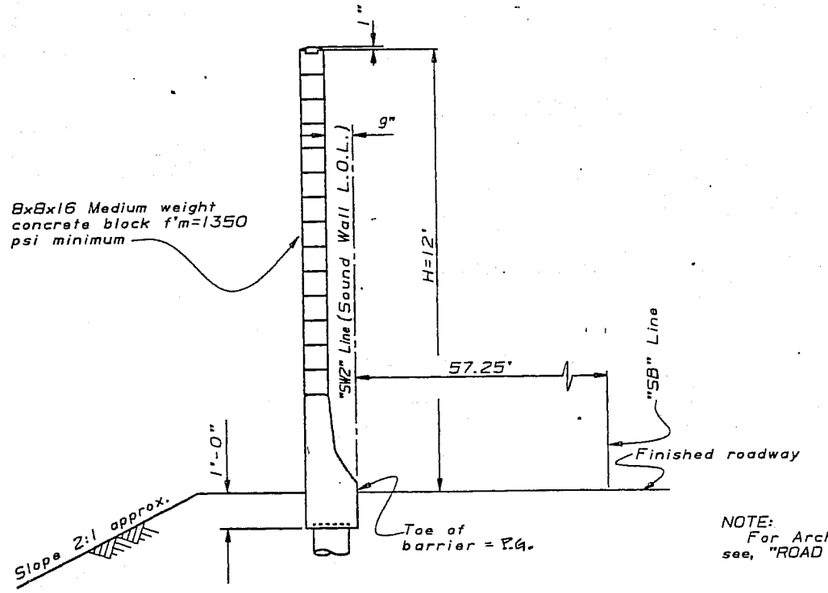
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SCI	87	3.3/5.7	155	180

REGISTERED ENGINEER - CIVIL

REGISTERED PROFESSIONAL ENGINEER Nelson Magsayo No. 42516 Exp. 3-31-92 CIVIL STATE OF CALIFORNIA

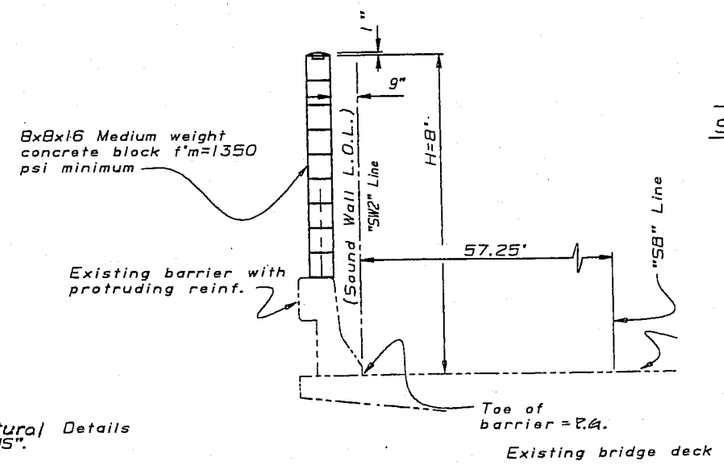
8-27-90
PLANS APPROVAL DATE



TYPICAL SECTION

1/2"=1'-0"

NOTE:
For Architectural Details see, "ROAD PLANS".



TYPICAL SECTION (BRIDGE)

1/2"=1'-0"

INDEX TO PLANS

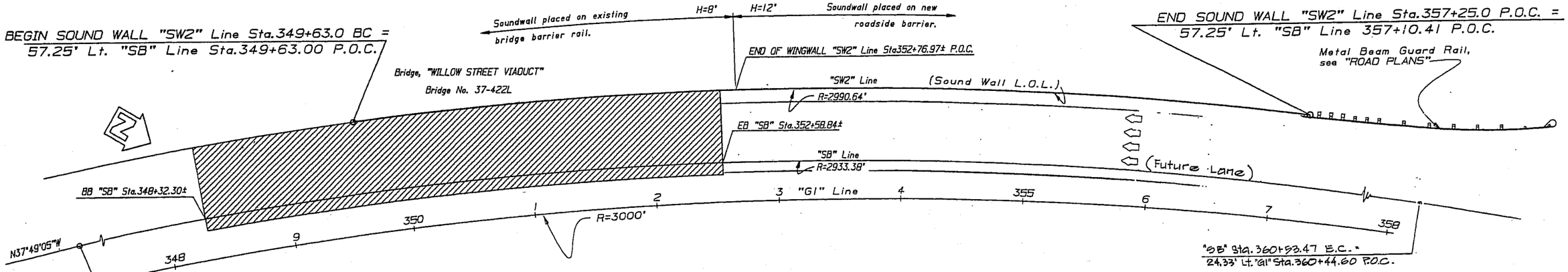
SHEET NO.	SHEET TITLE
1	GENERAL PLAN
2	STRUCTURE PLAN NO.1
3	STRUCTURE PLAN NO.2
4	SOUND WALL ON STRUCTURE
5	SOUND WALL-MASONRY BLOCK ON BARRIER DETAILS NO.1
6	SOUND WALL-MASONRY BLOCK ON BARRIER DETAILS NO.2

APPROXIMATE QUANTITIES

16" CAST-IN-DRILLED-HOLE CONCRETE PILING	845	LF

FINAL PAY QUANTITIES

SOUND WALL (BARRIER) (MASONRY)	5,670	SQFT
CONCRETE BARRIER (TYPE 275V)	448	LF



CURVE DATA
"G1" Line
R=3000.00
Δ=26°20'35"
T=702.07
L=1379.32

CURVE DATA
"SB" Line
R=2933.388
Δ=26°20'35"
T=686.482
L=1348.693

PLAN

1"=40'

CURVE DATA
"SW2" Line (Sound Wall L.O.L.)
R=2990.64
Δ=15°04'40"
L=787.00
T=395.79

