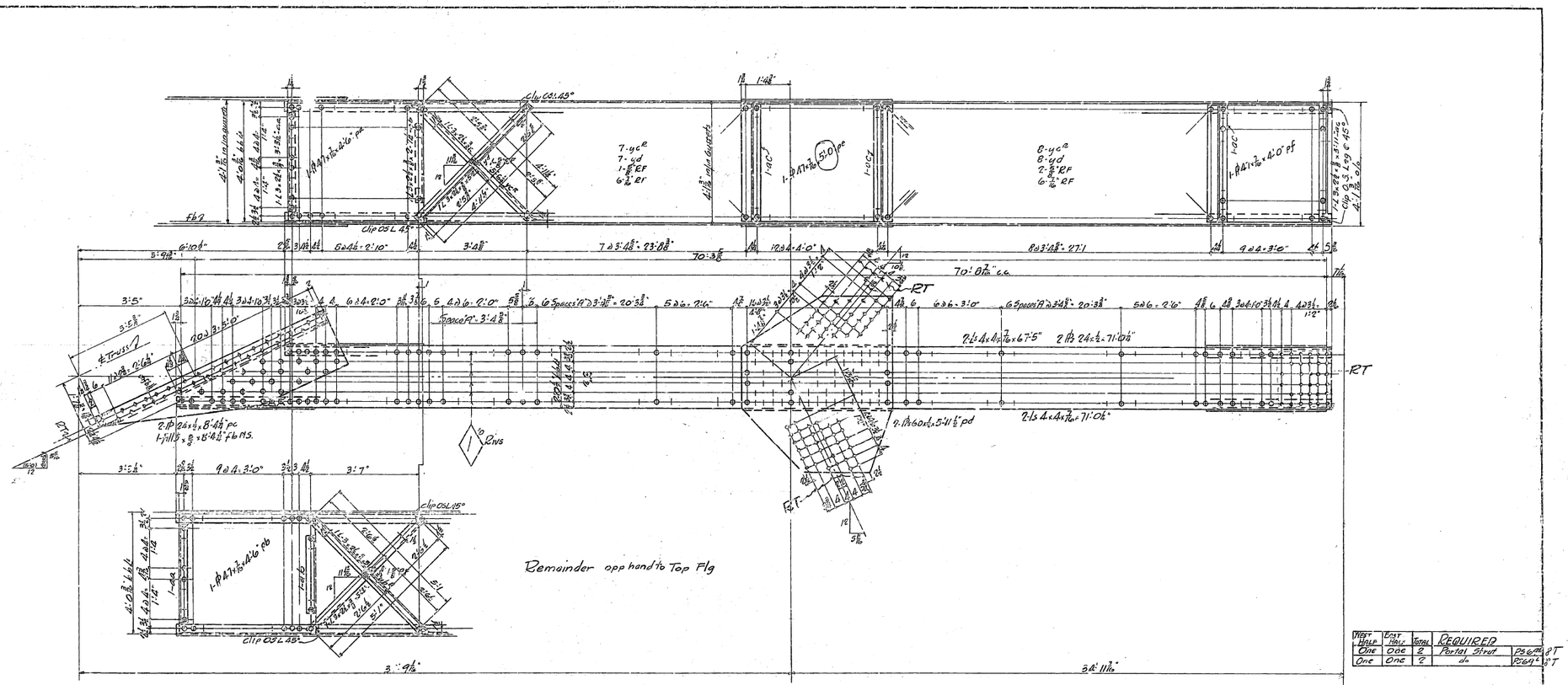
Mark	Revisions	Appd.
	APPROVED	

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span
Portal Struts US2 - MS16 to US8
ANCHORAGE BRIDGE COMPANY
DRAWINGS MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Will Ivison
DET. BY MC DATE 8-23-34
CK. BY L.E.H. CHECKED BY L.E.H. DATE 10-24-34

ORDER No. G5105
CONTR'T No. 80

Print 12-20-34

[C]



PS69R

West Half	East Half	Total	REQUIRED	
One	One	2	Portal Strut	PS69L & T
One	One	2	do	PS69R & T

General Notes:
Material - All material O.H. copper bearing medium carbon steel. All rivets are copper bearing carbon rivet steel
Specifications - Special by State of California Department of Public Works.
Inspection - John M. Bailey, Chief Inspector.
Rivets - ⅞" unless noted.
Open Holes - 15/16".
Reaming - All holes to be subpunched ¼" and reamed to size while parts are assembled, except lacing and stay plates which may be punched full size. Holes marked "R" to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Paint - None.

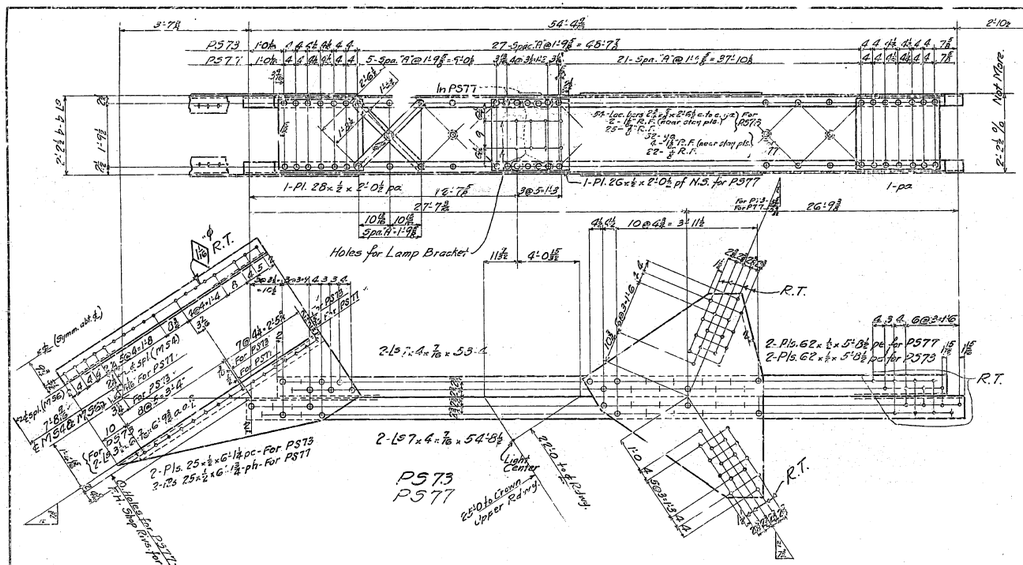
Copper bearing carbon steel rivets detailed on sheet CF32

APPROVED
Geo. D. Hyde
Chas. E. Noble
Sam. Arnold
Asst. Engr. of Design
Office Engineer
Chief Engineer
11-21-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span
Portal Strut US2-1951
AMERICAN BRIDGE COMPANY
DRAWING'S MADE AT Gary PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
CHKD. BY DNBailey DATE 11-26-34
ACC. CHECKED BY LEH DATE 12-22-34
ORDER No. G 5105 SHEET No. 81

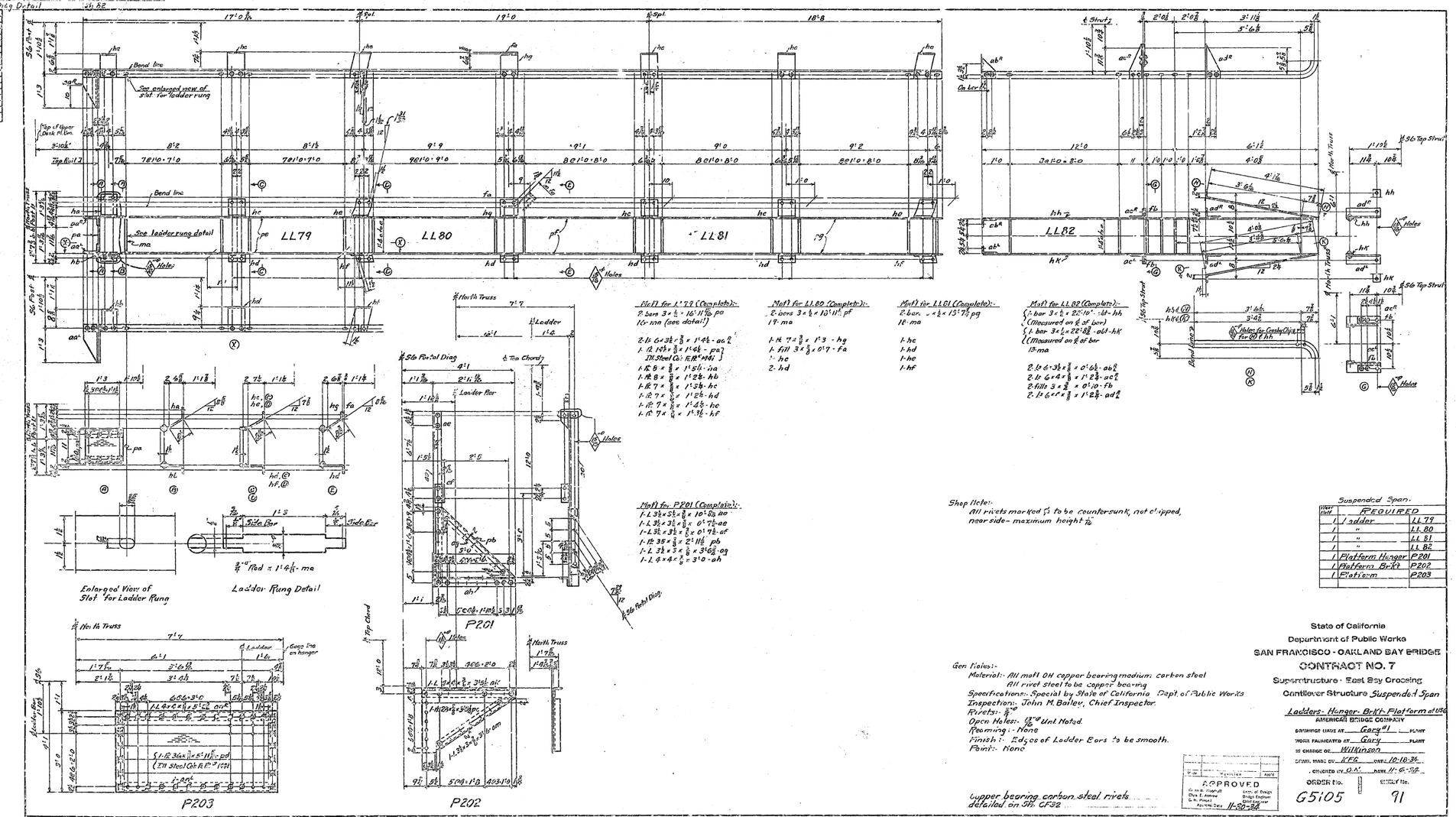
Rev. 6-18-35

[C]


P573
P577
2-Pls. 25"x 1/2"x G'-1 1/2" pc.- For P573
2-Pls. 25"x 1/2"x G'-1 1/2" ph.- For P577
2-L's 7"x 4"x 7/16"x 53'-4"
2-L 7"x 4"x 7/16"x 54'-8 1/2"
2-Pls. 62"x 1/2"x 5'-8 1/2" pc. for P577
2-Pls. 62"x 1/2"x 5'-8 1/2" pc. for P573
Holes for Lamp Bracket
Light Center
25'-0 to Crown Upper Roadway
Holes for Portal Struts
R.T.
Not More
34'-4 1/2"
27-Spcs. "A" @ 1'-9 1/2" = 48'-7 1/2"
21-Spcs. "A" @ 1'-5 1/2" = 29'-10 1/2"
5-Spcs. "A" @ 1'-9 1/2" = 9'-0 1/2"
In P577
1-Pl. 28"x 1/2" x 2'-0 1/2" pc.
1-Pl. 26"x 1/2" x 2'-0 1/2" pf N.S. for P577
1-pc
1-pf
Spcs. @ 1'-9 1/2" = 27'-7 1/2"
Spcs. @ 1'-9 1/2" = 26'-9 1/2"
10@4 1/2" = 3'-11 1/2"
4 @ 3'-1 1/2" c. to c. = 12'-6"
4 @ 3'-1 1/2" c. to c. = 12'-6"
2-Pl. 25"x 1/2"x G'-1 1/2" pc.
2-L's 7"x 4"x 7/16"x 53'-4"
2-L 7"x 4"x 7/16"x 54'-8 1/2"
2-Pls. 25"x 1/2"x G'-1 1/2" ph.
2-Pls. 25"x 1/2"x G'-1 1/2" pc.

30-91

Ladder & Platf. K.232
Post Details ..... Sh.35 & Sh.25
Top Strut Detail Sh.13
Portal Diag. Detail Sh.82



Mat'l for LL79 (Complete):-
2 bars 3 × ½ - 16'-11⅞ pa
(Or ma (see detail)
2 L's 6 × 3½ × ⅝ × 1'-4½ - ac ℄
1 - 12 1/4"h × ⅜ × 1'-6½ - pa ℄
IN Steel Co's: ER 2 × 1481
1 - PL 8 × ⅝ × 1'-5½ - ha
1 - PL 8 × ⅝ × 1'-2⅝ - hb
1 - PL 7 × ½ × 1'-3⅝ - hc
1 - PL 7 × ½ × 1'-2⅝ - hd
1 - PL 7 × ½ × 1'-1⅝ - he
1 - PL 7 × ½ × 1'-3½ - hf

Mat'l for LL80 (Complete):-
2 bars 3 × ½ × 10'-11" pf
19 - ma

1 - PL 7 × ½ × 1'-3 - hg
1 - fill 3 × ⅜ × 0'-7 - fa
1 - hc
2 - hd

Mat'l for LL81 (Complete):-
2 bar. . × ½ × 15'-7⅞ pg
18 - ma

1 - hc
1 - hd
1 - he
1 - hf

Mat'l for LL82 (Complete):-
1 bar 3 × ½ × 22'-10" - ab - hh
(Measured on ℄ of bar)
1 bar 3 × ½ × 22'-8½" - ab1 - hK
(Measured on ℄ of bar
18 - ma

2 L's 6 × 3½ × ⅝ × 0'-6½ - ab ℄
2 L's 6 × 4 × ⅝ × 1'-2⅜ - ac ℄
2 fills 3 × ⅜ × 0'-10 - fb
2 L's 6 × 4 × ⅝ × 1'-2⅜ - ad ℄

Mat'l for P201 (Complete):-
1 - L 3½ × 3½ × ⅝ × 10'-8⅞ ae
1 - L 3½ × 3½ × ⅝ × 0'-7½ - ae
1 - L 3½ × 3½ × ⅝ × 0'-9½ - af
1 - PL 35 × ⅝ × 2'-11½ - pb
1 - L 3½ × 3 × ⅝ × 3'-6⅝ - ag
1 - L 4 × 4 × ⅝ × 3'-0 - ah

Shop Note:-
All rivets marked ▽ to be countersunk, not chipped, near side - maximum height 1/16

Suspended Span.

Work Mark	REQUIRED	
/	Ladder	LL 79
/	"	LL 80
/	"	LL 81
/	"	LL 82
/	Platform Hanger	P201
/	Platform Brkt	P202
/	Platform	P203

Gen Notes:-
Material:- All matl OH copper bearing medium carbon steel
All rivet steel to be copper bearing
Specifications:- Special by State of California Dept of Public Works
Inspection:- John M. Bailey, Chief Inspector.
Rivets:- ⅞"ø
Open Holes:- 13/16" Unl Noted.
Reaming:- None
Finish:- Edges of Ladder Bars to be smooth.
Paint:- None

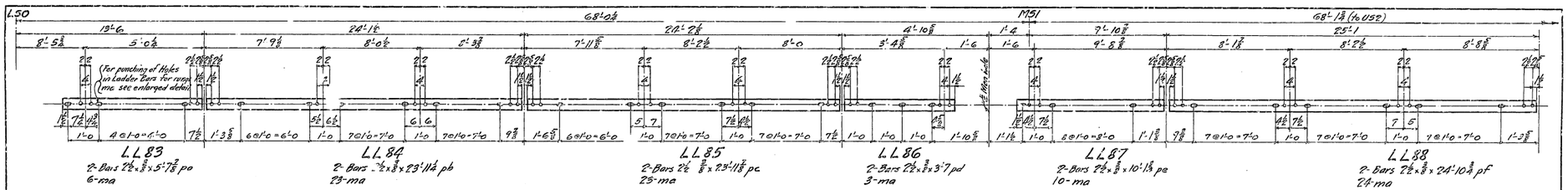
Copper bearing carbon steel rivets detailed on Sh. CF32

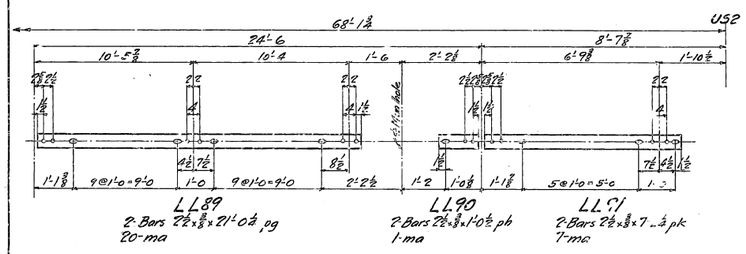
Mark	Revision	Date
	APPROVED	
C. H. B. Hoard	Asst. Chief of Design	
Chas. E. Andrew	Bridge Engineer	
S. H. Prince	Supervising Engineer	
Approved Dec.	11-20-34	

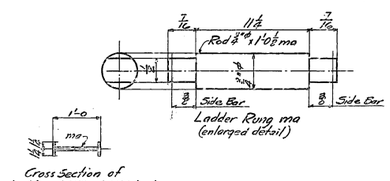
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span
Ladders - Hanger - Brkt - Platform at LL82
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary (1) PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
DRAWN, TRACED BY K.F.G. DATE 10-10-34
CHECKED BY O.K. DATE 11-6-34
ORDER No. G5105 DETAIL No. 91

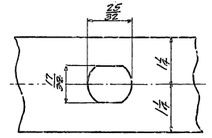
Rec'd 12-20-34 [C]

30-1








Detail of hole in Ladder Bars
or Rung ma (enlarged sketch).

ASSEMBLY AND SHIPPING NOTES:-
Assemble and ship with each L50-M51E and L50-M51AE-detailed on sheet 6:-
1-LL83; 1-LL84; 1-LL85; 1-LL86 & 1-LL87

Assemble and ship with each M51-U52E-detailed on sheet 8:-
1-LL88; 1-LL89; 1-LL90 & 1-LL91.

Suspended Span

	REQUIRED	
6	Ladders	LL83
6	do	LL84
6	do	LL85
6	do	LL86
6	do	LL87
4	do	LL88
4	do	LL89
4	do	LL90
4	do	LL91

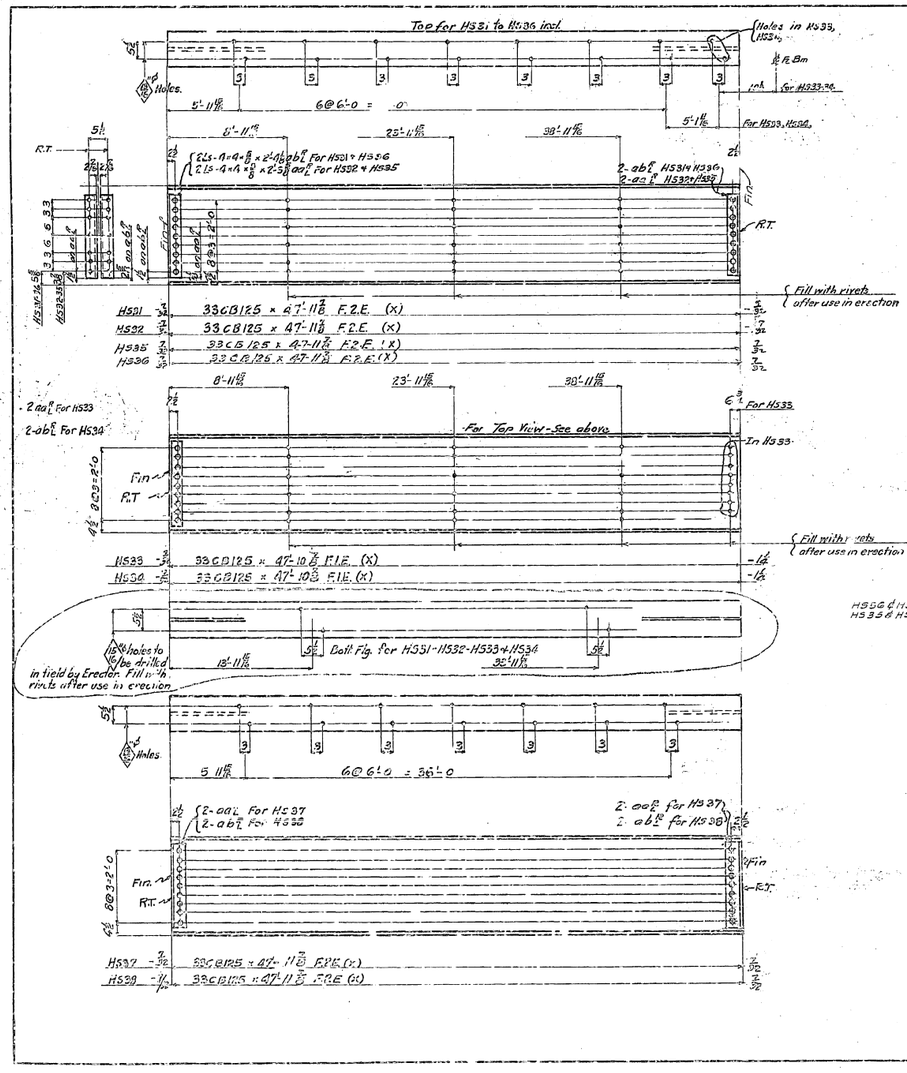
GENERAL NOTES:-
Material:- All material O.H. copper bearing medium carbon steel.
Specifications: Special by State of California Department of Public Works.
Inspection:- John M. Bailey, Chief Inspector
Rivets: None.
Open Holes: 13/16" ϕ Holes for ¾" ϕ Bolts.
Reaming: None.
Finish: Edges of Ladder Bars to be smooth.
Paint:- None.

APPROVED
Chief Engineer
Approval Date 11-26-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span.
Ladders in Diagonals L50-U52
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary IND. PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
DRAWN BY O.H. DATE 11-6-34
MT. CHECKED BY HWM DATE 11-14-34
ORDER No. G5105 SHEET No. 92

rr/mat 12-20-34

POCKET PRINTING



H536 & H531 Alike except for marks.
H536 H531

Work Mark	Spare Parts	Total	REQUIRED	
6	4	10	Hwy. Stringers	H531
6	4	10	do	H532
4	6	10	do	H533
4	6	10	do	H534
2		2	do	H535
2		2	do	H536
	2	2	do	H537
	2	2	do	H538

GENERAL NOTES:

Material – All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel. All rivets to be copper bearing carbon rivet steel.

Specifications – Special by State of California Department of Public Works.

Inspection – John M. Bailey, Chief Inspector.

Rivets – ⅞"ϕ

Open Holes – 1⅛"ϕ unless noted.

Reaming – Holes in carbon or silicon steel ⅜" thick or less to be subpunched ⅛" and reamed to size while parts are assembled.

Holes in silicon steel over ⅜" thick to be subdrilled ⅛" and reamed to size while parts are assembled.

Holes marked R.T. to be reamed through a steel templet.

Burrs to be removed from all reamed holes.

Finish – On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal.

Paint – None, except one coat acid resisting liquid on milled ends.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure - Suspended Span
Upper Deck Stringers

AMERICAN BRIDGE COMPANY
DRAWING MADE AT: Gary #1 PLANT
WORK FABRICATED AT: Ambridge PLANT
IN CHARGE OF: Wilkinson
DRAWN, LEDGED BY: E.W.J. DATE: 6-21-34
DETAIL CHECKED BY: Ross DATE: 8-2-34
For Rivet: 8-18-34.
ORDER No. G-5105 SHEET No. 101

Mark	Revision	Date
	APPROVED	
Chas. B. Wurth	Engr. of Design	
Chas. E. Allison	Bridge Engineer	
C. H. Purcell	Chief Engineer	
Approved Date: 7-18-34		

Rev 8-5-34

10 - H532 } Used temporarily in
2 - H535 } erection of East
2 - H537 } Anchor Arms.
2 - H536

Mail ord per # 401-302-103.

10 - H531 } Used temporarily in
10 - H533 } erection of West and
2 - H534 } East Anchor Arms.

Mrs 7-26-34

[B4C]

Weld holes and grind smooth before placing stringers in permanent position

47'-0" 63'-5½" c. c.

47'-8½" ders to be flame cut chipped and ground in the field to this length and used as inside R.R. Stringers (Susp. Span) after services as Skid Gird is completed

Erector may modify this portion to suit field conditions

Erector to remove this portion after it's use during erection.

Erector to remove this portion after it's use during erection. Erector may modify this portion to suit field conditions.

2 Fills 7"x 2"x 3'-10⅜" Fb - Grind ends to fit fillet

Fm. Stiffs. Rim Cut R51A Fm. Stiffs. Fm. Stiffs. Fm. Stiffs.

For R51 R51A For R52 R52A

Mat'l. 4-L 6"x6"x⅞"x 63'-5½" (X) ... 1-Web 48" x ⅞" x 63'-5½" (X): F.I. Edge

Holes "A" Weld holes and grind smooth before placing in permanent position for R51A - R52A. Rivet P182 to R51-R52 in field with click head rivets before placing in permanent position.

Weld holes and grind smooth before placing in permanent position

Front End LA9 East

Front End LA9 West

Fill with rivets before placing in permanent position

For Upper Deck Position 48'-0" x 55'-0" Panels
For Raised Position 48'-0" & 55'-0" Panels
For Raised Position L0-LC1 (55'-0" Panel)

For Upper Deck Position 48'-0" Panels
For Raised Position 48'-0" Panels

For Upper Deck Position 55'-0" Panels
For Raised Position 55'-0" Panels
For Raised Position LA1-L0 (55'-0" Panel)

R51R } Same except for Holes "A"
R51AR }
R52R } Same except for Holes "A"
R52AR }

P182

Weld Symb.	Field Symb.	Total	Required	
/	/	/	Stringer	R51R
	/	/	do.	R51L
/	/	/	do.	R51AR
	/	/	do.	R51AL
/	/	/	do.	R52R
	/	/	do.	R52L
	/	/	do.	R52AR
/	/	/	do.	R52AL
6	2	8	Sole Plates	P182

GENERAL NOTES:
Material – All material O.H. copper bearing medium carbon steel except material marked (X) is O.H. copper bearing silicon steel. All rivet steel to be copper bearing.
Specifications – Special by State of California Department of Public Works.
Inspection – John M. Bailey, Chief Inspector.
Rivets – ⅞" ϕ
Open Holes – 15/16" unless noted.
Reaming – All holes to be subpunched & reamed to size while parts are assembled (except 0.5 legs of "Stiffeners" Holes marked "RT" to be reamed through a steel templet. Burrs to be removed from all reamed holes.
Finish – On all silicon steel the sheared or flame cut edges are to be finished to remove at least ⅛" of metal.
Paint – None.

Gary Plant to charge portion of R51 & R52 removed after use during erection to contract 61K 4835 giving G5104 credit for same.

Copper bearing rivets detailed on sheet CF1

Maitland 8-9 438-433

(Rev 10-15-34) (Rev 9-17-34) (Rev 9-28-34) (Rev 10-1-34)

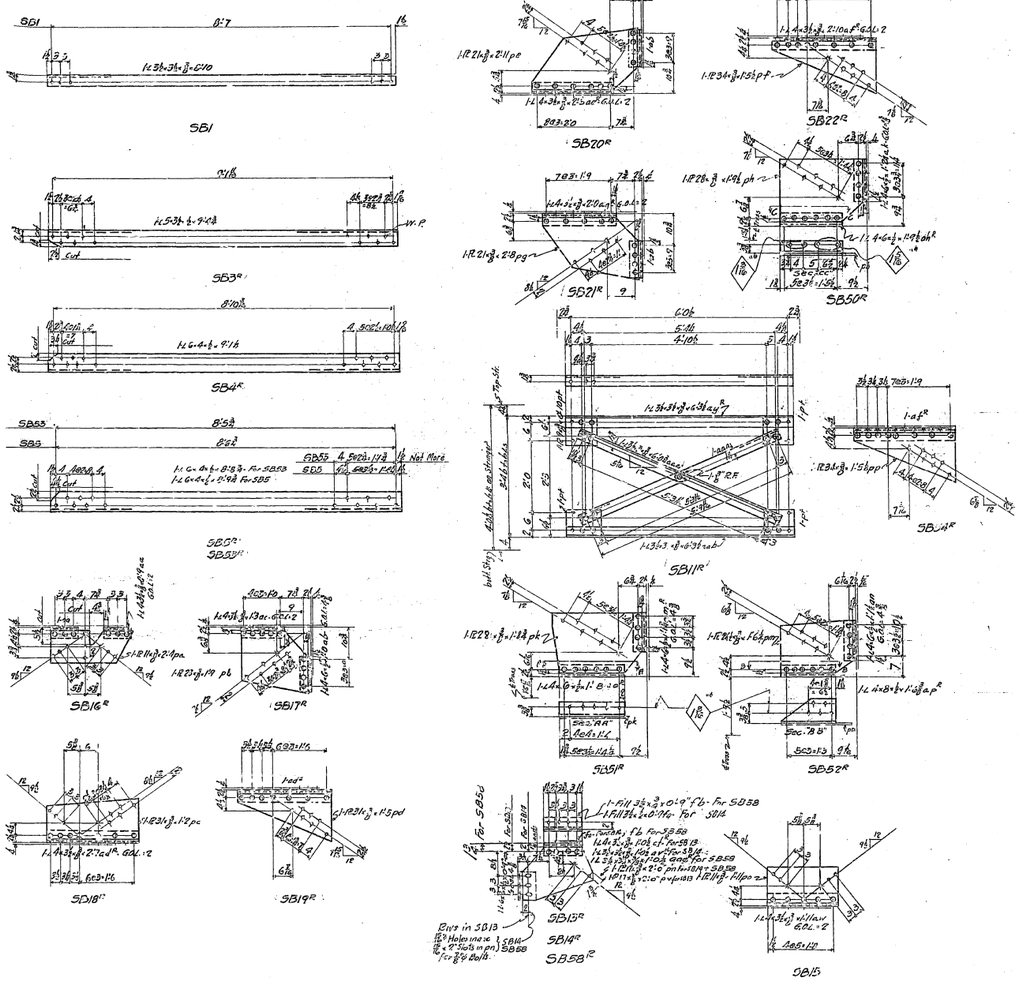
R51R, R51L, R51AR, R51AL, R52R, R52L, R52AR, R52AL Used for erecting West & East Anchor Arms. (Skids for Heavy Traveler)

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure
Skid Girders (R.R. Stringers Susp. Span)
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
DETAILED BY PM CHK'D L-1-34
IN ACCORDANCE WITH Spec. 6-22-34 as revised 12-19-35
ORDER No. G5105
SHEET No. 102

APPROVED
Chas. D. Wadsworth, Engr. of Bridge Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 9-5-34

[B&C]

West Half	East Half	Total	Required	
66	66	132	Laterals	SB1
6		6	do	SB3R
	6	6	do	SB3L
3		3	do	SB4R
	3	3	do	SB4L
2		2	do	SB5R
	2	2	do	SB5L
1		1	do	SB5AR
	1	1	do	SB5AL
12	12	24	Cross Frames	SB11R
12	12	24	do	SB11L
6	4	10	Sh. Lat. Marks	SB13R
6	6	12	do	SB13L
4	2	6	do	SB14R
	4	4	do	SB14L
30	30	60	do	SB15
12	12	24	do	SB16R
12	12	24	do	SB16L
3		3	do	SB17R
	3	3	do	SB17L
6		6	do	SB18R
	6	6	do	SB18L
3		3	do	SB19R
	3	3	do	SB19L
3		3	do	SB20R
	3	3	do	SB20L
3		3	do	SB21R
	3	3	do	SB21L
2		2	do	SB22R
	2	2	do	SB22L
1		1	do	SB50R
	1	1	do	SB50L
1		1	do	SB52R
	1	1	do	SB52L
1		1	do	SB54R
	1	1	do	SB54L
2		2	do	SB58R
	2	2	do	SB58L



GENERAL NOTES:
Material- All material O.H. copper bearing medium carbon steel. All rivet steel to be copper bearing.
Specifications- Special by State of California Department of Public Works.
Inspection- John M. Bailey, Chief Inspector.
Rivets- ⅞".
Open Holes- 1⅛" unless noted.
Reaming- None.
Finish- None.
Paint- None.

Copper bearing Carbon steel Rivets detailed on Sheet CF1

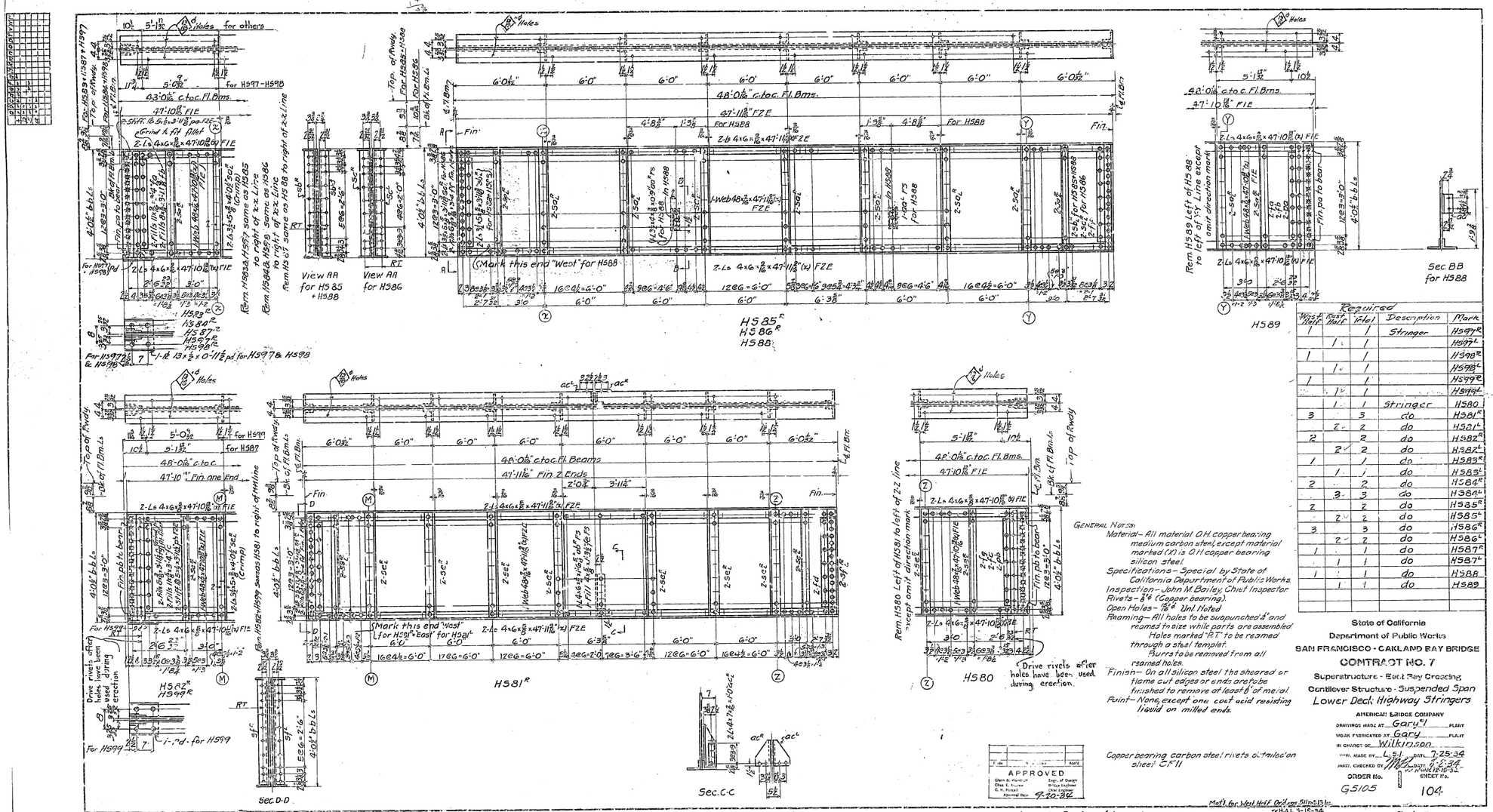
Mat'l used temporarily for erection on West and East Anchor Arms:-

128 SB1	2-SB13R	4-SB14R	
6-SB11R	2-SB16R	4-⅞"x16"	
6-SB11L	2-SB16L		
8-SB13L	12-SB15		

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span
R.R. Stringer Bracing

AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary-1 PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
DES. MADE BY S.C.C. DATE 7-3-34
DRAW. CHECKED BY [illegible] DATE 7-18-34
APPROVED DATE 12-20-34
CHIEF ENGR. R-17-34
ORDER No. G5105
SHEET No. 103

[C]



West Half	East Half	Total	Description	Mark
1		1	Stringer	H597R
	1	1		H597L
1		1		H598R
	1	1		H598L
1		1		H599R
	1	1		H599L
	1	1	Stringer	H580
3		3	do	H581R
	2	2	do	H581L
2		2	do	H582R
	2	2	do	H582L
1		1	do	H583R
	1	1	do	H583L
2		2	do	H584R
	3	3	do	H584L
2		2	do	H585R
	2	2	do	H585L
3		3	do	H586R
	2	2	do	H586L
1		1	do	H587R
	1	1	do	H587L
1		1	do	H588
	1	1	do	H589

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure - Suspended Span
Lower Deck Highway Stringers

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary "1" PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson
DRWN. MADE BY L.S.I. DATE 7-25-34
INVST. CHECKED BY [illegible] DATE 8-2-34
CHECKED 12-15-34
ORDER No. G.5105 SHEET No. 104

APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approval Date 9-20-34

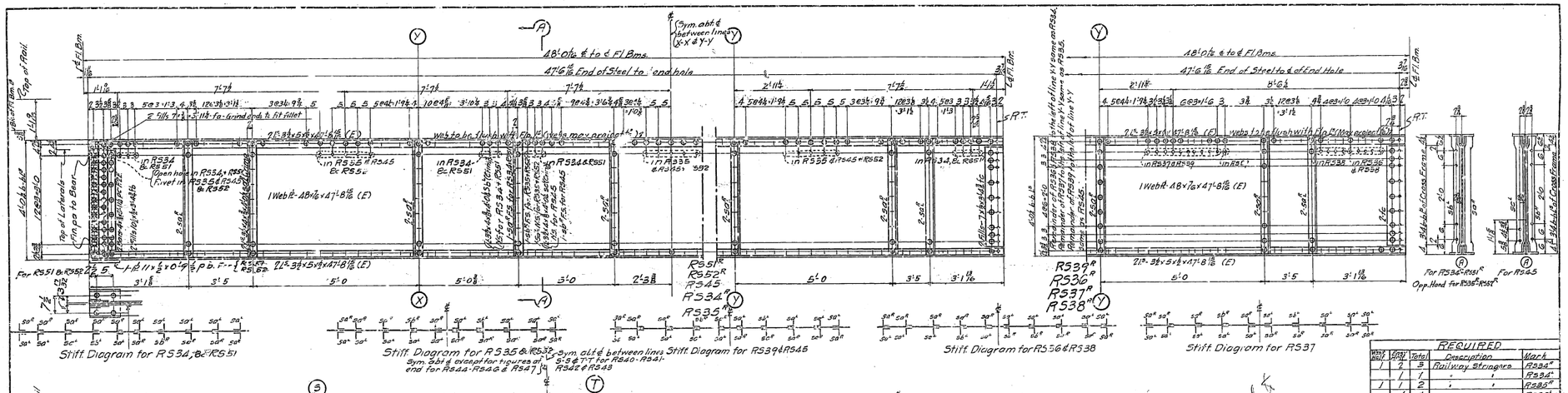
GENERAL NOTES:
Material – All material O.H. copper bearing medium carbon steel except material marked (X) is O.H. copper bearing silicon steel.
Specifications – Special by State of California Department of Public Works.
Inspection – John M. Bailey, Chief Inspector.
Rivets – ⅞" ℄ (Copper bearing).
Open Holes – 1⅛" ℄ Unl. Noted.
Reaming – All holes to be subpunched ¼" and reamed to size while parts are assembled. Holes marked "RT" to be reamed through a steel templet. Burrs to be removed from all reamed holes.
Finish – On all silicon steel the sheared or flame cut edges or ends are to be finished to remove at least ⅛" of metal.
Paint – None, except one coat acid resisting Nivoil on milled ends.

Copper bearing carbon steel rivets detailed on sheet C.F.11

Mat'l for West Half Ord. see 5115 & 5135 Inc.
W.H.A.L. 4-16-34

[B&C]

30-1



Wing	Girder	Total	Description	Mark
/	2	5	Railway Stringers	RS34"
/	/	/	"	RS34'
/	/	2	"	RS35"
/	/	/	"	RS35'
/	/	/	"	RS36"
/	/	/	"	RS36'
/	/	/	"	RS37"
/	/	/	"	RS37'
/	/	/	"	RS38"
/	/	/	"	RS38'
/	/	/	"	RS39"
/	/	/	"	RS39'
2	2	2	"	RS40"
/	2	2	"	RS40'
2	2	2	"	RS41"
2	2	2	"	RS41'
2	2	2	"	RS42"
2	2	2	"	RS42'
2	2	2	"	RS43"
2	2	2	"	RS43'
/	/	/	"	RS44
/	/	/	"	RS46
/	/	/	"	RS46'
2	2	2	"	RS47
/	/	/	"	RS51"
/	/	/	"	RS51'
/	/	/	"	RS52"
/	/	/	"	RS52'

GENERAL NOTES:
Material – All material O.H. copper bearing medium carbon steel.
Specifications – Special by State of California Department of Public Works
Inspection – John M. Bailey, Chief Inspector.
Rivets – ⅞" ø (Copper bearing).
Open Holes – 1 3/16"ø
Reaming – All holes to be subpunched & reamed to size while parts are assembled. Holes marked "R.T." to be reamed through a steel templet.
Burrs to be removed from all reamed holes.
Finish – On all carbon steel marked (F) the sheared or flame cut edges or ends are to be finished to remove at least ⅛ of metal.
Paint – None.

Copper bearing carbon steel rivets: detailed on sh. CF12

Not. Web to be ordered ✕ finish on top edge

All Stringers for West Half to be used as counterweight for West Cantilever Arm

Mat'l. for West Half O.K. per sh. 516

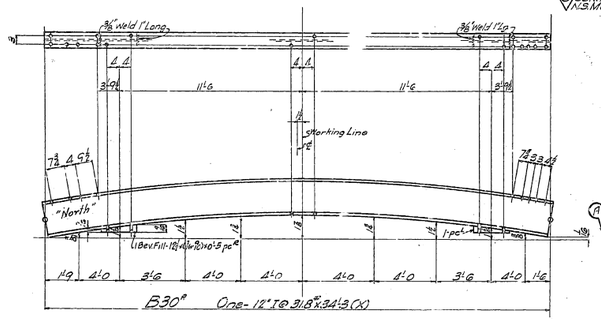
W.H.A.L. 11-19-34

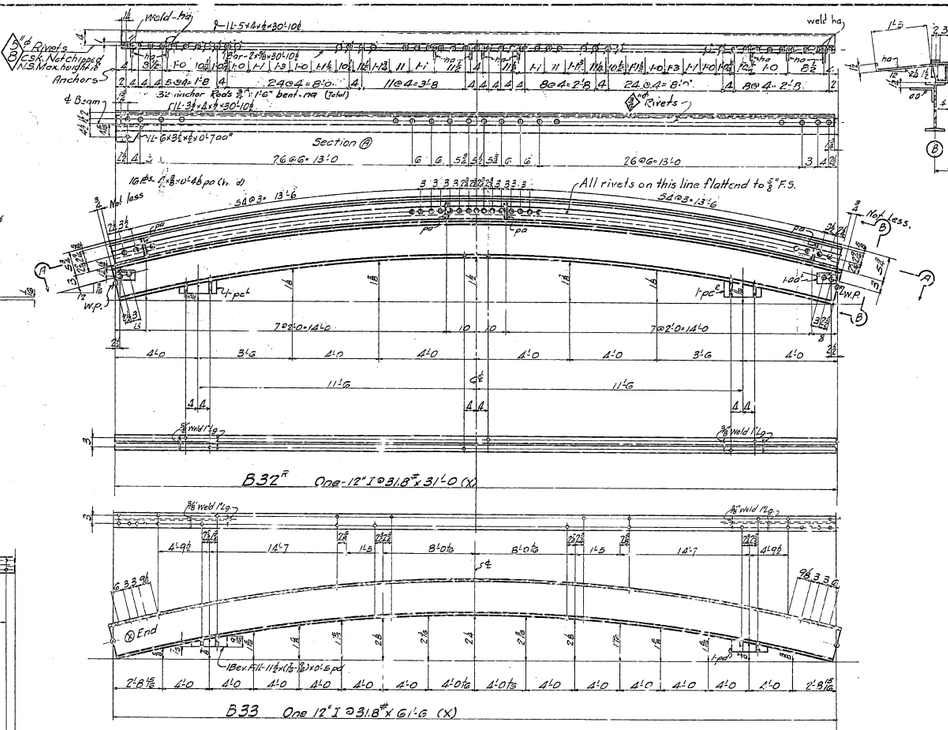
[C]

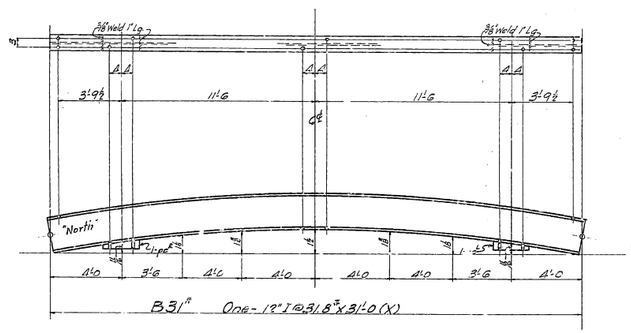
APPROVED
Chas. E. Andrew, Chief Engineer
C. H. Purcell, Asst. Chief Engineer
Final Approval Date 9-20-34

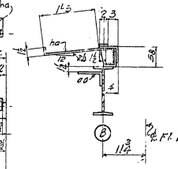
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span Railway Stringers.

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Gary PLANT
IN CHARGE OF Wilkinson.
DRAWN BY C.R.W. DATE 7-30-34
DRAWING CHECKED BY W.H.A.L. DATE 8-2-34
Revised 11-19-34.
ORDER No. G5105 SHEET No. 105









General Notes:
Material - All material O.H. copper bearing medium carbon steel, except material marked (X) is O.H. copper bearing silicon steel. All rivets are copper bearing carbon rivet steel.
Specifications - Special by State of California Department of Public Works.
Inspection - John M. Bailey, Chief Inspector.
Rivets - 7/8" d unless noted.
Open Holes - 1 1/8" d unless noted.
Reaming - None except holes in bolt. flgs. and sole plg. to be subpunched 1/4" or subdrilled 3/8" and reamed to size while parts are assembled.
Paint - None.

Note:
All curved beams on this sheet may overrun 3/8" at either end or both.

REQUIRED				
Weight Right	Weight Left	Total	Description	Mark
	42	42	Curved Beams	B34"
42		42	" "	B30"
	2	2	" "	B31"
3		3	" "	B31'
	1	1	" "	B32"
1		1	" "	B32'
42	42	84	" "	B33
3	2	5	" "	B34

Mark	Weight Right	Weight Left	Total	Description
B34"	42	42	42	Curved Beams
B30"	42		42	" "
B31"		2	2	" "
B31'	3		3	" "
B32"		1	1	" "
B32'	1		1	" "
B33	42	42	84	" "
B34	3	2	5	" "

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Susp. Span
Upper & Lower Deck Curbs
Roadway Beams
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
CHECKED BY CRJH DATE 10-19-36
DRAWN, CHECKED BY Kent DATE 10-25-36
ORDER No. G5105
SHEET No. 121

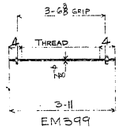
Mark	Date	Approved

APPROVED
Chas. H. Purcell, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approved Dec. 11-28-36

HAL 11-20-36 [B#C]

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



SHEET NO.	PCS. PER PC.	MARK	MATERIAL SHAPE	LENGTH FT.	LENGTH IN.	WEIGHT (POUNDS) UNIT	WEIGHT (POUNDS) TOTAL	ORDERED NO. PCS	ORDERED LENGTH FT.	ORDERED LENGTH IN.	ORDERED ITEM	SHIPMENTS
						Total Wts.						
3	96	EM399	96 Rivets ⌀ 3 11			771	-					3
4			192 Hex Nuts & TAP			57	-					53
5			Total			828						

Cost for Shop: L48-M47

PAINT — None

DATE	DRAWINGS
4-10-34	GARY #1
	TRACED BY GARY
	CHECKED BY GIK485B

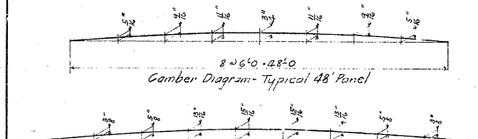
WILKINSON ORDER No. G5107

SHEET No. C1

NAME OF STRUCTURE: San Francisco-Oakland Bay Bridge - Cantilever Structure - Erection Stresses for Trusses. (G5107) 7

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



Shop Note: {Shims to be flat / Remove all burrs

APPROVED
Chas B. Woodruff, Engr. of Design
Chas. E. Arthur, Bridge Engineer
C. H. Purcell, Chief Engineer
Approved Date 4-10-34

Note: All material on this sheet to be Copper bearing Carbon Steel.

SHEET NO.	MEMBER NO. PCS	MEMBER NAME	MARK	MATERIAL NO. PCS	MATERIAL SHAPE	LENGTH FT.	LENGTH IN.	+	REMARKS	CALCULATED SECTION WEIGHT (POUNDS) UNIT	CALCULATED SECTION WEIGHT (POUNDS) TOTAL	ORDERED NO. PCS	ORDERED LENGTH FT.	ORDERED LENGTH IN.	ORDERED ITEM	SHIPMENTS
1	812	Adjustment Shims	A51	812	Bars 3x⅜	0	5½		Det.	5.1	4141	812	12	11	350	
2	185	do	A52	185	Bars 3x½	0	5½			10.	1850	185	14	9	351	
3	116	do	A53	116	Bars 3x⅝	0	5½			39.	4524	116	29	5	349	
4																
5	158		A51													
6	16		A52	Actual No. Used											Pay Weight	
7	115		A53													
8																
9																
10																
11																
12																
13																
14																
15		Page Total - 1819 Sq. Ft.														
16		West Anchor														

Adjustment Shims for Upper Deck Roadway Angles.
Paint: None.

RIVETS	HOLES	DATE	DRAWINGS
—	—	4-10-34	GARY #1
			TRACED BY Amber
			CHECKED BY

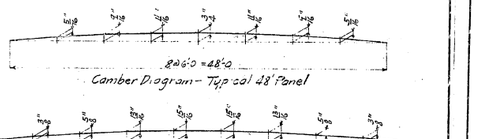
WILKINSON ORDER No. G5107

SHEET No. C11

NAME OF STRUCTURE: San Francisco-Oakland Bay Bridge - Cantilever Structure - W. Anchor Arm

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



Shop Note: {Shims to be flat / Remove all burrs

APPROVED
Chas B. Woodruff, Engr. of Design
Chas. E. Arthur, Bridge Engineer
C. H. Purcell, Chief Engineer
Approved Date 4-10-34

Note: All material on this sheet to be Copper bearing Carbon Steel.

SHEET NO.	MEMBER NO. PCS	MEMBER NAME	MARK	MATERIAL NO. PCS	MATERIAL SHAPE	LENGTH FT.	LENGTH IN.	+	REMARKS	CALCULATED SECTION WEIGHT (POUNDS) UNIT	CALCULATED SECTION WEIGHT (POUNDS) TOTAL	ORDERED NO. PCS	ORDERED LENGTH FT.	ORDERED LENGTH IN.	ORDERED ITEM	SHIPMENTS
1	200	Adjustment Shims	A51	200	Bars 3x⅜	0	5½		Det.	5.1	1020	200	12	11	350	
2		"														
3	182	"	A52	182	Bars 3x½	0	5½			13.	2366	182	14	9	351	
4																
5	116	do	A53	116	Bars 3x⅝	0	5½			39.	4524	116	29	5	349	
6																
7																
8	104		A51													
9	117		A52	Actual No. Used											Pay Weight	
10	105		A53													
11																
12																
13																
14																
15		Page Total - 323 Sq. Ft.														
16		East Anchor														

Adjustment Shims for Upper Deck Roadway Angles.
Paint: None.

RIVETS	HOLES	DATE	DRAWINGS
—	—	4-10-34	GARY #1
			TRACED BY Amber
			CHECKED BY

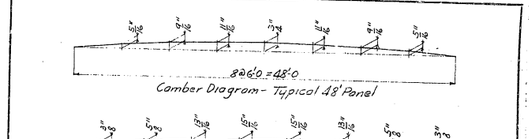
WILKINSON ORDER No. G5107

SHEET No. C12

NAME OF STRUCTURE: San Francisco-Oakland Bay Bridge - Cantilever Structure - E. Anchor Arm

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



Shop Note: {Shims to be flat / Remove all burrs

APPROVED
Chas B. Woodruff, Engr. of Design
Chas. E. Arthur, Bridge Engineer
C. H. Purcell, Chief Engineer
Approved Date 4-16-34

Note: All material on this sheet to be Copper bearing Carbon Steel

SHEET NO.	MEMBER NO. PCS	MEMBER NAME	MARK	MAT'L SERIAL NO. PCS	MAT'L SERIAL SHAPE	LENGTH FT.	LENGTH IN.	+	REMARKS	CALCULATED SECTION WEIGHT (POUNDS) UNIT	CALCULATED SECTION WEIGHT (POUNDS) TOTAL	ORDERED NO. PCS	ORDERED LENGTH FT.	ORDERED LENGTH IN.	ORDERED ITEM	SHIPMENTS
1	324	Adjustment Shims	A51	324	Bars 3x⅜	0	5½		Det.	5.1	1652	324	12	11	350	
2																
3	145	do	A52	145	Bars 3x½	0	5½			10.	1450	145	14	9	351	
4																
5	104	do	A53	104	Bars 3x⅝	0	5½			39.	4056	104	29	5	349	
6																
7																
8	277		A51													
9	126		A52	actual No. Used											Pay Weight	
10	30		A53													
11																
12																
13																
14																
15		Page Total - 271 Sq. Ft.														
16		West Cant.														

Adjustment Shims for Upper Deck Roadway Angles.
Paint: None.

RIVETS	HOLES	DATE	DRAWINGS
—	—	4-16-34	GARY #1
			TRACED BY Amber
			CHECKED BY

WILKINSON ORDER No. G5107

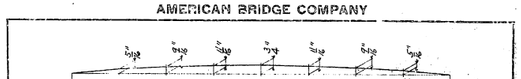
SHEET No. C13

NAME OF STRUCTURE: San Francisco-Oakland Bay Bridge - Cantilever Structure - W. Cantilever Arm

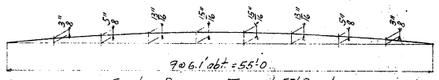
30-1

SKETCH, SHOP AND SHIPPING BILL

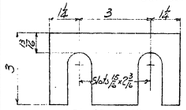
AMERICAN BRIDGE COMPANY



Camber Diagram - Typical 48' Panel



Camber Diagram - Typical 55' Panel



A51-A52-A53

APPROVED
Engr. of Design
Engr. of Erection
Chief Engineer
Approval Date 4-10-24

Shop Note: { Shims to be Flat / Remove all burrs

Note: All material on this sheet to be Copper bearing Carbon Steel

LOCATION	MEMBER NO. PCS	MEMBER NAME	MEMBER MARK	MATERIAL NO. PCS	MATERIAL SHAPE	MATERIAL LENGTH FT.	MATERIAL LENGTH INS.	MATERIAL LENGTH MIC.	REMARKS	CALCULATED DIMENSIONS NO. PCS	CALCULATED DIMENSIONS WEIGHT	ORDERED NO. PCS	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ORDERED ITEM	SHIPMENTS
1	324	Adjustment Shims	A51	324	Bars 3/8	0	5 1/2		451	1448	1216	12	11	10		
2	135	do	A52	135	Bars 3/16	0	5 1/2		10.	38	4	1/2	9	1	151	
3	104	do	A53	104	Bars 3/16	0	5 1/2		27.	93	4	1/2	29	5	148	
4																
5																
6	213		A51	actual No Used					60.							
7	123		A52						37.							Pay Weight
8	86		A53						24.							
9									Sum							
10									Rel. Wgt. to be Rtd.							
11																
12		Total		423	Sheets											
13																
14		Est. Total		612	Sheets											EC

Adjustment Shims for Upper Deck Roadway Angles
Paint: None

RIVETS	HOLES	DATE	DRG.	DESIGNED	ORDER No.
		3/20/24	15	Gary #1	Wilkinson
		4/15/24		4/27/24 Corr.	
		4/29/24		Amb'r.	G-5107

NAME OF STRUCTURE

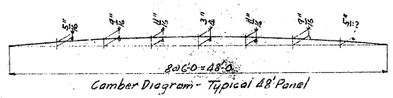
SHEET No. C14

San Francisco-Oakland Bay Bridge - Cantilever Structure - E. Cantilever Arm

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY

A51-A52-A53



Camber Diagram - Typical 48' Panel

APPROVED
Engr. of Design
Engr. of Erection
Chief Engineer
Approval Date 4-10-24

Shop Note: { Shims to be Flat / Remove all burrs

Note: All material on this sheet to be Copper bearing Carbon Steel

LOCATION	MEMBER NO. PCS	MEMBER NAME	MEMBER MARK	MATERIAL NO. PCS	MATERIAL SHAPE	MATERIAL LENGTH FT.	MATERIAL LENGTH INS.	MATERIAL LENGTH MIC.	REMARKS	CALCULATED DIMENSIONS NO. PCS	CALCULATED DIMENSIONS WEIGHT	ORDERED NO. PCS	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ORDERED ITEM	SHIPMENTS
1	500	Adjustment Shims	A51	500	Bars 3/8	0	5 1/2		76.	1448	1216	12	11	10		
2	233	do	A52	233	Bars 3/16	0	5 1/2		16.	38	4	1/2	9	1	151	
3	72	do	A53	72	Bars 3/16	0	5 1/2		20.	93	4	1/2	29	5	148	
4																
5																
6	297		A51	actual No Used					125							
7	183		A52						22							Pay Weight
8	60		A53						15							
9									Sum							
10									Rel. Wgts. to be Rtd.							
11																
12		Total		894	Sheets											
13																
14		Est. Total		1394	Sheets											EC

Adjustment Shims for Upper Deck Roadway Angles
Paint: None

RIVETS	HOLES	DATE	DRG.	DESIGNED	ORDER No.
		3/20/24	15	Gary #1	Wilkinson
		4/15/24		4/27/24 Corr.	
		4/29/24		Amb'r.	G-5107

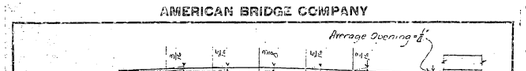
NAME OF STRUCTURE

SHEET No. C15

San Francisco-Oakland Bay Bridge - Cantilever Structure - Suspended Span

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



A51-A52

Shop Note: { Shims to be Flat / Remove all burrs

Note - All material on this sheet to be Copper Bearing Carbon Steel

LOCATION	MEMBER NO. PCS	MEMBER NAME	MEMBER MARK	MATERIAL NO. PCS	MATERIAL SHAPE	MATERIAL LENGTH FT.	MATERIAL LENGTH INS.	MATERIAL LENGTH +	REMARKS	CALCULATED DIMENSIONS NO. PCS	CALCULATED DIMENSIONS WEIGHT	ORDERED NO. PCS	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ORDERED ITEM	SHIPMENTS
1	880	Adjustment Shims	A51	880	Bars 3/8	0	5 1/2		52.	Total Wgt. 1704						
2	175	do	A52	190	Bars 3/16	0	5 1/2		19.	55.						
3	1700	Cut Washers		4	7/8 x 7/8 x 3/16				160.	Rec'd 1650						
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																
14																
15																
16		Total		2877	Sheets											
17																
18		Est. Total		2877	Sheets											EC

Adjustment Shims for Upper Deck Roadway Angles
Paint - None

RIVETS	HOLES	DATE	DRG.	DESIGNED	ORDER No.
		3/20/24	15	Grey #2	
		4/15/24		4/27/24 Corr.	
		4/29/24		Amb'r.	G-5107

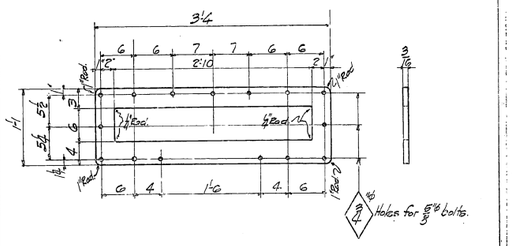
NAME OF STRUCTURE

SHEET No. C104

S.F.-Oakland Bay Bridge - A-Lattice Truss Spans - Y61-E1

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



Asbestos Gasket - AG1

Note To Erector - These gaskets to be used with Cast-Iron Drainage Outlets - Do1 - detailed on Sh. CF101-G-5107.

LOCATION	MEMBER NO. PCS	MEMBER NAME	MEMBER MARK	MATERIAL NO. PCS	MATERIAL SHAPE	MATERIAL LENGTH FT.	MATERIAL LENGTH INS.	MATERIAL LENGTH MIC.	REMARKS	CALCULATED DIMENSIONS NO. PCS	CALCULATED DIMENSIONS WEIGHT	ORDERED NO. PCS	ORDERED LENGTH FT.	ORDERED LENGTH INS.	ORDERED ITEM	SHIPMENTS
1	7	Gaskets	AG1	7	Span #1 - Y81-Y82 13 x 13/16				Commercial Std. material.				3	4		
2																
3	3	"	"	3	Span #2 - Y82-Y83 13 x 13/16								3	4		
4																
5	4	"	"	4	Span #3 - Y83-Y84 13 x 13/16								3	4		
6																
7	3	"	"	3	Span #4 - Y84-E1 13 x 13/16								3	4		
8																
9					Gaskets to be shipped boxed.											
10																
11																
12																
13																
14																
15																
16																
17																
18																

Paint - None.

RIVETS	HOLES	DATE	DRG.	DESIGNED	ORDER No.
None	Shop	4/27/24	15	Gary #3	Tompt
		4/29/24		Amb'r.	G-5107

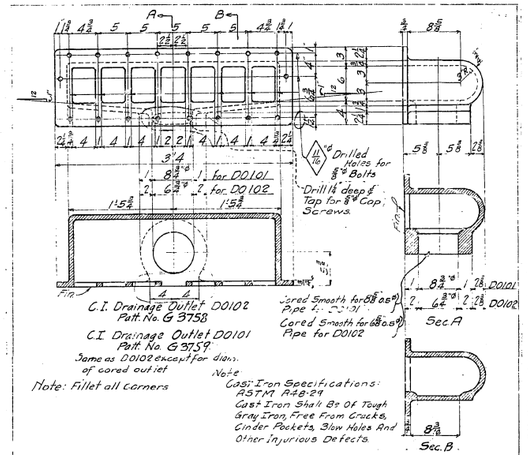
NAME OF STRUCTURE

SHEET No. C501

San Francisco-Oakland Bay Bridge - Contract No. 7

SKETCH, SHOP AND SHIPPING SHEET

AMERICAN BRIDGE COMPANY



Note: Fillet all corners

Note
Cast Iron Specifications: ASTM A48-29
Cast Iron Shall Be Of Tough Gray Iron, Free From Cracks, Cinder Pockets, Blow Holes And Other Injurious Defects.

MEMBER NO. PCS	MEMBER NAME	MEMBER MARK	MATERIAL NO. PCS	MATERIAL SHAPE	MATERIAL LENGTH FT.	MATERIAL LENGTH IN.	REMARKS	ORDERED NO. PCS	ORDERED LENGTH FT.	ORDERED LENGTH IN.	ORDERED ITEM	SHIPMENTS
				West Anchor Arm								
6	Drain Outlet	D0101	6	13 x 13⅜	3	4	C.I. Dr. G3759	311				
4	do.	D0102	4	13 x 13⅜	3	4	C.I. Dr. G3758	343				
				Assemble and Ship 1-D0101 welded to each DS 201 Sh 504								
				Assemble and Ship 1-D0102 welded to each DS 215 Sh 504								

Do Not Ship From This Sheet

Pat'd 11-7-33

9-12-34

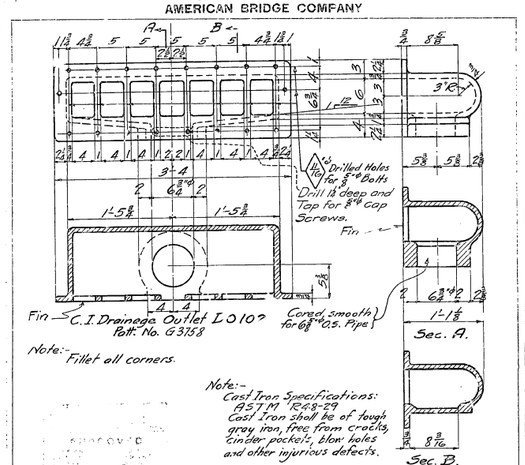
Paint:- None

DATE: 6-6-34, 8-1-34, 12-11-34 | DRAWINGS: Gary #1 Fabridge | ORDER No.: Wilkinson G510[illegible] | SHEET No.: CF1

NAME OF STRUCTURE: San Francisco-Oakland Bay Bridge - East Bay Crossing - Cantilever Structure

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



Note:- Fillet all corners.

Note:-
Cast Iron Specifications: ASTM A48-29
Cast Iron shall be of tough gray iron, free from cracks, cinder pockets, blow holes and other injurious defects.

11-15-34

MEMBER NO. PCS	MEMBER NAME	MEMBER MARK	MATERIAL NO. PCS	MATERIAL SHAPL	MATERIAL LENGTH FT.	MATERIAL LENGTH IN.	REMARKS	ORDERED NO. PCS	ORDERED LENGTH FT.	ORDERED LENGTH IN.	ORDERED ITEM	SHIPMENTS
				West Cantilever Arm								
6	Drain Outlet	D0102	6	13 x 13⅜	3	4	Cast Iron Patt. #G3758	343				
				Suspended Span								
8	do	D0102	8	13 x 13⅜	3	4	Cast Iron Patt. #G3758	343				
				East Cantilever Span								
6	do	D0102	6	13 x 13⅜	3	4	Cast Iron Patt. #G3758	343				
				East Anchor Arm								
6	do	D0102	6	13 x 13⅜	3	4	Cast Iron Patt. #G3758	343				
				Assemble and ship 1-D0102 welded to each DS241-DS255 and DS257 detailed on sh. 505								

Do Not Ship From This Sheet

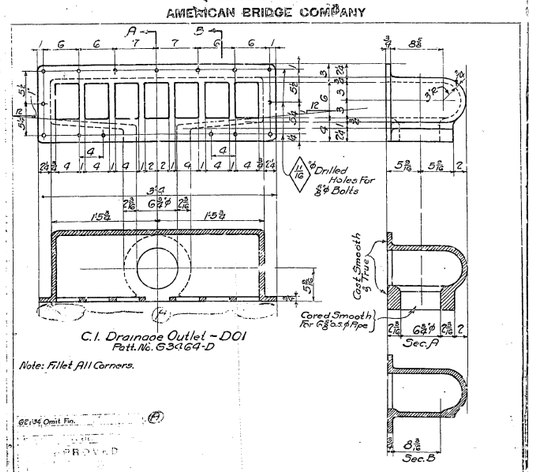
Paint:- None

DATE: 11-15-34 | DRAWINGS: Gary #1 Fabridge | ORDER No.: Wilkinson G5107 | SHEET No.: CF2

NAME OF STRUCTURE: San Francisco-Oakland Bay Bridge - East & West Cant. Arms, Susp. Span, East Anch. Arms

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY



Note: Fillet All Corners.

Ex 134 Omit Fin.

4-23-34

MEMBER NO. PCS	MEMBER NAME	MEMBER MARK	MATERIAL NO. PCS	MATERIAL SHAPE	MATERIAL LENGTH FT.	MATERIAL LENGTH IN.	REMARKS	ORDERED NO. PCS	ORDERED LENGTH FT.	ORDERED LENGTH IN.	ORDERED ITEM	SHIPMENTS
				Span #1 - Y81-Y82								
7	Drain Outlet	D01	7	13 - 13⅜	3	4	Cast Iron Patt. No. G3464D	511				
				Span #2 - Y83-Y85								
3		D01	3	13 - 13⅜	3	4		351				
				Span #3 - Y85-Y84								
4		D01	4	13 - 13⅜	3	4		511				
				Span #4 - Y84 - E1								
3		D01	3	13 - 13⅜	3	4		351				

Note:- Cast Iron Specifications - A.S.T.M. - A48-29 - Cast Iron Shall Be Of Tough, Gray Iron, Free From Cracks, Cinder Pockets, Blowholes And Other Injurious Defects.

Paint: None Except Fin Surfaces One Coat Red Resisting Liquid

Inspection:- J.M. Bailey, Co. Insp.

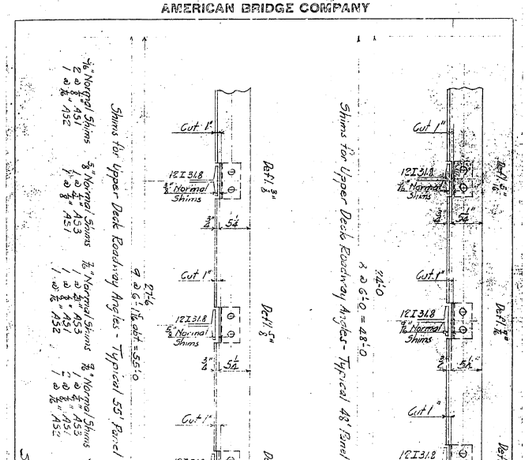
Do Not Ship From This Sheet

DATE: 4-23-34 | DRAWINGS: Gary #3 Fabricate | ORDER No.: G-5107

STATE OF CALIFORNIA - DEPT. OF PUBLIC WORKS | NAME OF STRUCTURE: SAN FRANCISCO-OAKLAND BAY BRIDGE - CONTRACT No. 7

SKETCH SHEET

AMERICAN BRIDGE COMPANY



Notes for Upper Deck Roadway Angles account of Stringer deflection

DATE: 1/18 | DRAWINGS: Gary #1 Fabricate | ORDER No.: Wilkinson G5107 | SHEET No.: 506

NAME OF STRUCTURE: San Francisco-Oakland Bay Bridge - Cantilever Structure - Suspended Span

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY

Hand Rope for Anchor Arms. UA8 to U0

8 - Pcs. 5/8" Perfected Extra Galv. Special Steel Strand. Containing 7 Wires. 440' long.
See A.S.&W.Co's. Wire Rope Cat. 1934. Pg. 72.

8 - Galv. Heavy Wire Rope Thimbles for 5/8 Rope.
See A.S.&W. Co's. Wire Rope Cat. 1934. Pg. 79.

8 - 1" Galv. Turnbuckles. Approx. breaking strength 30,250# with 1-Eye & 1-Shackle. Shackle to have 1 1/8" pin, 1" Grip & 3" from ℄ Pin to back of Throat.
See A.S.&W. Co's. Wire Rope Cat. 1934. Pg. 96. Type 113A

Mark	Revision	Appd

APPROVED
Chas. B. Wilmot, Engr. of Design
Chas. E. Andrew, Bridge Engineer
G. H. Pond, Chief Engineer
Approved Date: 5-16-35

SHEET NO.	MEMBER NO. PCS	MEMBER NAME	MARK	MATERIAL NO. PCS	MATERIAL SHAPE	MATERIAL LENGTH Ft.	MATERIAL LENGTH + Ins.	MATERIAL LENGTH Fr.	REMARKS	ENGINEERS WEIGHT PER ONE MEMBER	SQ. PCS.	ORDERED LENGTH Ft.	ORDERED LENGTH Ins.	ITEM	SHIPMENTS
1	8	Wire Rope		8	5/8" Perfected Extra Galv. Steel Strand	440.	0		See Description above					Galv-A-6591	
2															
3															
4															
5	8	Thimbles		8	Galv. Thimbles for 5/8 Rope				do					Galv-A-6591	
6															
7															
8															
9	8	Turnbuckles		8	1" Galv. Turnbuckles				do					Galv-A-6591	
10															
11															
12															
13															
14															
15															
16															
17															
18															

Ship Direct to Site.

Lump Sum

Hand Rope for Anch. Arms

ROUTED | PUNCHED | DRILLED | SHIPPED | Galv'd | Paint | Gary (I) Designation For Paint G5107-X1 | ORDER No. | SHEET No. C-1

NAME OF STRUCTURE: San Francisco-Oakland Bay Bridge — East Bay Crossing

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY

Hand Rope for Cont. Arms & Susp. Span U0 to U0.

8 - Pcs. 5/8" Perfected Extra Galv. Special Steel Strand Containing 7 Wires. 725' long.
See A.S.&W.Co's. Wire Rope Cat. 1934. Pg. 72.

1 - Pc. 5/8" Rope about 6'-0" long for use between ladder and north truss at ℄ Suspended Span. Erector to use leftover of long rope for this piece.

8 - Galv. Heavy Wire Rope Thimbles for 5/8" Wire Rope.
See A.S.&W. Co's. Wire Rope Cat. 1934. Pg. 79

16 Galv. Tiger Clips for 5/8" Wire Rope.

4 - 1" Galv. Turnbuckles. Approx breaking strength 30,250# With 2 Eyes.
See A.S.&W. Co's. Wire Rope Cat. 1934. Pg. 96. Type 113B.

Mark	Revision	Appd

APPROVED
Chas. B. Wilmot, Engr. of Design
Chas. E. Andrew, Bridge Engineer
G. H. Pond, Chief Engineer
Approved Date: 5-16-35

SHEET NO.	MEMBER NO. PCS	MEMBER NAME	MARK	MATERIAL NO. PCS	MATERIAL SHAPE	MATERIAL LENGTH Ft.	MATERIAL LENGTH + Ins.	MATERIAL LENGTH Fr.	REMARKS	ENGINEERS WEIGHT PER ONE MEMBER	SQ. PCS.	ORDERED LENGTH Ft.	ORDERED LENGTH Ins.	ITEM	SHIPMENTS
1	8	Pcs 5/8" Perfected Extra Galv. Special Steel Strand 7 Wires		8	Galv. Special Steel Strand 7 Wires	725.	0		See Description above					Galv-A-6591	
2															
3															
4	8	Thimbles		8	Galv. Thimbles for 5/8 Rope									Galv-A-6591	
5															
6															
7	18	Tiger Clips for 5/8 Rope (Galv.)												Galv-A-6591	
8	4	1" Galv. Turnbuckles												Galv-A-6591	
9															
10															
11															
12															
13															
14															
15															
16															
17															
18															

Ship Direct to Site.

Lump Sum

Hand Rope for Cont Arms & Susp. Span

ROUTED | PUNCHED | DRILLED | SHIPPED | Galv'd | Paint | Gary (I) Designation For Paint G5107-X1 | ORDER No. | SHEET No. C-2

NAME OF STRUCTURE: San Francisco-Oakland Bay Bridge — East Bay Crossing

SKETCH, SHOP AND SHIPPING BILL

AMERICAN BRIDGE COMPANY

Hand Rope for 5-504' Spans.

10 - Pcs. 5/8" Perfected Extra Galv. Special Steel Strand containing 7 Wires. 360' long.
See A.S.&W.Co's. Wire Rope Cat. 1934. Pg. 72.

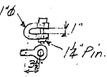
5 - Pcs. Same as above. 68' long.

30 - Galv. Heavy Wire Rope Thimbles for 5/8 Wire Rope.
See A.S.&W.Co's. Wire Rope Cat. 1934. Pg. 79.

60 - Galv. Tiger Clips for 5/8 Wire Rope.

10 - 1" Galv. Turnbuckles. Approx. breaking strength 30,250# with 1-Eye & 1-Shackle. Shackle to have 1 1/8" Pin. 1" Grip & 3" from ℄ Pin to back of Throat.
See A.S.&W.Co's. Wire Rope Cat. 1934. Pg. 96. Type 113A
Note to Erector - Use one turnbuckle on the west end of each 360' Rope.

20 - Galv. Shackles



Note to Erector - Use one shackle on the east end of each 360' Rope and each end of transverse ropes at ℄ Span.

Mark	Revision	Appd

APPROVED
Chas. B. Wilmot, Engr. of Design
Chas. E. Andrew, Bridge Engineer
G. H. Pond, Chief Engineer
Approved Date: 5-16-35

SHEET NO.	MEMBER NO. PCS	MEMBER NAME	MARK	MATERIAL NO. PCS	MATERIAL SHAPE	MATERIAL LENGTH Ft.	MATERIAL LENGTH + Ins.	MATERIAL LENGTH Fr.	REMARKS	ENGINEERS WEIGHT PER ONE MEMBER	SQ. PCS.	ORDERED LENGTH Ft.	ORDERED LENGTH Ins.	ITEM	SHIPMENTS
1	10	Pcs 5/8" Perfected Extra Galv. Special Steel Strand		10	5/8" Perfected Extra Galv. Special Steel Strand	360.	0							Galv-A-6591	
2															
3															
4	5	Pcs		10		68.	0							Galv-A-6591	
5															
6															
7	30	Galv. Thimbles for 5/8 Rope												Galv-A-6591	
8	60	Galv. Tiger Clips for 5/8 Rope							See Description above					Galv-A-6591	
9															
10	10	Galv 1" Turnbuckles												Galv-A-6591	
11															
12	20	Galv 1" Shackles												Galv-A-6591	
13															
14															
15															
16															
17															
18															

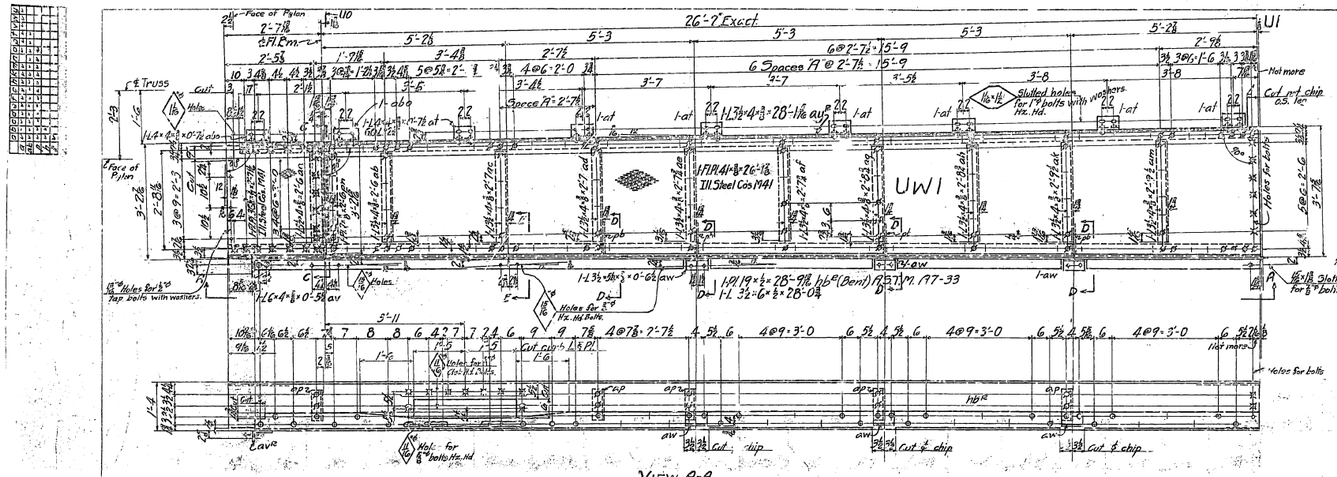
Ship Direct to Site

Hand Rope for 5-504' Spans

ROUTED | PUNCHED | DRILLED | SHIPPED | Galv'd | Paint | Gary (I) Designation For Paint G5107-X1 | ORDER No. | SHEET No. C-3

NAME OF STRUCTURE: San Francisco-Oakland Bay Bridge — East Bay Crossing

30-1



VIEW A-A
VIEW B-B (Opp. Hand.)

SHOP NOTE

All rivets in floor plates to be countersunk, not chipped.
All rivets in curb plates marked thus ⊠ to be countersunk, not chipped.
Max. height of countersunk rivets to be ½".

GEN. NOTES

MATERIAL: All material O.H. Copper bearing medium carbon steel, except curb plates which are to conform with A.S.T.M. specifications A7-33 with not less than 0.20% copper.
SPECIFICATIONS - Special by State of California Dept. of Public Works.
INSPECTION - John M. Bailey, Chief Inspector.
RIVETS - ⅞" ø Unless noted.
OPEN HOLES - 1⅛" ø
REAMING - None
SHOP PAINT - None.
FINISH - All burrs and rough edges to be removed by chipping or grinding.

REQUIRED		
No.	Description	Mark
1	Walks	UW1
1	do.	UW2

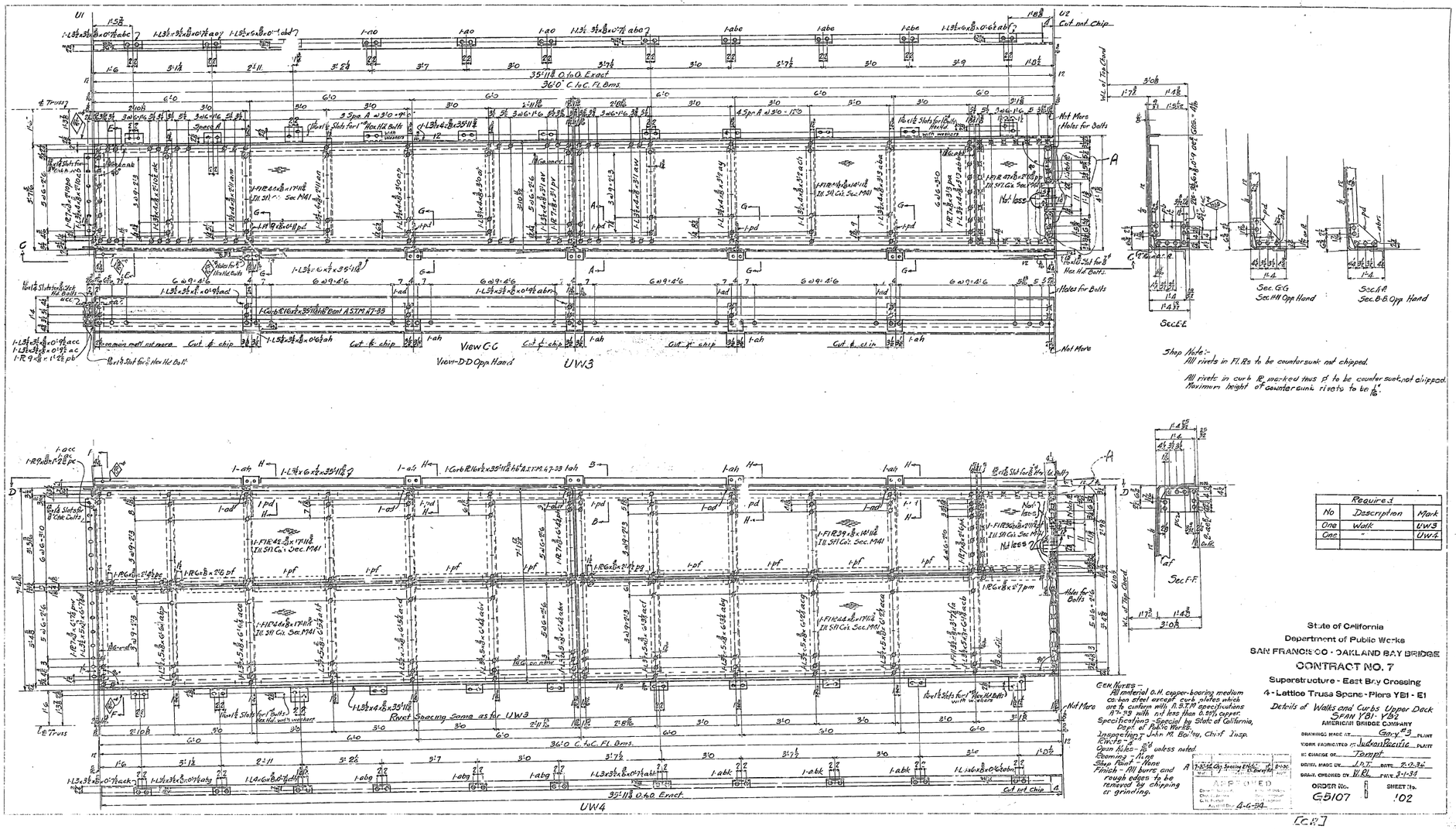
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Pierr. YE1 - E1
Details of Walks and Curbs, Upper Deck
Span YE1 - YE2

AMERICAN BRIDGE COMPANY

DRAWING MADE AT ..... GARY '33 PLANT
WORK FABRICATED AT Judson Pacific PLANT
IN CHARGE OF TOMPT
DRAWN, TRACED BY M.E.W. DATE 2-9-34
DWGS. CHECKED BY W.R.L. DATE 2-27-34

APPROVED
Chief Engineer
Department of Public Works
State of California
Date 4-6-34

ORDER No. G5107
SHEET No. 101



Required		
No	Description	Mark
One	Walk	UW3
One	"	UW4

GEN NOTES –
All material O.H. copper-bearing medium as low steel except curb plates which are to conform with A.S.T.M. specifications A7-29 with not less than 0.15% copper.
Specifications – Special by State of California, Dept of Public Works
Inspection – John M. Bailey, Chief Insp.
Rivets – ⅞" unless noted
Reaming – None
Shop Paint – None
Finish – All burrs and rough edges to be removed by chipping or grinding.

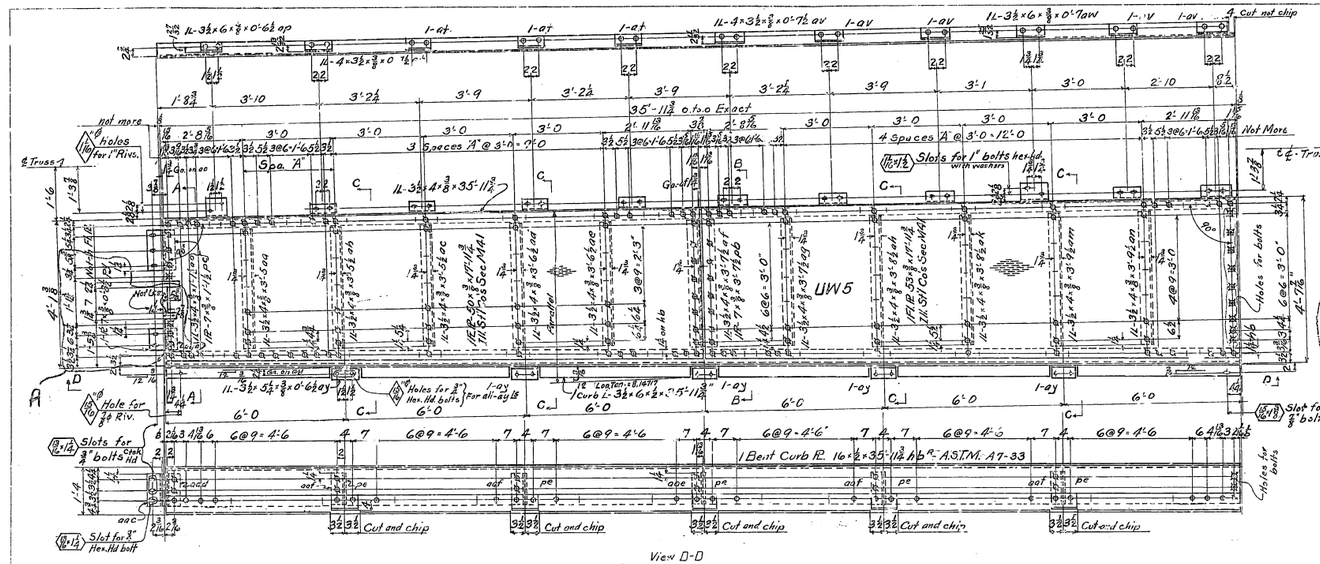
No.	Date	Revision	By	Chkd.
A	1-23-36	City Spacing Bolts		

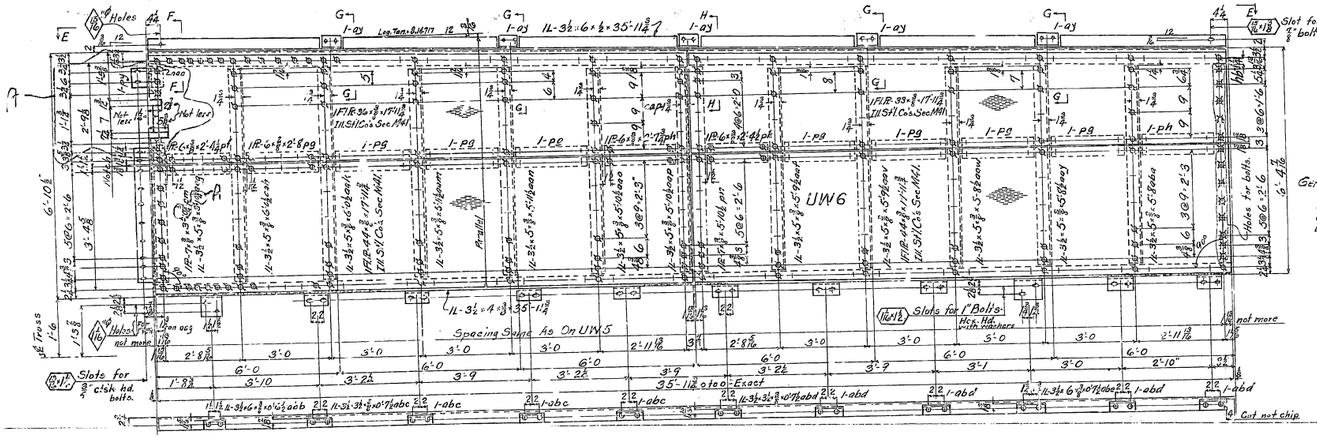
APPROVED
Chief Engineer
Chief Engineer
Asst. Chief Engineer
Approved Dec. 4-6-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4-Lattice Truss Spans - Piers YB1 - E1
Details of Walks and Curbs Upper Deck
SPAN YB1 - YB2
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary PLANT
WORK FABRICATED BY Judson Pacific PLANT
IN CHARGE OF Tompt
DRAWN MADE BY J.N.T. DATE 2-12-36
DRAWN CHECKED BY W.R. DATE 3-1-34
ORDER No. G5107
SHEET No. 102

[C.P.]

30-1





REQUIRED		
No.	Description	Mark
One	Walk	UW5
One	Walk	UW6

Shop Note-
All rivets in floor pls to be countersunk-not chipped.
All rivets in curb pls marked thus ◇ to be countersunk-not chipped.
Maximum height of countersunk rivets to be 1/16".

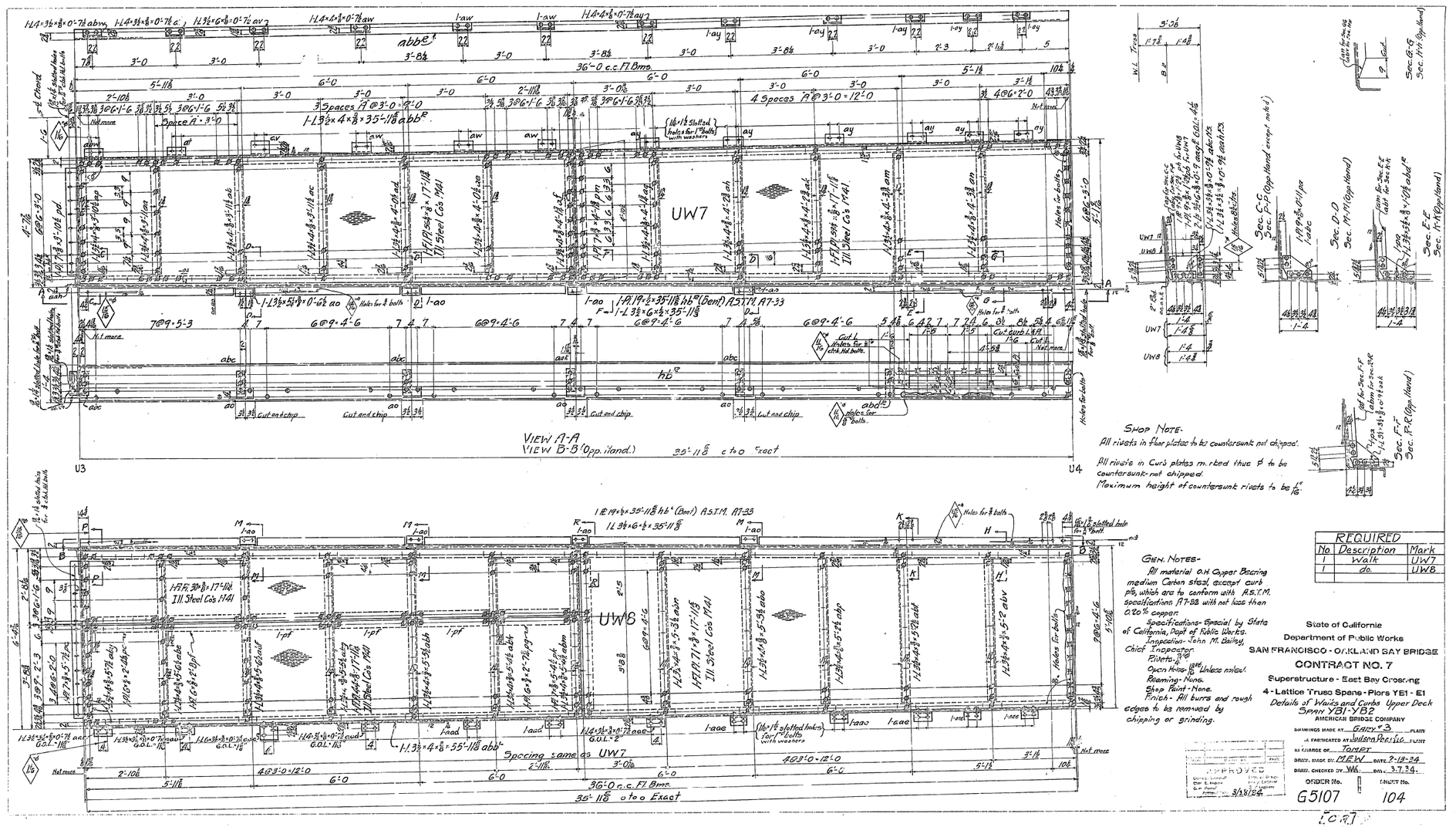
Gen. Notes-
Material- All material O.H. Copper Bearing medium Carbon steel, except Curb plates which are to conform with A.S.T.M. specifications A7-33 with not less than 0.20% Copper.
Specifications - Special by State of California, Dept of Public Works.
Inspection - John M. Bailey - Chief Inspector.
Rivets - 7/8" ϕ
Open Holes - 1" ϕ Unless noted.
Foaming - None.
Shop Paint - None.
Finish - All burrs and rough edges to be removed by chipping & grinding.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Walks & Curbs Upper Deck
Span YB1-YB2
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary PLANT
FABRICATED AT Judson Pacific PLANT
IN CHARGE OF Tompt
DRAWN BY CBV DATE 2-9-34
TRACED BY CBV DATE 2-9-34
CHECKED BY AEF DATE 3-7-34

APPROVED
State of California
Department of Public Works
Division of Bridges
4/2/34

ORDER No. G5107
SHEET No. 103

LCAJ

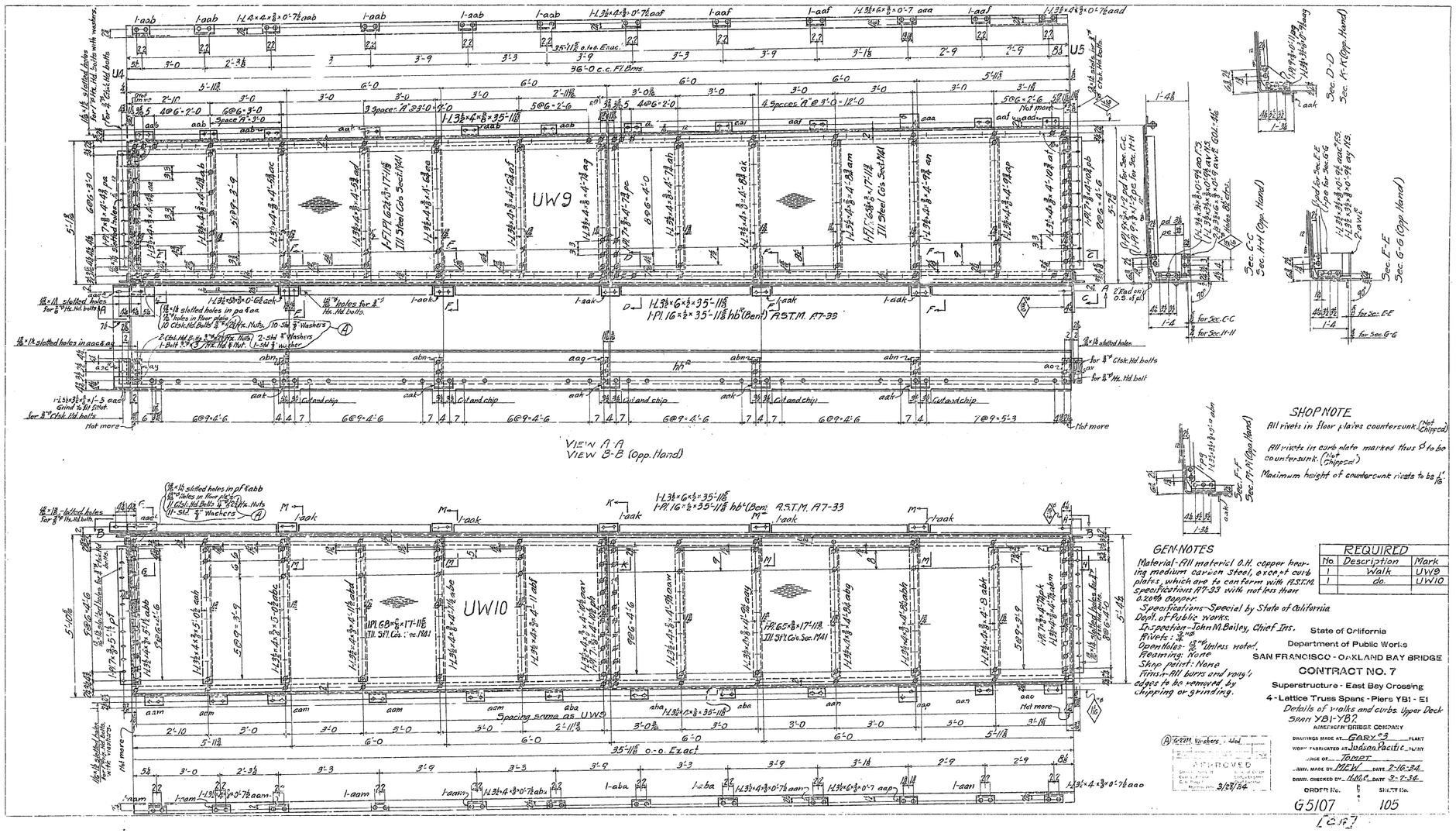


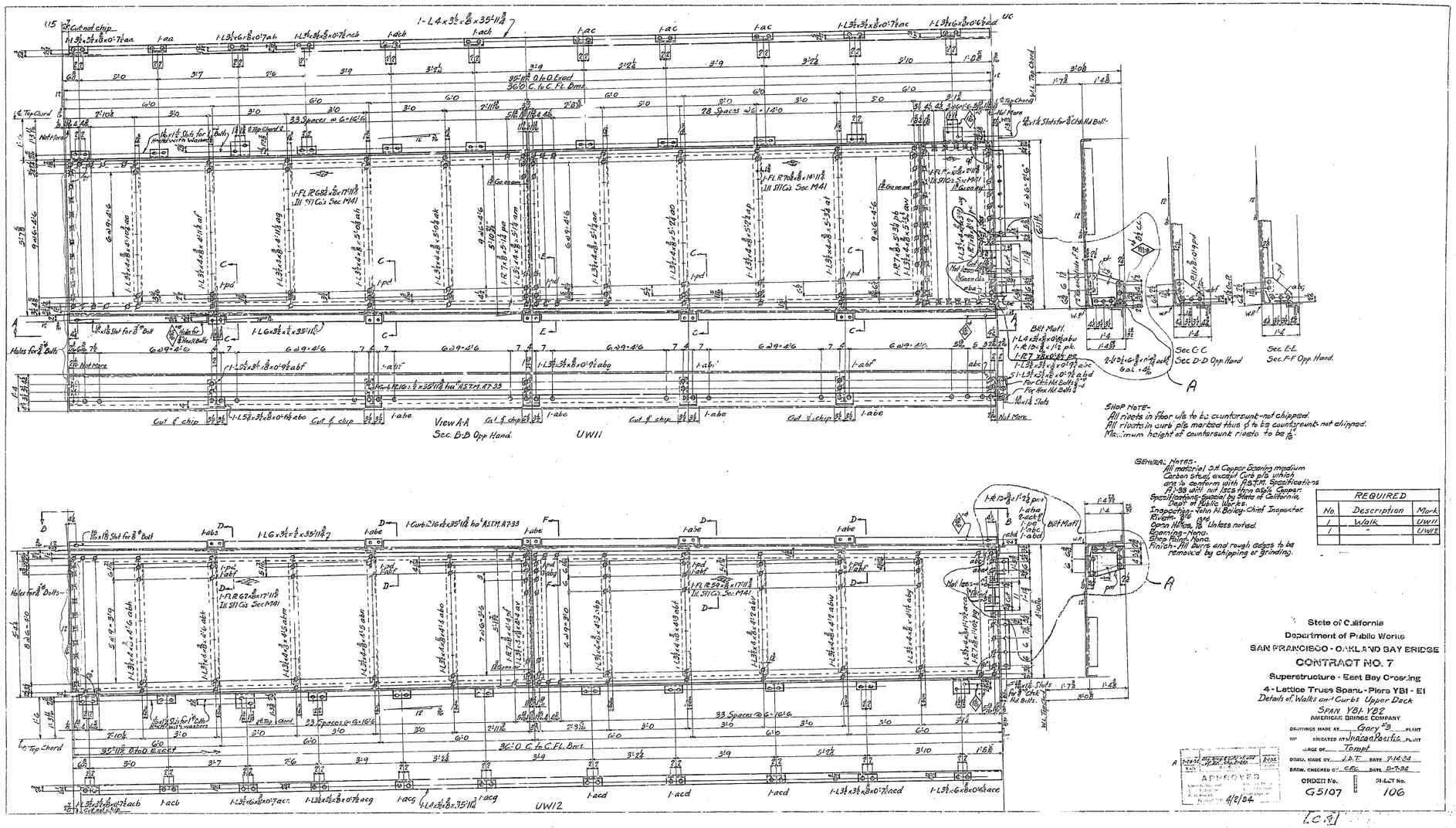
REQUIRED		
No	Description	Mark
1	Walk	UW7
1	do.	UW8

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YE1 - E1
Details of Walks and Curbs Upper Deck
Span YB1-YB2
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT GARY, IND. PLANT
& FABRICATED AT Ambridge, Pa. PLANT
IN CHARGE OF TOMEI
DRAWN BY MEW DATE 2-18-24
DRAWN, CHECKED BY WA DATE 3.7.24
ORDER No. G5107
SHEET No. 104

APPROVED
State of California
Dept. of Public Works
Div. of Bridges
Chief Engineer
3/28/24

E.C.T.


UW9
UW10
VIEW A-A
VIEW B-B (Opp. Hand)
SHOP NOTE
All rivets in floor plates countersunk. (Not Chipped)
All rivets in curb plate marked thus ◇ to be countersunk. (Not Chipped)
Maximum height of countersunk rivets to be 1/8"
GEN. NOTES
Material - All material O.H. copper bearing medium carbon steel, except curb plates, which are to conform with A.S.T.M. Specifications A7-33 with not less than 0.20% copper.
Specifications - Special by State of California Dept. of Public Works.
Inspection - John M. Bailey, Chief Ins.
Rivets: 7/8" Unless noted.
Open Holes: 13/16" Unless noted.
Reaming: None
Shop paint: None
Finish - All burrs and ragged edges to be removed by chipping or grinding.
REQUIRED
No | Description | Mark
1 | Walk | UW9
1 | do. | UW10
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of walks and curbs. Upper Deck
Span YB1-YB2
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT GARY
WORK FABRICATED AT Judson Pacific
DRAWN BY TOMPT
TRACED BY MCW DATE 2-16-34
CHECKED BY MMC DATE 3-7-34
ORDER No. G5107
SHEET No. 105
APPROVED
3/28/34



REQUIRED		
No.	Description	Mark
1	Walk	UW11
1	"	UW12

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Walks and Curbs Upper Deck
SPAN YB1-YB2
AMERICAN BRIDGE COMPANY

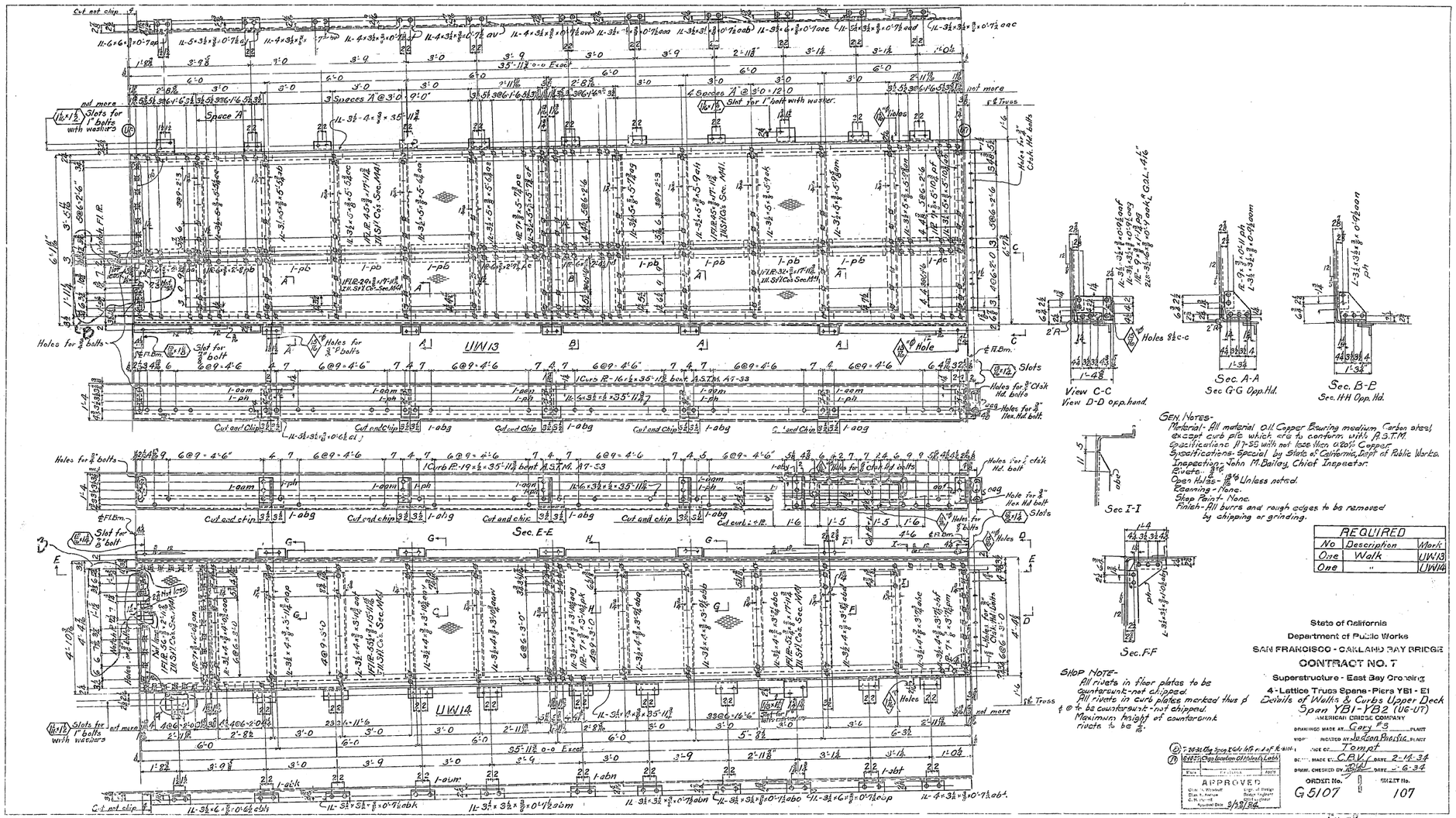
DRAWINGS MADE AT Gary PLANT
WP ERECTED AT Union Pacific PLANT
LOCATION Tempi
DRWG. MADE BY J.A.T. DATE 7-14-34
DRW. CHECKED BY C.E.C. DATE 8-7-34

APPROVED 8/9/34

ORDER No. G5107
SHEET No. 106

LC 31

30-1



GEN. NOTES-
Material- All material Oil Copper Bearing medium Carbon steel except curb plt which are to conform with A.S.T.M. Specification A7-33 with not less than 0.20% Copper.
Specifications: Special by State of California, Dept of Public Works.
Inspection: John M. Bailey, Chief Inspector.
Rivets- ¾"ø
Open Holes- 13/16 Unless noted.
Beaming - None.
Shop Paint- None.
Finish- All burrs and rough edges to be removed by chipping or grinding.

SHOP NOTE-
All rivets in floor plates to be countersunk-not chipped.
All rivets in curb plates marked thus ∮ to be countersunk - not chipped.
Maximum height of countersunk rivets to be 1/16".

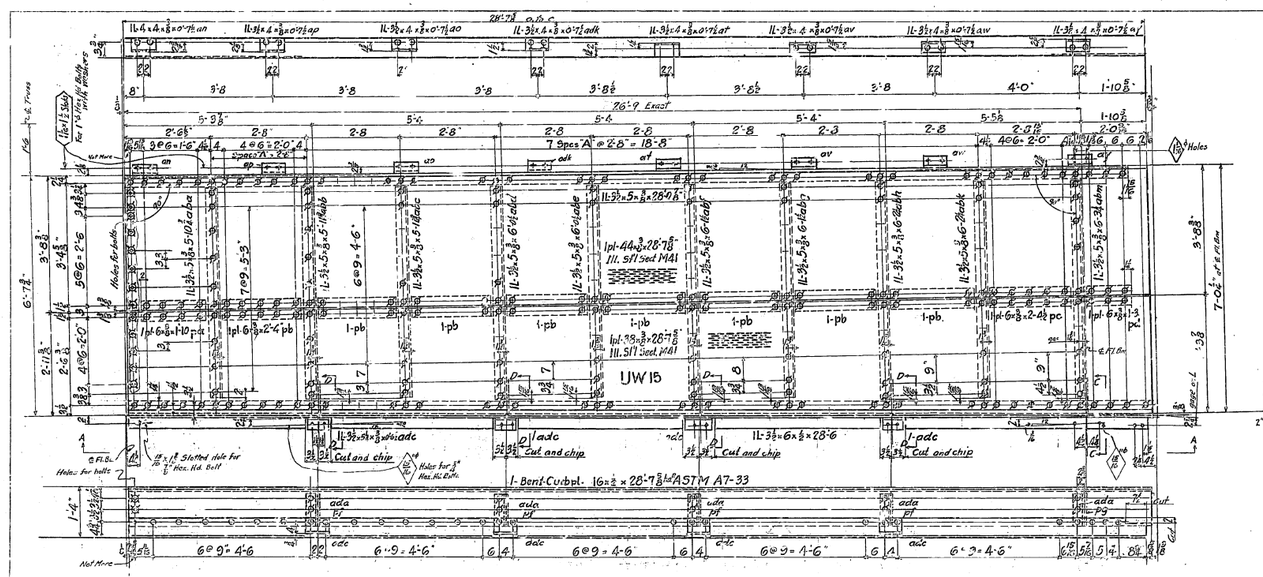
REQUIRED		
No	Description	Mark
One	Walk	UW13
One	"	UW14

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4- Lattice Truss Spans - Piers YB1 - E1
Details of Walks & Curbs Upper Deck
Span YB1-YB2 (UG-UT)
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary #3 PLANT
VISED INCITED AT Judson Pacific PLANT
CHECKED BY Tompt
DETAILS MADE BY C.A.V. DATE 2-14-34
DRAW. CHECKED BY [illegible] DATE 6-34
ORDER No. G5107 SHEET No. 107

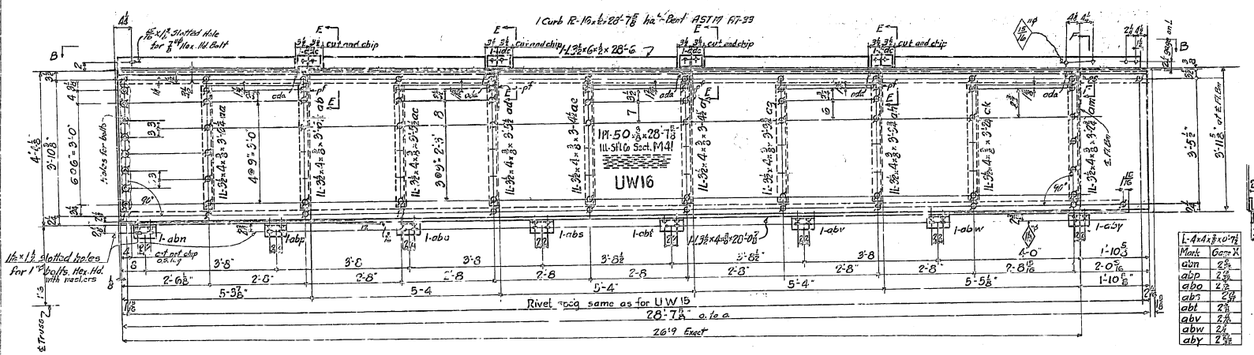
APPROVED
Chief Engineer
Bridge Engineer
Assistant Engineer
Approved Dec. 5/31/34

LCR?

30-1



VIEW A-A
VIEW B-B (Opp. Hand)



Mark	Gage X
abn	2⅜
abp	2⅜
abo	2⅜
abn	2⅜
abt	2⅜
abv	2⅜
abw	2⅜
abv	2⅜

Shop Note-
All rivets in floor plates to be countersunk-not chipped.
Rivets in curb pls marked thus ⚥ to be countersunk-not chipped.
Maximum height of countersunk rivets to be 1/16"

REQUIRED		
No.	Description	Mark
1	Walk	UW15
1	do.	UW16

GEN. NOTES-
Material - All material O.H. Copper Bearing medium Carbon steel, except curb pls which are to conform with A.S.T.M. Spec. A7-33 with not less than 0.20% Copper.
Specifications - Special by State of California, Dept. of Public Works.
Inspection - John M. Bailey - Chief Inspector.
Rivets - ⅞" ⚥
Open Holes - 13/16" Unless noted.
Reaming - None.
Shop Paint - None.
Finish - All burrs and rough edges to be removed by grinding or chipping.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of walks and curbs. Upper Deck
SPAN YB1-YB2

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary Ind. PLANT
IS FABRICATED AT Judson Pac. Fic. PLANT
IN CHARGE OF Tomet
DETAIL MADE BY W.B. DAT. 2-18-36
DETAIL CHECKED BY W.R.L. DAT. 2-7-36

A	5/7/36	Cap. Lug Plates Lt	ADV

APPROVED
Chief Engineer — Asst. Chief Engineer
Bridge Engineer
Resident Engineer
DATE 2/25/36

ORDER No. G5107
DWG'Y No. 108

[CA?]

