

NOTES:

1. See New Standard Plan NSP A77C5 for additional vegetation control details.
2. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 24" in front of the post, construct vegetation control to the edge of paved shoulder.
3. Direction of adjacent traffic indicated by ←.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Or	57	18.4/20.9	501	856

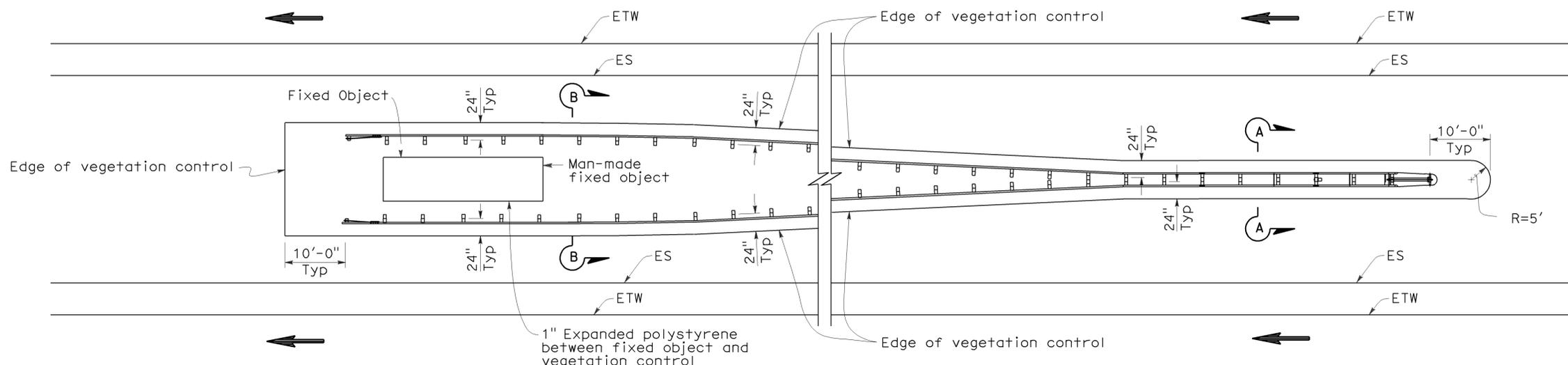
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

October 20, 2006
PLANS APPROVAL DATE

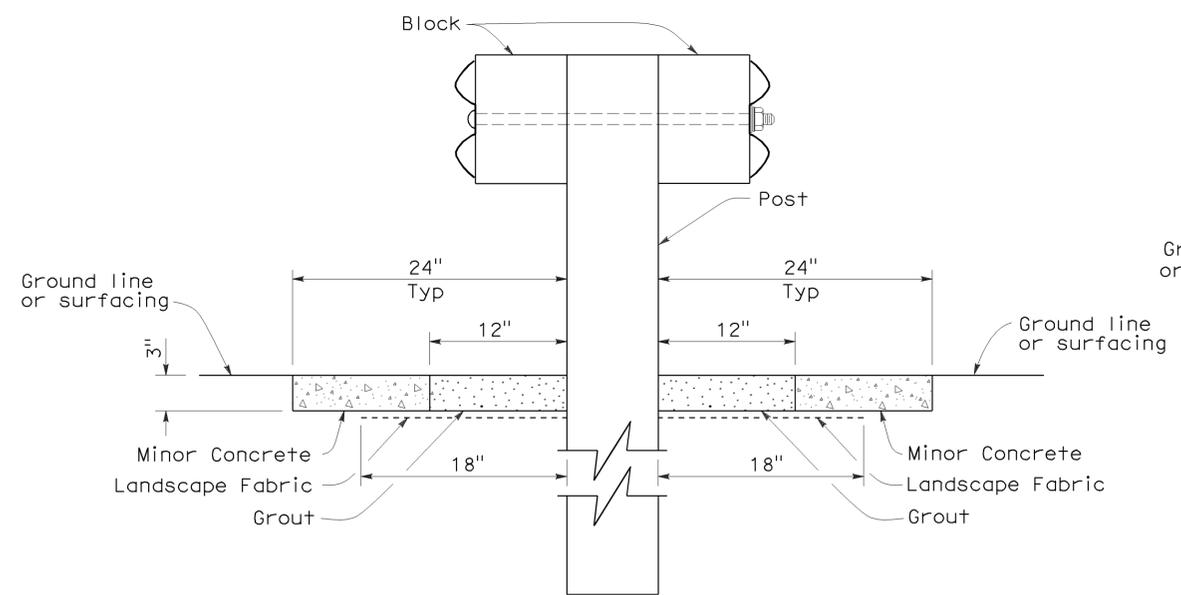
Randell D. Hiatt
No. C50200
Exp. 6-30-07
CIVIL
STATE OF CALIFORNIA

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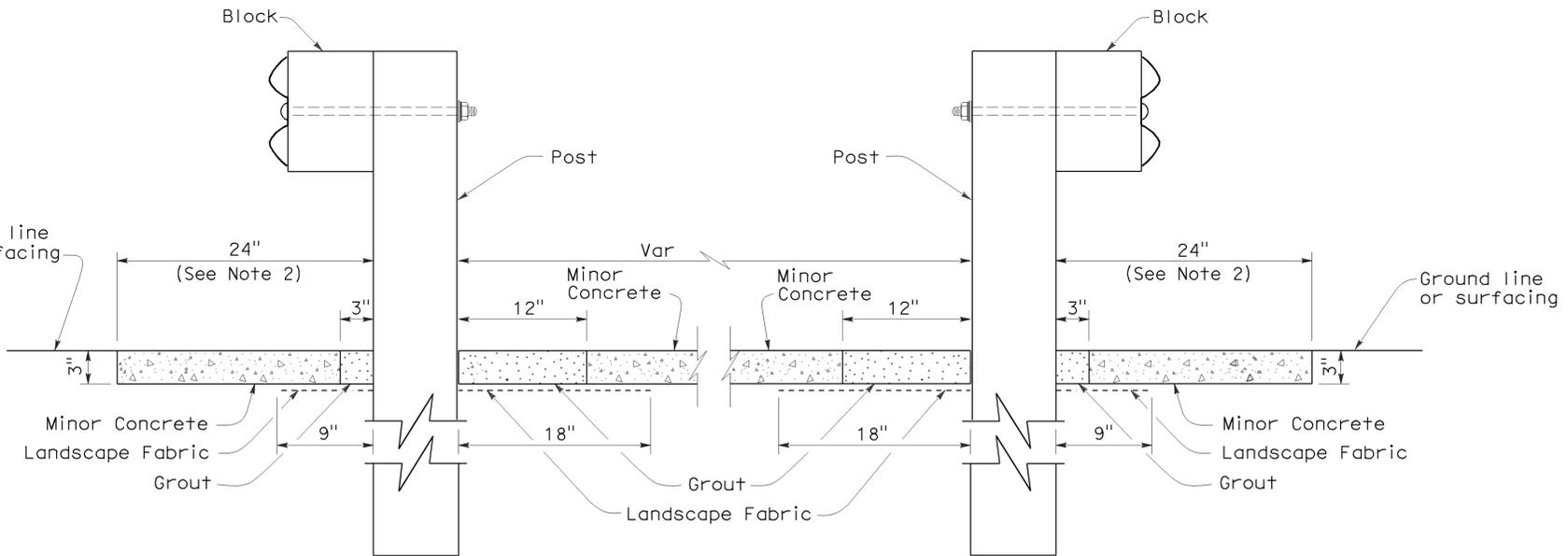
To accompany plans dated 1-25-10



PLAN
FIXED OBJECT(S) BETWEEN SEPARATE ROADBEDS
(ONE-WAY TRAFFIC)



SECTION A-A



SECTION B-B

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TYPICAL VEGETATION CONTROL
AT FIXED OBJECT**

NO SCALE

NSP A77C10 DATED OCTOBER 20, 2006 SUPPLEMENTS THE STANDARD
PLANS BOOK DATED MAY 2006.

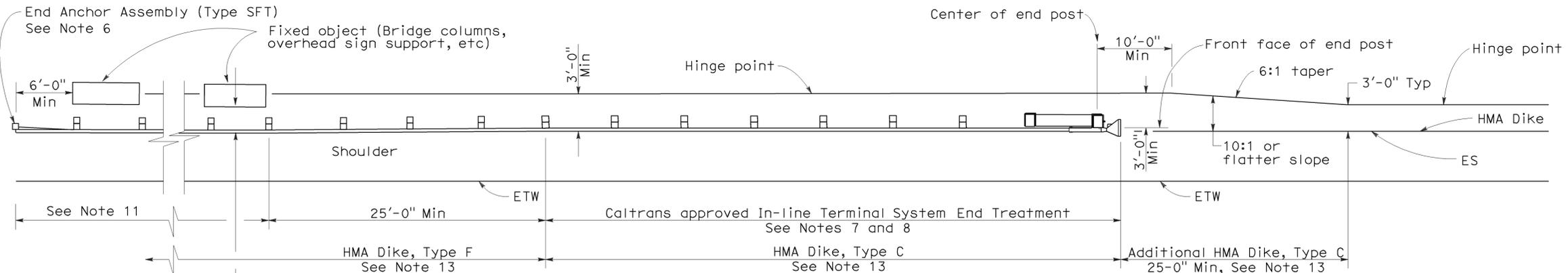
2006 NEW STANDARD PLAN NSP A77C10

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Oran	57	18.4/20.9	502	856

RANDALL D. HIATT
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 No. C50200
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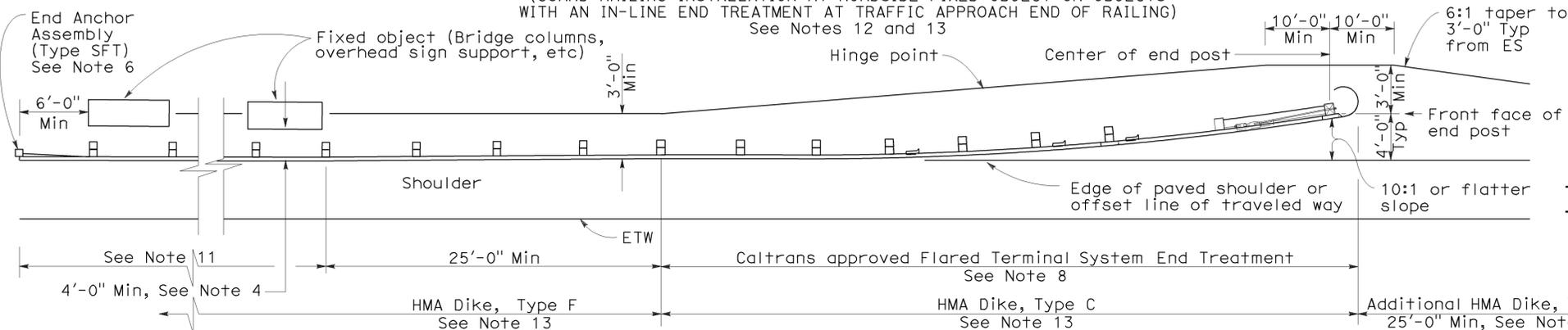
June 6, 2008
 PLANS APPROVAL DATE

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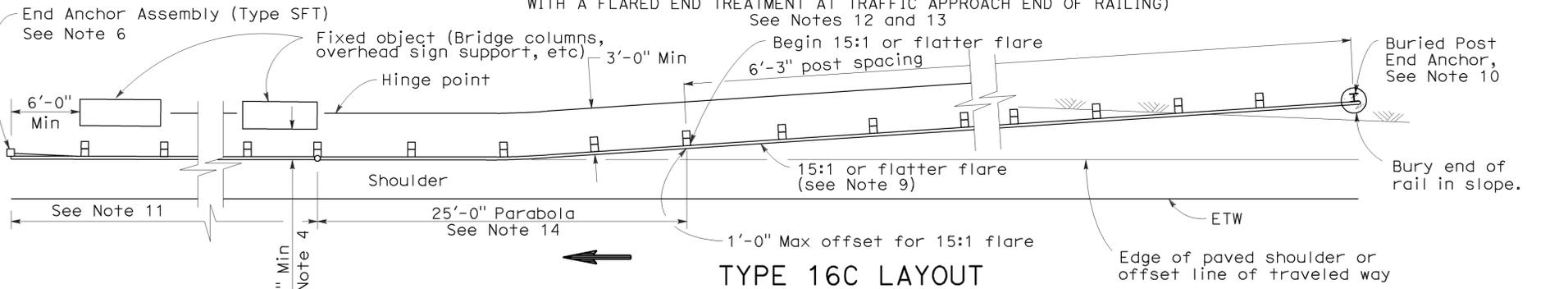
TYPE 16A LAYOUT

(GUARD RAILING INSTALLATION AT ROADSIDE FIXED OBJECT OR OBJECTS WITH AN IN-LINE END TREATMENT AT TRAFFIC APPROACH END OF RAILING)
See Notes 12 and 13



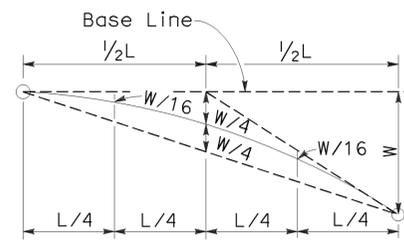
TYPE 16B LAYOUT

(GUARD RAILING INSTALLATION AT ROADSIDE FIXED OBJECT OR OBJECTS WITH A FLARED END TREATMENT AT TRAFFIC APPROACH END OF RAILING)
See Notes 12 and 13

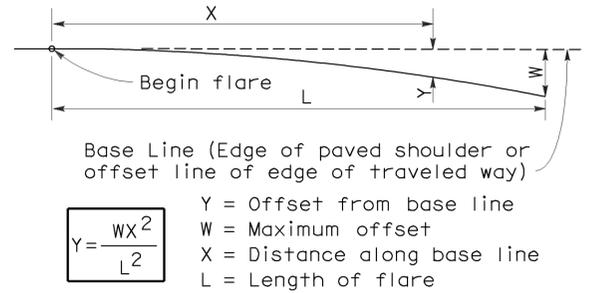


TYPE 16C LAYOUT

(GUARD RAILING INSTALLATION AT ROADSIDE FIXED OBJECT OR OBJECTS WITH A BURIED END ANCHOR TREATMENT AT TRAFFIC APPROACH END OF RAILING)
See Notes 12 and 13



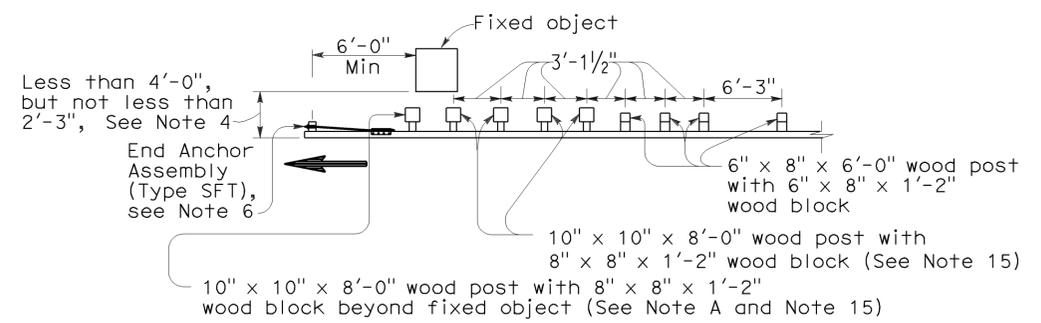
TYPICAL PARABOLIC LAYOUT



PARABOLIC FLARE OFFSETS

NOTES:

- Line post, blocks and hardware to be used are shown on Revised Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard railing post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood line posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- A 4'-0" minimum clearance is required between the face of the railing and the face of a fixed object located directly behind standard guard railing sections with post spacing of 6'-3". Construct guard railing as shown in the detail "Strengthened Railing Sections for Fixed Objects" on this plan, where the clearance between the face of the railing and the face of a fixed object is less than 4'-0", but not less than 2'-3". Where the clearance is less than 2'-3", a concrete wall or barrier should be constructed to shield the fixed object(s).
- Direction of adjacent traffic indicated by \rightarrow .
- For End Anchor Assembly (Type SFT) details, see Standard Plan A77H1.
- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of terminal system to be used will be shown on the Project Plans.
- The 15:1 or flatter flare used with Type 16C Layout is based on the edge of the paved shoulder or offset line of edge of the traveled way. The length of guard railing within the 15:1 or flatter flare is based on site conditions and should be a length equal to multiples of 12'-6".
- For details of the Buried Post End Anchor used with Type 16C Layout, see Standard Plan A77I2.
- As site conditions dictate, construct additional guard railing to shield fixed object(s). Additional guard railing length equal to multiples of 12'-6". Post spacing at 6'-3" except as specified in Note 4.
- Layout Types 16A, 16B or 16C are typically used where guard railing is recommended to shield roadside fixed object(s) and a crashworthy end treatment is required for only one direction of traffic.
- Where placement of dike is required with guard railing, see Revised Standard Plan RSP A77C4 for dike positioning details.
- For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77E1.
- W6 x 15 steel post, 8'-0" in length, with 8" x 8" x 1'-2" notched wood block or notched recycled plastic blocks may be used in place of the 10" x 10" x 8'-0" wood post with 8" x 8" x 1'-2" wood block shown in the "Strengthened Railing Sections Detail".



NOTE A:

For a series of fixed objects (bridge columns, overhead sign supports, etc.) additional 10" x 10" x 8'-0" wood post with 8" x 8" x 1'-2" wood blocks at 3'-1/2" center to center spacing are to be used between fixed objects.

STRENGTHENED RAILING SECTIONS FOR FIXED OBJECT

Use strengthened railing sections with Types 16A, 16B or 16C Layouts where minimum clearance between the face of the guard railing and fixed object(s) is less than 4'-0", but not less than 2'-3". See Note 4

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
METAL BEAM GUARD RAILING TYPICAL LAYOUTS FOR ROADSIDE FIXED OBJECTS

NO SCALE

RSP A77G3 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77G3 DATED MAY 1, 2006 - PAGE 61 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77G3

2006 REVISED STANDARD PLAN RSP A77G3

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Oran	57	18.4/20.9	503	856

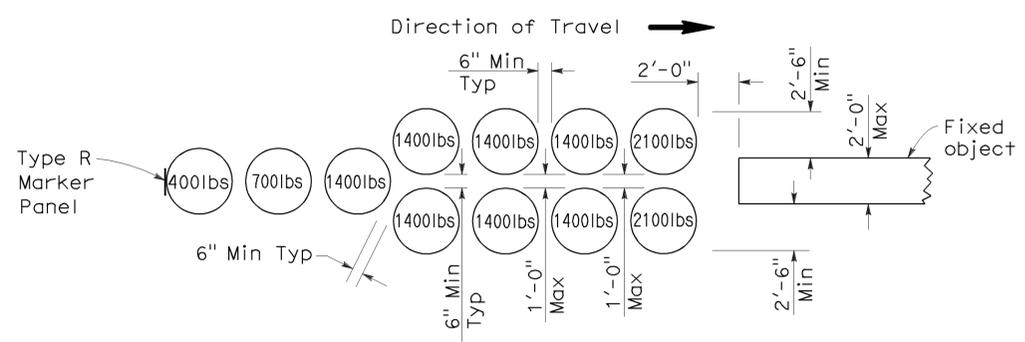
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

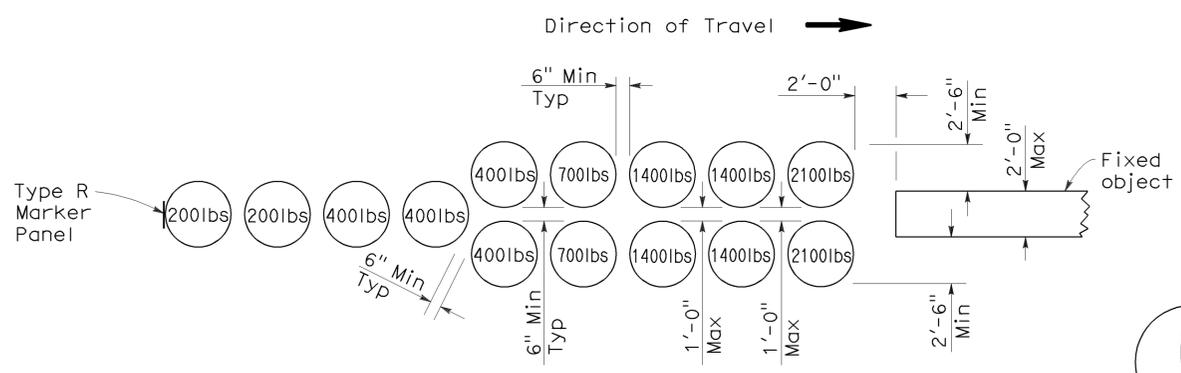
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REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

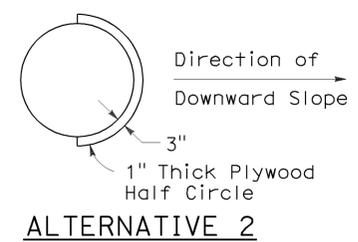
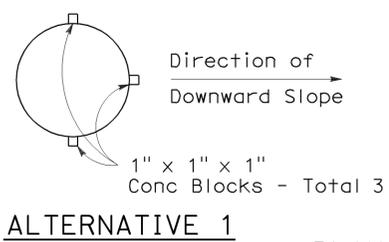
To accompany plans dated 1-25-10



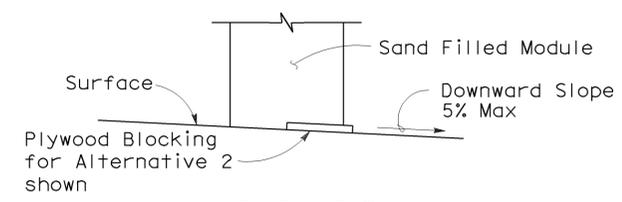
Direction of Travel →
ARRAY 'U11'
Approach speed less than 45 mph



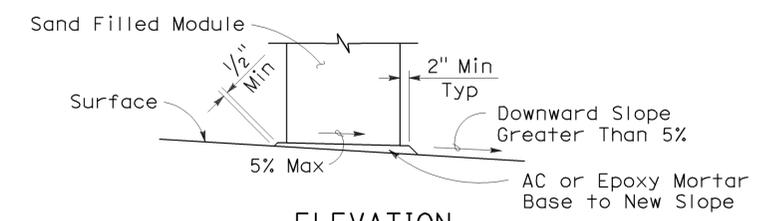
Direction of Travel →
ARRAY 'U14'
Approach speed 45 mph or more



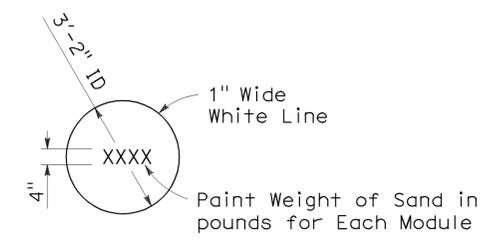
PLAN



ELEVATION
BRIDGE DECK MODULE BLOCKING DETAILS
(See Note 6)



ELEVATION
SLOPED SEAT DETAIL
(See Note 4)



PAINTING DETAIL
(See Note 5)

NOTES:

1. (XXX) Indicates module location and mass of sand in pounds for each module. Module spacing is based on the greater diameter of the modules.
2. All sand weights are nominal.
3. Each module is to contain amount of sand indicated, supported according to the manufacturer's instructions.
4. Modules shall be placed on asphalt concrete, epoxy mortar or concrete surface. Modules to be placed on surfacing with greater than 5% downward slope shall be seated as shown.
5. Mass of sand and outline of each module shall be painted on the surface at each module location.
6. Module blocking, epoxied to the deck surface, is required for all modules placed on bridge decks. Two acceptable alternatives are shown. Other alternatives recommended by the manufacturer and approved by the Engineer will be accepted.
7. Place the top of the Type R marker panel 1" below the module lid.
8. Approach speeds indicated conform to NCHRP Report criteria.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**CRASH CUSHION,
SAND FILLED
(UNIDIRECTIONAL)**

NO SCALE

RSP A81A DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A81A
DATED MAY 1, 2006 - PAGE 99 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A81A

2006 REVISED STANDARD PLAN RSP A81A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Oran	57	18.4/20.9	504	856

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

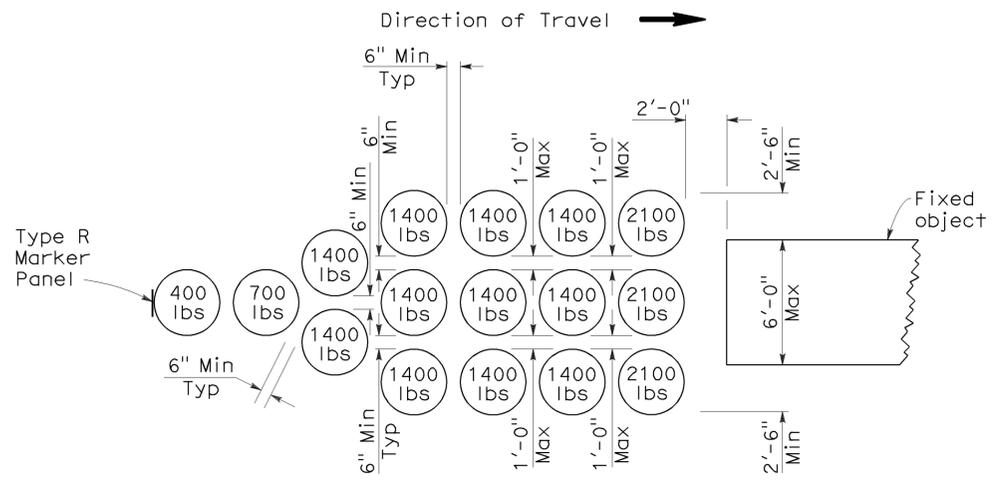
June 6, 2008
PLANS APPROVAL DATE

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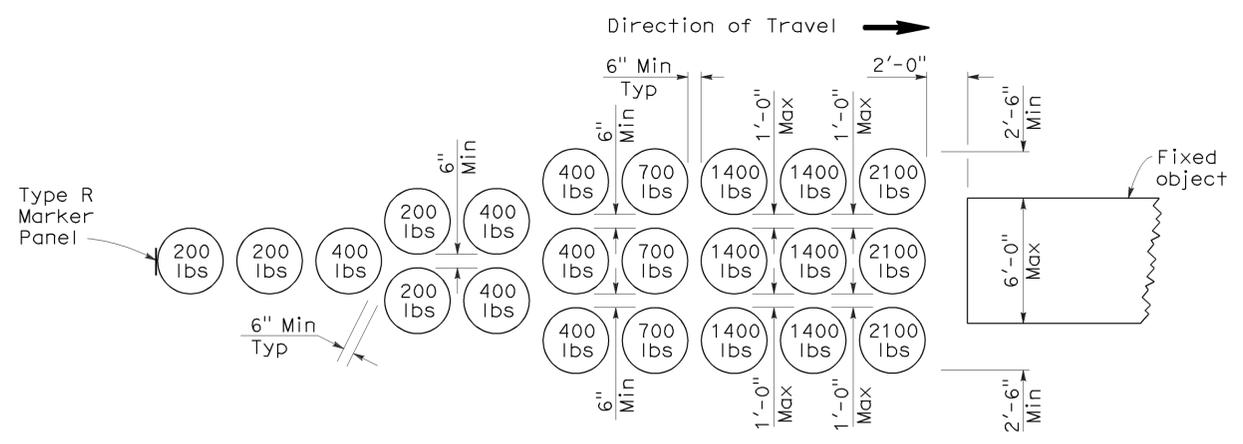
To accompany plans dated 1-25-10

NOTES:

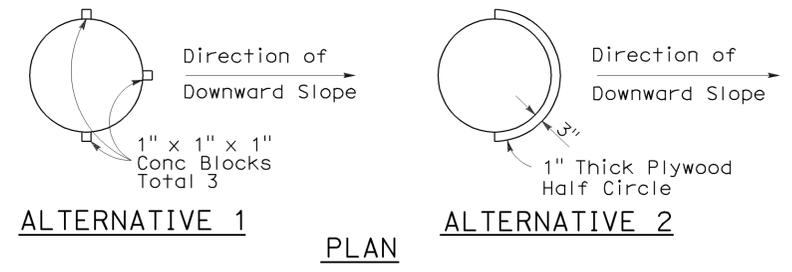
1. (XXX) Indicates module location and weight of sand in pounds for each module. Module spacing is based on the greater diameter of the modules.
2. All sand weights are nominal.
3. Each module is to contain amount of sand indicated, supported according to the manufacturer's instructions.
4. Modules shall be placed on asphalt concrete, epoxy mortar or concrete surface. Modules to be placed on surfacing with greater than 5% downward slope shall be seated as shown.
5. Mass of sand and outline of each module shall be painted on the surface at each module location.
6. Module blocking, epoxied to the deck surface, is required for all modules placed on bridge decks. Two acceptable alternatives are shown. Other alternatives recommended by the manufacturer and approved by the Engineer will be accepted.
7. Place the top of the Type R marker panel 1" below the module lid.
8. Approach speeds indicated conform to NCHRP Report criteria.



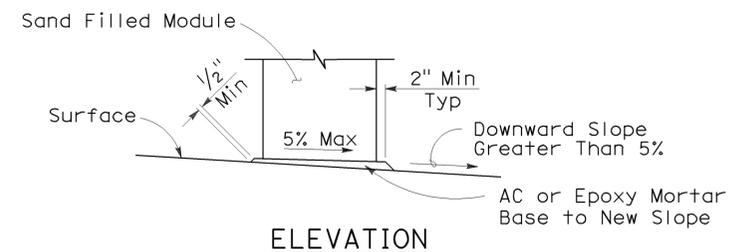
ARRAY 'U16'
Approach speed less than 45 mph



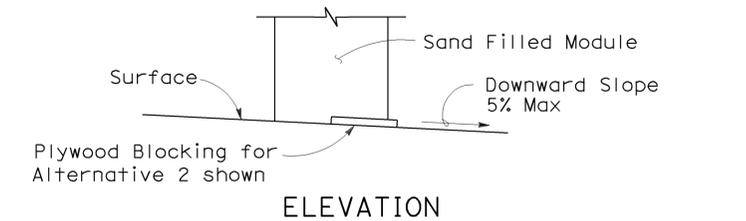
ARRAY 'U21'
Approach speed 45 mph or more



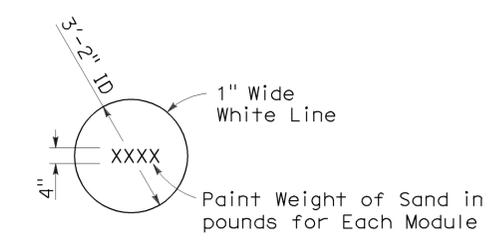
ALTERNATIVE 1 **ALTERNATIVE 2**
PLAN



ELEVATION
SLOPED SEAT DETAIL
(See Note 4)



ELEVATION
BRIDGE DECK MODULE BLOCKING DETAILS
(See Note 6)



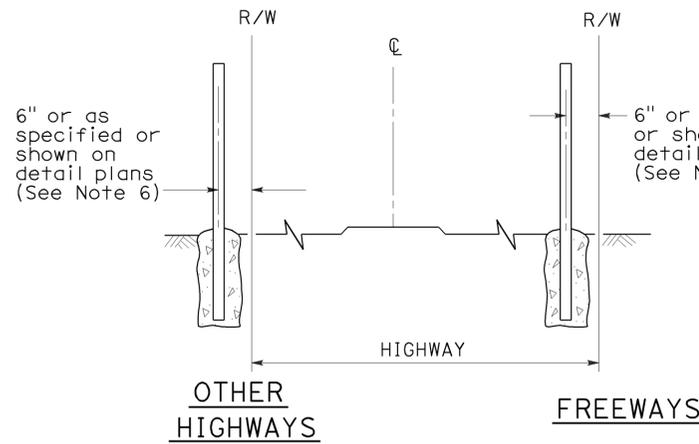
PAINTING DETAIL
(See Note 5)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**CRASH CUSHION,
SAND FILLED
(UNIDIRECTIONAL)**
NO SCALE

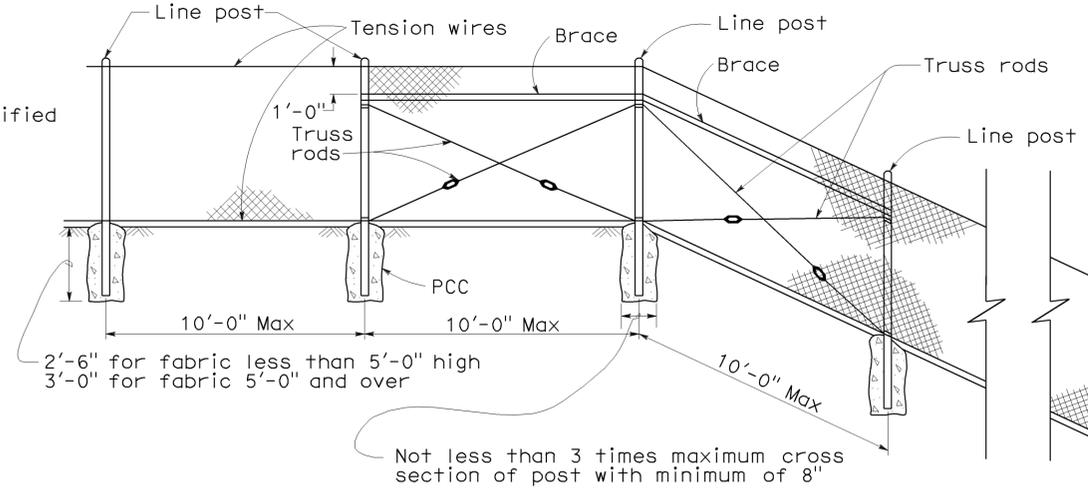
RSP A81B DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A81B
DATED MAY 1, 2006 - PAGE 100 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A81B

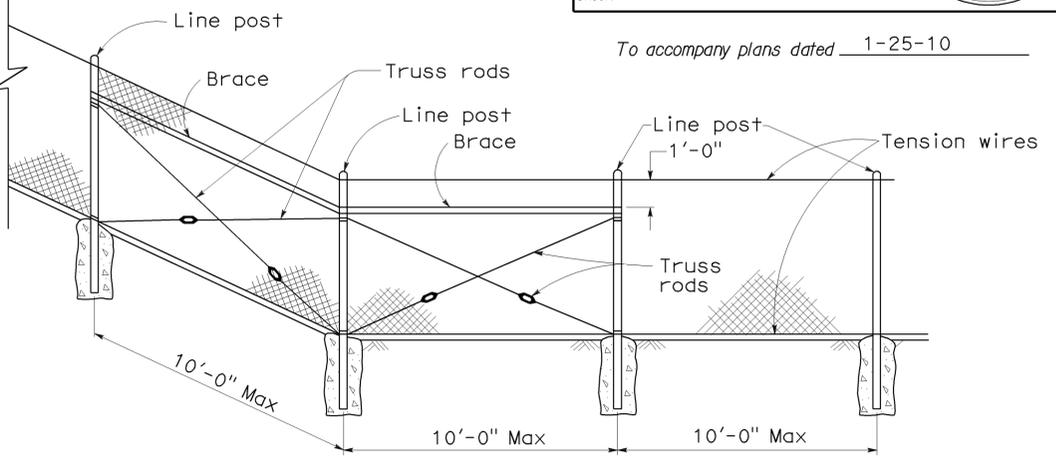
2006 REVISED STANDARD PLAN RSP A81B



FENCE LOCATION

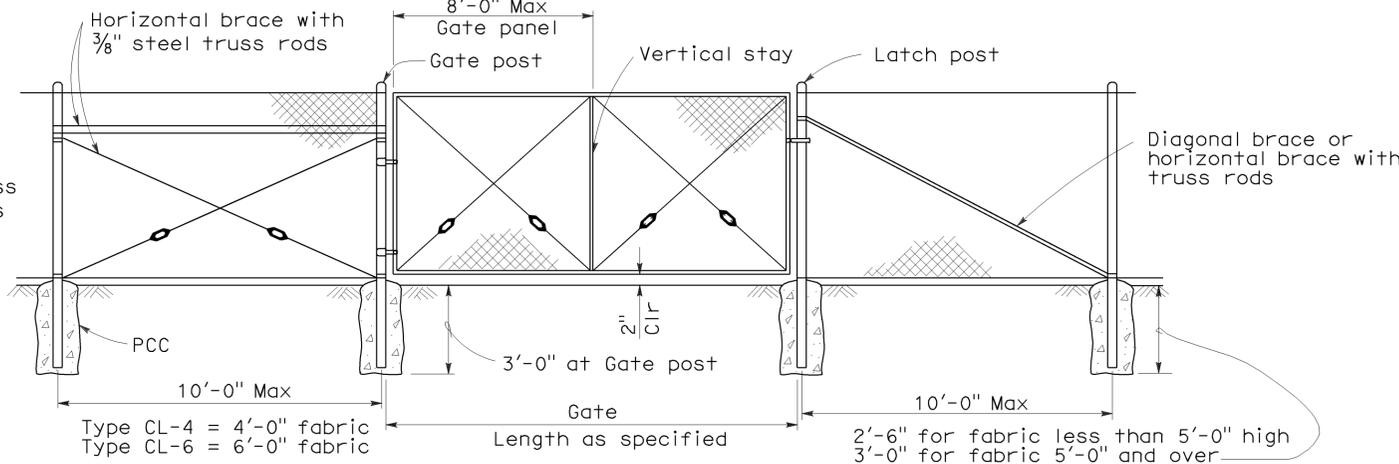
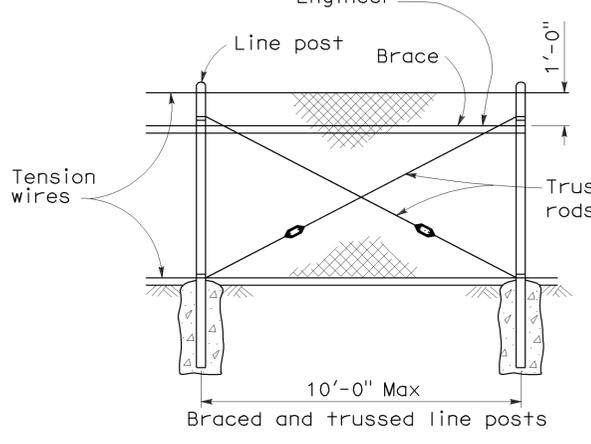


CHAIN LINK FENCE ON SHARP BREAK IN GRADE



To accompany plans dated 1-25-10

Brace to be removed after all other fence construction is completed unless otherwise directed by the Engineer



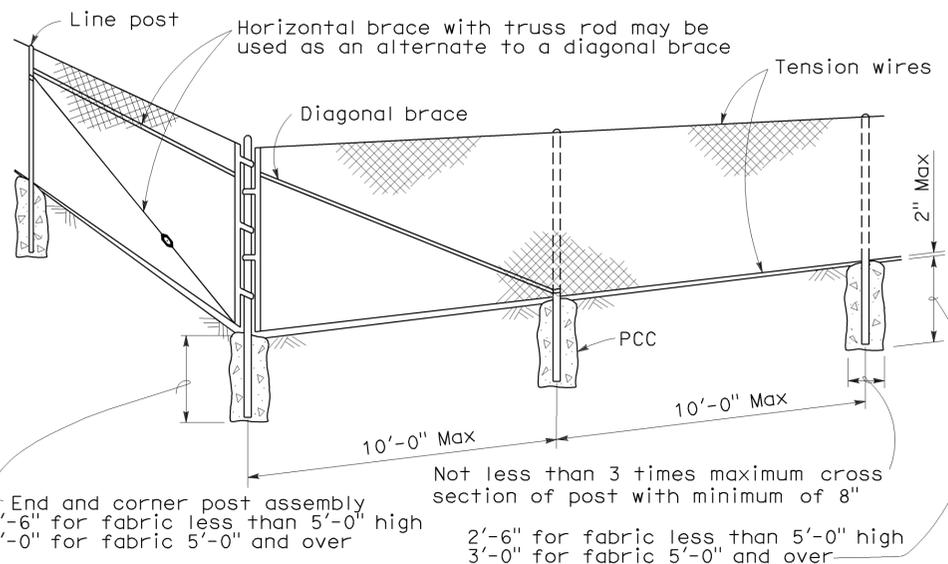
CHAIN LINK GATE INSTALLATION

NOTES:

- The below table shows examples of post and brace sections which may comply with the Specifications.
- Sections shown in the tables must also comply with the strength requirements and other provisions of the Specifications.
- Other sections which comply with the strength requirements and other provisions of the Specifications may be used on approval of the Engineer.
- Options exercised shall be uniform on any one project.
- Dimensions shown are nominal.
- Offset to be 2'-0" at monument locations, measured at right angles to R/W lines. Taper to achieve offset to be at least 20'-0" long.

GATE POST			
FENCE HEIGHT	GATE WIDTHS	NOMINAL ID	WEIGHT PER FOOT
6'-0" and Less	Up thru 6'-0"	2 1/2"	4.95 LB
	Over 6'-0" thru 12'-0"	4"	10.79 LB
	Over 12'-0" thru 18'-0"	5"	14.62 LB
	Over 18'-0" to 24'-0" Max	6"	18.97 LB
Over 6'-0"	Up thru 6'-0"	3"	7.58 LB
	Over 6'-0" thru 12'-0"	5"	14.62 LB
	Over 12'-0" thru 18'-0"	6"	18.97 LB
	Over 18'-0" to 24'-0" Max	8"	28.55 LB

Above post dimensions and weights are minimums. Larger sizes may be used on approval of the Engineer.



CORNER POST

FENCE HEIGHT	TYPICAL MEMBER DIMENSIONS (See Notes)									
	LINE POSTS			END, LATCH & CORNER POSTS			BRACES			
	ROUND ID	H	ROLL FORMED	ROUND ID	ROLL FORMED		ROUND ID	H	ROLL FORMED	
6' & less	1 1/2"	1 7/8" x 1 5/8"	1 7/8" x 1 5/8"	2"	3 1/2" x 3 1/2"	2" x 1 3/4"	1 1/4"	1 1/2" x 1 5/16"	1 5/8" x 1 1/4"	1 3/4" x 1 1/4"
Over 6'	2"	2 1/4" x 2"	2" x 1 3/4"	2 1/2"	3 1/2" x 3 1/2"	2 1/2" x 2 1/2"	1 1/4"	1 1/2" x 1 5/16"	1 5/8" x 1 1/4"	1 3/4" x 1 1/4"

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CHAIN LINK FENCE

NO SCALE

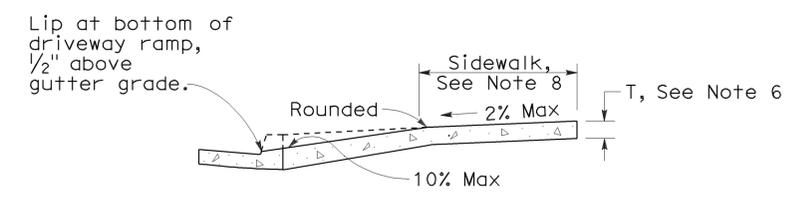
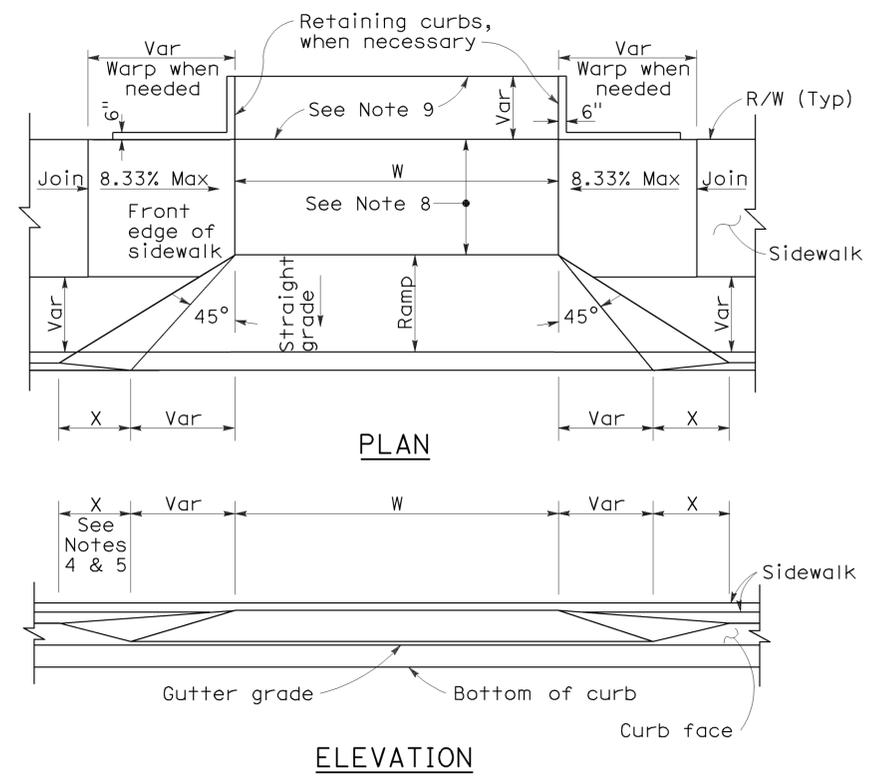
RSP A85 DATED JUNE 5, 2009 SUPERSEDES STANDARD PLAN A85
DATED MAY 1, 2006 - PAGE 111 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A85

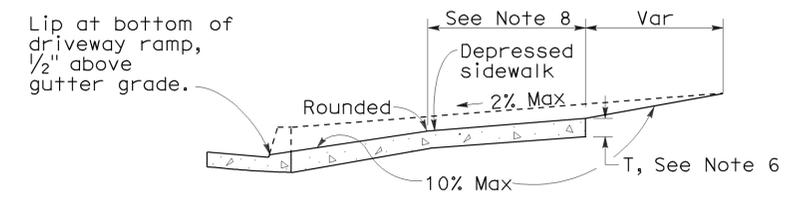
2006 REVISED STANDARD PLAN RSP A85



To accompany plans dated 1-25-10



CASE A
Typical driveway, sidewalk not depressed



CASE B
Driveway with depressed sidewalk

SECTIONS

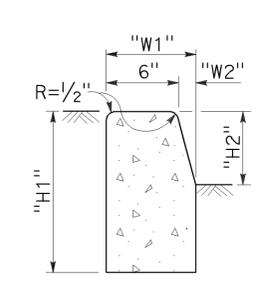
CURB QUANTITIES

TYPE	CUBIC YARDS PER LINEAR FOOT
A1-6	0.02585
A1-8	0.03084
A2-6	0.05903
A2-8	0.06379
A3-6	0.01036
A3-8	0.01435
B1-4	0.02185
B1-6	0.02930
B2-4	0.05515
B2-6	0.06171
B3-4	0.00641
B3-6	0.01074
B4	0.05709
D-4	0.04083
D-6	0.06804
E	0.06661

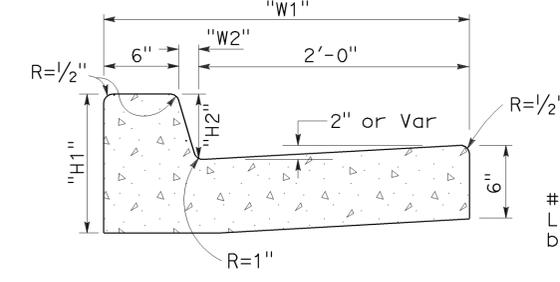
TABLE A

CURB TYPE	DIMENSIONS			
	"H1"	"H2"	"W1"	"W2"
A1-6	1'-2"	6"	7 1/2"	1 1/2"
A1-8	1'-4"	8"	8"	2"
A2-6	1'-0"	6"	2'-7 1/2"	1 1/2"
A2-8	1'-2"	8"	2'-8"	2"
A3-6	6"	5"	7 1/4"	1 1/4"
A3-8	8"	7"	7 3/4"	1 3/4"
B1-4	1'-0"	4"	7 1/2"	2 1/2"
B1-6	1'-2"	6"	9"	4"
B2-4	10"	4"	2'-7 1/2"	2 1/2"
B2-6	1'-0"	6"	2'-9"	4"
B3-4	4"	3"	7"	2"
B3-6	6"	5"	8 1/2"	3 1/2"
D-4	10"	4"	1'-6"	1'-1"
D-6	1'-0"	6"	2'-2"	1'-8"

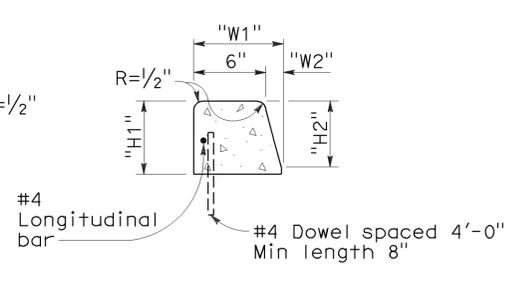
DRIVEWAYS



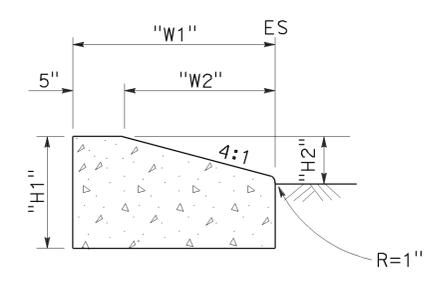
TYPE A1 CURBS
See Table A



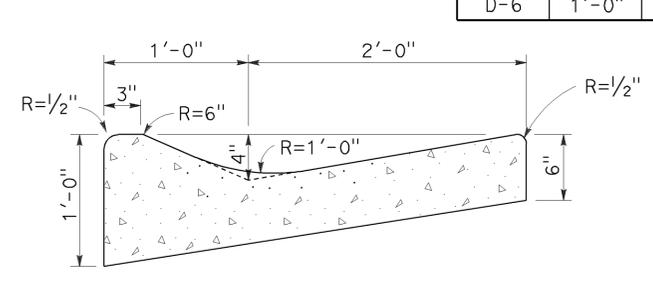
TYPE A2 CURBS
See Table A



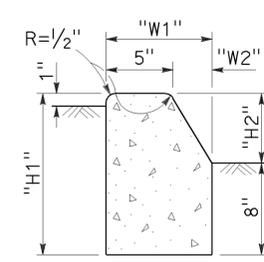
TYPE A3 CURBS
Superimposed on existing pavement
See Table A



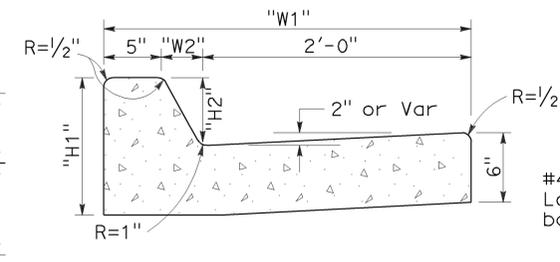
TYPE D CURBS
See Table A



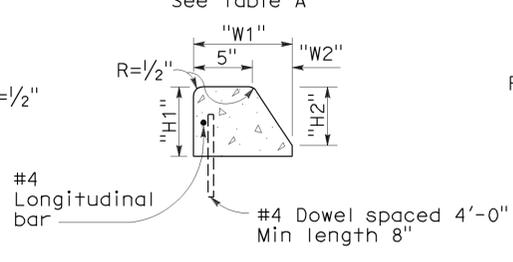
TYPE E CURB



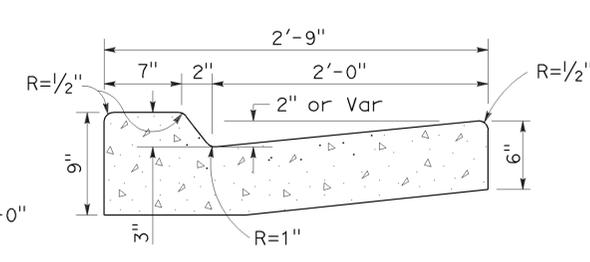
TYPE B1 CURBS
See Table A



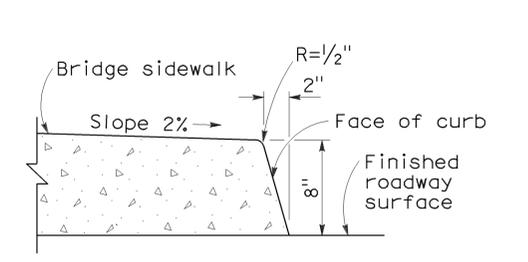
TYPE B2 CURBS
See Table A



TYPE B3 CURBS
Superimposed on existing pavement
See Table A



TYPE B4 CURBS



TYPE H CURB
On Bridges

CURBS

NOTES:

- Case A driveway section typically applies.
- Use Case B driveway section when ramp slopes would exceed 10% in Case A.
- Use Case B driveway section when sidewalk cross slope would exceed 2% in Case A.
- X=3'-0" except for curb heights over 10" where 4:1 slopes shall be used on curb slope.
- X is a variable when sidewalk is located where wheelchairs may traverse the surface. Slopes shall not exceed 8.33%.
- Sidewalk and ramp thickness "T" at driveway shall be 4" for residential and 6" for commercial.
- Difference in slope of the driveway ramp and the slope of a line between the gutter and a point on the roadway 5'-0" from gutter line shall not exceed 15%. Reduce driveway ramp slope, not gutter slope, where required.
- Minimum width of clear passageway for sidewalk shall be 4'-0".
- Retaining curbs and acquisition of construction easement may be necessary for narrow sidewalks or curb heights in excess of 6".
- Across the pedestrian route at curb ramp locations, the gutter pan slope shall not exceed 1" of depth for each 2'-0" of width.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CURBS AND DRIVEWAYS

NO SCALE

RSP A87A DATED NOVEMBER 17, 2006 SUPERSEDES STANDARD PLAN A87A
DATED MAY 1, 2006 - PAGE 113 OF THE STANDARD PLANS BOOK DATED MAY 2006.

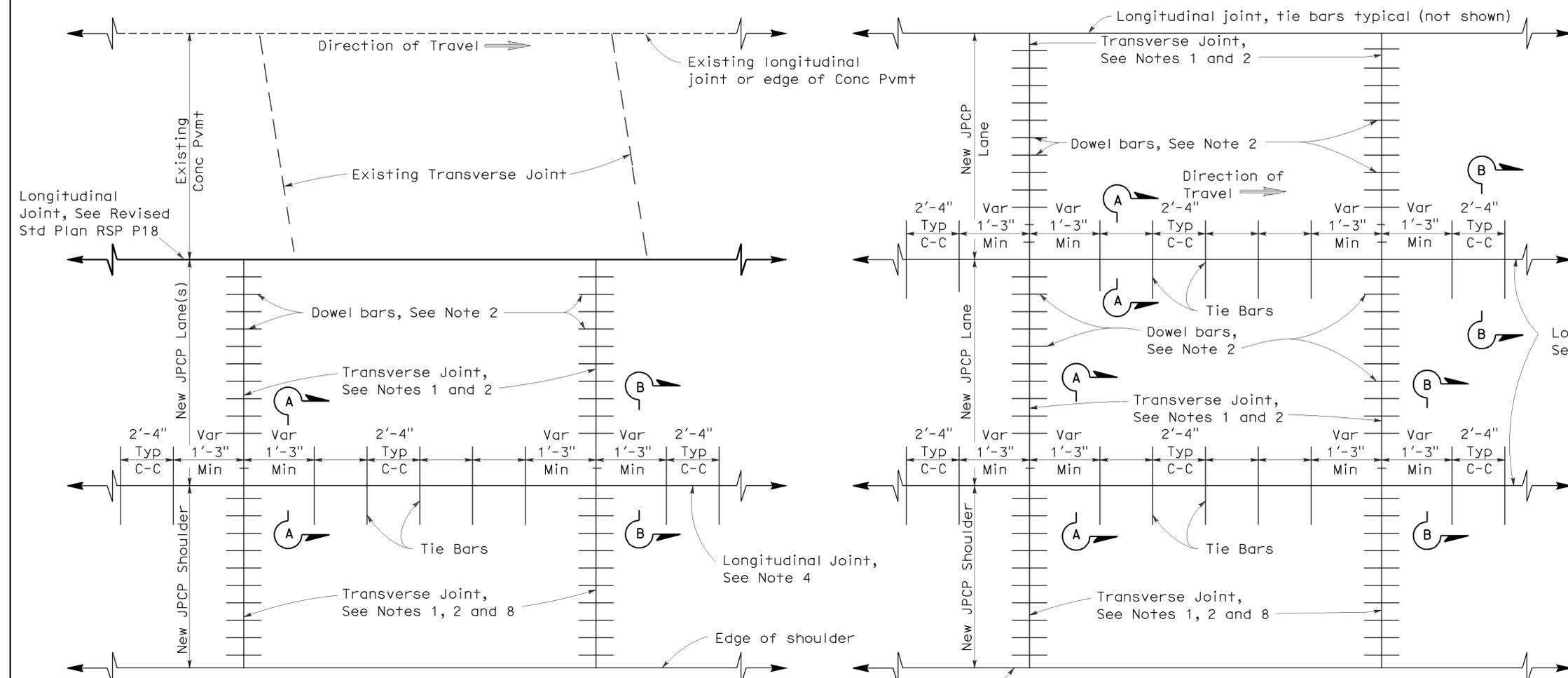
REVISED STANDARD PLAN RSP A87A

2006 REVISED STANDARD PLAN RSP A87A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	18.4/20.9	508	856

William K. Farnbach
 REGISTERED CIVIL ENGINEER
 May 15, 2009
 PLANS APPROVAL DATE
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 REGISTERED PROFESSIONAL ENGINEER
 William K. Farnbach
 No. C49042
 Exp. 9-30-10
 CIVIL
 STATE OF CALIFORNIA

To accompany plans dated 1-25-10



PLAN
LANE/SHOULDER ADDITION OR RECONSTRUCTION

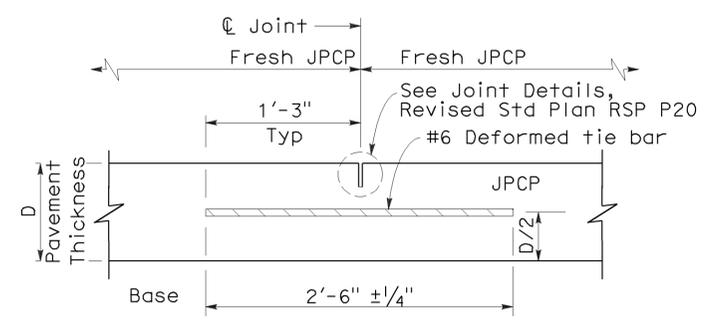
See Notes 6 and 7

PLAN
NEW CONSTRUCTION

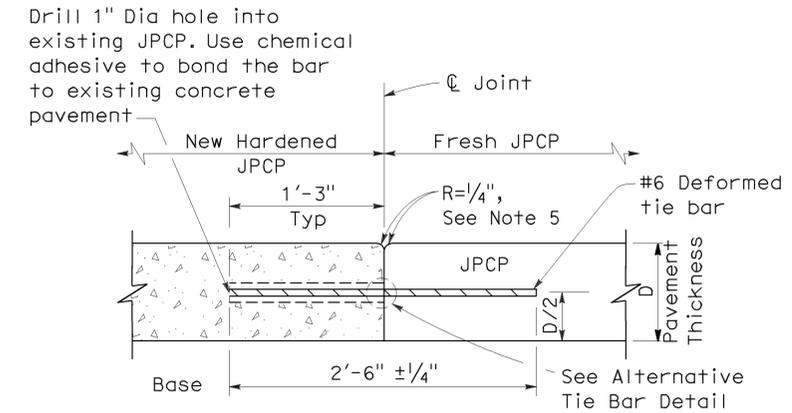
See Notes 6 and 7

NOTES:

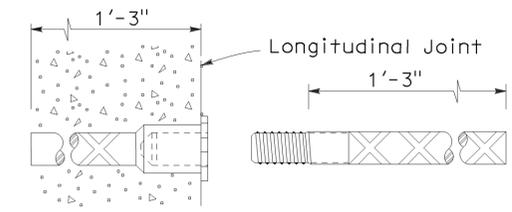
1. Transverse joints shall be constructed at right angles to the longitudinal pavement joints in new jointed plain concrete pavement and spaced at successive repeated intervals of 12', 15', 13' and 14'.
2. For transverse joint and dowel bar details not shown, See Revised Standard Plan RSP P10.
3. Construct longitudinal contraction joints as shown in Section A-A when more than one lane or shoulder widths are placed at one time. If constructing one lane at a time, use longitudinal construction joint, as shown in Section B-B.
4. For additional longitudinal joint details, see Revised Standard Plan RSP P18.
5. If fresh concrete is placed adjacent to existing concrete, the top corner of the new hardened concrete does not need to be rounded to the 1/4" radius as shown.
6. Joint spacing patterns do not apply to intersections.
7. Details can also apply to inside widening.
8. Dowel bars may be omitted from shoulders when the shoulder cross slope is not the same as the adjacent traffic lane.



SECTION A-A
LONGITUDINAL CONTRACTION JOINT



SECTION B-B
LONGITUDINAL CONSTRUCTION JOINT



ALTERNATIVE TIE BAR SPLICE DETAIL
(Splice Coupler)

TIE BAR DETAILS

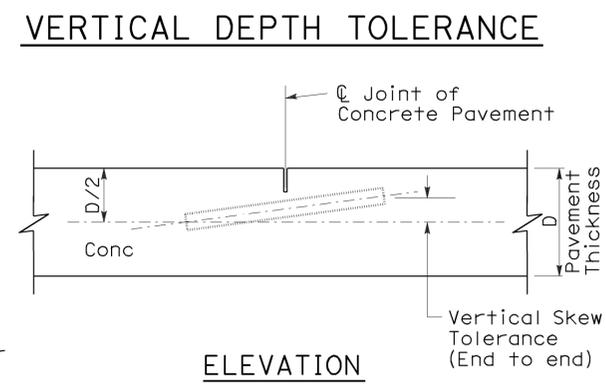
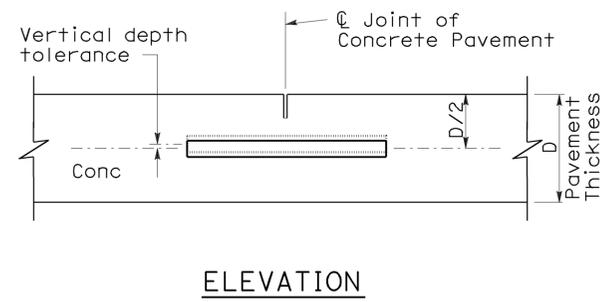
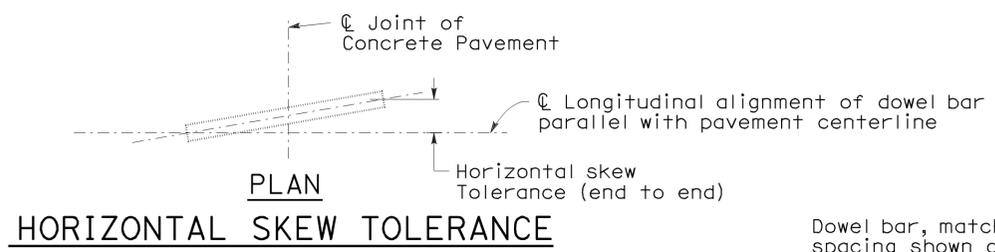
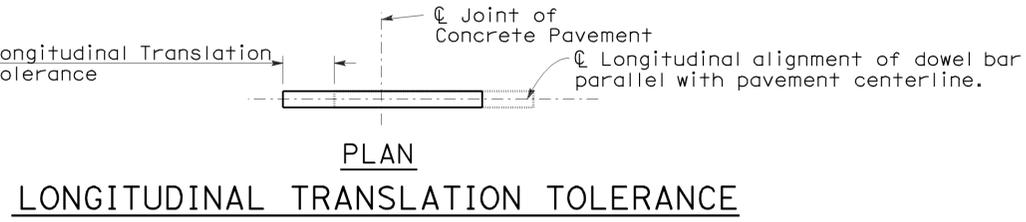
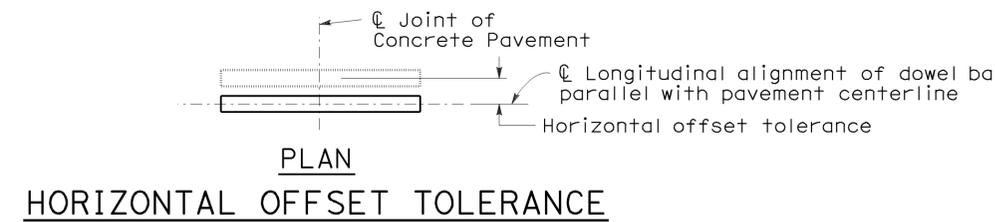
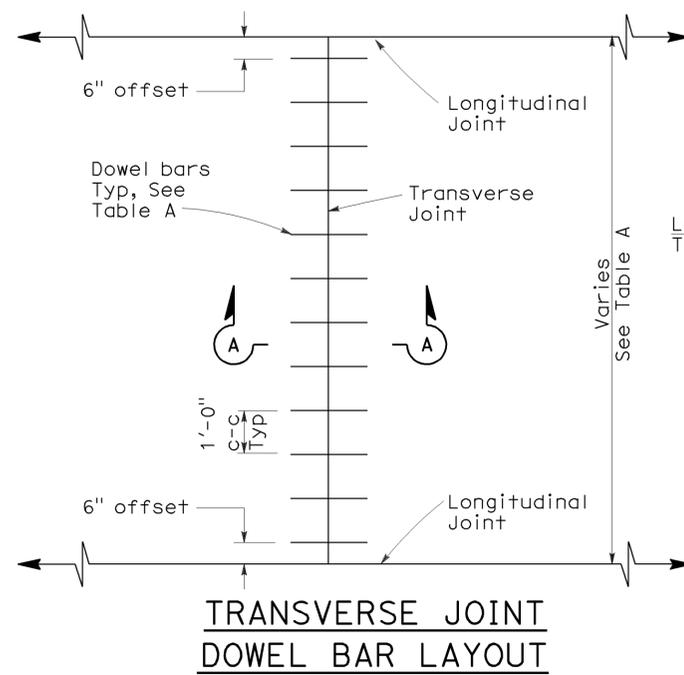
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**JOINTED PLAIN
CONCRETE PAVEMENT**

NO SCALE

RSP P1 DATED MAY 15, 2009 SUPERSEDES STANDARD PLAN P1
DATED MAY 1, 2006 - PAGE 119 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP P1

2006 REVISED STANDARD PLAN RSP P1



To accompany plans dated 1-25-10

- NOTES:**
- See Revised Standard Plan RSP P1 for typical dowel bar placement and locations.
 - 1/2" Dia smooth dowel bars are to be used with a pavement thickness, D, equal to or greater than 0.70 feet. For pavement thickness, D, less than 0.70 feet, use 1/4" Dia smooth dowel bars.
 - For widths not shown, see Project Plans.
 - If fresh concrete pavement is placed adjacent to existing concrete pavement, the top corner of the existing concrete pavement does not need to be rounded to the 1/4" radius, as shown.

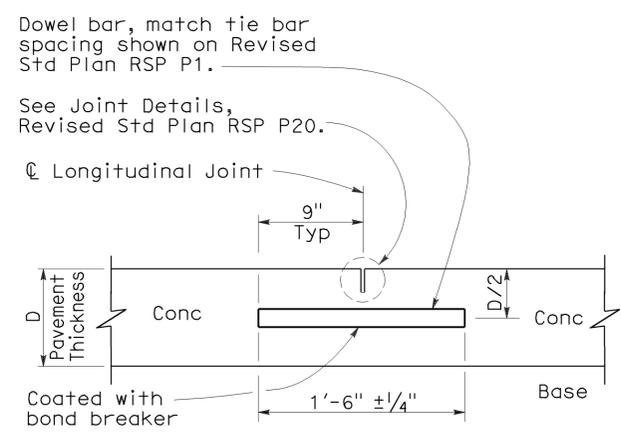
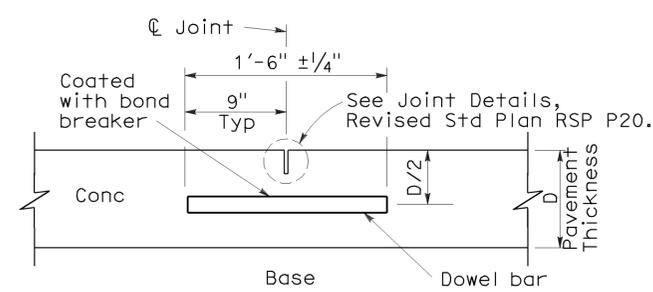
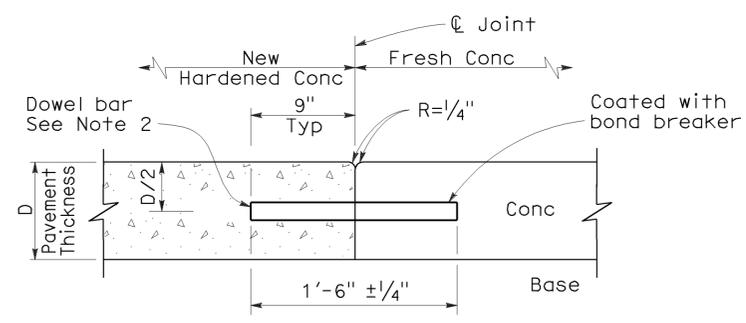


TABLE A (See Note 3)

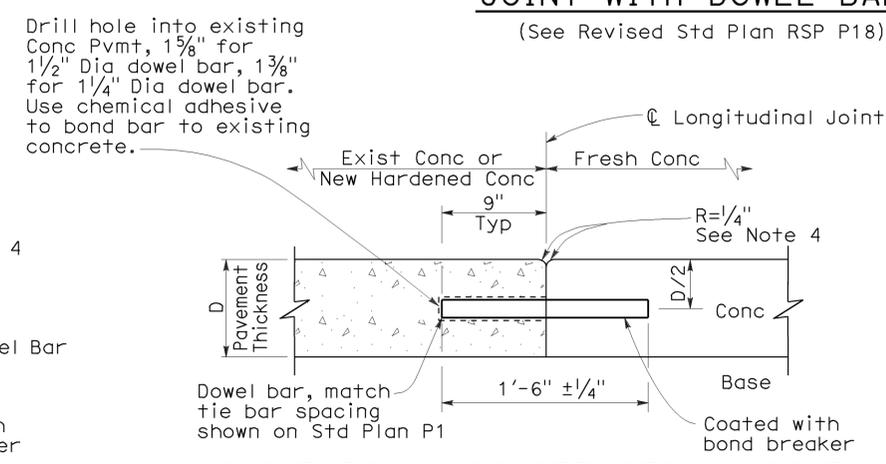
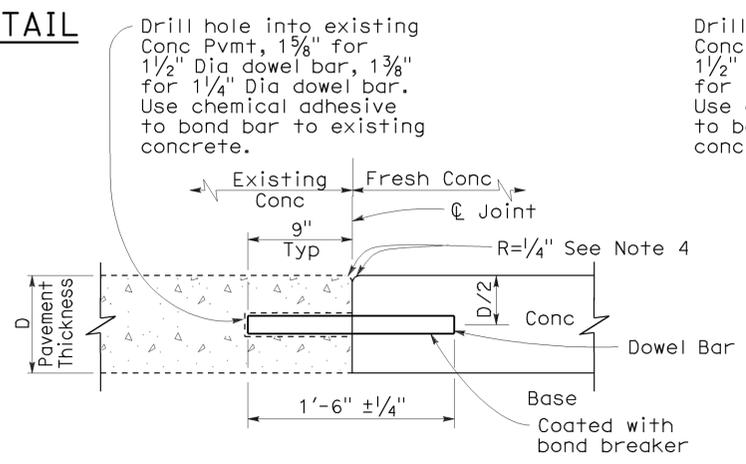
Dowel Bar Transverse Spacing Table

Width between Longitudinal Joints	Number of Dowels between Longitudinal Joints
14'-0"	14
13'-0"	13
12'-0"	12
11'-0"	11
10'-0"	10
8'-0"	8
5'-0"	5
4'-0"	4

**SECTION A-A
TRANSVERSE
CONSTRUCTION JOINT DETAIL**

TRANSVERSE CONTRACTION JOINT

**LONGITUDINAL CONTRACTION
JOINT WITH DOWEL BARS**
(See Revised Std Plan RSP P18)



**TRANSVERSE CONSTRUCTION JOINT
FOR EXISTING CONCRETE PAVEMENT**
(Drill and bond locations)

**LONGITUDINAL CONSTRUCTION JOINT
WITH DOWEL BARS**
(See Revised Std Plan RSP P18)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

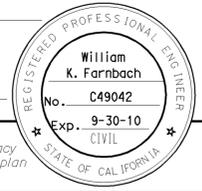
**CONCRETE PAVEMENT-
DOWEL BAR
DETAILS**
NO SCALE

RSP P10 DATED MAY 15, 2009 SUPERSEDES STANDARD PLAN P10
DATED MAY 1, 2006 - PAGE 124 OF THE STANDARD PLANS BOOK DATED MAY 2006.

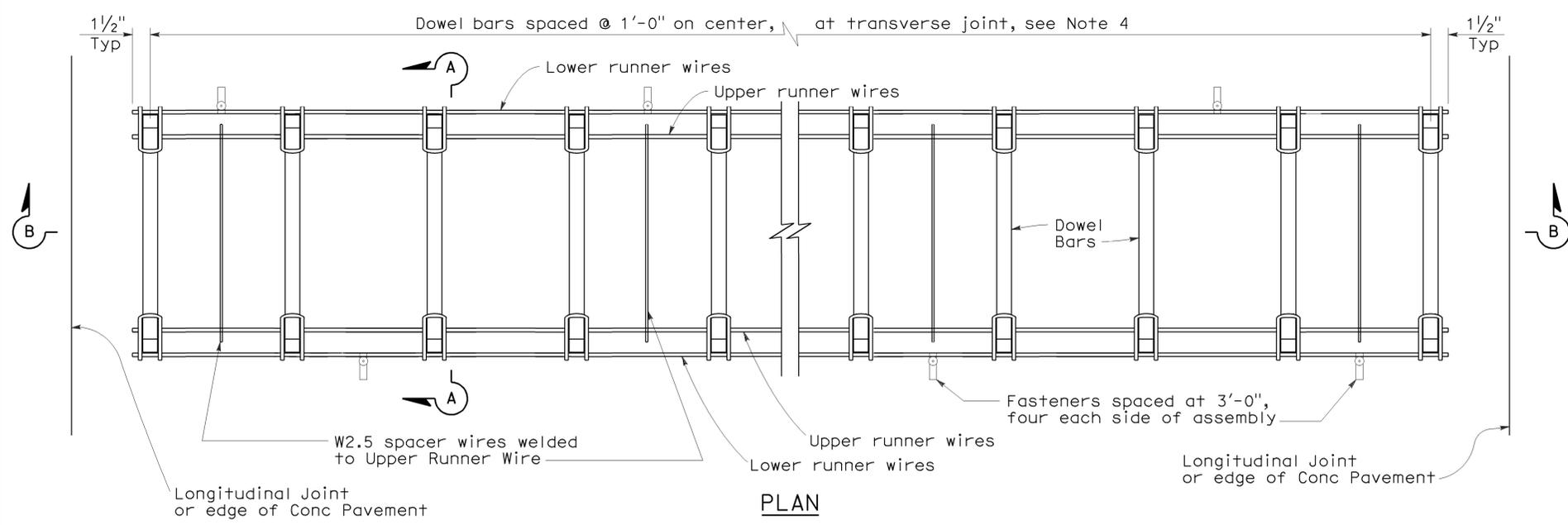
2006 REVISED STANDARD PLAN RSP P10

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	18.4/20.9	510	856

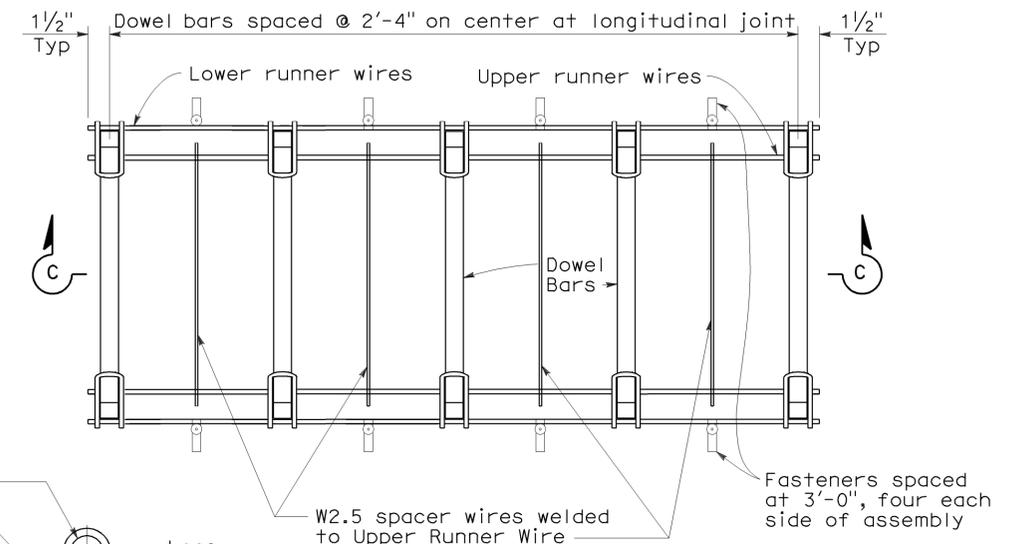
William K. Farnbach
 REGISTERED CIVIL ENGINEER
 May 15, 2009
 PLANS APPROVAL DATE
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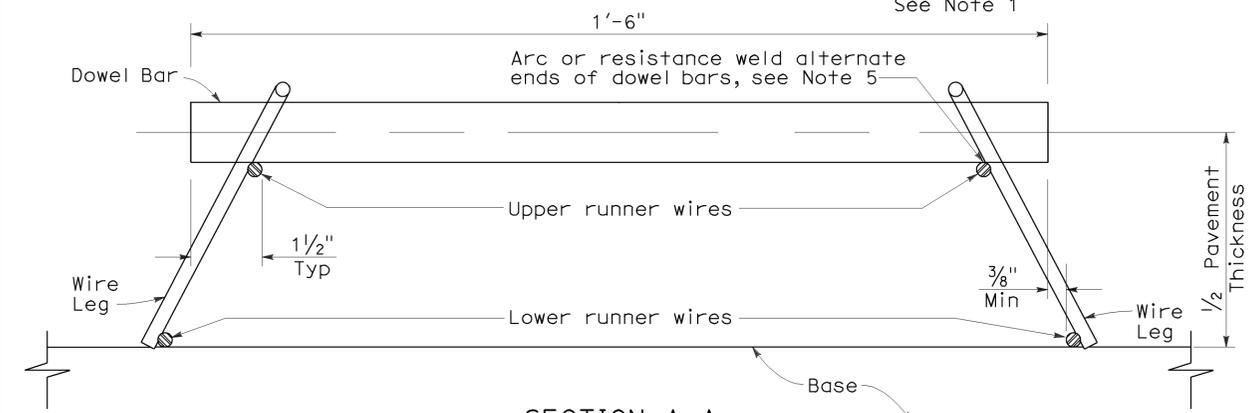
To accompany plans dated 1-25-10



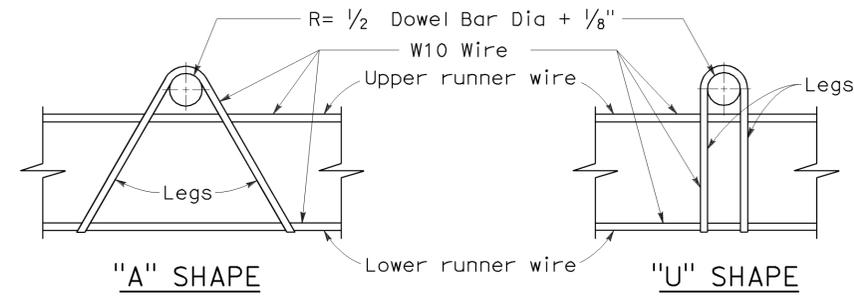
**PLAN
DOWEL BAR BASKET
(TRANSVERSE JOINT)**
See Note 1



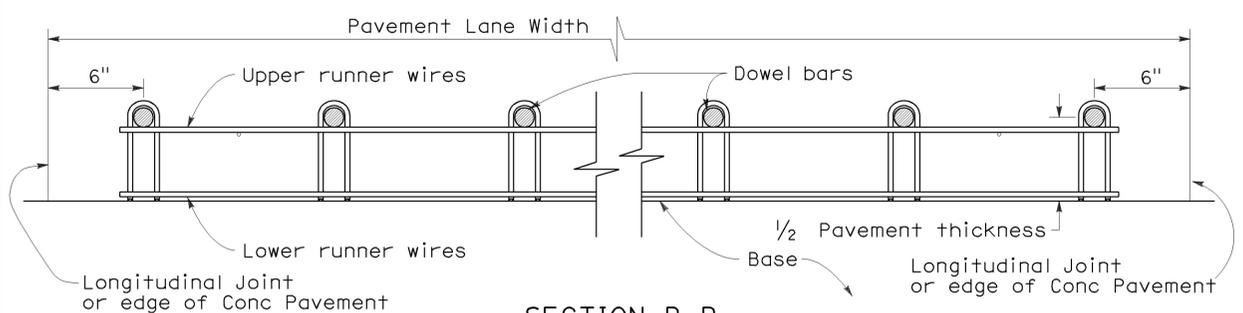
**PLAN
DOWEL BAR BASKET
(LONGITUDINAL JOINT)**
See Note 1



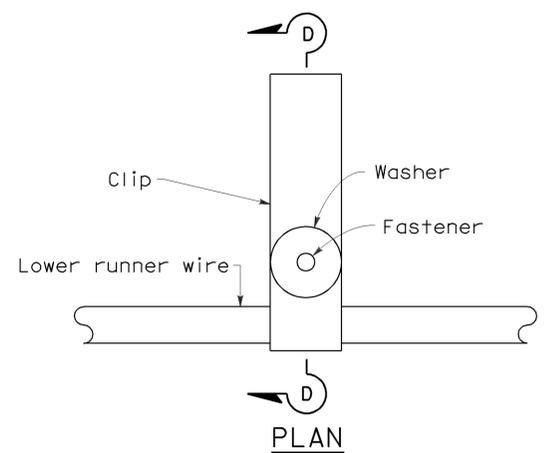
SECTION A-A



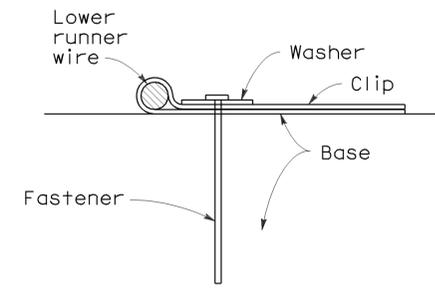
ASSEMBLY FRAME DETAILS



SECTION B-B
See Note 1



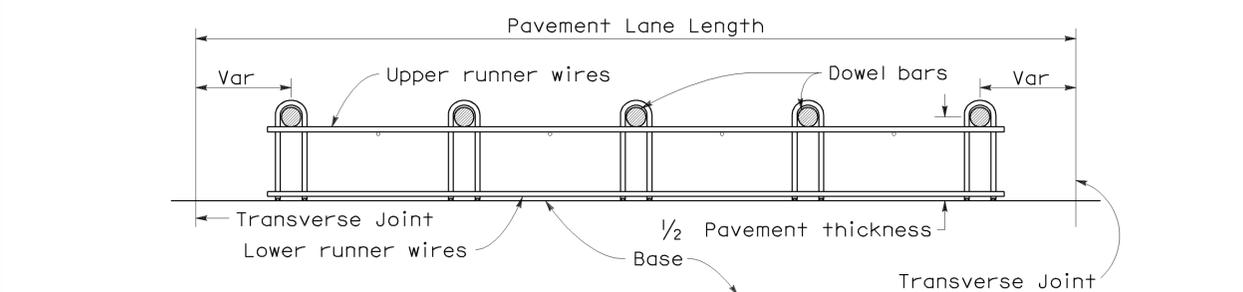
FASTENER DETAIL



SECTION D-D

NOTES:

- "U" frame shape assembly shown. "U" frame shape or "A" frame shape are acceptable.
- Wire sizes shown are minimum required.
- All wire intersections are to be resistance welded.
- Use tie bar spacing for longitudinal dowel bar locations. See Revised Std Plans RSPs P1, P2, and P3 for tie bar requirements.
- Weld may be at top or bottom of dowel bar.



SECTION C-C
See Notes 1 and 4

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**CONCRETE PAVEMENT-
DOWEL BAR BASKET
DETAILS**

NO SCALE

RSP P12 DATED MAY 15, 2009 SUPERSEDES RSP P12 DATED NOVEMBER 17, 2006 AND STANDARD PLAN P12 DATED MAY 1, 2006 - PAGE 125 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP P12

2006 REVISED STANDARD PLAN RSP P12

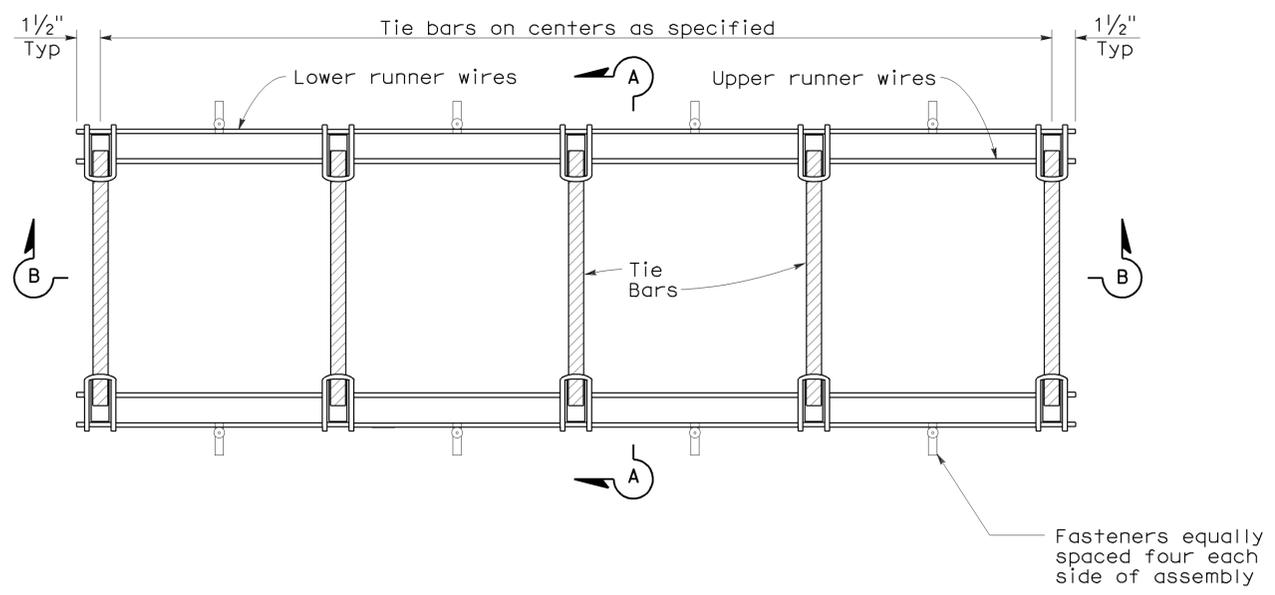
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	18.4/20.9	511	856

William K. Farnbach
 REGISTERED CIVIL ENGINEER
 May 15, 2009
 PLANS APPROVAL DATE

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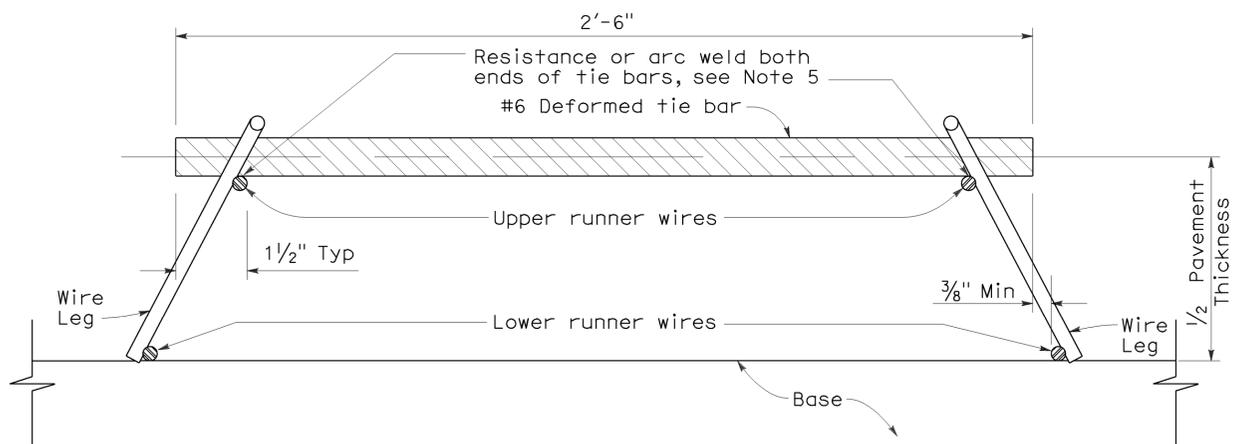
REGISTERED PROFESSIONAL ENGINEER
 William K. Farnbach
 No. C49042
 Exp. 9-30-10
 CIVIL
 STATE OF CALIFORNIA

To accompany plans dated 1-25-10

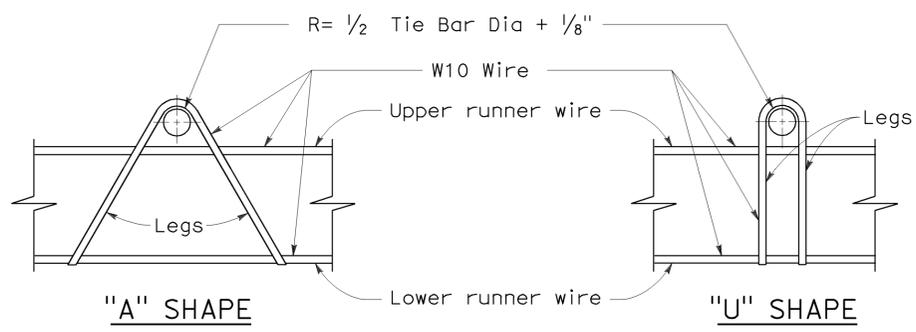


PLAN
TIE BAR BASKET
 (TIE BARS AT LONGITUDINAL JOINT)
 See Note 1

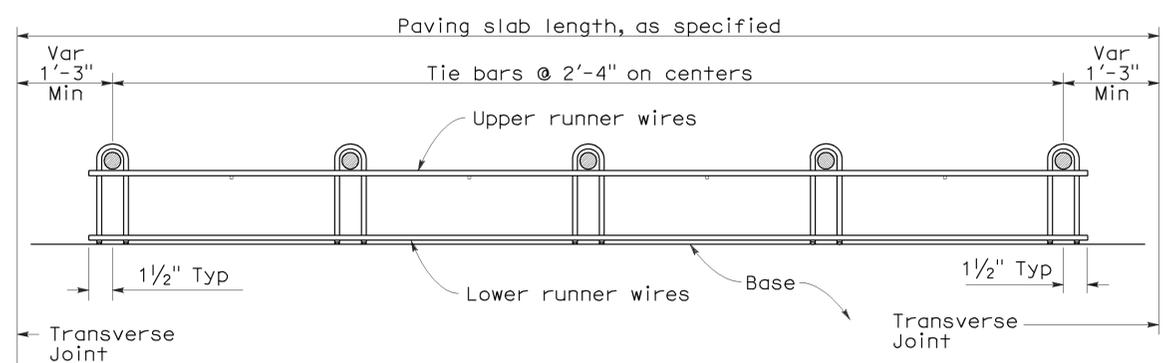
- NOTES:**
- "U" frame shape assembly shown. "U" frame shape or "A" frame shape are acceptable.
 - Wire sizes shown are minimum required.
 - All wire intersections are to be resistance welded.
 - Not for use on nondoweled skewed jointed plain concrete pavement.
 - Weld may be at top or bottom of tie bar.



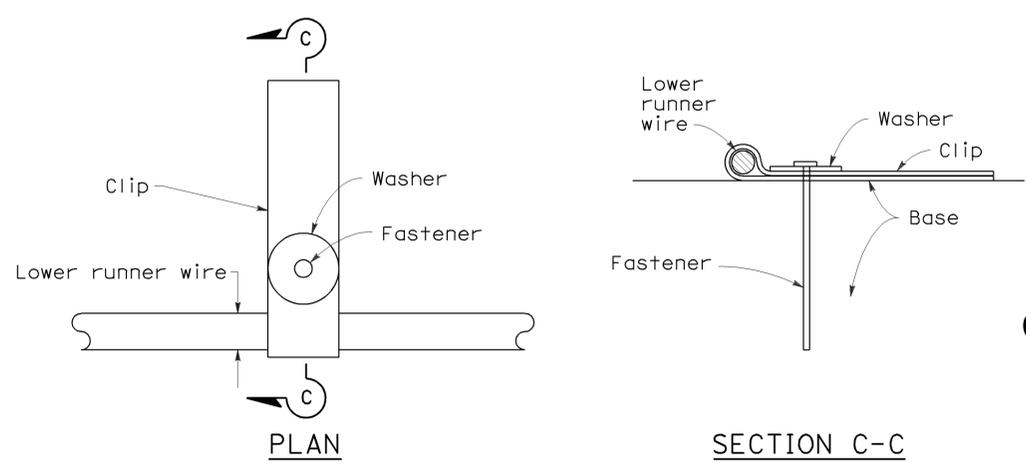
SECTION A-A



ASSEMBLY FRAME DETAILS



SECTION B-B
 See Note 1



FASTENER DETAIL

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**CONCRETE PAVEMENT -
 TIE BAR BASKET
 DETAILS**

NO SCALE

RSP P17 DATED MAY 15, 2009 SUPERSEDES RSP P17 DATED NOVEMBER 17, 2006 AND STANDARD PLAN P17 DATED MAY 1, 2006 - PAGE 126 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP P17

2006 REVISED STANDARD PLAN RSP P17

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	18.4/20.9	512	856

William K. Farnbach
 REGISTERED CIVIL ENGINEER
 June 5, 2009
 PLANS APPROVAL DATE

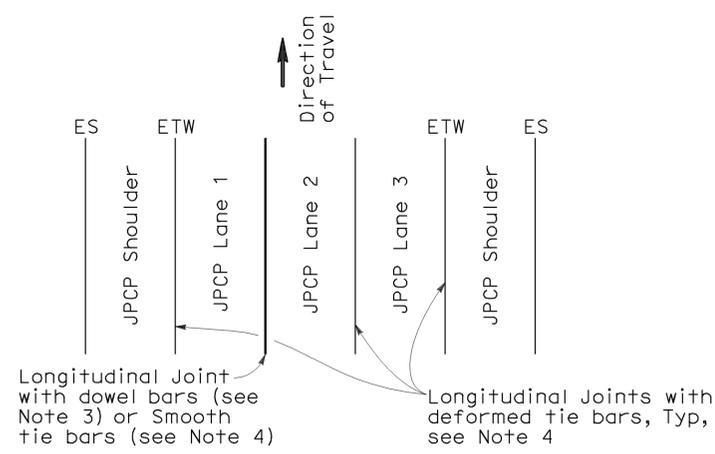
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REGISTERED PROFESSIONAL ENGINEER
 William K. Farnbach
 No. C49042
 Exp. 9-30-10
 CIVIL
 STATE OF CALIFORNIA

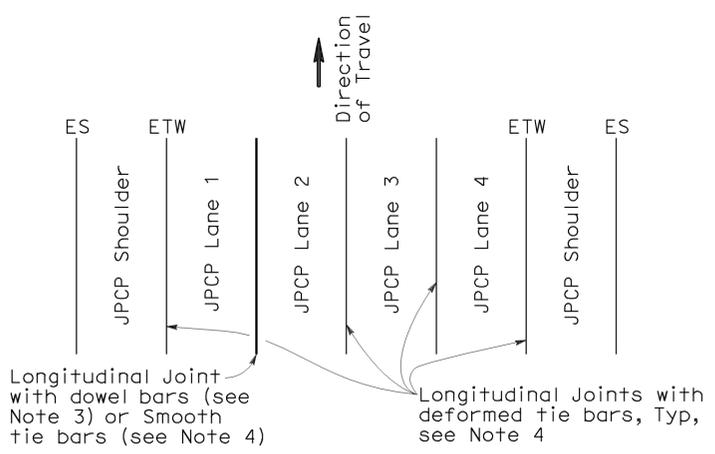
To accompany plans dated 1-25-10

NOTES:

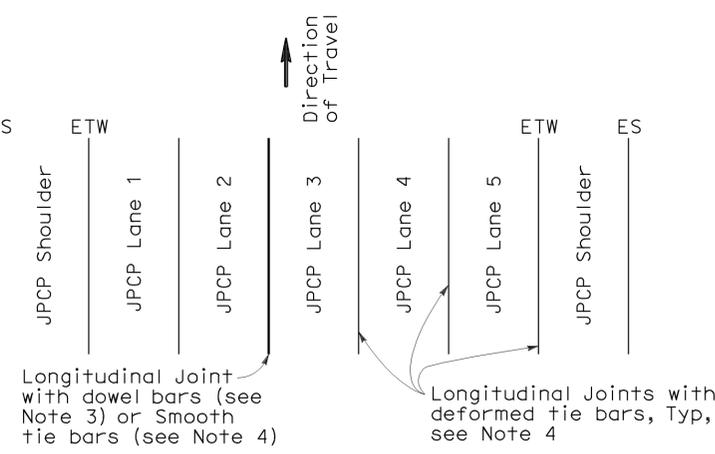
- Where Lean Concrete Base is not used as base material, the joint filler material used for the longitudinal isolation joint shall only extend to the bottom of the new concrete slab. See Detail A.
- Use $\frac{5}{8}'' \pm \frac{1}{16}''$ dimension for silicone sealant.
- See Revised Standard Plan RSP P10 for longitudinal joint with dowel bars.
- See Revised Standard Plan RSP P1.
- See Revised Standard Plan RSP P2.