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

GUADALUPE CORRIDOR
WILLOW STREET SOUNDWALL
GENERAL PLAN

DESIGN	BY JIM VASSAKA	CHECKED Nelson Magsayo	LOAD FACTOR DESIGN	LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD
DETAILS	BY Dave Radley 9-89	CHECKED JIM VASSAKA	LAYOUT	BY JIM VASSAKA — CHECKED Nelson Magsayo
QUANTITIES	BY Nelson Magsayo	CHECKED JIM VASSAKA	SPECIFICATIONS	BY Scott Straub — PLANS AND SPECS COMPARED Scott Straub

DESIGN ENGINEER

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN 10

CU 04
EA 487041

BRIDGE NO. SW-2
POST MILE 3.3

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY): 8-8-89 9-11-89 9-26-89 10-27-89 11-20-89 9/27/91

SHEET 1 OF 6

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

05 050 2138 (CADD 4/89)

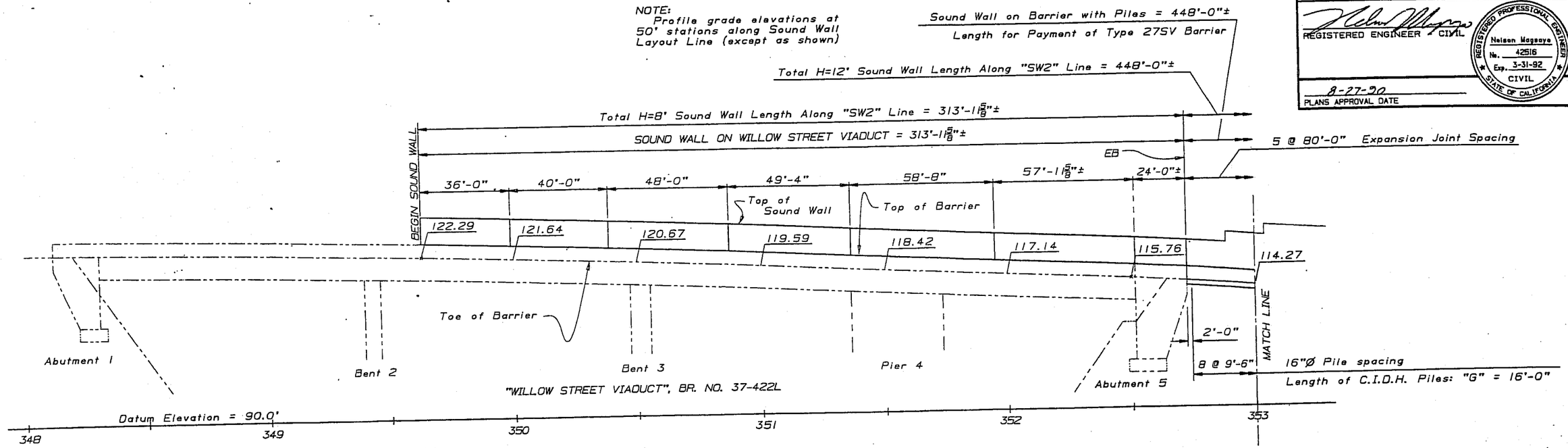
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SCl	87	3.3/5.7	156	180

REGISTERED ENGINEER CIVIL

REGISTERED PROFESSIONAL ENGINEER Nelson Magsaya No. 42516 Exp. 3-31-92 CIVIL STATE OF CALIFORNIA

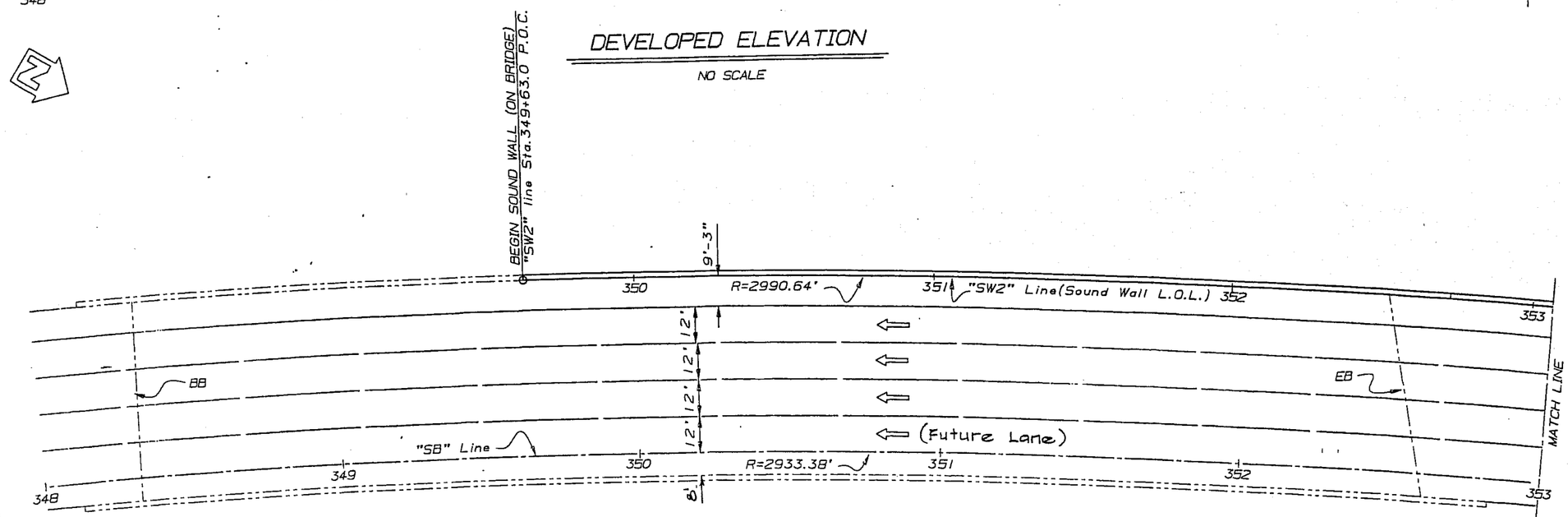
8-27-90
PLANS APPROVAL DATE

NOTE:
Profile grade elevations at 50' stations along Sound Wall Layout Line (except as shown)



DEVELOPED ELEVATION

NO SCALE



PLAN

1"=20.0'

