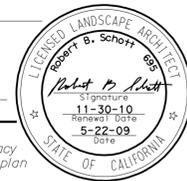
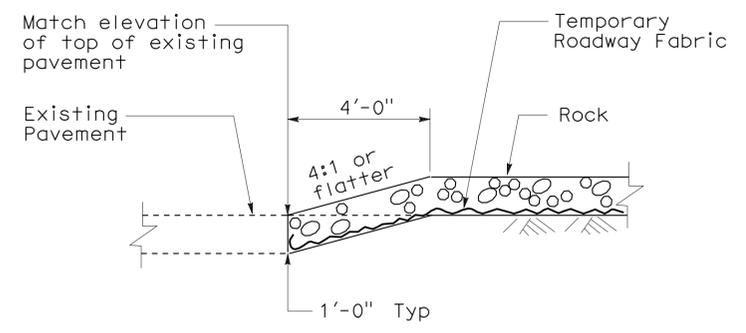


DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Son	101	25.6/29.2	501	615

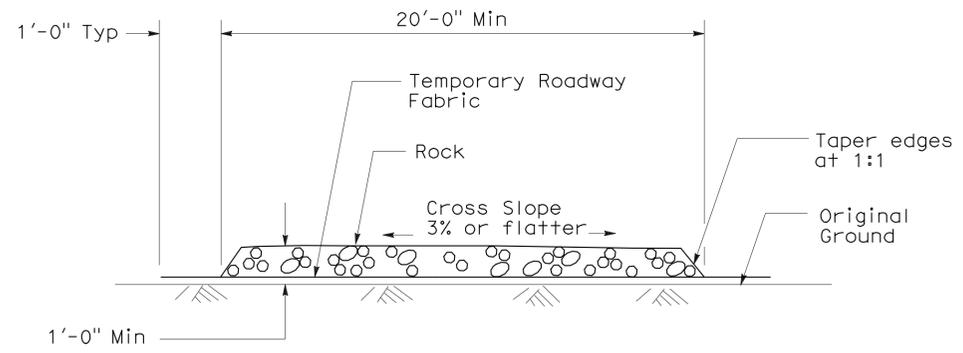
Robert B. Schott
 LICENSED LANDSCAPE ARCHITECT
 June 5, 2009
 PLANS APPROVAL DATE
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



To accompany plans dated 9-10-12



SECTION
CONFORM DETAIL

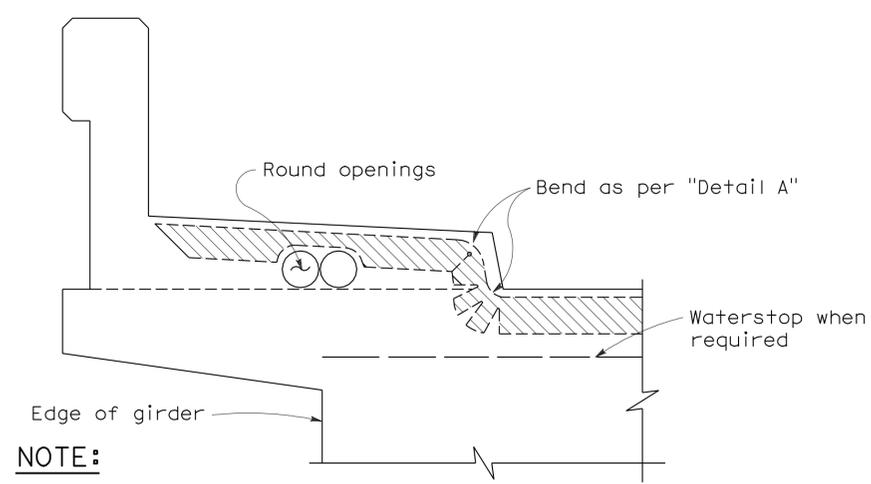


SECTION
TEMPORARY CONSTRUCTION ROADWAY

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**TEMPORARY WATER POLLUTION
CONTROL DETAILS
(TEMPORARY CONSTRUCTION
ROADWAY)**

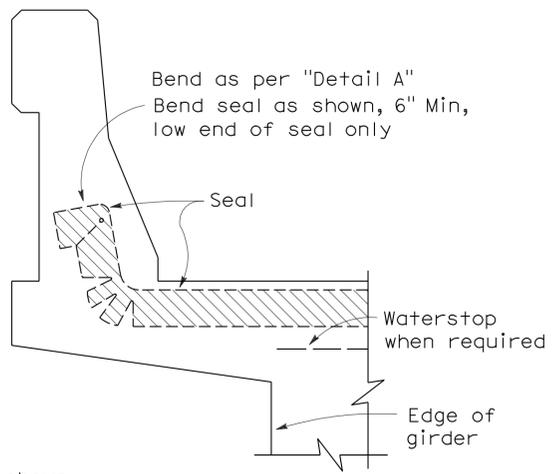
NO SCALE
NSP T67 DATED JUNE 5, 2009 SUPPLEMENTS
THE STANDARD PLANS BOOK DATED MAY 2006.

2006 NEW STANDARD PLAN NSP T67

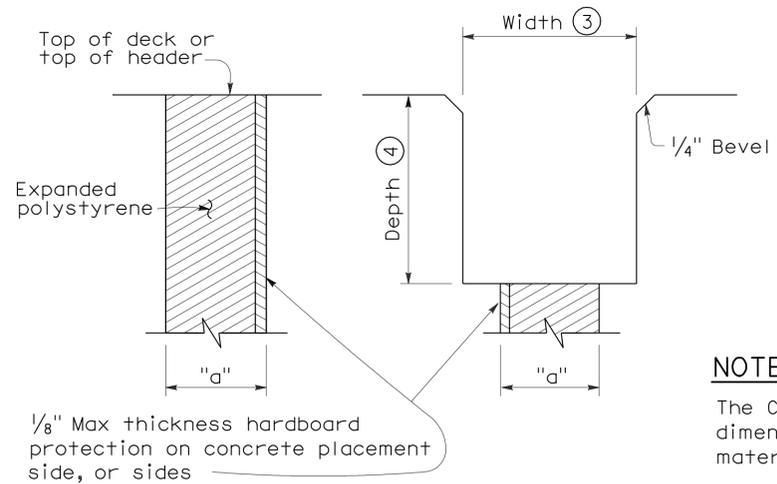


NOTE:
 Type "B" seal shown. Type "A" seals to conform to the general path of seal shown, cuts for bending not required. Bend Type "A" seals 3" up into curb or barrier rail on only the low end of the seal.

CONCRETE BARRIER AND SIDEWALK



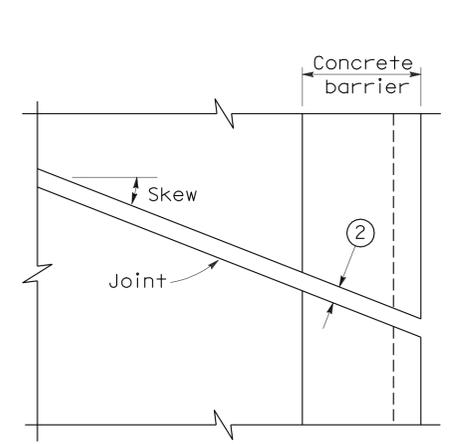
CONCRETE BARRIER



FORMING DETAIL SAWCUT DETAIL

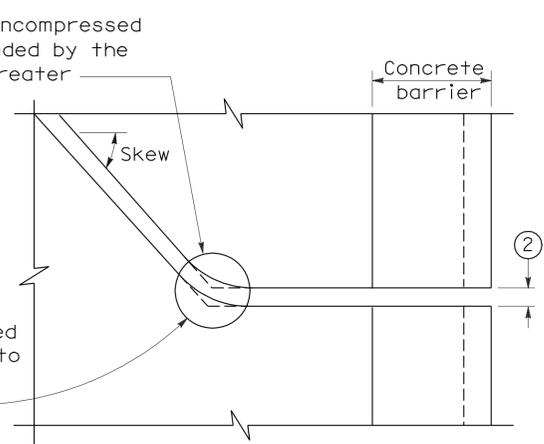
NOTE:
 The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

JOINT SEALS DETAILS



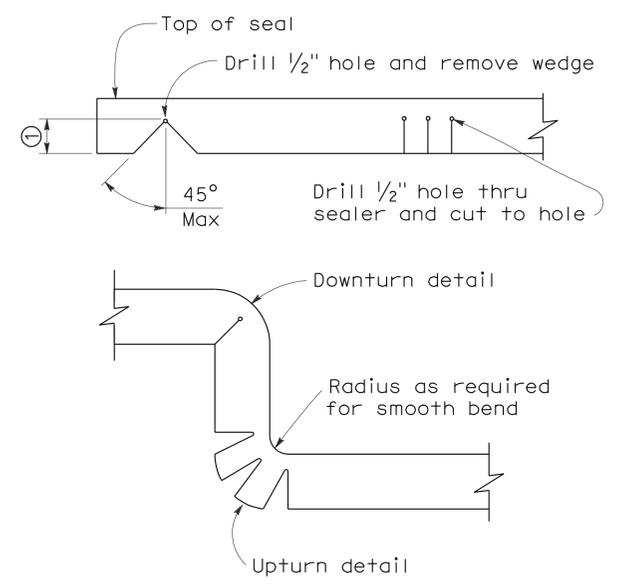
PLAN OF JOINT (SKEW ≤ 20°)

Min ϕ radius to be 4 times uncompressed width of seal or as recommended by the manufacturer, whichever is greater



PLAN OF JOINT (SKEW > 20°)

In lieu of saw cutting, this area may be blocked out and reconstructed to match saw cutting on both sides.

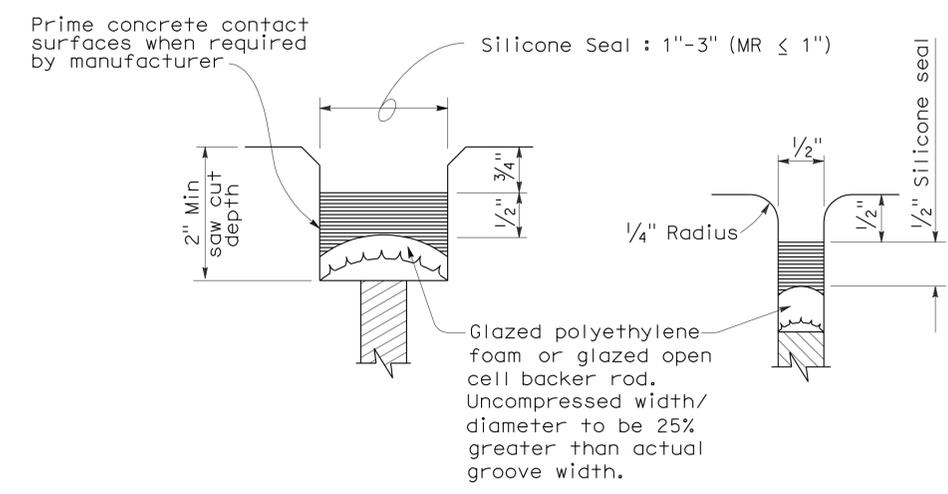


DETAIL A

- NOTES:**
- Make smooth cuts from the bottom of seal to 1 1/2" clear of top leaving at least one complete cell between the top of the cut and top of the seal. When necessary cut back of seal to clear conduit and round openings.
 - Opening in barrier to match width of sawn deck joint.
 - Sawcut groove widths shall be as ordered by the Engineer.
 - Depth of sawcut: Type A - Depth to be 2" minimum.
 Type B - Depth to be equal to or greater than the depth of seal measured along the contact surface, when compressed to minimum width position (W₂) plus dimensions shown.
 - MR (movement rating) as shown on other plan sheets.
 - Other depths must be approved by the Engineer.

DIMENSIONS "a" OF JOINT REQUIRED

Movement Rating (MR) ⑤	Bridge Type	"a" Dimension		
		Deck Concrete Placed		
		Winter	Fall-Spring	Summer
2"	All except CIP/PS	1 1/2"	1 1/4"	3/4"
	CIP/PS	1 1/4"	1"	1/2"
1 1/2"	All except CIP/PS	1 1/4"	1"	1/2"
	CIP/PS	1"	3/4"	1/2"
1"	All except CIP/PS	1"	3/4"	1/2"
	CIP/PS	3/4"	1/2"	1/2"
1/2"	All except CIP/PS	3/4"	3/4"	1/2"
	CIP/PS	1/2"	1/2"	1/2"

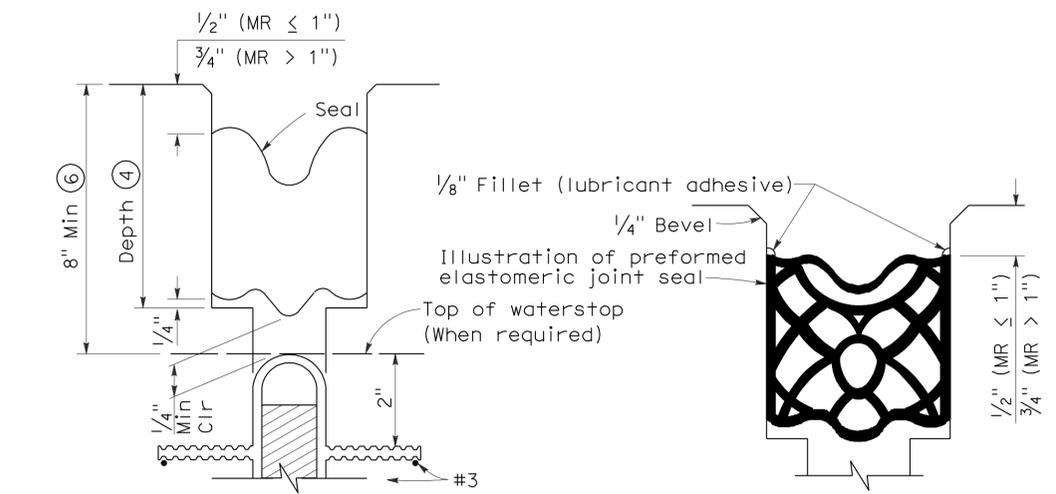


TYPE A SEAL

Movement rating : Silicone = 1" Max

TYPE AL SEAL

Longitudinal joints only



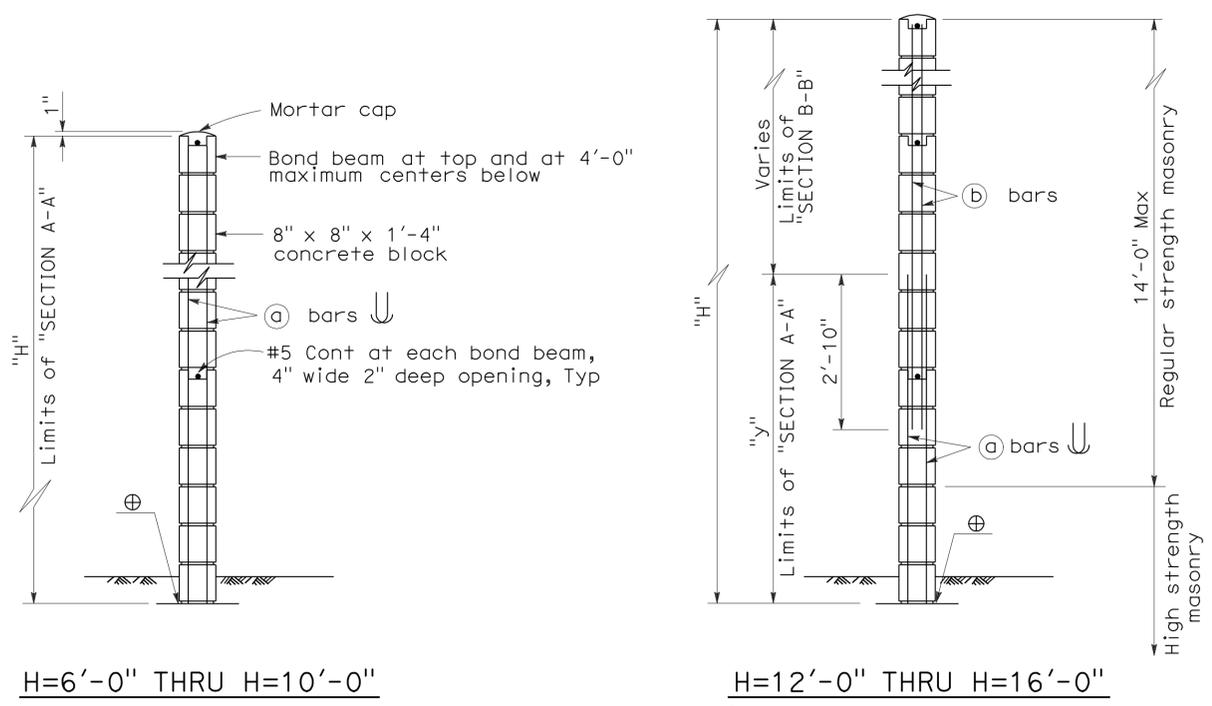
TYPE B JOINT SEAL IN MINIMUM WIDTH POSITION (W₂)

TYPE B SEAL

Movement Rating ≤ 2"

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
JOINT SEALS
(MAXIMUM MOVEMENT RATING = 2")
 NO SCALE

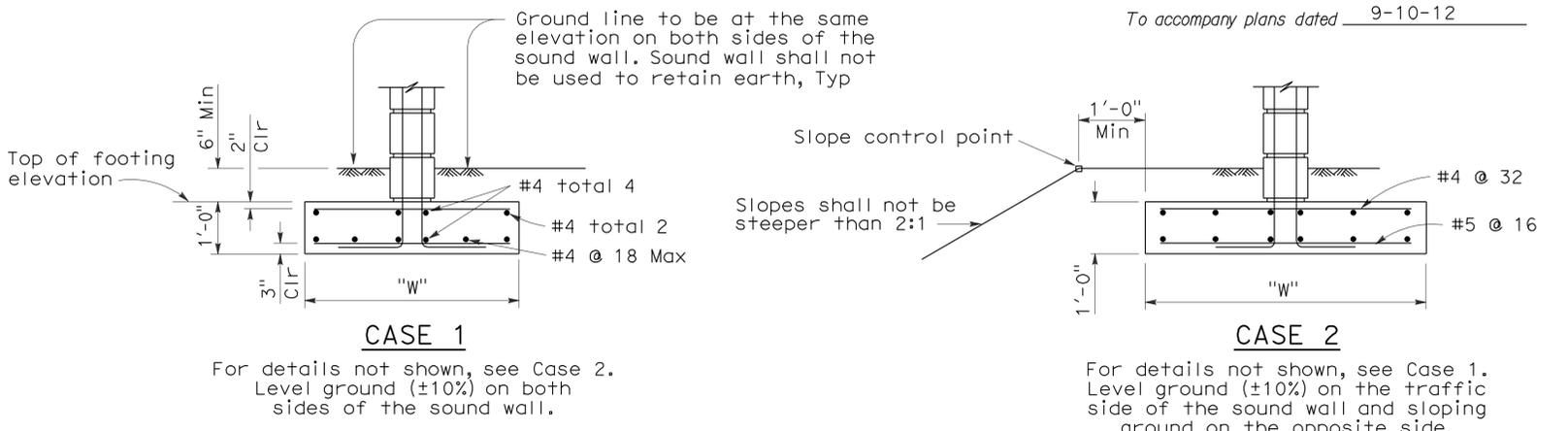
RSP B6-21 DATED OCTOBER 5, 2007 SUPERSEDES STANDARD PLAN B6-21 DATED MAY 1, 2006 - PAGE 258 OF THE STANDARD PLANS BOOK DATED MAY 2006.



H=6'-0" THRU H=10'-0"
H=12'-0" THRU H=16'-0"
 For details not shown, see H=6'-0" thru H=10'-0".

TYPICAL SECTION

⊕ Full mortar bed at bottom of wall



SPREAD FOOTING SECTION

TRENCH FOOTING

Maximum H	CASE 1			CASE 2		Maximum H
	∅ = 25 Min	∅ = 30 Min	∅ = 35 Min	∅ = 30 Min	∅ = 35 Min	
6'-0"	5'-0"	4'-3"	3'-6"	6'-6"	5'-0"	6'-0"
8'-0"	6'-0"	5'-0"	4'-3"	7'-9"	6'-0"	8'-0"
10'-0"	6'-9"	5'-9"	5'-0"	8'-9"	6'-9"	10'-0"
12'-0"	7'-9"	6'-6"	5'-6"	9'-9"	7'-9"	12'-0"
14'-0"	8'-6"	7'-3"	6'-0"	10'-9"	8'-6"	14'-0"
16'-0"	9'-3"	7'-9"	6'-6"	11'-9"	9'-3"	16'-0"

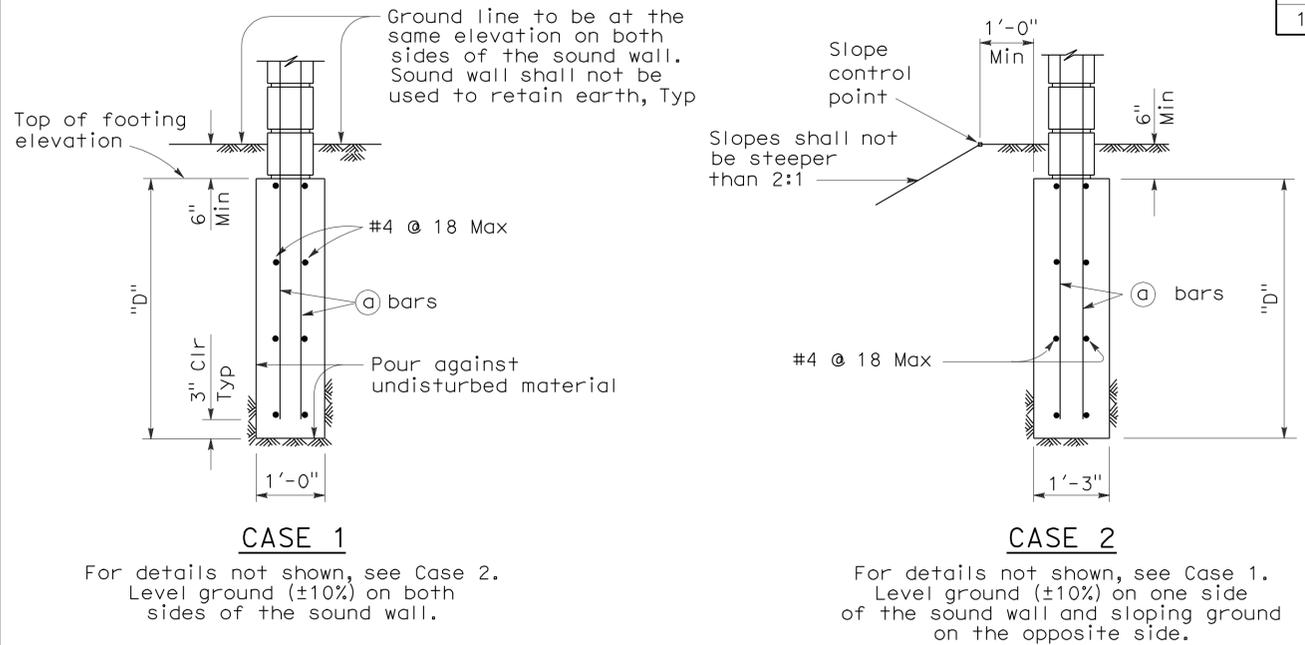
SOUND WALL REINFORCEMENT TABLE

Maximum H	(a) bars @ 1'-4" Max	(b) bars @ 1'-4" Max	"y"	f'm (psi)	Compressive Strength of CMU (psi)	Maximum H
6'-0"	#4	—	—	1500	1900	6'-0"
8'-0"	#4	—	—	1500	1900	8'-0"
10'-0"	#4	—	—	1500	1900	10'-0"
12'-0"	#5	#4	6'-0"	1500	1900	12'-0"
14'-0"	#6	#4	8'-0"	1500	1900	14'-0"
16'-0"	#6	#4	10'-0"	2000	2800	16'-0"

Case 1 - Level ground (±10%) on both sides of the sound wall.
 Case 2 - Level ground (±10%) on traffic side of the sound wall and sloping ground on opposite side.

GENERAL NOTES:

- For type of block and joint finish, see other sheets.
- When blocks are laid in stacked bond, ladder type, galvanized joint reinforcement shall be provided. A minimum of 2-9 gauge wires continuous at 4'-0" maximum to be used. Locate reinforcement in joints that are at the approximate midpoint between bond and beams.
- Horizontal joints shall be tooled concave or may be weathered. Vertical joints shall be tooled concave or may be raked.
- For intermediate wall heights that are between the "H's" given, use the tabular information for the next higher "H".
- Masonry strengths are listed in the "SOUND WALL REINFORCEMENT TABLE".



TRENCH FOOTING SECTION

SPREAD FOOTING

Maximum H	W
6'-0"	3'-0"
8'-0"	4'-0"
10'-0"	5'-0"
12'-0"	5'-9"
14'-0"	6'-6"
16'-0"	7'-6"

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

SOUND WALL MASONRY BLOCK ON FOOTING DETAILS (1)

NO SCALE

RSP B15-1 DATED OCTOBER 5, 2007 SUPERSEDES STANDARD PLAN B15-1 DATED MAY 1, 2006 - PAGE 291 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP B15-1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	San	101	25.6/29.2	504	615

Douglas J. Dunrud
REGISTERED CIVIL ENGINEER

October 5, 2007
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
Douglas J. Dunrud
No. C47240
Exp. 12-31-07
CIVIL
STATE OF CALIFORNIA

To accompany plans dated 9-10-12

GENERAL NOTES:

- A. For type of block and joint finish, see other sheets.
- B. When blocks are laid in stacked bond, ladder type, galvanized joint reinforcement shall be provided. A minimum of 2-9 gauge wires continuous at 4'-0" maximum to be used. Locate reinforcement in joints that are at the approximate midpoint between bond beams.
- C. Horizontal joints shall be tooled concave or may be weathered. Vertical joints shall be tooled concave or may be raked.
- D. For intermediate wall heights that are between the "H's" given, use the tabular information for the next higher "H".
- E. Masonry strengths are listed in the "SOUND WALL REINFORCEMENT TABLE". See Standard Plan B15-3.

DESIGN NOTES:

DESIGN

Uniform Building Code, 1997 Edition
and the Bridge Design Specifications.

DESIGN WIND LOAD

20 psf

DESIGN SEISMIC LOAD

0.57 Dead load

REINFORCED CONCRETE

f'c = 3.6 ksi
fy = 60 ksi

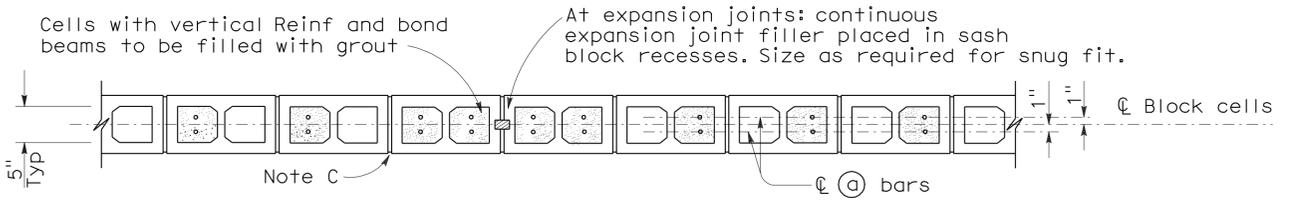
CONCRETE MASONRY

REGULAR STRENGTH

f'm = 1500 psi
fb = 495 psi
fs = 24,000 psi
n = 25.8

HIGH STRENGTH

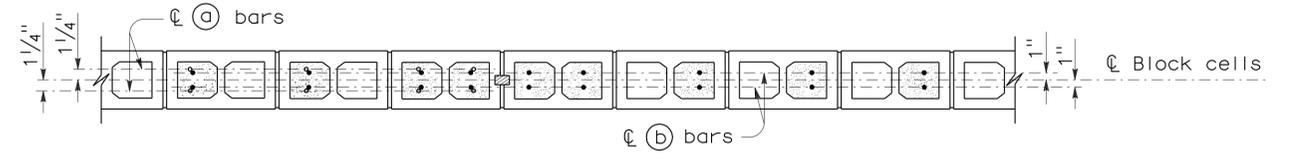
f'm = 2000 psi f'm = 2500 psi
fb = 660 psi fb = 830 psi
fs = 24,000 psi fs = 24,000 psi
n = 19.3 n = 15.5



SECTION A-A

For details not shown, see other sections.

H=6'-0" THRU H=10'-0"



SECTION A-A

For details not shown, see other sections.

H=12'-0" THRU H=16'-0"

SECTION B-B

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**SOUND WALL
MASONRY BLOCK ON PILE CAP
DETAILS (2)**

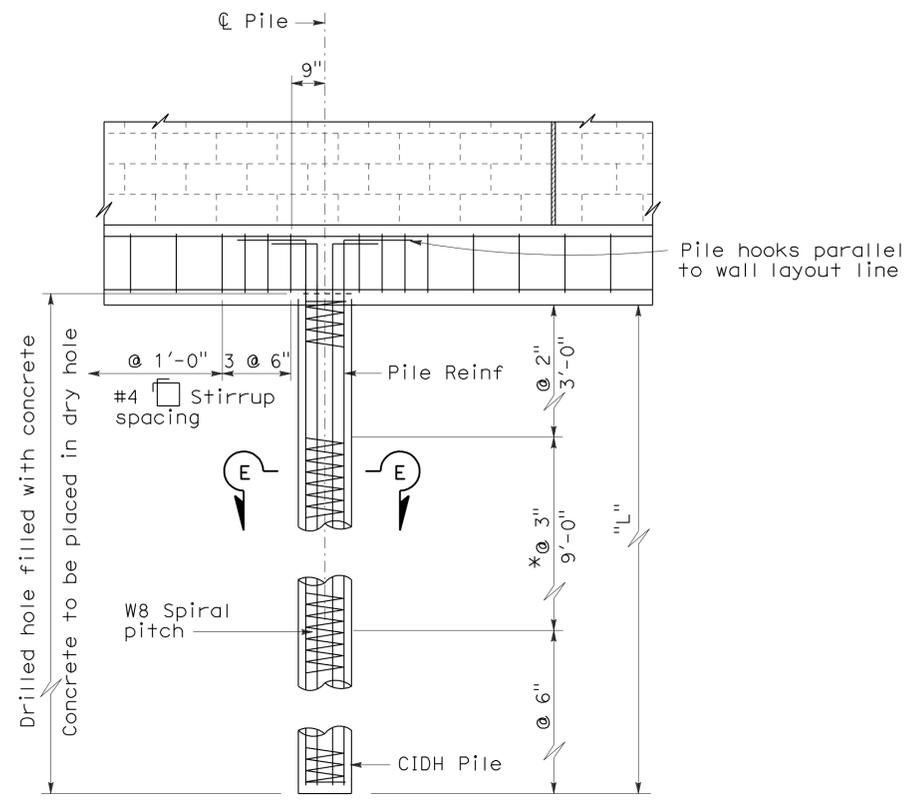
NO SCALE

RSP B15-4 DATED OCTOBER 5, 2007 SUPERSEDES STANDARD PLAN B15-4
DATED MAY 1, 2006 - PAGE 294 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP B15-4

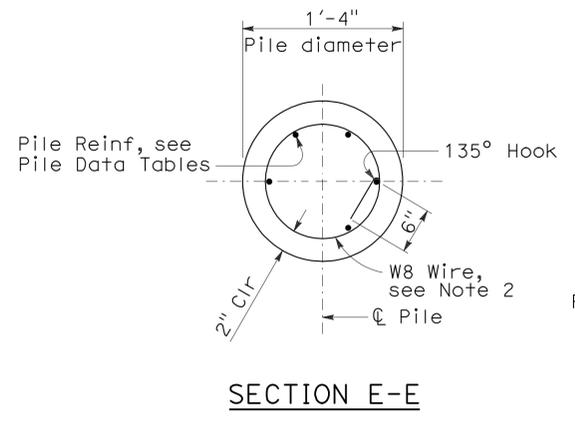
2006 REVISED STANDARD PLAN RSP B15-4

To accompany plans dated 9-10-12

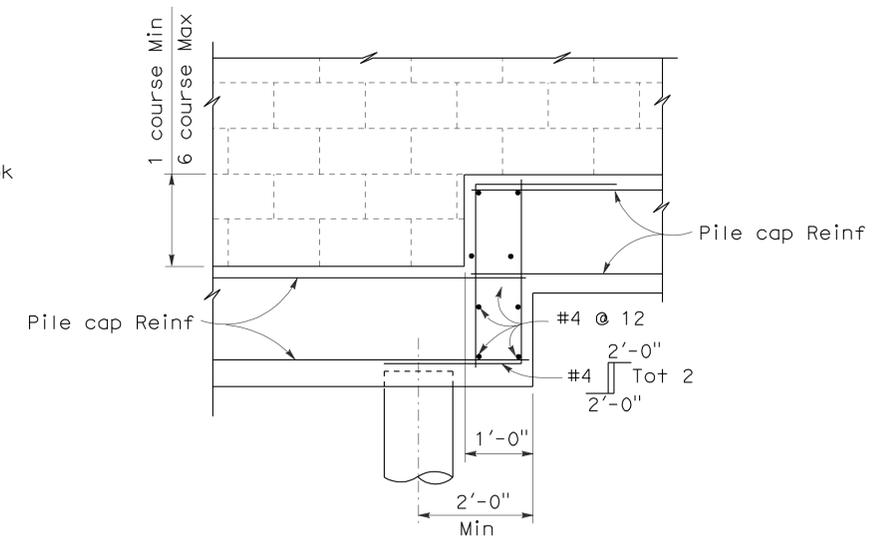


DETAIL D

* @ 2" at option of Contractor



SECTION E-E



PILE CAP STEP DETAIL

NOTES:

1. For details not shown, see Standard Plan B15-3 and Revised Standard Plan RSP B15-4.
2. Lapped splices in spiral reinforcement shall be lapped at least 80 wire diameters. Spiral reinforcement at splices and at ends shall be terminated with a 135° hook with a 6" tail hooked around a longitudinal bar.

Maximum H	ø = 25 Min			ø = 30 Min			ø = 35 Min			Maximum H
	S	L	Pile Reinf	S	L	Pile Reinf	S	L	Pile Reinf	
6'-0"	16'-0"	7'-0"	#6 Tot 6	16'-0"	5'-6"	#6 Tot 6	16'-0"	4'-6"	#6 Tot 6	6'-0"
8'-0"	16'-0"	8'-6"	#6 Tot 7	16'-0"	7'-0"	#6 Tot 7	16'-0"	5'-6"	#6 Tot 7	8'-0"
10'-0"	16'-0"	10'-0"	#7 Tot 6	16'-0"	8'-0"	#7 Tot 6	16'-0"	6'-6"	#7 Tot 6	10'-0"
12'-0"	15'-0"	11'-6"	#8 Tot 7	16'-0"	9'-6"	#8 Tot 7	16'-0"	7'-6"	#8 Tot 7	12'-0"
14'-0"	13'-0"	11'-6"	#8 Tot 7	14'-0"	10'-0"	#8 Tot 7	14'-0"	8'-0"	#8 Tot 7	14'-0"
16'-0"	12'-0"	12'-0"	#8 Tot 7	13'-0"	10'-6"	#8 Tot 7	13'-0"	8'-6"	#8 Tot 7	16'-0"

Case 1 - Level ground (±10%) on both sides of the sound wall.

Maximum H	ø = 30 Min			ø = 35 Min			Maximum H
	S	L	Pile Reinf	S	L	Pile Reinf	
6'-0"	16'-0"	11'-6"	#8 Tot 7	16'-0"	8'-6"	#6 Tot 7	6'-0"
8'-0"	16'-0"	14'-0"	#8 Tot 7	16'-0"	10'-6"	#7 Tot 6	8'-0"
10'-0"	15'-0"	16'-0"	#8 Tot 7	16'-0"	12'-0"	#7 Tot 7	10'-0"
12'-0"	12'-0"	16'-0"	#8 Tot 7	15'-0"	13'-6"	#8 Tot 7	12'-0"
14'-0"	10'-0"	16'-0"	#8 Tot 7	12'-0"	13'-6"	#8 Tot 7	14'-0"
16'-0"	8'-0"	16'-0"	#8 Tot 7	11'-0"	14'-0"	#8 Tot 7	16'-0"

Case 2 - Level ground (±10%) on traffic side of the sound wall and sloping ground on opposite side.

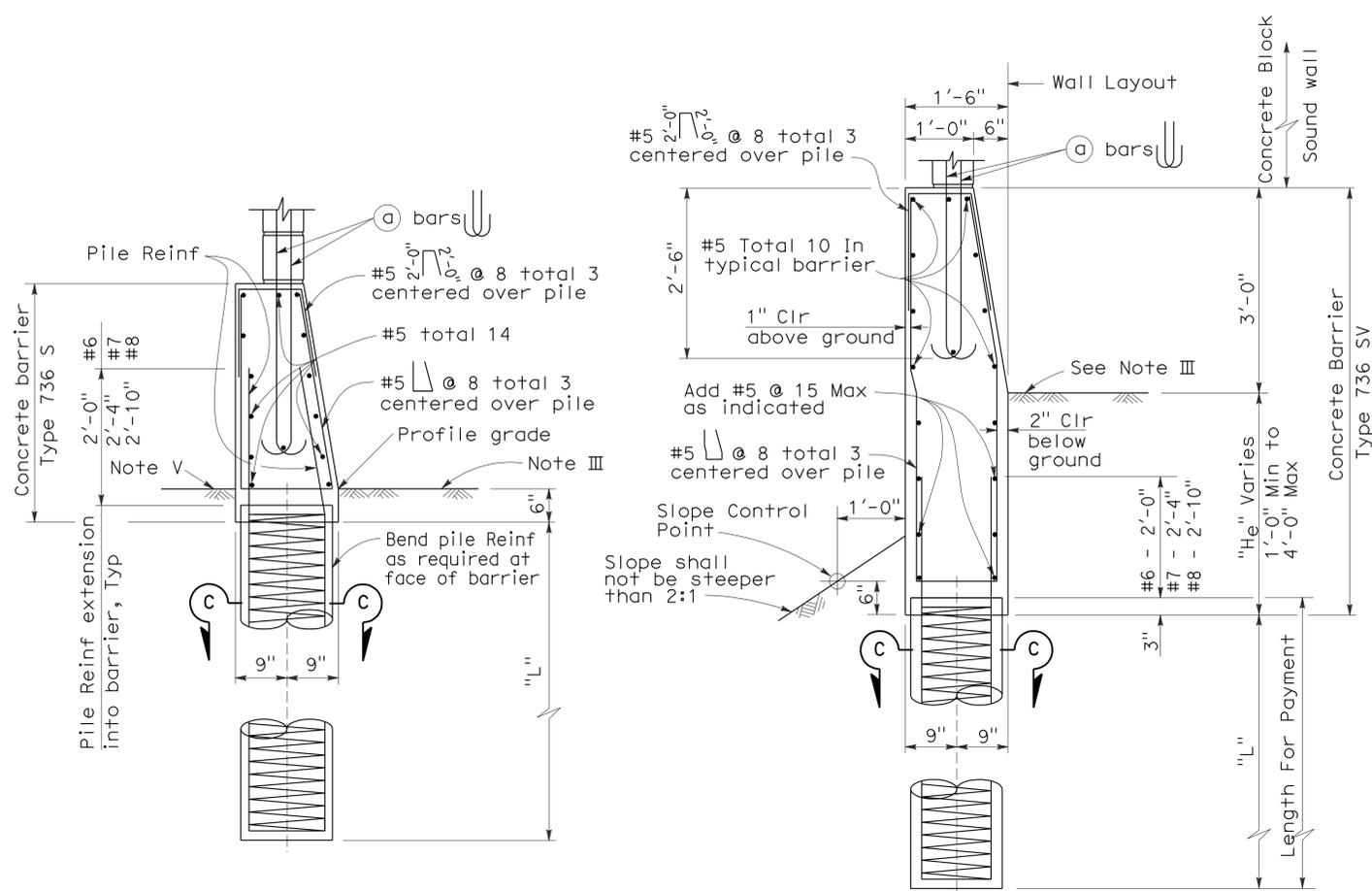
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**SOUND WALL
MASONRY BLOCK ON PILE CAP
DETAILS (3)**

NO SCALE

RSP B15-5 DATED OCTOBER 5, 2007 SUPERSEDES STANDARD PLAN B15-5
DATED MAY 1, 2006 - PAGE 295 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP B15-5



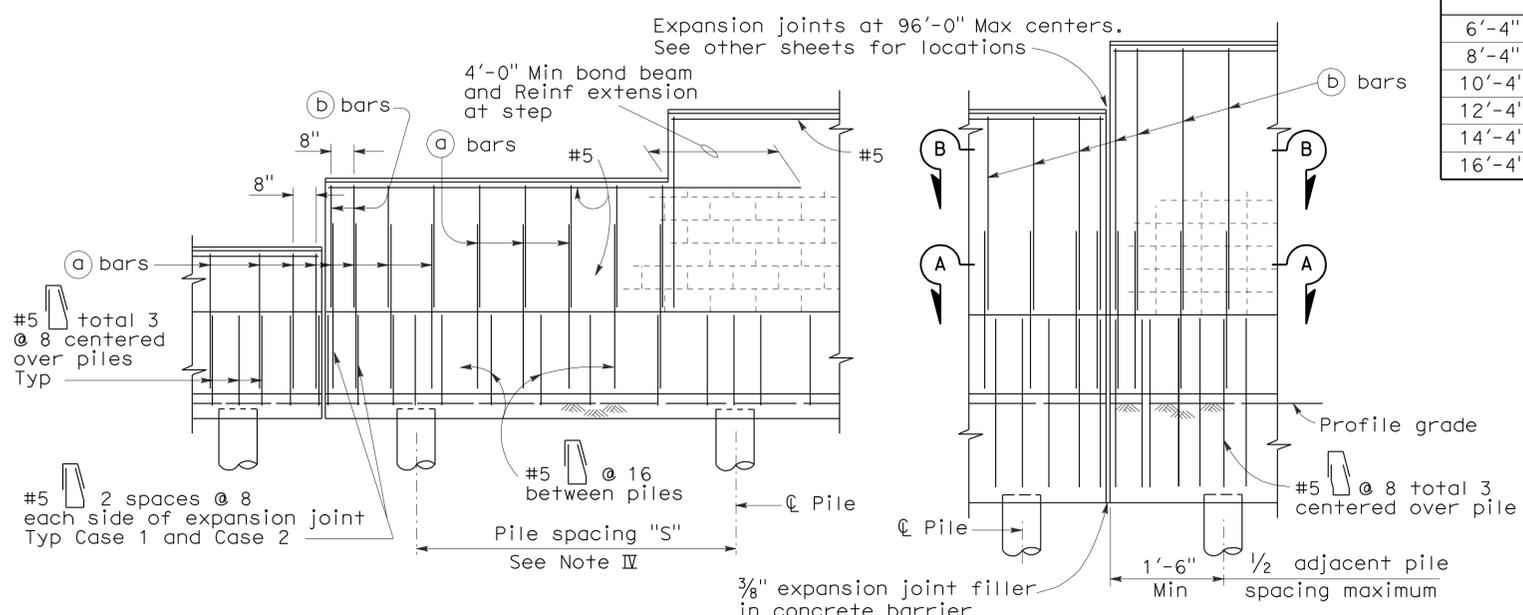
CASE 1

For details not shown, See Case 2.
 Level ground ±10% on both sides of barrier.

CASE 2

For details not shown, See Case 1.
 Level ground ±10% at the traffic side of barrier and sloping ground on the opposite side.

BARRIER SECTIONS



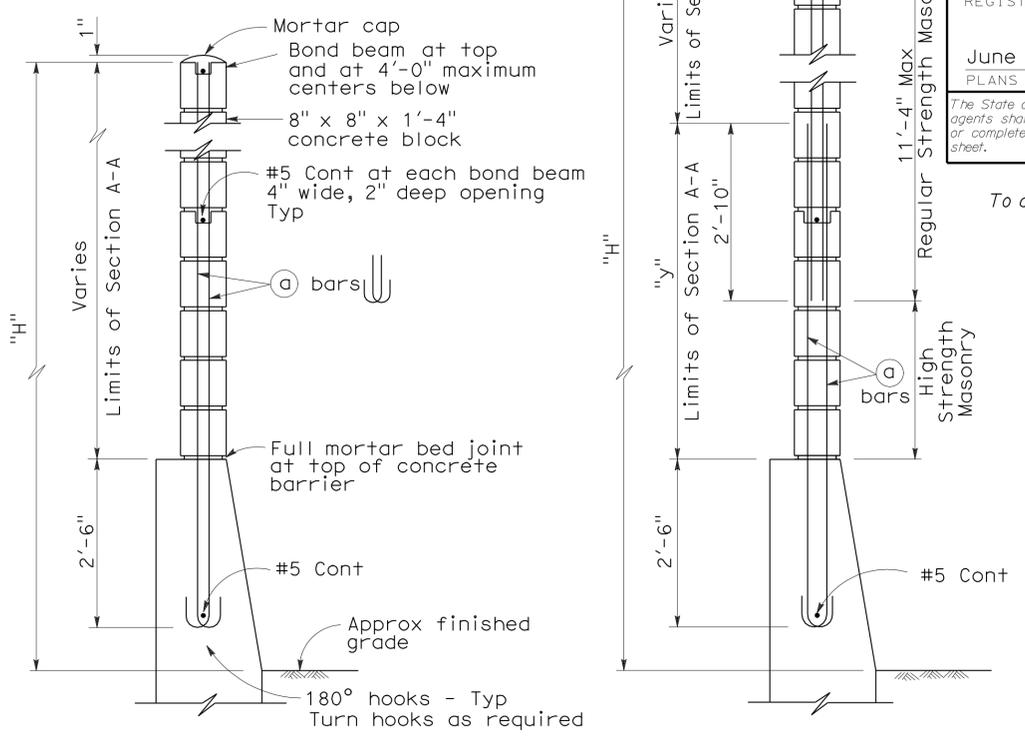
CASE 1

For details not shown, See Case 2.

CASE 2

For details not shown, See Case 1.

PARTIAL ELEVATIONS



H=6'-4" THRU H=10'-4"

H=12'-4" THRU H=16'-4"

For details not shown, see H=6'-4" thru H=10'-4".

TYPICAL SECTIONS

See Revised Standard Plan RSP B15-8 for pile details.

NOTES A THROUGH G:

- A. For type of block, type of block bond, and joint finish, see other sheets.
- B. When blocks are laid in stacked bond, ladder type, galvanized joint reinforcement shall be provided. A minimum of 2-9 gauge wires continuous at 4'-0" maximum to be used. Locate reinforcement in joints that are at the approximate midpoint between bond beams.
- C. Horizontal joints shall be tooled concave or may be weathered. Vertical joints shall be tooled concave or may be raked.
- D. For intermediate wall heights (H), or barrier depths (H_e), that are between the values given, use the tabular information for the next higher (H) or (H_e).
- E. Concrete to be used for the barrier shall contain not less than 590 pounds of cementitious material per cubic yard.
- F. Masonry strengths are listed in the "SOUND WALL REINFORCEMENT TABLE".

SOUND WALL REINFORCEMENT TABLE

Maximum H	(a) bars @ 1'-4" Max	(b) bars @ 1'-4" Max	"y"	f'm (psi)	Compressive Strength of CMU (psi)	H
6'-4"	#4	---	---	1500	1900	6'-4"
8'-4"	#4	---	---	1500	1900	8'-4"
10'-4"	#4	---	---	1500	1900	10'-4"
12'-4"	#5	#4	5'-0"	1500	1900	12'-4"
14'-4"	#6	#4	7'-0"	1500	1900	14'-4"
16'-4"	#6	#4	9'-0"	2500	3750	16'-4"

NOTES I THROUGH VI:

- I. Details shown are primarily to conform design of sound walls to Type 736S and Type 736 SV Concrete Barriers. For sound wall details conforming with barriers see Standard Plan B15-7 and Revised Standard Plan RSP B15-8.
- II. For details and sections not shown, see Standard Plan B15-7 and Revised Standard Plan RSP B15-8.
- III. Slope ground at traffic side of barrier to drain. Maximum slope ±10%. See Std Plan B11-56, Note D.
- IV. Pile spacing may be varied, but shall not exceed the tabular values. See Revised Standard Plan RSP B15-8.
- 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.
- VI. See Standard Plan B15-9 for other details.

SOUND WALL MASONRY BLOCK ON TYPE 736S/SV BARRIER DETAILS (1)

NO SCALE

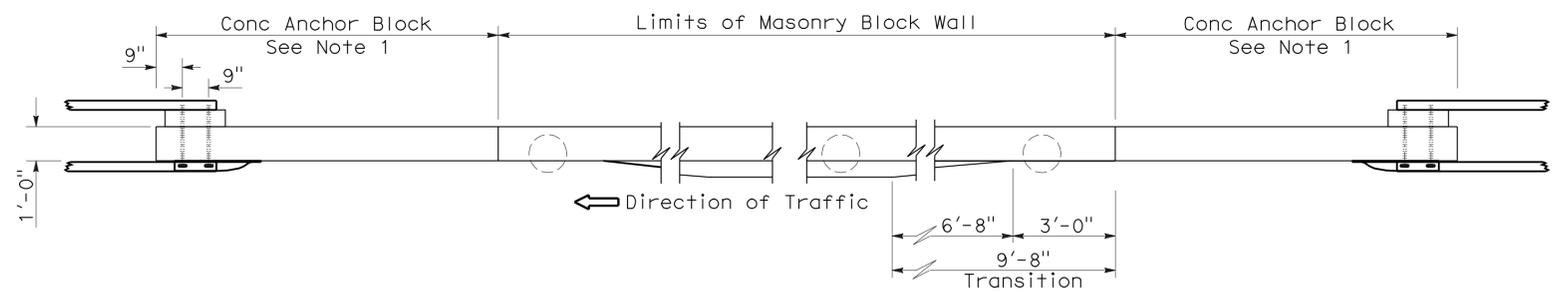
RSP B15-6 DATED JUNE 5, 2009 SUPERSEDES RSP B15-6 DATED OCTOBER 5, 2007 AND STANDARD PLAN B15-6 DATED MAY 1, 2006 - PAGE 296 OF THE STANDARD PLANS BOOK DATED MAY 2006.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Son	101	25.6/29.2	507	615

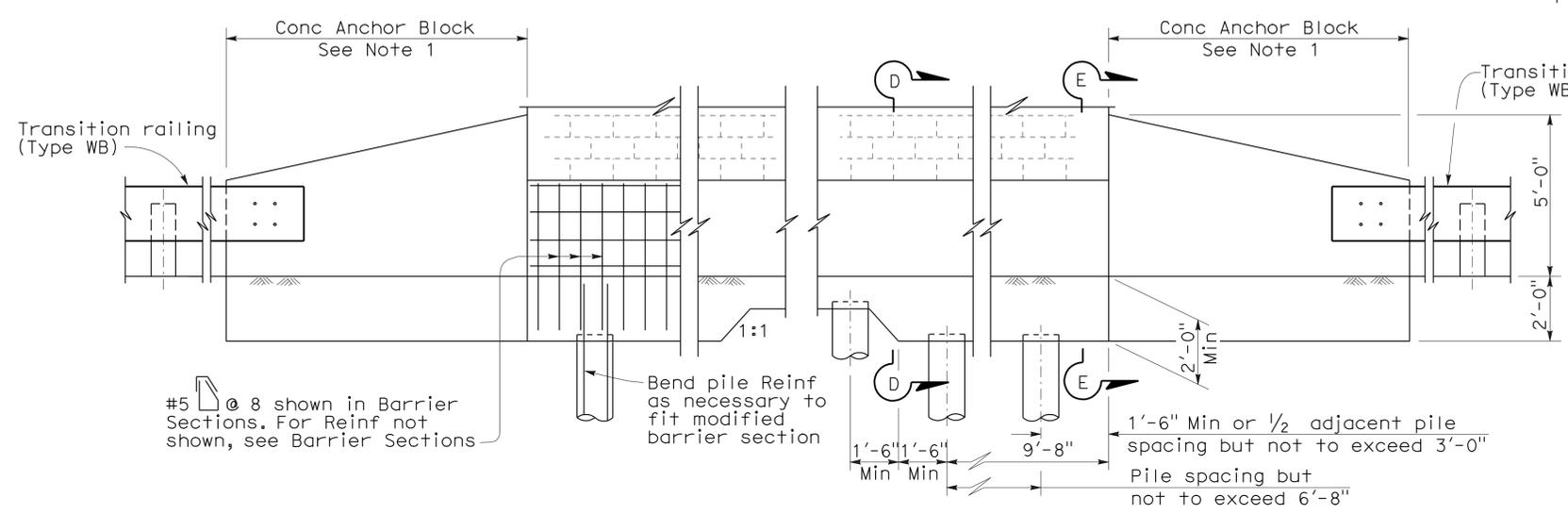
REGISTERED CIVIL ENGINEER
 June 6, 2008
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Tiliat Satter
 No. C42892
 Exp. 03-31-10
 CIVIL
 STATE OF CALIFORNIA

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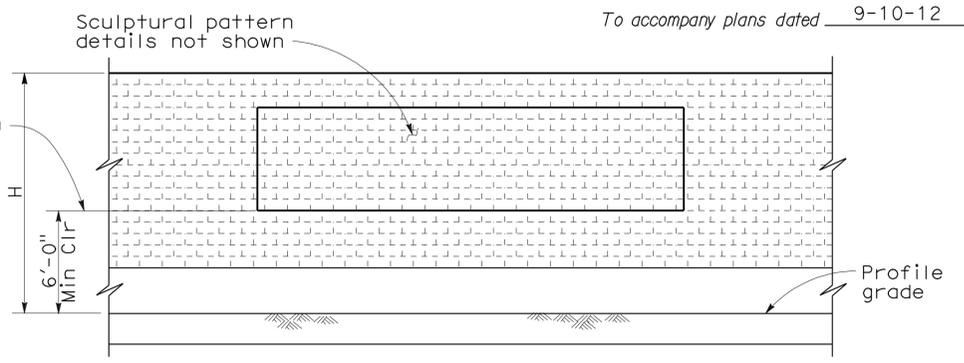
PLAN



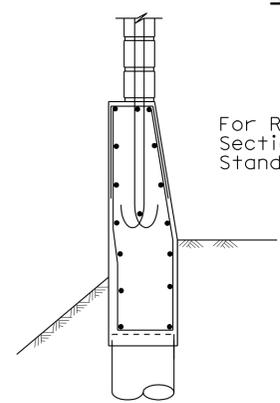
ELEVATION

METAL BEAM GUARDRAIL ANCHORAGE

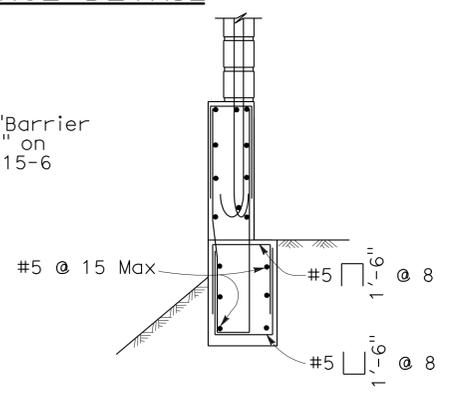
For details not shown, see Standard Plan B11-56.



CLEARANCE DETAIL



SECTION D-D



SECTION E-E

DESIGN NOTES:

DESIGN

Uniform Building Code, 1997 Edition and the Bridge Design Specifications.

DESIGN WIND LOAD

27 psf

DESIGN SEISMIC LOAD

0.57 Dead load

REINFORCED CONCRETE

f'c = 3.6 ksi
 fy = 60 ksi

CONCRETE MASONRY

REGULAR STRENGTH

f'm = 1500 psi
 fb = 495 psi
 fs = 24,000 psi
 n = 25.8

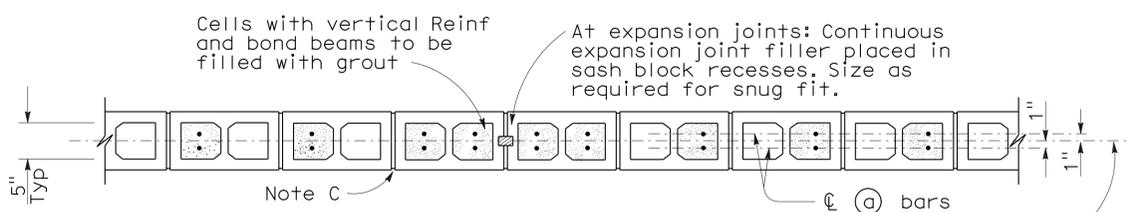
HIGH STRENGTH

f'm = 2000 psi
 fb = 660 psi
 fs = 24,000 psi
 n = 19.3

f'm = 2500 psi
 fb = 830 psi
 fs = 24,000 psi
 n = 15.5

NOTE:

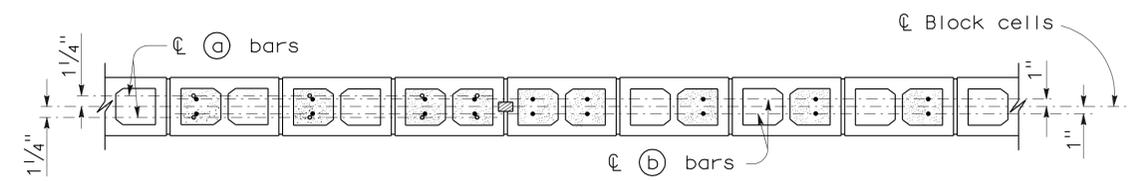
1. For Concrete Anchor Block and connection details, see "Connection Detail DD" on Standard Plan A77J3.



SECTION A-A

For details not shown, see other details.

H=6'-4" THRU H=10'-4"



SECTION A-A

For details not shown, see other details.

H=12'-4" THRU H=16'-4"

SECTION B-B

SOUND WALL MASONRY BLOCK ON TYPE 736S/SV BARRIER DETAILS (2)

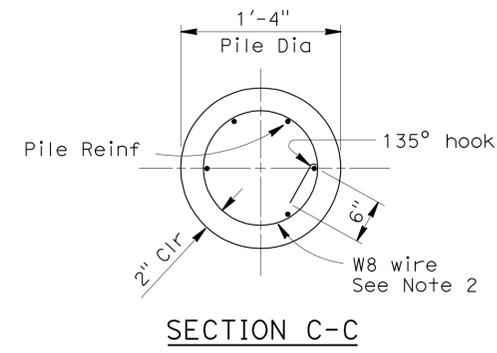
NO SCALE

RSP B15-7 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN B15-7 DATED MAY 1, 2006 - PAGE 297 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP B15-7

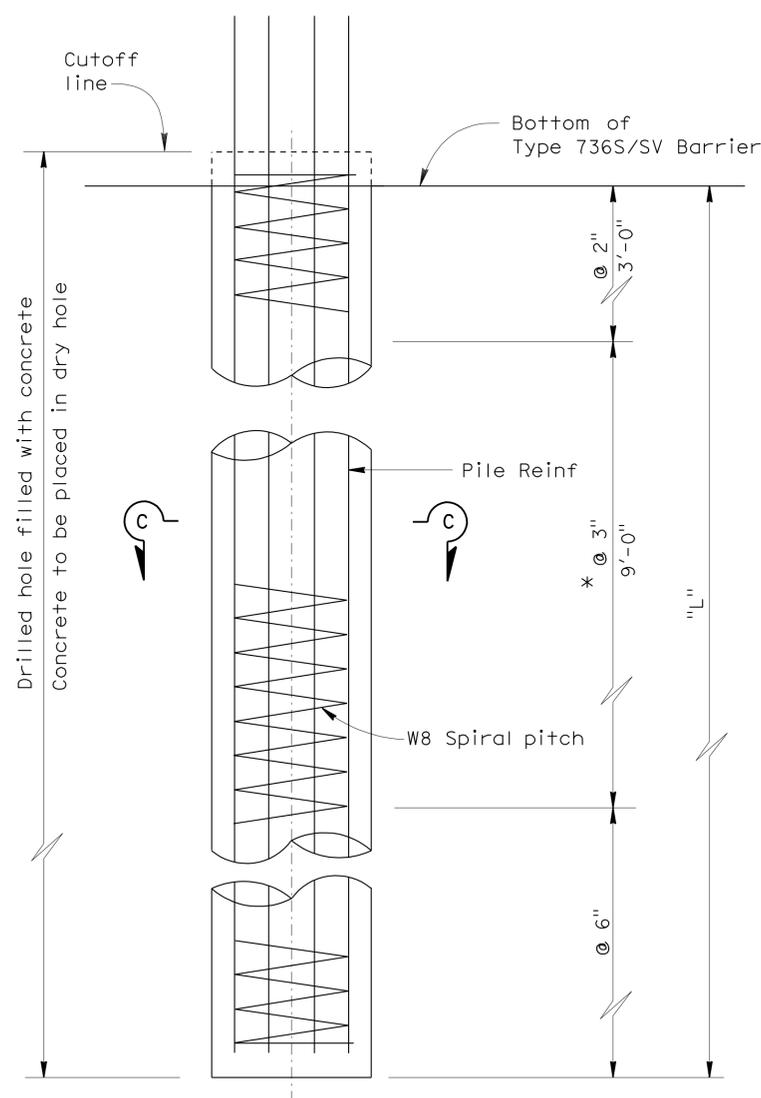
2006 REVISED STANDARD PLAN RSP B15-7

To accompany plans dated 9-10-12



CASE 1: PILE DATA TABLE

Maximum H	ø = 25 Min			ø = 30 Min			ø = 35 Min			Maximum H
	S	L	Pile Reinf	S	L	Pile Reinf	S	L	Pile Reinf	
6'-4"	10'-0"	8'-6"	#6 Tol 6	10'-0"	7'-0"	#6 Tol 6	10'-0"	6'-0"	#6 Tol 6	6'-4"
8'-4"	10'-0"	9'-6"	#6 Tol 6	10'-0"	8'-0"	#6 Tol 6	10'-0"	7'-0"	#6 Tol 6	8'-4"
10'-4"	10'-0"	10'-6"	#6 Tol 6	10'-0"	9'-0"	#6 Tol 6	10'-0"	7'-6"	#6 Tol 6	10'-4"
12'-4"	10'-0"	11'-6"	#7 Tol 6	10'-0"	9'-6"	#7 Tol 6	10'-0"	8'-6"	#6 Tol 6	12'-4"
14'-4"	10'-0"	12'-6"	#7 Tol 7	10'-0"	10'-6"	#7 Tol 7	10'-0"	9'-0"	#7 Tol 7	14'-4"
16'-4"	10'-0"	13'-0"	#8 Tol 7	10'-0"	11'-6"	#8 Tol 7	10'-0"	9'-6"	#7 Tol 7	16'-4"



CASE 2: PILE DATA TABLE

He	Maximum H	ø = 30 Min			ø = 35 Min			Maximum H
		S	L	Pile Reinf	S	L	Pile Reinf	
1'-0"	6'-4"	10'-0"	15'-0"	#7 Tol 6	10'-0"	12'-0"	#6 Tol 6	6'-4"
	8'-4"	9'-9"	16'-0"	#7 Tol 6	10'-0"	13'-0"	#7 Tol 6	8'-4"
	10'-4"	8'-0"	16'-0"	#7 Tol 6	10'-0"	14'-0"	#7 Tol 6	10'-4"
	12'-4"	6'-9"	16'-0"	#7 Tol 6	10'-0"	15'-0"	#8 Tol 7	12'-4"
	14'-4"	5'-9"	16'-0"	#7 Tol 6	9'-6"	15'-6"	#8 Tol 7	14'-4"
2'-0"	6'-4"	8'-3"	16'-0"	#7 Tol 6	10'-0"	13'-6"	#7 Tol 6	6'-4"
	8'-4"	7'-0"	16'-0"	#7 Tol 6	10'-0"	14'-6"	#7 Tol 7	8'-4"
	10'-4"	6'-0"	16'-0"	#7 Tol 6	10'-0"	15'-3'	#8 Tol 7	10'-4"
	12'-4"	5'-3"	16'-0"	#7 Tol 6	9'-9"	16'-0"	#8 Tol 7	12'-4"
	14'-4"	4'-6"	16'-0"	#7 Tol 6	8'-4"	16'-0"	#8 Tol 7	14'-4"
3'-0"	6'-4"	6'-0"	16'-0"	#7 Tol 6	10'-0"	15'-3"	#8 Tol 7	6'-4"
	8'-4"	5'-3"	16'-0"	#7 Tol 6	10'-0"	16'-0"	#8 Tol 7	8'-4"
	10'-4"	4'-6"	16'-0"	#7 Tol 6	8'-10"	16'-0"	#8 Tol 7	10'-4"
	12'-4"	4'-0"	16'-0"	#7 Tol 6	7'-10"	16'-0"	#8 Tol 7	12'-4"
	14'-4"	3'-6"	16'-0"	#7 Tol 6	6'-10"	16'-0"	#8 Tol 7	14'-4"
4'-0"	6'-4"	4'-3"	16'-0"	#7 Tol 6	8'-0"	15'-6"	#8 Tol 7	6'-4"
	8'-4"	3'-10"	16'-0"	#7 Tol 6	7'-4"	15'-9"	#8 Tol 7	8'-4"
	10'-4"	3'-6"	16'-0"	#7 Tol 6	6'-10"	16'-0"	#8 Tol 7	10'-4"
	12'-4"	3'-2"	16'-0"	#7 Tol 6	6'-3"	16'-0"	#8 Tol 7	12'-4"
	14'-4"	3'-0"	16'-3"	#7 Tol 6	5'-8"	16'-0"	#8 Tol 7	14'-4"
16'-4"	2'-10"	16'-6"	#7 Tol 6	5'-0"	16'-0"	#8 Tol 7	16'-4"	

NOTES:

- For details not shown, see Revised Standard Plan RSP B15-6 and Standard Plan B15-7.
- Lapped splices in spiral reinforcement shall be lapped at least 80 wire diameters. Spiral reinforcement at splices and at ends shall be terminated with a 135° hook with a 6" tail hooked around a longitudinal bar.

* @ 2" at option of Contractor.

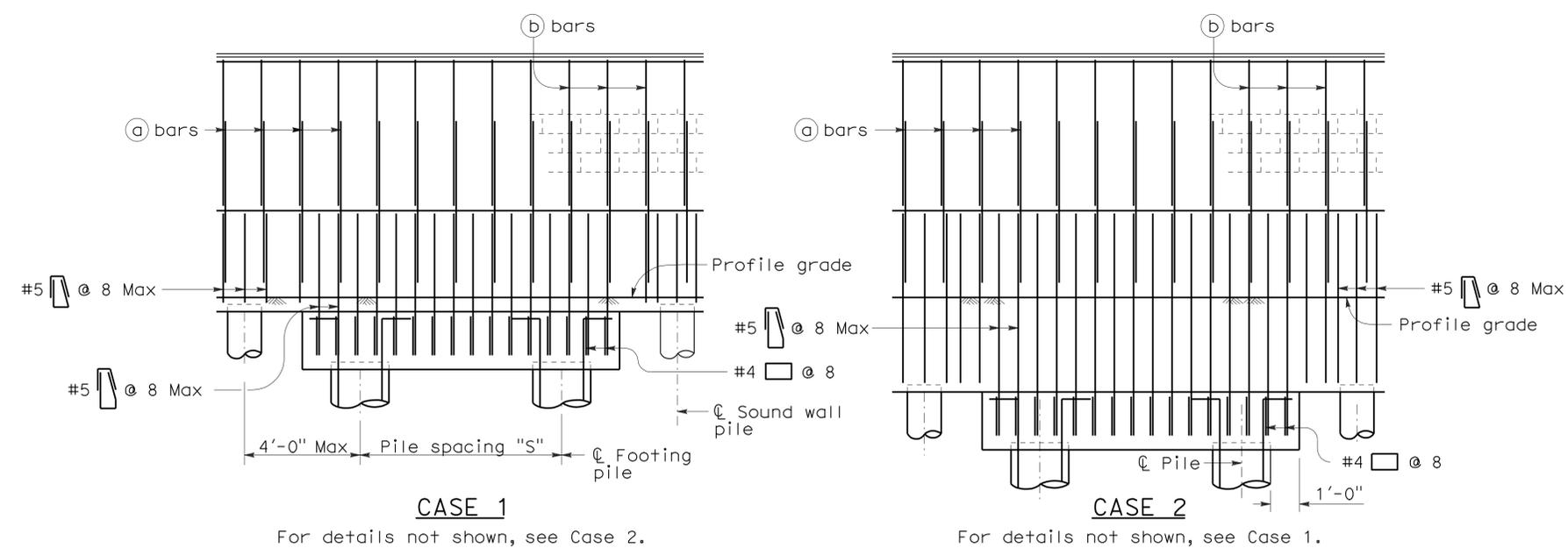
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**SOUND WALL MASONRY BLOCK
 ON TYPE 736S/SV BARRIER
 DETAILS (3)**

NO SCALE

RSP B15-8 DATED OCTOBER 5, 2007 SUPERSEDES STANDARD PLAN B15-8
 DATED MAY 1, 2006 - PAGE 298 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP B15-8

To accompany plans dated 9-10-12



CASE 1
For details not shown, see Case 2.

CASE 2
For details not shown, see Case 1.

PART ELEVATIONS

DESIGN NOTES:

DESIGN

Uniform Building Code, 1997 Edition and the Bridge Design Specifications.

DESIGN WIND LOAD

27 psf

DESIGN SEISMIC LOAD

0.57 Dead load

REINFORCED CONCRETE

f'c = 3.6 ksi
fy = 60 ksi

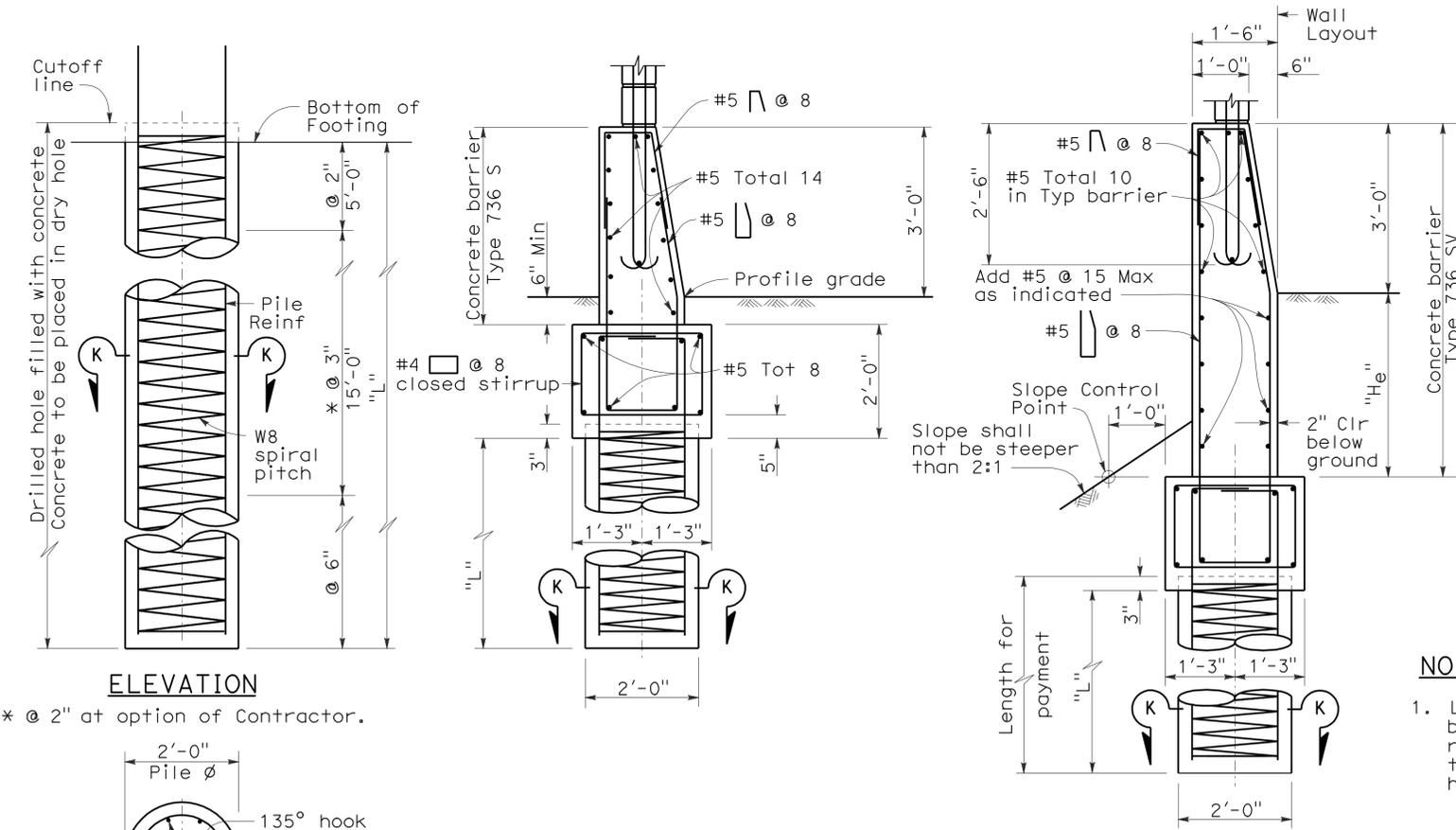
CONCRETE MASONRY

REGULAR STRENGTH

f'm = 1500 psi
fb = 495 psi
fs = 24,000 psi
n = 25.8

HIGH STRENGTH

f'm = 2000 psi
fb = 660 psi
fs = 24,000 psi
n = 19.3



CASE 1
Level ground ±10% on both sides of barrier. For details not shown, see Case 2.

CASE 2
Level ground ±10% at the traffic side of barrier and sloping ground on the opposite side. For details now shown, see Case 1.

BARRIER SECTIONS

CASE 1 : PILE DATA TABLE

Maximum H	ø = 25		ø = 30		ø = 35		Maximum H
	S	L	S	L	S	L	
6'-4"	16'-0"	8'-6"	16'-0"	7'-6"	16'-0"	6'-0"	6'-4"
8'-4"	16'-0"	9'-6"	16'-0"	8'-0"	16'-0"	7'-0"	8'-4"
10'-4"	16'-0"	10'-6"	16'-0"	9'-0"	16'-0"	7'-6"	10'-4"
12'-4"	16'-0"	11'-6"	16'-0"	10'-0"	16'-0"	8'-6"	12'-4"
14'-4"	16'-0"	12'-6"	16'-0"	11'-0"	16'-0"	9'-0"	14'-4"
16'-4"	16'-0"	13'-6"	16'-0"	11'-6"	16'-0"	10'-0"	16'-4"

CASE 2 : PILE DATA TABLE

He	H	ø = 30 Min		ø = 35 Min		H
		S	L	S	L	
		1'-0"	6'-4"	16'-0"	15'-6"	
1'-0"	8'-4"	16'-0"	17'-0"	16'-0"	13'-6"	8'-4"
	10'-4"	16'-0"	18'-0"	16'-0"	14'-6"	10'-4"
	12'-4"	16'-0"	19'-6"	16'-0"	15'-6"	12'-4"
	14'-4"	16'-0"	20'-6"	16'-0"	16'-6"	14'-4"
	16'-4"	16'-0"	21'-6"	16'-0"	17'-6"	16'-4"
2'-0"	6'-4"	16'-0"	18'-0"	16'-0"	14'-0"	6'-4"
	8'-4"	16'-0"	19'-0"	16'-0"	15'-0"	8'-4"
	10'-4"	16'-0"	20'-0"	16'-0"	16'-0"	10'-4"
	12'-4"	16'-0"	21'-6"	16'-0"	17'-0"	12'-4"
	14'-4"	16'-0"	22'-6"	16'-0"	18'-0"	14'-4"
3'-0"	6'-4"	16'-0"	20'-6"	16'-0"	15'-6"	6'-4"
	8'-4"	16'-0"	21'-6"	16'-0"	16'-6"	8'-4"
	10'-4"	15'-6"	22'-0"	16'-0"	17'-6"	10'-4"
	12'-4"	14'-0"	22'-0"	16'-0"	18'-6"	12'-4"
	14'-4"	13'-0"	22'-6"	15'-6"	19'-0"	14'-4"
4'-0"	6'-4"	12'-0"	22'-6"	14'-0"	19'-0"	16'-4"
	8'-4"	13'-0"	21'-0"	16'-0"	17'-6"	6'-4"
	10'-4"	12'-3"	21'-6"	15'-3"	18'-0"	8'-4"
	12'-4"	11'-6"	21'-6"	14'-3"	18'-6"	10'-4"
	14'-4"	10'-9"	22'-0"	13'-3"	18'-6"	12'-4"

NOTE:

1. Lapped splices in Spiral reinforcement shall be lapped at least 80 wire diameters. Spiral reinforcement at splices and at ends shall be terminated with a 135° hook with a 6" tail hooked around a longitudinal bar.

SOUND WALL MASONRY BLOCK ON TYPE 736S/SV BARRIER ON PILE FOOTING FOR SPANNING UTILITIES

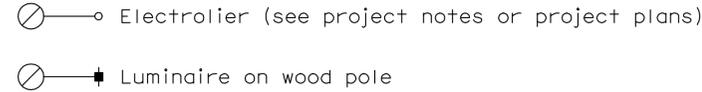
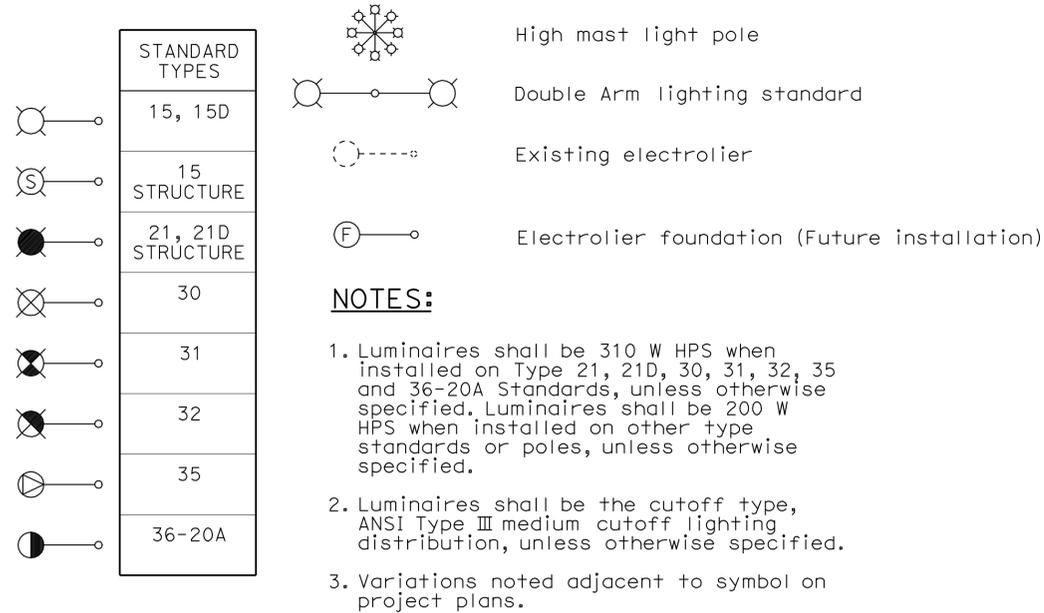
NO SCALE

RSP B15-15 DATED APRIL 3, 2009 SUPERSEDES STANDARD PLAN B15-15 DATED MAY 1, 2006 - PAGE 305 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP B15-15

2006 REVISED STANDARD PLAN RSP B15-15

ELECTROLIERS



STANDARD NOTES:

- AB** Abandon. If applied to conduit, remove conductors.
- BC** Install pull box in existing conduit run.
- BP** Pedestrian barricade, type as indicated on plan.
- CB** Install conduit into existing pull box.
- CC** Connect new and existing conduit. Remove existing conductors and install conductors as indicated.
- CF** Conduit to remain for future use. Remove conductors. Install pull wire or rope.
- DH** Detector handhole.
- FA** Foundation to be abandoned.
- IS** Install sign on signal mast arm.
- NS** No slip base on standard.
- PEC** Photoelectric control.
- PEU** Photoelectric unit.
- RC** Equipment or material to be removed and become the property of the Contractor.
- RE** Remove electrolier, fuses and ballast. Tape ends of conductors.
- RL** Relocate equipment.
- RR** Remove and reuse equipment.
- RS** Remove and salvage equipment.
- SC** Splice new to existing conductors.
- SD** Service disconnect.
- SF** Standard to remain for future use. Remove luminaire, pole conductors, fuses and ballast.
- TSP** Telephone service point.

ABBREVIATIONS AND EQUIPMENT DESIGNATIONS

PROPOSED EXISTING

BBS	bbs	Battery backup system
BC	bc	Bolt circle
C	C	Conduit
CCTV	cctv	Closed circuit television
CKT	ckt	Circuit
CMS	cms	Changeable message sign
DLC	dlc	Loop detector lead-in cable
EMS	ems	Extinguishable message sign
EVC	evc	Emergency vehicle cable
EVD	evd	Emergency vehicle detector
FB	fb	Flashing beacon
FBCA	fbca	Flashing beacon control assembly
FBS	fbs	Flashing beacon with slip base
FO	fo	Fiber optic
G	G	Ground (Equipment Grounding Conductor)
GFCI	GFCI	Ground fault circuit interrupt
HAR	har	Highway advisory radio
HEX	hex	Hexagonal
HPS	hps	High pressure sodium
IISNS	iisns	Internally illuminated street name sign
ISL	isl	Induction sign lighting
LED	led	Light emitting diode
LMA	lma	Luminaire mast arm
LPS	lps	Low pressure sodium
LTG	ltg	Lighting
LUM	lum	Luminaire
MAT	mat	Mast arm mounting vehicle signal faces, top attachment
MAS	mas	Mast arm mounting vehicle signal faces, side attachment
MAS-4A	mas-4A	Mast arm mounting vehicle signal faces, side attachment - 4 signal section
MAS-4B	mas-4B	
MAS-4C	mas-4C	
MAS-5A	mas-5A	Mast arm mounting vehicle signal faces, side attachment - 5 signal section
MAS-5B	mas-5B	
MC	mc	Mercury contactor
M/M	m/m	Multiple to multiple transformer
MT	mt	Conduit with pull wire or rope only
MTG	mtg	Mounting
	mv	Mercury vapor lighting fixture
N	N	Neutral (Grounded Conductor)
NC	NC	Normally closed
NO	NO	Normally open
PB	pb	Pull box
PEC	pec	Photoelectric control (Type I, II, III, IV or V as shown)
PED	ped	Pedestrian
PEU	peu	Photoelectric unit
PPB	ppb	Pedestrian push button
RL		Relocated equipment
RM	rm	Ramp metering
SB	sb	Slip base
SIC	sic	Signal interconnect cable
SIG	sig	Signal
SMA	sma	Signal mast arm
SNS	sns	Street name sign
SP	sp	Service point
TDC	tdc	Telephone demarcation cabinet
TMS	tms	Traffic monitoring station
TOS	tos	Traffic Operations System
VEH	veh	Vehicle
XFMR	xfmr	Transformer
COMM	comm	Communication
RWIS	rwis	Roadway weather information system

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Son	101	25.6/29.2	510	615

Jeffery G. McRae
REGISTERED ELECTRICAL ENGINEER

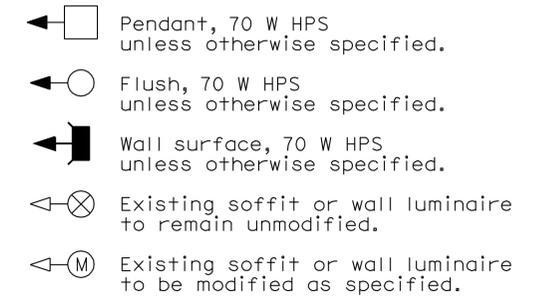
October 5, 2007
PLANS APPROVAL DATE

Jeffery G. McRae
No. E14512
Exp. 6-30-08
ELECTRICAL
STATE OF CALIFORNIA

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To accompany plans dated 9-10-12

SOFFIT AND WALL MOUNTED LUMINAIRES



NOTE:

Arrow indicates "street side" of luminaire.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SYMBOLS AND ABBREVIATIONS)

NO SCALE

RSP ES-1A DATED OCTOBER 5, 2007 SUPERSEDES STANDARD PLAN ES-1A DATED MAY 1, 2006 - PAGE 400 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-1A

2006 REVISED STANDARD PLAN RSP ES-1A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Son	101	25.6/29.2	511	615

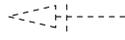
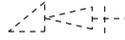
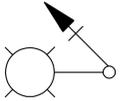
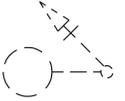
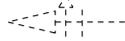
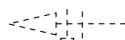
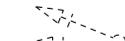
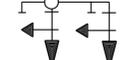
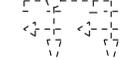
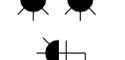
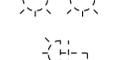
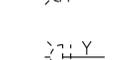
Jeffrey G. McRae
 REGISTERED ELECTRICAL ENGINEER
 October 5, 2007
 PLANS APPROVAL DATE
 Jeffrey G. McRae
 No. E14512
 Exp. 6-30-08
 ELECTRICAL
 STATE OF CALIFORNIA

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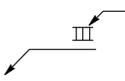
CONDUIT

PROPOSED	EXISTING	
---	---	Lighting Conduit, unless otherwise indicated or noted
---	---	Traffic signal conduit
-C-	-c-	Communication conduit
-T-	-t-	Telephone conduit
-F-	-f-	Fire alarm conduit
-FO-	-fo-	Fiber optic conduit
---	---	Conduit termination 
		Conduit riser in/on structure or service pole

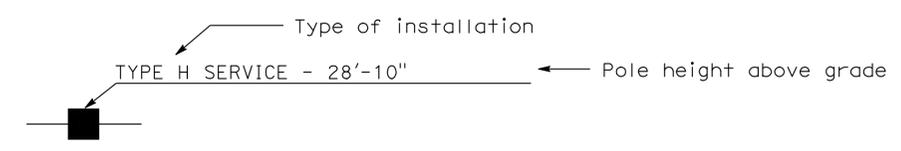
SIGNAL EQUIPMENT

PROPOSED	EXISTING	
		Pedestrian signal face
		Pedestrian push button post
		Pedestrian barricade
		Vehicle signal face (with backplate, 3-Section: red, yellow and green)
		Vehicle signal face with angle visors
		Modifications of basic symbols: "L" indicates all non-arrow sections louvered "LG" indicates louvered green section only "PV" indicates 12" programmed visibility sections "8" indicates all 8" sections (only when specified)
		Type 15TS and Vehicle signal face
		Vehicle signal face with red, yellow and green left arrow sections
		Vehicle signal face with red and yellow sections and up green arrow
		Vehicle signal face (5 Section) with red, yellow and green sections and yellow and green right arrows
		Type 1 Standard and attached vehicle signal faces
		Standard with signal mast arm only and attached vehicle signal faces and internally illuminated street name sign
		Type 33 Standard, Left-turn vehicle signal face and sign
		Standard with luminaire and signal mast arms and attached vehicle signal faces
		Cantilever flashing beacon Type 9 Frame, with a sign unless otherwise specified or indicated
		Type 15-FBS Standard with two vehicle signal face sections with lens, backplate and visor with a sign
		Flashing beacon. One vehicle signal face section with lens, backplate and visor. "R" indicates red indication, "Y" indicates yellow indication
		Controller assembly. Door indicates front of cabinet

SERVICE EQUIPMENT

PROPOSED	EXISTING	
---OH	---oh	Overhead lines
		Wood pole "U" indicates utility owned
		Pole guy with anchor
		Utility transformer - ground mounted
		Service equipment enclosure type
		Service equipment enclosure door indicates front of enclosure
		Telephone demarcation cabinet

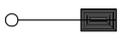
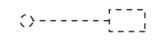
POLE-MOUNTED SERVICE DESIGNATION



ILLUMINATED OVERHEAD SIGN

PROPOSED	EXISTING	
		Overhead sign - Single post
		Overhead sign - Two post
		Overhead sign - Mounted on structure
		Overhead sign with electrolier

SIGNAL EQUIPMENT Cont

PROPOSED	EXISTING	
		Guard post
		Type 1 Standard with "Meter On" sign
		Emergency Vehicle detector

NOTES:

1. All signal sections shall be 12" unless shown otherwise.
2. Signal heads shall be provided with backplates unless shown otherwise.
3. Signal indication shall be LED.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (SYMBOLS AND ABBREVIATIONS)**
 NO SCALE

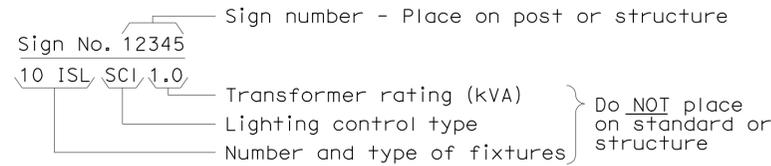
RSP ES-1B DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-1B
 DATED MAY 1, 2006 - PAGE 401 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-1B

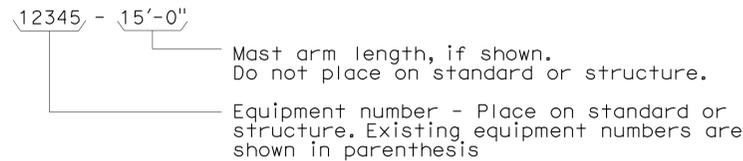
2006 REVISED STANDARD PLAN RSP ES-1B

EQUIPMENT IDENTIFICATION

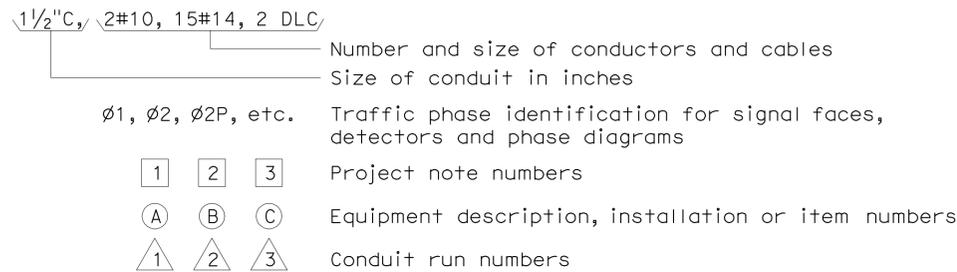
ILLUMINATED SIGN IDENTIFICATION NUMBER:



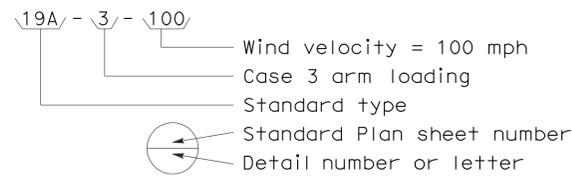
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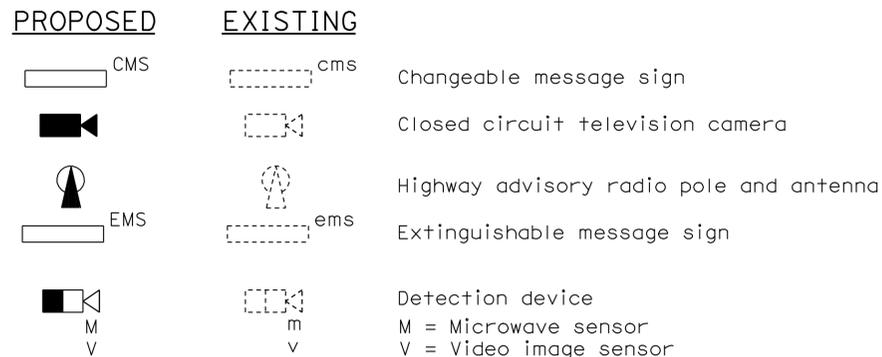
CONDUIT AND CONDUCTOR IDENTIFICATION:



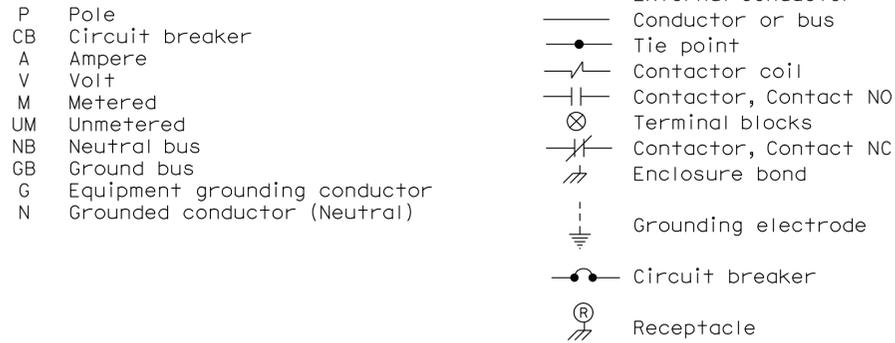
SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



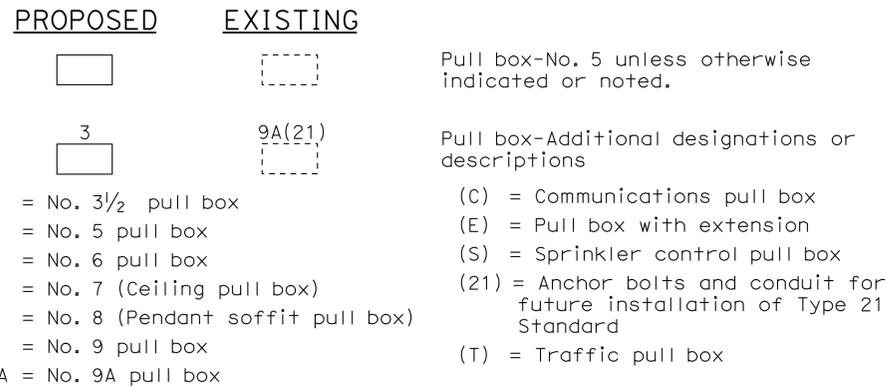
MISCELLANEOUS EQUIPMENT



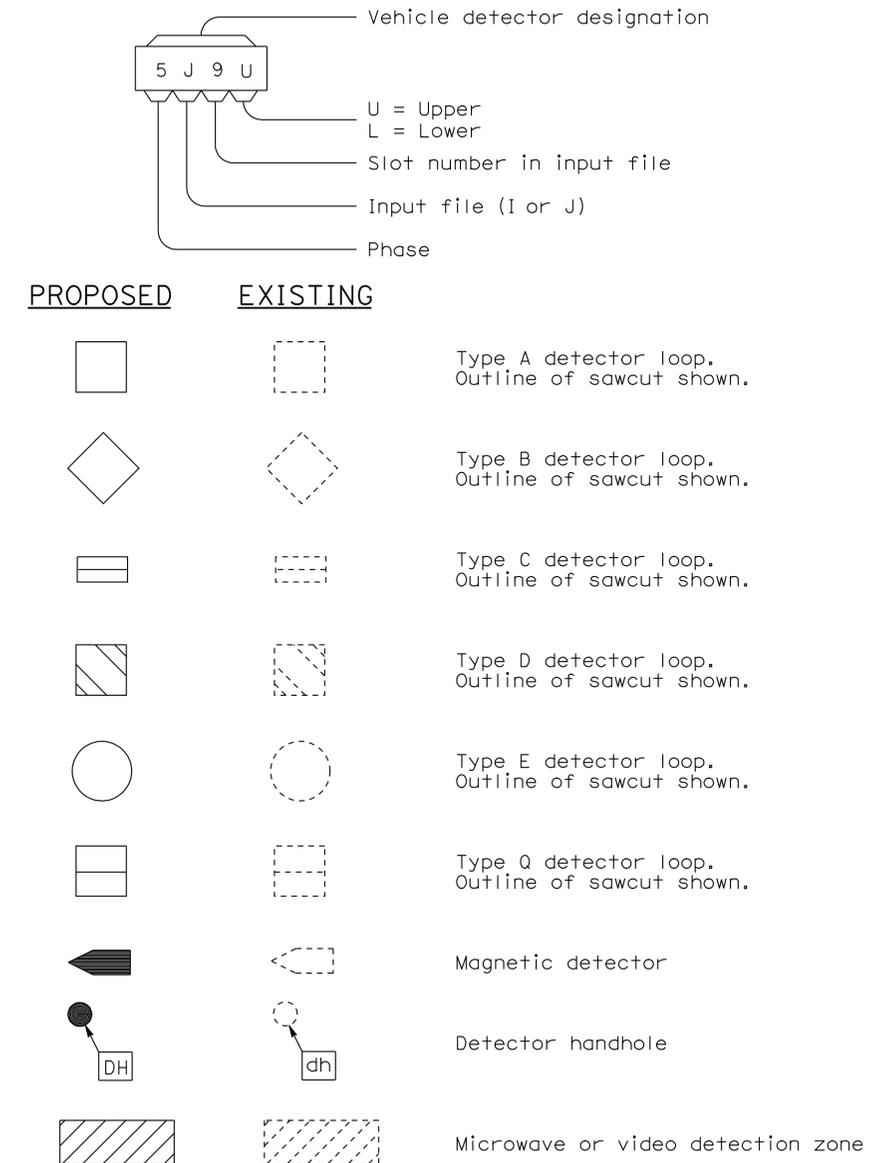
WIRING DIAGRAM LEGEND



PULL BOXES



VEHICLE DETECTORS



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
(SYMBOLS AND ABBREVIATIONS)**

NO SCALE

RSP ES-1C DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-1C
DATED MAY 1, 2006 - PAGE 402 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-1C

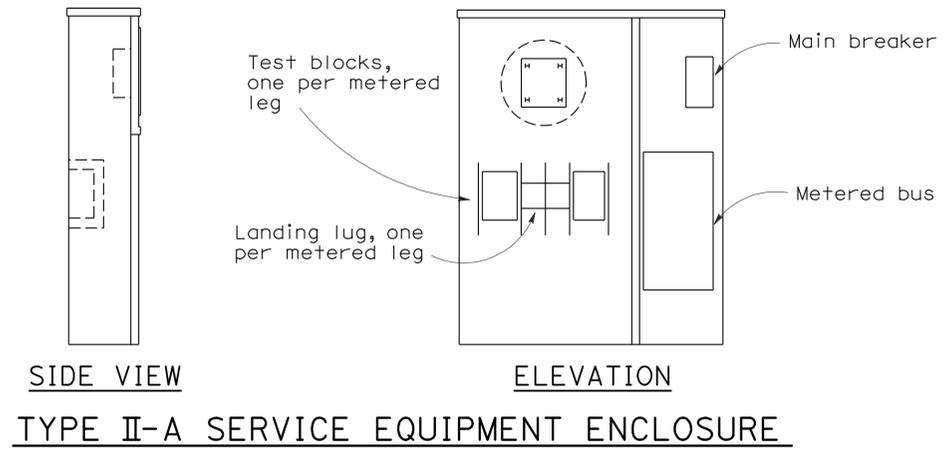
2006 REVISED STANDARD PLAN RSP ES-1C

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Son	101	25.6/29.2	513	615

Jeffery G. McRae
 REGISTERED ELECTRICAL ENGINEER
 October 5, 2007
 PLANS APPROVAL DATE

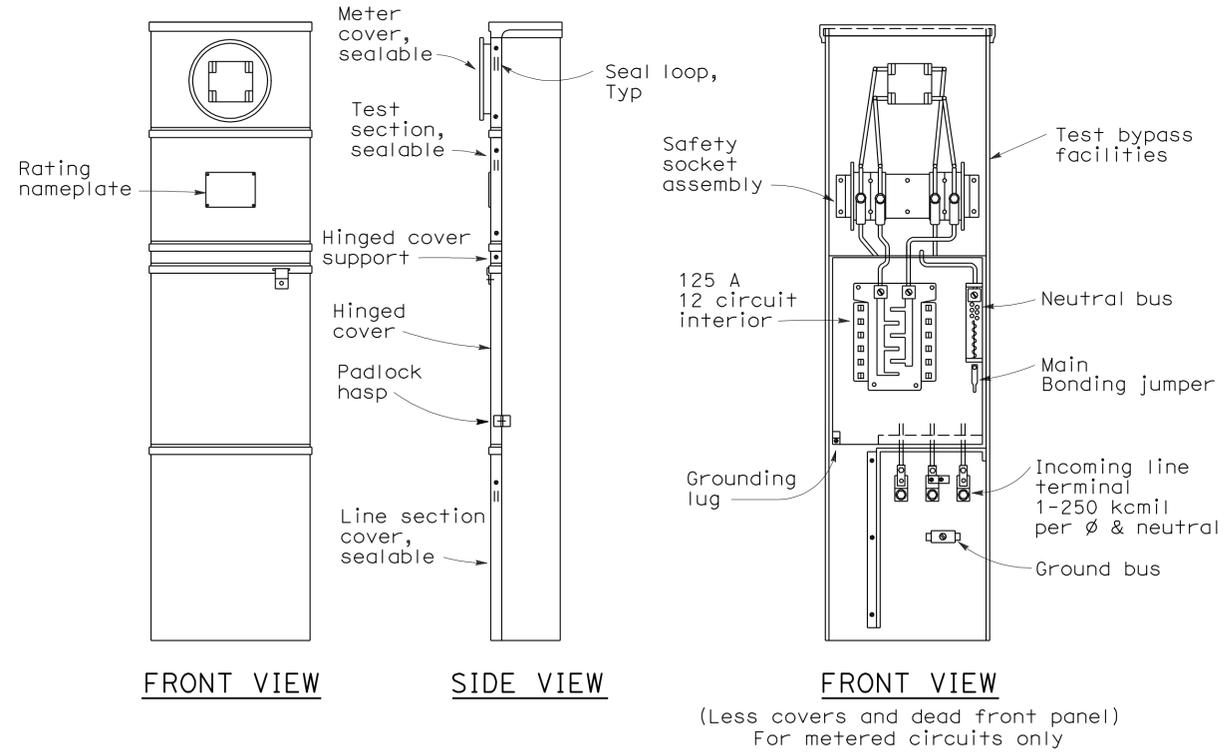
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 9-10-12



NOTES-TYPE II SERVICE EQUIPMENT ENCLOSURES:

- Service equipment enclosures and metering equipment shall meet the requirements of the service utility.
- Service equipment enclosures shall be factory wired NEMA 3R construction and shall be provided with dead front panel and provisions for padlocking.
- Control wiring shall be 600 V, No. 14 AWG stranded (THHN) machine tool wire. Where subject to flexing, 19 strand wire shall be used.
- Main bus shall be rated for 125 A and shall be tin-plated copper.
- An engraved phenolic nameplate on the dead front panel indicating the function of each circuit or device shall be installed with stainless steel rivets or stainless steel screws:
 - Adjacent to the breaker or device with character size a minimum of 1/8".
 - At the top of the exterior door panel indicating system number, voltage level and number of phases with character size a minimum of 3/16".
- A plastic laminated wiring diagram shall be provided and attached to the inside of the front door.
- In unpaved areas, a raised portland cement concrete pad of 2'-0" x 4" x width of service equipment enclosure foundation or controller cabinet foundation shall be constructed in front of Type II service equipment enclosure.
- Internal bus, where shown, is typical only. Alternative designs of proposed service equipment enclosure shall be submitted to the Engineer for approval.
- Circuit breakers may be mounted in the vertical or horizontal position.
- Dimensions of service equipment enclosures shall meet the requirements of the service utility.
- Minimum clearance shall be required for front and back of service equipment enclosures per National Electrical Code, Article 110.26, "Spaces About Electrical Equipment (600 Volts, Nominal, or Less)."



STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (SERVICE EQUIPMENT
 TYPE II SERIES)**

NO SCALE

RSP ES-2B DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-2B
 DATED MAY 1, 2006 - PAGE 404 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-2B

2006 REVISED STANDARD PLAN RSP ES-2B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Son	101	25.6/29.2	514	615

Jeffery G. McRae
 REGISTERED ELECTRICAL ENGINEER

October 5, 2007
 PLANS APPROVAL DATE

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

NOTES-TYPE III SERVICE EQUIPMENT ENCLOSURES:

1. Service equipment enclosure and metering equipment shall meet the requirements of the service utility. The meter area shall have a sealable, lockable, weathertight cover that can be removed without the use of tools.
2. Service equipment enclosures shall be factory wired and conform to NEMA standards.
3. Dimensions of service equipment enclosures shall meet the requirements of the service utility.
4. The dead front panels on Type III service equipment enclosures shall have a continuous stainless steel or aluminum piano hinge. The panel in front of the breakers shall be secured with a latch or captive screws. No live parts shall be mounted on the dead front panel.
5. The exterior door shall have provisions for padlocking. The padlock hole shall be a minimum diameter of $\frac{1}{16}$ ".
6. Enclosures housing transformers of more than one kVA shall have effective screened ventilation louver of not less than 50 square inches. Screen shall be stainless steel No. 304, with a No. 10 size mesh. Framed screen shall be secured with at least four bolts.
7. Fasteners on the exterior of the enclosure shall be vandal-resistant and shall not be removable from the exterior. Exterior screws, nuts, bolts and washers shall be stainless steel.
8. Landing lugs for incoming service conductors shall be compatible with either copper or aluminum conductors sized to suit the conductors shown on the plan. Landing lugs shall be copper or tin-plated aluminum. Neutral bus shall be rated for 125 A and be suitable for copper or aluminum conductors unless otherwise specified. The terminal shall include but not be limited to:
 - a) Incoming terminals (landing lugs)
 - b) Neutral lugs
 - c) Solid neutral terminal strip
9. At least 6 standard single pole circuit breaker spaces, $\frac{3}{4}$ " nominal, shall be provided for branch circuits. Circuit breaker interiors shall be copper. Interiors of enclosure shall accept plug-in or cable-in/cable-out circuit breakers.
10. Control wiring shall be 600 V, 14 stranded machine tool wire. Where subject to flexing, 19 strand wire shall be used.
11. Main bus shall be rated for 125 A and shall be tin-plated copper.
12. A plastic laminated wiring diagram shall be provided with brass mounting eyelets and attached to the inside of the enclosure and the wiring diagram shall be affixed to the interior with a UL or ETL approved method.

13. An engraved phenolic nameplate on the dead front panel indicating the function of each circuit or device shall be installed with stainless steel rivets or stainless steel screws:
 - a) Adjacent to the breaker or device with character size a minimum of $\frac{1}{8}$ ".
 - b) At the top of the exterior door panel indicating State system number, voltage level and number of phases with character size a minimum of $\frac{3}{16}$ ".
14. The plan shows the approximate location of devices within the enclosure. Components may be rearranged, however, the "working" clearances within the service equipment enclosure shall be maintained.
15. In unpaved areas a raised portland cement concrete pad 2'-0" x 4" x width of foundation shall be constructed in front of new service equipment enclosure installation. Pad shall be set to elevation of foundation.
16. Foundation shall extend 2" minimum beyond edge of service equipment enclosure.
17. Internal bus, where shown, is typical only. Alternative design of proposed service equipment enclosure shall be submitted to the Engineer for approval.
18. Plug-in circuit breakers may be mounted in the vertical or horizontal position. Cable-in/cable-out circuit breakers shall be mounted in the vertical position.
19. Type III-AF and Type III-BF service equipment enclosures shall have the meter viewing windows located on the front side of the service equipment enclosures.
20. Type III-AR and Type III-BR service equipment enclosures shall be similarly constructed as Type III-AF and Type III-BF respectively, except the meter viewing windows shall be located on the back side of the service equipment enclosures.
21. Minimum clearance shall be required for front and back of service equipment enclosure per National Electrical Code, Article 110.26, "Spaces About Electric Equipment (600 Volts, Nominal, or Less)."

To accompany plans dated 9-10-12

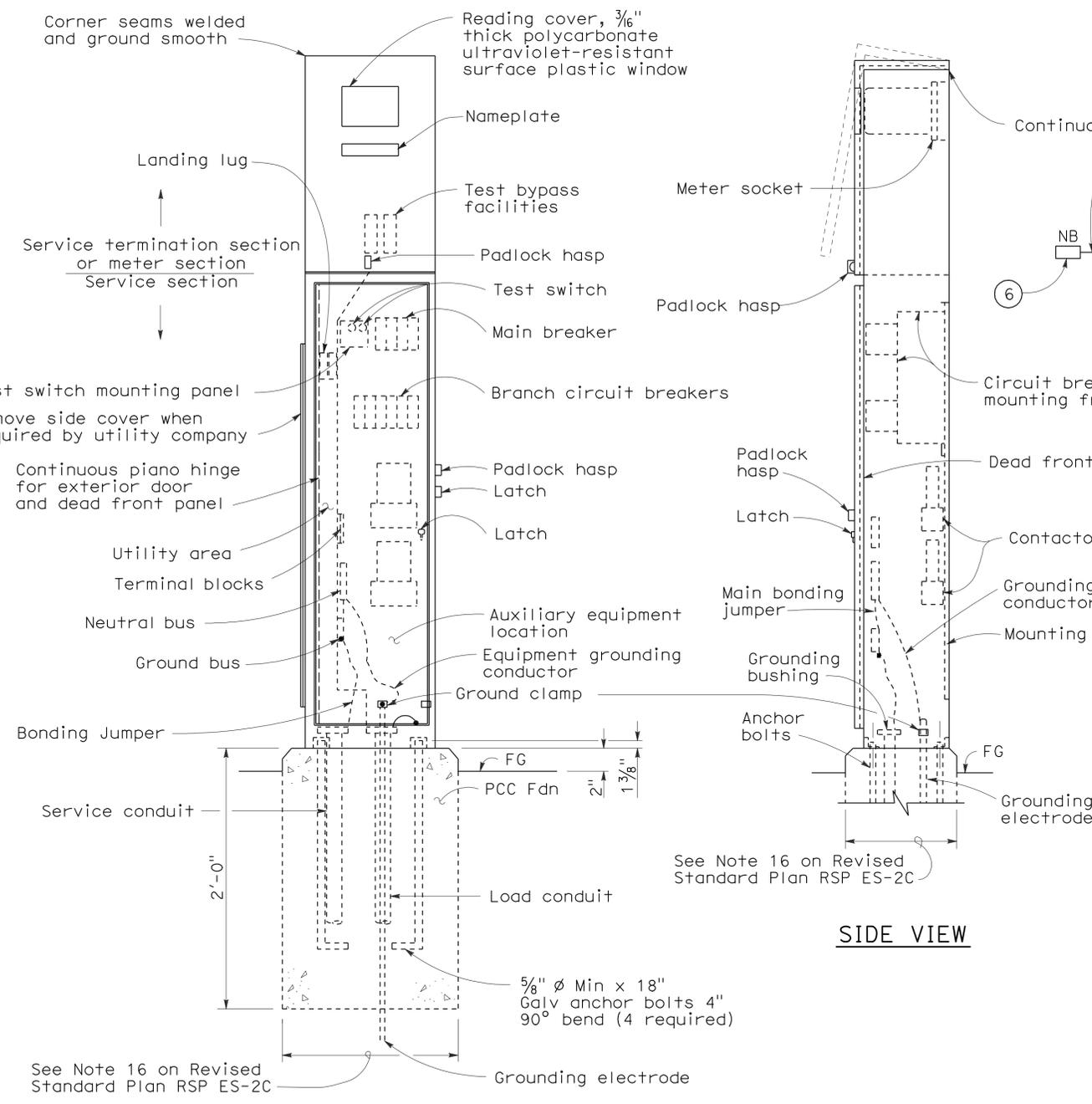
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (SERVICE EQUIPMENT NOTES
 TYPE III SERIES)**
 NO SCALE

RSP ES-2C DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-2C
 DATED MAY 1, 2006 - PAGE 405 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-2C

2006 REVISED STANDARD PLAN RSP ES-2C

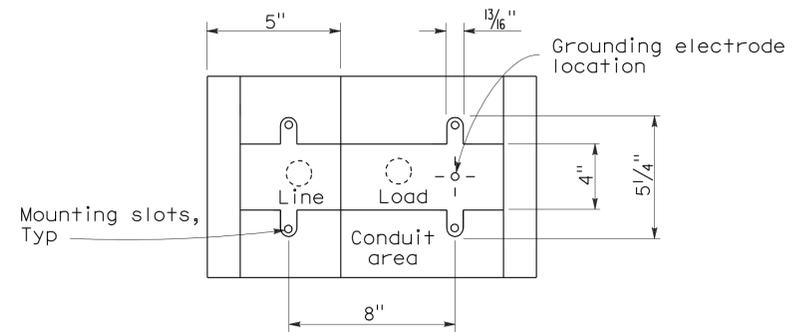
2006 REVISED STANDARD PLAN RSP ES-2D



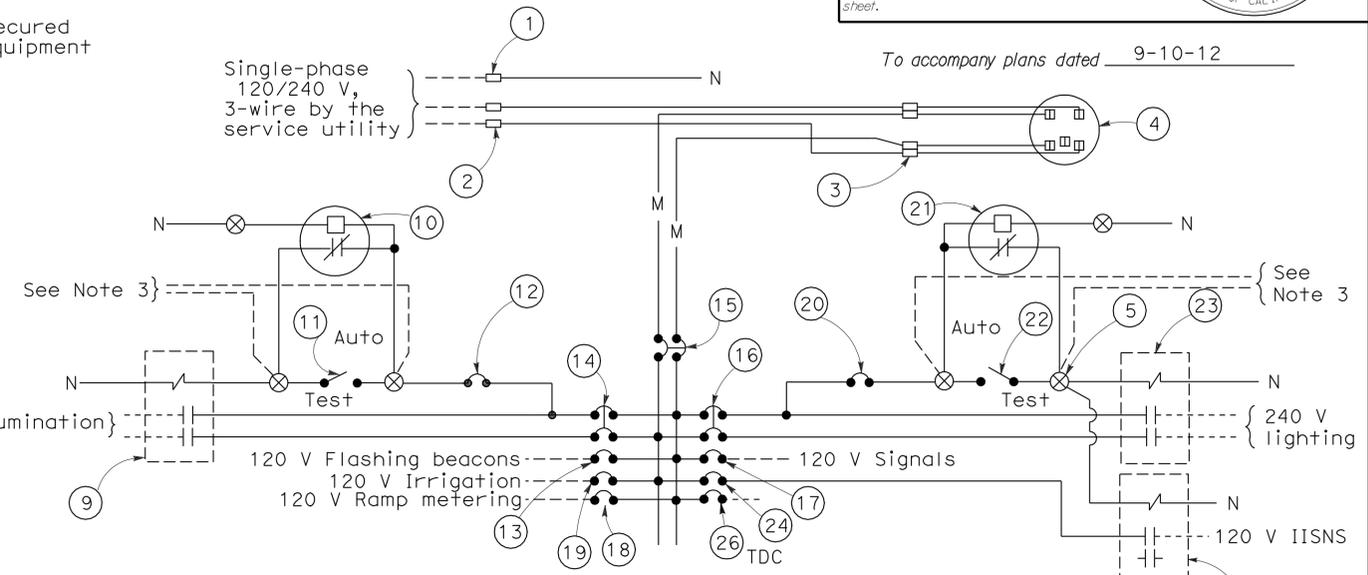
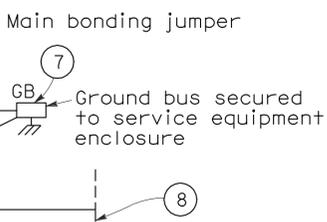
TYPE III-AF SERVICE EQUIPMENT ENCLOSURE (TYPICAL)

FRONT VIEW

SIDE VIEW



BASE FOR TYPE III-A SERVICE EQUIPMENT ENCLOSURE



120/240 V SERVICE WIRING DIAGRAM (TYPICAL)

TYPE III-A SERVICE (120/240 V) EQUIPMENT LEGEND					
ITEM No.	COMPONENT	NAME PLATE DESCRIPTION	ITEM No.	COMPONENT	NAME PLATE DESCRIPTION
1	Neutral lug		14	30 A, 240 V, 2P, CB	Sign Illumination
2	Landing lug (Note 6)		15	100 A, 240 V, 2P, CB	Main Breaker
3	Test bypass facility		16	30 A, 240 V, 2P, CB	Lighting
4	Meter socket and support		17	50 A, 120 V, 1P, CB	Signals
5	Terminal blocks		18	30 A, 120 V, 1P, CB	Ramp Metering
6	Neutral bus		19	20 A, 120 V, 1P, CB	Irrigation
7	Ground bus		20	15 A, 120 V, 1P, CB	Lighting Control
8	Grounding electrode		21	Photoelectric unit (Note 7)	
9	30 A, 2PNO Contactor	Sign Illumination	22	15 A, 1P, Test switch	Lighting Test Switch
10	Photoelectric unit (Note 7)		23	60 A, 2PNO Contactor	Lighting
11	15 A, 1P, Test switch	Sign Illumination Test Switch	24	15 A, 120 V, 1P, CB	IISNS
12	15 A, 120 V, 1P, CB	Sign Illumination Control	25	30 A, 2PNO Contactor	IISNS
13	15 A, 120 V, 1P, CB	Flashing Beacon	26	20 A, 120 V, 1P, CB	Telephone Demarcation Cabinet

NOTES: (FOR SERVICE EQUIPMENT ENCLOSURE)

- Voltage ratings of service equipment shall conform to the service voltages indicated on the plans.
- Unless otherwise indicated on the plans, service equipment items shall be provided for each service equipment enclosure as shown.
- Connect to remote test switch mounted on lighting standards, sign post or structure when required.
- Items No. 1 and 6 shall be isolated from the service equipment enclosure.
- Meter sockets shall be 5 clip type.
- The landing lug shall be suitable for multiple conductors.
- Type I photoelectric control shall be used unless otherwise indicated on the plans.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SERVICE EQUIPMENT AND TYPICAL WIRING DIAGRAM, TYPE III - A SERIES)

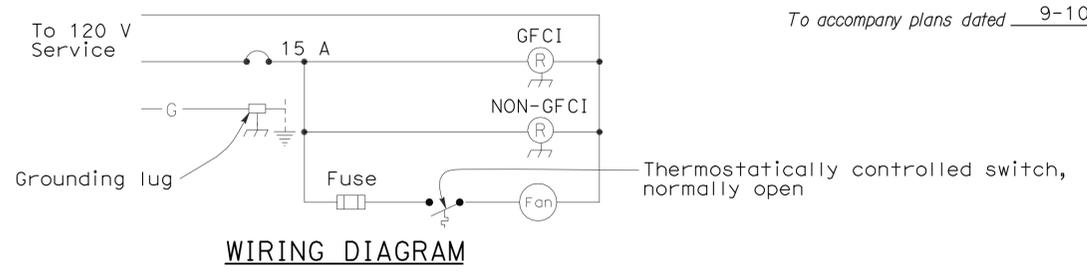
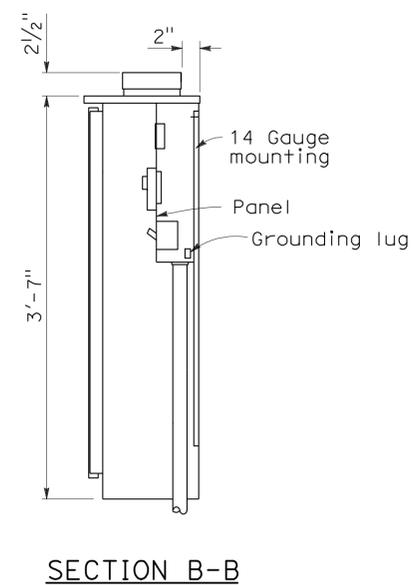
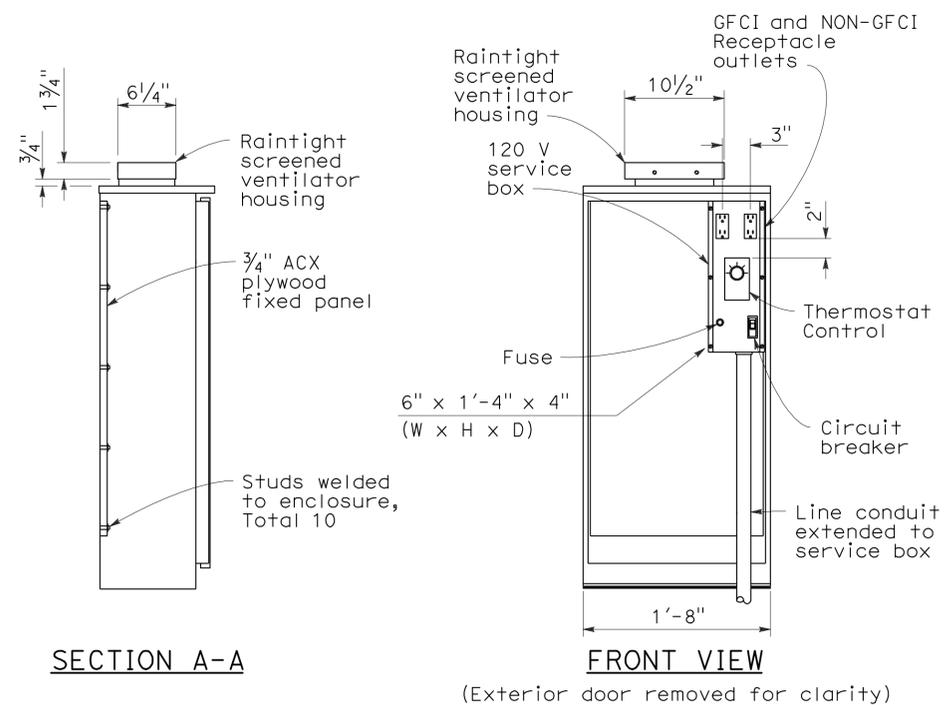
NO SCALE

RSP ES-2D DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-2D DATED MAY 1, 2006 - PAGE 406 OF THE STANDARD PLANS BOOK DATED MAY 2006.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Son	101	25.6/29.2	516	615

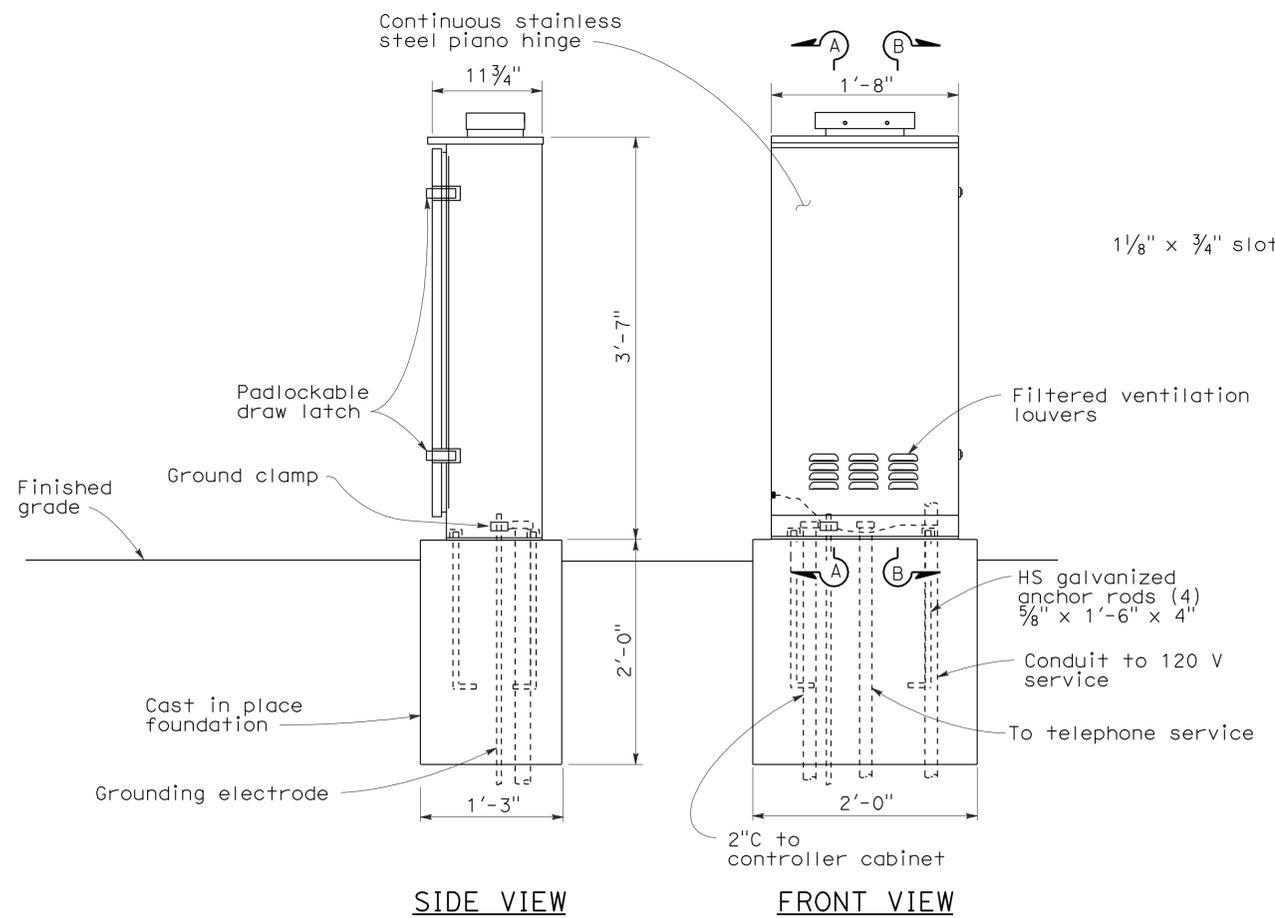
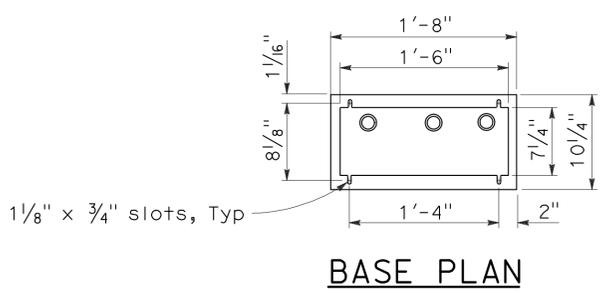
Jeffery G. McRae
 REGISTERED ELECTRICAL ENGINEER
 October 5, 2007
 PLANS APPROVAL DATE
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REGISTERED PROFESSIONAL ENGINEER
 Jeffery G. McRae
 No. E14512
 Exp. 6-30-08
 ELECTRICAL
 STATE OF CALIFORNIA



NOTES:

- Telephone demarcation cabinet shall be furnished with a mounting panel, outlets, circuit breaker and deadfront plates in place. Dimensions are nominal.
- An approved mastic or caulking compound shall be placed on the foundation prior to placing the cabinet to seal openings between the bottom of the cabinet and the foundation.
- In unpaved areas, a raised PCC pad shall be placed in front of the telephone demarcation cabinet. Pad shall be 2'-0" x 1'-10" x 4" thick, with 2" above the finished grade.
- All conduits shall be bonded to the enclosure.
- Telephone demarcation cabinet:
 - Material shall be anodized aluminum (1/8" thick).
 - Fabrication shall conform to the requirements of the Standard Specifications.
 - The exterior door shall be side hung and secured with a padlockable draw latch, the padlock hole shall be a minimum diameter of 7/16" to receive a padlock.
 - Ventilation louvers shall be located on the door.
 - Fan shall be mounted in a ventilator housing.
 - Fan shall be thermostatically controlled and adjustable to turn on between 80°F and 130°F.
 - Fan circuit shall be fused at 175 percent of the fan motor capacity.
 - Fan capacity shall be at least 25 cubic feet per minute.
 - Fasten fixed mounting panels with nuts, lock and flat washers to 3/16" ø x 1" studs welded to enclosure.



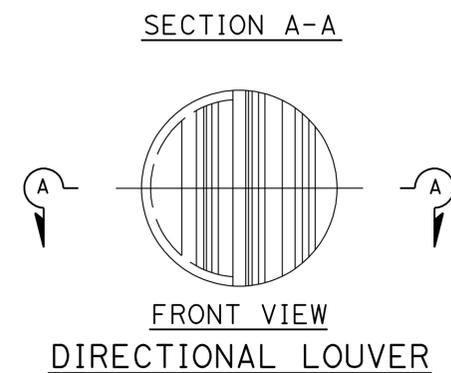
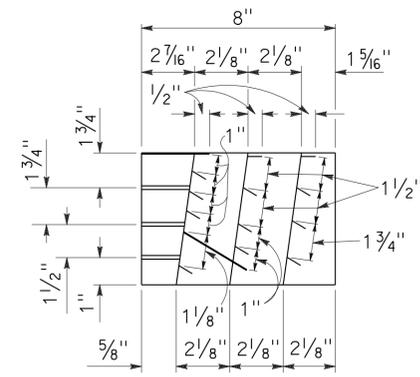
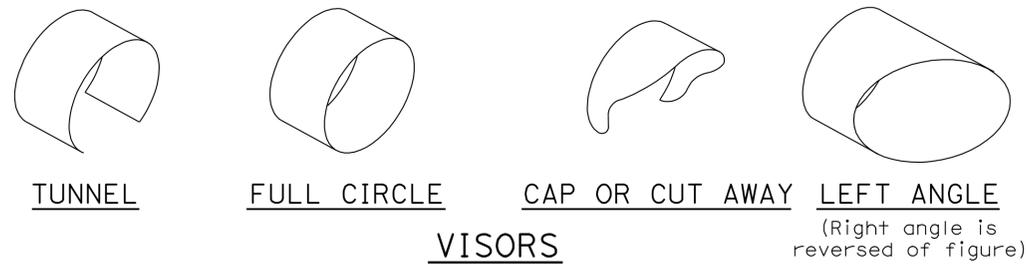
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (TELEPHONE DEMARICATION
 CABINET, TYPE B)**
 NO SCALE

RSP ES-3E DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-3E
 DATED MAY 1, 2006 - PAGE 414 OF THE STANDARD PLANS BOOK DATED MAY 2006.

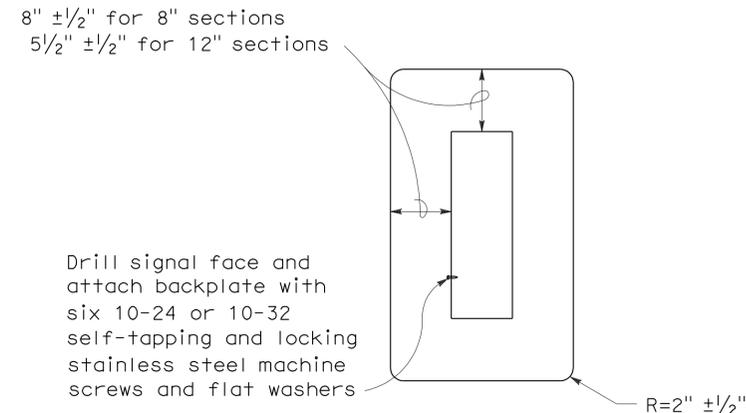
2006 REVISED STANDARD PLAN RSP ES-3E

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Son	101	25.6/29.2	517	615

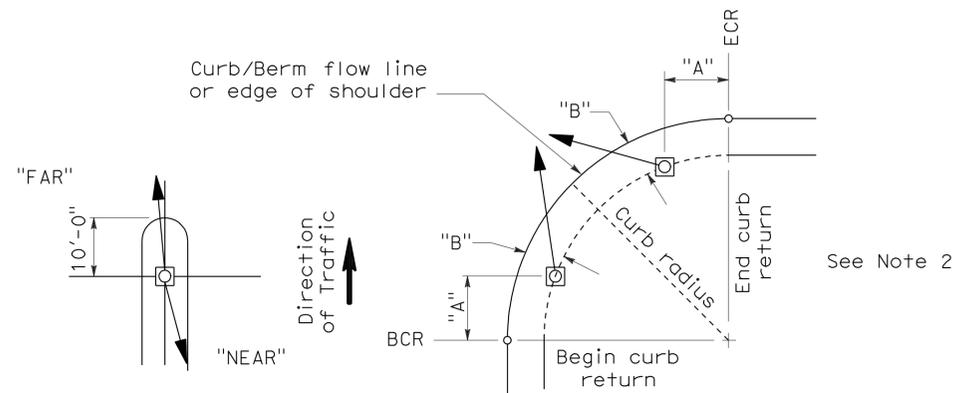
Jeffrey G. McRae
 REGISTERED ELECTRICAL ENGINEER
 June 6, 2008
 PLANS APPROVAL DATE
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 REGISTERED PROFESSIONAL ENGINEER
 Jeffrey G. McRae
 No. E14512
 Exp. 6-30-10
 ELECTRICAL
 STATE OF CALIFORNIA



Directional louvers shall be oriented as directed by the Engineer and secured in place with one plated brass machine screw and nut.



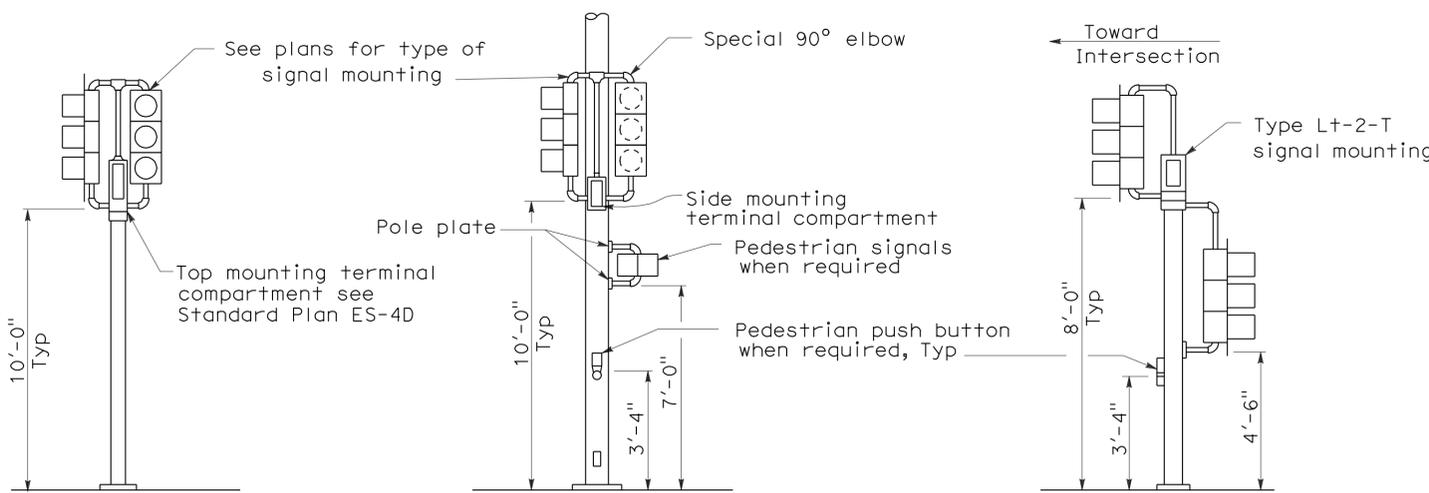
8" AND 12" SECTIONS
BACKPLATE
 1/16" minimum thickness
 3001-14 aluminum, or plastic when specified



NOTES:

1. Typical signal pole placement unless dimensioned on plans.
2. For "A" and "B" dimensions, see Pole Schedule, or as directed by the Engineer.

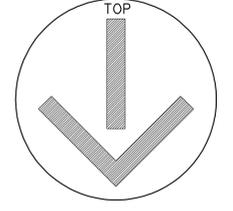
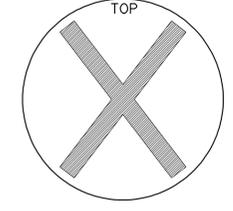
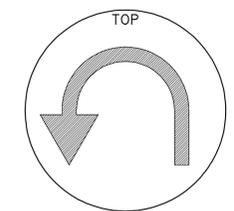
SIGNAL STANDARD PLACEMENT DIMENSIONS AND EQUIPMENT LOCATIONS



TOP MOUNTED SIGNALS (TV)
 Type 1-A, 1-B, 1-C and 1-D standard as indicated on the plans

SIDE MOUNTED SIGNALS (SV AND SP)
 Normally used on standards with luminaire or signal mast arm

LEFT TURN LANE SIGNAL
 Type 1-A, 1-B, 1-C and 1-D standard as indicated on plans



TYPICAL SIGNAL INSTALLATIONS

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS (SIGNAL HEADS AND MOUNTINGS)
 NO SCALE

RSP ES-4C DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN ES-4C DATED MAY 1, 2006 - PAGE 420 OF THE STANDARD PLANS BOOK DATED MAY 2006.

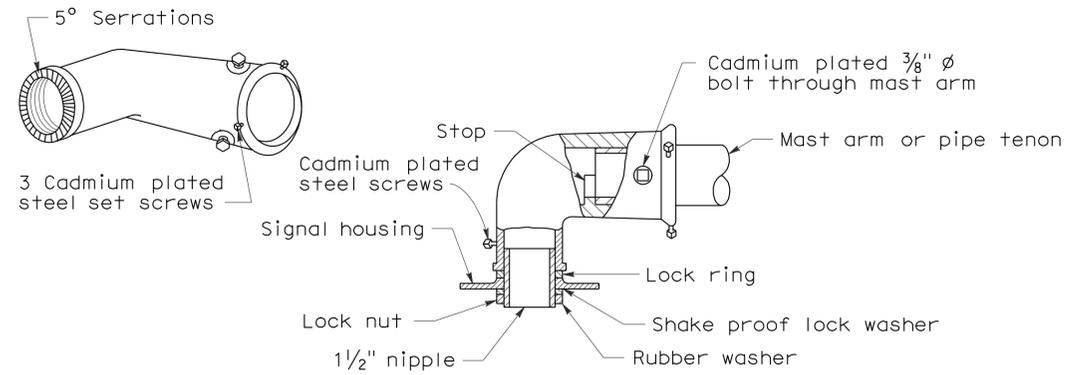
REVISED STANDARD PLAN RSP ES-4C

2006 REVISED STANDARD PLAN RSP ES-4C

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Son	101	25.6/29.2	518	615

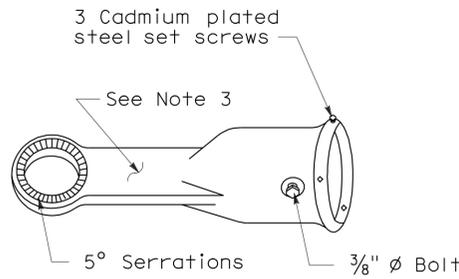
Jeffrey G. McRae
 REGISTERED ELECTRICAL ENGINEER
 June 6, 2008
 PLANS APPROVAL DATE
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 REGISTERED PROFESSIONAL ENGINEER
 Jeffrey G. McRae
 No. E14512
 Exp. 6-30-10
 ELECTRICAL
 STATE OF CALIFORNIA

To accompany plans dated 9-10-12



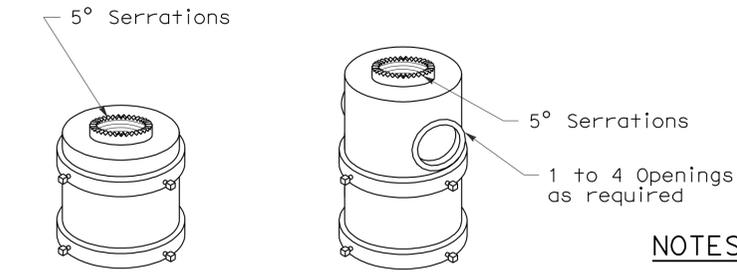
MAST ARM MOUNTING - TYPE "MAT"

For 2 NPS pipe, see Note 1.



MAST ARM MOUNTING - TYPE "MAS"

For 2 NPS pipe. See Note 1.



For one mounting For multiple mountings

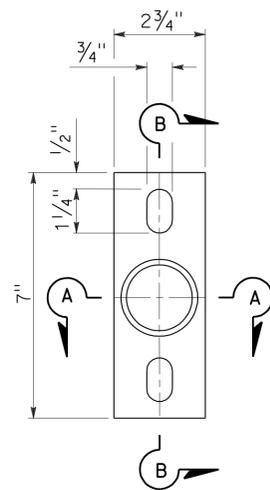
TOP MOUNTINGS

For 4 NPS pipe, see Note 2.

NOTES:

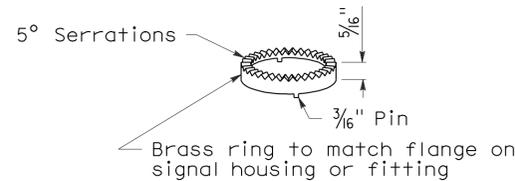
- After mast arm signal has been plumbed and secured, drill 7/16 inch hole through mast arm tenon in line with slip fitter hole. Place a cadmium plated 3/8 inch diameter galvanized bolt with washer under bolt head through hole and secure with washer, nut, and locknut. Seal openings between mast arm mountings and mast arm with mastic.
- (a) Threaded top mounted slip fitter openings shall be 1/2 NPS.
(b) Serrations in fittings shall match those on bottom of signal heads or in lock ring.
(c) Top opening shall be offset when backplate is used.
- Wireway shall have a cross section area of 0.95 square inch minimum. Minimum width of 1/2 inch.

SIGNAL SLIP FITTERS



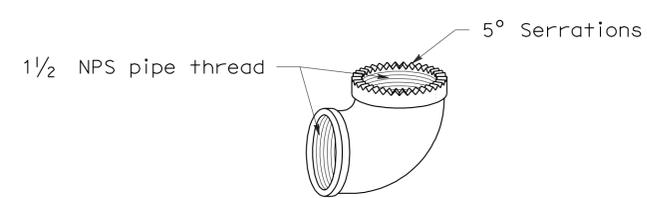
POLE PLATE

For side mountings



LOCK RING

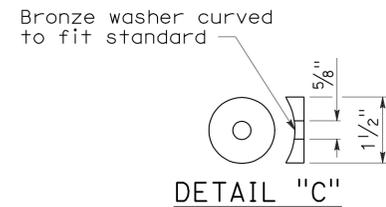
Use where locking ring is not integral with signal housing or fitting.



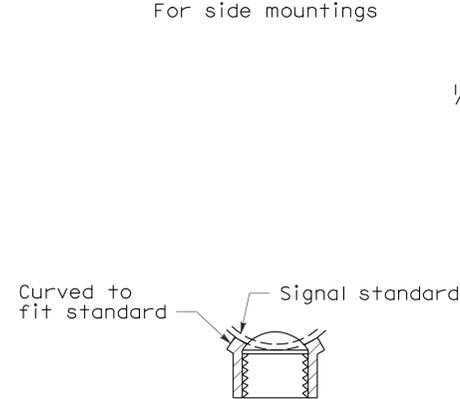
SPECIAL 90° ELBOW

One for each signal head, except those with special slip fitter mounting

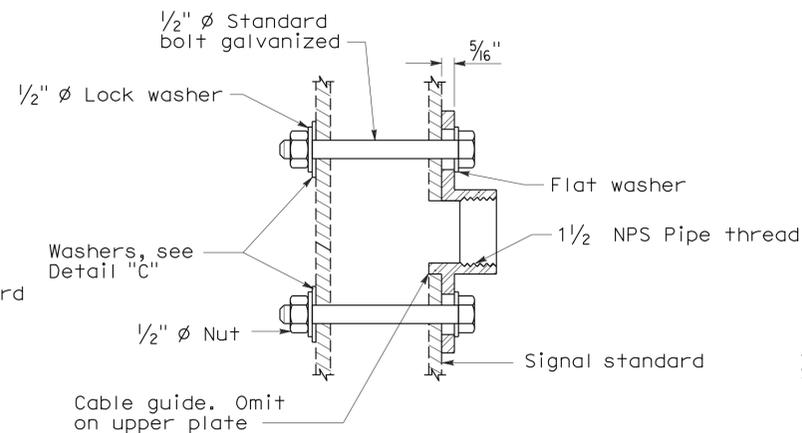
MISCELLANEOUS MOUNTING HARDWARE



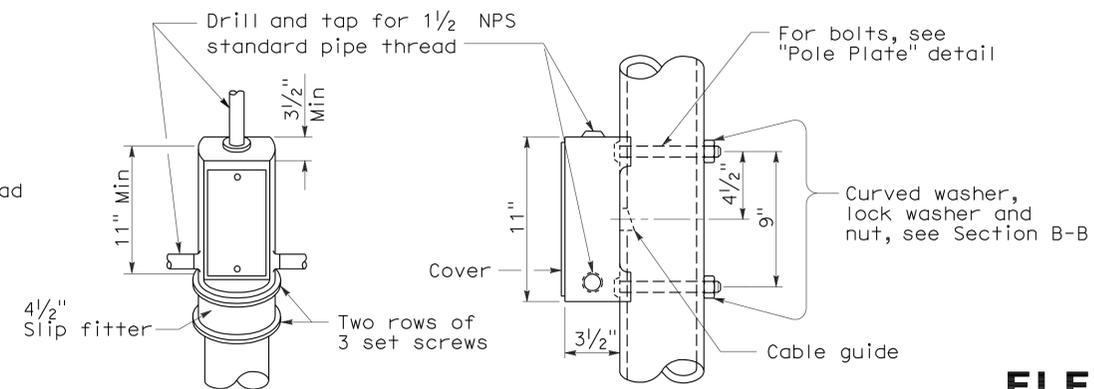
DETAIL "C"



SECTION A-A



SECTION B-B



TOP MOUNTING

SIDE MOUNTING

TERMINAL COMPARTMENTS

ELECTRICAL SYSTEMS (SIGNAL HEADS AND MOUNTINGS)

NO SCALE

RSP ES-4D DATED June 6, 2008 SUPERSEDES STANDARD PLAN ES-4D DATED MAY 1, 2006 - PAGE 421 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-4D

2006 REVISED STANDARD PLAN RSP ES-4D

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Son	101	25.6/29.2	519	615

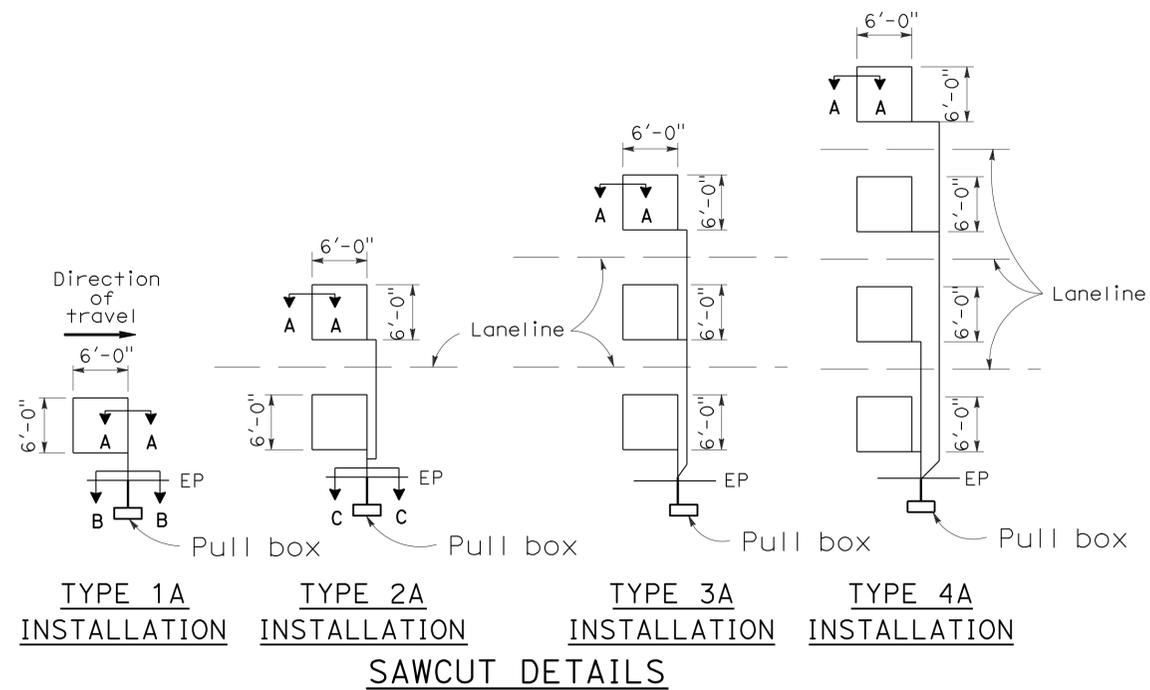
Jeffery G. McRae
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 STATE OF CALIFORNIA

October 5, 2007
 PLANS APPROVAL DATE

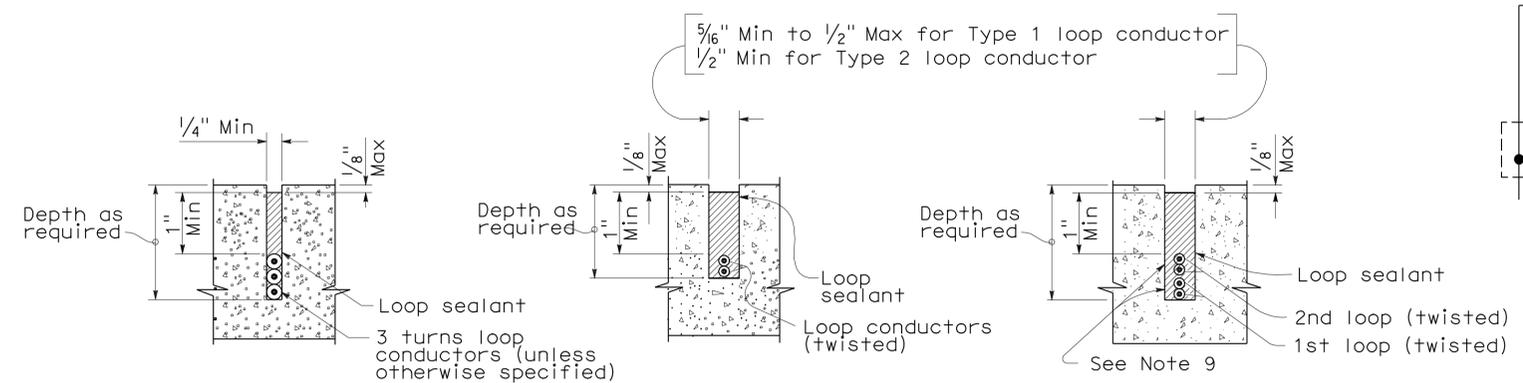
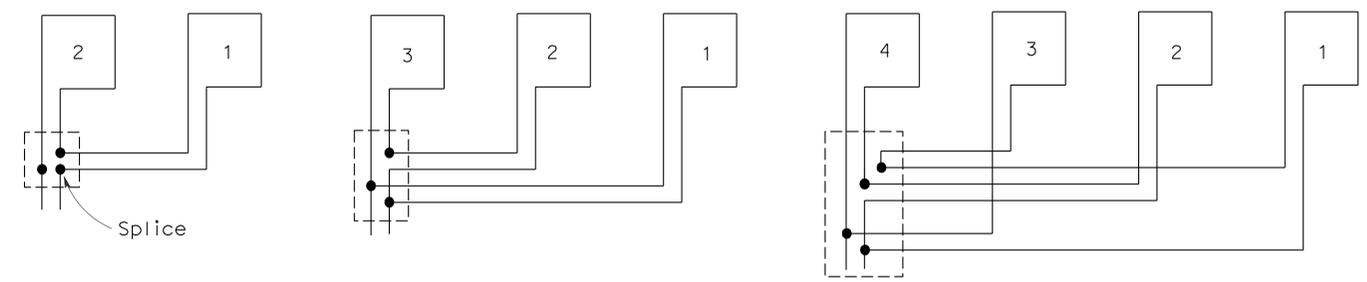
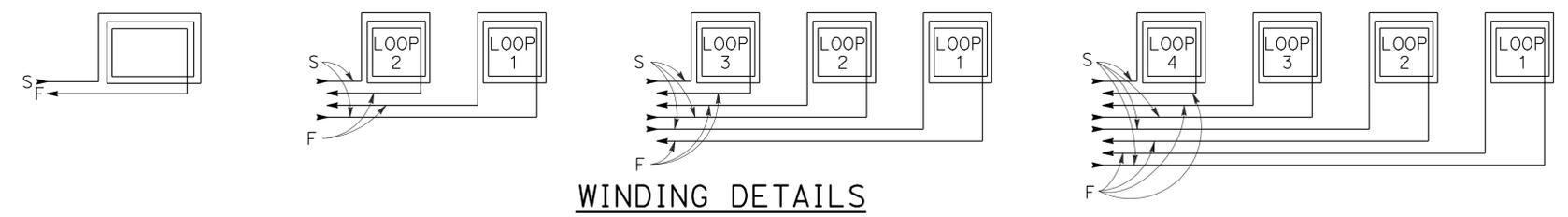
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LOOP INSTALLATION PROCEDURE

- Loops shall be centered in lanes.
- Saw slots in pavement for loop conductors as shown in details.
- Distance between side of loop and a lead-in saw cut from adjacent detectors shall be 2'-0" minimum. Distance between lead-in saw cuts shall be 6" minimum.
- Bottom of saw slot shall be smooth with no sharp edges.
- Slots shall be washed until clean, blown out and thoroughly dried before installing loop conductors.
- Adjacent loops on the same sensor unit channel shall be wound in opposite directions.
- Identify and tag loop circuit pairs in the pull box with loop number, start (S) and finish (F) of conductor. Identify and tag lead-in-cable with sensor number and phase.
- Install loop conductor in slot using a 3/16" to 1/4" thick wood paddle. Hold loop conductors with wood paddles (at the bottom of the sawed slot) during sealant placement.
- No more than 2 twisted pairs shall be installed in one sawed slot.
- Allow additional 5'-0" of slack length of conductor for the lead-in run to pull box.
- The additional length of each conductor for each loop shall be twisted together into a pair (6 turns per 3'-4" minimum) before being placed in the slot and conduit leading to pull box.
- Test each loop circuit for continuity, circuit resistance and insulation resistance at the pull box before filling slots.
- Fill slots as shown in details.
- Splice loop conductors to lead-in-cable. Splices shall be soldered.
- End of lead-in-cable and Type 2 loop conductor shall be waterproofed prior to installing in conduit to prevent moisture from entering the cable.
- Lead-in-cable shall not be spliced between the pull box and the controller cabinet terminals.
- Test each loop circuit for continuity, circuit resistance and insulation resistance at the controller cabinet location.
- Where loop conductors are not to be spliced to a lead-in-cable, the ends of the conductors shall be taped and waterproofed with electrical insulating coating.



- 1A thru 4A = 1 Type A loop configuration in each lane.
 - 1B thru 4B = 1 Type B loop configuration in each lane.
 - 1C = 1 Type C loop configuration entering lanes as required.
 - 1D thru 4D = 1 Type D loop configuration in each lane.
 - 1E thru 4E = 1 Type E loop configuration in each lane.
 - 1Q thru 4Q = 1 Type Q loop configuration in each lane.
- (Use Type A, B, C, D, E or Q loop detector configurations only when specified or shown on plans)



ELECTRICAL SYSTEMS (DETECTORS)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

NO SCALE

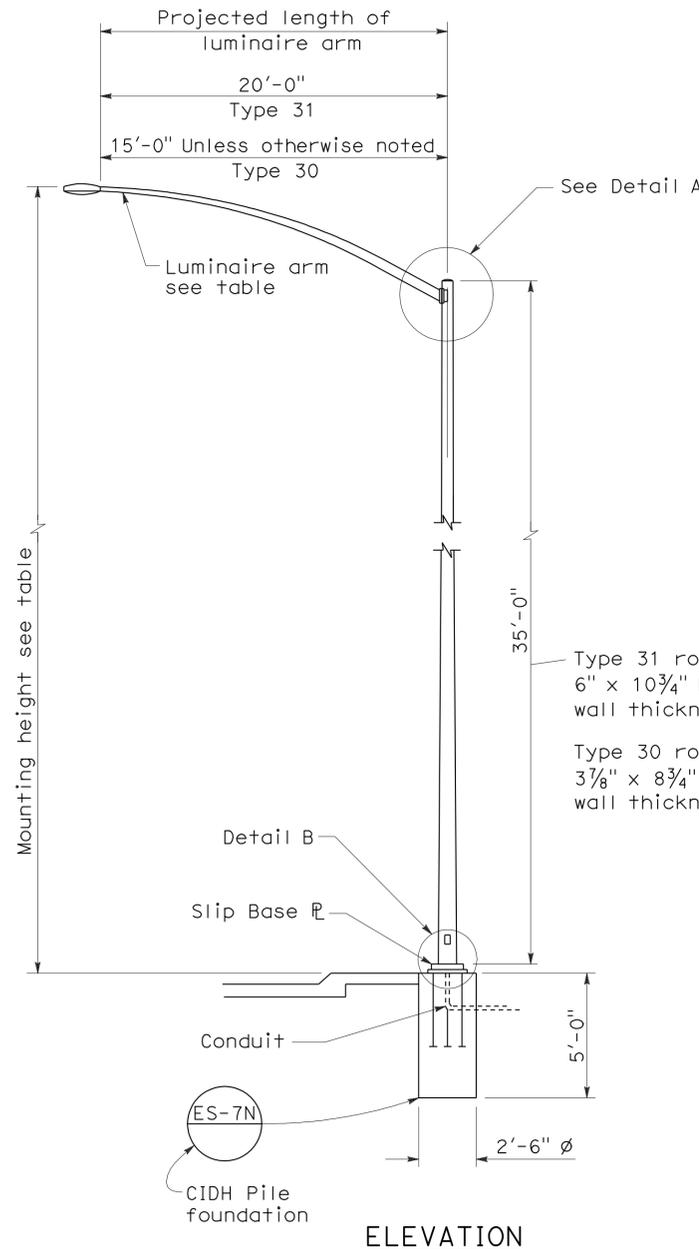
RSP ES-5A DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-5A DATED MAY 1, 2006 - PAGE 423 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP ES-5A

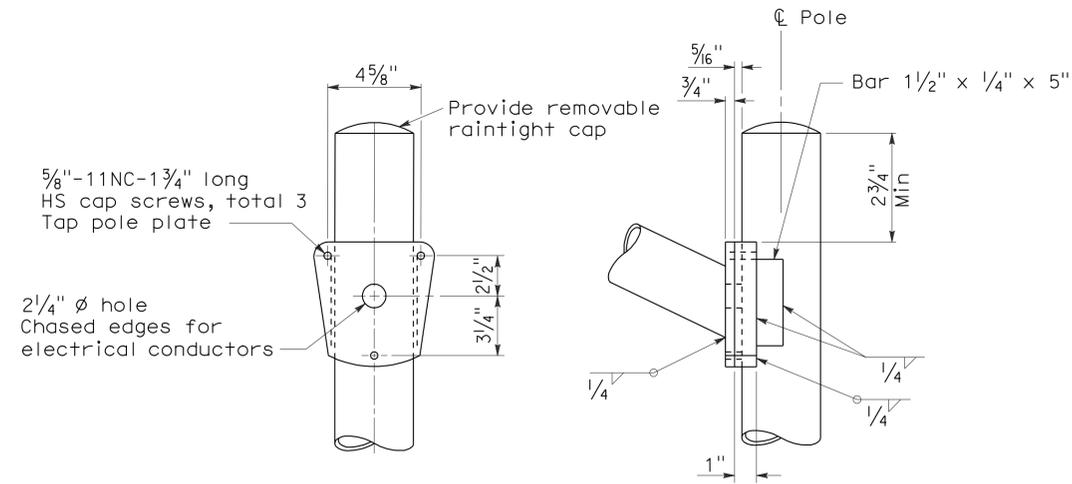
LUMINAIRE ARM DATA

PROJECTED LENGTH	THICKNESS	MINIMUM OD @ POLE	MOUNTING HEIGHT
* 6'-0"	0.1196"	3/4"	36'-9"±
8'-0"		3/2"	37'-3"±
10'-0"		3 3/4"	38'-0"±
12'-0"		3 3/4"	39'-0"±
15'-0"		4 1/4"	39'-6"±
** 20'-0"	0.1793"	5"	37'-0"±

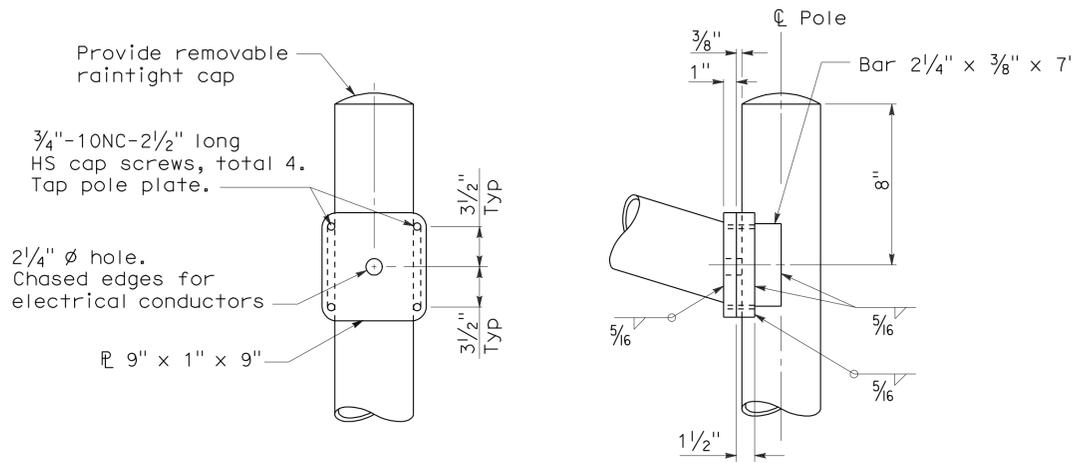
* Type 30 - arm length 6'-0" - 15'-0" maximum
 ** Type 31 - arm lengths 20'-0"



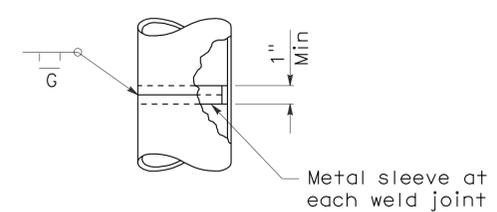
ELEVATION



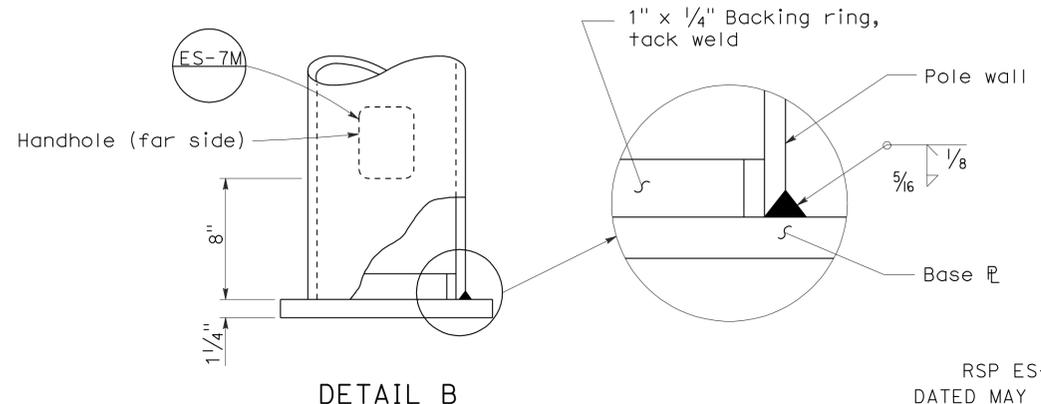
DETAIL A - TYPE 30



DETAIL A - TYPE 31



POLE SPLICE



DETAIL B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Son	101	25.6/29.2	520	615

Stanley P. Johnson
 REGISTERED CIVIL ENGINEER
 January 18, 2008
 PLANS APPROVAL DATE
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 9-10-12

NOTES:

- Sheet steel shall have a minimum yield of 48,000 psi.
- For slip base details see Standard Plan ES-6F.
- For Type 30 fixed base use Type 15 base plate, and foundation shown on Revised Standard Plan RSP ES-6A. Use 1 1/4" Dia x 3'-6" x 4" anchor bolts.
- For Type 31 fixed base use Type 32 base plate, anchor bolts and foundation on Standard Plan ES-6G.
- Handhole shall be located on downstream side of traffic unless noted otherwise on plans.
- For additional general notes refer to Standard Plan ES-7M.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (LIGHTING STANDARD
 TYPES 30 AND 31)**
 NO SCALE

RSP ES-6E DATED JANUARY 18, 2008 SUPERCEDES STANDARD PLAN ES-6E
 DATED MAY 1, 2006 - PAGE 430 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-6E

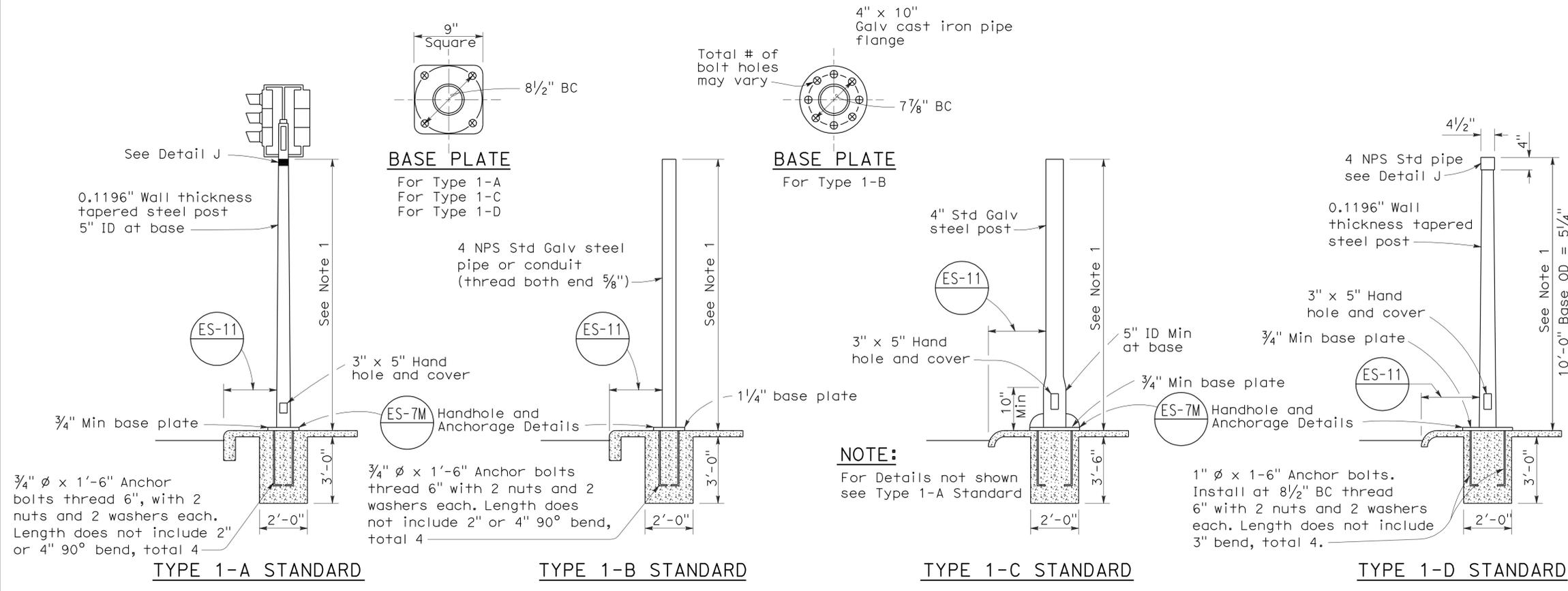
2006 REVISED STANDARD PLAN RSP ES-6E

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Son	101	25.6/29.2	521	615

Stanley P. Johnson
 REGISTERED CIVIL ENGINEER
 October 5, 2007
 PLANS APPROVAL DATE
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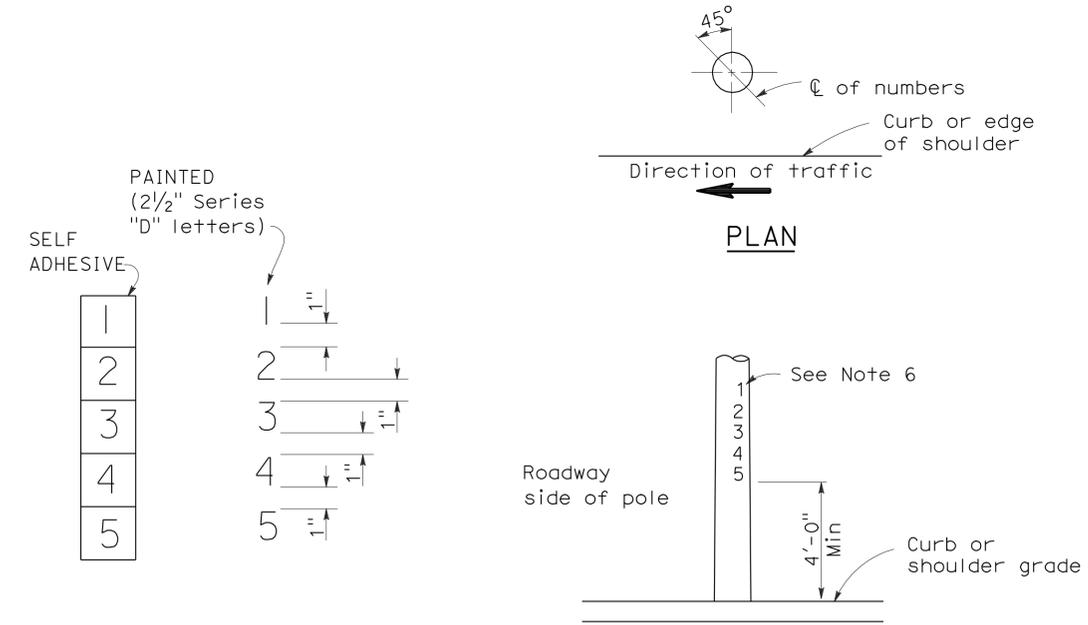
REGISTERED PROFESSIONAL ENGINEER
 Stanley P. Johnson
 No. C57793
 Exp. 3-31-08
 CIVIL
 STATE OF CALIFORNIA

To accompany plans dated 9-10-12

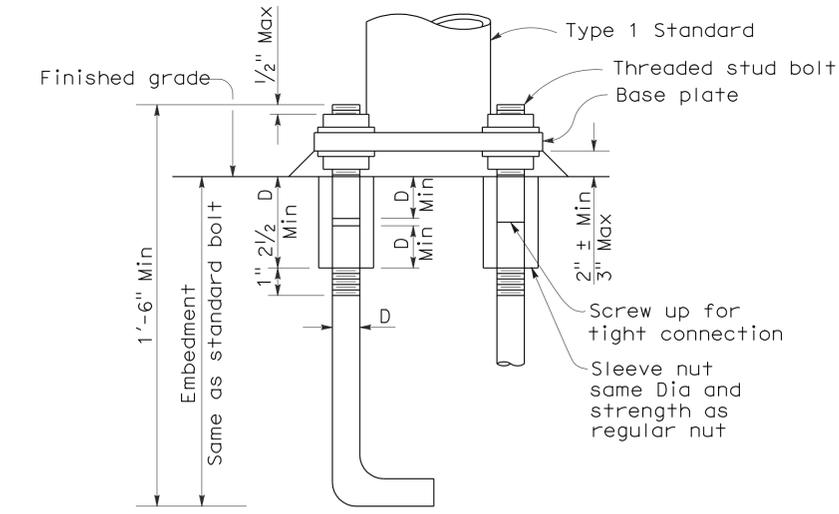


- NOTES:**
- Standards shall be 10'-0" ± 2" for vehicle signals and 7'-0" ± 2" for pedestrian signals unless otherwise noted on plans.
 - Top of standards shall be 4 1/2" OD.
 - Conduits shall extend 2" maximum above finished surface of foundation and for Types 1-A, 1-C and 1-D shall be sloped toward handhole.
 - Anchor bolts shall be bonded to conduit or grounding conductor.
 - Conduit between standard and adjacent pull box shall be 2" minimum.
 - Paint numbers on roadway side facing traffic when electrolier or post is left of direction of traffic.

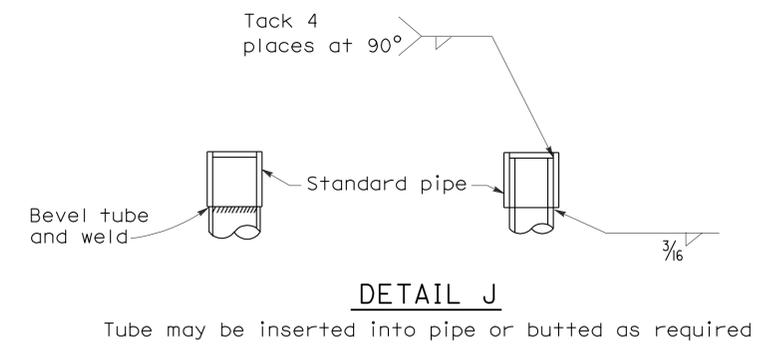
TYPE 1 SIGNAL STANDARDS



LOCATION OF EQUIPMENT NUMBERS ON STANDARDS AND POSTS



ANCHOR BOLTS WITH SLEEVE NUTS
 Sleeve nuts to be used only when shown or specified on Project Plans
 D = Diameter of anchor bolt

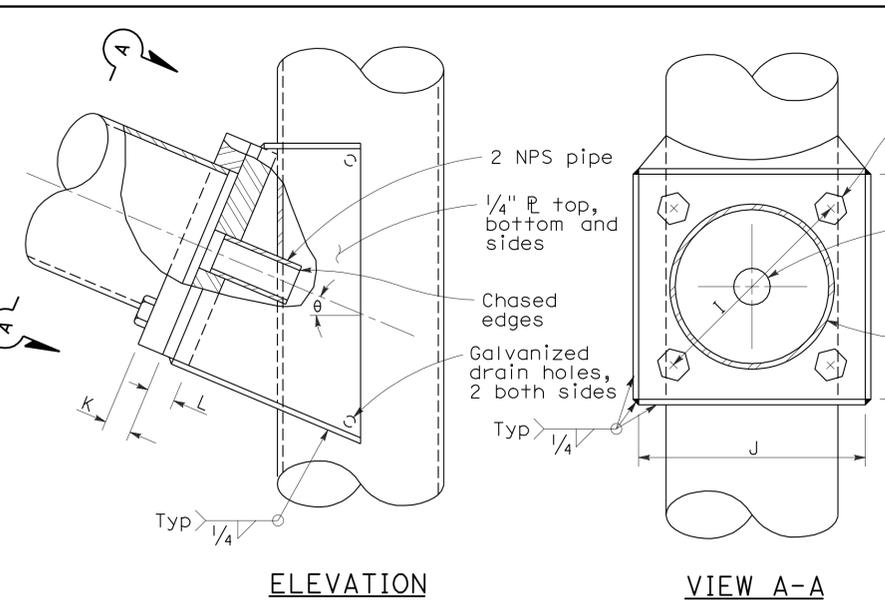
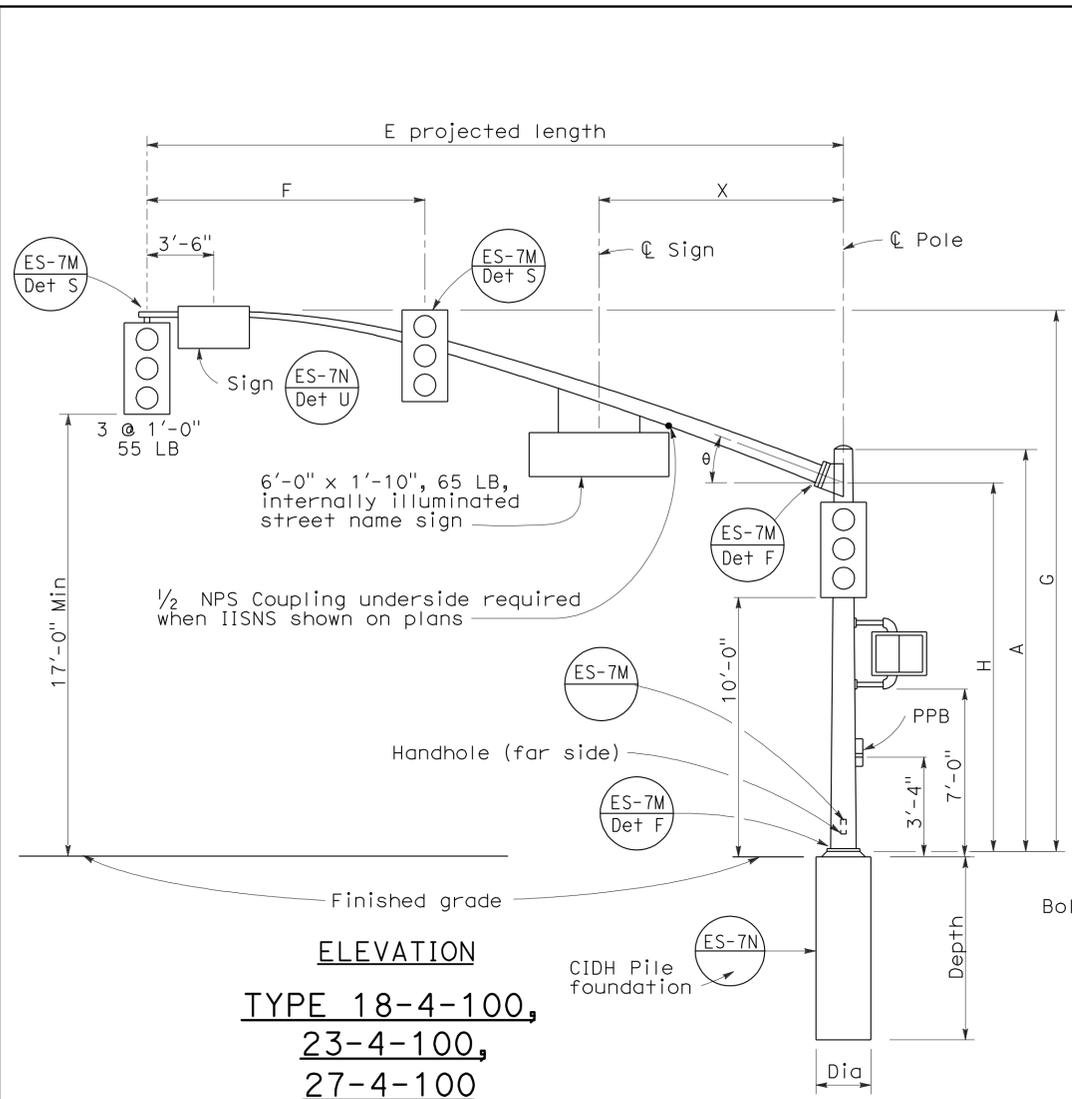


ELECTRICAL SYSTEMS (SIGNAL AND LIGHTING STANDARD TYPE 1 STANDARD AND EQUIPMENT NUMBERING)

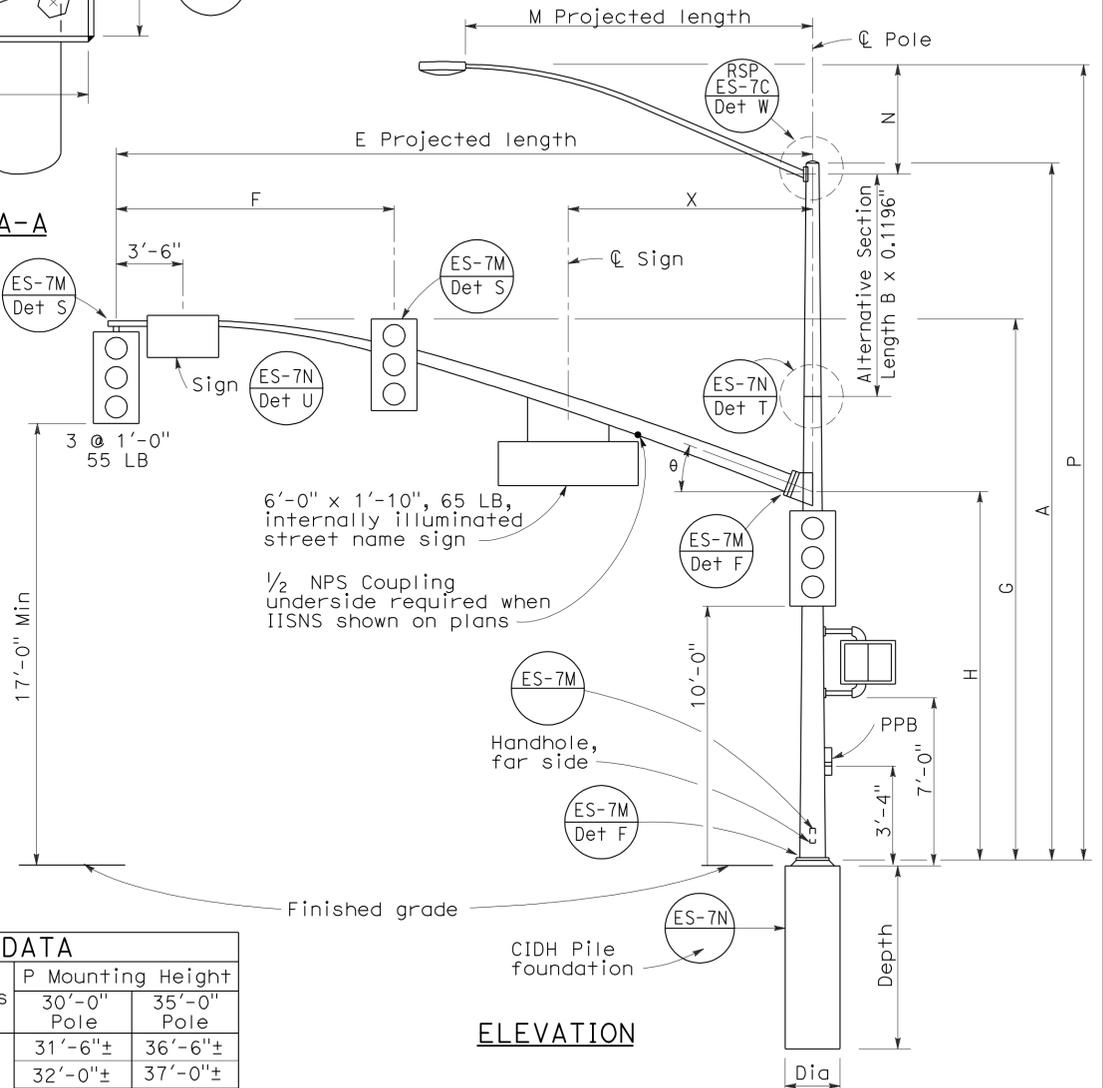
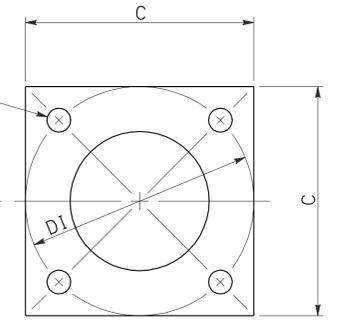
NO SCALE

RSP ES-7B DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-7B DATED MAY 1, 2006 - PAGE 438 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP ES-7B



SIGNAL ARM CONNECTION DETAILS



ELEVATION

TYPE 19-4-100, 19A-4-100,
 24-4-100, 24A-4-100,
 26-4-100, 26A-4-100

E Projected Length	F Min Spacing	G Mounting Height	H	Min OD at Pole	Thickness	I Bolt Circle	HS Cap Screws	J Plate Size	K Arm ϕ Thickness	L Pole ϕ Thickness	θ	X Max
25'-0"	10'-0"	22'-8"±	16'-0"	7 5/16"	0.2391"	12"	1 1/4"-7NC-3"	1'-0"	1 1/4"	1 1/2"	23°	10'-6"
30'-0"	12'-0"	8"										
35'-0"	14'-0"	23'-0"±		8 1/16"		13 1/2"		1 1/2"	21°			
40'-0"	15'-0"	23'-8"±		9 3/8"						1'-1 1/2"	1 1/2"	15°
45'-0"			10 1/4"									

M Projected Length	N Rise	Min OD at Pole	Thickness	P Mounting Height	
				30'-0" Pole	35'-0" Pole
6'-0"	2'-0"±	3 1/4"	0.1196"	31'-6"±	36'-6"±
8'-0"	2'-6"±	3 1/2"		32'-0"±	37'-0"±
10'-0"	3'-3"±	3 7/8"		32'-9"±	37'-9"±
12'-0"	4'-3"±			33'-9"±	38'-9"±
15'-0"	4'-9"±	4 1/4"		34'-3"±	39'-3"±

Pole Type	Load Case	Wind Velocity mph	A Height			Min OD	Thickness	Alternative Section		
			Base	Top	B Length			Bottom	Top	
18-4-100	4	100	17'-0"	9"	12"	0.2391"	None	9 3/8"	8"	
19-4-100			30'-0"	8"			10'-0"			8"
19A-4-100			35'-0"	7 5/16"			15'-0"			7 5/16"
23-4-100			17'-0"	9"			None			
24-4-100			30'-0"	8"	10'-0"	8"				
24A-4-100			35'-0"	7 5/16"	15'-0"	7 5/16"				
26-4-100			30'-0"	8"	10'-0"	8 3/8"				
26A-4-100			35'-0"	7 5/16"	15'-0"	7 1/16"				
27-4-100			17'-0"	9 3/4"	None					

C	DI Bolt Circle	Thickness	Anchor Bolts	
			Size	Reinforced
1'-6"	1'-6"	1 1/2"	2" ϕ x 42" x 6"	Yes

Luminaire Arm	Signal Arm	Dia	Depth	Reinforced
None	25'-0", 30'-0"			
6'-15' 12'-0"	35'-0"	3'-0"	9'-0"	Yes
6'-15' 15'-0"				
None	40'-0", 45'-0"	3'-0"	9'-0"	Yes
6'-15' 12'-0"				
6'-15' 15'-0"				
6'-15' 15'-0"				

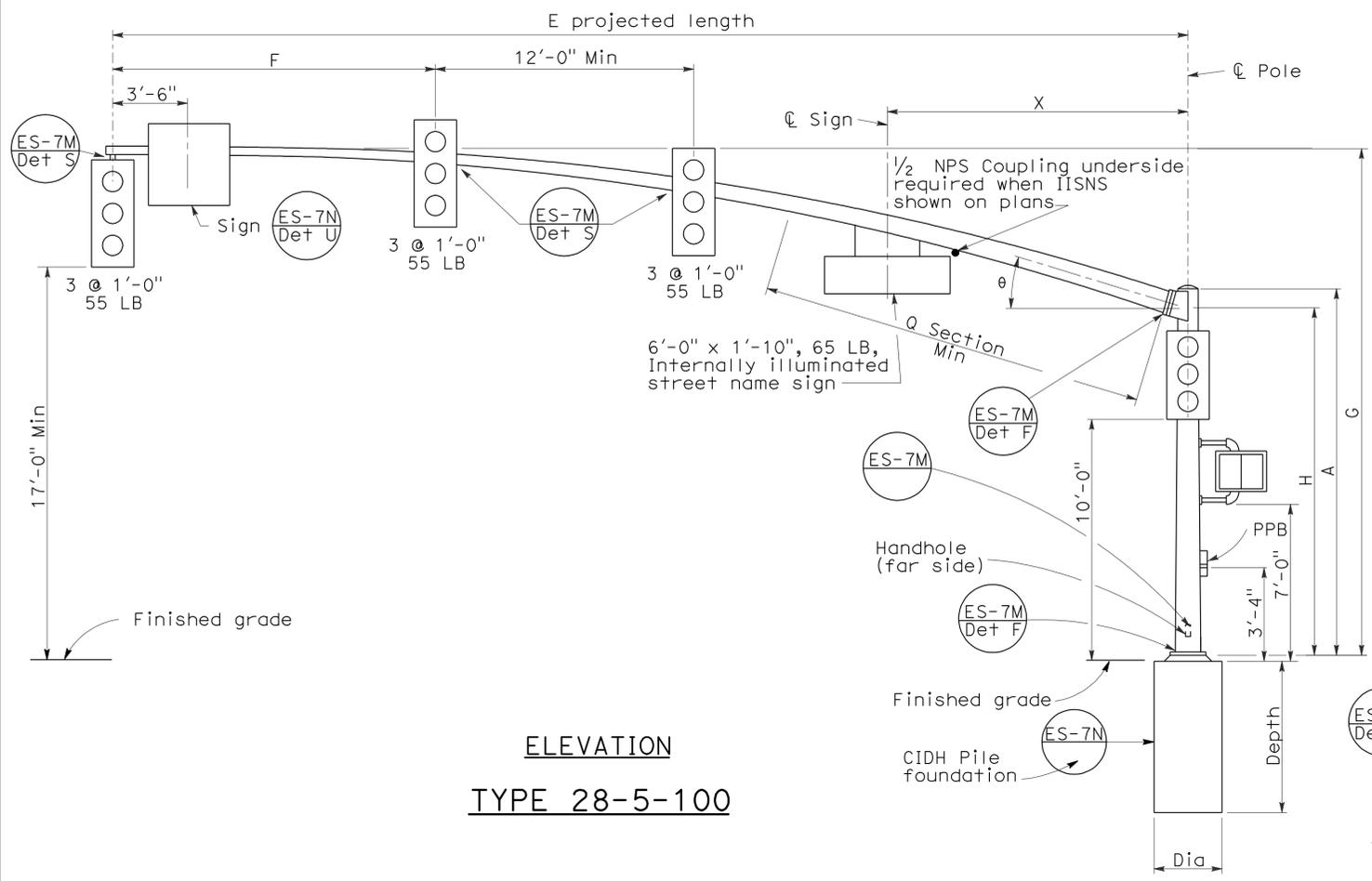
□ Indicates arm length to be used unless otherwise noted on plans.

REVISED STANDARD PLAN RSP ES-7F

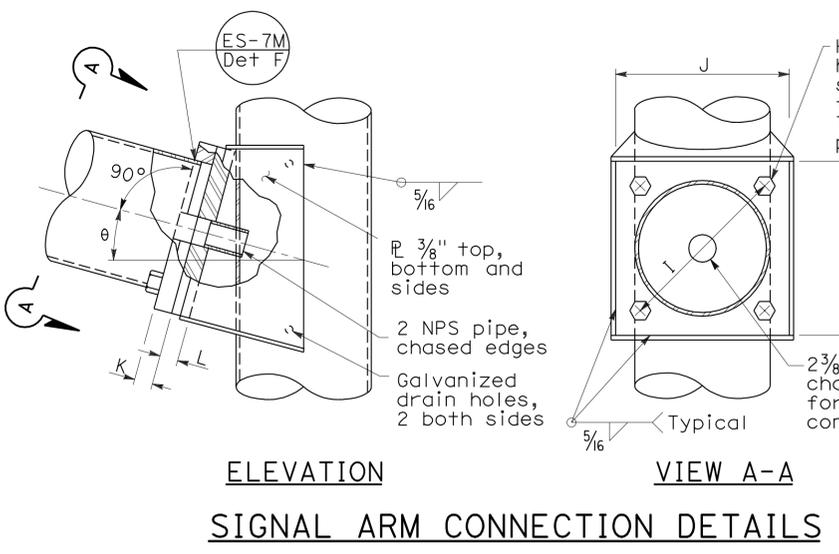
2006 REVISED STANDARD PLAN RSP ES-7F

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (SIGNAL AND LIGHTING STANDARD
 CASE 4 ARM LOADING
 WIND VELOCITY=100 MPH
 ARM LENGTHS 25' TO 45')**
 NO SCALE

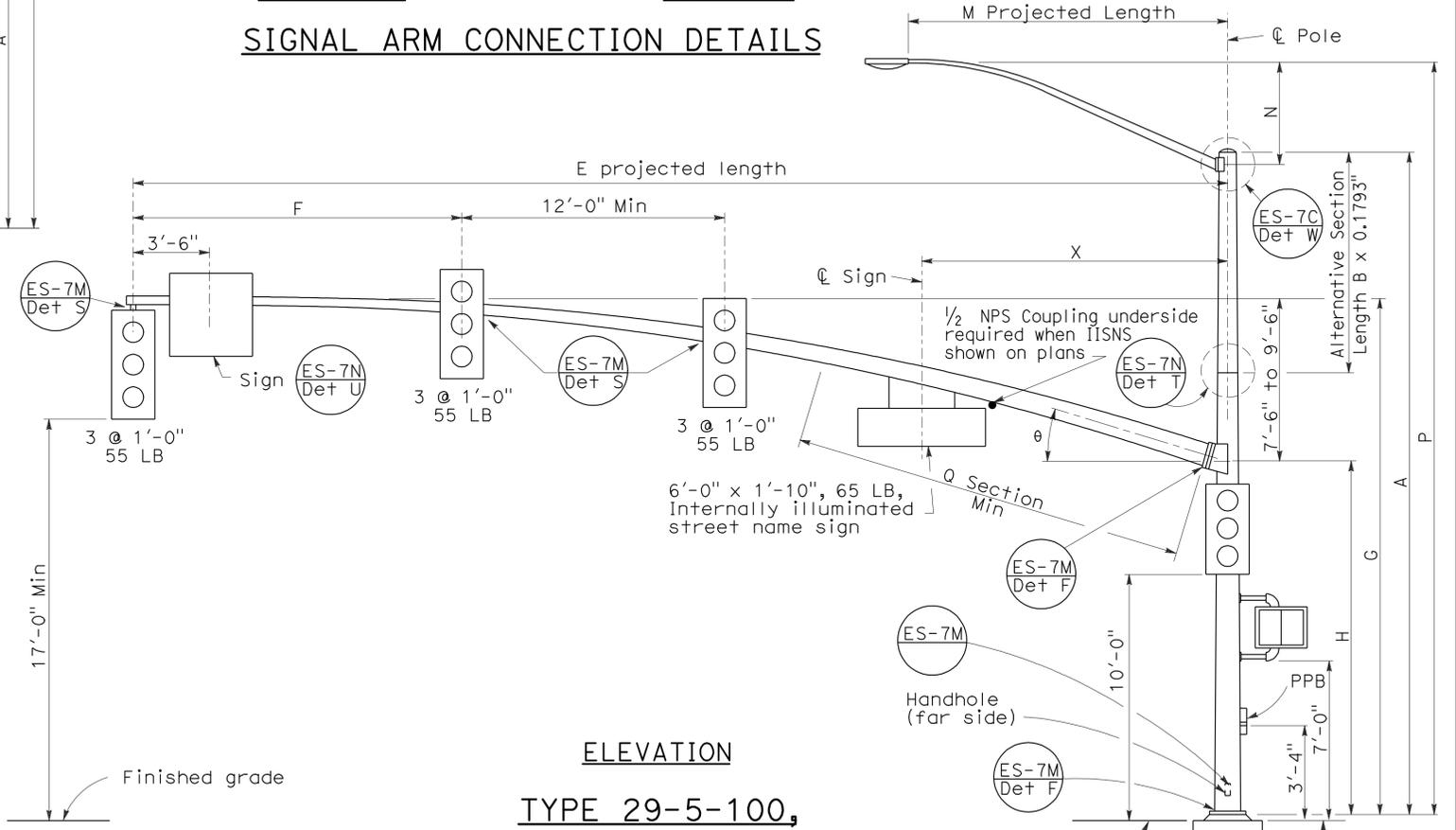
RSP ES-7F DATED OCTOBER 5, 2007 SUPERCEDES RSP ES-7F DATED
 NOVEMBER 17, 2006 AND STANDARD PLAN ES-7F DATED MAY 1, 2006 -
 PAGE 442 OF THE STANDARD PLANS BOOK DATED MAY 2006.



ELEVATION
TYPE 28-5-100

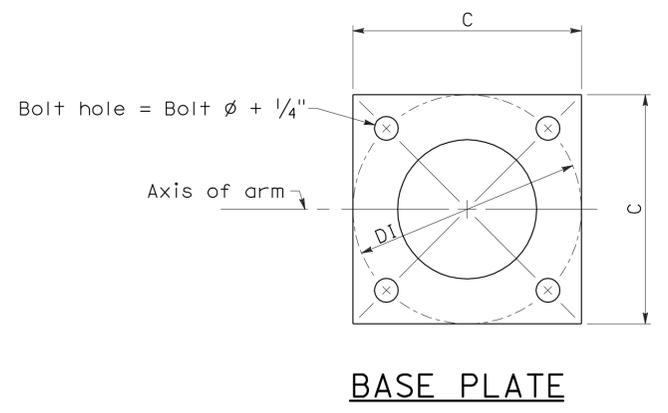


ELEVATION
VIEW A-A
SIGNAL ARM CONNECTION DETAILS



ELEVATION
TYPE 29-5-100,
29A-5-100

M Projected Length	N Rise	Min OD at Pole	Thickness	P Mounting Height
6'-0"	2'-0"±	3 1/4"	0.1196"	30'-0" Pole
8'-0"	2'-6"±	3 1/2"		31'-6"±
10'-0"	3'-3"±	3 7/8"		32'-0"±
12'-0"	4'-3"±			32'-9"±
15'-0"	4'-9"±	4 1/4"		37'-0"±
				37'-9"±
				33'-9"±
				38'-9"±
				34'-3"±
				39'-3"±



BASE PLATE

E Projected Length	F Min Spacing	G Mounting Height	H	Min OD at Pole	Thickness	I Bolt Circle	HS Cap Screws	J Plate Size	K Arm Thickness	L Pole Thickness	θ	Q Section		X Max
												Length	Thickness	
50'-0"	15'-0"	23'-7"± to 25'-7"±	16'-0"	11 11/16"	0.1793"	16"	1 1/2"-6NC-3 1/4"	1'-4"	1 3/4"	1 3/4"	15°	18'-0"	0.2391"	14'-0"
55'-0"												23'-0"		

Pole Type	Load Case	Wind Velocity mph	POLE DATA				BASE PLATE DATA				Luminaire Arm	Signal Arm	CIDH PILE FOUNDATION					
			A Height	Min OD		Thickness	C	DI Bolt Circle	Thickness	Anchor Bolts Size			Dia	Depth	Reinforced			
				Base	Top											B Length	Bottom	Top
28-5-100	5	100	17'-0"	14"	11 11/16"	21"	21"	1 3/4"	2" ø x 42" x 6"	6'-15'	15'-0"	50'-0", 55'-0"	3'-0"	9'-2"	Yes			
29-5-100			30'-0"		9 7/8"											10'-0"	11 1/4"	9 7/8"
29A-5-100			35'-0"		9 3/16"											15'-0"	9 3/16"	23"

□ Indicates arm length to be used unless otherwise noted on plans.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(SIGNAL AND LIGHTING STANDARD
CASE 5 ARM LOADING
WIND VELOCITY=100 MPH,
ARM LENGTHS 50' TO 55')
 NO SCALE

RSP ES-7G DATED NOVEMBER 17, 2006 SUPERSEDES STANDARD PLAN ES-7G
 DATED MAY 1, 2006 - PAGE 443 OF THE STANDARD PLANS BOOK DATED MAY 2006.

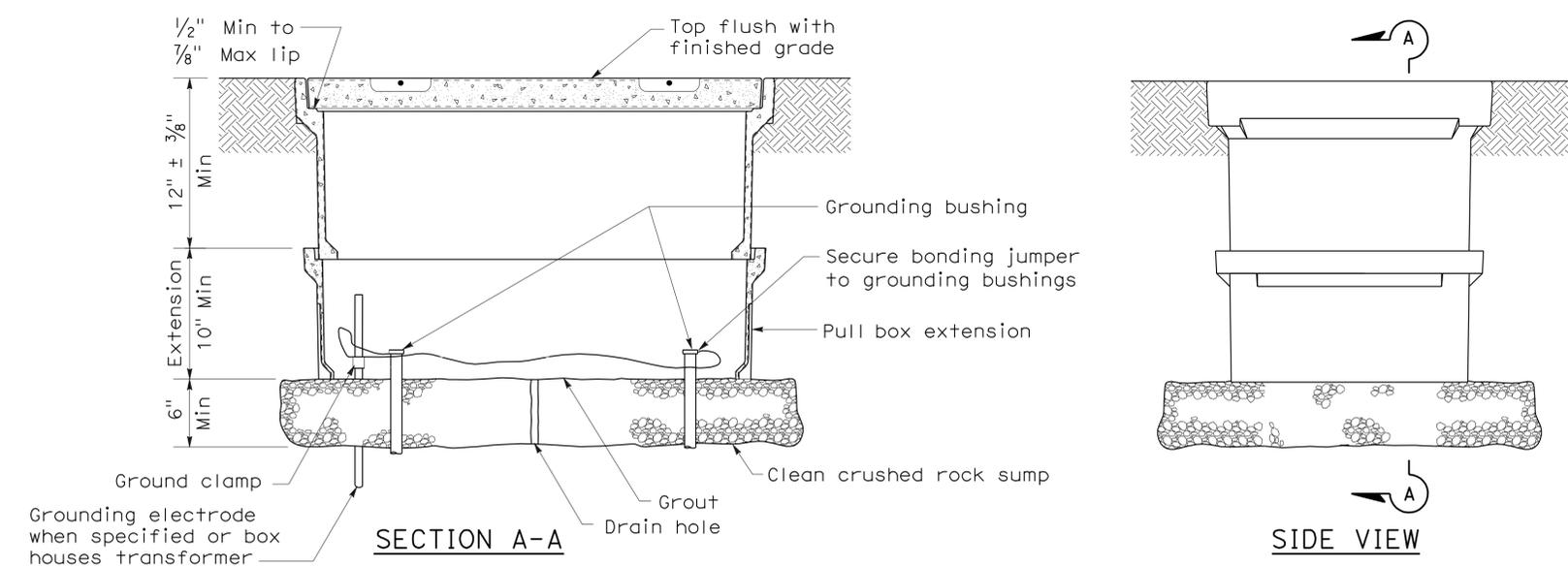
REVISED STANDARD PLAN RSP ES-7G

2006 REVISED STANDARD PLAN RSP ES-7G

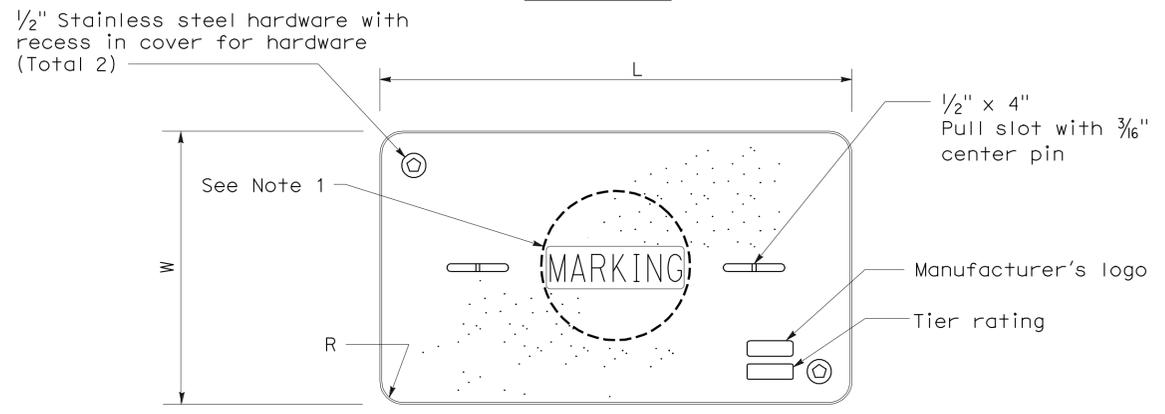
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Son	101	25.6/29.2	524	615

Jeffrey G. McRae
 REGISTERED ELECTRICAL ENGINEER
 January 20, 2012
 PLANS APPROVAL DATE
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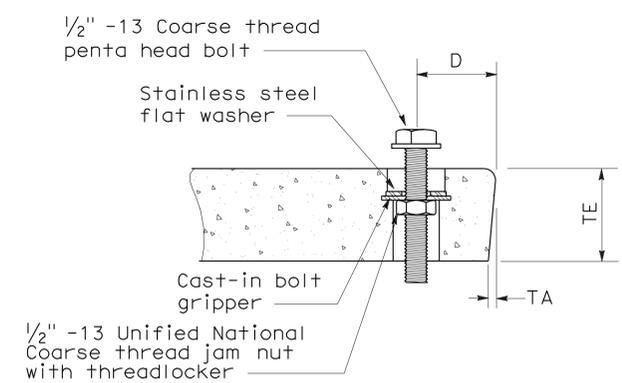
REGISTERED PROFESSIONAL ENGINEER
 Jeffrey G. McRae
 No. E14512
 Exp. 6-30-12
 ELECTRICAL
 STATE OF CALIFORNIA



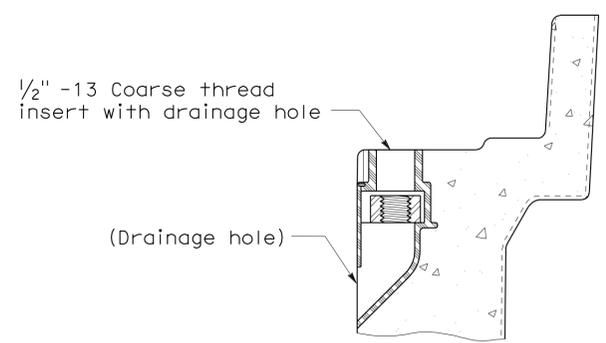
INSTALLATION DETAILS
DETAIL A



COVER TOP VIEW



TYPICAL COVER CAPTIVE BOLT
(Or similar)



TYPICAL THREADED INSERT
(Or similar)

NOTES ON PULL BOXES:

- Pull box covers must be marked as follows: "SERVICE" Service circuits between service point and service disconnect; "SPRINKLER-CONTROL" sprinkler control circuits, 50 V or less; "CALTRANS" on all pull boxes, except pull boxes marked "SPRINKLER-CONTROL"; and "TELEPHONE" Telephone service;
 - No. 3/2 pull box.
 - "SIGNAL" - Traffic signal circuits with or without street or sign lighting circuits.
 - "ST LIGHTING" - Street or sign lighting circuits where voltage is under 600 V.
 - No. 5, 6, 9 or 9A pull box.
 - "TRAFFIC SIGNAL" - Traffic signal circuits with or without street or sign lighting circuits.
 - "STREET LIGHTING" - Street or sign lighting circuits where voltage is under 600 V.
 - "STREET LIGHTING-HIGH VOLTAGE" - Street or sign lighting circuits where voltage is above 600 V.
 - "IRRIGATION" - Circuits to irrigation controller 120 V or more.
 - "RAMP METER" - Ramp meter circuits.
 - "COUNT STATION" - Count or speed monitor circuits.
 - "COMMUNICATIONS" - Communication circuits.
 - "TOS COMMUNICATIONS" - TOS communication line.
 - "TOS POWER" - TOS power.
 - "TDC POWER" - Telephone demarcation cabinet power.
 - "CCTV" - Closed circuit television circuits.
 - "TMS" - Traffic monitoring station circuits.
 - "CMS" - Changeable message sign circuits.
 - "HAR" - Highway advisory radio circuits.
- The nominal dimensions of the opening in which the cover sets must be the same as the cover dimensions (L and W) plus 1/8" or greater.
- Covers and boxes must be interchangeable with California Standard. When interchanged with a standard, the top surfaces must be flush within 1/8". Top outside radius of covers and pull boxes must have a 1/8" radius.
- Pull box extension may be another pull box as long as the bottom edge of the pull box can fit into the cover opening.

