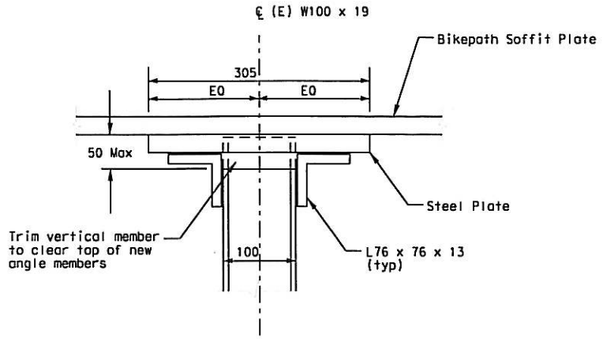
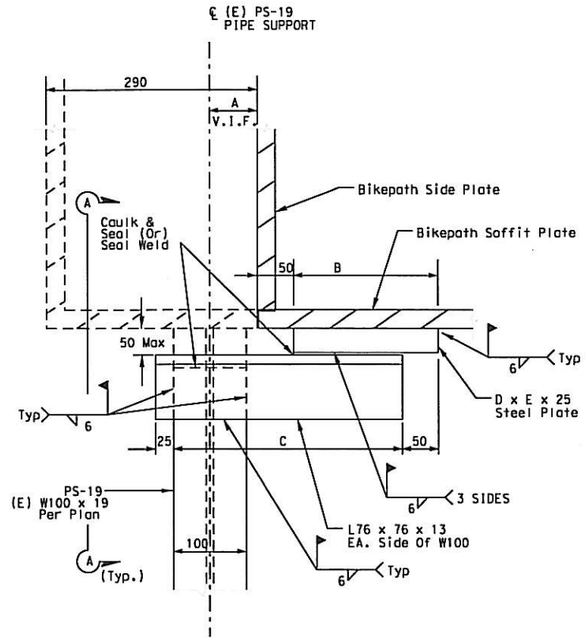


SECTION A-A DETAIL

Dimension Table

	Hinge No.	
Dim	B	C
A	183	65
B	330	200
C	563	315
D	330	305
E	305	200



MODIFICATION TO PIPE SUPPORT PS-19 AT HINGE B & C

See Note 1

NOTES:

1. Detail is modifications to attachment of Skyway pipe support PS-19 located at hinges indicated. Refer to contract 012024 for details of standard pipe support and piping configuration

MARK	DATE	DESCRIPTIONS	REV	CK	CCO#
		REVISIONS			
0	01/25/12	SKYWAY BIKEPATH JOINT COVER PLATES	AM	BM	217S1

CONTRACT CHANGE ORDER NO. 217 S1
SHEET 3 OF 7

ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE SHOWN

FOR REDUCED PLANS ORIGINAL SCALE IS IN MILLIMETERS 0 20 40 60 80

USERNAME => KoonC
DGN FILE => 04-0120f1_0057S1.dgn

CU 04251

EA 0120F1

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SF	80	12.2 / 14.3	57S1	1204

Caltrans Metric

Bobby J Melvin 1-27-12
REGISTERED MECHANICAL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER — Bobby J. Melvin — No. 28685 — MECHANICAL — STATE OF CALIFORNIA

PLANS APPROVAL DATE

PARSONS BRINCKERHOFF QUADE & DOUGLAS, INC.
303 Second St., Suite 700N
San Francisco, CA 94107-1317

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DESIGN OVERSIGHT: Rich Newell
CALCULATED/DESIGNED BY:
CHECKED BY:
DATE REVISED BY: 10/31/02 BM; 11/15/02 KH

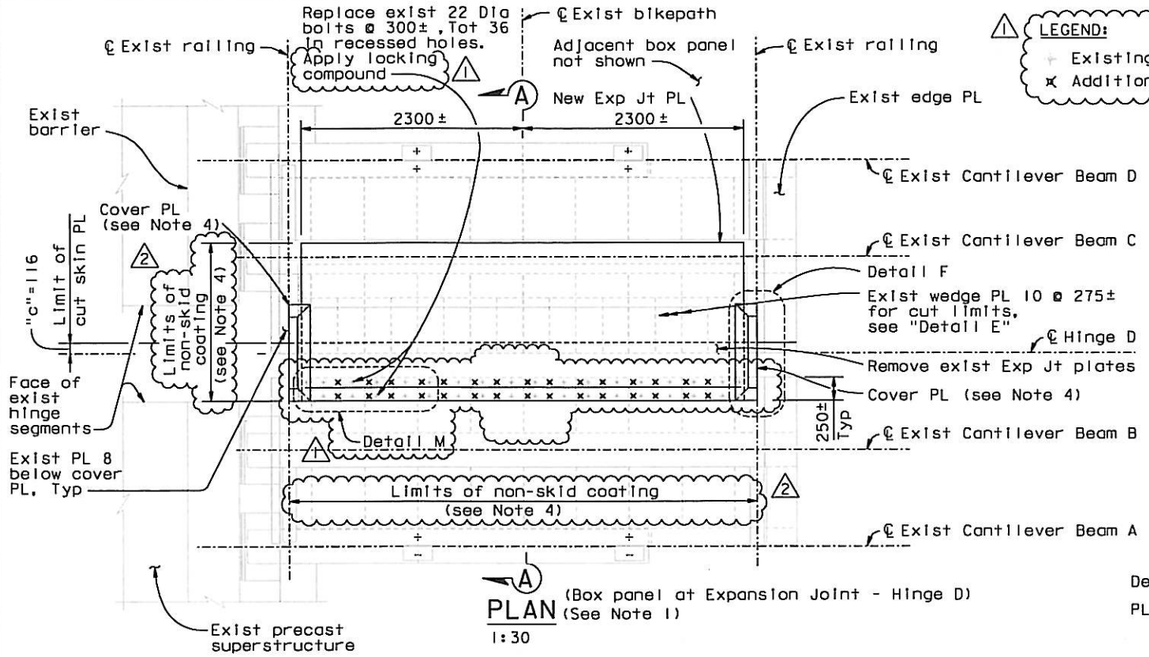
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

