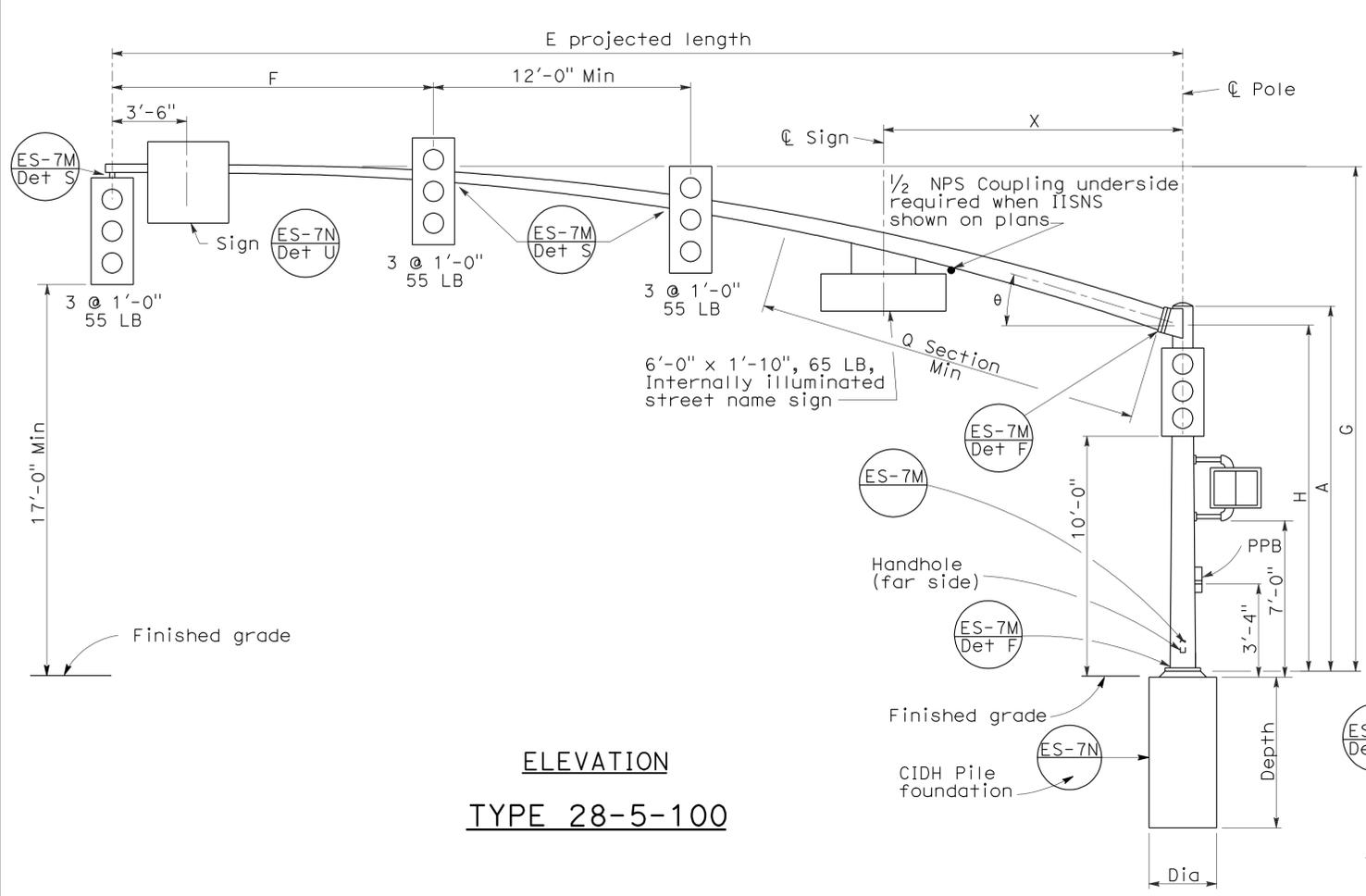
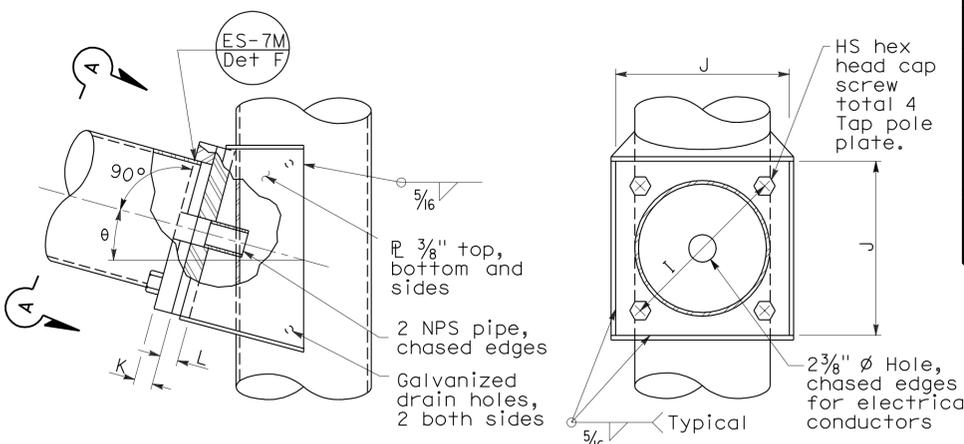


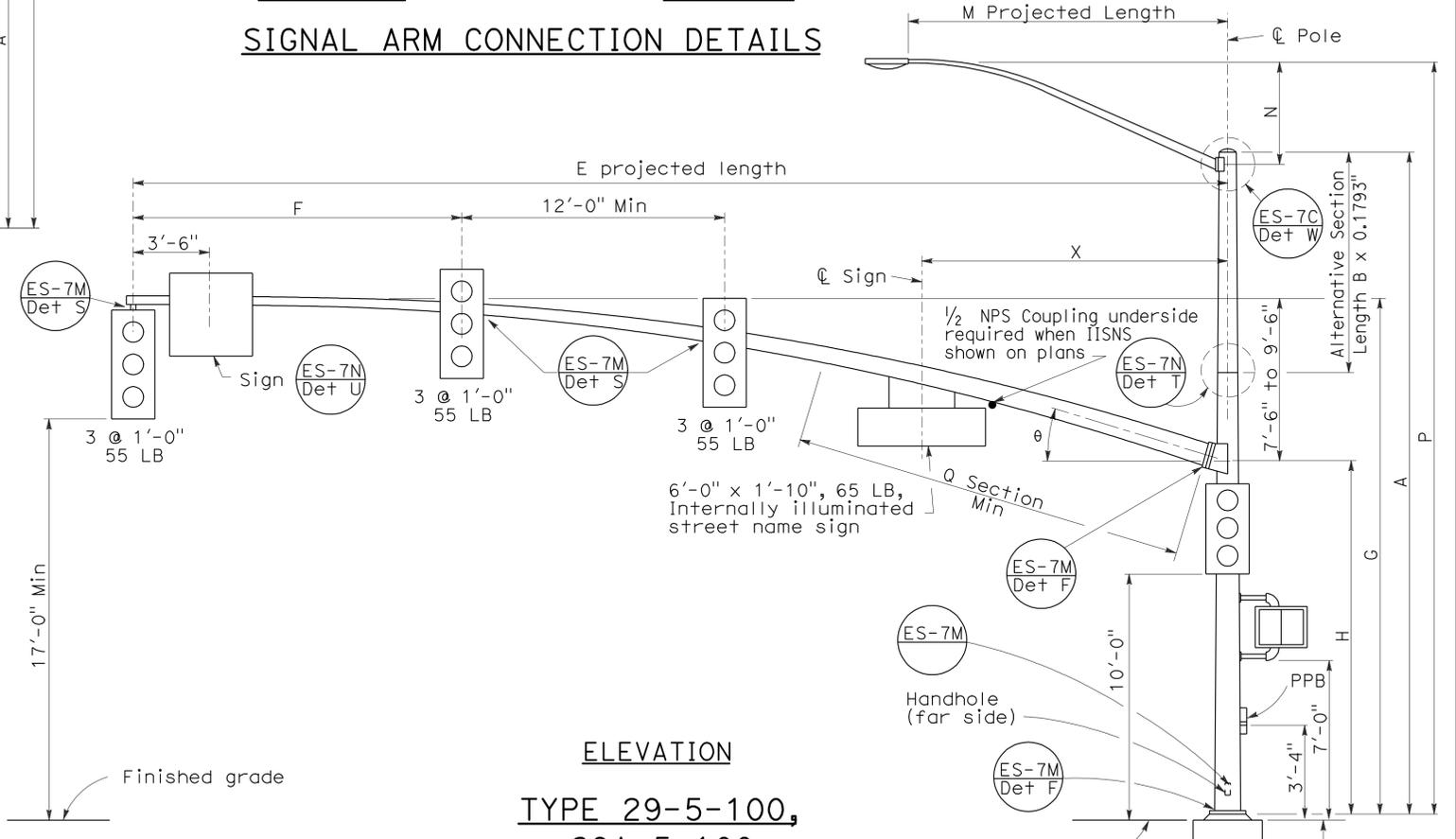
Stanley P. Johnson  
 REGISTERED CIVIL ENGINEER  
 No. C57793  
 Exp. 03-31-08  
 STATE OF CALIFORNIA  
 CIVIL



**ELEVATION**  
**TYPE 28-5-100**

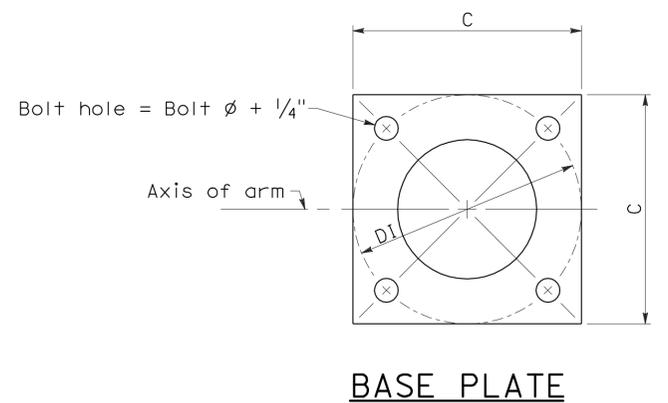


**ELEVATION**  
**VIEW A-A**  
**SIGNAL ARM CONNECTION DETAILS**



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

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



**BASE PLATE**

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

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

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

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

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

**REVISED STANDARD PLAN RSP ES-7G**

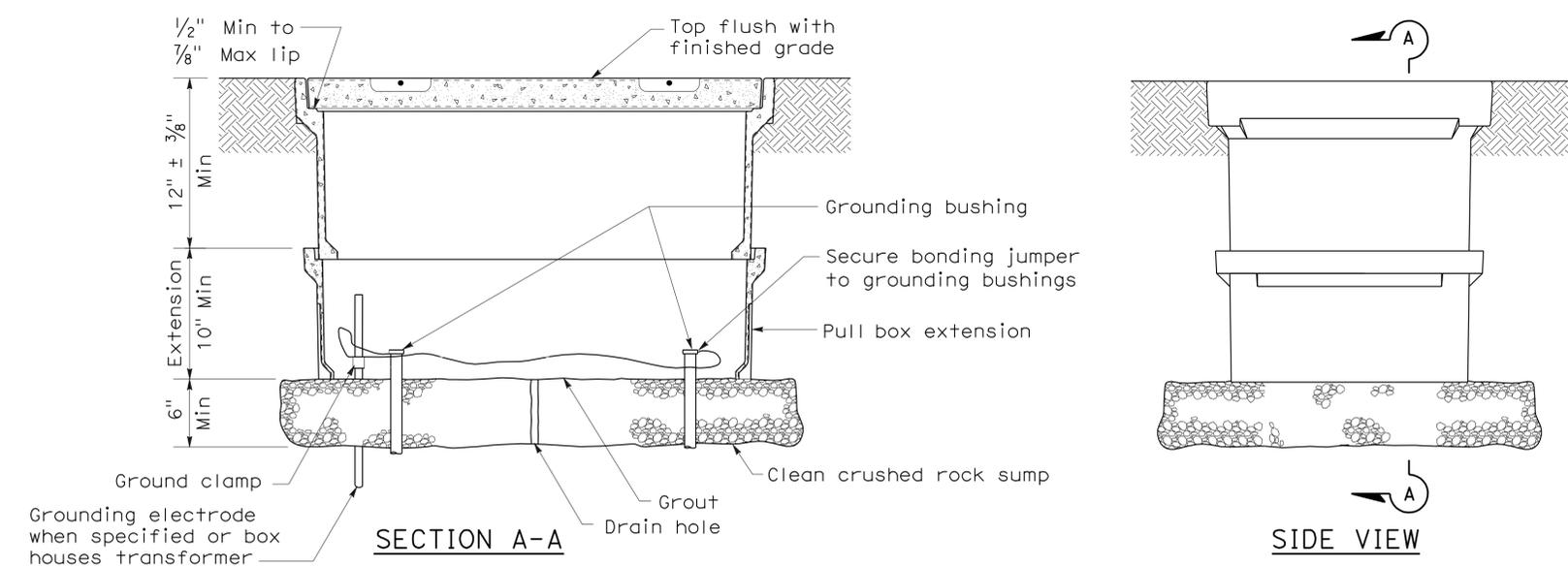
2006 REVISED STANDARD PLAN RSP ES-7G

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	99	6.9/10.6	602	639

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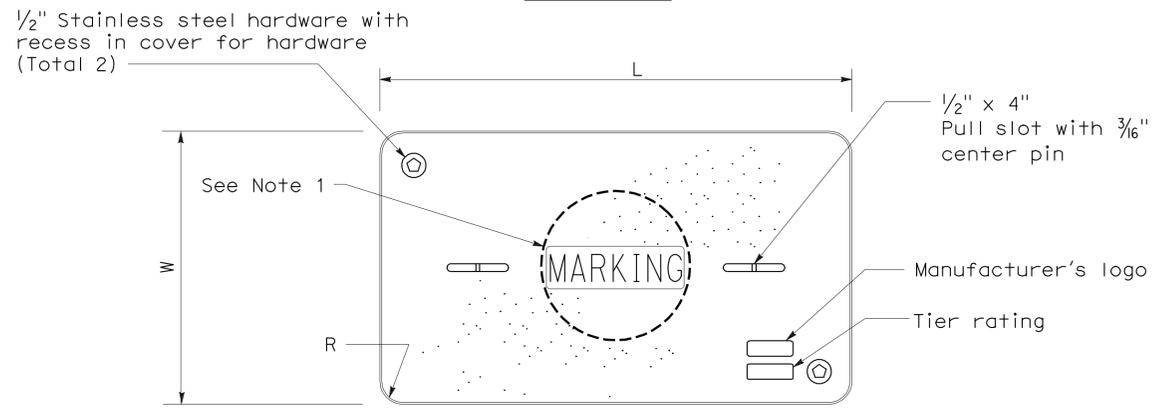
REGISTERED PROFESSIONAL ENGINEER  
 Jeffrey G. McRae  
 No. E14512  
 Exp. 6-30-12  
 ELECTRICAL  
 STATE OF CALIFORNIA

To accompany plans dated 6-11-12

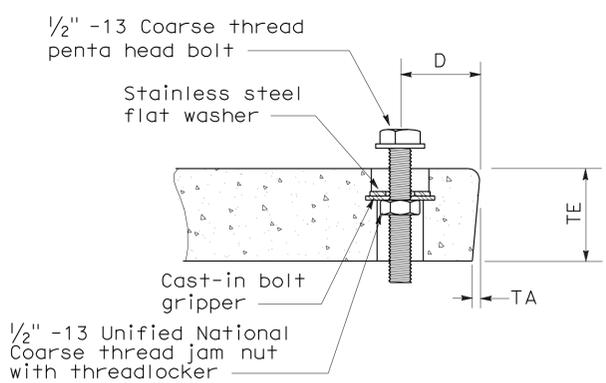


**INSTALLATION DETAILS**

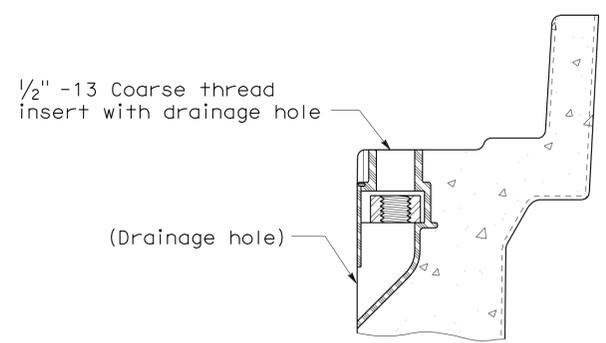
**DETAIL A**



**COVER TOP VIEW**



**TYPICAL COVER CAPTIVE BOLT**  
(Or similar)



**TYPICAL THREADED INSERT**  
(Or similar)

**NOTES ON PULL BOXES:**

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

**DIMENSION TABLE**

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

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

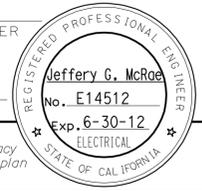
NSP ES-8A DATED JANUARY 20, 2012 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

2006 NEW STANDARD PLAN NSP ES-8A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	99	6.9/10.6	603	639

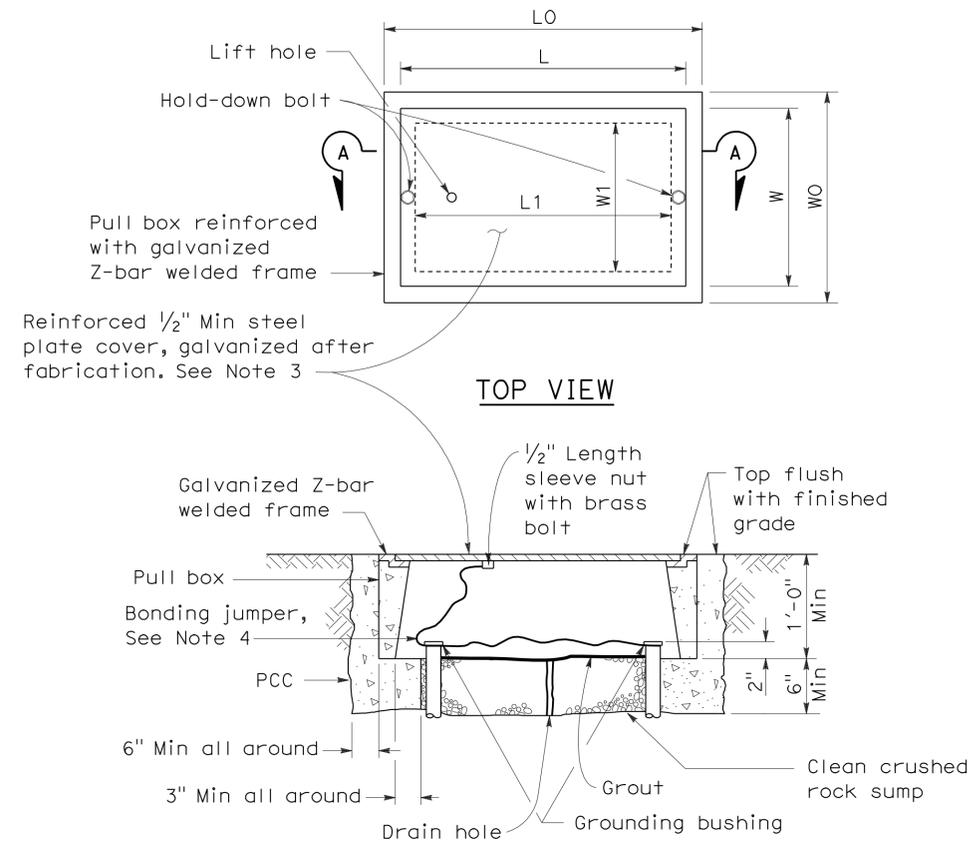
*Jeffery G. McRae*  
 REGISTERED ELECTRICAL ENGINEER  
 January 20, 2012  
 PLANS APPROVAL DATE

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To accompany plans dated 6-11-12

2006 NEW STANDARD PLAN NSP ES-8B



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

**NOTES ON PULL BOXES:**

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

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

\* Excluding conduit web      \*\* Top dimension

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

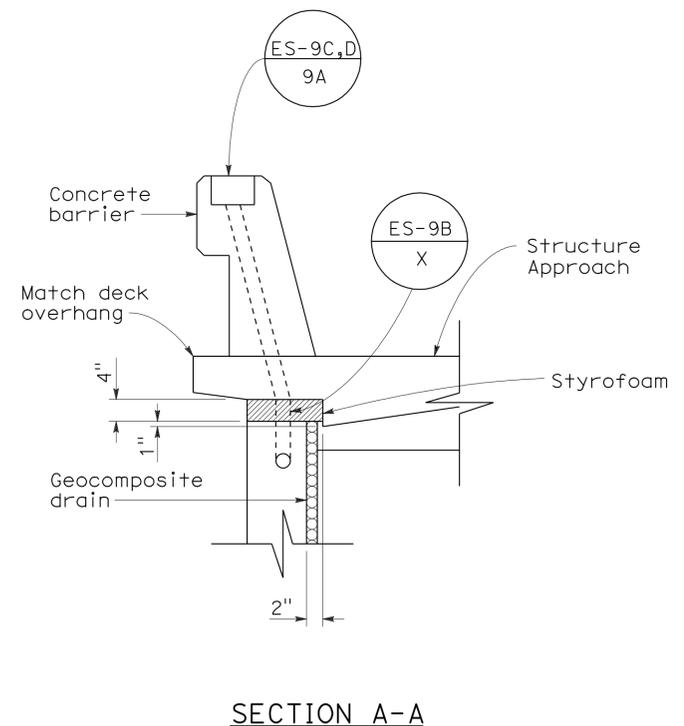
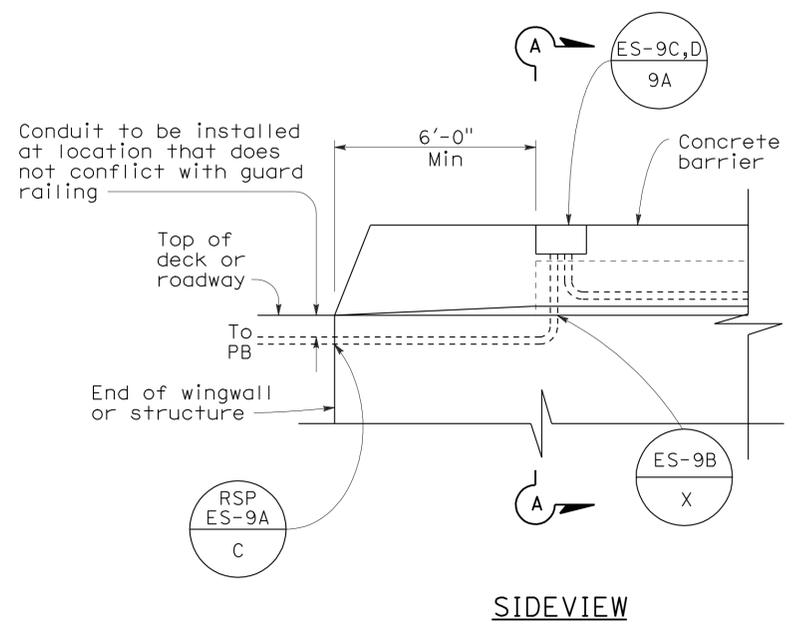
NSP ES-8B DATED JANUARY 20, 2012 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	99	6.9/10.6	604	639

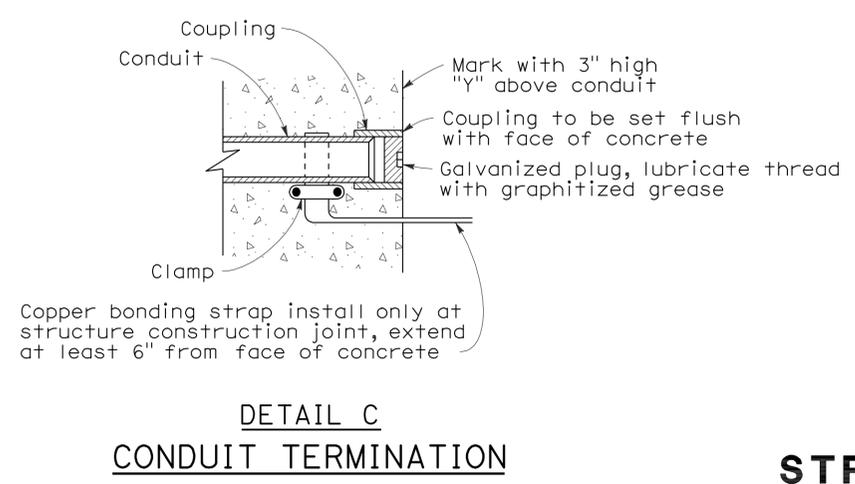
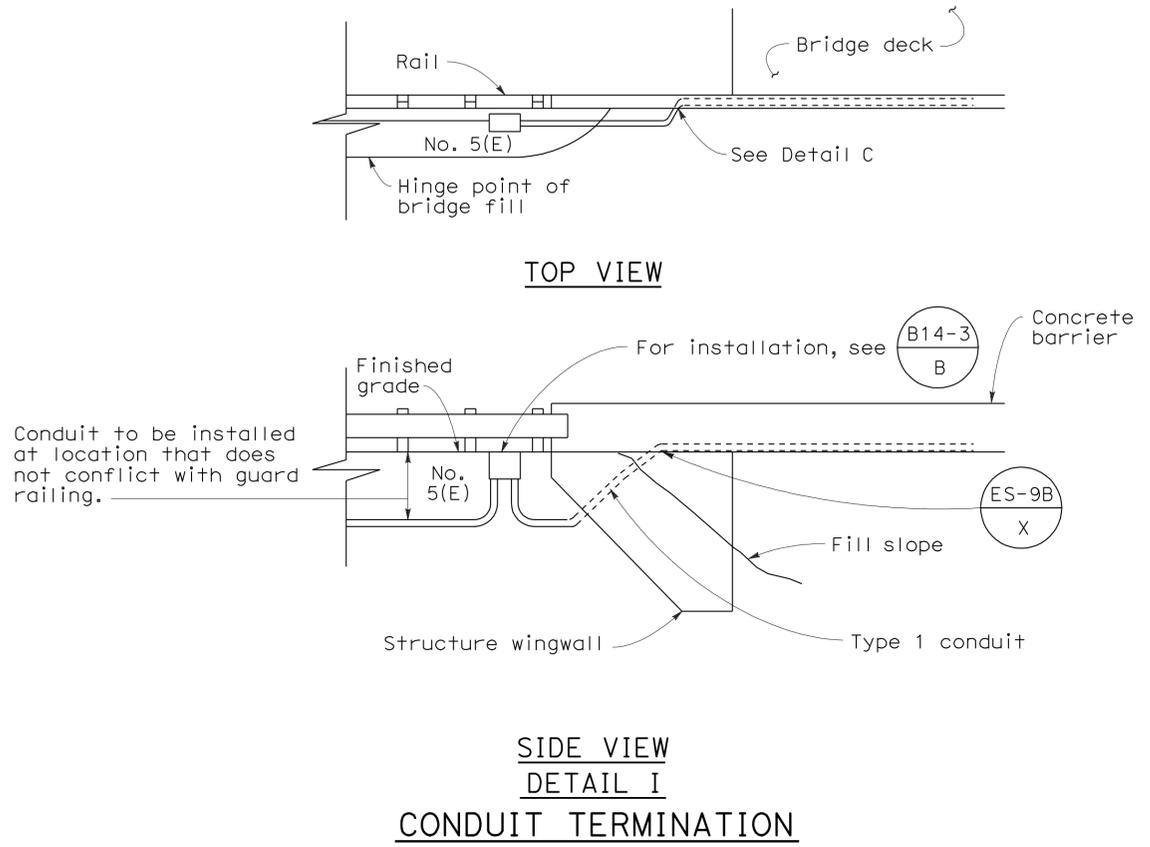
*Jeffery G. McRae*  
 REGISTERED ELECTRICAL ENGINEER  
 October 5, 2007  
 PLANS APPROVAL DATE  
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REGISTERED PROFESSIONAL ENGINEER  
 Jeffery G. McRae  
 No. E14512  
 Exp. 6-30-08  
 ELECTRICAL  
 STATE OF CALIFORNIA

To accompany plans dated 6-11-12



**DETAIL A  
CONDUIT TERMINATION**



STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS  
 (ELECTRICAL DETAILS  
 STRUCTURE INSTALLATIONS)**  
 NO SCALE

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

**REVISED STANDARD PLAN RSP ES-9A**

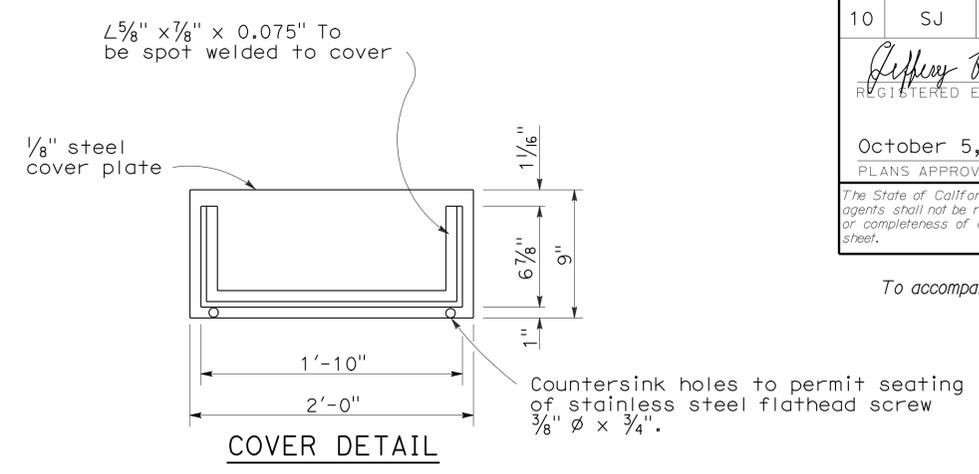
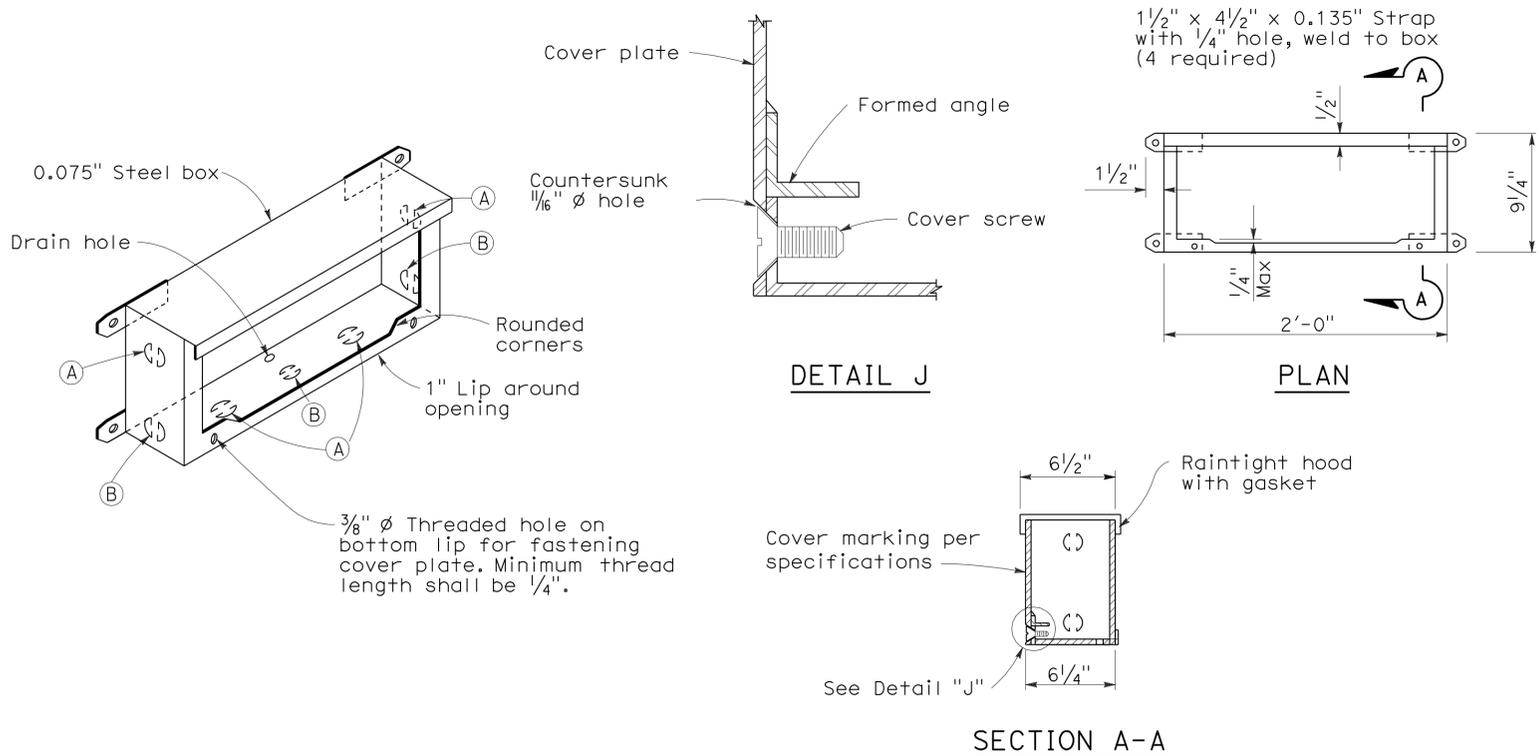
**2006 REVISED STANDARD PLAN RSP ES-9A**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	99	6.9/10.6	605	639

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

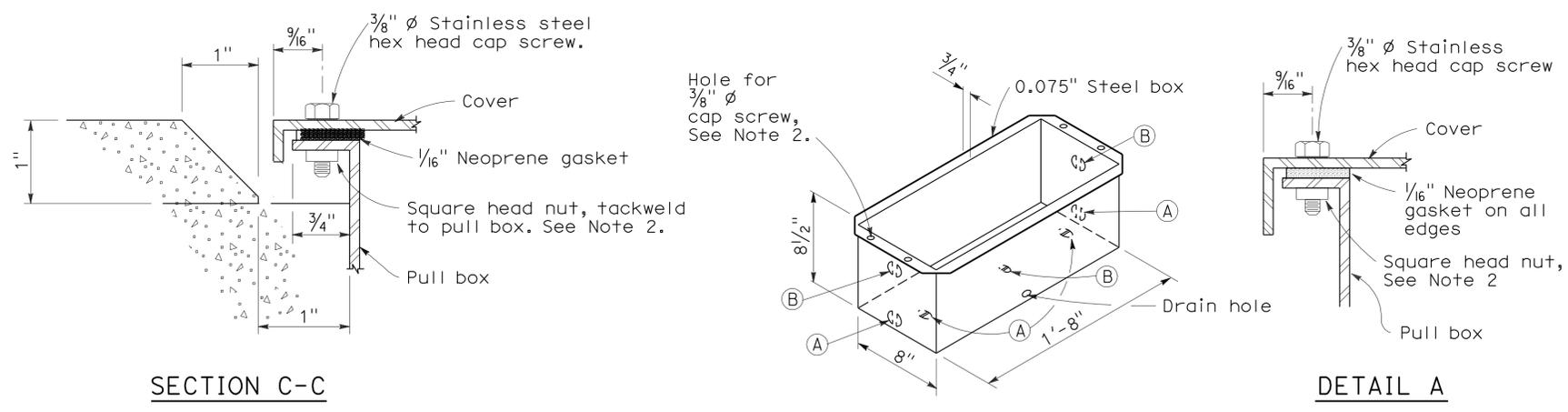
October 5, 2007  
 PLANS APPROVAL DATE

To accompany plans dated 6-11-12



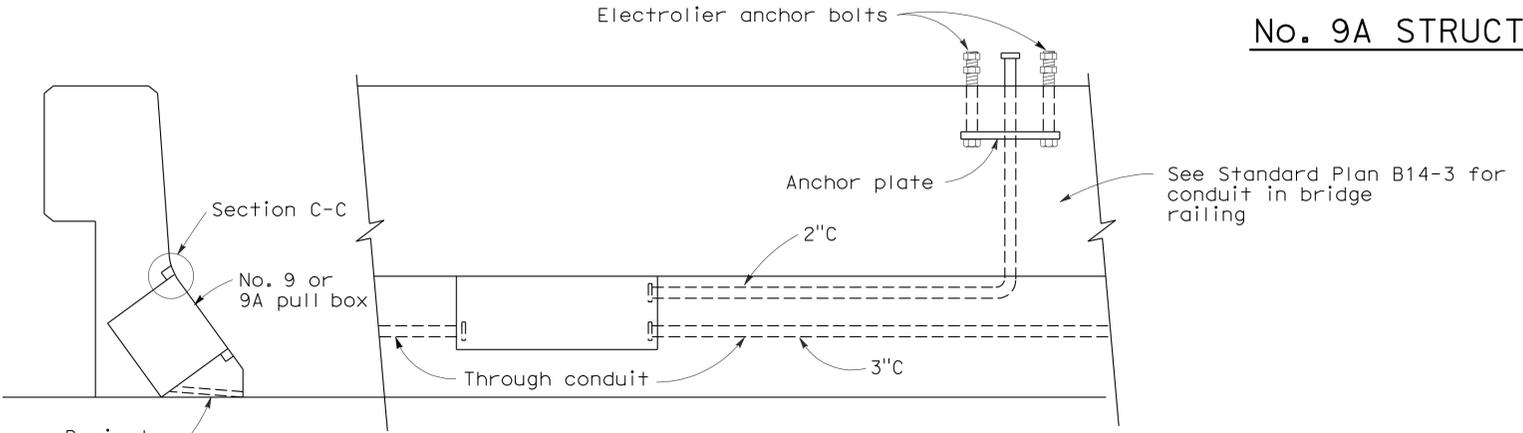
**INSTALLATION NOTE:**  
 Box shall be parallel to top of railing. Close cover box during pouring with 1/4" plywood of sufficient size to provide 1:1 chamfer on 3 sides of cover. Upper edge of plywood shall fit against lower edge of raintight hood.

