

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	710	17.2/26.4	1201	1507

*Jeffery G. McRae*  
 REGISTERED ELECTRICAL ENGINEER

October 5, 2007  
 PLANS APPROVAL DATE

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

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To accompany plans dated 6-27-11

**NOTES-TYPE III SERVICE EQUIPMENT ENCLOSURES:**

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

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

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

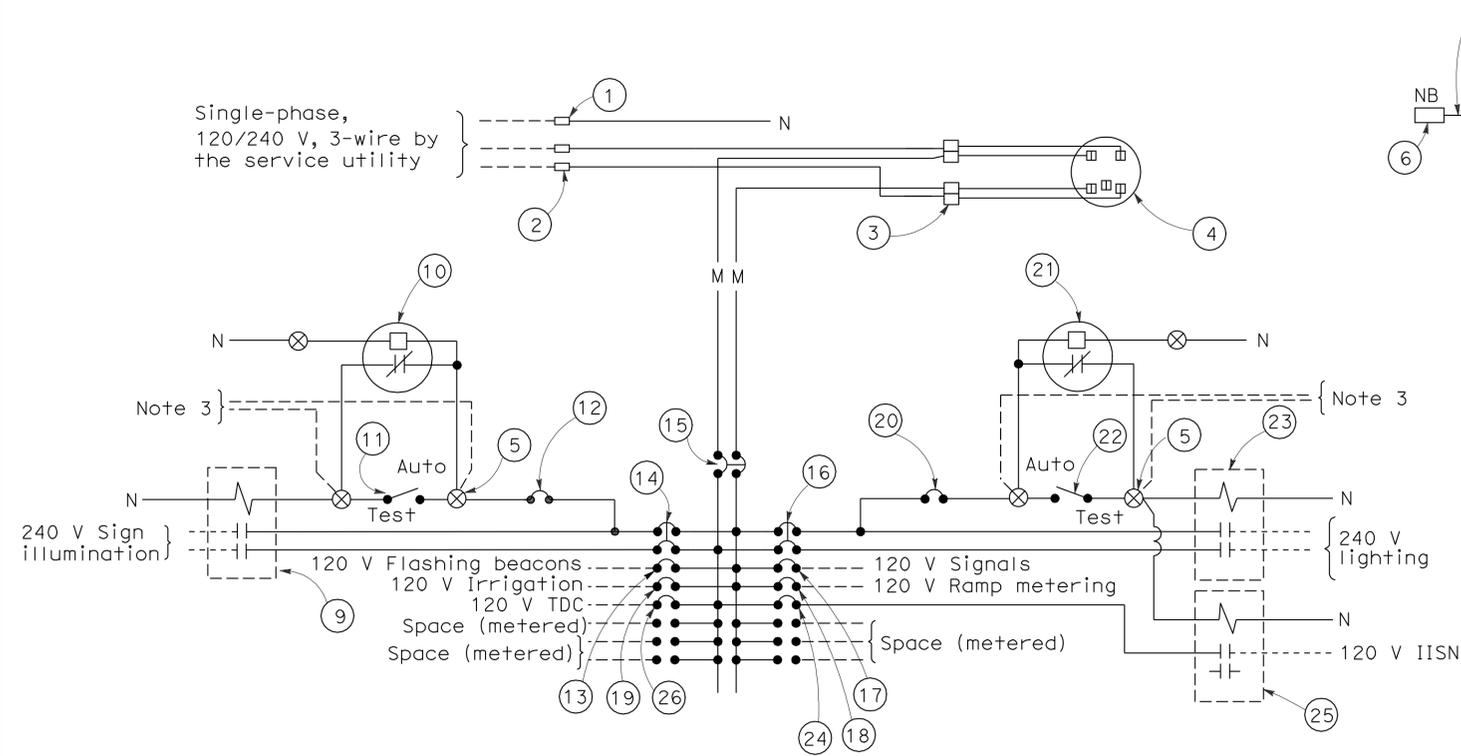
**ELECTRICAL SYSTEMS  
(SERVICE EQUIPMENT NOTES  
TYPE III SERIES)**

NO SCALE

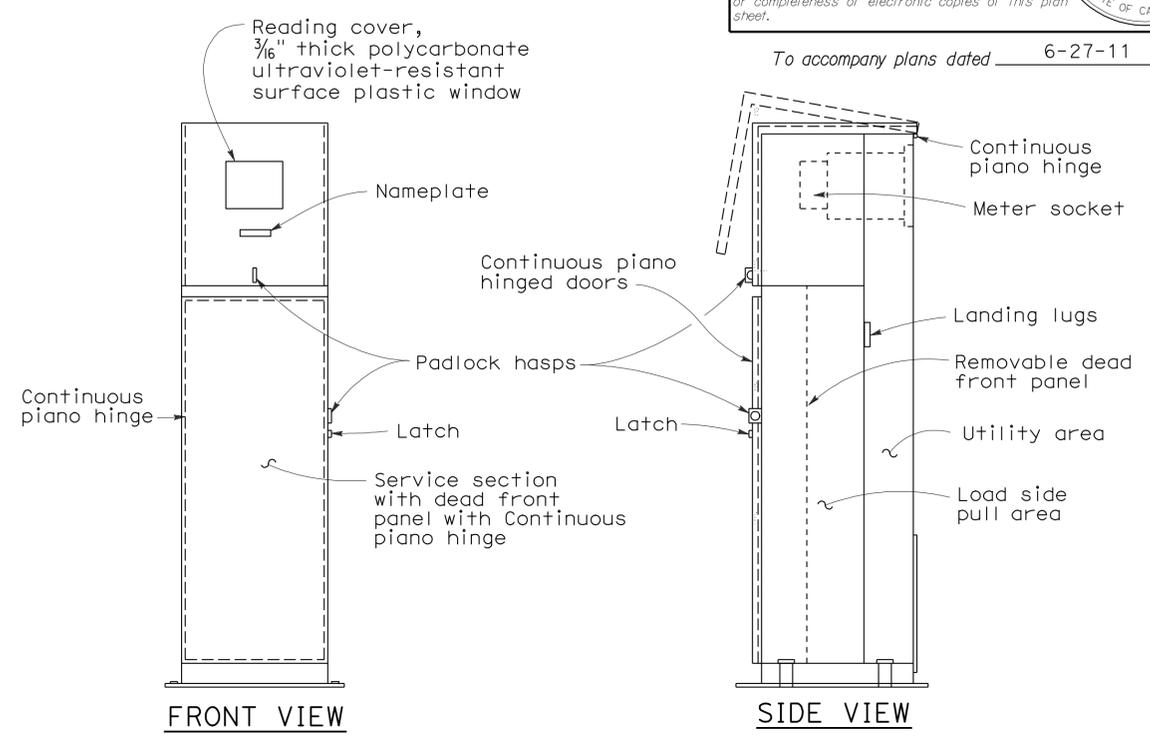
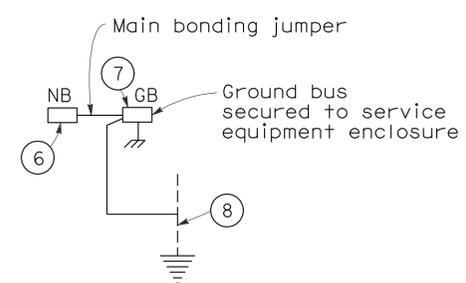
RSP ES-2C DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-2C  
DATED MAY 1, 2006 - PAGE 405 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP ES-2C**

2006 REVISED STANDARD PLAN RSP ES-2C



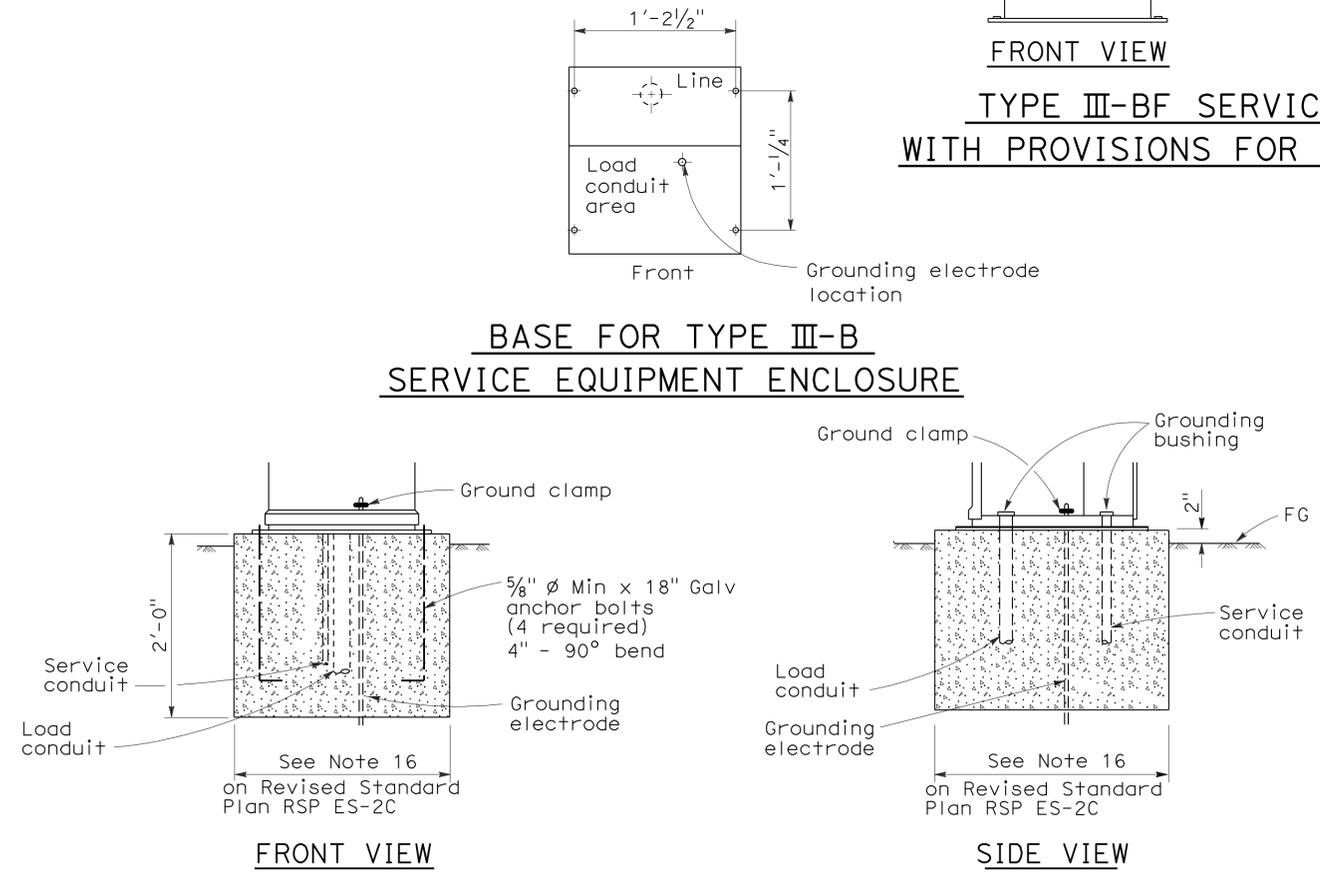
**120/240 V SERVICE WIRING DIAGRAM (TYPICAL)**



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

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

**BASE FOR TYPE III-B SERVICE EQUIPMENT ENCLOSURE**



**TYPE III-B SERVICE EQUIPMENT ENCLOSURE FOUNDATION DETAILS**

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

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS  
 (SERVICE EQUIPMENT AND  
 TYPICAL WIRING DIAGRAM,  
 TYPE III-B SERIES)**  
 NO SCALE

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

2006 REVISED STANDARD PLAN RSP ES-2E

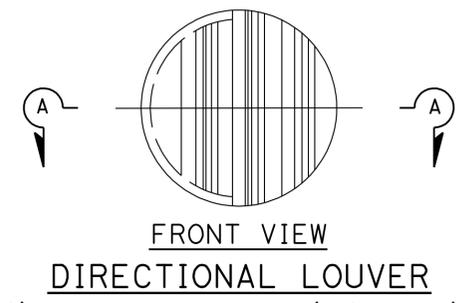
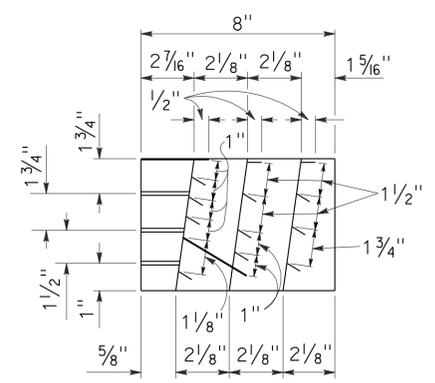
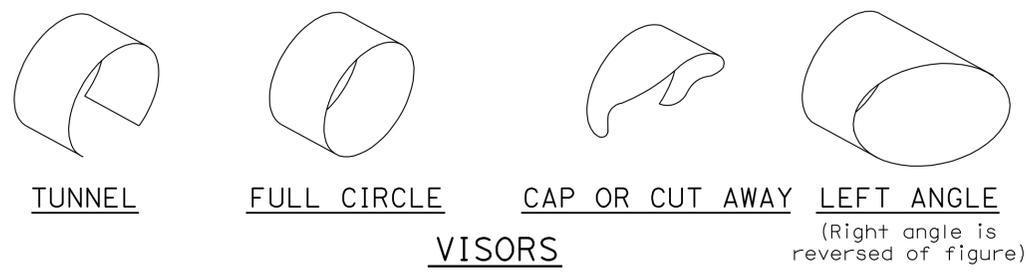
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	710	17.2/26.4	1203	1503

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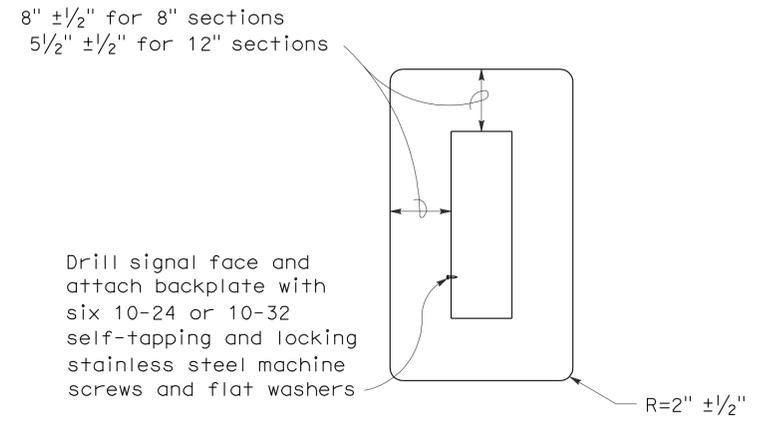
June 6, 2008  
 PLANS APPROVAL DATE

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To accompany plans dated 6-27-11

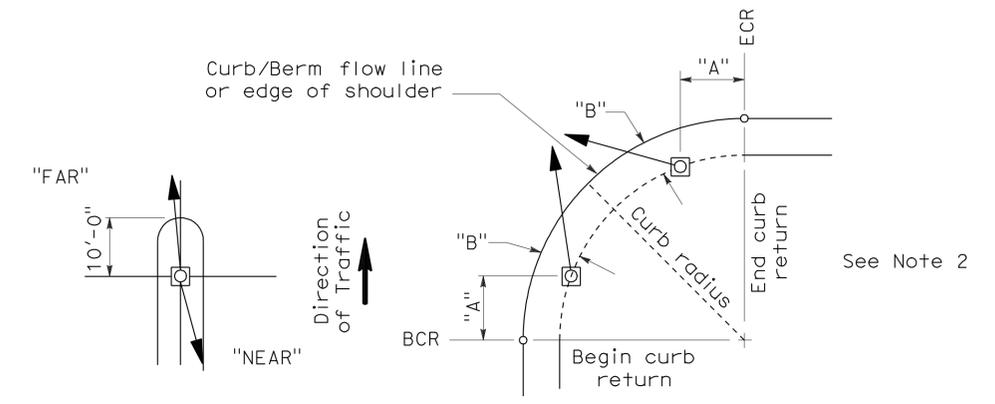


Directional louvers shall be oriented as directed by the Engineer and secured in place with one plated brass machine screw and nut.



**8" AND 12" SECTIONS**

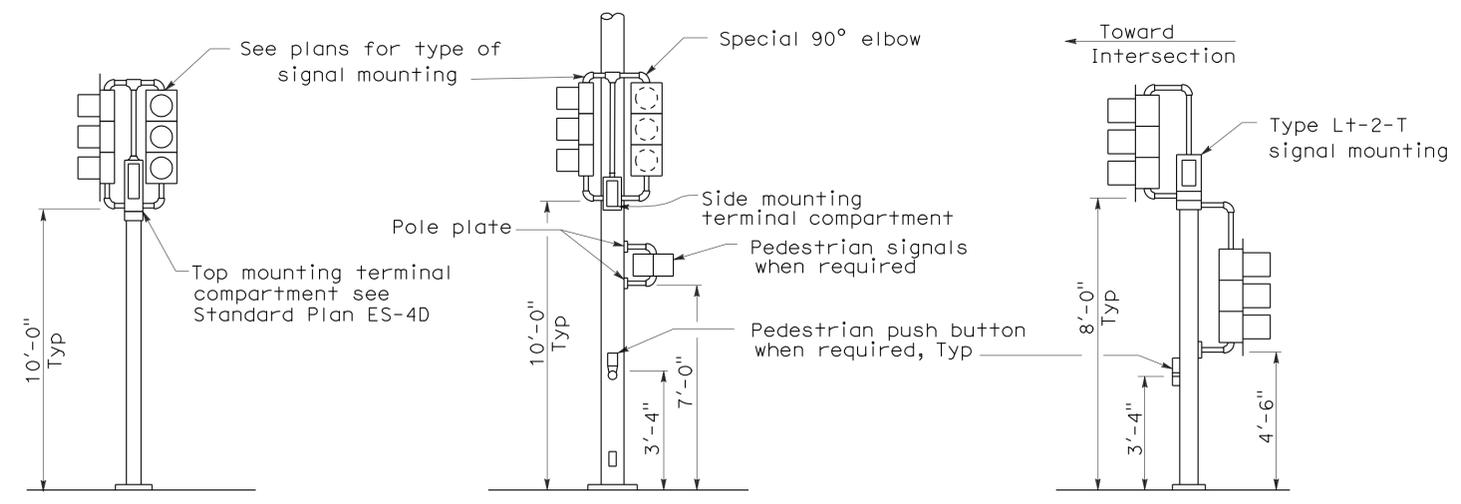
**BACKPLATE**  
 1/16" minimum thickness  
 3001-14 aluminum, or plastic when specified



**NOTES:**

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

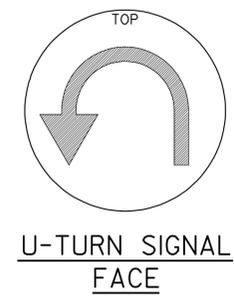
**SIGNAL STANDARD PLACEMENT DIMENSIONS AND EQUIPMENT LOCATIONS**



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

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

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



**TYPICAL SIGNAL INSTALLATIONS**

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS (SIGNAL HEADS AND MOUNTINGS)**

NO SCALE

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

**REVISED STANDARD PLAN RSP ES-4C**

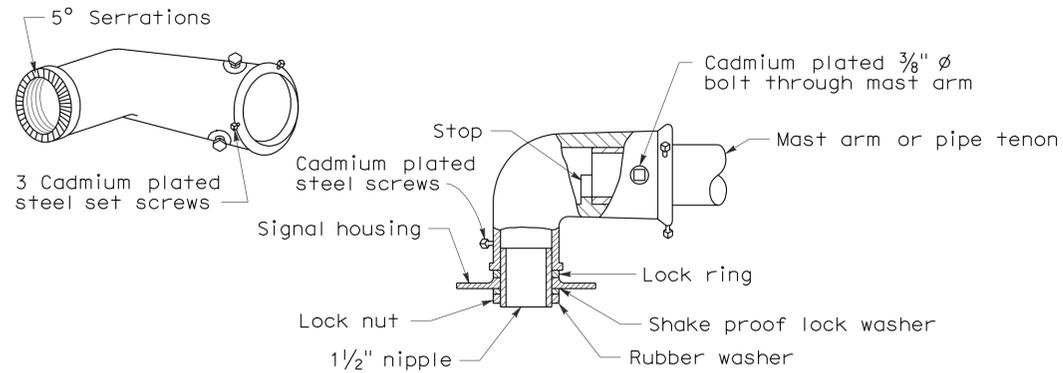
2006 REVISED STANDARD PLAN RSP ES-4C

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	710	17.2/26.4	1204	1507

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 Exp. 6-30-10  
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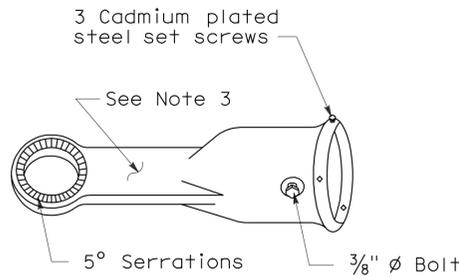
June 6, 2008  
 PLANS APPROVAL DATE

To accompany plans dated 6-27-11



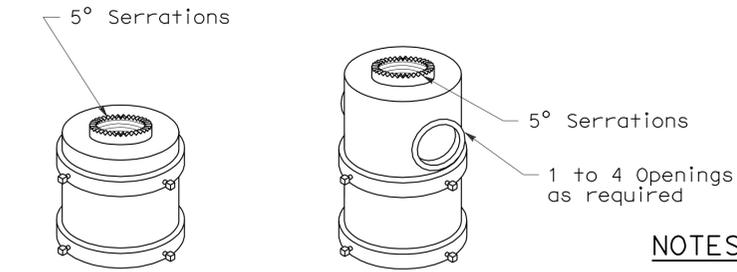
**MAST ARM MOUNTING - TYPE "MAT"**

For 2 NPS pipe, see Note 1.