LAST REVISION 00-00-00
DATE PLOTTED => 1/27/2012
TIME PLOTTED => 12:00:28 PM

MECHANICAL PIPE SUPPORT DETAILS NO. 4

NO SCALE

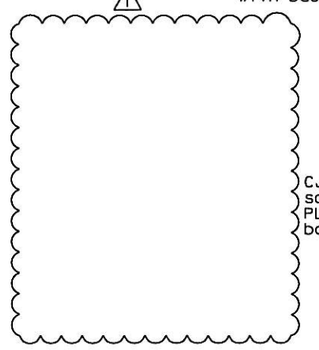
M-21A

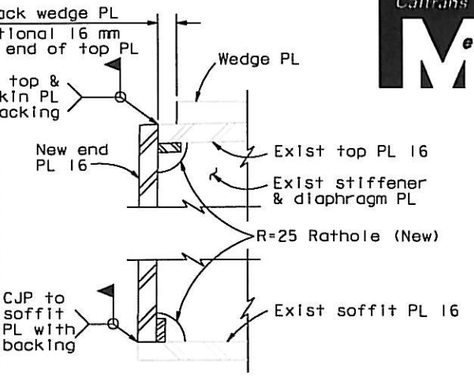


A

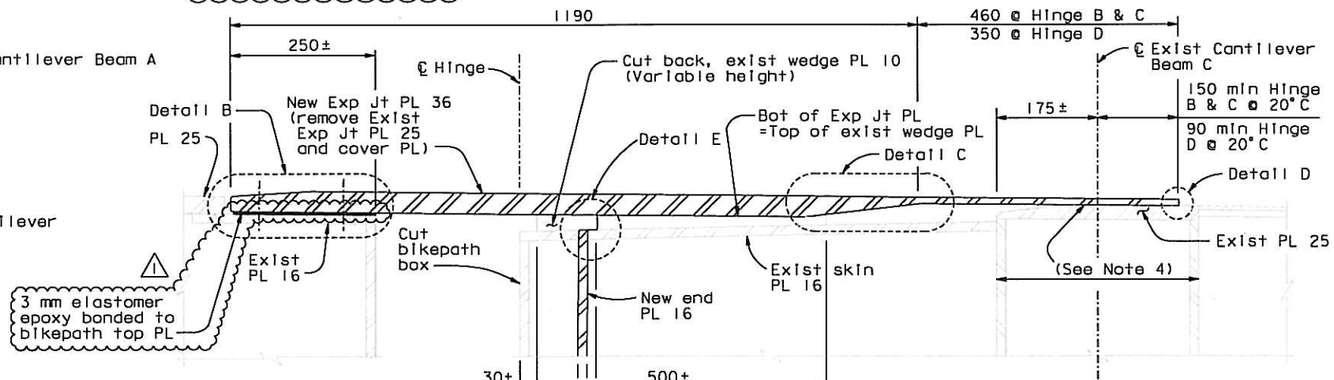
PLAN
(Box panel at Expansion Joint - Hinge D) (See Note 1)
1:30