30-1

Sec. A-A

Sec. B-B

Sec. C-C

Sec. D-D

Enlarged Detail of IR. P2

Sec. Req'd. List.

Storm Note:-
All rivets in floor plates, expansion joint bars and plates to be countersunk-not chipped.
All rivets in curb plate marked thus ⊕ to be countersunk-not chipped.
Maximum height of countersunk rivets to be 1/16".
Walks to be built to exact lengths and must be straight.

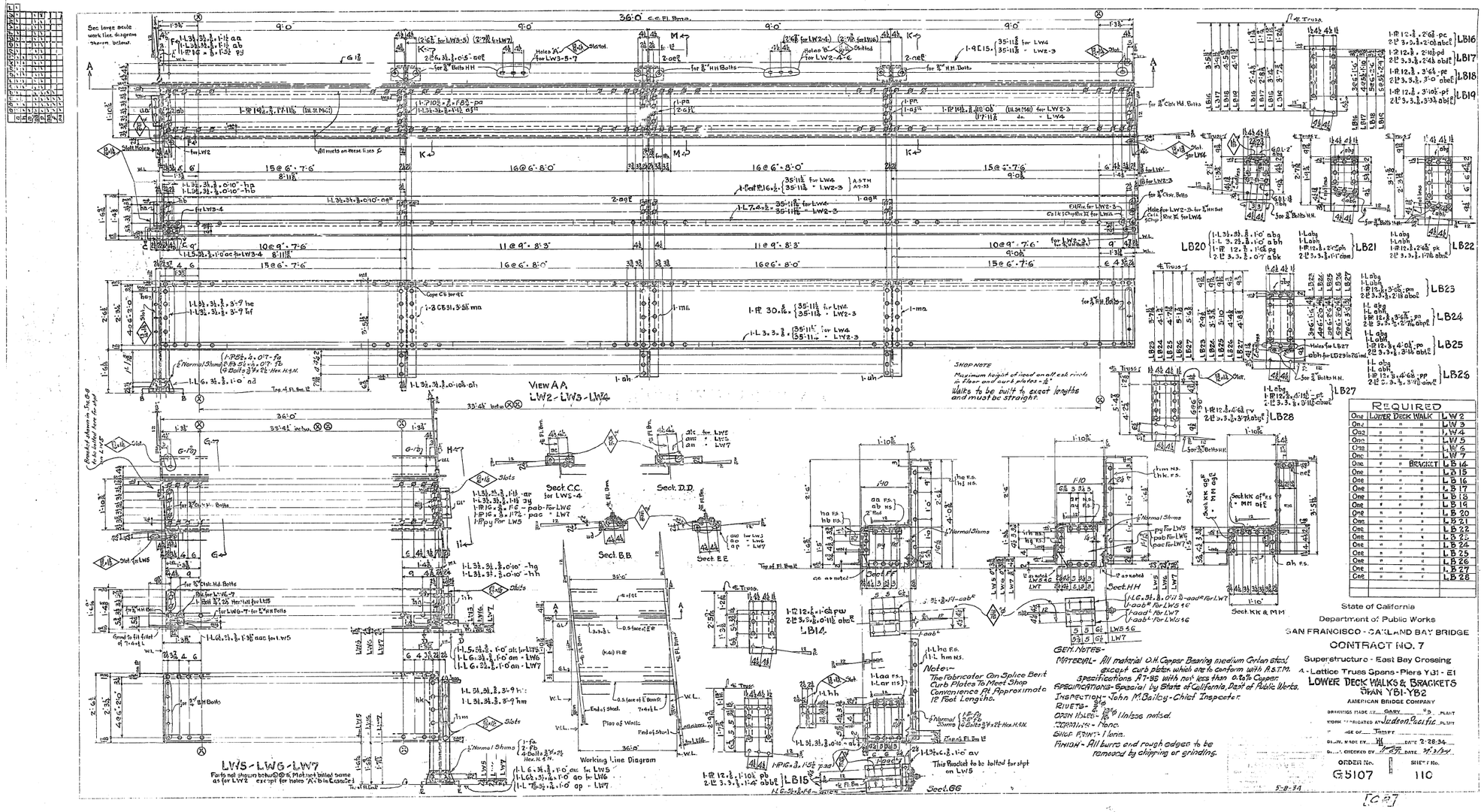
	REQUIRED		
	No.	Description	Mark
[CR]	One	Sidewalk	LW1
[C]	One	Expansion Joint	EJ1
[C]	One	" "	EJ2
[CR]	One	" "	EJ2

GEN. NOTES.
Material- All material O.H. Copper Bearing medium Carbon Steel, except Curb plates which are to conform with A.S.T.M. specifications A7-33 with not less than 0.20% Copper
Specifications- Special by State of California, Dept of Public Works.
Inspection- John M. Bailey - Chief Inspector.
Rivets- 7/8" Unless noted.
Open holes- 1/8" Unless noted.
Reaming- None.
Shop Paint- None.
Finish- All burrs and rough edges to be removed by chipping or grinding.

Note:-
The Fabricator Can Splice Bent Curb Plates To Meet Shop Convenience At Approximate 12 Foot Lengths.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Walks & Curbs & Expansion Joint
YB1 - YB2
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary Ind. PLANT
WORK FABRICATED AT Southern Pacific PLANT
IN [illegible] OF Transit
DR. [illegible] MADE BY C.B.H. DATE 2-22-34
DESIGN. CHECKED BY [illegible] DATE 3-10-34
ORDER No. G5107
STRUCT. No. 109

5-8-34



REQUIRED		
One	Lower Deck Walk	LW 2
One	" "	LW 3
One	" "	LW 4
One	" "	LW 5
One	" "	LW 6
One	" "	LW 7
One	" Bracket	LB 14
One	" "	LB 15
One	" "	LB 16
One	" "	LB 17
One	" "	LB 18
One	" "	LB 19
One	" "	LB 20
One	" "	LB 21
One	" "	LB 22
One	" "	LB 23
One	" "	LB 24
One	" "	LB 25
One	" "	LB 26
One	" "	LB 27
One	" "	LB 28

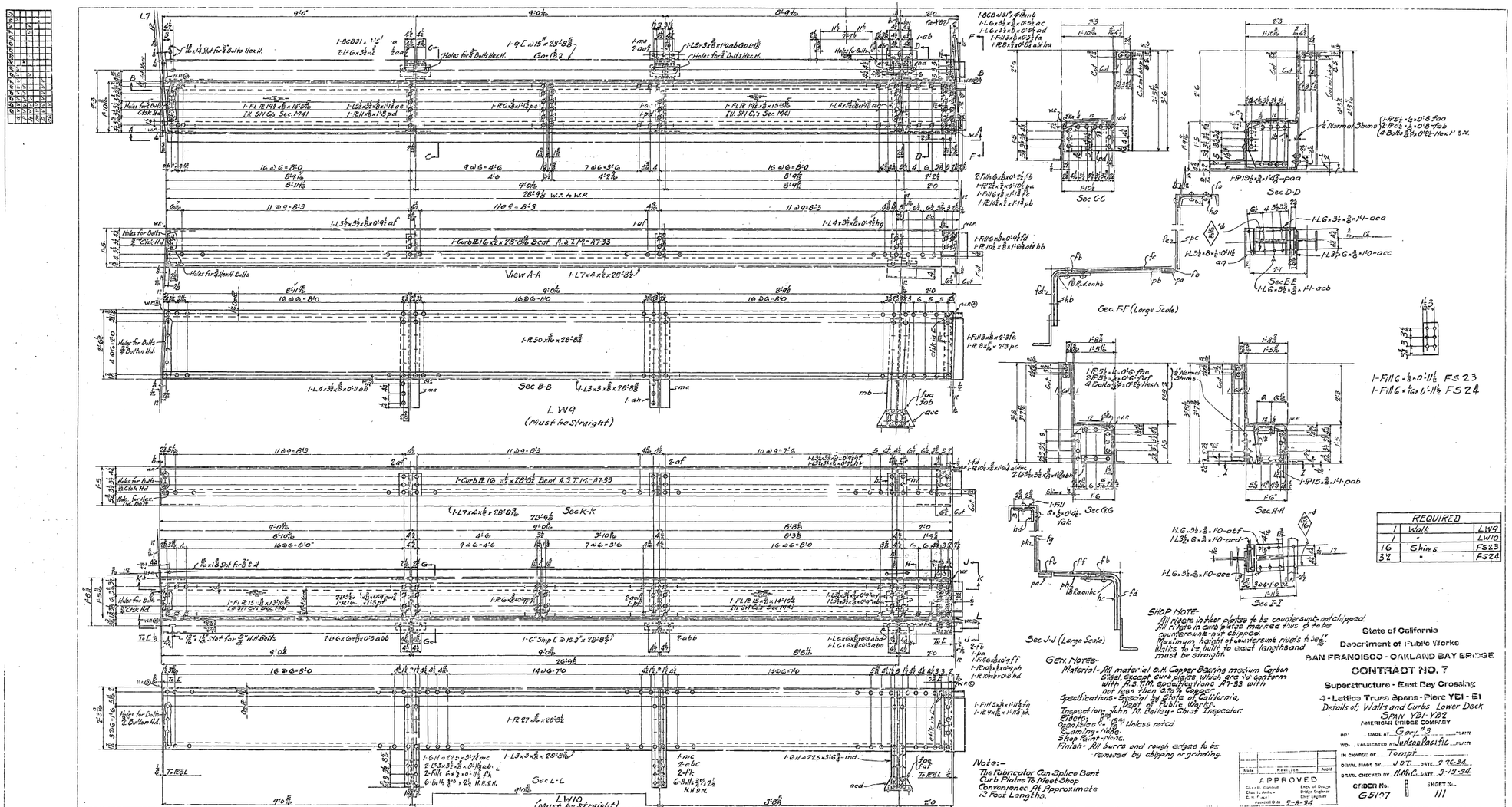
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
A - Lattice Truss Spans - Piers Y 31 - E1
LOWER DECK WALKS & BRACKETS
Span Y31-Y32
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT GARY, IND. PLANT
WORK FABRICATED AT Judson Pacific PLANT
" AGE OF Tonnage
DRAWN BY MG DATE 2-28-34
TRACED BY H.F. DATE 4-3-34
CHECKED BY H.F. DATE 4-3-34

ORDER No. G5107 | SHEET No. 110

5-8-34

[C.P.]


View A-A
Sec B-B
L W9
(Must be Straight)
Sec K-K
Sec L-L
LW10
(Must be Straight)
Sec C-C
Sec D-D
Sec E-E
Sec F-F (Large Scale)
Sec G-G
Sec H-H
Sec I-I
Sec J-J (Large Scale)
1-Curb PL16 x 2 x 28'-0 Bent A.S.T.M.-A7-33
1-Curb PL16 x 2 x 28'-0 Bent A.S.T.M.-A7-33
1-R 50 x 7/8 x 28'-8 1/2
1-R 27 3/8 x 2 x 6'-8 1/2
1-L 7 x 4 x 1/2 x 28'-8 1/2
1-L 7 x 4 x 1/2 x 18'-8 1/2
1-C 9 (15 lbs) x 25'-2 3/8
1-9 [(15 lbs) x 25'-2 3/8
Go-1327
1-8 CB 91 x 1'-2"
2-L 6 x 3 1/2 x 7/16
1-L 3 x 3 1/2 x 5/16 x 14'-0 ab GOL 1/8
1-L 3 x 3 1/2 x 5/16 x 26'-0 3/8
1-L 3 x 3 1/2 x 5/16 x 20'-6 1/2
1-L 4 x 3 1/2 x 5/16 x 11'-0 ah
1-L 4 x 3 1/2 x 5/16 x 0'-9 1/2 hg
1-L 3 x 3 1/2 x 5/16 x 0'-9 1/2 af
1-L 3 x 3 1/2 x 5/16 x 0'-9 1/2 ae
1-L 3 x 3 1/2 x 5/16 x 0'-11 1/2 age
1-R 11 x 7/8 x 1'-8 pd
1-R 6 x 3/8 x 1'-8 pa
1-R 6 x 3/8 x 1'-8 ag
1-R 6 x 3/8 x 1'-8 ap
1-Fl R 19 1/2 x 5/8 x 13'-0 Tk
1-Fl R 19 1/2 x 5/8 x 15'-0 Tk
1-L 4 x 3 1/2 x 5/16 x 26'-8 1/2 ad
1-L 4 x 3 1/2 x 5/16 x 26'-8 1/2 ac
1-Fill 3 x 5/16 x 0'-3 fa
1-R 8 x 5/16 x 0'-8 ad ha
1-Fill 3 x 5/16 x 2'-3 fe
1-R 8 x 5/16 x 2'-3 pc
1-Fill 6 x 5/16 x 0'-9 1/2 fd
1-R 10 x 5/16 x 1'-6 ad Hb
1-R 10 x 5/16 x 0'-8 ph
1-R 10 x 5/16 x 0'-8 hd
1-Fill 3 x 5/16 x 0'-11 1/2 fq
1-R 9 1/2 x 5/16 x 11'-8 pk
1-Fill 6 x 5/16 x 0'-11 1/2 fak
1-Fill 6 x 5/16 x 0'-11 1/2 FS 23
1-Fill 6 x 5/16 x 0'-11 1/2 FS 24
1-L 6 x 3 1/2 x 7/16 x 6'-3 1/2 abd
1-L 6 x 3 1/2 x 7/16 x 6'-3 abe
1-L 6 x 3 1/2 x 7/16 x 6'-3 abf
1-L 6 x 3 1/2 x 7/16 x 6'-3 abg
1-L 6 x 3 1/2 x 7/16 x 6'-3 abh
1-L 6 x 3 1/2 x 7/16 x 6'-3 abi
1-L 6 x 3 1/2 x 7/16 x 6'-3 abj
1-L 6 x 3 1/2 x 7/16 x 6'-3 abk
1-L 6 x 3 1/2 x 7/16 x 6'-3 abl
1-L 6 x 3 1/2 x 7/16 x 6'-3 abm
1-L 6 x 3 1/2 x 7/16 x 6'-3 abn
1-L 6 x 3 1/2 x 7/16 x 6'-3 abo
1-L 6 x 3 1/2 x 7/16 x 6'-3 abp
1-L 6 x 3 1/2 x 7/16 x 6'-3 abq
1-L 6 x 3 1/2 x 7/16 x 6'-3 abr
1-L 6 x 3 1/2 x 7/16 x 6'-3 abs
1-L 6 x 3 1/2 x 7/16 x 6'-3 abt
1-L 6 x 3 1/2 x 7/16 x 6'-3 abu
1-L 6 x 3 1/2 x 7/16 x 6'-3 abv
1-L 6 x 3 1/2 x 7/16 x 6'-3 abw
1-L 6 x 3 1/2 x 7/16 x 6'-3 abx
1-L 6 x 3 1/2 x 7/16 x 6'-3 aby
1-L 6 x 3 1/2 x 7/16 x 6'-3 abz
1-L 6 x 3 1/2 x 7/16 x 6'-3 aca
1-L 6 x 3 1/2 x 7/16 x 6'-3 acb
1-L 6 x 3 1/2 x 7/16 x 6'-3 acc
1-L 6 x 3 1/2 x 7/16 x 6'-3 acd
1-L 6 x 3 1/2 x 7/16 x 6'-3 ace
1-L 6 x 3 1/2 x 7/16 x 6'-3 acf
1-L 6 x 3 1/2 x 7/16 x 6'-3 acg
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1-L 6 x 3 1/2 x 7/16 x 6'-3 aci
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1-L 6 x 3 1/2 x 7/16 x 6'-3 aco
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1-L 6 x 3 1/2 x 7/16 x 6'-3 acq
1-L 6 x 3 1/2 x 7/16 x 6'-3 acr
1-L 6 x 3 1/2 x 7/16 x 6'-3 acs
1-L 6 x 3 1/2 x 7/16 x 6'-3 act
1-L 6 x 3 1/2 x 7/16 x 6'-3 acu
1-L 6 x 3 1/2 x 7/16 x 6'-3 acv
1-L 6 x 3 1/2 x 7/16 x 6'-3 acw
1-L 6 x 3 1/2 x 7/16 x 6'-3 acx
1-L 6 x 3 1/2 x 7/16 x 6'-3 acy
1-L 6 x 3 1/2 x 7/16 x 6'-3 acz
1-L 6 x 3 1/2 x 7/16 x 6'-3 ada
1-L 6 x 3 1/2 x 7/16 x 6'-3 adb
1-L 6 x 3 1/2 x 7/16 x 6'-3 adc
1-L 6 x 3 1/2 x 7/16 x 6'-3 add
1-L 6 x 3 1/2 x 7/16 x 6'-3 ade
1-L 6 x 3 1/2 x 7/16 x 6'-3 adf
1-L 6 x 3 1/2 x 7/16 x 6'-3 adg
1-L 6 x 3 1/2 x 7/16 x 6'-3 adh
1-L 6 x 3 1/2 x 7/16 x 6'-3 adi
1-L 6 x 3 1/2 x 7/16 x 6'-3 adj
1-L 6 x 3 1/2 x 7/16 x 6'-3 adk
1-L 6 x 3 1/2 x 7/16 x 6'-3 adl
1-L 6 x 3 1/2 x 7/16 x 6'-3 adm
1-L 6 x 3 1/2 x 7/16 x 6'-3 adn
1-L 6 x 3 1/2 x 7/16 x 6'-3 ado
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1-L 6 x 3 1/2 x 7/16 x 6'-3 adu
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1-L 6 x 3 1/2 x 7/16 x 6'-3 adx
1-L 6 x 3 1/2 x 7/16 x 6'-3 ady
1-L 6 x 3 1/2 x 7/16 x 6'-3 adz
1-L 6 x 3 1/2 x 7/16 x 6'-3 aea
1-L 6 x 3 1/2 x 7/16 x 6'-3 aeb
1-L 6 x 3 1/2 x 7/16 x 6'-3 aec
1-L 6 x 3 1/2 x 7/16 x 6'-3 aed
1-L 6 x 3 1/2 x 7/16 x 6'-3 aee
1-L 6 x 3 1/2 x 7/16 x 6'-3 aef
1-L 6 x 3 1/2 x 7/16 x 6'-3 aeg
1-L 6 x 3 1/2 x 7/16 x 6'-3 aeh
1-L 6 x 3 1/2 x 7/16 x 6'-3 aei
1-L 6 x 3 1/2 x 7/16 x 6'-3 aej
1-L 6 x 3 1/2 x 7/16 x 6'-3 aek
1-L 6 x 3 1/2 x 7/16 x 6'-3 ael
1-L 6 x 3 1/2 x 7/16 x 6'-3 aem
1-L 6 x 3 1/2 x 7/16 x 6'-3 aen
1-L 6 x 3 1/2 x 7/16 x 6'-3 aeo
1-L 6 x 3 1/2 x 7/16 x 6'-3 aep
1-L 6 x 3 1/2 x 7/16 x 6'-3 aeq
1-L 6 x 3 1/2 x 7/16 x 6'-3 aer
1-L 6 x 3 1/2 x 7/16 x 6'-3 aes
1-L 6 x 3 1/2 x 7/16 x 6'-3 aet
1-L 6 x 3 1/2 x 7/16 x 6'-3 aeu
1-L 6 x 3 1/2 x 7/16 x 6'-3 aev
1-L 6 x 3 1/2 x 7/16 x 6'-3 aew
1-L 6 x 3 1/2 x 7/16 x 6'-3 aex
1-L 6 x 3 1/2 x 7/16 x 6'-3 aey
1-L 6 x 3 1/2 x 7/16 x 6'-3 aez
1-L 6 x 3 1/2 x 7/16 x 6'-3 afa
1-L 6 x 3 1/2 x 7/16 x 6'-3 afb
1-L 6 x 3 1/2 x 7/16 x 6'-3 afc
1-L 6 x 3 1/2 x 7/16 x 6'-3 afd
1-L 6 x 3 1/2 x 7/16 x 6'-3 afe
1-L 6 x 3 1/2 x 7/16 x 6'-3 aff
1-L 6 x 3 1/2 x 7/16 x 6'-3 afg
1-L 6 x 3 1/2 x 7/16 x 6'-3 afh
1-L 6 x 3 1/2 x 7/16 x 6'-3 afi
1-L 6 x 3 1/2 x 7/16 x 6'-3 afj
1-L 6 x 3 1/2 x 7/16 x 6'-3 afk
1-L 6 x 3 1/2 x 7/16 x 6'-3 afl
1-L 6 x 3 1/2 x 7/16 x 6'-3 afm
1-L 6 x 3 1/2 x 7/16 x 6'-3 afn
1-L 6 x 3 1/2 x 7/16 x 6'-3 afo
1-L 6 x 3 1/2 x 7/16 x 6'-3 afp
1-L 6 x 3 1/2 x 7/16 x 6'-3 afq
1-L 6 x 3 1/2 x 7/16 x 6'-3 afr
1-L 6 x 3 1/2 x 7/16 x 6'-3 afs
1-L 6 x 3 1/2 x 7/16 x 6'-3 aft
1-L 6 x 3 1/2 x 7/16 x 6'-3 afu
1-L 6 x 3 1/2 x 7/16 x 6'-3 afv
1-L 6 x 3 1/2 x 7/16 x 6'-3 afw
1-L 6 x 3 1/2 x 7/16 x 6'-3 afx
1-L 6 x 3 1/2 x 7/16 x 6'-3 afy
1-L 6 x 3 1/2 x 7/16 x 6'-3 afz
1-L 6 x 3 1/2 x 7/16 x 6'-3 aga
1-L 6 x 3 1/2 x 7/16 x 6'-3 agb
1-L 6 x 3 1/2 x 7/16 x 6'-3 agc
1-L 6 x 3 1/2 x 7/16 x 6'-3 agd
1-L 6 x 3 1/2 x 7/16 x 6'-3 age
1-L 6 x 3 1/2 x 7/16 x 6'-3 agf
1-L 6 x 3 1/2 x 7/16 x 6'-3 agg
1-L 6 x 3 1/2 x 7/16 x 6'-3 agh
1-L 6 x 3 1/2 x 7/16 x 6'-3 agi
1-L 6 x 3 1/2 x 7/16 x 6'-3 agj
1-L 6 x 3 1/2 x 7/16 x 6'-3 agk
1-L 6 x 3 1/2 x 7/16 x 6'-3 agl
1-L 6 x 3 1/2 x 7/16 x 6'-3 agm
1-L 6 x 3 1/2 x 7/16 x 6'-3 agn
1-L 6 x 3 1/2 x 7/16 x 6'-3 ago
1-L 6 x 3 1/2 x 7/16 x 6'-3 agp
1-L 6 x 3 1/2 x 7/16 x 6'-3 agq
1-L 6 x 3 1/2 x 7/16 x 6'-3 agr
1-L 6 x 3 1/2 x 7/16 x 6'-3 ags
1-L 6 x 3 1/2 x 7/16 x 6'-3 agt
1-L 6 x 3 1/2 x 7/16 x 6'-3 agu
1-L 6 x 3 1/2 x 7/16 x 6'-3 agv
1-L 6 x 3 1/2 x 7/16 x 6'-3 agw
1-L 6 x 3 1/2 x 7/16 x 6'-3 agx
1-L 6 x 3 1/2 x 7/16 x 6'-3 agy
1-L 6 x 3 1/2 x 7/16 x 6'-3 agz
1-L 6 x 3 1/2 x 7/16 x 6'-3 aha
1-L 6 x 3 1/2 x 7/16 x 6'-3 ahb
1-L 6 x 3 1/2 x 7/16 x 6'-3 ahc
1-L 6 x 3 1/2 x 7/16 x 6'-3 ahd
1-L 6 x 3 1/2 x 7/16 x 6'-3 ahe
1-L 6 x 3 1/2 x 7/16 x 6'-3 ahf
1-L 6 x 3 1/2 x 7/16 x 6'-3 ahg
1-L 6 x 3 1/2 x 7/16 x 6'-3 ahh
1-L 6 x 3 1/2 x 7/16 x 6'-3 ahi
1-L 6 x 3 1/2 x 7/16 x 6'-3 ahj
1-L 6 x 3 1/2 x 7/16 x 6'-3 ahk
1-L 6 x 3 1/2 x 7/16 x 6'-3 ahl
1-L 6 x 3 1/2 x 7/16 x 6'-3 ahm
1-L 6 x 3 1/2 x 7/16 x 6'-3 ahn
1-L 6 x 3 1/2 x 7/16 x 6'-3 aho
1-L 6 x 3 1/2 x 7/16 x 6'-3 ahp
1-L 6 x 3 1/2 x 7/16 x 6'-3 ahq
1-L 6 x 3 1/2 x 7/16 x 6'-3 ahr
1-L 6 x 3 1/2 x 7/16 x 6'-3 ahs
1-L 6 x 3 1/2 x 7/16 x 6'-3 aht
1-L 6 x 3 1/2 x 7/16 x 6'-3 ahu
1-L 6 x 3 1/2 x 7/16 x 6'-3 ahv
1-L 6 x 3 1/2 x 7/16 x 6'-3 ahw
1-L 6 x 3 1/2 x 7/16 x 6'-3 ahx
1-L 6 x 3 1/2 x 7/16 x 6'-3 ahy
1-L 6 x 3 1/2 x 7/16 x 6'-3 ahz
1-L 6 x 3 1/2 x 7/16 x 6'-3 aia
1-L 6 x 3 1/2 x 7/16 x 6'-3 aib
1-L 6 x 3 1/2 x 7/16 x 6'-3 aic
1-L 6 x 3 1/2 x 7/16 x 6'-3 aid
1-L 6 x 3 1/2 x 7/16 x 6'-3 aie
1-L 6 x 3 1/2 x 7/16 x 6'-3 aif
1-L 6 x 3 1/2 x 7/16 x 6'-3 aig
1-L 6 x 3 1/2 x 7/16 x 6'-3 aih
1-L 6 x 3 1/2 x 7/16 x 6'-3 aii
1-L 6 x 3 1/2 x 7/16 x 6'-3 aij
1-L 6 x 3 1/2 x 7/16 x 6'-3 aik
1-L 6 x 3 1/2 x 7/16 x 6'-3 ail
1-L 6 x 3 1/2 x 7/16 x 6'-3 aim
1-L 6 x 3 1/2 x 7/16 x 6'-3 ain
1-L 6 x 3 1/2 x 7/16 x 6'-3 aio
1-L 6 x 3 1/2 x 7/16 x 6'-3 aip
1-L 6 x 3 1/2 x 7/16 x 6'-3 aiq
1-L 6 x 3 1/2 x 7/16 x 6'-3 air
1-L 6 x 3 1/2 x 7/16 x 6'-3 ais
1-L 6 x 3 1/2 x 7/16 x 6'-3 ait
1-L 6 x 3 1/2 x 7/16 x 6'-3 aiu
1-L 6 x 3 1/2 x 7/16 x 6'-3 aiv
1-L 6 x 3 1/2 x 7/16 x 6'-3 aiw
1-L 6 x 3 1/2 x 7/16 x 6'-3 aix
1-L 6 x 3 1/2 x 7/16 x 6'-3 aiy
1-L 6 x 3 1/2 x 7/16 x 6'-3 aiz
1-L 6 x 3 1/2 x 7/16 x 6'-3 aja
1-L 6 x 3 1/2 x 7/16 x 6'-3 ajb
1-L 6 x 3 1/2 x 7/16 x 6'-3 ajc
1-L 6 x 3 1/2 x 7/16 x 6'-3 ajd
1-L 6 x 3 1/2 x 7/16 x 6'-3 aje
1-L 6 x 3 1/2 x 7/16 x 6'-3 ajf
1-L 6 x 3 1/2 x 7/16 x 6'-3 ajg
1-L 6 x 3 1/2 x 7/16 x 6'-3 ajh
1-L 6 x 3 1/2 x 7/16 x 6'-3 aji
1-L 6 x 3 1/2 x 7/16 x 6'-3 ajj
1-L 6 x 3 1/2 x 7/16 x 6'-3 ajk
1-L 6 x 3 1/2 x 7/16 x 6'-3 ajl
1-L 6 x 3 1/2 x 7/16 x 6'-3 ajm
1-L 6 x 3 1/2 x 7/16 x 6'-3 ajn
1-L 6 x 3 1/2 x 7/16 x 6'-3 ajo
1-L 6 x 3 1/2 x 7/16 x 6'-3 ajp
1-L 6 x 3 1/2 x 7/16 x 6'-3 ajq
1-L 6 x 3 1/2 x 7/16 x 6'-3 ajr
1-L 6 x 3 1/2 x 7/16 x 6'-3 ajs
1-L 6 x 3 1/2 x 7/16 x 6'-3 ajt
1-L 6 x 3 1/2 x 7/16 x 6'-3 aju
1-L 6 x 3 1/2 x 7/16 x 6'-3 ajv
1-L 6 x 3 1/2 x 7/16 x 6'-3 ajw
1-L 6 x 3 1/2 x 7/16 x 6'-3 ajx
1-L 6 x 3 1/2 x 7/16 x 6'-3 ajy
1-L 6 x 3 1/2 x 7/16 x 6'-3 ajz
1-L 6 x 3 1/2 x 7/16 x 6'-3 aka
1-L 6 x 3 1/2 x 7/16 x 6'-3 akb
1-L 6 x 3 1/2 x 7/16 x 6'-3 akc
1-L 6 x 3 1/2 x 7/16 x 6'-3 akd
1-L 6 x 3 1/2 x 7/16 x 6'-3 ake
1-L 6 x 3 1/2 x 7/16 x 6'-3 akf
1-L 6 x 3 1/2 x 7/16 x 6'-3 akg
1-L 6 x 3 1/2 x 7/16 x 6'-3 akh
1-L 6 x 3 1/2 x 7/16 x 6'-3 aki
1-L 6 x 3 1/2 x 7/16 x 6'-3 akj
1-L 6 x 3 1/2 x 7/16 x 6'-3 akk
1-L 6 x 3 1/2 x 7/16 x 6'-3 akl
1-L 6 x 3 1/2 x 7/16 x 6'-3 akm
1-L 6 x 3 1/2 x 7/16 x 6'-3 akn
1-L 6 x 3 1/2 x 7/16 x 6'-3 ako
1-L 6 x 3 1/2 x 7/16 x 6'-3 akp
1-L 6 x 3 1/2 x 7/16 x 6'-3 akq
1-L 6 x 3 1/2 x 7/16 x 6'-3 akr
1-L 6 x 3 1/2 x 7/16 x 6'-3 aks
1-L 6 x 3 1/2 x 7/16 x 6'-3 akt
1-L 6 x 3 1/2 x 7/16 x 6'-3 aku
1-L 6 x 3 1/2 x 7/16 x 6'-3 akv
1-L 6 x 3 1/2 x 7/16 x 6'-3 akw
1-L 6 x 3 1/2 x 7/16 x 6'-3 akx
1-L 6 x 3 1/2 x 7/16 x 6'-3 aky
1-L 6 x 3 1/2 x 7/16 x 6'-3 akz
1-L 6 x 3 1/2 x 7/16 x 6'-3 ala
1-L 6 x 3 1/2 x 7/16 x 6'-3 alb
1-L 6 x 3 1/2 x 7/16 x 6'-3 alc
1-L 6 x 3 1/2 x 7/16 x 6'-3 ald
1-L 6 x 3 1/2 x 7/16 x 6'-3 ale
1-L 6 x 3 1/2 x 7/16 x 6'-3 alf
1-L 6 x 3 1/2 x 7/16 x 6'-3 alg
1-L 6 x 3 1/2 x 7/16 x 6'-3 alh
1-L 6 x 3 1/2 x 7/16 x 6'-3 ali
1-L 6 x 3 1/2 x 7/16 x 6'-3 alj
1-L 6 x 3 1/2 x 7/16 x 6'-3 alk
1-L 6 x 3 1/2 x 7/16 x 6'-3 all
1-L 6 x 3 1/2 x 7/16 x 6'-3 alm
1-L 6 x 3 1/2 x 7/16 x 6'-3 aln
1-L 6 x 3 1/2 x 7/16 x 6'-3 alo
1-L 6 x 3 1/2 x 7/16 x 6'-3 alp
1-L 6 x 3 1/2 x 7/16 x 6'-3 alq
1-L 6 x 3 1/2 x 7/16 x 6'-3 alr
1-L 6 x 3 1/2 x 7/16 x 6'-3 als
1-L 6 x 3 1/2 x 7/16 x 6'-3 alt
1-L 6 x 3 1/2 x 7/16 x 6'-3 alu
1-L 6 x 3 1/2 x 7/16 x 6'-3 alv
1-L 6 x 3 1/2 x 7/16 x 6'-3 alw
1-L 6 x 3 1/2 x 7/16 x 6'-3 alx
1-L 6 x 3 1/2 x 7/16 x 6'-3 aly
1-L 6 x 3 1/2 x 7/16 x 6'-3 alz
1-L 6 x 3 1/2 x 7/16 x 6'-3 ama
1-L 6 x 3 1/2 x 7/16 x 6'-3 amb
1-L 6 x 3 1/2 x 7/16 x 6'-3 amc
1-L 6 x 3 1/2 x 7/16 x 6'-3 amd
1-L 6 x 3 1/2 x 7/16 x 6'-3 ame
1-L 6 x 3 1/2 x 7/16 x 6'-3 amf
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1-L 6 x 3 1/2 x 7/16 x 6'-3 ami
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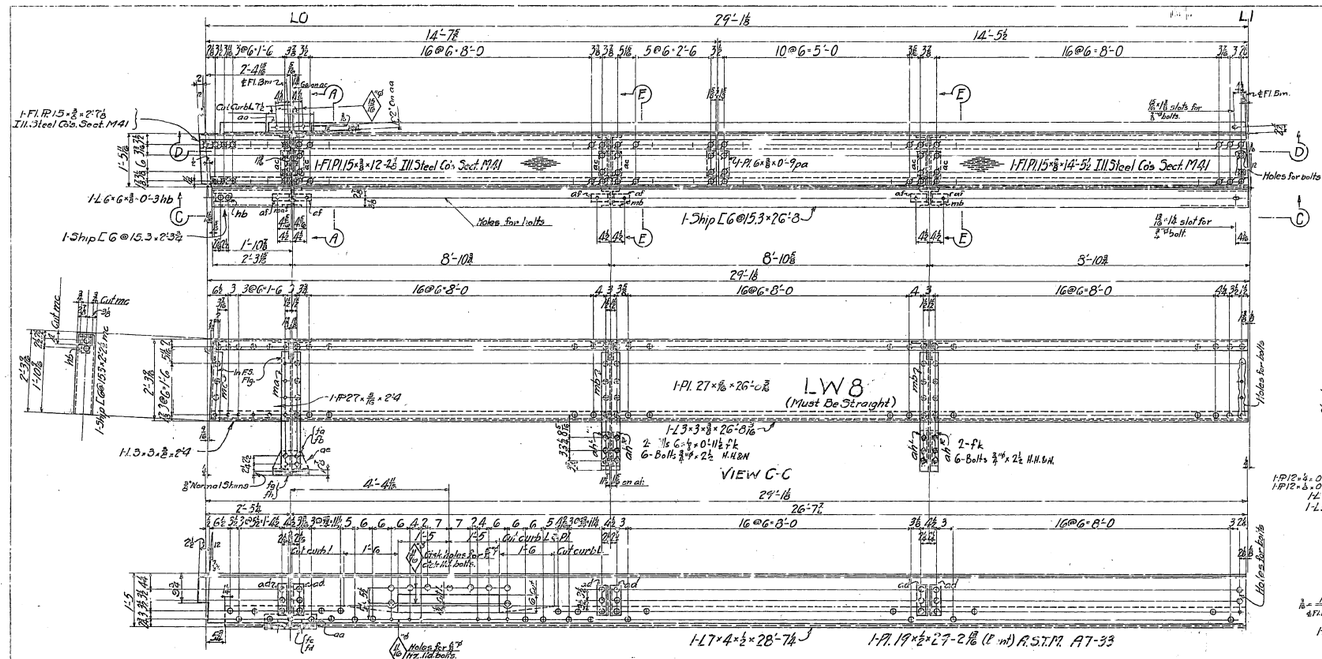
1-L 6 x 3 1/2 x 7/16 x 6'-3 amk
1-L 6 x 3 1/2 x 7/16 x 6'-3 aml
1-L 6 x 3 1/2 x 7/16 x 6'-3 amm
1-L 6 x 3 1/2 x 7/16 x 6'-3 amn
1-L 6 x 3 1/2 x 7/16 x 6'-3 amo
1-L 6 x 3 1/2 x 7/16 x 6'-3 amp
1-L 6 x 3 1/2 x 7/16 x 6'-3 amq
1-L 6 x 3 1/2 x 7/16 x 6'-3 amr
1-L 6 x 3 1/2 x 7/16 x 6'-3 ams
1-L 6 x 3 1/2 x 7/16 x 6'-3 amt
1-L 6 x 3 1/2 x 7/16 x 6'-3 amu
1-L 6 x 3 1/2 x 7/16 x 6'-3 amv
1-L 6 x 3 1/2 x 7/16 x 6'-3 amw
1-L 6 x 3 1/2 x 7/16 x 6'-3 amx
1-L 6 x 3 1/2 x 7/16 x 6'-3 amy
1-L 6 x 3 1/2 x 7/16 x 6'-3 amz
1-L 6 x 3 1/2 x 7/16 x 6'-3 ana
1-L 6 x 3 1/2 x 7/16 x 6'-3 anb
1-L 6 x 3 1/2 x 7/16 x 6'-3 anc
1-L 6 x 3 1/2 x 7/16 x 6'-3 and
1-L 6 x 3 1/2 x 7/16 x 6'-3 ane
1-L 6 x 3 1/2 x 7/16 x 6'-3 anf
1-L 6 x 3 1/2 x 7/16 x 6'-3 ang
1-L 6 x 3 1/2 x 7/16 x 6'-3 anh
1-L 6 x 3 1/2 x 7/16 x 6'-3 ani
1-L 6 x 3 1/2 x 7/16 x 6'-3 anj
1-L 6 x 3 1/2 x 7/16 x 6'-3 ank
1-L 6 x 3 1/2 x 7/16 x 6'-3 anl
1-L 6 x 3 1/2 x 7/16 x 6'-3 anm
1-L 6 x 3 1/2 x 7/16 x 6'-3 ann
1-L 6 x 3 1/2 x 7/16 x 6'-3 ano
1-L 6 x 3 1/2 x 7/16 x 6'-3 anp
1-L 6 x 3 1/2 x 7/16 x 6'-3 anq
1-L 6 x 3 1/2 x 7/16 x 6'-3 anr
1-L 6 x 3 1/2 x 7/16 x 6'-3 ans
1-L 6 x 3 1/2 x 7/16 x 6'-3 ant
1-L 6 x 3 1/2 x 7/16 x 6'-3 anu
1-L 6 x 3 1/2 x 7/16 x 6'-3 anv
1-L 6 x 3 1/2 x 7/16 x 6'-3 anw
1-L 6 x 3 1/2 x 7/16 x 6'-3 anx
1-L 6 x 3 1/2 x 7/16 x 6'-3 any
1-L 6 x 3 1/2 x 7/16 x 6'-3 anz
1-L 6 x 3 1/2 x 7/16 x 6'-3 aoa
1-L 6 x 3 1/2 x 7/16 x 6'-3 aob
1-L 6 x 3 1/2 x 7/16 x 6'-3 aoc
1-L 6 x 3 1/2 x 7/16 x 6'-3 aod
1-L 6 x 3 1/2 x 7/16 x 6'-3 aoe
1-L 6 x 3 1/2 x 7/16 x 6'-3 aof
1-L 6 x 3 1/2 x 7/16 x 6'-3 aog
1-L 6 x 3 1/2 x 7/16 x 6'-3 aoh
1-L 6 x 3 1/2 x 7/16 x 6'-3 aoi
1-L 6 x 3 1/2 x 7/16 x 6'-3 aoj
1-L 6 x 3 1/2 x 7/16 x 6'-3 aok
1-L 6 x 3 1/2 x 7/16 x 6'-3 aol
1-L 6 x 3 1/2 x 7/16 x 6'-3 aom
1-L 6 x 3 1/2 x 7/16 x 6'-3 aon
1-L 6 x 3 1/2 x 7/16 x 6'-3 aoo
1-L 6 x 3 1/2 x 7/16 x 6'-3 aop
1-L 6 x 3 1/2 x 7/16 x 6'-3 aoq
1-L 6 x 3 1/2 x 7/16 x 6'-3 aor
1-L 6 x 3 1/2 x 7/16 x 6'-3 aos
1-L 6 x 3 1/2 x 7/16 x 6'-3 aot
1-L 6 x 3 1/2 x 7/16 x 6'-3 aou
1-L 6 x 3 1/2 x 7/16 x 6'-3 aov
1-L 6 x 3 1/2 x 7/16 x 6'-3 aow
1-L 6 x 3 1/2 x 7/16 x 6'-3 aox
1-L 6 x 3 1/2 x 7/16 x 6'-3 aoy
1-L 6 x 3 1/2 x 7/16 x 6'-3 aoz
1-L 6 x 3 1/2 x 7/16 x 6'-3 apa
1-L 6 x 3 1/2 x 7/16 x 6'-3 apb
1-L 6 x 3 1/2 x 7/16 x 6'-3 apc
1-L 6 x 3 1/2 x 7/16 x 6'-3 apd
1-L 6 x 3 1/2 x 7/16 x 6'-3 ape
1-L 6 x 3 1/2 x 7/16 x 6'-3 apf
1-L 6 x 3 1/2 x 7/16 x 6'-3 apg
1-L 6 x 3 1/2 x 7/16 x 6'-3 aph
1-L 6 x 3 1/2 x 7/16 x 6'-3 api
1-L 6 x 3 1/2 x 7/16 x 6'-3 apj
1-L 6 x 3 1/2 x 7/16 x 6'-3 apk
1-L 6 x 3 1/2 x 7/16 x 6'-3 apl
1-L 6 x 3 1/2 x 7/16 x 6'-3 apm
1-L 6 x 3 1/2 x 7/16 x 6'-3 apn
1-L 6 x 3 1/2 x 7/16 x 6'-3 apo
1-L 6 x 3 1/2 x 7/16 x 6'-3 app
1-L 6 x 3 1/2 x 7/16 x 6'-3 apq
1-L 6 x 3 1/2 x 7/16 x 6'-3 apr
1-L 6 x 3 1/2 x 7/16 x 6'-3 aps
1-L 6 x 3 1/2 x 7/16 x 6'-3 apt
1-L 6 x 3 1/2 x 7/16 x 6'-3 apu
1-L 6 x 3 1/2 x 7/16 x 6'-3 apv
1-L 6 x 3 1/2 x 7/16 x 6'-3 apw
1-L 6 x 3 1/2 x 7/16 x 6'-3 apx
1-L 6 x 3 1/2 x 7/16 x 6'-3 apy
1-L 6 x 3 1/2 x 7/16 x 6'-3 apz
1-L 6 x 3 1/2 x 7/16 x 6'-3 aqa
1-L 6 x 3 1/2 x 7/16 x 6'-3 aqb
1-L 6 x 3 1/2 x 7/16 x 6'-3 aqc
1-L 6 x 3 1/2 x 7/16 x 6'-3 aqd
1-L 6 x 3 1/2 x 7/16 x 6'-3 aqe
1-L 6 x 3 1/2 x 7/16 x 6'-3 aqf
1-L 6 x 3 1/2 x 7/16 x 6'-3 aqg
1-L 6 x 3 1/2 x 7/16 x 6'-3 aqh
1-L 6 x 3 1/2 x 7/16 x 6'-3 aqi
1-L 6 x 3 1/2 x 7/16 x 6'-3 aqj
1-L 6 x 3 1/2 x 7/16 x 6'-3 aqk
1-L 6 x 3 1/2 x 7/16 x 6'-3 aql
1-L 6 x 3 1/2 x 7/16 x 6'-3 aqm
1-L 6 x 3 1/2 x 7/16 x 6'-3 aqn
1-L 6 x 3 1/2 x 7/16 x 6'-3 aqo
1-L 6 x 3 1/2 x 7/16 x 6'-3 aqp
1-L 6 x 3 1/2 x 7/16 x 6'-3 aqq
1-L 6 x 3 1/2 x 7/16 x 6'-3 aqr
1-L 6 x 3 1/2 x 7/16 x 6'-3 aqs
1-L 6 x 3 1/2 x 7/16 x 6'-3 aqt
1-L 6 x 3 1/2 x 7/16 x 6'-3 aqu
1-L 6 x 3 1/2 x 7/16 x 6'-3 aqv
1-L 6 x 3 1/2 x 7/16 x 6'-3 aqw
1-L 6 x 3 1/2 x 7/16 x 6'-3 aqx
1-L 6 x 3 1/2 x 7/16 x 6'-3 aqy
1-L 6 x 3 1/2 x 7/16 x 6'-3 aqz
1-L 6 x 3 1/2 x 7/16 x 6'-3 ara
1-L 6 x 3 1/2 x 7/16 x 6'-3 arb
1-L 6 x 3 1/2 x 7/16 x 6'-3 arc
1-L 6 x 3 1/2 x 7/16 x 6'-3 ard
1-L 6 x 3 1/2 x 7/16 x 6'-3 are
1-L 6 x 3 1/2 x 7/16 x 6'-3 arf
1-L 6 x 3 1/2 x 7/16 x 6'-3 arg
1-L 6 x 3 1/2 x 7/16 x 6'-3 arh
1-L 6 x 3 1/2 x 7/16 x 6'-3 ari
1-L 6 x 3 1/2 x 7/16 x 6'-3 arj
1-L 6 x 3 1/2 x 7/16 x 6'-3 ark
1-L 6 x 3 1/2 x 7/16 x 6'-3 arl
1-L 6 x 3 1/2 x 7/16 x 6'-3 arm
1-L 6 x 3 1/2 x 7/16 x 6'-3 arn
1-L 6 x 3 1/2 x 7/16 x 6'-3 aro
1-L 6 x 3 1/2 x 7/16 x 6'-3 arp
1-L 6 x 3 1/2 x 7/16 x 6'-3 arq
1-L 6 x 3 1/2 x 7/16 x 6'-3 arr
1-L 6 x 3 1/2 x 7/16 x 6'-3 ars
1-L 6 x 3 1/2 x 7/16 x 6'-3 art
1-L 6 x 3 1/2 x 7/16 x 6'-3 aru
1-L 6 x 3 1/2 x 7/16 x 6'-3 arv
1-L 6 x 3 1/2 x 7/16 x 6'-3 arw
1-L 6 x 3 1/2 x 7/16 x 6'-3 arx
1-L 6 x 3 1/2 x 7/16 x 6'-3 ary
1-L 6 x 3 1/2 x 7/16 x 6'-3 arz
1-L 6 x 3 1/2 x 7/16 x 6'-3 asa
1-L 6 x 3 1/2 x 7/16 x 6'-3 asb
1-L 6 x 3 1/2 x 7/16 x 6'-3 asc
1-L 6 x 3 1/2 x 7/16 x 6'-3 asd
1-L 6 x 3 1/2 x 7/16 x 6'-3 ase
1-L 6 x 3 1/2 x 7/16 x 6'-3 asf
1-L 6 x 3 1/2 x 7/16 x 6'-3 asg
1-L 6 x 3 1/2 x 7/16 x 6'-3 ash
1-L 6 x 3 1/2 x 7/16 x 6'-3 asi
1-L 6 x 3 1/2 x 7/16 x 6'-3 asj
1-L 6 x 3 1/2 x 7/16 x 6'-3 ask
1-L 6 x 3 1/2 x 7/16 x 6'-3 asl
1-L 6 x 3 1/2 x 7/16 x 6'-3 asm
1-L 6 x 3 1/2 x 7/16 x 6'-3 asn
1-L 6 x 3 1/2 x 7/16 x 6'-3 aso
1-L 6 x 3 1/2 x 7/16 x 6'-3 asp
1-L 6 x 3 1/2 x 7/16 x 6'-3 asq
1-L 6 x 3 1/2 x 7/16 x 6'-3 asr
1-L 6 x 3 1/2 x 7/16 x 6'-3 ass
1-L 6 x 3 1/2 x 7/16 x 6'-3 ast
1-L 6 x 3 1/2 x 7/16 x 6'-3 asu
1-L 6 x 3 1/2 x 7/16 x 6'-3 asv
1-L 6 x 3 1/2 x 7/16 x 6'-3 asw
1-L 6 x 3 1/2 x 7/16 x 6'-3 asx
1-L 6 x 3 1/2 x 7/16 x 6'-3 asy
1-L 6 x 3 1/2 x 7/16 x 6'-3 asz
1-L 6 x 3 1/2 x 7/16 x 6'-3 ata
1-L 6 x 3 1/2 x 7/16 x 6'-3 atb
1-L 6 x 3 1/2 x 7/16 x 6'-3 atc
1-L 6 x 3 1/2 x 7/16 x 6'-3 atd
1-L 6 x 3 1/2 x 7/16 x 6'-3 ate
1-L 6 x 3 1/2 x 7/16 x 6'-3 atf
1-L 6 x 3 1/2 x 7/16 x 6'-3 atg
1-L 6 x 3 1/2 x 7/16 x 6'-3 ath
1-L 6 x 3 1/2 x 7/16 x 6'-3 ati
1-L 6 x 3 1/2 x 7/16 x 6'-3 atj
1-L 6 x 3 1/2 x 7/16 x 6'-3 atk
1-L 6 x 3 1/2 x 7/16 x 6'-3 atl
1-L 6 x 3 1/2 x 7/16 x 6'-3 atm
1-L 6 x 3 1/2 x 7/16 x 6'-3 atn
1-L 6 x 3 1/2 x 7/16 x 6'-3 ato
1-L 6 x 3 1/2 x 7/16 x 6'-3 atp
1-L 6 x 3 1/2 x 7/16 x 6'-3 atq
1-L 6 x 3 1/2 x 7/16 x 6'-3 atr
1-L 6 x 3 1/2 x 7/16 x 6'-3 ats
1-L 6 x 3 1/2 x 7/16 x 6'-3 att
1-L 6 x 3 1/2 x 7/16 x 6'-3 atu
1-L 6 x 3 1/2 x 7/16 x 6'-3 atv
1-L 6 x 3 1/2 x

30-1



SHOP NOTE-
All rivets in floor plates to be countersunk-not chipped.
All rivets in curb plates marked thus ⓒ to be countersunk-not chipped-for side.
Minimum height of countersunk rivets to be 1/16".
Webs to be built to exact lengths and must be straight.

GEN. NOTES-
Material - All material O.H. Copper Bearing medium Carbon steel, except curb plate which is to conform with A.S.T.M. specifications A7-33 with not less than 0.20% copper.
Specifications - Special by State of California, Dept of Public Works.
Inspection - John M. Bailey - Chief Inspector.
Rivets - ⅞".
Open Holes - 13/16" Unless noted.
Reaming - None.
Shop Paint - None.
Finish - All burrs and rough edges to be removed by Chipping or grinding. [C] [A]

REQUIRED		
No.	Description	Mark
1	Web	LW8
1	Road Angle	M1
1	do.	M2

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Lower Deck Webs & Curbs } SPAN YB1-YB2
Upper Deck Road Angles }
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT GARY, IND. PLANT
WORK FABRICATED AT Judson Pacific PLANT
CHARGE OF TOMPT
DETAIL MADE BY M.E.W. DATE 2-27-36
DRAWN, CHECKED BY [illegible] CHKD. [illegible]

No.	Revision	Date

APPROVED
Chief Engineer
Date 6-29-36

ORDER No. G5107
SHEET No. 112

30-F1

Required		
1	Skid Girder	SG1
1	Guard Angle	SG2
1	Bracket	SG3
2	"	SG4

SECT'S B & C

SEC. A

SG3 - SG4

SEC. D

SEC. G

View "E"

Sect. "F"

GEN. NOTES-
Material-All material o.h. Copper Bearing medium Carbon steel.
Specifications-Special by State of California, Dept of Public Works.
Inspection-John M. Bailey-Chief Inspector.
Rivets-All rivets in face of skid girders to be countersunk chipped.
Maximum height of close rivets to be ⅛".
Open holes-C.P.U. unless noted.
Reaming-None.
Shop paint-None.
Finish-All burrs and rough edges to be removed by chipping or grinding.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
SKID GIRDERS
SPAN YB1-YB2
AMERICAN BRIDGE COMPANY

DRAWING MADE AT Gary 3 PLANT
FABRICATED AT Judson Pacific PLANT
DRAWN IN CHARGE OF Tompt
DRAWN MADE BY WC DATE 2-20-34
DRAWN CHECKED BY LOS DATE 2-28-34
APPROVED
Chief Engineer
Date 4-7-34
ORDER No. G5107
SHEET No. 113

[C.S.]

SG5
1-[15×33.9×3'-1 5/8

SG7
1-[15×33.9×16'-7 1/2

SG8

SG9

SG6
1-[15×33.9×4'-6 3/4
1-L4×7×3/8×1'-5 7/16 ah
1-L4×7×3/8×1'-5 7/16 ak

15'-9 Exact
18'-0 7/16
9'-6 3/4
2'-5
8'-6
6'-0
6'-0
6'-0 7/16
5'-10 11/16
16'-8 7/16
7'-6 1/16
2'-5 7/16
17'-10 11/16

Spacing same as top Flge

Diaphr
1-PL 14×5/16×1'-2 1/4 pf113
1-L 3×3×5/16×11 1/2 ac113
2-L 3×3×5/16×11 adj113

Hanger
1-L5×18.3×1'-6 1/4 ma113
1-Bar 5×3/8×6 pe113
1-L6×4×1/2×6 1/2 cab113

SEC. E
2-L4×3 1/2×5/8×1'-1 1/2 ad
2-L4×3 1/2×5/8×1'-0 ae113
8-Ctsk H. Bolt 3/4×2 1/2 H.N.
1-PL 8 1/2×8×1'-1 1/2 pa
8-SH 7/8" Washers

VIEW F
2-L4×3 1/2×5/8×1'-2 af114
2-ro113
1-PL 12×1/2×0'-10 pb
4-Ctsk H. Bolt 3/4×2 1/2 H.N.
4-SH 7/8" Washers

VIEW C

VIEW D

Required		
1	Skid Girder	SG5
1	"	SG6
1	"	SG7
1	Guard Angle	SG8
1	"	SG9

GENERAL NOTES-
Material- All material o.h. Copper Bearing Incalium Carbon steel.
Specifications- Special by State of California, Dept of Public Works.
Inspection- John M. Bailey - Chief Insp.
Rivets- 7/8" rivets in face of Skid girders to be ctsk-countersunk.
Maximum height of ctsk rivets to be 1/8".
Open holes- 15/16" Unless noted.
Reaming- None.
Shop paint - None.
Finish- All burrs and rough edges to be removed by chipping or grinding.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
SKID GIRDERS
SPAN YB1-YB2
AMERICAN BRIDGE COMPANY

DRAWING MADE AT Gary 3 PLANT
WORK FABRICATED AT Judson Pacific PLANT
PAGE OF Temp
MAT'L MADE BY WK DATE 2.23.34
DRAWN CHECKED BY J.W.S DATE 2-5-34

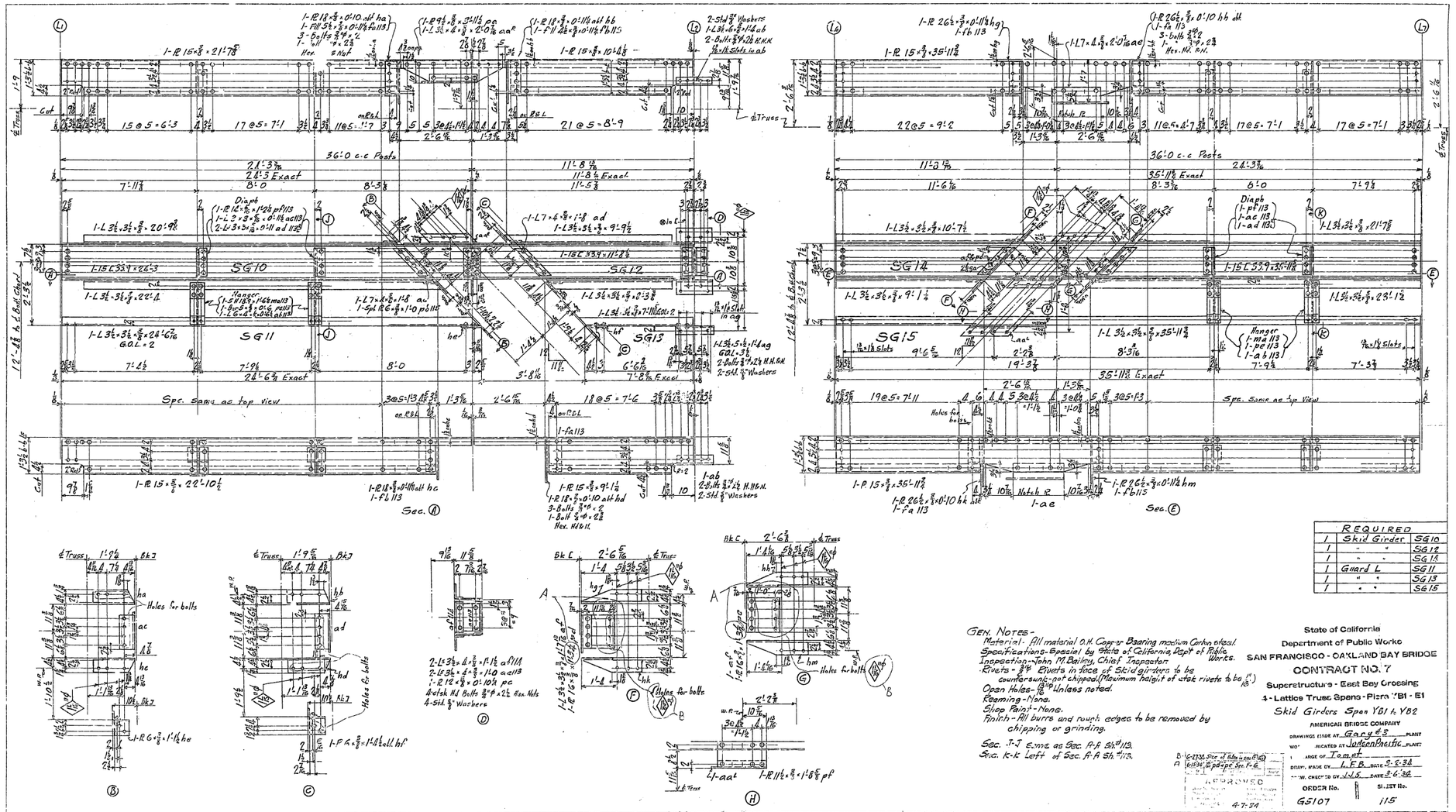
Mark	Revision	Appd

APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, Chief Engineer
Approved Date 4-7-34

ORDER No. G5107
SHEET No. 114

[CB]

30-1



REQUIRED		
1	Skid Girder	SG10
1	" "	SG12
1	" "	SG14
1	Guard L	SG11
1	" "	SG13
1	" "	SG15

GEN. NOTES -
Material - All material O.H. Copper Bearing medium Carbon steel.
Specifications - Special by State of California Dept of Public Works.
Inspection - John M. Bailey, Chief Inspector.
Rivets - $\frac{7}{8}$" Rivets in face of skid girders to be countersunk - not chipped. (Maximum height of stek rivets to be $\frac{1}{16}$".)
Open Holes - $\frac{13}{16}$" Unless noted.
Reaming - None.
Slop Paint - None.
Finish - All burrs and rough edges to be removed by chipping or grinding.
Sec. J-J Same as Sec. A-A Sh. 113.
Sec. K-K Left of Sec. A-A Sh. 113.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers "B1 - E1
Skid Girders Span YB1 & YB2

AMERICAN BRIDGE COMPANY
DRAWINGS ERADE AT Gary & 3 PLANT
WORK ERECTED AT Jackson Pacific PLANT
CHARGE OF Tom. ef
DRAWN, MADE BY L. F. B. DATE 3-6-34
TRACED, CHECKED BY J. J. S. DATE 3-6-34
ORDER No. G5107
SHEET No. 115

B: 6-27-34 Size of holes in sec B-B & C-C
A: 6-8-34 Ø pd of pc Sec F-G

APPROVED
4-7-34

[C.B.]

30-1

Holes for bolts
22 a 5 - 9'-2
1 PL 15 x 7/8 x 10'-3 1/2
1-fa
1 PL 7 1/2 x 7/8 x 2'-6 1/2
1-fb
12 a 5 - 5'-0
(18 bolt 7/8 x 2 1/2 H.H.H.
3 Bolts 7/8 x 2 H.H.H.)
1 PL 15 x 7/8 x 21'-11 7/8
17 a 5 - 7'-1
15 a 5 - 6'-3
(13/16 - 16) for 7/8 Bolts ad
1 PL 15 x 7/8 x 35'-11 7/8
1-fc
1-fd
1-fe
1-ff
1-fg
1-fh
1-fi
1-fj
1-fk
1-fl
1-fm
1-fn
1-fo
1-fp
1-fq
1-fr
1-fs
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1-fx
1-fy
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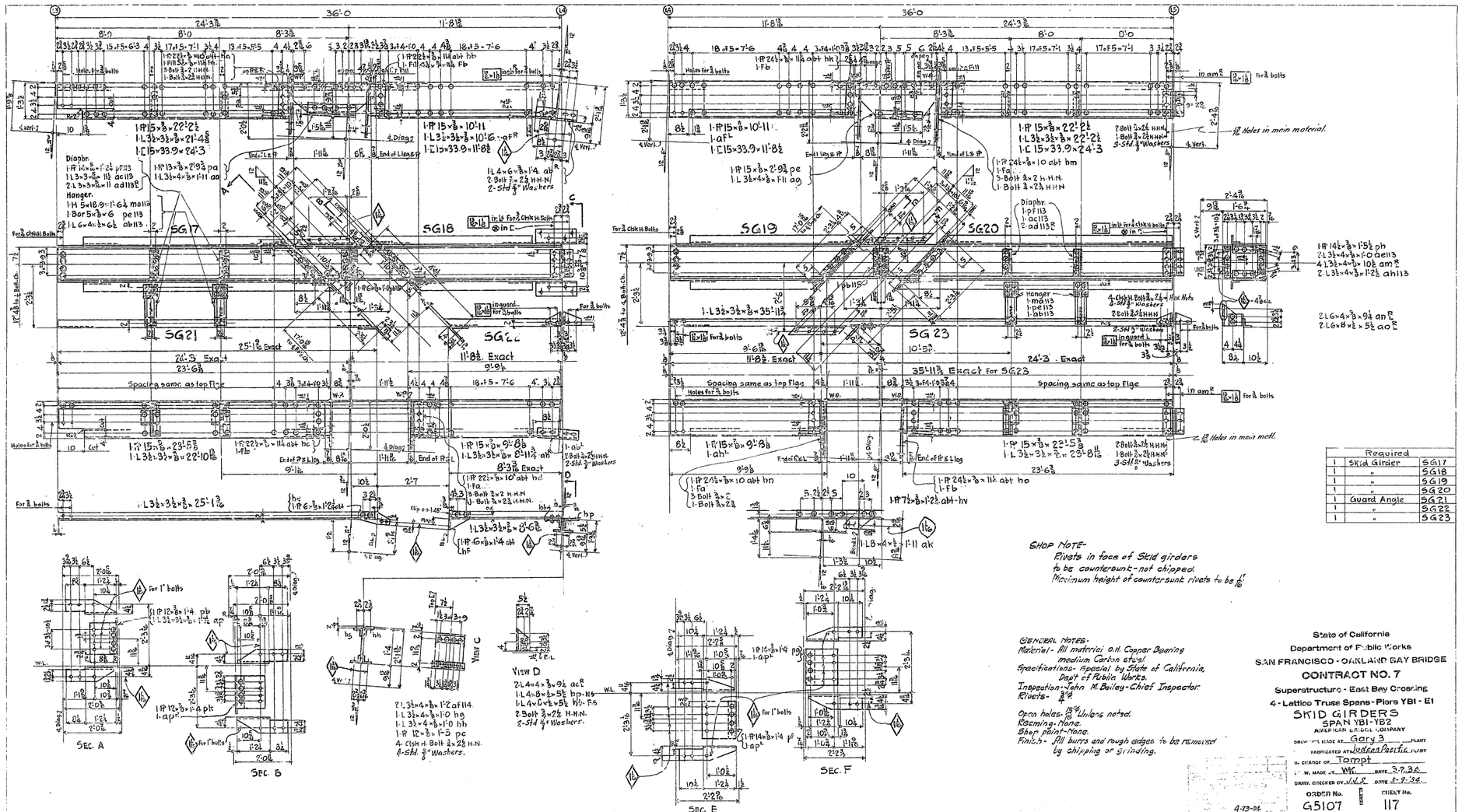


	Required	
1	Skid Girder	SG17
1	"	SG18
1	"	SG19
1	"	SG20
1	Guard Angle	SG21
1	"	SG22
1	"	SG23

4-23-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
SKID GIRDERS
SPAN YB1-YB2
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary 3 PLANT
FABRICATED AT Federal Pacific PLANT
IN CHARGE OF Tompt
J. W. MADE BY WK DATE 3-9-34
DRAW. CHECKED BY J.N.P DATE 3-9-34
ORDER No. G5107
SHEET No. 117

[CB]

30-1

LW11 - LW12

LW13

LW14

Sec. A-A

Sec. B-B

Sec. C-C

Sec. K-K

Sec. D-D

Sec. E-E

Sec. F

Sec. G

SHOP NOTE-
All rivets in floor plates to be countersunk - not chipped.
All rivets in curb plates marked thus ℄ to be countersunk - not chipped.
Maximum height of countersunk rivets to be 1/16" (Unless Noted)
Walks to be built to exact lengths and must be straight.

REQ'D.		
2	Walks	LW11
One	"	LW12
One	"	LW13
2	"	LW14
16	Shims	F31
32	"	F32
24	"	F33
48	"	F34
2	"	F35
4	"	F36
8	"	F37
8	"	F38
2	"	F39
2	"	F310
2	"	F311
2	"	F312

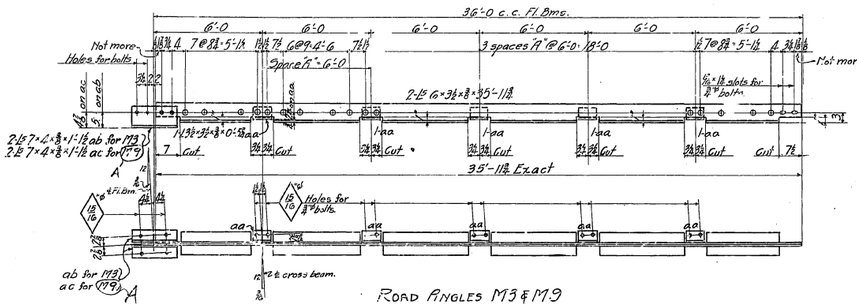
GEN. NOTES-
Material - All material O.H. Copper Bearing medium Carbon steel, except curb plates which are to conform with A.S.T.M. specifications A7-33 with not less than 0.20% Copper.
Specifications - Special by State of California, Dept of Public Works.
Inspection - John M. Bellaj - Chief Inspector.
Rivets - Ø 7/8 Unless noted.
Reaming - None.
Shop Paint - None.
Finish - All burrs and rough edges to be removed by grinding or chipping.

Note:-
The Fabricator Can Splice Bent Curb Plates To Meet Shop Conveyance At Approximate 12 Foot Lengths.

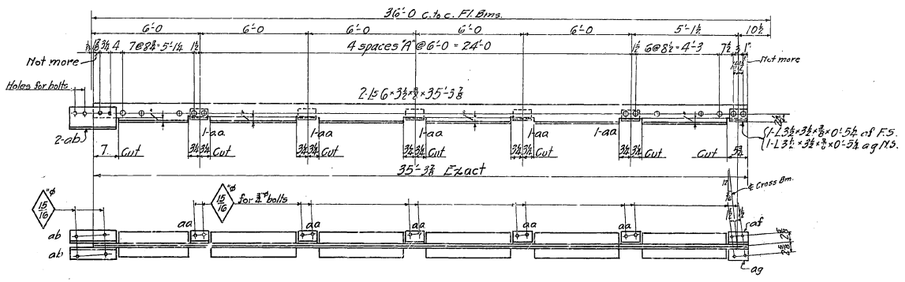
A - 6 Rivets Added in LW12
B - 6 Rivets Add See E-E

APPROVED
5-8-34

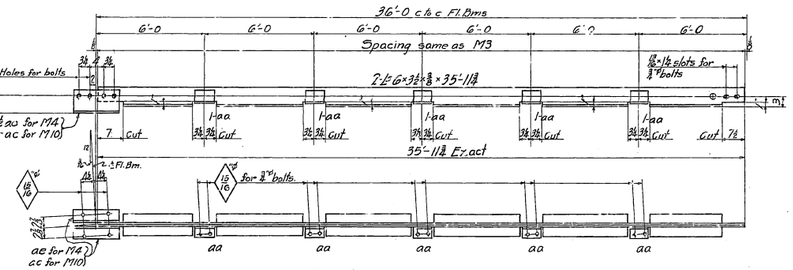
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Walks & Curbs Lower Deck
YB1 - YB2
AMERICAN BRIDGE COMPANY
WORK ERECTED AT Gary #3 PLANT
WORK FABRICATED AT Judson Pacific PLANT
IN CHARGE OF Tompt
DRAWN, TRACED BY CBV DATE 3-1-34
DSGN. CHECKED BY A.F.F. DATE 2-9-34
ORDER No. G 5107
SHEET No. 118



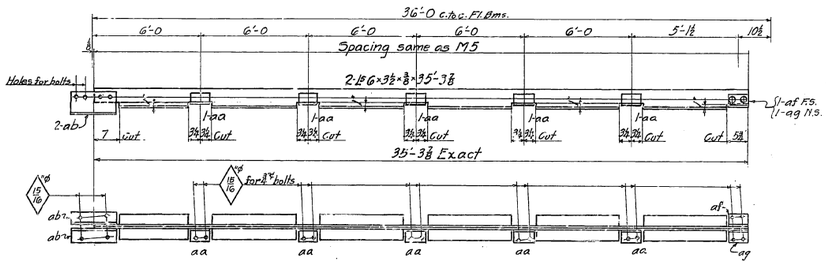
ROAD ANGLES M13 & M9



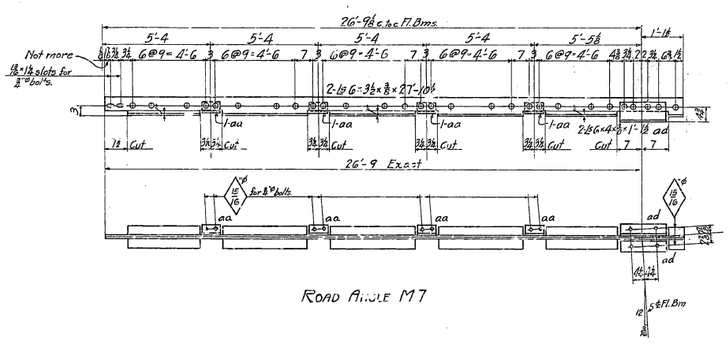
ROAD ANGLE M15



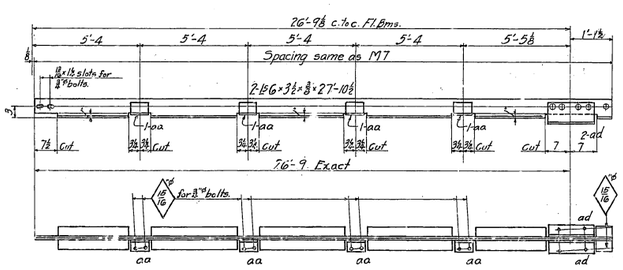
ROAD ANGLES M14 & M10



ROAD ANGLE M16



ROAD ANGLE M17



ROAD ANGLE M18

GEN. NOTES-
Material- All material o.h. Copper Bearing medium Carbon steel.

Specifications- Special by State of California, Dept of Public Works.
Inspection-John M. Bailey-Chief Insp.
Rivets- ⅞ dia.
Open holes- 13/16 Unless noted.
Reaming-None.
Shop paint-None.

REQUIRED		
No.	Description	Mark
3	Road Angles	M13
3	do. do.	M14
1	do. do.	M15
1	do. do.	M16
1	do. do.	M17
1	do. do.	M18
1	do. do.	M9
1	do. do.	M10

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
2 - Lattice Truss Spans - Piers Y21 - E1
Details of Road Angles Upper Deck.
Span Y21-Y22

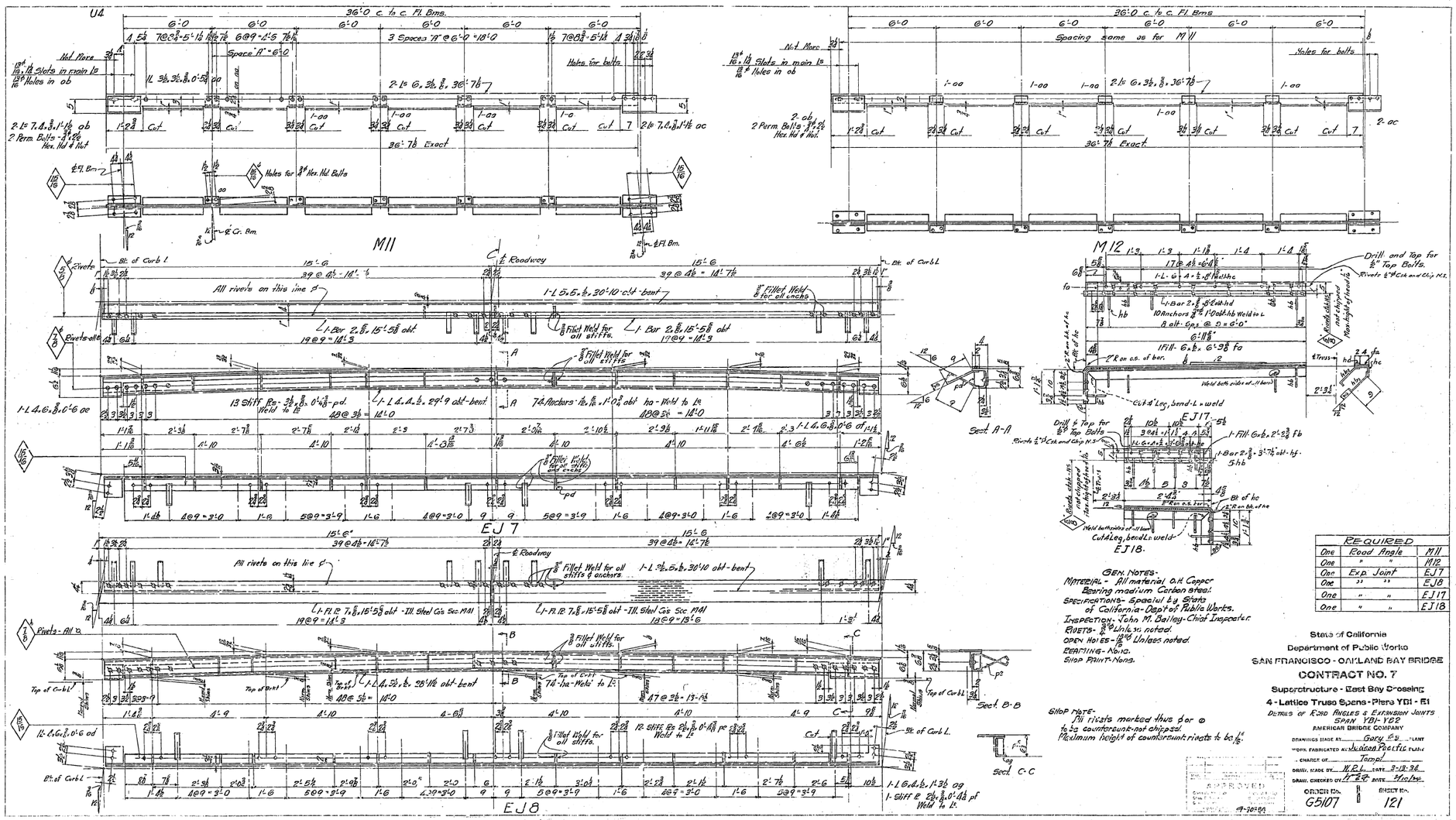
AMERICAN BRIDGE COMPANY
DR[illegible], MADE AT GARY, IND. PLANT
FABRICATED AT Judson Pacific PLANT
IN CHARGE OF TOMEY
DRAW. MADE BY M.E.W. DATE 2-2-34
DRAW. CHECKED BY WRL DATE 2-8-34
ORDER No. G5107
SHEET No. 119

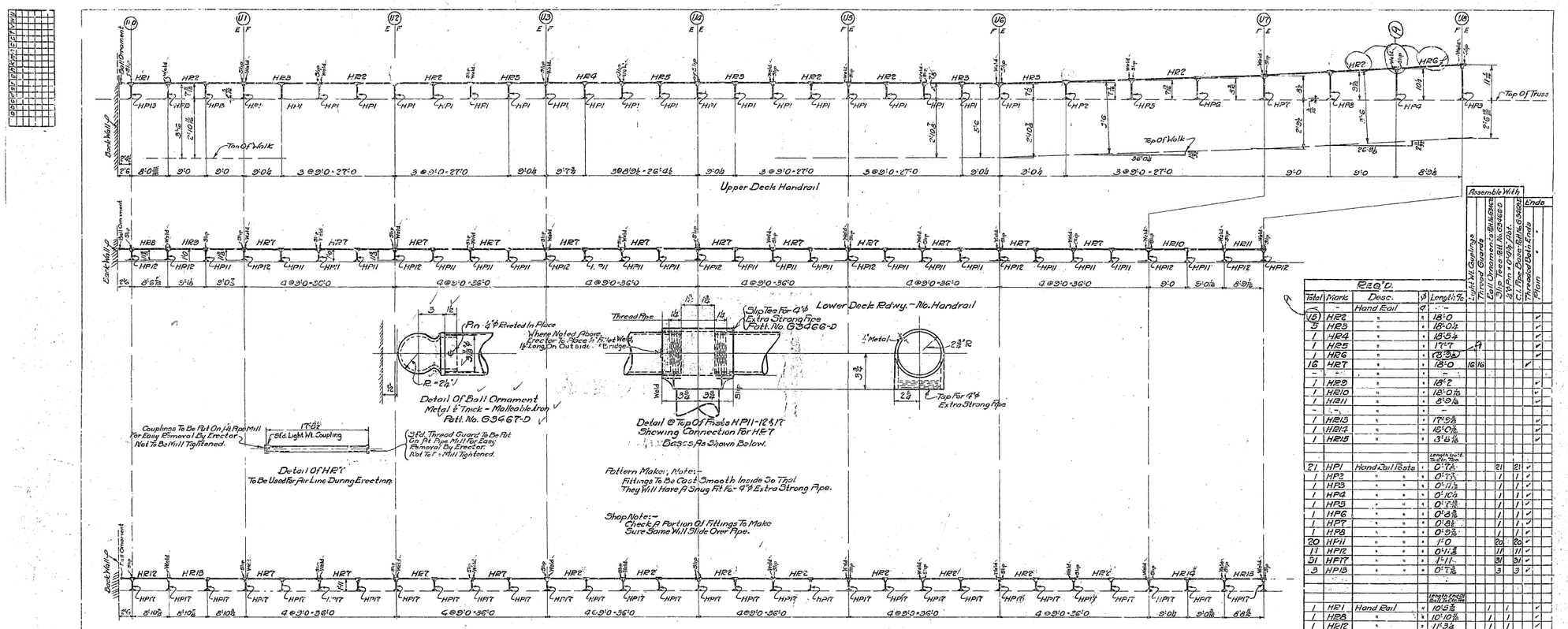
(B-42536 ac for M9)
4-3-34

30-1

| | | |

30-1

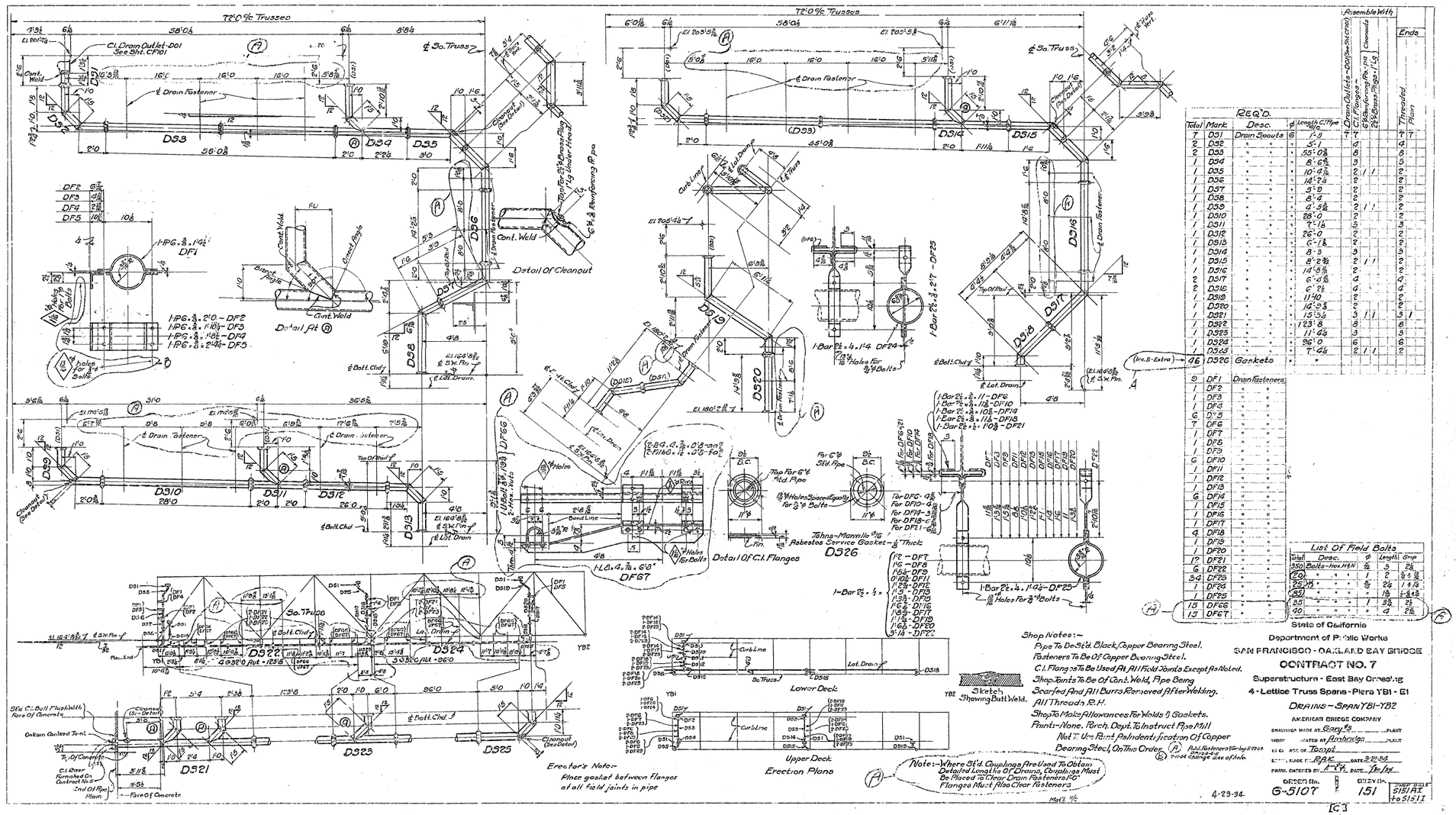

M11
M12
EJ7
EJ8
EJ17
EJ18
36'-0 c. to c. Fl. Bms.
Spacing same as for M11
Holes for bolts
Hot Rivets
Holes for 7/8" Hex. Hd Bolts
℄ Roadway
℄ Cr. Bm.
℄ Fl. Bm.
Rivets - All ⊠
All rivets on this line ℄
Fillet Weld for all stiffs & anchors
Fillet Weld for all stiffs.
Top of Curb
Top of Joint
Bl. of Curb L
Bl. of Curb ℄
St. of Curb L
Drill and Tap for 7/8" Tap Bolts.
Rivets 7/8" Ctk and Chip N.S.
Cut 4" Leg, bend L. & weld
Sect A-A
Sect B-B
Sect C-C
Fill - 6-1/2 x 6'-9 7/8 Fa
1-Fill 6-1/2 x 2'-3 7/8 Fb
10 Anchors 3/4" x 1'-0 alt-hh Weld to L
4 alt-Grps @ 0 = 6'-0"
6'-11 7/8"
2" R on c.g. of bar.
Weld butts either end of M Beam
Ends chipped flush to flat of web
Ends chipped flush to top flange
Top of Truss
Weld to Fl. Beam
Weld butt splice at M Beam
Weld butt splices at all M Beams
Cut 4" Leg, bend L. & weld
Cut & Weld to L.
Weld to L.
Weld to Fl. Beam
Weld to Fl. Beam
Weld to L.
Weld to L.
Weld to L.



Req'd. Total	Mark	Desc. Hand Rail	Lgth.	Length
(2)	-	Hand Rail	4	-
5	HR2	"	"	18'-0
1	HR3	"	"	18'-0½
1	HR4	"	"	18'-9½
1	HR5	"	"	17'-1"
1	HR6	"	"	18'-9½
16	HR7	"	"	18'-0
-	-	"	"	-
1	HR9	"	"	18'-2
1	HR10	"	"	18'-0⅛
1	HR11	"	"	8'-9⅛
-	-	"	"	-
1	HR13	"	"	17'-6⅞
1	HR14	"	"	18'-0⅛
1	HR15	"	"	3'-8⅛
				Length to Fit Rail
21	HP1	Hand Rail Posts		0'-7⅛
1	HP3	"	"	0'-7⅞
1	HP4	"	"	0'-10⅛
1	HP5	"	"	0'-11⅜
1	HP6	"	"	0'-8⅜
1	HP7	"	"	0'-8½
1	HP8	"	"	0'-9⅝
20	HP11	"	"	1'-0
11	HP12	"	"	0'-11⅜
31	HP17	"	"	1'-1"
3	HP13	"	"	0'-7⅛
				Length to End of Rail Incl. Fitting
1	HB1	Hand Rail	"	10'-0⅜
1	HB2	"	"	10'-0⅜
1	HB12	"	"	11'-3¼

Assemble With	Ends
Light Wt. Couplings	
Thread Guards	
Split Tees as Shown	
½" Pipe x 1'-0" Nip.	
½" Pipe x 1'-0" Plug	
C.I. Pipe Bases-Patt. No. G3468-D	
Threaded Both Ends	
Plain	

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
HAND RAILING - SPAN YB1-YB2
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary, Ind. PLANT
FABRICATED AT Ambridge, Pa. PLANT
U. S. AGENT OF Tompt
DESIGN, MADE WT. R.P.K. DATE 5-13-36
DRAW. CHECKED BY W.F.K. & T.L.J. DATE
ORDER No. G-5107 | DRAWING No. 150 | SHOP BILL
4-1-36



REQ'D. Total	Mark	Desc.	#	Length C'ffgs	Drain Outlets-DO1(See Sht. CF101)	Assemble With: Clamps Spacing Rec.-Pcs.	Clamps 6"ø Spacing Pcs.-Lgs.	Clamps 2½"ø Brass Pcs.-Lgs.	Ends: Threaded	Plain
1	D31	Drain Spouts	6	1'-5	1	7			1	1
2	D32	" " "	"	5'-1	1	8			1	1
2	D33	" " "	"	55'-0⅜	1	8			1	1
1	D34	" " "	"	8'-6⅜	1	9			1	1
1	D35	" " "	"	10'-4⅞	1	10	1	1	1	1
1	D36	" " "	"	14'-2⅛	1	12			1	1
1	D37	" " "	"	5'-9	1	6			1	1
1	D38	" " "	"	8'-4	1	9			1	1
1	D39	" " "	"	4'-5⅝	1	5	1	1	1	2
1	D310	" " "	"	28'-0	1	30			1	1
1	D311	" " "	"	7'-1⅛	1	8			1	1
1	D312	" " "	"	26'-0	1	28			1	1
1	D313	" " "	"	6'-1⅛	1	7			1	1
1	D314	" " "	"	8'-3	1	9			1	1
1	D315	" " "	"	8'-3⅜	1	9	1	1	1	2
1	D316	" " "	"	14'-5⅜	1	15			1	2
2	D317	" " "	"	6'-6⅛	2	7			2	2
2	D318	" " "	"	6'-2⅛	2	6			2	2
1	D319	" " "	"	11'-10	1	12			1	1
1	D320	" " "	"	14'-9⅜	1	15			1	1
1	D321	" " "	"	15'-5½	1	16	1	1	1	1
1	D322	" " "	"	123'-8	1	124			1	1
1	D323	" " "	"	11'-4⅝	1	12			1	1
1	D324	" " "	"	96'-0	1	97			1	1
1	D325	" " "	"	7'-4⅝	2	8			2	2
(Inc. 5-Extra) 46	D326	Gaskets	"	"						

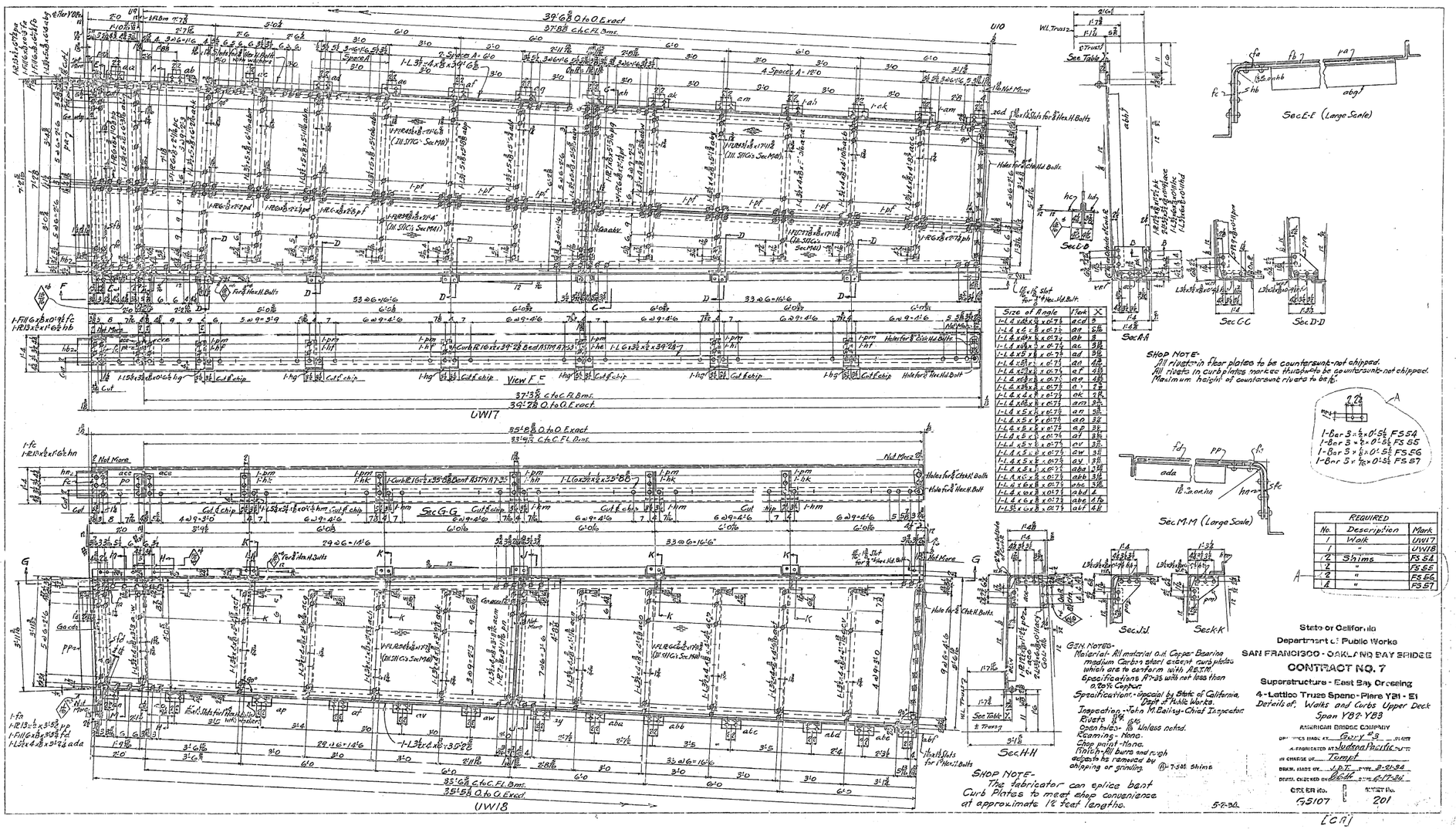
Total	Mark	Drain Fasteners
2	DF1	" "
1	DF2	" "
1	DF3	" "
1	DF4	" "
6	DF5	" "
7	DF6	" "
1	DF7	" "
1	DF8	" "
1	DF9	" "
6	DF10	" "
1	DF11	" "
1	DF12	" "
1	DF13	" "
6	DF14	" "
1	DF15	" "
1	DF16	" "
1	DF17	" "
4	DF18	" "
1	DF19	" "
1	DF20	" "
19	DF21	" "
6	DF22	" "
34	DF23	" "
1	DF24	" "
1	DF25	" "
15	DF66	" "
13	DF67	" "

List Of Field Bolts

Total	Desc.		Length	Grip
350	Bolts-Hex. H.N.	¾	3	2⅜
20	" " "	1	2	2 1/16
25	" " "	¾	24	1 1/16
32	" " "	1	1⅜	1 3/16
24	" " "	1	3⅜	2⅞
90	" " "	1	4	2⅜

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
DRAINS - SPAN YB1 - YB2
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary PLANT
VISED STATED AT Pittsburgh PLANT
ES EX. ASS. OF Tarzyl
ENGR., GRADE OF R.A.K. DATE 3-21-34
PASSD. CHECKED BY A.F.H. DATE Jan 1934
ORDER No. G-5107 DRAW. No. 151 SHOP DRGS. 5151 A1 to 5151 I1

4-23-34



Size of Angle	Mark	X
1-L 4 x8 x 7/16 x 0'-7 1/2	acd	0
1-L 4 x 3 1/2 x 7/16 x 0'-7 1/2	ag	5/16
1-L 4 x 3 1/2 x 7/16 x 0'-7 1/2	ab	0
1-L 4 x 3 1/2 x 7/16 x 0'-7 1/2	ac	3/16
1-L 4 x 3 1/2 x 7/16 x 0'-7 1/2	ad	3/16
1-L 4 x 3 1/2 x 7/16 x 0'-7 1/2	ae	4/16
1-L 4 x 3 1/2 x 7/16 x 0'-7 1/2	af	4/16
1-L 4 x 3 1/2 x 7/16 x 0'-7 1/2	ag	4/16
1-L 4 x 3 1/2 x 7/16 x 0'-7 1/2	a'	2/16
1-L 4 x 4 x 7/16 x 0'-7 1/2	ak	2/16
1-L 4 x 4 x 7/16 x 0'-7 1/2	am	3/16
1-L 4 x 5 x 7/16 x 0'-7 1/2	an	3/16
1-L 4 x 5 x 7/16 x 0'-7 1/2	ao	3/16
1-L 4 x 5 x 7/16 x 0'-7 1/2	ap	3/16
1-L 4 x 5 x 7/16 x 0'-7 1/2	aq	3/16
1-L 4 x 5 x 7/16 x 0'-7 1/2	ar	3/16
1-L 4 x 5 x 7/16 x 0'-7 1/2	av	3/16
1-L 4 x 5 x 7/16 x 0'-7 1/2	aw	3/16
1-L 4 x 5 x 7/16 x 0'-7 1/2	aba	3/16
1-L 4 x 6 x 7/16 x 0'-7 1/2	abb	3/16
1-L 4 x 6 x 7/16 x 0'-7 1/2	abc	3/16
1-L 4 x 10 x 7/16 x 0'-7 1/2	abd	1/16
1-L 4 x 6 x 7/16 x 0'-7 1/2	abe	1/16
1-L 3 1/2 x 3 1/2 x 7/16 x 0'-7 1/2	abf	1/16

REQUIRED		
No.	Description	Mark
1	Walk	UW17
1	"	UW18
2	Shims	FS 54
2	"	FS 55
2	"	FS 56
2	"	FS 57

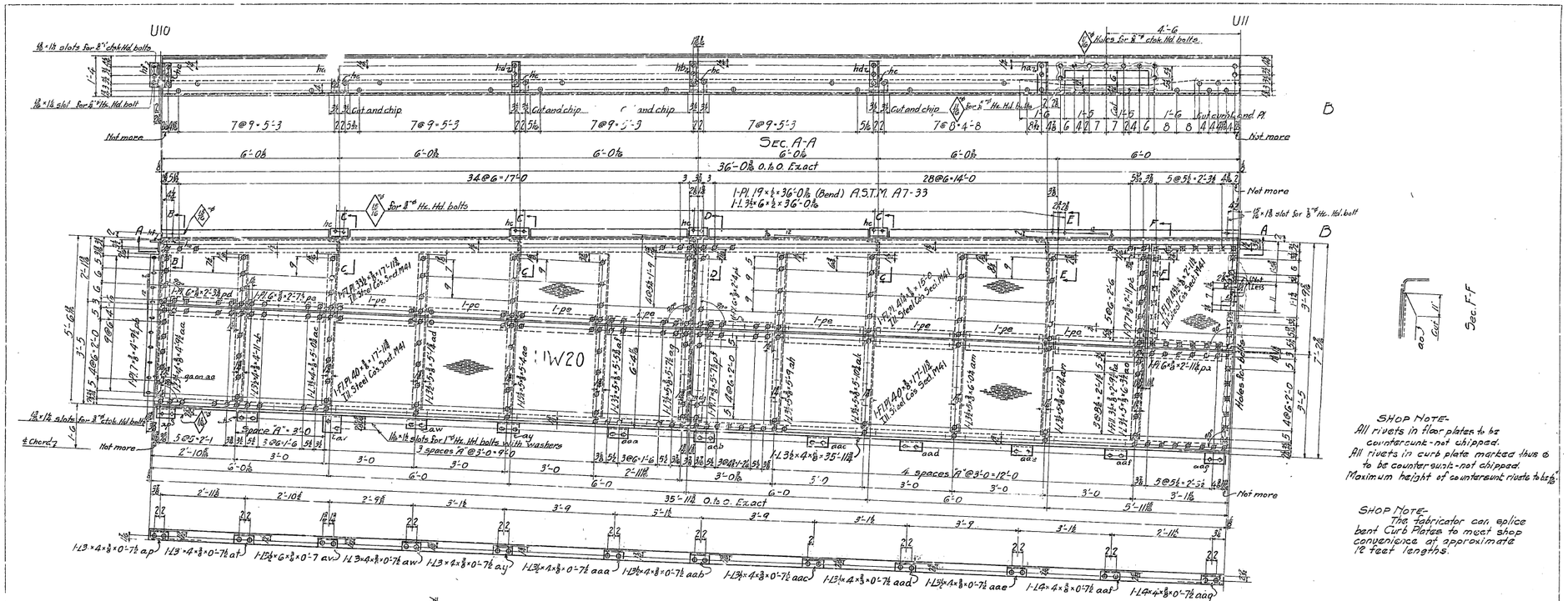
G.S.N. NOTES-
Material- All material o.t.h. Copper Bearing medium Carbon steel except curb plates which are to conform with A.S.T.M. Specifications A-283 with not less than 0.20% Copper.
Specifications- Special by State of California, Dept. of Public Works.
Inspection- John M. Bailey - Chief Inspector.
Rivets 7/8" ø. unless noted.
Reaming - None.
Shop paint - None.
Finish- All burrs and rough edges to be removed by chipping or grinding. (P- 7-58) Shims

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4-Lattice Truss Spans - Piers Y21 - E1
Details of: Walks and Curbs Upper Deck
Span Y22-Y23
AMERICAN BRIDGE COMPANY
DRAWING MADE BY Gerry "S" SHEET
A-FABRICATED AT Judson Pacific
IN CHARGE OF Tempel
DRAWN BY J.J.T. DATE 3-21-34
TRACED, CHECKED AND APPROVED BY Webb DATE 6-17-34
ORDER No. 75107 SHEET No. 201

5-2-34.

[CA]

30-1



REQUIRED		
1	Walk	UW20

GENERAL NOTES-

Material - All material O.H. Copper Bearing medium Carbon Steel except curb plate which is to conform with A.S.T.M. specifications A7-33 with not less than 0.20% Copper.

Specifications - Special by State of California, Dept of Public Works.

Inspection - John M. Bailey - Chief Inspector.

Rivets - ⅞ ø.

Open Holes - 13/16" unless noted.

Reaming - Itone.

Shop Paint - None.

Finish - All burrs and rough edges to be removed by chipping or grinding.

(13) 6/30/36 Cut Bent Plate at End
(12) 7/22/36 Cut at Upper Chord
General Revision

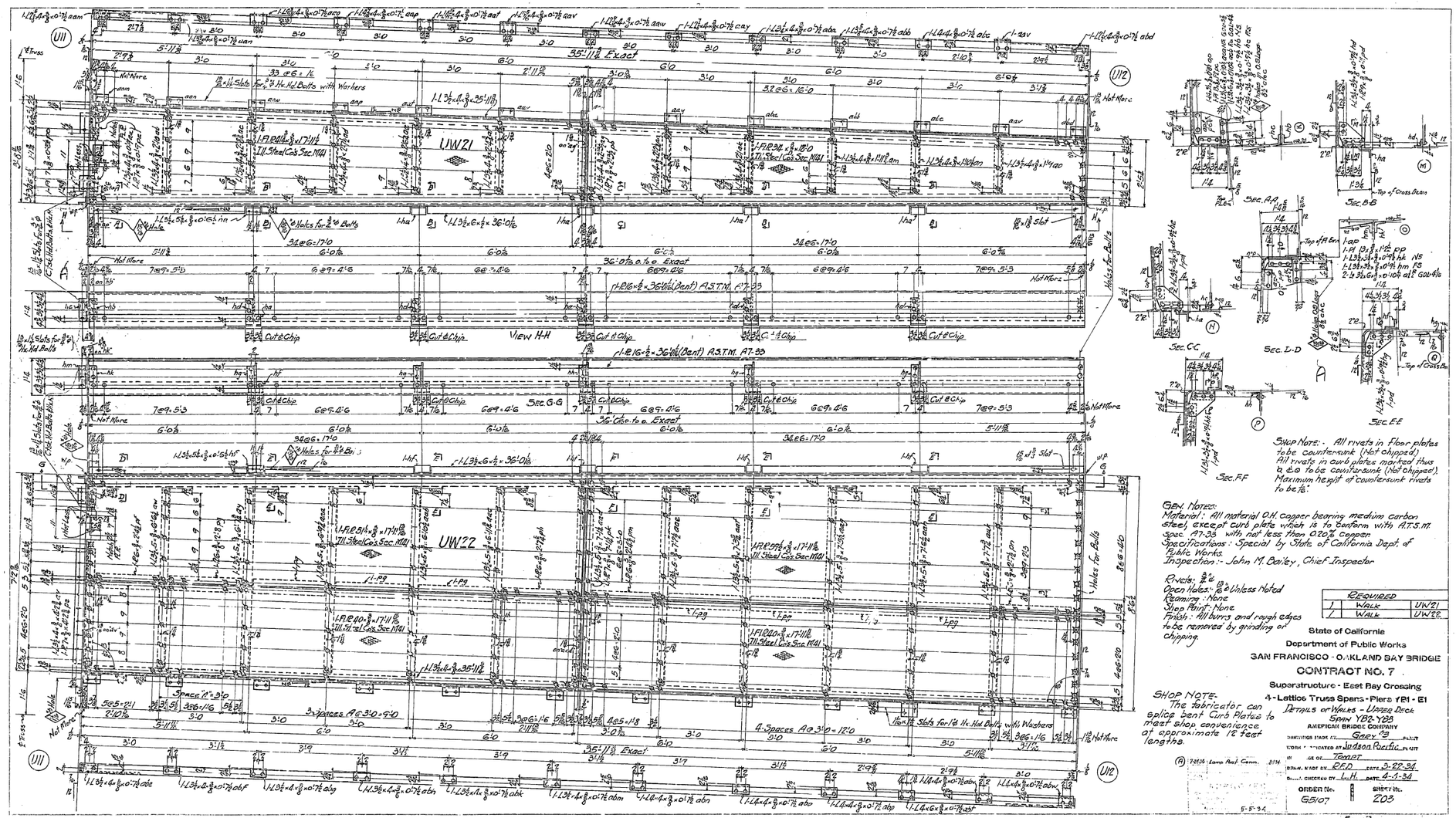
APPROVED
5-2-36

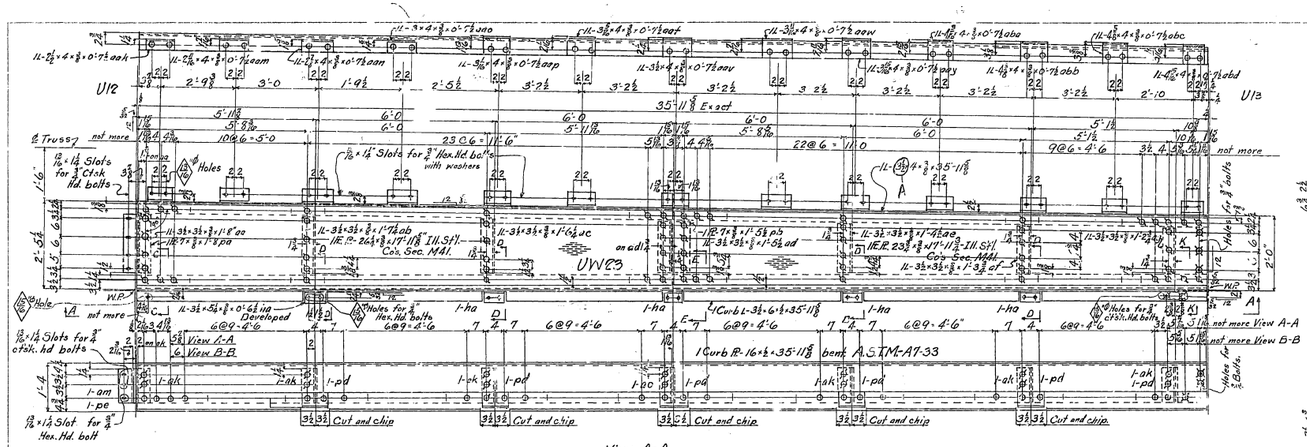
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Detail of Walk and Curb Upper Deck
SPAN YB2 - YB3
AMERICAN BRIDGE COMPANY

DRAWING MADE AT GARY IND. PLANT
FABRICATED BY Judson Pacific PLANT
CHARGE OF TOMEY
DRAWN, MADE BY M.E.W. DATE 5-20-36
DRAW. CHECKED BY C.F.C. DATE 6-17-36

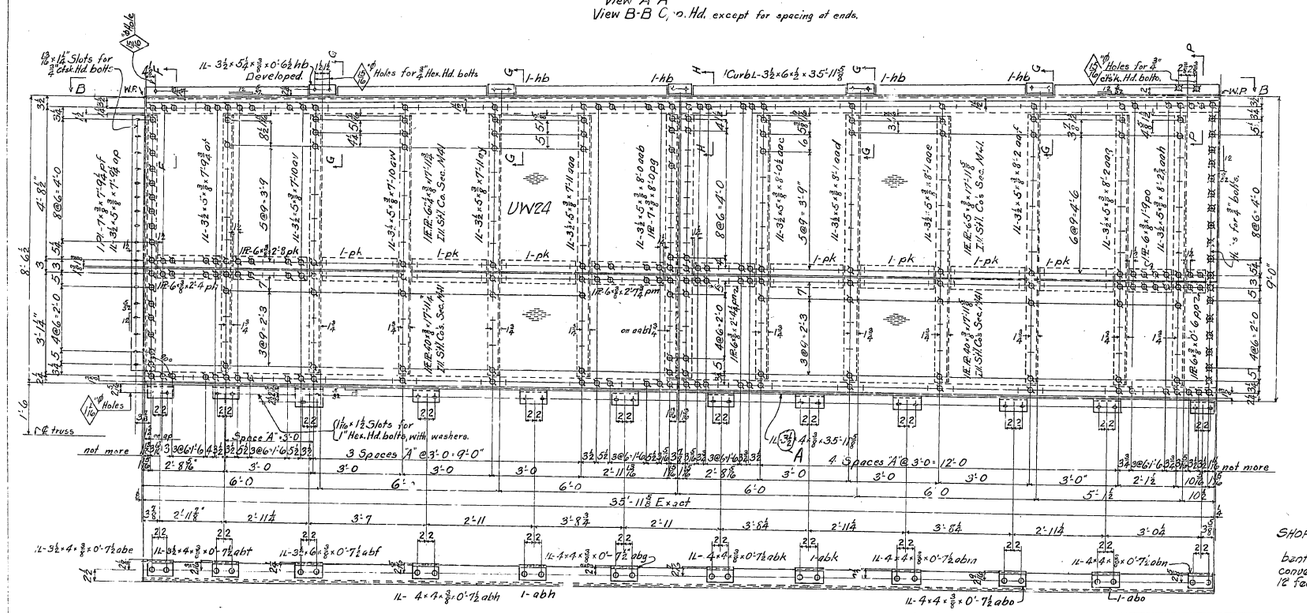
DRAWING No. 65107
SHEET No. 202

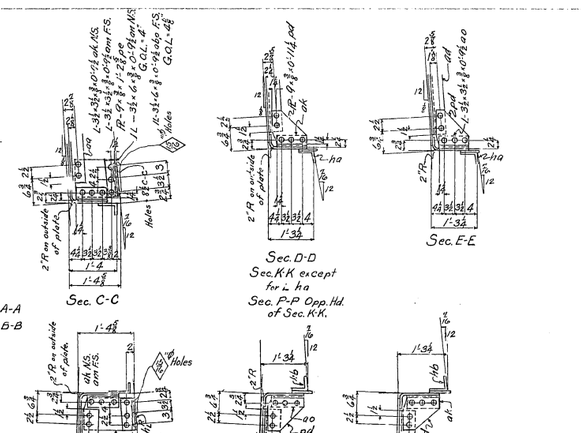
[C.A.]


UW21
UW22
VIEW H-H
Sec. G-G
35'-11⅞ Exact
36'-0 c. to c. Exact
Sec. A-A
Sec. B-B
Sec. C-C
Sec. D-D
Sec. E-E
Sec. F-F
Top of Cross Beam
SHOP NOTE:- All rivets in floor plates to be countersunk (Not chipped). All rivets in curb plates marked thus ⊕ to be countersunk (not chipped). Maximum height of countersunk rivets to be ⅛".
GEN. NOTES:
Material:- All material O.H. copper bearing medium carbon steel, except curb plate which is to conform with A.T.S.M. Spec. A7-33 with not less than 0.20% copper.
Specifications:- Special by State of California Dept. of Public Works.
Inspection:- John M. Bailey, Chief Inspector
Rivets: ⅞" ø
Open Holes:- 13/16" ø Unless Noted
Reaming:- None
Shop Paint:- None
Finish:- All burrs and rough edges to be removed by grinding or chipping.
SHOP NOTE- The fabricator can splice bent curb plates to meet shop convenience at approximate 12 feet lengths.
REQUIRED
1 | Weld | UW21
1 | Weld | UW22
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
DETAILS OF WELDS - UPPER DECK
SPAN YB2-YB3
AMERICAN BRIDGE COMPANY
DRAWING MADE IN ... GARY ... PLANT
WORK ASSOCIATED WITH Hudson Pacific PLANT
AT ... OF ... Tower
DRAWN BY ... RED ... DATE 3-27-34
TRACED BY ... L.H. ... DATE 4-1-34
CHECKED BY ...
ORDER No. G5107
SHEET No. 203
5-5-34
[C.A.]



View A-A
View B-B C. to C. Hd. except for spacing at ends.





Gen. Notes:-
Material: All material O.H Copper Bearing medium carbon steel except curb plates which are to conform with A.S.T.M. Specifications A7-33 with not less than 0.20% copper.
Specifications: Special by State of California Dept. of Public Works
Inspection: John M. Bailey Chief Inspector.
Rivets: ⅞" ø
Open holes: 15/16" ø Unless Noted.
Reaming: None
Shop Paint: None
Finish: All Burrs and rough edges to be removed by chipping or grinding

SHOP NOTE-
The fabricator can splice bent Curb Plates to meet shop convenience at approximate 12 feet lengths.