**No. 9 STRUCTURE PULL BOX**



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

**No. 9A STRUCTURE PULL BOX**



**INSTALLATION IN SLOPING PARAPETS**

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

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

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

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

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

2006 REVISED STANDARD PLAN RSP ES-9C

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	99	6.9/10.6	606	639

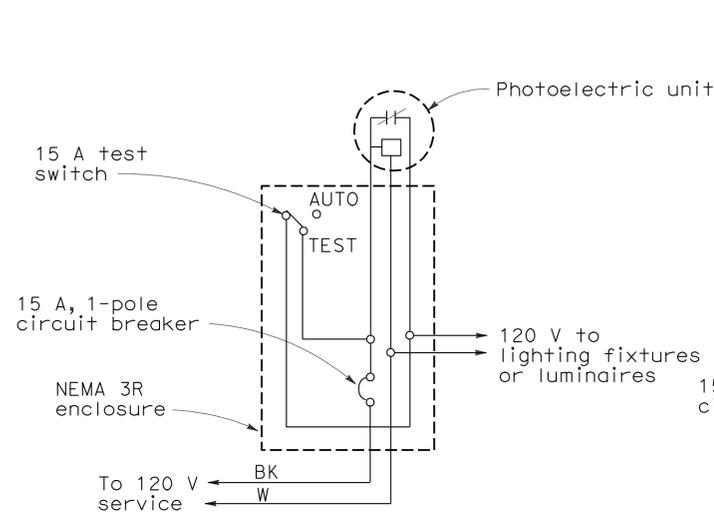
*Jeffery G. McRae*  
 REGISTERED ELECTRICAL ENGINEER  
 October 5, 2007  
 PLANS APPROVAL DATE  
 Jeffery G. McRae  
 No. E14512  
 Exp. 6-30-08  
 ELECTRICAL  
 STATE OF CALIFORNIA

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**NOTES:** (FOR LIGHTING AND SIGN ILLUMINATION CONTROL)

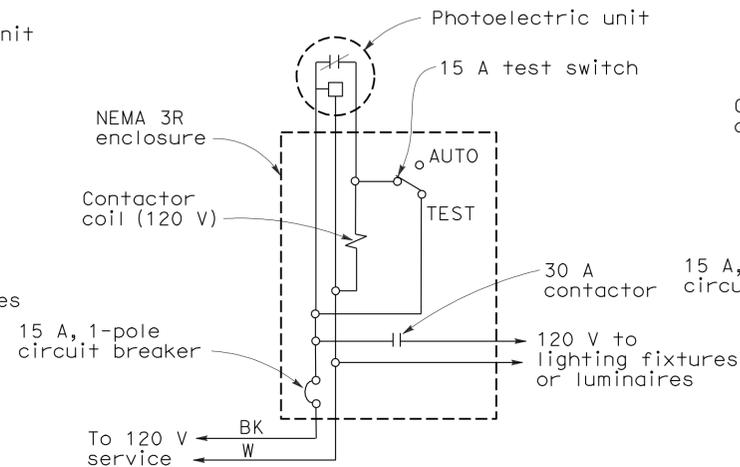
1. The ballast voltages of lighting fixtures and luminaires shall match line service voltages.
2. Voltage rating of photoelectric controls shall conform to the service voltage indicated on the plans.
3. Terminal strip shall be provided for wiring to fixtures.
4. Type SC1A, SC2A, SC3A controls are similar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

To accompany plans dated 6-11-12



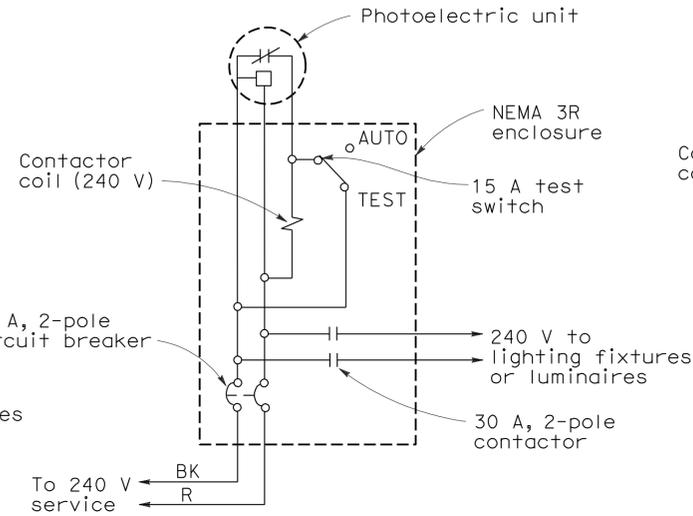
**TYPE LC1 CONTROL**

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



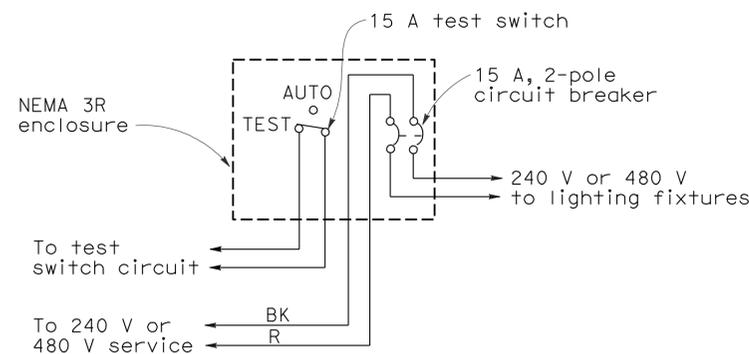
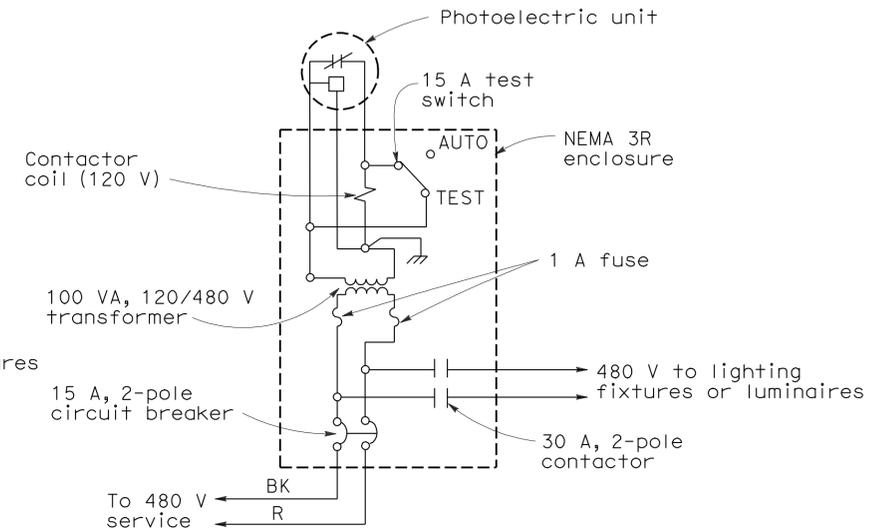
**TYPE LC2 CONTROL**

For 120 V unswitched circuit



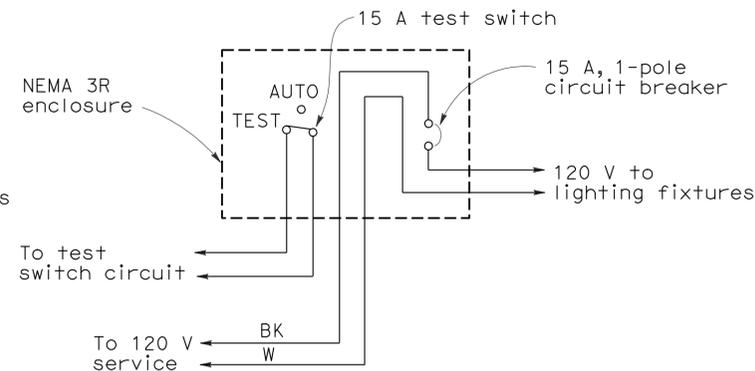
**TYPE LC3 CONTROL**

For 240 V and 480 V unswitched circuits



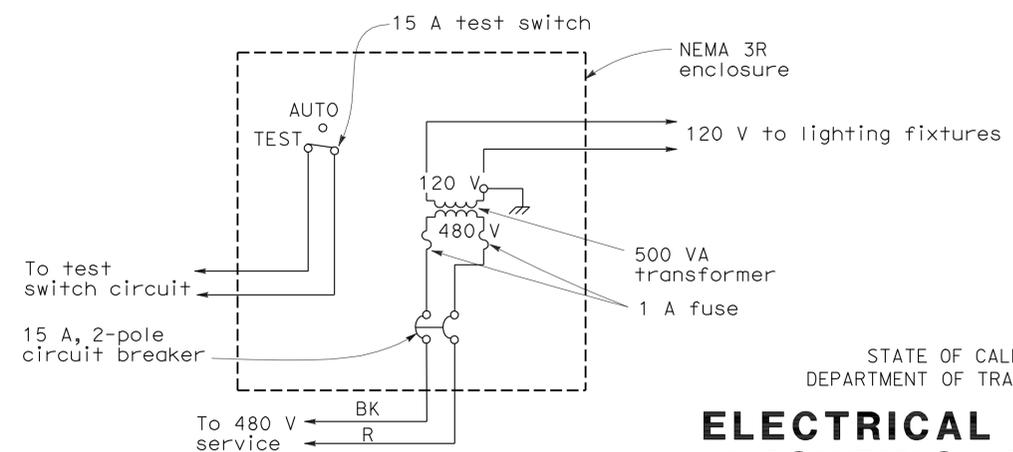
**TYPE SC1 CONTROL**

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



**TYPE SC2 CONTROL**

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



**TYPE SC3 CONTROL**

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

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

NO SCALE

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

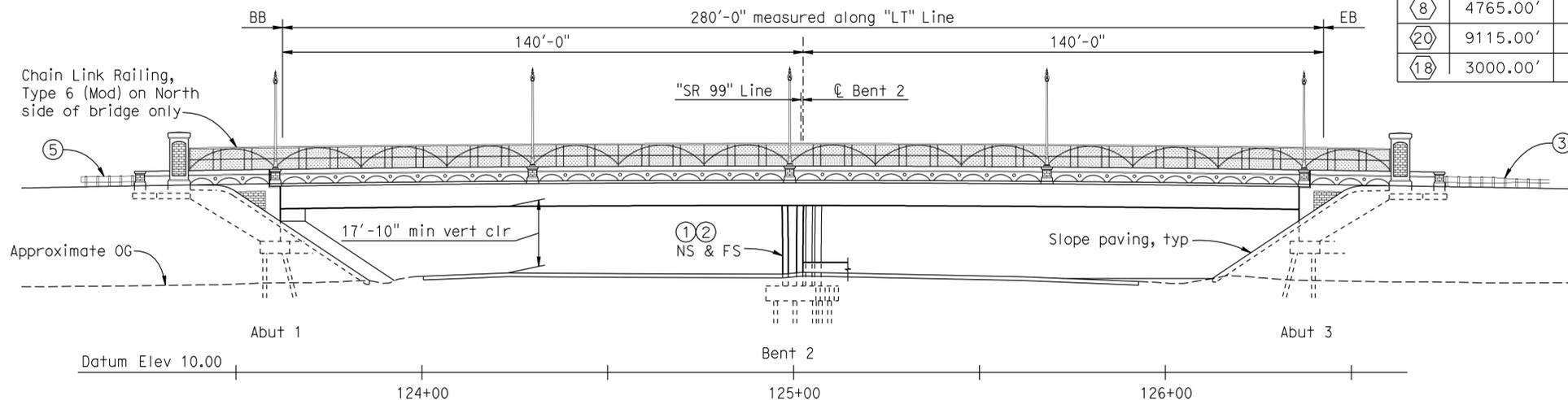
**REVISED STANDARD PLAN RSP ES-15D**

2006 REVISED STANDARD PLAN RSP ES-15D

118+40.00 EVC Elev 44.10      121+00.00 BVC Elev 54.50      800 VC RC=-1.00% / Sta      129+00.00 EVC Elev 54.51      131+89.00 BVC Elev 42.96

**PROFILE GRADE**

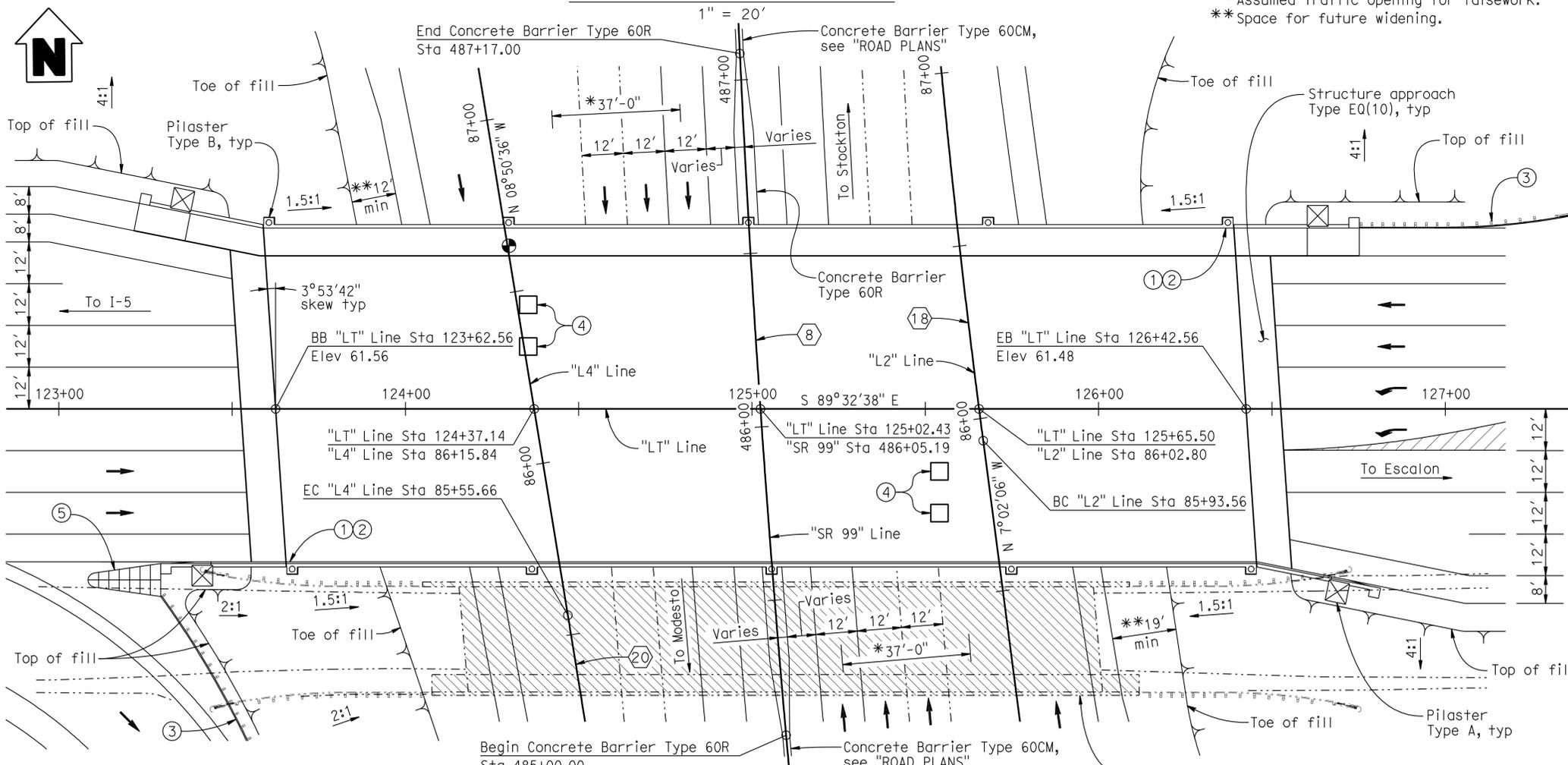
No Scale



CURVE DATA				
No.	R	Δ	T	L
8	4765.00'	11°18'59"	472.10'	941.12'
20	9115.00'	1°04'54"	86.04'	172.07'
18	3000.00'	4°35'14"	120.16'	240.19'

**MIRRORED ELEVATION**

1" = 20'



**PLAN**

1" = 20'

\* Assumed traffic opening for falsework.  
\*\* Space for future widening.

**LEGEND:**

- ① Paint "Bridge No. 29-0331" & year of construction.
- ② Paint "Lathrop Road Overcrossing".
- ③ MBGR, see "ROAD PLANS".
- ④ Preformed loop detectors, see "ROAD PLANS".
- ⑤ Crash cushion, see "ROAD PLANS".
- Indicates new structure.
- - - - Indicates existing structure.
- Indicates point of minimum vertical clearance.
- ▨ Bridge removal.
- ← Indicates direction of traffic.

**NOTES:**

1. For "INDEX TO PLANS", "GENERAL NOTES" and "CALTRANS STANDARD PLANS", see "DECK CONTOURS" sheet.
2. Exist Lathrop Road OC Bridge No. 29-0136 Location A, PM 9.2 to be removed after new bridge is complete.
3. Exist North Manteca OC Bridge No. 29-0126S Location B, PM 8.80 to be removed after new bridge is complete. See "DEMOLITION DETAILS NO. 2" sheet.
4. For pilaster locations, see "GIRDER LAYOUT" sheet.

LATHROP ROAD OC BRIDGE NO 29-0331

**QUANTITIES**

BRIDGE REMOVAL, LOCATION A	LUMP SUM
BRIDGE REMOVAL, LOCATION B	LUMP SUM
STRUCTURE EXCAVATION (BRIDGE)	979 CY
STRUCTURE BACKFILL (BRIDGE)	678 CY
FURNISH PILING (CLASS 140) ALTERNATIVE X	3,213 LF
DRIVE PILE (CLASS 140) ALTERNATIVE X	54 EA
FURNISH PILING (CLASS 200) ALTERNATIVE X	4,280 LF
DRIVE PILE (CLASS 200) ALTERNATIVE X	90 EA
PRESTRESSING CAST-IN-PLACE CONCRETE	LUMP SUM
STRUCTURAL CONCRETE, BRIDGE FOOTING	295 CY
STRUCTURAL CONCRETE, BRIDGE	2,251 CY
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE EQ)	54 CY
MINOR CONCRETE (MINOR STRUCTURE)	12 CY*
PILASTER	103 CY
ARCHITECTURAL TREATMENT (BRICK TEXTURE)	470 SQFT
JOINT SEAL (MR 2)	195 LF
BAR REINFORCING STEEL (BRIDGE)	541,105 LB
20" WELDED STEEL PIPE CASING (BRIDGE)	405 LF
SLOPE PAVING (CONCRETE BRICK TEXTURE)	75 CY
MISCELLANEOUS METAL (BRIDGE)	870 LB
CHAIN LINK RAILING (TYPE 6) (MODIFIED)	323 LF
CONCRETE BARRIER (TYPE 26 MODIFIED)	353 LF
CONCRETE BARRIER (TYPE 60R)	217 LF
CONCRETE BARRIER (TYPE 736 MODIFIED)	353 LF

\* FOR ADDITIONAL QUANTITIES SEE DQ-9

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

DESIGN OVERSIGHT  
Reza Erfanian  
2/13/12  
SIGN OFF DATE

DESIGN	BY	CHECKED
DESIGN	T. KENG	S PERVAIZ
DETAILS	J VOUGHT	J MANISCALCO
QUANTITIES	T KENG	E GAHAN

LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING:	HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE
LAYOUT	BY	T KENG
SPECIFICATIONS	BY	T KENG

**PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION**

PROJECT ENGINEER  
JOHN A. KLEMUNES, JR.

BRIDGE NO.	29-0331
POST MILES	9.18

**LATHROP ROAD OVERCROSSING GENERAL PLAN NO. 1**

DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: PROJECT NUMBER & PHASE: 1455 10000204421

CONTRACT NO.: 10-0E6131

DISREGARD PRINTS BEARING EARLIER REVISION DATES

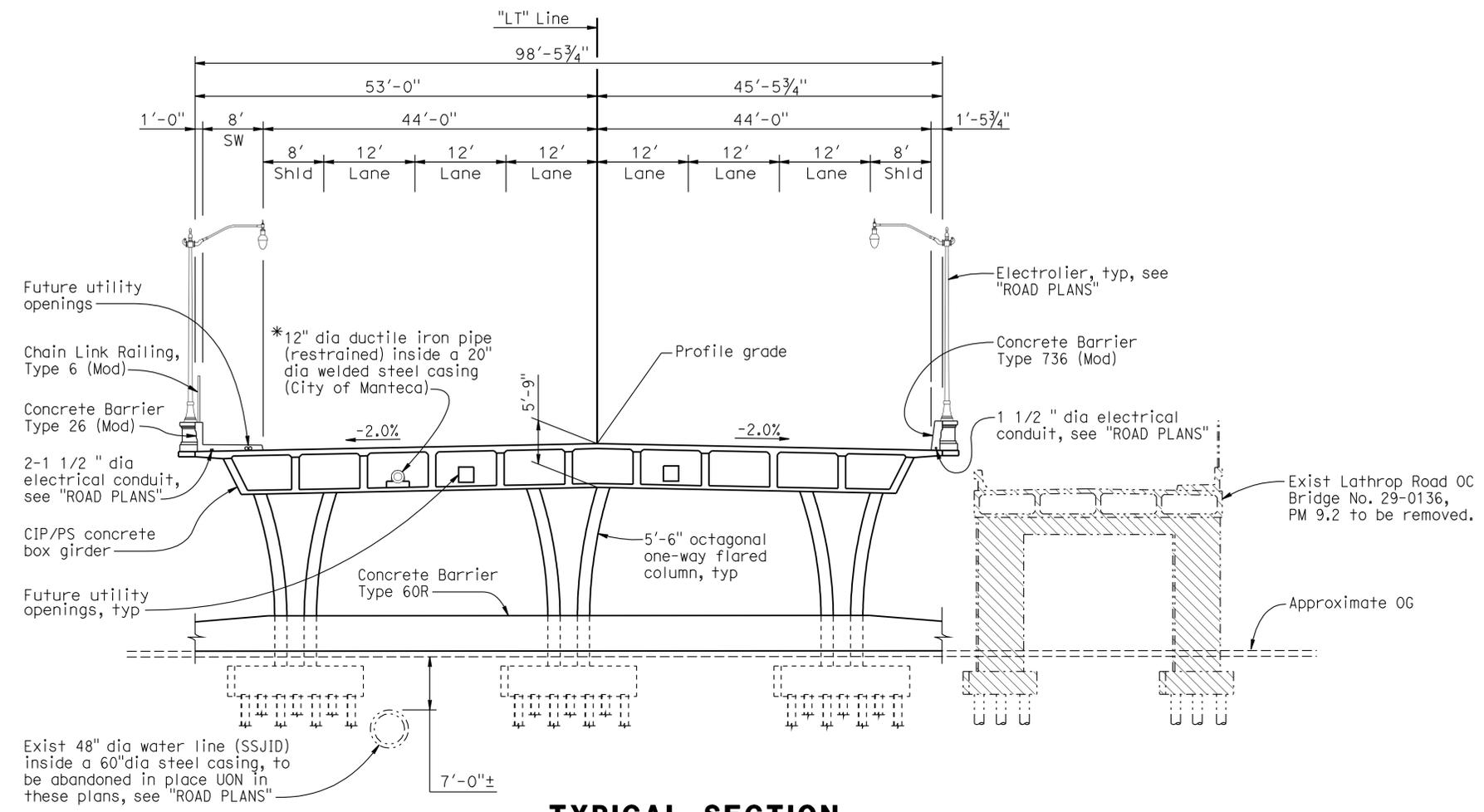
REVISION DATES	SHEET	OF
12-27-10	1	33

USERNAME => s124496 DATE PLOTTED => 12-JUN-2012 TIME PLOTTED => 10:13

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	99	6.9/10.6	608	639

REGISTERED CIVIL ENGINEER *Titus Keng* DATE 2-6-12  
 6-11-12  
 PLANS APPROVAL DATE  
 TITUS KENG  
 No. 45226  
 Exp. 9-30-12  
 CIVIL  
 STATE OF CALIFORNIA

SAN JOAQUIN COUNCIL OF GOVERNMENTS  
 555 E. WEBER AVE.  
 STOCKTON, CA 95202  
 HDR ENGINEERING, INC.  
 2365 IRON POINT ROAD, SUITE 300  
 FOLSOM, CA 95630



**TYPICAL SECTION**  
 1" = 10'

PILE DATA TABLE						
Location	Pile Type	Nominal Resistance		Design Tip Elevations (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance (kips)
		Compression (kips)	Tension (kips)			
Abut 1	Class 140 Alt 'X'	250	-	-4.0 (a) 17.0 (b)	-4.0	250
Bent 2	Class 200 Alt 'X'	340	-	-30.0 (a) 7.0 (b)	-30.0	340
Abut 3	Class 140 Alt 'X'	250	-	-4.0 (a) 17.0 (b)	-4.0	250

- Design tip elevations are controlled by: (a) Compression, (b) Lateral Load, respectively.
- Do not raise pile tip elevations above elev -25.0 ft at Bent 2 due to potential for excessive pile settlement due to soft clay layer above specified tip.

**LEGEND:**  
 — Indicates new structure.  
 - - - - - Indicates existing structure.  
 [Hatched Box] Bridge removal.

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

DESIGN OVERSIGHT  
 Reza Erfanian  
 2/13/12  
 SIGN OFF DATE

DESIGN BY T. KENG  
 CHECKED S PERVAIZ  
 DETAILS BY J VOUGHT  
 CHECKED J MANISCALCO  
 QUANTITIES BY T. KENG  
 CHECKED E GAHAN

LOAD & RESISTANCE FACTOR DESIGN  
 LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE  
 LAYOUT BY T. KENG  
 CHECKED S PERVAIZ  
 SPECIFICATIONS BY T. KENG  
 CHECKED J MANISCALCO

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION  
 JOHN A. KLEMUNES, JR.  
 PROJECT ENGINEER

BRIDGE NO. 29-0331  
 POST MILES 9.18

**LATHROP ROAD OVERCROSSING**  
**GENERAL PLAN NO. 2**

USERNAME => s124496 DATE PLOTTED => 12-JUN-2012 TIME PLOTTED => 10:13

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	99	6.9/10.6	609	639

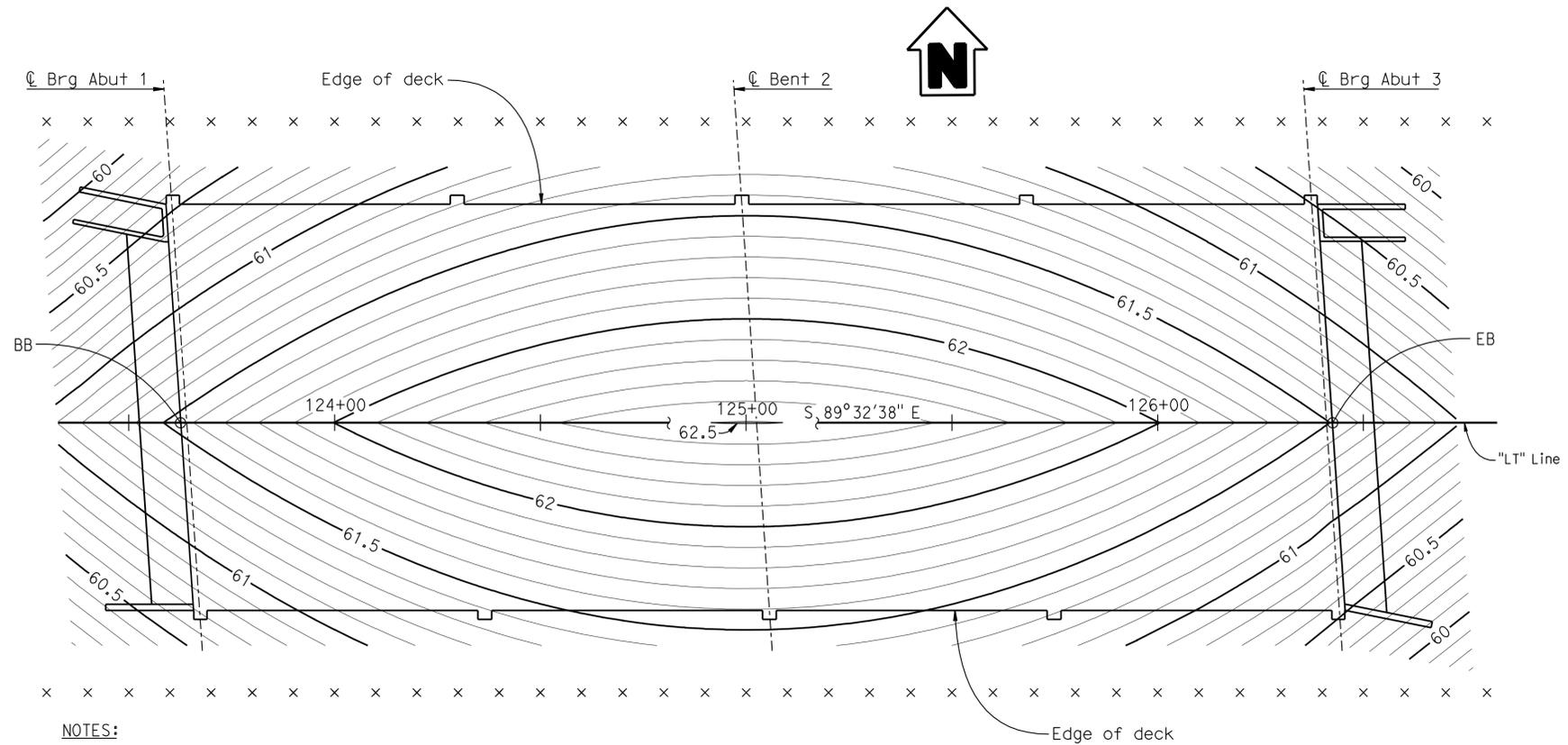
REGISTERED CIVIL ENGINEER **Titus Keng** No. 45226 Exp. 9-30-12 CIVIL STATE OF CALIFORNIA

PLANS APPROVAL DATE: 6-11-12 DATE: 1-26-12

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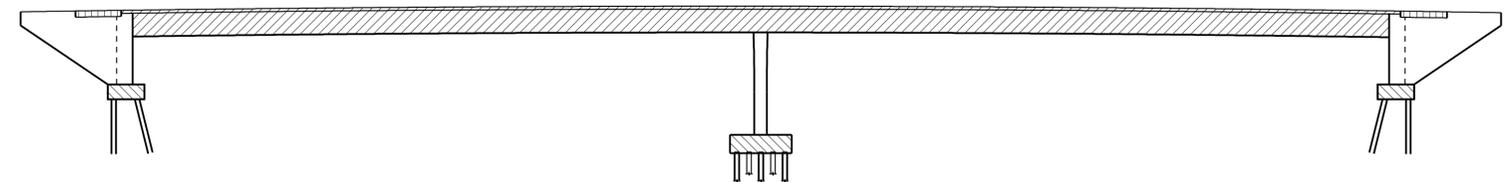
SAN JOAQUIN COUNCIL OF GOVERNMENTS  
555 E. WEBER AVE.  
STOCKTON, CA 95202

HDR ENGINEERING, INC.  
2365 IRON POINT ROAD, SUITE 300  
FOLSOM, CA 95630



- NOTES:**
1. x - Indicates 10' intervals measured along "LT" Line.
  2. Contour interval = 0.1'.
  3. Contours do not include camber or allowance for falsework settlement.

**PLAN - DECK CONTOURS**  
1" = 20'



- Structural Concrete, Bridge (f'c = 3.6 ksi @ 28 days)
- Structural Concrete, Bridge (f'c = 4.0 ksi @ 28 days)
- Structural Concrete, Bridge Footing (f'c = 3.6 ksi @ 28 days)
- Structural Concrete, Structure Approach (f'c = 3.6 ksi @ 28 days)

**CONCRETE STRENGTH AND TYPE LIMITS**  
No Scale

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

DESIGN OVERSIGHT: Reza Erfanian  
1/27/12  
SIGN OFF DATE

DESIGN	BY T KENG	CHECKED S PERVAIZ
DETAILS	BY J VOUGHT	CHECKED J MANISCALCO
QUANTITIES	BY T KENG	CHECKED E GAHAN

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
DEPARTMENT OF TRANSPORTATION

PROJECT ENGINEER: JOHN A. KLEMUNES, JR.

BRIDGE NO.	29-0331
POST MILE	9.18

**LATHROP ROAD OVERCROSSING**  
**DECK CONTOURS**

**GENERAL NOTES**  
**LOAD AND RESISTANCE**  
**FACTOR DESIGN**

**DESIGN:**  
AASHTO LRFD Bridge Design Specifications, 4th Edition and the Caltrans Amendments, preface dated Dec 2008; except that bridge (incl. barrier and railing) details taken from Standard Plans March 2006 and earlier versions, Standard Bridge Details XS sheets, etc) are designed using Bridge Design Specifications (96 AASHTO w/Revisions by Caltrans).

**SEISMIC DESIGN:**  
Caltrans Seismic Design Criteria (SDC), Version 1.4 July 2006.

**DEAD LOAD**  
Includes 35 psf for future wearing surface.

**LIVE LOADING:**  
HL93 W/"Low Boy" and permit design vehicle.

**SEISMIC LOADING:**  
CALTRANS SDC ARS Curve: Figure B.7  
(Soil Profile Type D) Magnitude = 6.5± 0.25  
(Spectrum Peak Rock Acceleration = 0.2 g)

**REINFORCED CONCRETE:**  
f<sub>y</sub> = 60 ksi  
f'c = 3.6 ksi, unless otherwise noted.  
n = 8

**PRESTRESSED CONCRETE:**  
See "PRESTRESSING NOTES" on "GIRDER LAYOUT" sheet.

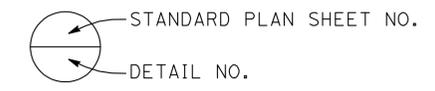
**PILES:**  
See "PILE DATA TABLE" on "GENERAL PLAN NO. 2" sheet.

**INDEX TO PLANS:**

1. GENERAL PLAN NO. 1
2. GENERAL PLAN NO. 2
3. DECK CONTOURS
4. FOUNDATION PLAN
5. DEMOLITION DETAILS NO. 1
6. DEMOLITION DETAILS NO. 2
7. ABUTMENT 1 LAYOUT
8. ABUTMENT 3 LAYOUT
9. ABUTMENT DETAILS NO. 1
10. ABUTMENT DETAILS NO. 2
11. BENT LAYOUT
12. BENT DETAILS NO. 1
13. BENT DETAILS NO. 2
14. TYPICAL SECTION
15. GIRDER LAYOUT
16. GIRDER REINFORCEMENT
17. UTILITY DETAILS NO. 1
18. UTILITY DETAILS NO. 2
19. STRUCTURE APPROACH TYPE EQ(10)
20. STRUCTURE APPROACH DRAINAGE DETAILS
21. SLOPE PAVING - FULL SLOPE
22. ARCHITECTURAL DETAILS NO. 1
23. ARCHITECTURAL DETAILS NO. 2
24. ARCHITECTURAL DETAILS NO. 3
25. ARCHITECTURAL DETAILS NO. 4
26. ARCHITECTURAL DETAILS NO. 5
27. BARRIER - CONCRETE TYPE 60R
28. CHAIN LINK RAILING TYPE 6 MODIFIED
29. LOG OF TEST BORINGS 1 OF 4
30. LOG OF TEST BORINGS 2 OF 4
31. LOG OF TEST BORINGS 3 OF 4
32. LOG OF TEST BORINGS 4 OF 4
33. AS-BUILT LOG OF TEST BORINGS

**CALTRANS 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)
- A62B LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL BRIDGE SURCHARGE AND WALL
- 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
- B2-5 PILE DETAILS CLASS 90 AND CLASS 140
- RSP B2-8 PILE DETAILS CLASS 200
- RSP B6-21 JOINT SEALS (MAXIMUM MOVEMENT RATING = 2")
- B7-1 BOX GIRDER DETAILS
- B7-10 UTILITY OPENING - BOX GIRDER
- B8-5 CAST-IN-PLACE PRESTRESSED GIRDER DETAILS
- B11-54 CONCRETE BARRIER TYPE 26
- B11-56 CONCRETE BARRIER TYPE 736



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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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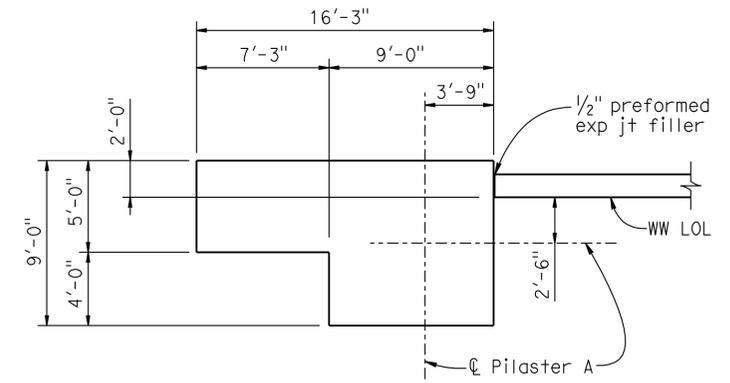
REGISTERED CIVIL ENGINEER  
 DATE 1-26-12  
 TITUS KENG  
 No. 45226  
 Exp. 9-30-12  
 CIVIL  
 STATE OF CALIFORNIA

PLANS APPROVAL DATE 6-11-12  
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 555 E. WEBER AVE.  
 STOCKTON, CA 95202  
 HDR ENGINEERING, INC.  
 2365 IRON POINT ROAD, SUITE 300  
 FOLSOM, CA 95630

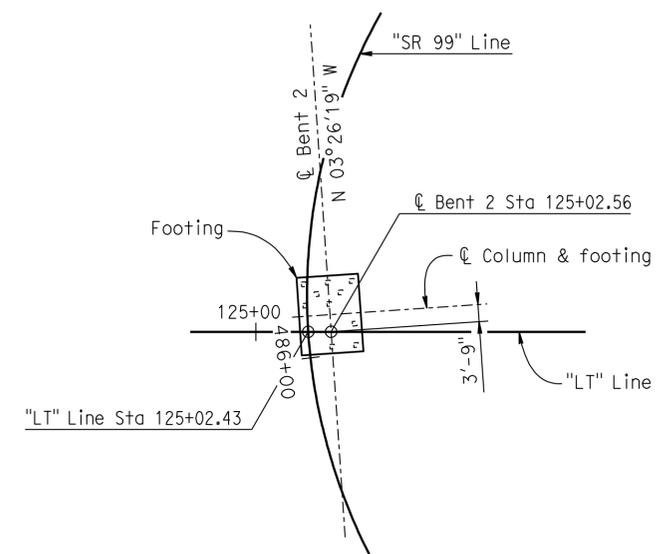
**BENCH MARKS**

BENCHMARK# 608 ELEV. 35.24 Ft  
 DESCRIPTION: KSN CONTROL POINT, 1/2" REBAR WITH A YELLOW CAP STAMPED "KSN CONTROL", LOCATED AT APPROXIMATE CENTERLINE STATION 484+75, ON THE NORTHBOUND MAINLINE, ON THE OUTSIDE SHOULDER, APPROXIMATELY 10' EAST OF THE EDGE OF TRAVELED WAY, 8' NORTH OF THE END OF THE GUARDRAIL. NGVD 29, N2124114.87, E6354564.41.

BENCHMARK# 627 ELEV. 36.96 Ft  
 DESCRIPTION: KSN CONTROL POINT, 1/2" REBAR WITH A YELLOW CAP STAMPED "KSN CONTROL", LOCATED AT APPROXIMATE CENTERLINE STATION 484+75, ON THE SOUTHBOUND MAINLINE, ON THE OUTSIDE SHOULDER, APPROXIMATELY 9' WEST OF THE EDGE OF TRAVELED WAY, 60' SOUTH OF THE SOUTH SIDE OF THE LATHROP ROAD OVERCROSSING NGVD 29, N2124122.05, E6354453.7.



