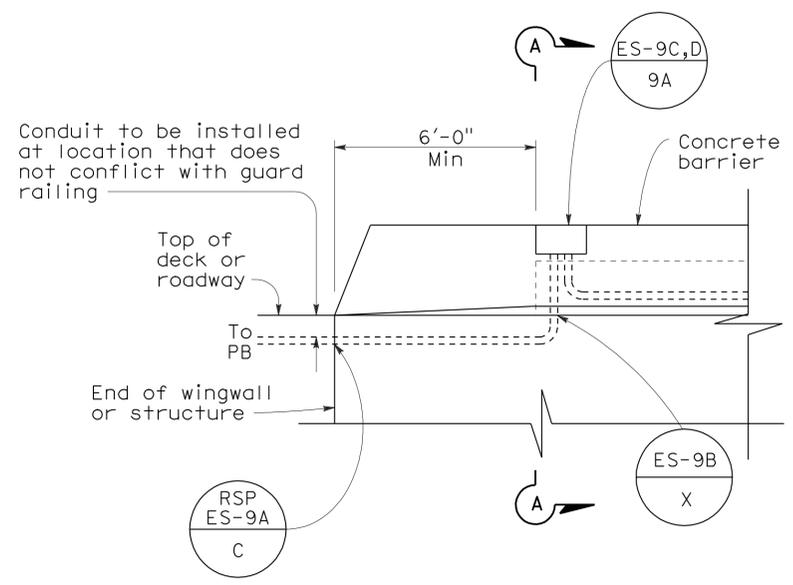


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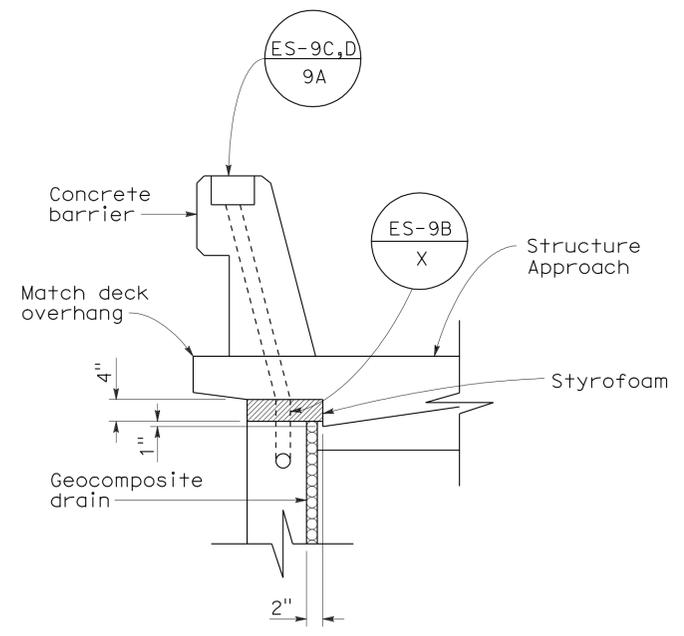
*Jeffery G. McRae*  
 REGISTERED ELECTRICAL ENGINEER  
 October 5, 2007  
 PLANS APPROVAL DATE  
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

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

To accompany plans dated 6-25-12

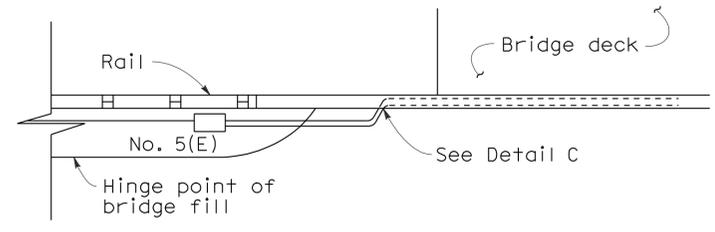


**SIDEVIEW**

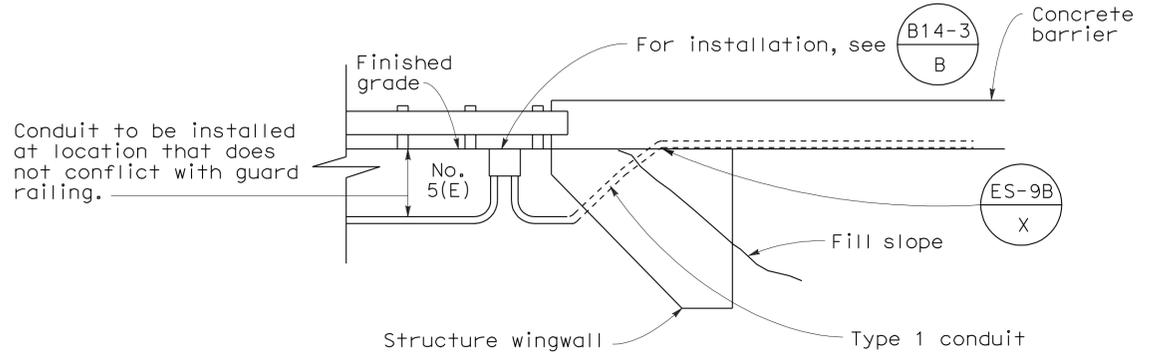


**SECTION A-A**

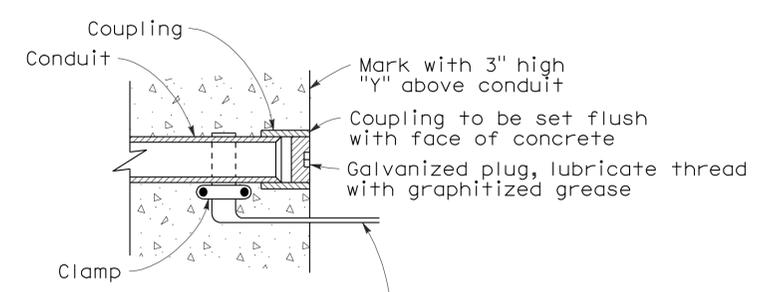
**DETAIL A  
CONDUIT TERMINATION**



**TOP VIEW**



**SIDE VIEW  
DETAIL I  
CONDUIT TERMINATION**



**DETAIL C  
CONDUIT TERMINATION**

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

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

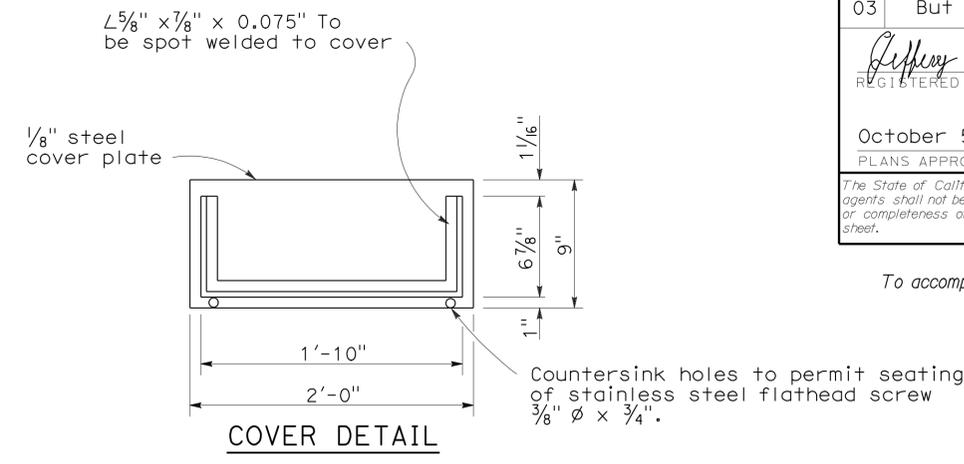
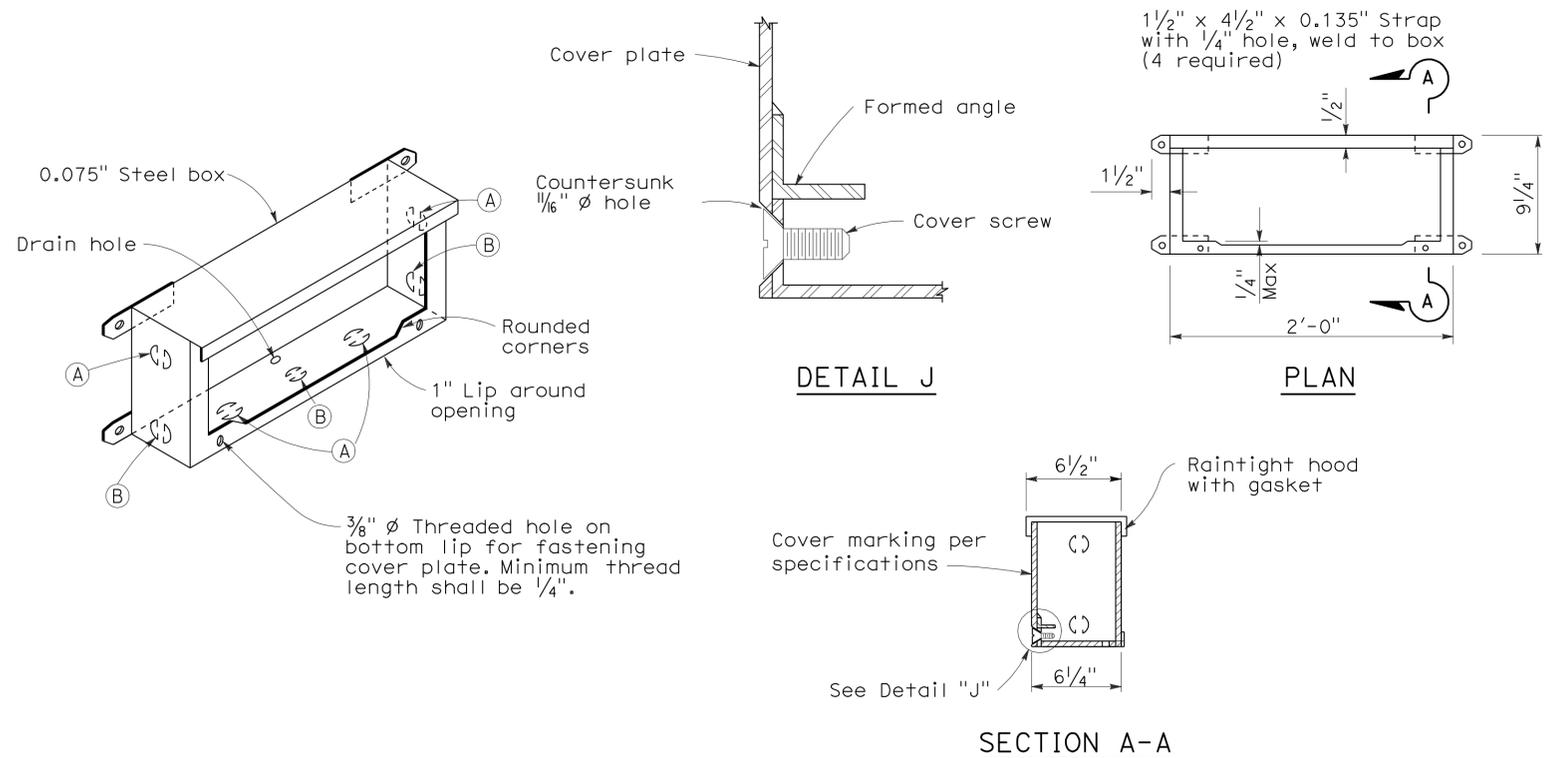
RSP ES-9A DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-9A  
DATED MAY 1, 2006 - PAGE 454 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP ES-9A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	But	99	28.1/29.6	202	231

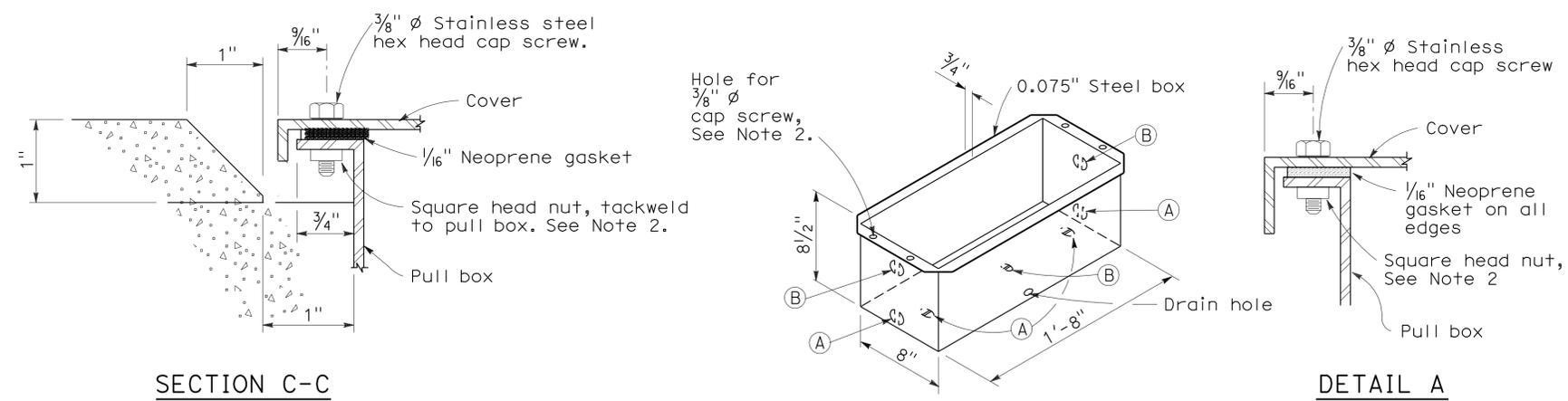
Jeffrey G. McRae  
 REGISTERED ELECTRICAL ENGINEER  
 October 5, 2007  
 PLANS APPROVAL DATE  
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REGISTERED PROFESSIONAL ENGINEER  
 Jeffrey G. McRae  
 No. E14512  
 Exp. 6-30-08  
 ELECTRICAL  
 STATE OF CALIFORNIA



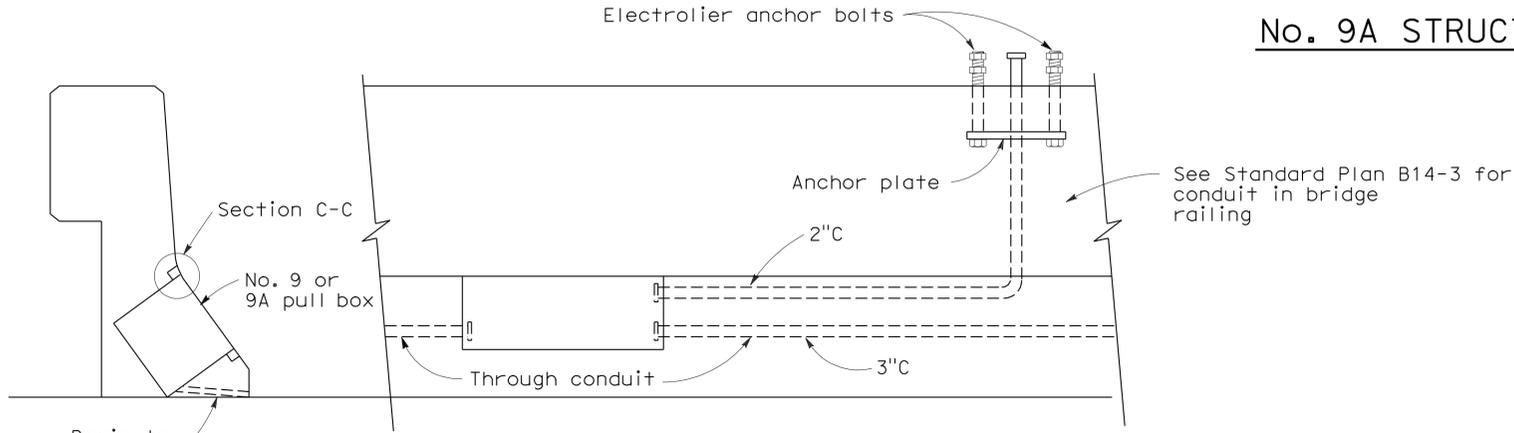
**INSTALLATION NOTE:**  
 Box shall be parallel to top of railing. Close cover box during pouring with 1/4" plywood of sufficient size to provide 1:1 chamfer on 3 sides of cover. Upper edge of plywood shall fit against lower edge of raintight hood.

**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.  
**REVISED STANDARD PLAN RSP ES-9C**

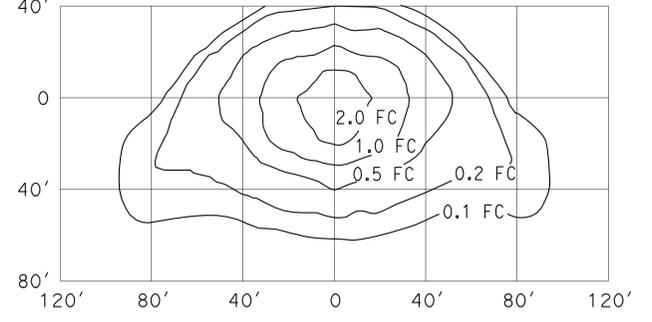
2006 REVISED STANDARD PLAN RSP ES-9C

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	But	99	28.1/29.6	203	231

*Jeffery G. McRae*  
 REGISTERED ELECTRICAL ENGINEER  
 July 20, 2012  
 PLANS APPROVAL DATE  
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To accompany plans dated 6-25-12

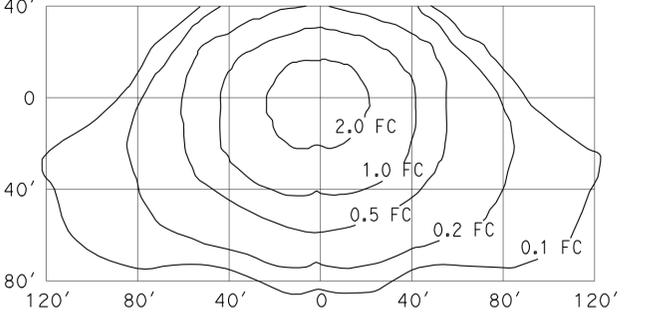
**ISOFOOTCANDLE CURVE - MINIMUM**



**TYPE III MEDIUM CUTOFF**

Cutoff Luminaire  
 34' Mounting Height  
 Lamp operated at 22,000 lm  
 200-W high pressure sodium lamp  
 ANSI Designation S66

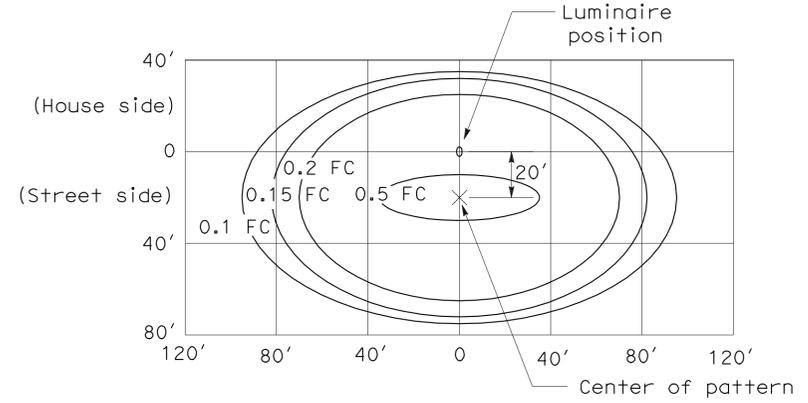
**ISOFOOTCANDLE CURVE - MINIMUM**



**TYPE III MEDIUM CUTOFF**

Cutoff Luminaire  
 40' Mounting Height  
 Lamp operated at 37,000 lm  
 310-W high pressure sodium lamp  
 ANSI Designation S67

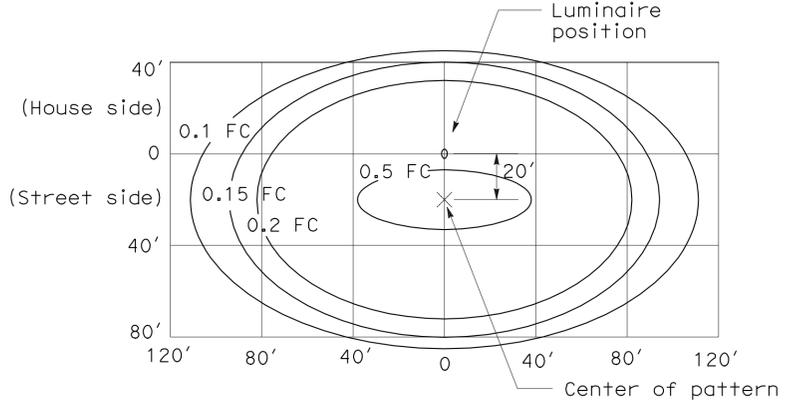
**ISOFOOTCANDLE CURVE - MINIMUM**



**LED LUMINAIRE ROADWAY 1**

200-W HPS Equivalent at 34' Mounting Height

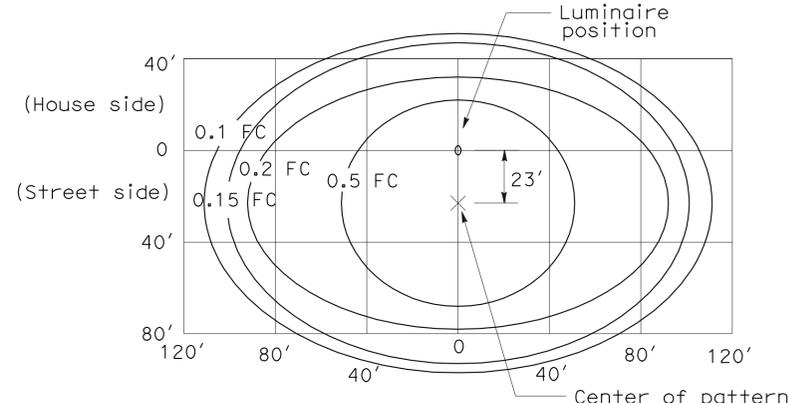
**ISOFOOTCANDLE CURVE - MINIMUM**



**LED LUMINAIRE ROADWAY 2**

310-W HPS Equivalent at 40' Mounting Height

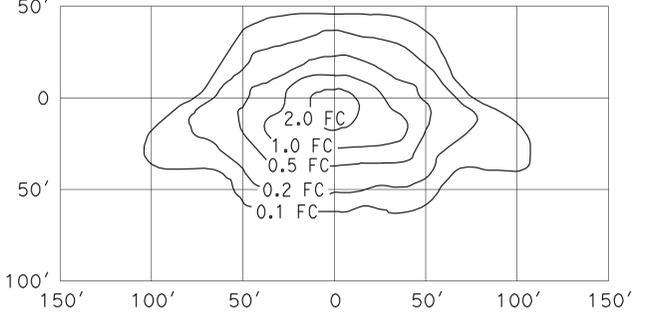
**ISOFOOTCANDLE CURVE - MINIMUM**



**LED LUMINAIRE ROADWAY 4**

400-W HPS Equivalent at 40' Mounting Height

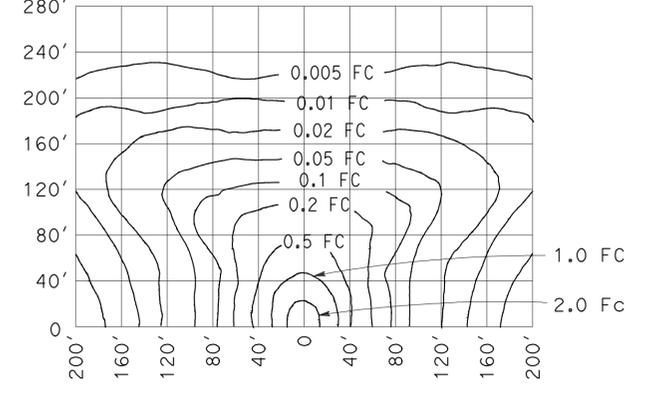
**ISOFOOTCANDLE CURVE - MINIMUM**



**TYPE III MEDIUM CUTOFF**

Cutoff Luminaire  
 30' Mounting Height  
 Lamp operated at 16,000 lm  
 150-W high pressure sodium lamp  
 ANSI Designation S55

**ISOFOOTCANDLE CURVE - MINIMUM**



**LOW PRESSURE SODIUM LUMINAIRE**

40' Mounting Height  
 Lamp operated at 33,000 lm  
 180-W low pressure sodium lamp

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS  
 (ISOFOOTCANDLE DIAGRAMS)**

NO SCALE

NSP ES-10A DATED JULY 20, 2012 SUPPLEMENTS THE  
 STANDARD PLANS BOOK DATED MAY 2006.

**NEW STANDARD PLAN NSP ES-10A**

**2006 NEW STANDARD PLAN NSP ES-10A**

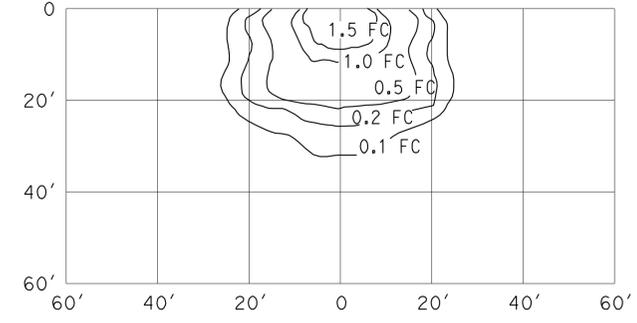
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	But	99	28.1/29.6	204	231

*Jeffery G. McRae*  
 REGISTERED ELECTRICAL ENGINEER  
 July 20, 2012  
 PLANS APPROVAL DATE  
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REGISTERED PROFESSIONAL ENGINEER  
 Jeffrey G. McRae  
 No. E14512  
 Exp. 6-30-14  
 ELECTRICAL  
 STATE OF CALIFORNIA

To accompany plans dated 6-25-12

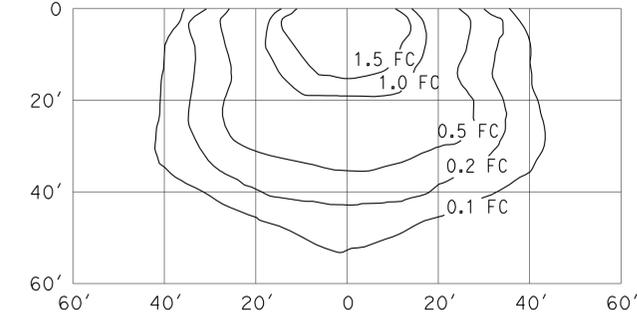
**ISOFOOTCANDLE CURVE - MINIMUM**



**WALL LUMINAIRE**

15' Mounting Height  
 Lamp operated at 5,800 lm  
 70-W high pressure sodium lamp  
 ANSI Designation S62

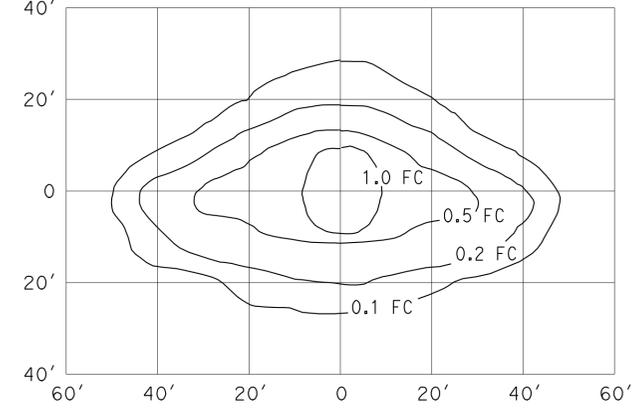
**ISOFOOTCANDLE CURVE - MINIMUM**



**WALL LUMINAIRE**

15' Mounting Height  
 Lamp operated at 9,500 lm  
 100-W high pressure sodium lamp  
 ANSI Designation S54

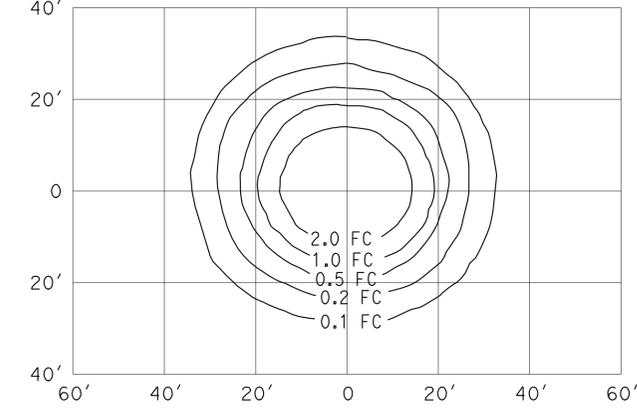
**ISOFOOTCANDLE CURVE - MINIMUM**



**PENDANT SOFFIT LUMINAIRE  
 TYPE III SHORT**

17' Mounting Height  
 Lamp operated at 5,800 lm  
 70-W high pressure sodium lamp  
 ANSI Designation S62

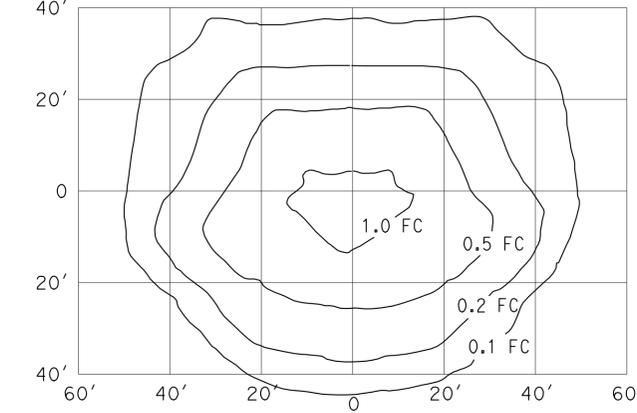
**ISOFOOTCANDLE CURVE - MINIMUM**



**PENDANT SOFFIT LUMINAIRE**

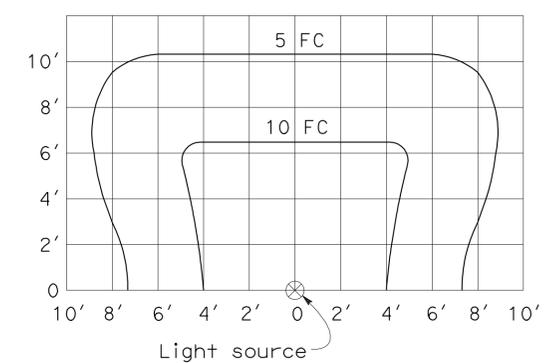
17' Mounting Height  
 Lamp operated at 5,800 lm  
 70-W high pressure sodium lamp  
 ANSI Designation S62

**ISOFOOTCANDLE CURVE - MINIMUM**



**FLUSH SOFFIT LUMINAIRE**

17' Mounting Height  
 Lamp operated at 5,800 lm  
 70-W high pressure sodium lamp  
 ANSI Designation S62



**SIGN LIGHTING FIXTURE  
 ISOFOOTCANDLE DIAGRAM**

- NOTES:**
1. Curves represent the minimum footcandle (FC) of initial illumination on a 10'-0" x 20'-0" panel.
  2. The FC shown are with the fixture attached to the light fixture mounting channel which places the center of the source 4'-8" in front of panel and 1'-0" below the bottom edge.
  3. Applicable lamp: 85-W fluorescent phosphor coated induction lamp.