LEGEND:
+ Existing bolt holes
× Additional bolt holes

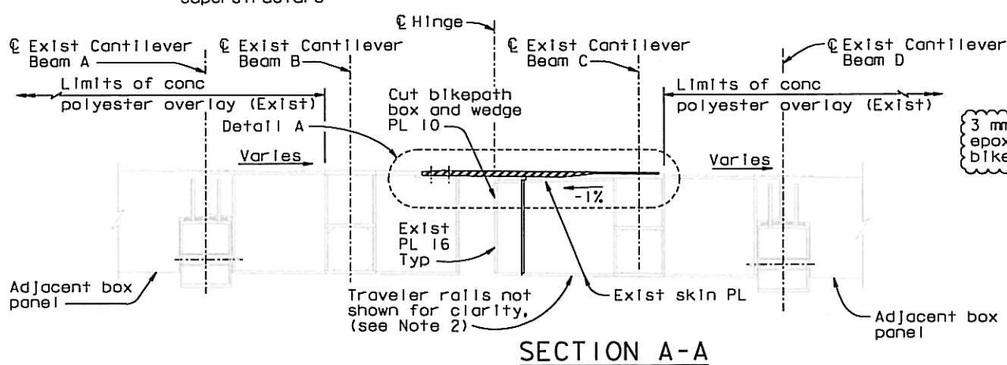




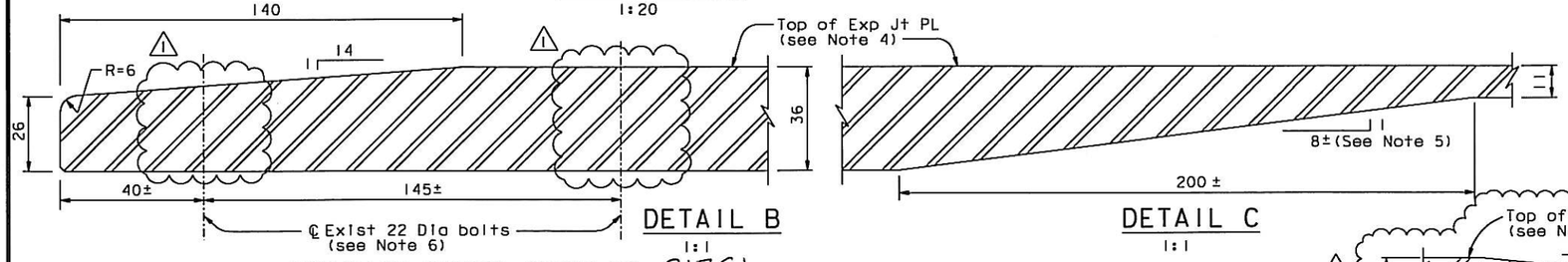
DETAIL E
1:2.5



DETAIL A
(Hinge B and C shown, Hinge D similar)
1:5

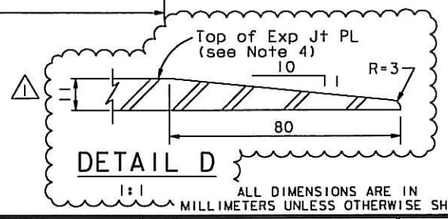


SECTION A-A
1:20



DETAIL B
1:1

DETAIL C
1:1



DETAIL D
1:1

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

NOTES:
1. For Hinge B, C and Detail F, see "Skyway Bikepath Expansion Joint Replacement No.2" sheet. For Hinge A, see "Skyway Bikepath Expansion Joint Replacement No.3" sheet.
2. For traveler rail modifications, see "Skyway Bikepath Expansion Joint Replacement No.4" sheet.
3. The Contractor shall verify all the dimensions in field before fabricating the expansion joint plate.
4. Top surface of exposed plates shall have non-skid coating, to be performed by Others. The non-skid coating shall match the existing color pattern.
   ⚠3 Where the tapered edge cover plate extends over the existing white edge of the bikepath panel, white finish paint shall be used in lieu of non-skid.
5. Slope shall match the slope of exist top PL 25 of Cantilever Beam C.
6. Location and dimension of the countersunk holes shall be verified to match with exist holes in exist PL 16 and exist expansion joint plate.
   ⚠1 All the plates cut shall be ground square. For details, see "Skyway Bikepath Expansion Joint Replacement No.2" sheet.
7. For Detail M, see "Skyway Bikepath Expansion Joint Replacement No.2" sheet.

100% PS&E

CONTRACT CHANGE ORDER NO. 217S1
SHEET 4 OF 7

REQUESTS FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE

MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
3	01/18/13	SKYWAY NON-SKID	JD	AS	217S1
2	10/04/12	SKYWAY NON-SKID	JD	AS	217S1
1	03/13/12	SKYWAY BIKEPATH HINGE	CC	AS	217S1
0	04/15/11	SKYWAY BIKEPATH EXPANSION JOINT	AS	HP	193

REVISIONS

R. Vallzadeh/V. Toan/Y. L./W. L./F. C.
DESIGN OVERSIGHT
SIGN OFF DATE 01/18/13

DESIGN	BY A. Sanjines	CHECKED H. Patel
DETAILS	BY A. Sanjines	CHECKED H. Patel
QUANTITIES	BY A. Sanjines	CHECKED H. Patel

PREPARED FOR THE STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

R. Manzanarez
PROJECT ENGINEER

BRIDGE NO. 34-0006L/R
KILOMETER POST 13.2/13.9

CU 04
EA 0120F1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)										SHEET	OF
04/15/11										74757R3	

Rev. Date: 5-18-98

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

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Caltrans Metric

DIST.	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	13.2/13.9	116457R3	1204

REGISTERED ENGINEER - CIVIL
04-15-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Alex E. Sanjines — No. C 051153 — Exp. 9/30/13 — CIVIL — STATE OF CALIFORNIA

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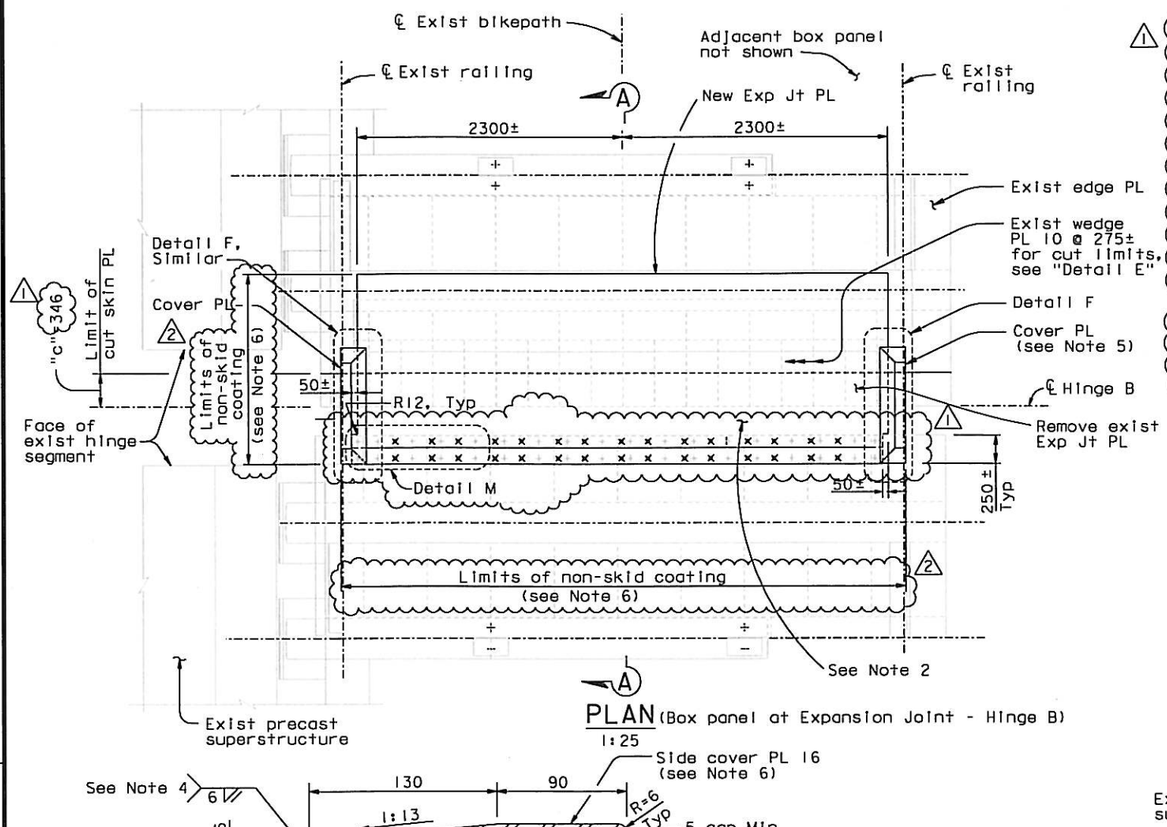
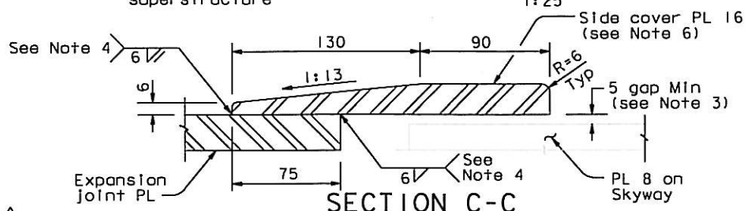
SAN FRANCISCO OAKLAND BAY BRIDGE
EAST SPAN SEISMIC SAFETY PROJECT
SELF-ANCHORED SUSPENSION BRIDGE
(SUPERSTRUCTURE & TOWER)