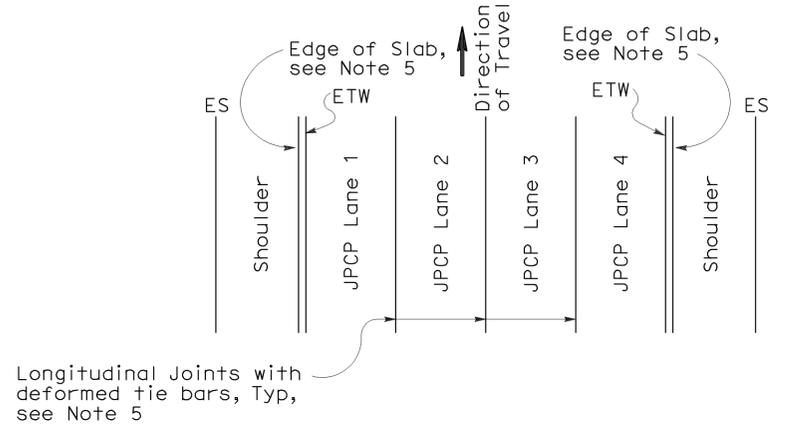
3 LANES WITH TIED CONCRETE SHOULDERS
PLAN



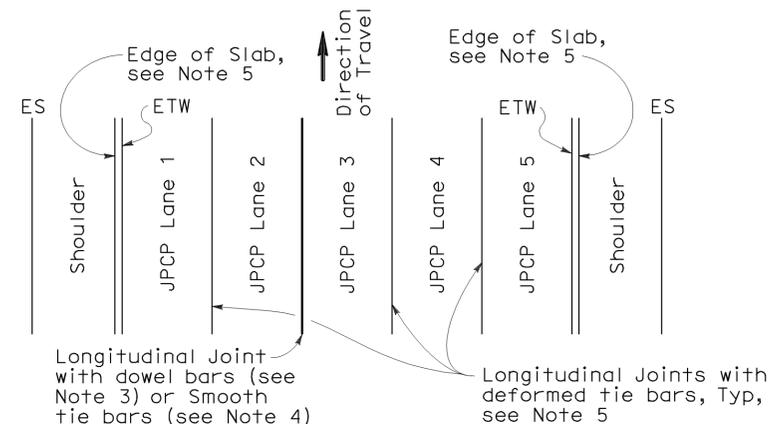
4 LANES WITH TIED CONCRETE SHOULDERS
PLAN



5 LANES WITH TIED CONCRETE SHOULDERS
PLAN



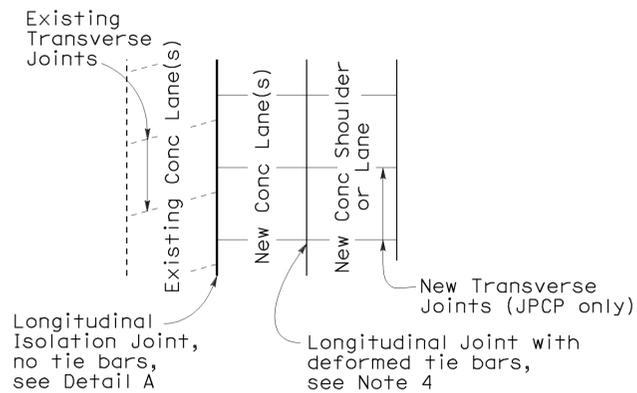
4 LANES OR LESS WITH WIDENED SLAB
PLAN



5 LANES WITH WIDENED SLAB
PLAN

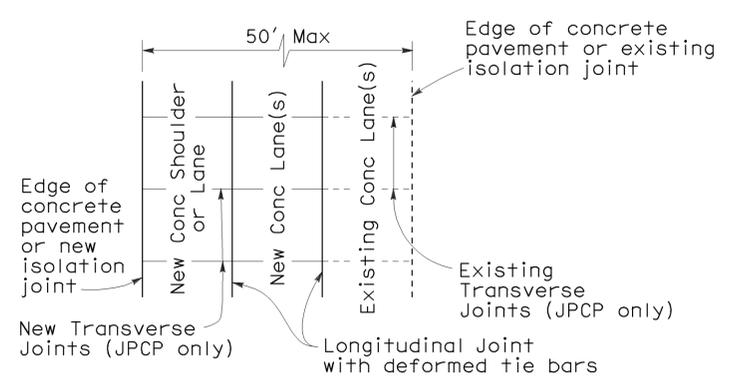
NEW CONSTRUCTION

Location of Longitudinal Joints (For JPCP)



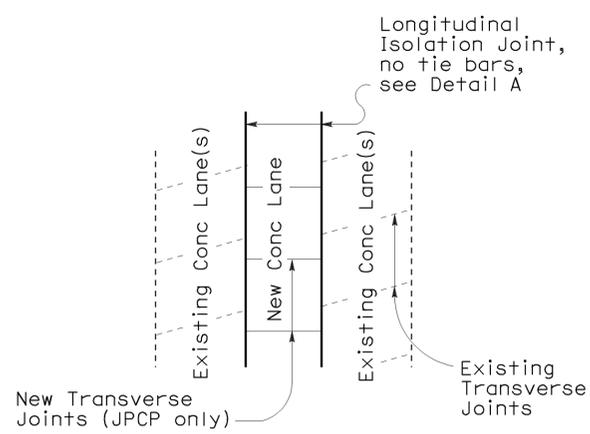
CASE 1
PLAN

Transverse Joints do **not** align between new and existing



CASE 2
PLAN

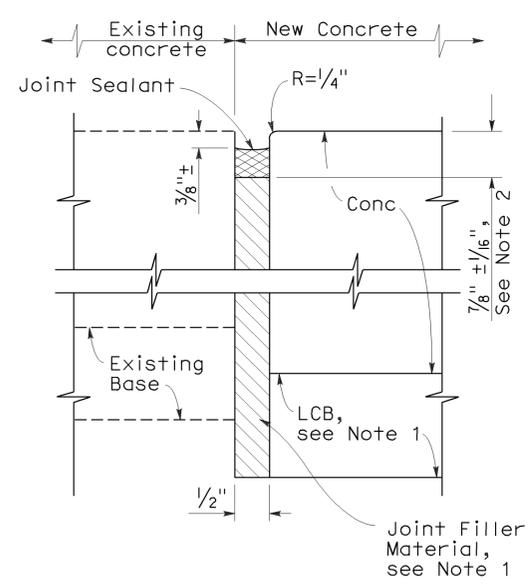
Transverse Joints align between new and existing



CASE 3 (INTERIOR LANE REPLACEMENT)
PLAN

Transverse Joints do **not** align between new and existing

LANE/SHOULDER ADDITION OR RECONSTRUCTION
(For JPCP and CRCP)



DETAIL A
ISOLATION JOINT

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**CONCRETE PAVEMENT-
LANE SCHEMATICS
AND ISOLATION JOINT DETAIL**

NO SCALE

RSP P18 DATED JUNE 5, 2009 SUPERSEDES RSP P18 DATED MAY 15, 2009, RSP P18 DATED NOVEMBER 17, 2006 AND STANDARD PLAN P18 DATED MAY 1, 2006 - PAGE 127 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP P18

2006 REVISED STANDARD PLAN RSP P18

NOTE:

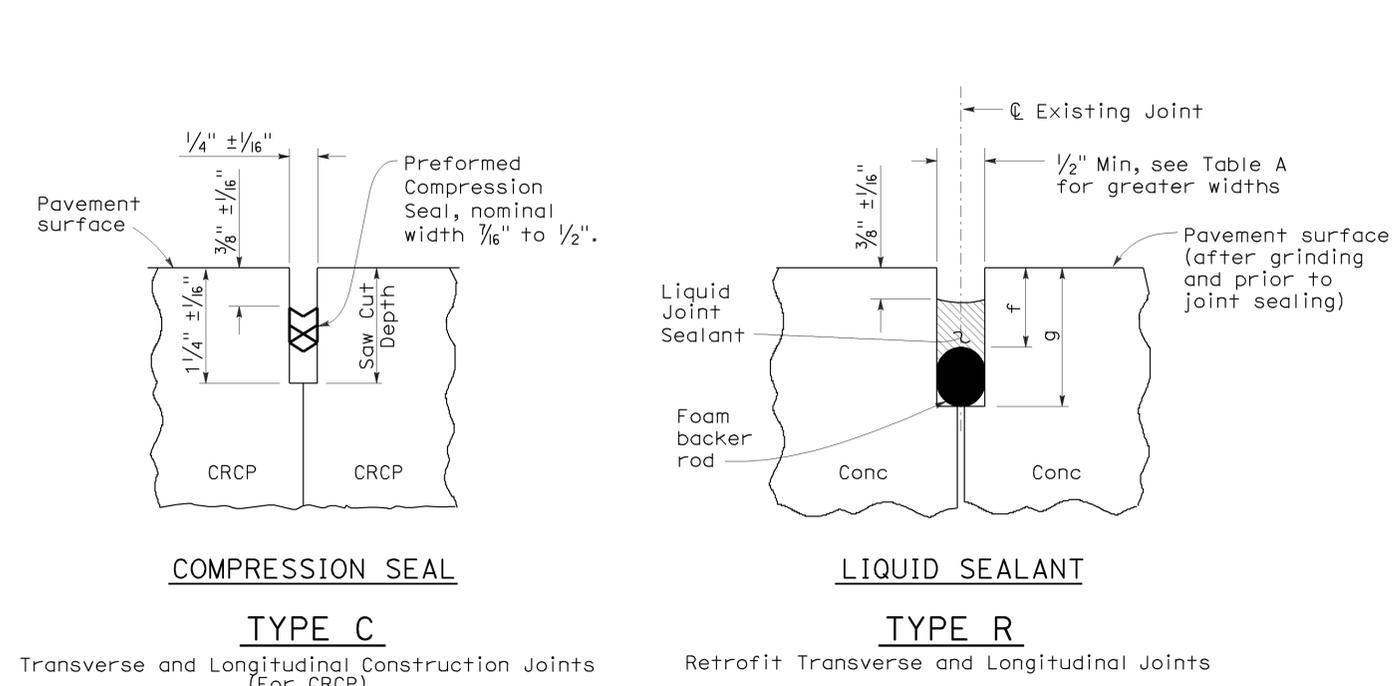
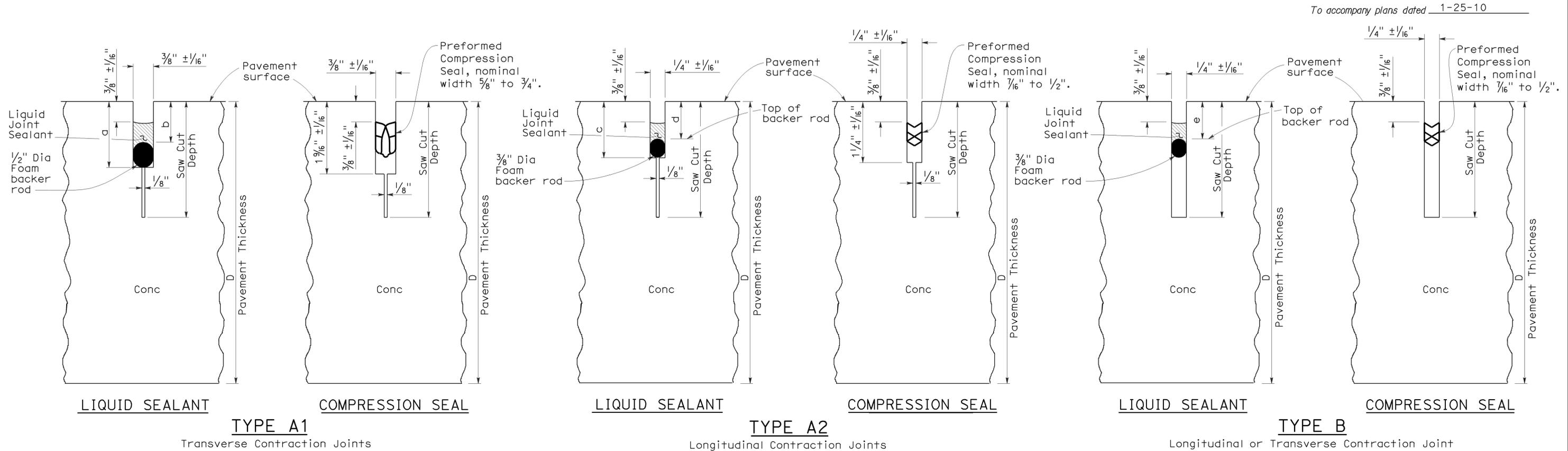
1. Tie bars, dowel bars, and reinforcement are not shown in joint seal details, see Revised Standard Plans RSP P1, RSP P3, RSP P10, RSP P35, RSP P45, or RSP P46 as applicable.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	18.4/20.9	513	856

William K. Farnbach
 REGISTERED CIVIL ENGINEER
 May 15, 2009
 PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
 William K. Farnbach
 No. C49042
 Exp. 9-30-10
 CIVIL
 STATE OF CALIFORNIA



LIQUID SEALANT RESERVOIR DEPTH

LIQUID SEALANT MATERIAL	3/8" Joint Width Type A1		1/4" Joint Width Type A2		1/4" Joint Width Type B
	DIMENSION		DIMENSION		DIMENSION
	a	b	c	d	e
SILICONE	1" ± 1/16"	5/8" ± 1/16"	15/16" ± 1/16"	9/16" ± 1/16"	9/16" ± 1/16"
ASPHALT RUBBER	1 3/16" ± 1/16"	3/4" ± 1/16"	1 1/16" ± 1/16"	11/16" ± 1/16"	11/16" ± 1/16"

TABLE A (TYPE R JOINT)

Sawn Joint Width	Backer Rod Diameter ± 1/16"	DIMENSION "f"	DIMENSION "g"
1"	1 5/16"	7/8"	2 1/4"
7/8"	1 3/16"	13/16"	2"
3/4"	1"	3/4"	1 3/4"
5/8"	7/8"	11/16"	1 1/2"
1/2"	11/16"	5/8"	1 1/4"

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**CONCRETE PAVEMENT-
 JOINT DETAILS**
 NO SCALE

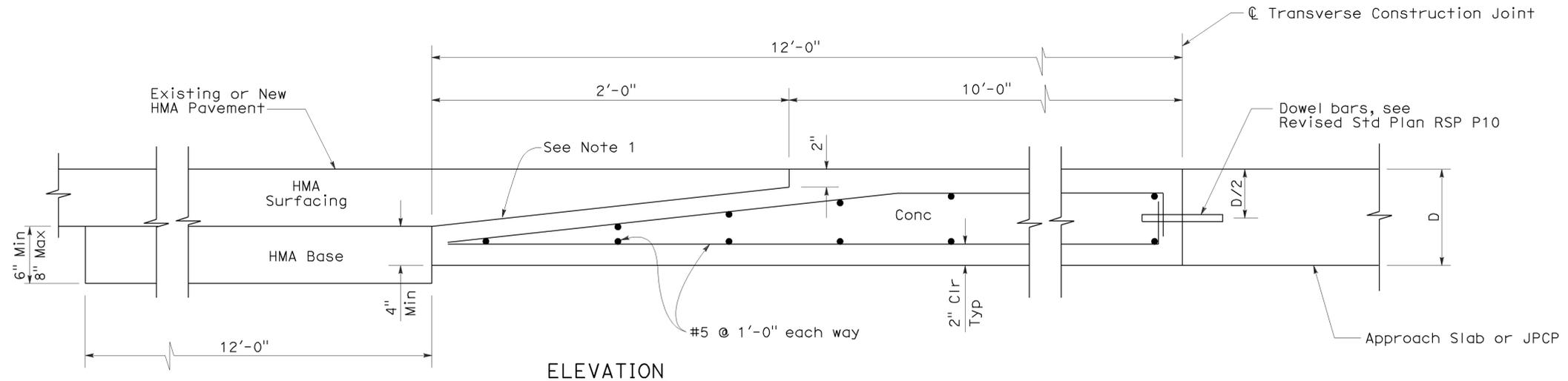
RSP P20 DATED MAY 15, 2009 SUPERSEDES STANDARD PLAN P20
 DATED MAY 1, 2006 - PAGE 128 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP P20

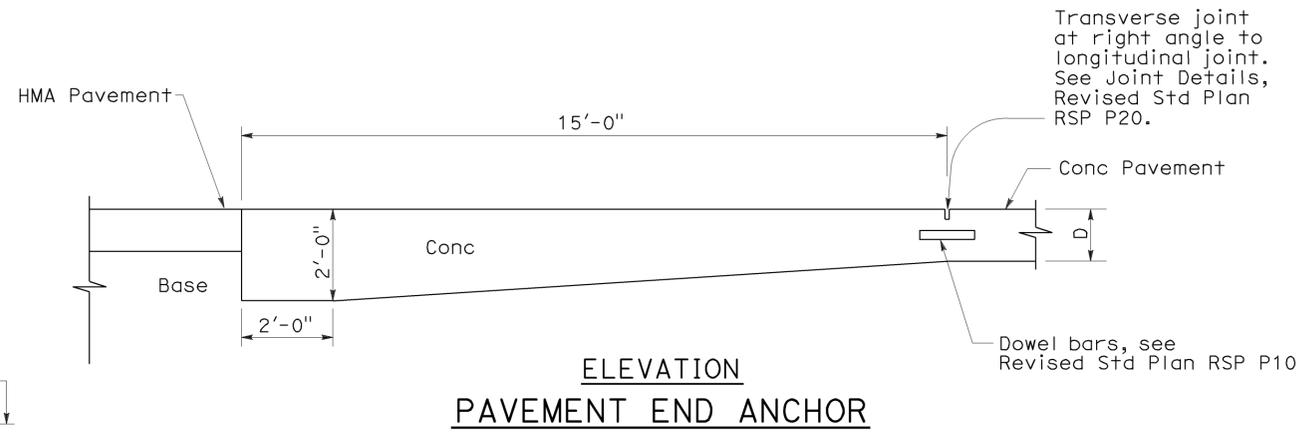
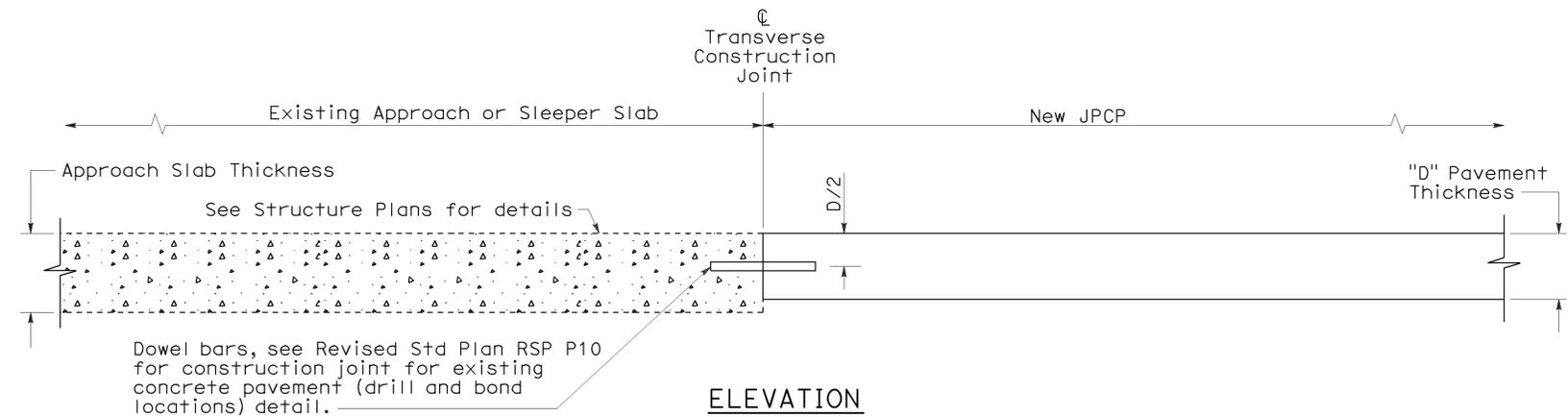
2006 REVISED STANDARD PLAN RSP P20

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	18.4/20.9	514	856

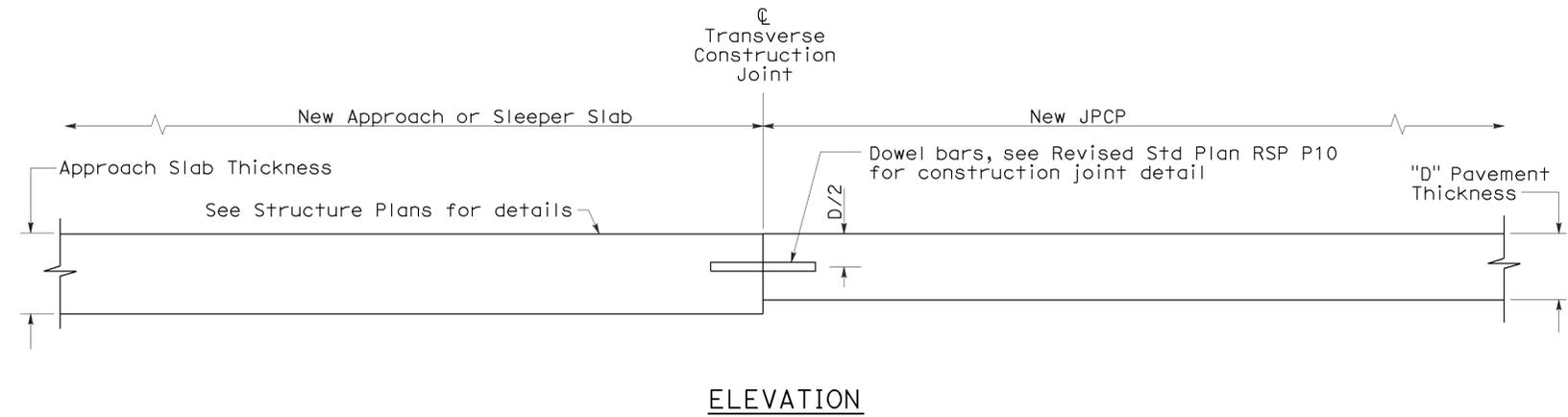
William K. Farnbach
 REGISTERED CIVIL ENGINEER
 May 15, 2009
 PLANS APPROVAL DATE
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CONCRETE PAVEMENT TO HOT MIXED ASPHALT PAVEMENT TRANSITION PANEL



PAVEMENT END ANCHOR



CONCRETE PAVEMENT TRANSITION TO APPROACH OR SLEEPER SLAB

NOTE:
1. Heavy broom finish.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**JOINTED PLAIN CONCRETE PAVEMENT-
END PANEL
PAVEMENT TRANSITIONS**
NO SCALE

RSP P30 DATED MAY 15, 2009 SUPERSEDES STANDARD PLAN P30
DATED MAY 1, 2006 - PAGE 129 OF THE STANDARD PLANS BOOK DATED MAY 2006.

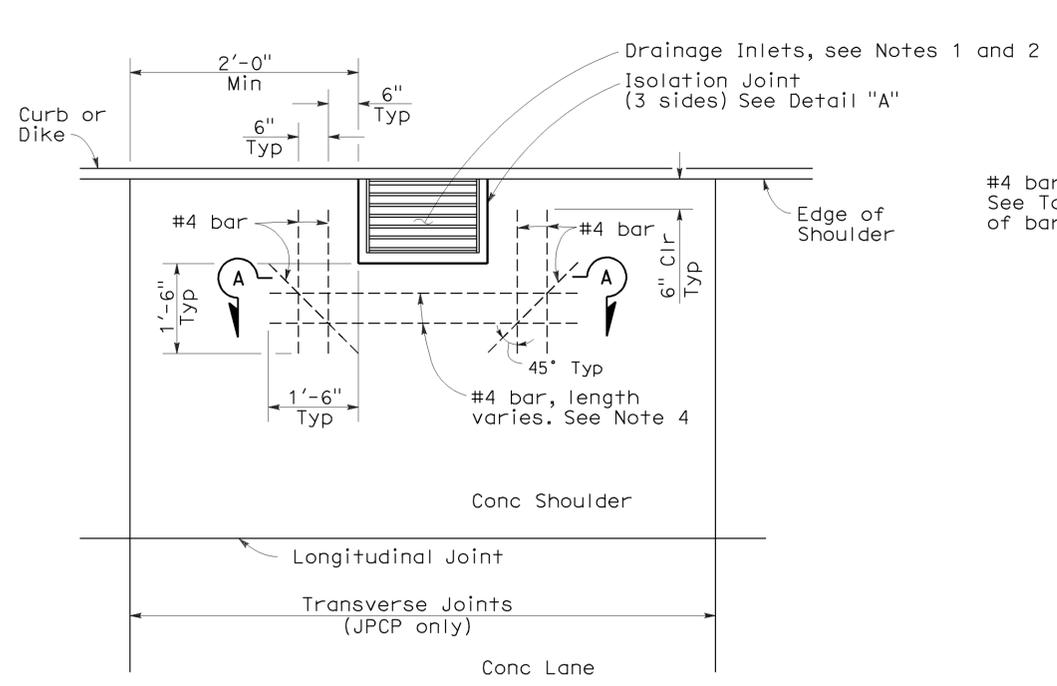
REVISED STANDARD PLAN RSP P30

2006 REVISED STANDARD PLAN RSP P30

To accompany plans dated 1-25-10

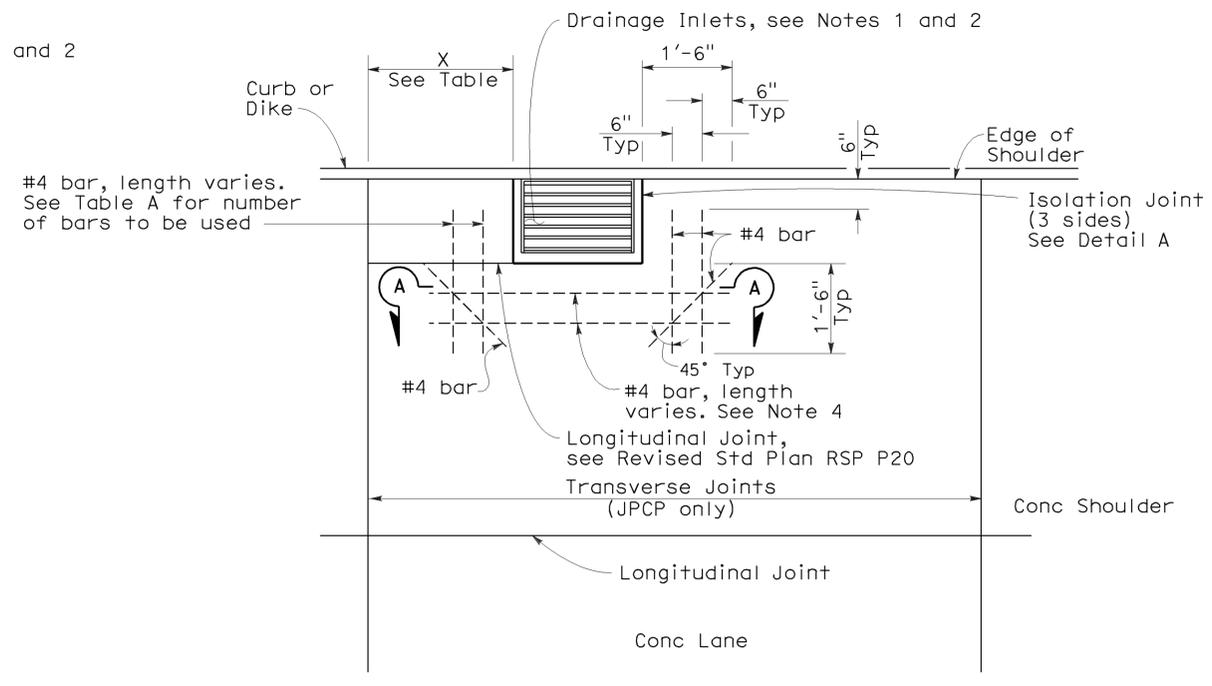
NOTES:

1. Refer to Project Plans for location and Type of drainage inlets.
2. Top of inlet shall be flush with shoulder surface.
3. Extend joint filler material to bottom of Lean Concrete Base. Where Lean Concrete Base is not used as base material, the joint filler material shall only extend to the bottom of the new concrete pavement.
4. For Jointed Plain Concrete Pavement only. For Continuously Reinforced Concrete Pavement, terminate pavement steel reinforcement 2" clear from all outside edges of isolation joint.
5. For Jointed Plain Concrete Pavement only. For Continuously Reinforced Concrete Pavement, see New Standard Plan NSP P4.
6. Dowel and tie bars not shown, see Revised Standard Plan RSP P1.



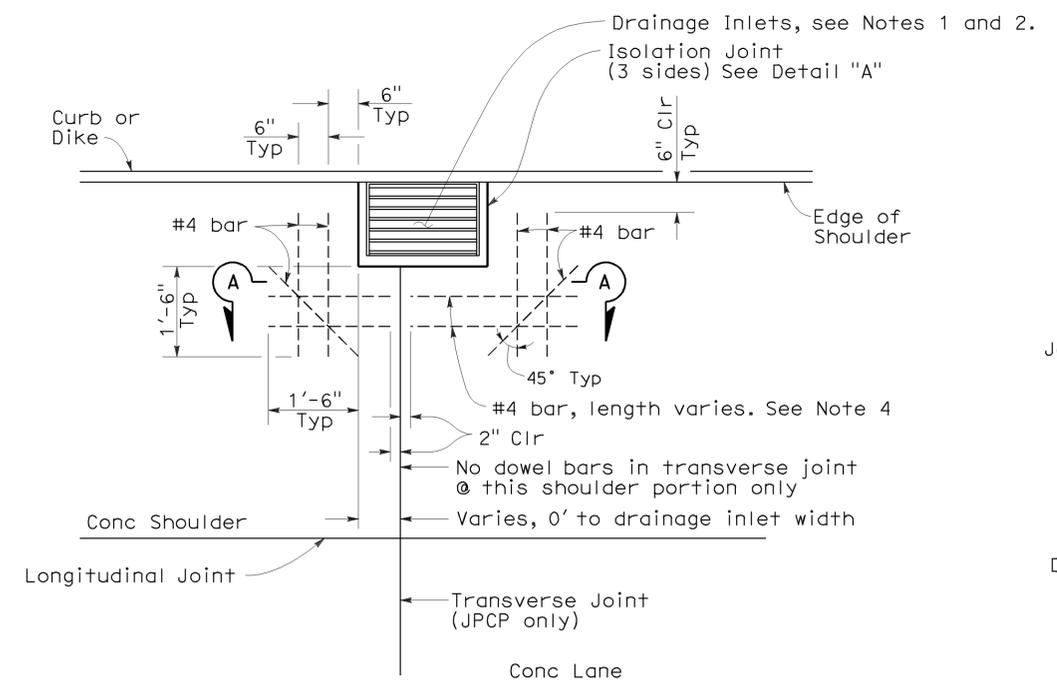
CASE 1

Transverse joint more than 2'-0" clear of drainage inlet wall or no transverse joint



CASE 3

Transverse joint within 2'-0" of drainage inlet wall, or matches drainage inlet wall.



CASE 2

Transverse joint intersects drainage inlet, or matches drainage inlet wall.

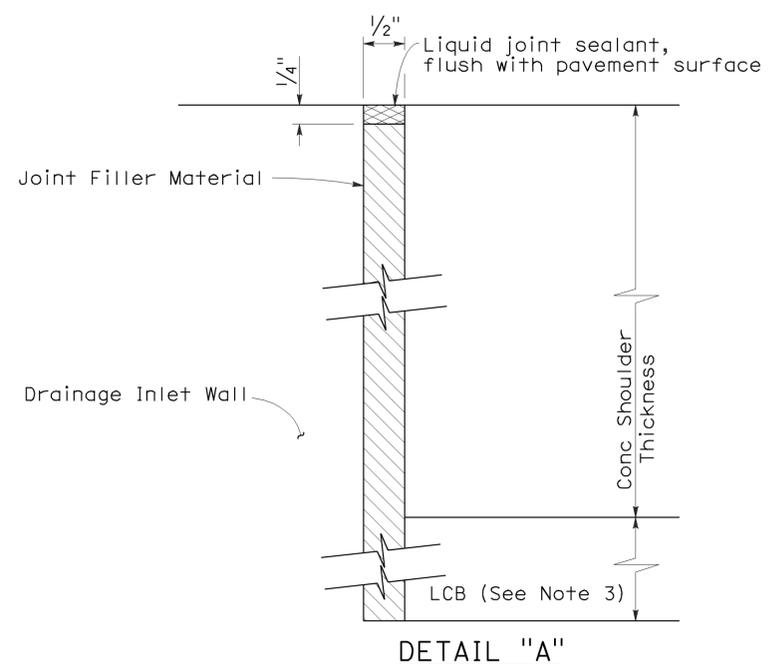
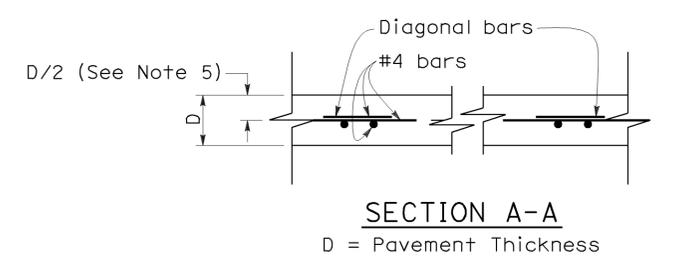


TABLE A

DISTANCE X	BARS REQUIRED
2'-0" to 1'-6"	2
1'-6" to 9"	1 @ X/2
9" or less	None

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**CONCRETE PAVEMENT-
 DRAINAGE INLET
 DETAILS No. 1**
 NO SCALE

ISOLATION JOINT AROUND DRAINAGE INLET

RSP P45 DATED MAY 15, 2009 SUPERSEDES STANDARD PLAN P45
 DATED MAY 1, 2006 - PAGE 132 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP P45

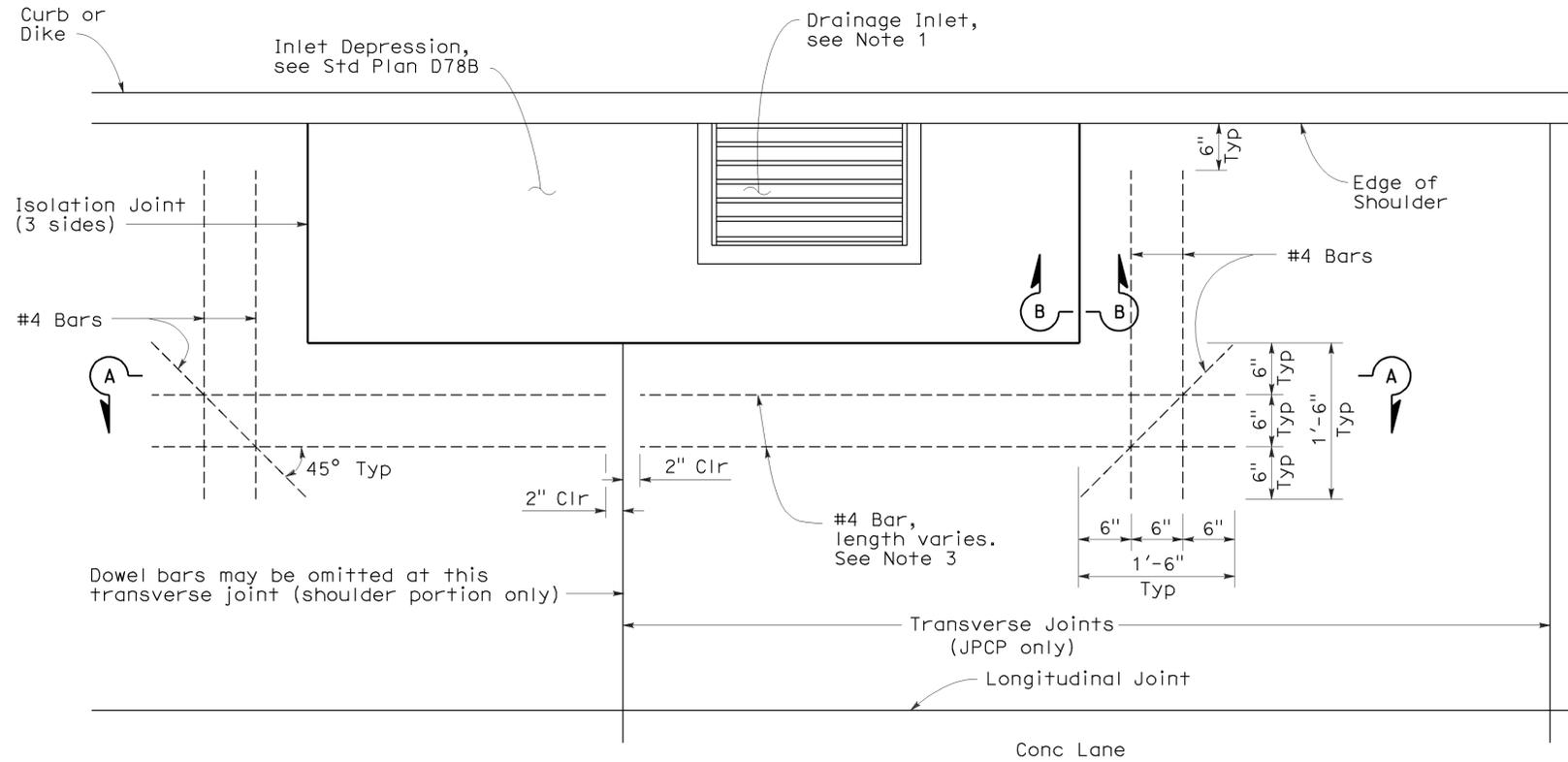
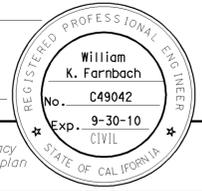
2006 REVISED STANDARD PLAN RSP P45

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	18.4/20.9	516	856

William K. Farnbach
 REGISTERED CIVIL ENGINEER
 May 15, 2009
 PLANS APPROVAL DATE

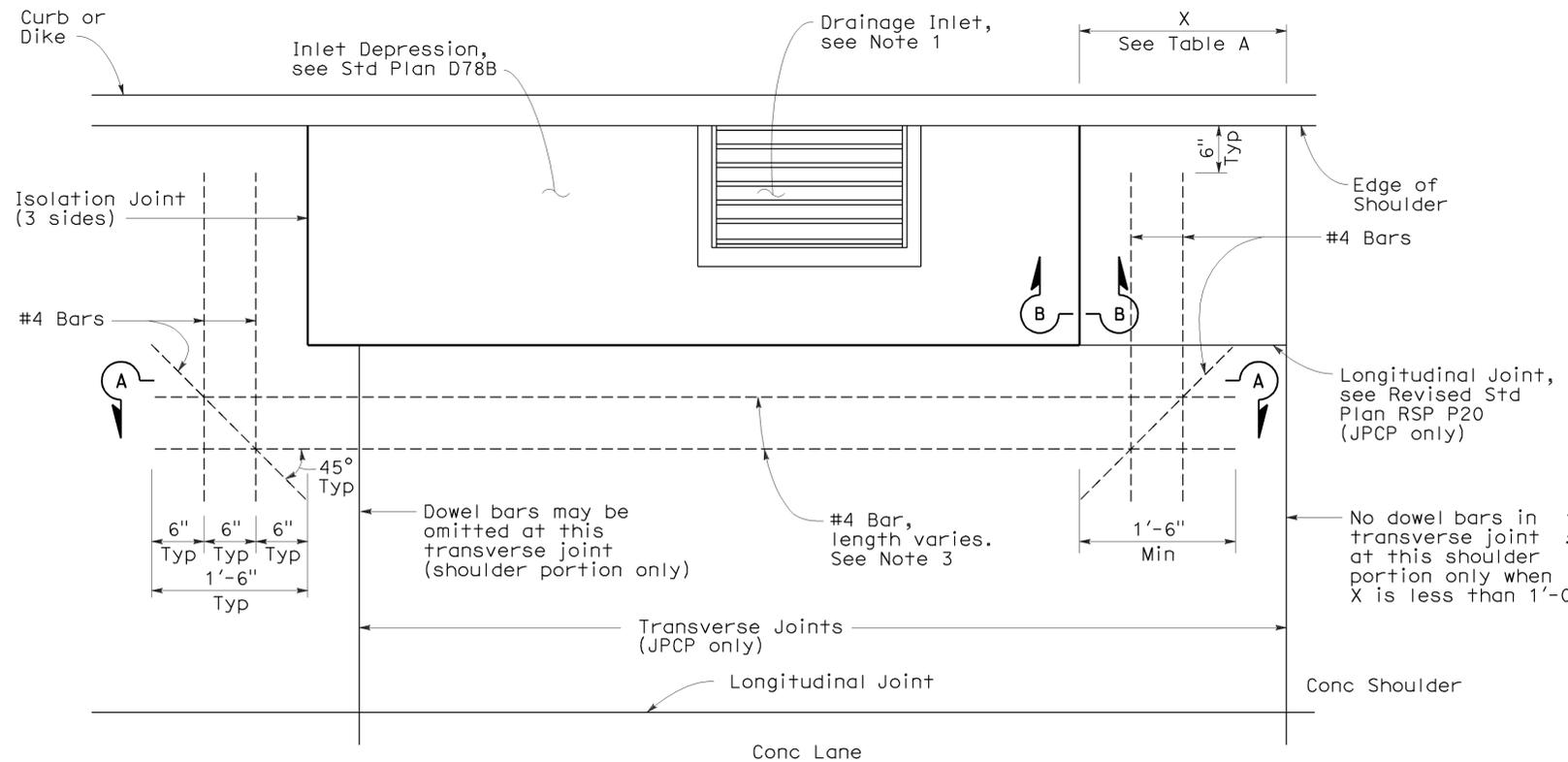
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To accompany plans dated 1-25-10



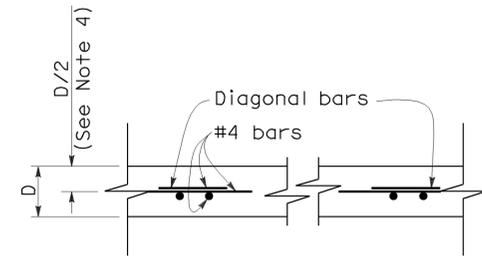
CASE A

Transverse Joint intersects inlet depression or no transverse joints.



CASE B

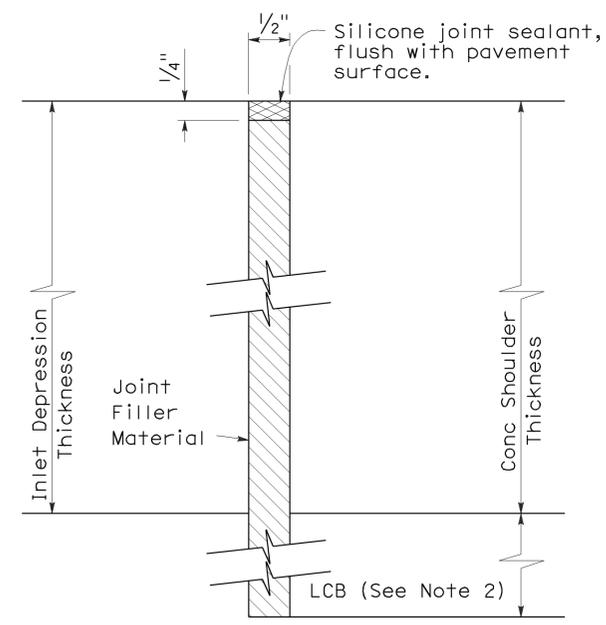
Transverse Joint within 2'-0" of edge of inlet depression.



SECTION A-A
D = Pavement Thickness

TABLE A

DISTANCE X	BARS REQUIRED
2'-0" to 1'-6"	2
1'-6" to 1'-0"	1
1'-0" or less	None



SECTION B-B

ISOLATION JOINT AROUND INLET DEPRESSION

NOTES:

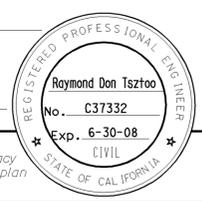
1. Refer to Project Plans for location and type of drainage inlets.
2. Extend joint filler material to bottom of Lean Concrete Base. Where Lean Concrete Base is not used as base material, the joint filler material shall only extend to the bottom of the new concrete pavement.
3. For Jointed Plain Concrete Pavement only. For Continuously Reinforced Concrete Pavement, terminate pavement steel reinforcement 2" clear from all outside edges of isolation joint.
4. For Jointed Plain Concrete Pavement only. For Continuously Reinforced Concrete Pavement, see New Standard Plan NSP P4.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**CONCRETE PAVEMENT-
 DRAINAGE INLET
 DETAILS No. 2**
 NO SCALE

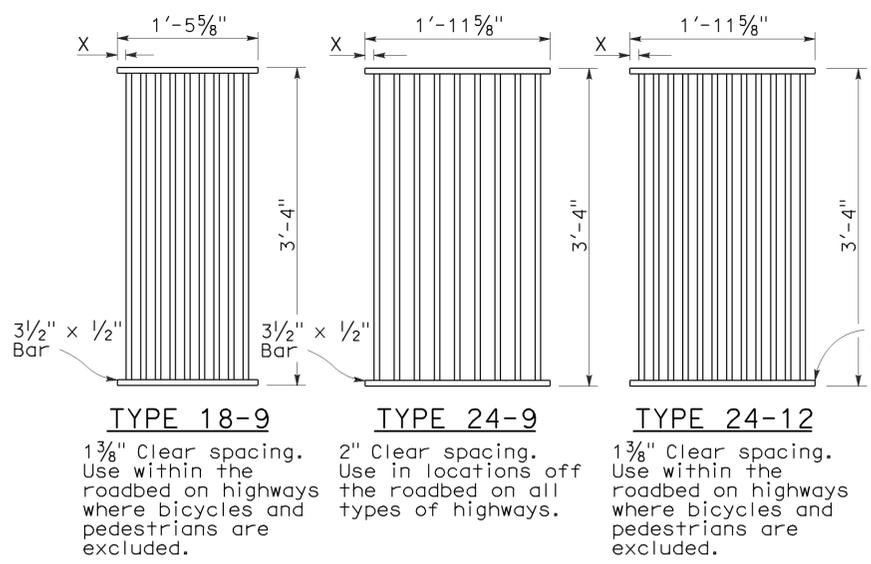
RSP P46 DATED MAY 15, 2009 SUPERSEDES STANDARD PLAN P46
 DATED MAY 1, 2006 - PAGE 133 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP P46

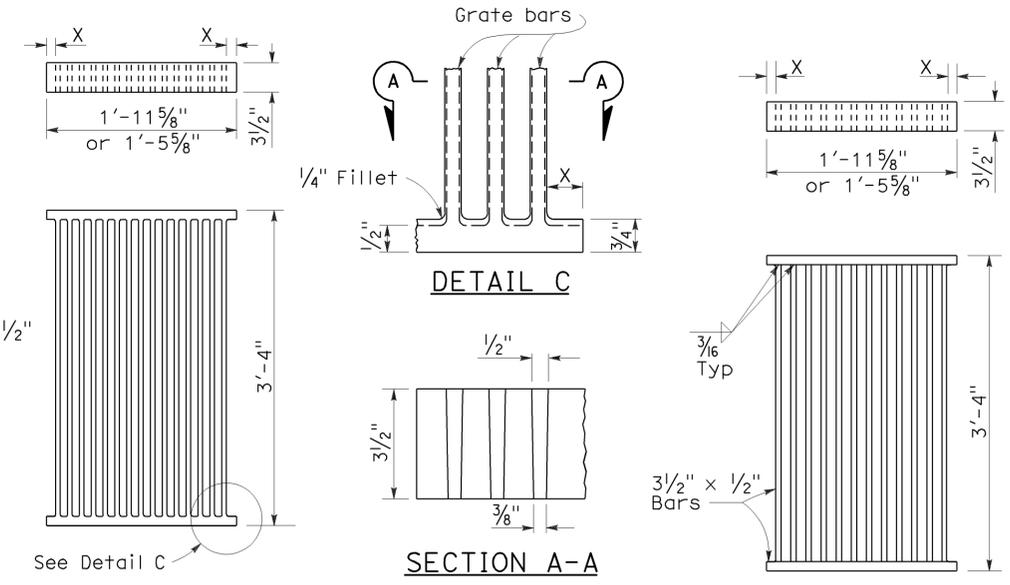
2006 REVISED STANDARD PLAN RSP P46



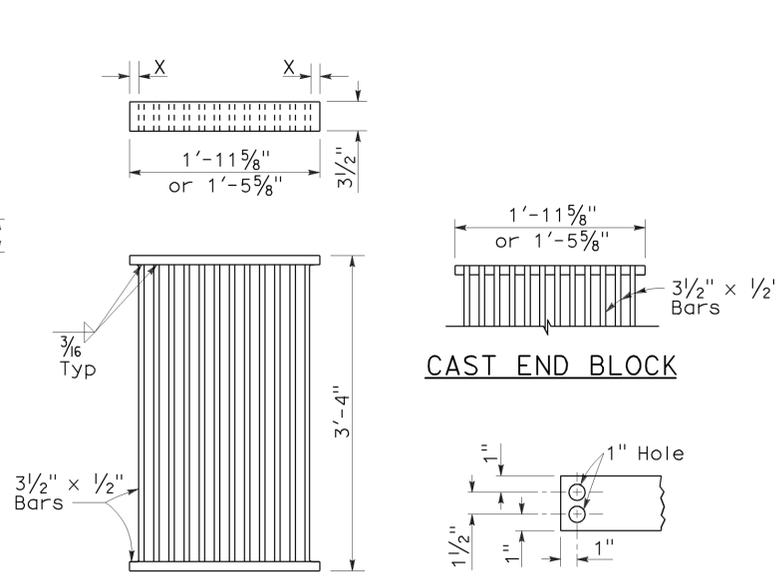
To accompany plans dated 1-25-10



RECTANGULAR GRATE DETAILS
(See table below)

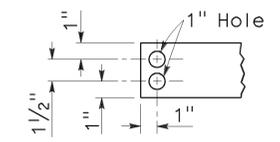


ALTERNATIVE CAST NODULAR IRON GRATE OR CAST STEEL GRATE



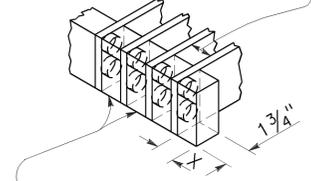
ALTERNATIVE WELDED GRATE

CAST END BLOCK

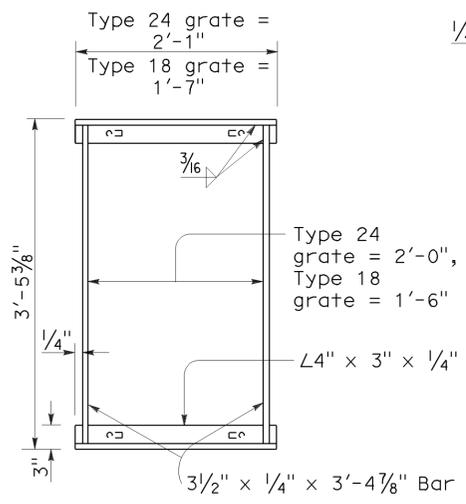


END OF BAR

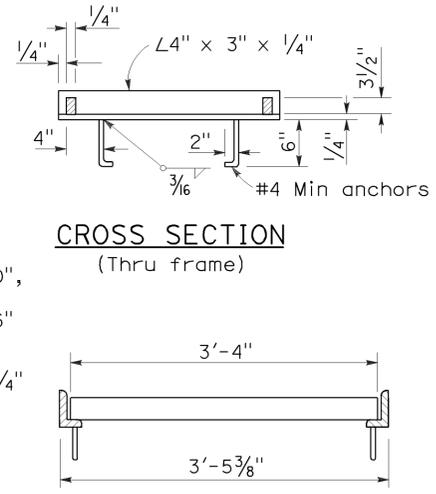
Spacing same as for welded or bolted grate



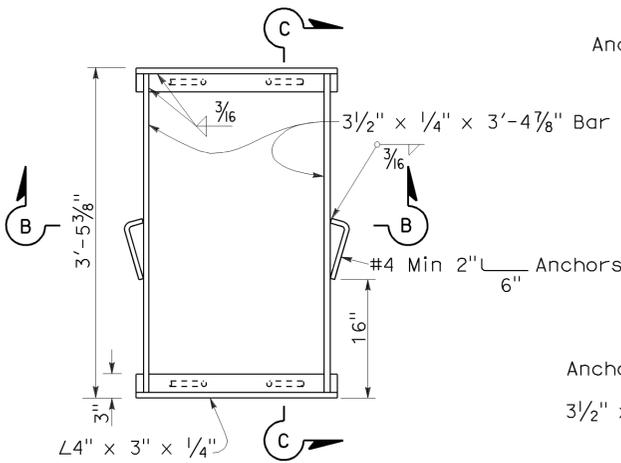
ALTERNATIVE CAST NODULAR IRON OR CAST STEEL END BLOCK GRATE



TYPICAL FRAME

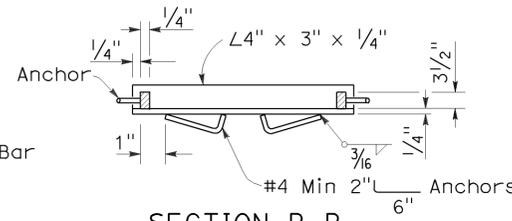


LONGITUDINAL SECTION (Thru frame and grate)

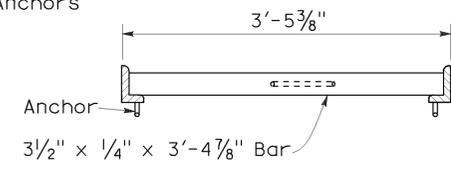


TYPICAL FRAME

ALTERNATIVE ANCHOR FOR RECTANGULAR FRAME
(For details not shown, See Rectangular Frame Details)



SECTION B-B



SECTION C-C

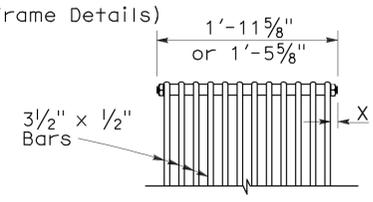
RECTANGULAR FRAME DETAILS
(For all rectangular grates)

GRATE BAR SPACING TABLE

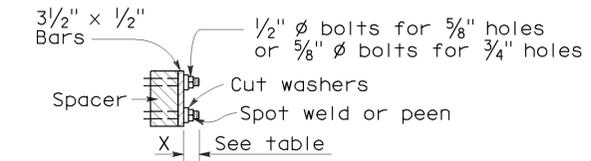
TYPE	NO. OF BARS	CLEAR BAR SPACING	X
18-9	9	1 3/8"	1 1/16"
24-9	9	2"	1 9/16"
24-12	12	1 3/8"	1 1/4"

INLET TYPE	COVER TYPE	WEIGHT LB
OS	PLATE	174
OL-7	PLATE	170
OL-10	PLATE	170
OL-14	PLATE	170
OL-21	PLATE	170
OCPI	PLATE	112
OCPI	PLATE	112
OCPI	REDWOOD	42
OMP	PLATE	177
OMPI	PLATE	177

INLET TYPE	GRATE TYPE	NO. OF GRATES	WEIGHT LB
GDO	24-12	2	634
GOL-7	24-12	1	326
GOL-10	24-12	1	326
G0,G1,G2,G3,G4 (TYPE 24)	24-9	1	263
	24-12	1	326
G4 (TYPE 18),G5,G6	18-9	1	249
GT1	18-9	2	498
GT2	18-9	2	498
GT3	24-12	2	652
GT4	24-12	2	652
TRASH RACK			22

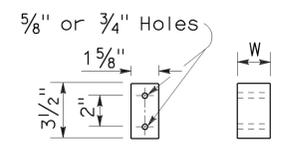


BOLTED END BLOCK

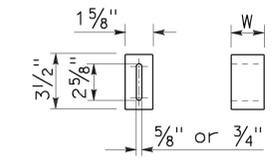


BOLTING DETAIL

ALTERNATIVE BOLTED GRATE



BAR SPACER



ALTERNATIVE SPACER

W = 1 3/8" or 2"

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
GRATE DETAILS
NO SCALE

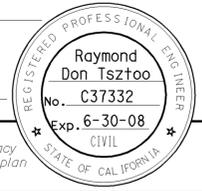
BASIS FOR MISC IRON & STEEL FINAL PAY WEIGHTS FOR DRAINAGE INLETS
(See General Notes, No 8)

2006 REVISED STANDARD PLAN RSP D77A

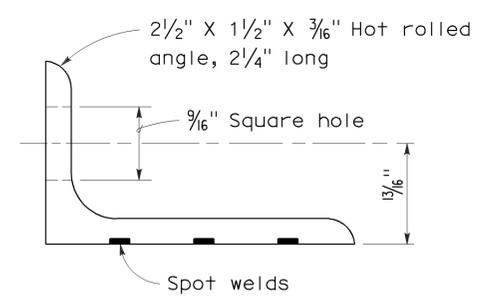
RSP D77A DATED JANUARY 18, 2008 SUPERSEDES STANDARD PLAN D77A DATED MAY 1, 2006 - PAGE 155 OF THE STANDARD PLANS BOOK DATED MAY 2006.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Or	57	18.4/20.9	518	856

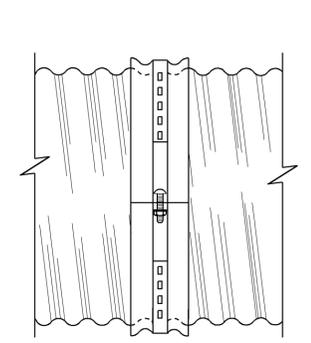
Raymond Don Tsztoo
 REGISTERED CIVIL ENGINEER
 June 6, 2008
 PLANS APPROVAL DATE
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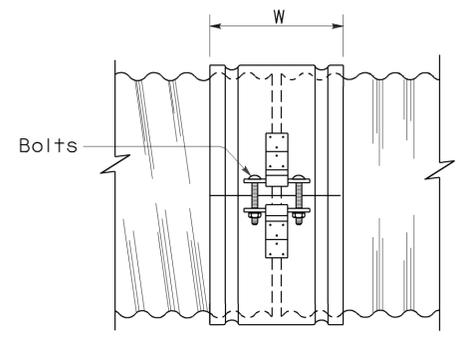
To accompany plans dated 1-25-10



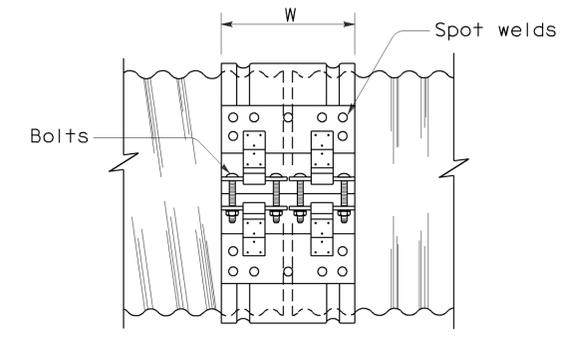
ANGLE



SIDE VIEW ANGLE



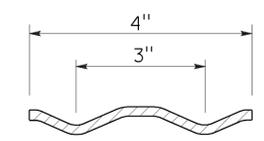
SIDE VIEW SINGLE BAR AND STRAP



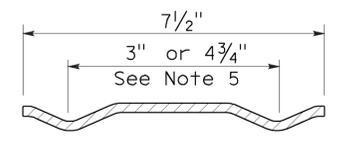
SIDE VIEW DOUBLE BAR AND STRAP

NOTES:

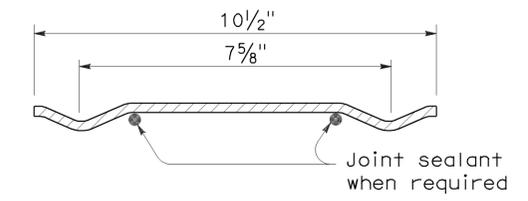
1. All ferrous metal coupling band connection hardware shall be galvanized or electroplated in accordance with the Standard Specifications.
2. Dimensions and thicknesses shown are minimum.
3. Spot welds shall develop minimum required strength of strap.
4. Fillet welds of equivalent strength may be substituted for spot welds or rivets.
5. Dimension depends upon whether end condition is lips up or lips down.



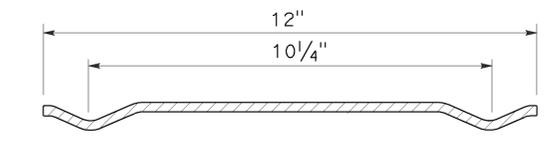
SECTION H-4 HUGGER BAND



SECTION H-7 HUGGER BAND



SECTION H-10 HUGGER BAND



SECTION H-12 HUGGER BAND

HUGGER COUPLING BANDS

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**CORRUGATED METAL PIPE
 COUPLING DETAILS No. 4
 HUGGER COUPLING BANDS**

NO SCALE

RSP D97D DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN D97D
 DATED MAY 1, 2006 - PAGE 186 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP D97D

2006 REVISED STANDARD PLAN RSP D97D

ANNULAR AND HELICAL PROFILE

COUPLING TYPE	PIPE CORRUGATION	PIPE SIZE	W OR A	PIPE WALL THICKNESS				BAR AND STRAP (CSP ONLY)				ANGLE									
				CSP		CAP		STRAP THICKNESS	BOLTS Dia	BAR Dia	BAR YIELD STRENGTH	DIMENSIONS		BOLTS (No.- Dia)		RIVETS ANGLE TO BAND		SPOT WELDS ANGLE TO BAND			
				CSP	CAP	CSP	CAP					CSP	CAP	CSP	CAP	CSP	CAP	CSP			
TWO PIECE INTEGRAL FLANGE	1 1/2' x 1/4"	6"-10"	7"	0.052"-0.079"	0.048"-0.060"	0.052"	0.060"							2-3/8"	2-3/8"						
				12"-18"	7"	0.052"-0.079"										2-1/2"					
				2 2/3" x 1/2"	12"-24"	7"	0.052"-0.079"	0.060"-0.105"	0.064"	0.060"							2-1/2"	2-1/2"			
UNIVERSAL	2 2/3" x 1/2"	THROUGH 36"	12"	0.052"-0.138"	0.060"-0.135"	0.052"	0.060"						2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	3-1/2"		
		42"-60"	12"	0.052"-0.168"	0.075"-0.164"	0.052"	0.060"							2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	5-1/2"	
		THROUGH 72"	12"	0.052"-0.168"	0.164"	0.052"	0.105"	0.079"	1/2"	7/8"	32 ksi	2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	5-1/2"			
		78"-84"	16 1/4"	0.168"		0.079"		DOUBLE 0.079"	1/2"	7/8"	32 ksi	2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	5-1/2"			
ANNULAR	2 2/3" x 1/2"	THROUGH 36"	7"	0.064"-0.138"	0.060"-0.135"	0.052"	0.060"	0.079"	1/2"	7/8"	32 ksi	2" x 2" x 3/16"	2" x 2" x 3/16"	2-1/2"	2-1/2"	3-3/8"	3-3/8"	3-1/2"			
		42"-72"	12"	0.064"-0.168"	0.075"-0.164"	0.052"	0.105"	0.079"	1/2"	7/8"	32 ksi	2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	5-1/2"			
		78"-84"	12"	0.168"		0.079"		0.109"	1/2"	7/8"	45 ksi	2" x 2" x 3/16"		3-1/2"		3-3/8"		5-1/2"			
	3" x 1"	48"-90"	14"	0.064"-0.109"		0.052"		0.079"	1/2"	7/8"	32 ksi	2" x 2" x 3/16"		3-1/2"		3-3/8"		5-1/2"			
		96"-120"	14"	0.079"-0.109"		0.052"		0.109"	1/2"	7/8"	45 ksi	2" x 2" x 3/16"		3-1/2"		4-3/8"					
		42"-108"	14"		0.060"-0.135"		0.060"					2" x 2" x 3/16"		3-1/2"		3-3/8"					
HELICAL	2 2/3" x 1/2"	THROUGH 36"	12"	0.052"-0.138"	0.060"-0.135"	0.052"	0.060"	0.079"	1/2"	7/8"	32 ksi	2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	3-1/2"			
		42"-72"	12"	0.052"-0.168"	0.075"-0.164"	0.052"	0.060"	0.079"	1/2"	7/8"	32 ksi	2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	5-1/2"			
		78"-84"	12"	0.168"		0.079"		0.109"	1/2"	7/8"	45 ksi	2" x 2" x 3/16"		3-1/2"		3-3/8"		5-1/2"			
	3" x 1"	48"-90"	14"	0.064"-0.109"		0.052"		0.079"	1/2"	7/8"	32 ksi	2" x 2" x 3/16"		3-1/2"		3-3/8"		5-1/2"			
		96"-120"	14"	0.079"-0.109"		0.052"		0.109"	1/2"	7/8"	45 ksi	2" x 2" x 3/16"		3-1/2"		4-3/8"					
		42"-108"	14"		0.060"-0.135"		0.060"					2" x 2" x 3/16"		3-1/2"		3-3/8"					
HUGGER	2 2/3" x 1/2"	REROLLED END	12"-54"	4"	0.052"-0.109"		0.052"						2 1/2" x 1 1/2" x 3/16"	2 1/2" x 1 1/2" x 3/16"	1-1/2"				3-1/2"		
			60"-66"	4"	0.109"		0.064"							2 1/2" x 1 1/2" x 3/16"	2 1/2" x 1 1/2" x 3/16"	1-1/2"				3-1/2"	
			36"-48"	4"	0.138"		0.064"							2 1/2" x 1 1/2" x 3/16"	2 1/2" x 1 1/2" x 3/16"	1-1/2"				3-1/2"	
			THROUGH 72"	10 1/2"	0.052"-0.168"		0.052"		0.079"	1/2"	7/8"	32 ksi									
			78"-84"	10 1/2"	0.168"		0.079"		0.109"	1/2"	7/8"	45 ksi									
	3" x 1"	REROLLED END	48"-90"	10 1/2"	0.064"-0.109"		0.052"		0.079"	1/2"	7/8"	32 ksi									
			96"-120"	10 1/2"	0.079"-0.109"		0.052"		0.109"	1/2"	7/8"	45 ksi									
	5" x 1"	REROLLED END	48"-66"	7 1/2"	0.064"-0.109"		0.064"		0.079"	1/2"	7/8"	32 ksi	2 1/2" x 1 1/2" x 3/16"	2 1/2" x 1 1/2" x 3/16"	1-1/2"					3-1/2"	
			72"-90"	7 1/2"	0.064"-0.079"		0.064"		0.079"	1/2"	7/8"	32 ksi	2 1/2" x 1 1/2" x 3/16"	2 1/2" x 1 1/2" x 3/16"	1-1/2"					3-1/2"	
			48"-90"	7 1/2"	0.064"-0.138"		0.064"		0.079"	1/2"	7/8"	32 ksi									
48"-120"			12" SEE	0.064"-0.109"		0.064"		0.079"	1/2"	7/8"	32 ksi										
48"-84"			12" NOTE	0.138"		0.064"		0.079"	1/2"	7/8"	32 ksi										
		90"-120"	12" 11	0.138"		0.064"		DOUBLE 0.079"	1/2"	7/8"	32 ksi										

SPIRAL RIB PROFILE

COUPLING TYPE	PIPE CORRUGATION	PIPE SIZE	W	PIPE WALL THICKNESS				BAR AND STRAP (SSRP ONLY)				ANGLE								
				SSRP		ASRP		STRAP THICKNESS	BOLTS Dia	BAR Dia	BAR YIELD STRENGTH	DIMENSIONS		BOLTS (No.- Dia)		RIVETS ANGLE TO BAND		SPOT WELDS ANGLE TO BAND		
				SSRP	ASRP	SSRP	ASRP					SSRP	ASRP	SSRP	ASRP	SSRP	ASRP	SSRP		
ANNULAR	2 2/3" x 1/2" * REROLLED END	24"-36"	12"	0.064"-0.109"	0.060"-0.105"	0.052"	0.060"	0.079"	1/2"	7/8"	32 ksi	2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	5-1/2"		
				42"-60"	12"	0.064"-0.109"	0.075"-0.105"	0.052"	0.105"	0.079"	1/2"	7/8"	32 ksi	2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	5-1/2"
				66"-72"	12"	0.064"-0.109"		0.052"		0.079"	1/2"	7/8"	32 ksi	2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	5-1/2"
				78"-114"	12"	0.079"-0.109"		0.079"		0.109"	1/2"	7/8"	45 ksi	2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	5-1/2"
HUGGER	2 2/3" x 1/2" * REROLLED END	24"-72"	10 1/2"	0.064"-0.109"		0.052"		0.079"	1/2"	7/8"	32 ksi									
		78"-84"	10 1/2"	0.109"		0.079"		0.109"	1/2"	7/8"	45 ksi									

* See Note 14.

14. All profiles of Spiral Rib Pipe (3/4" x 3/4" ribs at 7 1/2" pitch and 3/4" x 1" ribs at 11 1/2" pitch in both steel and aluminum and 3/4" x 1" ribs at 8 1/2" pitch in steel only) shall be manufactured with rerolled ends. Corrugation profile of the rerolled ends shall be 2 2/3" x 1/2" annual corrugations with a minimum of two full corrugations at each end.

- NOTES:** To accompany plans dated 1-25-10
- All ferrous metal coupling band connection hardware shall be galvanized or electroplated in accordance with the Standard Specifications.
 - For helically corrugated coupling bands, the connection angles may be oriented parallel to the pipe axis, provided connecting holes are slotted lengthwise sufficiently to allow adjustment for the helix angle.
 - Tension strap may be connected to band with either spot welds or fillet welds that develop minimum required strength of strap.
 - Use 1 1/4" gage line dimension on attached angle leg for rivets and spot welds.
 - Band thickness shall not be less than:
 - 3 standard thicknesses lighter than the thickness of the pipe for Corrugated Steel Pipe.
 - 2 standard thicknesses lighter than the thickness of the pipe and in no case lighter than 0.060" for Corrugated Aluminum Pipe.
 - Dimensions, thicknesses and strengths shown are minimum.
 - For pipe arches use same width band as for round pipe of equal periphery.
 - Fillet welds of equivalent strength may be substituted for spot welds or rivets.
 - Spot welds shall develop minimum required strength of strap.
 - Pipe with rerolled ends having at least two 2 2/3" x 1/2" annular corrugations at each end with or without an upturned flange may be connected with any of the annular coupling bands shown for pipe of the same diameter and wall thickness and having 2 2/3" x 1/2" corrugations.
 - In the case of H-12 huggerbands, two piece bands are required for diameters through 96" and three piece bands are required for diameters 102" through 120".
 - Two piece bands are required for pipes greater than 42" diameter.
 - The 2 1/4" x 2" x 0.109" thick galvanized die-formed angle connector may be used in lieu of the 2" x 2" x 3/16" angle connector for standard joints only on pipes through 72" diameter.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**CORRUGATED METAL PIPE
COUPLING DETAILS No. 5
STANDARD JOINT**
NO SCALE

RSP D97E DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN D97E
DATED MAY 1, 2006 - PAGE 187 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP D97E

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Oran	57	18.4/20.9	519	856

Raymond Don Tsztsoo
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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2006 REVISED STANDARD PLAN RSP D97E

ANNULAR AND HELICAL PROFILE

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	18.4/20.9	520	856

Raymond Don Tsztso
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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COUPLING TYPE	PIPE CORRUGATION	PIPE SIZE	W OR A	PIPE WALL THICKNESS				BAR AND STRAP (CSP ONLY)				ANGLE							
				CSP		CAP		STRAP THICKNESS	BOLTS Dia	BAR Dia	BAR YIELD STRENGTH	DIMENSIONS		BOLTS (No. - Dia)		RIVETS ANGLE TO BAND		SPOT WELDS ANGLE TO BAND	
				CSP	CAP	CSP	CAP					CSP	CAP	CSP	CAP	CSP	CAP	CSP	
TWO PIECE INTEGRAL FLANGE	1 1/2" x 1/4"	6"-10"	7"	0.064"-0.079"	0.060"	0.064"	0.060"								2-3/8"	2-3/8"			
	2 2/3" x 1/2"	12"-24"	12"		0.060"-0.105"		0.060"									3-1/2"			
UNIVERSAL	2 2/3" x 1/2"	THROUGH 36"	12"	0.064"-0.138"	0.060"-0.135"	0.064"	0.060"	0.079"	1/2"	7/8"	32 ksi	2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	5-1/2"	
		42"-60"	16 1/4"	0.064"-0.168"	0.060"-0.164"	0.064"	0.060"	DOUBLE 0.079"	1/2"	7/8"	32 ksi	2" x 2" x 1/4"	2" x 2" x 1/4"	4-1/2"	4-1/2"	5-3/8"	5-3/8"		
ANNULAR	2 2/3" x 1/2"	THROUGH 36"	12"	0.064"-0.138"	0.060"-0.135"	0.064"	0.060"					2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	5-1/2"	
		42"-60"	12"	0.064"-0.079"		0.064"							2" x 2" x 3/16"		3-1/2"		3-3/8"		5-1/2"
		42"-60"	12"	0.109"-0.168"	0.135"-0.164"	0.064"	0.075"						2" x 2" x 1/4"	2" x 2" x 1/4"	3-1/2"	3-1/2"	5-3/8"	5-3/8"	
		66"-72"	24"		0.164"		0.105"						2" x 2" x 1/4"	2" x 2" x 1/4"	5-1/2"	5-1/2"		5-1/2"	
		66"-84"	24"	0.109"-0.168"		0.064"							2" x 2" x 1/4"		5-1/2"		7-3/8"		5-1/2"
		42"-54"	12"		0.060"-0.105"		0.060"						2" x 2" x 3/16"		3-1/2"		3-3/8"		
	3" x 1"	48"-60"	14"	0.064"-0.079"		0.064"							2" x 2" x 3/16"		3-1/2"		3-3/8"		5-1/2"
		48"-60"	14"	0.109"		0.064"							2" x 2" x 3/16"		3-1/2"		5-3/8"		
		66"-120"	25"	0.064"-0.109"		0.064"							2" x 2" x 3/16"		5-1/2"		9-3/8"		
		42"-60"	14"		0.060"-0.105"		0.060"						2" x 2" x 3/16"		3-1/2"			5-3/8"	
		42"-60"	14"		0.135"		0.075"						2" x 2" x 1/4"		3-1/2"			5-3/8"	
		66"-96"	25"		0.060"-0.135"		0.060"						2" x 2" x 1/4"		5-1/2"			7-3/8"	
	HELICAL	2 2/3" x 1/2"	THROUGH 36"	12"	0.064"-0.138"	0.060"-0.135"	0.064"	0.060"					2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	5-1/2"
			42"-54"	12"		0.060"-0.105"		0.060"					2" x 2" x 3/16"		3-1/2"		3-3/8"		
42"-60"			12"	0.064"-0.079"		0.064"							2" x 2" x 3/16"		3-1/2"		3-3/8"		5-1/2"
42"-60"			12"	0.109"-0.168"	0.135"-0.164"	0.064"	0.075"					2" x 2" x 1/4"	2" x 2" x 1/4"	3-1/2"	3-1/2"	5-3/8"	5-3/8"		
66"-84"			24"	0.109"-0.168"		0.064"						2" x 2" x 1/4"		5-1/2"		7-3/8"		5-3/8"	
66"-72"			24"		0.164"		0.105"					2" x 2" x 1/4"		5-1/2"			5-3/8"		
3" x 1"		48"-60"	14"	0.064"-0.079"		0.064"							2" x 2" x 3/16"		3-1/2"		3-3/8"		5-1/2"
		48"-60"	14"	0.109"		0.064"							2" x 2" x 3/16"		3-1/2"		5-3/8"		
		66"-120"	25"	0.064"-0.109"		0.064"							2" x 2" x 3/16"		5-1/2"		9-3/8"		
		42"-60"	14"		0.060"-0.105"		0.060"						2" x 2" x 3/16"		3-1/2"			5-3/8"	
		42"-60"	14"		0.135"		0.075"						2" x 2" x 1/4"		3-1/2"			5-3/8"	
		66"-96"	25"		0.060"-0.135"		0.060"						2" x 2" x 1/4"		5-1/2"			7-3/8"	
		96"-108"	25"		0.135"		0.075"						2" x 2" x 1/4"		5-1/2"			7-3/8"	
HUGGER	2 2/3" x 1/2" REROLLED END	THROUGH 48"	10 1/2"	0.109"		0.064"		0.079"	1/2"	7/8"	32 ksi								
		54"-66"	10 1/2"	0.109"		0.064"		DOUBLE 0.079"	1/2"	7/8"	32 ksi								
		THROUGH 54"	10 1/2"	0.064"-0.079"		0.064"		0.079"	1/2"	7/8"	32 ksi								
		THROUGH 60"	10 1/2"	0.138"		0.079"		DOUBLE 0.079"	1/2"	7/8"	32 ksi								
		66"-72"	10 1/2"	0.138"		0.109"		DOUBLE 0.079"	1/2"	7/8"	32 ksi								
	3" x 1" REROLLED END	THROUGH 72"	10 1/2"	0.168"		0.109"		DOUBLE 0.109"	1/2"	7/8"	45 ksi								
		48"-84"	10 1/2"	0.109"		0.079"		DOUBLE 0.079"	1/2"	7/8"	32 ksi								
		48"-90"	10 1/2"	0.064"-0.079"		0.064"		DOUBLE 0.079"	1/2"	7/8"	32 ksi								
		96"-102"	10 1/2"	0.079"		0.079"		DOUBLE 0.079"	1/2"	7/8"	32 ksi								
		90"-120"	10 1/2"	0.109"		0.109"		DOUBLE 0.109"	1/2"	7/8"	45 ksi								

To accompany plans dated 1-25-10

NOTES:

- All ferrous metal coupling band connection hardware shall be galvanized or electroplated in accordance with the Standard Specifications.
- For helically corrugated coupling bands, the connection angles may be oriented parallel to the pipe axis, provided connecting holes are slotted lengthwise sufficiently to allow adjustment for the helix angle.
- Tension strap may be connected to band with either spot welds or fillet welds that develop minimum required strength of strap.
- Use 1/4" gage line dimension on attached angle leg for rivets and spot welds.
- Band thickness shall not be less than:
 - 3 standard thicknesses lighter than the thickness of the pipe for Corrugated Steel Pipe.
 - 2 standard thicknesses lighter than the thickness of the pipe and in no case lighter than 0.060" for Corrugated Aluminum Pipe.
- Dimensions, thicknesses and strengths shown are minimum.
- For pipe arches use same width band as for round pipe of equal periphery.
- Fillet welds of equivalent strength may be substituted for spot welds or rivets.
- Spot welds shall develop minimum required strength of strap.
- Pipe with rerolled ends having at least two 2 2/3" x 1/2" annular corrugations at each end with or without an upturned flange may be connected with any of the annular coupling bands shown for pipe of the same diameter and wall thickness and having 2 2/3" x 1/2" corrugations.
- In the case of H-12 huggerbands, two piece bands are required for diameters through 96" and three piece bands are required for diameters 102" through 120".
- Two piece bands are required for pipes greater than 42" diameter.

SPIRAL RIB PROFILE

COUPLING TYPE	PIPE CORRUGATION	PIPE SIZE	W	PIPE WALL THICKNESS				BAR AND STRAP (SSRP ONLY)				ANGLE						
				SSRP		ASRP		STRAP THICKNESS	BOLTS Dia	BAR Dia	BAR YIELD STRENGTH	DIMENSIONS		BOLTS (No.- Dia)		RIVETS ANGLE TO BAND		SPOT WELDS ANGLE TO BAND
				SSRP	ASRP	SSRP	ASRP					SSRP	ASRP	SSRP	ASRP	SSRP		
ANNULAR	2 2/3" x 1/2" * REROLLED END	24"-36"	12"	0.064"-0.109"	0.060"-0.105"	0.064"	0.060"	0.079"	1/2"	7/8"	32 ksi	2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	5-1/2"
		42"-60"	12"	0.064"-0.079"	0.075"-0.105"	0.064"	0.075"	0.079"	1/2"	7/8"	32 ksi	2" x 2" x 3/16"	2" x 2" x 3/16"	3-1/2"	3-1/2"	3-3/8"	3-3/8"	5-1/2"
		42"-60"	12"	0.109"		0.064"		0.079"	1/2"	7/8"	32 ksi	2" x 2" x 1/4"		3-1/2"		5-3/8"		
		66"-84"	24"	0.109"		0.064"		0.079"	1/2"	7/8"	32 ksi	2" x 2" x 1/4"		5-1/2"		7-3/8"		
HUGGER	2 2/3" x 1/2" * REROLLED END	24"-54"	10 1/2"	0.064"-0.079"		0.064"		0.079"	1/2"	7/8"	32 ksi							
		24"-48"	10 1/2"	0.109"		0.064"		0.079"	1/2"	7/8"	32 ksi							
		54"-66"	10 1/2"	0.109"		0.064"		Double 0.079"	1/2"	7/8"	32 ksi							

* See Note 13.

13. All profiles of Spiral Rib Pipe (3/4" x 3/4" ribs at 7 1/2" pitch and 3/4" x 1" ribs at 11 1/2" pitch in both steel and aluminum and 3/4" x 1" ribs at 8 1/2" pitch in steel only) shall be manufactured with rerolled ends. Corrugation profile of the rerolled ends shall be 2 2/3" x 1/2" annual corrugations with a minimum of two full corrugations at each end.

CORRUGATED METAL PIPE COUPLING DETAILS No. 6 POSITIVE JOINT

NO SCALE

RSP D97F DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN D97F DATED MAY 1, 2006 - PAGE 188 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP D97F

2006 REVISED STANDARD PLAN RSP D97F

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Oran	57	18.4/20.9	521	856

Raymond Don Tsztso
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

Raymond Don Tsztso
REGISTERED PROFESSIONAL ENGINEER
No. C37332
Exp. 6-30-08
CIVIL
STATE OF CALIFORNIA

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ANNULAR AND HELICAL PROFILE

COUPLING TYPE	PIPE CORRUGATION	PIPE SIZE	W OR A	PIPE WALL THICKNESS				BAR AND STRAP (CSP ONLY)			ANGLE							
				CSP		CAP		STRAP THICKNESS	BOLTS Dia	BAR Dia	DIMENSIONS		BOLTS (No.- Dia)		RIVETS ANGLE TO BAND		SPOT WELDS ANGLE TO BAND	
				CSP	CAP	CSP	CAP				CSP	CAP	CSP	CAP	CSP	CAP	CSP	
TWO PIECE INTEGRAL FLANGE	1 1/2' x 1/4"	6"	7"	0.064"-0.168"														
	1 1/2' x 1/4"	8"-10"	7"	0.064"-0.168"	0.060"-0.164"		0.064"	0.060"										
ANNULAR	2 2/3" x 1/2"	THROUGH 24"	12"	0.064"-0.168"	0.060"-0.164"		0.064"	0.060"										
HUGGER	2 2/3" x 1/2" REROLLED END	THROUGH 24"	10 1/2"	0.064"-0.168"				0.079"	1/2"	7/8"								

- NOTES: To accompany plans dated 1-25-10
- All ferrous metal coupling band connection hardware shall be galvanized or electroplated in accordance with the Standard Specifications.
 - For helically corrugated coupling bands, the connection angles may be oriented parallel to the pipe axis, provided connecting holes are slotted lengthwise sufficiently to allow adjustment for the helix angle.
 - Tension strap may be connected to band with either spot welds or fillet welds that develop minimum required strength of strap.
 - Use 1 1/4" gage line dimension on attached angle leg for rivets and spot welds.
 - Band thickness shall not be less than:
 - 3 standard thicknesses lighter than the thickness of the pipe for Corrugated Steel Pipe.
 - 2 standard thicknesses lighter than the thickness of the pipe and in no case lighter than 0.060" for Corrugated Aluminum Pipe.
 - Dimensions, thicknesses and strengths shown are minimum.
 - For pipe arches use same width band as for round pipe of equal periphery.
 - Fillet welds of equivalent strenght may be substituted for spot welds or rivets.
 - Spot welds shall develop minimum required strength of strap.
 - Pipe with rerolled ends having at least two 2 2/3" x 1/2" annular corrugations at each end with or without an upturned flange may be connected with any of the annular coupling bands shown for pipe of the same diameter and wall thickness and having 2 2/3" x 1/2" corrugations.
 - For downdrain applications, two piece integral flange couplers shall have factory applied sleeve type rubber gaskets with a minimum length of 7" measured along the length of the pipe.

SPIRAL RIB PROFILE

COUPLING TYPE	PIPE CORRUGATION	PIPE SIZE	W	PIPE WALL THICKNESS				BAR AND STRAP (SSRP ONLY)			ANGLE							
				SSRP		ASRP		STRAP THICKNESS	BOLTS Dia	BAR Dia	DIMENSIONS		BOLTS (No.- Dia)		RIVETS ANGLE TO BAND		SPOT WELDS ANGLE TO BAND	
SSRP	ASRP	SSRP	ASRP	SSRP	ASRP	SSRP	ASRP				SSRP	ASRP	SSRP	ASRP	SSRP	ASRP	SSRP	
ANNULAR	2 2/3" x 1/2" * REROLLED END	24"	12"	0.064"-0.168"	0.060"-0.164"		0.064"	0.060"										
HUGGER	2 2/3" x 1/2" * REROLLED END	24"	10 1/2"	0.064"-0.168"				0.079"	1/2"	7/8"								

* See Note 12.

12. All profiles of Spiral Rib Pipe (3/4" x 3/4" ribs at 7 1/2" pitch and 3/4" x 1" ribs at 11 1/2" pitch in both steel and aluminum and 3/4" x 1" ribs at 8 1/2" pitch in steel only) shall be manufactured with rerolled ends. Corrugation profile of the rerolled ends shall be 2 2/3" x 1/2" annual corrugations with a minimum of two full corrugations at each end.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**CORRUGATED METAL PIPE
COUPLING DETAILS No. 7
DOWNDRAIN**

NO SCALE

RSP D97G DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN D97G
DATED MAY 1, 2006 - PAGE 189 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP D97G

2006 REVISED STANDARD PLAN RSP D97G

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	18.4/20.9	522	856

Gregory A. Balzer
LICENSED LANDSCAPE ARCHITECT

June 5, 2009
PLANS APPROVAL DATE

Gregory A. Balzer
LICENSED LANDSCAPE ARCHITECT
2-28-11
5-14-09
DATE

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To accompany plans dated 1-25-10

2006 REVISED STANDARD PLAN RSP H1

A

AB aggregate base
 ABS acrylonitrile-butadiene-styrene
 AC asphalt concrete
 Adj adjacent/adjustable
 AIC auxiliary irrigation controller
 Alt alternative
 AMEND amendment
 ARV air release valve
 AUTO automatic
 AUX auxiliary
 AVB atmospheric vacuum breaker

B

B&B balled and burlapped
 B/B brass/bronze
 B/B/PL brass/bronze/plastic
 B/PL brass/plastic
 BFM bonded fiber matrix
 Bit Ctd bituminous coated
 BP booster pump
 BPA backflow preventer assembly
 BPAE backflow preventer assembly in enclosure
 BPE backflow preventer enclosure
 BV ball valve

C

CAP corrugated aluminum pipe
 CARV combination air release valve
 CCA cam coupler assembly
 CEC controller enclosure cabinet
 CHDPE corrugated high density polyethylene
 CL chain link
 CNC control and neutral conductors
 Conc concrete
 Cond conduit
 CSP corrugated steel pipe
 CST center strip
 CV check valve

D

Dia diameter
 DIP ductile iron pipe
 DN diameter nominal

E

EA each
 Elect electric/electrical
 Elev elevation
 ENCL enclosure
 EP edge of pavement
 ES edge of shoulder
 EST end strip
 ESTB establishment
 ETW edge of traveled way

F

F full circle
 F/P full/part circle
 FAU filter assembly unit
 FCV flow control valve
 FERT fertilizer
 FG finished grade
 FIPT female iron pipe thread
 FIS fertilizer injector system
 FL flow line
 FM flow monitor
 FS flow sensor
 Ft foot/feet
 FV flush valve

G

GAL Gallon(s)
 Galv galvanized
 GARV garden valve
 GPH gallons per hour
 GPM gallons per minute
 GSP galvanized steel pipe
 GV gate valve

H

H half circle
 HB hose bib
 HDPE high density polyethylene
 HP horsepower/hinge point
 HPL high pressure line
 Hwy highway

I

IC irrigation controller
 ICC irrigation controller(s)
 in controller enclosure cabinet
 ID inside diameter
 In inches
 IFS irrigation filtration system
 IPS iron pipe size
 IPT iron pipe thread
 Irr irrigation

L

L length
 LF linear foot

M

Max maximum
 MBGR metal beam guard railing
 MCV manual control valve
 MIC master irrigation controller
 Min minimum
 MIPT male iron pipe thread
 Misc miscellaneous
 Mtl material
 MVP maintenance vehicle pullout

N

NCN no common name
 NL nozzle line
 No. number
 NPT national pipe thread

O

O/C on center
 OD outside diameter
 Oz ounce

P

P part circle
 PB pull box
 PCC portland cement concrete
 PE polyethylene
 Pkt packet
 PL plastic
 PLT plant/planting
 PLT ESTB plant establishment
 PM post mile
 PR pressure rated
 PRLV pressure relief valve
 PSFM polymer stabilized fiber matrix
 PSI pounds per square inch
 PRV pressure reducing valve
 PVC polyvinyl chloride
 Pvmt pavement

Q

Q quarter circle
 QCV quick coupling valve

R

R radius
 RCP reinforced concrete pipe
 RCV remote control valve
 RCVM remote control valve (master)
 RCVMF remote control valve (master) w/ flow meter
 RCW recycled/reclaimed water
 RECP rolled erosion control product
 REQ required
 R/W right of way

S

S slip
 SCC sprinkler control conduit
 SCH schedule
 SF state-furnished
 Shld shoulder
 SQFT square foot/feet
 SQYD square yard(s)
 SST side strip
 Sta station
 Std standard
 SW sidewalk/sound wall

T

T third circle/thread
 TLS truck loading standpipe
 TQ three quarter circle
 TRM turf reinforcement mat
 TRVD traveled
 TT two third circle
 Typ typical

U

UG underground

V

VAU valve assembly unit

W

W width
 W/ with
 WM water meter
 WS wye strainer
 WSP welded steel pipe
 WWM welded wire mesh

NOTE:
 FOR ADDITIONAL ABBREVIATIONS,
 SEE STANDARD PLANS A10A AND A10B.

**PLANTING AND IRRIGATION
 ABBREVIATIONS**

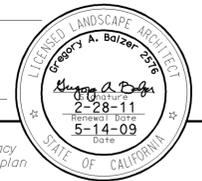
NO SCALE

RSP H1 DATED JUNE 5, 2009 SUPERSEDES STANDARD PLAN H1
 DATED MAY 1, 2006 - PAGE 201 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP H1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	18.4/20.9	523	856

Gregory A. Balzer
 LICENSED LANDSCAPE ARCHITECT
 June 5, 2009
 PLANS APPROVAL DATE
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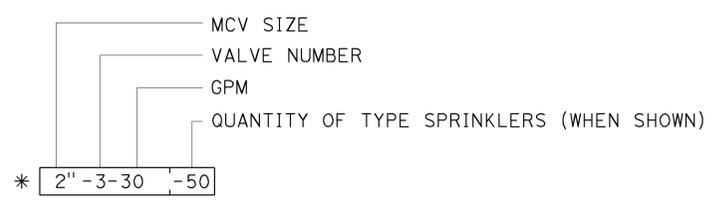
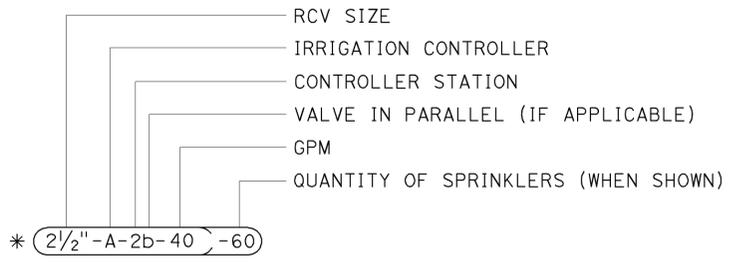


To accompany plans dated 1-25-10

EXISTING	PROPOSED	ITEM DESCRIPTION
		WATER METER (WM)
		BACKFLOW PREVENTER ASSEMBLY (BPA)
		BACKFLOW PREVENTER ASSEMBLY IN ENCLOSURE (BPAE)
		BACKFLOW PREVENTER ENCLOSURE (BPE)
		BOOSTER PUMP (BP)
		TRUCK LOADING STANDPIPE (TLS)
		FLOW SENSOR (FS)
		MASTER IRRIGATION CONTROLLER (MIC)
		AUXILIARY IRRIGATION CONTROLLER (AIC)
		IRRIGATION CONTROLLER (IC)/ IRRIGATION CONTROLLER (IC) (BATTERY) IRRIGATION CONTROLLER (IC) (SOLAR)
		IRRIGATION CONTROLLER(S) IN CONTROLLER ENCLOSURE CABINET (ICC)
		CONTROL AND NEUTRAL CONDUCTORS (CNC)
		SPRINKLER CONTROL CONDUIT (SCC)
		IRRIGATION CROSSOVER
		EXTEND IRRIGATION CROSSOVER
		IRRIGATION SLEEVE
		DUCTILE IRON PIPE (SUPPLY LINE) (MAIN) (DIP)
		GALVANIZED STEEL PIPE (SUPPLY LINE) (MAIN) (GSP)
		GALVANIZED STEEL PIPE (SUPPLY LINE) (LATERAL) (GSP)
		PLASTIC PIPE (PR 200) (SUPPLY LINE) (MAIN)
		PLASTIC PIPE (PR 200) (SUPPLY LINE) (LATERAL)
		PLASTIC PIPE (IRRIGATION LINE)
		REMOTE CONTROL VALVE (RCV) REMOTE CONTROL VALVE (MASTER) (RCVM) REMOTE CONTROL VALVE (MASTER) W/FLOW METER (RCVMF)
		MANUAL CONTROL VALVE (MCV)
		VALVE ASSEMBLY UNIT (VAU)
		WYE STRAINER (WS)
		FILTER ASSEMBLY UNIT (FAU)
		GATE VALVE (GV)
		BALL VALVE (BV)

EXISTING	PROPOSED	ITEM DESCRIPTION
		QUICK COUPLING VALVE (QCV)
		CAM COUPLER ASSEMBLY (CCA)
		PRESSURE REDUCING VALVE (PRV)
		PRESSURE RELIEF VALVE (PRLV)
		FLOW CONTROL VALVE (FCV)
		COMBINATION AIR RELEASE VALVE (CARV)
		CHECK VALVE (CV)
		FLUSH VALVE (FV)
		NOZZLE LINE W/TURNING UNION
		IRRIGATION SYSTEM
		IRRIGATION SYSTEM TO BE REMOVED
		CHAIN LINK GATE
		QUICK COUPLING VALVE W/SPRINKLER PROTECTOR
		SPRINKLER W/SPRINKLER PROTECTOR
		CONNECT TO EXISTING SYSTEM
		CAP
		CAP EXISTING

VALVE CODE



* VALVE CODES FOR EXISTING VALVES ARE SHOWN IN A DASHED ENCLOSURE.

PLANTING AND IRRIGATION SYMBOLS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

NO SCALE

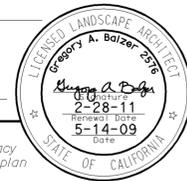
RSP H2 DATED JUNE 5, 2009 SUPERSEDES RSP H2 DATED MARCH 7, 2008 AND STANDARD PLAN H2 DATED MAY 1, 2006 - PAGE 202 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP H2

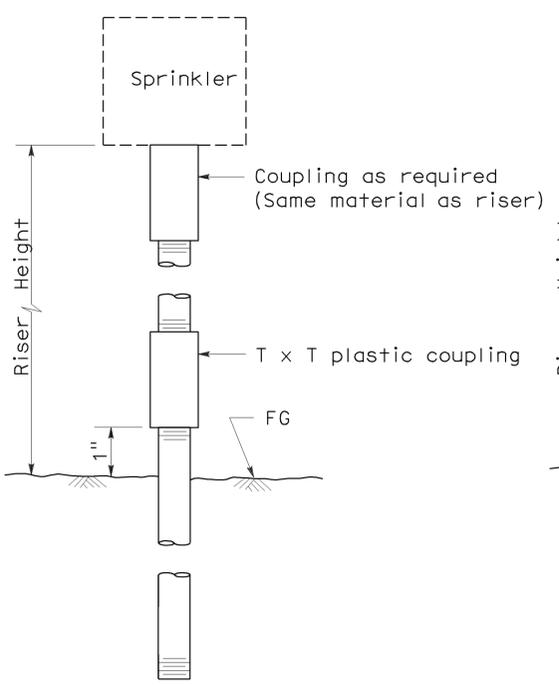
2006 REVISED STANDARD PLAN RSP H2

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	18.4/20.9	524	856

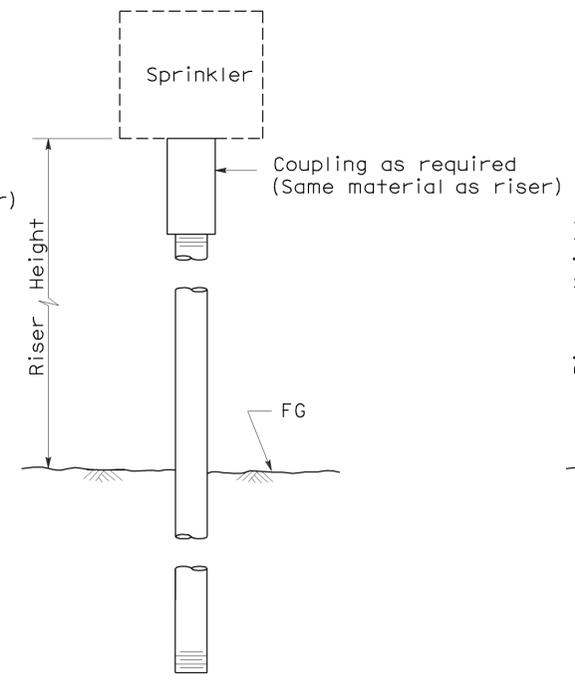
Gregory A. Balzer
 LICENSED LANDSCAPE ARCHITECT
 June 5, 2009
 PLANS APPROVAL DATE
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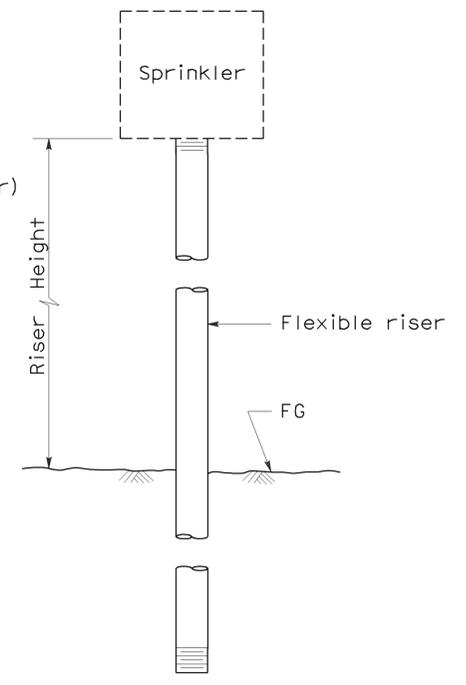
To accompany plans dated 1-25-10



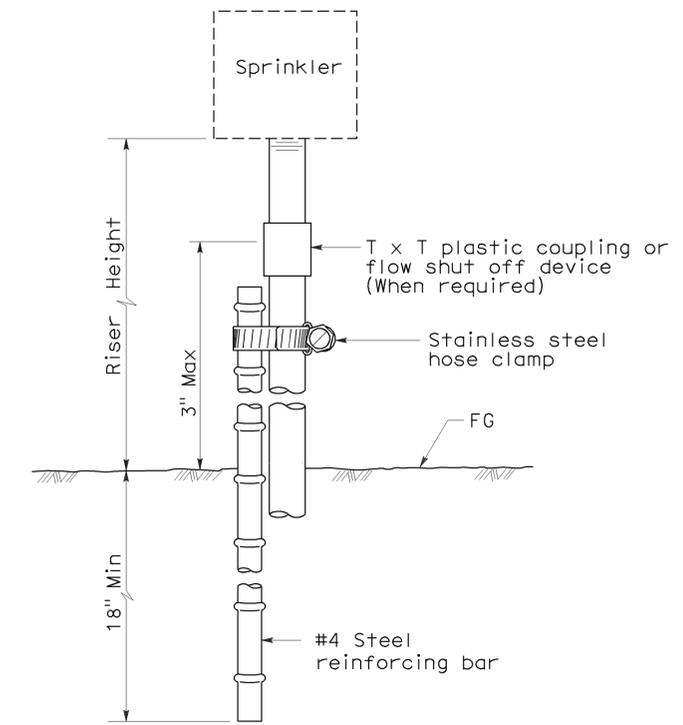
ELEVATION
RISER TYPE I



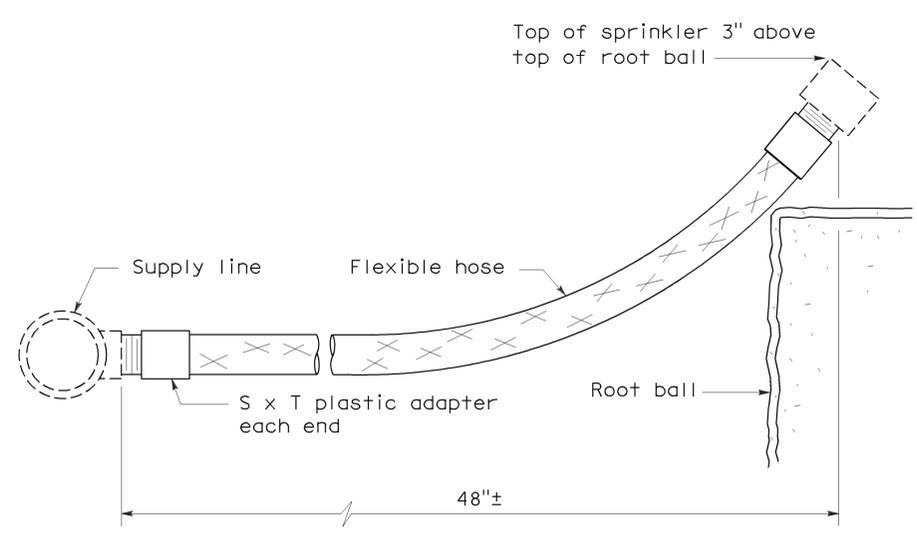
ELEVATION
RISER TYPE II



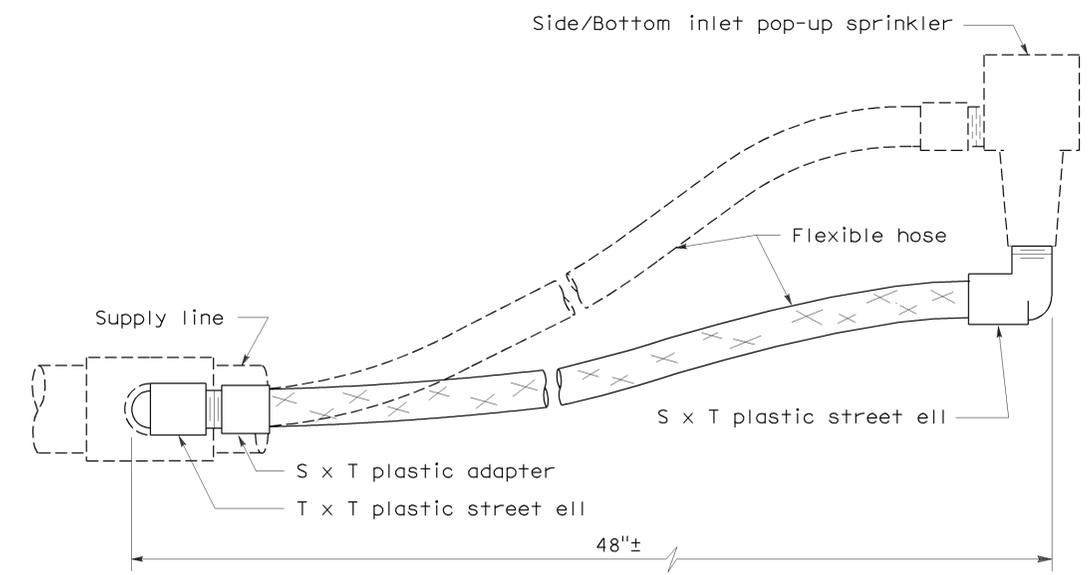
ELEVATION
RISER TYPE III



ELEVATION
RISER TYPE IV



ELEVATION
RISER TYPE V



ELEVATION
RISER TYPE VI

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**PLANTING AND IRRIGATION
DETAILS**
NO SCALE

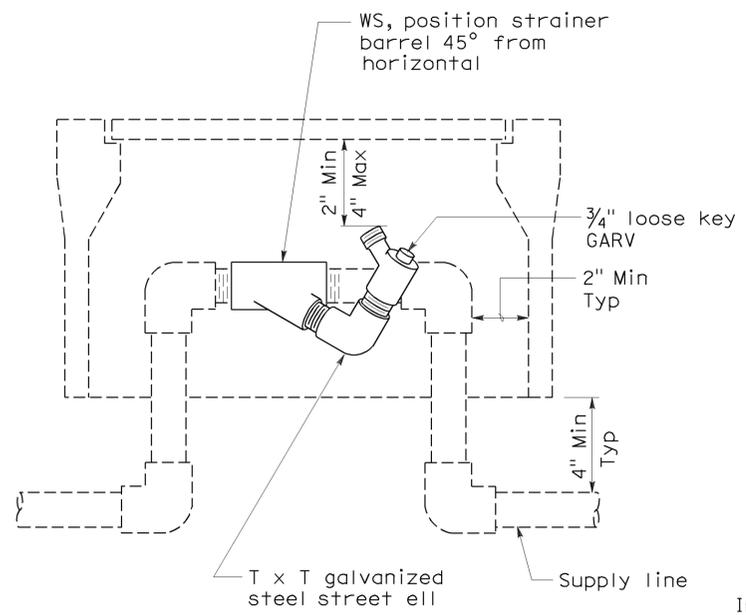
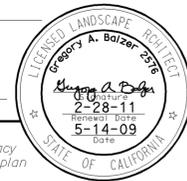
RSP H5 DATED JUNE 5, 2009 SUPERSEDES STANDARD PLAN H5
DATED MAY 1, 2006 - PAGE 205 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP H5

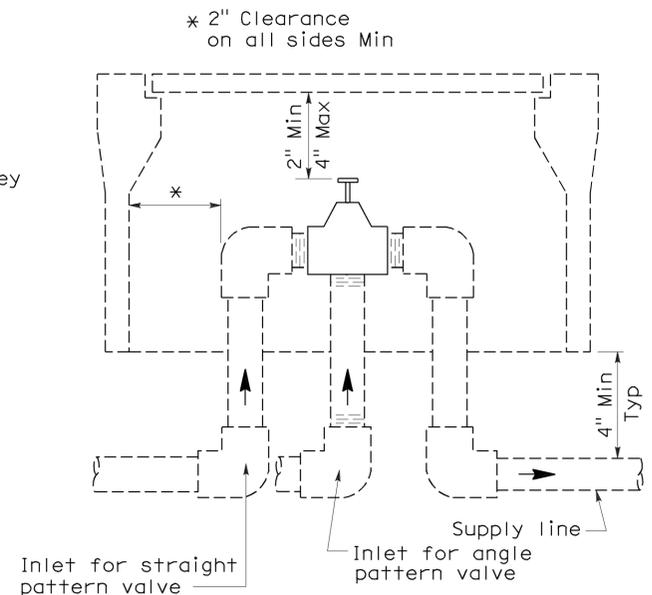
2006 REVISED STANDARD PLAN RSP H5

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	18.4/20.9	525	856

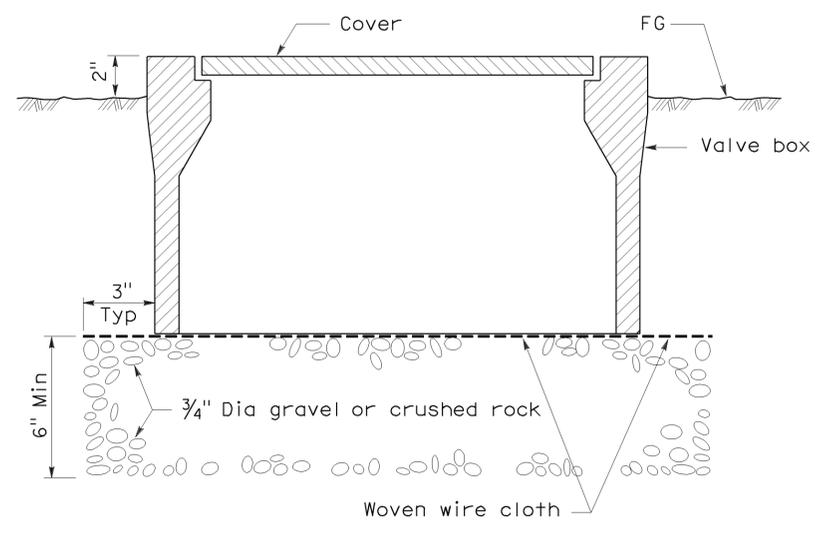
Gregory A. Balzer
 LICENSED LANDSCAPE ARCHITECT
 June 5, 2009
 PLANS APPROVAL DATE
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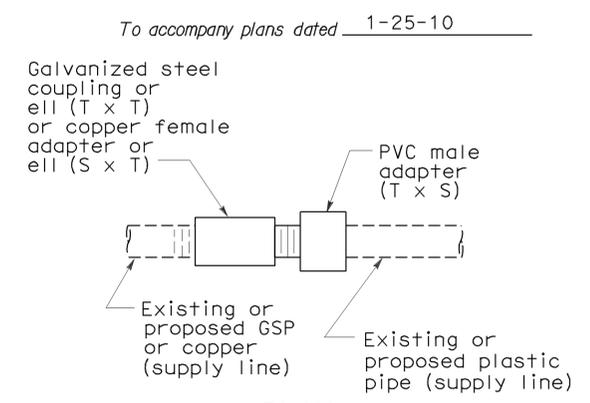
**ELEVATION
WYE STRAINER**



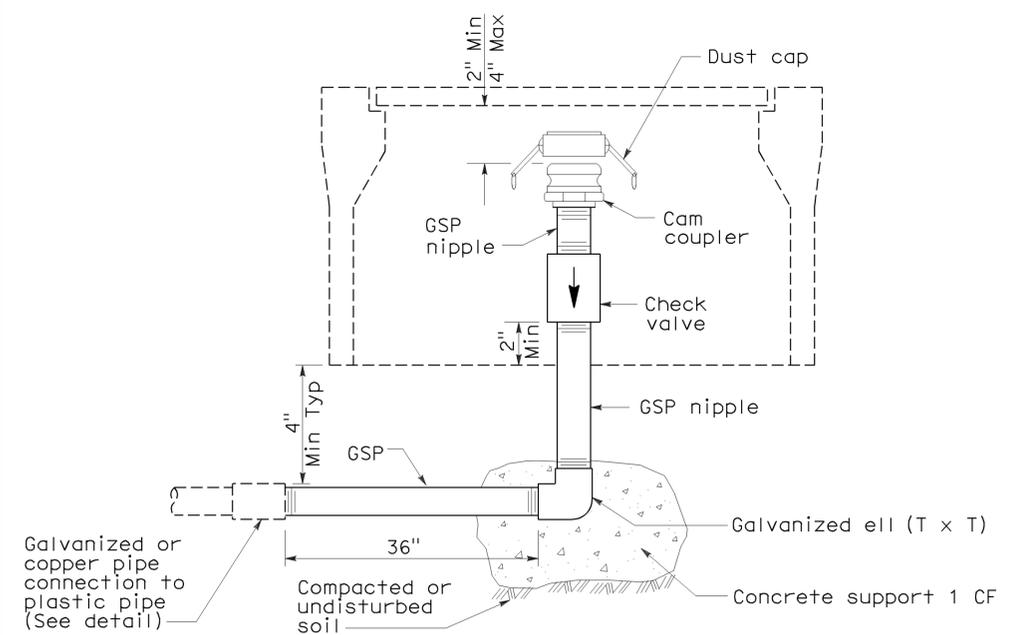
**ELEVATION
VALVE**



**SECTION
VALVE BOX**

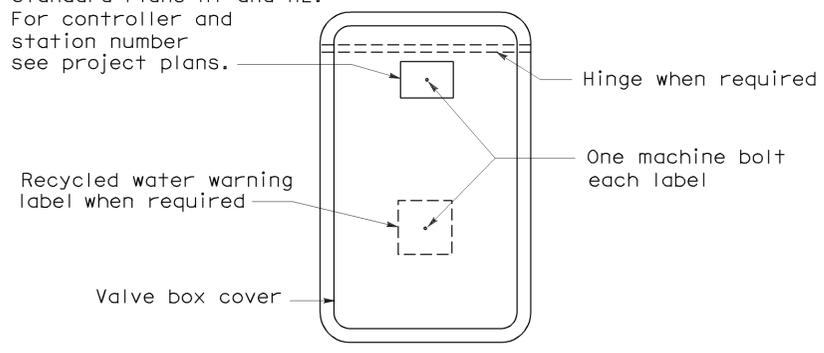


**PLAN
GALVANIZED OR COPPER PIPE
CONNECTION TO PLASTIC PIPE**

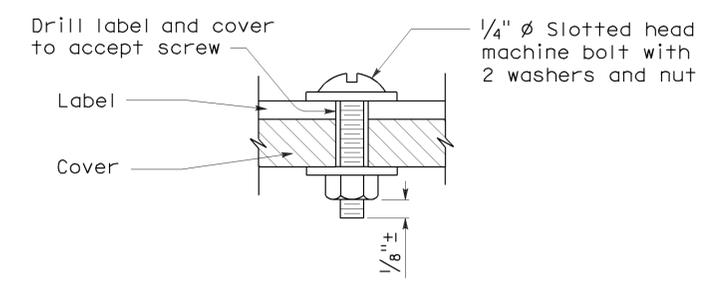


**ELEVATION
CAM COUPLER ASSEMBLY**

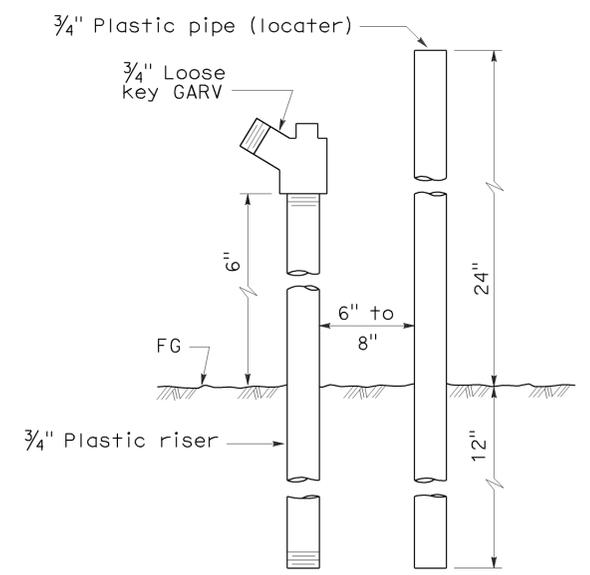
Identification label:
 For abbreviations see Revised Standard Plans H1 and H2.
 For controller and station number see project plans.