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN	BY JIM VASSAKA	CHECKED NELSON MAGSAYO	
DETAILS	BY Dave Radley 11-89	CHECKED JIM VASSAKA	
QUANTITIES	BY NELSON MAGSAYO	CHECKED JIM VASSAKA	

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN 10

CU 04
EA 487041

BRIDGE NO. SW-2
POST MILE 3.3/5.6

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)
11-1-89 11-15-89 11-29-89 3/27/91

SHEET 2 OF 6

GUADALUPE CORRIDOR
WILLOW STREET SOUND WALL
STRUCTURE PLAN NO.1

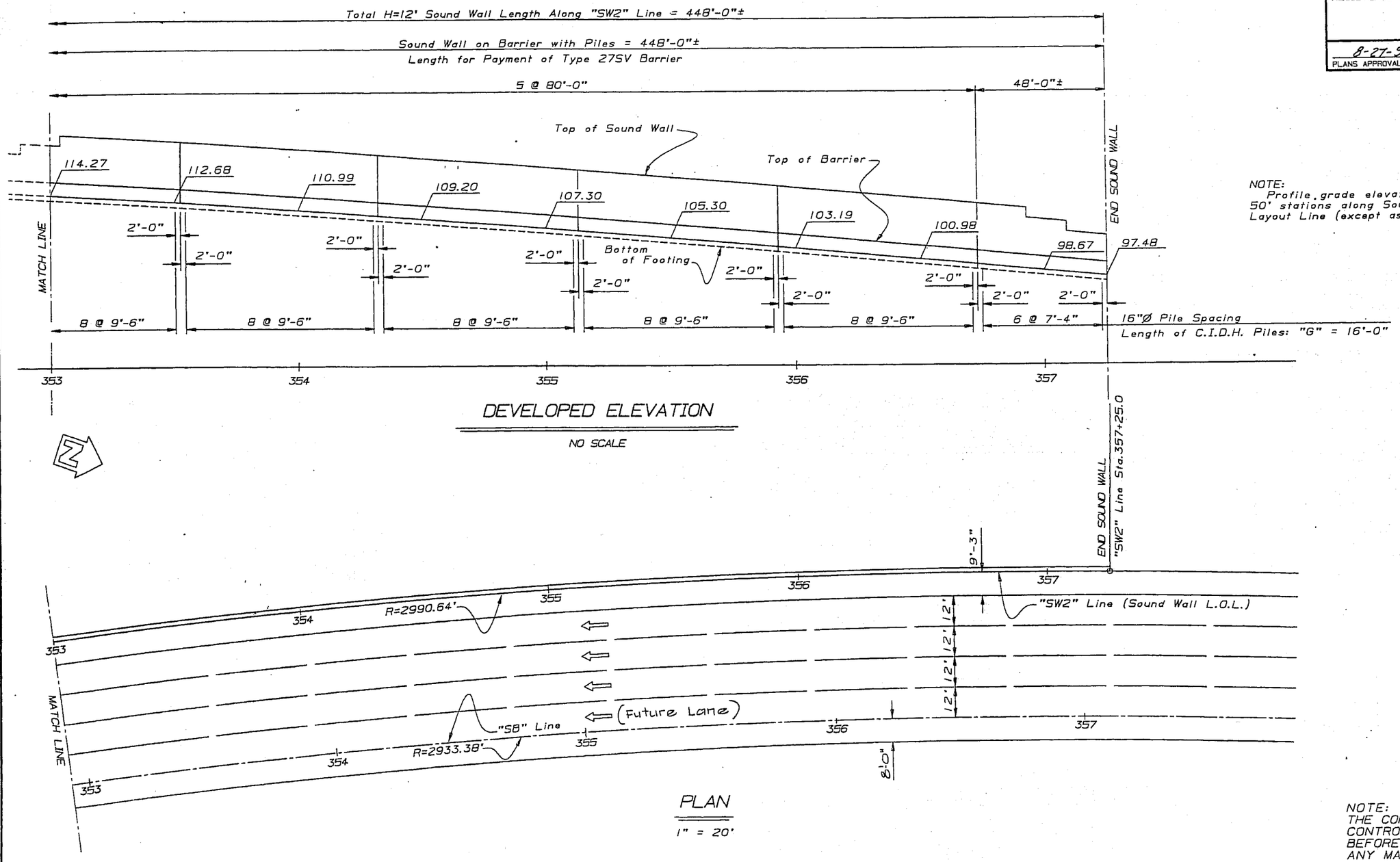
DS OSD 2139 (CADD 4/89)

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SCl	87	3.3/5.7	157	180

REGISTERED ENGINEER - CIVIL

REGISTERED PROFESSIONAL ENGINEER Nelson Magsayo No. 42516 Exp. 3-31-92 CIVIL STATE OF CALIFORNIA

8-27-90
PLANS APPROVAL DATE



NOTE:
Profile grade elevations at 50' stations along Sound Wall Layout Line (except as shown)

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

	BY	CHECKED
DESIGN	JIM VASSAKA	NELSON MAGSAYO
DETAILS	Dave Radley 11-89	JIM VASSAKA
QUANTITIES	NELSON MAGSAYO	JIM VASSAKA

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN 10

BRIDGE NO. SW-2
POST MILE 3.3/5.6

GUADALUPE CORRIDOR
WILLOW STREET SOUND WALL
STRUCTURE PLAN NO.2

CU 04
EA 487041

DS 050 2139 (CADD 4/89)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)
11-3-89 11-18-89 11-20-89 12/21/89