**MAST ARM MOUNTING - TYPE "MAS"**

For 2 NPS pipe. See Note 1.

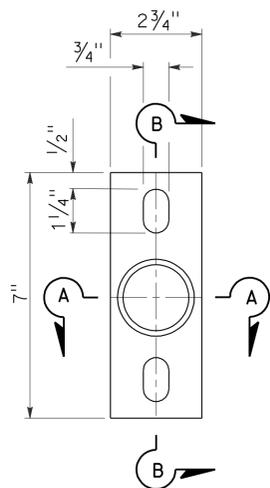


For one mounting For multiple mountings

**TOP MOUNTINGS**

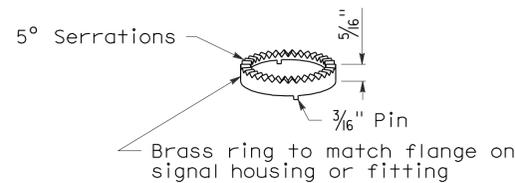
For 4 NPS pipe, see Note 2.

**SIGNAL SLIP FITTERS**



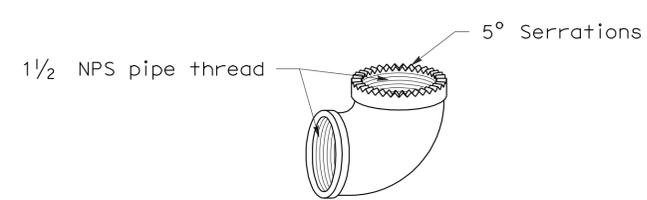
**POLE PLATE**

For side mountings



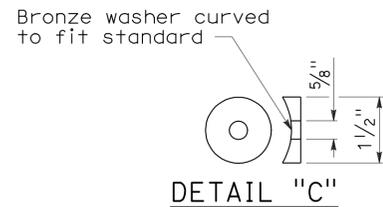
**LOCK RING**

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



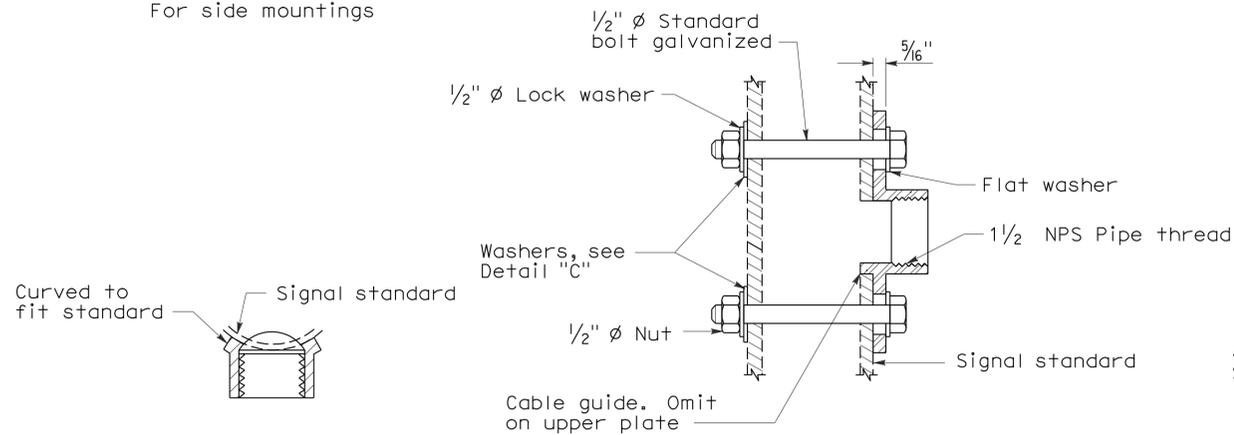
**SPECIAL 90° ELBOW**

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



**DETAIL "C"**

**MISCELLANEOUS MOUNTING HARDWARE**



**SECTION A-A**

**SECTION B-B**

**TOP MOUNTING**

**SIDE MOUNTING**

**TERMINAL COMPARTMENTS**

**ELECTRICAL SYSTEMS (SIGNAL HEADS AND MOUNTINGS)**

NO SCALE

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

**REVISED STANDARD PLAN RSP ES-4D**

2006 REVISED STANDARD PLAN RSP ES-4D

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	710	17.2/26.4	1205	1507

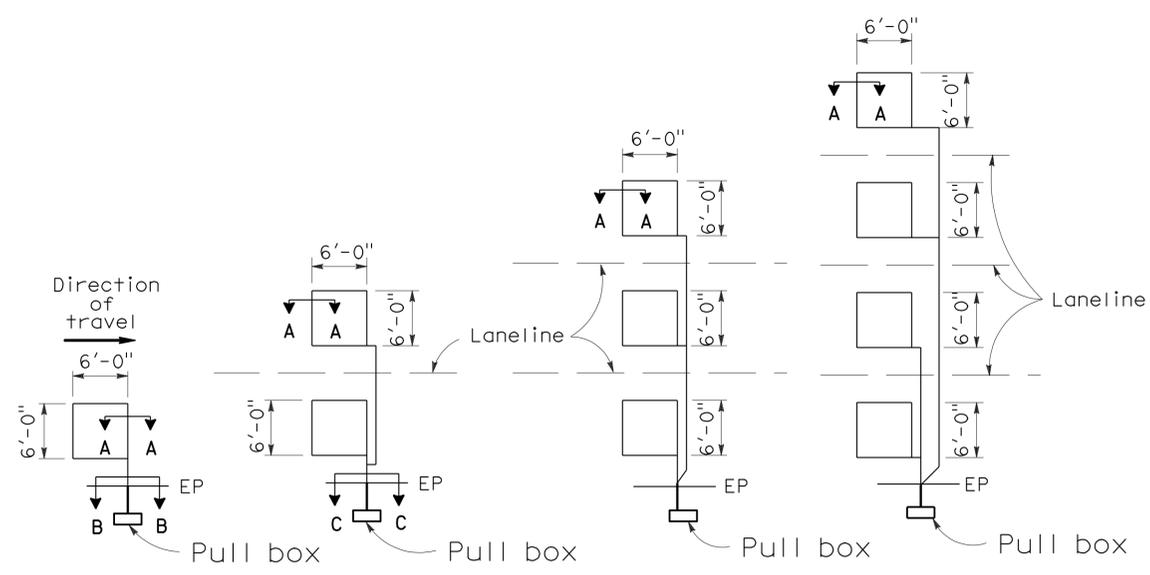
*Jeffery G. McRae*  
 REGISTERED ELECTRICAL ENGINEER  
 October 5, 2007  
 PLANS APPROVAL DATE  
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To accompany plans dated 6-27-11

2006 REVISED STANDARD PLAN RSP ES-5A

## LOOP INSTALLATION PROCEDURE

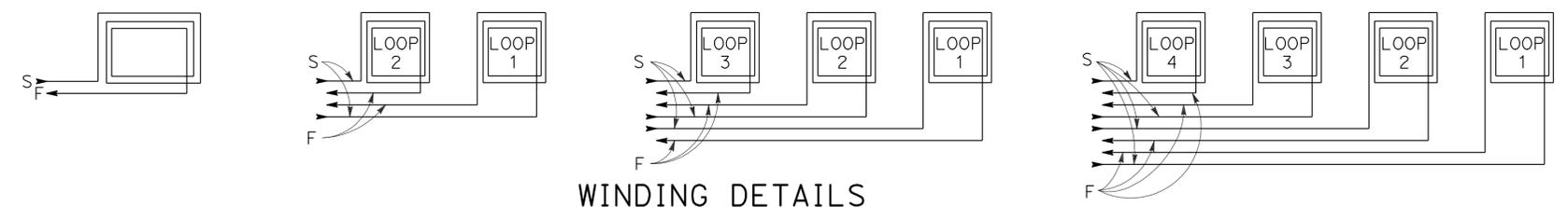
- Loops shall be centered in lanes.
- Saw slots in pavement for loop conductors as shown in details.
- Distance between side of loop and a lead-in saw cut from adjacent detectors shall be 2'-0" minimum. Distance between lead-in saw cuts shall be 6" minimum.
- Bottom of saw slot shall be smooth with no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



**TYPE 1A INSTALLATION**    **TYPE 2A INSTALLATION**    **TYPE 3A INSTALLATION**    **TYPE 4A INSTALLATION**

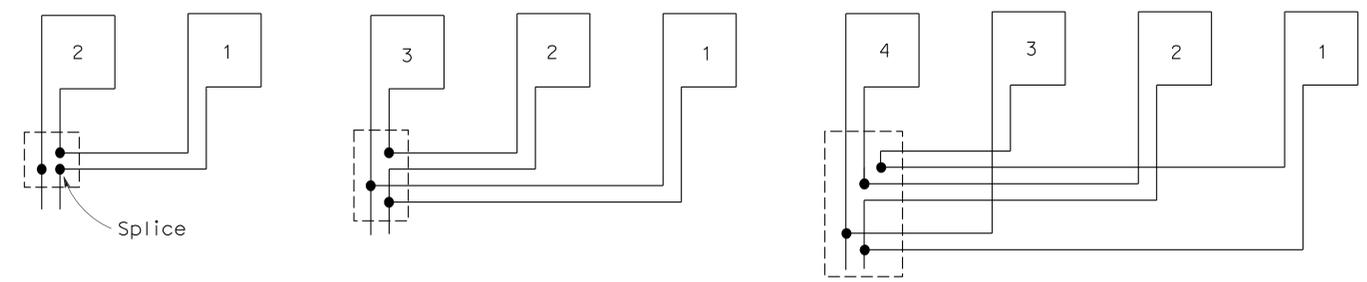
### SAWCUT DETAILS

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



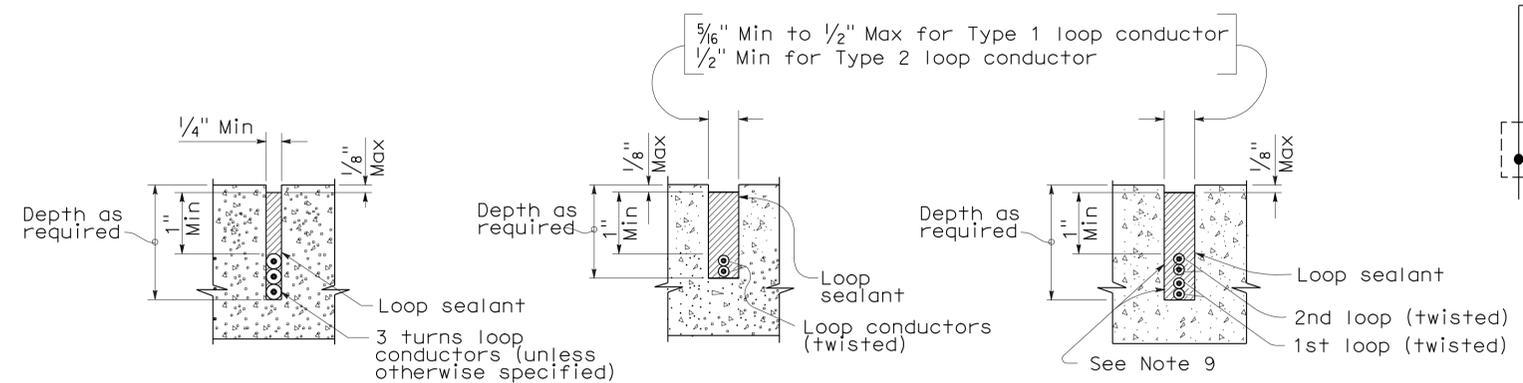
### WINDING DETAILS

See Notes 6 and 7



### TYPICAL LOOP CONNECTIONS

(Dashed lines represent the pull box)



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

## ELECTRICAL SYSTEMS (DETECTORS)

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

NO SCALE

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

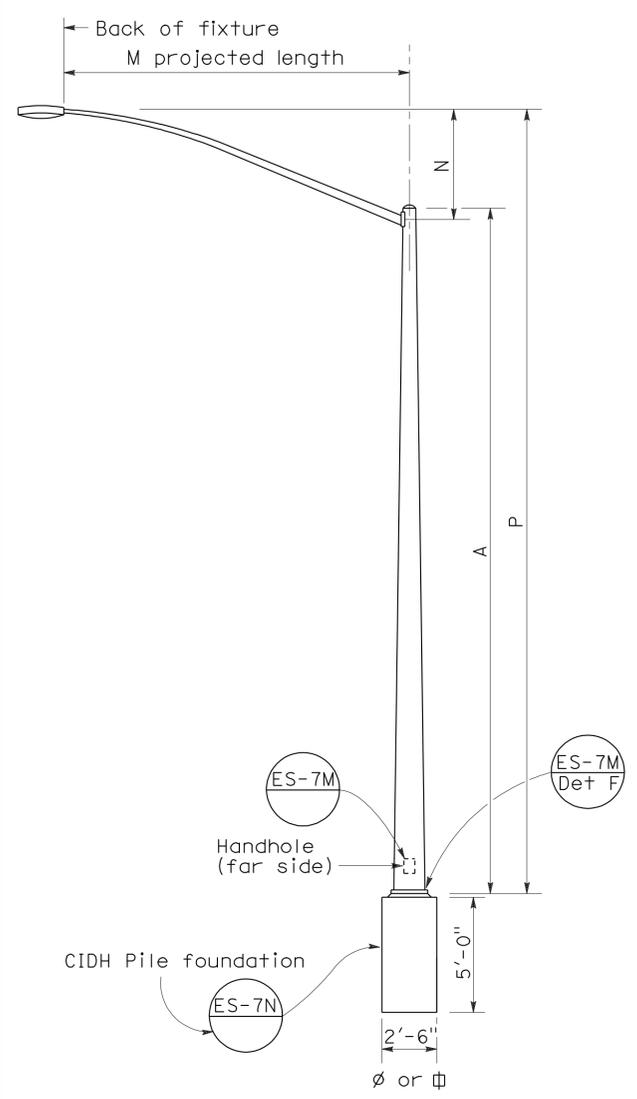
**REVISED STANDARD PLAN RSP ES-5A**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	710	17.2/26.4	1206	1507

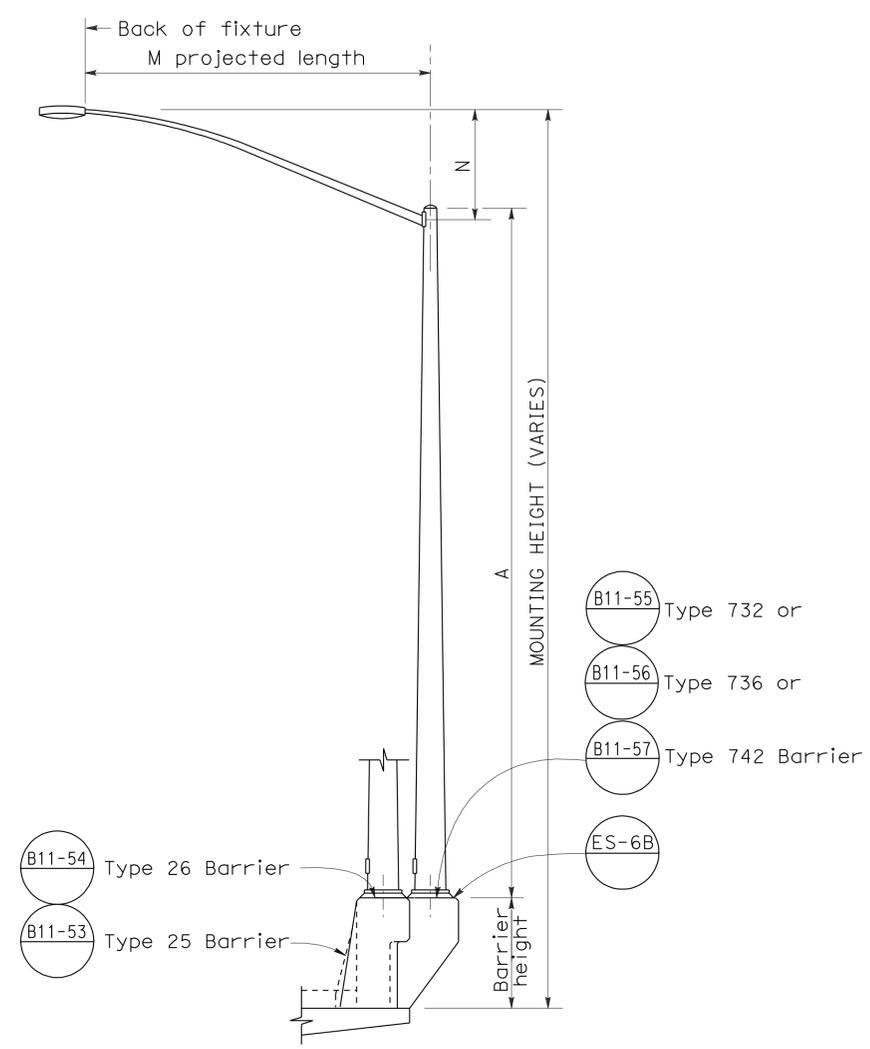
Stanley P. Johnson  
 REGISTERED CIVIL ENGINEER  
 October 5, 2007  
 PLANS APPROVAL DATE  
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REGISTERED PROFESSIONAL ENGINEER  
 Stanley P. Johnson  
 No. C57793  
 Exp. 3-31-08  
 CIVIL  
 STATE OF CALIFORNIA