To accompany plans dated 9-10-12

DIMENSION TABLE										
PULL BOX	PULL BOX			COVER						
	Minimum Depth Box	Minimum Depth Extension	Maximum Weight	L	W	R	TE	TA	D	Maximum Weight
No. 3/2	12"	N/A	40 lb	1' - 3 3/8"	10 1/8"	1 3/8"	2"	1/8"	1 3/4"	30 lb
No. 5	12"	10"	55 lb	1' - 11 1/4"	1' - 1 3/4"	1 3/8"	2"	1/8"	1 3/4"	60 lb
No. 6	12"	10"	70 lb	2' - 6 1/2"	1' - 5 1/2"	1 3/8"	2"	1/8"	2"	85 lb

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(PULL BOX)
 NO SCALE

NSP ES-8A DATED JANUARY 20, 2012 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

2006 NEW STANDARD PLAN NSP ES-8A

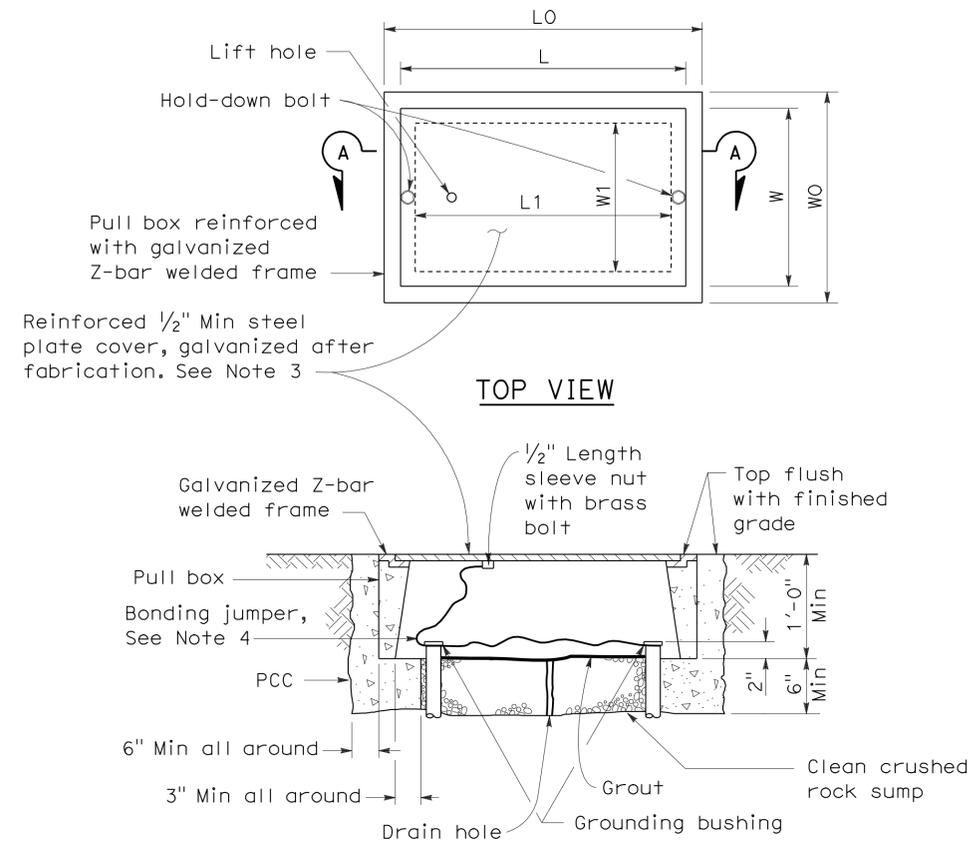
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Son	101	25.6/29.2	525	615

Jeffery G. McRae
 REGISTERED ELECTRICAL ENGINEER
 January 20, 2012
 PLANS APPROVAL DATE

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2006 NEW STANDARD PLAN NSP ES-8B

To accompany plans dated 9-10-12



No. 3 1/2(T), No. 5(T) AND No. 6(T) TRAFFIC PULL BOX

NOTES ON PULL BOXES:

- Traffic pull box shall be provided with steel cover and special concrete footing. Steel cover shall have embossed non-skid pattern.
- Steel reinforcing shall be as regularly used in the standard products of the respective manufacturer.
- Pull box covers must be marked as follows: "SERVICE" Service circuits between service point and service disconnect; "SPRINKLER-CONTROL" Sprinkler control circuits, 50 V or less; "CALTRANS" On all pull boxes, except pull boxes marked "SPRINKLER-CONTROL"; and "TELEPHONE" Telephone service.
 - No. 3 1/2(T) pull box.
 - "SIGNAL" - Traffic signal circuits with or without street or sign lighting circuits.
 - "ST LIGHTING" - Street or sign lighting circuits where voltage is under 600 V.
 - No. 5(T) or 6(T) pull box.
 - "TRAFFIC SIGNAL" - Traffic signal circuits with or without street or sign lighting circuits.
 - "STREET LIGHTING" - Street or sign lighting circuits where voltage is under 600 V.
 - "STREET LIGHTING-HIGH VOLTAGE" - Street or sign lighting circuits where voltage is above 600 V.
 - "IRRIGATION" - Circuits to irrigation controller 120 V or more.
 - "RAMP METER" - Ramp meter circuits.
 - "COUNT STATION" - Count or speed monitor circuits.
 - "COMMUNICATION" - Communication circuits.
 - "TOS COMMUNICATIONS" - TOS communications line.
 - "TOS POWER" - TOS power.
 - "TDC POWER" - Telephone demarcation cabinet power.
 - "CCTV" - Closed circuit television circuits.
 - "TMS" - Traffic monitoring station circuits.
 - "CMS" - Changeable message sign circuits.
 - "HAR" - Highway advisory radio circuits.
- Bonding jumper for metal covers shall be 3' long, minimum.
- The nominal dimensions of the opening in which the cover sets must be the same as the cover dimensions except the length and width dimensions shall be 1/8" greater.
- Covers and boxes must be interchangeable with California standard male and female gages. When interchanged with a standard male or female gage, the top surfaces must be flush within 1/8".

DIMENSION TABLE

PULL BOX	BOX						COVER				
	Minimum * Thickness	Minimum Depth Box and Extension	W0	L0	L1	W1	L **	W **	R	Edge Thickness	Edge Taper
No. 3 1/2(T)	1 1/2"	1'-0"	1'-5" ± 1"	1'-8 7/8" ±	1'-2 1/2" ±	10 5/8" ± 1"	1'-8" ±	1'-1 3/4" ±	0"	1/2"	None
No. 5(T)	1 3/4"	1'-0"	1'-11 1/2" ± 1"	2'-5 1/2" ±	1'-7" ±	1'-1" ± 1"	2'-3" ±	1'-4" ±	0"	1/2"	None
No. 6(T)	2"	1'-0"	2'-6" ± 1"	2'-11 1/2" ±	1'-11 1/2" ±	1'-5" ± 1"	2'-9" ±	1'-8" ±	0"	1/2"	None

* Excluding conduit web ** Top dimension

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (TRAFFIC RATED PULL BOX)**
 NO SCALE

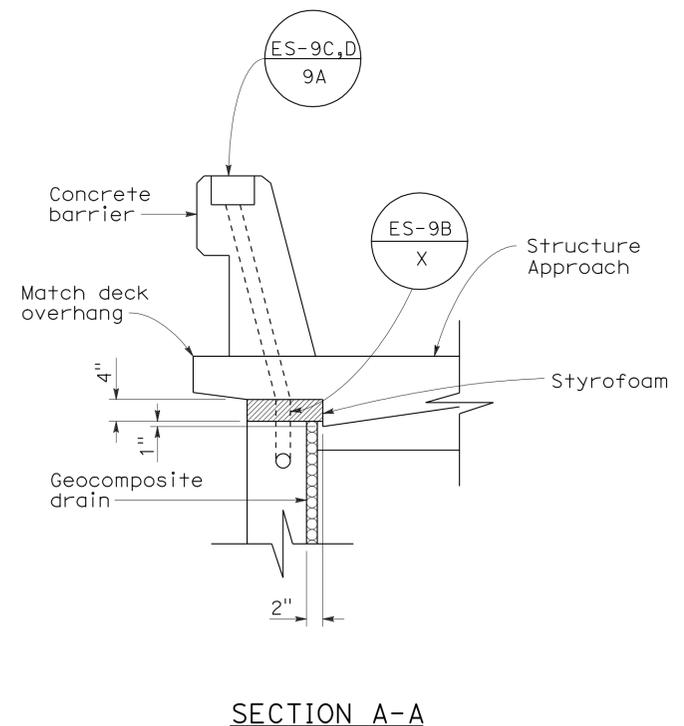
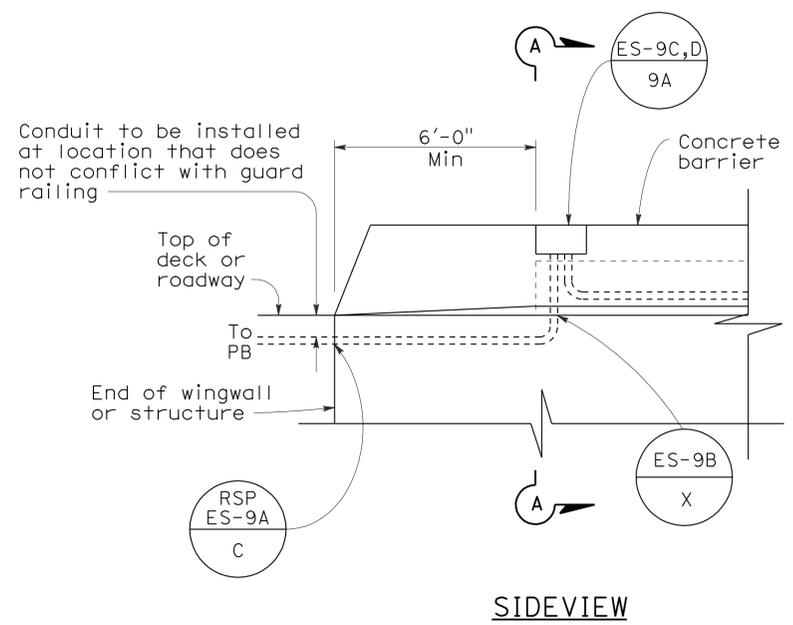
NSP ES-8B DATED JANUARY 20, 2012 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Son	101	25.6/29.2	526	615

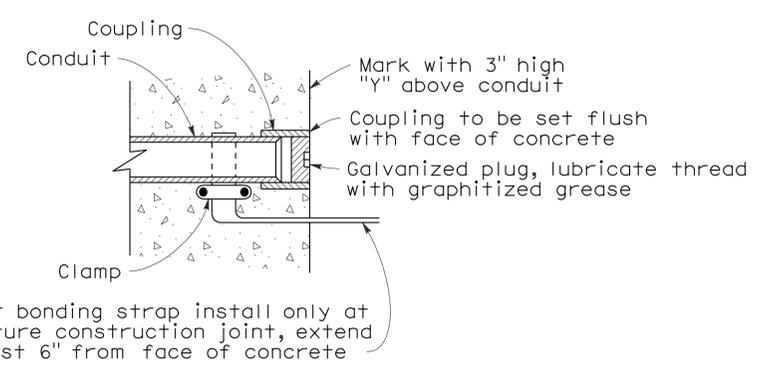
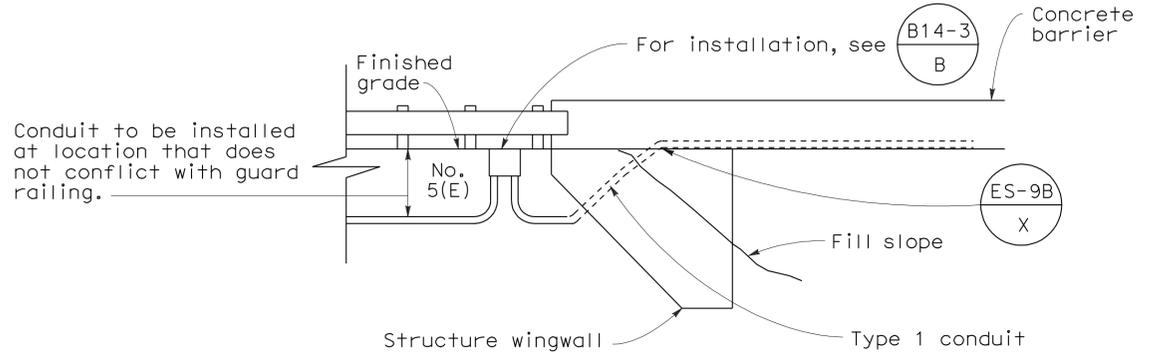
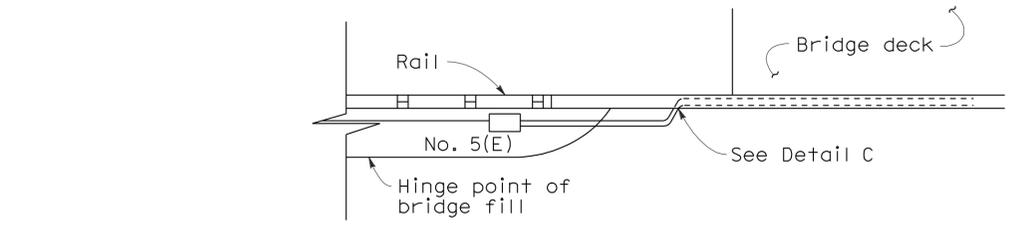
Jeffery G. McRae
 REGISTERED ELECTRICAL ENGINEER
 October 5, 2007
 PLANS APPROVAL DATE
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REGISTERED PROFESSIONAL ENGINEER
 Jeffery G. McRae
 No. E14512
 Exp. 6-30-08
 ELECTRICAL
 STATE OF CALIFORNIA

To accompany plans dated 9-10-12



**DETAIL A
CONDUIT TERMINATION**



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
(ELECTRICAL DETAILS
STRUCTURE INSTALLATIONS)**

NO SCALE

RSP ES-9A DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-9A
DATED MAY 1, 2006 - PAGE 454 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-9A

2006 REVISED STANDARD PLAN RSP ES-9A

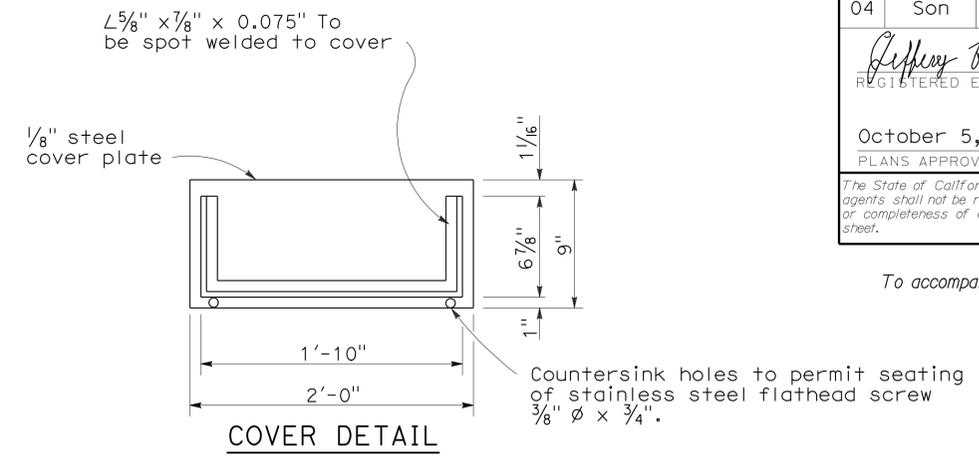
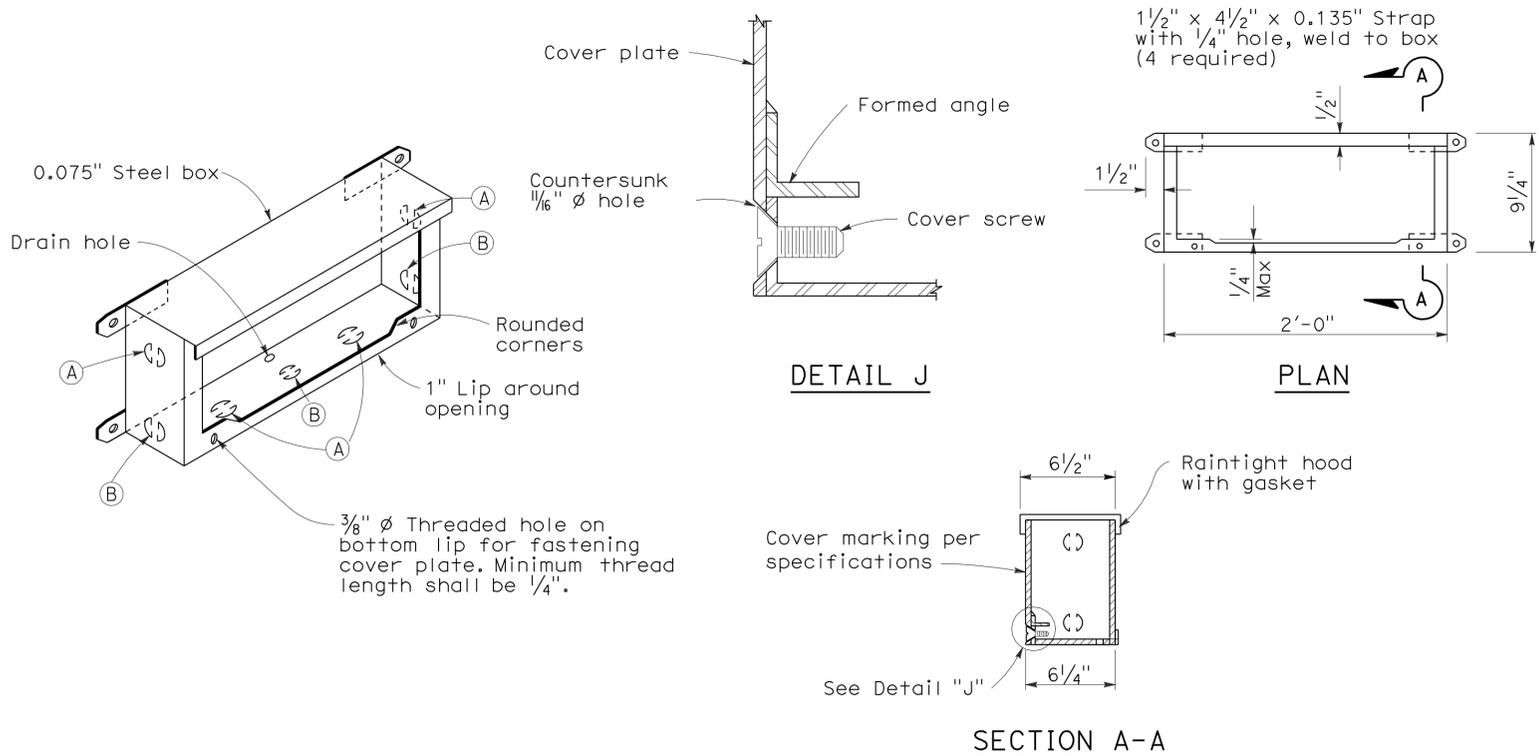
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Son	101	25.6/29.2	527	615

REGISTERED ELECTRICAL ENGINEER
Jeffery G. McRae
 No. E14512
 Exp. 6-30-08
 ELECTRICAL
 STATE OF CALIFORNIA

October 5, 2007
 PLANS APPROVAL DATE

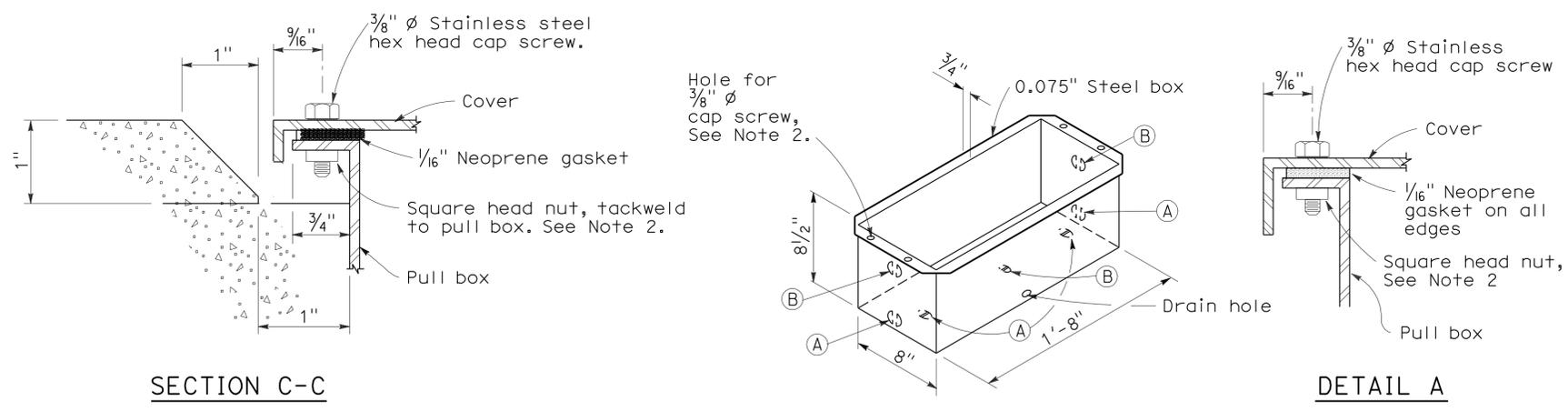
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 9-10-12



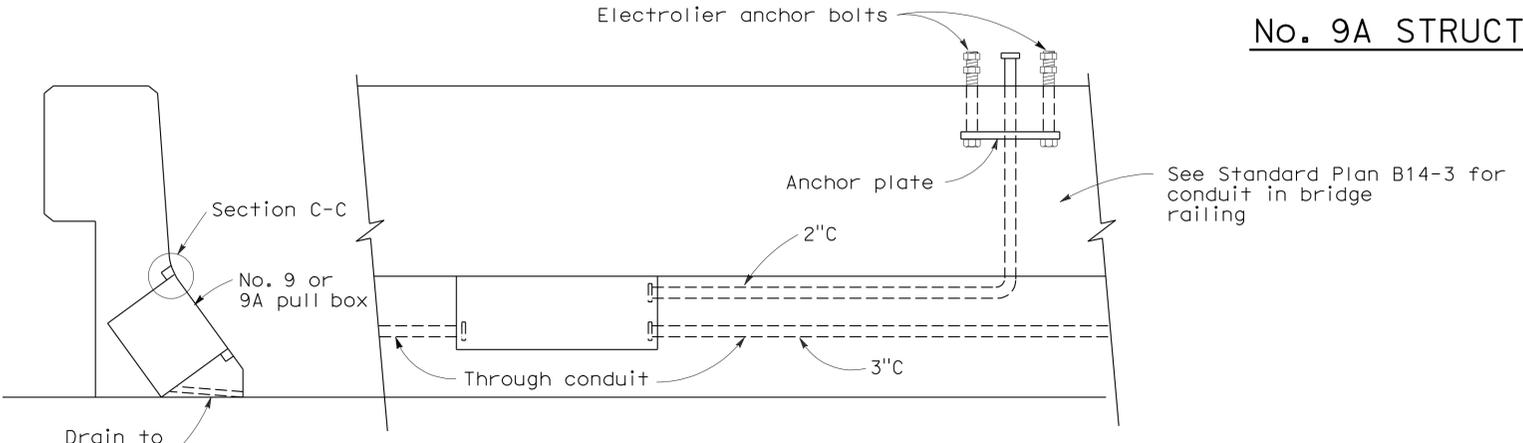
INSTALLATION NOTE:
 Box shall be parallel to top of railing. Close cover box during pouring with 1/4" plywood of sufficient size to provide 1:1 chamfer on 3 sides of cover. Upper edge of plywood shall fit against lower edge of raintight hood.

No. 9 STRUCTURE PULL BOX



- NOTES:** No. 9 and 9A Pull Box
- Corner joints shall be lapped and secured by spot welding or riveting.
 - Where cap screws are used to attach cover to box, either of the following methods of providing adequate threading may be used:
 - Tack weld square nut to bottom of flange (Total 4), or
 - Tack weld a 1/4" x 5/8" x 8" bar beneath flange (Total 2).
 - Pound knockouts flat after punching.
 - Multiple size knockouts shall not be permitted.
 - Pull box covers shall be marked as shown on Standard Plan ES-8.

No. 9A STRUCTURE PULL BOX



INSTALLATION IN SLOPING PARAPETS

For reinforcement in area of electrolier, see railing sheets. For electrolier anchor bolts, see Standard Plan ES-6B.

- KNOCKOUT SCHEDULE**
No. 9 AND 9A PULL BOX
- (A) 2"C, 1 each end, 2 on bottom.
 - (B) 3"C, 1 each end, 1 on bottom.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(ELECTRICAL DETAILS
STRUCTURE INSTALLATIONS)

NO SCALE
 RSP ES-9C DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-9C
 DATED MAY 1, 2006 - PAGE 456 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP ES-9C

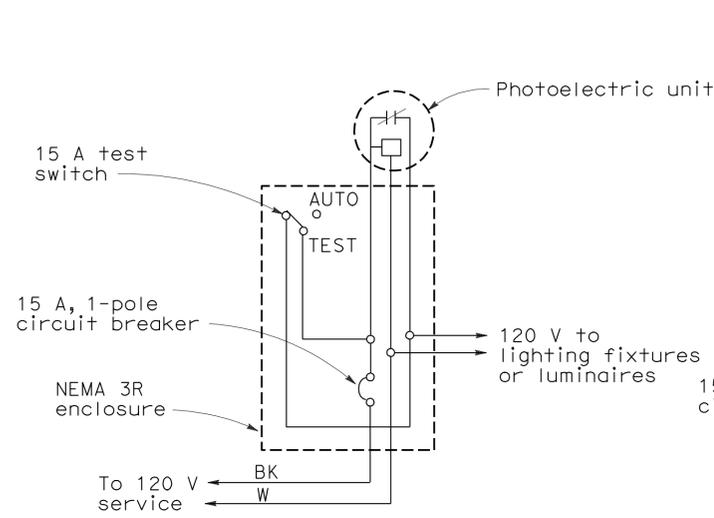
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Son	101	25.6/29.2	528	615

Jeffrey G. McRae
 REGISTERED ELECTRICAL ENGINEER
 October 5, 2007
 PLANS APPROVAL DATE
 Jeffrey G. McRae
 No. E14512
 Exp. 6-30-08
 ELECTRICAL
 STATE OF CALIFORNIA
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

NOTES: (FOR LIGHTING AND SIGN ILLUMINATION CONTROL)

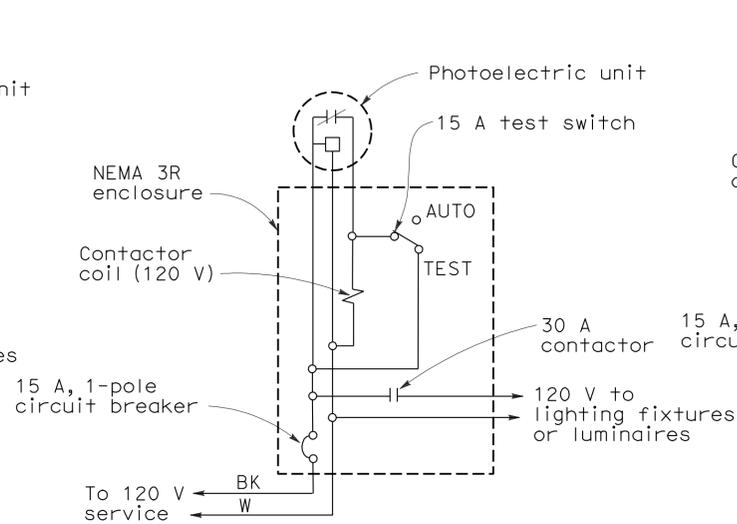
1. The ballast voltages of lighting fixtures and luminaires shall match line service voltages.
2. Voltage rating of photoelectric controls shall conform to the service voltage indicated on the plans.
3. Terminal strip shall be provided for wiring to fixtures.
4. Type SC1A, SC2A, SC3A controls are similar to Types SC1, SC2 and SC3 controls respectively except test switch and wiring are not required.

To accompany plans dated 9-10-12



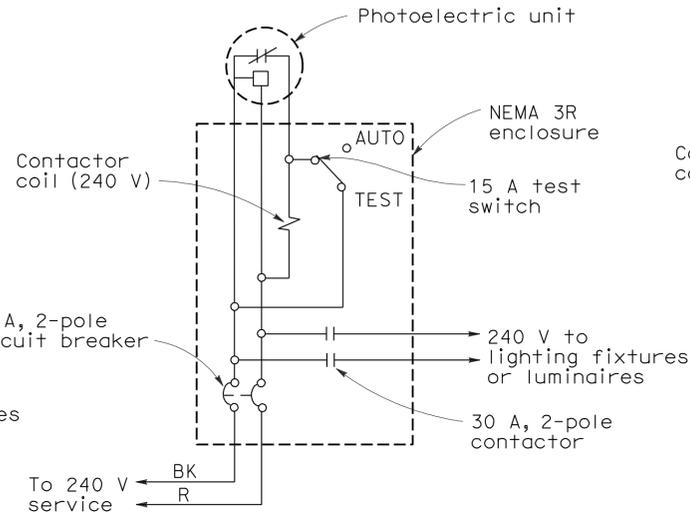
TYPE LC1 CONTROL

For 120 V unswitched circuit with no more than 800 W load.



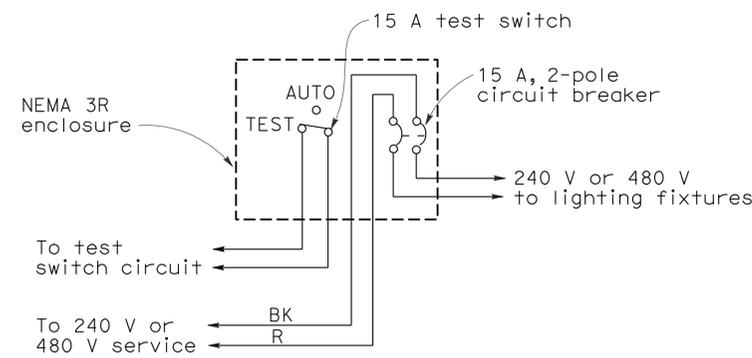
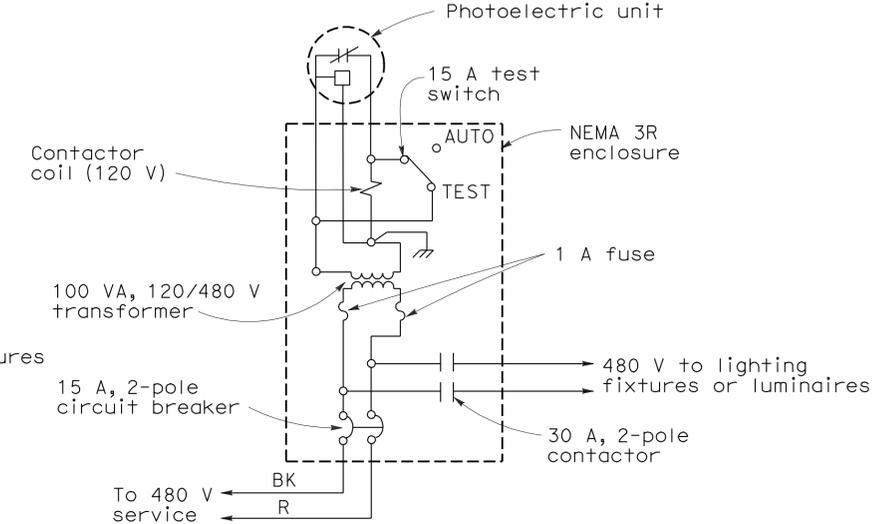
TYPE LC2 CONTROL

For 120 V unswitched circuit



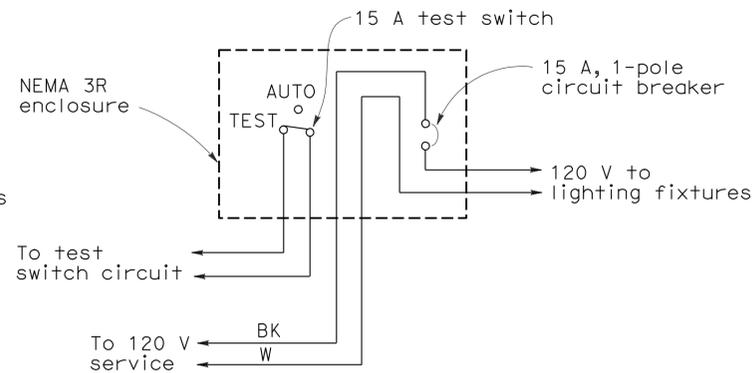
TYPE LC3 CONTROL

For 240 V and 480 V unswitched circuits



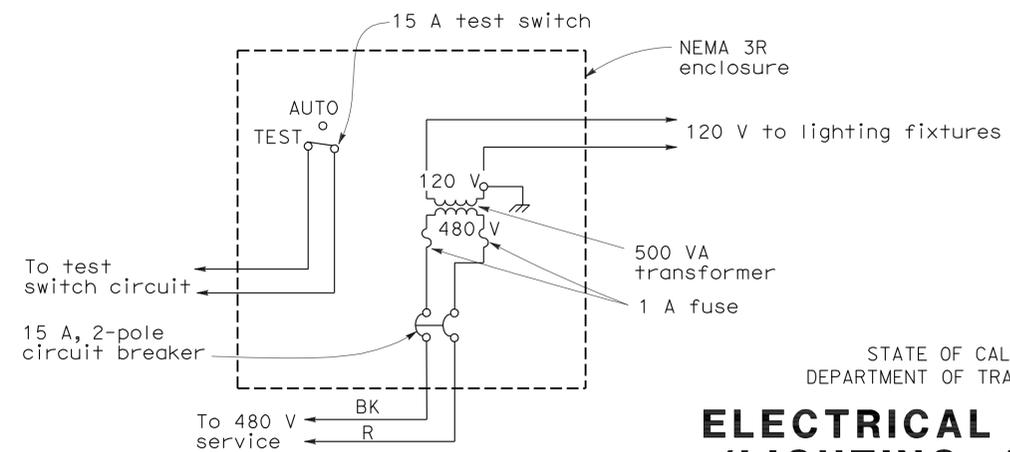
TYPE SC1 CONTROL

For 240 V or 480 V switched circuit, see Note 4 for Type SC1A



TYPE SC2 CONTROL

For 120 V switched circuit, see Note 4 for Type SC2A



TYPE SC3 CONTROL

For 480 V switched sign circuit, see Note 4 for Type SC3A

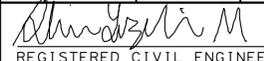
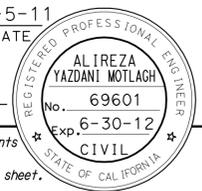
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (LIGHTING AND SIGN
 ILLUMINATION CONTROL)**

NO SCALE

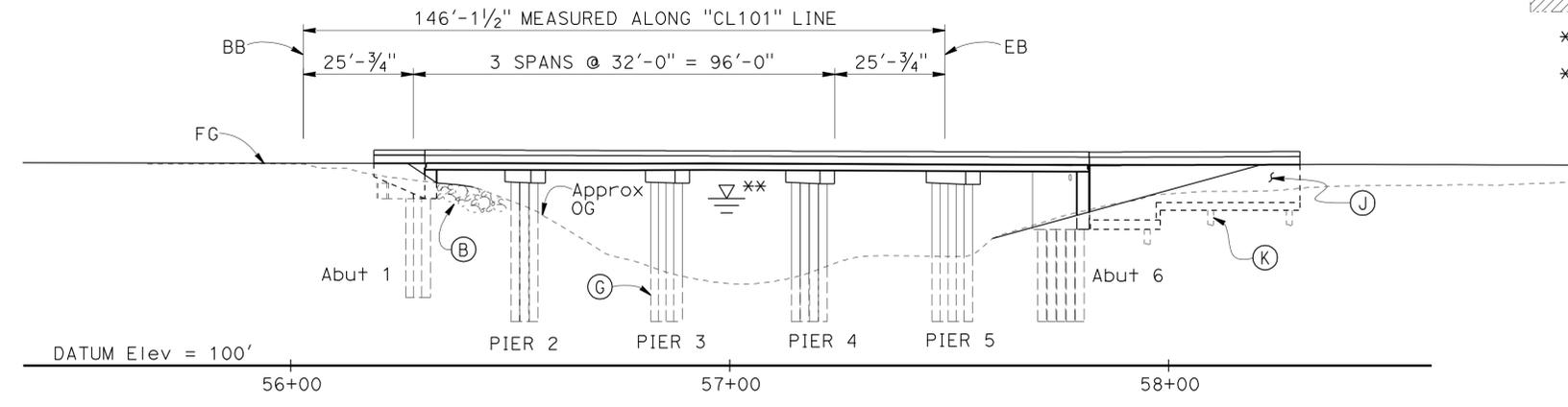
RSP ES-15D DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-15D DATED MAY 1, 2006 - PAGE 472 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-15D

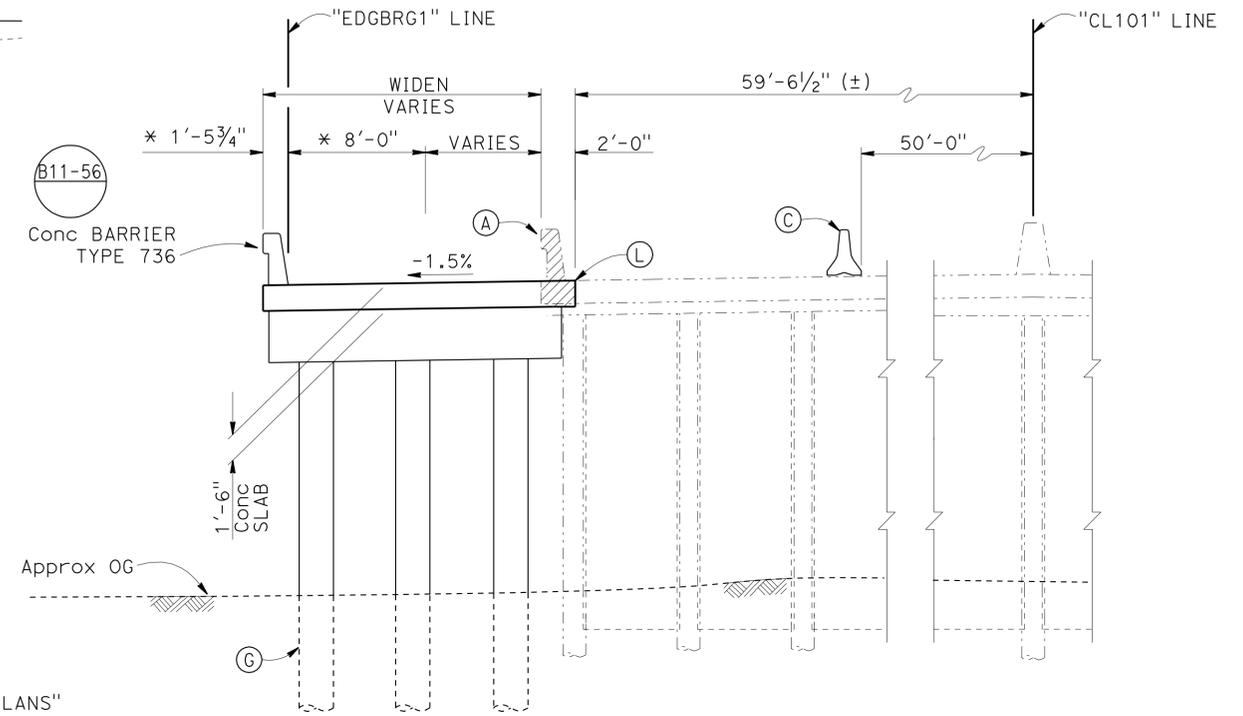
2006 REVISED STANDARD PLAN RSP ES-15D

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	529	615
 REGISTERED CIVIL ENGINEER			7-5-11	DATE	
9-10-12 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					

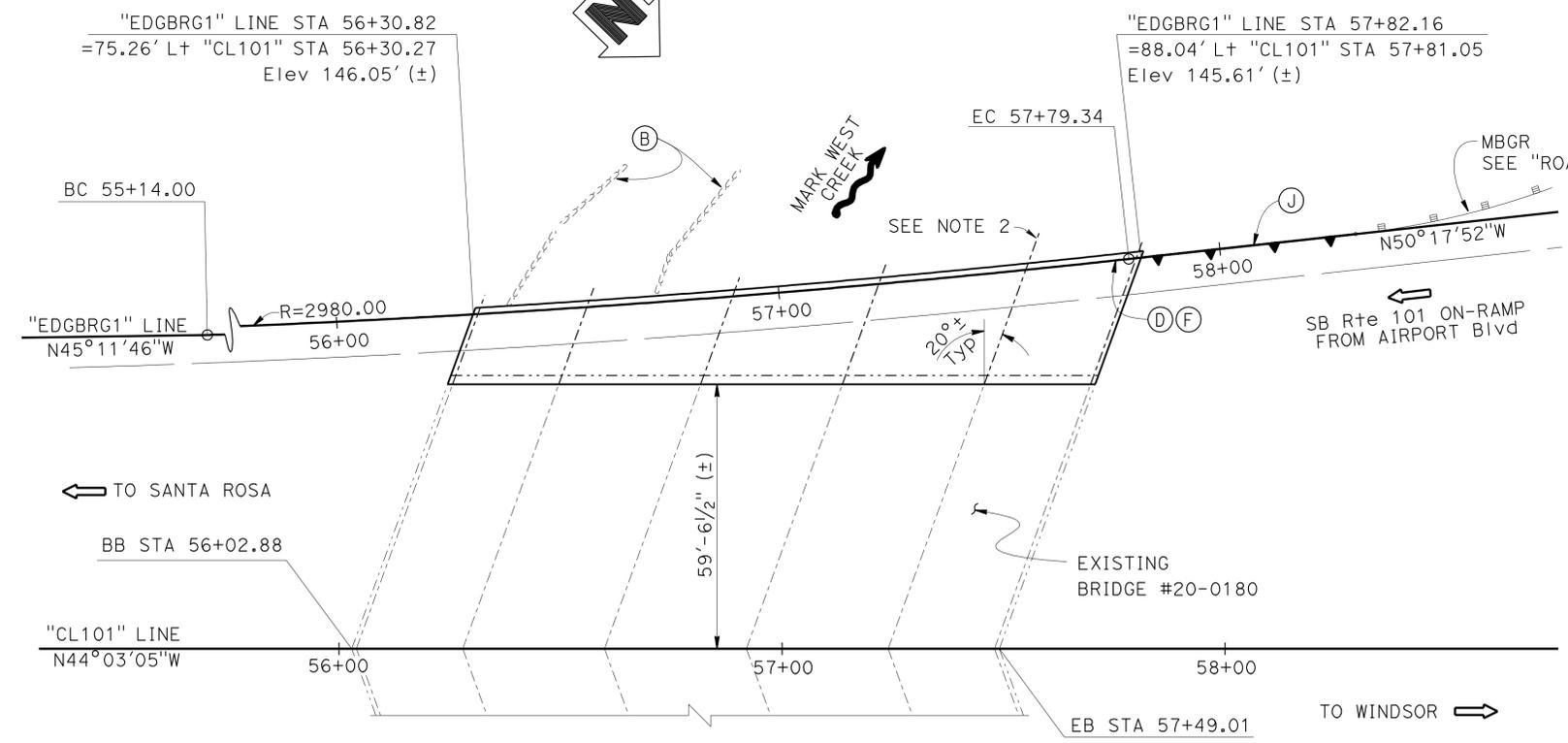
- LEGEND:
- Indicates New Structure
 - - - Indicates Existing Structure
 - ▨ Indicates Limits of Bridge removal (Portion)
 - * Normal to "EDGBRG1" Line
 - ** For Hydraulic Summary see "FOUNDATION PLAN" sheet



MIRRORED ELEVATION
1" = 20'



TYPICAL SECTION
3/8" = 1'-0"



PLAN
1" = 20'

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

- NOTES:
- (A) Existing Barrier and portion of Concrete Deck and Pier Cap to be removed
 - (B) Slope Protection, Typ (Replace disturbed slope protection, see "ROAD PLANS")
 - (C) Temp Barrier "Type K", see "ROAD PLANS"
 - (D) Paint "Bridge No. 20-0180"
 - (F) Paint "MARK WEST CREEK BRIDGE"
 - (G) 24" CISS Concrete Piles
 - (J) Retaining Wall, Type 5
 - (K) Class 90 Alt-Y, Precast Prestressed, Conc Pile @ Retaining Wall (Typ)
 - (L) Saw cut the top 3/4" of the existing deck
1. For Deck Drain System and Locations see "DECK GRAIN LAYOUT" and "DECK DRAIN DETAILS" sheets
2. Align new bent caps to the existing bent caps

QUANTITIES

	LUMP	SUM
BRIDGE REMOVAL (PORTION)		
STRUCTURE EXCAVATION (BRIDGE)	101	CY
STRUCTURE EXCAVATION (RETAINING WALL)	124	CY
STRUCTURE BACKFILL (BRIDGE)	57	CY
STRUCTURE BACKFILL (RETAINING WALL)	138	CY
FURNISH PILING (CLASS 90)	768	LF
DRIVE PILE (CLASS 90)	14	EA
FURNISH 24" CAST-IN-STEEL SHELL	1,496	LF
CONCRETE PILING		
DRIVE 24" CAST-IN-STEEL SHELL CONCRETE PILE	24	EA
STRUCTURAL CONCRETE, BRIDGE	279	CY
STRUCTURAL CONCRETE, RETAINING WALL	47	CY
BAR REINFORCING STEEL (BRIDGE)	103,337	LB
BAR REINFORCING STEEL (RETAINING WALL)	4,337	LB
BRIDGE DECK DRAINAGE SYSTEM	3,284	LB
CONCRETE BARRIER (TYPE 736)	213	LF


7-5-2011 SAMAD HAMOUD
DESIGN ENGINEER

DESIGN	BY Alireza Yazdani	CHECKED Muthanna Omran
DETAILS	BY Min Yu/Franklin Maagma	CHECKED Muthanna Omran
QUANTITIES	BY Pao-Tsan Wang	CHECKED Son Ly/Hardeep Singh

LOAD & RESISTANCE FACTOR DESIGN	BY Alireza Yazdani	CHECKED John E Peterson
LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE	BY Sirisha Nelapatla	CHECKED Sirisha Nelapatla

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 16

BRIDGE NO.	20-0180
POST MILE	26.1

MARK WEST CREEK BRIDGE (WIDEN)
GENERAL PLAN

PILE DATA TABLE

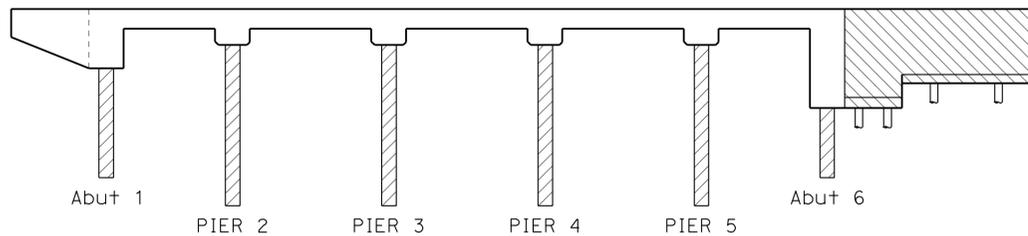
SUPPORT LOCATION	PILE TYPE	NOMINAL RESISTANCE (kips)		DESIGN TIP ELEVATION (F+)	SPECIFIED TIP ELEVATION (F+)	NOMINAL DRIVING RESISTANCE REQUIRED (kips)
		COMPRESSION	TENSION			
Abut 1	CISS NPS 24x0.5	140	0	105.2 (a) 96.2 (d)	96	360
BENT 2	CISS NPS 24x0.5	240	0	82 (a-I) 86 (a-II) 86 (d)	82	370
BENT 3	CISS NPS 24x0.5	220	0	71 (a-I) 76 (a-II) 76 (d)	71	320
BENT 4	CISS NPS 24x0.5	250	0	70 (a-I) 77 (a-II) 76.3 (d)	70	360
BENT 5	CISS NPS 24x0.5	220	0	71 (a-I) 78 (a-II) 78.7 (d)	71	350
Abut 6	CISS NPS 24x0.5	170	0	82.2 (a) 79.2 (d)	79	260

NOTES:

- Design tip elevations are controlled by: (a-I) Compression (Strength Limit), (a-II) Compression (Extreme Event), and (d) Lateral Loads, respectively
- The specified tip elevation shall not be raised above the design tip elevation for lateral at each support
- The nominal driving resistance required is equal to the nominal resistance needed to support the factored load plus driving resistance from the unsuitable penetrated soil layers (very soft, liquefiable, etc.), if any, which do not contribute to the design resistance
- Design tip elevation for Lateral Load is provided by Geotechnical Services and Structures Design

PILE DATA FOR ABUTMENT 6 RETAINING WALL

SUPPORT LOCATION	PILE TYPE	BOTTOM ELEVATION OF FOOTING (F+)	DESIGN LOADING (kips) PER PILE	NOMINAL RESISTANCE (kips)	DESIGN TIP ELEVATION (F+)	SPECIFIED TIP ELEVATION (F+)	NOMINAL DRIVING RESISTANCE REQUIRED (kips)
				COMPRESSION			
SEGMENT 1	Class 90 A1+-Y	131	90	180	77.2	77	250
SEGMENT 2	Class 90 A1+-Y	135.33	90	180	83.6	83	190



CONCRETE STRENGTH AND TYPE LIMITS

NO SCALE

- Structural Concrete, Bridge
- CISS NPS 24" x 1/2" Piles/Pile Extensions
- Structural Concrete, Retaining Wall

GENERAL NOTES

LOAD AND RESISTANCE FACTOR DESIGN

DESIGN:

AASHTO LRFD Bridge Design Specifications, 4th edition with Interims through 2008 and the Caltrans Amendments December 2008, except that geotechnical design of deep foundations, earth retaining systems, bridge (include barrier and railing) details taken from Standard Plans May 2006 and earlier versions, Standard Bridge Details XS sheets, etc. are designed using Bridge Design Specifications ('96 AASHTO with Revisions by Caltrans)

SEISMIC DESIGN:

Caltrans Seismic Design Criteria (SDC), Version 1.6 dated November 2010

DEAD LOAD:

Includes 35 psf for Future Wearing Surface

CONCRETE:

fy = 60 ksi
f'c = 3.6 ksi
n = 8

POLYSTYRENE:

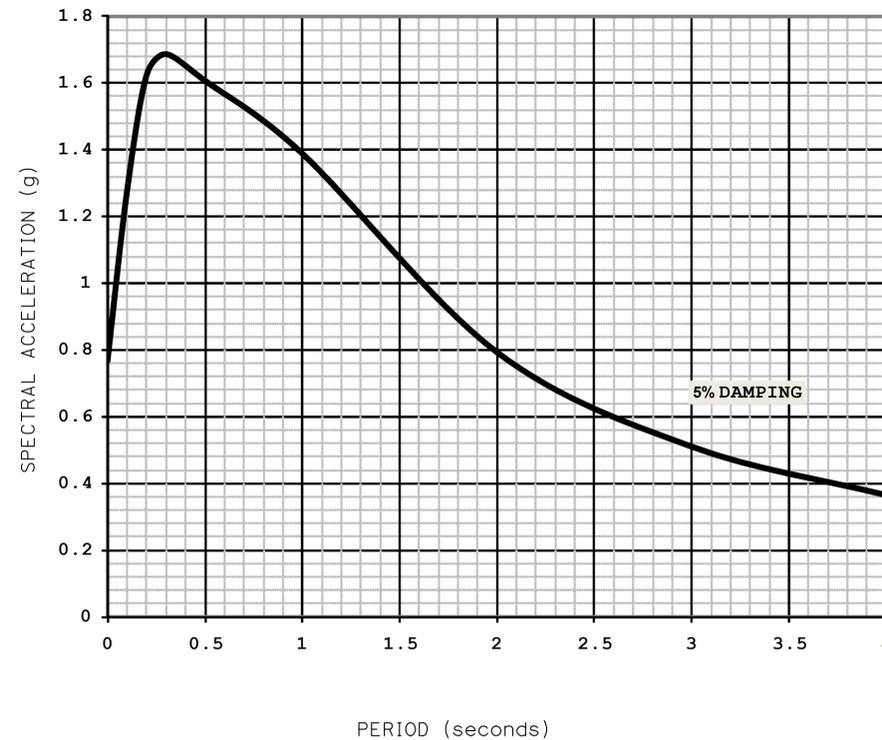
Remove all polystyrene with 3" of all visible faces

STRUCTURAL STEEL:

fy = ASTM A709 Grade 36
Steel Shell CISS Piles: ASTM A252, Grade 3

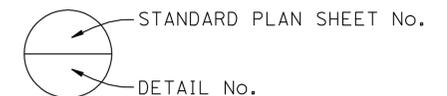
SEISMIC LOADING:

Site Specific Acceleration Response Spectra Curve
Probabilistic USGS Interactive Deaggregation ARS curve for a 975 year return period (5% probability of exceedence in 50 years) with a 20% increase for directivity for periods greater than 1 second.



STANDARD PLANS DATED MAY 2006

- A10A ACRONYMS AND ABBREVIATIONS (SHEET 1 OF 2)
- A10B ACRONYMS AND ABBREVIATIONS (SHEET 2 OF 2)
- A10C SYMBOLS (SHEET 1 OF 2)
- A10D SYMBOLS (SHEET 2 OF 2)
- A62C LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL - BRIDGE
- B0-1 BRIDGE DETAILS
- B0-3 BRIDGE DETAILS
- B2-5 PILE DETAILS CLASS 90 AND CLASS 140
- B3-7 RETAINING WALL TYPE 5
- B3-8 RETAINING WALL DETAILS No. 1
- B6-10 UTILITY OPENINGS T-BEAM
- B11-56 CONCRETE BARRIER TYPE 736



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	530	615

REGISTERED CIVIL ENGINEER DATE 5-4-11

9-10-12 PLANS APPROVAL DATE

ALIREZA YAZDANI MOTLAGH No. 69601 Exp. 6-30-12 CIVIL STATE OF CALIFORNIA

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INDEX TO PLANS

SHEET No.	TITLE
1	GENERAL PLAN
2	INDEX TO PLANS
3	FOUNDATION PLAN
4	ABUTMENT 1 LAYOUT
5	ABUTMENT 6 LAYOUT
6	ABUTMENT DETAILS
7	PIER DETAILS
8	TYPICAL SECTIONS
9	SLAB REINFORCEMENT TOP
10	SLAB REINFORCEMENT BOTTOM
11	SLAB REINFORCEMENT DETAILS
12	SLAB BRIDGE PILE DETAILS
13	DECK DRAIN LAYOUT
14	DECK DRAIN DETAILS
15	LOG OF TEST BORINGS 1 OF 3
16	LOG OF TEST BORINGS 2 OF 3
17	LOG OF TEST BORINGS 3 OF 3

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

DESIGN	BY Alireza Yazdani	CHECKED Muthanna Omran
DETAILS	BY Min Yu/Franklin Maagma	CHECKED Muthanna Omran
QUANTITIES	BY Pao-Tsan Wang	CHECKED Son Ly/Hardeep Singh

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16

BRIDGE NO.	20-0180
POST MILE	26.1

MARK WEST CREEK BRIDGE (WIDEN)

INDEX TO PLANS

USERNAME => s124496 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 13:41

CURVE DATA

No.	R	Δ	T	L
Ⓐ	3000.00	3°11'29"	83.57	167.10
Ⓑ	5000.00	4°44'23"	206.92	413.61
Ⓒ	2980.02	5°06'06"	132.76	265.34

Bridge Location #06-0139L (PN Points)

- ① - 48.59 Lt. "CL 101" Line @ Rte 101, Sta.56+20.77, EL.=146.25±
- ② - 58.45 Lt. "CL 101" Line @ Rte 101, Sta.57+69.74, EL.=145.91±

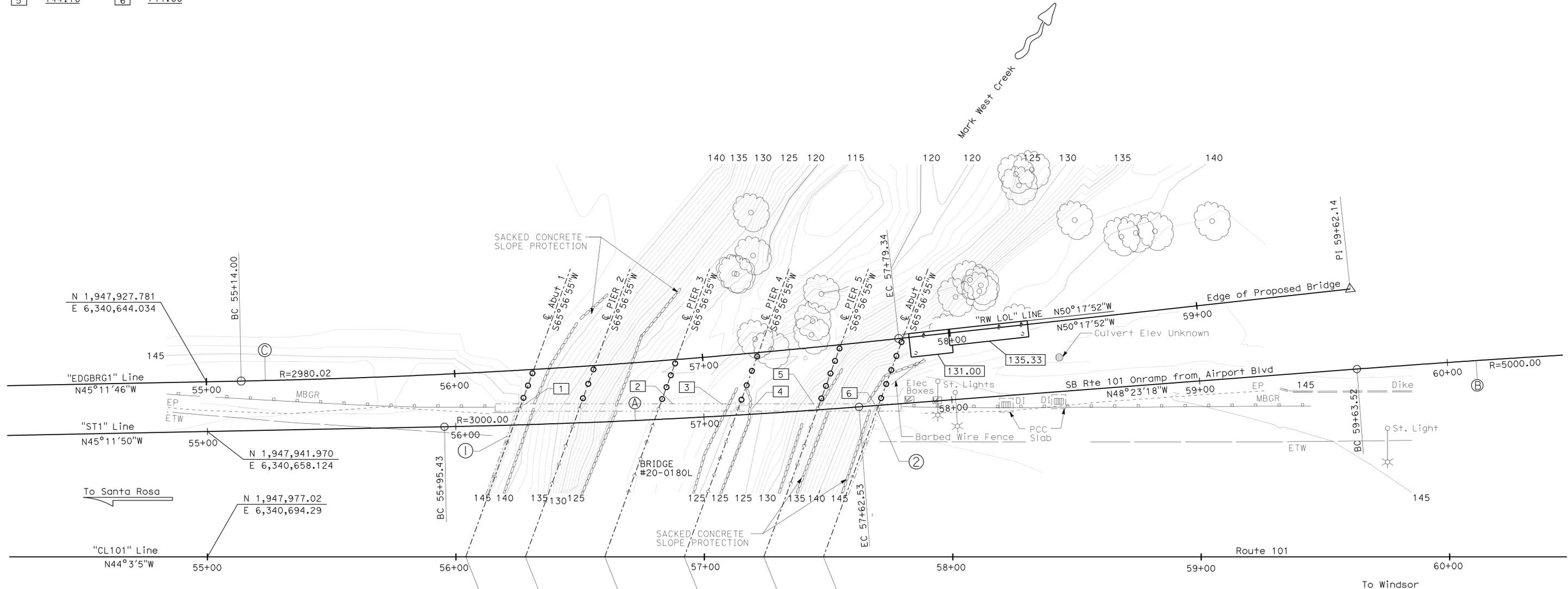


DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	531	615

REGISTERED CIVIL ENGINEER DATE 5-4-11
 ALIREZA YAZDANI MOTLAGH
 No. 69601
 Exp. 6-30-12
 CIVIL
 STATE OF CALIFORNIA
 9-10-12
 PLANS APPROVAL DATE
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BR. SOFFIT ELEV.

1	144.85	2	144.81
3	144.85	4	144.77
5	144.76	6	144.60



SURVEY CONTROL
 LD-552 (Not Shown)
 Fnd Lin IP Red P,P,T
 705.69 Rt. "CL101" Line,
 Sta. 61+48.98
 N 1,948,934.12
 E 6,340,750.25
 EL.=140.53
 LD-554 (Not Shown)
 Fnd Alm Disc @ B/Curb #8
 708.15 Lt. "CL101" Line,
 Sta. 74+56.59
 N 1,948,890.88
 E 6,338,824.91
 EL.=134.10

Tree Diameters Hidden In Construction Class

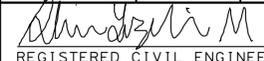
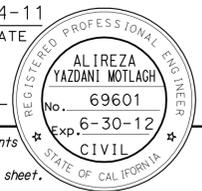
NOTE:
 Indicates Bottom of Footing Elevation

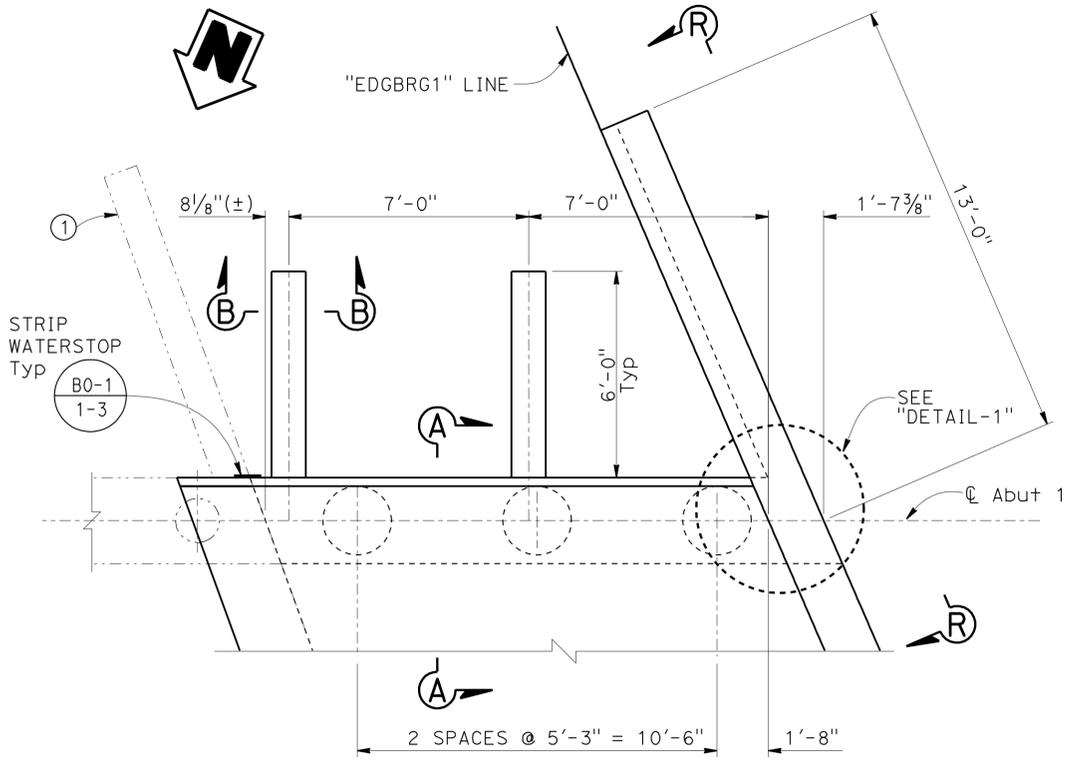
HYDROLOGIC SUMMARY

DRAINAGE AREA:	45	SQUARE MILES	DESIGN FLOOD	100	OVERTOPPING FLOOD	N/A
FREQUENCY (YEARS)			DESIGN FLOOD	12,085	OVERTOPPING FLOOD	N/A
DISCHARGE (CUBIC FEET PER SECOND)			DESIGN FLOOD	139.6	OVERTOPPING FLOOD	N/A
WATER SURFACE ELEV. AT BRIDGE (FEET)						

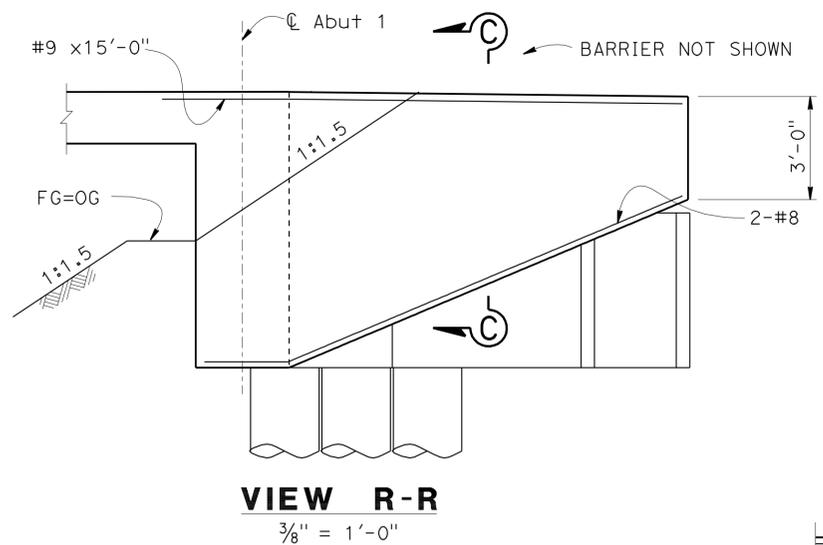
FLOOD PLAIN DATA ARE BASED UPON INFORMATION AVAILABLE WHEN THE PLANS WERE PREPARED AND ARE SHOWN TO MEET FEDERAL REQUIREMENTS. THE ACCURACY OF SAID INFORMATION IS NOT WARRANTED BY THE STATE AND INTERESTED OR AFFECTED PARTIES SHOULD MAKE THEIR OWN INVESTIGATIONS.

PRELIMINARY INVESTIGATION SECTION				DESIGN BY Alireza Yazdani	CHECKED Muthanna Omran	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO. 20-0180	MARK WEST CREEK BRIDGE (WIDEN) FOUNDATION PLAN
SCALE 1"=20'	VERT. DATUM NAVD88	PHOTOGRAMMETRY AS OF: X	DETAILS BY Min Yu / F. Maagma	CHECKED Muthanna Omran	POST MILE 26.10				
ALIGNMENT TIES Dist. Traverse Sheet	DRAFTED BY Sharon Zheng 04/2010	CHECKED BY T.Zolnikov 04/2010	QUANTITIES BY Pao-Tsan Wang	CHECKED Son Ly/Hardeep Singh					
STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 10/25/05)					CU 04 EA 000209451 (3A23U1)			DISREGARD PRINTS BEARING EARLIER REVISION DATES	

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	532	615
 REGISTERED CIVIL ENGINEER DATE 5-4-11					
9-10-12 PLANS APPROVAL DATE					
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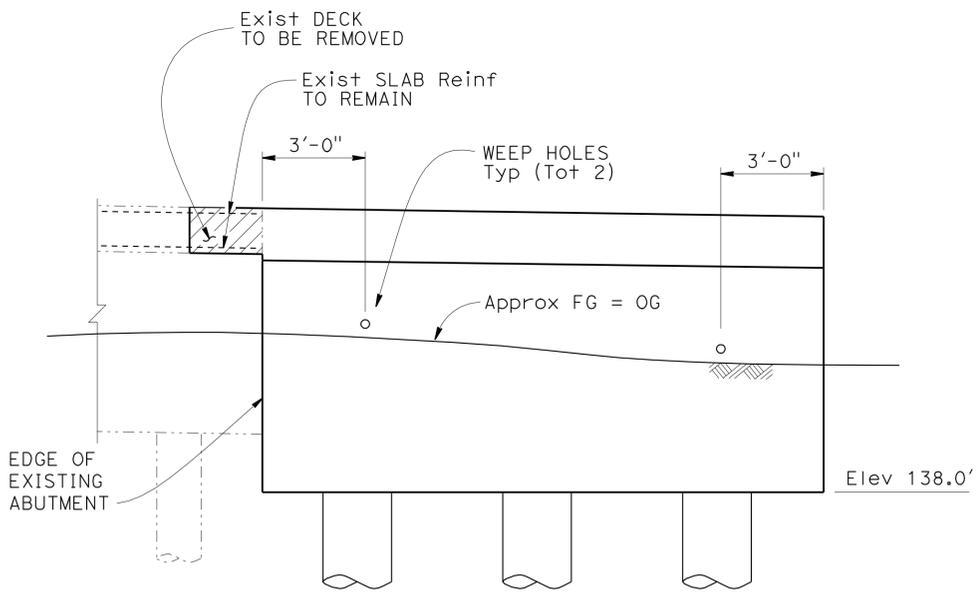


ABUTMENT 1 - PLAN
3/8" = 1'-0"

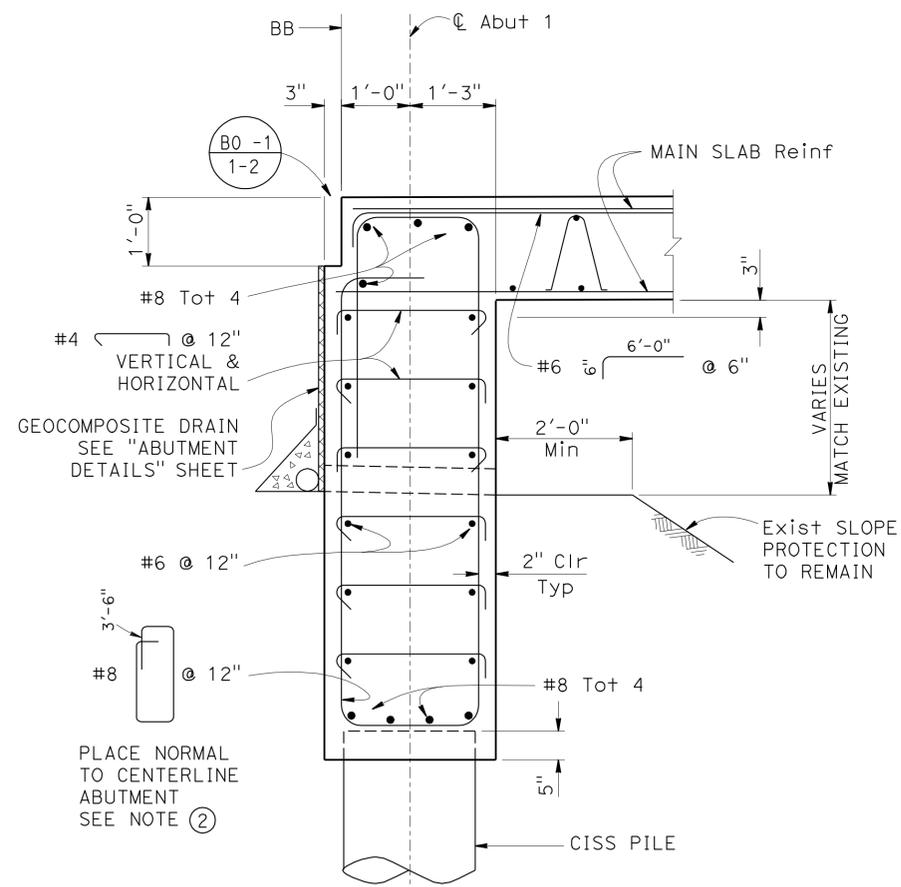


VIEW R-R
3/8" = 1'-0"

- NOTES:
- Remove existing wingwall Typical both Abutment see "ABUTMENT DETAILS" sheet
 - For Abut 6, #8 @ 6"

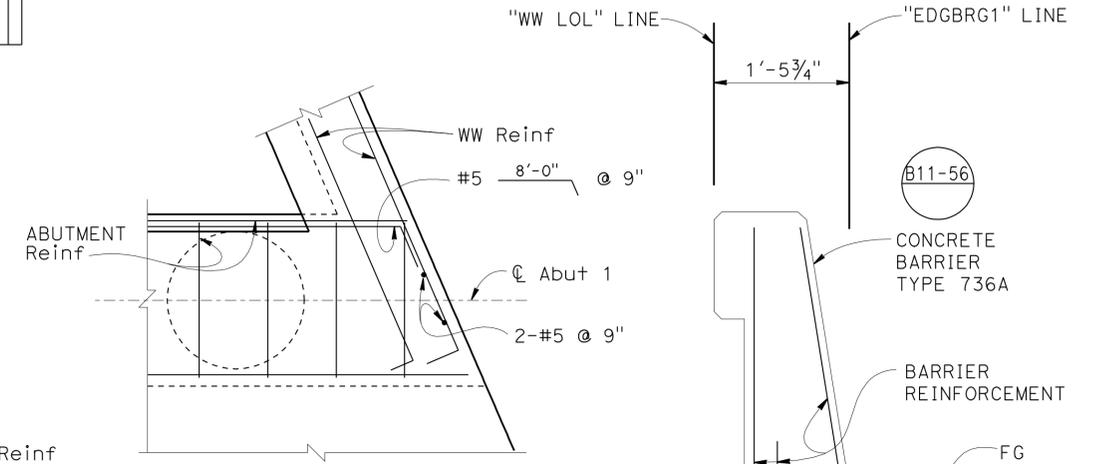


ABUTMENT 1 - ELEVATION
3/8" = 1'-0"

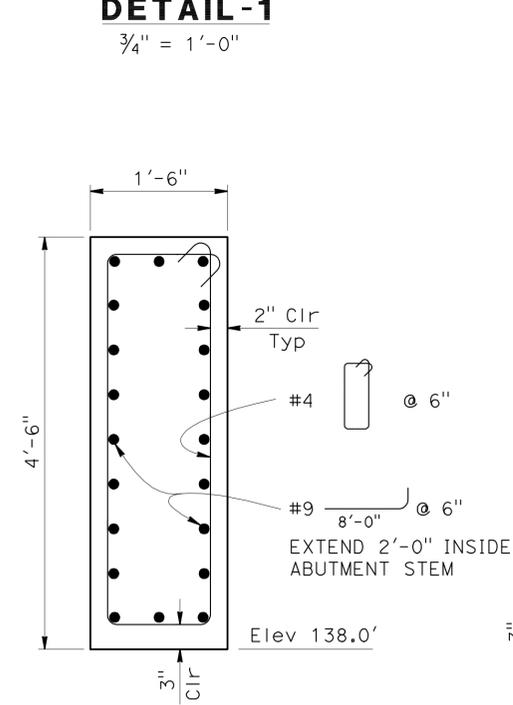


SECTION A-A
3/4" = 1'-0"

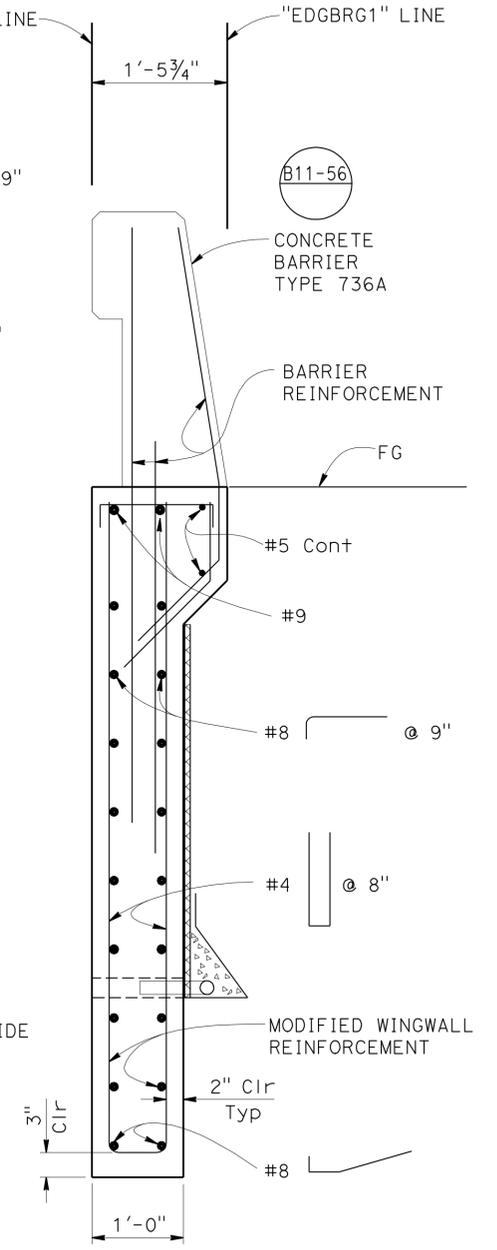
(ABUTMENT 1 SHOWN, ABUTMENT 6 SIMILAR EXCEPT, AS NOTED)



DETAIL-1
3/4" = 1'-0"



SECTION B-B
1" = 1'-0"



SECTION C-C
1" = 1'-0"

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

DESIGN	BY Alireza Yazdani	CHECKED Muthanna Omran
DETAILS	BY Min Yu/Franklin Maagma	CHECKED Muthanna Omran
QUANTITIES	BY Pao-Tsan Wang	CHECKED Son Ly/Hardeep Singh

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

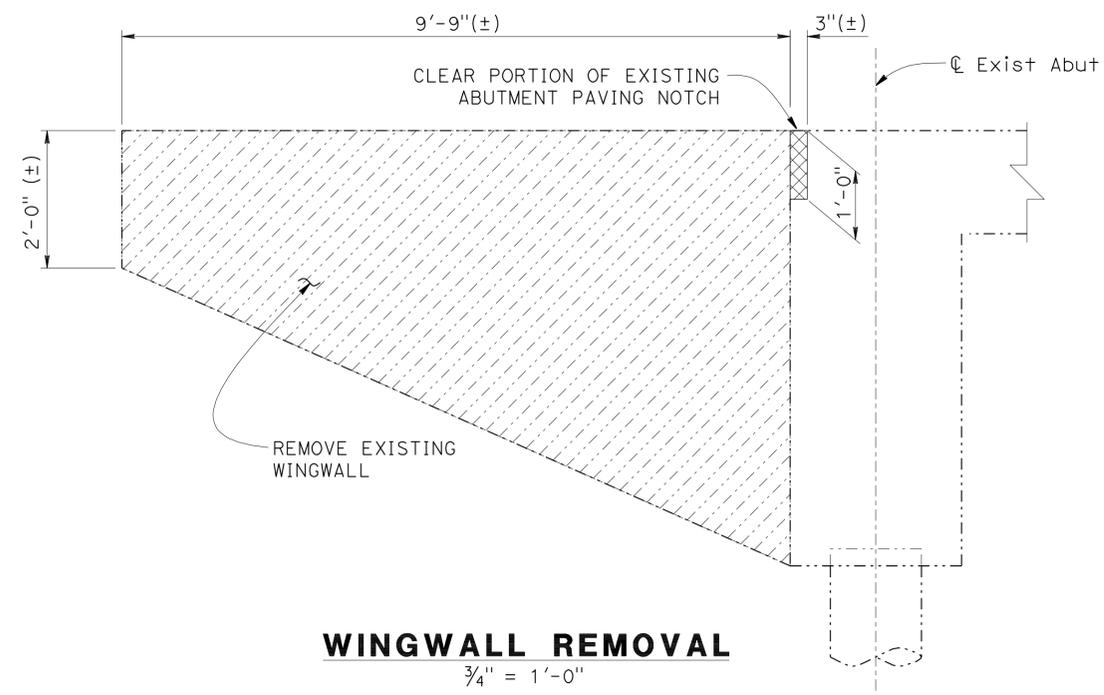
DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 16

BRIDGE NO.	20-0180
POST MILE	26.1

MARK WEST CREEK BRIDGE (WIDEN)
ABUTMENT 1 LAYOUT

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	534	615

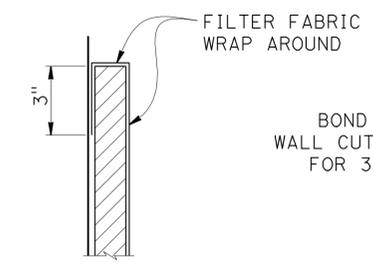
REGISTERED CIVIL ENGINEER DATE 5-4-11
 ALIREZA YAZDANI MOTLAGH No. 69601 Exp. 6-30-12
 REGISTERED PROFESSIONAL ENGINEER CIVIL STATE OF CALIFORNIA
 PLANS APPROVAL DATE 9-10-12
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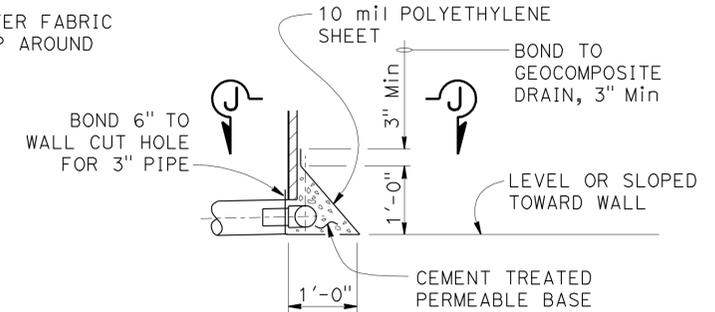
WINGWALL REMOVAL
 $\frac{3}{4}'' = 1'-0''$
 TYPICAL BOTH ABUTMENTS

NOTES:

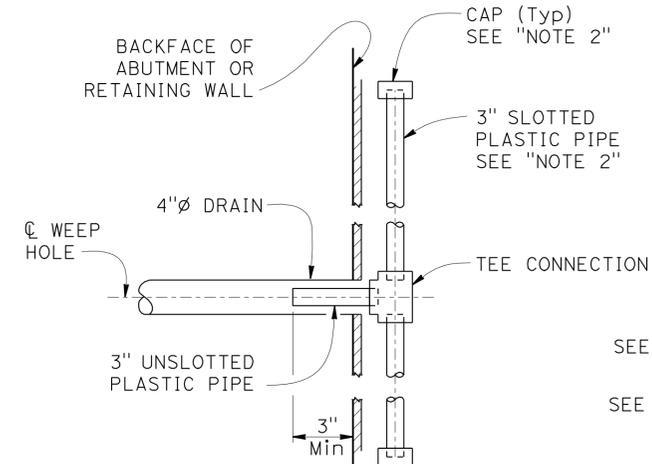
- 4"Ø Drains at intermediate sag points and at 25 feet max center to center, Exposed wall Drains shall be located 3" (±) above finished grade
- Geocomposite drain, cement treated permeable base, and 3"Ø slotted plastic pipe continuous behind retaining wall or Abutment, Cap ends of pipe, Provide "Tee" connection at each 4"Ø Drain
- Connect the low end of plastic pipe to the main outlet pipe as applicable



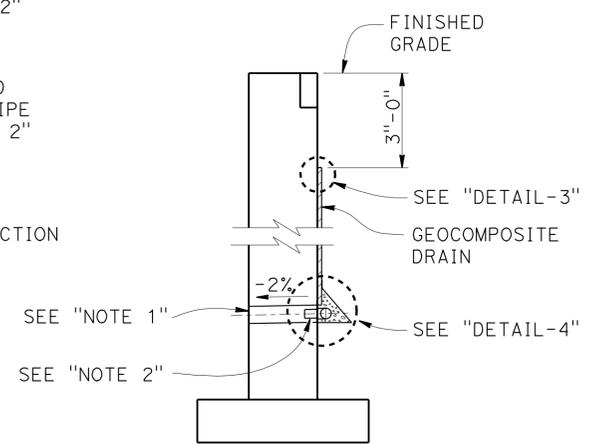
DETAIL - 3



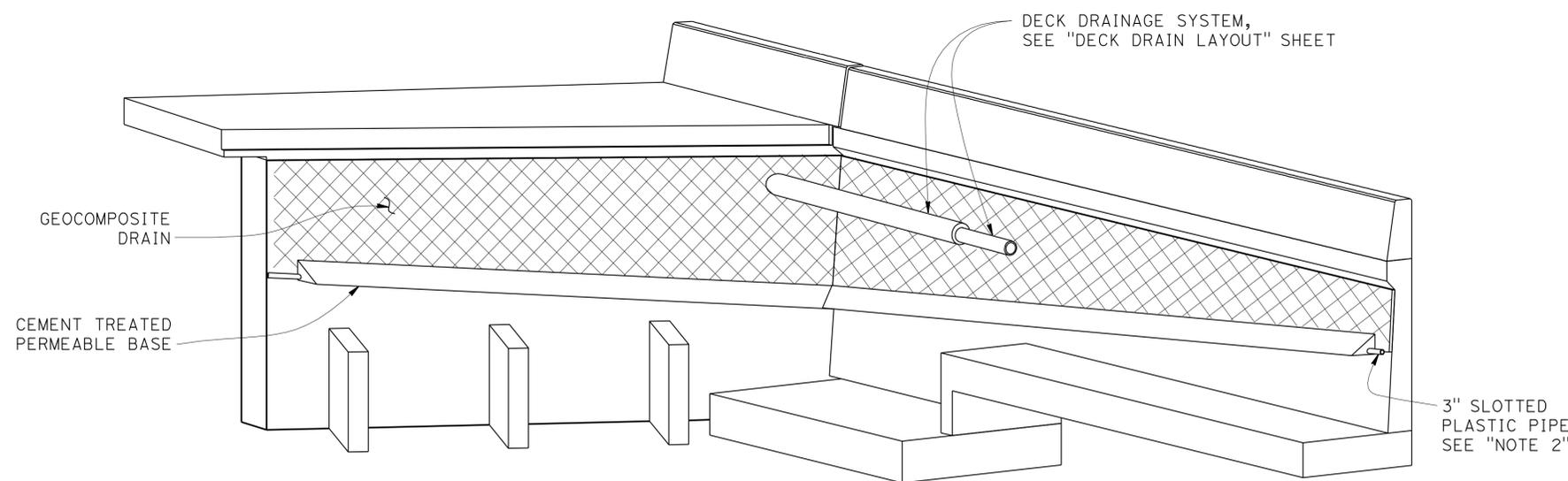
DETAIL - 4



SECTION J-J



WALL SECTION



PICTORAL VIEW
 $\frac{1}{4}'' = 1'-0''$
 (PILES NOT SHOWN)

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

WEEP HOLE AND GEOCOMPOSITE DRAIN

DESIGN	BY Alireza Yazdani	CHECKED Muthanna Omran
DETAILS	BY Min Yu/Franklin Maagma	CHECKED Muthanna Omran
QUANTITIES	BY Pao-Tsan Wang	CHECKED Son Ly/Hardeep Singh

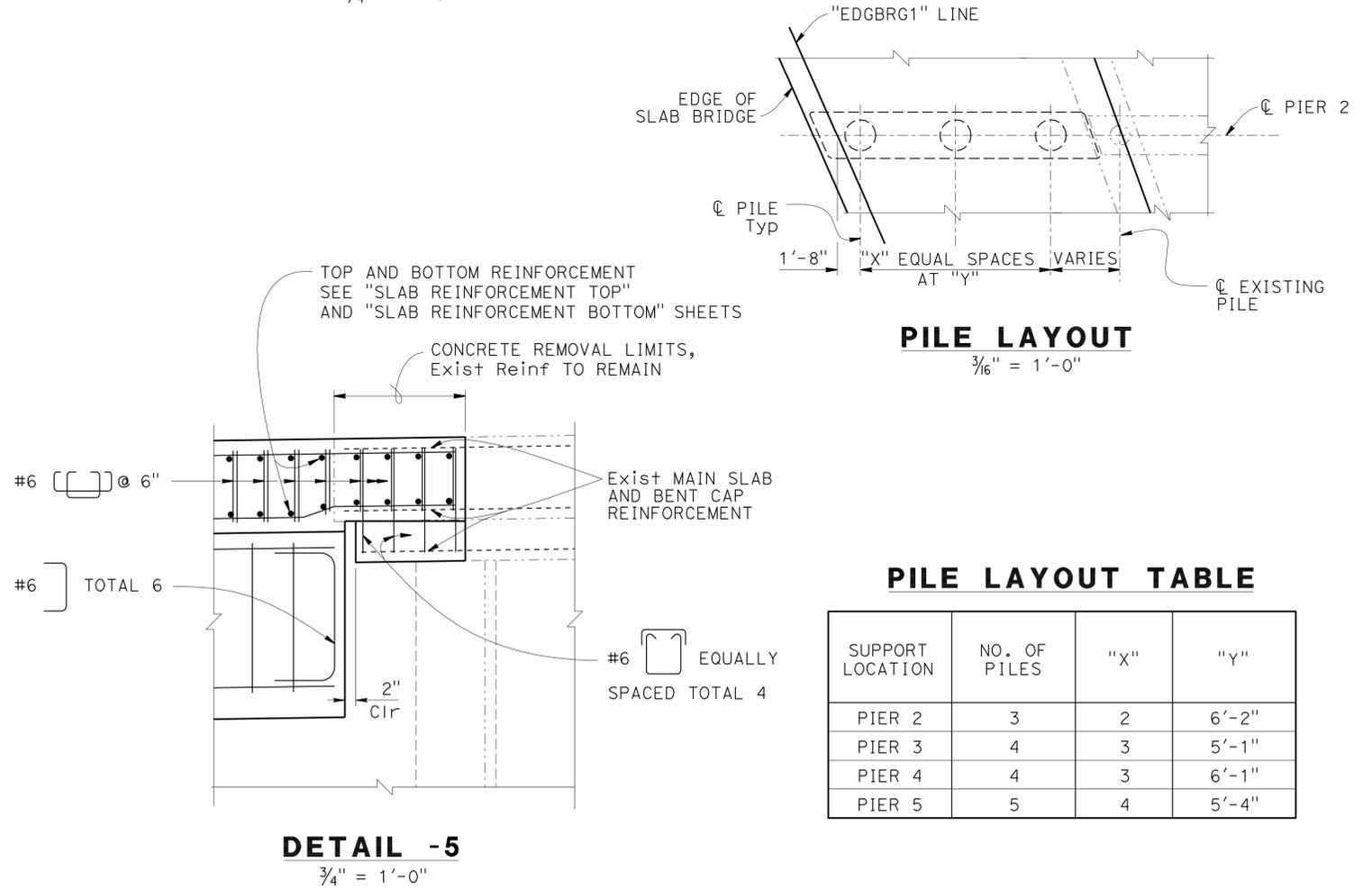
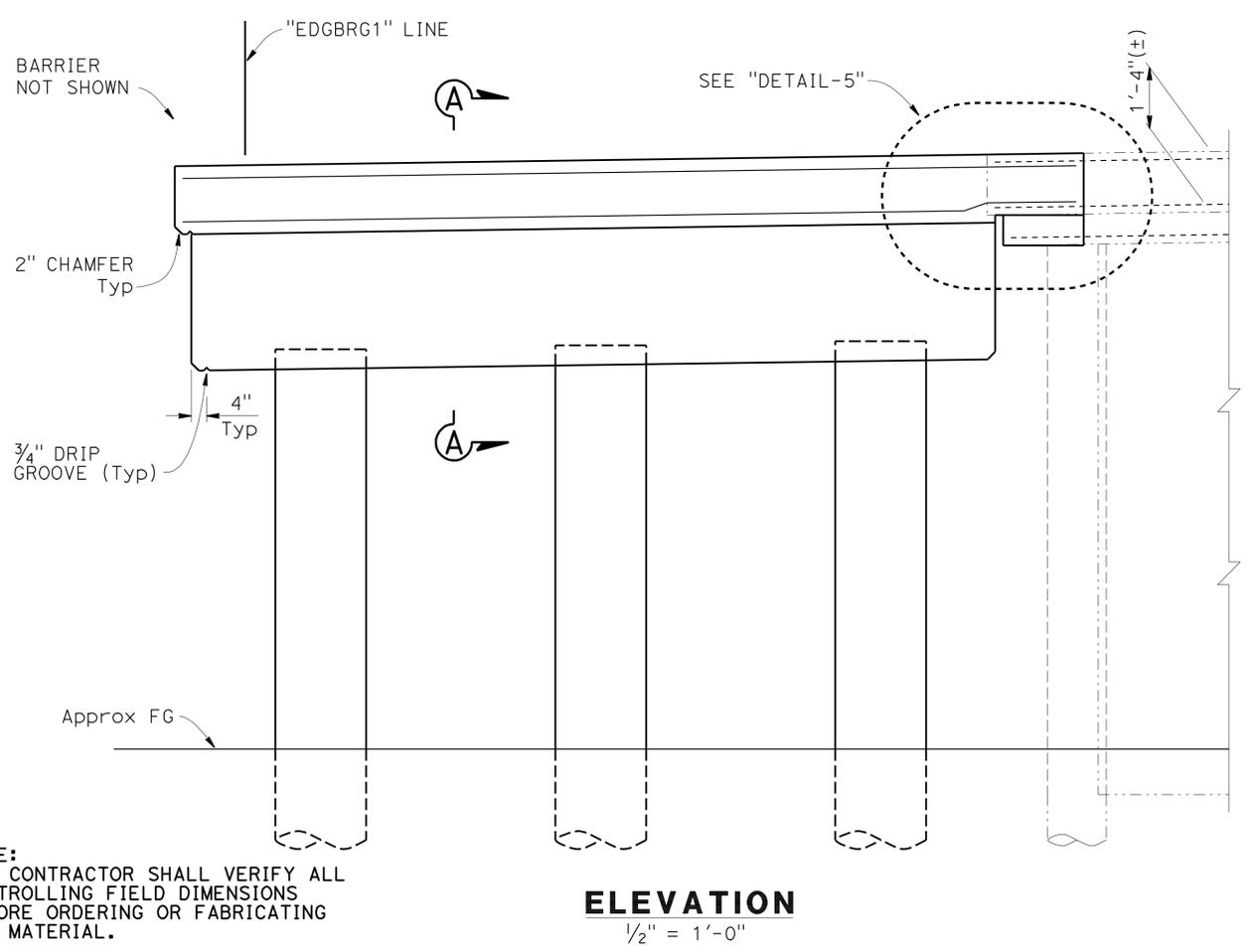
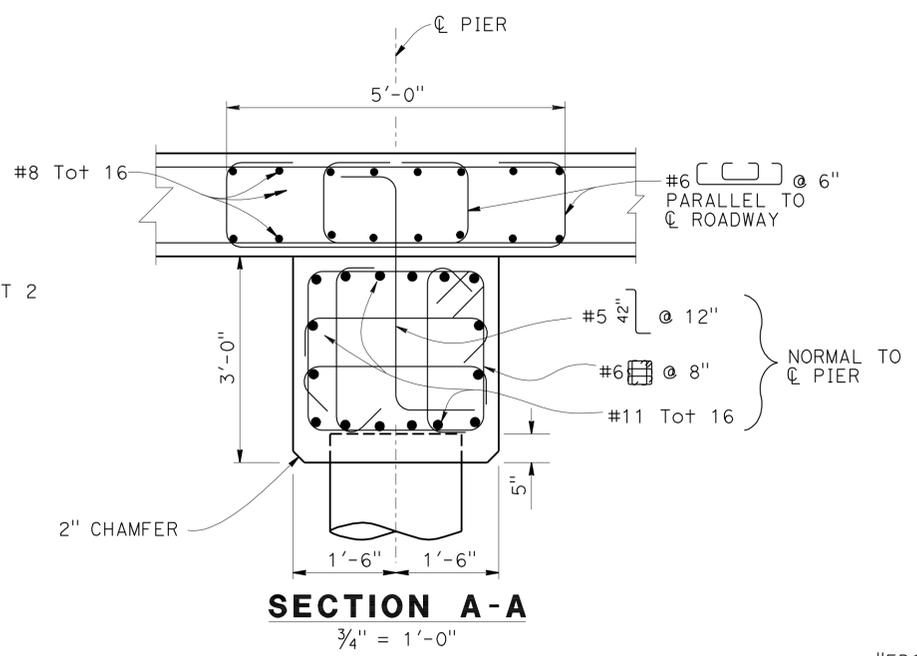
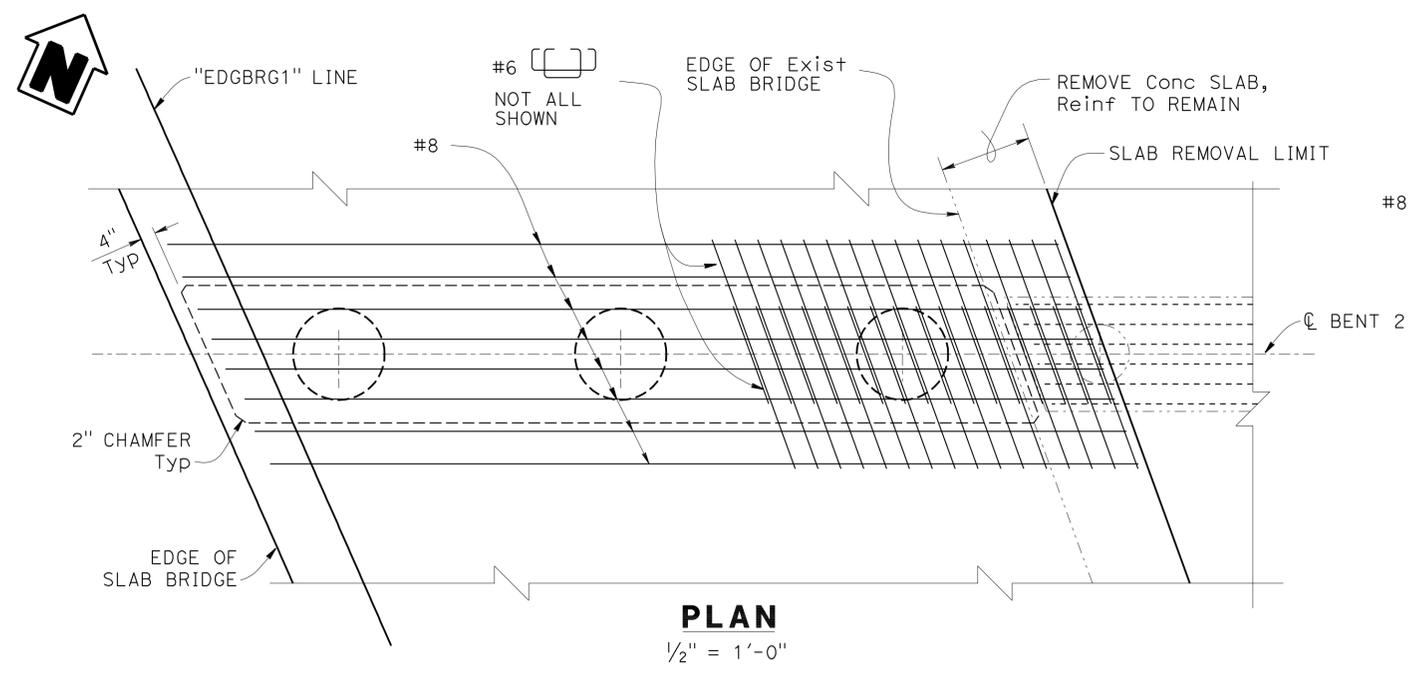
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
DESIGN BRANCH 16

BRIDGE NO.	20-0180
POST MILE	26.1

MARK WEST CREEK BRIDGE (WIDEN)
ABUTMENT DETAILS

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	535	615
			5-4-11	REGISTERED CIVIL ENGINEER DATE	
			9-10-12	PLANS APPROVAL DATE	
			ALIREZA YAZDANI MOTLAGH No. 69601 Exp. 6-30-12 CIVIL STATE OF CALIFORNIA		
<i>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</i>					



PILE LAYOUT TABLE

SUPPORT LOCATION	NO. OF PILES	"X"	"Y"
PIER 2	3	2	6'-2"
PIER 3	4	3	5'-1"
PIER 4	4	3	6'-1"
PIER 5	5	4	5'-4"

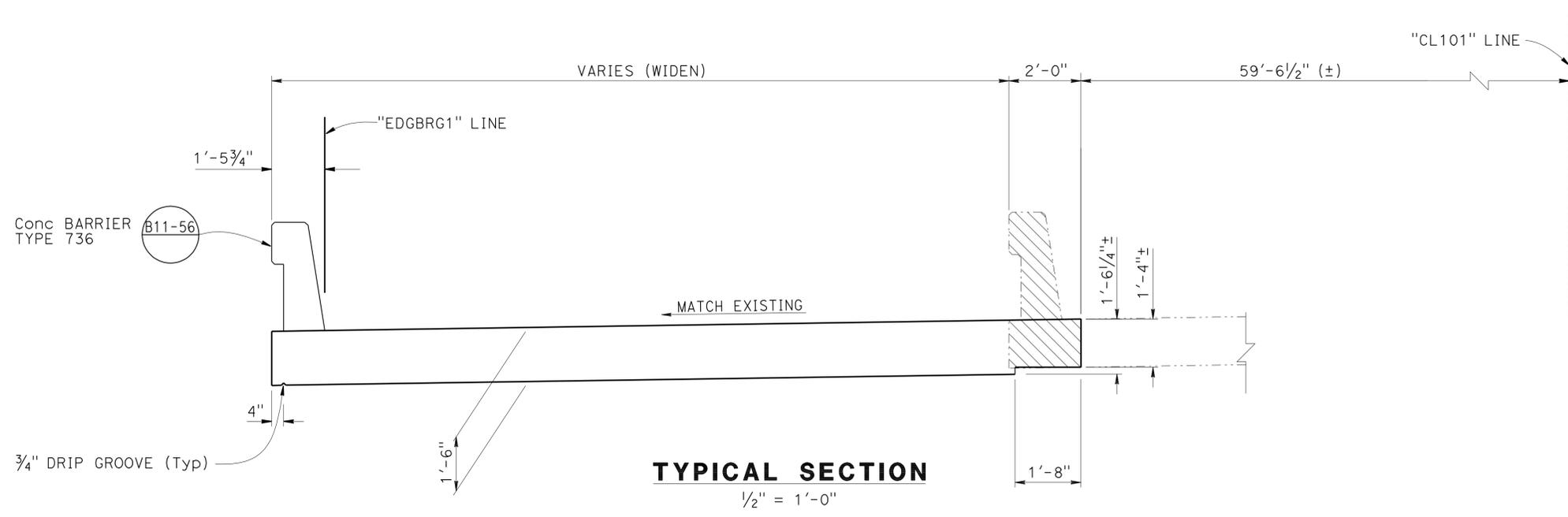
NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	DESIGN	BY Alireza Yazdani	CHECKED Muthanna Omran	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO.	20-0180	MARK WEST CREEK BRIDGE (WIDEN) PIER DETAILS			
	DETAILS	BY Franklin Magma/Min Yu	CHECKED Muthanna Omran			POST MILE	26.1				
	QUANTITIES	BY Pao-Tsan Wang	CHECKED Son Ly/Hardeep Singh			CU 04 EA 000209451 (3A23U1)	DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES 09-27-10 02-17-11 03-18-11 04-05-11		
FILE => 20-0180-h-b01d101.dgn								SHEET	7	OF	17