Shop Note:-
All rivets in floor plate to be countersunk. (not shipped)
All rivets in curb plate marked thus ◊ to be countersunk, not chipped.
Maximum height of countersunk rivets to be 1/16"

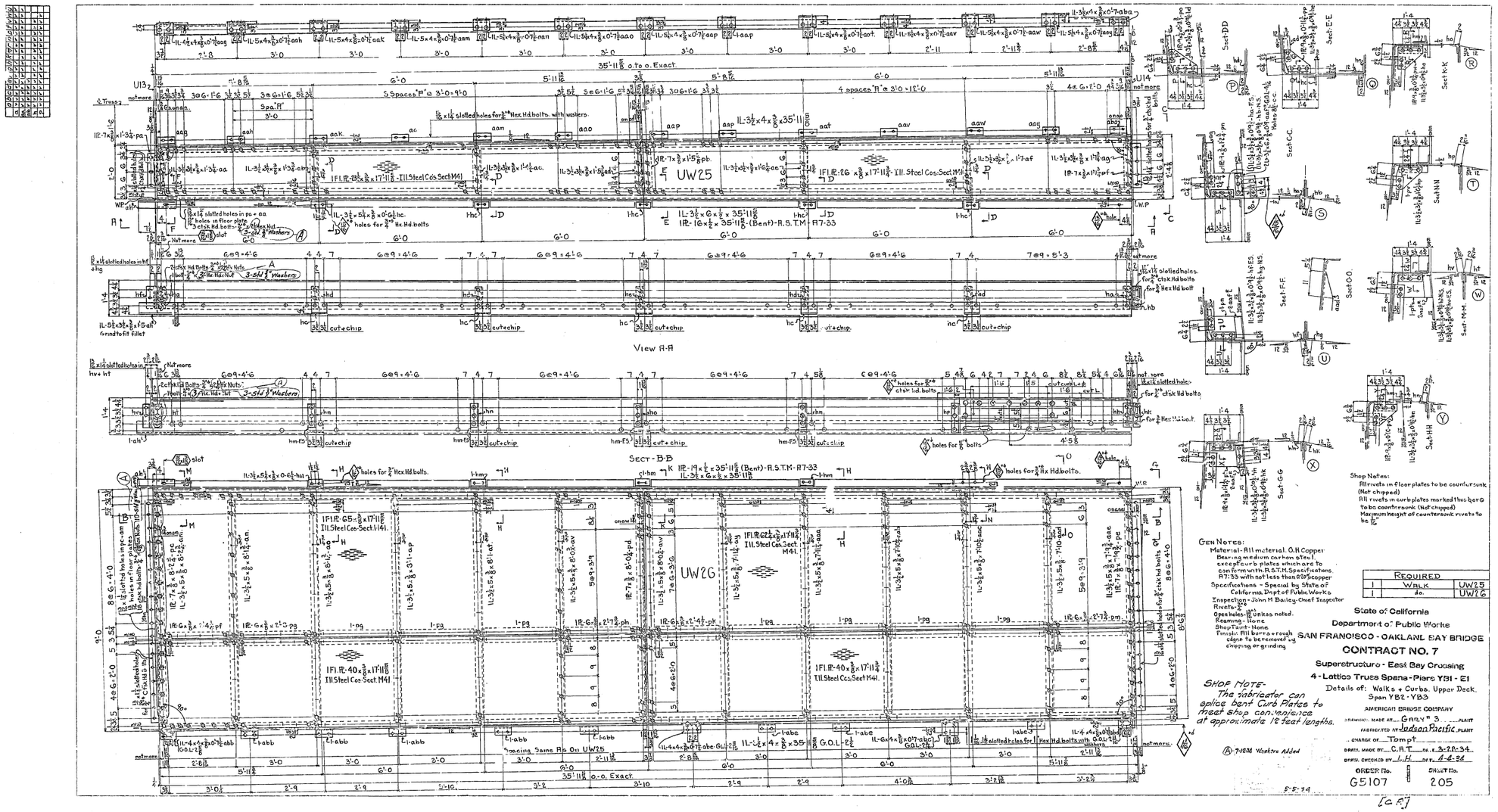
REQUIRED		
No	Description	Mark
One	Walk	UW23
One	"	UW24

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Walks and Curbs Upper Decl.
SPAN YB2 to YB3
AMERICAN BRIDGE COMPANY

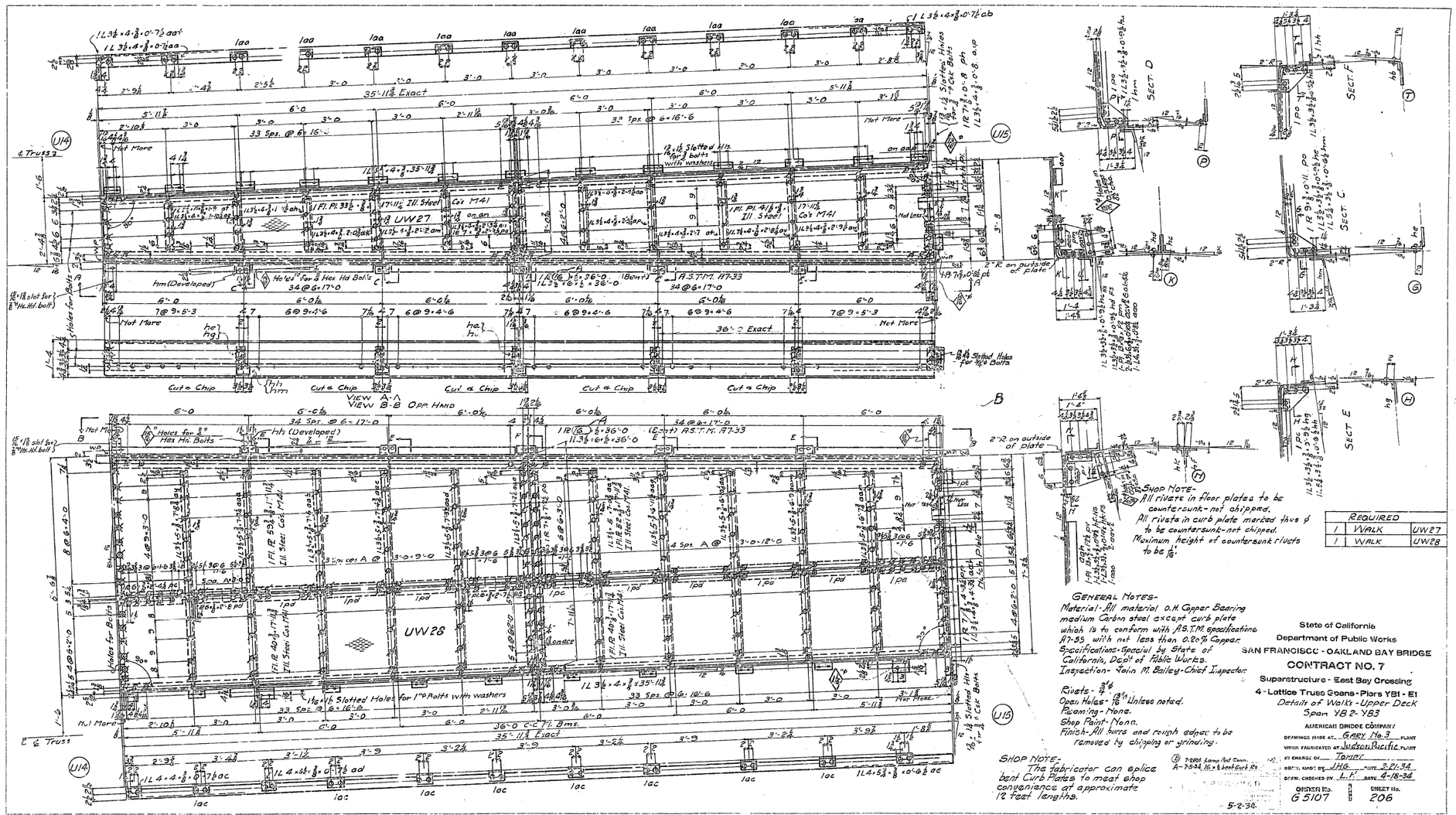
DRAWINGS MADE AT Gary #3 PLANT
WORK FABRICATED AT Judson Pacific PLANT
IN CHARGE OF Tompt
MADE BY C.B.V. DATE 3-23-34
DRAWN CHECKED BY L.H. DATE 4-1-34
ORDER No. G 5107
SHEET No. 204

8-5-34

[CA]

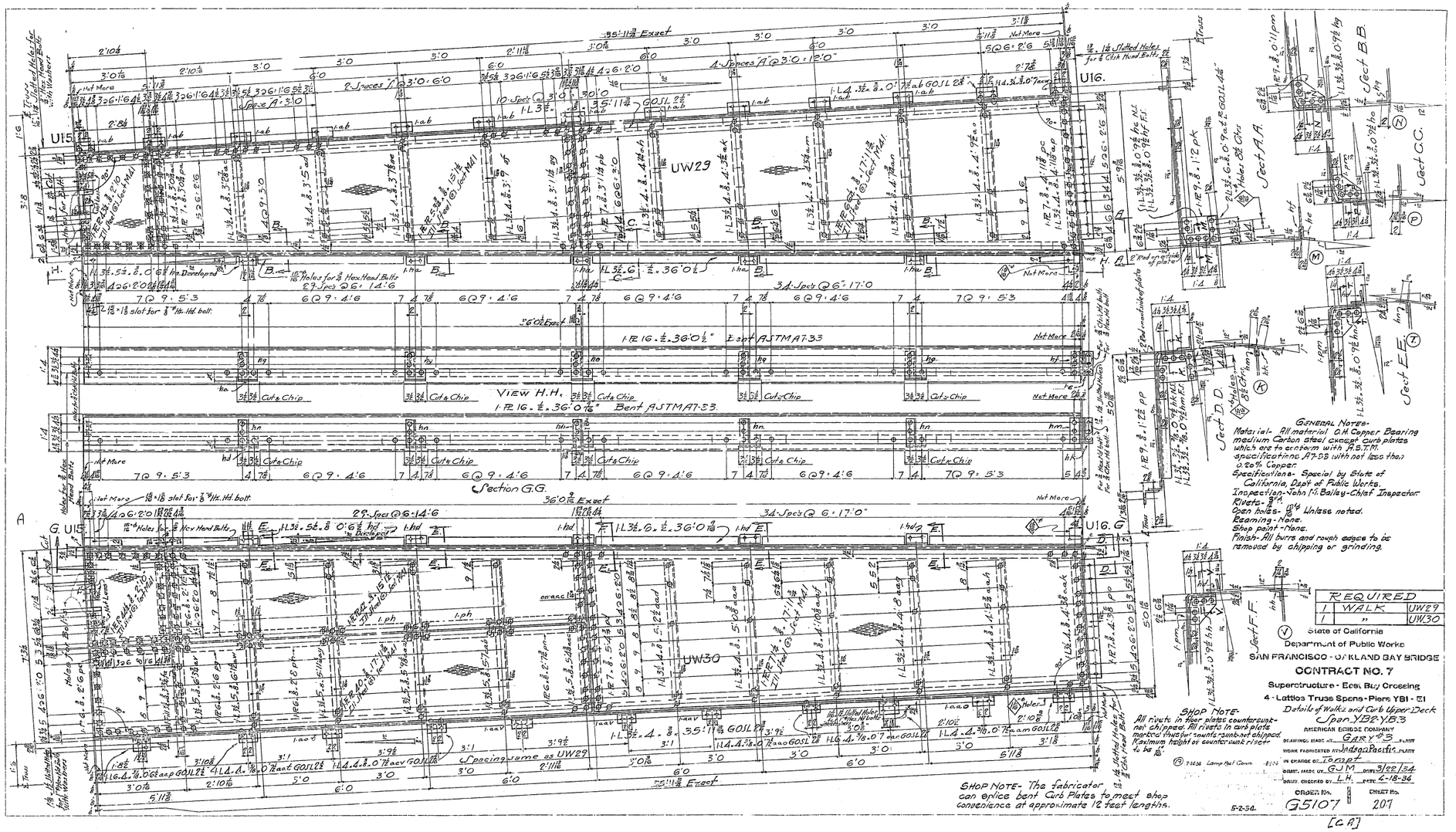

View A-A
Sect-B-B
UW25
UW26
Sect-DD
Sect-EE
Sect-KK
Sect-CC
Sect-NN
Sect-FF
Sect-GG
Sect-MM
Sect-HH
Sect-OO
Shop Notes:
All rivets in floor plates to be countersunk (Not chipped)
All rivets in curb plates marked thus ▽ or ▽ to be countersunk (Not chipped)
Maximum height of countersunk rivets to be 1/4"
Gen Notes:
Material-All material, O.H Copper Bearing medium carbon steel except curb plates which are to conform with A.S.T.M. Specifications. A7-33 with not less than 0.10% copper
Specifications - Special by State of California, Dept of Public Works
Inspection - John M Bailey-Chief Inspector
Rivets- 7/8"
Open holes 13/16" unless noted.
Reaming - None
Shop Paint - None
Finish: All burrs + rough edges to be removed by chipping or grinding
SHOP NOTE- The fabricator can splice bent Curb Plates to meet shop convenience at approximate 16 foot lengths.
Ⓐ 7-1934 Wisetore Added
REQUIRED
1 Walk UW25
1 do. UW26
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of: Walks + Curbs. Upper Deck. Span YB2 - YB3
AMERICAN BRIDGE COMPANY
DRAWING MADE AT... GARY IND. PLANT
FABRICATED AT Judson Pacific PLANT
CHARGE OF... Tompt
DRAWN MADE BY... C.A.T. DATE 3-28-34
DRAWN CHECKED BY L.H. DATE 4-4-34
ORDER No. G5107
DRAWING No. 205
5-5-34
[a.A.]

30-1

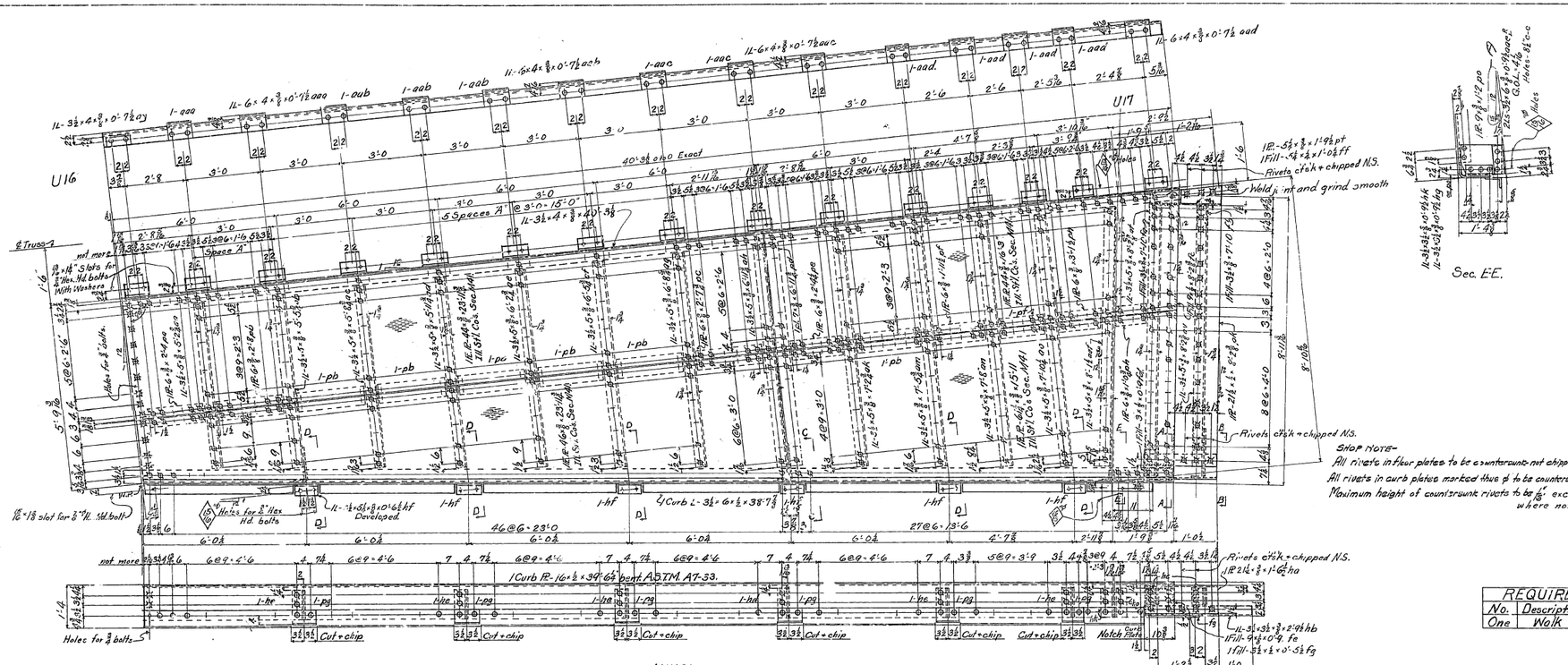

VIEW A-A
VIEW B-B Opp. Hand
UW27
UW28
Cut & Chip
Not More
36'-0 Exact
35'-11⅞ Exact
Slotted Holes for ⅞" ø Bolts
Holes for ⅞" Hex Hd. Bolts
Holes for ⅞" Fit. Hd. bolt
1⅛" x 1⅛ Slotted Holes for 1" ø Rolts with washers
SECT. D
SECT. F
SECT. G
SECT. E
2"R on outside of plate
SHOP NOTE-
All rivets in floor plates to be countersunk-not chipped.
All rivets in curb plate marked thus ◊ to be countersunk-not chipped.
Minimum height of countersunk rivets to be ⅛".
SHOP NOTE-
The fabricator can splice bent Curb Plates to meet shop convenience at approximate 12 feet lengths.
GENERAL NOTES-
Material-All material O.H. Copper Bearing medium Carbon steel except curb plate which is to conform with A.S.T.M specifications A7-35 with not less than 0.20% Copper.
Specifications-Special by State of California, Dept of Public Works.
Inspection-Tolvin M. Bailey-Chief Inspector.
Rivets-⅞" ø
Open Holes-⅞" ø Unless noted.
Reaming-None.
Shop Paint-None.
Finish-All burrs and reamed edges to be removed by chipping or grinding.
REQUIRED
1 WALK UW27
1 WALK UW28
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4-Lattice Truss Spans-Piers YB1-E1
Details of Walks-Upper Deck
Span YB2-YB3
AMERICAN BRIDGE COMPANY
DRAWING ISSUED AT: GARY No. 3 PLANT
WHICH FABRICATED AT: Judson Pacific PLANT
IN CHARGE OF: TOMEY
DETAIL MADE BY: J.H.G. DATE: 3-21-34
DRAWN, CHECKED BY: L.H. DATE: 4-18-34
ORDER No. G 5107
SHEET No. 206
5-2-36.

[C.R.]

30-1


U15
U16.
UW29
UW30
VIEW H.H.
Section G.G.
Sect A.A.
Sect B.B.
Sect C.C.
Sect D.D.
Sect E.E.
Sect F.F.
Spacing same as UW29
Not More
Cut & Chip
Bent ASTMA7-33
GENERAL NOTES-
Material- All material O.H. Copper Bearing medium Carbon steel except curb plates which are to conform with A.S.T.M. specifications A7-33 with not less than 0.20% Copper.
Specifications- Special by State of California, Dept of Public Works.
Inspection- John M. Bailey-Chief Inspector.
Rivets- 7/8"
Open holes- 15/16" Unless noted.
Reaming- None.
Shop paint- None.
Finish- All burns and rough edges to be removed by chipping or grinding.
SHOP NOTE- All rivets in floor plates countersunk not chipped. All rivets in curb plate machine finished countersunk not chipped. Maximum height of countersunk rivet to be 1/16".
SHOP NOTE- The fabricator can splice bent Curb Plates to meet shop convenience at approximate 12 feet lengths.
REQUIRED
1 WALK UW29
1 " UW30
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Walks and Curb Upper Deck
Span YB2-YB3
AMERICAN BRIDGE COMPANY
DRAWING MADE AT GARY #3 PLANT
WORK FABRICATED IN Indiana Pacific PLANT
IN CHARGE OF Tompt
DRAWN, TRACED BY G.J.M. DATE 3/22/34
DRAWN, CHECKED BY L.H. DATE 6-18-34
ORDER No. G5107
SHEET No. 207
5-2-34
[CA]

30-T



UW31

REQUIRED		
No.	Description	Mark
One	Walk	UW31

GENERAL NOTES-

Material - All material O.H. Copper Bearing medium Carbon steel except curb plate which is to conform with A.S.T.M. specifications A7-33 with not less than 0.20% Copper.
Specifications - Special by State of California, Dept of Public Works.
Inspection - John M. Bailey - Chief Inspector.
Rivets - ⅞"φ
Open Holes - 15/16" φ Unless noted.
Reaming - None.
Shop paint - None.
Finish - All burrs and rough edges to be removed by chipping or grinding.

SHOP NOTE-

The fabricator can splice bent Curb Plates to meet shop convenience at approximate 12 feet lengths.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y31 - E1
Detail of Walk & Curb upper deck
Span YB2-YB3

AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary PLANT
WORK FABRICATED AT Hudson Pacific PLANT
IN CHARGE OF Tempt
DRAWN MADE BY C.B.V. DATE 3-20-34
DRAWN CHECKED BY L.H. DATE 4-19-34
ORDER NO. G-5107 | CHECK NO. 208

5-2-34

[C.R.]

30-1

UW19

U11

U16

U17

U.W.32

VIEW T-T

Sec. A-A

Sec. B-B

Sec. C-C

Sec. D-D

Sec. E-E

Sec. F-F

Sec. G-G

Sec. H-H

Sec. I-I

SHOP NOTE-
All rivets in floor plates to be countersunk-not chipped.
All rivets in curb plate marked thus ▽ are to be countersunk-not chipped.
Maximum height of countersunk rivets to be 1/16 except where noted.

REQUIRED		
No.	Description	Mark
One	Walk	UW19
One	"	UW32

GENERAL NOTES-
Material- All material O.H. Copper Bearing medium Carbon steel except curb plates which are to conform with A.S.T.M. specifications A7-33 with not less than 0.20% Copper.
Specifications- Special by State of California, Dept of Public Works.
Inspection- John M. Bailey-Chief Inspector
Rivets- 7/8" ø Unless noted.
Open Holes- 13/16" ø Unless noted.
Reaming- None.
Shop Paint- None.
Finish- All burrs and rough edges to be removed by chipping or grinding.

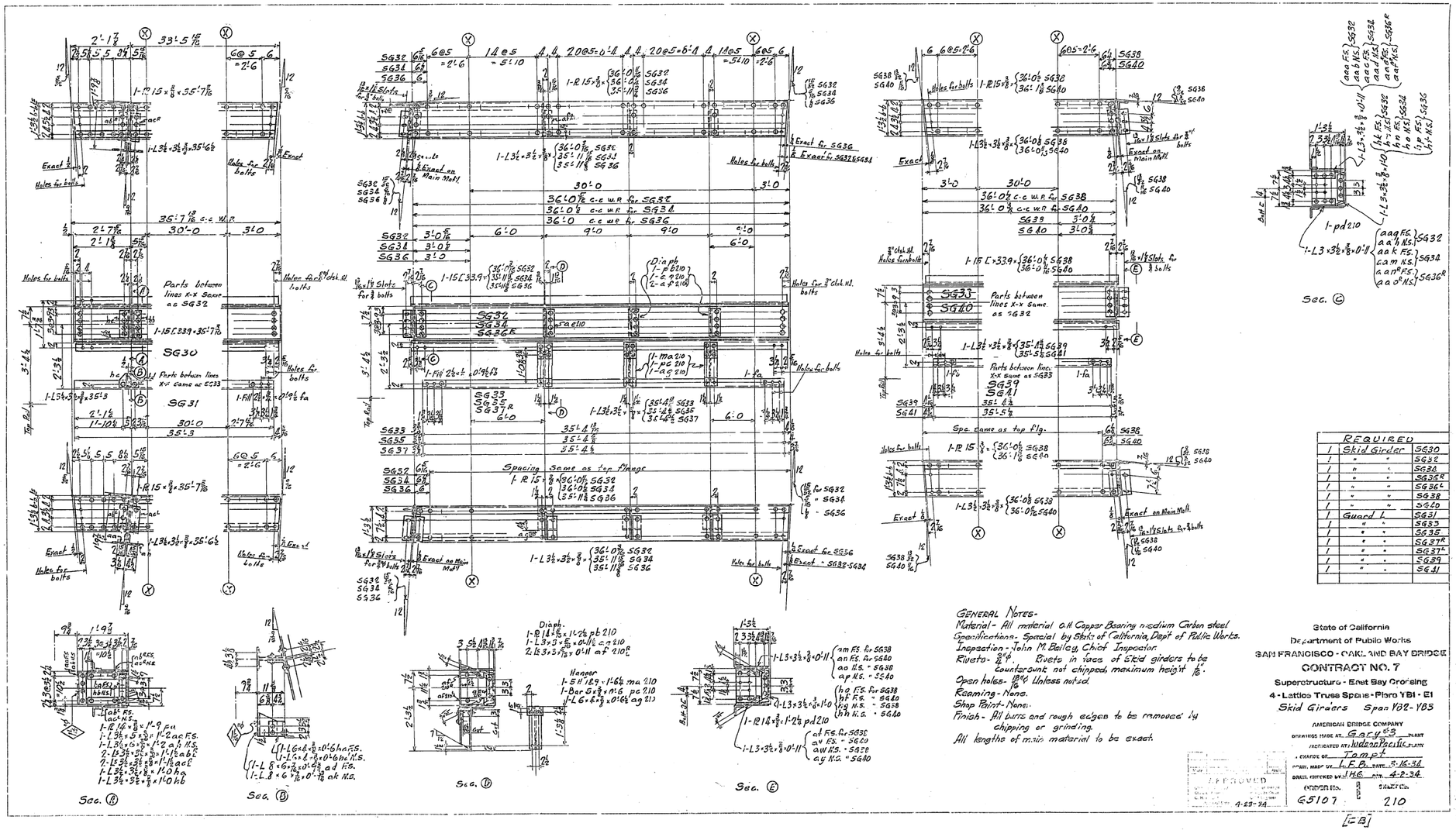
SHOP NOTE-
The fabricator can splice bent Curb Plates to meet shop convenience at approximate 12 feet lengths.

(1) 7-23-34 Lump Rail Conn. J.H.M.
(2) 8-24-34 Bend at Sec. H-H

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Trues Spans - Piers YD1 - E1
Details of Walks and Curbs Upper Deck YB2 to YB3

AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary Ind. PLANT
WORK FABRICATED AT Judson Pacific PLANT
FOR USE OF Tomat
CHK. MADE BY M.C.H.-C.B.V. DATE 3-28-34
DRAW. CHECKED BY L.H. DATE 4-18-34
ORDER No. 65107
E. ESTIMATE 203

[C.P.]



REQUIRED		
1	Skid Girder	SG30
1	" "	SG32
1	" "	SG34
1	" "	SG36R
1	" "	SG36L
1	" "	SG38
1	" "	SG40
1	Guard L	SG31
1	" "	SG33
1	" "	SG35
1	" "	SG37R
1	" "	SG37L
1	" "	SG39
1	" "	SG41

GENERAL NOTES-
Material - All material o.H Copper Bearing medium Carbon steel
Specifications - Special by State of California, Dept of Public Works.
Inspection - John M. Bailey, Chief Inspector.
Rivets - 7/8" ϕ. Rivets in faces of Skid girders to be countersunk not chipped, maximum height 1/16".
Open holes - 13/16 ϕ Unless noted.
Reaming - None.
Shop Paint - None.
Finish - All burrs and rough edges to be removed by chipping or grinding.
All lengths of main material to be exact.

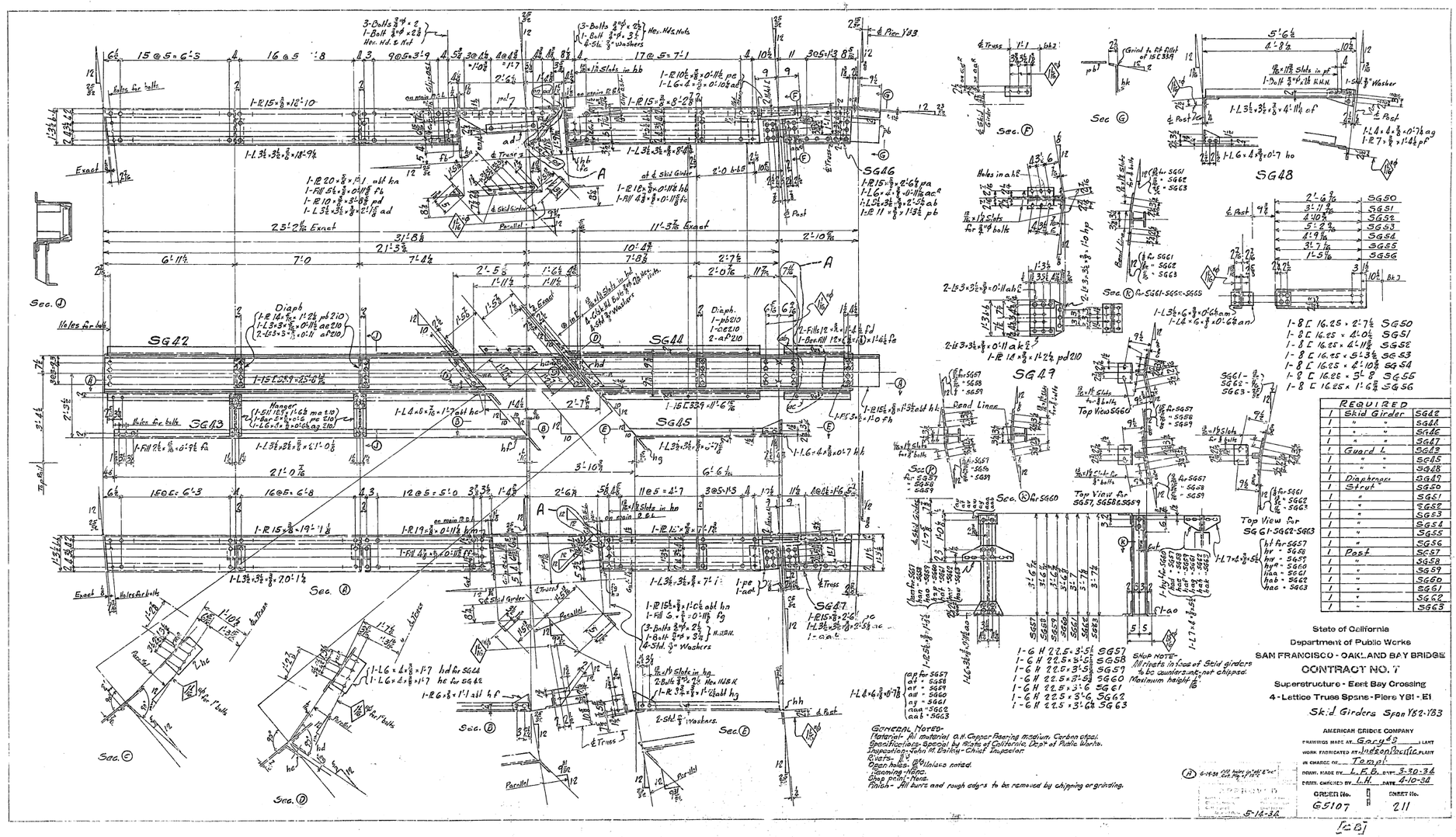
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Skid Girders Span YB2 - YB3

AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary PLANT
FABRICATED AT Judson Pacific PLANT
CHANGE OF ____ DATE 3-16-34
CHKD. MADE OF L.F.B. DATE 3-16-34
CHKD. APPROVED BY J.H.G. DATE 4-2-34

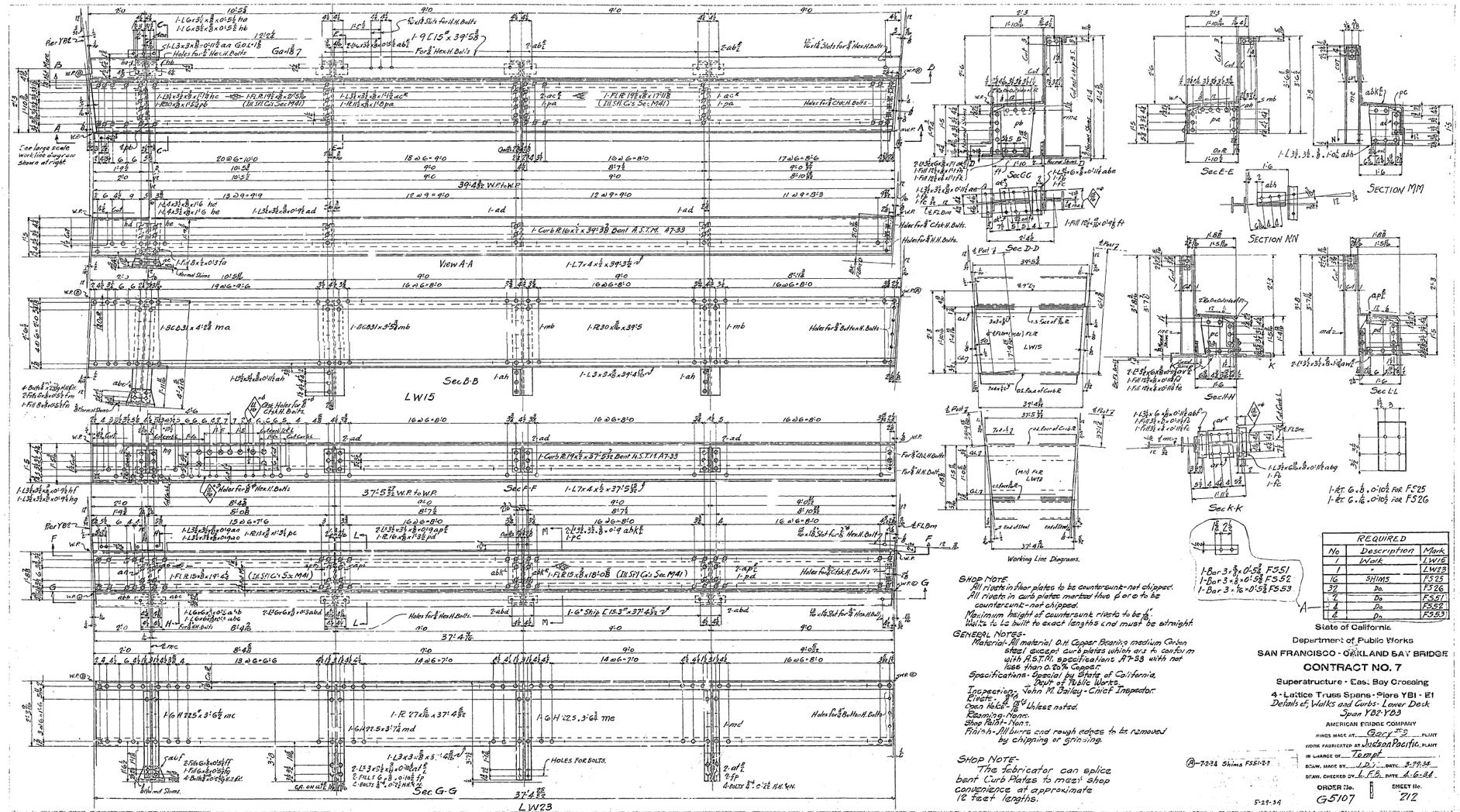
APPROVED 4-23-34
ORDER No. 65107
SHEET No. 210

[CB]

30-1



GENERAL NOTES-
Material- All material o.h. Copper Bearing Medium Carbon steel.
Specifications- Special by State of California, Dept. of Public Works.
Inspection- John M. Bailey - Chief Inspector.
Rivets- Ø 7/8" Unless noted.
Open holes- Ø 1/16" Unless noted.
Reaming- None.
Shop paint- None.
Finish- All burrs and rough edges to be removed by chipping or grinding.


View A-A
Sec B-B
LW15
Sec C-C
Sec D-D
Sec E-E
Sec F-F
Sec G-G
LW23
Sec H-H
Sec K-K
Sec L-L
SECTION MM
SECTION NN
Working Line Diagrams.
See large scale working line diagram shown at right
Bar YB2
Bar YB1
W.P.
Holes for 7/8" H.H. Bolts
Holes for 7/8" Ch'k H. Bolts
Holes for 7/8" Bolt and H. Bolts
Thermal Stone
Curb
Cut
Cut and Fill
Fill
Sta. on ctl. line
Sta. on ctl. line of Curb
Sta. on ctl. line of Curb & Gr.
Sta. on ctl. line of Curb & Gr. Bar
Sta. on ctl. line of Curb & Gr. Bar & Gr.
Sta. on ctl. line of Curb & Gr. Bar & Gr. & Gr.
Sta. on ctl. line of Curb & Gr. Bar & Gr. & Gr. & Gr.
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Sta. on ctl. line of Curb & Gr. Bar & Gr. & Gr. & Gr. & Gr. & Gr. & Gr. & Gr. & Gr. & Gr. & Gr. & Gr. & Gr. & Gr. & Gr. & Gr. & Gr. & Gr. & Gr.
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Sta. on ctl. line of Curb & Gr. Bar & Gr.
Sta. on ctl. line of Curb & Gr. Bar & Gr.
Sta. on ctl. line of Curb & Gr. Bar & Gr.
Sta. on ctl. line of Curb & Gr. Bar & Gr.

Sec. D-D

Sec. F-F

Sec. G-G

Sec. C-C (Enlarged)

Sec. A-A

Sec. B-B

Sec. E-E

Sec. Y-Y

Sec. M-M

Sec. X-X

Sec. H-H

Sec. L-L (Enlarged)

SECTION KK

SECTION NN

SHOP NOTE

All rivets in floor plates to be countersunk, not chipped.
All rivets in curb plates marked thus ⊖ or ⊕ to be countersunk not chipped.
Maximum height of countersunk rivet heads to be 1/16
Webs to be built to exact lengths & must be straight.

SHOP NOTE - The fabricator can splice bent Curb Plates to meet shop convenience at approximate 12 foot lengths.

GEN NOTES

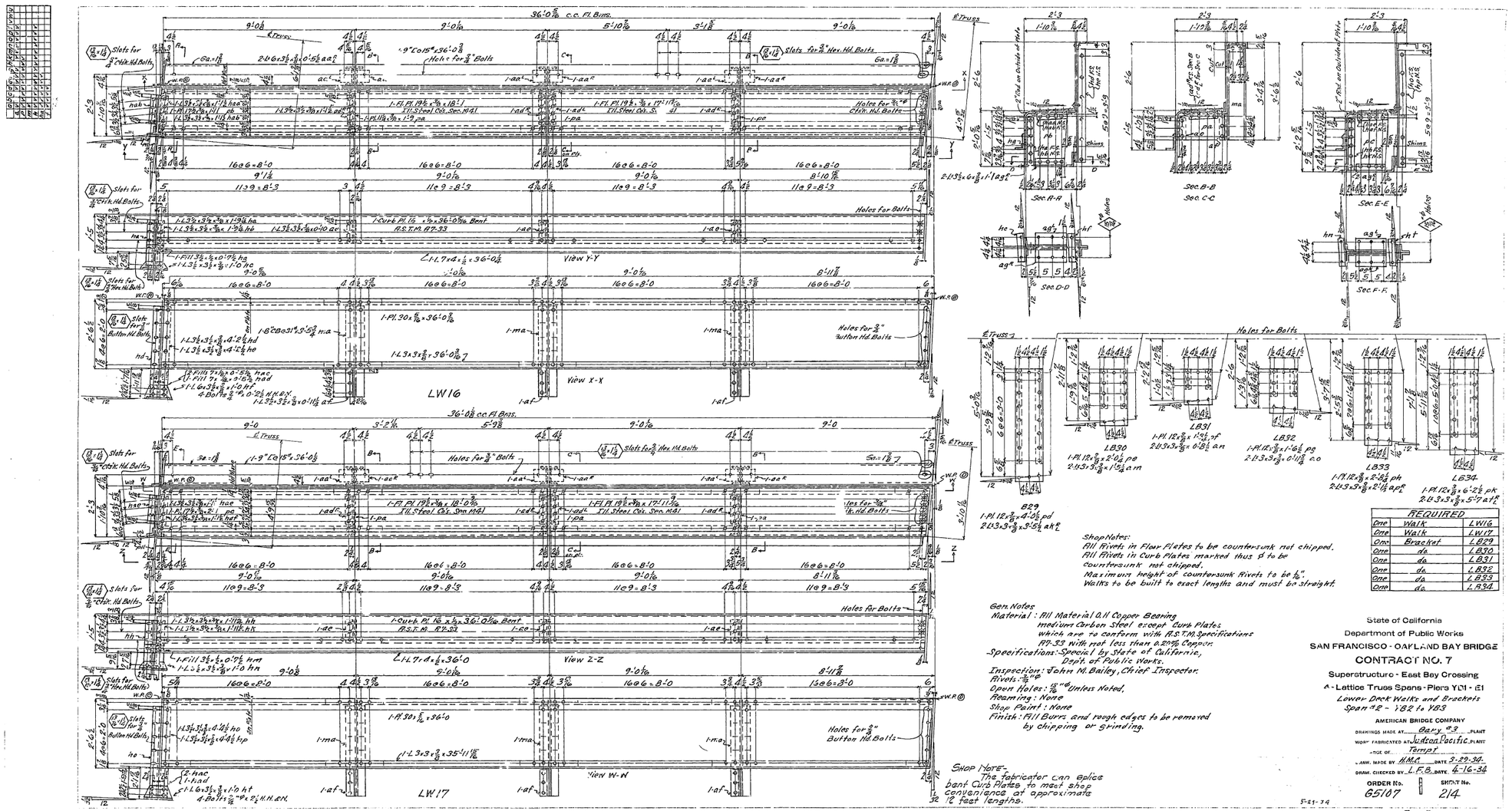
Material - All material O.H. copper bearing medium carbon steel, except Curb plates which are to conform with A.S.T.M. specifications A7-33, with not less than 0.20% copper.
Specifications - Special by State of California Dept. of Public Works.
Inspection - John M. Bailey, Chief Ins.
Rivets - 7/8" Ø
Open holes - 1" Ø unless noted.
Reaming - None
Shop paint - None
Finish - All burrs and rough edges to be removed by chipping or grinding.

REQUIRED		
	Walk	LW22
	⊘	LW30

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Det of Lower Deck Walks & Curbs
Span YB2 - YB3
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT GARY, IND. PLANT
TO BE FABRICATED AT Judson Pacific PLANT
CHGE OF TORSET
DRAWN, MADE BY MEW DATE 4-10-34
DRAW. CHECKED BY A.E.F. DATE 4-19-34
ORDER No. 65107
SHEET No. 213
5-21-34

[CR]

30-1



REQUIRED		
One	Walk	LW16
One	Walk	LW17
One	Bracket	LB29
One	do.	LB30
One	do.	LB31
One	do.	LB32
One	do.	LB33
One	do.	LB34

Shop Notes:
All Rivets in Floor Plates to be countersunk not chipped.
All Rivets in Curb Plates marked thus ⊕ to be countersunk not chipped.
Maximum height of countersunk Rivets to be 1/16".
Walks to be built to exact lengths and must be straight.

Gen. Notes
Material: All Material O.H. Copper Bearing medium Carbon Steel except Curb Plates which are to conform with A.S.T.M. Specifications A7-33 With not less than 0.20% Copper.
Specifications: Special by State of California, Dept. of Public Works.
Inspection: John M. Bailey, Chief Inspector.
Rivets: ⅞" ⊕
Open Holes: ⅞" ⌀ Unless Noted.
Reaming: None
Shop Paint: None
Finish: All Burrs and rough edges to be removed By Chipping or Grinding.

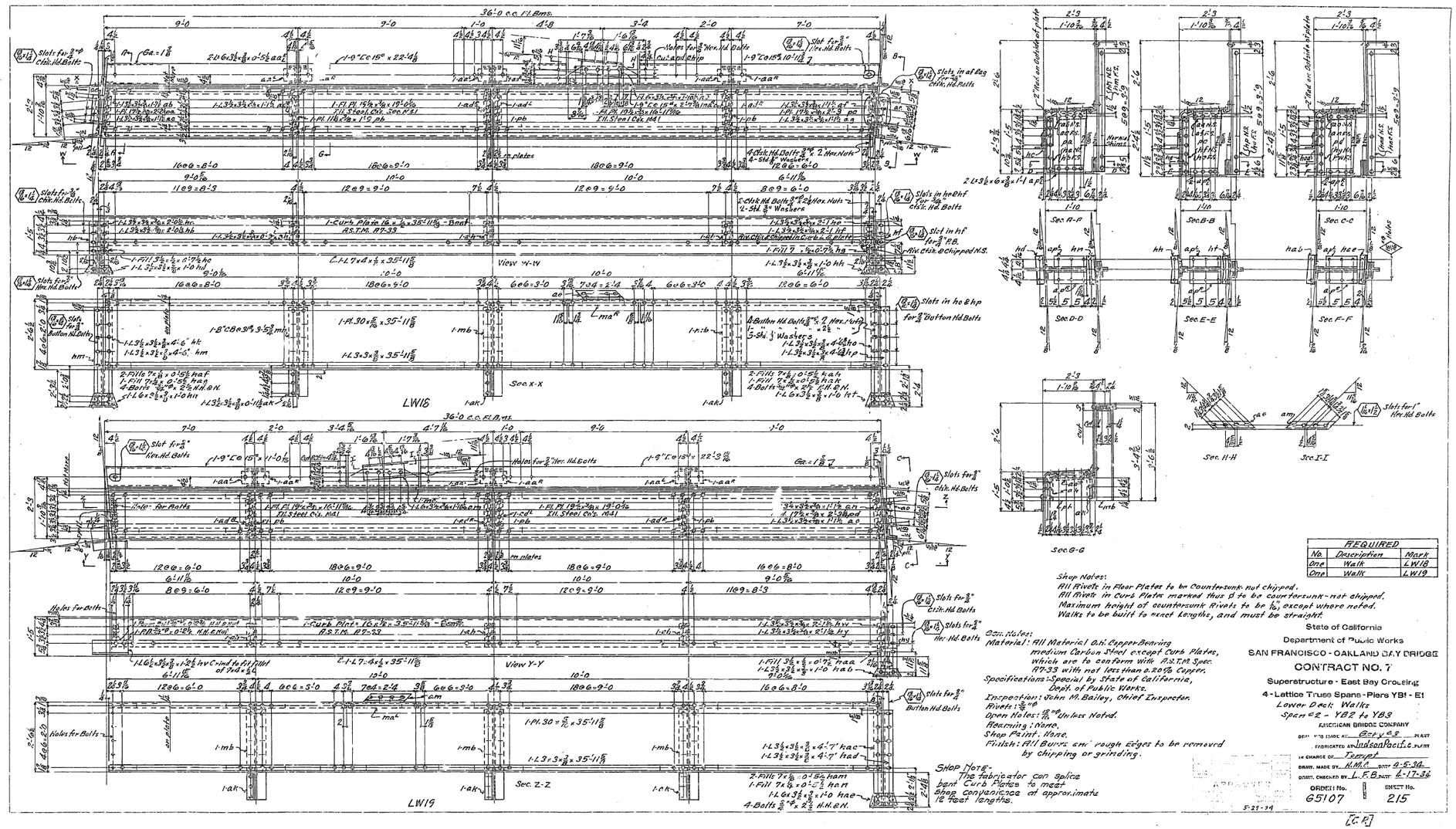
SHOP NOTE- The fabricator can splice bent Curb Plates to meet shop convenience at approximate 12 foot lengths.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
A - Lattice Truss Spans - Piers Y11 - E1
Lower Deck Walks and Brackets
Span 42 - Y82 to Y83

AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary Ind. PLANT
WORK FABRICATED AT Judson Pacific PLANT
CHGE OF Tempt
DRAW. MADE BY A.M.M. DATE 3-29-34
DRAW. CHECKED BY L.F.B. DATE 4-16-34
ORDER No. 65107 SHEET No. 214

5-21-34

[C.P.]



REQUIRED		
No.	Description	Mark
One	Walk	LW18
One	Walk	LW19

Shop Notes:
All Rivets in Floor Plates to be Countersunk-not chipped.
All Rivets in Curb Plates marked thus ⊽ to be countersunk-not chipped.
Maximum height of countersunk Rivets to be 1/16, except where noted.
Walks to be built to exact lengths, and must be straight.

Gen. Notes:
Material: All Material O.H. Copper-Bearing medium Carbon Steel except Curb Plates, which are to conform with A.S.T.M. Spec. A7-33 with not less than 0.20% Copper.
Specifications: Special by State of California, Dept. of Public Works.
Inspection: John M. Bailey, Chief Inspector.
Rivets: 7/8" ø
Open Holes: 13/16" ø unless Noted.
Reaming: None.
Shop Paint: None.
Finish: All Burrs and rough Edges to be removed by chipping or grinding.

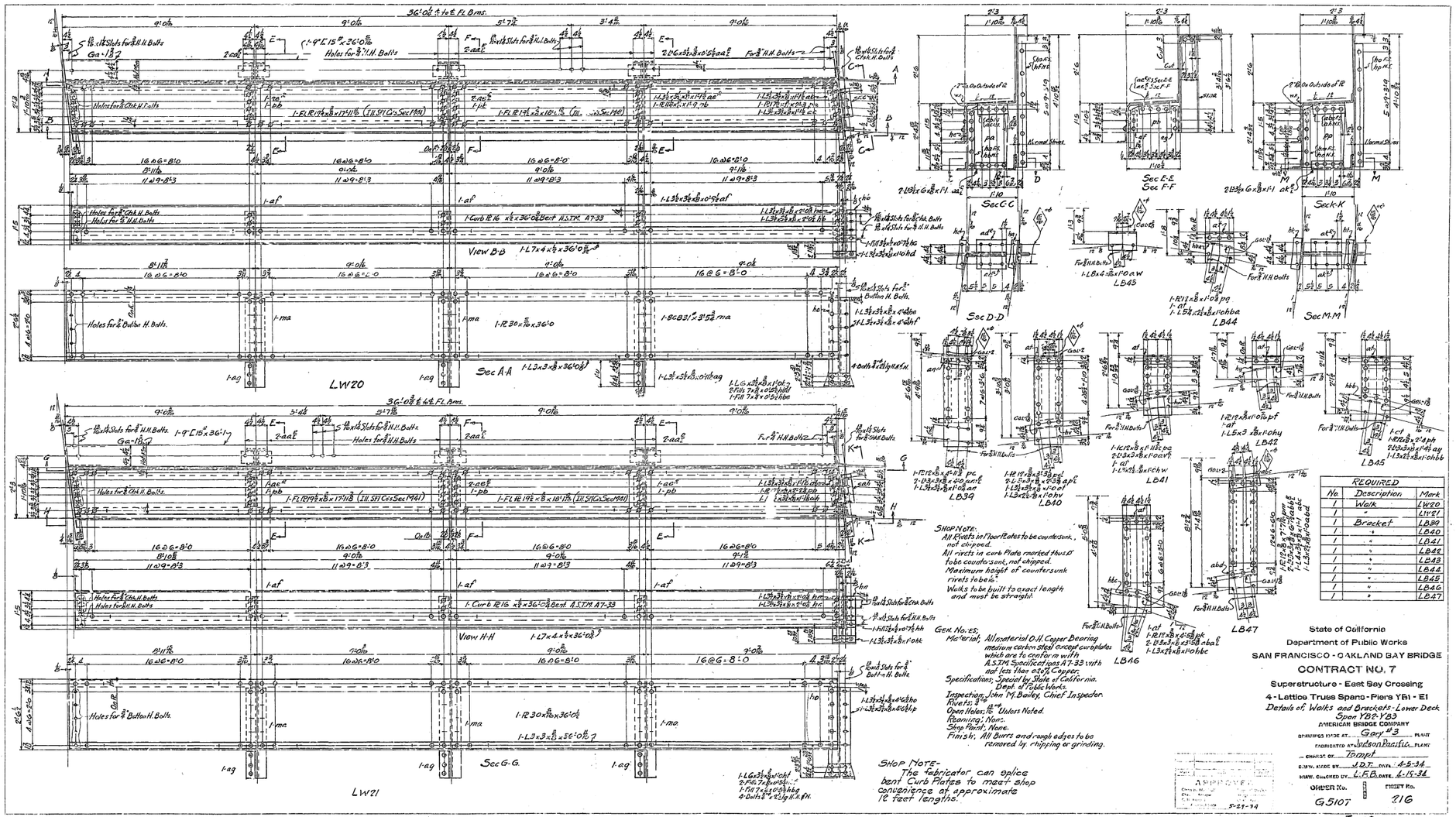
SHOP NOTE-
The fabricator can splice bent Curb Plates to meet Shop convenience at approximate 12 feet lengths.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Lower Deck: Walks
Spans E2 - YB2 to YB3

AMERICAN BRIDGE COMPANY
DRAWING MADE AT: Gary Ind. PLANT
FABRICATED AT: Hudson Pacific Co. PLANT
IN CHARGE OF: Tennyt
DRAWN, MADE BY: M.M.C. DATE: 4-5-34
DRAWN, CHECKED BY: L.F.B. DATE: 4-17-34
ORDER No. 65107 SHEET No. 215

APPROVED 5-21-34

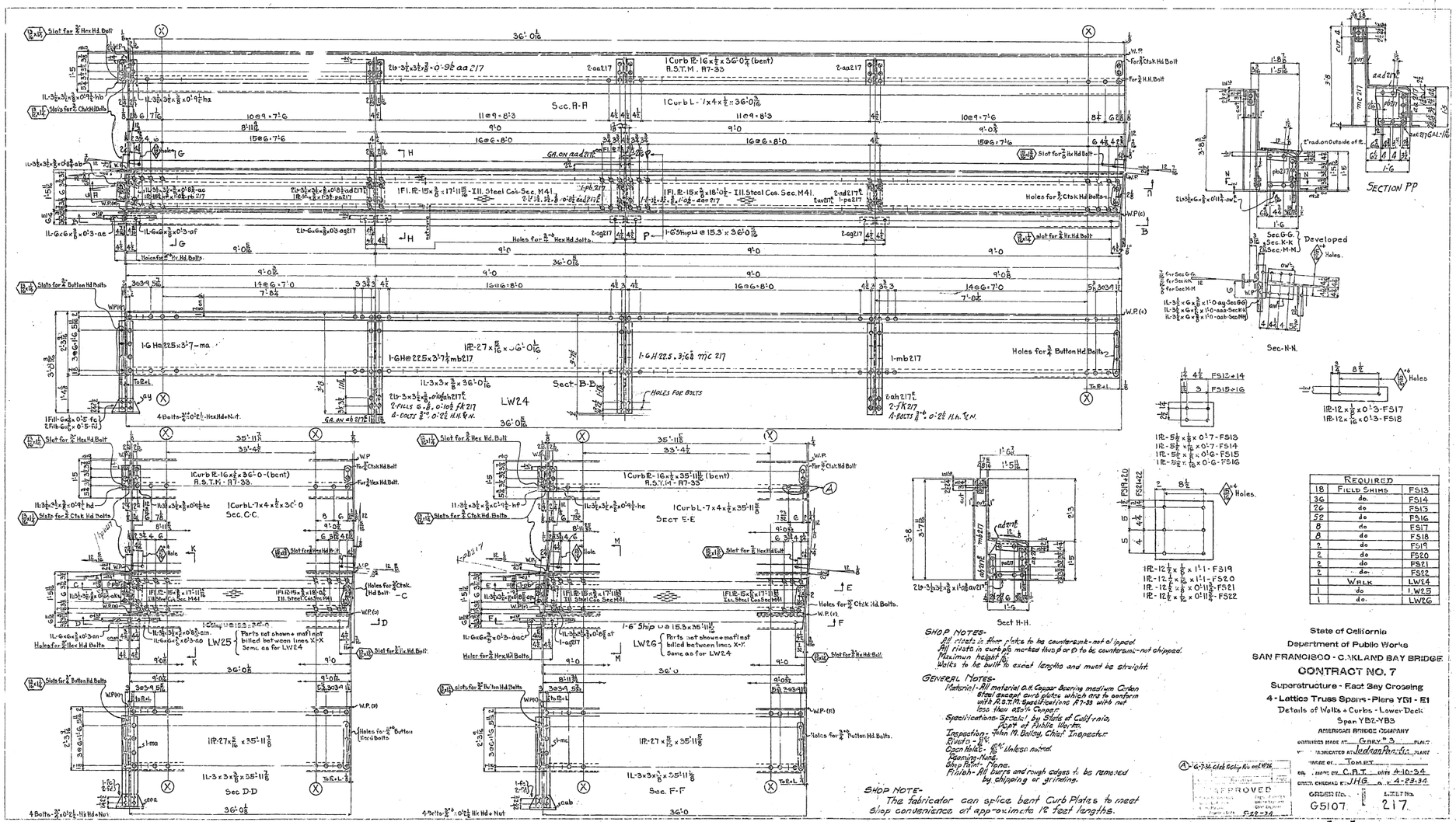
[C.R.]



REQUIRED		
No.	Description	Mark
1	Walk	LW20
1	"	LW21
1	Bracket	LB39
1	"	LB40
1	"	LB41
1	"	LB42
1	"	LB43
1	"	LB44
1	"	LB45
1	"	LB46
1	"	LB47

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Walks and Brackets - Lower Deck
Spans YB2-Y23
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #3 PLANT
FABRICATED AT Judson Pacific PLANT
CHARGE OF Tompt
CHKD. MADE BY J.D.T. DATE 4-5-34
DRAW. CHECKED BY L.F.B. DATE 4-14-34
ORDER No. G5107
SHEET No. 716

[C.A.]



Required		
18	Field Shims	FS13
36	do.	FS14
26	do	FS15
52	do	FS16
8	do	FS17
8	do	FS18
2	do	FS19
2	do	FS20
2	do	FS21
2	do.	FS22
1	Walk	LW24
1	do	LW25
1	do.	LW26

SHOP NOTES-
All rivets in floor plates to be countersunk - not chipped.
All rivets in curb plate marked thus ∫ or ⊙ to be countersunk - not chipped.
Maximum height of curb plate 16".
Curbs to be built to exact lengths and must be straight.

GENERAL NOTES-
Material - All material of Copper bearing medium Carbon Steel except curb plates which are to conform with A.S.T.M. Specifications A7-33 with not less than .10% Copper.
Specifications - Special, by State of California, Dept. of Public Works.
Inspection - John M. Bailey, Chief Inspector.
Rivets - ⅞" ø.
Open Holes - 15/16" Unless noted.
Reaming - None.
Poly Paint - None.
Finish - All burrs and rough edges to be removed by chipping or grinding.

SHOP NOTE-
The fabricator can splice bent Curb Plates to meet shop convenience at approximate 12 foot lengths.

A - G-34 Ctsk Rivets in W26

APPROVED
Chief Engineer
San Francisco-Oakland Bay Bridge
5-28-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YD1 - E1
Details of Walks & Curbs - Lower Deck
Spans YB2-YB3
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary, Ind. PLANT
FABRICATED AT Judson, Pacific PLANT
IMAGE OF Tom Lett
DR. MADE BY C.A.T. DATE 4-10-34
CHECK ENGRAD BY JHG DATE 4-23-34
ORDER No. G5107. SHEET No. 217.

Sect A.A.

Spacing between Lines X X, same as Sec AA on sheet 217

Spacing between Lines XX same as LW2. on sheet 217

Spacing between Lines X X same as Sec BB on sheet 217

Sec J.J. LW 28.

Sec G.G.

Sec H. H.

Sec K. K.

Sec N. N.

Sec E E

Sec M. M.

Sec B.B.
Sec C.C.
Sec D.D.
Sec F.F.

LW27

LW28

LW29

SHOP NOTES-

All rivets in floor plates to be countersunk-not chipped. All rivets in curb plates marked thus ◐ or ◑ to be countersunk-not chipped.
Maximum height ⅛. Walks to be built to exact lengths and must be straight.

GENERAL NOTES-

Material- All material O.H. Copper Bearing medium Carbon steel except curb plates which are to conform with A.S.T.M. Specifications A7-33 with not less than 0.20% Copper.

Specifications. Special by State of California, Dept of Public Works.

Inspection - John M. Bailey - Chief Inspector.

Rivets - ⅞" Ø Unless noted.

Open Holes - 1⅛" Unless noted.

Reaming - None.

Shop Paint - None.

Finish - All burrs and rough edges to be removed by grinding or chipping.

SHOP NOTE-

The fabricator can splice bent Curb Plates to meet shop convenience at approximate 12 foot lengths.

Shop Note
Work sheets 217 & 218 together

APPROVED
5-29-34

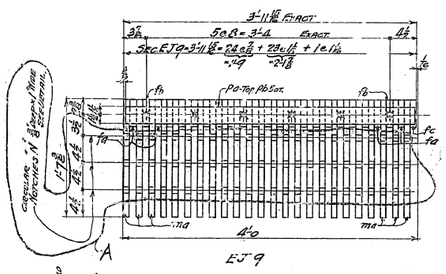
REQUIRED		
ONE	WALK	LW27
ONE	"	LW28
ONE	"	LW29

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Walk & Curb Lower Deck
YB2 YB3

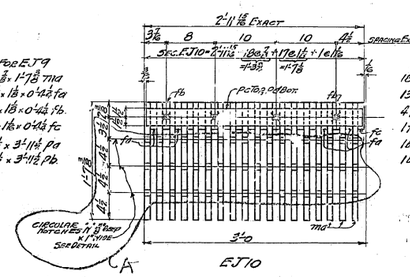
American Bridge Company
Checked by H. Gary
Shop Fabricated by Isaacs Pacific Plant
Quantities by Tompkins
Prepared by G.J.M. Date 4-11-34
Checked by L.F.D. Date 4-24-34

Drawing No. G5107 Sheet No. 218

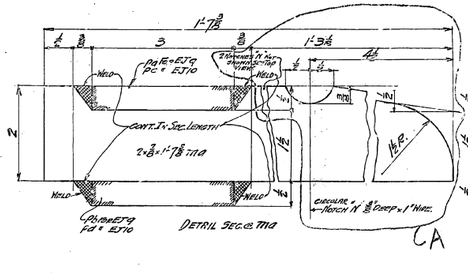
[CH]

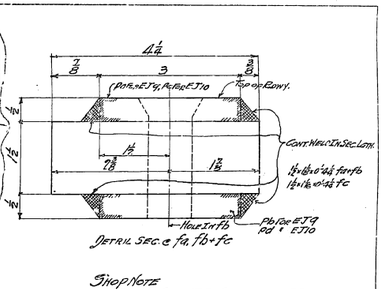


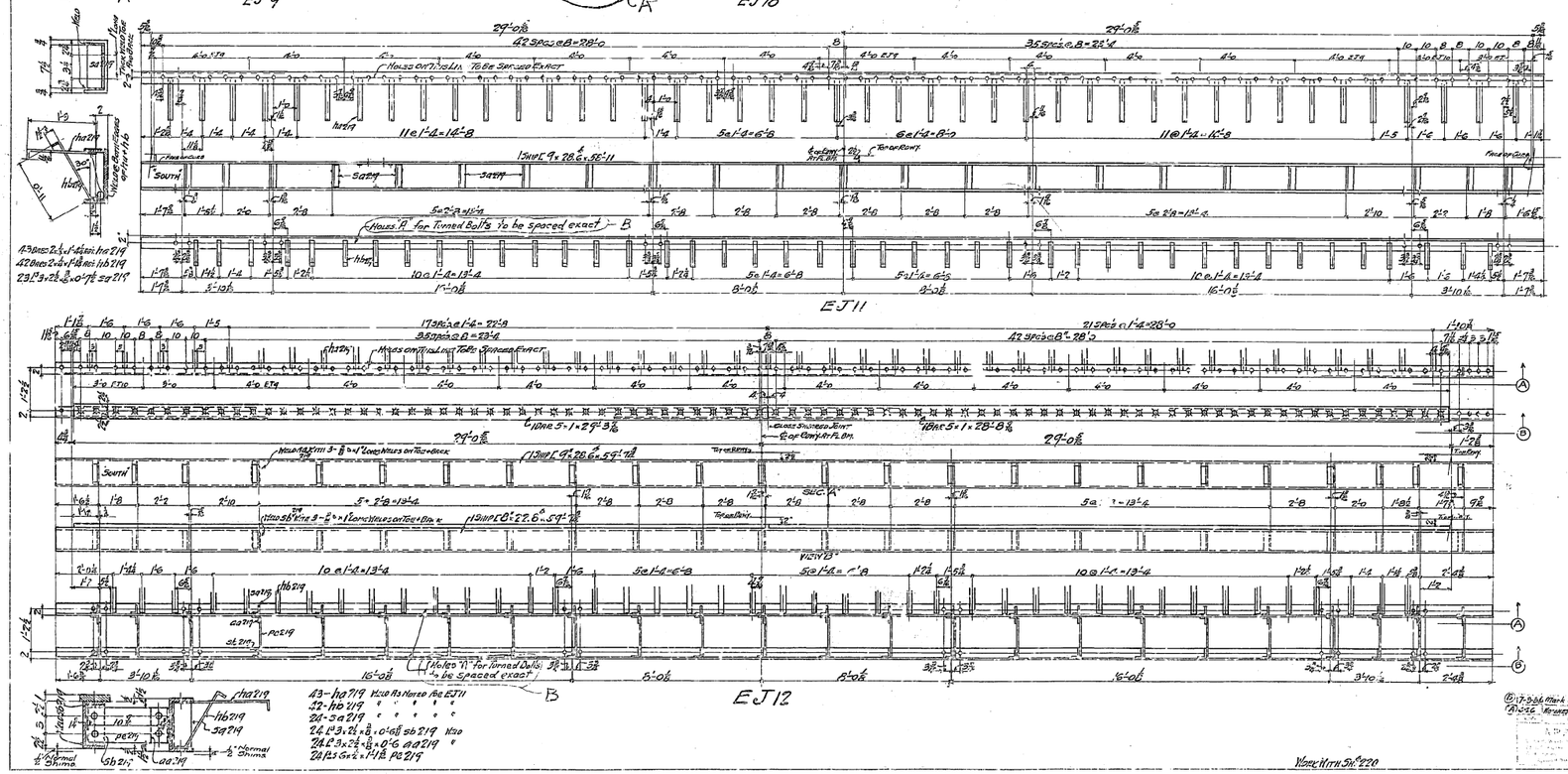
Mat'l. for EJ 9
2 Bars 2 x 7/8 x 1'-7 3/8 ma
17 Fills 1 1/8 x 1 1/8 x 0'-4 1/2 fa
6 Fills 1 1/16 x 1 1/8 x 0'-4 1/2 fb
1 Fill 1 1/2 x 1 1/8 x 0'-4 1/2 fc
1 Bar 3 x 3/8 x 3'-11 1/2 pa
1 Bar 3 x 1/2 x 3'-11 1/2 pb



Mat'l. for EJ 10
18 ma
13 fa
4 fb
1 fc
1 Bar 3 x 3/8 x 2'-11 1/2 pc
1 Bar 3 x 1/2 x 2'-11 1/2 pd







13 Bars 2 x 1'-4 thk 219
42 Bars 2 x 2'-4 thk 219
29 Pls 9 x 28 x 3/4 Sq 219

43 - hb 219 Also As Noted For EJ 11
32 - hb 219 " " " "
24 - sa 219 " " " "
24 Pls 3 x 2 1/2 x 3/8 x 0'-6 sb 219 Also
24 Pls 3 x 2 1/2 x 3/8 x 0'-6 aa 219 "
28 Pls 6 x 2 x 1/4 pa 219

Shop Note
Grating Bars to be accurately spaced for ⅛" weld between bars.
Grating Sections are to be made in jigs so that there will be no warping of the finished bars so that their final dimensions will be maintained on level on bottom.
All bars to be straight & true & to have a neat finish.
All fillet welds to be made with shielded arc electrodes.

General Notes-
Mat'l - All material O.H. Copper-Bearing medium Carbon steel
Specifications - Special by State of California, Dept of Public Works.
Inspection - John M. Bailey, Chief Inspector.
Rivets - ⅞" ø
Open Holes - 1 1/16
Reaming - None, except holes in 5'-1" bars (and Holes "A" in B) to be subpunched ⅝" and reamed to size and holes in fills ⅜" to be drilled from the solid.
Shop Point - None.

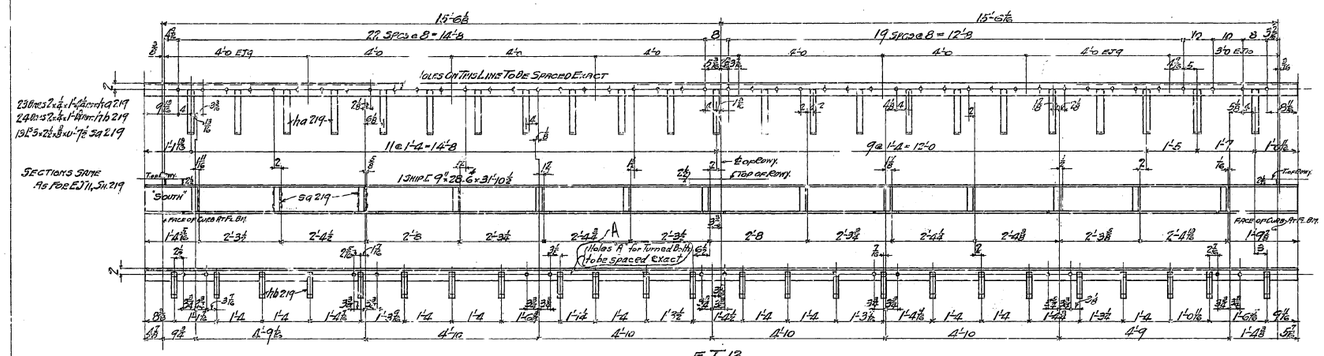
Required		
40	Exp. Gratings	EJ 9
6	Exp. Gratings	EJ 10
1	Exp. Joint Support	EJ 11
1	Exp. " "	EJ 12

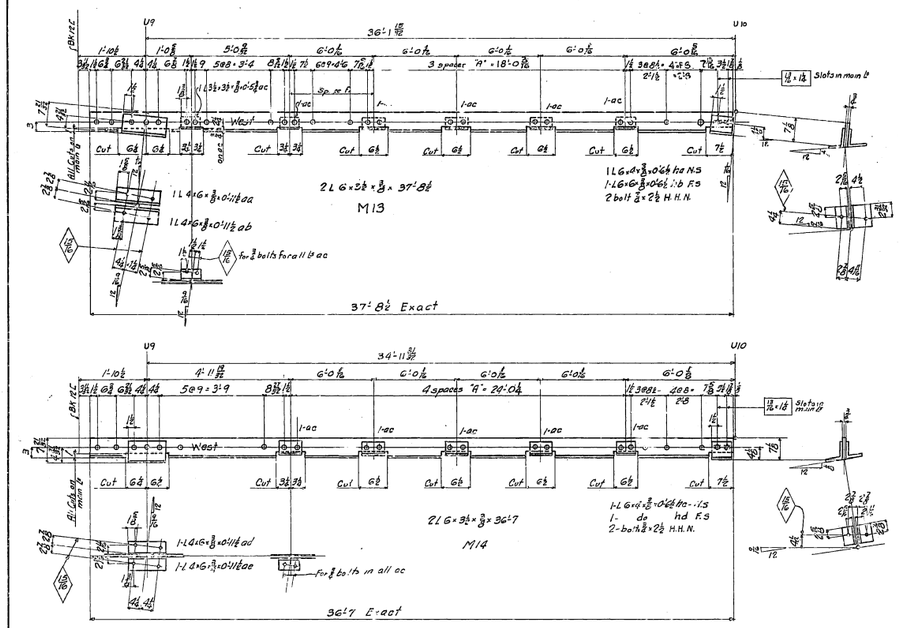
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Expansion Joint at YB3.

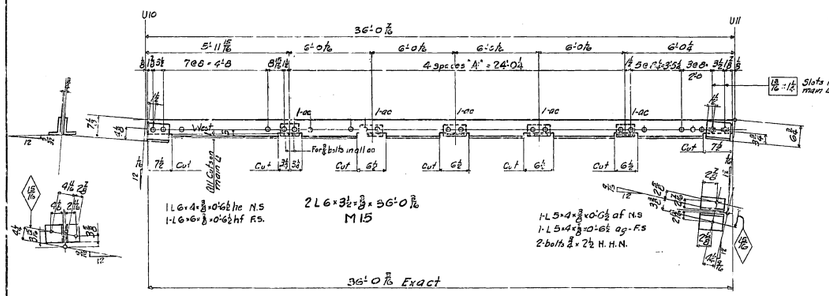
American Bridge Company
Jobs made at Ohio Shop Plant
Jobs fabricated at Judson Pacific Plant
In charge of Tempt
Drawn, Traced by A.J.W. Date 3-23-34
Drawn, Checked by G.T.N. Date 4-19-34
Order No. G5107
Sheet No. 219

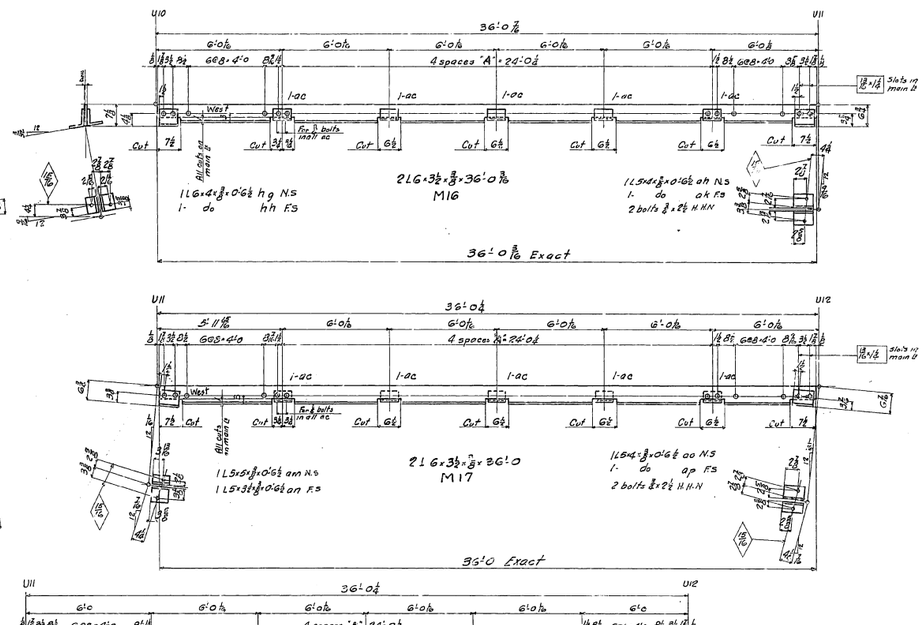
Approved
5-2-34

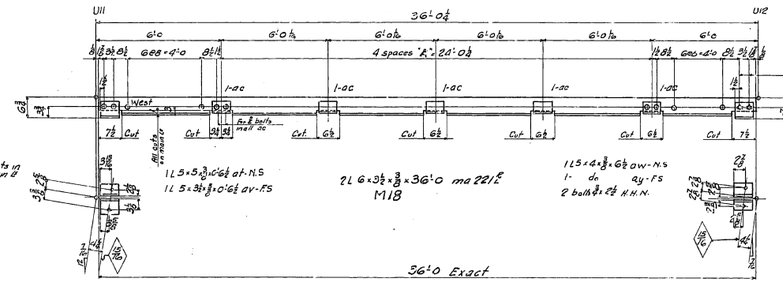
Revised 5-26 Mark Holes for T.O.


Holes contin this line to be spaced exact
Holes A for turned bolts to be spaced exact
Sta 219
Sta 219
Sta 219









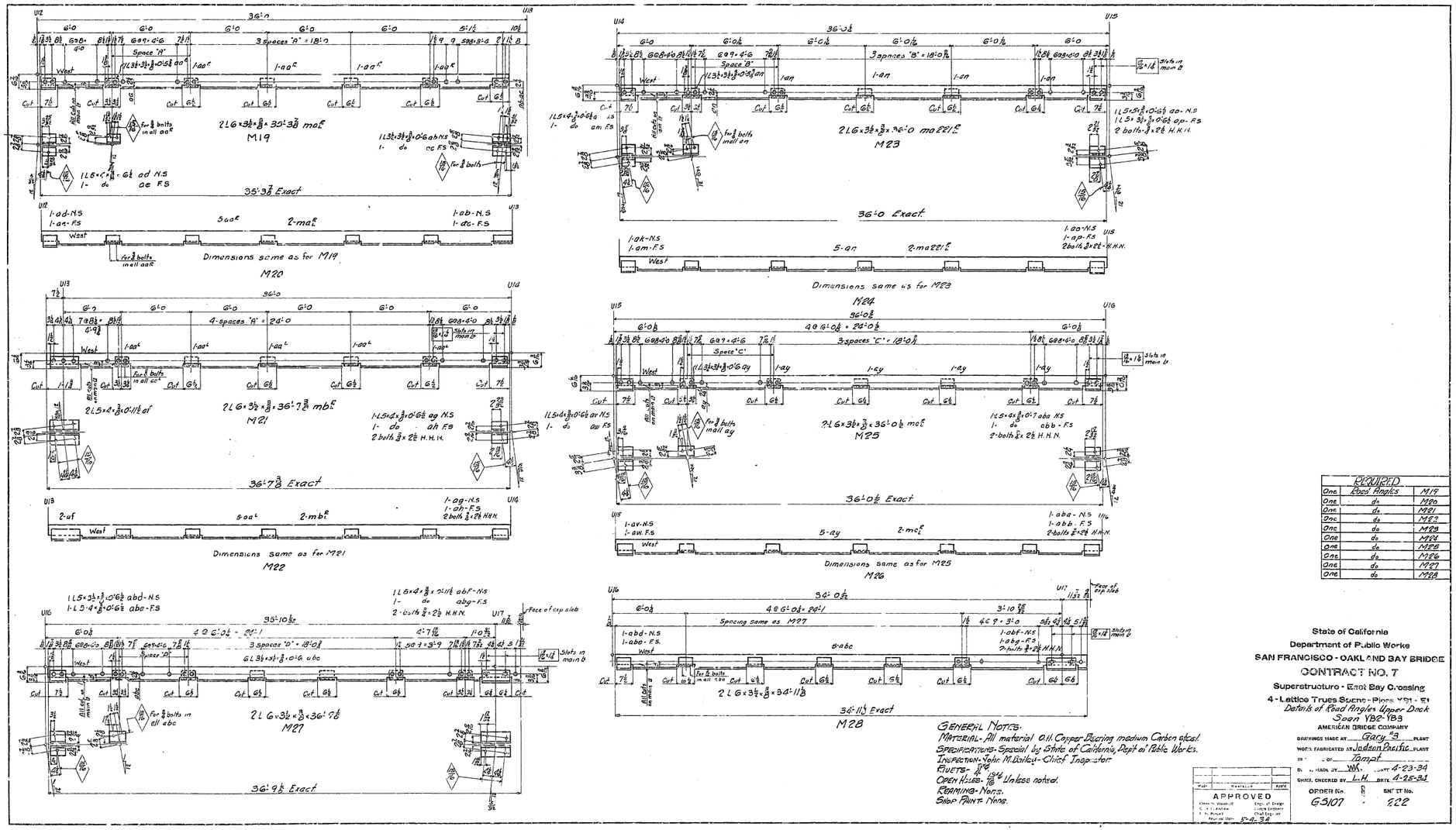
REQUIRED		
One	Road Angle	M13
One	do	M14
One	do	M15
One	do	M16
One	do	M17
One	do	M18

GENERAL NOTES-
MATERIAL- All material O.H. Copper Bearing medium Carbon steel.
SPECIFICATIONS- Special by State of California, Dept of Public Works.
INSPECTION- John M. Bailey - Chief Inspector.
RIVETS- 7/8" ø
OPEN HOLES- 1/16" ø Unless noted.
ERAMING- None.
SHOP PAINT- None.

No.	Revision	Appr.

APPROVED
Chas. B. Wendt
Chas. S. Ash
S. H. Wood
App. 1st Date 5-1-34
Dir. of Bridge & City Engineer
Chief Engineer

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Road Angles Upper Deck
Span YB2-YB3
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary Ind. PLANT
WORK FABRICATED AT Judson Pac. Co. PLANT
CHARGE OF Tampa
DRAWN BY WK. DATE 1-20-34
CHECKED BY L.H. DATE 4-25-34
CONTRACT NO. G3107
SHEET NO. 221

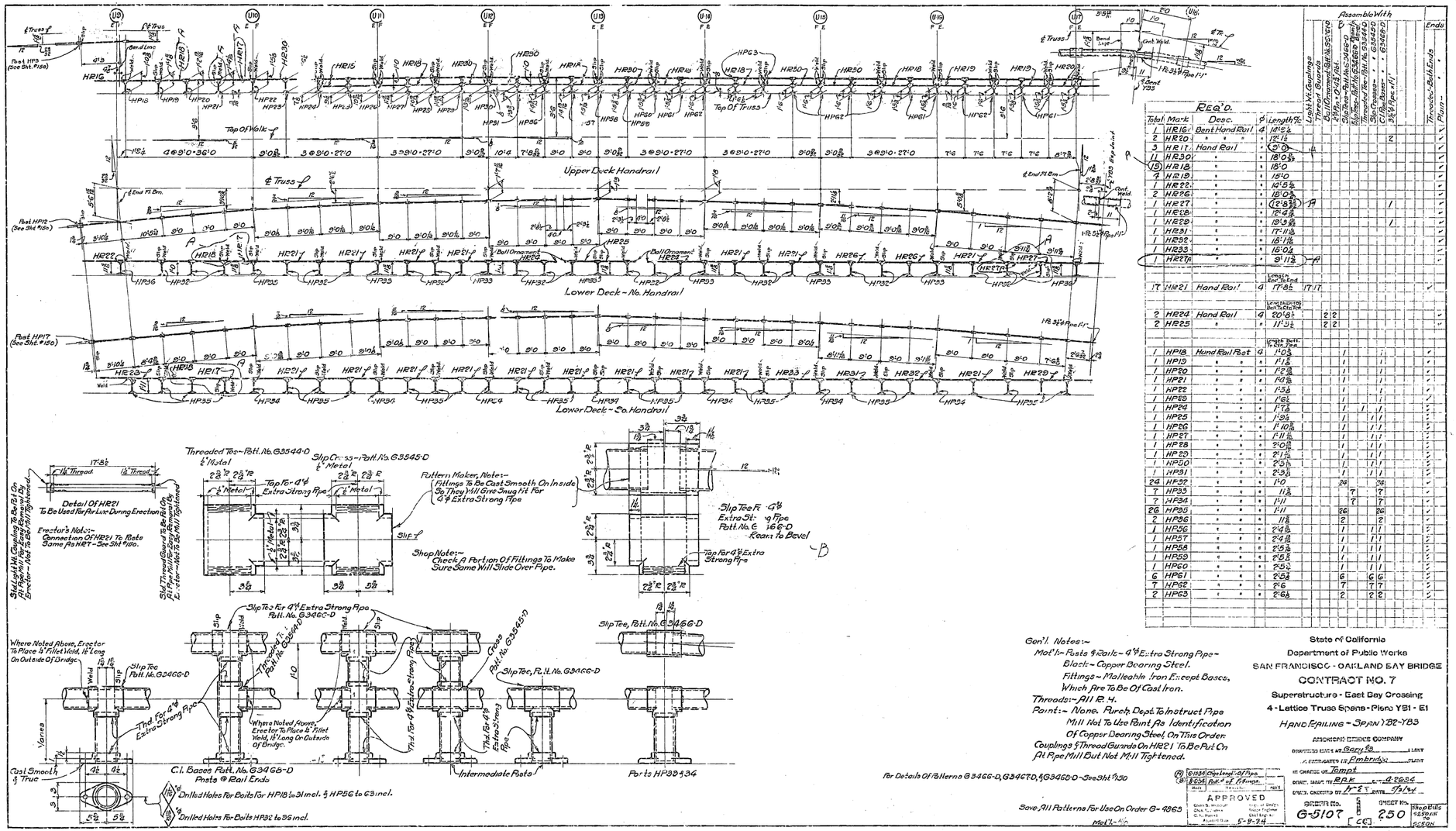


REQUIRED		
One	Knee Angles	M19
One	do	M20
One	do	M21
One	do	M22
One	do	M23
One	do	M24
One	do	M25
One	do	M26
One	do	M27
One	do	M28

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Road Angles Upper Deck
Spans YB2-YB3
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary PLANT
WORK FABRICATED AT Judson Pacific PLANT
BY ... OF ... Tampa
DR. ... VISOR JY WK DATE 4-23-34
CHKD. CHECKED BY L.H DATE 4-25-34
ORDER No. G3107
SHT. IT No. 222

APPROVED
Engr. of Design
Engr. of Bridges
Chief Engineer
Date of Approval 5-4-34

GENERAL NOTES.
MATERIAL- All material O.H. Copper Bearing medium Carbon steel.
SPECIFICATIONS- Special by State of California, Dept. of Public Works.
INSPECTION- John M. Dolley - Chief Inspector.
RIVETS- ⅞ Ø
OPEN HOLES- 15/16 Unless noted.
REAMING- None.
SHOP PAINT- None.



REQ'D. Total	Mark	Desc.		Length	Assemble With	Ends
1	HR16	Bent Hand Rail	4	12'-10½"		
2	HR20	"	"	13'-1½"		
3	HR17	Hand Rail	"	5'-0"		
11	HR30	"	"	18'-0 39/64"		
(15)	HR18	"	"	18'-0"		
4	HR19	"	"	15'-0"		
1	HR22	"	"	10'-5¾"		
2	HR26	"	"	18'-0¾"		
1	HR27	"	"	12'-8¾"	19	
1	HR28	"	"	12'-6⅝"		
1	HR29	"	"	19'-3 29/64"		
1	HR31	"	"	17'-11⅛"		
1	HR32	"	"	18'-1⅛"		
1	HR33	"	"	18'-0¼"		
1	HR27A	"	"	9'-11⅞"	19	
				Length Between End Fits		
17	HR21	Hand Rail	4	17'-8½"	17 17	
				Length Between Centers Bolt Holes		
2	HR24	Hand Rail	4	20'-8½"	2 2	
2	HR25	"	"	11'-3½"	2 2	
				Length Between Ctrs. Pins		
1	HP18	Hand Rail Post	4	1'-0⅜"	1 1	
1	HP19	"	"	1'-1⅝"	1 1	
1	HP20	"	"	1'-2 25/32"	1 1	
1	HP21	"	"	1'-10⅞"	1 1	
1	HP22	"	"	1'-5⅜"	1 1	
1	HP23	"	"	1'-8⅛"	1 1	
1	HP24	"	"	1'-7⅝"	1 1	
1	HP25	"	"	1'-9¼"	1 1	
1	HP26	"	"	1'-10 25/32"	1 1	
1	HP27	"	"	1'-11 29/32"	1 1	
1	HP28	"	"	2'-0 13/32"	1 1	
1	HP29	"	"	2'-1 5/32"	1 1	
1	HP30	"	"	2'-3⅜"	1 1	
1	HP31	"	"	2'-5⅝"	1 1	
24	HP32	"	"	1'-0"	24 24	
7	HP35	"	"	11⅝"	7 7	
7	HP34	"	"	1'-11"	7 7	
26	HP35	"	"	1'-11"	26 26	
2	HP36	"	"	11⅝"	2 2	
1	HP56	"	"	2'-4⅝"	1 1	
1	HP57	"	"	2'-6⅛"	1 1	
1	HP58	"	"	2'-5⅝"	1 1	
1	HP59	"	"	2'-5⅝"	1 1	
1	HP60	"	"	2'-5½"	1 1	
6	HP61	"	"	2'-5⅝"	6 6	
7	HP62	"	"	2'-6"	7 7	
2	HP63	"	"	2'-6⅝"	2 2	

Assemble With: Light Mk. Couplings; Bent Hand Rail No. G3540-D; 4 Wgt. 10.63 lbs. Hand Rail; Slip Tee – Patt. No. G3466-D; Threaded Tee – Patt. No. G3544-D; Slip Cross – Patt. No. G3545-D; 3½" Pipe Nut

Gen'l. Notes:-
Mat'l:- Posts & Rails – 6" Extra Strong Pipe – Black – Copper Bearing Steel.
Fittings – Malleable Iron Except Bases, Which Are To Be Of Cast Iron.
Threads:- All R. 4.
Paint:- None. Purch. Dept. To Instruct Pipe Mill Not To Use Paint As Identification Of Copper Bearing Steel, On This Order.
Couplings & Thread Guards On HR21 To Be Put On At Pipe Mill But Not Mill Tightened.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y31 - E1
HAND RAILING – SPANS Y32-Y33
ARCHIBALD DENNICK COMPANY
DRAWING MADE BY Gary '40 CLIENT
AS DESIGNATED BY Embridge CLIENT
IN CHARGE OF Tempt
DRAWN, TRACED BY R.P.K. DATE 4-26-24
CHECKED, CHECKED BY J.F.S. DATE 7/1/24

No.	Date	Revision	By
1	6-1934	Chge Length of Pipe	
2	8-1934	Add # of Fittings	

APPROVED
Chief Engineer
5-8-34

DRAWING No. G-5107 [CE] SHEET No. 250
Shop Bills 9250 lbs. Steel

30-1

PIERS @ RECEIVED TO-DATE

PIER 1	
PIER 2	
PIER 3	
PIER 4	

D327 D328 D329 D330 D331 D332 D333 D334 D335 D336 D337 D338 D339 D340 D341

C.I. Drain Outlet L-1-D01 See Sheet C.I.701

Sect. A-A

Detail Of Cleanout

Lower Deck

Upper Deck

Erection Plans

Erector's Note:- Place Gr. rod Between Flanges At All Field Joints.

Detail Of C.I. Flanges

Asbestos Service Gasket - 1/8" Thick

Sketch Showing Butt Weld.

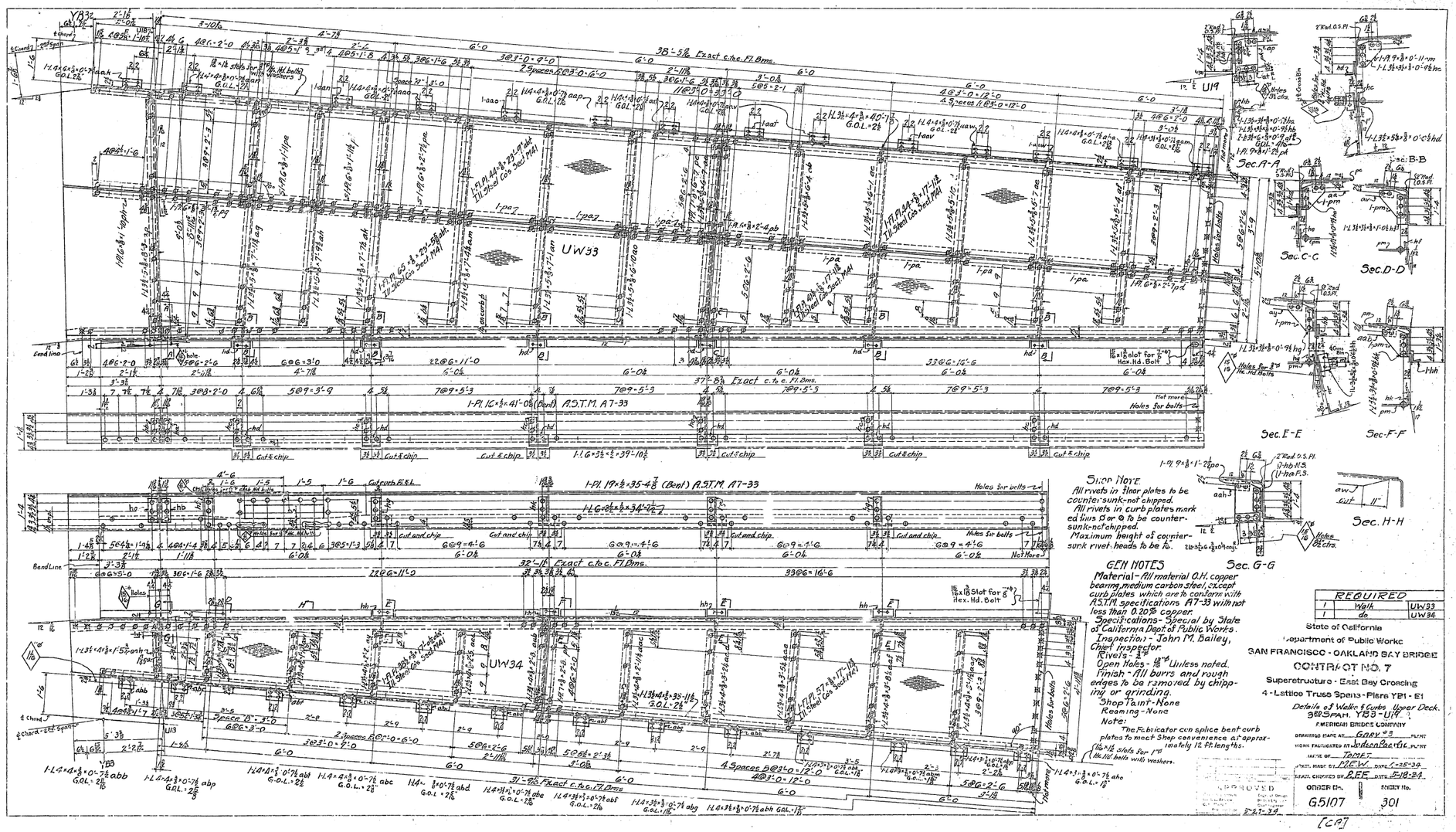
Note:- Where Std. Couplings Are Used To Obtain Detailed Lengths Of Drains, Couplings Must Be Placed To Clear Drain Fastener 9'-0". Flanges Must Also Clear Fasteners.

Shop Notes:-
Pipe To Be Std. Black Copper Bearing Steel.
Pedestals Fasteners To Be Of Copper Bearing Steel.
C.I. Flanges To Be Used At All Field Joints.
Shop Joints To Be Of Cont. Weld, Pipe Being Scarfed And All Burrs Removed After Welding.
All Threads R.H.
Shop To Make Allowances For Welds & Gaskets.
Paint:- None. Fir. Ch. Dept. To Instruct Pipe Mill Not To Use Paint As Indentification Of Copper Bearing Steel On This Order.

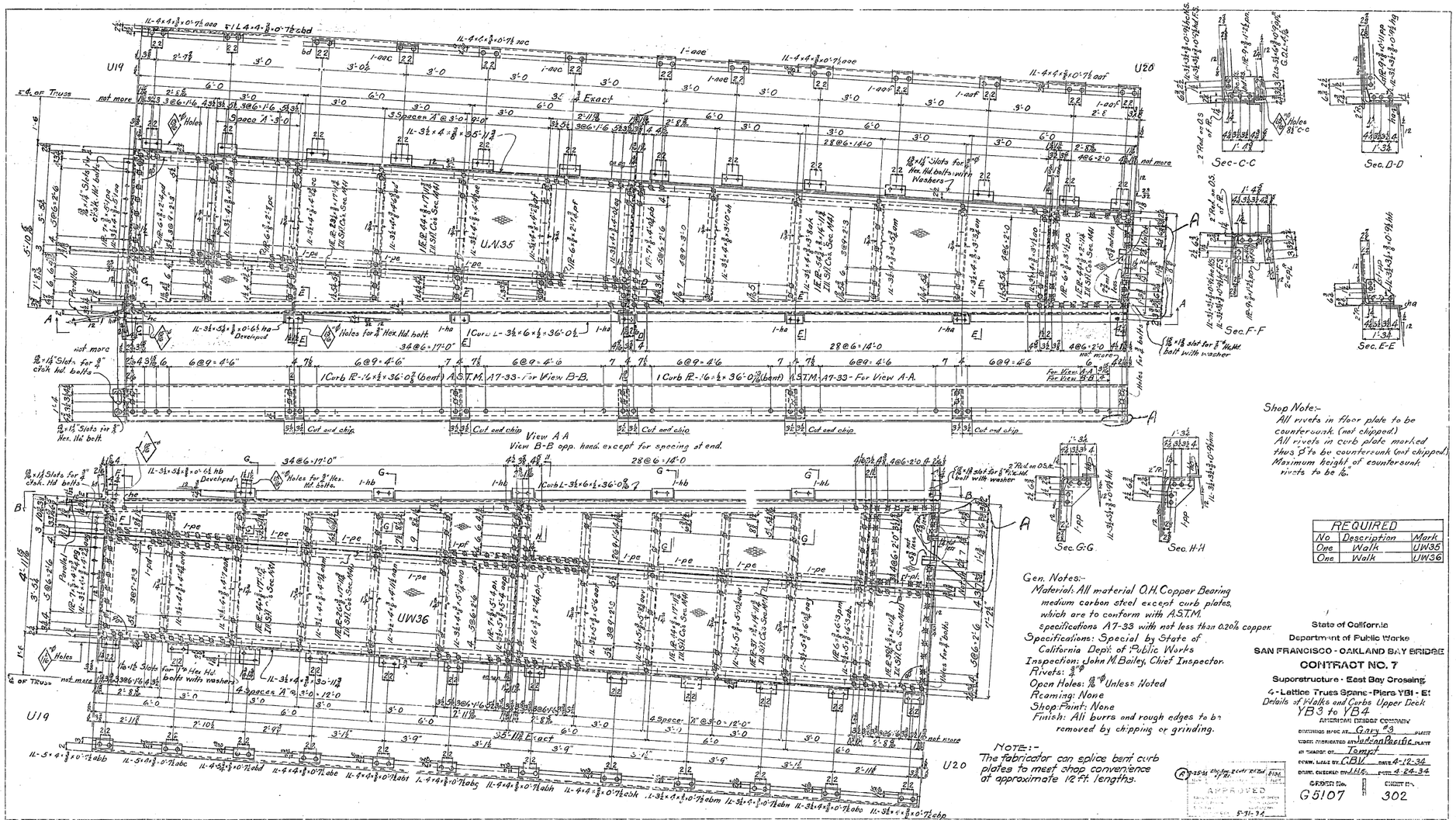
REQ'D. Total	Mark	Desc.	ø	Length Of Pipe
3	D327	Drain Spouts	6	1'-9
1	D328	" "	"	28'-2½
1	D329	" "	"	6'-1⅛
1	D330	" "	"	6'-0⅛
1	D331	" "	"	6'-3
1	D332	" "	"	18'-8⅜
1	D333	" "	"	11'-6⅜
1	D334	" "	"	6'-5
1	D335	" "	"	21'-6⅜
1	D336	" "	"	8'-6⅜
1	D337	" "	"	11'-11⅜
1	D338	" "	"	6'-11⅜
1	D339	" "	"	11'-4⅜
1	D340	" "	"	96'-0
1	D341	" "	"	7'-4½
1	D342	" "	"	26'-0
1	D343	" "	"	4'-11½
27	D344	Gaskets	"	(Inc. 3 Extra)
1	D313	Drain Spout	6	3'-6⅜
1	DF26	Drain Fastener		
1	DF27	" "		
4	DF28	" "		
4	DF29	" "		
8	DF30	" "		
12	DF31	" "		
17	DF32	" "		
6	DF33	" "		
1	DF50	" "		
1	DF51	" "		
8	DF52	" "		
1	DF53	" "		
11	DF68	" "		
11	DF69	" "		

Assemble With	Drain Outlets - Details Sht. No.	C.I. Flanges -	6" Weld Connecting Rg.	6" Brass Plugs	Pedestal	Fill Out 2-6" Fs.	Fill Out 1-6" Fs.	Ends
3	5	5	2	1			3	3
1	5	2	1	1			2	2
1	5	2					2	2
1	5	2					2	2
1	5	2	1	1			2	2
1	5	2					2	2
1	5	2					2	2
1	5	2					2	2
1	5	2					2	2
1	5	2					3	3
1	5	2					3	3
1	5	2					3	3

30-1


UW33
UW34
Sec. A-A
Sec. B-B
Sec. C-C
Sec. D-D
Sec. E-E
Sec. F-E
Sec. F-F
Sec. G-G
Sec. H-H
Slope Note
All rivets in floor plates to be countersunk-not chipped.
All rivets in curb plates marked thus ⊡ or ⊙ to be countersunk-not chipped.
Maximum height of countersunk rivet heads to be ⅛.
GEN NOTES
Material - All material O.H. copper bearing, medium carbon steel, except curb plates which are to conform with A.S.T.M. specifications A7-33 with not less than 0.20% copper
Specifications - Special by State of California Dept. of Public Works.
Inspection - John M. Bailey, Chief Inspector.
Rivets - ⅞" ø
Open Holes - 1⅛" ø Unless noted.
Finish - All burrs and rough edges to be removed by chipping or grinding.
Shop Paint - None
Reaming - None
Note:
The Fabricator can splice bent curb plates to meet Shop convenience at approximately 12 Ft. lengths.
1⅛ x 1⅝ slots for 1" ø 1⅛ x ½ bolts with washers.
REQUIRED
1 Walk UW33
1 do UW34
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Walks & Curbs Upper Deck.
3RD SPAN. YB3 - U17
AMERICAN BRIDGE COMPANY
DRAWING MADE AT GARY PLANT
WORK FABRICATED BY Judson Pacific PLANT
SHOP OF TOMET
DRAFT. MADE BY NEW DATE 1-25-34
DRAFT. CHECKED BY AFE DATE 2-18-34
APPROVED
ORDER No. G5107
ENGR'G No. 301
5-27-34
[CA]

30-1



Shop Note:-
All rivets in floor plate to be countersunk. (not chipped)
All rivets in curb plate marked thus ⚲ to be countersunk (not chipped)
Maximum height of countersunk rivets to be 1/16"

REQUIRED		
No	Description	Mark
One	Walk	UW35
One	Walk	UW36

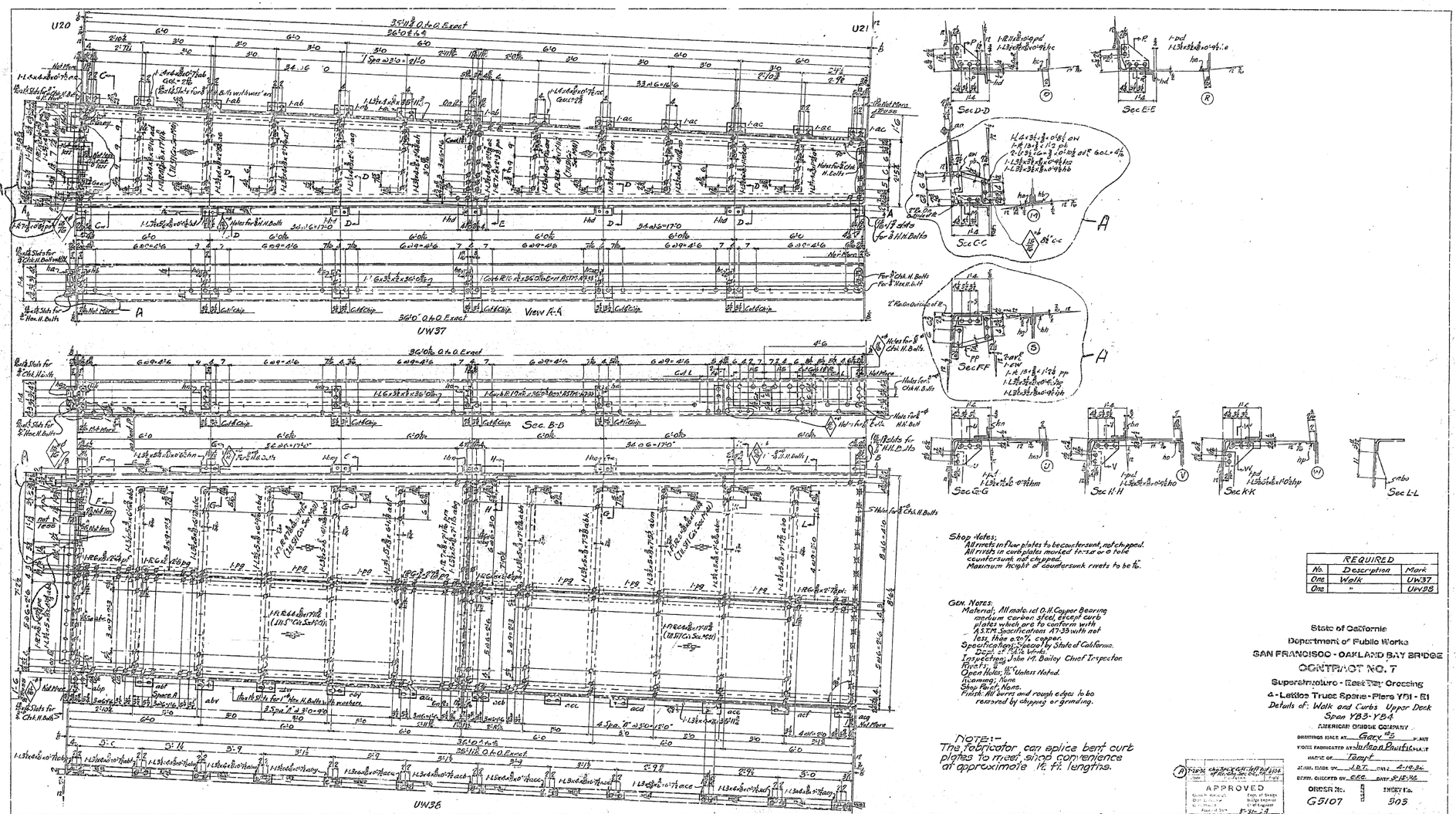
Gen. Notes:-
Material: All material O.H. Copper Bearing medium carbon steel except curb plates, which are to conform with A.S.T.M. specifications A7-33 with not less than 0.20% copper.
Specifications: Special by State of California Dept. of Public Works
Inspection: John M. Bailey, Chief Inspector.
Rivets: ⅞" ϕ
Open Holes: 13/16" ϕ Unless Noted
Reaming: None
Shop Paint: None
Finish: All burrs and rough edges to be removed by chipping or grinding.

NOTE:-
The fabricator can splice bent curb plates to meet shop convenience at approximate 12 Ft. lengths.

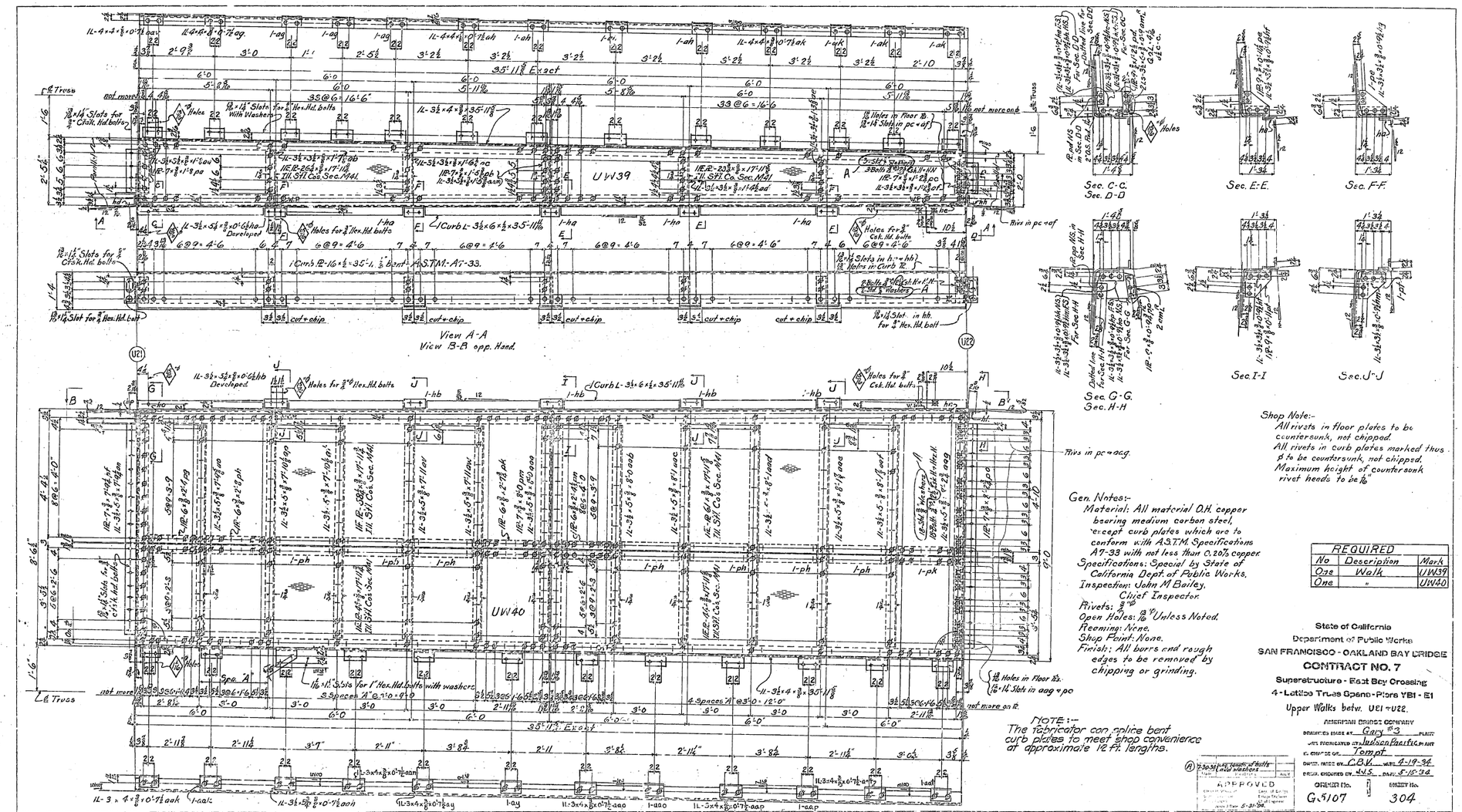
APPROVED
5-31-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Walks and Curbs Upper Deck
YB3 to YB4
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary Ind. PLANT
WORK OPERATED AT Indiana Pacific PLANT
IN CHARGE OF Tempt
DRAWN, TRACED BY C.B.V. DATE 4-12-34
EXAMD. CHECKED BY J.H.G. DATE 4-24-34
ORDER No. G5107
DRAWING No. 302

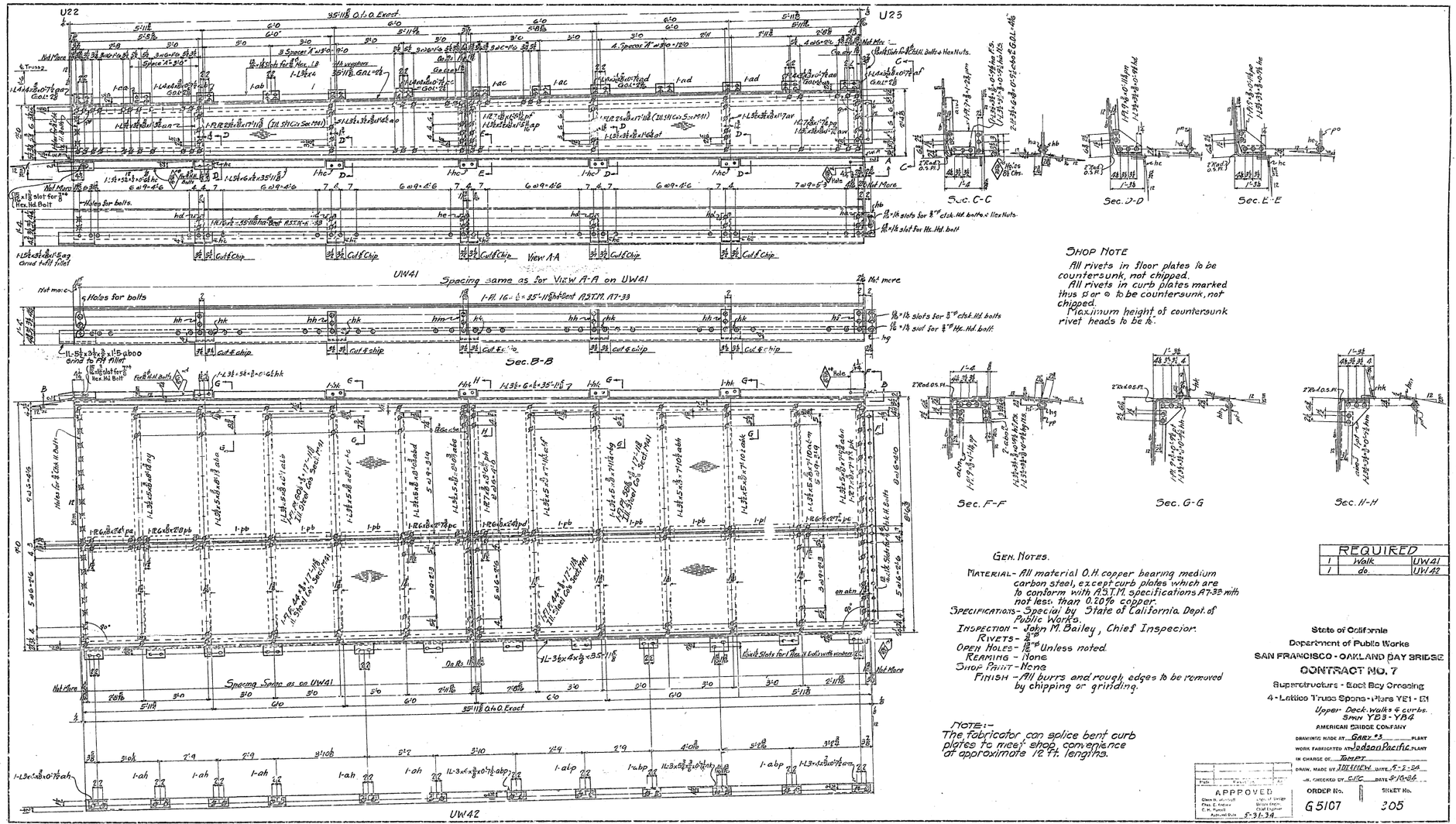
[CA]


U20
U21
35'-11⅞" O to O Exact
36'-0" c to c
Spa @ 20'-0" = 240'-0"
33'-11⅝" O to O Exact
Sec B-B
Sec C-C
Sec D-D
Sec E-E
Sec F-F
Sec G-G
Sec H-H
Sec K-K
Sec L-L
View A-A
UW37
UW36
Shop Notes;
All rivets in floor plates to be countersunk, not chipped.
All rivets in curb plates marked to be countersunk or o hole countersunk, not chipped.
Maximum height of countersunk rivets to be ⅛".
Gen. Notes.
Material; All material O.H. Copper Bearing medium carbon steel, except curb plates which are to conform with A.S.T.M. Specifications A7-39 with not less than 0.20% copper.
Specifications; Issued by State of California, Department of Public Works.
Inspection; John M. Bailey Chief Inspector.
Rivets; ⅞" Ø Unless Noted.
Open Holes; 1⅛" Ø Unless Noted.
Reaming; None
Shop Paint; None.
Finish; All burrs and rough edges to be removed by chipping or grinding.
NOTE:-
The fabricator can splice bent curb plates to meet shop convenience at approximate 1/4 pt. lengths.
REQUIRED
No. | Description | Mark
One | Walk | UW37
One | " | UW38
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - Roadway Crossing
4 - Lattice Truss Spans - Piers Y11 - E1
Details of: Walk and Curbs Upper Deck
Span YB3-YB4
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary #5 PLANT
WORK FABRICATED AT Judson Pacific PLANT
NAME OF Temp
DETAIL MADE BY J.D.T. DATE 2-10-36
DETAIL CHECKED BY C.R.C. DATE 5-15-36
APPROVED
ORDER No. G5107
INDENT No. 305
C.R.T.