PLAN



**SECTION
VALVE BOX IDENTIFICATION**



**ELEVATION
FLUSH VALVE**

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

**PLANTING AND IRRIGATION
DETAILS**

NO SCALE

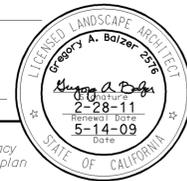
RSP H7 DATED JUNE 5, 2009 SUPERSEDES STANDARD PLAN H7
 DATED MAY 1, 2006 - PAGE 207 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP H7

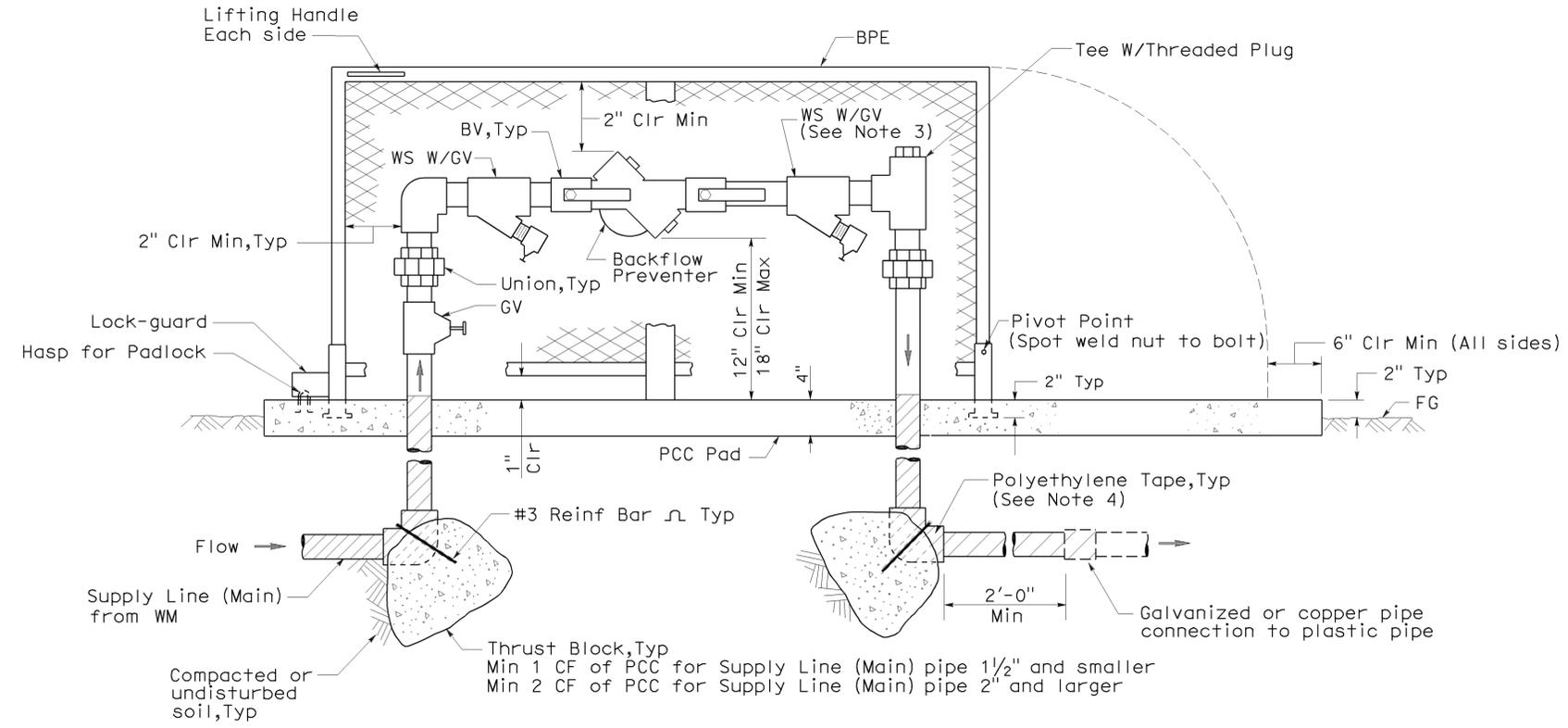
2006 REVISED STANDARD PLAN RSP H7

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	18.4/20.9	526	856

Gregory A. Balzer
 LICENSED LANDSCAPE ARCHITECT
 June 5, 2009
 PLANS APPROVAL DATE
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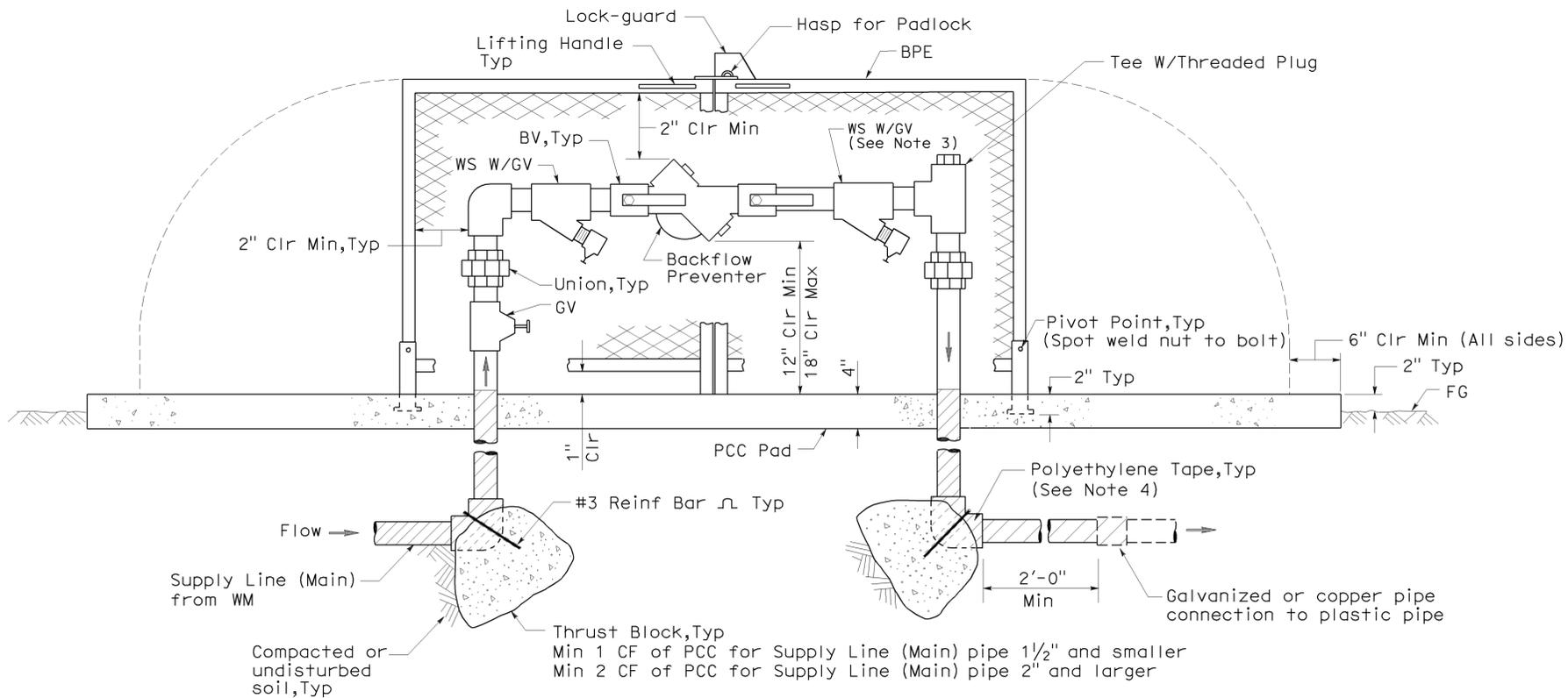
To accompany plans dated 1-25-10



ELEVATION
BACKFLOW PREVENTER ASSEMBLY IN ENCLOSURE (ONE PIECE)

NOTES:

1. Wye strainer and fittings must be the same size as the backflow preventer shown on the plans.
2. Backflow preventer assembly manifold pipe must be the same pipe as the supply line (main) pipe to be installed from the water meter to the backflow preventer assembly.
3. Wye strainer location shown downstream of the backflow preventer is for District 11 projects only.
4. All metal in contact with soil and Portland Cement Concrete must be polyethylene wrapped using 2" wide plastic backed adhesive tape 20 mil thick with 1/2" overlap.



ELEVATION
BACKFLOW PREVENTER ASSEMBLY IN ENCLOSURE (TWO PIECE)

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**PLANTING AND IRRIGATION
 DETAILS**
 NO SCALE

RSP H8 DATED JUNE 5, 2009 SUPERSEDES STANDARD PLAN H8
 DATED MAY 1, 2006 - PAGE 208 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP H8

2006 REVISED STANDARD PLAN RSP H8

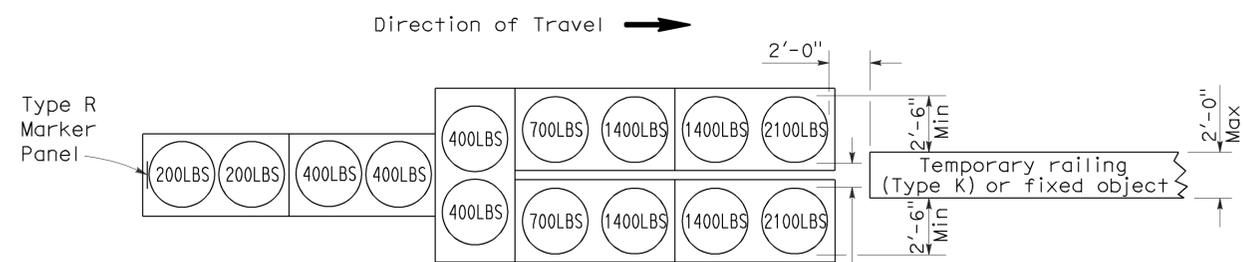
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Orn	57	18.4/20.9	527	856

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

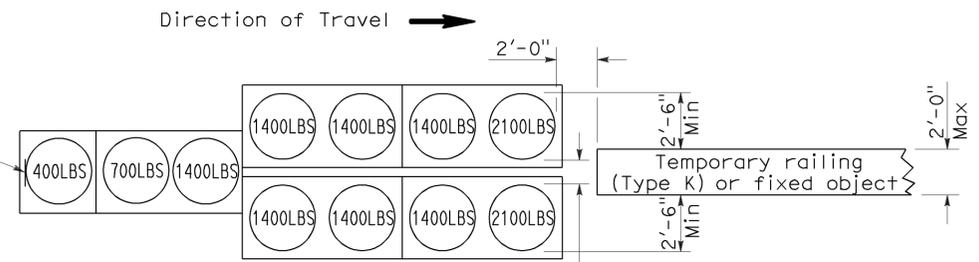
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 1-25-10



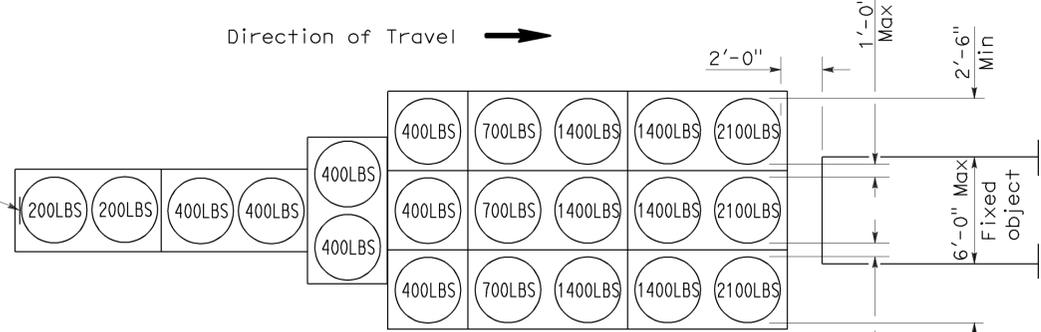
ARRAY 'TU14'

Approach speed 45 mph or more



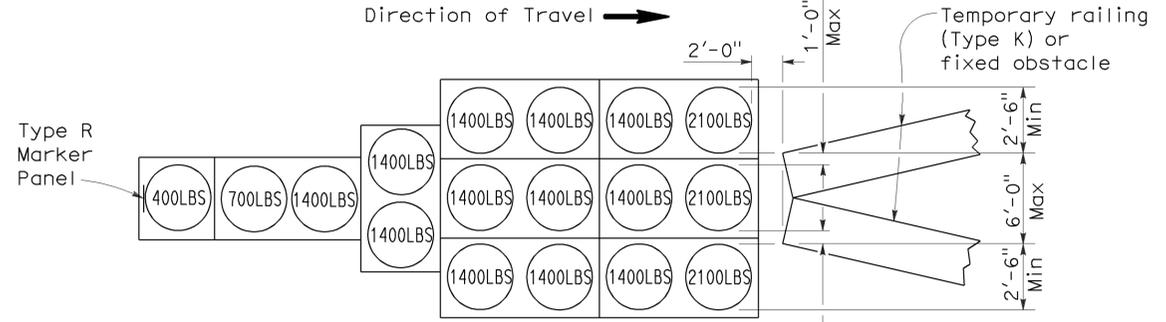
ARRAY 'TU11'

Approach speed less than 45 mph



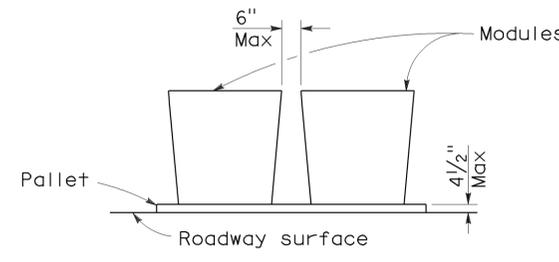
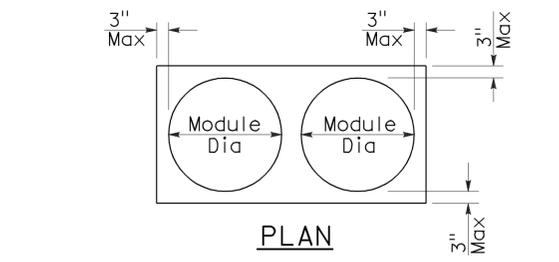
ARRAY 'TU21'

Approach speed 45 mph or more



ARRAY 'TU17'

Approach speed less than 45 mph



CRASH CUSHION PALLET DETAIL

See Note 7

NOTES:

1. (XXX) Indicates sand filled module location and weight of sand in pounds for each module. Module spacing is based on the greater diameter of the module.
2. All sand weights are nominal.
3. Temporary crash cushion arrays shall not encroach on the traveled way.
4. Place the top of Type R marker panel 1" below the module lid.
5. Refer to Standard Plan A73B for marker details.
6. Approach speeds indicated conform to NCHRP 350 Report criteria.
7. Use of pallets is optional.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**TEMPORARY CRASH CUSHION,
SAND FILLED
(UNIDIRECTIONAL)**

NO SCALE

RSP T1A DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T1A
DATED MAY 1, 2006 - PAGE 211 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP T1A

2006 REVISED STANDARD PLAN RSP T1A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Orn	57	18.4/20.9	528	856

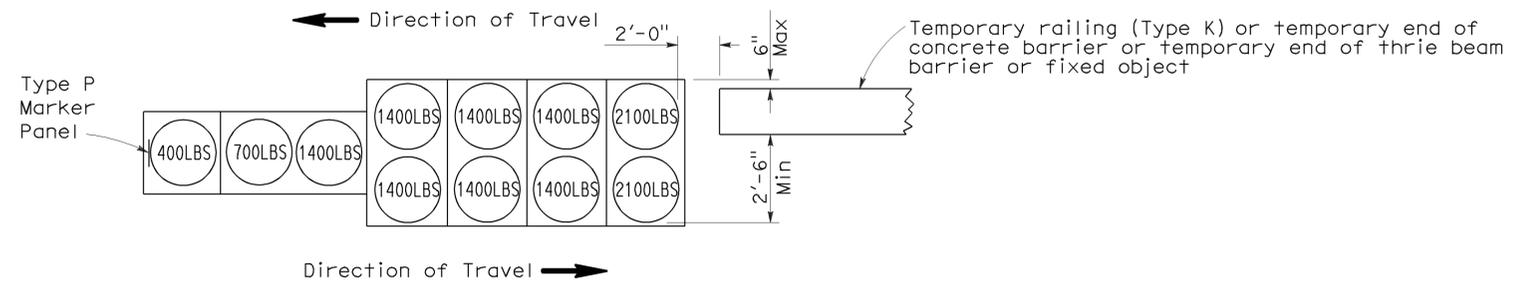
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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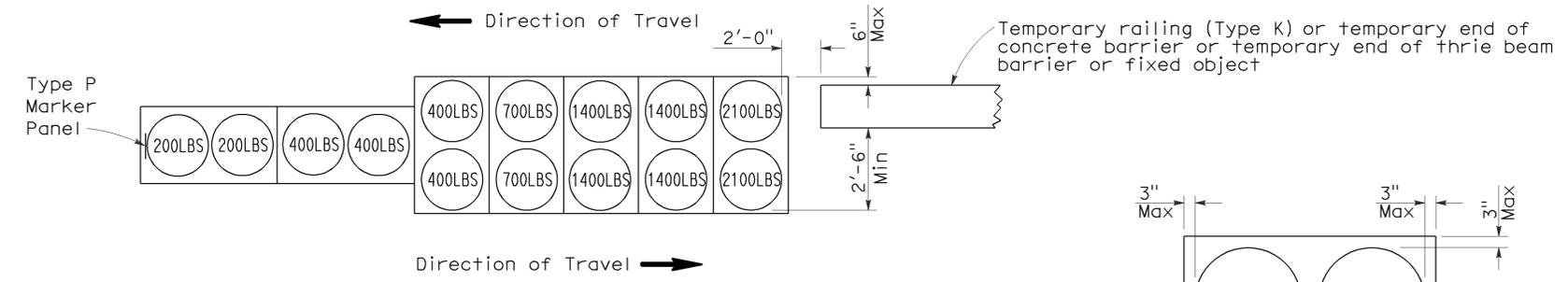
REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

To accompany plans dated 1-25-10



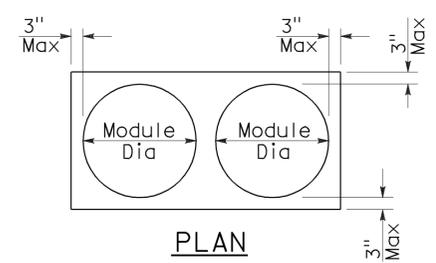
ARRAY 'TB11'

Approach speed less than 45 mph

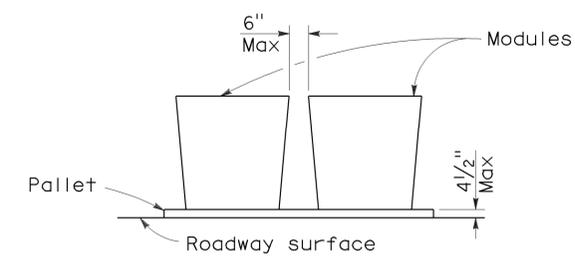


ARRAY 'TB14'

Approach speed 45 mph or more



PLAN



ELEVATION

CRASH CUSHION PALLET DETAIL

See Note 7

NOTES:

1. (XXX) Indicates sand filled module location and weight of sand in pounds for each module. Module spacing is based on the greater diameter of the module.
2. All sand weights are nominal.
3. Temporary crash cushion arrays shall not encroach on the traveled way.
4. Place the Type P marker panel so that the bottom of the panel rests upon the pallet.
5. Refer to Standard Plan A73B for marker details.
6. Approach speeds indicated conform to NCHRP 350 Report criteria.
7. Use of pallets is optional.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**TEMPORARY CRASH CUSHION,
SAND FILLED
(BIDIRECTIONAL)**

NO SCALE

RSP T1B DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T1B
DATED MAY 1, 2006 - PAGE 212 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP T1B

2006 REVISED STANDARD PLAN RSP T1B

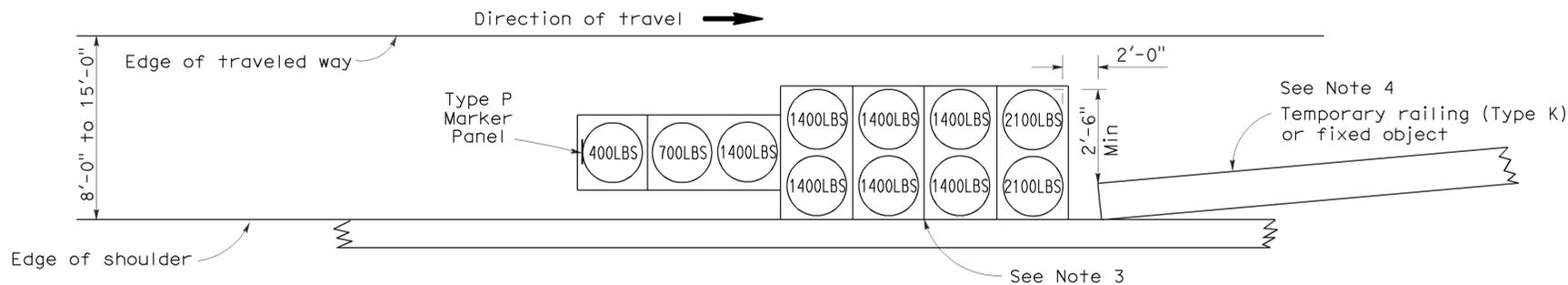
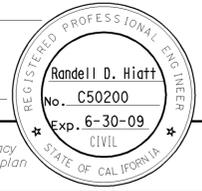
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	18.4/20.9	529	856

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

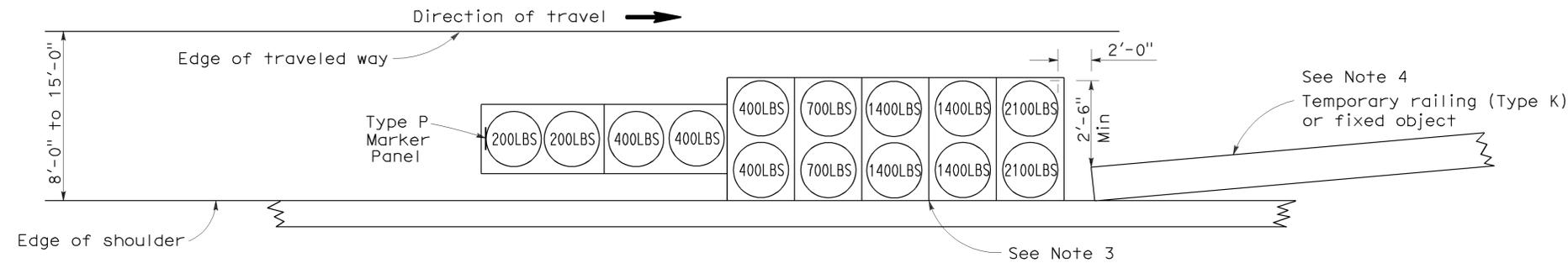
June 6, 2008
PLANS APPROVAL DATE

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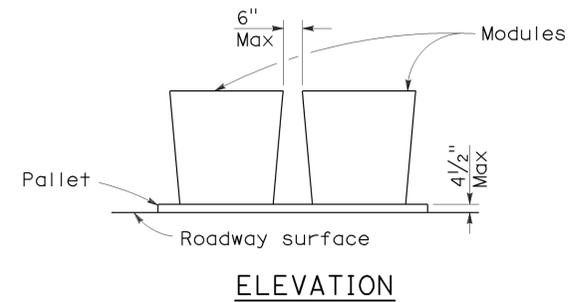
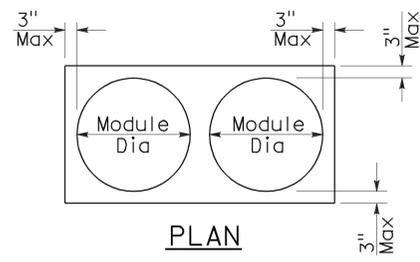
To accompany plans dated 1-25-10



ARRAY 'TS11'
Approach speed less than 45 mph
See Note 9



ARRAY 'TS14'
Approach speed 45 mph or more
See Note 9



CRASH CUSHION PALLET DETAIL
See Note 11

NOTES:

- (XXX) Indicates sand filled module location and weight of sand in pounds for each module. Module spacing is based on the greater diameter of the module.
- All sand weights are nominal.
- The temporary crash cushion arrays shown on this plan shall be used only in locations where there will be traffic on one side of the temporary crash cushion array.
- If the fixed object or approach end of the temporary railing is less than 15'-0" from the edge of traveled way, a temporary crash cushion is required in a construction or work zone.
- Temporary crash cushion arrays shall not encroach on the traveled way.
- Arrays for median shoulders shall conform to details shown on this plan for outside shoulders.
- Place the Type P marker panel so that the bottom of the panel rests upon the pallet and faces traffic.
- Refer to Standard Plan A73B for marker details.
- For shoulder widths less than 8'-0", appropriate approved crash cushion protection, other than sand filled modules, shall be provided at fixed objects and at approach ends of temporary railing. The specific type of crash cushion shall be as shown on the project plans or as specified in the Special Provisions, or if not shown on the project plans or specified in the Special Provisions, shall be as approved by the Engineer.
- Approach speeds indicated conform to NCHRP 350 Report criteria.
- Use of pallets is optional.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**TEMPORARY CRASH CUSHION,
SAND FILLED
(SHOULDER INSTALLATIONS)**
NO SCALE

RSP T2 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T2
DATED MAY 1, 2006 - PAGE 213 OF THE STANDARD PLANS BOOK DATED MAY 2006.

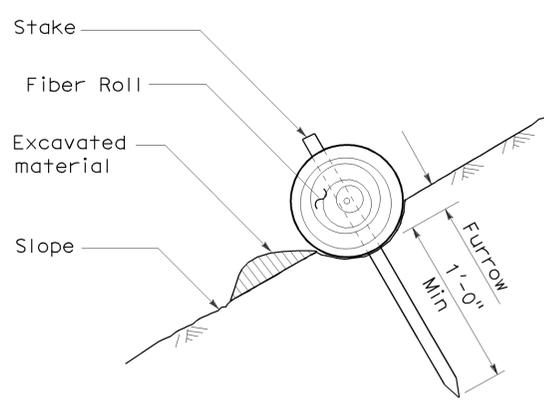
REVISED STANDARD PLAN RSP T2

2006 REVISED STANDARD PLAN RSP T2

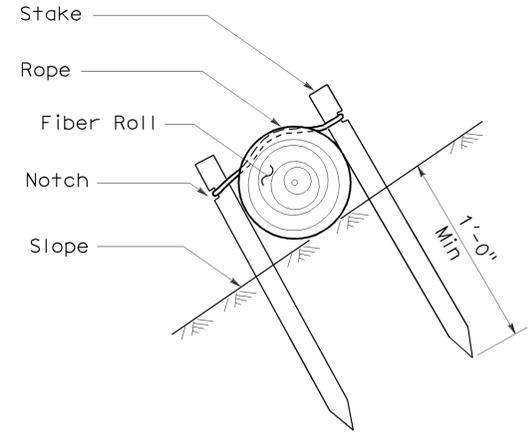
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Oran	57	18.4/20.9	531	856

Robert B. Schott
 LICENSED LANDSCAPE ARCHITECT
 April 3, 2009
 PLANS APPROVAL DATE
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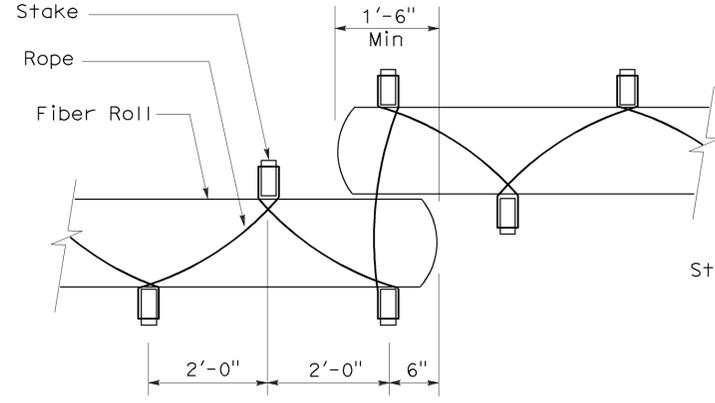
To accompany plans dated 1-25-10



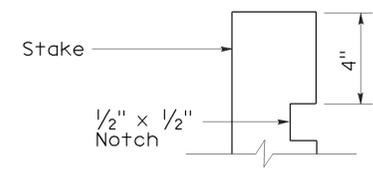
SECTION
TEMPORARY FIBER ROLL (TYPE 1)



SECTION
TEMPORARY FIBER ROLL (TYPE 2)

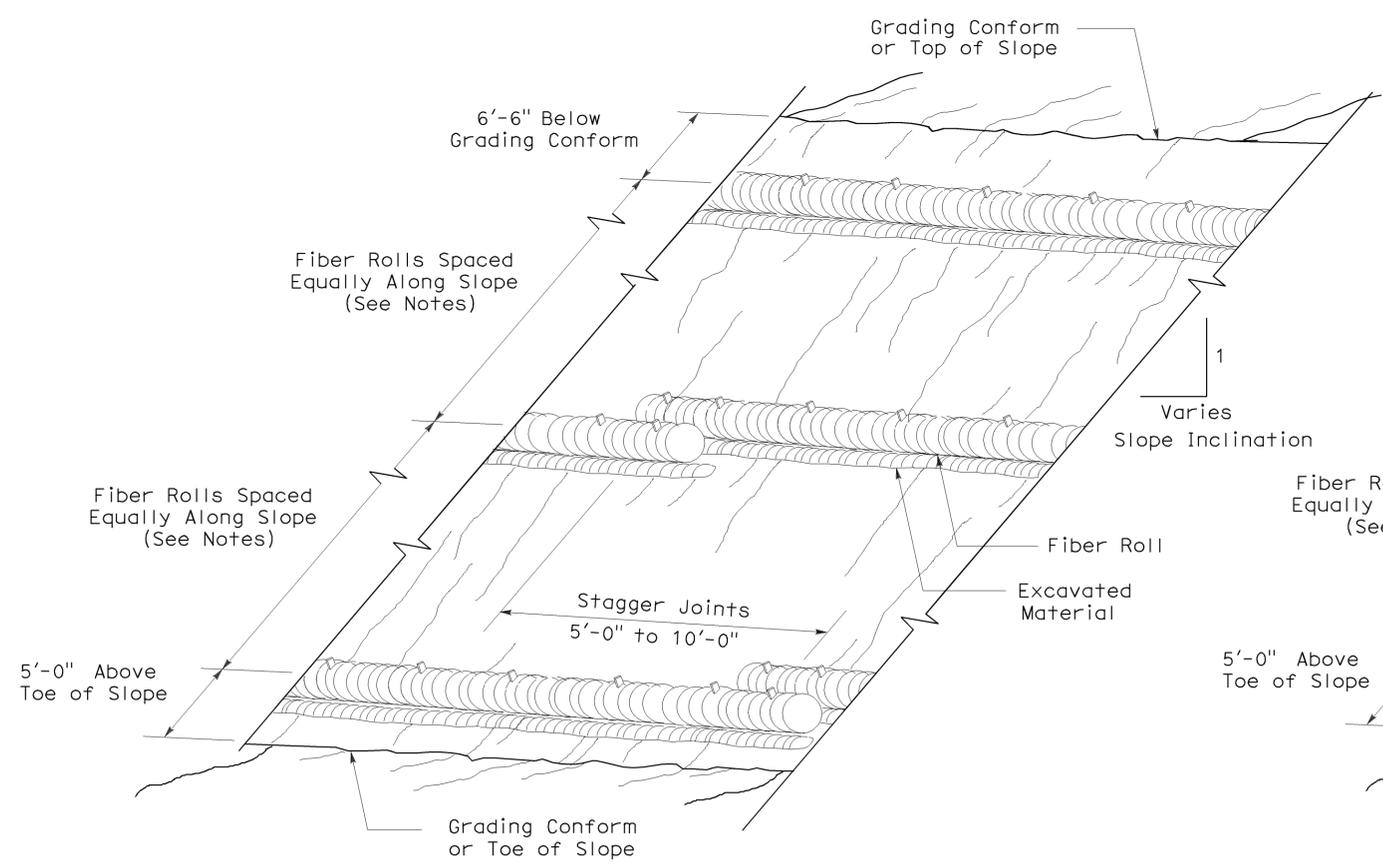


PLAN
TEMPORARY FIBER ROLL (TYPE 2)

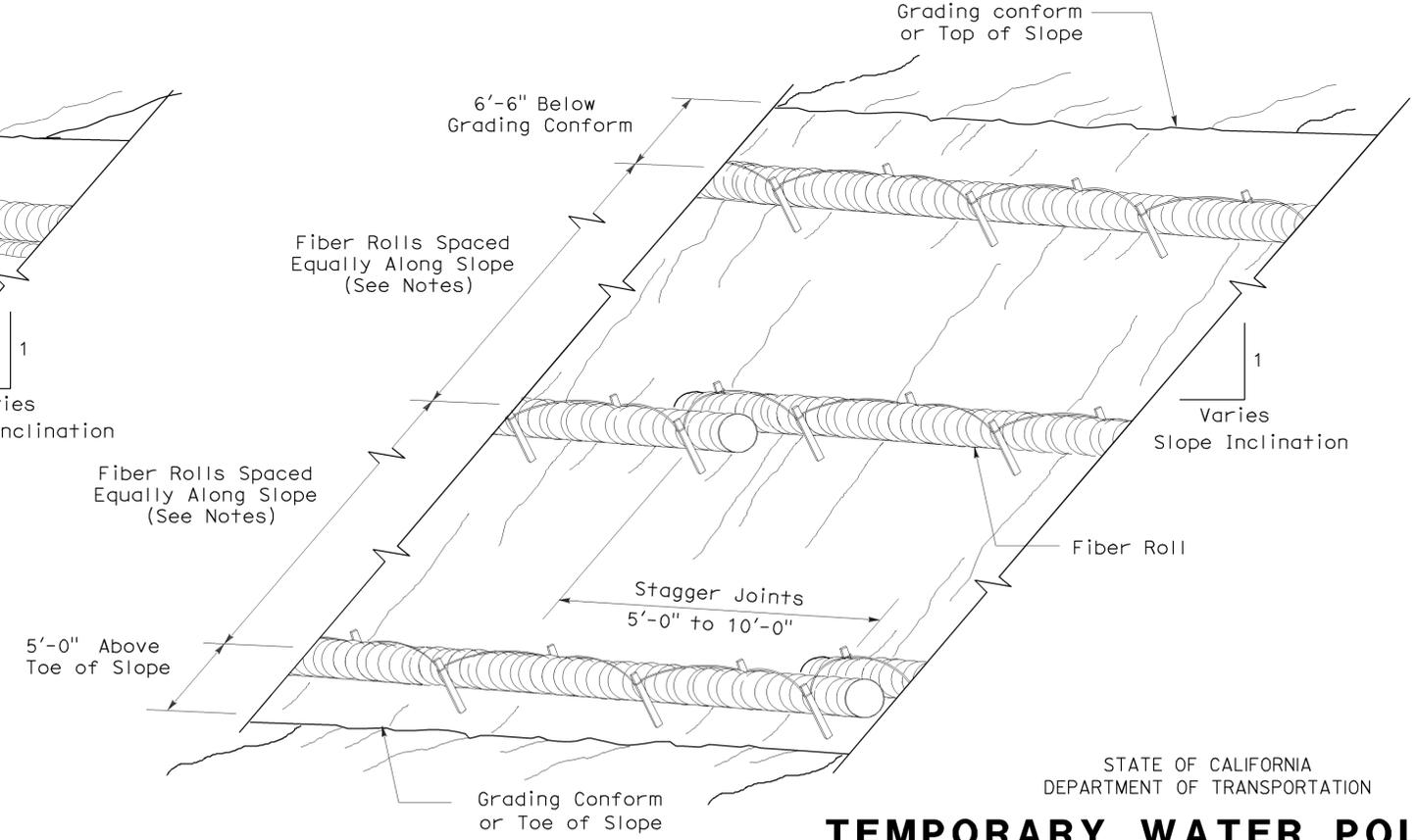


ELEVATION
STAKE NOTCH DETAIL

- NOTES:**
1. Temporary fiber roll spacing varies depending upon slope inclination.
 2. Installations shown in the perspectives are for slope inclination of 10:1 and steeper.



PERSPECTIVE
TEMPORARY FIBER ROLL (TYPE 1)



PERSPECTIVE
TEMPORARY FIBER ROLL (TYPE 2)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

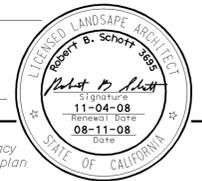
TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY FIBER ROLL)

NO SCALE

RSP T56 DATED APRIL 3, 2009 SUPERSEDES STANDARD PLAN T56 DATED MAY 1, 2006 - PAGE 232 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP T56

2006 REVISED STANDARD PLAN RSP T56

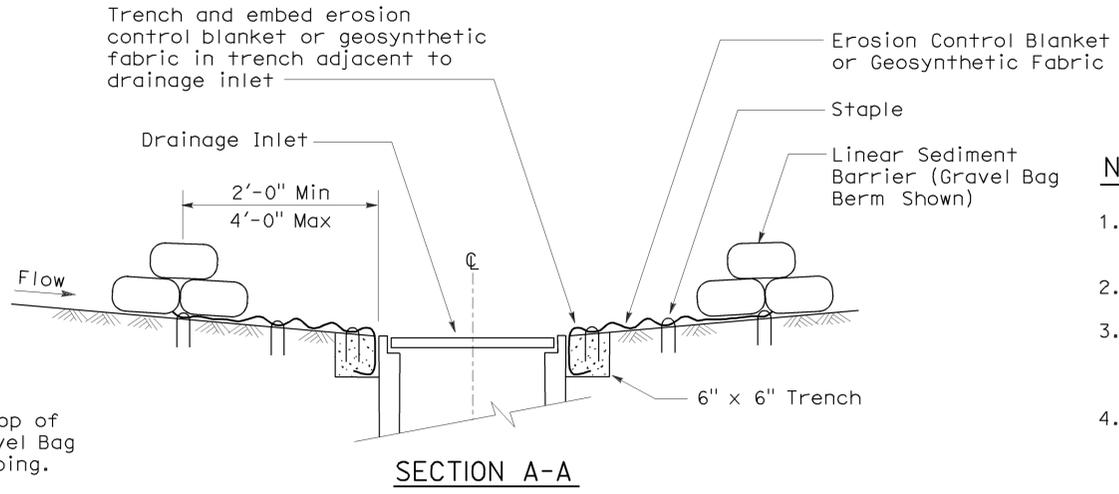
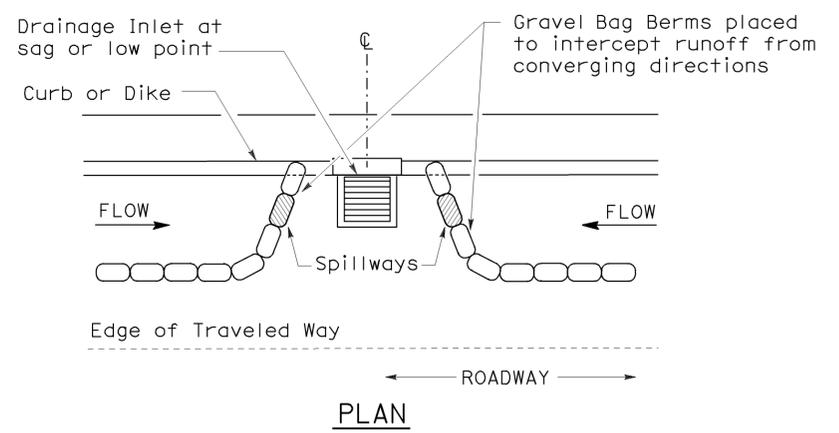


To accompany plans dated 1-25-10

GRAVEL BAG BERM (TYPE 3A) SPACING TABLE

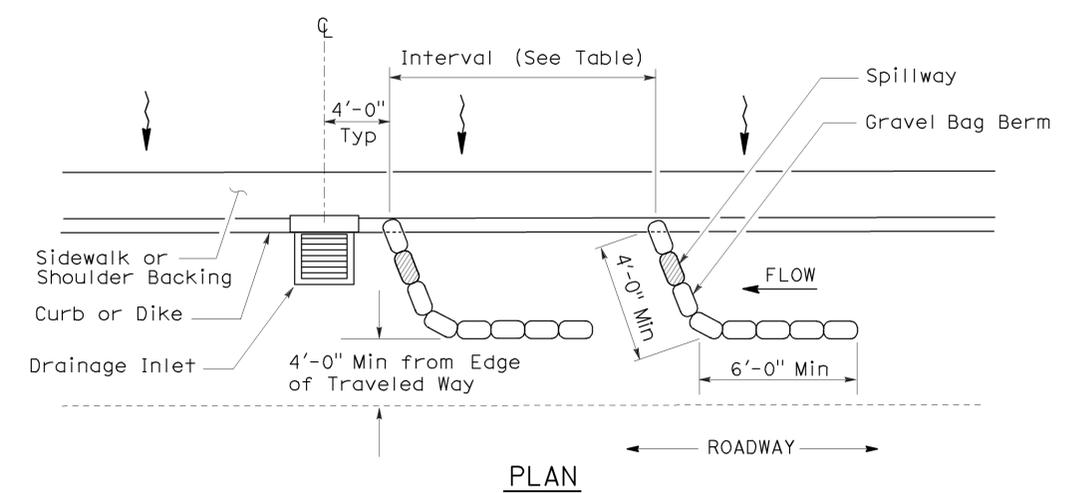
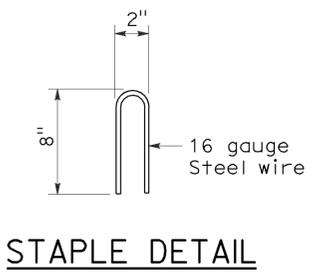
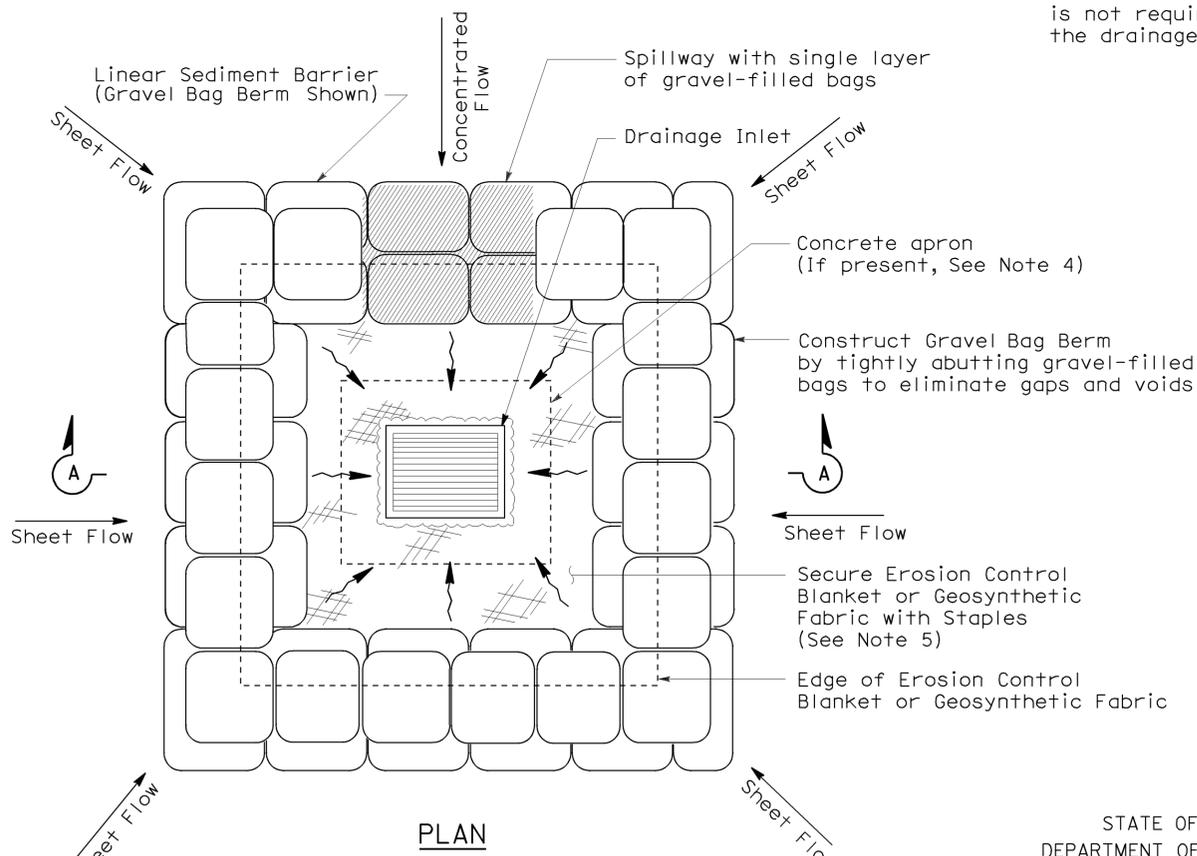
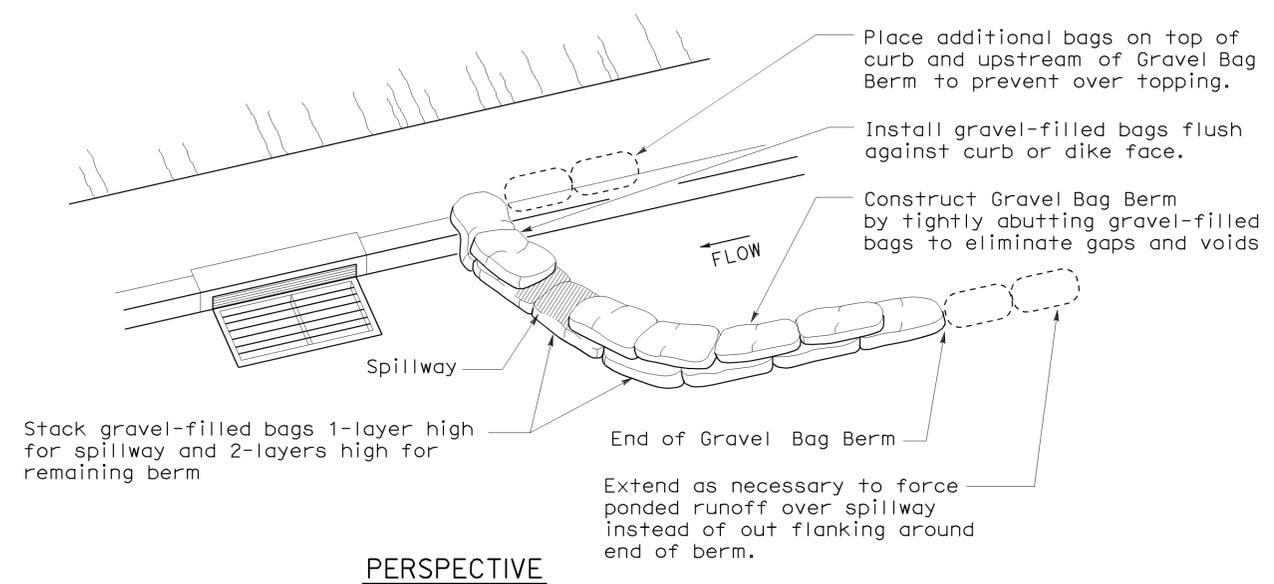
SLOPE OF ROADWAY (PERCENT)	1 to 3.9	4 to 5.9	6 to 7.9	8 to 10	10+
INTERVAL BETWEEN BERM	100'	75'	50'	25'	12'

For slope of less than 1%, install barriers only if erosion/sediment is prevalent



NOTES:

1. Place safety cones adjacent to drainage inlet protection.
2. Dimensions may vary to fit field conditions.
3. Install a minimum of 3 gravel bag berms upstream of each drainage inlet to be protected.
4. Position erosion control blanket or geosynthetic fabric at edge of concrete apron and secure in trench.
5. Erosion control blanket or geosynthetic fabric is not required if the area adjacent to the drainage inlet is vegetated or paved.



TEMPORARY DRAINAGE INLET PROTECTION (TYPE 3A) (GRAVEL BAG BERM)

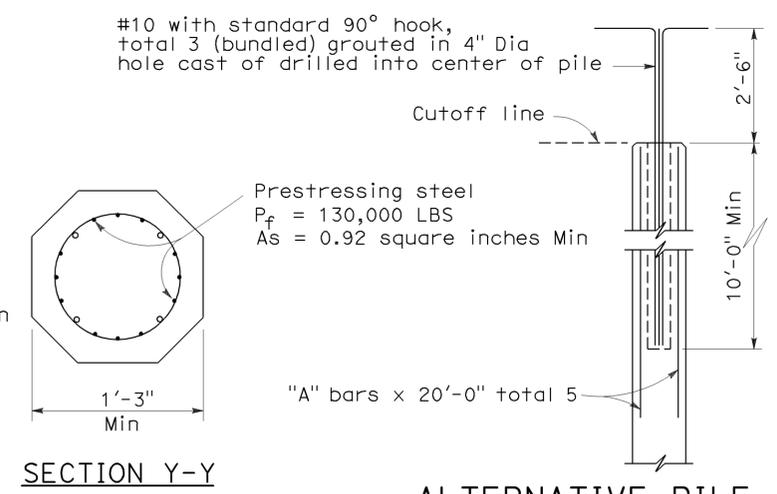
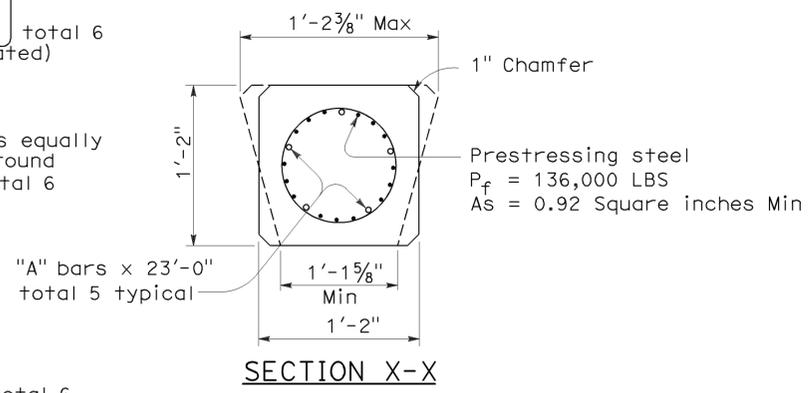
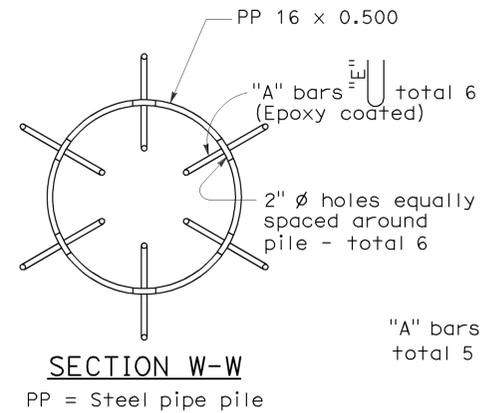
TEMPORARY DRAINAGE INLET PROTECTION (TYPE 3B)

TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY DRAINAGE INLET PROTECTION)

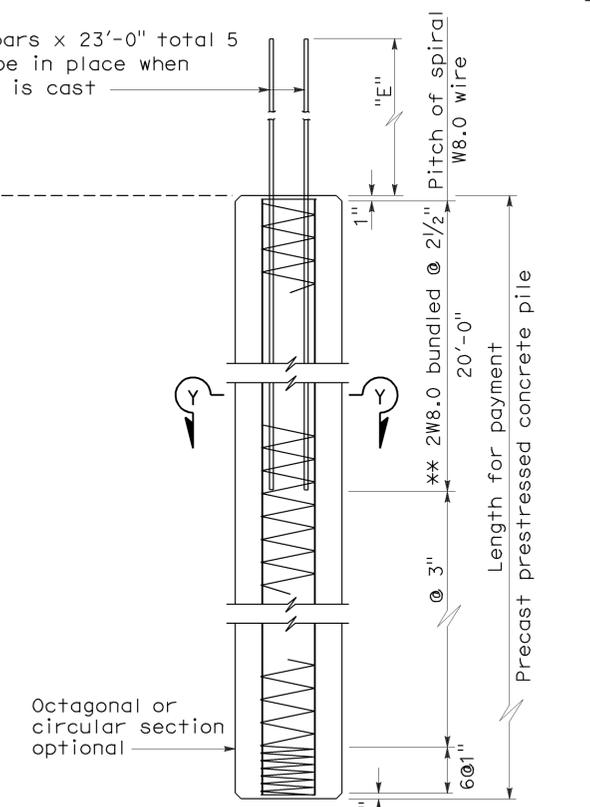
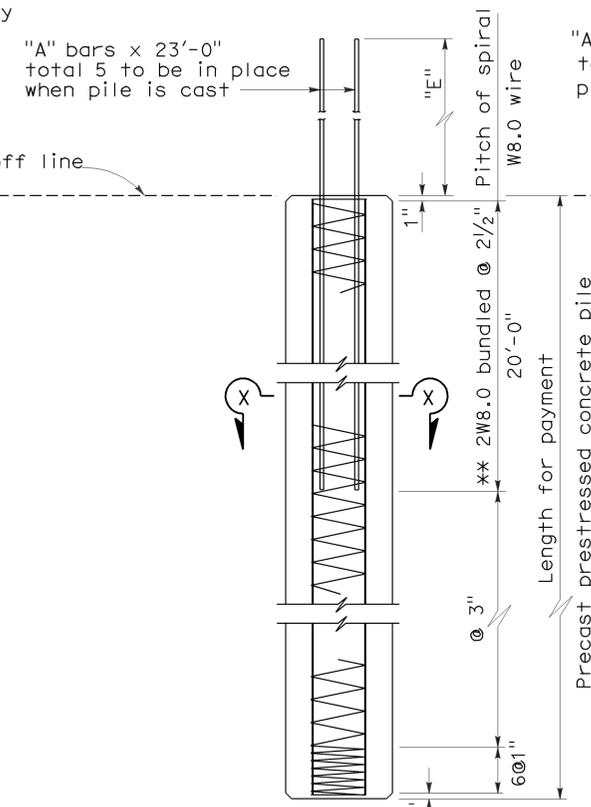
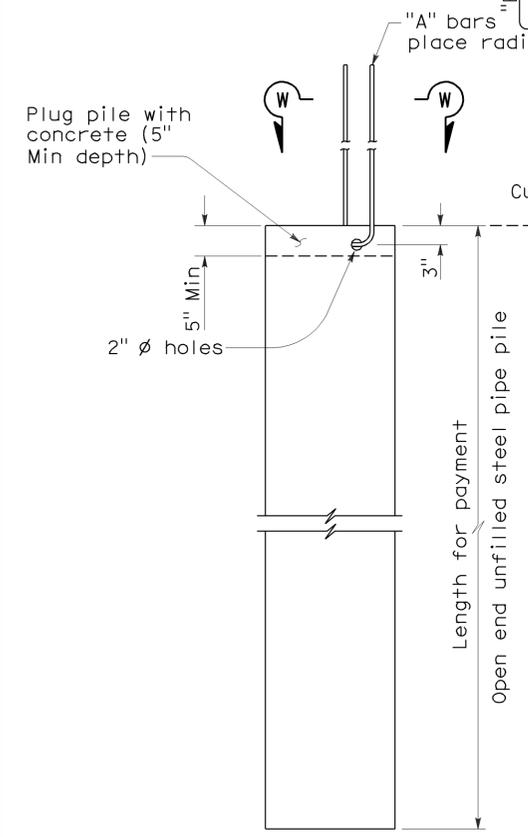
NO SCALE
 NSP T62 DATED AUGUST 15, 2008 SUPPLEMENTS
 THE STANDARD PLANS BOOK DATED MAY 2006.

2006 NEW STANDARD PLAN NSP T62

2006 REVISED STANDARD PLAN RSP B2-8

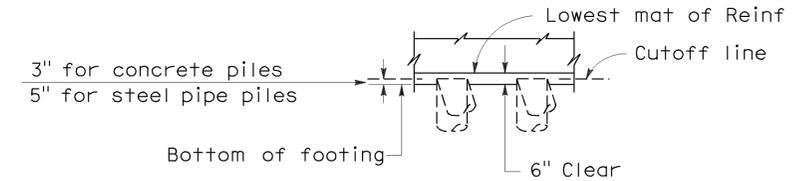


ALTERNATIVE PILE ANCHOR FOR PRESTRESSED PILE



	Nominal Resistance (Tension) *	
	Not Required	Required
"A" bars	#6	#8
"E" Dimension	2'-0"	2'-10"

* See Pile Data Table in the Project Plans for Nominal Resistance (Tension) Requirements



DESIGN NOTES:

DESIGN CAPACITY :

- Compression = 200 kip (Service state)
- = 400 kip (Nominal axial strength)
- Tension = 80 kip (Service state)
- = 200 kip (Nominal axial strength)

REINFORCED CONCRETE

$f'_c = 4,000$ psi
 $f_y = 60,000$ psi

PRECAST PRESTRESSED PILES

P_f = Prestress Force (After losses)
Concrete Strength f'_c @ 28 days = 7,000 psi
 f'_c @ transfer = 4,000 psi

STEEL PIPE PILE

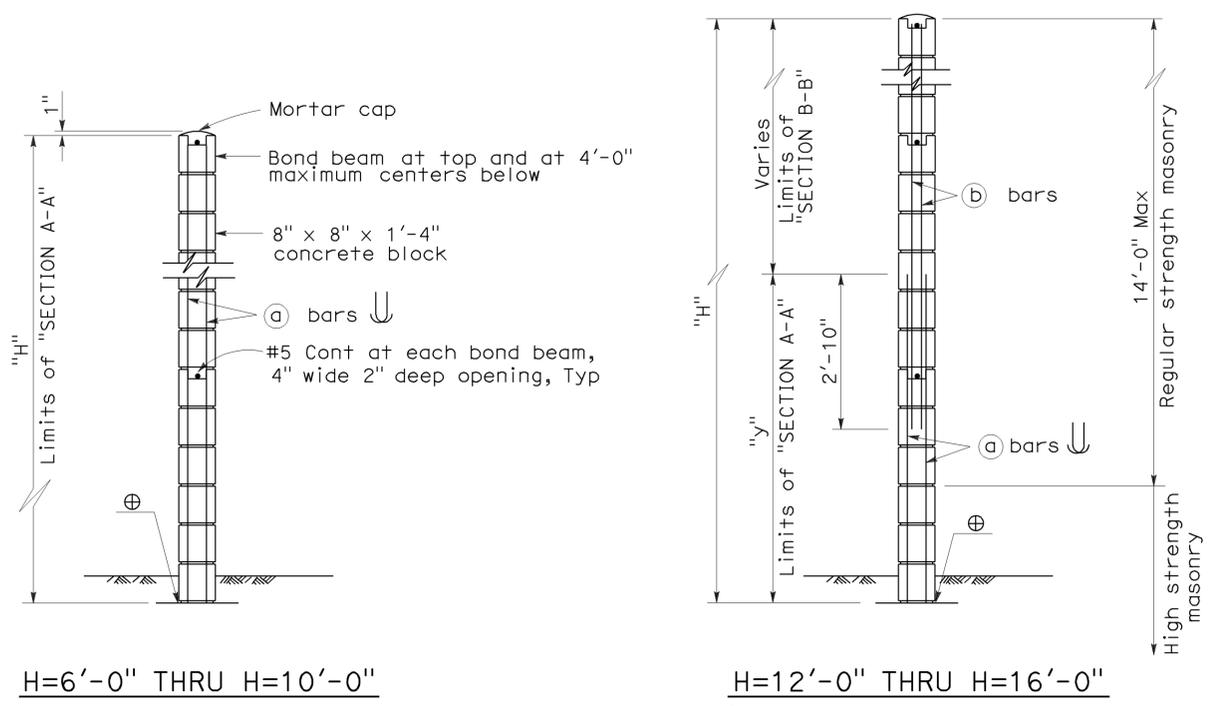
F_y (minimum yield strength) = 45,000 psi
 F_u (minimum tensile strength) = 66,000 psi

NOTES:

1. Pile 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 80 wire diameters minimum. Spiral pile reinforcement at splices and at ends shall be terminated by a 135° hook with 6" tail hooked around a longitudinal bar or strand.
3. At the Contractor's option, alternative steel pipe with at least the diameter and wall thickness shown on these plans may be used. The diameter shall not exceed 1'-6".
4. Alternative "W" piles shall not be used for corrosive environments.
5. Maximum cut-off length at the top of the Alternative "X" and Alternative "Y" piles is 10'-0".

** W11.0 @ 1 3/4" may be substituted

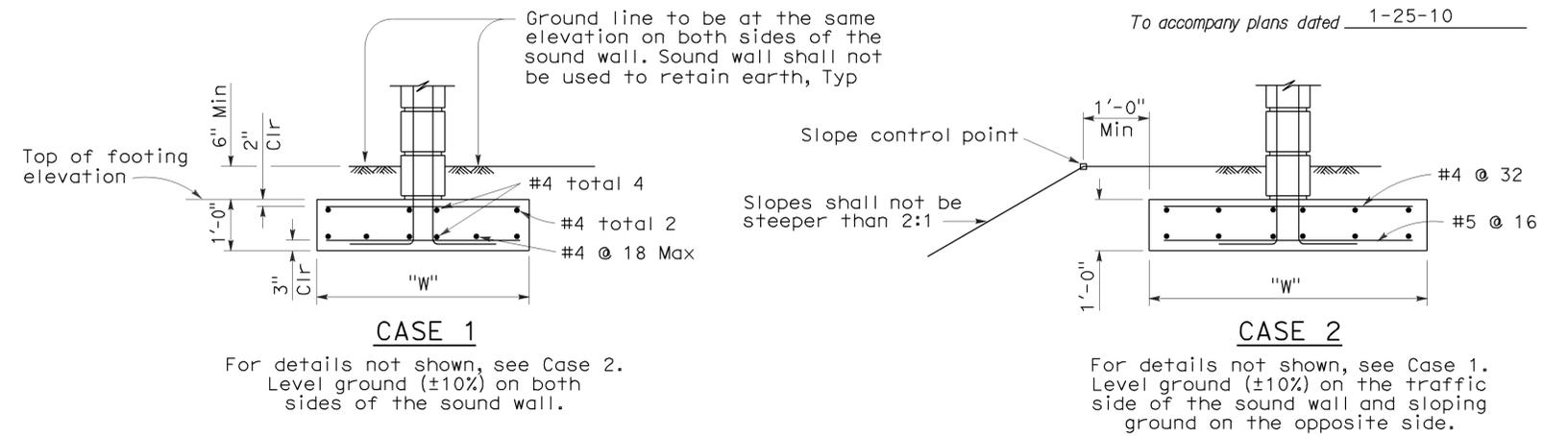
** W11.0 @ 1 3/4" may be substituted



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
	φ = 25 Min	φ = 30 Min	φ = 35 Min	φ = 30 Min	φ = 35 Min	
	D	D	D	D	D	
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"

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.

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"

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 and 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".

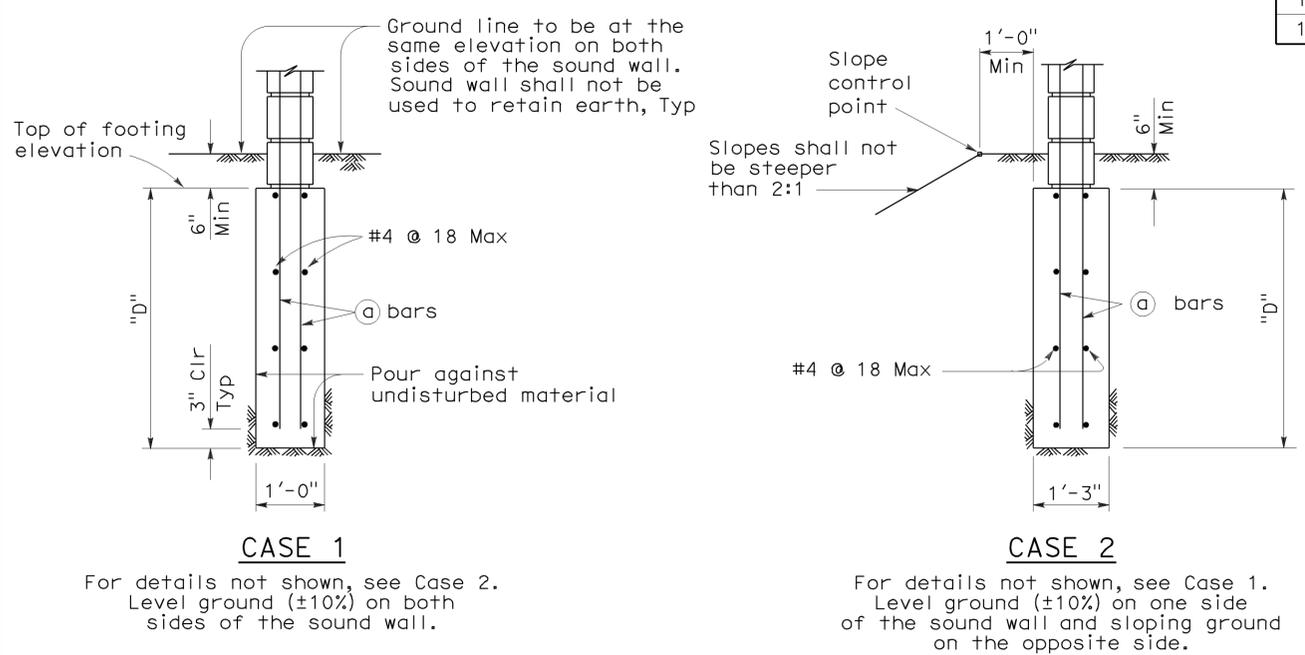
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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.

REVISED STANDARD PLAN RSP B15-1



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"

2006 REVISED STANDARD PLAN RSP B15-1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Orca	57	18.4/20.9	535	856

Douglas J. Dunrud
REGISTERED CIVIL ENGINEER

October 5, 2007
PLANS APPROVAL DATE

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

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To accompany plans dated 1-25-10

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

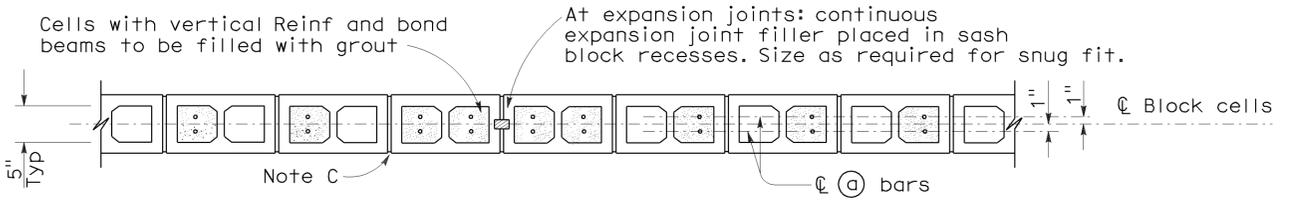
CONCRETE MASONRY

REGULAR STRENGTH

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

HIGH STRENGTH

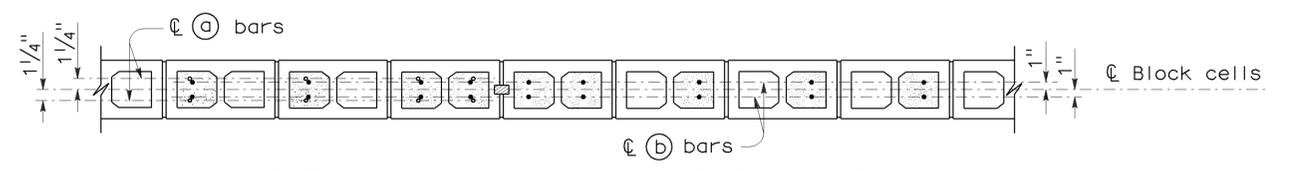
f'm = 2000 psi	f'm = 2500 psi
fb = 660 psi	fb = 830 psi
fs = 24,000 psi	fs = 24,000 psi
n = 19.3	n = 15.5



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)**

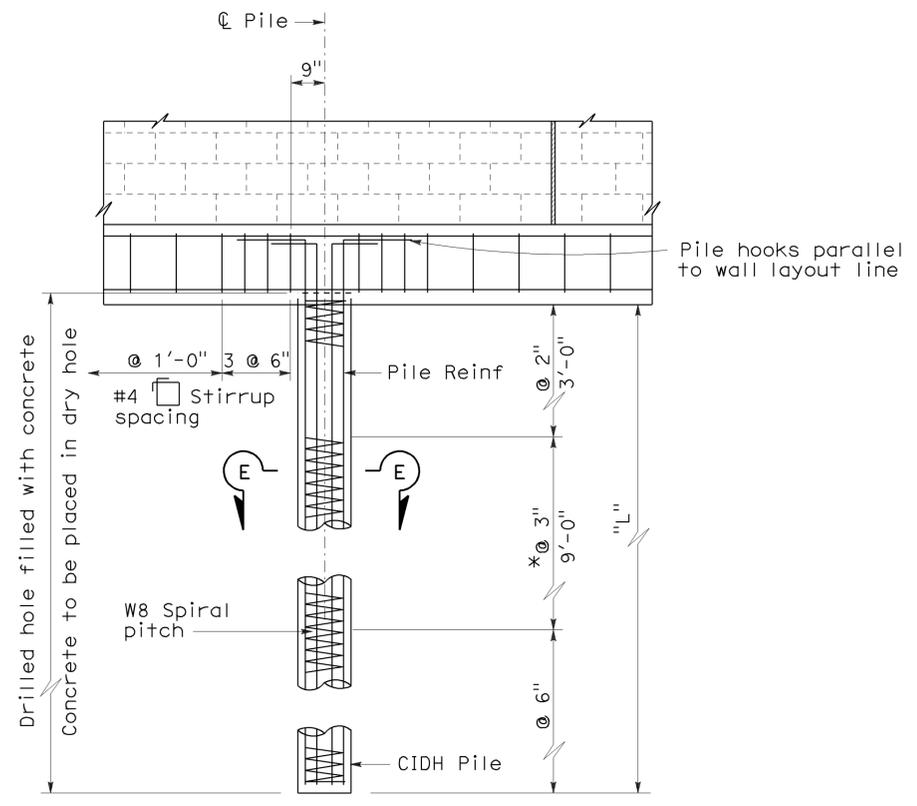
NO SCALE

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

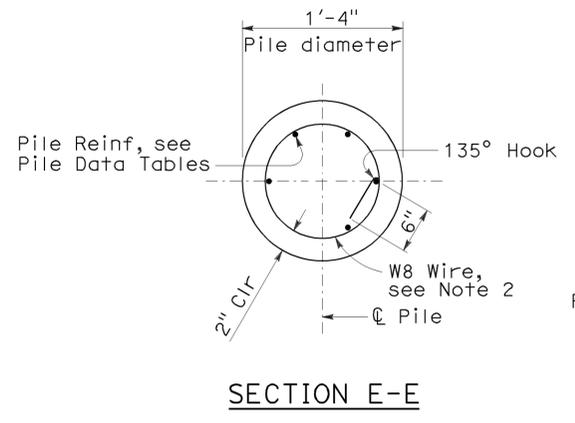
2006 REVISED STANDARD PLAN RSP B15-4

To accompany plans dated 1-25-10

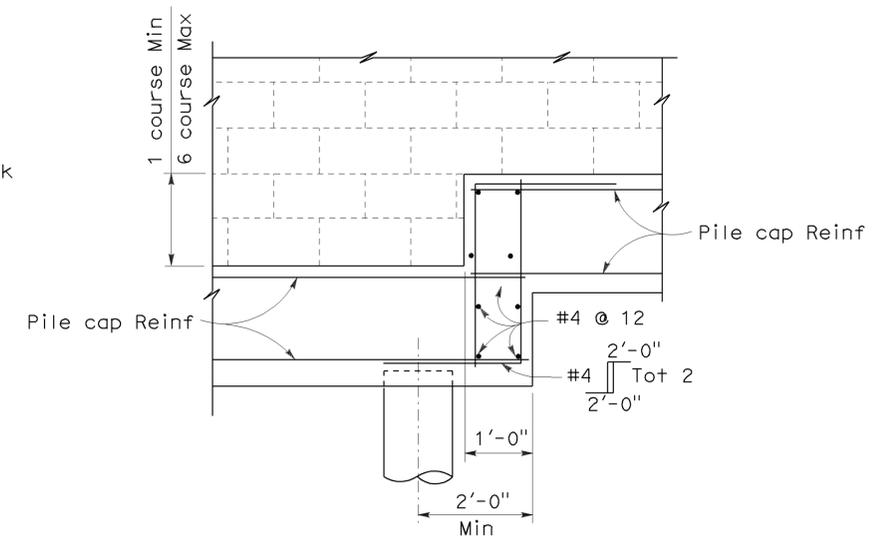


DETAIL D

* @ 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 6	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.

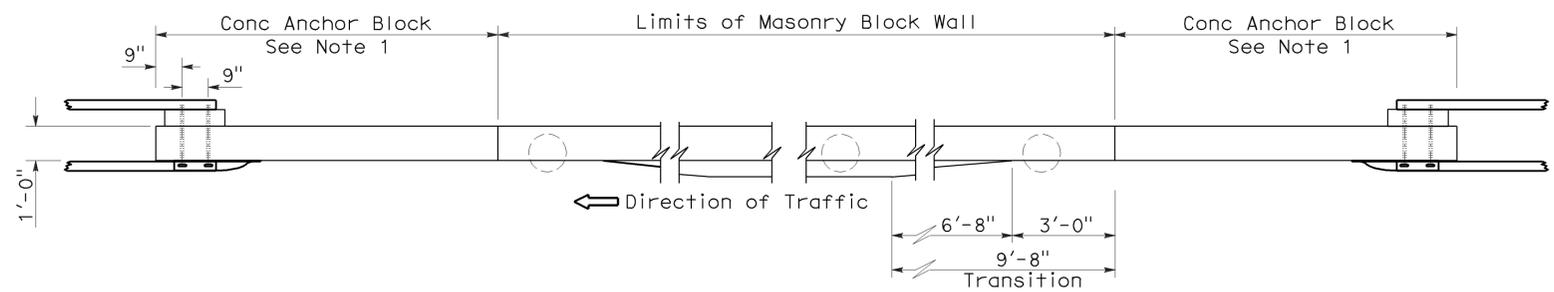
2006 REVISED STANDARD PLAN RSP B15-5

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	18.4/20.9	538	856

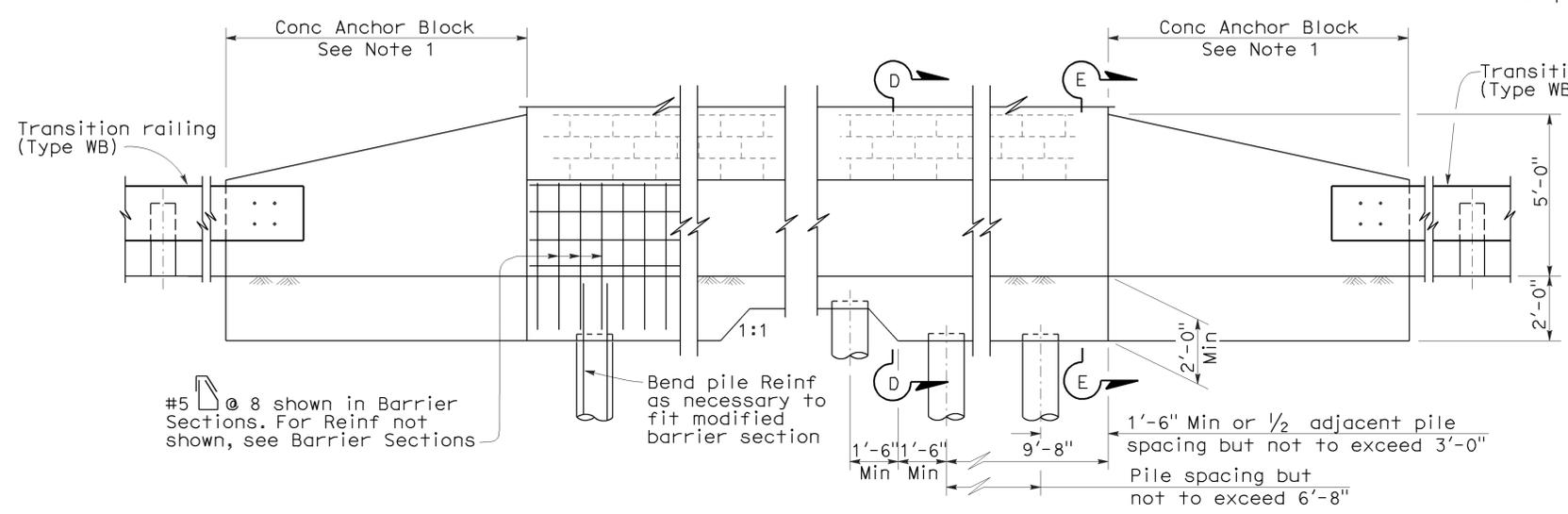
REGISTERED CIVIL ENGINEER
 June 6, 2008
 PLANS APPROVAL DATE

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

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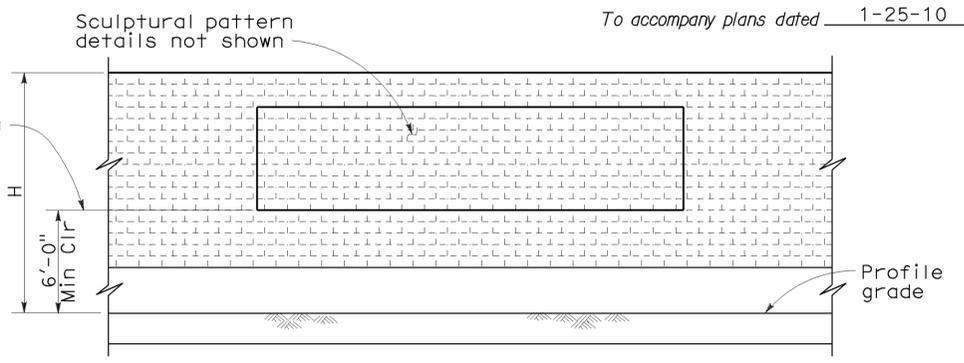
PLAN



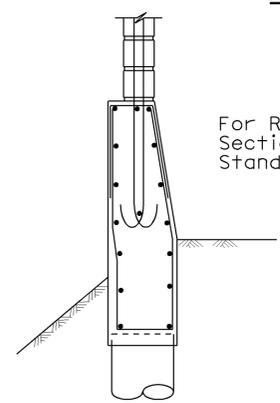
ELEVATION

METAL BEAM GUARDRAIL ANCHORAGE

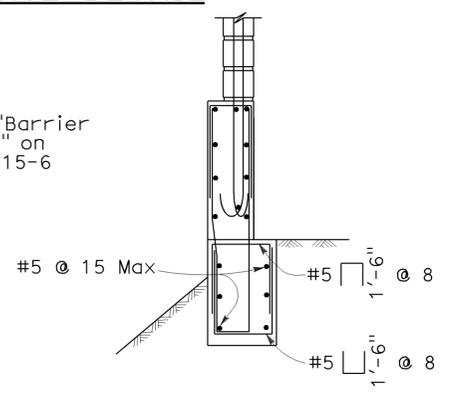
For details not shown, see Standard Plan B11-56.



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

$f'_c = 3.6 \text{ ksi}$
 $f_y = 60 \text{ ksi}$

CONCRETE MASONRY

REGULAR STRENGTH

$f'_m = 1500 \text{ psi}$
 $fb = 495 \text{ psi}$
 $fs = 24,000 \text{ psi}$
 $n = 25.8$

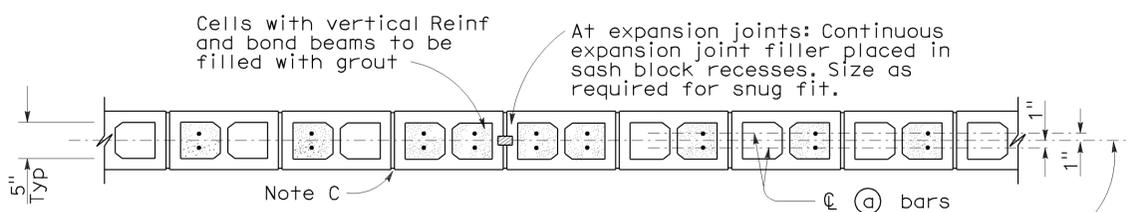
HIGH STRENGTH

$f'_m = 2000 \text{ psi}$
 $fb = 660 \text{ psi}$
 $fs = 24,000 \text{ psi}$
 $n = 19.3$

$f'_m = 2500 \text{ psi}$
 $fb = 830 \text{ psi}$
 $fs = 24,000 \text{ psi}$
 $n = 15.5$

NOTE:

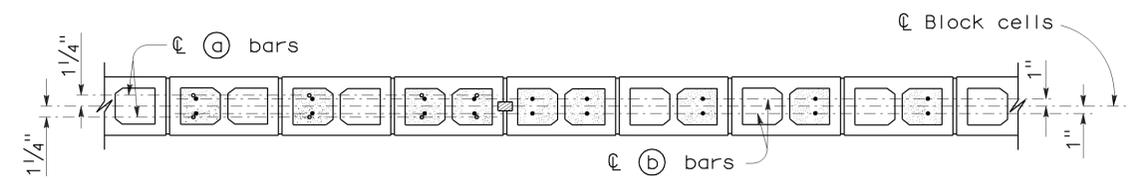
1. For Concrete Anchor Block and connection details, see "Connection Detail DD" on Standard Plan A77J3.



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

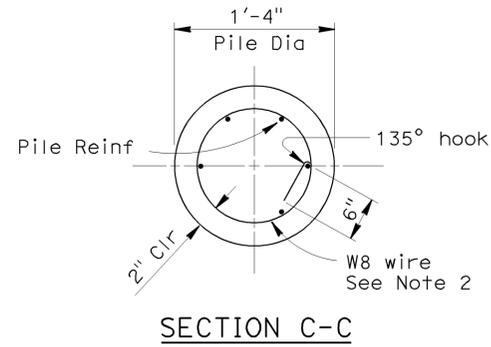
SOUND WALL MASONRY BLOCK ON TYPE 736S/SV BARRIER DETAILS (2)

NO SCALE

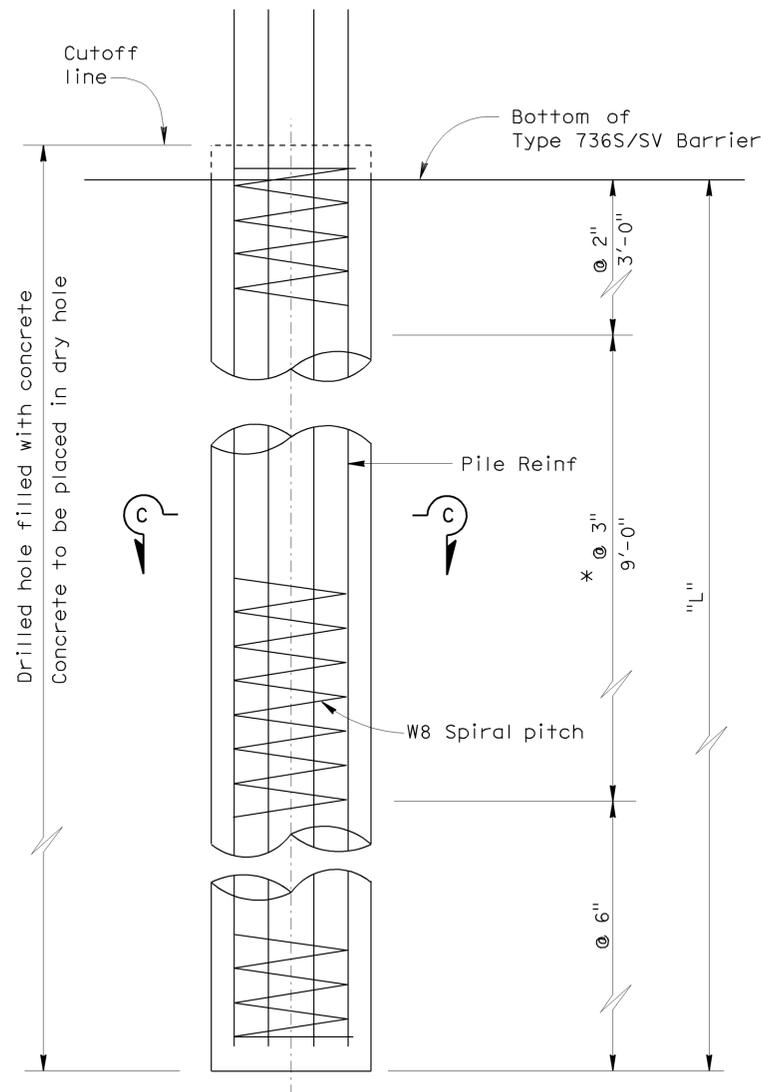
RSP B15-7 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN B15-7 DATED MAY 1, 2006 - PAGE 297 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP B15-7

2006 REVISED STANDARD PLAN RSP B15-7



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"



H _e	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"

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.

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.

REVISED STANDARD PLAN RSP B15-8

2006 REVISED STANDARD PLAN RSP B15-8

ELECTROLIERS

STANDARD TYPES	Symbol	Description
15, 15D		High mast light pole
15 STRUCTURE		Double Arm lighting standard
21, 21D STRUCTURE		Existing electrolier
30		Electrolier foundation (Future installation)
31		
32		
35		
36-20A		

NOTES:

- Luminaires shall be 310 W HPS when installed on Type 21, 21D, 30, 31, 32, 35 and 36-20A Standards, unless otherwise specified. Luminaires shall be 200 W HPS when installed on other type standards or poles, unless otherwise specified.
- Luminaires shall be the cutoff type, ANSI Type III medium cutoff lighting distribution, unless otherwise specified.
- Variations noted adjacent to symbol on project plans.

- Electrolier (see project notes or project plans)
- Luminaire on wood pole

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

PROPOSED	EXISTING	Description
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	Mast arm mounting vehicle signal faces, side attachment - 4 signal section
MAS-4C	mas-4C	Mast arm mounting vehicle signal faces, side attachment - 4 signal section
MAS-5A	mas-5A	Mast arm mounting vehicle signal faces, side attachment - 5 signal section
MAS-5B	mas-5B	Mast arm mounting vehicle signal faces, side attachment - 5 signal section
MC	mc	Mercury contactor
M/M	m/m	Multiple to multiple transformer
MT	mt	Conduit with pull wire or rope only
MTG	mtg	Mounting
N	N	Mercury vapor lighting fixture
NC	NC	Neutral (Grounded Conductor)
NO	NO	Normally closed
PB	pb	Normally open
PEC	pec	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	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
12	Ora	57	18.4/20.9	540	856

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 1-25-10

SOFFIT AND WALL MOUNTED LUMINAIRES

- Pendant, 70 W HPS unless otherwise specified.
- Flush, 70 W HPS unless otherwise specified.
- Wall surface, 70 W HPS unless otherwise specified.
- Existing soffit or wall luminaire to remain unmodified.
- Existing soffit or wall luminaire to be modified as specified.

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
12	Oran	57	18.4/20.9	541	856

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

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

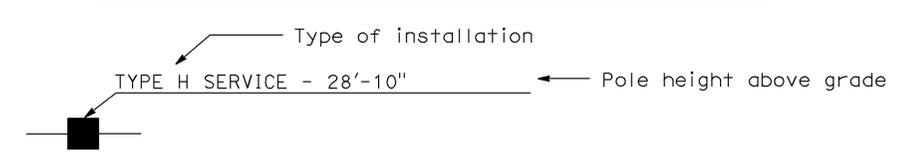
SIGNAL EQUIPMENT

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 lowered "LG" indicates lowered 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:

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

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

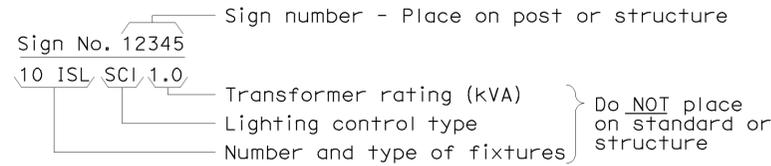
RSP ES-1B DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-1B
 DATED MAY 1, 2006 - PAGE 401 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-1B

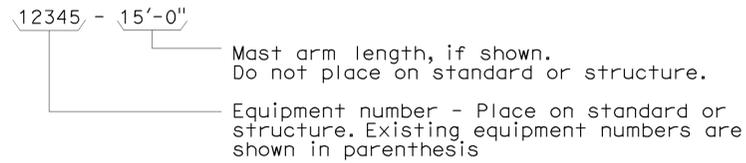
2006 REVISED STANDARD PLAN RSP ES-1B

EQUIPMENT IDENTIFICATION

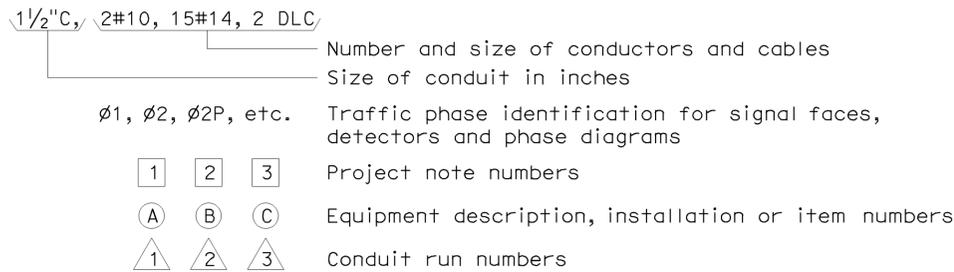
ILLUMINATED SIGN IDENTIFICATION NUMBER:



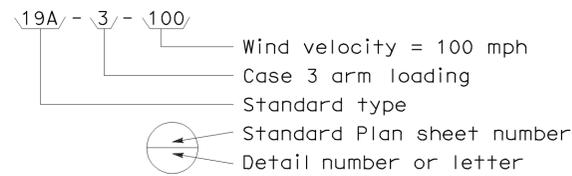
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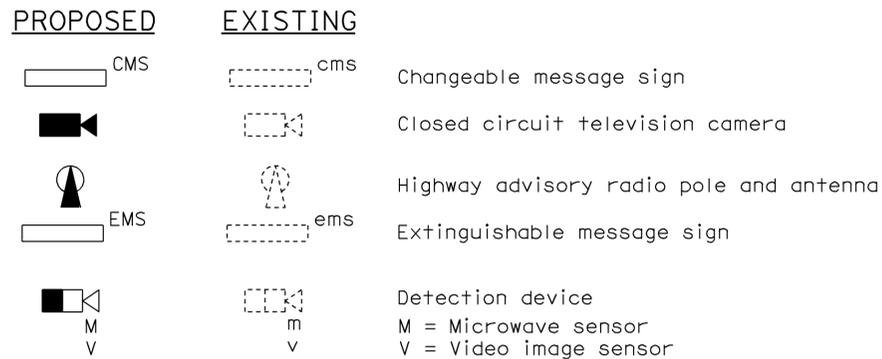
CONDUIT AND CONDUCTOR IDENTIFICATION:



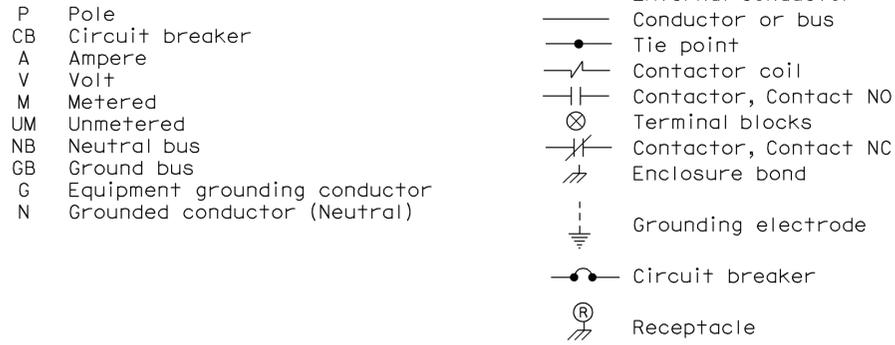
SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



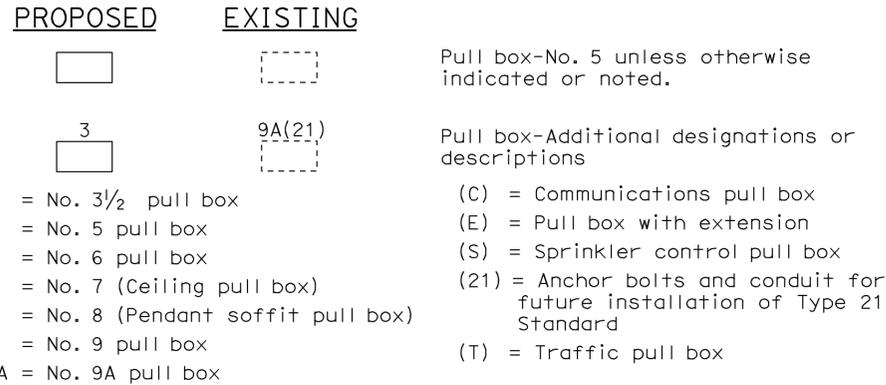
MISCELLANEOUS EQUIPMENT



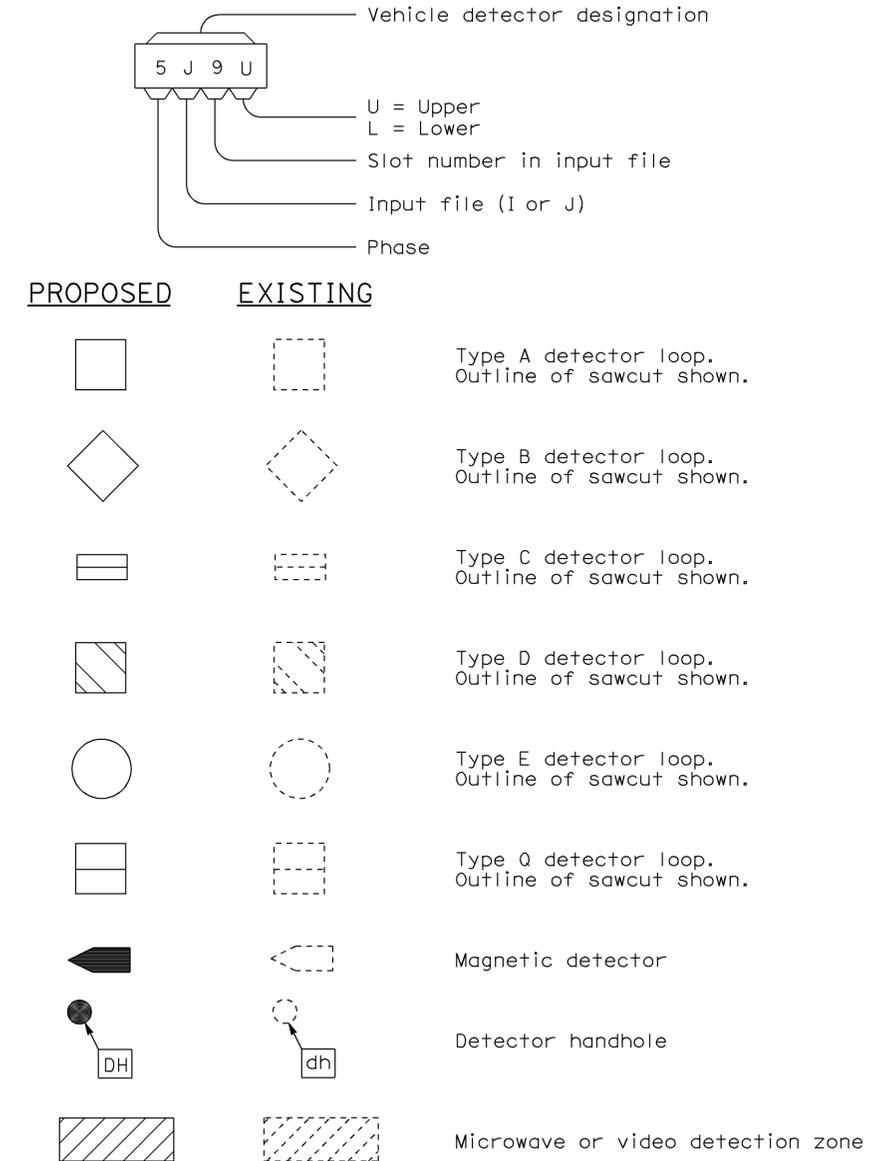
WIRING DIAGRAM LEGEND



PULL BOXES



VEHICLE DETECTORS



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

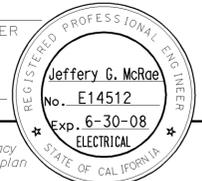
RSP ES-1C DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-1C
 DATED MAY 1, 2006 - PAGE 402 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-1C

2006 REVISED STANDARD PLAN RSP ES-1C

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	18.4/20.9	543	856

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



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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 $\frac{7}{16}$ ".
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)."