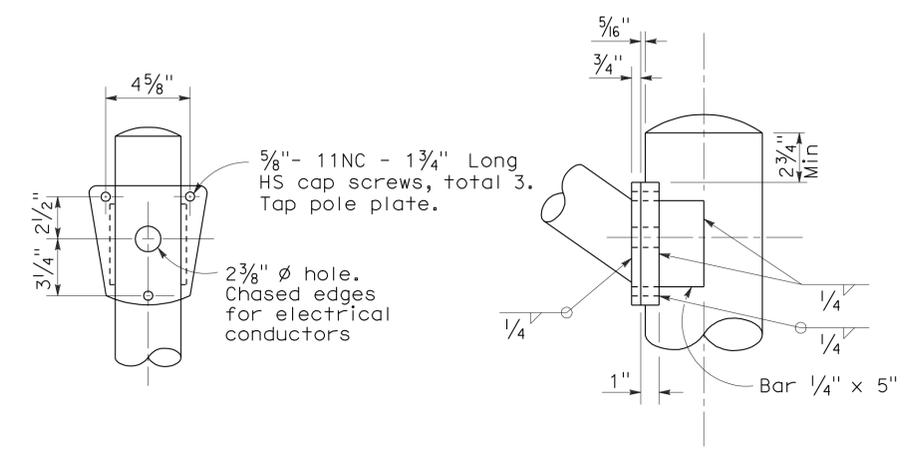
To accompany plans dated 6-27-11



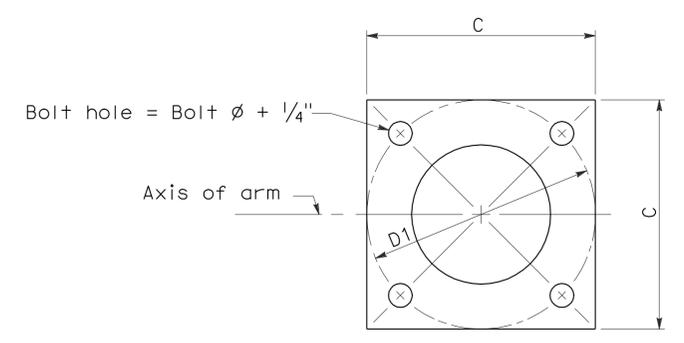
**ELEVATION**  
**TYPE 15 AND TYPE 21**



**ELEVATION**  
**TYPE 15 AND TYPE 21 BARRIER RAIL MOUNTED**



**DETAIL R**  
**LUMINAIRE ARM CONNECTION**



**BASE PLATE**

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

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

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

**NOTES:**

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

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

NO SCALE

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

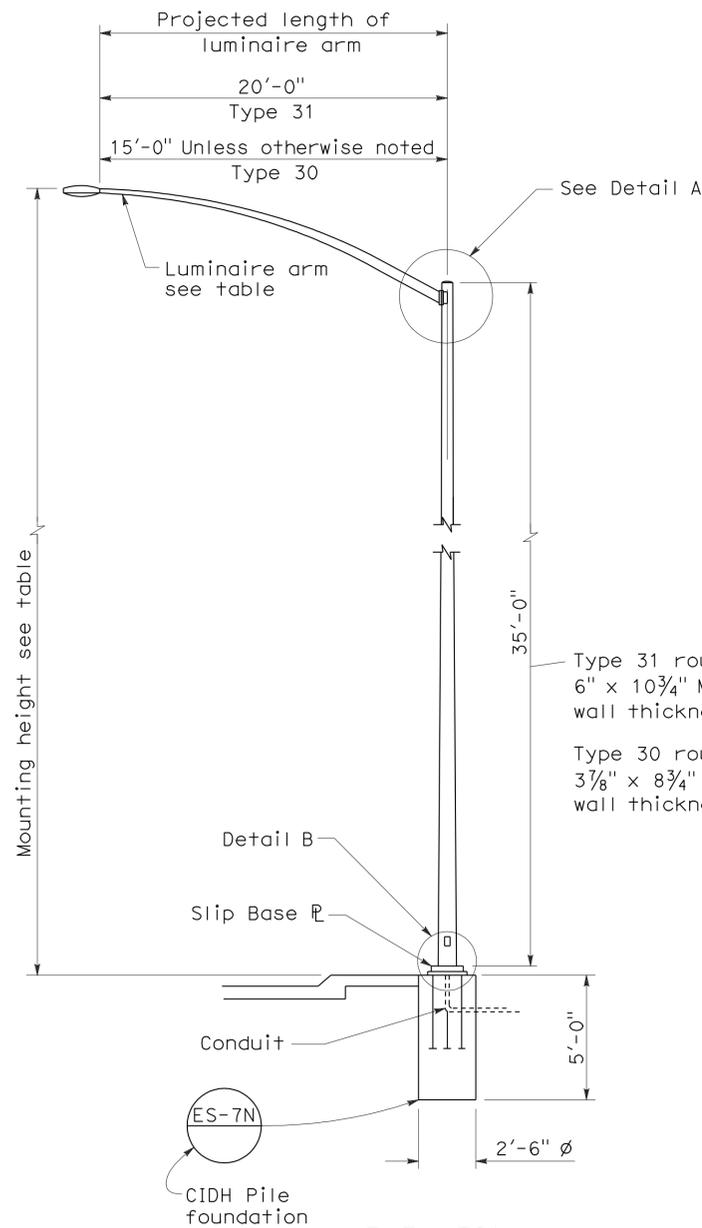
**REVISED STANDARD PLAN RSP ES-6A**

2006 REVISED STANDARD PLAN RSP ES-6A

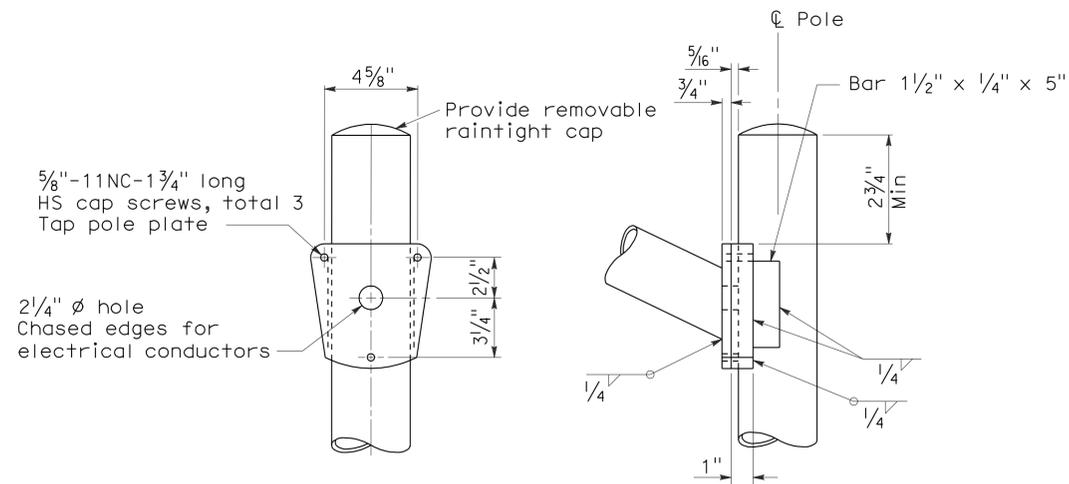
**LUMINAIRE ARM DATA**

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

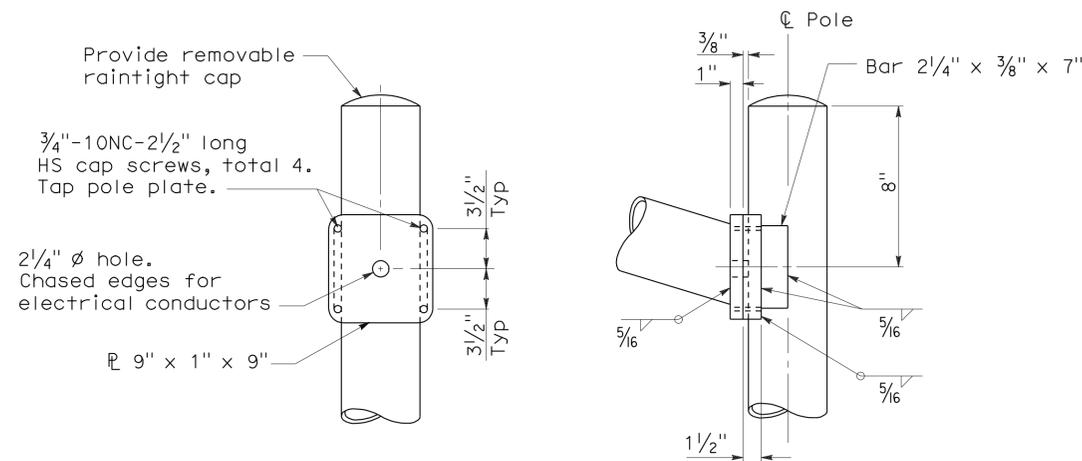
\* Type 30 - arm length 6'-0" - 15'-0" maximum  
 \*\* Type 31 - arm lengths 20'-0"



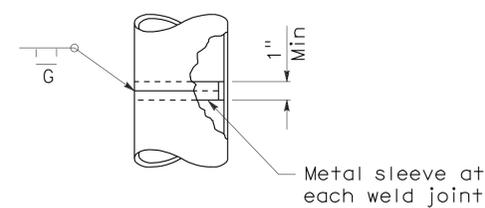
**ELEVATION**



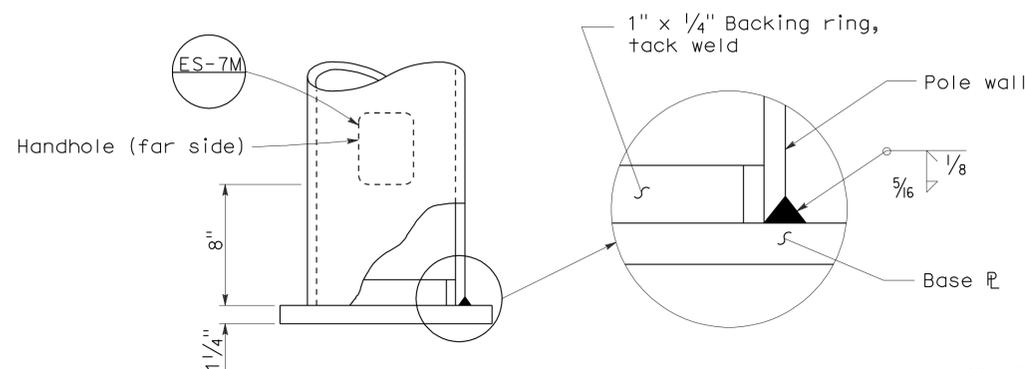
**DETAIL A - TYPE 30**



**DETAIL A - TYPE 31**



**POLE SPLICE**



**DETAIL B**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	710	17.2/26.4	1207	1507

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

January 18, 2008  
 PLANS APPROVAL DATE

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To accompany plans dated 6-27-11

**NOTES:**

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

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS  
 (LIGHTING STANDARD  
 TYPES 30 AND 31)**

NO SCALE

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

**REVISED STANDARD PLAN RSP ES-6E**

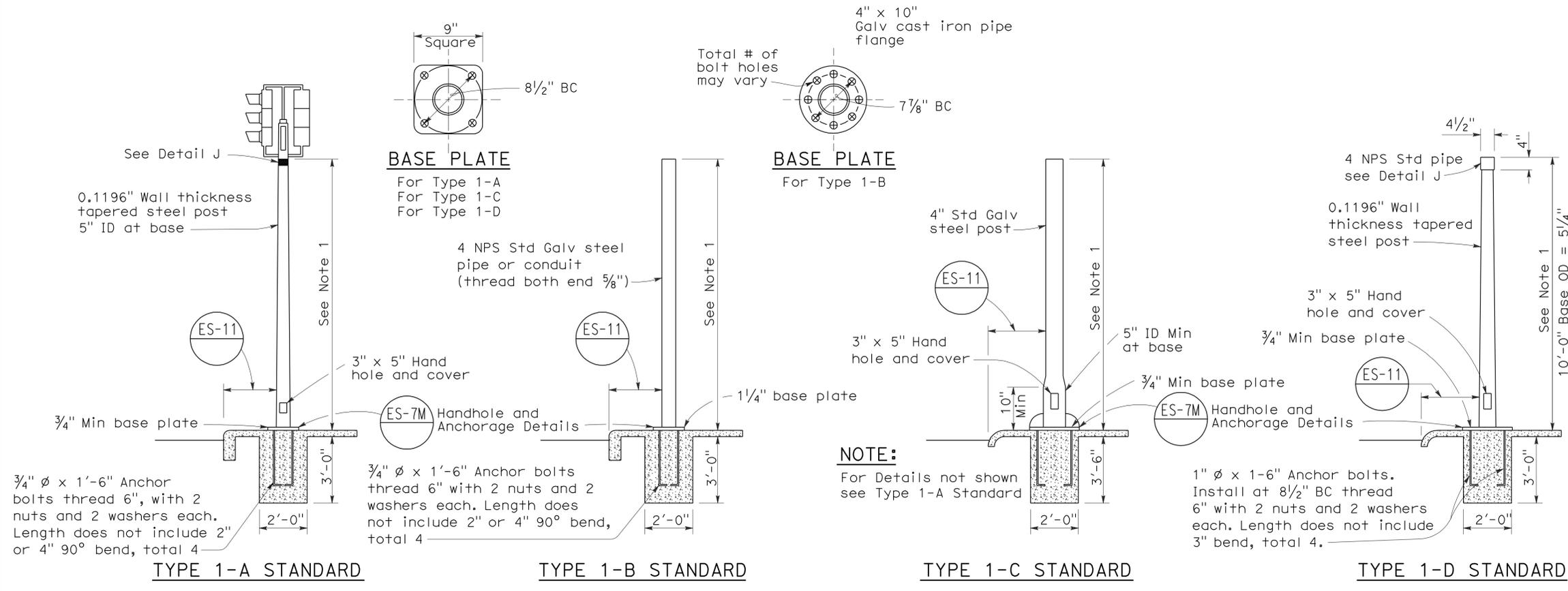
2006 REVISED STANDARD PLAN RSP ES-6E

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	710	17.2/26.4	1208	1507

Stanley P. Johnson  
 REGISTERED CIVIL ENGINEER  
 October 5, 2007  
 PLANS APPROVAL DATE  
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.  
 To accompany plans dated 6-27-11

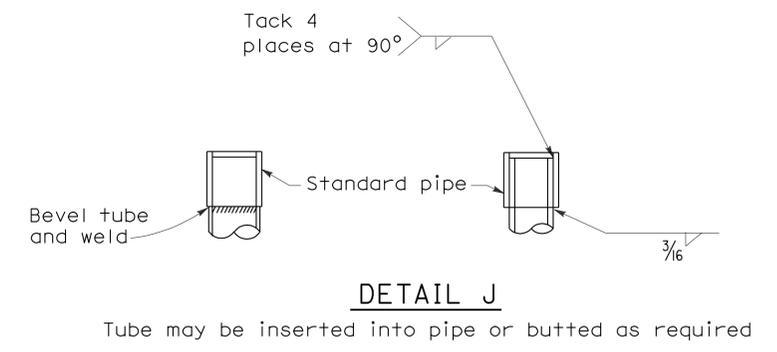
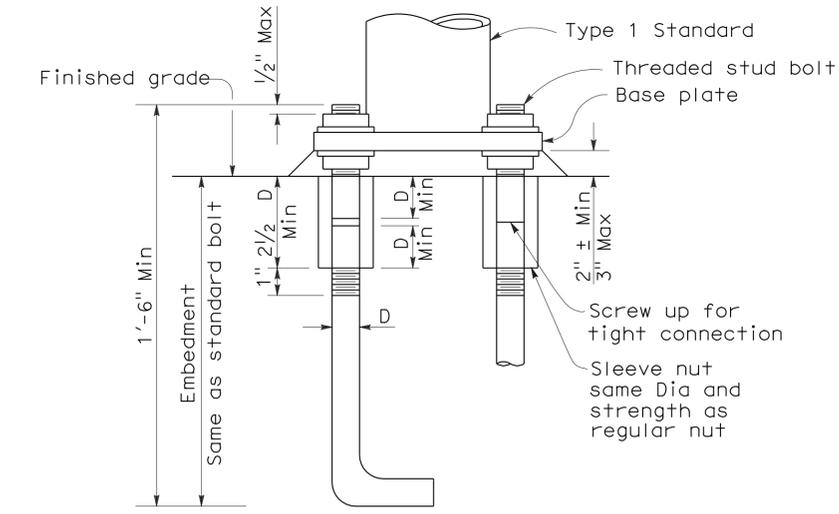
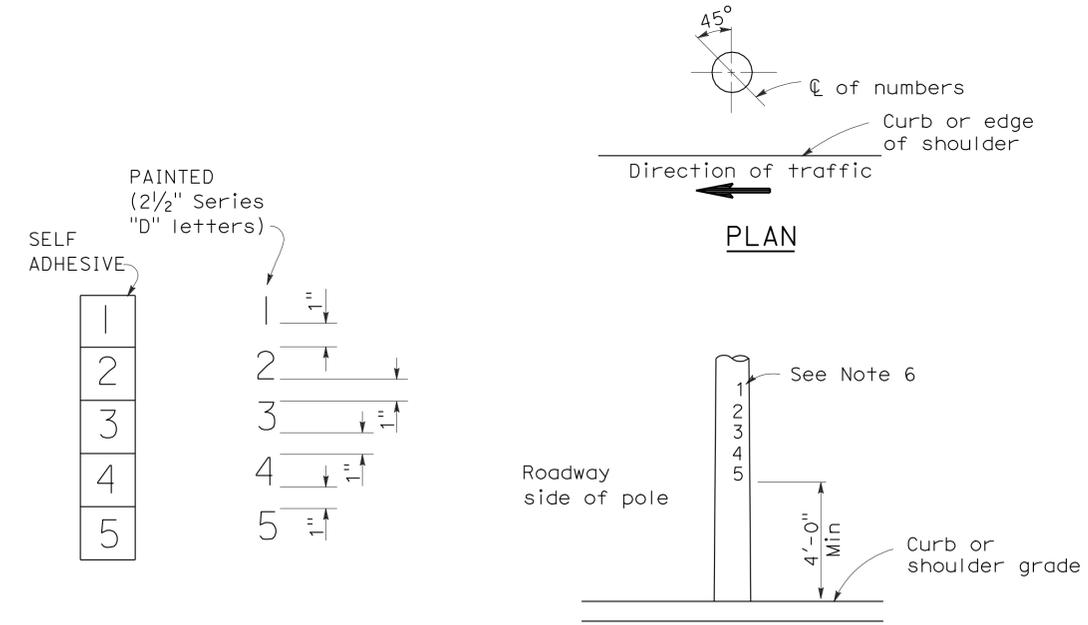
REGISTERED PROFESSIONAL ENGINEER  
 Stanley P. Johnson  
 No. C57793  
 Exp. 3-31-08  
 CIVIL  
 STATE OF CALIFORNIA

2006 REVISED STANDARD PLAN RSP ES-7B



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

**TYPE 1 SIGNAL STANDARDS**



**NUMBER DETAIL**      **TYPICAL NUMBER FORMAT**

**LOCATION OF EQUIPMENT NUMBERS ON STANDARDS AND POSTS**

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

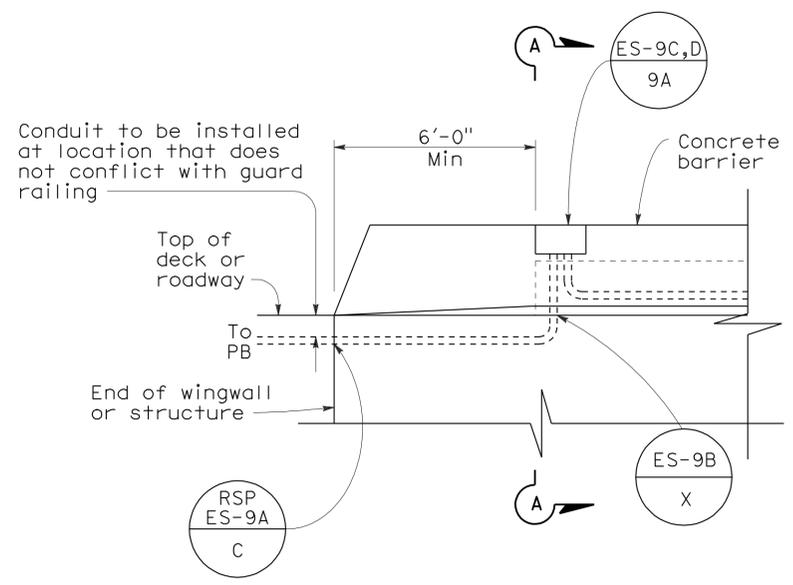
NO SCALE

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	710	17.2/26.4	1209	1507

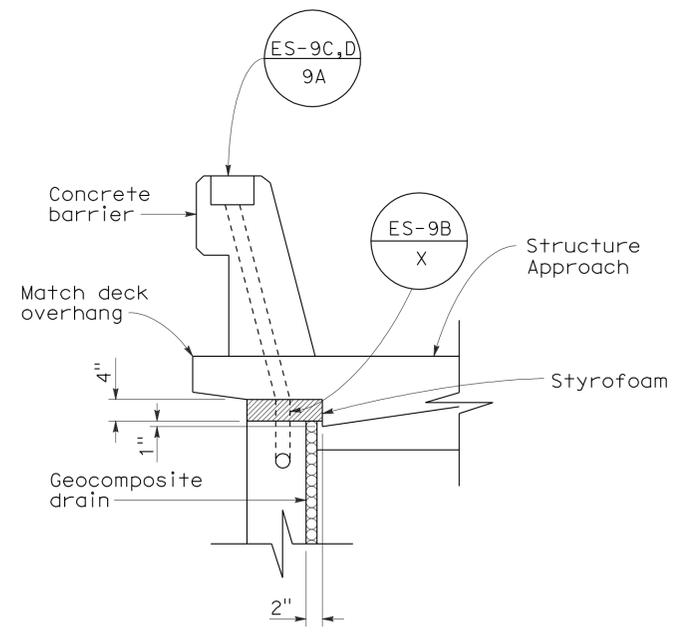
*Jeffery G. McRae*  
 REGISTERED ELECTRICAL ENGINEER  
 October 5, 2007  
 PLANS APPROVAL DATE  
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