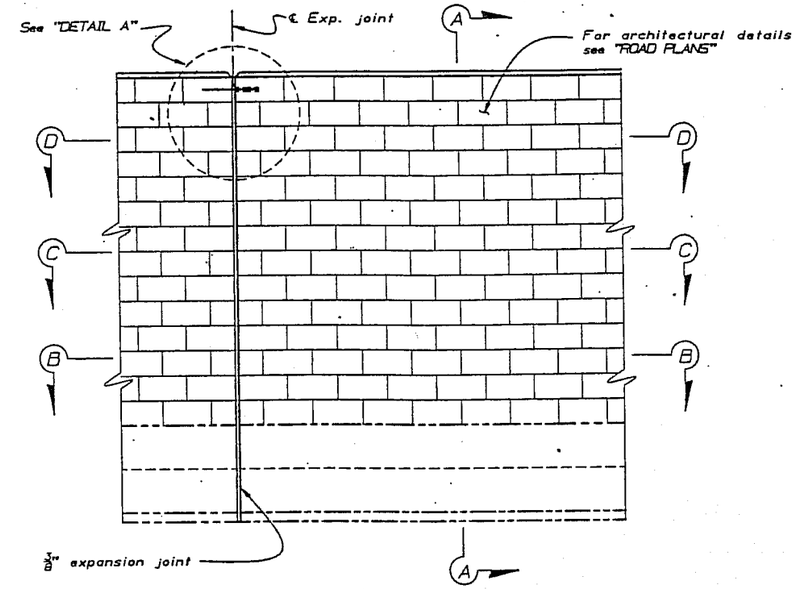
SHEET 3 OF 6

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEET
04	SCI	87	3.3/5.7	158	180

REGISTERED ENGINEER - CIVIL

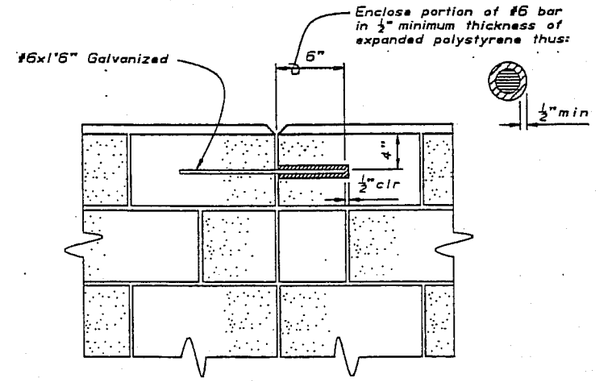
REGISTERED PROFESSIONAL ENGINEER NELSON MAGSAYO No. 42516 Exp. 3-31-92 CIVIL STATE OF CALIFORNIA

8-27-90
PLANS APPROVAL DATE



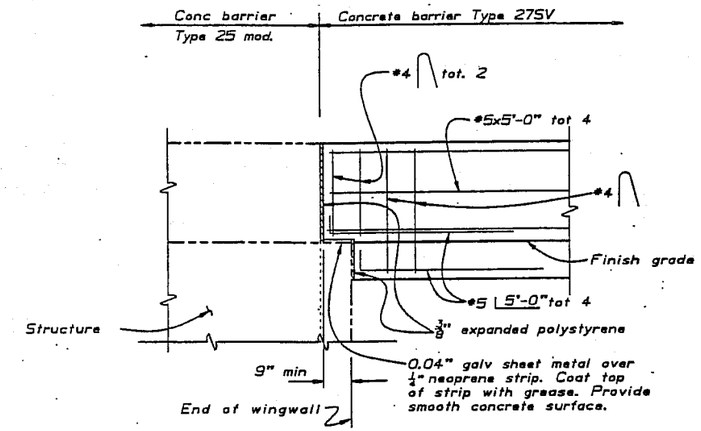
ELEVATION

SCALE: 1/2" = 1'



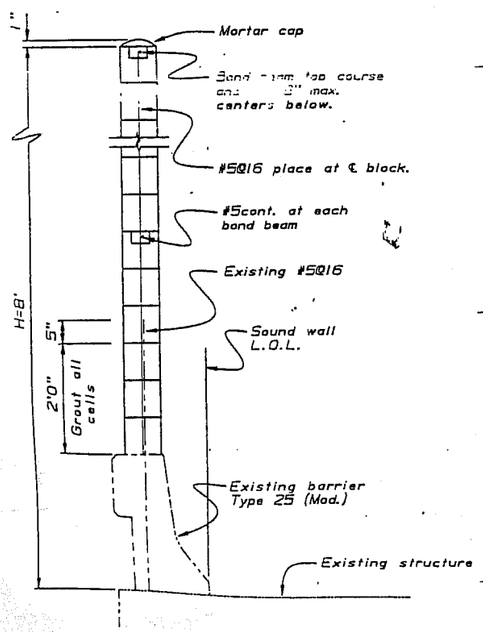
DETAIL A

NO SCALE



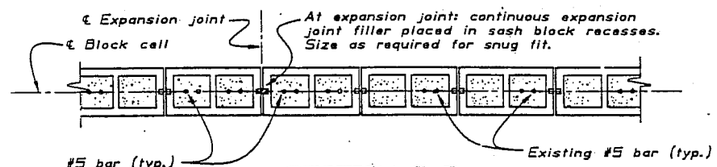
BARRIER TRANSITION AT CONNECTION TO STRUCTURE

NO SCALE



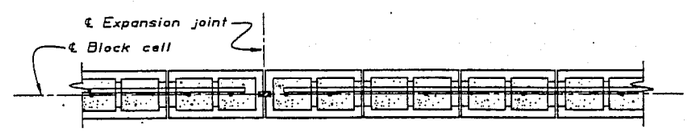
SECTION A-A

SCALE: 3/4" = 1'



SECTION B-B

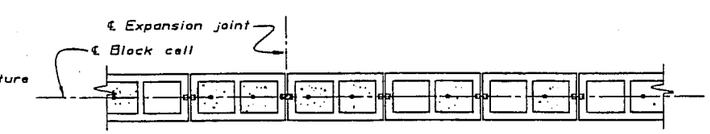
SCALE: 1" = 1'



SECTION C-C

SCALE: 1" = 1'

NOTE:
Cells with vertical reinforcement and bond beams to be filled with grout.



SECTION D-D

SCALE: 1" = 1'

NOTE:
FOR DETAILS NOT SHOWN SEE "MASONRY BLOCK ON BARRIER" DETAIL SHEET

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

GENERAL NOTES

DESIGN

Uniform building code, 1979 edition and the bridge design specifications.

Working stress design.