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS  
 (ISOFOOTCANDLE DIAGRAMS)**

NO SCALE  
 NSP ES-10B DATED JULY 20, 2012 SUPPLEMENTS THE  
 STANDARD PLANS BOOK DATED MAY 2006.

2006 NEW STANDARD PLAN NSP ES-10B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Bu+	99	28.1/29.6	205	231

REGISTERED CIVIL ENGINEER	DATE 6-06-12
6-25-12	PLANS APPROVAL DATE

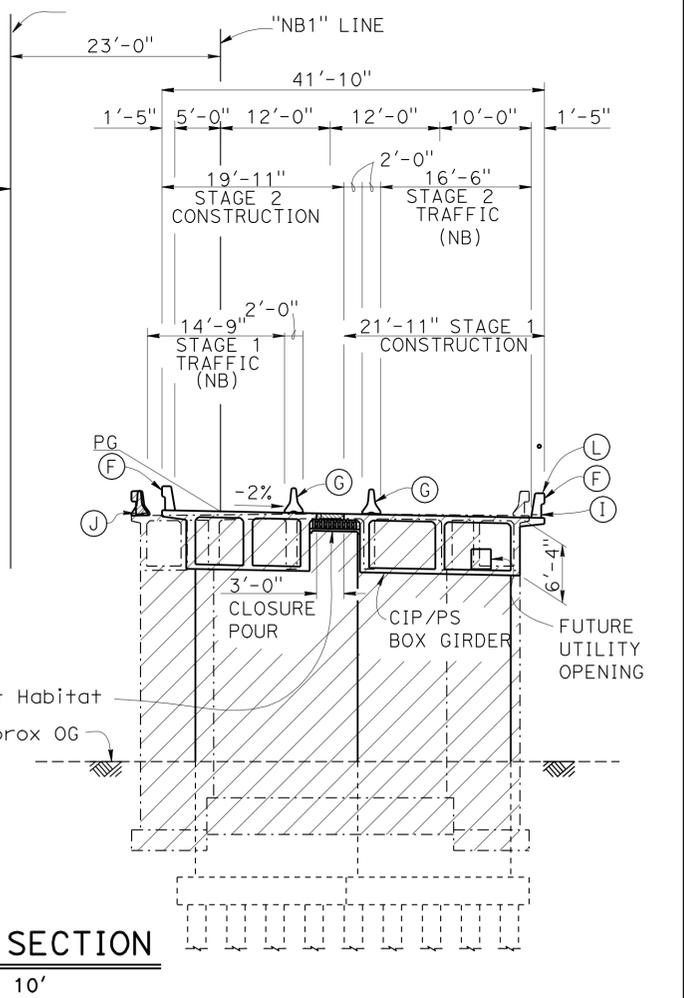
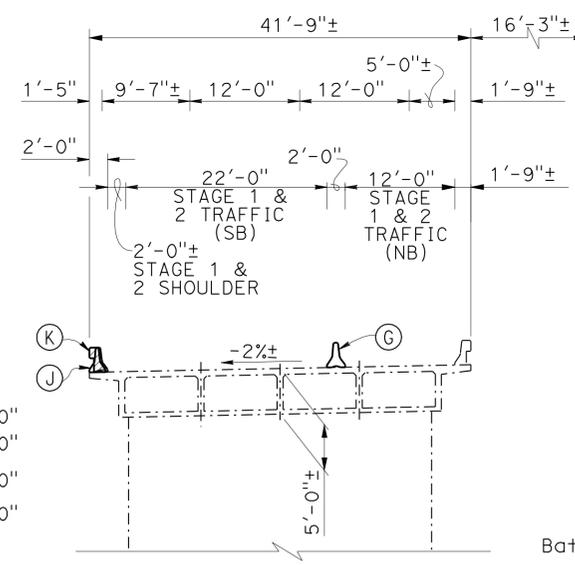
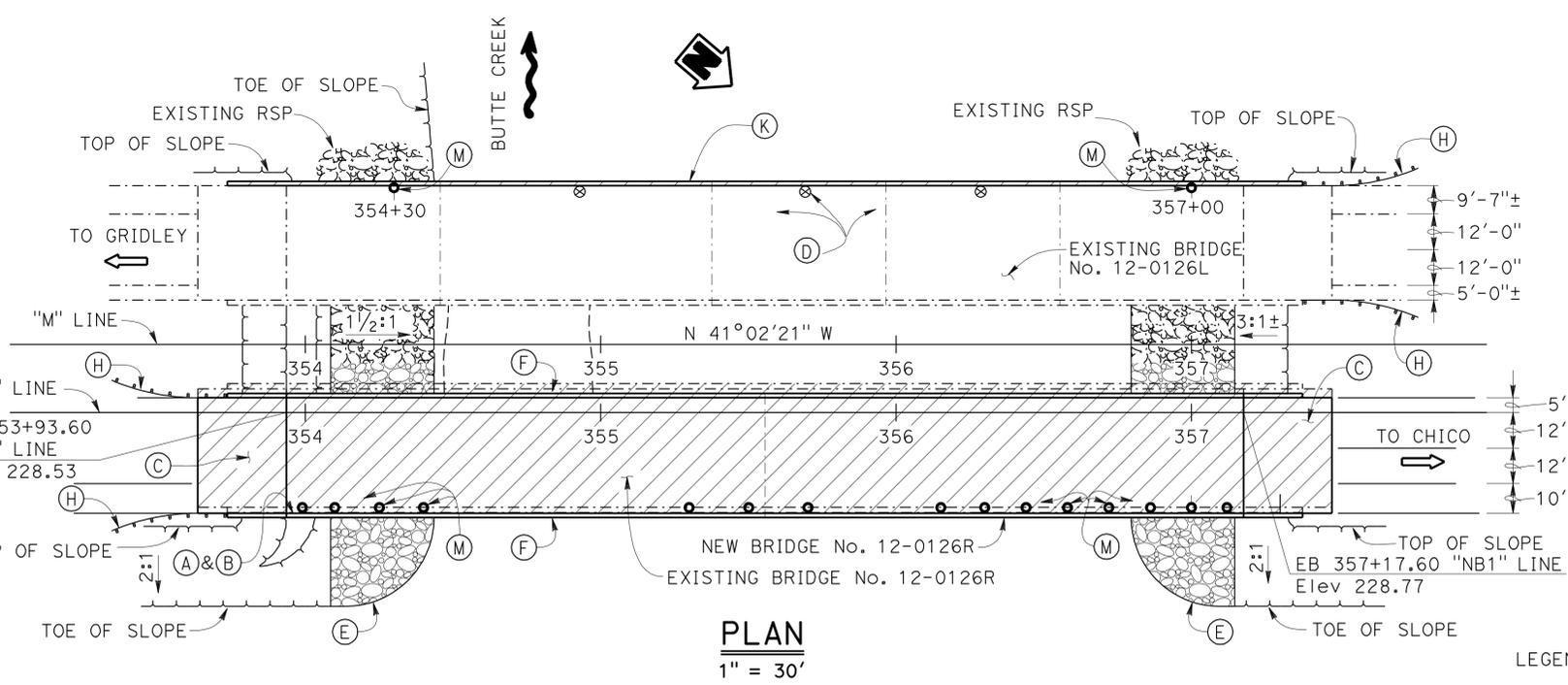
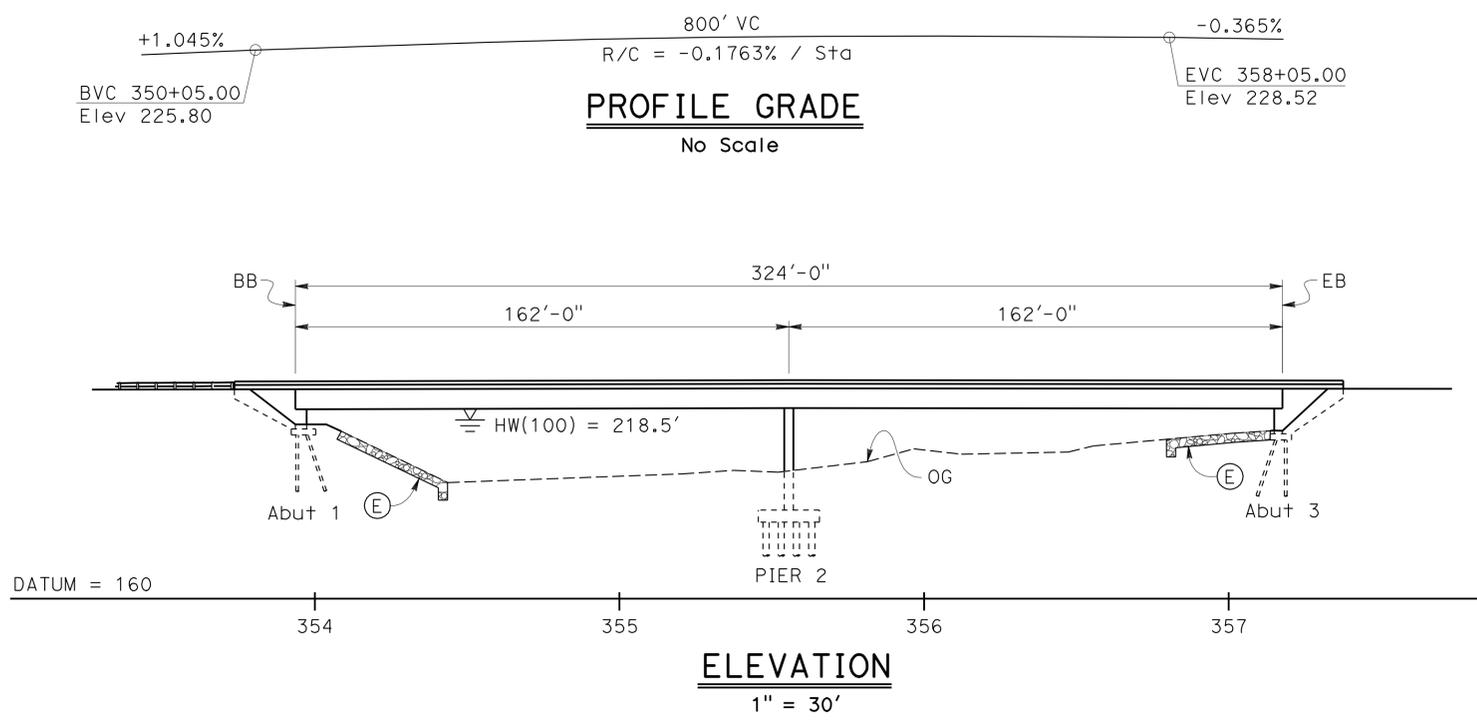
Keith Stillmunkes
No. 68878
Exp. 9/30/13
CIVIL

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- NOTES:
- (A) Paint "Butte Creek Bridge Right"
  - (B) Paint "Bridge No. 12-0126R"
  - (C) Approach Slab Type N(30S)
  - (D) Existing deck drains, Type "B"
  - (E) RSP at abutments, see "Road Plans"
  - (F) Concrete Barrier Type 732 (B11-55)
  - (G) Temporary Railing Type K, see "Road Plans" (T3)
  - (H) MBGR, see "Road Plans"
  - (I) Temporary Scupper space every 10'-0". Fill scupper with grout after completion of stage 2.
  - (J) Prior to Stage 1, Remove existing Type 25 Concrete Barrier and place Temporary Railing Type K, anchored to bridge deck.
  - (K) After Stage 2, place Concrete Barrier Type 732(Mod)
  - (L) 3" Electrical Conduit, see "Road Plans"
  - (M) Deck Drain, Type "B", Total 15. Place near Sta 353+99, 354+10, 354+25, 354+40, 355+30, 355+50, 355+70, 356+15, 356+30, 356+44, 356+58, 356+72, 356+86, 357+00, 357+12. (B7-5)
  - (N) For General Notes, Index To Plans, Hydrologic Summary and Pile Data, see "INDEX TO PLANS" sheet.

QUANTITIES

	LUMP	SUM
BRIDGE REMOVAL		
STRUCTURE EXCAVATION (BRIDGE)	450	CY
STRUCTURE EXCAVATION (TYPE A)	846	CY
STRUCTURE BACKFILL (BRIDGE)	337	CY
FURNISH STEEL PILING (HP 14 X 117)	4,910	LF
DRIVE STEEL PILE (HP 14 X 117)	100	EA
PRESTRESSING CAST-IN-PLACE CONCRETE		LUMP SUM
SEAL COURSE CONCRETE	71	CY
BAT HABITAT	4	EA
STRUCTURAL CONCRETE, BRIDGE FOOTING	207	CY
STRUCTURAL CONCRETE, BRIDGE	1,830	CY
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE N)	98	CY
JOINT SEAL ASSEMBLY (MR 2 1/2")	79	LF
BAR REINFORCING STEEL (BRIDGE)	297,610	LB
24" WELDED STEEL PIPE CASING (BRIDGE)	77	LF
MISCELLANEOUS METAL (BRIDGE)	300	LB
CONCRETE BARRIER (TYPE 732 MODIFIED)	384	LF
CONCRETE BARRIER (TYPE 732)	768	LF



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

- LEGEND:
- Indicates existing
  - ▨ Indicates bridge removal
  - ▨ Indicates closure pour

TYPICAL SECTION  
1" = 10'

DESIGN BY: Kelly Ann Holden DESIGN ENGINEER	BY: Keith Stillmunkes	CHECKED: Mario Guadamuz	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 7	BRIDGE NO. 12-0126R	BUTTE CREEK BRIDGE, RIGHT (REPLACE) GENERAL PLAN
	BY: G. Dickerson / Y. Feng	CHECKED: Mario Guadamuz	LAYOUT	BY: Keith Stillmunkes			CHECKED: Mario Guadamuz	
QUANTITIES	BY: Gerald Dickerson	CHECKED: Yingjiue Feng	SPECIFICATIONS	BY: Jennifer Ramirez	CHECKED: Jennifer Ramirez	PLANS AND SPECS COMPARED		

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

UNIT: 3592	PROJECT NUMBER & PHASE: 0300000509 1	CONTRACT NO.: 03-3E6201	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 1 OF 27
				4-28-11 4-2-12 2-28-12 2-7-12	

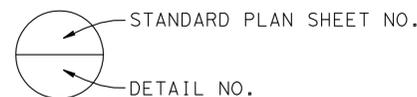
STRUCTURES DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.09-01-10) FILE => 12-0126r-o-gp.dgn

# INDEX TO PLANS

Sheet No.	Title
1.	GENERAL PLAN
2.	INDEX TO PLANS
3.	DECK CONTOURS
4.	BRIDGE REMOVAL
5.	FOUNDATION PLAN
6.	ABUTMENT 1 LAYOUT
7.	ABUTMENT 3 LAYOUT
8.	ABUTMENT DETAILS NO. 1
9.	ABUTMENT DETAILS NO. 2
10.	PIER LAYOUT
11.	PIER DETAILS
12.	TYPICAL SECTION
13.	GIRDER LAYOUT
14.	GIRDER DETAILS
15.	ADDITIONAL SLAB REINFORCEMENT
16.	JOINT SEAL ASSEMBLY MAXIMUM MOVEMENT RATING = 4"
17.	STRUCTURE APPROACH TYPE N(30S)
18.	STRUCTURE APPROACH DRAINAGE DETAILS
19.	MISCELLANEOUS DETAILS
20.	LOG OF TEST BORINGS (1 of 8)
21.	LOG OF TEST BORINGS (2 of 8)
22.	LOG OF TEST BORINGS (3 of 8)
23.	LOG OF TEST BORINGS (4 of 8)
24.	LOG OF TEST BORINGS (5 of 8)
25.	LOG OF TEST BORINGS (6 of 8)
26.	LOG OF TEST BORINGS (7 of 8)
27.	LOG OF TEST BORINGS (8 of 8)

## STANDARD PLANS DATED MAY 2006

A10A	ACRONYMS AND ABBREVIATIONS (SHEET 1 OF 2)
A10B	ACRONYMS AND ABBREVIATIONS (SHEET 2 OF 2)
A10C	SYMBOLS (SHEET 1 OF 2)
A10D	SYMBOLS (SHEET 2 OF 2)
A62C	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL - BRIDGE
T3	TEMPORARY RAILING (TYPE K)
B0-1	BRIDGE DETAILS
B0-3	BRIDGE DETAILS
B0-5	BRIDGE DETAILS
B0-13	BRIDGE DETAILS
RSP B6-21	JOINT SEALS (MAXIMUM MOVEMENT RATING = 2")
B7-1	BOX GIRDER DETAILS
B7-5	DECK DRAINS
B7-8	DECK DRAINAGE DETAILS
B7-10	UTILITY OPENING - BOX GIRDER
B8-5	CAST-IN-PLACE PRESTRESSED GIRDER DETAILS
B11-55	CONCRETE BARRIER TYPE 732
B14-3	COMMUNICATION AND SPRINKLER CONTROL CONDUITS (CONDUIT LESS THAN 4")
B14-5	WATER SUPPLY LINE (DETAILS) (PIPE SIZES LESS THAN 4")
RSP P10	CONCRETE PAVEMENT - DOWEL BAR DETAILS



## GENERAL NOTES LOAD AND RESISTANCE FACTOR DESIGN

**DESIGN:** AASHTO LRFD Bridge Design Specifications, 4th edition and the Caltrans Amendments, preface dated December 2008.

**SEISMIC DESIGN :** Caltrans Seismic Design Criteria (SDC), Version 1.6 dated November 2010.

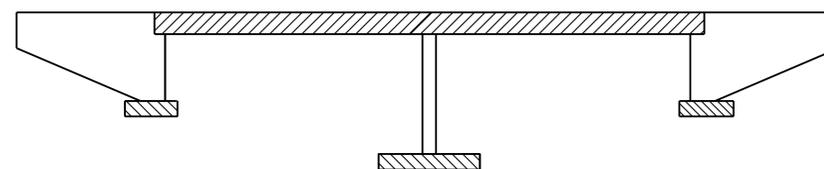
**DEAD LOAD:** Includes 35 psf for future wearing surface.

**LIVE LOADING:** HL93 and P-15 permit design vehicle.

**SEISMIC LOADING :** Soil profile:  $V_{530} = 1200$  ft/sec  
Moment Magnitude: 6.7  
Peak Ground Acceleration 0.22g  
Site Specific Acceleration Response Spectrum as shown.

**REINFORCED CONCRETE:**  $f_y = 60$  ksi  
 $f'_c = 3.625$  ksi  
 $n = 8$

**PRESTRESSED CONCRETE:** See "Prestressing Notes" on "GIRDER DETAILS" sheet.



Structural Concrete, Bridge  
 Structural Concrete, Bridge (6 Ksi at 28 days)  
 Structural Concrete, Bridge Footing

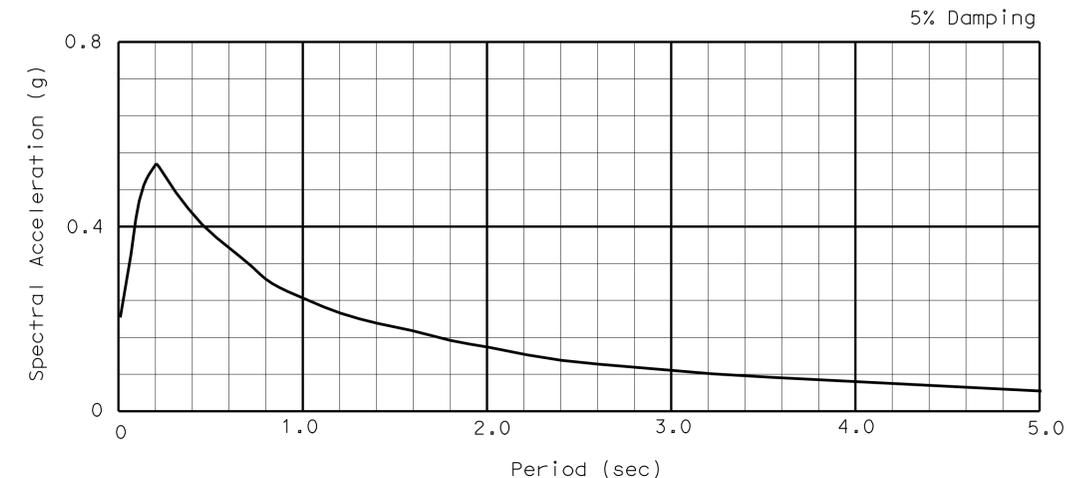
## CONCRETE STRENGTH AND TYPE LIMITS

No Scale

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	206	231

4-3-12 DATE  
 REGISTERED CIVIL ENGINEER  
 Keith Stillmunkes  
 No. 68878  
 Exp. 9/30/13  
 CIVIL  
 STATE OF CALIFORNIA  
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## SIZE SPECIFIC ACCELERATION RESPONSE SPECTRUM



## PILE DATA TABLE

Support Location	Pile Type	Cut-Off Elevation (ft)	Nominal Resistance (kips)		Design Tip Elevation (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance Required (kips)
			Compression	Tension			
Abut 1	HP 14X117	213.00	240	0	160.0(a)	160.0	300
Pier 2	HP 14X117	185.50	250	0	140.0(a)	140.0	300
Abut 3	HP 14X117	213.50	230	0	160.0(a)	160.0	300

NOTES :

- Design tip elevations are controlled by:  
(a) Compression, (strength limit).
- The Specified Tip Elevation shall not be raised above the Design Tip Elevation.

HYDROLOGIC SUMMARY FOR BUTTE CREEK BRIDGE, 12-0126R			
Drainage Area: 152 mi <sup>2</sup>			
Frequency	Design Flood	Base Flood	CVFPB
	50-year	100-year	N/A
Discharge	24,300 cfs	28,900 cfs	27,000 cfs
Water Surface Elevation at Bridge	216.6 ft NGVD 29 218.9 ft NAVD 88	218.50 ft NGVD 29 220.8 ft NAVD 88	217.8 ft NGVD 29 220.1 ft NAVD 88
Flood plain data are based upon information available when the plans were prepared and are shown to meet federal requirements. The accuracy of said information is not warranted by the State and interested or affected parties should make their own investigation.			
Minimum Soffit Elevation*		221.5 ft NGVD 29 (223.8 ft NAVD 88)	
Local Scour Depth		4.8 ft	
Local Scour Elevation		191.4 ft NGVD 29	

\* The Central Valley Flood Protection Board requires 3 feet of Freeboard over the 100-year Flow for new structures at this location.

DESIGN	BY Keith Stillmunkes	CHECKED Mario Guadamuz
DETAILS	BY Yingjue Feng	CHECKED Mario Guadamuz
QUANTITIES	BY Gerald Dickerson	CHECKED Yingjue Feng

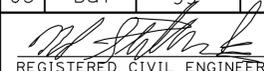
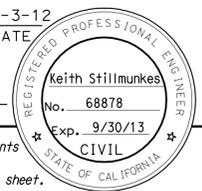
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

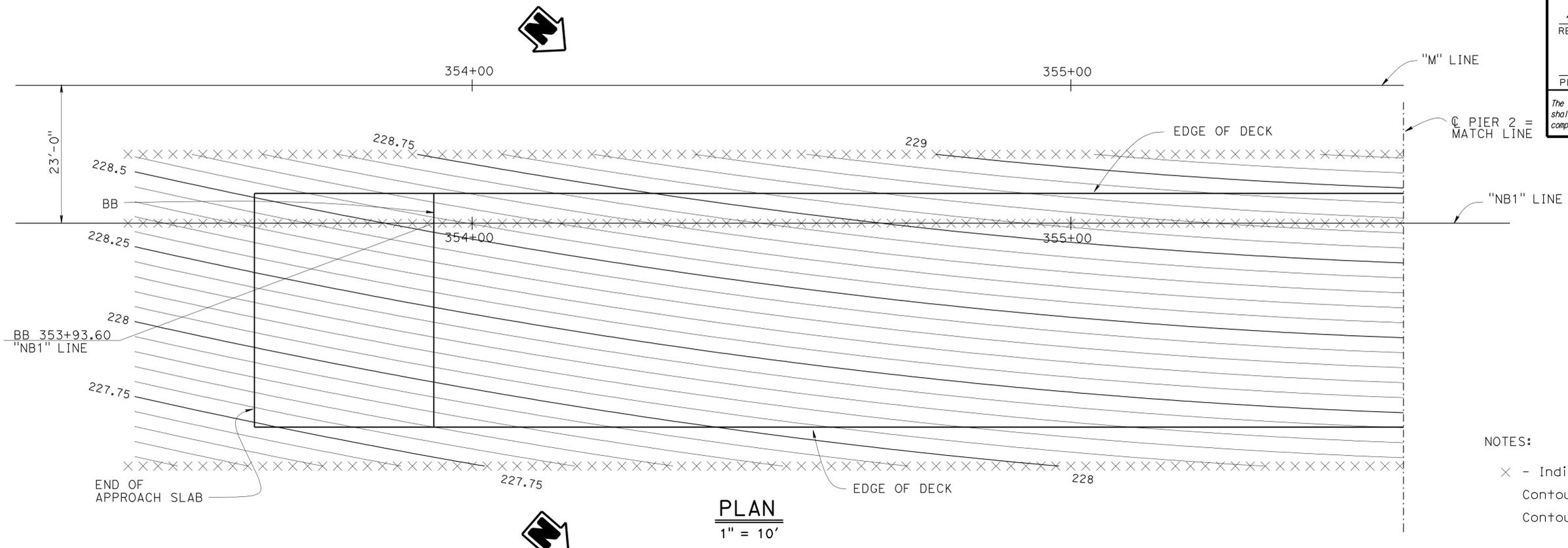
DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
DESIGN BRANCH 7

BRIDGE NO.  
12-0126R  
POST MILE  
28.7

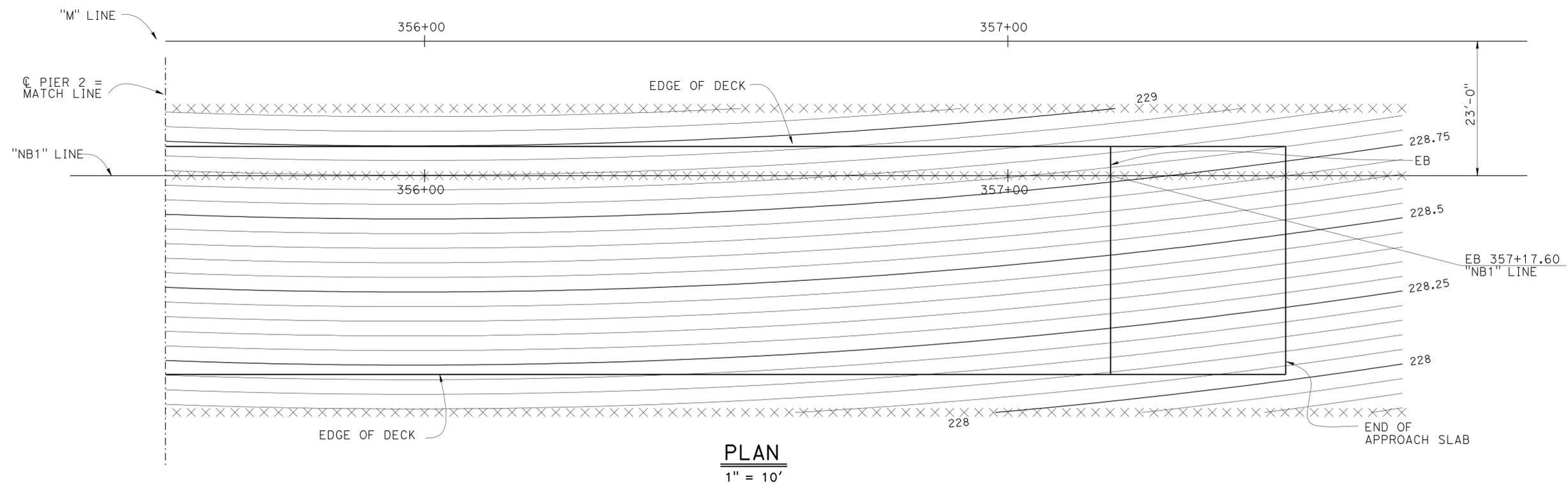
BUTTE CREEK BRIDGE, RIGHT (REPLACE)

INDEX TO PLANS

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	207	231
 REGISTERED CIVIL ENGINEER			4-3-12	DATE	
6-25-12			PLANS APPROVAL DATE		
					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



NOTES:  
 × - Indicates 2'-6" intervals along station line.  
 Contour interval = 0.05'  
 Contour do not include camber.