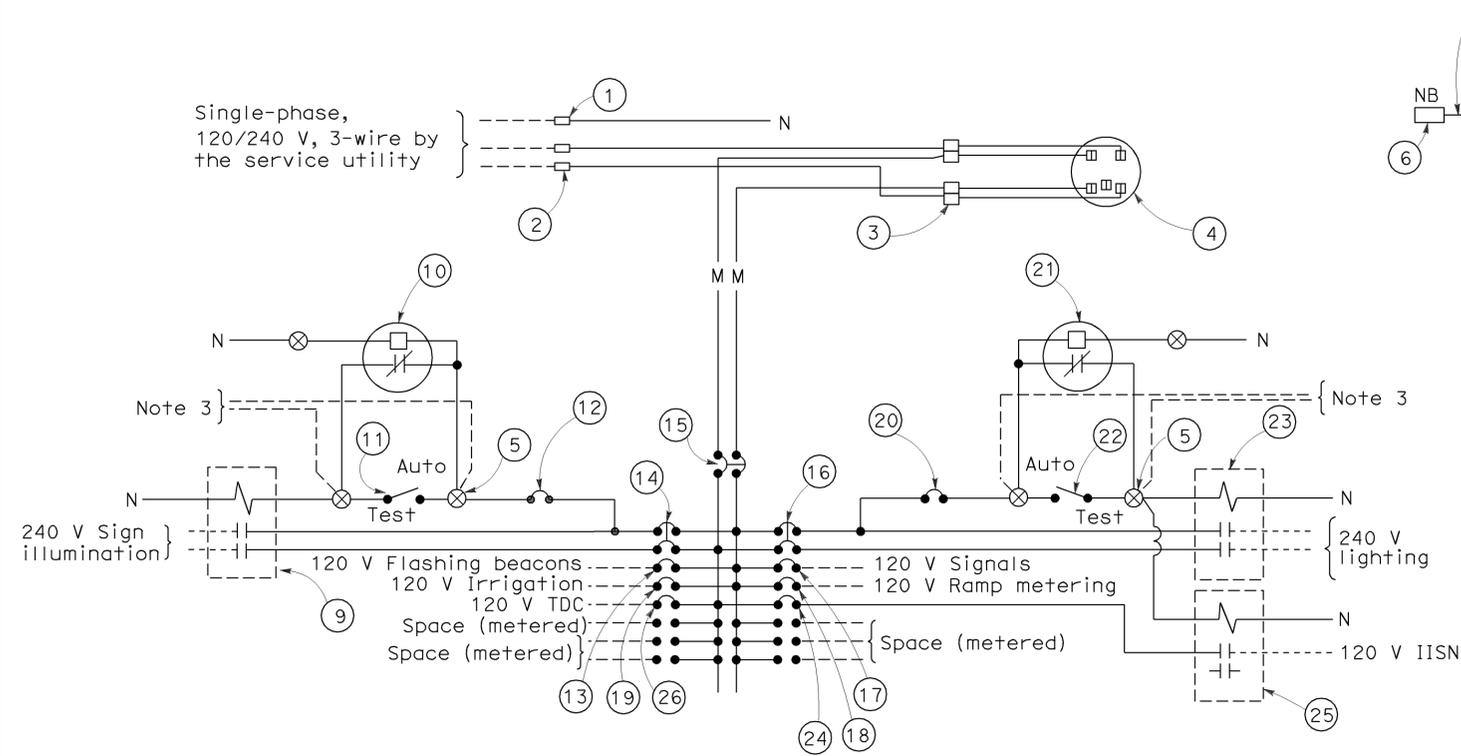
To accompany plans dated 1-25-10

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

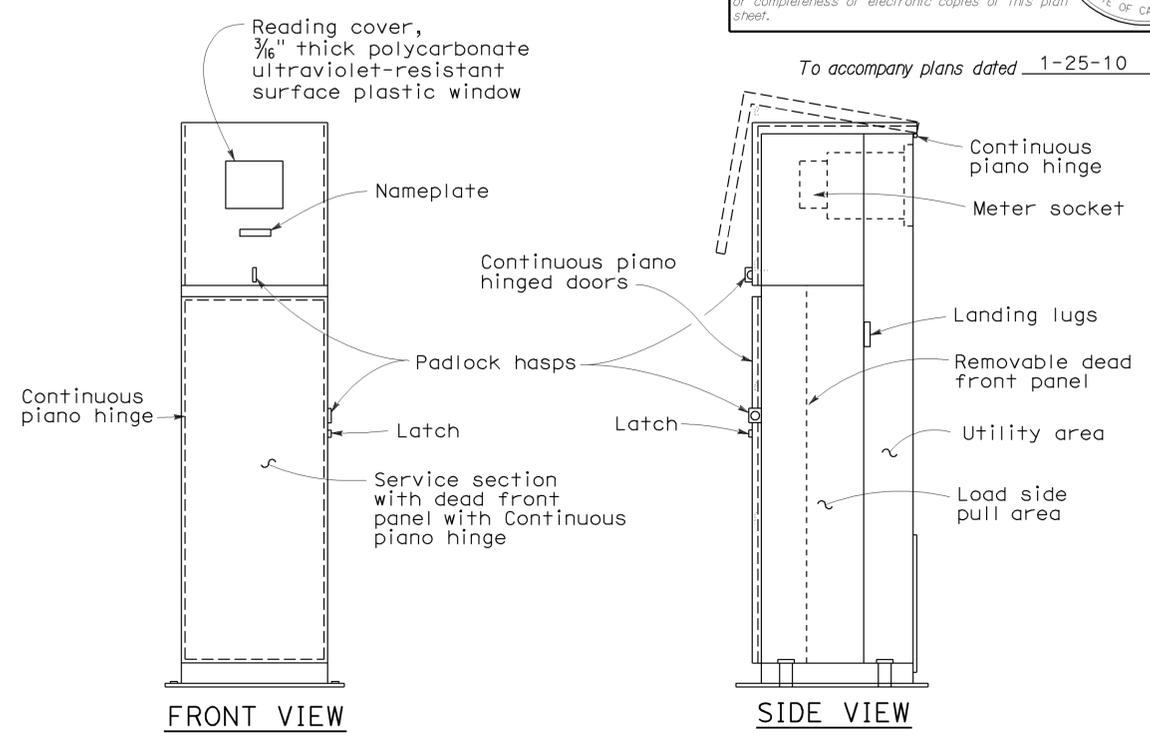
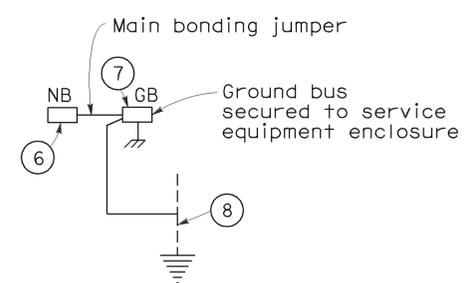
RSP ES-2C DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-2C
 DATED MAY 1, 2006 - PAGE 405 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-2C

2006 REVISED STANDARD PLAN RSP ES-2C



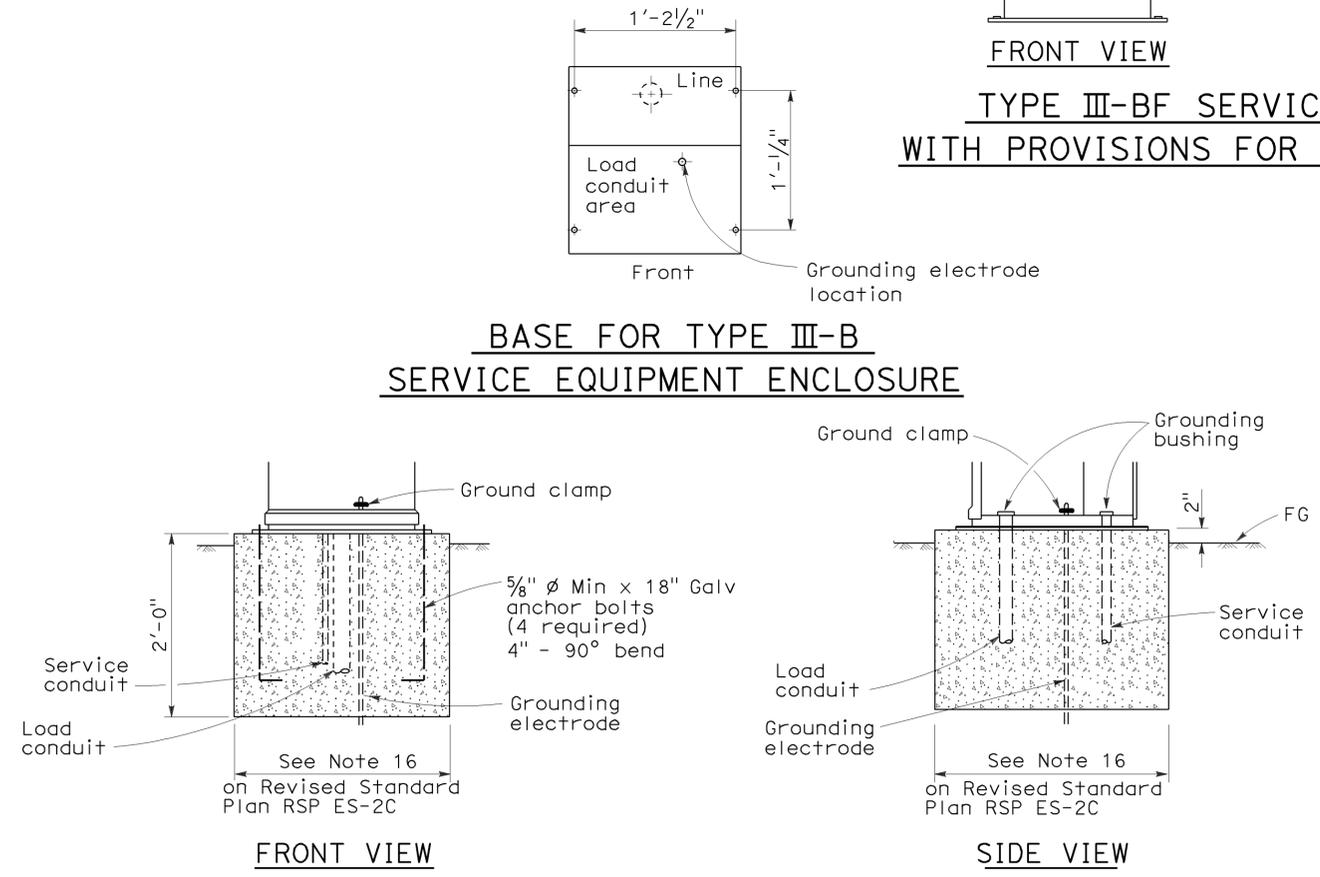
120/240 V SERVICE WIRING DIAGRAM (TYPICAL)



TYPE III-BF SERVICE EQUIPMENT ENCLOSURE WITH PROVISIONS FOR ONE 100 A METER (TYPICAL)

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

BASE FOR TYPE III-B SERVICE EQUIPMENT ENCLOSURE

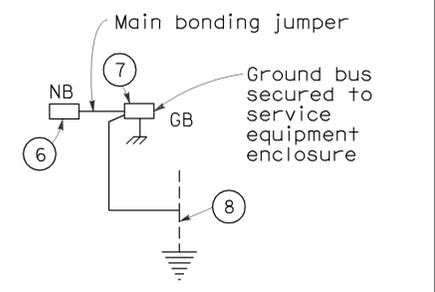
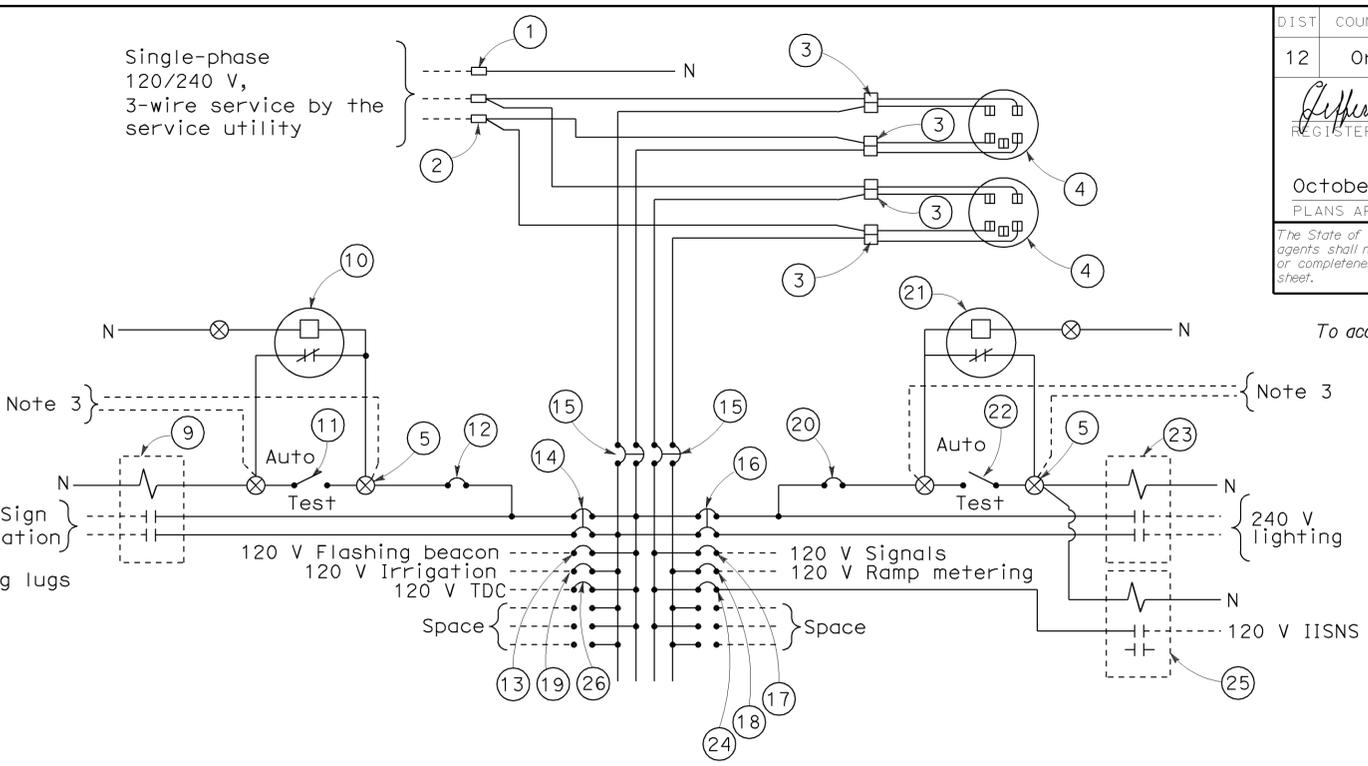
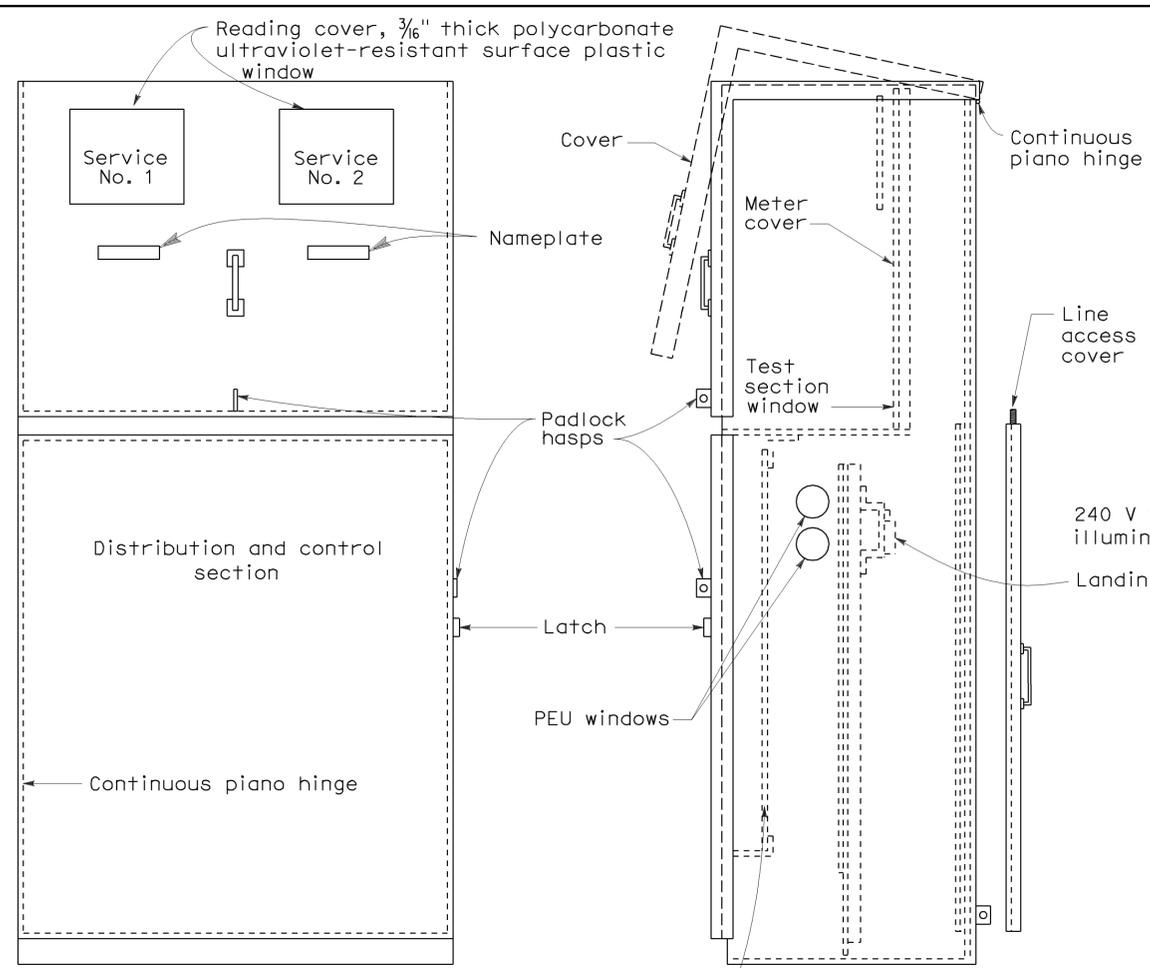


TYPE III-B SERVICE EQUIPMENT ENCLOSURE FOUNDATION DETAILS

- 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-B SERIES)
 NO SCALE

RSP ES-2E DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-2E
 DATED MAY 1, 2006 - PAGE 407 OF THE STANDARD PLANS BOOK DATED MAY 2006.



120/240 V SERVICE WIRING DIAGRAM (TYPICAL)

TYPE III-CF SERVICE EQUIPMENT ENCLOSURE WITH PROVISIONS FOR TWO 100 A METERS (TYPICAL)

TYPE III-C SERVICE (120/240 V) EQUIPMENT LEGEND

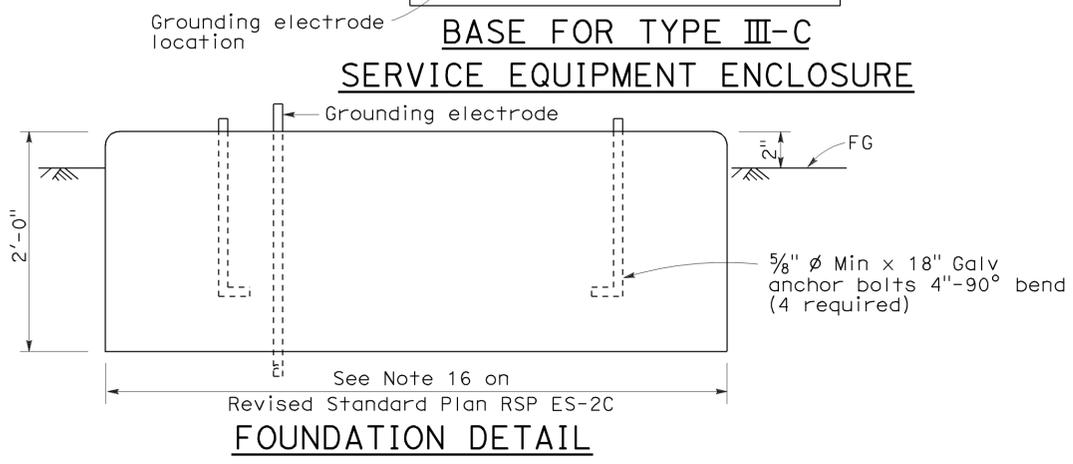
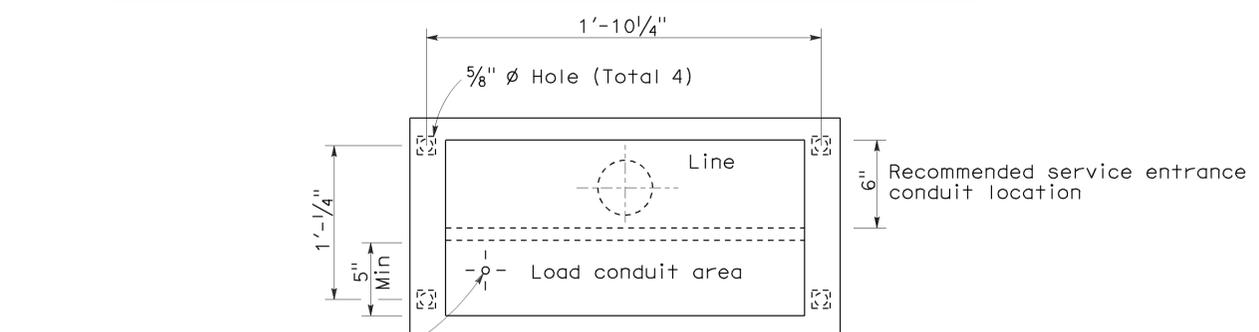
ITEM No.	COMPONENT	NAME PLATE DESCRIPTION	ITEM No.	COMPONENT	NAME PLATE DESCRIPTION
1	Neutral lug		14	30 A, 240 V, 2P, CB	Sign Illumination
2	Landing lug (Note 6)		15	100 A, 240 V, 2P, CB	Main Breaker
3	Test bypass facility		16	30 A, 240 V, 2P, CB	Lighting
4	Meter socket and support		17	50 A, 120 V, 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 Control
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-C SERIES)**
 NO SCALE

RSP ES-2F DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-2F
 DATED MAY 1, 2006 - PAGE 408 OF THE STANDARD PLANS BOOK DATED MAY 2006.



2006 REVISED STANDARD PLAN RSP ES-2F

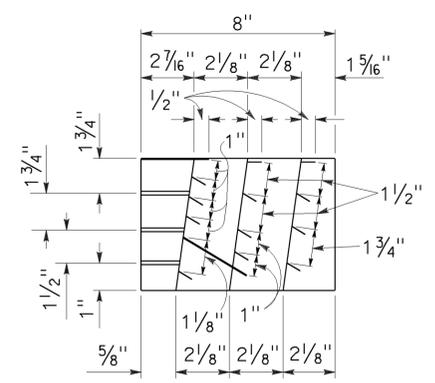
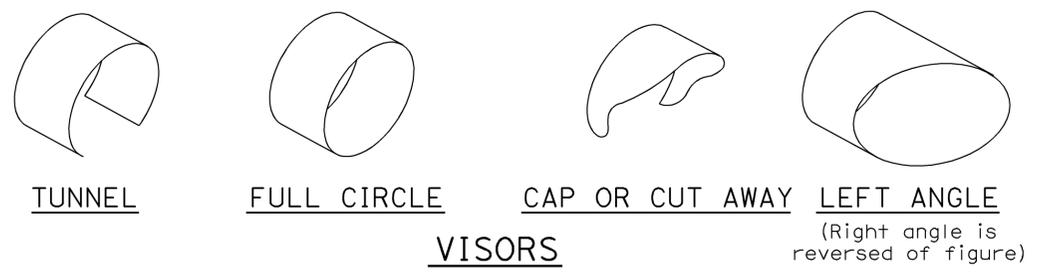
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Oran	57	18.4/20.9	546	856

Jeffery G. McRae
 REGISTERED ELECTRICAL ENGINEER
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 Exp. 6-30-10
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 STATE OF CALIFORNIA

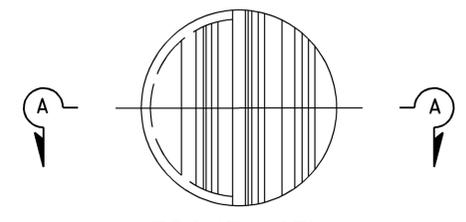
June 6, 2008
 PLANS APPROVAL DATE

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To accompany plans dated 1-25-10



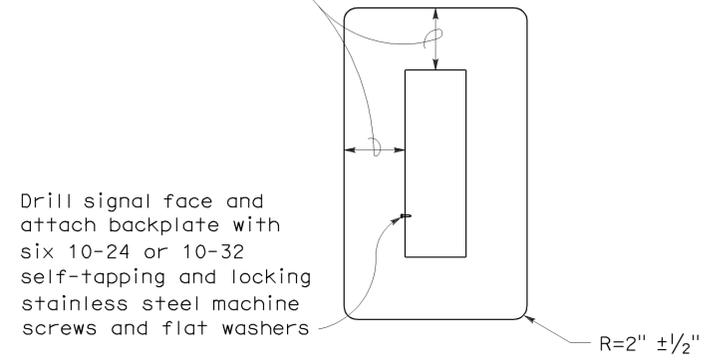
SECTION A-A



FRONT VIEW
DIRECTIONAL LOUVER

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

8" ± 1/2" for 8" sections
 5 1/2" ± 1/2" for 12" sections

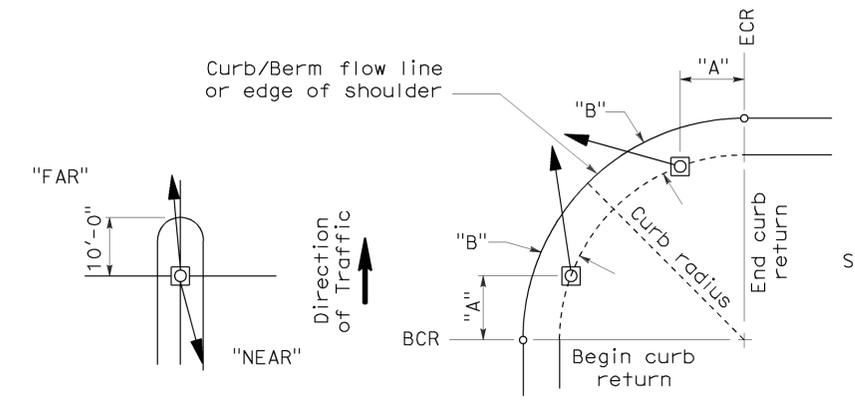


8" AND 12" SECTIONS

Drill signal face and attach backplate with six 10-24 or 10-32 self-tapping and locking stainless steel machine screws and flat washers

BACKPLATE

1/16" minimum thickness
 3001-14 aluminum, or plastic when specified

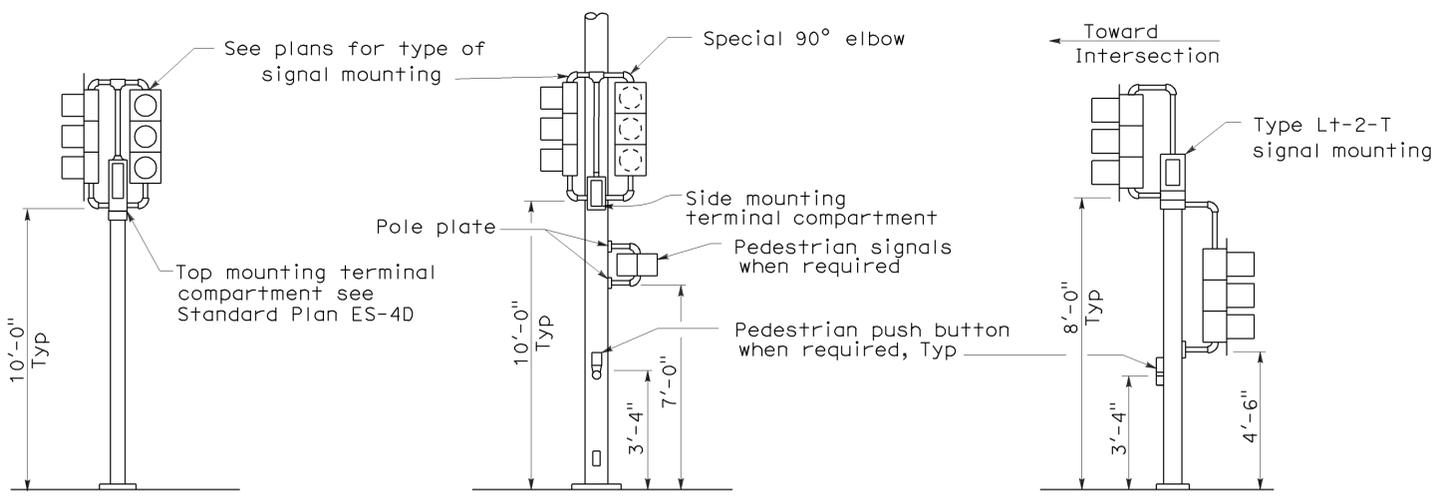


See Note 2

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

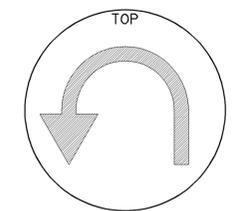
SIDE MOUNTED SIGNALS (SV AND SP)

Normally used on standards with luminaire or signal mast arm

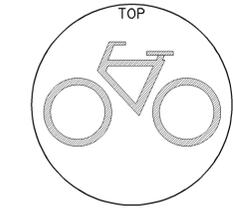
LEFT TURN LANE SIGNAL

Type 1-A, 1-B, 1-C and 1-D standard as indicated on plans

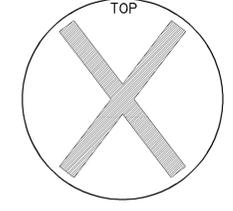
TYPICAL SIGNAL INSTALLATIONS



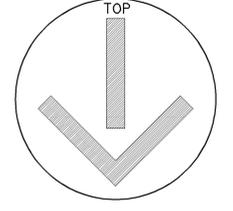
U-TURN SIGNAL FACE



BICYCLE SIGNAL FACE



LANE CONTROL SIGNAL FACE



LANE CONTROL SIGNAL FACE

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

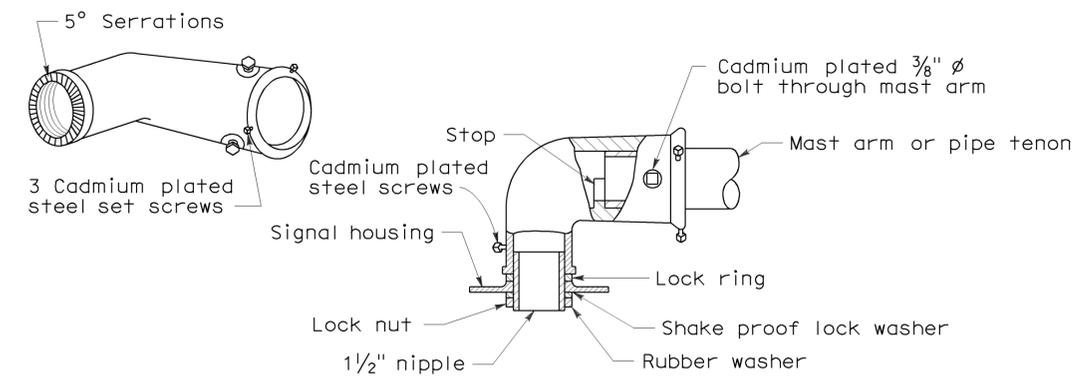
2006 REVISED STANDARD PLAN RSP ES-4C

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	18.4/20.9	547	856

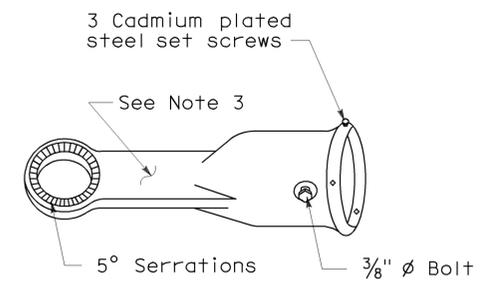
June 6, 2008
 PLANS APPROVAL DATE
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REGISTERED ELECTRICAL ENGINEER
 REGISTERED PROFESSIONAL ENGINEER
 Jeffrey G. McRae
 No. E14512
 Exp. 6-30-10
 ELECTRICAL
 STATE OF CALIFORNIA

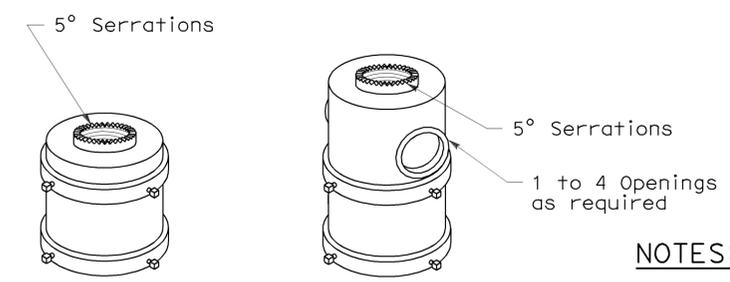
To accompany plans dated 1-25-10



MAST ARM MOUNTING - TYPE "MAT"
For 2 NPS pipe, see Note 1.



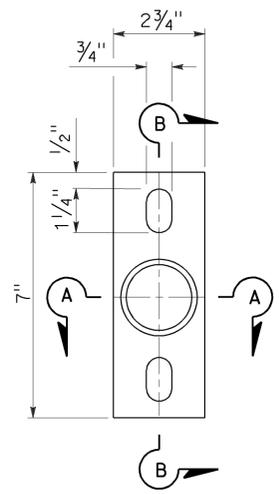
MAST ARM MOUNTING - TYPE "MAS"
For 2 NPS pipe. See Note 1.



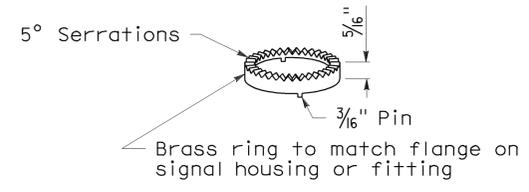
For one mounting For multiple mountings
TOP MOUNTINGS
For 4 NPS pipe, see Note 2.

- NOTES:**
- After mast arm signal has been plumbed and secured, drill 7/16" hole through mast arm tenon in line with slip fitter hole. Place a cadmium plated 3/8" ø 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".

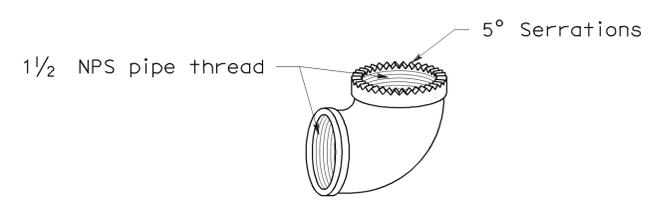
SIGNAL SLIP FITTERS



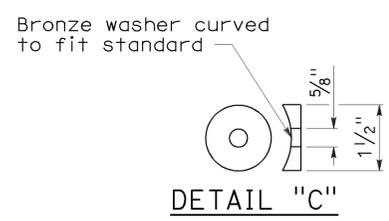
POLE PLATE
For side mountings



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

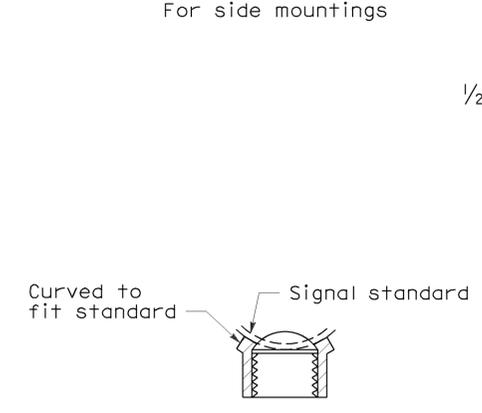


SPECIAL 90° ELBOW
One for each signal head, except those with special slip fitter mounting

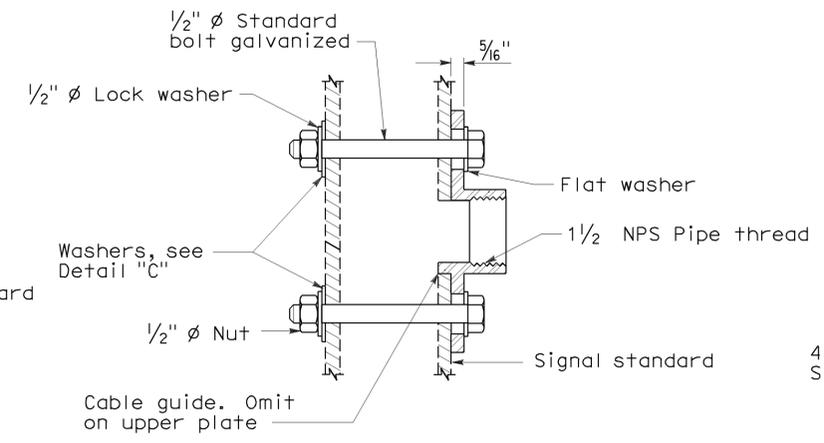


DETAIL "C"

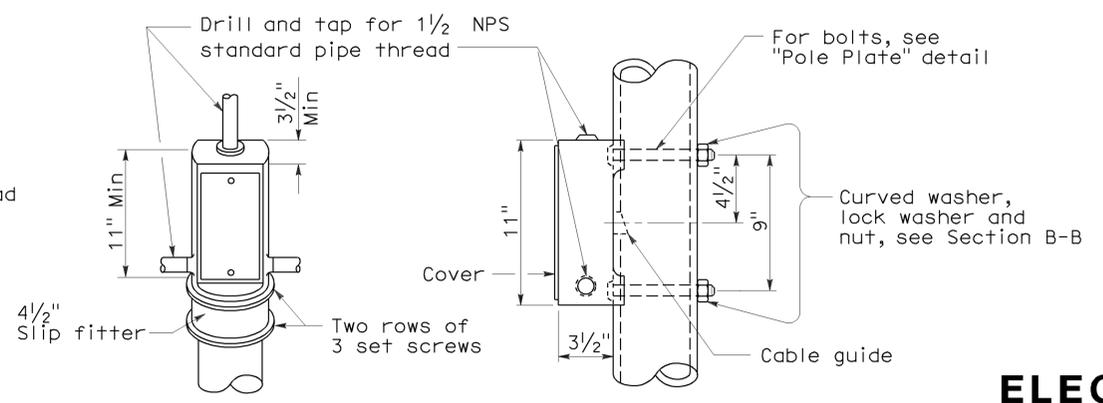
MISCELLANEOUS MOUNTING HARDWARE



SECTION A-A



SECTION B-B



TOP MOUNTING
SIDE MOUNTING
TERMINAL COMPARTMENTS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**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

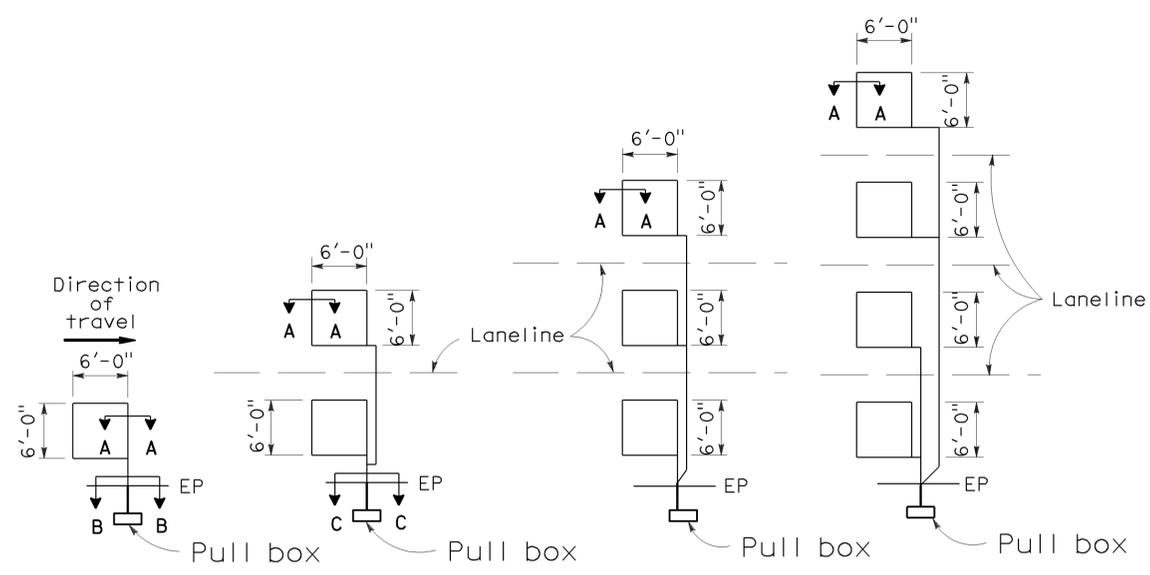
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	18.4/20.9	548	856

Jeffery G. McRae
 REGISTERED ELECTRICAL ENGINEER
 October 5, 2007
 PLANS APPROVAL DATE
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2006 REVISED STANDARD PLAN RSP ES-5A

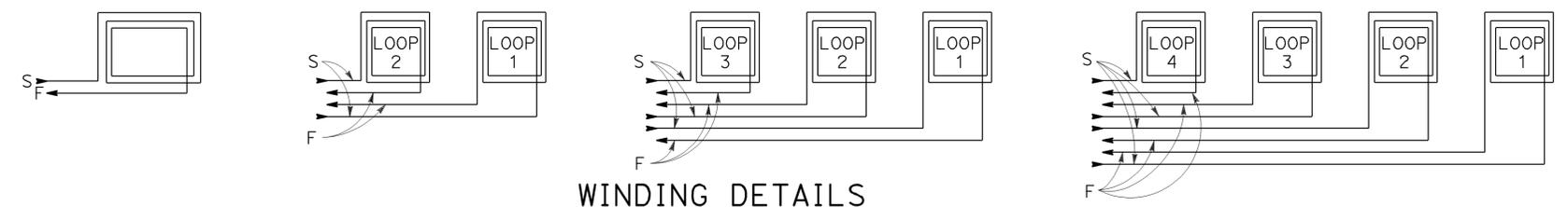
LOOP INSTALLATION PROCEDURE

- 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.



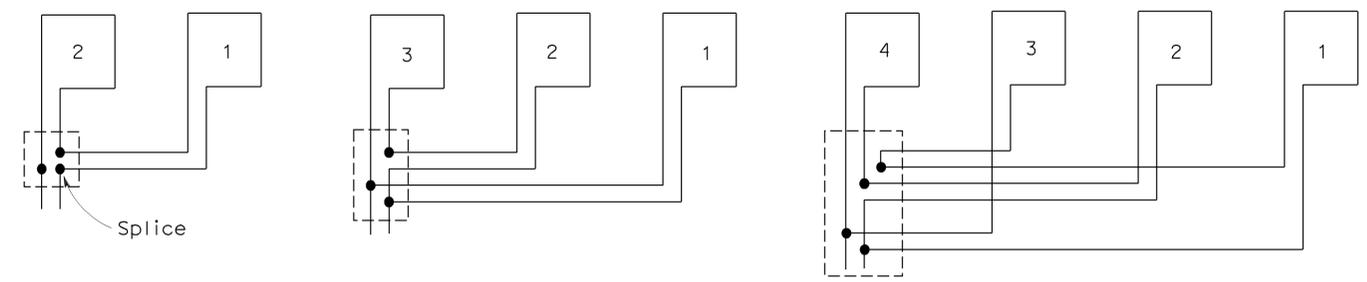
TYPE 1A INSTALLATION TYPE 2A INSTALLATION TYPE 3A INSTALLATION TYPE 4A INSTALLATION
SAWCUT DETAILS

- (Type A loop detector configurations illustrated)
- 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)



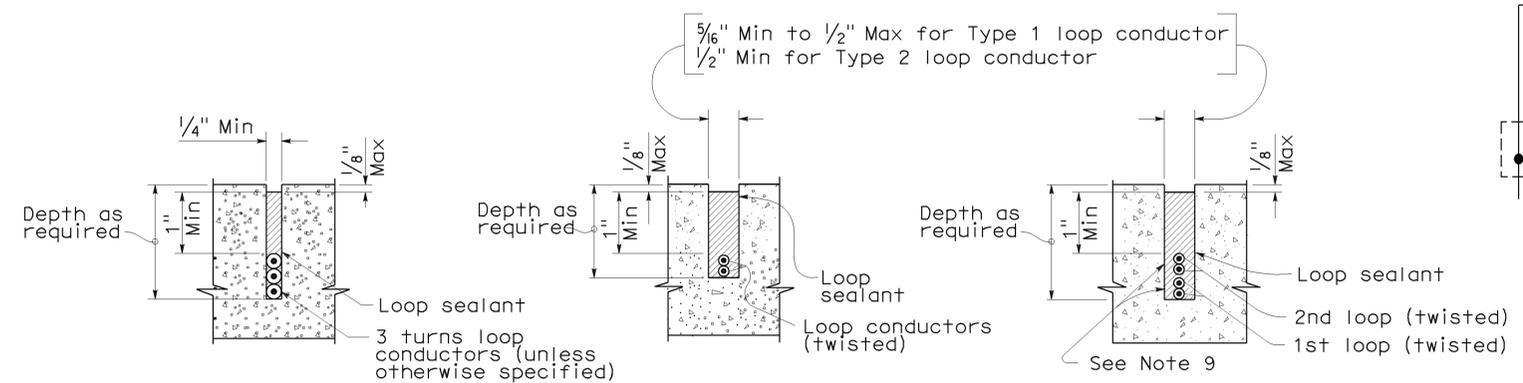
WINDING DETAILS

See Notes 6 and 7



TYPICAL LOOP CONNECTIONS

(Dashed lines represent the pull box)



SECTION A-A SECTION B-B SECTION C-C
SLOT DETAILS - TYPE 1 AND TYPE 2 LOOP CONDUCTOR

ELECTRICAL SYSTEMS (DETECTORS)

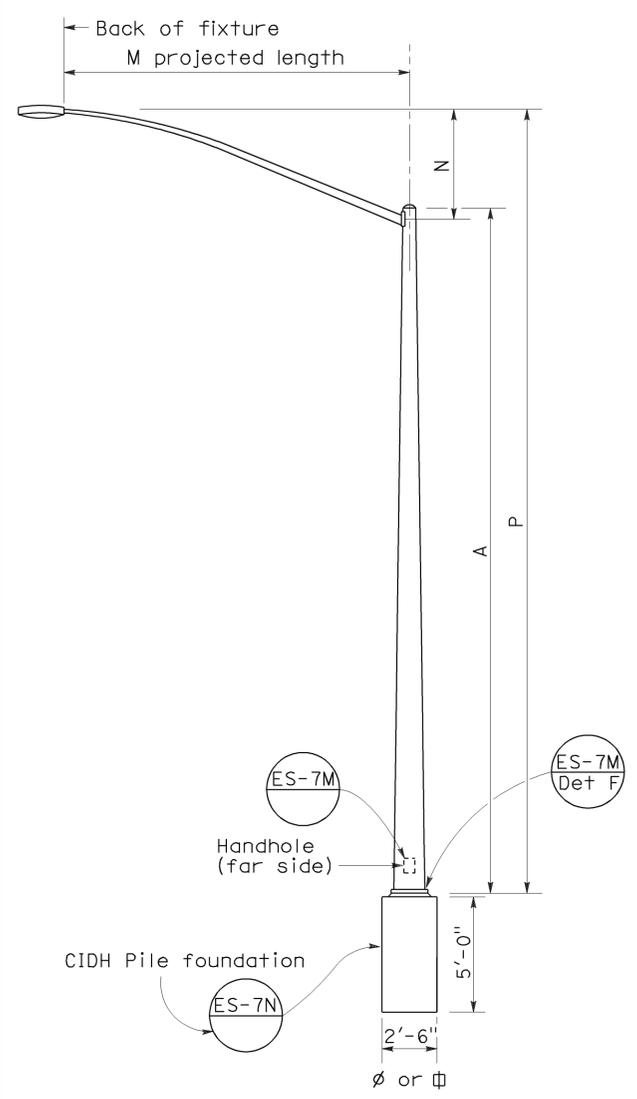
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

NO SCALE

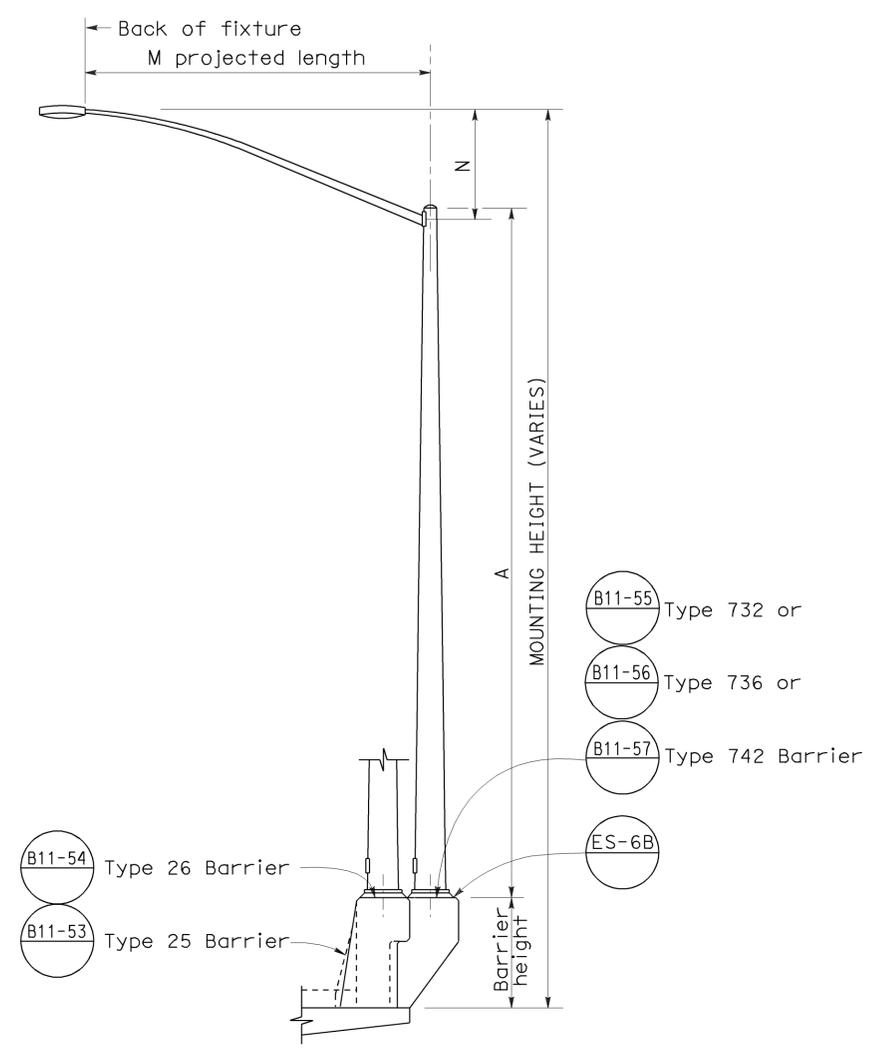
RSP ES-5A DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-5A DATED MAY 1, 2006 - PAGE 423 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-5A

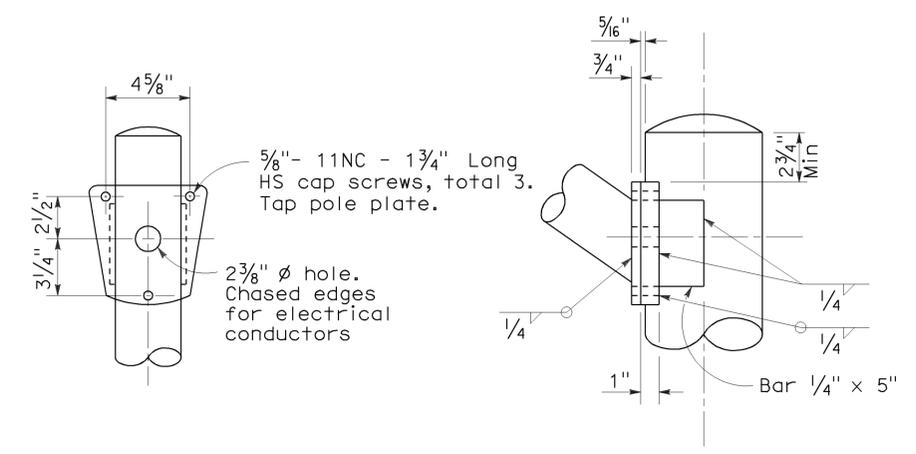
To accompany plans dated 1-25-10



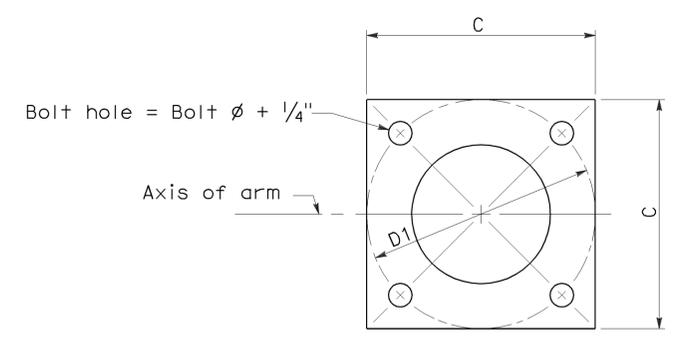
ELEVATION
TYPE 15 AND TYPE 21



ELEVATION
TYPE 15 AND TYPE 21 BARRIER RAIL MOUNTED



DETAIL R
LUMINAIRE ARM CONNECTION



BASE PLATE

POLE TYPE	POLE DATA				BASE PLATE DATA				LUMINAIRE ARM
	A Height	Min OD Base	Min OD Top	Wall Thickness	C	D1 Bolt Circle	Thick-ness	Anchor Bolts Size	
15	30'	8"	3 7/8"	0.1196"	1'-0"	1'-0"	1"	1" ø x 3'-0" x 4"*	6' - 15' 12'
21	35'	8 5/8"	3 7/8"	0.1196"	1'-0"	1'-0"	1"	1 1/4" ø x 3'-0" x 4"*	6' - 15' 12'

LUMINAIRE ARM DATA						
M Projected Length	N Rise	Min OD At Pole	Nominal Thickness	P		
				Type 15	Type 21	
6'-0"	2'-0"±	3/4"	0.1196"	31'-6"±	36'-6"±	
8'-0"	2'-6"±	3/2"	0.1196"	32'-0"±	37'-0"±	
10'-0"	3'-3"±	3 7/8"	0.1196"	32'-9"±	37'-9"±	
12'-0"	4'-3"±	3 7/8"	0.1196"	33'-9"±	38'-9"±	
15'-0"	4'-9"±	4 1/4"	0.1196"	34'-3"±	39'-3"±	

* For barrier rail bolts, see Standard Plan ES-6B.

NOTES:

- Indicates arm length to be used unless otherwise noted on the plans.
- For Type 15-SB, use Type 15 standard with Type 30 slip base plate details, see Standard Plan ES-6F.
- For additional notes, see Standard Plan ES-7M and ES-7N.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(LIGHTING STANDARD
TYPES 15 AND 21)

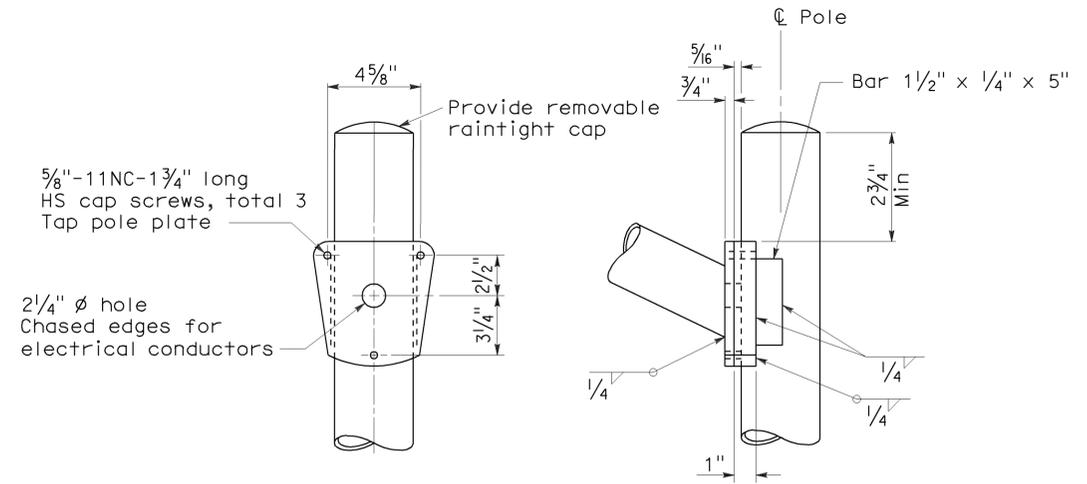
NO SCALE

RSP ES-6A DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-6A
 DATED MAY 1, 2006 - PAGE 427 OF THE STANDARD PLANS BOOK DATED MAY 2006.

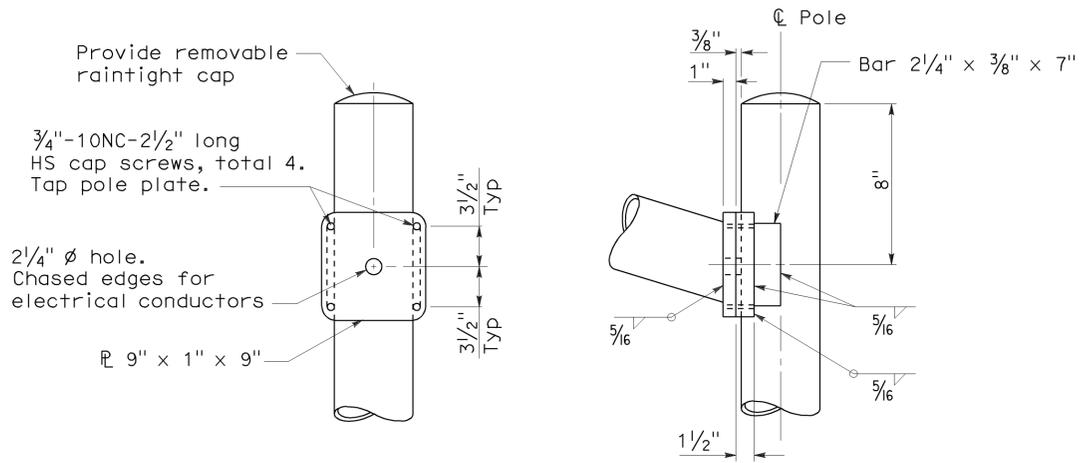
LUMINAIRE ARM DATA

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"±

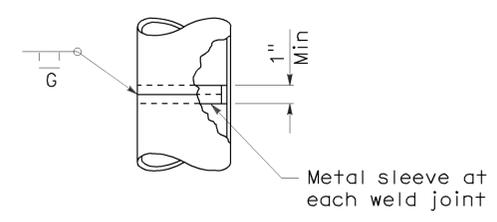
* Type 30 - arm length 6'-0" - 15'-0" maximum
 ** Type 31 - arm lengths 20'-0"



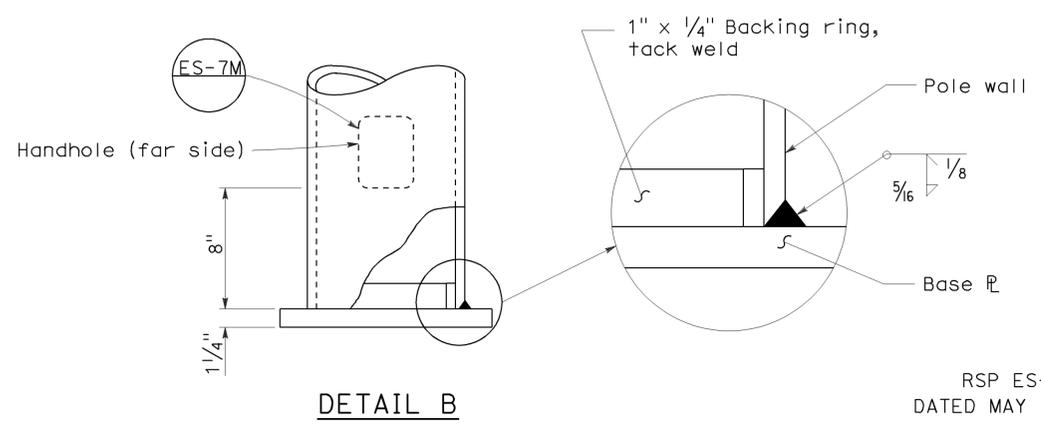
DETAIL A - TYPE 30



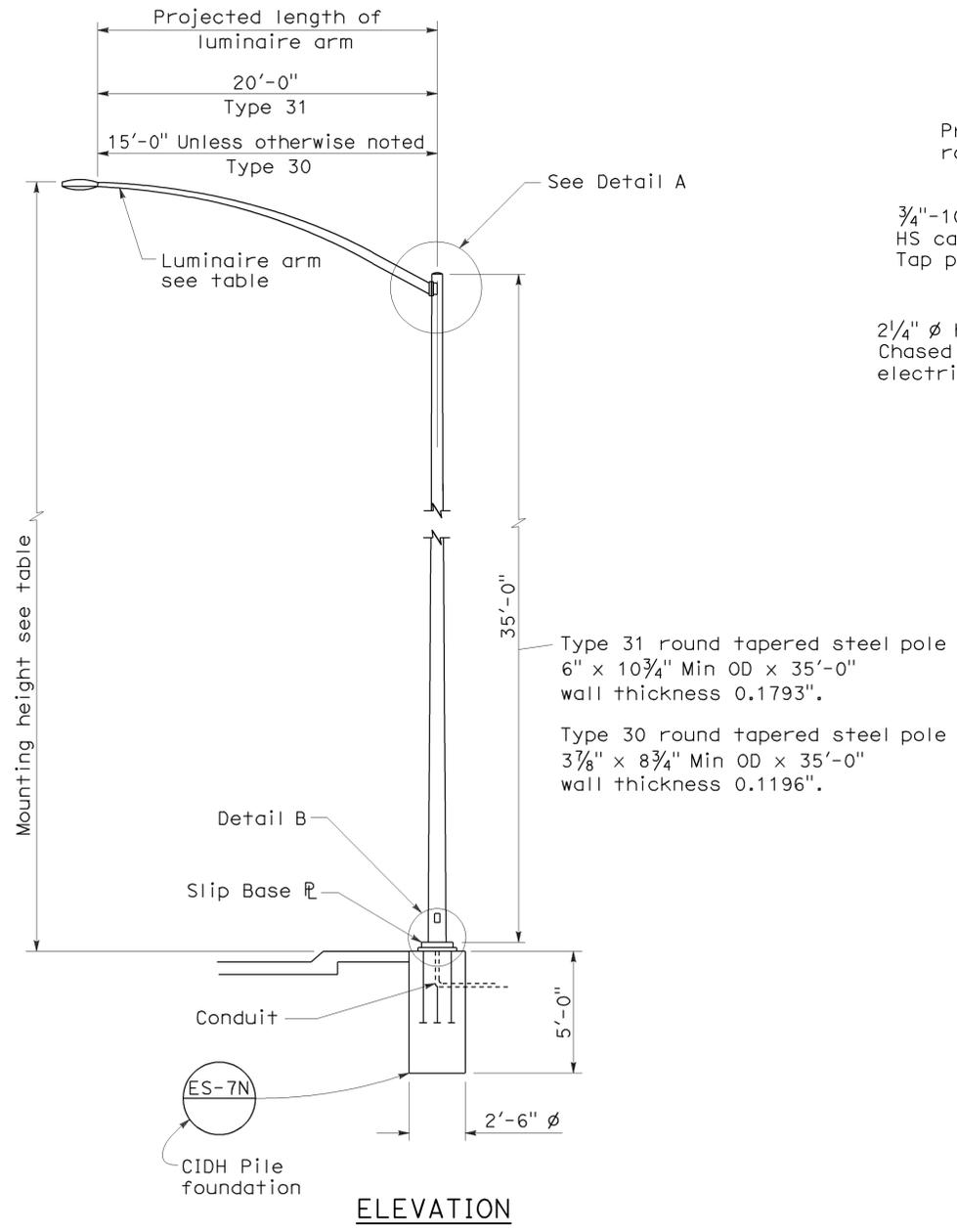
DETAIL A - TYPE 31



POLE SPLICE



DETAIL B



ELEVATION

Type 31 round tapered steel pole
 6" x 10 3/4" Min OD x 35'-0"
 wall thickness 0.1793".

Type 30 round tapered steel pole
 3 7/8" x 8 3/4" Min OD x 35'-0"
 wall thickness 0.1196".

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.

To accompany plans dated 1-25-10

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

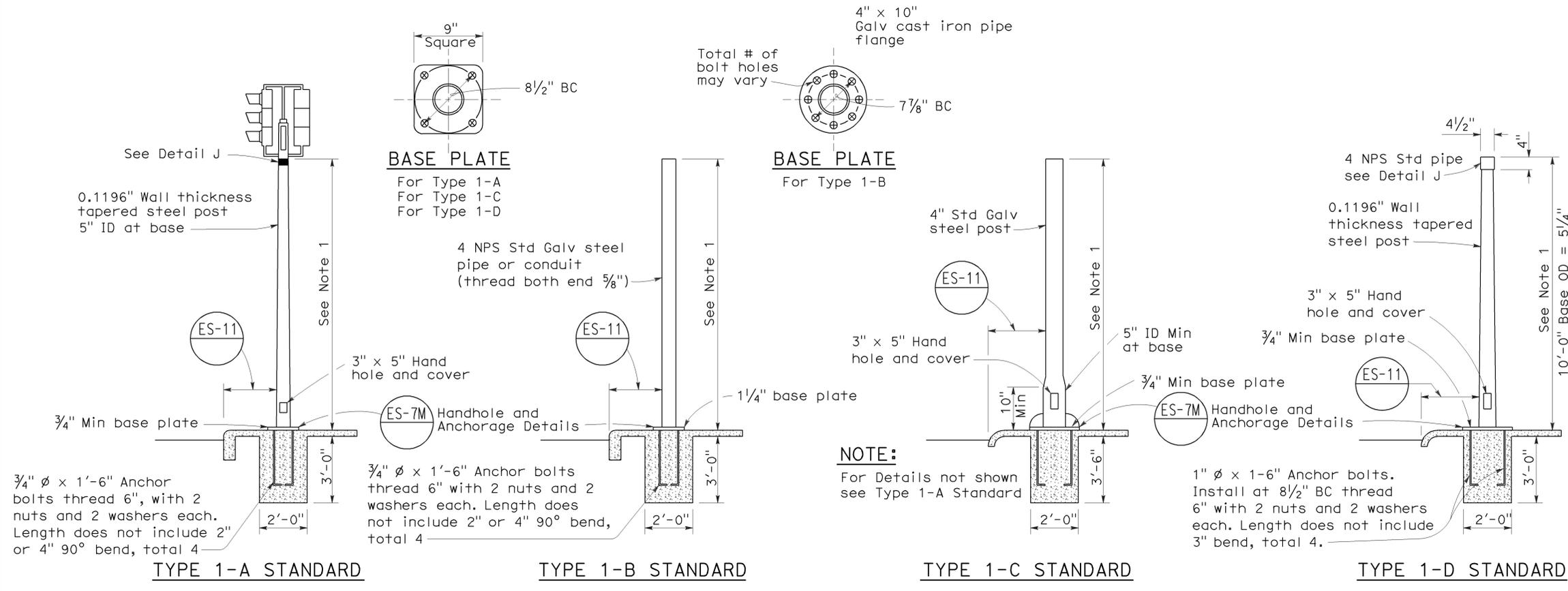
RSP ES-6E DATED JANUARY 18, 2008 SUPERCEDES STANDARD PLAN ES-6E
 DATED MAY 1, 2006 - PAGE 430 OF THE STANDARD PLANS BOOK DATED MAY 2006.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	18.4/20.9	551	856

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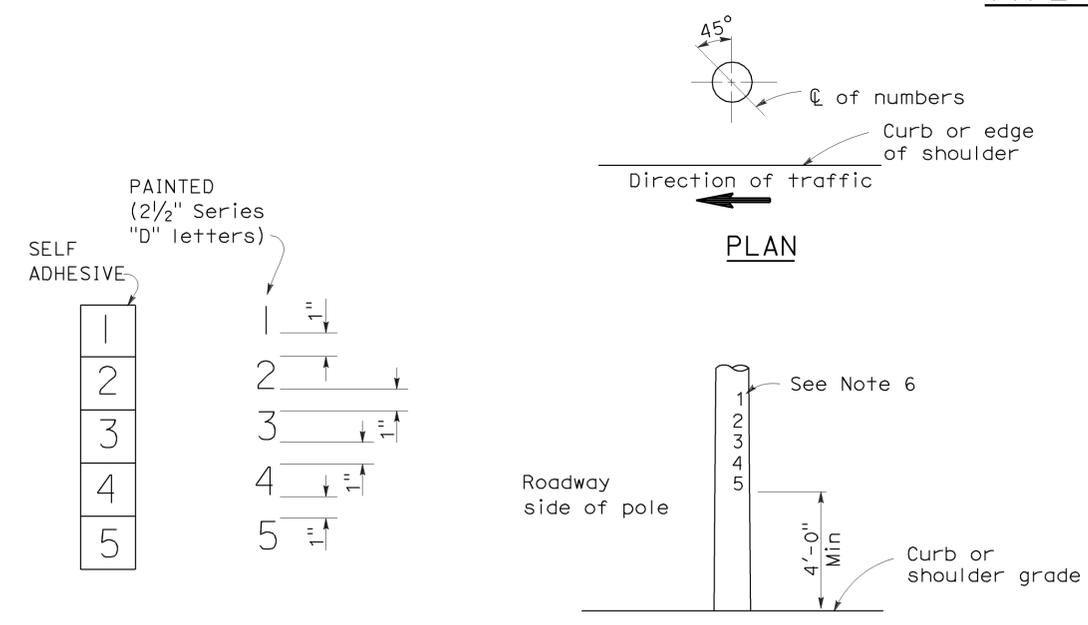
REGISTERED PROFESSIONAL ENGINEER
 Stanley P. Johnson
 No. C57793
 Exp. 3-31-08
 CIVIL
 STATE OF CALIFORNIA

2006 REVISED STANDARD PLAN RSP ES-7B

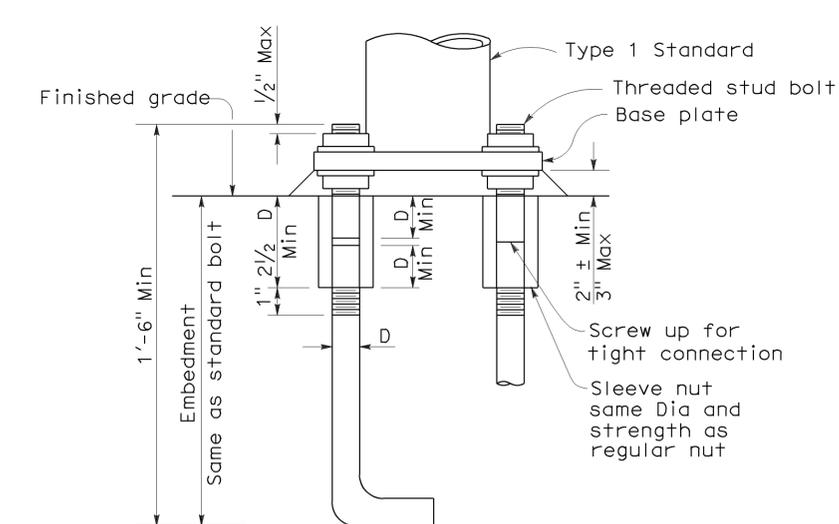


- NOTES:**
- Standards shall be 10'-0" ± 2" for vehicle signals and 7'-0" ± 2" for pedestrian signals unless otherwise noted on plans.
 - Top of standards shall be 4 1/2" OD.
 - Conduits shall extend 2" maximum above finished surface of foundation and for Types 1-A, 1-C and 1-D shall be sloped toward 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.

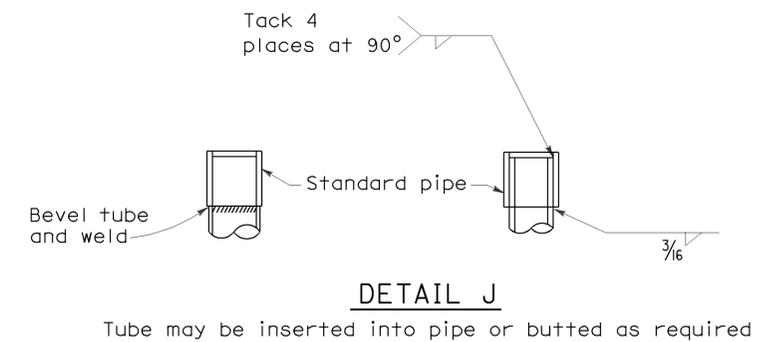
TYPE 1 SIGNAL STANDARDS



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



STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

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

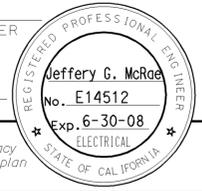
NO SCALE

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.

REVISED STANDARD PLAN RSP ES-7B

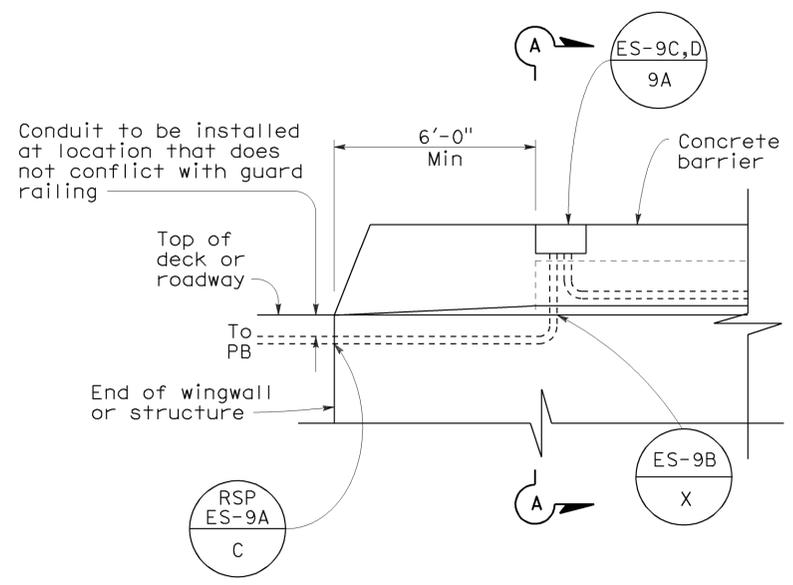
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	18.4/20.9	552	856

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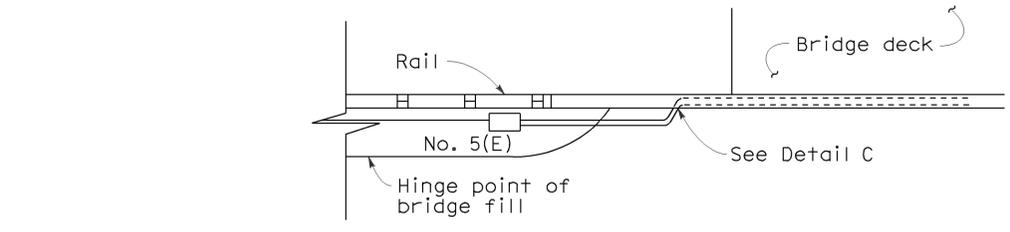


To accompany plans dated 1-25-10

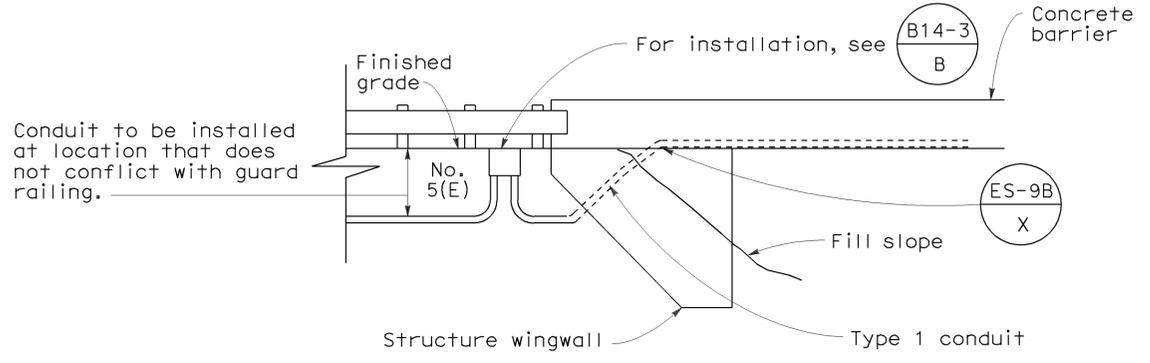
2006 REVISED STANDARD PLAN RSP ES-9A



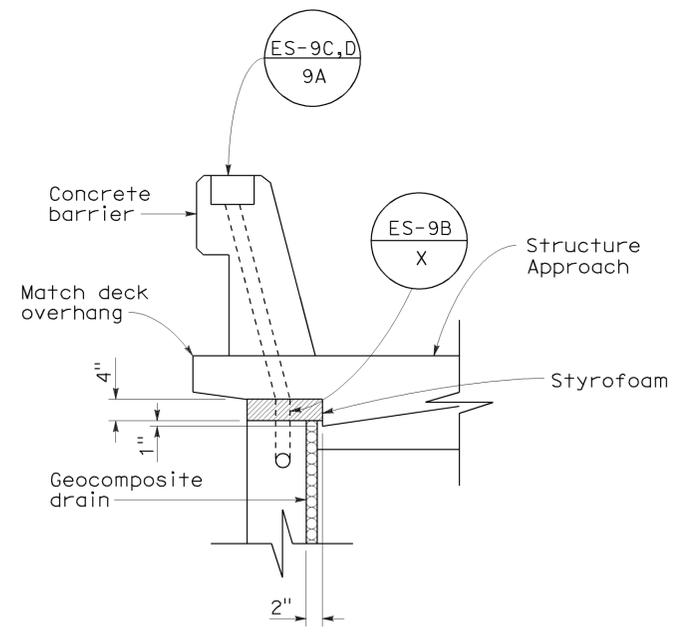
SIDEVIEW



TOP VIEW

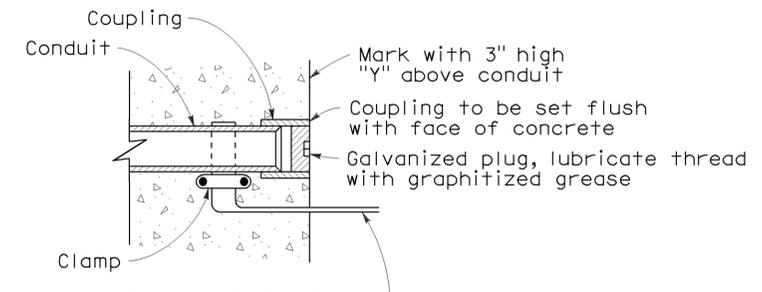


**SIDE VIEW
DETAIL I
CONDUIT TERMINATION**



SECTION A-A

**DETAIL A
CONDUIT TERMINATION**



**DETAIL C
CONDUIT TERMINATION**

Copper bonding strap install only at structure construction joint, extend at least 6" from face of concrete

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

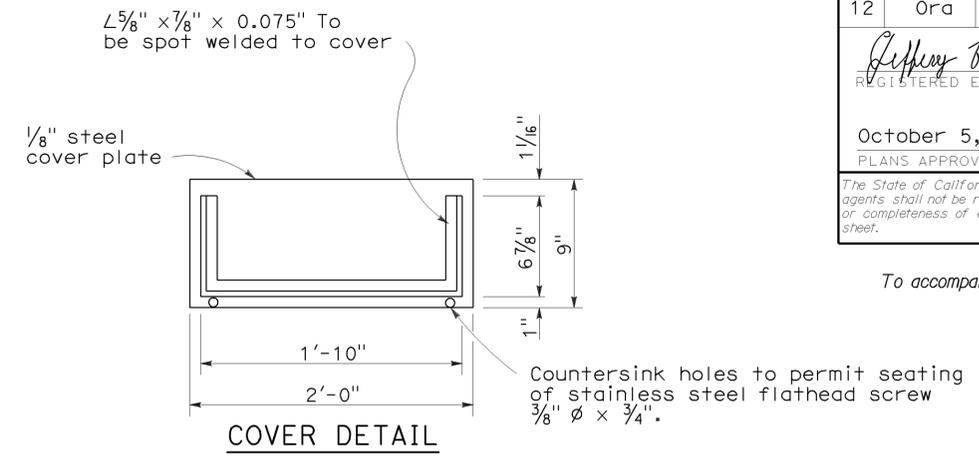
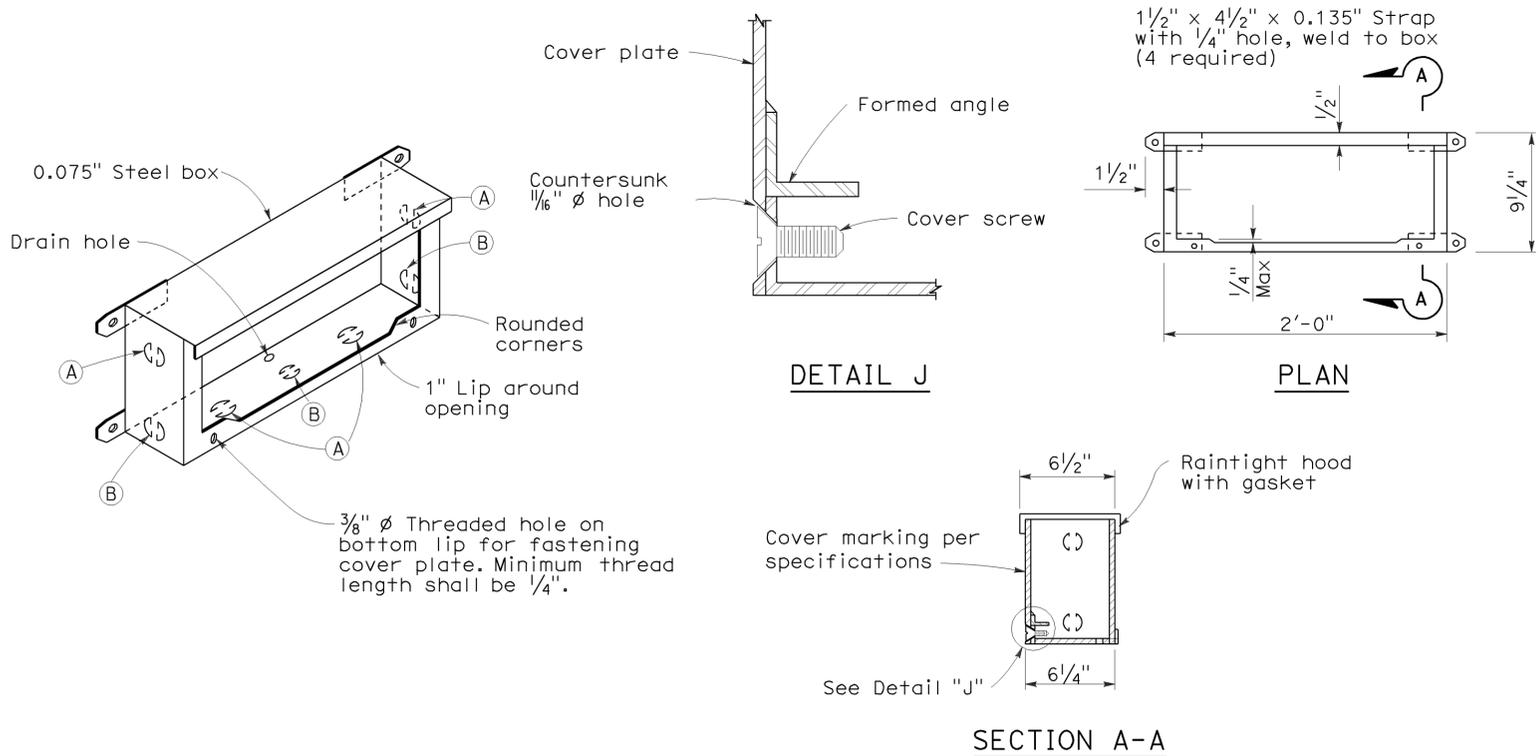
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	18.4/20.9	553	856

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

October 5, 2007
 PLANS APPROVAL DATE

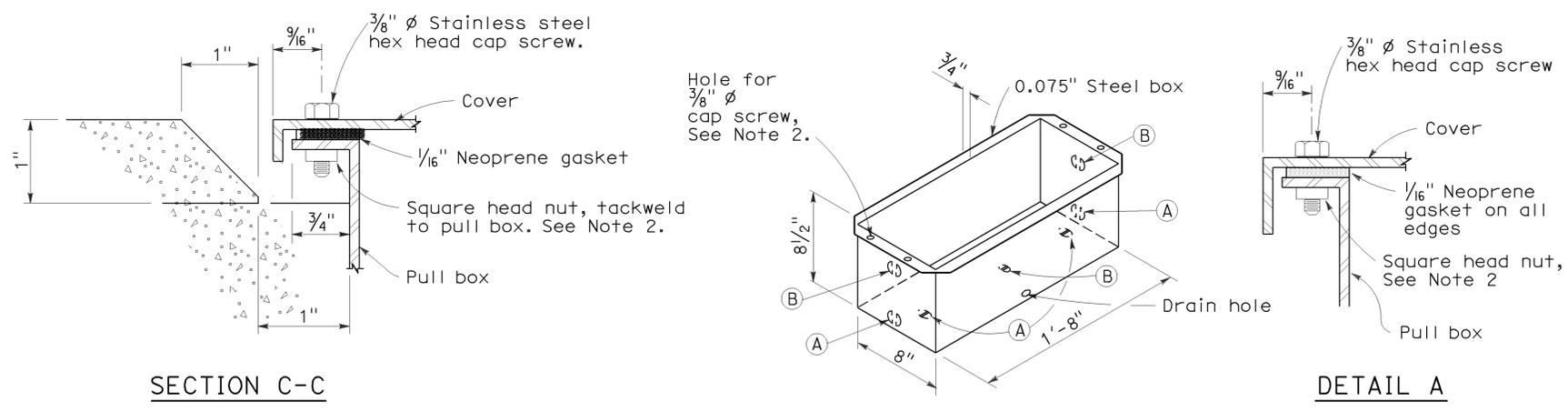
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To accompany plans dated 1-25-10



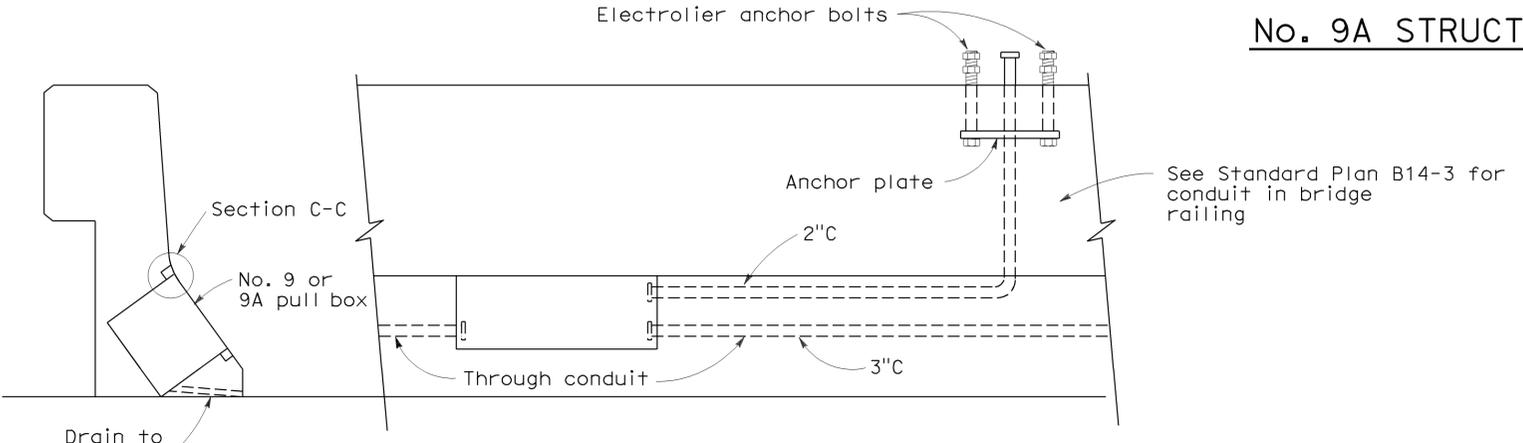
INSTALLATION NOTE:
 Box shall be parallel to top of railing. Close cover box during pouring with 1/4" plywood of sufficient size to provide 1:1 chamfer on 3 sides of cover. Upper edge of plywood shall fit against lower edge of raintight hood.

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



- 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.
REVISED STANDARD PLAN RSP ES-9C

2006 REVISED STANDARD PLAN RSP ES-9C

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	18.4/20.9	554	856

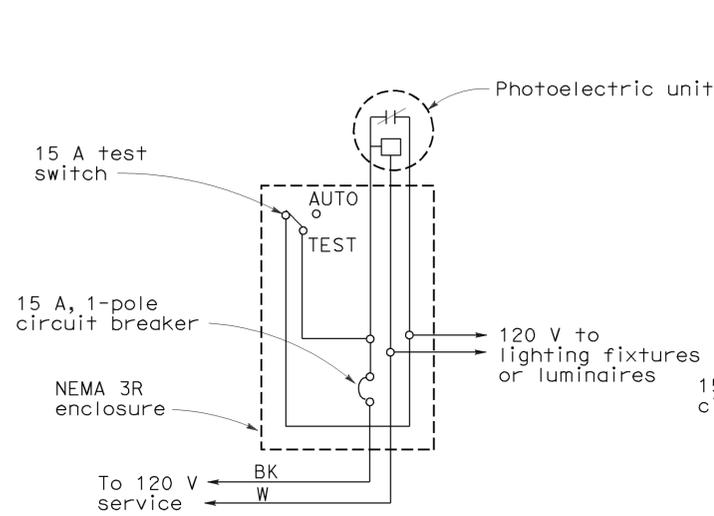
Jeffery G. McRae
 REGISTERED ELECTRICAL ENGINEER
 October 5, 2007
 PLANS APPROVAL DATE
 No. E14512
 Exp. 6-30-08
 ELECTRICAL
 STATE OF CALIFORNIA

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NOTES: (FOR LIGHTING AND SIGN ILLUMINATION CONTROL)

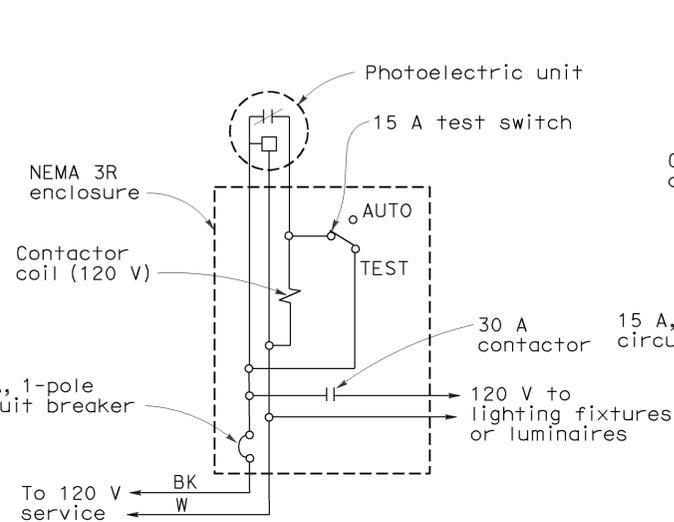
1. The ballast voltages of lighting fixtures and luminaires shall match line service voltages.
2. Voltage rating of photoelectric controls shall conform to the service voltage indicated on the plans.
3. Terminal strip shall be provided for wiring to fixtures.
4. Type SC1A, SC2A, SC3A controls are similar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

To accompany plans dated 1-25-10



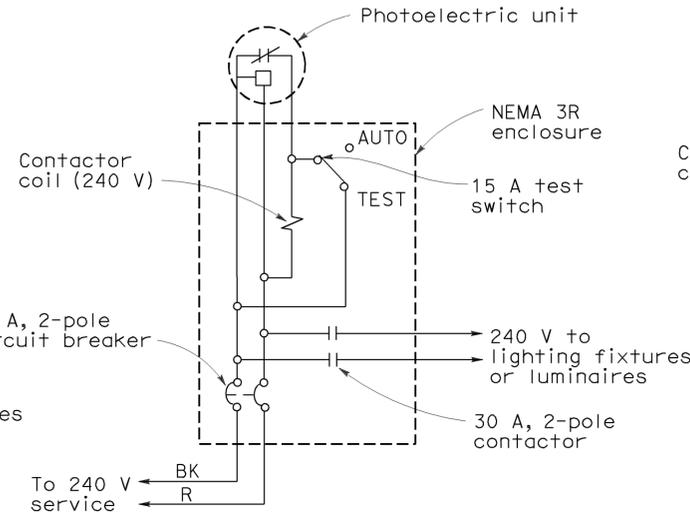
TYPE LC1 CONTROL

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



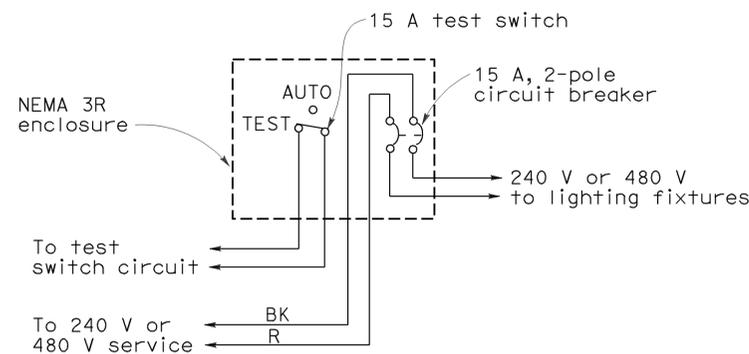
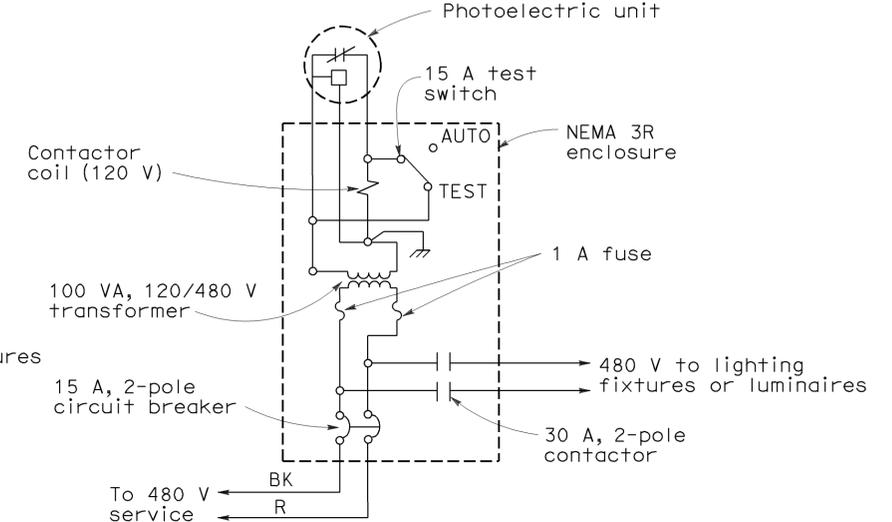
TYPE LC2 CONTROL

For 120 V unswitched circuit



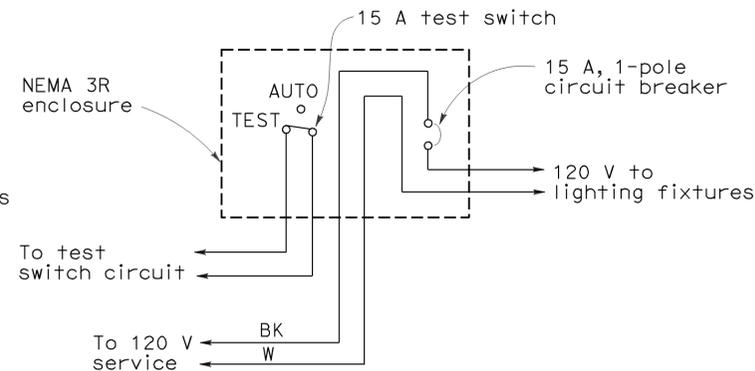
TYPE LC3 CONTROL

For 240 V and 480 V unswitched circuits



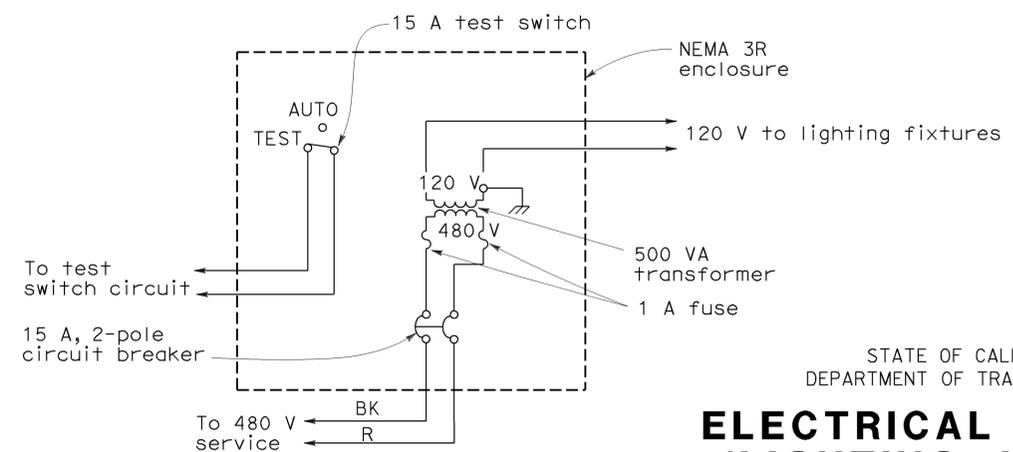
TYPE SC1 CONTROL

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
12	Oran	57	18.4/20.9	555	856

REGISTERED CIVIL ENGINEER	DATE
Mohammed Atiullah	06/08/09
PLANS APPROVAL DATE	
1-25-10	

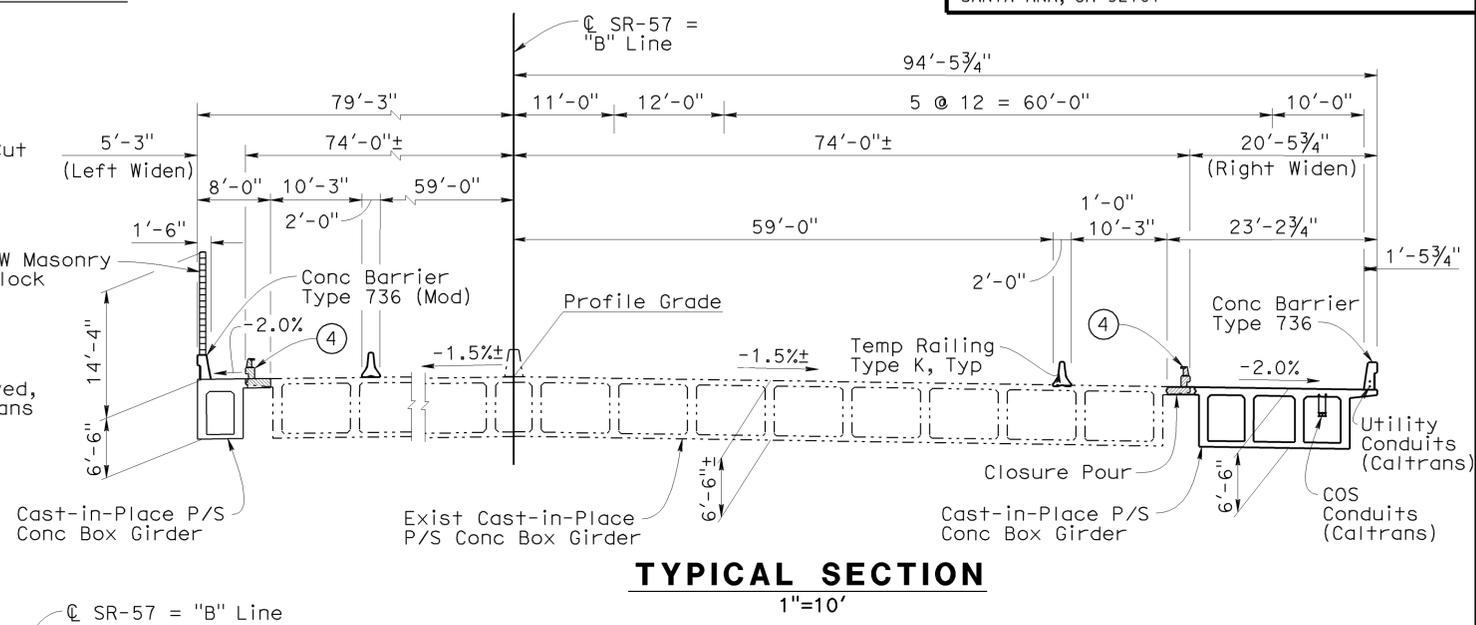
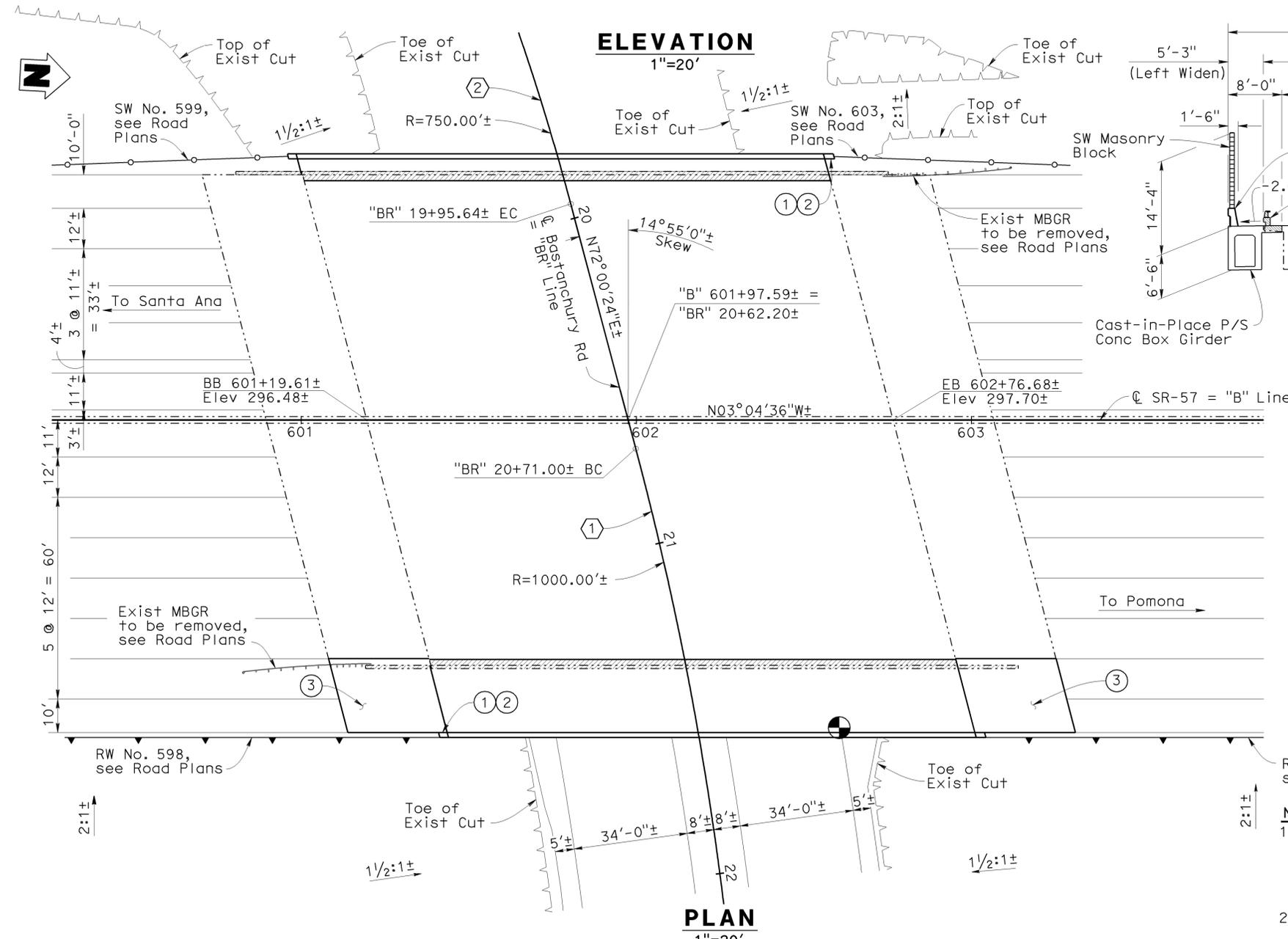
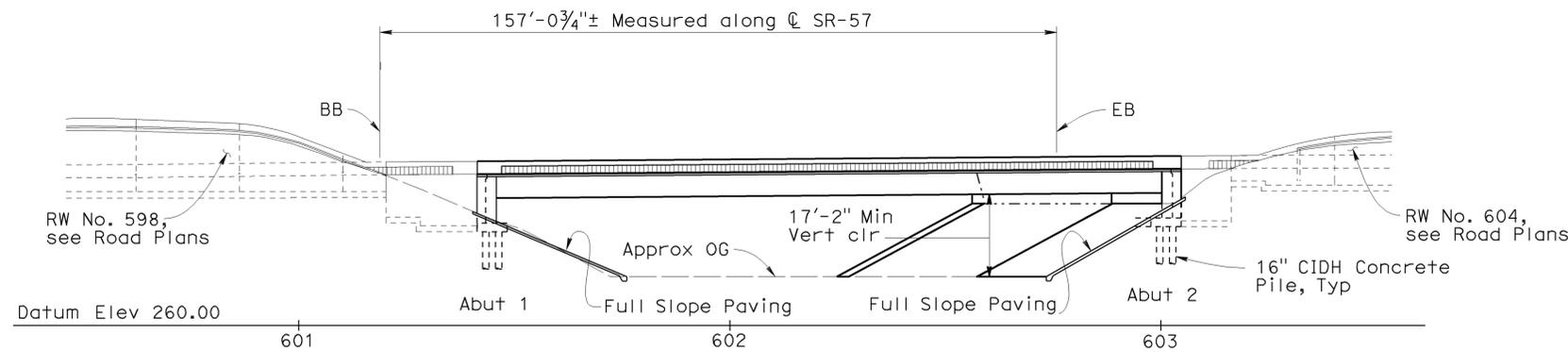
REGISTERED PROFESSIONAL ENGINEER
MOHAMMED ATIULLAH
No. C47027
Exp. 12/31/09
CIVIL
STATE OF CALIFORNIA

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OCTA
550 S. MAIN STREET
ORANGE, CA 92863

CH2M HILL
6 HUTTON CENTRE DRIVE, SUITE 700
SANTA ANA, CA 92707

- LEGEND:**
- Indicates Existing Structure
 - Indicates New Construction
 - ① Paint "Bastanchury Road Undercrossing"
 - ② Paint "Bridge No. 55-0465" & Year Constructed
 - ③ Structure Approach Type N(30D)
 - ④ Remove Existing Type 9 Barrier, Metal Railing & Overhang
 - ⊙ Denotes Point of Minimum Vertical Clearance
 - ▨ Bridge Removal (Portion)



CURVE DATA

① "BR" Line
R = 1000'±
Δ = 38°55'51"±
T = 353.44'±
L = 679.47'±

② "BR" Line
R = 750'±
Δ = 39°51'00"±
T = 271.87'±
L = 521.63'±

QUANTITIES

DESCRIPTION	UNIT	AMOUNT
BRIDGE REMOVAL (PORTION), LOCATION A	LUMP	SUM
STRUCTURE EXCAVATION (BRIDGE)	CY	870
STRUCTURE EXCAVATION (TYPE Y-1)(AERIALY DEPOSITED LEAD)	CY	75
STRUCTURE BACKFILL (BRIDGE)	CY	775
16" CAST-IN-DRILLED-HOLE CONCRETE PILING	LF	986
PRESTRESSING CAST-IN-PLACE CONCRETE	LUMP	SUM
STRUCTURAL CONCRETE, BRIDGE FOOTING	CY	40
STRUCTURAL CONCRETE, BRIDGE	CY	460
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE N)	CY	52
FRACTURED RIB TEXTURE	SOFT	465
DRILL AND BOND DOWEL	LF	18
SOUND WALL (BARRIER)(MASONRY BLOCK)	SOFT	1,848
JOINT SEAL (MR 1/2")	LF	54
BAR REINFORCING STEEL (BRIDGE)	LB	72,900
3" PLASTIC PIPE DOWNDRAIN	LF	250
SLOPE PAVING (CONCRETE)	CY	50
MISCELLANEOUS METAL (BRIDGE)	LB	600
CONCRETE BARRIER (TYPE 736)	LF	164
CONCRETE BARRIER (TYPE 736 MODIFIED)	LF	164

- NOTE:**
- The Contractor shall verify all controlling field dimensions before ordering or fabricating any materials.
 - For Pile Data and General Notes, see "General Notes" sheet.