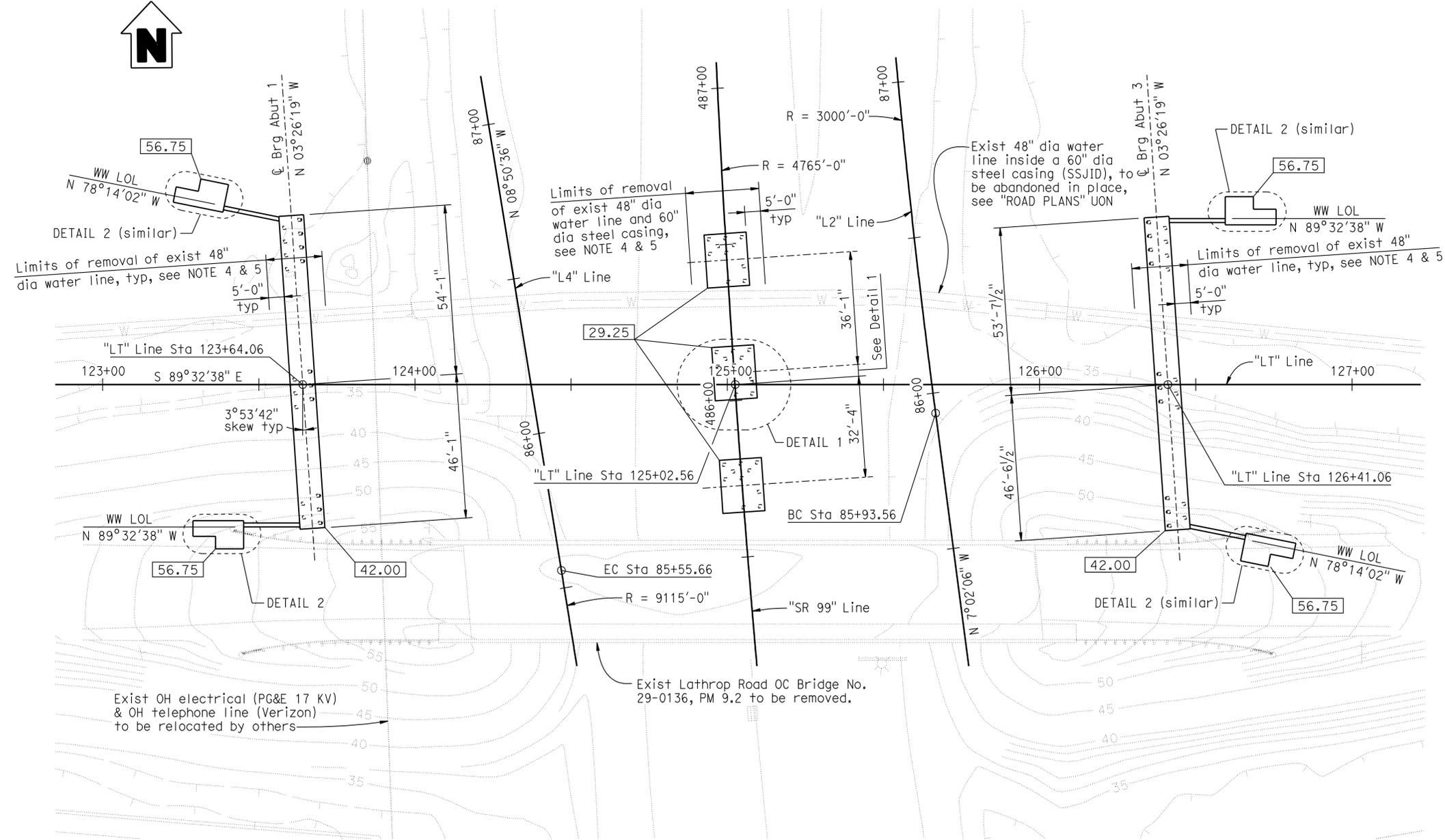
**DETAIL 2**  
 1" = 5'



**DETAIL 1**  
 No Scale

- NOTES:**
1. See "ROAD PLANS" for type and locations of all existing and proposed utilities.
  2. Location of existing utilities shown are approximate. The Contractor shall verify locations of all affected utilities prior to performing any excavation.
  3. Not all piles shown here.
  4. Pipe ends shall be plugged, see "ROAD PLANS".
  5. Within limits of removal, backfill with material compacted to a relative compaction of not less than 95%, see "ROAD PLANS".

**LEGEND:**  
 [Symbol] Indicates bottom of footing elevation.



**PLAN**  
 1" = 20'

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

David J. Munk 1-26-12 APPROVAL DATE  
 GEOTECHNICAL PROFESSIONAL

DESIGN BY T KENG	CHECKED S PERVAIZ	<b>PREPARED FOR THE          STATE OF CALIFORNIA          DEPARTMENT OF TRANSPORTATION</b>	BRIDGE No. 29-0331	<b>LATHROP ROAD OVERCROSSING          FOUNDATION PLAN</b>	
DETAILS BY J VOUGHT	CHECKED J MANISCALCO		PROJECT ENGINEER JOHN A. KLEMUNES, JR.		POST MILE 9.18
QUANTITIES BY T KENG	CHECKED E GAHAN				

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	99	6.9/10.6	611	639

REGISTERED CIVIL ENGINEER **TITUS KENG** DATE 1-26-12

PLANS APPROVAL DATE 6-11-12

No. 45226 Exp. 9-30-12 CIVIL STATE OF CALIFORNIA

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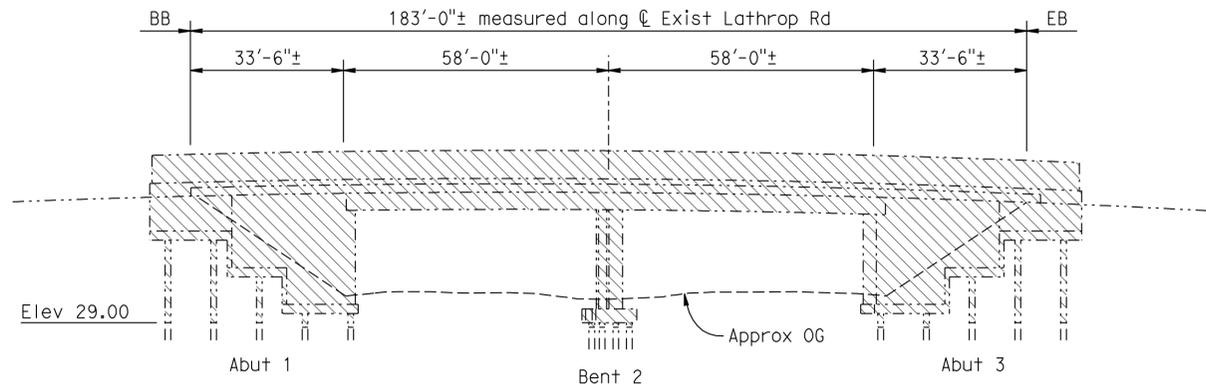
HDR ENGINEERING, INC.  
2365 IRON POINT ROAD, SUITE 300  
FOLSOM, CA 95630

**NOTES:**

- The demolition details shown on this sheet are for the existing Lathrop Road Overcrossing Bridge No. 29-0136.
- For dimensions, details and information not shown, see As-Built plans.
- Existing bridge to be completely removed except the portion of piles below Elevation 29.00.

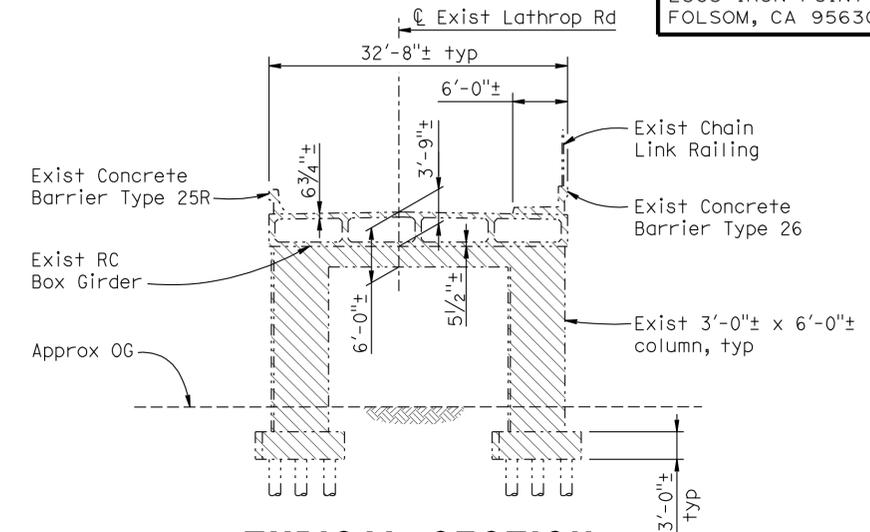
**Legend:**

- Indicates existing bridge removal.
- Indicates existing structure.
- Indicates existing piles.



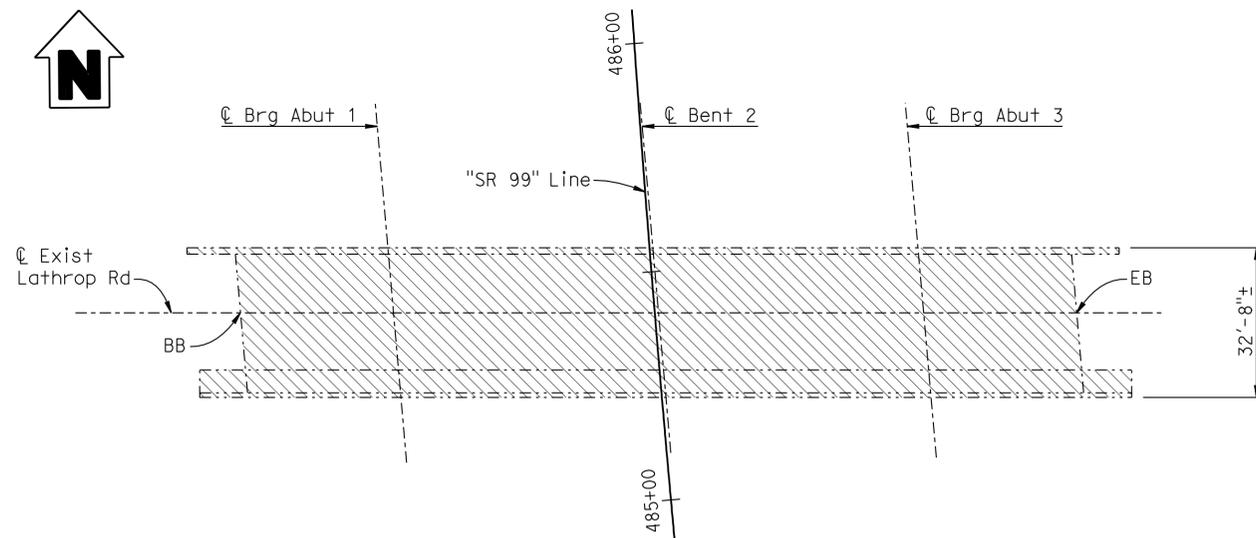
**ELEVATION**

No Scale



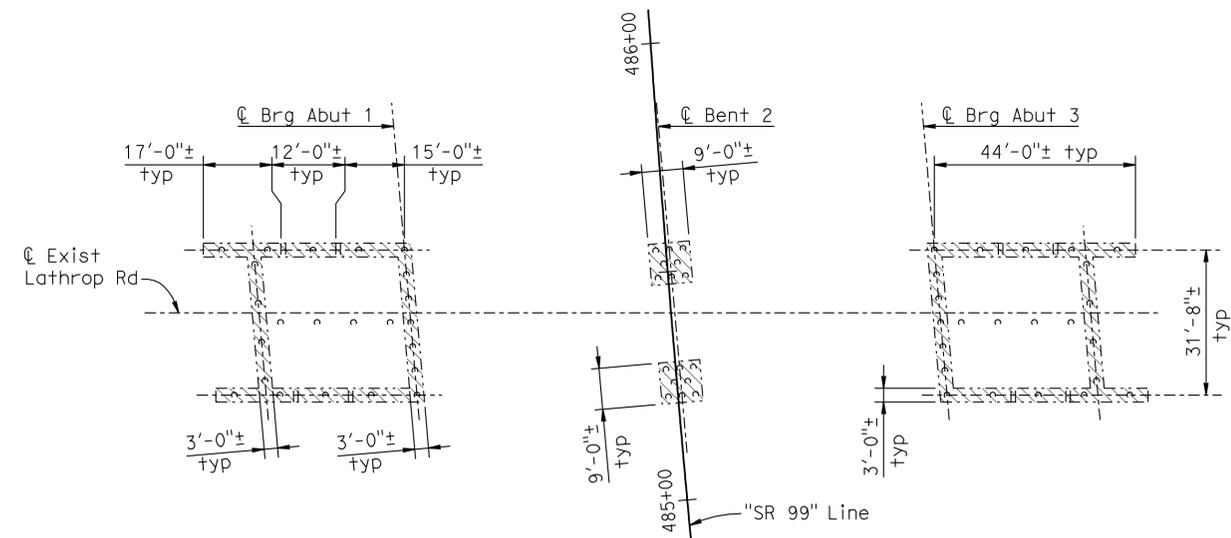
**TYPICAL SECTION**

No Scale



**PLAN**

No Scale



**FOUNDATION LAYOUT**

No Scale

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

DESIGN OVERSIGHT  
*Reza Erfanian*  
1/27/12  
SIGN OFF DATE

DESIGN	BY T KENG	CHECKED S PERVAIZ
DETAILS	BY J VOUGHT	CHECKED J MANISCALCO
QUANTITIES	BY T KENG	CHECKED E GAHAN

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
DEPARTMENT OF TRANSPORTATION

PROJECT ENGINEER  
JOHN A. KLEMUNES, JR.

BRIDGE NO.	29-0331
POST MILE	9.18

**LATHROP ROAD OVERCROSSING  
DEMOLITION DETAILS NO. 1**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: 1455  
PROJECT NUMBER & PHASE: 10000204421

CONTRACT NO.: 10-0E6131

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
12-27-10 6-18-11 11-17-11 12-19-11	5	33

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	99	6.9/10.6	612	639

REGISTERED CIVIL ENGINEER *Titus Keng* 1-26-12 DATE

6-11-12 PLANS APPROVAL DATE

TITUS KENG  
No. 45226  
Exp. 9-30-12  
CIVIL  
STATE OF CALIFORNIA

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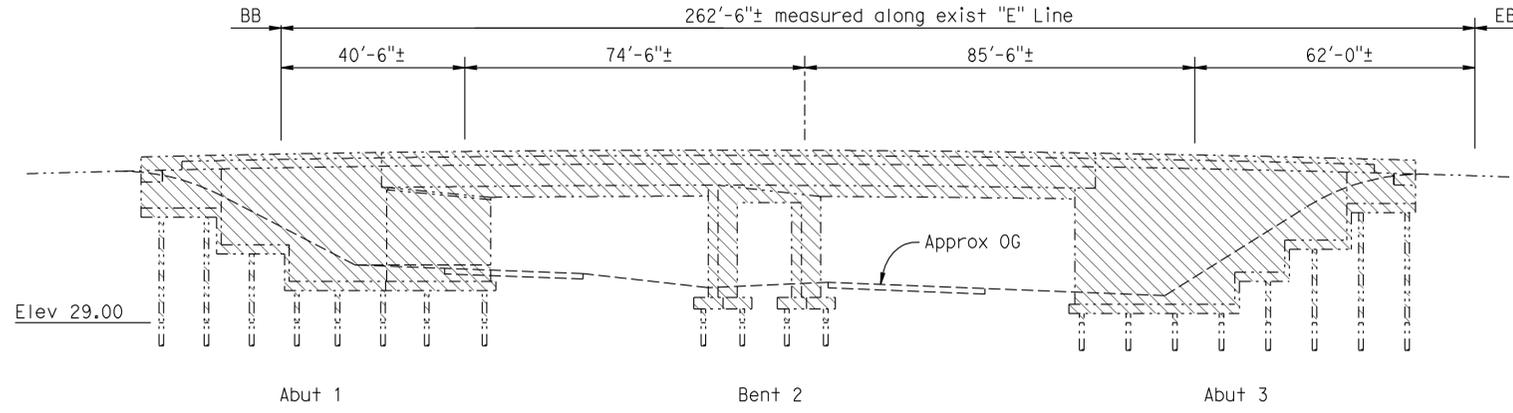
HDR ENGINEERING, INC.  
2365 IRON POINT ROAD, SUITE 300  
FOLSOM, CA 95630

**NOTES:**

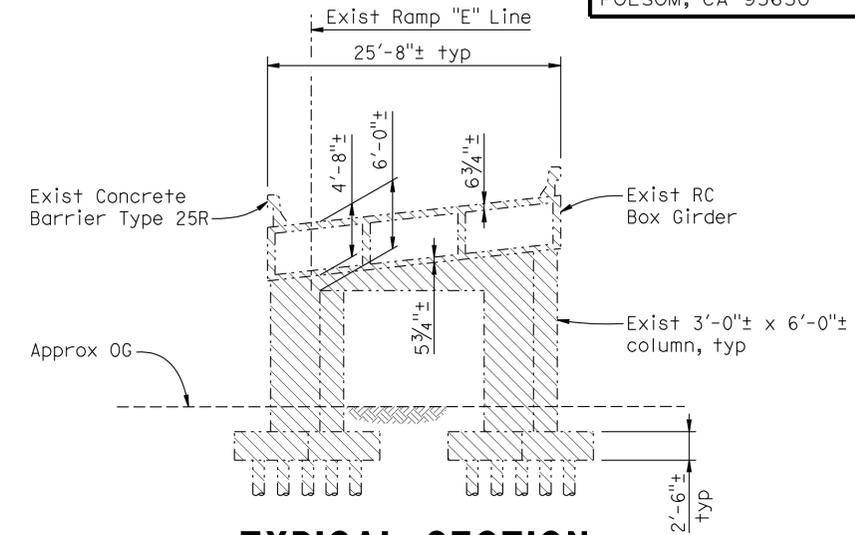
- The demolition details shown on this sheet are for the existing North Manteca Overcrossing Bridge No. 29-0126S.
- For dimensions, details and information not shown, see As-Built plans.
- Existing bridge to be completely removed except the portion of piles below Elevation 29.00.

**Legend:**

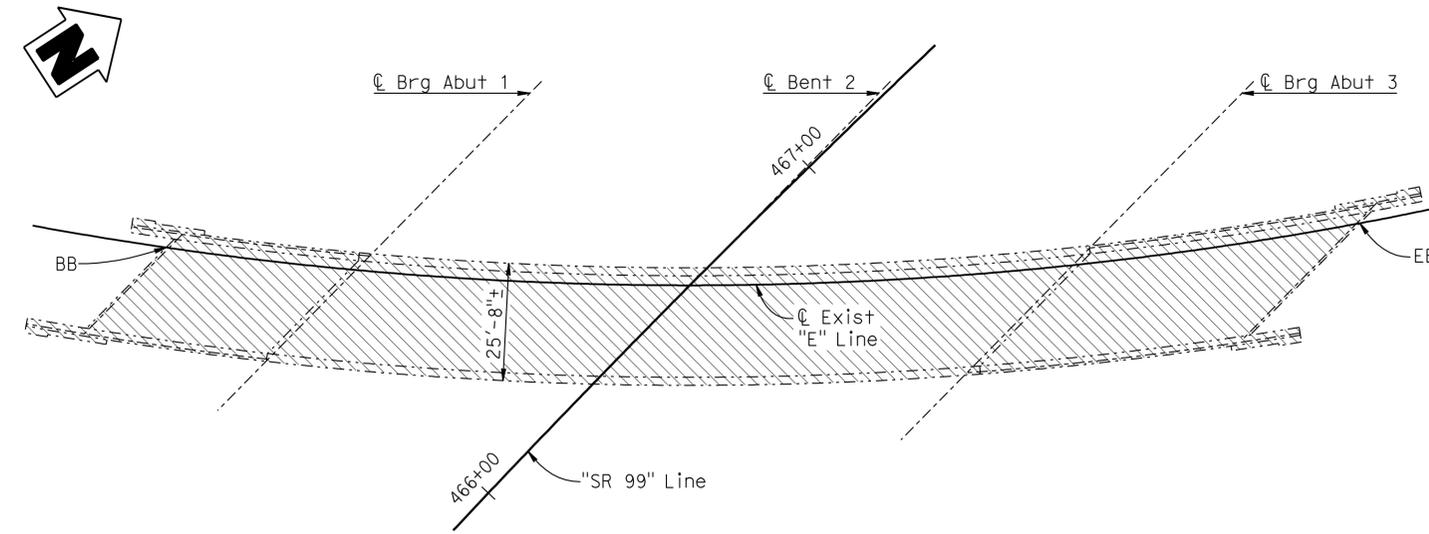
- Indicates existing bridge removal.
- Indicates existing structure.
- Indicates existing piles.



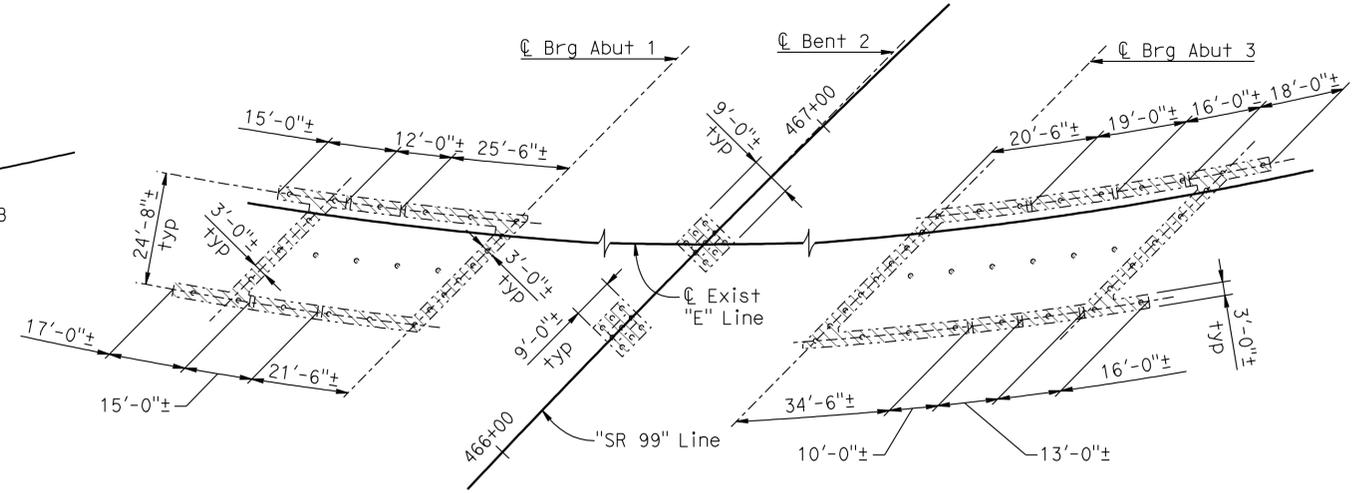
**ELEVATION**  
No Scale



**TYPICAL SECTION**  
No Scale



**PLAN**  
No Scale



**FOUNDATION LAYOUT**  
No Scale

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

DESIGN OVERSIGHT  
*Reza Erfanian*  
Reza Erfanian  
1/27/12  
SIGN OFF DATE

DESIGN	BY T KENG	CHECKED S PERVAIZ
DETAILS	BY J VOUGHT	CHECKED J MANISCALCO
QUANTITIES	BY T KENG	CHECKED E GAHAN

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
DEPARTMENT OF TRANSPORTATION

PROJECT ENGINEER  
JOHN A. KLEMUNES, JR.

BRIDGE NO.	29-0331
POST MILE	9.18

**LATHROP ROAD OVERCROSSING  
DEMOLITION DETAILS NO. 2**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: 1455  
PROJECT NUMBER & PHASE: 10000204421

CONTRACT NO.: 10-0E6131

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
12-27-10 6-18-11 11-11-11 12-19-11	6	33

USERNAME => s124496 DATE PLOTTED => 12-JUN-2012 TIME PLOTTED => 10:13

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	99	6.9/10.6	613	639



- LEGEND:**
- Indicates vertical piles
  - Indicates battered 1:3 piles
  - Indicates new structure.
  - Indicates existing structure.

- NOTES:**
- For SECTIONS A-A thru D-D, see "ABUTMENT DETAILS NO. 1" sheet, for SECTIONS E-E, see "ABUTMENT DETAILS NO. 2" sheet.
  - For structure approach details, see "STRUCTURE APPROACH TYPE EQ(10)" sheet.
  - For slope paving details, see "SLOPE PAVING - FULL SLOPE" sheet.

REGISTERED CIVIL ENGINEER **TITUS KENG**  
 No. 45226  
 Exp. 9-30-12  
 CIVIL  
 STATE OF CALIFORNIA

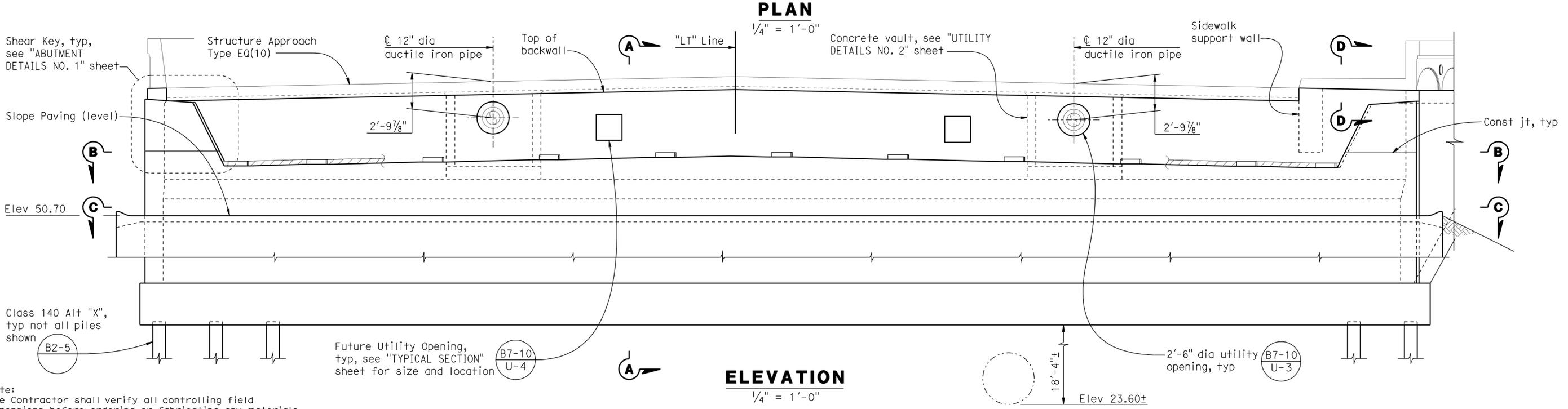
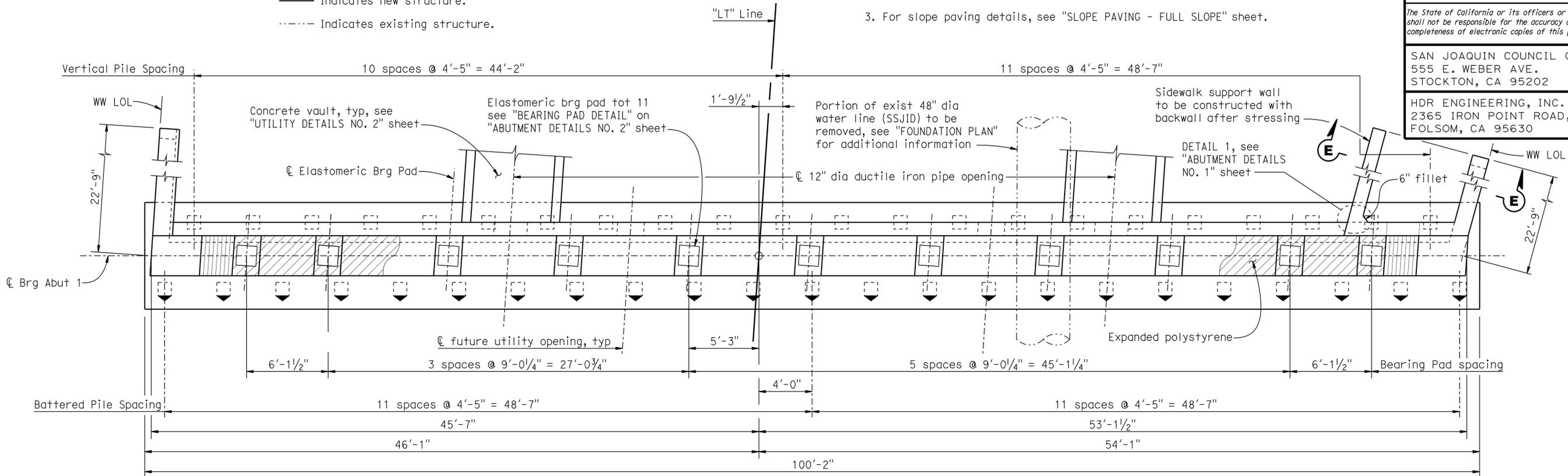
1-26-12  
 DATE

6-11-12  
 PLANS APPROVAL DATE

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 555 E. WEBER AVE.  
 STOCKTON, CA 95202

HDR ENGINEERING, INC.  
 2365 IRON POINT ROAD, SUITE 300  
 FOLSOM, CA 95630



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

DESIGN OVERSIGHT  
 Reza Erfanian  
 1/27/12  
 SIGN OFF DATE

DESIGN	BY T KENG	CHECKED S PERVAIZ
DETAILS	BY J VOUGHT	CHECKED J MANISCALCO
QUANTITIES	BY T KENG	CHECKED E GAHAN

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

PROJECT ENGINEER  
 JOHN A. KLEMUNES, JR.

BRIDGE NO.	29-0331
POST MILE	9.18

**LATHROP ROAD OVERCROSSING**  
**ABUTMENT 1 LAYOUT**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: PROJECT NUMBER & PHASE: 1455 10000204421

CONTRACT NO.: 10-0E6131

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
12-27-10 6-18-11 11-17-11 12-19-11	7	33

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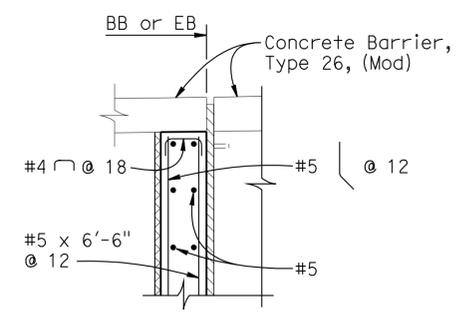
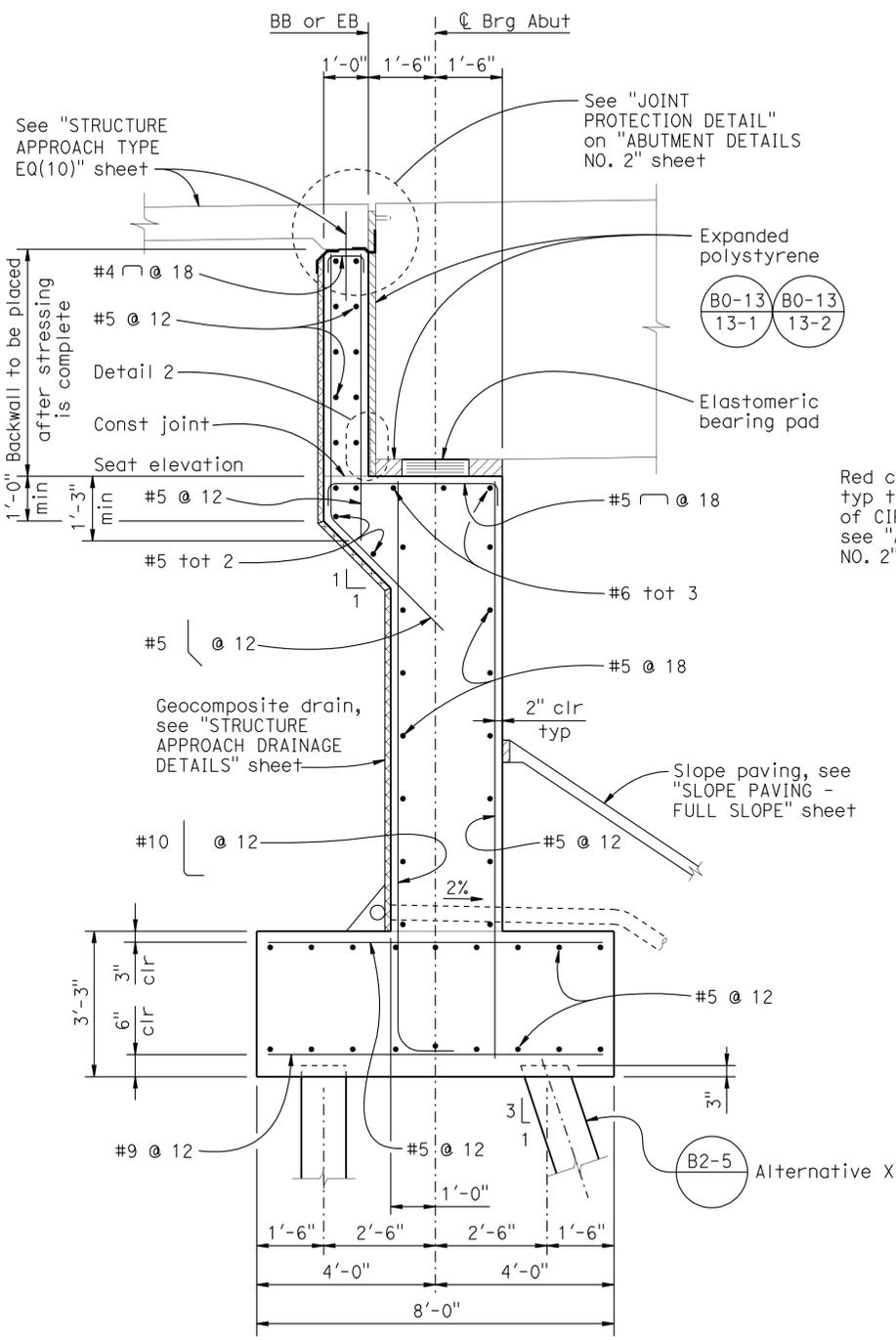


DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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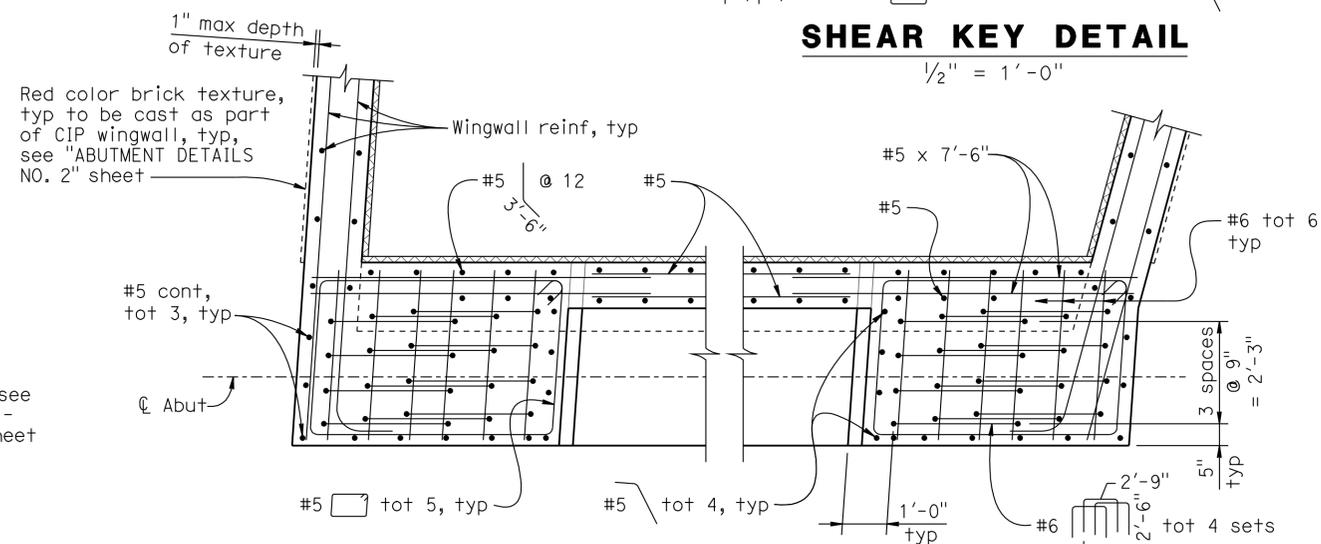
  

REGISTERED CIVIL ENGINEER	DATE 1-26-12
6-11-12 PLANS APPROVAL DATE	
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SAN JOAQUIN COUNCIL OF GOVERNMENTS 555 E. WEBER AVE. STOCKTON, CA 95202	
HDR ENGINEERING, INC. 2365 IRON POINT ROAD, SUITE 300 FOLSOM, CA 95630	

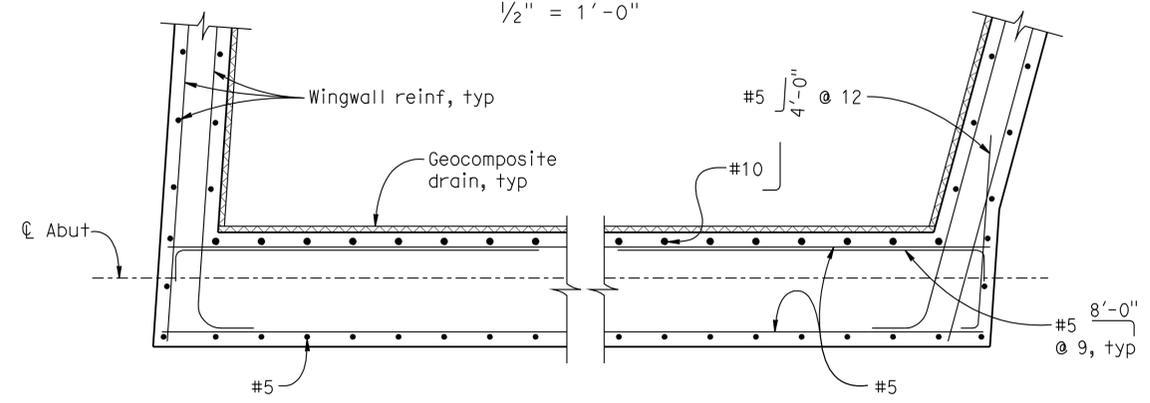
Note:  
 Abut backfill to be placed up to seat elevation before constructing superstructure.



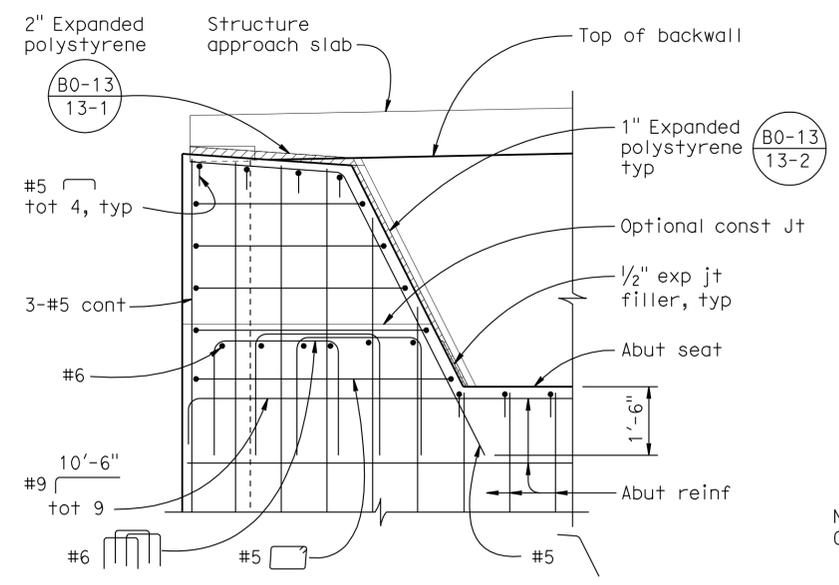
Note: For additional information, see "SECTION A-A".



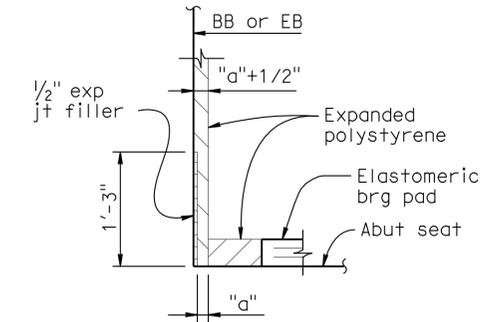
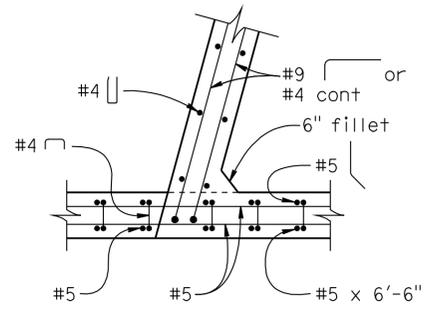
Note: For additional information, see "SECTION C-C".