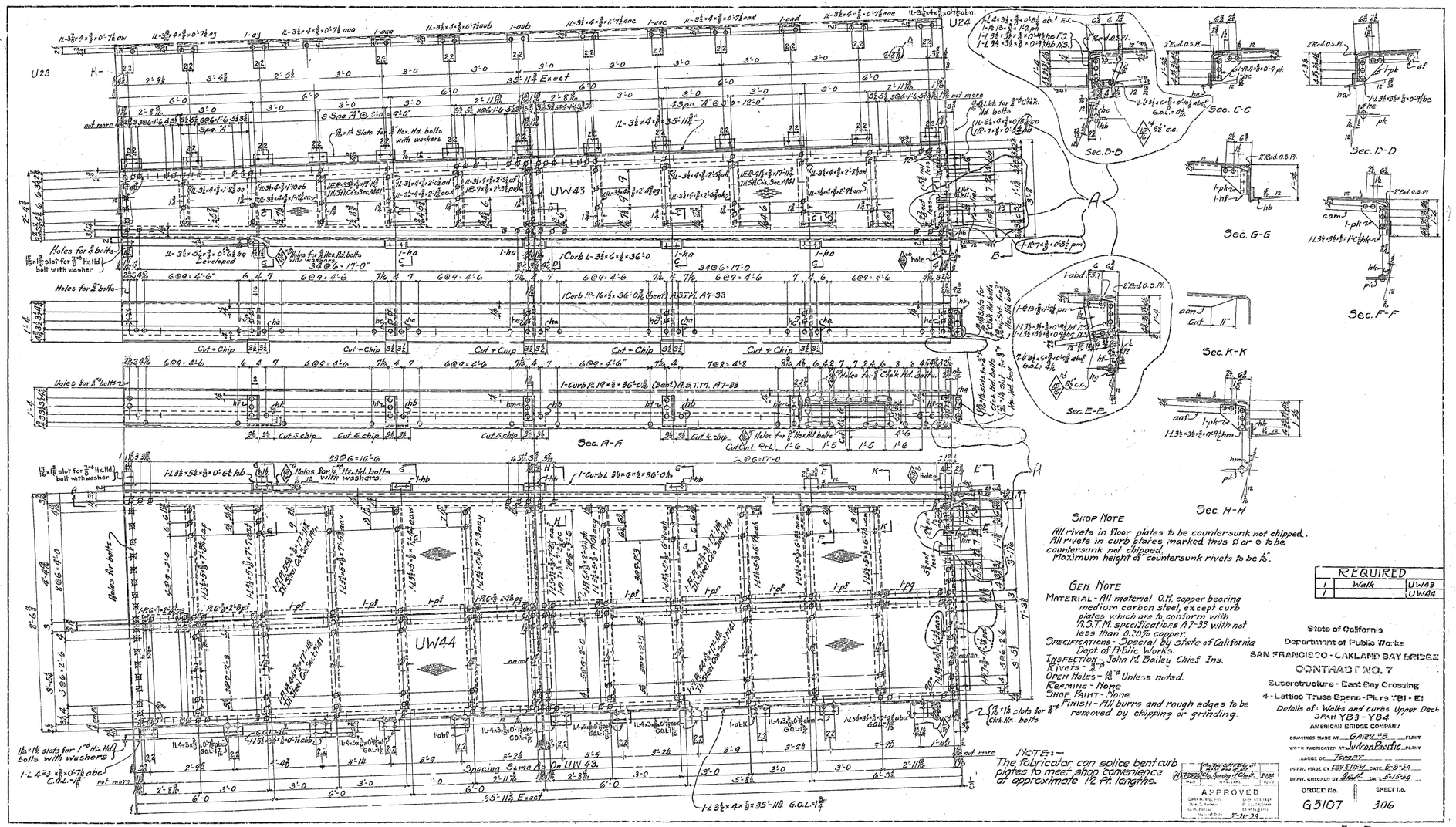
30-1


View A-A
View B-B opp. Hand.
UV39
UW40
Sec. C-C.
Sec. D-D
Sec. E-E.
Sec. F-F.
Sec. I-I
Sec. J-J
Sec. G-G.
Sec. H-H
Shop Note:-
All rivets in floor plates to be countersunk, not chipped.
All rivets in curb plates marked thus ⊕ to be countersunk, not chipped.
Maximum height of countersunk rivet heads to be 1/16"
Gen. Notes:-
Material: All material O.H. copper bearing medium carbon steel, except curb plates which are to conform with A.S.T.M. Specifications A7-33 with not less than 0.20% copper.
Specifications: Special by State of California Dept. of Public Works.
Inspection: John M Bailey, Chief Inspector.
Rivets: 7/8" ⊕
Open Holes: 13/16" Unless Noted.
Reaming: None.
Shop Paint: None.
Finish: All burrs and rough edges to be removed by chipping or grinding.
NOTE:-
The fabricator can splice bent curb plates to meet shop convenience at approximate 12 ft. lengths.
REQUIRED
No | Description | Mark
One | Walk | UW39
One | " | UW40
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4-Lattice Truss Spans-Piers YB1 - E1
Upper Walks betw. U21 & U22.
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary Ind. PLANT
STR. FABRICATED BY Judson Pacific-Murphy
IN CHARGE OF Tompt
DRAWN BY C.B.V. DATE 4-19-34
DESIGN CHECKED BY A.L.S. DATE 5-15-34
APPROVED
DRAWING No. G-5107
SHEET No. 304

30-51


U22
U23
35'-11⅞ O.t.o. Exact
Sec. B-B
UW41
Spacing same as for View A-A on UW41
UW42
View A-A
Sec. C-C
Sec. D-D
Sec. E-E
Sec. F-F
Sec. G-G
Sec. H-H
Shop Note
All rivets in floor plates to be countersunk, not chipped.
All rivets in curb plates marked thus ⊡ or ⊙ to be countersunk, not chipped.
Maximum height of countersunk rivet heads to be ⅛".
Gen. Notes.
Material - All material O.H. copper bearing medium carbon steel, except curb plates which are to conform with A.S.T.M. specifications A7-32 with not less than 0.20% copper.
Specifications - Special by State of California, Dept. of Public Works.
Inspection - John M. Bailey, Chief Inspector.
Rivets - ⅞" ø
Open Holes - 13/16" ø Unless noted.
Reaming - None.
Shop Paint - None.
Finish - All burrs and rough edges to be removed by chipping or grinding.
Note:-
The fabricator can splice bent curb plates to meet shop convenience at approximate 12 ft. lengths.
REQUIRED
1 Walk UW41
1 do. UW42
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YE1 - E1
Upper Deck: Walks & curbs.
SMN YB3 - YB4
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary #3 PLANT
WORK FABRICATED AT Judson Pacific PLANT
IN CHARGE OF TAMPT
DRAW. MADE BY JDM/HHW DATE 4-2-36
W. CHECKED BY CJC DATE 5-16-36
APPROVED
Glen D. Woodruff, Engr. of Design, Bridge Dept.
Paul E. Kelley, Chief Engineer
C. H. Purcell, Asst. Engineer
Sacramento, Cal. 5-31-36
ORDER No. G5107
SHEET No. 305

30-1



Shop Note

All rivets in floor plates to be countersunk not chipped.
All rivets in curb plates marked thus ⊏ or ⊙ to be countersunk not chipped.
Maximum height of countersunk rivets to be ⅛".

Gen. Note

MATERIAL - All material O.H. copper bearing medium carbon steel, except curb plates, which are to conform with A.S.T.M. specifications A7-33 with not less than 0.20% copper.
SPECIFICATIONS - Special by state of California Dept. of Public Works.
INSPECTION - John M. Bailey, Chief Ins.
RIVETS - ⅞"ø
OPEN HOLES - 1⅛" ø Unless noted.
REAMING - None
SHOP PAINT - None
FINISH - All burns and rough edges to be removed by chipping or grinding.

NOTE:- The fabricator can splice bent curb plates to meet shop convenience at approximate 12 Ft. lengths.

REQUIRED		
1	Walk	UW43
1		UW44

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y81 - E1
Details of - Walks and curbs Upper Deck
Span Y83 - Y84
AMERICAN BRIDGE COMPANY
DRAWING MADE AT GARY, IND. PLANT
WORK FABRICATED AT Judson Pacific PLANT
CHARGE OF Tompt
CHKD. MADE BY FOR SMITH DATE 5-8-34
DRAWN, CHECKED BY Hall DATE 5-15-34

APPROVED
State Bridge Engr.
Asst. Engr.
C.M. Forrest
Principal Asst. Engr.
5-31-34

ORDER No. G5107
SHEET No. 306

[CAR]

U24 U25 UW45 UW46

35'-11⅞ O. to O. Exact

View A-A

Sec. B-B

Sec. C-C

Sec. D-D

Sec. E-E

Sec. F-F

Sec. G-G

Sec. H-H

SHOP NOTE

All rivets in floor plates to be countersunk, not chipped.
All rivets in curb plates marked thus ⊘ or ⊗ to be countersunk, not chipped.
Maximum height of countersunk rivet heads ⅛ be ⅛.

GEN. NOTE

MATERIAL - All material O.H. copper bearing, medium carbon steel, except curb plates which are to conform with A.S.T.M. specifications A7-33 with not less than 0.20% copper.
SPECIFICATIONS - Special by State of California Dept. of Public Works.
INSPECTION - John M. Bailey, Chief inspector.
RIVETS - ⅞"ø
OPEN HOLES - 1⅛" Unless noted.
REAMING - None
SHOP PAINT - None.
FINISH - All burrs and rough edges to be removed by chipping or grinding.

NOTE:- The fabricator can splice bent curb plates to meet shop convenience at approximate 12 ft. lengths.

REQUIRED		
1	Walk	UW45
1	do.	UW46

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1

Upper Deck Walks & Curbs
Span YB3 - YB4
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT GARY #3 PLANT
WORK FABRICATED AT Judson Pacific PLANT
IN CHARGE OF TOMEY
DR. MADE BY M.F.W. DATE 5-1-38
DRAW. CHECKED BY C.B.H. DATE 5-14-38

APPROVED
Dept. of Public Works
Div. of Highways
5-31-38

ORDER No. G5107
SHEET No. 307

[CA]

UW47.

UW48.

Required		
No	Description	Mark
1	Walk	UW47
1	"	UW48

Shop Note

All rivets in floor plates marked ⊕ to be countersunk not chipped
Rivets in curb plate marked ⊕ to be countersunk not chipped
Maximum height of countersunk rivets to be ¼"

General Notes.

Material - All material OH Copper Bearing medium Carbon Steel except curb plates which are to conform with A.S.T.M. Spec. A7-33 with not less than 0.20% Copper.
Specifications - Special by State of California Dept. of Public Works
Inspection - John M. Bailey Chief Inspector
Rivets - ⅞ ⊕
Open Holes - ⅞ unless noted.
Reaming - None
Shop Paint - None
Finish - All burrs or rough edges to be removed by grinding or chipping

Note:- The fabricator can splice bent curb plates to meet shop convenience at approximate 12 Ft. lengths

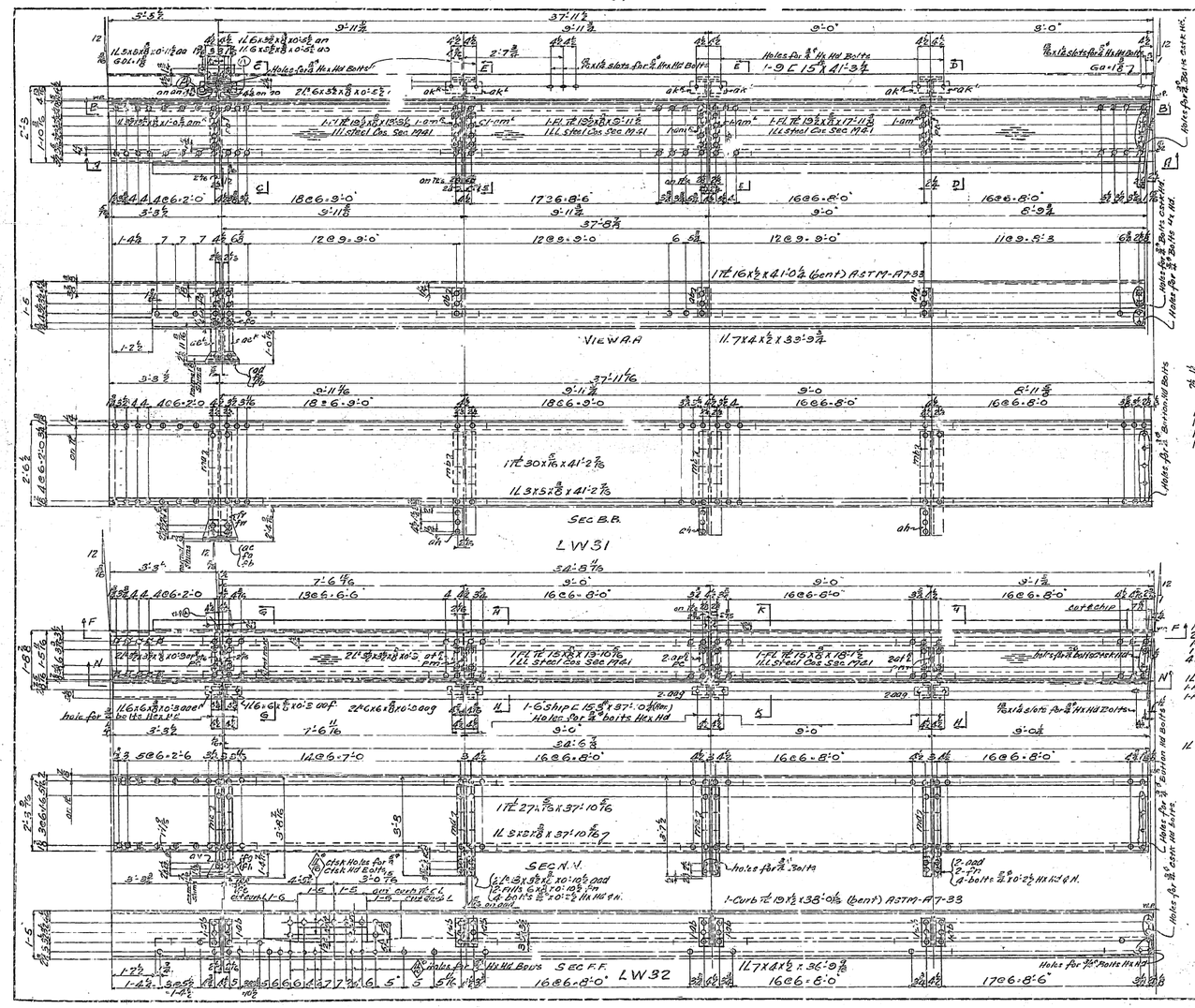
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - Steel Roadway Grading
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Walks & Curbs Upper Deck
Span YB3-YB4
AMERICAN BRIDGE COMPANY

DRAWING MADE AT Gary #3 PLANT
WORK FABRICATED AT Judson Pacific PLANT
IN CHARGE OF Tompt
DRAWN MADE BY SJ DATE 6-14-34
DRAWN CHECKED BY AEF DATE 5-30-34

APPROVED
Chief Engineer
State of California
Department of Public Works
Date 6-6-34

ORDER No. G5107
SHEET No. 308

30-1


VIEW A-A
SEC B-B.
LW31
SEC F-F.
LW32
SEC N-N.
SEC G-G
SEC K-K
SEC W-W
SEC X-X
SEC D-D & E-E.
SEC P.
SECTION HH
Note:- The fabricator can splice bent curb plates to meet shop convenience at approximate 12 ft. lengths.
Shop Note:- All rivets in floor plates to be countersunk not chipped. All rivets in curb plates marked thus ◇ to be countersunk not chipped. Maximum height of countersunk rivets to be 1/16". Works to be built to exact lengths and must be Straight
GENERAL NOTES:- Material- All material of High Copper Bearing medium Carbon Steel except curb plates which are to conform with A.S.T.M. specifications A7-33 with not less than 0.20% Copper.
Specifications:- Special by State of California Dept of Public Works.
Inspection:- John M Bailey Chief Inspector
Rivets:- 7/8" ø Unless noted
Open Holes:- 15/16" ø
Painting:- None.
Shop Paint:- None.
Finish:- All burrs and rough edges to be removed by chipping or grinding.
REQUIRED
ONE WALK LW31
ONE Do. LW32
18 SHIMS F531
36 Do. F532
26 Do. F533
52 Do. F534
2 Do. F535
2 Do. F536
2 Do. F537
2 Do. F538
State of California No.
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Walks & Curbs, Lower Deck
SPANS YB3 - YB4
AMERICAN BRIDGE COMPANY
DRAWING MADE AT GARY, IND. PLANT
WORK FABRICATED AT Judson Pacific PLANT
WORK NO. 7007pt
ENT. WORK BY CW ENT. 5-11-34
CHKD. CORRECTED BY CW CHKD. 5-23-34
APPROVED Chief Engineer 6-8-34
ORDER NO. G5107
CH. DET. NO. 309

VIEW E-F

SEC D-D

SEC F-F

SEC G-G

SEC H-H

SEC K-K

SEC A-A

SEC B-B

SEC C-C (Enlarged)

SEC Y-Y

SEC M-M

SEC P-P

SEC W-W

SEC X-X

LW 39

LW 40

Shop Note:- All rivets in floor plates to be countersunk not chipped All rivets in curb plates marked thus ⊖ to be countersunk not chipped maximum height of countersunk rivets to be ⅛". Walks to be built to exact lengths and must be straight.

Note:- The fabricator can splice curb plates to meet shop convience at approximate 12 ft lengths.

Gen Notes:- Material: All material O.H. Copper bearing medium Carbon steel except curb plates which are to conform with A.S.T.M. specifications A7-33 with not less than 0.30% copper unless otherwise specified by the State Highway Department of Public Works. Inspection: John M. Bailey Chief Inspector. Rivets ⅞" ø unless noted. Open Holes: ⅞" ø unless noted. Reaming: None. Shop Paint: None. Finish: All burrs and rough edges to be removed by grinding or chipping.

REQUIRED	
1 WALK	LW 39
1 "	LW 40

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Grading
Details of Walks & Curbs Lower Deck
SPAN Y63-Y64
AMERICAN BRIDGE COMPANY
Drawings made at Gary, Ind. Plant
Work fabricated and erected by Judson Pacific Co.
In charge of Tobriner
Drawn, made by F.W. Date 5-1-34
Traced, checked by J.J.C. Date 5-25-34
Approved: Chas. B. Whitnall, Gen. C. Engr.; C. H. Purcell, Bridge Engineer; Approved Date 3-8-34
Order No. G5107
Sheet No. 310

1.CA7

LW36

LW38

LW37

View C.C.

View G.G.

View M.M.

Sec. A.A. Sec. B.B. Sec. H.H. Sec. L.L. Sec. E.E. Sec. F.F. Sec. K.K.

LB74 LB75, 77, 78 LB82, 84, 86 LB88 LB83, 85

Normal Stringer.

Parts not shown but (W) + mat'l. not billed same as LW36 except for holes 19 + D in E as noted.

Parts not shown but (W) + mat'l. not billed same as LW36 except for holes A+B in E as noted.

GENERAL NOTES.
MATERIAL: All material O.H. Copper bearing medium Carbon steel except cord plates which are to conform with A.S.T.M. Spec. A7-33 with not less than .20% Copper.
SPECIFICATIONS: Special by State of Cal. Dept. of Public Works.
INSPECTION: John M. Dalry Chief Insp.
RIVETS: Shop
OPEN HOLES: 13/16" unless noted.
REAMING: None
SHOP PRINT: Non
FINISH: All burrs and rough edges to be removed by chipping or grinding

The fabricator can splice bent curb plates to meet shop convenience at approx. 12' lengths.

SHOP NOTES.
All rivets in 17.15's to be countersunk not chipped. All rivets in Curb B marked thus ⊕ to be csk. not chipped. Max. height of csk. rvt. to be 1/4 thickness to be built to exact length and must be straight.

REQUIRED

1	Walk	LW 36
1	do	LW 37
1	do	LW 38
1	Bracket	LB 74
1	do	LB 75
1	do	LB 76
1	do	LB 77
1	do	LB 78
1	do	LB 79
1	do	LB 82
1	do	LB 83
1	do	LB 84
1	do	LB 85
1	do	LB 86
1	do	LB 88

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
North Walk and Brackets Lower Deck.
Span YB3 - YB4

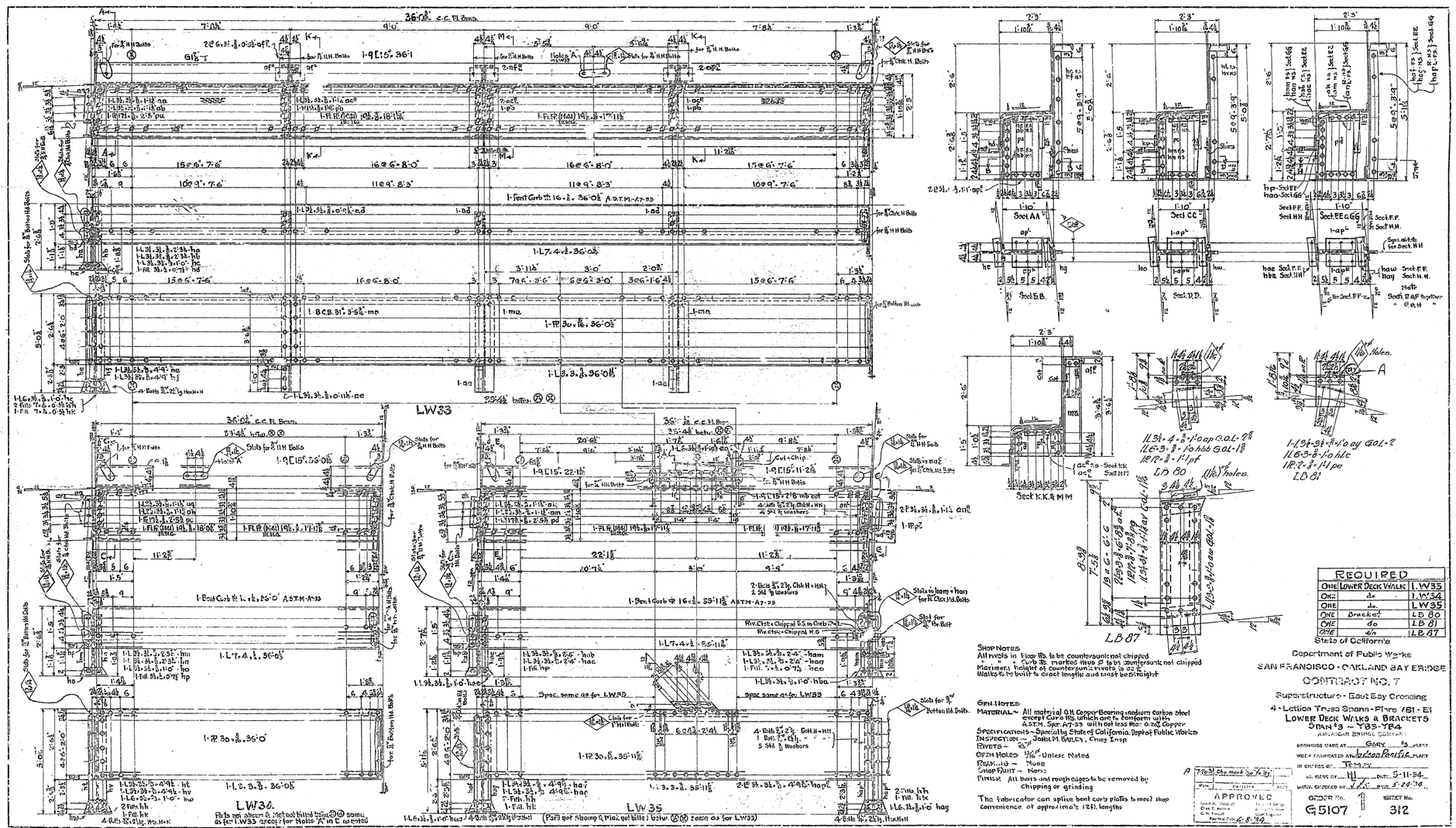
DETAILED SHEET BY Gary F.S. PLATE
TRACED FACSIMILED BY Judson Pacific PLATE
CHECKED BY Tompt.
UNIT STRESS BY G.L.D. DATE 5/11/34
STRESS CHECKED BY J.L.S. DATE 5-22-34

APPROVED
Chief Engr. Oct. 1934

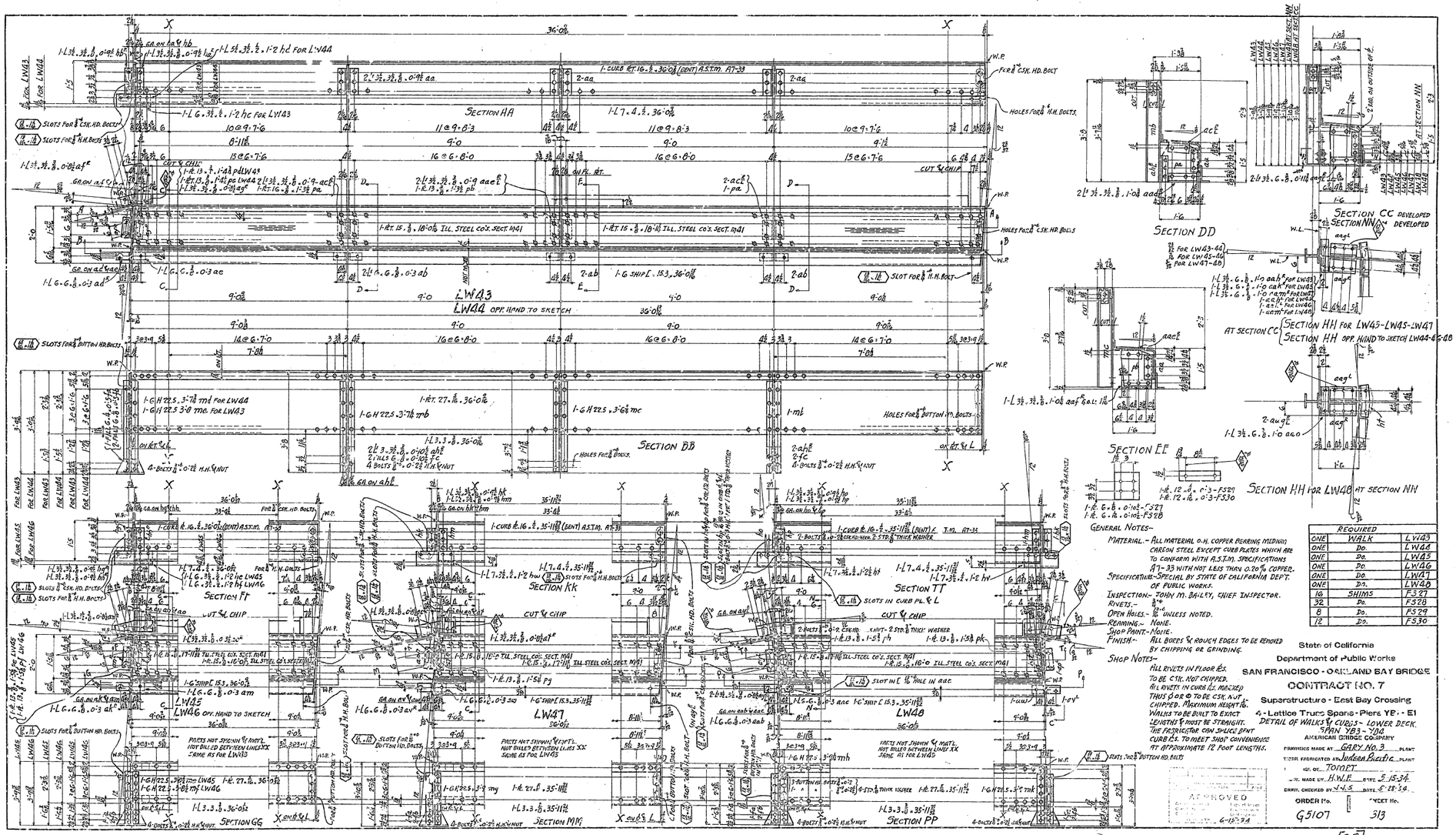
CONTRACT No. G5107 SHEET No. 311

[C.A.]

3051


LW33
LW34
LW35
LB 80
LB 87
Sect K-K & M-M
Sect A-A
Sect B-B
Sect C-C
Sect D-D
Sect E-E & G-G
Sect F-F
Sect H-H
Holes A
Holes
Slots for 7/8" H.H Bolts
Slots for 1" H.H Bolts
Slots for 1" Button Hd Bolts
Slots for 1" Turned Bolts
Slots for 1" Chip. H. Bolts
Slots for 7/8" Chip. H. Bolts
Slots for 7/8" Button Hd Bolts
Slots for 1" Button Hd Bolts
Slots in beam + horn for 1" Chip. H. Bolts
Slot for 1" Bolt
Cut + Chip
Fin. Chip. + Chipped 6.5 in Curb 17 L
Fin. Chip. + Chipped N.S
Spac. same as for LW33
Spac. same as for LW35
(Parts not shown & Mat. not billed below Ⓜ same as for LW33)
(Parts not shown & Mat. not billed below Ⓜ same as for LW35)
Parts not shown & Mat. not billed below Ⓜ same as for LW33 except for holes A in L as noted
1-Bent Curb Pl 16 x 1/2 x 55'-11 1/2" A.S.T.M.-A7-33
1-Bent Curb Pl 16 x 1/2 x 25'-0" A.S.T.M.-A7-33
1-Bent Curb Pl 16 x 1/2 x 36'-0 1/2

30-1



GENERAL NOTES-

MATERIAL.- All material o-h copper bearing medium charcoal steel except curb plates which are to conform with A.S.T.M. specifications A7-33 with not less than 0.20% copper.

SPECIFICATIONS- Special by State of California Dept. of Public Works.

INSPECTION- John M. Bailey, Chief Inspector.

RIVETS.- ¾" ø.

OPEN HOLES.- ⅛" unless noted.

REAMING.- None.

SHOP PAINT.- None.

FINISH.- All burrs & rough edges to be removed by chipping or grinding.

SHOP NOTES- All rivets in floor sys. to be C.S.K. not chipped. All rivets in curb pl. marked thus ◇ or ○ to be C.S.K. nut chipped. Maximum height ⅛". Walks to be built to exact length & must be straight. The fabricator own splice joint curb pl's. to meet shop convenience at approximate 12 foot lengths.

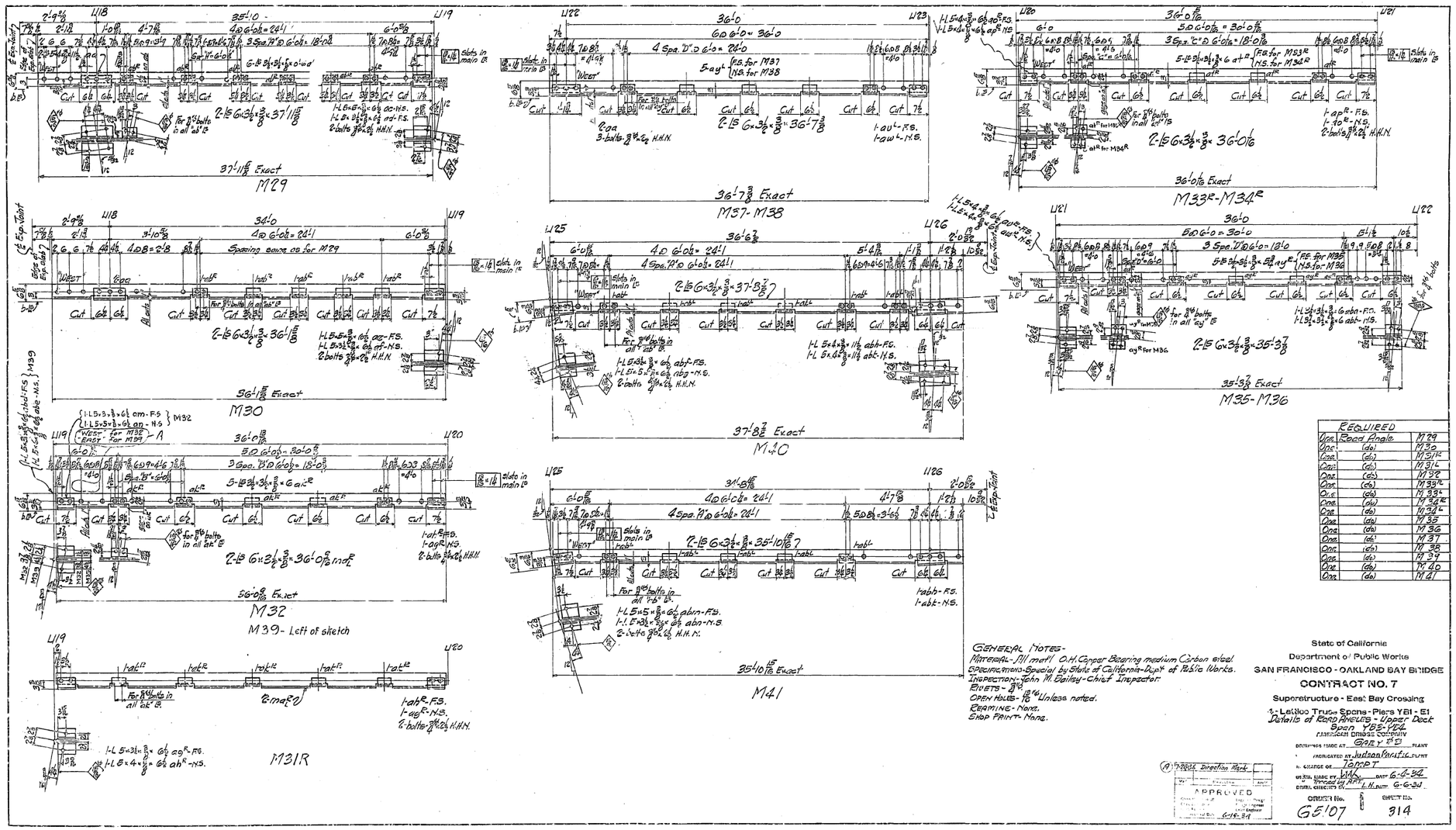
REQUIRED		
ONE	WALK	LW43
ONE	Do.	LW44
ONE	Do.	LW45
ONE	Do.	LW46
ONE	Do.	LW47
ONE	Do.	LW48
16	SHIMS	F527
32	Do.	F528
8	Do.	F529
12	Do.	F530

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YP - E1
DETAIL OF WALKS & CURBS - LOWER DECK
SPAN YB3 - YB4
AMERICAN BRIDGE COMPANY

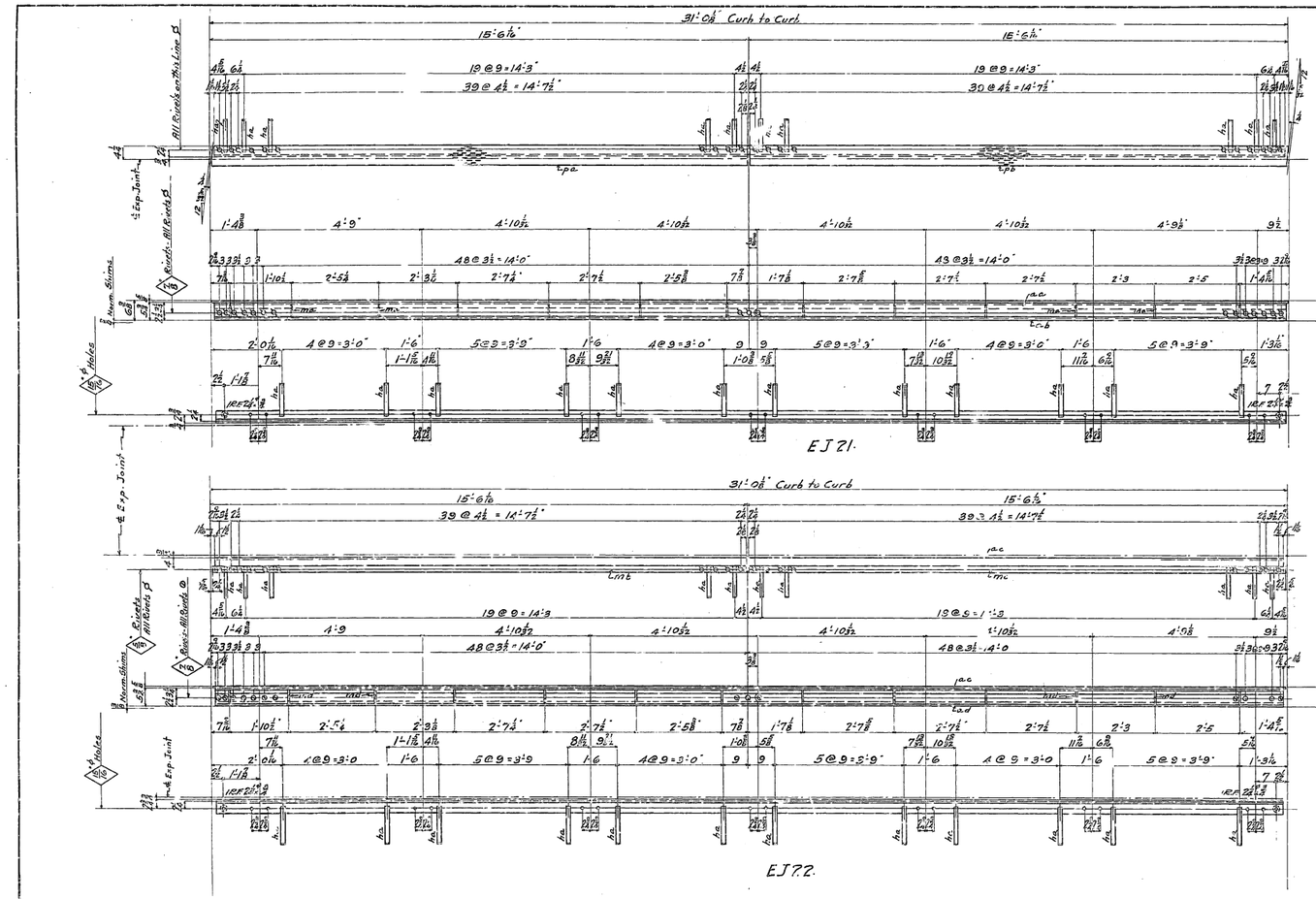
DRAWINGS MADE AT GARY NO. 3 PLANT
STEEL FABRICATED AT Judson Pacific PLANT
TRACED BY TOMEY
CHK. MADE BY H.W.P. DATE 5-15-34
DRAWN, CHECKED BY W-H-S DATE 6-28-34

ORDER No. G5107
SHEET No. 313

[C.A.]


M29
M37- M38
M33R-M34R
M30
M35- M36
M32
M39- Left of sketch
M40
M31R
M41
Spacing same as for M29
Slots in main LB
Slots in min LB
Cut
Weld
Exp. Joint
Exp. Joint
Exp. Joint

30-1



Mat. for EJ21

1-Pl. 7 × 5/8 × 15'-5 3/8" abt. pa. (Ill. Steel Co's M41)
1-Pl. 7 × 5/8 × 15'-5 3/8" abt. pb. (Ill. Steel Co's M41)
1-L. 5 × 3½ × ½ × 30'-10 aa
1-L. 4 × 3½ × ½ × 30'-10 ab
75 Conn. 1½ × 5/8 × 1'-0 3/8" abt. ha Welded.
1351 lin. ft. Bars 2½ × 3/8 × 0'-4 3/8" ma. Welded.

Mat. for EJ22

1-L. 5 × 5 × ½ × 30'-10" —— ac
1-L. 4 × 4 × ½ × 30'-10" —— ad
1-Bar 2 × 5/8 × 15'-5 3/8" —— mb
1-Bar 2 × 5/8 × 15'-5 3/8" —— mc
1351 lin. ft. Bars 3½ × 3/8 × 0'-4 3/8" —— md. Welded
75 —— hc. Welded.

Required.		
1	Exp. Joint	EJ21
1	" "	EJ22

General Notes.

MATERIAL — All material O.H. Copper Bearing Molybdenum Carbon Steel.
SPECIFICATIONS — Special by State of California Dept of Public Works
INSPECTION — John M Bailey Chief Inspector
RIVETS — 7/8" ℄ unless noted.
OPEN HOLES — 1 1/16" ℄ unless noted.
REAMING — None
SHOP PAINT — None.

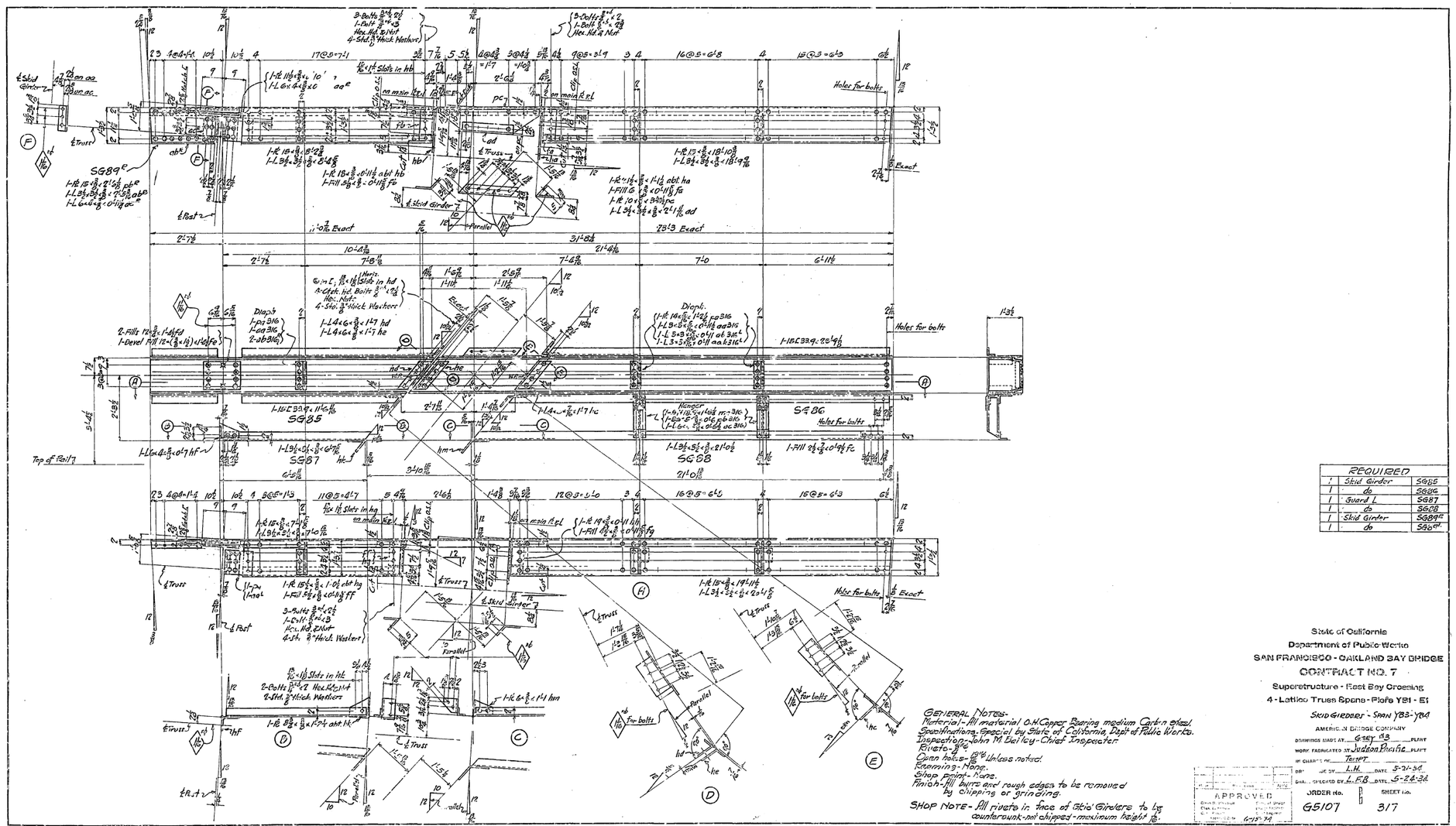
Shop Note.

All rivets marked thus ℄ or ⊕ to be countersunk - not chipped.
Maximum height of csk rivets to be 7/16"

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
A - Lattice Truss Opens - Piers YB: - E1
Details Exp. Joint in Floor Slab Lower Deck at YB4
AMERICAN BRIDGE COMPANY
DRAWN — TRACED BY Gary #3 PLANS
W. — REVISED BY Western Pacific PLANS
IN CHARGE OF Tompt.
CHKD. AND BY GT DATE 5-29-34
DIRECT. EXCEPTED BY [illegible] DATE 6-6-34
APPROVED
ORDER No. G5107
SHEET No. 315

30-1

| | | |



REQUIRED		
1	Skid Girder	SG85
1	do	SG86
1	Guard L	SG87
1	do	SG88
1	Skid Girder	SG89E
1	do	SG89W

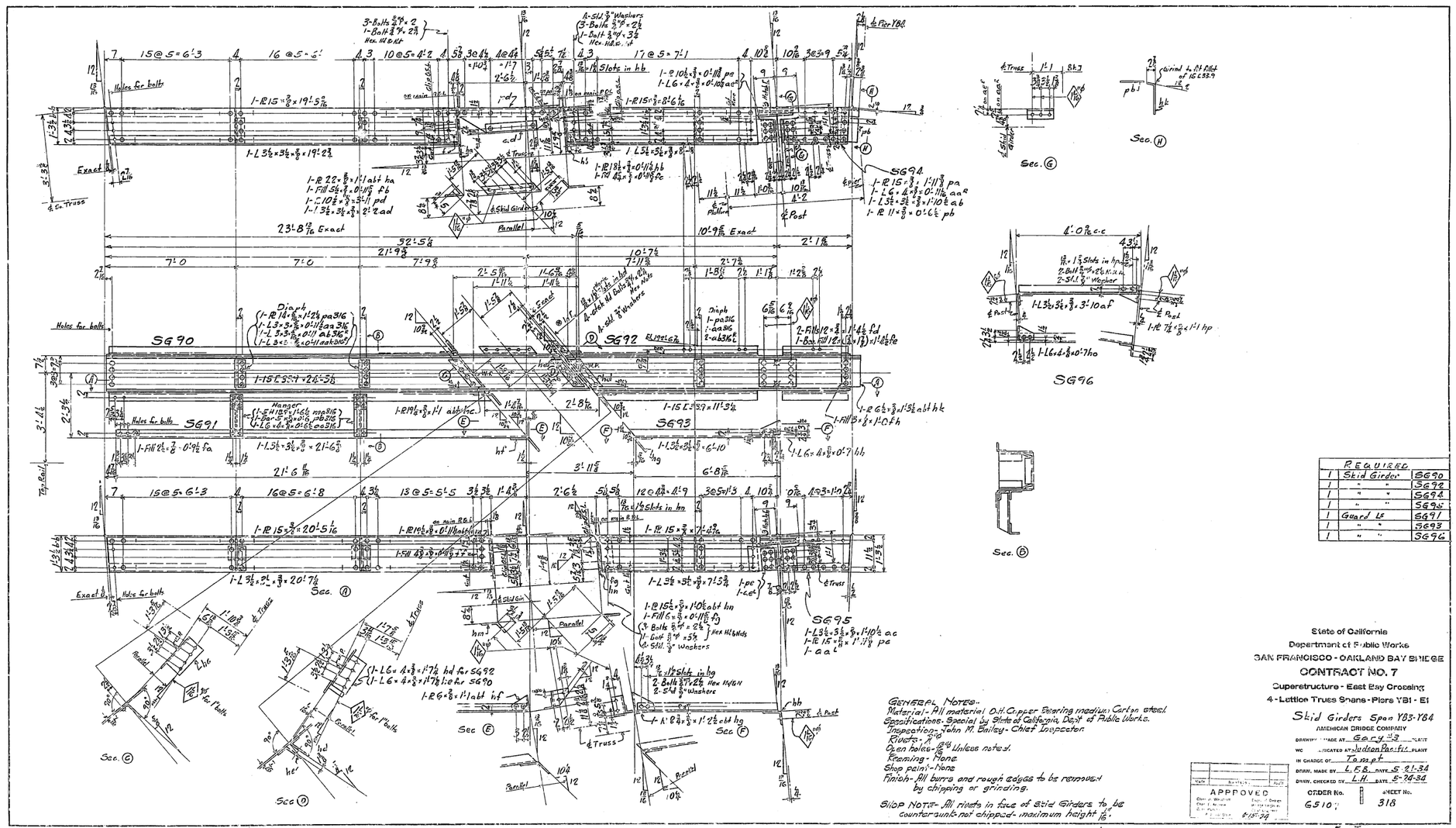
GENERAL NOTES-
Material- All material O.H. Copper Bearing medium Carbon steel.
Specifications- Special by State of California, Dept. of Public Works.
Inspection- John M. Bailey - Chief Inspector.
Rivets- Ø
Open holes- Ø Unless noted.
Reaming- Hand.
Shop paint- None.
Finish- All burrs and rough edges to be removed by chipping or grinding.

SHOP NOTE- All rivets in face of Skid Girders to be countersunk - not chipped - maximum height ⅛.

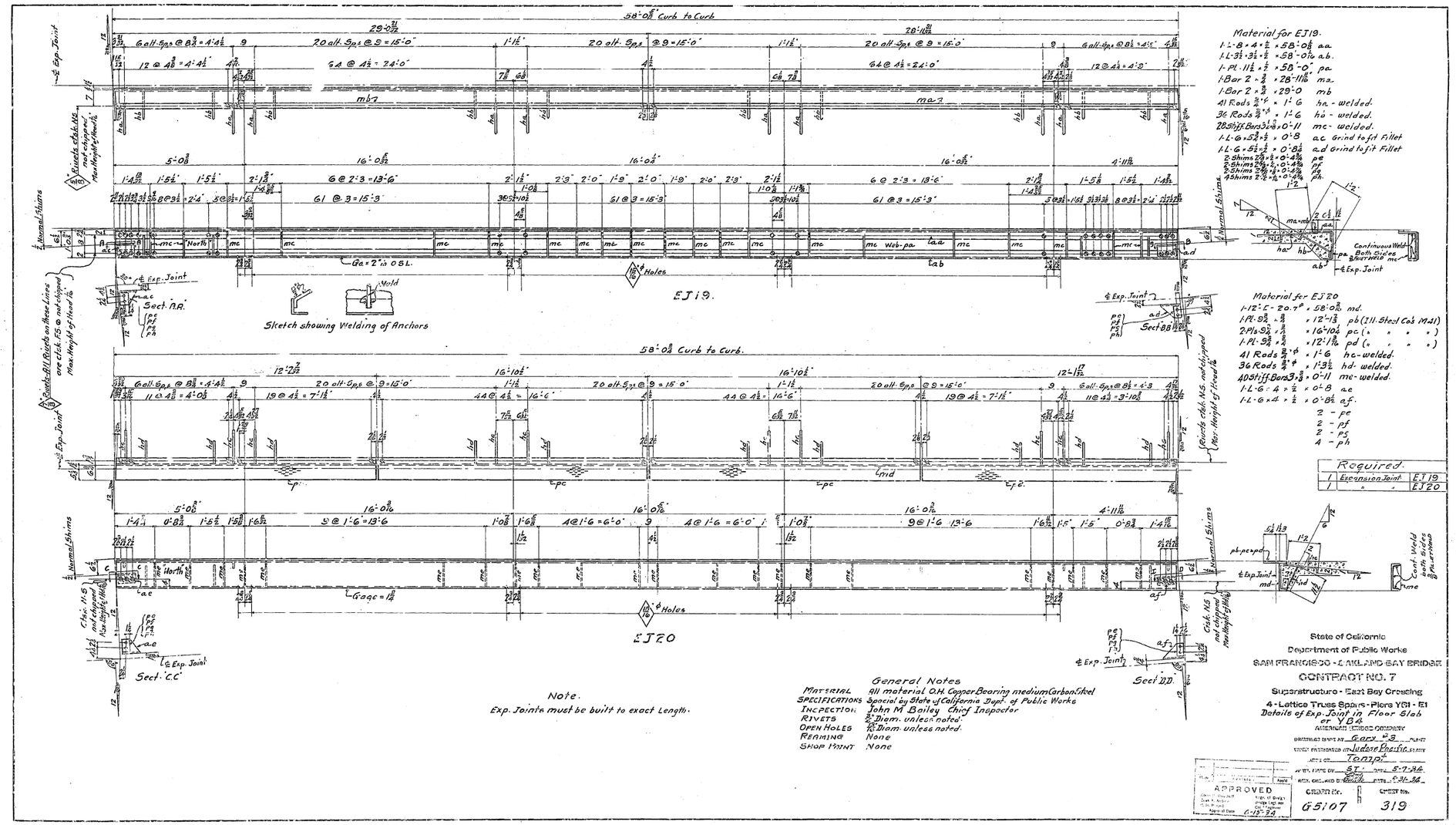
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Latice Truss Spans - Piers YB1 - E1
SKID GIRDERS - SPAN YB2-YB1
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary IND. PLANT
WORK FABRICATED AT Judson Pacific PLANT
IN CHARGE OF Tetlet
DR'T. BY L.H. DATE 5-21-34
CHK'D. BY L.F.B. DATE 5-24-34
APPROVED
ORDER No. G5107
SHEET No. 317

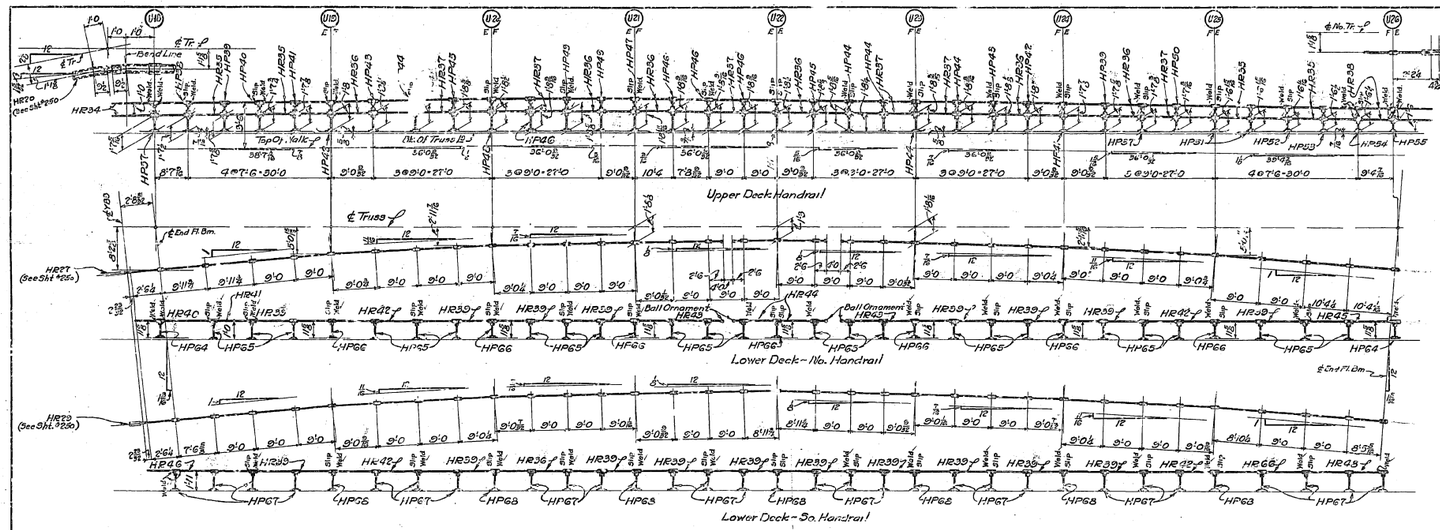
[C.E.]

30-1


SG90
SG91
SG92
SG93
SG94
SG95
SG96
Sec. A
Sec. B
Sec. C
Sec. D
Sec. E
Sec. F
Sec. G
Sec. H
Exact
Parallel
Holes for bolts
Hanger
Skid Girder
Truss
Post
Pedestal
Pin
Pin Nut
Pin Cap
Pin Cotter
Pin Washer
Pin Bolt
Pin Bolt Nut
Pin Bolt Cotter
Pin Bolt Washer
Pin Bolt Cap

30-1


58'-0⅞" Curb to Curb
EJ19.
Sketch showing Welding of Anchors
58'-0⅞" Curb to Curb.
EJ20
Note.
Exp. Joints must be built to exact Length.
Material for EJ19.
1-L-8×4×⅝ × 58'-0⅛" aa
1-L-3½×3½×½ × 58'-0¼" ab.
1-Pl-11½×½ × 58'-0" pa
1-Bar 2×¾ × 28'-11⅛" ma
1-Bar 2×¾ × 29'-0" mb
41 Rods ⅞"ϕ × 1'-6 ha - welded.
36 Rods ⅞"ϕ × 1'-6 hb - welded.
28 Stiff. Bars 3½×⅜ × 0'-11 mc - welded.
1-L-6×5½×½ × 0'-8 ac Grind to fit Fillet
1-L-6×5½×½ × 0'-8½ ad Grind to fit Fillet
2 Shims 2⅝×½ × 0'-4⅜ pe
2 Shims 2⅝×½ × 0'-4⅜ pf
2 Shims 2⅝×½ × 0'-4⅜ ps
4 Shims 2⅝×⅛ × 0'-4⅜ ph
Material for EJ20
1-12"-C-20.7# × 58'-0⅝ md.
1-Pl-9⅝×⅜ × 12'-1⅜ pb (211. Steel Co's M-41)
2-Pls-9½×⅜ × 16'-10½ pc (" " ")
1-Pl-9⅝×⅜ × 12'-1⅜ pd (" " ")
41 Rods ⅞"ϕ × 1'-6 hc - welded.
36 Rods ⅞"ϕ × 1'-3½ hd - welded.
40 Stiff. Bars 3½×⅜ × 0'-11 me - welded.
1-L-6×4×½ × 0'-8 ae
1-L-6×4×½ × 0'-8½ af.
2 - pe
2 - pf
2 - ps
4 - ph
Required.
1 Expansion Joint EJ19
1 " " EJ20
General Notes
Material All material O.H. Copper Bearing medium Carbon Steel
Specifications Special by State of California Dept. of Public Works
Inspection John M Bailey Chief Inspector
Rivets ⅞" Diam. unless noted.
Open Holes 1⅛" Diam. unless noted.
Reaming None
Shop Point None
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y61 - E1
Details of Exp. Joint in Floor Slab
at Y64
AMERICAN BRIDGE COMPANY
APPROVED
Chief Engr.
Asst. Engr.
Engr. of Tests
Agent of State 6-13-34
GRAPH No. G5107
SHEET No. 319

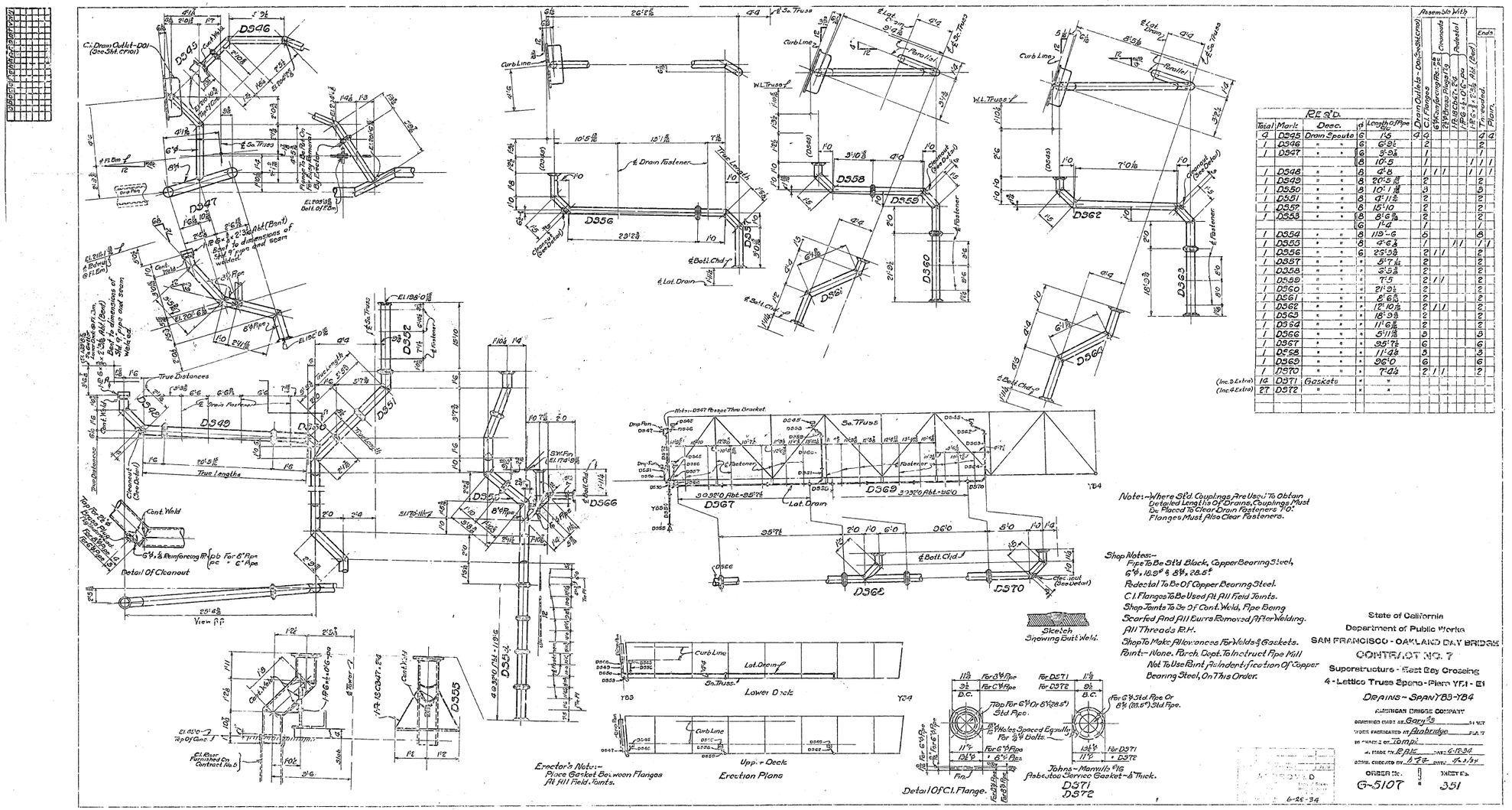


Total	Mark	Desc.	Pt	Length	Assemble With: Light Hvy. Couplings	Thread Guards	Slip Tee - Patt. No. G5466-D	Slip Tee - Patt. No. G5466-D Ream To Bore	Slip Cross - Patt. No. G5545	Ends: Threaded Both Ends	Plain
REQ'D.											
2	HP34	Ben't Hand Rail	4	10'-7⅛							
8	HP35	Hand Rail	"	15'-0							
10	HP36	" "	"	15'-0⅞							
12	HP37	" "	"	18'-0							
2	HP38	" "	"	11'-10⅞							
1	HP40	" "	"	12'-10⅞							
1	HP41	" "	"	9'-11⅞							
4	HP42	" "	"	18'-0⅛							
1	HP43	" "	"	20'-6⅜							
1	HP46	" "	"	13'-3⅜							
1	HP45	" "	"	17'-5⅜							
1	HP66	" "	"	17'-10⅞							
				Length Rail to End.							
18	HP39	Hand Rail	4	17'-8½	18	18					
				Length Ends of Rail Pin to Pin							
2	HP43	Hand Rail	4	20'-6⅜			2	2			
2	HP44	" "	"	11'-6			2	2			
				Length Rail Post - Top							
2	HP37	Hand Rail Post	4	2'-7⅛			2	2	2		
1	HP38	" "	"	2'-7			1	1	1		
2	HP39	" "	"	2'-7⅜			2	2	2		
1	HP40	" "	"	2'-7⅝			1	1	1		
2	HP41	" "	"	2'-7⅞			2	2	2		
2	HP42	" "	"	2'-8			2	2	2		
2	HP40	" "	"	2'-8⅛			2	2	2		
5	HP44	" "	"	2'-8⅜			5	5	5		
2	HP45	" "	"	2'-8⅝			2	2	2		
4	HP46	" "	"	2'-8⅞			4	4	4		
1	HP47	" "	"	2'-8⅞			1	1	1		
2	HP48	" "	"	2'-9⅛			2	2	2		
2	HP39	" "	"	2'-9⅜			2	2	2		
1	HP50	" "	"	2'-9⅝			1	1	1		
2	HP51	" "	"	2'-9⅞			2	2	2		
1	HP52	" "	"	2'-10⅛			1	1	1		
1	HP53	" "	"	2'-10⅜			1	1	1		
1	HP54	" "	"	2'-10⅝			1	1	1		
1	HP55	" "	"	2'-10⅞			1	1	1		
2	HP64	" "	"	0'-11⅝			2		2		
24	HP65	" "	"	1'-0			24		24		
7	HP66	" "	"	0'-11⅞				7	7		
26	HP67	" "	"	1'-11			26		26		
7	HP68	" "	"	1'-11				7	7		

Gen'l. Notes:-
Mat'l:- Posts & Rails - a/d Extra Strong Pipe - Black - Copper Bearing Steel.
Fittings - Malleable Iron Except Bases, Which Are To Be Of Cast Iron.
Threads:- All R.H.
Paint:- None. Purch. Dep't. To Instruct Pipe Mill Not To Use Paint As Identification Of Copper Bearing Steel On Tank Order.
Couplings & Thread Guards On HP38 To Be Put On At Pipe Mill But Not Mill Tightened.

For Details Of Patterns G5466-D, G5467-D, G5468-D - See Sht. #150
G5545-D - See Sht. #250

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y31 - E1
HAND RAILINGS - SPAN Y35-Y34
AMERICAN BRIDGE COMPANY
DESIGN BY [illegible] PLANT
DETAILED BY Stanbridge PLANT
IN CHARGE OF Tompt
CHECKED BY EPK DATE 5-2-34
DRAWN BY [illegible] DATE 5-4-34
APPROVED
CHIEF ENGINEER
DATE 6-15-34
GROUP No. G-5107
SHEET No. 350



Total	Mark	Desc.	d	Length of Pipe
4	D545	Drain Spouts	6	1'6
1	D546	" "	6	6'8½
1	D547	" "	6	8'9⅜
			6	10'5
1	D548	" "	8	4'8
1	D549	" "	8	20'5 15/16
1	D550	" "	8	10'1 15/16
1	D551	" "	8	6'11½
1	D552	" "	8	18'10
1	D553	" "	6	8'6 7/16
			6	1'6
1	D554	" "	8	119'-6
1	D555	" "	8	4'6⅜
1	D556	" "	6	25'3⅜
1	D557	" "	"	5'7 11/16
1	D558	" "	"	6'0⅜
1	D559	" "	"	7'5
1	D560	" "	"	21'9½
1	D561	" "	"	8'6⅝
1	D562	" "	"	12'10 15/16
1	D563	" "	"	18'9⅜
1	D564	" "	"	11'6 15/16
1	D566	" "	"	35'11 15/16
1	D567	" "	"	95'7½
1	D568	" "	"	11'4½
1	D569	" "	"	96'0
1	D570	" "	"	7'4½
(Inc. 2 Extra) 14	D571	Gaskets	"	"
(Inc. 4 Extra) 27	D572	"	"	"

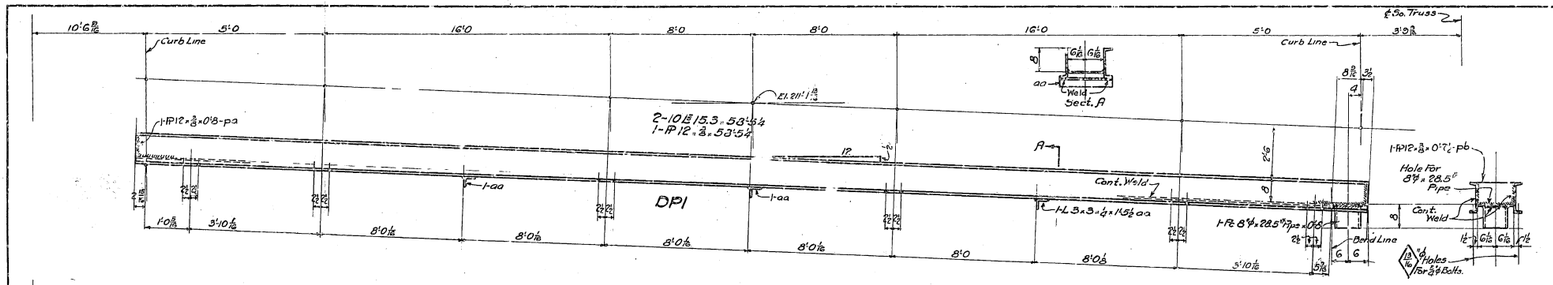
Assemble With										Ends
Drain Outlets - D01 (See Sht. CP10)	C.I. Flanges	6⅝ Reinforcing Plates	Crosswalk	Pedestal	6⅝ Std. Pipe	8⅝ Std. Pipe	1 Pipe Coupling	1 Pipe Nipple	1 Pipe 3" x 2 3/16" Adj. (Bent)	Tin-soaked
4	6								6	4
	2									2
	1									1
	1									1
1	1	1	1							1
1	2								2	2
1	2									2
1	2									2
1	2									2
1	2									2
	1									1
	1									1
	5									5
	2									2
	2									2
	2									2
	2									2
	2									2
	2									2
	2									2
	2									2
	2									2
	3									3
	6									6
	3									3
	6									6
	2									2

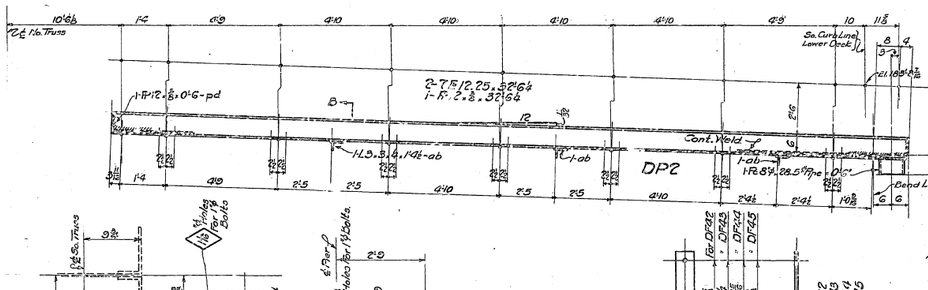
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YF1 - E1
DRAINS - SPANS B3-Y84

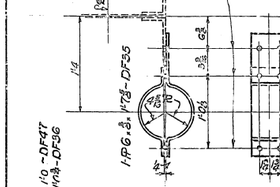
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary, Ind. — SHOP NO.
WORK FABRICATED AT Ambridge — PLANT
ERECTION BY Tompkins
ERECTION AT PIER E1 — DATE 6-18-34
DRAWN, CHECKED BY J.T.S. — DATE 6-13-34

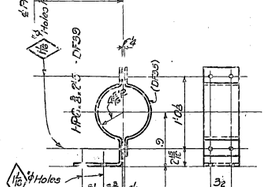
ORDER NO. G-5107 — SHEET NO. 351

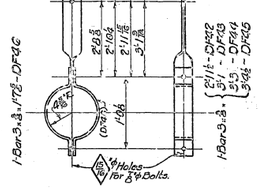
6-26-34

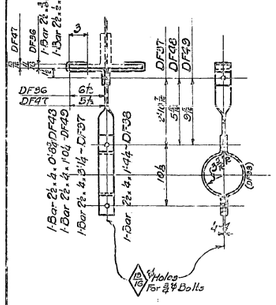


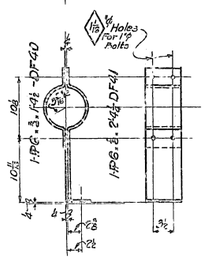


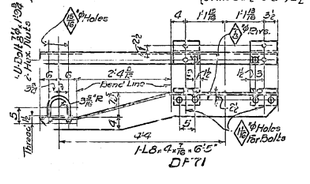


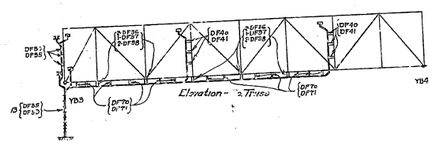


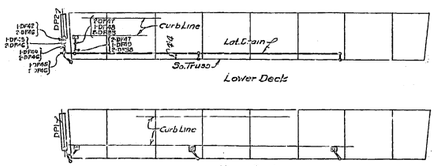












REQ'D.		
1	Drip Pan	DP1
1	" "	DP2
3	Drain Fasteners	DF34
16	" "	DF35
10	" "	DF36
5	" "	DF37
16	" "	DF38
13	" "	DF39
6	" "	DF40
6	" "	DF41
1	" "	DF42
1	" "	DF43
1	" "	DF44
1	" "	DF45
6	" "	DF46
9	" "	DF47
1	" "	DF48
1	" "	DF49
13	" "	DF70
13	" "	DF71

List Of Field Bolts

Total	Desc.	⌀	Length	Grip
250	Bolts-Hex.H.S.N.	⅞	3½	2½+2
120	" " "	"	2	2-1/16
10	" " "	"	2½	1⅝
15	" " "	"	1⅝	⅞
10	" " "	⅝	2½	1⅝
40	" " "	"	2"	⅞+⅛
15	" " "	"	1⅝	⅝
35	" " "	⅝	1⅜	⅝
30	⅞ Bev. Washers for ⅞ Bolts.			
35	" " "	"	⅞	"
65	Bolts-Hex.H.S.	1"	4	2⅜

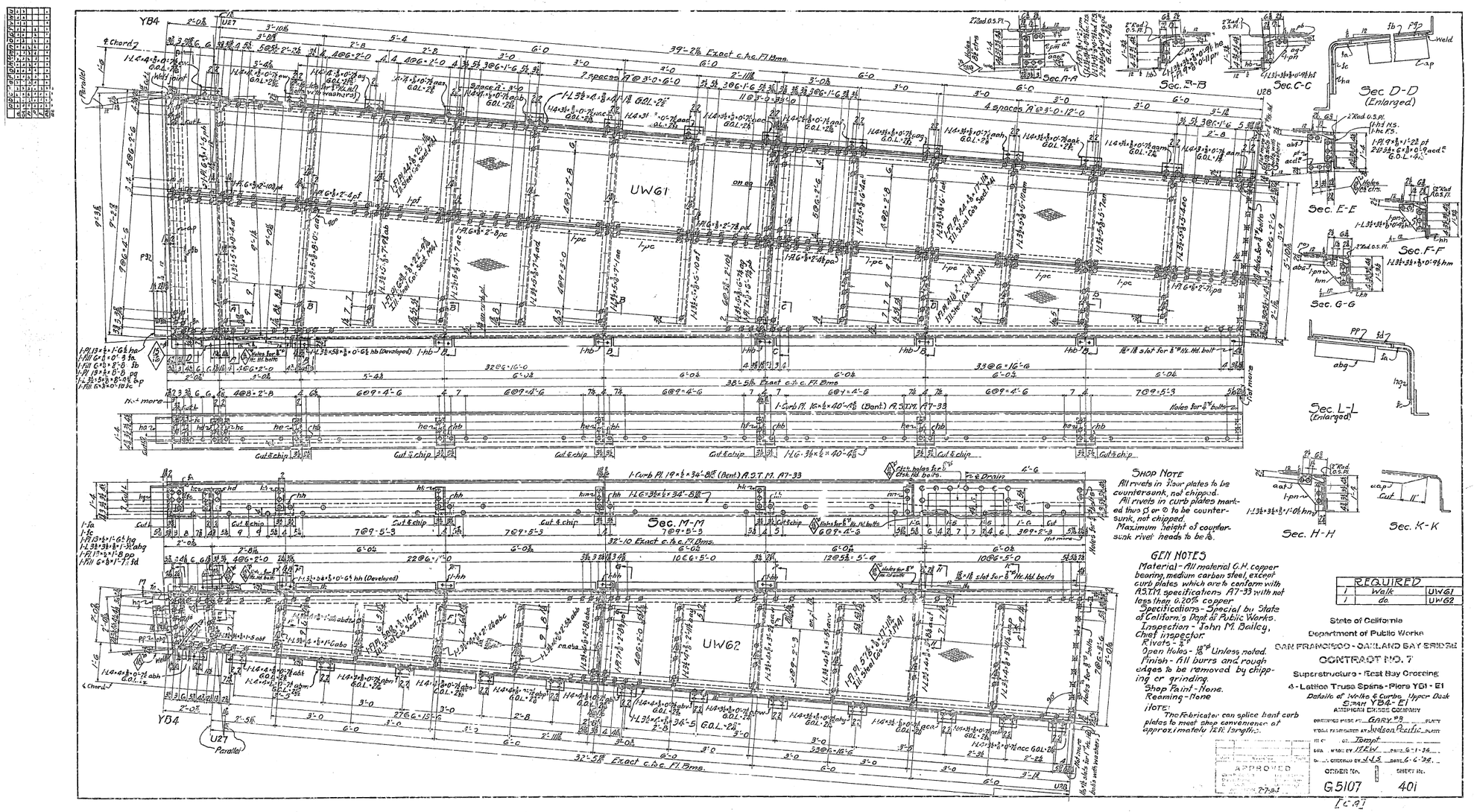
Shop Notes:-
Drip Pans & Drain Fasteners To Be Of Copper Bearing Steel.
Rivets & Holes:- As Noted.
Paint:- None.

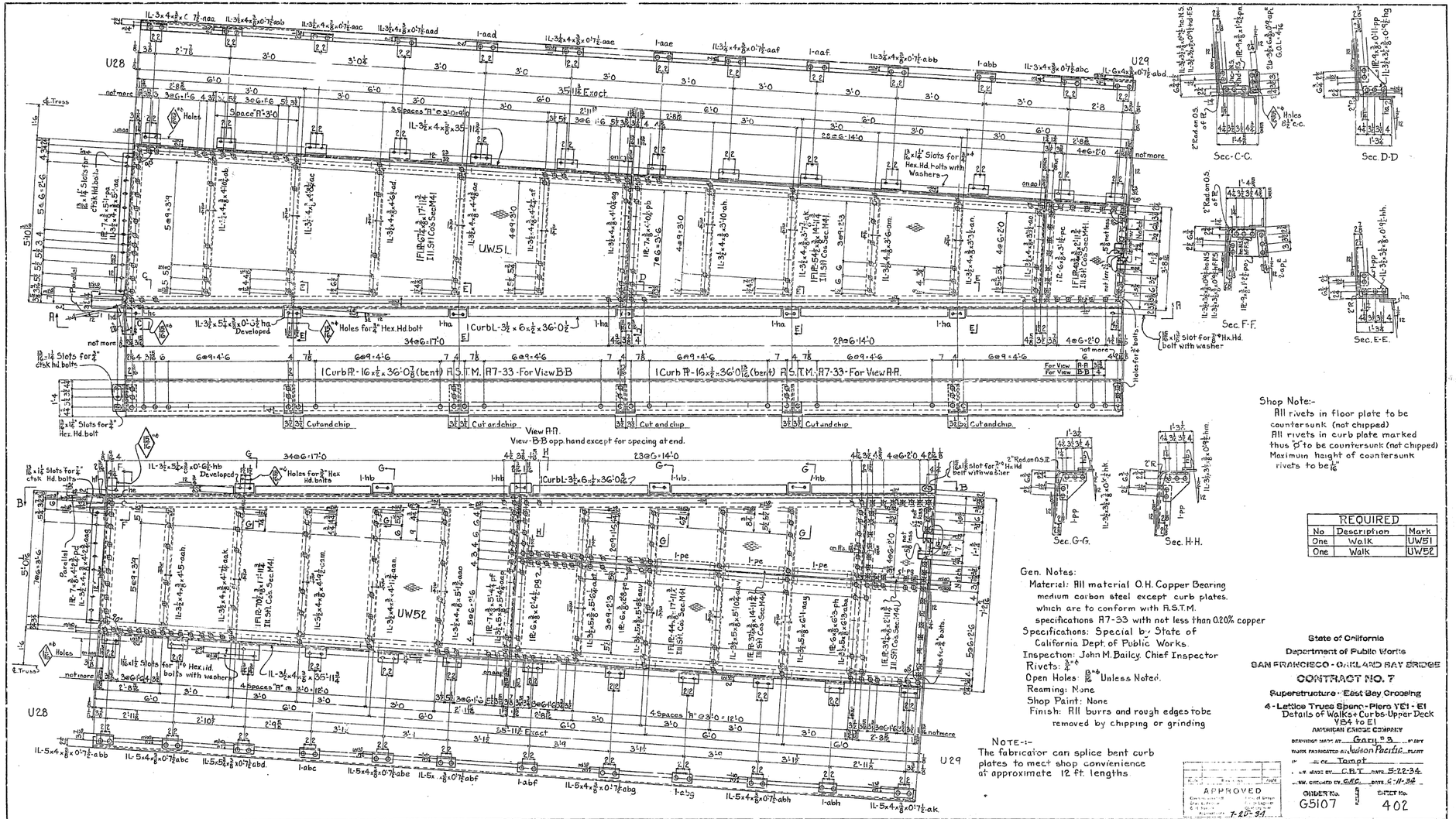
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Cruciform
4-Lattice Truss Spans - Piers YB1 - E1
DE AINS - SPANS YB3-YB4
American Bridge Company

Drawing made by	Gary '33	Plant	
Work recorded by	Brabrick	Plant	
Area of	Tank		
Work chkd by	B.R.K.	Date	6-18-34
Erect. checked by	L-24	Date	6-20-34

APPROVED
Frank B. Woodruff, Chief Engr.
Chas. L. Andrew, Engr. of Design
R.M. Pauli, Bridge Engineer
Assistant Date 6-15-34

Approved Dis. G-5107
Sheet No. 352


YB4
U27
Parallel
℄ Chord ℄
39'-2⅛ Exact c.to c. Pin Dms.
UWG1
UWG2
Sec. A-A
Sec. B-B
Sec. C-C
Sec. D-D (Enlarged)
Sec. E-E
Sec. F-F
Sec. G-G
Sec. L-L (Enlarged)
Sec. M-M
Sec. H-H
Sec. K-K
1-Curb Pl. 16"×⅝"×40'-4⅛" (Bent) A.S.T.M. A7-33
1-Curb Pl. 19"×⅝"×34'-8⅛" (Bent) A.S.T.M. A7-33
Holes for 8/8" Rt. Hd. bolts
Holes for 8/8" Fld. Hd. bolts
Cut & chip
Weld
Shop Note
All rivets in floor plates to be countersunk, not chipped.
All rivets in curb plates marked thus ⓒ or Ⓒ to be countersunk, not chipped.
Maximum height of countersunk rivet heads to be ⅛.
Gen Notes
Material - All material G.H. copper bearing, medium carbon steel, except curb plates which are to conform with A.S.T.M. specifications A7-33 with not less than 0.20% copper
Specifications - Special by State of Californ.'s Dept. of Public Works.
Inspection - John M. Bailey, Chief Inspector.
Rivets - ⅞"
Open Holes - 18/8" Unless noted.
Finish - All burrs and rough edges to be removed by chipping or grinding.
Shop Paint - None.
Reaming - None
NOTE:
The Fabricator can splice bent curb plates to meet shop convenience at approximately 12'0" lengths.
REQUIRED
1 Walk UWG1
1 do. UWG2
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Walks & Curbs, Upper Deck
Span YB4 - E1
AMERICAN BRIDGE COMPANY
DRAWING MADE AT GARY, IND. PLANT
FROM INFORMATION BY Judson Pacific PLANT
DR. BY Tarpit DATE 6-1-34
TR. BY MADE BY RE&V DATE 6-1-34
CHECKED BY J.A.S DATE 6-6-34
APPROVED
ORDER NO. G5107
SHEET NO. 401



REQUIRED		
No	Description	Mark
One	Walk	UW51
One	Walk	UW52

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YE1 - E1
Details of Walks + Curbs - Upper Deck
Y154 to E1
AMERICAN BRIDGE COMPANY
DRAWING PREPARED BY Gary "B" DRAFT
WORK FABRICATED AT Hudson Pacific PLANT
" " AT Tampt
" " DESIGNED BY C.B.T. DATE 5-22-34
" " CHECKED BY C.F.C. DATE 6-11-34

APPROVED
7-27-34

ORDER No. G5107
SHEET No. 402

[C7]

U29

U30

UW49

Sec. BB

Sec. D
Sec. E

Sec. DD
Sec. E.E

Sec. FF

Sec. C.C.

Sec. G.G.
Sec. H.H.

UW50

SHOP NOTES

All rivets in Fl. Rs must be counter sunk, not chipped. All rivets in Curb Rs marked ◊ or thus ◊ to be ctsk. not chipped.
Max. height of ctsk. rivets to be ½"

GEN. NOTES

MATERIAL: All matl. O.H. Copper Bearing medium Carbon steel, except curb plates which are to conform with A.S.T.M. Spec. A7-33 with not less than .20% Copper.
SPECIFICATIONS: Special by State of California Dept. of Public Works.
INSPECTION: John M. Bailey Chief Insp.
RIVETS: ⅞" Ø
OPEN HOLES: 15/16" Ø Unless Noted
REAMING None
SHOP PAINT None
FINISH: All burrs and rough edges to be removed by Chipping or grinding.

NOTE:
The fabricator can splice bent curb plates to meet shop convenience at approx. 12' lengths.

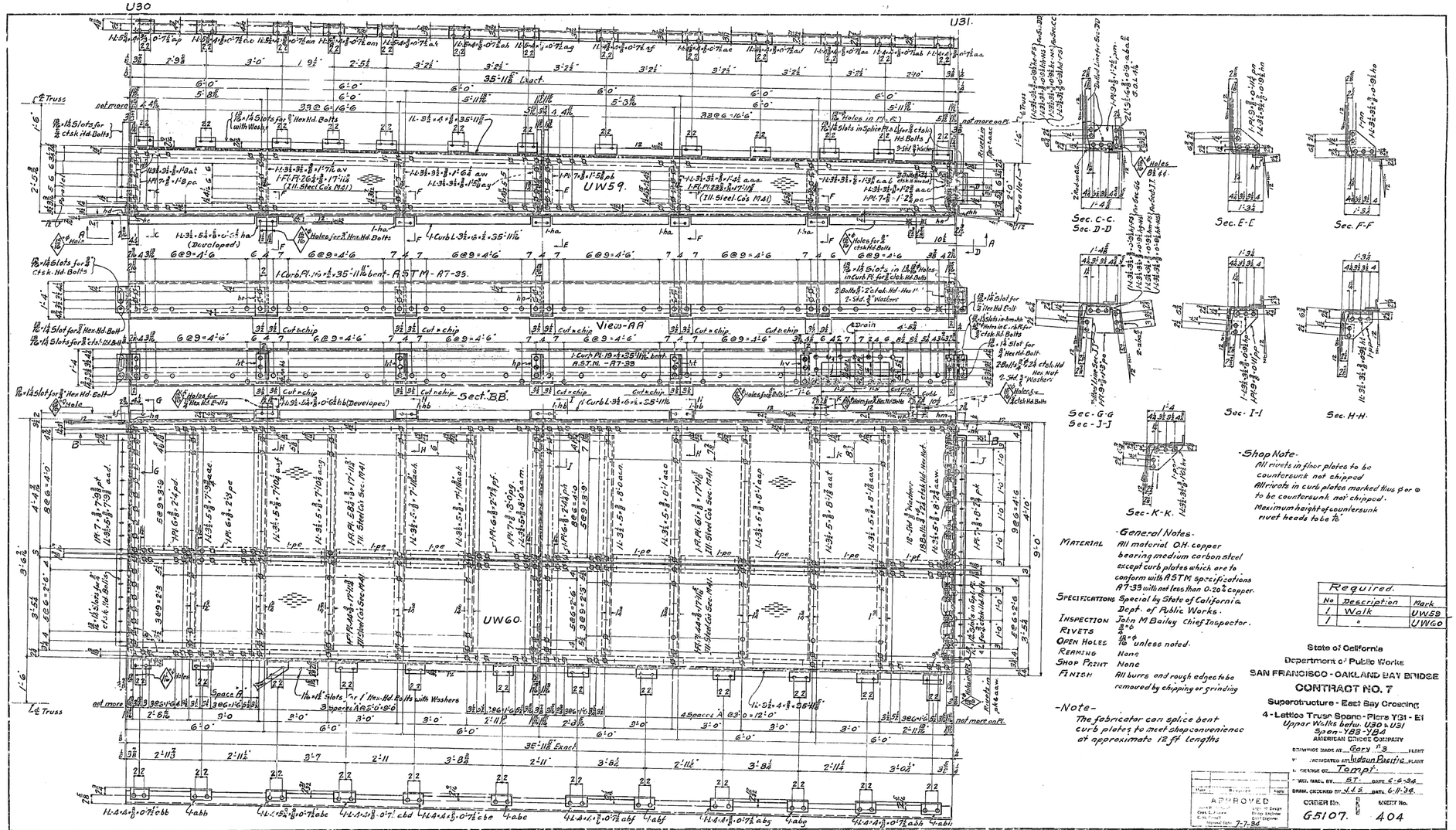
REQUIRED		
One	Walk	UW 49
One	do	UW 50

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y51 - E1
Upper Deck Walks & Curbs
Span Y23.5-E1
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary PLANT
WORK FABRICATED AT Judson Pacific PLANT
IN CH. OF Tempt
DES. BY GED DATE 5-18-34
DRAFT. CHECKED BY C.E.C. DATE 6-8-34
ORDER No. G5107
SHEET No. 403

APPROVED
Chief Engineer
Asst. Chief Engineer
Engr. of Bridge Design
Bridge Engineer
Asst. Engineer
for the Director of Public Works
June 22, 1934

[CA]

30-1



-Shop Note-

All rivets in floor plates to be countersunk not chipped
All rivets in curb plates marked thus ⊕ or ⊖ to be countersunk not chipped.
Maximum height of countersunk rivet heads to be 7/8"

-General Notes-

MATERIAL — All material O.H. copper bearing medium carbon steel except curb plates which are to conform with A.S.T.M. specifications A7-33 with not less than 0.20% copper.

SPECIFICATIONS — Special by State of California Dept. of Public Works.

INSPECTION — John M Bailey Chief Inspector.

RIVETS — 3/4" ⊕ 7/8" ⊖ unless noted.

REAMING — None

SHOP PAINT — None

FINISH — All burrs and rough edges to be removed by chipping or grinding

-Note-

The fabricator can splice bent curb plates to meet shop convenience at approximate 12 ft lengths

Required.		
No	Description	Mark
1	Walk	UW59
1	"	UW60

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Upper Walks betw. U30 & U31
Span - YB3 - YB4
AMERICAN BRIDGE COMPANY

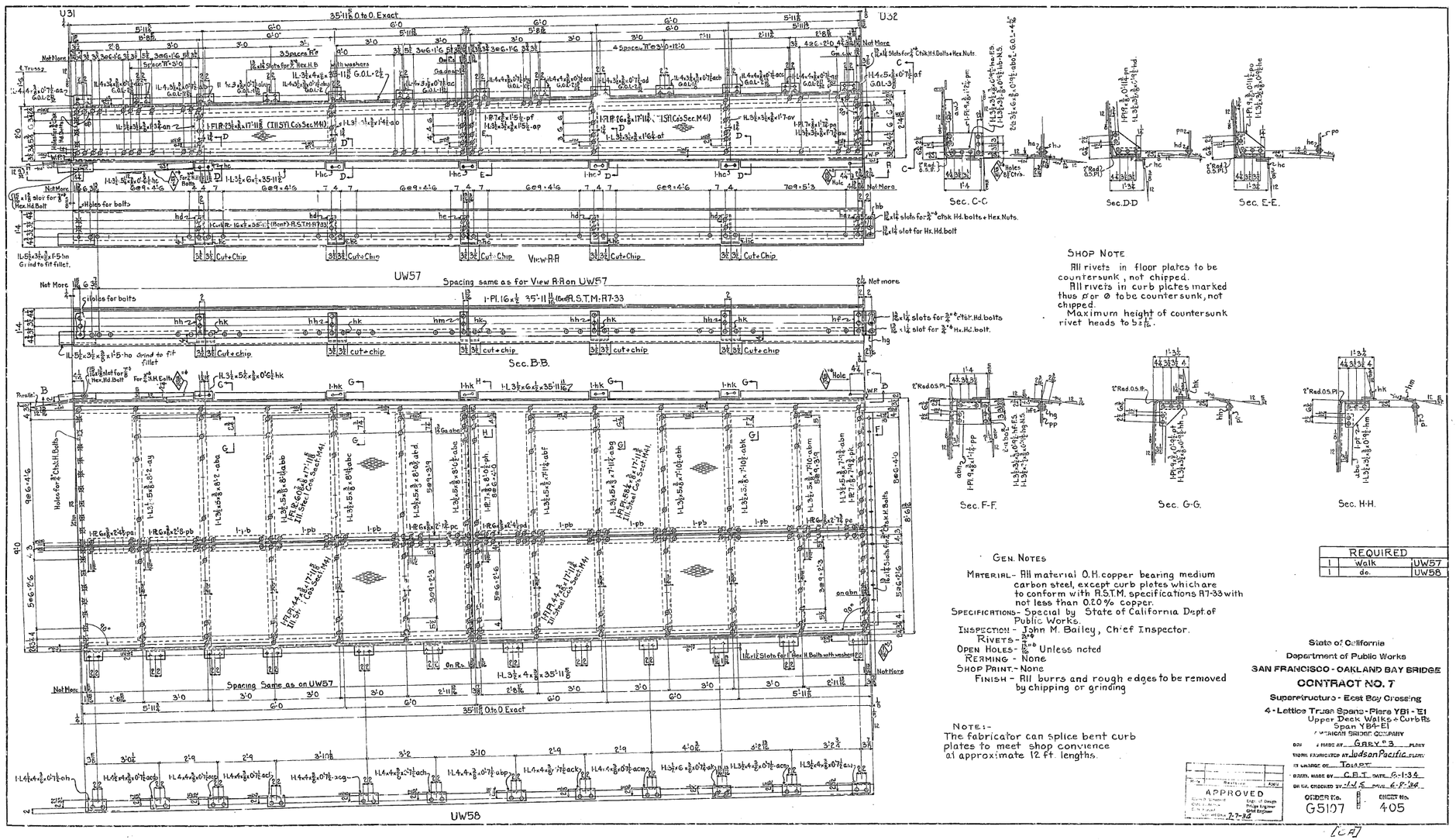
DRAWINGS MADE AT Gary Ind PLANT
AND ASSEMBLED AT Hudson Pacific PLANT
IN CHARGE OF Tompt
DETAILED BY ST DATE 6-6-34
DRAWN, CHECKED BY J.H.S. DATE 6-11-34

APPROVED
Chief Engr. of Design
Chief Engr. Bridge Engineer
Asst. Engineer
Structural Steel Engineer
Date 7-7-34

ORDER No. G5107.
SHEET No. 404

[C 4]

60-1



SHOP NOTE

All rivets in floor plates to be countersunk, not chipped.
All rivets in curb plates marked thus ⌀ or Ø to be countersunk, not chipped.
Maximum height of countersunk rivet heads to ½ 16.

GEN. NOTES

MATERIAL - All material O.H. copper bearing medium carbon steel, except curb plates which are to conform with A.S.T.M. specifications A7-33 with not less than 0.20% copper.
SPECIFICATIONS - Special by State of California Dept of Public Works.
INSPECTION - John M. Bailey, Chief Inspector.
RIVETS - ⅞" Ø unless noted
OPEN HOLES - ⅞" Ø unless noted
REAMING - None
SHOP PRINT - None
FINISH - All burrs and rough edges to be removed by chipping or grinding

NOTE:-
The fabricator can splice bent curb plates to meet shop convience at approximate 12 ft. lengths.

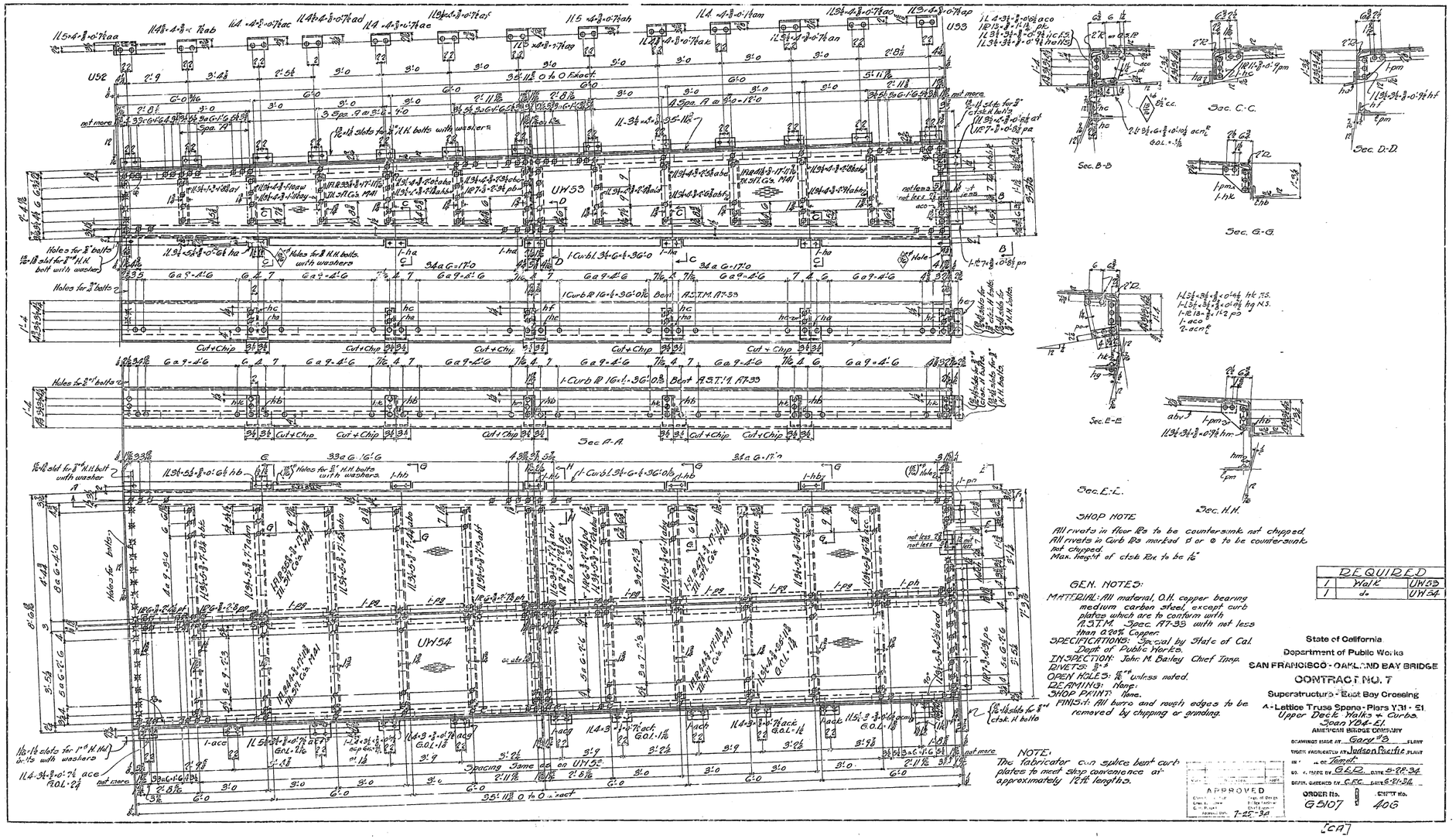
REQUIRED		
1	Walk	UW57
1	do.	UW58

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Upper Deck Walks & Curbs
Span YB4 - E1
AMERICAN BRIDGE COMPANY
DRN. & TRACED BY GARY No. 3 PLENTY
WORK FABRICATED BY Judson Pacific PLANT
IN CHARGE OF TOLLEY
DESIGN MADE BY C.B.T. DATE 6-1-38
DRAWING CHECKED BY I.M.S. DATE 6-8-38

APPROVED
Engr. of Design
Bridge Engineer
Chief Engineer
7-7-38

ORDER No. G5107
SHEET No. 405

(CA)



SHOP NOTE

All rivets in floor Rs to be countersunk not chipped. All rivets in Curb Rs marked ○ or ◎ to be countersunk not chipped. Max. height of stake Rst to be 16"

GEN. NOTES:

MATERIAL: All material, O.H. copper bearing medium carbon steel, except curb plates which are to conform with A.S.T.M. Spec. A7-33 with not less than 0.20% Copper.
SPECIFICATIONS: Special by State of Cal. Dept. of Public Works.
INSPECTION: John M. Bailey Chief Insp.
RIVETS: ⅞"ø
OPEN HOLES: 15/16" unless noted.
REAMING: None.
SHOP PAINT: None.
FINISH: All burrs and rough edges to be removed by chipping or grinding.

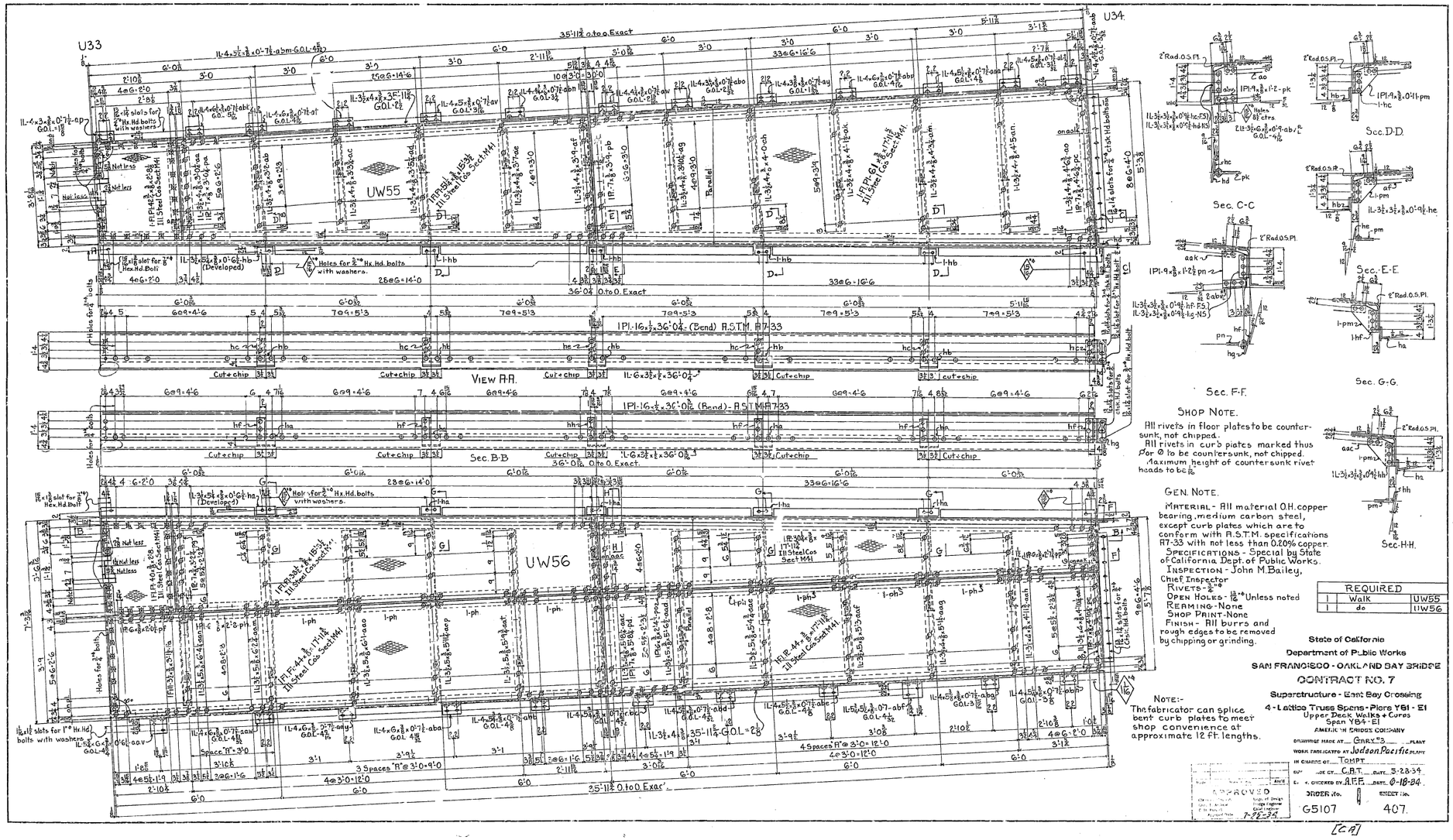
REQUIRED		
1	Walk	UW53
1	do.	UW54

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
A - Lattice Truss Spans - Piers Y31 - 51
Upper Deck Walks & Curbs.
Spans Y26 - 51
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary Ind. PLANT
WORK FABRICATED BY Judson Pacific PLANT
IN ... & OF Tacoma
QUANTITIES BY G.E.R. DATE 5-28-34
DRAWN BY ... CHECKED BY G.E.C. DATE 6-21-34

APPROVED
Chief Engr. Dept. of Public Works
7-25-34

ORDER No. G5107 DRAWING No. 406

[CA]



SHOP NOTE.

All rivets in floor plates to be countersunk, not chipped.
All rivets in curb plates marked thus ∫ or Ø to be countersunk, not chipped.
Maximum height of countersunk rivet heads to be $\frac{1}{16}$

GEN. NOTE.

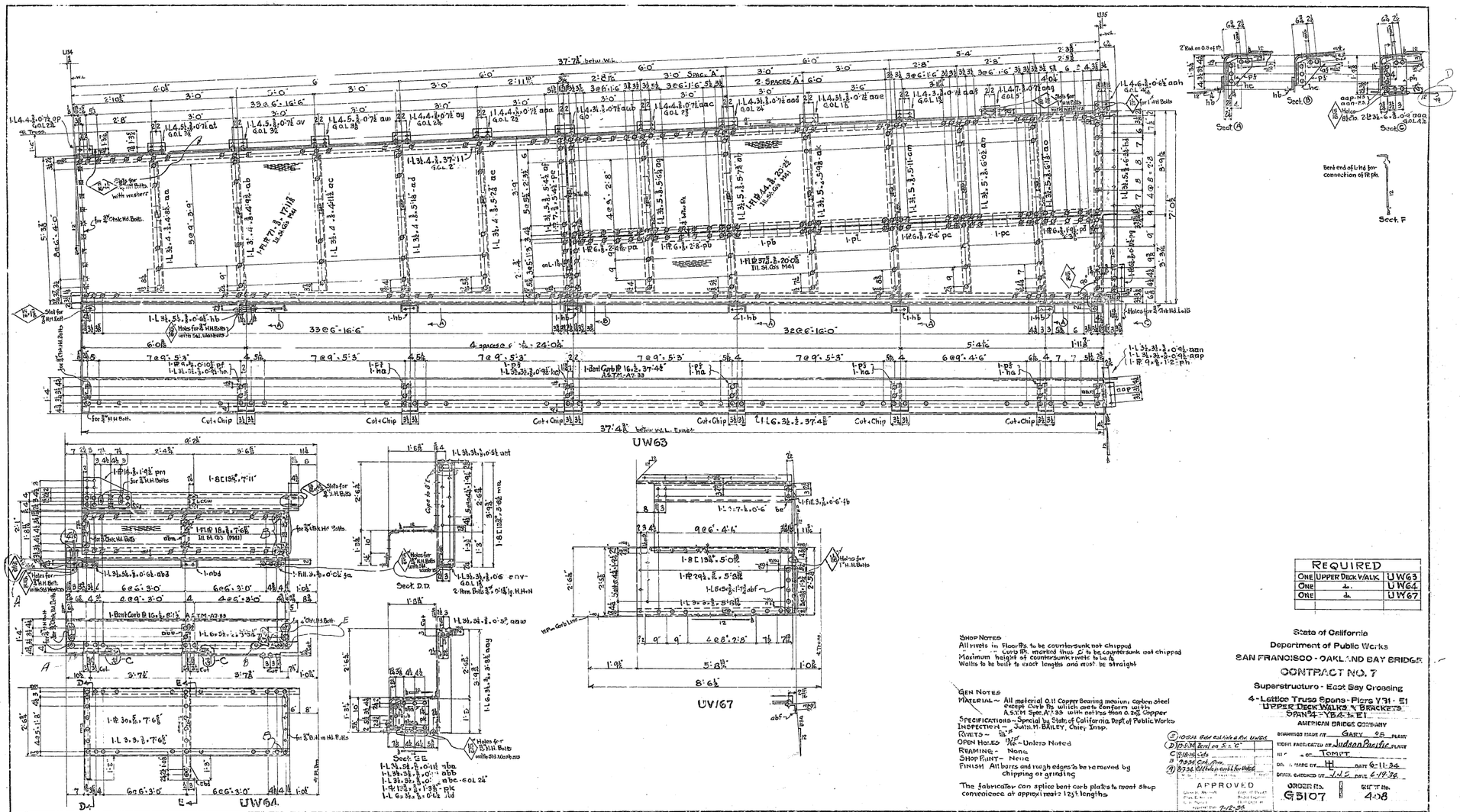
MATERIAL - All material O.H. copper bearing, medium carbon steel, except curb plates which are to conform with A.S.T.M. specifications A7-33 with not less than 0.20% copper.
SPECIFICATIONS - Special by State of California Dept. of Public Works.
INSPECTION - John M. Bailey, Chief Inspector
RIVETS - $\frac{7}{8}$"ø
OPEN HOLES - $\frac{13}{16}$"ø Unless noted
REAMING - None
SHOP PRINT - None
FINISH - All burrs and rough edges to be removed by chipping or grinding.

NOTE:-
The fabricator can splice bent curb plates to meet shop convenience at approximate 12 ft. lengths.

REQUIRED		
1	Walk	UW55
1	do	UW56

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y61 - E1
Upper Deck Walks + Curbs
Span Y64 - E1
AMERICAN BRIDGE COMPANY
DRAWING MADE AT GARY, IND. PLANT
WORK FABRICATED AT Judson Pacific PLANT
IN CHARGE OF TOMPT.
DET. OF C.B.T. DATE 5-23-34
E. CHECKED BY A.F.F. DATE 6-18-34
APPROVED
Chief Engineer Bridge Engineer
Asst. Engineer
Engineer in Charge
7-22-34
ORDER No. G5107
SHEET No. 407.

[CA]



REQUIRED		
ONE	UPPER DECK WALK	UW63
ONE	"	UW64
ONE	"	UW67

SHOP NOTES
All rivets in floor pls. to be countersunk not chipped
Cover pls. marked thus ▽ to be countersunk not chipped
Maximum height of countersunk rivets to be ½
Walks to be built to exact lengths and must be straight

GEN NOTES
MATERIAL – All material O.H. Copper Bearing medium Carbon Steel except Curb pls. which are to conform with A.S.T.M. Spec. A.7-33 with not less than 0.2% Copper
SPECIFICATIONS – Special by State of California Dept. of Public Works
INSPECTION – John M. BAILEY, Chief Insp.
RIVETS – ⅞"ø
OPEN HOLES – Not Noted
REAMING – None
SHOP PAINT – None
FINISH – All burrs and rough edges to be removed by chipping or grinding

The fabricator can splice bent curb plates to meet shop convenience at approximate 12'-0" lengths.