USERNAME => s124496 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 13:42

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	536	615

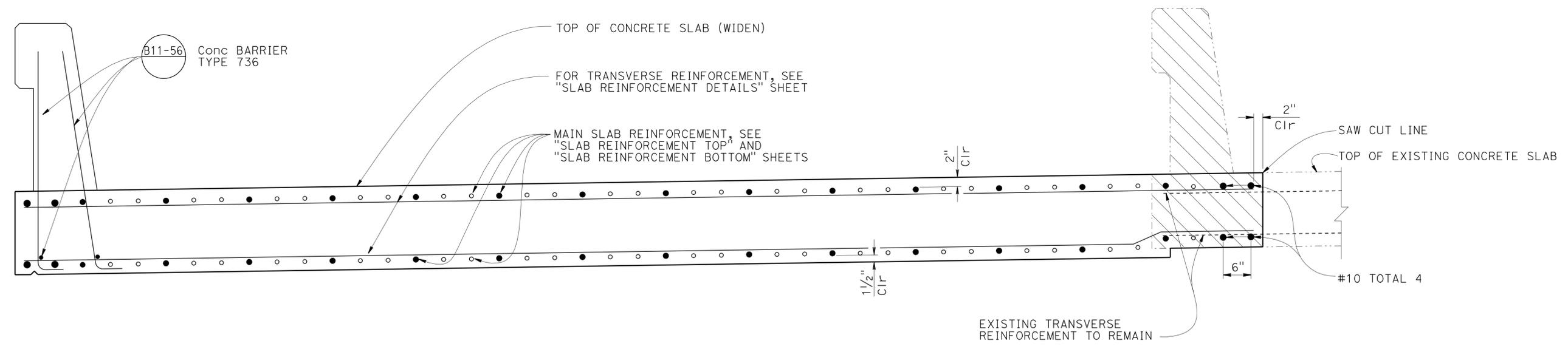
REGISTERED CIVIL ENGINEER DATE 5-4-11
 ALIREZA YAZDANI MOTLAGH
 No. 69601
 Exp. 6-30-12
 CIVIL
 STATE OF CALIFORNIA
 PLANS APPROVAL DATE 9-10-12
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



TYPICAL SECTION
1/2" = 1'-0"

LEGEND:

- Indicates Bridge Removal (Portion), existing transverse reinforcement to remain
- Indicates continuous rebar



PART TYPICAL SECTION
1" = 1'-0"

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

DESIGN	BY Alireza Yazdani	CHECKED Muthanna Omran
DETAILS	BY Franklin Magma/Min Yu	CHECKED Muthanna Omran
QUANTITIES	BY Pao-Tsan Wang	CHECKED Son Ly/Hardeep Singh

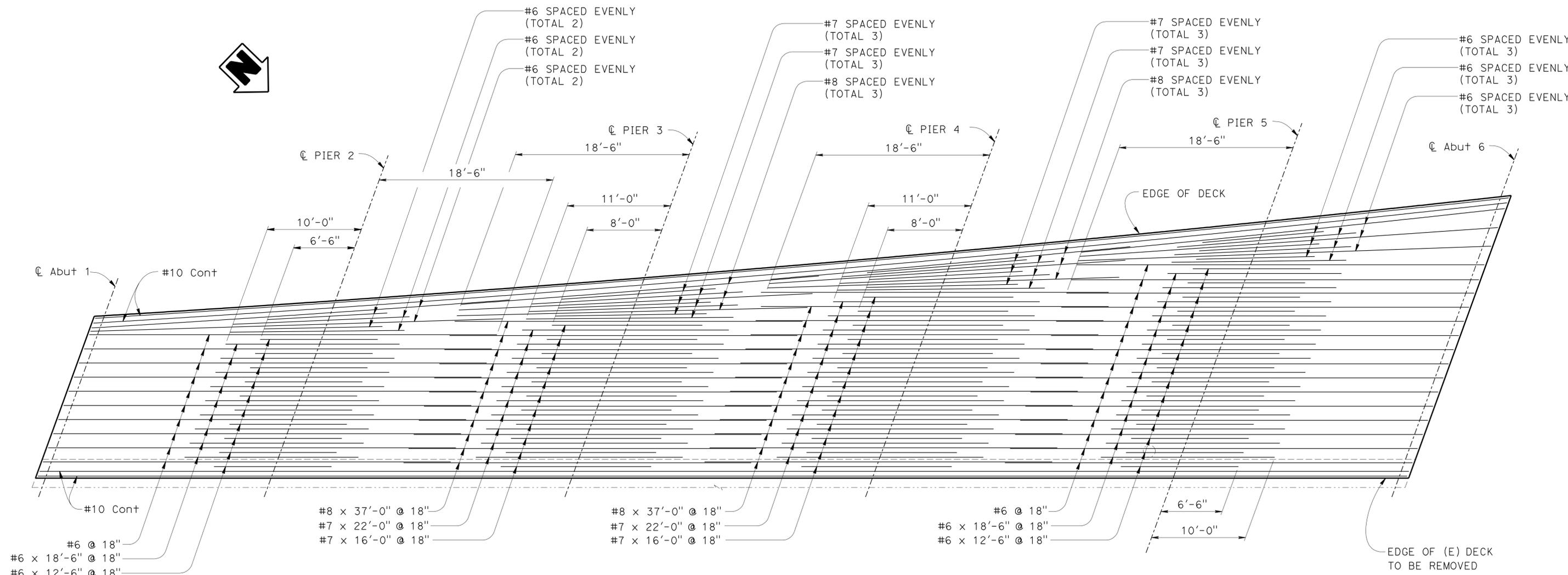
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 16

BRIDGE NO.	20-0180
POST MILE	26.1

MARK WEST CREEK BRIDGE (WIDEN)
TYPICAL SECTION

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	537	615
			5-4-11	REGISTERED CIVIL ENGINEER DATE	
			9-10-12	PLANS APPROVAL DATE	
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



TOP REINFORCEMENT

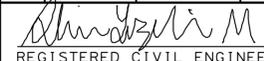
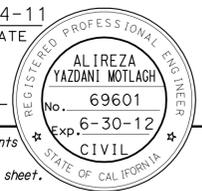
$\frac{3}{16}'' = 1'-0''$

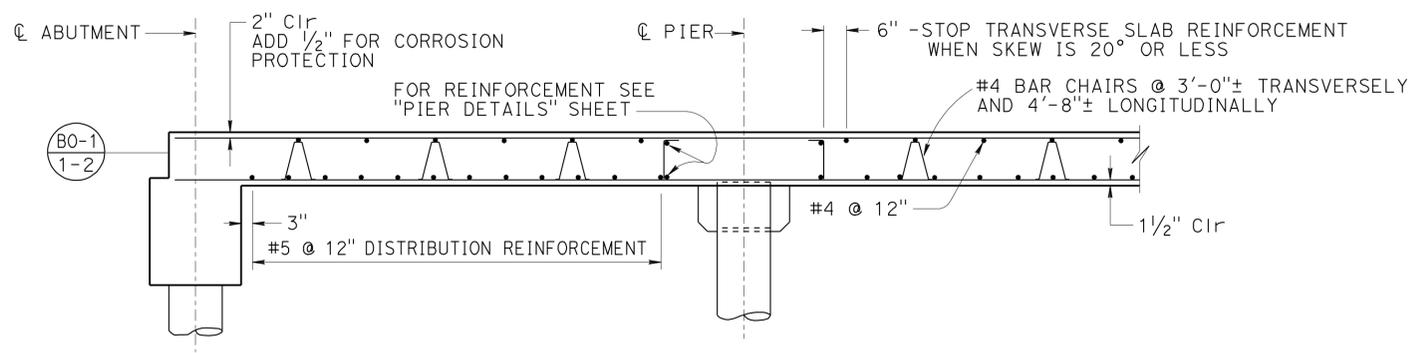
NOTE:
For Lap Splices length see "SLAB REINFORCEMENT DETAILS" sheet

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

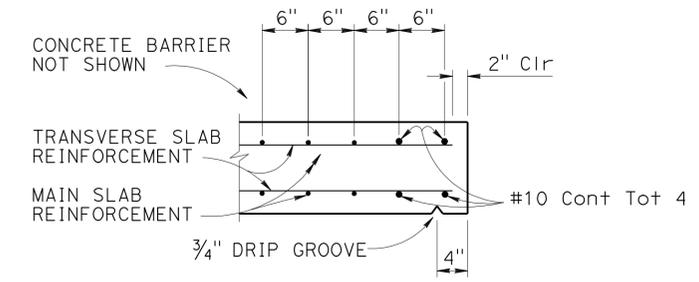
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY Alireza Yazdani	CHECKED Muthanna Omran	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO.	20-0180	MARK WEST CREEK BRIDGE (WIDEN) SLAB REINFORCEMENT TOP
	DETAILS	BY Franklin Maagma/Min Yu	CHECKED Muthanna Omran			POST MILE	26.1	
	QUANTITIES	BY Pao-Tsan Wang	CHECKED Son Ly/Hardeep Singh			REVISION DATES	03-14-11 03-16-11 03-30-11	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS					0 1 2 3	CU 04 EA 000209451 (3A23U1)	DISREGARD PRINTS BEARING EARLIER REVISION DATES	SHEET 9 OF 17

USERNAME => s124496 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 13:42

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	539	615
 REGISTERED CIVIL ENGINEER DATE 5-4-11					
PLANS APPROVAL DATE 9-10-12 <small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					

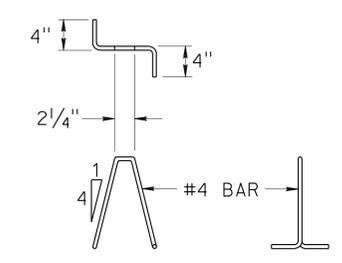


LONGITUDINAL SECTION
NO SCALE



EDGE OF SLAB DETAILS
NO SCALE

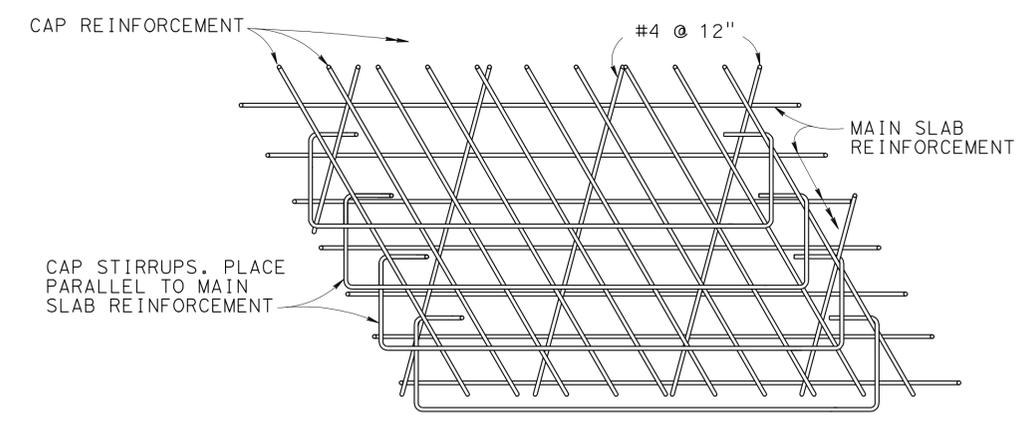
BAR SPLICE LENGTH							
Bar size	#4	#5	#6	#7	#8	#9	#10
Top bars in spans over 23'-0"	1'-11"	2'-5"	2'-10"	3'-7"	4'-8"	6'-0"	7'-8"
All bars, except top bars in spans over 23'-0"	1'-4"	1'-10"	2'-0"	2'-7"	3'-4"	4'-4"	5'-6"



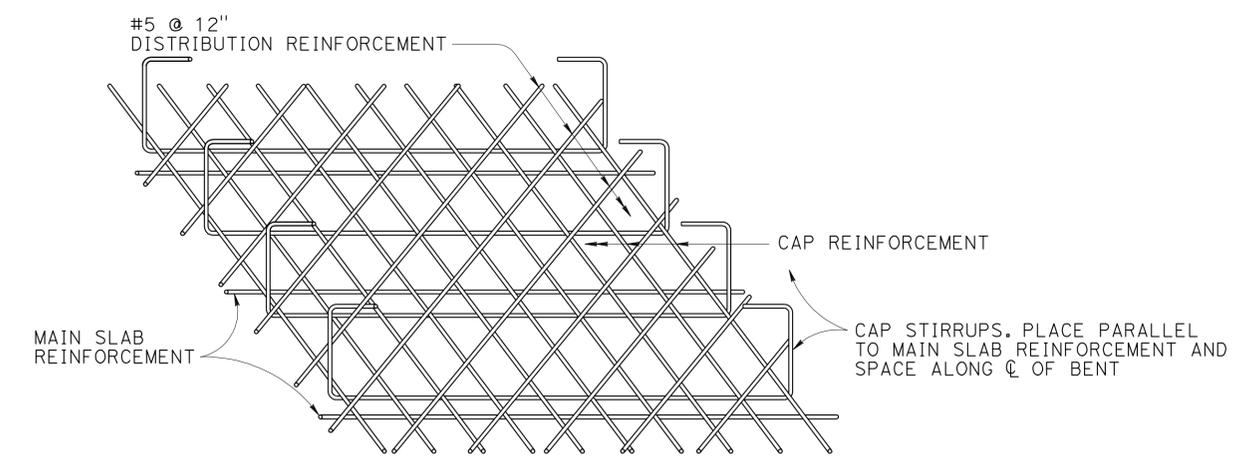
BAR CHAIR DETAIL
NO SCALE

REINFORCEMENT NOTES:

1. Splices in top main bars to be located near center of span
2. Splices in bottom main bars to be located near bent
3. Spacing of all transverse bars is measured along ϕ roadway
4. Skew 0° to 20°: Place all transverse bars parallel to bent
5. Skew over 20°: Place transverse slab bars perpendicular to ϕ bridge. See details at right and below



TOP SLAB REINFORCEMENT AT PIER
NO SCALE



FLUSH CAP
BOTTOM SLAB REINFORCEMENT AT PIER
NO SCALE

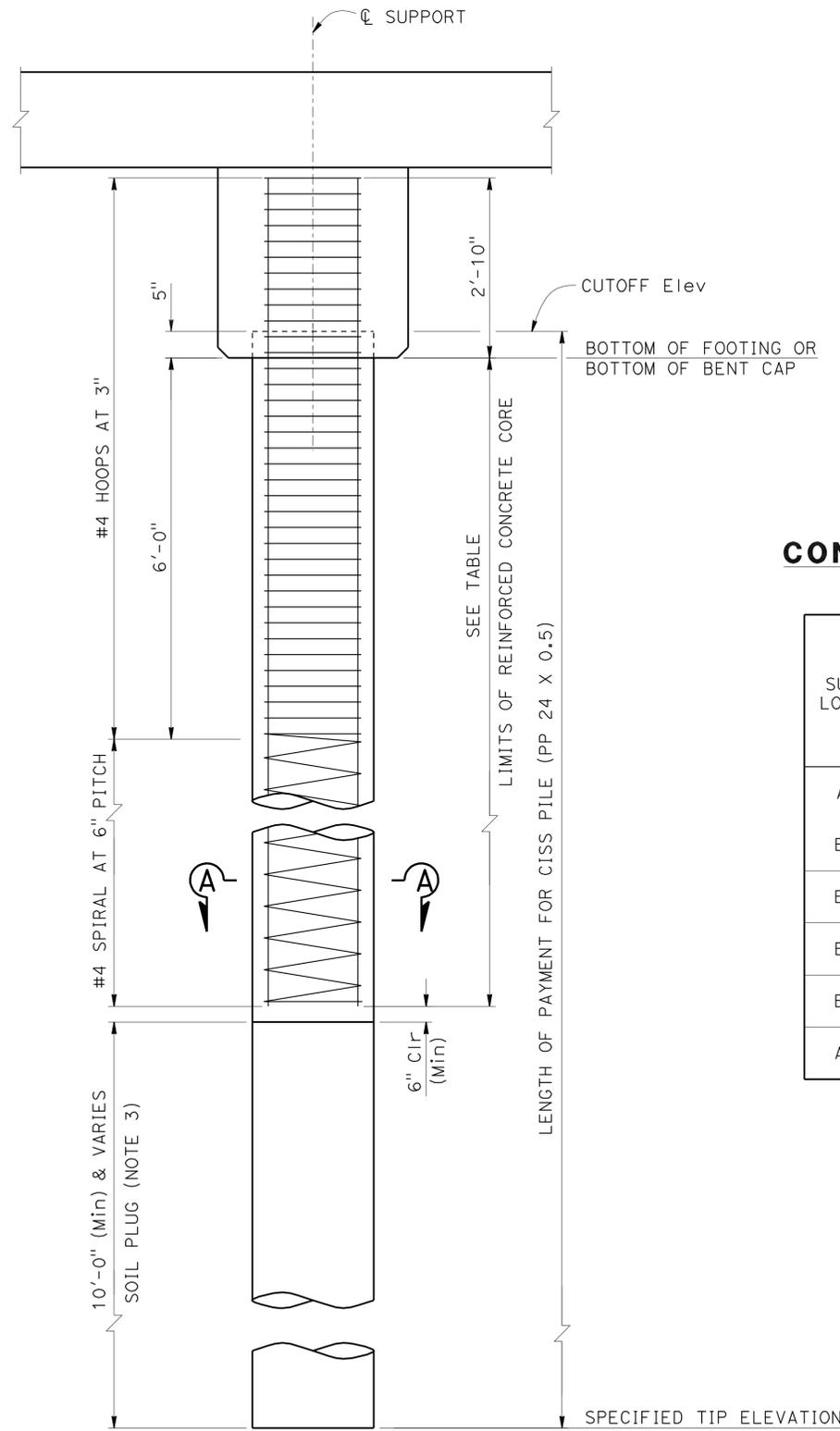
NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

NOTES:

1. View for main span over 23'-0"
2. Bar placement similar for spans under 23'-0"

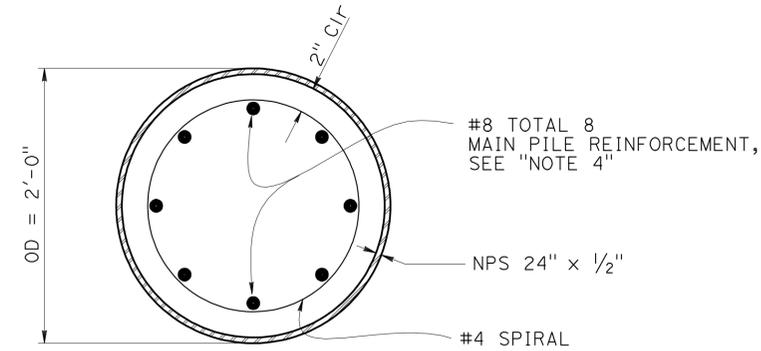
DESIGN BY Alireza Yazdani CHECKED Muthanna Omran DETAILS BY Franklin Maagma/Min Yu CHECKED Muthanna Omran QUANTITIES BY Pao-Tsan Wang CHECKED Son Ly/Hardeep Singh	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO. 20-0180	MARK WEST CREEK BRIDGE (WIDEN) SLAB REINFORCEMENT DETAILS		
			POST MILE 26.1			
			REVISION DATES 03-15-11 03-30-11			
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3		CU 04 EA 000209451 (3A23U1)	DISREGARD PRINTS BEARING EARLIER REVISION DATES 03-15-11 03-30-11	SHEET 11 OF 17

USERNAME => s124496 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 13:42



CISS PILE - ELEVATION

3/4" = 1'-0"



SECTION A-A

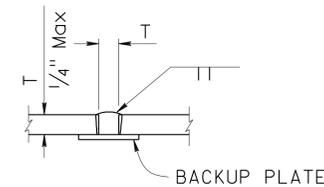
1 1/2" = 1'-0"

CONCRETE CORE TABLE

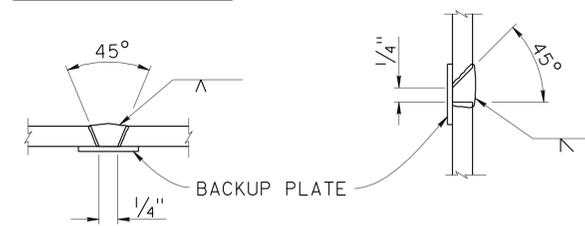
SUPPORT LOCATION	LENGTH OF REINFORCED CONCRETE CORE
Abut 1	30'-0"
BENT 2	48'-0"
BENT 3	55'-0"
BENT 4	55'-0"
BENT 5	55'-0"
Abut 6	40'-0"

NOTES:

- Lapped splices in spiral pile reinforcement shall be lapped at least 40". Spiral reinforcement at splices and at ends shall be terminated with a 135° hook with a 6" tail hooked around a longitudinal bar
- For "PILE DATA TABLE", see "INDEX TO PLANS" SHEET
- Seal Course as needed
- No Splice allowed in Pile longitudinal reinforcement



SQUARE GROOVE



SINGLE VEE-GROOVE

SINGLE BEVEL-GROOVE

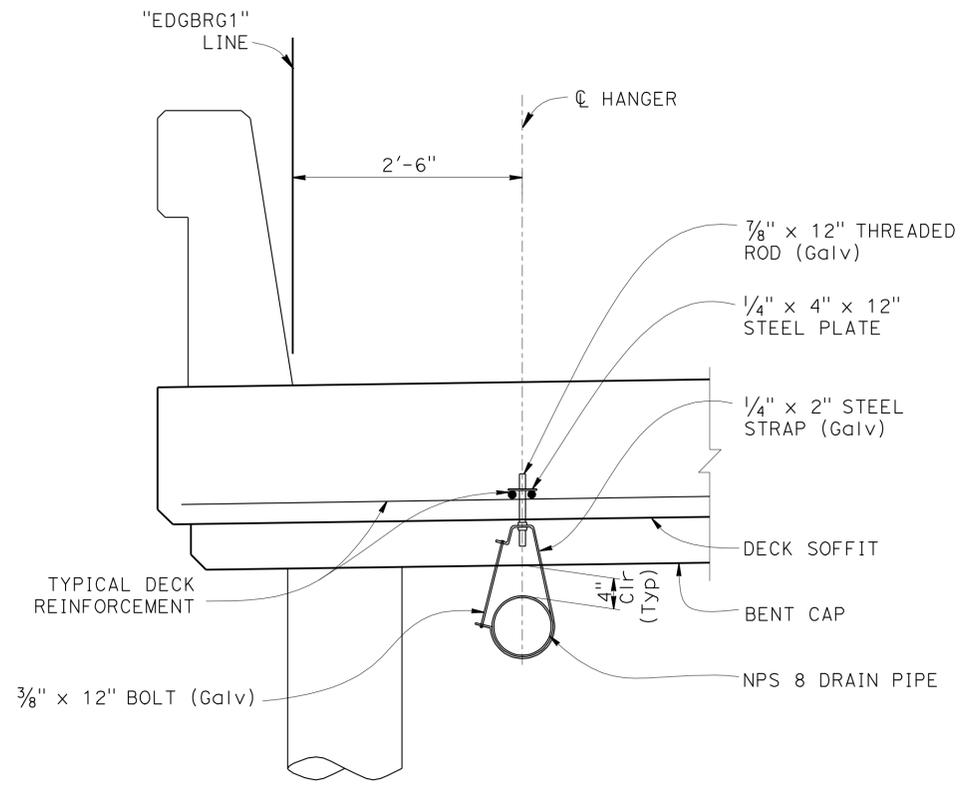
PILE WELDING NOTES:

- Single Vee-Groove And Square Groove Permitted for all positions
- Single Bevel-Groove permitted for horizontal joints only

PILE WELDING DETAIL-BUTT JOINTS

NO SCALE

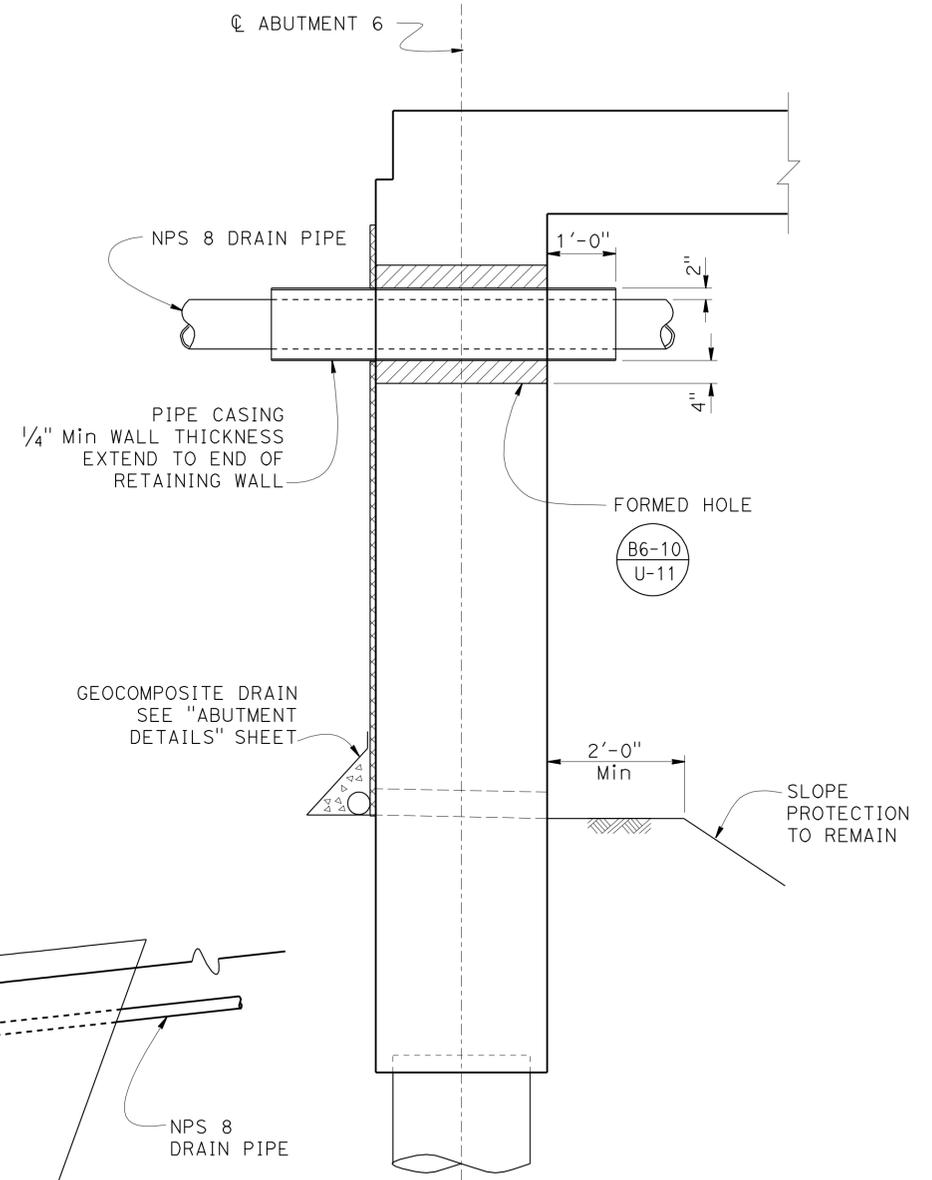
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	541	615
			5-4-11	REGISTERED CIVIL ENGINEER DATE	
			9-10-12	PLANS APPROVAL DATE	
REGISTERED PROFESSIONAL ENGINEER ALIREZA YAZDANI MOTLAGH No. 69601 Exp. 6-30-12 CIVIL STATE OF CALIFORNIA					
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.					



HANGER DETAIL

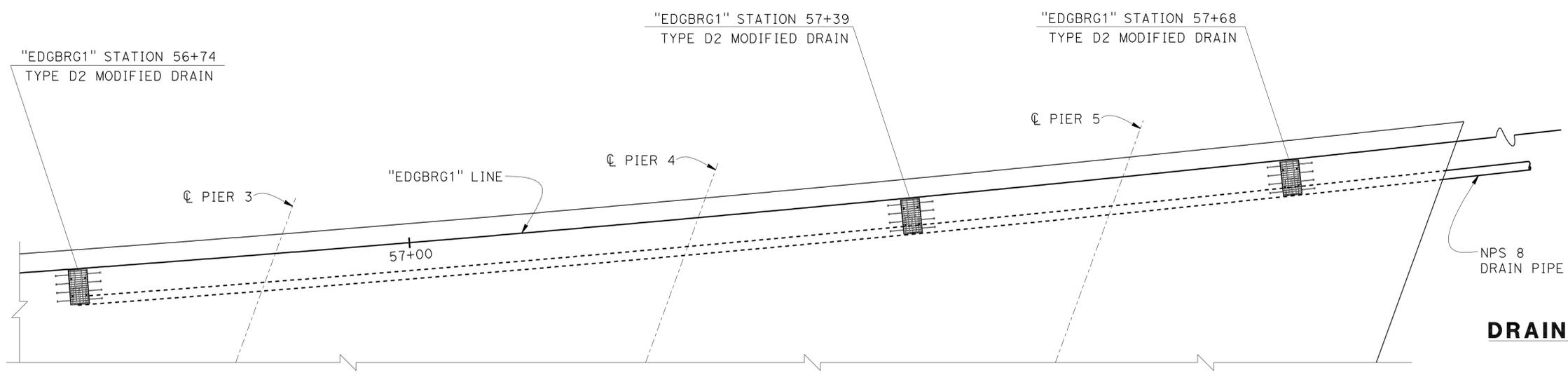
1" = 1'-0"

PLACE HANGERS AT 10' INTERVALS (Max) AND 1'-0" EACH SIDE OF DRAIN AND EACH SIDE OF BENT CAP



DRAIN DETAIL AT ABUTMENT

3/4" = 1'-0"



PLAN

1" = 5'

DESIGN	BY John E Peterson	CHECKED Muthanna Omran
DETAILS	BY Min Yu	CHECKED Muthanna Omran
QUANTITIES	BY Pao-Tsan Wang	CHECKED Son Ly/Hardeep Singh

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

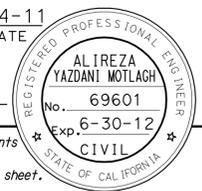
DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 16

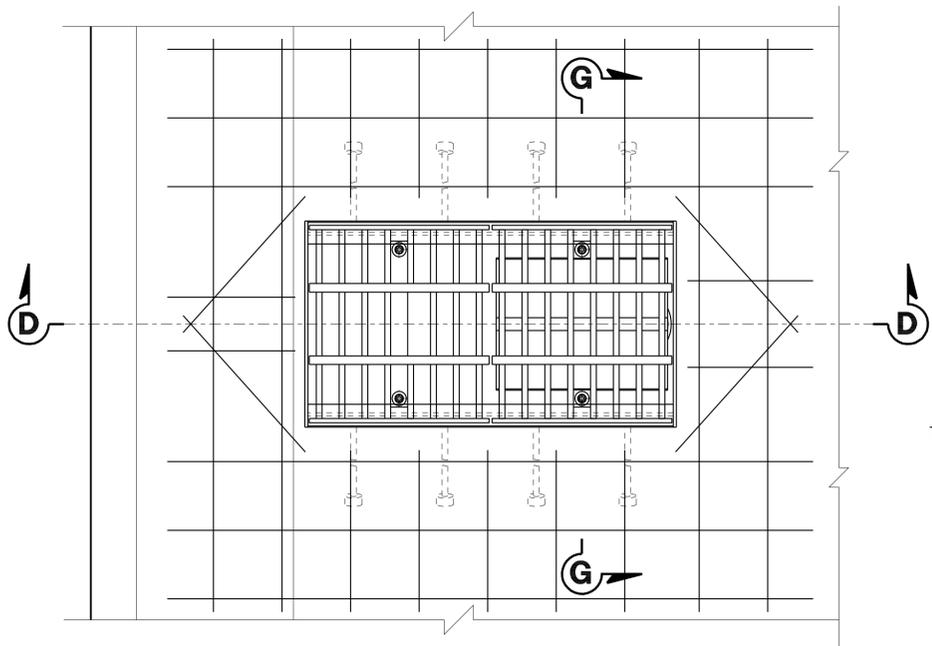
BRIDGE NO.	20-0180
POST MILE	26.1

MARK WEST CREEK BRIDGE (WIDEN)
DECK DRAIN LAYOUT

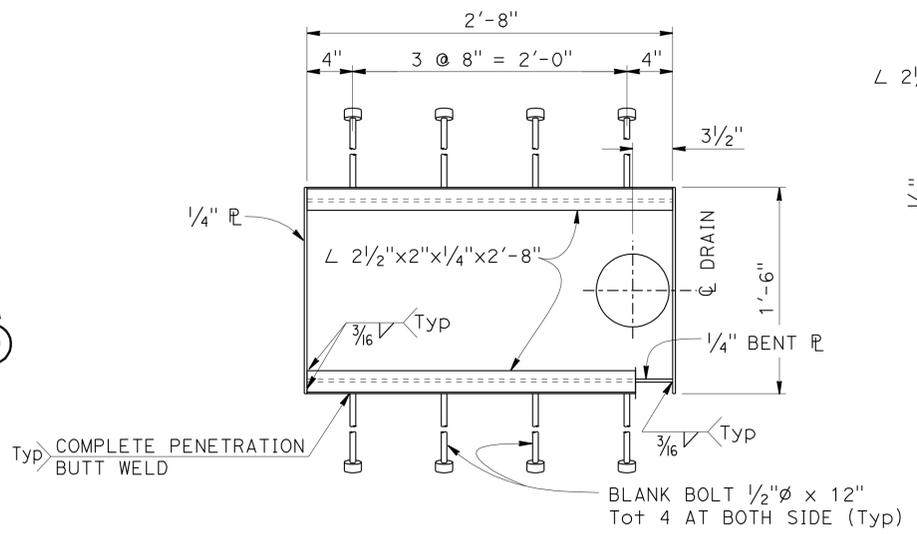


REVISION DATES				
09-27-10	11-09-10	12-10-10	03-14-11	03-29-11

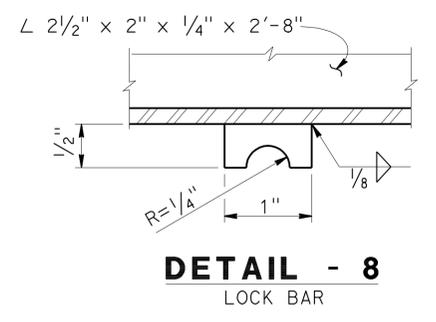
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	542	615
 REGISTERED CIVIL ENGINEER DATE 5-4-11					
9-10-12 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



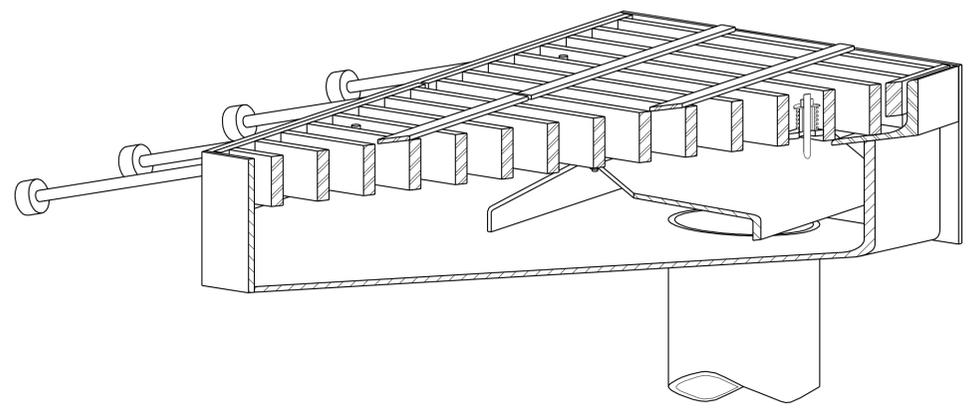
PLAN - CURB INSTALLATION
1/2" = 1'-0"



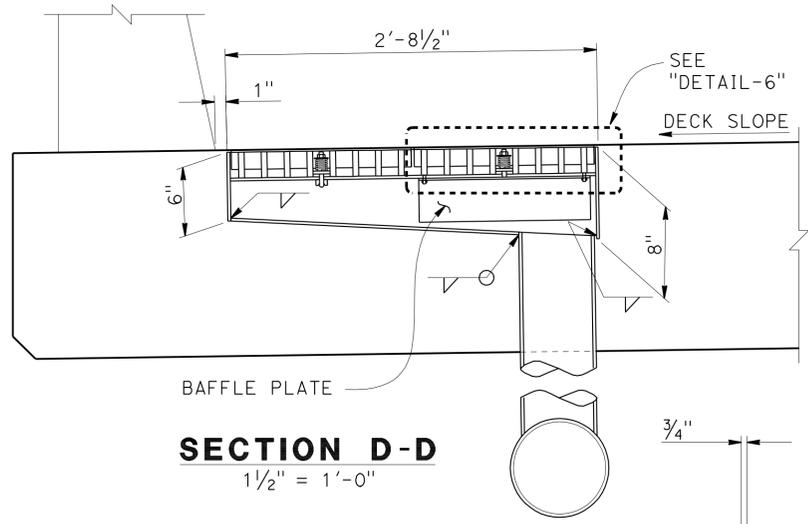
PLAN - FRAME & GRATE
1/2" = 1'-0"



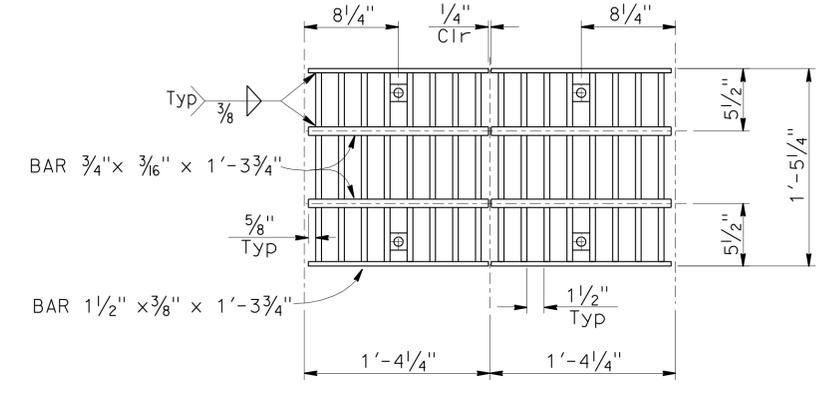
DETAIL - 8
LOCK BAR



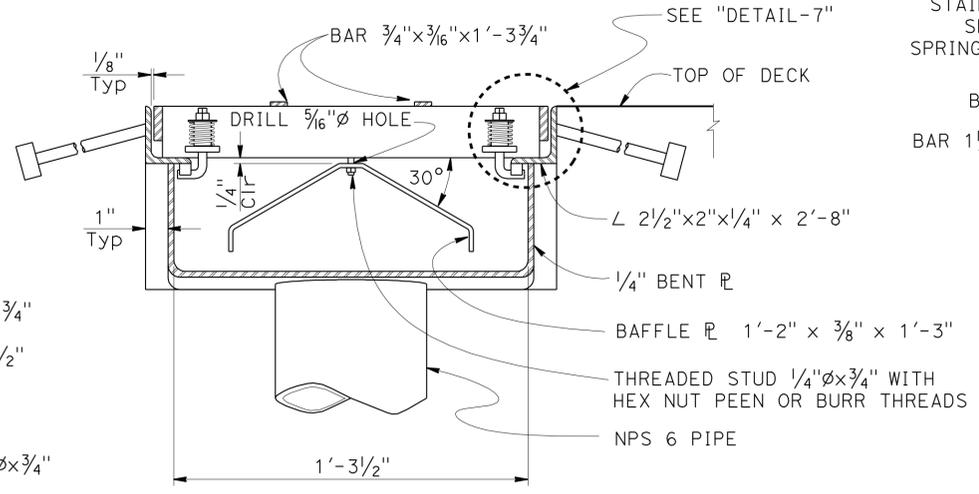
PICTORAL VIEW
3" = 1'-0"



SECTION D-D
1/2" = 1'-0"

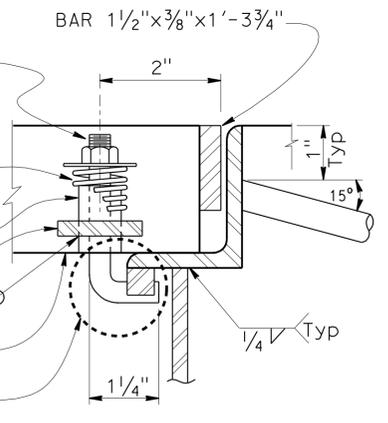


SECTION G-G
3" = 1'-0"



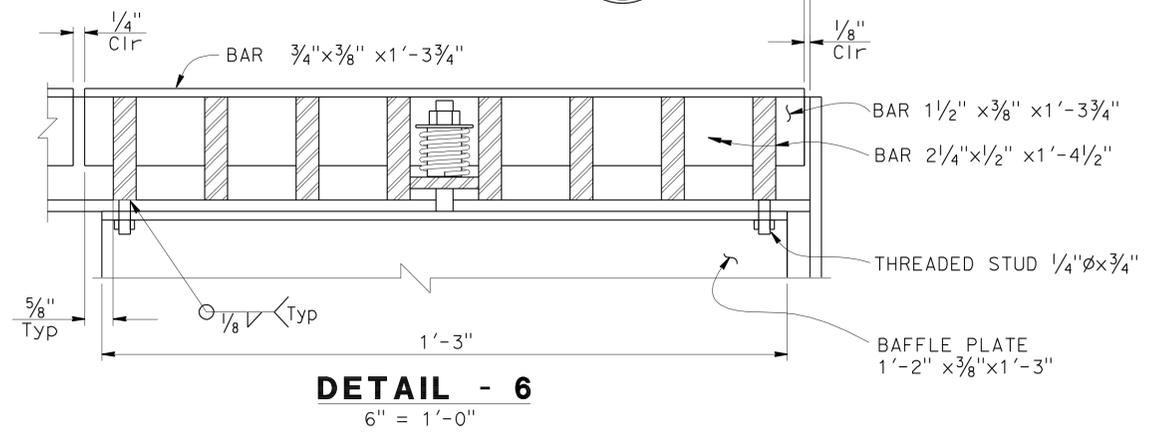
3/8" Ø BENT THREADED ROD WITH
1" HEX NUT & 1/4" O.D. WASHER
TACK WELD NUT TO ROD

1" O.D. SPRING 3/32" W & M GAGE
STAINLESS STEEL 2" FREE LENGTH
SPRING CONSTANT OF 24 LB/IN
SPRING TO HAVE FLAT GROUND ENDS



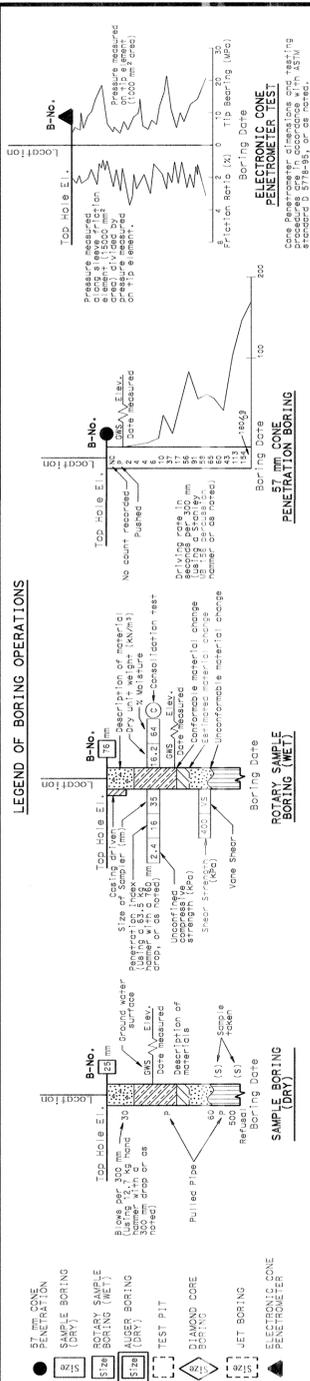
DETAIL - 7
NO SCALE

- NOTES:
- Galvanize deck drain assembly after fabrication
 - Reinforcement shown at drains is to be placed in addition to typical slab reinforcement
 - Typical slab reinforcement not shown



DETAIL - 6
6" = 1'-0"

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY John E Peterson	CHECKED Muthanna Omran	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO.	MARK WEST CREEK BRIDGE (WIDEN)			
	DETAILS	BY Min Yu	CHECKED Muthanna Omran			POST MILE	DECK DRAIN DETAILS			
	QUANTITIES	BY Pao-Tsan Wang	CHECKED Son Ly/Hardeep Singh			26.1	REVISION DATES: 09-27-10, 11-09-10, 12-10-10, 03-29-11			
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				0 1 2 3	CU 04 EA 000209451 (3A23U1)	DISREGARD PRINTS BEARING EARLIER REVISION DATES				SHEET 14 OF 17



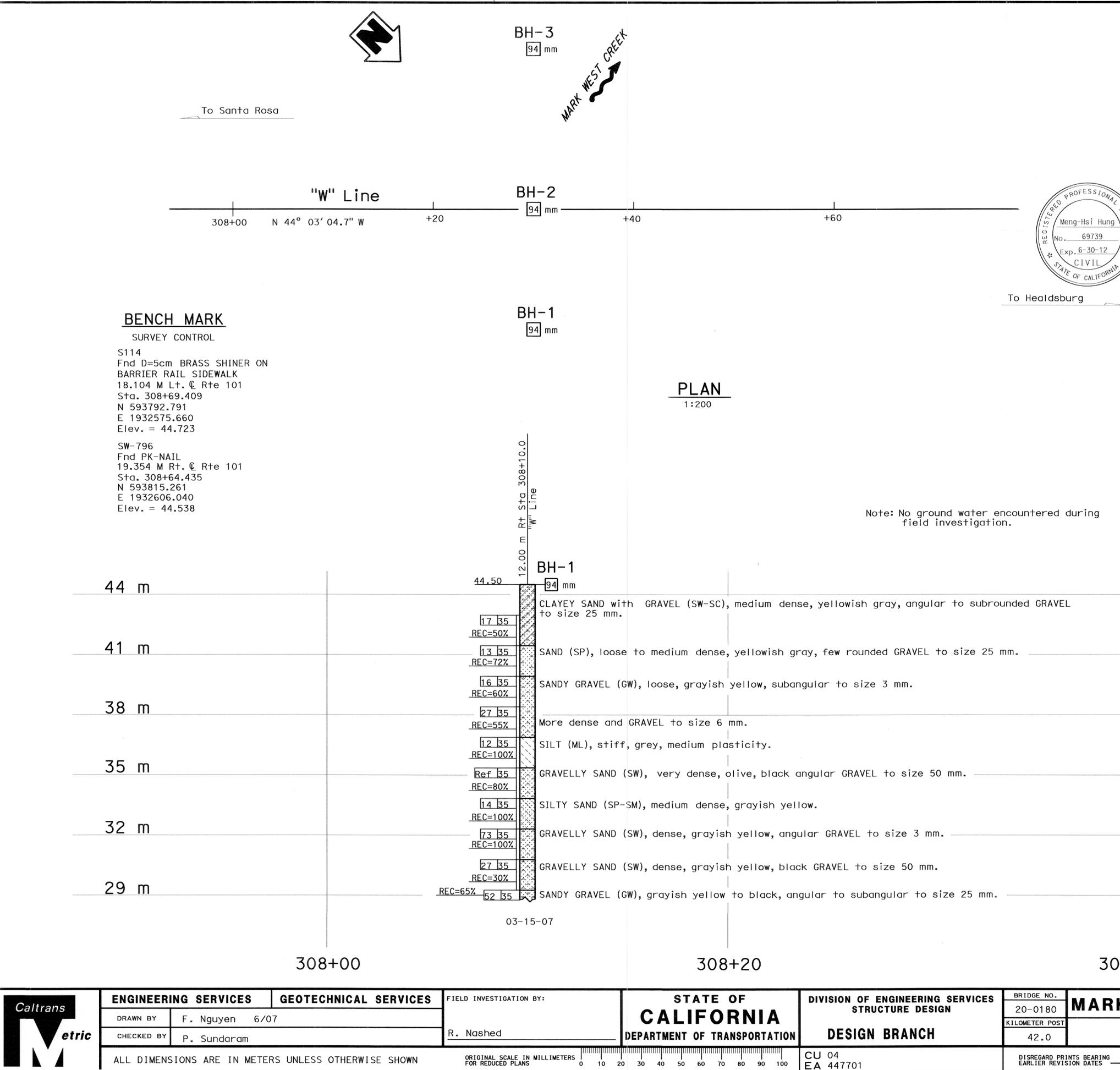
LEGEND OF EARTH MATERIALS

GRAVEL	CLAYEY SILT
SAND	PEAT and/or ORGANIC WATER
SILT	COBBLES and/or Boulders
CLAY	SEDIMENTARY ROCK
SANDY CLAY or CLAYEY SAND	METAMORPHIC ROCK
SANDY SILT or SILTY SAND	
SILTY CLAY	

CONSISTENCY CLASSIFICATION FOR SOILS

SPT N-Value (blows/30cm)	Consistency
0-4	Very Loose
5-10	Loose
11-30	Medium Dense
31-50	Dense
51-100	Very Dense
>100	Hard

NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.



DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101			

06-05-07
REGISTERED CIVIL ENGINEER
Panch Sundaram
No. C57665
Exp. 12-30-07
STATE OF CALIFORNIA

PLANS APPROVAL DATE

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

TO ACCOMPANY PLANS DATED 9-10-12

DIVISION OF ENGINEERING SERVICES - GEOTECHNICAL SERVICES

The information presented on this 2007 Log of Test Boring drawing is for informational purposes only. This drawing is available and presented only for the convenience of any bidder, contractor, or other interested party.

DIST.	COUNTY	ROUTE	KILOMETER POST-TOTAL PROJECT	Sheet No.	Total Sheets
04	Son	101	25.6/29.2	543	615

01-18-11
DATE

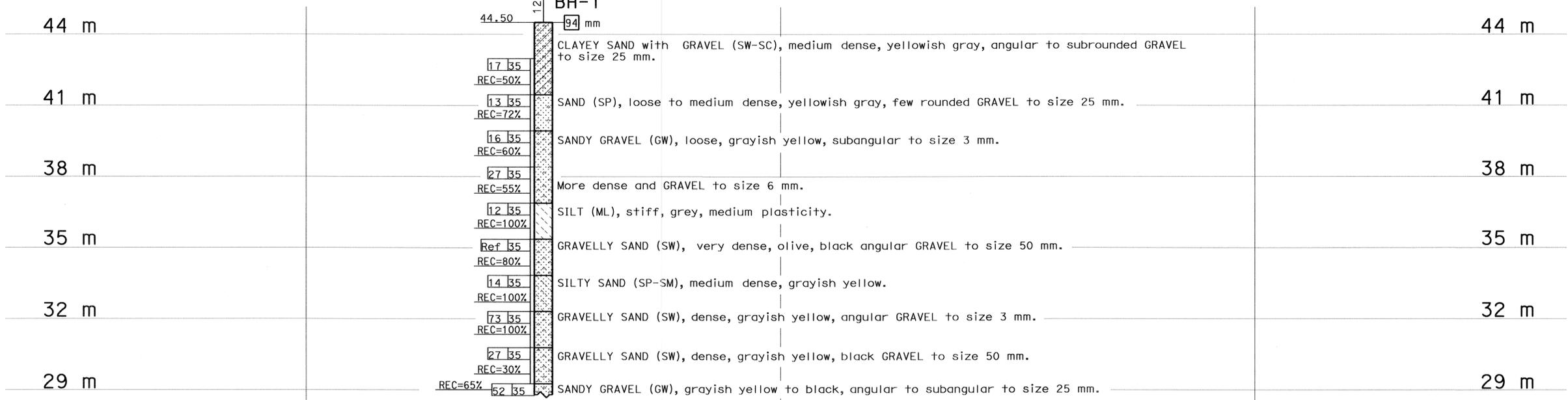
MARK WEST CREEK BRIDGE (WIDEN)
LOG OF TEST BORINGS 1 OF 3

CU: 04	BRIDGE No.
EA: 3A2301	20-0180
Sheet	of
15	17

Revisions made to this Log of Test Borings from the original 2007 Log of Test Borings are the addition of the following table and note:

Boring	Station	Offset from "CL 101" Line
BH-1	55+82.61	39.37 ft Right
BH-2	55+82.61	On Center Line
BH-3	55+82.61	52.49 ft Left

Note:
The data are the new boring locations referenced to the proposed new structure alignment. This table is presented for the convenience of any bidder, contractor or other interested party.



Note: No ground water encountered during field investigation.



ENGINEERING SERVICES	GEOTECHNICAL SERVICES	FIELD INVESTIGATION BY:
DRAWN BY F. Nguyen 6/07	CHECKED BY P. Sundaram	R. Nashed

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH

BRIDGE NO. 20-0180	MARK WEST CREEK BRIDGE (WIDEN)
KILOMETER POST 42.0	
LOG OF TEST BORINGS 1 OF 3	
DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES (PRELIMINARY STAGE ONLY)
05-30-07	
SHEET	OF
15	17

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN



CU 04
EA 447701

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101			

06-05-07
REGISTERED CIVIL ENGINEER
Panch Sundaram
No. C57665
Exp. 12-30-07
CIVIL
STATE OF CALIFORNIA

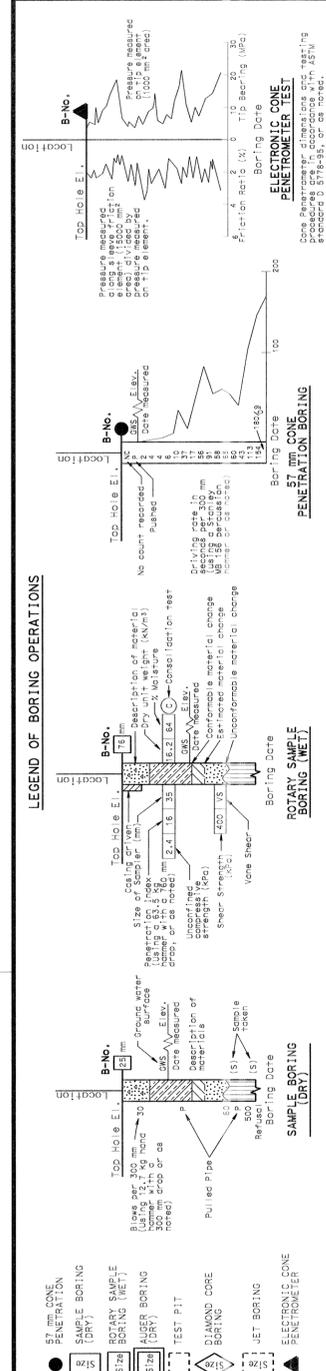
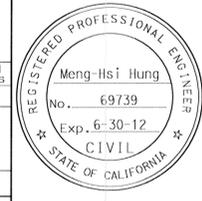
PLANS APPROVAL DATE

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FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS" 1 OF 3

TO ACCOMPANY PLANS DATED 9-10-12

DIVISION OF ENGINEERING SERVICES - GEOTECHNICAL SERVICES					
The information presented on this 2007 Log of Test Boring drawing is for informational purposes only. This drawing is available and presented only for the convenience of any bidder, contractor, or other interested party.					
DIST.	COUNTY	ROUTE	KILOMETER POST-TOTAL PROJECT	Sheet No.	Total Sheets
04	Son	101	25.6/29.2	544	615
				01-18-11	DATE
REGISTERED CIVIL ENGINEER					
MARK WEST CREEK BRIDGE (WIDEN)					
LOG OF TEST BORINGS 2 OF 3					
CU: 04		BRIDGE No. 20-0180			
EA: 3A2301		Sheet 16 of 17			

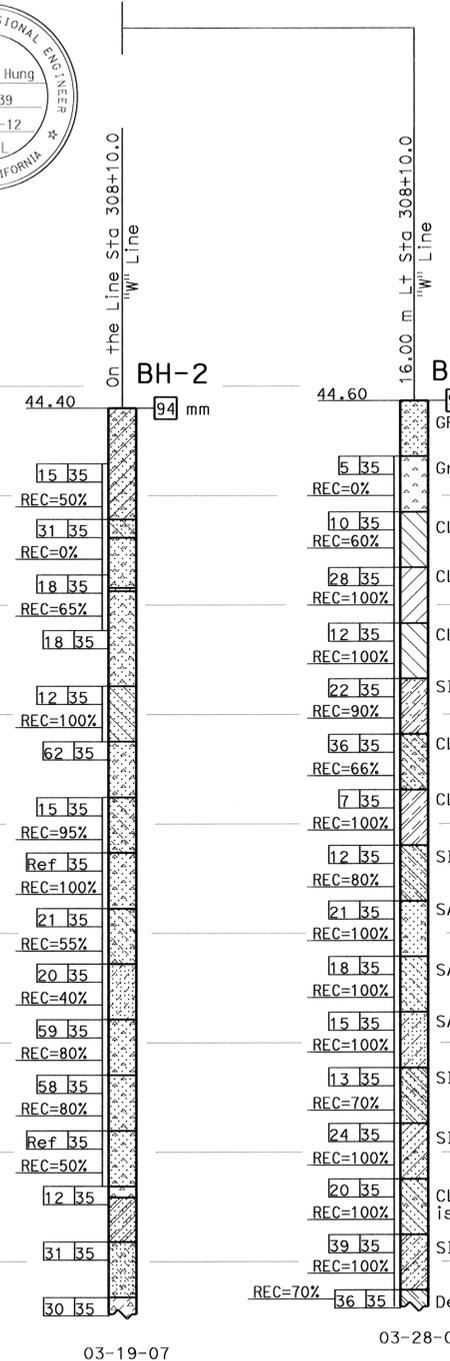


LEGEND OF EARTH MATERIALS

Consistency Classification for Soils	Symbol
Very Loose	0-4
Loose	5-10
Medium Dense	11-30
Dense	31-50
Very Dense	51-100
Hard	>100

NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

45 m	CLAYEY SAND with GRAVEL (SW-SC), medium dense, brownish yellowish, slightly moist, coarse grained, angular GRAVEL to size 6 mm.	BH-2	44.40	94 mm	BH-3	44.60	94 mm	45 m
42 m	No recovery.							42 m
39 m	GRAVELLY SAND (SW), dense, yellowish brown, angular GRAVEL to size 6 mm.							39 m
36 m	GRAVELLY SAND (SW), dense, yellowish brown, angular GRAVEL to size 6 mm.							36 m
33 m	SANDY CLAY (CL), stiff, gray, plastic.							33 m
30 m	SANDY GRAVEL (GW), brown, sub-rounded to rounded, black and brown GRAVEL to size 13 mm.							30 m
27 m	SILTY SAND with GRAVEL (SW), medium dense, yellowish orange, angular GRAVEL to size 6 mm.							27 m
24 m	SANDY GRAVEL (GW), yellowish orange with black and reddish GRAVEL, angular to rounded GRAVEL to size 13 mm.							24 m
21 m	SANDY GRAVEL (GW), yellowish gray, angular GRAVEL to size 6 mm.							21 m
18 m	SANDY SILT (SM), firm, yellowish gray, non-plastic, very few reddish brown angular GRAVEL to size 6 mm.							18 m



Note: No ground water encountered during field investigation.

	ENGINEERING SERVICES	GEOTECHNICAL SERVICES	FIELD INVESTIGATION BY:	STATE OF CALIFORNIA	DIVISION OF ENGINEERING SERVICES	BRIDGE NO. 20-0180	MARK WEST CREEK BRIDGE (WIDEN) LOG OF TEST BORINGS 2 OF 3
	DRAWN BY: F. Nguyen 6/07 CHECKED BY: P. Sundaram		R. Nashed/ P. Sundaram	DEPARTMENT OF TRANSPORTATION DESIGN BRANCH	STRUCTURE DESIGN KILOMETER POST 42.0		
ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN			ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS	CU 04 EA 447701	DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES (PRELIMINARY STAGE ONLY) SHEET 16 OF 17

FILENAME => 20-0180-z-1tb02.tif

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	547	615
			7-5-11	REGISTERED CIVIL ENGINEER DATE	
			9-10-12	PLANS APPROVAL DATE	
			REGISTERED PROFESSIONAL ENGINEER ALIREZA YAZDANI MOTLAGH No. 69601 Exp. 6-30-12 CIVIL STATE OF CALIFORNIA		
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INDEX TO PLANS

Sheet No.	Title
1	GENERAL PLAN
2	INDEX TO PLANS
3	DECK CONTOURS
4	FOUNDATION PLAN
5	ABUTMENT 1 LAYOUT
6	ABUTMENT 3 LAYOUT
7	ABUTMENT DETAILS No. 1
8	ABUTMENT DETAILS No. 2
9	ABUTMENT DETAILS No. 3
10	BENT DETAILS No. 1
11	BENT DETAILS No. 2
12	BENT DETAILS No. 3
13	BENT DETAILS No. 4
14	BENT DETAILS No. 5
15	TYPICAL SECTION
16	GIRDER LAYOUT
17	GIRDER REINFORCEMENT
18	PILE DETAILS
19	JOINT SEAL ASSEMBLY
20	JOINT SEAL DETAILS
21	DECK DRAINS
22	DRAIN DETAILS
23	STRUCTURE APPROACH TYPE N(30S)
24	STRUCTURE APPROACH DRAINAGE DETAILS
25	SLOPE PAVING - FULL SLOPE
26	BARRIER RAILING DETAILS No. 1
27	BARRIER RAILING DETAILS No. 2
28	BARRIER RAILING DETAILS No. 3
29	BARRIER RAILING DETAILS No. 4
30	BARRIER RAILING DETAILS No. 5
31	LOG OF TEST BORINGS 1 OF 6
32	LOG OF TEST BORINGS 2 OF 6
33	LOG OF TEST BORINGS 3 OF 6
34	LOG OF TEST BORINGS 4 OF 6
35	LOG OF TEST BORINGS 5 OF 6
36	LOG OF TEST BORINGS 6 OF 6

GENERAL NOTES
LOAD AND RESISTANCE FACTOR DESIGN

DESIGN:
AASHTO LRFD Bridge Design Specifications, 4th edition with Interims through 2008 and the Caltrans Amendments Dec 2008, except that geotechnical design of deep foundations, earth retaining systems, bridge (include barrier and railing) details taken from Standard Plans May 2006 and earlier versions, Standard Bridge Details XS sheets, etc.) are designed using Bridge Design Specifications ('96 AASHTO with Revisions by Caltrans)

SEISMIC DESIGN:
Caltrans Seismic Design Criteria (SDC), Version 1.4 dated June 2006

DEAD LOAD:
Includes 35 psf for future wearing surface.

LIVE LOADING:
HL93 and permit design load.
Pedestrian load = 75 psf

STRUCTURAL STEEL:
fy = ASTM A709 Grade 36
Steel shell CISS piles: ASTM A 252, Grade 3
Stud connector: ASTM A 108 and AASHTO/AWS D1.5

REINFORCED CONCRETE:
fy = 60 ksi
f'c = 3.6 ksi

SEISMIC LOADING:
Site Specific Acceleration Response Spectra Curve
Probabilistic USGS Interactive Deaggregation ARS curve for a 975 year return period (5% probability of exceedence in 50 years) with a 20% increase for directivity for periods greater than 1 second.

PILE DATA TABLE

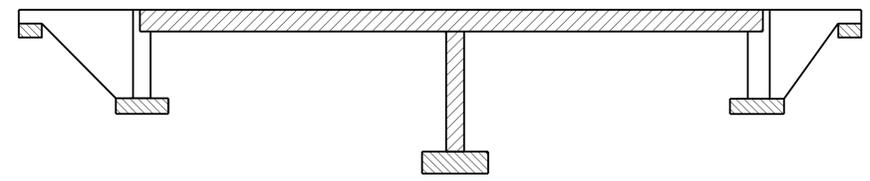
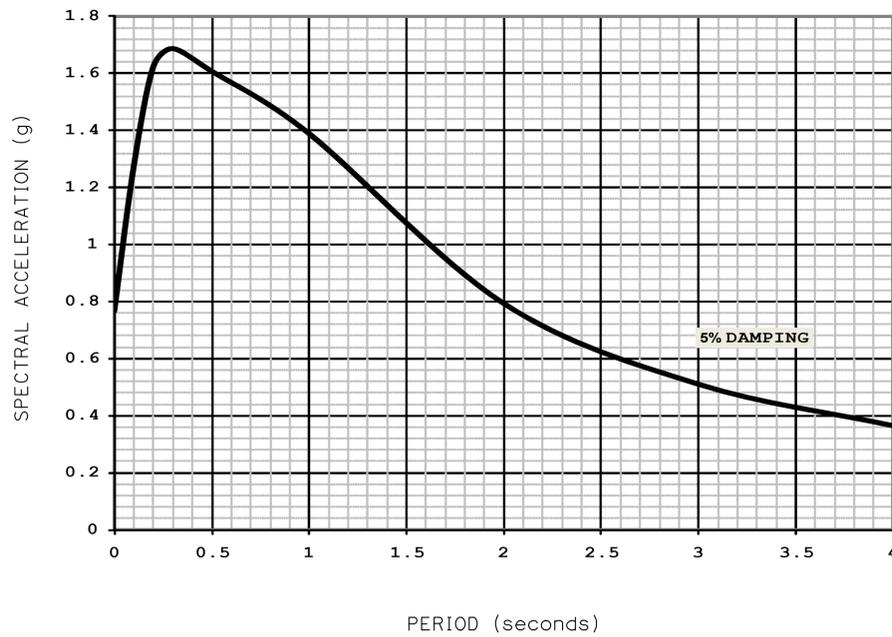
SUPPORT LOCATION	PILE TYPE	NOMINAL RESISTANCE (kips)		DESIGN TIP ELEVATION (F+)	SPECIFIED TIP ELEVATION (F+)	NOMINAL DRIVING RESISTANCE REQUIRED (kips)
		COMPRESSION	TENSION			
Abut 1	CISS NPS 24x0.5	400	0	63.2 (a) 78.2 (d)	63	640
BENT 2	CISS NPS 24x0.5	400	0	60.8 (a-I) 57.8 (a-II) 78.8(d)	57	610
Abut 3	CISS NPS 24x0.5	400	0	58.8 (a) 74.8(d)	58	860

NOTES:

- Design tip elevations are controlled by: (a-I) Compression (Strength Limit), (a-II) Compression (Extreme Event), and, (d) Lateral Loads, respectively
- The specified tip elevation shall not be raised above the design tip elevation for lateral load
- The nominal driving resistance required is equal to the nominal resistance needed to support the factored load plus driving resistance from the unsuitable penetrated soil layers (very soft, liquefiable, etc.), if any, which do not contribute to the design resistance
- Design tip elevation for Lateral Load is provided by Geotechnical Services and Structural Design

STANDARD PLANS DATED MAY 2006

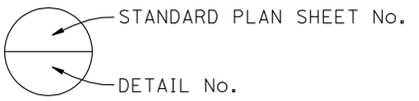
A10A	ACRONYMS AND ABBREVIATIONS (SHEET 1 OF 2)
A10B	ACRONYMS AND ABBREVIATIONS (SHEET 2 OF 2)
A10C	SYMBOLS (SHEET 1 OF 2)
A10D	SYMBOLS (SHEET 2 OF 2)
A62C	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL-BRIDGE
BO-1	BRIDGE DETAILS
BO-3	BRIDGE DETAILS
BO-5	BRIDGE DETAILS
BO-13	BRIDGE DETAILS
B7-1	BOX GIRDER DETAILS
B7-6	DECK DRAIN TYPE D1 & D-2
B7-10	UTILITY OPENING BOX GIRDER
B8-5	CAST-IN-PLACE PRESTRESSED GIRDER DETAILS
B11-52	CHAIN LINK RAILING TYPE 7
B11-54	CONCRETE BARRIER TYPE 26
B11-56	CONCRETE BARRIER TYPE 736
B14-4	WATER SUPPLY LINE (BRIDGE)



Structural Concrete, Bridge
 Structural Concrete, Bridge Footing
 Structural Concrete, Bridge
 f'c = 4000 psi @ 28 days

CONCRETE STRENGTH AND TYPE LIMITS

No Scale



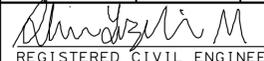
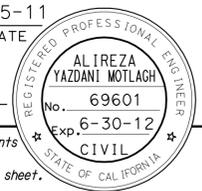
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DETAILS	BY Liang Ma / F. Maagma	CHECKED Son Ly
QUANTITIES	BY T. Kishwar / L. Ma	CHECKED Hardeep Singh

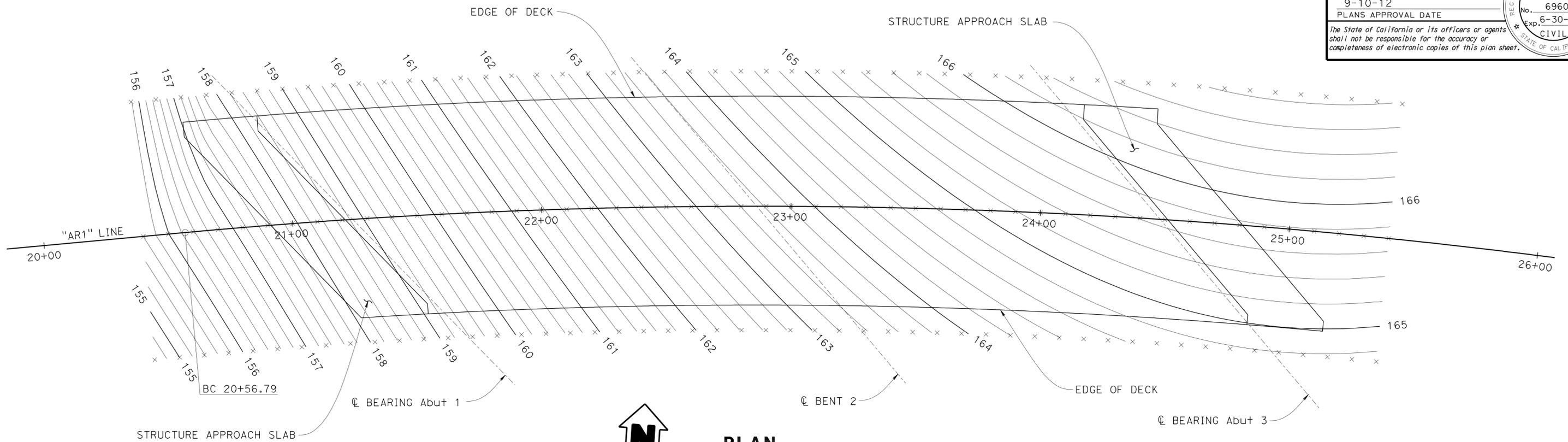
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 16

BRIDGE NO. 20-0297
POST MILE 26.3

AIRPORT BLVD OC (REPLACE)
INDEX TO PLANS

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	548	615
 REGISTERED CIVIL ENGINEER DATE 7-5-11					
PLANS APPROVAL DATE 9-10-12					
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PLAN
1" = 20'

NOTES:
0.20 Contour Interval
x - 10.0 Station Increment
Contour do not include camber

QUANTITIES

BRIDGE REMOVAL	LUMP SUM
STRUCTURE EXCAVATION (BRIDGE)	2,015 CY
STRUCTURE BACKFILL (BRIDGE)	917 CY
3" SUPPLY LINE (BRIDGE)	400 LF
FURNISH 24" CAST-IN-STEEL SHELL CONCRETE PILING	9,026 LF
DRIVE 24" CAST-IN-STEEL SHELL CONCRETE PILE	110 EA
PRESTRESSING CAST-IN-PLACE CONCRETE	LUMP SUM
STRUCTURAL CONCRETE, BRIDGE FOOTING	605 CY
STRUCTURAL CONCRETE, BRIDGE	2,708 CY
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE N)	188 CY
ARCHITECTURAL TEXTURE (FRACTURED FIN)	898 SQFT
JOINT SEAL ASSEMBLY (MR 2 1/2")	226 LF
BAR REINFORCING STEEL (BRIDGE)	1,037,050 LB
WELDED STEEL PIPE CASING (BRIDGE)	86 LF
SLOPE PAVING (CONCRETE)	86 CY
SLOPE PAVING (MASONRY BLOCK)	6,334 SQFT
BRIDGE DECK DRAINAGE SYSTEM	4,798 LB
CHAIN LINK RAILING (TYPE 7 MODIFIED)	774 LF
CONCRETE BARRIER (TYPE 26 MODIFIED)	385 LF
CONCRETE BARRIER (TYPE 736 MODIFIED)	392 LF

DESIGN	BY Alireza Yazdani	CHECKED Son Ly
DETAILS	BY Liang Ma / F. Maagma	CHECKED Son Ly
QUANTITIES	BY T. Kishwar / L. Ma	CHECKED Hardeep Singh

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 16

BRIDGE NO.	20-0297
POST MILE	26.3

AIRPORT BLVD OC (REPLACE)
DECK CONTOURS



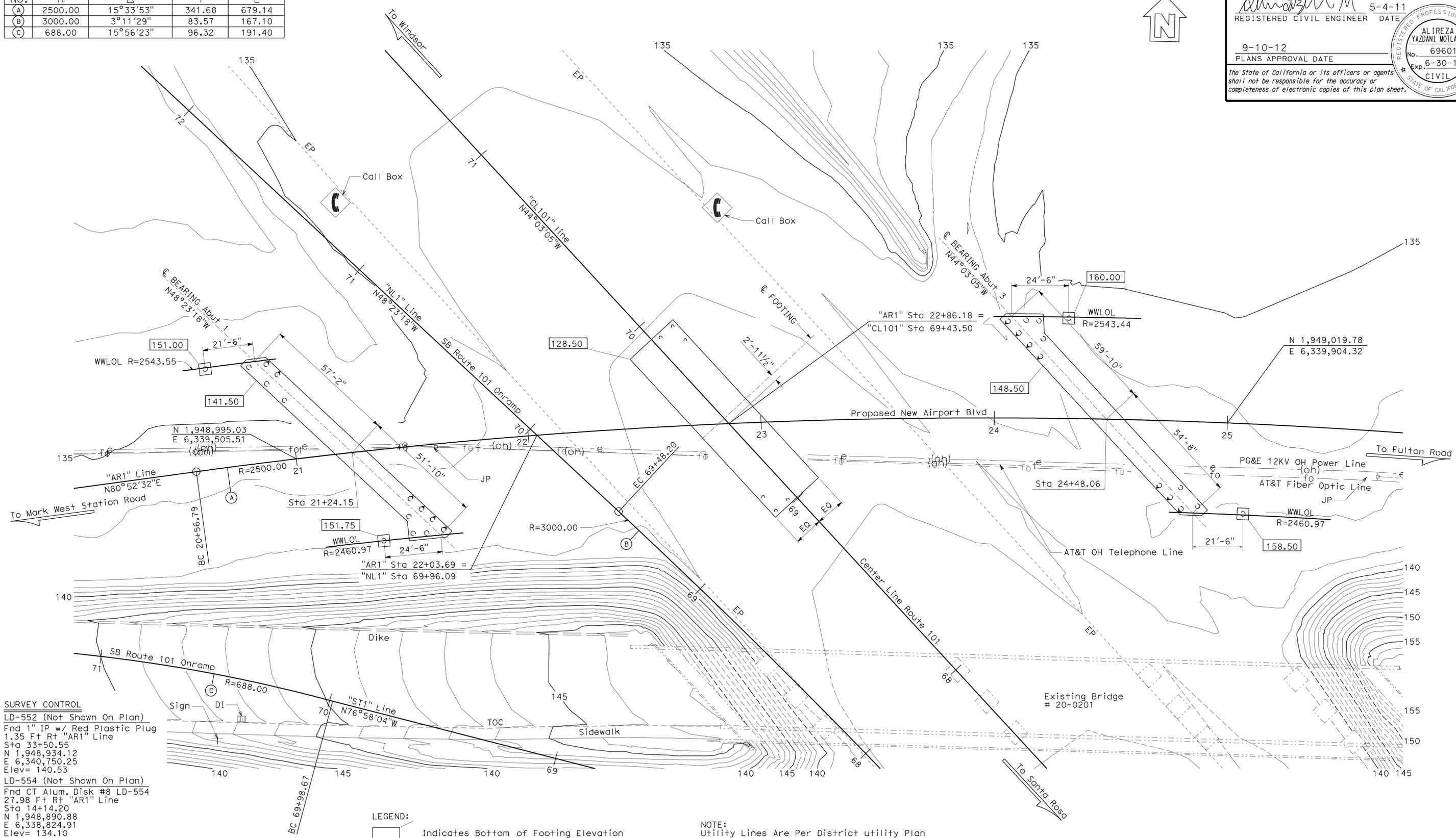
CURVE DATA

No.	R	Δ	T	L
(A)	2500.00	15°33'53"	341.68	679.14
(B)	3000.00	3°11'29"	83.57	167.10
(C)	688.00	15°56'23"	96.32	191.40

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	549	615



 REGISTERED CIVIL ENGINEER DATE 5-4-11
 ALIREZA YAZDANI MOTLAGH
 No. 69601
 Exp. 6-30-12
 CIVIL
 STATE OF CALIFORNIA
 PLANS APPROVAL DATE 9-10-12
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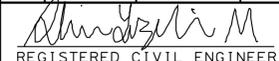


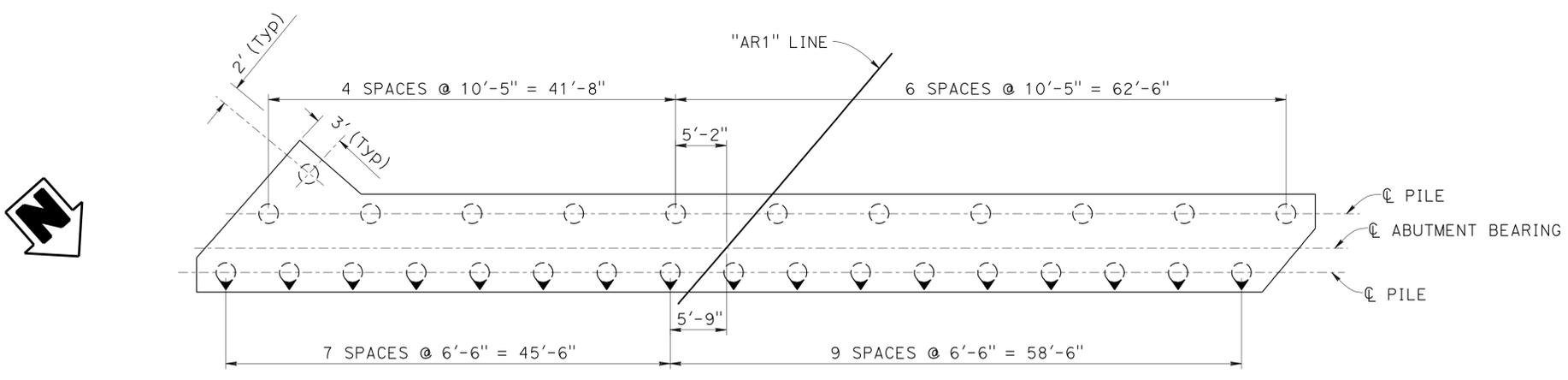
SURVEY CONTROL
 LD-552 (Not Shown On Plan)
 Fnd 1" IP w/ Red Plastic Plug
 1.35 Ft Rt "AR1" Line
 Sta 33+50.55
 N 1,948,934.12
 E 6,340,750.25
 Elev= 140.53
 LD-554 (Not Shown On Plan)
 Fnd CT Alum. Disk #8 LD-554
 27.98 Ft Rt "AR1" Line
 Sta 14+14.20
 N 1,948,890.88
 E 6,338,824.91
 Elev= 134.10

LEGEND:
 Indicates Bottom of Footing Elevation

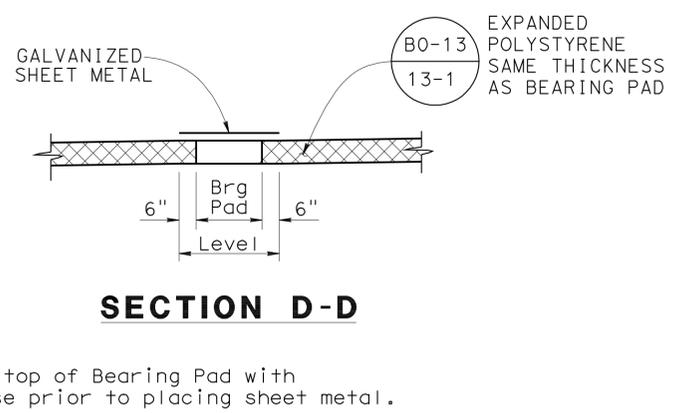
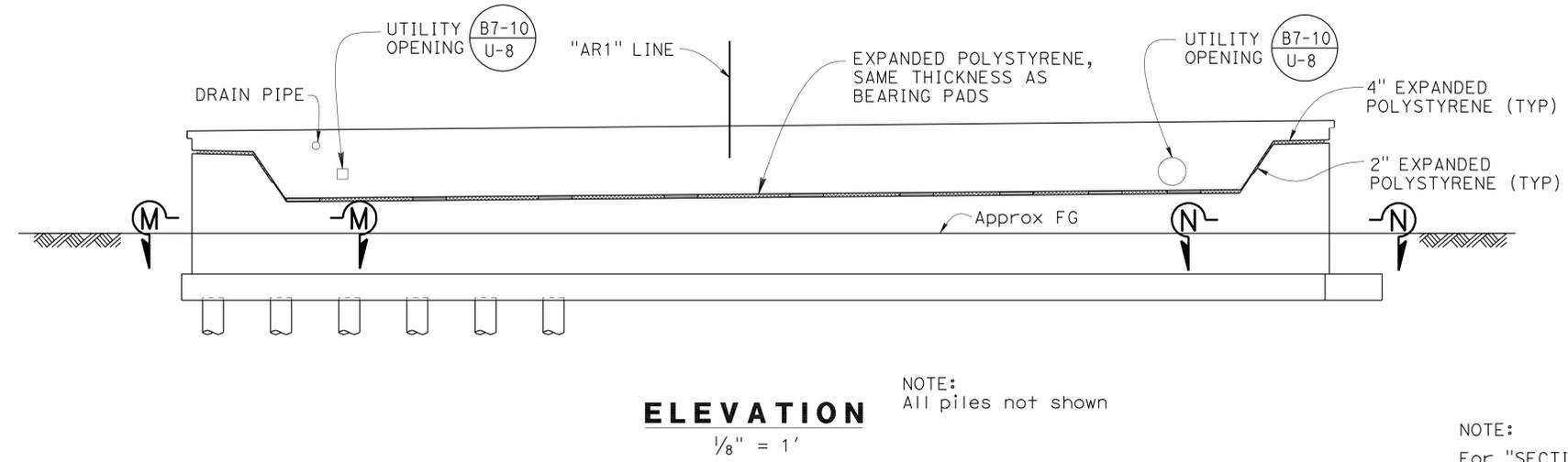
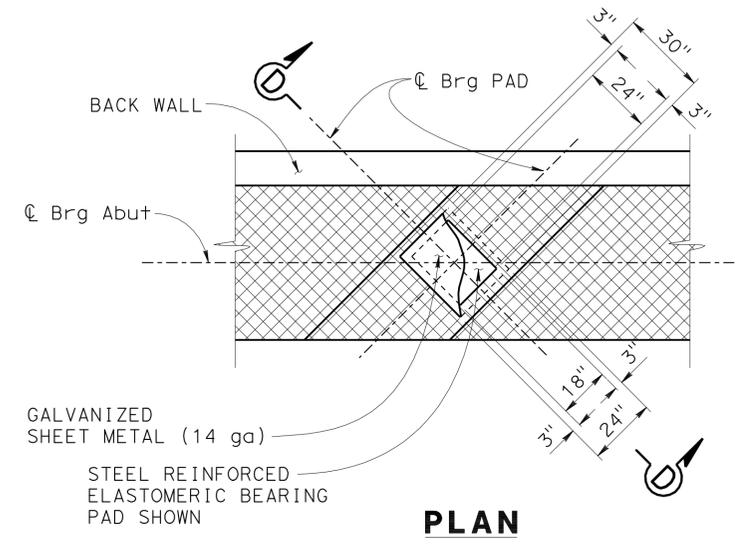
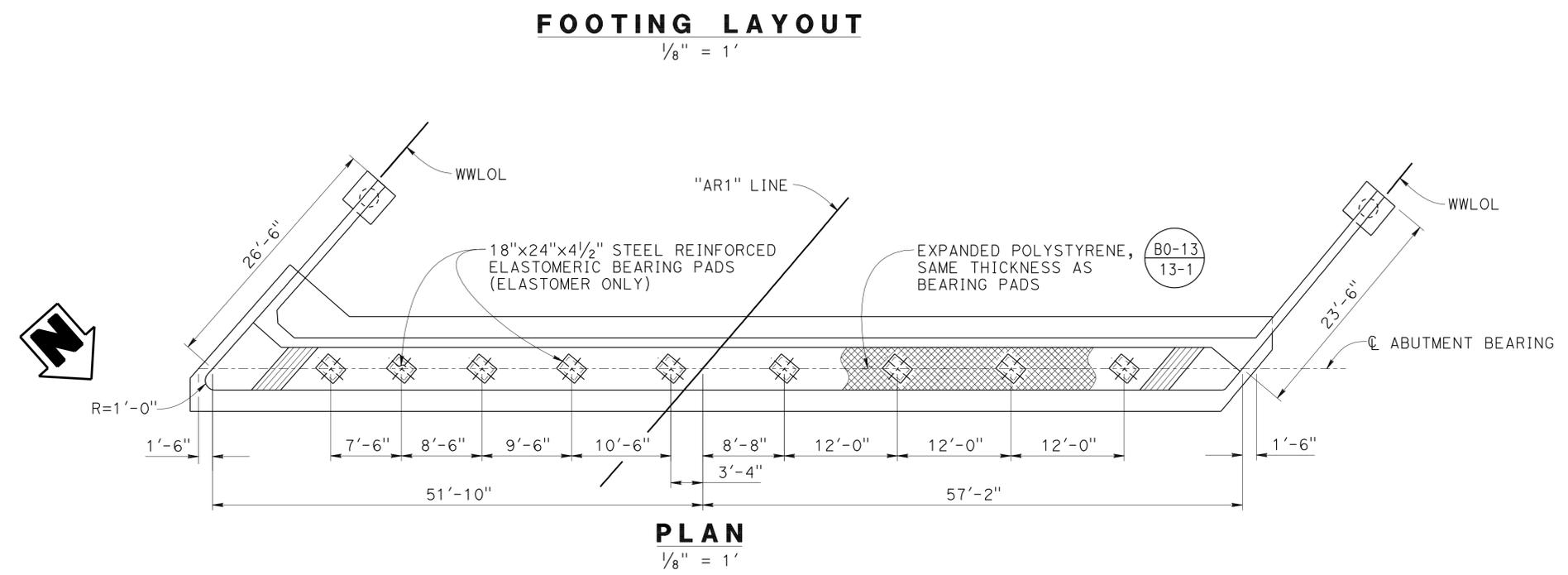
NOTE:
 Utility Lines Are Per District utility Plan

PRELIMINARY INVESTIGATION SECTION				DESIGN BY Alireza Yazdani	CHECKED Son Ly	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO. 20-0297	AIRPORT BLVD OC (REPLACE) FOUNDATION PLAN
SCALE 1"=20'	VERT. DATUM NAVD88	PHOTOGRAMMETRY AS OF: X	DETAILS BY Liang Ma / F. Maagma	CHECKED Son Ly	POST MILE 26.3				
ALIGNMENT TIES	Dist. Traverse Sheet	DRAFTED BY J. Martinez	CHECKED BY S. Sou	CHECKED Hardeep Singh	REVISION DATES				
STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 10/25/05)						ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3	CU 04 EA 000209451 (3A23U1)	DISREGARD PRINTS BEARING EARLIER REVISION DATES	SHEET 4 OF 36

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	550	615
 REGISTERED CIVIL ENGINEER DATE 5-4-11					
9-10-12 PLANS APPROVAL DATE					
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LEGEND:
 ○ Indicates Vertical Piles
 ⊙ Indicates Battered Piles



NOTE:
 Coat top of Bearing Pad with grease prior to placing sheet metal.

BEARING PAD DETAILS
 No Scale

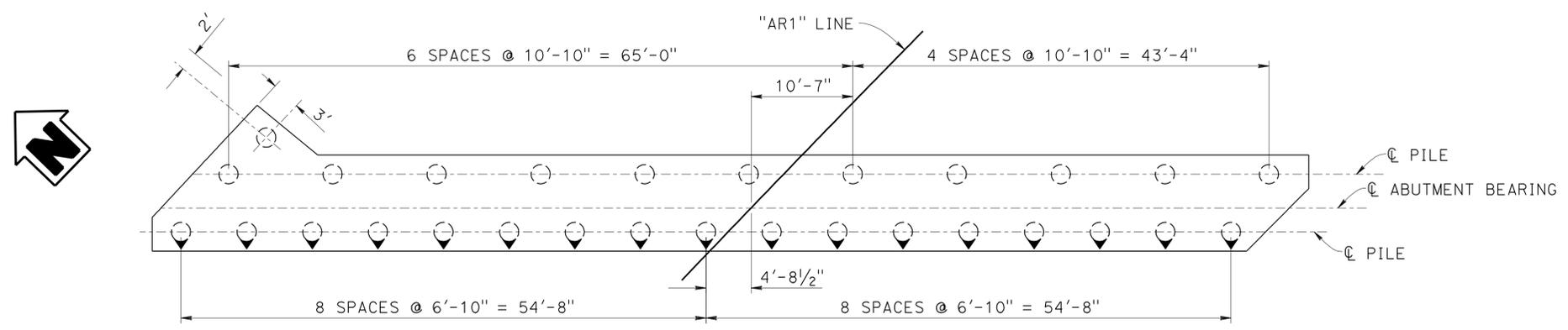
NOTE:
 All piles not shown

NOTE:
 For "SECTION M-M" and "SECTION N-N" see "ABUTMENT DETAILS NO. 2" sheet.