Note: Abut 1 shown, abut 3 similar.



Note: Concrete barrier not shown.



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

DESIGN OVERSIGHT  
 Reza Erfanian  
 1/27/12  
 SIGN OFF DATE

DESIGN	BY T KENG	CHECKED S PERVAIZ
DETAILS	BY J VOUGHT	CHECKED J MANISCALCO
QUANTITIES	BY T KENG	CHECKED E GAHAN

PREPARED FOR THE  
 STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

JOHN A. KLEMUNES, JR.  
 PROJECT ENGINEER

BRIDGE NO.	29-0331
POST MILE	9.18

## LATHROP ROAD OVERCROSSING ABUTMENT DETAILS NO. 1

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: PROJECT NUMBER & PHASE: 1455 10000204421

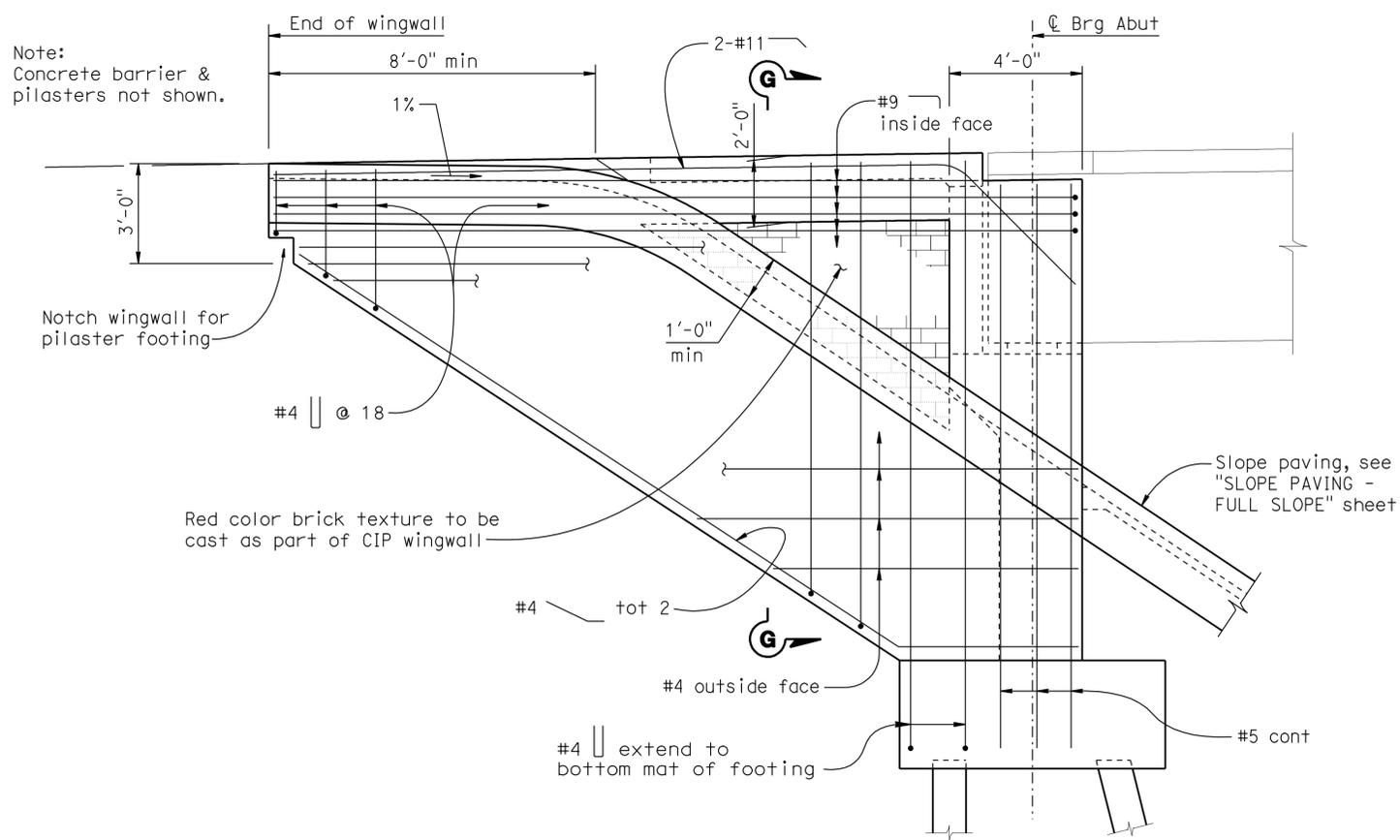
CONTRACT NO.: 10-0E6131

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
12-27-10 6-18-11 11-17-11 12-19-11	9	33

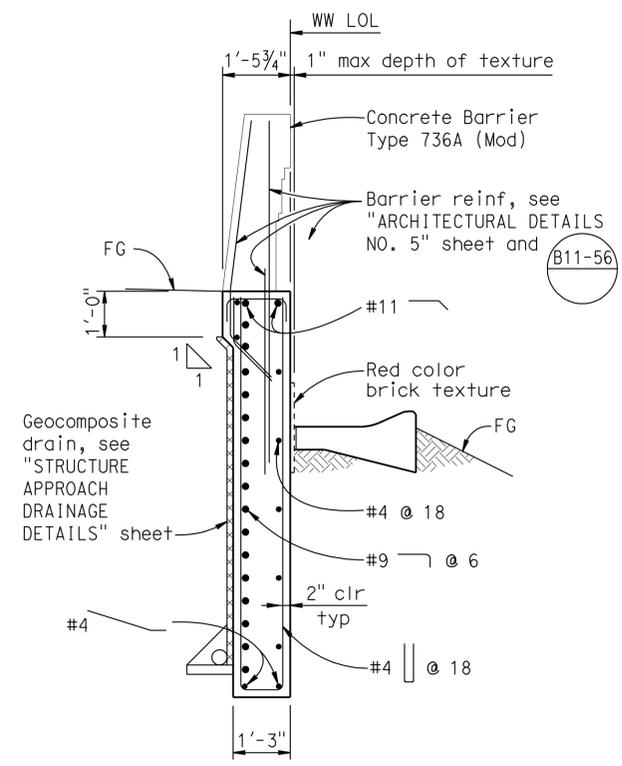
USERNAME => s124496 DATE PLOTTED => 12-JUN-2012 TIME PLOTTED => 10:13

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	99	6.9/10.6	616	639
REGISTERED CIVIL ENGINEER			DATE	2-6-12	
6-11-12			PLANS APPROVAL DATE		
REGISTERED PROFESSIONAL ENGINEER TITUS KENG No. 45226 Exp. 9-30-12 CIVIL STATE OF CALIFORNIA					
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SAN JOAQUIN COUNCIL OF GOVERNMENTS 555 E. WEBER AVE. STOCKTON, CA 95202					
HDR ENGINEERING, INC. 2365 IRON POINT ROAD, SUITE 300 FOLSOM, CA 95630					



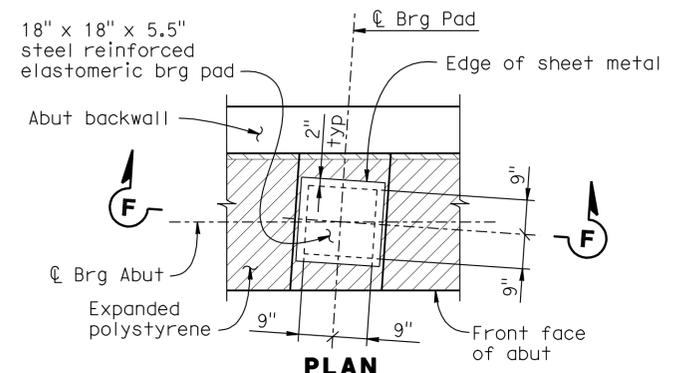
**TYPICAL WINGWALL ELEVATION**

3/8" = 1'-0"  
 Abut 1 south wingwall & Abut 3 north wingwall shown,  
 Abut 1 north wingwall & Abut 3 south wingwall similar.

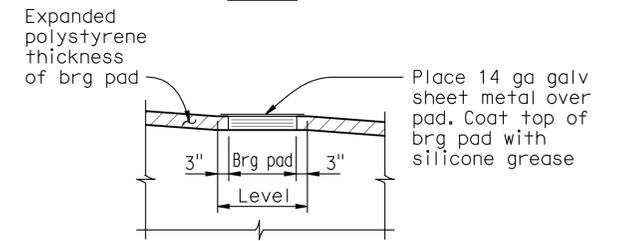


**SECTION G-G**

1/2" = 1'-0"



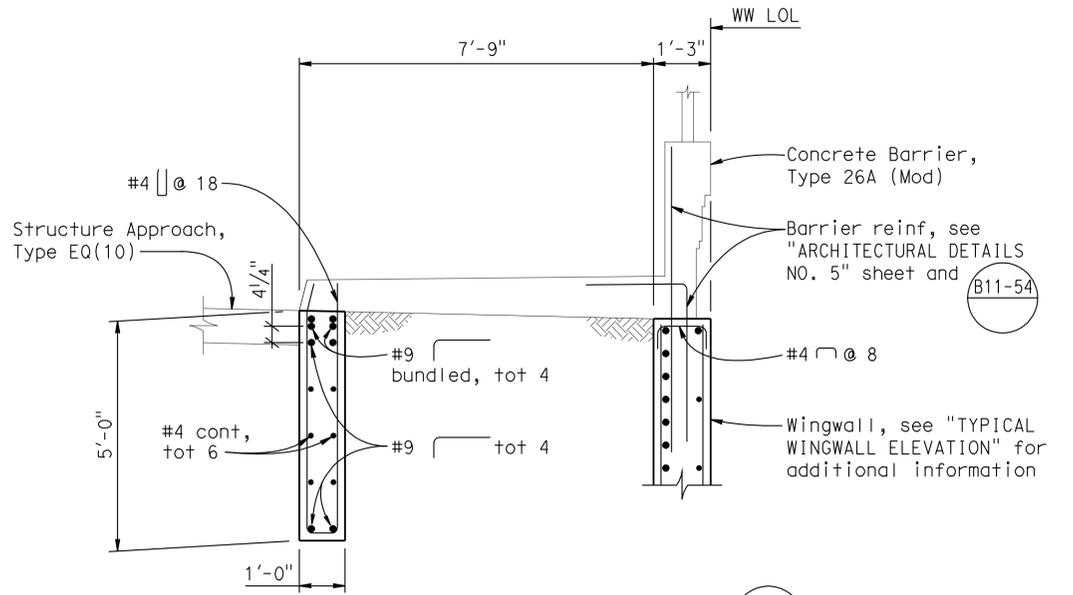
**PLAN**



**SECTION F-F BEARING PAD DETAIL**

1/2" = 1'-0"

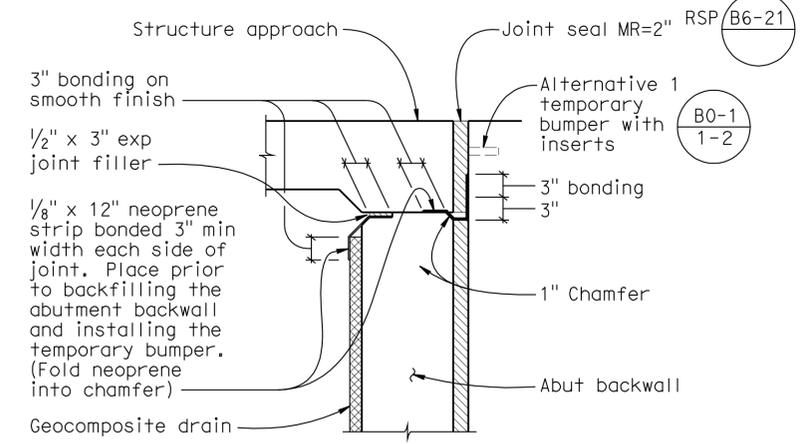
NOTE:  
 For red color brick texture, see "BRICK TEXTURE DETAIL" on "ARCHITECTURAL DETAILS NO. 1" sheet.



**SECTION E-E**

Note: For additional barrier information, see B11-54.

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



**JOINT PROTECTION DETAIL**

1" = 1'-0"

DESIGN OVERSIGHT  
 Reza Erfanian  
 2/13/12  
 SIGN OFF DATE

DESIGN	BY T. KENG	CHECKED S PERVAIZ
DETAILS	BY J VOUGHT	CHECKED J MANISCALCO
QUANTITIES	BY T KENG	CHECKED E GAHAN

PREPARED FOR THE  
 STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

BRIDGE NO.  
 29-0331  
 PROJECT ENGINEER  
 JOHN A. KLEMUNES, JR.

**LATHROP ROAD OVERCROSSING**  
**ABUTMENT DETAILS NO. 2**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: 1455  
 PROJECT NUMBER & PHASE: 10000204421

CONTRACT NO.: 10-0E6131

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
12-27-10 6-18-11 11-17-11 2-6-12	10	33

FILE => 29-0331-f-a01d102.dgn

USERNAME => s124496 DATE PLOTTED => 12-JUN-2012 TIME PLOTTED => 10:14

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	99	6.9/10.6	617	639

REGISTERED CIVIL ENGINEER	DATE
<i>Titus Keng</i>	2-6-12
PLANS APPROVAL DATE	
6-11-12	

REGISTERED PROFESSIONAL ENGINEER

TITUS KENG

No. 45226

Exp. 9-30-12

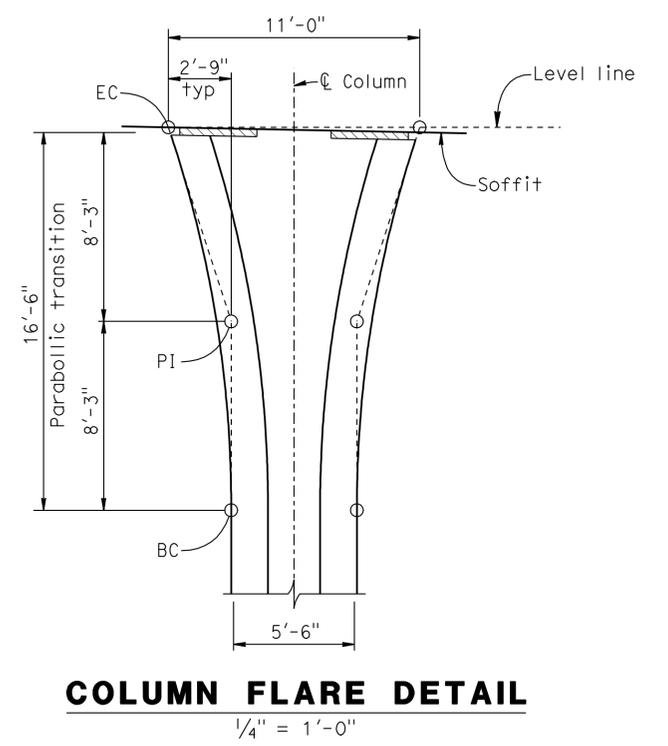
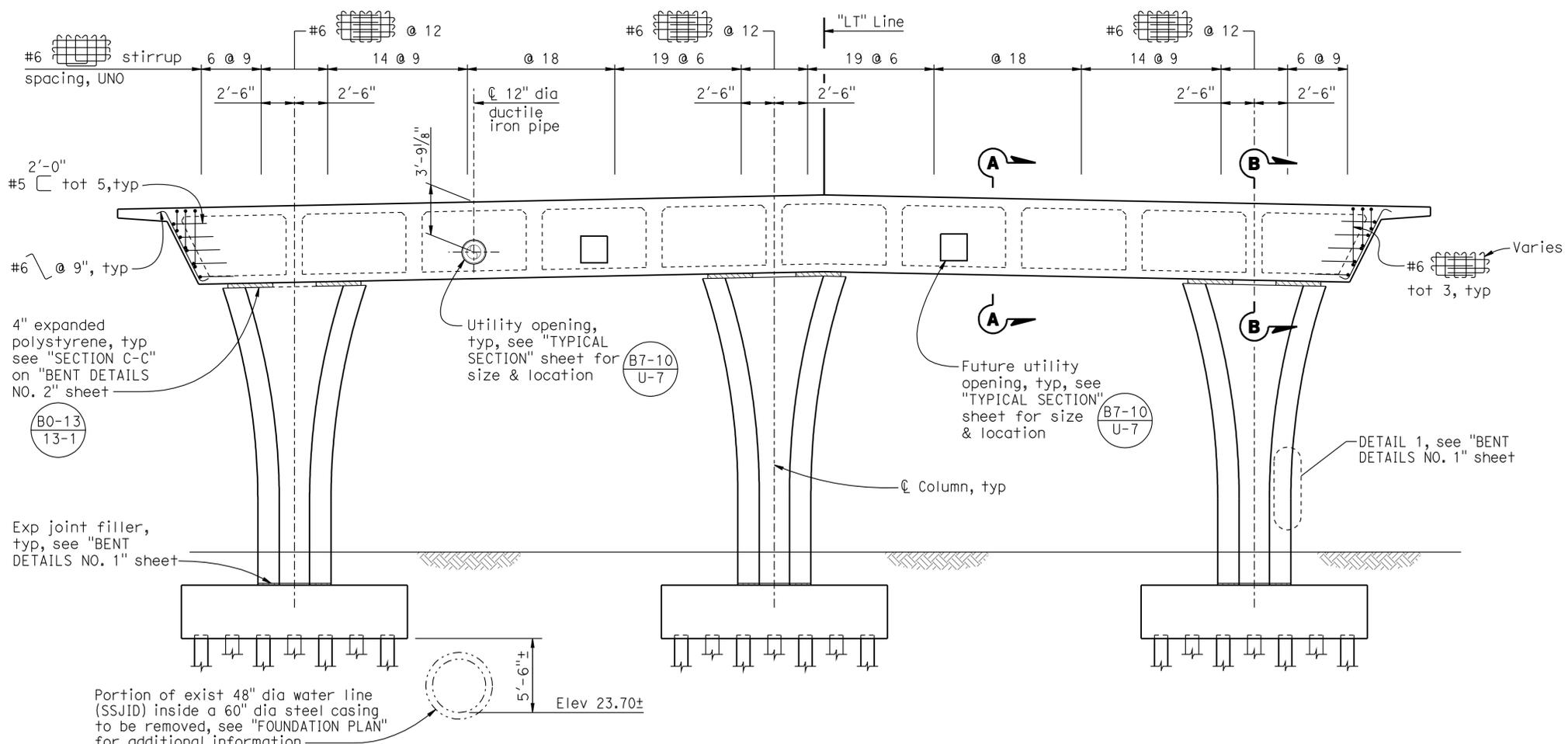
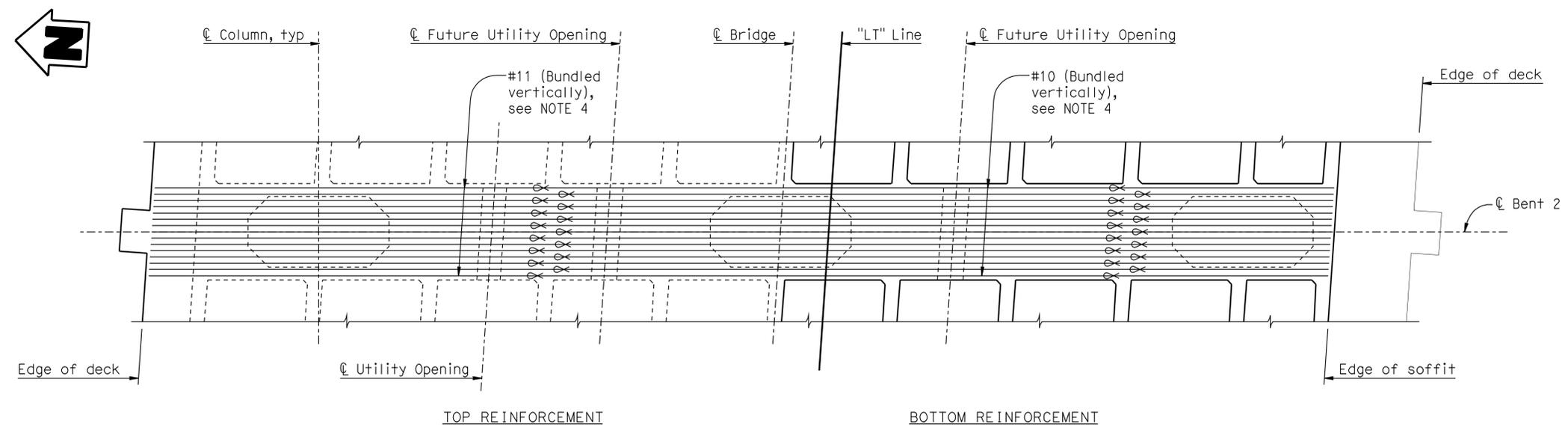
CIVIL

STATE OF CALIFORNIA

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HDR ENGINEERING, INC.  
2365 IRON POINT ROAD, SUITE 300  
FOLSOM, CA 95630



- NOTES:**
- For SECTION A-A & B-B, see "BENT DETAILS NO. 2" sheet.
  - For column and footing details, see "BENT DETAILS NO. 1" sheet.
  - Place stirrups parallel to "LT" Line and space along  $\bar{C}$  Bent.
  - Locate top main bar splices at mid span between columns. Locate bottom main bar splices at  $\bar{C}$  column. Splices shall conform to service splice requirements.
- LEGEND:**
- Indicates new structure.
  - Indicates existing structure.
  - ∞ Denotes bundled bars.

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

*Reza Erfanian*  
DESIGN OVERSIGHT  
2/13/12  
SIGN OFF DATE

DESIGN	BY T KENG	CHECKED S PERVAIZ
DETAILS	BY J VOUGHT	CHECKED J MANISCALCO
QUANTITIES	BY T KENG	CHECKED E GAHAN

**PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION**

JOHN A. KLEMUNES, JR.  
PROJECT ENGINEER

BRIDGE NO.	29-0331
POST MILE	9.18

**LATHROP ROAD OVERCROSSING BENT LAYOUT**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: PROJECT NUMBER & PHASE: 1455 10000204421

CONTRACT NO.: 10-0E6131

DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET	OF
	12-27-10 6-18-11 11-17-11 2-6-12	11	33

FILE => 29-0331-h-b01\_lo1.dgn

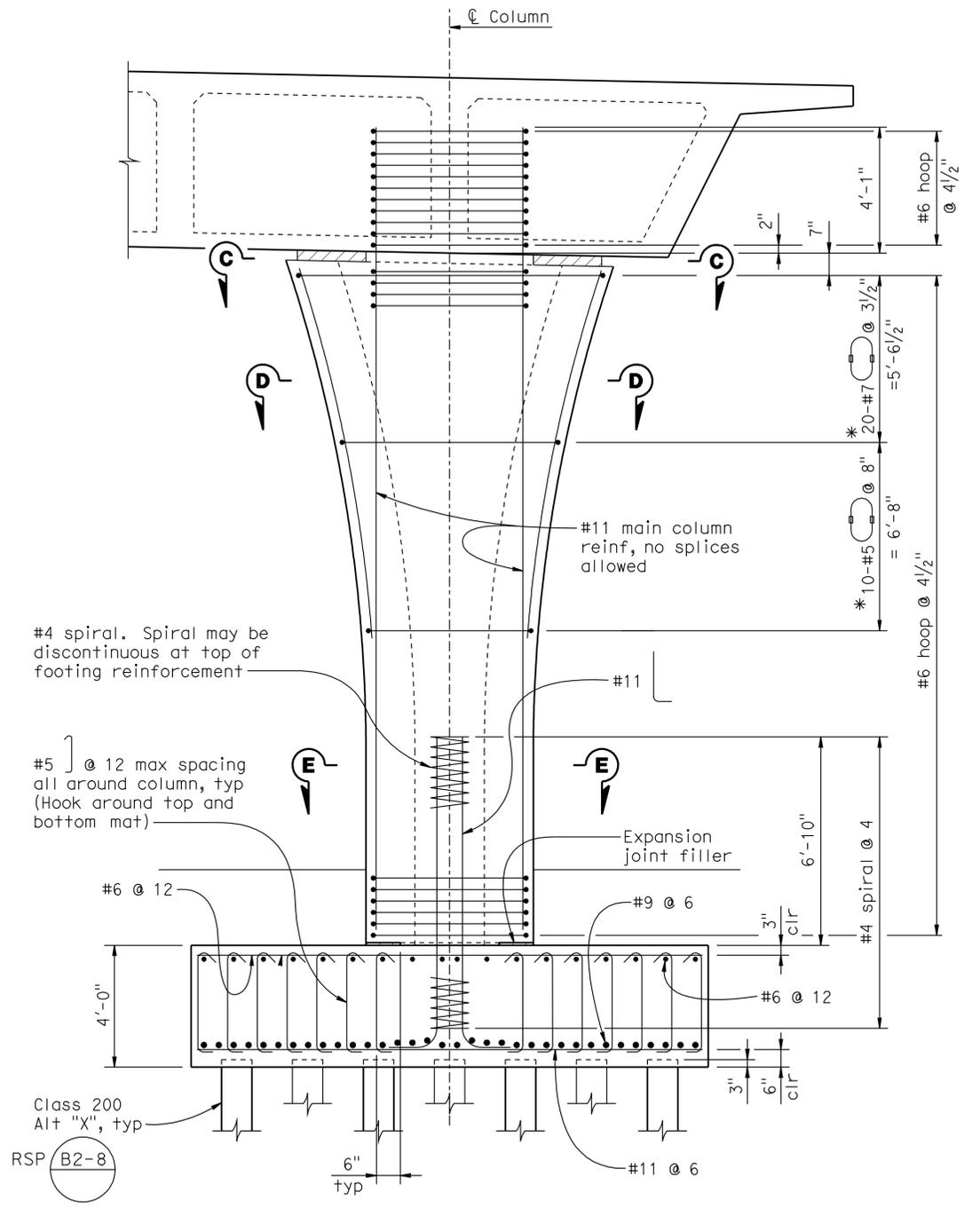
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	99	6.9/10.6	618	639

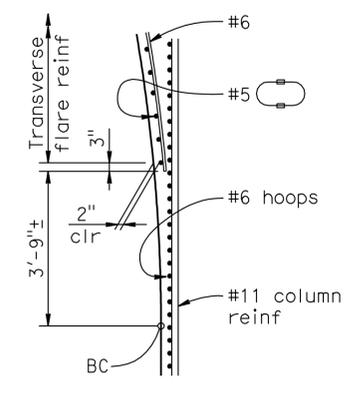
REGISTERED CIVIL ENGINEER DATE 1-26-12  
 TITUS KENG  
 No. 45226  
 Exp. 9-30-12  
 CIVIL  
 STATE OF CALIFORNIA

SAN JOAQUIN COUNCIL OF GOVERNMENTS  
 555 E. WEBER AVE.  
 STOCKTON, CA 95202

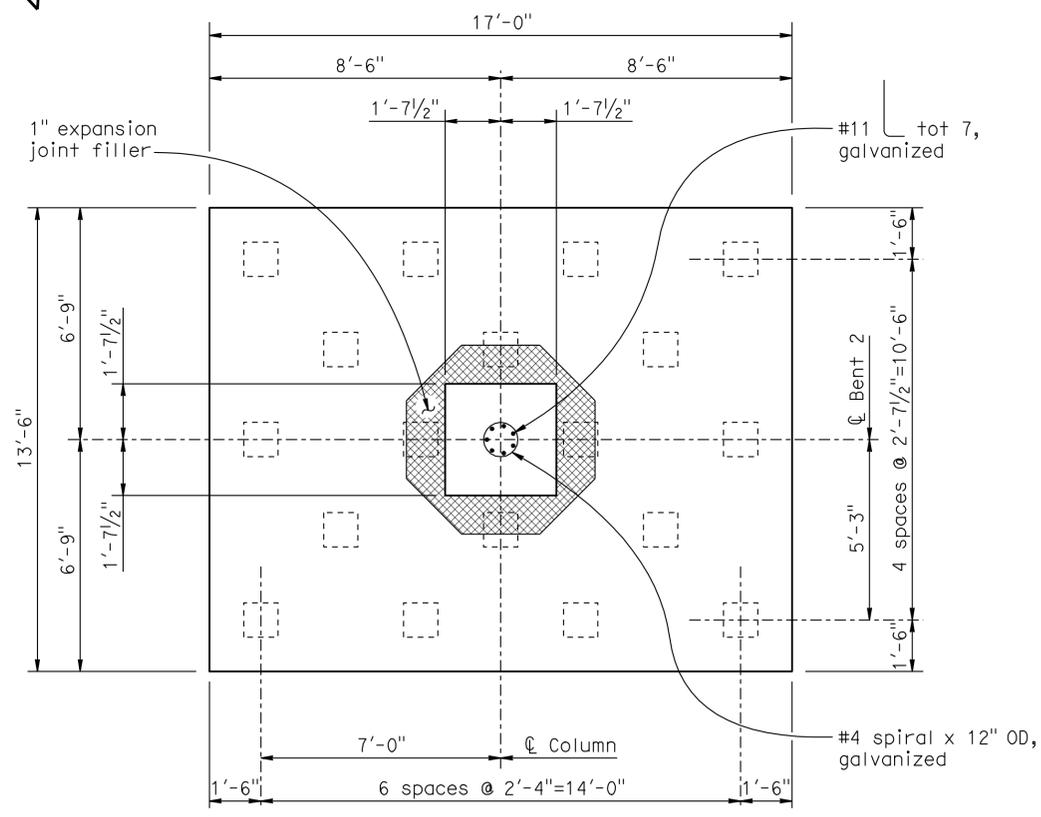
HDR ENGINEERING, INC.  
 2365 IRON POINT ROAD, SUITE 300  
 FOLSOM, CA 95630



**COLUMN ELEVATION**  
 $\frac{3}{8}'' = 1'-0''$



**DETAIL 1**  
 No Scale



**FOOTING PLAN**  
 $\frac{3}{8}'' = 1'-0''$

- NOTES:**
1. For SECTIONS C-C thru E-E, see "BENT DETAILS NO. 2" sheet.
  2. \* Transverse flare reinf to be connected with mechanical coupler conforming to service level splice requirements.
  3. Main column hoop reinf to meet ultimate splice requirements.

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

DESIGN OVERSIGHT  
 Reza Erfanian  
 1/27/12  
 SIGN OFF DATE

DESIGN	BY T KENG	CHECKED S PERVAIZ
DETAILS	BY J VOUGHT	CHECKED J MANISCALCO
QUANTITIES	BY T KENG	CHECKED E GAHAN

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 29-0331  
 PROJECT ENGINEER JOHN A. KLEMUNES, JR.  
 POST MILE 9.18

**LATHROP ROAD OVERCROSSING**  
**BENT DETAILS NO. 1**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: 1455  
 PROJECT NUMBER & PHASE: 10000204421

CONTRACT NO.: 10-0E6131

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
12-27-10 6-18-11 11-11-11 12-19-11	12	33

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USERNAME => s121614 DATE PLOTTED => 13-JUN-2012 TIME PLOTTED => 07:20

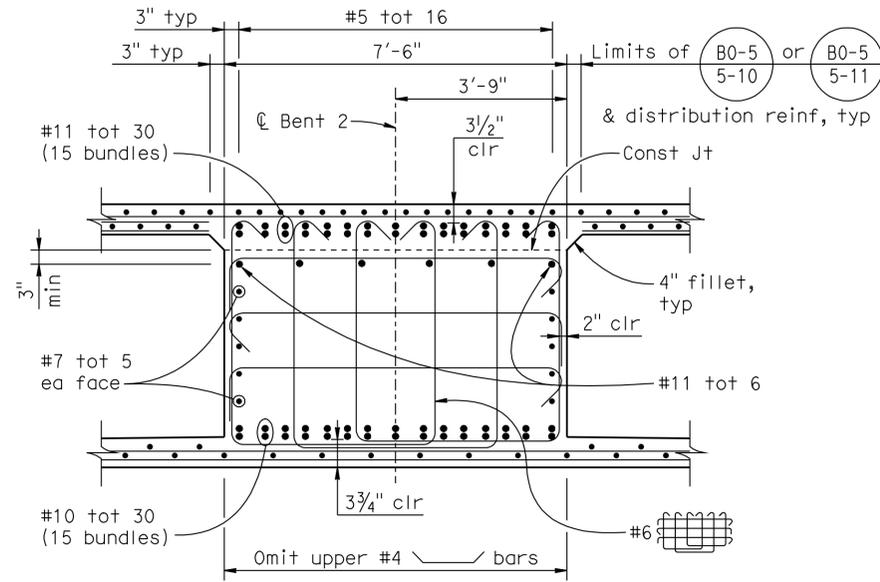
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	99	6.9/10.6	619	639

REGISTERED CIVIL ENGINEER *Titus Keng* DATE 1-26-12  
 PLANS APPROVAL DATE 6-11-12  
 TITUS KENG No. 45226 Exp. 9-30-12 CIVIL STATE OF CALIFORNIA

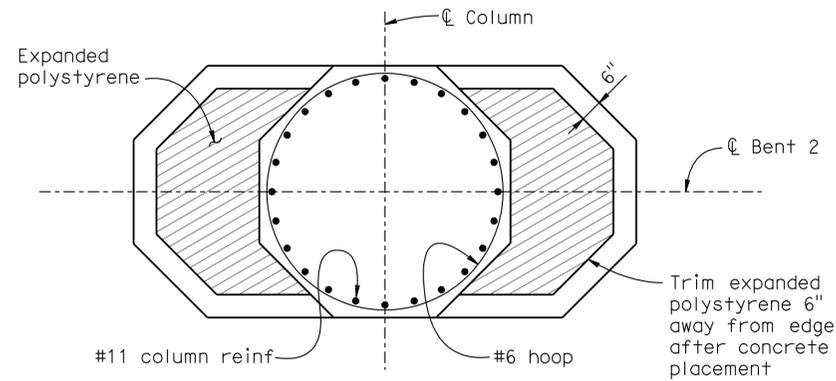
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 STOCKTON, CA 95202

HDR ENGINEERING, INC.  
 2365 IRON POINT ROAD, SUITE 300  
 FOLSOM, CA 95630

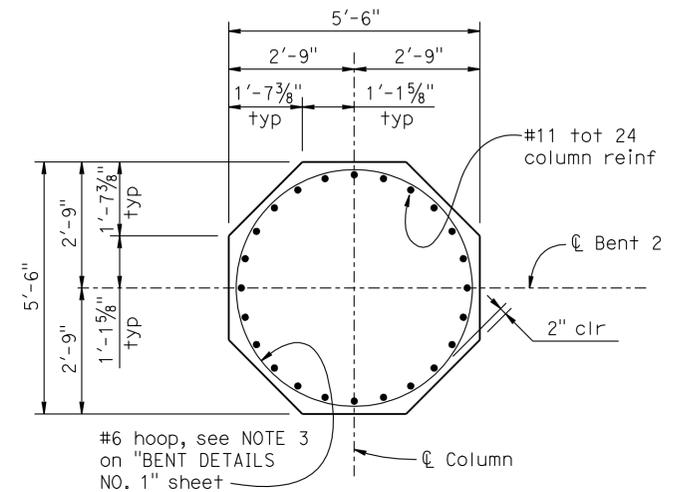
Note:  
Place reinf as required  
to clear prestress ducts.



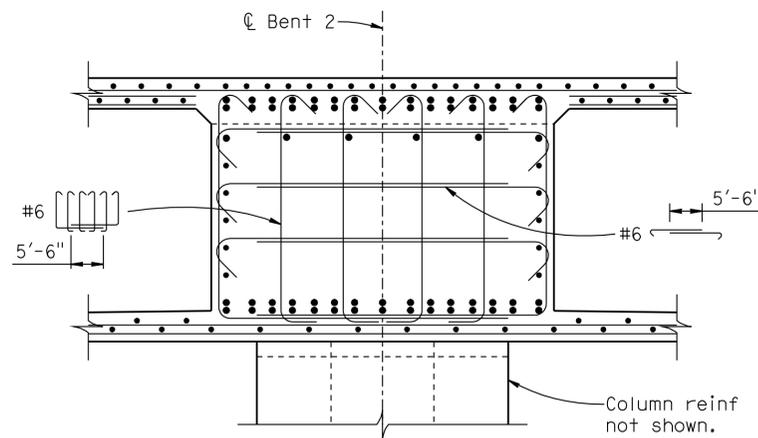
**SECTION A-A**  
1/2" = 1'-0"



**SECTION C-C**  
1/2" = 1'-0"

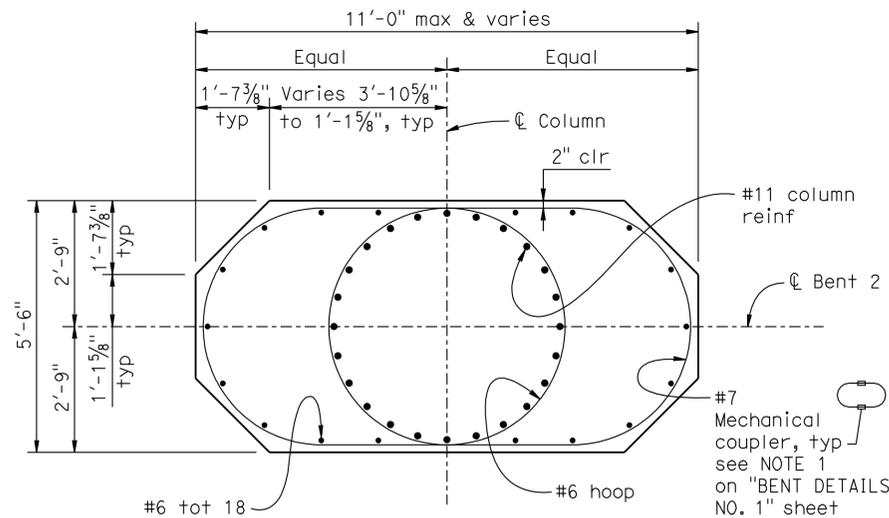


**SECTION E-E**  
1/2" = 1'-0"



Note: For details not shown, see SECTION A-A.