DESIGN	BY Keith Stillmunkes	CHECKED Mario Guadamuz
DETAILS	BY Yingjue Feng	CHECKED Mario Guadamuz
QUANTITIES	BY Gerald Dickerson	CHECKED Yingjue Feng

**STATE OF CALIFORNIA**  
DEPARTMENT OF TRANSPORTATION

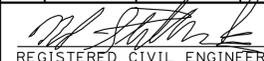
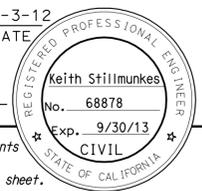
DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
**DESIGN BRANCH 7**

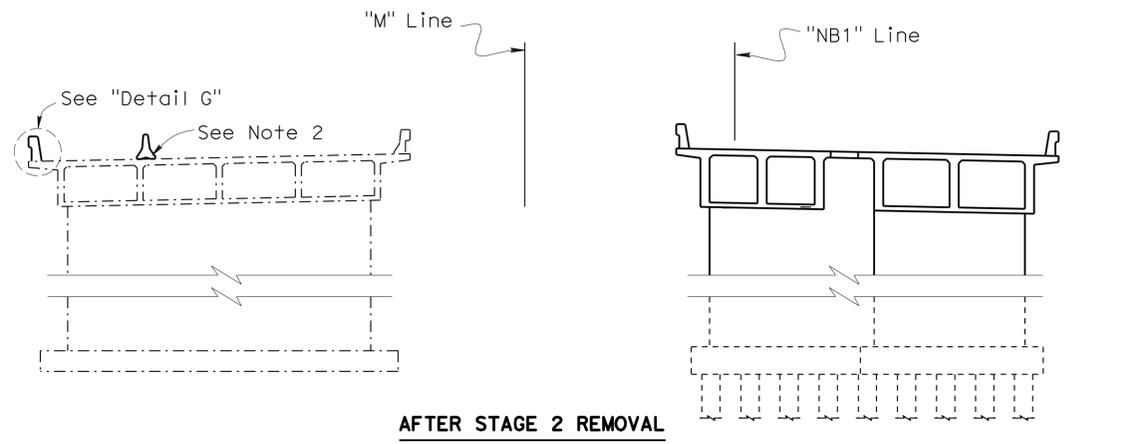
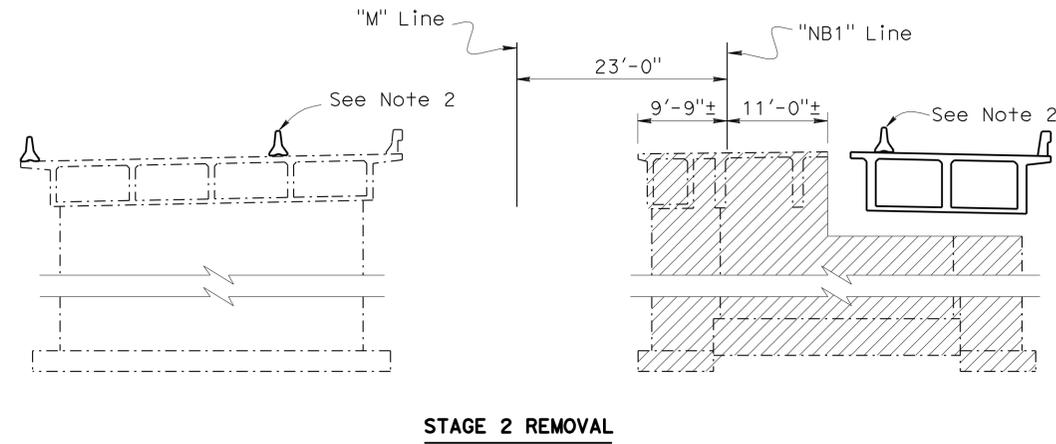
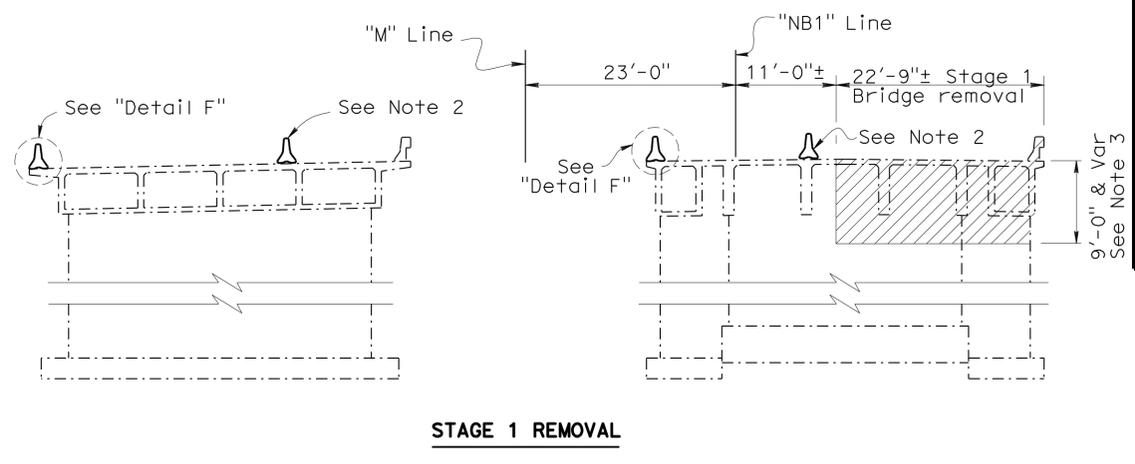
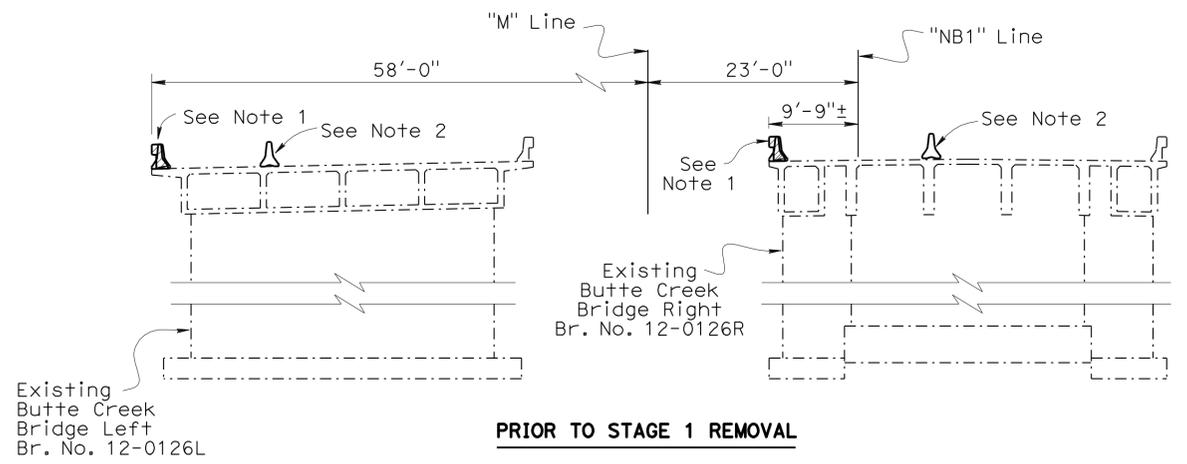
BRIDGE NO.	12-0126R
POST MILE	28.7

**BUTTE CREEK BRIDGE, RIGHT (REPLACE)**  
**DECK CONTOURS**



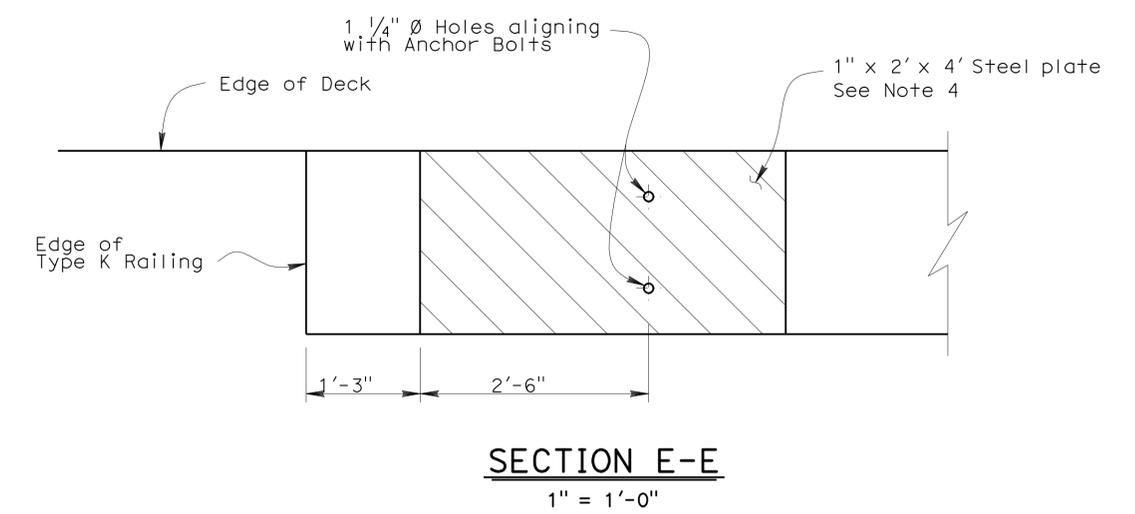
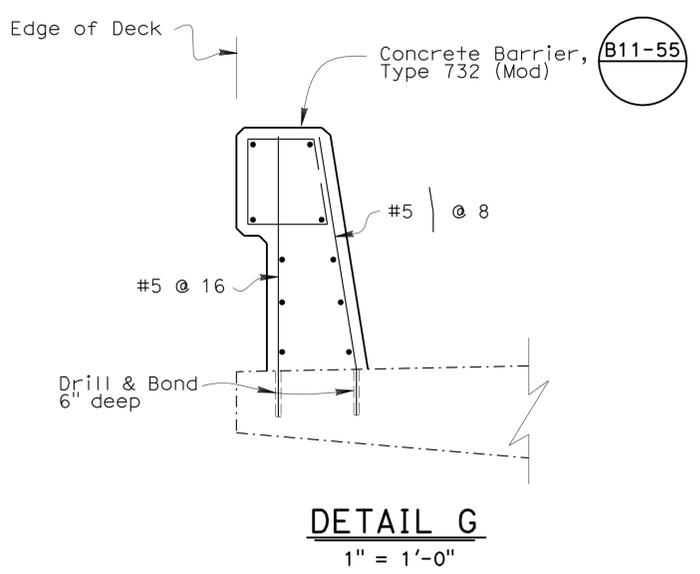
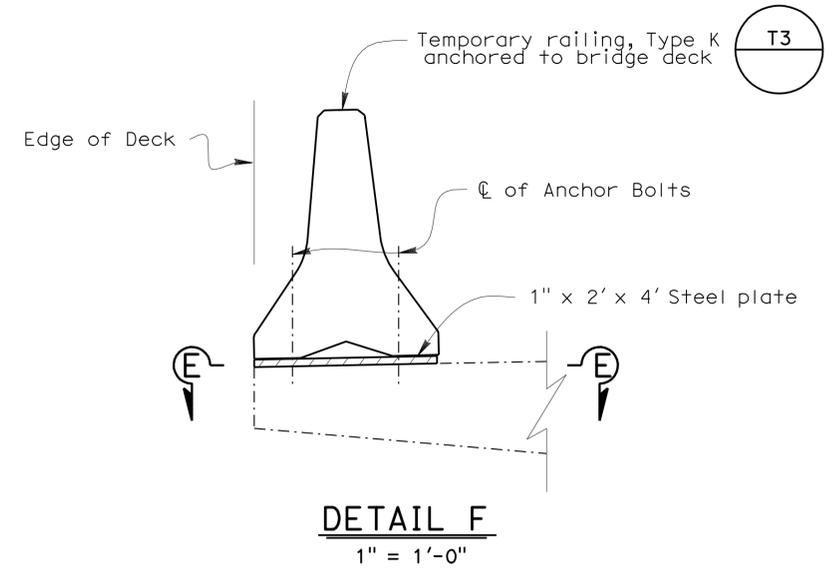
REVISION DATES	SHEET	OF
2-7-12	3	27

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	208	231
 REGISTERED CIVIL ENGINEER			4-3-12	DATE	
6-25-12 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



**STAGE REMOVAL**  
1" = 10'-0"

- NOTES:**
1. Remove existing Type 25 concrete barrier and place temporary railing, Type K anchored to bridge deck on steel plates.
  2. Temporary railing, Type K, see "Road Plans".
  3. Remove pier wall to allow Stage 1 construction.
  4. One end of barrier panel shown. Detail applies to each end of barrier panel on bridge deck.
- LEGEND:**
-  Indicates concrete removal
  -  Indicates existing bridge
  -  Indicates steel plate



DESIGN	BY Keith Stillmunkes	CHECKED Mario Guadamuz
DETAILS	BY Anthony Valdez	CHECKED Mario Guadamuz
QUANTITIES	BY Gerald Dickerson	CHECKED Yingjue Feng

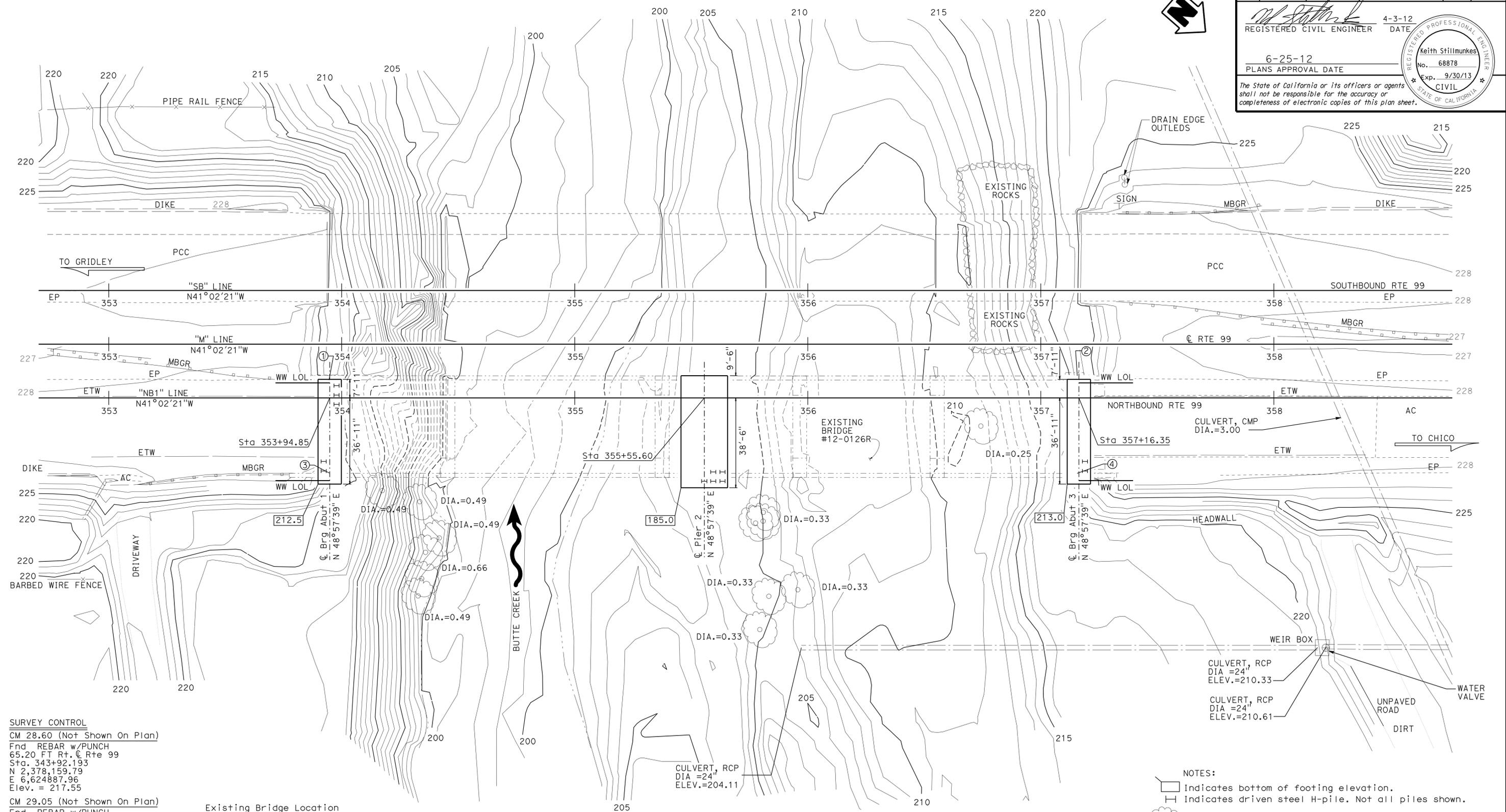
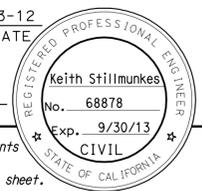
**STATE OF CALIFORNIA**  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
**DESIGN BRANCH 7**

BRIDGE NO.  
12-0126R  
POST MILE  
28.7

**BUTTE CREEK BRIDGE, RIGHT (REPLACE)**  
**BRIDGE REMOVAL**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	209	231
 REGISTERED CIVIL ENGINEER			DATE		
6-25-12 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.					



**SURVEY CONTROL**  
 CM 28.60 (Not Shown On Plan)  
 Fnd REBAR w/PUNCH  
 65.20 FT Rt. C Rte 99  
 Sta. 343+92.193  
 N 2,378,159.79  
 E 6,624887.96  
 Elev. = 217.55

CM 29.05 (Not Shown On Plan)  
 Fnd REBAR w/PUNCH  
 76.97 FT Lt. C Rte 99  
 Sta. 369+76.15  
 N 2,380,015.42  
 E 6,623084.17  
 Elev. = 220.22

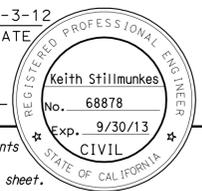
**Existing Bridge Location**

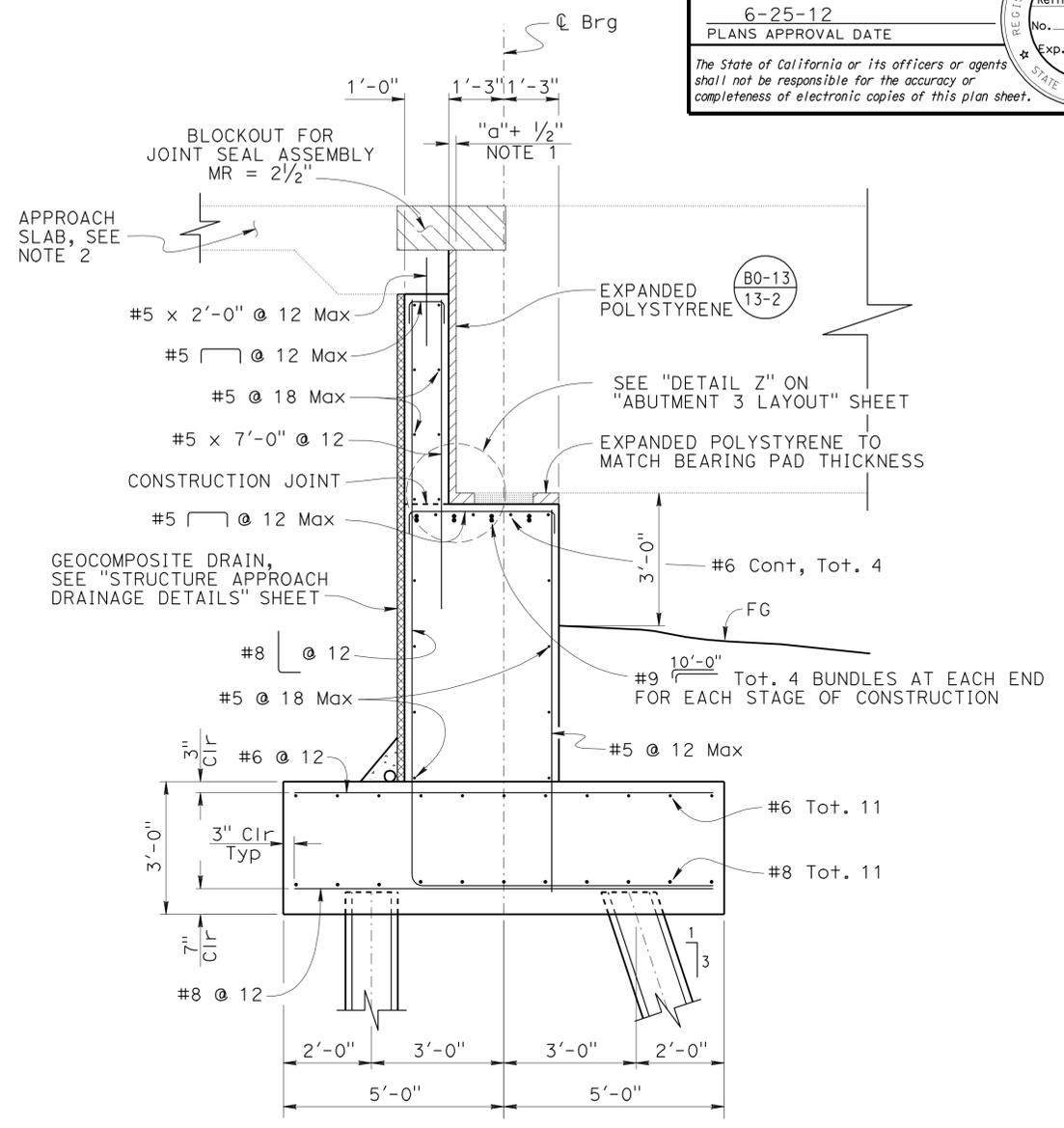
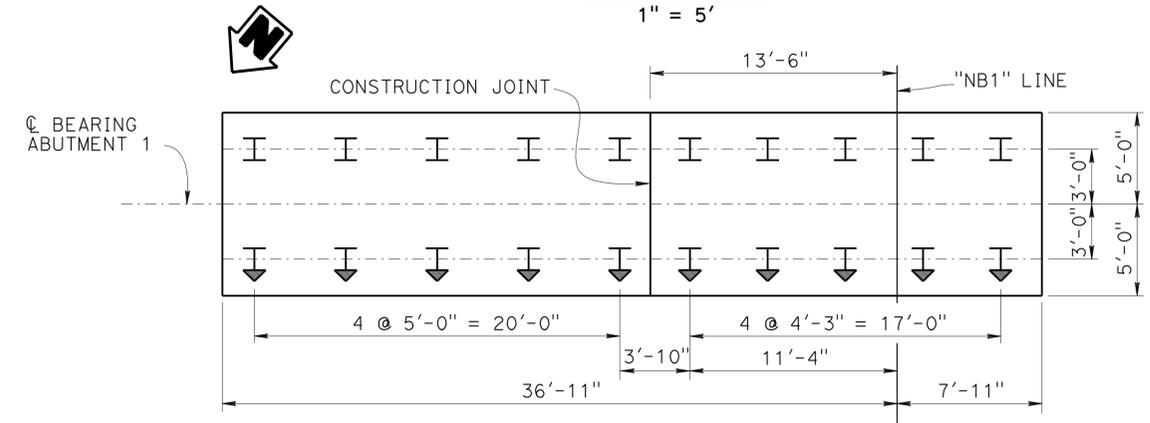
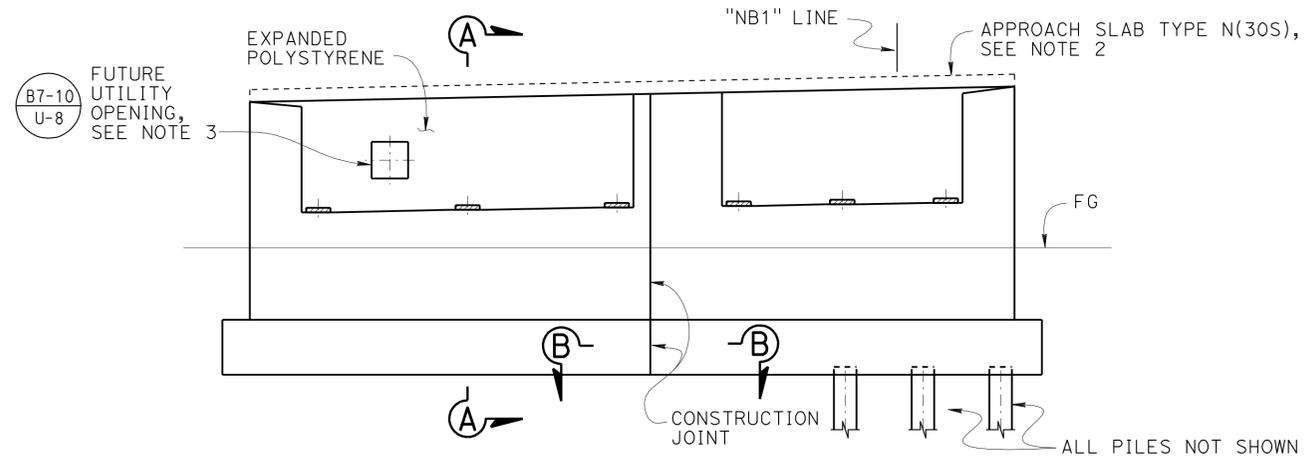
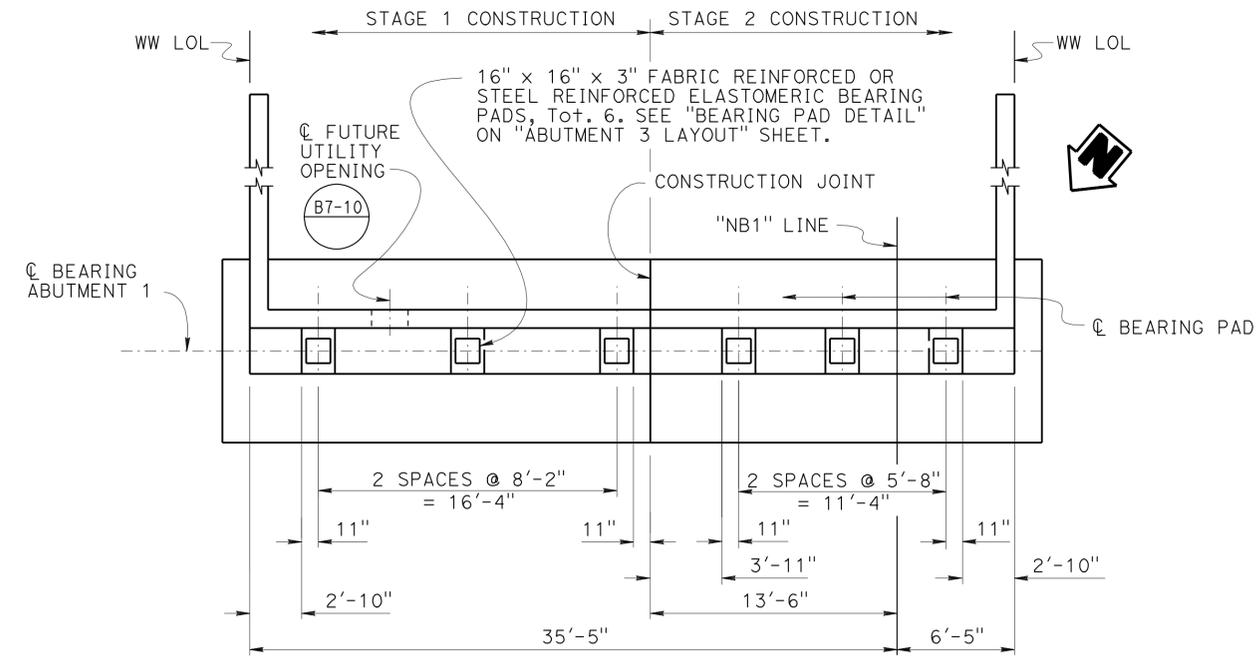
- ① - 7.64 Lt. "NB1" Line, Sta. 353+94.54, Elev.=228.55±
- ② - 7.60 Lt. "NB1" Line, Sta. 357+15.80, Elev.=228.70±
- ③ - 32.16 Rt. "NB1" Line, Sta. 353+94.69, Elev.=228.61±
- ④ - 32.31 Rt. "NB1" Line, Sta. 357+15.61, Elev.=228.70±

**NOTES:**

- Indicates bottom of footing elevation.
- ⊥ Indicates driven steel H-pile. Not all piles shown.
- Indicates tree.

<b>PRELIMINARY INVESTIGATION SECTION</b>				DESIGN BY Keith Stillmunkes	CHECKED Mario Guadamuz	<b>STATE OF CALIFORNIA</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>DIVISION OF ENGINEERING SERVICES</b> <b>STRUCTURE DESIGN</b> <b>DESIGN BRANCH 07</b>	BRIDGE NO. 12-0126R	<b>BUTTE CREEK BRIDGE, RIGHT (REPLACE)</b> <b>FOUNDATION PLAN</b>			
SCALE 1"=20'	VERT. DATUM NGVD29	PHOTOGRAMMETRY AS OF: X	DETAILS BY Anthony Valdez	CHECKED Mario Guadamuz	POST MILE 28.72							
ALIGNMENT TIES Dist. Traverse Sheet	SURVEYED BY District/J. Borden	CHECKED BY J. Borden 03/2011	QUANTITIES BY Gerald Dickerson	CHECKED Yingjue Feng								
STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 09-01-10)						ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3646	PROJECT NUMBER & PHASE: 0300000509 1	CONTRACT NO.: X	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 5 OF 27

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	210	231
 REGISTERED CIVIL ENGINEER			4-3-12 DATE		
6-25-12 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



- NOTES:
- See "JOINT SEAL ASSEMBLY. MAXIMUM MOVEMENT RATING = 4" sheet
  - For Structure Approach Slab details, see "STRUCTURE APPROACH TYPE N(30S)" sheet
  - For location of future utility opening, see "PIER LAYOUT" sheet
  - For "SECTION B-B", see "ABUTMENT DETAILS NO. 1" sheet
  - For Steel Pile Anchor detail, see "ABUTMENT 3 LAYOUT" sheet

- LEGEND:
- ⊥ Indicates vertical steel H - Pile
  - ⚓ Indicates 1:3 Battered steel H - Pile

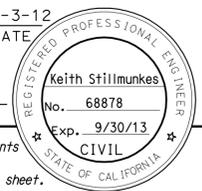
DESIGN	BY Keith Stillmunkes	CHECKED Mario Guadamuz
DETAILS	BY Gerald Dickerson	CHECKED Mario Guadamuz
QUANTITIES	BY Gerald Dickerson	CHECKED Yingjue Feng

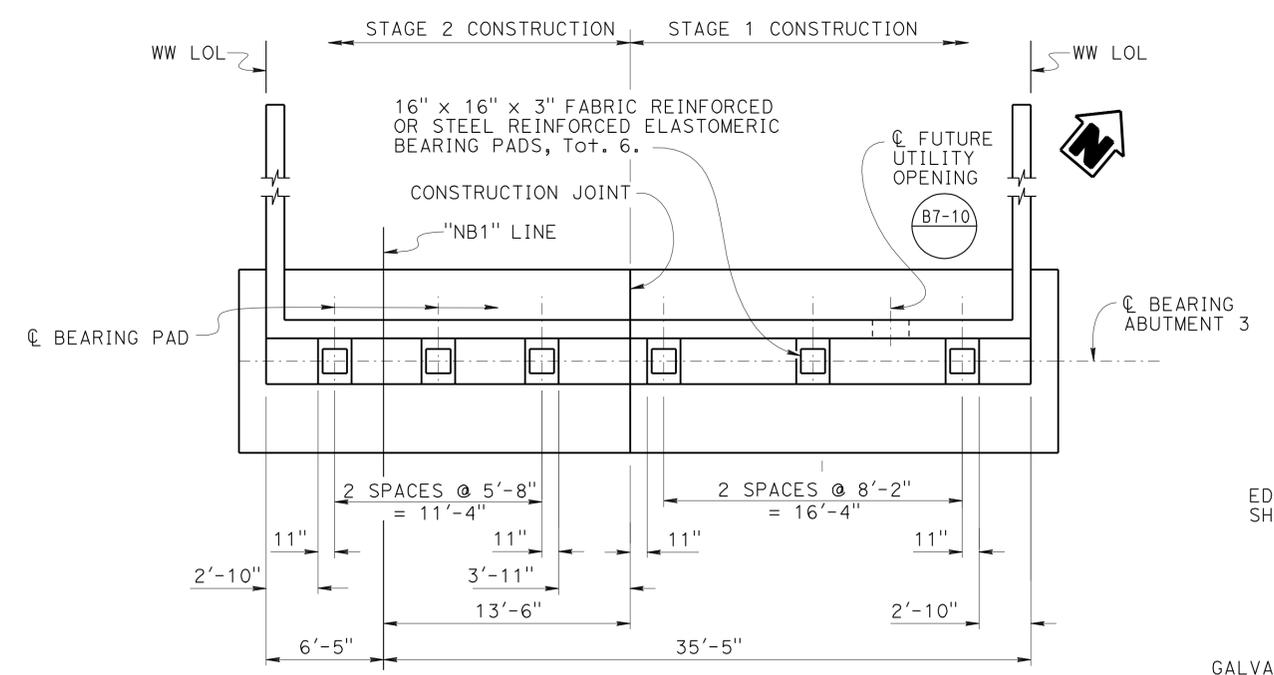
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
DESIGN BRANCH 7