SKYWAY BIKEPATH EXPANSION JOINT REPLACEMENT NO. 1

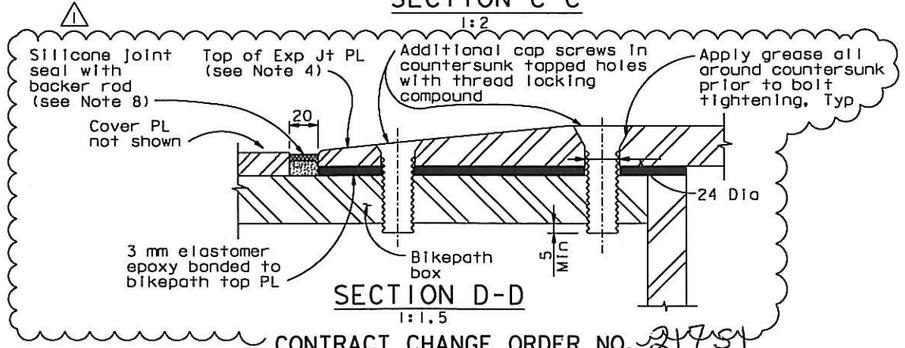
USERNAME => DWinrow DATE PLOTTED => 18 JAN 2013 TIME PLOTTED => 11:44:26



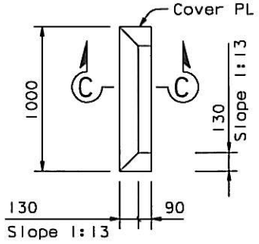
PLAN (Box panel at Expansion Joint - Hinge B)
1:25