(E)	10-8-34	Add Rivets at Pt. UW63
(D)	10-5-34	Bend on 5:1 "C"
C	9-18-34	Info.
B	9-3-34	Cut Plate
(A)	8-23-34	Add Holes for Curb Plates

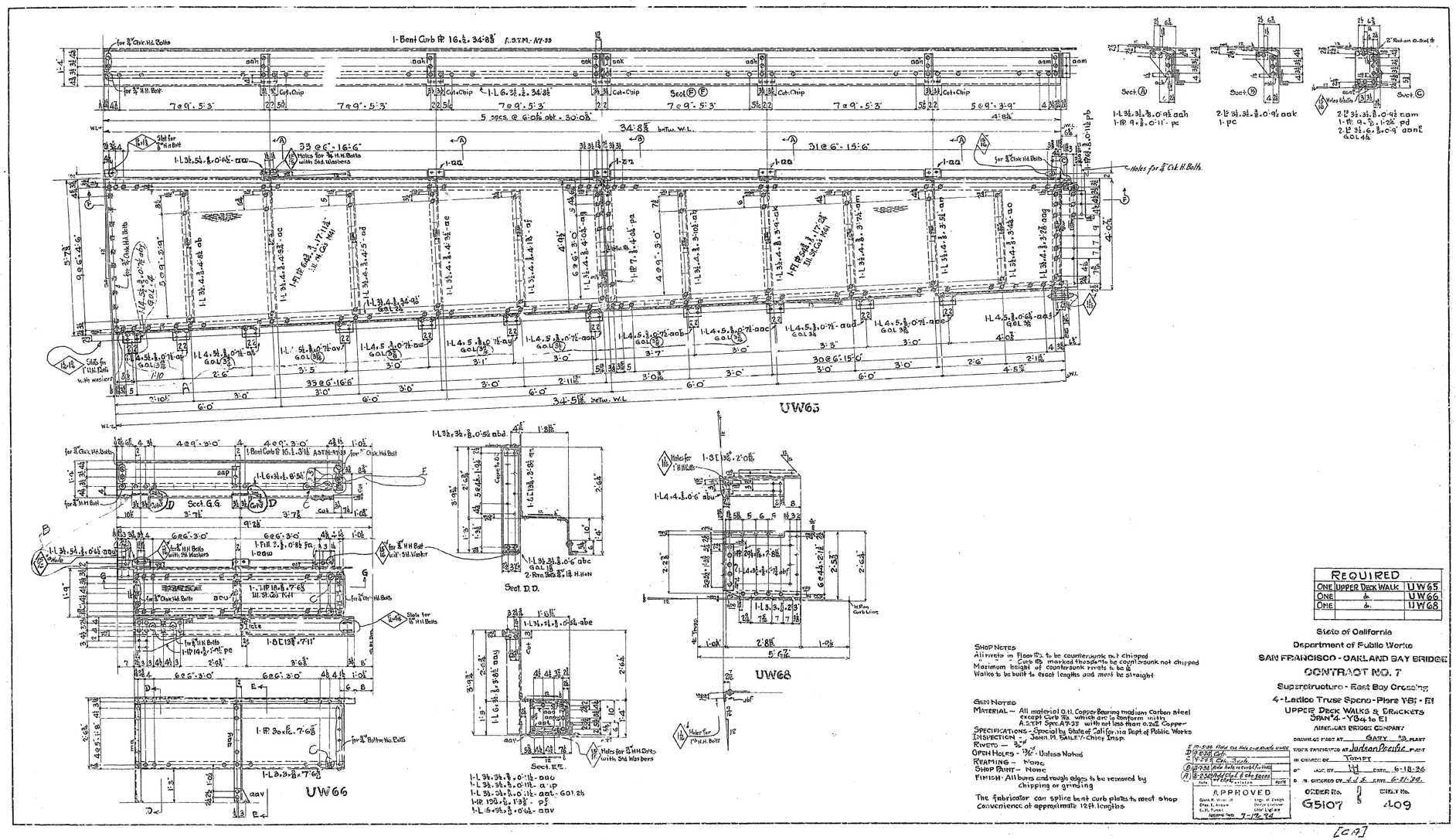
APPROVED
Chief Engineer
Bridge Engineer
Supervising Engineer
Approved Dec. 7-12-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4-Lattice Truss Spans - Piers V31 - E1
UPPER DECK WALKS & BRACKETS
SPAN 34 - YB4-3a E1

AMERICAN BRIDGE COMPANY
DRAWING ISSUED AT GARY, IND. PLANT
WORK FABRICATED AT Judson Pacific PLANT
DRAWN BY TOMPT. DATE 6-11-34
CHECKED BY JWS DATE 6-19-34

ORDER No. G5107
SHEET No. 408

[CA]


1-Bent Curb PL 16½ × 34⅝ A.S.T.M.-A7-33
for ⅞" Chk. Hd. Bolts
for ⅞" H.H. Bolt
Cut + Chip
Sect. E F
7 @ 9'-5 3/8"
5 Spcs. @ 6'-0⅛ ctr = 30'-0⅝"
34⅝" betw. W.L.
31 @ 6'-15/16"
Slot for ⅞" H.H. Bolt
Holes for ⅞" H.H. Bolts with Std. Washers
Holes for ⅞" Chk. H. Bolts
33 @ 6'-16/16"
1-aa
1-ab
1-ac
1-ad
1-ae
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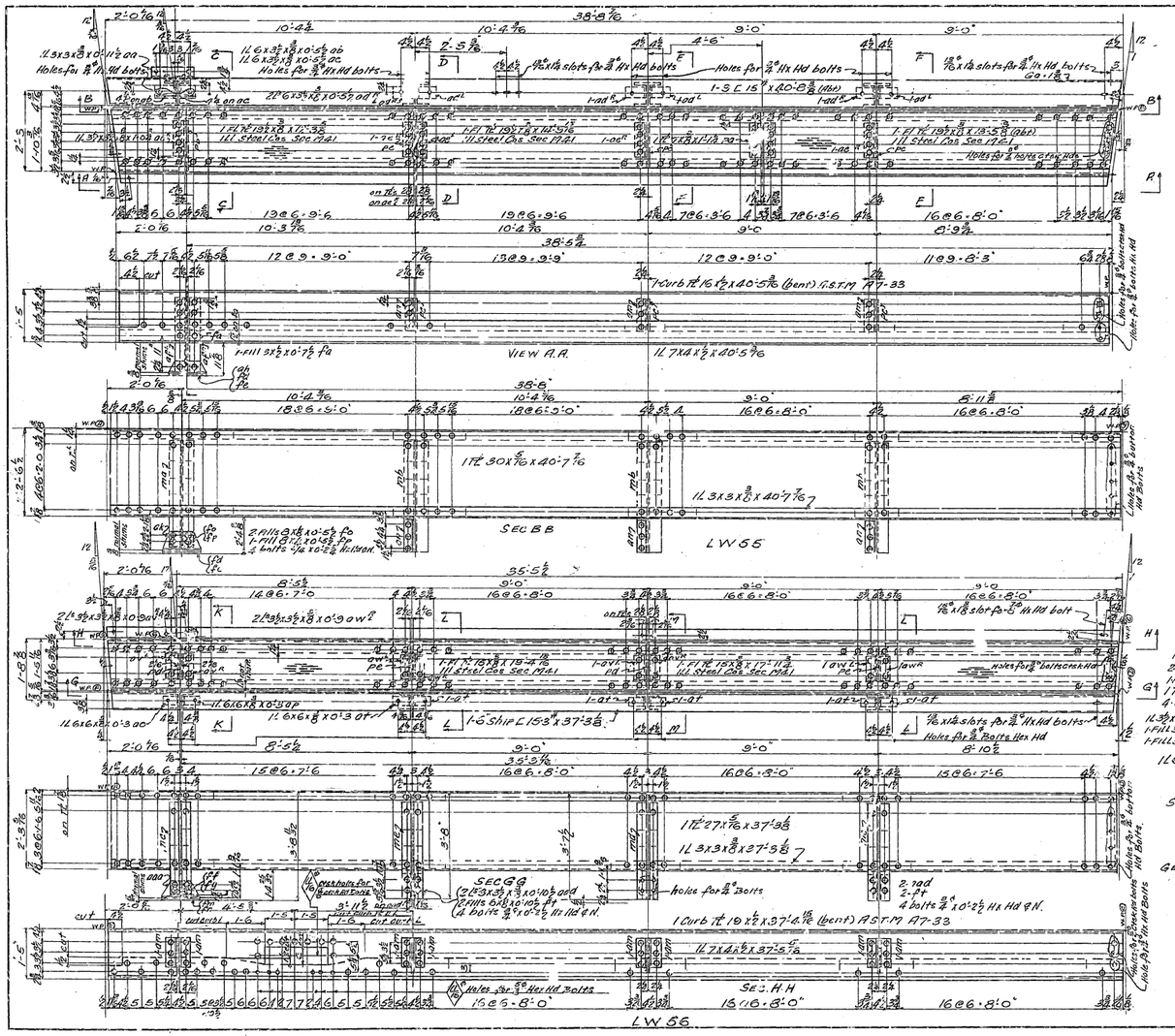
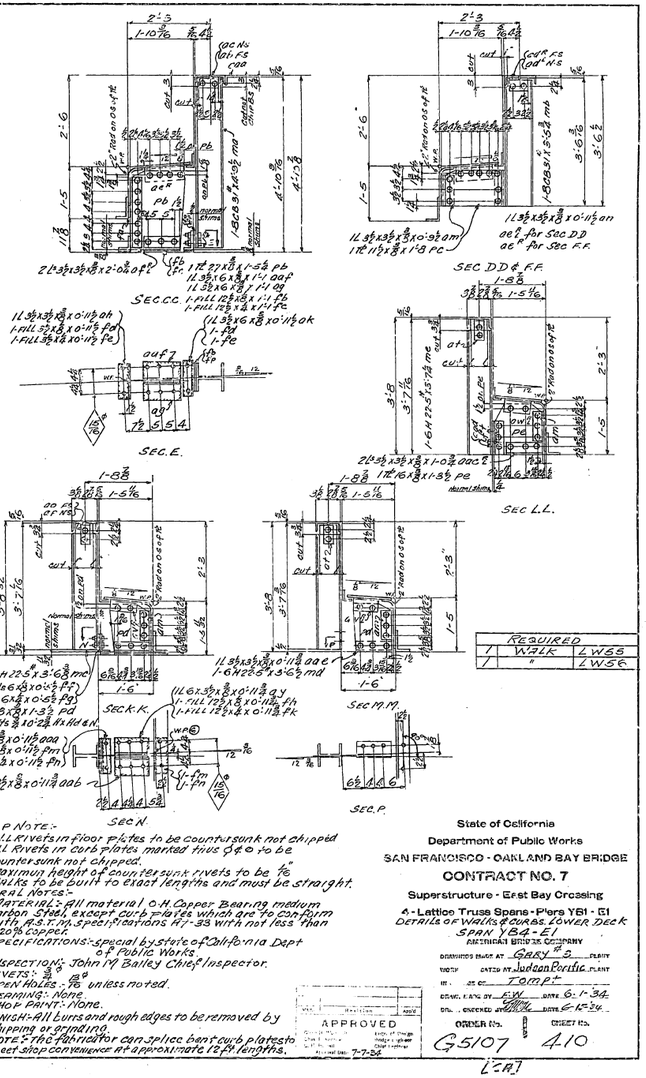
UW65
Sect. A
Sect. B
Sect. C
Holes for ⅞" Chk. H. Bolts
Sect. G.G.
Sect. D.D.
Sect. E.E.
UW66
UW68
Holes for ⅞" H.H. Bolts
Holes for 1" H.H.Bolts
Slots for ⅞" H.H. Bolts with Std. Washers
Slots for ⅞" H.H. Bolts with washers
Slots for 1" H.H. Bolts with washers
Slots for ⅞" H.H. Bolts
Slots for 1" H.H. Bolts
for 1" Chk. Hd. Bolt
for 1" H.H. Bolt
for 1" H.H. Bolt with Std. Washer
for ⅞" Chk. Hd. Bolts
for ⅞" H.H. Bolts
for ⅞" H.H. Bolts No. Bolts
for 1" Chk. Hd. Bolts
for 1" H.H. Bolts
Cut + Chip
Cut
Cut + Chip
Cut + Chip
Cut + Chip





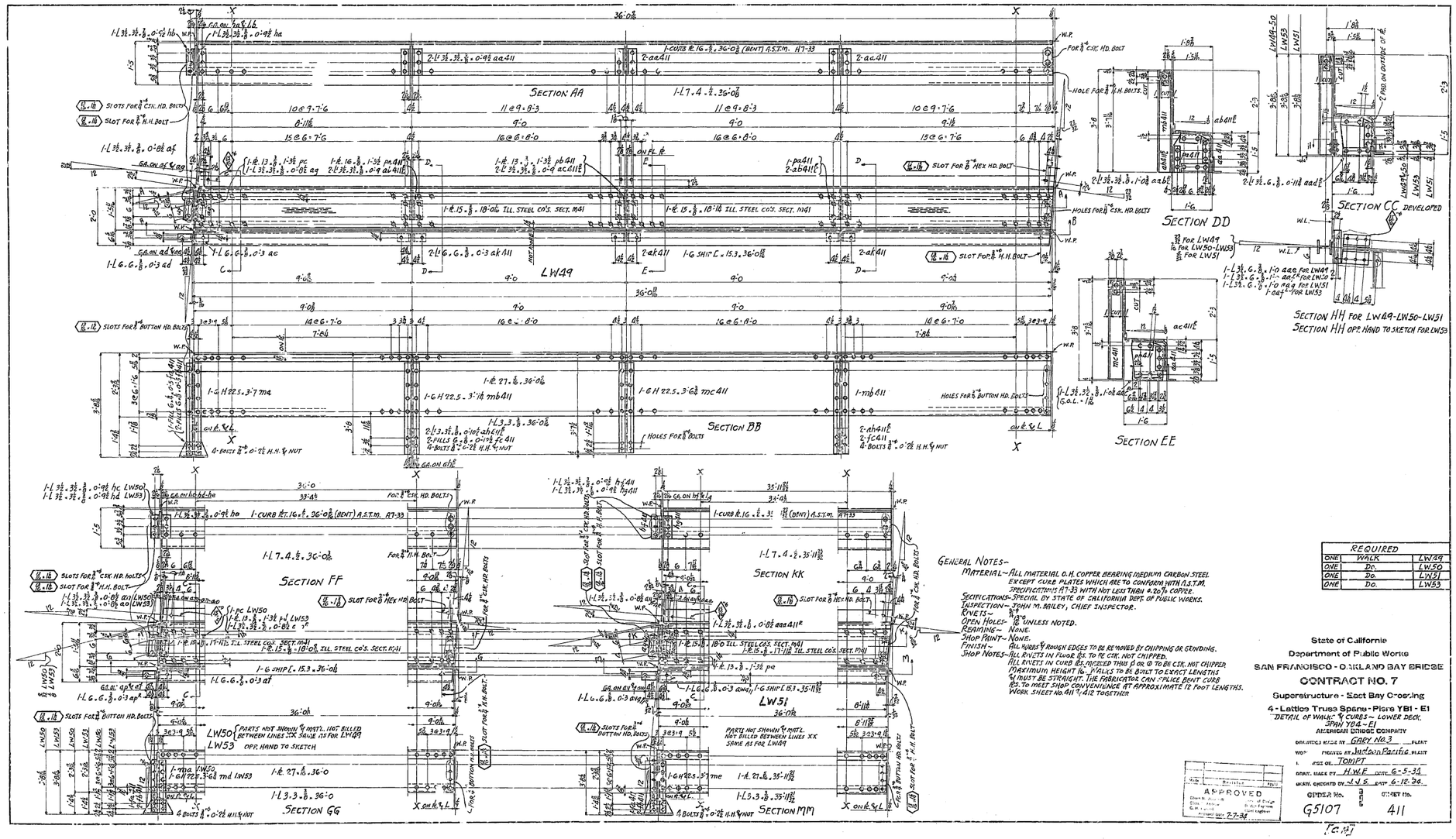
REQUIRED		
/	WALK	LW55
/	"	LW56

SHOP NOTE:-
ALL RIVETS in floor plates to be countersunk not chipped
ALL Rivets in curb plates marked thus ◇ ◆ ○ to be countersunk not chipped.
Minimum height of countersunk rivets to be 1/16"
Walks to be built to exact lengths and must be straight.

GENERAL NOTES:-
MATERIAL:- All material O.H Copper Bearing medium carbon Steel, except curb plates which are to conform with A.S.T.M. specifications A7-33 with not less than 0.20% copper.
SPECIFICATIONS:- special by state of California Dept of Public Works.
INSPECTION:- John M Bailey Chief Inspector.
RIVETS:- 7/8" ø
OPEN HOLES:- 7/8 unless noted.
REAMING:- None
SHOP PAINT:- None.
FINISH:- All burrs and rough edges to be removed by chipping or grinding.
NOTE:- The Contractor can splice bent curb plates to meet shop convenience at approximate 12 ft lengths.

APPROVED
Chief Engineer
Bridge Engineer
Date: 7-7-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
DETAILS OF WALKS & GUARDS, LOWER DECK
SPAN YB4 - E1
AMERICAN BRIDGE COMPANY
DESIGNED BY [illegible] DRAWN BY GARY 2 PLANT
TRACED BY [illegible] CHECKED BY Judson Portis PLANT
QTY. 25 CC Tompt
DRAWING RANG BY F.W DATE 6-1-34
DTL. CHECKED BY [illegible] DATE 6-15-34
ORDER No. G5107 SHEET No. 410



General Notes-

Material- All material O.H. copper bearing medium carbon steel except curb plates which are to conform with A.S.T.M. Specifications A7-33 with not less than 0.20% copper.

Specifications- Special by State of California Dept. of Public Works.

Inspection- John M. Bailey, Chief Inspector.

Rivets- ⅞" unless noted.

Open Holes- None.

Reaming- None.

Shop Paint- None.

Finish- All burrs & rough edges to be removed by chipping or grinding.

Shop Notes- All rivets in floor ℄s. to be csk. not chipped. All rivets in curb ℄s. marked thus ⊙ or ⊙ to be csk. not chipped. Maximum height fig. 1 rails to be built to exact lengths & must be straight. The Fabricator can splice bent curb ℄s. to meet shop convenience at approximate 12 foot lengths. Work sheet No. 411 & 412 together.

REQUIRED		
ONE	WALK	LW49
ONE	Do.	LW50
ONE	Do.	LW51
ONE	Do.	LW53

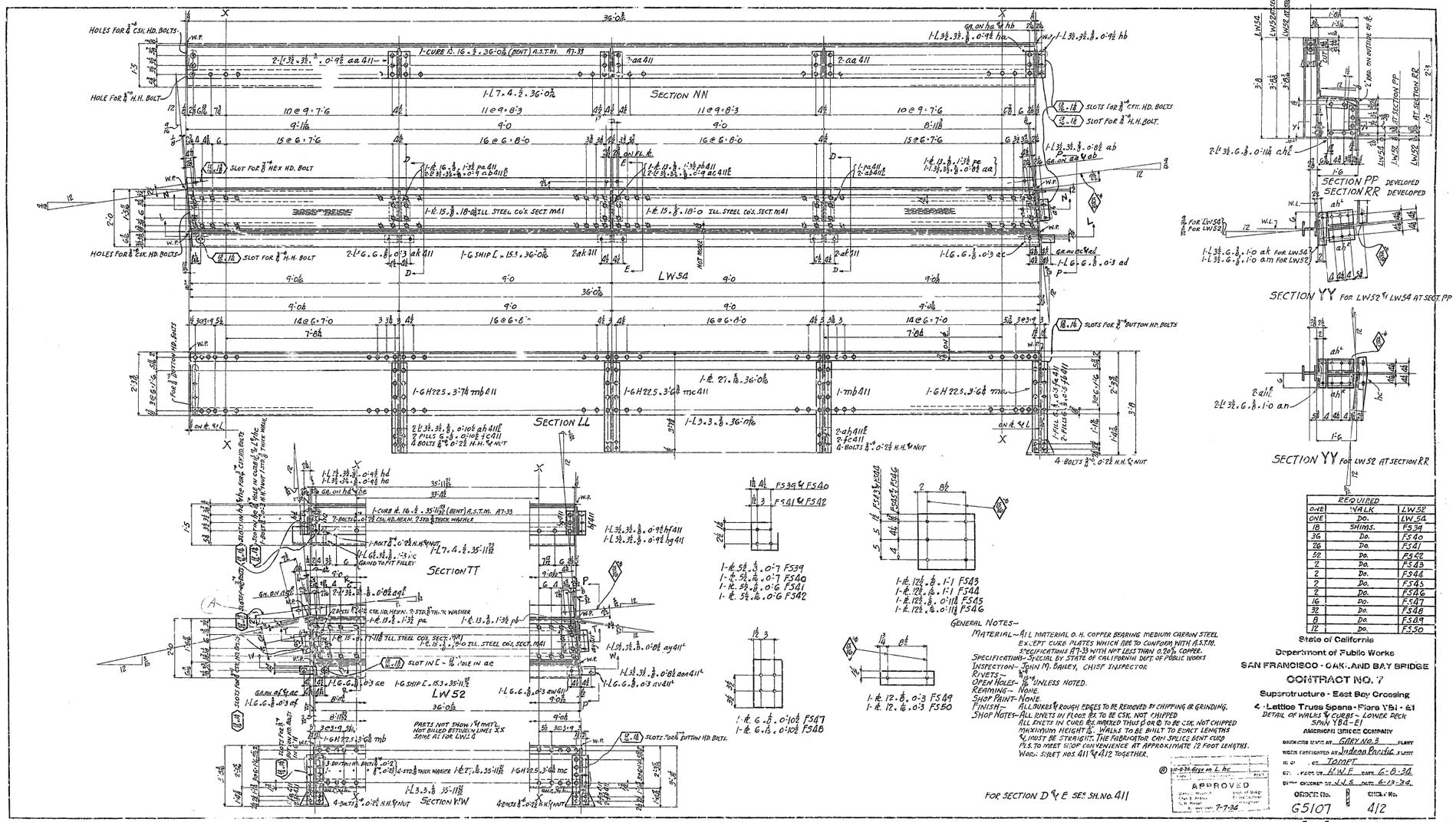
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
"DETAIL OF WALK & CURBS - LOWER DECK."
SPAN YB4 - E1
AMERICAN BRIDGE COMPANY

DRAWING MADE BY Gray No. 3 PLANT
WORK PERFORMED BY Judson Pacific PLANT
L. POST OR Tomlet
DRAWN, TRACED BY H.W.E. DATE 6-5-36
WORK CHECKED BY J.N.S. DATE 6-12-36

Revisions		
Date	Item	Initials

APPROVED
Chief Engineer
Chief Designing Engineer
Chief Engineer
Assistant Engineer
DATE: 7-7-36

ORDER No. G5107
DETAIL No. 411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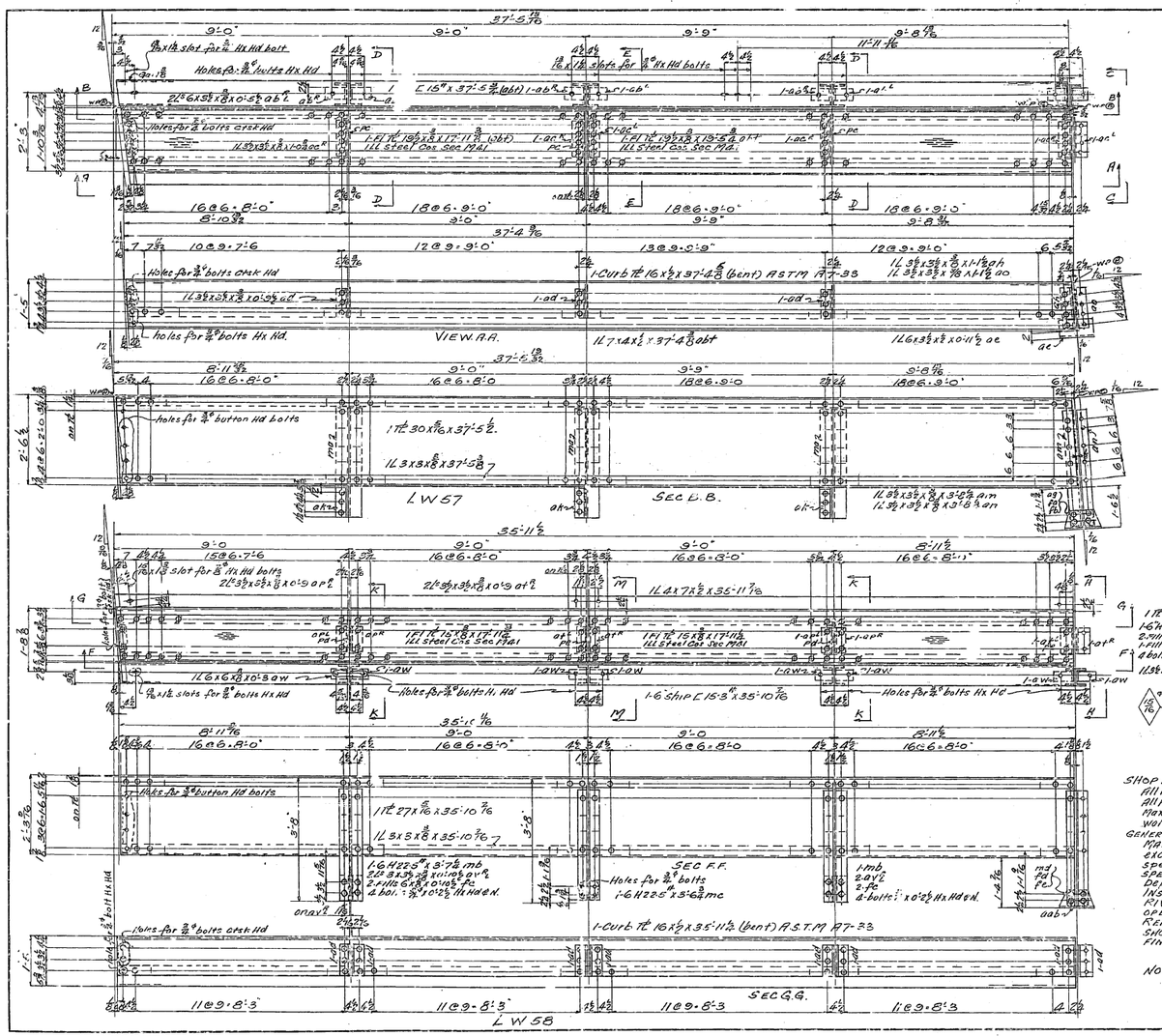
SECTION LL
SECTION TT
SECTION W W
SECTION PP DEVELOPED
SECTION RR DEVELOPED
SECTION YY FOR LW52 & LW54 AT SECT. PP
SECTION YY FOR LW52 AT SECTION RR
LW54
LW52
LW52 AT SECT. PP
LW52 AT SECTION RR
HOLES FOR 7/8" CSK. HD. BOLTS
HOLE FOR 7/8" H.H. BOLT
SLOT FOR 7/8" HEX HD. BOLT
SLOT FOR 7/8" H.H. BOLT
SLOTS FOR 7/8" CSK. HD. BOLTS
SLOTS FOR 7/8" BUTTON HD. BOLTS
SLOT IN L - 13/16" X 1" HOLE IN ac
SLOTS FOR 7/8" BUTTON HD. BOLTS
W.P.
W.L.
1-CURB PL. 16 x 1/2 x 36'-0 1/16 (BENT) A.S.T.M. A7-33
1-L 7 x 4 x 1/2 x 36'-0 1/16
1-L 7 x 4 x 1/2 x 35'-11 13/16
1-GH 22.5 x 3'-7 1/8 mb 411
1-GH 22.5 x 3'-6 1/8 mc 411
1-GH 22.5 x 3'-6 1/8 mc
1-mb 411
1-GH 22.5 x 3'-6 1/8 mb
1-L 3 x 3 x 1/2 x 36'-0 1/16
1-L 3 x 3 x 1/2 x 35'-11 13/16
1-PL 27 x 1/2 x 36'-0 1/16
1-PL 27 x 1/2 x 35'-11 13/16
1-SHIP L 153 x 36'-0 1/16
1-SHIP L 153 x 35'-11 13/16
1-PL 18 x 1 1/2 x 18'-0 ILL. STEEL CO'S. SECT. M41
1-PL 15 x 7/8 x 18'-0 ILL. STEEL CO'S. SECT. M41
1-PL 15 x 7/8 x 17'-11 3/8 ILL. STEEL CO'S. SECT. M41
2-aa 411
2-ak 411
2-ah 411E
2-FS 41
4-BOLTS 3/4" x 0'-2 1/2 H.H. 1/2 NUT
PARTS NOT SHOWN 1/4 MAT'L. NOT BILLED BETWEEN LINES X-X
ZONE AT FOR LW52
GENERAL NOTES-
MATERIAL-ALL MATERIAL O. H. COPPER BEARING MEDIUM CARBON STEEL EXCEPT CURB PLATES WHICH ARE TO CONFORM WITH A.S.T.M. SPECIFICATIONS A7-33 WITH NPT LESS THAN 0.20% COPPER.
SPECIFICATIONS-SPECIAL BY STATE OF CALIFORNIA DEPT. OF PUBLIC WORKS
INSPECTION-JOHN M. BAILEY, CHIEF INSPECTOR
RIVETS- 7/8" UNLESS NOTED.
OPEN HOLES- 1 1/16" UNLESS NOTED.
REAMING- NONE.
SHOP PAINT- NONE
FINISH- ALL RIVETS & ROUGH EDGES TO BE REMOVED BY CHIPPING OR GRINDING.
SHOP NOTES- ALL RIVETS IN FLOOR PL TO BE CSK. NOT CHIPPED
ALL RIVETS IN CURB PL MARKED THUS ○ OR ◎ TO BE CSK. NOT CHIPPED
MAXIMUM HEIGHT OF WALLS TO BE BUILT TO EXACT LENGTHS MUST BE STRAIGHT. THE FABRICATOR CAN SPLICE CENT CURB PLS. TO MEET SHOP CONVENIENCE AT APPROXIMATE 12 FOOT LENGTHS.
WORK: SHEET NOS. 411 & 412 TOGETHER.
FOR SECTION D & E SEE SH. NO. 411
APPROVED
7-7-34
REQUIRED
ONE 1/4 ALK. LW52
ONE Do. LW54
18 SHIMS. FS39
36 Do. FS40
26 Do. FS41
52 Do. FS42
2 Do. FS43
2 Do. FS44
2 Do. FS45
2 Do. FS46
16 Do. FS47
32 Do. FS48
8 Do. FS49
12 Do. FS50
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
DETAIL OF WALLS & CURBS - LOWER DECK
SPAN YB4 - E1
AMERICAN BRIDGE COMPANY
DRAWING MADE AT GARY, NO. 3 PLANT
WORK FABRICATED BY Judson Pacific STEEL CO.
BY C. TONER
CHKD. BY H.W.E. DATE 6-6-34
DETAILED BY W.S. DATE 6-19-34
ORDER No. G5107
SHEET No. 412

30-1



REQUIRED		
1	WALK	LW57
1	"	LW58

SHOP NOTE:-
All rivets in floor plates to be countersunk not chipped.
All rivets in curb plates marked thus ⊖ to be countersunk not chipped.
Maximum height of countersunk rivets to be ⅛".
Walks to be built to exact lengths, and must be straight.

GENERAL NOTES:-
MATERIAL:- All material of Copper Bearing medium Carbon Steel except curb plates which are to conform with A.S.T.M specifications A7-35 with not less than 0.20% copper
SPECIFICATIONS:- Special, by State of California Dept of Public Works.
INSPECTION:- John M Bailey Chief Inspector.
RIVETS:- ¾"ø
OPEN HOLES ⅞" unless noted
REAMING:- None
SHOP PAINT:- None
FINISH:- All burrs and rough edges to be removed by chipping or grinding

NOTE:- The fabricator can splice bent curb plates to meet shop convenience or approximate 12 ft lengths.

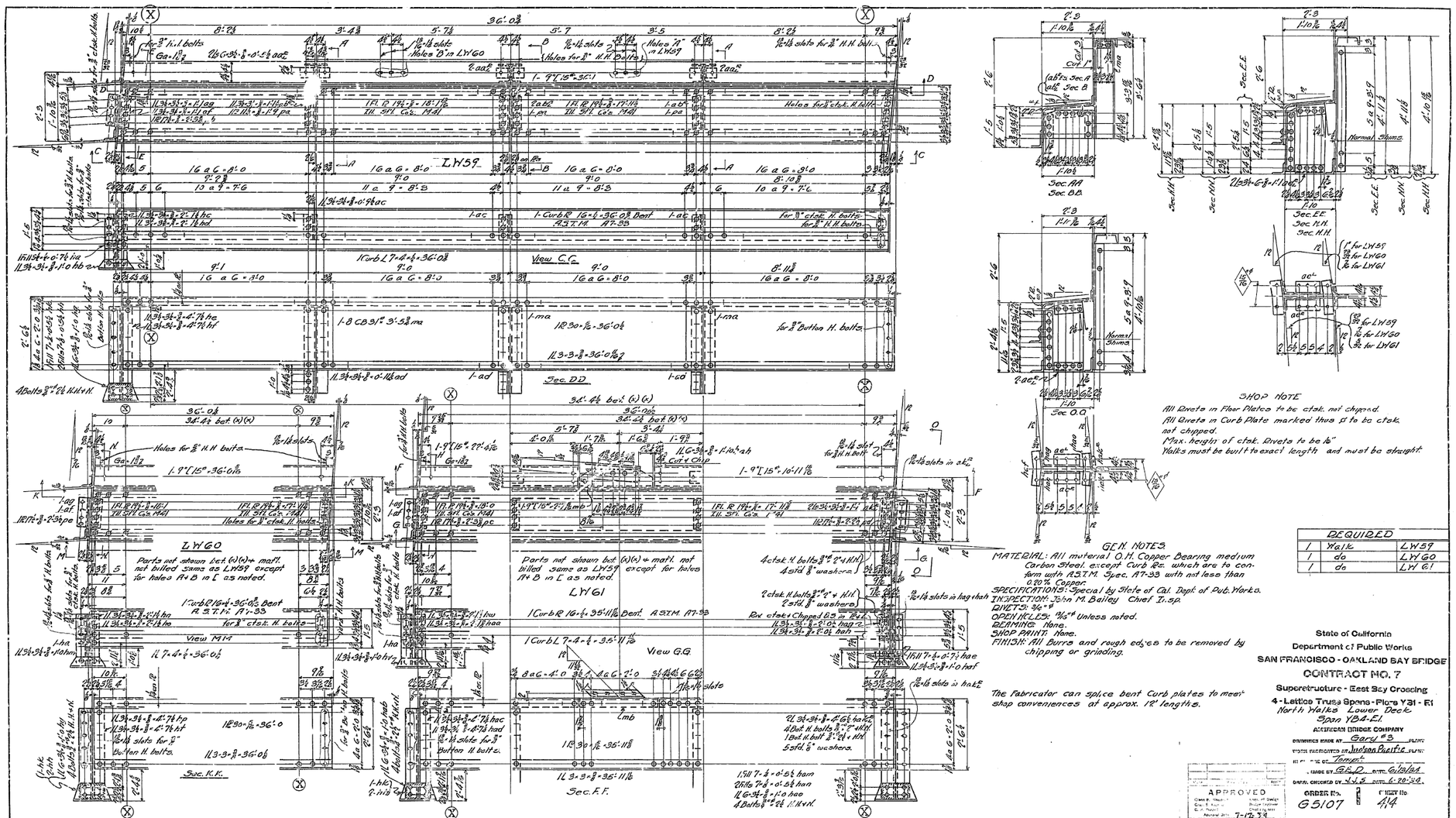
APPROVED
7-7-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y31 - E1
DETAILS OF WALKS & CURBS LOWER DECK
SPAN Y34 - E1
AMERICAN BRIDGE COMPANY

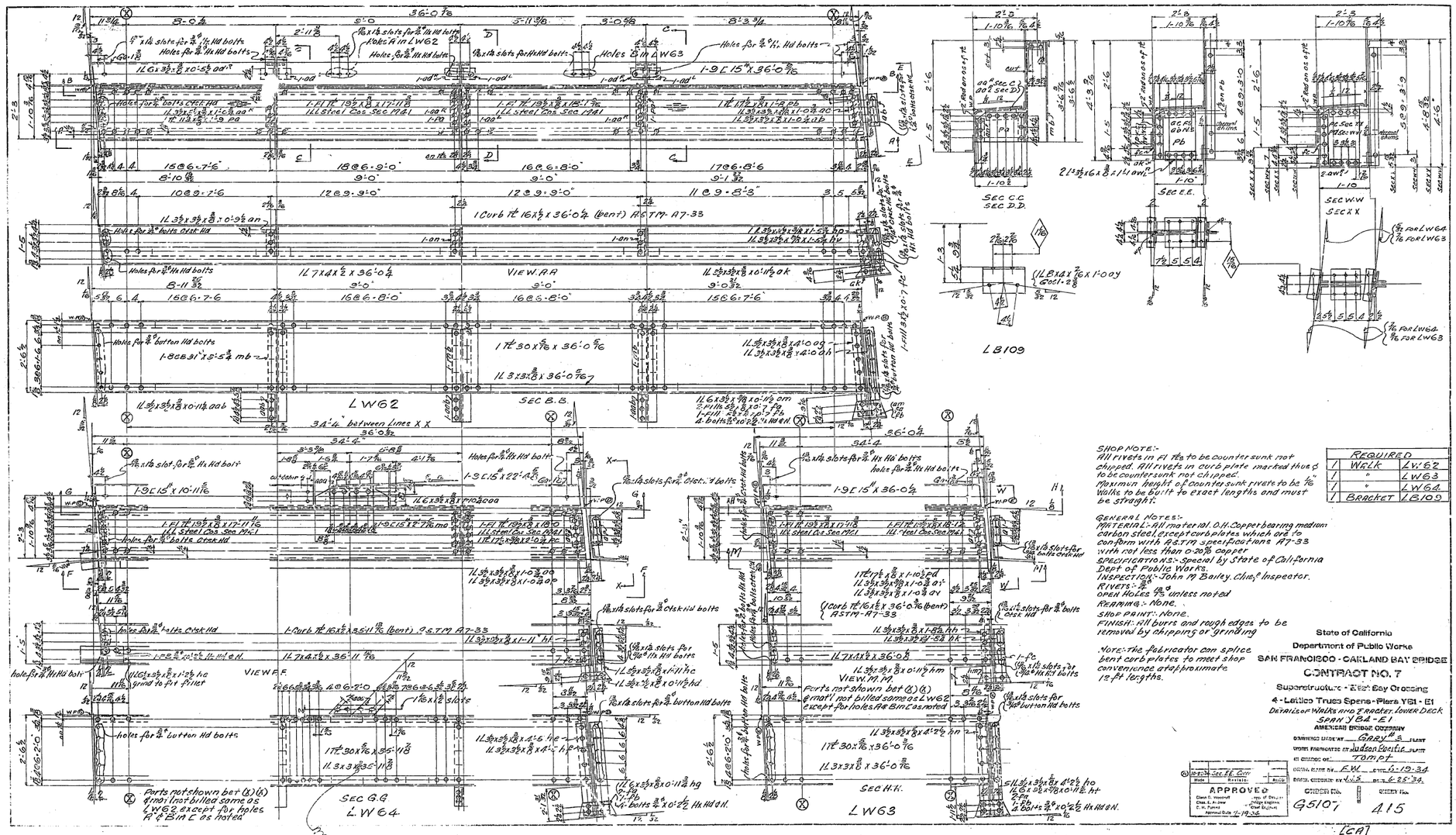
DRAWINGS MADE AT Gary Ind. PLANT
TICINT ERECTED AT Judson Pacific PLANT
TICINT MADE BY EW DATE 6-8-34
PRINTS CHECKED BY [illegible] DATE 6-15-34

ORDER No. G5107
DRG. or SHT. No. 413

[CR]


LW59
LWG0
LW61
View C.C.
Sec. DD
Sec. K.K.
Sec. F.F.
View M-M
View G.G
Sec. AA
Sec. BB
Sec. CC
Sec. EE
Sec. LL
Sec. NN
Sec. HH
Sec. MM
Sec. 0.0
Holes for 7/8" H.H. bolts
Holes for 1" H.H. bolts
Parts not shown but (x)(x) & matl. not billed same as LW59 except for holes A & B in ℄ as noted.
Parts not shown but (x)(x) & matl. not billed same as LW59 except for holes A & B in ℄ as noted.
Normal 30 m/m.
SHOP NOTE
All Rivets in Floor Plates to be ctsk. not chipped.
All Rivets in Curb Plate marked thus ⊖ to be ctsk. not chipped.
Max. height of ctsk. Rivets to be ½"
Welds must be built to exact length and must be straight.
GEN. NOTES
MATERIAL: All material O.H. Copper Bearing medium Carbon Steel, except Curb Pl's. which are to conform with A.S.T.M. Spec. A7-33 with not less than 0.20% Copper.
SPECIFICATIONS: Special by State of Cal. Dept. of Pub. Works.
INSPECTION: John M. Bailey Chief Insp.
RIVETS: ¾" ⊖ unless noted.
OPEN HOLES: 15/16" unless noted.
BEARING: None.
SHOP PAINT: None.
FINISH: All Burrs and rough edges to be removed by chipping or grinding.
The Fabricator can splice bent Curb plates to meet shop conveniences at approx. 12' lengths.
REQUIRED
1 Walk LW59
1 do LWG0
1 do LW 61
APPROVED
Chief Engr.
Asst. Engr.
Asst. Engr.
Asst. Engr.
Asst. Engr.
7-12-34
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y31 - E1
North Walks Lower Deck
Span YB4-E1.
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary #3 PLANT
WORK PERFORMED AT Jackson Pacific PLANT
BLUE PRINTS OF Tompkins
MADE BY G.E.D. DATE 6/21/34
DRAWN CHECKED BY J.J.S. DATE 6-20-34
ORDER No. G5107
SHEET No. 414

[O.R.]



SHOP NOTE:-
All rivets in A1 rds to be counter sunk not chipped. All rivets in curb plate marked thus ¢ to be countersunk not chipped.
Maximum height of countersunk rivets to be 1/16"
Walks to be built to exact lengths and must be straight.

GENERAL NOTES:-
MATERIAL:- All material O.H. Copper bearing medium carbon steel, except curb plates which are to conform with A.S.T.M. specifications A7-33 with not less than 0.20% copper
SPECIFICATIONS:- Special by State of California Dept of Public Works.
INSPECTION:- John M Bailey, Chief Inspector.
RIVETS:- ⅞" ø open holes ⅛" unless noted
REAMING:- None.
SHOP PRINT:- None.
FINISH:- All burrs and rough edges to be removed by chipping or grinding

Note:- The fabricator can splice bent curb plates to meet shop convenience at approximate 12-ft lengths.

REQUIRED		
1	Walk	LW62
1	"	LW63
1	"	LW64
1	Bracket	LB109

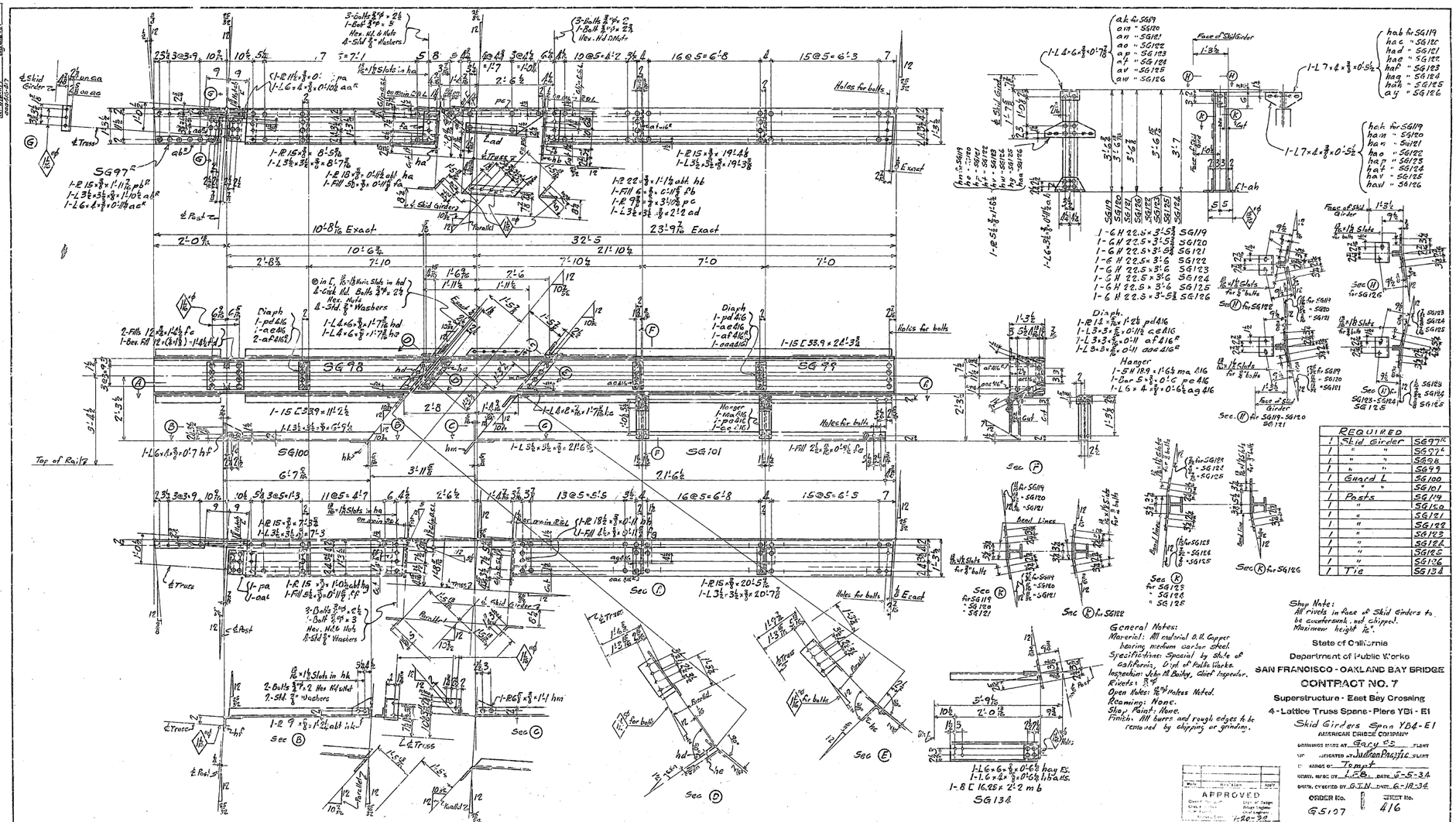
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Detail of Walks and Bracket, Lower Deck
Span YB4 - E1
AMERICAN BRIDGE COMPANY
DRAWING MADE BY Gray & FILED
WORK PERFORMED AT Judson Pacific PLANT
IN CHARGE OF Tompt
ORIGINAL MADE BY F.W.L. DATE 6-19-34
REVD. CHECKED BY W.S. DATE 6-25-34

APPROVED
Chief D. Woodruff, Dept. of Public Works
Chas. E. Andrew, Bridge Engineer
C. H. Purcell, State Highway Engineer
Approval Date 7-19-34

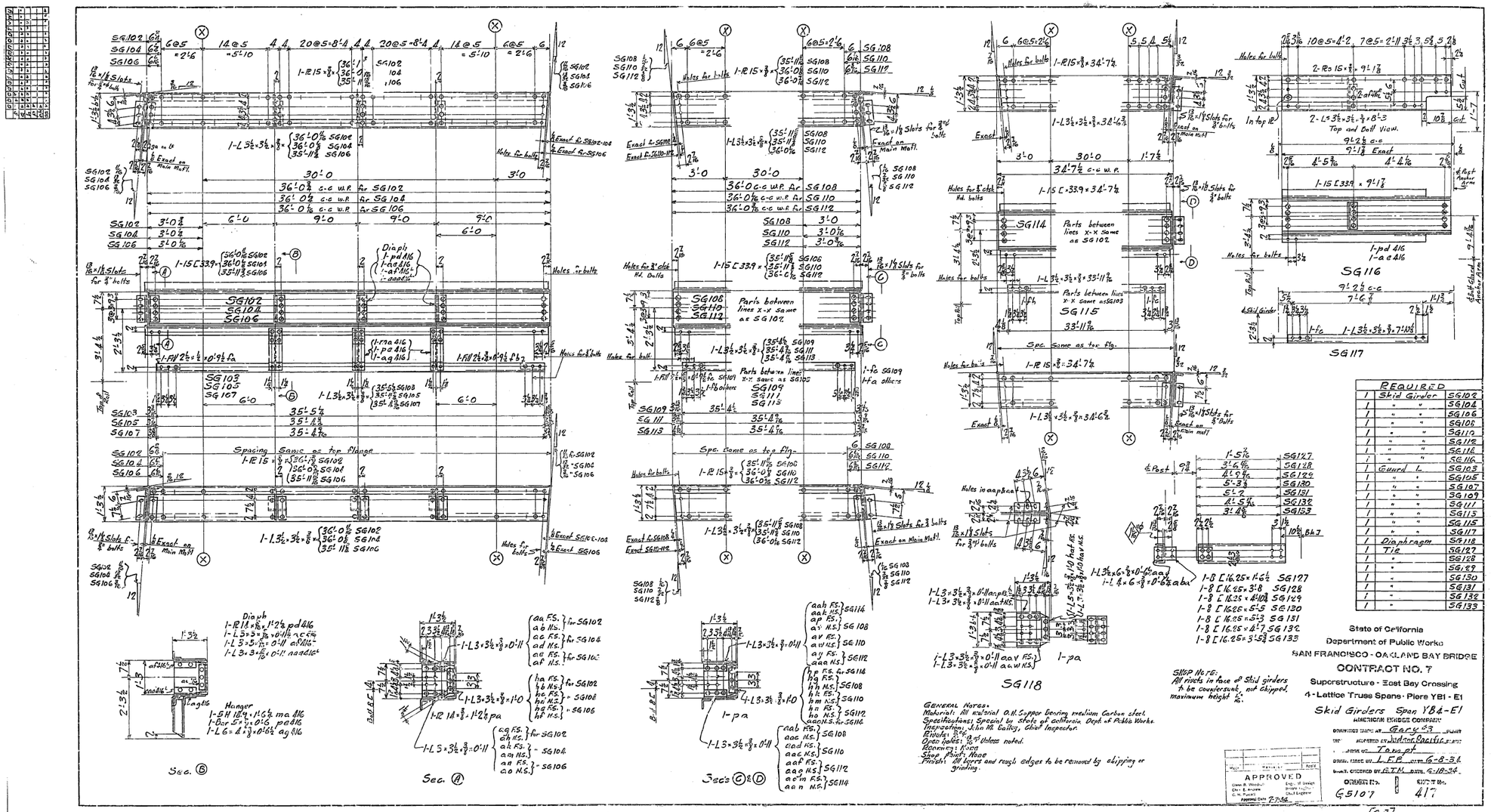
ORDER NO. G5107
ORDER No. 415

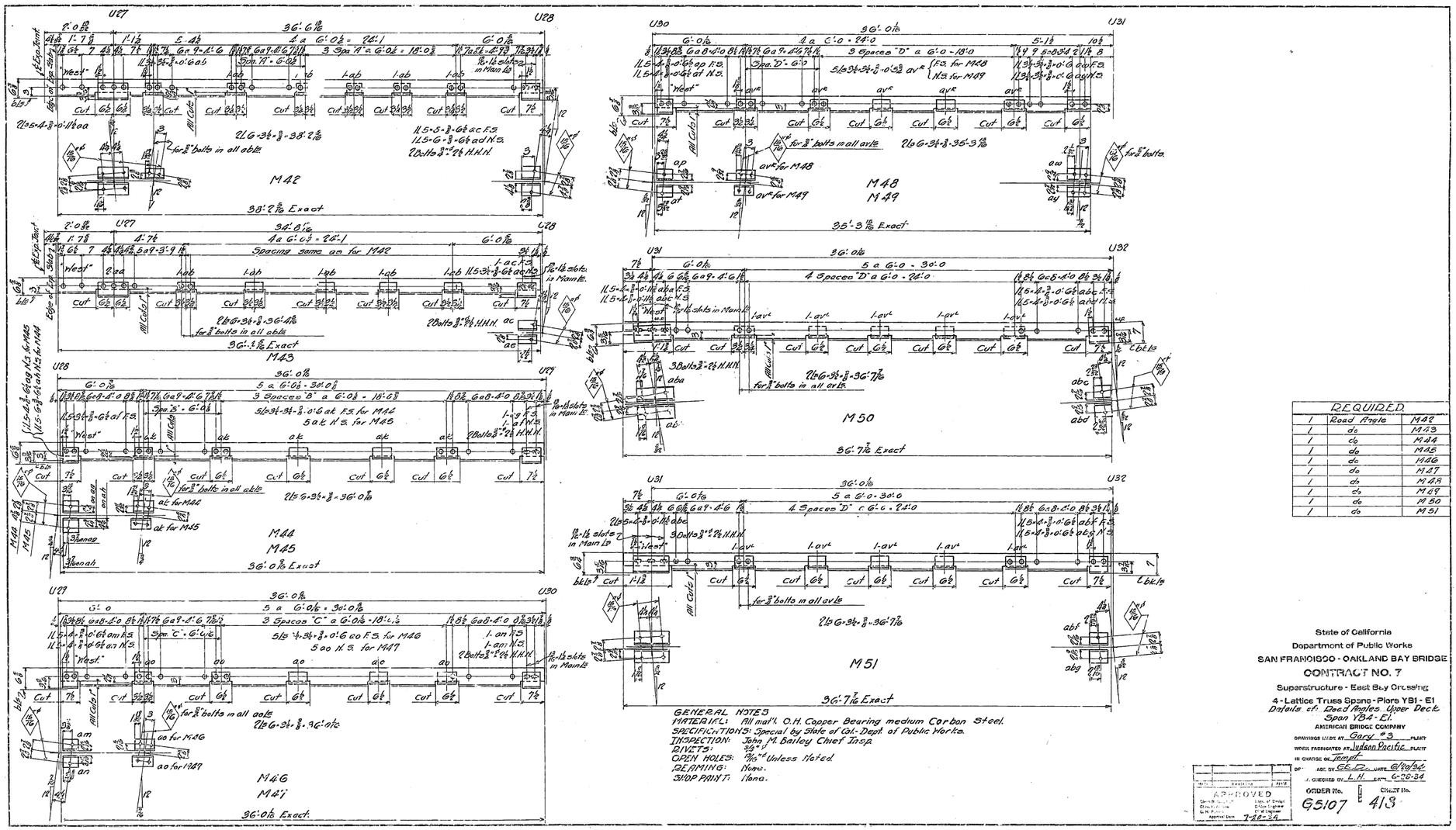
[CA]

30-1


SG97
SG98
SG99
SG100
SG101
SG130
Top of Rail
Holes for bolts
Exact
Parallel
Diaph
Hanger
Sec (A)
Sec (B)
Sec (C)
Sec (D)
Sec (E)
Sec (F)
Sec (K) for SG122
Sec (R) for SG126
Sec (V) for SG126
Bead Lines
Cut
Notes for bolts
Face of Skid Girder
Face of Stiff
Stiff
Skid Girder
Guard L
Posts
Tie
Truss
Strut
Floor Beam
Stringer
Lad
Pad
Shop Note:
All rivets in face of Skid Girders to be countersunk and chipped.
Maximum height ½".
General Notes:
Material: All material U.N. Copper bearing medium carbon steel.
Specifications: Special by State of California, Dept. of Public Works.
Inspection: John M. Bailey, Chief Inspector.
Rivets: ⅞"ø
Open Holes: 15/16" ø unless noted.
Reaming: None.
Shop Paint: None.
Finish: All burrs and rough edges to be removed by chipping or grinding.
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Skid Girders Span YB4 - E1
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary IND. FLOAT
DESIGNATED AT Jackson Pacific FLOAT
DESIGNS OF Tompt
DRAWN, TRACED BY L.B.B. DATE 6-5-34
DRAWN, CHECKED BY G.I.N. DATE 6-12-34
ORDER No. G5107
SHEET No. 416
APPROVED
1-20-34
REQUIRED
1 Skid Girder SG97
1 " " SG98
1 " " SG99
1 Guard L SG100
1 " " SG101
1 Posts SG119
1 " SG120
1 " SG121
1 " SG122
1 " SG123
1 " SG124
1 " SG125
1 " SG126
1 Tie SG134
[C6]

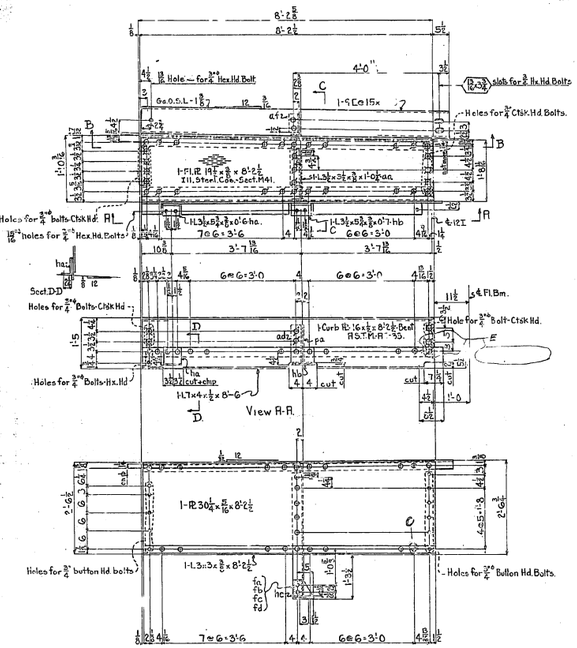
30-1


Sec. B
Sec. A
Secs C & D
SG118
SG116
SG117
Spacing Same as top flange
Parts between lines X-X Same as SG102
Parts between lines X-X Same as SG103
Parts between lines X-X Same as SG105
Parts between lines X-X Same as SG106
Parts between lines X-X Same as SG109
Parts between lines X-X Same as SG110
Parts between lines X-X Same as SG112
Spc. Same as top flg.
Holes for bolts
Exact on Main Mstl.
Exact to SG102-108
Exact to SG106
Exact to SG108
Exact to SG110-112
Holes for 3" elect. Rd. bolts
Holes for 3" elect. Rd. bolts
Holes for 3" elect. Rd. bolts
Holes in cap & cap
Top of Girder
Top Rail
Top Rail
Top Rail

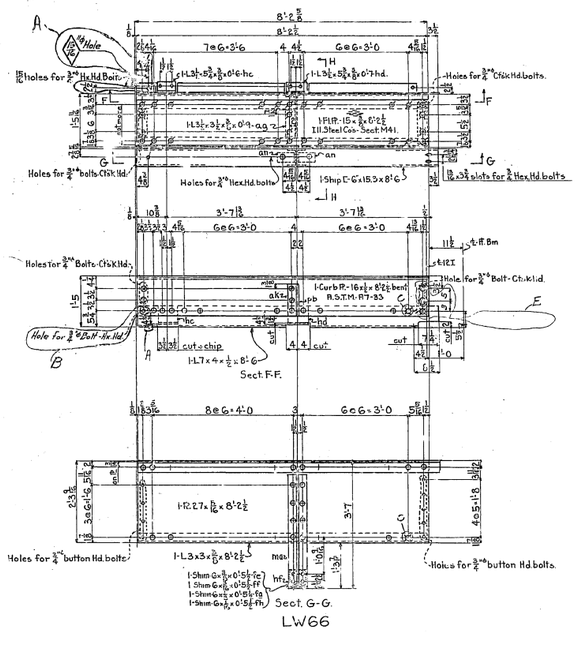


REQUIRED		
1	Road Angle	M42
1	do	M43
1	do	M44
1	do	M45
1	do	M46
1	do	M47
1	do	M48
1	do	M49
1	do	M50
1	do	M51

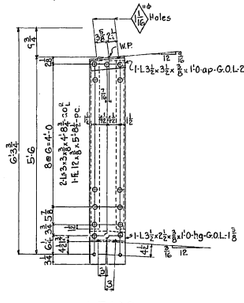
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Deed Angles, Upper Deck
Span YB4 - E1.
AMERICAN BRIDGE COMPANY
DRAWINGS LOFT AT Gary #3 PLANT
WORK FABRICATED AT Judson Pacific PLANT
IN CHARGE OF Tempel
DET. BY GL.D. DATE 6/20/34
CHECKED BY L.H. DATE 6-26-34
APPROVED
Chief Engineer
Engineer of Bridges
Engineer of Design
Approved June 7-27-34
ORDER No. G5107
SHEET No. 413

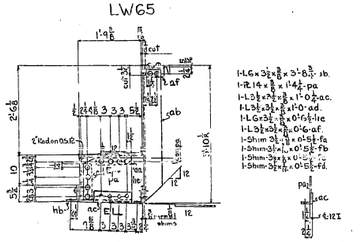


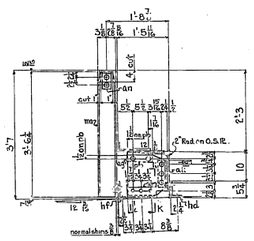
Sect. B-B
LW65



Sect. G-G.
LW66







Required		
1	Walk	LW65
1	do.	LW66
1	Bracket	LB108

Shop Notes.
All rivets in floor plates to be countersunk not chipped.
All rivets in curb plates marked thus ⊙ or Ø to be countersunk not chipped.
Maximum height of countersunk rivets to be 1/16".
Walks to be built to exact lengths & must be straight.

General Notes.
Material:- All material O.H. Copper Bearing medium Carbon Steel, except curb plates which are to conform with A.S.T.M. specifications M7-33 with not less than 0.20% copper.
Specifications:- Special by State of California Dept. of Public Works.
Inspection:- John M. Bailey, Chief Inspector.
Rivets - 3/4"ø
Open holes: 13/16" unless noted.
Reaming - None
Shop Paint - None
Finish:- All burrs & rough edges to be removed by chipping or grinding

State of California.
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of Walks, Curbs & Bracket - Lower Deck
Span YB4-E1
AMERICAN BRIDGE COMPANY

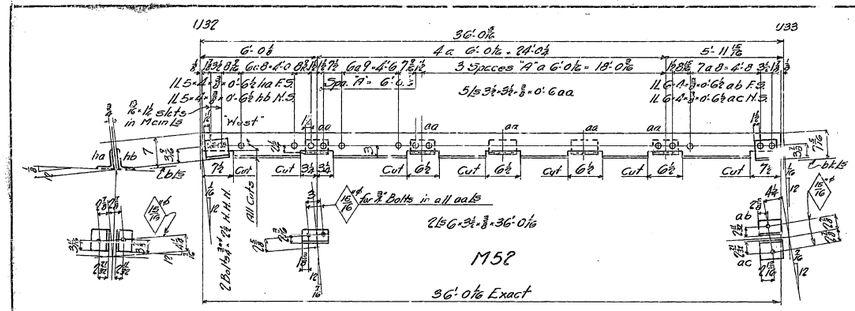
(E) 10-23-36 Add Cal. Holes & Rivets
(D) 9-23-36 Cor. Holes
(C) 7-3-36 Cal. Rivets
(B) 6-23-36 Corr. Rivets to Countersunk
(A) 6-12-36 Add Holes in curb & Rivets
REVISIONS

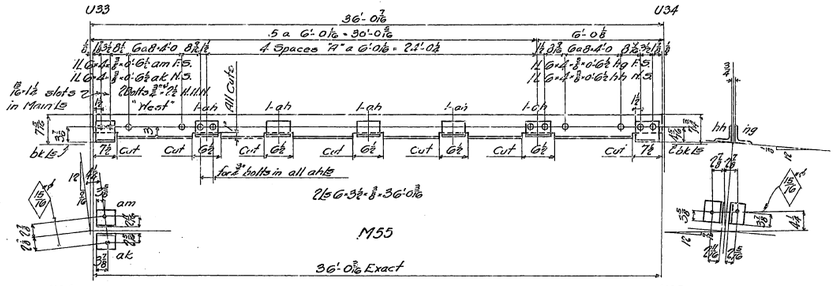
APPROVED
Chief Engineer
Engineer of Design
Chief Engineer
Dated: 7-20-36

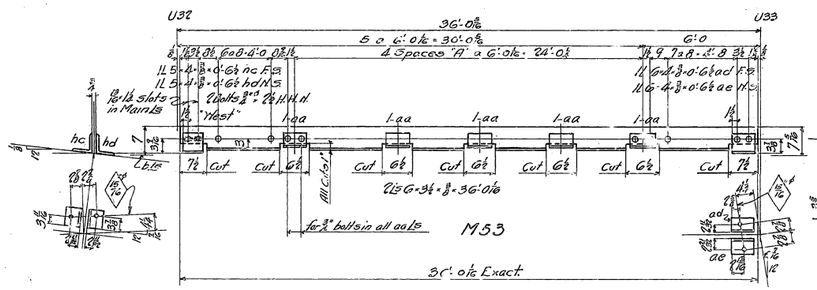
DRAWING MADE BY Gabriel B.
TRACED BY C.B.T.
CHECKED BY Jan
WORK INSPECTED BY Andrew Partlin
DATE 6-19-36
DATE 6-20-36
DATE 6-20-36
ORDER No. G5107
SHEET No. 41

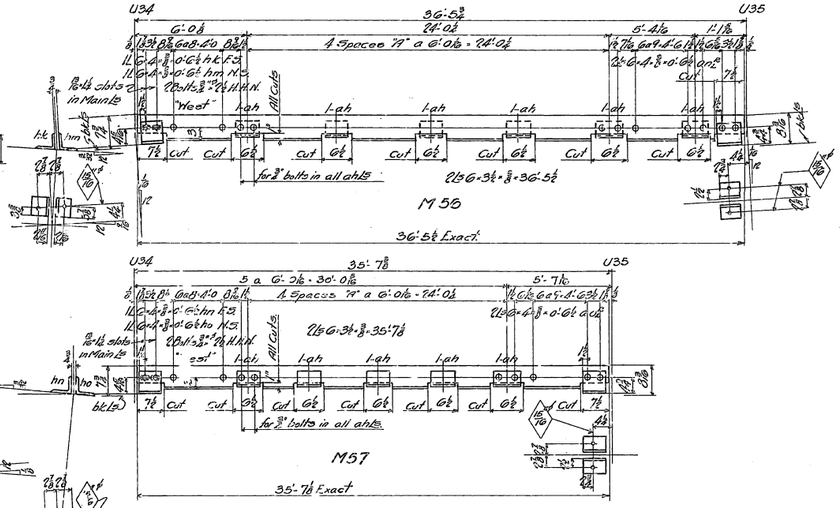
[C.J.]

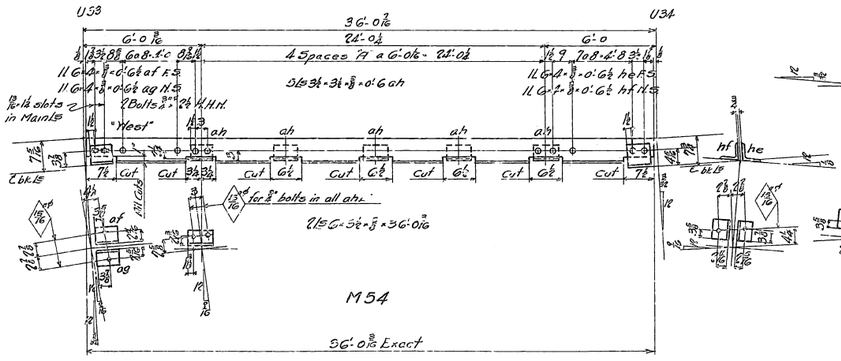
30-1







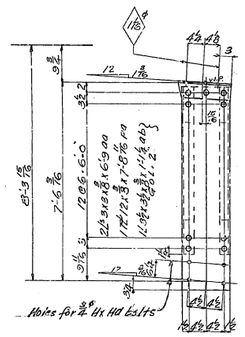




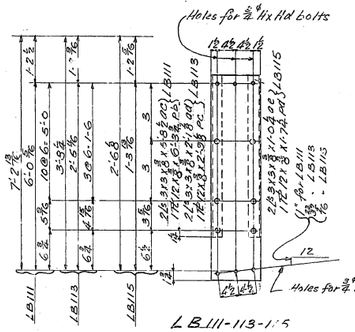
REQUIRED		
1	Road Angle	M 52
1	do	M 53
1	do	M 54
1	do	M 55
1	do	M 56
1	do	M 57

GENERAL NOTES:
MATERIAL: All mat'l. O.H. Copper Bearing medium Carbon steel.
SPECIFICATIONS: Special by State of Cal. Dept. of Public Works.
INSPECTION: John M. Bailey. Chief Insp.
RIVETS: ⅞" ϕ
OPEN HOLES: 15/16" ϕ Unless Noted.
REAMING: None:
SHOP PAINT: None:

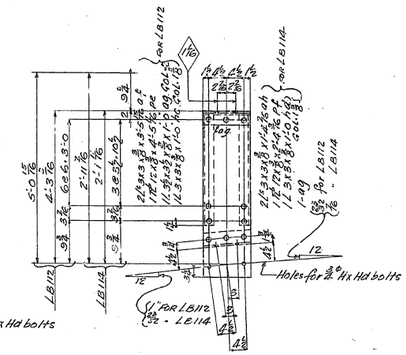
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
Details of: Road Angles Upper Deck
Span YB4-E1
AMERICAN BRIDGE COMPANY
DRAWING CHART BY Gary '48 PLANT
WORK FABRICATED BY Judson Pacific PLANT
IN CHARGE OF Temple
DETAILED BY GEO. DATE 6/25/38
TRACED BY L.H. DATE 6-28-38
CHECKED BY DATE
ORDER NO. G5107
DRAWING NO. 420



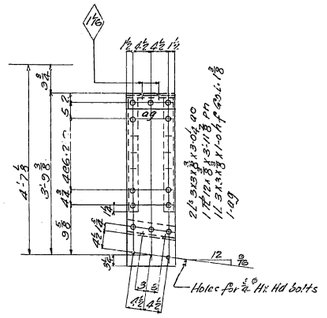
LB 110



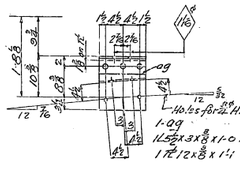
LB 111-113-115



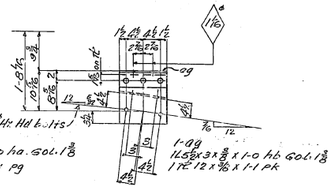
LB 112-114



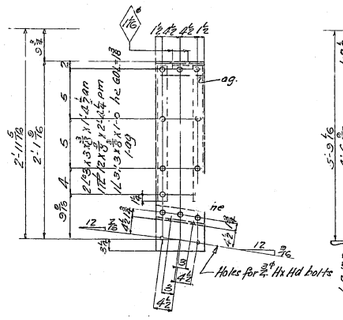
LB 121



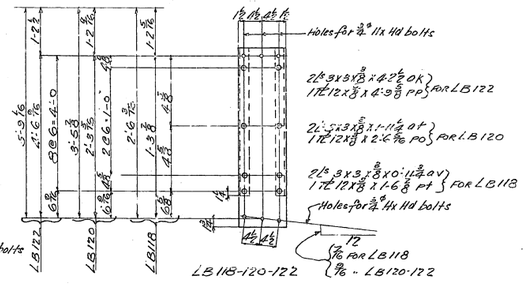
LB 116



LB 117



LB 119



LB 118-120-122

REQUIRED		
1	BRACKET	LB 110
1	"	" 111
1	"	" 112
1	"	" 113
1	"	" 114
1	"	" 115
1	"	" 116
1	"	" 117
1	"	" 118
1	"	" 119
1	"	" 120
1	"	" 121
1	"	" 122

GEN NOTES:-
MATERIAL:- All material O.H. Copper Bearing medium carbon steel, with not less than 0.20% Copper.
SPECIFICATIONS:- Special by the State of California Dept of Public Works.
INSPECTION:- John M Bailey, Chief Inspector.
RIVETS ⅞"
OPEN HOLES 13/16" unless noted
REAMING:- None.
SHOP PAINT:- None.
FINISH:- All burrs and rough edges to be removed by chipping or grinding

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers T91 - E1
DETAILS OF BRACKETS LOWER DECK SPAN YBA-E1

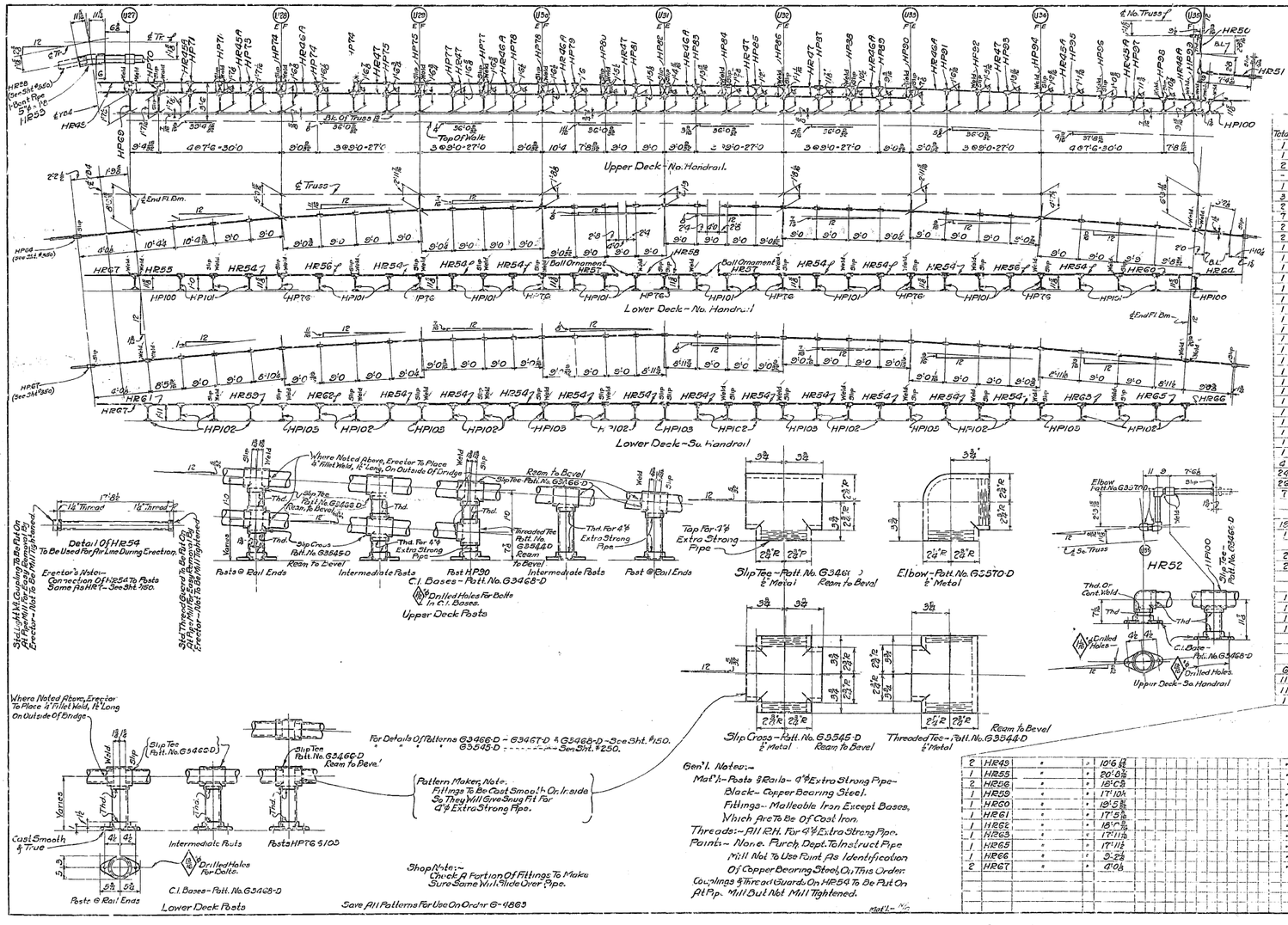
AMERICAN BRIDGE COMPANY
WORK MADE AT Gary No 3 PLANT
WORK FABRICATED AT Judson Pacific PLANT
IN CHARGE OF TOMPT
DRAWN MADE BY F.W. DATE 6-25-34
DRAWN CHECKED BY J.J.S. DATE 6-26-34

APPROVED			
CHIEF ENGINEER			
APPROVED DATE	7-20-34		

ORIGINAL No. G5107
CONTRACT No. 421

[CB]

30-1



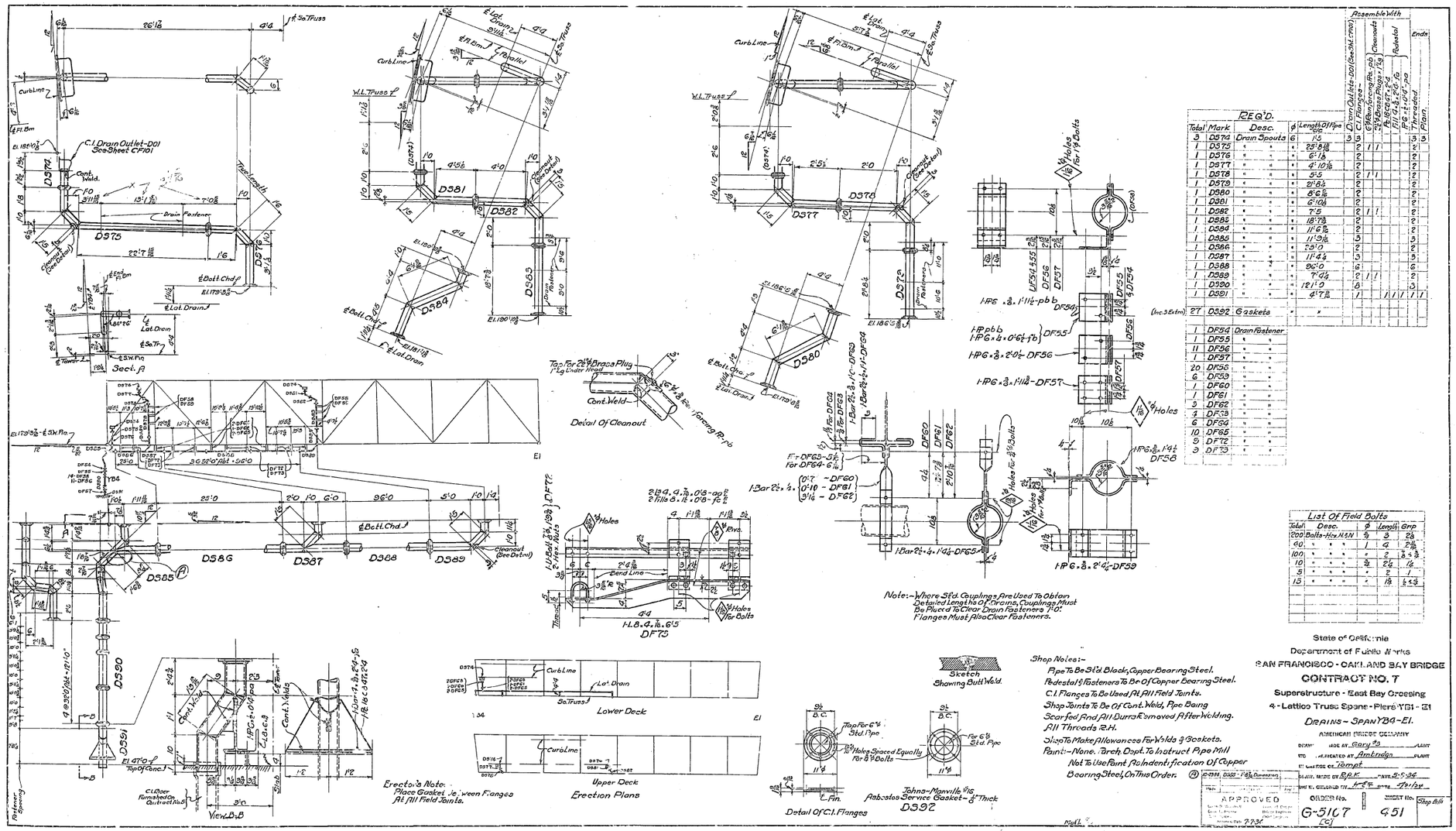
Total	Mark	Reqd. Desc.	℄	Length Batt To Ctr. Toe	Assemble With: Light Wt. Couplings	Inverted Gaskets	Ball Ornament - Patt. No. G3457D	Slip - 0'-4½" Ext.	Slip Tee - Patt. No. G3466D	Elbow - Patt. No. G3570D	Slip Cross - Patt. No. G3545D	Elbow - Patt. No. G3570D	Threaded Tee - Patt. No. G3544D	Slip Cross - Patt. No. G3545D	Ends
1	HP69	Hand Rail Post	℄	2'7½										1	/
1	HP70	" "	"	2'7⅞										1	/
2	HP71	" "	"	2'8⅛				2						2	/
–	–	–	–	–											
1	HP73	" "	"	2'11⅛				1						1	/
3	HP74	" "	"	2'6⅜				3						3	/
2	HP75	" "	"	2'6⅝				2						2	/
1	HP76	" "	"	0'11⅜				1						1	/
2	HP77	" "	"	2'6⅞				2						2	/
2	HP78	" "	"	2'6⅞				2						2	/
1	HP79	" "	"	2'6				1						1	/
1	HP80	" "	"	2'5⅛				1						1	/
1	HP81	" "	"	2'5⅛				1						1	/
1	HP82	" "	"	2'4⅜					1					1	/
1	HP85	" "	"	2'3⅜					1					1	/
1	HP84	" "	"	2'2⅜					1					1	/
1	HP85	" "	"	2'1⅜					1					1	/
1	HP86	" "	"	2'1⅛					1					1	/
1	HP87	" "	"	1'11⅞					1					1	/
1	HP88	" "	"	1'10⅝					1					1	/
1	HP89	" "	"	1'9⅝					1					1	/
1	HP90	" "	"	1'7⅞					1					1	/
1	HP91	" "	"	1'6⅞					1					1	/
1	HP92	" "	"	1'5⅛					1					1	/
1	HP93	" "	"	1'3⅜					1					1	/
1	HP94	" "	"	1'2⅜					1					1	/
1	HP95	" "	"	1'1⅜					1					1	/
1	HP96	" "	"	1'0⅜					1					1	/
1	HP97	" "	"	0'11⅜					1					1	/
1	HP98	" "	"	0'10⅝					1					1	/
1	HP99	" "	"	0'9⅝					1					1	/
4	HP100	" "	"	0'11⅜				4						4	/
24	HP101	" "	"	1'0				24						24	/
26	HP102	" "	"	1'11				26						26	/
7	HP103	" "	"	1'11				7						7	/
				Length Out to Out											
19	HR54	Hand Rail	4	17'9½	19 19										/
1	HR53	Bent Hand Rail	5	1'8											
				Length End of Bolt to End											
2	HR57	Hand Rail	4	20'8½	2 2										/
2	HR58	"	"	11'4	2 2										/
				Total No.											
1	HR50	Bent Hand Rail	4	5'4⅞										2	See Detail
1	HR51	Hand Rail	"	8'-3⅜											/
1	HR64	Bent Hand Rail	"	5'-2⅜											/
1	HR52	Hand Rail	"	See Detail										1	5 See Detail
				Length No.											
6	HR65A	Hand Rail	4	15'0											/
11	HR66A	"	"	18'0⅜											/
11	HR67	"	"	18'0											/
1	HR68A	"	"	8'6⅛											See Detail
2	HR49	"	"	10'6⅛											/
1	HR55	"	"	20'0⅜											/
2	HR56	"	"	18'0⅜											/
1	HR59	"	"	17'10⅛											/
1	HR60	"	"	18'5⅜											/
1	HR61	"	"	17'5⅜											/
1	HR62	"	"	18'0⅜											/
1	HR63	"	"	17'11⅛											/
1	HR65	"	"	17'11⅛											/
1	HR66	"	"	5'-2⅜											/
2	HR67	"	"	4'0⅜											/

Gen'l. Notes:-
Mat'ls:- Posts & Rails - 4½ Extra Strong Pipe - Black - Copper Bearing Steel.
Fittings - Malleable Iron Except Bases, Which Are To Be Of Cast Iron.
Threads:- All R.H. For 4½ Extra Strong Pipe.
Paints - None. Purch. Dept. To Instruct Pipe Mill Not To Use Paint As Identification Of Copper Bearing Steel On This Order.
Couplings & Thread Guards On HR54 To Be Put On At Pip. Mill But Not Mill Tightened.

Mat'l - "N"

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers YB1 - E1
HAND RAILING - SPANS Y04 - E1
AMERICAN BRIDGE COMPANY
DETAILS MADE BY Gary ½ PLANT
FABRICATED AT Ambridge PLANT
ERECTED BY Tompt
TRACED BY R.R.K. DATE 6-3-34
DETAILS CHECKED BY A.D.H. DATE 6-11-34
ORDER No. G-5107
SHEET No. 450
Sheet No. 1 of 2 Sheets

30-51

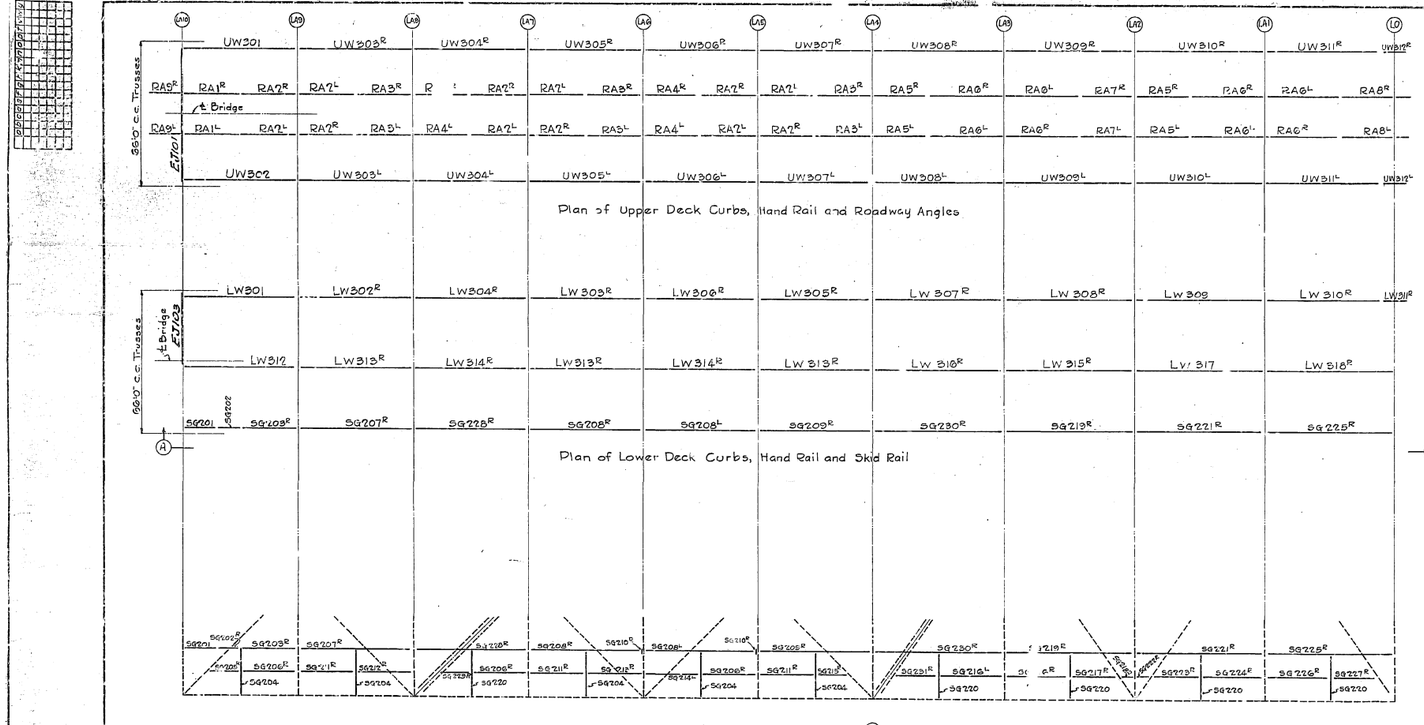


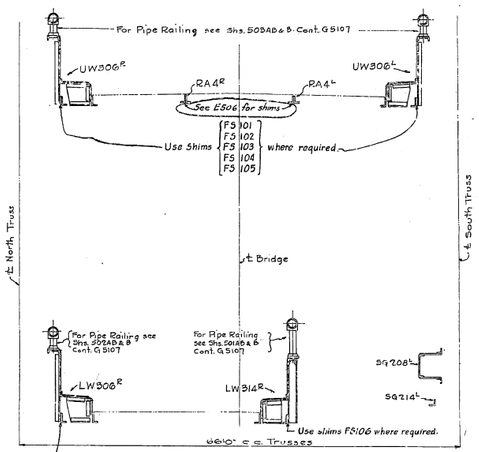
REQ'D. Total	Mark	Desc.	ø	Length of Pipe	Assemble With: C.I. Flanges	Diam. Outlets-D01 (See Sht. CF101)	Cleanouts	Reducers	Bushings	Ends: Threaded	Plain
3	D574	Drain Spouts	6	1'5	3	3					3
1	D575	" "	"	25'8⅝	2		1			2	
1	D576	" "	"	6'1⅝	2					2	
1	D577	" "	"	4'10⅛	2					2	
1	D578	" "	"	5'5	2		1			2	
1	D579	" "	"	21'8½	2					2	
1	D580	" "	"	8'6⅝	2					2	
1	D581	" "	"	6'10⅜	2					2	
1	D582	" "	"	7'5	2	1	1			2	
1	D583	" "	"	18'7⅜	2					2	
1	D584	" "	"	11'6⅝	2					2	
1	D585	" "	"	11'9⅛	3					3	
1	D586	" "	"	7'9'0	6					6	
1	D587	" "	"	11'4½	3					3	
1	D588	" "	"	9'6'0	6					6	
1	D589	" "	"	7'4½	2	1	1			2	
1	D590	" "	"	12'1'0	6					6	
1	D591	" "	"	4'7⅜	1			1	1	1	1
(Inc. 3 Extra)	27	D592	Gaskets		"						
1	DF54	Drain Fastener									
1	DF55	" "									
11	DF56	" "									
1	DF57	" "									
20	DF58	" "									
6	DF59	" "									
1	DF60	" "									
1	DF61	" "									
1	DF62	" "									
3	DF63	" "									
6	DF64	" "									
10	DF65	" "									
9	DF72	" "									
9	DF73	" "									

List Of Field Bolts					
Total	Desc.	ø	Length	Grip
200	Bolts-Hex. H.S.N	¾	3	2⅜
60	" " "	"	4	2⅜
100	" " "	"	2	2⅜ & ⅜
10	" " "	⅞	2½	1⅛
5	" " "	"	2	1
15	" " "	"	1⅜	½ & ⅝

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
4 - Lattice Truss Spans - Piers Y61 - E1
DRAINS - SPAN Y64 - E1.
AMERICAN BRIDGE COMPANY
DRAWN: ADE BY Gary '34 PLANT
TD: ...ATED AT Ambridge PLANT
TH CHECKED BY Tempt
A 2-9-34, D582 - 7'6" Dimensions; ...ADE BY E.A.K. DATE 2-5-34
...ADE BY: ...CHECKED BY K.F.S. DATE 4-11-34
APPROVED
ORDER No. G-5167 [C]
SHEET No. 451
Shop Bills

E501





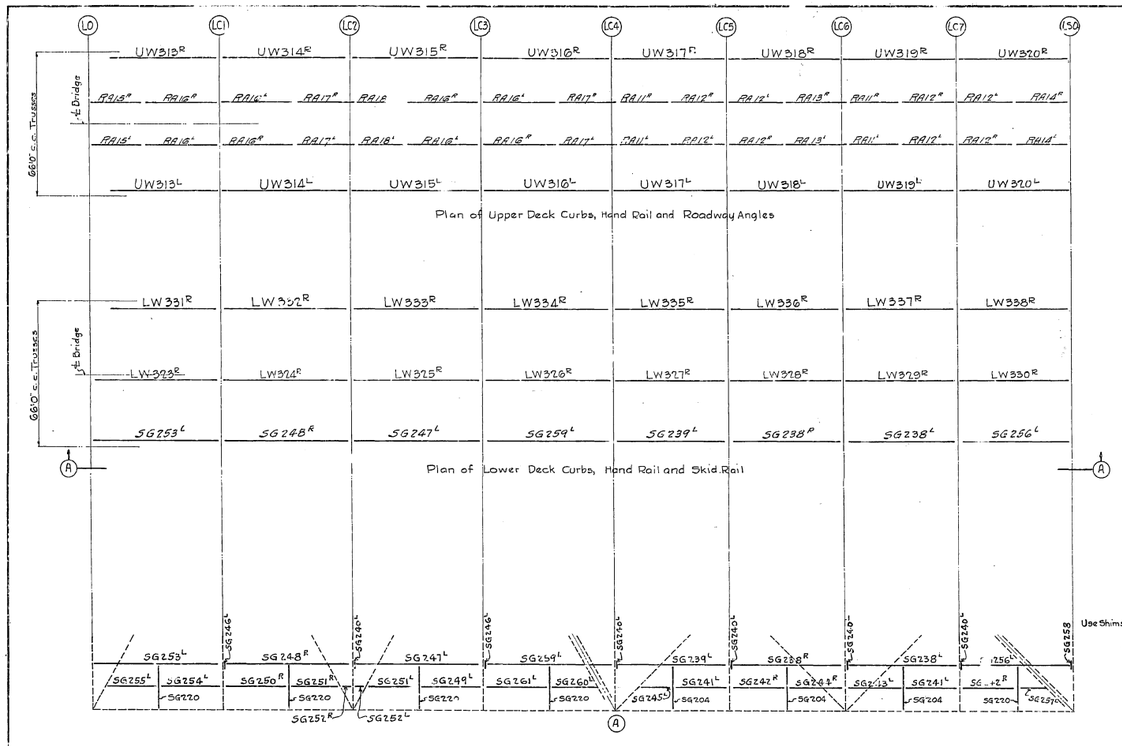
INDEX TO DRAWINGS - WEST ANCHOR ARM

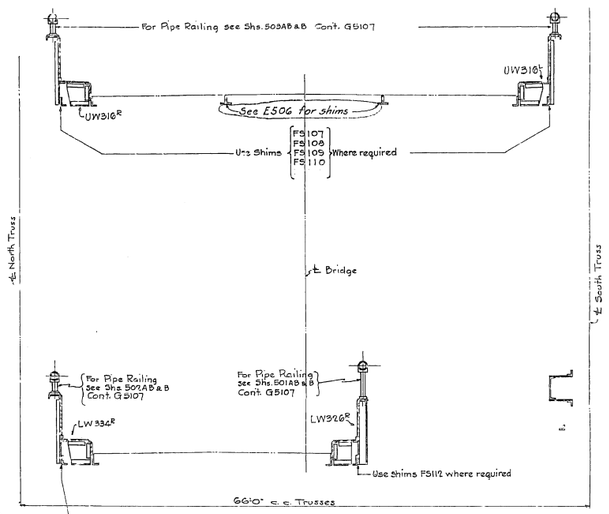
E501	Erection Diagram
526	Expansion Joint
527	Slab Angles
B51 to B56	Skid Rail
B61 to B84	Hand Rail - North Curb - Lower Deck
B86 & B87	Hand Rail - South Curb - Lower Deck
B88 to B92	Hand Rail - North & South Curb - Upper Deck
C51 & C52	Field Rivets & Bolts
C11	Shims for Slab Angles

APPROVED
Chief Engr. of Design
Bridge Engineer
Steel Engineer
Approved Date 1-15-36

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure West Anchor Arm
Erection Diagram for Curbs, Roadway Angles, Hand Rail and Skid Rail
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary PLANT
WORK FABRICATED AT Ind PLANT
IN CHARGE OF Wilkinson
DETAIL MADE BY C.T.S. DATE 8-6-36
DETAIL CHECKED BY [illegible] DATE 9-20-36
ORDER No. G5107
DRGMT No. E501

Rev 9-5-36





INDEX TO DRAWINGS - WEST CANTILEVER ARM

E502	Erection Diagram
597	Slab Angles
557 to 561	Skid Rail
593 & 594	Hand Rail - South Curb - Lower Deck
595 to 598	Hand Rail - North Curb - Lower Deck
599 to 602	Hand Rail - North & South Curb - Upper Deck
C15	Shims for Slab Angles

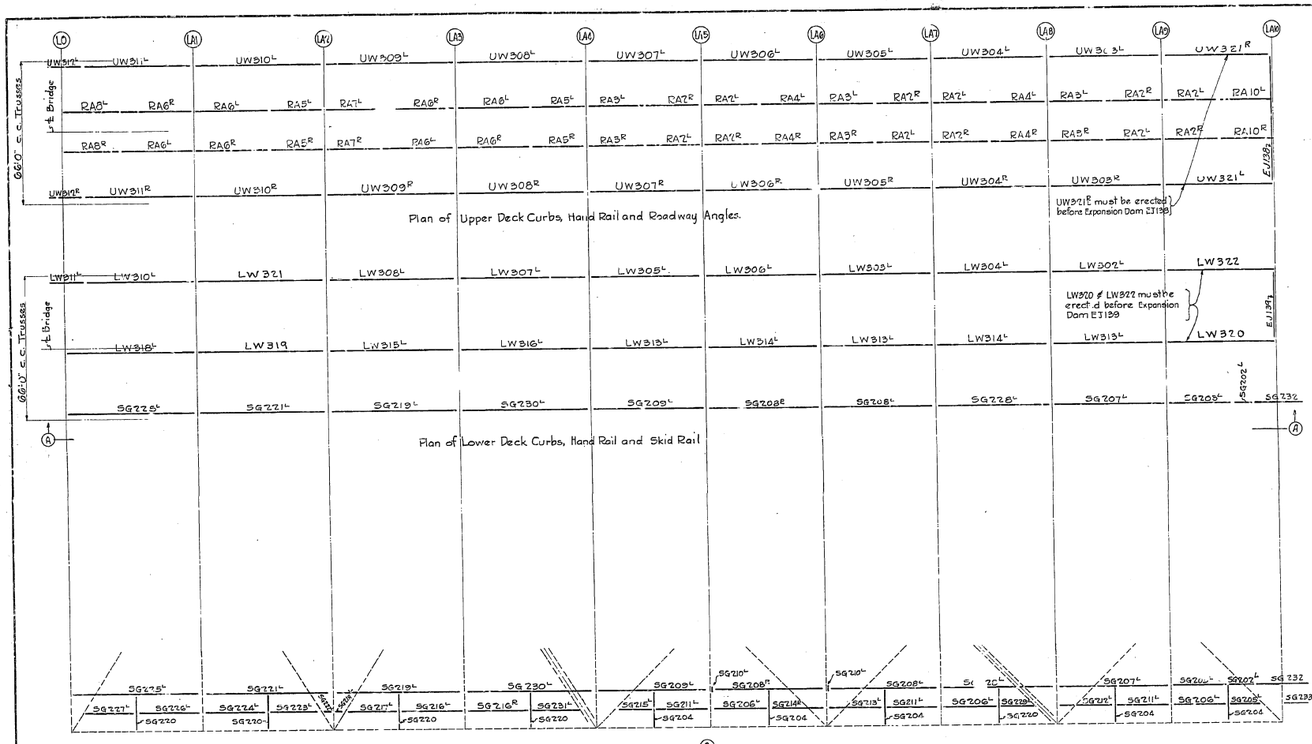
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure West Cantilever
Erection Diagram for Curbs, Hand Rail, Roadway Angles & Skid Rails
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary PLANT
& FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DRAWN, TRACED BY S.T.S. DATE 8-7-36
DRAWN, CHECKED BY DATE

Mark	Revision	Date

APPROVED
Glenn B. Woodruff, Engr. of Design
Chris E. Andreen, Project Engineer
C. H. Purcell, Bridge Engineer
Approved Date 1-16-37

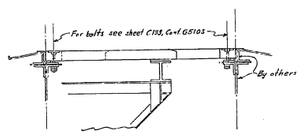
ORDER No. G5107
SHEET No. E502

Rel 3-1-37



INDEX TO DRAWINGS - EAST ANCHOR ARM

E503	Erection Diagram
B27	Slab Angles
5781 to 530	Expansion Grating
531	Expansion Dam at E4
551 to 559 & 562	Skid Rail
581 to 585	Hand Rail - North Curb - Lower Deck
586-587 & 604	Hand Rail - South Curb - Lower Deck
588 & 590 & 603	Hand Rail - North & South Curb - Upper Deck
C12	Shims for Slab Angles



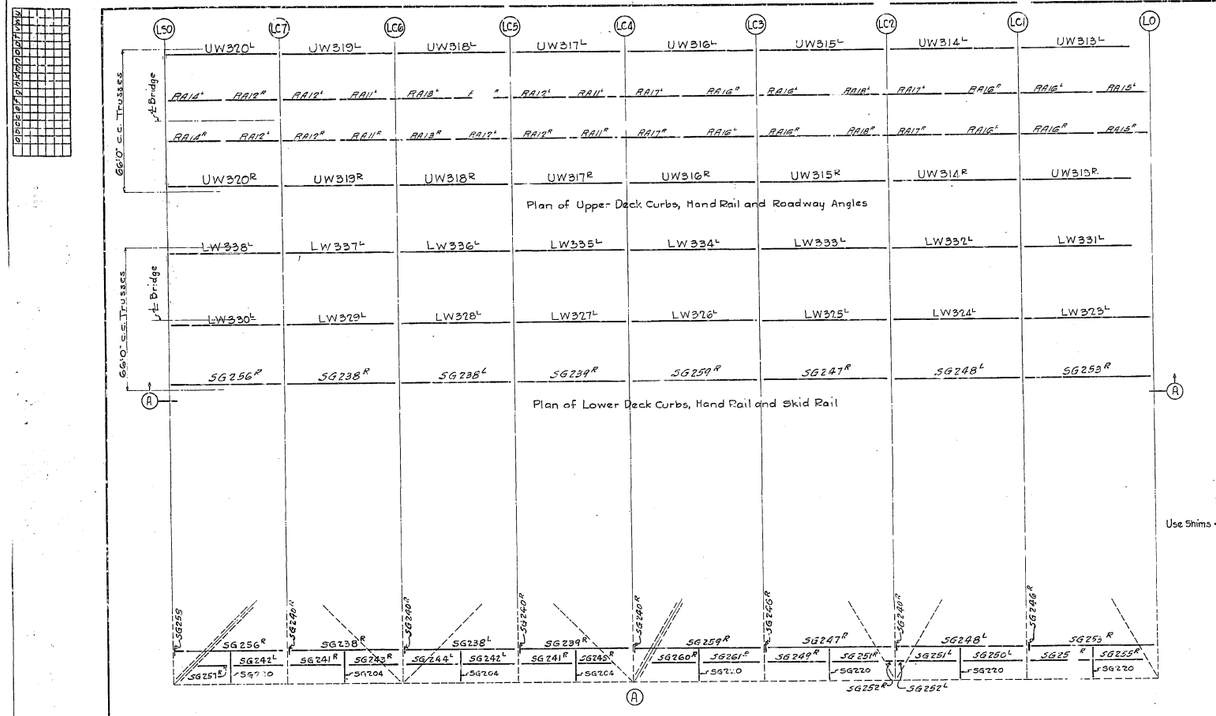
Sec. BB

Mark	Revision	Appd

APPROVED
Engr. of Bridge
Bridge Engineer
1-15-35

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure East Anchor Arm
Erection Diagram for Curbs, Hand Rail, Roadway Angles and Skid Rail
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary Ind. PLANT
WORK FABRICATED AT Ambl. PLANT
CHARGE OF Wilkinson
DRAWN, TRACED BY S.T.S. DATE 8-9-34
DRAWN, CHECKED BY ____ DATE ____
ORDER No. G5107
SHEET No. E503

Rev 3-6-35



INDEX TO DRAWINGS - EAST CANTILEVER ARM

E504	Erection Diagram
532	Slab Angles
557 to 561	Skid Rail
593 & 594	Hand Rail - South Curb - Lower Deck
595 to 598	Hand Rail - North Curb - Lower Deck
599 to 607	Hand Rail North & South Curb - Upper Deck
C14	Shims for Slab Angles

State of California
Department of Public Works
SAN FRANCISCO OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure East Cantilever
Erection Diagram for Curbs, Hand Rail, Roadway Angles and Skid Rail
AMERICAN BRIDGE COMPANY

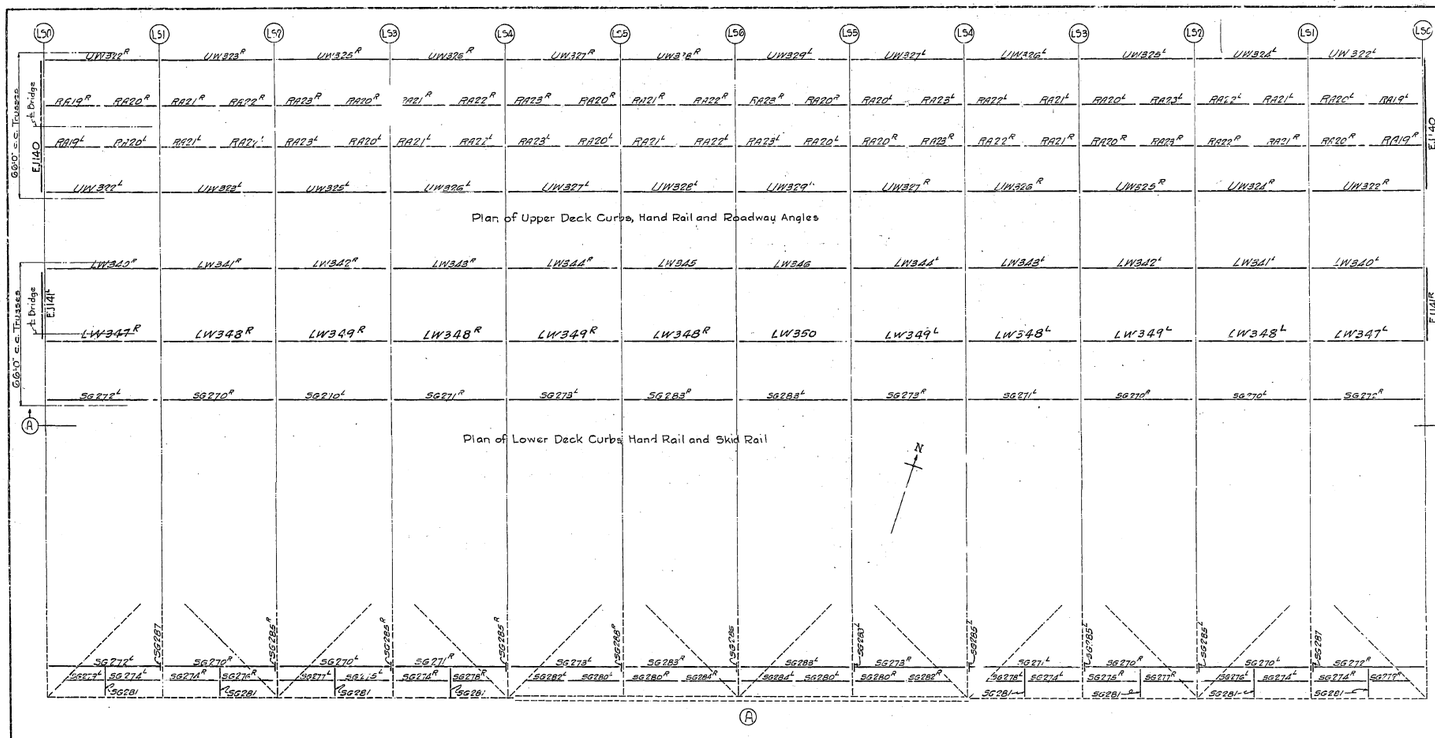
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Amb. PLANT
IN CHARGE OF Wilkinson
DRAFT. TRACE BY S.J.S. DATE 8-8-36
DRAW. CHECKED BY DATE

Mark	Revisions	Date

APPROVED
Comm. In Woodruff, Chas. C. Kerlee, C. H. Purcell
Engr. of Design, Bridge Engineer, Chief Engineer
Approval Date 1-15-36

ORDER No. G5107
SHEET No. E504

(Rev 9-5-36)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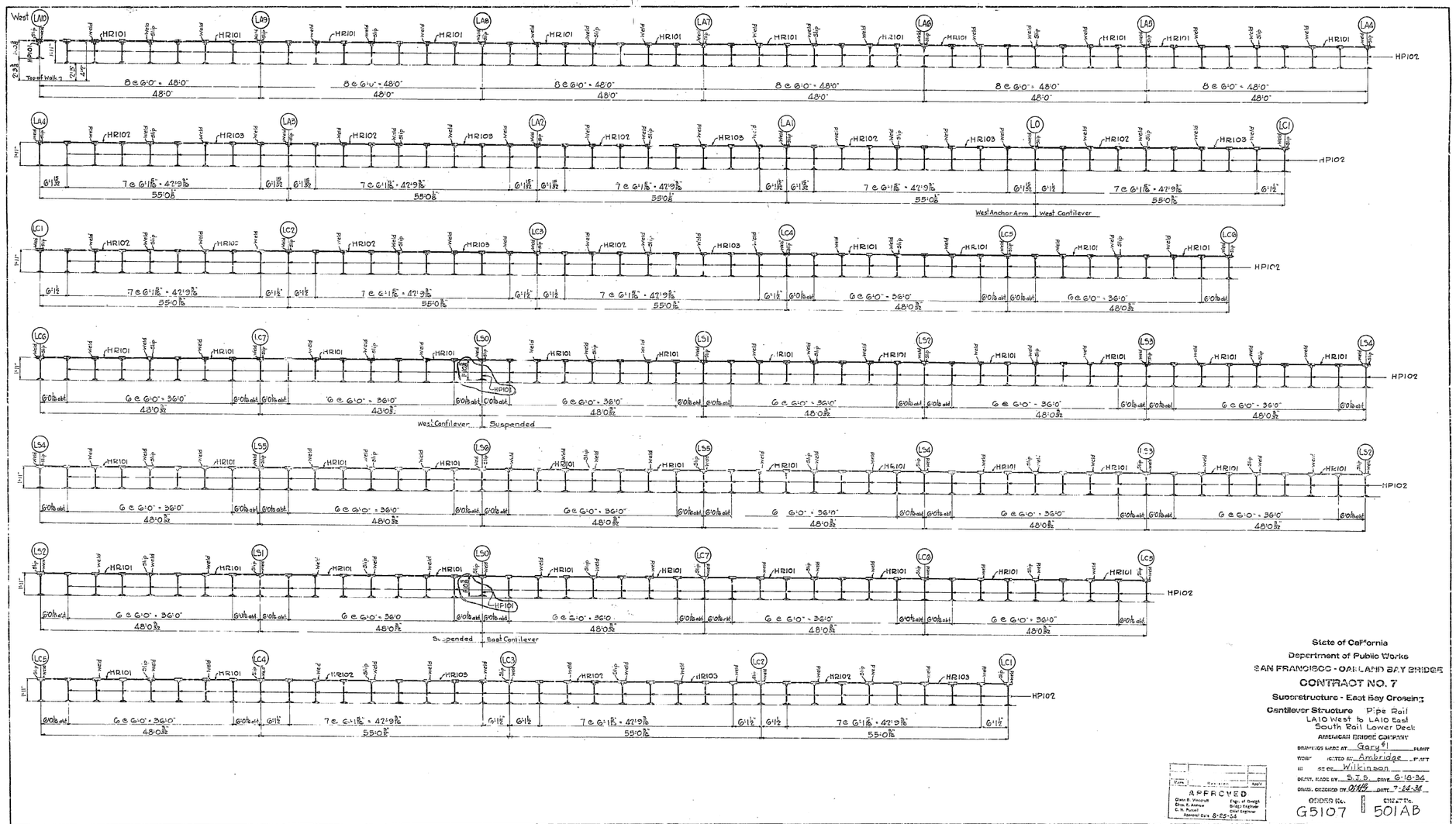

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Substructure - East Bay Crossing
Cantilever Structure Pipe Rail
LA10 West to LA10 East
South Rail Lower Deck
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT: Gary #1 PLANT
WORK VISITED BY: Ambridge P. OFF
" SEE ALSO: Wilkinson
DETAIL MADE BY: S.I.D. DATE: 6-10-36
DRAWN, CHECKED BY: DHG DATE: 7-24-36

APPROVED
Glenn B. Woodruff, Engr. of Design
Edna T. Avance, Bridge Engineer
C. H. Purcell, Chief Engineer
Approved Date: 8-25-36

ORDER No. G5107
STRUCT. No. 501AB

[CC]

Rev. 11-21-36.

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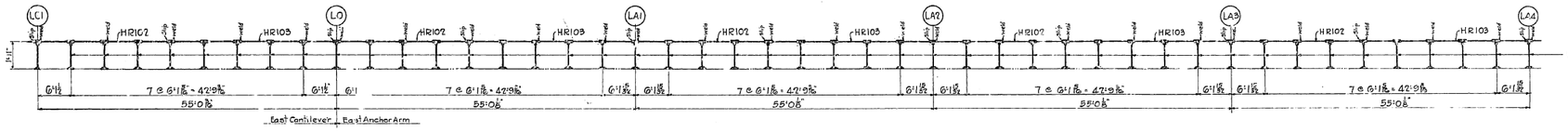
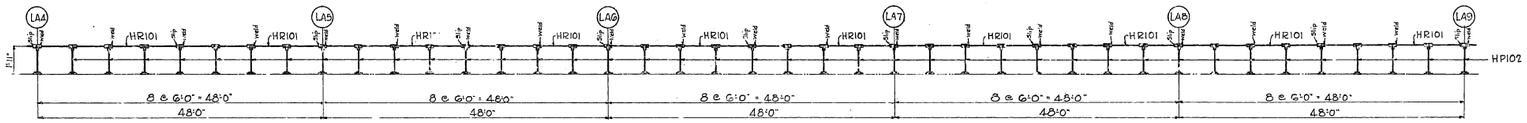
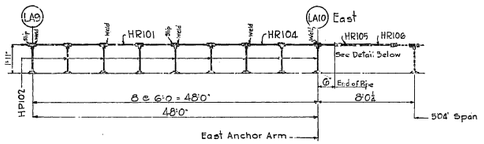
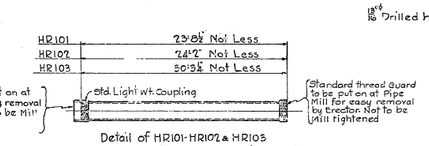
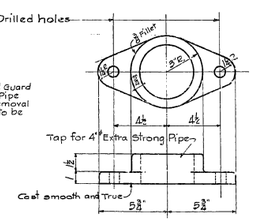






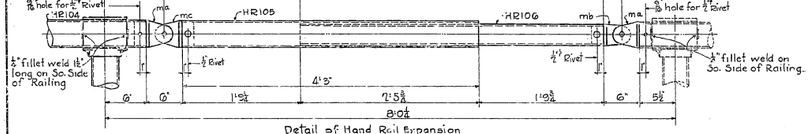


Detail of HR101-HR102 & HR103
To be used for Air Line during Erection

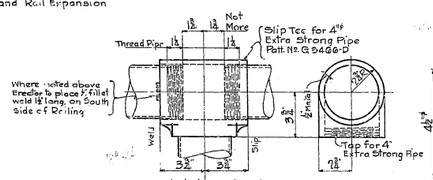


Detail of C.I. Base
Patt. No. G3468-D

REQUIRED										Assemble with	Ends
West Anchor Arm	East Anchor Arm	Cantilever	East Anchor Arm	Diagonals	Total	Mark	Description	Length			
12	11	5	8	24	63	HR101	4" Hand Rail	23'-8½"	63	Light Wt. Couplings	"
4	4	4	4		16	HR102	" " "	24'-2"	16	Thread Guards	"
4	4	4	4		16	HR103	" " "	30'-9½"	16	Slip Tees Patt No G3466D	"
	1				1	HR104	" " "	2'-4½"		Cast Pipe Base Patt No G3468D	"
	1				1	HR105	" " "	4'-3"		Rivet ⅞" x 2½"	✓
	1				1	HR106	" " "	4'-5½"		Rivet ⅞" x 2"	✓
										C.S. Hinge Patt. No G3703D	✓
										C.S. Hinge Patt. No G3704D	✓
										C.S. Hinge Patt. No G3705D	✓
										Bolt 1¼" x 0'-5½"	✓
										Threaded both Ends	✓
1		1		1	3	HP101	4" Hand Rail Posts	11'-7"	3	3	Plain	✓
84	85	67	61		295	HP102	" " "	11'-7½"	288	288		
							⅞" Rivet	0'-5"				



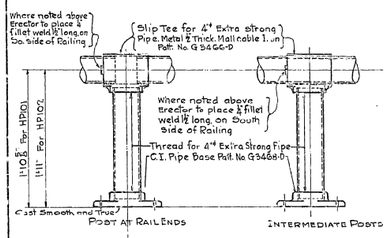
Detail of Hand Rail Expansion

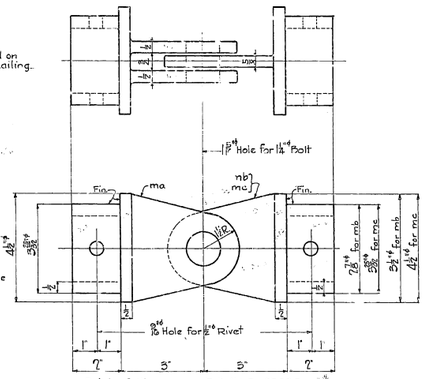


Detail of Top of Posts
showing connection for HR101 to HR104 Incl.