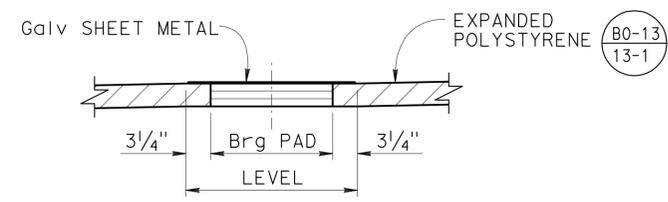
BRIDGE NO.	12-0126R
POST MILE	28.7

BUTTE CREEK BRIDGE, RIGHT (REPLACE)  
ABUTMENT 1 LAYOUT

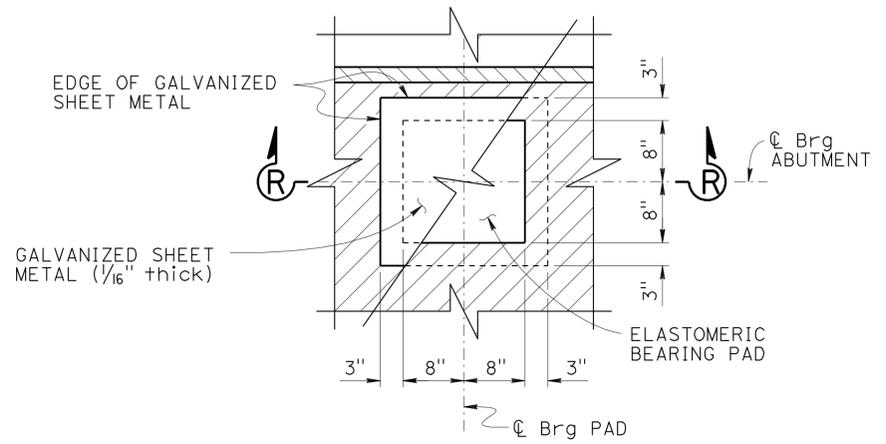
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	211	231
 REGISTERED CIVIL ENGINEER			4-3-12 DATE		
6-25-12 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



**PLAN**  
1" = 5'

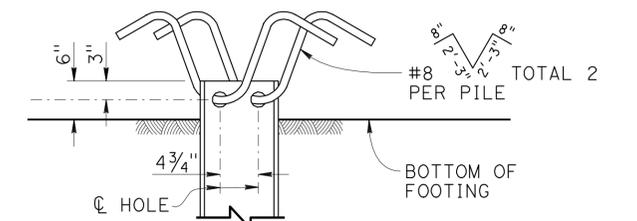


**SECTION R-R**  
No Scale

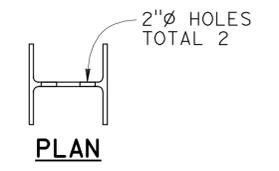


**BEARING PAD DETAIL**  
No Scale

NOTES:  
Coat top of Bearing Pad with silicone grease prior to placing sheet metal.  
Details typical at all bearing pads

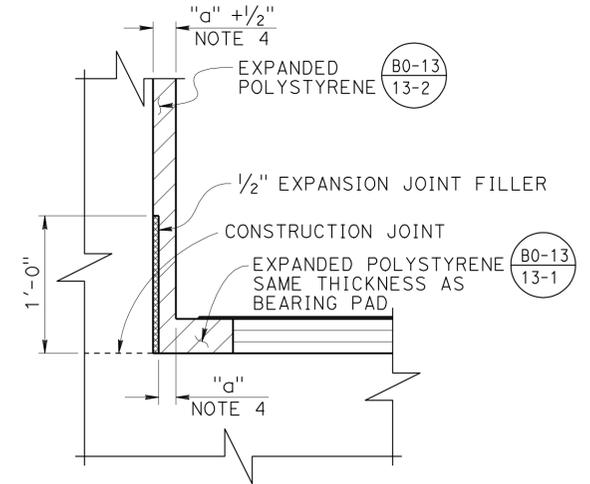


**ELEVATION**



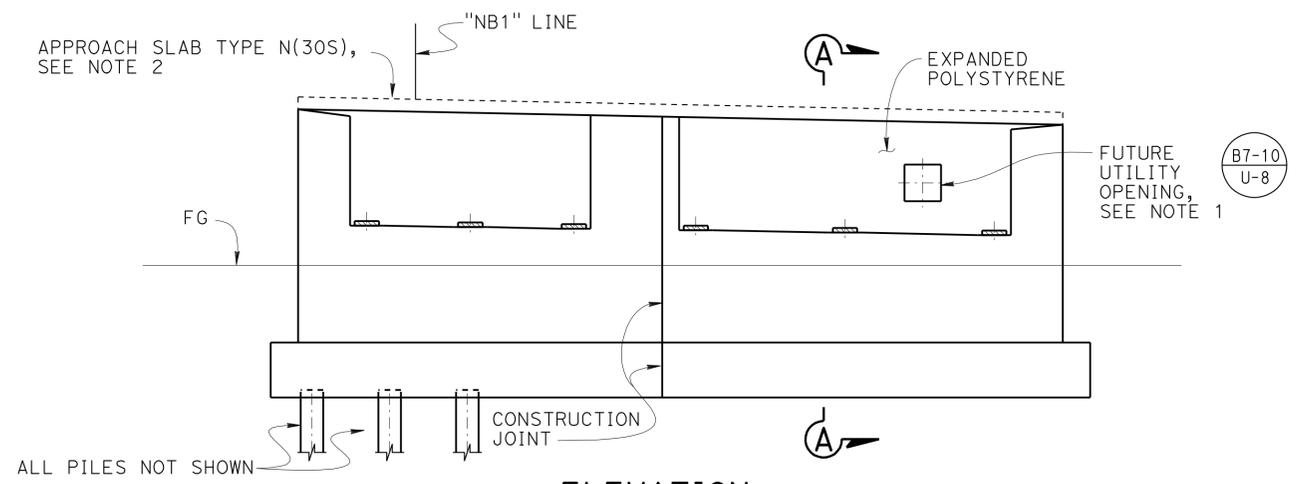
**PLAN**

**STEEL PILE ANCHOR DETAIL**  
No Scale

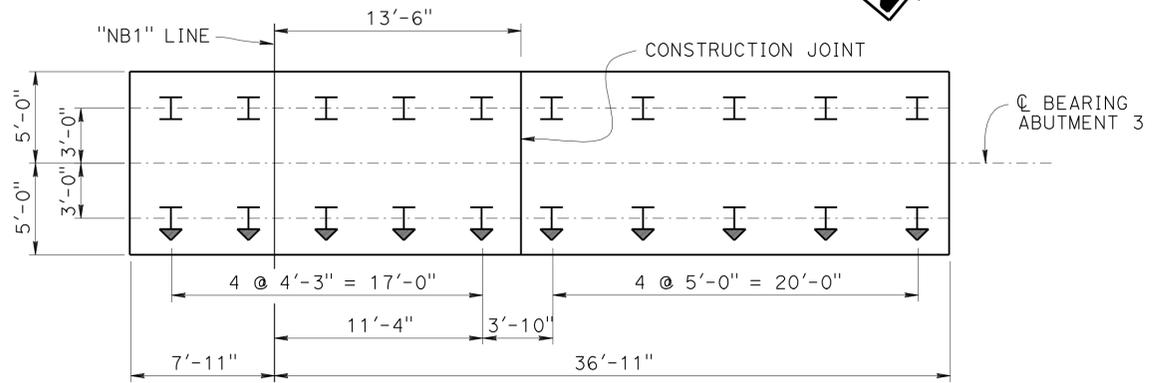


**DETAIL Z**  
No Scale

- NOTES:
- For location of future utility opening, see "PIER LAYOUT" sheet
  - For Structure Approach Slab details, see "STRUCTURE APPROACH TYPE N(30S)" sheet
  - For "SECTION A-A", see "ABUTMENT 1 LAYOUT" sheet
  - See "JOINT SEAL ASSEMBLY. MAXIMUM MOVEMENT RATING = 4" sheet



**ELEVATION**  
1" = 5'



**FOOTING**  
1" = 5'

- LEGEND:
-  Indicates vertical steel H - Pile
  -  Indicates 1:3 Battered steel H - Pile

DESIGN	BY Keith Stillmunkes	CHECKED Mario Guadamuz
DETAILS	BY Gerald Dickerson	CHECKED Mario Guadamuz
QUANTITIES	BY Gerald Dickerson	CHECKED Yingjue Feng

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

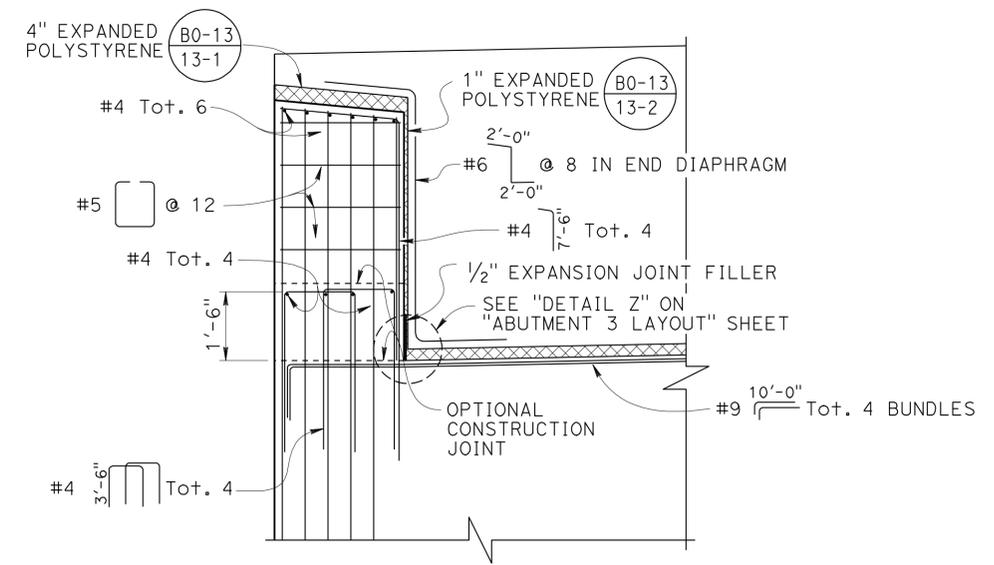
DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
**DESIGN BRANCH 7**

BRIDGE NO.	12-0126R
POST MILE	28.7

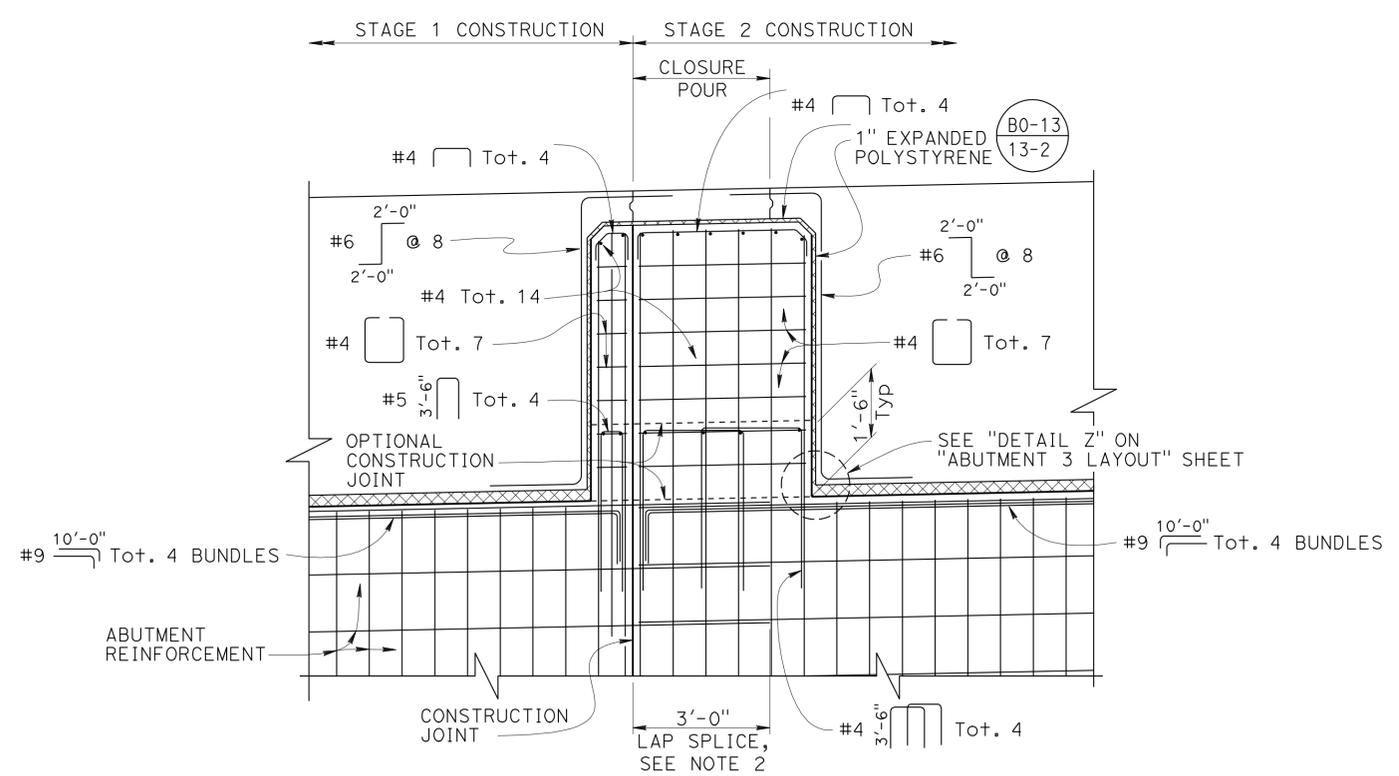
**BUTTE CREEK BRIDGE, RIGHT (REPLACE)**  
**ABUTMENT 3 LAYOUT**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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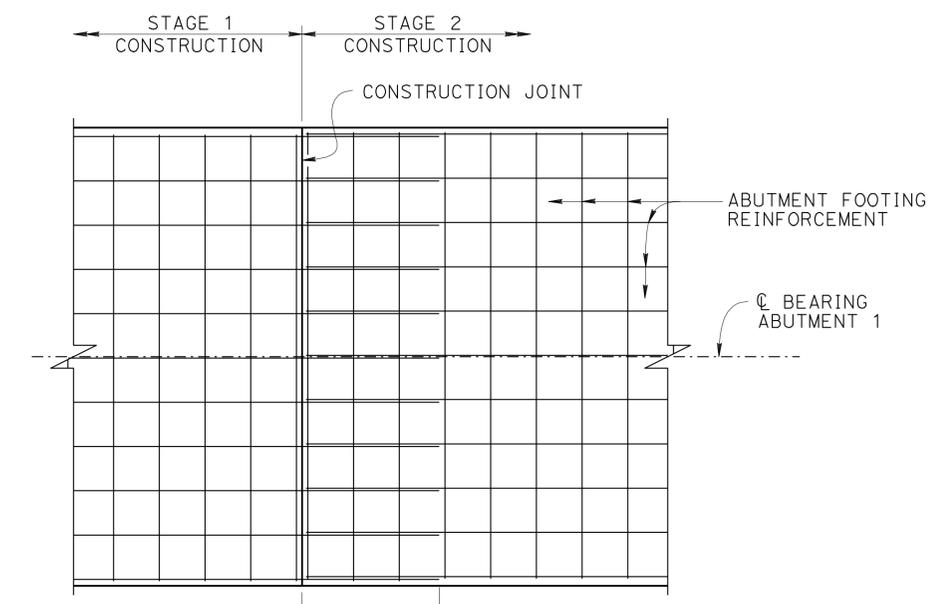
REGISTERED CIVIL ENGINEER  
 DATE 4-3-12  
 PLANS APPROVAL DATE 6-25-12  
 Keith Stillmunkes  
 No. 68878  
 Exp. 9/30/13  
 CIVIL  
 STATE OF CALIFORNIA  
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**EXTERNAL SHEAR KEY  
(PART ELEVATION)**  
1/2" = 1'-0"



**INTERNAL SHEAR KEY  
(PART ELEVATION)**  
1/2" = 1'-0"



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

- NOTES:
- Abutment 1 shown, Abutment 3 similar.
  - Use 3'-0" lap splice for longitudinal reinforcement in the abutment stem, abutment backwall and abutment footing.

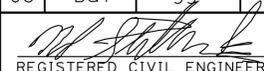
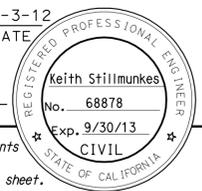
LEGEND:  
 Indicates expanded polystyrene

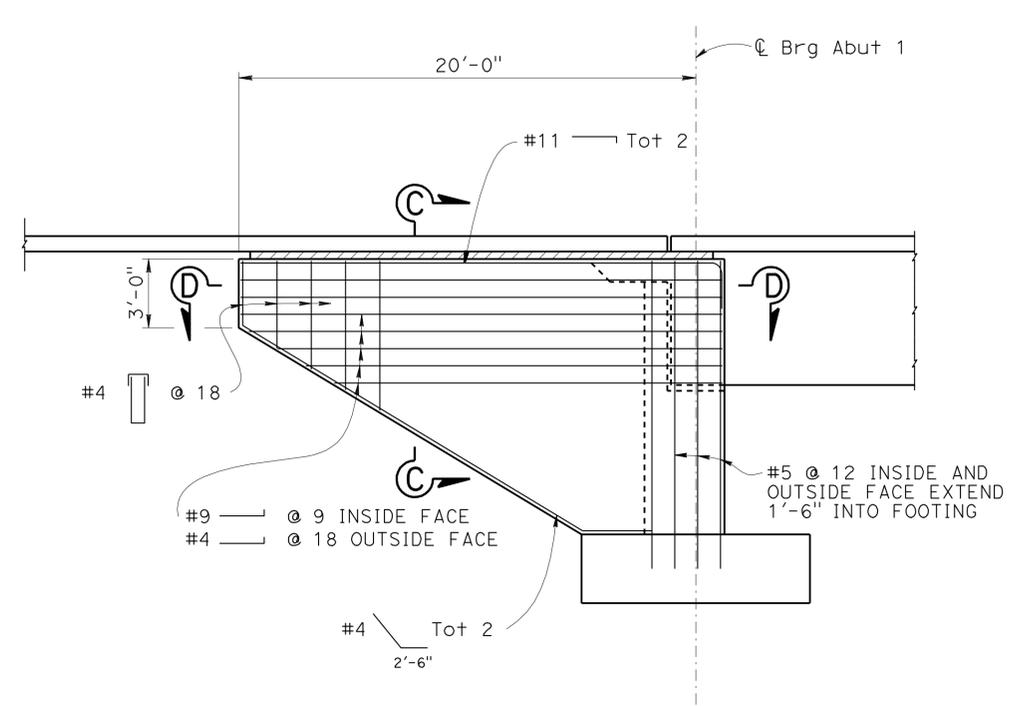
DESIGN	BY Keith Stillmunkes	CHECKED Mario Guadamuz
DETAILS	BY Gerald Dickerson	CHECKED Mario Guadamuz
QUANTITIES	BY Gerald Dickerson	CHECKED Yingjue Feng

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
**DESIGN BRANCH 7**

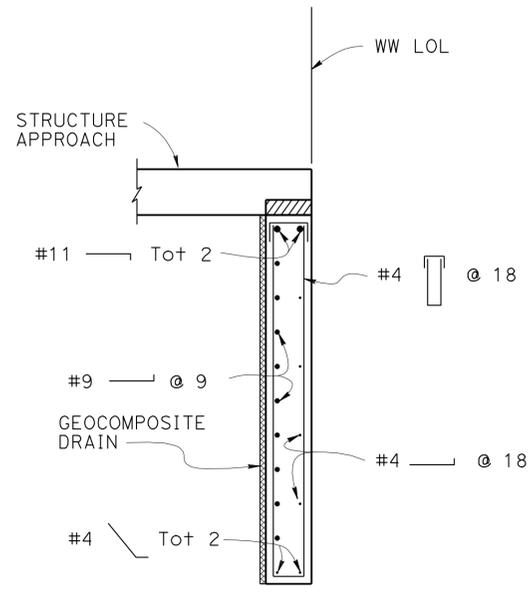
BRIDGE NO. 12-0126R  
 POST MILE 28.7  
**BUTTE CREEK BRIDGE, RIGHT (REPLACE)**  
**ABUTMENT DETAILS NO.1**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	213	231
 REGISTERED CIVIL ENGINEER			4-3-12 DATE		
6-25-12 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					

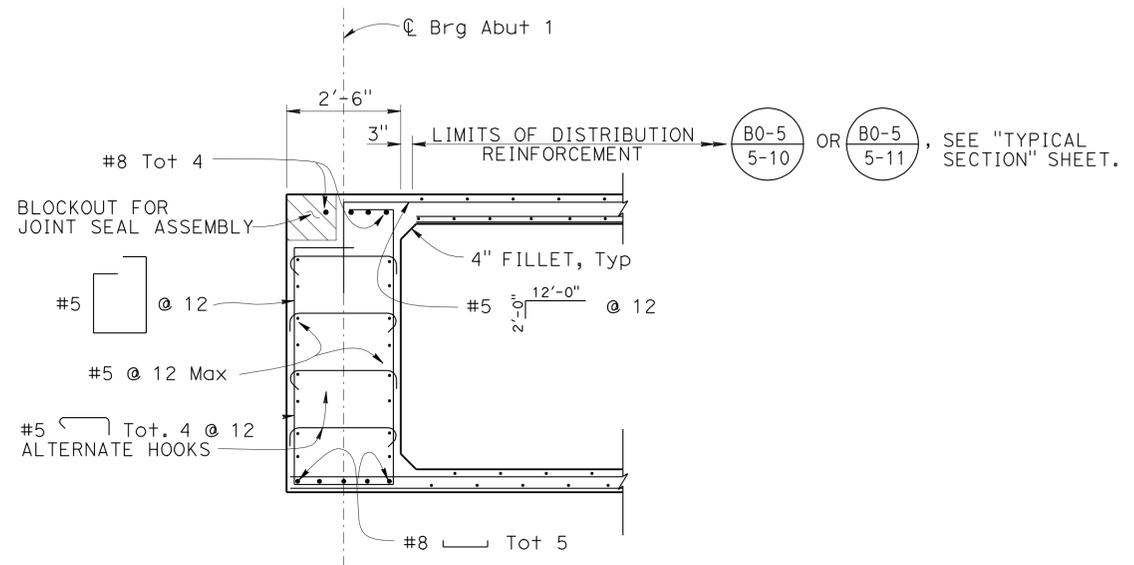


**WINGWALL ELEVATION**  
1/4" = 1'-0"

B0-1



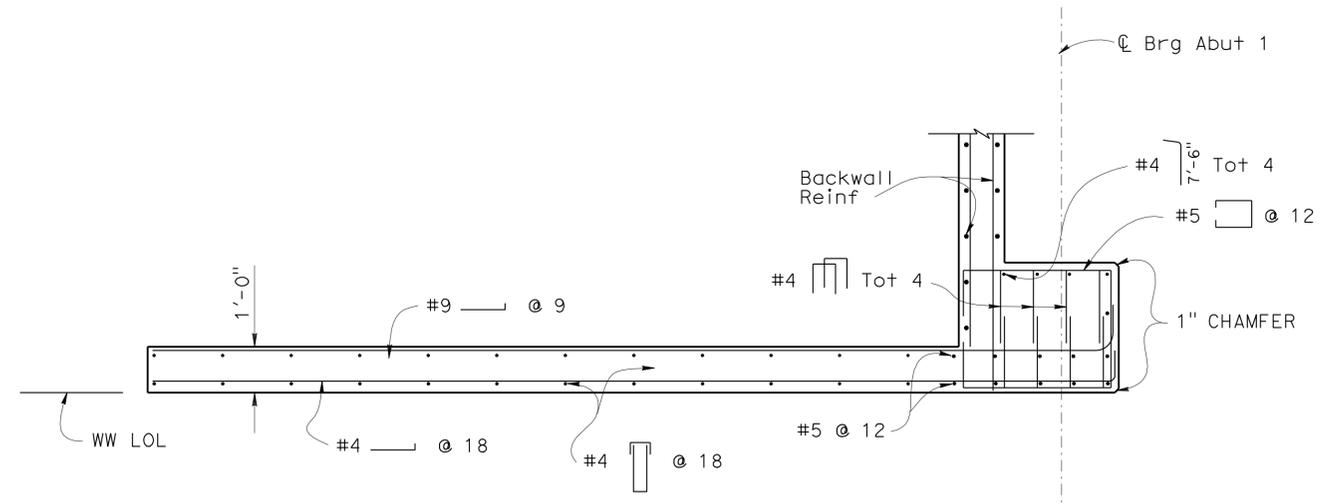
**SECTION C-C**  
1/2" = 1'-0"



**END DIAPHRAGM TYPICAL SECTION**  
1/2" = 1'-0"

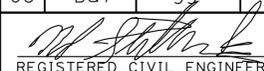
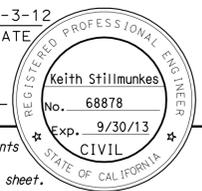
B8-5

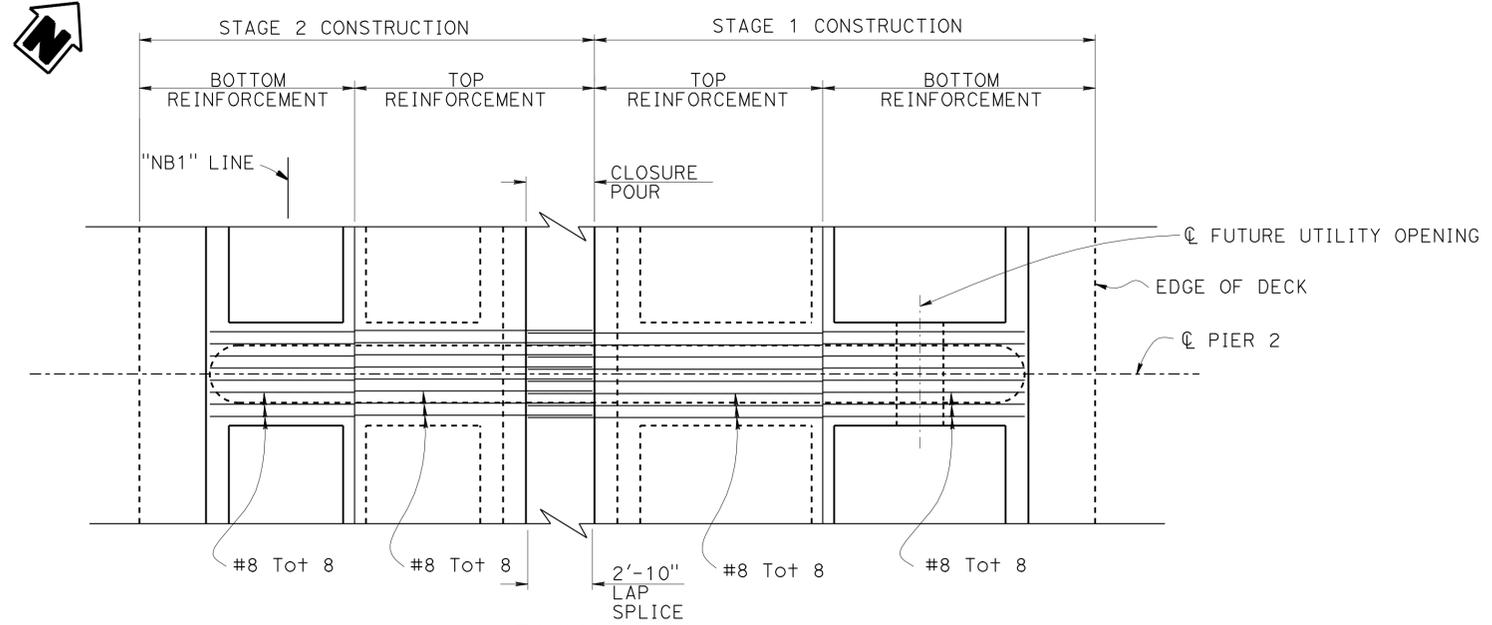
- Notes:
1. Abutment 1 shown, Abutment 3 similar.
  2. Concrete barrier not shown.