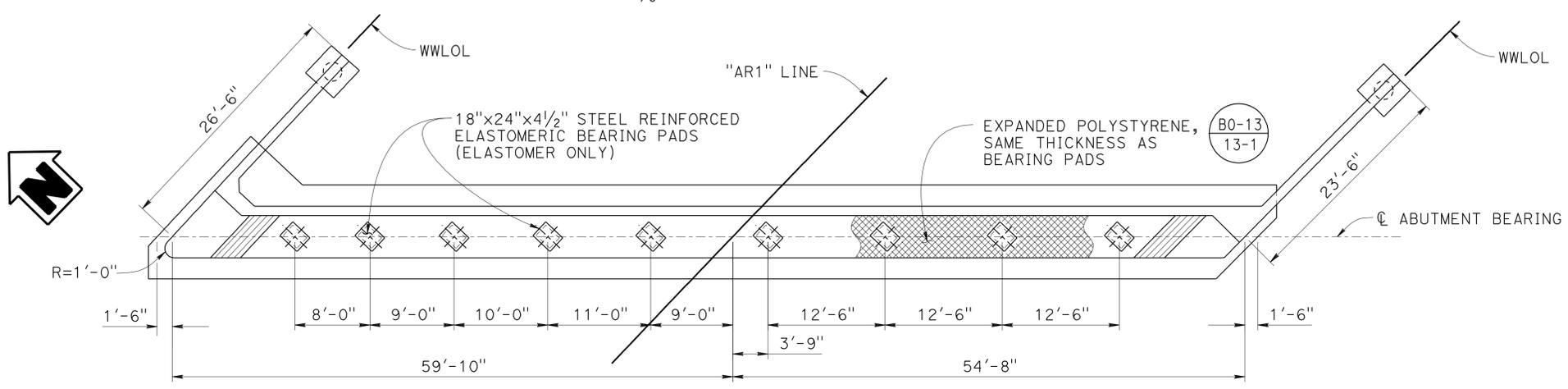
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	DETAILS	BY Carlo Cancino / L. Ma	CHECKED Alireza Yazdani			20-0297	ABUTMENT 1 LAYOUT	
	QUANTITIES	BY T. Kishwar / L. Ma	CHECKED Hardeep Singh			26.1		
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				0 1 2 3	CU 04 EA 000209451 (3A23U1)	DISREGARD PRINTS BEARING EARLIER REVISION DATES	4-13-11	SHEET 5 OF 36

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	551	615

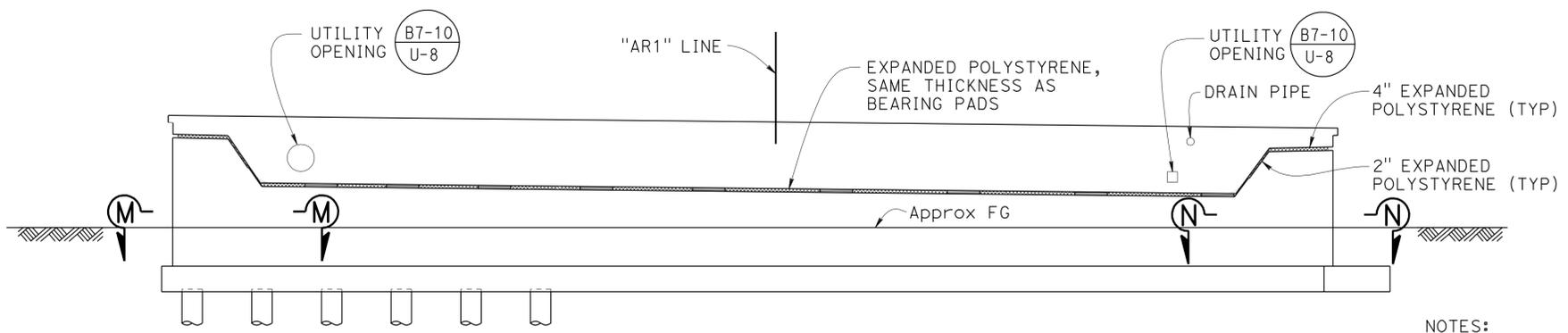
5-4-11
 REGISTERED CIVIL ENGINEER DATE
 ALIREZA YAZDANI MOTLAGH
 No. 69601
 Exp. 6-30-12
 CIVIL
 STATE OF CALIFORNIA
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FOOTING LAYOUT
1/8" = 1'



PLAN
1/8" = 1'

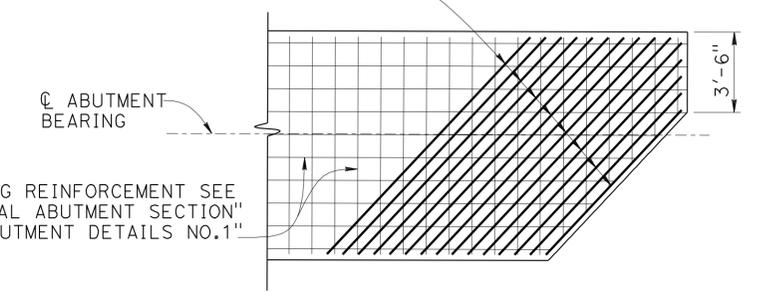


NOTE:
All piles not shown

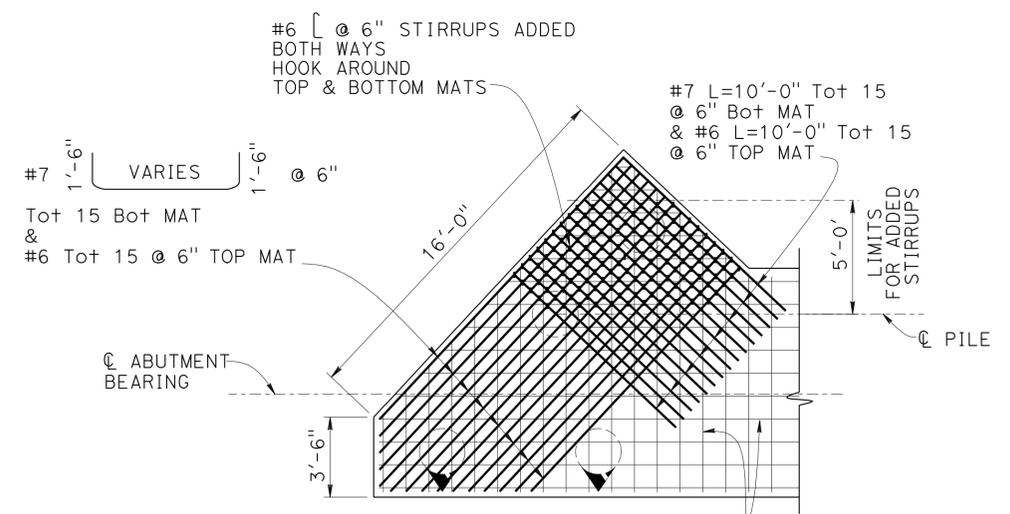
ELEVATION
1/8" = 1'

LEGEND:
 ○ Indicates Vertical Piles
 ◐ Indicates Battered Piles

#6 1'-6" VARIES 1'-6" @ 6"
 Tot 15 Bot MAT
 &
 #6 Tot 15 @ 6" TOP MAT



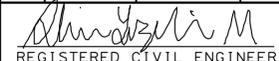
FOOTING CORNER DETAIL
1/4" = 1'
NOTE: Not all reinf are shown, Abut 1 & 3 (Typ)

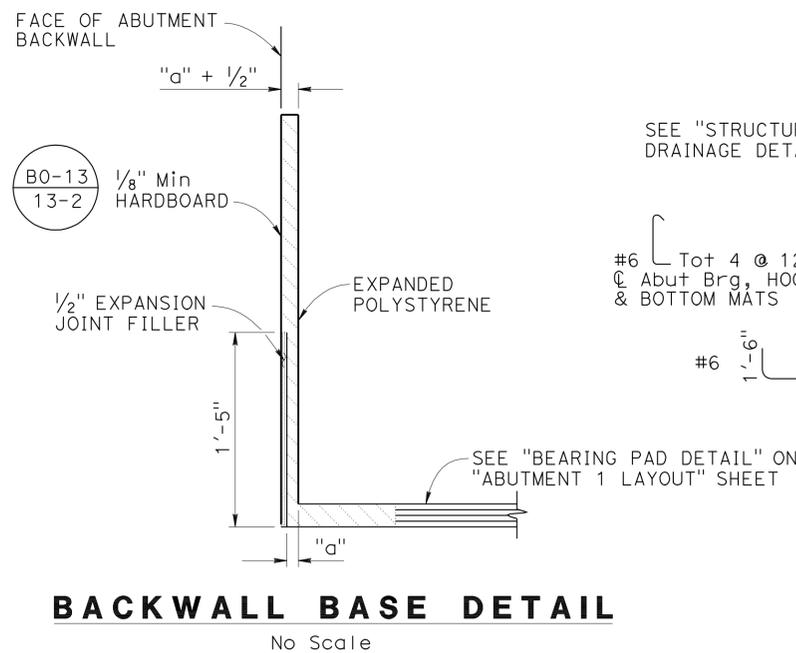
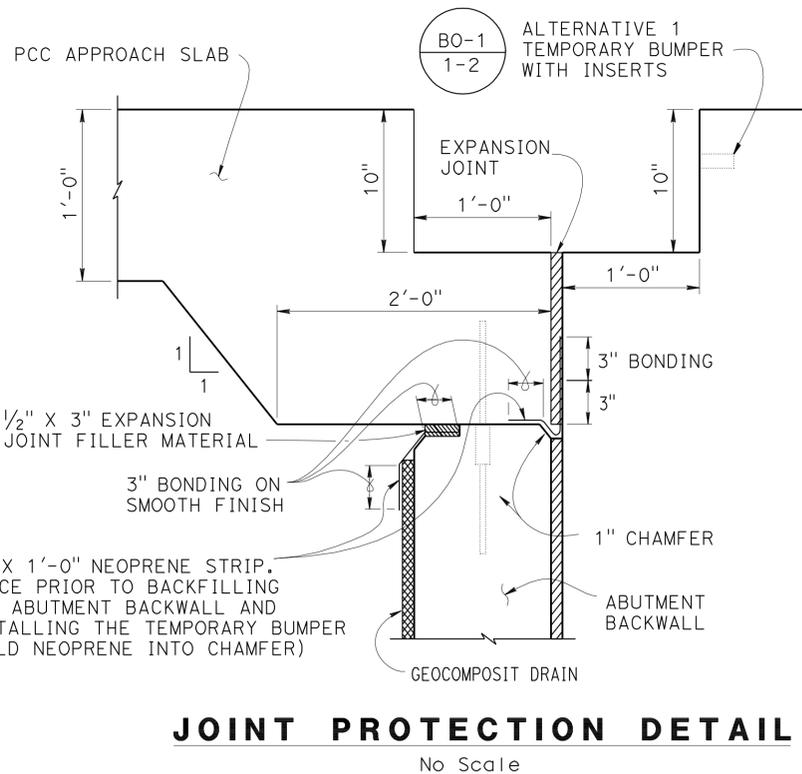
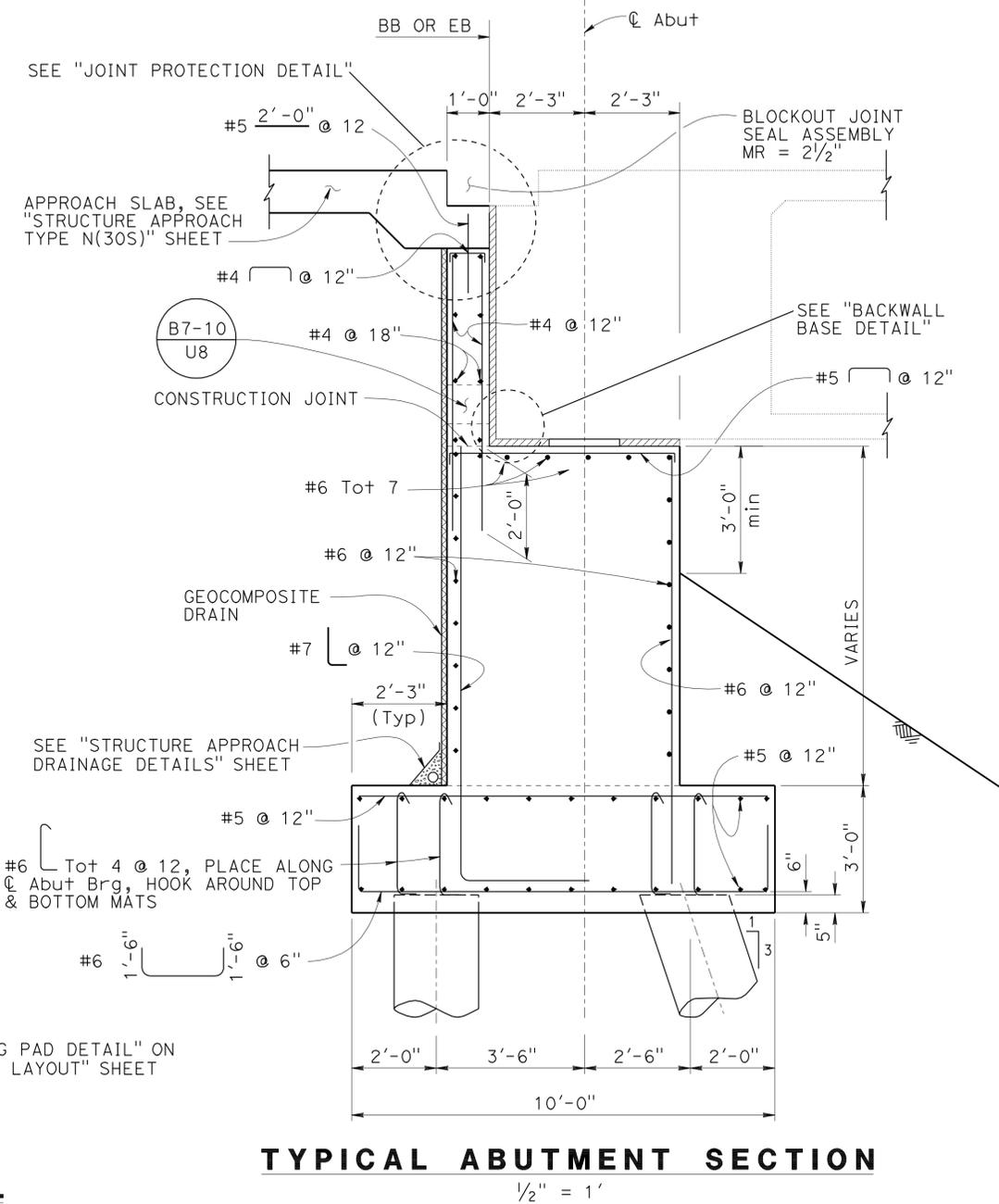
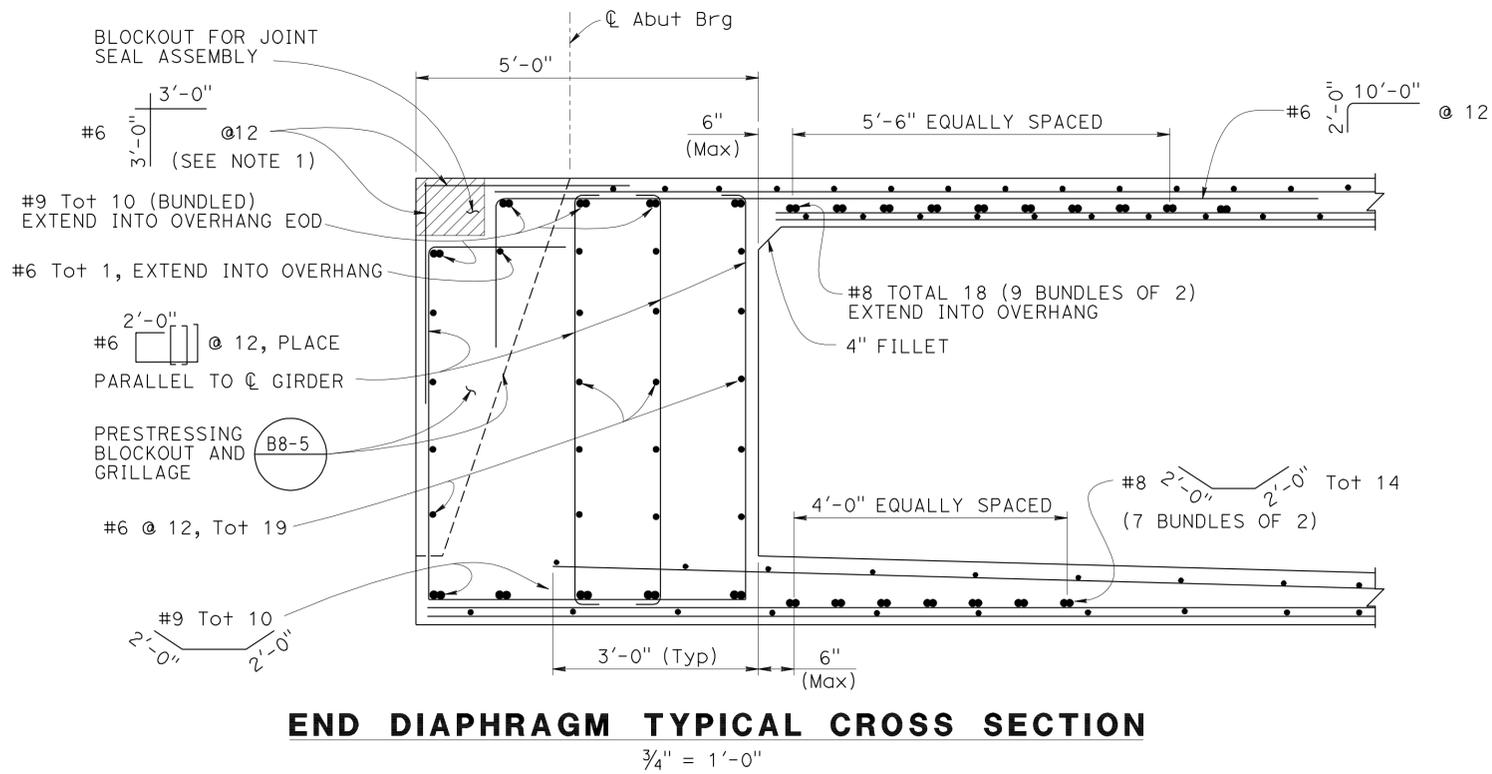


FOOTING CORNER DETAIL
1/4" = 1'
NOTE: Not all reinf are shown, Abut 1 & 3 (Typ)

- NOTES:
- 1 For "SECTION M-M" and "SECTION N-N" see "ABUTMENT DETAILS NO. 2" sheet
 - 2 Place additional top and bottom footing corner reinforcements, below main top mat and above main bottom mat reinforcement, respectively

DESIGN	BY John Tjoelker	CHECKED Alireza Yazdani	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO. 20-0297	AIRPORT BLVD OC (REPLACE) ABUTMENT 3 LAYOUT
	DETAILS	BY Carlo Cancino / L. Ma			CHECKED Alireza Yazdani	
QUANTITIES	BY T. Kishwar / L. Ma	CHECKED Hardeep Singh	CU 04 EA 000209451 (3A23U1)	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 6 OF 36

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	552	615
 REGISTERED CIVIL ENGINEER DATE 5-4-11					
9-10-12 PLANS APPROVAL DATE					
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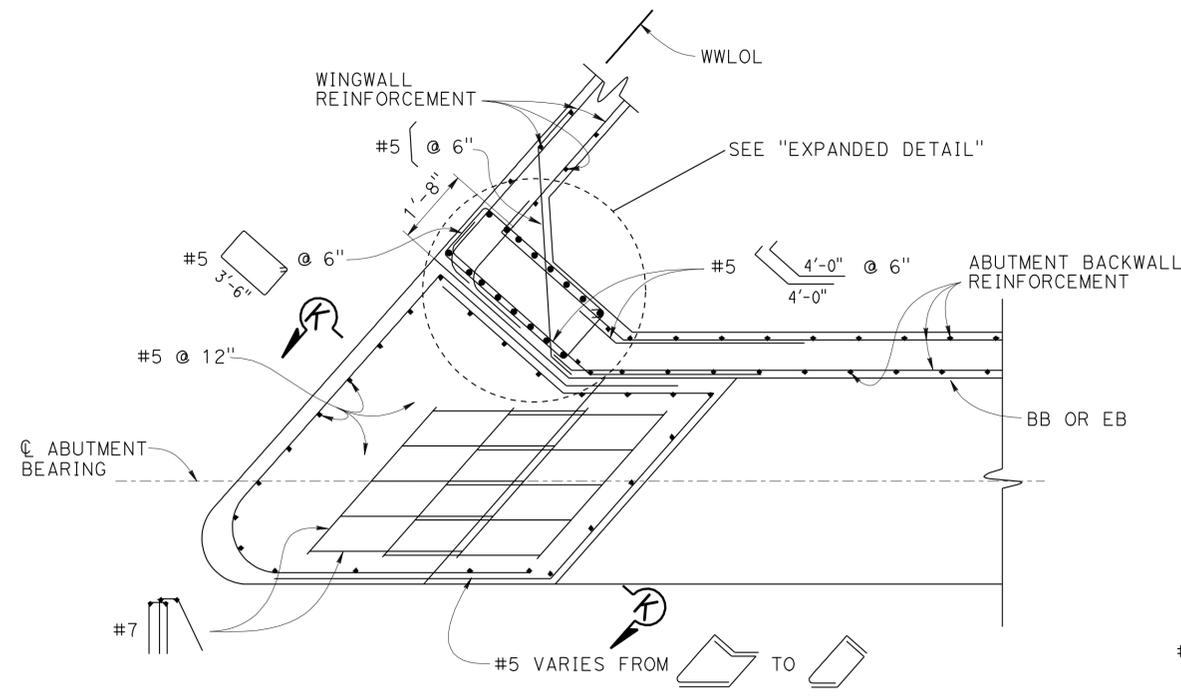
NOTES:
1. Place reinforcement to conform with joint assembly detail and connection

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY John Tjoelker	CHECKED Alireza Yazdani	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO.	AIRPORT BLVD OC (REPLACE) ABUTMENT DETAILS No. 1	
	DETAILS	BY Carlo Cancino / L. Ma	CHECKED Alireza Yazdani			20-0297		
	QUANTITIES	BY T. Kishwar / L. Ma	CHECKED Hardeep Singh			POST MILE 26.1		
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS					CU 04 EA 000209451 (3A23U1)	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 7 OF 36

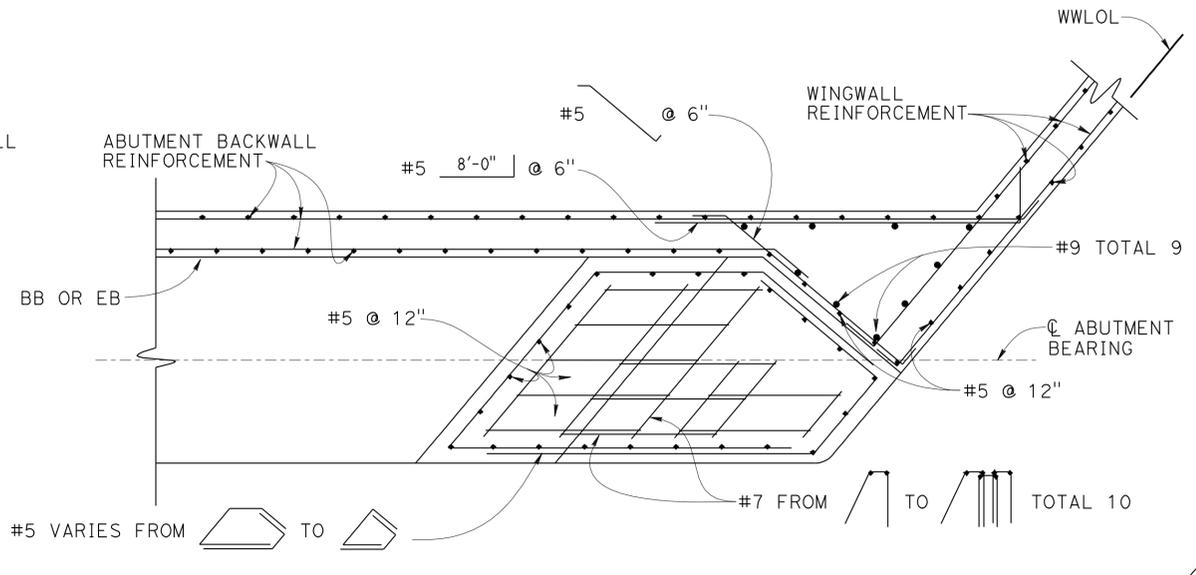
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	553	615

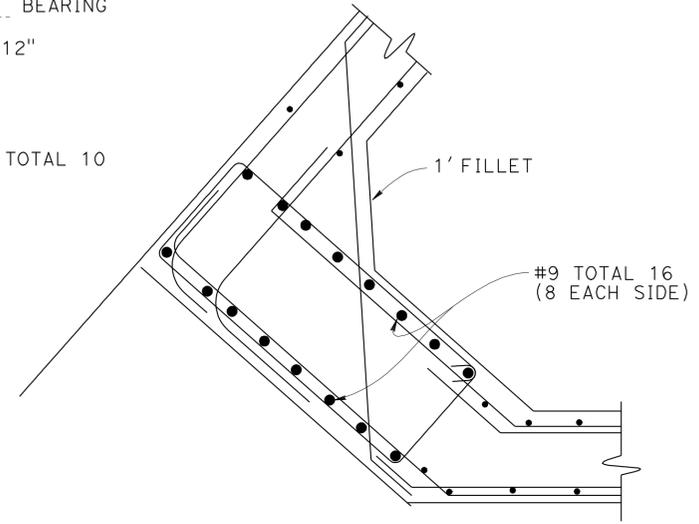
REGISTERED CIVIL ENGINEER DATE 5-4-11
 ALIREZA YAZDANI MOTLACH
 No. 69601
 Exp. 6-30-12
 CIVIL
 STATE OF CALIFORNIA
 9-10-12
 PLANS APPROVAL DATE
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



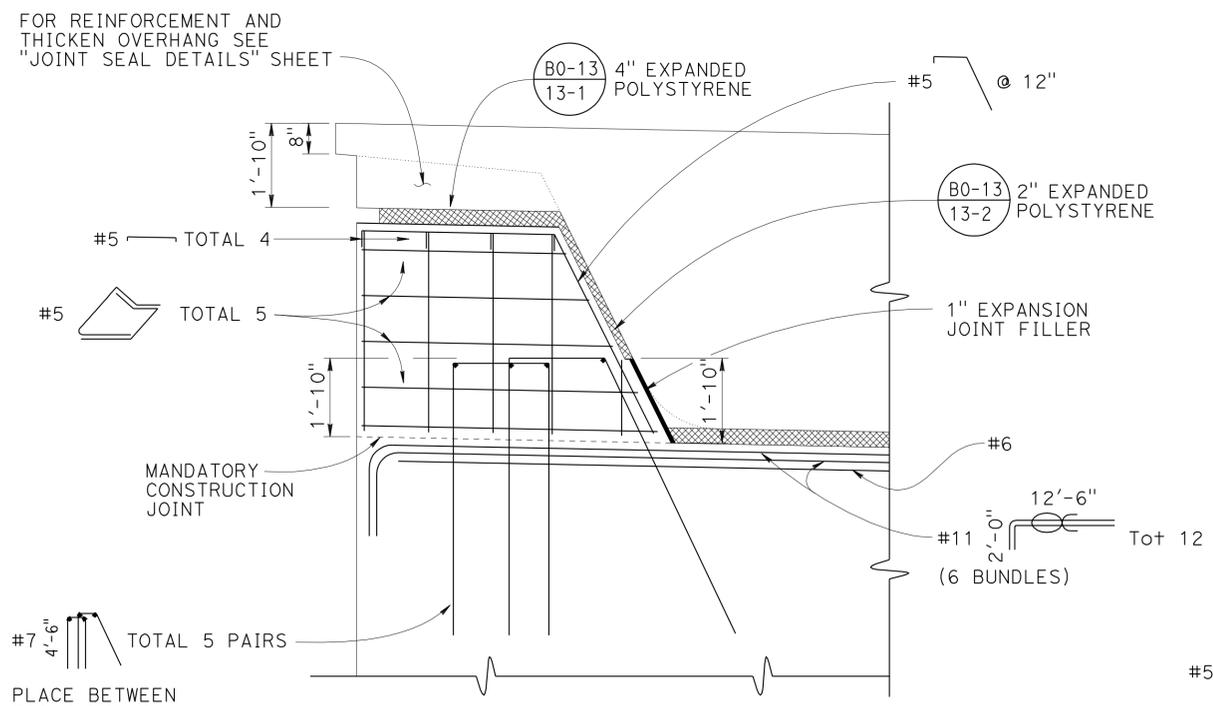
EXTERNAL SHEAR KEY DETAIL
1/2" = 1'



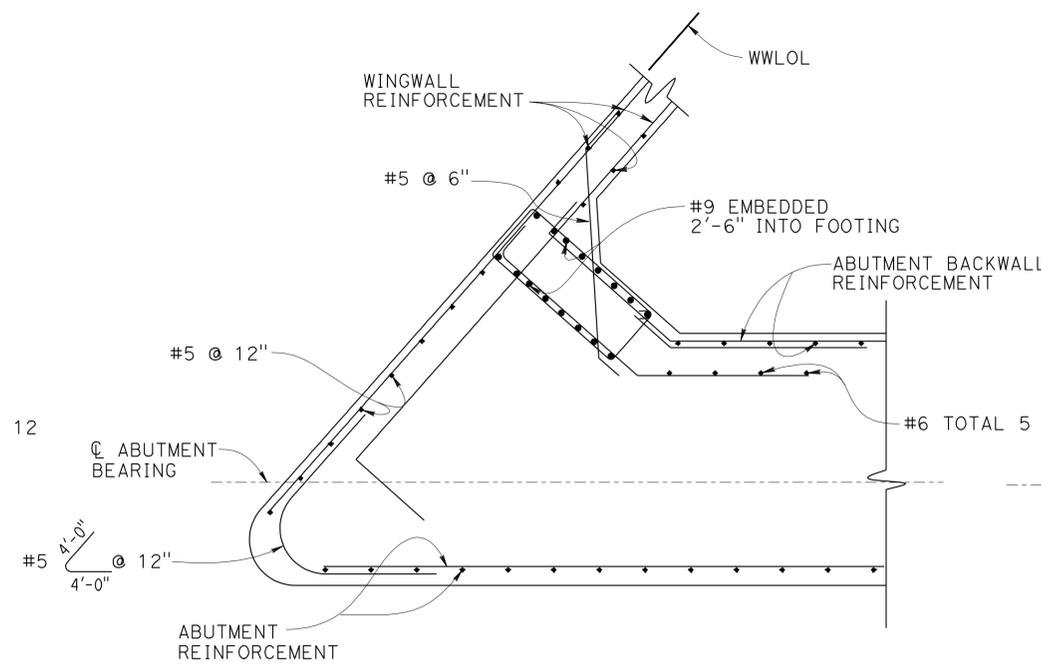
EXTERNAL SHEAR KEY DETAIL
1/2" = 1'



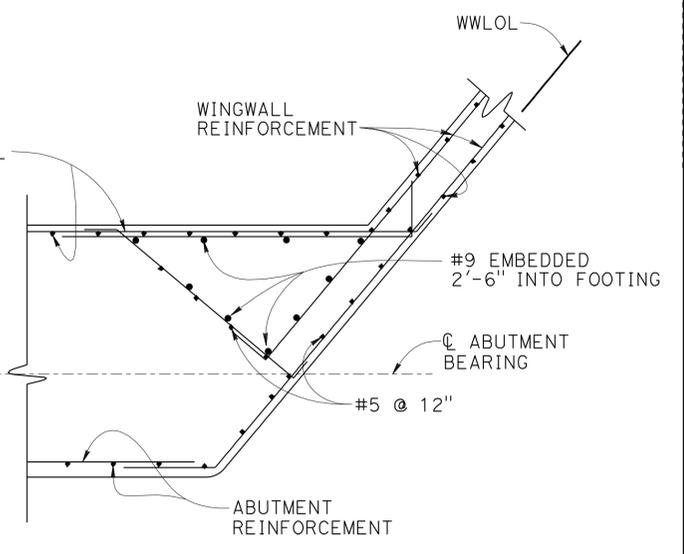
EXPANDED DETAIL
No Scale



SECTION K-K
1/2" = 1'



SECTION M-M
1/2" = 1'



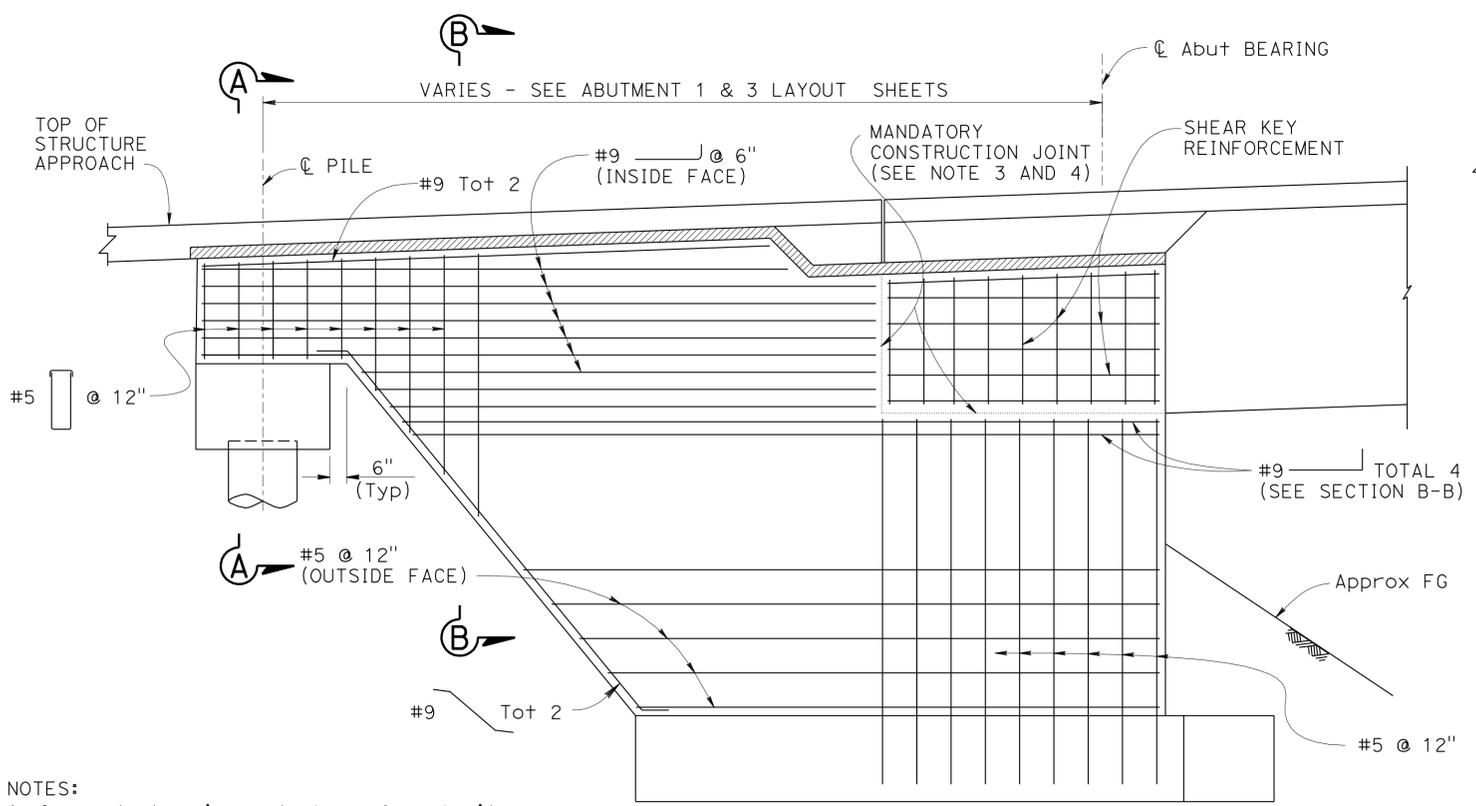
SECTION N-N
1/2" = 1'

DESIGN	BY John Tjoelker	CHECKED Alireza Yazdani
DETAILS	BY Carlo Cancino / L. Ma	CHECKED Alireza Yazdani
QUANTITIES	BY T. Kishwar / L. Ma	CHECKED Hardeep Singh

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
 DESIGN BRANCH **16**

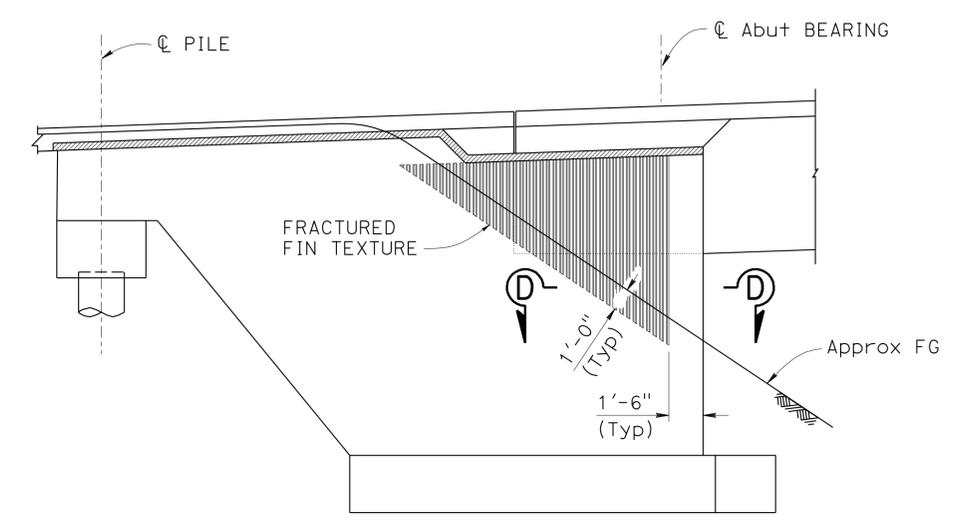
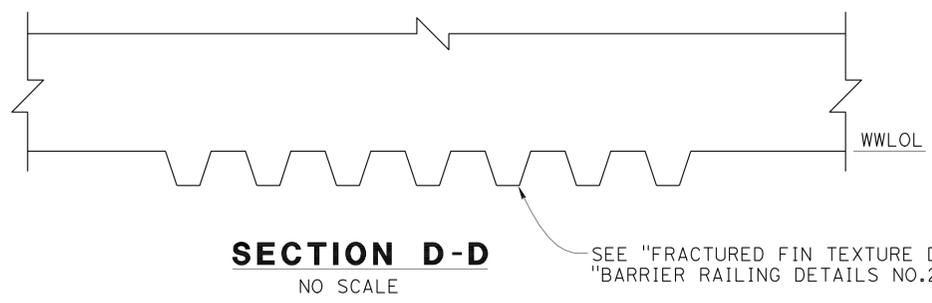
BRIDGE NO.	20-0297	AIRPORT BLVD OC (REPLACE)
POST MILE	26.1	
ABUTMENT DETAILS No. 2		

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	554	615
REGISTERED CIVIL ENGINEER			DATE		
ALIREZA YAZDANI MOTLAGH			7-5-11		
No. 69601			PLANS APPROVAL DATE		
Exp. 6-30-12			9-10-12		
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.					

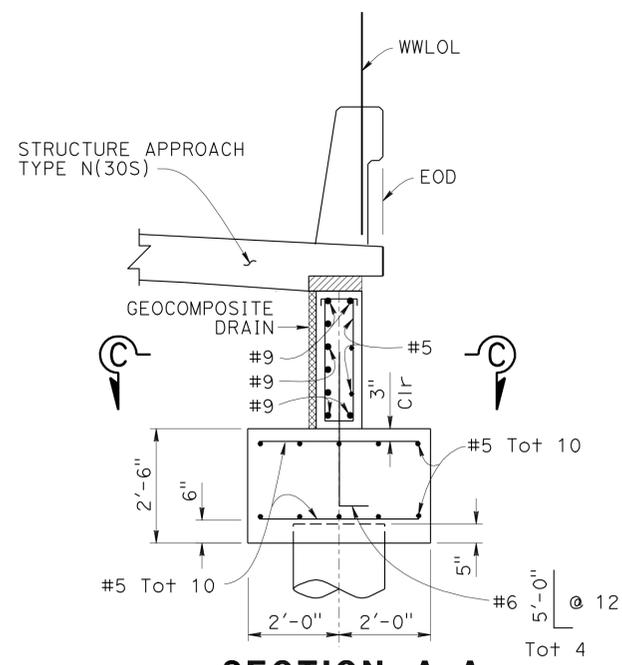


WINGWALL ELEVATION
3/8" = 1'

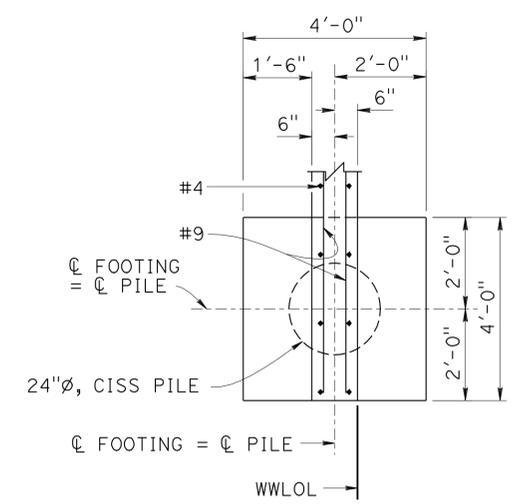
- NOTES:
1. Concrete barrier not shown for clarity
 2. Abutment 1R shown, Abutment 1L, 2R and 2L similar
 3. Mandatory joint surface to be smooth finished and lined with 15 pound construction paper
 4. Shear Key and Wingwall reinforcement to be discontinuous as shown
 5. All piles not shown



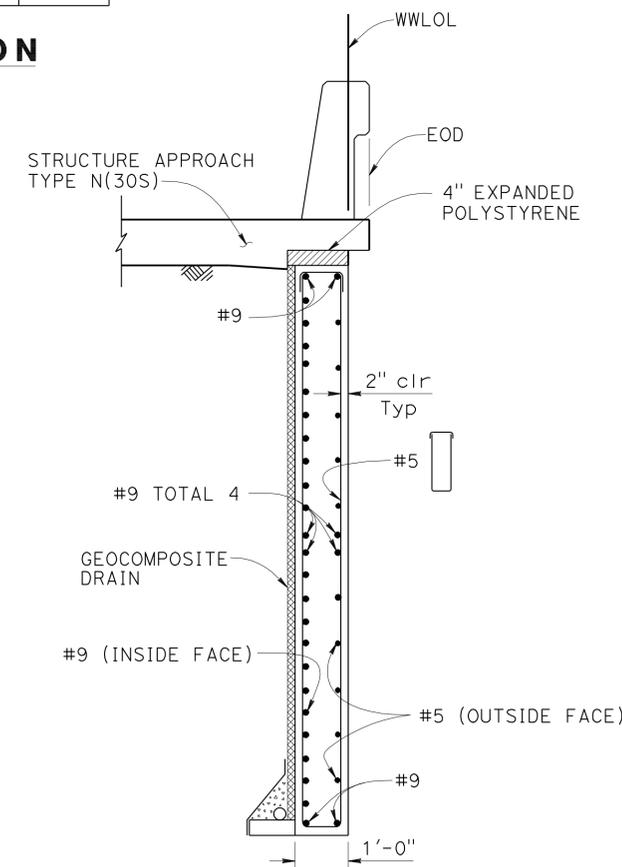
WINGWALL ARCHITECTURAL TREATMENT
3/8" = 1'



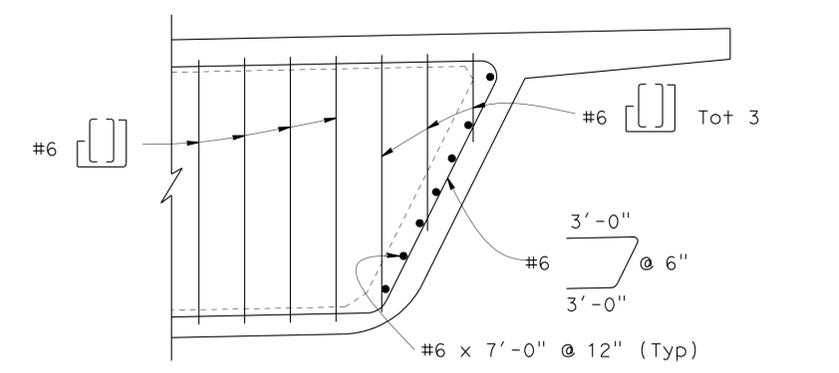
SECTION A-A
1/2" = 1'



SECTION C-C
1/2" = 1'

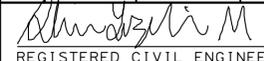
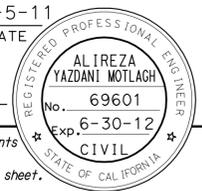


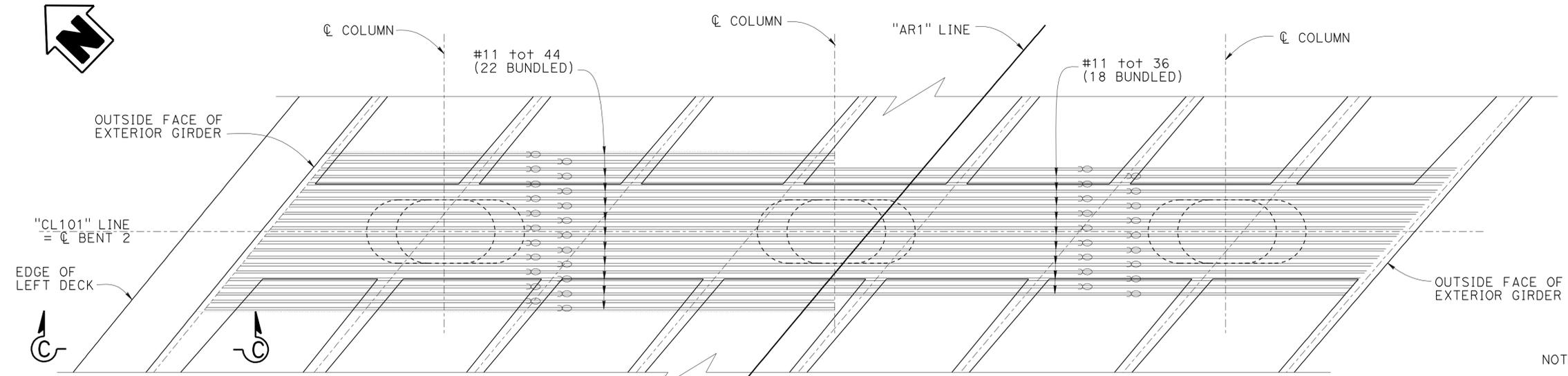
SECTION B-B
1/2" = 1'



PART ELEVATION END DIAPHRAGM
1/2" = 1'

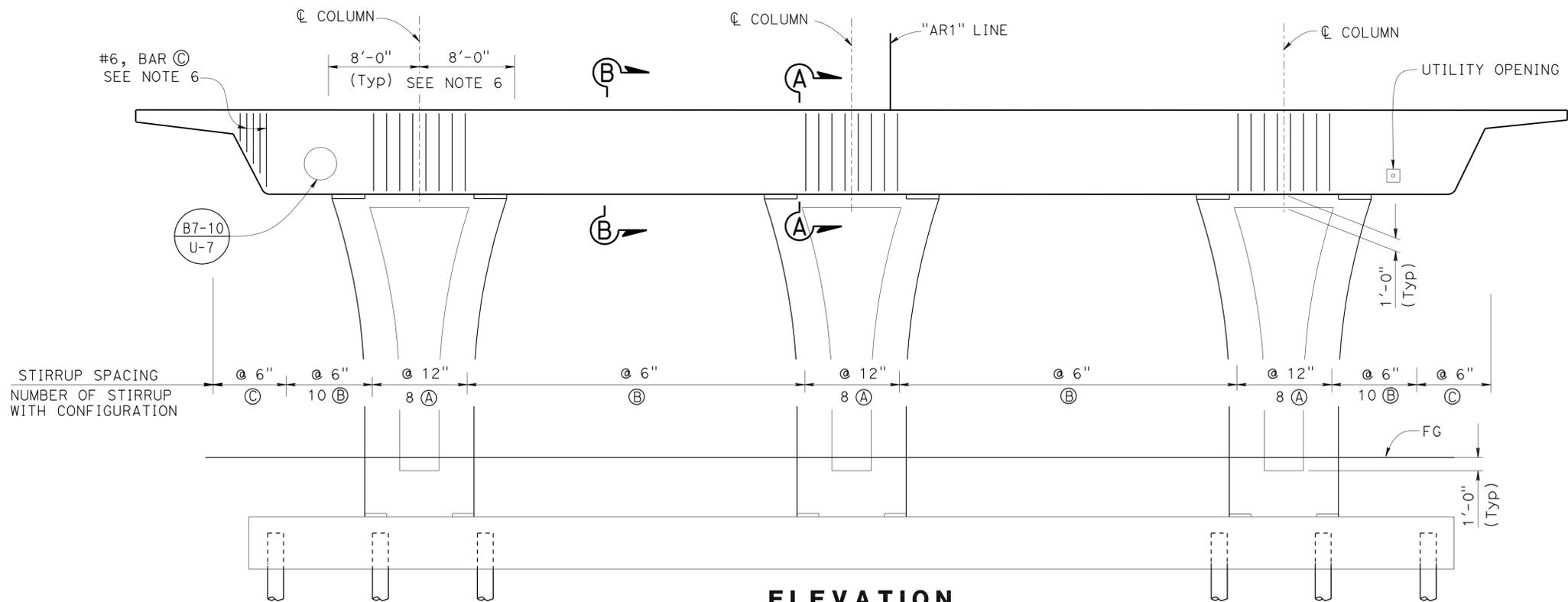
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY John Tjoelker	CHECKED Alireza Yazdani	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO.	20-0297	AIRPORT BLVD OC (REPLACE) ABUTMENT DETAILS No. 3								
	DETAILS	BY Carlo Cancino / L. Ma	CHECKED Alireza Yazdani			POST MILE	26.3									
	QUANTITIES	BY T. Kishwar / L. Ma	CHECKED Hardeep Singh			REVISION DATES										
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				0	1	2	3	CU 04 EA 000209451 (3A23U1)	DISREGARD PRINTS BEARING EARLIER REVISION DATES	5-1-10	02-28-11	03-27-11	4-18-11	5-28-11	6-16-11	SHEET 9 OF 36

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	555	615
 REGISTERED CIVIL ENGINEER DATE 7-5-11					
9-10-12 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



TOP REINFORCEMENT PLAN BOTTOM REINFORCEMENT
 $\frac{3}{16}'' = 1'$

- NOTES:
- All hoops shall be ultimate butt spliced
 - For "SECTION A-A", "SECTION B-B" and "SECTION C-C" see "BENT DETAILS NO.2" sheet
 - For column flare details and reinforcement, see "BENT DETAILS NO.3" sheet
 - For column stirrups, see "BENT DETAILS NO.4" sheet
 - For column and footing details, see "BENT DETAILS NO.5" sheet
 - Limits for distribution of "J-bars", applies to all columns

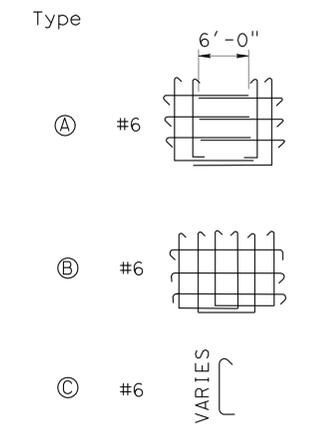


STIRRUP SPACING	@ 6"	@ 6"	@ 12"	@ 6"	@ 12"	@ 6"	@ 12"	@ 6"	@ 6"
NUMBER OF STIRRUP WITH CONFIGURATION	C	10 B	8 A	B	8 A	B	8 A	10 B	C

ELEVATION
 $\frac{3}{16}'' = 1'$

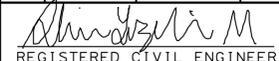
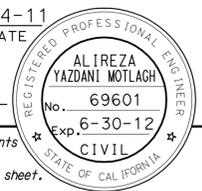
LEGEND:
 Denotes bundled reinforcement

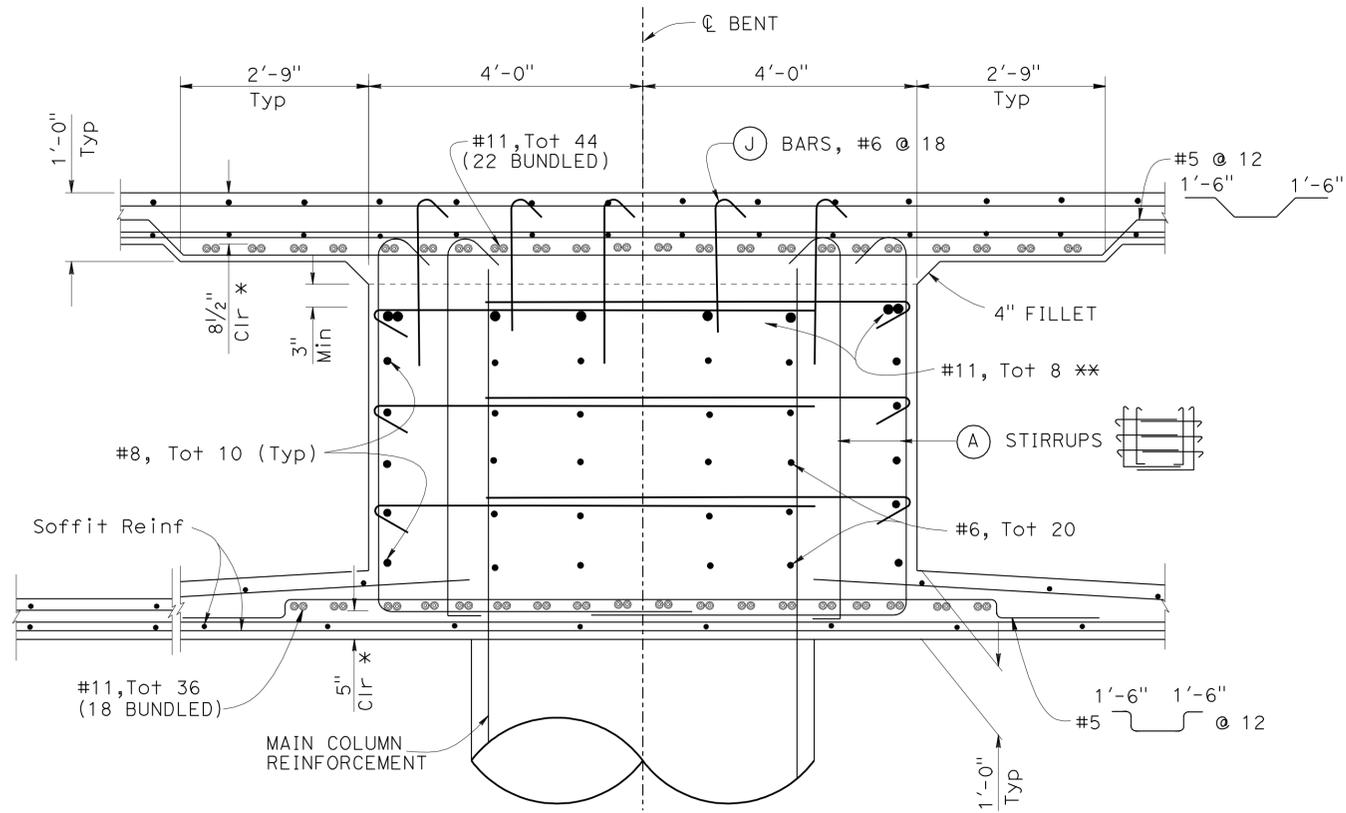
STIRRUP CONFIGURATION



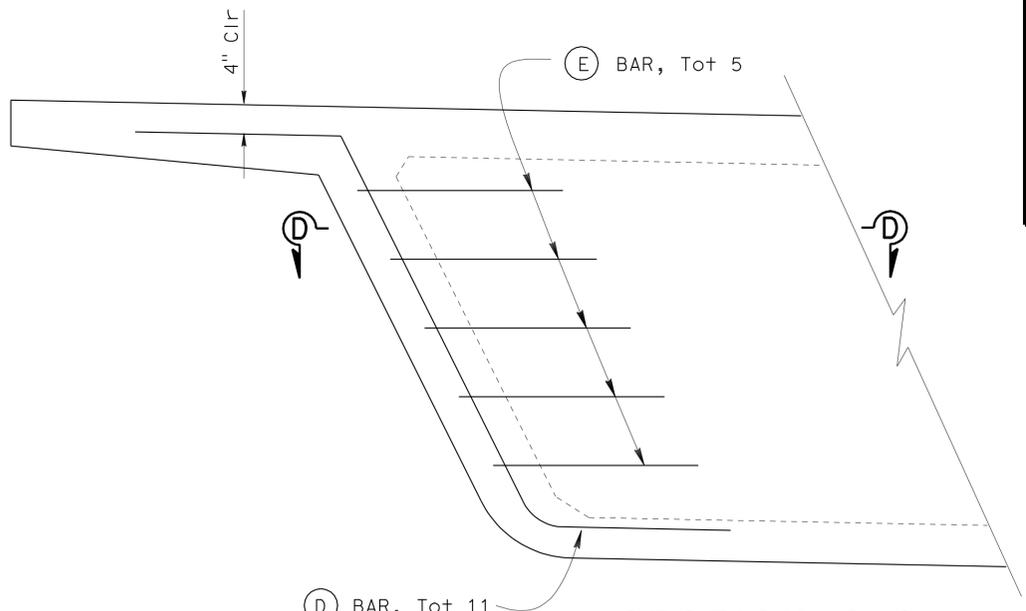
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY Alireza Yazdani	CHECKED Muthanna Omran	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO.	20-0297	AIRPORT BLVD OC (REPLACE) BENT DETAILS No. 1		
	DETAILS	BY Liang Ma	CHECKED Muthanna Omran			POST MILE	26.3			
	QUANTITIES	BY T. Kishwar / L. Ma	CHECKED Hardeep Singh							
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				0 1 2 3	CU 04 EA 000209451 (3A23U1)	DISREGARD PRINTS BEARING EARLIER REVISION DATES			REVISION DATES 3-14-10 12-13-10 12-16-10 4-18-11 5-13-11 6-16-11	SHEET 10 OF 36

USERNAME => s124496 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 13:44

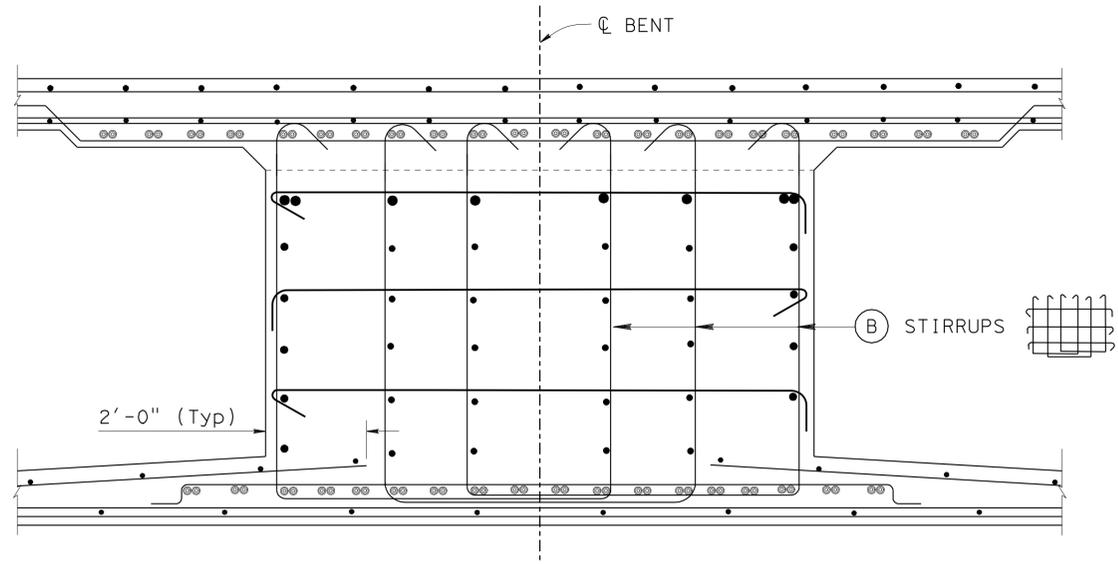
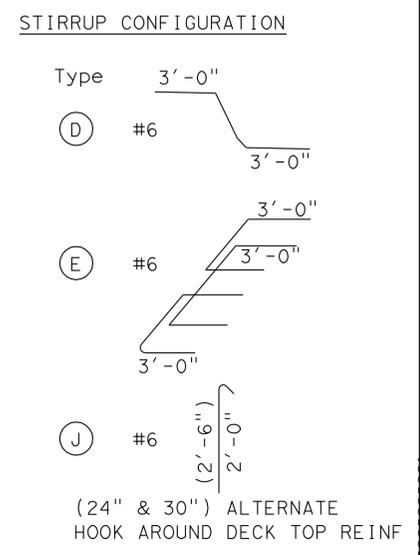
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	556	615
 REGISTERED CIVIL ENGINEER DATE 5-4-11					
PLANS APPROVAL DATE 9-10-12 <small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



SECTION A-A
3/4" = 1'



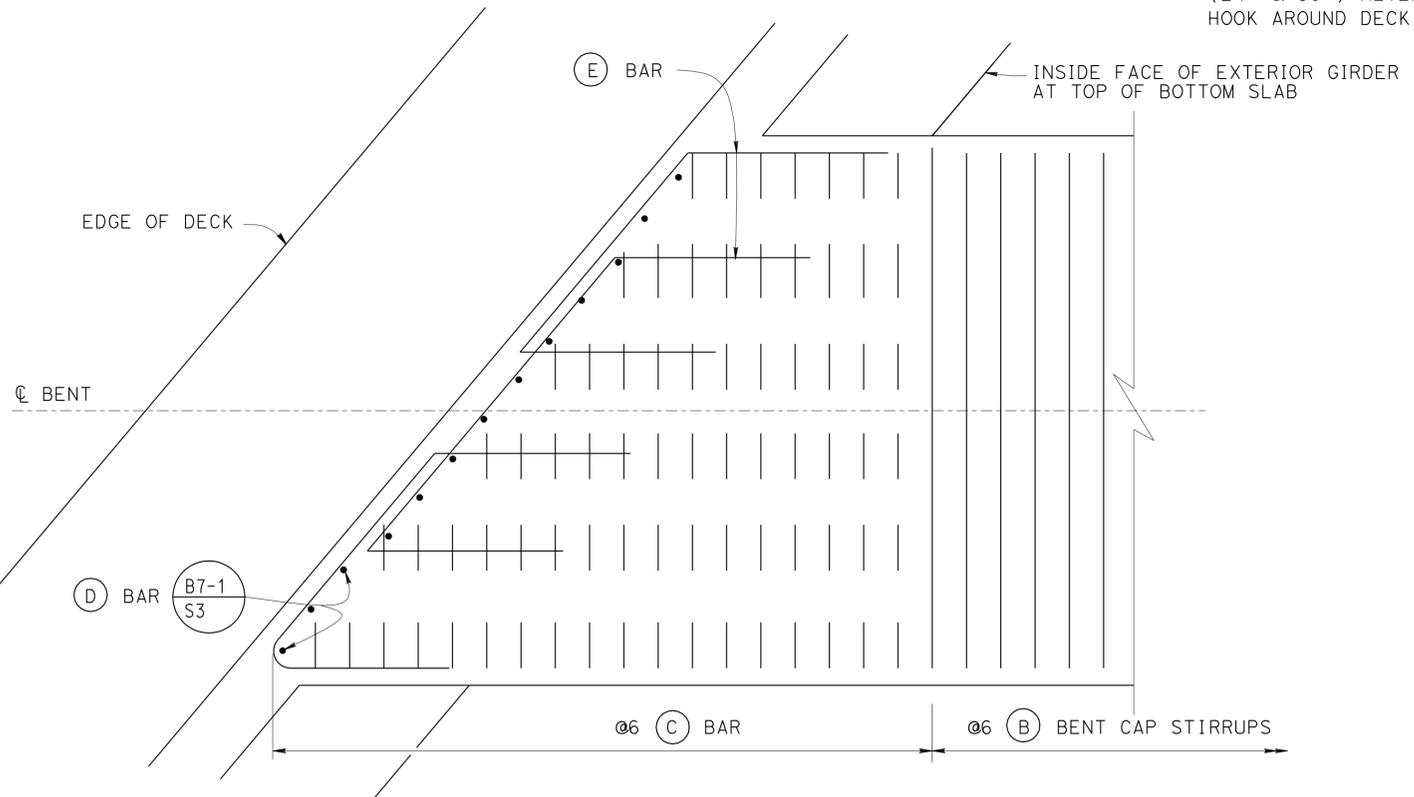
SECTION C-C
3/4" = 1'



SECTION B-B
3/4" = 1'
(SEE SECTION A-A FOR DETAILS)

NOTES:

- * Clearance to main cap reinforcement
- ** Reinforcement may be bent or lowered to clear prestressing ducts, place as high as prestressing ducts will allow



SECTION D-D
3/4" = 1'

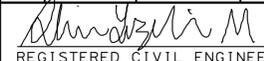
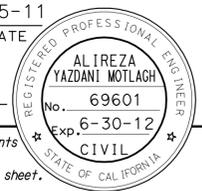
DESIGN	BY Alireza Yazdani	CHECKED Muthanna Omran
DETAILS	BY Liang Ma	CHECKED Muthanna Omran
QUANTITIES	BY T. Kishwar / L. Ma	CHECKED Hardeep Singh

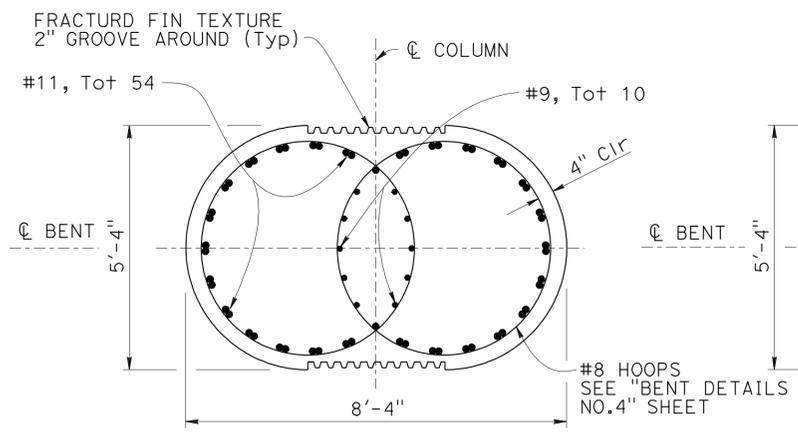
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 16

BRIDGE NO.	20-0297
POST MILE	26.3

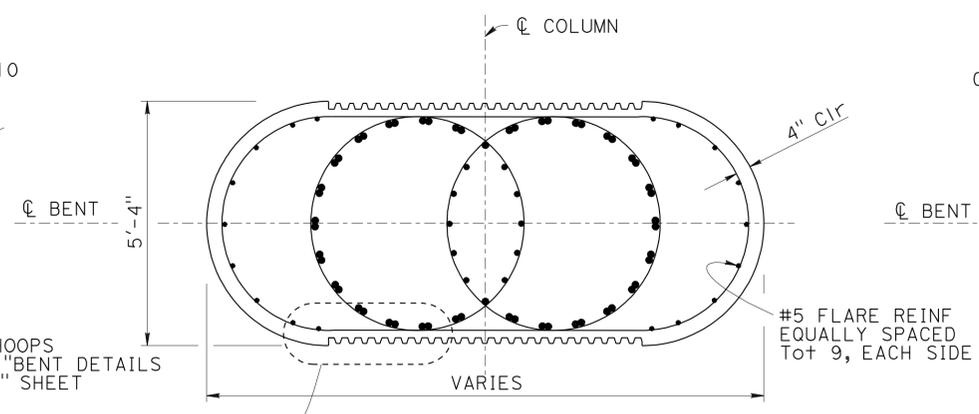
AIRPORT BLVD OC (REPLACE)
BENT DETAILS No. 2

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	557	615
 REGISTERED CIVIL ENGINEER DATE 7-5-11					
PLANS APPROVAL DATE 9-10-12			The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.		



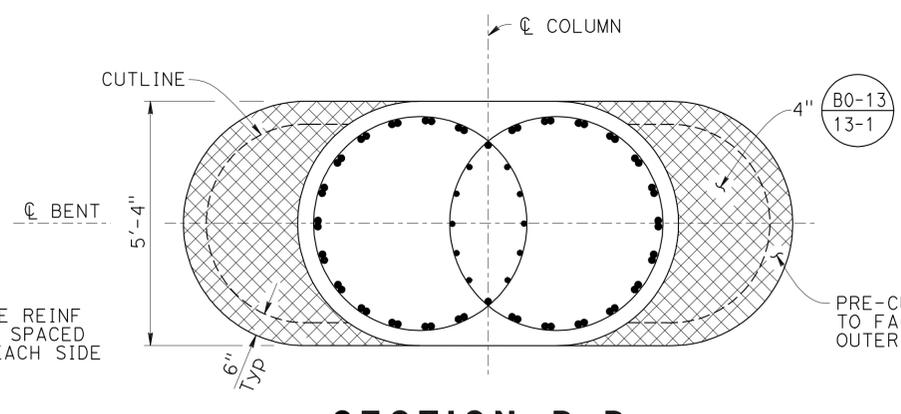
SECTION B-B
1/2" = 1'

SEE "COLUMN FRACTURED FIN TEXTURE DETAIL" ON "BENT DETAILS NO.4" SHEET



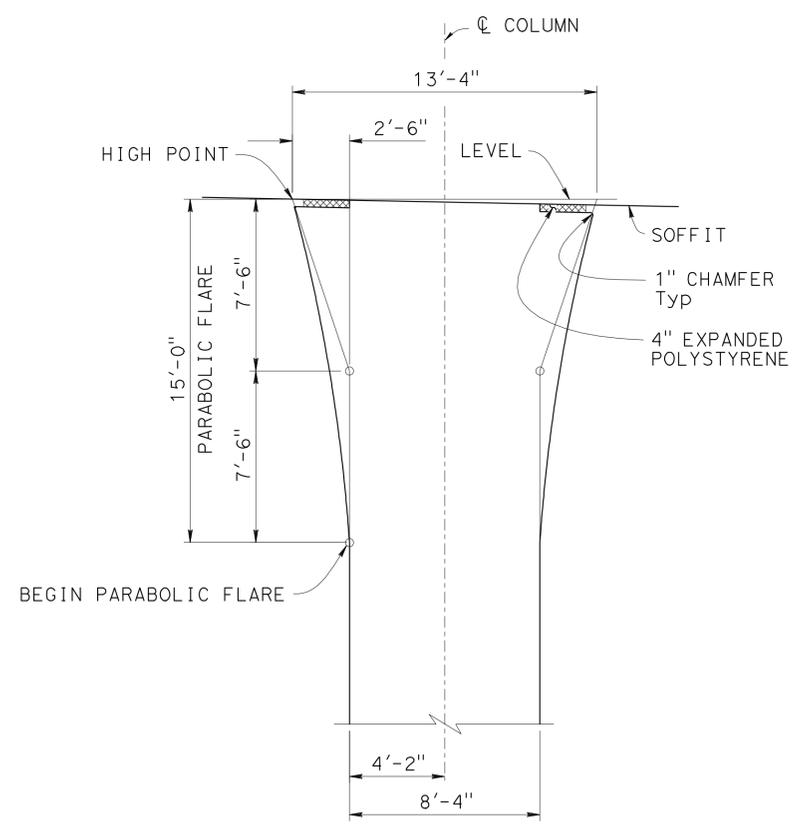
SECTION C-C ALONG THE PARABOLIC FLARE
1/2" = 1'

(FOR REINFORCEMENT DETAILS NOT SHOWN, SEE "SECTION B-B")

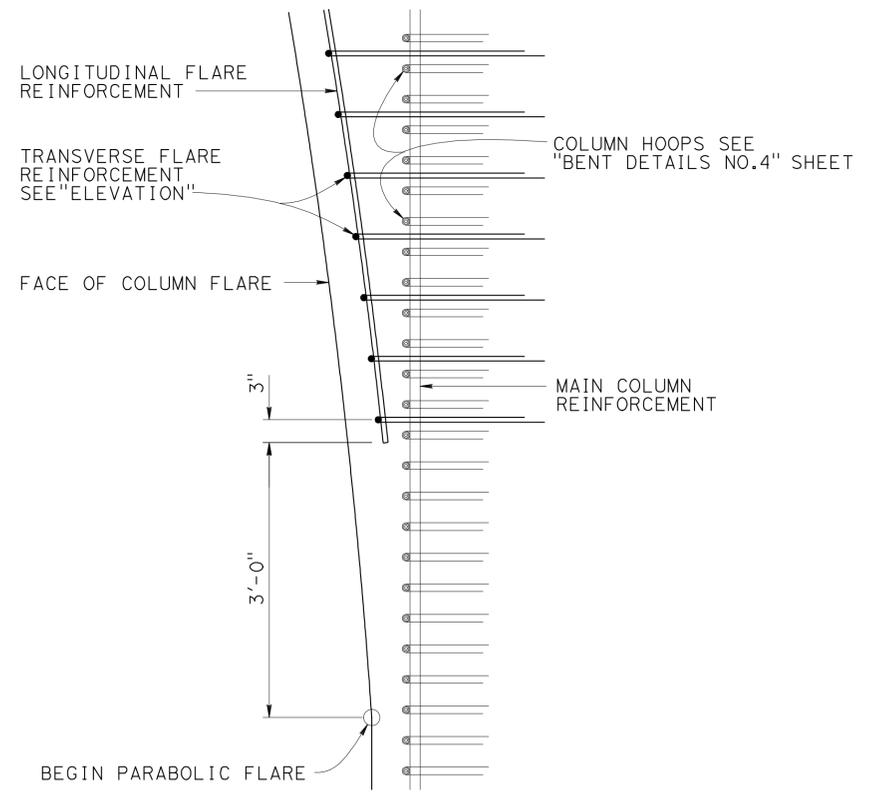


SECTION D-D
1/2" = 1'

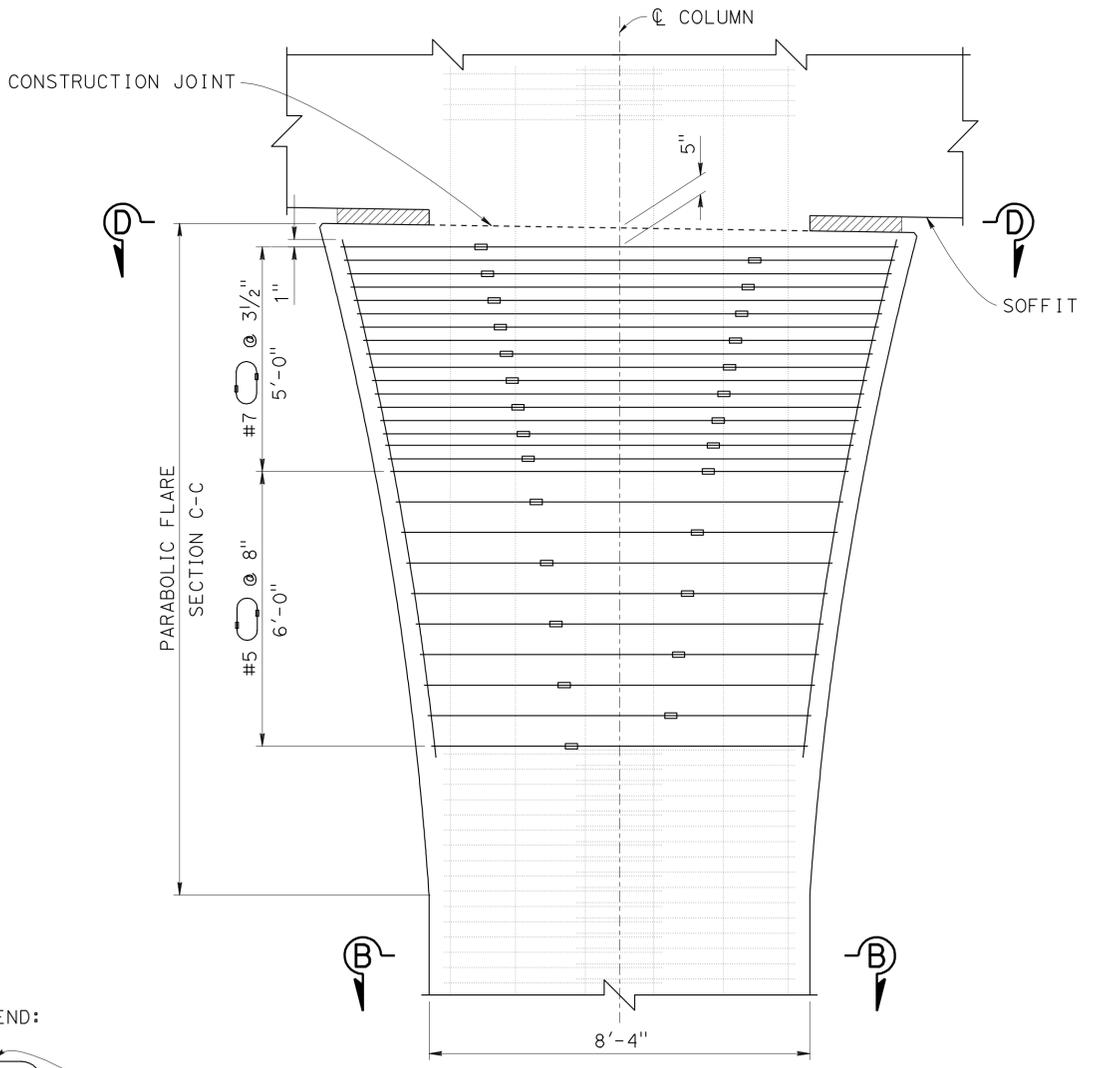
(FOR REINFORCEMENT DETAILS NOT SHOWN, SEE "SECTION B-B")



COLUMN GEOMETRICS
1/4" = 1'



TIE DETAIL
1" = 1'

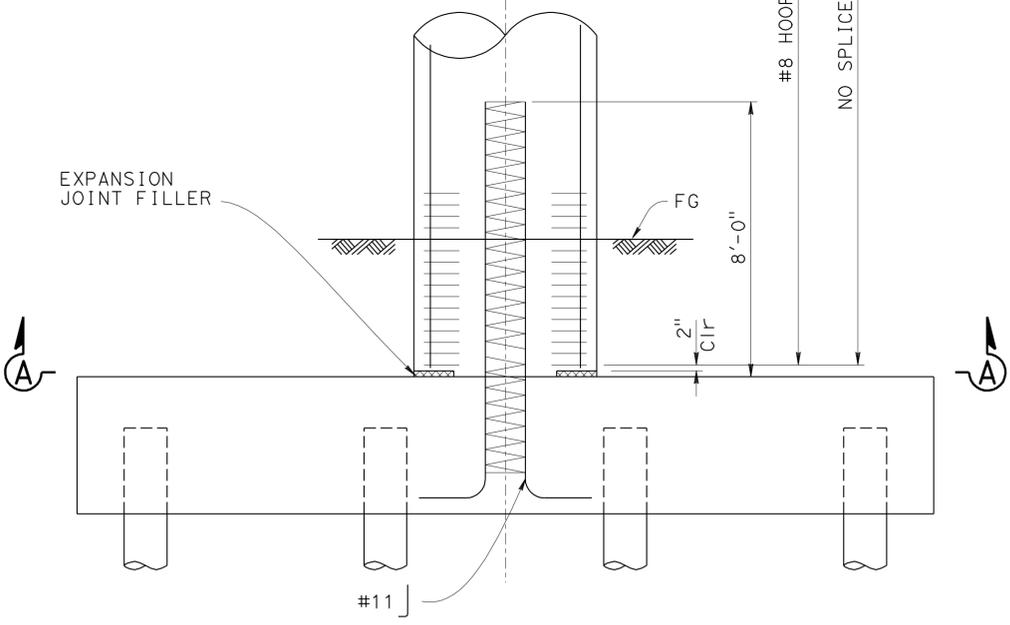
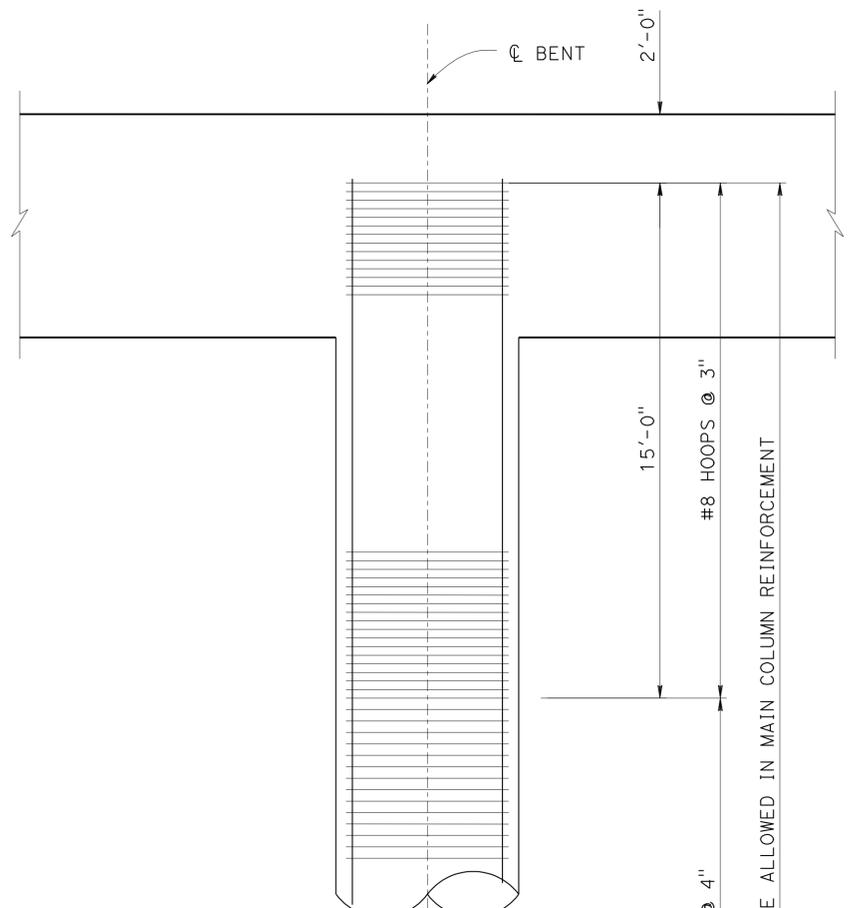


ELEVATION
1/2" = 1'

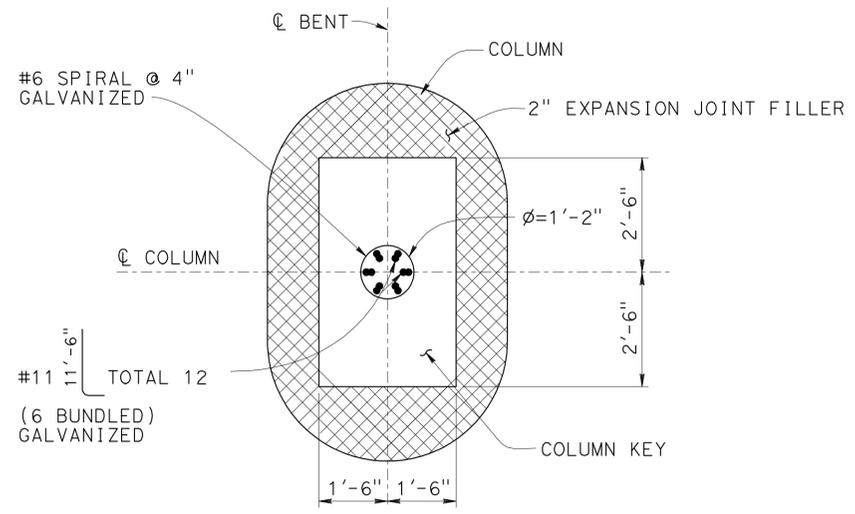
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY Alireza Yazdani	CHECKED Muthanna Omran	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO.	20-0297	AIRPORT BLVD OC (REPLACE) BENT DETAILS No. 3
	DETAILS	BY Liang Ma / F. Maagma	CHECKED Muthanna Omran			POST MILE	26.3	
	QUANTITIES	BY T. Kishwar / L. Ma	CHECKED Hardeep Singh					
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS					CU 04 EA 000209451 (3A23U1)	DISREGARD PRINTS BEARING EARLIER REVISION DATES		
					REVISION DATES			SHEET 12 OF 36

USERNAME => 6124496 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 13:45

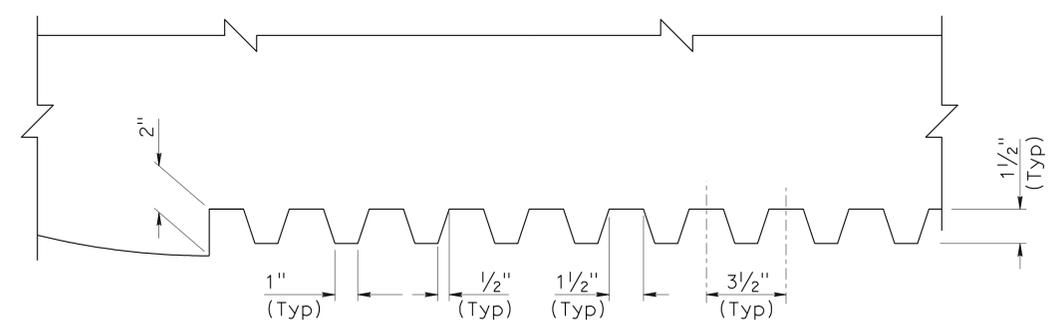
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	558	615
			7-5-11	REGISTERED CIVIL ENGINEER DATE	
			9-10-12	PLANS APPROVAL DATE	
			REGISTERED PROFESSIONAL ENGINEER ALIREZA YAZDANI MOTLAGH No. 69601 Exp. 6-30-12 CIVIL STATE OF CALIFORNIA		
<i>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</i>					



COLUMN ELEVATION
3/8" = 1'



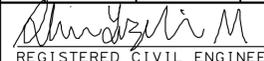
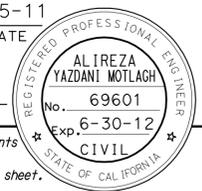
SECTION A-A
1/2" = 1'

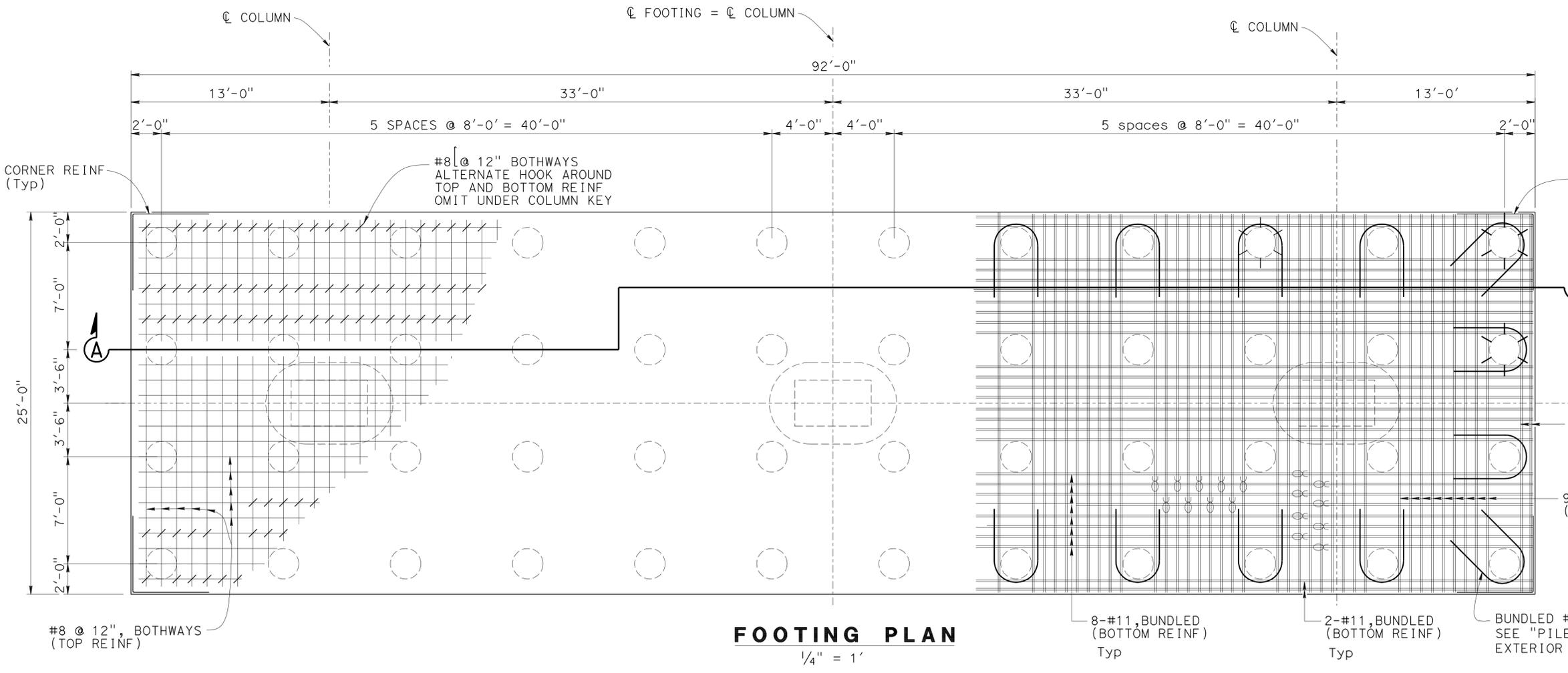
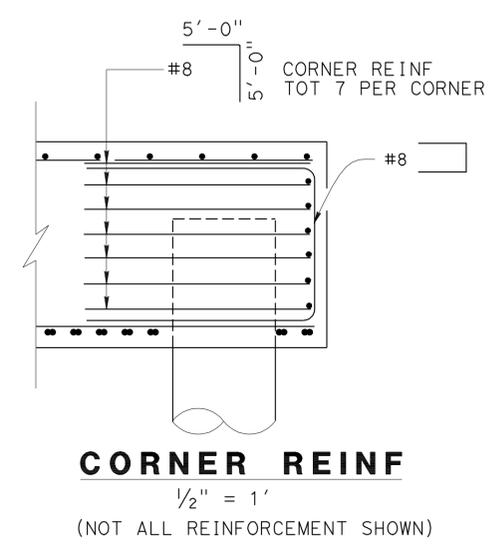
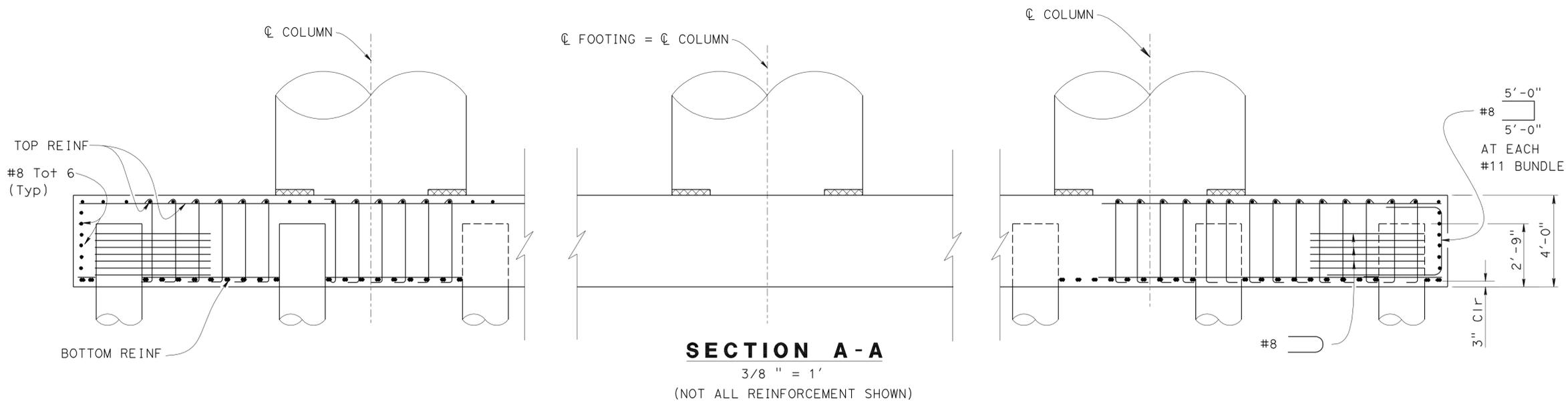


COLUMN FRACTURED FIN TEXTURE DETAIL
3' = 1'

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY Alireza Yazdani	CHECKED Muthanna Omran	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO.	AIRPORT BLVD OC (REPLACE)	
	DETAILS	BY Liang Ma / F. Maagma	CHECKED Muthanna Omran			20-0297	BENT DETAILS No. 4	
	QUANTITIES	BY T. Kishwar / L. Ma	CHECKED Hardeep Singh			POST MILE 26.3		
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS					CU 04 EA 000209451 (3A23U1)	DISREGARD PRINTS BEARING EARLIER REVISION DATES		
					REVISION DATES			SHEET 13 OF 36
					5-17-10 10-1-10 11-23-10 12-16-10 02-07-11 4-13-11 5-13-11 5-18-11 6-16-11			

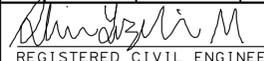
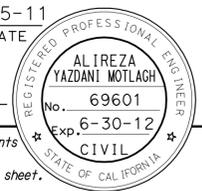
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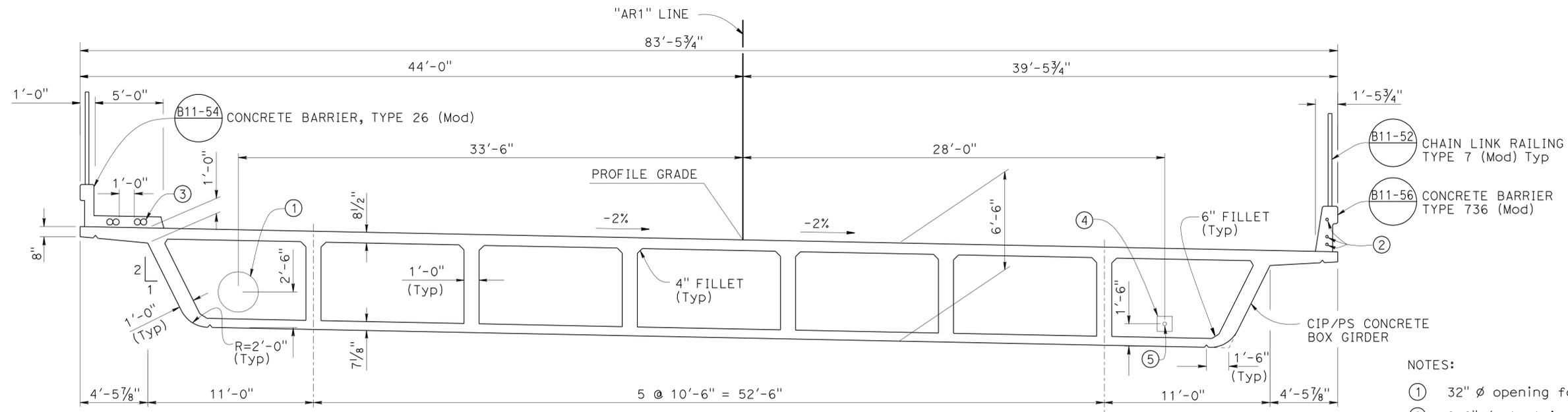
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	559	615
 REGISTERED CIVIL ENGINEER DATE 7-5-11					
PLANS APPROVAL DATE 9-10-12 <small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY Alireza Yazdani	CHECKED Muthanna Omran	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO.	20-0297	AIRPORT BLVD OC (REPLACE) BENT DETAILS No. 5									
	DETAILS	BY Liang Ma	CHECKED Muthanna Omran			POST MILE	26.3										
	QUANTITIES	BY T. Kishwar / L. Ma	CHECKED Hardeep Singh			CU 04 EA 000209451 (3A23U1)	DISREGARD PRINTS BEARING EARLIER REVISION DATES										
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS								REVISION DATES: <table border="1"> <tr> <td>5-17-10</td> <td>10-14-10</td> <td>11-23-10</td> <td>12-16-10</td> <td>02-07-11</td> <td>4-13-11</td> <td>5-16-11</td> <td>6-20-11</td> </tr> </table>	5-17-10	10-14-10	11-23-10	12-16-10	02-07-11	4-13-11	5-16-11	6-20-11	SHEET 14 OF 36
5-17-10	10-14-10	11-23-10	12-16-10	02-07-11	4-13-11	5-16-11	6-20-11										

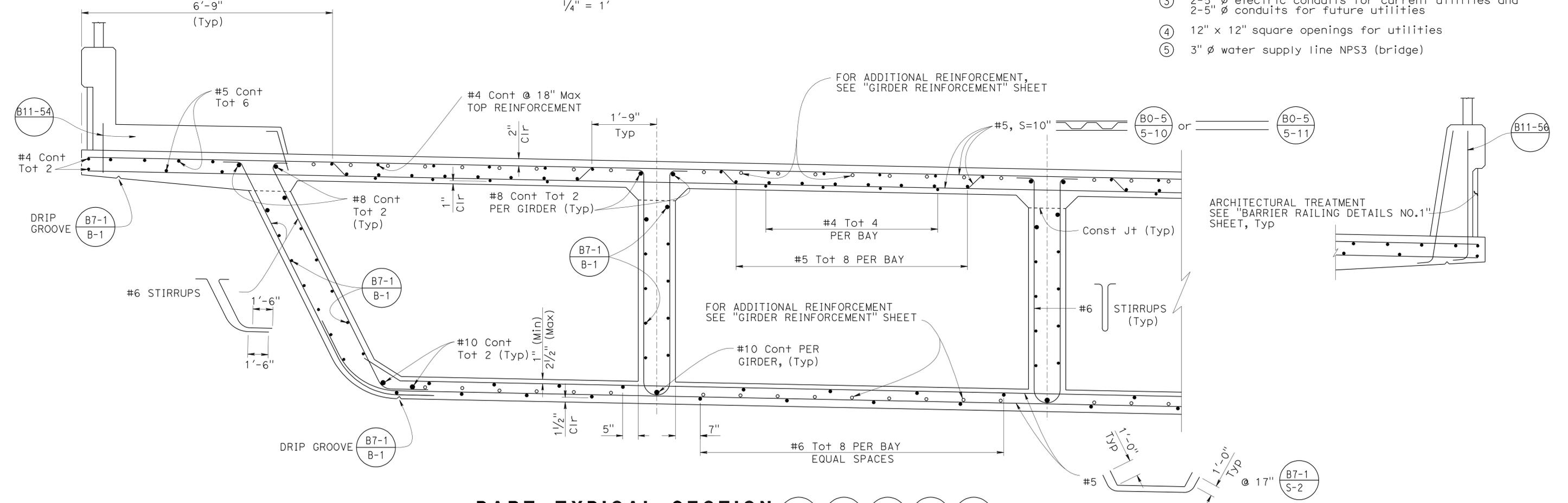
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	560	615
 REGISTERED CIVIL ENGINEER DATE 7-5-11					
PLANS APPROVAL DATE 9-10-12 <small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



TYPICAL SECTION
1/4" = 1'

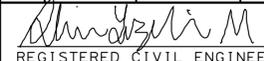
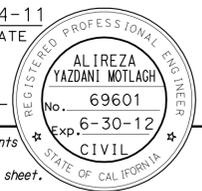
- NOTES:
- ① 32" \varnothing opening for future utilities
 - ② 2-2" \varnothing electric conduits for current utilities and 1-3" \varnothing conduit at the base of barrier for future utilities
 - ③ 2-5" \varnothing electric conduits for current utilities and 2-5" \varnothing conduits for future utilities
 - ④ 12" x 12" square openings for utilities
 - ⑤ 3" \varnothing water supply line NPS3 (bridge)

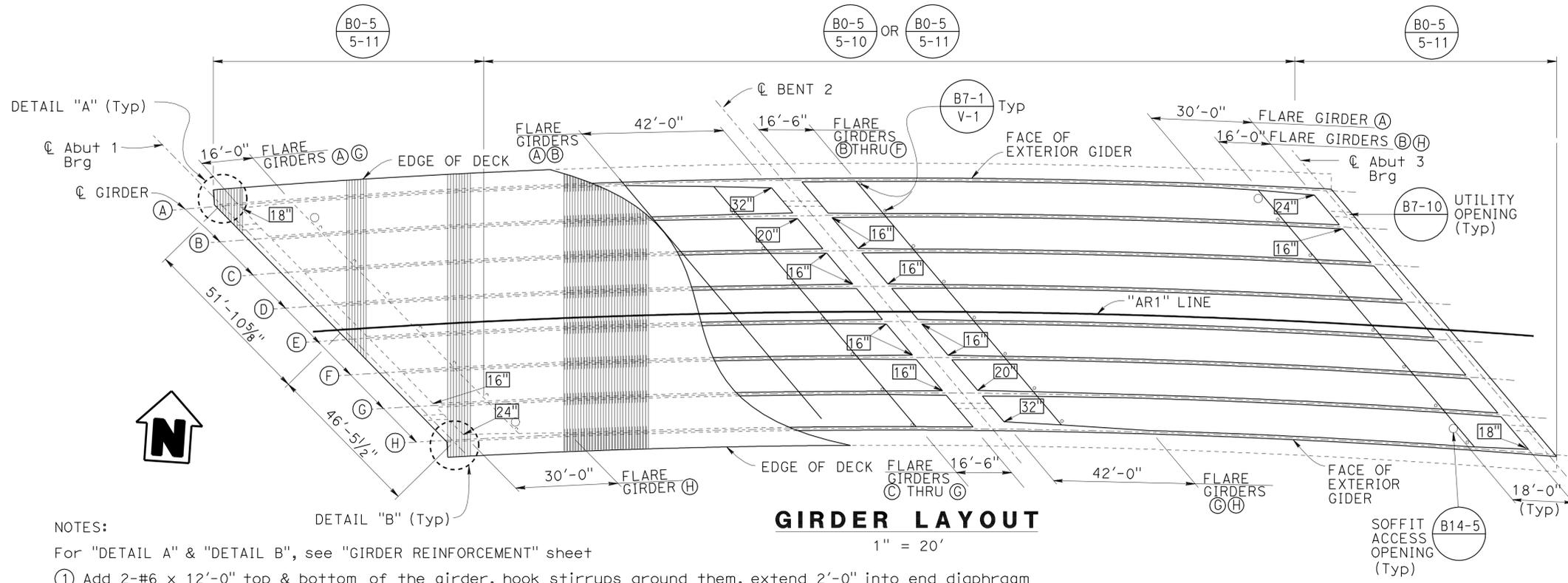


PART TYPICAL SECTION
3/4" = 1'

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	DESIGN	BY Son Ly	CHECKED Alireza Yazdani	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO.	20-0297	AIRPORT BLVD OC (REPLACE) TYPICAL SECTION	
	DETAILS	BY Liang Ma / F. Maagma	CHECKED Alireza Yazdani			POST MILE	26.3		
	QUANTITIES	BY T. Kishwar / L. Ma	CHECKED Hardeep Singh						
CU 04 EA 000209451 (3A23U1)						DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES 5-17-10 4-18-10 11-18-10 01-18-11 4-13-11 5-24-11 6-20-11	SHEET 15 OF 36

USERNAME => s124496 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 14:08

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	561	615
 REGISTERED CIVIL ENGINEER DATE 5-4-11					
9-10-12 PLANS APPROVAL DATE					
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- NOTES:
- For "DETAIL A" & "DETAIL B", see "GIRDER REINFORCEMENT" sheet
- ① Add 2-#6 x 12'-0" top & bottom of the girder, hook stirrups around them, extend 2'-0" into end diaphragm
 - ② Add 2-#6 x 20'-0" top & bottom of the girder, hook stirrups around them, extend 2'-0" into bent cap

PRESTRESSING NOTES

270 KSI Low Relaxation Strand:

P_{jack} = 23,400 kips

Anchor Set = 3/8 in

Total Number of Girders = 8

Distribution of prestress force (P_{jack}) between girders shall not exceed the ratio of 3:2. Maximum final force variation between girders shall not exceed 725 kips.

Concrete: f'_c = 4000 psi @ 28 days

f'_{ci} = 3500 psi @ time of stressing

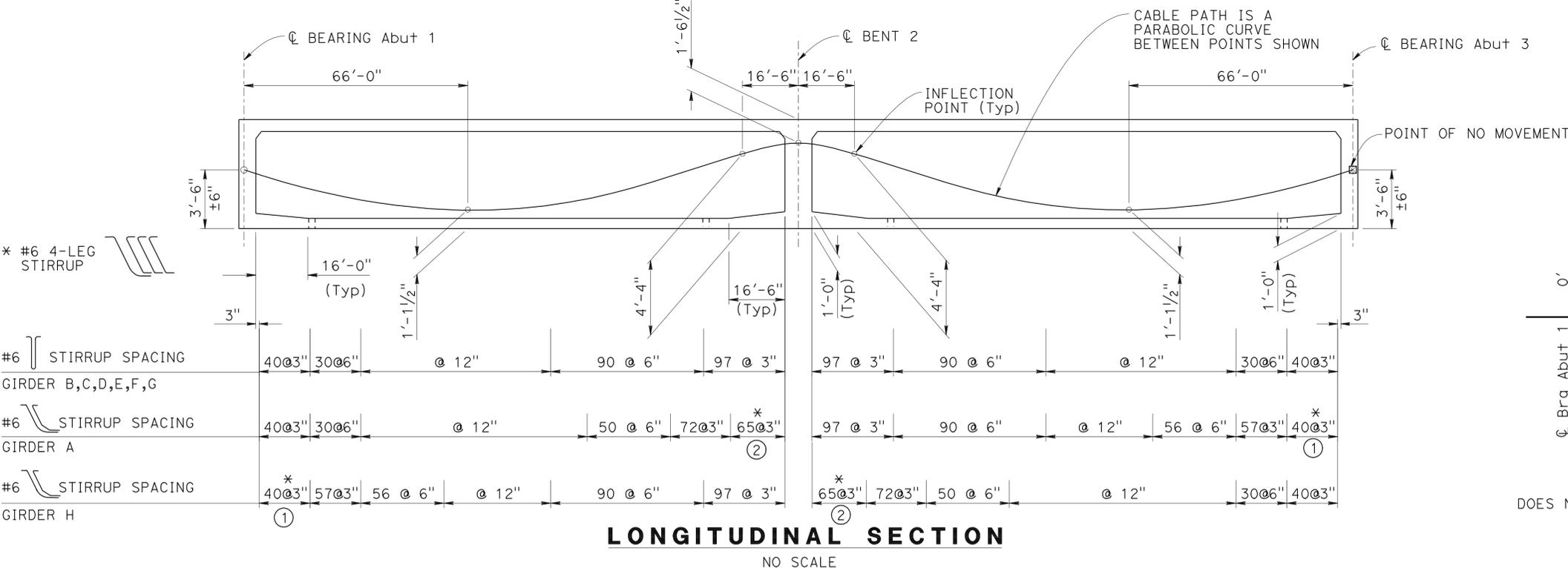
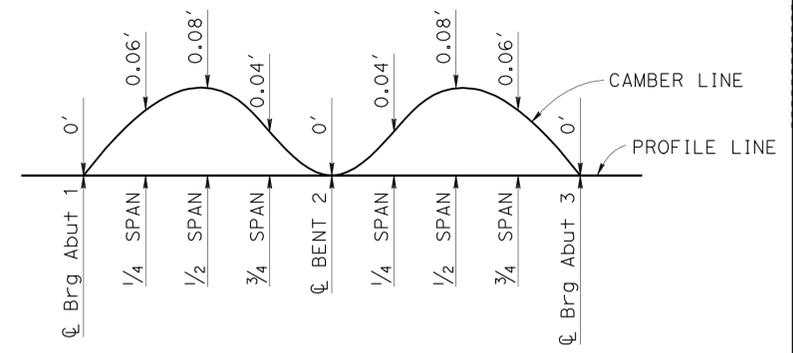
Contractor shall submit elongation calculations based on initial stress at

λ = 0.88 times jacking stress.

One end stressing shall be performed from the long-span end only.