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

To accompany plans dated 6-27-11

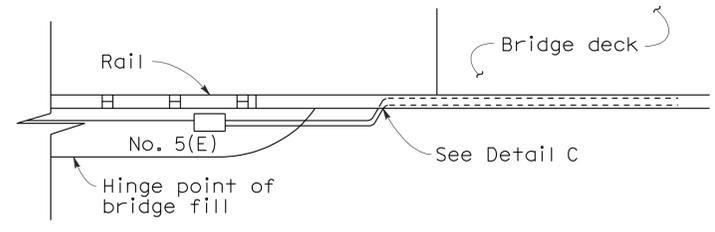


**SIDEVIEW**

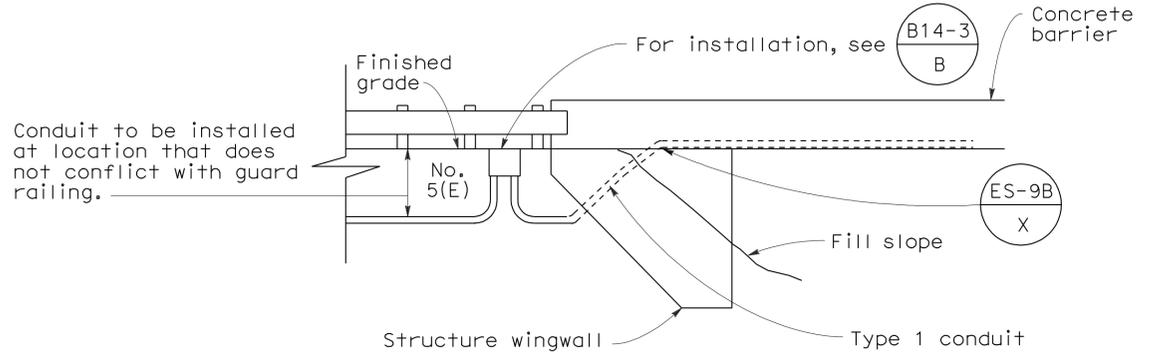


**SECTION A-A**

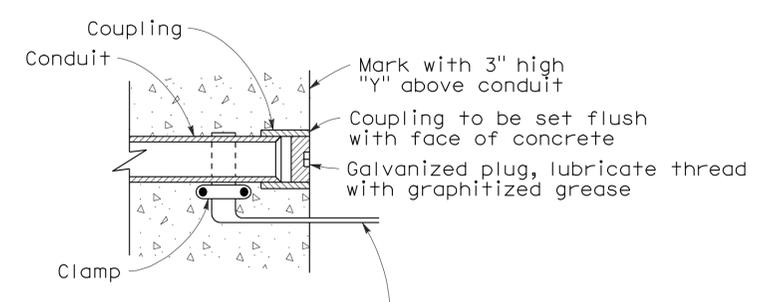
**DETAIL A  
CONDUIT TERMINATION**



**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.

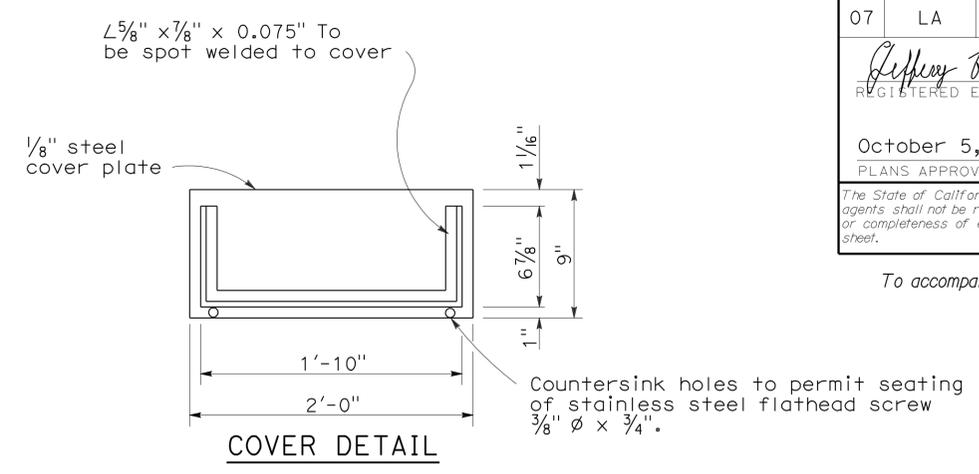
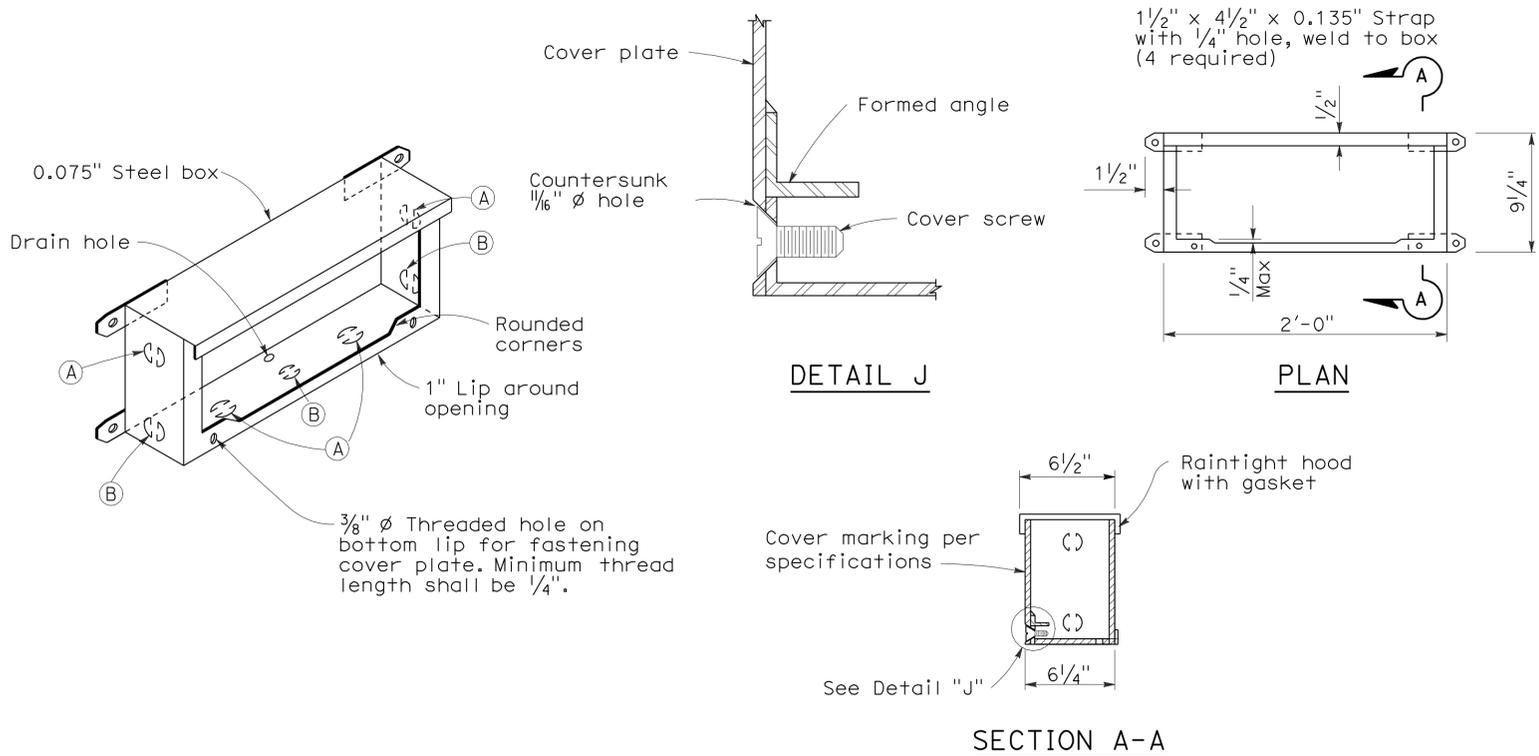
**2006 REVISED STANDARD PLAN RSP ES-9A**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	710	17.2/26.4	1210	1507

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

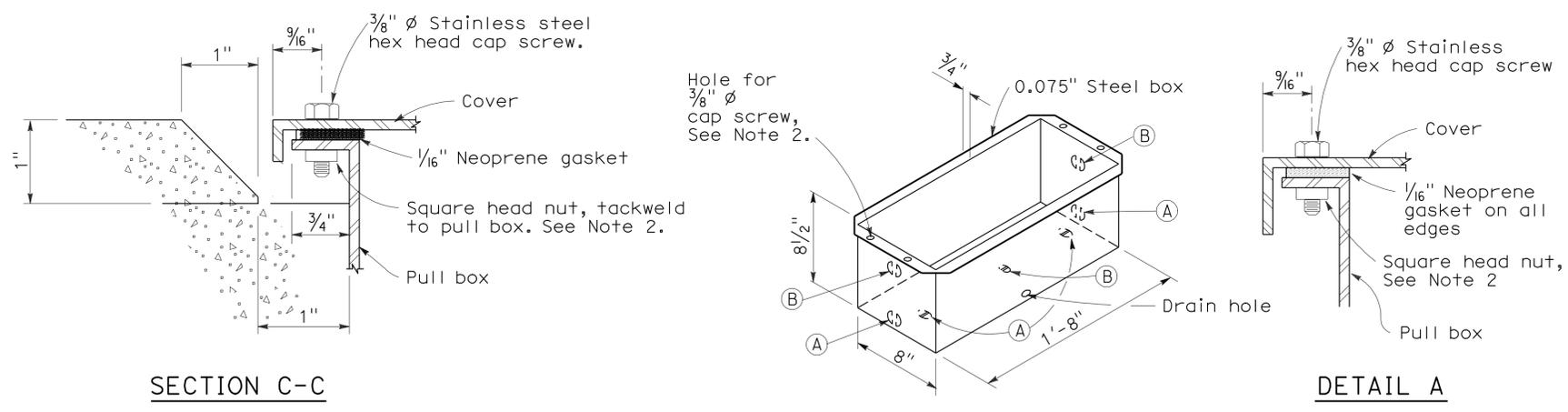
October 5, 2007  
 PLANS APPROVAL DATE

To accompany plans dated 6-27-11



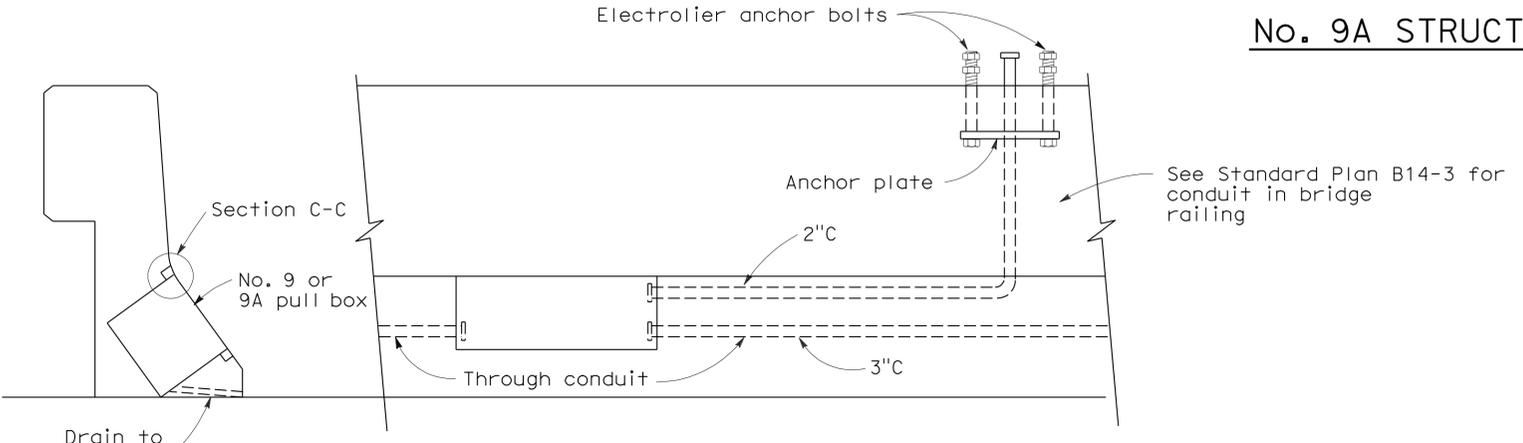
**INSTALLATION NOTE:**  
 Box shall be parallel to top of railing. Close cover box during pouring with 1/4" plywood of sufficient size to provide 1:1 chamfer on 3 sides of cover. Upper edge of plywood shall fit against lower edge of raintight hood.

**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

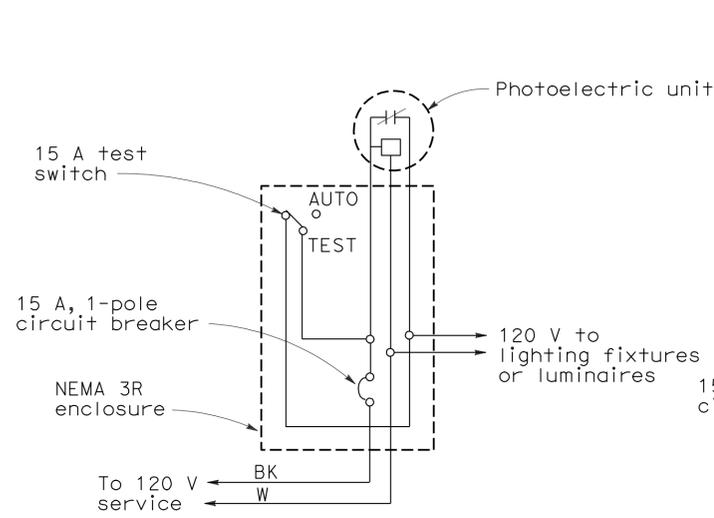
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	710	17.2/26.4	1211	1507

*Jeffery G. McRae*  
 REGISTERED ELECTRICAL ENGINEER  
 October 5, 2007  
 PLANS APPROVAL DATE  
 No. E14512  
 Exp. 6-30-08  
 ELECTRICAL  
 STATE OF CALIFORNIA  
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**NOTES: (FOR LIGHTING AND SIGN ILLUMINATION CONTROL)**

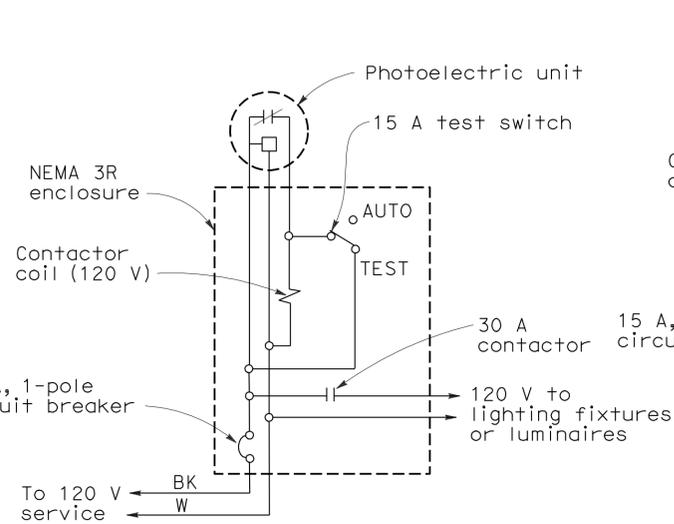
1. The ballast voltages of lighting fixtures and luminaires shall match line service voltages.
2. Voltage rating of photoelectric controls shall conform to the service voltage indicated on the plans.
3. Terminal strip shall be provided for wiring to fixtures.
4. Type SC1A, SC2A, SC3A controls are similar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

To accompany plans dated 6-27-11



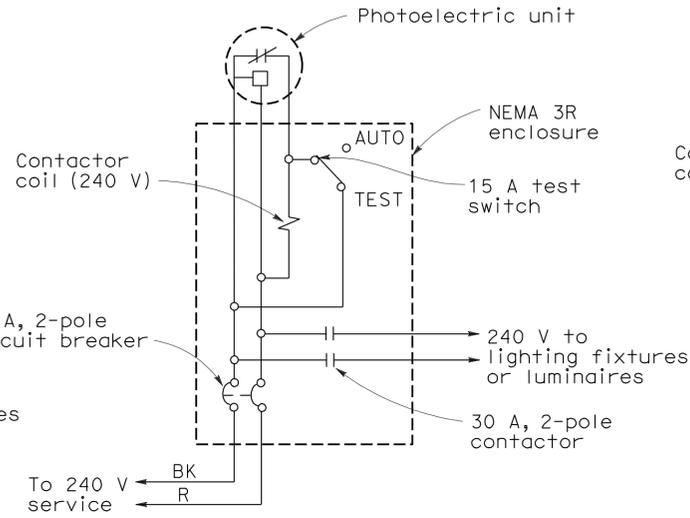
**TYPE LC1 CONTROL**

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



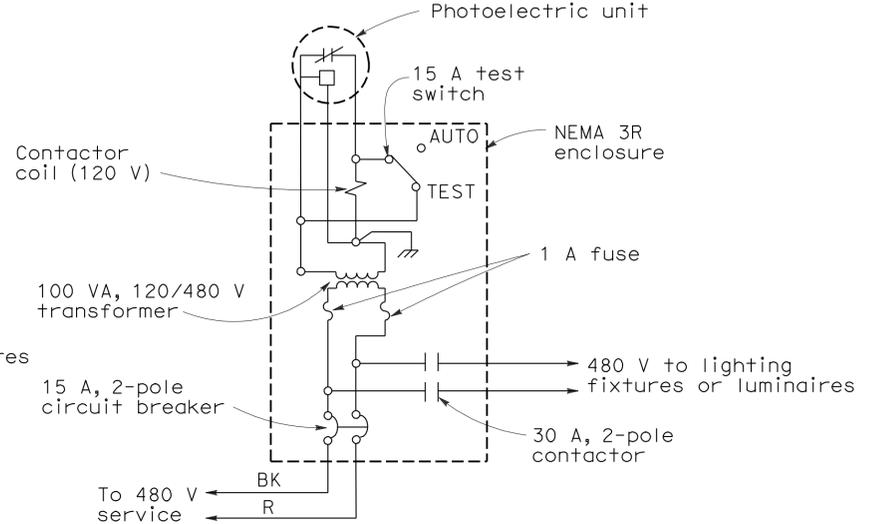
**TYPE LC2 CONTROL**

For 120 V unswitched circuit



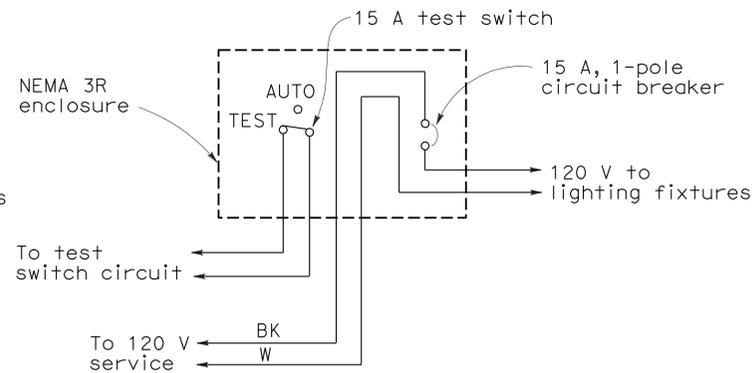
**TYPE LC3 CONTROL**

For 240 V and 480 V unswitched circuits



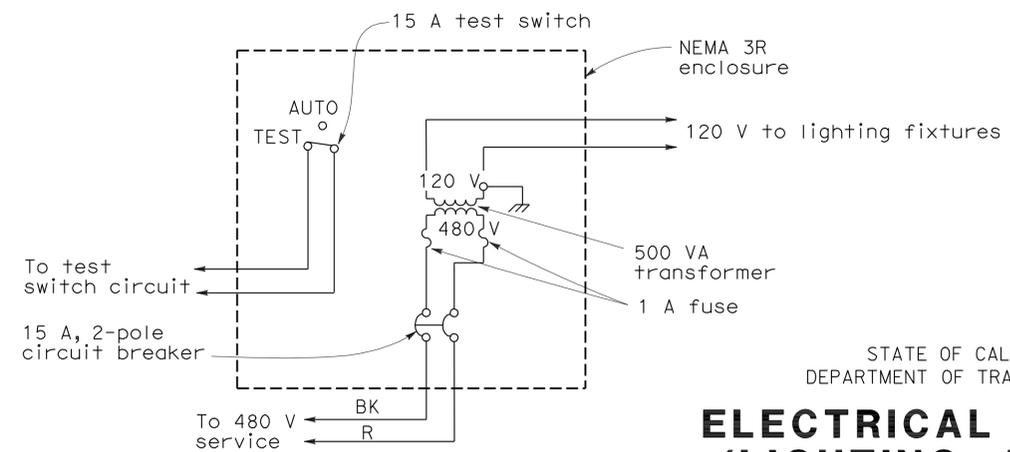
**TYPE SC1 CONTROL**

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



**TYPE SC2 CONTROL**

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



**TYPE SC3 CONTROL**

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

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

NO SCALE

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

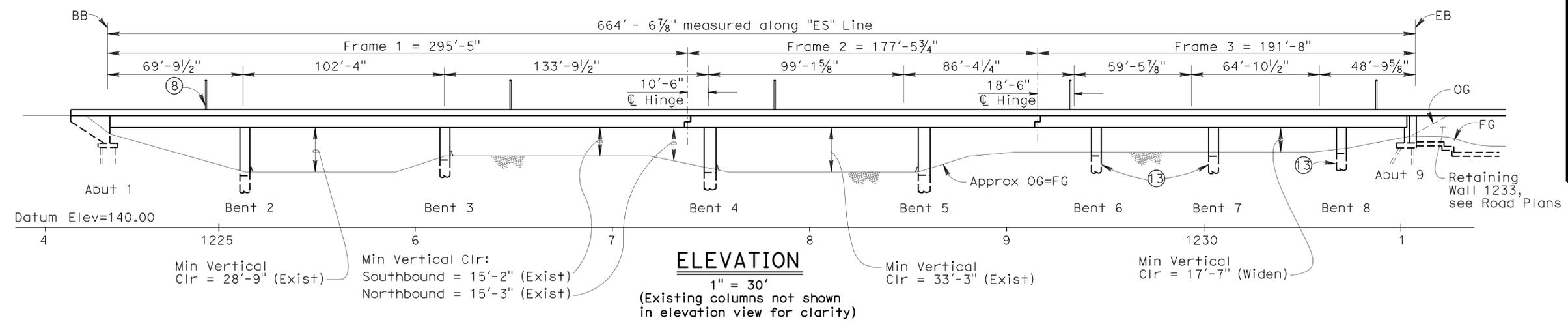
**REVISED STANDARD PLAN RSP ES-15D**

2006 REVISED STANDARD PLAN RSP ES-15D

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1212	1507

03-01-11  
 REGISTERED CIVIL ENGINEER DATE  
 6-27-11  
 PLANS APPROVAL DATE  
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WEI-KUNG HSIA  
 No. C50210  
 Exp. 06-30-11  
 CIVIL  
 STATE OF CALIFORNIA



**ELEVATION**  
1" = 30'  
(Existing columns not shown in elevation view for clarity)

**NOTES:**

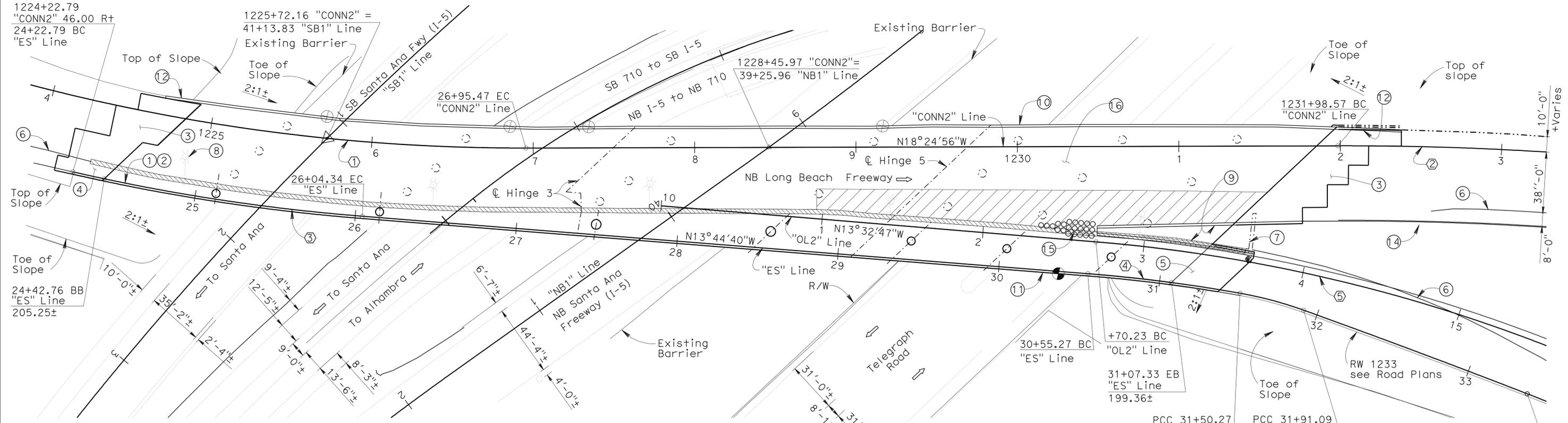
- ① Paint "BRIDGE NO. 53-0785R"
- ② Paint "Rte 710/5 SEPARATION EAST"
- ③ Structure Approach Type R(30D)
- ④ Structure Approach Type N(30D)
- ⑤ Structure Approach Type N(30S)
- ⑥ Remove MBGR, see Road Plans.
- ⑦ Remove Existing overhead sign, see Road Plans.
- ⑧ Relocate Existing Electroliers (tot 5), see Road Plans
- ⑨ Concrete Barrier Type 732 (MOD). For limits, see Road Plans. For barrier portion on existing bridge deck, use Type 732 (MOD 1) detail on "CONCRETE BARRIER TYPE 732 (MOD) DETAILS" sheet. For barrier portion on new approach slab or closure pour, use Type 732 (MOD) detail.
- ⑩ Concrete Barrier Type 732 (MOD 1)
- ⑪ Concrete Barrier Type 732 (MOD)
- ⑫ Concrete Barrier Type 732B (MOD)
- ⑬ Isolation Casing, see "COLUMN DETAILS NO.1" sheet
- ⑭ MBGR, see Road Plans
- ⑮ Crash Cushion, see Road Plans
- ⑯ See "DECK REPAIR LAYOUT" sheet for limits of Methacrylate treatment.