Pattern Maker's Note-
Fittings to be Cast smooth inside so that they will have a snug fit for 4" Extra Strong Pipe

Shop Note-
Check portion of fittings to make sure same will slide over pipe





Detail of Hinge ma Patt. No G 3703-D
" " mb Patt. No G 3706-D
" " mc Patt. No G 3705-D
Cast Steel Hinges

General Notes-
Material - Posts and Rails- 4" Extra Strong Pipe Black- Copper bearing steel.
Fittings Malleable Iron, Except Cast Steel Hinges and Cast Iron Bases.
Threads- All R.H.
Paint- None. Purchasing Dept. to instruct Pipe Mill not to use paint as identification of Copper bearing steel, on this order
Couplings and Thread Guards on HR101, HR102 & HR103 to be put on at Pipe Mill but not Mill tightened.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure - Pipe Rail
LA10 West to LA10 East
South Rail Lower Deck
AMERICAN BRIDGE COMPANY
CONTRACTOR'S DWG. NO. Gary #1 FILE NO.
WORK PROJECTED AT Ambridge PLANT
IN CHARGE OF Wilkinson
CHKD. BY STS DATE 6-21-34
ENGR. CHECKED BY [illegible] DATE 7-24-34

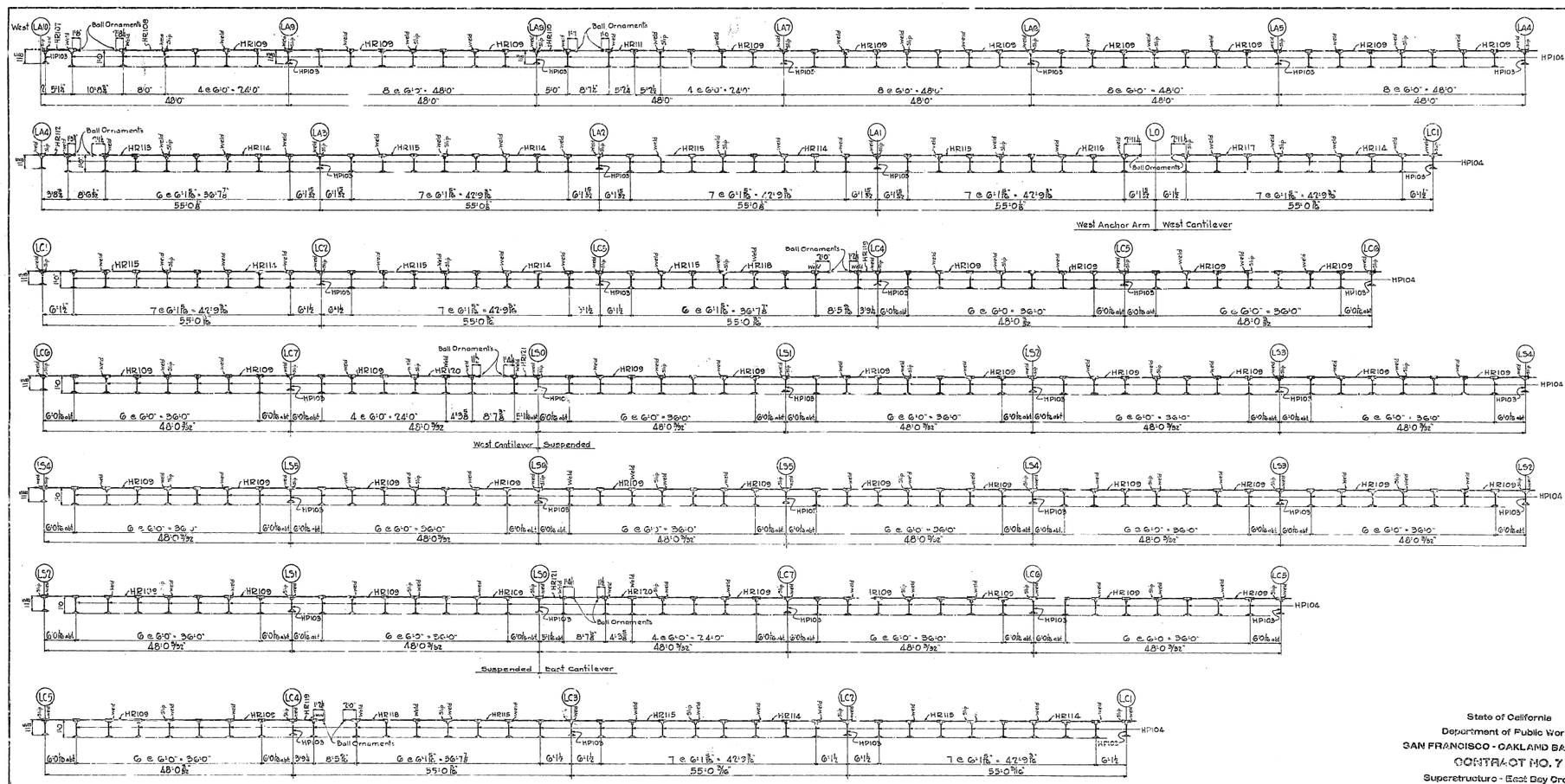
APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. E. Andrew, Bridge Engineer
Date 8-28-34

CONTR. NO. G5107 | I. C. C. NO. 501B

HR101-HR102 & HR103 used temporarily by Erection Dept. for Air Line

[CC]

Rev. 11-21-34



State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Pipe Rail
LA10 West to LA10 East
North Rail Lower Deck
AMERICAN BRIDGE COMPANY

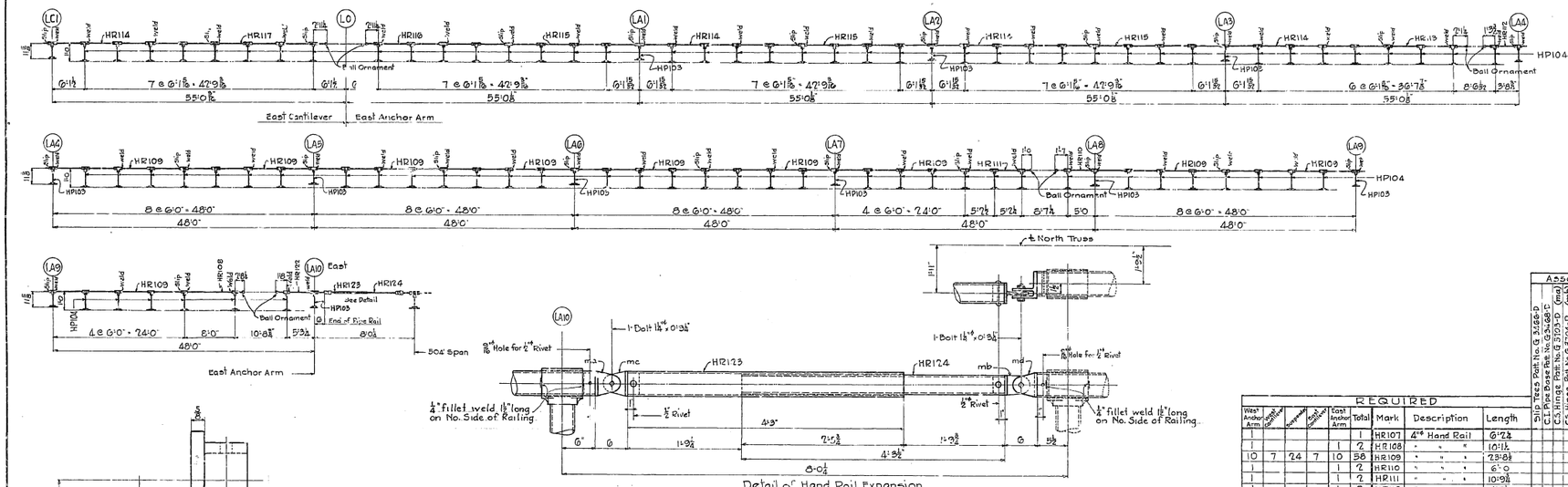
DRAWINGS MADE AT Gary #1 PLANT
ITEMS FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
ANAL. TAKEN BY S.S.S. DATE 7-9-36
PREPD. CHECKED BY WHW DATE 7-25-36

Mark	Revision	Appd.

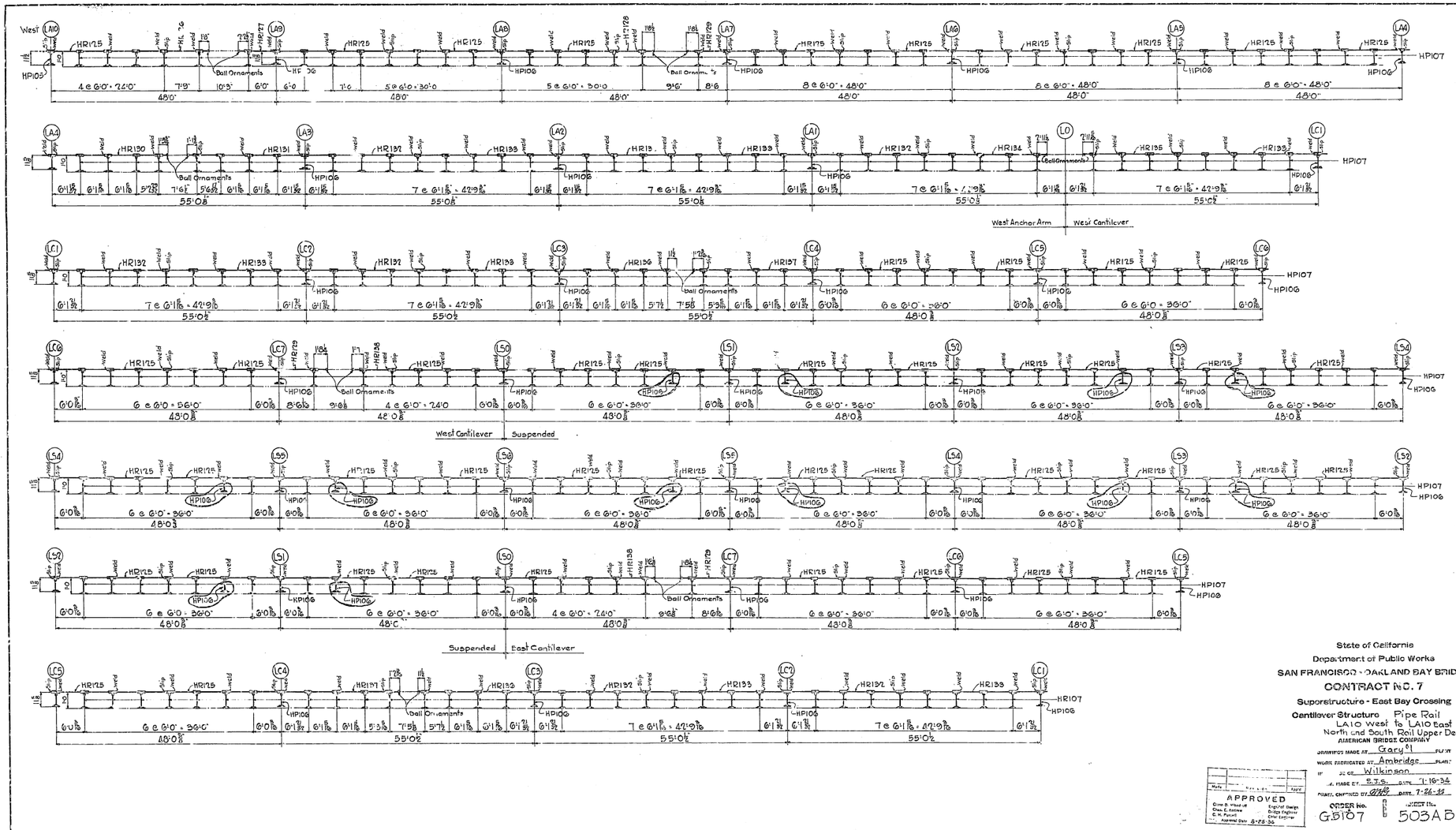
APPROVED
Chief Engr. Bridge Dept.
Chief Engr. A.B.M.
G.M. Parker
Approval Date 8-26-36
Engr. of Design Bridge Engineer Steel Engineer

ORDER No. G5107
SHEET No. 502AB

[CC]



| Assemble with | | |



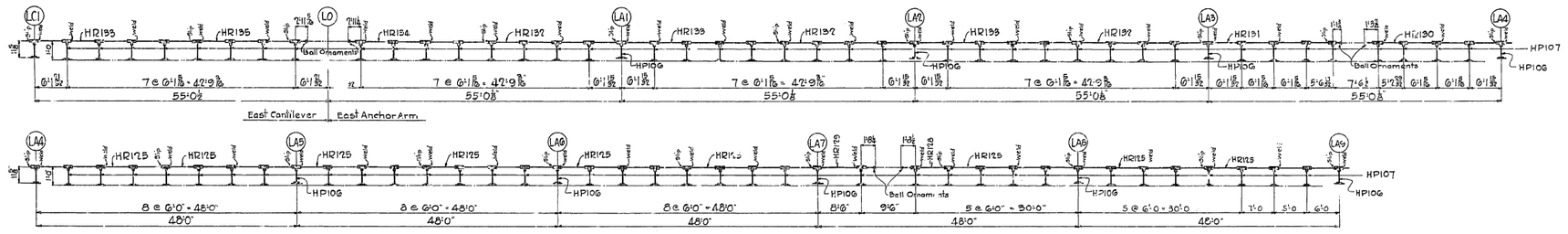
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Pipe Rail
LA10 West to LA10 East
North and South Rail Upper Deck
AMERICAN BRIDGE COMPANY

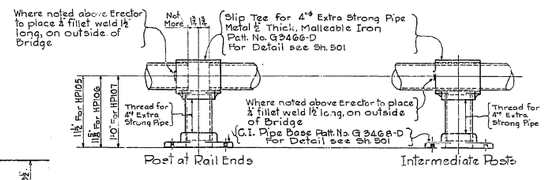
DRAWINGS MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Ambridge PLANT
TRACED BY Wilkinson DATE 7-16-34
CHECKED BY S.T.S. DATE 7-16-34
PRINTS CHECKED BY GMB DATE 7-26-34

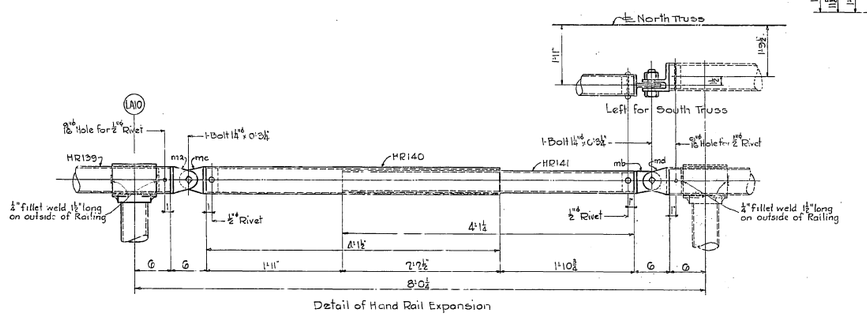
APPROVED
Chas. D. Wood
Chas. E. Andrew
C. H. Purcell
Approval Date 8-25-34
Engineer in Charge
Bridge Engineer
Asst. Engineer

ORDER No. G5107
SHEET No. 503AB

[CC]







| Assemble with | | |

30-1

Erector's Note:- Place gasket between flanges at all field joints in pipe, and between drain outlets and curb plates. Use gasket DS230 between flanges of 6" pipe, and 6" pipe and gutters, use gasket DS231 between flgs. of 8" pipe, use gasket DS279 between drain outlets and curb plates.

SOUTH TRUSS
West Anchor Arm

Location of Hangers (Approximate)

66'0 c-c Trusses

Upper Deck

Lower Deck

Typical Detail of Welded Joints

Sketch Showing Butt Weld

Cleanout Detail on DS202 & DS214

Cleanout Detail on DS209

Sec. B-B

Sec. A-A

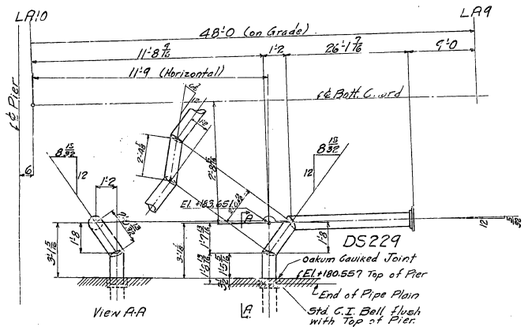
8" Pipe

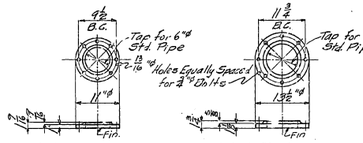
Sections DS205 & DS206 have been built up as units and match marked as follows
1 Pair DS205 & DS206 [1] Match Mark.
1 " " " " [2] " "
1 " " " " [3] " "

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure
Drains - West Anchor Arm
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary PLANT
WORK FABRICATED AT Ambridge PLANT
IN THE OFFICE OF Wilkinson
D. A. MADE BY G.B.B. DATE 7-31-36
DRAWN CHECKED BY JHG DATE 9-4-34
ORDER No. G5107 SHEET No. 504-AB

APPROVED
Chief of Design Bridge Engineer
Approved Date: 9-12-34

[C]





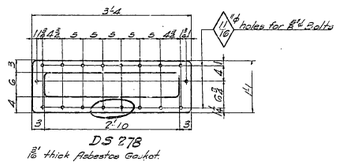
Detail of 6" Std. C.I. Flange

Detail of 8" Std. C.I. Flange

Detail of 8" to 6" Std. C.I. Reducing Flange Size 6" x 13½"

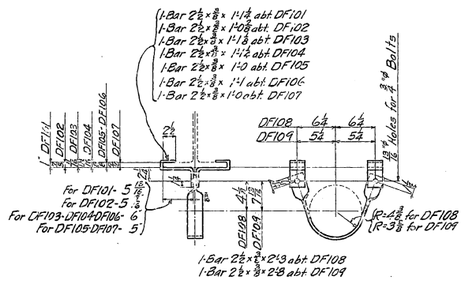
Johns-Manville #16 Asbestos Service Gasket - ⅛" Thick DS 230

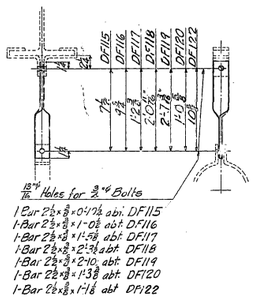
Johns-Manville #16 Asbestos Service Gasket - ⅛" Thick DS 231

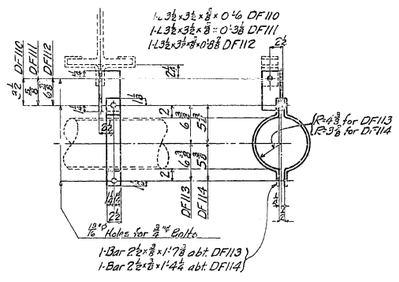


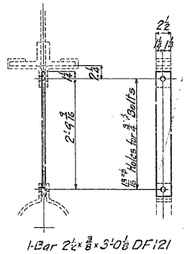
DS 278

⅛" thick Asbestos Gasket









1-Bar 2½ x ⅜ x 3'-0⅛ DF121

Shop Notes:-
Pipe to be standard black copper-bearing steel, 6" pipe @ 18.9# /ft and 8" pipe @ 24.7# /ft.
Fasteners including bolts, to be Copper Bearing Steel
C.I. Flanges to be used at all field joints except as noted.
Shop Joints to be of Cont. Weld, pipe being scarfed and all burrs removed after welding.
All Threads R.H.
Shop to make allowances for Welds & Gaskets
Paint:- None. Purch. Dept. to instruct Pipe Mill not to use paint as identification of Copper Bearing Steel on this order.

All material on this sheet to be marked "West Anchor Arm"

Assemble with									
	Drain Outlets DO101 (Sheet CF 11)	Drain Outlets DO102 (Sheet SS CF 11)	6"ϕ C.I. Flanges	8"ϕ C.I. Flanges	8"ϕ to 6"ϕ C.I. Reducing Flanges	6"ϕ Reinforcing Pads (Asbestos)	2½"ϕ Brass Pipes	Ends Threaded	Ends Plain
6 DS201 Drain Spouts ϕ 8 11.5	6			6				6	6
3 DS202 do 8 5'-7⅛				6			3	3	6
3 DS203 do 8 32'-0				6					6
9 DS204 do 8 22'-0				6					6
3 DS205 do 8 9'-1⅛				9					9
3 DS206 do 8 7'-7⅛				6					6
3 DS207 do 8 10'-6				6					6
3 DS208 do 8 11'-7⅛				6					6
1 DS209 do 8 10'-1⅛				3			1	1	3
2 DS210 do 6 12'-0			2			2			4
2 DS211 do 6 9'-3⅜			6						6
2 DS212 do 6 26'-0			4						4
1 DS213 do 6 7'-2⅜			2						2
1 DS214 do 6 7'-2⅜			2				1	1	2
4 DS215 do 6 11'-5	4	4							4 4
1 DS216 do 8 36'-0				2					2
1 DS217 do 8 36'-0				2					2
1 DS218 do 8 36'-0				2					2
1 DS219 do 8 36'-0				2					2
1 DS220 do 8 36'-0				2					2
1 DS221 do 8 30'-0				2					2
1 DS222 do 8 34'-10⅜				3					3
1 DS223 do 8 36'-0				2					2
1 DS224 do 8 36'-0				2					2
1 DS225 do 8 36'-0				2					2
1 DS226 do 8 36'-0				2					2
1 DS227 do 8 36'-0				2					2
1 DS228 do 8 17'-7⅛				4					4
1 DS229 do 8 30'-2⅜				1				1	1
10 DS230 Gaskets									
43 DS231 do									
2 DF122 Drain Fasteners									
10 DF101 Drain Fasteners									
16 DF102 do									
8 DF103 do									
2 DF104 do									
32 DF105 do									
6 DF106 do									
50 DF107 do									
1 DF108 do									
2 DF109 do									
1 DF110 do									
3 DF111 do									
2 DF112 do									
108 DF113 do									
16 DF114 do									
1 DF115 do									
3 DF116 do									
2 DF117 do									
2 DF118 do									
2 DF119 do									
2 DF120 do									
37 DF121 do									

	Field Bolts-Hex H.N.	ϕ	Length	Grip
80		¾	3	2⅜
360	do	¾	3½	2⅜
195	do	¾	2	1⅛
10	DS278 Gaskets			

APPROVED
Chief Bridge Engineer
Approved Dec. 9-12-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure
Drains - West Anchor Arm
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
ICE OF Killinson
DRAWN BY G.B.R. DATE 7-31-34
DRAW. CHECKED BY [illegible] DATE 8-4-34
ORDER No. G5107
SHEET No. 504B

Rec'd 7-7-34

West Cantilever Arm | Suspended Span | East Cantilever Arm | East Anchor Arm

NOTE:- For Erection Diagram see sections P-P to X-X incl. on sheet 505 C.

PLAN

PLAN

Pier E4

DS241 DS242 DS243 DS244 DS245 DS246 DS247 DS248 DS249 DS255 DS256 DS257

SECT. B-B.

SECT. D-D.

VIEW A-A.

VIEW C-C.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure
Drains for West & East Cant. Arms, Susp. Span and East Anch. Arm.
AMERICAN BRIDGE COMPANY

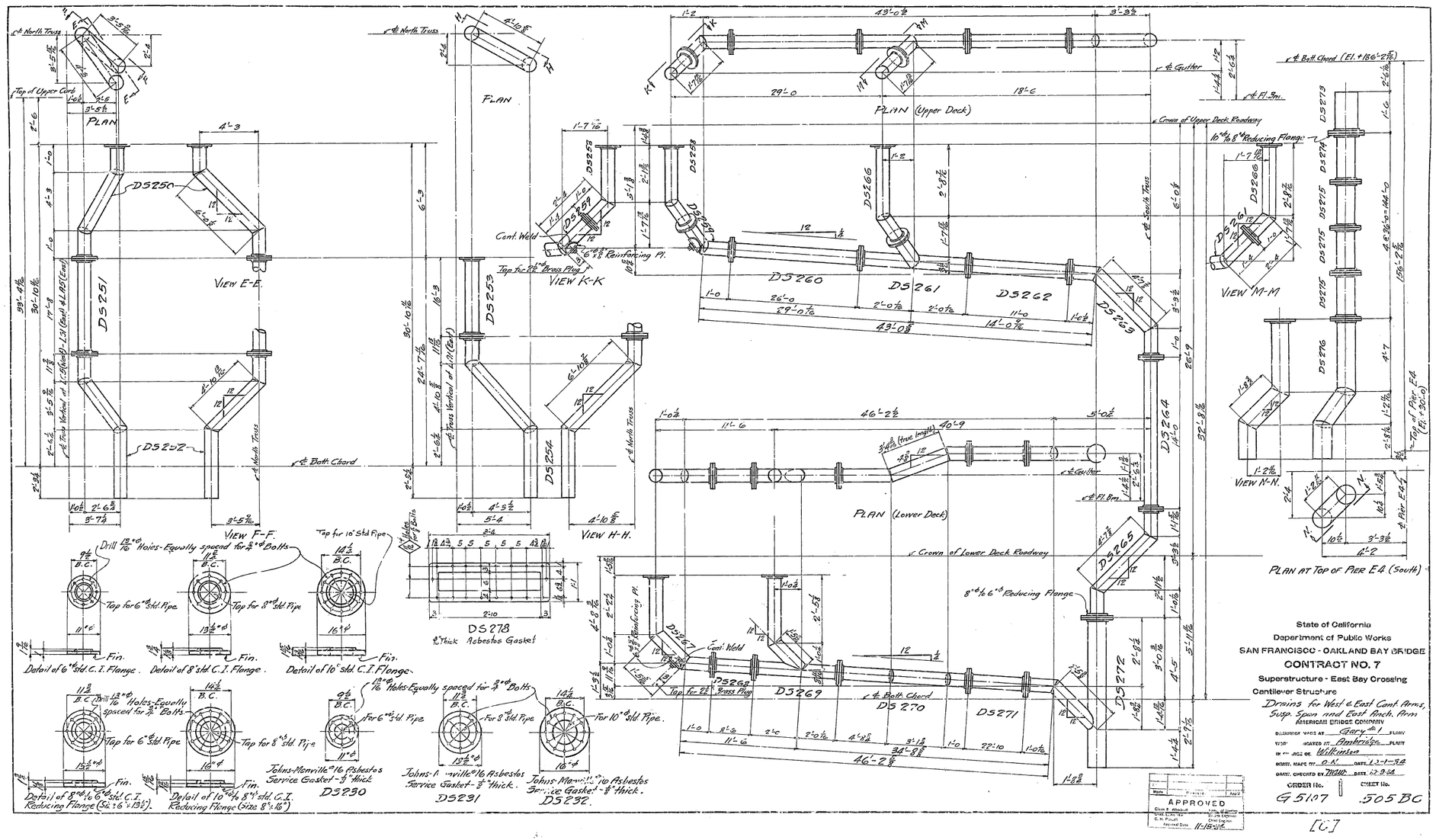
DRAWINGS MADE AT Gary, Ind. PLANT
WORK ERECTED AT Anchorage PLANT
MASTER OF WORK Wilkinson
DRAWN BY O.N. DATE 7-28-34
TRACED BY Tatum DATE 10-2-34
CHECKED BY DATE

ORDER No. G 5107 SHEET No. 505 AC

APPROVED
Gen. H. Woodruff, Chas. E. Andrew, C. H. Purcell, National Bridge Engineers
Chief Engineer
Dept. of Engineering, State of Oregon
10/15/34

[C]

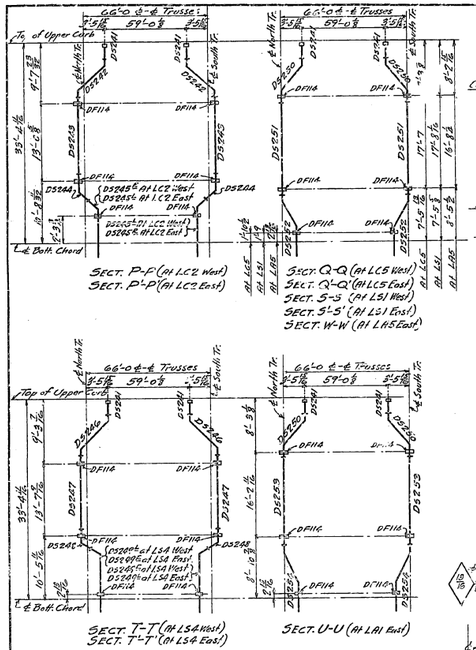
30-1

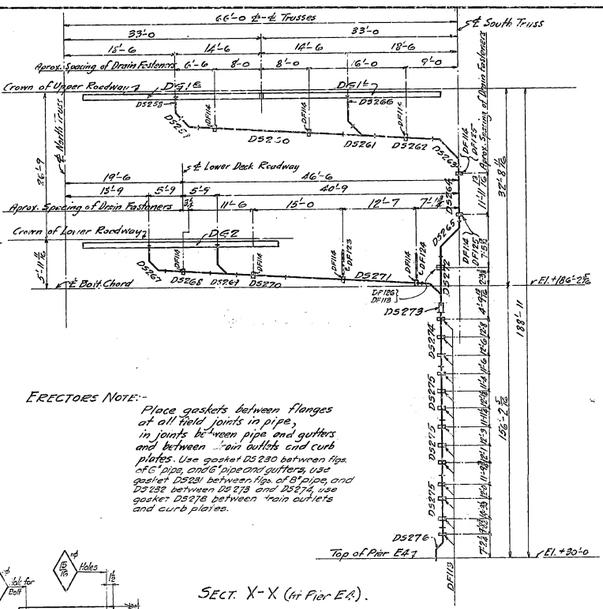


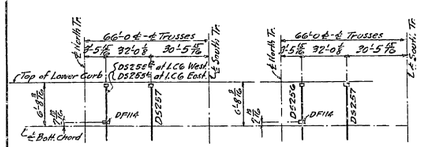
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure
Drains for West & East Cant. Arms, Susp. Span and East Anch. Arm
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary, Ind. PLANT
TRACED AT Ambridge PLANT
IN CHARGE OF Wilkinson
CHKD. MADE BY O.K. DATE 12-1-34
CHKD. CHECKED BY MWH DATE 12-9-34
ORDER No. G 5107
SHEET No. 505 BC

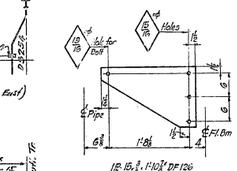
APPROVED
Chief Engineer
Bridge Engineer
C. H. Purcell
Approved Date 11-15-34

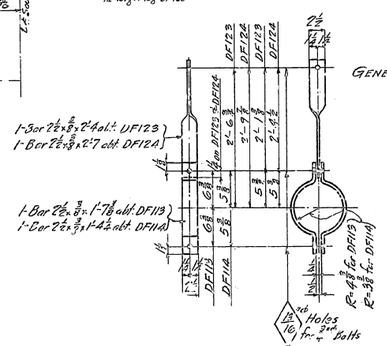
[C]

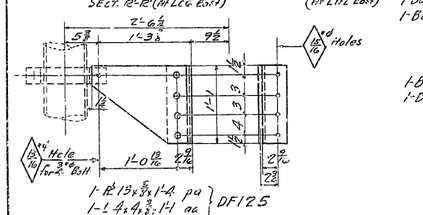












ERECTORS NOTE:-
Place gaskets between flanges at all field joints in pipe, in joints between pipe and gutters and between train outlets and curb plates. Use gasket DS230 between flgs. of 6" pipe, and 8" pipe and gutters, use gasket DS231 between flgs. of 8" pipe, and DS232 between DS223 and DS274, use gasket DS278 between train outlets and curb plates.

SHOP NOTE:- Shop joints to be of cont. weld, pipe being scarfed and all burrs removed after welding. All threads R.H. Shop to make allowances for welds and gaskets. For typical detail of welded joints, see sheet 504 A.B.

GENERAL NOTES:-
Material:- All pipe to be std. black copper bearing steel:- 6" ø pipe @ 19 #/ft, 8" ø pipe @ 24.7 #/ft, and 10" ø pipe @ 31.2 #/ft. Drain fasteners and all bolts to be O.H. copper bearing medium carbon steel. C.I. Flanges to be used on all field joints.
Specifications:- Special thy State of California Dept. of Public Works.
Inspection:- John M. Bailey, Chief Inspector.
Rivets:- ⅞" ø
Open Holes:- As noted.
Reaming:- None.
Paint:- None. Purch. Department to instruct pipe mill not to use paint as identification of copper bearing steel on this order.

REQUIRED

West Cant.	Susp. Sp.	East Cant.	East Anch.	Total	Mark	Description		#	Length of Pipe (c-c)	Assemble with: Drain Outlet DO10E (See sh. CF2)	5½ø 6" C.I. Flanges	5½ø 8" C.I. Flanges	5½ø 10" C.I. Flanges	5½ø 6" C.I. Reducing Flanges	8" ø 6" C.I. Reducing Flanges	10" ø 8" C.I. Reducing Flanges	6" ø Reinforcing Pls. & Cleanouts	2½" ø Brass Plugs	Ends: Threaded	Ends: Plain
4	6	4	4	20	DS224	Drain Spouts		6	1'-5	20	20									
2		2		4	DS242	"	"	6	3'-2⅜		8								8	
2		2		4	DS243	"	"	6	13'-0		8								8	
2		2		4	DS244	"	"	6	4'-6		8								8	
1		1		2	DS245 Rt	"	"	6	11'-9		8								2	2
1		1		2	DS245 Lt	"	"	6	11'-9		8								2	2
	4			4	DS246	"	"	6	8'-2⅜		8								8	
	4			4	DS247	"	"	6	13'-11		8								8	
	4			4	DS248	"	"	6	4'-0		8						4	4	8	
	2			2	DS249 Rt	"	"	6	17'-10⅞		2								2	2
	2			2	DS249 Lt	"	"	6	17'-10⅞		2								2	2
2	4	2	4	12	DS250	"	"	6	8'-0⅜		24								24	
2	4	2	2	10	DS251	"	"	6	17'-9		20								20	
2	4	2	2	10	DS252	"	"	6	16'-3⅞		10								10	10
			2	2	DS253	"	"	6	16'-3		4								4	
			2	2	DS254	"	"	6	12'-8⅜		2								2	2
1			1	1	DS255 Rt	"	"	6	7'-10⅜	1										2
	1		1	1	DS255 Lt	"	"	6	7'-10⅜	1										2
		1	1	1	DS256	"	"	6	8'-3⅜	1										2
1		1	1	3	DS257	"	"	6	6'-8	3										6
			1	1	DS258	"	"	6	3'-1⅜		2								2	
			1	1	DS259	"	"	6	8'-4		2						1	1	2	
			1	1	DS260	"	"	6	26'-0		2								2	
			1	1	DS261	"	"	6	5'-8⅛		3								3	
			1	1	DS262	"	"	6	11'-0		2								2	
			1	1	DS263	"	"	6	6'-8⅜		2								2	
			1	1	DS264	"	"	6	14'-0		2								2	
			1	1	DS265	"	"	6	6'-9⅞		1			1					1	
			1	1	DS266	"	"	6	3'-8⅛		8								8	
			1	1	DS267	"	"	6	4'-7⅛		2						1	1	2	
			1	1	DS268	"	"	6	8'-6		2								2	
			1	1	DS269	"	"	6	7'-10⅞		3								3	
			1	1	DS270	"	"	6	9'-0⅜		2								2	
			1	1	DS271	"	"	6	22'-10		8								8	
			1	1	DS272	"	"	8	5'-3⅜		1	1							2	1
			1	1	DS273	"	"	10	1'-6					1					1	1
			1	1	DS274	"	"	8	36'-0			1			1				2	
			3	3	DS275	"	"	8	26'-0			6							6	
			1	1	DS276	"	"	8	8'-11⅜			1							1	1
6	8	6	6	26	DS278	Gaskets														
			1	1	DF126	Drain Fasteners														
14	28	14	27	85	DS230	Gaskets														
			5	5	DS231	"														
			1	1	DS232	"														
			62	28	CF113	Drain Fasteners														
76	48	26	48	114	DF114	Drain Fasteners														
			1	1	DF123	"	"													
			1	1	DF124	"	"													
			2	2	DF125	"	"													

	Dia.	Length	Grip
Field Bolts: Hex. Hd. & Nut	¾	2	1⅛
" " " "	¾	1⅜	⅜
" " " "	¾	3½	2⅜
" " " "	¾	3¾	2⅝
" " " "	⅞	3¾	2⅝
" " " "	⅞	22	1⅝
" " " "	⅞	3	1⅛

28	52	28	70	140	
			2	4	
			14	14	
			44	44	
			35	35	
117	234	117	210	678	

State	Revision	Date
APPROVED		
Glen E. Woodruff, Engr. of Design, Bridge Engineer		
Chas. E. Andrew, Bridge Engineer		
C. H. Purcell, Asst. Chief Engineer		
Approved Date: 11-21-36		

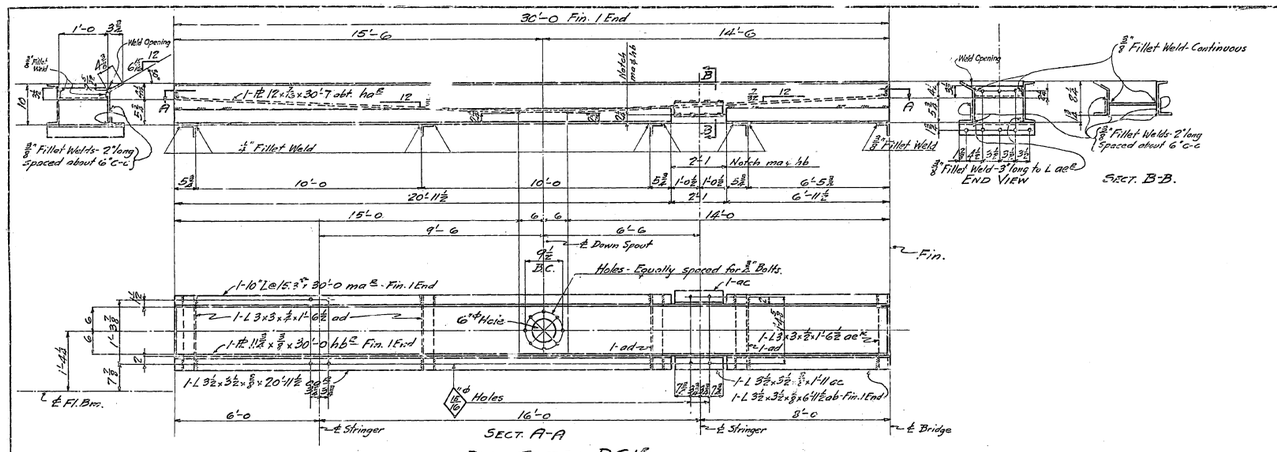
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure
Drains for West & East Cant. Arms, Susp. Span and East Anchor Arm.
AMERICAN BRIDGE COMPANY

DRAWING MADE BY Gary E. DRAFT
WORK DATED AT Pittsburgh IN ACCT
TRACING CHECKED BY Wilkinson
DRAWN BY J.N. DATE 10-1-36
DRFT. CHECKED BY Probst DATE 10-9-36

ORDER No. E5107
SHEET No. 505 C

[C]

30-1



REQUIRED		
1	Drain Gutter	DG1℄
1	" "	DG1½
1	" "	DG2

NOTE:- For Erection Diagram of Gutters see Section X-X on sheet 505C.

GENERAL NOTES:-
Material:-All material O.H. copper bearing medium carbon steel.
Specifications:-Special by State of California Dept. of Public Works.
Inspection:-John M. Bailey, Chief Inspector.
Open Holes:-⅛" unless noted.
Reaming:-None.
Point:-None.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure East Anch. Arm
Drain Gutters at Pier E4.
AMERICAN BRIDGE COMPANY

DRAWING MADE AT Gary "A" PLANT
WORK FROM ED IN Pembroke PLANT
IT CH: OF Wilkinson
DETAIL MADE BY O.N. DATE 9-26-36
DETAIL CHECKED BY MEW DATE 10-5-36

ORDER No. G5107 | SHEET No. 506

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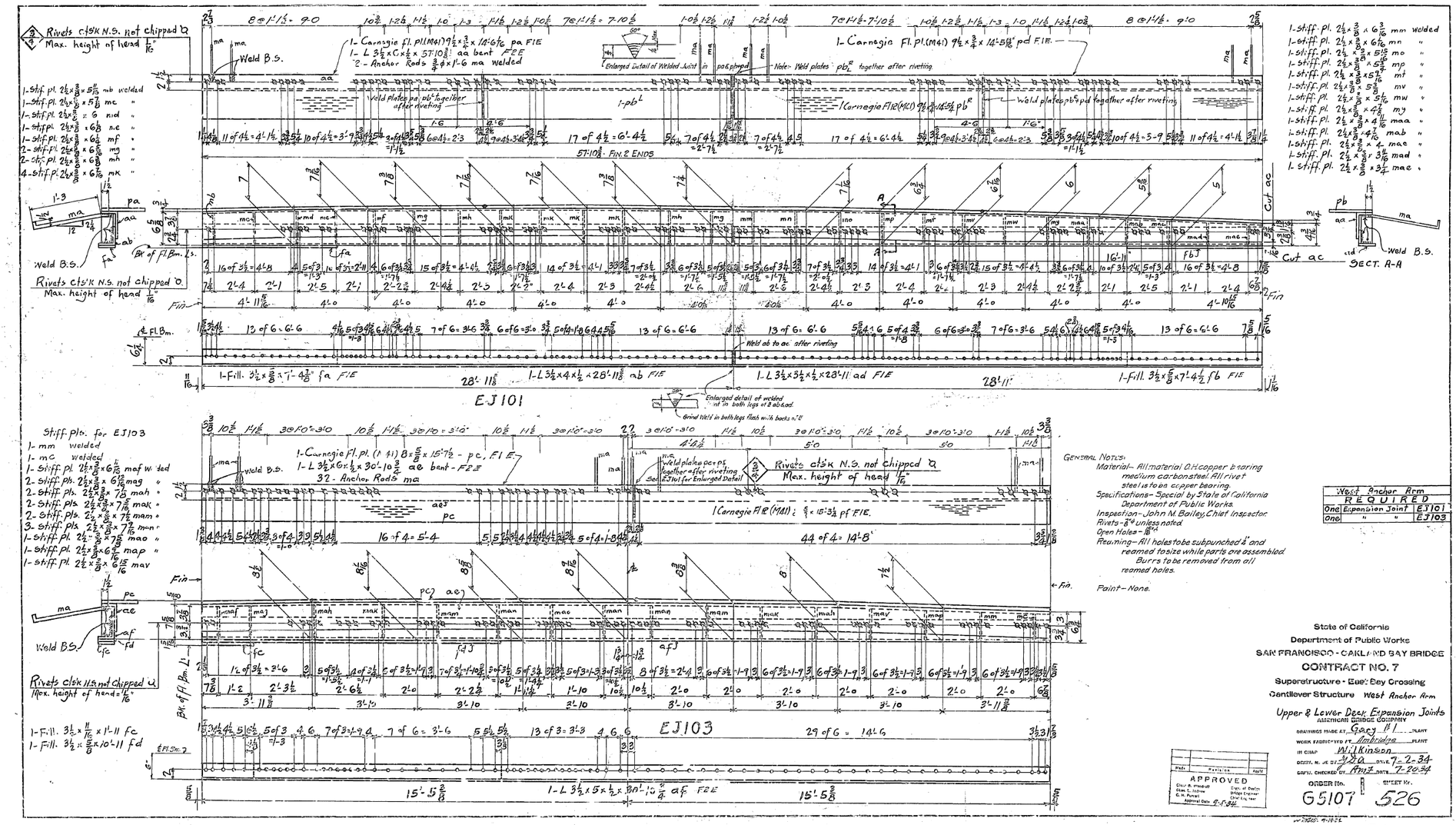

Stiff. Pls. for EJ101
- 1-stif. pl. 2½"x⅜"x 5 11/16" mb welded
- 1-Stif. pl. 2½"x⅜"x 5⅞" mc "
- 1-stif. pl. 2½"x⅜"x 6 mcd "
- 1-stif. pl. 2½"x⅜"x 6⅛" mc "
- 1-Stif. pl. 2½"x⅜"x 6⅛" mf "
- 2-stif. pl. 2½"x⅜"x 6⅜" mg "
- 2-stif. pl. 2½"x⅜"x 6⅜" mh "
- 4-stif. pl. 2½"x⅜"x 6 7/16" mk "

Stiff. Pls. for EJ101
- 1-stif. pl. 2½"x⅜"x 6 3/16" mm welded
- 1-stif. pl. 2½"x⅜"x 6 7/16" mn "
- 1-stif. pl. 2½"x⅜"x 5 15/16" mo "
- 1-stif. pl. 2½"x⅜"x 5⅝" mp "
- 1-stif. pl. 2½"x⅜"x 5 7/16" mt "
- 1-stif. pl. 2½"x⅜"x 5⅜" mv "
- 1-stif. pl. 2½"x⅜"x 5 1/16" mw "
- 1-stif. pl. 2½"x⅜"x 4⅞" my "
- 1-stif. pl. 2½"x⅜"x 4 11/16" maa "
- 1-stif. pl. 2½"x⅜"x 4 7/16" mab "
- 1-stif. pl. 2½"x⅜"x 4" mae "
- 1-stif. pl. 2½"x⅜"x 3 11/16" mad "
- 1-stif. pl. 2½"x⅜"x 3⅜" mae "

Stiff. Pls. for EJ103
- 1-mm welded
- 1-mc welded
- 1-Stif. pl. 2½"x⅜"x 6 11/16" maf welded
- 2-Stiff. pls. 2½"x⅜"x 6 15/16" mag "
- 2-Stiff. pls. 2½"x⅜"x 7⅛" mah "
- 2-Stiff. pls. 2½"x⅜"x 7 5/16" mak "
- 2-Stiff. pls. 2½"x⅜"x 7½" mam "
- 3-Stiff. pls. 2½"x⅜"x 7 11/16" man "
- 1-Stiff. pl. 2½"x⅜"x 7⅞" mao "
- 1-Stiff. pl. 2½"x⅜"x 6 15/16" map "
- 1-Stiff. pl. 2½"x⅜"x 6 15/16" mav

GENERAL NOTES:
Material- All material O.H. copper bearing medium carbon steel. All rivet steel is to be copper bearing.
Specifications- Special by State of California Department of Public Works
Inspection- John M. Bailey, Chief Inspector.
Rivets- ⅞" ø unless noted
Open Holes- 13/16" ø
Reaming- All holes to be subpunched ¼" and reamed to size while parts are assembled. Burrs to be removed from all reamed holes.
Paint- None.

West Anchor Arm		
REQUIRED		
One	Expansion Joint	EJ101
One	"	EJ103

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure West Anchor Arm
Upper & Lower Deck Expansion Joints
ASSEMBLY BRIDGE DRAWING

DRAWINGS MADE AT Gary PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE W. J. Kinson
DESIGN, M. DE D. [illegible] DRAWN 7-2-34
DRAWN, CHECKED BY Amz DATE 7-20-34

Mark	Revision	Date

APPROVED
Chief Bridge Engineer
Dept. of Public Works
Approval Date 9-5-34

ORDER No. 65107 SHEET No. 526

W 21620 9-1934

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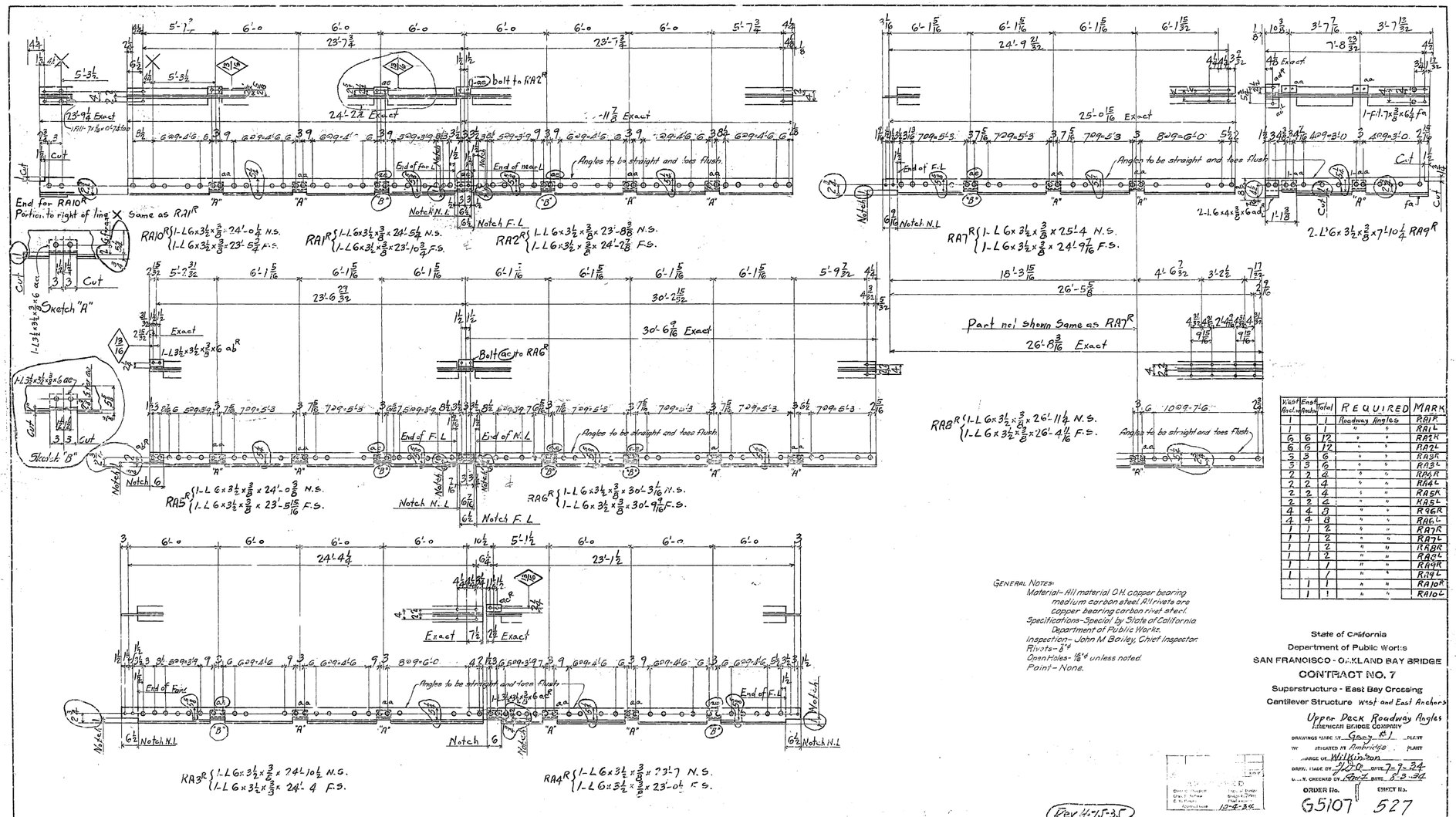

West Ang.	East Ang.	Total	REQUIRED	MARK
1		1	Roadway Angles	RA1R
1		1	" "	RA1L
6	6	12	" "	RA2R
6	6	12	" "	RA2L
3	3	6	" "	RA3R
3	3	6	" "	RA3L
2	2	4	" "	RA6R
2	2	4	" "	RA6L
2	2	4	" "	RA5R
2	2	4	" "	RA5L
4	4	8	" "	RA9R
4	4	8	" "	RA9L
1	1	2	" "	RA7R
1	1	2	" "	RA7L
1	1	2	" "	RA8R
1	1	2	" "	RA8L
1		1	" "	RA9R
1		1	" "	RA9L
	1	1	" "	RA10R
	1	1	" "	RA10L

GENERAL NOTES:
Material - All material O.H. copper bearing medium carbon steel. All rivets are copper bearing carbon rivet steel.
Specifications - Special by State of California Department of Public Works.
Inspection - John M Bailey, Chief Inspector.
Rivets - ⅞"ø
Open Holes - 13/16" unless noted.
Paint - None.

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure West and East Anchors
Upper Deck Roadway Angles
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary IN PLANT
WE INDICATED AT Ambridge PLANT
CHARGE OF Wilkinson
DRAWN BY [illegible] DATE 7-9-34
QUANTITY CHECKED BY [illegible] DATE 8-3-34
ORDER No. G5107
DETAIL No. 527

Rev 4-15-35

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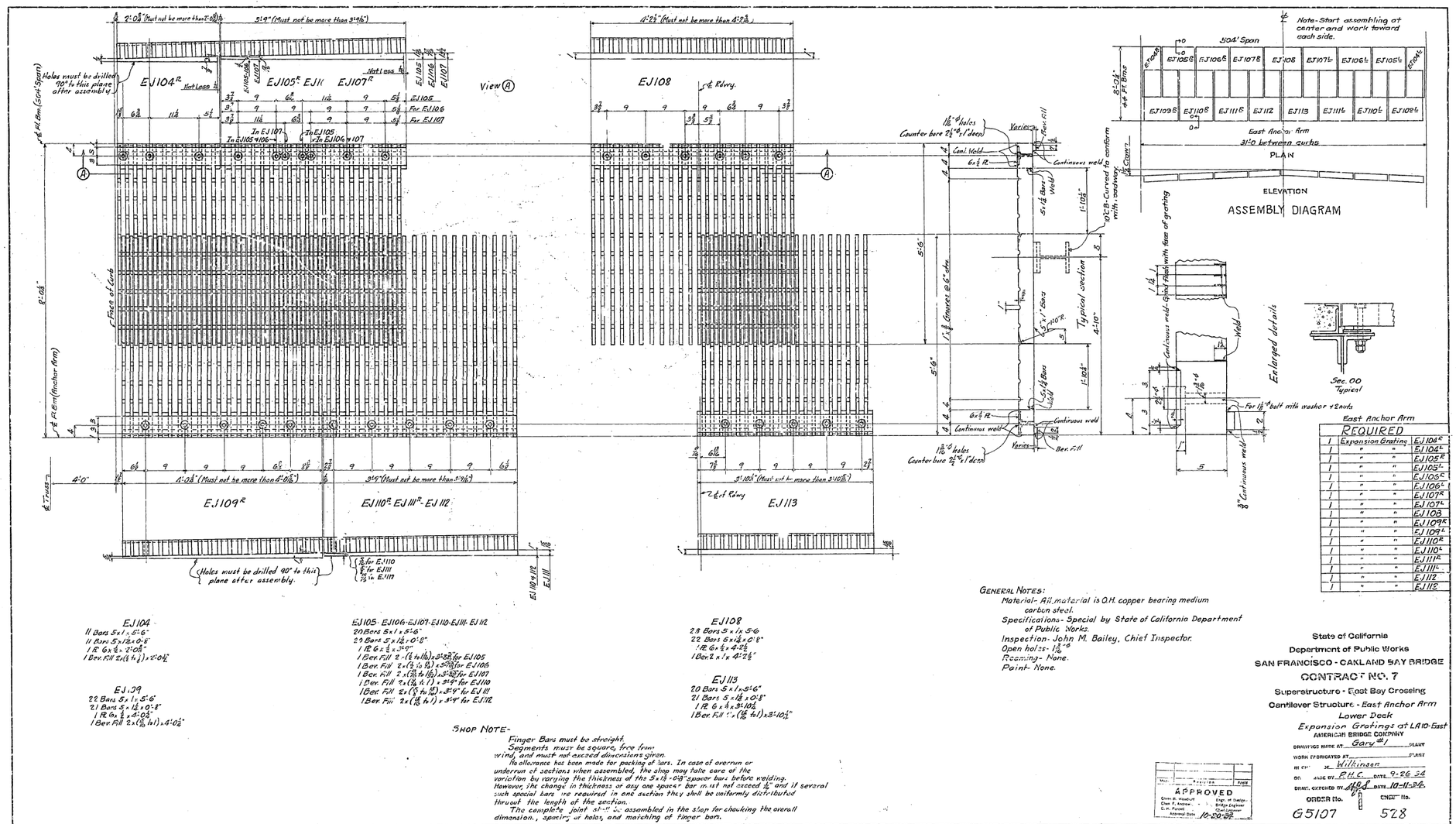

East Anchor Arm

REQUIRED		
1	Expansion Grating	EJ104E
1	" "	EJ104R
1	" "	EJ105R
1	" "	EJ105E
1	" "	EJ106E
1	" "	EJ107R
1	" "	EJ107L
1	" "	EJ108
1	" "	EJ109R
1	" "	EJ109L
1	" "	EJ110R
1	" "	EJ110L
1	" "	EJ111R
1	" "	EJ111L
1	" "	EJ112
1	" "	EJ113

EJ104
11 Bars 5×1×5'-6"
11 Bars 5×1⅛×0'-8"
1 PL G×⅜×2'-0⅝"
1 Ben. Fill Σ(⅛ t-½)×2'-0½"

EJ109
22 Bars 5×1×5'-6"
21 Bars 5×1⅛×0'-8"
1 PL G×⅜×2'-0⅝"
1 Ben. Fill 2×(⅝ t-½)×4'-0½"

EJ105 - EJ106 - EJ107 - EJ110 - EJ111 - EJ112
20 Bars 5×1×5'-6"
29 Bars 5"×1⅛×0'-8"
1 PL G×⅜×3'-9"
1 Ben Fill 2-(⅛ to ⅜)×3'-5⅝" for EJ105
1 Ben. Fill 2×(⅜ to ⅝)×3'-5⅝" for EJ106
1 Ben. Fill 2×(⅝ to ⅞)×3'-5⅝" for EJ107
1 Ben. Fill 2×(⅛ to 1)×3'-5" for EJ110
1 Ben. Fill 2×(⅝ to 1⅛)×3'-9" for EJ111
1 Ben. Fill 2×(⅞ to 1⅛)×3'-9" for EJ112

EJ108
23 Bars 5×1×5'-6"
22 Bars 6"×1⅛×0'-8"
1 PL G×⅜×4'-2½"
1 Ben. Fill 2×1×4'-2½"

EJ113
20 Bars 5×1×5'-6"
21 Bars 5×1⅛×0'-8"
1 PL G×⅜×3'-10½"
1 Ben. Fill 2×(1⅛ to 1)×3'-10½"

SHOP NOTE-
Finger Bars must be straight.
Segments must be square, free from wind, and must not exceed dimensions given.
No allowance has been made for packing of bars. In case of overrun or underrun of sections when assembled, the shop may take care of the variation by varying the thickness of the 5×⅛"-0'8" spacer bars before welding. However, the change in thickness of any one spacer bar must not exceed ½" and if several such special bars are required in one section they shall be uniformly distributed thruout the length of the section.
The complete joint shall be assembled in the shop for checking the overall dimension., spacing of holes, and matching of finger bars.

GENERAL NOTES:
Material- All material is O.H. copper bearing medium carbon steel.
Specifications - Special by State of California Department of Public Works.
Inspection- John M. Bailey, Chief Inspector.
Open holes- 1⅛"ø
Reaming- None.
Paint- None.

APPROVED
Chief Engr. of Dist. - Bridge Engineer
Asst. Engr. - Chief Engr.
Approval Date 10-20-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure - East Anchor Arm
Lower Deck
Expansion Gratings at LA10-East
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT ____ PLANT
IN CH'G OF Wilkinson
DR. MADE BY P.H.C. DATE 9-26-34
DRAWN, CHECKED BY H.R.L. DATE 10-11-34
ORDER No. G5107 ENGR. No. 528

H.R.L. 10-26-34

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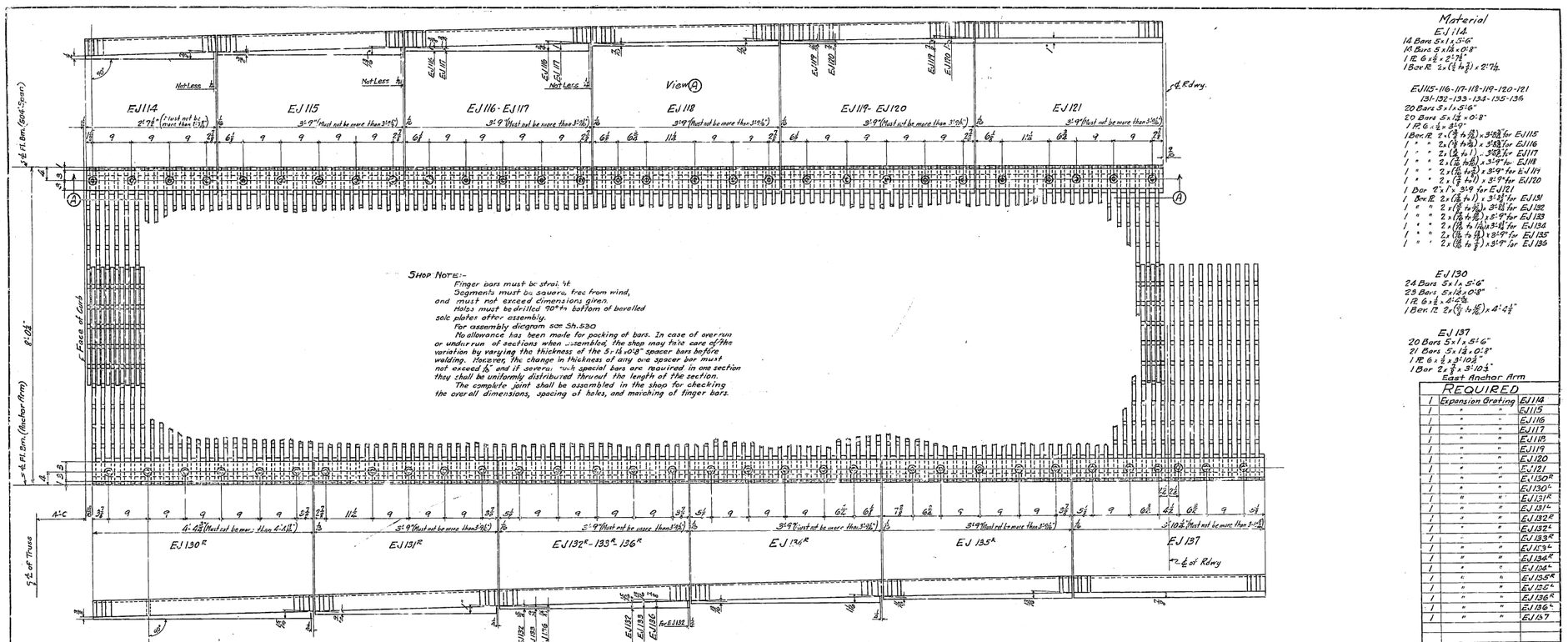

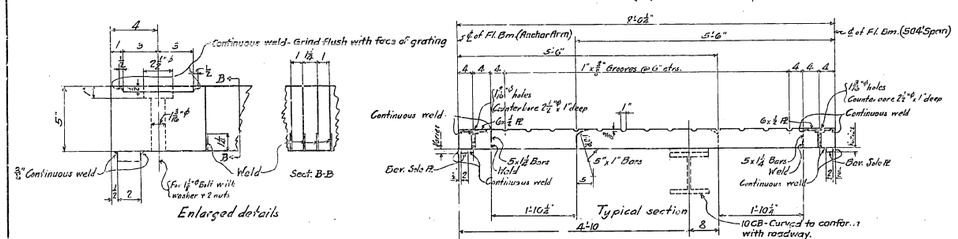

SHOP NOTES:-

Finger bars must be straight

Segments must be square, free from wind, and must not exceed dimensions given.

Holes must be drilled 90° to bottom of bevelled sole plates after assembly.

For assembly diagram see Sh. 530

No allowance has been made for packing of bars. In case of over run or under run of sections when assembled, the shop may take care of the variation by varying the thickness of the 5 x 1⅛ x 0'-8" spacer bars before welding. However, the change in thickness of any one spacer bar must not exceed ½", and if several such special bars are required in one section they shall be uniformly distributed thruout the length of the section.

The complete joint shall be assembled in the shop for checking the overall dimensions, spacing of holes, and matching of finger bars.

GENERAL NOTES:-

Material - All material is O.H. copper bearing medium carbon steel.

Specifications - Special by State of California Department of Public Works.

Inspection - John M. Bailey, Chief Inspector.

Open holes - 1⅛"ø

Reaming - None

Paint - None

Material

EJ 114

14 Bars 5 x 1 x 5'-6"
14 Bars 5 x 1⅛ x 0'-8"
1 PL 6 x ⅝ x 2'-7½"
1 Bar PL 2 x (⅛ to ¾) x 2'-7½"

EJ 115 - 116 - 117 - 118 - 119 - 120 - 121
131 - 132 - 133 - 134 - 135 - 136

20 Bars 5 x 1 x 5'-6"
20 Bars 5 x 1⅛ x 0'-8"
1 PL 6 x ⅝ x 3'-9"
1 Ben PL 2 x (⅜ to ¾) x 3'-10¾" for EJ 115
1 " " 2 x (⅛ to ¾) x 3'-10¾" for EJ 116
1 " " 2 x (⅜ to 1) x 3'-10¾" for EJ 117
1 " " 2 x (⅛ to ⅝) x 3'-9" for EJ 118
1 " " 2 x (⅛ to ¾) x 3'-9" for EJ 119
1 " " 2 x (⅜ to 1) x 3'-9" for EJ 120
1 Bar 2 x 1 x 3'-9 for EJ 121
1 Ben PL 2 x (⅛ to 1) x 3'-10¾" for EJ 131
1 " " 2 x (⅜ to ⅝) x 3'-10¾" for EJ 132
1 " " 2 x (⅛ to ⅜) x 3'-9" for EJ 133
1 " " 2 x (⅛ to 1⅛) x 3'-10¾" for EJ 134
1 " " 2 x (⅛ to ¼) x 3'-9" for EJ 135
1 " " 2 x (⅛ to ⅜) x 3'-9" for EJ 136

EJ 130

24 Bars 5 x 1 x 5'-6"
23 Bars 5 x 1⅛ x 0'-8"
1 PL 6 x ⅝ x 4'-2½"
1 Ben PL 2 x (⅜ to ⅝) x 4'-4½"

EJ 137

20 Bars 5 x 1 x 5'-6"
21 Bars 5 x 1⅛ x 0'-9"
1 PL 6 x ⅝ x 3'-10¾"
1 Bar PL 2 x ⅜ x 3'-10¾"

East Anchor Arm

REQUIRED		
1	Expansion Grating	EJ 114
1	"	EJ 115
1	"	EJ 116
1	"	EJ 117
1	"	EJ 118
1	"	EJ 119
1	"	EJ 120
1	"	EJ 121
1	"	EJ 130R
1	"	EJ 130L
1	"	EJ 131R
1	"	EJ 131L
1	"	EJ 132R
1	"	EJ 132L
1	"	EJ 133R
1	"	EJ 133L
1	"	EJ 134R
1	"	EJ 134L
1	"	EJ 135R
1	"	EJ 135L
1	"	EJ 136R
1	"	EJ 136L
1	"	EJ 137

APPROVED
Chief Engr. Bridges
Engr. of Design
Bridge Engineer
Chief Engineer
For Director
10-20-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure - East Anchor Arm
Upper Deck
Expansion Gratings - at LA 10-East
AMERICAN BRIDGE COMPANY

DRF MADE AT Gary #1 PLANT
1 FABRICATED AT PLANT
IN CHARGE OF Wilkinson DATE 10-1-34
LETTERED BY P.H.C. DATE 10-11-34
DRAWN, CHECKED BY C.E.C. DATE 10-11-34

ORDER No. G5107 SHEET No. 529

W.R.L. 10-26-34

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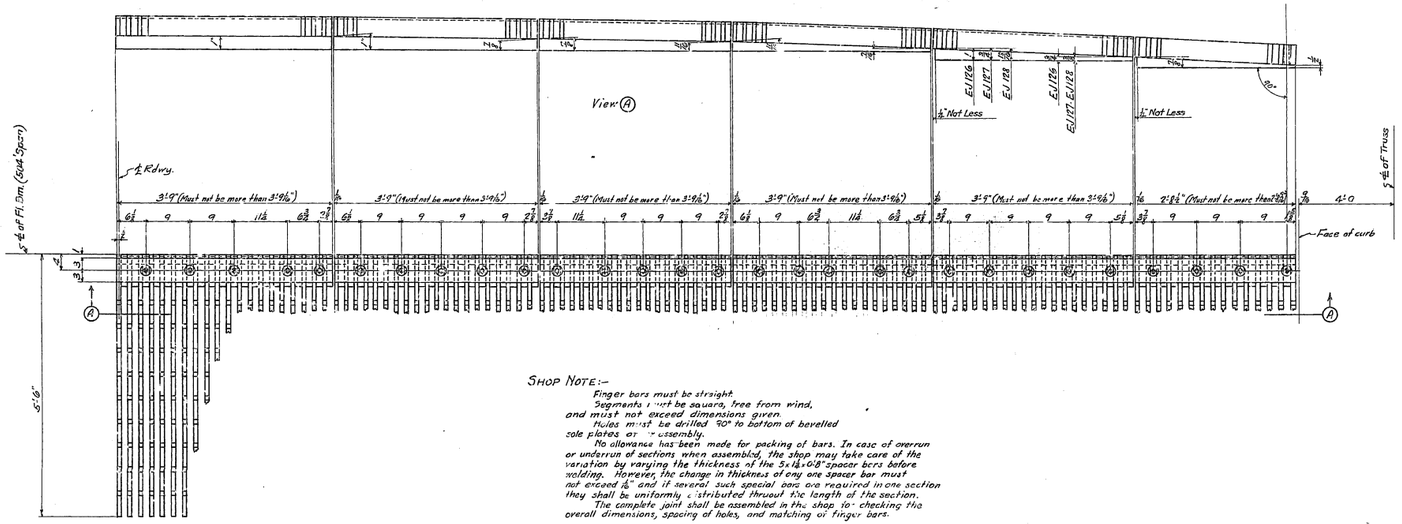
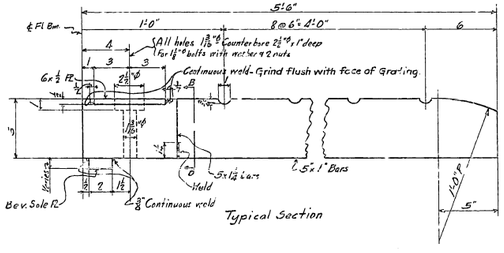
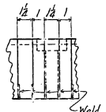


SHOP NOTE:-
Finger bars must be straight.
Segments must be square, free from wind, and must not exceed dimensions given.
Holes must be drilled 90° to bottom of bevelled sole plates of one assembly.
No allowance has been made for packing of bars. In case of overrun or underrun of sections when assembled, the shop may take care of the variation by varying the thickness of the 5"x1⅛"x0'-8" spacer bars before welding. However, the change in thickness of any one spacer bar must not exceed ⅛" and if several such special bars are required in one section they shall be uniformly distributed thruout the length of the section.
The complete joint shall be assembled in the shop for checking the overall dimensions, spacing of holes, and matching of finger bars.

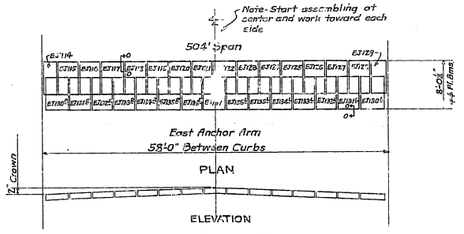
EJ122 EJ123 EJ124 EJ125 EJ126-EJ127-EJ128 EJ129



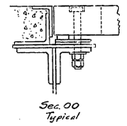
Typical Section



Sec. B



ASSEMBLY DIAGRAM



Sec. 00 Typical

Material

EJ122-123-124-125-126-127-128
20 Bars 5 x 1 x 5'-6"
20 Bars 5 x 1⅛ x 0'-8"
1 Pc. 6 x ½ x 3'-9"
1 Bar 2 x 1 x 3'-9" for EJ122
1 Bar. Bar 2 x (1 + ⅛) x 3'-9" for EJ123
1 " " 2 x (⅞ + 1⅛) x 3'-9" for EJ124
1 " " 2 x (⅛ + ⅛) x 3'-9" for EJ125
1 " " 2 x (1 + ⅛) x 3'-8⅞" for EJ126
1 " " 2 x (⅞ + ⅛) x 3'-8⅞" for EJ127
1 " " 2 x (⅞ + ⅛) x 3'-8⅞" for EJ128

EJ129
15 Bars 5 x 1 x 5'-6"
14 Bars 5 x 1⅛ x 0'-8"
1 Pc. 6 x ½ = 2'-8½"
1 Bar. Bar 2 x (⅞ + ½) x 2'-8¼"

East Anchor Arm

REQUIRED

1	Expansion Grating	EJ122
1	" "	EJ123
1	" "	EJ124
1	" "	EJ125
1	" "	EJ126
1	" "	EJ127
1	" "	EJ128
1	" "	EJ129

GENERAL NOTES:-
Material - All material is O.H. copper bearing medium carbon steel.
Specifications - Special by State of California Department of Public Works.
Inspection - John M. Bailey, Chief Inspector.
Open holes - 1⅜"ø
Reaming - None
Paint - None

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure - East Anchor Arm
Upper Deck
Expansion Gratings at LA10-East
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary, Ind. PLANT
WORK FABRICATED AT PLANT
CHKD. BY Wilkinson
TRACED BY P.H.C. DATE 10-3-36
DETAILS CHECKED BY [illegible] DATE 10-11-36

Mark	Revision	Appd.

APPROVED
Glenn B. Woodruff, Engr. of Design
Chas. H. Purcell, Bridge Engineer
Chief Engineer
Approval Date 10-26-36

ORDER No. G5107
SHEET No. 530

W.S.A.L. 10-28-36

[C]

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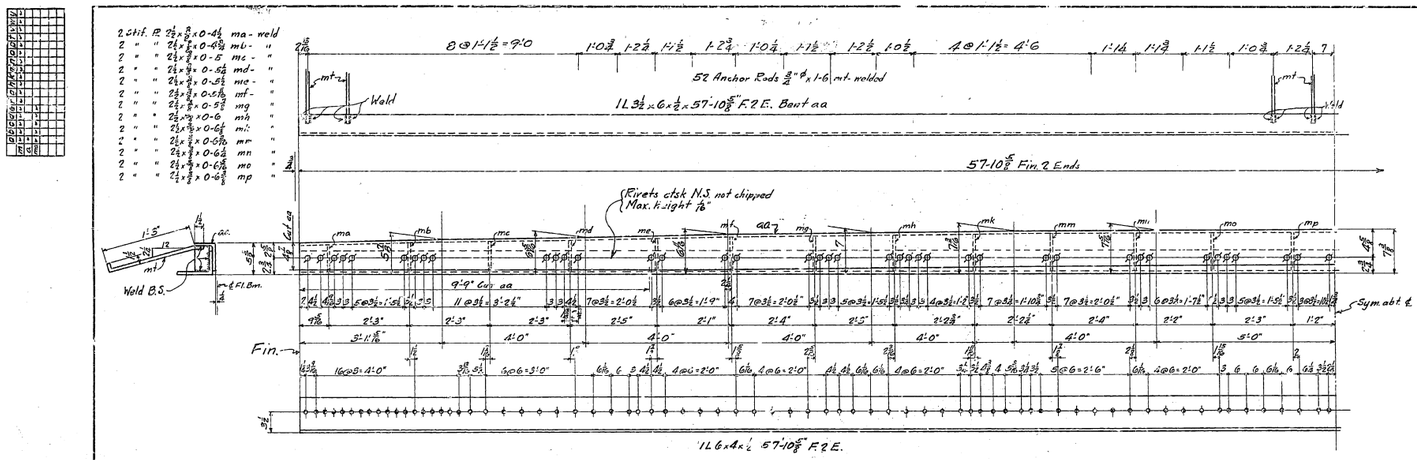
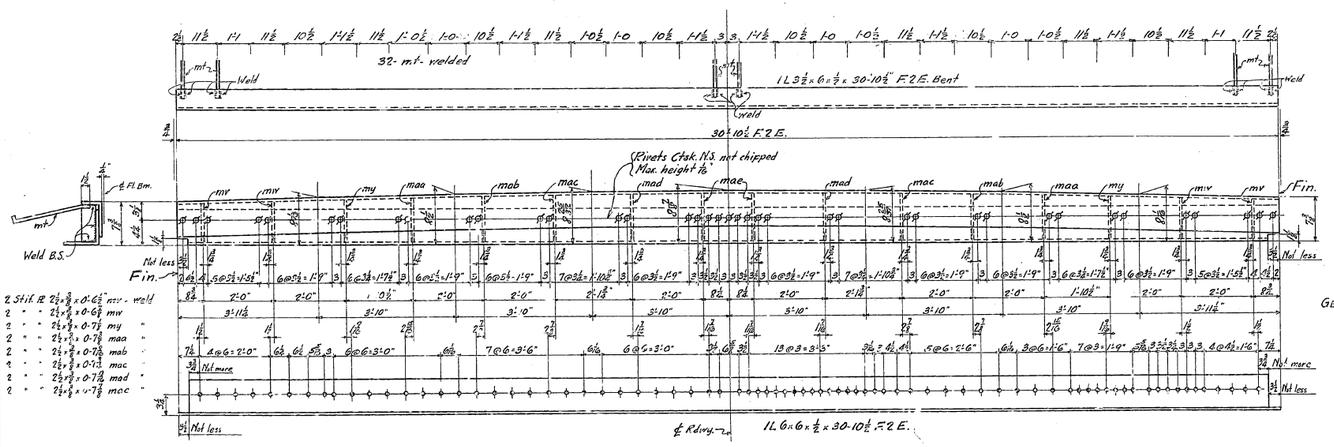


EJ 138



EJ 139

EAST ANCHOR ARM

REQUIRED		
1	Expansion Dam	EJ 138
1	" "	EJ 139

GENERAL NOTES:
Material - All material O.H. copper bearing medium carbon steel. All rivet steel is copper bearing.
Specifications - Special by State of California Department of Public Works.
Inspection - John M. Bailey, Chief Inspector.
Rivets - ⅞"ø
Open Holes - 13/16"ø
Reaming - All holes to be subpunched ¼" and reamed to size while parts are assembled. Burrs to be removed from all reamed holes.
Paint - None

APPROVED
Chas. D. Wadsworth, Engr. of Design
Chas. E. Andrew, Bridge Engineer
T. H. Purcell, Chief Engineer
Approved Date 10-30-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure East Anchor Arm
Expansion Dams at LA10-East
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
CHECKED BY P.H.C. DATE 10-9-34
DRAWN BY A.P.H.S. DATE 10-10-34
ORDER No. G5107
SHEET No. 531

FINAL 10-21-34

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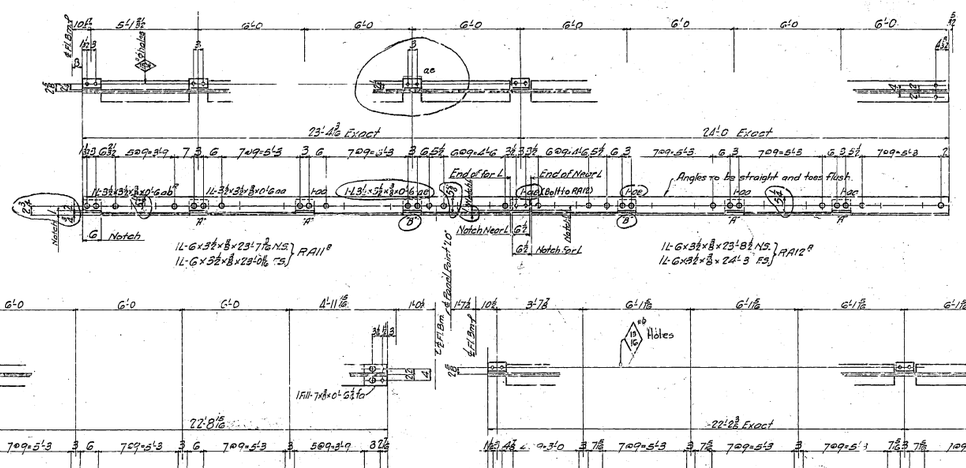
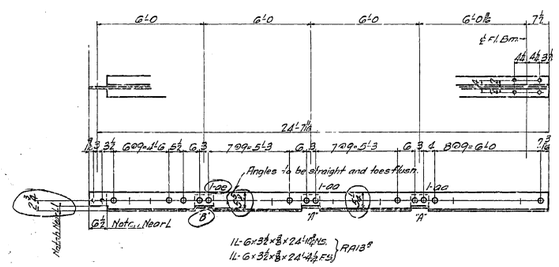
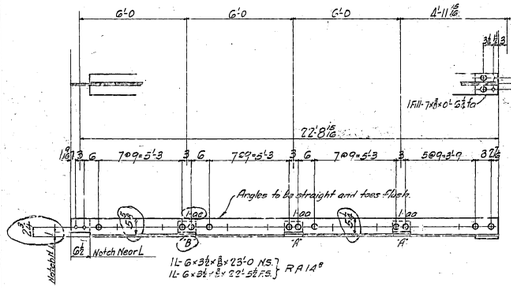
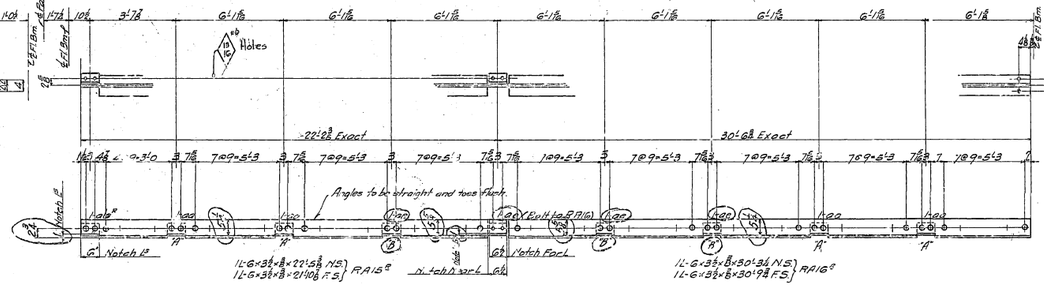
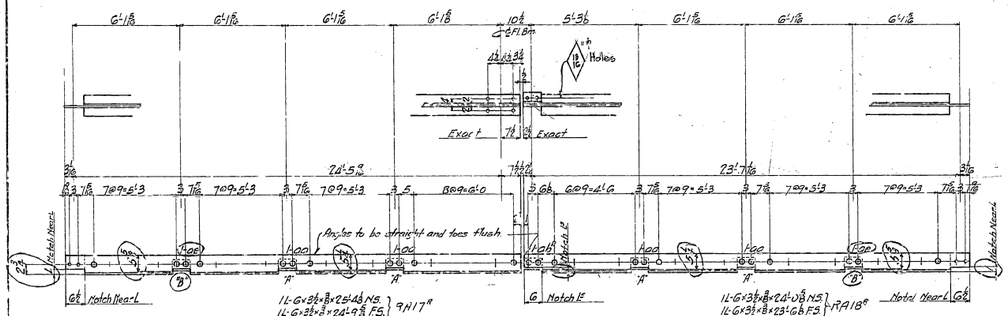
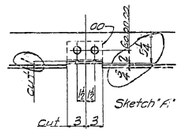


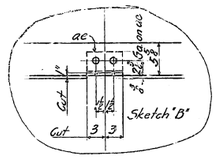












General Notes:
Material – All material OH copper bearing medium carbon steel.
All rivets are copper bearing carbon rivet steel.
Specifications – Special by State of California Department of Public Works.
Inspection – John W. Bailey, Chief Inspector.
Rivets – ⅞"ø
Open Holes 15/16"d unless noted.
Paint – None.

REQUIRED				
Each Cont.	Each Cont.	Total	Description	Mark
2	2	4	Roadway Angles	RA11
2	2	4	"	RA11'
4	4	8	"	RA12
4	4	8	"	RA12'
1	1	2	"	RA13
1	1	2	"	RA13'
1	1	2	"	RA14
1	1	2	"	RA14'
1	1	2	"	RA15
1	1	2	"	RA15'
4	4	8	"	RA16
4	4	8	"	RA16'
2	2	4	"	RA17
2	2	4	"	RA17'
1	1	2	"	RA18
1	1	2	"	RA18'

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure East & West Cant.
Upper Deck Roadway Angles.

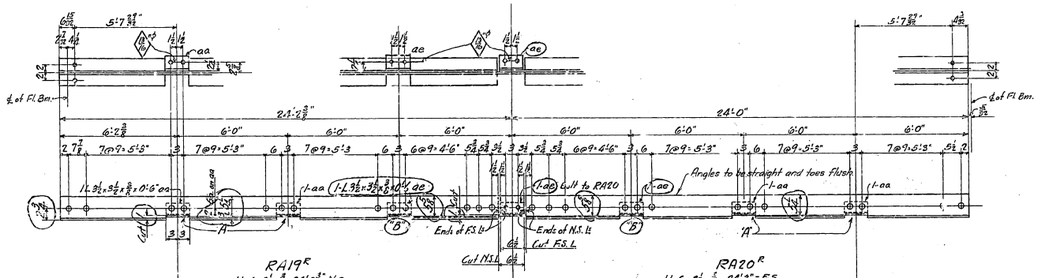
AMERICAN BRIDGE COMPANY
DIMENSIONS BASE AT Gary "J" PLANT
WORK FABRICATED AT Ambridge PLANT
AGE OF Wilkinson
DWG. MADE BY GRW DATE 10-12-36
DWG. CHECKED BY RenZ DATE 10-19-36
ORDER No. G3107
DETAIL No. 532

APPROVED
Chief Engr. Chief of Design
Chief Engr. Bridge Engineer
C.N. Purcell Approved
Approved Date 11-2-36

Rec'd 11-15-36

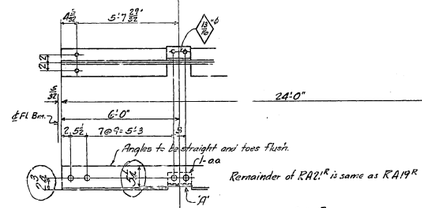
W.B.A.I. 10-12-36

[C]

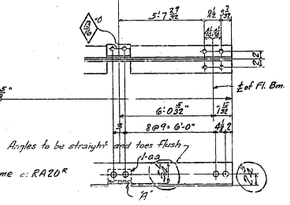


RA19R
1L 6x3½x⅞x24'-5⅞" N.S.
1L 6x3½x⅞x23'-10⅞" F.S.

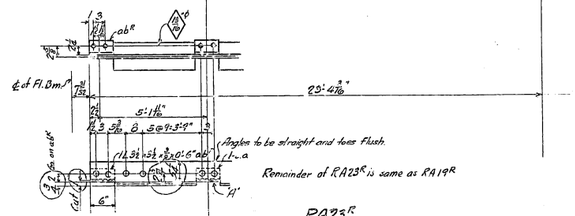
RA20R
1L 6x3½x⅞x24'-3" - F.S.
1L 6x3½x⅞x23'-8½" - N.S.



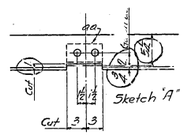
RA21R
1L 6x3½x⅞x24'-3" - N.S.
1L 6x3½x⅞x23'-8½" - F.S.

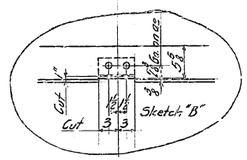


RA22R
1L 6x3½x⅞x24'-10⅝" - F.S.
1L 6x3½x⅞x24'-4⅜" - N.S.



RA23R
1L 6x3½x⅞x23'-7⅛" - N.S.
1L 6x3½x⅞x22'-0⅛" - F.S.





GENERAL NOTES:-
Material- All material O.H. Copper bearing medium carbon steel. All rivets are copper bearing carbon rivet steel.
Specifications- Special by State of California Department of Public Works.
Inspection- John M. Bailey, Chief Inspector.
Rivets- ⅞" ø
Open holes- 1/16" unless noted.
Paint- None

Sheet No.	Each No.	Total	REQUIRED	
1	1	2	Roadway Angles	RA19R
1	1	2	" "	RA19L
3	1	1	" "	RA20R
3	1	1	" "	RA20L
3	2	5	" "	RA21R
3	2	5	" "	RA21L
3	2	5	" "	RA22R
3	2	5	" "	RA22L
2	3	5	" "	RA23R
2	3	5	" "	RA23L

Mark	Revisions	Date
	APPROVED	
Chas. D. Marshall	Engr. of Design	
Chas. E. Andrew	Bridge Engineer	
F. N. Powell	Chief Engineer	
	11-7-34	

Rev 11-15-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span

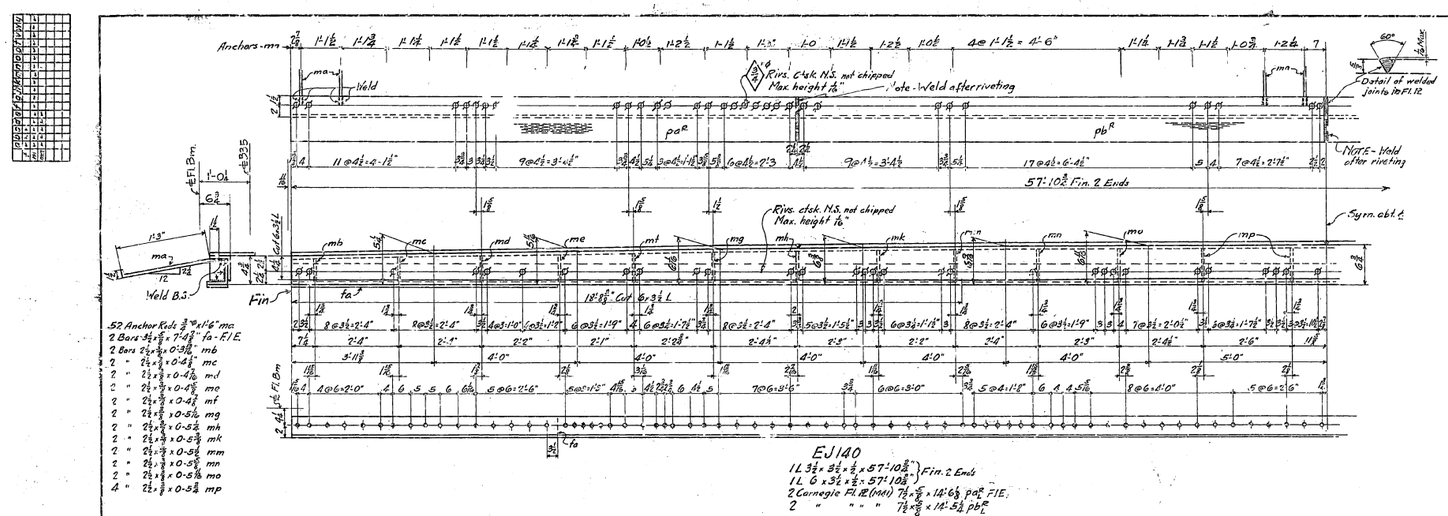
Upper Deck Roadway Angles
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary Ind. PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DRAWN BY P.H.C. DATE 10-16-34
CHKD. CHECKED BY Ahrt DATE 10-19-34

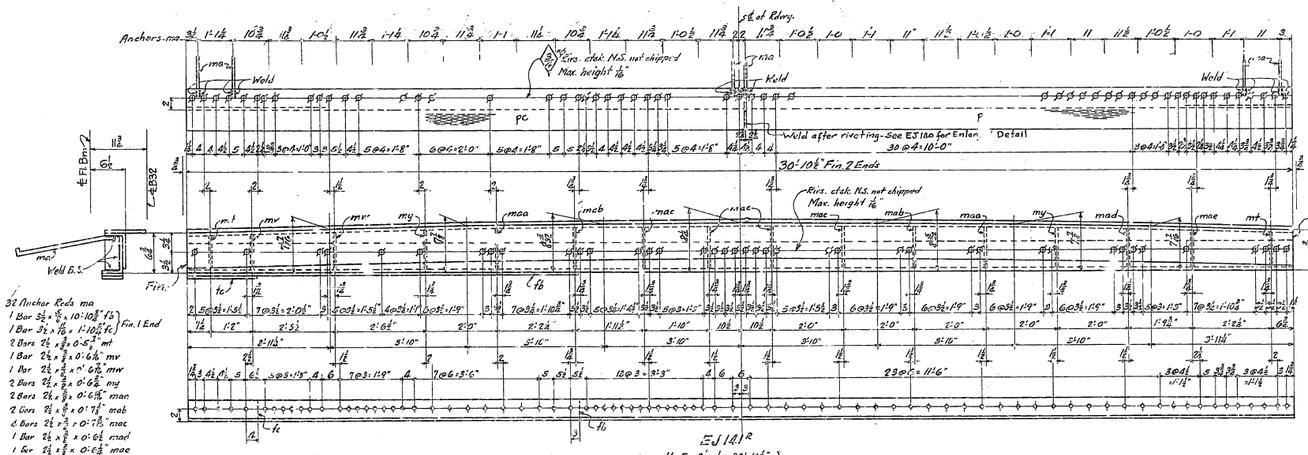
ORDER No. G5107 | SHEET I.o. 533

W.H.A.L. 11-20-34

[C]



EJ140
1 L 3 1/2 x 3 1/2 x 7/16 x 57'-10 3/8" } Fin. 2 Ends
1 L 6 x 3 1/2 x 7/16 x 57'-10 3/8" }
2 Carnegie Fl. 12 (min) 7 1/8 x 7/8 x 14'-6 3/8 pc F.E.
2 " " " 7 1/8 x 7/8 x 14'-5 1/2 pb L



EJ 141 R
1 L 5 x 3 1/2 x 7/16 x 30'-10 3/8" } F2E
11 L 6 x 3 1/2 x 7/16 x 30'-10 3/8" }
1 Carnegie Fl. 12 (min) 7 1/8 x 15/16 x 15'-7 3/8 pc } F1E
1 " " " 7 1/8 x 15/16 x 15'-3 1/2 pb }

GENERAL NOTES:-
Material - All material O.H. copper bearing medium carbon steel. All rivet steel is copper bearing.
Specifications - Special by State of California Department of Public Works.
Inspection - John M. Bailey, Chief Inspector.
Rivets - 7/8" ø unless noted.
Open Holes - 15/16" ø
Reaming - All holes to be subpunched 3/4" and reamed to size while parts are assembled. Burrs to be removed from all reamed holes.
Paint - None.

Web	East Flat	West Flat	REQUIRED	
1	1	2	Expansion Dams	EJ140
1	1	1	" "	EJ141 R
1	1	1	" "	EJ141 L

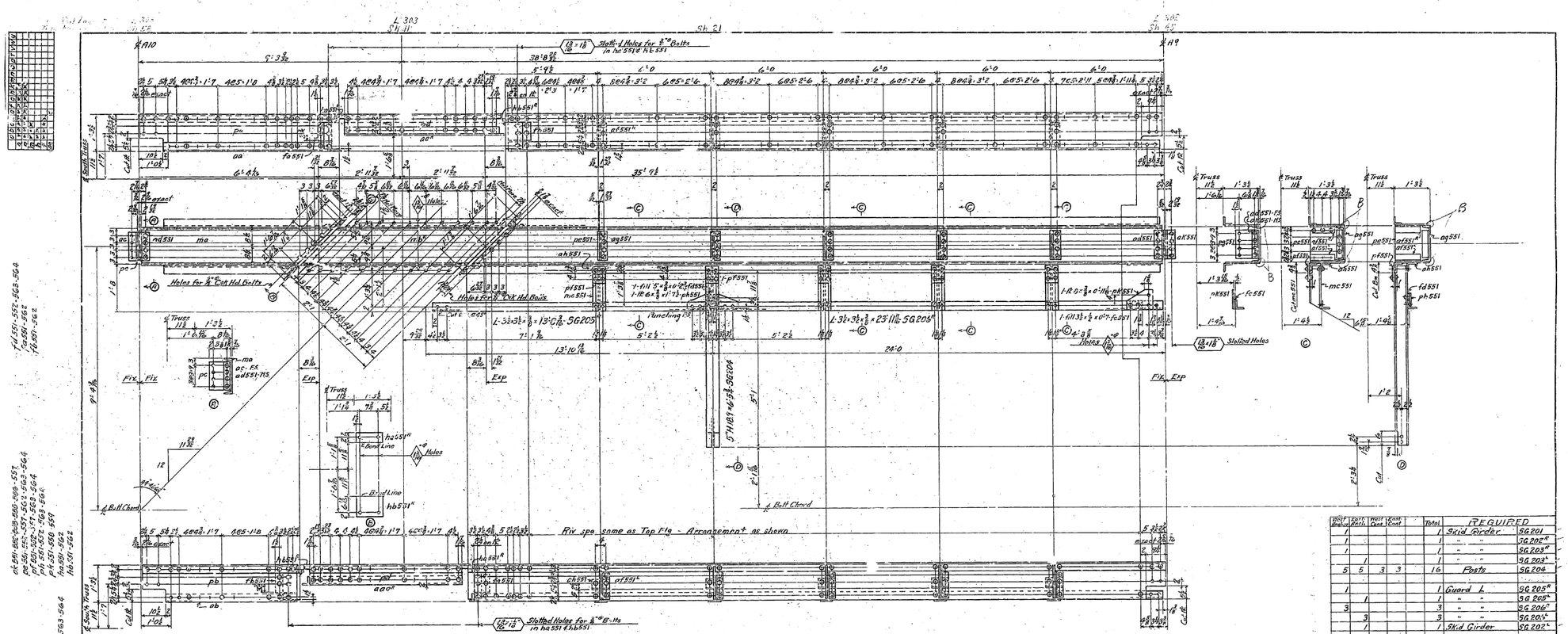
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span

Expansion Dams at L30 - Upper & Lower
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
VERIFIED FABRICATED AT Ambridge PLANT
BY ... OF Wilkinson
L. ... MADE BY PHC DATE 10-15-34
DRWG. CHECKED BY Rent DATE 10-24-34
ORDER No. G5107 SHEET No. 534

APPROVED
Chief Engineer
Engr. of Design
Bridge Engineer
For Chief Engineer
Approved Date 11-2-34

H.A.L. 11-20-34

30-1



SG201

Matl for SG201:-

1-L 3½ - 3½ x ⅜ x 6'-2⅝" - aa
1-PL 15" x ⅜ x 6'-10⅞" - pa
1-15" L 33.9 x 6'-10⅞" - ma
1-PL 15" x ⅜ x 5'-7⅞" - pb
1-L 3½ x 3½ x ⅜ x 4'-4¼" - ab

1-PL 11" x ⅜ x 0'-9½" - ha551
1-fill 6" x ⅜ x 0'-7" - fa551
1-L 3½ x 3" x 5/16 x 1'-0" - ac
1-L 4" x 3" x 5/16 x 1'-0" - ad551
1-PL 12" x 5/16 x 0'-9⅜" - pc
1-PL 11" x ⅜ x 1'-4" - hb551
1-fill 8" x ⅜ x 0'-9" - fb551

SG202

Matl for SG202:-

1-L 3½ x 3" x ⅜ x 5'-7" - aa
2-PL 8" x ⅜ x 5'-10⅜" - pd
1-15" L 33.9 x 7'-1⅞" - mb
1-L 3½ x 3½ x ⅜ x 5'-9" - aa

Shop Notes:-
1. Rivets in face of Skid Girders to be countersunk not chipped- Maximum height 1/16

SG203

Matl for SG203:-

1-L 3½ x 3½ x ⅜ x 34'-11⅞" } Top Flg
1-PL 15" x ⅜ x 35'-1
1-15" L 33.9 x 36'-4⅜" } Bott Flg
1-PL 15" x ⅜ x 36'-4⅜"
1-L 3½ x 3½ x ⅜ x 36'-6⅜"

1-hb551
1-fb551
10-L 3 x 3 x ⅜ x 0'-11" - af551 } Diaph
5-L 3 x 3 x ⅜ x 1'-0" - ag551
5-PL 16" x ⅜ x 1'-2⅜" - pe551
1-ha551
1-fa551
5-L 4 x 3½ x ⅜ x 0'-7" - ah551
4-PL 5" x ⅜ x 0'-2⅜" - pf551
4-5" H 18.9 x 1'-6⅜" - mc551
1-ac551
1-PL 12" x ⅜ x 0'-9⅜" - pg551
1-L 9 x 3 x ⅜ x 1'-0" - ai551

Gen Notes:-
Material:- Fill matl's OH Copper Bearing medium carbon steel.
All Rivets and Bolts to be Copper Bearing.
Specifications:- Special by State of California, Dept of Public Works.
Inspection:- John M Bailey - Chief Inspector
Rivets:- ¾"ø
Open Holes:- 13/16"ø Unl Noted
Reaming:- None
Finish:- All burrs and rough edges to be removed by chipping or grinding
Shop Paint:- None

SAVE TEMPLETS

Skid Girder	Guard L	Posts	Total	REQUIRED	
1			1	Skid Girder	SG 201
1			1	" "	SG 202 R
1			1	" "	SG 203 R
1			1	" "	SG 203 L
5 5	3	3	16	Posts	SG 204
1			1	Guard L	SG 205 R
1			1	" "	SG 205 L
3			3	" "	SG 206 L
3			3	" "	SG 206 L
1			1	Skid Girder	SG 202 L

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor & Cant. Arms

Skid Girders - Guard Ls - Posts

AMERICAN BRIDGE COMPANY

DRAWING MADE AT Gary Ind PLANT
WORK FABRICATED AT Ambridge PLANT
IN CH OF Wilkinson
DES MDST BY KFG DRVR 6-28-34
DTAL CHECKED BY WSP DATE 8-17-34
ORDER No. G-5107
SHEET No. 551

APPROVED
Glenn B. Warren, Engr. of Bridges
Chief Engineer
Approved 10-4-34

B (Rev 3-11-35) (Rev 2-22-35)

WINDER 10-4-34

[CB]

Elevg. Details:- Sh. 45
Shop Work Layout Fr. Details:- Sh. 302
Field Work Details:-

Sh. 60 L. 302
Sh. 50 L. 302
Sh. 62 L. 302
Sh. 47 L. 302

SG 207R

Mat'l for SG 207R (Complete):-

1- L 3½ x 3½ x ⅝ x 36'-4⅞"	}	Top Flg
1- L 3½ x 3½ x ⅝ x 6'-11⅞"		
1- PL 15 x ⅝ x 47'-11⅞"		
1- PL 15" x ⅝ x 47'-11⅞"	}	Bott Flg
1- PL 15" x ⅝ x 47'-11⅞"		
1- L 3½ x 3½ x ⅝ x 37'-11⅛"		
1- L 3½ x 3½ x ⅝ x 5'-4⅝"		
2- Pls 3" x ⅝ x 1'-9½" - haR	}	Int Diaph.
2- Pls 3" x ⅝ x 1'-1" - hbR		
10- Lts 3 x 3 x ⅝ x 0'-11" - af551R		
5- Lts 3 x 3 x ⅝ x 1'-0" - ag551		
5- Pls 16 x ⅝ x 1'-8½" - pe551		
5- Lts 4 x 3½ x ⅝ x 0'-7" - ah551		
4- Pls 5" x ⅜ x 0'-6⅞" - pf551		
4-5" ii 18.9 x 1'-6⅞" - mc551		
1- L 4 x 3 x ⅝ x 1'-0" - ad551	}	End Diaph
1- L 4 x 3 x ⅝ x 1'-0" - ah551		
1- PL 12 x ⅝ x 8'-0⅝" - pg551		

SG 208R

Mat'l for SG 208R (Complete):-

1- L 3½ x 3½ x ⅝ x 36'-10⅝"	}	Top Flg
1- L 3½ x 3½ x ⅝ x 6'-8⅞"		
1- PL 15 x ⅝ x 47'-11⅞"		
1- 15" I 33.9 x 47'-11⅞"	}	Bott Flg
1- PL 15" x ⅝ x 47'-11⅞"		
1- L 3½ x 3½ x ⅝ x 38'-5"		
1- L 3½ x 3½ x ⅝ x 5'-2⅞"		
2- PL 9" x ⅜ x 1'-10" - haR		
2- PL 3" x ⅜ x 1'-5½" - hdR		
10- af551		
5- ag551		
5- pe551		
5- ah551		
4- pf551		
4- mc551		

Shop Notes:-
All rivets in face of Skid Girders to be countersunk, not chipped. Maximum height ⅛"

For SG213R:- Portion to left of line Ⓒ & SG214R same as for SG212R

For SG205R:- Portion to left of line Ⓒ same as for SG207R

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm

Skid Girders: Guard & End Diaphs
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
MADE BY KEG DATE 7-16-34
L. ATT. CHECKED BY WSP DATE 8-17-34

APPROVED
Chief Engr. Bridge Engr. Asst. Engr. Engr. of Design
10-2-34

ORDER No. G-5107
SHEET No. 552 AB

[CB]

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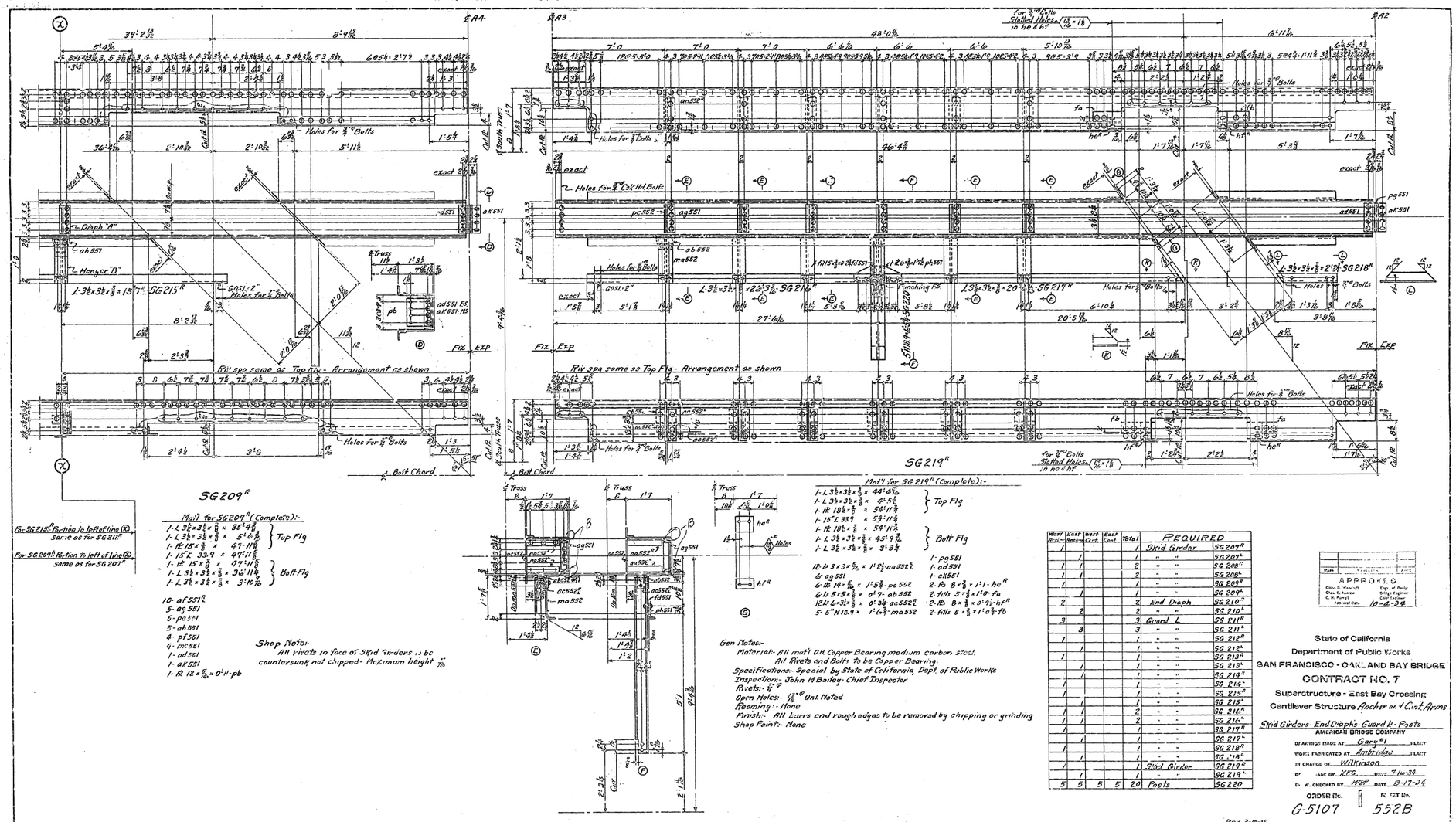

Mat'l for SG209R (Complete):-

1- L 3½x3½x⅝ x 35'-4⅞	} Top Flg	
1- L 3½x3½x⅝ x 5'-6⅝		
1- PL 15"x⅝ x 47'-11⅝	} Bott Flg	
1- 15"L 33.9 x 47'-11⅝		
1- PL 15"x⅝ x 47'-11⅝		
1- L 3½x3½x⅝ x 36'-11⅝		
1- L 3½x3½x⅝ x 3'-10⅞		

10- af551
5- ag 551
5- pc551
5- ah551
4- pf551
4- mc581
1- ad551
1- ak551
1- PL 12"x⅝"x 0'-11"-pb

Shop Notes:- All rivets in face of Skid Girders is be countersunk not chipped- Maximum height 1/16"

Mat'l for SG219R (Complete):-

1- L 3½x3½x⅝ x 44'-6⅛	} Top Flg	
1- L 3½x3½x⅝ x 1'-5⅛		
1- PL 18⅛x⅝ x 54'-11⅝	} Bott Flg	
1- 18"L 33.9 x 54'-11⅝		
1- PL 18⅛x⅝ x 54'-11⅝		
1- L 3½x3½x⅝ x 45'-9⅞		
1- L 3½x3½x⅝ x 3'-3⅞		

12- PL 3"x3"x 1'-2½ aa552L
6" ag551
6- PL 14"x⅝ x 1'-5⅜ pc552
6- PL 14"x5"x⅝ x 0'-7" ab552
12- PL 6"x3½x⅝ x 0'-3½ aa552L
5- 5"N 18.9 x 1'-(4⅜-ma552

1- pg551
1- ad551
1- ak551
2- PL ⅝x⅝ x 1'-1-hr"
2- fills 5"x⅝ x 1'-0-fa
2- PL ⅝x⅝ x 0'-9½-hf"
2- fills 5"x⅝ x 1'-0⅜-fb

Gen Notes:-
Material:- All mat'l OH Copper Bearing medium carbon steel.
All Rivets and Bolts To be Copper Bearing
Specifications:- Special by State of California, Dept of Public Works
Inspection:- John M Bailey- Chief Inspector
Rivets:- ⅞"ø
Open Holes:- 13/16"ø Unl Noted
Reaming:- None
Finish:- All burrs and rough edges to be removed by chipping or grinding
Shop Paint:- None

West End	East Section	West Cant	East Cant	Total	REQUIRED	
	/			1	Skid Girder	SG207R
				1	" "	SG207L
/				2	" "	SG208R
	/			2	" "	SG208L
/				1	" "	SG209R
	/			1	" "	SG209L
2				2	End Diaph	SG210R
	2			2	" "	SG210L
3				3	Guard L	SG211R
	3			3	" "	SG211L
/				1	" "	SG212R
	/			1	" "	SG212L
/				1	" "	SG213R
	/			1	" "	SG213L
/				1	" "	SG214R
	/			1	" "	SG214L
/				1	" "	SG215R
	/			1	" "	SG215L
/	/			2	" "	SG216R
/	/			2	" "	SG216L
/				1	" "	SG217R
	/			1	" "	SG217L
/				1	" "	SG218R
	/			1	" "	SG218L
/				1	Skid Girder	SG219R
	/			1	" "	SG219L
5	5	5	5	20	Posts	SG220

APPROVED
Chief D. Maintn
Chief E. Bureau
C.M. Ferrell
Asst Engr Dist
Engr. of Design
Bridge Engineer
Asst Engr
10-6-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor and Cant. Arms
Skid Girders- End Diaphs- Guard L- Posts
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DETAILED BY KFG DATE 7-16-34
DR. CHECKED BY HHF DATE 8-17-34

ORDER No. G-5107
DR. 127 No. 552B

Rev 2-12-35
B-(Rev. 3-11-35)
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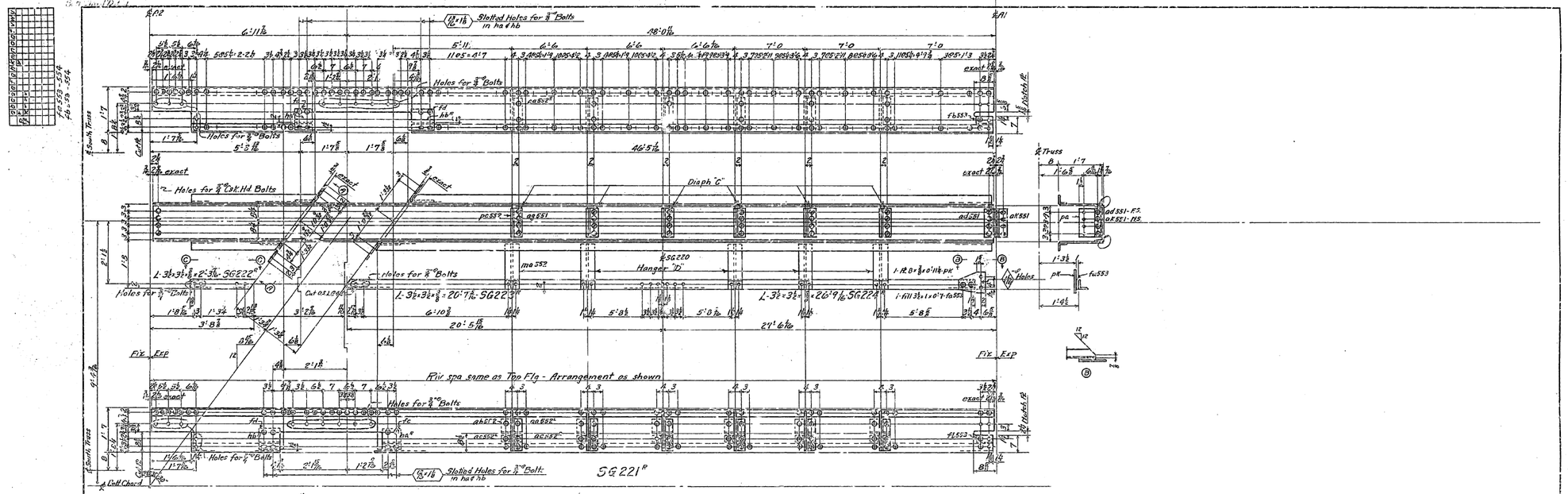


Shop Note:-
All rivets in face of Skid Girders to be countersunk not chipped- Maximum height 1/16"

Matl for 5G221ft (Complete):-

1- L 3½ x 3½ x ⅝ x 41'5"	Top Flg
1- L 5½ x 5½ x ⅝ x 45'9½	
1- PL 18½ x ⅝ x 54'11½	
1- 18"I 53.9 x 54'11½	
1- PL 18½ x ⅝ x 54'11½	
1- L 3½ x 3½ x ⅝ x 3'3½	Bott Flg
1- L 3½ x 3½ x ⅝ x 46'11½	

12- Lt 3 x ⅝ x 1'2½- aa552
6- Lt 3 x 3 x 7/16 x 1'0- aq551
6- Pl 14 x ⅝ x 1'5⅜- pc552
6- Lt 5 x 5 x ⅞ x 0'7"- ae552
12- Lt 6 x 3½ x ⅝ x 0'3½- ac552
5- 20"H 110.9 x 1'6⅜- mo552
1- L 4 x 3 x ⅝ x 1'0- ad551
1- L 4 x 3 x ⅝ x 1'0- ar551
1- Pl 12 x ⅝ x 0'7⅛- pa
2- Pl 5 x ⅝ x 1'3- ha
2- Pl 5 x ⅝ x 1'3⅛- hb
2- fills 3½ x ⅜ x 0'6½- fb553
2- fills 6 x ⅝ x 0'7⅛- fc
2- fills 6 x ⅝ x 0'9⅛- fd

Gen Notes:-
Material:- All matl O.H. Copper Bearing medium carbon steel.
All Rivets and Bolts to be Copper Bearing.
Specifications:- Special by State of California, Dept. of Public Works
Inspection:- John M. Bailey- Chief Inspector
Rivets:- ⅞"ø
Open Holes:- 1/16" Unl Noted
Reaming:- None
Finish:- All burrs and rough edges to be removed by chipping or grinding
Shop Paint:- None

Weld	Bolt Shop	Field	Total	REQUIRED	
	/		1	Skid Girder	5G221ft
		/	1	" "	5G221ft
	/		1	Guard L	5G222ft
		/	1	" "	5G222ft
	/		1	" "	5G223ft
		/	1	" "	5G223ft
	/		1	" "	5G224ft
		/	1	" "	5G224ft

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm

Skid Girders- Guard Lt
AMERICAN BRIDGE COMPANY

DRAWING MADE AT Gary IND PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DRAWN MADE BY K.F.G. DATE 7-18-34
DRAWN CHECKED BY H.M.P. DATE 8-17-34

ORDER No. G-5107
SHEET No. 553

APPROVED
Chas D. Hanrott, Chas E. Andrew, C. H. Purcell
Engr. of Design, Bridge Engineer
Asst. Engr.
Approved Date 10-2-34

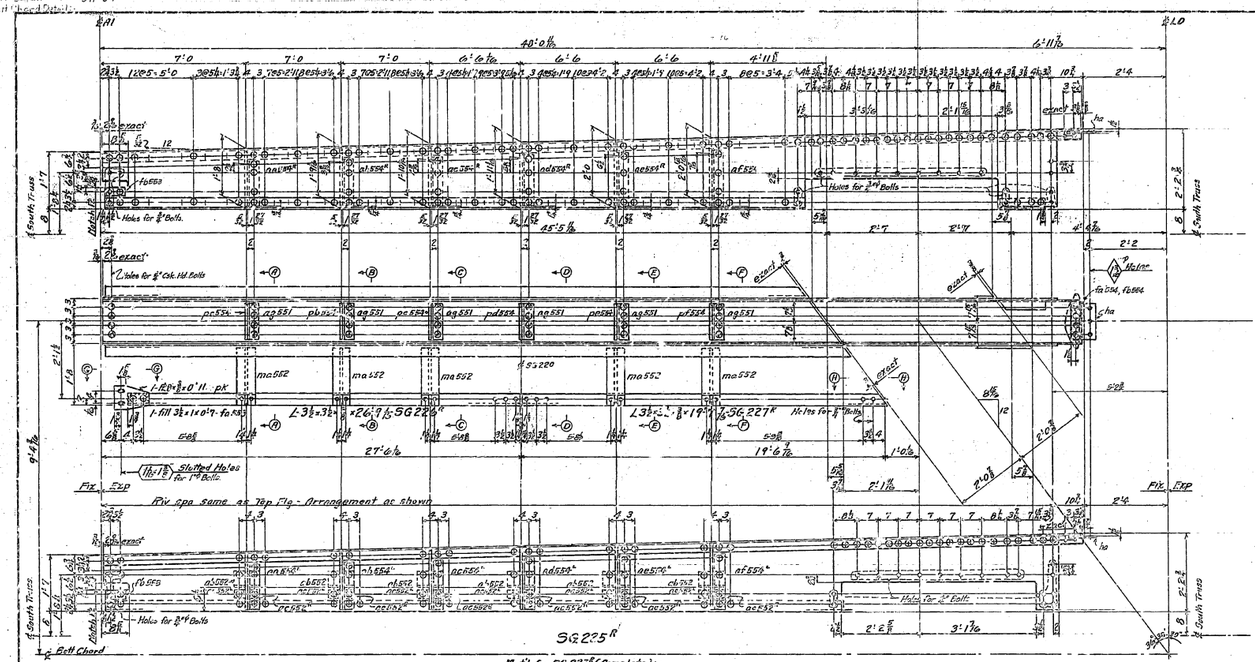
(Rev. 3-11-35)

[CB]

Shop Detail
Shop Detail Layout: L 303
Field Detail: Sh 57
Erection Details:

Sh 59
L 303

L 305
Sh 222



Mat'l for SG 223 R (Complete):-

Top Flg
- 1-L 3½×3½×⅝ = 34'10½
- 1-L 3½×3½×⅝ × 1'-4½
- 1-PL 26 × ⅞ × 5'-11½
- 1-PL 33.9 × 52'-7½
- 1-PL 26 × ⅞ × 5'-11½

Bott Flg
- 1-L 3½×3½×⅝ = 45'-11½

2-Lt 3×3×⅝ = 1'-3½ ao 559
2-Lt 3×3×⅝ × 1'-4½ ao 559
2-Lt 3×3×⅝ × 1'-5½ ao 559
2-Lt 3×3×⅝ × 1'-6½ ao 559
2-Lt 3×3×⅝ × 1'-7½ ao 559
5-5"NB 12.9 = 1'-6½ ma 552
6-Lt 5×5×⅞ = 0'-. ch 552
12-Lt 6×3½×⅞ = 0'-3½ ac 522
6-Lt 3×3×⅜ = 1'-0 - aq 551
1-PL 12 × ⅞ = 0'-9 - ha
1-Fill ½×⅜ = 1'-0 - fe 554
1 Fill 4½×½ = 1'-0" - fb 556

1-PL 14×⅝ × 1'-6¾ - pa 524
1-PL 14×½ × 1'-7½ - pb 524
1-PL 14×⅝ × 1'-8¼ - pc 524
1-PL 14×⅝ × 1'-9⅞ - pd 524
1-PL 14×⅝ × 1'-10⅝ - pe 524
1-PL 14×⅝ = 1'-11½ - pf 524
2 Fills - 3½×⅜ - 0'-6½ - fb 553

Mark	Dimension G	H	K
ⓐ	1-0	9	4½
ⓑ	1'-9½	12	6½
ⓒ	1'-10½	8	4½
ⓓ	1'-11½	8	5½
ⓔ	2'-0	9½	5½
ⓕ	2'-0½	6	6½

GENERAL NOTES:-
Material:- All material O.H. Copper Bearing medium carbon steel. All rivets and bolts to be copper bearing.
Specifications:- Special, by State of California, Dept. of Public Works.
Inspection:- John M. Dailey, Chief Inspector.
Rivets:- ⅞" Dia.
Open Holes:- 15/16" Dia, Unless Noted.
Reaming:- None.
Finish:- All burrs and rough edges to be removed by chipping or grinding.
Shop Paint:- None.