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



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

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

Reza Erfanian  
 DESIGN OVERSIGHT  
 1/27/12  
 SIGN OFF DATE

DESIGN	BY T KENG	CHECKED S PERVAIZ
DETAILS	BY J VOUGHT	CHECKED J MANISCALCO
QUANTITIES	BY T KENG	CHECKED E GAHAN

PREPARED FOR THE  
 STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

JOHN A. KLEMUNES, JR.  
 PROJECT ENGINEER

BRIDGE NO.	29-0331
POST MILE	9.18

**LATHROP ROAD OVERCROSSING**  
**BENT DETAILS NO. 2**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES  
FOR REDUCED PLANS

0	1	2	3
---	---	---	---

UNIT: 1455  
 PROJECT NUMBER & PHASE: 10000204421

CONTRACT NO.: 10-0E6131

DISREGARD PRINTS BEARING  
EARLIER REVISION DATES

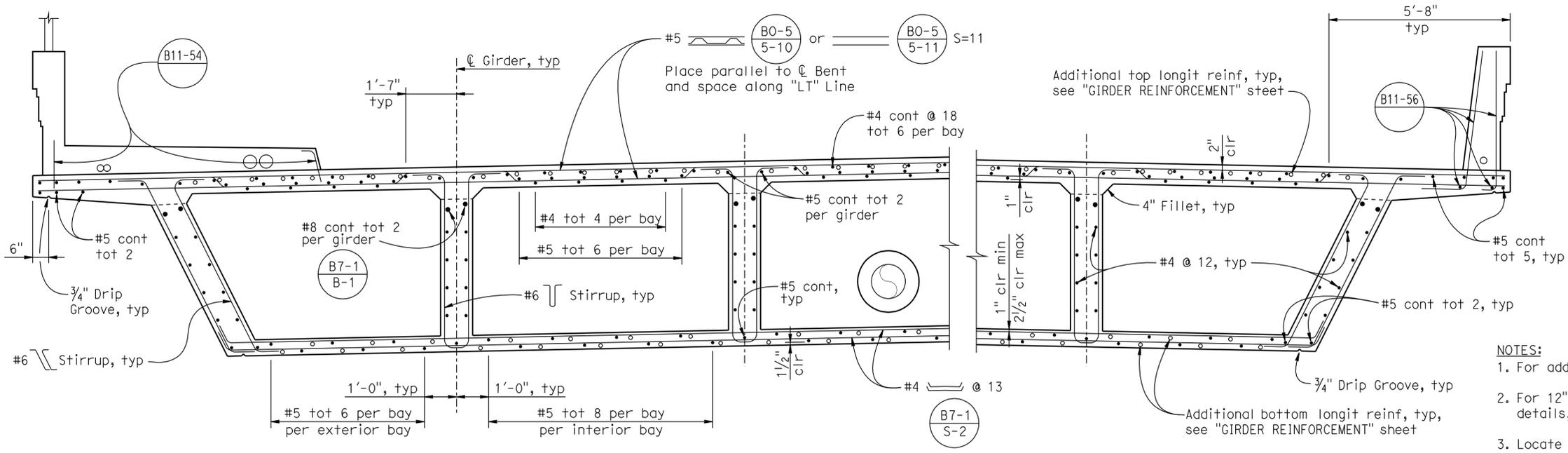
REVISION DATES	SHEET	OF
12-22-10	13	33

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	99	6.9/10.6	620	639

REGISTERED CIVIL ENGINEER **Titus Keng** DATE 2-6-12  
 PLANS APPROVAL DATE 6-11-12  
 No. 45226 Exp. 9-30-12  
 CIVIL  
 STATE OF CALIFORNIA

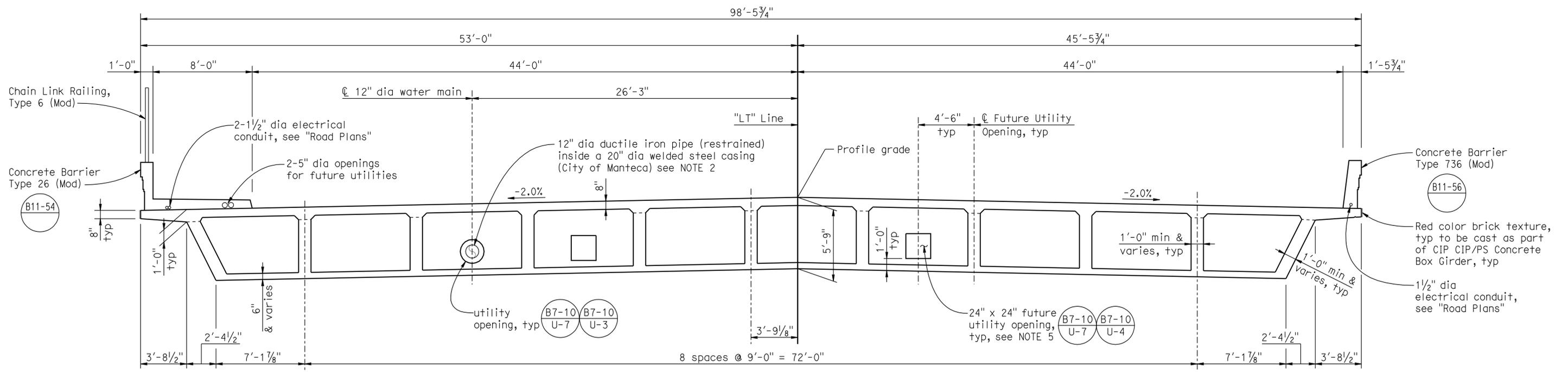
SAN JOAQUIN COUNCIL OF GOVERNMENTS  
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HDR ENGINEERING, INC.  
 2365 IRON POINT ROAD, SUITE 300  
 FOLSOM, CA 95630



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

- NOTES:
- For additional information, see "GIRDER REINFORCEMENT" sheet.
  - For 12" dia ductile iron pipe (restrained) water main details, see "ROAD PLANS" and "UTILITY DETAILS" sheet.
  - Locate slab top transverse bar splices at midspan between girders. Locate slab bottom transverse bar splices at  $\text{\O}$  girders.
  - For red color brick texture, see "BRICK TEXTURE DETAIL" on "ARCHITECTURAL DETAILS NO. 1" sheet.
  - Install 20" dia casing for future utilities per **B7-10 U-8**.



**TYPICAL SECTION**  
 1/4" = 1'-0"  
 (Looking Upstation)

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

DESIGN OVERSIGHT  
 Reza Erfanian  
 2/13/12  
 SIGN OFF DATE

DESIGN	BY T KENG	CHECKED S PERVAIZ
DETAILS	BY J VOUGHT	CHECKED J MANISCALCO
QUANTITIES	BY T KENG	CHECKED E GAHAN

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

PROJECT ENGINEER  
 JOHN A. KLEMUNES, JR.

BRIDGE NO. 29-0331  
 POST MILE 9.18  
**LATHROP ROAD OVERCROSSING**  
**TYPICAL SECTION**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



UNIT: PROJECT NUMBER & PHASE: 1455 10000204421

CONTRACT NO.: 10-0E6131

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
12-27-10 6-18-11 11-11-11 2-6-12	14	33

USERNAME => s124496 DATE PLOTTED => 12-JUN-2012 TIME PLOTTED => 10:14

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	99	6.9/10.6	621	639

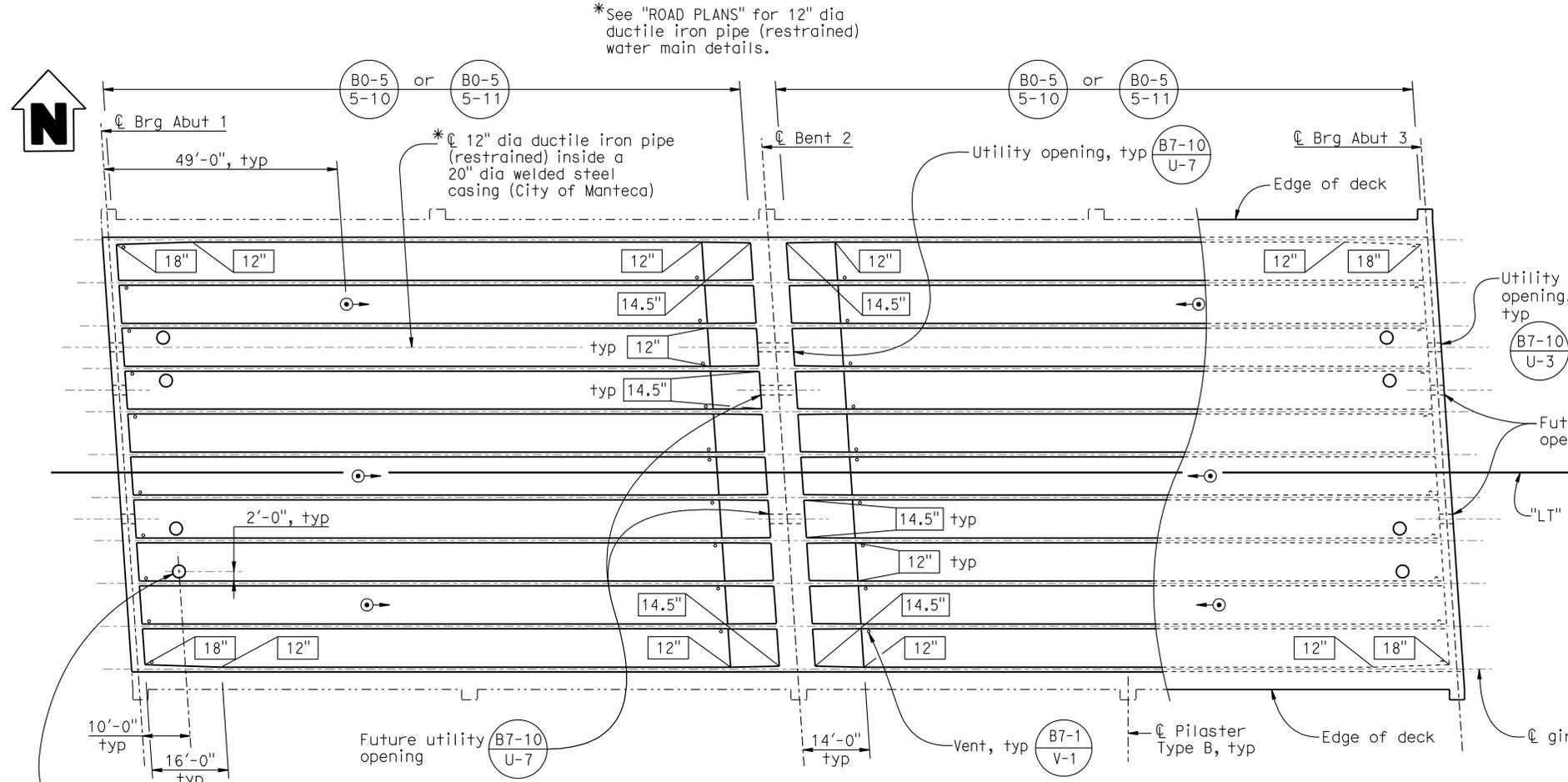
### PRESTRESSING NOTES

270 ksi Low Relaxation Strand:  
 Pjack = 21,450 Kips  
 Anchor Set = 3/8"  
 Total Numbers of Girders = 11  
 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 kips.  
 Concrete: f'c = 4000 psi @ 28 days  
 f'ci = 3500 psi @ time of stressing  
 Contractor shall submit elongation calculations based on initial stress at point of no movement at  $\square = 0.884$  times jacking stress.  
 One end stressing shall be performed from abutment 1.  
 Design is based on  $\mu = 0.15$  and  $k = 0.0002$ .

REGISTERED CIVIL ENGINEER  
 TITUS KENG  
 No. 45226  
 Exp. 9-30-12  
 CIVIL  
 STATE OF CALIFORNIA  
 DATE: 2-6-12  
 PLANS APPROVAL DATE: 6-11-12

SAN JOAQUIN COUNCIL OF GOVERNMENTS  
 555 E. WEBER AVE.  
 STOCKTON, CA 95202

HDR ENGINEERING, INC.  
 2365 IRON POINT ROAD, SUITE 300  
 FOLSOM, CA 95630

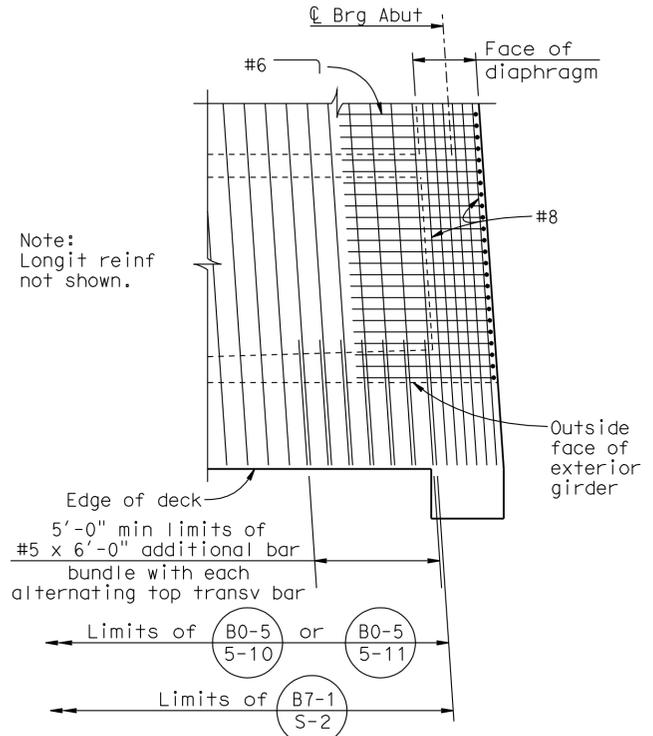


### GIRDER LAYOUT

1/16" = 1'-0"

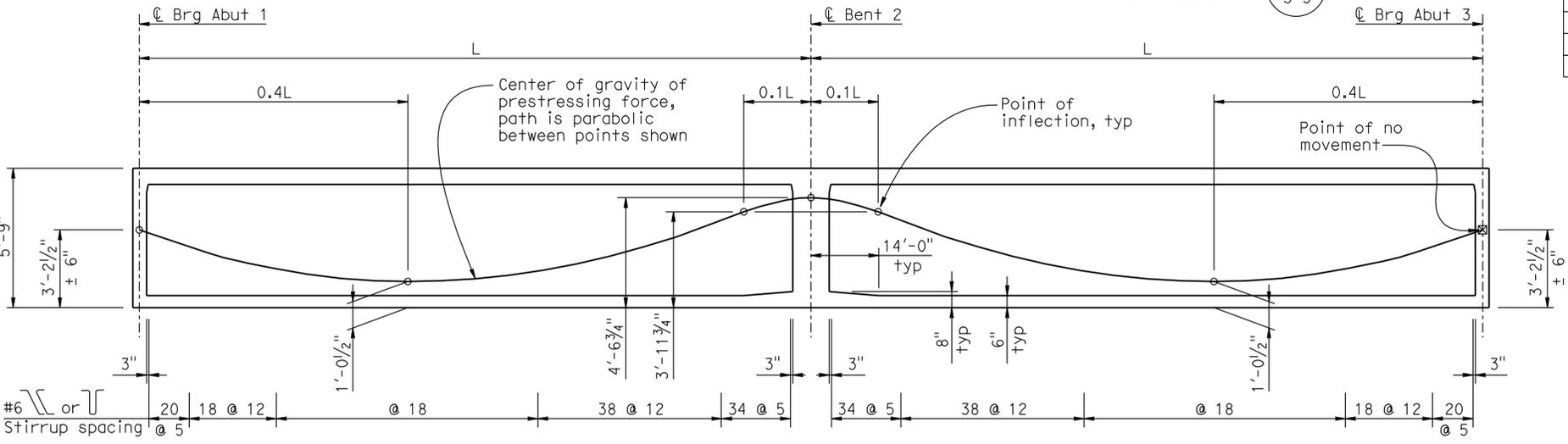
- LEGEND:
- Indicates Flush Soffit Luminaire placed at  $\square$  bay, see "ROAD PLANS".
  - Indicates girder flare width.

PILASTER TYPE B STATIONS	
North Side	South Side
123+60.62	123+67.32
124+29.78	124+36.49
124+98.95	125+05.66
125+68.12	125+74.82
126+37.28	126+43.99



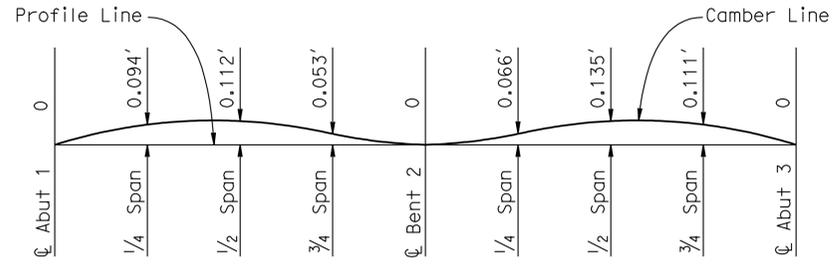
### DETAIL 1

1/4" = 1'-0"



### LONGITUDINAL SECTION

No Scale



### CAMBER DIAGRAM

No Scale  
 (Does not include allowance for falsework settlement)

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

DESIGN OVERSIGHT  
 Reza Erfanian  
 2/13/12  
 SIGN OFF DATE

DESIGN	BY T KENG	CHECKED S PERVAIZ
DETAILS	BY J VOUGHT	CHECKED J MANISCALCO
QUANTITIES	BY T KENG	CHECKED E GAHAN

PREPARED FOR THE  
 STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

JOHN A. KLEMUNES, JR.  
 PROJECT ENGINEER

## LATHROP ROAD OVERCROSSING

### GIRDER LAYOUT

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: PROJECT NUMBER & PHASE: 1455 10000204421

BRIDGE NO. 29-0331  
 POST MILE 9.18

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
12-22-10 6-18-11 11-17-11 2-6-12	15	33



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	99	6.9/10.6	623	639

REGISTERED CIVIL ENGINEER **Titus Keng** DATE 2-6-12

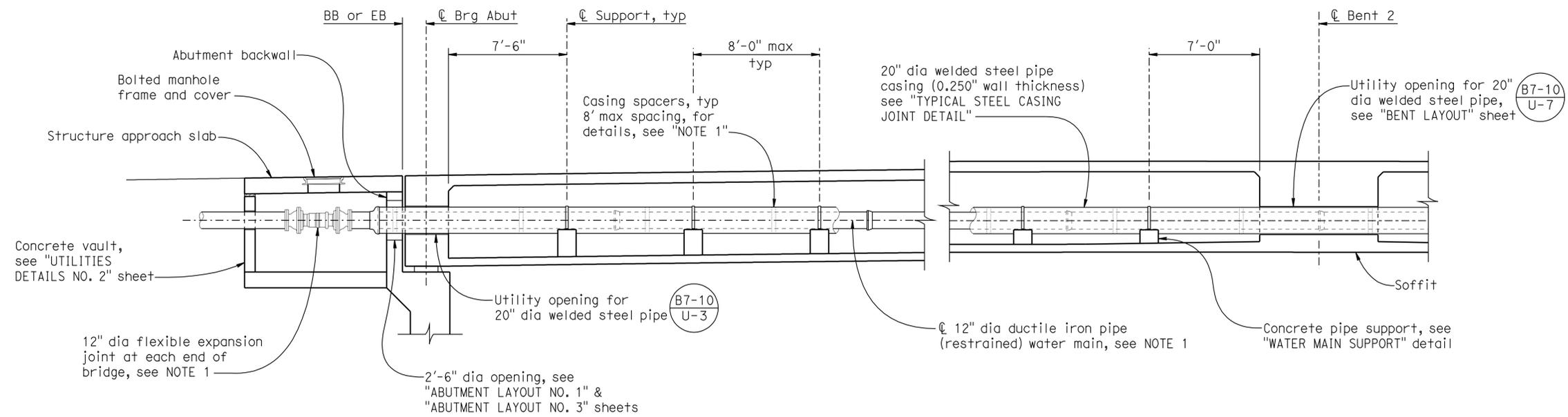
PLANS APPROVAL DATE 6-11-12

REGISTERED PROFESSIONAL ENGINEER  
 TITUS KENG  
 No. 45226  
 Exp. 9-30-12  
 CIVIL  
 STATE OF CALIFORNIA

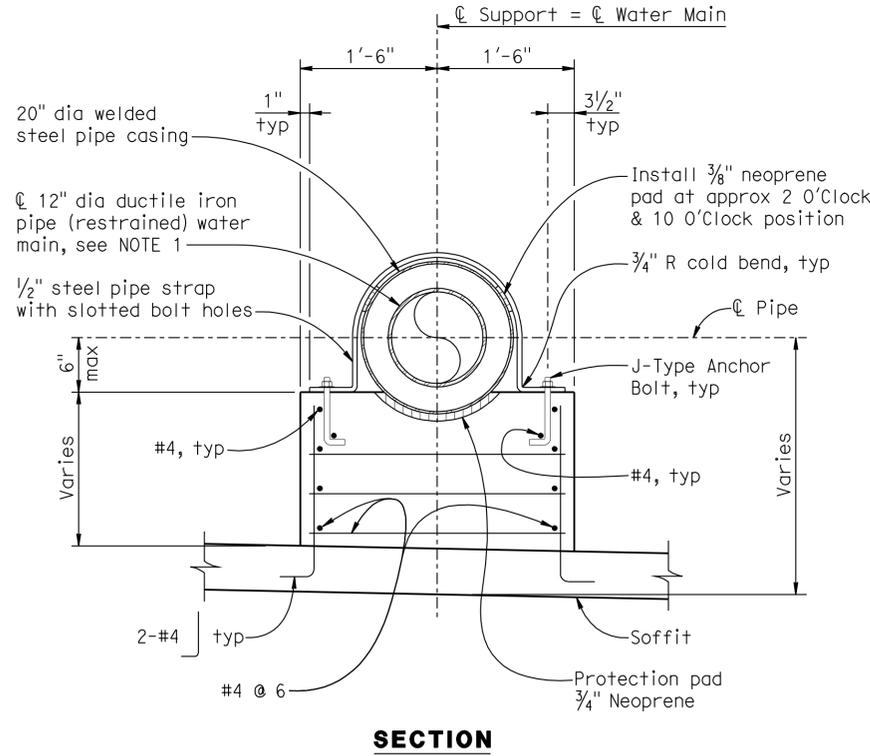
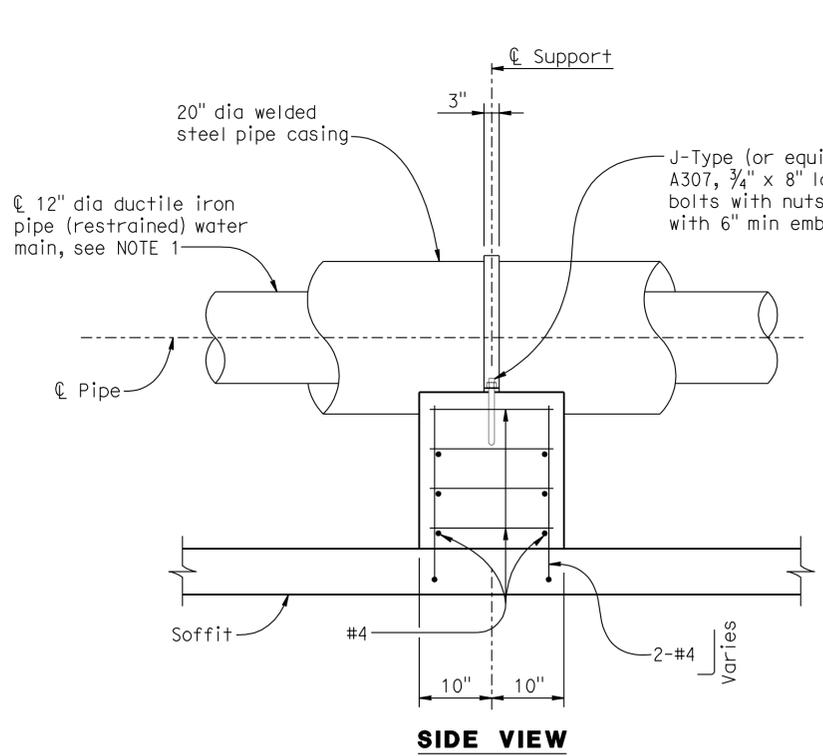
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 STOCKTON, CA 95202

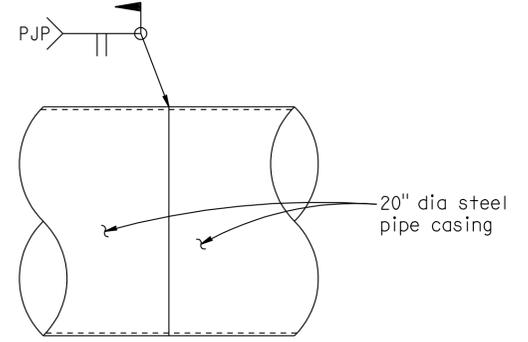
HDR ENGINEERING, INC.  
 2365 IRON POINT ROAD, SUITE 300  
 FOLSOM, CA 95630



**WATER MAIN PARTIAL SECTION**  
 1/4" = 1'-0"



**WATER MAIN SUPPORT**  
 1" = 1'-0"



**TYPICAL STEEL CASING JOINT DETAIL**  
 No Scale

- NOTES:
1. See "ROAD PLANS" for 12" dia ductile iron pipe (restrained) water main details.
  2. Pressure test pipe prior to backfilling or placing deck.
  3. Screening, mesh, or porous fabric shall be used to prevent backfill material from entering the casing.
  4. Concrete in connection with the vault facilities will be measured by the cubic yard of concrete (Minor Structure) and conform to the provisions in Section 70 "Miscellaneous Facilities" of the standard specifications.

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

DESIGN OVERSIGHT  
 Reza Erfanian  
 2/13/12  
 SIGN OFF DATE

DESIGN	BY T KENG	CHECKED S PERVAIZ
DETAILS	BY J VOUGHT	CHECKED J MANISCALCO
QUANTITIES	BY T KENG	CHECKED E GAHAN

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

JOHN A. KLEMUNES, JR.  
 PROJECT ENGINEER

BRIDGE NO.	29-0331
POST MILE	9.18

**LATHROP ROAD OVERCROSSING**  
**UTILITIES DETAILS NO. 1**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: PROJECT NUMBER & PHASE: 1455 10000204421

CONTRACT NO.: 10-0E6131

DISREGARD PRINTS BEARING EARLIER REVISION DATES

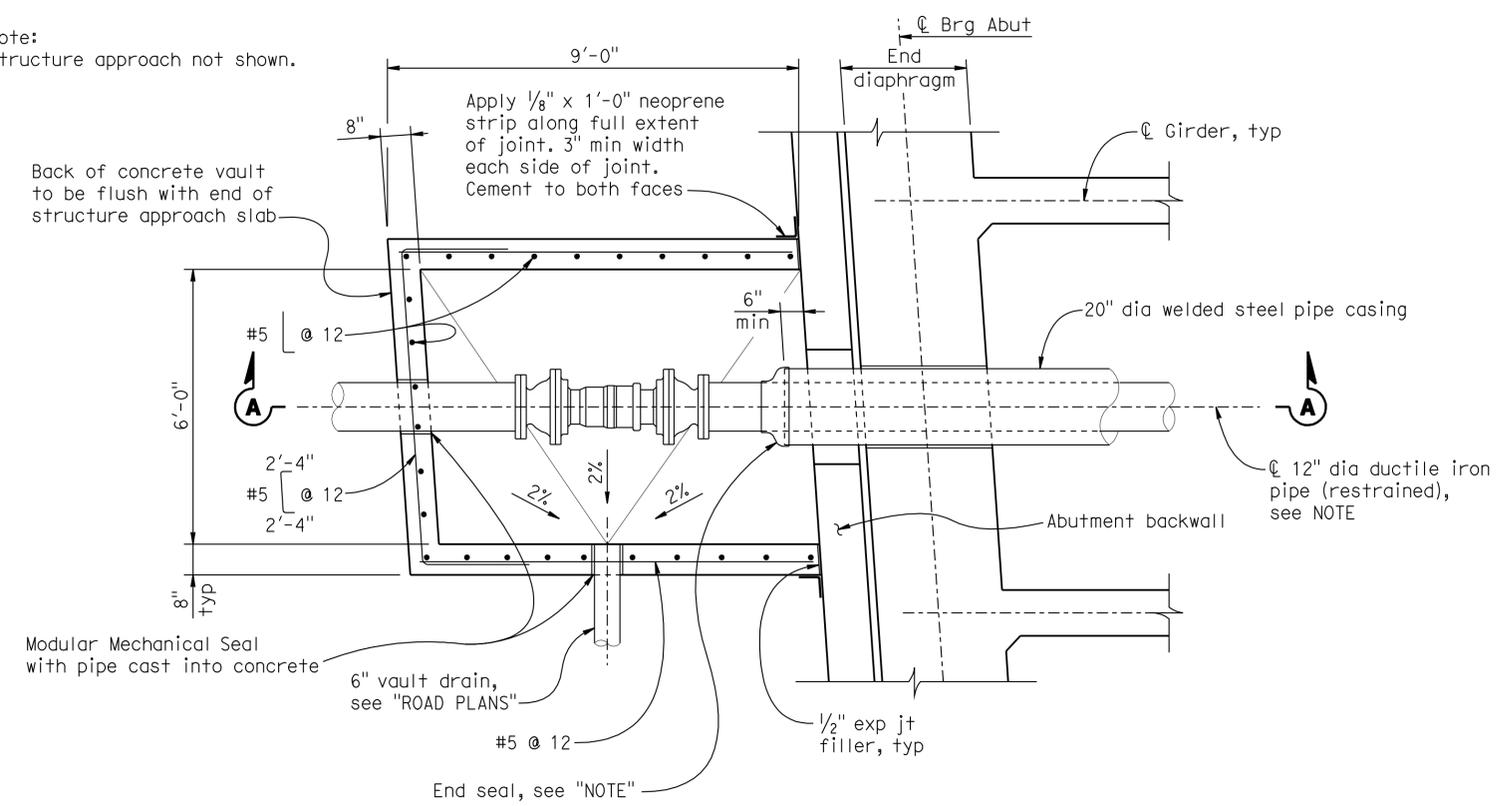
REVISION DATES	SHEET	OF
12-27-10 6-18-11 11-7-11 2-6-12	17	33

FILE => 29-0331-m-ud01.dgn

USERNAME => s124496 DATE PLOTTED => 12-JUN-2012 TIME PLOTTED => 10:14

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	99	6.9/10.6	624	639
REGISTERED CIVIL ENGINEER			DATE	1-26-12	
6-11-12			PLANS APPROVAL DATE		
REGISTERED PROFESSIONAL ENGINEER TITUS KENG No. 45226 Exp. 9-30-12 CIVIL STATE OF CALIFORNIA					
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.					
SAN JOAQUIN COUNCIL OF GOVERNMENTS 555 E. WEBER AVE. STOCKTON, CA 95202					
HDR ENGINEERING, INC. 2365 IRON POINT ROAD, SUITE 300 FOLSOM, CA 95630					

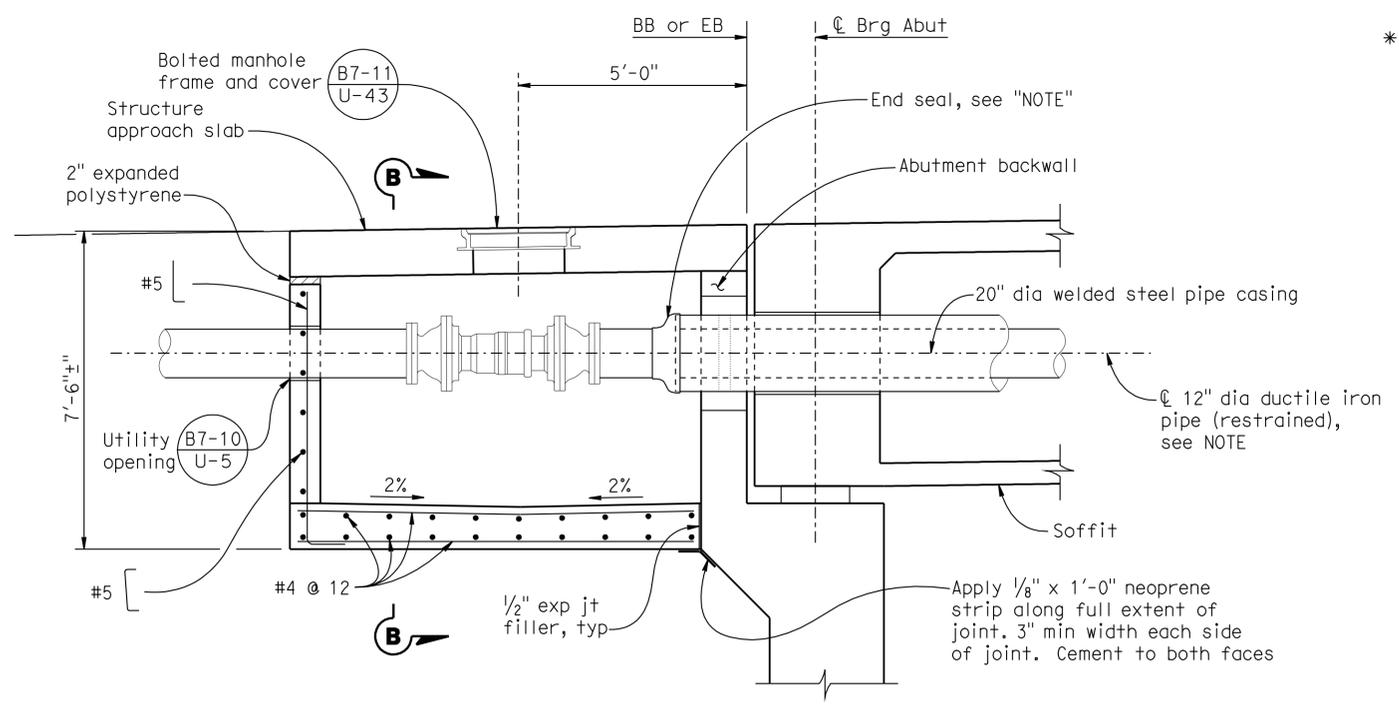
Note:  
Structure approach not shown.



**PLAN - CONCRETE VAULT**

1/2" = 1'-0"

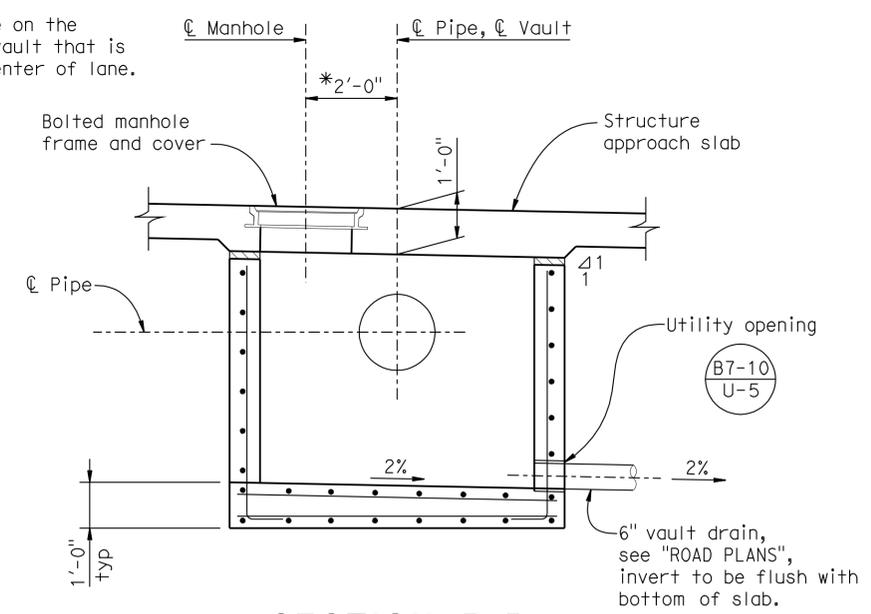
NOTE:  
For notes, see "UTILITY DETAILS NO. 1" sheet.



**SECTION A-A**

1/2" = 1'-0"

\* Place manhole on the side of the vault that is closest to center of lane.



**SECTION B-B**

1/2" = 1'-0"

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

DESIGN OVERSIGHT  
 Reza Erfanian  
 1/27/12  
 SIGN OFF DATE

DESIGN	BY T KENG	CHECKED S PERVAIZ
DETAILS	BY J VOUGHT	CHECKED J MANISCALCO
QUANTITIES	BY T KENG	CHECKED E GAHAN

PREPARED FOR THE  
 STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

PROJECT ENGINEER  
 JOHN A. KLEMUNES, JR.