DESIGN WIDE LOAD

30 PSF

DESIGN SEISMIC LOAD

1.0 dead load

REINFORCED CONCRETE

f'c = 3,250 PSI
fc = 1,300 PSI
fs = 24,000 PSI
n = 9

CONCRETE MASONRY (HOLLOW)
WITH REINF. CELLS GROUTED

f'm = 1,350 PSI
fm = 450 PSI
fs = 24,000 PSI
n = 22

CONCRETE MASONRY
ALL CELLS GROUTED

f'm = 1,500 PSI
fm = 500 PSI
fs = 24,000 PSI
n = 20

DESIGN	BY JIM VASSAKA	CHECKED NELSON MAGSAYO	
DETAILS	BY Del Helm 11-89	CHECKED JIM VASSAKA	
QUANTITIES	BY NELSON MAGSAYO	CHECKED JIM VASSAKA	

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN 10

BRIDGE NO. SW-2
POST MILE 3.3

GUADALUPE CORRIDOR
WILLOW STREET SOUND WALL
SOUND WALL ON STRUCTURE
DETAIL SHEET

DS 050 2139 (CADD 4/89)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 04
EA 487041

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) 11-13-89 11-14-89 11-20-89

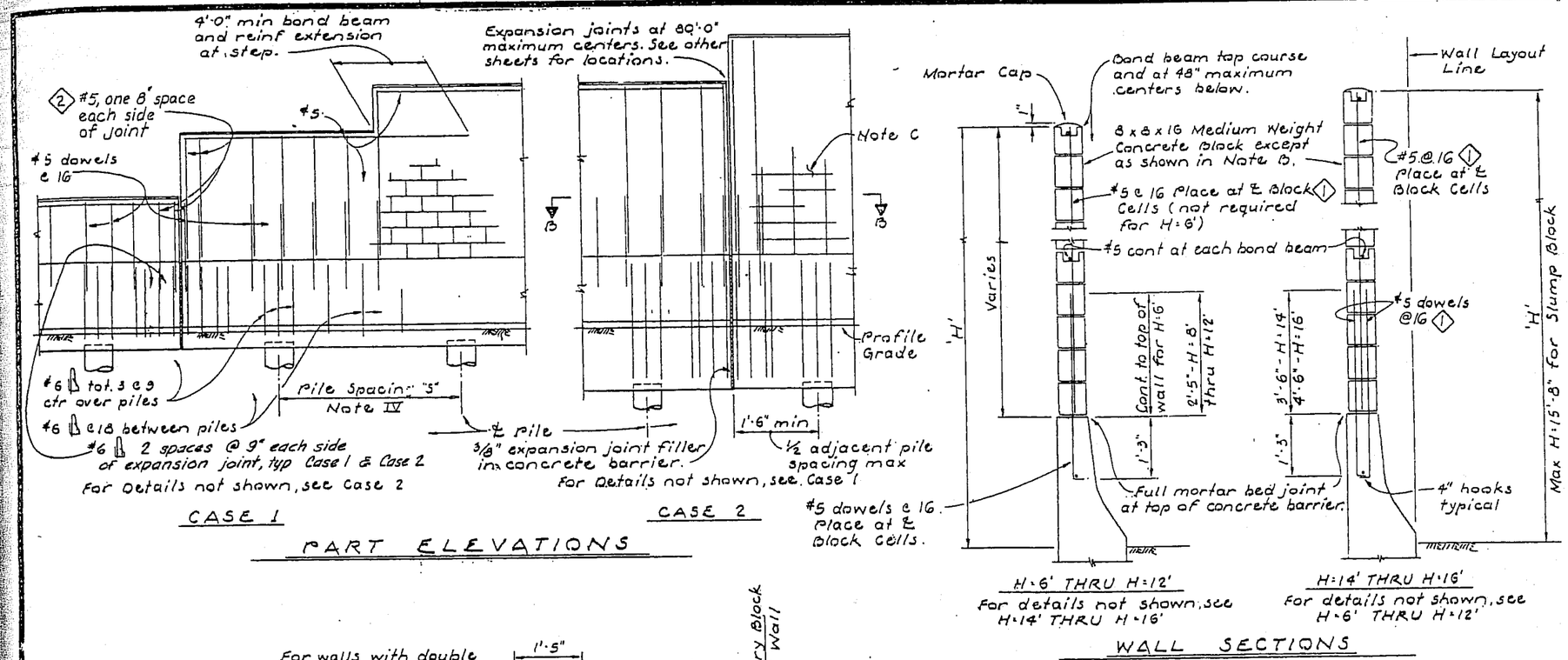
SHEET 4 OF 6

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SCI	87	3.3/5.7	159	180

REGISTERED ENGINEER - CIVIL

REGISTERED PROFESSIONAL ENGINEER NELSON MAGSAYO No. 42516 Exp. 3-31-92 CIVIL STATE OF CALIFORNIA

8-27-90
PLANS APPROVAL DATE



Note II: Pile dimensions 'E' and 'G' required for walls with Standard Aesthetic Features using 12" wide projecting block only. Use pile dimensions 'D' and 'F' for all other walls.

Note III: Slope ground at traffic side of barrier to drain. Maximum slope ±5%.

Note IV: Pile spacing may be varied but shall not exceed the tabular values.

Note V: For Case 1 - ground line to be at the same elevation on both sides of the barrier. Barrier shall not be used to retain earth.