SAVE TEMPLETS

Mark	Erect Marked	Total	REQUIRED	
	1	1	Skid Girder	SG 225 R
	1	1	"	SG 225 L
1		1	Guard L	SG 226 L
	1	1	" "	SG 226 R
1		1	" "	SG 227 R
	1	1	" "	SG 227 L

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure - ANCHOR ARM
Skid Girders - Guard L's
AMERICAN BRIDGE COMPANY

DRAWING MADE AT Gary "1" PLANT
WORK FABRICATED AT Ambridge PLANT
MADE OF Wilkinson
FULL TRACE BY KEF DATE 7-25-34
DRWG. CHECKED BY HBP DATE 8-17-34
ORDER No. G-5107 SHEET No. 554

APPROVED
Chief Engr. of Design
Bridges & Ferries
Comm. of Public Works
10-8-34

Rev 3-11-35
Rev 12-4-34

[C B]

Dwg Details
Skid Rail Layout
Post Details
B-1 Chord Details

L 313
Sh 20
Sh 22

L 302

R18

R7

39'-2 1/2"

5'-5 1/2" 8 1/2" 6 @ 6 1/2" = 39'-1 1/2" 2'-1 1/2" 2 on Con 12 2'-11" 6'-0 6'-0 6'-0 6'-0 6'-0

exact

Holes for 3/4" Bolts

Slop Cut Run on FS E

Holes for 3/4" Cut Hd Bolts

L 3 1/2 x 3 1/2 x 19/16 (1st or 3rd of L)-Bent SG 220

Bolt SG 206

24'-0

Fix. Exp.

Fix. Exp.

Bend line

South Truss

Bott Chord

Holes for 7/8" Bolts

Rv spacing same as Top Flg - Arrangement as shown

SG 228

Mat'l for SG 228 (Complete):

1-L 3 1/2 x 3 1/2 x 7/16 - ca	Top Flg	1-L 4 1/2 x 3 1/2 x 7/16 x 1'-0 - ad 651	End Diaph
1-L 4 x 3 1/2 x 5/16 - ab		1-L 4 1/2 x 3 1/2 x 7/16 x 1'-0 - ak 551	
1-L 3 1/2 x 3 1/2 x 5/16 x 39'-1 5		1-PL 12 x 5/16 x 0'-9 1/8 - pg 551	
1-PL 22 1/2 x 5/8 x 6'-5 3/8 - pa		2-5" H 18.9 x 1'-6 3/8 - ma 555	
1-PL 22 1/2 x 5/8 x 35'-0 3/8	Bott Flg	2-L 6 x 4 x 5/8 x 0'-6 3/8 - ae	Hangers
1-15" C 33.9 x 49'-11 1/2		2-L 5 x 5 x 5/8 x 0'-6 3/8 - af 555	
1-PL 22 1/2 x 1/2 x 5'-7 5/16 - pb		4-5" H 18.9 x 1'-1 1/2 - ma 552	
1-PL 22 1/2 x 1/2 x 36'-10 1/2		5-L 6 x 6 x 5/8 x 0'-7 - ag 555	Hangers
1-L 3 1/2 x 3 1/2 x 21 5/16 - ac		10-L 6 x 3 1/2 x 5/8 x 0'-3 3/8 - ac 502	
1-PL		+ Fills 11 x 1/2 x 1'-1 1/2 - fa 555	
1-L 3 1/2 x 3 1/2 x 35'-7 1/16		1-Fill 22 1/2 x 1/2 x 0'-2 5/16 - fb 555	
		1-PL 22 1/2 x 5/8 x 2'-3 - pe	
4-L 3 x 3 x 5/16 x 1'-3 1/2 - ad 555	Diaph	1-PL 22 1/2 x 5/8 x 2'-3 - pf	
9-L 3 x 3 x 5/16 x 1'-0 - ag 551		2-PL 24 x 3/4 x 3'-8 - pg 555	
2-PL 16 x 5/16 x 1'-7 1/8 - pe 555		1-Fill 5" 4.7 x 0'-6 1/2 - fc 555	
5-PL 18 x 5/16 x 1'-7 1/8 - pd 552		2-Fills 6 1/2 x 1/8 x 0'-7 1/8 - fd	
13-L 3 x 3 x 5/16 x 1'-6 1/2 - ah 555		1-Fill 4 x 1/16 x 0'-3 1/4 - fa 555	

Shop Notes:
All rivets in face of Skid Girders to be countersunk; not chipped - Maximum height 1/16

Gen Notes:
Material:- All mat'l OH Copper Bearing medium carbon steel
All Rivets and Bolts To be Copper Bearing
Specifications:- Special by State of California, Dept of Public Works
Inspection:- John M Bailey - Chief Inspector
Rivets:- 7/8"
Open Holes:- 1 1/16" Unl Noted.
Reaming:- None
Finish:- All burrs and rough edges to be removed by chipping or grinding
Shop Paint:- None

SAVE TEMPLETS

Work All Shops	Erect Shops	Total	REQUIRED	
		1	Skid Girder	SG 228
	1	1	" "	SG 228
		1	Guard L	SG 229
	1	1	" "	SG 229

Mark	Revision	Appr.

APPROVED
Chief, Bridge Engineer
Chief Engineer
Date 12-6-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
Skid Girders - Guard L
ALGHANIAN BRIDGE COMPANY
DRAWINGS MADE AT Geary St PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DRAWN BY KEG DATE 7-30-34
DESIGN CHECKED BY WSB DATE 5-17-34
ORDER No. G-5107
DRAWING No. 555

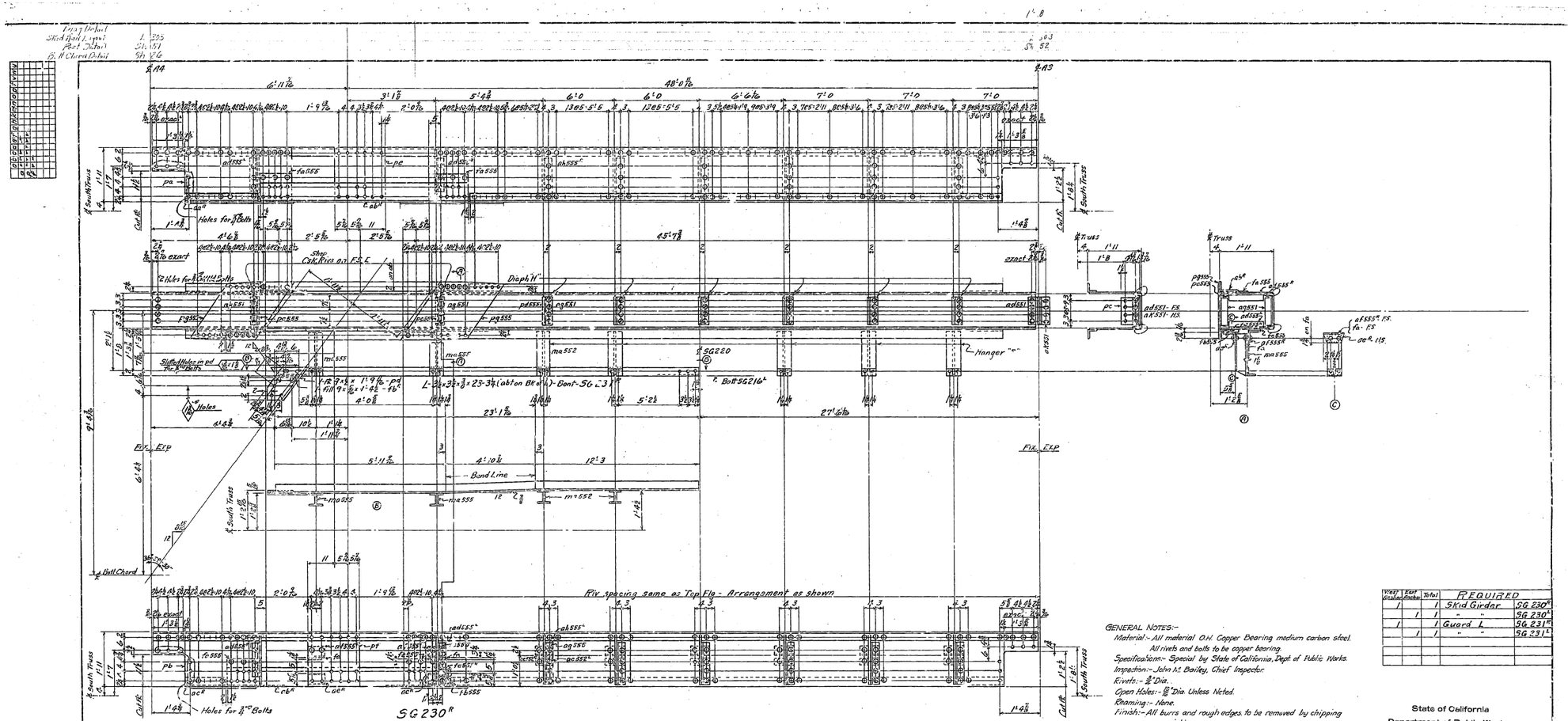
Rev 3-1-35

[CB]

30-1

Truss Detail L 335
Skid Rail Layout Sh 151
Post Detail Sh 82
Fl. & Chord Detail Sh 86

L 363
Sh 82



Mat'l for SG230R (Complete):-

1-L 3½×3½×⅝ = 21.2 lbs. ca^{R}	Top Flg	1-L 4×3×⅝ × 1'0" - ad551	End Diaph.
1-L 7½×4 × ⅝ = 7'-4½ lbs. al^{R}		1-L 4×3×⅝ × 1'0" - ak 651	
1-L 3½×3½×⅝ = 42'-5½		1-Fl 12 × ⅝ × 0'-7½ - pc	
1-Fl 22½×⅝ × 4'-11½ - fa		2-5" H 10.7 × 1'-6½ - ma 555	Hangers
1-Fl 22½×⅝ × 45'-1⅛		2-L 4½×4×⅝ = 0'-6½ - ne^{R}	
1-15" I 33.9 × 5'-0" -		2-L 5"×5"×⅝ × 0'-1½ - af 655	
1-Fl 22½×⅝ × 4'-10⅝ - pb	Bott Flg	5-" H 18.9 × 1'-6½ - ma 552	Hangers
1-Fl 22⅝×⅝ × 46'-0½		6-L 6×4×⅝ × 0'-7" - aq 555	
1-L 3½×3½×⅝ = 1'-6 - ca^{R}		12-L 6×3½×⅝ × 0'-3½ - ac 552	
1-ab^{R}		4-fills 11×⅝ = 1'-½ - fa 535	
1-L 3½×2½×⅝ = 53'-7⅝		1-fill 22½×⅝ × 0'-5⅞ - fb 535	
4-L 5×5×⅝ = 1'-3½ - ad 555	Diaph	1-Fl 22½ × ½ = 1'-10 - pe	
10-L 3×3×⅝ = 1'-9 - aq 551		1-Fl 22½ × ½ = 1'-10 - pf	
2-Fl 18×⅝ = 1'-9⅜ - ac 555		2-Fl 2C × ⅞ × 3'-8 - pg 555	
6-Fl 16×⅝ = 1'-7⅞ - ad 552		1-fill 5 × ½ = 0'-6½ - fa 555	
12-L 3×3×⅜ = 1'-6½ - ah 555		4-fills 5 × ⅞ = 0'-4½ - fa	
		1-fill 6×⅝ = 0'-5¼ - fe 535	

Shop Note:-
All rivets in face of Skid Girders to be countersunk not chipped- Maximum height 1/16"

GENERAL NOTES:-
Material:- All material O.H. Copper Bearing medium carbon steel. All rivets and bolts to be copper bearing.
Specification:- Special by State of California, Dept of Public Works.
Inspection:- John M. Bailey, Chief Inspector.
Rivets:- ⅞" Dia.
Open Holes:- 15/16" Dia. Unless Noted.
Reaming:- None.
Finish:- All burrs and rough edges to be removed by chipping or grinding.
Shop Paint:- None.

West Girder	East Girder	Total	REQUIRED	
1		1	Skid Girder	SG 230^{R}
	1	1	" "	SG 230^{L}
1		1	Guard L	SG 231^{R}
	1	1	" "	SG 231^{L}

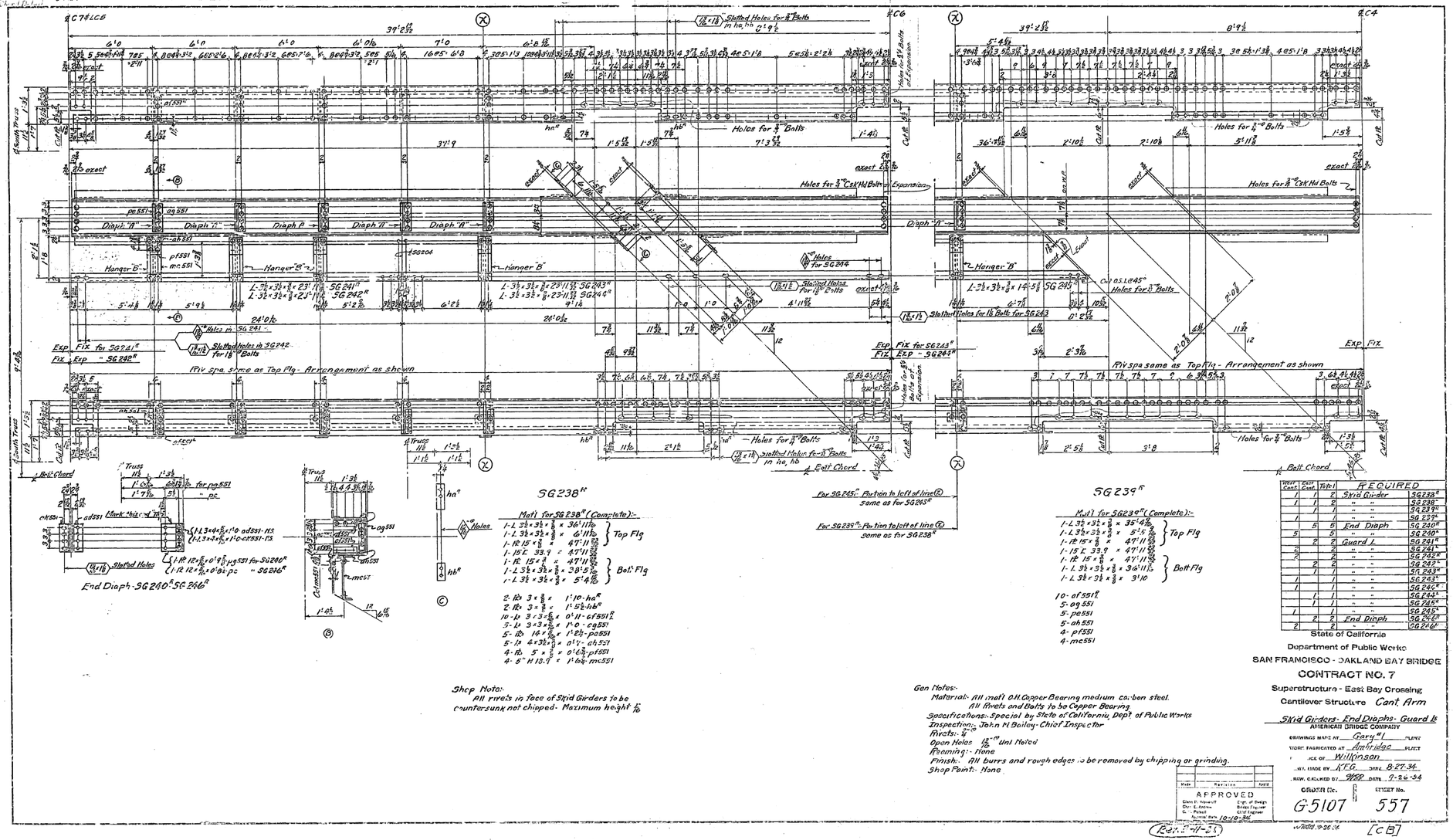
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm

Skid Girders - Guard Is
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary, Ind PLANT
FABRICATED AT Bethlehem PLANT
CHARGE OF Williamson
DRAWN BY KFG DATE 8-1-34
DRAW. CHECKED BY W.S.B. DATE 8-17-34
ORDER No. G-5107 | DRAWING No. 556

APPROVED
Chief Engineer
Gen. Supt.
Asst. Engr. of Design
Bridge Engineer
Chief Engineer
10-4-34

(Rev. 3-11-35)

W.P.A. 10-10-35 [C B]


SG238ᴿ
Matl for SG238ᴿ (Complete):-
1-L 3½×3½×⅜ × 36'11½ } Top Flg
1-L 3½×3½×⅜ × 6'11½
1-PL 15"×⅜ × 4'7" 11 5/16
1-15E 33.9 × 4'7" 11 5/16
1-PL 15"×⅜ × 4'7" 11 5/16 } Bott Flg
1-L 3½×3½×⅜ × 28'5½
1-L 3½×3½×⅜ × 5'4½
2-PLs 3"×⅜ × 1'10-haᴿ
2-PLs 3"×⅜ × 1'5½-hbᴿ
10-Ls 3"×3"×5/16 × 0'11-af551
2-Ls 3"×3"×5/16 × 1'0 - cg551
5-PLs 14"×⅜ × 1'2½-pa551
5-Ls 4"×3½×⅜ × 0'1'-ah551
4-PLs 5"×⅜ × 0'1 3/16-pf551
4-5" H 18.9 × 1'6½-mc551
SG239ᴿ
Matl for SG239ᴿ (Complete):-
1-L 3½×3½×⅜ × 35'4 15/16 } Top Flg
1-L 3½×3½×⅜ × 5'5½
1-PL 15"×⅜ × 4'7" 11 5/16
1-15E 33.9 × 4'7" 11 5/16
1-PL 15"×⅜ × 4'7" 11 5/16 } Bott Flg
1-L 3½×3½×⅜ × 36'11½
1-L 3½×3½×⅜ × 3'10
10-af551
5-cg551
5-pa551
5-ah551
4-pf551
4-mc551
Shop Note:
All rivets in face of Skid Girders to be countersunk not chipped - Maximum height 1/16
Gen Notes:
Material:- All matl O.H. Copper Bearing medium carbon steel.
All Rivets and Bolts to be Copper Bearing.
Specifications:- Special by State of California, Dept. of Public Works
Inspection:- John H Bailey - Chief Inspector
Rivets:- ⅞"
Open Holes 13/16" Unl Noted
Reaming:- None
Finish:- All burrs and rough edges to be removed by chipping or grinding.
Shop Paint:- None
APPROVED
Glenn B. Woodruff Engr. of Bridges
Dist. E. Andrew Bridges Engineer
G. Patrell Asst Engineer
Approval Date 10-10-34
Rev. 11-21
Rev. 12-26-34
[C B]
EQUIRED
Skid Girder SG238ᴿ
" " SG239ᴿ
" " SG240ᴿ
End Diaph SG241ᴿ
Guard L SG242ᴿ
" " SG243ᴿ
" " SG244ᴿ
" " SG245ᴿ
End Diaph SG246ᴿ
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cant. Arm
Skid Girders - End Diaphs - Guard Ls
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Ambridge PLANT
OFFICE OF Williamson
DRAWN MADE BY K.F.G. DATE 8-27-34
REVISED BY SHEP DATE 9-26-34
ORDER No. G5107
DETAIL No. 557

30-1

Dia. Cl'nd
Skid Tail Lengths
Post Detail
Skid Ch. Details

L 303
Sh 23B (237)

Sh 213 (240)
L 304
L 304
Sh 241

EC3 (C1)

EC2

for 3/4" Bolts
Slotted Holes in hc, hd, he, hf
13/16 x 1 1/16

48'-0 3/8"

7'-0 | 7'-0 | 7'-0 | 6'-6 1/16 | 6'-6 | 6'-6 | 5'-10 7/8" | 6'-11 5/8"

1285-S10 | 3 7PB2H backs 3/4 | 3 7PB2H backs 3/4 | 3 8DB6H backs 1/2 | 3 8DB6H backs 1/2 | 3 8DB6H backs 1/2 | 405-S19 | 5 @ 3/4 = 1'-11 1/8" | 3

Holes for 7/8" Bolts At Expansion

Holes for 7/8" Bolts

Holes for 7/8" Bolts At Expansion

Holes for 7/8" C'sk Hd Bolts At Expansion

Holes for 7/8" C'sk Hd. Bolts At Expansion

Diaph. C

ac552 | ag551

ab552 | ma552

#SG220

Hanger "D"

For SG250A
1 - AN 3 1/2 x 3 1/2 x 0'-7" - HA590

Cut 022.845°

1 - PL D = 3/4 x 0'-11 1/2 - pb552 for SG249A
1 - PL G = 3/4 x 0'-11 1/2 - pb552 for SG250A

L 3 1/2 x 3 1/2 x 3/8 x 26'-9 1/2 - SG249A
L 3 1/2 x 3 1/2 x 3/8 x 26'-9 1/2 - SG250A

L 3 1/2 x 3 1/2 x 3/8 x 2'-2 3/4 - SG252A

L 3 1/2 x 3 1/2 x 3/8 x 20'-6 1/16 - SG251A

Holes for 3/4" Bolts

27'-6 7/8"

20'-5 3/4"

6'-10 3/8"

5'-8 7/8"

5'-8 7/8"

3'-0 7/16"

1'-8 5/8"

3'-0 5/8"

1'-5 3/4"

3

Exp Fix for SG247A & SG249A
Fix Exp - SG248A & SG250A

Rev spa same as Top Flg - Arrangement as shown

5/8" Holes in pk551

Slotted Holes in pk558 for 1/8" Bolts

Exp Fix for SG247A
Fix Exp - SG248A

Holes for 1/2" Bolts At Expansion

Holes for 7/8" Bolts

Holes for 7/8" Bolts At Expansion

ac552 | aa552 | ac552 | ab552

fc559

fb

fa

hd^A for SG247A
he^A - SG248A

For 3/4" Bolts in hc, hd, he, hf
Slotted Holes 13/16 x 1 1/16

hc^A for SG247A
he^A - SG248A

South Truss

Bott Chord

SG247A - SG248A

Truss

ag551

ac552 | aa552 | ac552 | ab552

ma552

Truss

hc^A for SG247A
he^A - SG248A

Holes

hd^A for SG247A
hf^A - SG248A

C

B

D

Mat'l for SG247A & SG248A :-

Top Flg
- 1 - L 3 1/2 x 3 1/2 x 3/8 x 45° 8 1/8
- 1 - L 3 1/2 x 3 1/2 x 3/8 x 41° 5 1/2
- 1 - PL 18 1/2 x 3/8 x 54° 11 13/16
- 1 - 15" I 33.9 x 54° 11 13/16
- 1 - PL 18 1/2 x 3/8 x 54° 11 1/2

Batt Flg
- 1 - L 3 1/2 x 3 1/2 x 3/8 x 46° 11 7/16
- 1 - L 3 1/2 x 3 1/2 x 3/8 x 3° 3

12-PL 3 x 3 x 5/16 x 1'-2 1/2 - aa552
6-PL 3 x 3 x 5/16 x 1'-0 - ag551
6-PL 11 x 1/2 x 1'-5 1/2 - pc552
60-PL 5 x 5 x 3/8 x 0'-7 - ab552
12-PL 6 x 3 1/2 x 3/8 x 0'-3 1/2 - ac552
5-5" H 18.9 x 1'-0 1/4 - ma552

2 - PL 7 x 3/8 x 1'-0 3/4 inc^A } for SB247A
2 - PL 7 x 3/8 x 0'-9 1/2 - hc^A inc^A }
2 - PL 7 x 3/8 x 1'-1 - he^A } for SB248A
2 - PL 7 x 3/8 x 0'-9 1/2 - hf^A inc^A }
2 fills 4 x 3/8 x 1'-0 - fa
2 fills 4 x 3/8 x 1'-0 3/8 - fb
2 fills 4 x 3/8 x 0'-6 3/4 - fc 558

Truss
1'-4 15/16"
Top Plate Flg L
1'-4 1/2"
for SG249A at C3

Truss
1'-4 15/16"
Top Plate Flg L
1'-4 1/2"
for SG220 at C1

Shop Note:-
All rivets in face of Skid Girders to be countersunk; not chipped- Maximum height 1/16"

Gen Notes:-
Material:- All mat'l O.H. Copper Bearing medium carbon steel.
All rivets and Bolts to be Copper Bearing.
Specifications:- Special by State of California, Dept. of Public Works
Inspection:- John M. Bailey- Chief Inspector
Rivets:- 7/8" ø
Open Holes:- 1/16" Unl. Noted
Reaming:- None
Finish:- All burrs and rough edges to be removed by chipping or grinding.
Shop Paint:- None

Joint Chord	Joint Grd.	Total	REQUIRED	
	1	1	Skid Girder	SG 247A
1		1	" "	SG 247A
1		1	" "	SG 248A
	1	1	" "	SG 248A
	1	1	Guard L	SG 249A
1		1	" "	SG 249A
1		1	" "	SG 250A
	1	1	" "	SG 250A
1	1	2	" "	SG 251A
1	1	2	" "	SG 251A
1	1	2	" "	SG 252A
1	1	2	" "	SG 252A

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cant. Arm
Skid Girders: Guard L's

AMERICAN BRIDGE COMPANY
STRUCTURES MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Williamson
DRAWN BY H.T.G. DATE 8-7-36
TRACED BY 1982 DATE 8-26-36
CHECKED BY DATE

Revisions | Date
APPROVED
Chief Engr. Bridge Division
Asst. Chief Engr.
Asst. Engr. Bridge Division
Chief Engineer
Chas. E. Andrew
C. H. Purcell
Approved Dec. 10-10-36

ORDER NO. G5107
SHEET NO. 558

Rev. 3-11-36
Rev. 10-27-36
[CB]

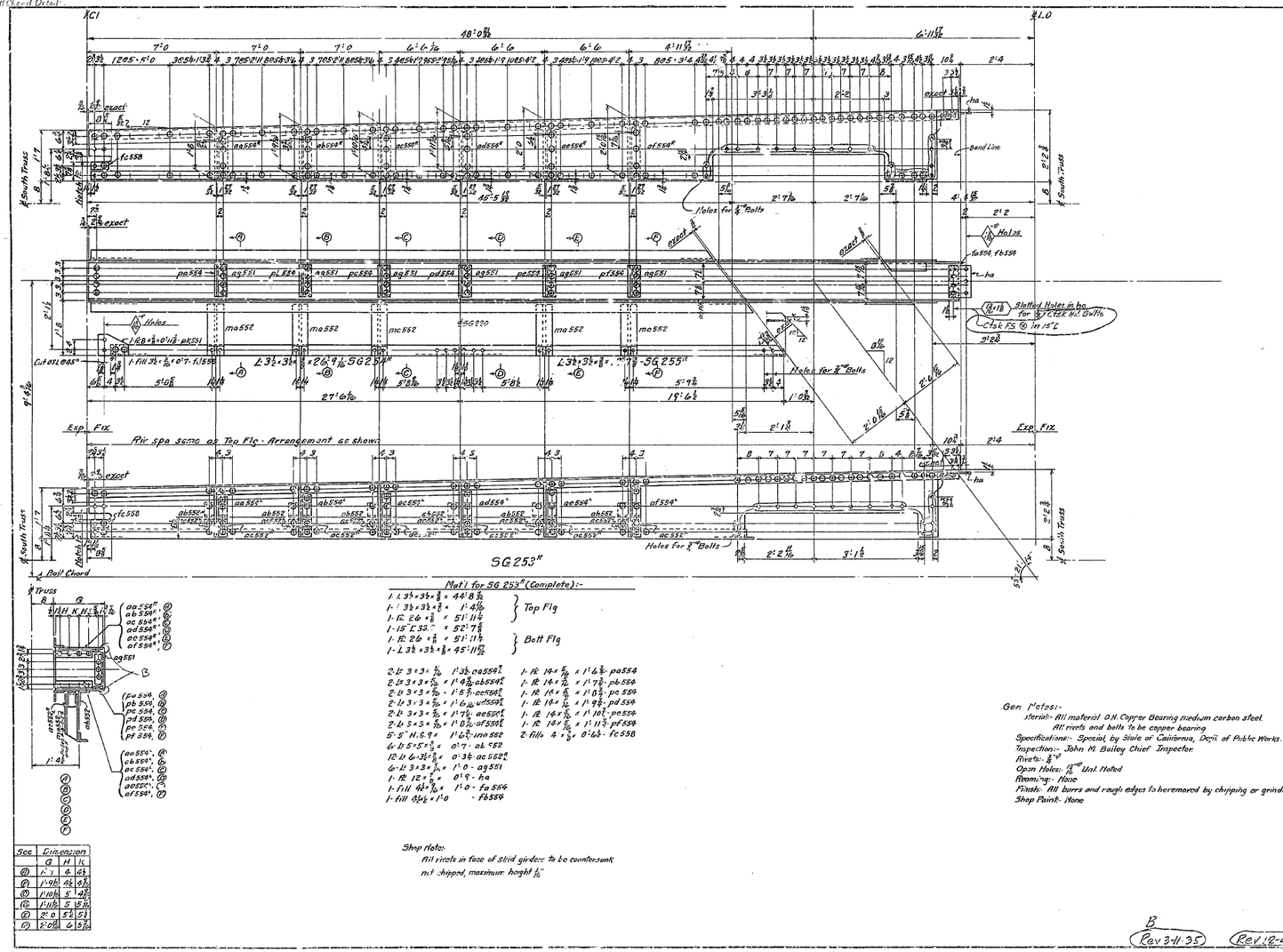
pb 558-561
fc 558-559
fd 558-559

30-1

Drag Detail
Skid Rail Layout: L 303
Post Detail: Sh 237
Bolt Chord Detail:

Sh 230
L 305

L 305
Sh 222

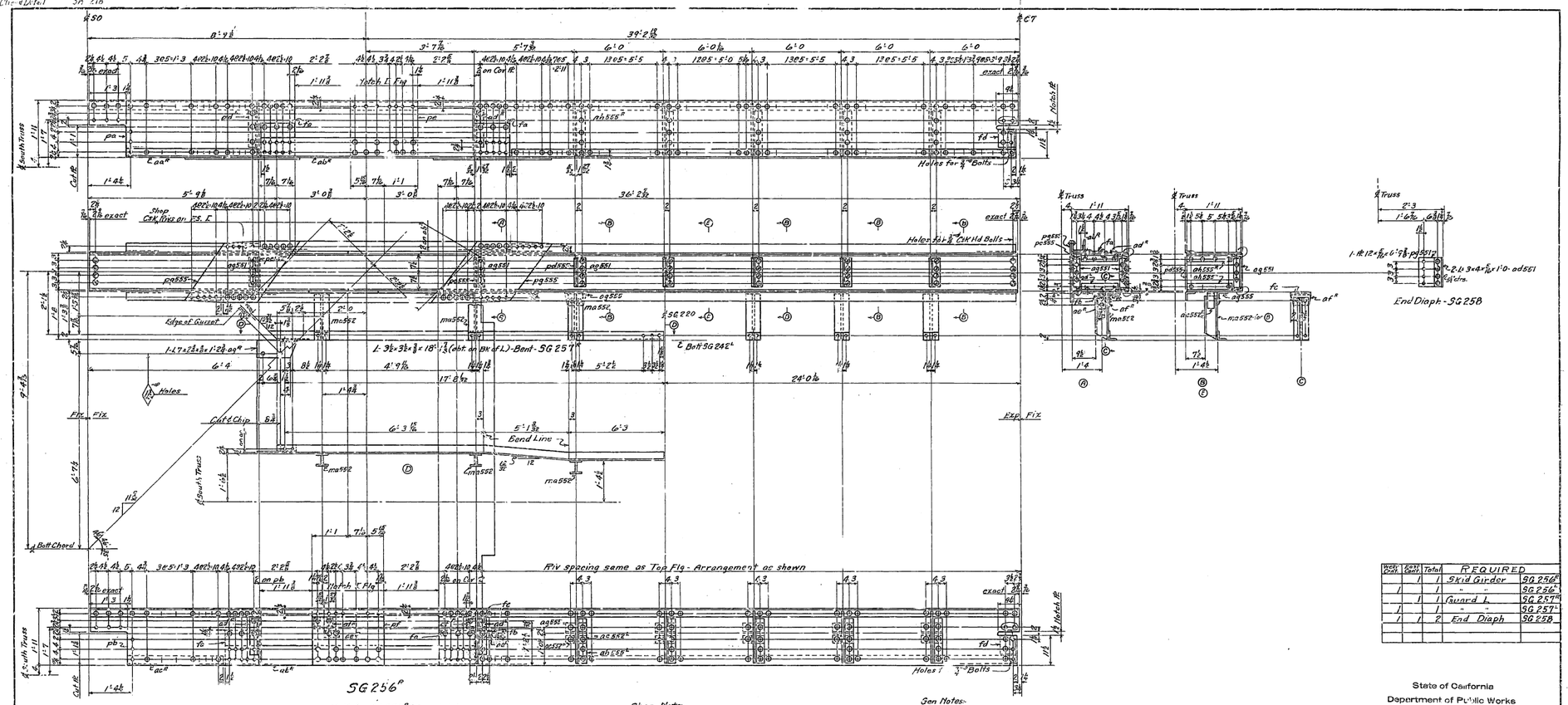

℄C1
℄L0
48'-0 3/8"
6'-11 17/32"
7'-0
6'-6
4'-11 17/32"
1295-K'0
℄ South Truss
Bolt Chord
exact
Holes for 7/8" Bolts
Holes
Slotted Holes in ha for 7/8" A.S.T.M. Rail Bolts
L 3 1/2 x 3 1/2 x 26 9/16 SG 253"
L 3 1/2 x 3 1/2 x 26 9/16 SG 255"
SG 253"
SG 255"
Exp. Fix.
Priv. spa. same as Top Flg. - Arrangement as shown.
Bend Line
Holes for 3/4" Bolts
Shop Splice
Exact
Exact
Exact

Erection Detail
Skid Rail Layout
Floor Detail
Rail Clip Detail

L 307
Sh 26
Sh 218

L 307

L 102
Sh 24.5



SG 256

Work Copy	Cont Copy	Total	REQUIRED	
	1	1	Skid Girder	SG 256
1		1	" "	SG 256
	1	1	Guard L	SG 257
1		1	" "	SG 257
1	1	2	End Diaph	SG 258

Mat'l for SG 256 (Complete):-

1-L 3 1/2 x 3 1/2 x 3/8 x 3'-11 7/8 - ae	Top Flg	
1-L 6 x 4 x 7/16 x 6'-3 15/16 - ab		
1-L 3 1/2 x 3 1/2 x 1/2 x 50'-3 7/16		
1-PL 22 1/2 x 3/8 x 6'-4 - pa		
1-PL 22 1/2 x 1/2 x 35'-6 5/16	Bott Flg	
1-PL 15 C 33.9 x 49'-11 7/32		
1-PL 22 1/2 x 1/2 x 8'-1 7/16 - pb		
1-PL 22 1/2 x 1/2 x 36'-5 5/16		
1-L 3 1/2 x 3 1/2 x 3/8 x 21'-9 - ac		
1-ch		
1-L 3 1/2 x 3 1/2 x 1/2 x 35'-3 7/16		
4-Lt 3 x 3 x 5/16 x 1'-3 1/2 - ad	Diaph	
4-Lt 3 x 3 x 5/16 x 1'-0 - ag551		
5-PL 14 x 5/16 x 1'-9 1/2 - pe555		
5-PL 14 x 5/16 x 1'-9 1/2 - pd555		
10-Lt 3 x 3 x 5/16 x 1'-6 - ah555		
2-Lt 6 x 6 x 3/8 x 0'-3 1/2 - ae	Hangers	
2-Lt 5 x 5 x 3/8 x 0'-10 - af		
6-S 4 1/16 x 1'-6 3/8 - ma552		
2-S 4 x 4 x 3/8 x 21'-7 - ag555		
10 Lt 6 x 3 1/2 x 11/16 x 0'-3 1/8 - ac552		
8-Fills 13 x 1/2 x 1'-1/16 - fa		
1-Fill 6 x 1/2 x 0'-3 1/8 - fb		
1-PL 22 1/2 x 3/8 x 2'-2 - pe		
1-PL 22 1/2 x 1/2 x 2'-2 - pf		
2-PL 24 x 1/2 x 3'-9 - pg555		
1-Fill 5 x 1/4 x 0'-6 1/2 - fc		
2-Fills 6 1/2 x 3/8 x 0'-7 3/8 - fd		

Shop Notes:-
All rivets in face of Skid Girders to be countersunk not chipped. Maximum height 1/16

Gen Notes:-
Material:- All mat'l OH Copper Bearing medium carbon steel
All Rivets and Bolts to be Copper Bearing
Specifications:- Special by State of California, Dept of Public Works
Inspection:- John M Bailey - Chief Inspector
Rivets:- 3/4 ϕ
Open Holes:- 13/16 ϕ Unl. Noted
Reaming:- None
Finish:- All burrs and rough edges to be removed by chipping or grinding
Shop Paint:- None

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Can't Arm
Skid Girders: Guard L: End Diaphs
AMERICAN BRIDGE COMPANY

DRAWING MADE AT Gary Ind PLANT
WORK INSPECTED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DRAW. MADE BY K.F.G. DATE 9-13-34
DRAW. CHECKED BY MMF DATE 9-26-34

Mark	Revision	Date

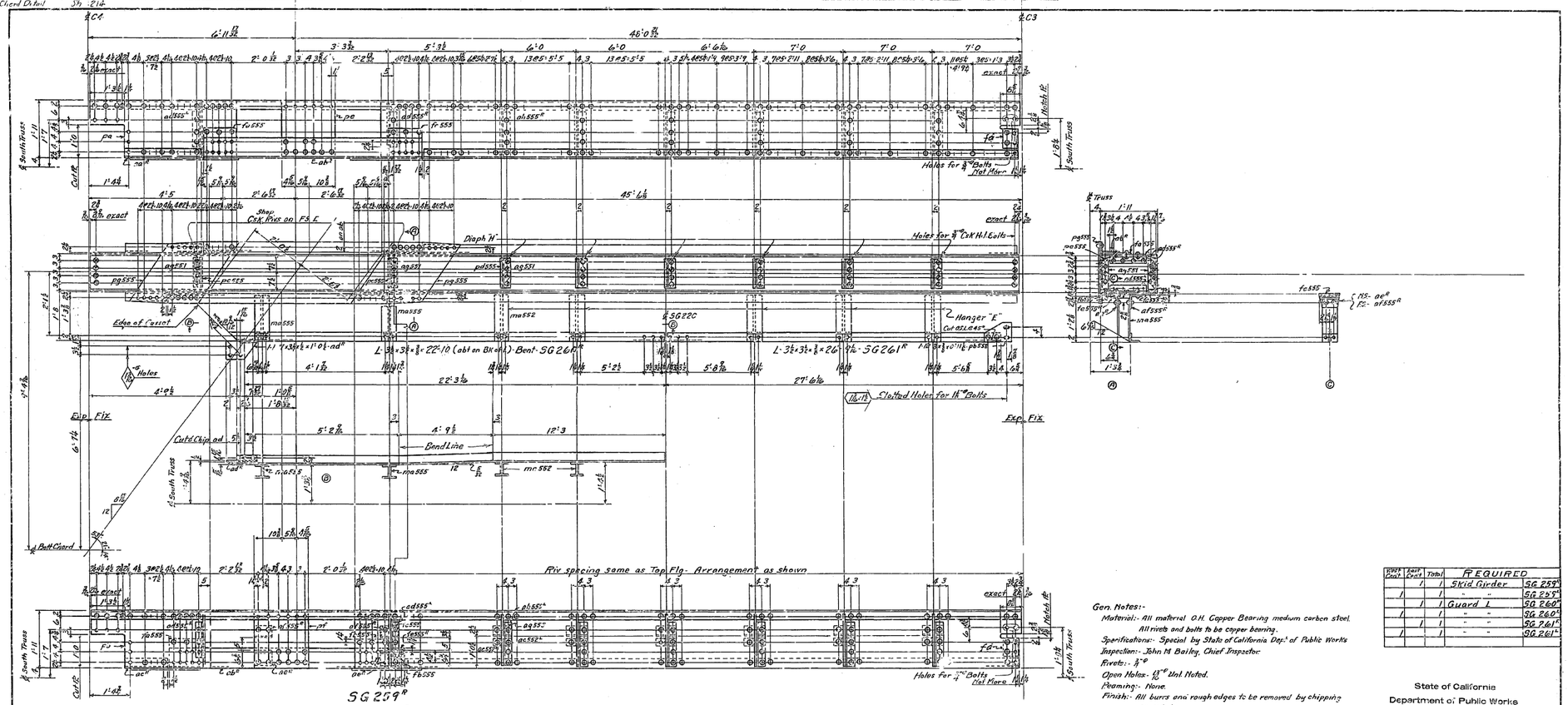
APPROVED
Glenn B. Woodruff — Engr. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approved Date 10-10-34

ORDER No. G-5107
CHF. No. 560

Rev. 3-11-35
Rev. 11-30-34 [CB]

Diag Detail
Skid Rail Layout L 302
Post Detail Sh E21
P-H Chord Detail Sh 214

L 303 Sh E38



SG 259"

Mat'l for SG 259" (Complete):-

1-L 3 1/2 x 3 1/2 x 5/8 x 6'-0 1/2" - aa"	Top Flg	2-5" H 18.9 x 1'-6 3/8" - mn 555	Hangers
1-L 8 x 4 x 7/16 x 7'-7 1/2" - as"		2-L 6 x 4 x 5/8 x 0'-6 1/4" - ae"	
1-L 3 1/2 x 3 1/2 x 5/8 x 45'-6 1/2"		2-L 5 x 5 x 5/8 x 0'-6 1/2" - af 555"	
1-PL 22 1/2 x 5/8 x 41'-10 3/8" - pa		5-5" H 18.9 x 1'-6 3/8" - ma 552	Hangers
1-PL 22 1/2 x 1/2 x 45'-0 3/8"		12-L 6 x 3 1/2 x 5/8 x 0'-3 1/2" - ag 551	
1-15" L 33.9 x 54'-11 1/2"		12-L 6 x 3 1/2 x 5/8 x 0'-3 1/2" - ac 552	
1-PL 22 1/2 x 3/8 x 31'-11 1/2" - pb		4-fills 11 x 1/4 x 1'-1 1/2" - fa 555	
1-PL 22 1/2 x 5/8 x 45'-11 1/2"	Bolt Flg	1-fill 2 1/2 x 5/16 x 0'-5 3/4" - fb 555	
1-L 3 1/2 x 3 1/2 x 5/8 x 1'-2 3/8" - ac"		1-PL 22 1/2 x 5/8 x 1'-8 1/4" - pa	
1-ob"		2-PL 28 x 1/2 x 3'-1 3/8" - pg 555	
1-L 3 1/2 x 3 1/2 x 5/8 x 44'-8 7/16"		1-fill 5 x 1/4 x 0'-1 1/2" - fc 555	
4-L 3 x 3 x 7/16 x 1'-3 1/2" - ad 555"	Diaph	1-fill 4 x 11/16 x 0'-5 1/2" - fa 555"	
10-L 3 x 3 x 7/16 x 1'-0" - aq 551		2-fills 6 1/2 x 3/8 x 0'-3 1/2" - fa	
2-PL 14 x 7/16 x 1'-7 3/8" - pe 555			
6-PL 14 x 7/16 x 1'-9 3/8" - pd 555			
12-L 3 x 3 x 7/16 x 1'-6 1/4" - ah 555			

Shop Note:-
All rivets in face of Skid Girders to be countersunk not chipped - Maximum height 1/16.

Gen. Notes:-
Material:- All material O.H. Copper Bearing medium carbon steel. All rivets and bolts to be copper bearing.
Specifications:- Special by State of California Dep't of Public Works
Inspection:- John M. Bailey, Chief Inspector.
Rivets:- 7/8"ø
Open Holes - 13/16"ø Unl. Noted.
Reaming:- None.
Finish:- All burrs and rough edges to be removed by chipping or grinding.
Shop Paint:- None.

Work Chief	Asst Chief	Total	REQUIRED	
	1	1	Skid Girder	SG 259"
1		1	"	SG 22C"
	1	1	Guard L	SG 260"
1		1	" "	SG 26C"
	1	1	" "	SG 261"
1		1	" "	SG 26L"

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cant. Arm
Skid Girders - Guard Ls
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary (Ind) PLANT
FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DRAWN BY K.F.G. DATE 9-18-36
TRACED BY DRAW. CHECKED BY H.R.P. DATE 9-26-36

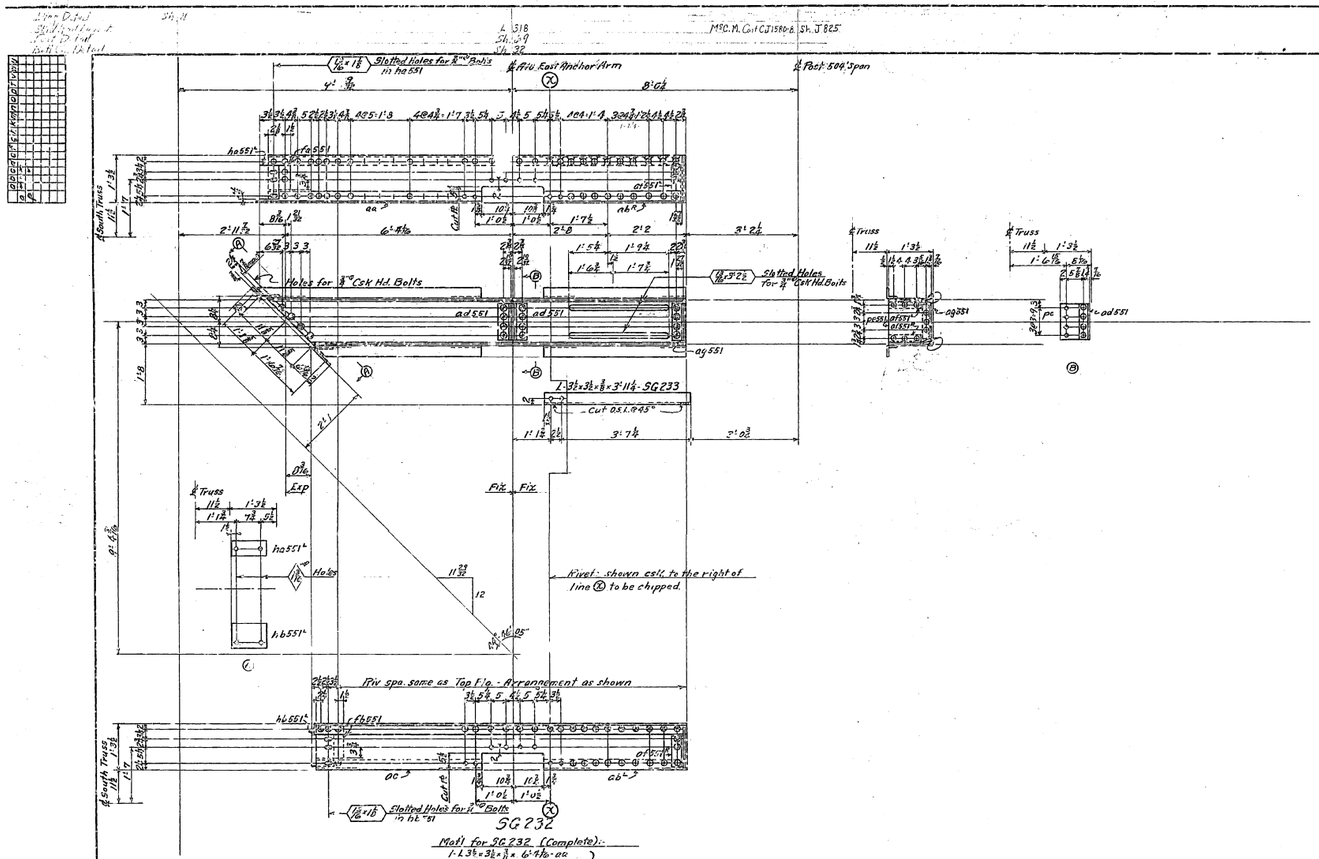
Mark	Revision	Appr'd

APPROVED
Glenn B. Woodruff, Chief Engineer
C. H. Purcell, Bridge Engineer
Approval Date 10-10-36

ORDER No. G-5107
DRAWING No. 561

(Rev. 3-11-38)
v-W16.3-10-26-36 [C.B.]

30-1



East Anchor Arm		
REQUIRED		
1	Skid Girder	SG232
1	Guard Angle	SG233

Shop Note:-
All rivets in face of Skid Girders to be countersunk(not chipped- Maximum height 1/16" except as noted.)

Con Notes:-
Material:- All mat'l. All Copper Bearing medium carbon steel.
All Rivets and Bolts To be Copper Bearing
Specifications:- Special by State of California, Dept. of Public Works
Inspection:- John M. Bailey - Chief Inspector
Rivets:- 7/8"ø
Open Holes:- 15/16"ø Unl. Noted
Reaming:- None
Finish:- All burrs and rough edges to be removed by chipping or grinding.
Shop Paint:- None

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure East Anchor Arm
Skid Girders- Guard Ls

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary Ind. PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DET. BY K.F.R. DATE 9-25-36
DWG. CHECKED BY WMF DATE 9-27-36

Vice	Assistant	Asst.
APPROVED		
Chas. E. Woodruff	Engr. of Design	
Chas. T. Andrew	Bridge Engineer	
C. H. Purcell	Chief Engineer	
Approval Date 10-22-36		

ORDER No. G-5107
CHECK No. 562

Rev. 3-11-37
W.F.M. 10-6-36 [C.B.]

Reg. Detail
Skid Rail Layout
Rail Detail
Guide Detail

Sh 28 (30)

51 (53)

52

54

Rivs spa. same as Top Flg. Arrangement as shown

Shop Note:-
All rivets in face of Skid Girders to be countersunk not chipped - Maximum height 1/16"

SG 270R

Mat'l for SG 270R (Complete):-

Top Flg
1-L 3½ × 3½ × ⅝ × 36' 3⅞"
1-L 3½ × 3½ × ⅝ × 7' 5⅝"
1-PL 15" × ⅝ × 5' 7 11/16"
1-PL 15" × 33.9 × 49' 11⅝"

Bott Flg
1-PL 15" × ⅝ × 47' 11⅝"
1-L 3½ × 3½ × ⅝ × 37' 10 11/16"
1-L 3½ × 3½ × ⅝ × 5' 10⅜"

Int. Diaph
2-PL 3 × ⅜ × 1' 9¼ ha"
2-PL 3 × ⅜ × 1' 3 hb"
10-L 3 × 3 × 5/16 × 0' 11" - af 551 1/2
5-L 3 × 3 × 5/16 × 1' 0 - ag 551
5-PL ¼ × 5/16 = 1' 2⅛ - po 551
5-L 4 × 3½ × ⅜ × 0' 7 - ah 551
4-PL 5 × ⅜ × 0' 5⅛ - pf 551
4-5" H 12.9 × 1' 6⅛ - mc 551

SG 271R

Mat'l for SG 271R (Complete):-

Top Flg
1-L 3½ × 3½ × ⅝ × 35' 7
1-L 3½ × 3½ × ⅝ × 6' 9 5/16
1-PL 15 × ⅝ × 47' 11⅝
1-PL 15 × 33.7 × 47' 11⅝

Bott Flg
1-PL 15" × ⅝ × 47' 11⅝
1-L 3½ × 3½ × ⅝ × 37' 2 5/16
1-L 3½ × 3½ × ⅝ × 5' 2

2-PL 3 × ⅜ × 1' 8½ ha"
2-PL 3 × ⅜ × 1' 5¾ hd"
10-af 551 1/2
5-ag 551
5-po 551
5-ah 551
4-pf 551
4-mc 571

For SG 276R:- Portion to left of line Ⓚ same as for SG 270R

For SG 271R:- Portion to left of line Ⓚ same as for SG 270R

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span

Skid Girders - Guard Is

AMERICAN BRIDGE COMPANY

DRAWING LAST AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
DESIGNED BY Wilkinson
DETAILED BY KFC DATE 10-8-36
DRAWN, CHECKED BY HSP DATE 11-6-36

No.	Revision	Appd.

APPROVED
Glenn B. Woodruff — Engr. of Bridges
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Asst. M.C. Date 11-17-36

ORDER No. G 5107
SHEET No. 563 AB

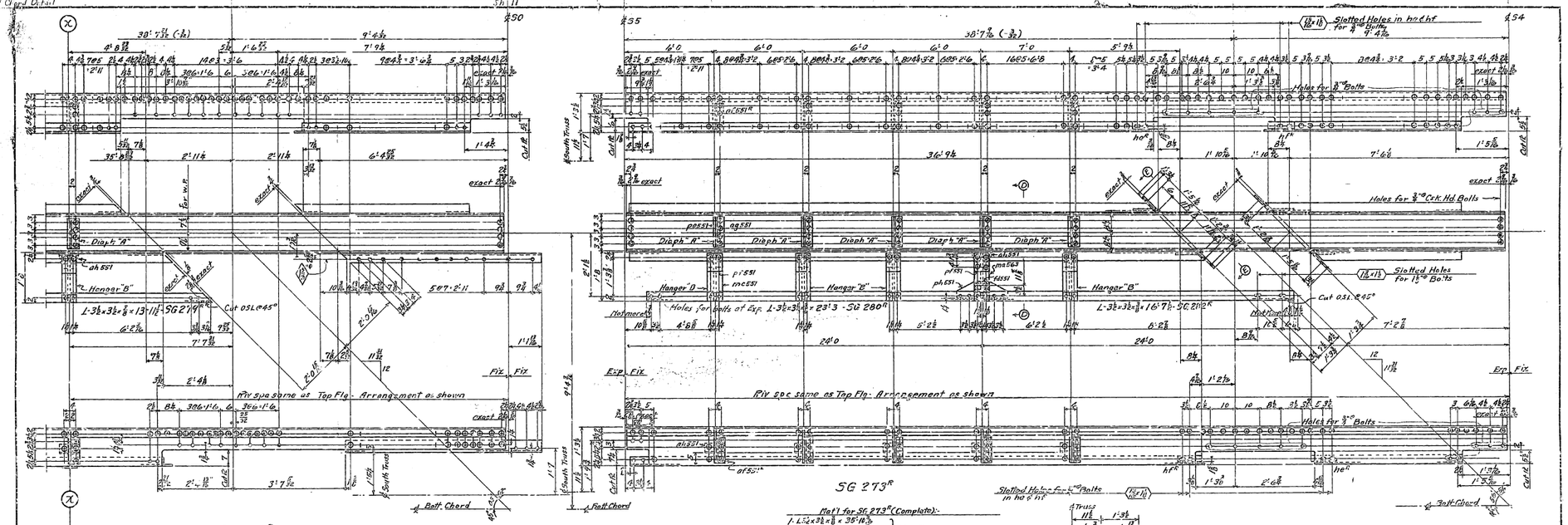
Rev. 3-11-37

[CB]

Key Plan
Rail Layout
Post Detail
Ex. Guard Detail

Sh 6 L 307 | L 307 Sh 26 Sh 11 | L 217 Sh 32 | Sh 33 L 308 | L 308 Sh 34

#50 | #35 | #54



SG 272R

For SG 270R flg. trim to left of line Ⓧ
Same as for SG 270R

For SG 271R flg. trim to left of line Ⓧ
Same as for SG 270R

Mat'l for SG 272R (Complete):

Top Flg
- 1 - L 3½ x 3½ x 5/8 x 54' 7"
- 1 - L 3½ x 3½ x 5/8 x 6' 0"
- 1 - Pl 15" x 3/4 x 47' 11"
- 1 - Pl 5" x 23.9 x 47' 11"

Batt Flg
- 1 - Pl 15" x 3/4 x 47' 11"
- 1 - L 3½ x 3½ x 7/16 x 36' 5"
- 1 - L 5" x 5" x 7/16 x 6' 10"

10 - af 551
5 - ag 551
5 - pe 551
5 - ah 551
4 - pf 551
4 - mc 551

Shop Note:
All rivets in face of Skid Girders to be countersunk not chipped - Maximum height 1/16"

SG 273R

Mat'l for SG 273R (Complete):

Top Flg
- 1 - L 5" x 3½ x 5/8 x 35' 10"
- 1 - L 3½ x 3½ x 5/8 x 1' 11"
- 1 - Pl 15" x 3/4 x 1' 11"
- 1 - Pl 5" x 33.9 x 1' 11"
- 1 - Pl 12" x 3/4 x 1' 11"

Batt Flg
- 1 - L 3½ x 3½ x 3/4 x 37' 4"
- 1 - L 3½ x 3½ x 7/16 x 5' 6"

2 - Pl 3" x 3/4 x 1' 9" - hoR
2 - Pl 3" x 3/4 x 1' 5" - hfR
1 - Pl 6" x 3/4 x 1' 7½" - ph 551
1 - Fill 5" x 5/8 x 0' 2½" - fd 551
10 - af 551R
5 - ag 551
5 - pe 551
5 - oh 551
5 - pf 551
4 mc 551
1 - 3" W 10.1 x 1'-10 3/16" mc 563

Gen Notes:
Material:- Fill mat'l of A.H. Copper bearing medium carbon steel.
All Rivets and Bolts to be Copper Bearing
Specifications:- Special by State of California, Dept. of Public Works
Inspection:- John M. Bailey - Chief Inspector.
Rivets:- 7/8"ø
Open Holes:- 15/16"ø Unl. Noted
Reaming:- None
Finish:- All burrs and rough edges to be removed by chipping or grinding
Shop Paint:- None

Sheet Mark	Weld Mark	Total	REQUIRED	
/	/	2	Skid Girder	SG 270R
/	/	2	" "	SG 270L
/	/	/	" "	SG 271R
		/	" "	SG 271L
/		/	" "	SG 272R
	/	/	" "	SG 272L
/	/	/	" "	SG 273R
	/	/	" "	SG 273L
2	/	3	Guard L	SG 274R
/	2	3	" "	SG 274L
/	/	/	" "	SG 275R
/		/	" "	SG 275L
	/	/	" "	SG 276R
		/	" "	SG 276L
	/	/	" "	SG 277R
		/	" "	SG 277L
/		/	" "	SG 278R
	/	/	" "	SG 278L
	/	/	" "	SG 279R
		/	" "	SG 279L
/		/	" "	SG 279L
/	/	2	" "	SG 280R
/	/	2	" "	SG 280L
4	4	8	Posts	SF 281
	/	/	Guard Angle	SG 282R
		/	" "	SG 282L

APPROVED
Chas. B. Wendell — Dept. of Design
Chas. E. Andrew — Bridge Engineer
C. H. Purcell — Chief Engineer
Approval Date: 11-17-36

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span
Skid Girders - Guard L:

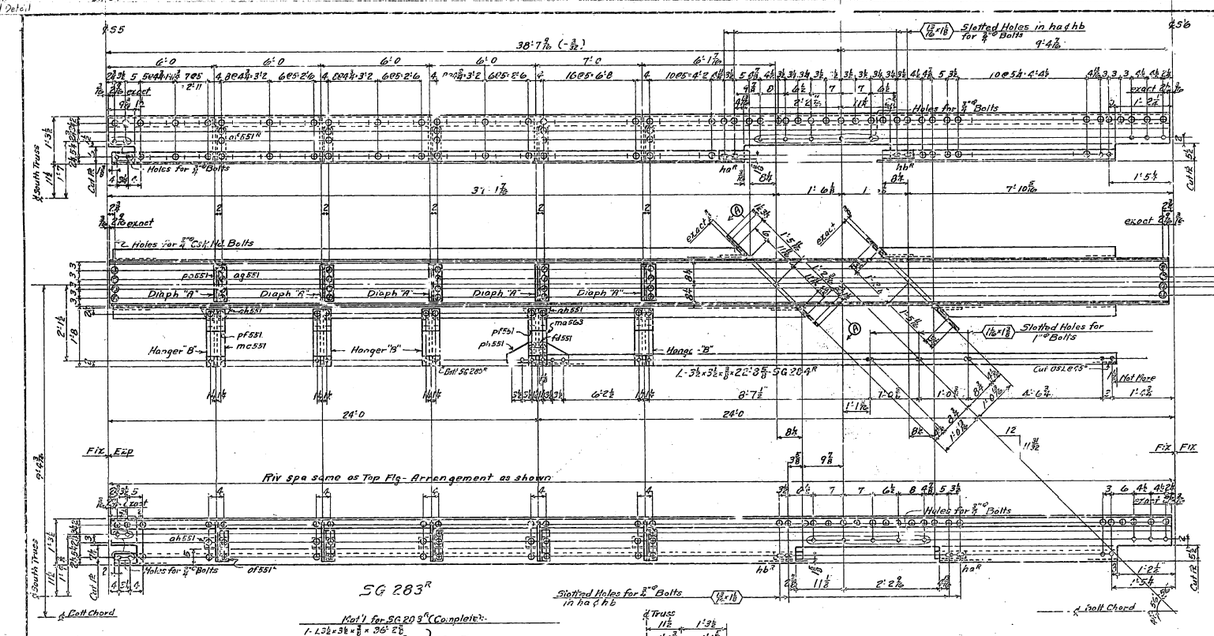
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary PLANT
WORK FABRICATED AT Ambridge PLANT
BY C. W. Wilkinson
DGN. MADE BY R.T.G. DATE 10-D-36
DR. CHECKED BY W.K.P. DATE 11-C-36

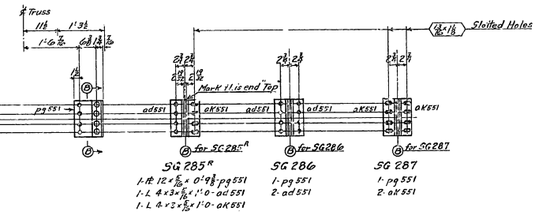
ORDER No. G-5107 SHEET No. 563B

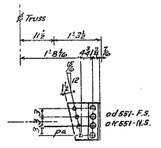
Rev. 3-1-37

[CB]

Pbq Detail — Sh 32
Sk'd Rail Layout — L 217 — L 304 — L 304
Eqs Detail — Sh 39 — Sh 35
Batt Chord Detail







Kat'l for SG 283R Complete:-

Top Flg
1-L 2½"x 3½"x ⅜" x 36'-2⅝"
1-L 3½"x 3½"x ⅜" x 7'-6⅛"
1-PL 15"x ⅜" x 47'-11⅜"

Batt Flg
1-15" E 33.9 x 47'-11⅜"
1-PL 15"x ⅜" x 47'-11⅜"
1-L 3½"x 3½"x ⅝"x 37'-10⅜"
1-L 3½"x 3½"x ⅝"x 5'-11⅜"

2-PL 3"x ⅜" x 1'-9" - ha
2-PL 3"x ⅜" x 1'-4" - hb
10-L 3"x 3"x ⅜"x 0'-11" - af 551
5-L 3"x 3"x ⅜"x 1'-0" - ag 551
2-PL 12"x ⅜" x 1'-2½" - pa 551
5-L 4"x 3½"x ⅜"x 0'-11" - ah 551
5-PL 5"x ⅜" x 0'-6⅞" - pf 551
4-5" I 11.5 x 1'-6⅜" - mc 551
1-5" I 11.9 x 1'-6¼" - mc 563

1-PL 6"x ⅜" = 1'-7½" - ph 551
1-Fill 5"x ⅜" = 0'-2⅜" - fd 551

Shop Note:-
All rivets in face of Skid Girders to be countersunk not chipped - Maximum height 1/16

Gen Notes:-
Material:- All mat'l O.H. Copper Bearing medium carbon steel
All Rivets and Bolts to be Copper Bearing
Specifications:- Special by State of California, Dept. of Public Works
Inspection:- John M Bailey - Chief Inspector
Rivets:- ¾" ø
Open Holes:- ⅞" ø Unl. Noted
Reaming:- None
Finish:- All burrs and rough edges to be removed by chipping or grinding
Shop Paint:- None

Mark Field	Mark Shop	Total	REQUIRED	
	1	1	Skid Girder	SG 283R
	1	1	" "	SG 282L
1		1	Guard 1	SG 284R
	1	1	" "	SG 284L
3		3	End Diaph	SG 285R
	3	3	" "	SG 285L
	1	1	" "	SG 286
	1	2	" "	SG 287
1		1	" "	SG 288R
	1	1	" "	SG 288L

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span
Skid Girders - Guard 1 - End Diaphs
AMERICAN BRIDGE COMPANY
DESIGNED FROM AT Grey #1 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Williamson
DRAWN BY KFG DATE 10-10-36
TRACED BY KFG DATE 10-10-36
CHECKED BY HMP DATE 11-6-36
ORDER No. G-5107 DETAIL No. 564

APPROVED
Chas. D. Wisniewski, Engr. of Design
Chas. L. Alther, Bridge Engineer
C. L. Purcell, Chief Engineer
Approved Nov. 12, 1936

[CB]

30-1

LW301

LW302 303 & 305

48'-0" c.c. Fl. Bms.

Mark	Reqd	Total	REQUIRED	MARK
		1	Walk	LW301
		1	do	LW302
		1	do	LW303
		1	do	LW305
		1	do	LW303L
		1	do	LW305R
				LW305L

Shop Notes-
All rivets in Floor Plates to be countersunk not chipped.
All rivets in Curb Plates marked ✓e to be countersunk not chipped.
Max. height of countersunk rivets to be $\frac{7}{16}$"
Walks to be built to exact lengths and must be straight.
After riveting, weld bent Curb Pls. at shop splices and grind smooth on roadway side.

Gen. Notes-
All material O.H. Copper bearing medium Carbon Steel, except Curb plates which are to conform to A.S.T.M. Spec. A7-39, Ultimate of 45,000 to 55,000 with not less than .20% Copper
Specifications - Special by State of California Dept. of Public Works.
Inspection - John M. Bailey, Chief Inspector
Rivets - $\frac{7}{8}$" Dia. (Copper bearing)
Open Holes - $\frac{15}{16}$" Dia. Unless Noted
Reaming - None
Finish - All burrs and rough edges to be removed by chipping or grinding
Paint - None

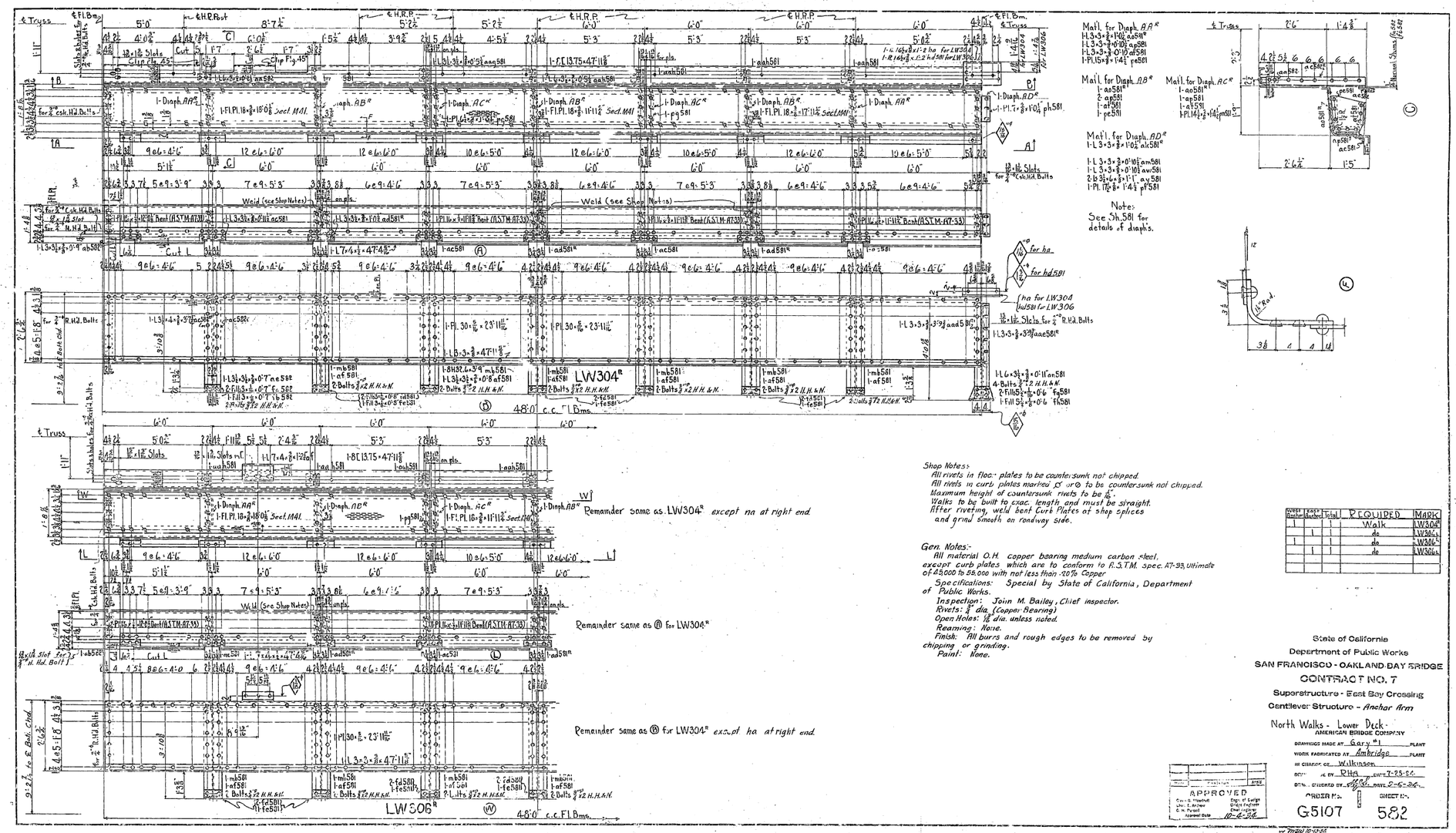
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure - *Anchor Arm*
North Walks - Lower Deck -
AMERICAN BRIDGE COMPANY

DRAWINGS MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Ambridge PLANT
AGENT OF Wilkinson
DRAWN MADE BY RHA DATE 7-12-34
DRAWN CHECKED BY [illegible] DATE 9-6-34

APPROVED
Chief Engineer
Asst. Engineer
Engineer of Bridges
Chief Draftsman
Date 10-4-34

ORDER No. G5107
OBJECT No. 581

[CA]



Mat'l. for Diaph. AA^R
1-L 3×3×$\frac{7}{16}$×1'-0½" ao581^R
1-L 3×3×$\frac{7}{16}$×0'-10½" ap581
1-L 3×3×$\frac{7}{16}$×0'-10½" af581
1-Pl. 15×$\frac{7}{8}$×1'-4½" pe581

Mat'l. for Diaph. AB^R
1-ao581^R
2-ap581
1-af581
1-pe581

Mat'l. for Diaph. AC^R
1-ao581^R
1-ap581
1-af581
1-Pl. 14½×$\frac{7}{8}$×1'-4½" pe581

Mat'l. for Diaph. AD^R
1-L 3×3×$\frac{7}{16}$×1'-0½" ak581^R
1-L 3×3×$\frac{7}{16}$×0'-10½" am581
1-L 3×3×$\frac{7}{16}$×0'-10½" av581
2-Pl. 3½×$\frac{7}{16}$×1'-1" av581
1-Pl. 17½×$\frac{7}{8}$×1'-4½" pk581

Notes
See Sh. 581 for details of diaphs.

Shop Notes:
All rivets in floor plates to be countersunk not chipped.
All rivets in curb plates marked ✕ or ⊙ to be countersunk not chipped.
Maximum height of countersunk rivets to be $\frac{1}{16}$".
Walks to be built to exact length and must be straight.
After riveting, weld bent Curb Plates at shop splices and grind smooth on roadway side.

Gen. Notes:-
All material O.H. copper bearing medium carbon steel, except curb plates which are to conform to A.S.T.M. Spec. A7-33, Ultimate of 45,000 to 58,000 with not less than .20% Copper
Specifications: Special by State of California, Department of Public Works.
Inspection: John M. Bailey, Chief inspector.
Rivets: $\frac{7}{8}$" dia. (Copper Bearing)
Open Holes: $\frac{15}{16}$" dia. unless noted.
Reaming: None.
Finish: All burrs and rough edges to be removed by chipping or grinding.
Paint: None.

Number Required	Number Spare	Total	REQUIRED	MARK
1		1	Walk	LW304^R
1		1	do	LW304^L
1		1	do	LW306^L
1		1	do	LW306^R

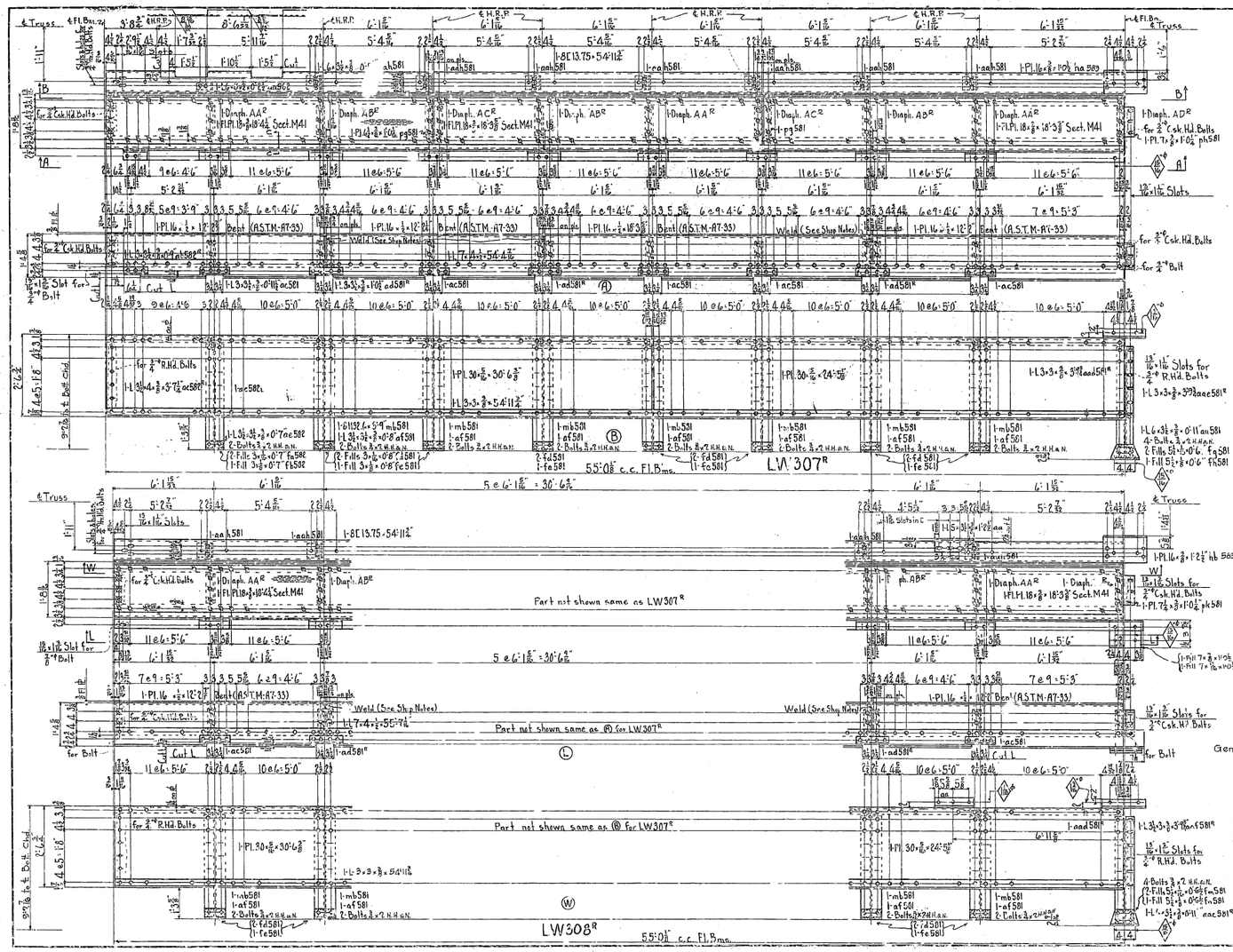
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure - Anchor Arm
North Walks - Lower Deck -
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DETAILED BY RHA DATE 7-25-34.
DETAIL CHECKED BY [illegible] DATE 2-6-34.
ORDER NO. G5107
SHEET NO. 582

APPROVED
Chief Engr. [illegible]
Engr. of Design [illegible]
Chief Engineer
Approval Date 10-6-34

Issued 10-13-34

[CA]

G.582 - 529 - 534 - 585 - 586 - 587 - 590 - 594 - 595 - 597 - 604 - 605 - 606 - 609 - 610
G.583 - 530 - 531 - 588 - 589 - 591 - 592 - 593 - 596 - 598 - 599 - 600 - 601 - 602
G.584 - 532 - 533 - 590 - 591 - 592 - 593 - 594 - 595 - 596 - 597 - 598 - 599 - 600
G.585 - 534 - 535 - 592 - 593 - 594 - 595 - 596 - 597 - 598 - 599 - 600 - 601 - 602
G.586 - 536 - 537 - 594 - 595 - 596 - 597 - 598 - 599 - 600 - 601 - 602 - 603 - 604
G.587 - 538 - 539 - 596 - 597 - 598 - 599 - 600 - 601 - 602 - 603 - 604 - 605 - 606
G.588 - 540 - 541 - 598 - 599 - 600 - 601 - 602 - 603 - 604 - 605 - 606 - 607 - 608
G.589 - 542 - 543 - 600 - 601 - 602 - 603 - 604 - 605 - 606 - 607 - 608 - 609 - 610
G.590 - 544 - 545 - 602 - 603 - 604 - 605 - 606 - 607 - 608 - 609 - 610
G.591 - 546 - 547 - 604 - 605 - 606 - 607 - 608 - 609 - 610
G.592 - 548 - 549 - 606 - 607 - 608 - 609 - 610
G.593 - 550 - 551 - 608 - 609 - 610
G.594 - 552 - 553 - 610
G.595 - 554 - 555
G.596 - 556 - 557
G.597 - 558 - 559
G.598 - 560 - 561
G.599 - 562 - 563
G.600 - 564 - 565
G.601 - 566 - 567
G.602 - 568 - 569
G.603 - 570 - 571
G.604 - 572 - 573
G.605 - 574 - 575
G.606 - 576 - 577
G.607 - 578 - 579
G.608 - 580 - 581



Matl. for Diaph. AAR
1-L 3×3×½×1'-0½" ao581R
1-L 3×3×⅜×0'-10" ap581
1-L 3×3×⅜×0'-10" aq581
1-Pl. 15"×⅜×1'-4½" pe581

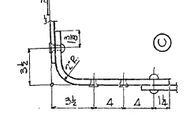
Matl. for Diaph. ABR
1-ao581R
2-ap581
1-aq581
1-pe581

Matl. for Diaph. ACR
1-ao581R
1-ap581
1-aq581
1-Pl. 14½"×⅜×1'-4½" pm581

Matl. for Diaph. ADR
1-L 3×3×⅜×1'-0½" ak581R
1-L 3×3×⅜×0'-10½" am581
1-L 3×3×⅜×0'-10½" aw581
2-L 3½×3½×⅜×1'-1" ay581
1-Pl. 11½"×⅜×1'-4½" pf581

Matl. for Diaph. AER
1-ak581R
1-am581
1-L 3×3½×⅜×0'-10½" anb581R
2-ay581
1-p581

NOTE:
See Sh. 581 for details of diaphs.



Shop Notes-
All rivets in Floor Plates to be Countersunk not Chipped
All rivets in Curb Plates marked ⊖ to be Countersunk not Chipped
Max. height of Countersunk rivets to be ¼
Walks to be built to exact lengths and must be straight
After riveting, weld end Curb Plates at shop splices and grind smooth on roadway side.

Weight Each Piece	Total	REQUIRED	MARK
		Walk	LW307R
		do	LW307L
		do	LW308R
		do	LW308L

Made	Revised	Approved

APPROVED
Chief Engr. of Bridges
Chief Engineer
Approval Date 10-6-34

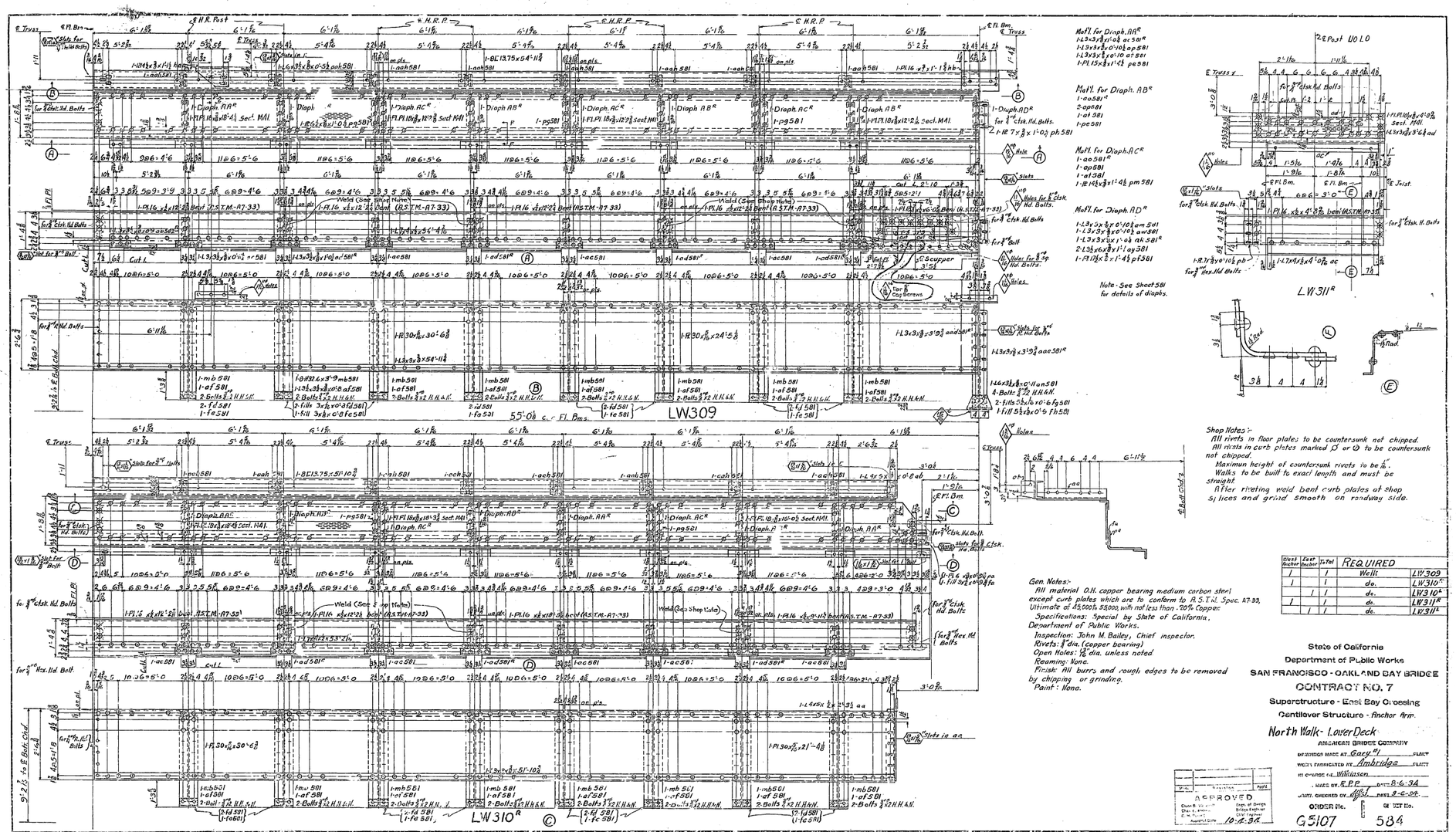
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm
North Walks - Lower Deck

AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary, Ind. PLANT
WORK ERECTED AT Ambridge PLANT
IN OFFICE OF Williamson
DRAWN MADE BY RKB DATE 7-30-34
DRWG. CHECKED BY JGD DATE 8-6-34
ORDER No. G5167 SHEET No. 583

Gen. Notes-
All material O.H. Copper bearing medium Carbon Steel, except Curb Plates which are to conform to A.S.T.M. Spec. A7-33, Ultimate of 55,000 to 65,000, with not less than .20% Copper.
Specifications- Special by State of California Dept. of Public Works.
Inspection- John M. Bailey, Chief Inspector
Rivets - ¾ Dia. (Copper bearing)
Open Holes - ⅛ Dia. Unless Noted
Reaming - None
Finish - All burrs and rough edges to be removed by chipping or grinding
Paint - None

hs 583 - 591
hb 583 - 591

[CA]

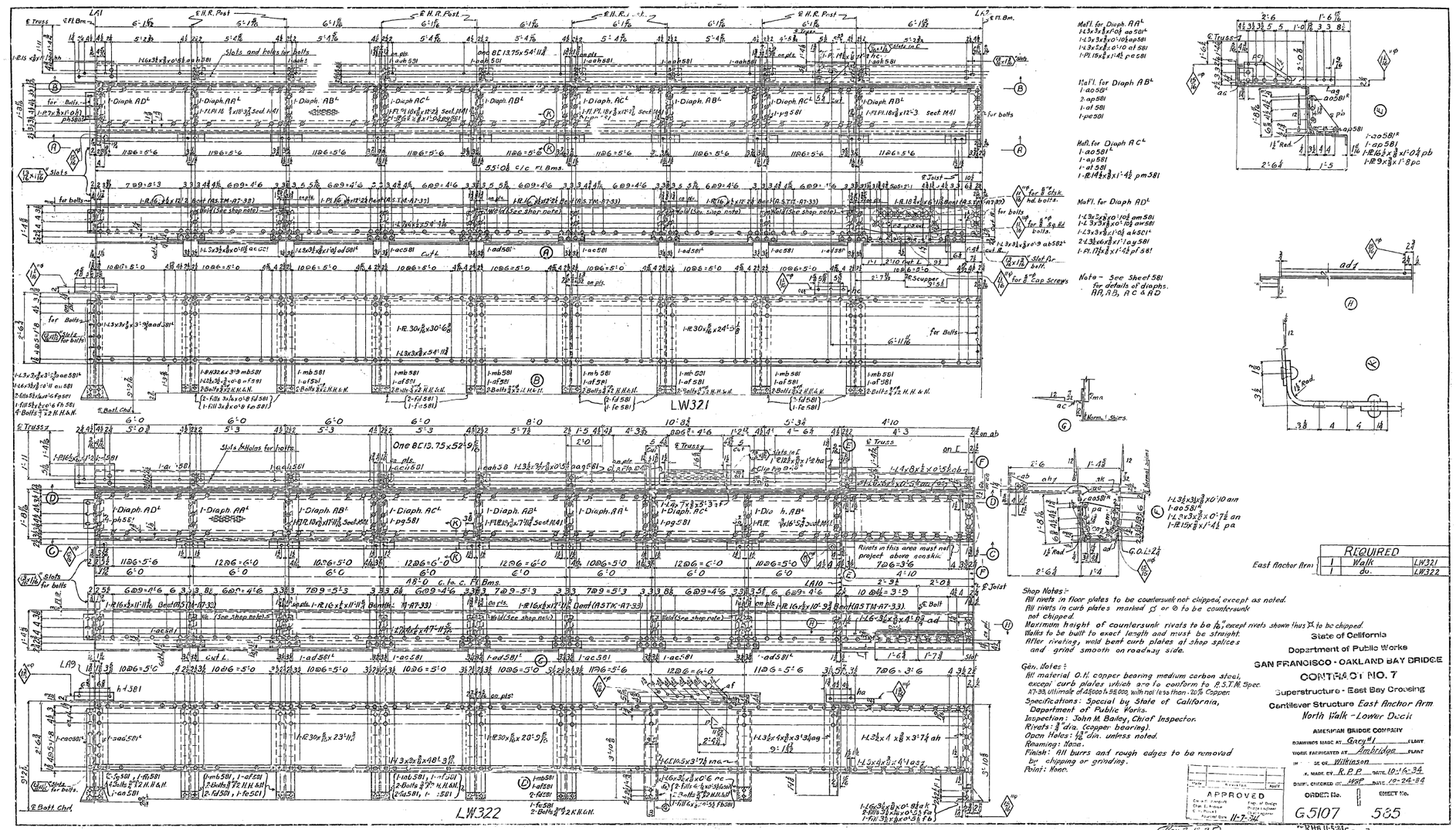


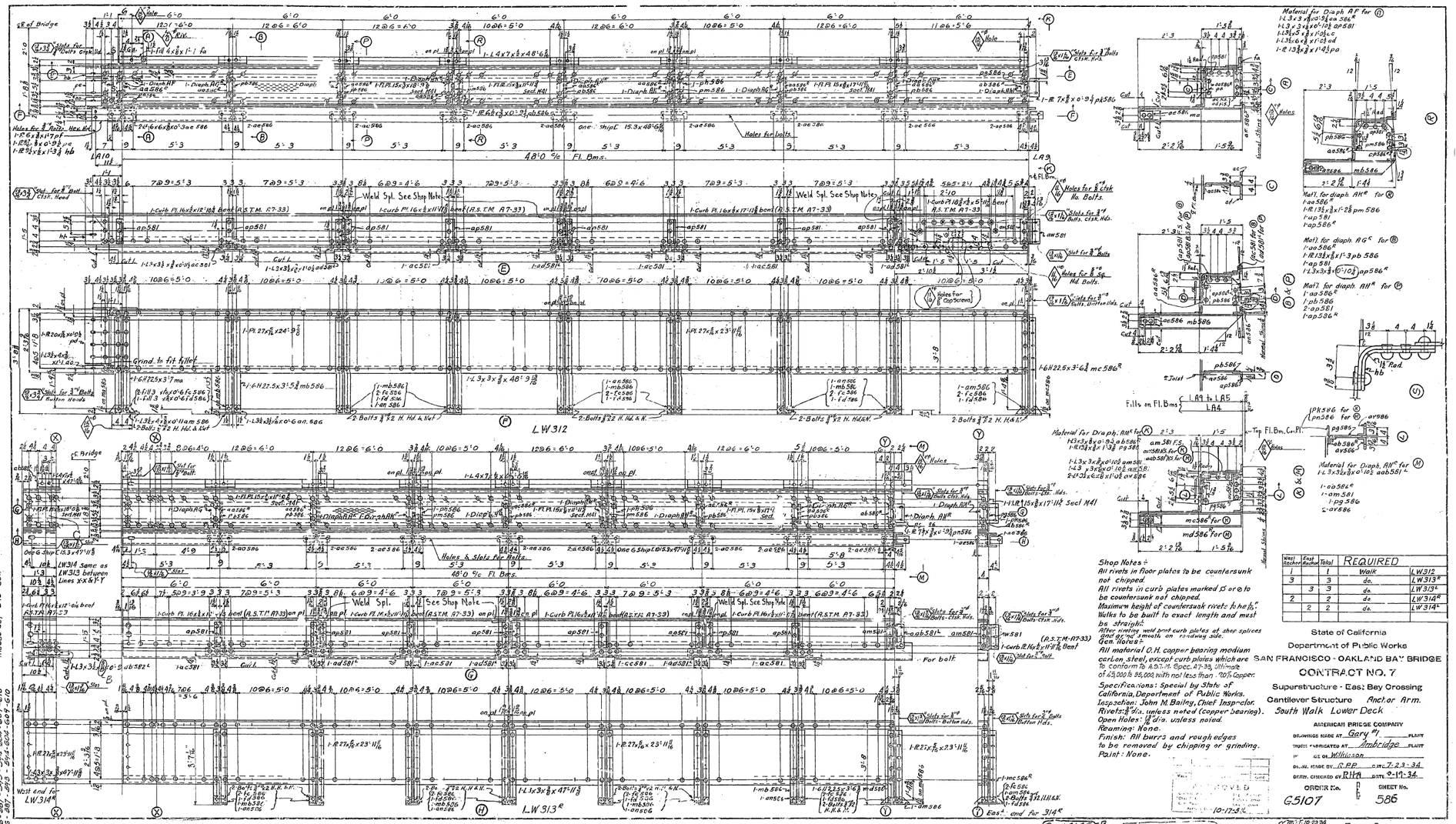
West Anchor	East Anchor	Total	REQUIRED	
1		1	Weld	LW309
1		1	do.	LW310R
	1	1	do.	LW310L
1		1	do.	LW311R
	1	1	do.	LW311L

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure - Anchor Arm.
North Walk - Lower Deck
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary Ind. PLANT
WEIGHT FURNISHED BY Ambridge PLANT
IN CHARGE OF Williausen
CHKD. BY R.P.P. DATE 8-6-34
QUANT. CHECKED BY [illegible] DATE 9-6-34
ORDER No. G5107 DR. LIST No. 584

APPROVED
Chief Engr. Dept. of Public Works
Chief Engineer
Assistant Engr.
Date 10-4-34

[CA]


LW321
LW322
Slots and holes for bolts
Slots for bolts
Shop Notes:-
All rivets in floor plates to be countersunk not chipped, except as noted.
All rivets in curb plates marked ⊆ or ⊙ to be countersunk not chipped.
Maximum height of countersunk rivets to be 1/16" except rivets shown thus X to be chipped.
Webs to be built to exact length and must be straight.
After riveting, weld bent curb plates at shop splices and grind smooth on roadway side.
Gen. Notes:-
All material O.H. copper bearing medium carbon steel, except curb plates which are to conform to A.S.T.M. Spec. A7-33, ultimate of 48000 to 58000, with not less than .20% Copper.
Specifications: Special by State of California, Department of Public Works.
Inspection: John M. Bailey, Chief Inspector.
Rivets: 7/8" dia. (copper bearing).
Open Holes: 1 1/16" dia. unless noted.
Reaming: None.
Finish: All burrs and rough edges to be removed by chipping or grinding.
Paint: None.
Mat'l. for Diaph AA
Mat'l. for Diaph AB
Mat'l. for Diaph AC
Mat'l. for Diaph AD
Note - See Sheet 581 for details of diaphs. AA, AB, AC & AD
REQUIRED
East Anchor Arm | 1 | Walk | LW321
1 | do. | LW322
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure East Anchor Arm
North Walk - Lower Deck
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Ambridge PLANT
DRAWN BY R.P.P. DATE 10-16-34
TRACED BY DATE
CHECKED BY HRP DATE 10-24-34
ORDER No. G5107
SHEET No. 585
APPROVED
Chief Engineer
State Engineer
Assistant Engineer
Approval Date 11-7-34
Rev. 3-15-35
RHA 11-5-34 [CA]



West Anchor	East Anchor	Total	REQUIRED	
1		1	Walk	LW312
3		3	do.	LW313R
	3	3	do.	LW313L
2		2	do.	LW314R
	2	2	do.	LW314L

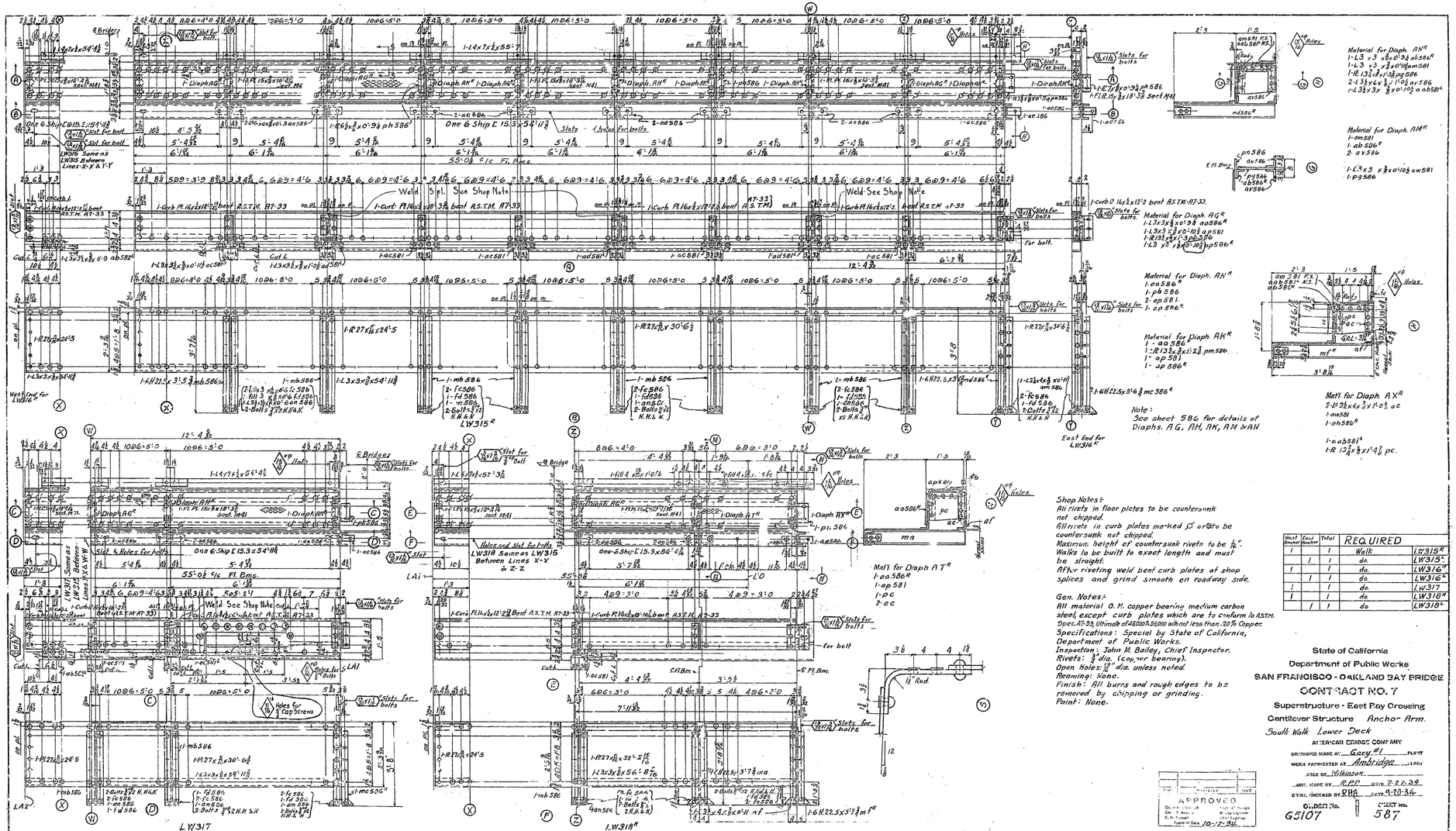
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm.
South Walk Lower Deck

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary PLANT
STEEL FABRICATED AT Ambridge PLANT
ENGINEER Williamson
DRAWN MADE BY R.P.P. DATE 7-23-34
DESIGN CHECKED BY R.H.A. DATE 9-19-34

ORDER No. G5107 SHEET No. 586

[CA]

30-1



West Anchor Section	East Anchor Section	Total	REQUIRED	
1		1	Walk	LW315R
	1	1	do.	LW315L
1		1	do.	LW316R
	1	1	do.	LW316L
1		1	do.	LW317
1		1	do.	LW318R
	1	1	do	LW318L

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Anchor Arm.
South Walk Lower Deck
AMERICAN BRIDGE COMPANY
DRAWINGS MADE BY Gary Ott PLATES
WORK CHECKED BY Ambridge LAYU
NOTE BY Wilkinson
ARCH. STAMP BY RPP DATE 7-21-34
DETAIL CHECKED BY RHA DATE 9-20-34
G.O. SHEET No. G5107 587

APPROVED
Chief Engineer
Bridge Engineer
Asst. Engineer
Date 10-17-34

(Revised 11-7-34)
W. HEAD 10-23-34

[CA]

30-J

UW301

8'0" c. c. Floor Beams

UW302

48'0" c. c. Floor Beams

Rem. of UW302 to the Right of Line Ⓚ Ⓚ Opp. Hand to UW301 except for L aab

Matl. for Diaph. AP^R for Ⓔ
1-aa 581^R
2-ap 581
1-at 588^R
1-PL 14½ x ⅞ x 1'-4½ pe 588

Matl. for Diaph. AS^R for Ⓟ & Ⓖ
1-aa 581^R
1-ap 581
1-at 588^R
1-PL 14⅛ x ⅞ x 1'-4½ ph 588

Matl. for Diaph AV^R for Ⓝ
1-aa 581^R
1-ap 581
1-at 588^R
1-pe 588

Matl. for Diaph. AV^R for Ⓞ
1-aa 581^R
1-ap 581
1-at 588^R
1-pe 588

Matl. for Diaph.
1-L 3 x 3 x ⅜ x 10'-3 ak 581^R
1-L 3 x 3 x ⅜ x 0'-10½ am 581
1-PL 12 x 2½ x ⅜ x 1'-1 af
1-PL 17 x ⅞ x 1'-4½ pc

Matl. for Diaph.
1-L 5 x 3½ x ⅜ x 10'-3 ak 581^R
1-L 5 x 3½ x ⅜ x 0'-10½ at 588^R
1-L 5 x 3½ x ⅜ x 0'-10½ ap 581
1-PL 14½ x ⅞ x 1'-4½ pd

Matl. for Diaph AW^R for Ⓗ
1-ak 581^R
1-am 581
1-L 3 x 3 x ⅜ x 0'-10½ aw 581
2-L 6 x 3½ x ⅜ x 11'-1 av 588
1-PL 14⅛ x ⅞ x 1'-4½ pt 588

Shop Notes
All rivets in Floor Plates to be countersunk not chipped
All rivets in Curb Plates marked d ø to be countersunk not chipped
Max. height of countersunk rivets to be ⅜
Webs to be built to exact lengths and must be straight
After riveting, weld Curb Plates at shop Splices and grind smooth on roadway side

Gen. Notes -
All material O.H. Copper bearing medium Carbon Steel, except Curb Plates which are to conform to A.S.T.M. Spec. A7-33, Ultimate of 49,000 to 55,000 with not less than .10% Copper
Specifications - Special by State of California Dept. of Public Works.
Inspection - John M. Bailey, Chief Inspector
Rivets ⅞ Dia. (Copper bearing)
Open Holes - 15/16 Dia. Unless Noted.
Reaming - None
Finish - All burrs and rough edges to be removed by chipping or grinding
Paint - None

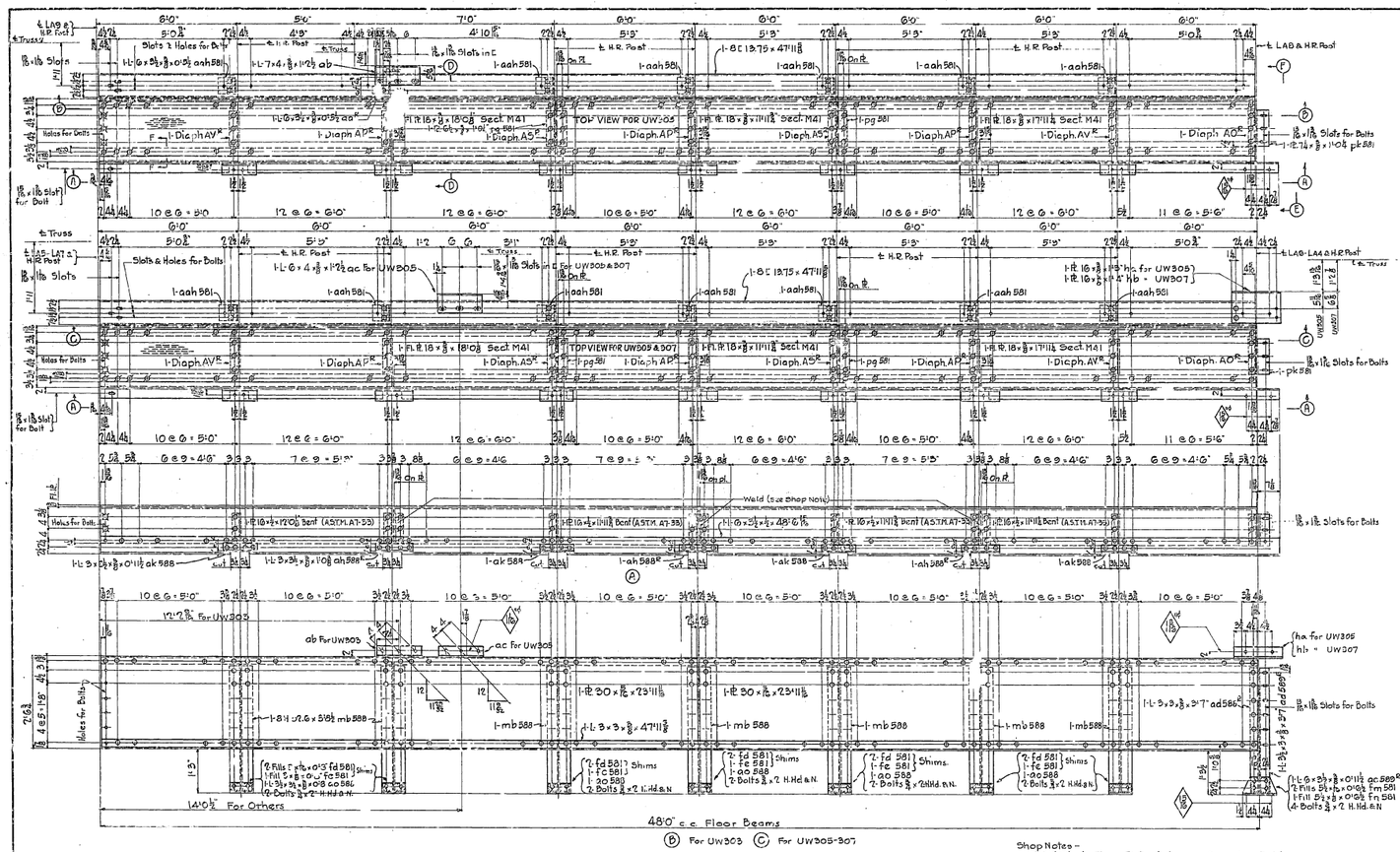
REQUIRED			
West Anchor Arm	1	Walk	UW301
	1	"	UW302

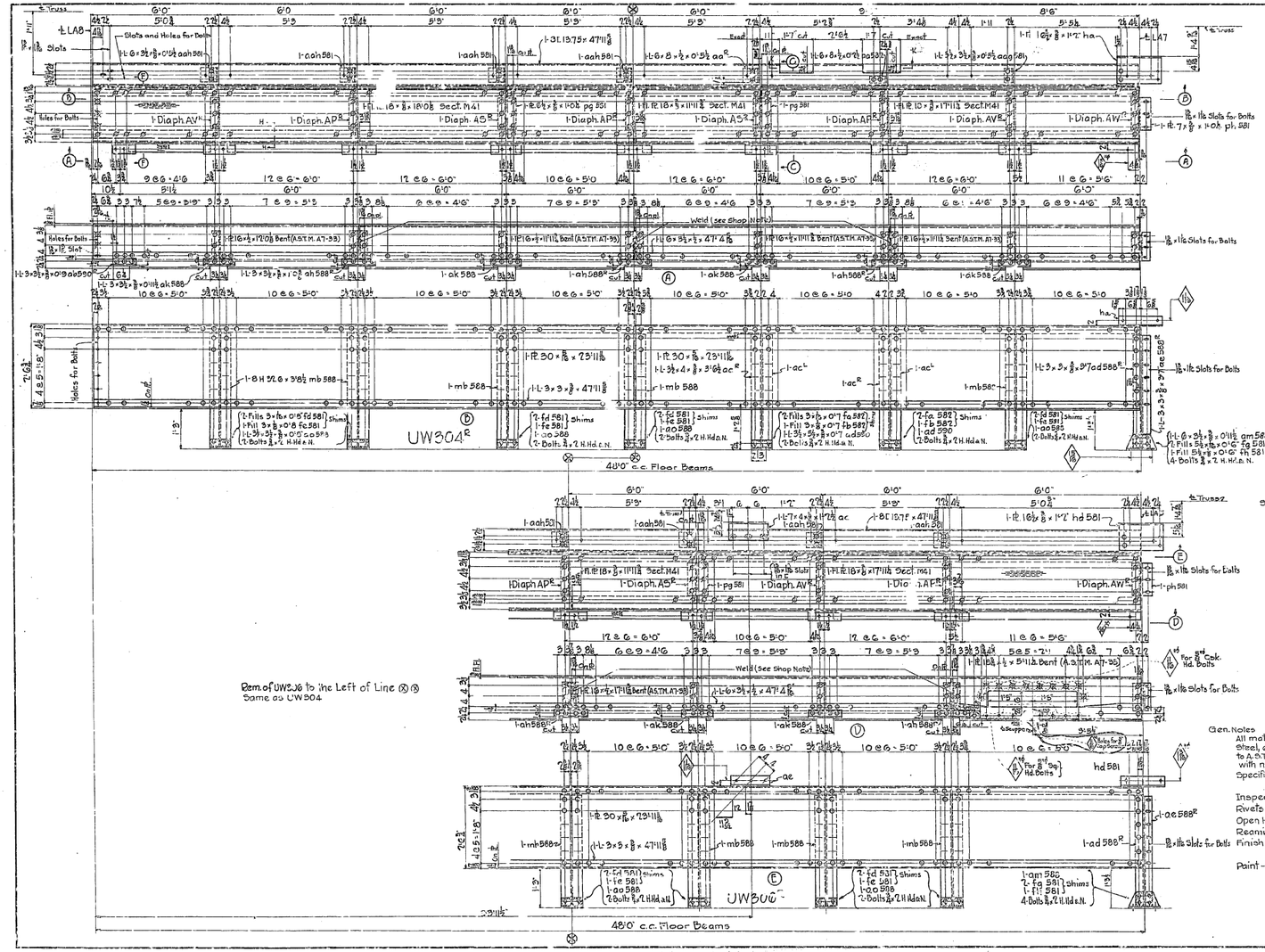
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure West Anchor Arm
North & South Walks Upper Deck
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary PLANT
WORK FABRICATED AT Ambridge PLANT
ENGR OF Wilkinson
W. MADE BY S.T.S. DATE 8-2-36
DRWG. CHECKED BY W.F.F. DATE 9-11-36
ORDER No. G5107 SHEET No. 588

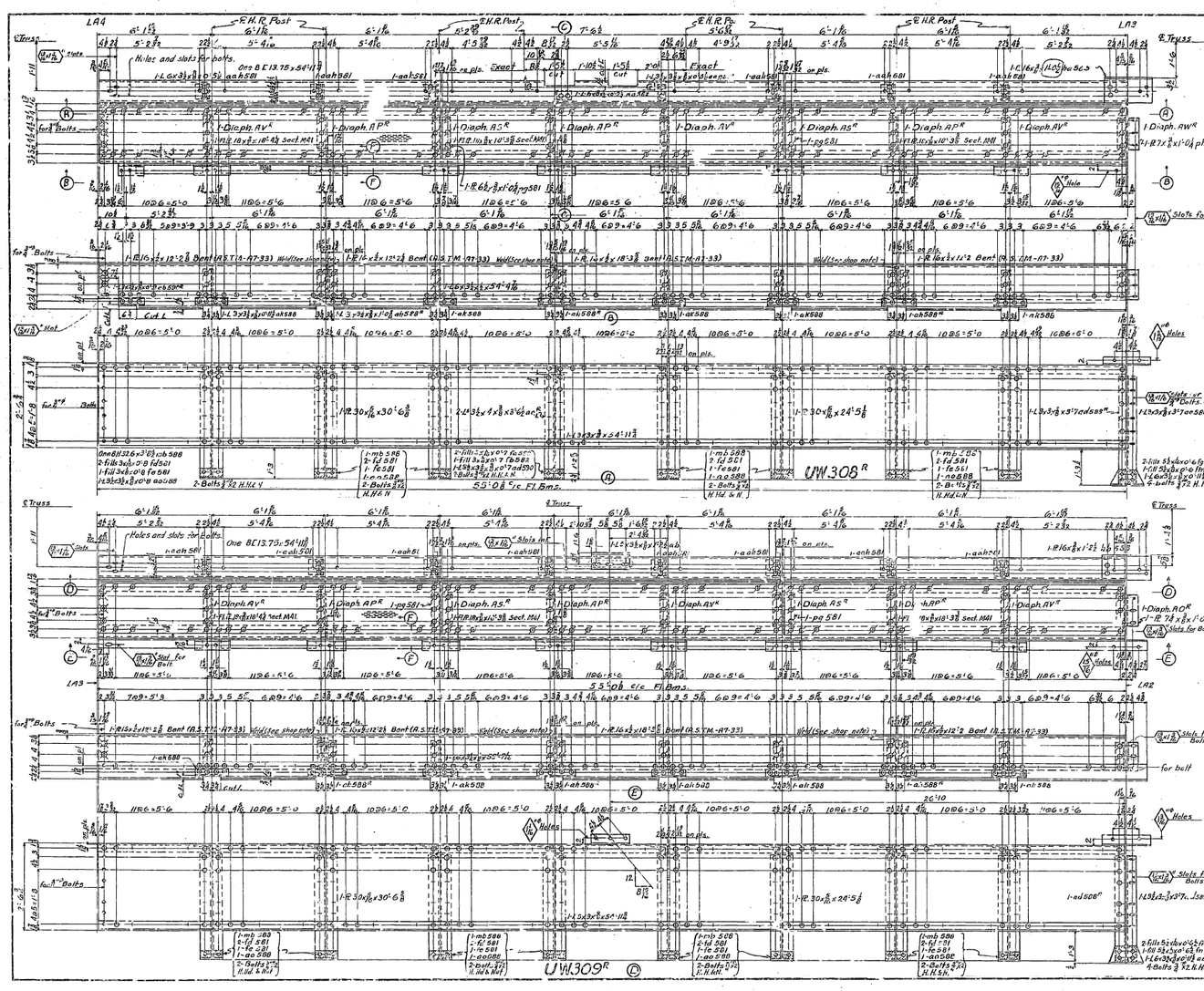
APPROVED
Chief Engineer
Asst. Engineer
10-5-36