**LEGEND**

- ▨ Prepare concrete bridge deck and place polyester concrete overlay, see also "DECK REPAIR LAYOUT" and "DECK RIB DETAILS" sheet.
- ▨ Indicates Bridge Removal (Portion)
- Indicates Existing Structure
- ⊙ Point of minimum vertical clearance (Widen)
- ⊕ Point of minimum vertical clearance (Exist)
- ⇒ Indicates direction of traffic

**CURVE DATA**

No.	R	Δ	T	L
①	1200.00	18°52'39"	199.49'	395.37'
②	2000.00	17°56'41"	315.78'	626.39'
③	1246.00	08°20'54"	90.93'	181.55'
④	980.00	05°33'15"	47.54'	95.00'
⑤	1000.00	27°47'42"	247.43'	485.12'

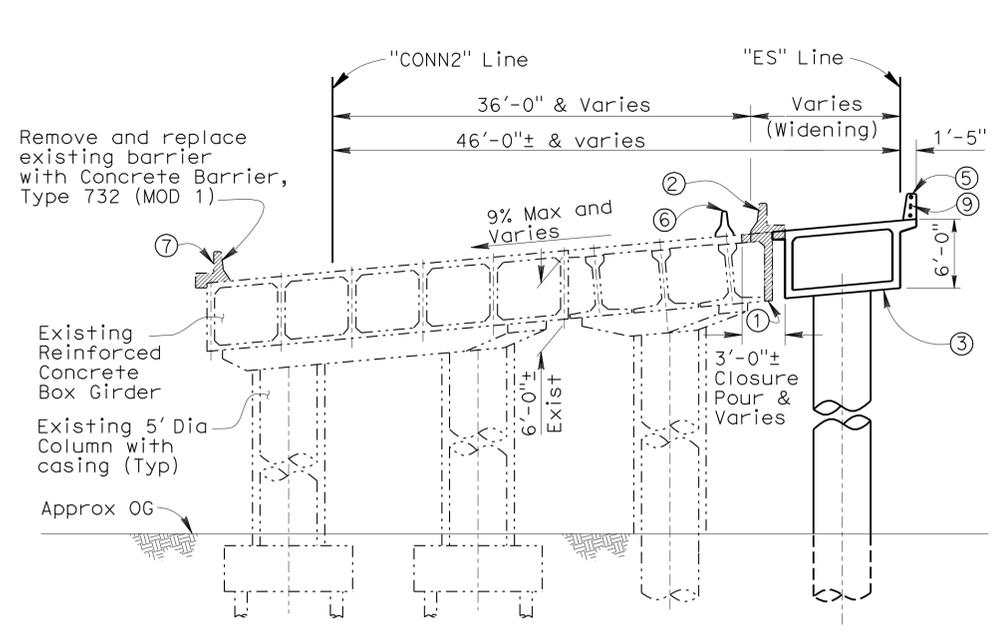


**NOTE:**  
The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

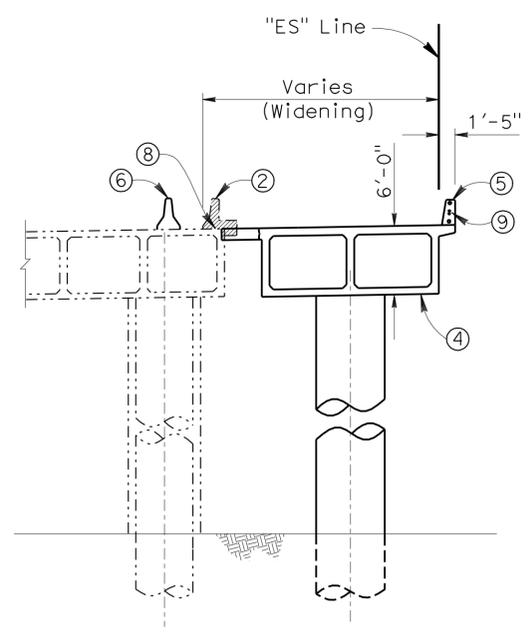
**PLAN**  
1" = 30'

PAUL CHUNG DESIGN ENGINEER	DESIGN	BY CHARLES LOMICKA	CHECKED R. WANG / C. SANCHEZ	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 <b>DESIGN BRANCH 19</b>	BRIDGE NO.	53-0785R	<b>RTE 710/5 SEPARATION EAST (WIDEN)</b> <b>GENERAL PLAN NO. 1</b>	
	DETAILS	BY H. INIGUEZ / H.M.	CHECKED R. WANG / C. SANCHEZ	LAYOUT	BY CHARLES LOMICKA			CHECKED R. WANG / C. SANCHEZ	POST MILE		23.19
	QUANTITIES	BY B. MCGAHEY	CHECKED E. MERCADO	SPECIFICATIONS	BY K. ELLINGSON			CHECKED K. ELLINGSON	PLANS AND SPECS COMPARED		

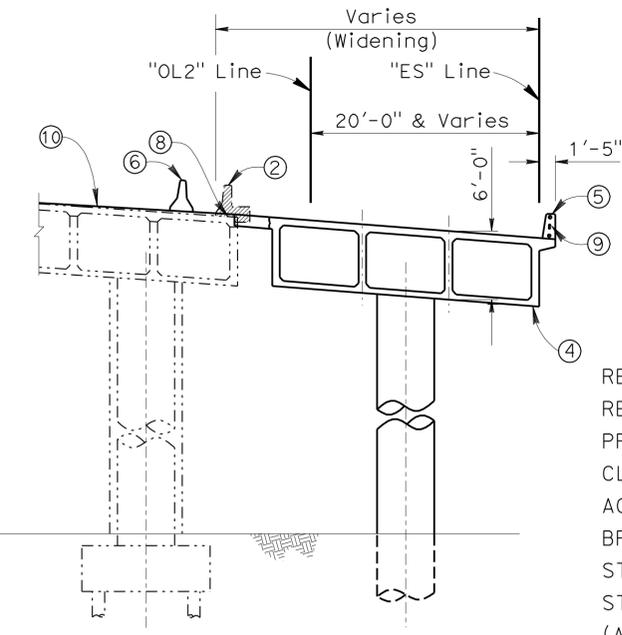
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS  
 UNIT: 3621  
 PROJECT NUMBER & PHASE: 0700020869 1  
 CONTRACT NO.: 07-202111  
 DISREGARD PRINTS BEARING EARLIER REVISION DATES  
 REVISION DATES: 08-06-09, 02-18-11, 02-07-11  
 SHEET 1 OF 52



**TYPICAL SECTION FRAME 1  
BENT 2 & 3**  
1/8" = 1'-0"



**TYPICAL SECTION FRAME 2  
BENT 4 & 5 (SPAN 4 SHOWN)**  
1/8" = 1'-0"

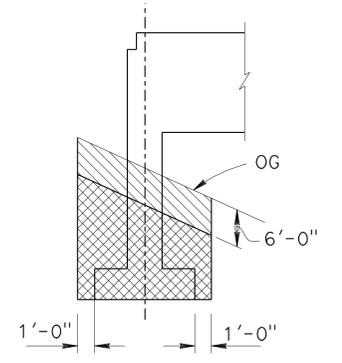


**TYPICAL SECTION FRAME 3  
BENT 6, 7, & 8**  
1/8" = 1'-0"

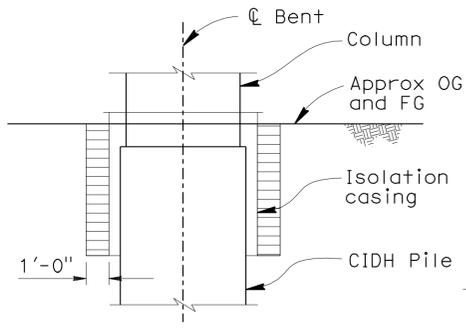
- NOTES:**
- Remove Existing Fascia Girder, see "REMOVAL PLAN" sheet.
  - Remove Existing railing and curb.
  - CIP/PS Box Girder
  - CIP/RC Box Girder
  - Concrete Barrier Type 732 (MOD)
  - Temporary Rail Type K, see Road Plans.
  - For limits of barrier replacement, see "DECK REPAIR LAYOUT" sheet.
  - Refinish Bridge Deck
  - 2-3/2" communication conduits and 2-2" electric conduits, see Road Plans.
  - Prepare concrete bridge deck and place polyester concrete overlay, see also "DECK REPAIR LAYOUT" and "DECK RIB DETAILS" sheets.

PILE DATA TABLE					
LOCATION	PILE TYPE	NOMINAL RESISTANCE (kips)		DESIGN TIP ELEVATION (ft)	SPECIFIED TIP ELEVATION (ft)
		COMPRESSION	TENSION		
Abut 1	16" Ø CIDH	160	0	155.0 (a) 169.0 (c)	155.0
Abut 9	CLASS 90 ALT "W" pp14x0.375	140	0	147.0/145.0 (a) 156.0/153.0 (c)	147.0/145.0

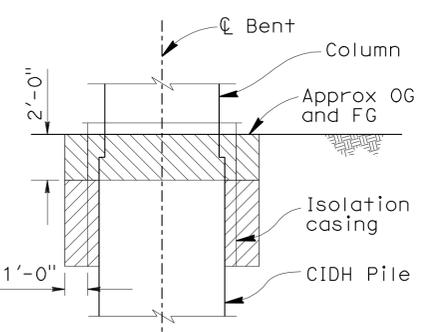
**NOTES:**  
Design tip elevations are controlled by: (a) Compression (c) Settlement, and (d) Lateral load, respectively.



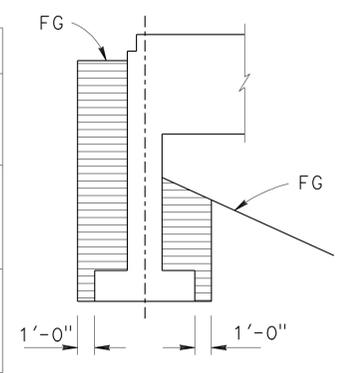
**EXCAVATION**



**BACKFILL**  
BENTS 6, 7, 8

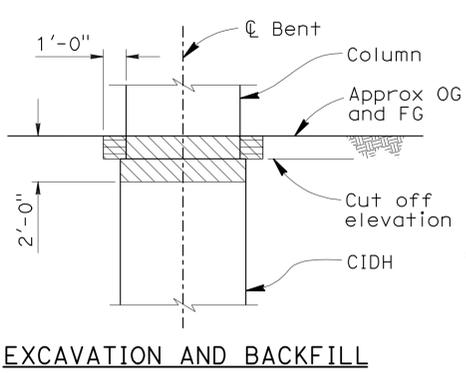


**EXCAVATION**  
BENTS 6, 7, 8



**BACKFILL**

**ABUTMENT**  
No Scale



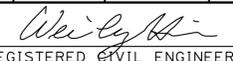
**EXCAVATION AND BACKFILL**  
BENTS 2, 3, 4, 5

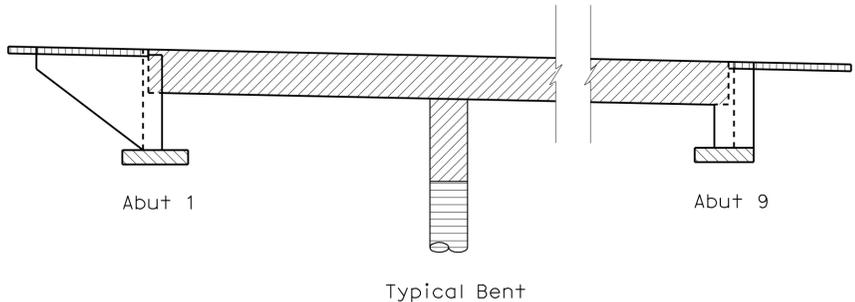
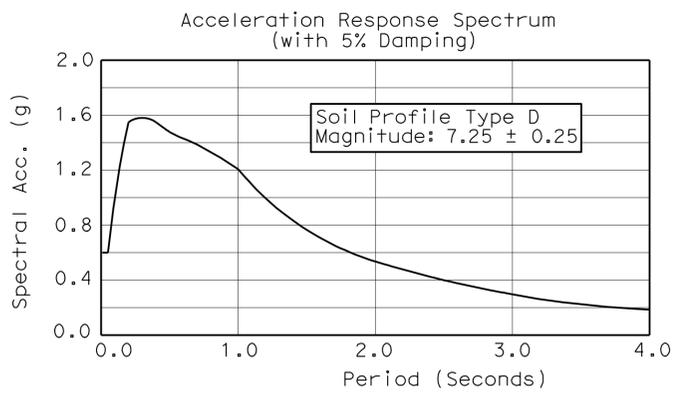
**BENT SHAFT**  
No Scale

- LEGEND**
- Bridge Removal (Portion), see "REMOVAL PLAN" sheet
  - Structure Excavation (Aerially Deposited Lead Type Z-2)
  - Structure Excavation
  - Structure Backfill

**QUANTITIES**

REMOVE CONCRETE DECK SURFACE	600 SQFT
REMOVE UNSOUND CONCRETE	190 CF
PREPARE CONCRETE BRIDGE DECK SURFACE	5,400 SQFT
CLEAN BRIDGE DECK	31,100 SQFT
ACCESS OPENING, DECK	13 EA
BRIDGE REMOVAL (PORTION), LOCATION C	LUMP SUM
STRUCTURE EXCAVATION (BRIDGE)	140 CY
STRUCTURE EXCAVATION (TYPE Z-2)	77 CY
(AERIALY DEPOSITED LEAD)	
STRUCTURE BACKFILL (BRIDGE)	135 CY
AGGREGATE BASE (APPROACH SLAB)	15 CY
16" CAST-IN-DRILLED-HOLE CONCRETE PILING	150 LF
66" CAST-IN-DRILLED-HOLE CONCRETE PILING	480 LF
78" CAST-IN-DRILLED-HOLE CONCRETE PILING	210 LF
FURNISH PILING (CLASS 90) (ALTERNATIVE W)	640 LF
DRIVE PILE (CLASS 90) (ALTERNATIVE W)	16 EA
PRESTRESSING CAST-IN-PLACE CONCRETE	LUMP SUM
STRUCTURAL CONCRETE, BRIDGE FOOTING	35 CY
STRUCTURAL CONCRETE, BRIDGE	1,290 CY
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE N)	44 CY
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE R)	150 CY
PAVING NOTCH EXTENSION	120 CF
DRILL AND BOND DOWEL	350 LF
DRILL AND BOND DOWEL (CHEMICAL ADHESIVE)	92 EA
RAPID SETTING CONCRETE (PATCH)	190 CF
CLOSE ACCESS, DECK	13 EA
REFINISH BRIDGE DECK	870 SQFT
FURNISH POLYESTER CONCRETE OVERLAY	590 CF
PLACE POLYESTER CONCRETE OVERLAY	5,400 SQFT
JOINT SEAL (MR 1/2")	160 LF
JOINT SEAL (MR 1 1/2")	50 LF
JOINT SEAL (MR 2")	55 LF
BAR REINFORCING STEEL (BRIDGE)	589,000 LB
HEADED BAR REINFORCEMENT	76 EA
TREAT BRIDGE DECK	31,100 SQFT
FURNISH BRIDGE DECK TREATMENT MATERIAL	210 GAL
PUBLIC SAFETY PLAN	LUMP SUM
ISOLATION CASING	3,440 LB
MISCELLANEOUS METAL (RESTRAINER-CABLE TYPE)	7,960 LB
CONCRETE BARRIER (TYPE 732 MOD)	860 LF
CONCRETE BARRIER (TYPE 732B MOD)	63 LF
CONCRETE BARRIER (TYPE 732 MOD 1)	794 LF

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1214	1507
 REGISTERED CIVIL ENGINEER DATE 03-01-11					
6-27-11 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>					



**GENERAL NOTES  
LOAD AND RESISTANCE FACTOR DESIGN**

- DESIGN: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS - 4th edition with California Amendments .
- SESMIC DESIGN: CALTRANS SEISMIC DESIGN CRITERIA (SDC) Version 1.4, June 2006
- DEAD LOAD: Includes 35 psf for future wearing surface
- LIVE LOAD: HL93 and Permit Design Load
- SEISMIC LOAD: Modified SDC figure B.8 for soil Profile D (M=7.25 ± 0.25) Peak Rock Acceleration = 0.6 g
- REINFORCED CONCRETE:  $f_y = 60$  ksi  
 $f'_c = 3.6$  ksi (except as shown on Concrete Strength & Type Limits Diagram)
- PRESTRESSED CONCRETE: See "Prestressing Notes"
- PILES: See "Pile Data Table" on  
- "COLUMN DETAILS NO. 1" sheet for Bents 2, 3, 6, 7, & 8  
- "COLUMN DETAILS NO. 2" sheet for Bents 4 & 5  
- "GENERAL PLAN NO. 2" sheet for Abutments 1 & 9

-  CIDH Pile ( $f'_c = 4000$  psi @ 28 days)
-  Structural Concrete, Bridge Footing
-  Structural Concrete, Bridge
-  Structural Concrete, Bridge ( $f'_c = 4000$  psi @ 28 days)
-  Structural Concrete, Approach Slab

**CONCRETE STRENGTH AND TYPE LIMITS**

No Scale

**PRESTRESSING NOTES (FRAME 1)**



- 270 ksi Low Relaxation Strand:
- $P_{jack} = 2600$  kips
- Anchor Set =  $\frac{3}{8}$  in
- Friction curvature coefficient  $\mu = 0.15$
- Friction wobble coefficient  $K = 0.0002$  ft
- Total Number of Girders = 2

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

Concrete:  $f'_c = 4000$  psi @ 28 days  
 $f'_{ci} = 3500$  psi @ time of stressing

Contractor shall submit elongation calculations based on initial stress at  $\square = 0.853$  times jacking stress.

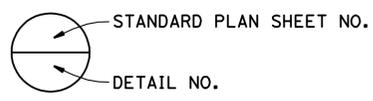
$\square$  indicates theoretical point of no movement. One end stressing shall be performed from Abut 1.