 DESIGN OVERSIGHT 6-9-09 SIGN OFF DATE	DESIGN	BY M. Atiullah / A. Issa	CHECKED X. Wu	LOAD FACTOR DESIGN	LIVE LOADING: HL-93 AND PERMIT (P-15) DESIGN LOAD	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION Ayman Salama PROJECT ENGINEER	BRIDGE NO.	55-0465	BASTANCHURY ROAD UC (WIDEN) GENERAL PLAN	
	DETAILS	BY M. Atiullah	CHECKED X. Wu	LAYOUT	BY N. Morales		CHECKED M. Atiullah	POST MILES		18.85
	QUANTITIES	BY A. Issa	CHECKED P. Kaviani	SPECIFICATIONS	BY M. Remolador		PLANS AND SPECS COMPARED	M. Atiullah		

DESIGN GENERAL PLAN SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

CU 12220
EA 0F0321

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
11/12/08 06/07/09 06/08/09	1	22

FILE => 55-0465-a-gp01.dgn

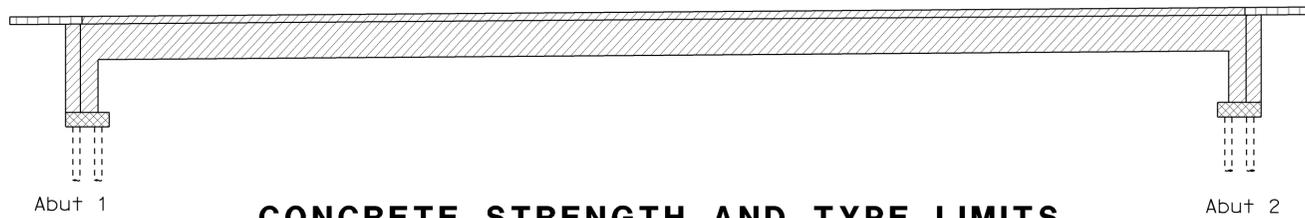
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	57	18.4/20.9	556	856

06/08/09
 REGISTERED CIVIL ENGINEER DATE
 1-25-10
 PLANS APPROVAL DATE
 MOHAMMED ATIQULLAH
 No. C47027
 Exp. 12/31/09
 CIVIL
 STATE OF CALIFORNIA

OCTA
 550 S. MAIN STREET
 ORANGE, CA 92863
 CH2M HILL
 6 HUTTON CENTRE DRIVE, SUITE 700
 SANTA ANA, CA 92707

INDEX TO PLANS

SHEET NO.	TITLE
1.	GENERAL PLAN
2.	INDEX TO PLANS
3.	GENERAL NOTES
4.	FOUNDATION PLAN
5.	ABUTMENT 1 LAYOUT
6.	ABUTMENT 2 LAYOUT
7.	ABUTMENT DETAILS NO. 1
8.	ABUTMENT DETAILS NO. 2
9.	ABUTMENT DETAILS NO. 3
10.	TYPICAL SECTION
11.	GIRDER LAYOUT (RIGHT WIDEN)
12.	GIRDER LAYOUT (LEFT WIDEN)
13.	GIRDER REINFORCEMENT
14.	STRUCTURE APPROACH TYPE N(30D)
15.	STRUCTURE APPROACH DRAINAGE DETAILS
16.	SOUNDWALL DETAILS NO. 1
17.	SOUNDWALL DETAILS NO. 2
18.	MISCELLANEOUS DETAILS
19.	SLOPE PAVING - FULL SLOPE
20.	LOG OF TEST BORINGS SHEET 1 OF 3
21.	LOG OF TEST BORINGS SHEET 2 OF 3
22.	LOG OF TEST BORINGS SHEET 3 OF 3

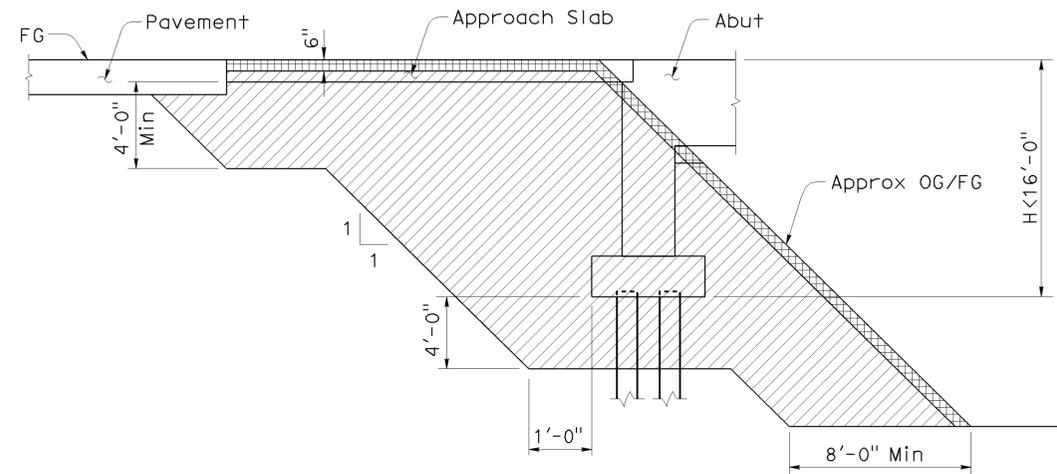


CONCRETE STRENGTH AND TYPE LIMITS

NO SCALE

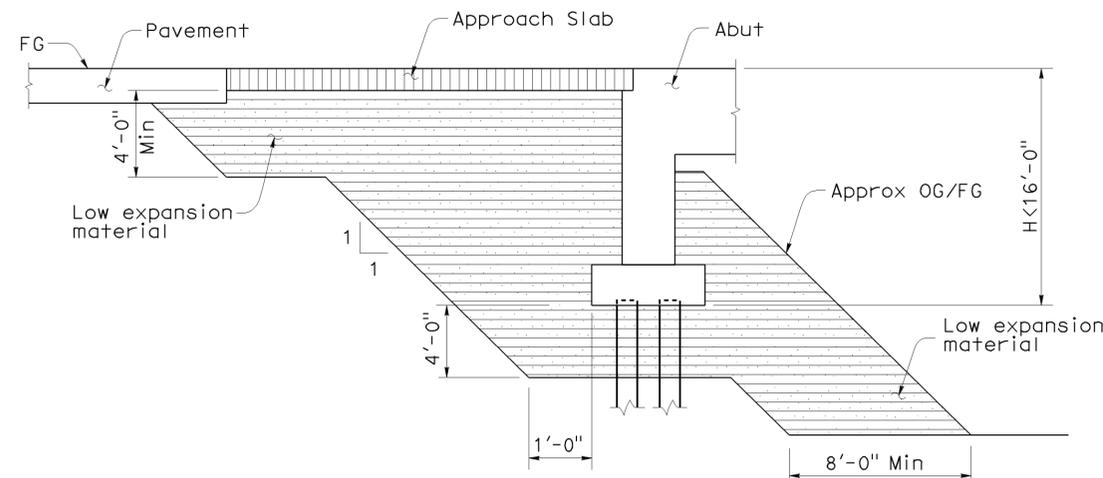
LEGEND

- = Structural Concrete, Bridge, See Prestressing Notes on "Girder Layout" Sheet.
- = Structural Concrete, Bridge Footing
- = Structural Concrete, Approach Slab



LIMITS OF STRUCTURE EXCAVATION

No scale



LOW EXPANSION MATERIAL BACKFILL LIMITS

No scale

NOTES:

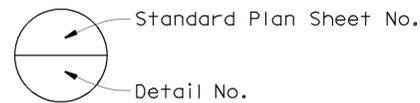
1. Expansion Index to be determined by ASTM D4829
2. Low Expansion material shall be EI<50 or SE>20 at New Construction only.
3. Backfill shall be placed simultaneously at both abutments after the deck is completed.

LEGEND

- = Structure Excavation (Bridge)
- = Structure Backfill (Bridge) (Low Expansion)
- = Structure Excavation (Type Y-1) (Aerially Deposited Lead)

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
B0-5	BRIDGE DETAILS
B0-13	BRIDGE DETAILS
B2-3	16" AND 24" CAST-IN-DRILLED-HOLE CONCRETE PILE
B6-21	JOINT SEALS (MAXIMUM MOVEMENT RATING = 2")
B7-1	BOX GIRDER DETAILS
B7-10	CAST-IN-PLACE PRESTRESSED GIRDER DETAILS
B8-5	UTILITY OPENING BOX GIRDER
B11-56	CONCRETE BARRIER TYPE 736
B14-5	WATER SUPPLY LINE (DETAILS) (PIPE SIZE LESS THAN 4")



ABBREVIATION

COS Corridor Operating System

NOTE:

The Contractor shall verify all controlling field dimensions before ordering or fabricating any materials.

DESIGN OVERSIGHT
 6-9-09
 SIGN OFF DATE

DESIGN	BY M. Atiqullah / A. Issa	CHECKED X. Wu
DETAILS	BY M. Atiqullah	CHECKED X. Wu
QUANTITIES	BY A. Issa	CHECKED P. Kaviani

PREPARED FOR THE
 STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

Ayman Salama
 PROJECT ENGINEER
 BRIDGE NO. 55-0465
 POST MILE 18.85

BASTANCHURY ROAD UC (WIDEN)
INDEX TO PLANS

DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

CU 12220
EA 0F0321

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)

11/15/08 06/07/09 06/08/09

SHEET 2 OF 22

USERNAME => h1renard DATE PLOTTED => 25-JAN-2010 TIME PLOTTED => 08:09

FILE => 55-0465-a-1tp.dgn



BB 600+94.12
Elev 294.96
601+00
Elev 295.17
+20
+40
Elev 295.09
+60
+80
Elev 295.03
Elev 295.09
Elev 295.17
602+00
Elev 295.41
+20
+40
Elev 295.70
Elev 296.04
EB 602+60.66
Elev 296.47

79'-3" LEFT C SR-57 = "B" LINE

BB 601+00.95±
Elev 295.24
+10
+30
Elev 295.24
+50
+70
Elev 295.23
Elev 295.27
Elev 295.35
+90
+10
Elev 295.50
+30
+50
Elev 295.71
Elev 296.05
EB 602+58.02±
Elev 296.50

71'-3" LEFT C SR-57 = "B" LINE

BB 601+38.27±
Elev 295.49
+40
+60
Elev 295.49
+80
Elev 295.46
+100
Elev 295.53
602+00
Elev 295.26
+20
+40
Elev 295.79
+60
+80
Elev 296.02
Elev 296.22
EB 602+95.34±
Elev 296.77

71'-3" RIGHT C SR-57 = "B" LINE

BB 601+43.97
Elev 294.96
+60
Elev 295.03
+80
Elev 295.13
602+00
Elev 295.25
+20
+40
Elev 295.40
+60
Elev 295.59
+80
Elev 295.81
Elev 296.04
603+00
Elev 296.29
EB 603+01.04
Elev 296.30

94'-5 3/4" RIGHT C SR-57 = "B" LINE

PROFILE GRADES
No Scale

LEGEND

+XX.XX Denotes station & elevation at top of exist deck.
XXX.XX

PILE DATA TABLE						
	Location	Pile Type	Nominal Resistance (Kips)		Design Tip Elevation (ft)	Specified Tip Elevation (ft)
			Compression	Tension		
NB Widen	Abut 1	16" CIDH Conc Pile	240	0	250.00(a) 259.95(c) 270.95(d)	250
	Abut 2	16" CIDH Conc Pile	240	0	248.00(a) 261.15(c) 272.15(d)	248
SB Widen	Abut 1	16" CIDH Conc Pile	260	0	245.00(a) 259.95(c) 270.95(d)	245
	Abut 2	16" CIDH Conc Pile	260	0	246.00(a) 261.15(c) 272.15(d)	246

Design Tip Elevation for Abutments controlled by following demand:
(a) Compression; (c) Settlement; (d) Lateral Capacity.

NOTE:

The Contractor shall verify all controlling field dimensions before ordering or fabricating any materials.

GENERAL NOTES
LOAD AND RESISTANCE FACTOR DESIGN (LRFD)

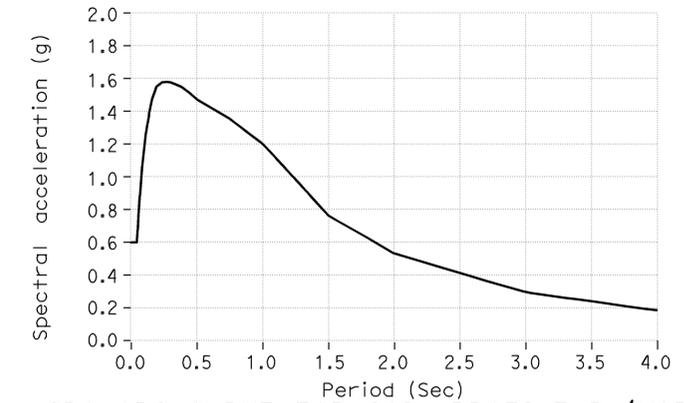
Design: AASHTO LRFD Bridge Design specifications, 3rd edition with interims through 2006 and the Caltrans Amendments 3.06.01; except that abutments, earth retaining system, Bridge details taken from Standard Plans March 2006 and earlier version, and Standard Bridge Details XS sheets, are designed using Bridge Design specifications (1996 AASHTO w/Revisions by Caltrans)

Seismic Design: Caltrans Seismic Design Criteria (SDC) Version 1.4 June 2006

Dead Load: Includes 35 psf for future wearing surface.
The sound wall dead load is distributed on the right widen of the bridge with 60% of the moment and 100% of the shear forces to the exterior girder, and 25% of the moment and 25% of the shear to the first interior girder
The sound wall dead load on the left widen of the bridge is distributed equally to the two girders in the widened section

Live Loading: LRFD: HL-93 and permit (P-15) Design Load

Seismic Loading: Caltrans SDC - ARS Curve Fig B-8 for Soil Profile D (Modified) (Magnitude = 7.25± 0.25). (Peak bed rock acceleration = 0.6 g) (Increased by 20% for periods greater than 1.0 second, no increase for periods less than 0.5 second, and linear interpolation between 0.5 and 1.0 second).

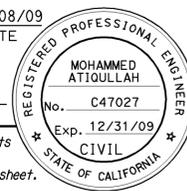


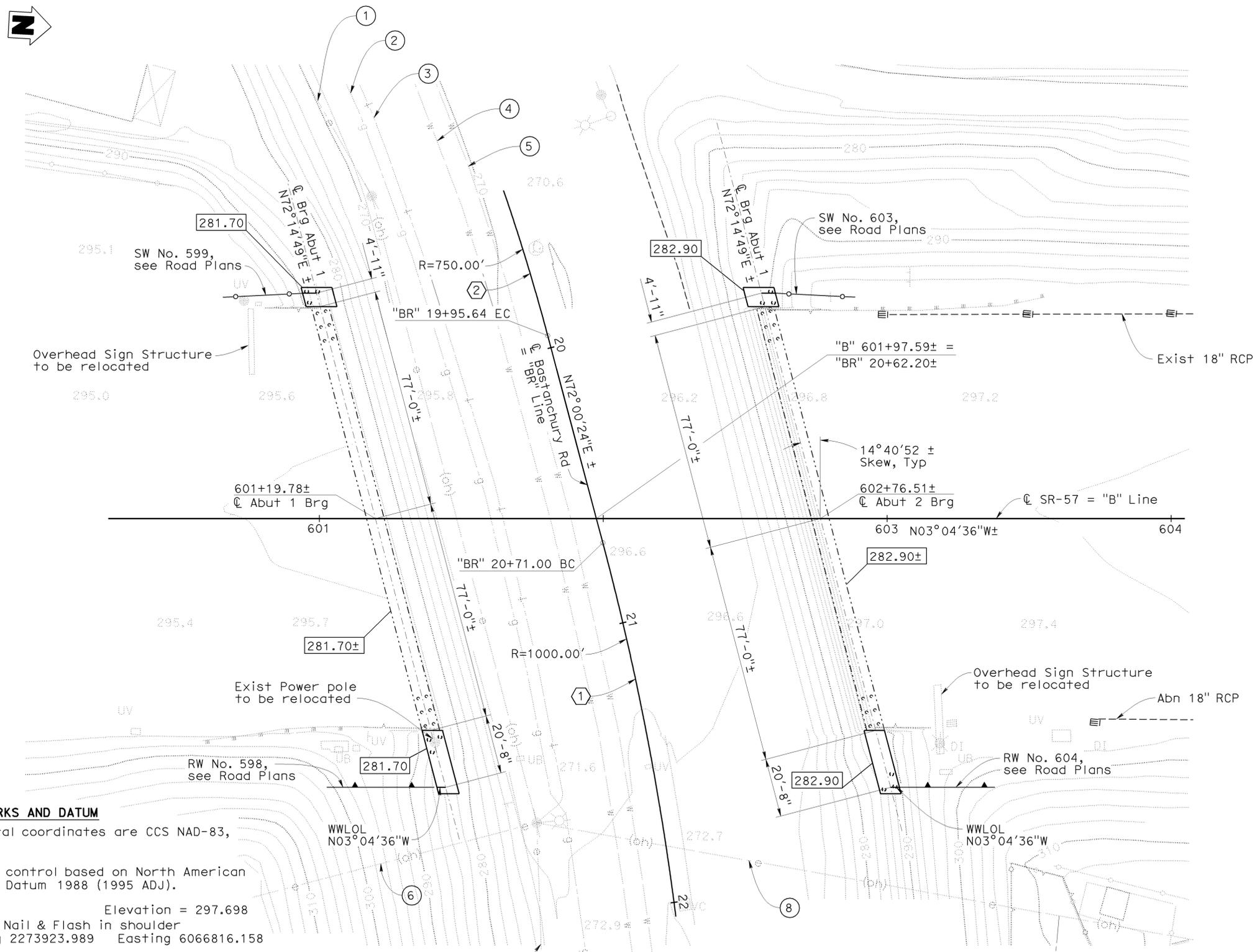
SDC ARS CURVE FOR SOIL PROFILE D (MODIFIED)

Reinforced Concrete:
New Concrete (Bridge)
fy = 60,000 psi
f'c = 3,600 psi, Unless otherwise noted
n = 8

Prestressed Concrete:
See prestressing notes, on "Girder Layout" sheet.

 DESIGN OVERSIGHT 6-9-09 SIGN OFF DATE DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)	DESIGN BY M. Atiqullah / A. Issa CHECKED X. Wu DETAILS BY M. Atiqullah CHECKED X. Wu QUANTITIES BY A. Issa CHECKED P. Kaviani	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	BRIDGE NO. 55-0465	BASTANCHURY ROAD UC (WIDEN) GENERAL NOTES	SHEET 3 OF 22
			PROJECT ENGINEER Ayman Salama		
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS			CU 12220 EA 0F0321	DISREGARD PRINTS BEARING EARLIER REVISION DATES	

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	57	18.4/20.9	558	856
 REGISTERED CIVIL ENGINEER			06/08/09	DATE	
1-25-10 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.					
OCTA 550 S. MAIN STREET ORANGE, CA 92863					
CH2M HILL 6 HUTTON CENTRE DRIVE, SUITE 700 SANTA ANA, CA 92707					



NO.	UTILITY	ACTION
①	Exist 12KV OH Elec SCE	Protect in place
②	Exist 4\"/>	

	Indicates Existing Structure
	Indicates New Construction
	Indicates New CIDH Conc Piles
	Indicates Exist CIDH Conc Piles
	Denotes Existing Electrolier
	Denotes Existing Sign
	Denotes Overhead Sign
	Denotes Existing Sewer Manhole
	Denotes Existing Power Pole
	Denotes Existing Utility Vault
	Denotes Existing Utility Cabinet
	Denotes Existing Utility Valve Cover
	Denotes Existing Catch Basin
	Indicates Bottom of Footing Elevation

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

BENCHMARKS AND DATUM
 Horizontal coordinates are CCS NAD-83, Zone 6
 Vertical control based on North American Vertical Datum 1988 (1995 ADJ).
Pt 1048 Elevation = 297.698
 Set Mag Nail & Flash in shoulder
 Northing 2273923.989 Easting 6066816.158
Pt 1057 Elevation = 294.844
 Set Mag Nail & Flash in shoulder
 Northing 2273578.007 Easting 6066831.271
Pt 1058 Elevation = 299.982
 Set Mag Nail & Flash in shoulder
 Northing 2274248.722 Easting 6066795.515

Curve No.	Line	R	Δ	T	L
①	"BR" Line	1000'±	38°55'51"±	353.44'±	679.47'±
②	"BR" Line	750'±	39°51'00"±	271.87'±	521.63'±

PLAN
 1"=20'

06/08/09 APPROVAL DATE
 MOHAMMED ATIULLAH
 REGISTERED PROFESSIONAL ENGINEER

DESIGN OVERSIGHT 6-9-09 SIGN OFF DATE	SCALE: 1"=20'	VERT. DATUM NAVD-88 (1995 ADJ)	HORZ. DATUM NAD83	DESIGN BY M. Atiullah / A. Issa	CHECKED X. Wu	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION Ayman Salama PROJECT ENGINEER	BRIDGE No. 55-0465	BASTANCHURY ROAD UC (WIDEN) FOUNDATION PLAN
	PHOTOGRAMMETRY AS OF: X	ALIGNMENT TIES X		DETAILS BY N. Morales	CHECKED X. Wu		POST MILE 18.85	
	SURVEYED BY M. Noreen	DRAFTED BY X		QUANTITIES BY A. Issa	CHECKED P. Kaviani			
	FIELD CHECKED BY M. Wilson	CHECKED BY X				CU 12220 EA 0F0321	REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET 4 OF 22



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	57	18.4/20.9	559	856

REGISTERED CIVIL ENGINEER
 MOHAMMED ATIQUILLAH
 No. C47027
 Exp. 12/31/09
 CIVIL
 STATE OF CALIFORNIA

06/08/09
 DATE

1-25-10
 PLANS APPROVAL DATE

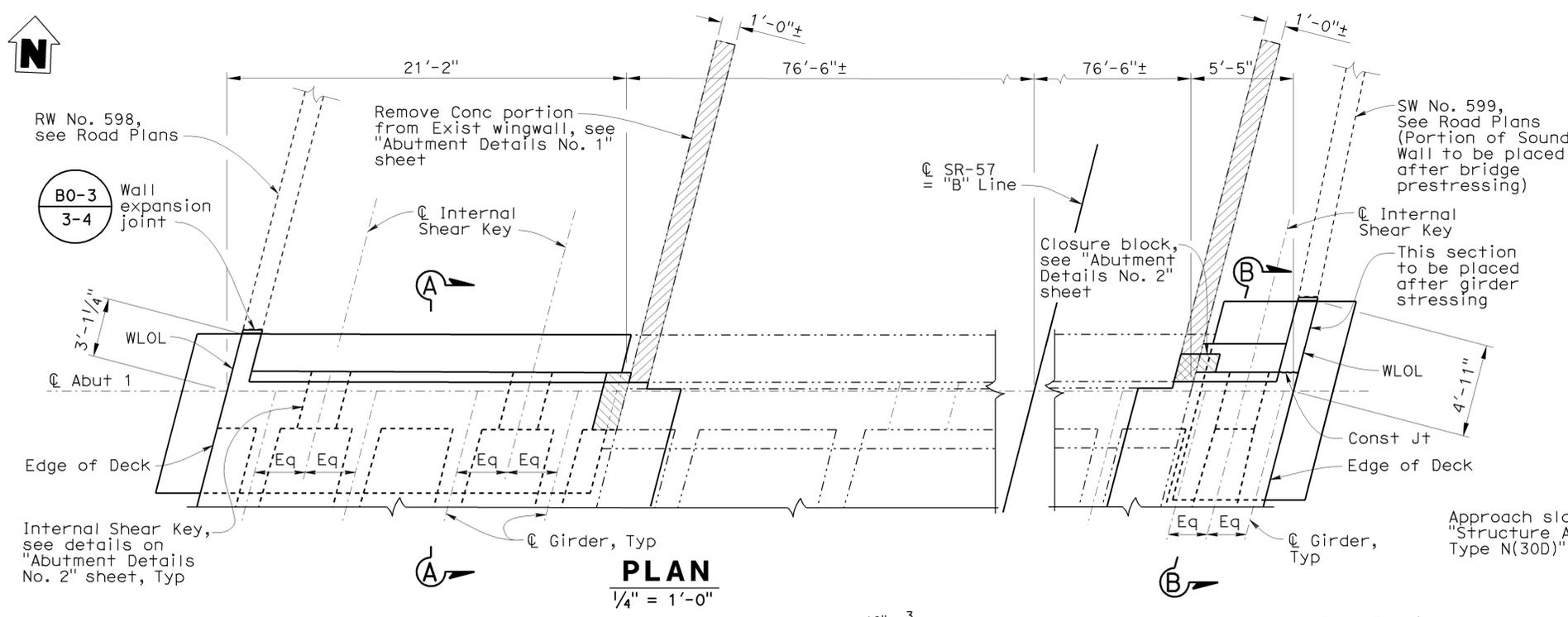
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OCTA
 550 S. MAIN STREET
 ORANGE, CA 92863

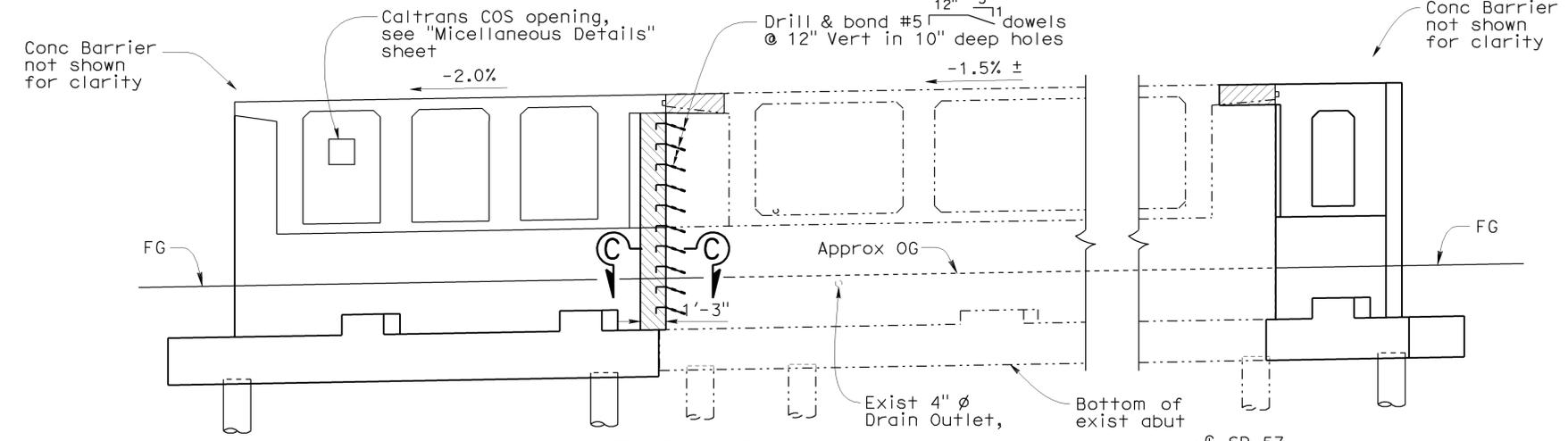
CH2M HILL
 6 HUTTON CENTRE DRIVE, SUITE 700
 SANTA ANA, CA 92707

- LEGEND**
- Bridge removal (Portion)
 - Abutment Closure Pour

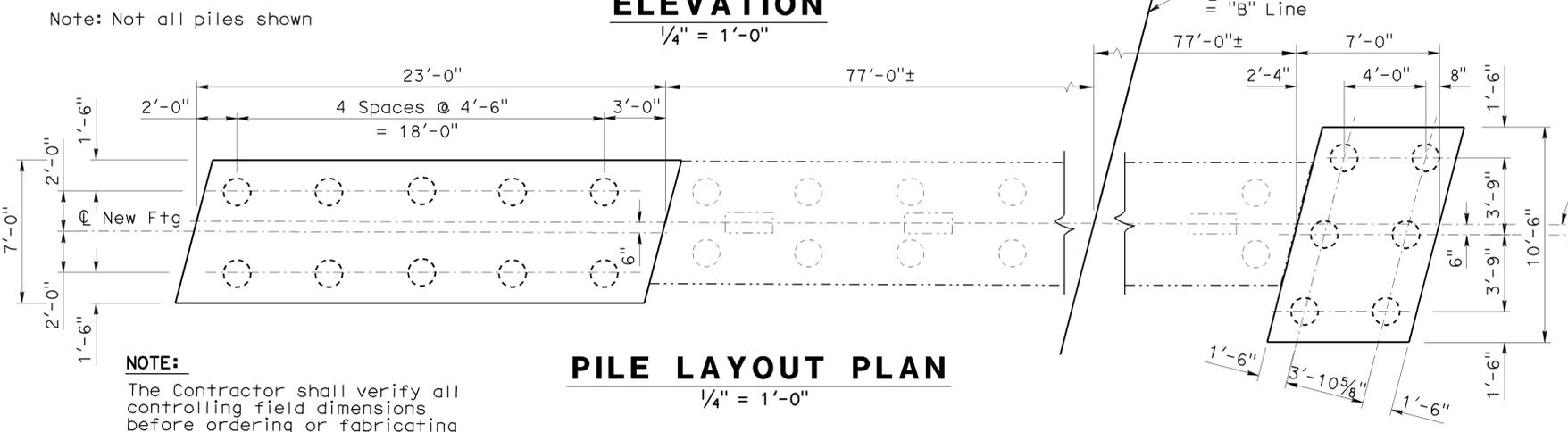
- NOTE:**
- For Section B-B, see "Abutment 2 Layout" sheet.
 - For Section C-C, see "Abutment Details No. 1" sheet.



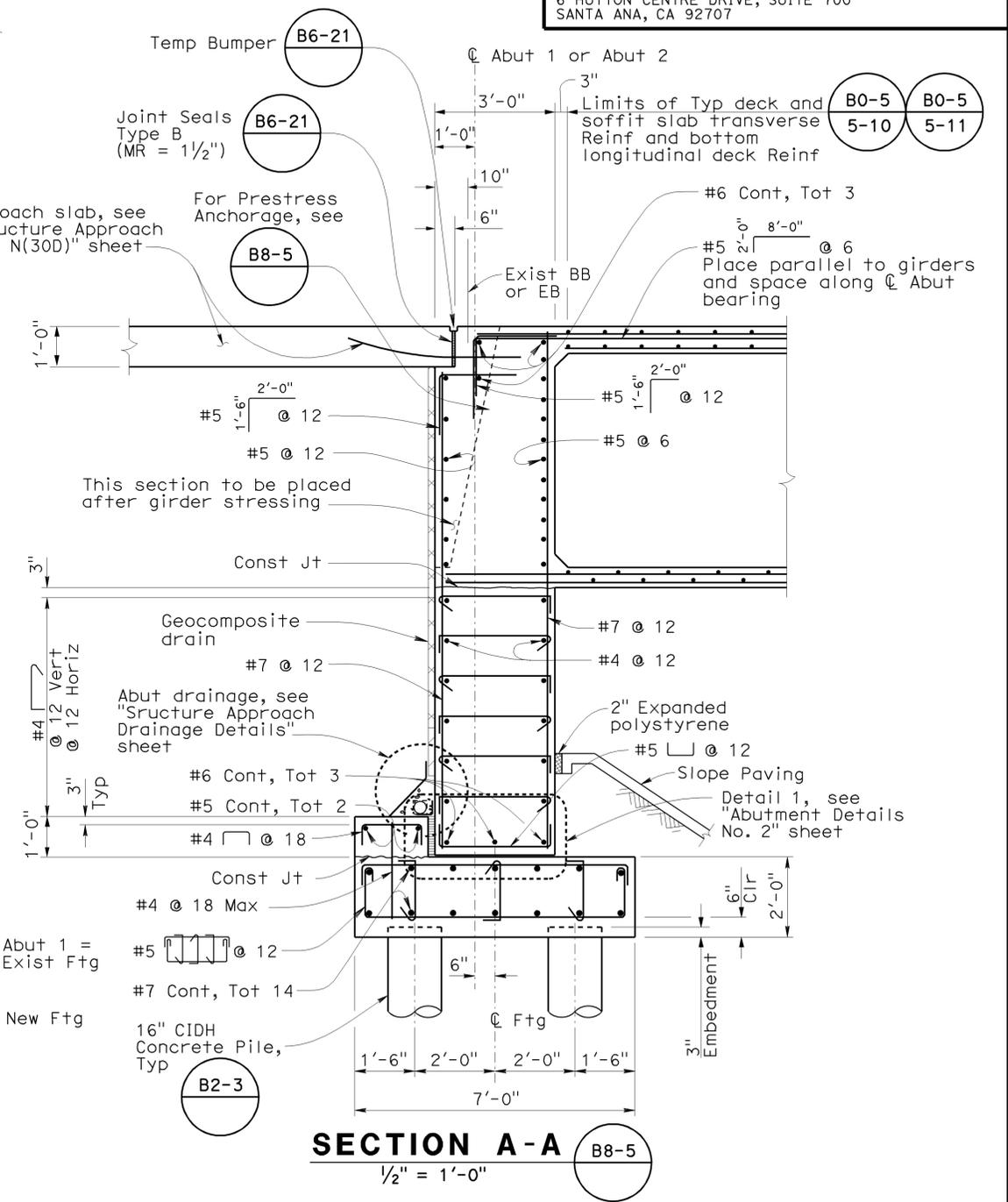
PLAN
 1/4" = 1'-0"



ELEVATION
 1/4" = 1'-0"



PILE LAYOUT PLAN
 1/4" = 1'-0"



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

DESIGN OVERSIGHT
 6-9-09
 SIGN OFF DATE

DESIGN	BY M. Atiquillah / A. Issa	CHECKED X. Wu
DETAILS	BY M. Atiquillah	CHECKED X. Wu
QUANTITIES	BY A. Issa	CHECKED P. Kaviani

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

Ayman Salama
 PROJECT ENGINEER

BRIDGE NO. 55-0465
 POST MILE 18.85

BASTANCHURY ROAD UC (WIDEN)
ABUTMENT 1 LAYOUT

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	57	18.4/20.9	560	856

 REGISTERED CIVIL ENGINEER		06/08/09 DATE
1-25-10 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.		
OCTA 550 S. MAIN STREET ORANGE, CA 92863		
CH2M HILL 6 HUTTON CENTRE DRIVE, SUITE 700 SANTA ANA, CA 92707		

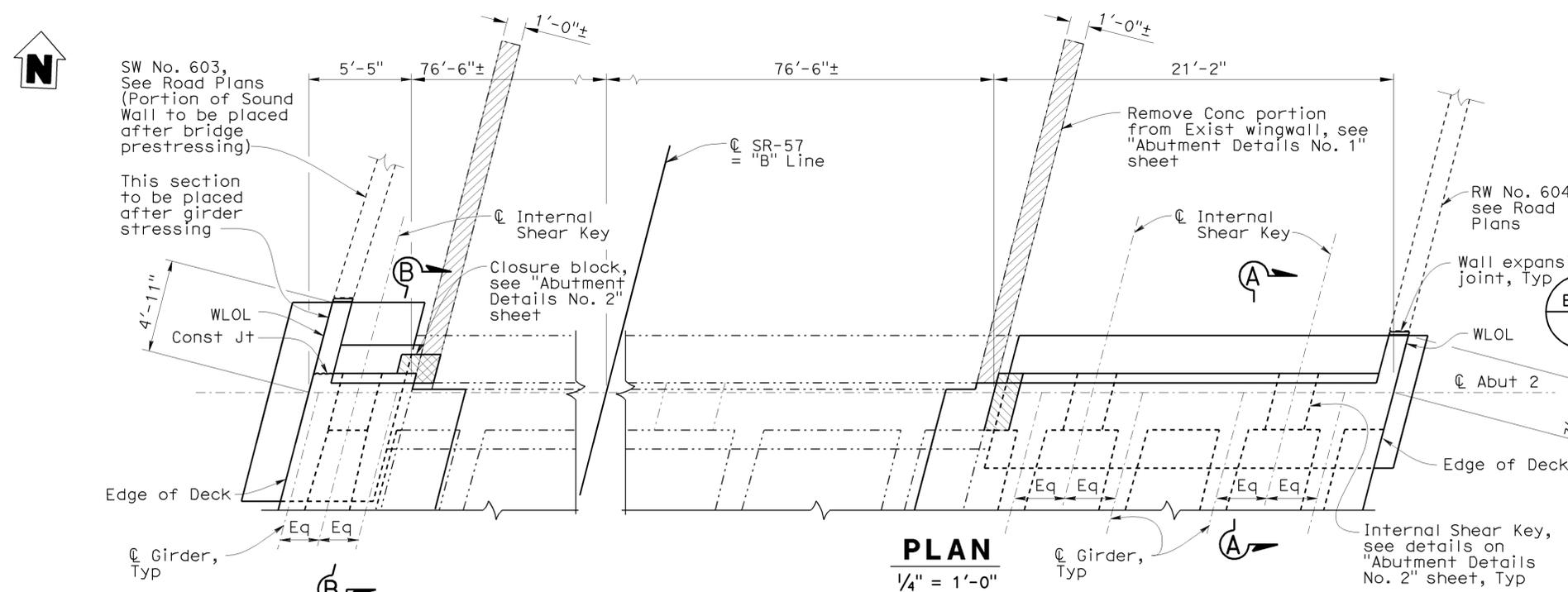
LEGEND

 Bridge removal (Portion)

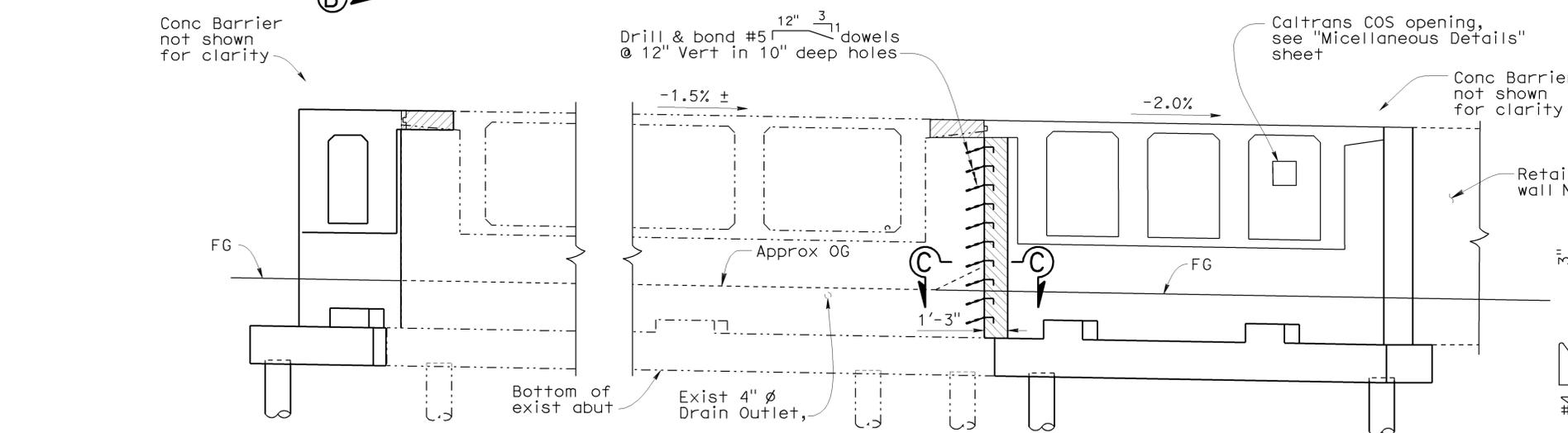
 Abutment Closure Pour

NOTE:

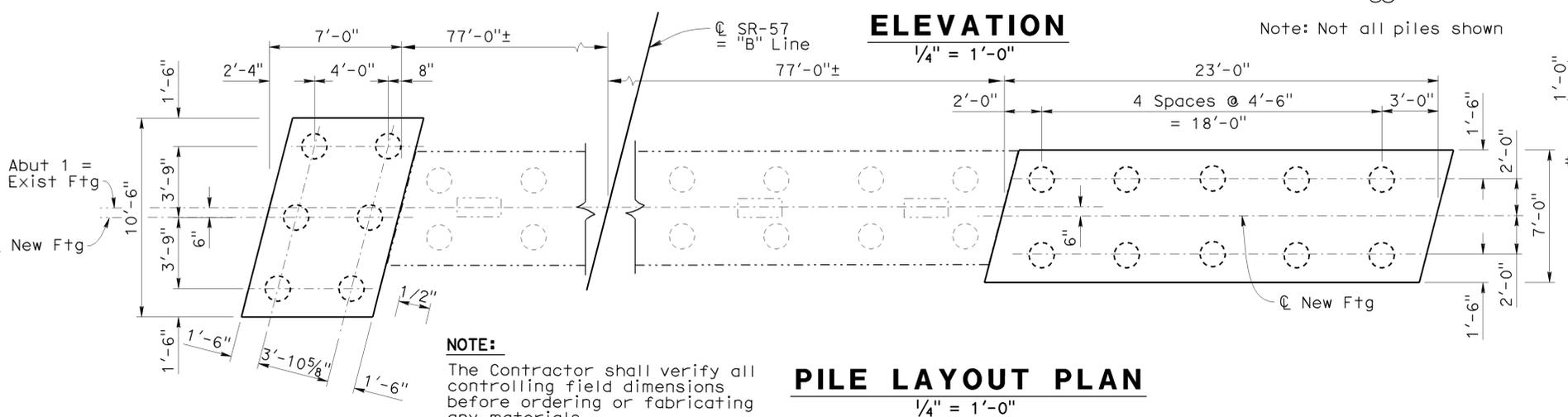
- For Section A-A, see "Abutment 1 Layout" sheet
- For Section C-C, see "Abutment Details No. 1" sheet.



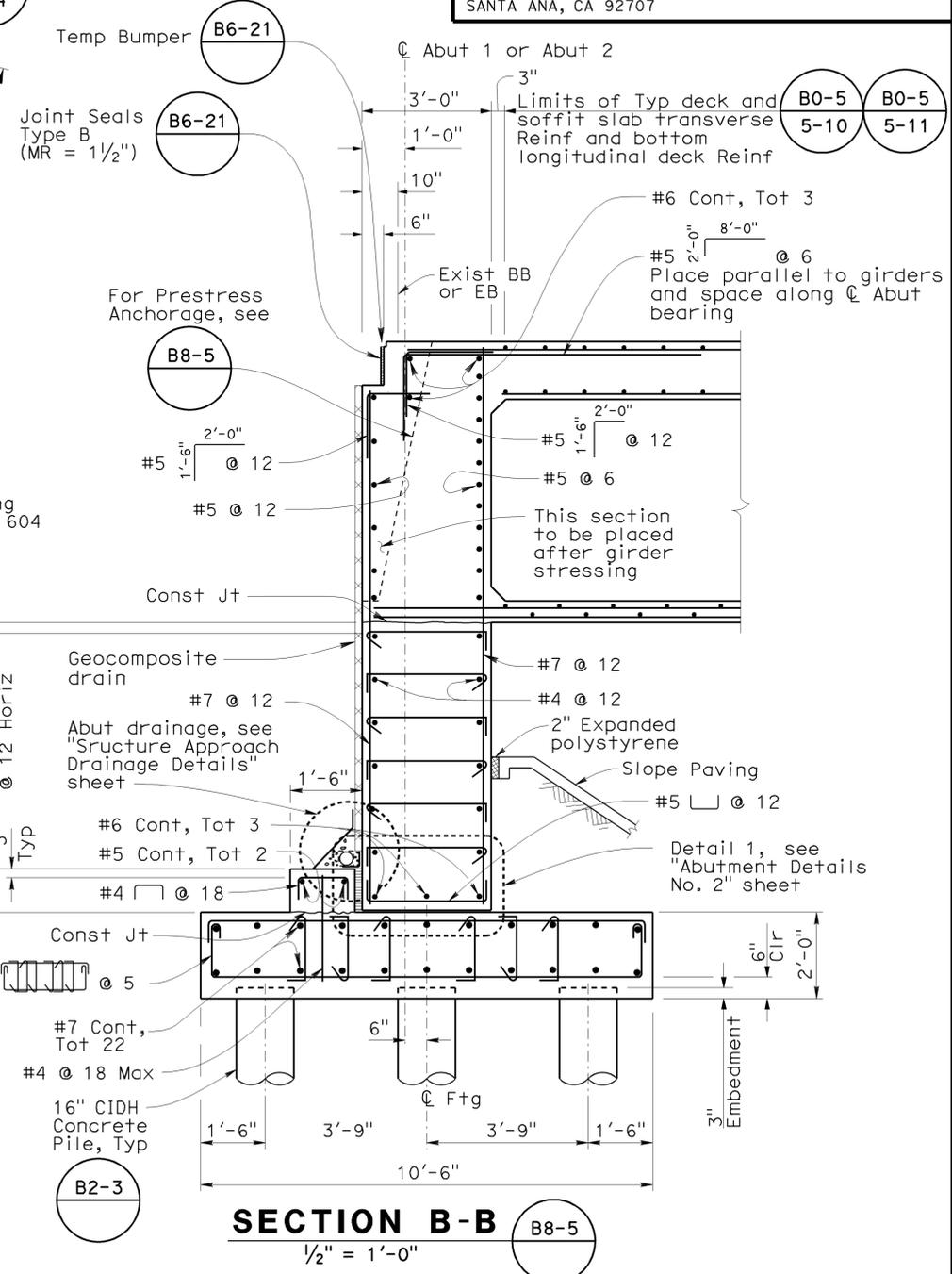
PLAN
1/4" = 1'-0"



ELEVATION
1/4" = 1'-0"



PILE LAYOUT PLAN
1/4" = 1'-0"



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

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

DESIGN OVERSIGHT

 6-9-09
 SIGN OFF DATE

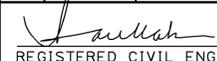
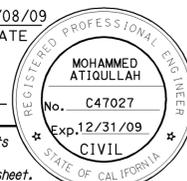
DESIGN	BY M. Atiqullah / A. Issa	CHECKED X. Wu
DETAILS	BY M. Atiqullah	CHECKED X. Wu
QUANTITIES	BY A. Issa	CHECKED P. Kaviani

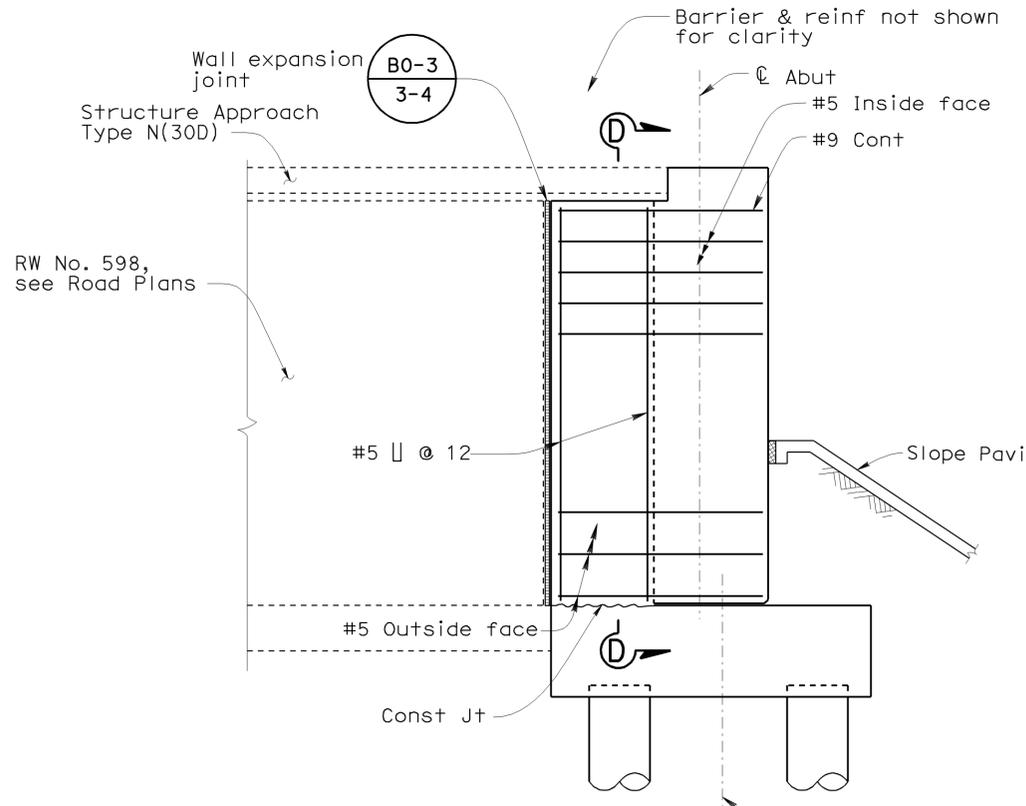
PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

Ayman Salama
 PROJECT ENGINEER

BRIDGE NO. 55-0465
 POST MILE 18.85

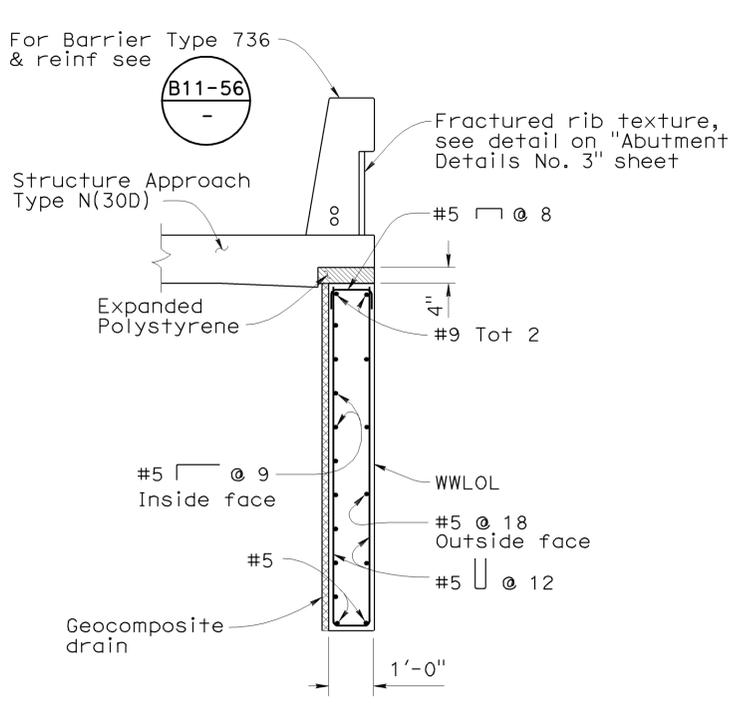
**BASTANCHURY ROAD UC (WIDEN)
 ABUTMENT 2 LAYOUT**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	57	18.4/20.9	561	856
 REGISTERED CIVIL ENGINEER			DATE		
1-25-10			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>					
OCTA 550 S. MAIN STREET ORANGE, CA 92863					
CH2M HILL 6 HUTTON CENTRE DRIVE, SUITE 700 SANTA ANA, CA 92707					



WINGWALL (RIGHT WIDEN) ELEVATION

1/2"=1'-0"
(Abutment 1 shown, Abutment 2 similar)



SECTION D-D

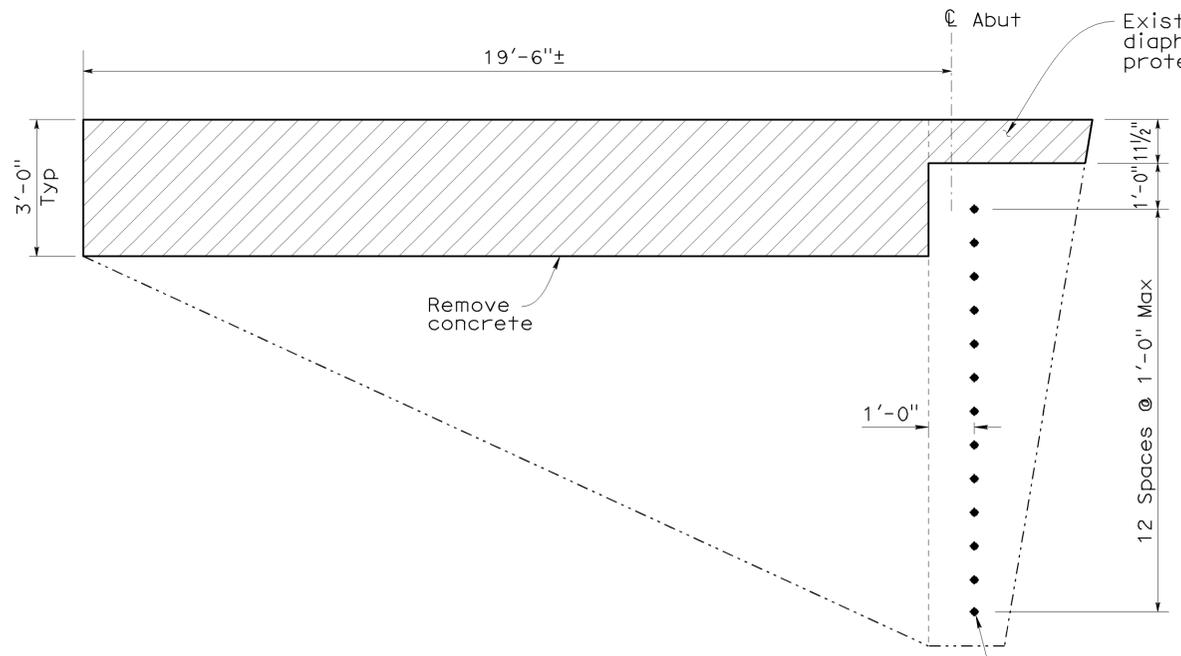
1/2"=1'-0"

LEGEND

-  Bridge removal (Portion)
-  Abutment Closure Pour

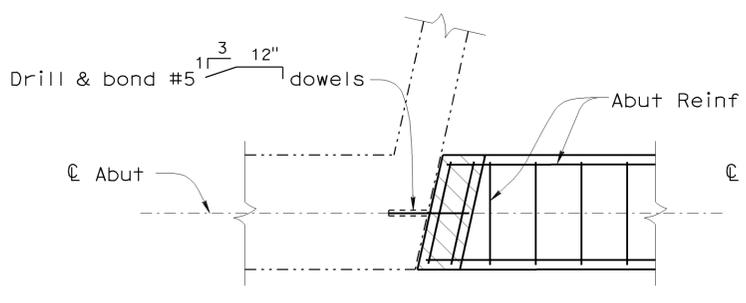
NOTES:

1. For location of Section C-C, see "Abutment 1 Layout" and "Abutment 2 Layout" sheets.
2. Locations of cored and drilled holes shown in the plans are approximate. Prior to placing holes in concrete, the Contractor shall locate all reinforcing steel and adjust the locations of the holes to clear all reinforcing bars (except as Noted). Final hole locations are subject to the approval of the Engineer.
3. Space new reinforcement to avoid existing reinforcement.



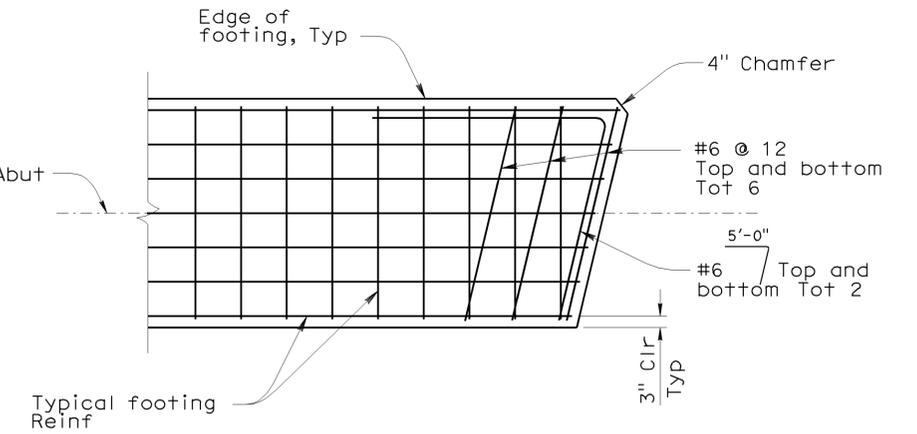
LIMITS OF CONCRETE REMOVAL EXISTING ABUTMENT

1/2"=1'-0"



SECTION C-C

1/2"=1'-0"
(Abutment 1 shown, Abutment 2 similar)



ABUTMENT FOOTING CORNER DETAIL

1/2"=1'-0"

NOTE:

The Contractor shall verify all controlling field dimensions before ordering or fabricating any materials.

DESIGN OVERSIGHT
 SIGN OFF DATE
 6-9-09

DESIGN	BY M. Atiqullah / A. Issa	CHECKED X. Wu
DETAILS	BY M. Atiqullah	CHECKED X. Wu
QUANTITIES	BY A. Issa	CHECKED P. Kaviani

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 Ayman Salama
 PROJECT ENGINEER

BRIDGE NO.	55-0465
POST MILE	18.85

**BASTANCHURY ROAD UC (WIDEN)
 ABUTMENT DETAILS NO. 1**

DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

CU 12220
 EA 0F0321

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
11/15/08 06/07/09 06/08/09	7	22

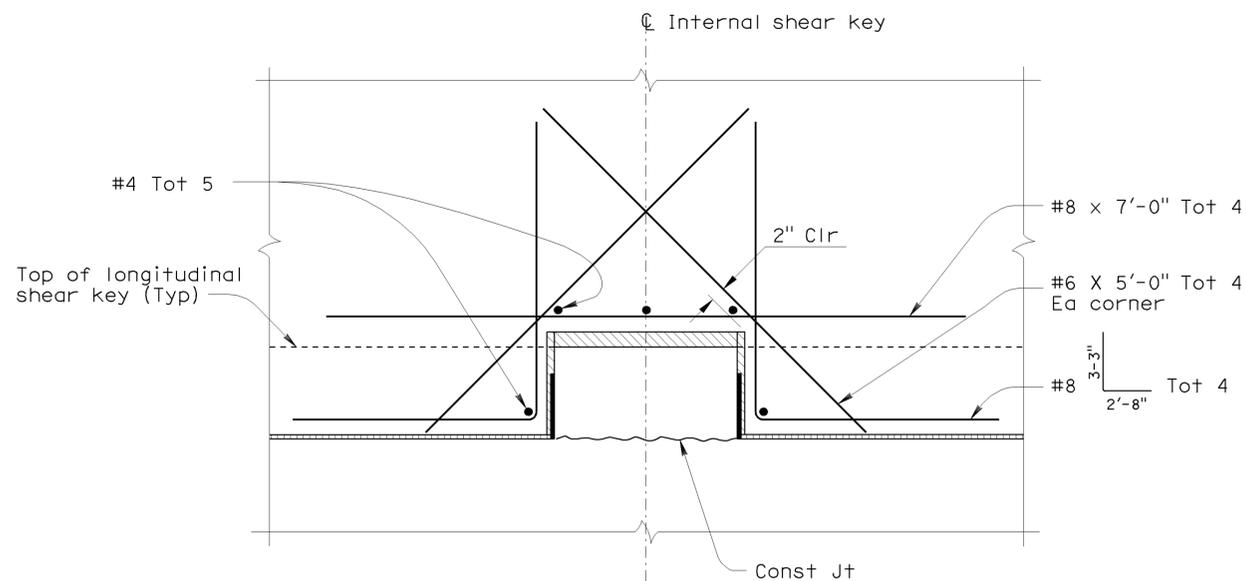
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	57	18.4/20.9	562	856

REGISTERED CIVIL ENGINEER	DATE
MOHAMMED ATIQULLAH	06/08/09
PLANS APPROVAL DATE	
No. C47027	
Exp. 12/31/09	
CIVIL	

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OCTA
550 S. MAIN STREET
ORANGE, CA 92863

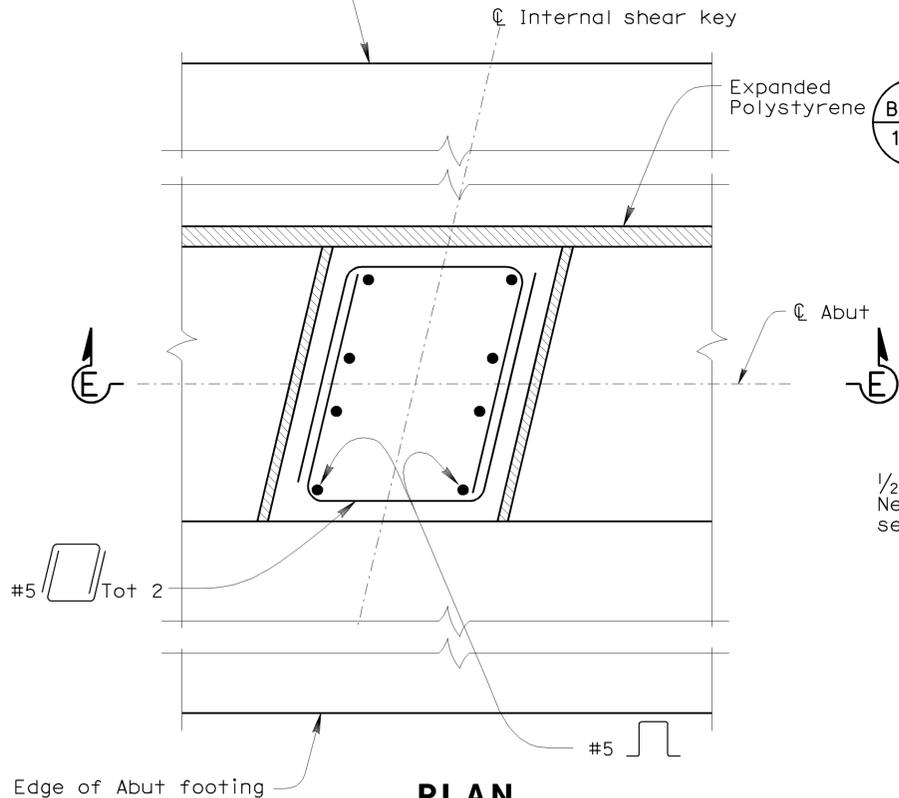
CH2M HILL
6 HUTTON CENTRE DRIVE, SUITE 700
SANTA ANA, CA 92707



DIAPHRAGM DETAIL AT SHEAR KEY

1"=1'-0"

Edge of longitudinal key = Edge of Abut footing

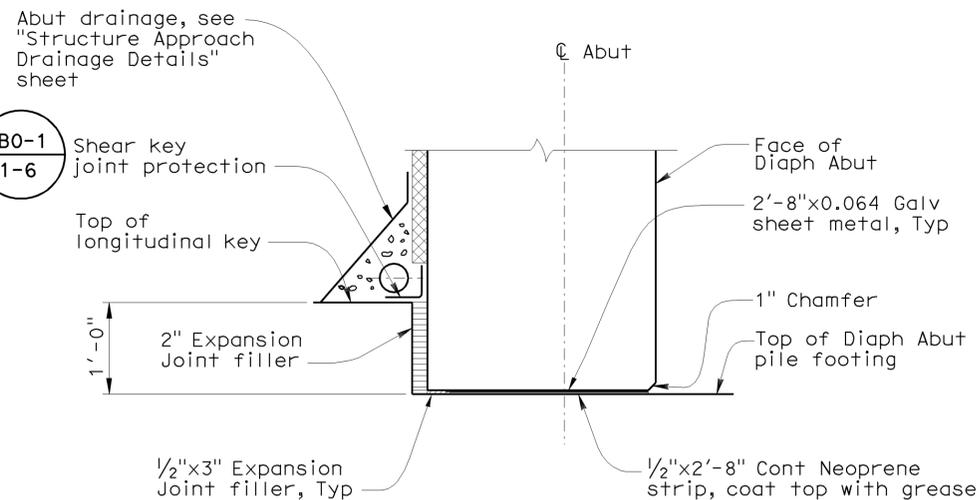


PLAN

INTERNAL SHEAR KEY DETAILS

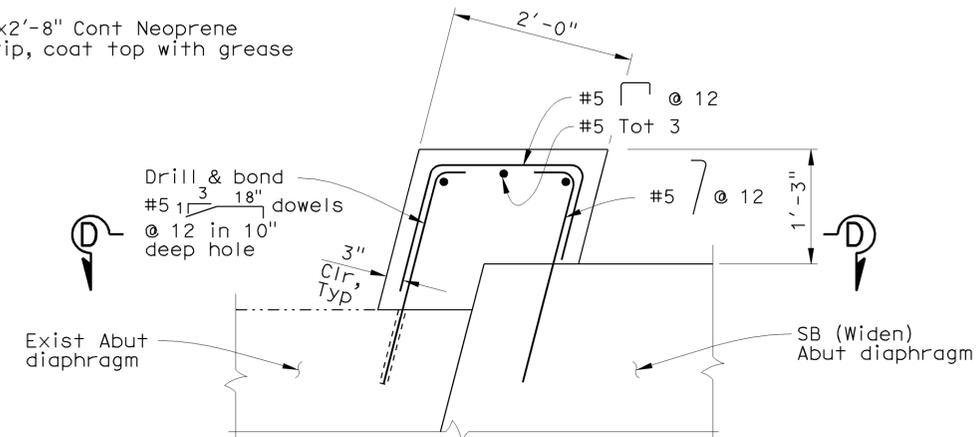
1"=1'-0"

Abutment 1 shown, Abutment 2 similar



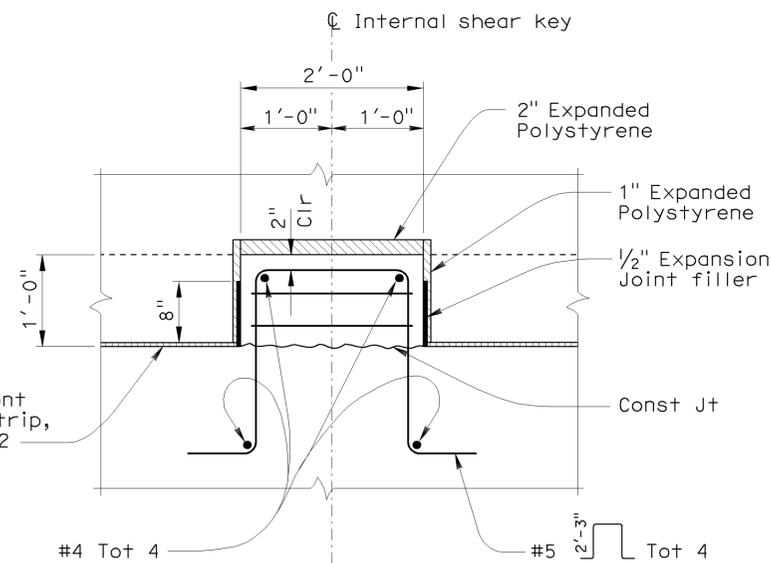
DETAIL 1

No Scale



CLOSURE BLOCK DETAIL

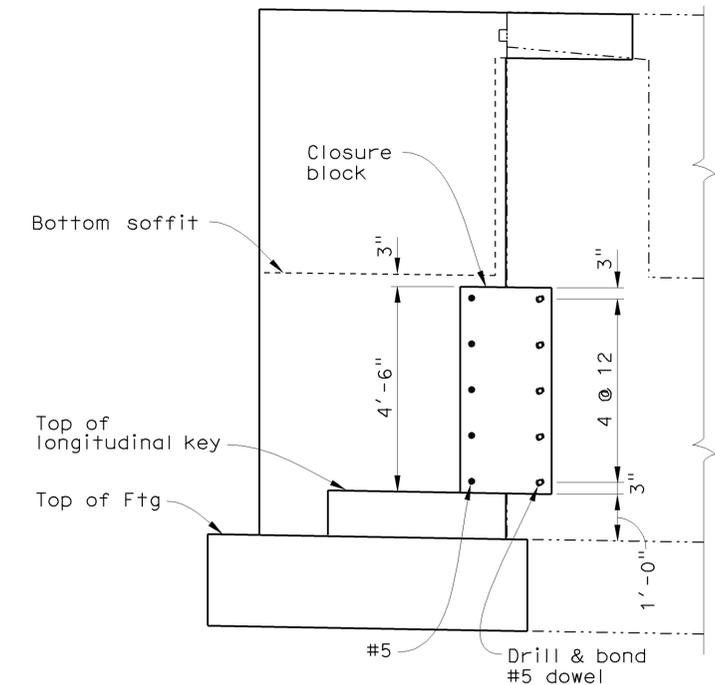
1"=1'-0"



SECTION E-E

NOTE:

- For location of Detail 1, see "Abutment 1 Layout" and "Abutment 2 Layout" sheets.



SECTION D-D

1/2"=1'-0"

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

DESIGN OVERSIGHT
6-9-09
SIGN OFF DATE

DESIGN	BY M. Atiqullah / A. Issa	CHECKED X. Wu
DETAILS	BY M. Atiqullah	CHECKED X. Wu
QUANTITIES	BY A. Issa	CHECKED P. Kaviani

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

Ayman Salama
PROJECT ENGINEER

BRIDGE NO.	55-0465
POST MILE	18.85

**BASTANCHURY ROAD UC (WIDEN)
ABUTMENT DETAILS NO. 2**

DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

CU 12220
EA 0F0321

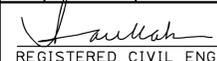
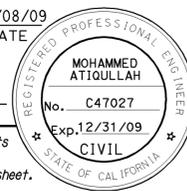
DISREGARD PRINTS BEARING EARLIER REVISION DATES

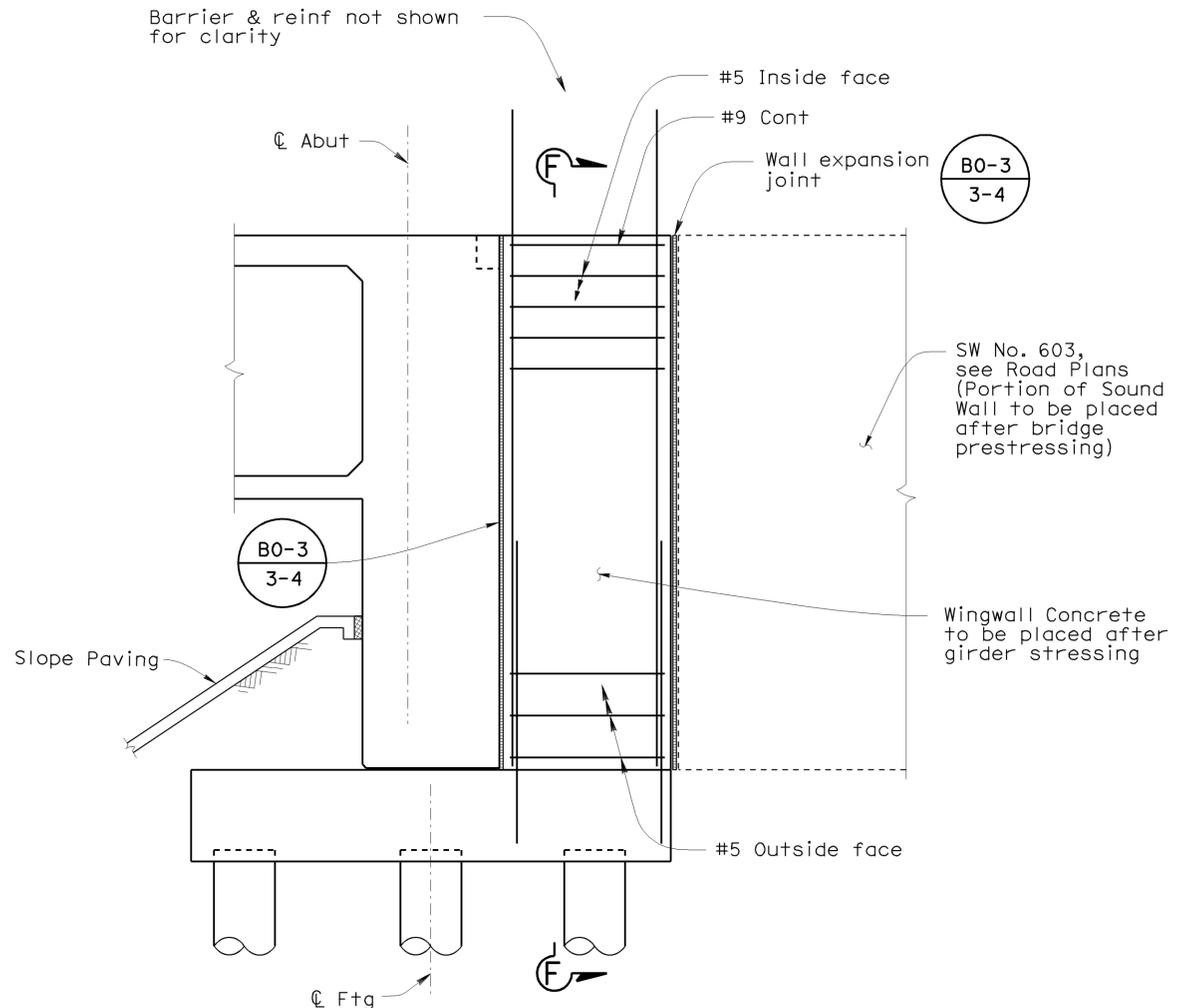
REVISION DATES (PRELIMINARY STAGE ONLY)

11/15/08 06/07/09 06/08/09

SHEET 8 OF 22

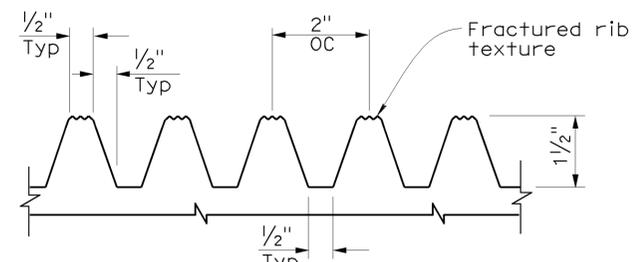
USERNAME => h1renard DATE PLOTTED => 25-JAN-2010 TIME PLOTTED => 08:09

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	57	18.4/20.9	563	856
 REGISTERED CIVIL ENGINEER			06/08/09 DATE		
1-25-10 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>					
OCTA 550 S. MAIN STREET ORANGE, CA 92863					
CH2M HILL 6 HUTTON CENTRE DRIVE, SUITE 700 SANTA ANA, CA 92707					



WINGWALL (LEFT WIDEN) ELEVATION

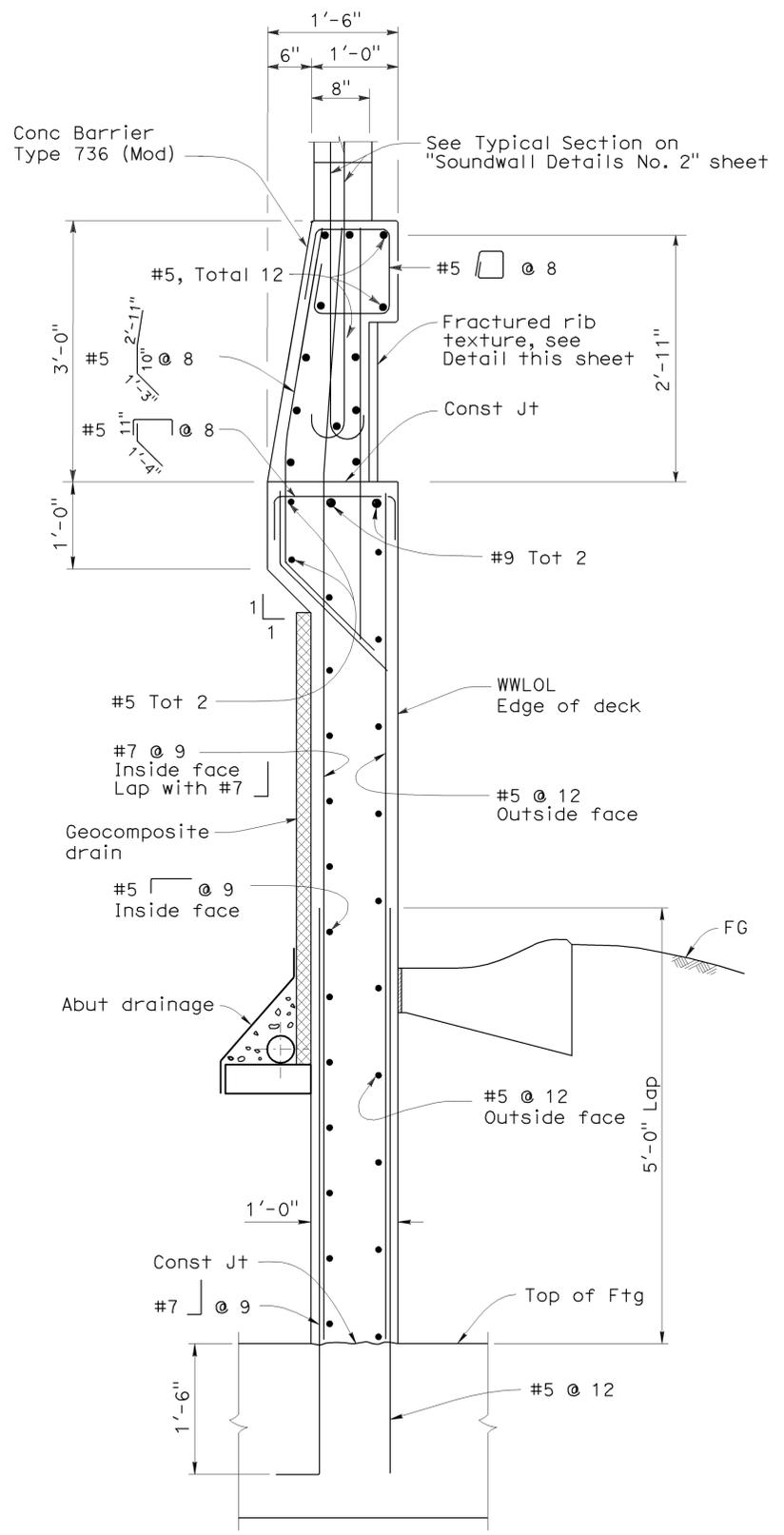
1/2"=1'-0"
(Abutment 1 shown, Abutment 2 similar)



FRACTURED RIB TEXTURE DETAIL

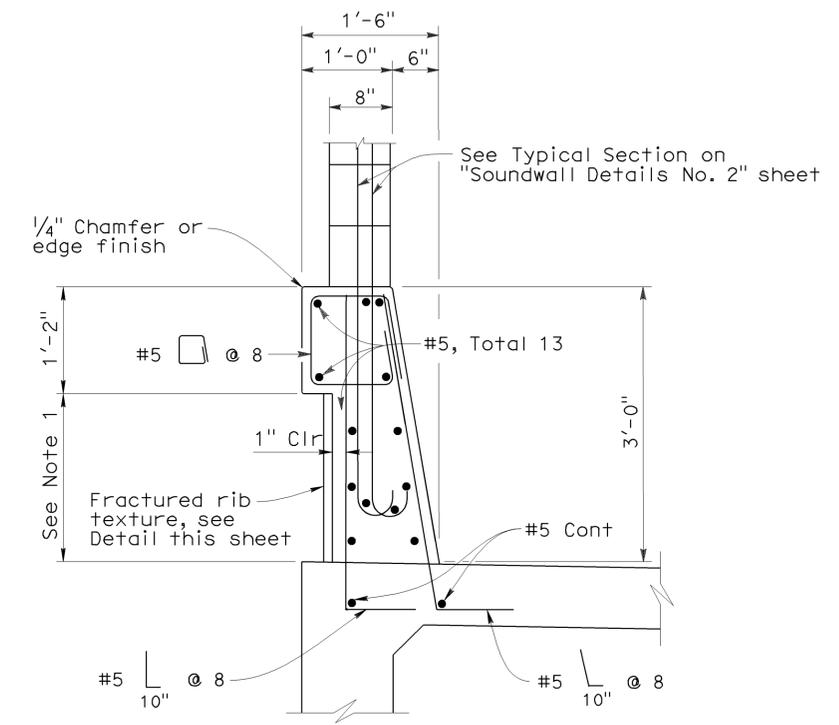
No scale
(Elastomer Formliner)

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



SECTION F-F

1"=1'-0"



CONCRETE BARRIER TYPE 736 MODIFIED AT LEFT WIDEN

1"=1'-0"

NOTE:
1. Dimension will vary with cross slope and with certain thickness of surfacing. See Project Plans.

DESIGNER OVERSIGHT

 6-9-09
 SIGN OFF DATE

DESIGN	BY M. Atiqullah / A. Issa	CHECKED X. Wu
DETAILS	BY M. Atiqullah	CHECKED X. Wu
QUANTITIES	BY A. Issa	CHECKED P. Kaviani

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 Ayman Salama
 PROJECT ENGINEER

BRIDGE NO.	55-0465
POST MILE	18.85

**BASTANCHURY ROAD UC (WIDEN)
 ABUTMENT DETAILS NO. 3**

DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

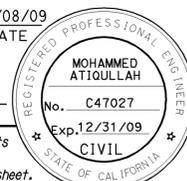
0 1 2 3

CU 12220
 EA 0F0321

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)				SHEET	OF
11/15/08	06/07/09	06/08/09		9	22

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	57	18.4/20.9	564	856



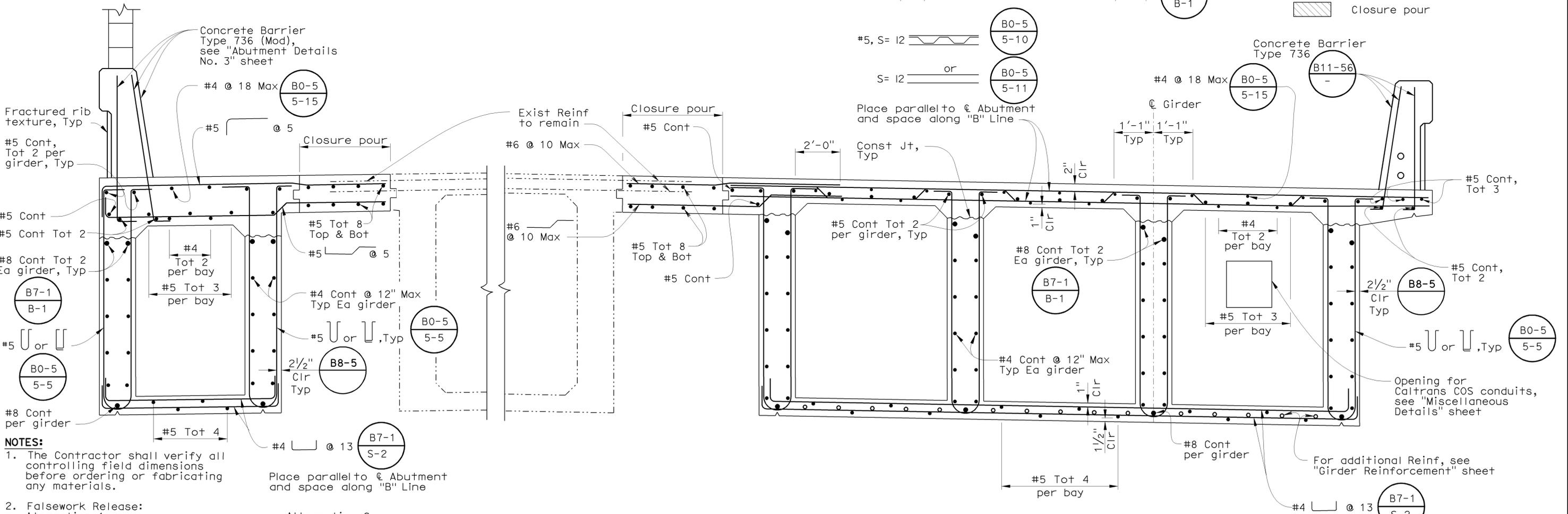
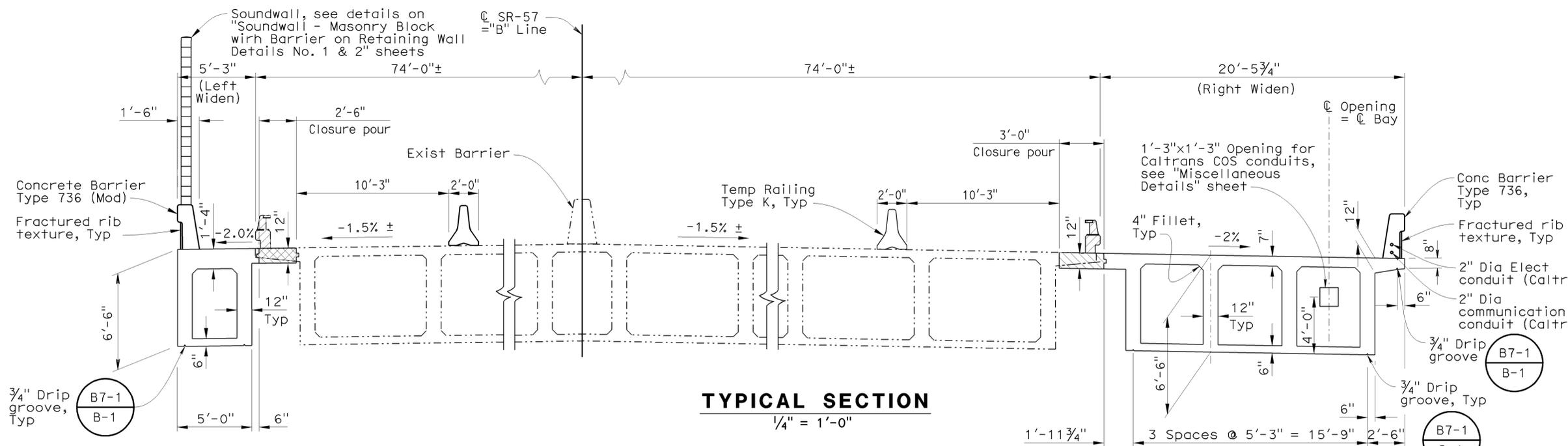
 REGISTERED CIVIL ENGINEER DATE 06/08/09

1-25-10
 PLANS APPROVAL DATE

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 ORANGE, CA 92863

CH2M HILL
 6 HUTTON CENTRE DRIVE, SUITE 700
 SANTA ANA, CA 92707



- NOTES:**
- The Contractor shall verify all controlling field dimensions before ordering or fabricating any materials.
 - Falsework Release:
 - Alternative 1: Falsework shall be released as soon as permitted by specifications. Closure pour shall not be placed sooner than 60 days after the falsework has been released.
 - Alternative 2: Falsework shall not be released less than 14 days after the last concrete has been placed. Closure pour shall not be placed sooner than 14 days after the falsework has been released.

DESIGN OVERSIGHT
 6-9-09
 SIGN OFF DATE

DESIGN	BY M. Atiqullah / A. Issa	CHECKED X. Wu
DETAILS	BY M. Atiqullah	CHECKED X. Wu
QUANTITIES	BY A. Issa	CHECKED P. Kaviani

PREPARED FOR THE STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 Ayman Salama
 PROJECT ENGINEER

BRIDGE NO.	55-0465	BASTANCHURY ROAD UC (WIDEN)
POST MILE	18.85	
TYPICAL SECTION		



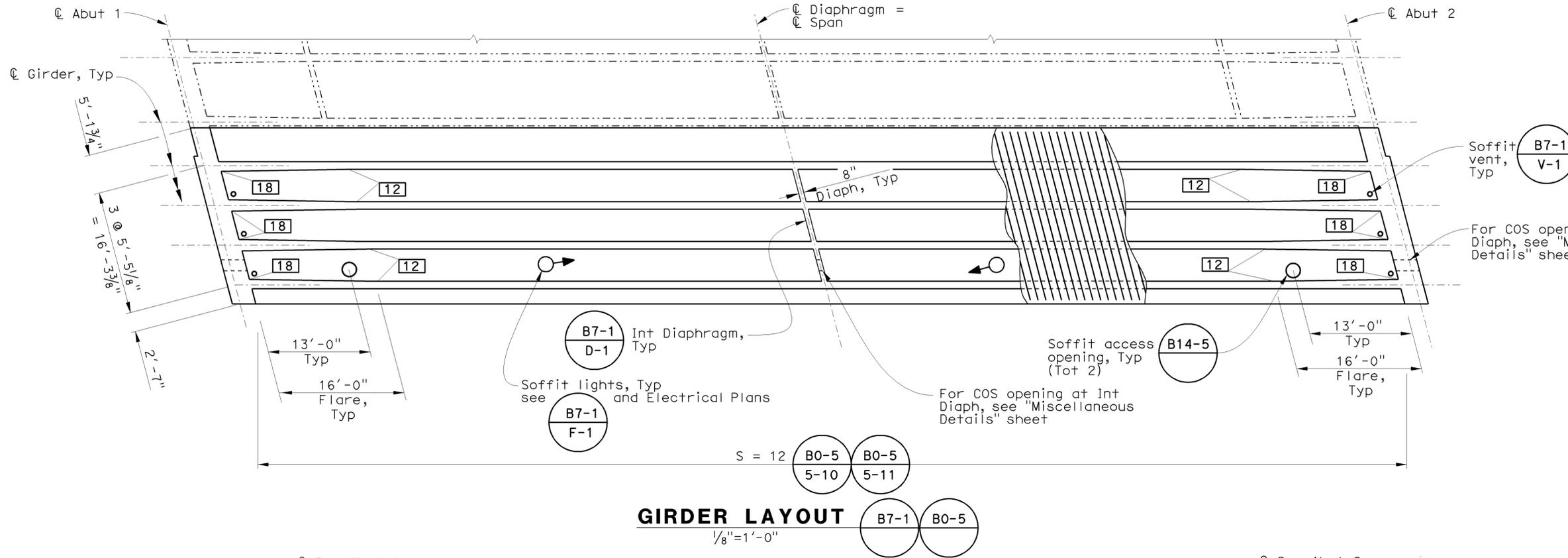
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Or	57	18.4/20.9	565	856

REGISTERED CIVIL ENGINEER
 MOHAMMED ATIQULLAH
 No. C47027
 Exp. 12/31/09
 CIVIL
 STATE OF CALIFORNIA

06/08/09 DATE
 1-25-10 PLANS APPROVAL DATE

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 ORANGE, CA 92863

CH2M HILL
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 SANTA ANA, CA 92707



LEGEND

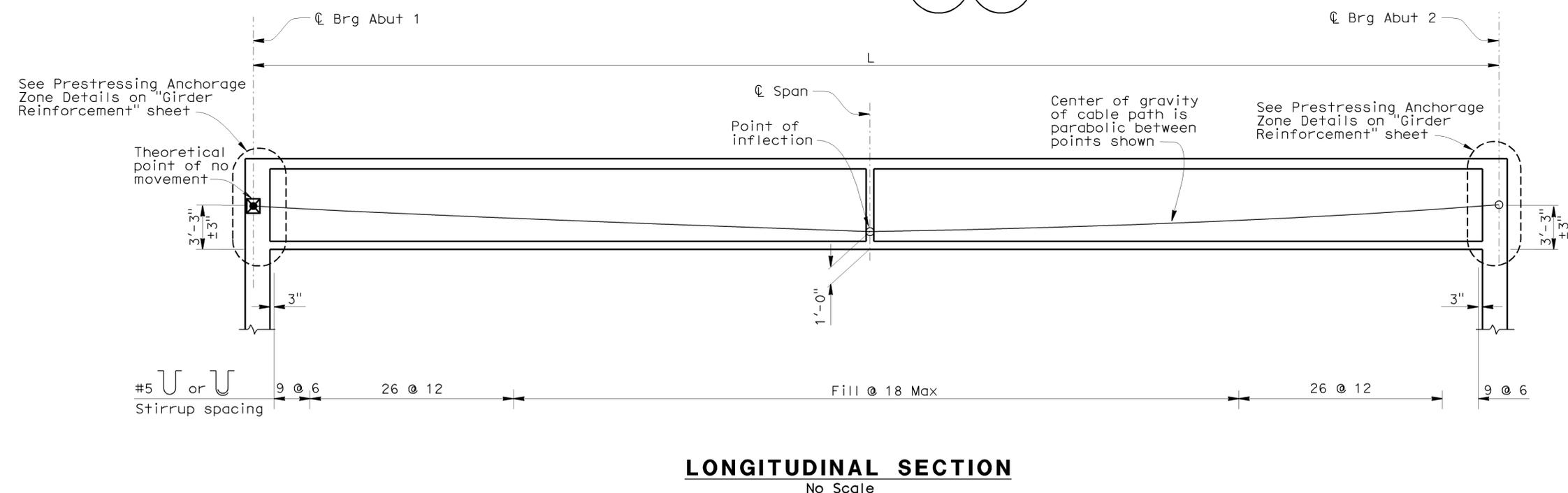
XX Indicates girder stem width

PRESTRESSING NOTES:

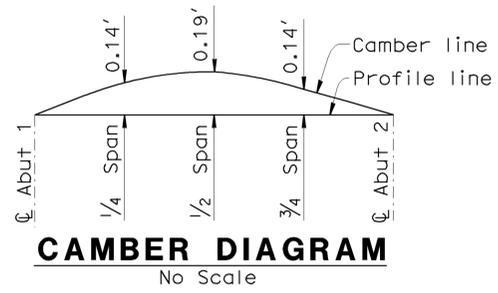
270 ksi low relaxation strand:
 Pjack = 8,800 kips
 Anchor set = 3/8"
 K=0.0002 K/ft H = 0.15
 Total number of girders = 4

Distribution of prestress force (Pjack) between girders shall not exceed the ratio of 3:2. Maximum final force variation between girders shall not exceed 725 kip.

Concrete:
 f'c = 5,500 psi @ 28 days
 f'ci = 3,750 psi @ time of stressing



Contractor shall submit elongation calculations based on initial stress at $\sigma = 0.953$ times jacking stress. One-end stressing shall be performed from Abut 2 only.