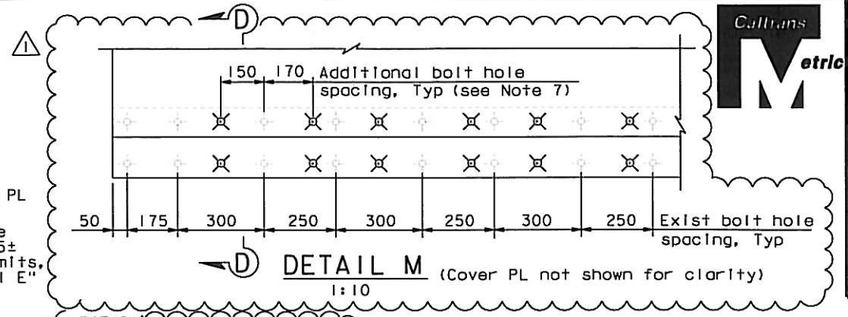
SECTION C-C
1:2



SECTION D-D
1:1.5

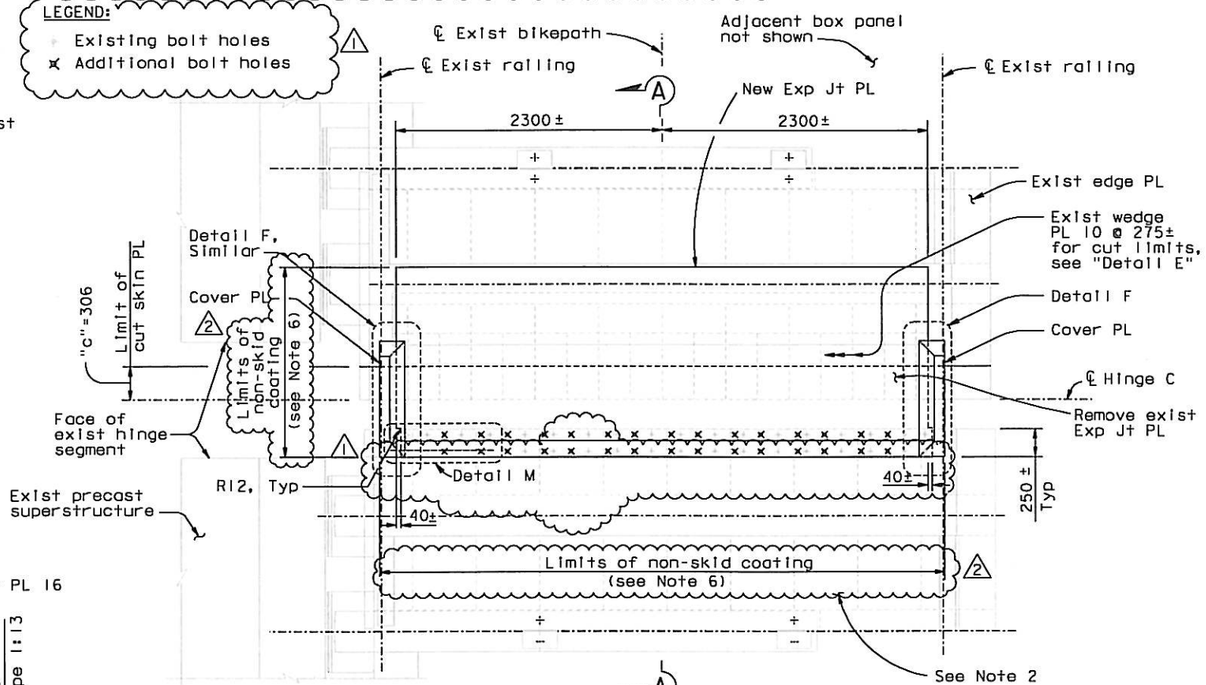


DETAIL F
1:20



DETAIL M (Cover PL not shown for clarity)
1:10

LEGEND:
- Existing bolt holes
- Additional bolt holes



PLAN (Box panel at Expansion Joint - Hinge C)
1:25

4. Terminate the weld 12 mm short of the expansion joint PL taper at the bolted end. Caulk the space between the cover PL and the expansion joint PL at the tapered end of the expansion joint PL. At the Contractor's option, the weld between expansion joint PL and cover PL may be field weld.
5. Trim the cover PL as necessary to clear the expansion joint PL bolted connection.
6. Top surface of the exposed plates shall have non-skid coating, to be performed by Others. The non-skid coating shall match the existing color pattern. Where the tapered edge cover plate extends over the existing white edge of the bikepath, white finish paint shall be used in lieu of non-skid.
7. Tap holes in existing top PL of bikepath panel at every other bolt (Total 66 bolts).
8. Top of silicone joint seal shall be no more than 6 mm lower than top of Expansion Joint plate.

NOTES:
1. For Section A-A, see "Skyway Bikepath Expansion Joint Replacement No.1" sheet.
2. For details not shown, see Plan (Box panel at Expansion Joint - Hinge D) on "Skyway Bikepath Expansion Joint Replacement No.1" sheet.
3. Cover PL may be shimmed to maintain Min gap shown.

DIST.	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	13.2/13.9	11645BR3	1204

REGISTERED ENGINEER - CIVIL
04-15-11
PLANS APPROVAL DATE
REGISTERED PROFESSIONAL ENGINEER — Alex E. Sanjines — No. C 051153 — Exp. 9/30/13 — CIVIL — STATE OF CALIFORNIA

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CONTRACT CHANGE ORDER NO. 217SI
SHEET 5 OF 7

REQUESTS FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE

MARK	DATE	REVISIONS	BY	CH'D	CCO#
3	01/18/13	SKYWAY NON-SKID	JD	AS	217SI
2	10/04/12	SKYWAY NON-SKID	JD	AS	217SI
1	03/13/12	SKYWAY BIKEPATH HINGE	CC	AS	217SI
0	04/15/11	SKYWAY BIKEPATH EXPANSION JOINT	AS	HP	193

	BY	CHECKED
DESIGN	A. Sanjines	H. Patel
DETAILS	A. Sanjines	H. Patel
QUANTITIES	A. Sanjines	H. Patel

PREPARED FOR THE STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

R. Manzanarez
PROJECT ENGINEER

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

BRIDGE NO. 34-0006L/R
KILOMETER POST 13.2/13.9

SAN FRANCISCO OAKLAND BAY BRIDGE
EAST SPAN SEISMIC SAFETY PROJECT
SELF-ANCHORED SUSPENSION BRIDGE
(SUPERSTRUCTURE & TOWER)
SKYWAY BIKEPATH EXPANSION JOINT REPLACEMENT NO.2

R. Valizadeh/V. Toan/Y. L. /W. L. /F. C.
DESIGN OVERSIGHT
SIGN OFF DATE 01/18/13

Rev. Date: 5-18-98

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU 04
EA 0120F1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY): 04/15/11