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2.	GENERAL PLAN NO. 2
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6.	FOUNDATION PLAN NO. 1
7.	FOUNDATION PLAN NO. 2
8.	ABUTMENT 1 LAYOUT
9.	ABUTMENT 9 LAYOUT
10.	ABUTMENT DETAILS NO. 1
11.	ABUTMENT DETAILS NO. 2
12.	ABUTMENT DETAILS NO. 3
13.	BENT 2 & 3 LAYOUT
14.	BENT 4 LAYOUT
15.	BENT 5 LAYOUT
16.	BENT 6, 7 & 8 LAYOUT
17.	COLUMN DETAILS NO. 1
18.	COLUMN DETAILS NO. 2
19.	COLUMN DETAILS NO. 3
20.	TYPICAL SECTION NO. 1
21.	TYPICAL SECTION NO. 2
22.	TYPICAL SECTION NO. 3
23.	TYPICAL SECTION NO. 4
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25.	GIRDER LAYOUT NO.2
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**STANDARD PLANS DATED MAY 2006**

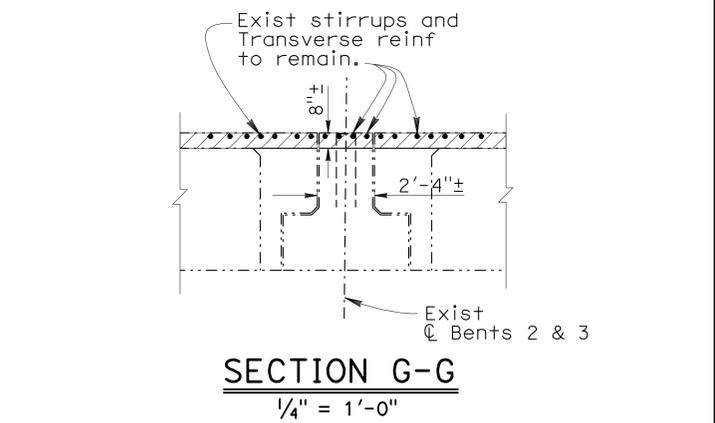
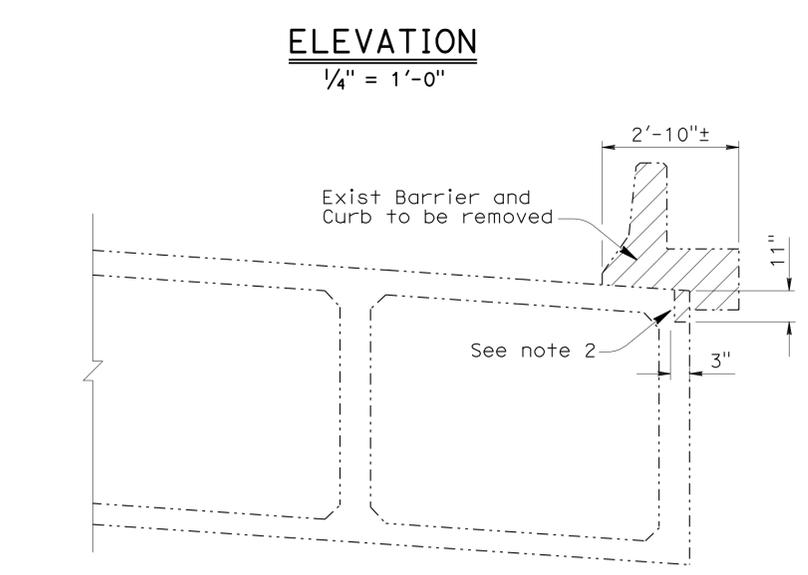
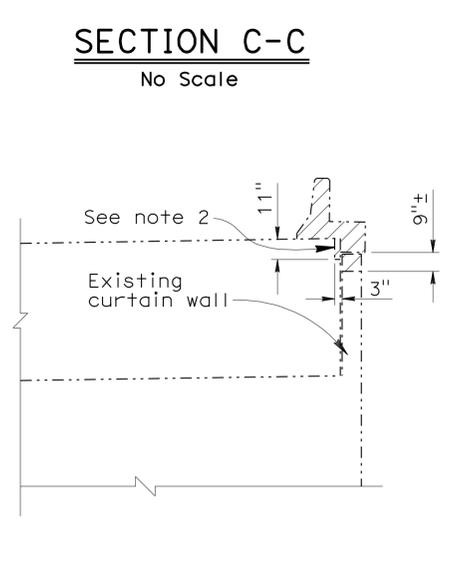
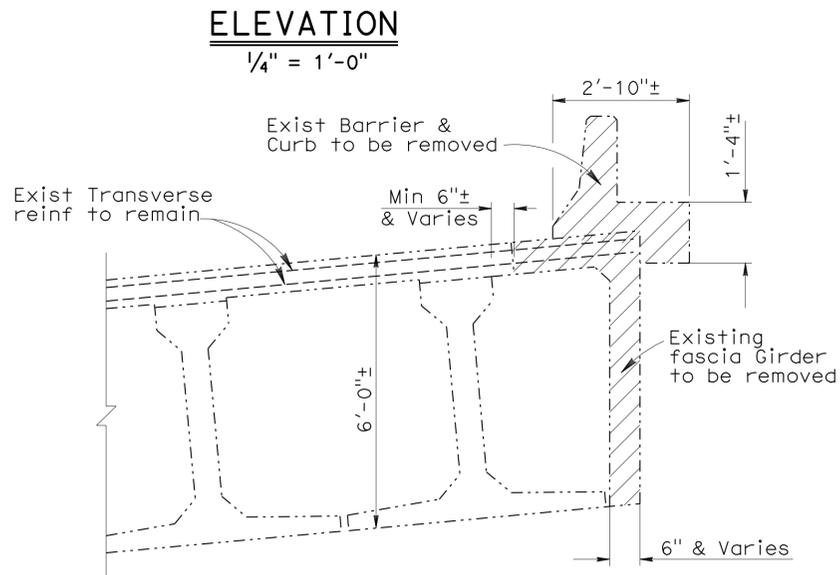
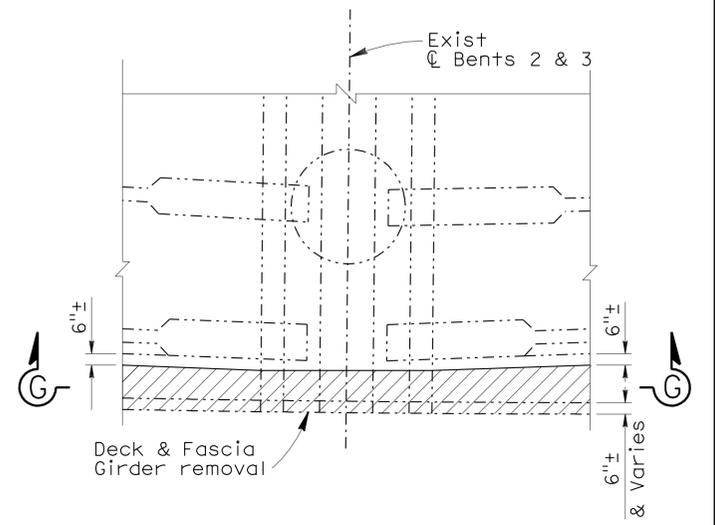
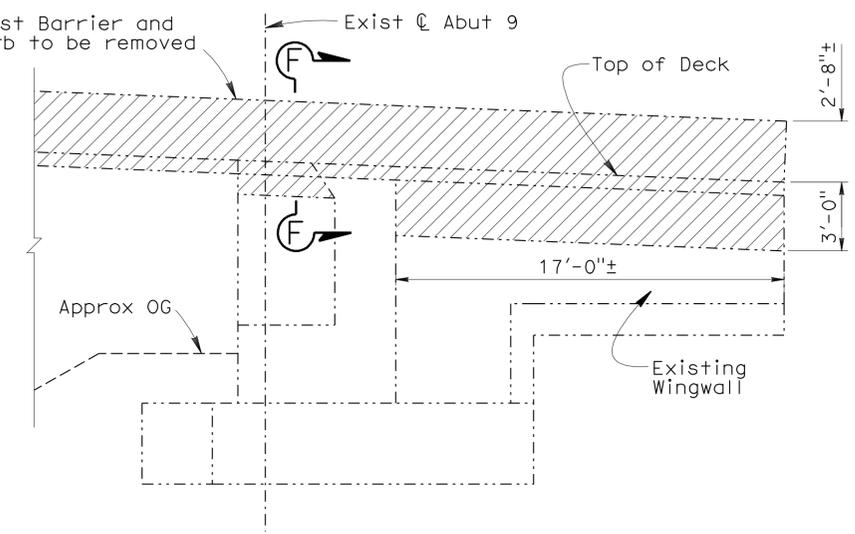
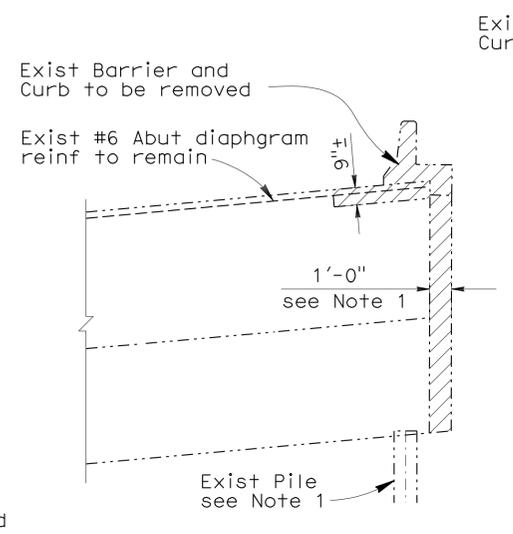
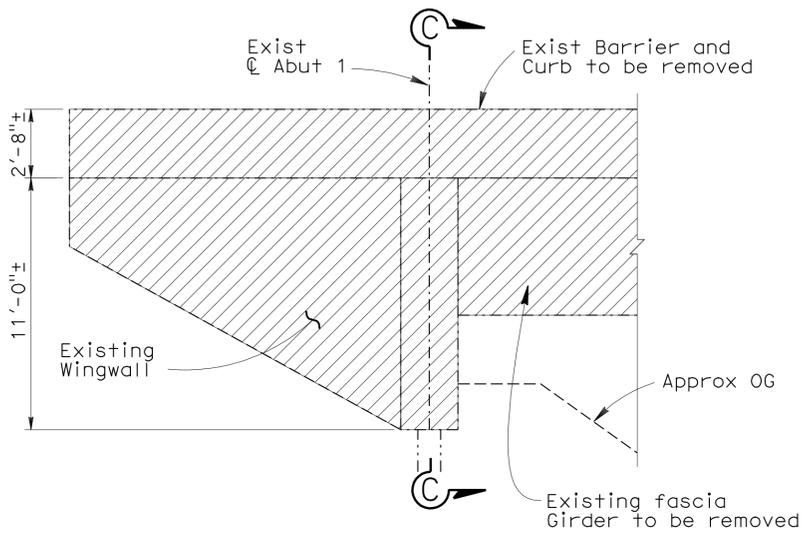
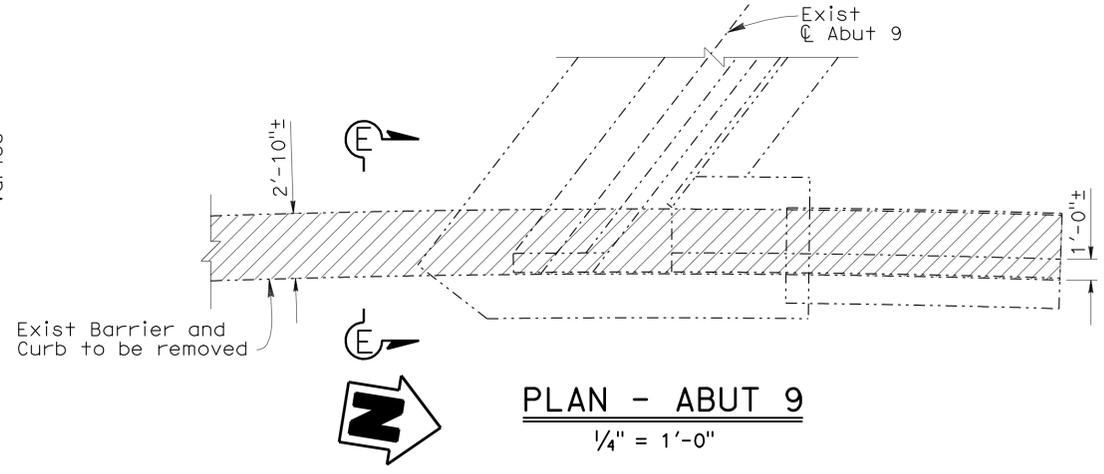
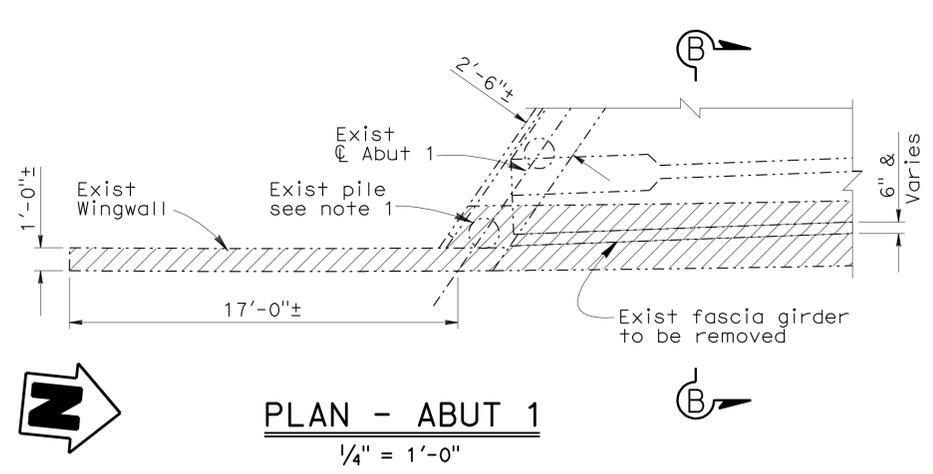
A10A	ACRONYMS AND ABBREVIATIONS (A-L)
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ES-6B	ELECTRICAL SYSTEMS (LIGHTING STANDARDS TYPES 15 AND 21 BARRIER RAIL MOUNTED DETAILS)
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ES-9B	ELECTRICAL SYSTEMS (ELECTRICAL DETAILS STRUCTURE INSTALLATION)
RSP ES-9C	ELECTRICAL SYSTEMS (ELECTRICAL DETAILS STRUCTURE INSTALLATION)
ES-9D	ELECTRICAL SYSTEMS (ELECTRICAL DETAILS STRUCTURE INSTALLATION)



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

DESIGN BY CHARLES LOMICKA CHECKED R. WANG/ C. SANCHEZ DETAILS BY HENGAMEH MAHBOOBI CHECKED R. WANG/ C. SANCHEZ QUANTITIES BY B. Mc GAHEY CHECKED EDWARD MERCADO	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 19</b>	BRIDGE NO. 53-0785R	<b>RTE 710/5 SEPARATION EAST (WIDEN)</b> <b>INDEX TO PLANS</b>			
			POST MILE 23.19				
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS			UNIT: 3621 PROJECT NUMBER & PHASE: 0700020869 1	CONTRACT NO.: 07-202111	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 10-23-09 01-05-11 02-10-11	SHEET OF 3 52

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1215	1507
REGISTERED CIVIL ENGINEER <i>Wei-Kung Hsia</i> DATE 03-01-11			REGISTERED PROFESSIONAL ENGINEER WEI-KUNG HSIA No. C50210 Exp. 06-30-11 CIVIL STATE OF CALIFORNIA		
PLANS APPROVAL DATE 6-27-11 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.					



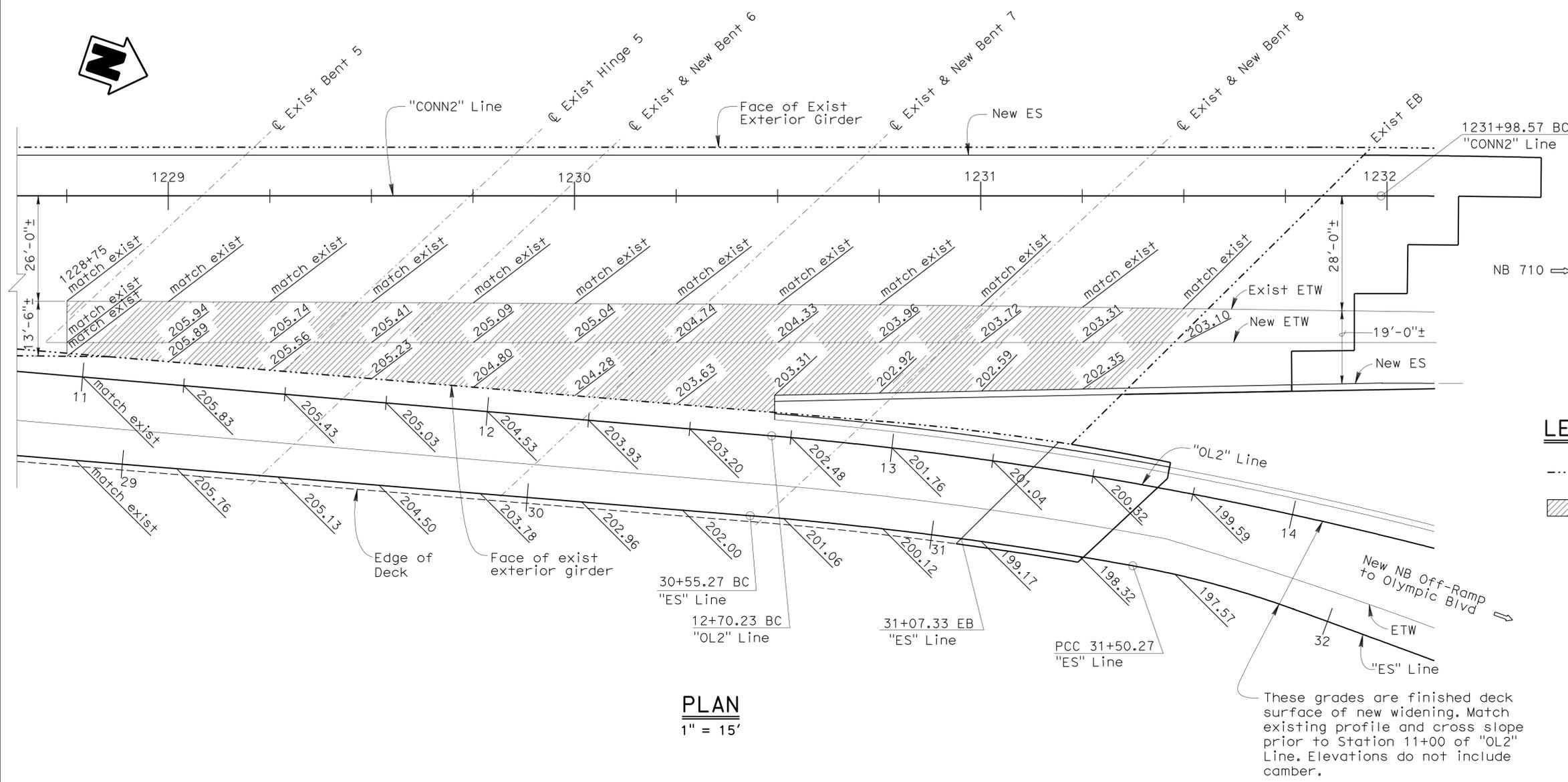
**NOTE:**  
The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

- NOTES:**
- The existing abutment removal shall not expose the top of existing pile or damage the existing pile. The contractor shall verify the existing pile location before removal. Abutment removal dimensions may need to be adjusted to avoid damaging the existing pile.
  - See TYPICAL SECTION NO. 2, NO. 3, & NO. 4.

**LEGEND**  
 Bridge Removal (Portion)

DESIGN BY CHARLES LOMICKA		CHECKED R. WANG/ C. SANCHEZ	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 19</b>	BRIDGE NO. 53-0785R	<b>RTE 710/5 SEPARATION EAST (WIDEN)</b> <b>REMOVAL PLAN</b>
DETAILS BY HENGAMEH MAHBOOBI		CHECKED R. WANG/ C. SANCHEZ			POST MILE 23.19	
QUANTITIES BY B. Mc GAHEY		CHECKED EDWARD MERCADO				
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)			ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3621 PROJECT NUMBER & PHASE: 0700020869 1	CONTRACT NO.: 07-202111	DISREGARD PRINTS BEARING EARLIER REVISION DATES
				REVISION DATES	SHEET 4	OF 52

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1216	1507
			03-01-11		
REGISTERED CIVIL ENGINEER			DATE		
6-27-11			PLANS APPROVAL DATE		
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**LEGEND**

- Indicates existing
-  Prepare concrete bridge deck and place polyester concrete overlay on existing bridge. Grades shown are finished surface of overlay. See "DECK REPAIR LAYOUT" sheet.

**PLAN**  
1" = 15'

These grades are finished deck surface of new widening. Match existing profile and cross slope prior to Station 11+00 of "OL2" Line. Elevations do not include camber.

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

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY CHARLES LOMICKA	CHECKED R. WANG/ C. SANCHEZ	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 19</b>	BRIDGE NO.	53-0785R	<b>RTE 710/5 SEPARATION EAST (WIDEN)</b> <b>GRID GRADES</b>						
	DETAILS	BY HENGAMEH MAHBOOBI	CHECKED R. WANG/ C. SANCHEZ			POST MILE	23.19							
	QUANTITIES	BY B. Mc GAHEY	CHECKED EDWARD MERCADO											
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS					UNIT: 3621		PROJECT NUMBER & PHASE: 0700020869 1		CONTRACT NO.: 07-202111		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES: 02-24-10, 02-18-11, 02-02-11 SHEET 5 OF 52	



Bridge Location

- ⑤ - 10.045 Lt. "CONN2" Line, Sta 1231+98.30, Elev 205.225
- ⑥ - 59.415 Rt. "CONN2" Line, Sta 1231+23.920, Elev 201.360
- ⑦ - 12269+57.166 "CONN4" Line =
- ⑧ - 37+70.892 "NB1" Line

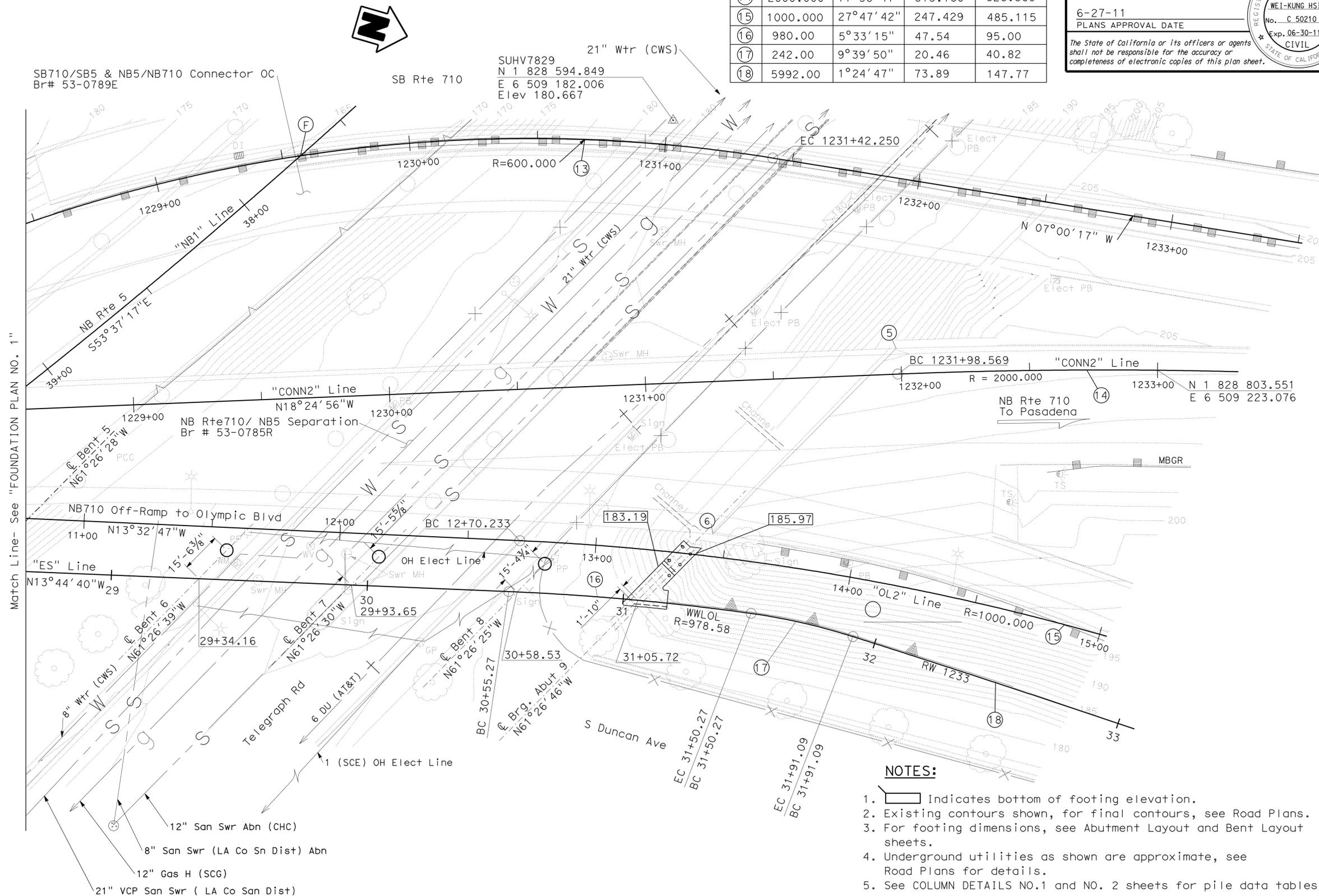
CURVE DATA				
No.	R	Δ	T	L
⑬	600.000	49°41'42"	277.843	520.405
⑭	2000.000	17°56'41"	315.780	626.389
⑮	1000.000	27°47'42"	247.429	485.115
⑯	980.00	5°33'15"	47.54	95.00
⑰	242.00	9°39'50"	20.46	40.82
⑱	5992.00	1°24'47"	73.89	147.77