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

NOTE:
Camber diagram does not include allowance for falsework settlement.

DESIGN OVERSIGHT
 6-9-09 SIGN OFF DATE
 Jon Hamaguchi

DESIGN	BY M. Atiqullah / A. Issa	CHECKED X. Wu
DETAILS	BY M. Atiqullah	CHECKED X. Wu
QUANTITIES	BY A. Issa	CHECKED P. Kaviani

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

Ayman Salama
 PROJECT ENGINEER

BRIDGE NO. 55-0465
 POST MILE 18.85

BASTANCHURY ROAD UC (WIDEN)
GIRDER LAYOUT (RIGHT WIDEN)

DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



CU 12220 EA 0F0321

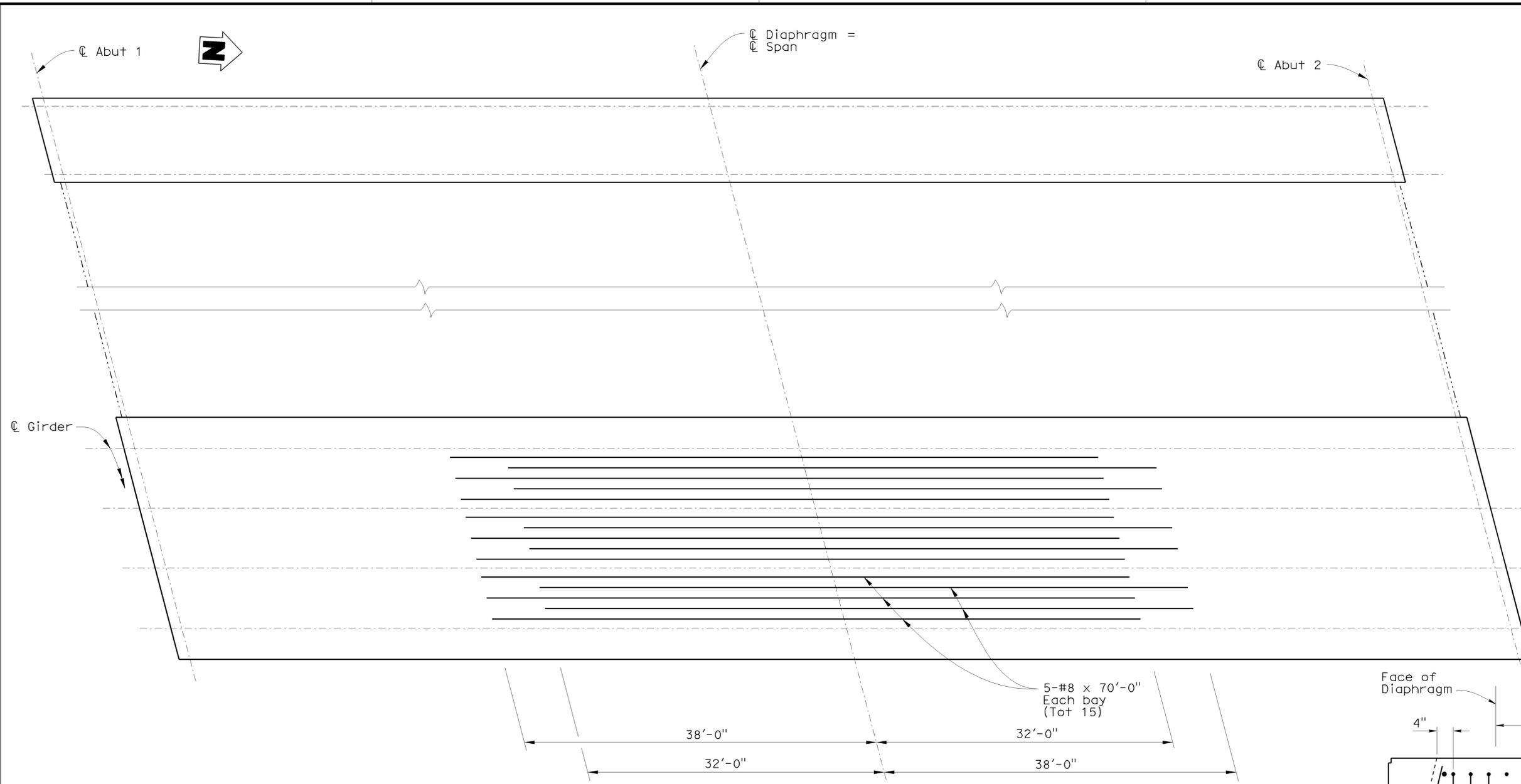
REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET 11 OF 22
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USERNAME => h1renard DATE PLOTTED => 25-JAN-2010 TIME PLOTTED => 08:09

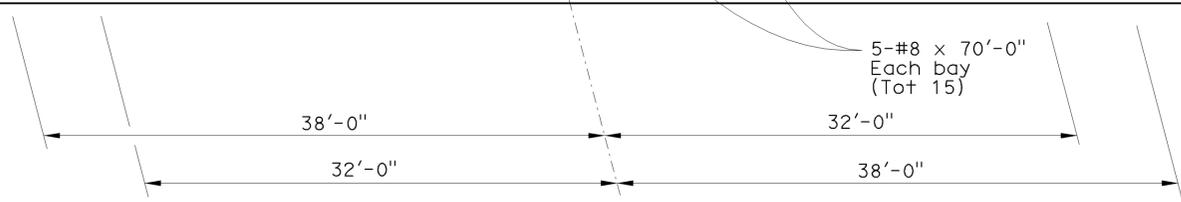
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	57	18.4/20.9	567	856


 REGISTERED CIVIL ENGINEER DATE 06/08/09
 PLANS APPROVAL DATE 1-25-10
 No. C47027
 Exp. 12/31/09
 CIVIL
 STATE OF CALIFORNIA

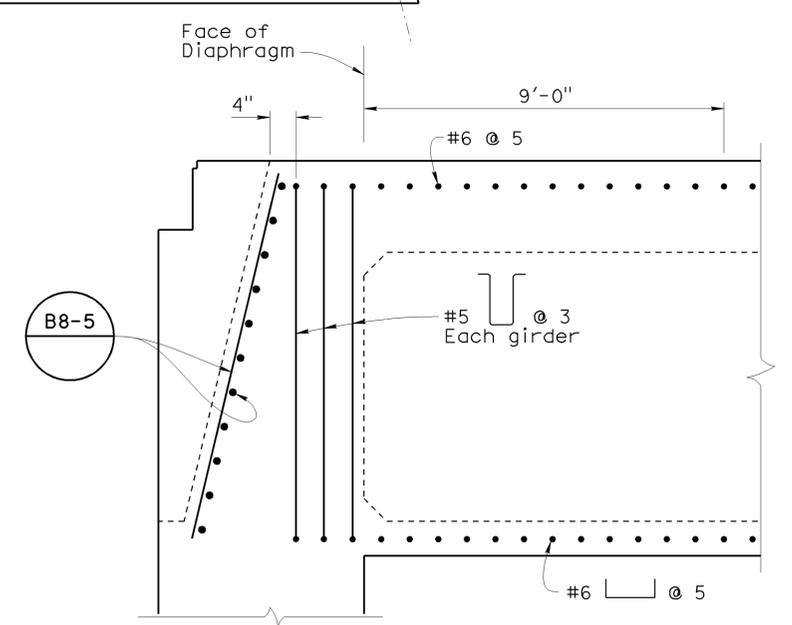
OCTA
 550 S. MAIN STREET
 ORANGE, CA 92863
 CH2M HILL
 6 HUTTON CENTRE DRIVE, SUITE 700
 SANTA ANA, CA 92707



ADDITIONAL GIRDER BOTTOM REINFORCEMENT
 No Scale



NOTE:
 1. Girder bottom reinforcement shall have "Service" butt splice.



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

DESIGN OVERSIGHT

 6-9-09
 SIGN OFF DATE

DESIGN	BY M. Atiqullah / A. Issa	CHECKED X. Wu
DETAILS	BY M. Atiqullah	CHECKED X. Wu
QUANTITIES	BY A. Issa	CHECKED P. Kaviani

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 Ayman Salama
 PROJECT ENGINEER

BRIDGE NO.	55-0465
POST MILE	18.85

BASTANCHURY ROAD UC (WIDEN)
GIRDER REINFORCEMENT

DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

CU 12220
EA 0F0321

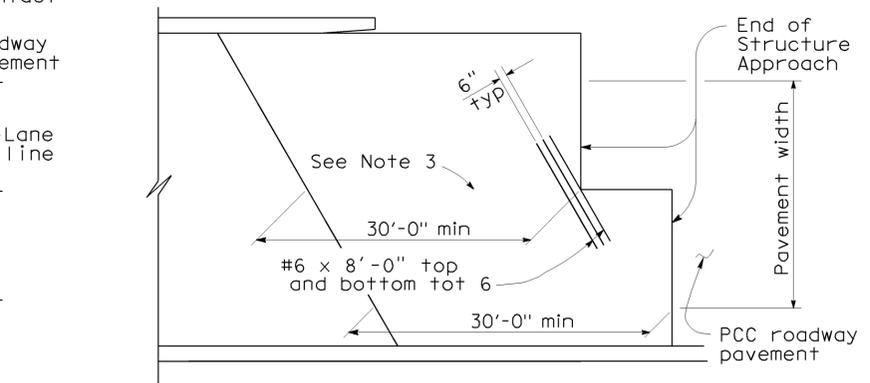
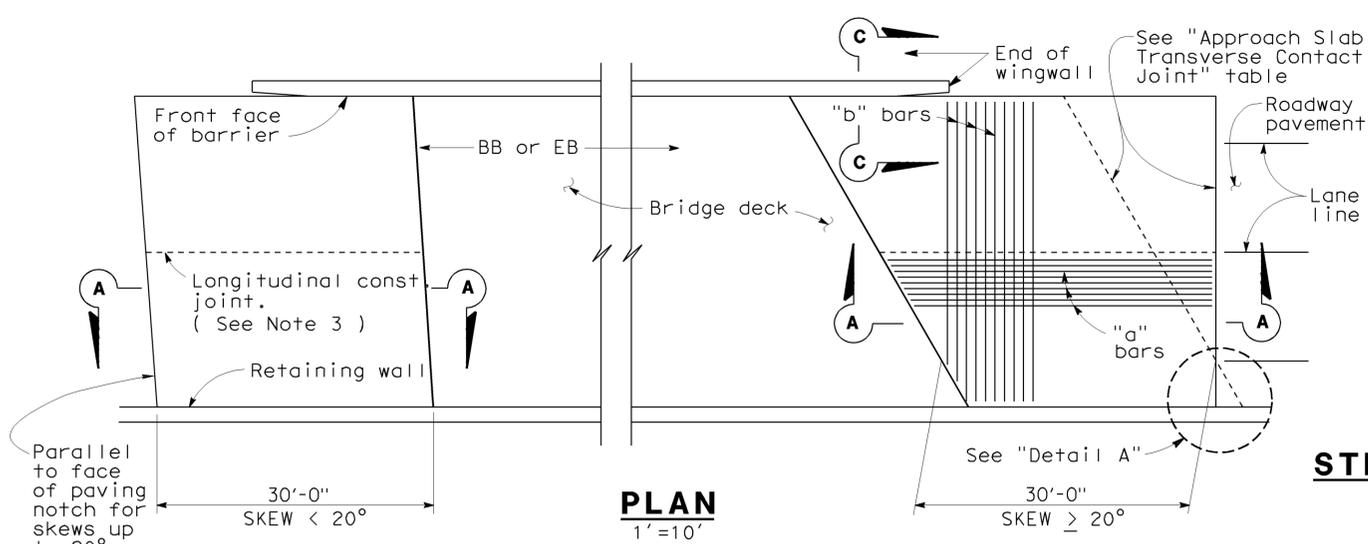
DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)					SHEET	OF
11/15/08	06/07/09	06/08/09			13	22

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	18.4/20.9	568	856

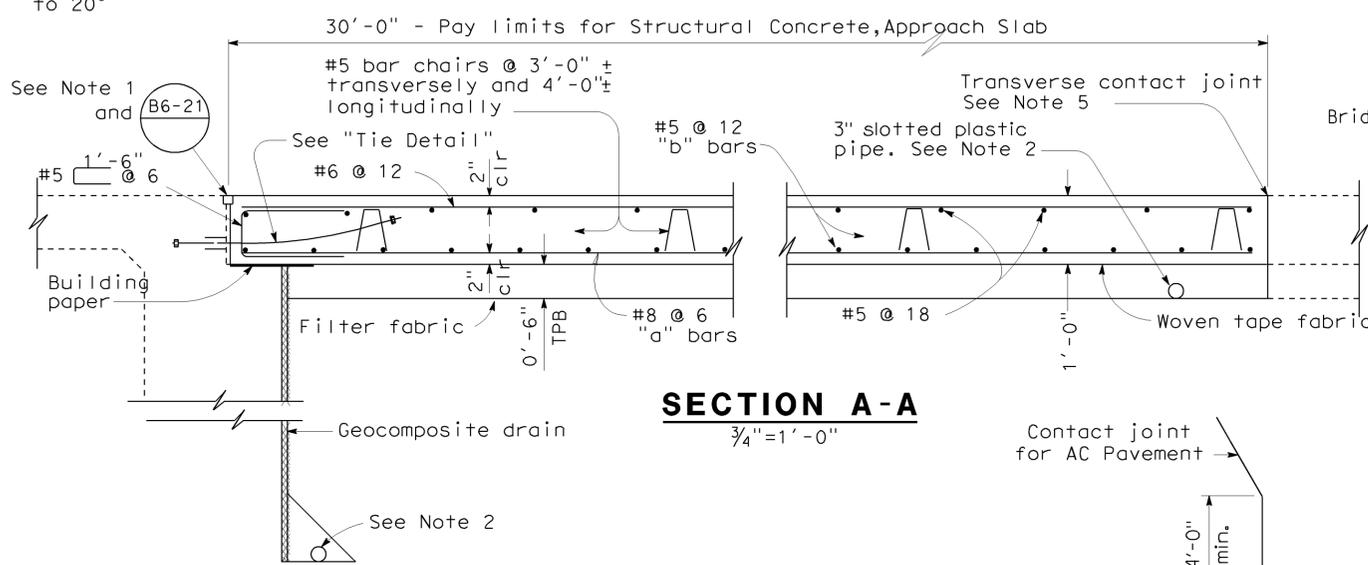
06/08/09
 REGISTERED ENGINEER - CIVIL DATE
 1-25-10
 PLANS APPROVAL DATE
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MOHAMMED ATTULLAH
 No. C47027
 Exp. 12/31/09
 CIVIL
 STATE OF CALIFORNIA

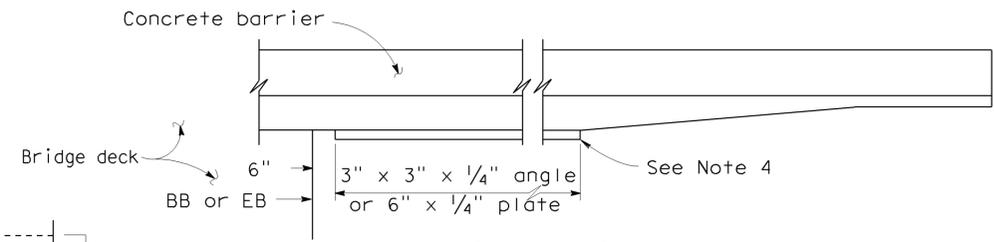


STRUCTURE APPROACH---END STAGGER DETAIL
No Scale

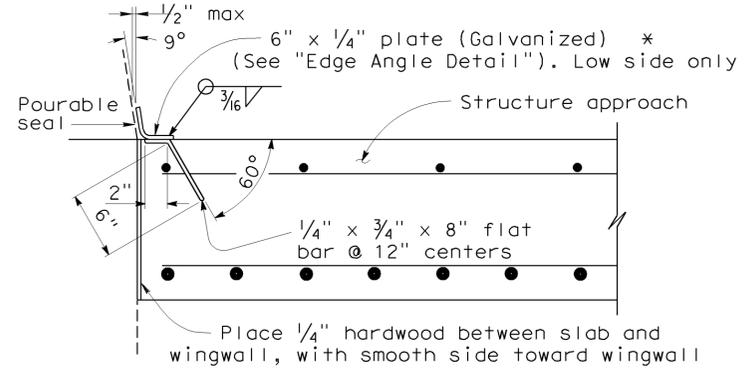
APPROACH SLAB TRANSVERSE CONTACT JOINT		
APPROACH SKEW	WITH AC ROADWAY PAVEMENT	WITH PCC ROADWAY PAVEMENT
<math>< 20^\circ</math>	Parallel to face of paving notch	Parallel to face of paving notch
$20^\circ - 45^\circ$	Parallel to face of P N use (Detail A)	Stagger lines 24' to 36' apart
> 45°	Parallel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



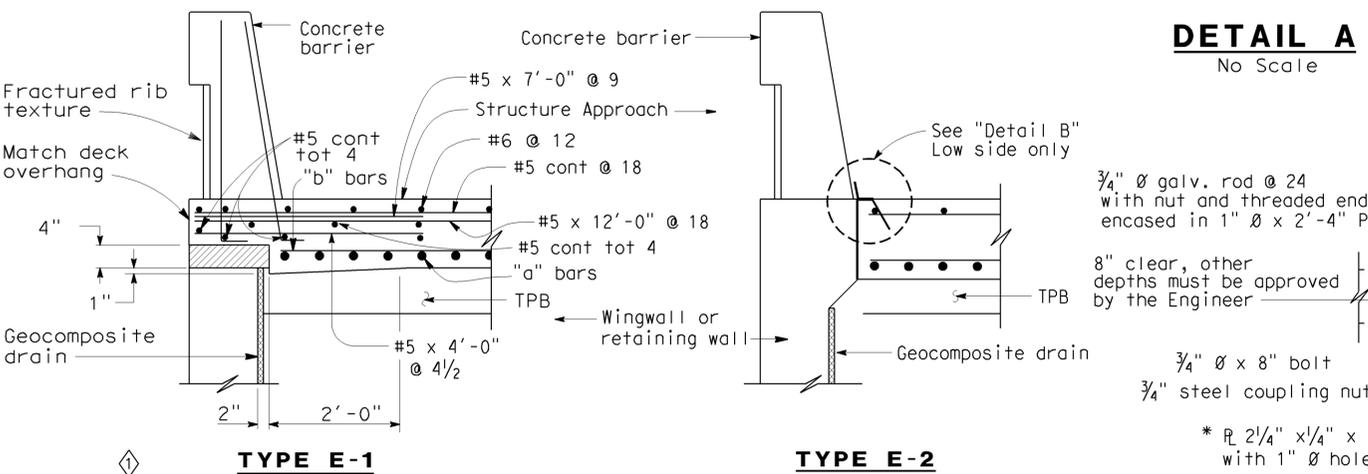
SECTION A-A
3/4"=1'-0"



EDGE ANGLE DETAIL
1/2"=1'-0"

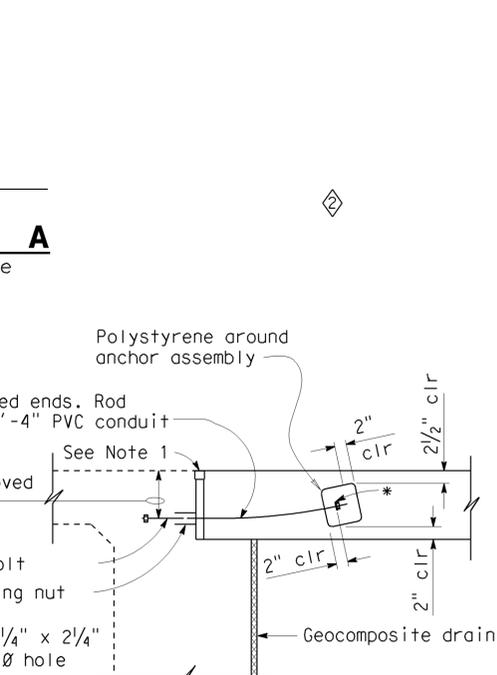


DETAIL B
1/2"=1'-0"
* (TO BE USED WITH TYPE 732 OR TYPE 736 CONCRETE BARRIER)

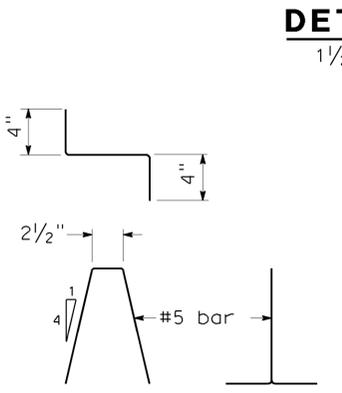


SECTION C-C
3/4"=1'-0"

(Type E-1 to be used, unless otherwise shown on plans)



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



BAR CHAIR DETAIL
1 1/2"=1'-0"

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

- NOTES:**
- For details not noted or shown, see Structure Plans.
 - 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 ϕ roadway.
- Polystyrene to be removed.

STANDARD DRAWING

FILE NO. **xs3-180e**

APPROVED BY: **M. Ho**
RESPONSIBLE TECHNICAL SPECIALIST

RELEASED BY: **O. Alcantara**
RESPONSIBLE OFFICE CHIEF

APPROVAL DATE: **8-12-08**

RELEASE DATE: **REVISED**

Section C-C Type E-1 revised
Type 25 or Type 27 Conc Barrier on Det B removed

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 55-0465
POST MILE 18.85

BASTANCHURY ROAD UC (WIDEN)
STRUCTURE APPROACH TYPE N(30D)

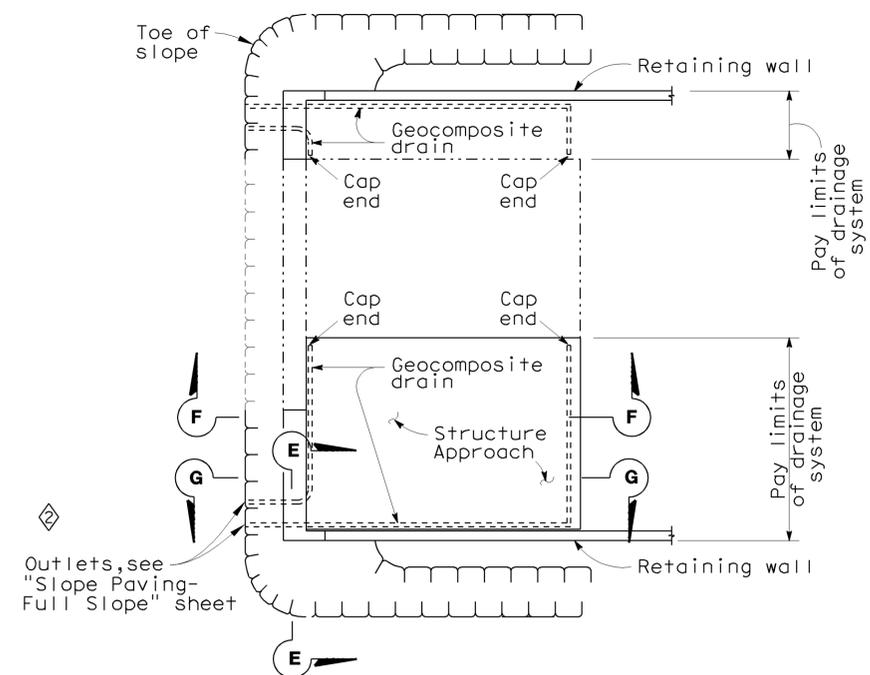
CU 12220
EA OF0321

REVISION DATES (PRELIMINARY STAGE ONLY)

SHEET 14 OF 22

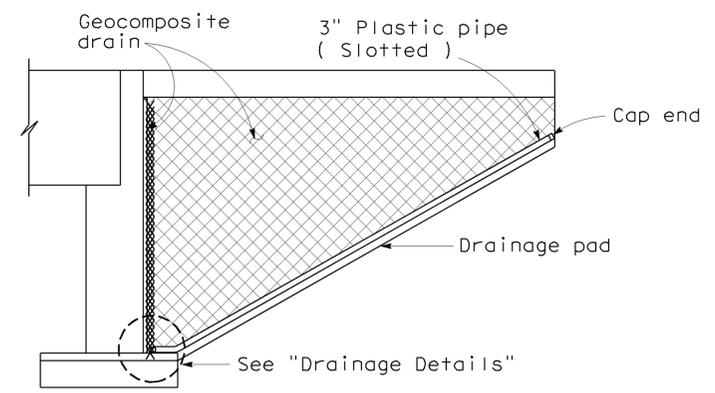
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Orca	57	18.4/20.9	569	856

REGISTERED ENGINEER - CIVIL DATE 06/08/09		
1-25-10		
PLANS APPROVAL DATE		
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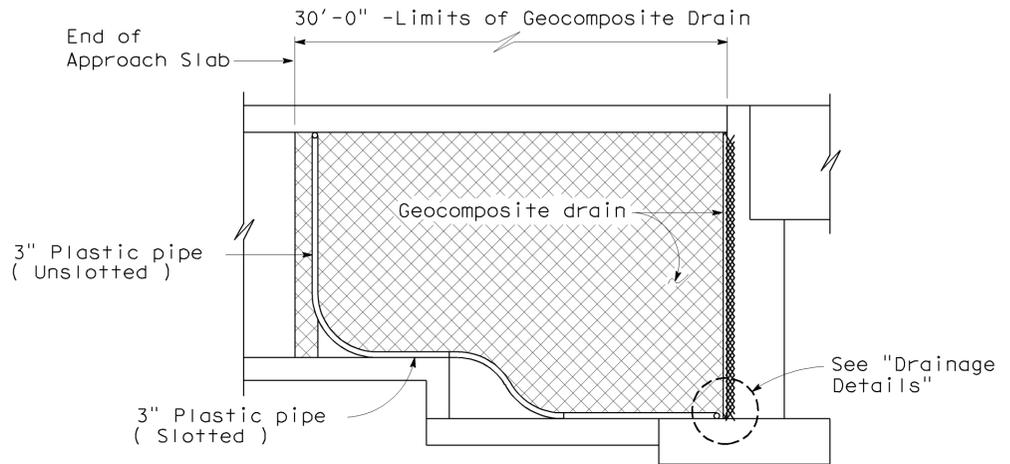


TYPICAL PLAN
No Scale

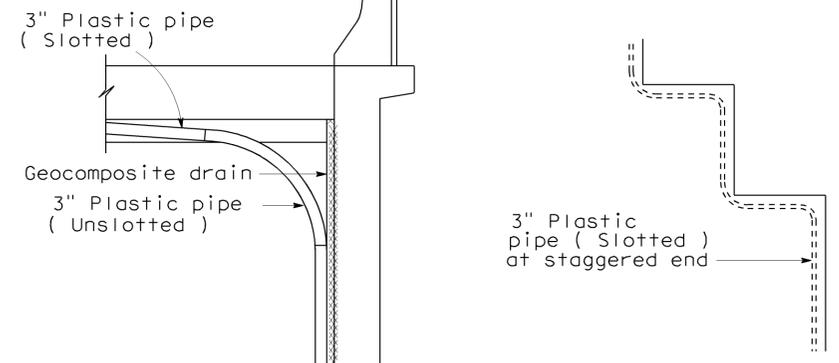
*For pipe layout at staggered end, see "Detail B".



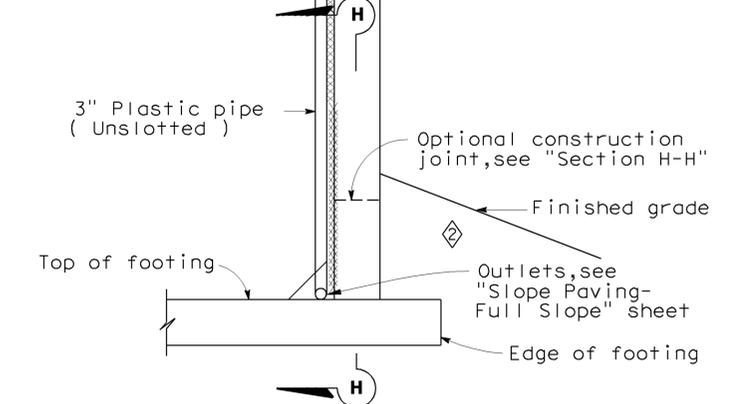
CANTILEVER WINGWALL SECTION F-F
1/4"=1'-0"



RETAINING WALL WINGWALL SECTION G-G
1/4"=1'-0"

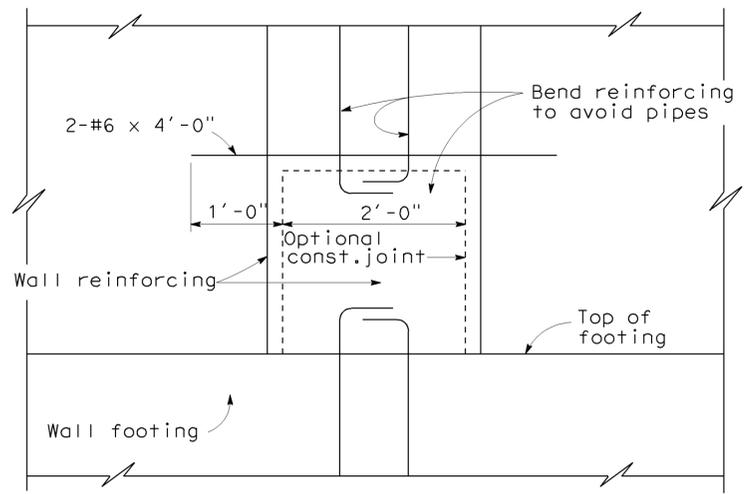


DETAIL B
No Scale

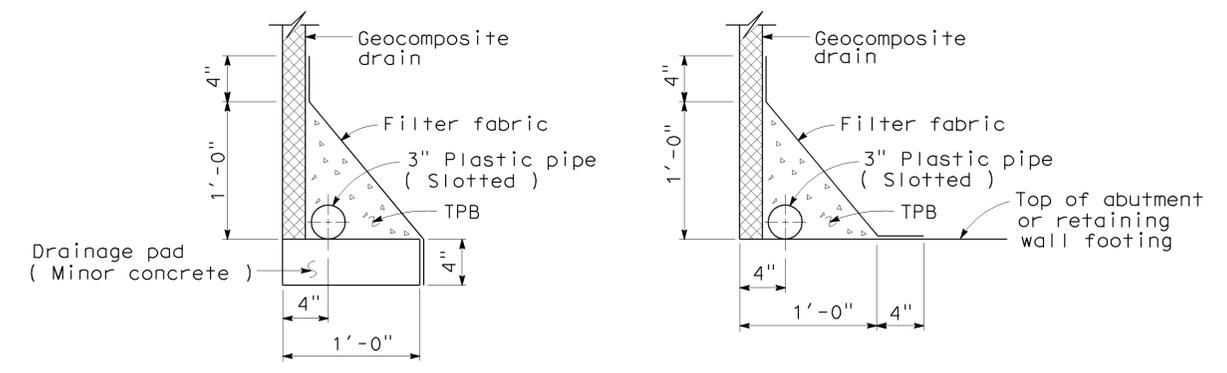


SECTION E-E
1/2"=1'-0"

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



SECTION H-H
1"=1'-0"



WITHOUT FOOTING WITH FOOTING DRAINAGE DETAILS
1/2"=1'-0"

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

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

- ◆ Removed Section F-F
- ◆ Revised outlet direction

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 55-0465
POST MILES 18.85

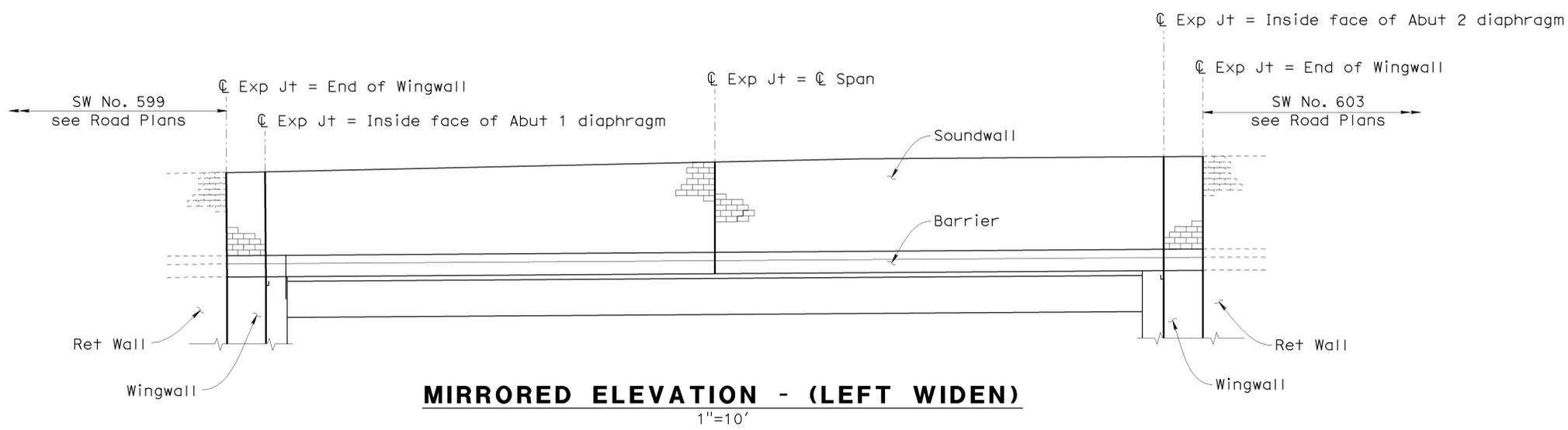
BASTANCHURY ROAD UC (WIDEN)
STRUCTURE APPROACH DRAINAGE DETAILS

TIME PLOTTED => 25-JAN-2010 08:10

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	57	18.4/20.9	570	856


 REGISTERED CIVIL ENGINEER DATE 06/08/09
 PLANS APPROVAL DATE 1-25-10
 No. C47027
 Exp. 12/31/09
 CIVIL
 STATE OF CALIFORNIA

OCTA
 550 S. MAIN STREET
 ORANGE, CA 92863
 CH2M HILL
 6 HUTTON CENTRE DRIVE, SUITE 700
 SANTA ANA, CA 92707



DESIGN NOTES

- DESIGN**
Uniform Building Code, 1997 Edition and the Bridge Design Specifications.
- DESIGN WIND LOAD**
37 psf
- DESIGN SEISMIC LOAD**
2.0 Dead load
- REINFORCED CONCRETE**
f'c = 3,600 psi
fy = 60,000 psi
- CONCRETE MASONRY**
HIGH STRENGTH
f'm = 2500 psi
fy = 60,000 psi

- LOAD FACTORS AND LOAD COMBINATIONS**
Load Factor Design (LFD)
- Group A: BD + 1.7 E + 1.7 SC
 - Group B: BD + 1.7 E + 1.3 W
 - Group C: BD + 1.3 E + 1.0 EQE
 - Group D: BD + 1.3 E + 1.0 EQD
 - Group E: BD + 1.1 E + 0.85 (EQE + EQD)
- Where : β = 0.9 or 1.2, whichever controls in design
 D = Dead load
 E = Lateral earth pressure
 SC = Live load surcharge
 W = Wind load
 EQD = Seismic dead load
 EQE = Seismic earth load

GENERAL NOTES

- Note A: For type of block, see Masonry Block Type Table on "Soundwall Details No. 2" sheet
- Note B: When blocks are laid in stacked bond, ladder type, galvanized joint reinforcement shall be provided. A minimum of 2 - 0.148" wires continuous at 4'-0" maximum to be used. Locate reinforcement in joints that are at the approximate midpoint between bond beams.
- Note C: Horizontal joints shall be tooled concave or may be weathered. Vertical joints shall be tooled concave or may be raked.
- Note D: All masonry to be high strength unless otherwise noted.
- Note E: For location of expansion joint, see Mirrored Elevation - (Left Widen)

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

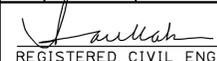
NOTE:
1. Barrier, Deck and Concrete Masonry are designed by the Strength Design Method.

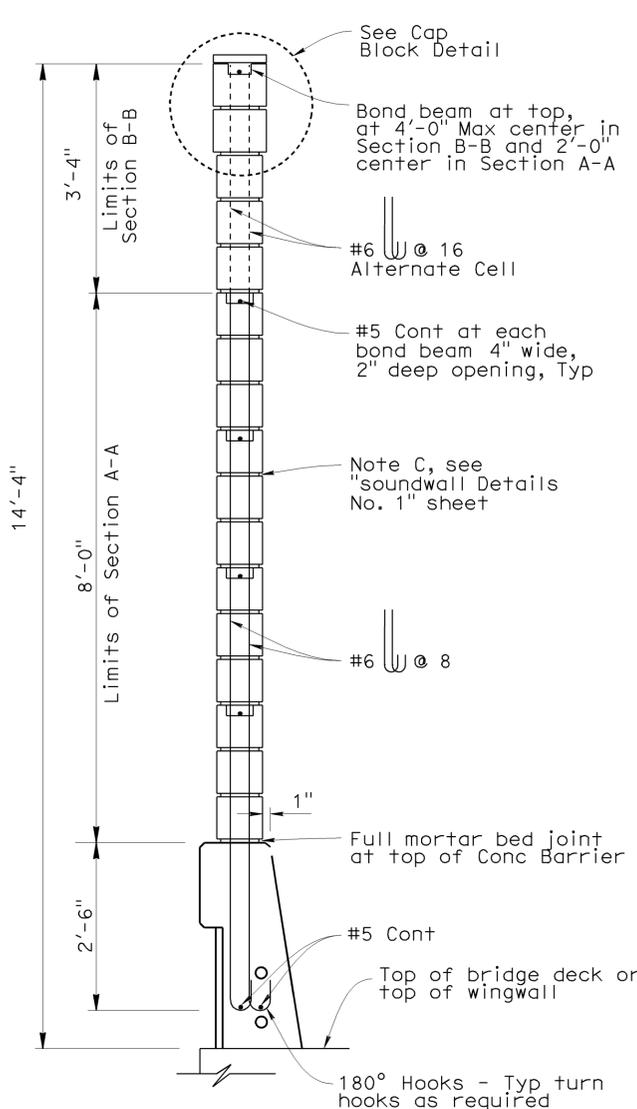

 DESIGN OVERSIGHT
 6-9-09
 SIGN OFF DATE

DESIGN	BY M. Atiqullah	CHECKED X. Wu
DETAILS	BY M. Atiqullah	CHECKED X. Wu
QUANTITIES	BY A. Issa	CHECKED P. Kaviani

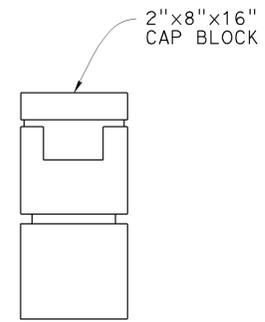
PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
 Ayman Salama
 PROJECT ENGINEER

BRIDGE NO. 55-0465
 POST MILE 18.85
BASTANCHURY ROAD UC (WIDEN)
SOUNDWALL DETAILS NO. 1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	57	18.4/20.9	571	856
 REGISTERED CIVIL ENGINEER			06/08/09	DATE	
1-25-10			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.					
OCTA 550 S. MAIN STREET ORANGE, CA 92863					
CH2M HILL 6 HUTTON CENTRE DRIVE, SUITE 700 SANTA ANA, CA 92707					

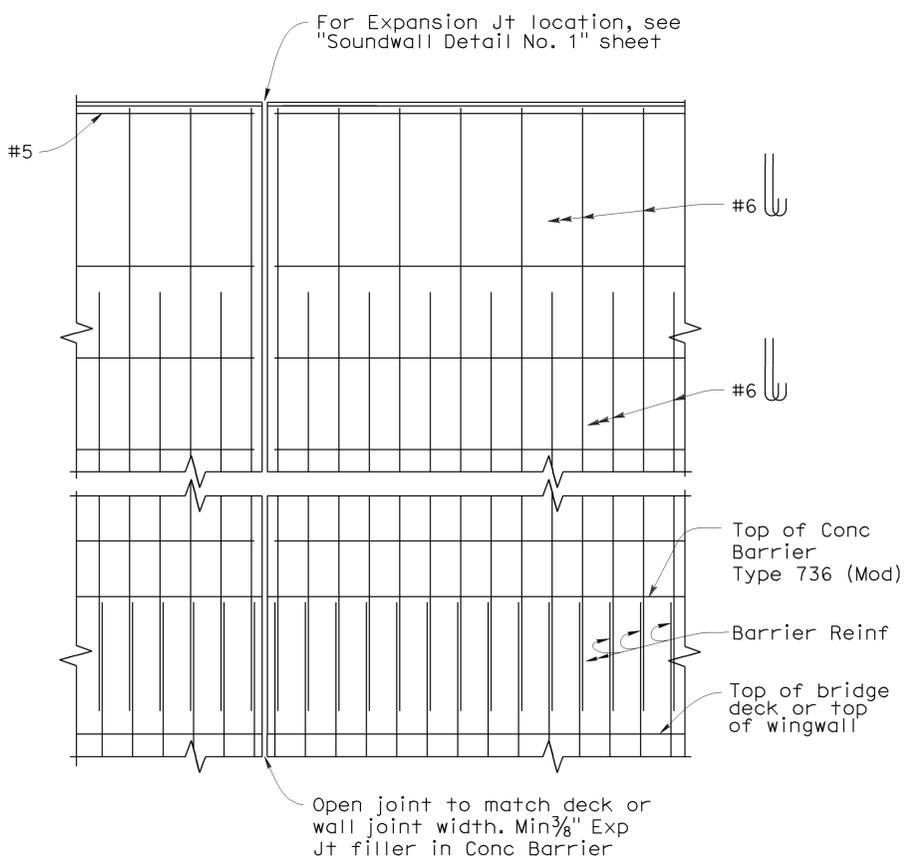


SOUNDWALL SECTION
3/4" = 1'-0"

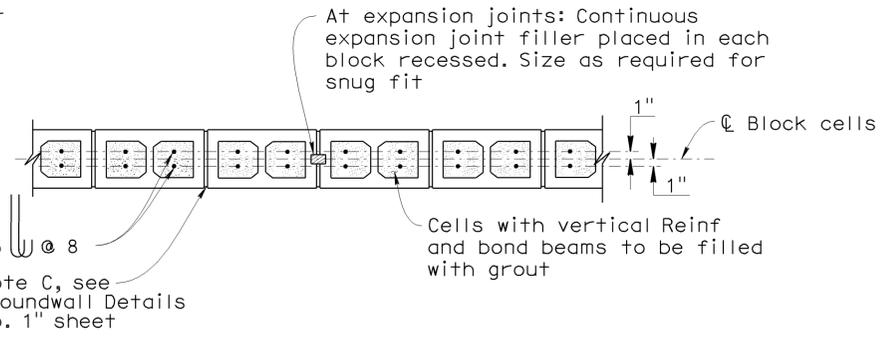


CAP BLOCK DETAIL
No Scale

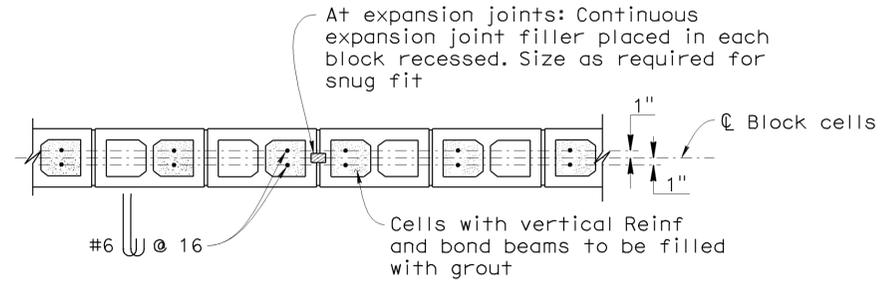
NOTE:
The Contractor shall verify all controlling field dimensions before ordering or fabricating any materials.



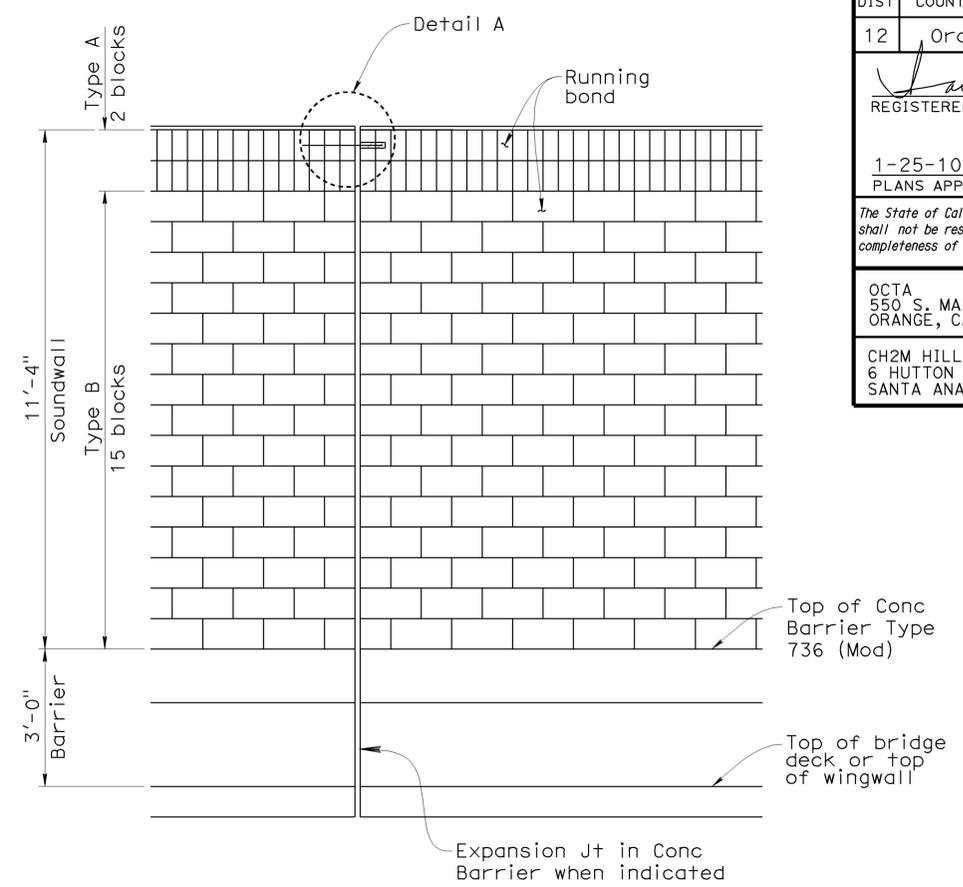
WALL JOINT DETAIL
No Scale



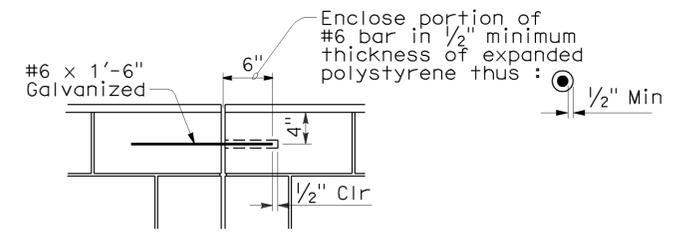
SECTION A-A
No Scale



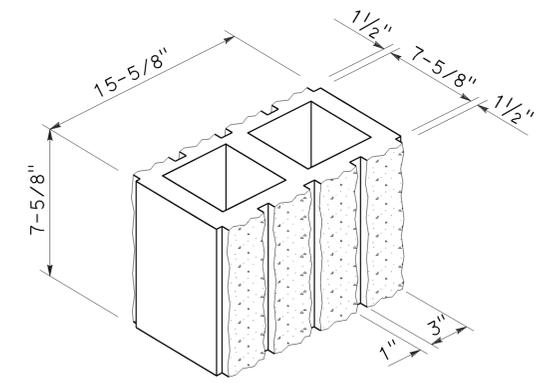
SECTION B-B
No Scale



SOUNDWALL - ARCHITECTURAL TREATMENT DETAIL
1/2" = 1'-0"



DETAIL A
No Scale



DETAIL B
No Scale
8" WIDE 3-SCORE SPLIT FACE BOTH SIDES

Block Type	Block Description
A	Wall cap rows (Tan scored split face concrete) 3 scored, see Detail B
B	Main wall surface (Tan split face concrete)

DESIGN OVERSIGHT
6-9-09
SIGN OFF DATE

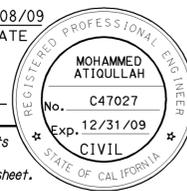
DESIGN	BY M. Atiullah	CHECKED X. Wu
DETAILS	BY M. Atiullah	CHECKED X. Wu
QUANTITIES	BY A. Issa	CHECKED P. Kaviani

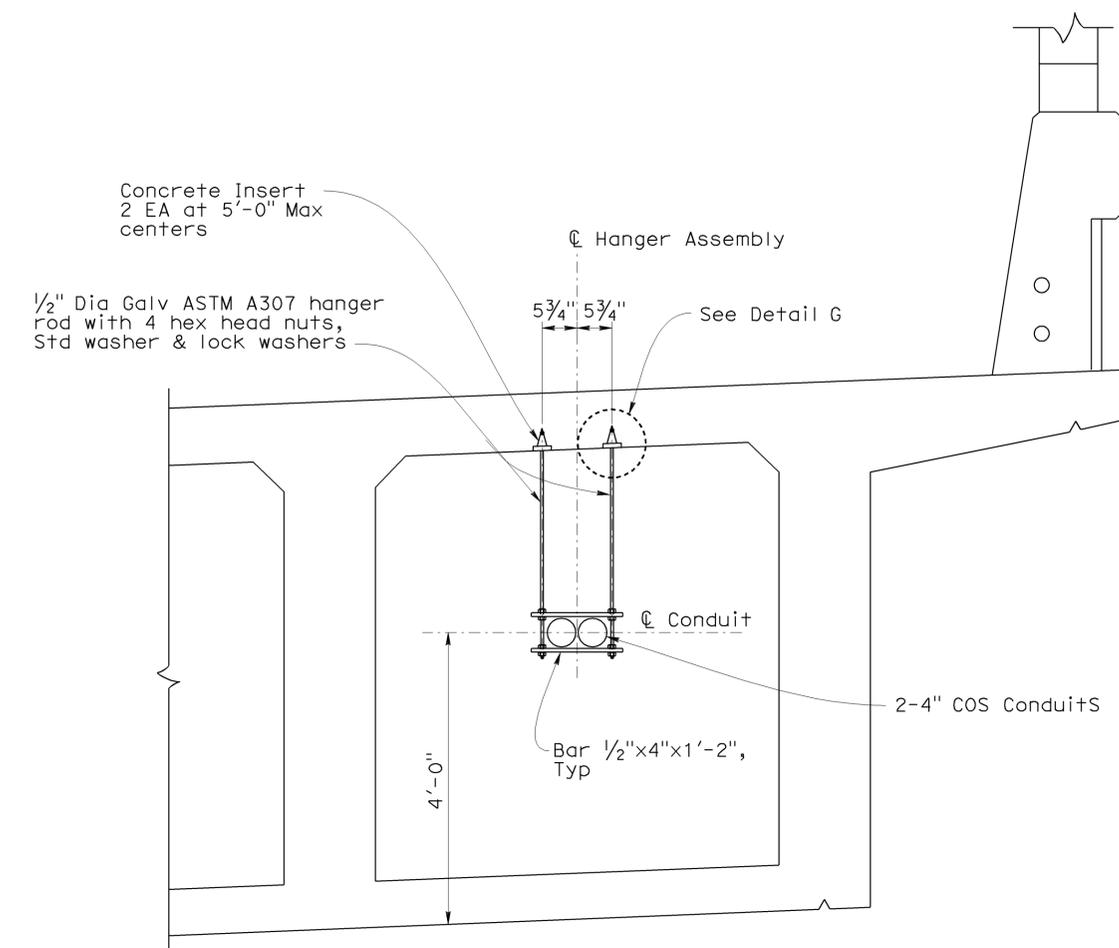
PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

Ayman Salama
PROJECT ENGINEER
BRIDGE NO. 55-0465
POST MILE 18.85

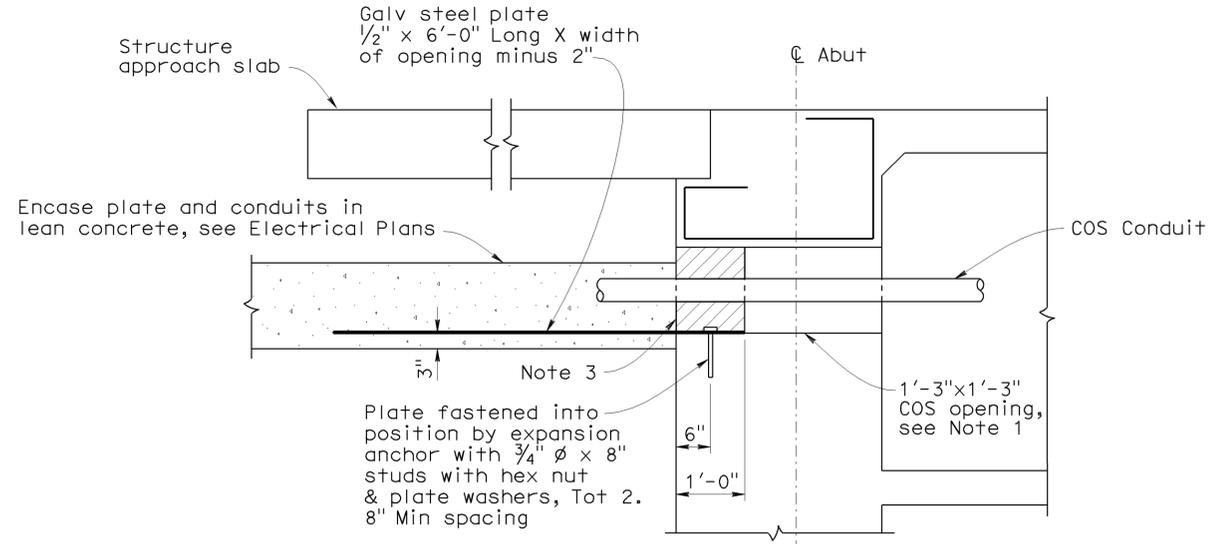
BASTANCHURY ROAD UC (WIDEN)
SOUNDWALL DETAILS NO. 2

USERNAME => h1renard DATE PLOTTED => 25-JAN-2010 TIME PLOTTED => 08:10

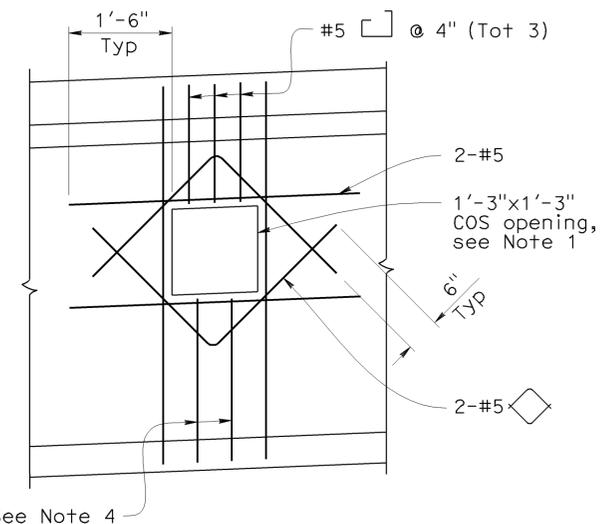
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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 REGISTERED CIVIL ENGINEER			06/08/09	DATE	
1-25-10			PLANS APPROVAL DATE		
MOHAMMED ATIULLAH No. C47027 Exp. 12/31/09 CIVIL STATE OF CALIFORNIA					
OCTA 550 S. MAIN STREET ORANGE, CA 92863					
CH2M HILL 6 HUTTON CENTRE DRIVE, SUITE 700 SANTA ANA, CA 92707					



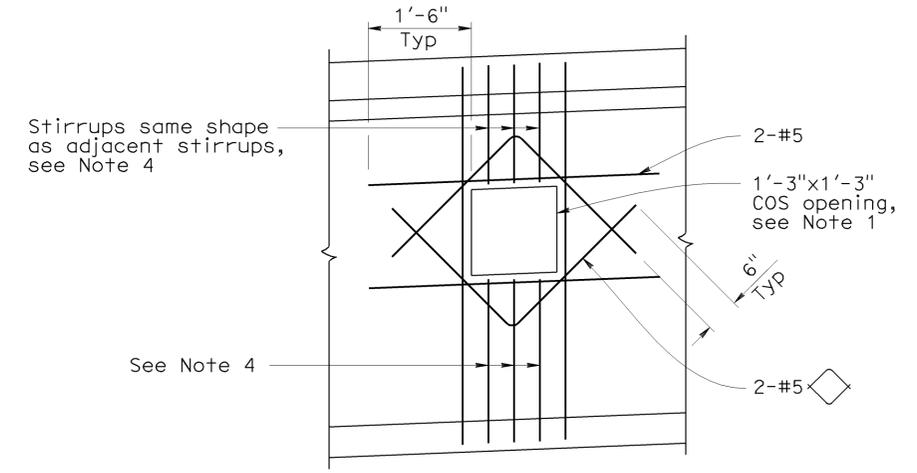
COS CONDUIT HANGER SUPPORT DETAIL
1" = 1'-0"



DETAIL AT ABUTMENT OPENING FOR COS CONDUITS
3/4"=1'-0"



ABUTMENT DIAPHRAGM

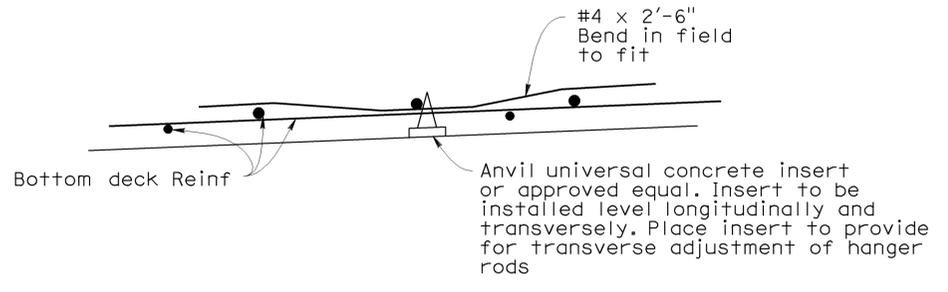


INTERMEDIATE DIAPHRAGM

COS CONDUIT OPENING DETAIL
3/4"=1'-0"

NOTES:

- The exact location, elevation, size and direction of COS openings, see "Abutment 1 Layout", "Abutment 2 Layout" and "Typical Section" sheets.
- All reinforcement detailed to be placed in addition to reinforcement shown on Project Plans.
- Seal conduits at abutments with concrete or mortar, after tightly wrapping utility with 2 layers of 15 LBS building paper.
- Reinforcement to be same bar size, and 2/3 the spacing of adjacent reinforcement shown on Project Plans.
- Reinforcement to be same bar size and shape as adjacent reinforcement shown on Project Plans.
- When there is insufficient space to place reinforcement as shown, hook reinforcement into exterior girder.



DETAIL G
No Scale

NOTE:
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DESIGN OVERSIGHT
6-9-09
SIGN OFF DATE

DESIGN	BY M. Atiullah	CHECKED X. Wu
DETAILS	BY M. Atiullah	CHECKED X. Wu
QUANTITIES	BY A. Issa	CHECKED P. Kaviani

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
Ayman Salama
PROJECT ENGINEER

BRIDGE NO.	55-0465
POST MILE	18.85

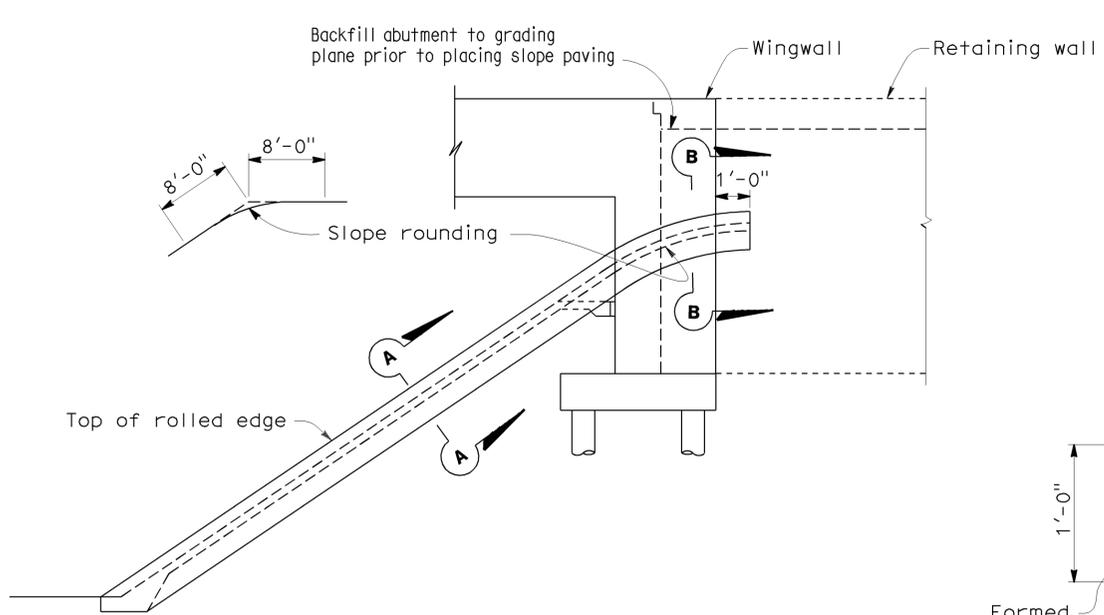
BASTANCHURY ROAD UC (WIDEN)
MISCELLANEOUS DETAILS

USERNAME => h1renard DATE PLOTTED => 25-JAN-2010 TIME PLOTTED => 08:10

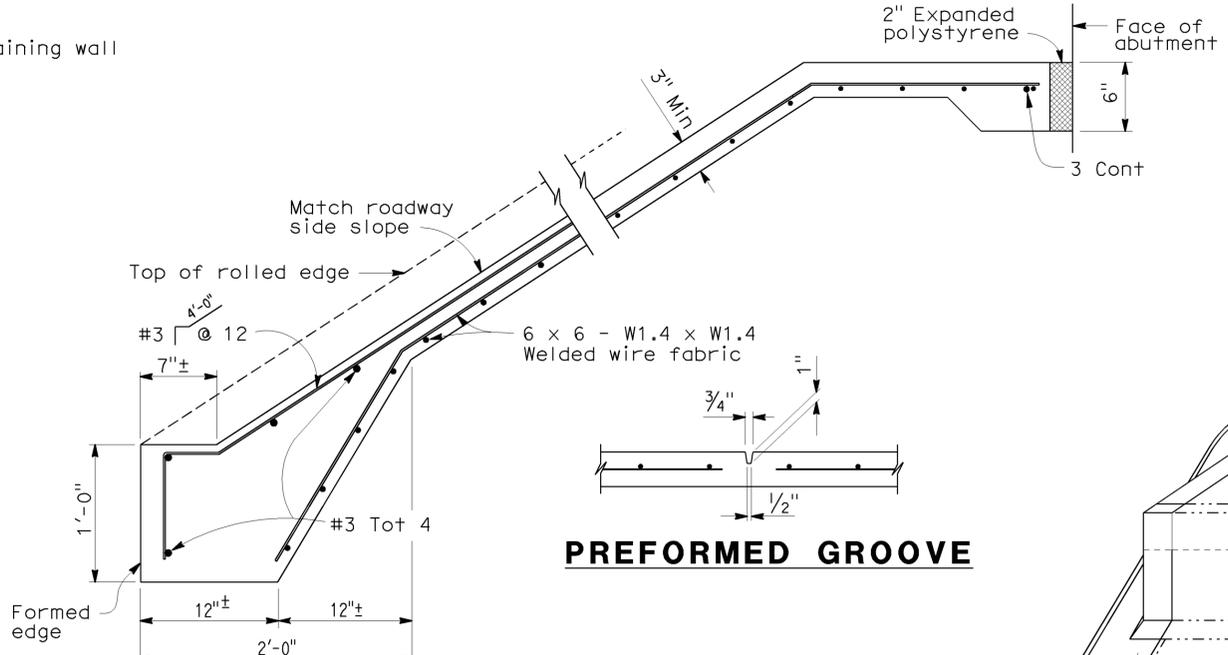
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	18.4/20.9	573	856

REGISTERED ENGINEER - CIVIL		06/08/09
1-25-10		PLANS APPROVAL DATE
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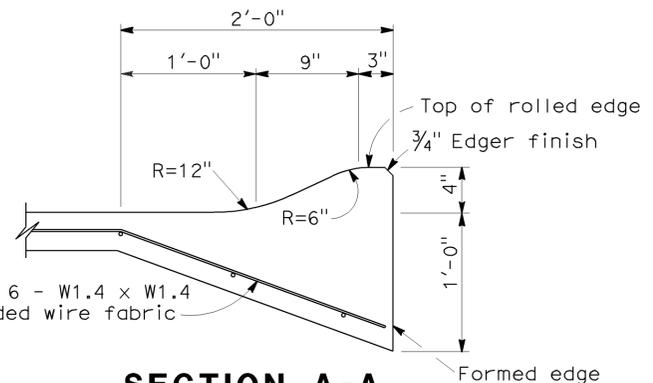
REGISTERED PROFESSIONAL ENGINEER
 MOHAMMED ATIQULLAH
 No. C47027
 Exp. 12/31/09
 CIVIL
 STATE OF CALIFORNIA



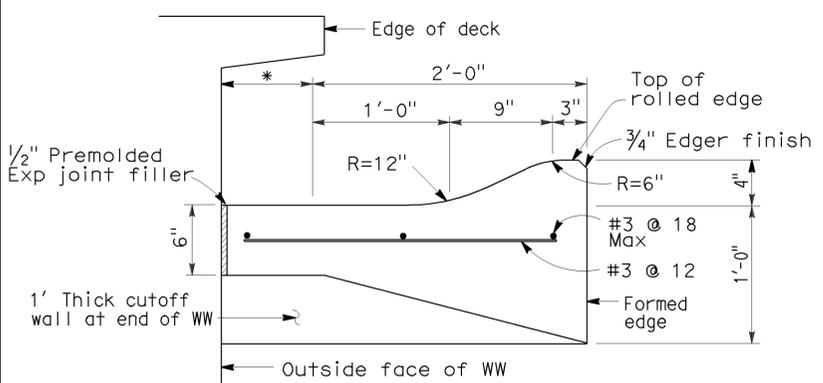
WINGWALL/RETAINING WALL ELEVATION



TYPICAL SECTION - CONCRETE PAVING



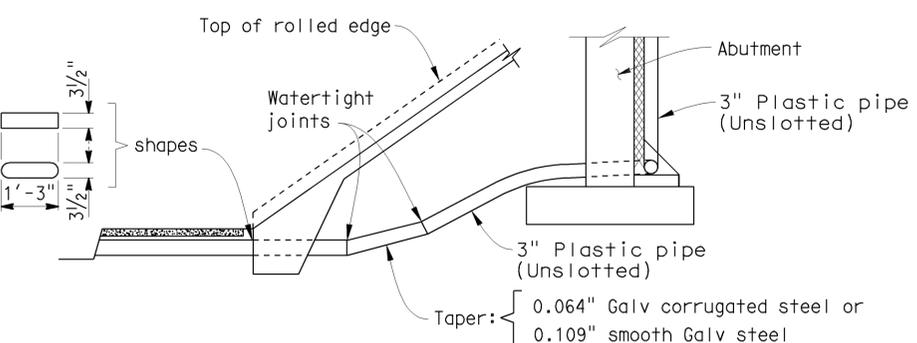
SECTION A-A



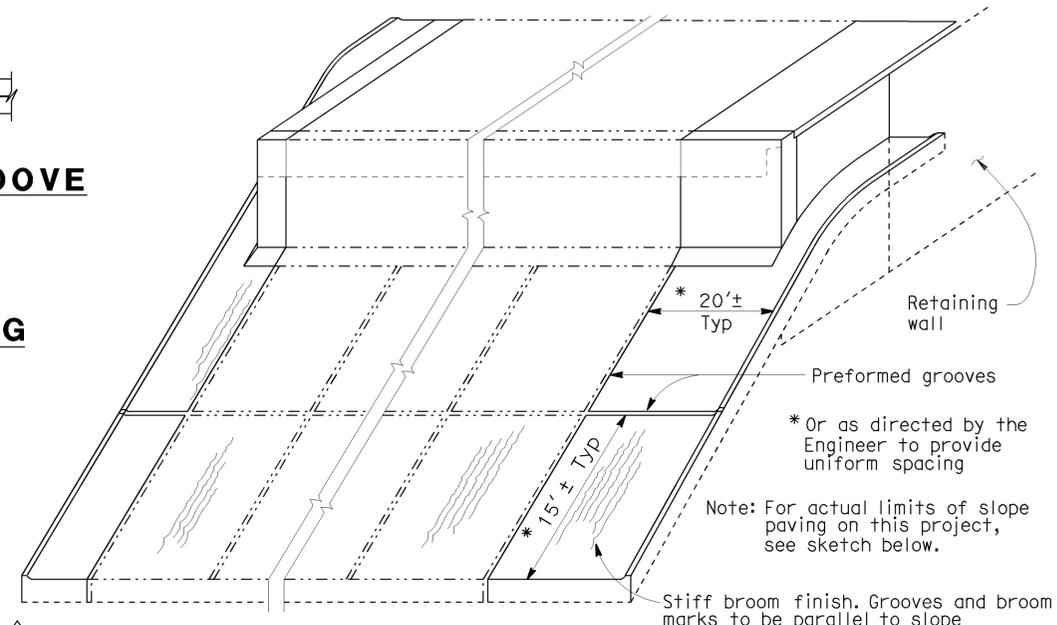
SECTION B-B

* This dimension becomes zero when edge of deck is at outside face of WW

NOTE:
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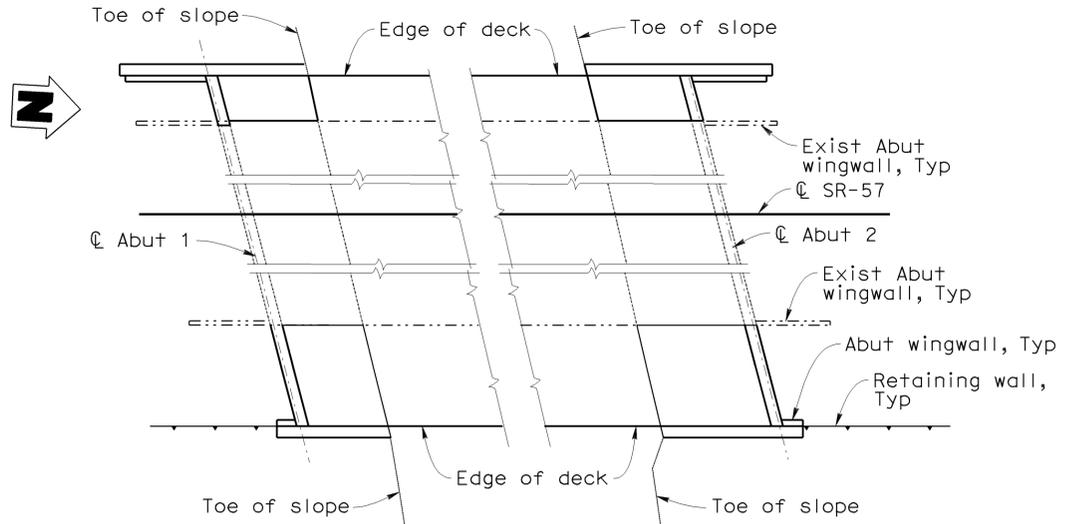


DRAINAGE DETAILS AT SIDEWALK



PICTORIAL VIEW OF TYPICAL INSTALLATION

Abutment 2 shown, Abutment 1 similar.



LIMITS OF SLOPE PAVING & DRAINAGE LAYOUT

NO SCALE

STANDARD DRAWING			
RELEASE DATE	DESIGN BY	CHECKED	RELEASED BY
REVISED	R. YEE		
FILE NO.	SUBMITTED BY	DRAWING DATE	OFFICE CHIEF
xs4-210	C.W. PURKISS	3/89	

- ◆ Added Detail
- ◆ Revised Details
- ◆ Converted metric to feet & inches

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 55-0465
POST MILES 18.85

BASTANCHURY ROAD UC (WIDEN)
SLOPE PAVING - FULL SLOPE

DS OSD 2147A (METRIC) (REV. 2/25/97)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

CU 12220
EA 0F0321

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)

SHEET 19 OF 22

FILE => 55-0465-u-slp.dgn

USERNAME => p11enard DATE PLOTTED => 25-JAN-2010 TIME PLOTTED => 08:10

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	57	18.4/20.9	574	856

BENCHMARK:

Horizontal coordinates are CCS NAD-83, Zone 6.
 Vertical control based on North American Vertical Datum 1988.
 Pt 1048: N2273923.989, E6066816.158, Elev 297.698
 Pt 1057: N2273578.007, E6066831.271, Elev 294.844

SAMPLER TYPES:

California modified ring sampler
 standard penetration test sampler

HAMMER TYPE:

Automatic hammer

CORRECTION FACTOR:

To convert from California modified ring sampler blow count to equivalent standard penetration test sampler blow count, for granular and cohesive soil, multiply by 0.67.

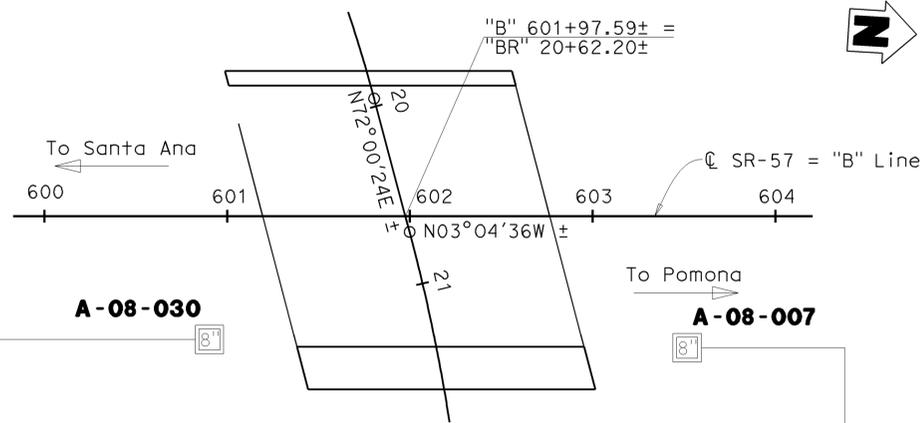
Hisham Nofal 06/08/09
 GEOTECHNICAL PROFESSIONAL DATE

1-25-10
 PLANS APPROVAL DATE

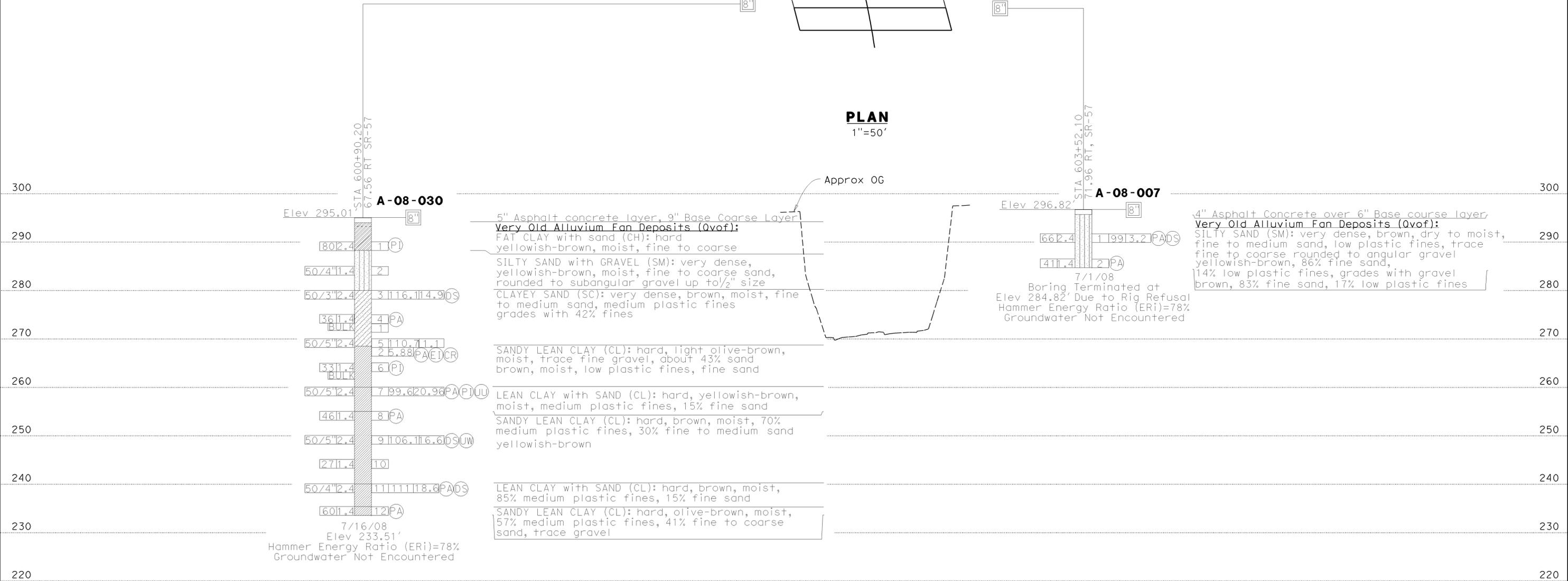
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OCTA
 550 S. MAIN STREET
 ORANGE, CA 92863

CH2M HILL
 6 HUTTON CENTRE DRIVE, SUITE 700
 SANTA ANA, CA 92707



PLAN
1"=50'



PROFILE
 Horz: 1"=50'
 Vert: 1"=10'

STATIONING \bar{C} SR-57 = "B" Line

594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609

DESIGN OVERSIGHT 6-9-09 SIGN OFF DATE	DRAWN BY K. Reyes	R. Bethapudi FIELD INVESTIGATION BY:	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	BRIDGE NO. 55-0465	BASTANCHURY ROAD UC (WIDEN)
	CHECKED BY H. Nofal	DATE		PROJECT ENGINEER Ayman Solama	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS			CU 12220 EA OF 0321	REVISION DATES (PRELIMINARY STAGE ONLY)	
			USERNAME => trlenard DGN FILE => 55-0465-z-11tb01.dgn	SHEET 20 OF 22	

TIME PLOTTED => 25-JAN-2010 08:10

Hisham Nofal 06/08/09
 GEOTECHNICAL PROFESSIONAL DATE
 1-25-10
 PLANS APPROVAL DATE
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OCTA
 550 S. MAIN STREET
 ORANGE, CA 92863
 CH2M HILL
 6 HUTTON CENTRE DRIVE, SUITE 700
 SANTA ANA, CA 92707

GROUP SYMBOLS AND NAMES			
Graphic/Symbol	Group Names	Graphic/Symbol	Group Names
GW	Well-graded GRAVEL	CL	Lean CLAY Lean CLAY with SAND Lean CLAY with GRAVEL
	Well-graded GRAVEL with SAND		SANDY lean CLAY SANDY lean CLAY with GRAVEL GRAVELLY lean CLAY GRAVELLY lean CLAY with SAND
GP	Poorly graded GRAVEL	CL-ML	SILTY CLAY SILTY CLAY with SAND SILTY CLAY with GRAVEL
	Poorly graded GRAVEL with SAND		SANDY SILTY CLAY SANDY SILTY CLAY with GRAVEL GRAVELLY SILTY CLAY GRAVELLY SILTY CLAY with SAND
GW-GM	Well-graded GRAVEL with SILT	ML	SILT SILT with SAND SILT with GRAVEL
	Well-graded GRAVEL with SILT and SAND		SANDY SILT SANDY SILT with GRAVEL GRAVELLY SILT GRAVELLY SILT with SAND
GW-GC	Well-graded GRAVEL with CLAY (or SILTY CLAY)	OL	ORGANIC lean CLAY ORGANIC lean CLAY with SAND ORGANIC lean CLAY with GRAVEL
	Well-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)		SANDY ORGANIC lean CLAY SANDY ORGANIC lean CLAY with GRAVEL GRAVELLY ORGANIC lean CLAY GRAVELLY ORGANIC lean CLAY with SAND
GP-GM	Poorly graded GRAVEL with SILT	MH	Elastic SILT Elastic SILT with SAND Elastic SILT with GRAVEL
	Poorly graded GRAVEL with SILT and SAND		SANDY elastic SILT SANDY elastic SILT with GRAVEL GRAVELLY elastic SILT GRAVELLY elastic SILT with SAND
GP-GC	Poorly graded GRAVEL with CLAY (or SILTY CLAY)	OH	ORGANIC fat CLAY ORGANIC fat CLAY with SAND ORGANIC fat CLAY with GRAVEL
	Poorly graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)		SANDY ORGANIC fat CLAY SANDY ORGANIC fat CLAY with GRAVEL GRAVELLY ORGANIC fat CLAY GRAVELLY ORGANIC fat CLAY with SAND
GM	SILTY GRAVEL	OH	ORGANIC elastic SILT ORGANIC elastic SILT with SAND ORGANIC elastic SILT with GRAVEL
	SILTY GRAVEL with SAND		SANDY ORGANIC elastic SILT SANDY ORGANIC elastic SILT with GRAVEL GRAVELLY ORGANIC elastic SILT GRAVELLY ORGANIC elastic SILT with SAND
GC	CLAYEY GRAVEL	OL/OH	ORGANIC SOIL ORGANIC SOIL with SAND ORGANIC SOIL with GRAVEL
	CLAYEY GRAVEL with SAND		SANDY ORGANIC SOIL SANDY ORGANIC SOIL with GRAVEL GRAVELLY ORGANIC SOIL GRAVELLY ORGANIC SOIL with SAND
GC-GM	SILTY, CLAYEY GRAVEL	OL/OH	ORGANIC SOIL ORGANIC SOIL with SAND ORGANIC SOIL with GRAVEL
	SILTY, CLAYEY GRAVEL with SAND		SANDY ORGANIC SOIL SANDY ORGANIC SOIL with GRAVEL GRAVELLY ORGANIC SOIL GRAVELLY ORGANIC SOIL with SAND
SW	Well-graded SAND	CH	Fat CLAY Fat CLAY with SAND Fat CLAY with GRAVEL
	Well-graded SAND with GRAVEL		SANDY fat CLAY SANDY fat CLAY with GRAVEL GRAVELLY fat CLAY GRAVELLY fat CLAY with SAND
SP	Poorly graded SAND	MH	Elastic SILT Elastic SILT with SAND Elastic SILT with GRAVEL
	Poorly graded SAND with GRAVEL		SANDY elastic SILT SANDY elastic SILT with GRAVEL GRAVELLY elastic SILT GRAVELLY elastic SILT with SAND
SW-SM	Well-graded SAND with SILT	OH	ORGANIC fat CLAY ORGANIC fat CLAY with SAND ORGANIC fat CLAY with GRAVEL
	Well-graded SAND with SILT and GRAVEL		SANDY ORGANIC fat CLAY SANDY ORGANIC fat CLAY with GRAVEL GRAVELLY ORGANIC fat CLAY GRAVELLY ORGANIC fat CLAY with SAND
SW-SC	Well-graded SAND with CLAY (or SILTY CLAY)	OH	ORGANIC elastic SILT ORGANIC elastic SILT with SAND ORGANIC elastic SILT with GRAVEL
	Well-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)		SANDY ORGANIC elastic SILT SANDY ORGANIC elastic SILT with GRAVEL GRAVELLY ORGANIC elastic SILT GRAVELLY ORGANIC elastic SILT with SAND
SP-SM	Poorly graded SAND with SILT	OH	ORGANIC elastic SILT ORGANIC elastic SILT with SAND ORGANIC elastic SILT with GRAVEL
	Poorly graded SAND with SILT and GRAVEL		SANDY ORGANIC elastic SILT SANDY ORGANIC elastic SILT with GRAVEL GRAVELLY ORGANIC elastic SILT GRAVELLY ORGANIC elastic SILT with SAND
SP-SC	Poorly graded SAND with CLAY (or SILTY CLAY)	OH	ORGANIC elastic SILT ORGANIC elastic SILT with SAND ORGANIC elastic SILT with GRAVEL
	Poorly graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)		SANDY ORGANIC elastic SILT SANDY ORGANIC elastic SILT with GRAVEL GRAVELLY ORGANIC elastic SILT GRAVELLY ORGANIC elastic SILT with SAND
SM	SILTY SAND	OH	ORGANIC elastic SILT ORGANIC elastic SILT with SAND ORGANIC elastic SILT with GRAVEL
	SILTY SAND with GRAVEL		SANDY ORGANIC elastic SILT SANDY ORGANIC elastic SILT with GRAVEL GRAVELLY ORGANIC elastic SILT GRAVELLY ORGANIC elastic SILT with SAND
SC	CLAYEY SAND	OH	ORGANIC elastic SILT ORGANIC elastic SILT with SAND ORGANIC elastic SILT with GRAVEL
	CLAYEY SAND with GRAVEL		SANDY ORGANIC elastic SILT SANDY ORGANIC elastic SILT with GRAVEL GRAVELLY ORGANIC elastic SILT GRAVELLY ORGANIC elastic SILT with SAND
SC-SM	SILTY, CLAYEY SAND	OH	ORGANIC elastic SILT ORGANIC elastic SILT with SAND ORGANIC elastic SILT with GRAVEL
	SILTY, CLAYEY SAND with GRAVEL		SANDY ORGANIC elastic SILT SANDY ORGANIC elastic SILT with GRAVEL GRAVELLY ORGANIC elastic SILT GRAVELLY ORGANIC elastic SILT with SAND
PT	PEAT	OL/OH	ORGANIC SOIL ORGANIC SOIL with SAND ORGANIC SOIL with GRAVEL
	COBBLES COBBLES and BOULDERS BOULDERS		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
 - (PP) Pocket Penetrometer
 - (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)
 - (TV) Pocket Torvane
 - (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)
 - (VS) Vane Shear (AASHTO T 223)

APPARENT DENSITY OF COHESIONLESS SOILS

Description	SPT N ₆₀ (Blows / 12 inches)
Very loose	0 - 4
Loose	5 - 10
Medium Dense	11 - 30
Dense	31 - 50
Very Dense	> 50

MOISTURE

Description	Criteria
Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table

PERCENT OR PROPORTION OF SOILS

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

PARTICLE SIZE

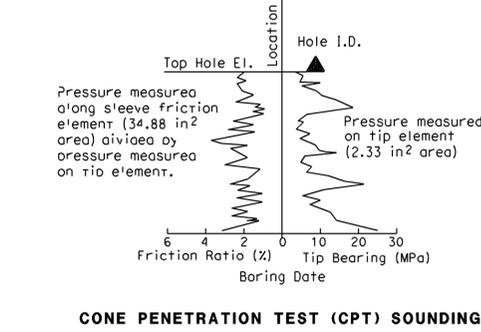
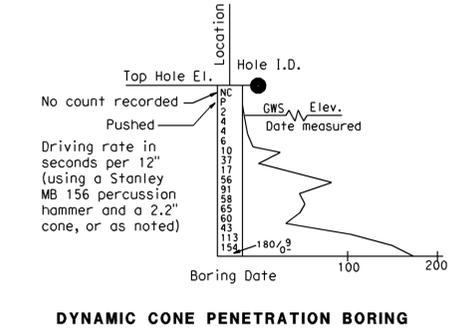
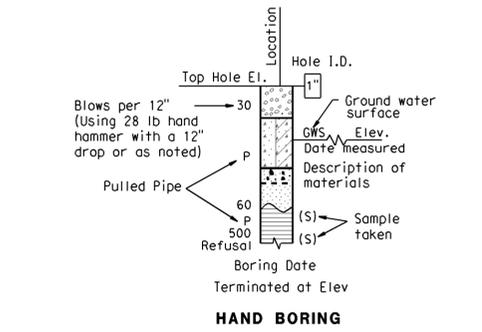
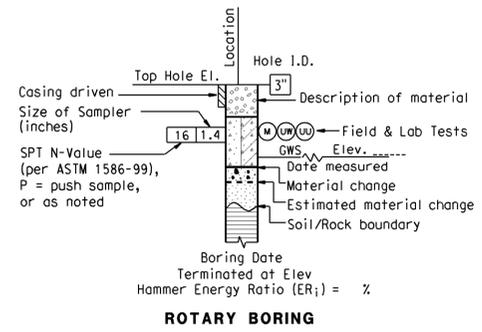
Description	Size	
Boulder	> 12"	
Cobble	3" to 12"	
Gravel	Coarse	3/4" to 3"
	Fine	No. 4 to 3/4"
Sand	Coarse	No. 10 to No. 4
	Medium	No. 40 to No. 10
	Fine	No. 200 to No. 40

CONSISTENCY OF COHESIVE SOILS

Description	Unconfined Compressive Strength (tsf)	Pocket Penetrometer Measurement (tsf)	Torvane Measurement (tsf)	Field Approximation
Very Soft	< 0.25	< 0.25	< 0.12	Easily penetrated several inches by fist
Soft	0.25 to 0.50	0.25 to 0.50	0.12 to 0.25	Easily penetrated several inches by thumb
Medium Stiff	0.50 to 1.0	0.50 to 1.0	0.25 to 0.50	Penetrated several inches by thumb with moderate effort
Stiff	1 to 2	1 to 2	0.50 to 1.0	Readily indented by thumb but penetrated only with great effort
Very Stiff	2 to 4	2 to 4	1.0 to 2.0	Readily indented by thumbnail
Hard	> 4.0	> 4.0	> 2.0	Indented by thumbnail with difficulty

PLASTICITY OF FINE-GRAINED SOILS

Description	Criteria
Nonplastic	A 1/8-inch thread cannot be rolled at any water content.
Low	The thread can barely be rolled and the lump cannot be formed when drier than the plastic limit.
Medium	The thread is easy to roll and not much time is required to reach the plastic limit. The thread cannot be re-rolled after reaching the plastic limit. The lump crumbles when drier than the plastic limit.
High	It takes considerable time rolling and kneading to reach the plastic limit. The thread can be re-rolled several times after reaching the plastic limit. The lump can be formed without crumbling when drier than the plastic limit.



BOREHOLE IDENTIFICATION

Symbol	Hole Type	Description
⊕	A	Auger Boring
⊖	R	Rotary drilled boring
⊙	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
⊖	B	Hollow Stem Auger Boring (HSA)
⊖	CPT	Cone Penetration Test (ASTM D 5778-95)
⊖	O	Other

note: Size in inches.

<p><i>Hisham Nofal</i> DESIGN OVERSIGHT 6-9-09 SIGN OFF DATE</p>		<p>DRAWN BY: K. Reyes CHECKED BY: H. Nofal</p>	<p>R. Bethapudi FIELD INVESTIGATION BY: DATE</p>	<p>PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION</p>	<p>Ayman Solama PROJECT ENGINEER</p>	<p>BRIDGE NO.: 55-0465 POST MILES: 18.85</p>	<p>BASTANCHURY ROAD UC (WIDEN) SOIL LEGEND LOG OF TEST BORINGS SHEET 2 OF 3</p>	<p>REVISION DATES (PRELIMINARY STAGE ONLY)</p> <table border="1"> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> <tr> <td>1</td> <td>06/08/09</td> <td>ISSUED FOR PERMITS</td> </tr> <tr> <td>2</td> <td>06/20/09</td> <td>REVISED</td> </tr> <tr> <td>3</td> <td>06/20/09</td> <td>REVISED</td> </tr> <tr> <td>4</td> <td>06/20/09</td> <td>REVISED</td> </tr> <tr> <td>5</td> <td>06/20/09</td> <td>REVISED</td> </tr> <tr> <td>6</td> <td>06/20/09</td> <td>REVISED</td> </tr> <tr> <td>7</td> <td>06/20/09</td> <td>REVISED</td> </tr> <tr> <td>8</td> <td>06/20/09</td> <td>REVISED</td> </tr> <tr> <td>9</td> <td>06/20/09</td> <td>REVISED</td> </tr> <tr> <td>10</td> <td>06/20/09</td> <td>REVISED</td> </tr> </table>	NO.	DATE	DESCRIPTION	1	06/08/09	ISSUED FOR PERMITS	2	06/20/09	REVISED	3	06/20/09	REVISED	4	06/20/09	REVISED	5	06/20/09	REVISED	6	06/20/09	REVISED	7	06/20/09	REVISED	8	06/20/09	REVISED	9	06/20/09	REVISED	10	06/20/09	REVISED	<p>ORIGINAL SCALE IN INCHES FOR REDUCED PLANS: 0 1 2 3</p> <p>CU 12220 EA OF0321</p> <p>DISREGARD PRINTS BEARING EARLIER REVISION DATES</p> <p>SHEET 21 OF 22</p>
NO.	DATE	DESCRIPTION																																								
1	06/08/09	ISSUED FOR PERMITS																																								
2	06/20/09	REVISED																																								
3	06/20/09	REVISED																																								
4	06/20/09	REVISED																																								
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6	06/20/09	REVISED																																								
7	06/20/09	REVISED																																								
8	06/20/09	REVISED																																								
9	06/20/09	REVISED																																								
10	06/20/09	REVISED																																								

DATE APPROVED September 30, 1968

DIVISION OF ENGINEERING SERVICES - GEOTECHNICAL SERVICES

As-Built Log of Test Borings sheet is considered an informational document only. As such, the State of California registration seal with signature, license number and registration certificate expiration date confirm that this is a true and accurate copy of the original document. This drawing is available and presented only for the convenience of any bidder, contractor or other interested party.

DIST.	COUNTY	ROUTE	POST MILES-TOTAL PROJECT	Sheet No.	Total Sheets
12	Ora	57	18.4/20.9	576	856

Hisham M. Nofal 06/08/09
REGISTERED CIVIL ENGINEER DATE

BASTANCHURY ROAD UC (WIDEN)

LOG OF TEST BORINGS SHEET 3 OF 3

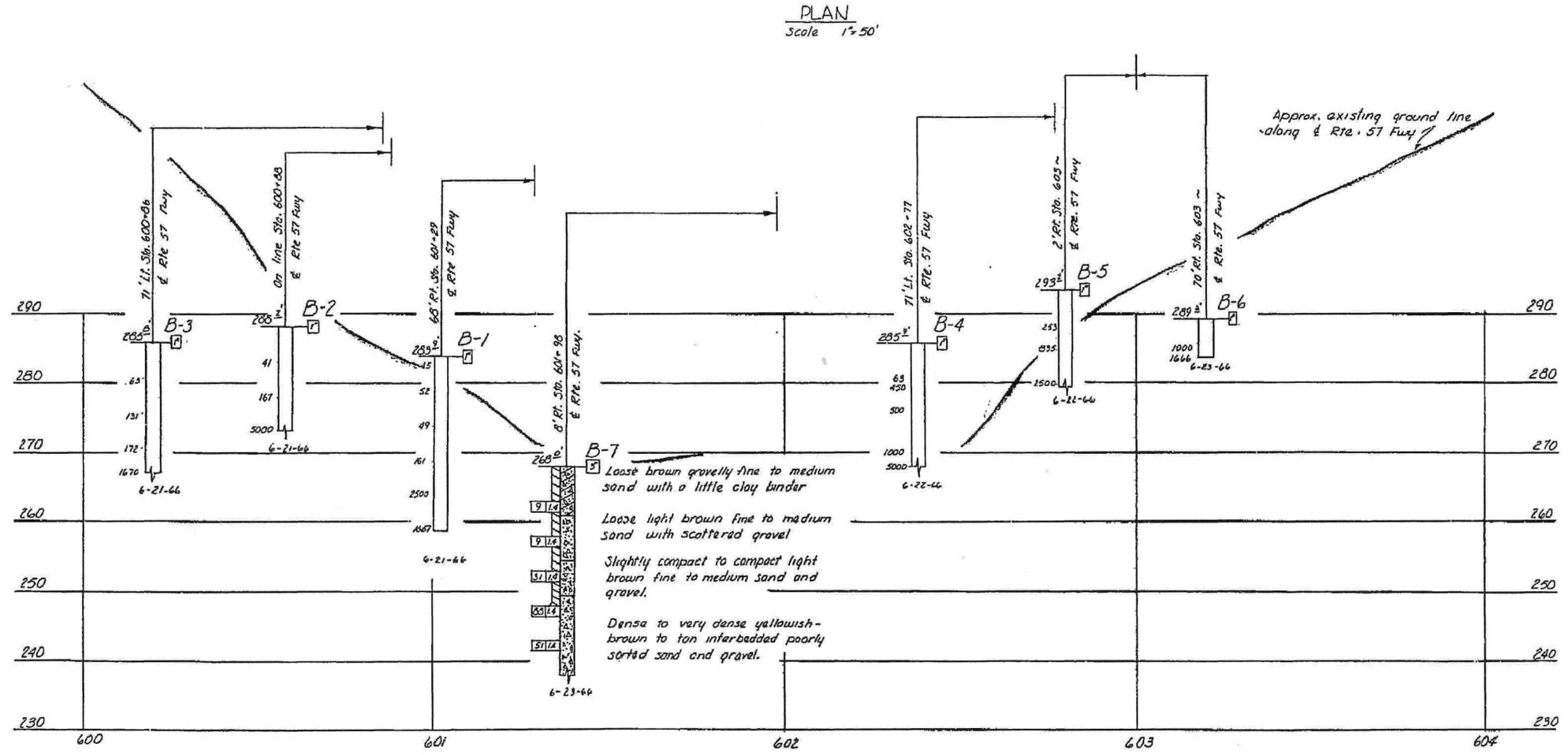
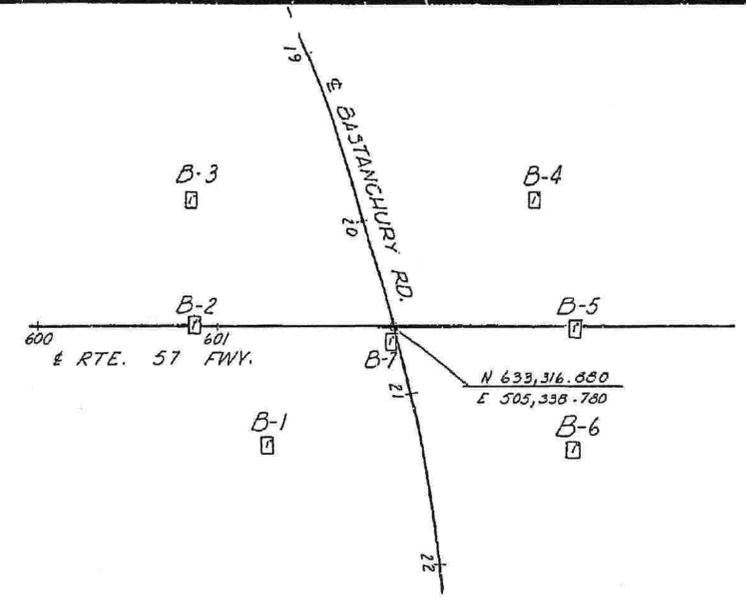
NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA

CU-12220	BRIDGE No.
EA: OF 0231	55-0465
	Sheet of
	22 of 22

To accompany plans dated 1-25-10



BENCH MARK
 BM 35-19A-56 Elev. 281.90
 Set ch. knob on S.W. cor of drop inlet @ W. end of conc. Plume 234' E. of Sta. 538-74 P-Line & 1320'± No. of Pioneer Ave.