LEGEND:

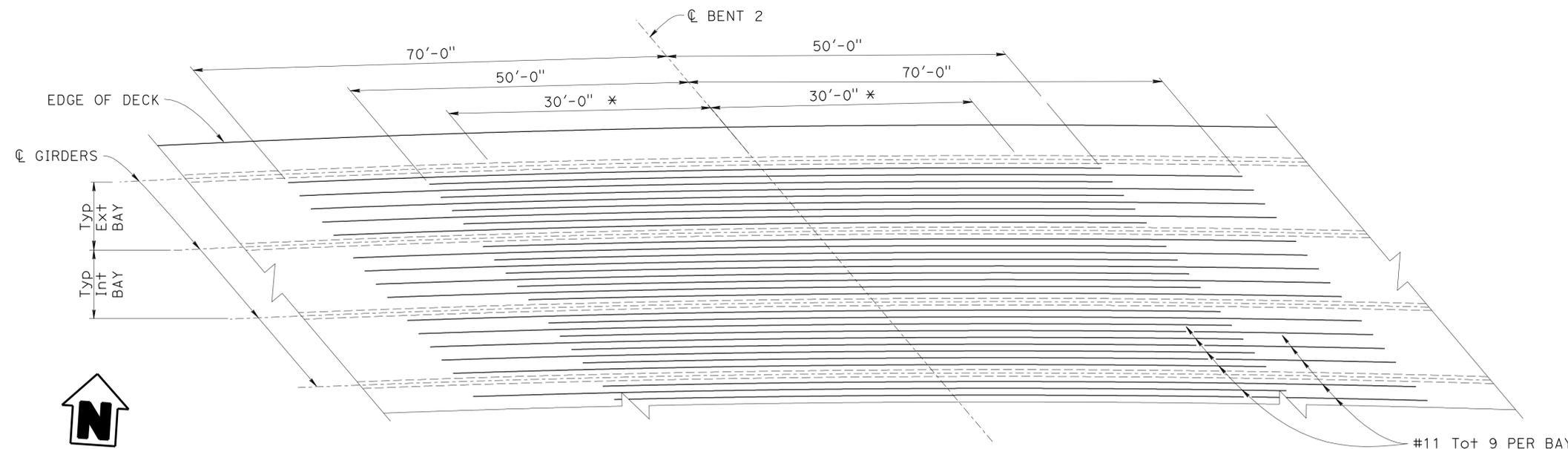
 Girder stem width
See "TYPICAL SECTION" for flare beginning stem width



STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	DESIGN	BY Son Ly	CHECKED Alireza Yazdani	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO.	20-0297	AIRPORT BLVD OC (REPLACE) GIRDER LAYOUT
	DETAILS	BY Liang Ma / F. Maagma	CHECKED Alireza Yazdani			POST MILE	26.3	
	QUANTITIES	BY T. Kishwar / L. Ma	CHECKED Hardeep Singh			REVISION DATES	7-1-10 8-18-10 11-12-10 12-14-10 01-19-11 02-05-11 02-18-11 04-07-11 04-13-11	
FILE => 20-0297-1_g-1a01.dgn						DISREGARD PRINTS BEARING EARLIER REVISION DATES		SHEET 16 OF 36

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	562	615

REGISTERED CIVIL ENGINEER DATE 5-4-11
 ALIREZA YAZDANI MOTLAGH No. 69601 Exp. 6-30-12 CIVIL
 PLANS APPROVAL DATE 9-10-12
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TOP REINFORCEMENT

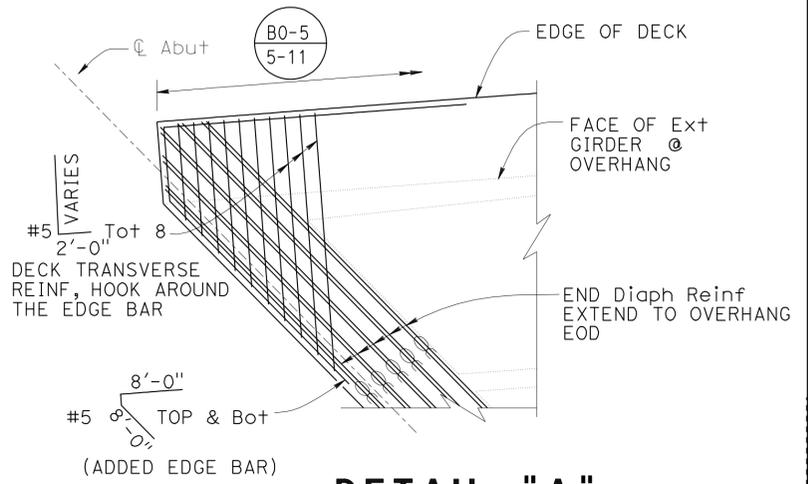
NO SCALE

* No splices allowed

NOTES:

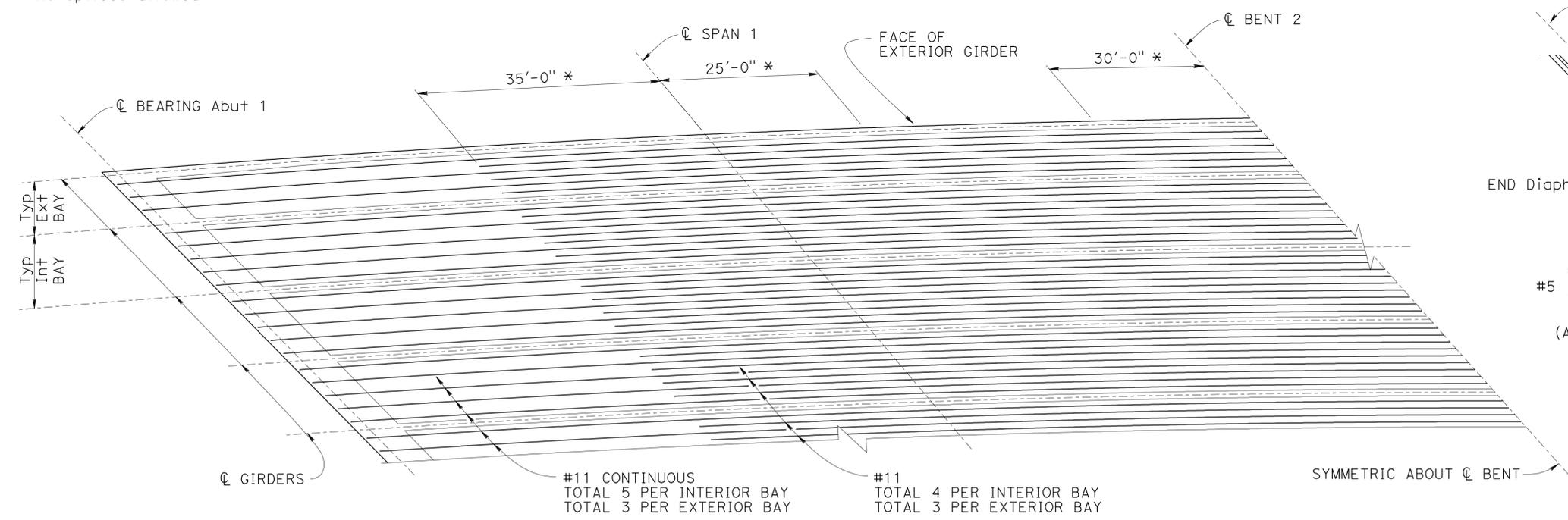
1. Space bar evenly between girders
2. Reinforcement symmetrical about $\text{\textcircled{C}}$ bridge
3. No lap splices allowed service splices only

* No splices allowed



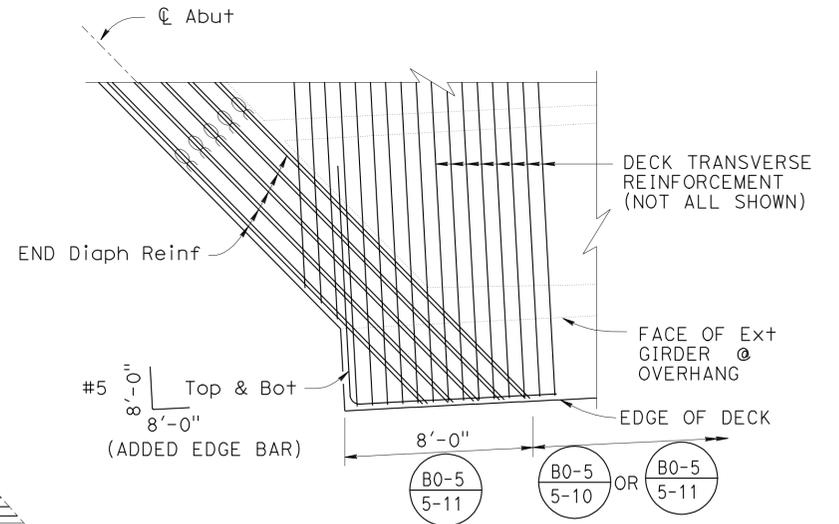
DETAIL "A"

NO SCALE



BOTTOM REINFORCEMENT

NO SCALE



DETAIL "B"

NO SCALE

NOTES:

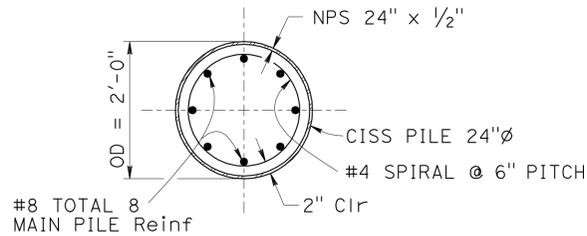
1. Blockout area for joint seal assembly not shown
2. Reinforcement stay clear from blockout areas
3. For locations of "DETAIL A & B", see "GIRDER LAYOUT" sheet

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY Son Ly	CHECKED Alireza Yazdani	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO.	20-0297	AIRPORT BLVD OC (REPLACE) GIRDER REINFORCEMENT
	DETAILS	BY F. Maagma / L. Ma	CHECKED Alireza Yazdani			POST MILE	26.3	
	QUANTITIES	BY T. Kishwar / L. Ma	CHECKED Hardeep Singh			REVISION DATES	5-17-10 8-29-10 11-16-10 12-16-10 01-26-11 02-03-11 04-07-11 04-13-11	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				0 1 2 3	CU 04 EA 000209451 (3A23U1)	DISREGARD PRINTS BEARING EARLIER REVISION DATES		SHEET 17 OF 36

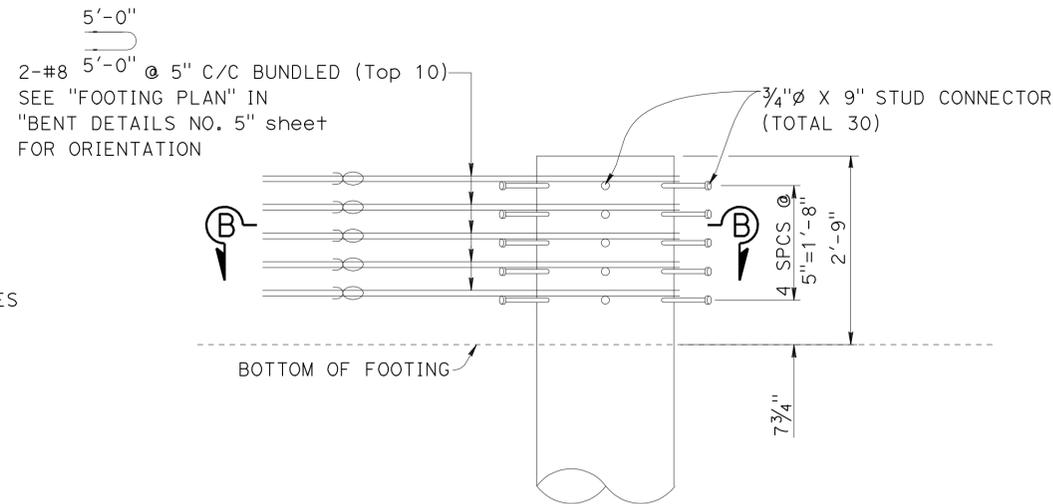
USERNAME => 6124496 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 14:09

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	563	615

5-4-11
 REGISTERED CIVIL ENGINEER DATE
 ALIREZA YAZDANI MOTLAGH
 No. 69601
 Exp. 6-30-12
 CIVIL
 STATE OF CALIFORNIA
 9-10-12
 PLANS APPROVAL DATE
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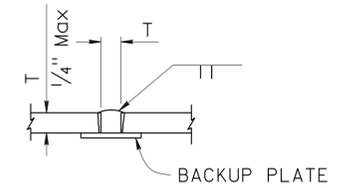


SECTION A-A

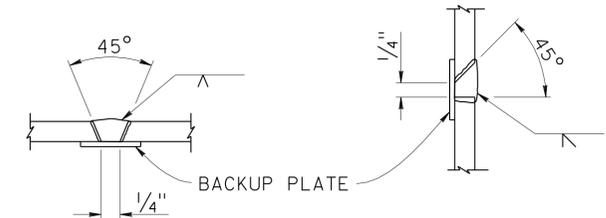


DETAIL "1"
(APPLIES ONLY TO BENT 2 PILES)

3/4" = 1'



SQUARE GROOVE

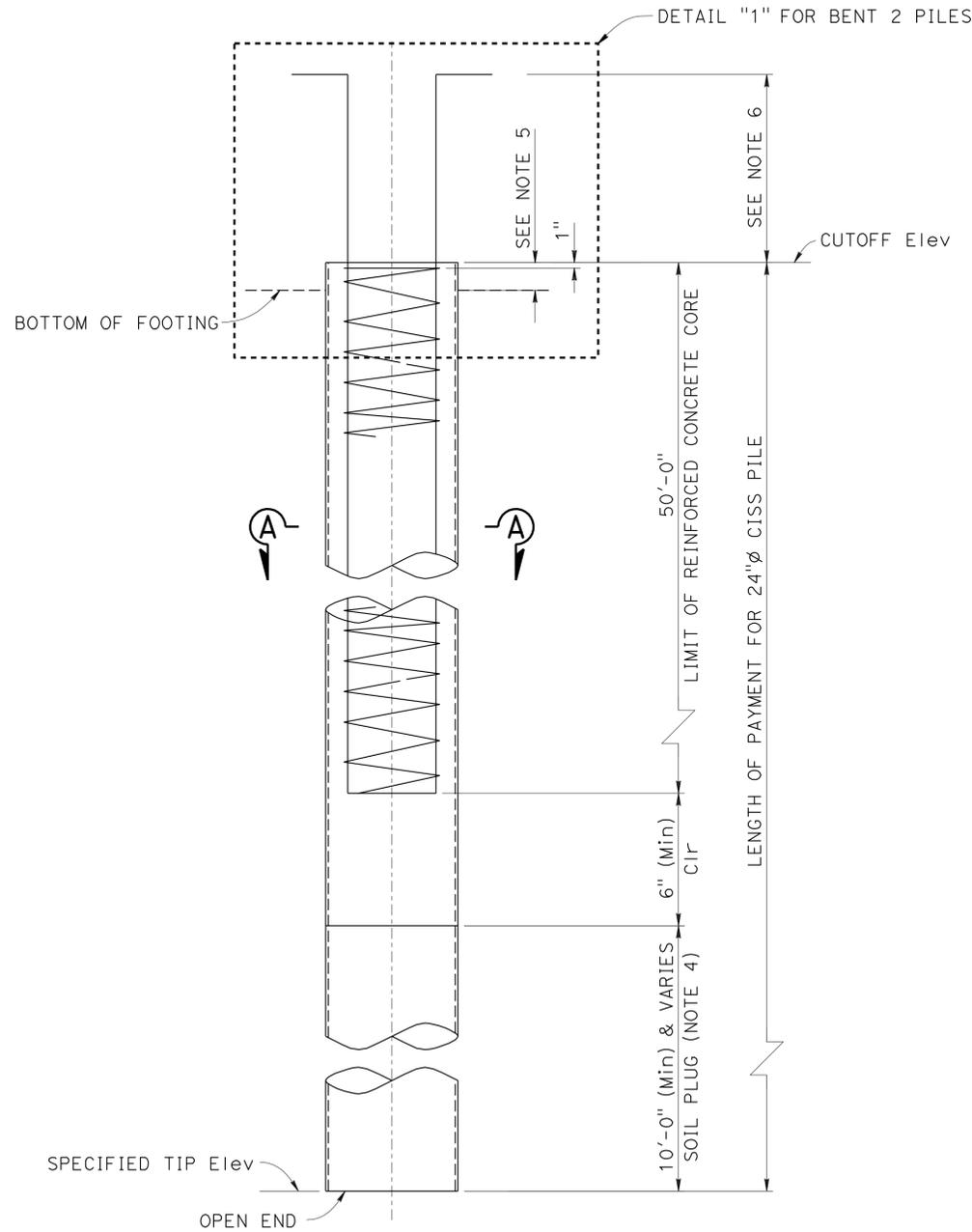


SINGLE VEE-GROOVE SINGLE BEVEL-GROOVE

- PILE WELDING NOTES:
 1. Single Vee-Groove And Square Groove Permitted for all positions
 2. Single Bevel-Groove permitted for horizontal joints only

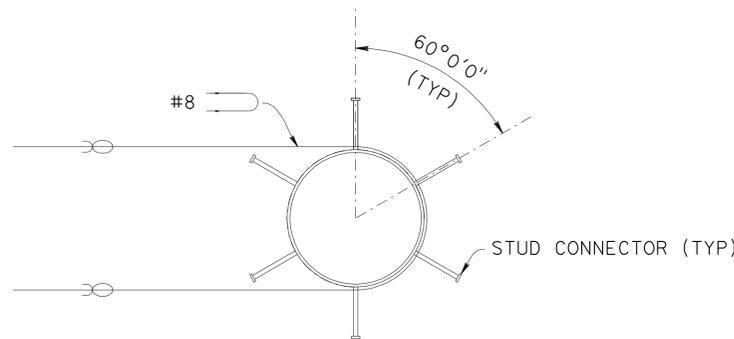
PILE WELDING DETAIL-BUTT JOINTS

NO SCALE



ELEVATION CISS PILE DETAIL

3/4" = 1'



SECTION B-B

3/4" = 1'

NOTES:

1. Reinforcement extending into footing shall be hooked as required to provide clearance to top of footing
2. Lapped splices in spiral pile reinforcement shall be lapped at least 80 wire/bar diameters. Spiral pile reinforcement at splices and at ends shall be terminated with a 135° hook with a 6" tail hooked around main pile reinforcement
3. For "PILE DATA TABLE", see "INDEX TO PLANS" sheet
4. Seal Course as needed
5. 2'-9" for Bent 2 and 5" for Abutment 1 & 3
6. 9" for Bent 2 and 2'-0" for Abutment 1 & 3

DESIGN	BY Muthanna Omran	CHECKED Alireza Yazdani
DETAILS	BY F. Maagma / L. Ma	CHECKED Alireza Yazdani
QUANTITIES	BY T. Kishwar / L. Ma	CHECKED Hardeep Singh

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

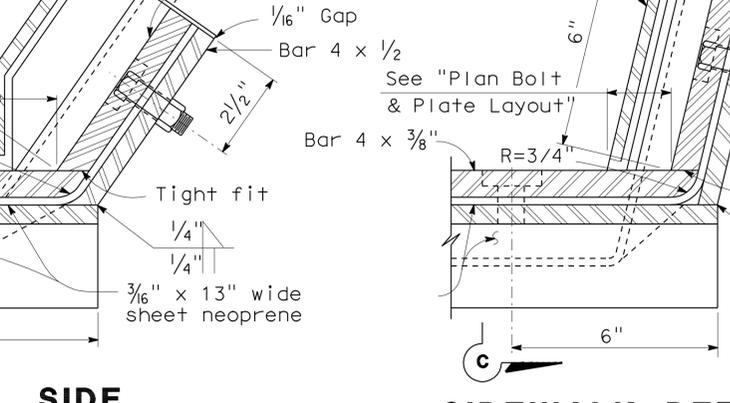
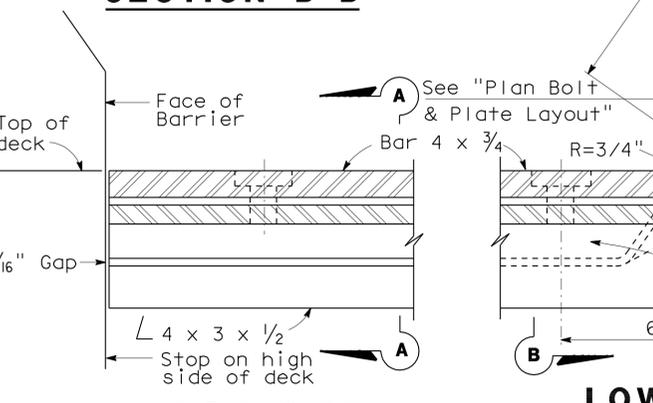
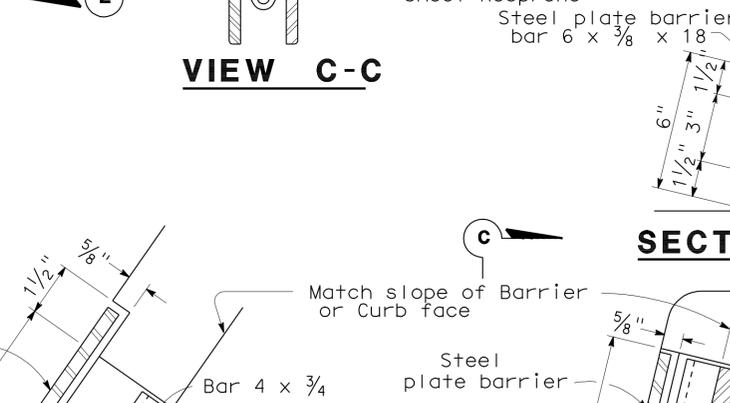
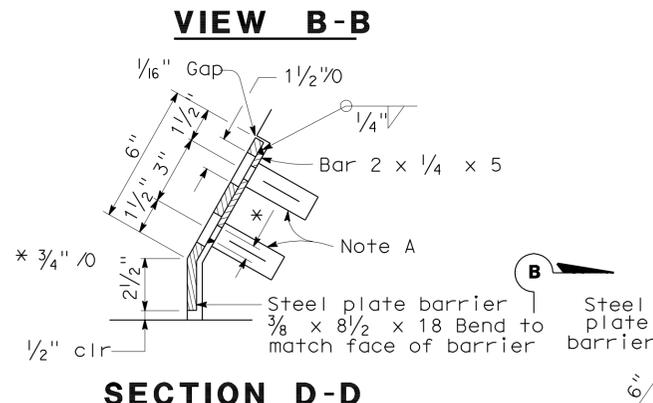
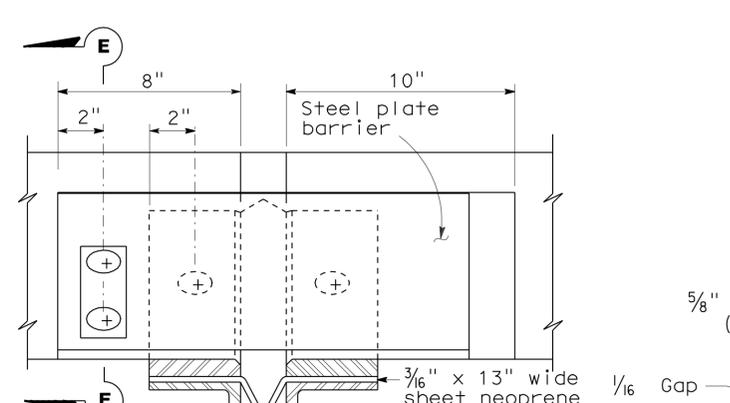
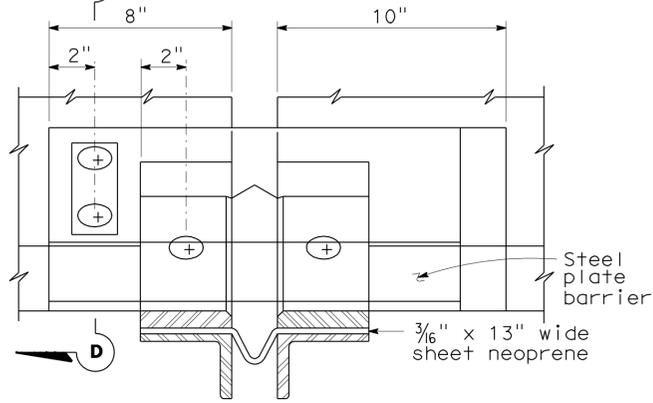
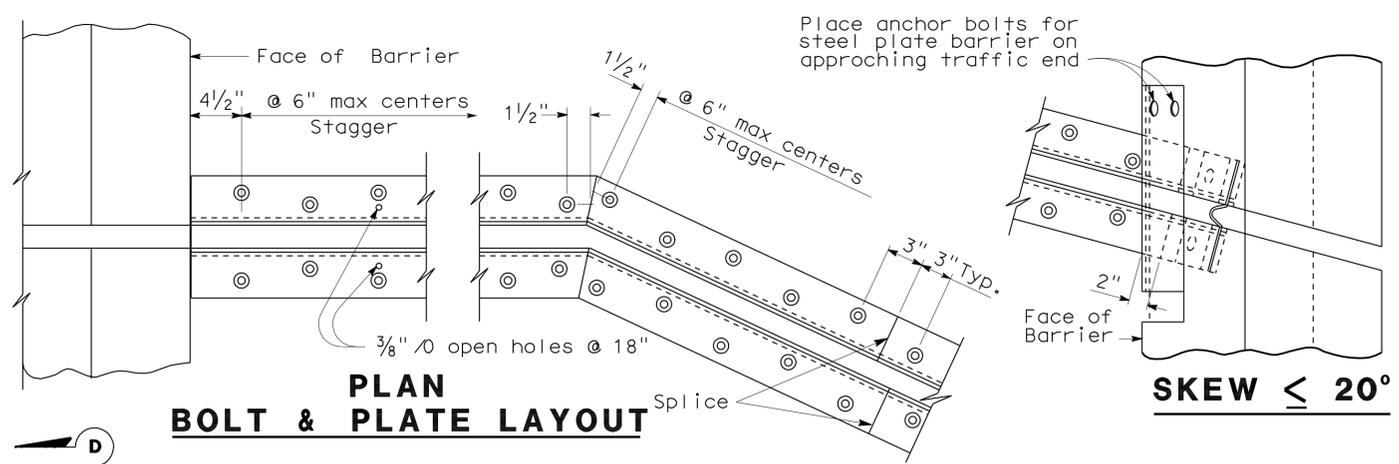
DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
DESIGN BRANCH 16

BRIDGE NO.	20-0297
POST MILE	26.3

AIRPORT BLVD OC (REPLACE)

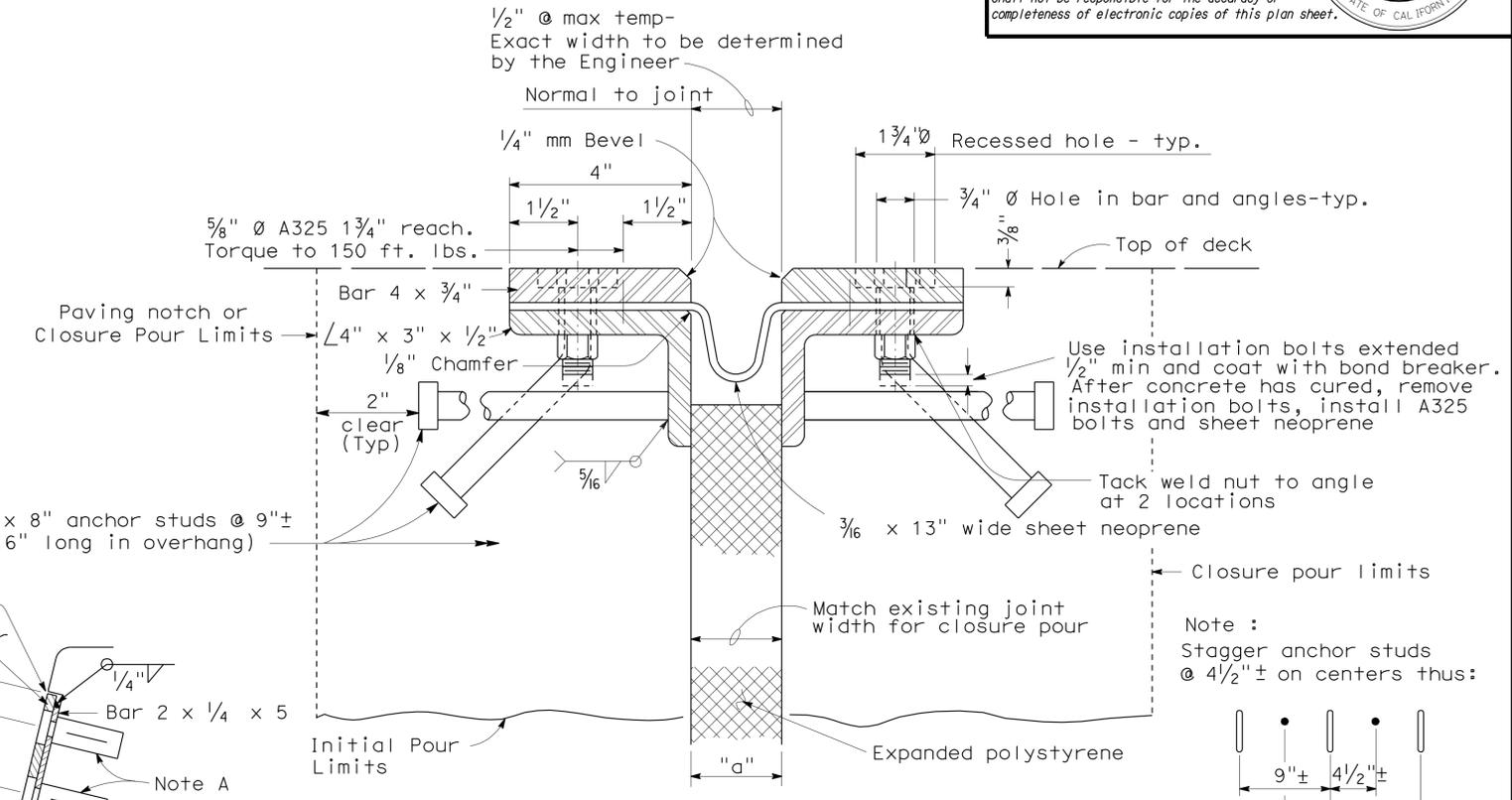
PILE DETAILS

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	564	615
 REGISTERED CIVIL ENGINEER DATE 5-4-11			No. 69601 Exp. 6-30-12 CIVIL		
PLANS APPROVAL DATE 9-10-12 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.					



HIGH SIDE BARRIER DETAIL

LOW SIDE BARRIER DETAIL
(See Note B)



SECTION A-A

Joint Information			"a" Dimensions		
Location	Movement Rating (MR)	Skew	Winter	Spring & Fall	Summer
Abut 1	2.5	40°44'23"	2"	1.5"	1"
Abut 3	2.5	43°57'56"	2"	1.5"	1"

NOTES: Full penetration butt welds may be substituted for fillet welds on all anchor studs. Alternate types of anchor studs may be permitted subject to the approval by the Engineer. Joint seal assembly to be used in conjunction with closure pour. (See other sheets for limits). Closure pour shall not be placed until final deck surface is within the tolerances specified. Use joint at crown of roadway, at any change in traverse slope in deck and at changes in horizontal direction. Place other joints at or near lanes. All metal parts to be painted or galvanized after fabrication. Sheet neoprene shall be fabricated in one continuous piece or joints shall be vulcanized. Neoprene shall be fabricated to bend around corners. 1 inch holes in neoprene sheets shall be drilled or punched so that the neoprene is not distorted at the time of installation.

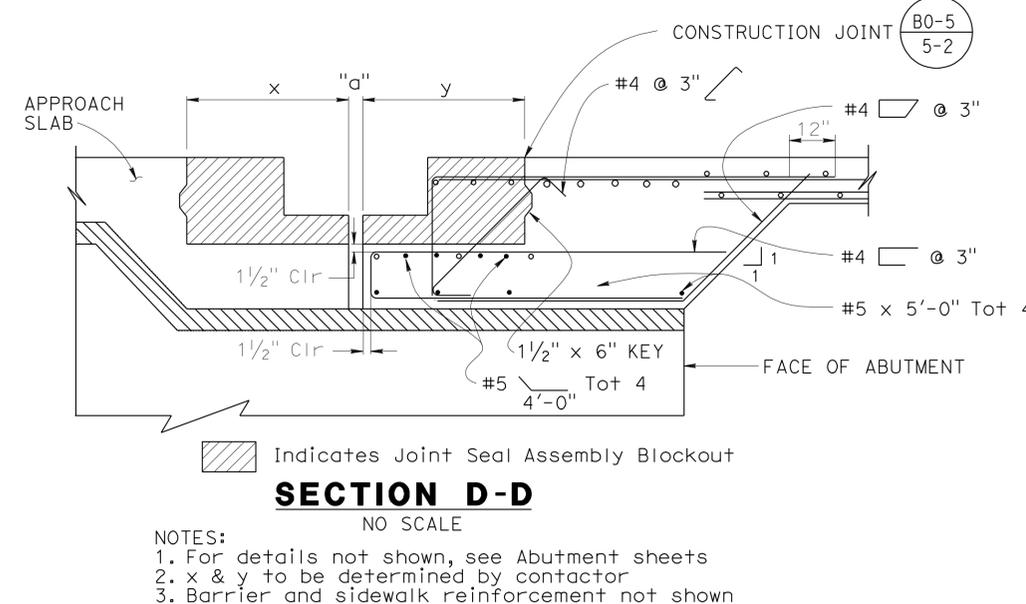
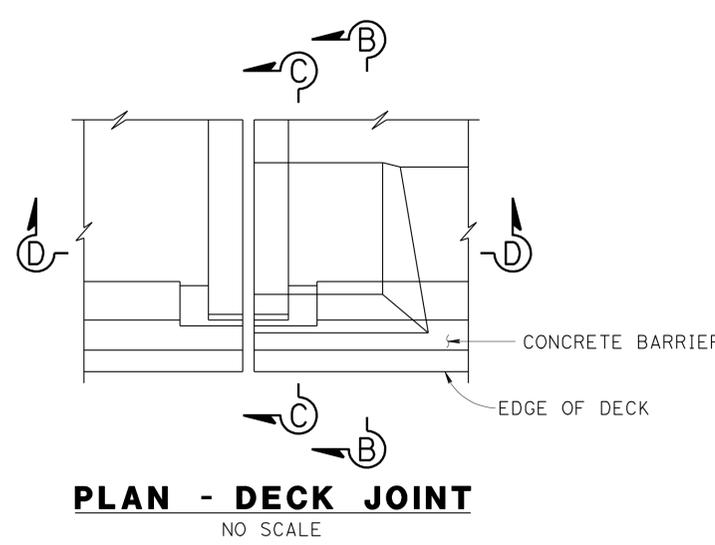
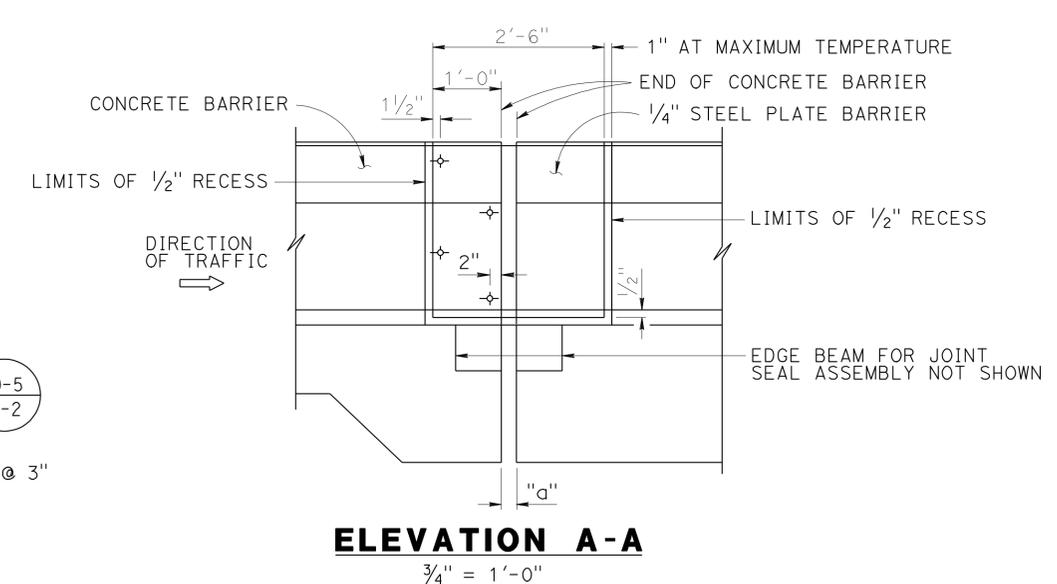
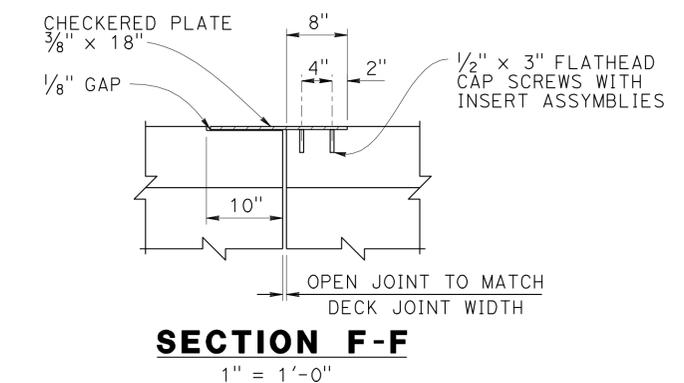
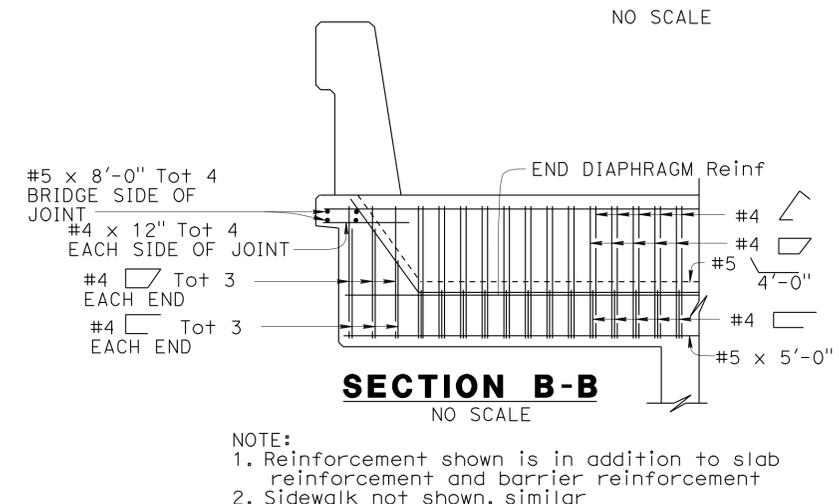
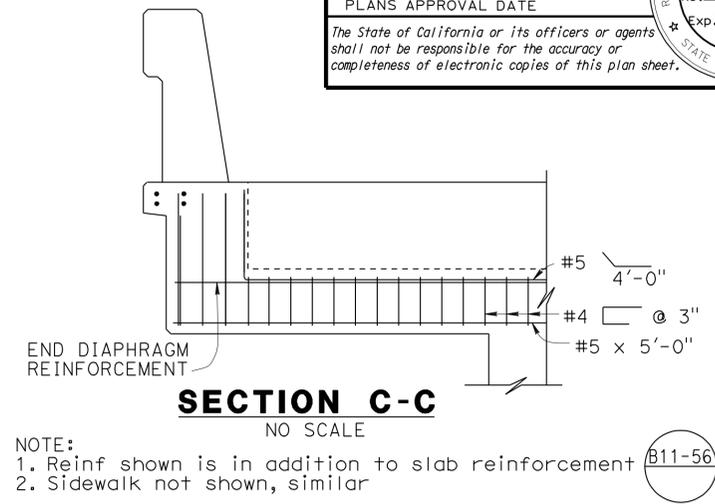
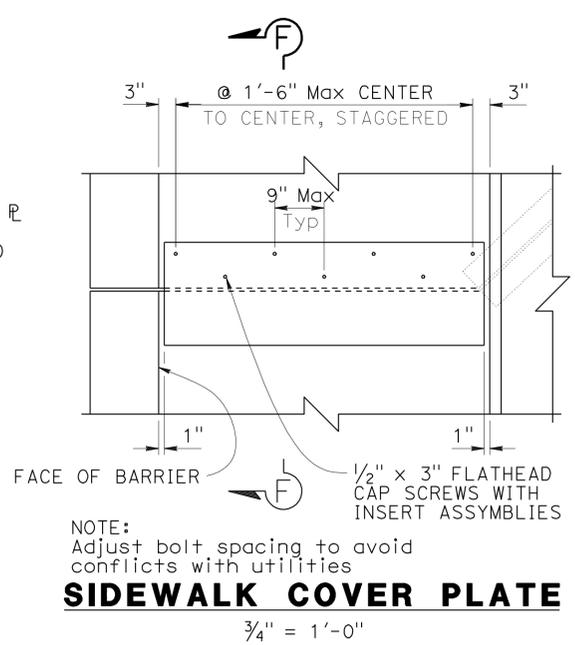
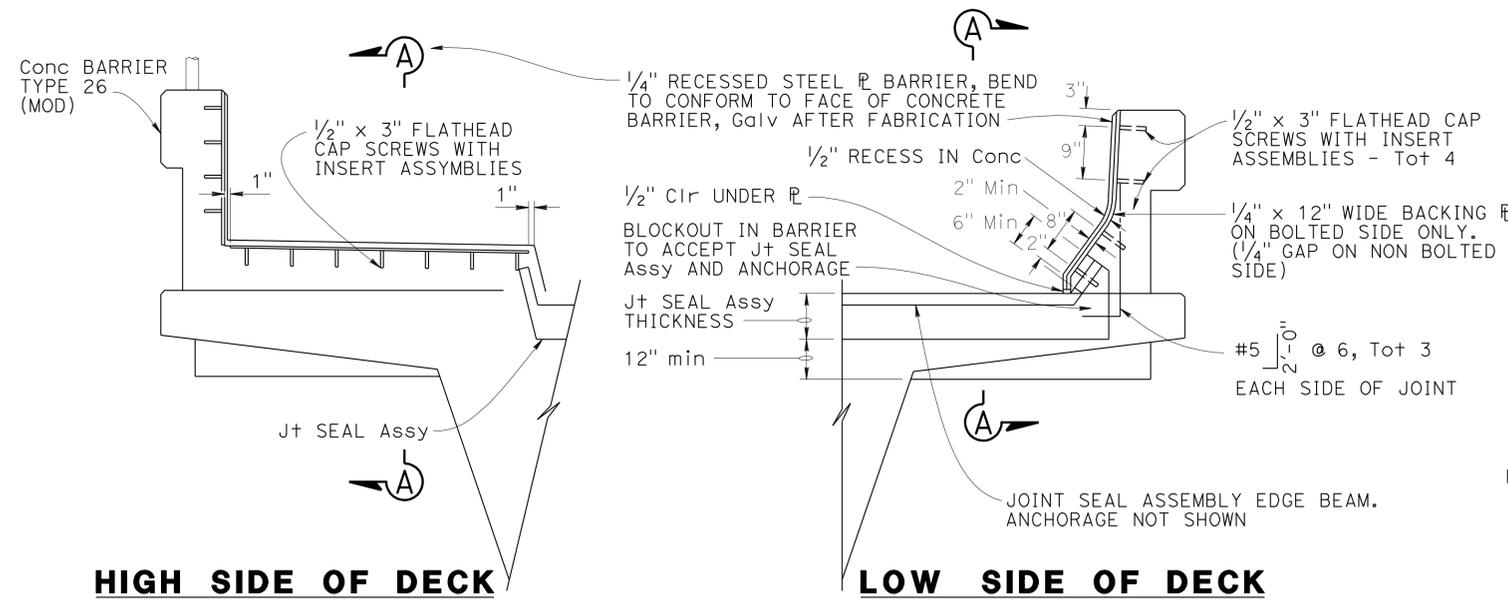
NOTE A
Insert assembly or expansion anchorage for 5/8 inch x 1 3/4 inch A325 bolt.

NOTE B
Use the sidewalk Detail at all sidewalk joints. Use the Barrier Detail at both sides if the roadway is crowned or if the difference in elevation between the ends of the seal is 0.5' or less.

DESIGN BY Son Ly		CHECKED Muthanna Omran	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO. 20-0297	AIRPORT BLVD OC (REPLACE) JOINT SEAL ASSEMBLY	
DETAILS BY Franklin Magma		CHECKED Muthanna Omran			POST MILE 26.3		
QUANTITIES BY T. Kishwar / L. Ma		CHECKED Hardeep Singh					
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)			ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU 04 EA 000209451 (3A23U1)	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 01-06-11 01-28-11 02-03-11 04-13-11	SHEET 19 OF 36

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	565	615

5-4-11
 REGISTERED CIVIL ENGINEER DATE
 ALIREZA YAZDANI MOTLAGH
 No. 69601
 Exp. 6-30-12
 CIVIL
 STATE OF CALIFORNIA
 9-10-12
 PLANS APPROVAL DATE
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DESIGN	BY Son Ly	CHECKED Muthanna Omran	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO.	AIRPORT BLVD OC (REPLACE) JOINT SEAL DETAILS
DETAILS	BY Franklin Maagma	CHECKED Muthanna Omran			20-0297	
QUANTITIES	BY T. Kishwar / L. Ma	CHECKED Hardeep Singh			POST MILE 26.3	

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)

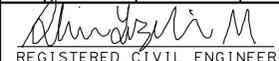
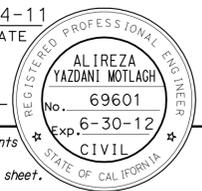
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

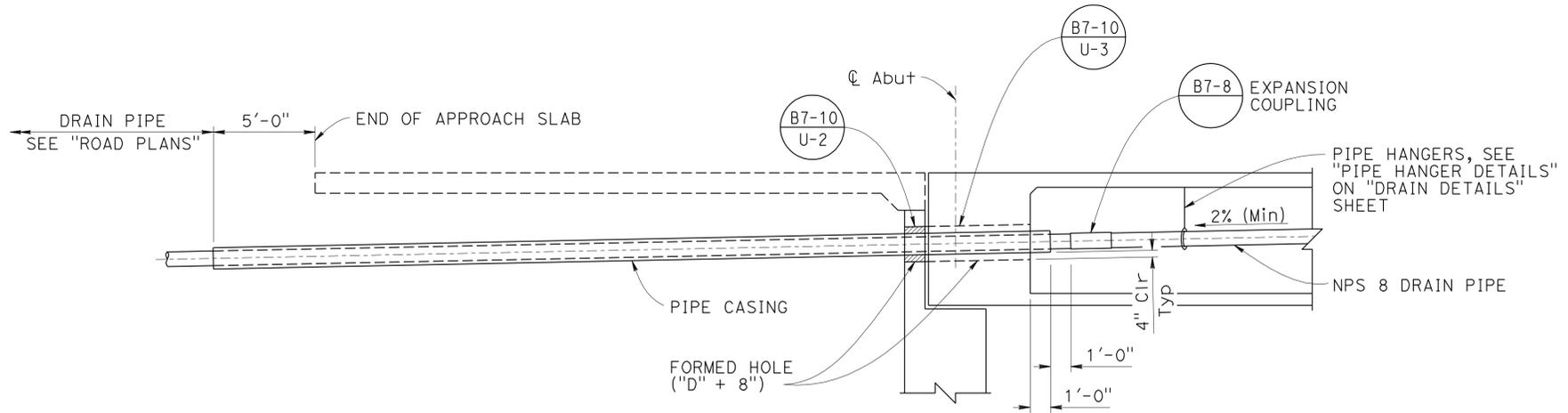
CU 04
EA 000209451 (3A23U1)

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
01-06-11 01-28-11 02-03-11 04-13-11	20	36

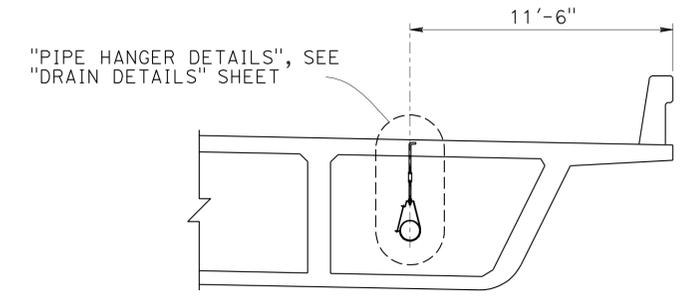
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	566	615
 REGISTERED CIVIL ENGINEER DATE 5-4-11					
PLANS APPROVAL DATE 9-10-12 <small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



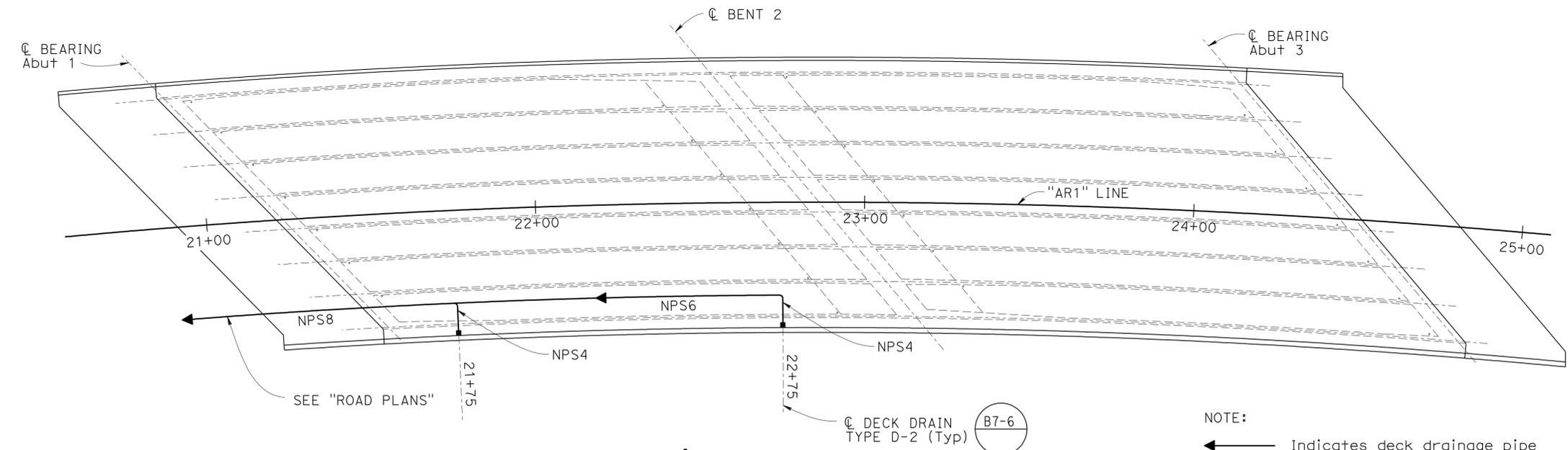
DECK DRAIN PIPE DETAIL AT ABUTMENT

NO SCALE



HANGER SUPPORT DETAIL

NO SCALE



PLAN
1" = 20'

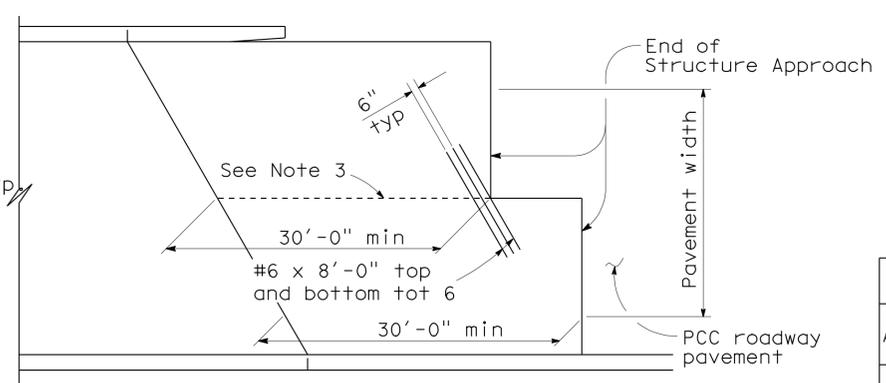
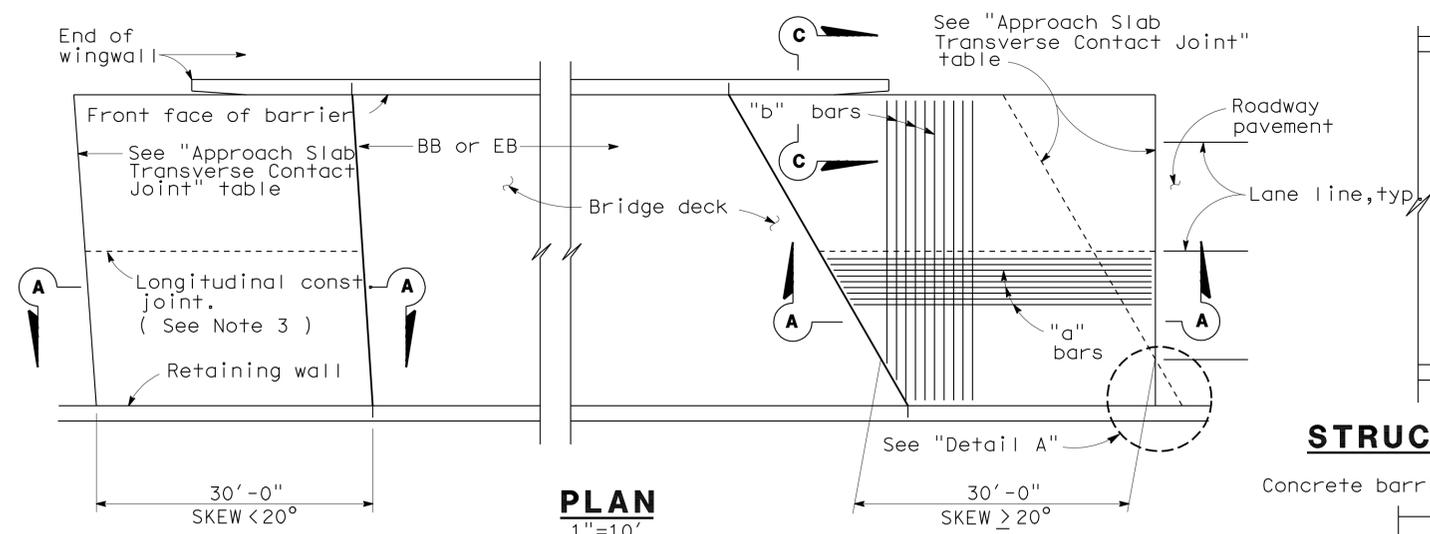
NOTE:
← Indicates deck drainage pipe and direction of flow

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY Hardeep Singh	CHECKED Muthanna Omran	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO.	20-0297	AIRPORT BLVD OC (REPLACE) DECK DRAINS		
	DETAILS	BY Franklin Maagma	CHECKED Muthanna Omran			POST MILE	26.3			
	QUANTITIES	BY T. Kishwar / L. Ma	CHECKED Hardeep Singh							
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				0 1 2 3	CU 04 EA 000209451 (3A23U1)	DISREGARD PRINTS BEARING EARLIER REVISION DATES			REVISION DATES	SHEET 21 OF 36

USERNAME => s124496 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 14:09

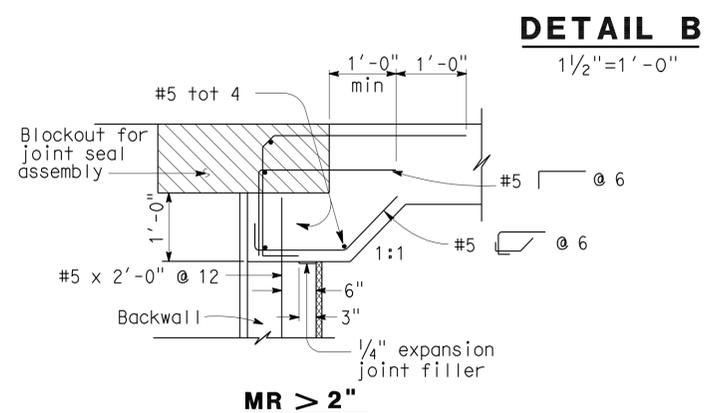
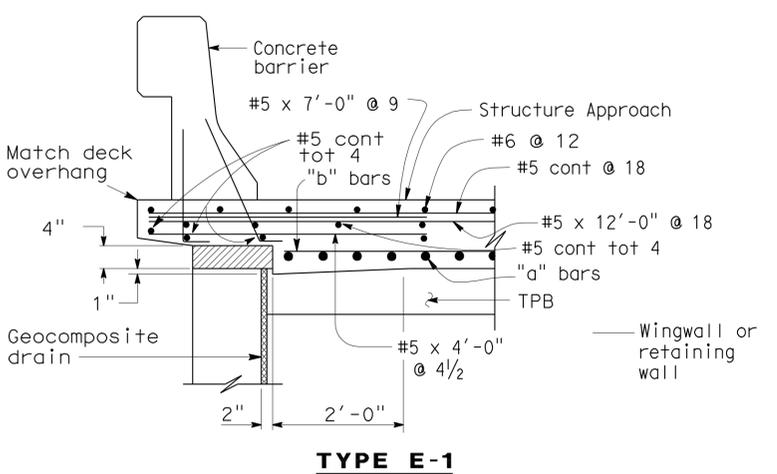
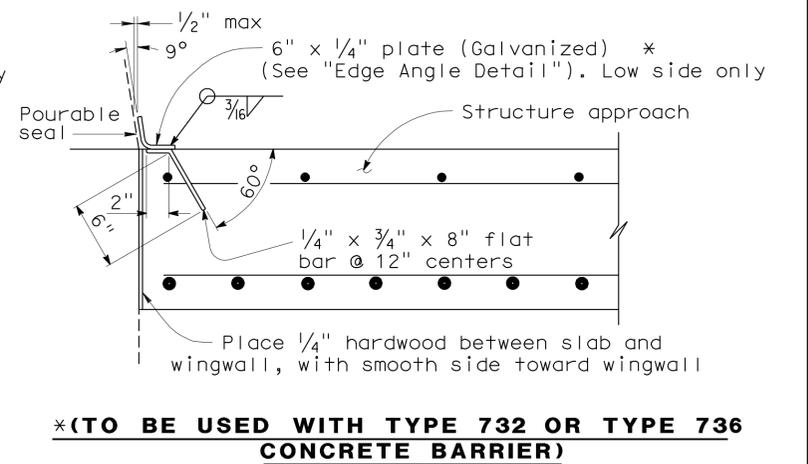
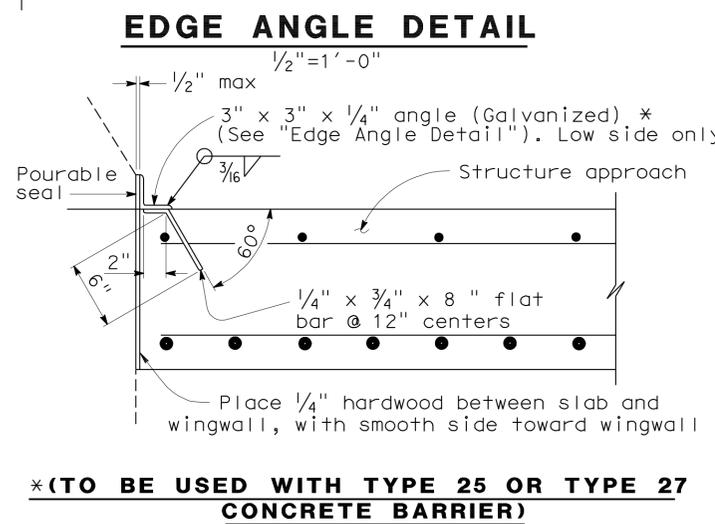
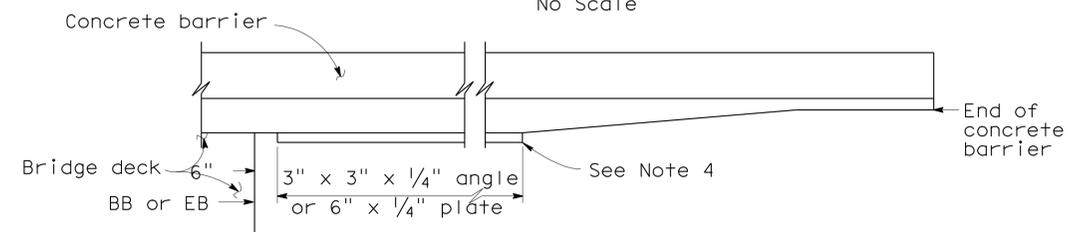
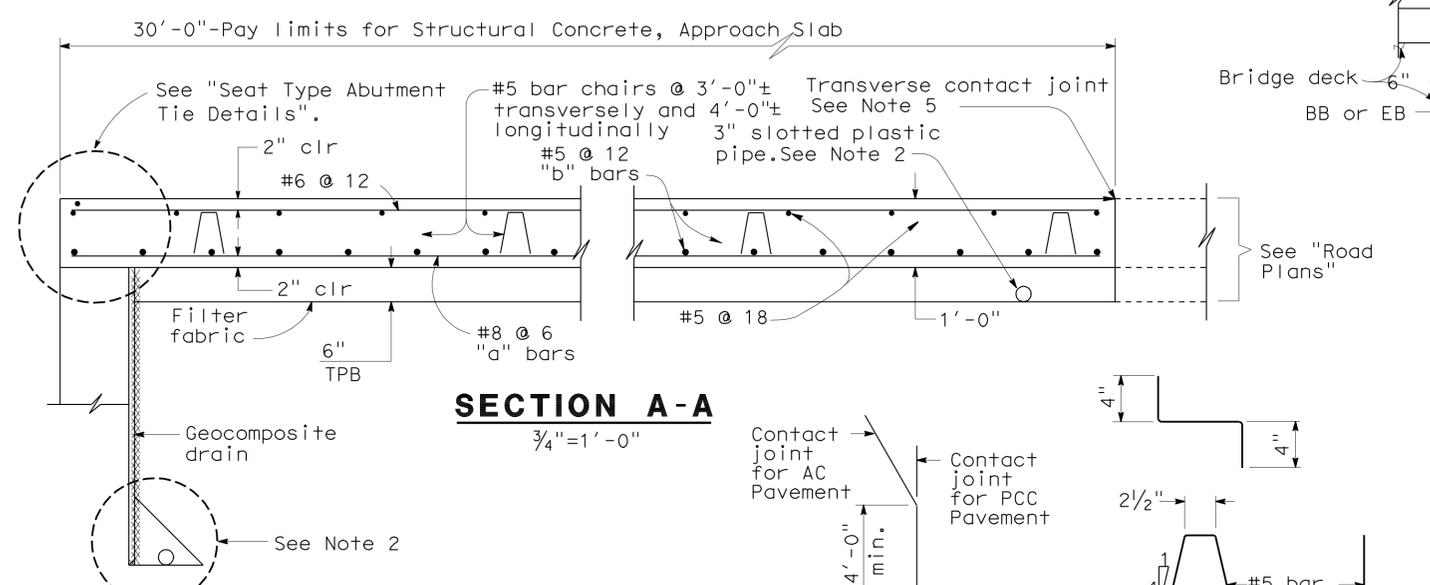
DIST.	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Son	101	25.6/29.2	568	615

5-4-11
 REGISTERED ENGINEER - CIVIL
 ALIREZA YAZDANI MOTLAGH
 No. 69601
 Exp. 6-30-12
 CIVIL
 STATE OF CALIFORNIA



APPROACH SLAB TRANSVERSE CONTACT JOINT

APPROACH SKEW	WITH AC ROADWAY PAVEMENT	WITH PCC ROADWAY PAVEMENT
< 20°	Parallel to face of paving notch	Parallel to face of paving notch
20° - 45°	Parallel to face of P N use (Detail A)	Stagger lines 24' to 36' apart.
> 45°	Parallel to face of P N use (Detail A)	Stagger at each lane line.



SEAT TYPE ABUTMENT TIE DETAILS (SEE NOTE 1)
3/4"=1'-0"

- NOTES:**
- For details not shown, see Structure Plans. For MR ≤ 2", adjust bar reinforcement to clear a sawcut for sealed joint, when required.
 - For drainage details, see "Structure Approach Drainage Details" sheet.
 - Longitudinal construction joints, when permitted by the Engineer, shall be located on lane lines.
 - End angle or plate at beginning of barrier transition, end of wingwall or end of structure approach as applicable.
 - For transverse contact joint with new PCC paving, refer to Standard Plan P10.
 - At the contractor's option, approach slab transverse reinforcement may be placed parallel to paving notch. Spacing of transverse reinforcement is measured along @ roadway.
- Remove all polystyrene.

STANDARD DRAWING

RELEASE DATE: 3/14/05	DESIGN BY: M. TRAFFALIS	CHECKED: E. THORKILDSEN	RELEASED BY:
FILE NO.: xs3-120e	DETAILS BY: R. YEE	CHECKED: E. THORKILDSEN	
	SUBMITTED BY: M. HA	DRAWING DATE: 4/98	OFFICE CHIEF:

Deleted Details

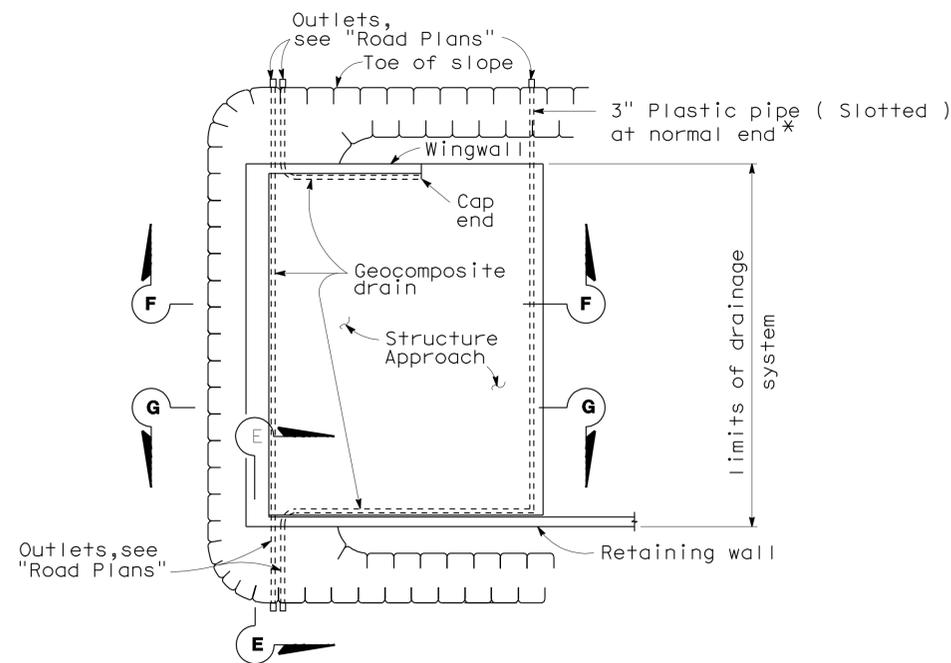
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING SERVICES
 BRIDGE NO. 20-0297
 MILE POST 26.3
 CU 04
 EA 000209451 (3A23U1)

AIRPORT BLVD OC (REPLACE)
 STRUCTURE APPROACH TYPE N(30S)

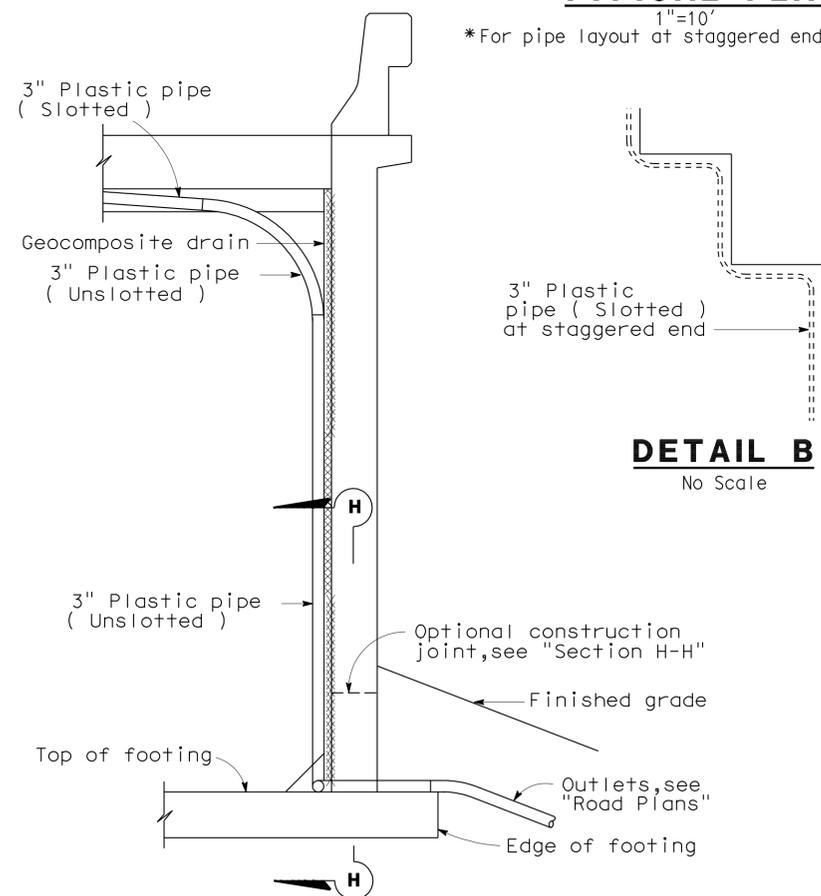
DIST.	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Son	101	25.6/29.2	569	615

5-4-11
 REGISTERED ENGINEER - CIVIL
 ALIREZA YAZDANI MOTLAGH
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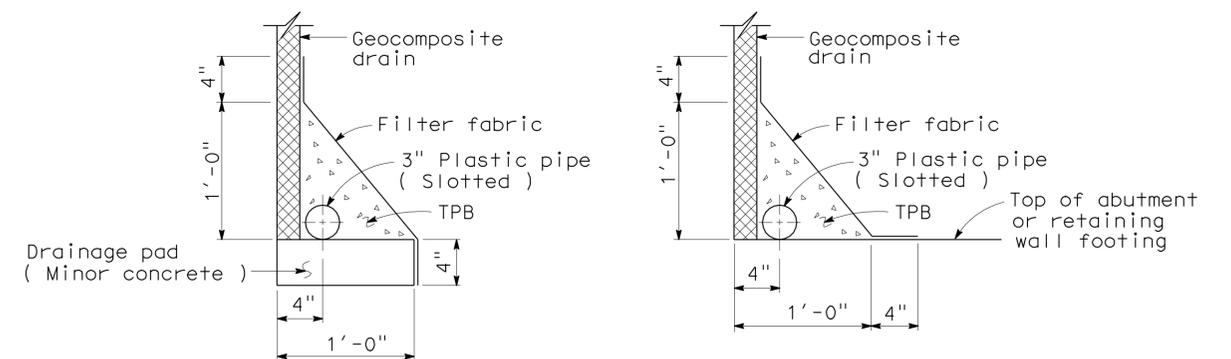
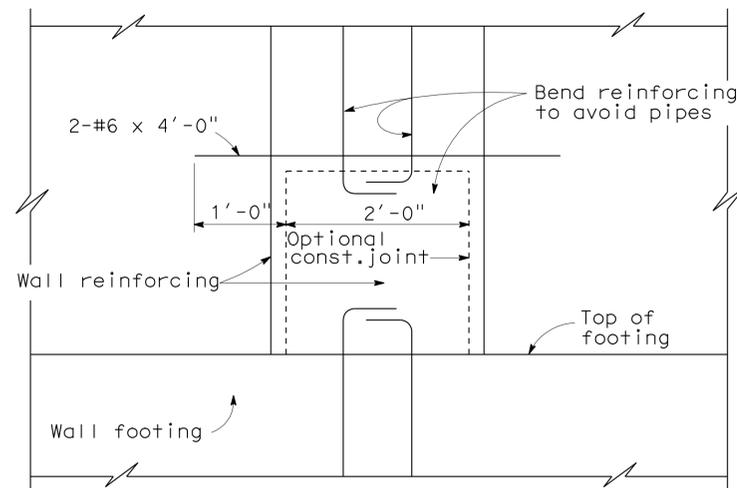
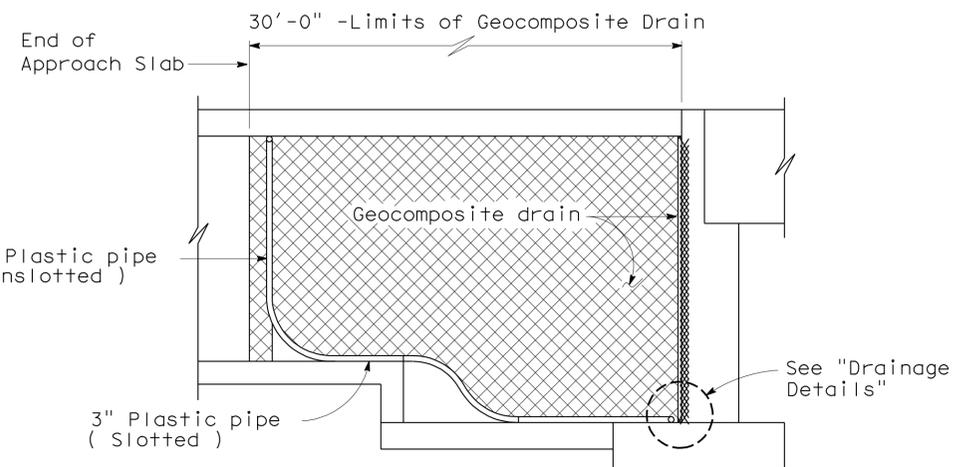
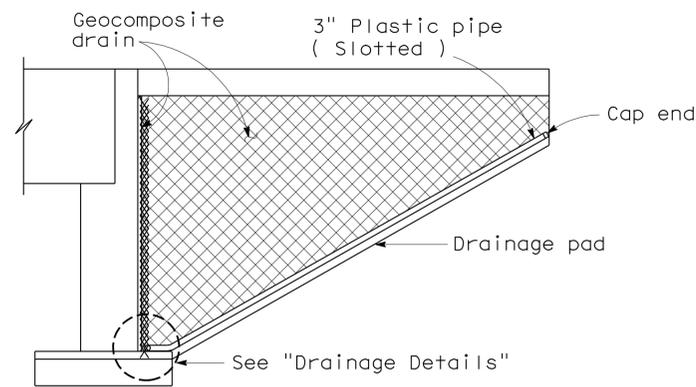
*For pipe layout at staggered end, see "Detail B".



SECTION E-E

1/2"=1'-0"

NOTE: Bends and junctions in 3" plastic pipe are 30" radius min.



WITHOUT FOOTING

WITH FOOTING

DRAINAGE DETAILS

1/2"=1'-0"

STANDARD DRAWING

RELEASE DATE 4/23/98	DESIGN BY M. TRAFFALIS	CHECKED E. THORKILDSEN	RELEASED BY <i>[Signature]</i>
FILE NO. xs3-110e	DETAILS BY R. YEE	CHECKED E. THORKILDSEN	OFFICE CHIEF <i>[Signature]</i>
	SUBMITTED BY M. HA	DRAWING DATE 4/98	

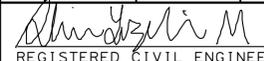
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

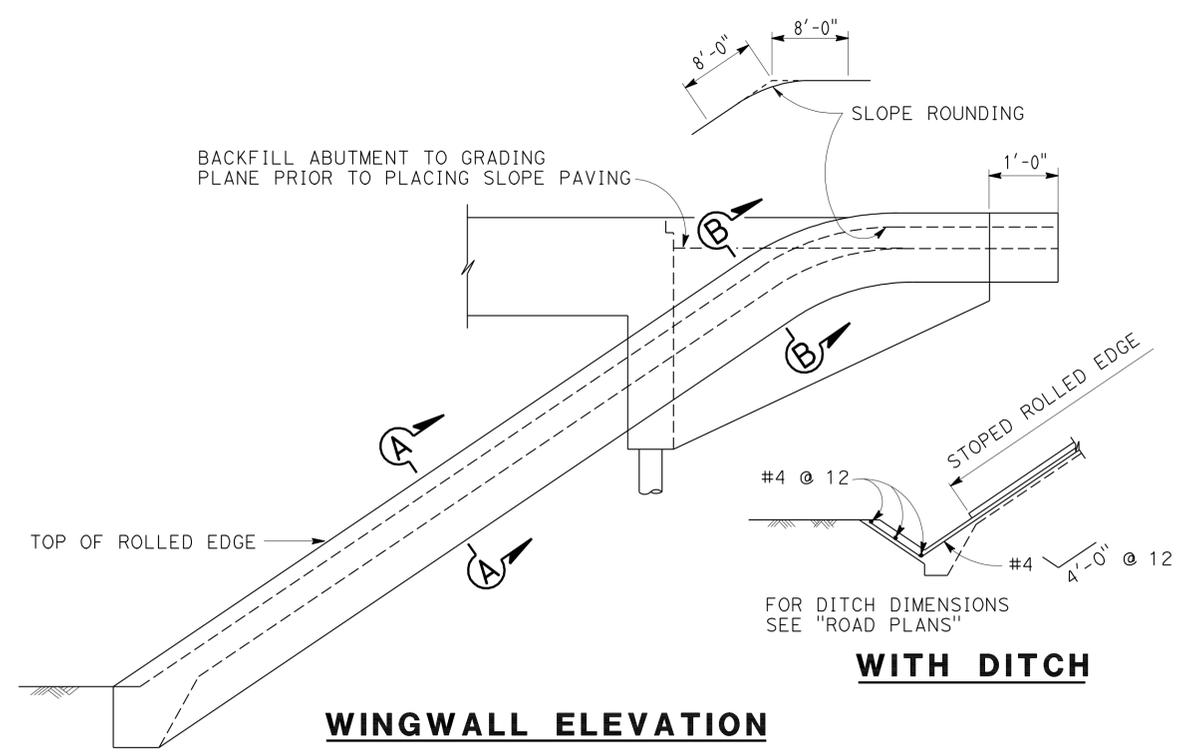
DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 20-0297
MILE POST 26.3

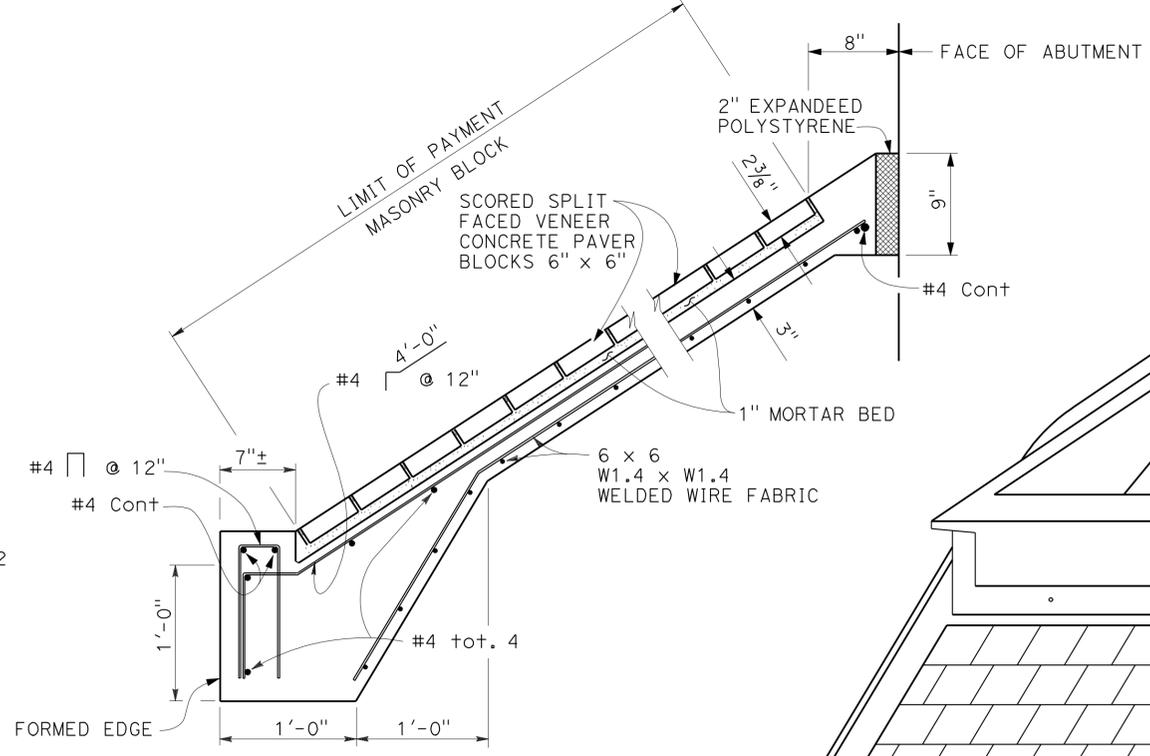
AIRPORT BLVD OC (REPLACE)
STRUCTURE APPROACH DRAINAGE DETAILS

DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 14:09

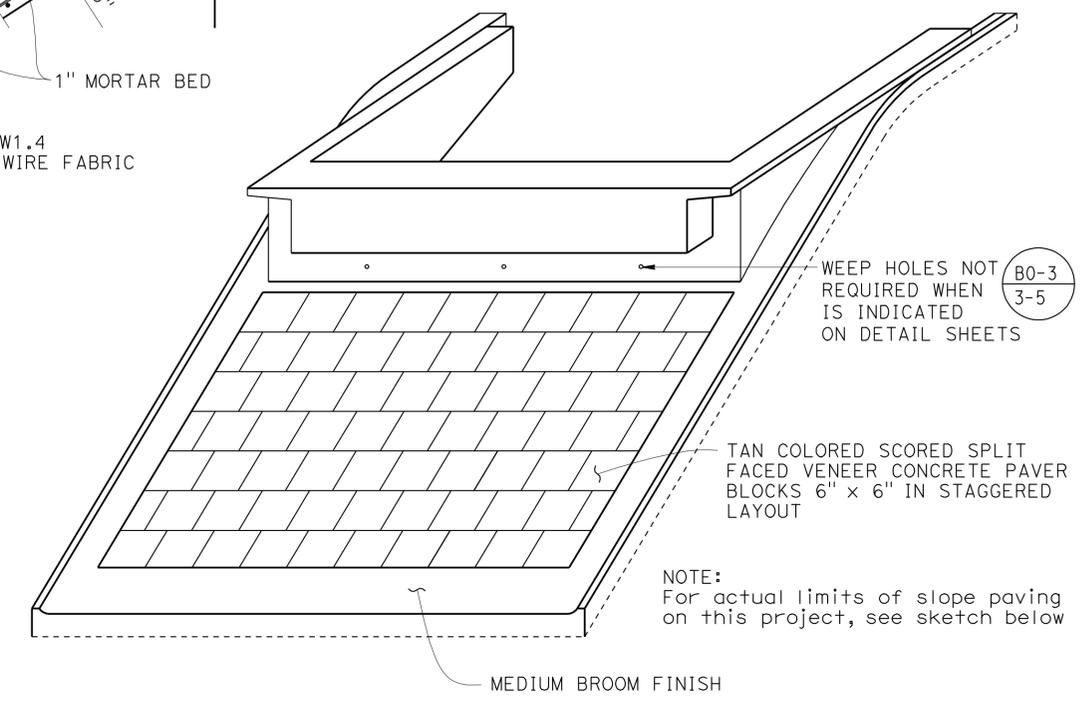
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	San	101	25.6/29.2	570	615
 REGISTERED CIVIL ENGINEER DATE 7-5-11			ALIREZA YAZDANI MOTLAGH No. 69601 Exp. 6-30-12 CIVIL STATE OF CALIFORNIA		
PLANS APPROVAL DATE 9-10-12 <small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



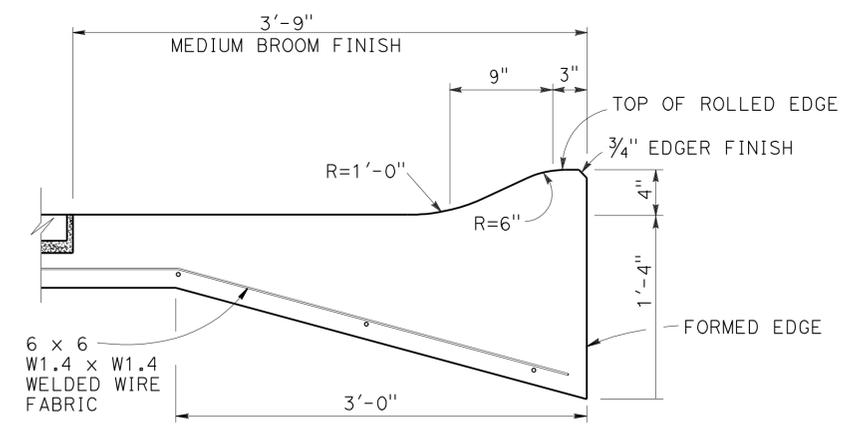
WINGWALL ELEVATION



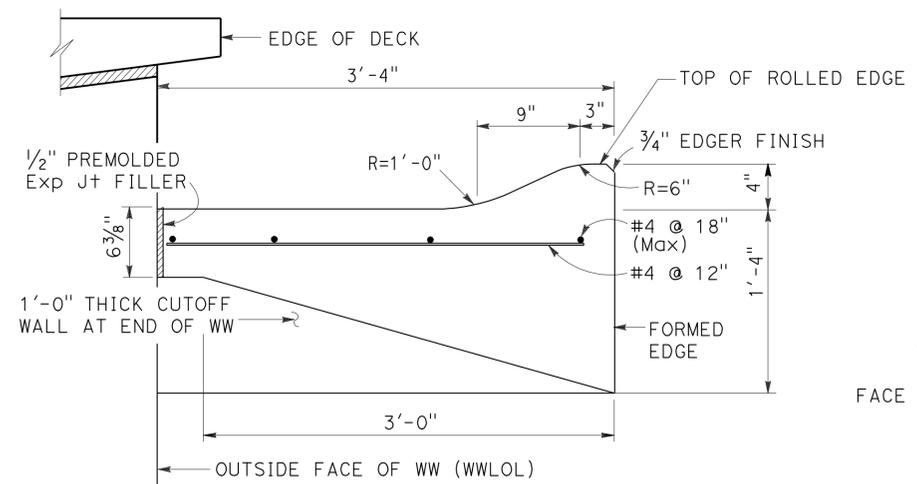
TYPICAL SECTION - CONCRETE PAVING



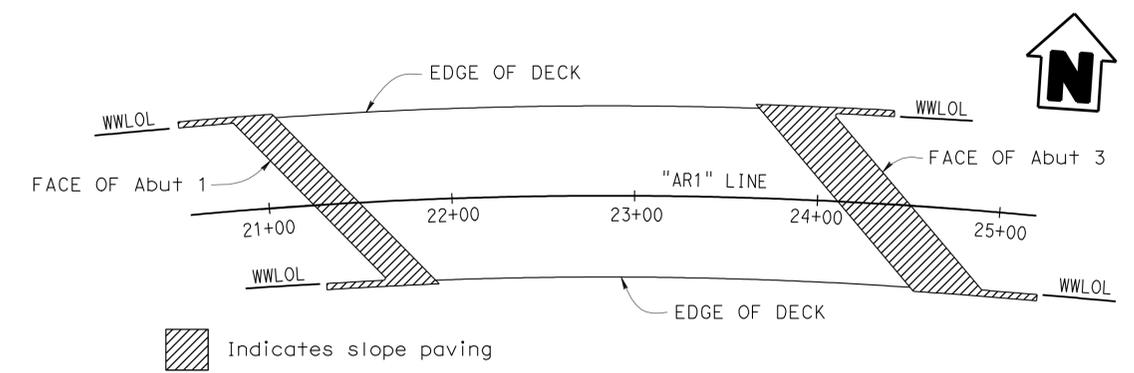
PICTORIAL VIEW OF TYPICAL INSTALLATION



SECTION A-A

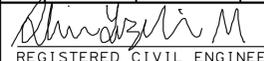
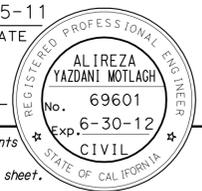


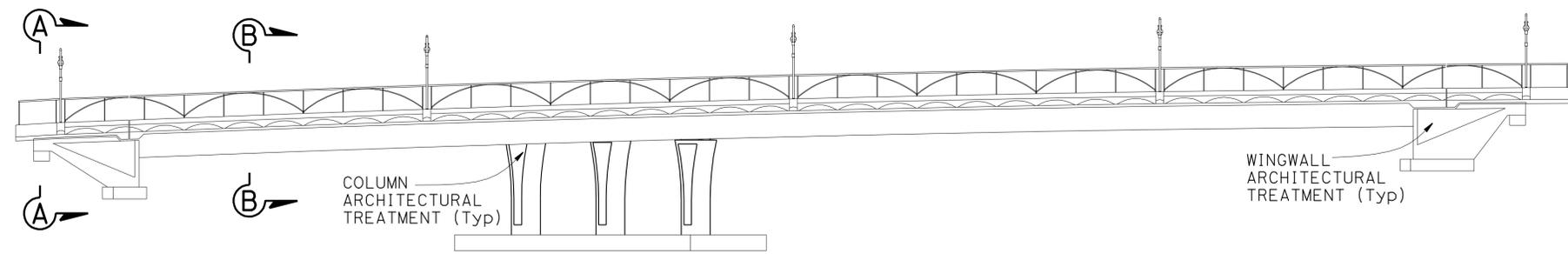
SECTION B-B



LIMITS OF CONCRETE SLOPE PAVING

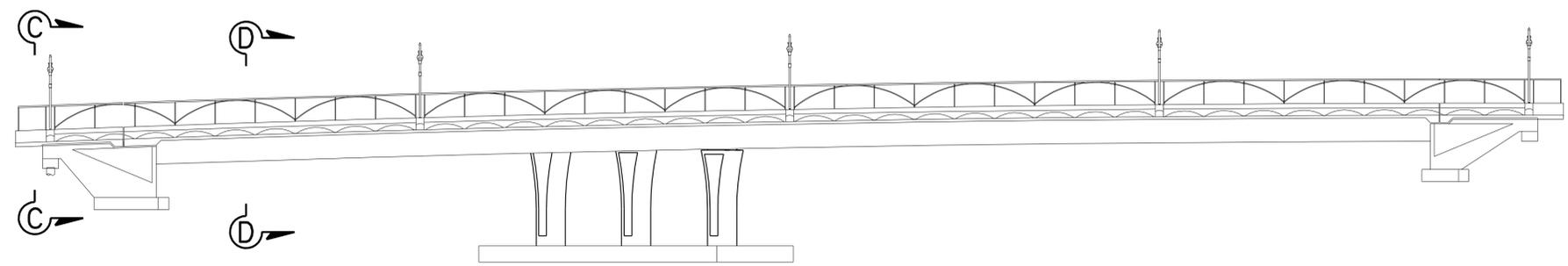
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3	DESIGN	BY Alireza Yazdani	CHECKED John E. Peterson	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO.	20-0297	AIRPORT BLVD OC (REPLACE) SLOPE PAVING - FULL SLOPE
	DETAILS	BY Liang Ma	CHECKED John E. Peterson			POST MILE	26.3	
	QUANTITIES	BY T. Kishwar / L. Ma	CHECKED Hardeep Singh			REVISION DATES	01-28-11 04-15-11 05-25-11 06-28-11 07-05-11	
CU 04 EA 000209451 (3A23U1) FILE => 20-0297-s-slope01.dgn						DISREGARD PRINTS BEARING EARLIER REVISION DATES		SHEET 25 OF 36

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	571	615
 REGISTERED CIVIL ENGINEER DATE 7-5-11					
PLANS APPROVAL DATE 9-10-12			The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.		



LEFT SIDE ELEVATION (MIRRORED DEVELOPED)

1" = 20'



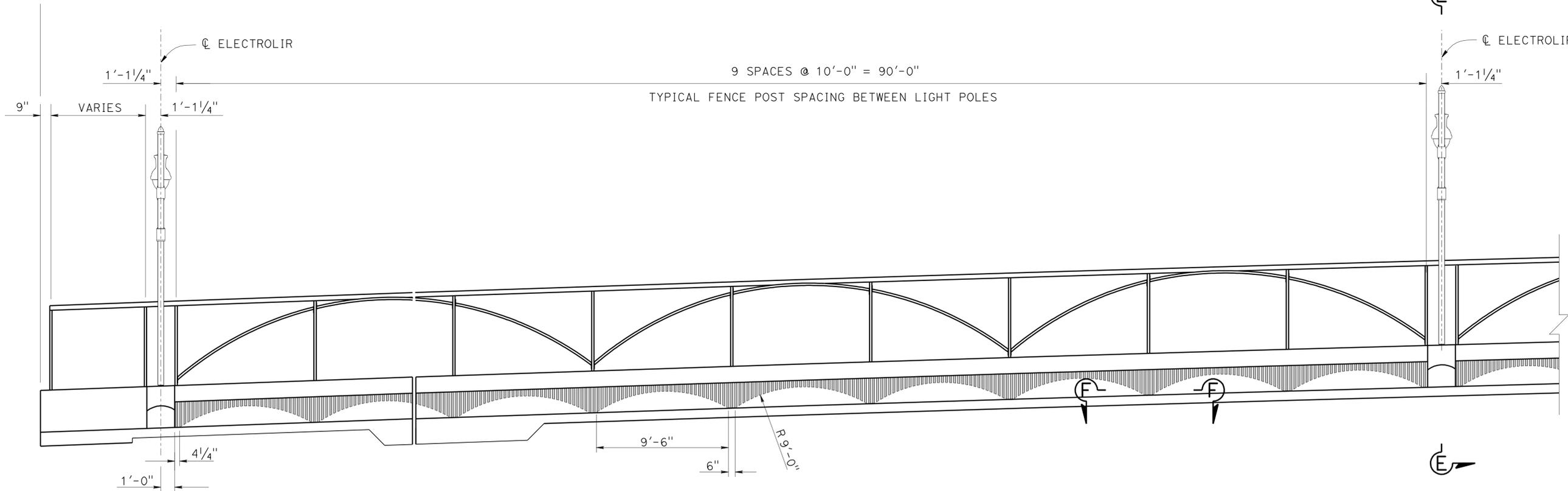
RIGHT SIDE ELEVATION (DEVELOPED)

1" = 20'

NOTES:

1. For "SECTION A-A", "SECTION B-B", "SECTION C-C", "SECTION D-D" and "SECTION E-E", see "BARRIER RAILING DETAILS NO.3" sheet
2. For "SECTION F-F", see "BARRIER RAILING DETAILS NO.2" sheet
3. For wingwall architectural treatment, see "ABUTMENT DETAILS NO.3" sheet
4. For bent columns architectural treatment, see "BENT DETAILS NO.1" and "BENT DETAILS NO.3" sheets
5. For concrete barrier limits, see "BARRIER RAILING DETAILS No. 2" sheet

BEGIN/END CONCRETE BARRIER (SEE NOTE 5)



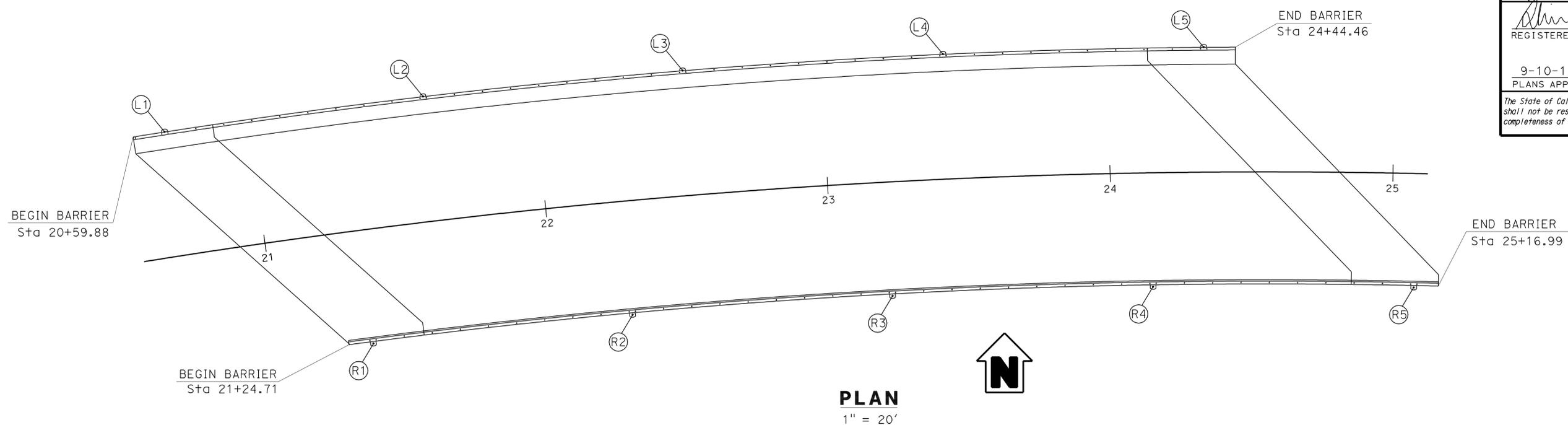
TYPICAL PATTERN ELEVATION (DEVELOPED)

1/4" = 1'

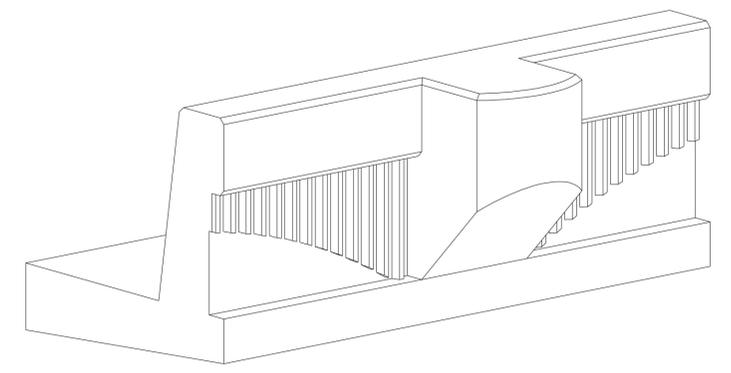
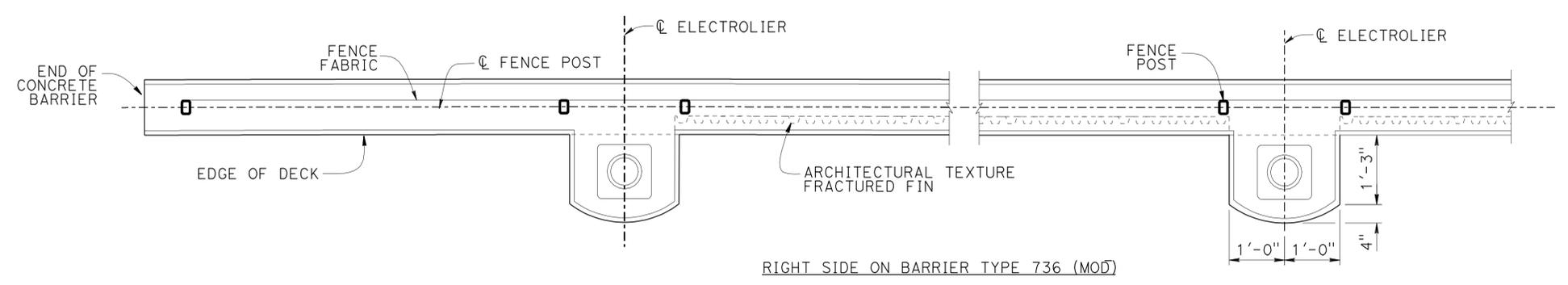
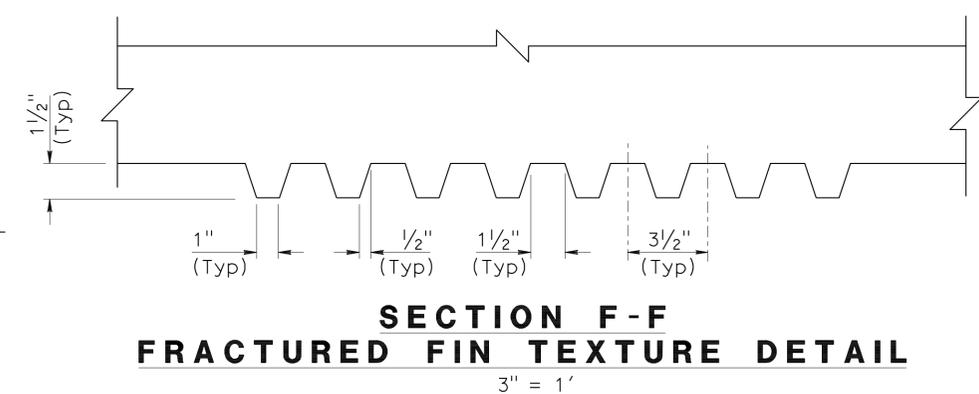
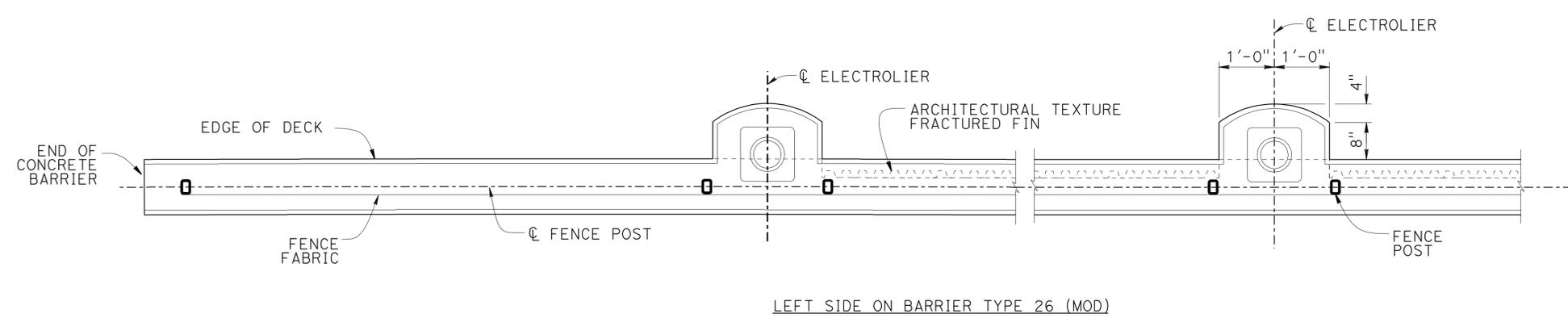
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY Stephan D Heath	CHECKED John E. Peterson	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO.	20-0297	AIRPORT BLVD OC (REPLACE) BARRIER RAILING DETAILS No. 1		
	DETAILS	BY Liang Ma / F. Maagma	CHECKED John E. Peterson			POST MILE	26.3			
	QUANTITIES	BY T. Kishwar / L. Ma	CHECKED Hardeep Singh							
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				0 1 2 3	CU 04 EA 000209451 (3A23U1)	DISREGARD PRINTS BEARING EARLIER REVISION DATES			REVISION DATES 02-17-11 04-13-11 05-18-11 06-20-11	SHEET 26 OF 36

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	572	615

REGISTERED CIVIL ENGINEER DATE 7-5-11
 ALIREZA YAZDANI MOTLAGH
 No. 69601
 Exp. 6-30-12
 CIVIL
 STATE OF CALIFORNIA
 PLANS APPROVAL DATE 9-10-12
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LIGHT	STATION
R1	21+33.52
R2	22+27.18
R3	23+20.85
R4	24+14.52
R5	25+08.19
L1	20+70.91
L2	21+61.54
L3	22+52.18
L4	23+42.80
L5	24+33.43



PLAN DETAIL
3/4" = 1'

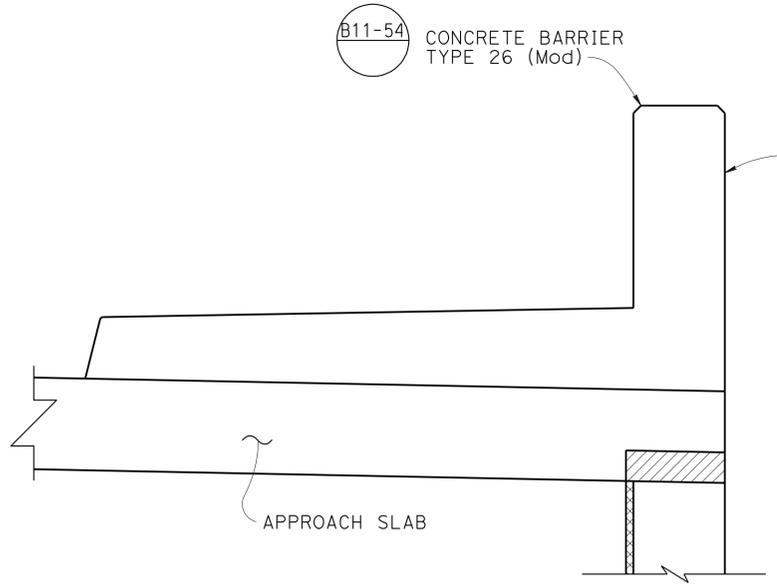
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	DESIGN	BY Stephan D Heath	CHECKED John E. Peterson	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO.	20-0297	AIRPORT BLVD OC (REPLACE) BARRIER RAILING DETAILS No. 2
	DETAILS	BY Liang Ma / F. Maagma	CHECKED John E. Peterson			POST MILE	26.3	
	QUANTITIES	BY T. Kishwar / L. Ma	CHECKED Hardeep Singh			REVISION DATES	02-17-11 04-13-11 05-18-11 06-20-11	
FILE => 20-0297-u-miscd+02.dgn						DISREGARD PRINTS BEARING EARLIER REVISION DATES		SHEET 27 OF 36

USERNAME => s124496 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 14:10

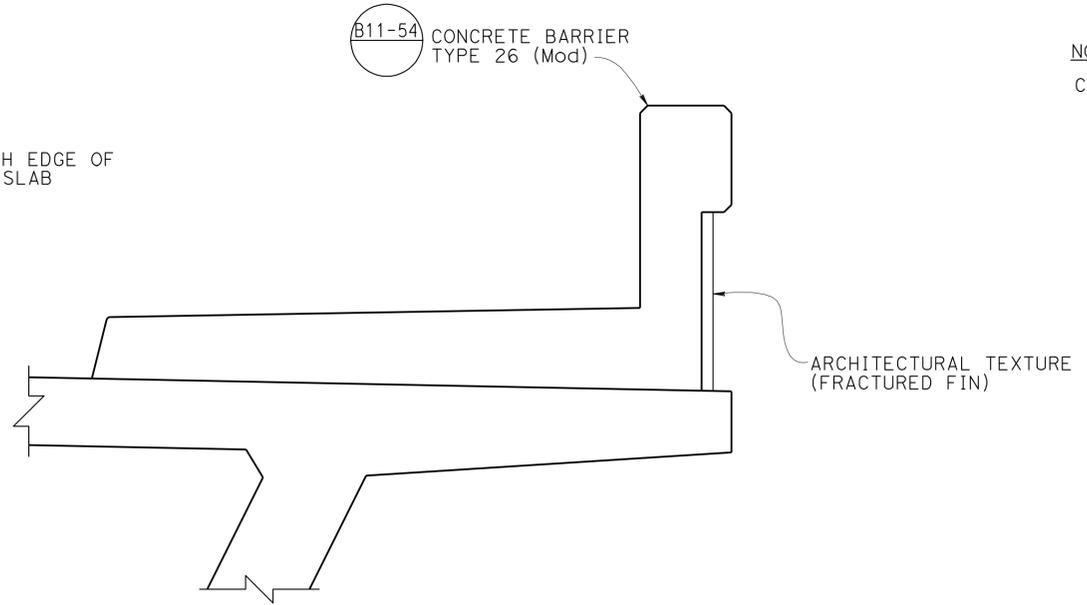
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	573	615