BRIDGE NO. 29-0331  
 POST MILE 9.18  
**LATHROP ROAD OVERCROSSING**  
**UTILITIES DETAILS NO. 2**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: PROJECT NUMBER & PHASE: 1455 10000204421

CONTRACT NO.: 10-0E6131

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
12-27-10 6-18-11 11-17-11 12-19-11	18	33

FILE => 29-0331-m-ud02.dgn

USERNAME => s124496 DATE PLOTTED => 12-JUN-2012 TIME PLOTTED => 10:14

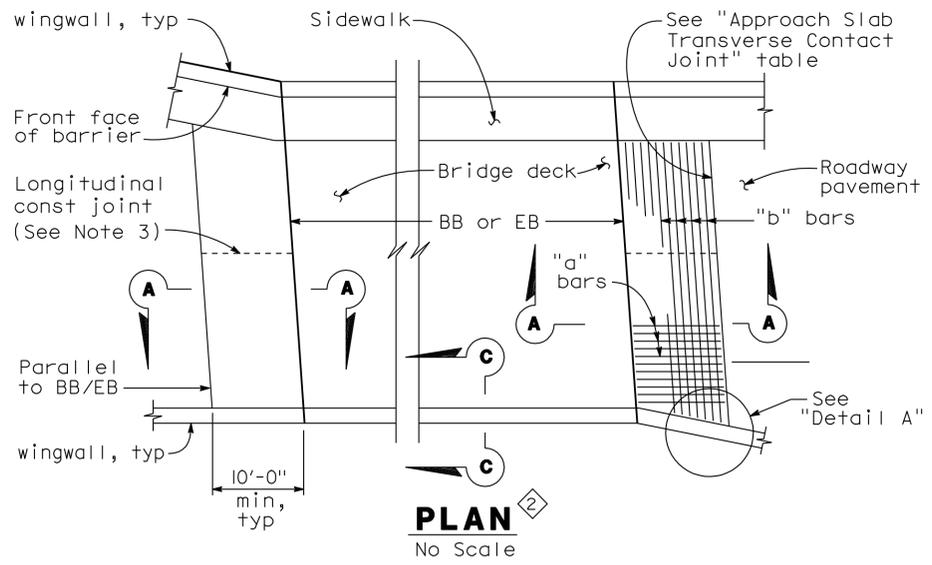
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	99	6.9/10.6	625	639

REGISTERED ENGINEER - CIVIL  
**TITUS KENG**  
 No. 45226  
 Exp. 9-30-12  
 CIVIL  
 STATE OF CALIFORNIA

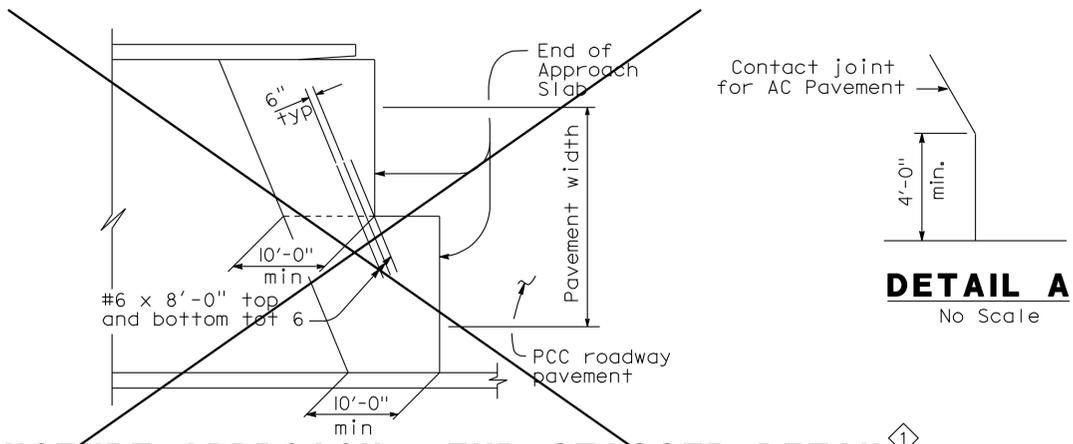
PLANS APPROVAL DATE: 1-26-12

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SAN JOAQUIN COUNCIL OF GOVERNMENTS  
 555 E. WEBER AVE.  
 STOCKTON, CA 95202  
 HDR ENGINEERING, INC.  
 2365 IRON POINT ROAD, SUITE 300  
 FOLSOM, CA 95630

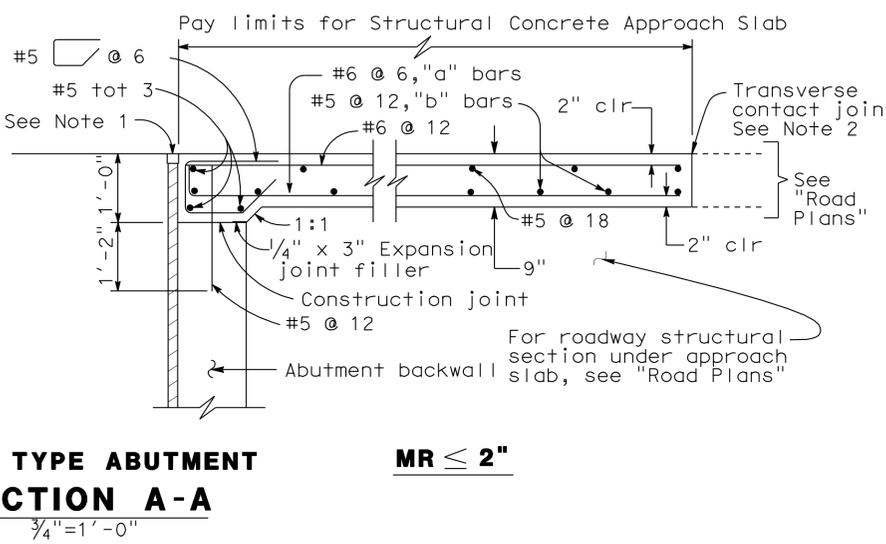
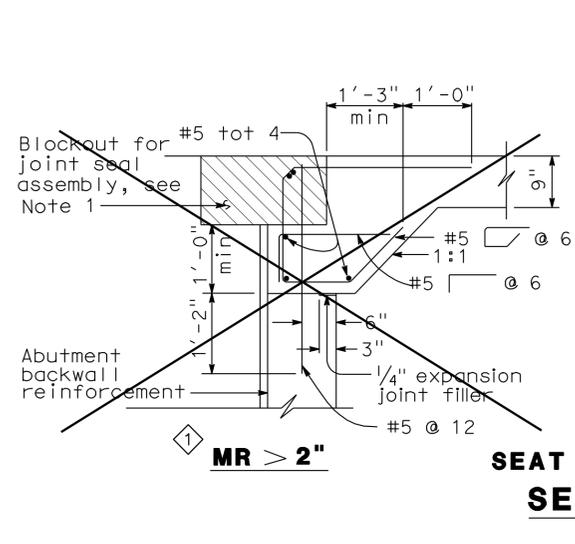


**STRUCTURE APPROACH - END STAGGER DETAIL**  
No Scale

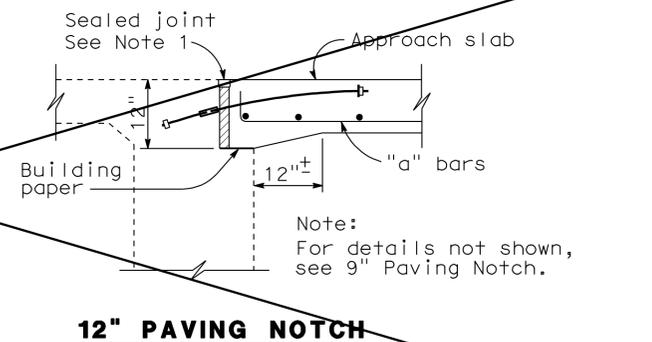
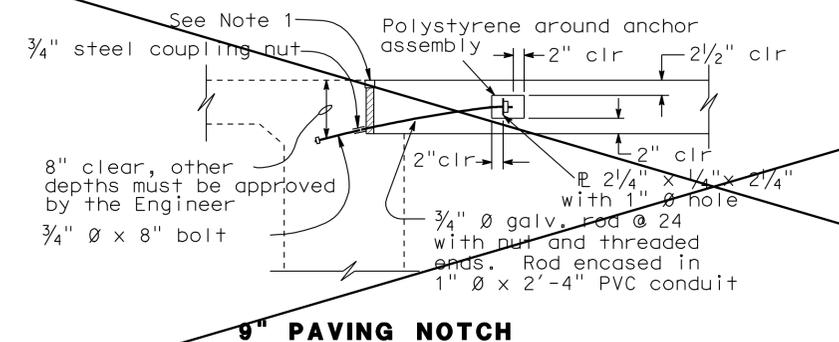
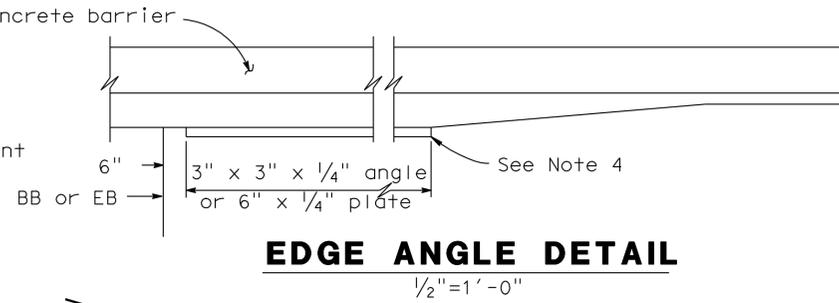


**APPROACH SLAB TRANSVERSE CONTACT JOINT**

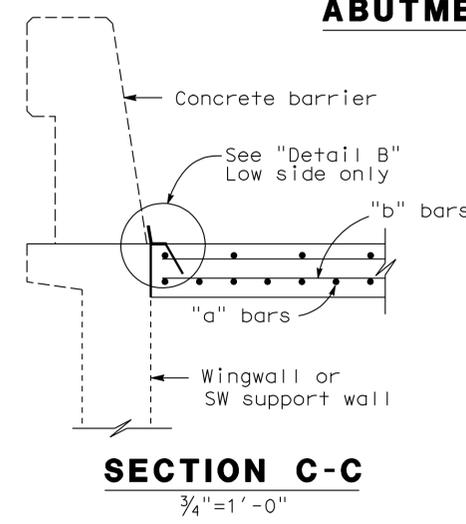
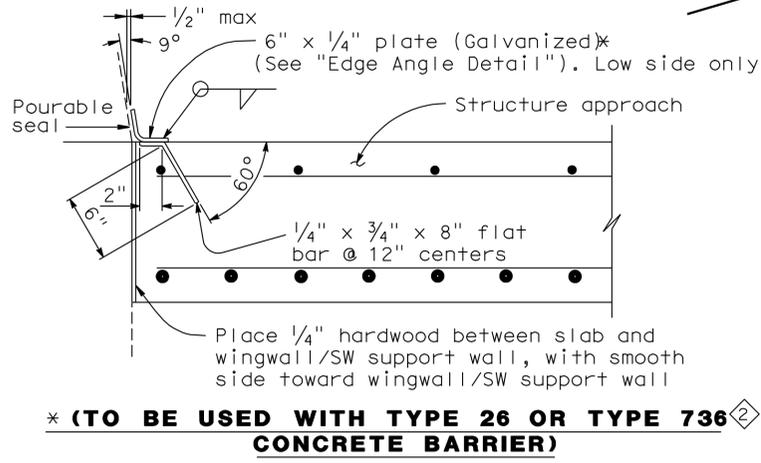
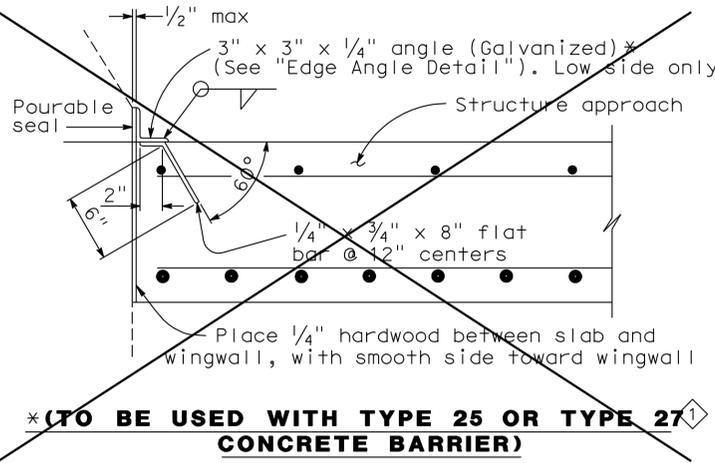
STRUCTURE SKEW	AC APPROACH PAVEMENT	PCC APPROACH PAVEMENT
< 20°	Parallel to face of paving notch	Parallel to face of paving notch
20° - 45°	Parallel to face of P N use (Detail A)	Stagger lines 24' to 36' apart
> 45°	Parallel to face of P N use (Detail A)	Stagger at each lane line



Note: Seat Type Abutment shown, for Diaphragm Type Abutment, see "Abutment Tie Details".



- NOTES:**
- For details not noted or shown, see Structure Plans. Adjust bar reinforcement to clear a sawcut for sealed joint, when required.
  - For transverse contact joint with new PCC paving, refer to Standard Plan P10.
  - 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 wing wall or end of structure approach as applicable.
  - At the contractor's option, approach slab transverse reinforcement may be placed parallel to paving notch. Spacing of transverse reinforcement is measured along @ roadway.
  - For drainage details, see Structure Plans.



**STANDARD DRAWING**

RELEASE DATE: 3/14/05	DESIGN BY: M. TRAFFALIS	CHECKED: E. THORKILDSEN	RELEASED BY:
FILE NO.: xs3-150e	DETAILS BY: R. YEE	CHECKED: E. THORKILDSEN	
	SUBMITTED BY: M. HA	DRAWING DATE: 8/92	OFFICE CHIEF:

- 1 Deleted Detail
- 2 Revised Detail

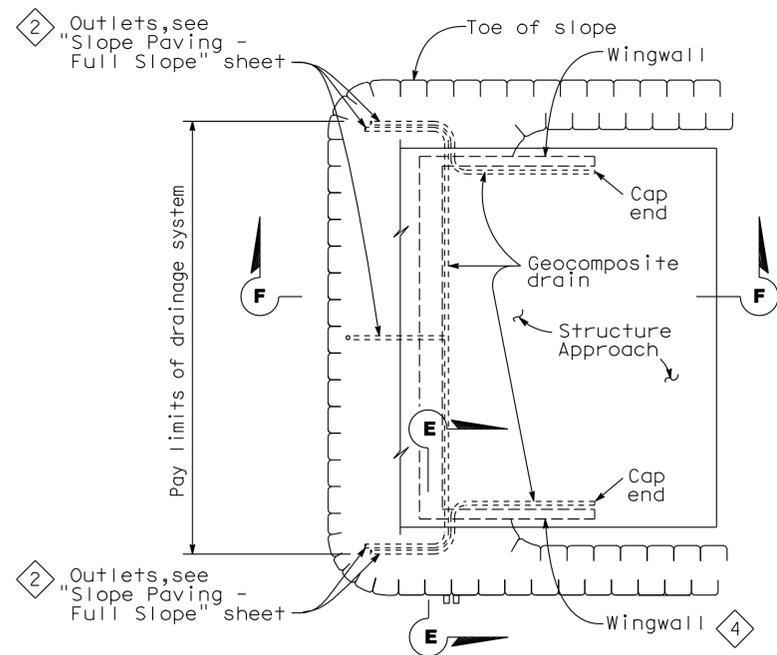
STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 29-0331  
 POST MILE 9.18  
**LATHROP ROAD OVERCROSSING**  
**STRUCTURE APPROACH TYPE EQ(10)**

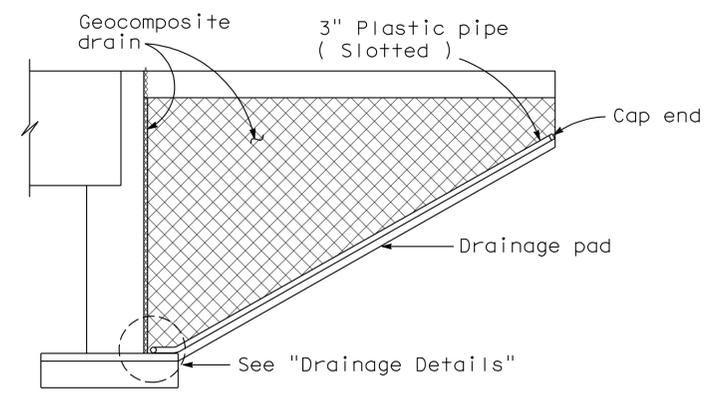
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	99	6.9/10.6	626	639

REGISTERED ENGINEER - CIVIL  
 TITUS KENG  
 No. 45226  
 Exp. 9-30-12  
 CIVIL  
 STATE OF CALIFORNIA

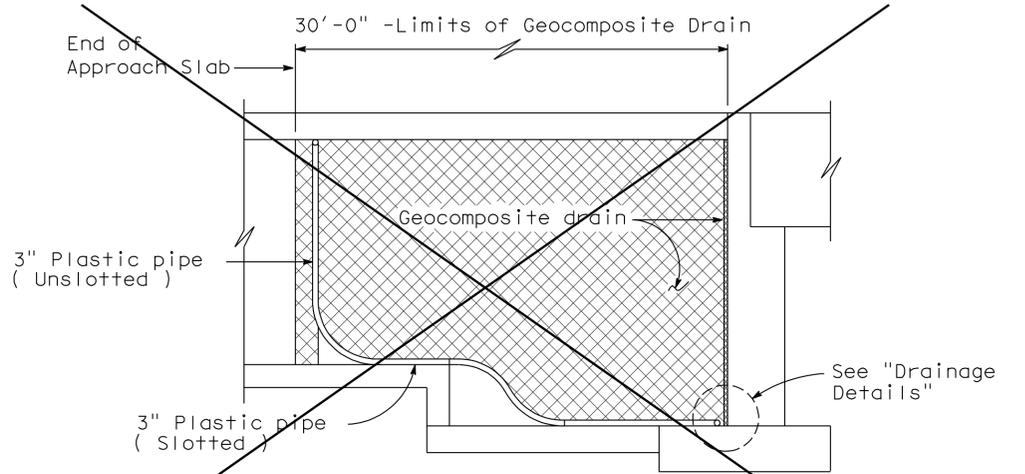
1-26-12  
 PLANS APPROVAL DATE  
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 SAN JOAQUIN COUNCIL OF GOVERNMENTS  
 555 E. WEBER AVE.  
 STOCKTON, CA 95202  
 HDR ENGINEERING, INC.  
 2365 IRON POINT ROAD, SUITE 300  
 FOLSOM, CA 95630



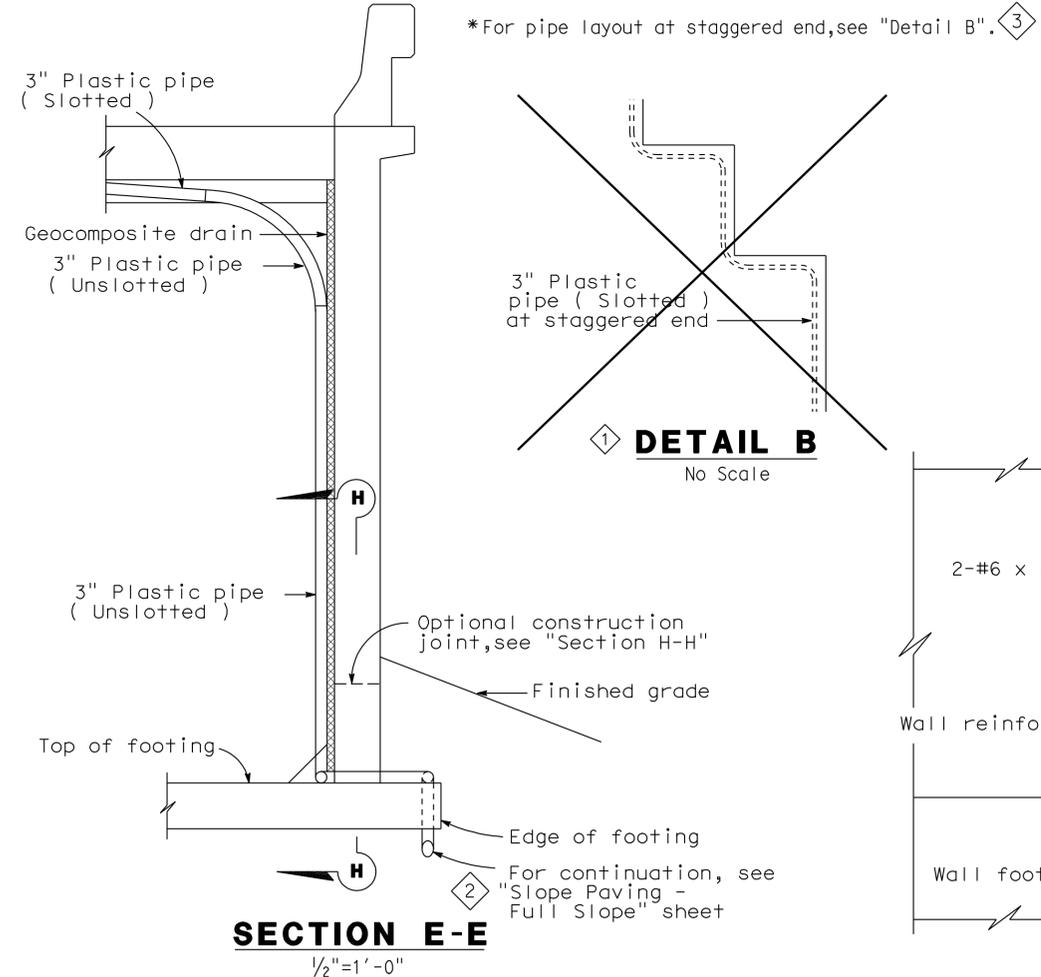
**TYPICAL PLAN**



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

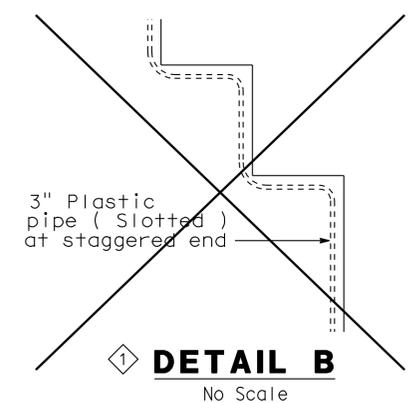


**RETAINING WALL WINGWALL SECTION G-G**  
1/4"=1'-0"

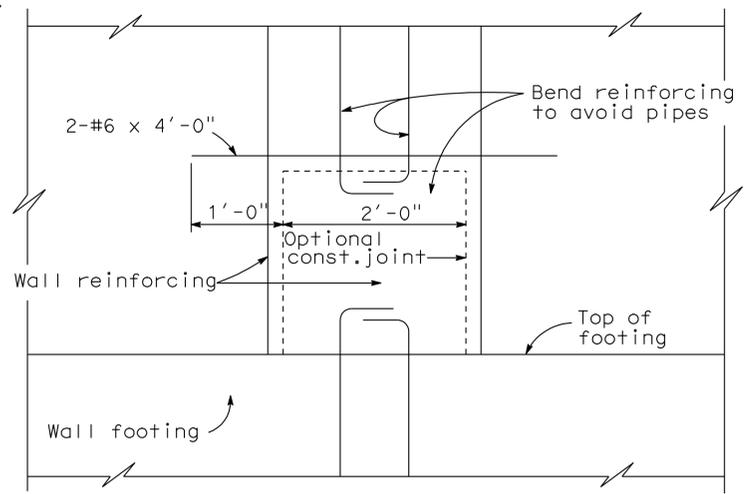


**SECTION E-E**  
1/2"=1'-0"

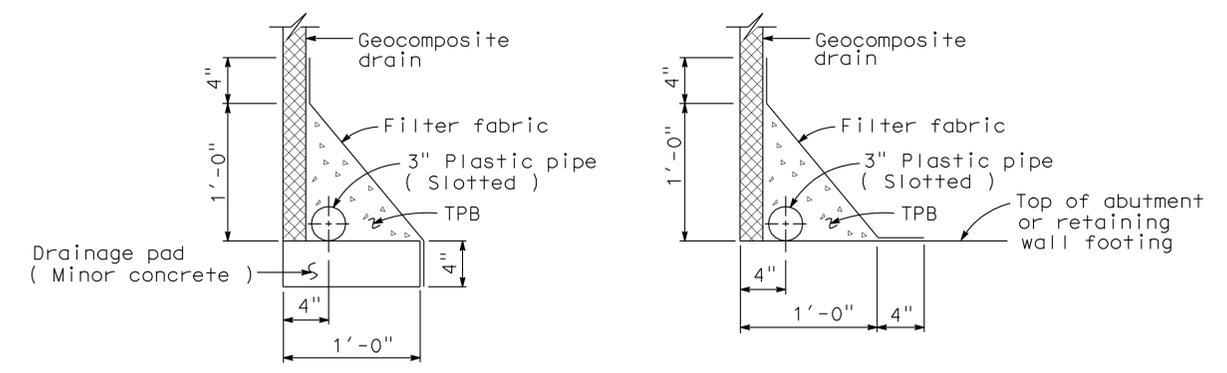
\*For pipe layout at staggered end, see "Detail B".



**DETAIL B**  
No Scale



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



**WITHOUT FOOTING**

**WITH FOOTING**

**DRAINAGE DETAILS**  
1/2"=1'-0"

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

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

- 1 DETAIL DELETED
- 2 OUTLET DETAIL MODIFIED
- 3 NOTE DELETED
- 4 RETAINING WALL DETAILS DELETED

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 29-0331
POST MILE 9.18

**LATHROP ROAD OVERCROSSING**  
**STRUCTURE APPROACH DRAINAGE DETAILS**

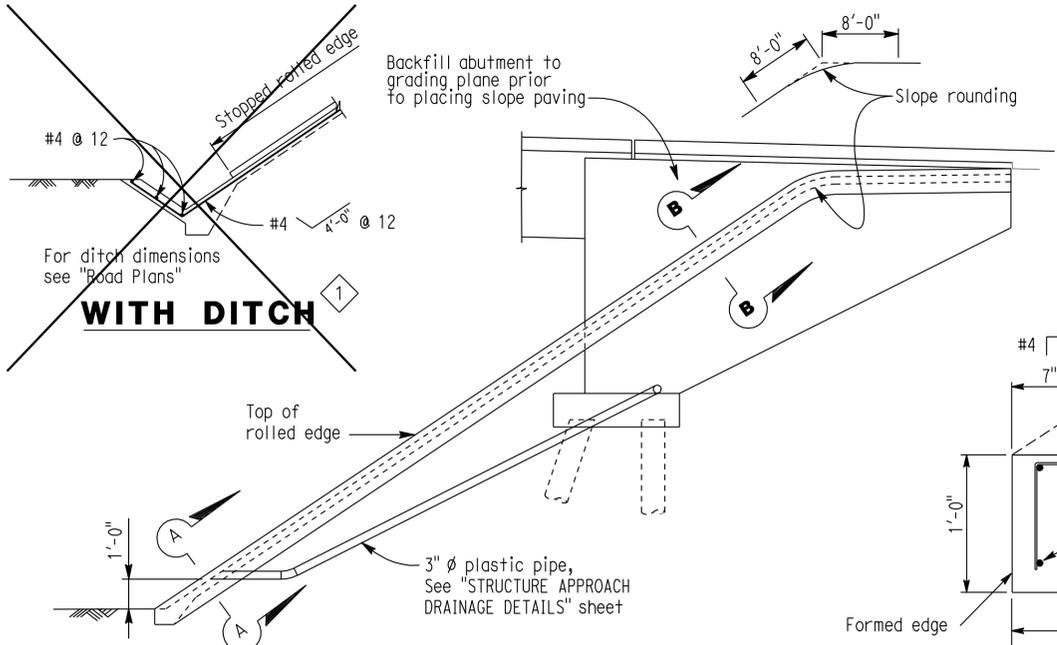
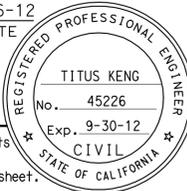
SAN JOAQUIN COUNCIL OF GOVERNMENTS  
 555 E. WEBER AVE.  
 STOCKTON, CA 95202  
 HDR ENGINEERING, INC.  
 2365 IRON POINT ROAD, SUITE 300  
 FOLSOM, CA 95630

DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	99	6.9/10.6		627	639

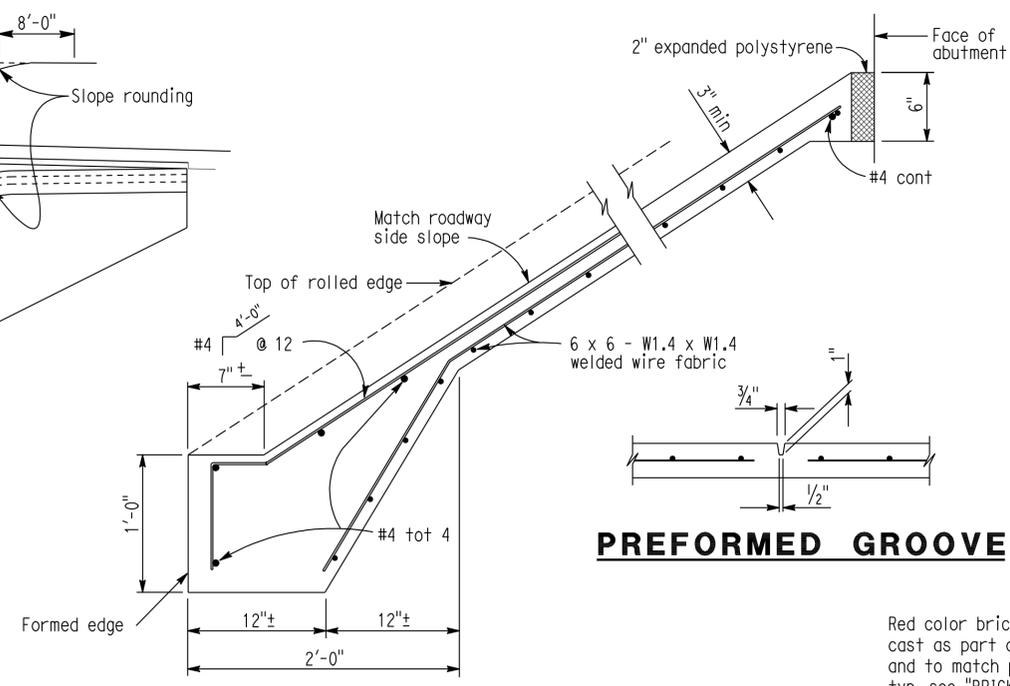
  

REGISTERED CIVIL ENGINEER		DATE
1-26-12		
6-11-12		PLANS APPROVAL DATE

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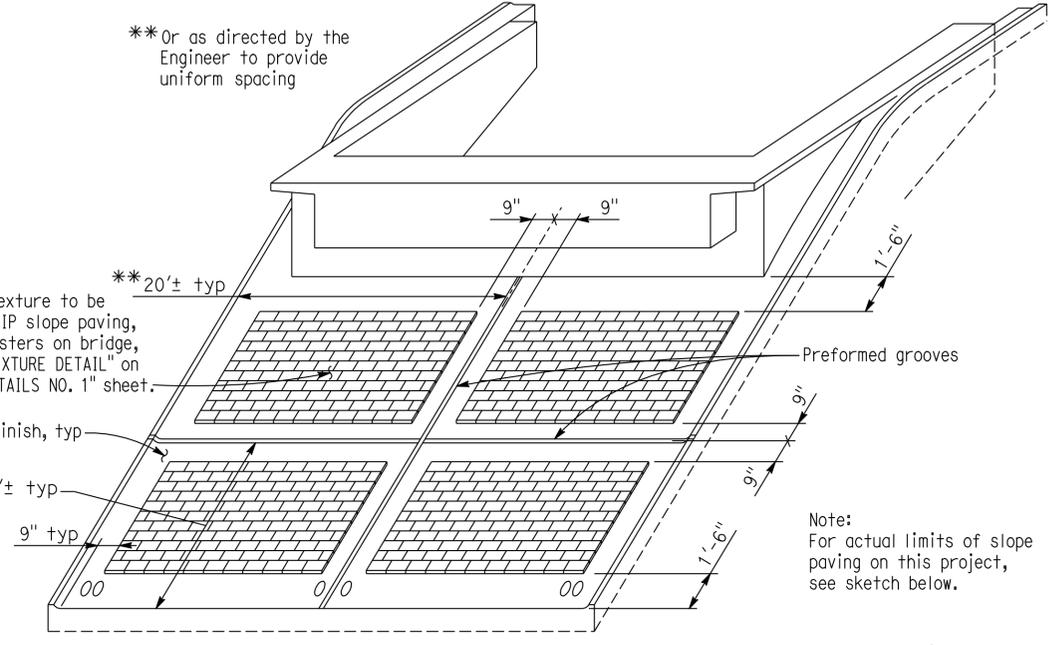


**WINGWALL ELEVATION**

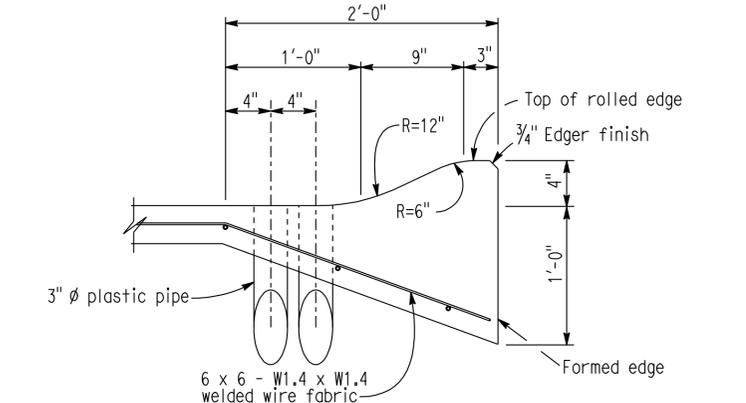


**PREFORMED GROOVE**

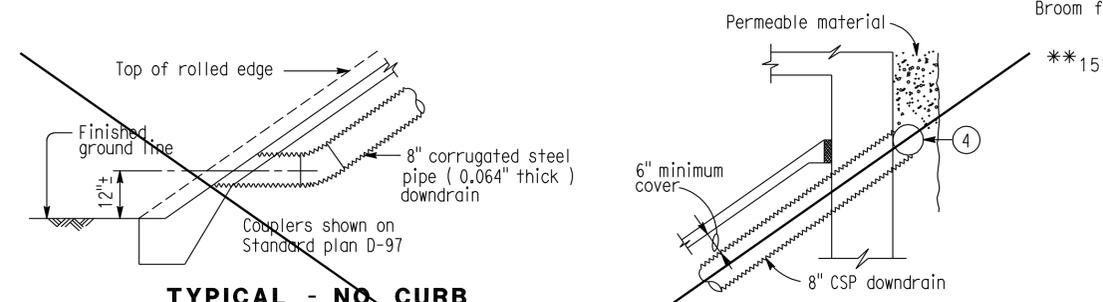
**TYPICAL SECTION - CONCRETE PAVING**



**PICTORIAL VIEW OF TYPICAL INSTALLATION**

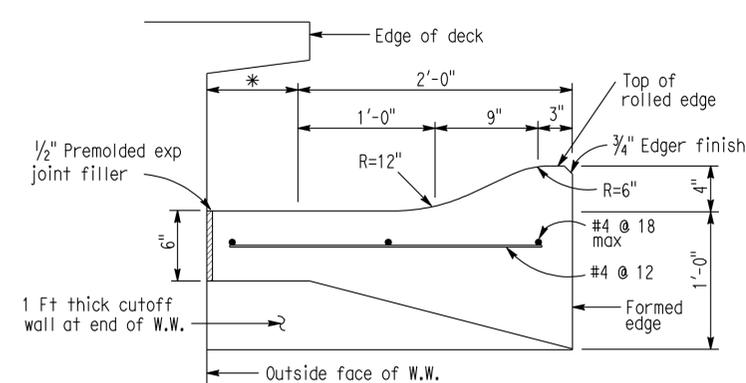


**SECTION A-A**

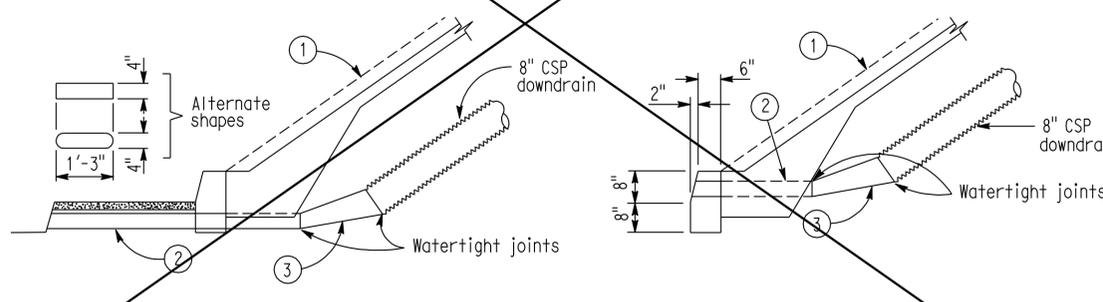


**TYPICAL - NO CURB**

**TYPICAL - DRAIN CONNECTION**



**SECTION B-B**



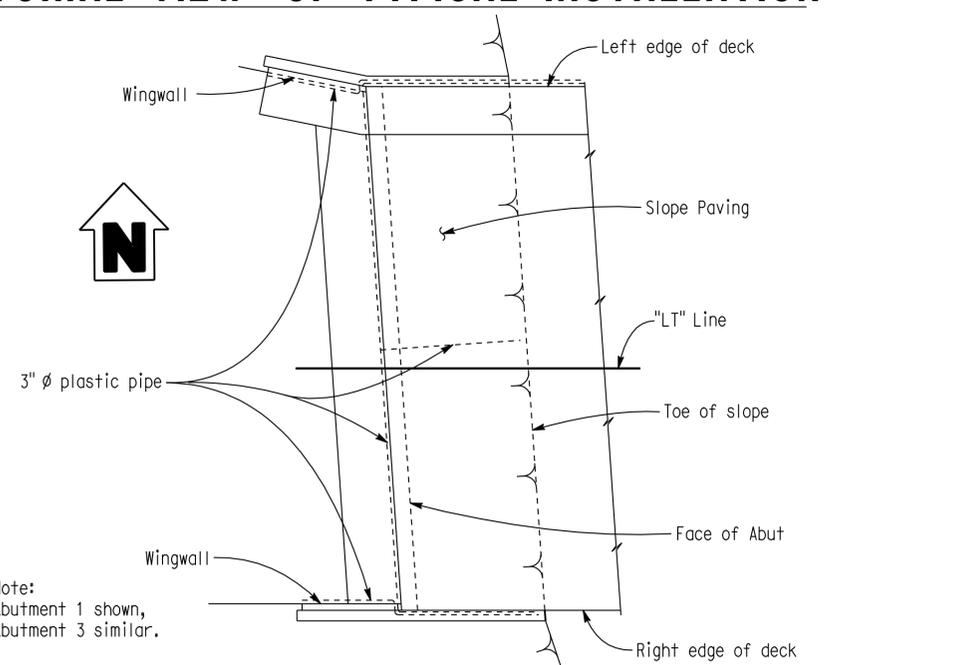
**TYPICAL - WITH SIDEWALK**

**TYPICAL - WITH CURB**

**1 DRAINAGE DETAILS**

Note: Drainage details are only applicable when indicated on detail sheets.

- 1 Top of rolled edge
- 2 Conduit: 0.064" galv corrugated steel or 0.109" smooth galv steel
- 3 Taper: 0.064" galv corrugated steel or 0.109" smooth galv steel
- 4 8" perforated steel pipe (0.064" thick) underdrain behind abutment. Connect to down drain as shown on limits of Slope Paving & Drainage layout.



**LIMITS OF SLOPE PAVING & DRAINAGE LAYOUT**

STANDARD DRAWING				RELEASED BY
RELEASE DATE	DESIGN	BY	CHECKED	Susan Hida
FILE NO. <b>xs4-210</b>	DETAILS	BY <b>D. Wooten</b>	CHECKED	OFFICE CHIEF
	SUBMITTED	BY <b>Dan Adams</b>	DRAWING DATE <b>6/07</b>	

- 1 DELETED DETAIL
- 2 REVISED DETAIL

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO.	29-0331
POST MILE	9.18

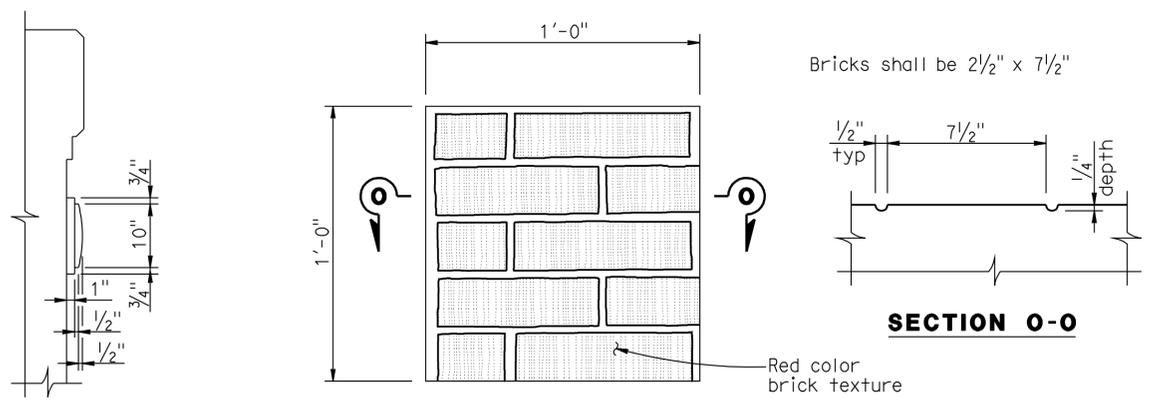
**LATHROP ROAD OVERCROSSING**

**SLOPE PAVING - FULL SLOPE**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	99	6.9/10.6	628	639
REGISTERED CIVIL ENGINEER			DATE	1-26-12	
6-11-12			PLANS APPROVAL DATE		
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.					
SAN JOAQUIN COUNCIL OF GOVERNMENTS 555 E. WEBER AVE. STOCKTON, CA 95202					
HDR ENGINEERING, INC. 2365 IRON POINT ROAD, SUITE 300 FOLSOM, CA 95630					

**NOTES:**

1. For concrete Barrier Type 26 (Mod) and Concrete Barrier Type 736 (Mod), see "ARCHITECTURAL DETAILS NO. 5" sheet.
2. Chain Link Railing Type 6 (Mod) is on Concrete Barrier Type 26 (Mod) & 26A (Mod) only.
3. Pilasters shall be vertical.
4. Deck extensions at pilasters shall be level transversely and parallel to edge of deck longitudinally.