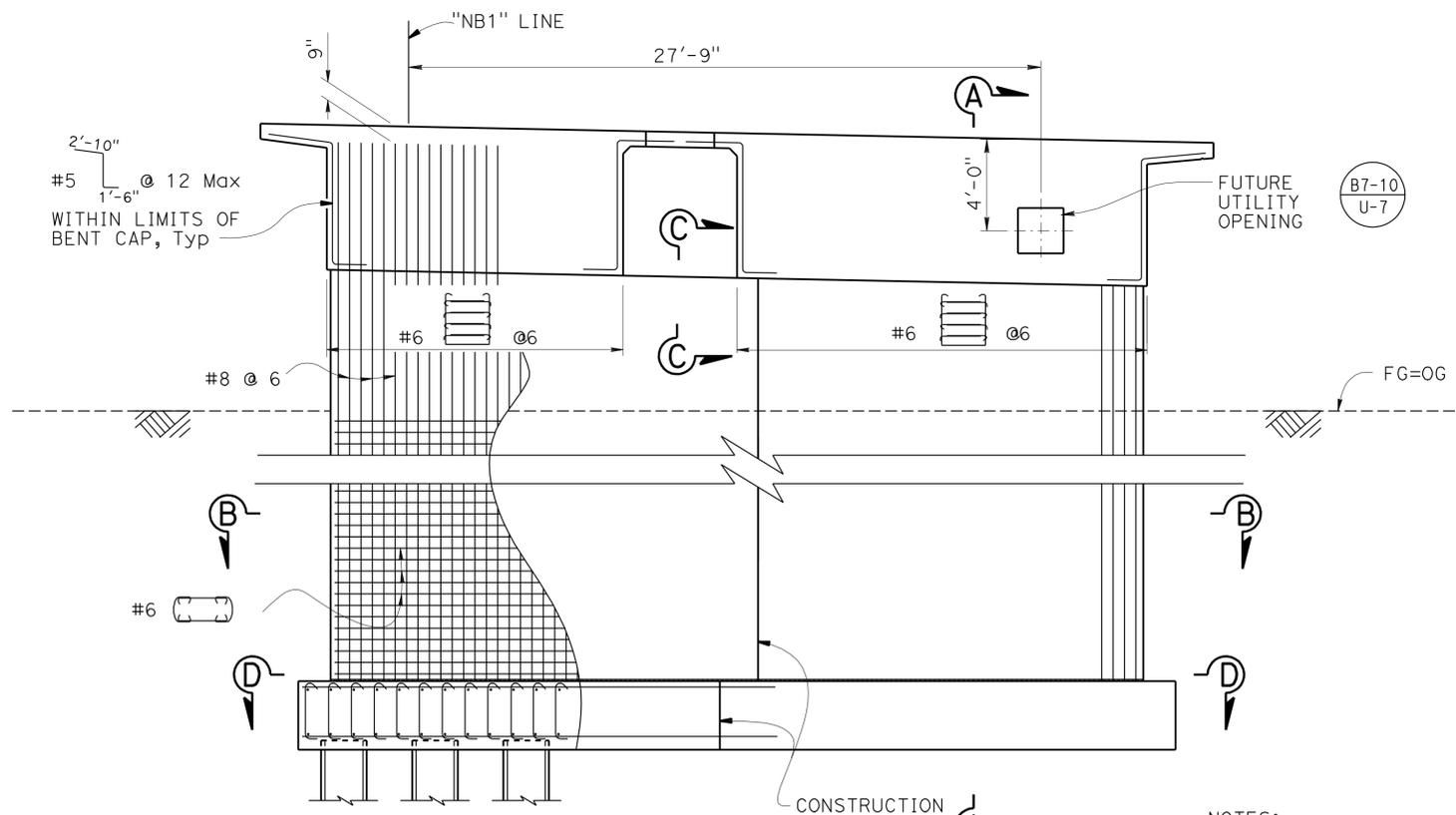
**SECTION D-D**  
1/2" = 1'-0"

DESIGN	BY	Keith Stillmunkes	CHECKED	Mario Guadamuz	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 7</b>	BRIDGE NO.	12-0126R	<b>BUTTE CREEK BRIDGE, RIGHT (REPLACE)</b>
	DETAILS	BY	Yingjue Feng	CHECKED			Mario Guadamuz	POST MILE	
QUANTITIES	BY	Gerald Dickerson	CHECKED	Yingjue Feng	UNIT: 3592	PROJECT NUMBER & PHASE: 0300000509 1	CONTRACT NO.: 03-3E6201	REVISION DATES	SHEET 9 OF 27
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)					ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		DISREGARD PRINTS BEARING EARLIER REVISION DATES		7-23-11 7-23-12 7-23-12

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	214	231
 REGISTERED CIVIL ENGINEER			4-3-12 DATE		
6-25-12 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					

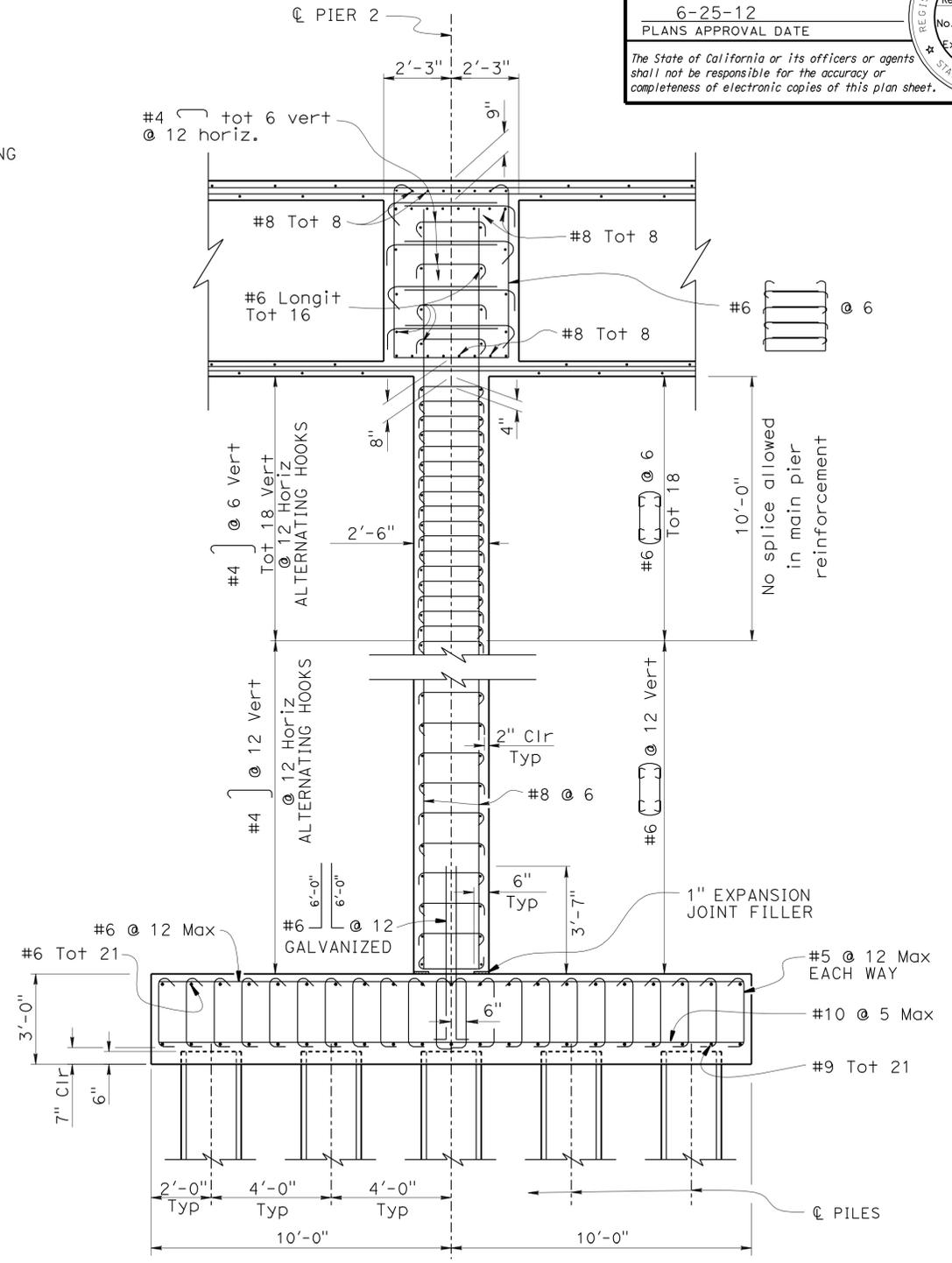


**PLAN**  
1/4" = 1'-0"



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

- NOTES:
- Not all piles shown, see "PIER DETAILS" sheet for pile placement.
  - For "SECTIONS B-B", "C-C" and "D-D" see "PIER DETAILS" sheet.



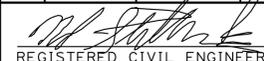
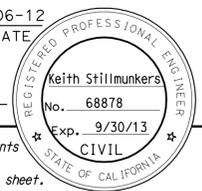
**SECTION A-A**  
3/8" = 1'-0"

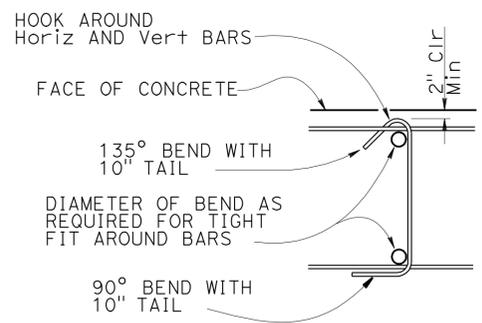
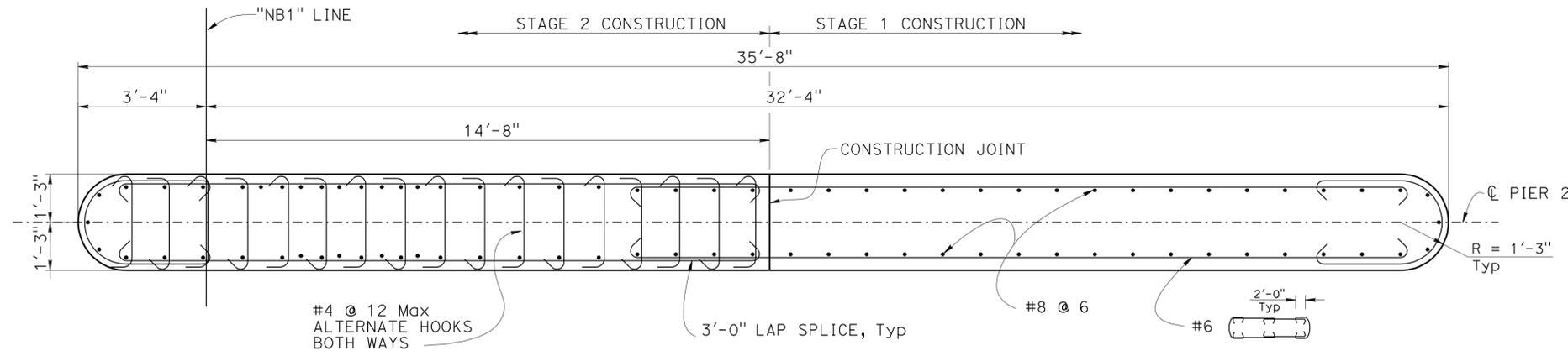
DESIGN	BY Keith Stillmunkes	CHECKED Mario Guadamuz
DETAILS	BY Yingjue Feng	CHECKED Mario Guadamuz
QUANTITIES	BY Gerald Dickerson	CHECKED Yingjue Feng

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
**DESIGN BRANCH 7**

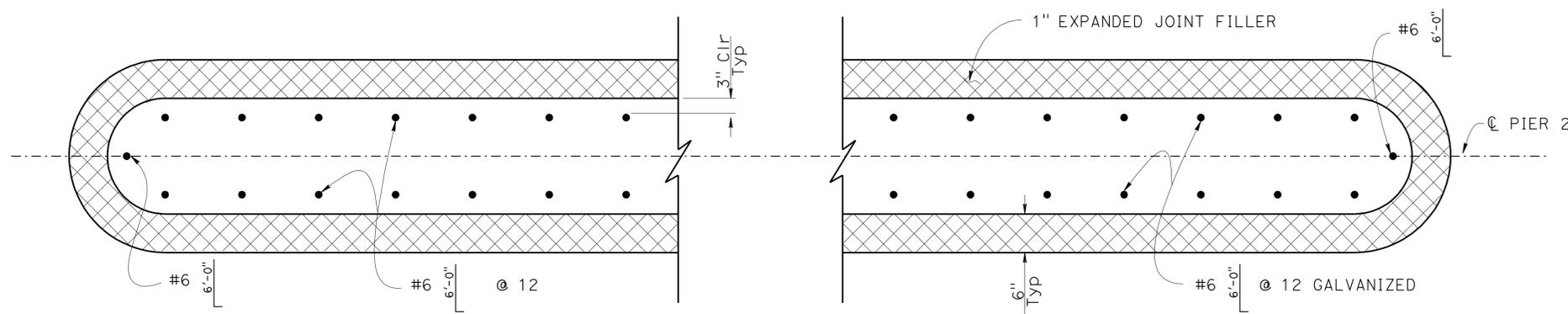
BRIDGE NO. 12-0126R  
POST MILE 28.7  
**BUTTE CREEK BRIDGE, RIGHT (REPLACE)**  
**PIER LAYOUT**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Butt	99	28.1/29.6	215	231
 REGISTERED CIVIL ENGINEER			6-06-12 DATE		
6-25-12 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					

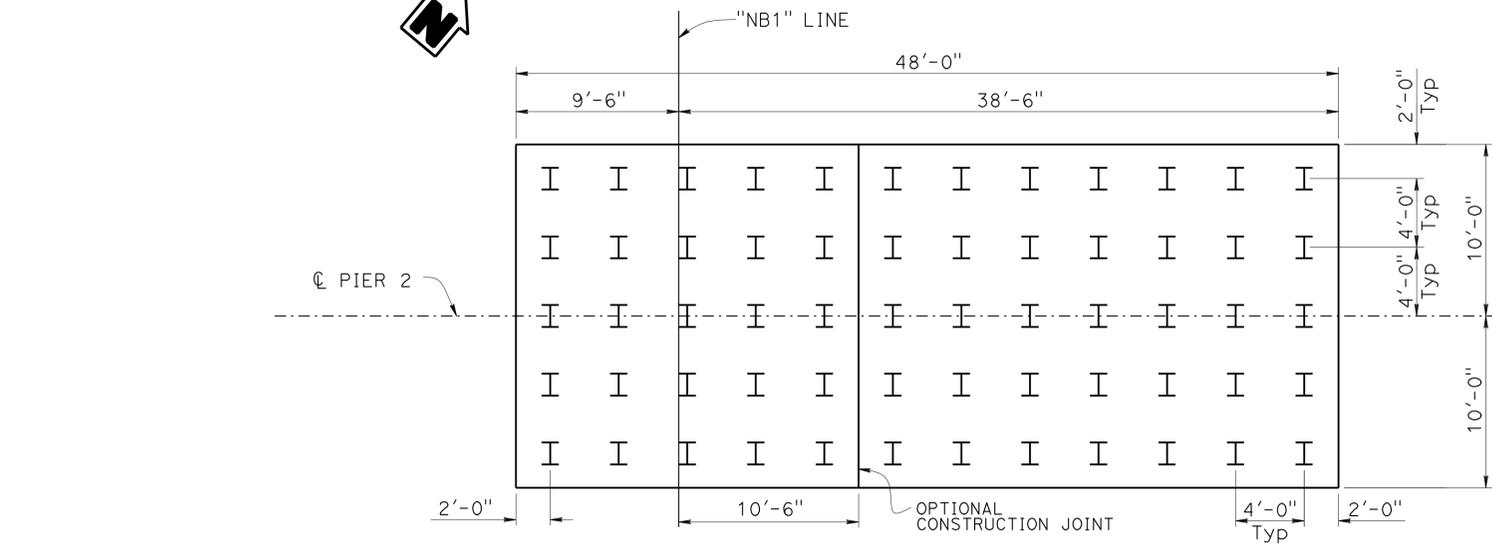


**TIE BAR DETAIL**  
No scale

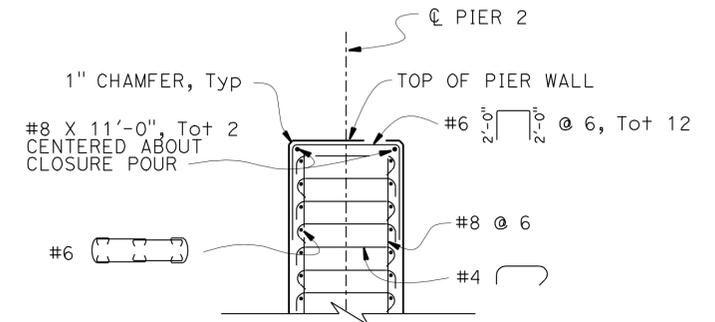
**SECTION B-B**  
1/2" = 1'-0"



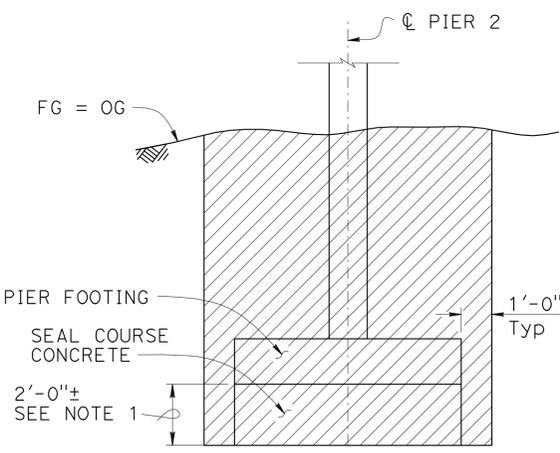
**SECTION D-D**  
1" = 1'-0"



**PIER FOOTING LAYOUT**  
3/16" = 1'-0"



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



**LIMITS OF PAYMENT FOR STRUCTURE EXCAVATION TYPE A**  
No Scale

- NOTES:
- Seal course to be placed only when ordered by the Engineer. Estimated quantities involved are based on the seal thickness shown. The thickness to be used will be determined in the field by the Engineer.
- LEGEND:
-  Indicates structure excavation (Type A)
  -  Indicates Expanded Polystyrene or Expansion Joint Filler
  -  Indicates H-Pile

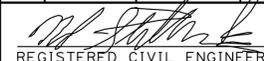
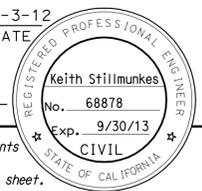
DESIGN	BY Keith Stillmunkes	CHECKED Mario Guadamuz
DETAILS	BY Yingjue Feng	CHECKED Mario Guadamuz
QUANTITIES	BY Gerald Dickerson	CHECKED Yingjue Feng

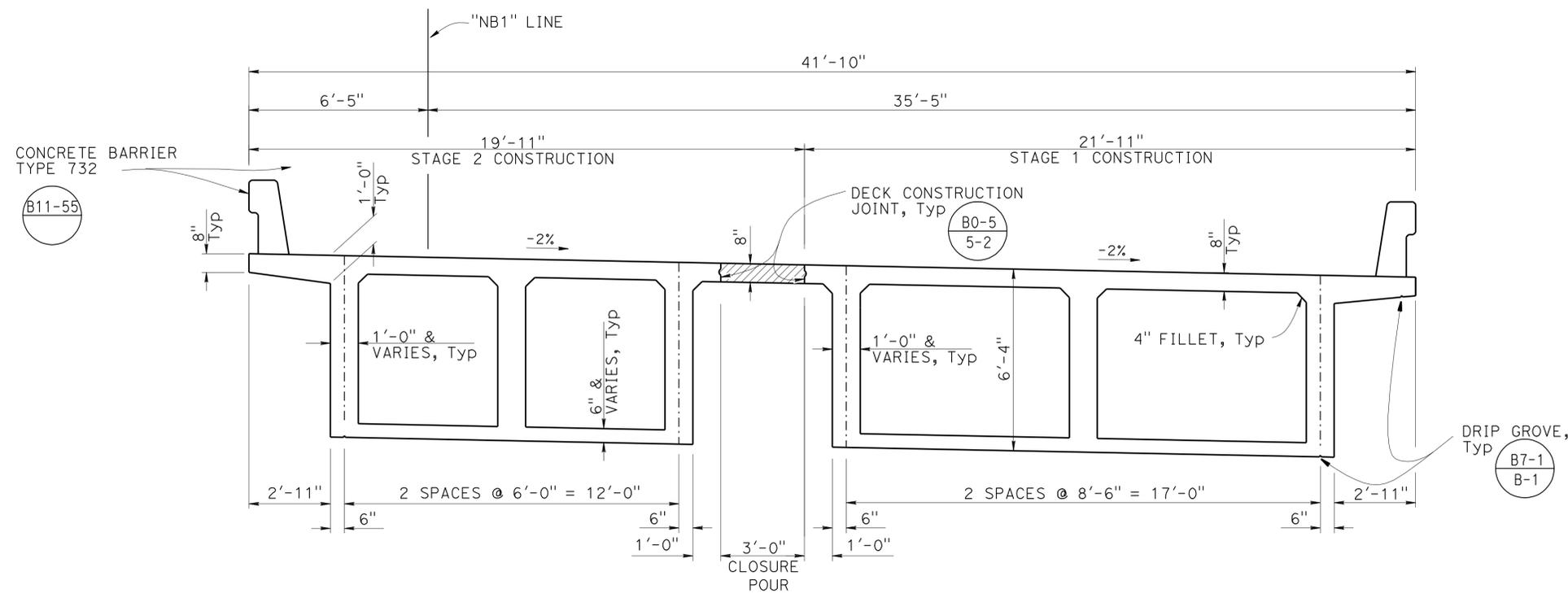
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
DESIGN BRANCH 7

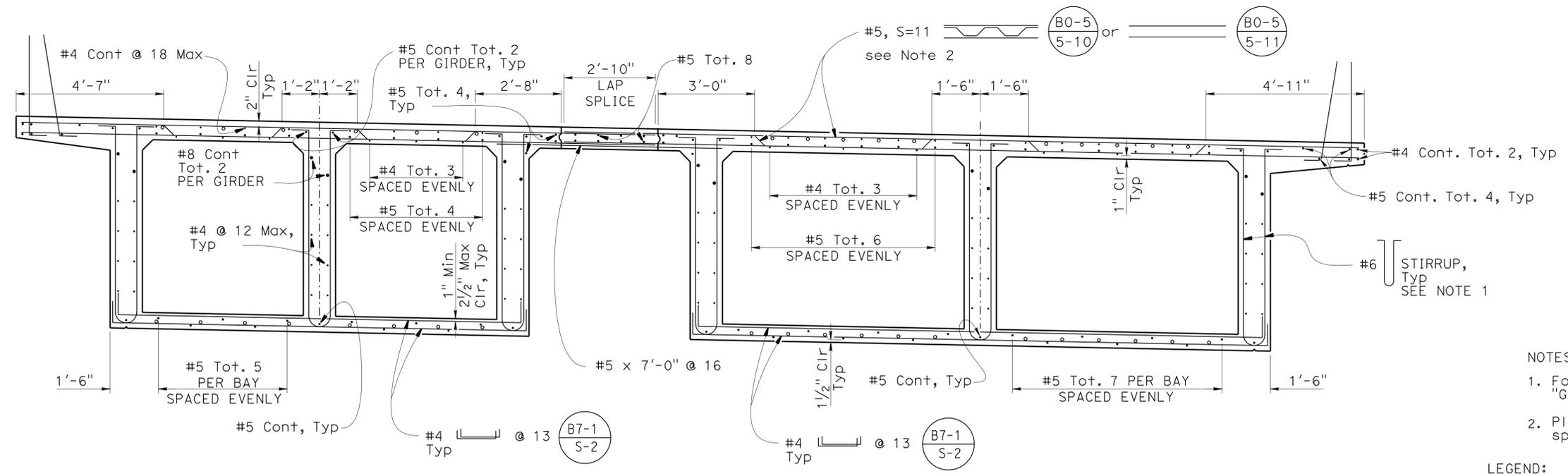
BRIDGE NO.	12-0126R
POST MILE	28.7

**BUTTE CREEK BRIDGE, RIGHT (REPLACE)**  
**PIER DETAILS**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	216	231
 REGISTERED CIVIL ENGINEER			4-3-12	DATE	
6-25-12			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.					



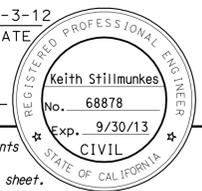
**TYPICAL SECTION**  
 $\frac{3}{8}'' = 1'-0''$

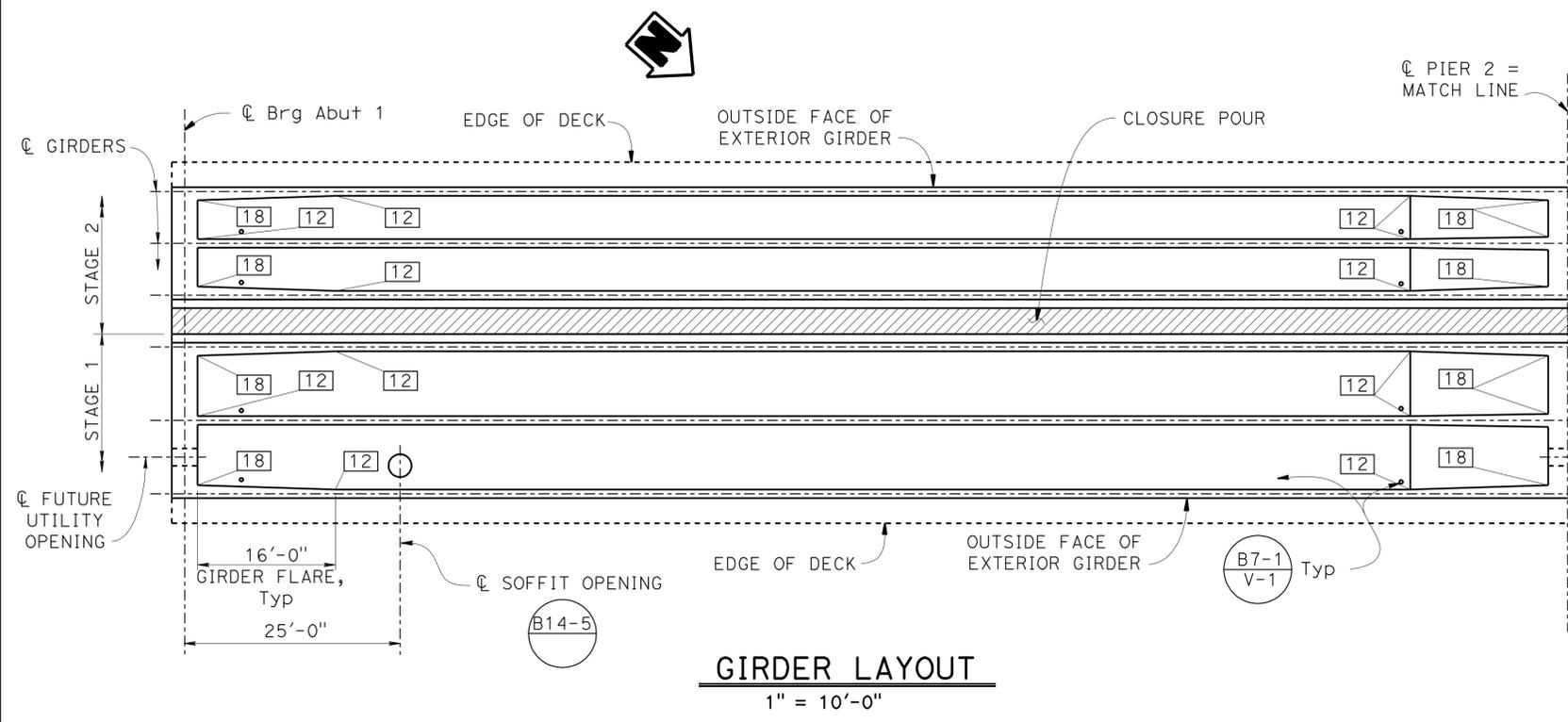


**PART TYPICAL SECTION**  
 $\frac{1}{2}'' = 1'-0''$

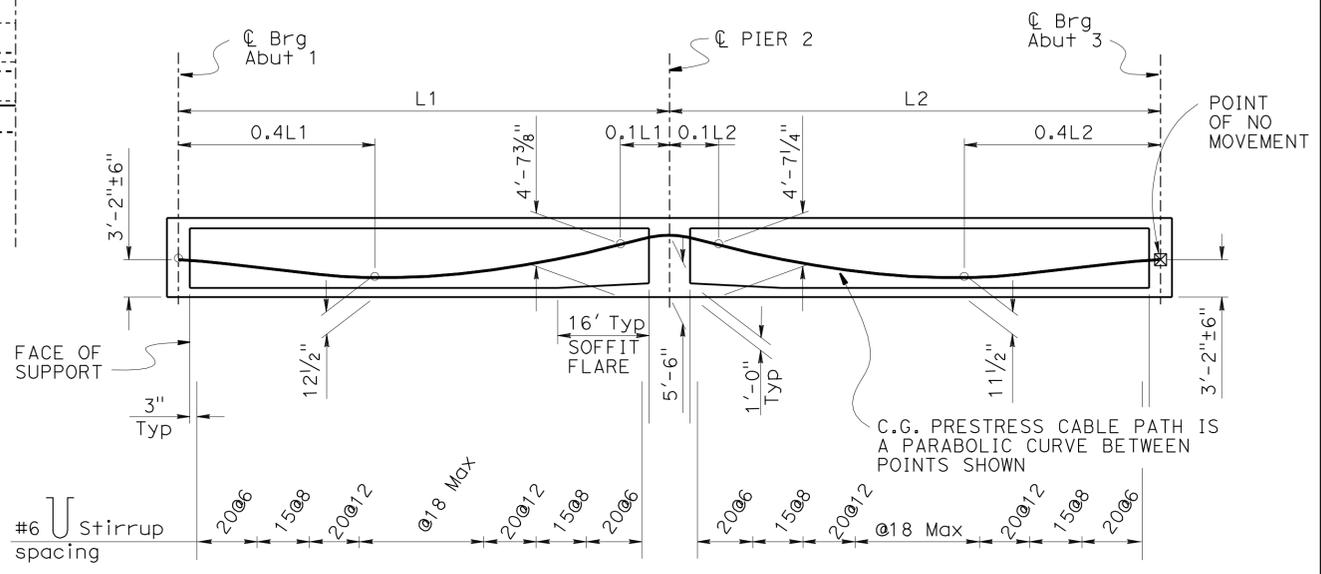
- NOTES:
- For spacing, see "GIRDER LAYOUT" sheet.
  - Place parallel to  $\phi$  bent, space along  $\phi$  bridge.
- LEGEND:
-  Indicates closure pour
  -  Indicates additional reinforcement, see "ADDITIONAL SLAB REINFORCEMENT" sheet.