See Section A-A
1 7-#6 pile reinf
2 6-#7 pile reinf

CASE 1 PILE DATA

H	SP=300 S	SP=300 D	SP=300 Standard Aesthetic Feature, Alternatives 4 and 5 S	SP=300 Standard Aesthetic Feature, Alternatives 4 and 5 E	SP=300 Standard Aesthetic Feature, Alternative 6 2 S	SP=300 Standard Aesthetic Feature, Alternative 6 2 E	SP=450 S	SP=450 D	SP=450 Standard Aesthetic Feature, Alternatives 4 and 5 S	SP=450 Standard Aesthetic Feature, Alternatives 4 and 5 E	SP=450 Standard Aesthetic Feature, Alternative 6 2 S	SP=450 Standard Aesthetic Feature, Alternative 6 2 E	H
6'	10'-0"	7'-9"					10'-0"	5'-6"					6'
8'	10'-0"	8'-6"	10'-0"	9'-0"			10'-0"	6'-0"	10'-0"	6'-3"			8'
10'	10'-0"	9'-6"	10'-0"	9'-9"			10'-0"	6'-9"	10'-0"	7'-0"			10'
12'	10'-0"	10'-3"	10'-0"	10'-6"	10'-0"	11'-9"	10'-0"	7'-3"	10'-0"	7'-6"	10'-0"	8'-3"	12'
14'	10'-0"	11'-0"	10'-0"	11'-6"	10'-0"	12'-6" 2	10'-0"	8'-0"	10'-0"	8'-3"	10'-0"	9'-0" 1	14'
16'	10'-0"	12'-0" 1	10'-0"	12'-3" 1	8'-3"	12'-9" 2	10'-0"	8'-6"	10'-0"	9'-0" 1	8'-0"	9'-6" 1	16'

2 See "Detail U" for pile spacing limits

GENERAL NOTES

NOTE A: FOR TYPE OF BLOCK, TYPE OF BLOCK BOND AND JOINT FINISH, SEE OTHER SHEETS.

NOTE B: WHERE CONCRETE SLUMP BLOCKS ARE REQUIRED, THE SIZE SHALL BE 8 x 6 x 16.

NOTE C: WHEN BLOCKS ARE LAID IN STACKED BOND, LADDER TYPE, GALVANIZED JOINT REINFORCEMENT SHALL BE PROVIDED. A MINIMUM OF 2 - 9 GAGE WIRES CONTINUOUS AT 48" MAXIMUM TO BE USED. LOCATE REINFORCEMENT IN JOINTS THAT ARE AT THE APPROXIMATE MIDPOINT BETWEEN BOND BEAMS.

NOTE D: HORIZONTAL JOINTS SHALL BE TOOLED CONCAVE OR MAY BE WEATHERED.

VERTICAL JOINTS SHALL BE TOOLED CONCAVE OR MAY BE RAKED. WEATHERED AND RAKED JOINTS ARE NOT PERMITTED FOR SLUMP BLOCK.

NOTE E: FOR INTERMEDIATE WALL HEIGHTS (H), OR BARRIER DEPTHS (HE), THAT ARE BETWEEN THE VALUES GIVEN, USE THE TABULAR INFORMATION FOR THE NEXT HIGHER (H) OR (HE).

NOTE F: CLASS A CONCRETE TO BE USED FOR PILES AND BARRIER.

NOTE P: FOR USE OF PREASSEMBLED PANELS.

THE MINIMUM RADIUS FOR HORIZONTALLY CURVED WALLS ON WHICH 20-FOOT LONG PANELS ARE TO BE USED SHALL BE 2,000 FEET. THE ENGINEER TO APPROVE LAYOUTS.

BOND BEAMS SHALL BE CONTINUOUS BETWEEN EXPANSION JOINTS.

MORTARED JOINTS REQUIRED WHERE PANELS JOIN.

A TEMPLATE WHICH MATCHES THE LOCATION OF THE BLOCK CELLS IN THE PANEL SHALL BE USED FOR POSITIONING THE VERTICAL WALL REINFORCEMENT IN THE BARRIER.

NOTE S: ALLOWABLE ULTIMATE LATERAL SOIL PRESSURE FOR LEVEL GROUND ON BOTH SIDES OF BARRIER: SP = 300

Note I: For details not shown, see "Sound Wall-Masonry Block On Barrier -- Details No. 2" sheet.

MEDIUM WEIGHT MASONRY

GUADALUPE CORRIDOR

WILLOW STREET SOUND WALL

SOUND WALL-MASONRY BLOCK ON BARRIE

DETAILS NO. 1

STANDARD DRAWING

FILE No. XS-3-57.1 | DESIGN By | DETAILS By | CHECKED BY | Checked | Checked | Approved - Recommended By | Registered Civil Engineer Number 8198

DRAWING DATE 11/88

1 Vertical steel is doubled.
2 Vertical steel each side of joint is doubled.

State of CALIFORNIA DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES STRUCTURE DESIGN 10

BRIDGE NO. SW-2
POST MILE 3.3

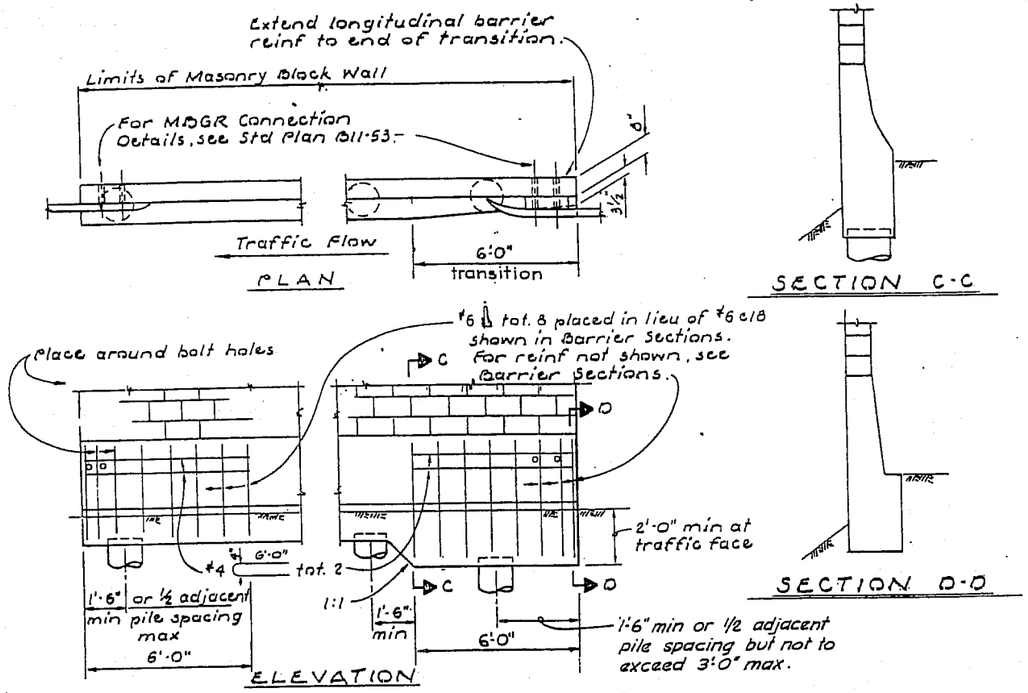
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 04
EA 487041