SHEET 747SBR3 OF

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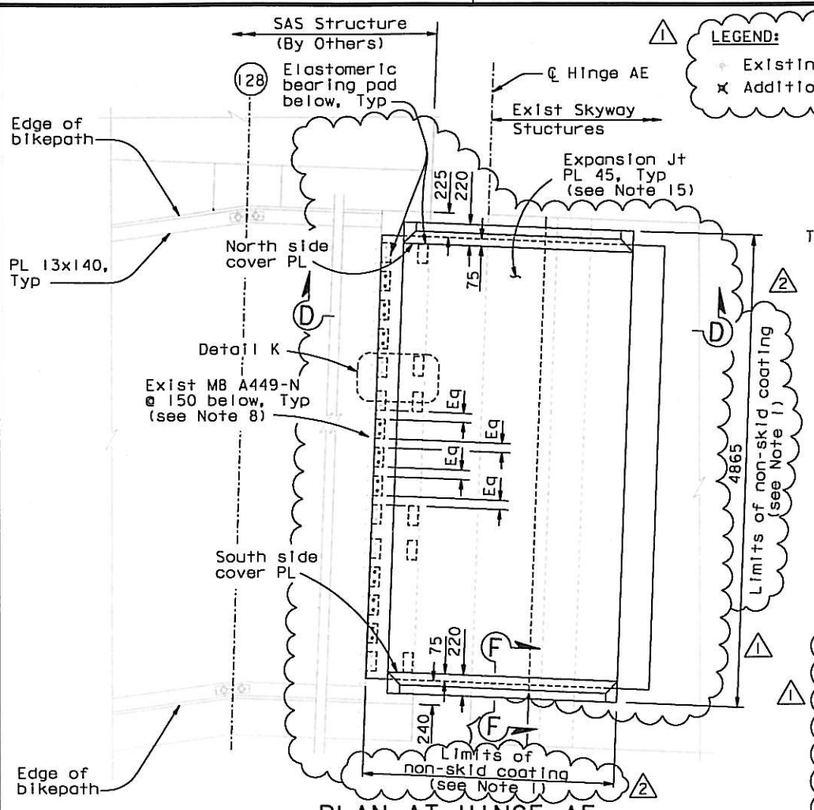
USERNAME => DWinrow DATE PLOTTED => 18 JAN 2013 TIME PLOTTED => 11:46:12

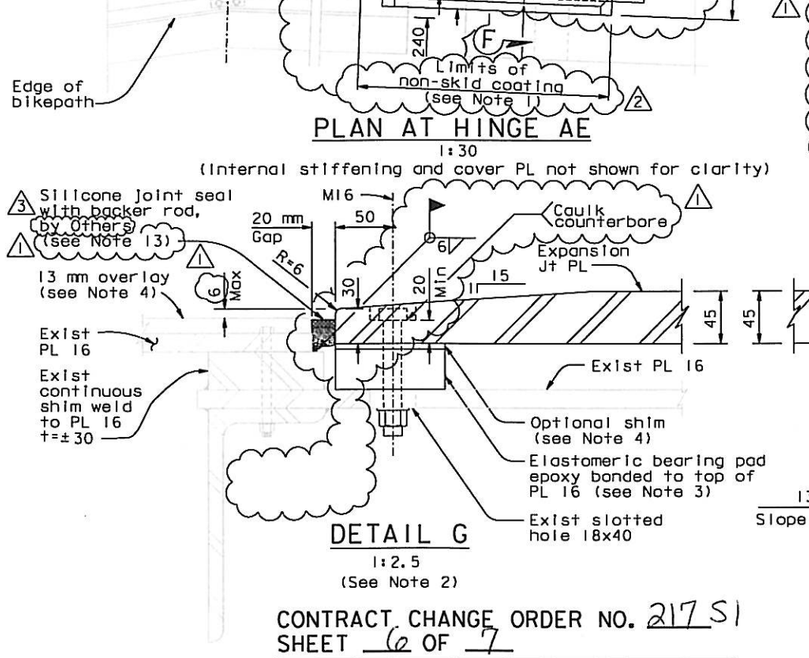
100 % PS&E



PLAN AT HINGE AE

1:30

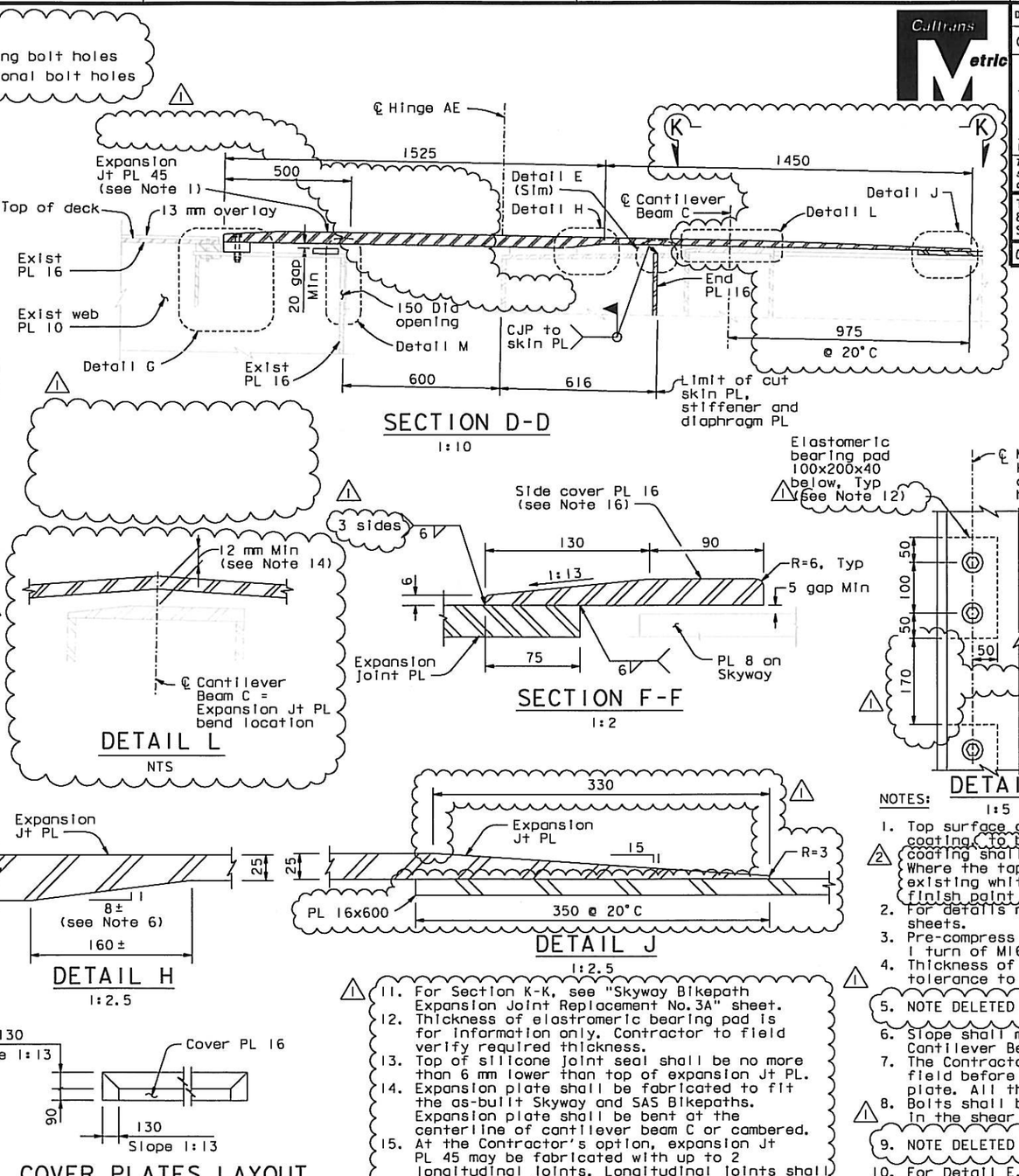
(Internal stiffening and cover PL not shown for clarity)