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY Keith Stillmunkes	CHECKED Mario Guadamuz	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 7</b>	BRIDGE NO.	12-0126R	<b>BUTTE CREEK BRIDGE, RIGHT (REPLACE)</b> <b>TYPICAL SECTION</b>	
	DETAILS	BY Yingjue Feng	CHECKED Mario Guadamuz			POST MILE	28.7		
	QUANTITIES	BY Gerald Dickerson	CHECKED Yingjue Feng			UNIT: 3592	PROJECT NUMBER & PHASE: 0300000509 1		CONTRACT NO.: 03-3E6201
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				0 1 2 3		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES 7-24-11 12-6-11 12-16-11 2-24-12	SHEET 12 OF 27

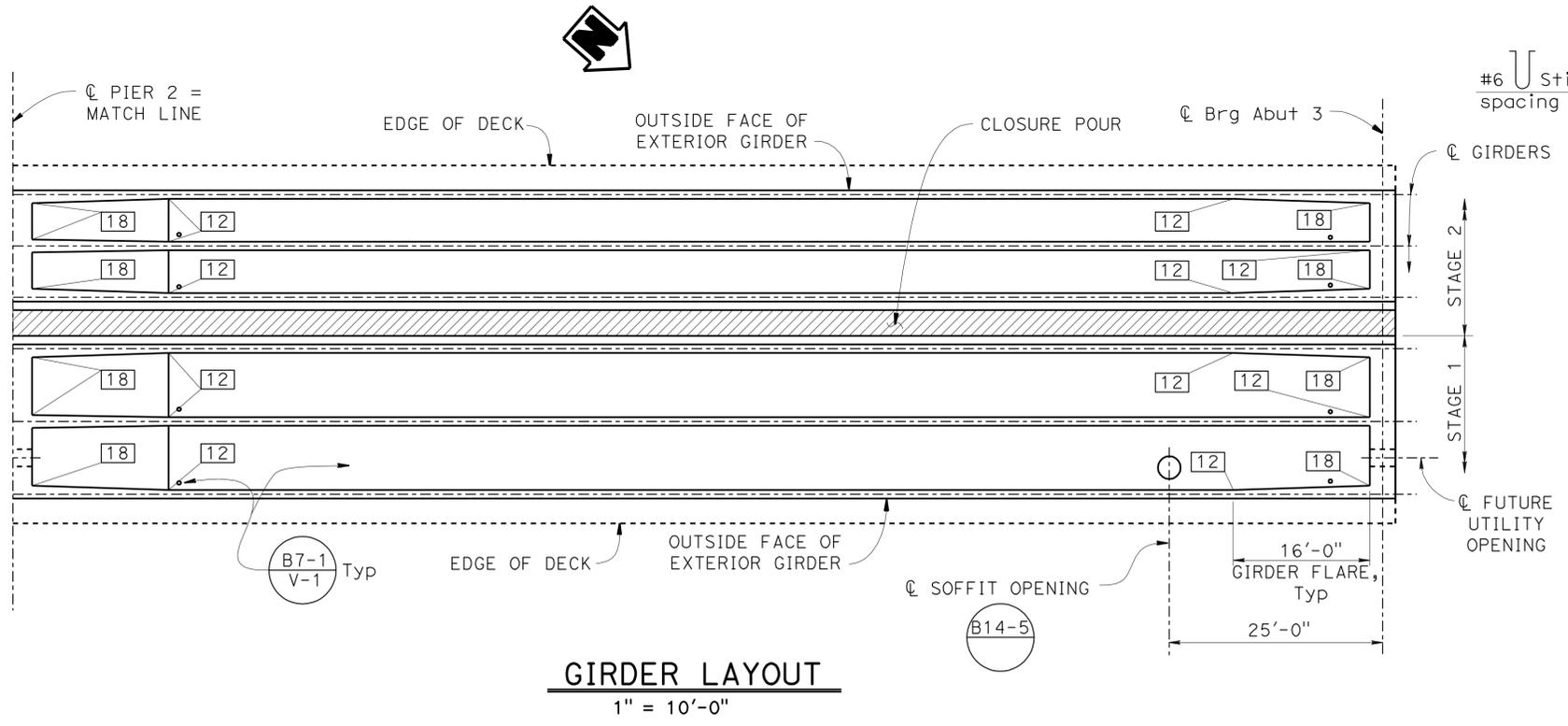
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	217	231
 REGISTERED CIVIL ENGINEER			4-3-12 DATE		
6-25-12 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



**GIRDER LAYOUT**  
1" = 10'-0"



**TYPICAL LONGITUDINAL SECTION**  
No Scale



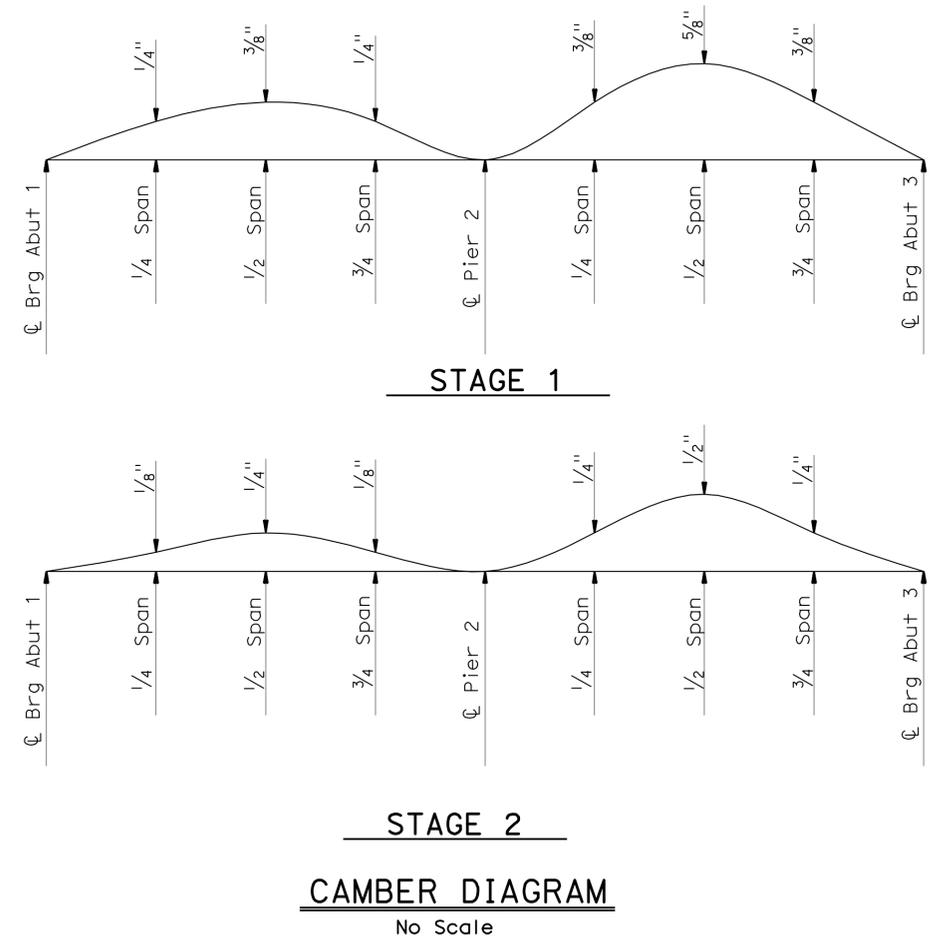
**GIRDER LAYOUT**  
1" = 10'-0"

- LEGEND:
-  Indicates girder stem thickness in inches.
  -  Indicates closure pour.

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY Keith Stillmunkes	CHECKED Mario Guadamuz	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 7</b>	BRIDGE NO.	12-0126R	<b>BUTTE CREEK BRIDGE, RIGHT (REPLACE)</b> <b>GIRDER LAYOUT</b>	
	DETAILS	BY Yingjue Feng	CHECKED Mario Guadamuz			POST MILE	28.7		
	QUANTITIES	BY Gerald Dickerson	CHECKED Yingjue Feng	UNIT: 3592	PROJECT NUMBER & PHASE: 0300000509 1	CONTRACT NO.: 03-3E6201	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 7-28-11    7-24-12    12-4-11	SHEET 13 OF 27

DATE PLOTTED => 24-AUG-2012 TIME PLOTTED => 12:31 USERNAME => s121614

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	218	231
 REGISTERED CIVIL ENGINEER			4-3-12 DATE		
6-25-12 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



FALSEWORK RELEASE

Alternative 1:

Falsework shall be released as soon as permitted by the specifications. Closure pour shall not be placed sooner than 60 days after the falsework had been released.

Alternative 2:

Falsework shall not be released less than 28 days after the last concrete has been placed. Closure pour shall not be placed sooner than 14 days after the falsework has been released.  
When Falsework Release Alternative 2 is used, camber values are 0.75 times those shown.

**PRESTRESSING NOTES**

270 KSI Low Relaxation Strand:  
Anchor Set = 0.375 in  
K = 0.0002 / ft      μ = 0.15

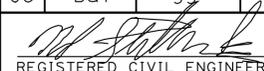
Distribution of prestress force (Pjack) between girders shall not exceed the ratio of 3:2. Maximum final force variation between girders shall not exceed 725 kips.  
Concrete:  $f'_c = \underline{6}$  ksi @ 28 days  
 $f'_{ci} = \underline{4}$  ksi @ time of stressing  
Contractor shall submit elongation calculations based on initial stress at  
 $\lambda = \underline{0.931}$  times jacking stress.

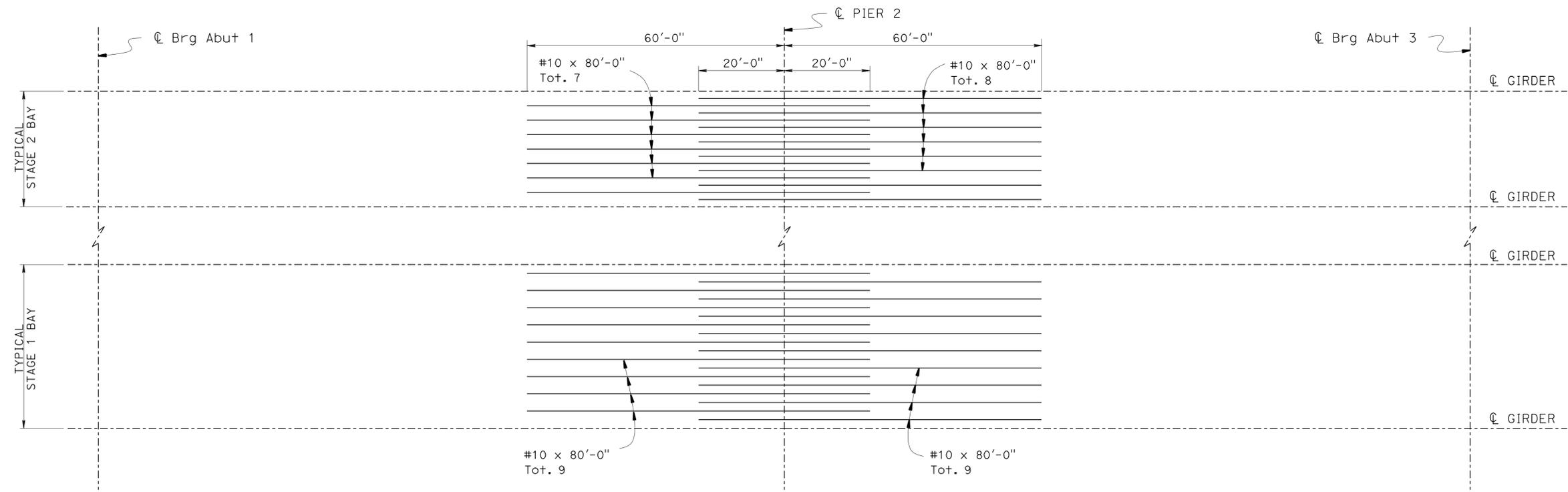
One end stressing shall be performed from Abutment 1.

<u>STAGE 1</u>	
Pjack	= <u>6780</u> Kips
Total Number of Girders	= <u>3</u>
<u>STAGE 2</u>	
Pjack	= <u>5730</u> Kips
Total Number of Girders	= <u>3</u>

<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">DESIGN</td> <td style="width: 30%;">BY Keith Stillmunkes</td> <td style="width: 40%;">CHECKED Mario Guadamuz</td> </tr> <tr> <td>DETAILS</td> <td>BY Yingjue Feng</td> <td>CHECKED Mario Guadamuz</td> </tr> <tr> <td>QUANTITIES</td> <td>BY Gerald Dickerson</td> <td>CHECKED Yingjue Feng</td> </tr> </table>	DESIGN	BY Keith Stillmunkes	CHECKED Mario Guadamuz	DETAILS	BY Yingjue Feng	CHECKED Mario Guadamuz	QUANTITIES	BY Gerald Dickerson	CHECKED Yingjue Feng	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 7</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>BRIDGE NO.</td> <td>12-0126R</td> </tr> <tr> <td>POST MILE</td> <td>28.7</td> </tr> </table>	BRIDGE NO.	12-0126R	POST MILE	28.7	<b>BUTTE CREEK BRIDGE, RIGHT (REPLACE)</b> <b>GIRDER DETAILS</b>
DESIGN	BY Keith Stillmunkes	CHECKED Mario Guadamuz															
DETAILS	BY Yingjue Feng	CHECKED Mario Guadamuz															
QUANTITIES	BY Gerald Dickerson	CHECKED Yingjue Feng															
BRIDGE NO.	12-0126R																
POST MILE	28.7																
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 3592 PROJECT NUMBER & PHASE: 0300000509 1 CONTRACT NO.: 03-3E6201													
			DISREGARD PRINTS BEARING EARLIER REVISION DATES	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="2">REVISION DATES</th> <th>SHEET</th> <th>OF</th> </tr> <tr> <td>3/11/11</td> <td>10/07/11</td> <td>14</td> <td>27</td> </tr> </table>	REVISION DATES		SHEET	OF	3/11/11	10/07/11	14	27					
REVISION DATES		SHEET	OF														
3/11/11	10/07/11	14	27														

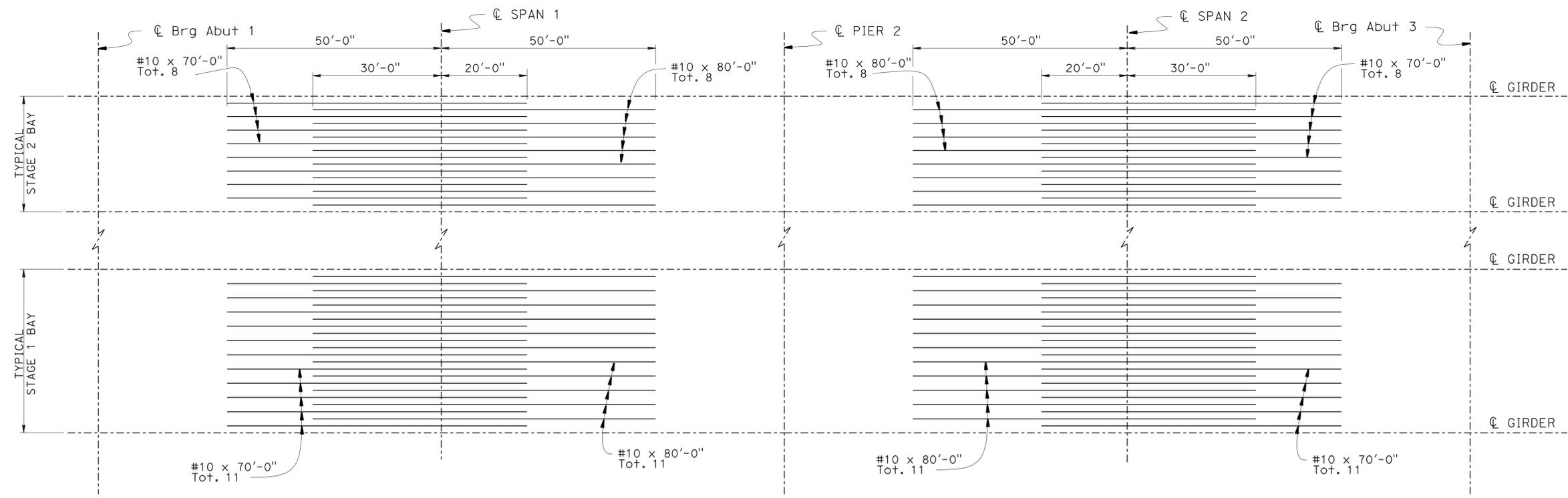
USERNAME => s121614 DATE PLOTTED => 24-AUG-2012 TIME PLOTTED => 12:31

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	219	231
 REGISTERED CIVIL ENGINEER			4-3-12 DATE		
6-25-12 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



**ADDITIONAL TOP SLAB REINFORCEMENT**

No Scale



**ADDITIONAL BOTTOM SLAB REINFORCEMENT**

No Scale

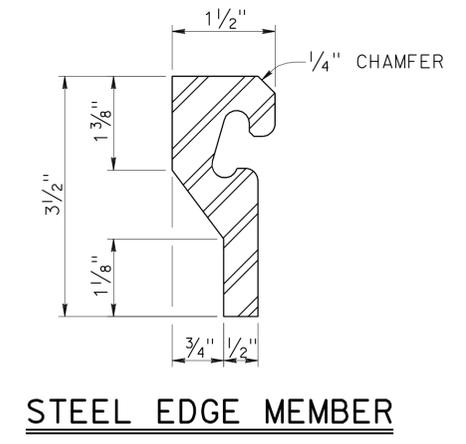
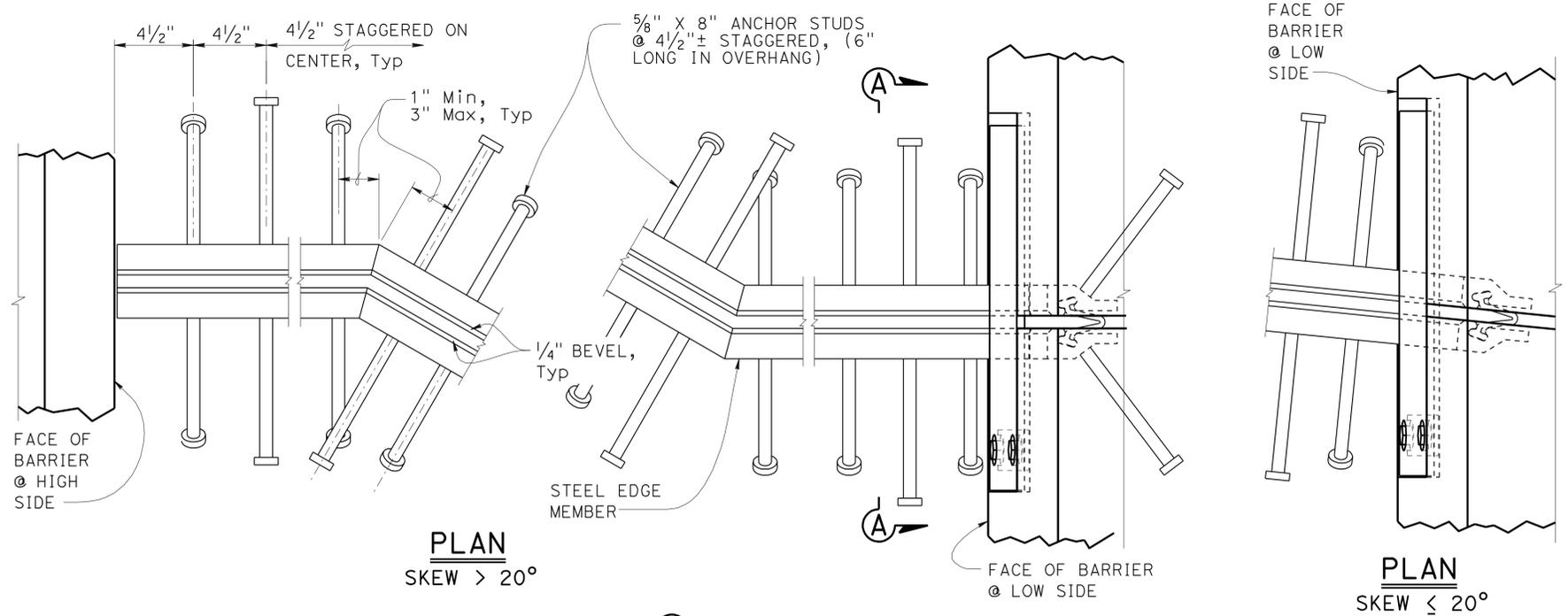
DESIGN	Keith Stillmunkes	CHECKED	Mario Guadamuz
DETAILS	BY Yingjue Feng	CHECKED	Mario Guadamuz
QUANTITIES	BY Gerald Dickerson	CHECKED	Yingjue Feng

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
DESIGN BRANCH 7

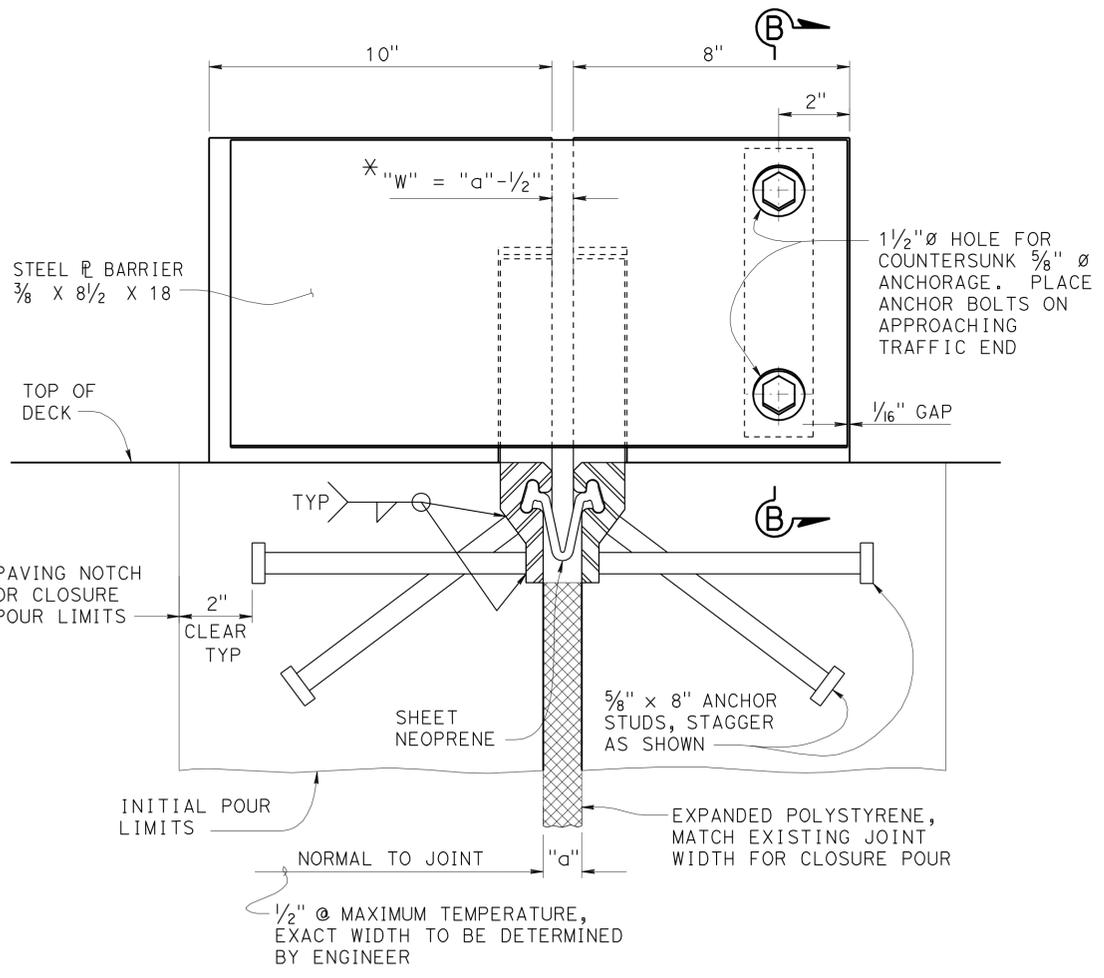
BRIDGE NO.	12-0126R
POST MILE	28.7

**BUTTE CREEK BRIDGE, RIGHT (REPLACE)**  
**ADDITIONAL SLAB REINFORCEMENT**

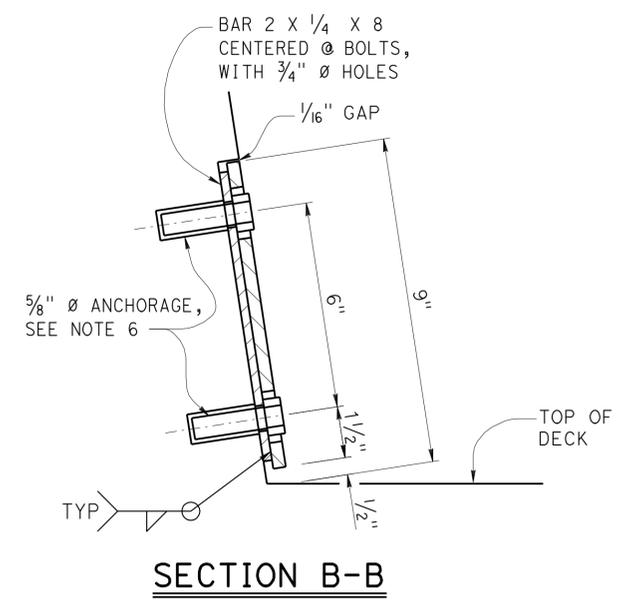
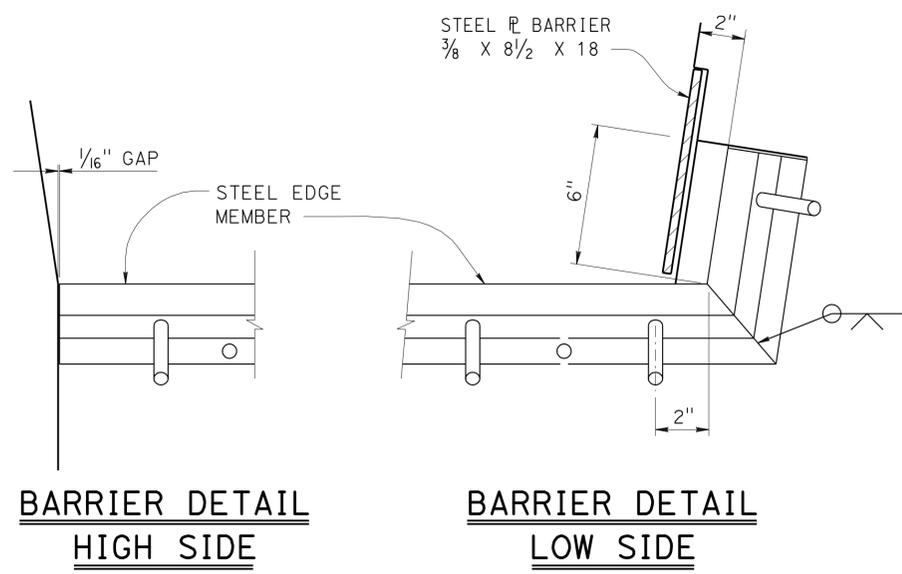


- NOTES:
- Full penetration butt welds may be substituted for fillet welds on all anchor studs
  - Alternate types of anchor studs may be permitted subject to the approval by the Engineer
  - Joint seal assembly to be used in conjunction with closure pour. (See other sheets for limits). Closure pour shall not be placed until final deck surface is within the tolerances specified
  - Use joint at crown of roadway, at any change in traverse slope in deck and at changes in horizontal direction. Place other joints at or near lanes. All metal parts to be painted or galvanized after fabrication
  - Sheet Neoprene shall be fabricated in one continuous piece and shall be fabricated to bend around corners
  - Insert assembly or expansion anchorage for 5/8" x 1 3/4" bolts. Use installation bolts extended 1/2" minimum past nut and coat with bond breaker, after concrete has cured, remove installation bolts, install A325 bolts and sheet neoprene
  - Sidewalk Detail similar to Barrier Detail on low side at both sides if the roadway is crowned or if the difference in elevation between the ends of the seal is 0.5' or less

JOINT INFORMATION			"a" DIMENSIONS		
LOCATION	MOVEMENT RATING (MR)	SKEW	WINTER	SPRING & FALL	SUMMER
Abut 1	2 1/2"	0°	1 7/8"	1 3/8"	7/8"
Abut 3	2 1/2"	0°	1 7/8"	1 3/8"	7/8"



\* Use 1/2" minimum for "W"



NO SCALE

**BUTTE CREEK BRIDGE, RIGHT (REPLACE)**

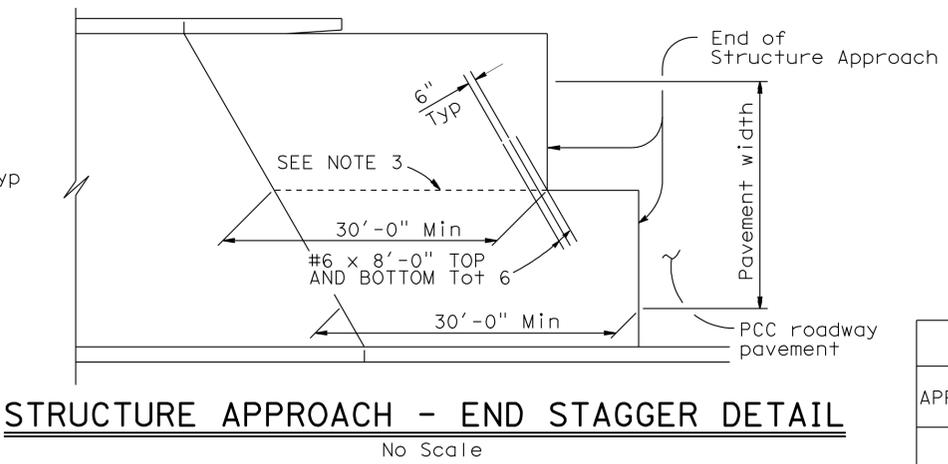
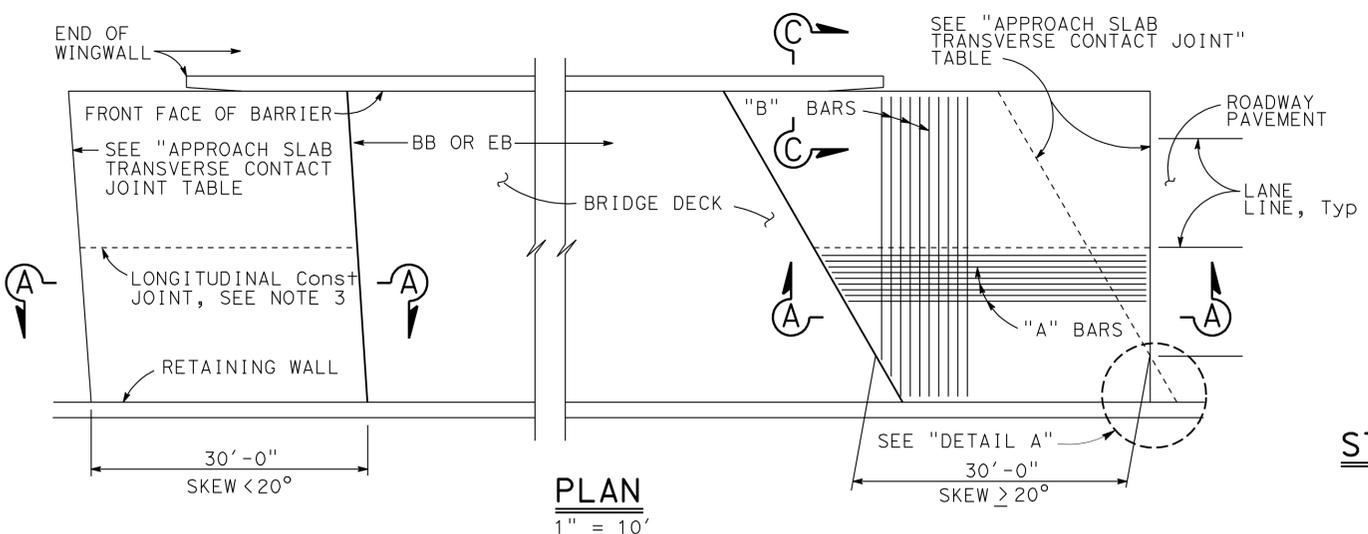
**JOINT SEAL ASSEMBLY**