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1218	1507

03-01-11  
 REGISTERED CIVIL ENGINEER DATE  
 6-27-11  
 PLANS APPROVAL DATE

WEI-KUNG HSIA  
 No. C 50210  
 Exp. 06-30-11  
 CIVIL  
 STATE OF CALIFORNIA

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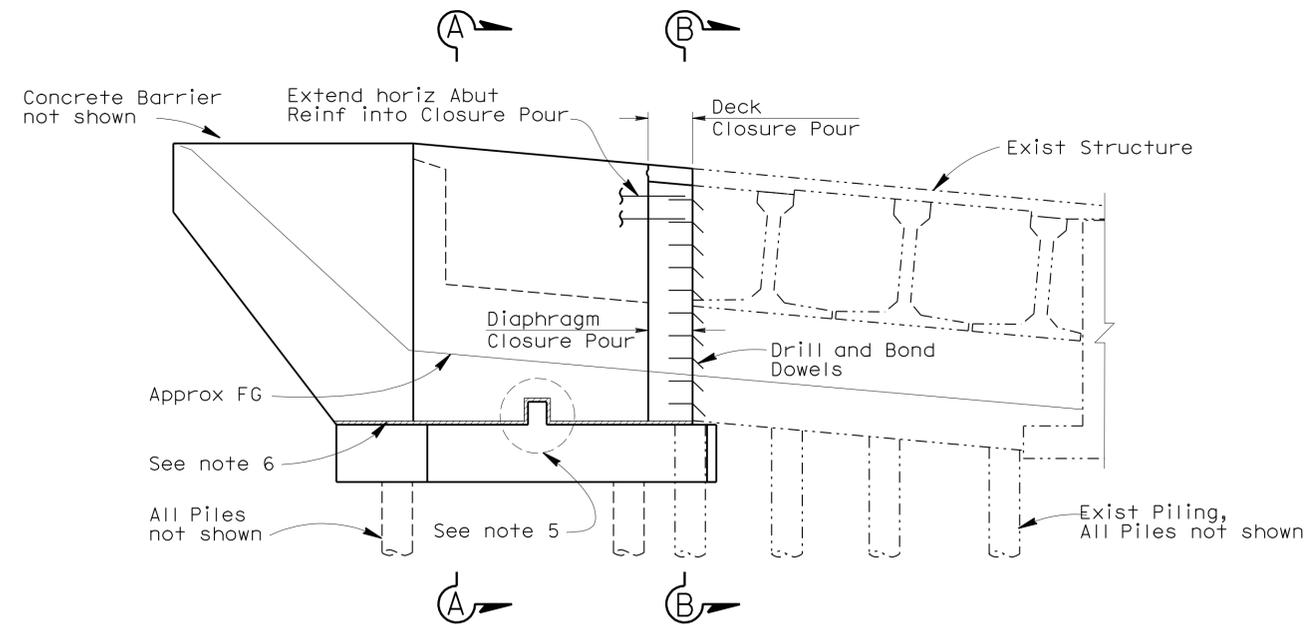
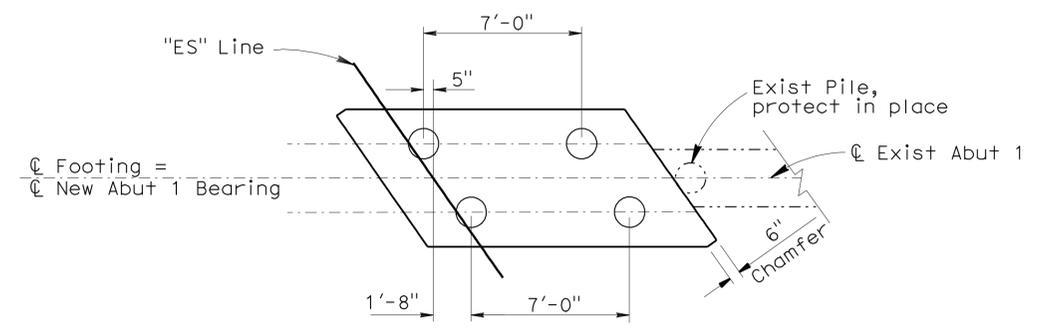
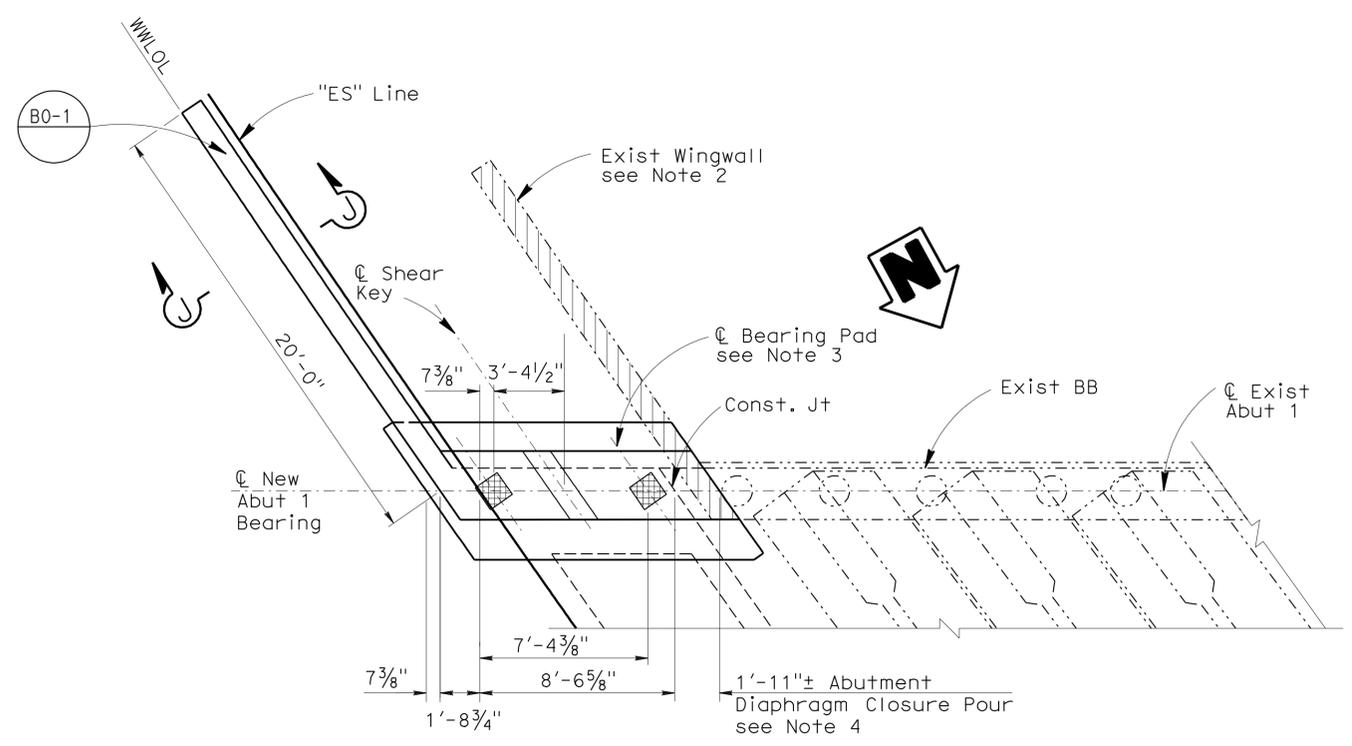


- NOTES:**
- Indicates bottom of footing elevation.
  - Existing contours shown, for final contours, see Road Plans.
  - For footing dimensions, see Abutment Layout and Bent Layout sheets.
  - Underground utilities as shown are approximate, see Road Plans for details.
  - See COLUMN DETAILS NO.1 and NO. 2 sheets for pile data tables.

**SURVEY CONTROL**  
See "FOUNDATION PLAN NO. 1"

<b>PRELIMINARY INVESTIGATION SECTION</b>				DESIGN BY CHARLES LOMICKA	CHECKED R. WANG / C. SANCHEZ	<b>STATE OF CALIFORNIA</b> <b>DEPARTMENT OF TRANSPORTATION</b>	DIVISION OF ENGINEERING SERVICES <b>STRUCTURE DESIGN</b> <b>DESIGN BRANCH 19</b>	BRIDGE NO. 53-0785R	<b>RTE 710/5 SEPARATION EAST (WIDEN)</b> <b>FOUNDATION PLAN NO. 2</b>				
SCALE 1:20	VERT. DATUM NAVD88	PHOTOGRAMMETRY AS OF: X	DETAILS BY H. INIGUEZ / H.M.	CHECKED R. WANG / C. SANCHEZ	POST MILE 23.19								
ALIGNMENT TIES Dist Traverse Sheets	DRAFTED BY C. Pham	CHECKED BY T. Phung / C. Stewart	QUANTITIES BY B. Mc GAHEY	CHECKED E. MERCADO									
STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 09-01-10)						ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3621	PROJECT NUMBER & PHASE: 0700020869	1 CONTRACT NO.: 07-202111	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 7	OF 52

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1219	1507
			03-01-11	DATE	
REGISTERED CIVIL ENGINEER			DATE		
6-27-11			PLANS APPROVAL DATE		
REGISTERED PROFESSIONAL ENGINEER WEI-KUNG HSIA No. C50210 Exp. 06-30-11 CIVIL STATE OF CALIFORNIA					
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- NOTES:
1. For "SECTION A-A", "SECTION B-B", and "SECTION J-J", see "ABUTMENT DETAILS NO. 1" sheet.
  2. See "REMOVAL PLAN" sheet for limits of Wingwall removal.
  3. For Bearing pad detail, see "ABUTMENT DETAILS NO. 1" sheet.
  4. The Abutment closure pour shall be placed after falsework release as specified on "CAMBER DIAGRAM NO. 1" sheet.
  5. See "ABUT 1 SHEAR KEY DETAIL" on "ABUTMENT DETAILS NO. 3" sheet.
  6. Limits of horizontal expanded polystyrene at top of pile cap shall extend to face of existing abutment diaphragm and to new WW LOL.

- LEGEND
- New Concrete Pile
  - ⊙ Exist Concrete Pile
  - Indicates Existing Structure
  - ▣ Indicates Elastomeric Bearing Pad
  - ▨ Bridge Removal (Portion)

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

DESIGN	BY CHARLES LOMICKA	CHECKED R. WANG / C. SANCHEZ
DETAILS	BY H. INIGUEZ / H.M.	CHECKED R. WANG / C. SANCHEZ
QUANTITIES	BY B. Mc GAHEY	CHECKED E. MERCADO

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
DESIGN BRANCH 19

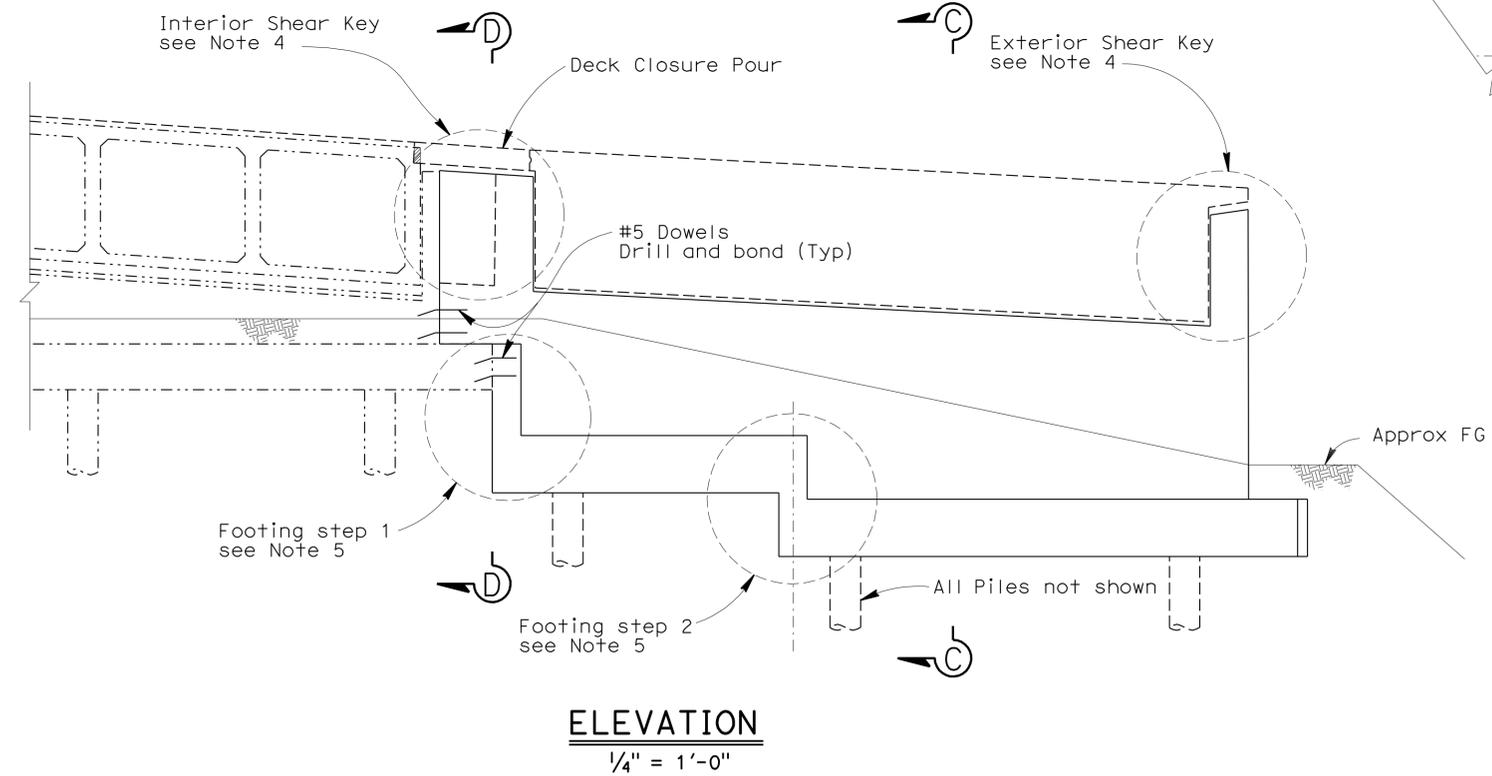
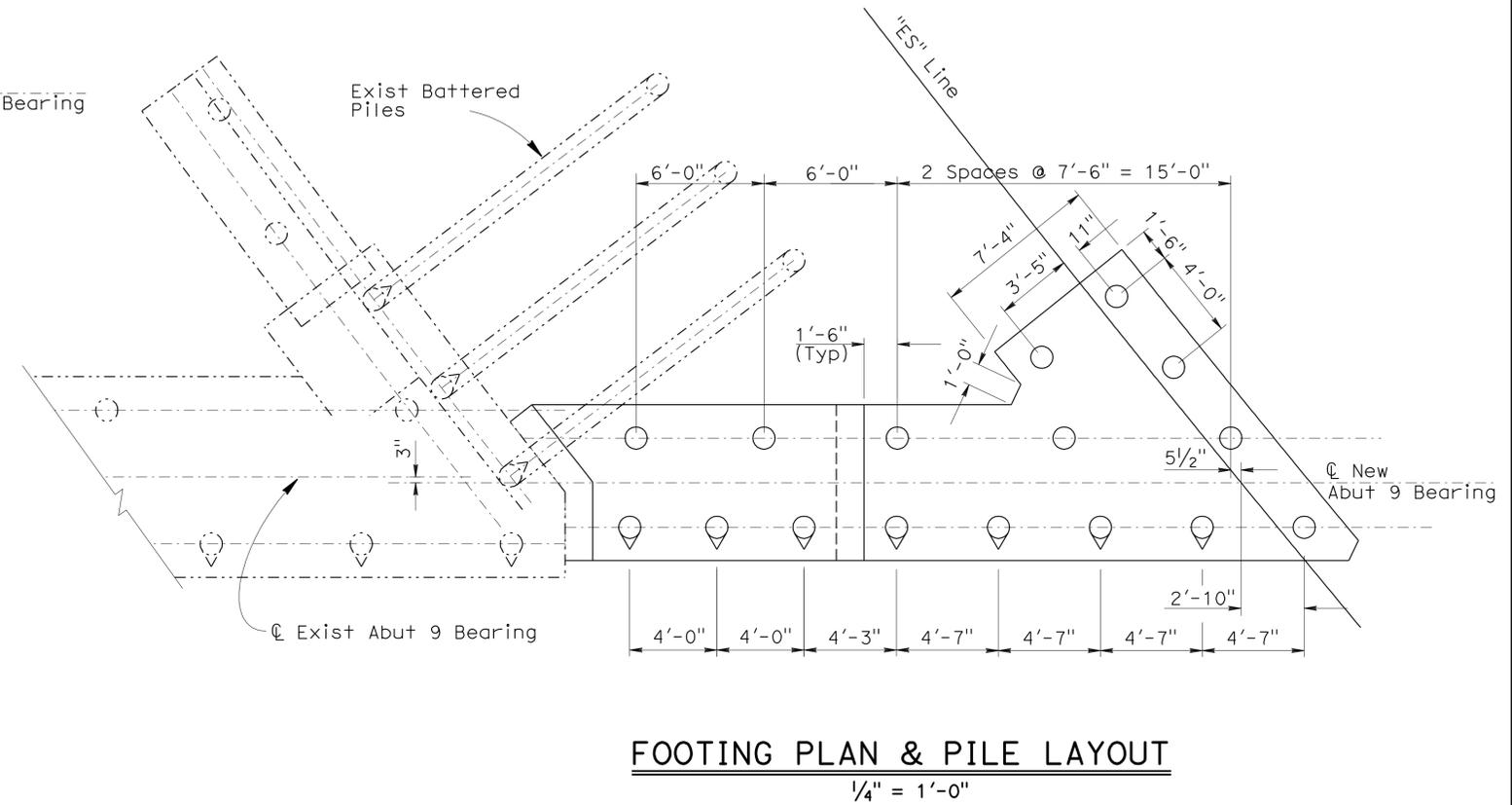
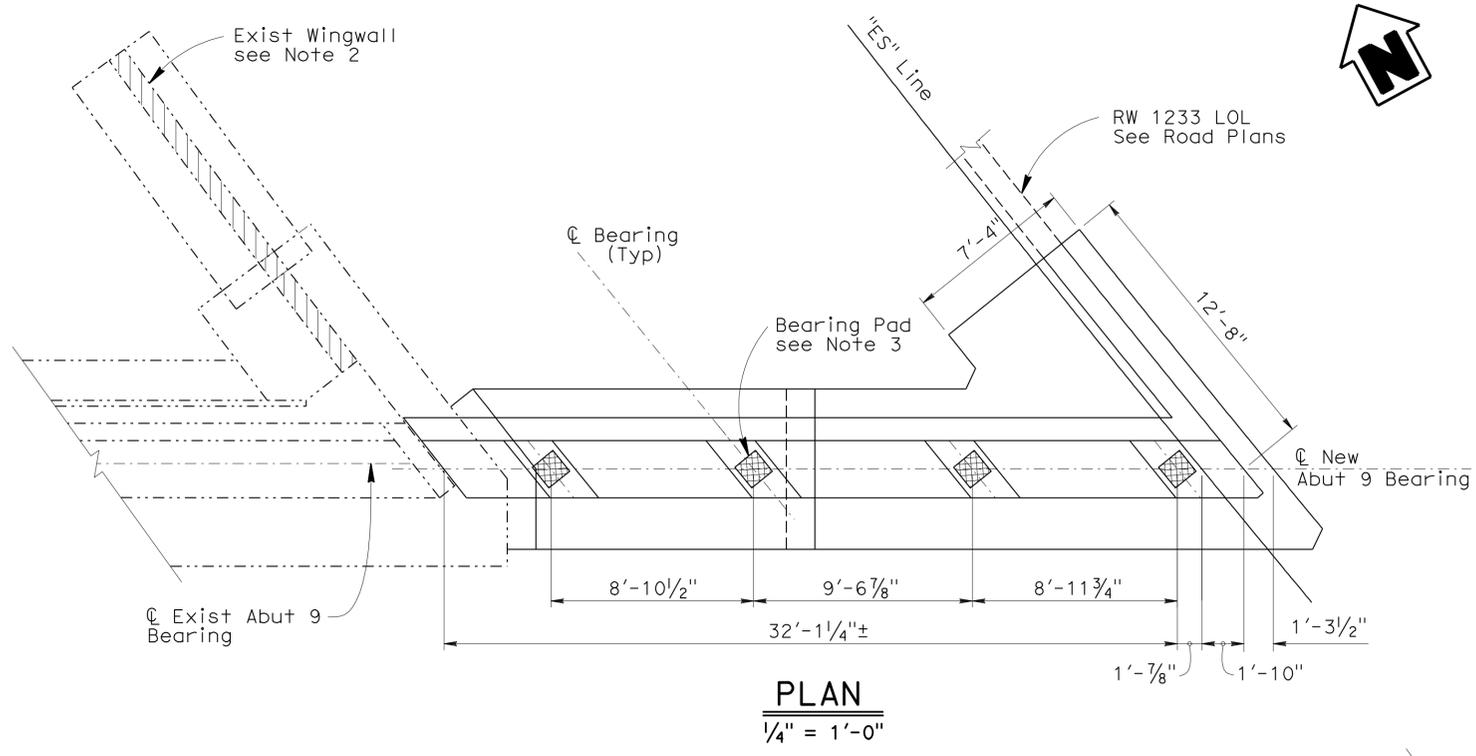
BRIDGE NO.	53-0785R
POST MILE	23.19

RTE 710/5 SEPARATION EAST (WIDEN)  
ABUTMENT 1 LAYOUT

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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1220	1507

REGISTERED CIVIL ENGINEER DATE 03-01-11  
 WEI-KUNG HSIA  
 No. C50210  
 Exp. 06-30-11  
 CIVIL  
 PLANS APPROVAL DATE 6-27-11  
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**NOTE:**  
The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

- NOTES:**
- For "SECTION C-C" and "SECTION D-D", see "ABUTMENT DETAILS NO. 2" sheet.
  - See "REMOVAL PLAN" sheet for limits of Wingwall removal.
  - For Bearing pad detail, see "ABUTMENT DETAILS NO. 2" sheet.
  - For Details of interior and exterior shear keys, see "ABUTMENT DETAILS NO 3," sheet.
  - For footing step details, see "ABUTMENT DETAILS NO.3" sheet.