DETAIL G

1:2.5

(See Note 2)



SECTION D-D

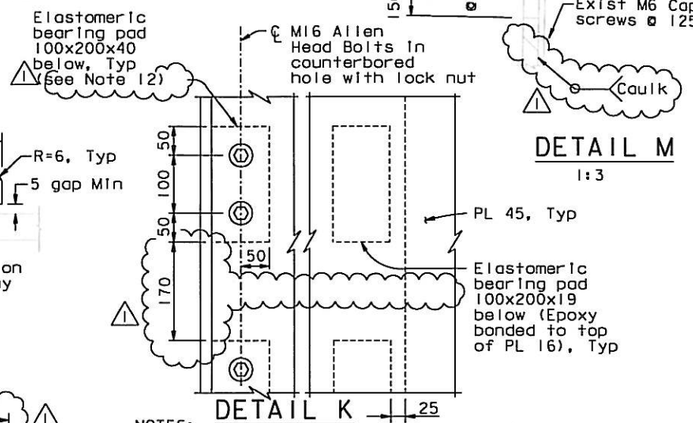
1:10

DETAIL L

NTS

SECTION F-F

1:2



DETAIL M

1:3

DETAIL K

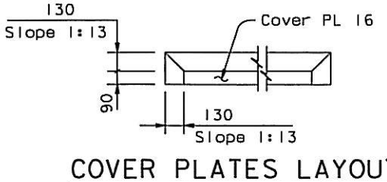
1:5

DETAIL H

1:2.5

DETAIL J

1:2.5



COVER PLATES LAYOUT

1:20 (South side shown, North side similar)

NOTES:

1. Top surface of exposed plates shall have non-skid coating (to be performed by Others). The non-skid coating shall match the existing color pattern. Where the tapered edge cover plate extends over the existing white edge of the bikepath panel, white finish paint shall be used in lieu of non-skid.
2. For details not shown, see SAS-"Bikepath Details" sheets.
3. Pre-compress elastomeric pad by 2 mm by means of 1 turn of M16 bolt.
4. Thickness of shim and overlay may vary to provide tolerance to adjust for As-Built Skyway.
5. NOTE DELETED
6. Slope shall match the slope of exist top PL of Cantilever Beam C.
7. The Contractor shall verify all the dimensions in field before fabricating the expansion joint plate. All the plates cut shall be ground square.
8. Bolts shall be installed with threads including in the shear plane.
9. NOTE DELETED
10. For Detail E, see "Skyway Bikepath Expansion Joint Replacement No.1" sheet.
11. For Section K-K, see "Skyway Bikepath Expansion Joint Replacement No.3A" sheet.
12. Thickness of elastromeric bearing pad is for information only. Contractor to field verify required thickness.
13. Top of silicone joint seal shall be no more than 6 mm lower than top of expansion Jt PL.
14. Expansion plate shall be fabricated to fit the as-built Skyway and SAS Bikepaths. Expansion plate shall be bent at the centerline of cantilever beam C or cambered.
15. At the Contractor's option, expansion Jt PL 45 may be fabricated with up to 2 longitudinal joints. Longitudinal joints shall be welded with a 10 PJP, top and bottom.
16. Side cover PL 16 shall follow profile of expansion Jt PL 45.

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

CONTRACT CHANGE ORDER NO. 217S1
SHEET 6 OF 7

REQUESTS FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE

MARK	DATE	REVISIONS	BY	CH'D	CCO#
3	01/18/13	SKYWAY NON-SKID	JD	AS	217S1
2	10/04/12	SKYWAY NON-SKID	JD	AS	217S1
1	03/13/12	SKYWAY BIKEPATH HINGE	CC	AS	217S1
0	04/15/11	SKYWAY BIKEPATH EXPANSION JOINT	AS	HP	193

DESIGN OVERSIGHT
R. Volfzadeh/V. Toan/Y. L. /W. L. /F. C.
SIGN OFF DATE 01/18/13

	BY	CHECKED
DESIGN	A. Sanjines	H. Patel
DETAILS	A. Sanjines	H. Patel
QUANTITIES	A. Sanjines	H. Patel

PREPARED FOR THE STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

R. Manzanarez
PROJECT ENGINEER

CU 04
EA 0120F1

BRIDGE NO. 34-0006L/R
KILOMETER POST 13.2/13.9

DISREGARD PRINTS BEARING EARLIER REVISION DATES

SAN FRANCISCO OAKLAND BAY BRIDGE
EAST SPAN SEISMIC SAFETY PROJECT
SELF-ANCHORED SUSPENSION BRIDGE
(SUPERSTRUCTURE & TOWER)
SKYWAY BIKEPATH EXPANSION JOINT REPLACEMENT NO.3