**MAXIMUM MOVEMENT RATING = 4"**

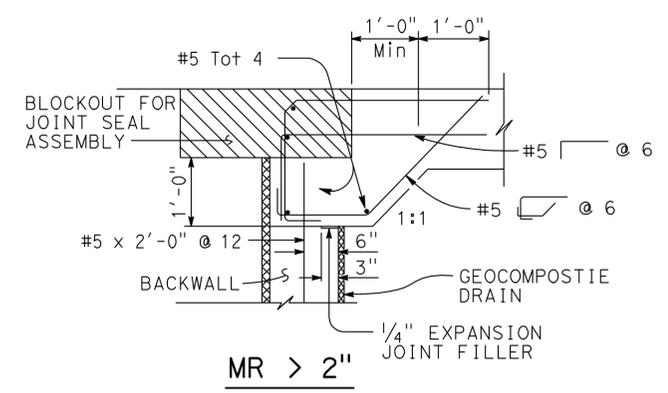
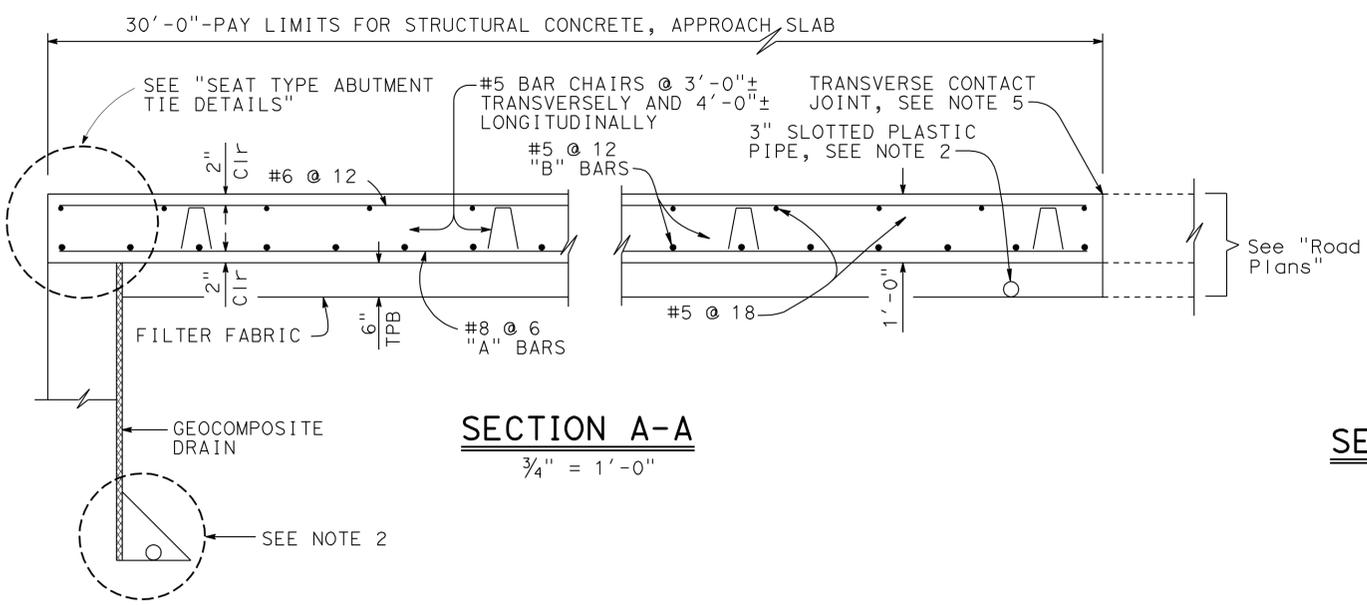
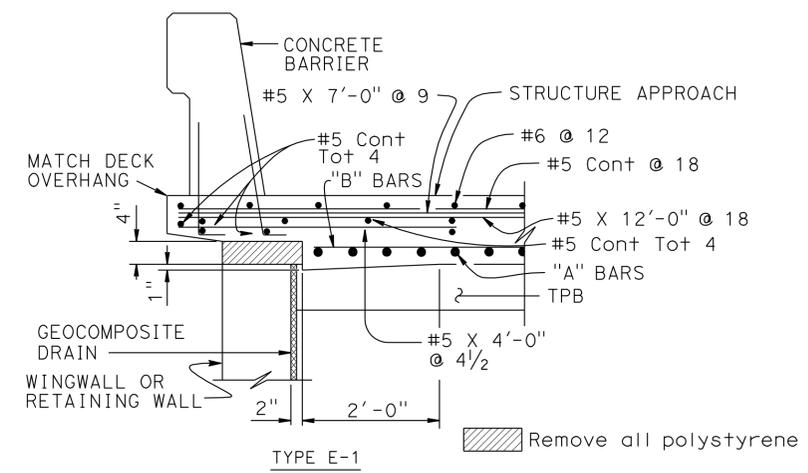
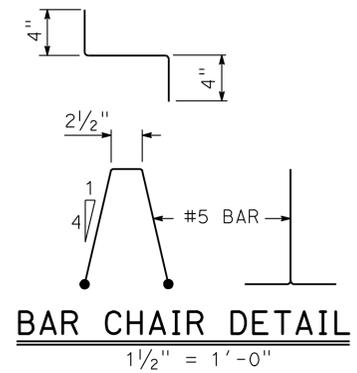
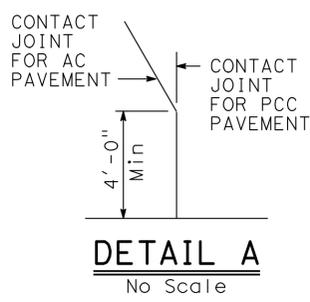
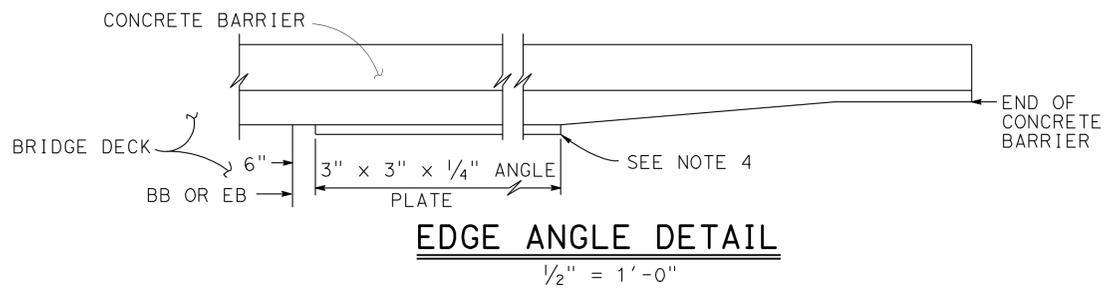
STANDARD DRAWING	DESIGN BY Keith Stillmunkes	CHECKED Mario Guadamuz	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 7	BRIDGE NO. 12-0126R
FILE NO. <b>xs8-010</b>	DETAILS BY Yingjue Feng	CHECKED Mario Guadamuz			POST MILE 28.7
APPROVAL DATE July 2011	QUANTITIES BY Gerald Dickerson	CHECKED Yingjue Feng			

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	221	231

4-3-12  
 REGISTERED CIVIL ENGINEER DATE  
 6-25-12  
 PLANS APPROVAL DATE  
 Keith Stillmunkes  
 No. 68878  
 Exp. 9/30/13  
 CIVIL  
 STATE OF CALIFORNIA  
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APPROACH SLAB TRANSVERSE CONTACT JOINT		
APPROACH SKEW	WITH AC ROADWAY PAVEMENT	WITH PCC ROADWAY PAVEMENT
< 20°	PARALLEL TO FACE OF PN	PARALLEL TO FACE OF PN
20° - 45°	PARALLEL TO FACE OF PN USE "DETAIL A"	STAGGER LINES 24' TO 36' APART
> 45°	PARALLEL TO FACE OF PN USE "DETAIL A"	STAGGER AT EACH LANE LINE



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

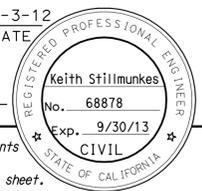
DESIGN	BY Keith Stillmunkes	CHECKED Mario Guadamuz
DETAILS	BY Yingjue Feng	CHECKED Mario Guadamuz
QUANTITIES	BY Gerald Dickerson	CHECKED Yingjue Feng

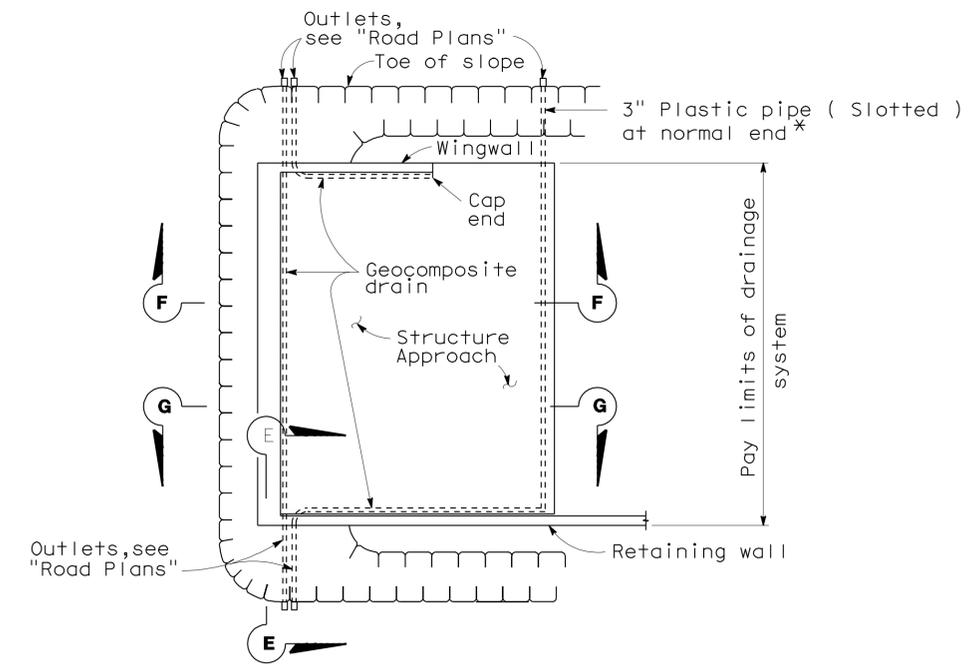
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
DESIGN BRANCH 7

BRIDGE NO. 12-0126R  
POST MILE 28.7

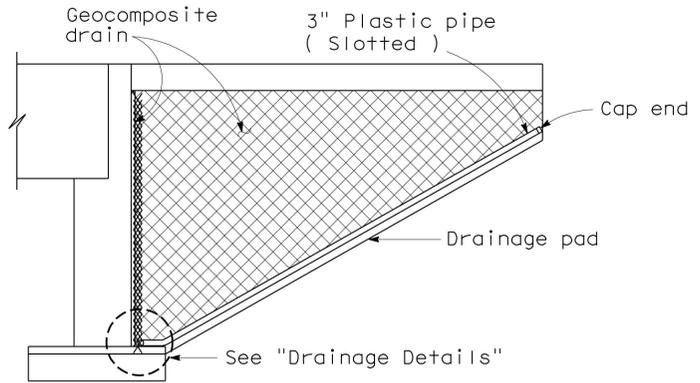
**BUTTE CREEK BRIDGE, RIGHT (REPLACE)**  
**STRUCTURE APPROACH TYPE N(30S)**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	222	231
 REGISTERED CIVIL ENGINEER			4-3-12	DATE	
6-25-12 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					

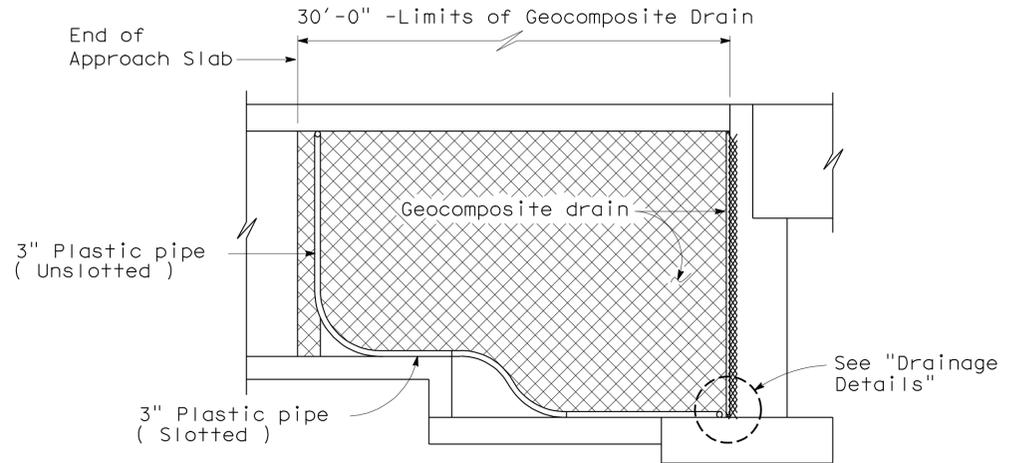


**TYPICAL PLAN**  
No Scale

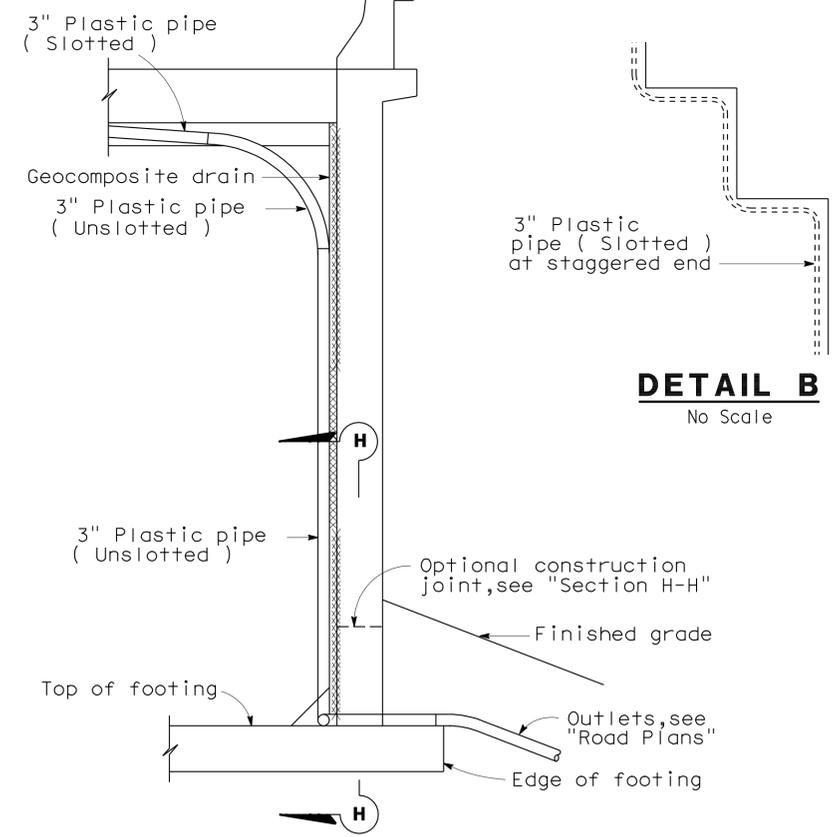
\*For pipe layout at staggered end, see "Detail B".



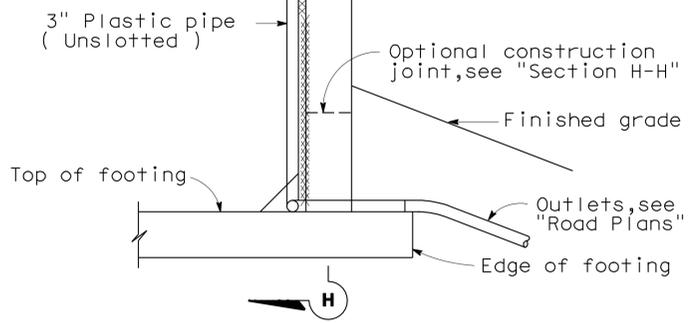
**CANTILEVER WINGWALL SECTION F-F**  
No Scale



**RETAINING WALL WINGWALL SECTION G-G**  
No Scale

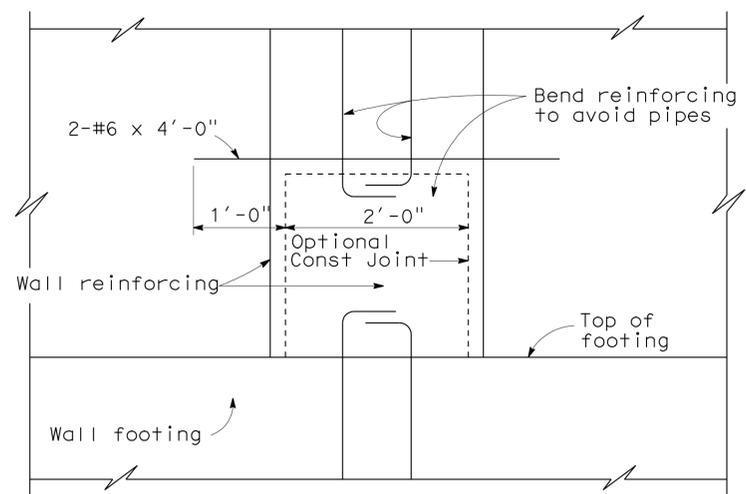


**DETAIL B**  
No Scale

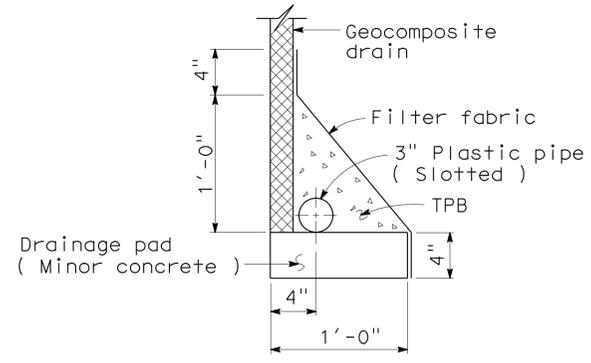


**SECTION E-E**  
No Scale

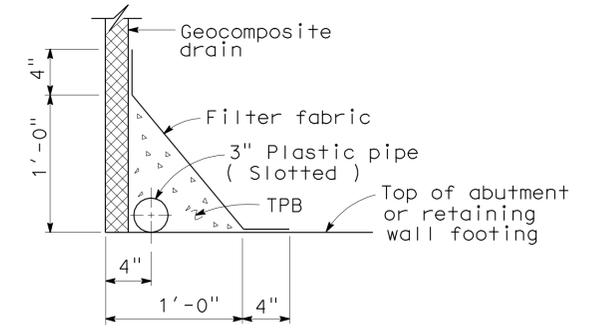
NOTE: Bends and junctions in 3" plastic pipe are 30" radius min.



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



**WITHOUT FOOTING**

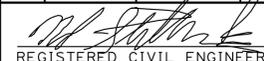
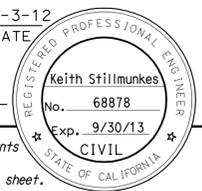


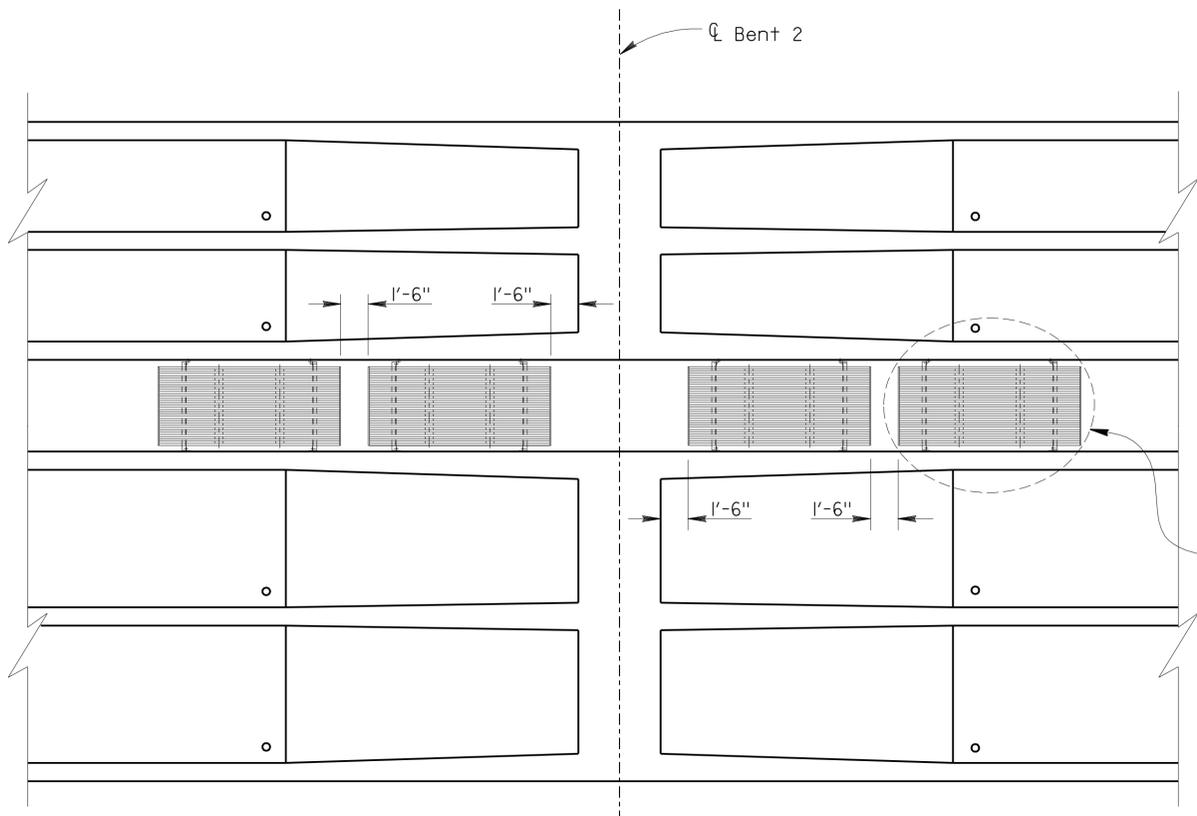
**WITH FOOTING**

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

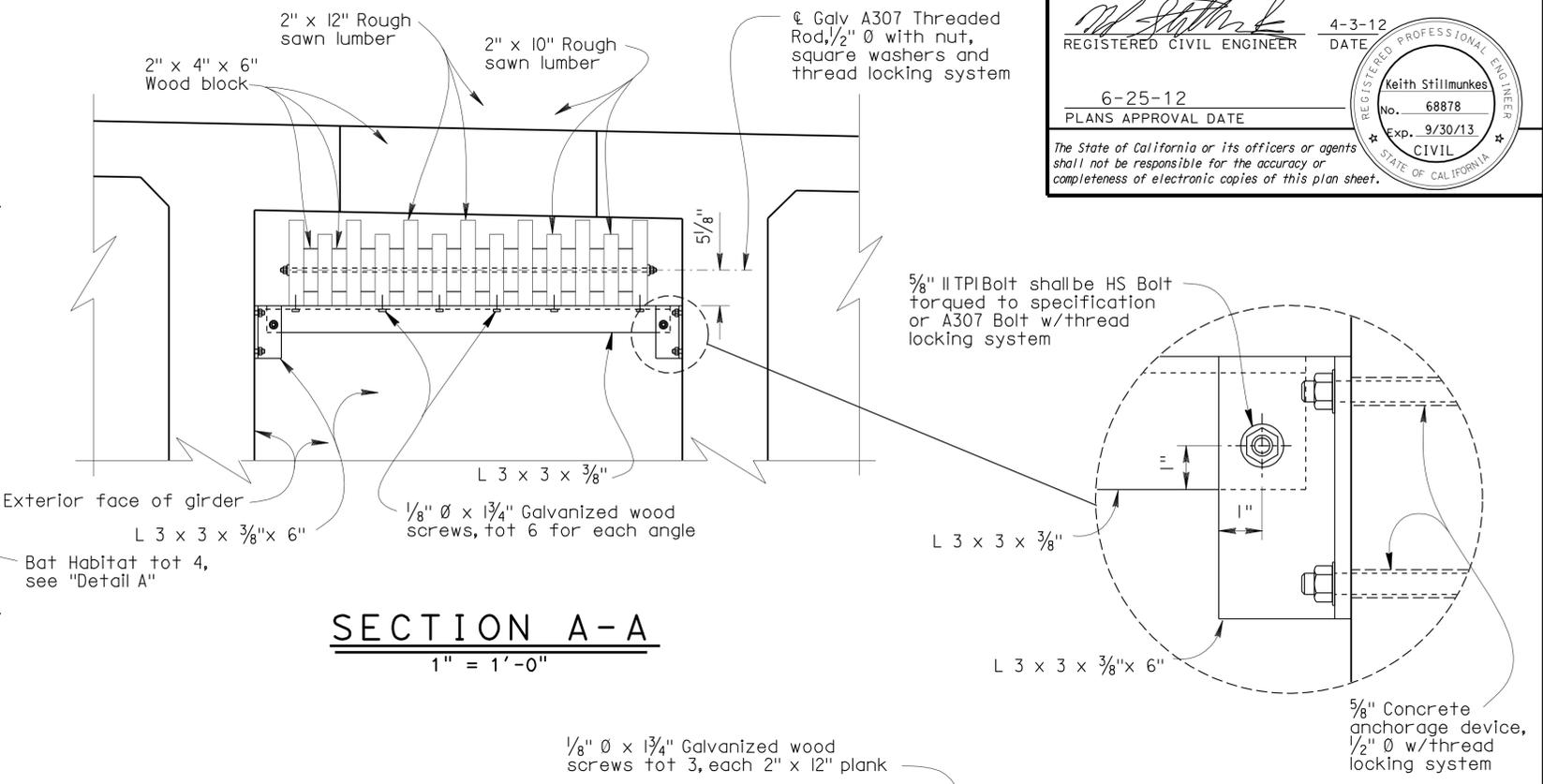
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY Keith Stillmunkes	CHECKED Mario Guadamuz	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 7	BRIDGE NO.	12-0126R	BUTTE CREEK BRIDGE, RIGHT (REPLACE) STRUCTURE APPROACH DRAINAGE DETAILS
	DETAILS	BY Yingjue Feng	CHECKED Mario Guadamuz			POST MILE	28.7	
	QUANTITIES	BY Gerald Dickerson	CHECKED Yingjue Feng			CONTRACT NO.:	03-3E6201	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				UNIT: 3592 PROJECT NUMBER & PHASE: 0300000509 1		CONTRACT NO.: 03-3E6201		DISREGARD PRINTS BEARING EARLIER REVISION DATES
				0 1 2 3		REVISION DATES		SHEET 18 OF 27

USERNAME => s121614 DATE PLOTTED => 24-AUG-2012 TIME PLOTTED => 11:45

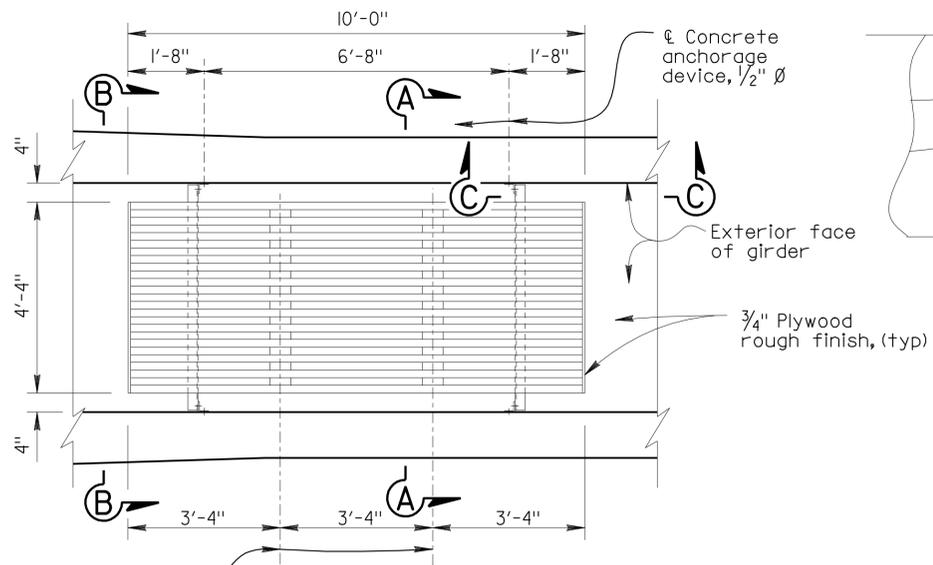
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	223	231
 REGISTERED CIVIL ENGINEER			4-3-12 DATE		
6-25-12 PLANS APPROVAL DATE					
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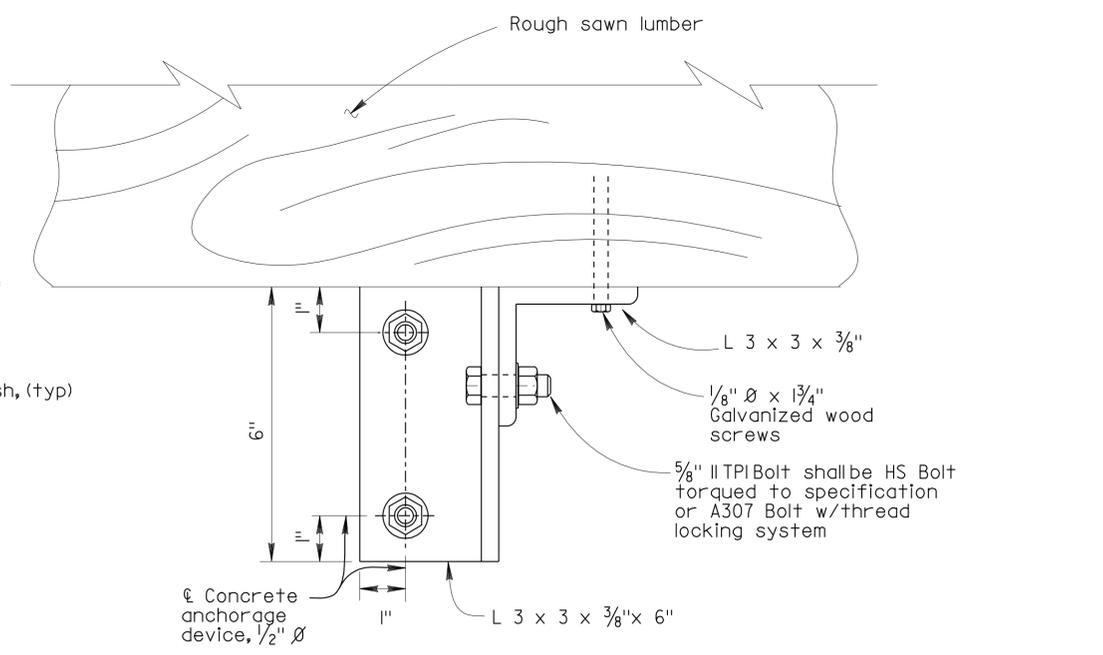
**BAT HABITAT LAYOUT**  
1" = 5'-0"



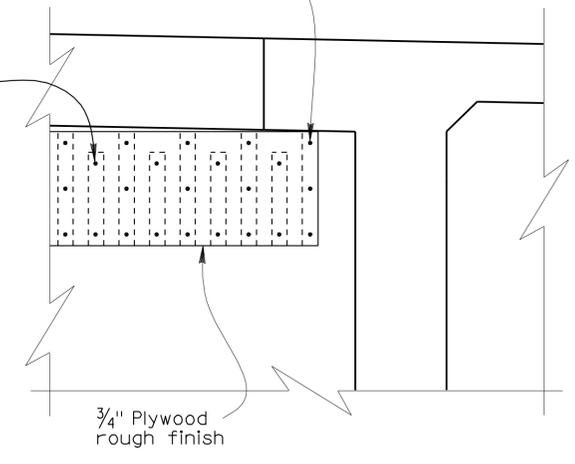
**SECTION A-A**  
1" = 1'-0"



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



**VIEW C-C**  
6" = 1'-0"



**PART VIEW B-B**  
1" = 1'-0"

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY Keith Stillmunkes	CHECKED Mario Guadamuz	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 7</b>	BRIDGE NO.	12-0126R	<b>BUTTE CREEK BRIDGE, RIGHT (REPLACE)</b> <b>MISCELLANEOUS DETAILS</b>
	DETAILS	BY Anthony Valdez	CHECKED Mario Guadamuz			POST MILE	28.7	
	QUANTITIES	BY Gerald Dickerson	CHECKED Yingjue Feng			CONTRACT NO.:	03-3E6201	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				UNIT: 3592 PROJECT NUMBER & PHASE: 0300000509 1		CONTRACT NO.: 03-3E6201		DISREGARD PRINTS BEARING EARLIER REVISION DATES REVISION DATES: 2-2-12 SHEET 19 OF 27

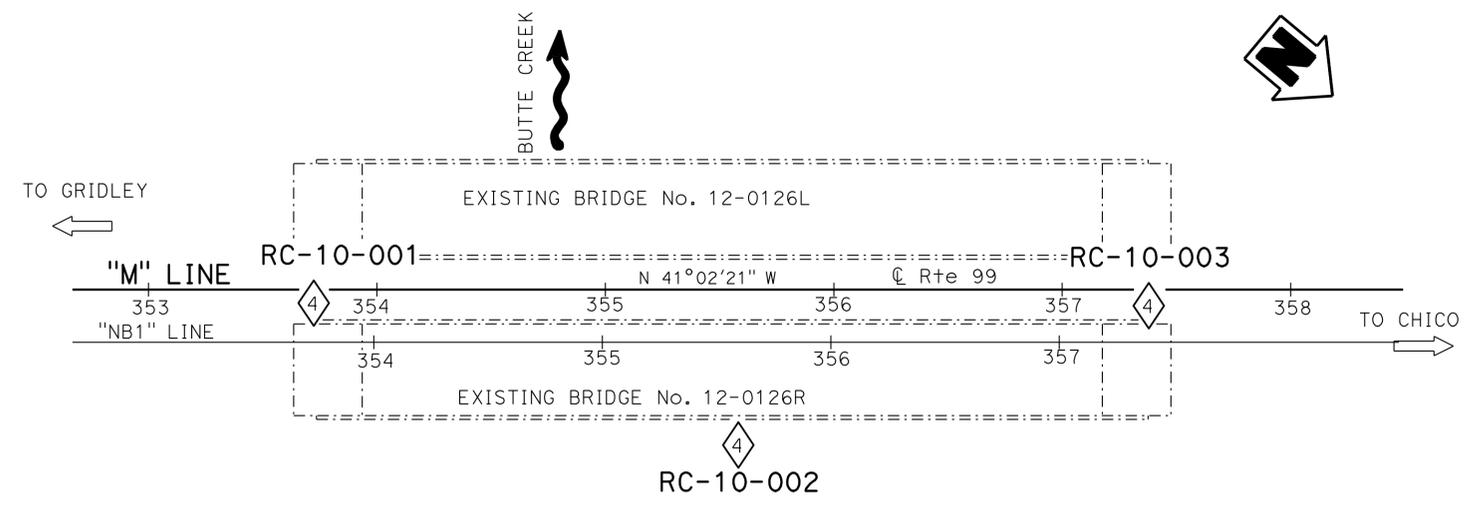
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	BUT	99	28.1/29.6	224	231
Jacqueline A. Martin PROFESSIONAL GEOLOGIST			12-8-11 DATE		
6-25-12 PLANS APPROVAL DATE					
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This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).