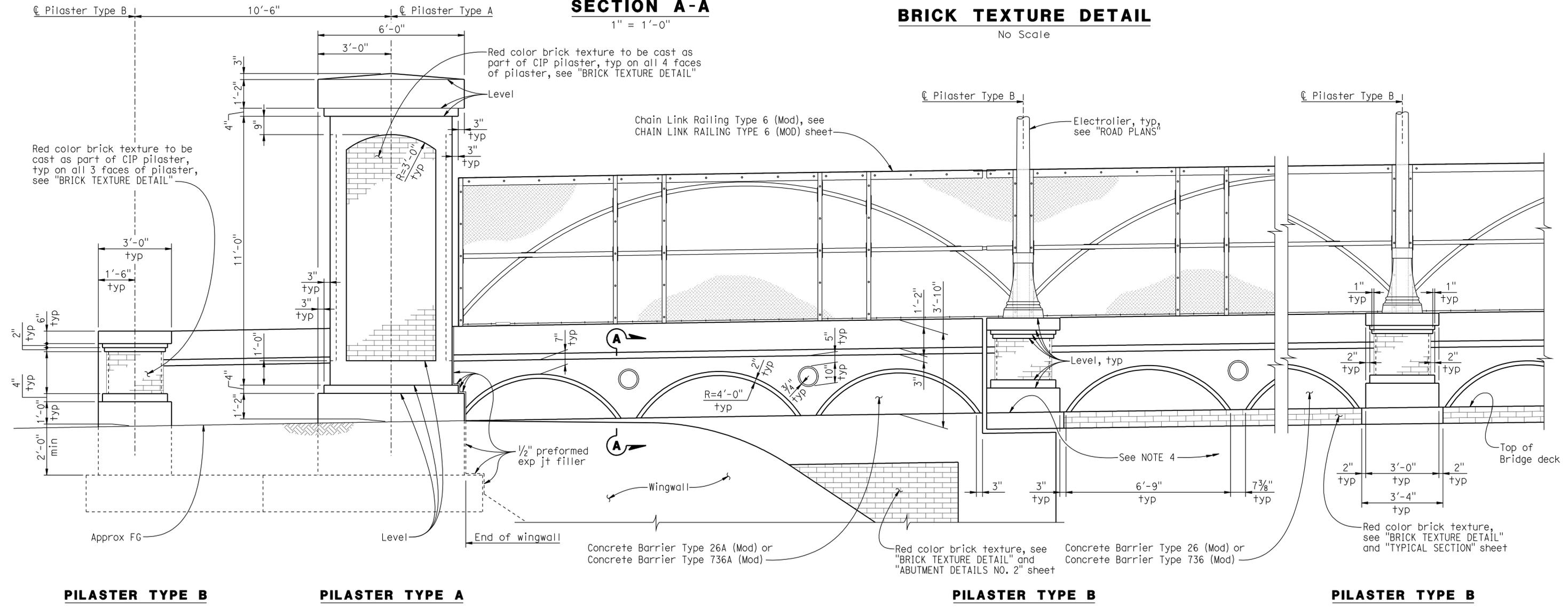


**SECTION A-A**

1" = 1'-0"

**BRICK TEXTURE DETAIL**

No Scale



**BARRIER ELEVATION**

1/2" = 1'-0"

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

DESIGN OVERSIGHT  
*Reza Erfanian*  
1/27/12  
SIGN OFF DATE

DESIGN	BY T KENG	CHECKED S PERVAIZ
DETAILS	BY J VOUGHT	CHECKED J MANISCALCO
QUANTITIES	BY T KENG	CHECKED E GAHAN

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
DEPARTMENT OF TRANSPORTATION

PROJECT ENGINEER  
JOHN A. KLEMUNES, JR.  
BRIDGE NO. 29-0331  
POST MILE 9.18

**LATHROP ROAD OVERCROSSING**  
**ARCHITECTURAL DETAILS NO. 1**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: 1455  
PROJECT NUMBER & PHASE: 10000204421

CONTRACT NO.: 10-0E6131

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
12-27-10 6-18-11 11-27-11 12-19-11	22	33

USERNAME => s124496 DATE PLOTTED => 12-JUN-2012 TIME PLOTTED => 10:15

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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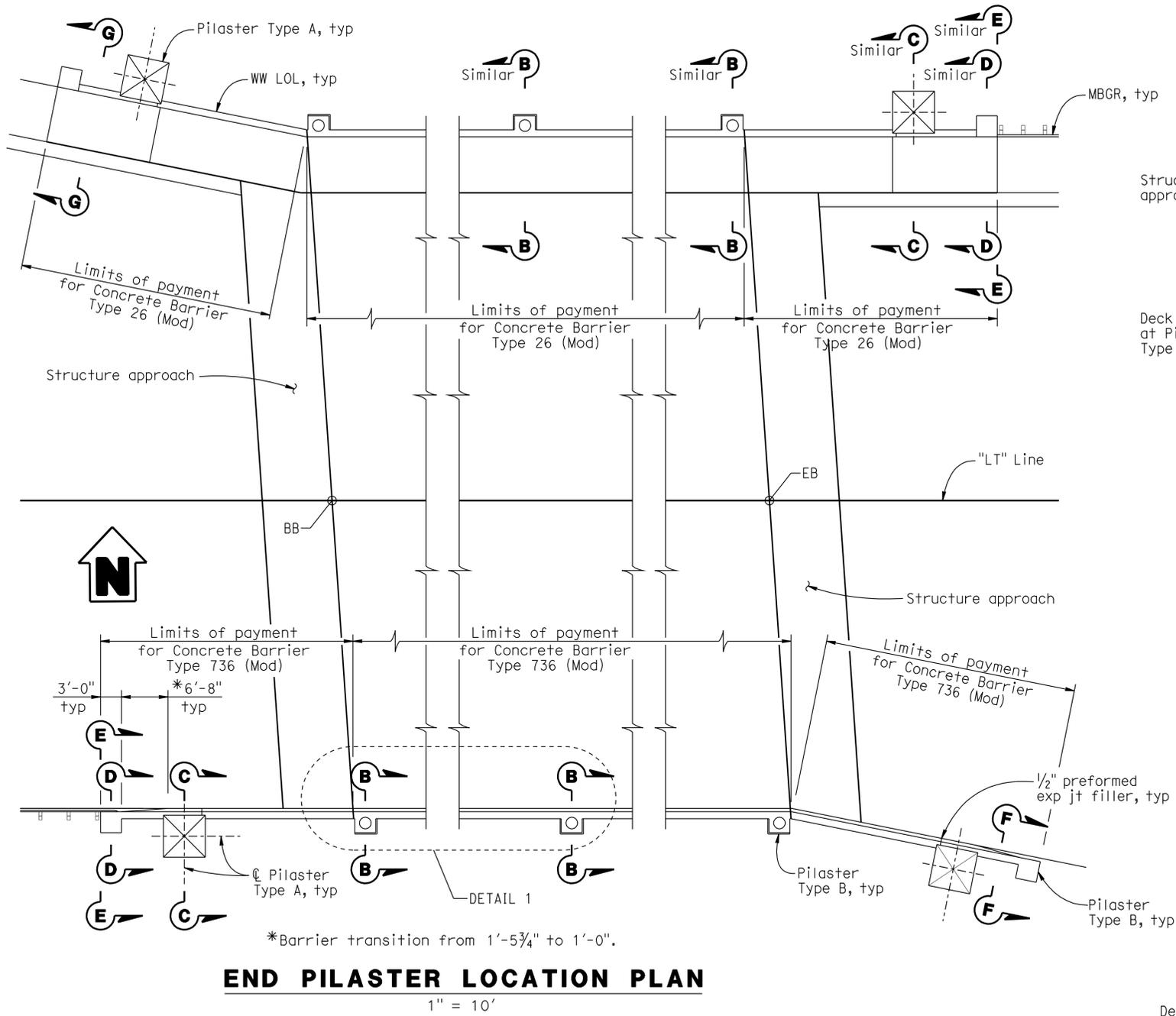
  

REGISTERED CIVIL ENGINEER	DATE	1-26-12
6-11-12	PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER  
 TITUS KENG  
 No. 45226  
 Exp. 9-30-12  
 CIVIL  
 STATE OF CALIFORNIA

SAN JOAQUIN COUNCIL OF GOVERNMENTS  
 555 E. WEBER AVE.  
 STOCKTON, CA 95202

HDR ENGINEERING, INC.  
 2365 IRON POINT ROAD, SUITE 300  
 FOLSOM, CA 95630



**END PILASTER LOCATION PLAN**  
1" = 10'

© PILASTER TYPE A STATION & OFFSET			
North Side		South Side	
Station	Offset Dist	Station	Offset Dist
123+35.72	60.20 Lt	123+41.41	47.98 Rt
126+63.20	55.50 Lt	126+68.89	52.67 Rt

- NOTES:**
- For additional notes and details, see "ARCHITECTURAL DETAILS NO. 1 & 3" sheets.
  - For Section C-C, see "ARCHITECTURAL DETAILS NO. 3" sheet. For Sections D-D thru G-G, see "ARCHITECTURAL DETAILS NO. 4" sheet.
  - For Pilaster Type B & electrolier locations, see "GIRDER LAYOUT" sheet.
  - For red color brick texture, see "BRICK TEXTURE DETAIL" on "ARCHITECTURAL DETAILS NO. 1" sheet.

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

Reza Erfanian  
 DESIGN OVERSIGHT  
 1/27/12  
 SIGN OFF DATE

DESIGN	BY T KENG	CHECKED S PERVAIZ
DETAILS	BY J VOUGHT	CHECKED J MANISCALCO
QUANTITIES	BY T KENG	CHECKED E GAHAN

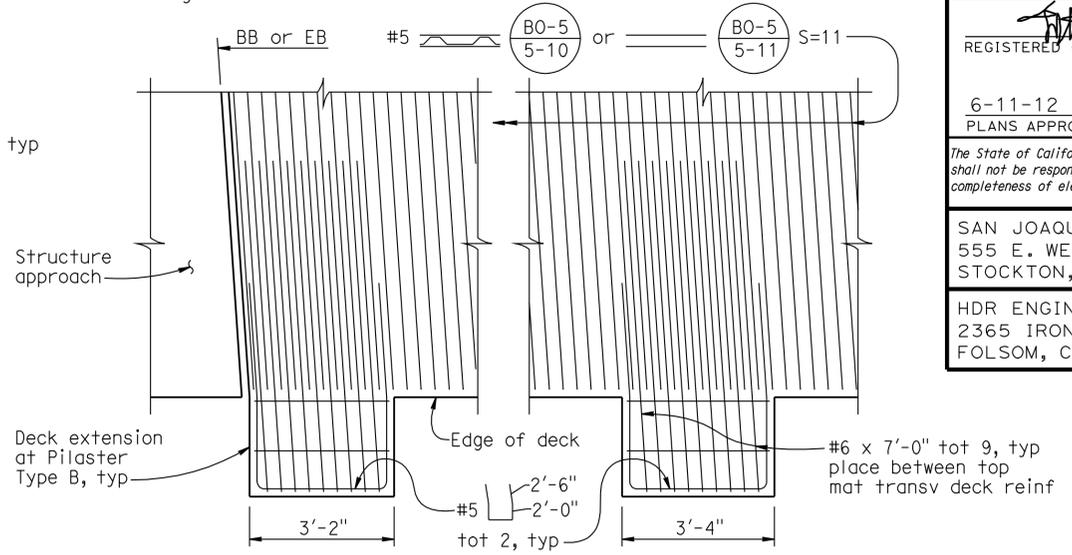
**PREPARED FOR THE  
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION**

JOHN A. KLEMUNES, JR.  
 PROJECT ENGINEER

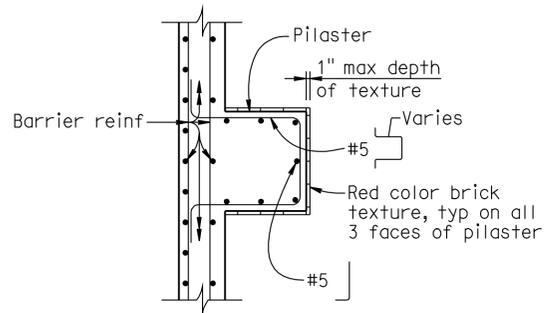
BRIDGE NO.	29-0331
POST MILE	9.18

**LATHROP ROAD OVERCROSSING  
ARCHITECTURAL DETAILS NO. 2**

Note: Longit deck reinf not shown.

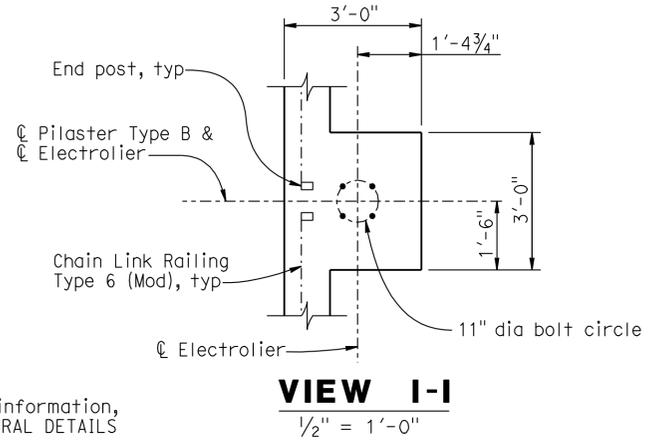


**DETAIL 1**  
1/2" = 1'-0"

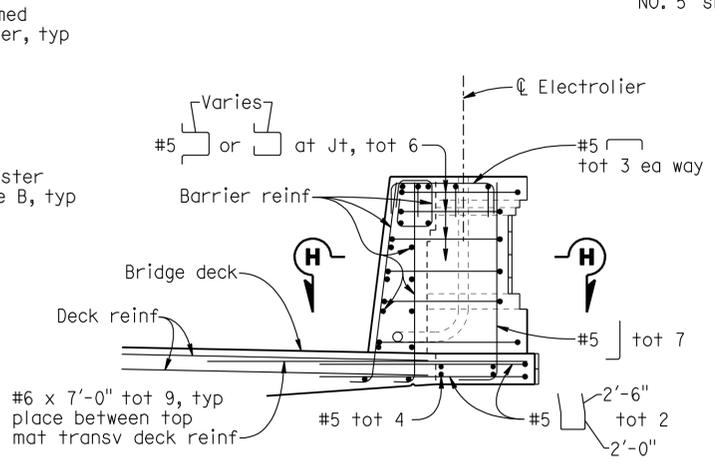


**SECTION H-H**  
1/2" = 1'-0"

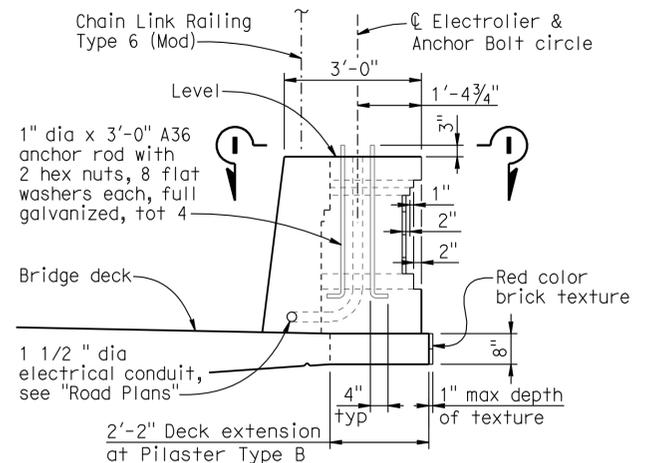
Note:  
For additional information, see "ARCHITECTURAL DETAILS NO. 5" sheet



**VIEW I-I**  
1/2" = 1'-0"



**WITH REINFORCEMENT**



**WITHOUT REINFORCEMENT**

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

Barrier Type 736 (Mod) shown, Barrier Type 26 (Mod) similar.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	99	6.9/10.6	630	639

REGISTERED CIVIL ENGINEER **Titus Keng** DATE 1-26-12

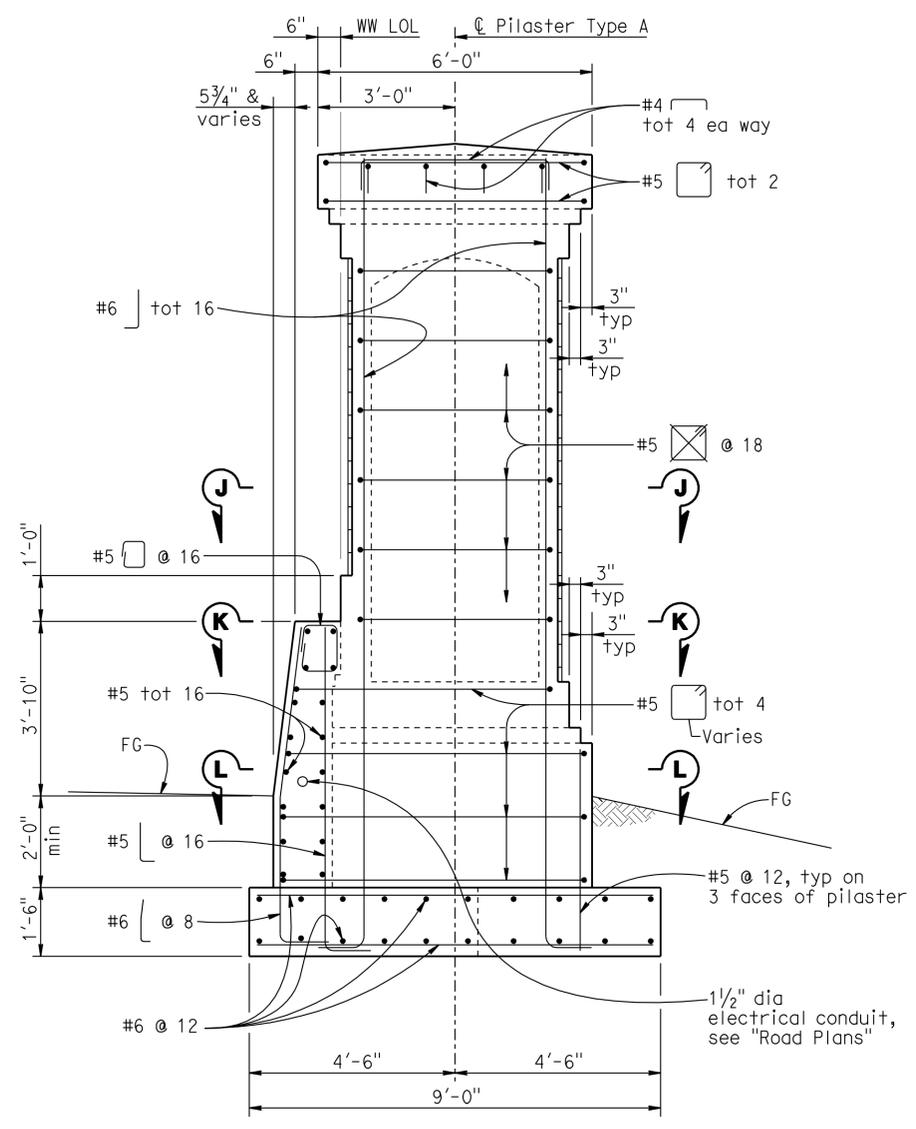
PLANS APPROVAL DATE 6-11-12

REGISTERED PROFESSIONAL ENGINEER  
TITUS KENG  
No. 45226  
Exp. 9-30-12  
CIVIL  
STATE OF CALIFORNIA

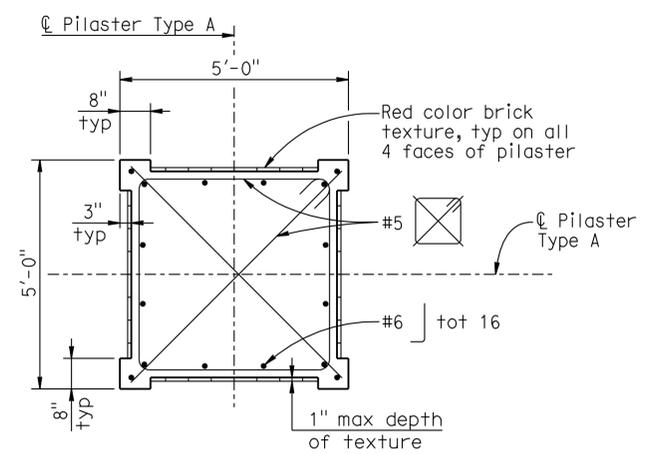
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SAN JOAQUIN COUNCIL OF GOVERNMENTS  
555 E. WEBER AVE.  
STOCKTON, CA 95202

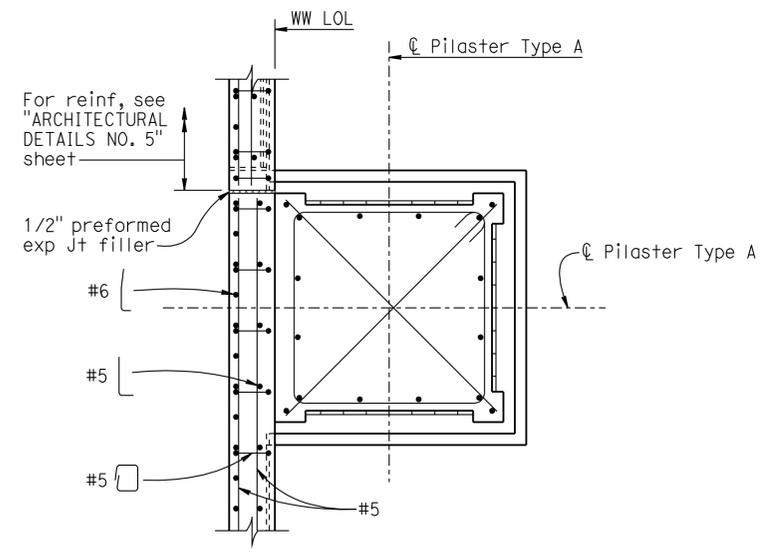
HDR ENGINEERING, INC.  
2365 IRON POINT ROAD, SUITE 300  
FOLSOM, CA 95630



**SECTION C-C**  
1/2" = 1'-0"  
Barrier Type 736 (Mod) shown,  
Barrier Type 26 (Mod) similar.

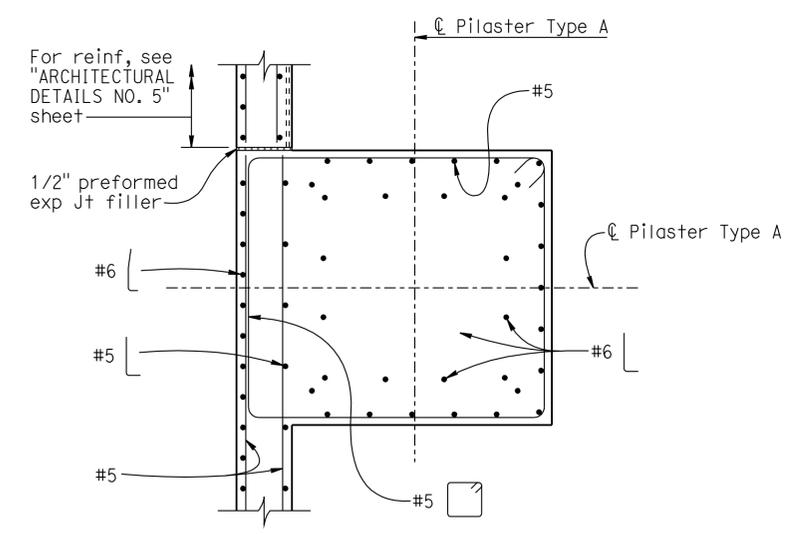


**SECTION J-J**  
1/2" = 1'-0"



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

Note: For additional information, see "SECTION J-J"



**SECTION L-L**  
1/2" = 1'-0"

NOTES:  
For red color brick texture, see "BRICK TEXTURE  
DETAIL" on "ARCHITECTURAL DETAILS NO. 1" sheet.

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

DESIGN OVERSIGHT  
**Reza Erfanian**  
1/27/12  
SIGN OFF DATE

DESIGN	BY T KENG	CHECKED S PERVAIZ
DETAILS	BY J VOUGHT	CHECKED J MANISCALCO
QUANTITIES	BY T KENG	CHECKED E GAHAN

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
DEPARTMENT OF TRANSPORTATION

PROJECT ENGINEER  
**JOHN A. KLEMUNES, JR.**

BRIDGE NO.	29-0331
POST MILE	9.18

**LATHROP ROAD OVERCROSSING**  
**ARCHITECTURAL DETAILS NO. 3**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: PROJECT NUMBER & PHASE: 1455 10000204421

CONTRACT NO.: 10-0E6131

REVISION DATES	SHEET	OF
12-27-10 6-18-11 11-17-11 12-19-11	24	33

FILE => 29-0331-u-miscdt03.dgn

USERNAME => s124496 DATE PLOTTED => 12-JUN-2012 TIME PLOTTED => 10:15

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	99	6.9/10.6	631	639

REGISTERED CIVIL ENGINEER DATE 1-26-12

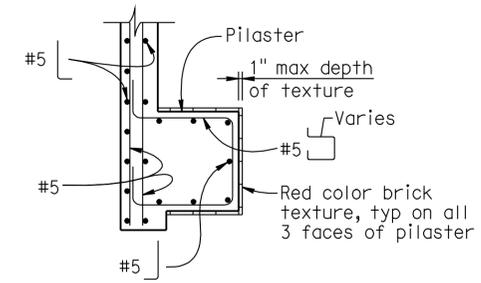
6-11-12 PLANS APPROVAL DATE

TITUS KENG  
No. 45226  
Exp. 9-30-12  
CIVIL  
STATE OF CALIFORNIA

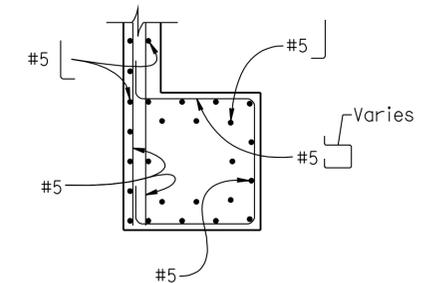
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

SAN JOAQUIN COUNCIL OF GOVERNMENTS  
555 E. WEBER AVE.  
STOCKTON, CA 95202

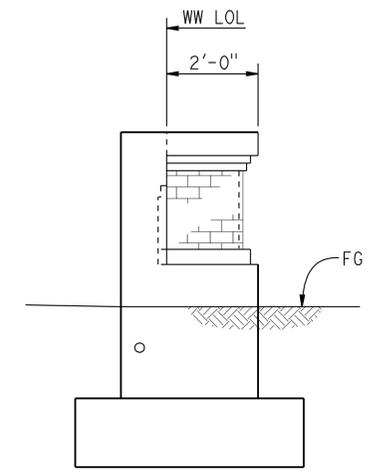
HDR ENGINEERING, INC.  
2365 IRON POINT ROAD, SUITE 300  
FOLSOM, CA 95630



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

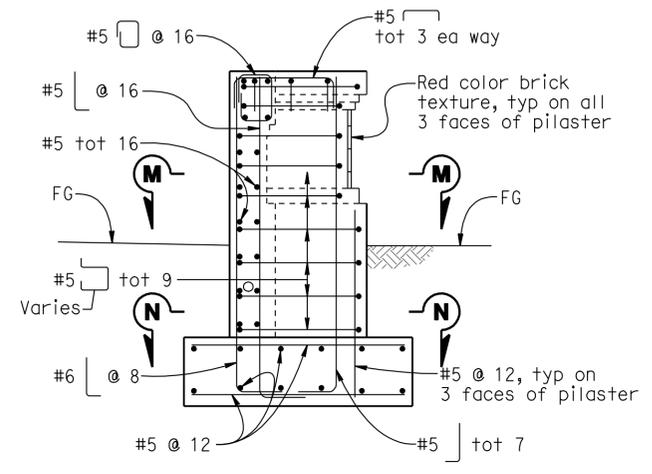


**SECTION N-N**  
1/2" = 1'-0"

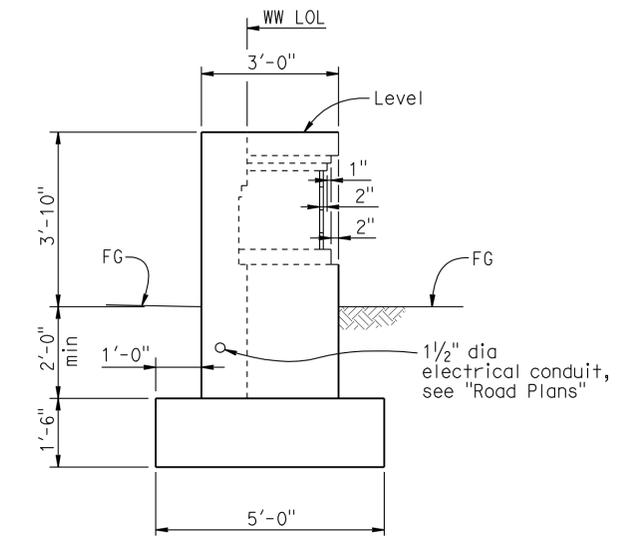


**VIEW E-E**  
1/2" = 1'-0"

Note: For additional information, see "SECTION D-D"



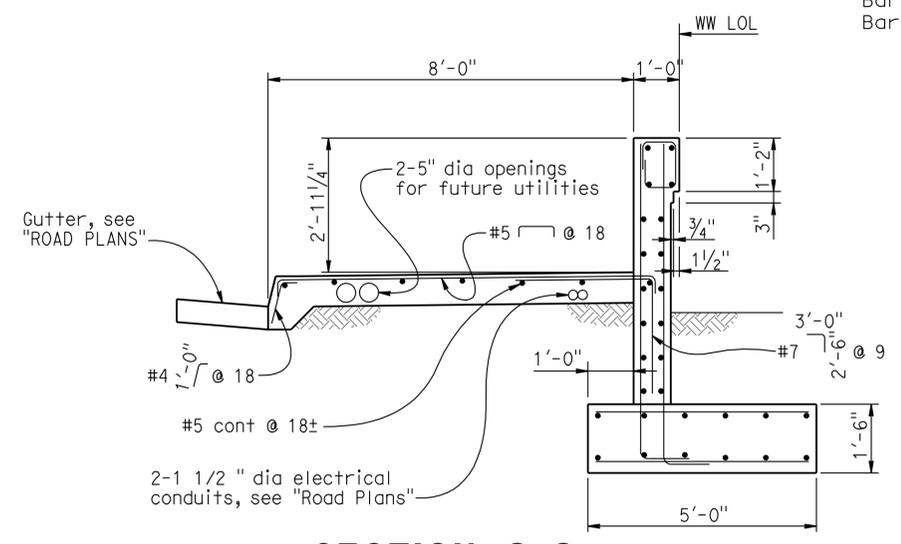
**WITH REINFORCEMENT**



**WITHOUT REINFORCEMENT**

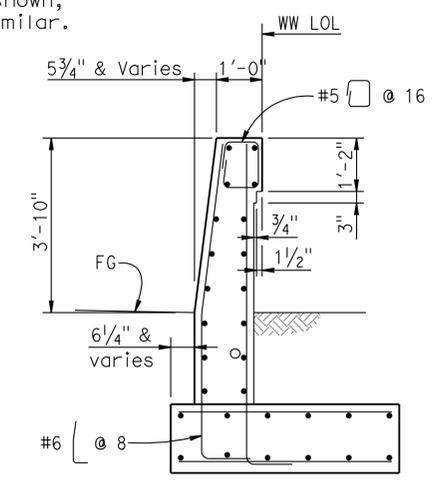
**SECTION D-D**  
1/2" = 1'-0"

Barrier Type 736 (Mod) shown,  
Barrier Type 26 (Mod) similar.



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

Note: For additional information, see "SECTION D-D"



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

Note: For additional information, see "SECTION D-D"

NOTES:  
For red color brick texture, see "BRICK TEXTURE  
DETAIL" on "ARCHITECTURAL DETAILS NO. 1" sheet.

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

DESIGN OVERSIGHT  
Reza Erfanian  
1/27/12  
SIGN OFF DATE

DESIGN	BY T KENG	CHECKED S PERVAIZ
DETAILS	BY J VOUGHT	CHECKED J MANISCALCO
QUANTITIES	BY T KENG	CHECKED E GAHAN

PREPARED FOR THE  
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

BRIDGE NO.	29-0331
PROJECT ENGINEER	JOHN A. KLEMUNES, JR.
POST MILE	9.18

**LATHROP ROAD OVERCROSSING**  
**ARCHITECTURAL DETAILS NO. 4**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES  
FOR REDUCED PLANS



UNIT: PROJECT NUMBER & PHASE: 1455 10000204421

CONTRACT NO.: 10-0E6131

DISREGARD PRINTS BEARING  
EARLIER REVISION DATES

REVISION DATES	SHEET	OF
12-27-10 6-18-11 11-7-11 12-19-11	25	33

USERNAME => s124496 DATE PLOTTED => 12-JUN-2012 TIME PLOTTED => 10:15

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	99	6.9/10.6	632	639

REGISTERED CIVIL ENGINEER DATE 1-26-12

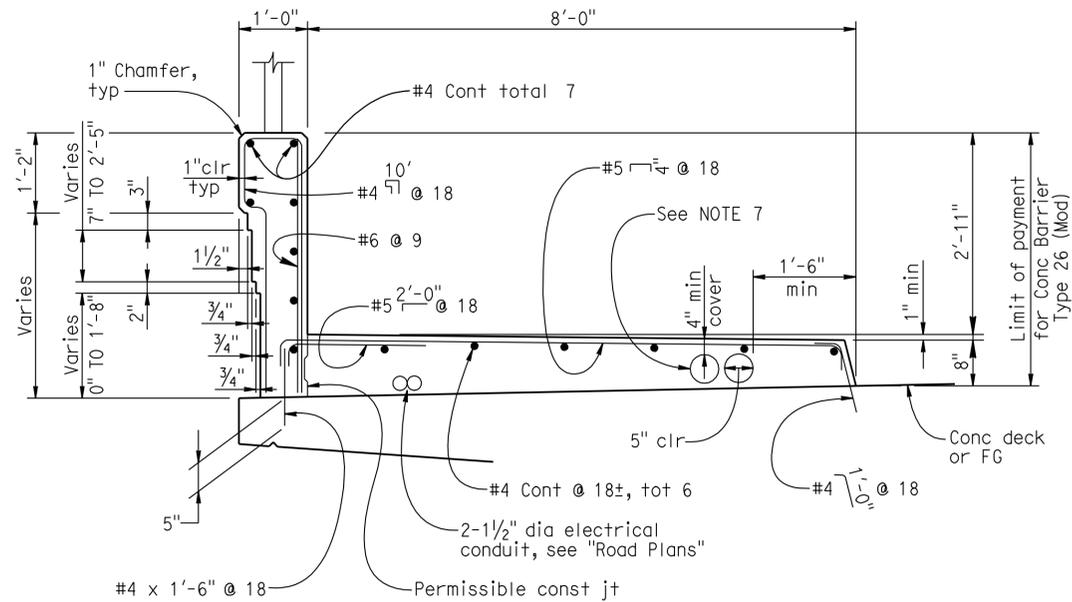
6-11-12 PLANS APPROVAL DATE

TITUS KENG  
No. 45226  
Exp. 9-30-12  
CIVIL  
STATE OF CALIFORNIA

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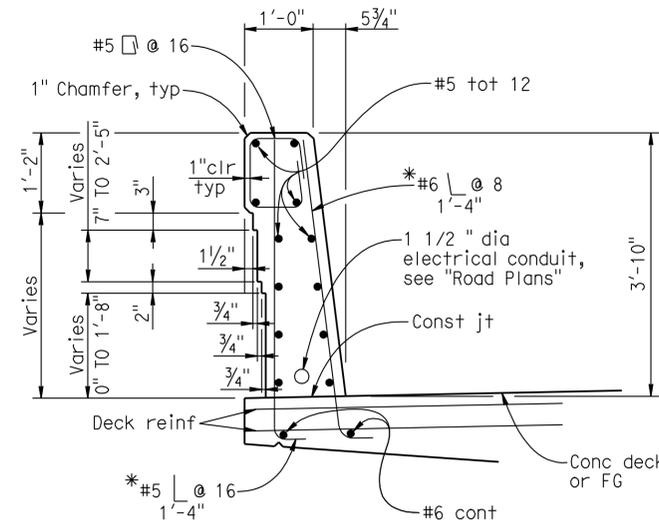
SAN JOAQUIN COUNCIL OF GOVERNMENTS  
555 E. WEBER AVE.  
STOCKTON, CA 95202

HDR ENGINEERING, INC.  
2365 IRON POINT ROAD, SUITE 300  
FOLSOM, CA 95630



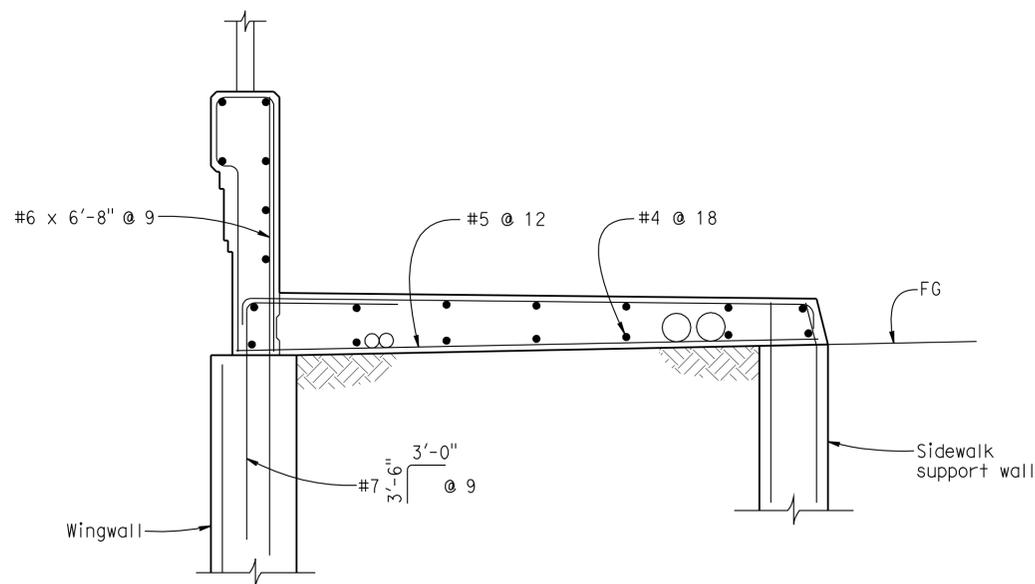
**CONCRETE BARRIER TYPE 26 (MOD)**

3/4" = 1'-0"



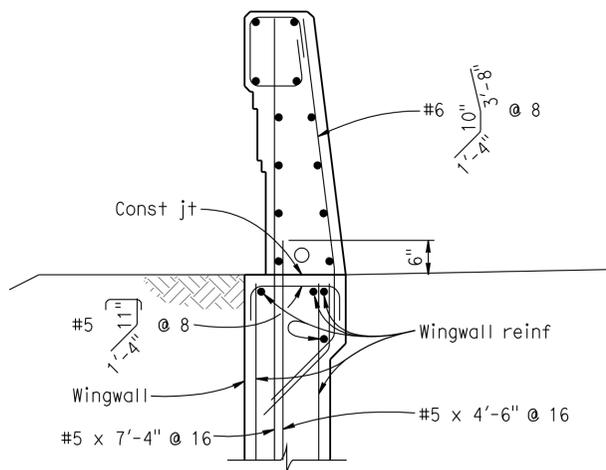
**CONCRETE BARRIER TYPE 736 (MOD)**

3/4" = 1'-0"



**CONCRETE BARRIER TYPE 26A (MOD)**

3/4" = 1'-0"



**CONCRETE BARRIER TYPE 736A (MOD)**

3/4" = 1'-0"

**NOTES:**

- For additional information, see **B11-54** and **B11-56**.
- For Chain Link Railing details, see "CHAIN LINK RAILING TYPE 6 (MOD)" sheet.
- Wingwalls are to be backfilled before railing is placed.
- Clearance to reinforcing steel in curb and railing to be 1" except as noted. Longitudinal reinforcement to stop at all expansion joints.
- See "GIRDER LAYOUT" sheet for electrolier locations.
- For electrical details, see "ROAD PLANS".
- Two - 5"Ø openings for future utilities. Openings are to be sealed at ends and extended 8" minimum past end of sidewalk if not used. Duct forms are to be tied down.