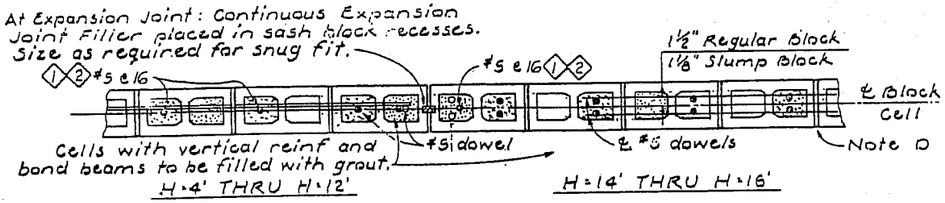
Disregard prints bearing earlier revision dates

REVISION DATES (PRELIMINARY STAGE ONLY) 10/88

SHEET 5 OF 6



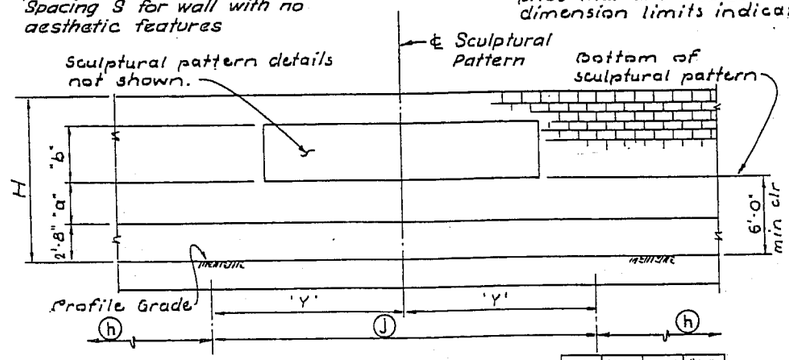
METAL BEAM GUARD RAIL ANCHORAGE



SECTION B-B

(h) Use Pile Dimension F and Pile Spacing S for wall with no aesthetic features

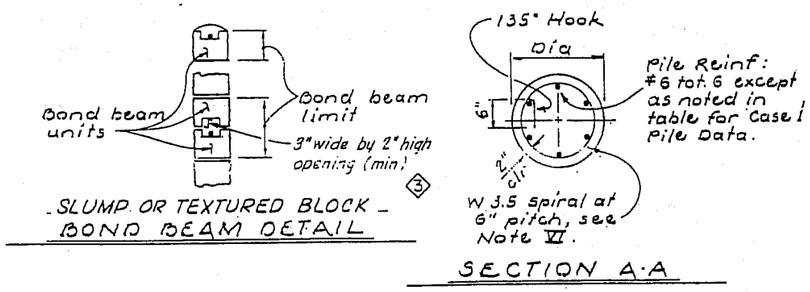
(j): Pile dimension 'G' required for all piles that are located within the dimension limits indicated.



H	'Y'	"a"	"b"
12'	14'-0"	3'-4"	4'-0"
14'	16'-0"	3'-4"	4'-8"
16'	18'-0"	3'-4"	6'-0"

ALTERNATIVE 6
DETAIL U

Note VII:
Detail U required for Standard Aesthetic Features with Sculptural Patterns using 12" wide projecting block only.



Note VI:
Where splices are required, spiral reinforcement shall be lapped 80 diameters minimum. A 135 degree hook that is hooked around a longitudinal bar shall be used to terminate the ends of the spiral reinforcement at lapped splices and at the top and bottom of the pile.

CASE 2 PILE DATA

H	HE=1'-0" S	HE=1'-0" F	HE=1'-0" Standard Aesthetic Feature, Alternatives 4 and 5 S	HE=1'-0" Alternatives 4 and 5 G	HE=1'-0" Alternative 6 ⓒ S	HE=1'-0" Alternative 6 ⓒ G	HE=2'-0" S	HE=2'-0" F	HE=2'-0" Standard Aesthetic Feature, Alternatives 4 and 5 S	HE=2'-0" Alternatives 4 and 5 G	HE=2'-0" Alternative 6 ⓒ S	HE=2'-0" Alternative 6 ⓒ G
6'	10'-0"	12'-6"					10'-0"	14'-3"				
8'	10'-0"	13'-6"	10'-0"	14'-0"			10'-0"	15'-3"	9'-6"	16'-0"		
10'	10'-0"	14'-6"	10'-0"	15'-0"			8'-9"	16'-0"	8'-6"	16'-0"		
12'	10'-0"	15'-9"	10'-0"	16'-0"	8'-0"	16'-0"	7'-9"	16'-0"	7'-6"	16'-0"	6'-3"	16'-0"
14'	9'-3"	16'-0"	8'-9"	16'-0"	7'-0"	16'-0"	7'-0"	16'-0"	6'-9"	16'-0"	5'-6"	16'-0"
16'	7'-9"	16'-0"	7'-6"	16'-0"	5'-9"	16'-0"	6'-0"	16'-0"	5'-9"	16'-0"	4'-6"	16'-0"