DIST.	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	13.2/13.9	116459R3	1204

REGISTERED ENGINEER - CIVIL
Alex E. Sanjines No. C 051153 Exp. 9/30/13 CIVIL
04-15-11
PLANS APPROVAL DATE

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REVISION DATES (PRELIMINARY STAGE ONLY): 04/15/11
SHEET 74759R3

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DATE PLOTTED => 18 JAN 2013
TIME PLOTTED => 11:47:30
USERNAME => DWinrow

Rev. Date: 5-18-98

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

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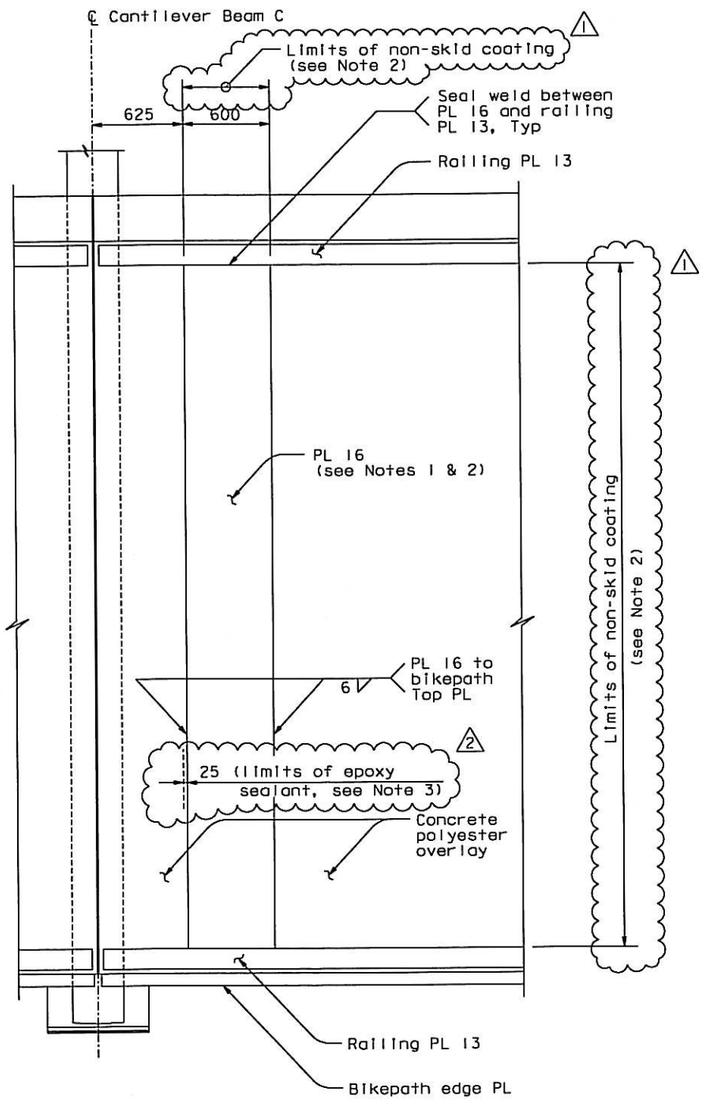

SECTION K-K

(Expansion Jt PL Not Shown For Clarity)

1:20

NOTES:

1. Remove concrete polyester overlay before placing PL 16. Polyester overlay in the vicinity of PL 16 shall be replaced / repaired as needed. (2)
2. Top surface of PL 16 not covered by expansion joint plate shall have non-skid coating, to be performed by Others. (2)
   The non-skid coating shall match the existing color pattern. Where the tapered edge cover plate extends over the existing white edge of the bikepath panel, white finish paint shall be used in lieu of non-skid. (1)
3. At the Contractor's option, 25 mm of the replaced/repaired concrete polyester overlay may be substituted with epoxy sealant. (2)

Caltrans Metric

DIST.	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF	80	13.2/13.9	1164S9AR2	1204

REGISTERED ENGINEER - CIVIL

Alex E. Sanjines No. C 051153 Exp. 9/30/13 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

03-13-12
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CONTRACT CHANGE ORDER NO. 217S1
SHEET 7 OF 7

REQUESTS FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE

MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#
2	01/18/13	SKYWAY NON-SKID	JD	AS	217S1
1	10/04/12	SKYWAY NON-SKID	JD	AS	217S1
0	03/13/12	SKYWAY BIKEPATH HINGE	CC	AS	217S1

REVISIONS

R. Vallzadeh/V. Toan/Y.L./W.L./F.C.
DESIGN OVERSIGHT
Ron Vallzadeh / Vong Toan / Y. Liu
SIGN OFF DATE 01/18/13

Rev. Date: 5-18-98

	BY	CHECKED
DESIGN	C. Chol	A. Sanjines
DETAILS	C. Chol	A. Sanjines
QUANTITIES	C. Chol	A. Sanjines

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

R. Manzanarez
PROJECT ENGINEER

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

CU 04
EA 0120F1

BRIDGE NO. 34-0006L/R
KILOMETER POST 13.2/13.9

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY): 01/13/12

SAN FRANCISCO OAKLAND BAY BRIDGE
EAST SPAN SEISMIC SAFETY PROJECT
SELF-ANCHORED SUSPENSION BRIDGE
(SUPERSTRUCTURE & TOWER)

SKYWAY BIKEPATH EXPANSION JOINT REPLACEMENT NO. 3A

SHEET 74 OF 79AR2

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USERNAME => DWinrow DATE PLOTTED => 18 JAN 2013 TIME PLOTTED => 11:48:52