REGISTERED CIVIL ENGINEER DATE 7-5-11
 ALIREZA YAZDANI MOTLAGH
 No. 69601
 Exp. 6-30-12
 CIVIL
 STATE OF CALIFORNIA
 PLANS APPROVAL DATE 9-10-12
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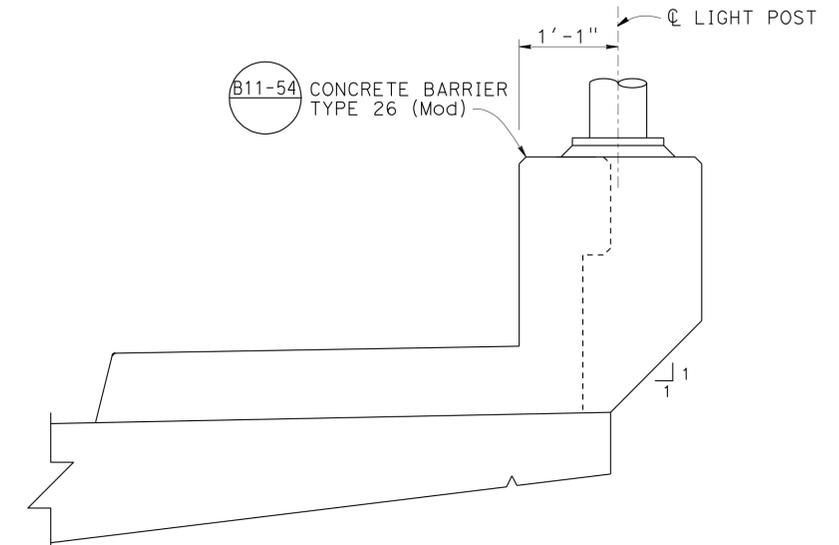
NOTE:
Chain Link Railing not shown



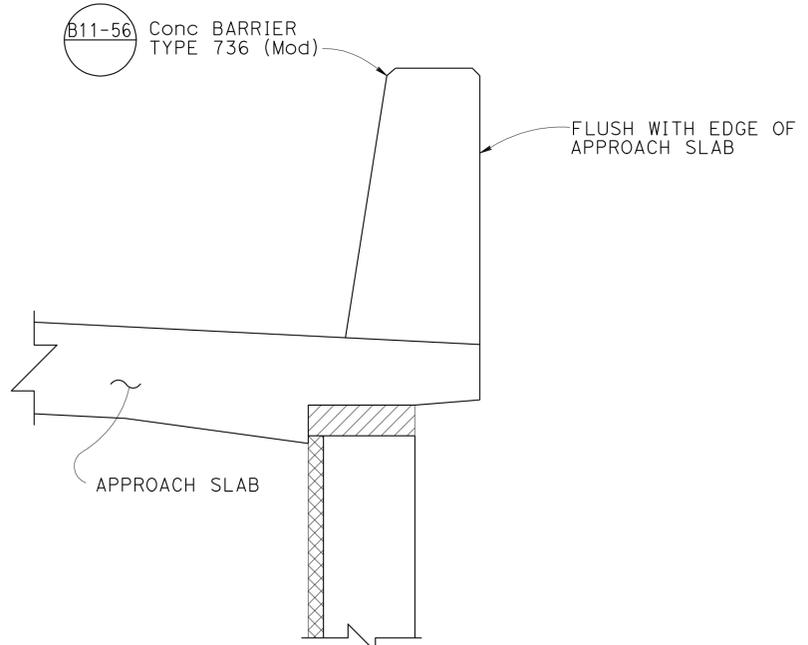
SECTION A-A
1" = 1'



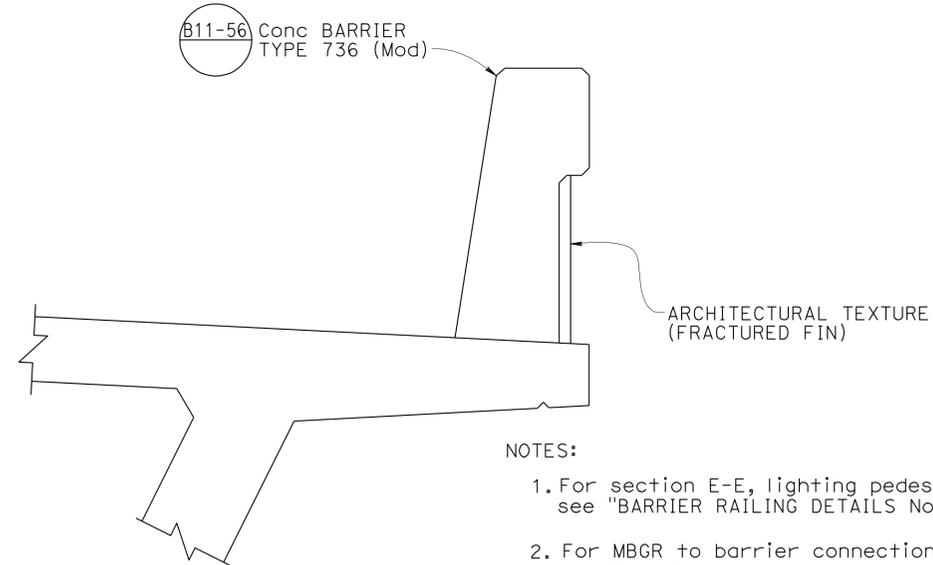
SECTION B-B
1" = 1'



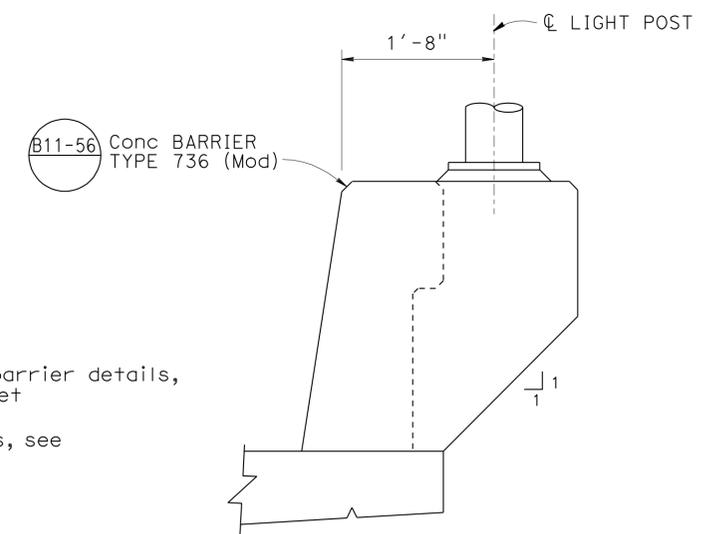
SECTION E-E AT BARRIER TYPE 26
1" = 1'



SECTION C-C
1" = 1'



SECTION D-D
1" = 1'



SECTION E-E AT BARRIER TYPE 736
1" = 1'

- NOTES:
1. For section E-E, lighting pedestal at barrier details, see "BARRIER RAILING DETAILS No. 4" sheet
 2. For MBGR to barrier connection details, see Std Plan B11-56

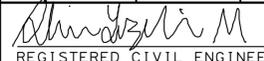
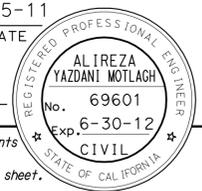
DESIGN	BY Stephan D Heath	CHECKED Muthanna Omran
DETAILS	BY Liang Ma / F. Maagma	CHECKED Muthanna Omran
QUANTITIES	BY T. Kishwar / L. Ma	CHECKED Hardeep Singh

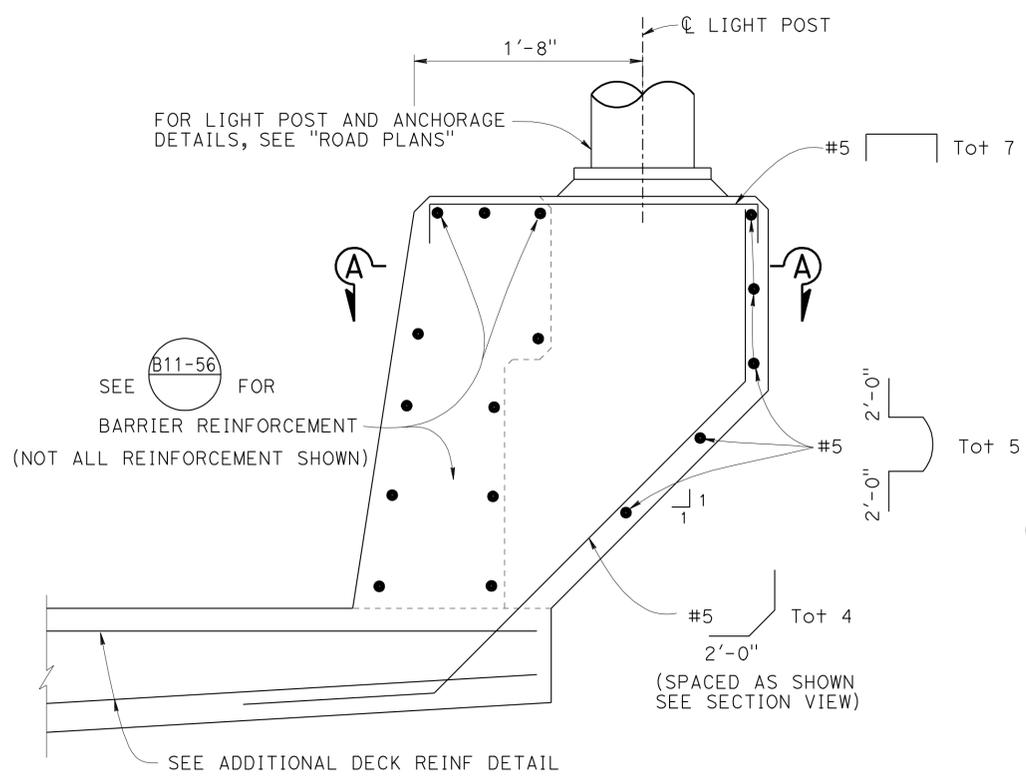
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 16

BRIDGE NO.	20-0297
POST MILE	26.3

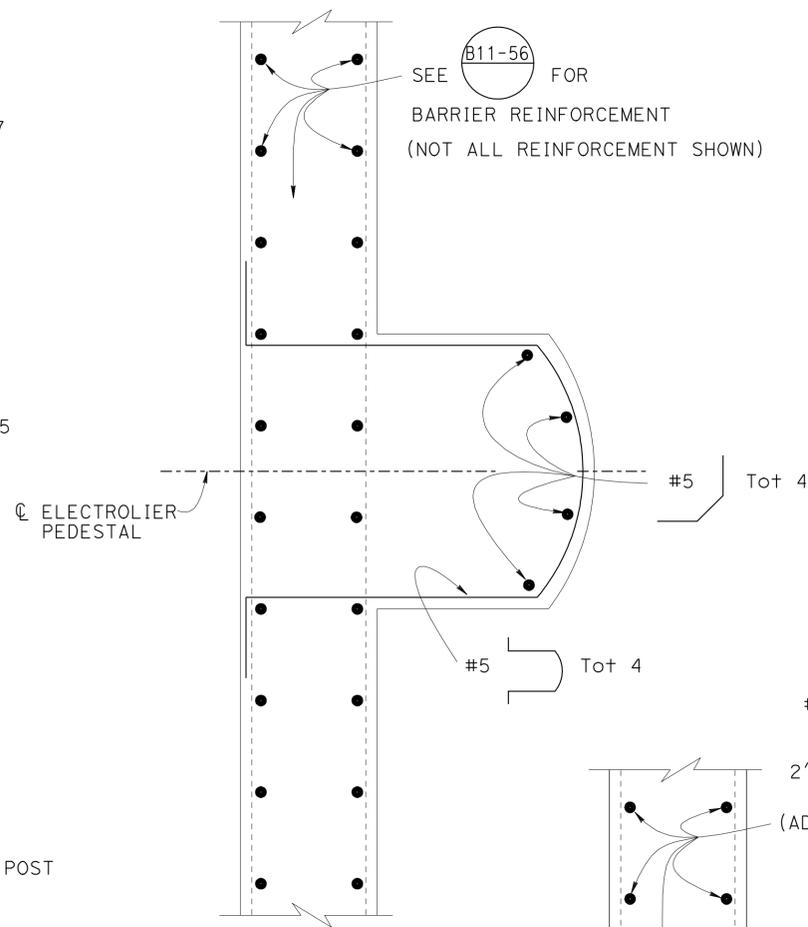
AIRPORT BLVD OC (REPLACE)
BARRIER RAILING DETAILS No. 3

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	574	615
 REGISTERED CIVIL ENGINEER DATE 7-5-11					
PLANS APPROVAL DATE 9-10-12 <small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



LIGHTING PEDESTAL AT BARRIER TYPE 736

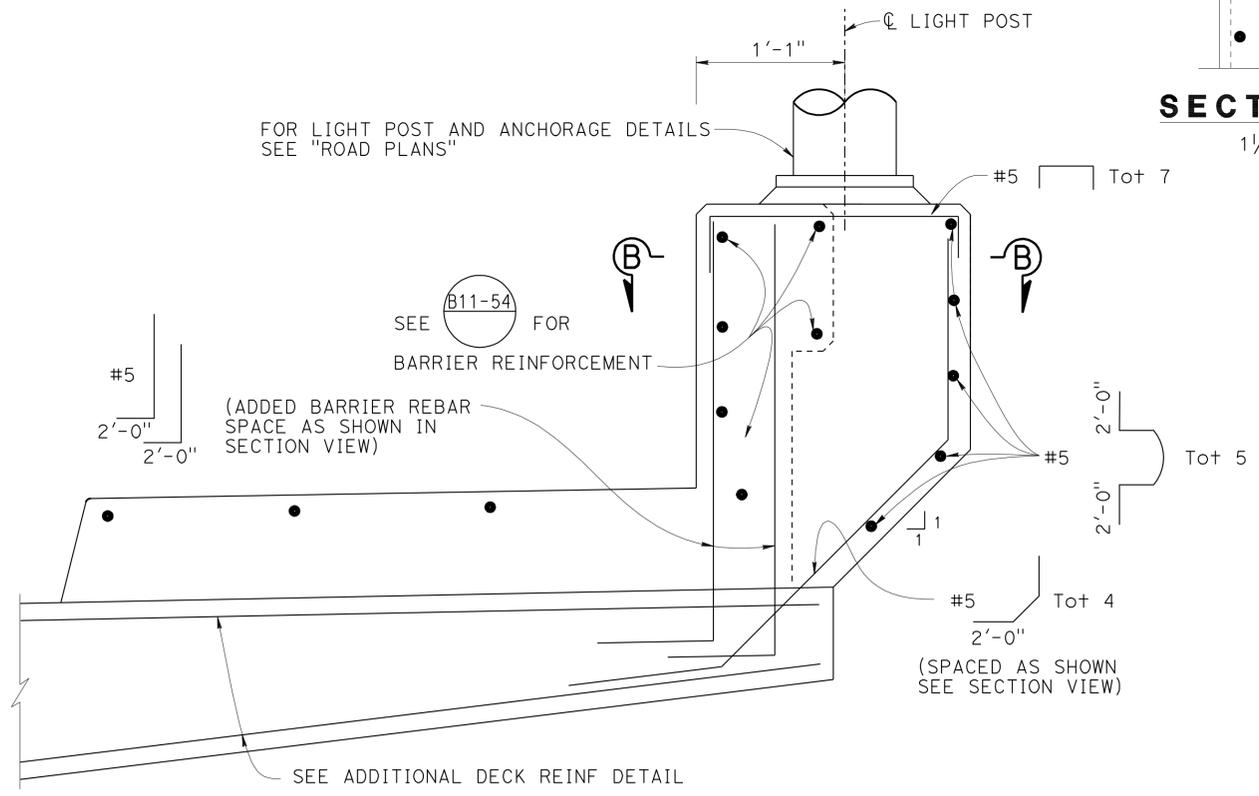
1/2" = 1'



SECTION A-A

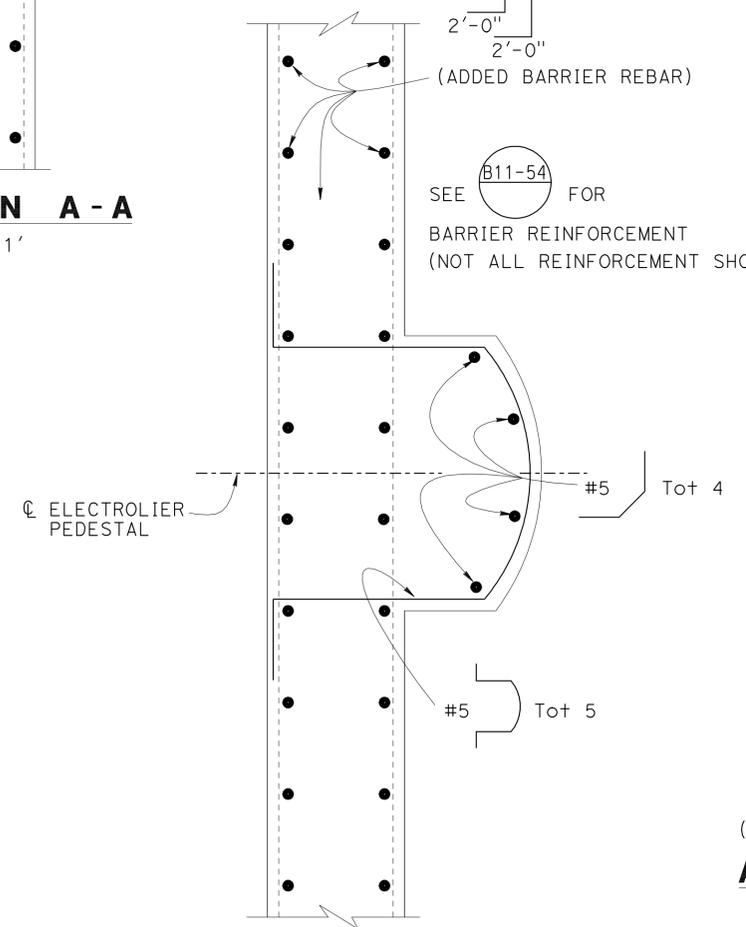
1/2" = 1'

NOTE:
Maintain all barrier reinforcement through the pedestals. Refer to the standard plans for reinforcements not shown



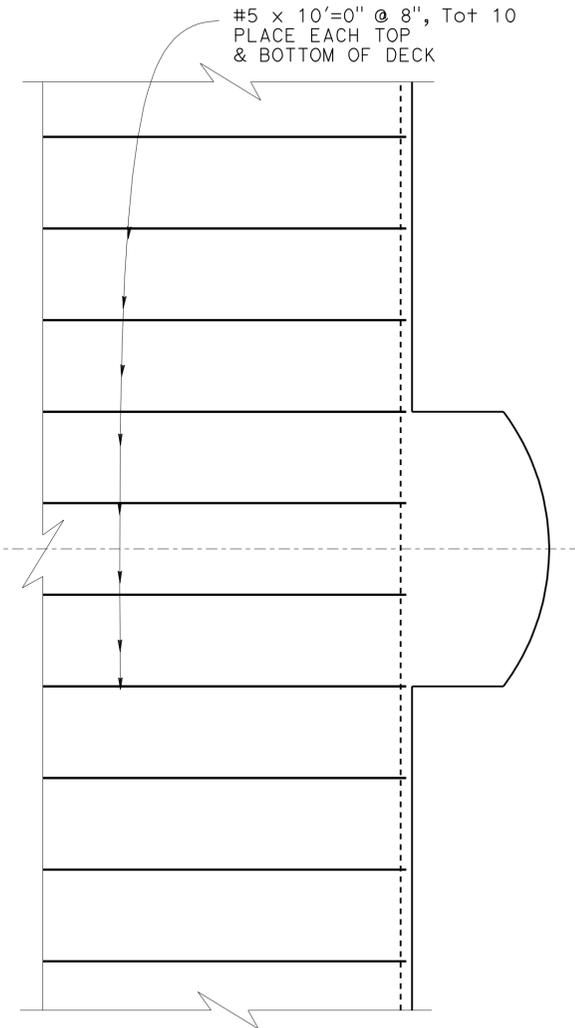
LIGHTING PEDESTAL AT BARRIER TYPE 26

1/2" = 1'



SECTION B-B

1/2" = 1'



(Pedestal at barrier type 26 shown, similar at barrier type 736)
ADDITIONAL DECK REINFORCEMENT AT LIGHTING PEDESTALS

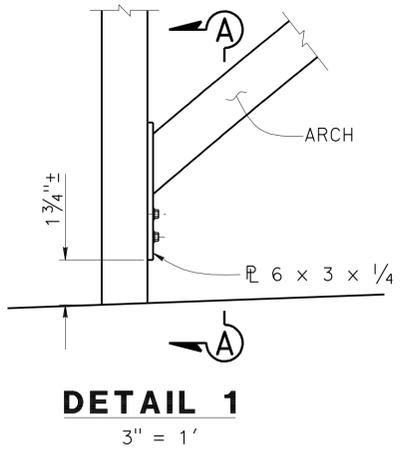
1/2" = 1'

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY Alireza Yazdani	CHECKED Muthanna Omran	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO.	20-0297	AIRPORT BLVD OC (REPLACE) BARRIER RAILING DETAILS No. 4
	DETAILS	BY Liang Ma	CHECKED Muthanna Omran			POST MILE	26.3	
	QUANTITIES	BY T. Kishwar / L. Ma	CHECKED Hardeep Singh			REVISION DATES	02-17-11 04-15-11 05-18-11 06-21-11	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				0 1 2 3	CU 04 EA 000209451 (3A23U1)	DISREGARD PRINTS BEARING EARLIER REVISION DATES		SHEET 29 OF 36

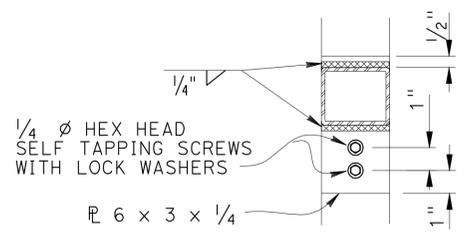
USERNAME => s124496 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 14:10

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	575	615

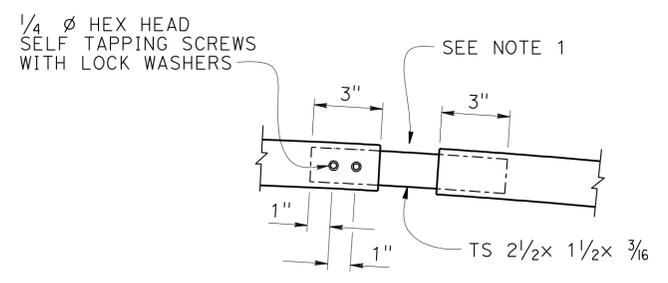
REGISTERED CIVIL ENGINEER DATE 7-5-11
 ALIREZA YAZDANI MOTLAGH
 No. 69601
 Exp. 6-30-12
 CIVIL
 STATE OF CALIFORNIA
 PLANS APPROVAL DATE 9-10-12
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DETAIL 1
3" = 1'



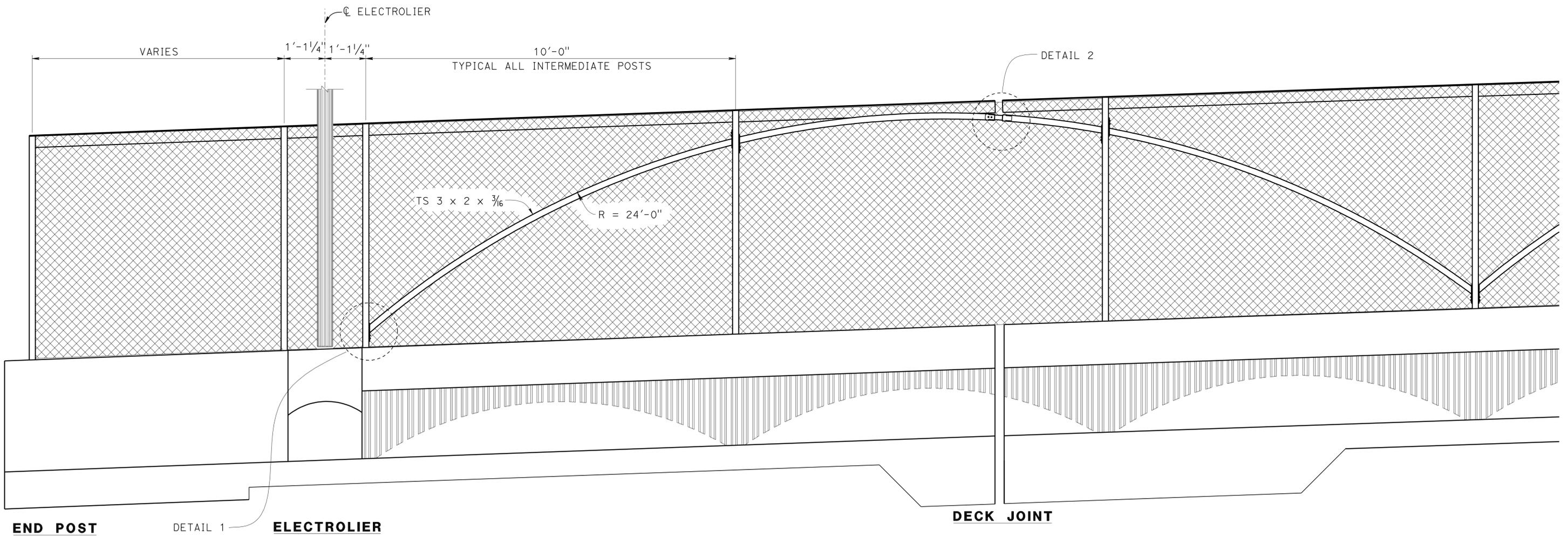
VIEW A-A
3" = 1'



DETAIL 2
3" = 1'

TYPICAL ARCH ANCHORAGE DETAILS

- NOTES:**
1. Splice joint same dimension as expansion joint in deck
 2. Chain link fabric to be black vinyl coated
 3. For details not shown, see Standard Plan B11-52



CHAIN LINK RAILING ELEVATION
3/4" = 1'

DESIGN BY John E. Peterson CHECKED Muthanna Omran DETAILS BY Liang Ma / F. Maagma CHECKED Muthanna Omran QUANTITIES BY T. Kishwar / L. Ma CHECKED Hardeep Singh	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO. 20-0297	AIRPORT BLVD OC (REPLACE) BARRIER RAILING DETAILS No. 5	
			POST MILE 26.3		
			REVISION DATES 02-17-11 04-13-11 05-18-11 06-21-11		
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS			CU 04 EA 000209451 (3A23U1)	DISREGARD PRINTS BEARING EARLIER REVISION DATES	SHEET 30 OF 36

USERNAME => s124496 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 14:10

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	576	615

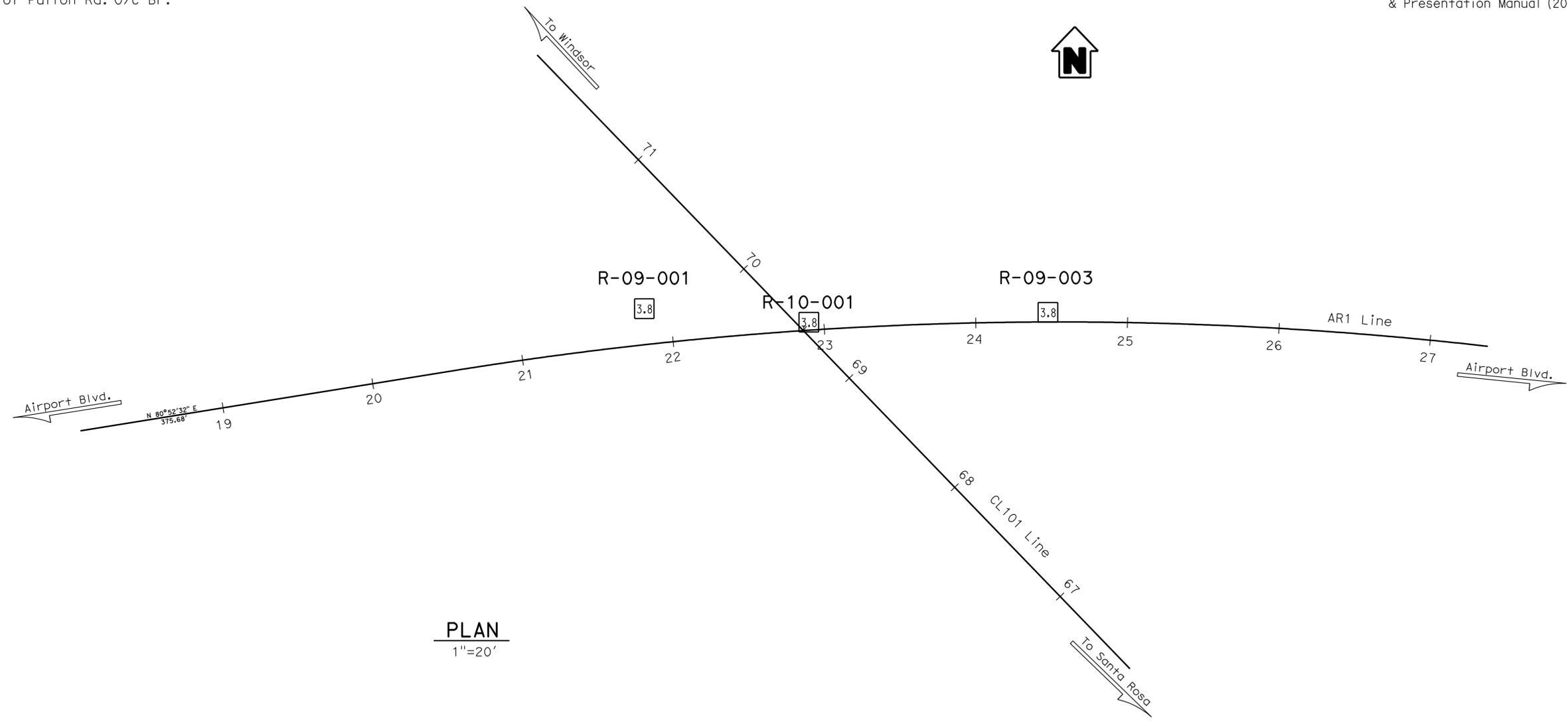
 01-20-11
 REGISTERED CIVIL ENGINEER
 Meng-Hsi Hung
 No. 69739
 Exp. 6-30-12
 PLANS APPROVAL DATE
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This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).

BENCH MARK

S116
 Standard Bronze Disk
 492.344' Rt. "CL101" Line, C Rte. 101
 Sta 63+52.43
 N 1,948,932.008
 E 6,340,455.452
 Elev. 139.393

S111
 Standard Bronze Disk
 Set on walkway of Fulton Rd. O/C Br.
 Sta. 45+19.32
 N 1,947,274.458
 E 6,341,378.505
 Elev. 165.515



PLAN
1"=20'

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES OFFICE OF GEOTECHNICAL DESIGN BRANCH	BRIDGE NO. 20-0297	AIRPORT BOULEVARD OC (REPLACE)
FUNCTIONAL SUPERVISOR NAME: H. Nikouli	DRAWN BY: M. Reynolds 11/10 CHECKED BY: S. Awad	FIELD INVESTIGATION BY: M. Hung/ V. Khata/ S. Awad				POST MILES 26.3	
065 CIVIL LOG OF TEST BORINGS SHEET				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU EA 04 000209451 (3A23U1)	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES
				0 1 2 3	FILE => 20-0297-z-1+tb01.dgn	02-02-11 02-07-11 03-03-11 04-13-11	SHEET 31 OF 36

USERNAME => s124496 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 14:10

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	577	615

01-20-11
REGISTERED CIVIL ENGINEER

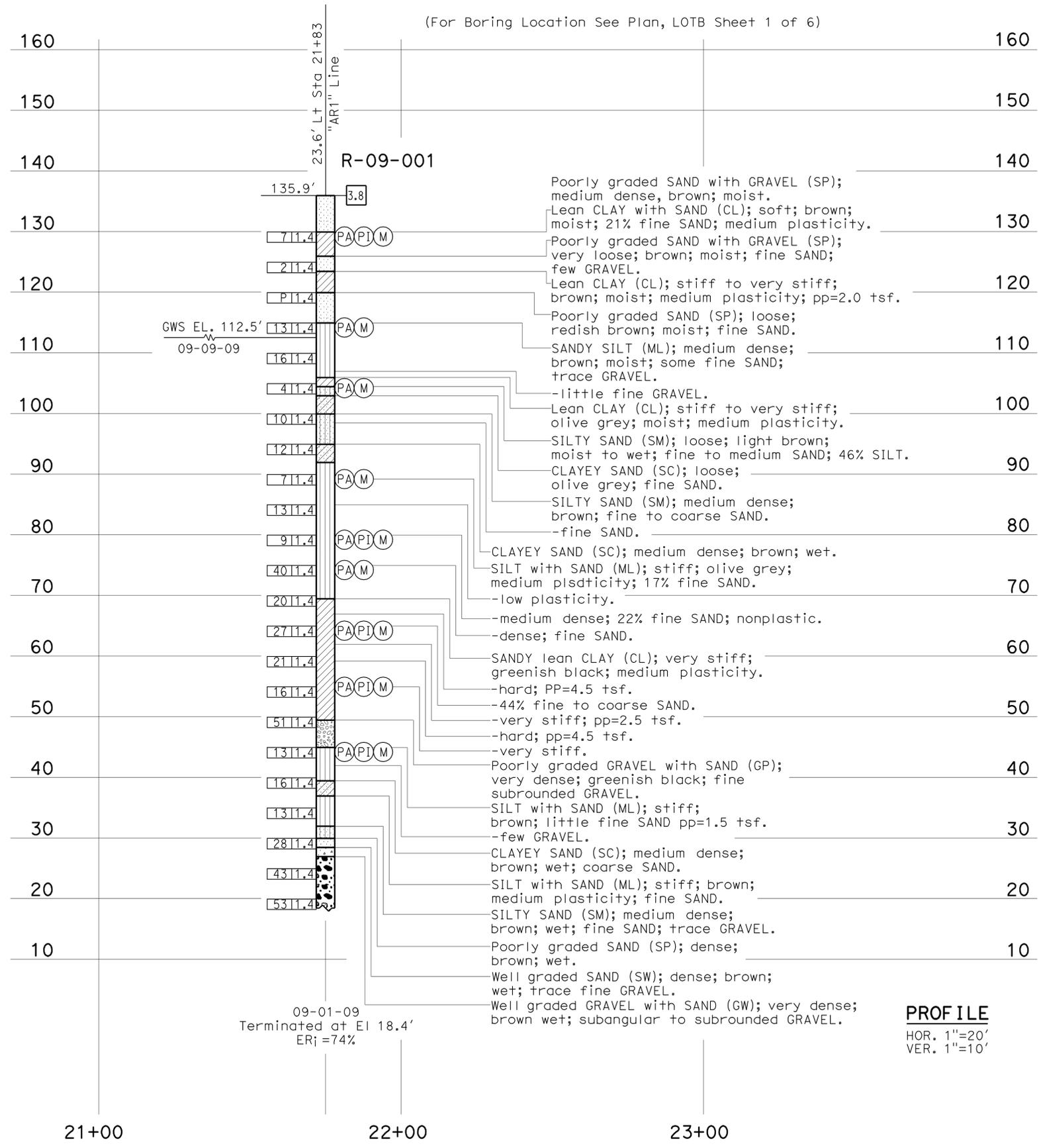
Meng-Hsi Hung
No. 69739
Exp. 6-30-12
CIVIL
STATE OF CALIFORNIA

9-10-12
PLANS APPROVAL DATE

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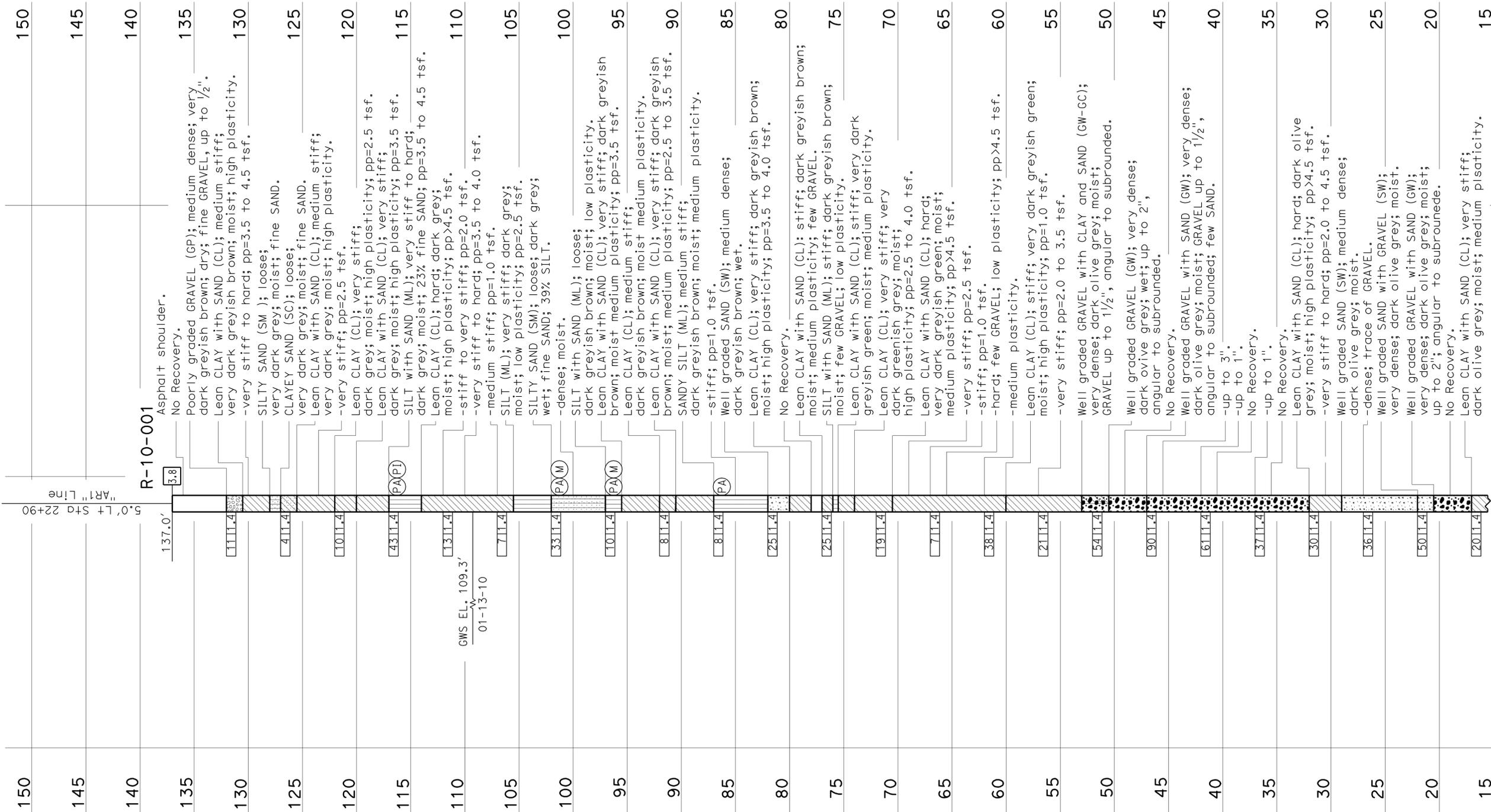
NOTE: qu=unconfined compressive strength (tsf) as measured by pocket penetrometer.



ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA		DIVISION OF ENGINEERING SERVICES		BRIDGE NO.		AIRPORT BOULEVARD OC (REPLACE)	
FUNCTIONAL SUPERVISOR		DRAWN BY: M. Reynolds 11/10		FIELD INVESTIGATION BY:		OFFICE OF GEOTECHNICAL		20-0297		LOG OF TEST BORINGS 2 of 6	
NAME: H. Nikouli		CHECKED BY: S. Awad		V. Khata-O-Khotan		DESIGN BRANCH		POST MILES			
065 CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		0 1 2 3		CU EA		26.3		REVISION DATES	
						04 000209451 (3A23U1)		DISREGARD PRINTS BEARING EARLIER REVISION DATES		SHEET 32 OF 36	

USERNAME => s124496 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 14:10

(For Boring Location See Plan, LOTB Sheet 1 of 6)



01-12/13-10
Terminated at El 15.5'
ERI=68%

PROFILE
HOR. 1"=20'
VER. 1"=5'

NOTE: pp=unconfined compressive strength (tsf) as measured by pocket penetrometer.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	578	615

01-20-11
REGISTERED CIVIL ENGINEER
Meng-Hsi Hung
No. 69739
Exp. 6-30-12
CIVIL
STATE OF CALIFORNIA

9-10-12
PLANS APPROVAL DATE

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).

24+00

23+00

22+00

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA		DIVISION OF ENGINEERING SERVICES		BRIDGE NO.		AIRPORT BOULEVARD OC (REPLACE)	
FUNCTIONAL SUPERVISOR		DRAWN BY: M. Reynolds 11/10		DEPARTMENT OF TRANSPORTATION		OFFICE OF GEOTECHNICAL		20-0297		LOG OF TEST BORINGS 3 of 6	
NAME: H. Nikouli		CHECKED BY: S. Awad		FIELD INVESTIGATION BY: S. Awad, S. Yang		DESIGN BRANCH		POST MILES: 26.3			
065 CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		CU EA		04 000209451 (3A23U1)		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES	
								02-02-11 02-04-11 03-03-11 04-13-11		SHEET 33 OF 36	

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	579	615

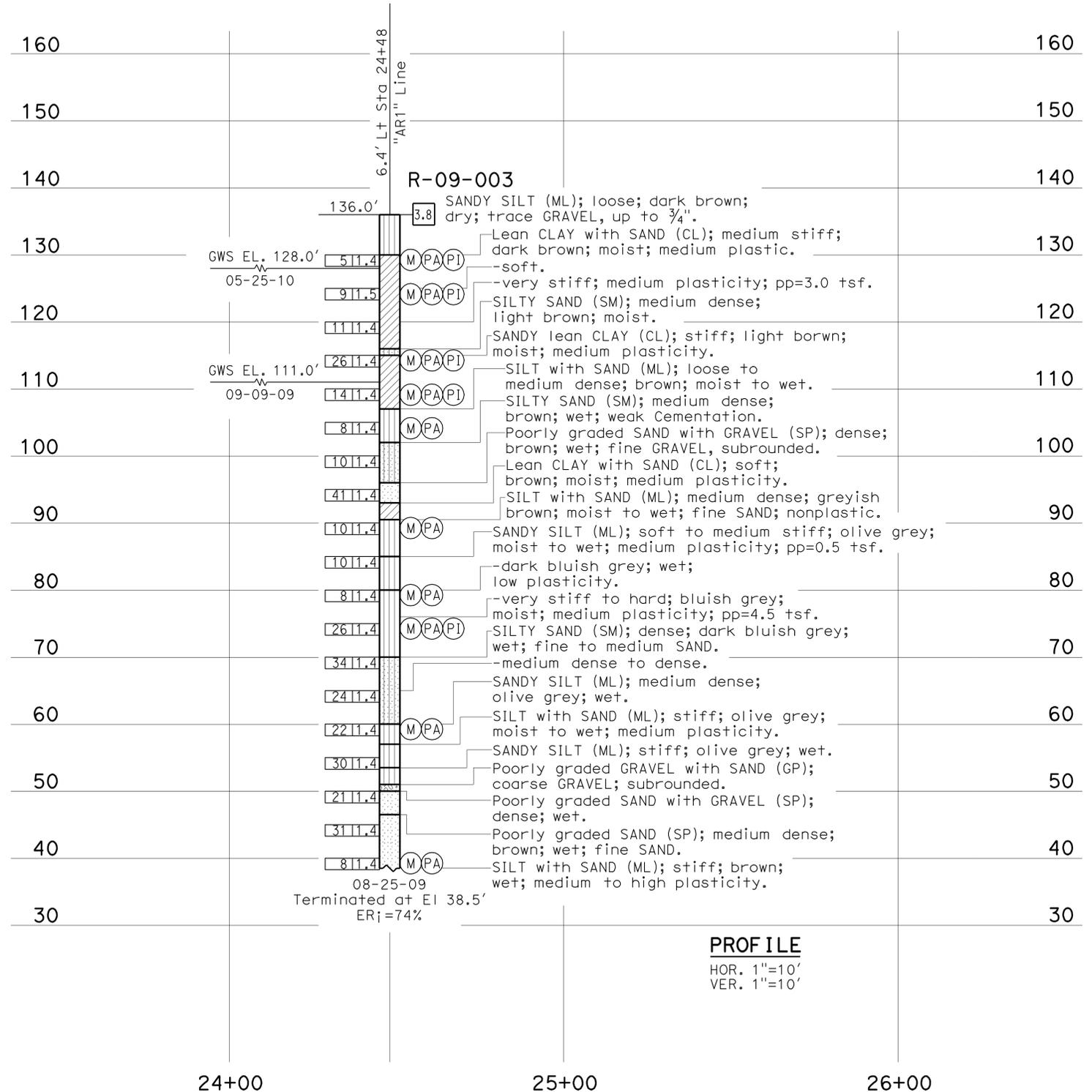
Meng-Hsi Hung 01-20-11
REGISTERED CIVIL ENGINEER

9-10-12
PLANS APPROVAL DATE

Meng-Hsi Hung
No. 69739
Exp. 6-30-12
CIVIL
STATE OF CALIFORNIA

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(For Boring Location See Plan, LOTB Sheet 1 of 6)



NOTE: qu=unconfined compressive strength (tsf) as measured by pocket penetrometer.

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA		DIVISION OF ENGINEERING SERVICES		BRIDGE NO.		AIRPORT BOULEVARD OC (REPLACE)	
FUNCTIONAL SUPERVISOR		DRAWN BY: M. Reynolds 11/10		FIELD INVESTIGATION BY: V. Khata		OFFICE OF GEOTECHNICAL		20-0297		LOG OF TEST BORINGS 4 of 6	
NAME: H. Nikouli		CHECKED BY: S. Awad		O. Khotan		DESIGN BRANCH		26.3			
065 CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		0 1 2 3		CU EA		04 000209451 (3A23U1)		REVISION DATES	
								DISREGARD PRINTS BEARING EARLIER REVISION DATES		34 36	

USERNAME => s124496 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 14:10

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	580	615

01-20-11
 REGISTERED CIVIL ENGINEER DATE
 9-10-12
 PLANS APPROVAL DATE

Meng-Hsi Hung
 No. 69739
 Exp. 6-30-12
 CIVIL
 STATE OF CALIFORNIA

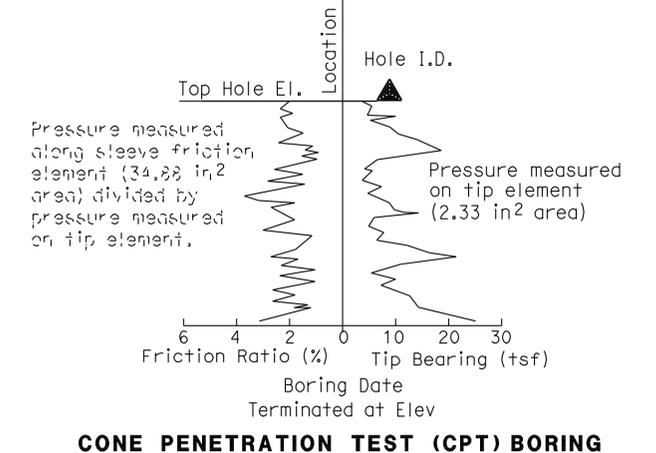
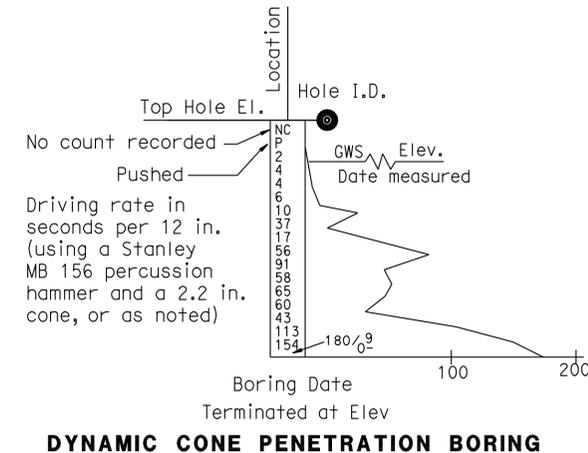
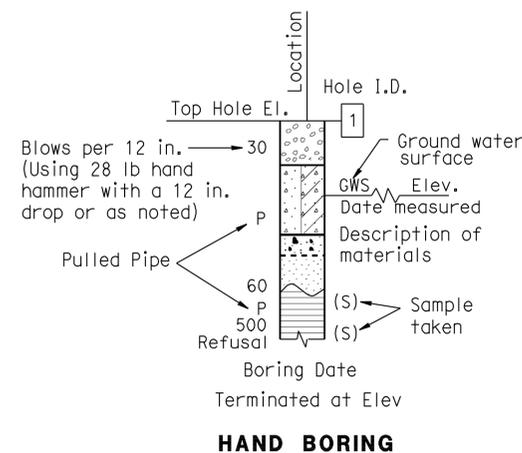
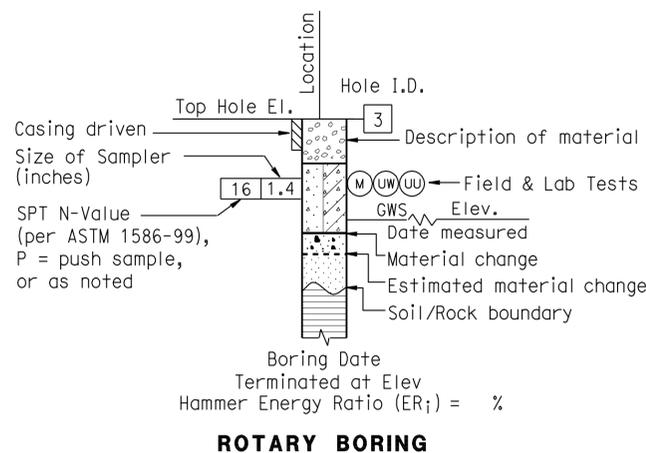
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CEMENTATION	
Description	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

BOREHOLE IDENTIFICATION		
Symbol	Hole Type	Description
	A	Auger Boring (hollow or solid stem bucket)
	R	Rotary drilled boring (conventional)
	RW	Rotary drilled with self-casing wire-line
	RC	Rotary core with continuously-sampled, self-casing wire-line
	P	Rotary percussion boring (air)
	R	Rotary drilled diamond core
	HD	Hand driven (1-inch soil tube)
	HA	Hand Auger
	D	Dynamic Cone Penetration Boring
	CPT	Cone Penetration Test (ASTM D 5778)
	O	Other (note on LOTB)

Note: Size in inches.

CONSISTENCY OF COHESIVE SOILS				
Description	Shear Strength (tsf)	Pocket Penetrometer Measurement, PP, (tsf)	Torvane Measurement, TV, (tsf)	Vane Shear Measurement, VS, (tsf)
Very Soft	Less than 0.12	Less than 0.25	Less than 0.12	Less than 0.12
Soft	0.12 - 0.25	0.25 - 0.5	0.12 - 0.25	0.12 - 0.25
Medium Stiff	0.25 - 0.5	0.5 - 1	0.25 - 0.5	0.25 - 0.5
Stiff	0.5 - 1	1 - 2	0.5 - 1	0.5 - 1
Very Stiff	1 - 2	2 - 4	1 - 2	1 - 2
Hard	Greater than 2	Greater than 4	Greater than 2	Greater than 2



ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES OFFICE OF GEOTECHNICAL DESIGN BRANCH	BRIDGE NO. 20-0297 POST MILE 26.3	AIRPORT BOULEVARD OC (REPLACE) LOG OF TEST BORINGS 5 of 6
	PREPARED BY: M. Reynolds 11/10				
GS LOTB SOIL LEGEND	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU EA 04 000209451 (3A23U1)	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 35 OF 36

FILE => 20-0297-z-1+05.dgn

01-20-11
 REGISTERED CIVIL ENGINEER DATE
 9-10-12
 PLANS APPROVAL DATE
 Meng-Hsi Hung
 No. 69739
 Exp. 6-30-12
 CIVIL
 STATE OF CALIFORNIA
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

GROUP SYMBOLS AND NAMES			
Graphic/Symbol	Group Names	Graphic/Symbol	Group Names
	Well-graded GRAVEL		Lean CLAY
	Well-graded GRAVEL with SAND		Lean CLAY with SAND
	Poorly-graded GRAVEL		Lean CLAY with GRAVEL
	Poorly-graded GRAVEL with SAND		SANDY lean CLAY
	Well-graded GRAVEL with SILT		SANDY lean CLAY with GRAVEL
	Well-graded GRAVEL with SILT and SAND		GRAVELLY lean CLAY
	Well-graded GRAVEL with CLAY (or SILTY CLAY)		GRAVELLY lean CLAY with SAND
	Well-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)		SILTY CLAY
	Poorly-graded GRAVEL with SILT		SILTY CLAY with SAND
	Poorly-graded GRAVEL with SILT and SAND		SILTY CLAY with GRAVEL
	Poorly-graded GRAVEL with CLAY (or SILTY CLAY)		SANDY SILTY CLAY
	Poorly-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)		SANDY SILTY CLAY with GRAVEL
	SILTY GRAVEL		GRAVELLY SILTY CLAY
	SILTY GRAVEL with SAND		GRAVELLY SILTY CLAY with SAND
	CLAYEY GRAVEL		SILT
	CLAYEY GRAVEL with SAND		SILT with SAND
	SILTY, CLAYEY GRAVEL		SILT with GRAVEL
	SILTY, CLAYEY GRAVEL with SAND		SANDY SILT
	Well-graded SAND		SANDY SILT with GRAVEL
	Well-graded SAND with GRAVEL		GRAVELLY SILT
	Poorly-graded SAND		GRAVELLY SILT with SAND
	Poorly-graded SAND with GRAVEL		Fat CLAY
	Well-graded SAND with SILT		Fat CLAY with SAND
	Well-graded SAND with SILT and GRAVEL		Fat CLAY with GRAVEL
	Well-graded SAND with CLAY (or SILTY CLAY)		SANDY fat CLAY
	Well-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)		SANDY fat CLAY with GRAVEL
	Poorly-graded SAND with SILT		GRAVELLY fat CLAY
	Poorly-graded SAND with SILT and GRAVEL		GRAVELLY fat CLAY with SAND
	Poorly-graded SAND with CLAY (or SILTY CLAY)		Elastic SILT
	Poorly-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)		Elastic SILT with SAND
	SILTY SAND		Elastic SILT with GRAVEL
	SILTY SAND with GRAVEL		SANDY elastic SILT
	CLAYEY SAND		SANDY elastic SILT with GRAVEL
	CLAYEY SAND with GRAVEL		GRAVELLY elastic SILT
	SILTY, CLAYEY SAND		GRAVELLY elastic SILT with SAND
	SILTY, CLAYEY SAND with GRAVEL		ORGANIC fat CLAY
	PEAT		ORGANIC fat CLAY with SAND
	COBBLES		ORGANIC fat CLAY with GRAVEL
	COBBLES and BOULDERS		SANDY ORGANIC fat CLAY
	BOULDERS		SANDY ORGANIC fat CLAY with GRAVEL
			GRAVELLY ORGANIC fat CLAY
			GRAVELLY ORGANIC fat CLAY with SAND
			ORGANIC elastic SILT
			ORGANIC elastic SILT with SAND
			ORGANIC elastic SILT with GRAVEL
			SANDY ORGANIC elastic SILT
			SANDY ORGANIC elastic SILT with GRAVEL
			GRAVELLY ORGANIC elastic SILT
			GRAVELLY ORGANIC elastic SILT with SAND
			ORGANIC SOIL
			ORGANIC SOIL with SAND
			ORGANIC SOIL with GRAVEL
			SANDY ORGANIC SOIL
			SANDY ORGANIC SOIL with GRAVEL
			GRAVELLY ORGANIC SOIL
			GRAVELLY ORGANIC SOIL with SAND

FIELD AND LABORATORY TESTING	
(C)	Consolidation (ASTM D 2435)
(CL)	Collapse Potential (ASTM D 5333)
(CP)	Compaction Curve (CTM 216)
(CR)	Corrosivity Testing (CTM 643, CTM 422, CTM 417)
(CU)	Consolidated Undrained Triaxial (ASTM D 4767)
(DS)	Direct Shear (ASTM D 3080)
(EI)	Expansion Index (ASTM D 4829)
(M)	Moisture Content (ASTM D 2216)
(OC)	Organic Content-% (ASTM D 2974)
(P)	Permeability (CTM 220)
(PA)	Particle Size Analysis (ASTM D 422)
(PI)	Plasticity Index (AASHTO T 90) Liquid Limit (AASHTO T 89)
(PL)	Point Load Index (ASTM D 5731)
(PM)	Pressure Meter
(R)	R-Value (CTM 301)
(SE)	Sand Equivalent (CTM 217)
(SG)	Specific Gravity (AASHTO T 100)
(SL)	Shrinkage Limit (ASTM D 427)
(SW)	Swell Potential (ASTM D 4546)
(UC)	Unconfined Compression-Soil (ASTM D 2166) Unconfined Compression-Rock (ASTM D 2938)
(UU)	Unconsolidated Undrained Triaxial (ASTM D 2850)
(UW)	Unit Weight (ASTM D 4767)

APPARENT DENSITY OF COHESIONLESS SOILS	
Description	SPT N ₆₀ (Blows / 12 in.)
Very Loose	0 - 5
Loose	5 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	Greater than 50

MOISTURE	
Description	Criteria
Dry	No discernable moisture
Moist	Moisture present, but no free water
Wet	Visible free water

PERCENT OR PROPORTION OF SOILS	
Description	Criteria
Trace	Particles are present but estimated to be less than 5%
Few	5% - 10%
Little	15% - 25%
Some	30% - 45%
Mostly	50% - 100%

PARTICLE SIZE		
Description	Size (in.)	
Boulder	Greater than 12	
Cobble	3 - 12	
Gravel	Coarse	3/4 - 3
	Fine	1/5 - 3/4
Sand	Coarse	1/16 - 1/5
	Medium	1/64 - 1/16
	Fine	1/300 - 1/64
Silt and Clay	Less than 1/300	

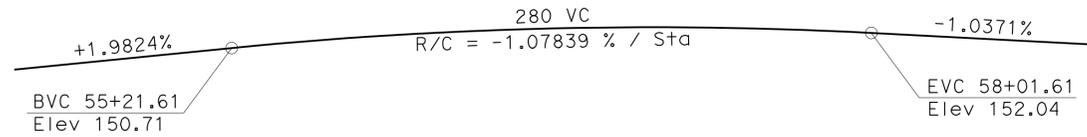
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	582	615

<i>Alireza Yazdani</i>	7-5-11
REGISTERED CIVIL ENGINEER	DATE
9-10-12	
PLANS APPROVAL DATE	
No. 69601	
Exp. 6-30-12	
CIVIL	

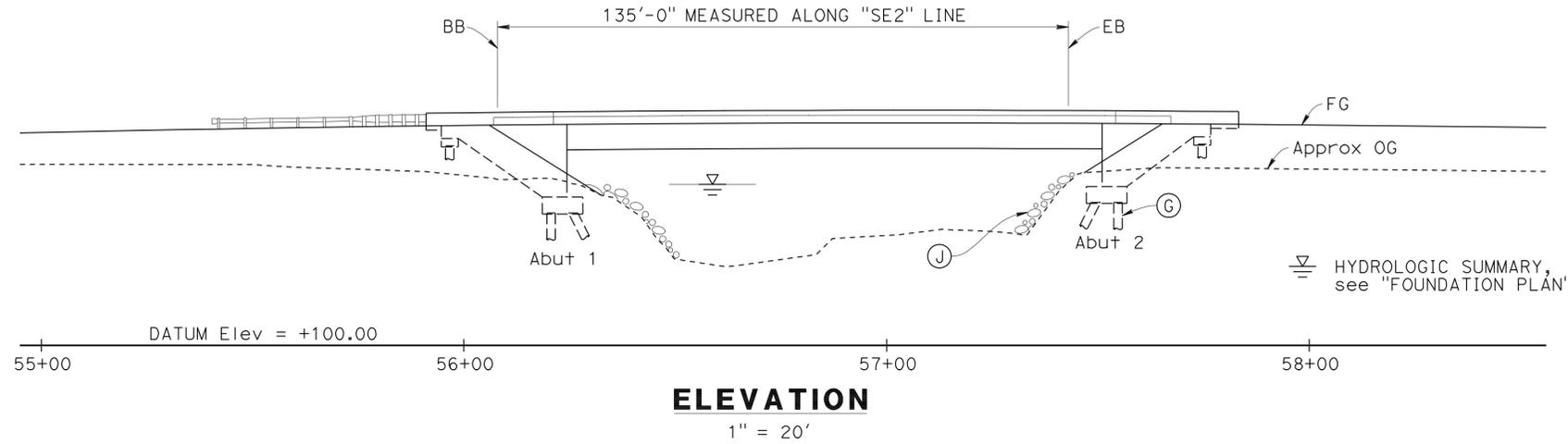
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NOTES:

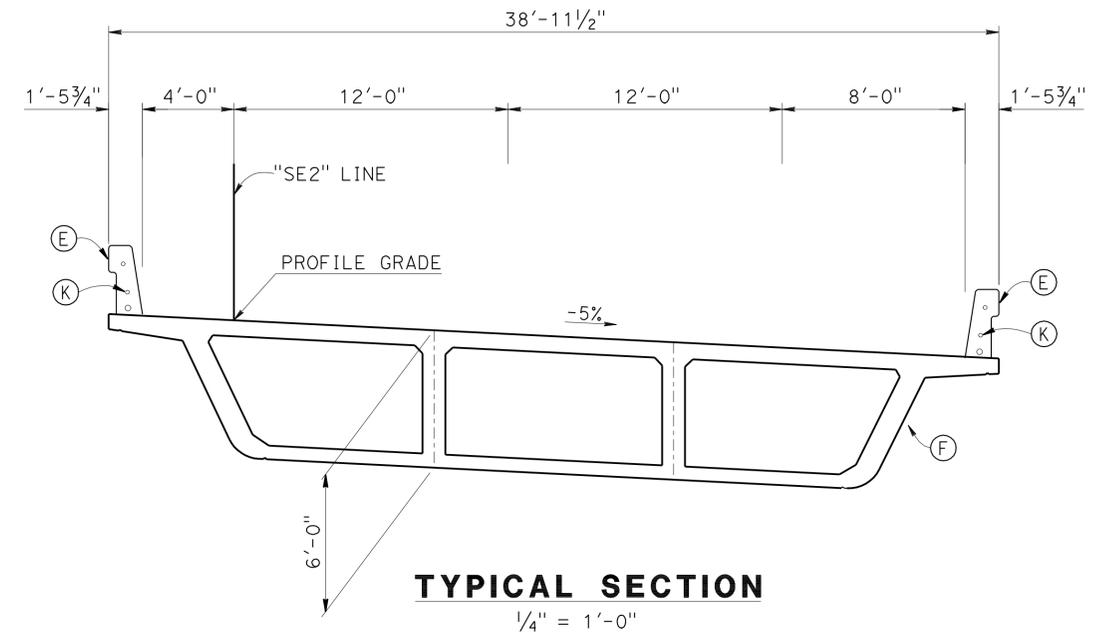
- (A) Paint "Bridge No. 20-0298"
- (B) Paint "MARK WEST BRIDGE NB OFF-RAMP"
- (C) Structure Approach, Type N(30S)
- (D) MBGR (Typ), see "ROADWAY PLANS"
- (E) Concrete Barrier, Type 736 (Modified)
- (F) CIP/PS Concrete Box Girder Bridge
- (G) CISS NPS 24"x0.5", Pile (Typ)
- (H) Top of fill
- (I) Toe of fill
- (J) Slope Protection, see "ROADWAY PLANS"
- (K) Utility Conduits



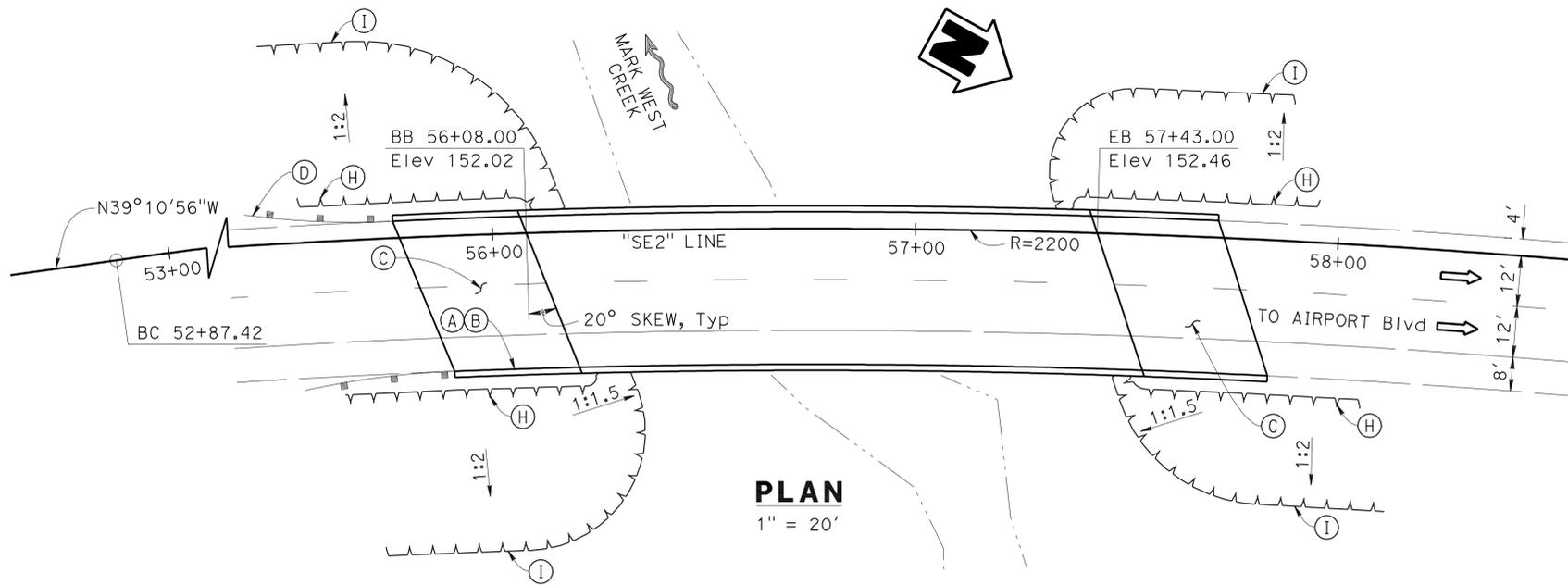
PROFILE GRADE
NO SCALE



ELEVATION
1" = 20'



TYPICAL SECTION
1/4" = 1'-0"



PLAN
1" = 20'

"SE2" LINE - CURVE DATA

R = 2200.00
 $\Delta = 30^{\circ} 37' 21''$
 T = 602.32
 L = 1175.82

QUANTITIES

STRUCTURE EXCAVATION (BRIDGE)	346	CY
STRUCTURE BACKFILL (BRIDGE)	317	CY
FURNISH 24" CAST-IN-STEEL SHELL	2,965	LF
CONCRETE PILING		
DRIVE 24" CAST-IN-STEEL SHELL CONCRETE PILE	36	EA
PRESTRESSING CAST-IN-PLACE CONCRETE	LUMP	SUM
STRUCTURAL CONCRETE, BRIDGE FOOTING	100	CY
STRUCTURAL CONCRETE, BRIDGE	543	CY
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE N)	87	CY
ARCHITECTURAL TEXTURE (FRACTURED FIN)	523	SQFT
JOINT SEAL (MR 1")	83	LF
BAR REINFORCING STEEL (BRIDGE)	222,322	LB
CONCRETE BARRIER (TYPE 736 MODIFIED)	390	LF

Samad Hamoud
 5-4-2011 SAMAD HAMOUD
 DESIGN ENGINEER

DESIGN	BY Alireza Yazdani	CHECKED Son Ly
DETAILS	BY Franklin Maagma/Min Yu	CHECKED Son Ly
QUANTITIES	BY F. Maagma / T. Kishwar	CHECKED Hardeep Singh

LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE
LAYOUT	BY Alireza Yazdani
SPECIFICATIONS	BY Sirisha Nelapatla

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
DESIGN BRANCH 16

BRIDGE NO.	20-0298
POST MILE	26.1

MARK WEST CREEK BRIDGE NB OFF-RAMP
GENERAL PLAN

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



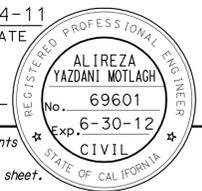
CU 04
 EA 000209451 (3A23U1)

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES							
07-05-11	07-28-11	08-04-10	10-11-10	01-06-11	02-10-11	02-23-11	03-21-11

SHEET 1 OF 20

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	583	615
			5-4-11		
			REGISTERED CIVIL ENGINEER DATE		
			9-10-12		
			PLANS APPROVAL DATE		
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INDEX TO PLANS

SHEET No.	TITLE
1	GENERAL PLAN
2	INDEX TO PLANS
3	DECK CONTOURS
4	FOUNDATION PLAN
5	ABUTMENT LAYOUT
6	ABUTMENT DETAILS No. 1
7	ABUTMENT DETAILS No. 2
8	ABUTMENT DETAILS No. 3
9	TYPICAL SECTION
10	GIRDER LAYOUT
11	GIRDER REINFORCEMENT
12	PILE DETAILS
13	STRUCTURE APPROACH TYPE N(30S)
14	STRUCTURE APPROACH DRAINAGE DETAILS
15	ARCHITECTURAL TREATMENT DETAILS
16	LOG OF TEST BORINGS 1 OF 5
17	LOG OF TEST BORINGS 2 OF 5
18	LOG OF TEST BORINGS 3 OF 5
19	LOG OF TEST BORINGS 4 OF 5
20	LOG OF TEST BORINGS 5 OF 5

GENERAL NOTES LOAD AND RESISTANCE FACTOR DESIGN

DESIGN:

AASHTO LRFD Bridge Design Specifications, 4th edition with Interims through 2008 and the Caltrans Amendments December 2008, except that geotechnical design of deep foundations, earth retaining systems, bridge (include barrier and railing) details taken from Standard Plans May 2006 and earlier versions, Standard Bridge Details XS sheets, etc. are designed using Bridge Design Specifications ('96 AASHTO with Revisions by Caltrans)

SEISMIC DESIGN:

Caltrans Seismic Design Criteria (SDC), Version 1.6 dated November 2010

DEAD LOAD:

Includes 35 psf for future wearing surface

LIVE LOADING:

HL93 and Permit Design Load

REINFORCED CONCRETE:

$f_y = 60$ ksi
 $f'_c = 3.6$ ksi
 $n = 8$
 (except as shown on Concrete Strength & Type Limits Diagram)

STRUCTURAL STEEL:

$f_y =$ ASTM A709 Grade 36
 Steel Shell CISS Piles: ASTM A252, Grade 3

PRESTRESSED CONCRETE:

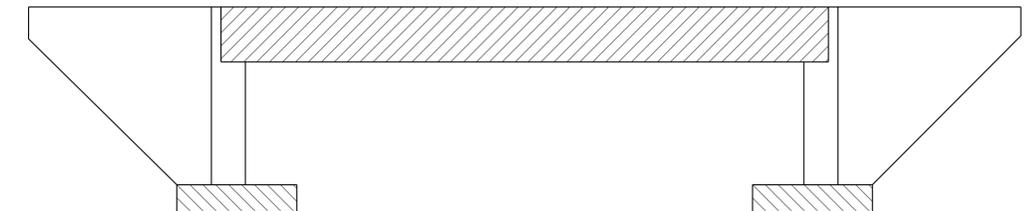
See "PRESTRESSING NOTES" on "GIRDER LAYOUT" sheet

PILES:

See "PILE DATA TABLE"

SEISMIC LOADING:

Site Specific Acceleration Response Spectra Curve
 Probabilistic USGS Interactive Deaggregation ARS curve for a 975 year return period (5% probability of exceedence in 50 years) with a 20% increase for directivity for periods greater than 1 second.



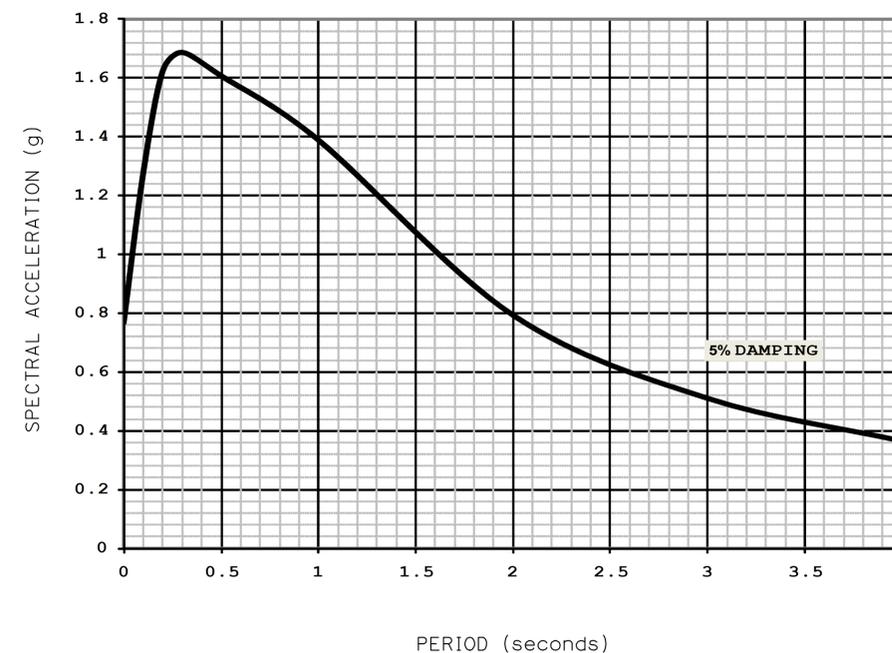
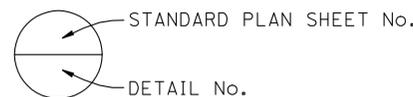
- Structural Concrete, Bridge
- Structural Concrete, Bridge Footing
- Structural Concrete, Bridge
 $f'_c = 4$ ksi @ 28 days

CONCRETE STRENGTH AND TYPE LIMITS

NO SCALE

STANDARD PLANS DATED MAY 2006

A10A	ACRONYMS AND ABBREVIATIONS (SHEET 1 OF 2)
A10B	ACRONYMS AND ABBREVIATIONS (SHEET 2 OF 2)
A10C	SYMBOLS (SHEET 1 OF 2)
A10D	SYMBOLS (SHEET 2 OF 2)
A62C	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL - BRIDGE
BO-1	BRIDGE DETAILS
BO-3	BRIDGE DETAILS
BO-5	BRIDGE DETAILS
BO-13	BRIDGE DETAILS
RSP B6-21	JOINT SEALS (MAXIMUM MOVEMENT RATING=2")
B7-1	BOX GIRDER DETAILS
B7-10	UTILITY OPENING - BOX GIRDER
B8-5	CAST-IN-PLACE PRESTRESSED GIRDER DETAILS
B11-56	CONCRETE BARRIER TYPE 736
B14-3	COMMUNICATION AND SPRINKLER CONTROL CONDUITS (CONDUIT LESS THAN 4")
B14-4	WATER SUPPLY LINE (BRIDGE) (PIPE SIZES LESS THAN 4")
B14-5	WATER SUPPLY LINE (DETAILS) (PIPE SIZES LESS THAN 4")



PILE DATA TABLE

SUPPORT LOCATION	PILE TYPE	NOMINAL RESISTANCE (kips)		DESIGN TIP ELEVATION (F+)	SPECIFIED TIP ELEVATION (F+)	NOMINAL DRIVING RESISTANCE REQUIRED (kips)
		COMPRESSION	TENSION			
Abut 1	CISS NPS 24x0.5	400	0	64.3 (a) 85 (d)	64	860
Abut 2	CISS NPS 24x0.5	400	0	45.8 (a) 68.5 (d)	45	870

NOTES:

- Design tip elevations are controlled by: (a) Compression and (d) Lateral Loads, respectively
- The specified tip elevation shall not be raised above the design tip elevation for lateral load
- The nominal driving resistance required is equal to the nominal resistance needed to support the factored load plus driving resistance from the unsuitable penetrated soil layers (very soft, liquefiable, etc.), if any, which do not contribute to the design resistance
- Design tip elevation for Lateral Load is provided by both Geotechnical Services and Structures Design

DESIGN	BY Alireza Yazdani	CHECKED Son Ly
DETAILS	BY Franklin Maagma/Min Yu	CHECKED Son Ly
QUANTITIES	BY F. Maagma / T. Kishwar	CHECKED Hardeep Singh

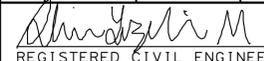
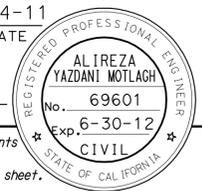
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

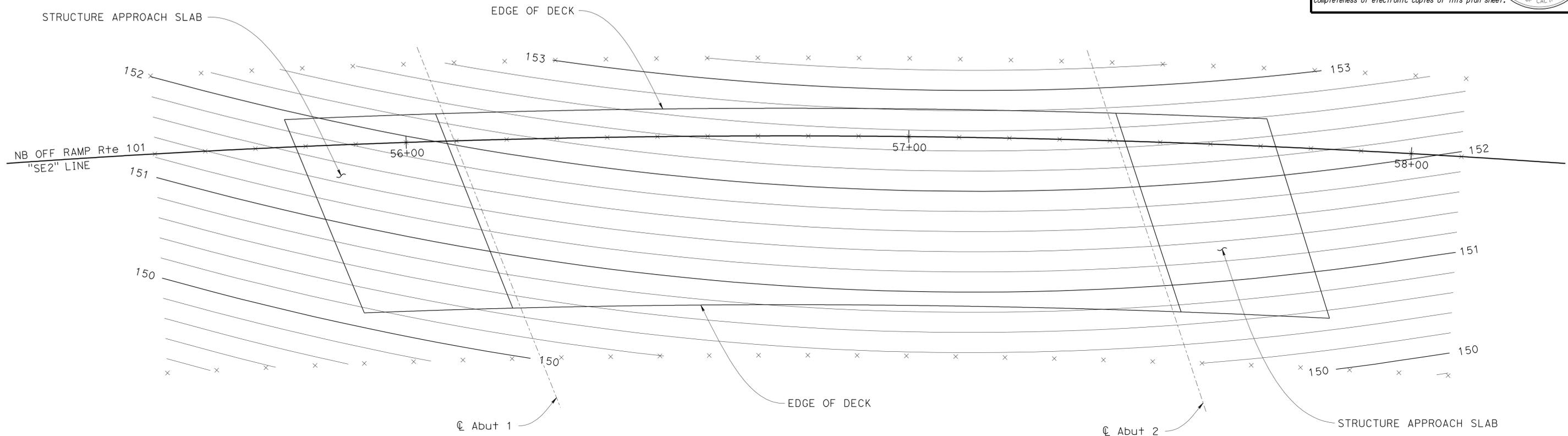
DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 16

BRIDGE NO.	20-0298
POST MILE	26.1

MARK WEST CREEK BRIDGE NB OFF-RAMP

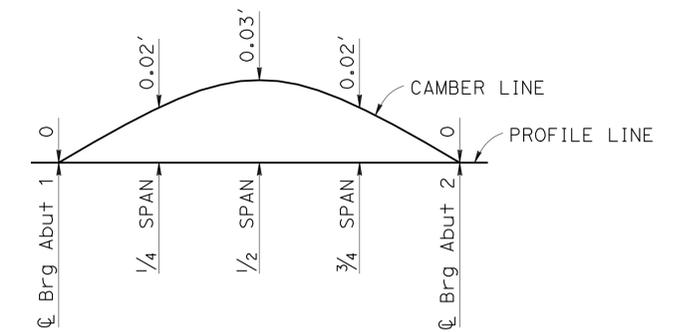
INDEX TO PLANS

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	584	615
 REGISTERED CIVIL ENGINEER DATE 5-4-11					
PLANS APPROVAL DATE 9-10-12					
No. 69601 Exp. 6-30-12 CIVIL					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



PLAN
1" = 10'

NOTES:
0.20 Contour Interval
x - 10.0 Station Increment
Contour do not include camber



CAMBER DIAGRAM

NO SCALE
Does not include allowance for falsework settlement

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY Alireza Yazdani	CHECKED Son Ly	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO.	MARK WEST CREEK BRIDGE NB OFF-RAMP DECK CONTOURS
	DETAILS	BY Franklin Maagma	CHECKED Son Ly			20-0298	
	QUANTITIES	BY F. Maagma / T. Kishwar	CHECKED Hardeep Singh			26.1	
				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU 04 EA 000209451 (3A23U1)	DISREGARD PRINTS BEARING EARLIER REVISION DATES	
				0 1 2 3	REVISION DATES 07-09-10 07-27-10 08-18-10 08-11-10 12-21-10 02-02-11	SHEET	OF
					FILE => 20-0298-d-dc01.dgn	3	20

USERNAME => s124496 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 14:12

CURVE DATA				
No.	R	Δ	T	L
(A)	2200.00	30°37'21"	602.32	1175.82

HYDROLOGIC SUMMARY

DRAINAGE AREA:	45	SQUARE MILES
FREQUENCY (YEARS)	100	
DISCHARGE (CUBIC FEET PER SECOND)	12,085	
WATER SURFACE ELEV. AT BRIDGE (FEET)	139.6	
DESIGN FLOOD		OVERTOPPING FLOOD
		N/A

FLOOD PLAIN DATA ARE BASED UPON INFORMATION AVAILABLE WHEN THE PLANS WERE PREPARED AND ARE SHOWN TO MEET FEDERAL REQUIREMENTS. THE ACCURACY OF SAID INFORMATION IS NOT WARRANTED BY THE STATE AND INTERESTED OR AFFECTED PARTIES SHOULD MAKE THEIR OWN INVESTIGATIONS.

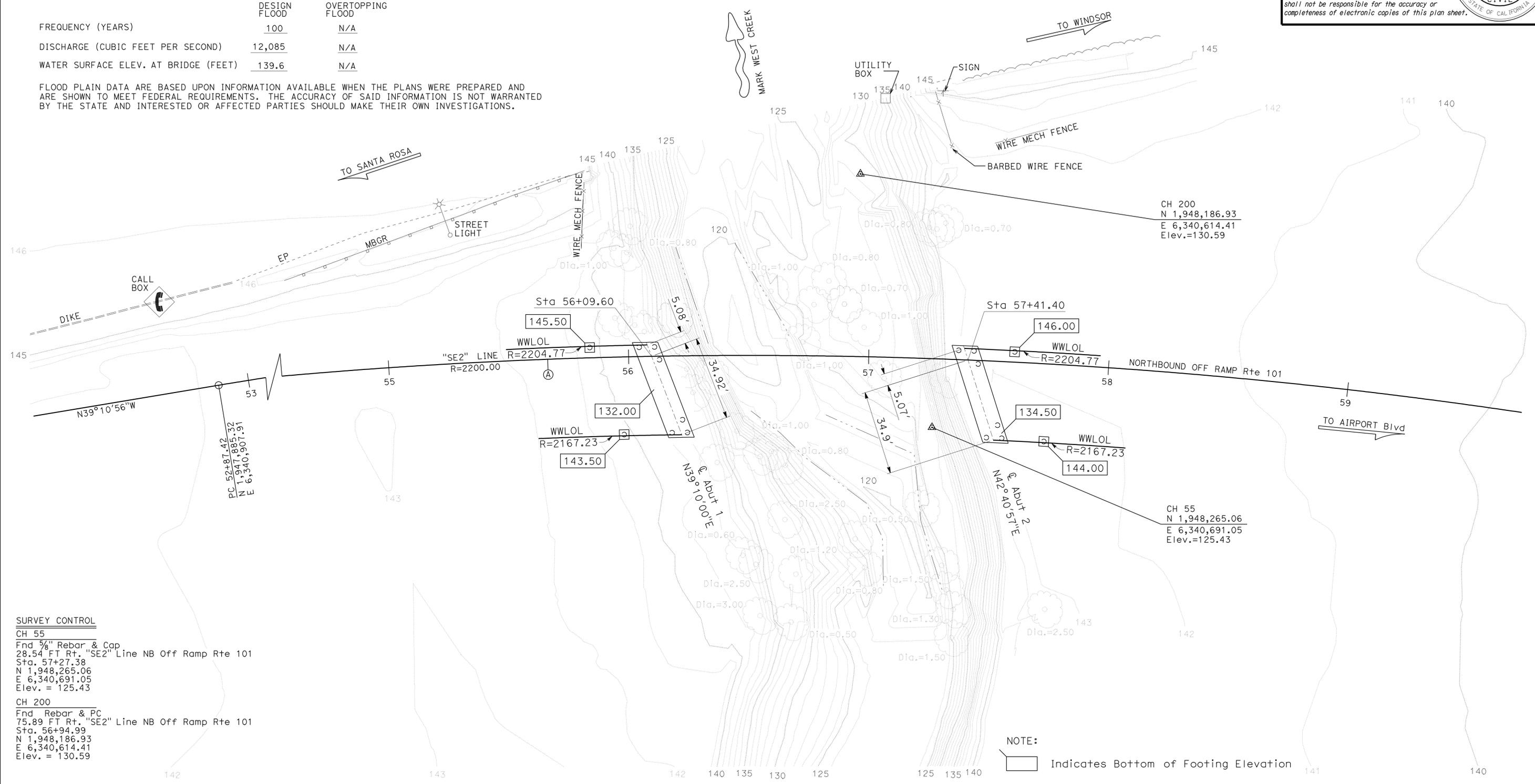
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	585	615

5-4-11
REGISTERED CIVIL ENGINEER DATE

9-10-12
PLANS APPROVAL DATE

ALIREZA YAZDANI MOTLAGH
No. 69601
Exp. 6-30-12
CIVIL
STATE OF CALIFORNIA

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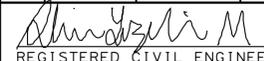
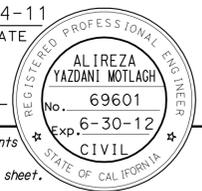
SURVEY CONTROL
 CH 55
 Fnd 5/8" Rebar & Cap
 28.54 FT Rt. "SE2" Line NB Off Ramp Rte 101
 Sta. 57+27.38
 N 1,948,265.06
 E 6,340,691.05
 Elev. = 125.43
 CH 200
 Fnd Rebar & PC
 75.89 FT Rt. "SE2" Line NB Off Ramp Rte 101
 Sta. 56+94.99
 N 1,948,186.93
 E 6,340,614.41
 Elev. = 130.59

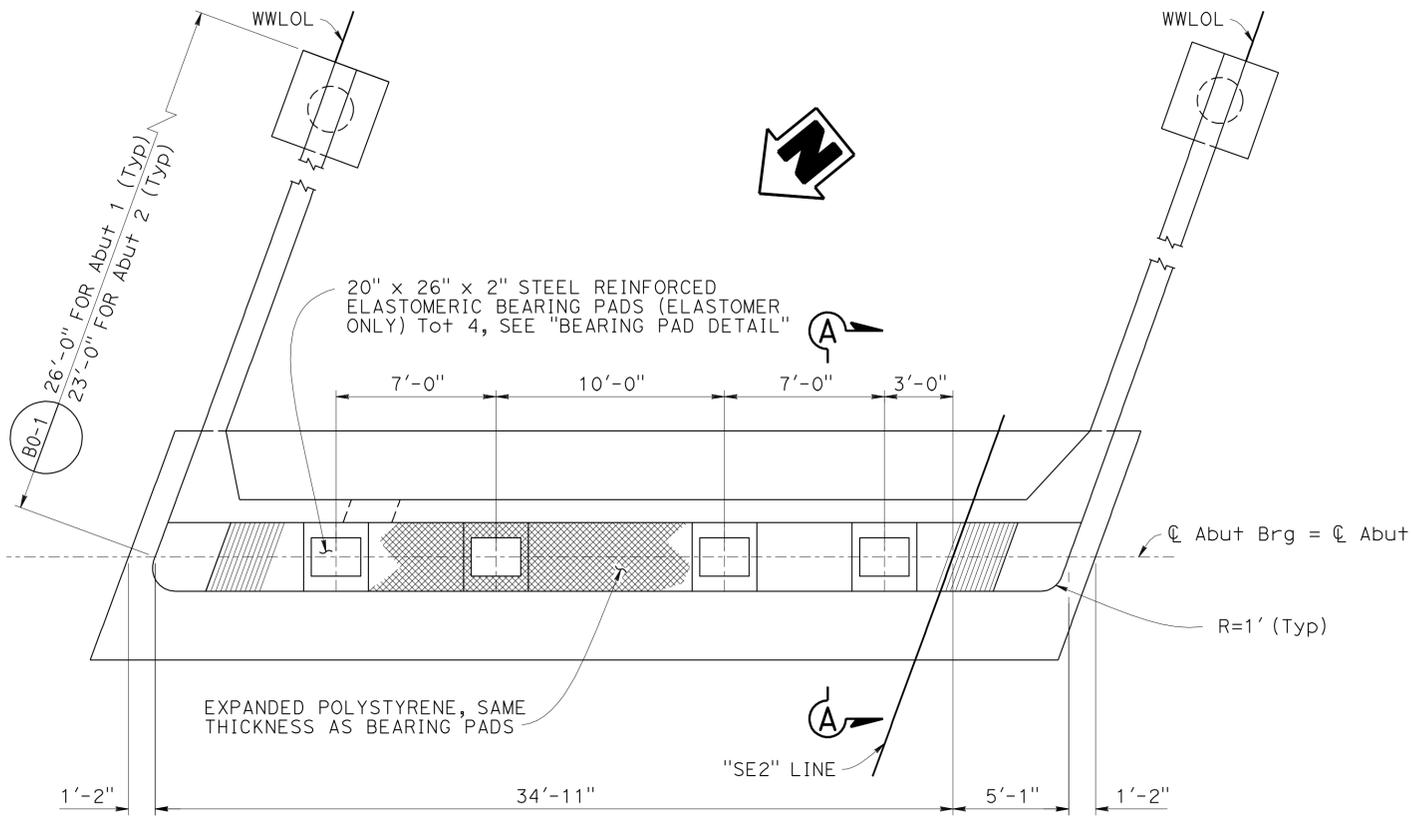
NOTE:
 [Symbol] Indicates Bottom of Footing Elevation

PRELIMINARY INVESTIGATION SECTION				DESIGN BY Alireza Yazdani	CHECKED Son Ly	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO. 20-0298	MARK WEST CREEK BRIDGE NB OFF-RAMP FOUNDATION PLAN	
SCALE VERT. DATUM NAVD88	PHOTOGRAMMETRY AS OF: X	DETAILS BY Franklin Maagma	CHECKED Son Ly	POST MILE 26.1						
1"=20' HORZ. DATUM NAD83 (1991.35)	SURVEYED BY District/J. Pallares	CHECKED BY S. Sou 04/2010	QUANTITIES BY F. Maagma / T. Kishwar	CHECKED Hardeep Singh						
ALIGNMENT TIES Dist. Traverse Sheet DRAFTED BY T. Zolnikov 04/2010				CHECKED BY J. Pallares 04/2010		CU 04	EA 000209451 (3A23U1)	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 04/08/10 05/07/10 07/28/10 08/18/10 12/29/10 02/11/11	SHEET 4 OF 20

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS: 0 1 2 3

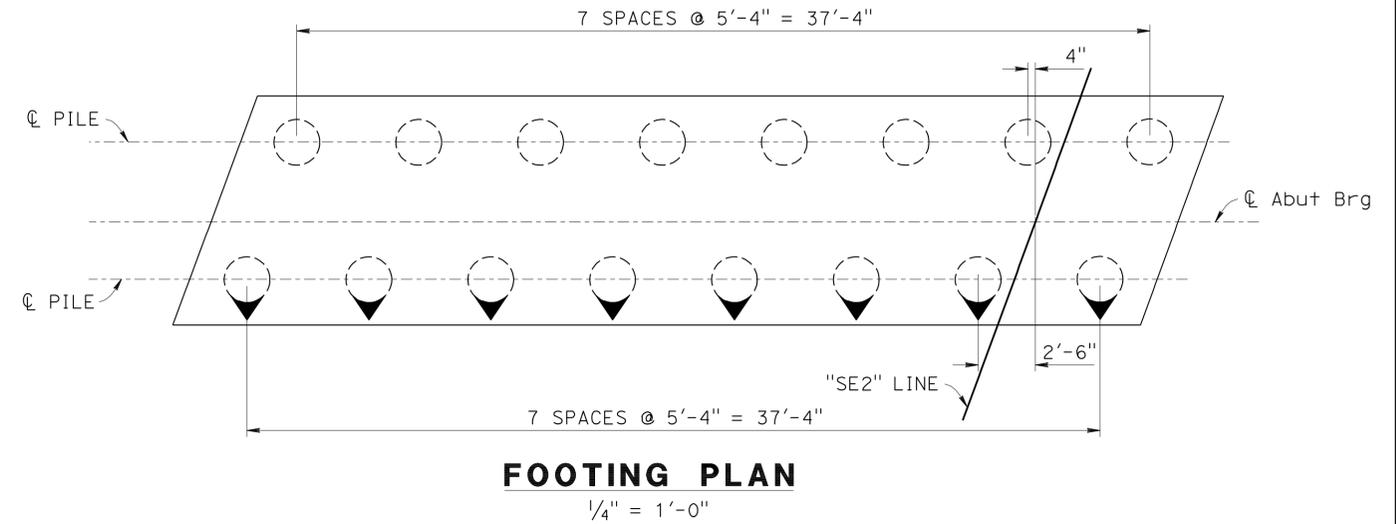
FILE => 20-0298-e-fp101.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	586	615
 REGISTERED CIVIL ENGINEER DATE 5-4-11					
9-10-12 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					

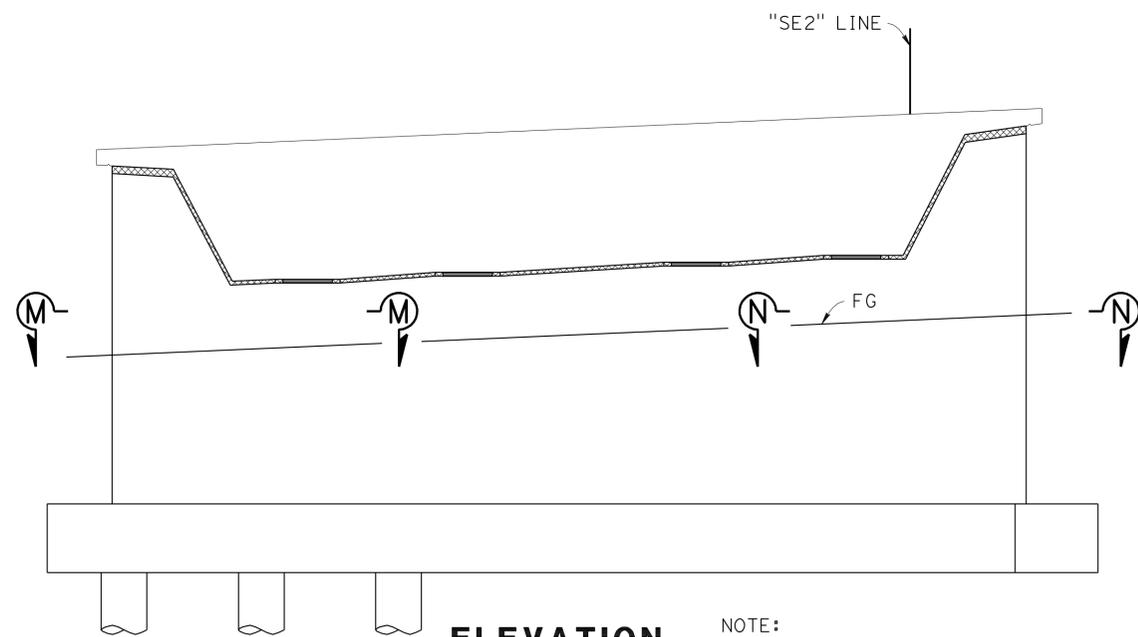


PLAN
1/4" = 1'-0"

LEGEND:
 Indicates vertical pile
 Indicates 3:1 battered pile

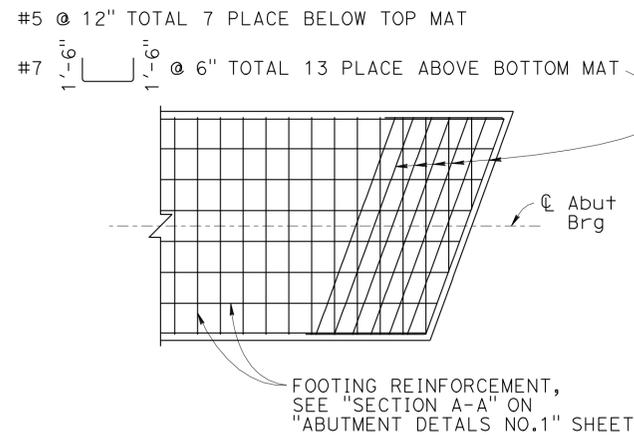


FOOTING PLAN
1/4" = 1'-0"



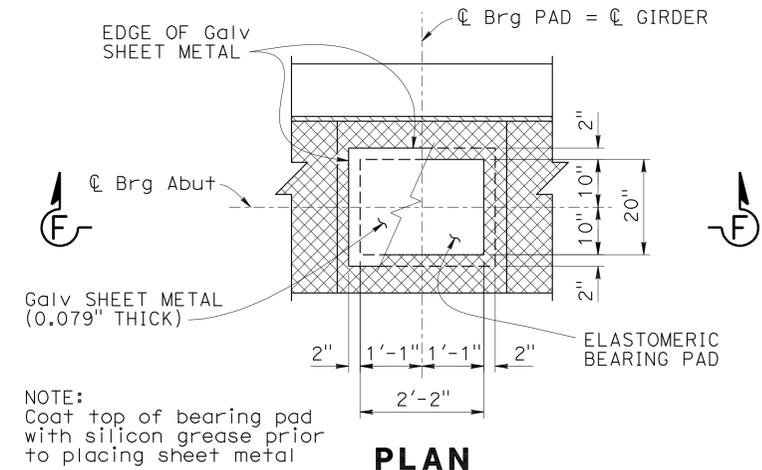
ELEVATION
1/4" = 1'-0"

NOTE:
All piles not shown



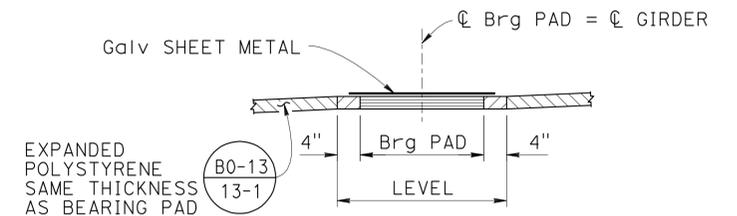
ABUTMENT FOOTING REINFORCING DETAILS
1/4" = 1'-0"

NOTE:
Not all reinforcement shown.
Reinforcement similar on opposite end



PLAN

NOTE:
Coat top of bearing pad with silicon grease prior to placing sheet metal



SECTION F-F

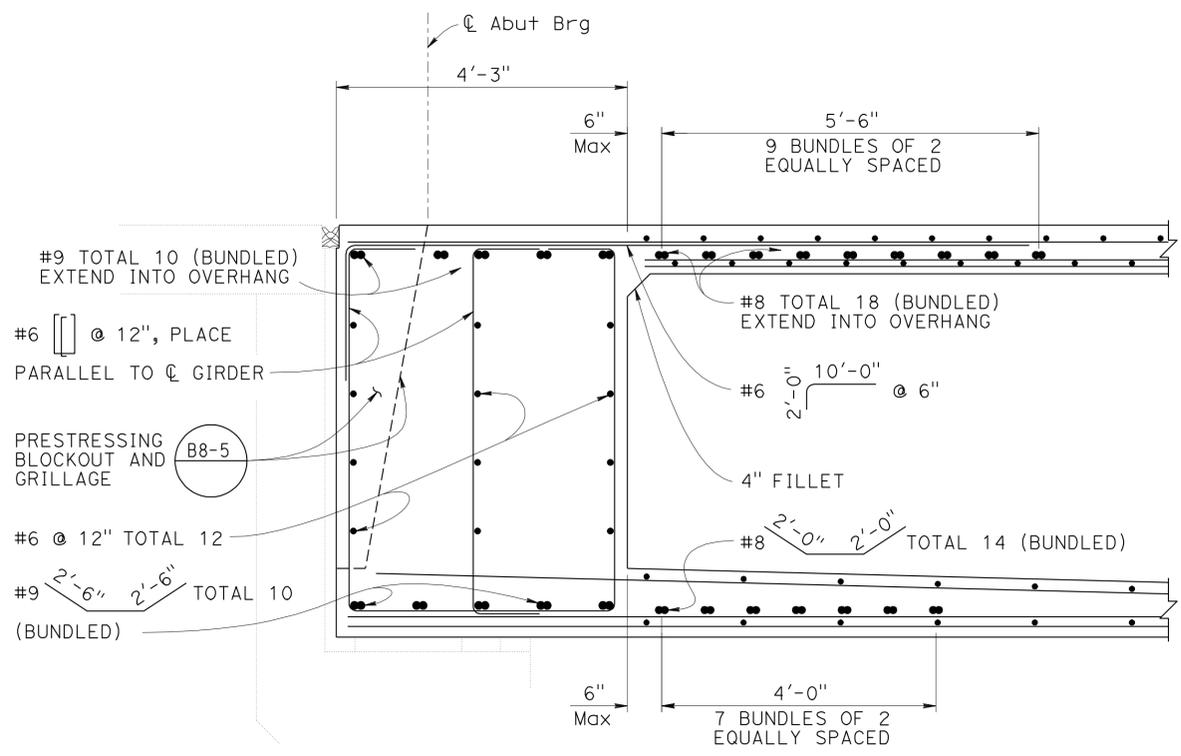
BEARING PAD DETAIL
NO SCALE

NOTES:

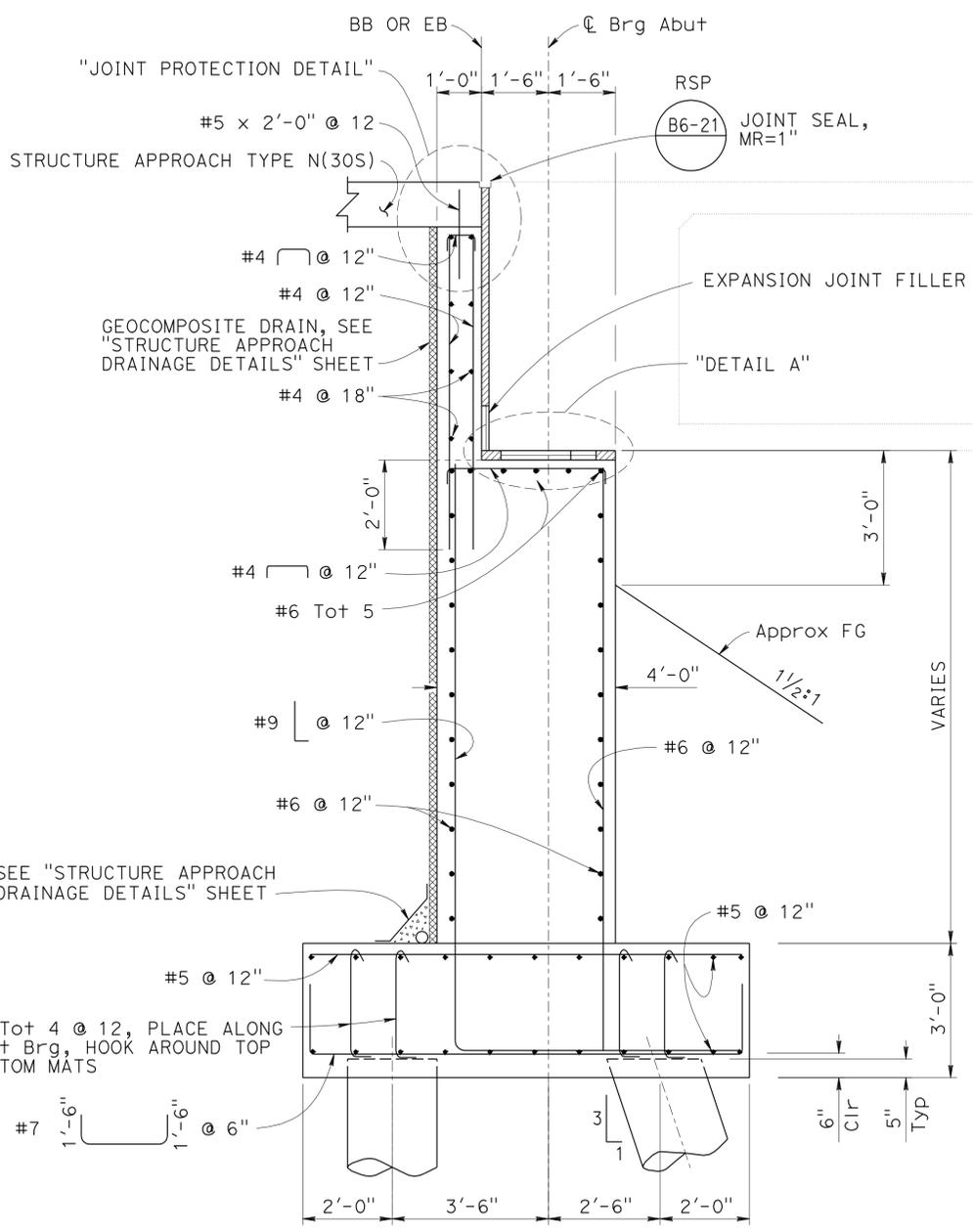
1. Abutment 1 shown, Abutment 2 similar
2. For "SECTION A-A", see "ABUTMENT DETAILS NO.1" sheet
3. For "SECTION M-M" and "SECTION N-N", see "ABUTMENT DETAILS NO.2" sheet

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY Hardeep Singh	CHECKED Tanzeeba Kishwar	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO.	20-0298	MARK WEST CREEK BRIDGE NB OFF-RAMP ABUTMENT LAYOUT	
	DETAILS	BY F. Maagma / L. Ma	CHECKED Tanzeeba Kishwar			POST MILE	26.1		
	QUANTITIES	BY F. Maagma / T. Kishwar	CHECKED Hardeep Singh						
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				0 1 2 3	CU 04 EA 000209451 (3A23U1)	DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES 07-28-10 08-18-10 08-16-10 09-28-10 12-27-10 02-11-11 03-23-11 04-04-11 04-14-11	SHEET 5 OF 20

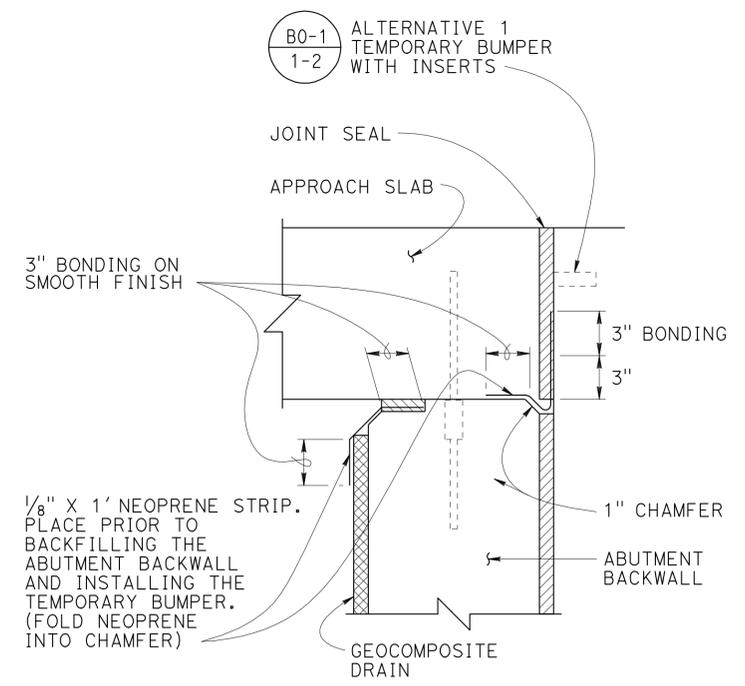
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	587	615
			7-5-11	REGISTERED CIVIL ENGINEER DATE	
			9-10-12	PLANS APPROVAL DATE	
			ALIREZA YAZDANI MOTLAGH No. 69601 Exp. 6-30-12 CIVIL STATE OF CALIFORNIA		



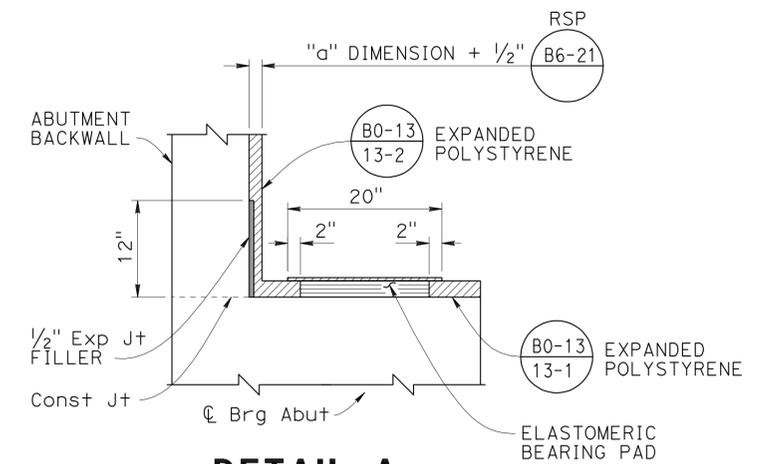
END DIAPHRAGM
3/4" = 1'-0"



SECTION A-A
1/2" = 1'-0"



JOINT PROTECTION DETAIL
NO SCALE

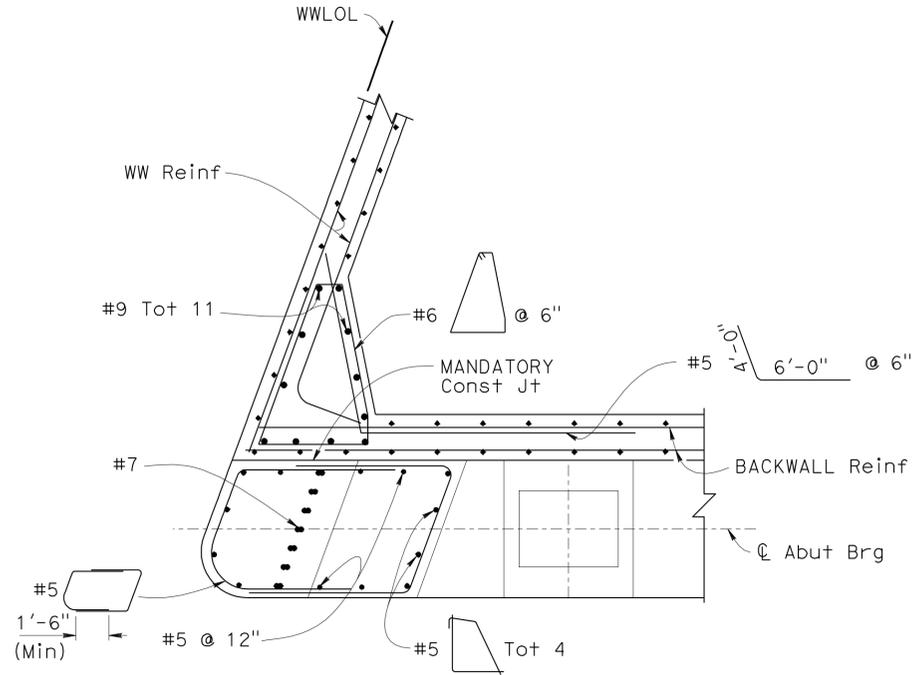


DETAIL A
NO SCALE

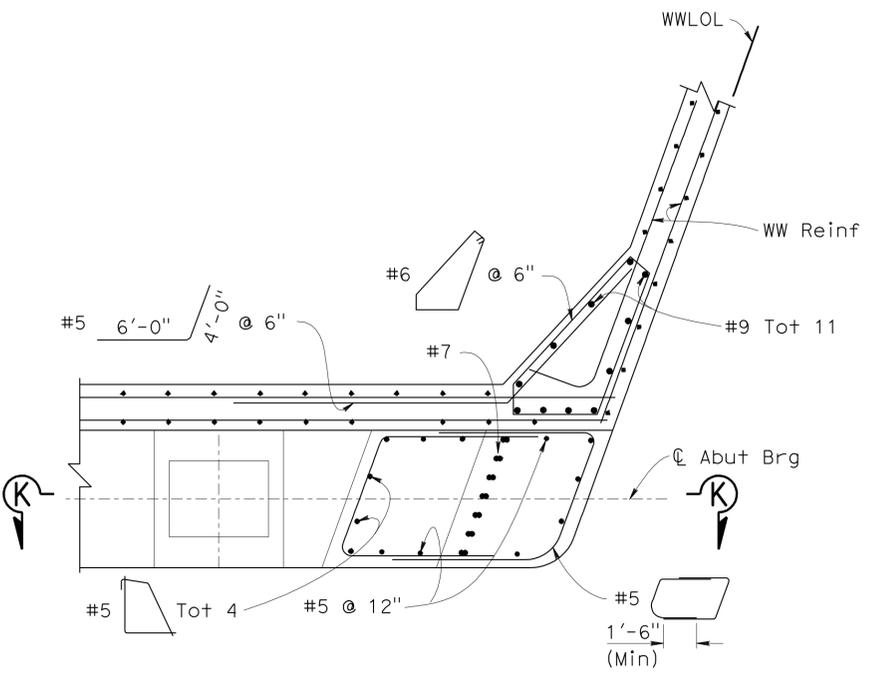
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY Hardeep Singh	CHECKED T. Kishwar / A. Yazdani	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO.	20-0298	MARK WEST CREEK BRIDGE NB OFF-RAMP	
	DETAILS	BY F. Maagma / Liang Ma	CHECKED T. Kishwar / A. Yazdani			POST MILE	26.1		ABUTMENT DETAILS No. 1
	QUANTITIES	BY F. Maagma / T. Kishwar	CHECKED Hardeep Singh			REVISION DATES			
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				CU 04 EA 000209451 (3A23U1)	DISREGARD PRINTS BEARING EARLIER REVISION DATES		07-30-10 09-30-10 12-27-10 02-11-11 02-15-11 03-24-11 04-04-11 04-12-11 05-14-11 06-21-11		

FILE => 20-0298-f-a01d101.dgn
 USERNAME => s124496 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 14:12

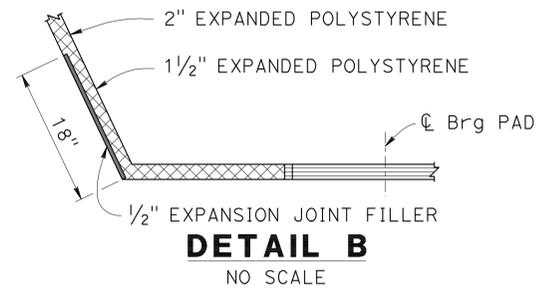
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	588	615
			5-4-11	REGISTERED CIVIL ENGINEER DATE	
			9-10-12	PLANS APPROVAL DATE	
			ALIREZA YAZDANI MOTLAGH No. 69601 Exp. 6-30-12 CIVIL STATE OF CALIFORNIA		
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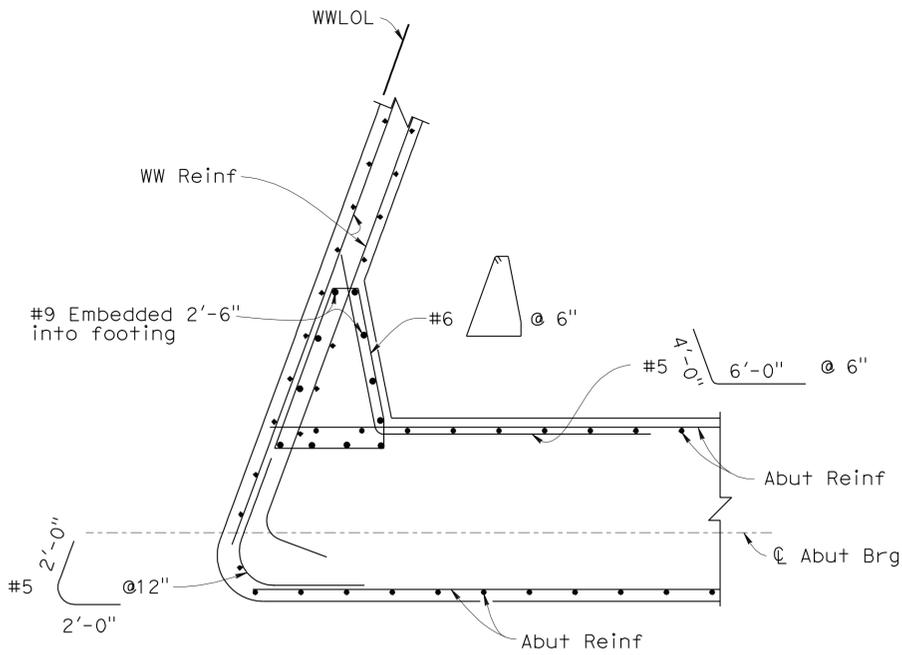
EXTERNAL SHEAR KEY DETAIL
1/2" = 1'-0"



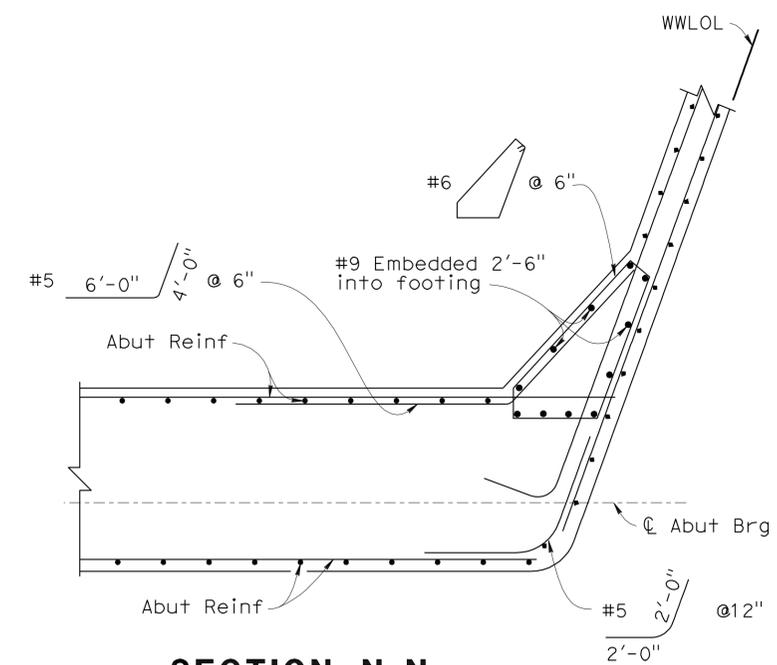
EXTERNAL SHEAR KEY DETAIL
1/2" = 1'-0"



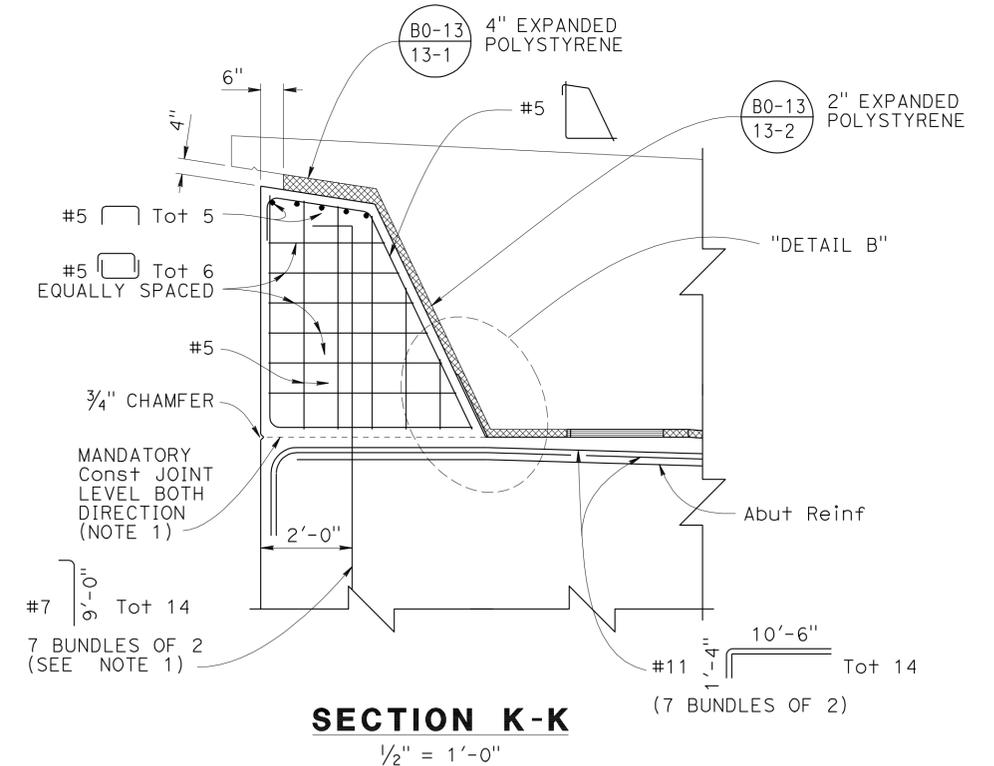
DETAIL B
NO SCALE



SECTION M-M
1/2" = 1'-0"



SECTION N-N
1/2" = 1'-0"

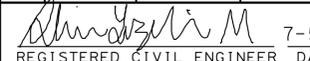
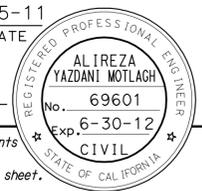


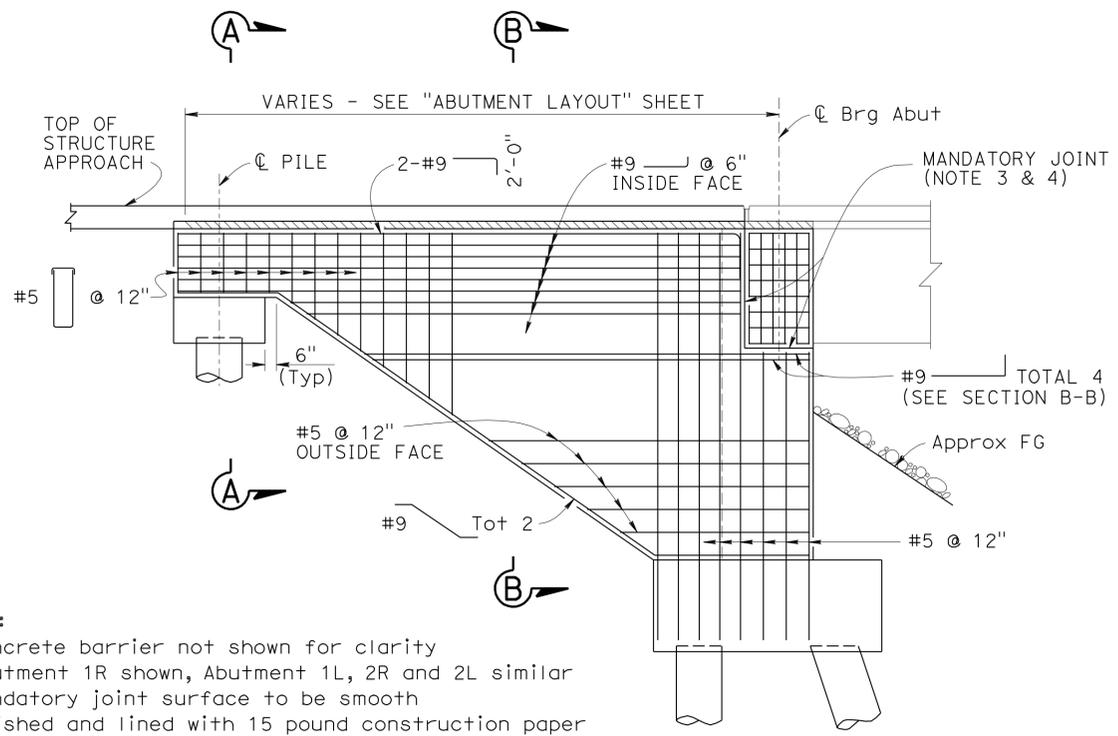
SECTION K-K
1/2" = 1'-0"

NOTES:
1. Vertical shear key reinforcement (#7 bars) to be galvanized

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	DESIGN	BY Hardeep Singh	CHECKED T. Kishwar / A. Yazdani	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO.	20-0298	MARK WEST CREEK BRIDGE NB OFF-RAMP ABUTMENT DETAILS No. 2			
	DETAILS	BY Liang Ma / F. Maagma	CHECKED T. Kishwar / A. Yazdani			POST MILE	26.1				
	QUANTITIES	BY F. Maagma / T. Kishwar	CHECKED Hardeep Singh			CU 04	EA 000209451 (3A23U1)		REVISION DATES	08-18-10 09-24-10 12-21-10 02-28-11 02-18-11 05-24-11 04-14-11	
								SHEET	7	OF	20

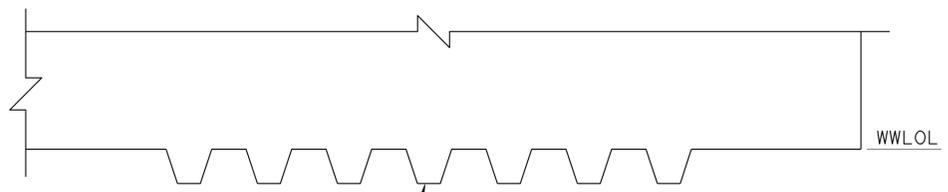
FILE => 20-0298-f-a01.d02.dgn
 USERNAME => s124496 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 14:12

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	589	615
 REGISTERED CIVIL ENGINEER DATE 7-5-11					
PLANS APPROVAL DATE 9-10-12			The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.		

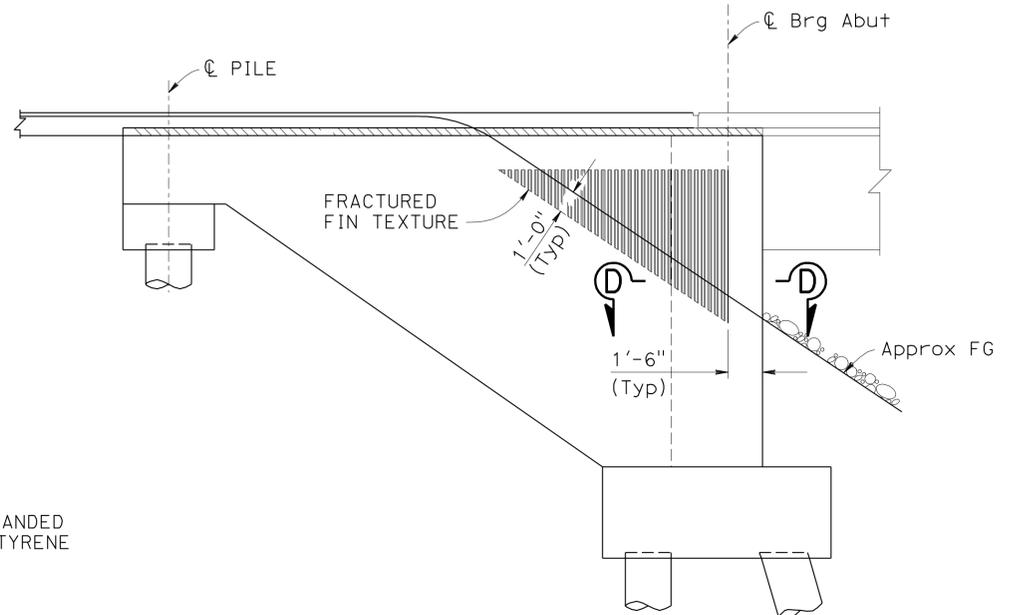


WINGWALL ELEVATION
1/4" = 1'-0"

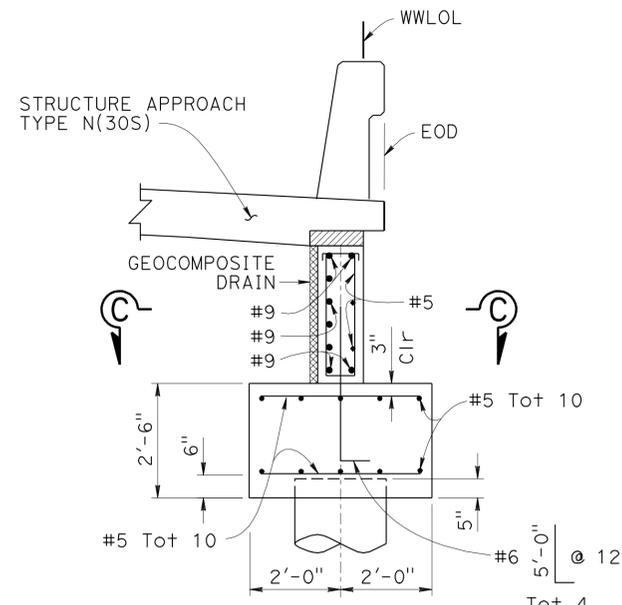
- NOTES:
1. Concrete barrier not shown for clarity
 2. Abutment 1R shown, Abutment 1L, 2R and 2L similar
 3. Mandatory joint surface to be smooth finished and lined with 15 pound construction paper
 4. Shear Key and Wingwall reinforcement to be discontinuous as shown



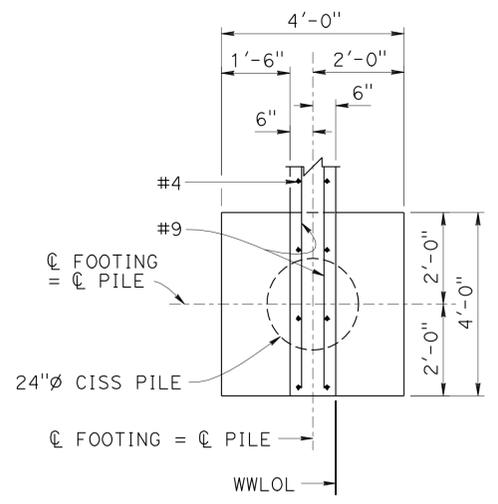
SECTION D-D
NO SCALE



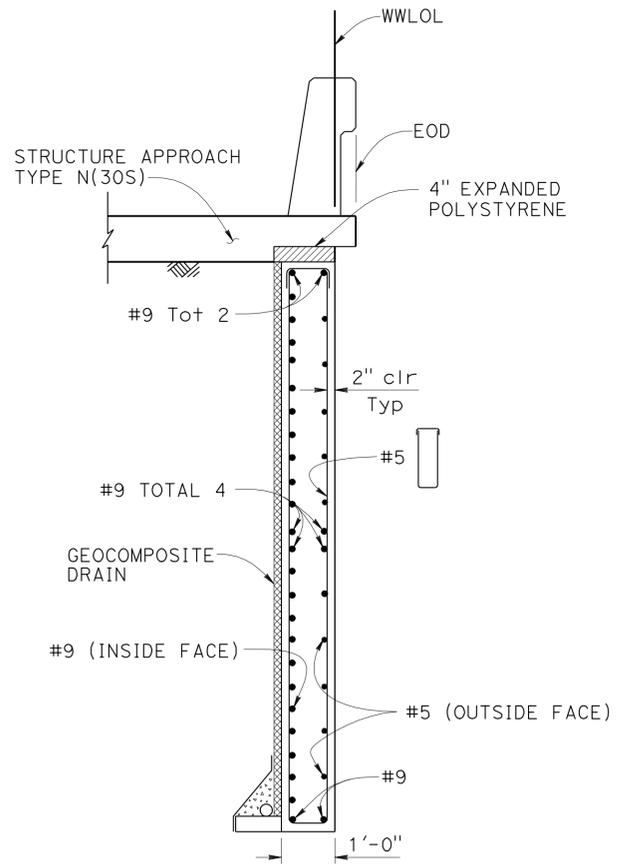
WINGWALL ARCHITECTURAL TREATMENT
1/4" = 1'-0"



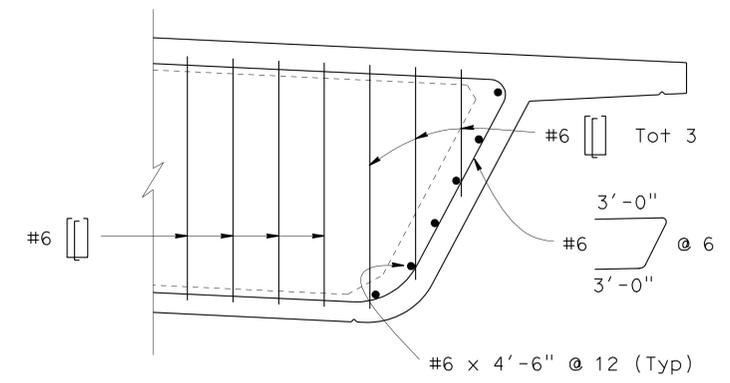
SECTION A-A
1/2" = 1'



SECTION C-C
1/2" = 1'



SECTION B-B
1/2" = 1'



PART ELEVATION END DIAPHRAGM
1/2" = 1'

DESIGN	BY Hardeep Singh	CHECKED T. Kishwar / A. Yazdani
DETAILS	BY F. Maagma / Liang Ma	CHECKED T. Kishwar / A. Yazdani
QUANTITIES	BY F. Maagma / T. Kishwar	CHECKED Hardeep Singh

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

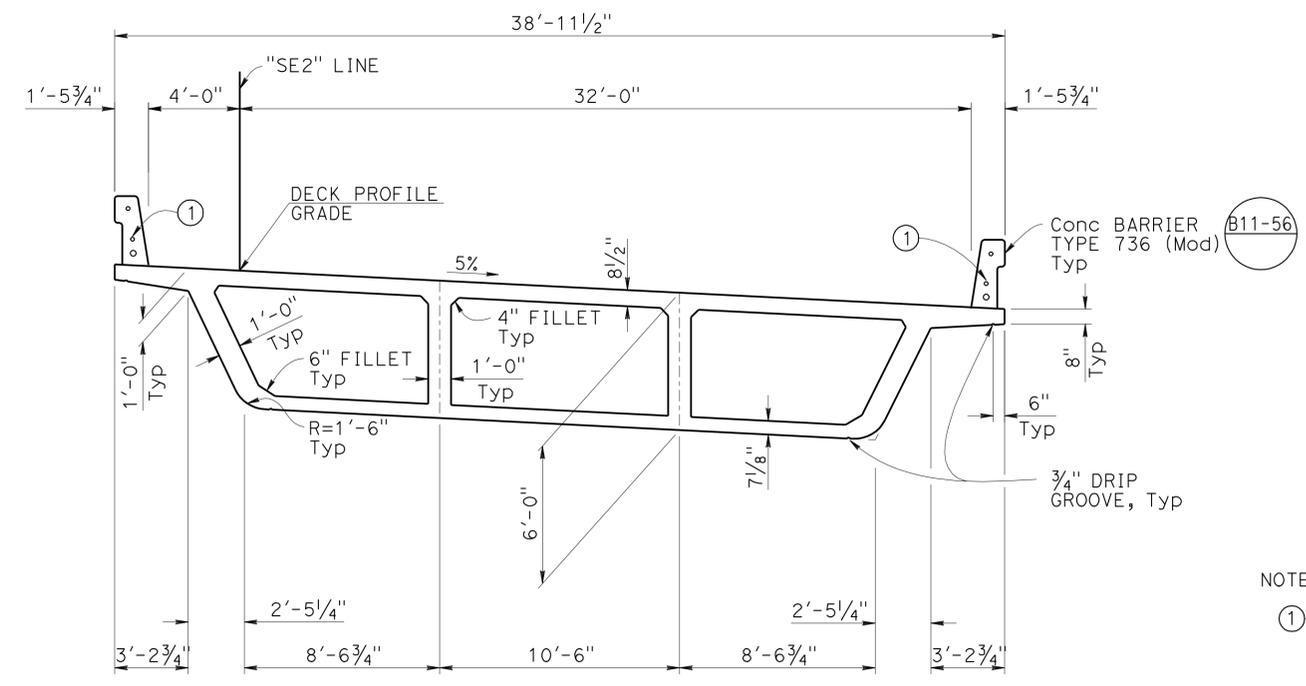
DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 16

BRIDGE NO.	20-0298
POST MILE	26.1

MARK WEST CREEK BRIDGE NB OFF-RAMP
ABUTMENT DETAILS No. 3

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	590	615

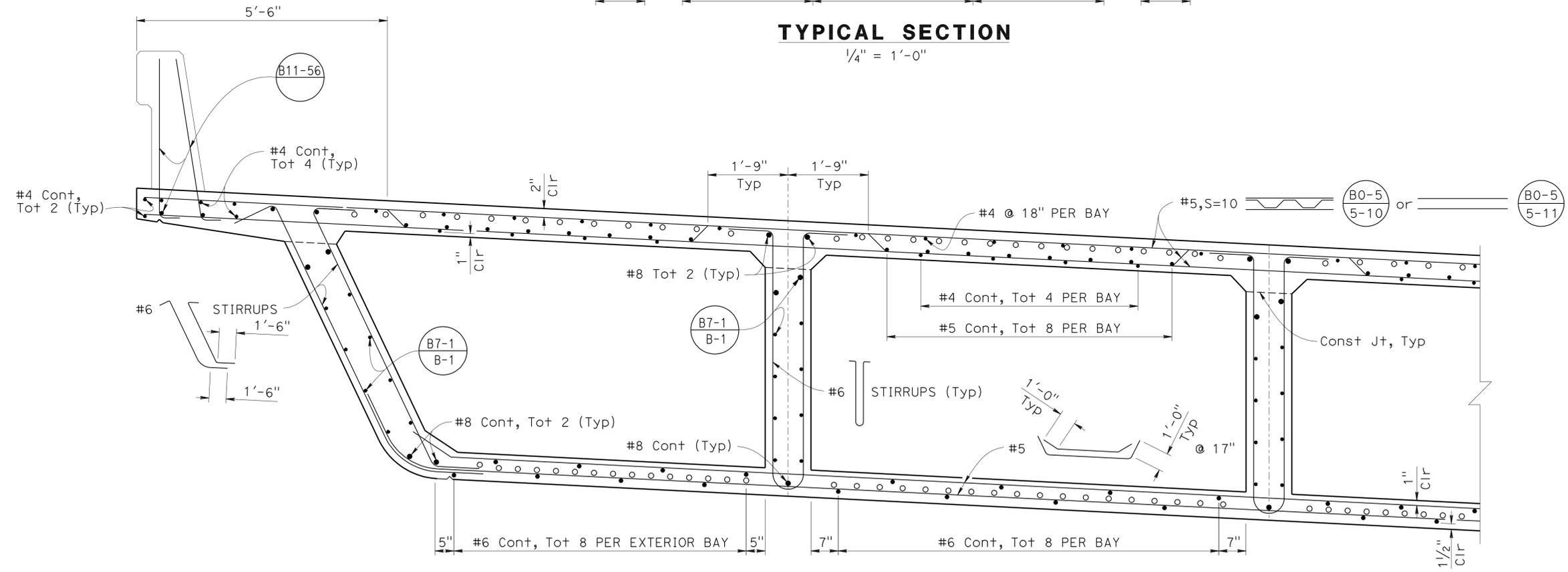
REGISTERED CIVIL ENGINEER DATE 5-4-11
 ALIREZA YAZDANI MOTLAGH
 No. 69601
 Exp. 6-30-12
 CIVIL
 STATE OF CALIFORNIA
 PLANS APPROVAL DATE 9-10-12
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TYPICAL SECTION

1/4" = 1'-0"

NOTES:
 ① 2-2"Ø and 1-3"Ø Conduits for future Utilities



PART TYPICAL SECTION (B0-5) (B7-1) (B8-5)

3/4" = 1'-0"

o Indicates additional reinforcement, see "GIRDER REINFORCEMENT" sheet

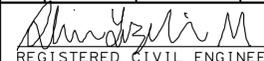
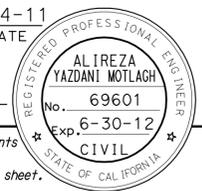
DESIGN	BY Tanzeeba Kishwar	CHECKED Son Ly
DETAILS	BY Franklin Maagma/Min Yu	CHECKED Son Ly
QUANTITIES	BY F. Maagma / T. Kishwar	CHECKED Hardeep Singh

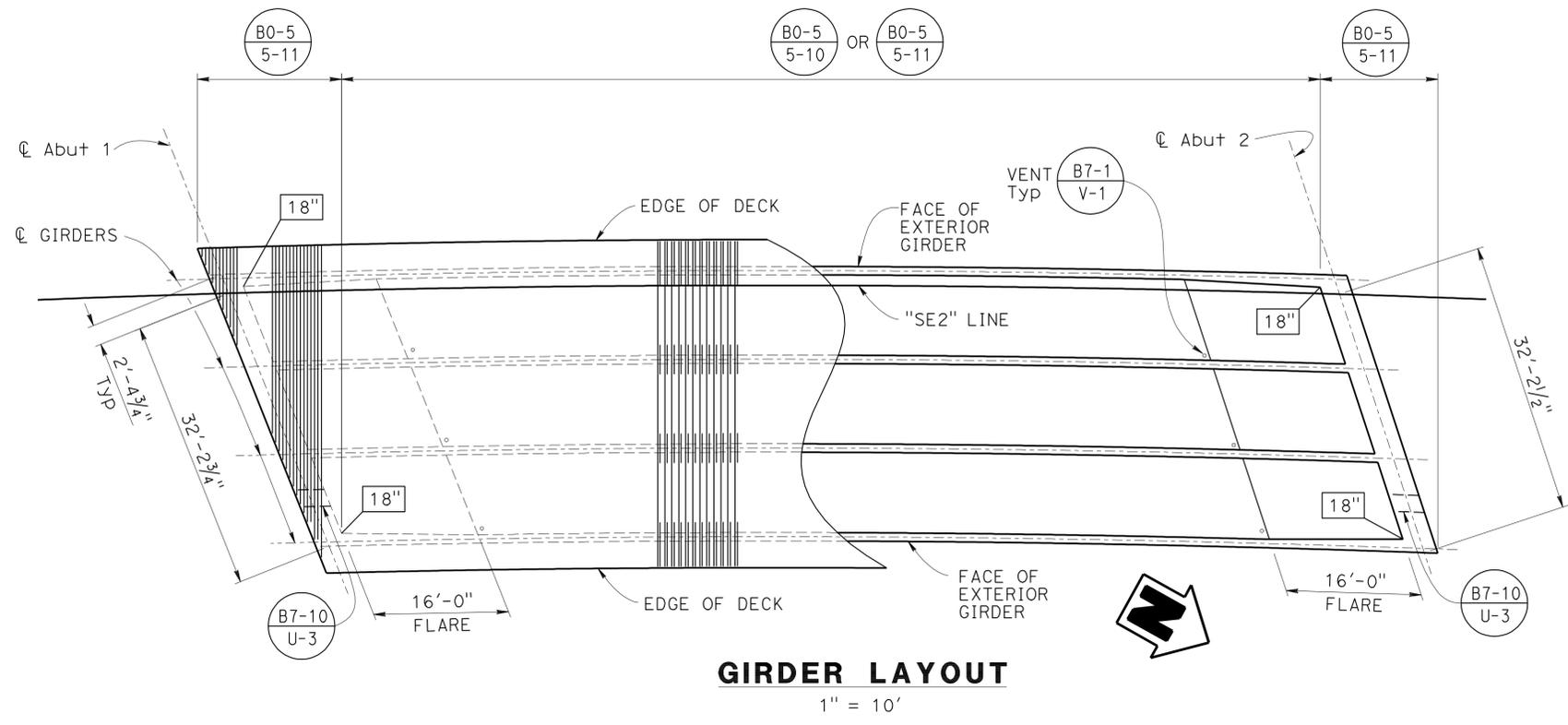
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
DESIGN BRANCH 16

BRIDGE NO. 20-0298
 POST MILE 26.1

MARK WEST CREEK BRIDGE NB OFF-RAMP
TYPICAL SECTION

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	591	615
 REGISTERED CIVIL ENGINEER DATE 5-4-11					
PLANS APPROVAL DATE 9-10-12					
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GIRDER LAYOUT
1" = 10'

PRESTRESSING NOTES

270 KSI Low Relaxation Strand:
 $P_{jack} = 11000$ kips
 Anchor Set = $\frac{3}{8}$ in
 Total Number of Girders = 4

Distribution of prestress force (P_{jack}) between girders shall not exceed the ratio of 3:2. Maximum final force variation between girders shall not exceed 725 kips.
 Concrete: $f'_c = 4000$ psi @ 28 days
 $f'_{ci} = 3500$ psi @ time of stressing

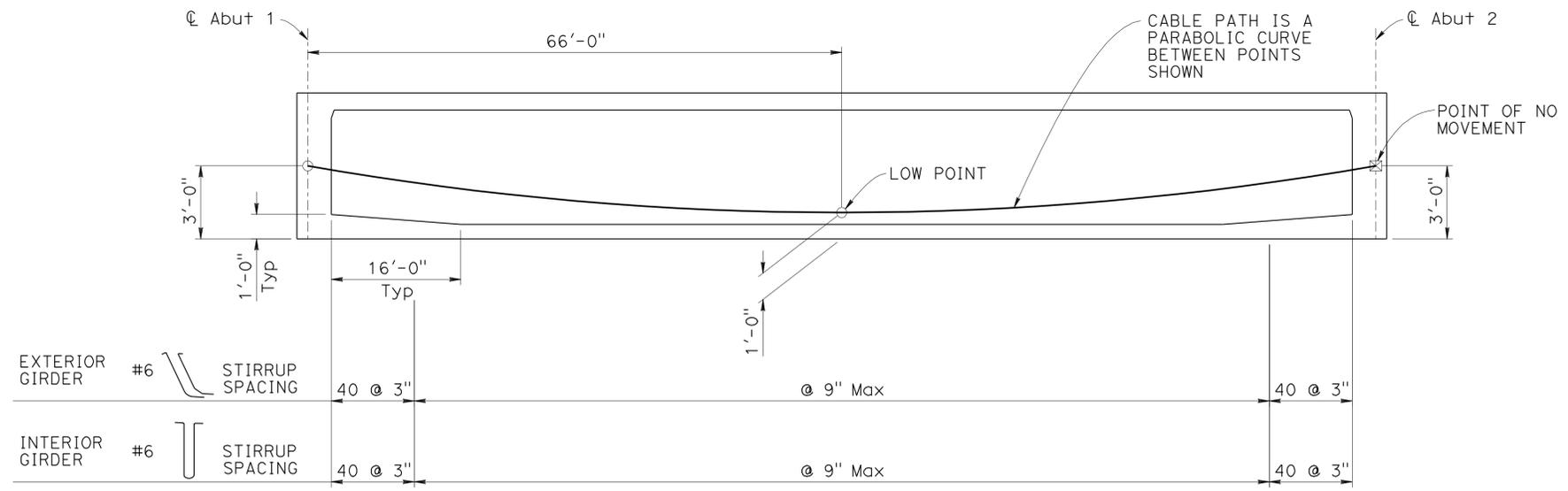
Contractor shall submit elongation calculations based on initial stress at
 $\alpha = 0.9549$ times jacking stress.

One end stressing may be performed from either end

Coefficient of Friction $\mu = 0.15$
 Coefficient of Wobble $K = 0.0002$ /ft

LEGEND:

 Denotes girder stem width

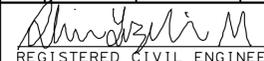


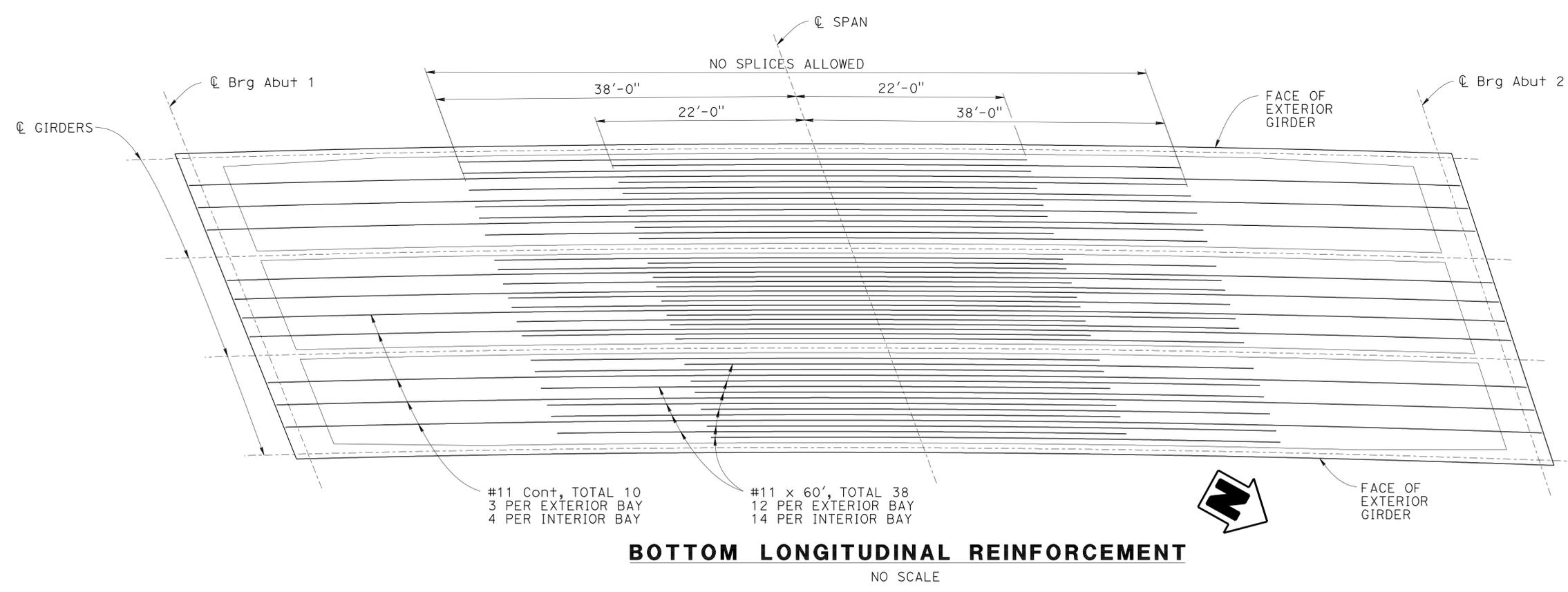
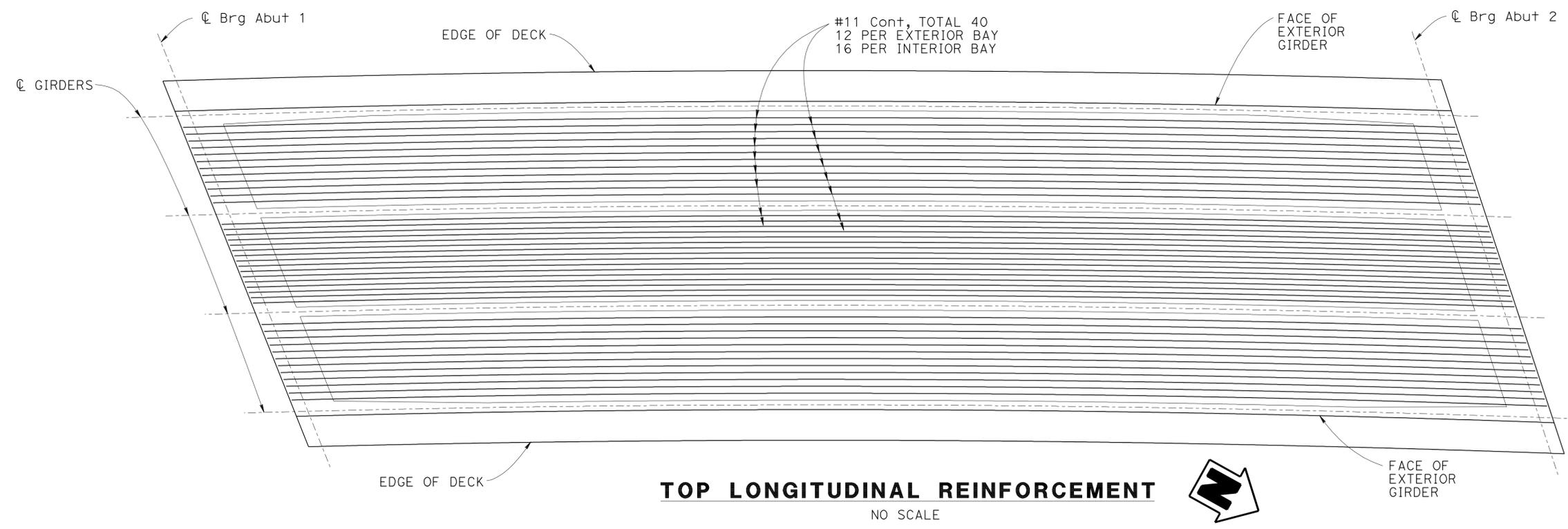
LONGITUDINAL SECTION
NO SCALE

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY Tanzeeba Kishwar	CHECKED Son Ly	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO.	MARK WEST CREEK BRIDGE NB OFF-RAMP GIRDER LAYOUT	SHEET 10 OF 20	
	DETAILS	BY Franklin Maagma	CHECKED Son Ly			POST MILE			26.1
	QUANTITIES	BY F. Maagma / T. Kishwar	CHECKED Hardeep Singh			REVISION DATES			09-28-10 01-05-11 02-10-11 02-18-11 03-21-11 04-04-11
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				CU 04 EA 000209451 (3A23U1)	DISREGARD PRINTS BEARING EARLIER REVISION DATES		FILE => 20-0298-1-g_1a01.dgn		

USERNAME => s124496 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 14:12

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	592	615


 REGISTERED CIVIL ENGINEER DATE 5-4-11
 PLANS APPROVAL DATE 9-10-12
 No. 69601
 Exp. 6-30-12
 CIVIL
 STATE OF CALIFORNIA
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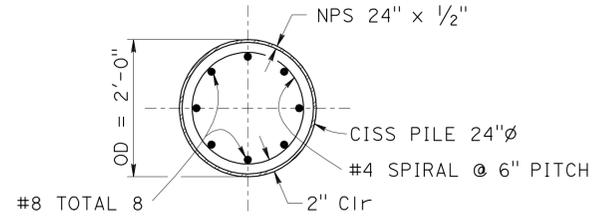
NOTE:
Rebar splicing is allowed in #11 continuous, except as noted and the splice shall conform to the requirements of "Service Butt Splice"

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN BY Tanzeeba Kishwar CHECKED Son Ly	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO. 20-0298	MARK WEST CREEK BRIDGE NB OFF-RAMP GIRDER REINFORCEMENT
	DETAILS BY Franklin Maagma CHECKED Son Ly			POST MILE 26.1	
	QUANTITIES BY F. Maagma / T. Kishwar CHECKED Hardeep Singh				

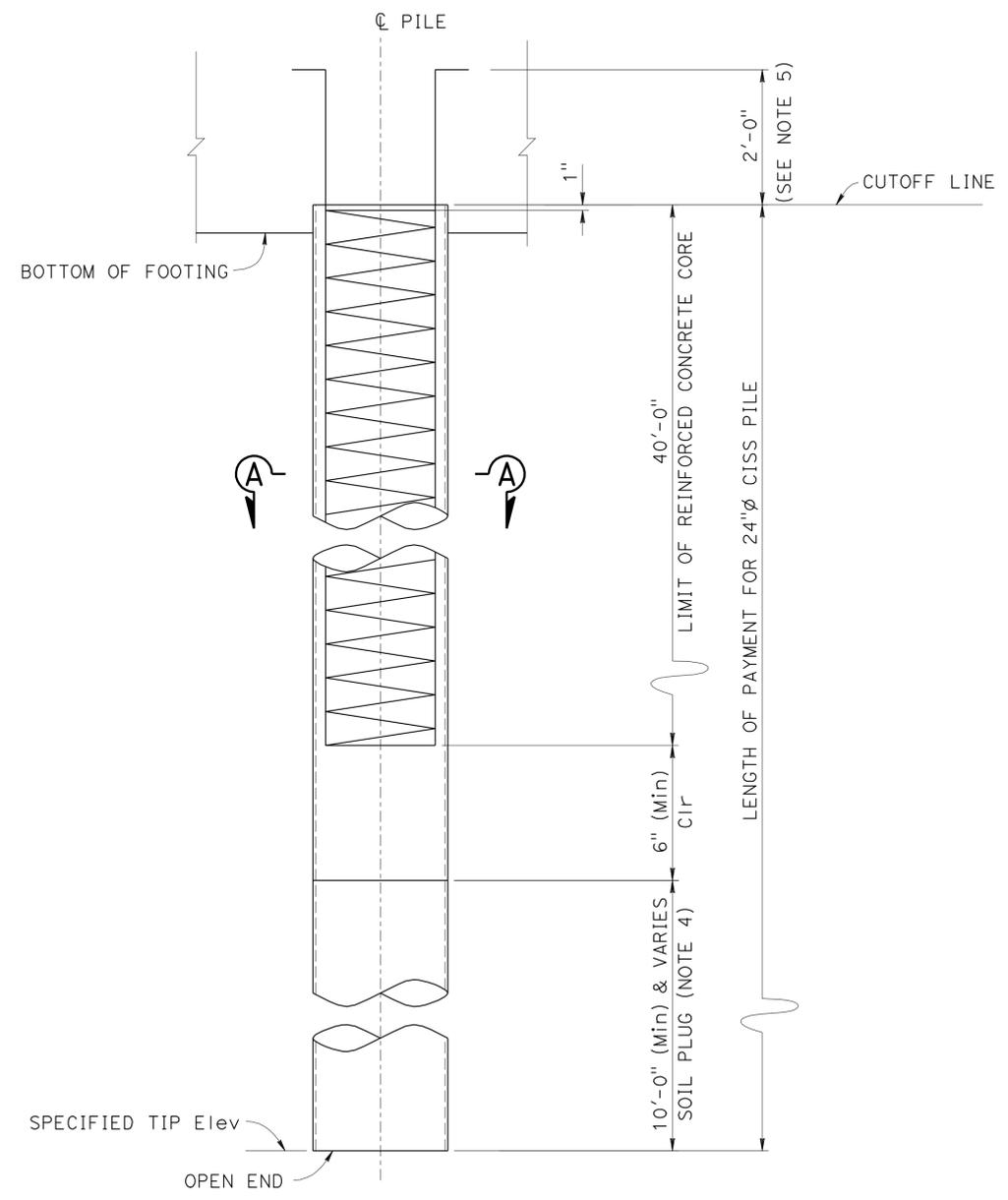
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS: 0 1 2 3
 FILE => 20-0298-o-gir_rf01.dgn
 DISREGARD PRINTS BEARING EARLIER REVISION DATES
 REVISION DATES: 08-15-10, 12-16-10, 02-02-11
 SHEET 11 OF 20

USERNAME => s124496 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 14:13

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	593	615
			5-4-11	REGISTERED CIVIL ENGINEER DATE	
			9-10-12	PLANS APPROVAL DATE	
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					

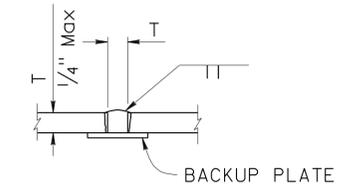


SECTION A-A

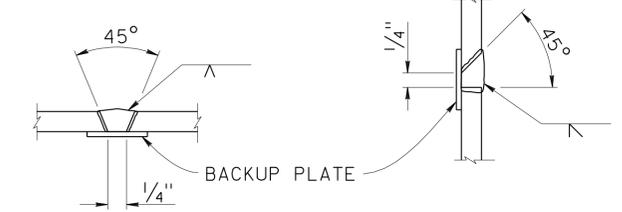


CISS PILE - ELEVATION

$\frac{3}{4}'' = 1'-0''$



SQUARE GROOVE



SINGLE VEE-GROOVE

SINGLE BEVEL-GROOVE

PILE WELDING NOTES:

1. Single Vee-Groove And Square Groove Permitted for all positions
2. Single Bevel-Groove permitted for horizontal joints only

PILE WELDING DETAIL-BUTT JOINTS

NO SCALE

NOTES:

1. Reinforcement extending into footing shall be hooked as required to provide clearance to top of footing
2. Lapped splices in spiral pile reinforcement shall be lapped at least 80 wire/bar diameters. Spiral pile reinforcement at splices and at ends shall be terminated with a 135° hook with a 6" tail hooked around a longitudinal bar
3. For "PILE DATA TABLE", see "INDEX TO PLANS" sheet
4. Seal Course as needed
5. 1'-6" for the wingwall pile

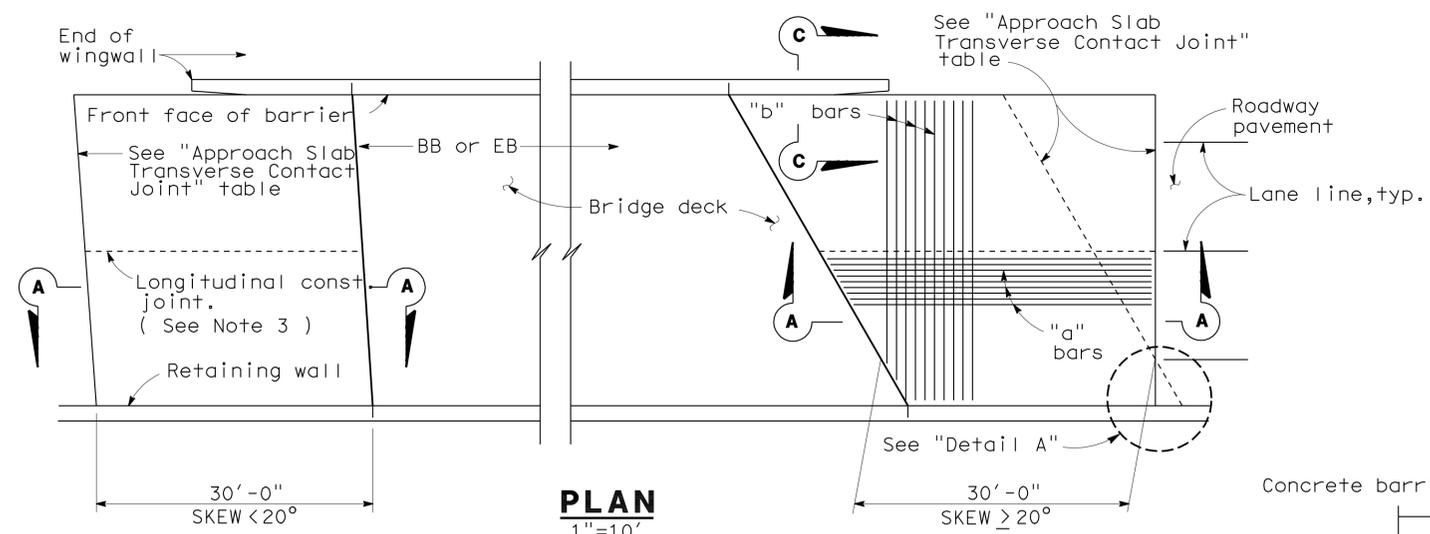
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY Muthanna Omran	CHECKED Alireza Yazdani	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO.	MARK WEST CREEK BRIDGE NB OFF-RAMP			
	DETAILS	BY Franklin Maagma/Min Yu	CHECKED Alireza Yazdani			20-0298	PILE DETAILS			
	QUANTITIES	BY F. Maagma / T. Kishwar	CHECKED Hardeep Singh			POST MILE	26.1			
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS					CU 04 EA 000209451 (3A23U1)	DISREGARD PRINTS BEARING EARLIER REVISION DATES				SHEET 12 OF 20
					FILE => 20-0298-p-pd#01.dgn	REVISION DATES				

USERNAME => s124496 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 14:13

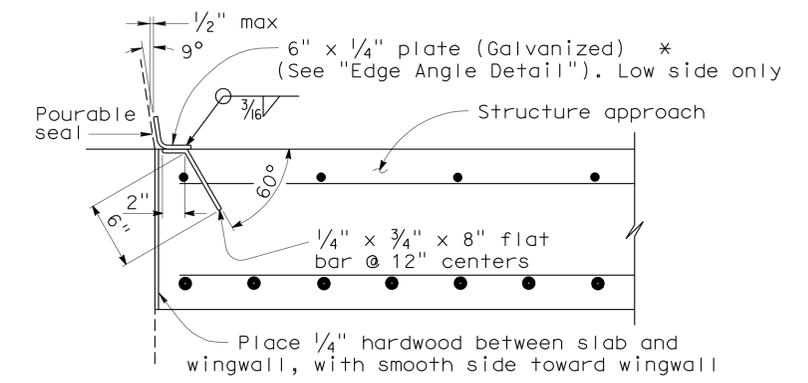
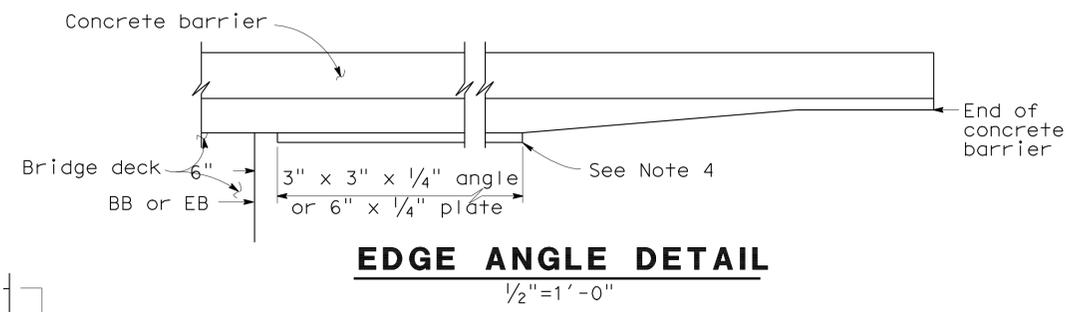
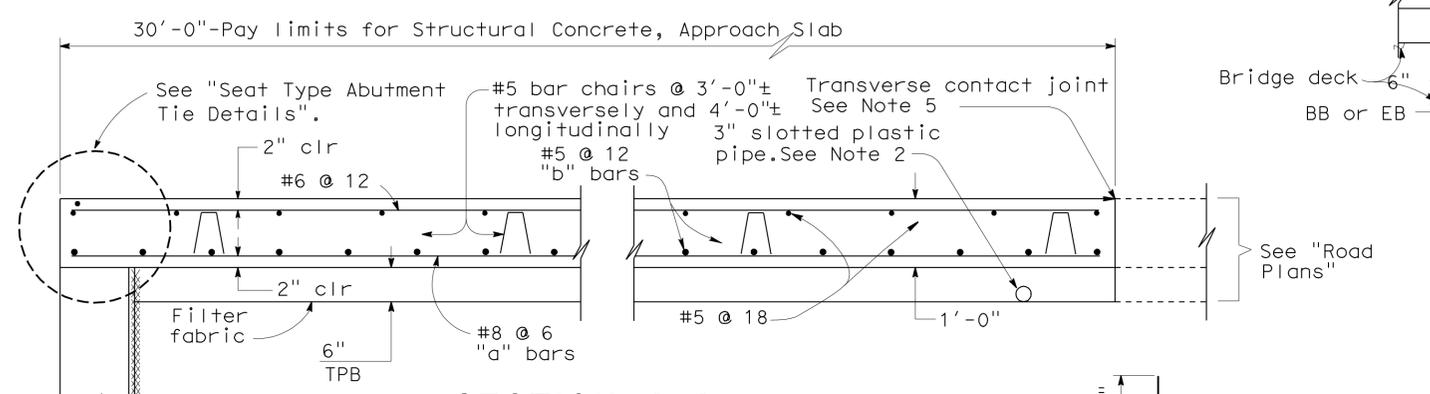
DIST.	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Son	101	25.6/29.2	594	615

5-4-11
 REGISTERED ENGINEER - CIVIL
 ALIREZA YAZDANI MOTLAGH
 No. 69601
 Exp. 6-30-12
 CIVIL
 STATE OF CALIFORNIA

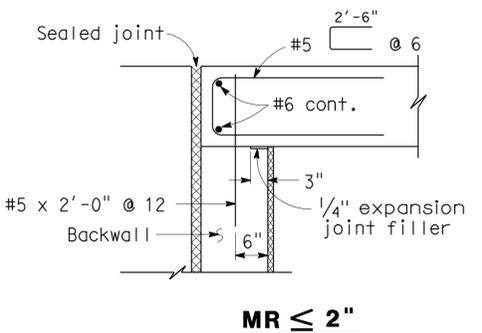
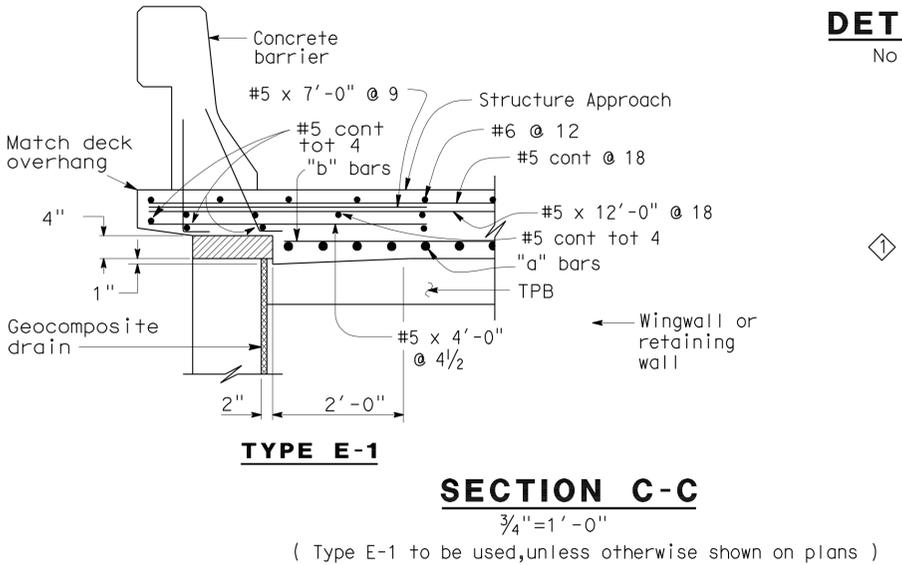
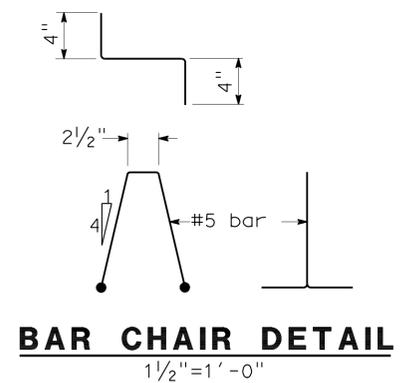
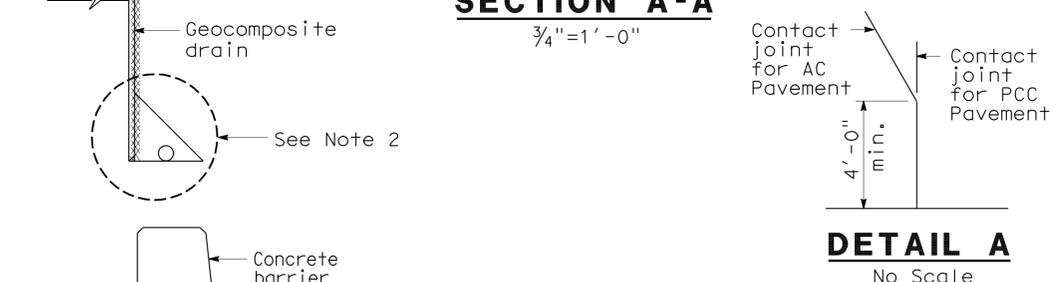
9-10-12
 PLANS APPROVAL DATE
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



APPROACH SLAB TRANSVERSE CONTACT JOINT		
APPROACH SKEW	WITH AC ROADWAY PAVEMENT	WITH PCC ROADWAY PAVEMENT
< 20°	Parallel to face of paving notch	Parallel to face of paving notch
20° - 45°	Parallel to face of P N use (Detail A)	Stagger lines 24' to 36' apart.
> 45°	Parallel to face of P N use (Detail A)	Stagger at each lane line.



***(TO BE USED WITH TYPE 732 OR TYPE 736 CONCRETE BARRIER)**



SEAT TYPE ABUTMENT TIE DETAILS (SEE NOTE 1)

- NOTES:**
- For details not shown, see Structure Plans. For MR < 2", adjust bar reinforcement to clear a sawcut for sealed joint, when required.
 - For drainage details, see "Structure Approach Drainage Details" sheet.
 - Longitudinal construction joints, when permitted by the Engineer, shall be located on lane lines.
 - End angle or plate at beginning of barrier transition, end of wingwall or end of structure approach as applicable.
 - For transverse contact joint with new PCC paving, refer to Standard Plan P10.
 - At the contractor's option, approach slab transverse reinforcement may be placed parallel to paving notch. Spacing of transverse reinforcement is measured along centerline of roadway.
- Remove all polystyrene.

STANDARD DRAWING			
RELEASE DATE	DESIGN BY	CHECKED	RELEASED BY
3/14/05	M. TRAFFALIS	E. THORKILDSEN	
FILE NO.	DETAILS BY	CHECKED	
xs3-120e	R. YEE	E. THORKILDSEN	
	SUBMITTED BY	DRAWING DATE	OFFICE CHIEF
	M. HA	4/98	

Deleted Details

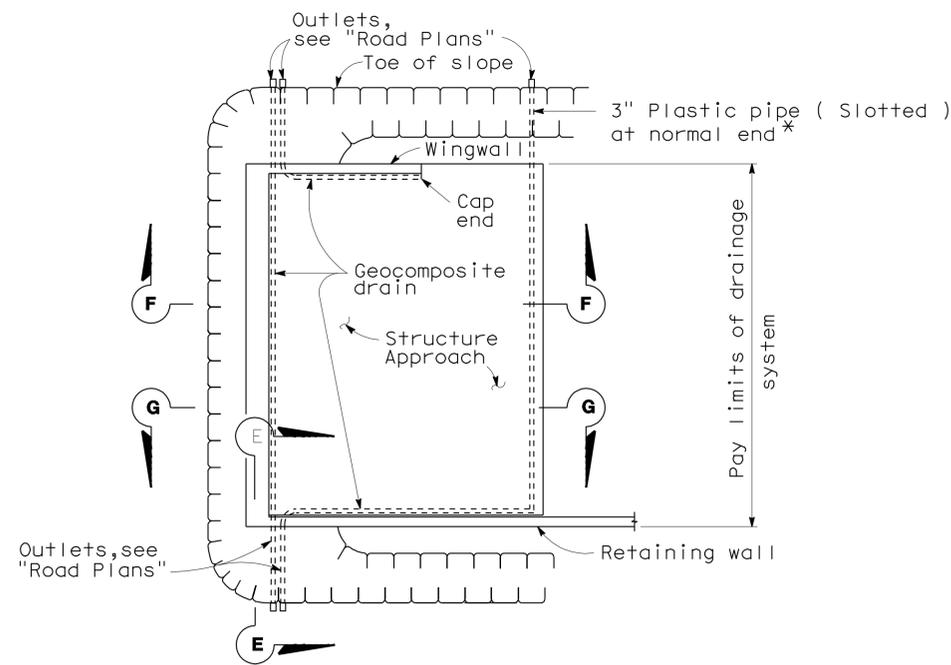
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING SERVICES

BRIDGE NO.	MARK WEST CREEK BRIDGE NB OFF-RAMP	
20-0298		
MILE POST	STRUCTURE APPROACH TYPE N(30S)	
26.1		

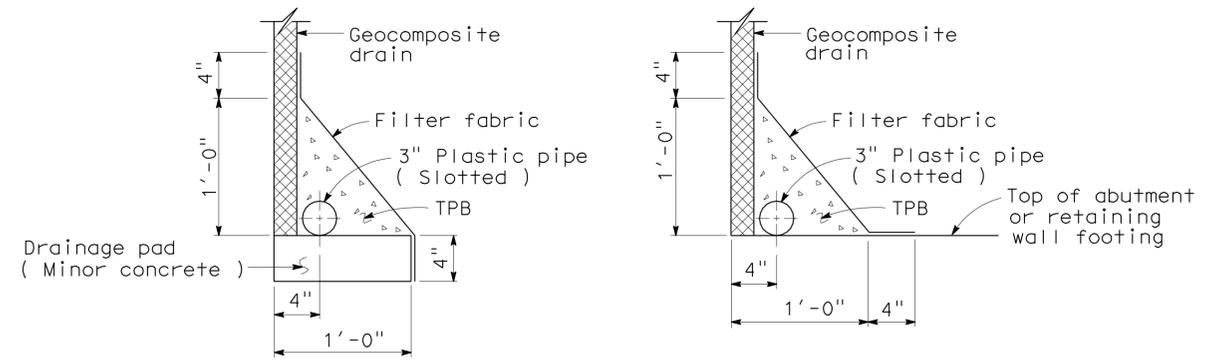
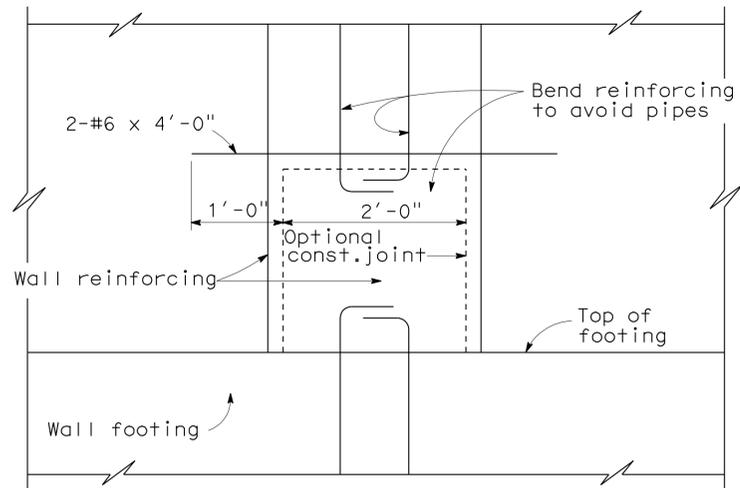
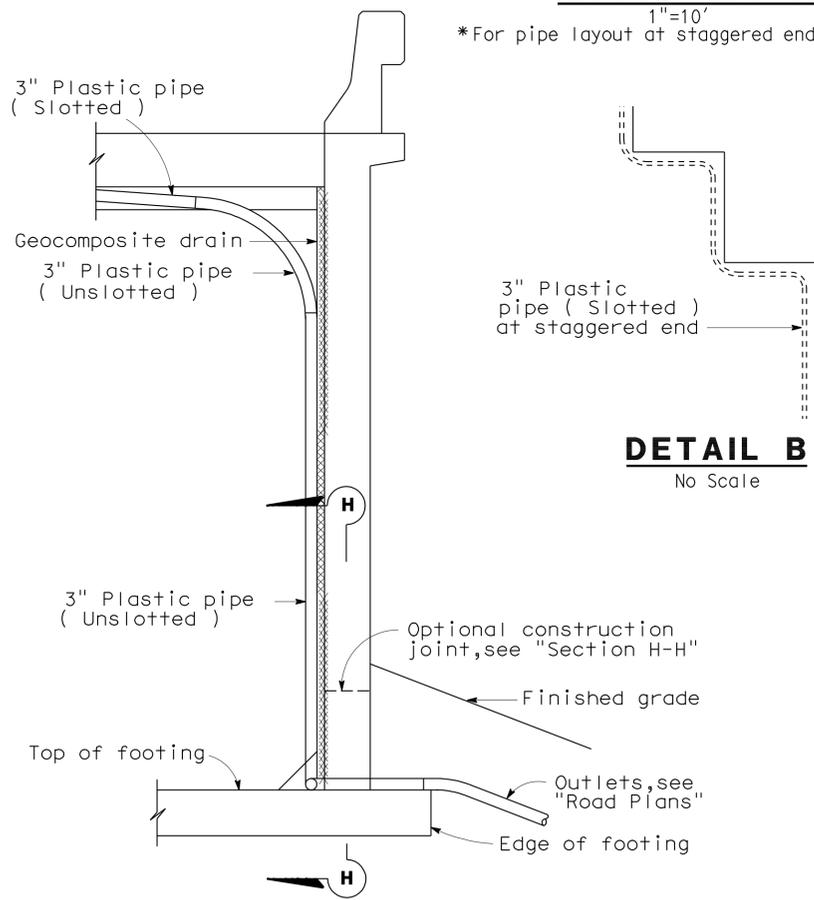
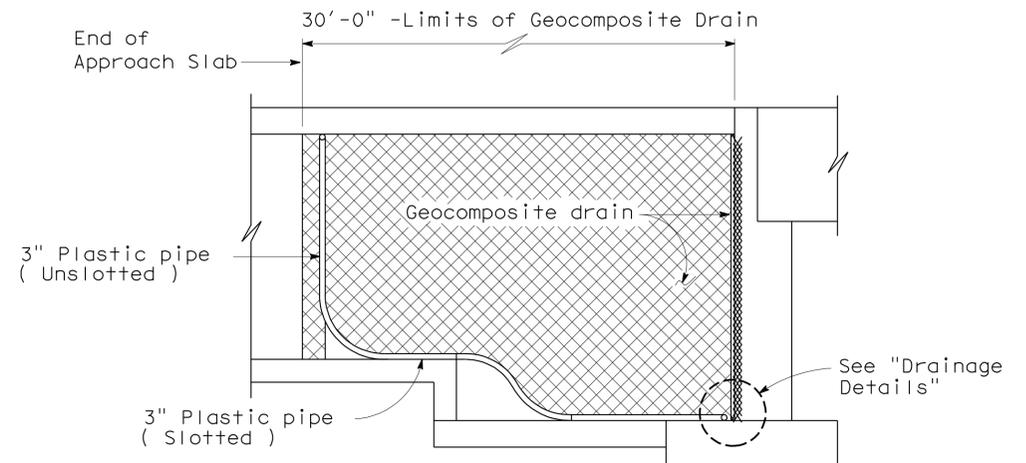
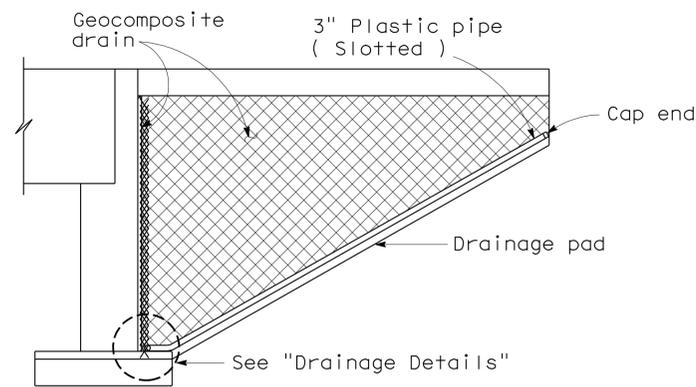
DIST.	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Son	101	25.6/29.2	595	615

5-4-11
 REGISTERED ENGINEER - CIVIL
 9-10-12
 PLANS APPROVAL DATE
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REGISTERED PROFESSIONAL ENGINEER
 ALIREZA YAZDANI MOTLAGH
 No. 69601
 Exp. 6-30-12
 CIVIL
 STATE OF CALIFORNIA



*For pipe layout at staggered end, see "Detail B".



SECTION E-E

1/2"=1'-0"

NOTE: Bends and junctions in 3" plastic pipe are 30" radius min.

STANDARD DRAWING			
RELEASE DATE 4/23/98	DESIGN BY M. TRAFFALIS	CHECKED E. THORKILDSEN	RELEASED BY
FILE NO. xs3-110e	DETAILS BY R. YEE	CHECKED E. THORKILDSEN	
	SUBMITTED BY M. HA	DRAWING DATE 4/98	OFFICE CHIEF

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

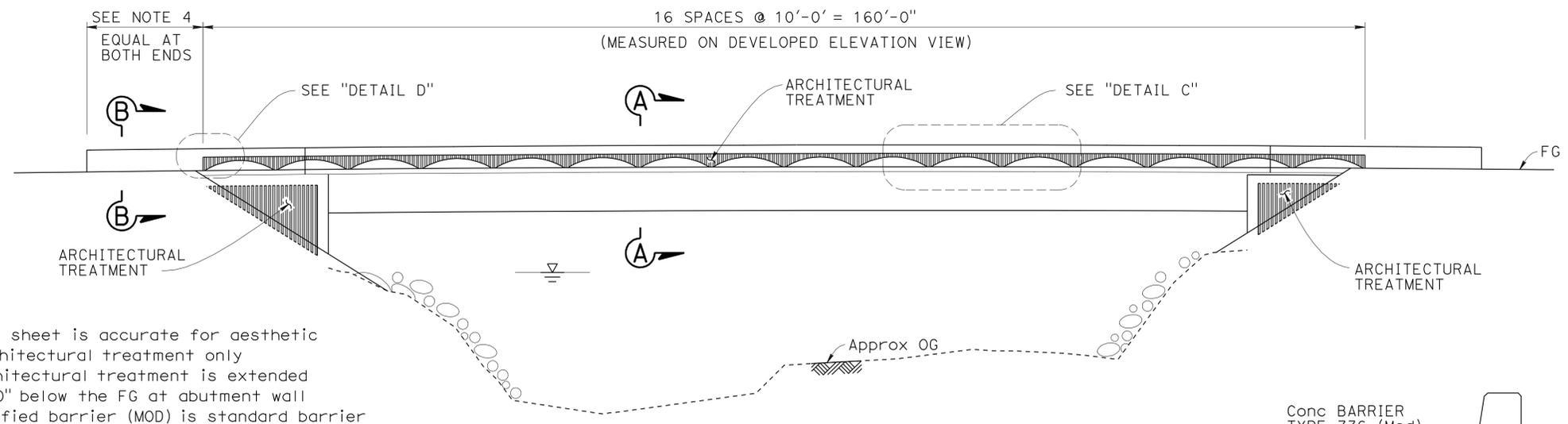
DIVISION OF ENGINEERING SERVICES

BRIDGE NO.
20-0298
MILE POST
26.1

MARK WEST CREEK BRIDGE NB OFF-RAMP

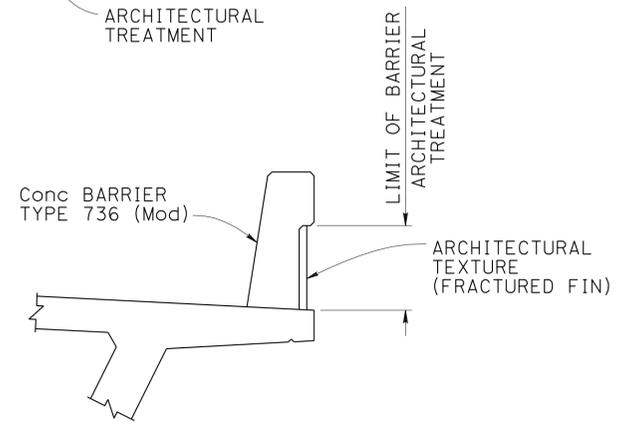
STRUCTURE APPROACH DRAINAGE DETAILS

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	596	615
REGISTERED CIVIL ENGINEER			DATE	7-5-11	
REGISTERED PROFESSIONAL ENGINEER			PLANS APPROVAL DATE	9-10-12	
ALIREZA YAZDANI MOTLAGH			No.	69601	
CIVIL			Exp.	6-30-12	
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.					

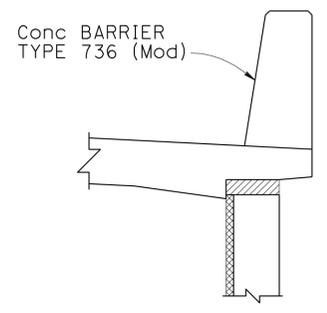


- NOTE:
1. This sheet is accurate for aesthetic architectural treatment only
 2. Architectural treatment is extended 1'-0" below the FG at abutment wall
 3. Modified barrier (MOD) is standard barrier with architectural treatment
 4. Extend barriers to the end of the approach slabs
 5. For wingwall architectural treatment, see "ABUTMENT DETAILS NO. 3" sheet

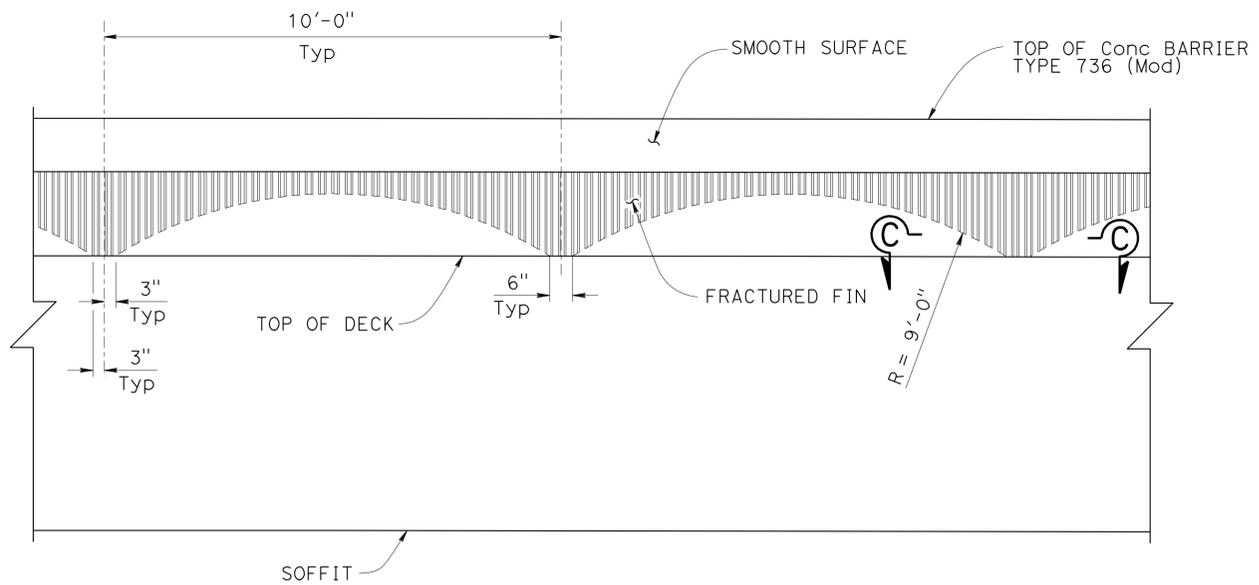
ARCHITECTURAL TREATMENT ELEVATION
1" = 10'



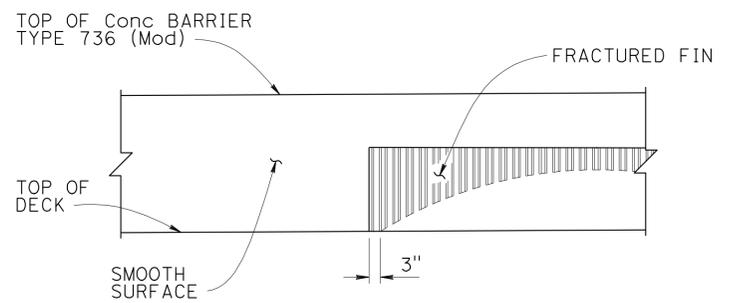
SECTION A-A
1/2" = 1'-0"



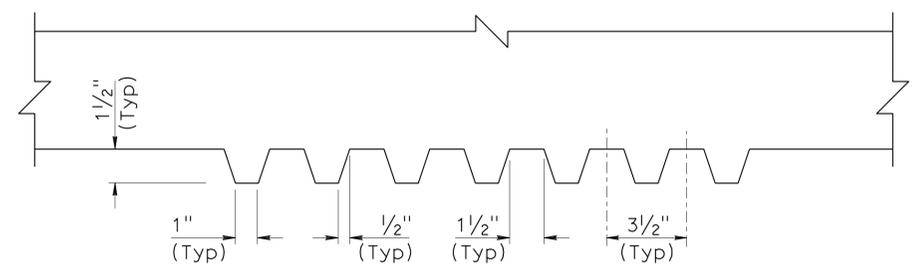
SECTION B-B
1/2" = 1'-0"



NOTE: Dimensions typical
DETAIL C
1/2" = 1'-0"
(MEASURED ON DEVELOPED ELEVATION VIEW)



DETAIL D
1/2" = 1'-0"



SECTION C-C FRACTURED FIN TEXTURE DETAIL
3" = 1'

DESIGN	BY Stephan D. Heath	CHECKED Muthanna Omran
DETAILS	BY Liang Ma / F. Maagma	CHECKED Muthanna Omran
QUANTITIES	BY F. Maagma / T. Kishwar	CHECKED Hardeep Singh

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 16

BRIDGE NO.
20-0298
POST MILE
26.1

MARK WEST CREEK BRIDGE NB OFF-RAMP
ARCHITECTURAL TREATMENT DETAILS

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	597	615

Meng-Hsi Hung 01-20-11
REGISTERED CIVIL ENGINEER

9-10-12
PLANS APPROVAL DATE

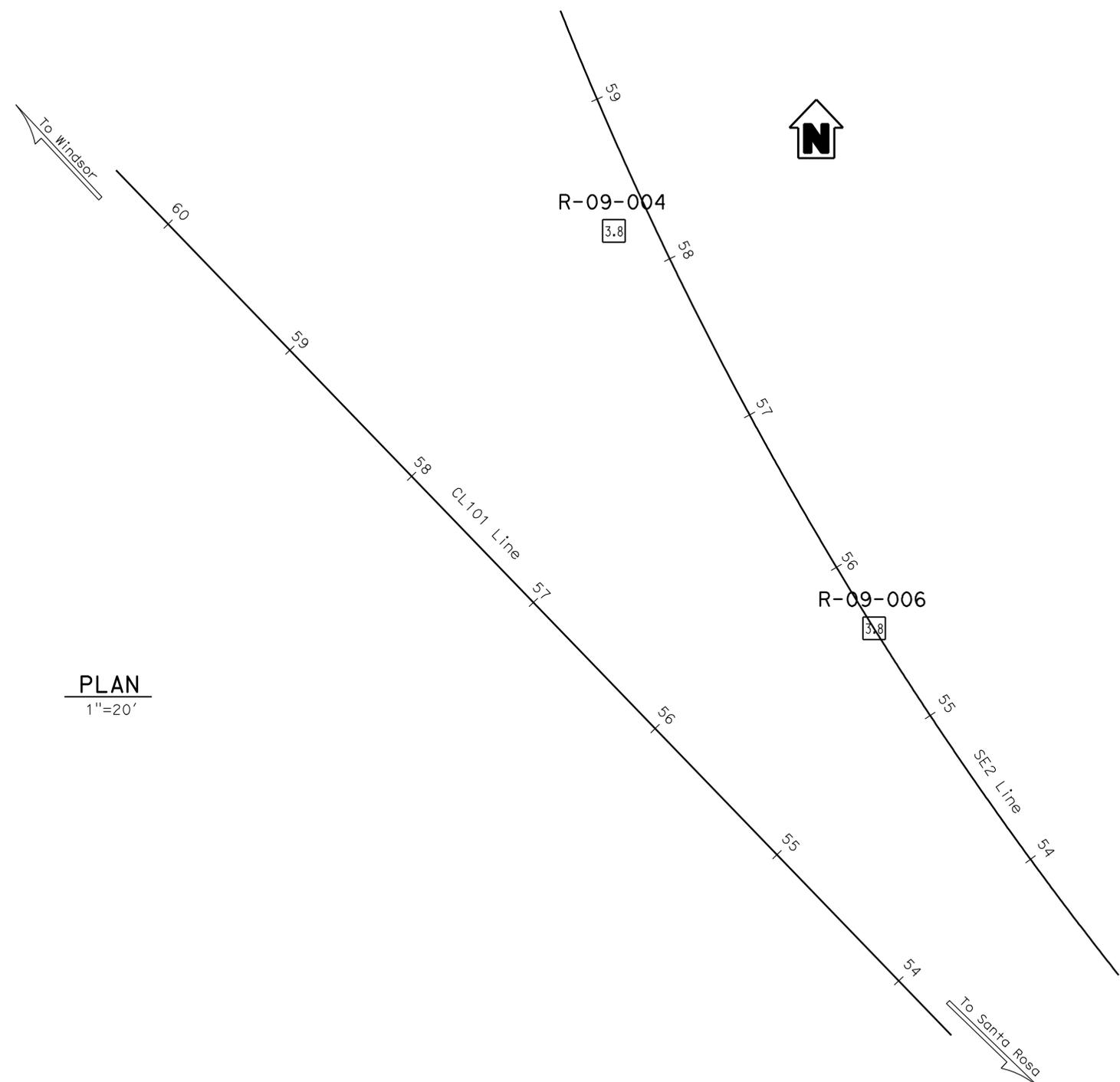
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This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).

BENCH MARK

S116
Standard Bronze Disk
492.344' Rt. "CL101" Line. C Rte. 101
Sta. 63+52.43
N 1,948,932.008
E 6,340,455.452
Elev. 139.393'

S111
Standard Bronze Disk
Set on walkway of Fulton Rd. O/C Br.
3.26' Rt. "CL101" Line. C Rte. 101
Sta. 45+19.32
N 1,947,274.458
E 6,341,378.505
Elev. 165.515'



PLAN
1"=20'

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES OFFICE OF GEOTECHNICAL DESIGN BRANCH	BRIDGE NO. 20-0298	MARK WEST CREEK BRIDGE NB OFF-RAMP	
FUNCTIONAL SUPERVISOR NAME: H. Nikouli	DRAWN BY: M. Reynolds 11/10 CHECKED BY: S. Awad	FIELD INVESTIGATION BY: M. Hung/ V. Khata-O-Khotan/ S. Awad				POST MILES 26.1		LOG OF TEST BORINGS 1 of 5
065 CIVIL LOG OF TEST BORINGS SHEET				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU EA 04 000209451 (3A23U1)	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 16 OF 20

USERNAME => s124496 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 14:13
FILE => 20-0298-z-1+01.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	598	615

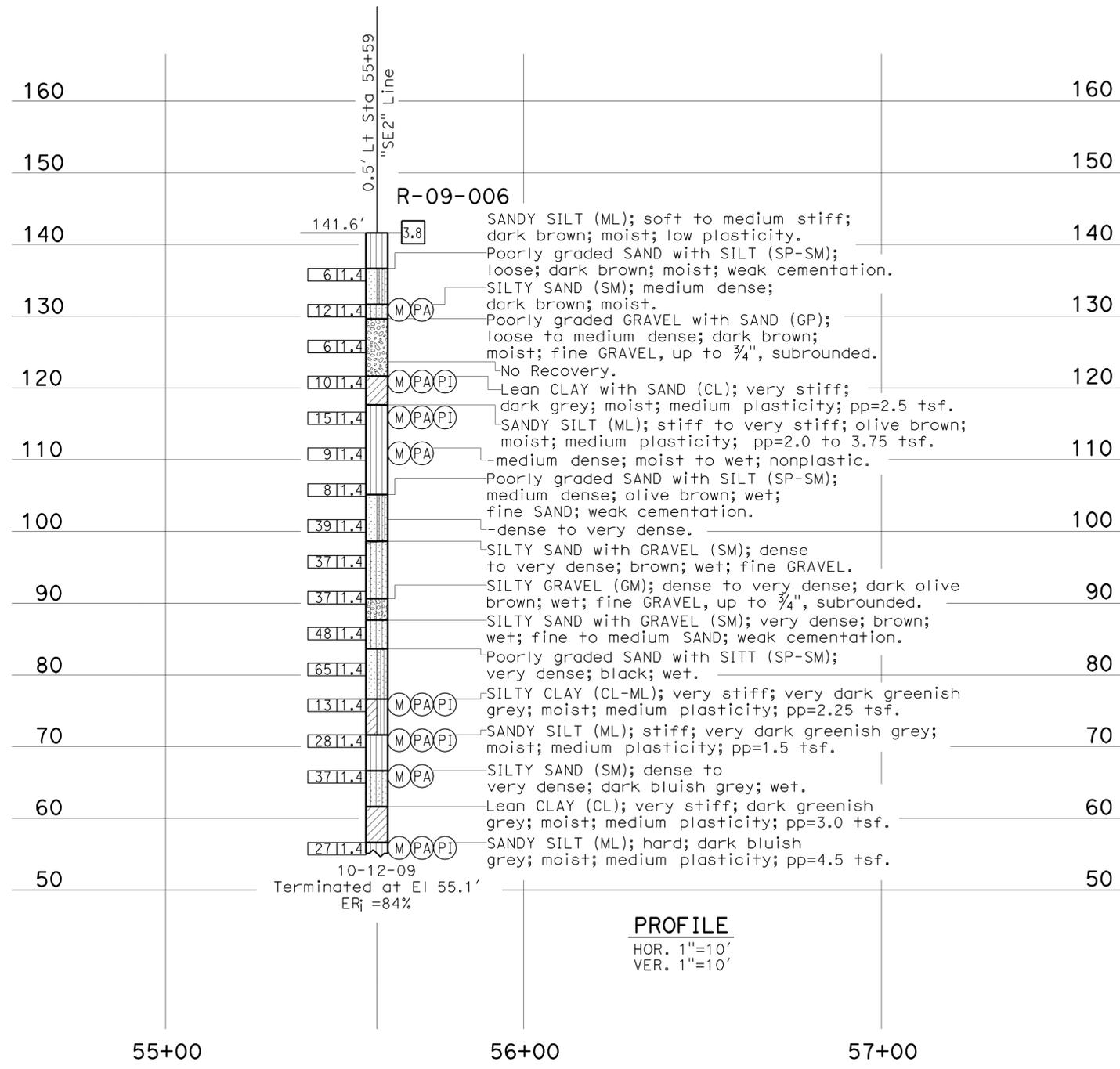
Meng-Hsi Hung 01-20-11
REGISTERED CIVIL ENGINEER

9-10-12
PLANS APPROVAL DATE

Meng-Hsi Hung
No. 69739
Exp. 6-30-12
CIVIL
STATE OF CALIFORNIA

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(For Boring Location See Plan, LOTB Sheet 1 of 5)



NOTE: qu=unconfined compressive strength (tsf) as measured by pocket penetrometer.

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA		DIVISION OF ENGINEERING SERVICES		BRIDGE NO.		MARK WEST CREEK BRIDGE NB OFF-RAMP	
FUNCTIONAL SUPERVISOR		DRAWN BY: M. Reynolds 11/10		DEPARTMENT OF TRANSPORTATION		OFFICE OF GEOTECHNICAL		20-0298		LOG OF TEST BORINGS 2 of 5	
NAME: H. Nikouli		CHECKED BY: S. Awad		FIELD INVESTIGATION BY: V. Khata-O-Khotan		DESIGN BRANCH		POST MILES			
065 CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		0 1 2 3		CU 04 000209451 (3A23U1)		26.1		REVISION DATES	
						DISREGARD PRINTS BEARING EARLIER REVISION DATES		02-02-11 02-07-11 03-03-11		SHEET 17 OF 20	

USERNAME => s124496 DATE PLOTTED => 13-SEP-2012 TIME PLOTTED => 14:13

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Son	101	25.6/29.2	600	615

01-20-11
 REGISTERED CIVIL ENGINEER DATE
 9-10-12
 PLANS APPROVAL DATE

Meng-Hsi Hung
 No. 69739
 Exp. 6-30-12
 CIVIL
 STATE OF CALIFORNIA

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CEMENTATION	
Description	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

BOREHOLE IDENTIFICATION		
Symbol	Hole Type	Description
	A	Auger Boring (hollow or solid stem bucket)
	R	Rotary drilled boring (conventional)
	RW	Rotary drilled with self-casing wire-line
	RC	Rotary core with continuously-sampled, self-casing wire-line
	P	Rotary percussion boring (air)
	R	Rotary drilled diamond core
	HD	Hand driven (1-inch soil tube)
	HA	Hand Auger
	D	Dynamic Cone Penetration Boring
	CPT	Cone Penetration Test (ASTM D 5778)
	O	Other (note on LOTB)

Note: Size in inches.

CONSISTENCY OF COHESIVE SOILS				
Description	Shear Strength (tsf)	Pocket Penetrometer Measurement, PP, (tsf)	Torvane Measurement, TV, (tsf)	Vane Shear Measurement, VS, (tsf)
Very Soft	Less than 0.12	Less than 0.25	Less than 0.12	Less than 0.12
Soft	0.12 - 0.25	0.25 - 0.5	0.12 - 0.25	0.12 - 0.25
Medium Stiff	0.25 - 0.5	0.5 - 1	0.25 - 0.5	0.25 - 0.5
Stiff	0.5 - 1	1 - 2	0.5 - 1	0.5 - 1
Very Stiff	1 - 2	2 - 4	1 - 2	1 - 2
Hard	Greater than 2	Greater than 4	Greater than 2	Greater than 2