**BENCH MARK**

CM 28.60  
 Fnd REBAR w/PUNCH  
 65.20 FT Rt @ Rte 99  
 Sta 343+92.193  
 N 2,378,159.79  
 E 6,624887.96  
 Elev 217.55'  
 NGVD29

CM 29.05  
 Fnd REBAR w/PUNCH  
 76.97 FT Lt @ Rte 99  
 Sta 369+76.15  
 N 2,380,015.42  
 E 6,623084.17  
 Elev 220.22'  
 NGVD29



**PLAN**  
 1" = 40'

**LABORATORY TEST RESULTS FOR STRENGTH TESTING**

BORING RC-10-001		BORING RC-10-002		BORING RC-10-003	
Elevation (ft)	Type/Result (psi)	Elevation (ft)	Type/Result (psi)	Elevation (ft)	Type/Result (psi)
186.7-185.7	PL <sub>(1s50)</sub> = 641.0	182.3-181.8	UC=511.2	184.5-184.0	UC=706.1
185.7-185.2	UC=12864.0**	175.0-174.6	UC=1403.0	183.3-182.8	UC=405.8
184.7-184.2	UC=1050.0	172.3-171.3	UC=6508.0	177.8-177.3	PL <sub>(1s50)</sub> = 1165.0
184.2-183.7	UC=5689.0**	168.8-167.8	UC=2158.0	177.3-176.8	UC=449.2
182.0-181.4	UC=904.0	159.3-158.8	UC=660.8	174.8-174.3	UC=397.0
181.2-180.7	UC=531.8	151.8-151.3	PL <sub>(1s50)</sub> = 1328.0	171.3-170.8	UC=437.4
180.4-179.8	PL <sub>(1s50)</sub> = 765.0	146.8-145.8	UC=1104.0	167.0-166.5	PL <sub>(1s50)</sub> = 269.0
178.7-178.2	UC=299.3	137.3-136.3	UC=1675.0	166.3-165.8	UC=1152.0
175.7-175.2	PL <sub>(1s50)</sub> = 52.0**	130.3-129.3	UC=2175.0	161.3-160.8	UC=2192.0
169.2-168.2	PL <sub>(1s50)</sub> = 36.0	114.8-114.3	UC=5579.0	153.3-152.8	UC=2564.0**
161.7-161.2	UC=966.6	110.3-109.3	UC=1737.0	146.8-146.3	UC=1620.0
158.7-158.2	UC=519.0			143.8-143.3	UC=1858.0
148.7-148.2	UC=2036.0			140.8-140.3	UC=16108.0**
144.7-144.2	UC=2051.0			135.3-134.8	UC=790.2
139.2-138.7	UC=484.0			133.3-132.8	UC=1348.0
137.7-137.2	UC=821.0			129.8-129.3	UC=830.5
131.7-131.2	UC=2206.0			124.3-123.8	UC=3069.0
105.7-104.9	UC=1575.0			107.3-106.8	UC=2130.0

**Notes:**

- Ground water was measured during the field investigation in Borings RC-10-001 and RC-10-003. Please refer to these borings for ground water level measurements. During the field investigation, ground water was not measured in Boring RC-10-002. This boring was immediately backfilled after completion of the drilling operation.
- Ground water levels indicated on the Log of Test Borings (LOTB) sheets reflect the measured ground water levels in the borehole on the specified date. Ground water surface elevations are subject to seasonal fluctuations and will be encountered at higher or lower elevations depending upon conditions at time of construction.
- Very hard and hard boulders and cobbles are visible in the river channel near Pier 2 location. Some boulders and cobbles were also encountered at various elevations during the subsurface investigation and are shown on the LOTB.
- Rock core samples from the 2010 subsurface investigation are available for viewing by bidders at the California Department of Transportation, Transportation Laboratory, 5900 Folsom Blvd., Sacramento, CA.
- During the 2010 subsurface investigation, cobbles, boulders and rock samples were collected from several borings and submitted to the laboratory for strength testing. The laboratory strength test results are provided in the Table on page 1 of the LOTBs. This table provides strength test data at specific elevations for the borings. The test sample was taken within the elevation interval. Laboratory rock strength test data is available for viewing at the California Department of Transportation, Transportation Laboratory, 5900 Folsom Blvd., Sacramento, CA.
- PL<sub>(1s50)</sub> = Point Load Strength corrected to a diameter of 50 mm.

\*\* The test specimen length/diameter ratio was not in compliance with test method.

<b>ENGINEERING SERVICES</b>		<b>MATERIALS AND GEOTECHNICAL SERVICES</b>		<b>STATE OF CALIFORNIA</b>		<b>DIVISION OF ENGINEERING SERVICES</b>		<b>BRIDGE NO.</b>		<b>BUTTE CREEK BRIDGE, RIGHT (REPLACE)</b>	
FUNCTIONAL SUPERVISOR		DRAWN BY: I.G-Remmen		DEPARTMENT OF TRANSPORTATION		STRUCTURE DESIGN		12-0126R		<b>LOG OF TEST BORINGS 1 OF 8</b>	
NAME: R. Buehl		CHECKED BY: B. Barnes		FIELD INVESTIGATION BY: J. A. Martin		<b>DESIGN BRANCH X</b>		POST MILE			
06S CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 3643		PROJECT NUMBER & PHASE: 03000005091		28.7		CONTRACT NO.: 03-3E6201	
				0 1 2 3		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES		SHEET OF	
								11-15-11 11-29-11 12-08-11 12-16-11		20 27	

USERNAME => s121614 DATE PLOTTED => 24-AUG-2012 TIME PLOTTED => 11:45





DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	227	231

Jacqueline A. Martin 12-8-11  
 PROFESSIONAL GEOLOGIST DATE  
 6-25-12  
 PLANS APPROVAL DATE  
 No. 8705  
 Exp. 10-31-12  
 STATE OF CALIFORNIA  
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FOR PLAN VIEW, SEE  
"LOG OF TEST BORINGS" 1 OF 8



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

<b>ENGINEERING SERVICES</b>		<b>MATERIALS AND GEOTECHNICAL SERVICES</b>		<b>STATE OF CALIFORNIA</b>		<b>DIVISION OF ENGINEERING SERVICES</b>		<b>BRIDGE NO.</b>		<b>BUTTE CREEK BRIDGE, RIGHT (REPLACE)</b>	
FUNCTIONAL SUPERVISOR		DRAWN BY: I.G-Remmen		FIELD INVESTIGATION BY:		STRUCTURE DESIGN		12-0126R		<b>LOG OF TEST BORINGS 4 OF 8</b>	
NAME: R. Buehl		CHECKED BY: XX		J. A. Martin		<b>DESIGN BRANCH X</b>		POST MILE			
065 CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 3643		PROJECT NUMBER & PHASE: 03000005091		CONTRACT NO.: 03-3E6201		DISREGARD PRINTS BEARING EARLIER REVISION DATES	
				0 1 2 3				REVISION DATES		SHEET 23 OF 27	
						FILE => 12-0126r-z-1fb4.dgn		11-15-11 11-29-11 12-08-11 12-16-11			

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	228	231

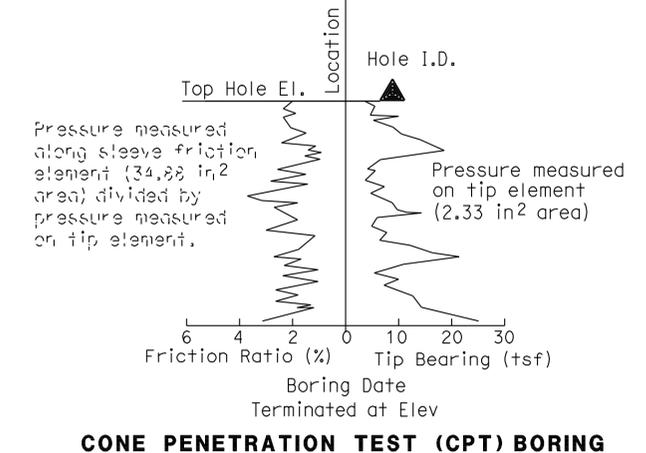
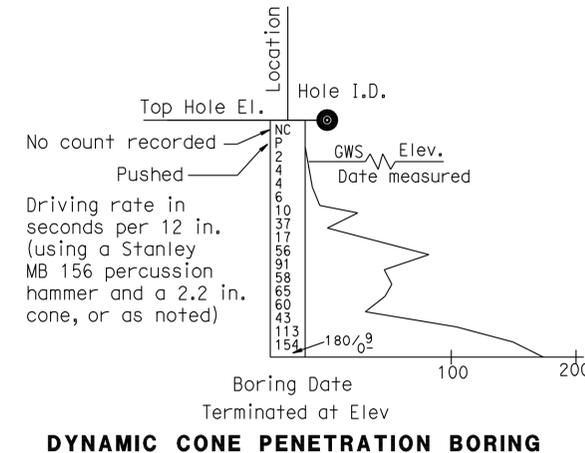
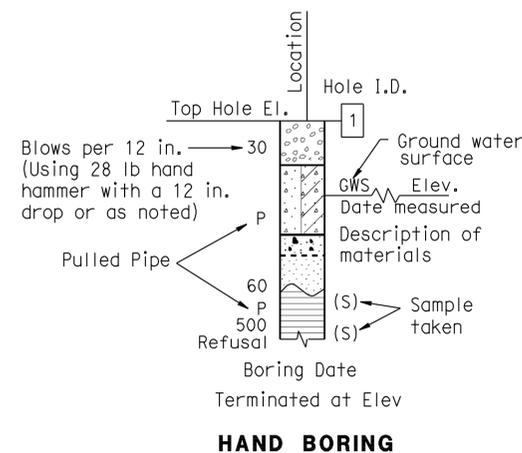
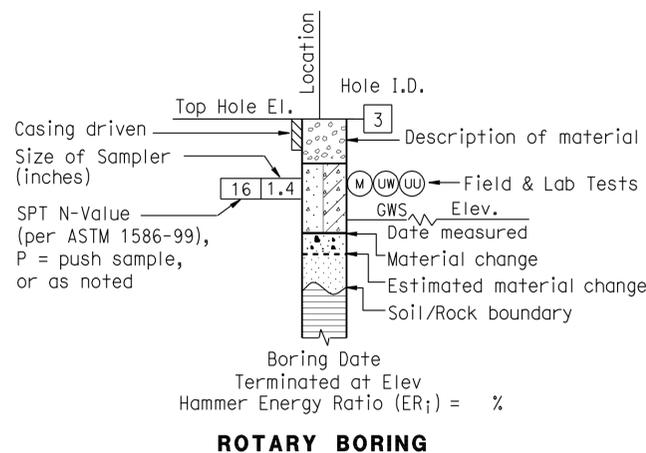
Jacqueline A. Martin 12-8-11  
 PROFESSIONAL GEOLOGIST DATE  
 6-25-12  
 PLANS APPROVAL DATE  
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CEMENTATION	
Description	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

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

Note: Size in inches.

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



ENGINEERING SERVICES	GEOTECHNICAL SERVICES PREPARED BY: I.G-Remmen	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH X	BRIDGE NO. 12-0126R	BUTTE CREEK BRIDGE, RIGHT (REPLACE) LOG OF TEST BORINGS 5 OF 8
				POST MILE 28.7	
GS LOTB SOIL LEGEND	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3643 PROJECT NUMBER & PHASE: 03000005091	CONTRACT NO.: 03-3E6201	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 12-08-11 12-16-11 SHEET 24 OF 27

FILE => 12-0126r-z-1fb5.dgn

Jacqueline A. Martin 12-8-11  
 PROFESSIONAL GEOLOGIST DATE  
 6-25-12  
 PLANS APPROVAL DATE  
 No. 8705  
 Exp. 10-31-12  
 PROFESSIONAL GEOLOGIST STATE OF CALIFORNIA  
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GROUP SYMBOLS AND NAMES			
Graphic/Symbol	Group Names	Graphic/Symbol	Group Names
	Well-graded GRAVEL		Lean CLAY
	Well-graded GRAVEL with SAND		Lean CLAY with SAND
	Poorly-graded GRAVEL		Lean CLAY with GRAVEL
	Poorly-graded GRAVEL with SAND		SANDY lean CLAY
	Well-graded GRAVEL with SILT		SANDY lean CLAY with GRAVEL
	Well-graded GRAVEL with SILT and SAND		GRAVELLY lean CLAY
	Well-graded GRAVEL with CLAY (or SILTY CLAY)		GRAVELLY lean CLAY with SAND
	Well-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)		SILTY CLAY
	Poorly-graded GRAVEL with SILT		SILTY CLAY with SAND
	Poorly-graded GRAVEL with SILT and SAND		SILTY CLAY with GRAVEL
	Poorly-graded GRAVEL with CLAY (or SILTY CLAY)		SANDY SILTY CLAY
	Poorly-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)		SANDY SILTY CLAY with GRAVEL
	SILTY GRAVEL		GRAVELLY SILTY CLAY
	SILTY GRAVEL with SAND		GRAVELLY SILTY CLAY with SAND
	CLAYEY GRAVEL		SILT
	CLAYEY GRAVEL with SAND		SILT with SAND
	SILTY, CLAYEY GRAVEL		SILT with GRAVEL
	SILTY, CLAYEY GRAVEL with SAND		SANDY SILT
	Well-graded SAND		SANDY SILT with GRAVEL
	Well-graded SAND with GRAVEL		GRAVELLY SILT
	Poorly-graded SAND		GRAVELLY SILT with SAND
	Poorly-graded SAND with GRAVEL		ORGANIC lean CLAY
	Well-graded SAND with SILT		ORGANIC lean CLAY with SAND
	Well-graded SAND with SILT and GRAVEL		ORGANIC lean CLAY with GRAVEL
	Well-graded SAND with CLAY (or SILTY CLAY)		SANDY ORGANIC lean CLAY
	Well-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)		GRAVELLY ORGANIC lean CLAY
	Poorly-graded SAND with SILT		GRAVELLY ORGANIC lean CLAY with SAND
	Poorly-graded SAND with SILT and GRAVEL		ORGANIC fat CLAY
	Poorly-graded SAND with CLAY (or SILTY CLAY)		ORGANIC fat CLAY with SAND
	Poorly-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)		ORGANIC fat CLAY with GRAVEL
	SILTY SAND		SANDY ORGANIC fat CLAY
	SILTY SAND with GRAVEL		SANDY ORGANIC fat CLAY with GRAVEL
	CLAYEY SAND		GRAVELLY ORGANIC fat CLAY
	CLAYEY SAND with GRAVEL		GRAVELLY ORGANIC fat CLAY with SAND
	SILTY, CLAYEY SAND		ORGANIC elastic SILT
	SILTY, CLAYEY SAND with GRAVEL		ORGANIC elastic SILT with SAND
	PEAT		ORGANIC elastic SILT with GRAVEL
	COBBLES		SANDY ORGANIC elastic SILT
	COBBLES and BOULDERS		GRAVELLY ORGANIC elastic SILT
			GRAVELLY ORGANIC elastic SILT with SAND
	BOULDERS		ORGANIC SOIL
			ORGANIC SOIL with SAND
			ORGANIC SOIL with GRAVEL
			SANDY ORGANIC SOIL
			SANDY ORGANIC SOIL with GRAVEL
			GRAVELLY ORGANIC SOIL
			GRAVELLY ORGANIC SOIL with SAND

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

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

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

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

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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Butt	99	28.1/29.6	230	231

*Jacqueline A. Martin* 12-8-11  
 PROFESSIONAL GEOLOGIST DATE  
 6-25-12  
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**PERCENT CORE RECOVERY (REC) & ROCK QUALITY DESIGNATION (RQD)**

$$REC = \frac{\sum \text{Length of the recovered core pieces (in.)}}{\text{Total length of core run (in.)}} \times 100\%$$

$$RQD = \frac{\sum \text{Length of intact core pieces} \geq 4 \text{ in.}}{\text{Total length of core run (in.)}} \times 100\%$$

RQD\* Indicates soundness criteria not met.

**BEDDING SPACING**

Description	Thickness / Spacing
Massive	Greater than 10 ft
Very Thickly Bedded	3 ft - 10 ft
Thickly Bedded	1 ft - 3 ft
Moderately Bedded	4 in. - 1 ft
Thinly Bedded	1 in. - 4 in.
Very Thinly Bedded	1/4 in. - 1 in.
Laminated	Less than 1/4 in.

**LEGEND OF ROCK MATERIALS**

- IGNEOUS ROCK
- SEDIMENTARY ROCK
- METAMORPHIC ROCK

**ROCK HARDNESS**

Description	Criteria
Extremely Hard	Cannot be scratched with a pocketknife or sharp pick. Can only be chipped with repeated heavy hammer blows.
Very Hard	Cannot be scratched with a pocketknife or sharp pick. Breaks with repeated heavy hammer blows.
Hard	Can be scratched with a pocketknife or sharp pick with difficulty (heavy pressure). Breaks with heavy hammer blows.
Moderately Hard	Can be scratched with pocketknife or sharp pick with light or moderate pressure. Breaks with moderate hammer blows.
Moderately Soft	Can be grooved 1/16 in. deep with a pocketknife or sharp pick with moderate or heavy pressure. Breaks with light hammer blow or heavy manual pressure.
Soft	Can be grooved or gouged easily by a pocketknife or sharp pick with light pressure, can be scratched with fingernail. Breaks with light to moderate manual pressure.
Very Soft	Can be readily indented, grooved or gouged with fingernail, or carved with a pocketknife. Breaks with light manual pressure.

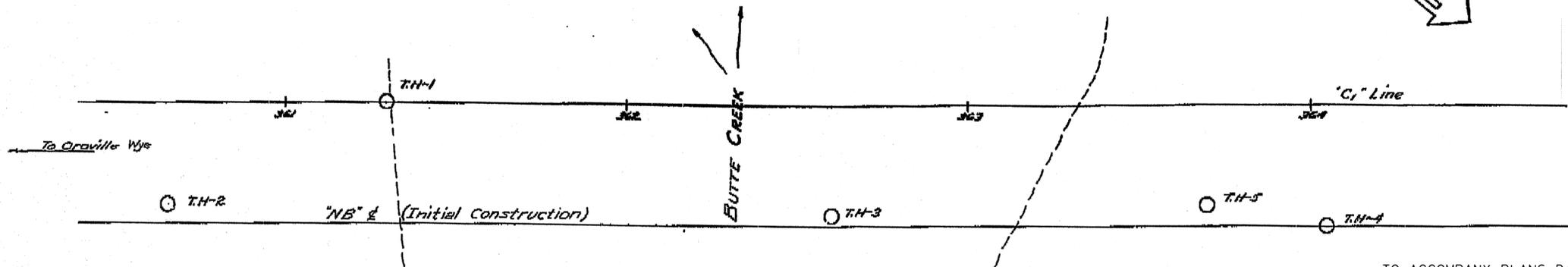
**WEATHERING DESCRIPTORS FOR INTACT ROCK**

Description	Diagnostic Features					General Characteristics
	Chemical Weathering-Discoloration and/or Oxidation		Mechanical Weathering-Grain Boundary Conditions (Disaggregation) Primarily for Granitics and Some Coarse-Grained Sediments	Texture and Leaching		
	Body of Rock	Fracture Surfaces		Texture	Leaching	
Fresh	No discoloration, not oxidized.	No discoloration or oxidation.	No separation, intact (tight).	No change	No leaching	Hammer rings when crystalline rocks are struck.
Slightly Weathered	Discoloration or oxidation is limited to surface of, or short distance from, fractures; some feldspar crystals are dull.	Minor to complete discoloration or oxidation of most surfaces.	No visible separation, intact (tight).	Preserved	Minor leaching of some soluble minerals.	Hammer rings when crystalline rocks are struck. Body of rock not weakened.
Moderately Weathered	Discoloration or oxidation extends from fractures usually throughout; Fe-Mg minerals are "rusty," feldspar crystals are "cloudy."	All fracture surfaces are discolored or oxidized.	Partial separation of boundaries visible.	Generally preserved	Soluble minerals may be mostly leached.	Hammer does not ring when rock is struck. Body of rock is slightly weakened.
Intensely Weathered	Discoloration or oxidation throughout; all feldspars and Fe-Mg minerals are altered to clay to some extent; or chemical alteration produces in-situ disaggregation, see grain boundary conditions.	All fracture surfaces are discolored or oxidized, surfaces friable.	Partial separation, rock is friable; in semiarid conditions granitics are disaggregated.	Texture altered by chemical disintegration (hydration, argillation).	Leaching of soluble minerals may be complete.	Dull sound when struck with hammer, usually can be broken with moderate to heavy manual pressure or by light hammer blow without reference to planes of weakness such as incipient or hairline fractures, or veinlets. Rock is significantly weakened.
Decomposed	Discolored or oxidized throughout, but resistant minerals such as quartz may be unaltered; all feldspars and Fe-Mg minerals are completely altered to clay.		Complete separation of grain boundaries (disaggregated).	Resembles a soil, partial or complete remnant rock structure may be preserved; leaching of soluble minerals usually complete.		Can be granulated by hand. Resistant minerals such as quartz may be present as "stringers" or "dikes."

**FRACTURE DENSITY**

Description	Observed Fracture Density
Unfractured	No fractures.
Very Slightly Fractured	Core lengths greater than 3 ft.
Slightly Fractured	Core lengths mostly from 1 to 3 ft.
Moderately Fractured	Core lengths mostly from 4 in. to 1 ft.
Intensely Fractured	Core lengths mostly from 1 to 4 in.
Very Intensely Fractured	Mostly chips and fragments.

SEPTEMBER 11 1951



Scale 1" = 20'

TO ACCOMPANY PLANS DATED 6-25-12

DIVISION OF ENGINEERING SERVICES - MATERIALS AND 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. It does not attest to the accuracy or validity of the information contained in 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 MILE-TOTAL PROJECT	Sheet No.	Total Sheets
03	But	99	28.1/29.6	231	231

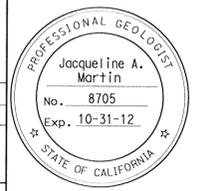
Jacqueline A. Martin 12-8-11  
PROFESSIONAL GEOLOGIST DATE

**BUTTE CREEK BRIDGE (REPLACE)**  
**LOG OF TEST BORINGS 8 OF 8**

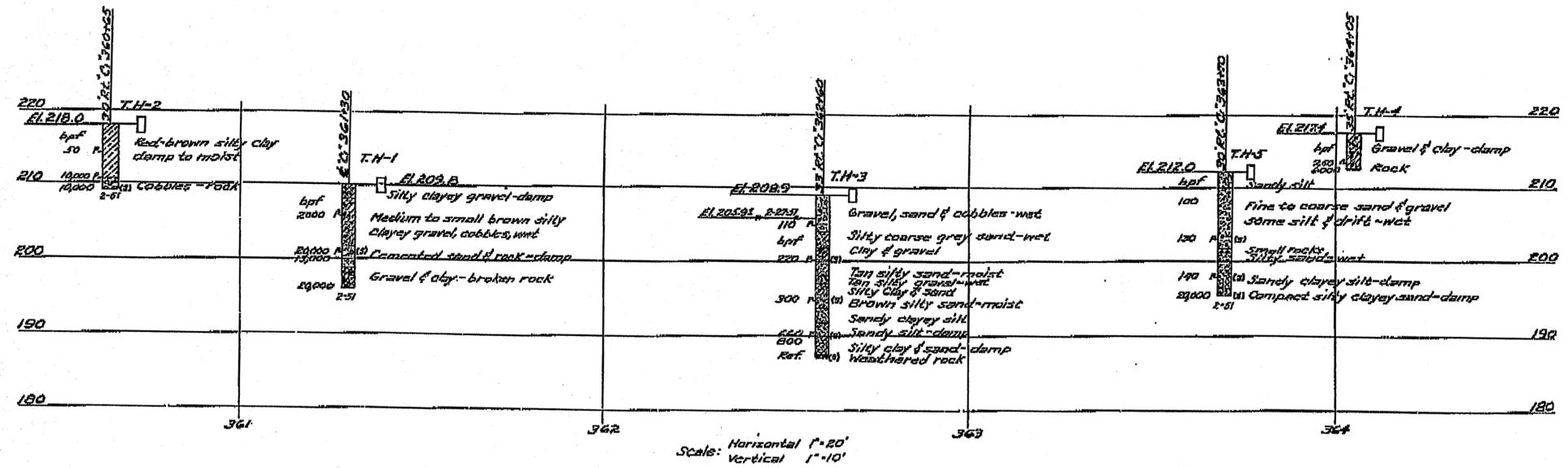
UNIT:	3643	CONTRACT No.	03-3E6201	BRIDGE No.	12-0126R
PROJ. No. & PHASE:	03000005091	CONVERSION:		Sheet	of

AS-BUILT VERT DATUM: CONVERSION: SHEET of

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



B.M. No. 363 C  
Railroad spike in 18" Oak  
16.5' Ls. Stationing 363+35  
Elevation 216.73



**AS BUILT PLANS**  
Contract No. 52-147E-14  
Date Completed  
Document No. 30001305

**CLASSIFICATION OF MATERIAL BASED ON STANDARD GRADE SIZE LIMITS**

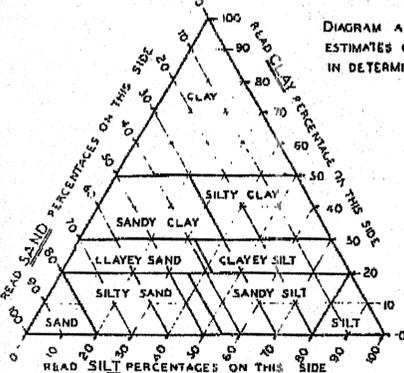


DIAGRAM AND TABLE SHOWING THE BASIS FOR ESTIMATES OF GRADE SIZE DISTRIBUTION USED IN DETERMINATION OF CLASS NAMES.

CLASS NAME	PERCENTAGE OF SIZES PRESENT		
	SAND	SILT	CLAY
SAND	60-100	0-20	0-20
SILTY SAND	45-60	0-55	0-20
SANDY SILT	0-45	35-60	0-20
SILT	0-20	60-100	0-20
CLAYEY SAND	35-60	0-45	20-30
CLAYEY SILT	0-35	32-60	20-30
SANDY CLAY	30-70	0-40	30-90
SILTY CLAY	0-30	20-70	30-90
CLAY	0-50	0-50	50-100

IF GRAVEL IS PRESENT IN APPRECIABLE AMOUNTS THE TERM "GRAVELLY" MAY BE ADDED TO THE CLASS NAME, VIS "GRAVELLY SAND". THE TERMS "COARSE", "MEDIUM" AND "FINE" WHEN USED TO DESCRIBE GRAVEL, SAND AND SILT REFER TO STANDARD GRADE SIZE LIMITS.

**LEGEND OF BORING OPERATIONS**

- PLAN OF ANY BORING
  - 1" SAMPLER BORING
  - ROTARY WASH BORING
  - 1" CLOSED SAMPLER DRIVEN
  - ◎ CORE BORING
  - 2 1/2" PENETROMETER DRIVEN
  - 1 3/8" SAMPLER BORING
  - 2" TO 5" AUGER BORING
  - 6" TO 20" AUGER BORING
  - CASING DRIVEN
  - JET BORING
  - (S) SAMPLE TAKEN
  - 1 1/2" A - ROD DRIVEN
- THE APPROPRIATE BORING SYMBOLS DESIGNATING THE METHOD OF OPERATION ARE SHOWN AT THE UPPER RIGHT-HAND CORNER OF THE RESPECTIVE BORING. WHERE TOOL CHANGES WERE MADE DURING THE BORING OPERATION SYMBOLS ARE SHOWN AT THE POINT OF CHANGE.

**LEGEND OF EARTH MATERIALS**

- GRAVEL - G
- SAND - S
- SILT - SI
- CLAY - C
- SILTY SAND - SI S
- CLAYEY SAND - C S
- SANDY SILT - S SI
- CLAYEY SILT - C SI
- SANDY CLAY - SC
- SILTY CLAY - SI C
- PEAT AND/OR ORGANIC CLAY - O
- SANDSTONE - SS
- SHALE - SH
- BROKEN ROCK (FRAGMENTS) - BR
- ROCK - R

**ABBREVIATIONS**

- EL 69.4 ELEVATION OF GROUND AT TEST HOLE
- bpf BLOWS PER FOOT - (SEE NOTE ABOVE)
- P FILLED PIPE
- M MOISTURE AS % DRY WEIGHT
- EL 64.3 - 6-18-49 ELEVATION OF GROUND WATER AND DATE

**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.

**MICROFILMED**

**BRIDGE ACROSS BUTTE CREEK**  
**LOG OF TEST BORINGS**

SCALE As Shown  
BRIDGE NO 12-126

FILL NO.  
DRAWING NO. 6-2639-54