INFORMATION ON ACTUAL FOUNDATION CONDITIONS ENCOUNTERED IS ON FILE IN BRIDGE GEOLOGY SECTION

NO AS BUILT CORRECTIONS
AS BUILT
 CORRECTIONS BY _____
 CONTRACT NO. _____
 DATE _____

NO GROUND WATER ENCOUNTERED DURING THIS INVESTIGATION BY BRIDGE DEPT. GEOLOGY SECTION
 DATE June 1966

PROFILE
 Scale Vert. 1" = 10'
 Horiz. 1" = 20'

AS BUILT PLANS
 Contract No. 07-032134
 Date Completed _____
 Document No. 70001578

STATE OF CALIFORNIA
 DEPARTMENT OF PUBLIC WORKS
 DIVISION OF HIGHWAYS

BASTANCHURY ROAD UNDERCROSSING

LOG OF TEST BORINGS

SCALE As Noted	BRIDGE 55-465	FILE	DRAWING 55 465-7
PREL. DRAWING No. P11-			

LEGEND OF OPERATIONS

LEGEND OF BORING OPERATIONS

LEGEND OF PENETRATION BORING

LEGEND OF ROTARY BORING

LEGEND OF SOIL TUBE

LEGEND OF TEST PIT

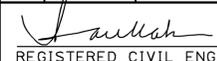
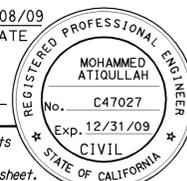
LEGEND OF EARTH MATERIALS

LEGEND OF STANDARD GRADE SIZE LIMITS

BRIDGE DEPARTMENT ENGINEERING GEOLOGY SECTION

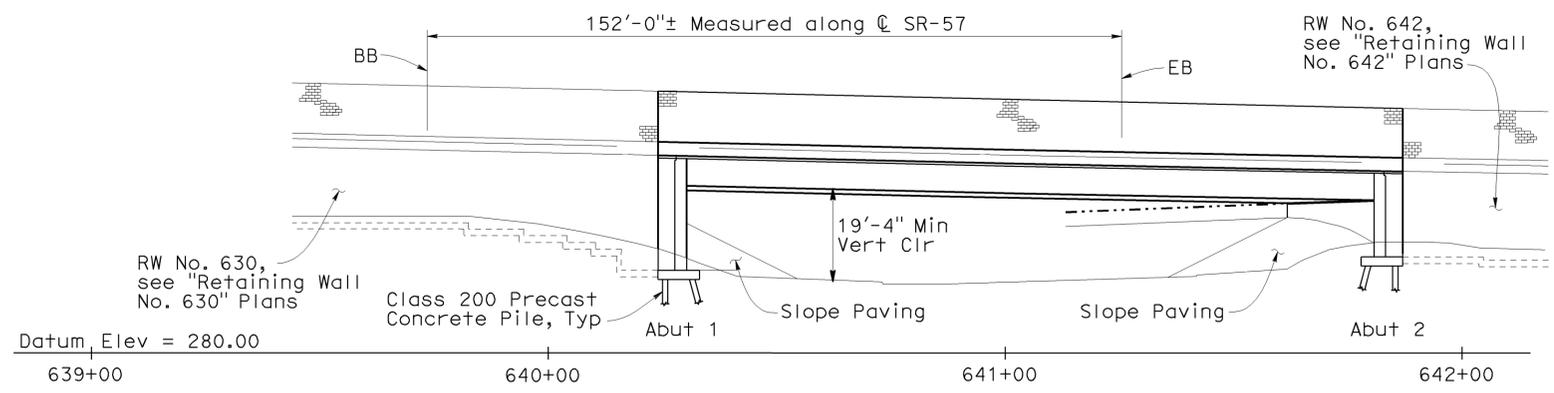
FIELD STUDY BY: D. CHAMFORD 6-23-66
 DRAWN BY: M. ALLENHEAD 7-7-66
 CHECKED BY: C. HIGGINS 7-8-66
 Approval Recommended: *[Signature]* Engineering Geologist

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	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	57	18.4/20.9	577	856
 REGISTERED CIVIL ENGINEER			06/08/09	DATE	
1-25-10 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>					
OCTA 550 S. MAIN STREET ORANGE, CA 92863					
CH2M HILL 6 HUTTON CENTRE DRIVE, SUITE 700 SANTA ANA, CA 92707					

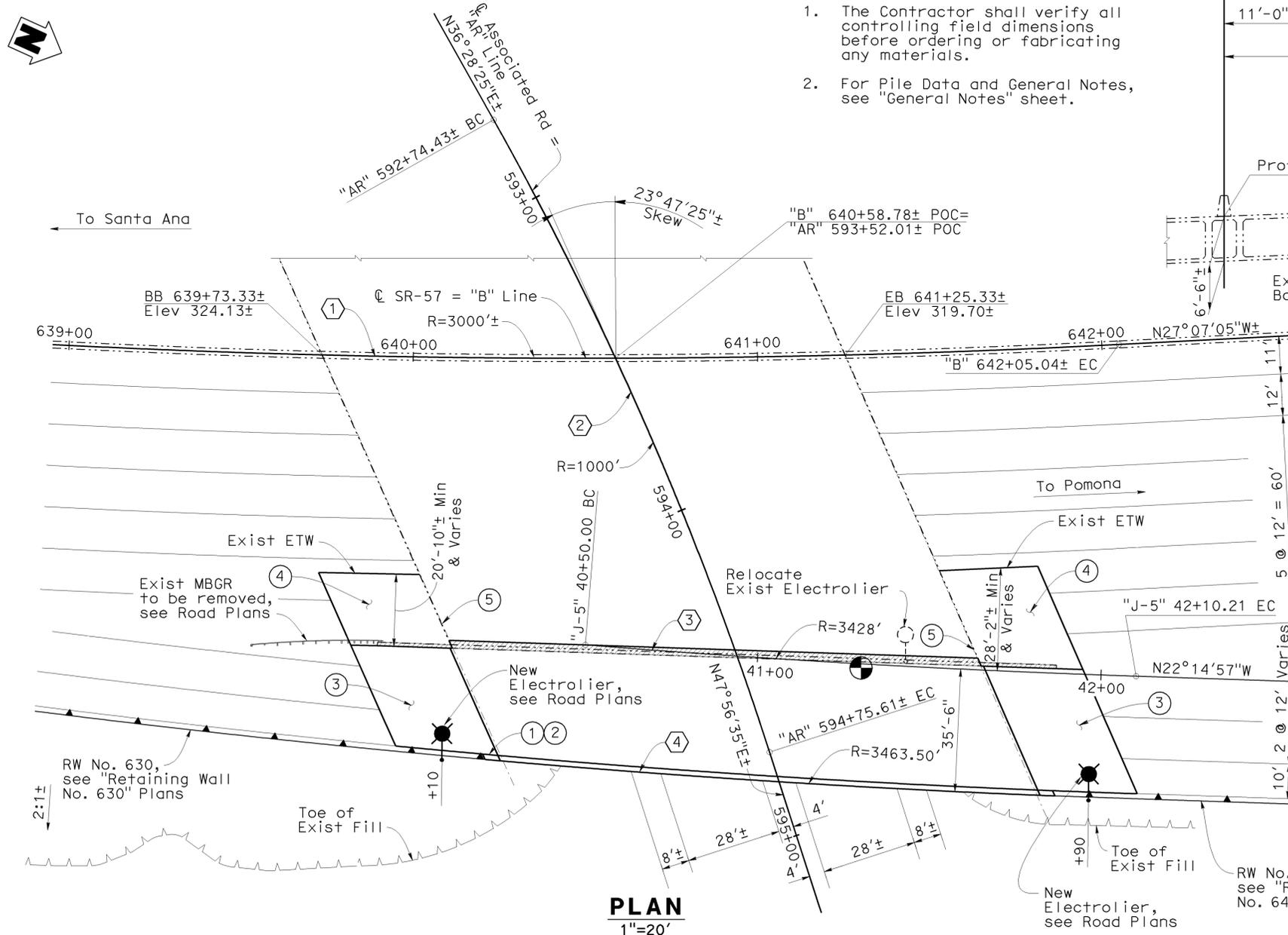
LEGEND:

- Indicates Existing Structure
- Indicates New Construction
- ① Paint "Associated Road Undercrossing"
- ② Paint "Bridge No. 55-0466" & Year Constructed
- ③ Structure Approach Type N(30D)
- ④ Structure Approach Type R(30D)
- ⑤ Replace (Portion) Exist Joint Seal With Type B (MR=1")
- ⑥ Remove Existing Type 9 Barrier, Metal Railing & Overhang
- Denotes Point of Minimum Vertical Clearance
- ▨ Bridge Removal (Portion)
- * Match Existing Grade & Cross Slope

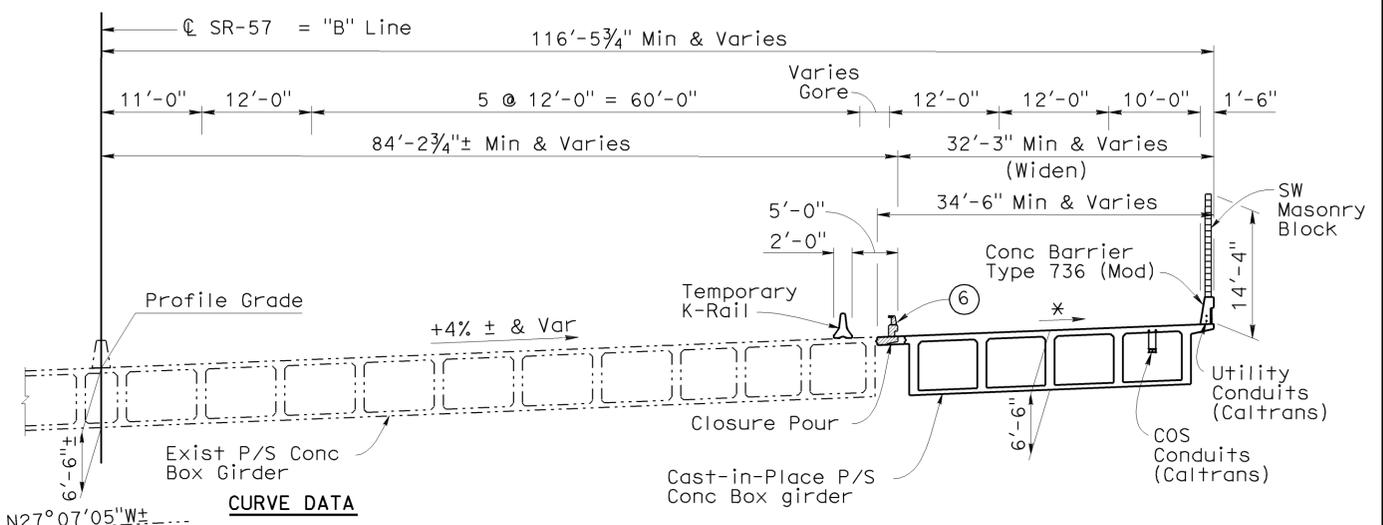


ELEVATION
1"=20'

- NOTES:**
- The Contractor shall verify all controlling field dimensions before ordering or fabricating any materials.
 - For Pile Data and General Notes, see "General Notes" sheet.



PLAN
1"=20'



TYPICAL SECTION
1"=10'

CURVE DATA

- ① CL SR-57
 $R = 3000' \pm$
 $\Delta = 33^\circ 15' 19'' \pm$
 $T = 895.92' \pm$
 $L = 1741.25' \pm$
- ② CL Associated Rd
 $R = 1000' \pm$
 $\Delta = 11^\circ 28' 10'' \pm$
 $T = 100.43' \pm$
 $L = 200.18' \pm$
- ③ "J-5"
 $R = 3428'$
 $\Delta = 02^\circ 40' 40''$
 $T = 80.12'$
 $L = 160.21'$
- ④ Edge of Deck
 $R = 3463'$
 $\Delta = 02^\circ 44' 07''$
 $T = 82.68'$
 $L = 165.34'$

ASSOCIATED ROAD UC (WIDEN)		BR NO 55-0466	
QUANTITIES			
BRIDGE REMOVAL (PORTION) LOCATION E		LUMP	SUM
STRUCTURE EXCAVATION (BRIDGE)	1,745	CY	
STRUCTURE EXCAVATION (TYPE Y-1)(AERIALY DEPOSITED LEAD)	93	CY	
STRUCTURE BACKFILL (BRIDGE)	1,525	CY	
AGGREGATE BASE (APPROACH SLAB)	27	CY	
FURNISH PILE (CLASS 200)	1,547	LF	
DRIVE PILING (CLASS 200)	32	EA	
PRESTRESSING CAST-IN-PLACE CONCRETE	LUMP	SUM	
STRUCTURAL CONCRETE, BRIDGE FOOTING	75	CY	
STRUCTURAL CONCRETE, BRIDGE	588	CY	
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE N)	85	CY	
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE R)	54	CY	
FRACTURED RIB TEXTURE	290	SOFT	
DRILL AND BOND DOWEL	23	LF	
SOUND WALL (BARRIER)(MASONRY BLOCK)	1,790	SOFT	
JOINT SEAL (MR 1")	77	LF	
BAR REINFORCING STEEL (BRIDGE)	97,650	LB	
3" PLASTIC PIPE DOWNDRAIN	165	CY	
SLOPE PAVING (CONCRETE)	91	CY	
MISCELLANEOUS METAL (BRIDGE)	585	LB	
CONCRETE BARRIER (TYPE 736 MODIFIED)	158	LF	

DESIGN OVERSIGHT
 6-9-09
 SIGN OFF DATE

DESIGN	BY M. Atiqullah / A. Issa	CHECKED X. WU	LOAD FACTOR DESIGN	LIVE LOADING: HL-93 AND PERMIT (P-15) DESIGN LOAD
DETAILS	BY M. Atiqullah / A. Issa	CHECKED X. WU	LAYOUT	BY N. Morales
QUANTITIES	BY A. Issa	CHECKED P. Kaviani	SPECIFICATIONS	BY M. Remolador

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

BRIDGE NO.
55-0466
 POST MILES
19.58

ASSOCIATED ROAD UC (WIDEN)
GENERAL PLAN

DESIGN GENERAL PLAN SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

CU 12220
EA 0F0321

Ayman Salama
PROJECT ENGINEER

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
12/18/08 06/07/09 06/08/09	1	22

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	57	18.4/20.9	578	856


 REGISTERED CIVIL ENGINEER DATE 06/08/09
 1-25-10
 PLANS APPROVAL DATE
 MOHAMMED ATIQUULLAH
 No. C47027
 Exp. 12/31/09
 CIVIL
 STATE OF CALIFORNIA

OCTA
 550 S. MAIN STREET
 ORANGE, CA 92863
 CH2M HILL
 6 HUTTON CENTRE DRIVE, SUITE 700
 SANTA ANA, CA 92707

INDEX TO PLANS

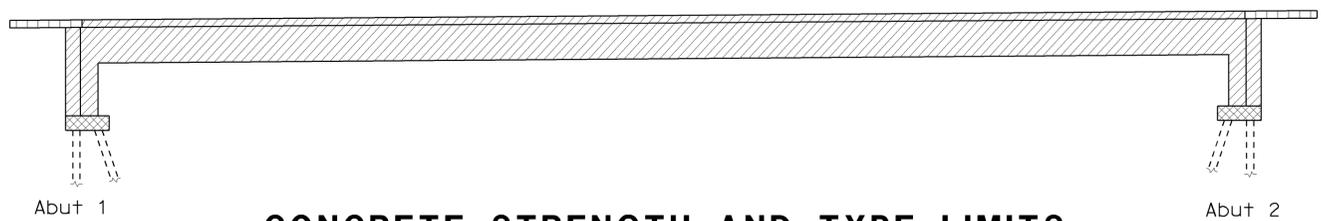
SHEET NO.	TITLE
1.	GENERAL PLAN
2.	INDEX TO PLANS
3.	GENERAL NOTES
4.	FOUNDATION PLAN
5.	ABUTMENT 1 LAYOUT
6.	ABUTMENT 2 LAYOUT
7.	ABUTMENT DETAILS NO. 1
8.	ABUTMENT DETAILS NO. 2
9.	ABUTMENT DETAILS NO. 3
10.	TYPICAL SECTION
11.	GIRDER LAYOUT
12.	GIRDER REINFORCEMENT
13.	STRUCTURE APPROACH TYPE N(30D)
14.	STRUCTURE APPROACH TYPE R(30D)
15.	STRUCTURE APPROACH DRAINAGE DETAILS
16.	SOUNDWALL DETAILS NO. 1
17.	SOUNDWALL DETAILS NO. 2
18.	MISCELLANEOUS DETAILS
19.	SLOPE PAVING - FULL SLOPE
20.	LOG OF TEST BORINGS SHEET 1 OF 3
21.	LOG OF TEST BORINGS SHEET 2 OF 3
22.	LOG OF TEST BORINGS SHEET 3 OF 3

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
B0-5	BRIDGE DETAILS
B0-13	BRIDGE DETAILS
B2-8	PILE DETAILS CLASS 200
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
B14-5	WATER SUPPLY LINE (DETAILS) (PIPE SIZE LESS THAN 4")



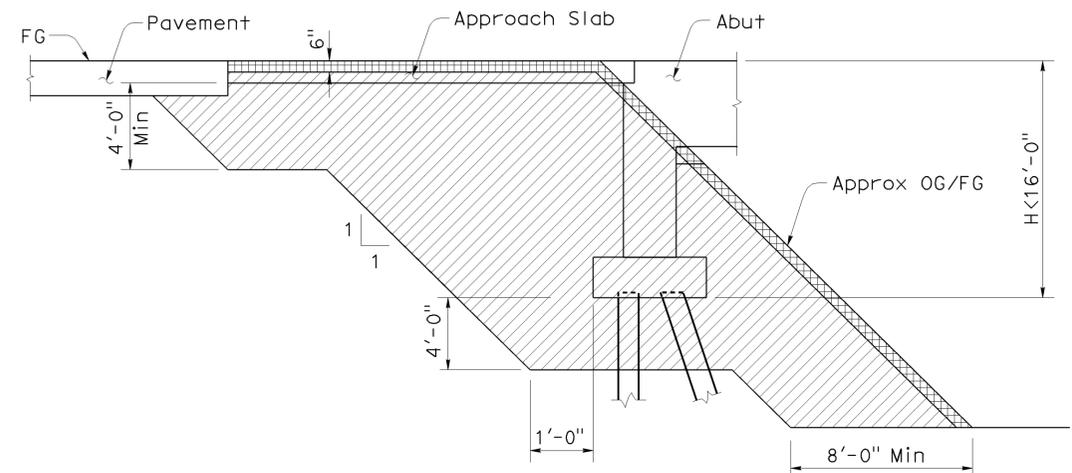
ABBREVIATION
 COS Corridor Operating System



CONCRETE STRENGTH AND TYPE LIMITS

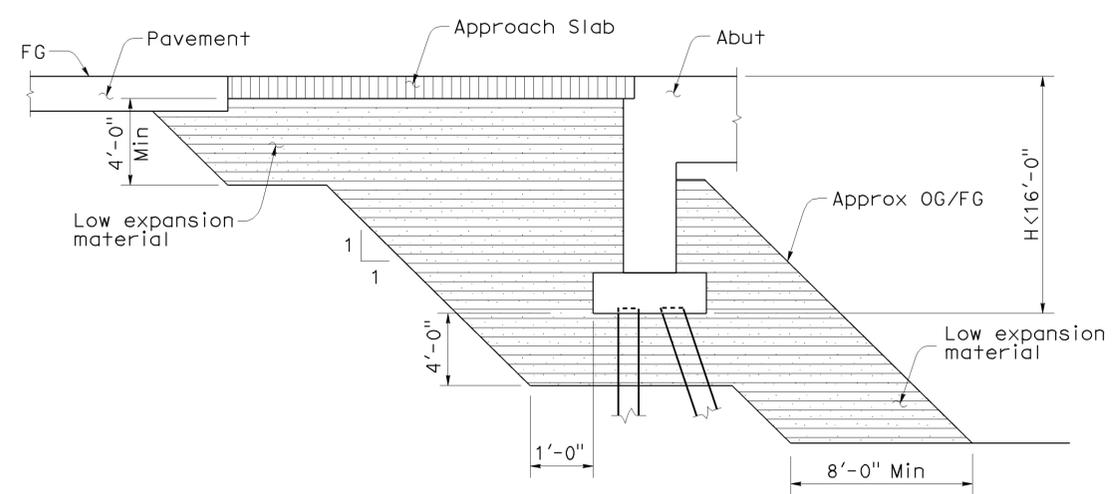
NO SCALE

- LEGEND**
-  = Structural Concrete, Bridge, See Prestressing Notes on "Girder Layout" Sheet.
 -  = Structural Concrete, Bridge Footing
 -  = Structural Concrete, Approach Slab



LIMITS OF STRUCTURE EXCAVATION

No scale



LOW EXPANSION MATERIAL BACKFILL LIMITS

No scale

NOTES:

- Expansion Index to be determined by ASTM D4829
- Low Expansion material shall be EI<50 or SE>20 at New Construction only.
- Backfill shall be placed simultaneously at both abutments after the deck is completed.

LEGEND

-  = Structure Excavation (Bridge)
-  = Structure Backfill (Bridge) (Low Expansion)
-  = Structure Excavation (Type Y-1) (Aerially Deposited Lead)

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


 DESIGN OVERSIGHT
 6-9-09
 SIGN OFF DATE

DESIGN	BY M. Atiqullah / A. Issa	CHECKED X. Wu
DETAILS	BY M. Atiqullah	CHECKED X. Wu
QUANTITIES	BY A. Issa	CHECKED P. Kaviani

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

Ayman Salama
 PROJECT ENGINEER

BRIDGE NO.	55-0466
POST MILE	19.58

ASSOCIATED ROAD UC (WIDEN) INDEX TO PLANS

DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



CU 12220
EA 0F0321

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)				
12/18/08	06/07/09	06/08/09		

SHEET	OF
2	22

USERNAME => h1renard DATE PLOTTED => 25-JAN-2010 TIME PLOTTED => 08:11

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	57	18.4/20.9	579	856

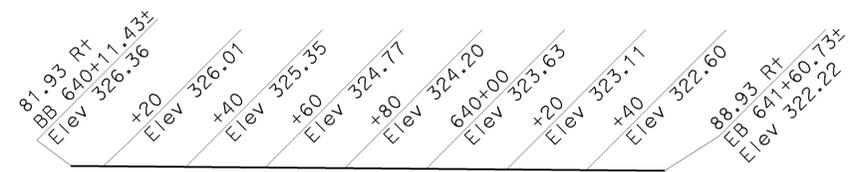
REGISTERED CIVIL ENGINEER: *M. Atiullah* DATE: 06/08/09
 PLANS APPROVAL DATE: 1-25-10
 No. C47027
 Exp. 12/31/09
 CIVIL
 STATE OF CALIFORNIA

OCTA
 550 S. MAIN STREET
 ORANGE, CA 92863

CH2M HILL
 6 HUTTON CENTRE DRIVE, SUITE 700
 SANTA ANA, CA 92707



116'-5³/₄" VARIES TO 129'-3⁵/₈" RIGHT @ SR-57 = "B" LINE



81'-11¹/₈" VARIES TO 88'-11¹/₈" RIGHT @ SR-57 = "B" LINE

PROFILE GRADES

No Scale

LEGEND

+XX.XX
XXX.XX Denotes station & elevation at top of exist deck.

PILE DATA TABLE

Location	Pile Type	Nominal Resistance (kips)		Design Tip Elevation (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance (kips)
		Compression	Tension			
Abut 1 (Step 1)	Class 200 (Alternative X)	370	0	260.25(a) 260.25(c) 284.25(d)	260.25	370
Abut 1 (Step 2)	Class 200 (Alternative X)	370	0	255.25(a) 255.25(c) 279.25(d)	255.25	370
Abut 1 (Step 3)	Class 200 (Alternative X)	370	0	250.25(a) 250.25(c) 274.25(d)	250.25	370
Abut 2 (Step 1)	Class 200 (Alternative X)	360	0	257.18(a) 261.18(c) 281.18(d)	257.18	360
Abut 2 (Step 2)	Class 200 (Alternative X)	360	0	252.25(a) 255.25(c) 276.25(d)	252.25	360

Design Tip Elevation for Abutments controlled by following demand:
 (a) Compression; (c) Settlement; (d) Lateral Capacity.

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

GENERAL NOTES
LOAD AND RESISTANCE FACTOR DESIGN (LRFD)

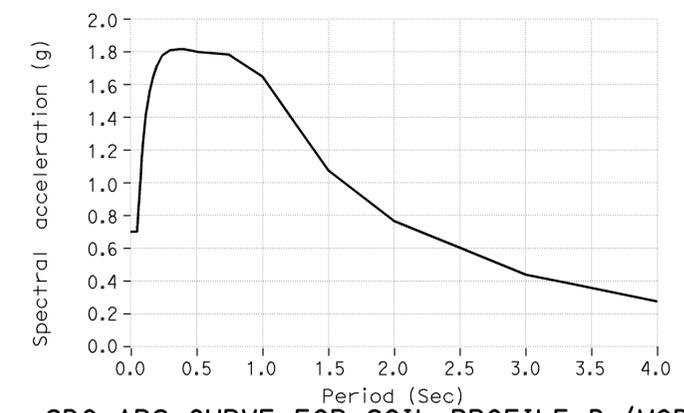
Design: AASHTO LRFD Bridge Design specifications, 3rd edition with interims through 2006 and the Caltrans Amendments 3.06.01; except that abutments, earth retaining system, Bridge details taken from Standard Plans March 2006 and earlier versions, and Standard Bridge Details XS sheets, are designed using Bridge Design specifications (1996 AASHTO w/Revisions by Caltrans)

Seismic Design: Caltrans Seismic Design Criteria (SDC) Version 1.4 June 2006

Dead Load: Includes 35 psf for future wearing surface.
 The sound wall dead load is distributed on the right side of the bridge with 60% of the moment and 100% of the shear forces to the exterior girder, and 20% of the moment and 20% of the shear to the first interior girder

Live Loading: LRFD: HL-93 and permit (P-15) Design Load

Seismic Loading: Caltrans SDC - ARS Curve Fig B-8 for Soil Profile D (Modified) (Magnitude = 7.25± 0.25). (Peak bed rock acceleration = 0.6 g) (Increased by 20% for periods greater than 1.0 second, no increase for periods less than 0.5 second, and linear interpolation between 0.5 and 1.0 second).



SDC ARS CURVE FOR SOIL PROFILE D (MODIFIED)

Reinforced Concrete:
 New Concrete (Bridge)
 fy = 60,000 psi
 f'c = 3,600 psi, Unless otherwise noted
 n = 8

Prestressed Concrete:
 See prestressing notes, on "Girder Layout" sheet.

DESIGN OVERSIGHT <i>Jan Hamaguchi</i> 6-9-09 SIGN OFF DATE	DESIGN BY M. Atiullah / A. Issa	CHECKED X. Wu	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	BRIDGE NO. 55-0466	ASSOCIATED ROAD UC (WIDEN) GENERAL NOTES
	DETAILS BY M. Atiullah	CHECKED X. Wu		PROJECT ENGINEER Ayman Salama	
QUANTITIES BY A. Issa	CHECKED P. Kaviani	POST MILE 19.58			

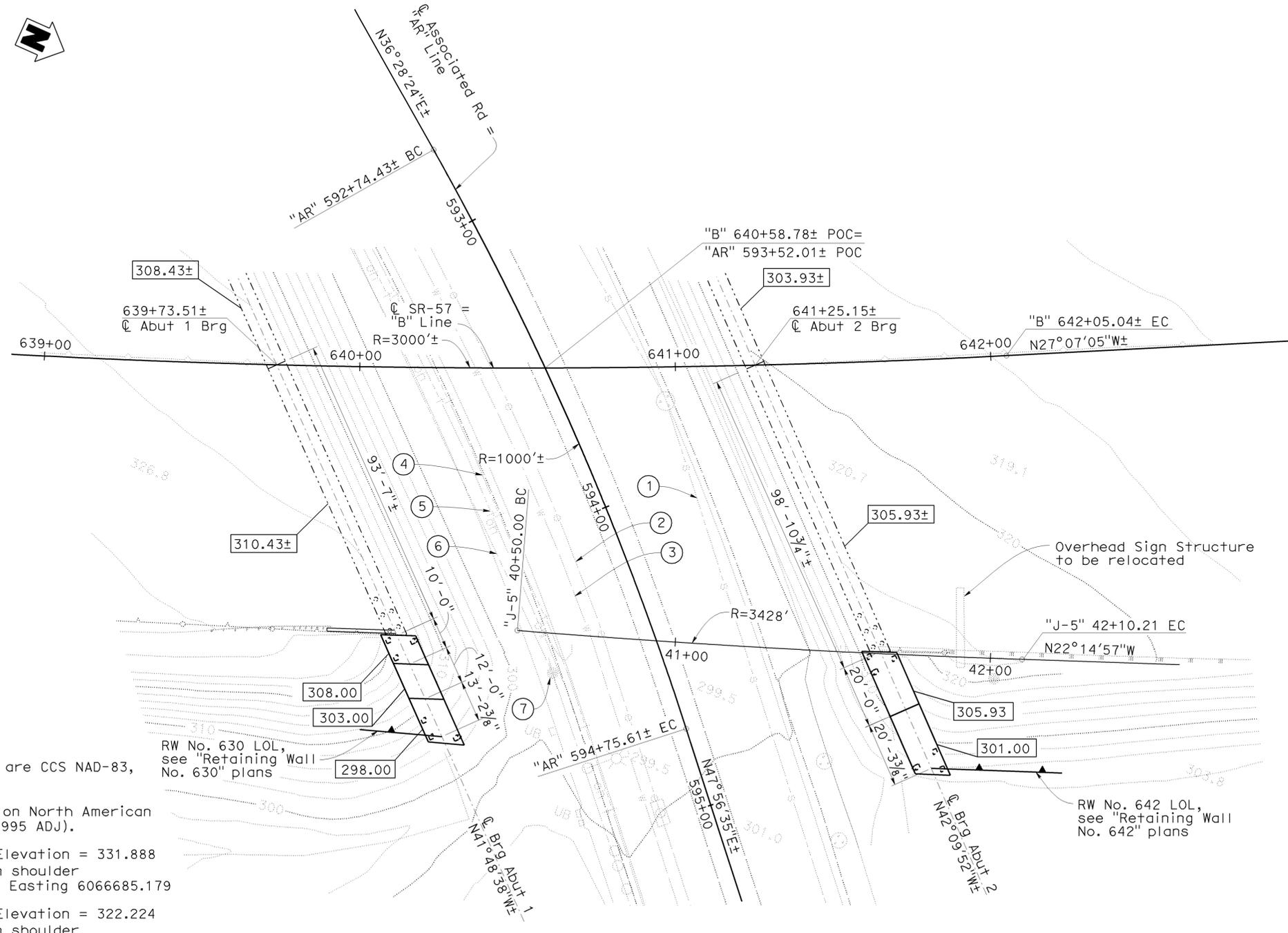
DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3 CU 12220 EA 0F0321 DISREGARD PRINTS BEARING EARLIER REVISION DATES 12/18/08 06/07/09 06/08/09 SHEET 3 OF 22

USERNAME => h1renard DATE PLOTTED => 25-JAN-2010 TIME PLOTTED => 08:11

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	57	18.4/20.9	580	856


 REGISTERED CIVIL ENGINEER DATE 06/08/09
 PLANS APPROVAL DATE 1-25-10
 No. C47027
 Exp. 12/31/09
 CIVIL
 STATE OF CALIFORNIA

OCTA
 550 S. MAIN STREET
 ORANGE, CA 92863
 CH2M HILL
 6 HUTTON CENTRE DRIVE, SUITE 700
 SANTA ANA, CA 92707



NO.	UTILITY	ACTION
①	8" VCP Sewer (City of Fullerton)	Protect in place
②	12 KV UG Elec 6-6" Cond SCE	Protect in place
③	8" CI Water (City of Fullerton)	Protect in place
④	UG CATV Time Warner	Protect in place
⑤	UG Comm AT&T	Protect in place
⑥	66 KV OH Elec SCE OH Comm SCE	Protect in place
⑦	Exist Steel Pole	To be Relocated

- LEGEND**
- Indicates Existing Structure
 - Indicates New Construction
 - ⊔ Indicates New Class 200 Precast Conc Piles
 - ⊔ Indicates New Class 200 Precast Conc Piles (Battered)
 - ⊔ Indicates Exist Class 90 Precast Conc Piles
 - ⊗ or ⊙ Denotes Existing Electrolier
 - ⊗ Denotes Existing Sewer Manhole
 - ⊗ Denotes Existing Power Pole
 - ⊔ Denotes Existing Utility Cabinet
 - XXX.XX Indicates Bottom of Footing Elevation

NOTE:

- The Contractor shall verify all controlling field dimensions before ordering or fabricating any materials.

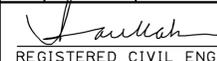
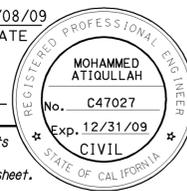
BENCHMARKS AND DATUM
 Horizontal coordinates are CCS NAD-83, Zone 6
 Vertical control based on North American Vertical Datum 1988 (1995 ADJ).
Pt 1150 Elevation = 331.888
 Set Mag Nail & Flash in shoulder
 Northing 2277373.804 Easting 6066685.179
Pt 1151 Elevation = 322.224
 Set Mag Nail & Flash in shoulder
 Northing 2277718.273 Easting 6066549.702
Pt 1068 Elevation = 310.252
 Set Mag Nail & Flash in shoulder
 Northing 2277999.248 Easting 6066394.642

PLAN
1"=20'

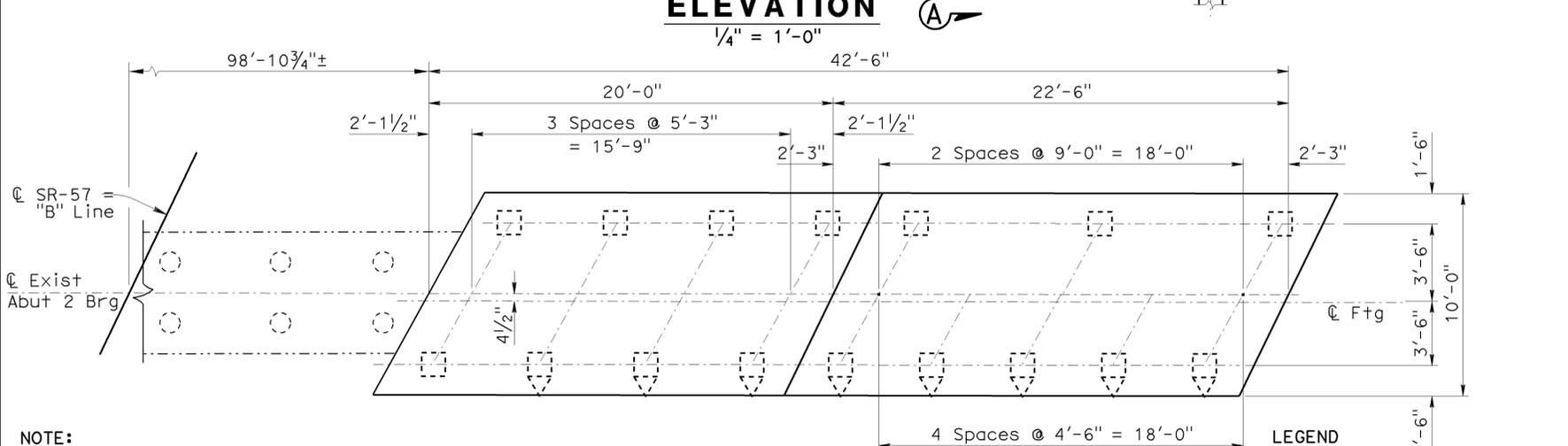
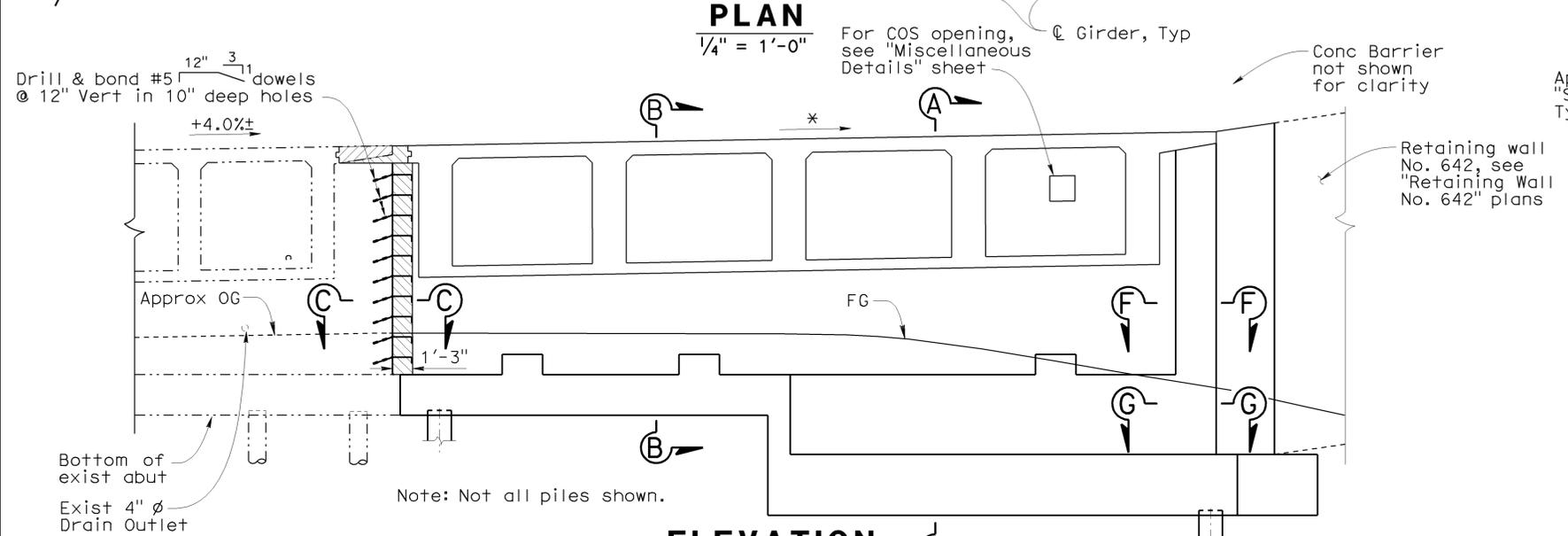
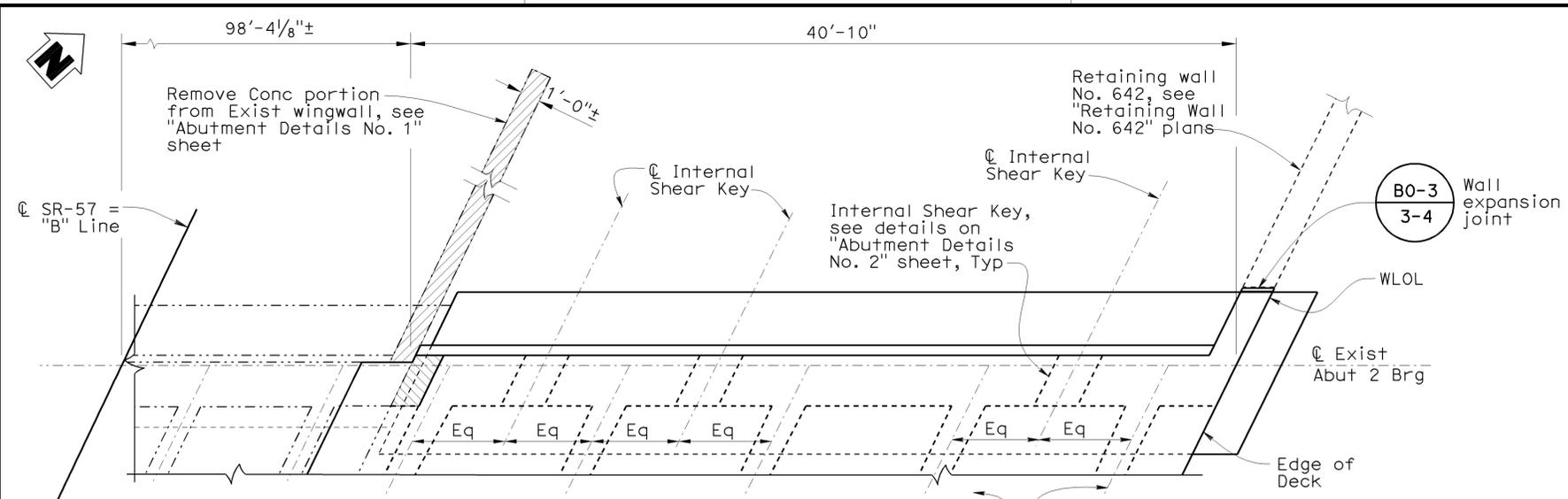
06/08/09
 APPROVAL DATE
 REGISTERED PROFESSIONAL
 H. M. Wilson

DESIGN OVERSIGHT 6-9-09 SIGN OFF DATE	SCALE: 1"=20' PHOTOGRAMMETRY AS OF: X SURVEYED BY M. Noreen FIELD CHECKED BY M. Wilson	VERT. DATUM NAVD-88 (1995 ADJ) ALIGNMENT TIES X DRAFTED BY X CHECKED BY X	HORZ. DATUM NAD83 DESIGN BY M. Atiullah / A. Issa DETAILS BY N. Morales QUANTITIES BY A. Issa	CHECKED X. Wu CHECKED X. Wu CHECKED P. Kaviani	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	Ayman Salama PROJECT ENGINEER	BRIDGE No. 55-0466 POST MILE 19.58	ASSOCIATED ROAD UC (WIDEN) FOUNDATION PLAN	REVISION DATES (PRELIMINARY STAGE ONLY) 12/18/08 01/07/09 06/08/09	SHEET 4 OF 22
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	57	18.4/20.9	582	856

 REGISTERED CIVIL ENGINEER DATE 06/08/09		
1-25-10 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.		

OCTA 550 S. MAIN STREET ORANGE, CA 92863	
CH2M HILL 6 HUTTON CENTRE DRIVE, SUITE 700 SANTA ANA, CA 92707	



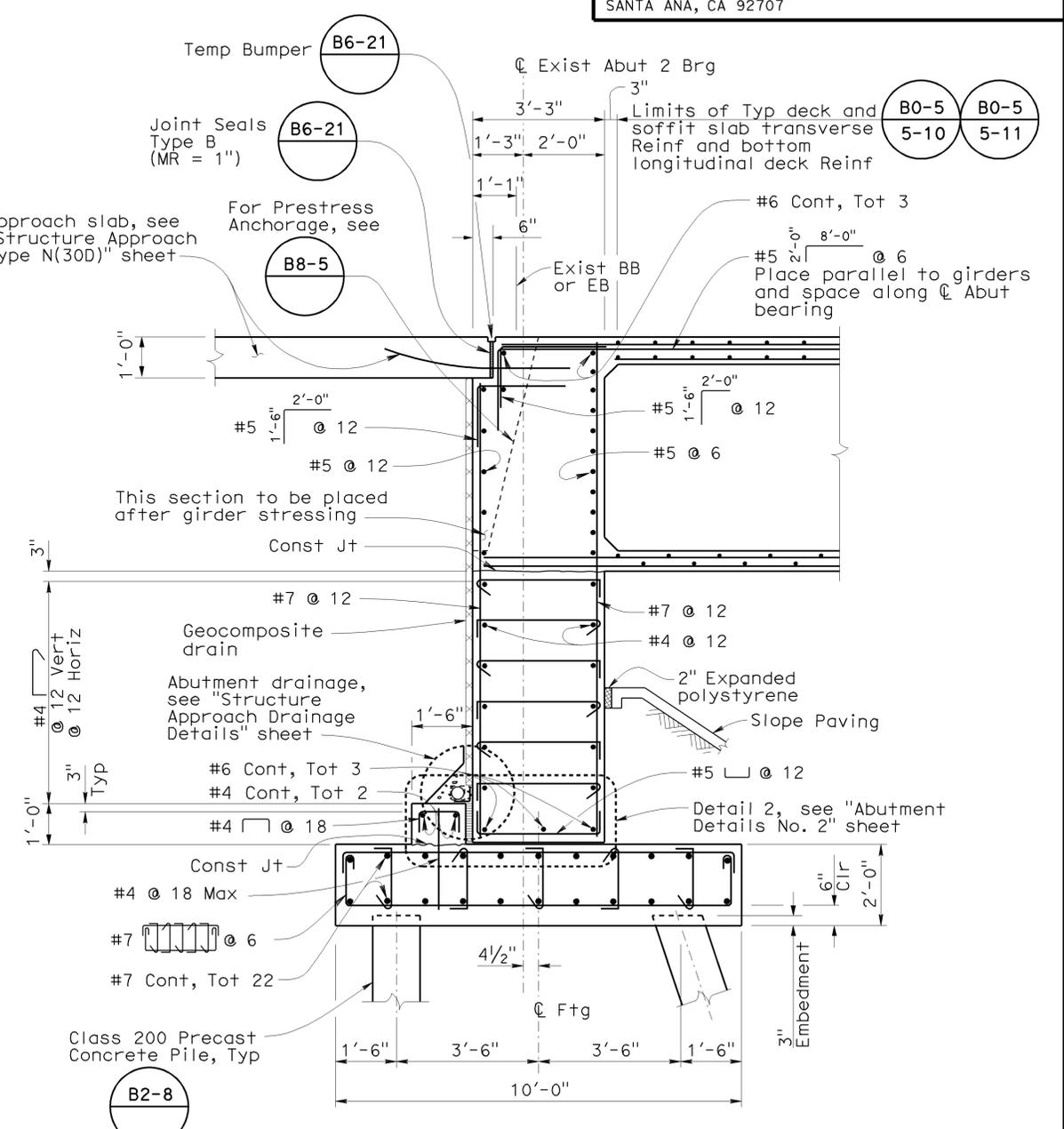
NOTE:
 The Contractor shall verify all controlling field dimensions before ordering or fabricating any materials.

LEGEND

- Bridge removal (Portion)
- Abutment Closure Pour
- * Match Existing Grade

NOTES:

- For Section A-A, see "Abutment 1 Layout" sheet
- For Section C-C, see "Abutment Details No. 1" sheet.
- For Sections F-F & G-G, see "Abutment Details No. 3" sheet.

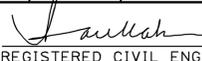
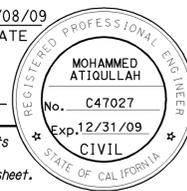


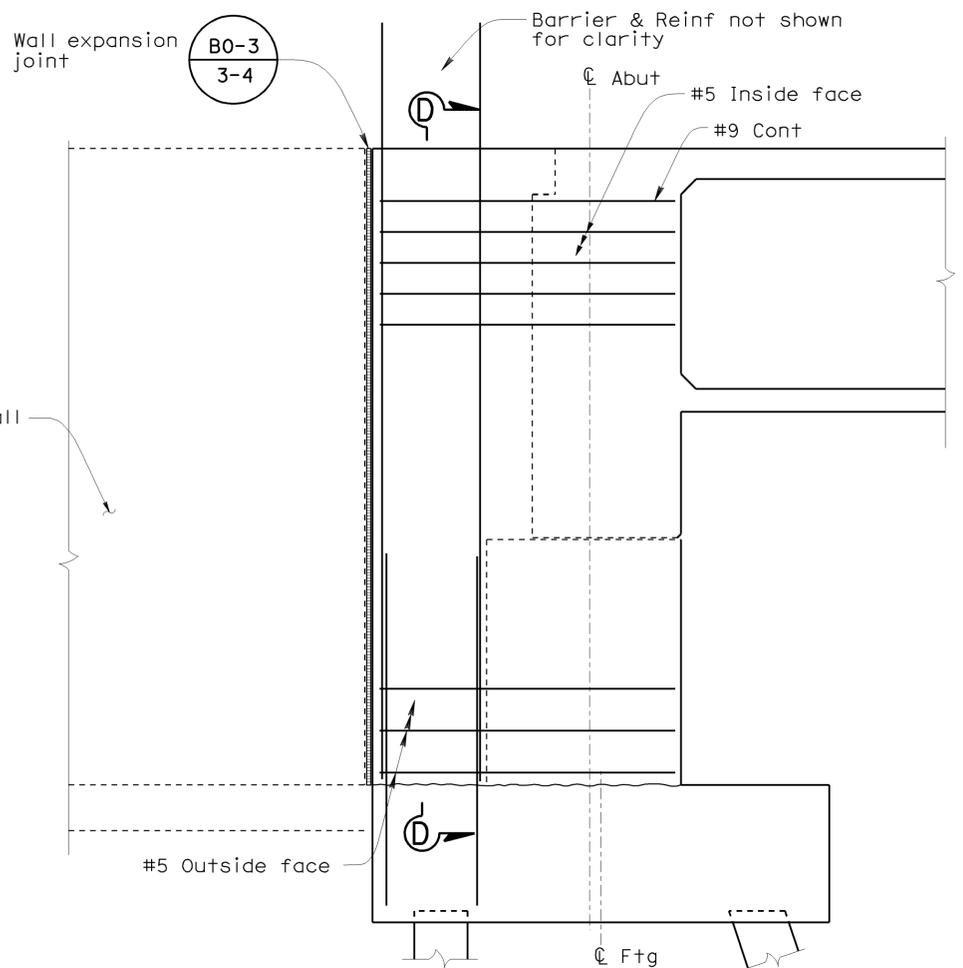
LEGEND

- Indicates Vertical Pile
- Indicates Pile Battered 1:3 in direction of arrow

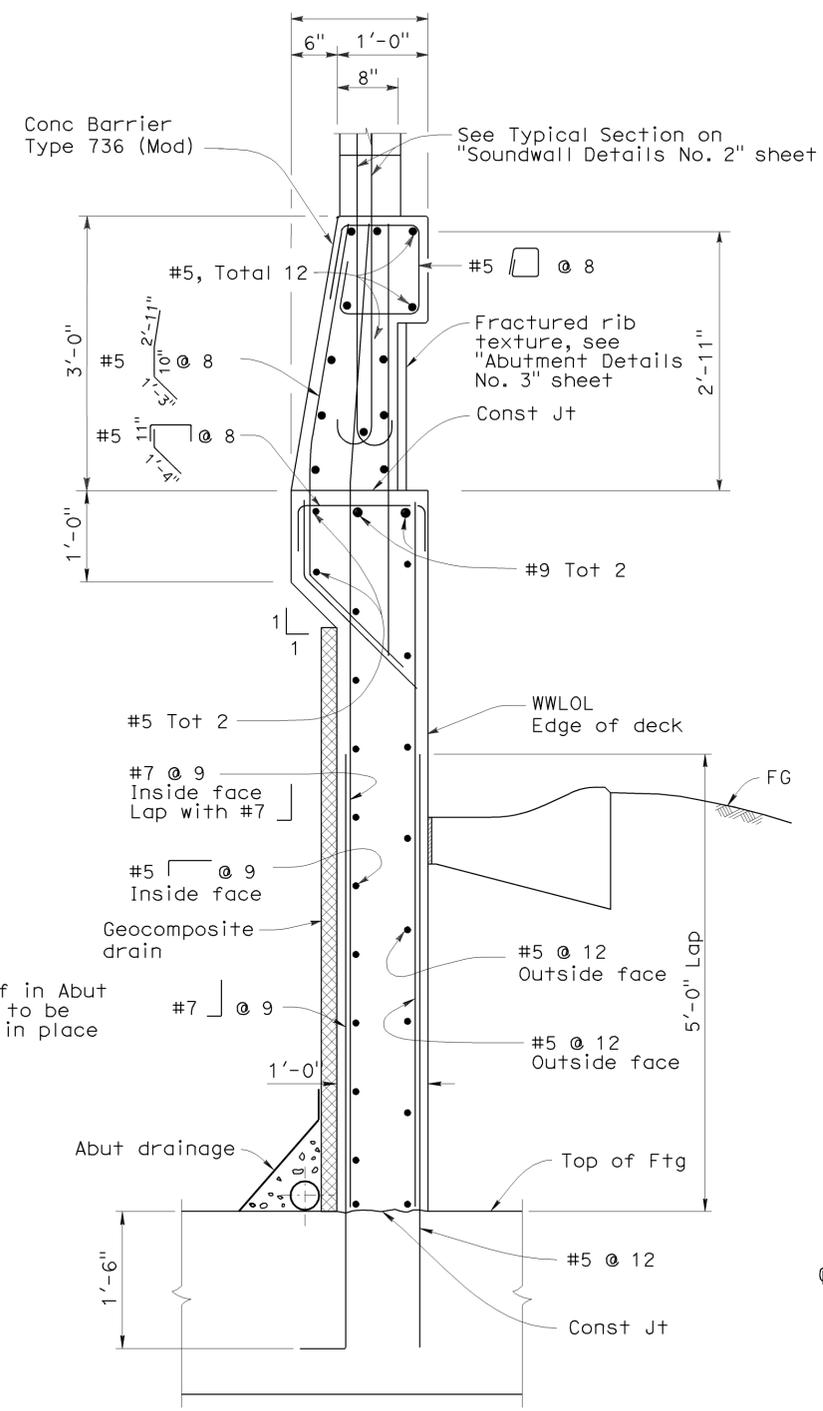
 DESIGN OVERSIGHT 6-9-09 SIGN OFF DATE	DESIGN BY M. Atiullah / A. Issa CHECKED X. Wu	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	BRIDGE NO. 55-0466 PROJECT ENGINEER Ayman Salama	ASSOCIATED ROAD UC (WIDEN) ABUTMENT 2 LAYOUT
	DETAILS BY M. Atiullah CHECKED X. Wu		POST MILE 19.58	
	QUANTITIES BY A. Issa CHECKED P. Kaviani		REVISION DATES (PRELIMINARY STAGE ONLY) 12/18/08 06/07/09 06/08/09	

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3	CU 12220 EA 0F0321	SHEET 6 OF 22
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	57	18.4/20.9	583	856
 REGISTERED CIVIL ENGINEER			06/08/09	DATE	
1-25-10			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.					
OCTA 550 S. MAIN STREET ORANGE, CA 92863					
CH2M HILL 6 HUTTON CENTRE DRIVE, SUITE 700 SANTA ANA, CA 92707					



WINGWALL ELEVATION
 1/2"=1'-0"
 (Abutment 1 shown, Abutment 2 similar)



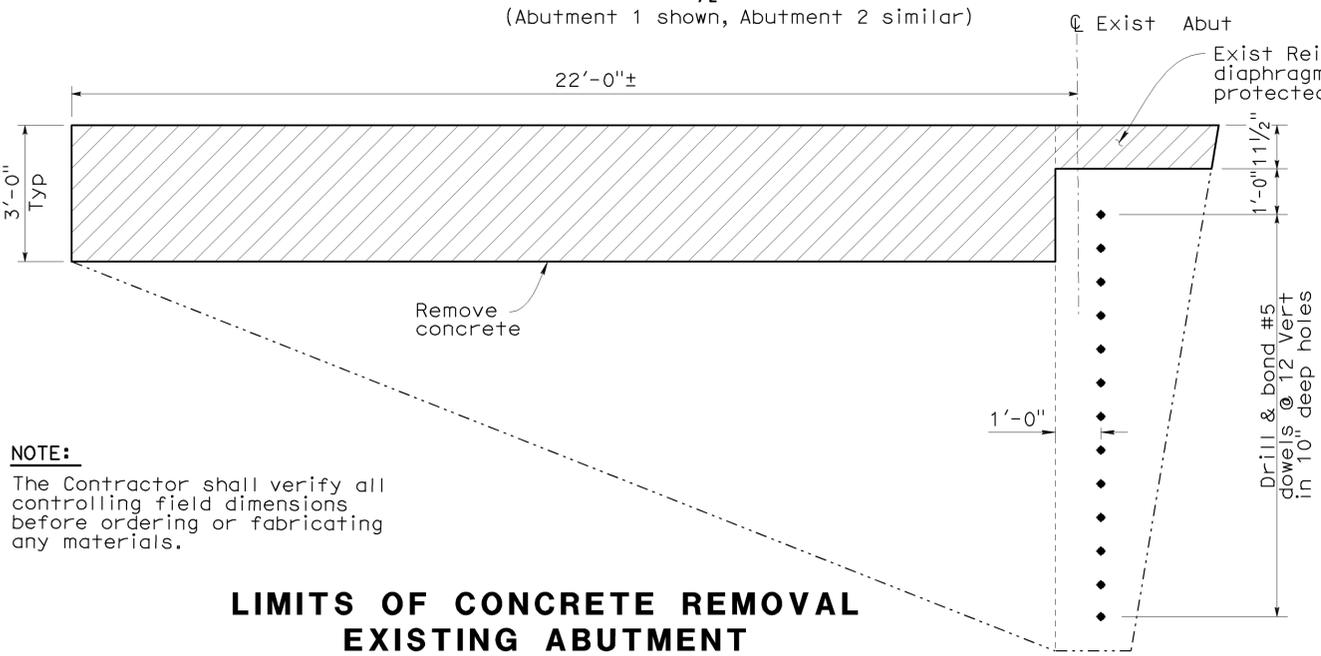
SECTION D-D
 1"=1'-0"

LEGEND

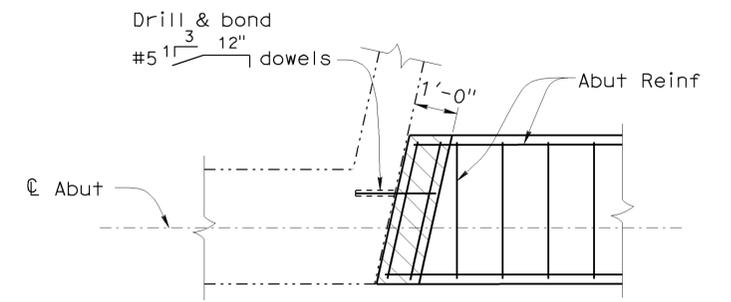
-  Bridge removal (Portion)
-  Abutment Closure Pour

NOTES:

1. For location of Section C-C, See "Abutment 1 Layout" and "Abutment 2 Layout" sheets.
2. Locations of cored and drilled holes shown in the plans are approximate. Prior to placing holes in concrete, the Contractor shall locate all reinforcing steel and adjust the locations of the holes to clear all reinforcing bars (except as Noted). Final hole locations are subject to the approval of the Engineer.
3. Space new reinforcement to avoid existing reinforcement.
4. Dimensions will vary with cross slope and with certain thickness of surfacing.



LIMITS OF CONCRETE REMOVAL EXISTING ABUTMENT
 1/2"=1'-0"



SECTION C-C
 1/2"=1'-0"
 (Abutment 2 shown, Abutment 1 similar)

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

DESIGN OVERSIGHT

 6-9-09
 SIGN OFF DATE

DESIGN	BY M. Atiqullah / A. Issa	CHECKED X. Wu
DETAILS	BY M. Atiqullah	CHECKED X. Wu
QUANTITIES	BY A. Issa	CHECKED P. Kaviani

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 Ayman Salama
 PROJECT ENGINEER

BRIDGE NO.	55-0466
POST MILE	19.58

ASSOCIATED ROAD UC (WIDEN)
ABUTMENT DETAILS NO. 1

DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

CU 12220
 EA 0F0321

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)			
12/18/08	06/07/09	06/08/09	

SHEET 7 OF 22

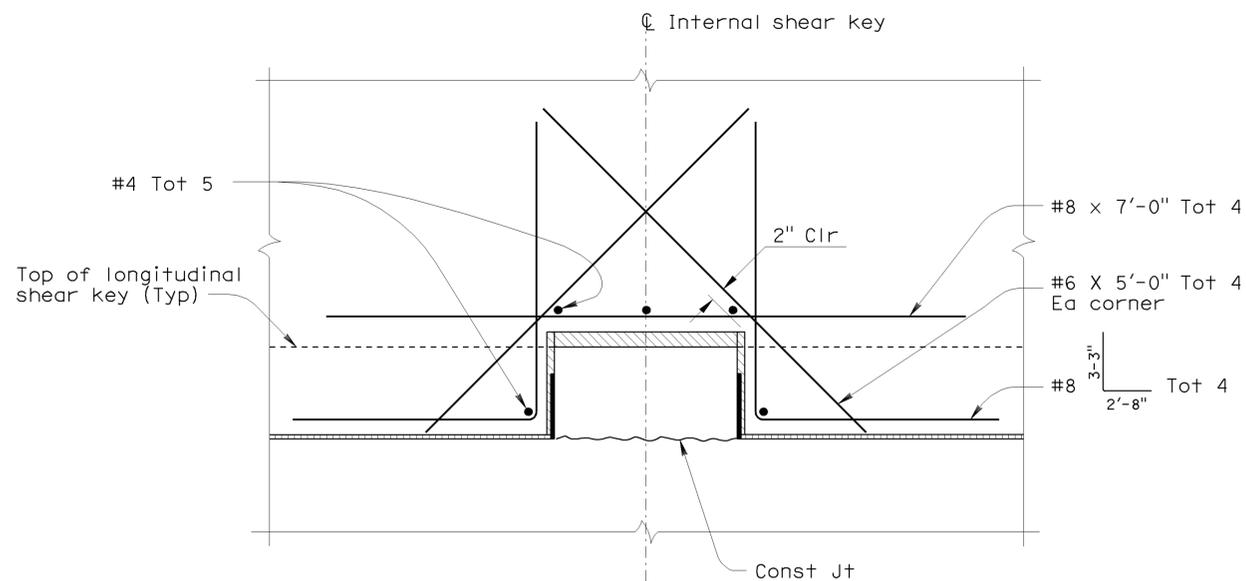
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	57	18.4/20.9	584	856

REGISTERED CIVIL ENGINEER	DATE
MOHAMMED ATIQULLAH	06/08/09
PLANS APPROVAL DATE	
No. C47027	
Exp. 12/31/09	
CIVIL	

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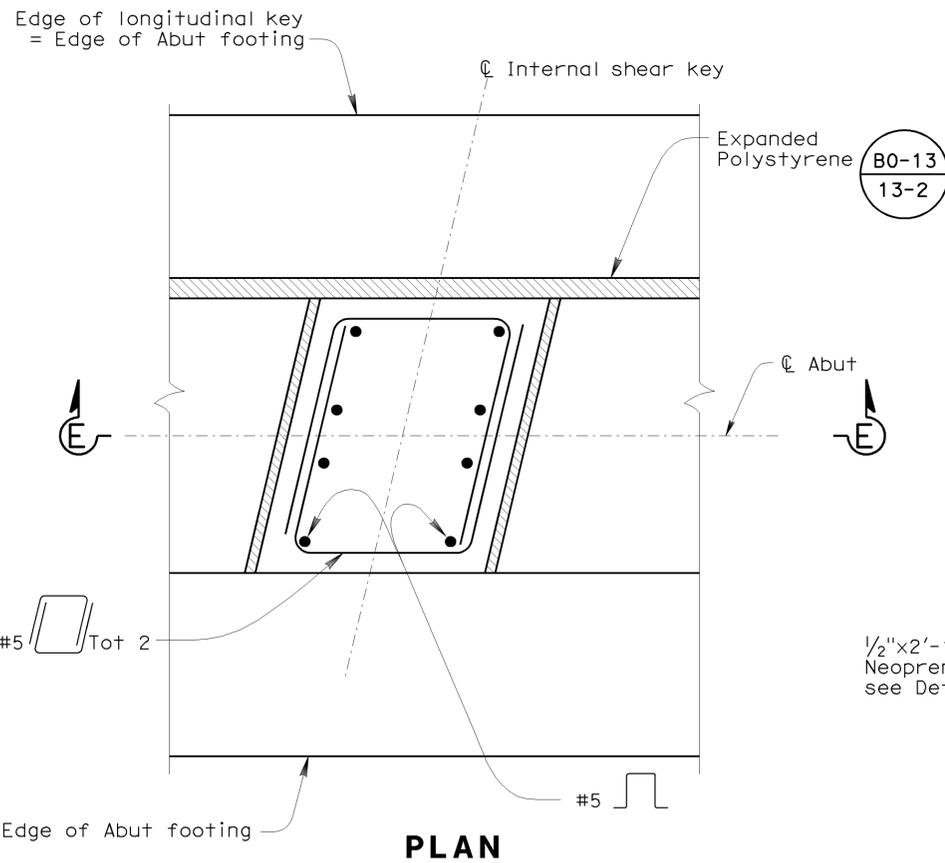
OCTA
550 S. MAIN STREET
ORANGE, CA 92863

CH2M HILL
6 HUTTON CENTRE DRIVE, SUITE 700
SANTA ANA, CA 92707



DIAPHRAGM DETAIL AT SHEAR KEY

1"=1'-0"

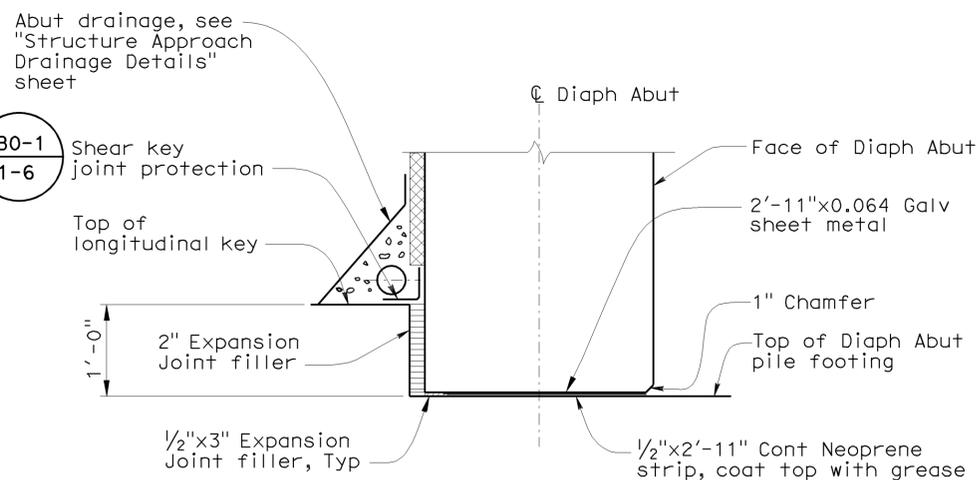


PLAN

INTERNAL SHEAR KEY DETAILS

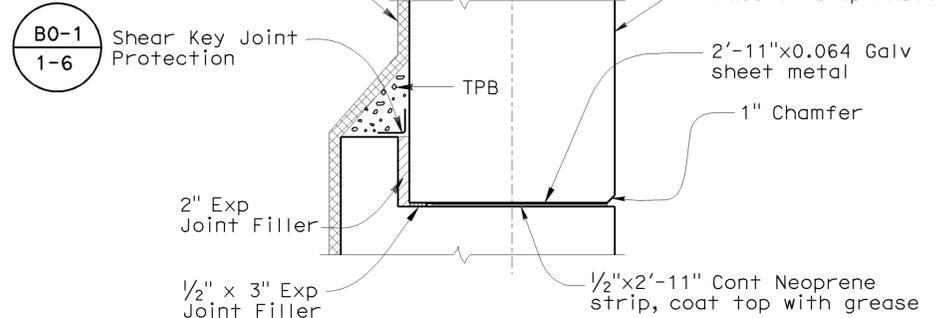
1"=1'-0"

Abutment 1 shown, Abutment 2 similar



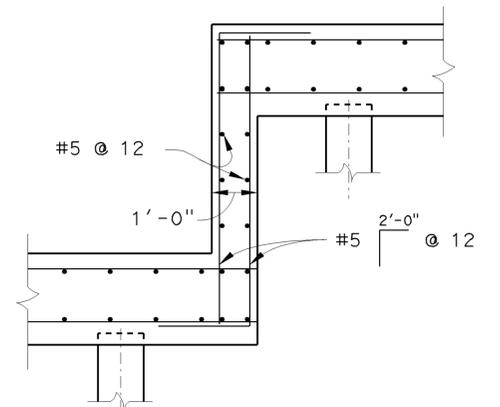
DETAIL 2

No Scale



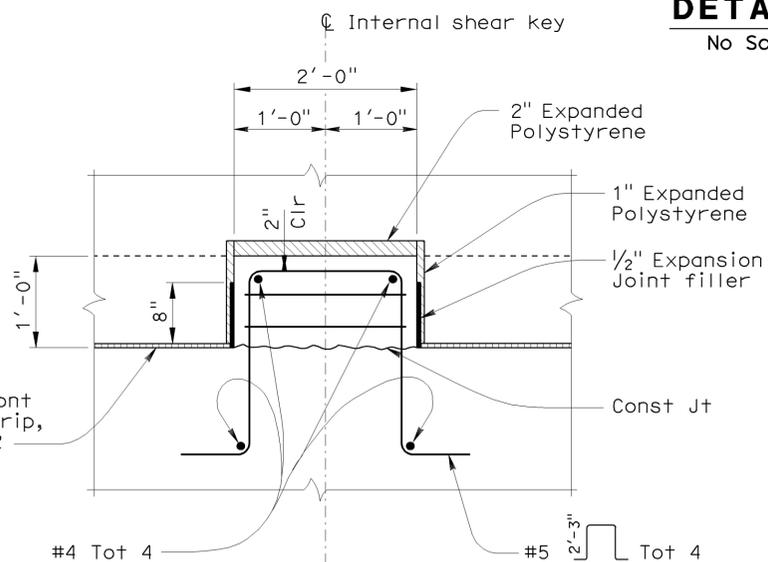
DETAIL 1

No Scale

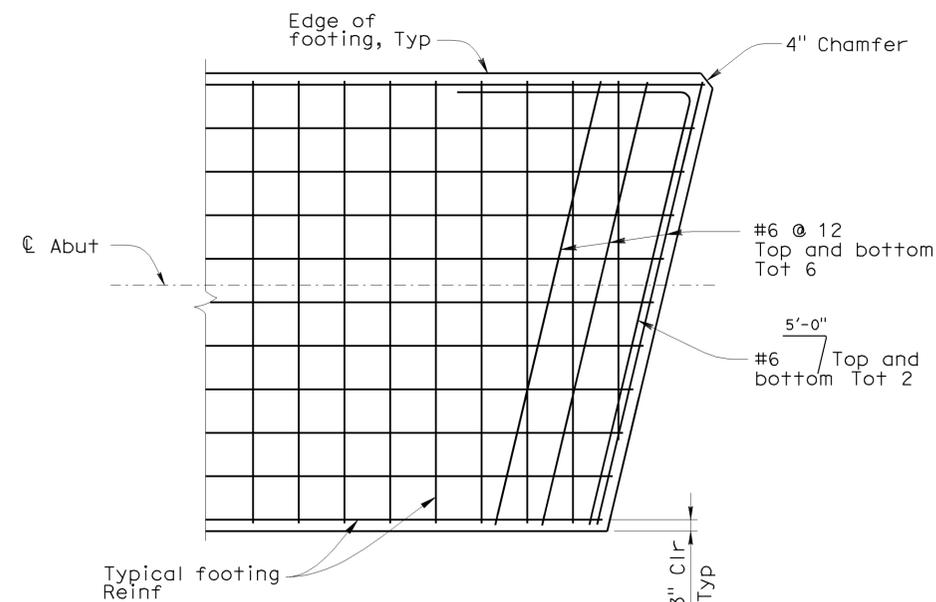


ABUTMENT FOOTING STEP

1/2"=1'-0"



SECTION E-E



ABUTMENT FOOTING CORNER DETAIL

1/2"=1'-0"

NOTE:

The Contractor shall verify all controlling field dimensions before ordering or fabricating any materials.

NOTE:

1. For location of Detail 1 & 2, see "Abutment 1 Layout" and "Abutment 2 Layout" sheets respectively.

DESIGN OVERSIGHT
6-9-09
SIGN OFF DATE

DESIGN	BY M. Atiqullah / A. Issa	CHECKED X. Wu
DETAILS	BY M. Atiqullah	CHECKED X. Wu
QUANTITIES	BY A. Issa	CHECKED P. Kaviani

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

Ayman Salama
PROJECT ENGINEER

BRIDGE NO.	55-0466
POST MILE	19.58

ASSOCIATED ROAD UC (WIDEN)
ABUTMENT DETAILS NO. 2

DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0	1	2	3
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CU 12220
EA 0F0321

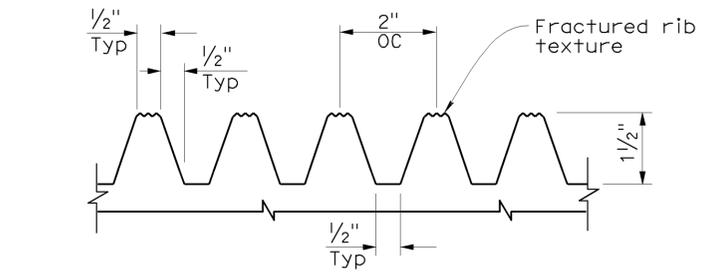
DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF
12/18/08 06/07/09 06/08/09	8	22

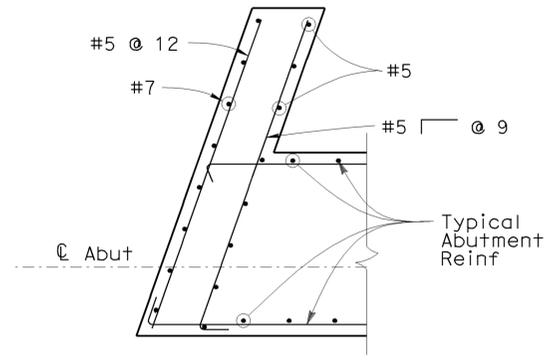
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	57	18.4/20.9	585	856


 REGISTERED CIVIL ENGINEER DATE 06/08/09
 1-25-10
 PLANS APPROVAL DATE
 No. C47027
 Exp. 12/31/09
 CIVIL
 STATE OF CALIFORNIA

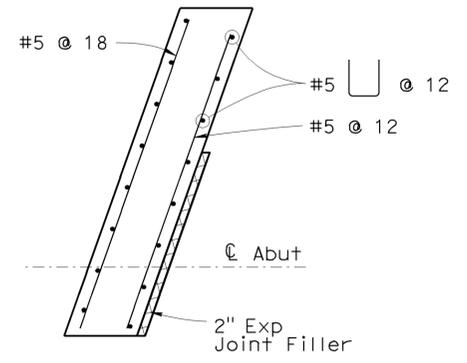
OCTA
 550 S. MAIN STREET
 ORANGE, CA 92863
 CH2M HILL
 6 HUTTON CENTRE DRIVE, SUITE 700
 SANTA ANA, CA 92707



FRACTURED RIB TEXTURE DETAIL
 No scale
 (Elastomer Formliner)

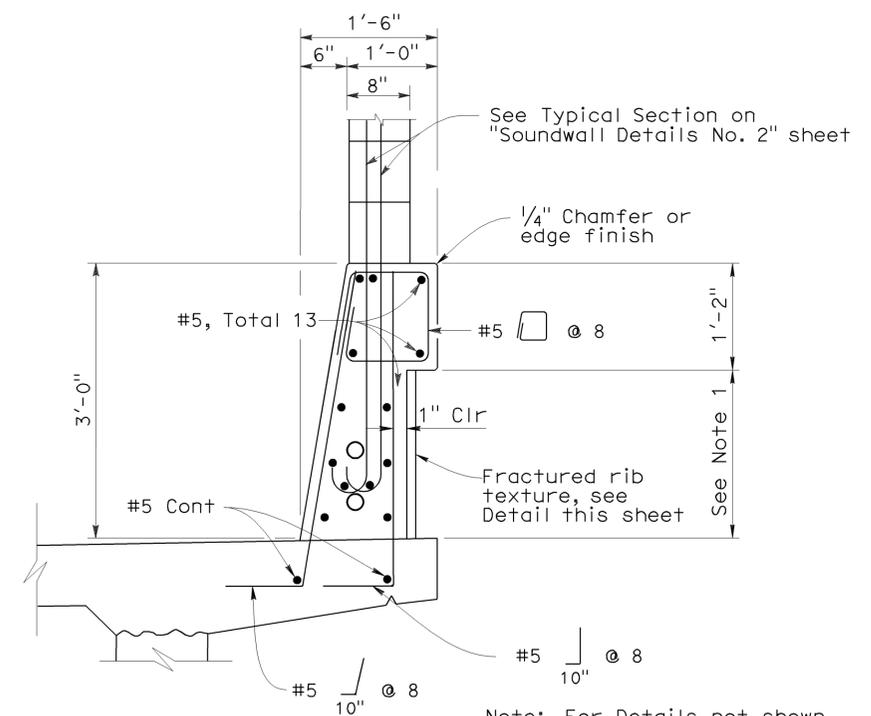


SECTION G-G
 1/2"=1'-0"



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

(Abutment 1 shown, Abutment 2 similar)

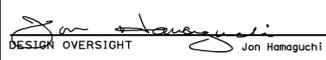


CONCRETE BARRIER TYPE 736 MODIFIED
 1"=1'-0"

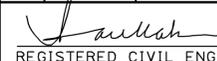
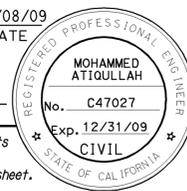
Note: For Details not shown, see **B11-56**

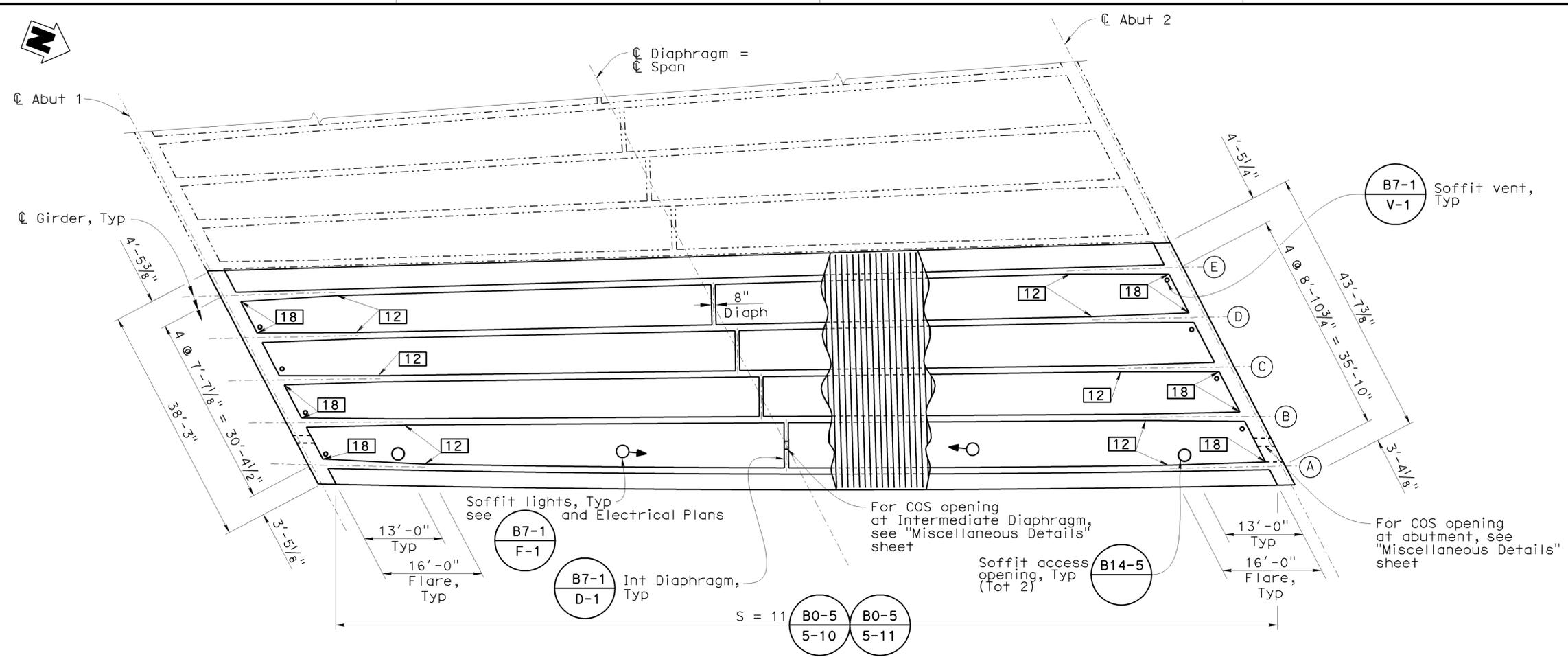
NOTE:
 The Contractor shall verify all controlling field dimensions before ordering or fabricating any materials.

- NOTES:**
1. Dimension will vary with cross slope and with certain thickness of surfacing.
 2. For location of Sections F-F and G-G, see "Abutment 1 Layout" & "Abutment 2 Layout" sheets.

 DESIGN OVERSIGHT 6-9-09 SIGN OFF DATE	DESIGN BY M. Atiqullah / A. Issa CHECKED X. Wu	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	BRIDGE NO. 55-0466	ASSOCIATED ROAD UC (WIDEN) ABUTMENT DETAILS NO. 3
	DETAILS BY M. Atiqullah CHECKED X. Wu		PROJECT ENGINEER Ayman Salama	
QUANTITIES BY A. Issa CHECKED P. Kaviani	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3	CU 12220 EA 0F0321	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES (PRELIMINARY STAGE ONLY) 12/18/08 06/07/09 06/08/09
DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)	FILE => 55-0466-f-a01d103.dgn	SHEET 9 OF 22		

USERNAME => h1tenard DATE PLOTTED => 25-JAN-2010 TIME PLOTTED => 08:11

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	57	18.4/20.9	587	856
 REGISTERED CIVIL ENGINEER			06/08/09 DATE		
1-25-10 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>					
OCTA 550 S. MAIN STREET ORANGE, CA 92863					
CH2M HILL 6 HUTTON CENTRE DRIVE, SUITE 700 SANTA ANA, CA 92707					



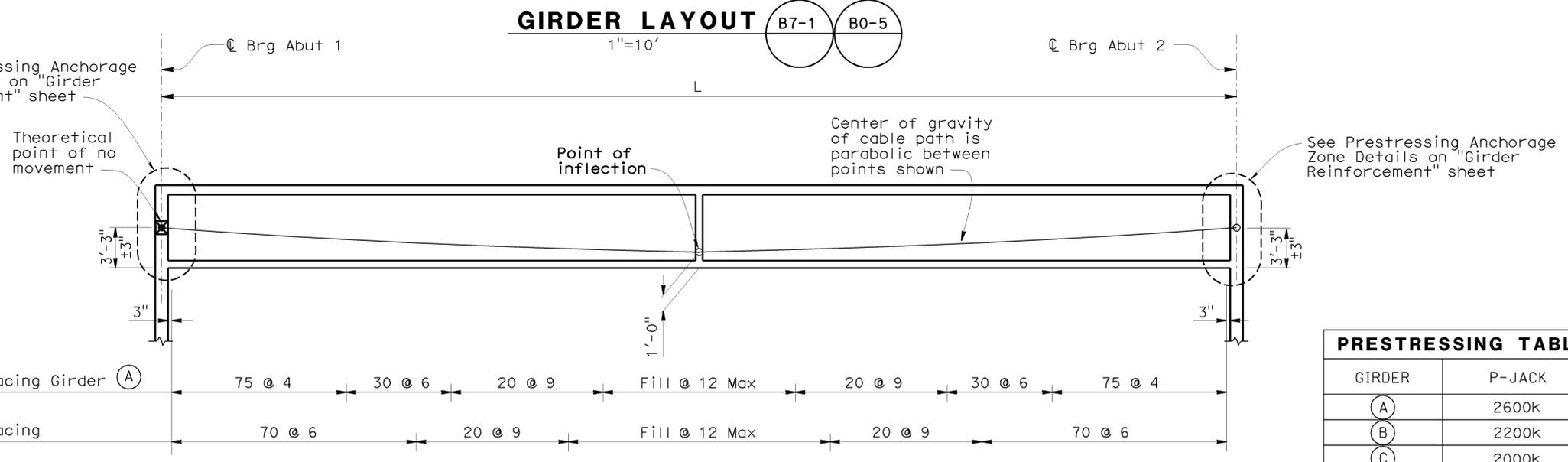
LEGEND
 [XX] Indicates girder stem width

PRESTRESSING NOTES:
 270 ksi low relaxation strand:
 Pjack = see Prestressing Table
 Anchor set = 3/8"
 K=0.0002 K/ft μ = 0.15

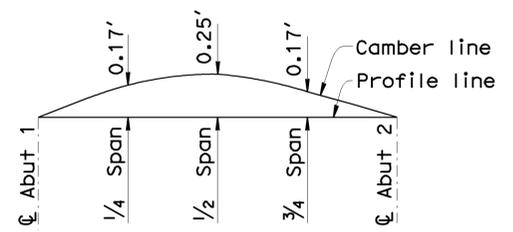
Distribution of prestress force (Pjack) between girders shall not exceed the ratio of 3:2. Maximum final force variation between girders shall not exceed 725 kip.

Concrete:
 f'c = 5,500 psi @ 28 days
 f'ci = 3,500 psi @ time of stressing

Contractor shall submit elongation calculations based on initial stress at $\bar{\epsilon} = 0.894$ times jacking stress. One-end stressing shall be performed from Abut 2 only.



PRESTRESSING TABLE	
GIRDER	P-JACK
(A)	2600k
(B)	2200k
(C)	2000k
(D)	2000k
(E)	2000k



NOTE:
 Camber diagram does not include allowance for falsework settlement.

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

DESIGN OVERSIGHT
 6-9-09
 SIGN OFF DATE
 Jon Hanaguchi

DESIGN	BY M. Atiullah / A. Issa	CHECKED X. Wu
DETAILS	BY M. Atiullah	CHECKED X. Wu
QUANTITIES	BY A. Issa	CHECKED P. Kaviani

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 Ayman Salama
 PROJECT ENGINEER

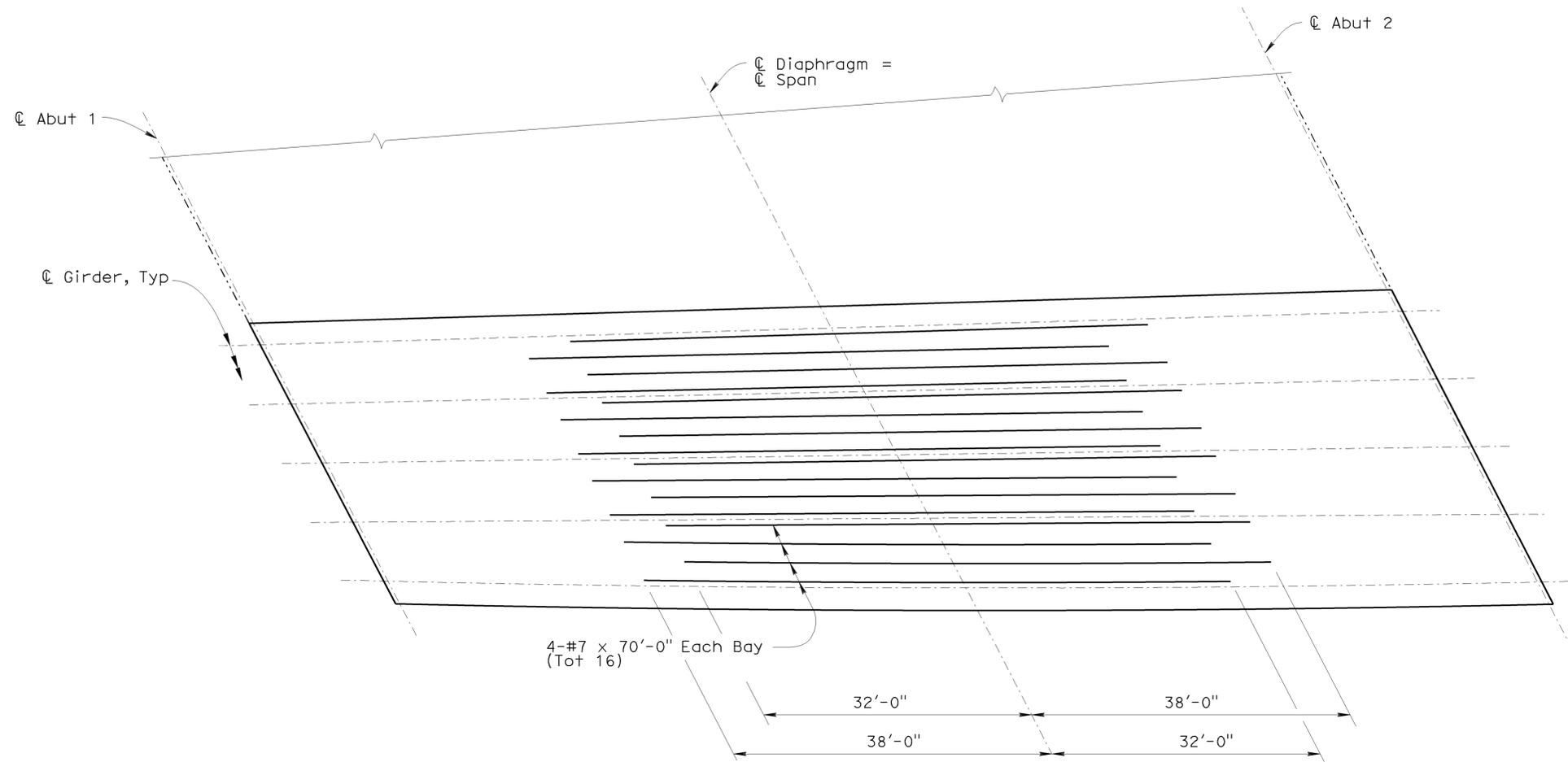
BRIDGE NO.	55-0466
POST MILE	19.58

ASSOCIATED ROAD UC (WIDEN)
GIRDER LAYOUT

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	57	18.4/20.9	588	856


 REGISTERED CIVIL ENGINEER DATE 06/08/09
 1-25-10
 PLANS APPROVAL DATE
 No. C47027
 Exp. 12/31/09
 CIVIL
 STATE OF CALIFORNIA

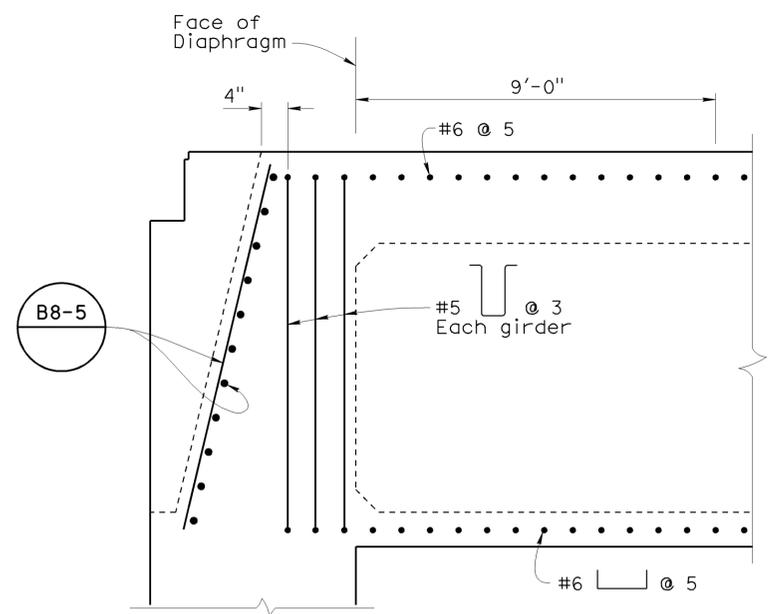
OCTA
 550 S. MAIN STREET
 ORANGE, CA 92863
 CH2M HILL
 6 HUTTON CENTRE DRIVE, SUITE 700
 SANTA ANA, CA 92707



ADDITIONAL GIRDER BOTTOM REINFORCEMENT

No Scale

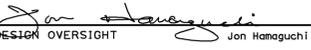
NOTE:
 1. Girder bottom reinforcement shall have "Service" Butt Splice.



PRESTRESS ANCHORAGE ZONE DETAILS

No Scale

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


 DESIGN OVERSIGHT
 6-9-09
 SIGN OFF DATE

DESIGN	BY M. Atiqullah / A. Issa	CHECKED X. Wu
DETAILS	BY M. Atiqullah	CHECKED X. Wu
QUANTITIES	BY A. Issa	CHECKED P. Kaviani

PREPARED FOR THE STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

Ayman Salama
 PROJECT ENGINEER

BRIDGE NO.	55-0466
POST MILE	19.58

ASSOCIATED ROAD UC (WIDEN)
GIRDER REINFORCEMENT

DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

CU 12220
EA 0F0321

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)					SHEET	OF
12/18/08	05/07/09	06/08/09			12	22

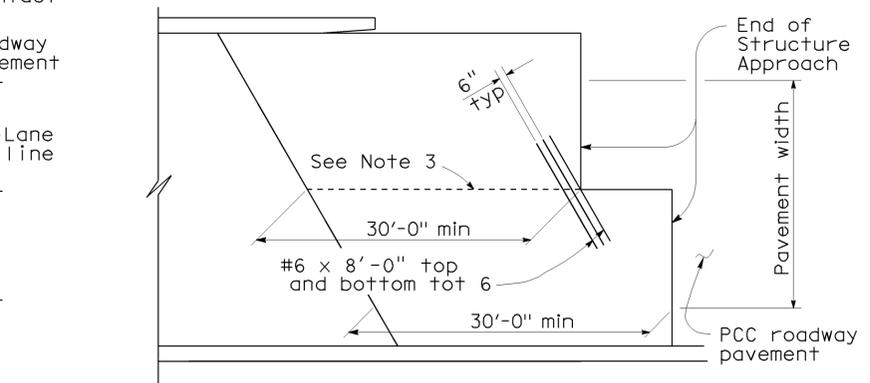
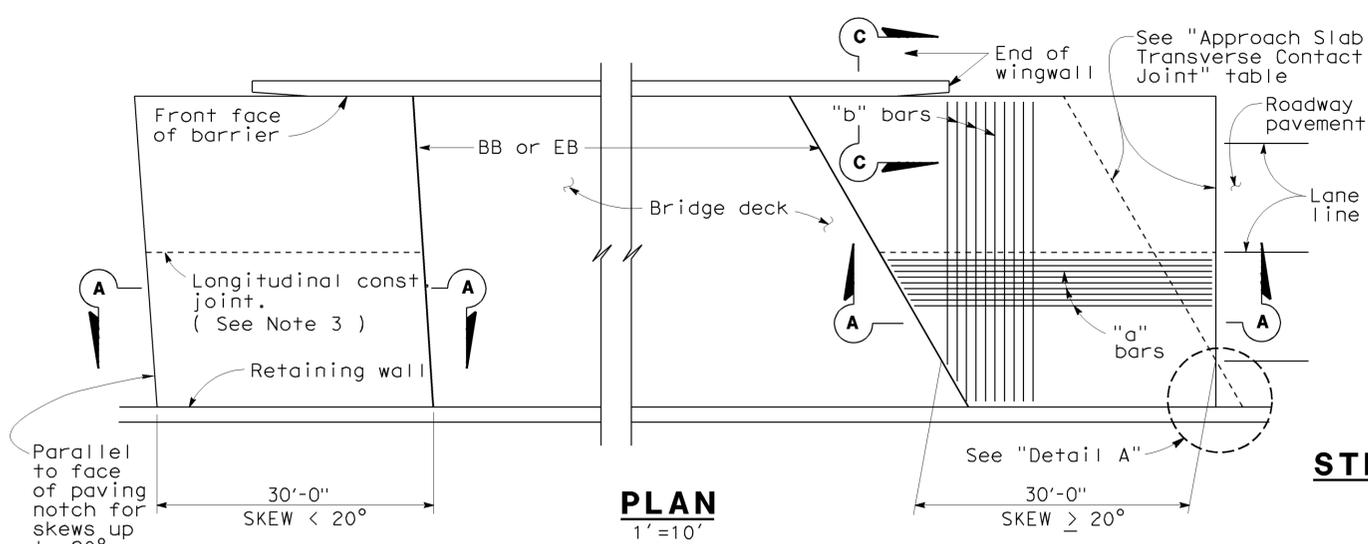
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USERNAME => h11enard DATE PLOTTED => 25-JAN-2010 TIME PLOTTED => 08:11

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	18.4/20.9	589	856

REGISTERED ENGINEER - CIVIL DATE 06/08/09
 1-25-10 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.

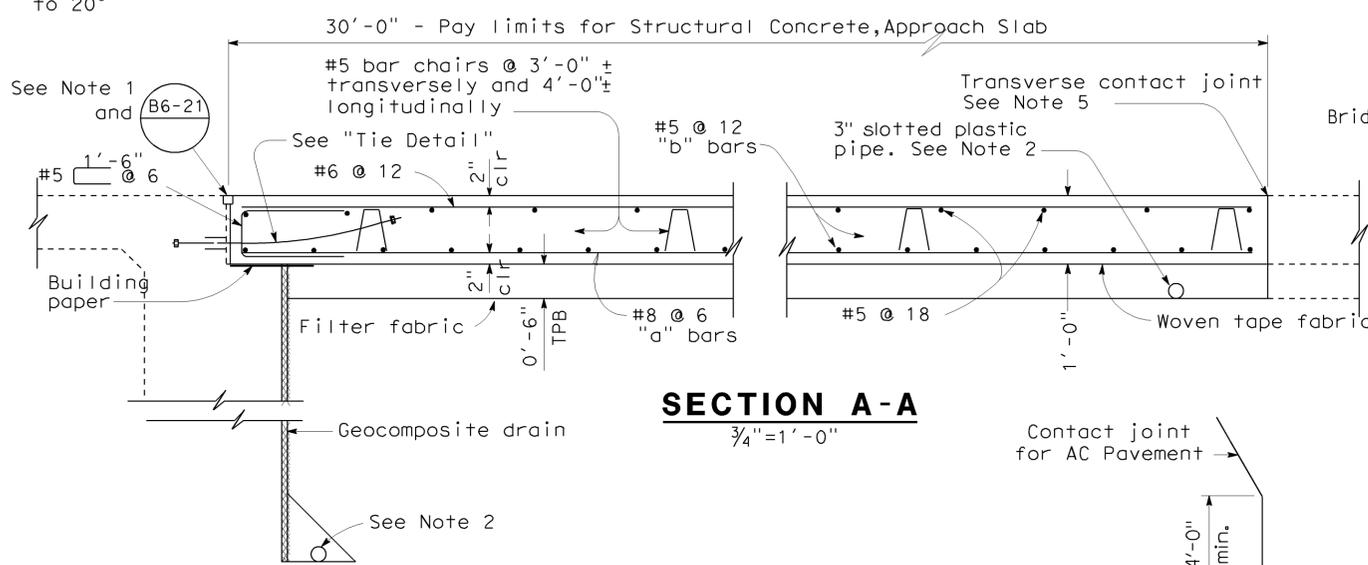
MOHAMMED ATTULLAH
 No. C47027
 Exp. 12/31/09
 CIVIL
 STATE OF CALIFORNIA



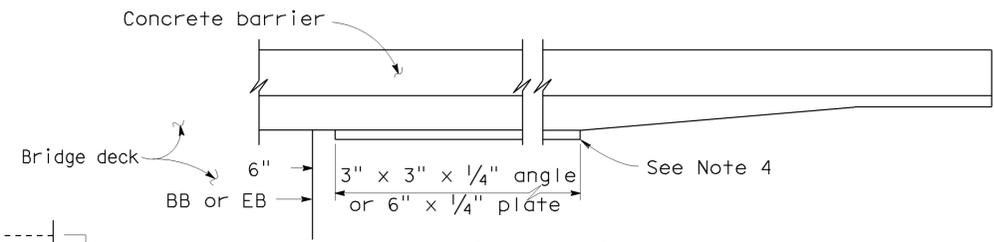
STRUCTURE APPROACH - END STAGGER DETAIL
No Scale

APPROACH SLAB TRANSVERSE CONTACT JOINT

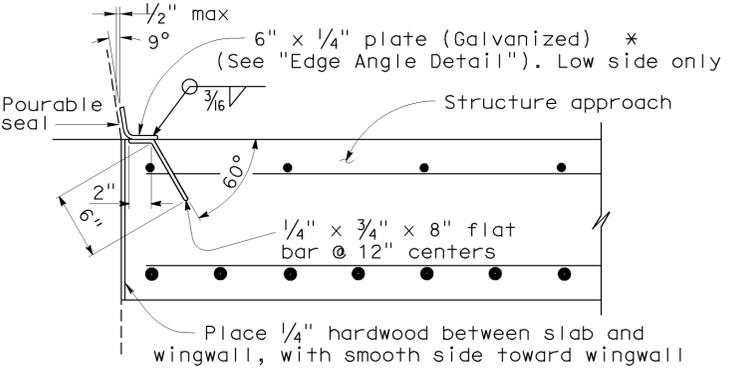
APPROACH SKEW	WITH AC ROADWAY PAVEMENT	WITH PCC ROADWAY PAVEMENT
< 20°	Parallel to face of paving notch	Parallel to face of paving notch
20° - 45°	Parallel to face of P N use (Detail A)	Stagger lines 24' to 36' apart
> 45°	Parallel to face of P N use (Detail A)	Stagger at each lane line



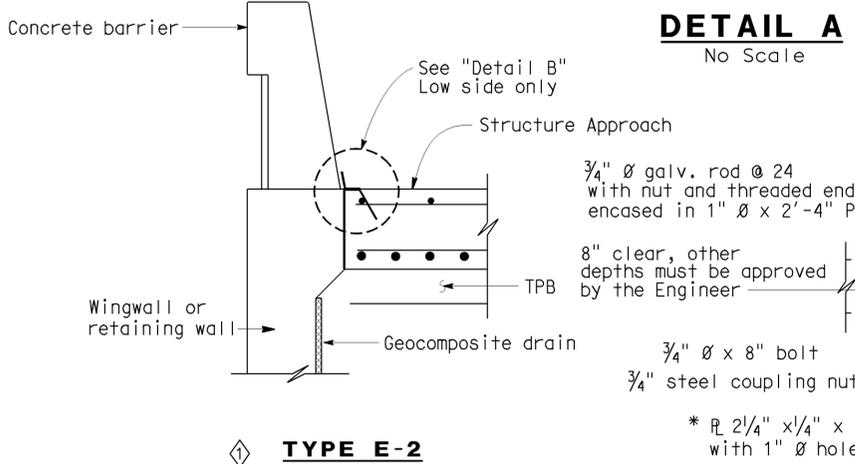
SECTION A-A
3/4"=1'-0"



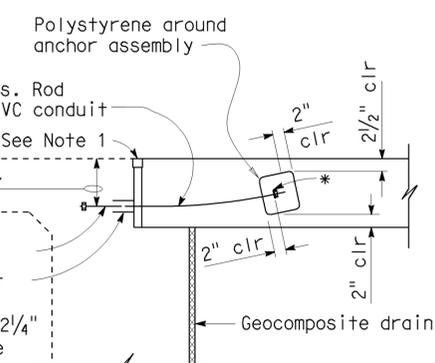
EDGE ANGLE DETAIL
1/2"=1'-0"



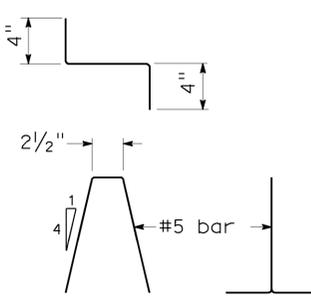
***(TO BE USED WITH TYPE 732 OR TYPE 736 CONCRETE BARRIER)**



DETAIL A
No Scale



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



BAR CHAIR DETAIL
1 1/2"=1'-0"

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

- NOTES:**
- For details not noted or shown, see Structure Plans.
 - 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.
- Polystyrene to be removed.