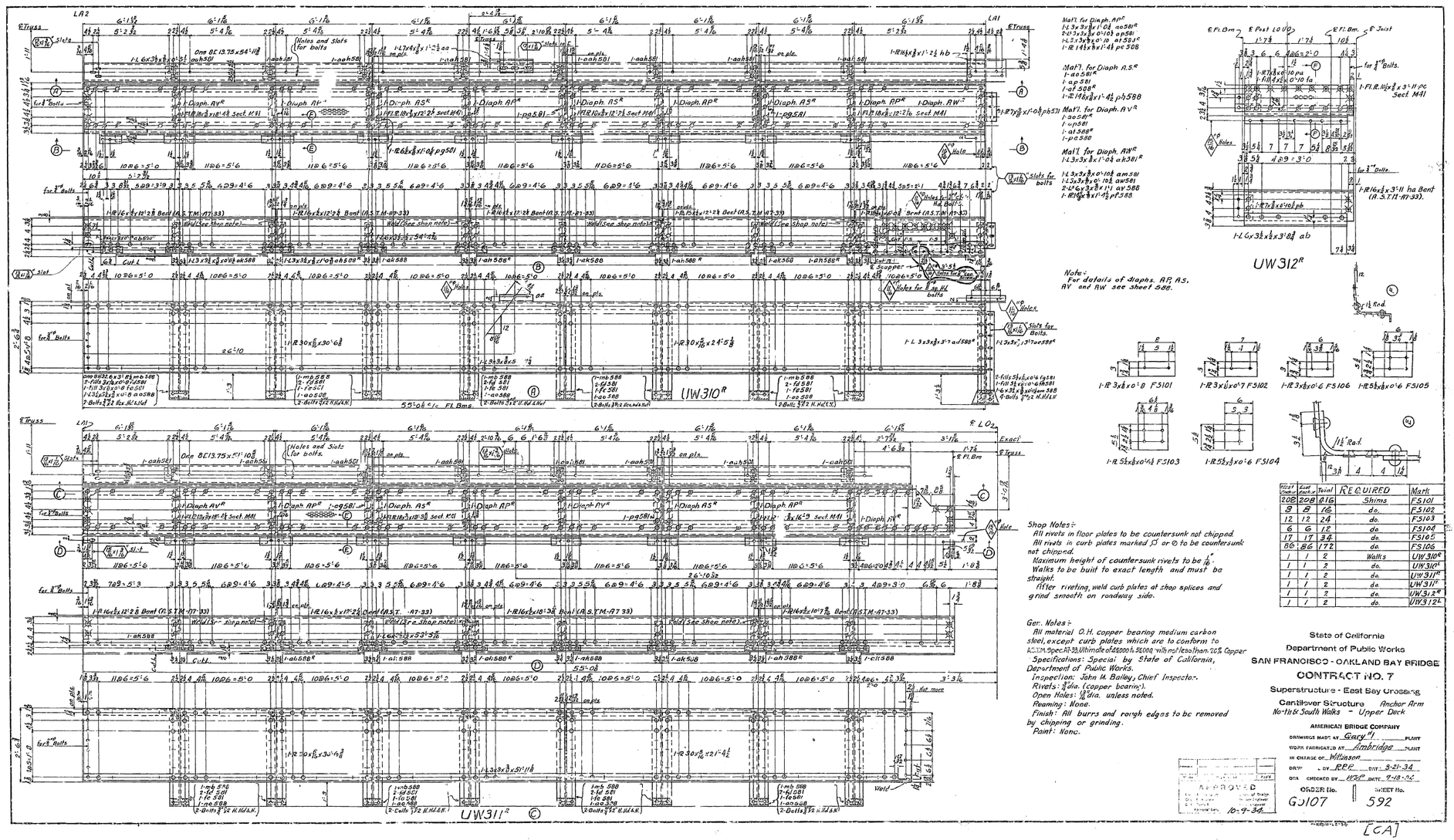
[CA]

Rev 11-8-36

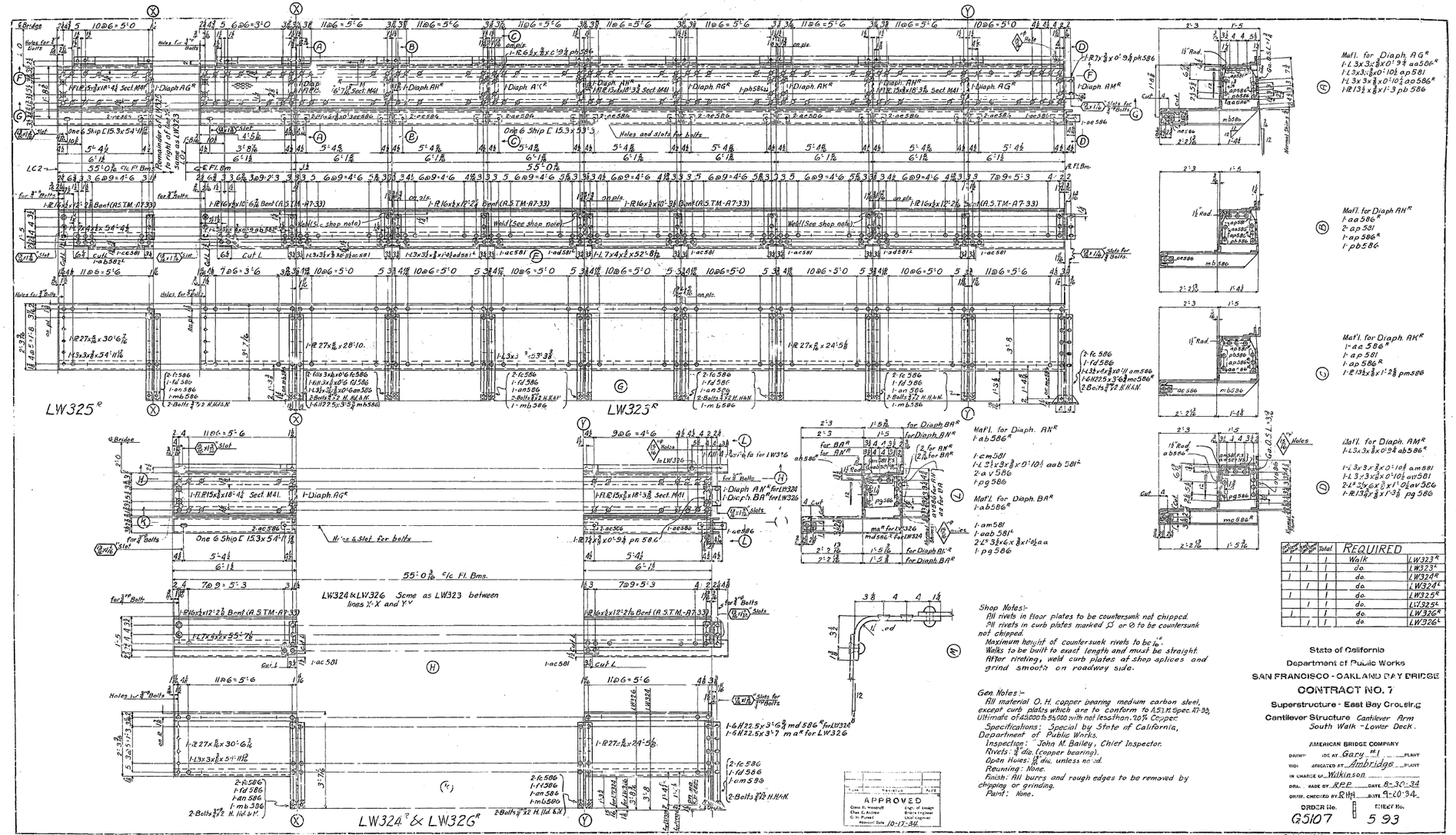

℄ LA9 & H.R. Post
℄ Truss
Slots 2 Holes for Bolts
℄ H.R. Post
℄ Truss
1⅛ x 1⅛ Slots in ℄
1-aah581
1-L 6 x 3½ x ⅞ x 0'-5½ aa588R
1-L 7 x 4 x ⅞ x 1'-2½ ab
1-aah581
1-aah581
1-aah581


UW304R
UW306
40'0" c.c. Floor Beams
40'0" c.c. Floor Beams
Rem. of UW306 to the Left of Line Ⓔ Ⓔ
Same as UW304
Weld (See Shop Note)
Holes for Bolts
Slots and Holes for Bolts
Shims
Cut Bact
Cut Ahead
Cut Ahead
Cut Bact
Cut Bact
Cut Ahead
Cut Bact
Cut Ahead
Cut Bact
Cut Ahead

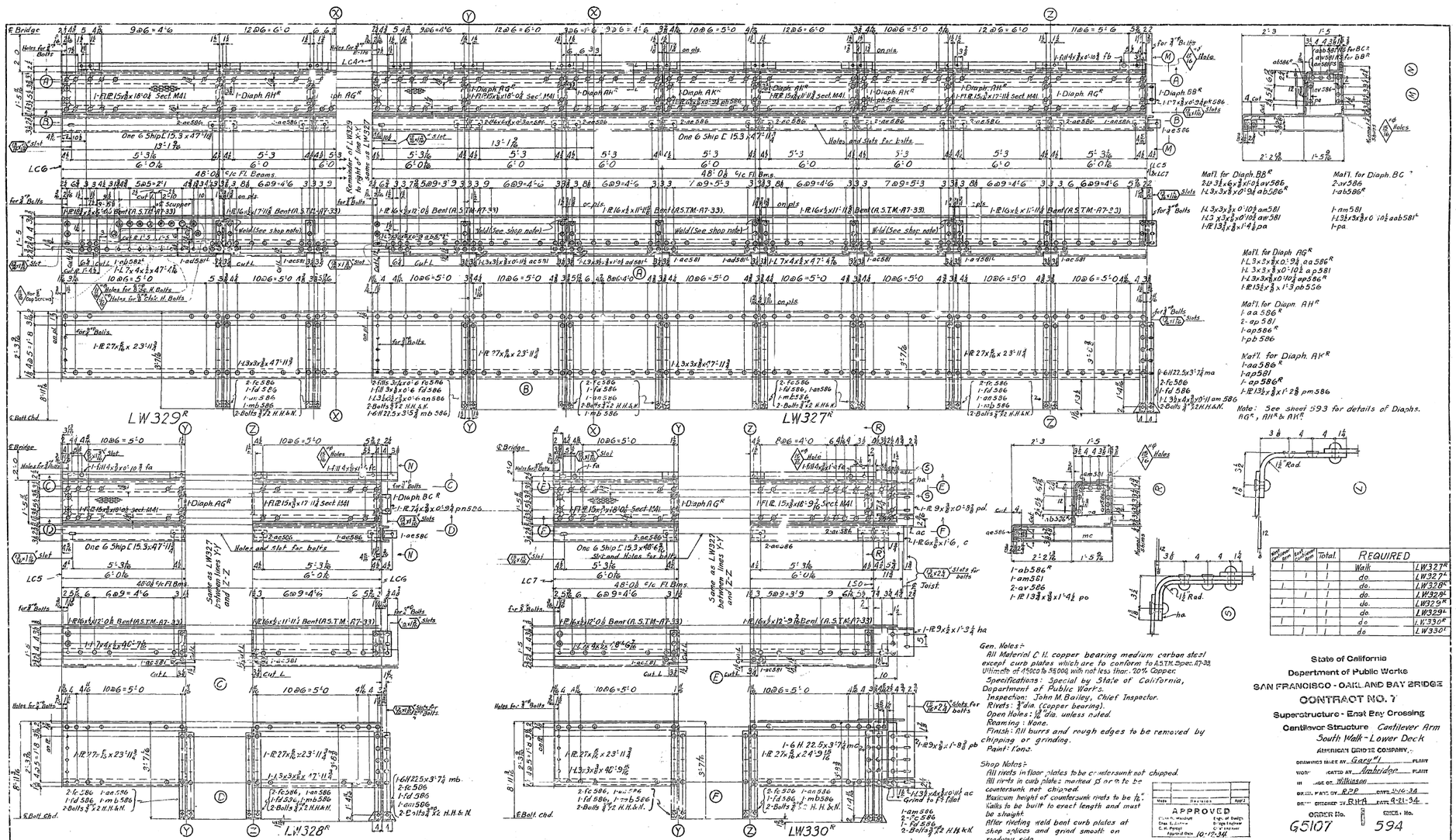

LA8
LA9
LA3
LA2
℄ Truss
E.H.R. Post
Holes and slots for bolts. One BC13.75x54#113
1-L 6x3½x⅜x0'-5½ aah581
1-ah581
1-ah588
Exact
1-ah588 on pls.
1-ah588 cut
1-ah588 cut 5½ on pls.
1-L 6x6x⅝x0'-3½ aa563
1-PL 16x⅝ (1.10⅝) pa563
1-Diaph. AV R
1-Diaph. AP R
1-Diaph. AS R
1-Diaph. AW R
1-PL 18x⅝x18'-4½ Sect. M41
1-PL 18x⅝x18'-4½ Sect. M41 Welded (See shop note)
1-PL 10½x⅝x10'-3⅝ Sect. M41
1-pg581
1-PL 16x⅝x12'-2⅝ Bent (A.S.T.M.-A7-33)
1-PL 16x⅝x12'-2⅝ Bent (A.S.T.M.-A7-33) Welded (See shop note)
1-PL 16x⅝x18'-3⅜ Bent (A.S.T.M.-A7-33)
1-PL 16x⅝x12'-2 Bent (A.S.T.M.-A7-33)
1-PL 16x⅝x54'-4⅞
1-PL 16x⅝x54'-4⅞ on pls.
1-PL 16x⅝x54'-4⅞ cut
1-PL 16x⅝x54'-4⅞ cut 5½ on pls.
1-PL 16x⅝x54'-4⅞ cut 1'-5½ on pls.
1-PL 16x⅝x54'-4⅞ cut 2'-0½ on pls.
1-PL 16x⅝x54'-4⅞ cut 2'-6½ on pls.
1-PL 16x⅝x54'-4⅞ cut 3'-0½ on pls.
1-PL 16x⅝x54'-4⅞ cut 3'-6½ on pls.
1-PL 16x⅝x54'-4⅞ cut 4'-0½ on pls.
1-PL 16x⅝x54'-4⅞ cut 4'-6½ on pls.
1-PL 16x⅝x54'-4⅞ cut


UW310R
UW311C
UW312R
E Truss
E Fl. Bm.
E Post
E Joist
Holes and Slots for bolts
Shop Notes:
All rivets in floor plates to be countersunk not chipped.
All rivets in curb plates marked ☐ or ⊙ to be countersunk not chipped.
Maximum height of countersunk rivets to be 1/16".
Walks to be built to exact length and must be straight.
After riveting, weld curb plates at shop splices and grind smooth on roadway side.
Gen. Notes:
All material O.H. copper bearing medium carbon steel, except curb plates which are to conform to A.S.T.M. Spec. A7-33, Ultimate of 55000 to 65000 #/in² with not less than .20% Copper
Specifications: Special by State of California, Department of Public Works.
Inspection: John M. Bailey, Chief Inspector.
Rivets: 7/8" dia. (copper bearing).
Open Holes: 13/16" dia. unless noted.
Reaming: None.
Finish: All burrs and rough edges to be removed by chipping or grinding.
Paint: None.
Note: For details of diaphs. AP, AS, AV and AW see sheet 588.
1-R 3x3/8x0'-8 F5101
1-R 3x1/2x0'-7 F5102
1-R 3x3/8x0'-6 F5106
1-R 5 1/2x3/8x0'-6 F5105
1-R 5 1/2x3/8x0'-6 F5103
1-R 5 1/2x3/8x0'-6 F5104
1-R 16x3/8x3'-11 ha Bent (A.S.T.M.-A7-33).
1-L 6x3 1/2x1/2x3'-8 ab
1-Fl.R. 18x3/8x3'-11 pc Sect. M41
1-Fl.R. 18x3/8x12'-2 1/2 Sect. M41
1-R 27 7/8x1'-0 1/8 ph531
1-R 14 5/8x1'-4 1/2 ph588
1-R 16x3/8x12'-2 1/2 Bent (A.S.T.M.-A7-33)
1-R 16x3/8x12'-10 7/8 Bent (A.S.T.M.-A7-33)
1-R 16x3/8x12'-2 1/2 Bent (A.S.T.M.-A7-33)
1-R 16x3/8x11'-8 3/8 Bent (A.S.T.M.-A7-33)
1-R 16x3/8x11'-2 1/2 Bent (A.S.T.M.-A7-33)
1-R 16x3/8x11'-8 3/8 Bent (A.S.T.M.-A7-33)
1-R 30 5/16x24'-5 3/8
1-R 30 5/16x30'-6 3/8
1-R 30 5/16x35'-6 3/8
1-R 30 5/16x21'-4 1/2
1-L 3x3x3/8x5'-7 ad588R
1-L 3x3x3/8x5'-11 ad588E
1-L 3x3x3/8x5'-11 ad588E
1-L 6x3 1/2x3/8x5'-11 ad588E
1-L 6x3 1/2x3/8x5'-11 ad588E
1-L 6x3 1/2x3/8x5'-11 ad588E
1-L 3x3x3/8x5'-11 ad588E
1-L 3x3x3/8x5'-11 ad588E
1-L 3x3

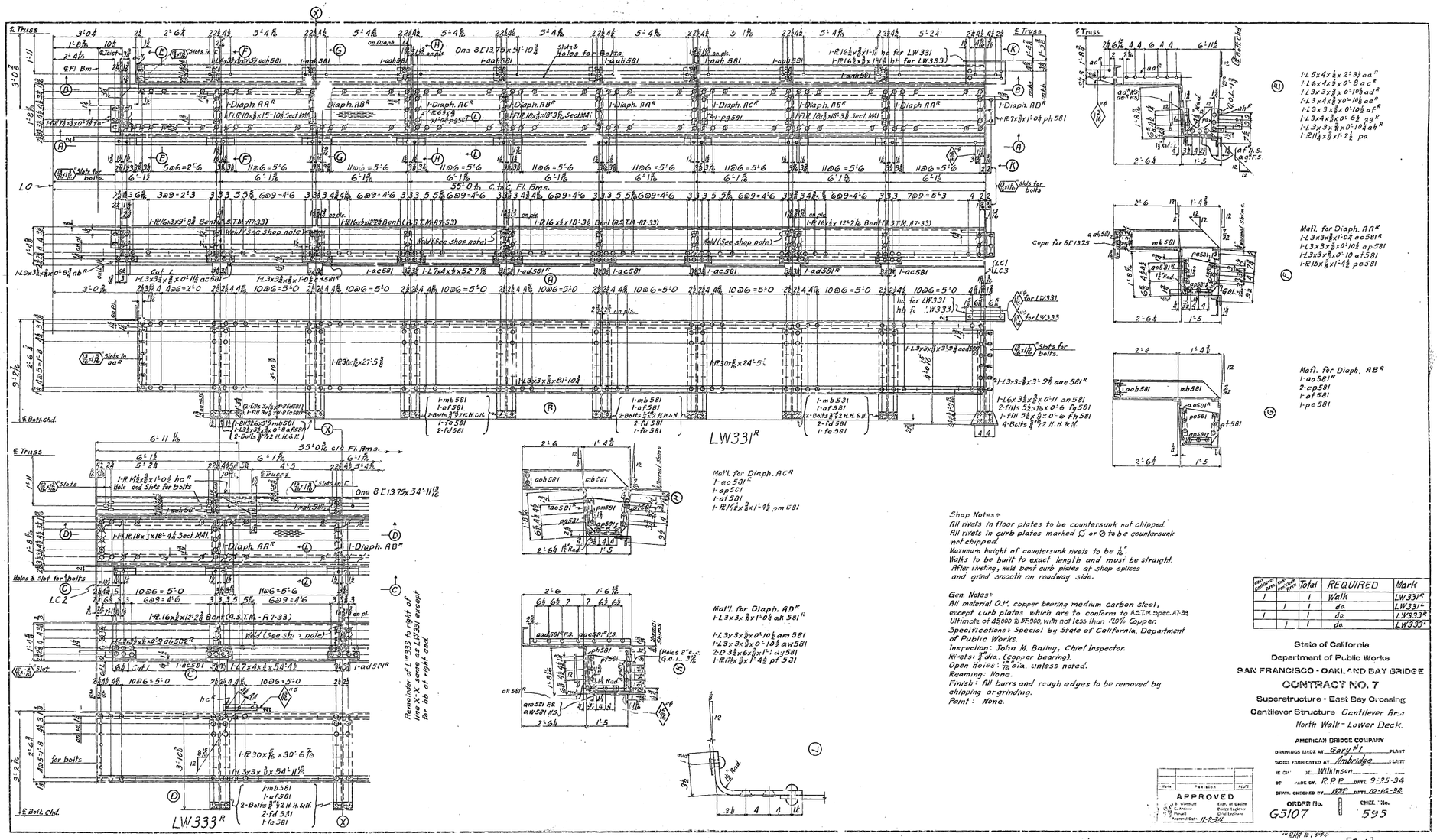
30-51

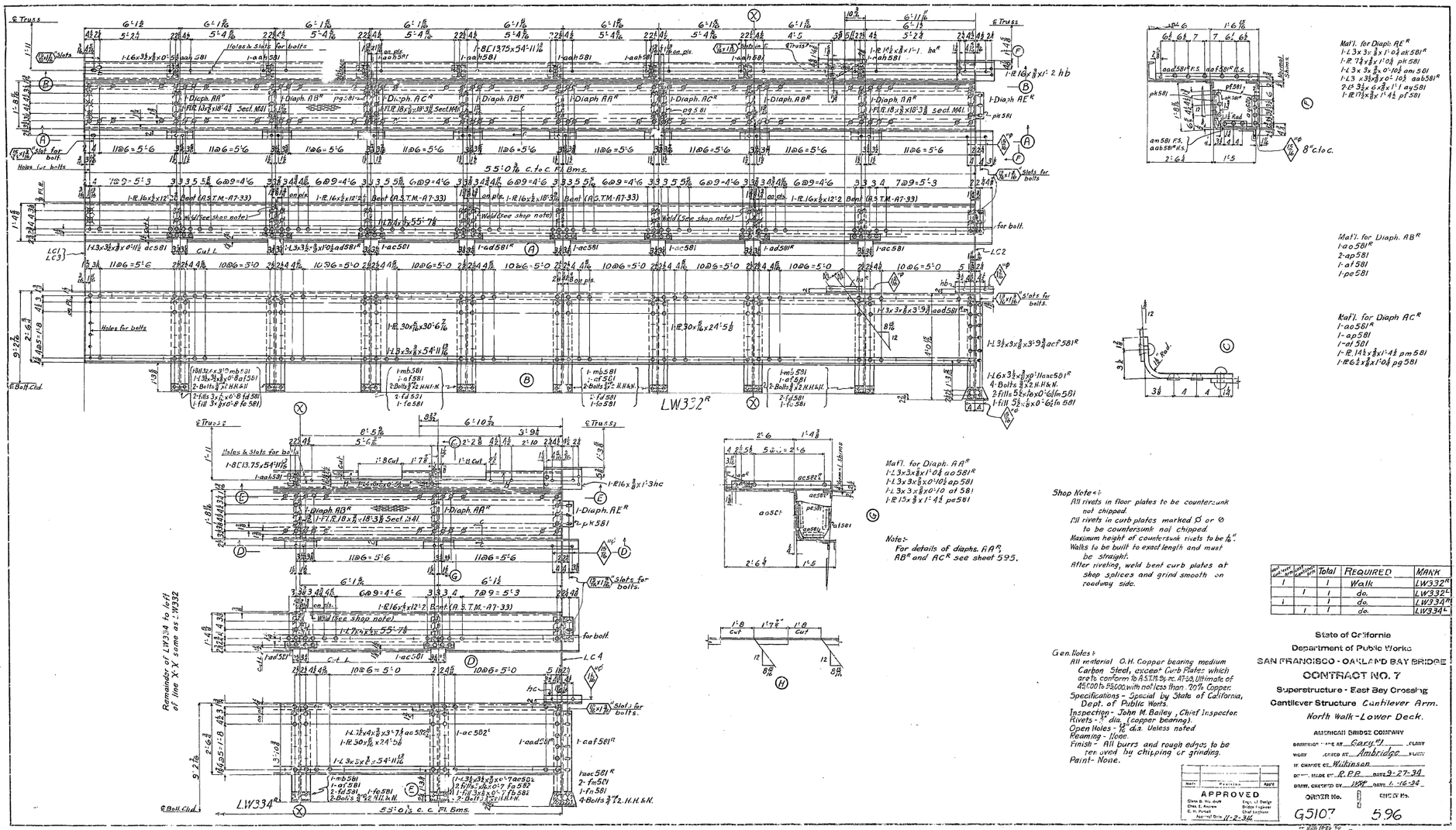

LW325R
LW323R
LW324R & LW326R
Mat'l. for Diaph. AGR
Mat'l. for Diaph AHR
Mat'l. for Diaph. AKR
Mat'l. for Diaph. ANR
Mat'l. for Diaph. BAR
Shop Notes:-
Gen. Notes:-
APPROVED
REQUIRED
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm
South Walk - Lower Deck.
AMERICAN BRIDGE COMPANY
ORDER No. G5107
SHEET No. 5 93

[CA]


LW329R
LW327R
LW328R
LW330R
℄ Bridge
℄ Batt Chd.
One 6 Ship L 153'-4⅞"
One 6 Ship L 153'-3"
One 6 Ship L 153'-11⅞"
One 6 Ship L 153'-3"
48'-0⅛ c/c Fl. Beams
LC5
LC6
LC7
LC4
10 @ 6'-0 = 5'-0
9 @ 6'-4⅞
12 @ 6'-0
6 @ 6'-3
11 @ 6'-1⅛
8 @ 6'-4"
1-Diaph AH R
1-Diaph AG R
1-Diaph AK R
1-Diaph BB R
1-Diaph BC R
Holes and Slots for bolts
Same as LW327 between lines Y-Y and Z-Z
Same as LW327 between lines Y-Y and Z-Z
Reverse of LW329 as regards ℄ line X-X
Weld (See shop note)
Cut L
Cut R
on pls.
Slots
Holes for ⅞" Bolts
Holes for ⅞" K Bolts
Holes for ⅞" Tel's. H. Bolts
Holes for ⅞" Rivets
Holes for ⅞" Bolts
Holes for ⅞" Rivets
Holes for ⅞" Bolts
Holes for ⅞" Bolts
Holes for ⅞" Bolts

304


℄ Truss
℄ Fl. Bm.
℄ Joist
Slots in
Slots for bolts.
Slots & Holes for Bolts
Diaph. AA^R
Diaph. AB^R
Diaph. AC^R
Diaph. AD^R
Diaph. AE^R
1-Fl. PL 18 x 18^R Sect. M41
1-Fl. PL 18 x 18^R Sect. M41
1-Fl. PL 18 x 18^R Sect. M41
1-Fl. PL 10 x 15^R Sect. M41
1-Fl. PL 10 x 18^R Sect. M41
1-Fl. PL 10 x 18^R Sect. M41
1-Fl. PL 10 x 18



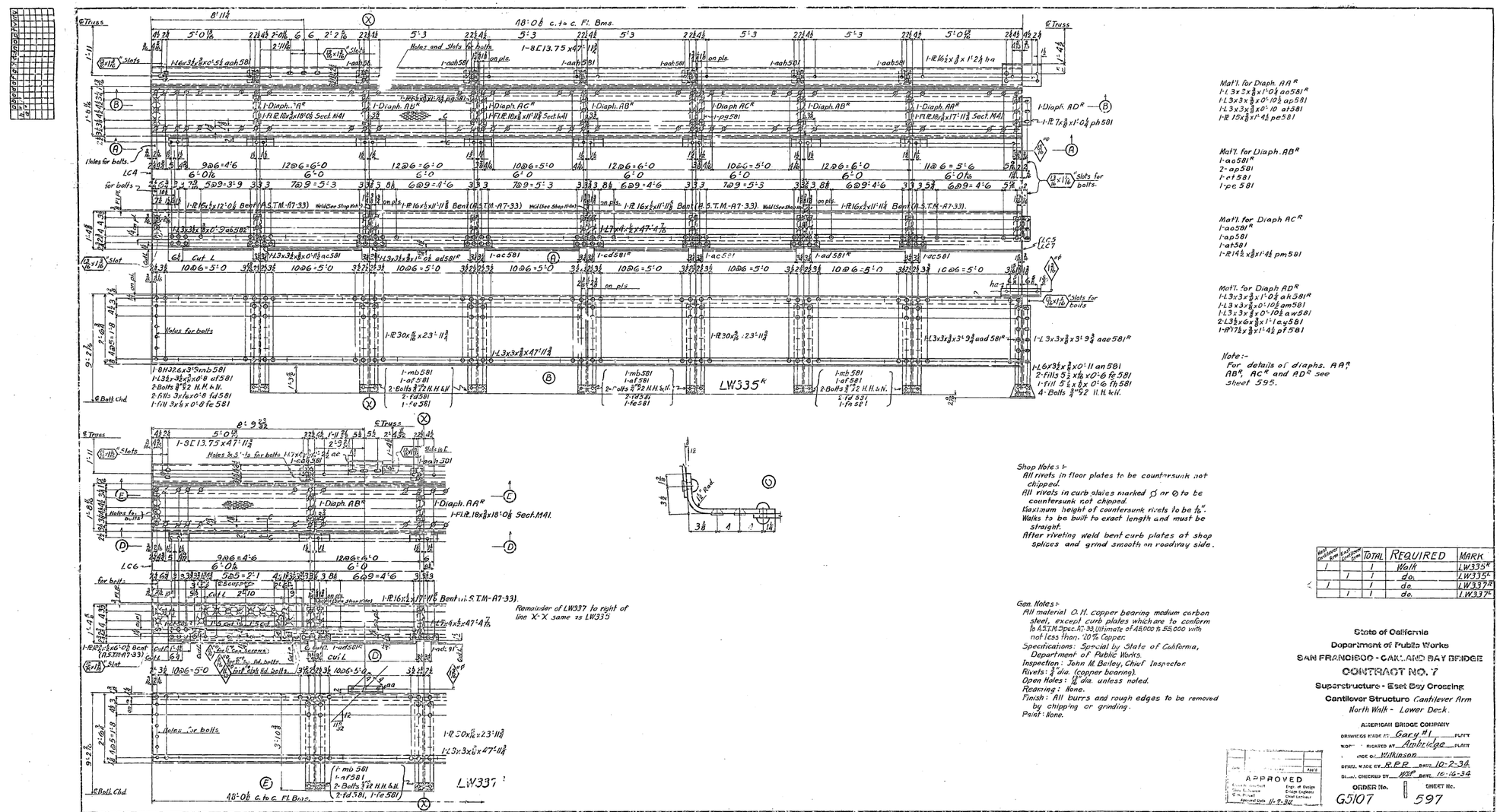
Mark	Position	Appd.
APPROVED		
Chas. B. Wollenberg, Engr. of Design		
Chas. E. Andrew, Bridge Engineer		
C. H. Purcell, Chief Engineer		
Approved Dec. 11-2-34		

Shop Insp. Mark	Field Insp. Mark	Total	Required	Mark
1		1	Walk	LW332R
	1	1	do.	LW332L
1		1	do.	LW334R
	1	1	do.	LW334L

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm.
North Walk - Lower Deck.

AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary Ind. PLANT
WORK LOCATED AT Ambridge SHOP
W. CHARGE OF Wilkinson
DETAILED BY R.P.P. DATE 9-27-34
DRAWN CHECKED BY WPF DATE 1-16-34
ORDER No. G5107
DRAWING No. 596

[CA]



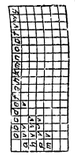
Rest. Cantilever Arm	Rest. Continuous Truss	TOTAL	REQUIRED	MARK
1		1	Walk	LW335K
	1	1	do.	LW335K
1		1	do.	LW337K
	1	1	do.	LW337K

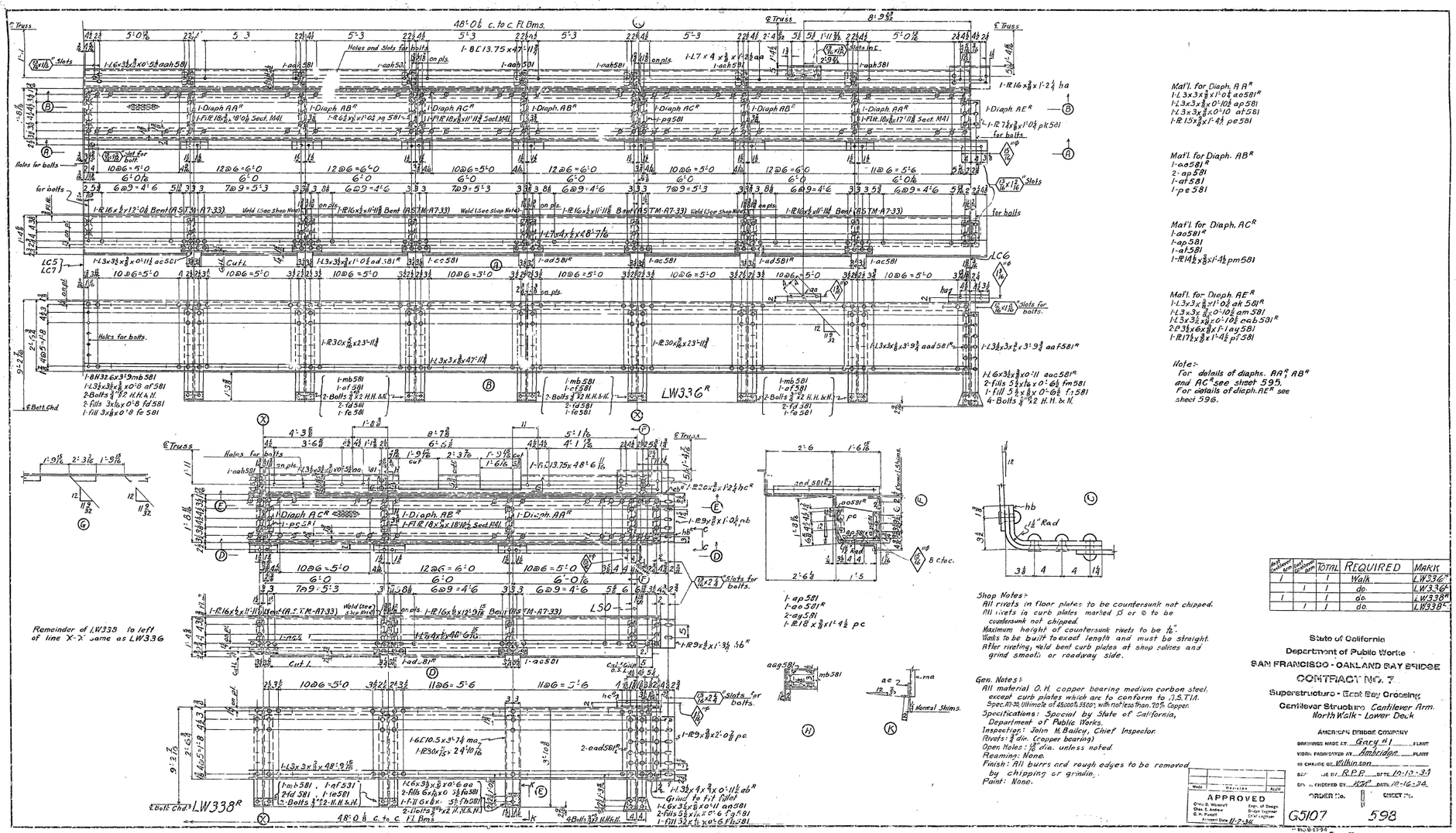
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm
North Walk - Lower Deck.

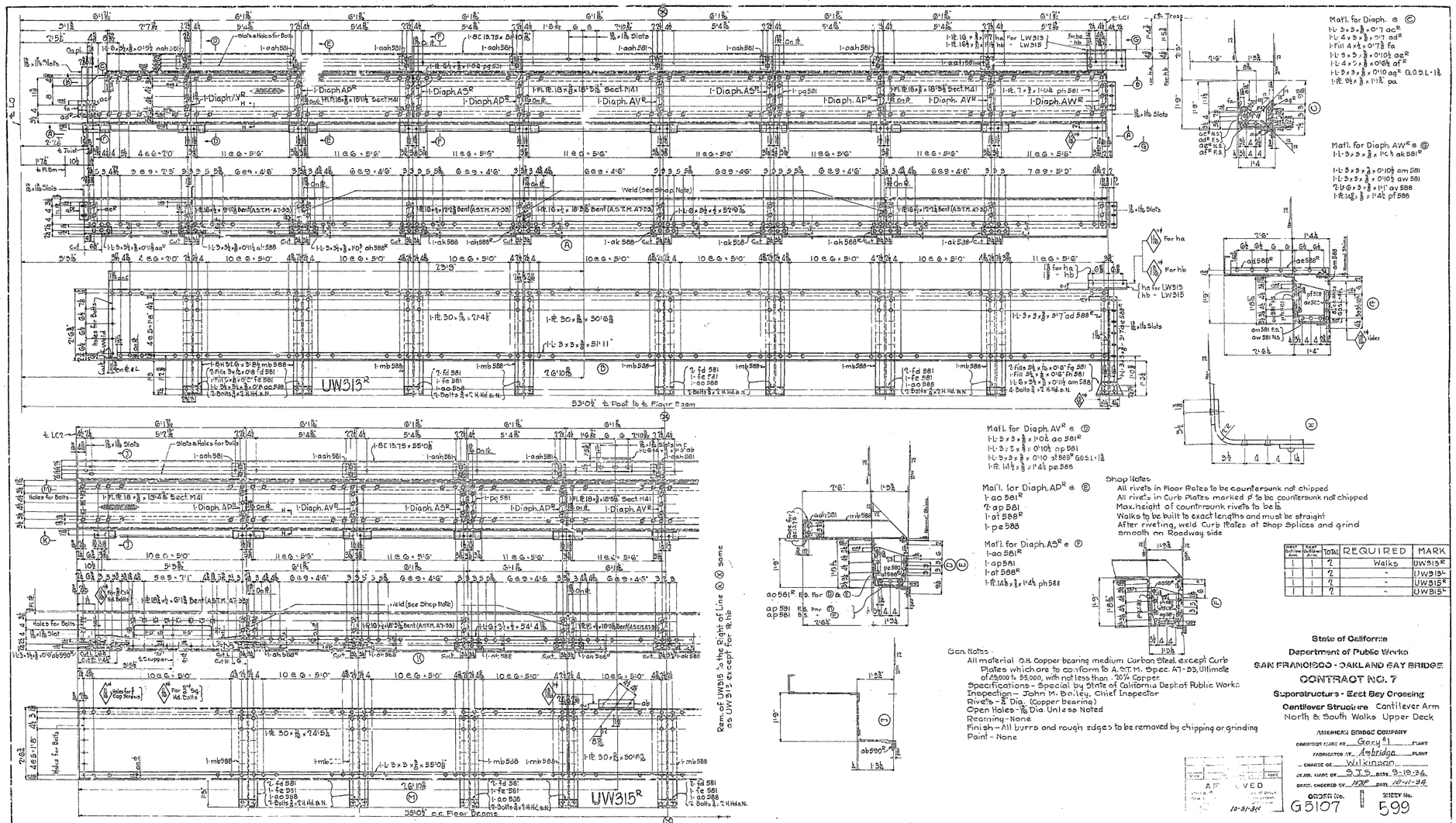
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary IN. PLANT
WORK FABRICATED AT Ambridge PLANT
DRAWING OF Wilkinson
DETAIL MADE BY R.P.P. DATE 10-2-34
DETAIL CHECKED BY MHF DATE 10-16-34
ORDER No. G5107 SHEET No. 597

APPROVED
Engr. of Design
Bridge Engineer
Chief Engineer
APPROVED Nov. 11-2-34

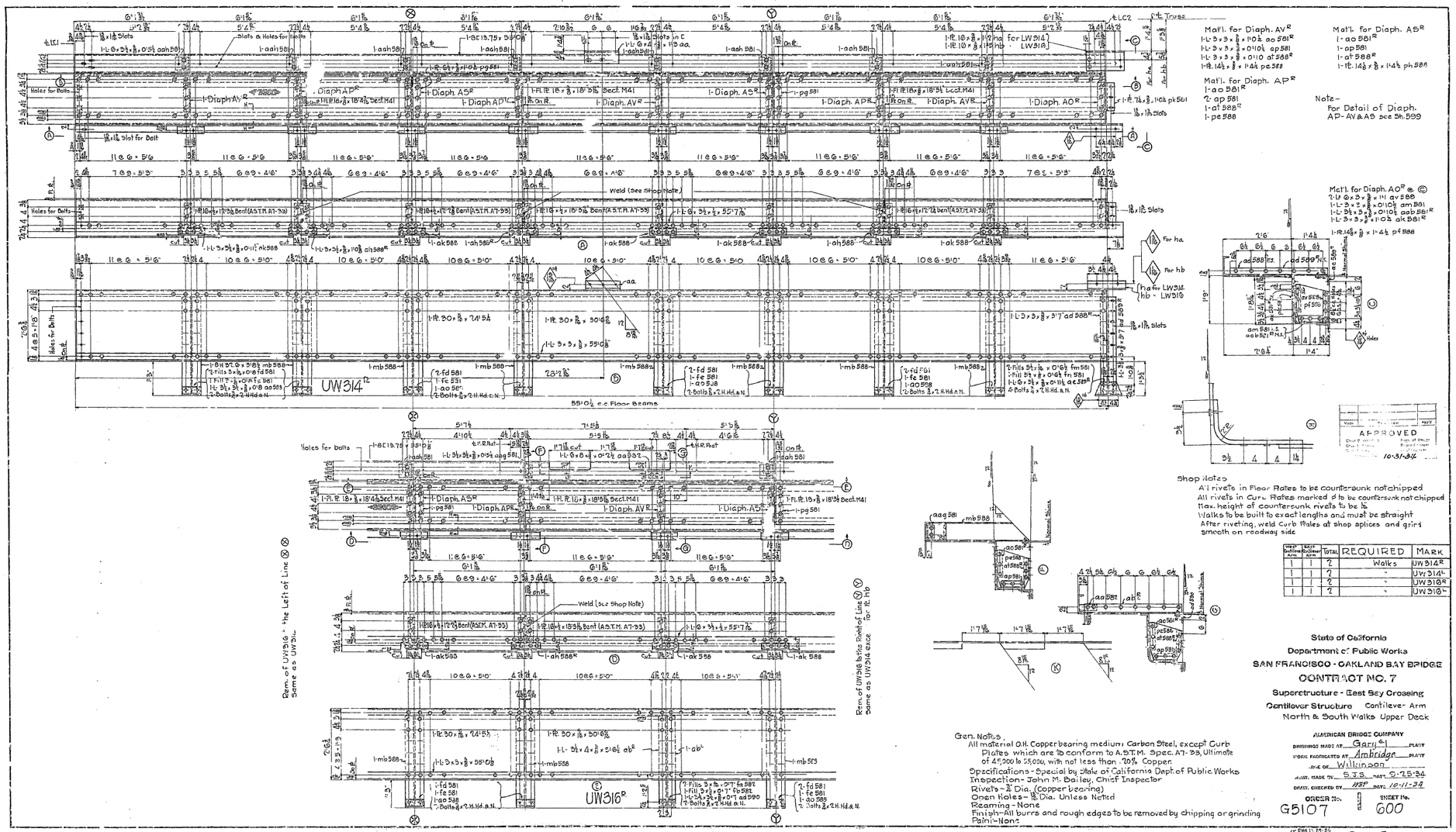
[CA]




48'-0⅛" c. to c. Fl. Bms.
℄ Truss
℄ Truss
8'-9⅝"
1-BL13.75 x 47'-11⅞
1-L7 x 4 x ⅞ x 1'-2½ aa
1-aah581
1-aah581
1-aah581
1-aah581
1-aah581
1-aah581
Holes and Slots for bolts
Slots in ℄
1-R16 x ⅞ x 1'-2¼ ha
1-Diaph. AA^R
1-Diaph. AB^R
1-Diaph. AC^R
1-Diaph. AB^R
1-Diaph. AC^R
1-Diaph. AB^R
1-Diaph. AA^R
1-Diaph. AE^R
1-FlR18x⅞x16'-0⅛ Sect. M41
1-R6½x½x1'-0¼ pg581
1-pg581
1-FlR18x⅞x11'-11⅞ Sect. M41
1-FlR18x⅞x17'-11⅞ Sect. M41
1-R7⅞x⅞x1'-0½ pk581
Slot for bolt
Holes for bolts
10@6 = 5'-0
12@6 = 6'-0
12@6 = 6'-0
10@6 = 5'-0
12@6 = 6'-0
10@6 = 5'-0
12@6 = 6'-0
11@6 = 5'-6
6'-0
6'-0
6'-0
6'-0
6'-0
6'-0
6'-0½
for bolts
6@9 = 4'-6
7@9 = 5'-3
6@9 = 4'-6
7@9 = 5'-3
6@9 = 4'-6
7@9 = 5'-3
6@9 = 4'-6
6@9 = 4'-6
1-R16 x ½ x 12'-0⅛ Bent (A.S.T.M.-A7-33)
Weld (See Shop Note)
1-R16 x ½ x 11'-11⅞ Bent (A.S.T.M.-A7-33)
1-R16 x ½ x 11'-11⅞ Bent (A.S.T.M.-A7-33)
1-R16 x ½ x 11'-11⅞ Bent (A.S.T.M.-A7-33)
1-L7 x 4 x ½ x 48'-7⅛
Slots for bolts
LC5
LC7
Cut L
1-L3x3½x⅜x0'-11⅞ ac581
1-L3x3½x⅜x1'-0⅛ ad581^R
1-c581
1-ad581^R
1-ac581
1-ad581^R
1-ac581
LC6
1-ad581^R
1-ad581^R
1-ad581^R


UW313R
UW315R
53'0½" ℄ Post to ℄ Floor Beam
55'0½" c.c. Floor Beams
Rem. of UW315 to the Right of Line ⊗ ⊗ same as UW313 except for ℄ hb
Mat'l. for Diaph. e ©
Mat'l. for Diaph. AWR e ⑨
Mat'l. for Diaph. AVR e ⑩
Mat'l. for Diaph. APR e Ⓔ
Mat'l. for Diaph. ASR e Ⓕ
Shop Notes
All rivets in Floor Plates to be countersunk not chipped
All rivets in Curb Plates marked ρ to be countersunk not chipped
Max. height of countersunk rivets to be ½
Walks to be built to exact lengths and must be straight
After riveting, weld Curb Plates at Shop Splices and grind smooth on Roadway side
Gen. Notes
All material O.H. Copper bearing medium Carbon Steel, except Curb Plates which are to conform to A.S.T.M. Spec. A7-33, Ultimate of 55000 to 65000, with not less than .20% Copper
Specifications - Special by State of California Dept. of Public Works
Inspection - John M. Bailey, Chief Inspector
Rivets - ⅞ Dia. (Copper bearing)
Open Holes - 15/16 Dia. Unless Noted
Reaming - None
Finish - All burrs and rough edges to be removed by chipping or grinding
Paint - None
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm
North & South Walks Upper Deck
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary #1 PLANT
FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DRAWN BY SJS DATE 9-19-34
DESIGN CHECKED BY MJP DATE 10-11-34
ORDER No. G5107
SHEET No. 599
APPROVED 10-31-34
[CA]

30-51



Mat'l. for Diaph. AV^R
1-L 3 x 3 x ⅜ x 10'-8½ ao 581^R
1-L 3 x 3 x ⅜ x 0'-10½ ap 581
1-L 3 x 3 x ⅜ x 0'-11 ao 588^R
1-Pl. 14½ x ⅜ x 1'-4½ pe 588

Mat'l. for Diaph. AS^R
1-ao 581^R
1-ap 581
1-at 588^R
1-Pl. 14⅛ x ⅜ x 1'-4½ ph 588

Mat'l. for Diaph. AP^R
1-ao 581^R
2-ap 581
1-at 588^R
1-pe 588

Note–
For Detail of Diaph. AP-AV & AS see Sh. 599

Mat'l. for Diaph. AO^R & ©
2-L 6 x 6 x ⅝ x 1'-1 av 588
1-L 3 x 3 x ½ x 0'-10½ am 581
1-L 5½ x 3½ x ⅝ x 0'-10½ aab 581^R
1-L 3 x 3 x ½ x 1'-0⅛ at 581^R
1-Pl. 14⅝ x ⅜ x 1'-4½ pf 588

Shop Notes
All rivets in Floor Plates to be countersunk not chipped
All rivets in Curb Plates marked ◇ to be countersunk not chipped
Max. height of countersunk rivets to be ⅛
Walks to be built to exact lengths and must be straight
After riveting, weld Curb Plates at shop splices and grind smooth on roadway side

West Cantilever Arm	East Cantilever Arm	TOTAL	REQUIRED	MARK
1	1	2	Walks	UW314R
1	1	2	"	UW314L
1	1	2	"	UW316R
1	1	2	"	UW316L

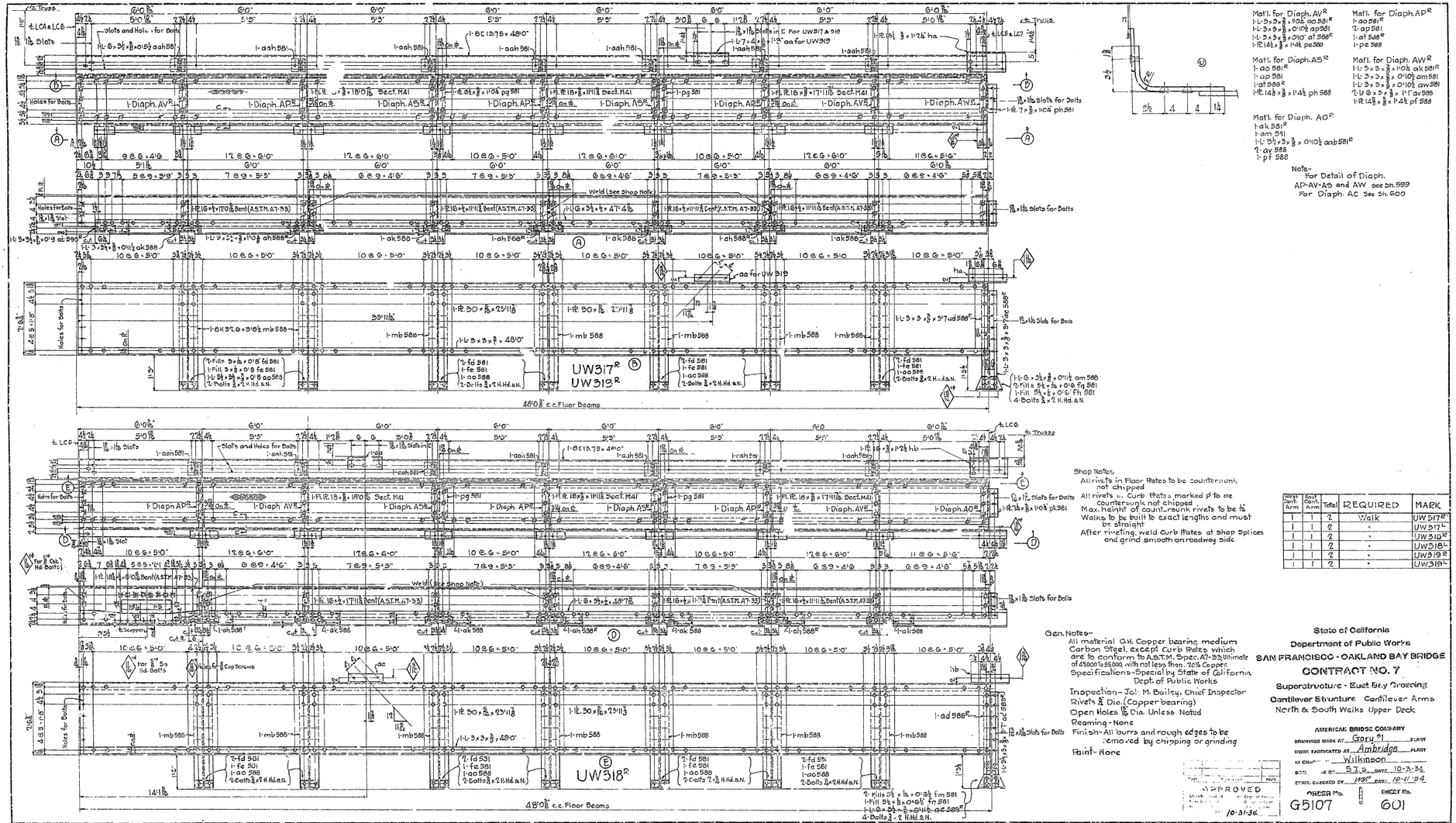
APPROVED
10-31-34

Gen. Notes.
All material O.H. Copperbearing medium Carbon Steel, except Curb Plates which are to conform to A.S.T.M. Spec. A7-33, Ultimate of 45,000 to 55,000, with not less than .10% Copper.
Specifications - Special by State of California Dept of Public Works
Inspection - John M. Bailey, Chief Inspector
Rivets - ⅞ Dia. (Copper bearing)
Open Holes - ⅞ Dia. Unless Noted
Reaming - None
Finish - All burrs and rough edges to be removed by chipping or grinding
Paint - None

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arm
North & South Walks Upper Deck

AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary, Ind. PLANT
WORK FABRICATED AT Ambridge PLANT
AVE OF Wilson
ASSM. MADE BY S.J.S. DATE 9-25-34
DRFTD. CHECKED BY HST DATE 10-11-34
ORDER No. G5107 SHEET No. 600

[CA]



Matl. for Diaph. AVR
1-L 5×5×⅝ x 1'10½ ao 581R
1-L 5×5×⅝ x 0'10½ ap 581
1-L 5×3×⅝ x 0'10" at 588R
1-PL 14½ x ⅝ x 1'4½ pe 588

Matl. for Diaph. APR
1-ao 581R
1-ap 581
1-at 588R
1-pe 588

Matl. for Diaph. ASR
1-ao 581R
1-ap 581
1-at 588R
1-PL 14⅜ x ⅝ x 1'4½ ph 588

Matl. for Diaph. AWR
1-L 5×5×⅝ x 1'10½ ak 581R
1-L 5×5×⅝ x 0'10½ am 581
1-L 5×5×⅝ x 0'10½ aw 581
2-L 5×5×⅝ x 1'1" av 588
1-PL 14⅜ x ⅝ x 1'4½ pf 588

Matl. for Diaph. AOR
1-ak 581R
1-am 581
1-L 5½×3×⅝ x 0'10½ anb 581R
2-av 588
1-pf 588

Note–
For Detail of Diaph.
AP-AV-AS and AW see Sh. 599
For Diaph. AC See Sh. 600

Shop Notes
All rivets in Floor Plates to be countersunk, not chipped
All rivets in Curb Plates marked P to be countersunk not chipped
Max. height of countersunk rivets to be ½
Welds to be built to exact lengths and must be straight
After riveting, weld Curb Plates at Shop Splices and grind smooth on roadway side

West Cant. Arm	East Cant. Arm	Total	REQUIRED	MARK
1	1	2	Walk	UW317R
1	1	2	"	UW317L
1	1	2	"	UW318R
1	1	2	"	UW318L
1	1	2	"	UW319R
1	1	2	"	UW319L

Gen. Notes–
All material O.H. Copper bearing medium Carbon Steel, except Curb Plates which are to conform to A.S.T.M. Spec. A7-33, Ultimate of 45000 to 55000, with not less than .20% Copper.
Specifications–Special by State of California Dept. of Public Works
Inspection–Jos. M. Boilsy, Chief Inspector
Rivets ⅞ Dia. (Copper bearing)
Open Holes ⅞ Dia. Unless Noted
Reaming–None
Finish–All burrs and rough edges to be removed by chipping or grinding
Paint–None

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arms
North & South Walks Upper Deck

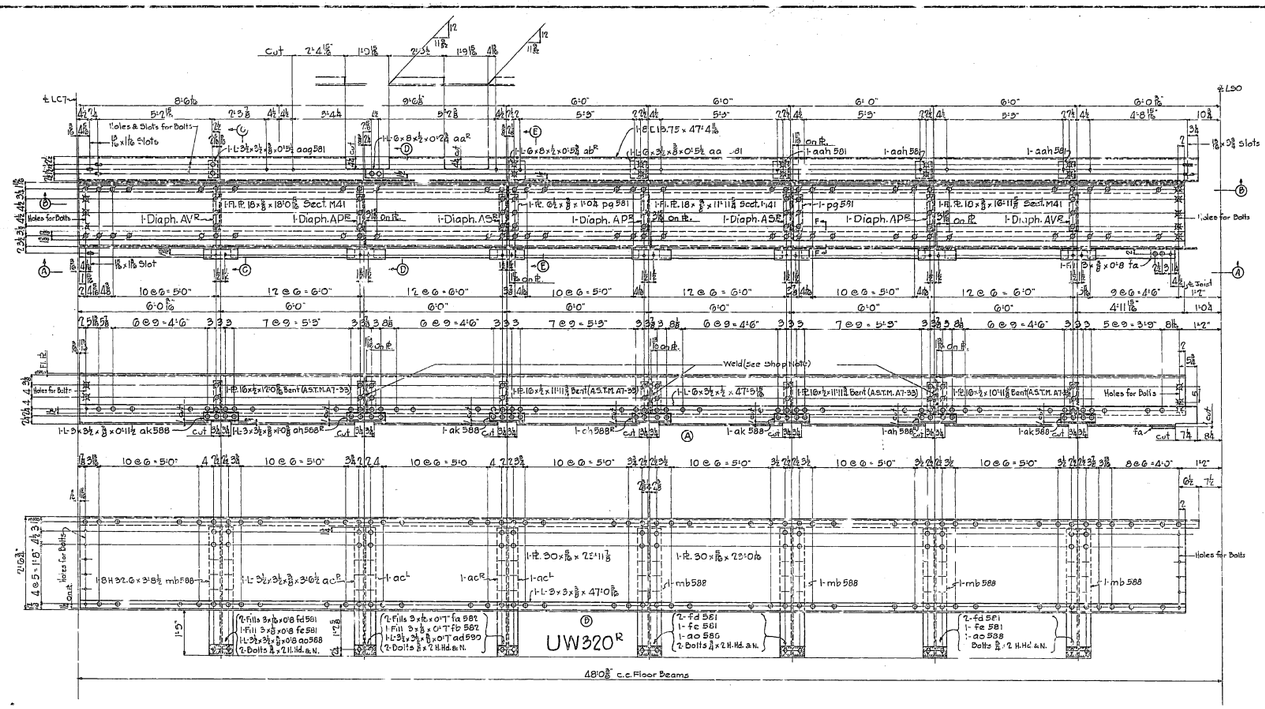
AMERICAN BRIDGE COMPANY
DRAWINGS MADE AT Gary PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHARGE Wilkinson
DETD. JE BY S.J.S. DATE 10-3-34
CHKD. CHECKED BY HWP CHKD. 10-11-34

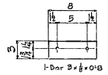
APPROVED
10-31-34

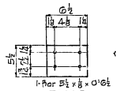
ORDER No. G5107
SHEET No. 601

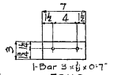
[CA]

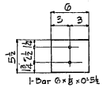
30-51

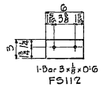


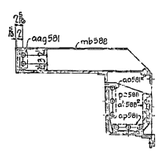




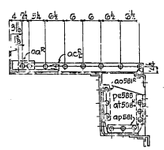




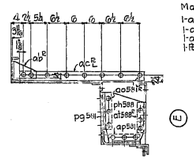




Matl. for Diaph. AV^R @ ©
1-L 3×3×⅜×1'0½ ao581^R
1-L 5×3×⅜×0'10½ ap581
1-L 3×3×⅜×0'10 at588^R
1-ft. 14½×⅜×1'4½ pe588

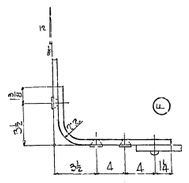


Matl. for Diaph. AP^R @ Ⓓ
1-ao 581^E
2-ap581
1-at 588^R
1-ps588



Matl. for Diaph. AS^R @ Ⓔ
1-ao 581^R
1-ap 581
1-at 588^R
1-ft. 14½×⅜×1'4½ ph588

Note- For Detail of Diaph. AP-AS and AV see Sh. 599



Shop Notes-
All rivets in Floor Plates to be counter-sunk not chipped
All rivets in Curb Plates marked ø to be countersunk not chipped
Max. height of countersunk rivets to be 1/8
Walks to be built to exact lengths and must be straight
After riveting, weld Curb Plates at shop splices and grind smooth on roadway side

Gen. Notes-
All material O.H. Copper bearing medium Carbon Steel, except Curb Plates which are to conform to A.S.T.M. Spec. A7-33 Ultimate of 65000 to 75000 with not less than .10% Copper
Specifications:- Special by State of California Dept. of Public Works.
Inspection - John M. Bailey, Chief Inspector
Rivets - ⅞ Dia. (Copper bearing)
Open Holes - 1⅛ Dia. Unless Noted
Reaming - None
Finish - All burrs and rough edges to be removed by chipping or grinding
Paint - None

Number Required Per Span	Number Required Per Structure	TOTAL	REQUIRED	MARK
1	1	?	Walks	UW320^R
1	1	?	"	UW320^L
172	172	344	Shims	F5107
13	13	26	"	F5108
9	9	18	"	F5109
7	7	14	"	F5110
1	1	?	"	F5111
68	60	136	"	F5112

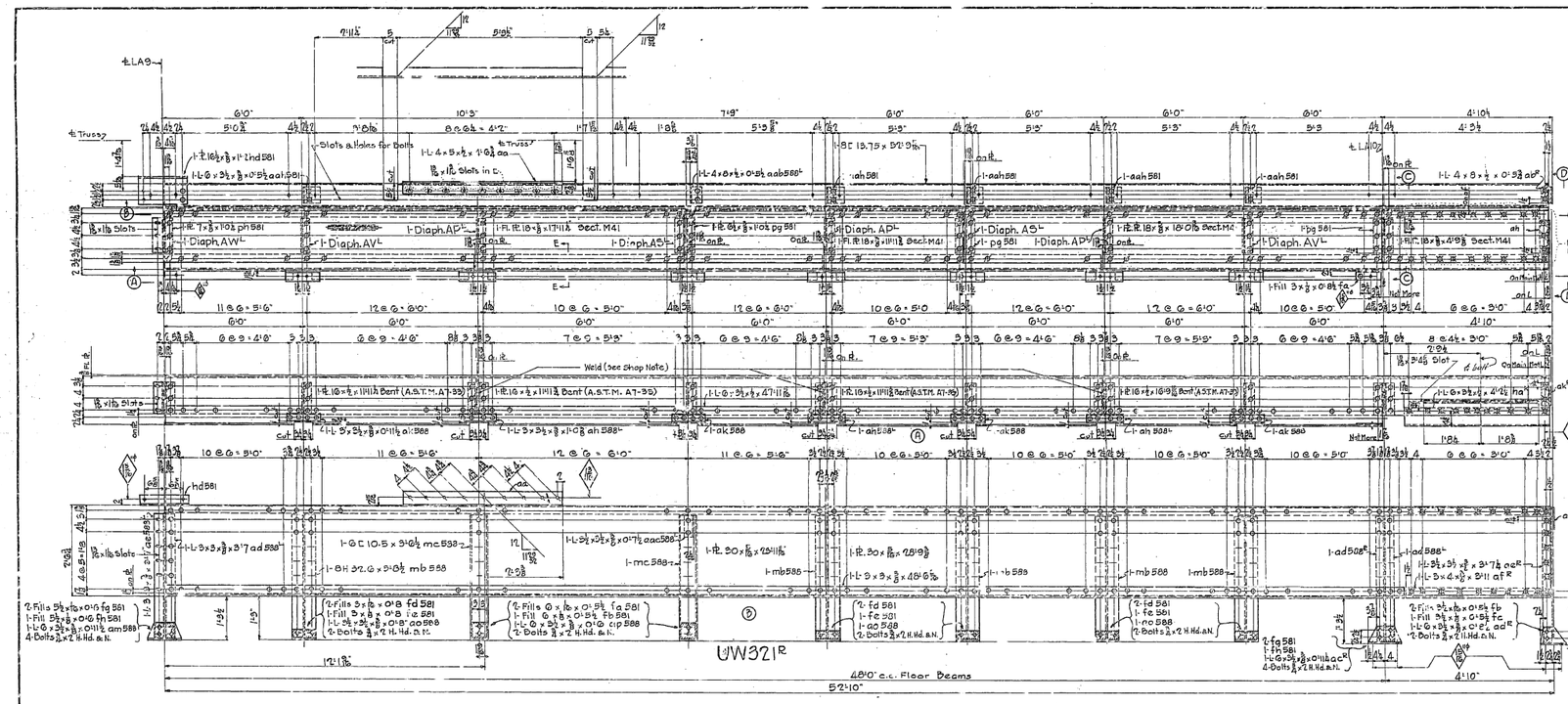
APPROVED
Chief Engineer
Chas. E. Andrew
Consulting Engineer
Approved Oct. 10-31-34

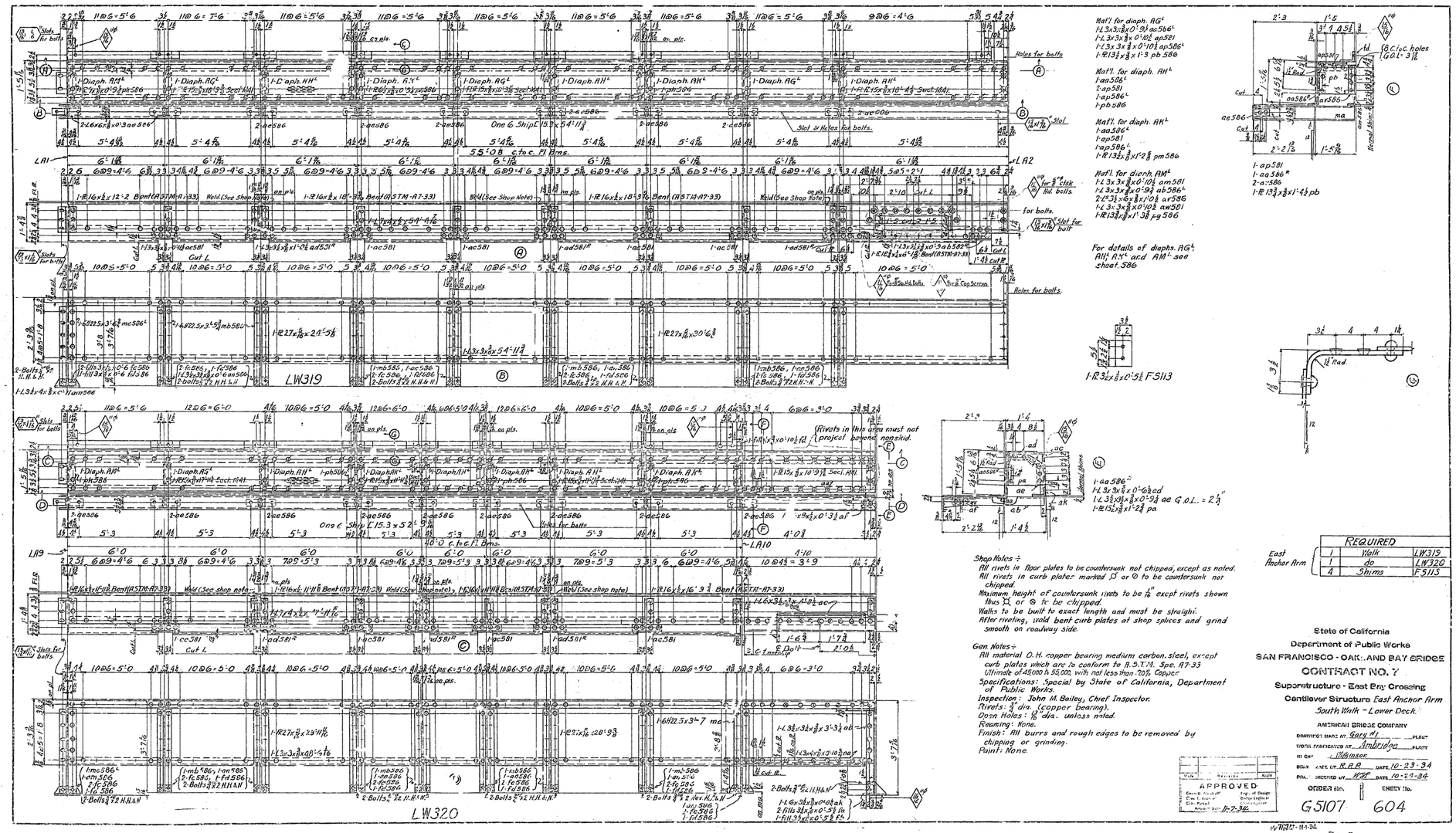
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Cantilever Arms
North & South Walks Upper Decks

AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary Ind. PLANT
AND APPROVED AT Ambridge PLANT
BY ...AND OF Wilkinson
DRAWN, TRACED BY S.T.S. DATE 10-9-34
CHECKED BY MMC DATE 10-11-34

ORDER No. G5107
ENGR'S No. 602

[CA]


℄ LA9
℄ Truss
℄ LM02
Slots & Holes for Bolts
1-PL 16⅛ x 1⅛ x 1'-2nd 58¹
1-L 6 x 3½ x ⅜ x 0'-5½ aa 41 58¹
1-L 4 x 5 x ½ x 1'-0½ aa
⅞ x 1⅛ Slots in ⊏
1-BT 13.75 x 5'-1 3/16
1-aah 58¹
1-aah 58¹
1-aah 58¹
1-aah 58¹
1-L 4 x 8 x ½ x 0'-5½ ab²
⅞ x 1⅛ Slots
1-PL T x ⅜ x 10½ ph 58¹
1-Diaph. AW^L
1-Diaph. AV^L
1-Fl. PL 18 x ⅜ x 1'-11⅛ Sect. M41
1-Diaph. AP^L
1-Fl. PL 18 x ⅜ x 10½ pg 58¹
1-Diaph. AS^L
1-pg 58¹
1-Diaph. AP^L
1-Fl. PL 18⅛ x ⅜ x 1'-0⅛ Sect. M42
1-Diaph. AV^L
1-Fl. PL 18 x ⅜ x 1'-9⅜ Sect. M41
1-pg 58¹
Rivets in this area must not project beyond non-skid
1-Fill 3 x ⅜ x 0'-8½ fa
Not More
Weld (See Shop Note)
1-PL 16 x ⅝ x 1'-11½ Bent (A.S.T.M. A7-33)
1-PL 16 x ⅝ x 1'-11½ Bent (A.S.T.M. A7-33)
1-PL 16 x ⅝ x 1'-11⅜ Bent (A.S.T.M. A7-33)
1-PL 16 x ⅝ x 1'-9⅜ Bent (A.S.T.M. A7-33)
1-L 5 x 3½ x ⅝ x 0'-11½ ak 58¹
1-L 5 x 3½ x ⅝ x 1'-0⅜ ah 58¹
1-ak 58¹
1-ah 58¹
1-ak 58¹
1-ah 58¹
1-ak 58¹
Not More
1-L 6 x 3½ x ⅝ x 4'-4½ ha²
Slot
1-L 3 x 3 x ⅝ x 3'-7 ad 58¹
1-ad 58¹
1-ad 58¹
1-L 5½ x 3½ x ⅝ x 3'-7½ ae²
1-L 5 x 4 x ⅝ x 3'-11 af²
1-GI 10.5 x 3'-0½ mc 58¹
1-BH 32.6 x 2'-0½ mb 58¹
1-L 5½ x 3½ x ⅝ x 0'-7½ aac 58¹
1-mc 58¹
1-PL 30 x ⅞ x 2'-5 11/16
1-mb 58¹
1-PL 30 x ⅞ x 1'-8'-9⅜
1-L 5 x 3 x ⅝ x 4'-8'-6⅜
1-mb 58¹
1-mb 58¹
1-ad 50 8²
1-ad 58¹
2-Fills 5½ x ⅜ x 0'-8 fd 58¹
1-Fill 5 x ⅜ x 0'-8 fe 58¹
1-L 5½ x 3½ x ⅜ x 0'-8 aa 58¹
2-Bolts ⅞ x 2 H. Hd. & N.
2-Fills ⅜ x 6 x 0'-5½ fa 58¹
1-Fill 6 x ⅜ x 0'-5½ fb 58¹
1-L 6 x 3½ x ⅜ x 0'-10 cp 58¹
2-Bolts ⅞ x 2 H. Hd. & N.
2-fd 58¹
1-fe 32¹
1-ao 58¹
2-Bolts ⅞ x 2 H. Hd. & N.
2-fd 58¹
1-fe 58¹
1-ao 58¹
2-Bolts ⅞ x 2 H. Hd. & N.
2-Fills 5½ x ⅜ x 0'-5½ fb
1-Fill 5½ x ⅜ x 0'-5⅝ fc
1-L 6 x 3½ x ⅜ x 0'-8½ ad²
2-Bolts ⅞ x 2 H. Hd. & N.
2-fg 58¹
1-fh 58¹
1-L 6 x 3½ x ⅝ x 0'-11½ ac²
4-Bolts ⅞ x 2 H. Hd. & N.
2-Fills 5½ x ⅝ x 0'-9 fg 58¹
1-Fill 5½ x ⅝ x 0'-6 fh 58¹
1-L 6 x 3½ x ⅜ x 0'-11½ am 58¹
4-Bolts ⅞ x 2 H. Hd. & N.
1-PL 15⅛ x ⅞ x 1'-4½ pe 58¹
1-PL 14⅝ x ⅞ x 1'-4½ pf 58¹
12'-11⅞"
48'-0" c.c. Floor Beams
52'-10"
UW321R
6'-10"
10'-3"
7'-9"
5'-10⅜"
5'-5½"
11⅞"
4'-10¼"
6'-0"
5'-5"
4'-5½"
4'-10"
11 @ 5'-6"
12 @ 6'-0"
10 @ 5'-0"
6 @ 5'-0"
7 @ 5'-5"
6 @ 4'-6"
8 @ 4½ = 3'-0"
1'-8½"
1'-6⅜"
1'-9"
2'-3"
2'-6"
1'-4½"
1'-4"
1'-6"
2'-6"
1'-4½"
7'-6½"
1'-4"
1'-6"
1'-9"
1'-5"
1'-4½"
2'-6



Mat'l for diaph. AG[L]
1-L 3x3x$\frac{3}{8}$x0'-9$\frac{1}{2}$ aa586[L]
1-L 3x3x$\frac{3}{8}$x0'-10$\frac{1}{2}$ ap581
1-L 3x3x$\frac{3}{8}$x0'-10$\frac{1}{2}$ ap586[L]
1-PL 13$\frac{1}{2}$x$\frac{3}{8}$x1'-3 pb 586

Mat'l. for diaph. AH[L]
1-aa586[L]
1-ap581
1-ap586[L]
1-pb586

Mat'l. for diaph. AK[L]
1-aa586[L]
1-ap581
1-ap586[L]
1-PL 13$\frac{1}{2}$x$\frac{3}{8}$x1'-2$\frac{3}{8}$ pm586

Mat'l. for diaph. AM[L]
1-L 3x3x$\frac{3}{8}$x0'-10$\frac{1}{2}$ am581
1-L 3x3x$\frac{3}{8}$x0'-9$\frac{1}{2}$ ab586[L]
2-PL 31$\frac{1}{2}$x6$\frac{3}{8}$x1'-0$\frac{1}{2}$ av586
1-L 3x3x$\frac{3}{8}$x0'-10$\frac{1}{2}$ aw581
1-PL 13$\frac{1}{2}$x$\frac{3}{8}$x1'-3$\frac{3}{8}$ pg 586

For details of diaphs. AG[L] AH[L] AK[L] and AM[L] see sheet 586

1-PL 3$\frac{1}{2}$x$\frac{3}{8}$x0'-5$\frac{1}{2}$ F5113

1-aa 586[L]
1-L 3x3x$\frac{3}{8}$x0'-6$\frac{1}{2}$ ad
1-L 3$\frac{1}{2}$x3$\frac{1}{2}$x$\frac{3}{8}$x0'-9$\frac{1}{2}$ ae G.O.L. = 2$\frac{1}{2}$"
1-PL 15$\frac{1}{2}$x$\frac{3}{8}$x1'-2$\frac{3}{8}$ pa

1-ap 581
1-aa 586[R]
2-a 586
1-PL 13$\frac{1}{2}$x$\frac{3}{8}$x1'-4$\frac{1}{2}$ pb

Shop Notes÷
All rivets in floor plates to be countersunk not chipped, except as noted. All rivets in curb plates marked Ⓢ or Ⓣ to be countersunk not chipped.
Maximum height of countersunk rivets to be $\frac{1}{16}$" except rivets shown thus Ⓢ or Ⓣ to be chipped.
Webs to be built to exact length and must be straight. After riveting, weld bent curb plates at shop splices and grind smooth on roadway side.

Gen. Notes÷
All material O.H. copper bearing medium carbon steel, except curb plates which are to conform to A.S.T.M. Spec. A7-33 Ultimate of 45,000 to 55,000, with not less than .20% Copper
Specifications: Special by State of California, Department of Public Works.
Inspection: John M. Bailey, Chief Inspector.
Rivets: $\frac{7}{8}$ dia. (copper bearing).
Open Holes: $\frac{15}{16}$" dia. unless noted.
Reaming: None.
Finish: All burrs and rough edges to be removed by chipping or grinding.
Paint: None.

		REQUIRED	
East Anchor Arm	1	Walk	LW319
	1	do	LW320
	4	Shims	F5113

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure East Anchor Arm
South Walk - Lower Deck.

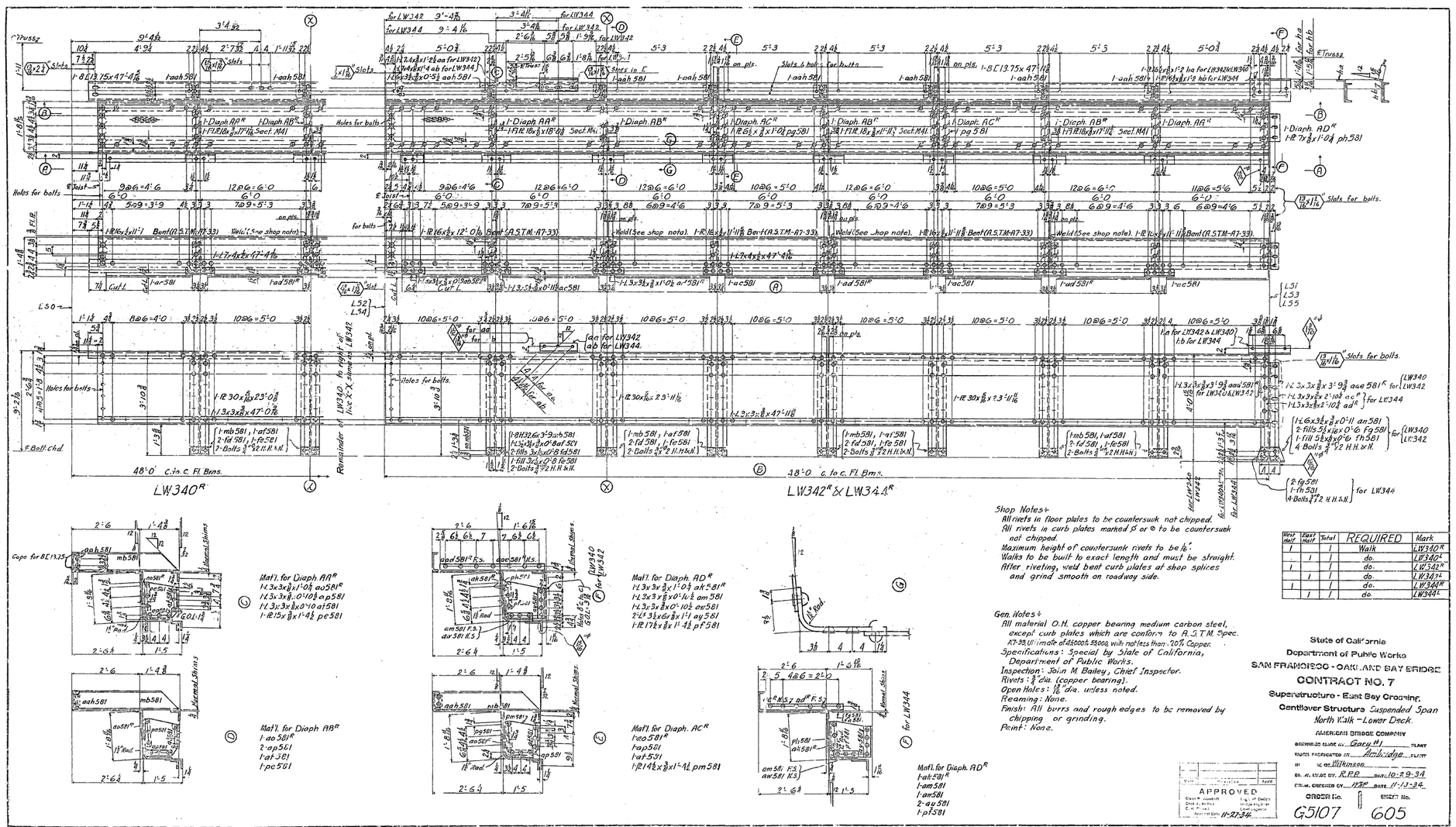
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary IN. PLANT
WORK FABRICATED AT Ambridge PLANT
IN CHG. Wilkinson
DESIGN CHKD BY K.P.B. DATE 10-23-34
DRAWN CHECKED BY H.P. DATE 10-27-34

APPROVED
Engr. of Design
Bridge Engineer
Asst. Engr.
Asst. Engr.
Jr. Engr.
Jr-7-35

ORDER No. G5107
ENGR'S No. 604

W.P.A. - 11-1-35

[CA]



Mat'l. for Diaph. AA R
1-L 3x3x⅜x1'-0⅛ aa 581 R
1-L 3x3x⅜x0'-10⅛ ap 581
1-L 3x3x⅜x2'-4⅜ af 581
1-PL 15⅜x⅜x1'-4½ pe 581

Mat'l. for Diaph AB R
1-aa 581 R
2-ap 581
1-af 581
1-pe 581

Mat'l. for Diaph. AD R
1-L 3x3x⅜x1'-0⅛ ak 581 R
1-L 3x3x⅜x0'-10½ am 581
1-L 3x3x⅜x0'-10½ au 581
2-L 3½x6½x⅜x1'-1 ay 581
1-PL 17⅛x⅜x1'-4½ pf 581

Mat'l. for Diaph. AC R
1-aa 581 R
1-ap 581
1-af 581
1-PL 14⅛x⅜x1'-1½ pm 581

Mat'l. for Diaph. AD F
1-ak 581 R
1-am 581
1-au 581
2-ay 581
1-pf 581

Shop Notes:-
All rivets in floor plates to be countersunk not chipped.
All rivets in curb plates marked ⑤ or ⑥ to be countersunk not chipped.
Maximum height of countersunk rivets to be ½".
Walks to be built to exact length and must be straight.
After riveting, weld bent curb plates at shop splices and grind smooth on roadway side.

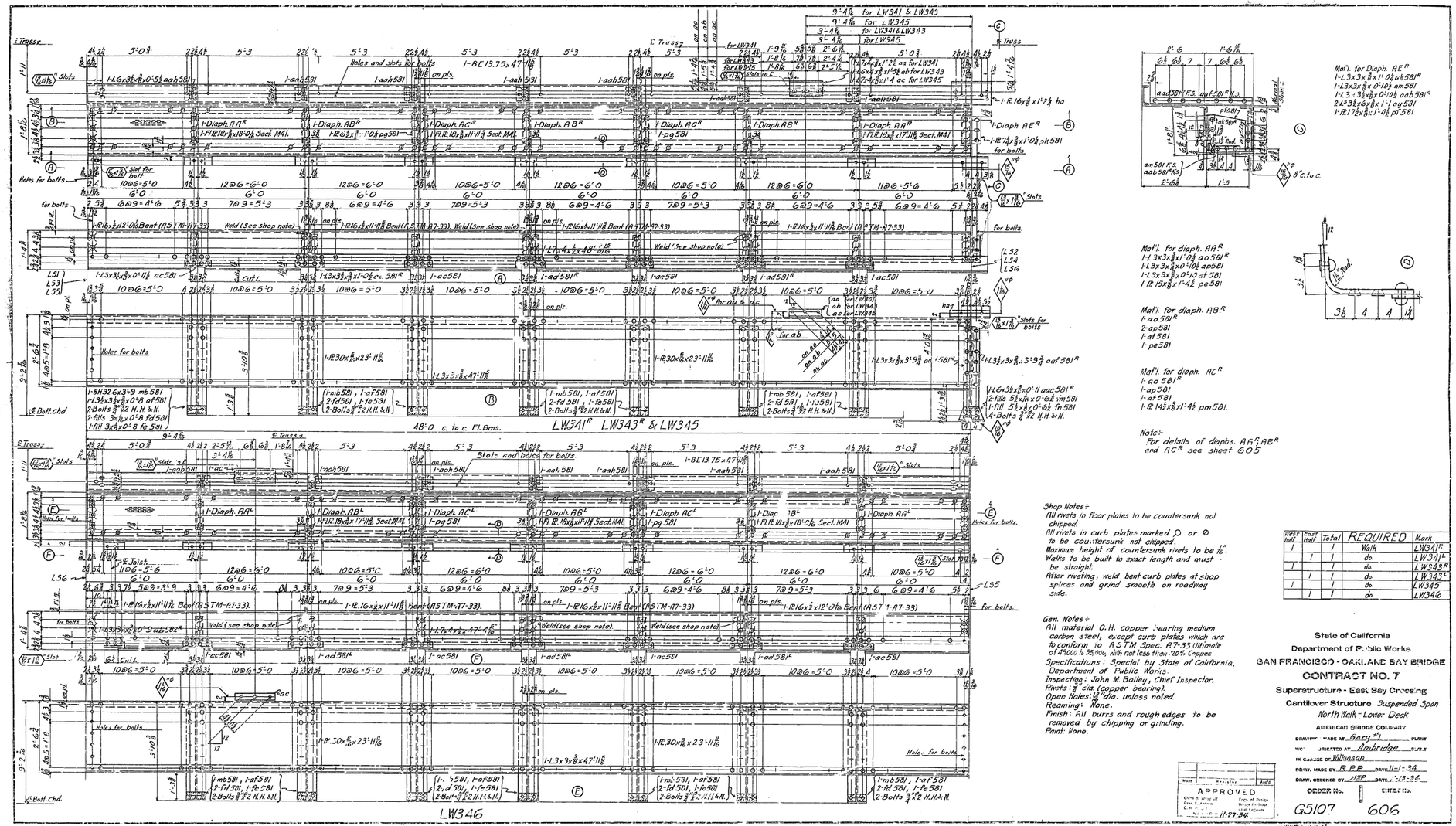
Gen. Notes:-
All material O.H. copper bearing medium carbon steel, except curb plates which are conform to A.S.T.M. Spec. A7-33, Ultimate of 45000 to 52000, with not less than .10% Copper.
Specifications: Special by State of California, Department of Public Works.
Inspection: Join M. Bailey, Chief Inspector.
Rivets: ⅞" dia. (copper bearing).
Open Holes: 1⅛" dia. unless noted.
Reaming: None.
Finish: All burrs and rough edges to be removed by chipping or grinding.
Paint: None.

West Half	East Half	Total	REQUIRED	Mark
1		1	Walk	LW340 R
	1	1	do.	LW340 L
1		1	do.	LW342 R
	1	1	do.	LW342 L
1		1	do.	LW344 R
	1	1	do.	LW344 L

APPROVED
Chief Engineer
Asst. Chief Engineer
Approved Date 11-27-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing.
Cantilever Structure Suspended Span
North Walk - Lower Deck.
AMERICAN BRIDGE COMPANY
DRAWING FILED AS Gary #1 PLANT
WORK FABRICATED AT Ambridge PLANT
BY W. C. Wilkinson
DET. M. FILED BY J.R.P.P. DATE 10-29-34
DET. M. CHECKED BY H.S.P. DATE 11-13-34
ORDER No. G5107
DRAWING No. 605

[CA]



Mat'l. for Diaph. AE^R
1-L 3x3x 5/16 x 1'-0 1/2 wk581^R
1-L 3x3x 5/16 x 0'-10 1/2 am581
1-L 3 1/2 x 3 1/2 x 5/16 x 0'-10 1/2 aab581^R
2-PL 3 3/4 x 1/2 x 1'-1 1/2 ny581
1-PL 17 1/2 x 1/2 x 1'-4 1/2 pf581

Mat'l. for diaph. AA^R
1-L 3x3x 5/16 x 1'-0 1/2 ao581^R
1-L 3x3x3x5/16 x 0'-10 1/2 ap581
1-L 3x3x 5/16 x 0'-10 af581
1-PL 15 x 5/16 x 1'-4 1/2 pe581

Mat'l. for diaph. AB^R
1-ao 581^R
2-ap 581
1-af 581
1-pe 581

Mat'l. for diaph. AC^R
1-ao 581^R
1-ap 581
1-af 581
1-PL 14 x 5/16 x 1'-4 1/2 pm 581.

Note:- For details of diaphs. AA^R, AB^R and AC^R see sheet 605

Shop Notes:-
All rivets in floor plates to be countersunk not chipped.
All rivets in curb plates marked ○ or ⊘ to be countersunk not chipped.
Maximum height of countersunk rivets to be 1/16".
Walks to be built to exact length and must be straight.
After riveting, weld bent curb plates at shop splices and grind smooth on roadway side.

West Half	East Half	Total	REQUIRED	Mark
1		1	Walk	LW341^R
	1	1	do.	LW341^L
1		1	do.	LW343^R
	1	1	do.	LW343^L
1		1	do.	LW345
	1	1	do.	LW346

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span
North Walk - Lower Deck
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary (Ind.) PLANT
WORK ERECTED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DRAWN MADE BY R.P.P. DATE 11-1-34
DRAW. CHECKED BY J.S.P. DATE 11-13-34
ORDER No. G5107
DWG. No. 606

Mark	Revision	Appd.

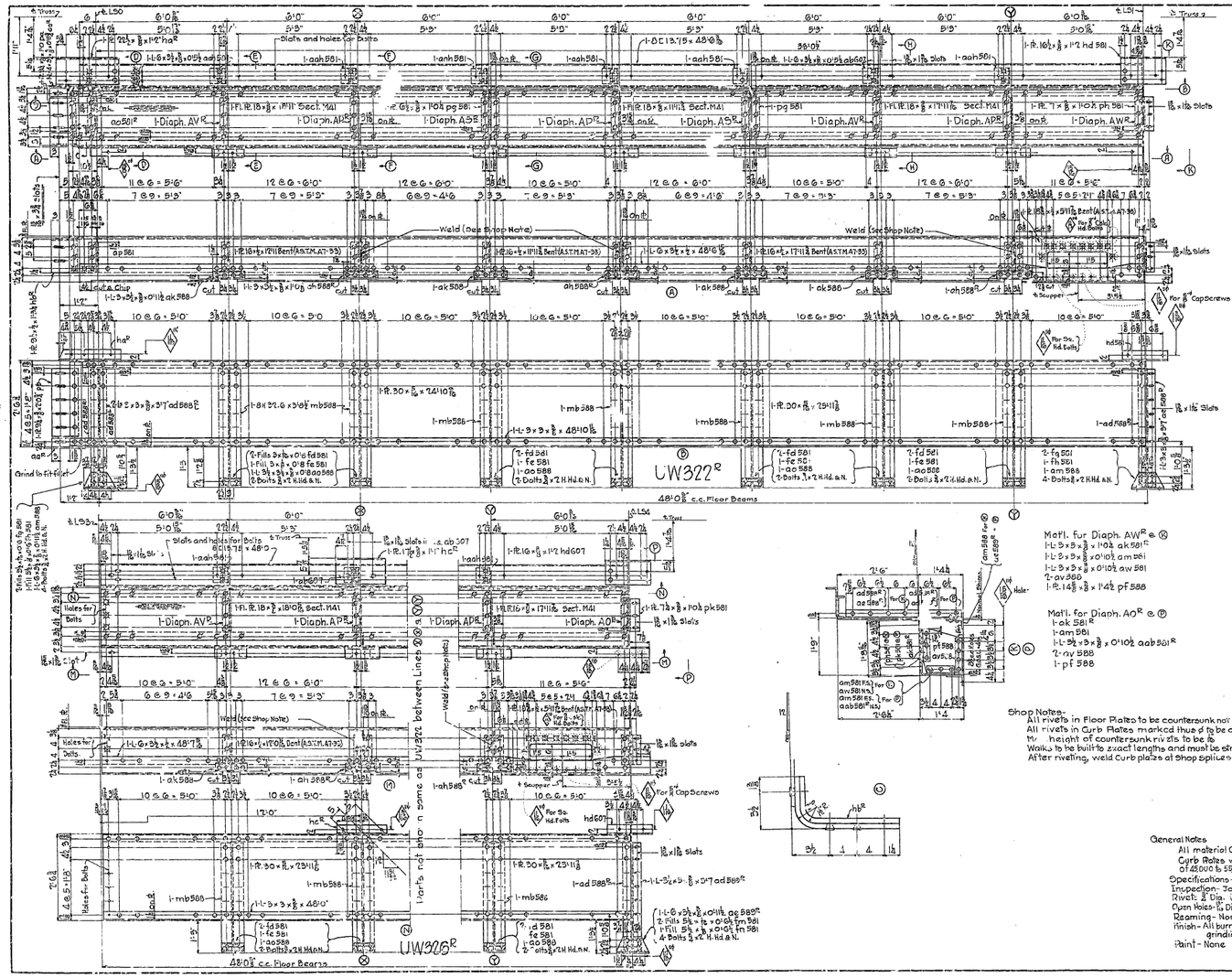
APPROVED
Chief Engineer
Asst. Engineer
Nov. 10 - 11-27-34
Dept. of Design
Bridge Engineer
Chief Engineer

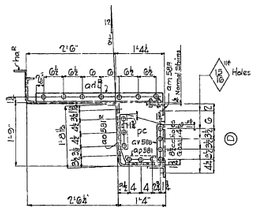
W.M.Co.-11-19-34

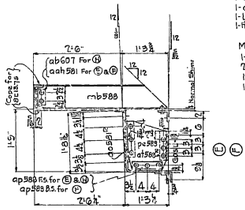
[CA]

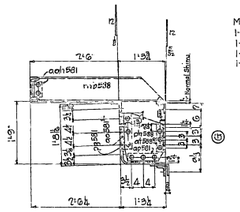
LW346

30-1









Shop Notes-
All rivets in Floor Plates to be countersunk not chipped
All rivets in Curb Plates marked thus ϕ to be countersunk not chipped
M= height of countersunk rivets to be ⅜
Walks to be built to exact lengths and must be straight
After riveting, weld Curb plates at Shop splices and grind smooth on Roadway & Walk

General Notes
All material O.H. Copper bearing medium Carbon Steel, except Curb Plates, which are to conform to A.S.T.M. Spec. A7-33, Ultimate of 45000 to 55000, with not less than .10% Copper.
Specifications - Special by State of California Dept. of Public Works
Inspection - John M. Bailey, Chief Inspector
Rivets - ⅞ Dia. (Copper bearing)
Open Holes - 1" Dia. Unless Noted
Reaming - None
Finish - All burrs and rough edges to be removed by chipping or grinding
Paint - None

WEST HALF	EAST HALF	TOTAL	REQUIRED	
1	1	2	Walks	UW322R
1	1	2	"	UW322L
1	1	2	"	UW320R
1	1	2	"	UW320L

APPROVED
Chief of Design
Bridge Engineer
Dist. Engineer
11-27-34

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span
North & South Walks Upper Deck

AMERICAN BRIDGE COMPANY
STRUCTURAL STEEL FOR ... Gary ... PLANT
WORK FABRICATED IN ... Ambridge ... PLANT
IN CHARGE OF ... Williamson
ON ... CHECKED BY ... S.T.S. ... DATE 10-25-34
WORK CHECKED BY ... KPP ... DATE 11-13-34

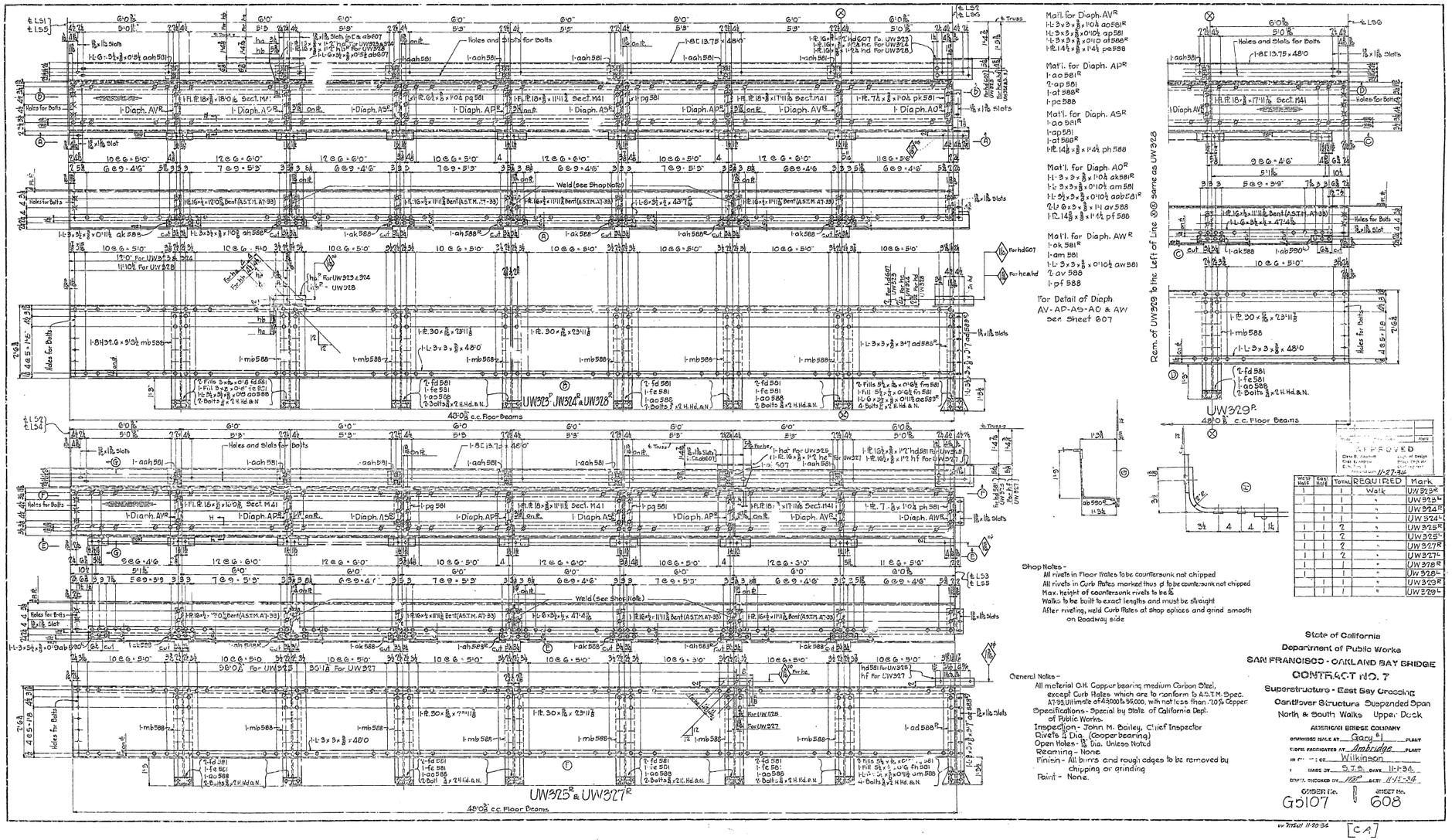
ORDER No. G5107 | CHECK No. 607

Detail 11-20-34

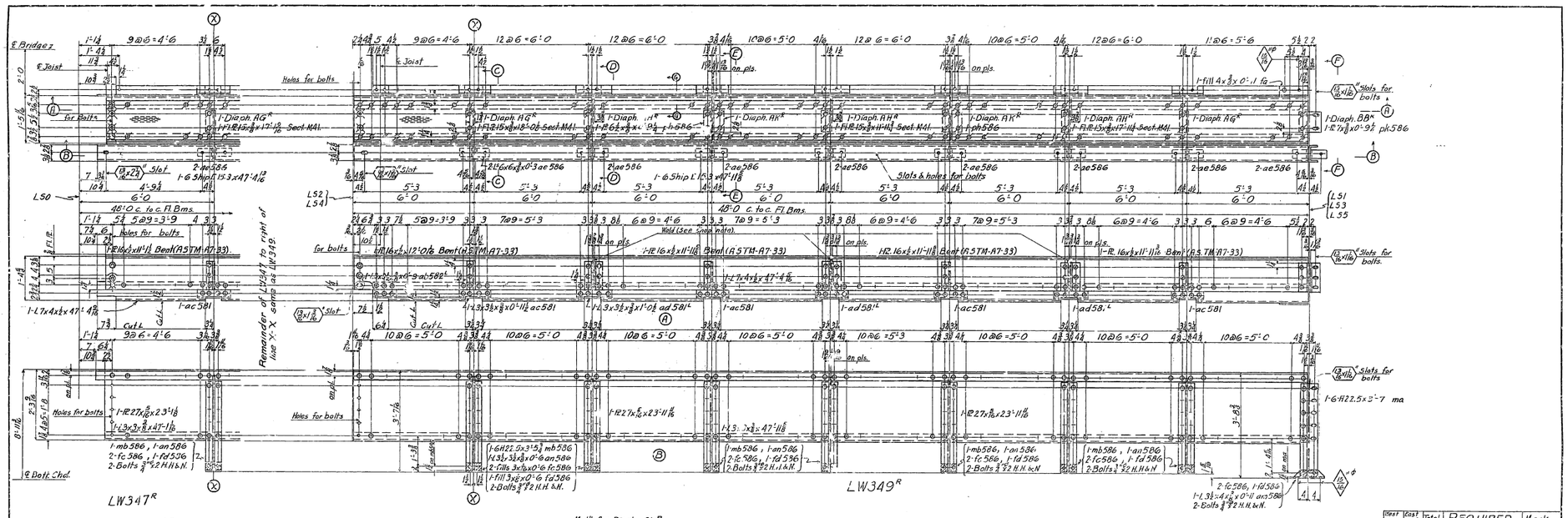
[CA]

cf. 307-308
hd 607-608

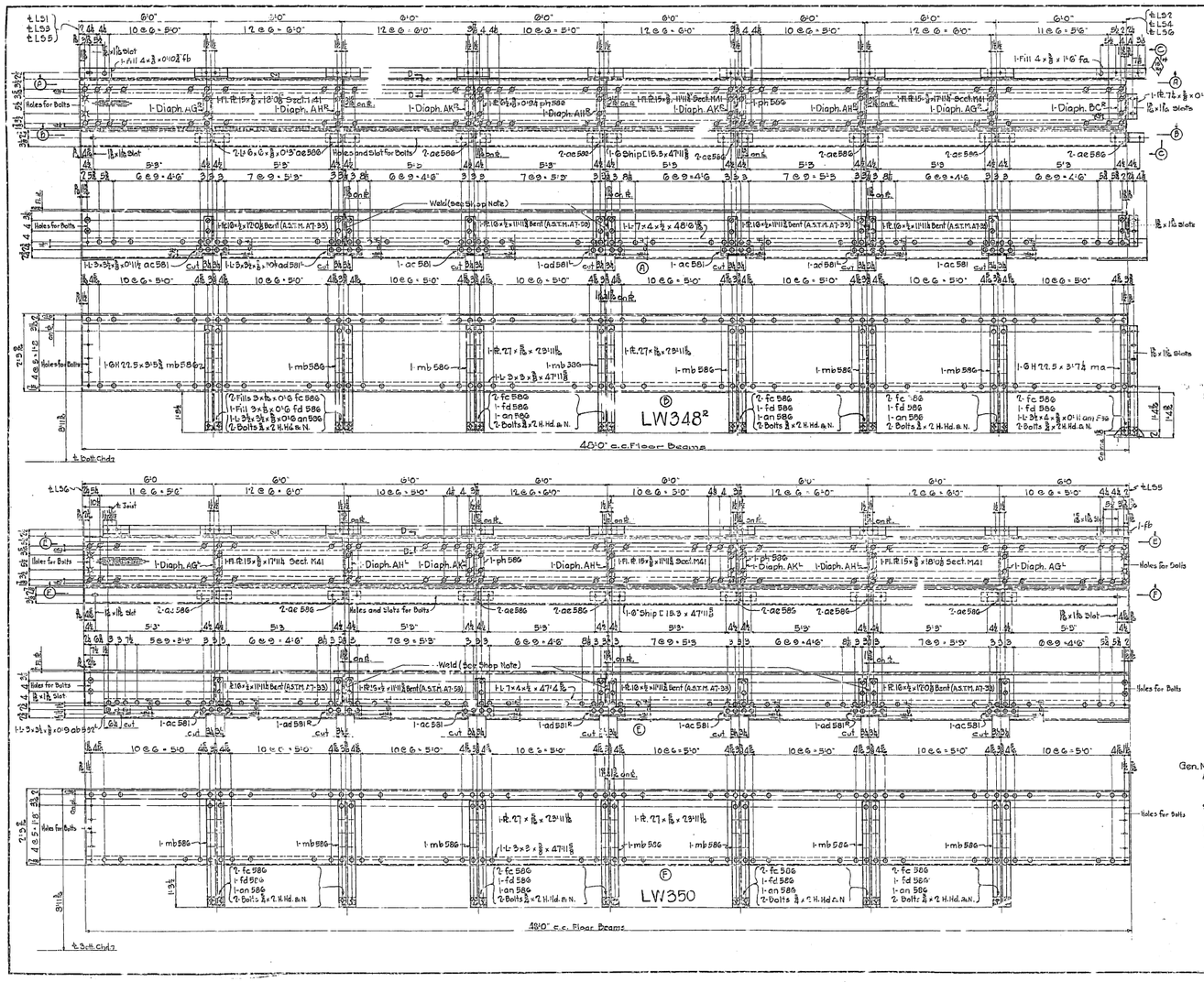
30-F1

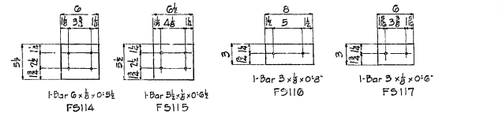

Holes and Slots for Bolts
Holes for Bolts
Weld (See Shop Note)
40'-0" c.c. Floor Beams
UW325R UW324R & UW328R
45'-0" c.c. Floor Beams
UW325R & UW327R
Mat'l. for Diaph. AVR
Mat'l. for Diaph. APR
Mat'l. for Diaph. ASR
Mat'l. for Diaph. AOR
Mat'l. for Diaph. AWR
For Detail of Diaph. AV-AP-AS-AO & AW see Sheet 607
Rem. of UW329 to the Left of Line ⊗⊗ same as UW326
UW329R
42'-0" c.c. Floor Beams
Shop Notes –
All rivets in Floor Plates to be countersunk not chipped
All rivets in Curb Plates marked thus ◇ to be countersunk not chipped
Max. height of countersunk rivets to be ⅛
Webs to be built to exact lengths and must be straight
After riveting, weld Curb Plates at shop splices and grind smooth on Roadway side
General Notes –
All material O.H. Copper bearing medium Carbon Steel, except Curb Plates which are to conform to A.S.T.M. Spec. A7-33, Ultimate of 43000 to 55000, with not less than .10% Copper
Specifications - Special by State of California Dept. of Public Works.
Inspection - John M. Bailey, Chief Inspector
Rivets ⅞ Dia. (Cooper bearing)
Open Holes - 15/16 Dia. Unless Noted
Reaming - None.
Finish - All burrs and rough edges to be removed by chipping or grinding
Paint - None.
APPROVED
Chief Engineer
Chief Designing Engineer
November 27, 1934
Webs Web | Webs Base | Total | REQUIRED | Mark
1 | 1 | 1 | Web | UW328R
1 | 1 | 1 | " | UW325L
1 | 1 | 1 | " | UW324R
1 | 1 | 1 | " | UW324L
1 | 1 | 2 | " | UW325R
1 | 1 | 2 | " | UW327L
1 | 1 | 2 | " | UW327R
1 | 1 | 1 | " | UW328L
1 | 1 | 1 | " | UW329R
1 | 1 | 1 | " | UW329L
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span
North & South Walks Upper Deck
AMERICAN BRIDGE COMPANY
DRAWING MADE AT Gary PLANT
STORE FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
MADE BY S.J.S. DATE 11-1-34
CHKD. CHECKED BY WRP DATE 11-15-34
CONTRACT No. G5107
SHEET No. 608
W.P.C.W. 11-20-34
[CA]

30-1


LW347R
LW349R
Remainder of LW347 to right of line X-X same as LW349
Shop Notes:
All rivets in floor plates to be countersunk not chipped.
All rivets in curb plates marked ⊘ or ⊘ to be countersunk not chipped.
Maximum height of countersunk rivets to be 1/16".
Walks to be built to exact length and must be straight.
After riveting, weld bent curb plates at shop splices and grind smooth on roadway side.
Gen. Notes:
All material O.H. copper bearing medium carbon steel, except curb plates which are to conform to A.S.T.M. Spec. A7-38 Ultimate of 48000 to 55000 with not less than .20% Copper.
Specifications: Special by State of California, Department of Public Works.
Inspection: John M. Bailey, Chief Inspector.
Rivets: 3/4" dia. (copper bearing).
Open Holes: 13/16" dia. unless noted.
Reaming: None.
Finish: All burrs and rough edges to be removed by chipping or grinding.
Paint: None.
West Half | East Half | Total | REQUIRED | Mark
1 | | 1 | Walk | LW347R
| 1 | 1 | do. | LW347L
2 | | 2 | do. | LW349R
| 2 | 2 | do. | LW349L
APPROVED
11-27-34
State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span
South Walk - Lower Deck.
AMERICAN BRIDGE COMPANY
DRAWN AND TRACED BY Gary 41 PLANT
TRACINGS CHECKED BY Ambridge PLANT
IN CHARGE OF Wilkinson
DRAWN, TRACED BY R.P.P. DATE 11-7-34
DRAWN, CHECKED BY H.P.P. DATE 11-13-34
ORDER No. G5107
SHEET No. 609
W. 7/2/35 11-20-34
[CA]

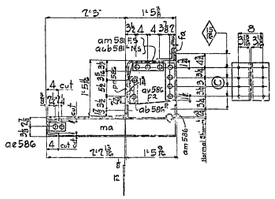
30-1





Mat'l. for Diaph. BC^R @ ©
2-L 3½ x 3½ x ⅜ x 1'0½ av 586
1-L 3 x 3 x ⅜ x 0'9½ ab 586^R
1-L 3 x 3 x ⅜ x 0'10½ am 581
1-L 5½ x 3½ x ⅜ x 0'10½ aab 581^L
1-PL 13½ x ⅜ x 1'4⅜ pa

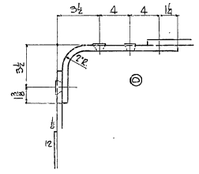
Mat'l. for Diaph. AG^R
1-L 3 x 3 x ⅜ x 0'9½ aa 586^R
1-L 3 x 3 x ⅜ x 0'10½ ap 591
1-L 3 x 3 x ⅜ x 0'10½ ap 586^R
1-PL 13½ x ⅜ x 1'5' pb 586



Mat'l. for Diaph. AH^R
1-aa 586^R
1-ap 581
1-ap 586^R
1-pb 586

Mat'l. for Diaph. AK^R
1-aa 586^R
1-ap 581
1-ap 586^R
1-PL 13½ x ⅜ x 1'-2⅜ pm 586

For Detail of Diaph. AG - AH & AK See Sheet 803



West Half	East Half	Total	REQUIRED	MARK
3		3	Walks	LW348R
	2	2	"	LW348L
	1	1	"	LW350
11	11	22	Shims	FS114
9	6	15	"	FS115
126	126	252	"	FS116
48	47	95	"	FS117

Shop Note -
All rivets in Floor Plates to be countersunk not chipped
All rivets in Curb Plates marked thus ⊖ to be countersunk not chipped
Max. height of countersunk rivets to be ⅜.
Walks to be built to exact lengths and must be straight
After riveting, weld Curb Plates at Shop splices and grind smooth on Roadway side

Mark	Revision	Appd
APPROVED		
Chas. D. Woodhull, Chief Engr. Bridge Design		
Chas. E. Andrew, C.E. Purcell		
Approved Dec. 11-27-34		

Gen. Notes -
All material O.H. Copper bearing medium Carbon Steel except Curb Plates which are to conform to A.S.T.M. Spec. A7-33, Ultimate of 55,000 to 65,000 lbs. with not less than .20% Copper.
Specifications - Special by State of California Dept. of Public Works.
Inspection - John N. Bailey, Chief Inspector
Rivets - ⅞ Dia. (Copper bearing)
Open Holes - 1⅛ Dia. Unless Noted
Reaming - None
Finish - All burrs and rough edges to be removed by chipping or grinding
Paint - None

State of California
Department of Public Works
SAN FRANCISCO - OAKLAND BAY BRIDGE
CONTRACT NO. 7
Superstructure - East Bay Crossing
Cantilever Structure Suspended Span
South Walk Lower Deck

AMERICAN BRIDGE COMPANY
DRAWN BY Stacy 61 PLANT
TR. FABRICATED AT Ambridge PLANT
IN CHARGE OF Wilkinson
DETAILS MADE BY S.J.S. DATE 11-12-34
DRAWG. CHECKED BY [illegible] DATE 11-19-34

ORDER No. G5107 | SHEET No. 610

W 7/30 11-30-34

[CA]