H	HE=3'-0" S	HE=3'-0" F	HE=3'-0" Standard Aesthetic Feature, Alternatives 4 and 5 S	HE=3'-0" Alternatives 4 and 5 G	HE=3'-0" Alternative 6 ⓒ S	HE=3'-0" Alternative 6 ⓒ G	HE=4'-0" S	HE=4'-0" F	HE=4'-0" Standard Aesthetic Feature, Alternatives 4 and 5 S	HE=4'-0" Alternatives 4 and 5 G	HE=4'-0" Alternative 6 ⓒ S	HE=4'-0" Alternative 6 ⓒ G	H
6'	7'-6"	16'-0"					5'-0"	16'-0"					6'
8'	7'-0"	16'-0"	6'-9"	16'-0"			4'-9"	16'-0"	4'-6"	16'-0"			8'
10'	6'-3"	16'-0"	6'-0"	16'-0"			4'-6"	16'-0"	4'-3"	16'-0"			10'
12'	5'-9"	16'-0"	5'-6"	16'-0"	4'-9"	16'-0"	4'-3"	16'-0"	4'-0"	16'-0"	3'-6"	16'-0"	12'
14'	5'-3"	16'-0"	5'-0"	16'-0"	4'-3"	16'-0"	4'-0"	16'-0"	3'-9"	16'-0"	3'-3"	16'-0"	14'
16'	4'-9"	16'-0"	4'-6"	16'-0"	3'-9"	16'-0"	3'-6"	16'-0"	3'-6"	16'-0"	3'-0"	16'-0"	16'

ⓒ See "Detail U" for pile spacing limits

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.
04	SCI	87	3.3/5.7	160

REGISTERED ENGINEER - CIVIL

REGISTERED PROFESSIONAL ENGINEER NELSON MAGSAYSAY No. 42516 Exp. 3-31-92 CIVIL STATE OF CALIFORNIA

8-27-90
PLANS APPROVAL DATE

DESIGN NOTES

DESIGN

UNIFORM BUILDING CODE, 1979 EDITION AND THE BRIDGE DESIGN SPECIFICATIONS.

DESIGN WIND LOAD

10 PSF H LESS THAN 12'
15 PSF H = 12' AND GREATER

DESIGN SEISMIC LOAD

0.3 DEAD LOAD

REINFORCED CONCRETE

f'c = 3,250 PSI
fy = 60,000 PSI

CONCRETE MASONRY

f'm = 1,350 PSI
fm = 450 PSI
fs = 24,000 PSI
n = 22

LOAD FACTORS AND LOAD COMBINATIONS

GROUP A: $\beta D + 1.7 E + 1.7 SC$
GROUP B: $\beta D + 1.7 E + 1.3 W$
GROUP C: $\beta D + 1.3 E + 1.3 EQE$
GROUP D: $\beta D + 1.3 E + 1.3 EQD$
GROUP E: $\beta D + 1.1 E + 1.1 (EQE + EQD)$

WHERE:

β = 1.0 or 1.3, WHICHEVER CONTROLS IN DESIGN
D = DEAD LOAD
E = LATERAL EARTH PRESSURE
SC = LIVE LOAD SURCHARGE
W = WIND LOAD
EQE = SEISMIC EARTH LOAD
EQD = SEISMIC DEAD LOAD (0.3D)

STRENGTH REDUCTION FACTORS, ϕ

REINFORCED CONCRETE:

FOR FLEXURE ..... ϕ = 0.90
FOR SHEAR ..... ϕ = 0.85
FOR AXIAL COMPRESSION ..... ϕ = 0.70

FOUNDATIONS:

FOR SOIL PASSIVE RESISTANCE ..... ϕ = 0.90
FOR SOIL ACTIVE PRESSURE ..... ϕ = 1.00
FOR PILE BEARING LOAD, EXCEPT UNDER EQ..... ϕ = 0.75
FOR PILE BEARING LOAD, UNDER EQ ..... ϕ = 1.00

NOTE 1: BARRIER AND PILES ARE DESIGNED BY THE ULTIMATE STRENG METHOD. CONCRETE MASONRY DESIGNED BY THE WORKING ST METHOD.

NOTE 2: PILE LENGTHS FOR LEVEL GROUND ON BOTH SIDES OF BARRI CASE 1.

THE ALLOWABLE ULTIMATE LATERAL SOIL PRESSURES USED F DETERMINING THE PILE LENGTHS WERE OBTAINED FROM THE LOG-SPIRAL METHOD ASSUMING A COHESIONLESS MATERIAL. ANGLES OF SHEARING RESISTANCE, ϕ, USED WHERE 25° FOR SP = 300 and 35° for SP = 450. THE UNIT WEIGHTS OF USED WERE 110 PCF FOR ϕ = 25° and 120 PCF for ϕ = 35 ISOLATION FACTORS: 1.5 FOR BOTH SIDES.

NOTE 3: PILE LENGTHS FOR LEVEL GROUND ON ONE SIDE OF BARRIER SLOPING GROUND ON THE OPPOSITE SIDE: CASE 2

THE ALLOWABLE ULTIMATE LATERAL SOIL PRESSURES USED F DETERMINING THE PILE LENGTHS WERE OBTAINED FROM THE LOG-SPIRAL METHOD ASSUMING A COHESIONLESS MATERIAL. ANGLE OF SHEARING RESISTANCE, ϕ, IS DETERMINED BY ASSUMING THE SLOPE HAS A FACTOR OF SAFETY OF 1.25 FO STABILITY. THE FOLLOWING VALUES WERE USED: ϕ = 32° SLOPE = 2:1 AND UNIT WEIGHT OF SOIL = 120 PCF. ISOL FACTORS: 1.5 FOR LEVEL SIDE AND 1.0 FOR SLOPE SIDE.

Note I: For details not shown, see "Sound Wall-Masonry Block On Barrier - Details No. 1" sheet

MEDIUM WEIGHT MASONRY

GUADALUPE CORRIDOR

WILLOW STREET SOUND WALL

SOUND WALL - MASONRY BLOCK ON BAR

DETAILS NO. 2

STANDARD DRAWING

FILE No. XS-3-57.2
DRAWING DATE 11/88
DESIGN By
DETAILS By
SUBMITTED BY
Checked
Approval Recommended By
Date of Approval
REGISTERED CIVIL ENGINEER NUMBER 8198

⚠ Vertical steel is doubled.
⚠ Vertical steel each side of joint

State of CALIFORNIA DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES STRUCTURE DESIGN 10

BRIDGE NO. SW-2
POST MILE 3.3

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 04
EA 487041

Disregard prints bearing earlier revision dates

REVISION DATES (PRELIMINARY STAGE ONLY)
10/88