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

(Type E-1 to be used, unless otherwise shown on plans)

STANDARD DRAWING

FILE NO. **xs3-180e**

APPROVED BY M. Ha RESPONSIBLE TECHNICAL SPECIALIST
 APPROVAL DATE 8-12-08

RELEASED BY O. Alcantara RESPONSIBLE OFFICE CHIEF
 RELEASE DATE REVISED

- Revised detail
- Type E-1 removed
- Type 25 or Type 27 Conc Barrier on Det B removed

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 55-0466
 POST MILE 19.58

ASSOCIATED ROAD UC (WIDEN)
STRUCTURE APPROACH TYPE N(30D)

REVISION DATES (PRELIMINARY STAGE ONLY)

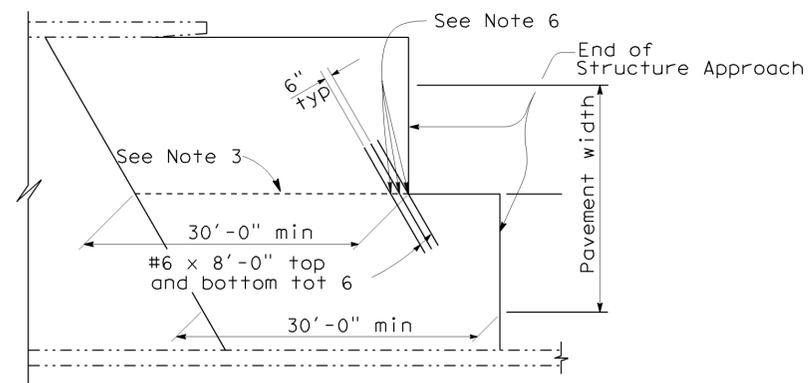
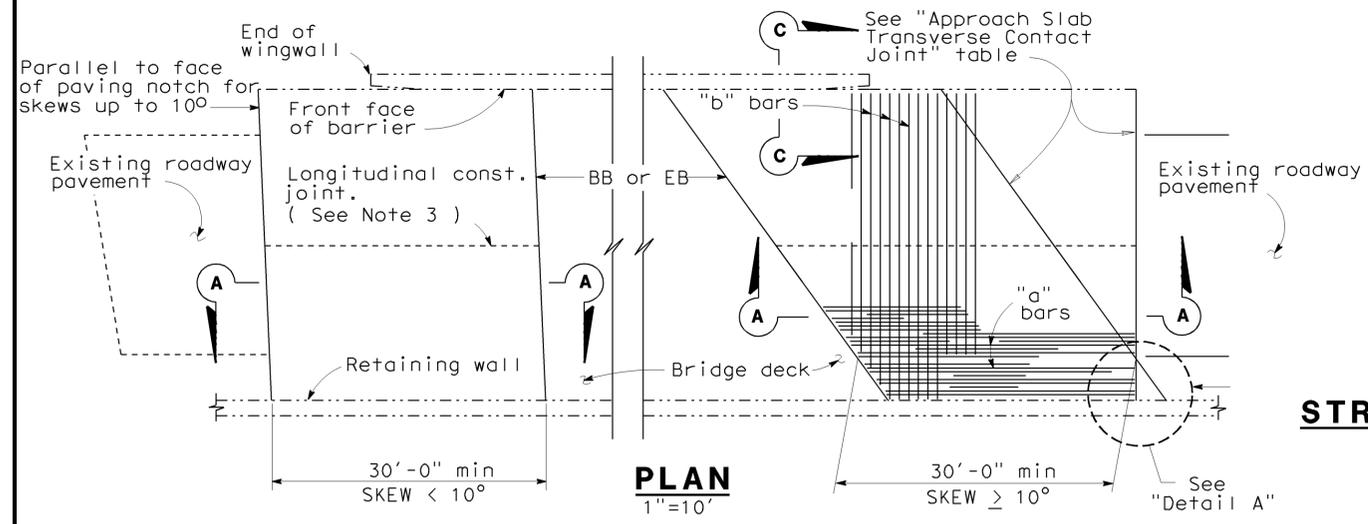
12/18/08	01/07/09	06/08/09
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SHEET 13 OF 22

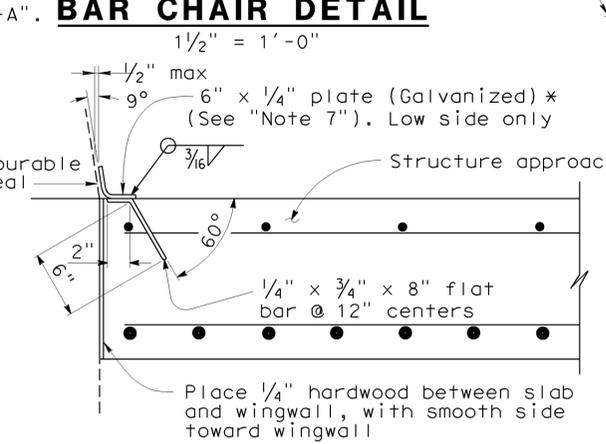
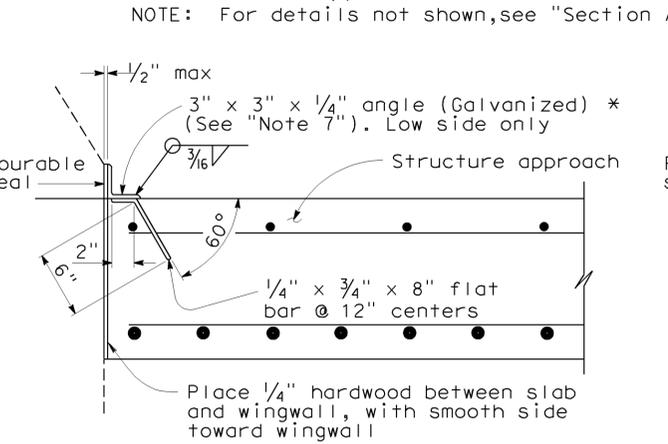
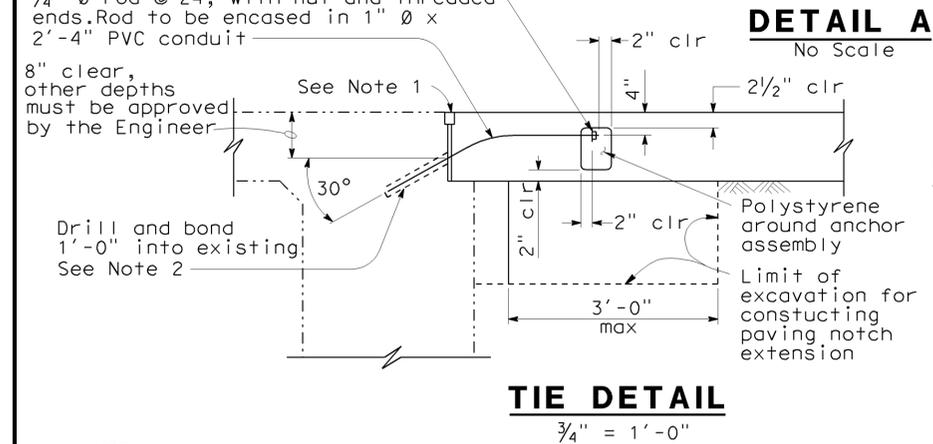
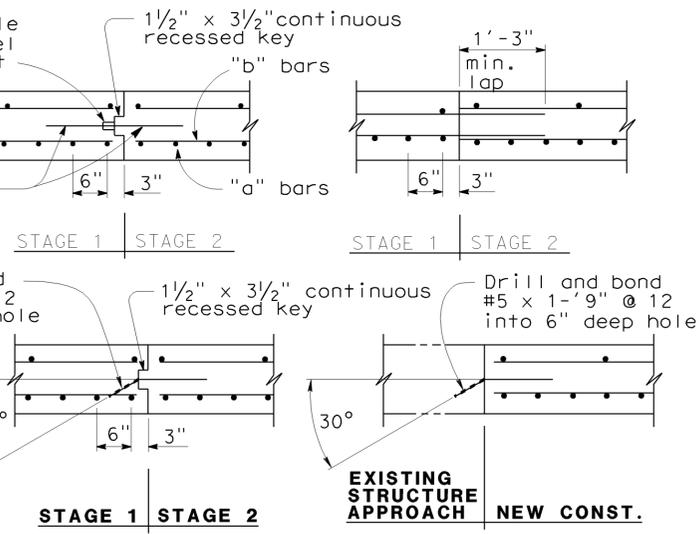
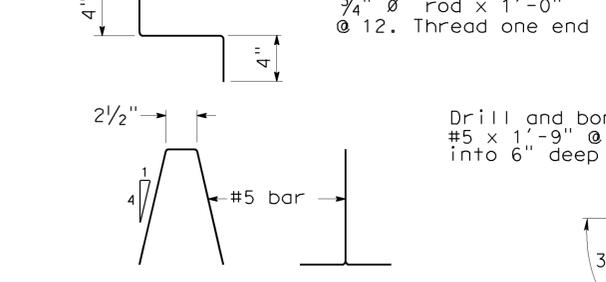
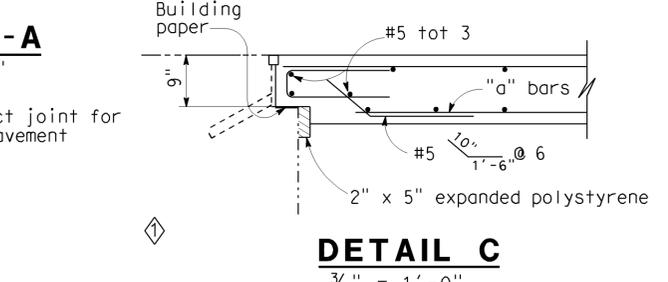
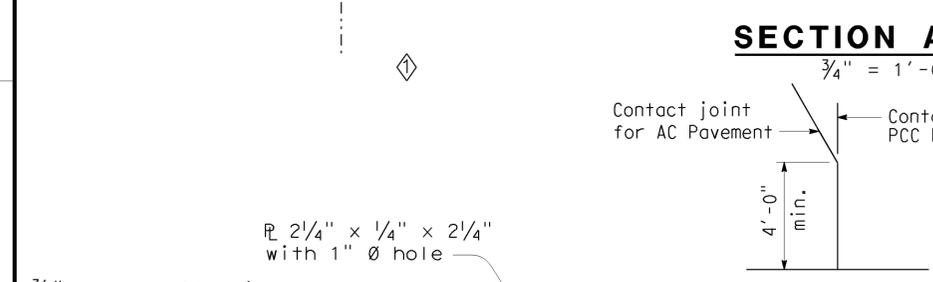
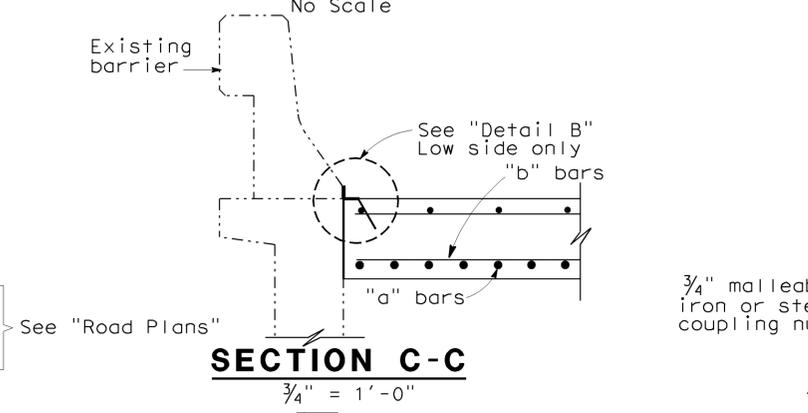
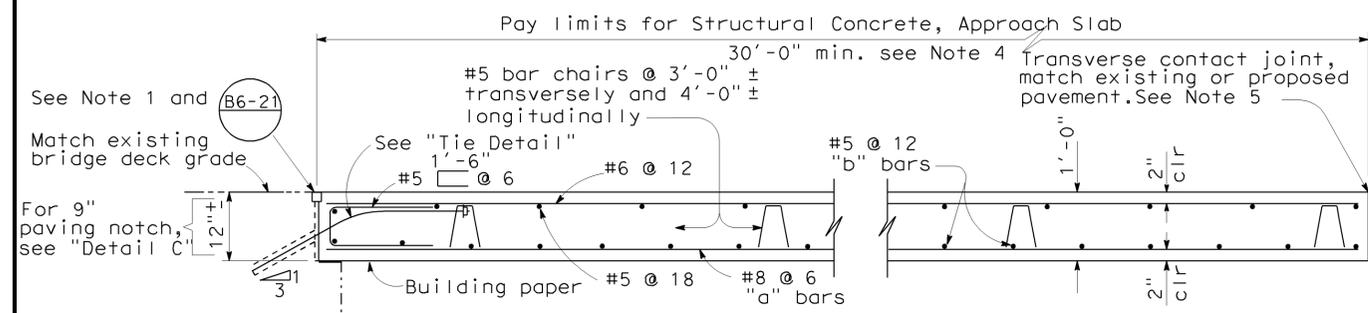
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	18.4/20.9	590	856

06/08/09
 REGISTERED ENGINEER - CIVIL DATE
 1-25-10
 PLANS APPROVAL DATE
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MOHAMMED ATIQULLAH
 No. C47027
 Exp. 12/31/09
 CIVIL
 STATE OF CALIFORNIA



APPROACH SLAB TRANSVERSE CONTACT JOINT		
APPROACH SKEW	WITH AC ROADWAY PAVEMENT	WITH PCC ROADWAY PAVEMENT
< 10°	Parallel to face of paving notch	Parallel to face of paving notch
10° - 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



- NOTES:**
- For details not shown or noted, see Structure Plans. Adjust bar reinforcement to clear a sawcut for sealed joint, when required.
 - Space to avoid existing prestress anchorages and main reinforcement.
 - Longitudinal construction joints, when permitted by the Engineer, shall be located on lane lines.
 - Transverse contact joint shall be a minimum of 5'-0" from an existing or constructed weakened plane joint.
 - For transverse contact joint with new PCC paving, refer to Standard Plan P10.
 - Couplers are required for stage construction.
 - End angle or plate at beginning of barrier transition, end of wingwall or end of structure approach as applicable.

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

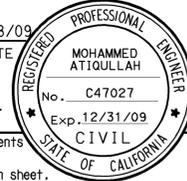
RELEASE DATE	DESIGN BY	CHECKED	RELEASED BY
Revised	M. TRAFFALIS	E. THORKILDSEN	
FILE NO. xs3-140e	DETAILS BY	CHECKED	
	R. YEE	E. THORKILDSEN	
	SUBMITTED BY	DRAWING DATE	OFFICE CHIEF
	M. HA	8/92	

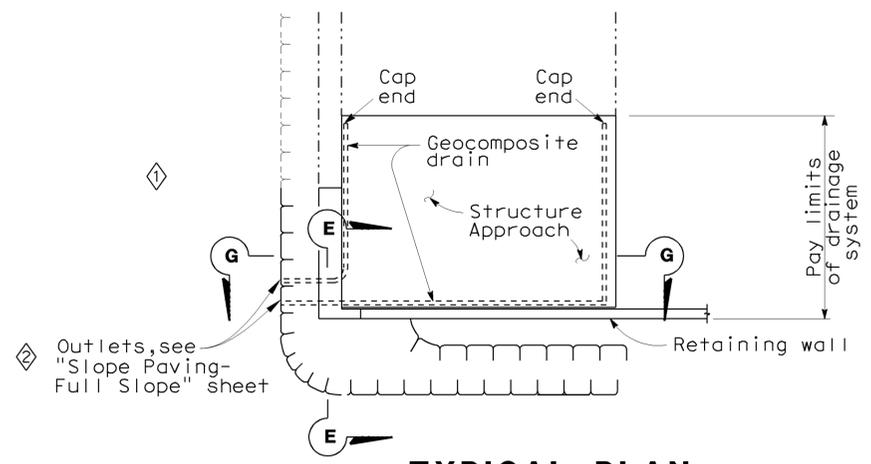
STATE OF CALIFORNIA	DIVISION OF ENGINEERING SERVICES
DEPARTMENT OF TRANSPORTATION	BRIDGE NO. 55-0466
	POST MILES 19.58

ASSOCIATED ROAD UC (WIDEN)
STRUCTURE APPROACH TYPE R(30D)

TIME PLOTTED => 25-JAN-2010 08:12

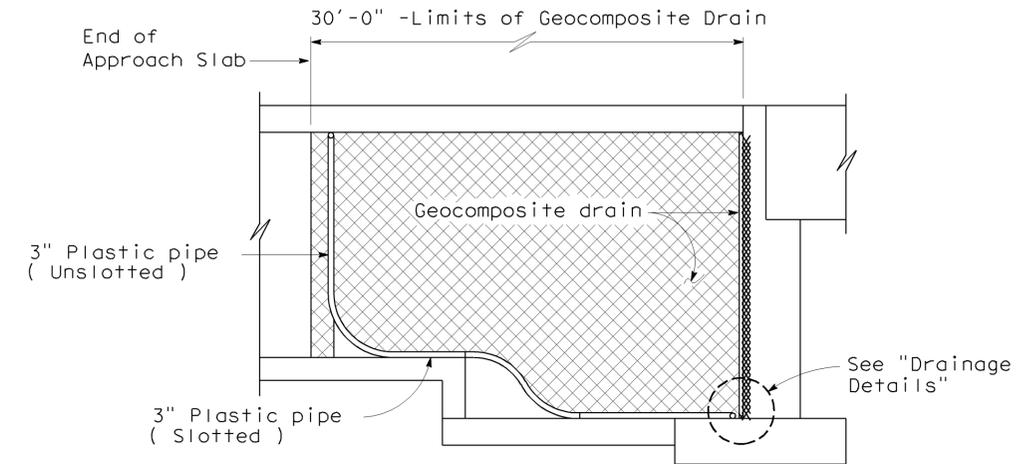
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Orca	57	18.4/20.9	591	856

 REGISTERED ENGINEER - CIVIL DATE 06/08/09		
1-25-10 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>		



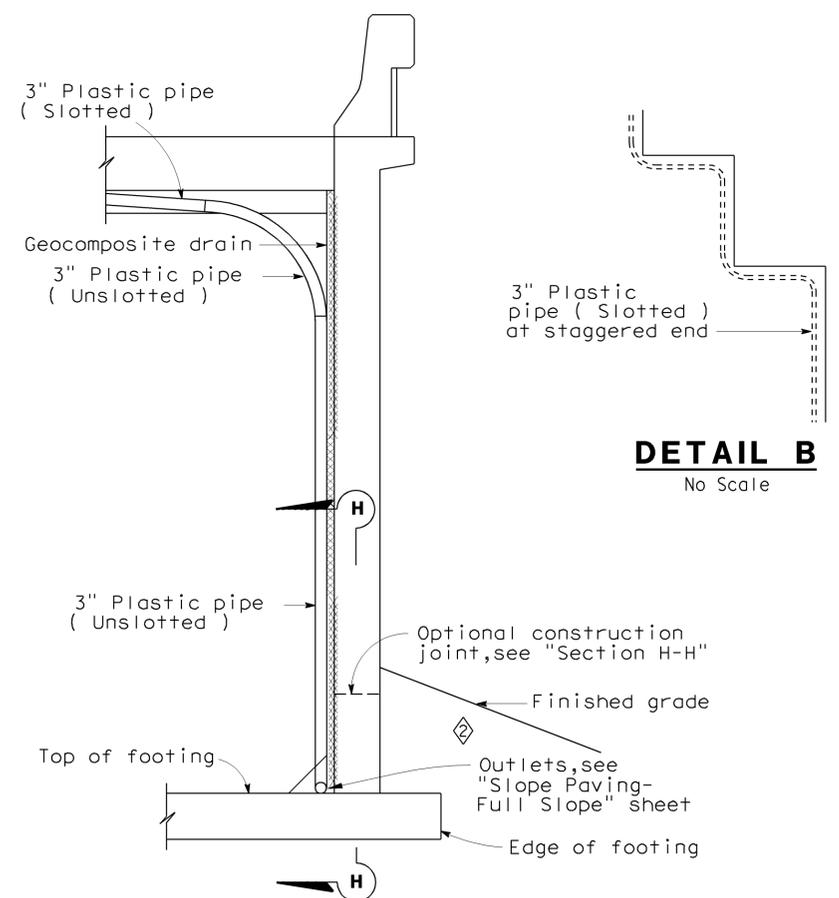
TYPICAL PLAN

No Scale
 *For pipe layout at staggered end, see "Detail B".



RETAINING WALL WINGWALL SECTION G-G

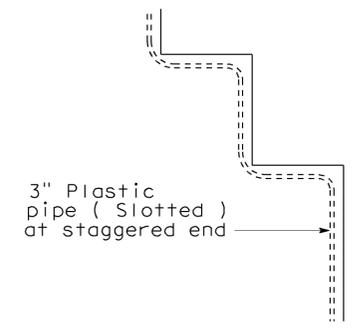
1/4"=1'-0"



SECTION E-E

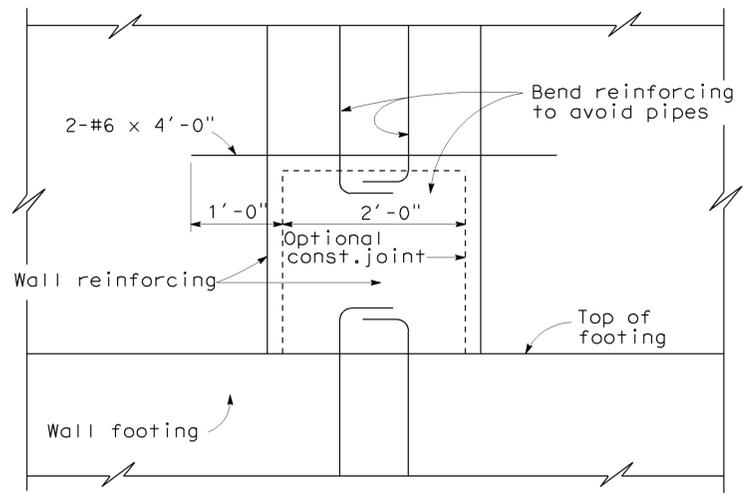
1/2"=1'-0"

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



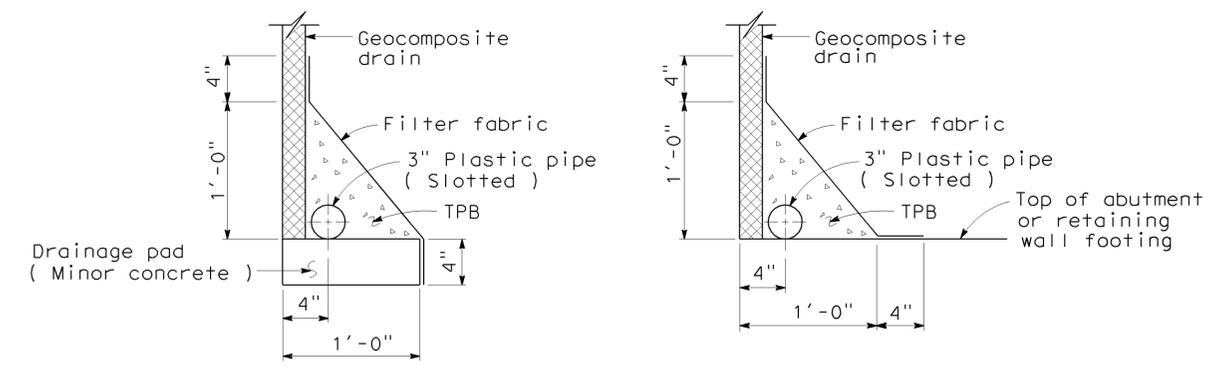
DETAIL B

No Scale



SECTION H-H

1"=1'-0"

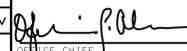


WITHOUT FOOTING

WITH FOOTING

DRAINAGE DETAILS

1/2"=1'-0"

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

- ◊ Removed Section F-F
- ◊ Revised outlet direction

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

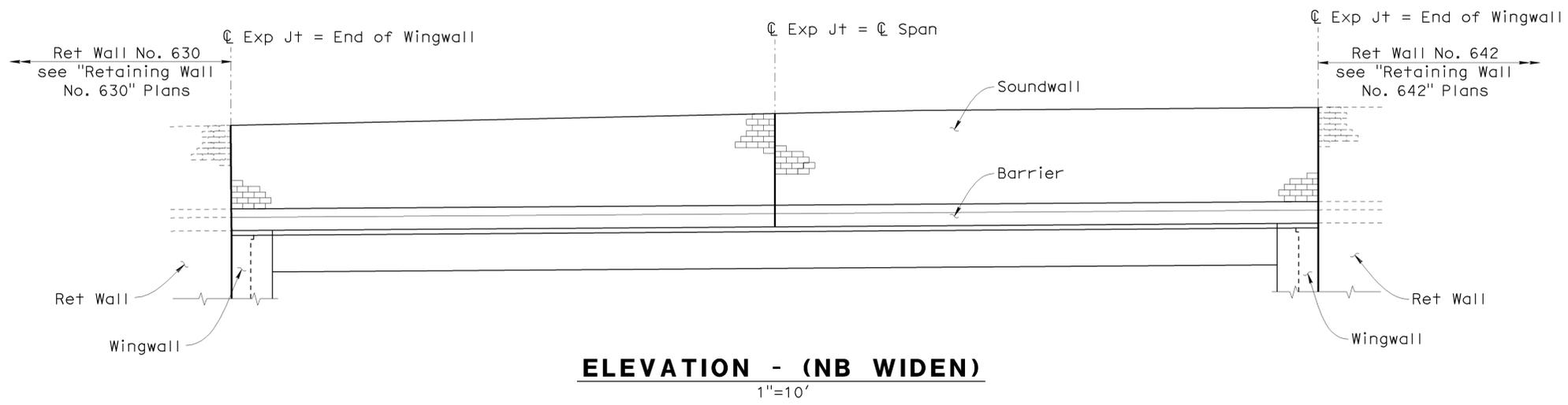
BRIDGE NO.	ASSOCIATED ROAD UC (WIDEN)	
55-0466	STRUCTURE APPROACH DRAINAGE DETAILS	
POST MILES		
19.58		

TIME PLOTTED => 25-JAN-2010 08:12

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	57	18.4/20.9	592	856


 REGISTERED CIVIL ENGINEER DATE 06/08/09
 PLANS APPROVAL DATE 1-25-10
 No. C47027
 Exp. 12/31/07
 CIVIL
 STATE OF CALIFORNIA

OCTA
 550 S. MAIN STREET
 ORANGE, CA 92863
 CH2M HILL
 6 HUTTON CENTRE DRIVE, SUITE 700
 SANTA ANA, CA 92707



DESIGN NOTES

- DESIGN**
Uniform Building Code, 1997 Edition and the Bridge Design Specifications.
- DESIGN WIND LOAD**
37 psf
- DESIGN SEISMIC LOAD**
2.0 Dead load
- REINFORCED CONCRETE**
f'c = 3,600 psi
fy = 60,000 psi
- CONCRETE MASONRY**
HIGH STRENGTH
f'm = 2500 psi
fy = 60,000 psi

LOAD FACTORS AND LOAD COMBINATIONS

- Load Factor Design (LFD)
- Group A: BD +1.7 E + 1.7 SC
 - Group B: BD +1.7 E + 1.3 W
 - Group C: BD +1.3 E + 1.0 EQE
 - Group D: BD +1.3 E + 1.0 EQD
 - Group E: BD +1.1 E + 0.85 (EQE + EQD)
- Where : $\beta = 0.9$ or 1.2 , whichever controls in design
 D = Dead load
 E = Lateral earth pressure
 SC = Live load surcharge
 W = Wind load
 EQD = Seismic dead load
 EQE = Seismic earth load

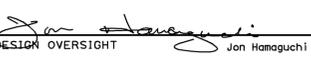
STRENGTH REDUCTION FACTORS, ϕ

- Reinforced concrete:
- For flexure $\phi=0.90$
 - For shear $\phi=0.85$
- Concrete masonry:
- For flexure $\phi=0.80$
 - For shear $\phi=0.60$

GENERAL NOTES

- Note A: For type of block, see Masonry Block Type Table on "Soundwall Details No. 2" sheet
- Note B: When blocks are laid in stacked bond, ladder type, galvanized joint reinforcement shall be provided. A minimum of 2 - 0.148" wires continuous at 4'-0" maximum to be used. Locate reinforcement in joints that are at the approximate midpoint between bond beams.
- Note C: Horizontal joints shall be tooled concave or may be weathered. Vertical joints shall be tooled concave or may be raked.
- Note D: All masonry to be high strength unless otherwise noted.
- Note E: For location of expansion joint, see Elevation.

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


 DESIGN OVERSIGHT
 6-9-09
 SIGN OFF DATE

DESIGN	BY M. Atiqullah	CHECKED X. Wu
DETAILS	BY M. Atiqullah	CHECKED X. Wu
QUANTITIES	BY A. Issa	CHECKED P. Kaviani

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
 Ayman Salama
 PROJECT ENGINEER

BRIDGE NO.	55-0466
POST MILE	19.58

ASSOCIATED ROAD UC (WIDEN)
SOUNDWALL DETAILS NO. 1

DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

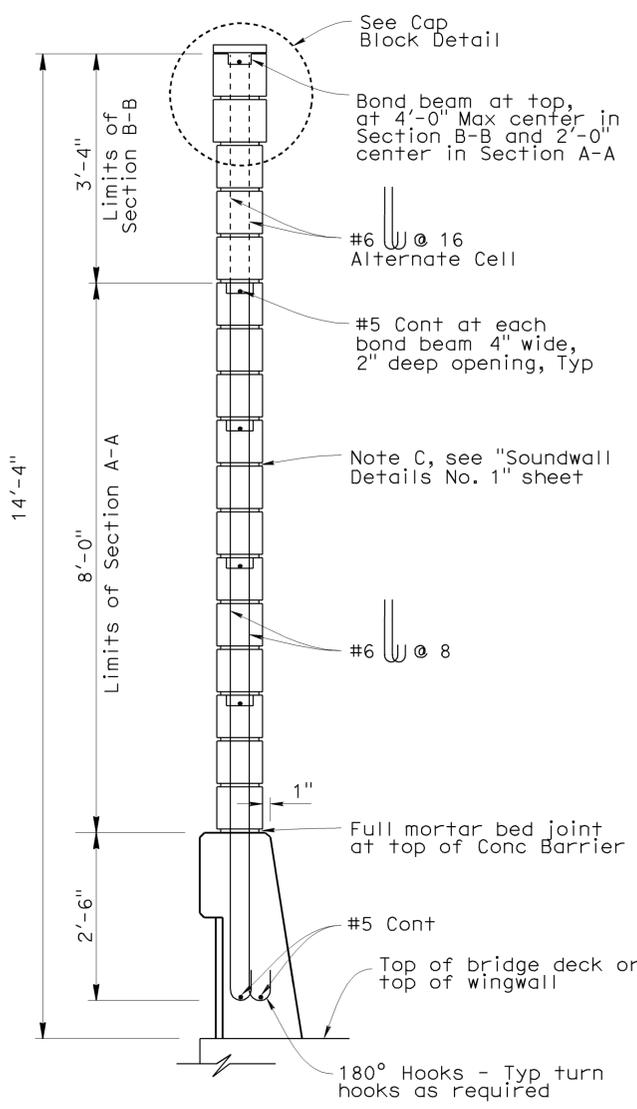
CU 12220
EA 0F0321

DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES (PRELIMINARY STAGE ONLY) 12/18/08 06/07/09 06/08/09	SHEET 16	OF 22
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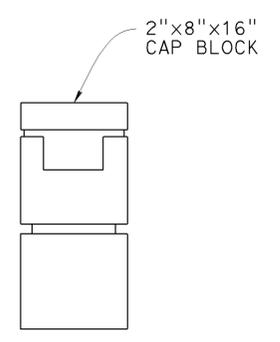
USERNAME => h1renard DATE PLOTTED => 25-JAN-2010 TIME PLOTTED => 08:12

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	57	18.4/20.9	593	856

06/08/09
 REGISTERED CIVIL ENGINEER DATE
 1-25-10
 PLANS APPROVAL DATE
 MOHAMMED ATIQUILLAH
 No. C47027
 Exp. 12/31/07
 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.
 OCTA
 550 S. MAIN STREET
 ORANGE, CA 92863
 CH2M HILL
 6 HUTTON CENTRE DRIVE, SUITE 700
 SANTA ANA, CA 92707

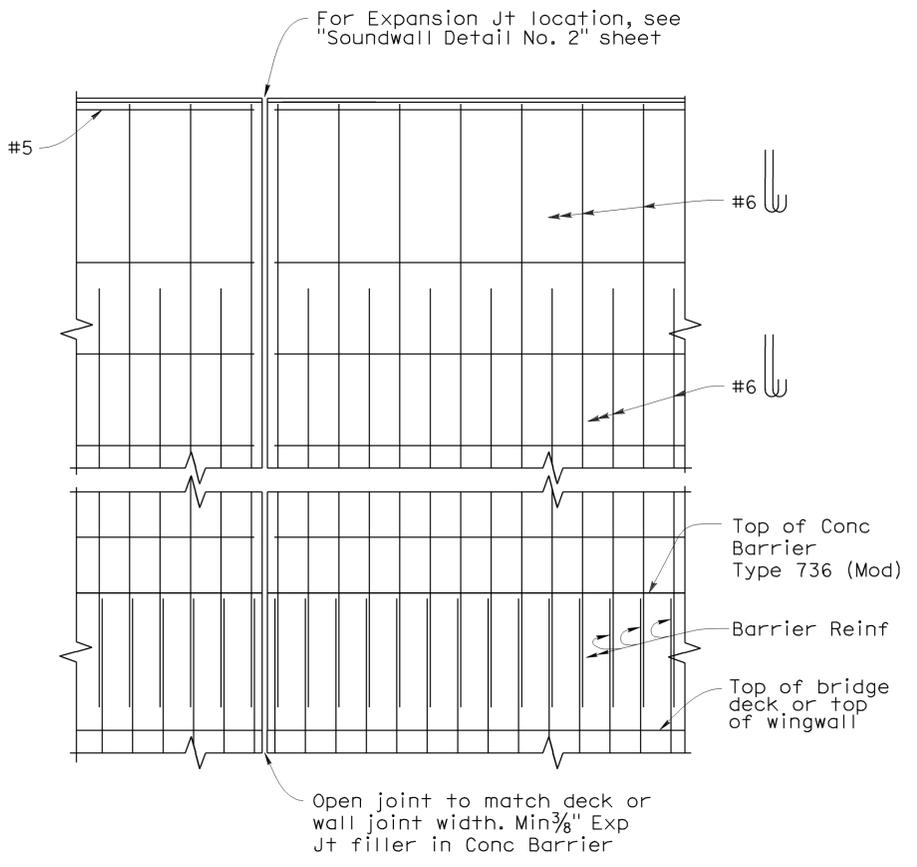


SOUNDWALL SECTION
3/4" = 1'-0"

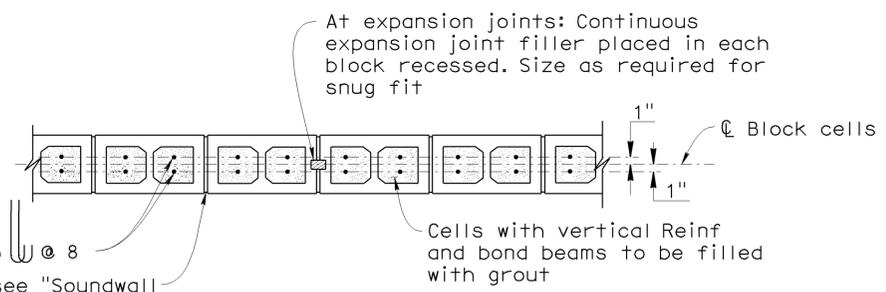


CAP BLOCK DETAIL
No Scale

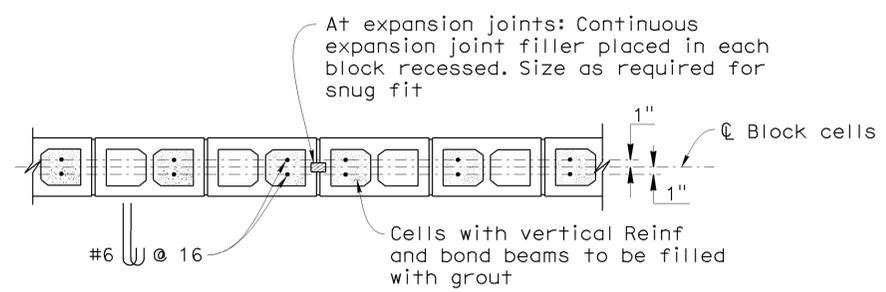
NOTE:
The Contractor shall verify all controlling field dimensions before ordering or fabricating any materials.



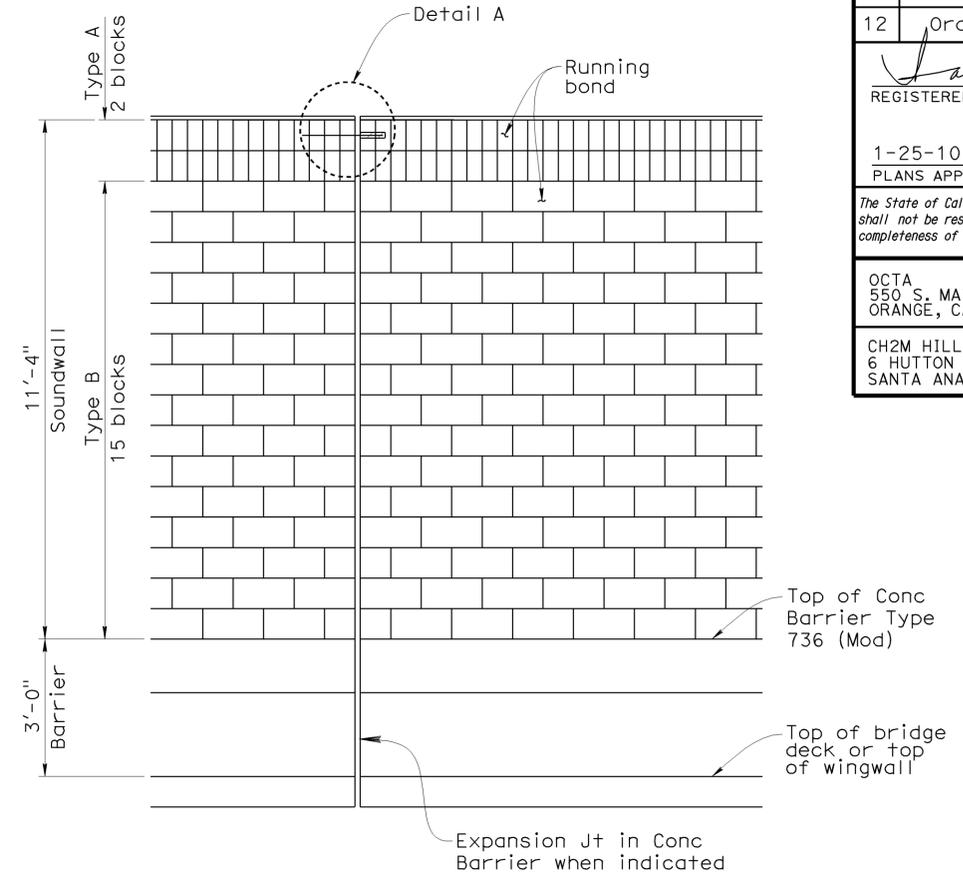
WALL JOINT DETAIL
No Scale



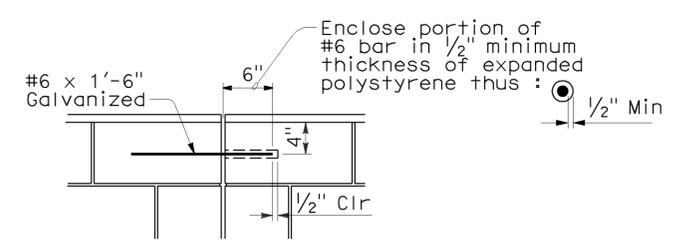
SECTION A-A
No Scale



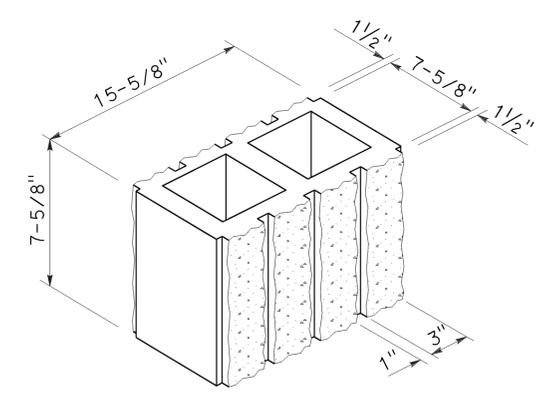
SECTION B-B
No Scale



SOUNDWALL - ARCHITECTURAL TREATMENT DETAIL
1/2" = 1'-0"



DETAIL A
No Scale



DETAIL B
No Scale

MASONRY BLOCK TYPE TABLE	
Block Type	Block Description
A	Wall cap rows (Tan scored split face concrete) 3 scored, see Detail B
B	Main wall surface (Tan split face concrete)

DESIGN OVERSIGHT
 6-9-09
 SIGN OFF DATE
 Jon Hanaguchi

DESIGN	BY M. Atiquillah / A. Issa	CHECKED X. Wu
DETAILS	BY M. Atiquillah	CHECKED X. Wu
QUANTITIES	BY A. Issa	CHECKED P. Kaviani

PREPARED FOR THE
 STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 Ayman Salama
 PROJECT ENGINEER

BRIDGE NO.	55-0466
POST MILE	19.58

ASSOCIATED ROAD UC (WIDEN)
SOUNDWALL DETAILS NO. 2

DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

CU 12220
EA 0F0321

DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET 17	OF 22
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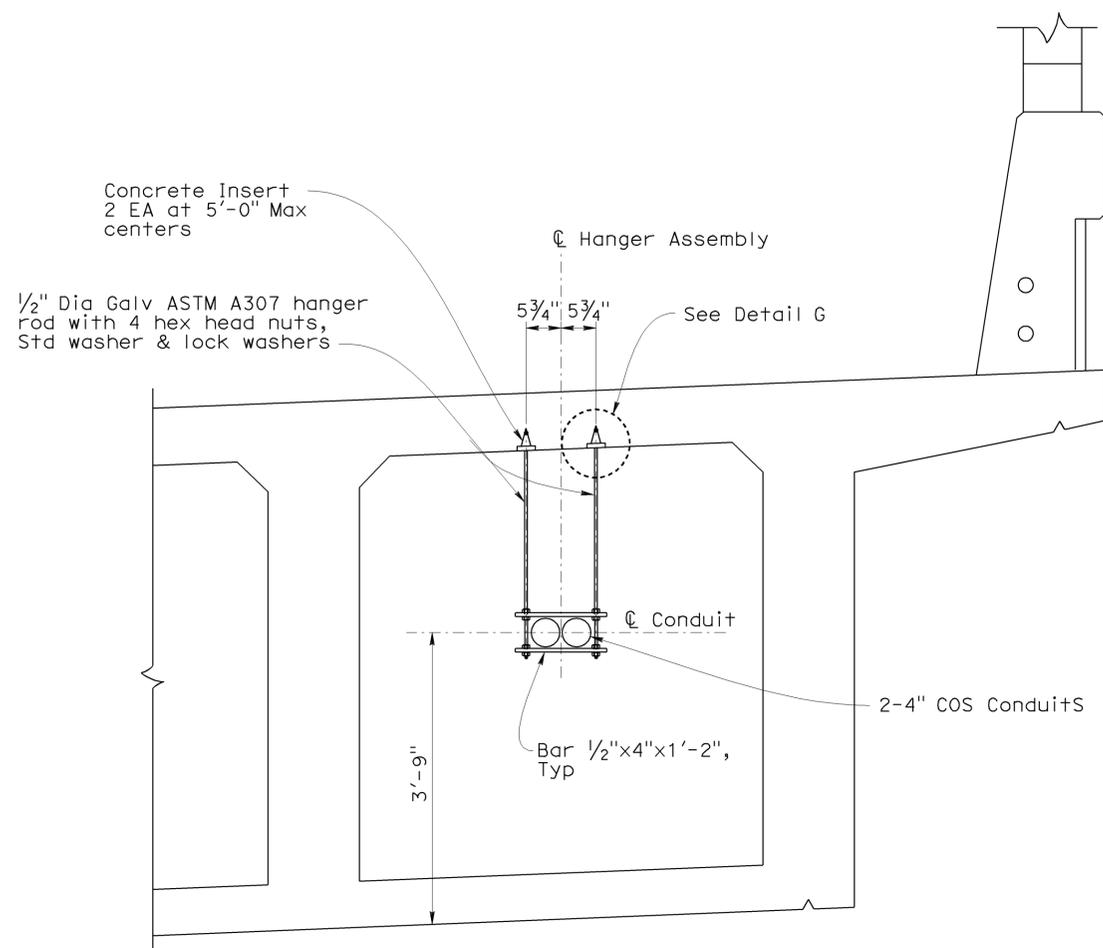
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USERNAME => h1lenard DATE PLOTTED => 25-JAN-2010 TIME PLOTTED => 08:12

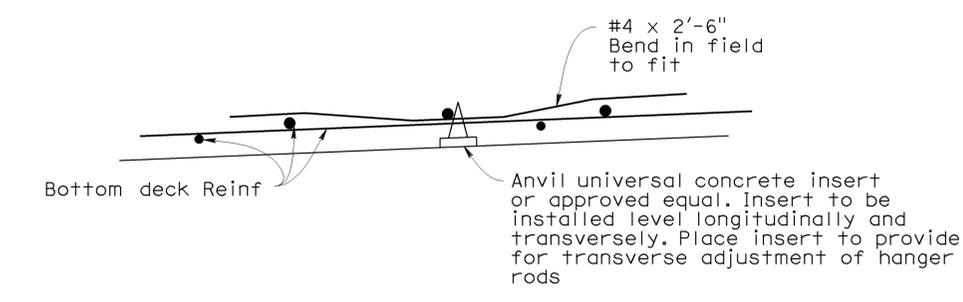
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	57	18.4/20.9	594	856


 REGISTERED CIVIL ENGINEER DATE 06/08/09
 1-25-10
 PLANS APPROVAL DATE
 No. C47027
 Exp. 12/31/07
 CIVIL
 STATE OF CALIFORNIA

OCTA
 550 S. MAIN STREET
 ORANGE, CA 92863
 CH2M HILL
 6 HUTTON CENTRE DRIVE, SUITE 700
 SANTA ANA, CA 92707

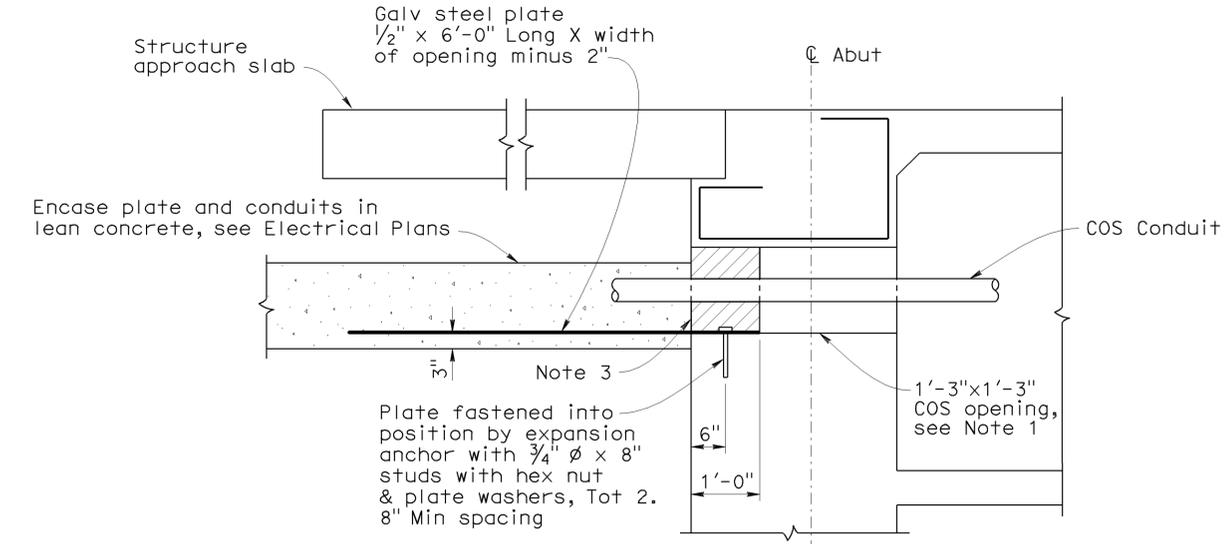


COS CONDUIT HANGER SUPPORT DETAIL
1" = 1'-0"

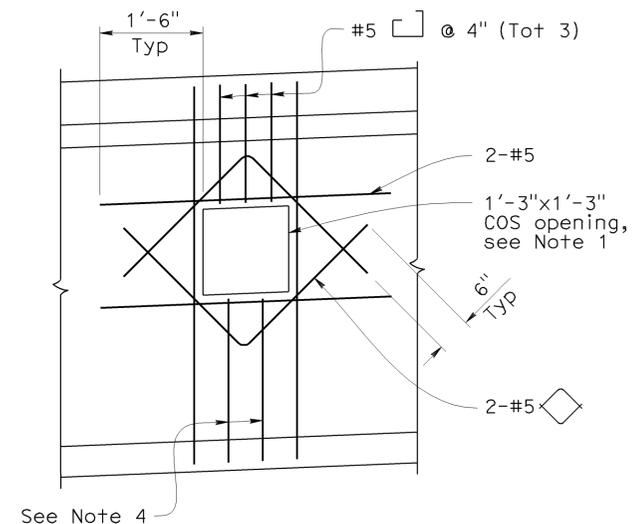


DETAIL G
No Scale

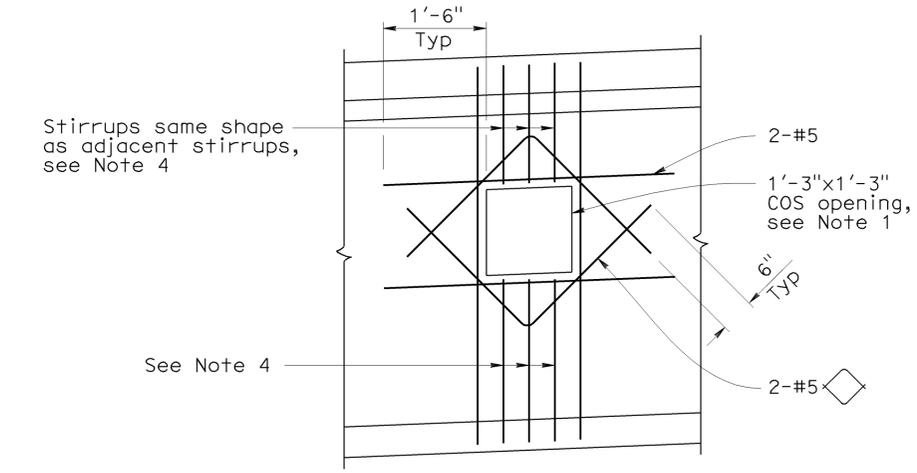
NOTE:
The Contractor shall verify all controlling field dimensions before ordering or fabricating any materials.



DETAIL AT ABUTMENT OPENING FOR COS CONDUITS
3/4"=1'-0"



ABUTMENT DIAPHRAGM



INTERMEDIATE DIAPHRAGM

COS CONDUIT OPENING DETAIL
3/4"=1'-0"

- NOTES:**
- The exact location, elevation, size and direction of COS openings, see "Abutment 1 Layout", "Abutment 2 Layout" and "Typical Section" sheets.
 - All reinforcement detailed to be placed in addition to reinforcement shown on Project Plans.
 - Seal conduits at abutments with concrete or mortar, after tightly wrapping utility with 2 layers of 15 LBS building paper.
 - Reinforcement to be same bar size, and 2/3 the spacing of adjacent reinforcement shown on Project Plans.
 - Reinforcement to be same bar size and shape as adjacent reinforcement shown on Project Plans.
 - When there is insufficient space to place reinforcement as shown, hook reinforcement into exterior girder.


 DESIGN OVERSIGHT
 6-9-09
 SIGN OFF DATE

DESIGN	BY M. Atiqullah	CHECKED X. Wu
DETAILS	BY M. Atiqullah	CHECKED X. Wu
QUANTITIES	BY A. Issa	CHECKED P. Kaviani

PREPARED FOR THE STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 Ayman Salama
 PROJECT ENGINEER

BRIDGE NO.	55-0466
POST MILE	19.58

ASSOCIATED ROAD UC (WIDEN)
MISCELLANEOUS DETAILS

DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

CU 12220
EA 0F0321

DISREGARD PRINTS BEARING EARLIER REVISION DATES

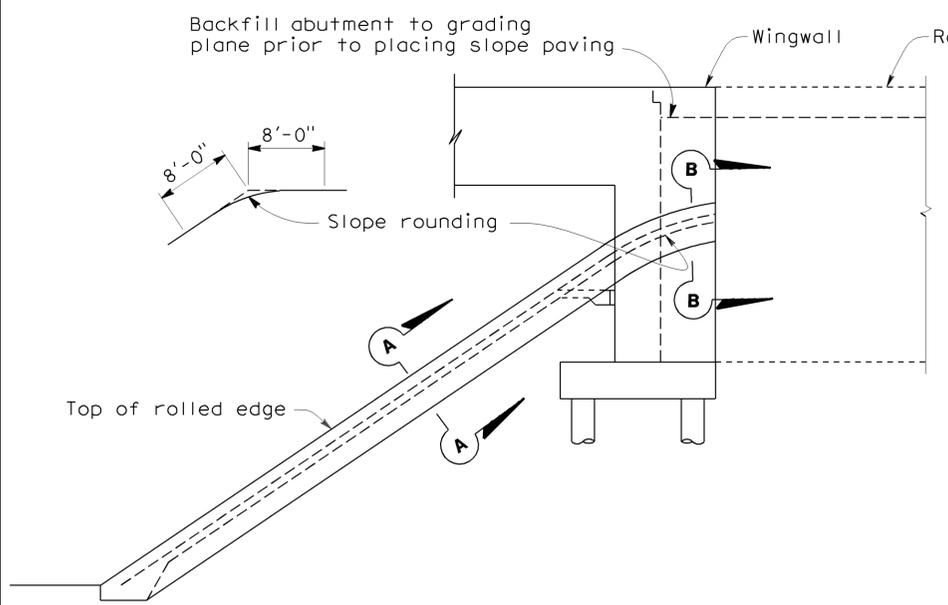
REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET 18	OF 22
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USERNAME => h1renard DATE PLOTTED => 25-JAN-2010 TIME PLOTTED => 08:12

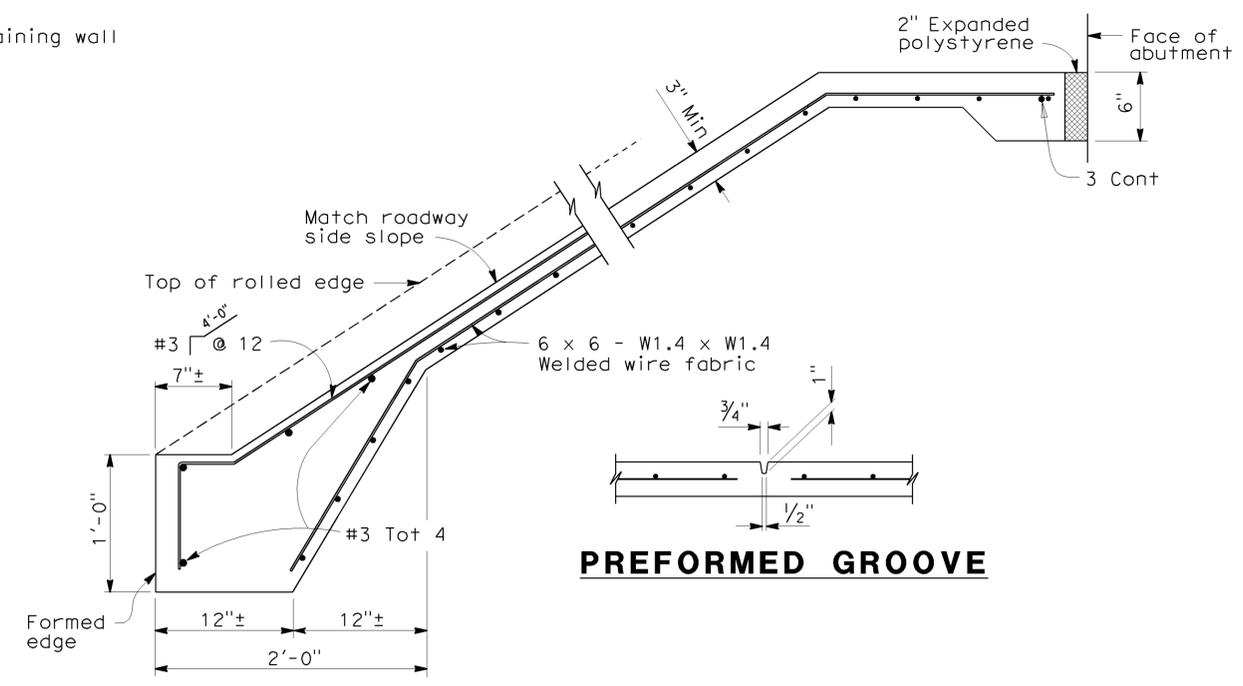
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	57	18.4/20.9	595	856

REGISTERED ENGINEER - CIVIL		06/08/09
1-25-10		
PLANS APPROVAL DATE		

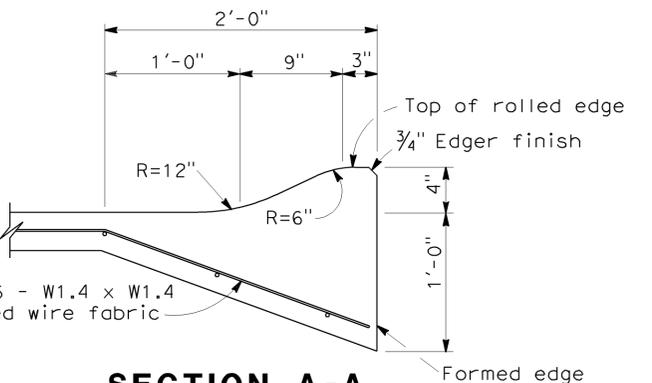
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



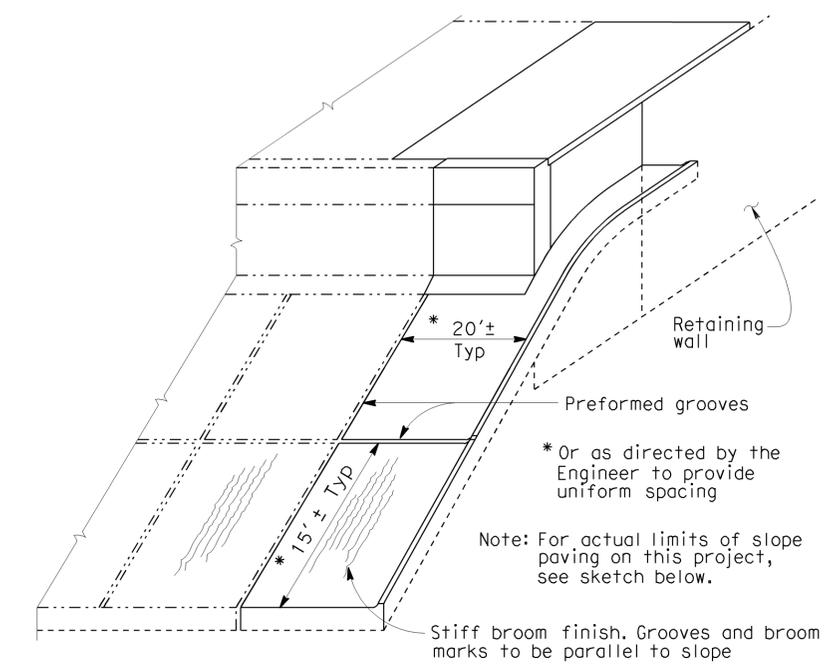
WINGWALL/RETAINING WALL ELEVATION



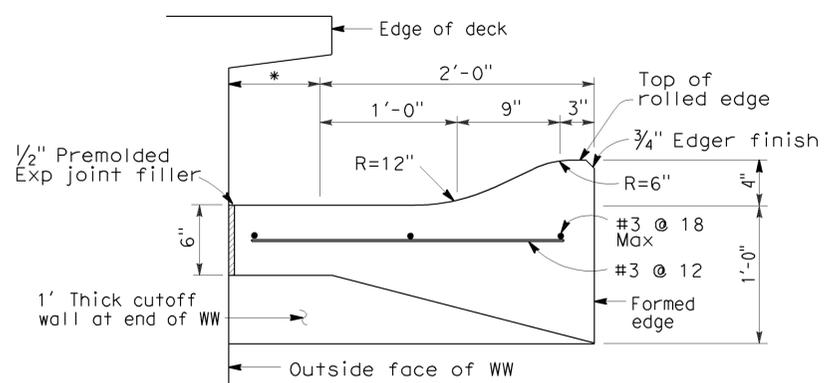
TYPICAL SECTION - CONCRETE PAVING



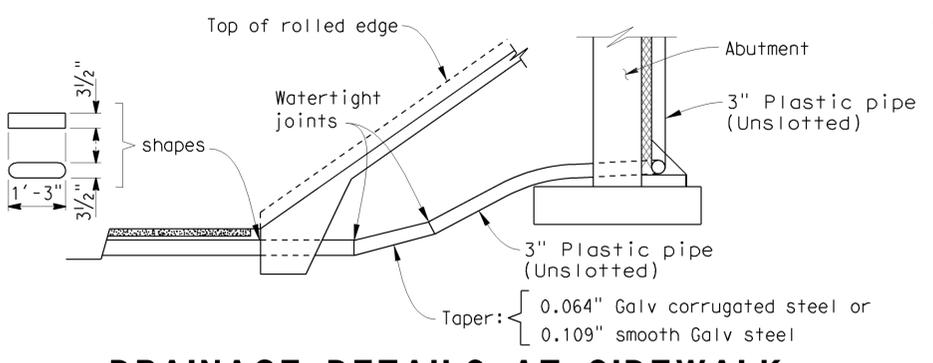
SECTION A-A



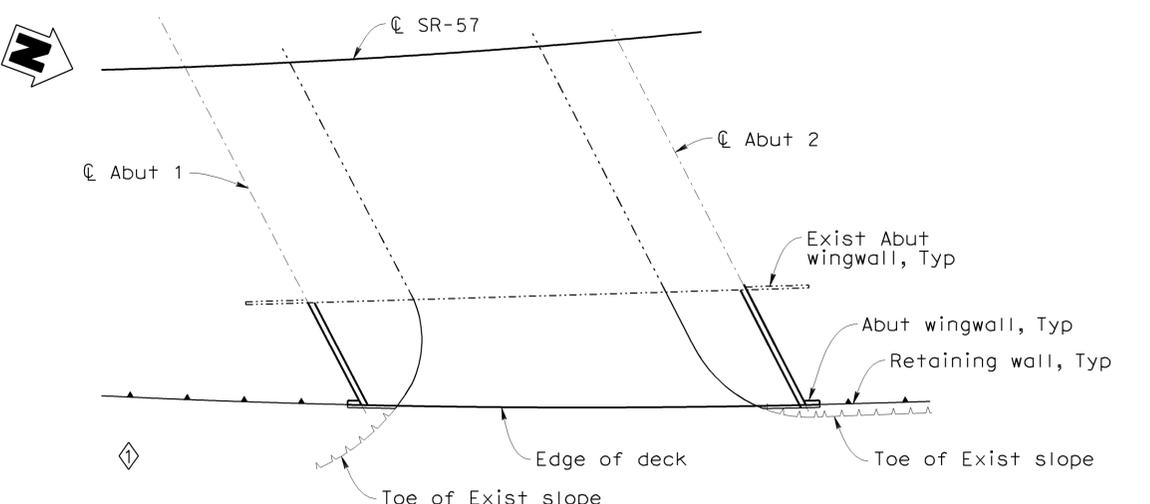
PICTORIAL VIEW OF TYPICAL INSTALLATION



SECTION B-B



DRAINAGE DETAILS AT SIDEWALK



LIMITS OF SLOPE PAVING & DRAINAGE LAYOUT

NOTE: * This dimension becomes zero when edge of deck is at outside face of WW

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

NO SCALE
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN

STANDARD DRAWING			
RELEASE DATE	DESIGN BY	CHECKED	RELEASED BY
REVISED	BY R. YEE	CHECKED	<i>Mohammed Atiqullah</i>
FILE NO. xs4-210	SUBMITTED BY C.W. PURKISS	DRAWING DATE 3/89	OFFICE CHIEF

- ◆ Added Detail
- ◆ Revised Details
- ◆ Converted metric to feet & inches

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO.	55-0466	ASSOCIATED ROAD UC (WIDEN) SLOPE PAVING - FULL SLOPE
POST MILES	19.58	

TIME PLOTTED => 25-JAN-2010 08:12

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	57	18.4/20.9	596	856

Hisham Nofal 06/08/09
 GEOTECHNICAL PROFESSIONAL DATE
 1-25-10
 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.
 REGISTERED PROFESSIONAL ENGINEER
 HISHAM M. NOFAL
 No. 2765
 Exp. 09/30/09
 STATE OF CALIFORNIA
 GEOTECHNICAL

OCTA
 550 S. MAIN STREET
 ORANGE, CA 92863
 CH2M HILL
 6 HUTTON CENTRE DRIVE, SUITE 700
 SANTA ANA, CA 92707

BENCHMARK:

Horizontal coordinates are CCS NAD-83, Zone 6.
 Vertical control based on North American Vertical Datum 1988.
 Pt 1150: N2277373.804, E6066685.179, Elev 331.888
 Pt 1151: N2277718.273, E6066549.702, Elev 322.224
 Pt 1068: N2277999.248, E6066394.642, Elev 310.252

SAMPLER TYPES:

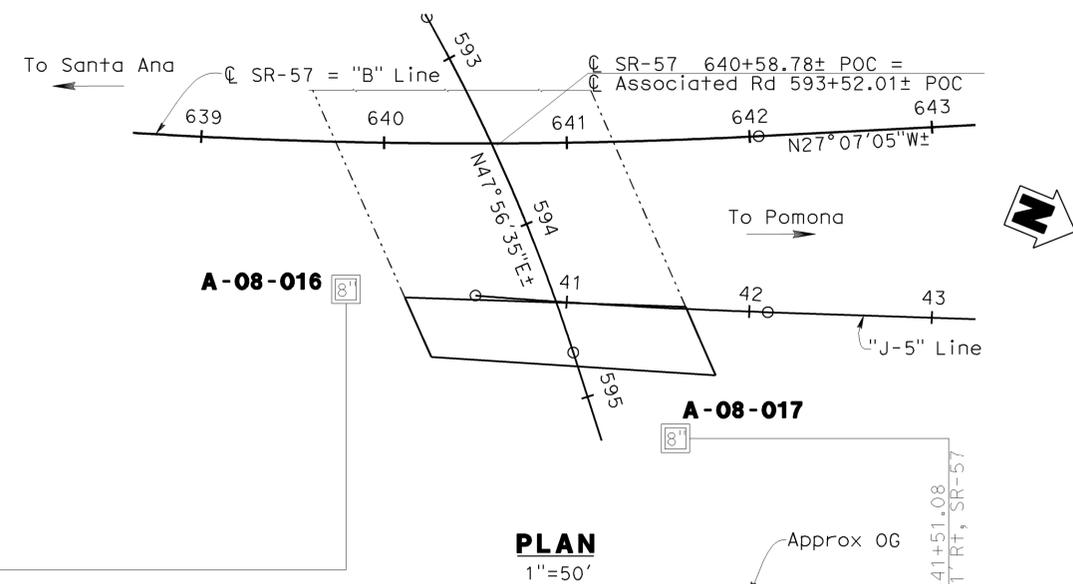
California modified ring sampler
 standard penetration test sampler

HAMMER TYPE:

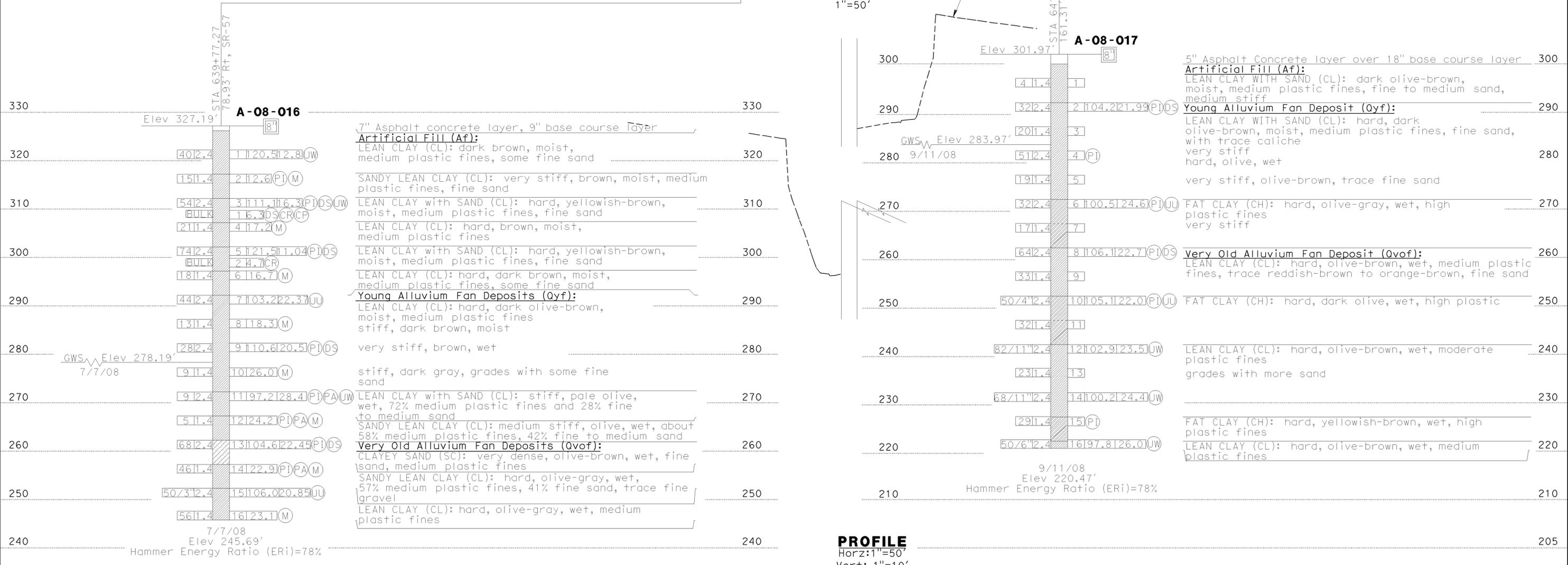
Automatic hammer

CORRECTION FACTOR:

To convert from California modified ring sampler blow count to equivalent standard penetration test sampler blow count, for granular and cohesive soil, multiply by 0.67.



PLAN
 1"=50'



PROFILE
 Horz: 1"=50'
 Vert: 1"=10'

634	635	636	637	638	639	640	641	642	643	644	645	646	647	648
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

 DESIGN OVERSIGHT 6-9-09 SIGN OFF DATE	DRAWN BY K. Reyes	R. Bethapudi FIELD INVESTIGATION BY:	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	Ayman Salama PROJECT ENGINEER	BRIDGE NO. 55-0466	ASSOCIATED ROAD UC (WIDEN) LOG OF TEST BORINGS SHEET 1 OF 3
	CHECKED BY H. Nofal	DATE		19.58	REVISION DATES (PRELIMINARY STAGE ONLY)	

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



CU 12220
EA OF 0321

USERNAME => trlenard
 DGN FILE => 55-0466-z-1+tb01.dgn

TIME PLOTTED => 25-JAN-2010 08:12

Hisham Nofal 06/08/09
 GEOTECHNICAL PROFESSIONAL DATE
 1-25-10
 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.
 OCTA
 550 S. MAIN STREET
 ORANGE, CA 92863
 CH2M HILL
 6 HUTTON CENTRE DRIVE, SUITE 700
 SANTA ANA, CA 92707

GROUP SYMBOLS AND NAMES			
Graphic/Symbol	Group Names	Graphic/Symbol	Group Names
GW	Well-graded GRAVEL	CL	Lean CLAY Lean CLAY with SAND Lean CLAY with GRAVEL
	Well-graded GRAVEL with SAND		SANDY lean CLAY SANDY lean CLAY with GRAVEL GRAVELLY lean CLAY GRAVELLY lean CLAY with SAND
GP	Poorly graded GRAVEL	CL-ML	SILTY CLAY SILTY CLAY with SAND SILTY CLAY with GRAVEL
	Poorly graded GRAVEL with SAND		SANDY SILTY CLAY SANDY SILTY CLAY with GRAVEL GRAVELLY SILTY CLAY GRAVELLY SILTY CLAY with SAND
GW-GM	Well-graded GRAVEL with SILT	ML	SILT SILT with SAND SILT with GRAVEL
	Well-graded GRAVEL with SILT and SAND		SANDY SILT SANDY SILT with GRAVEL GRAVELLY SILT GRAVELLY SILT with SAND
GW-GC	Well-graded GRAVEL with CLAY (or SILTY CLAY)	OL	ORGANIC lean CLAY ORGANIC lean CLAY with SAND ORGANIC lean CLAY with GRAVEL
	Well-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)		SANDY ORGANIC lean CLAY SANDY ORGANIC lean CLAY with GRAVEL GRAVELLY ORGANIC lean CLAY GRAVELLY ORGANIC lean CLAY with SAND
GP-GM	Poorly graded GRAVEL with SILT	OH	ORGANIC elastic SILT ORGANIC elastic SILT with SAND ORGANIC elastic SILT with GRAVEL
	Poorly graded GRAVEL with SILT and SAND		SANDY ORGANIC elastic SILT SANDY ORGANIC elastic SILT with GRAVEL GRAVELLY ORGANIC elastic SILT GRAVELLY ORGANIC elastic SILT with SAND
GP-GC	Poorly graded GRAVEL with CLAY (or SILTY CLAY)	MH	ORGANIC fat CLAY ORGANIC fat CLAY with SAND ORGANIC fat CLAY with GRAVEL
	Poorly graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)		SANDY ORGANIC fat CLAY SANDY ORGANIC fat CLAY with GRAVEL GRAVELLY ORGANIC fat CLAY GRAVELLY ORGANIC fat CLAY with SAND
GM	SILTY GRAVEL	CH	Fat CLAY Fat CLAY with SAND Fat CLAY with GRAVEL
	SILTY GRAVEL with SAND		SANDY fat CLAY SANDY fat CLAY with GRAVEL GRAVELLY fat CLAY GRAVELLY fat CLAY with SAND
GC	CLAYEY GRAVEL	MH	Elastic SILT Elastic SILT with SAND Elastic SILT with GRAVEL
	CLAYEY GRAVEL with SAND		SANDY elastic SILT SANDY elastic SILT with GRAVEL GRAVELLY elastic SILT GRAVELLY elastic SILT with SAND
GC-GM	SILTY, CLAYEY GRAVEL	OH	ORGANIC elastic SILT ORGANIC elastic SILT with SAND ORGANIC elastic SILT with GRAVEL
	SILTY, CLAYEY GRAVEL with SAND		SANDY ORGANIC elastic SILT SANDY ORGANIC elastic SILT with GRAVEL GRAVELLY ORGANIC elastic SILT GRAVELLY ORGANIC elastic SILT with SAND
SW	Well-graded SAND	OH	ORGANIC elastic SILT ORGANIC elastic SILT with SAND ORGANIC elastic SILT with GRAVEL
	Well-graded SAND with GRAVEL		SANDY ORGANIC elastic SILT SANDY ORGANIC elastic SILT with GRAVEL GRAVELLY ORGANIC elastic SILT GRAVELLY ORGANIC elastic SILT with SAND
SP	Poorly graded SAND	OH	ORGANIC elastic SILT ORGANIC elastic SILT with SAND ORGANIC elastic SILT with GRAVEL
	Poorly graded SAND with GRAVEL		SANDY ORGANIC elastic SILT SANDY ORGANIC elastic SILT with GRAVEL GRAVELLY ORGANIC elastic SILT GRAVELLY ORGANIC elastic SILT with SAND
SW-SM	Well-graded SAND with SILT	OH	ORGANIC elastic SILT ORGANIC elastic SILT with SAND ORGANIC elastic SILT with GRAVEL
	Well-graded SAND with SILT and GRAVEL		SANDY ORGANIC elastic SILT SANDY ORGANIC elastic SILT with GRAVEL GRAVELLY ORGANIC elastic SILT GRAVELLY ORGANIC elastic SILT with SAND
SW-SC	Well-graded SAND with CLAY (or SILTY CLAY)	OH	ORGANIC elastic SILT ORGANIC elastic SILT with SAND ORGANIC elastic SILT with GRAVEL
	Well-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)		SANDY ORGANIC elastic SILT SANDY ORGANIC elastic SILT with GRAVEL GRAVELLY ORGANIC elastic SILT GRAVELLY ORGANIC elastic SILT with SAND
SP-SM	Poorly graded SAND with SILT	OH	ORGANIC elastic SILT ORGANIC elastic SILT with SAND ORGANIC elastic SILT with GRAVEL
	Poorly graded SAND with SILT and GRAVEL		SANDY ORGANIC elastic SILT SANDY ORGANIC elastic SILT with GRAVEL GRAVELLY ORGANIC elastic SILT GRAVELLY ORGANIC elastic SILT with SAND
SP-SC	Poorly graded SAND with CLAY (or SILTY CLAY)	OH	ORGANIC elastic SILT ORGANIC elastic SILT with SAND ORGANIC elastic SILT with GRAVEL
	Poorly graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)		SANDY ORGANIC elastic SILT SANDY ORGANIC elastic SILT with GRAVEL GRAVELLY ORGANIC elastic SILT GRAVELLY ORGANIC elastic SILT with SAND
SM	SILTY SAND	OH	ORGANIC elastic SILT ORGANIC elastic SILT with SAND ORGANIC elastic SILT with GRAVEL
	SILTY SAND with GRAVEL		SANDY ORGANIC elastic SILT SANDY ORGANIC elastic SILT with GRAVEL GRAVELLY ORGANIC elastic SILT GRAVELLY ORGANIC elastic SILT with SAND
SC	CLAYEY SAND	OH	ORGANIC elastic SILT ORGANIC elastic SILT with SAND ORGANIC elastic SILT with GRAVEL
	CLAYEY SAND with GRAVEL		SANDY ORGANIC elastic SILT SANDY ORGANIC elastic SILT with GRAVEL GRAVELLY ORGANIC elastic SILT GRAVELLY ORGANIC elastic SILT with SAND
SC-SM	SILTY, CLAYEY SAND	OH	ORGANIC elastic SILT ORGANIC elastic SILT with SAND ORGANIC elastic SILT with GRAVEL
	SILTY, CLAYEY SAND with GRAVEL		SANDY ORGANIC elastic SILT SANDY ORGANIC elastic SILT with GRAVEL GRAVELLY ORGANIC elastic SILT GRAVELLY ORGANIC elastic SILT with SAND
PT	PEAT	OL/OH	ORGANIC SOIL ORGANIC SOIL with SAND ORGANIC SOIL with GRAVEL
	COBBLES COBBLES and BOULDERS BOULDERS		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
(PP)	Pocket Penetrometer
(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)
(TV)	Pocket Torvane
(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)
(VS)	Vane Shear (AASHTO T 223)

APPARENT DENSITY OF COHESIONLESS SOILS	
Description	SPT N ₆₀ (Blows / 12 inches)
Very loose	0 - 4
Loose	5 - 10
Medium Dense	11 - 30
Dense	31 - 50
Very Dense	> 50

MOISTURE	
Description	Criteria
Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table

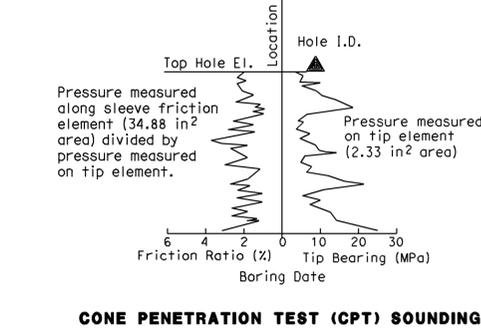
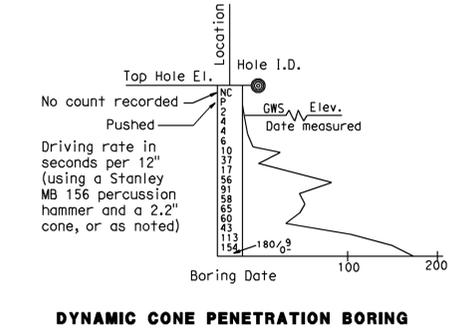
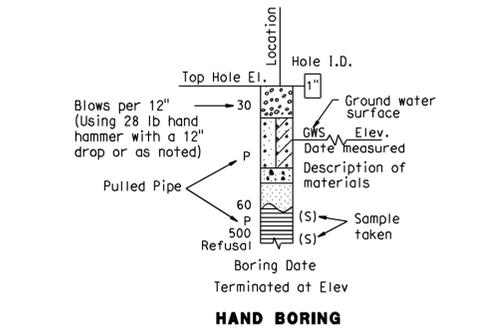
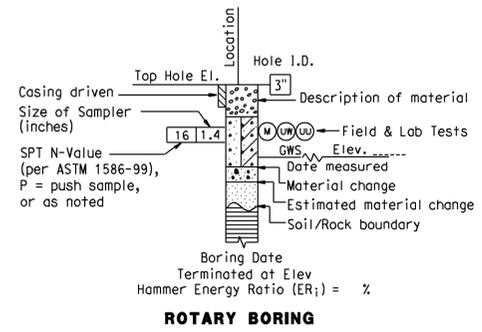
PERCENT OR PROPORTION OF SOILS	
Description	Criteria
Trace	Particles are present but estimated to be less than 5%
Few	5 to 10%
Little	15 to 25%
Some	30 to 45%
Mostly	50 to 100%

PARTICLE SIZE		
Description	Size	
Boulder	> 12"	
Cobble	3" to 12"	
Gravel	Coarse	3/4" to 3"
	Fine	No. 4 to 3/4"
Sand	Coarse	No. 10 to No. 4
	Medium	No. 40 to No. 10
	Fine	No. 200 to No. 40

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.

CONSISTENCY OF COHESIVE SOILS				
Description	Unconfined Compressive Strength (tsf)	Pocket Penetrometer Measurement (tsf)	Torvane Measurement (tsf)	Field Approximation
Very Soft	< 0.25	< 0.25	< 0.12	Easily penetrated several inches by fist
Soft	0.25 to 0.50	0.25 to 0.50	0.12 to 0.25	Easily penetrated several inches by thumb
Medium Stiff	0.50 to 1.0	0.50 to 1.0	0.25 to 0.50	Penetrated several inches by thumb with moderate effort
Stiff	1 to 2	1 to 2	0.50 to 1.0	Readily indented by thumb but penetrated only with great effort
Very Stiff	2 to 4	2 to 4	1.0 to 2.0	Readily indented by thumbnail
Hard	> 4.0	> 4.0	> 2.0	Indented by thumbnail with difficulty

PLASTICITY OF FINE-GRAINED SOILS	
Description	Criteria
Nonplastic	A 1/8-inch thread cannot be rolled at any water content.
Low	The thread can barely be rolled and the lump cannot be formed when drier than the plastic limit.
Medium	The thread is easy to roll and not much time is required to reach the plastic limit. The thread cannot be re-rolled after reaching the plastic limit. The lump crumbles when drier than the plastic limit.
High	It takes considerable time rolling and kneading to reach the plastic limit. The thread can be re-rolled several times after reaching the plastic limit. The lump can be formed without crumbling when drier than the plastic limit.



BOREHOLE IDENTIFICATION		
Symbol	Hole Type	Description
(A)	A	Auger Boring
(R)	R	Rotary drilled boring
(P)	P	Rotary percussion boring (air)
(R)	R	Rotary drilled diamond core
(HD)	HD	Hand driven (1-inch soil tube)
(HA)	HA	Hand Auger
(D)	D	Dynamic Cone Penetration Boring
(B)	B	Hollow Stem Auger Boring (HSA)
(CPT)	CPT	Cone Penetration Test (ASTM D 5778-95)
(O)	O	Other

Note: Size in inches.

DESIGN OVERSIGHT 6-9-09 SIGN OFF DATE		DRAWN BY K. Reyes	CHECKED BY H. Nofal	R. Bethapudi FIELD INVESTIGATION BY: DATE	BRIDGE NO. 55-0466	POST MILES 19.58	ASSOCIATED ROAD UC (WIDEN)
PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION					Ayman Salama PROJECT ENGINEER		SOIL LEGEND
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS					CU 12220 EA OF0321		LOG OF TEST BORINGS SHEET 2 OF 3
DISREGARD PRINTS BEARING EARLIER REVISION DATES					REVISION DATES (PRELIMINARY STAGE ONLY)		SHEET 21 OF 22

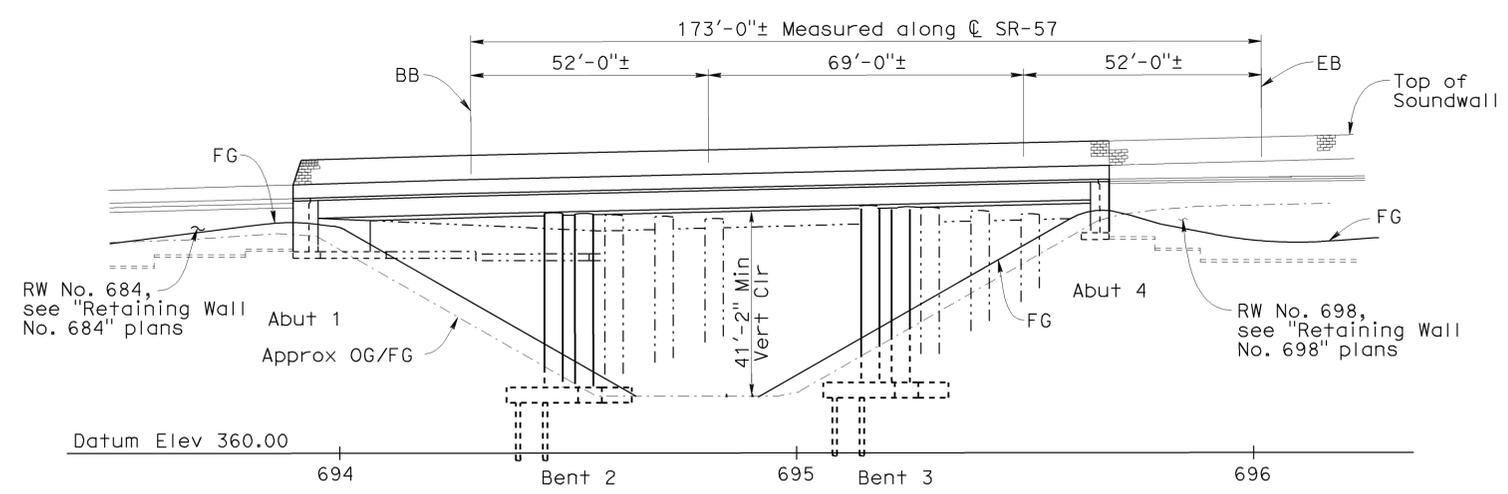
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	57	18.4/20.9	599	856

06/08/09
 REGISTERED CIVIL ENGINEER DATE
 MOHAMMED ATIQULLAH
 No. C47027
 Exp. 12/31/09
 CIVIL
 STATE OF CALIFORNIA

1-25-10
 PLANS APPROVAL DATE
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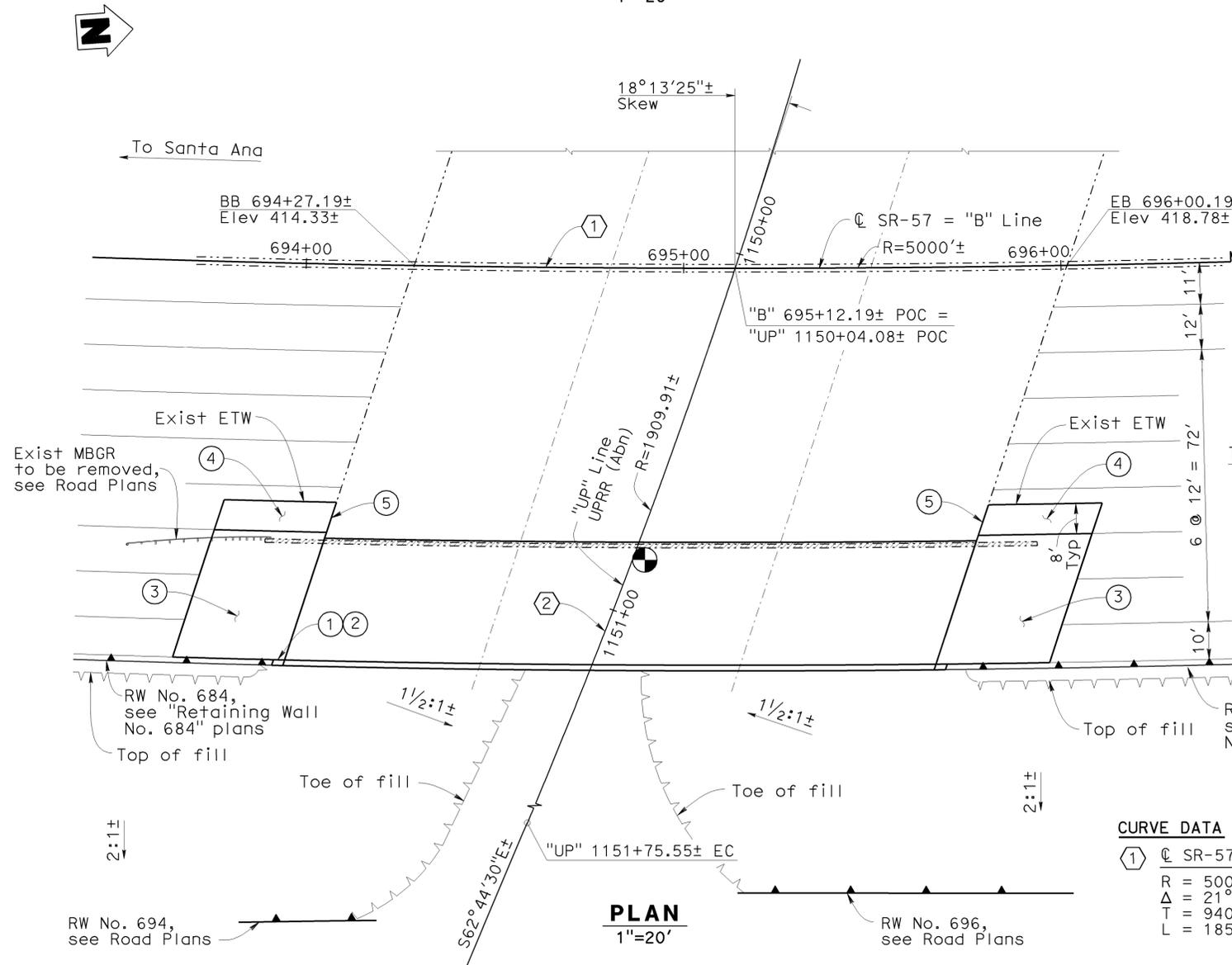
OCTA
 550 S. MAIN STREET
 ORANGE, CA 92863

CH2M HILL
 6 HUTTON CENTRE DRIVE, SUITE 700
 SANTA ANA, CA 92707



ELEVATION
1"=20'

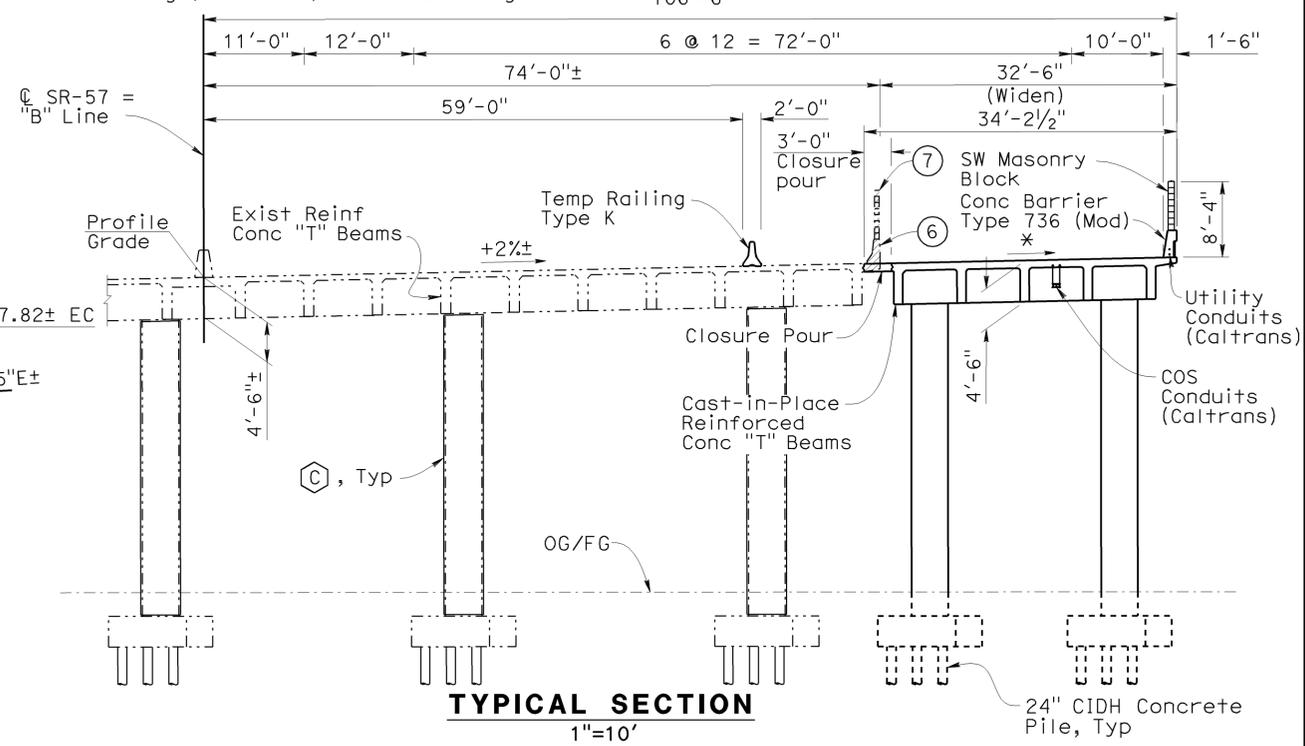
- LEGEND:**
- Indicates Existing Structure
 - Indicates New Construction
 - ① Paint "Brea Overhead"
 - ② Paint "Bridge No. 55-0482" & Year Constructed
 - ③ Structure Approach Type N(30D)
 - ④ Structure Approach Type R(30D)
 - ⑤ Replace Exist Joint Seal (Portion) With Type B (MR = 1 1/2")
 - ⑥ Remove Existing Type 9 Barrier, Metal Railing & Overhang
 - ⑦ Remove Existing Soundwall
 - ⊙ Denotes Point of Minimum Vertical Clearance
 - ▨ Bridge Removal (Portion)
 - * Match Existing Grade & Cross Slope
- RETROFIT LEGEND**
- ⊕ Column Casing (Class P/F) For All Existing Columns 106'-6"



PLAN
1"=20'

CURVE DATA

① ϕ SR-57	② ϕ UPRR
R = 5000.00'±	R = 1909.91'±
Δ = 21°18'33"±	Δ = 25°47'48"±
T = 940.66'±	T = 437.37'±
L = 1859.58'±	L = 859.91'±



NOTES:

1. The Contractor shall verify all controlling field dimensions before ordering or fabricating any materials.
2. For Pile Data Table and General Notes, see "General Notes" sheet.

BREA OVERHEAD (WIDEN) QUANTITIES		BR NO 55-0482	
BRIDGE REMOVAL (PORTION)	LOCATION B	LUMP	SUM
STRUCTURE EXCAVATION (BRIDGE)		1,105	CY
STRUCTURE EXCAVATION (TYPE Y-1) (AERIALY DEPOSITED LEAD)		97	CY
STRUCTURE BACKFILL (BRIDGE)		1,075	CY
AGGREGATE BASE (APPROACH SLAB)		11	CY
24" CAST-IN-DRILLED-HOLE CONCRETE PILING		1,365	LF
STRUCTURAL CONCRETE, BRIDGE FOOTING		203	CY
STRUCTURAL CONCRETE, BRIDGE		448	CY
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE N)		76	CY
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE R)		21	CY
FRACTURED RIB TEXTURE		325	SQFT
DRILL AND BOND DOWEL		12	LF
SOUND WALL (BARRIER) (MASONRY BLOCK)		970	SQFT
JOINT SEAL (MR 1 1/2")		87	LF
BAR REINFORCING STEEL (BRIDGE)		186,300	LB
ASPHALT MEMBRANE WATERPROOFING		270	SQFT
COLUMN CASING		72,300	LB
3" PLASTIC PIPE DOWNDRAIN		230	LF
MISCELLANEOUS METAL (BRIDGE)		680	LB
CONCRETE BARRIER (TYPE 736 MODIFIED)		176	LF

DESIGN OVERSIGHT
 6-9-09
 SIGN OFF DATE
 DESIGN GENERAL PLAN SHEET (ENGLISH) (REV. 2/25/05)

DESIGN	BY M. Atiqullah / A. Issa	CHECKED M. Desai / E. Cutler	LRFD	LIVE LOADING: HL-93 AND PERMIT (P-15) DESIGN LOAD
DETAILS	BY M. Atiqullah / A. Issa	CHECKED M. Desai / E. Cutler	LAYOUT	BY N. Morales
QUANTITIES	BY A. Issa	CHECKED E. Cutler	SPECIFICATIONS	BY M. Remolador

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 Ayman Salama
 PROJECT ENGINEER

BRIDGE NO. 55-0482
 POST MILES 20.61
BREA OVERHEAD (WIDEN)
GENERAL PLAN

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Orca	57	18.4/20.9	600	856


 REGISTERED CIVIL ENGINEER DATE 06/08/09
 PLANS APPROVAL DATE 1-25-10
 No. C47027
 Exp. 12/31/09
 CIVIL
 STATE OF CALIFORNIA

OCTA
 550 S. MAIN STREET
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INDEX TO PLANS

SHEET NO.	TITLE
1.	GENERAL PLAN
2.	INDEX TO PLANS
3.	GENERAL NOTES
4.	FOUNDATION PLAN
5.	ABUTMENT 1 LAYOUT
6.	ABUTMENT 4 LAYOUT
7.	ABUTMENT DETAILS NO. 1
8.	ABUTMENT DETAILS NO. 2
9.	BENT LAYOUT
10.	BENT DETAILS NO. 1
11.	BENT DETAILS NO. 2
12.	STEEL COLUMN CASINGS
13.	TYPICAL SECTION
14.	GIRDER LAYOUT
15.	GIRDER REINFORCEMENT
16.	STRUCTURE APPROACH TYPE N(30D)
17.	STRUCTURE APPROACH TYPE R(30D)
18.	STRUCTURE APPROACH DRAINAGE DETAILS
19.	SOUNDWALL DETAILS NO. 1
20.	SOUNDWALL DETAILS NO. 2
21.	MISCELLANEOUS DETAILS
22.	LOG OF TEST BORINGS SHEET 1 OF 4
23.	LOG OF TEST BORINGS SHEET 2 OF 4
24.	LOG OF TEST BORINGS SHEET 3 OF 4
25.	LOG OF TEST BORINGS SHEET 4 OF 4

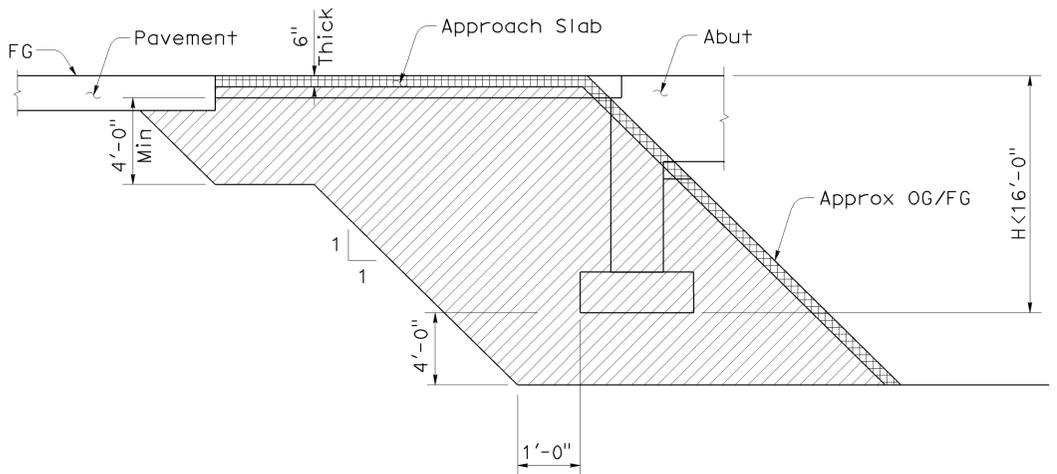


CONCRETE STRENGTH AND TYPE LIMITS

NO SCALE

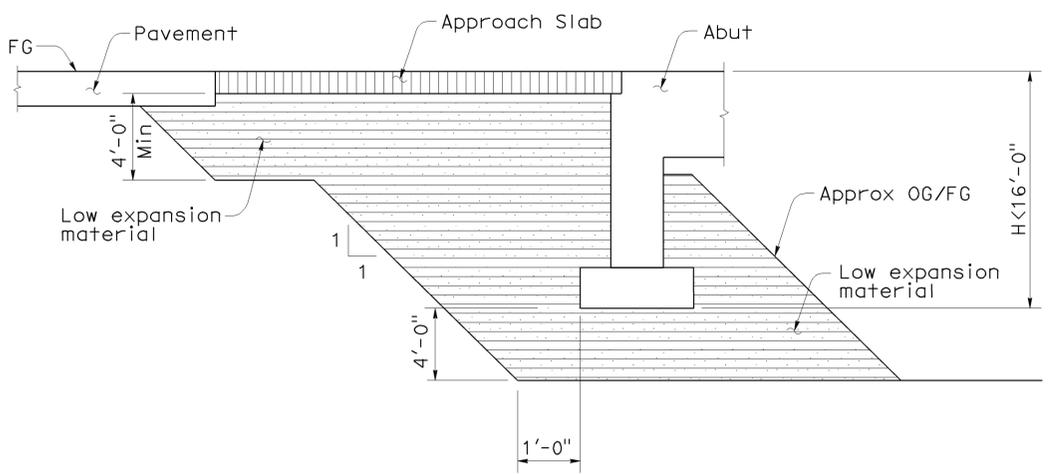
LEGEND

- = Structural Concrete, Bridge (4,000 psi @ 28 days)
- = Structural Concrete, Bridge Footing
- = Structural Concrete, Approach Slab



LIMITS OF STRUCTURE EXCAVATION

No scale



LOW EXPANSION MATERIAL BACKFILL LIMITS

No scale

NOTES:

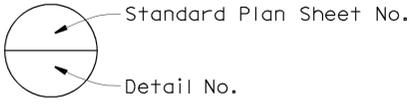
- Expansion Index to be determined by ASTM D4829
- Low Expansion material shall be EI<50 or SE>20 at New Construction only.
- Backfill shall be placed simultaneously at both abutments after the deck is completed.

LEGEND

- = Structure Excavation (Bridge)
- = Structure Backfill (Bridge) (Low Expansion)
- = Structure Excavation (Type Y-1) (Aerially Deposited Lead)

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
B0-5	BRIDGE DETAILS
B0-13	BRIDGE DETAILS
B2-3	16" AND 24" CAST-IN-DRILLED-HOLE CONCRETE PILE
B6-1	T-BEAM DETAILS
B6-21	JOINT SEAL (MAXIMUM MOVEMENT RATING = 2")
B11-56	CONCRETE BARRIER TYPE 736



ABBREVIATION

COS	Caltrans Corridor Operating System
UPRR	Union Pacific Railroad

NOTE:

The Contractor shall verify all controlling field dimensions before ordering or fabricating any materials.


 DESIGN OVERSIGHT
 6-9-09
 SIGN OFF DATE

DESIGN	BY M. Atiqullah / A. Issa	CHECKED M. Desai / E. Cutler
DETAILS	BY M. Atiqullah / A. Issa	CHECKED M. Desai / E. Cutler
QUANTITIES	BY A. Issa	CHECKED E. Cutler

PREPARED FOR THE
STATE OF CALIFORNIA
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Ayman Salama
 PROJECT ENGINEER

BRIDGE NO.	55-0482
POST MILE	20.61

BREA OVERHEAD (WIDEN) INDEX TO PLANS

DESIGN DETAIL SHEET (ENGLISH) (REV. 2/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



CU 12220
EA 0F0321

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)					
01/16/09	04/07/09	04/17/09	05/29/09	06/08/09	

SHEET	OF
2	25

USERNAME => h1renard DATE PLOTTED => 25-JAN-2010 TIME PLOTTED => 08:13