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

DESIGN OVERSIGHT  
Reza Erfanian  
1/27/12  
SIGN OFF DATE

DESIGN	BY T KENG	CHECKED S PERVAIZ
DETAILS	BY J VOUGHT	CHECKED J MANISCALCO
QUANTITIES	BY T KENG	CHECKED E GAHAN

PREPARED FOR THE  
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

JOHN A. KLEMUNES, JR.  
PROJECT ENGINEER

BRIDGE NO.	29-0331
POST MILE	9.18

**LATHROP ROAD OVERCROSSING  
ARCHITECTURAL DETAILS NO. 5**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES  
FOR REDUCED PLANS



UNIT: 1455  
PROJECT NUMBER & PHASE: 10000204421

CONTRACT NO.: 10-0E6131

DISREGARD PRINTS BEARING  
EARLIER REVISION DATES

REVISION DATES	SHEET	OF
12-27-10 6-18-11 11-7-11 12-19-11	26	33

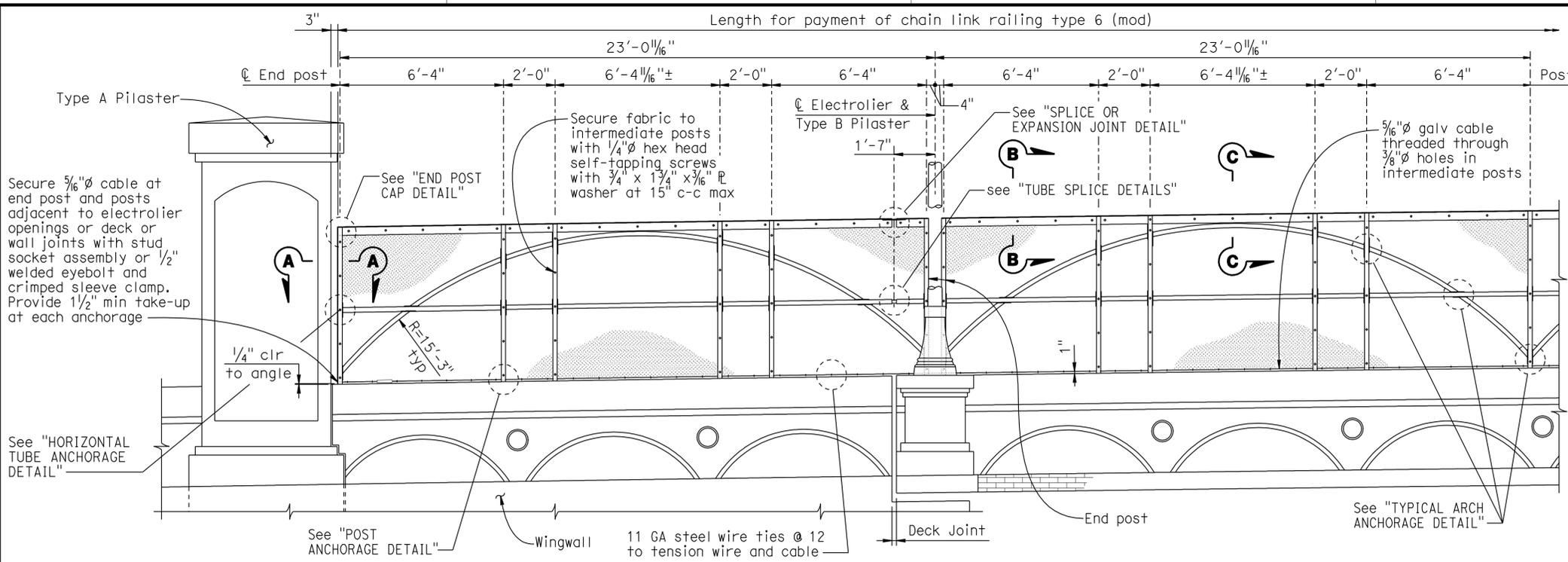


DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	99	6.9/10.6	634	639

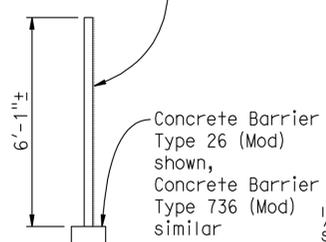
REGISTERED CIVIL ENGINEER  
 DATE 1-26-12  
 TITUS KENG  
 No. 45226  
 Exp. 9-30-12  
 CIVIL  
 STATE OF CALIFORNIA

SAN JOAQUIN COUNCIL OF GOVERNMENTS  
 555 E. WEBER AVE.  
 STOCKTON, CA 95202

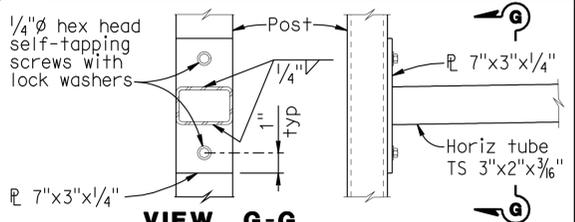
HDR ENGINEERING, INC.  
 2365 IRON POINT ROAD, SUITE 300  
 FOLSOM, CA 95630



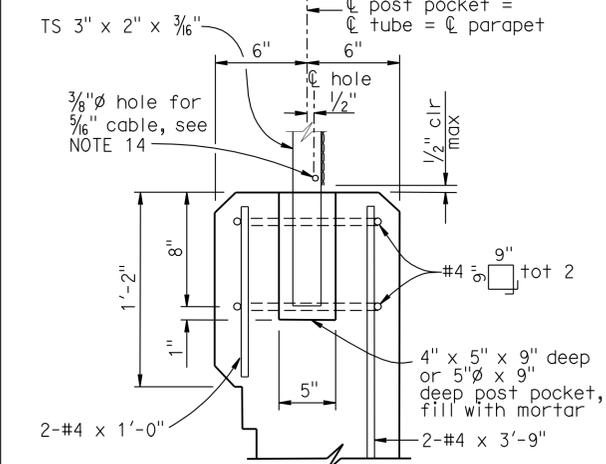
Chain link railing type 6 (Mod)



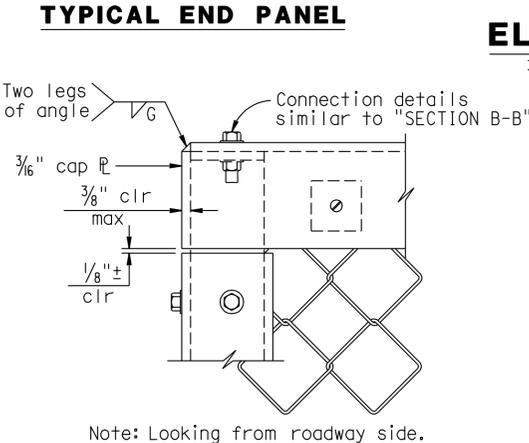
**TYPICAL SECTION**  
No Scale



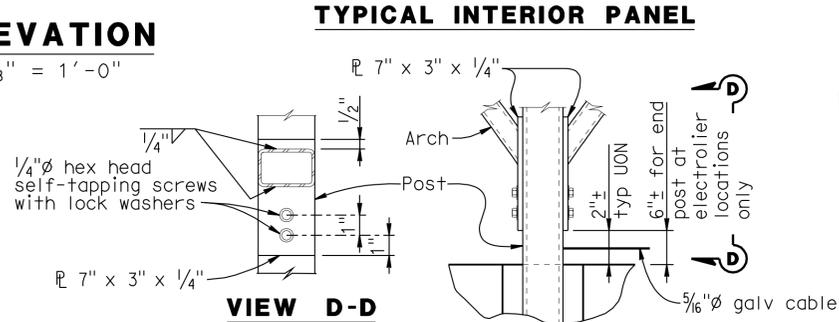
**VIEW G-G HORIZONTAL TUBE ANCHORAGE DETAIL**  
No Scale



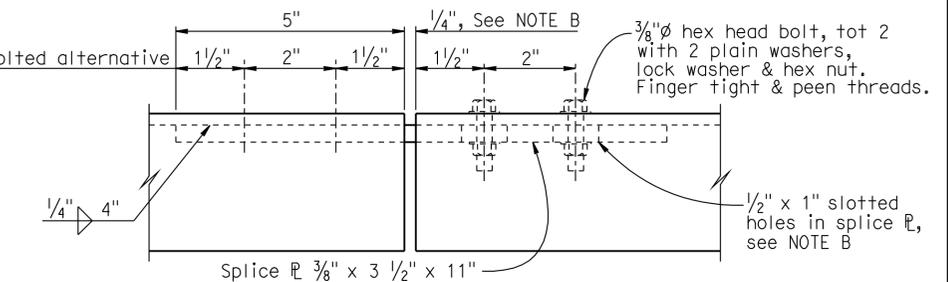
**POST ANCHORAGE DETAIL**  
No Scale



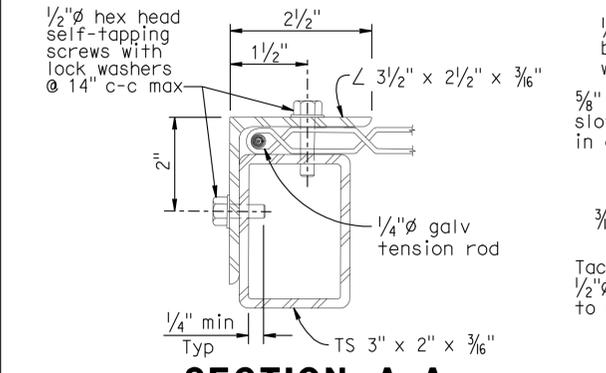
**END POST CAP DETAIL**  
No Scale



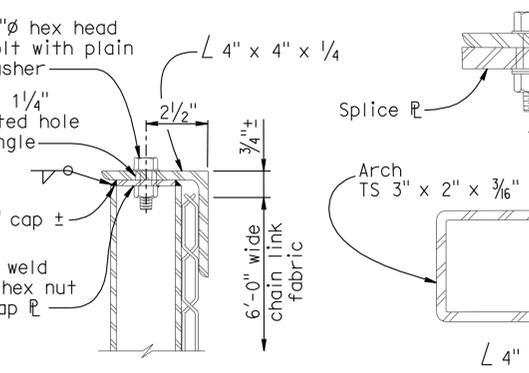
**TYPICAL ARCH ANCHORAGE DETAIL**  
No Scale



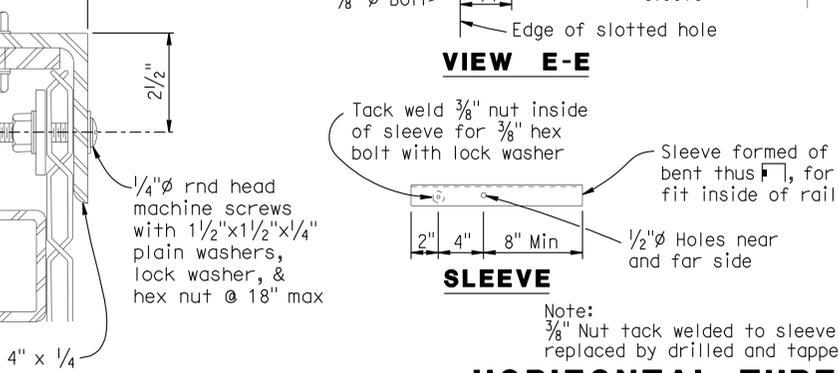
**SPLICE OR EXPANSION JOINT DETAIL**  
No Scale



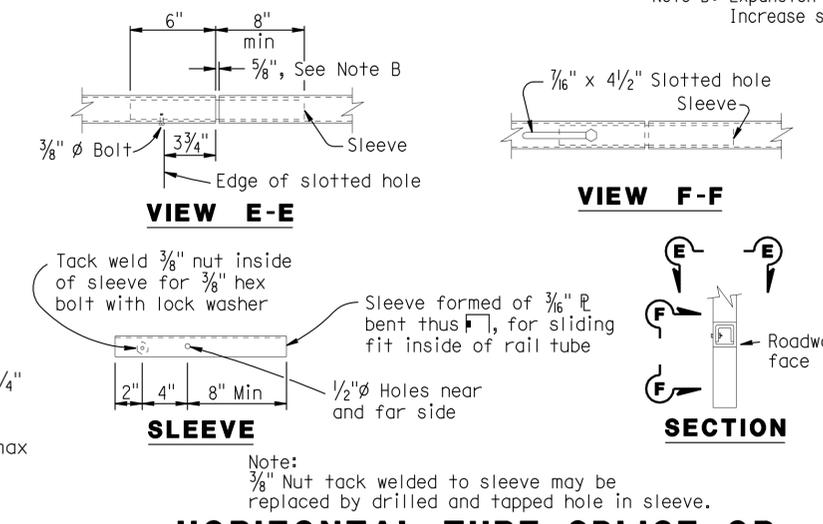
**SECTION A-A**  
No Scale



**SECTION B-B**  
No Scale



**SECTION C-C**  
No Scale



**HORIZONTAL TUBE SPLICE OR EXPANSION JOINT DETAILS**  
No Scale

- Notes:
- Horizontal angle shall be continuous over not less than two intermediate posts.
  - Straight posts shall be installed vertical.
  - Top horizontal angle shall be parallel to bridge profile grade and shall be shop bent to fit horizontal angles.
  - When railing is on slope, fabric shall be placed parallel to slope.
  - Alternative details may be submitted by Contractor for Engineer's approval.
  - Railing assembly, except chain link fabric, shall be galvanized and coated with black powder coating after fabrication.
  - For details and reinforcement not shown, see "ARCHITECTURAL DETAILS NO. 5" sheet.
  - See Bridge Plans for limits of Chain Link Railing Type 6 (Mod).
  - Provide thimbles at all cable loops.
  - Chain link fabric to be 6'-0" wide with 1" mesh and with knuckled selvage top and bottom.
  - Chain link fabric shall be continuous at expansion joints
  - Splices in top horizontal angle and horizontal tube shall be at  $\phi$  arch panels.
  - One expansion joint shall be placed in the end panel at each end of the bridge.
  - Holes in posts for  $\frac{5}{16}$ " cable and its anchorage may be field drilled and painted with zinc rich paint.

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

DESIGN OVERSIGHT  
 Reza Erfanian  
 1/27/12  
 SIGN OFF DATE

DESIGN	BY T KENG	CHECKED S PERVAIZ
DETAILS	BY J VOUGHT	CHECKED J MANISCALCO
QUANTITIES	BY T KENG	CHECKED E GAHAN

PREPARED FOR THE  
 STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
 JOHN A. KLEMUNES, JR.  
 PROJECT ENGINEER

BRIDGE NO.	29-0331
POST MILE	9.18

**LATHROP ROAD OVERCROSSING**  
**CHAIN LINK RAILING TYPE 6 (MOD)**

DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: PROJECT NUMBER & PHASE: 1455 10000204421

CONTRACT NO.: 10-0E6131

DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 28	OF 33
	12-22-10 6-18-11 11-17-11 12-19-11		

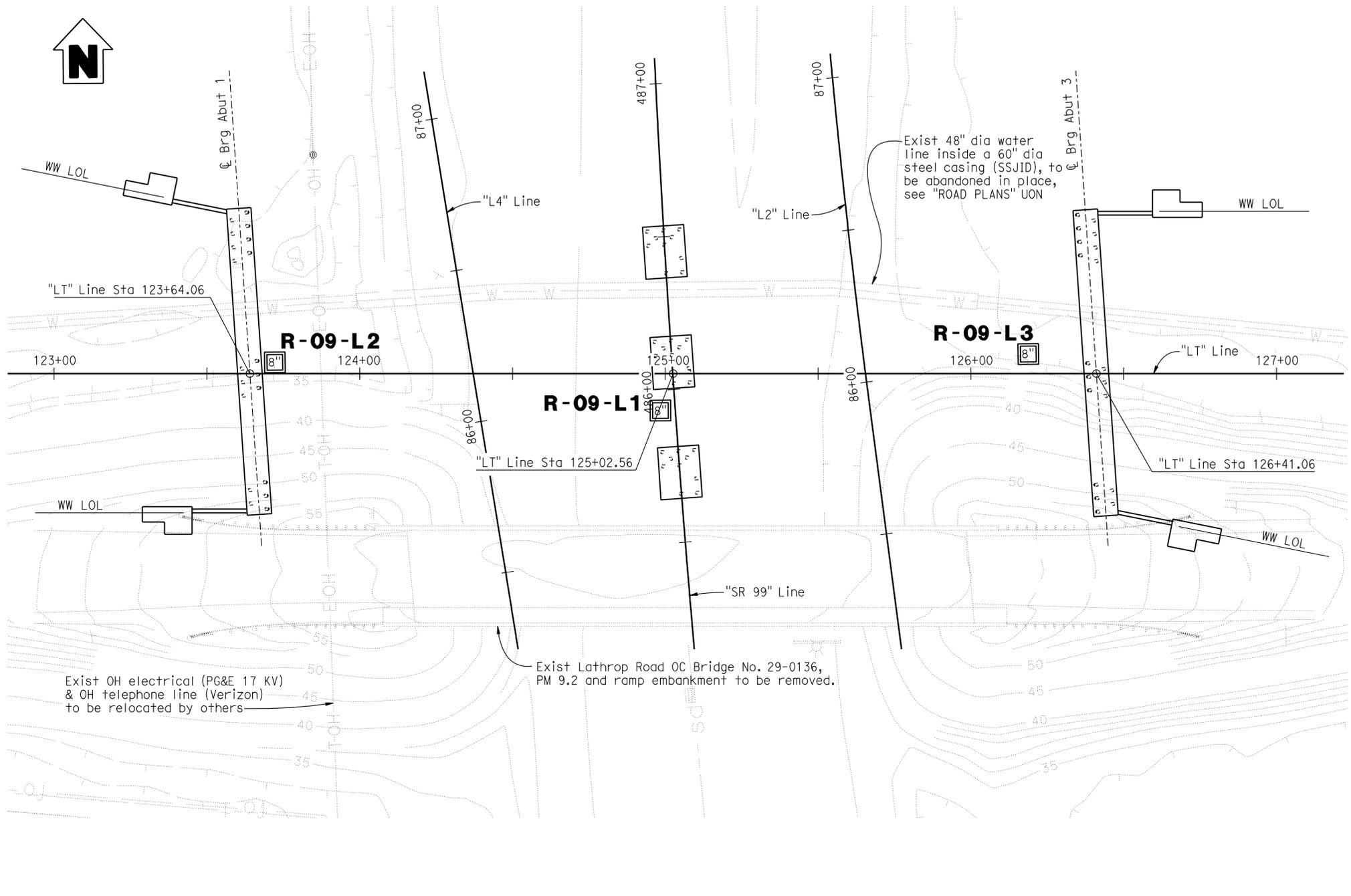
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USERNAME => s124496 DATE PLOTTED => 12-JUN-2012 TIME PLOTTED => 10:15

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	99	6.9/10.6	635	639

**David J. Morrell**  
 REGISTERED CIVIL ENGINEER  
 DATE: 1-26-12  
 PLANS APPROVAL DATE: 6-11-12  
 No. 60578  
 Exp. 12-31-12  
 CIVIL  
 STATE OF CALIFORNIA

SAN JOAQUIN COUNCIL OF GOVERNMENTS  
 555 E. WEBER AVE.  
 STOCKTON, CA 95202  
 BLACKBURN CONSULTING  
 2491 BOATMAN AVENUE  
 WEST SACRAMENTO, CA 95691 FILE No. 1201.7d



**PLAN**  
1" = 20'

**NOTES:**

- Field classification of soils was in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (June 2007). See Log of Test Borings 3 and 4, "Soil Legend".
- Standard Penetration tests were performed in accordance with ASTM D 1586-99 using a hammer operated with an automated drop system. Drill rods were 1 5/8-inch diameter "A"-rods; sampler was driven with brass liners.
- "2.4 inch sampler": ID=2.4 inch, OD=2.9 inch. Driven in same manner as SPT ("1.4 inch") sampler.
- Where less than the 0.5 inches of penetration is achieved, the blow count shown is for that fraction of the interval actually penetrated.
- If laboratory tests are not shown as being performed, the soil descriptions presented in the LOTB are based solely on the visual practices described in the before mentioned Manual.
- The length of each sampled interval is shown graphically on the boring log.
- Consistency of soils shown in ( ) where estimated.
- Groundwater surface (GWS) reflect the fluid level in the borings on the specified date. Groundwater surface is subject to seasonal fluctuations and may occur at higher or lower elevations depending on the conditions at any particular time.
- Electronic media for plan view provided by HDR Engineering, March 2011.
- Boring elevations are approximate and based on "Alternate 4, Planning Study" plans dated 1/23/09 provided by HDR Engineering, Inc.
- The "Log of Test Borings" drawing is included with plans in accordance with Section 2-1.03 of Caltrans "Standard Specifications".

**BENCH MARKS**  
 BENCHMARK# 608 ELEV. 35.24 Ft  
 DESCRIPTION: KSN CONTROL POINT, 1/2" REBAR WITH A YELLOW CAP STAMPED "KSN CONTROL", LOCATED AT APPROXIMATE CENTERLINE STATION 484+75, ON THE NORTHBOUND MAINLINE, ON THE OUTSIDE SHOULDER, APPROXIMATELY 10' EAST OF THE EDGE OF TRAVELED WAY, 8' NORTH OF THE END OF THE GUARDRAIL.  
 NGVD 29, N2124114.87, E6354564.41.  
 BENCHMARK# 627 ELEV. 36.96 Ft  
 KSN CONTROL POINT, 1/2" REBAR WITH A YELLOW CAP STAMPED "KSN CONTROL", LOCATED AT APPROXIMATE CENTERLINE STATION 484+75, ON THE SOUTHBOUND MAINLINE, ON THE OUTSIDE SHOULDER, APPROXIMATELY 9' WEST OF THE EDGE OF TRAVELED WAY, 60' SOUTH OF THE SOUTH SIDE OF LATHROP ROAD OVERCROSSING..  
 NGVD 29, N2124122.05, E6354453.7.

Reza Erfanian  
 DESIGN OVERSIGHT  
 1/27/12  
 SIGN OFF DATE

DRAWN BY: M ROBERTSON  
 CHECKED BY: A SHINNEFIELD

A WOOD  
 FIELD INVESTIGATION BY:  
 DATE: MARCH & MAY 2009

PREPARED FOR THE  
**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

JOHN A. KLEMUNES, JR.  
 PROJECT ENGINEER

BRIDGE NO. 29-0331  
 POST MILE 9.18

**LATHROP ROAD OVERCROSSING**  
**LOG OF TEST BORINGS 1 OF 5**

USERNAME => s124496 DATE PLOTTED => 12-JUN-2012 TIME PLOTTED => 10:16



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	99	6.9/10.6	637	639

*David J. Morrell*  
 REGISTERED CIVIL ENGINEER 1-26-12 DATE  
 6-11-12 PLANS APPROVAL DATE  
 No. 60578 Exp. 12-31-12  
 CIVIL ENGINEER  
 STATE OF CALIFORNIA

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.

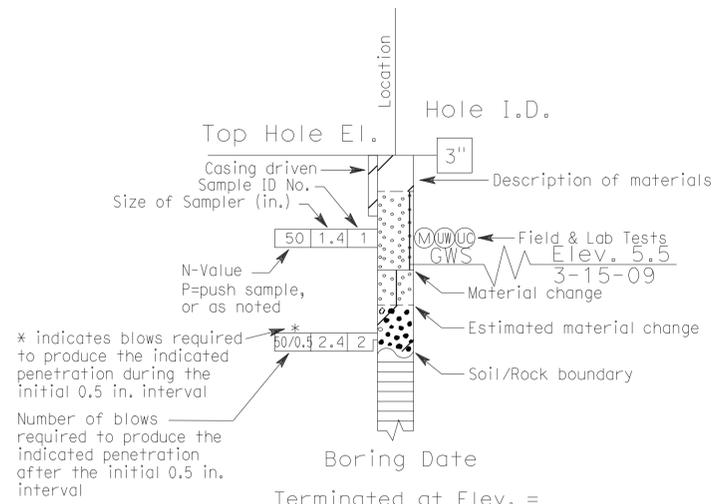
CONSISTENCY OF COHESIVE SOILS				
Description	Unconfined Compressive Strength (tsf)	Pocket Penetrometer Measurement (tsf)	Torvane Measurement (tsf)	Field Approximation
Very Soft	<0.25	<0.25	<0.12	Easily penetrated several inches by fist
Soft	0.25 to 0.50	0.25 to 0.50	0.12 to 0.25	Easily penetrated several 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

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 2491 BOATMAN AVENUE  
 WEST SACRAMENTO, CA 95691 FILE No. 1201.7d

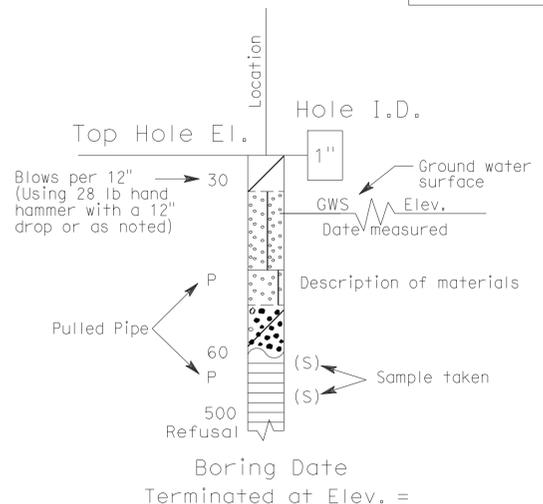
BOREHOLE IDENTIFICATION		
Symbol	Hole Type	Description
	A	Auger Boring
	R	Rotary drilled boring
	P	Rotary percussion boring (air)
	R	Rotary drilled diamond core
	HD	Hand driven (1-inch soil tube)
	HA	Hand Auger
	D	Dynamic Cone Penetration Boring
	CPT	Cone Penetration Test (ASTM D 5778)
	O	Other

**NOTE: Size in inches.**

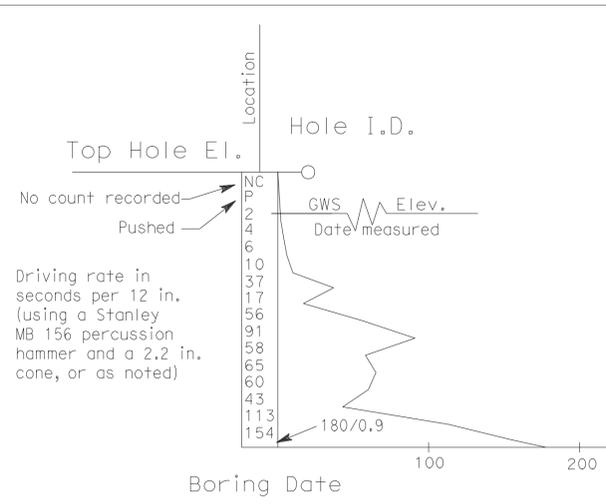
PLASTICITY OF FINE-GRAINED SOILS	
Description	Criteria
Nonplastic	A 1/8-inch thread cannot be rolled at any water content.
Low	The thread can barely be rolled and the lump cannot be formed when drier than the plastic limit.
Medium	The thread is easy to roll and not much time is required to reach the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



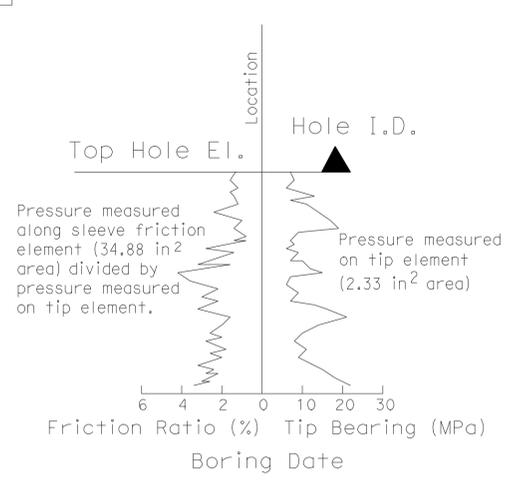
**ROTARY BORING**



**HAND BORING**



**DYNAMIC CONE PENETRATION BORING**



**CONE PENETRATION TEST (CPT) SOUNDING**

SOIL LEGEND	
<b>LATHROP ROAD OVERCROSSING</b>	
<b>LOG OF TEST BORINGS 3 OF 5</b>	

DESIGN OVERSIGHT <i>Reza Erfanian</i> Reza Erfanian 1/27/12 SIGN OFF DATE	DRAWN BY M ROBERTSON	A WOOD FIELD INVESTIGATION BY: DATE: MARCH & MAY 2009	BRIDGE NO. 29-0331	PROJECT ENGINEER JOHN A. KLEMUNES, JR.	POST MILE 9.18
CHECKED BY A SHINNEFIELD	PREPARED FOR THE <b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION		PROJECT NUMBER & PHASE: 10000204421 CONTRACT NO.: 10-0E6131		

REFERENCE: CALTRANS SOIL & ROCK LOGGING, CLASSIFICATION, AND PRESENTATION MANUAL, (JUNE, 2007)

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	SJ	99	6.9/10.6	638	639

*David J. Morrell*  
 REGISTERED CIVIL ENGINEER 1-26-12 DATE

6-11-12  
 PLANS APPROVAL DATE

DAVID J. MORRELL  
 No. 60578  
 Exp. 12-31-12  
 CIVIL  
 STATE OF CALIFORNIA

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 555 E. WEBER AVE.  
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BLACKBURN CONSULTING  
 2491 BOATMAN AVENUE  
 WEST SACRAMENTO, CA 95691 FILE No. 1201.7d

GROUP SYMBOLS AND NAMES			
Graphic/Symbol	Group Names	Graphic/Symbol	Group Names
	Well-graded GRAVEL Well-graded GRAVEL with SAND		Lean CLAY Lean CLAY with SAND Lean CLAY with GRAVEL SANDY lean CLAY
	Poorly-graded GRAVEL Poorly-graded GRAVEL with SAND		SANDY lean CLAY with GRAVEL GRAVELLY lean CLAY GRAVELLY lean CLAY with SAND
	Well-graded GRAVEL with SILT Well-graded GRAVEL with SILT and SAND		SILTY CLAY SILTY CLAY with SAND SILTY CLAY with GRAVEL
	Well-graded GRAVEL with CLAY (or SILTY CLAY) Well-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)		SANDY SILTY CLAY SANDY SILTY CLAY with GRAVEL GRAVELLY SILTY CLAY GRAVELLY SILTY CLAY with SAND
	Poorly-graded GRAVEL with SILT Poorly-graded GRAVEL with SILT and SAND		SILT SILT with SAND SILT with GRAVEL
	Poorly-graded GRAVEL with CLAY (or SILTY CLAY) Poorly-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)		SANDY SILT SANDY SILT with GRAVEL GRAVELLY SILT GRAVELLY SILT with SAND
	SILTY GRAVEL SILTY GRAVEL with SAND		ORGANIC lean Clay ORGANIC lean Clay with SAND ORGANIC lean Clay with GRAVEL
	CLAYEY GRAVEL CLAYEY GRAVEL with SAND		SANDY ORGANIC lean CLAY SANDY ORGANIC lean CLAY with GRAVEL GRAVELLY ORGANIC lean CLAY GRAVELLY ORGANIC lean CLAY with SAND
	SILTY, CLAYEY GRAVEL SILTY, CLAYEY GRAVEL with SAND		ORGANIC SILT ORGANIC SILT with SAND ORGANIC SILT with GRAVEL
	Well-graded SAND Well-graded SAND with GRAVEL		SANDY ORGANIC SILT SANDY ORGANIC SILT with GRAVEL GRAVELLY ORGANIC SILT GRAVELLY ORGANIC SILT with SAND
	Poorly-graded SAND Poorly-graded SAND with GRAVEL		Fat CLAY Fat CLAY with SAND Fat CLAY with GRAVEL
	Well-graded SAND with SILT Well-graded SAND with SILT and GRAVEL		SANDY fat CLAY SANDY fat CLAY with GRAVEL GRAVELLY fat CLAY GRAVELLY fat CLAY with SAND
	Well-graded SAND with CLAY (or SILTY CLAY) Well-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)		Elastic SILT Elastic SILT with SAND Elastic SILT with GRAVEL
	Poorly-graded SAND with SILT Poorly-graded SAND with SILT and GRAVEL		SANDY elastic SILT SANDY elastic SILT with GRAVEL GRAVELLY elastic SILT GRAVELLY elastic SILT with SAND
	Poorly-graded SAND with CLAY (or SILTY CLAY) Poorly-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)		ORGANIC fat CLAY ORGANIC fat CLAY with SAND ORGANIC fat CLAY with GRAVEL
	SILTY SAND SILTY SAND with GRAVEL		SANDY ORGANIC fat CLAY SANDY ORGANIC fat CLAY with GRAVEL GRAVELLY ORGANIC fat CLAY GRAVELLY ORGANIC fat CLAY with SAND
	CLAYEY SAND CLAYEY SAND with GRAVEL		ORGANIC elastic SILT ORGANIC elastic SILT with SAND ORGANIC elastic SILT with GRAVEL
	SILTY, CLAYEY SAND 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
	PEAT		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 2937)
(VS)	Vane Shear (AASHTO T 223)

APPARENT DENSITY OF COHESIONLESS SOILS	
Description	SPT N <sub>60</sub> -Value (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

**SOIL LEGEND**

**LATHROP ROAD OVERCROSSING**

**LOG OF TEST BORINGS 4 OF 5**

 DESIGN OVERSIGHT Reza Erfanian	DRAWN BY M ROBERTSON	A WOOD
	CHECKED BY A SHINNEFIELD	FIELD INVESTIGATION BY: DATE: MARCH & MAY 2009

<b>PREPARED FOR THE STATE OF CALIFORNIA</b>		BRIDGE NO. 29-0331
DEPARTMENT OF TRANSPORTATION		POST MILE 9.18
JOHN A. KLEMUNES, JR. PROJECT ENGINEER		

USERNAME => s124496 DATE PLOTTED => 12-JUN-2012 TIME PLOTTED => 10:16

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FINANCIAL YEAR	SHEET NO.	TOTAL SHEETS
2	CAL.			88	88

TO ACCOMPANY PLANS DATED 6-11-12

**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
10	SJ	99	6.9/10.6	639	639

**David J. Morrell**  
REGISTERED CIVIL ENGINEER  
DATE 1-26-12

**LATHROP ROAD OVERCROSSING**  
**AS-BUILT LOG OF TEST BORINGS**

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

UNIT: 1455  
PROJECT NUMBER & PHASE: 10000204421

BRIDGE No.	Sheet	of
29-0331	33	33

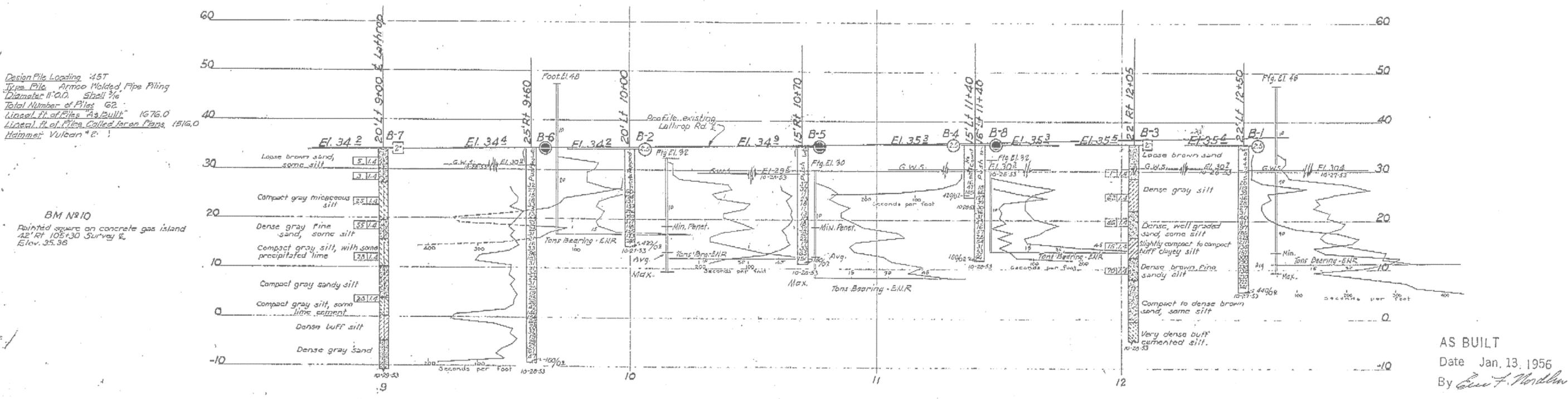
Revisions made to this Log of Test Borings from the original 1963 Log of Test Borings are the addition of the following table and notes:

Boring	Station	Offset from "LT" Line
B-1	126+82.43	41.77 ft Rt
B-2	124+32.96	45.22 ft Rt
B-3	126+38.39	86.50 ft Rt
B-4	125+72.51	48.20 ft Rt
B-5	125+03.00	79.59 ft Rt
B-6	123+93.71	91.14 ft Rt
B-7	123+32.69	45.73 ft Rt
B-8	125+72.74	49.65 ft Rt

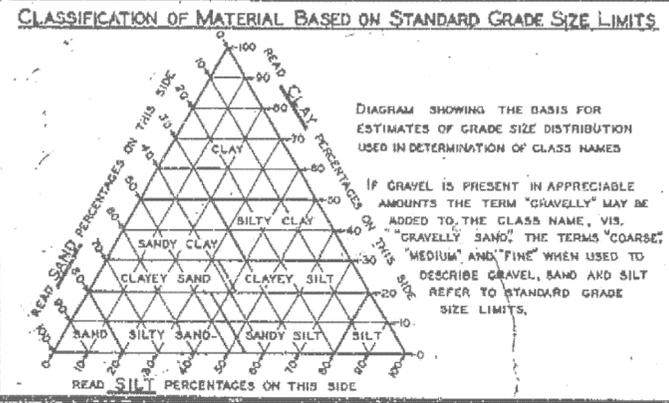


- See Log of Test Borings 1 of 5 for stationing.
- Boring locations are approximate based on proposed new structure location. This table is presented on the As Built Log of Test Boring sheet for the convenience of any bidder, contractor or other interested party.

**AS BUILT PLANS**  
Contract No. 55-10TC 20  
Date Completed \_\_\_\_\_  
Document No. 00001016



AS BUILT  
Date Jan. 13, 1956  
By *Carl F. Nordman*



**LEGEND OF EARTH MATERIALS**

GRAVEL	SILTY CLAY OR CLAYEY SILT
SAND	PEAT AND/OR ORGANIC CLAY
SILT	FILLED MATERIAL
CLAY	IGNEOUS ROCK
SANDY CLAY OR CLAYEY SAND	SEDIMENTARY ROCK
SANDY SILT OR SILTY SAND	METAMORPHIC ROCK

**LEGEND OF BORING OPERATIONS**

- PLAN OF ANY BORING
- PENETROMETER
- 2 1/2" CONE PENETROMETER
- SAMPLER BORING (DRY)
- ROTARY BORING (WET)
- AUGER BORING (DRY)
- JET BORING
- CORE BORING
- TEST PIT

**1" SOIL TUBE**

Top Hole El. Location  
Blows per foot - Casing set - Description of material  
Pulled pipe  
Sample taken  
Size of sampler (inches)  
Unconfined compressive strength (lb/sq ft)  
Blows per foot (Using a 140 lb hammer with 30" drop, unless otherwise specified)  
% Moisture  
Consolidation Test - Unit wt. (lb/cu ft)  
Conformable material change - Estimated - Unconformable

**NOTES**

THE CONTRACTOR'S ATTENTION IS DIRECTED TO SECTION 2, ARTICLE (C) OF THE STANDARD SPECIFICATIONS AND TO THE SPECIAL PROVISIONS ACCOMPANYING THIS SET OF PLANS. CLASSIFICATION OF EARTH MATERIAL AS SHOWN ON THIS SHEET IS BASED UPON FIELD INSPECTION AND IS NOT TO BE CONSTRUED TO IMPLY MECHANICAL ANALYSIS. PENETROMETER BORINGS HAVING A RATE OF PENETRATION MEASURED IN SECONDS PER FOOT ARE DRIVEN WITH A N°2 MCKERNAN-TERRY AIR HAMMER AT 115 PSI.

STATE OF CALIFORNIA  
DEPARTMENT OF PUBLIC WORKS  
DIVISION OF HIGHWAYS

**LATHROP ROAD OVERCROSSING**  
**LOG OF TEST BORINGS**

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

BRIDGE 29-136 FILE DRAWING 5-2026-5