**LEGEND**

	Vertical Piles
	Battered Piles
	Existing Piles
	Indicates Existing Structure
	Indicates Elastomeric Bearing Pad
	Bridge Removal (Portion)

DESIGN	BY CHARLES LOMICKA	CHECKED R. WANG / C. SANCHEZ
DETAILS	BY H. INIGUEZ / H.M.	CHECKED R. WANG / C. SANCHEZ
QUANTITIES	BY B. Mc GAHEY	CHECKED E. MERCADO

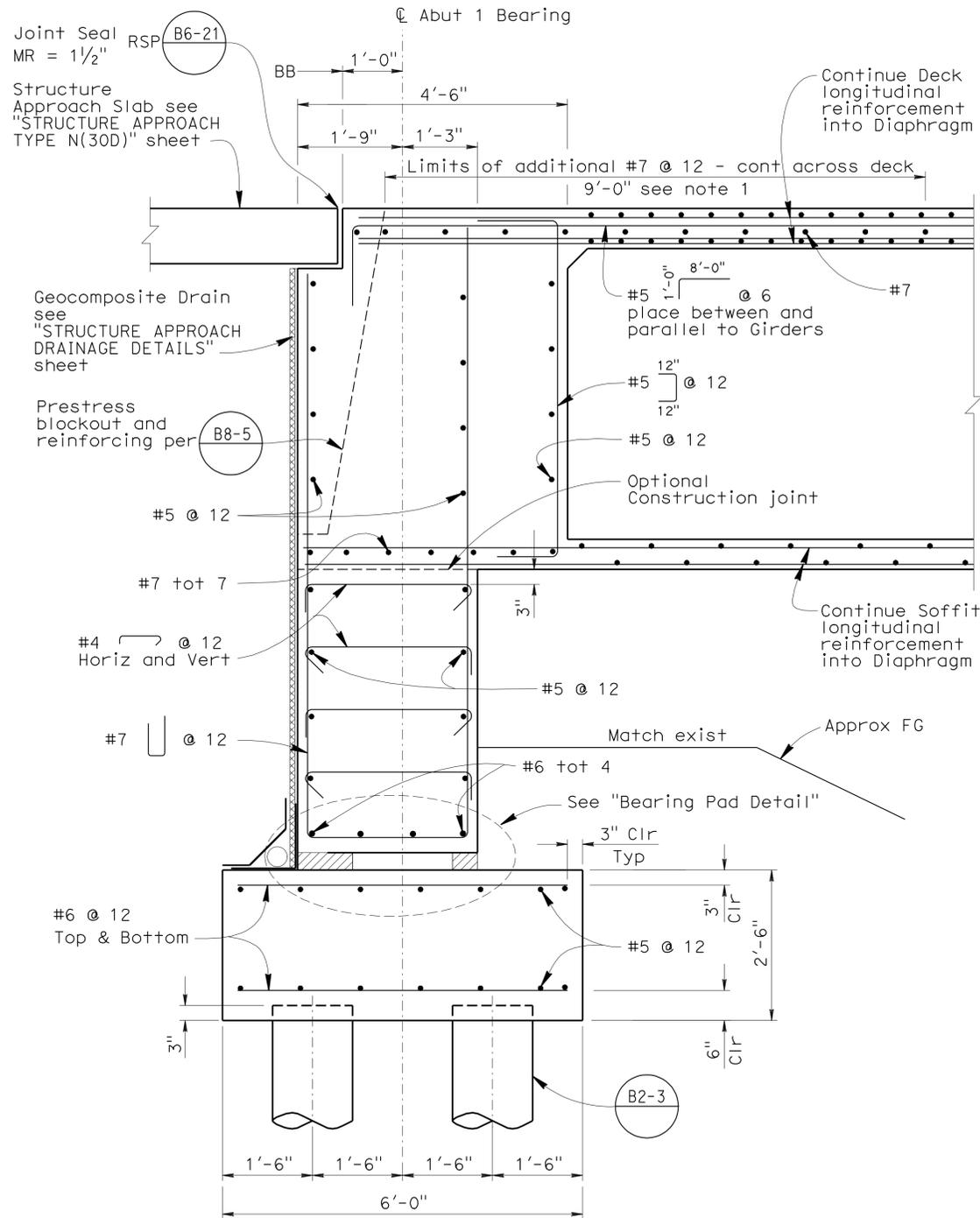
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
**DESIGN BRANCH 19**

BRIDGE NO. 53-0785R  
POST MILE 23.19  
**RTE 710/5 SEPARATION EAST (WIDEN)**  
**ABUTMENT 9 LAYOUT**

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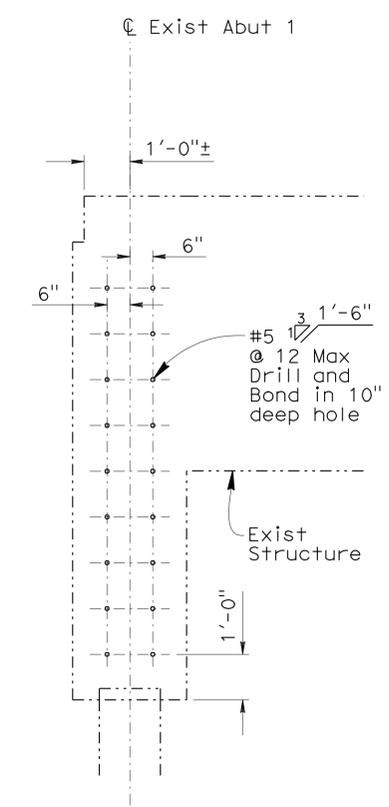
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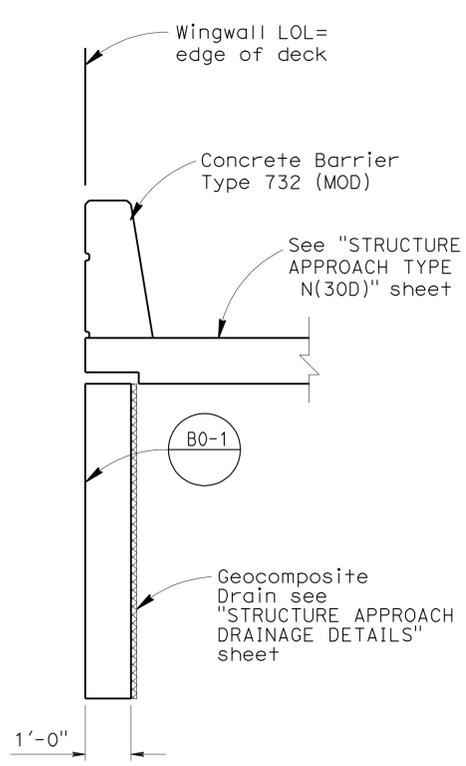
**SECTION A-A**  
3/4" = 1'-0"

NOTES:  
1. Place bars parallel to  $\varnothing$  Abutment.

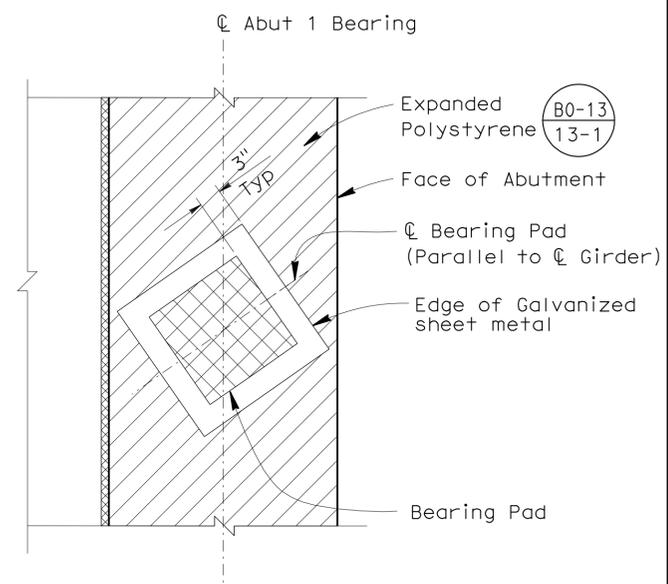
NOTE:  
The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.



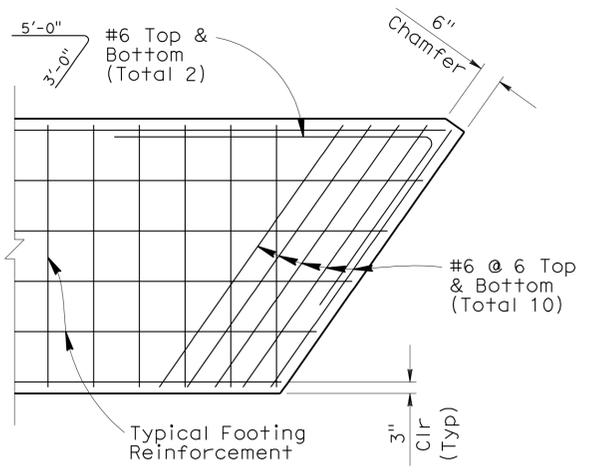
**SECTION B-B**  
1/2" = 1'-0"



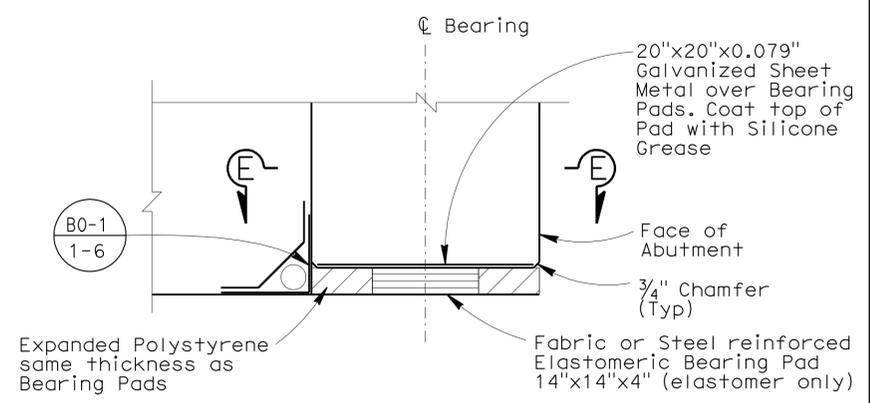
**SECTION J-J**  
1/2" = 1'-0"



**SECTION E-E**  
No Scale



**ABUTMENT 1 FOOTING CORNER DETAIL**  
No Scale



**BEARING PAD DETAIL**  
No Scale

DESIGN	BY CHARLES LOMICKA	CHECKED R. WANG/ C. SANCHEZ
DETAILS	BY HENGAMEH MAHBOOBI	CHECKED R. WANG/ C. SANCHEZ
QUANTITIES	BY B. Mc GAHEY	CHECKED E. MERCADO

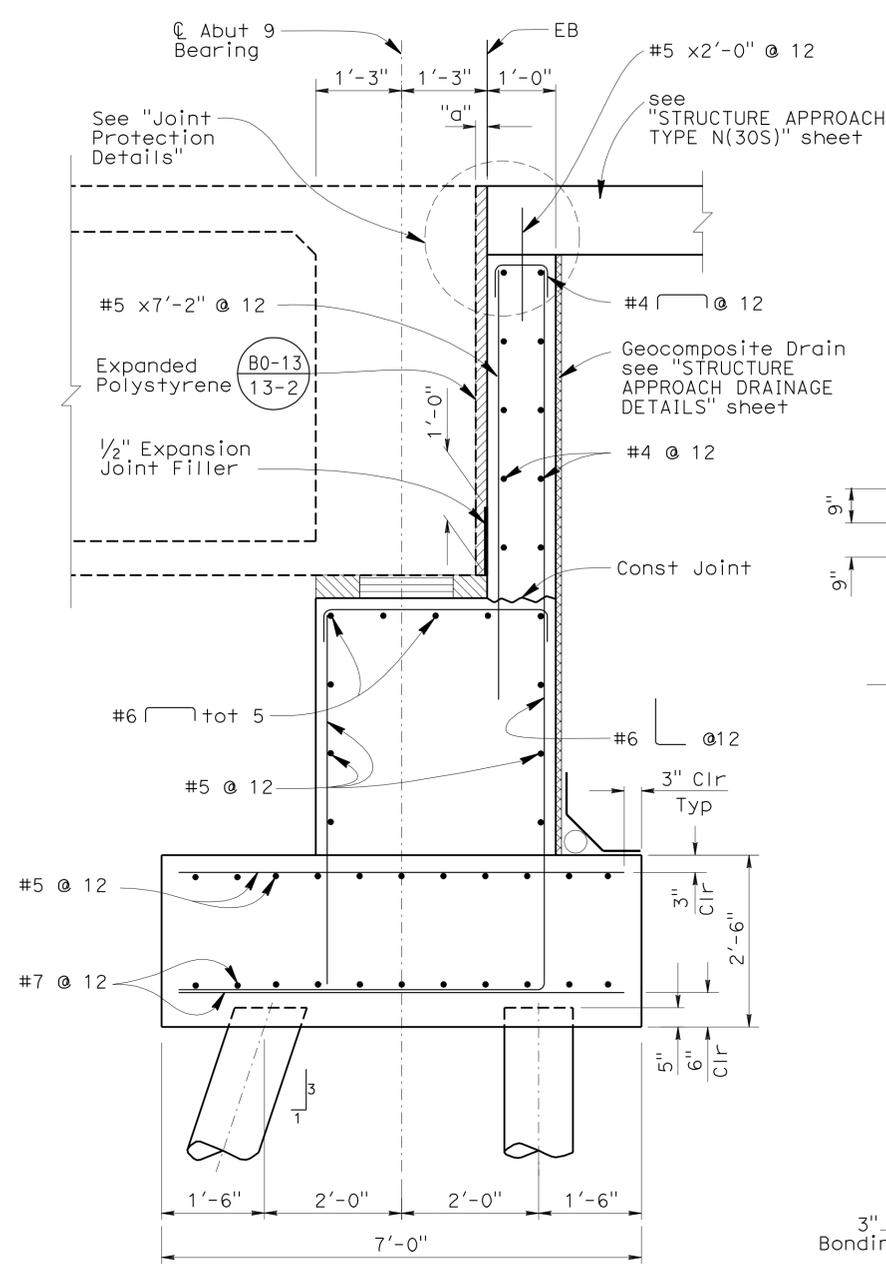
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
**DESIGN BRANCH 19**

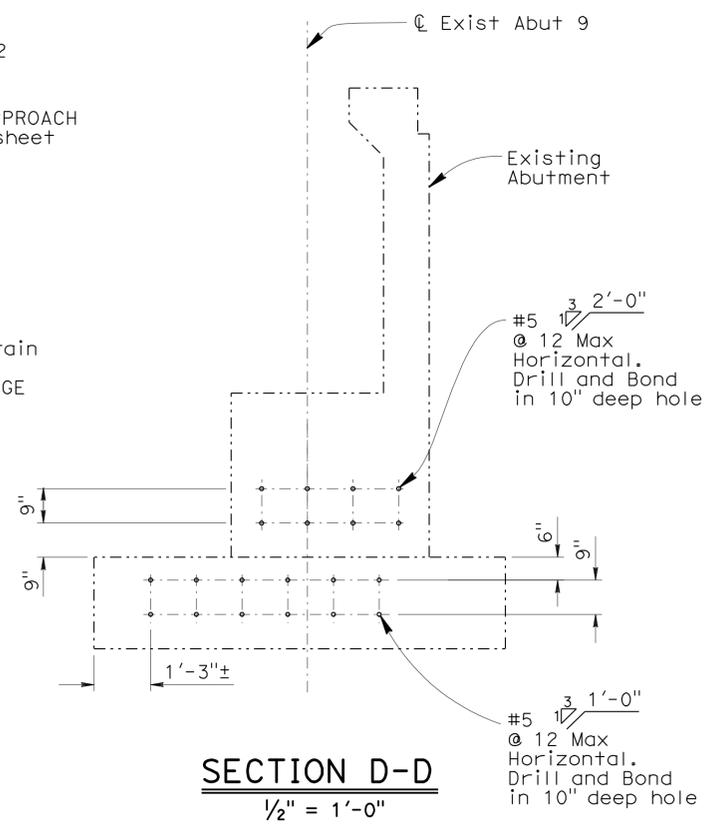
BRIDGE NO.	53-0785R
POST MILE	23.19

**RTE 710/5 SEPARATION EAST (WIDEN)**  
**ABUTMENT DETAIL NO. 1**

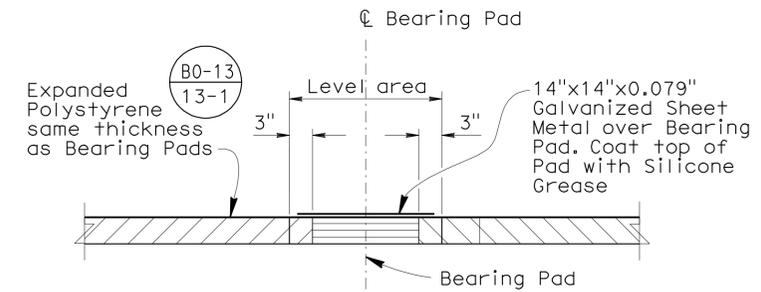
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1222	1507
REGISTERED CIVIL ENGINEER DATE 03-01-11 <i>Wei-Kung Hsia</i>				REGISTERED PROFESSIONAL ENGINEER WEI-KUNG HSIA No. C50210 Exp. 06-30-11 CIVIL STATE OF CALIFORNIA	
6-27-11 PLANS APPROVAL DATE					
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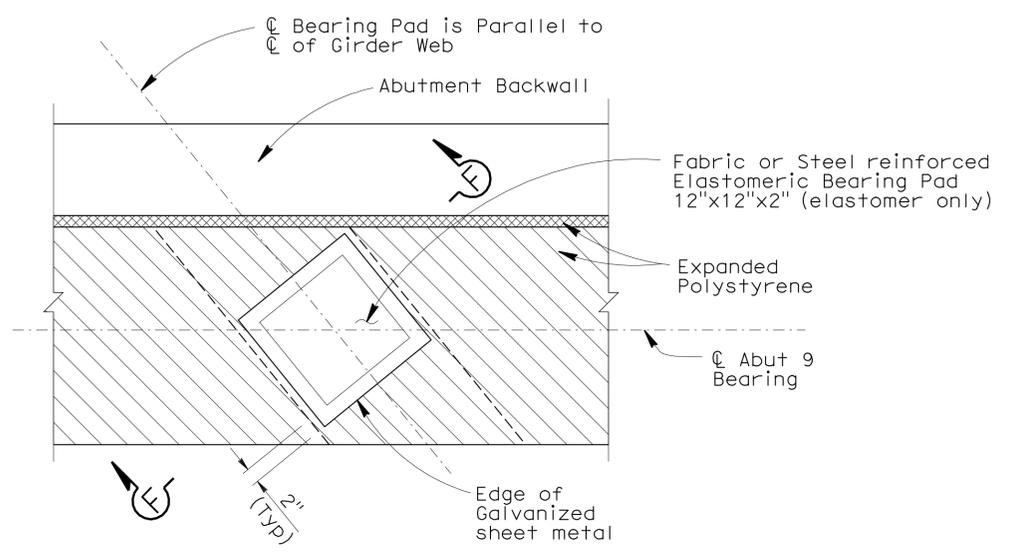
**SECTION C-C**  
3/4" = 1'-0"



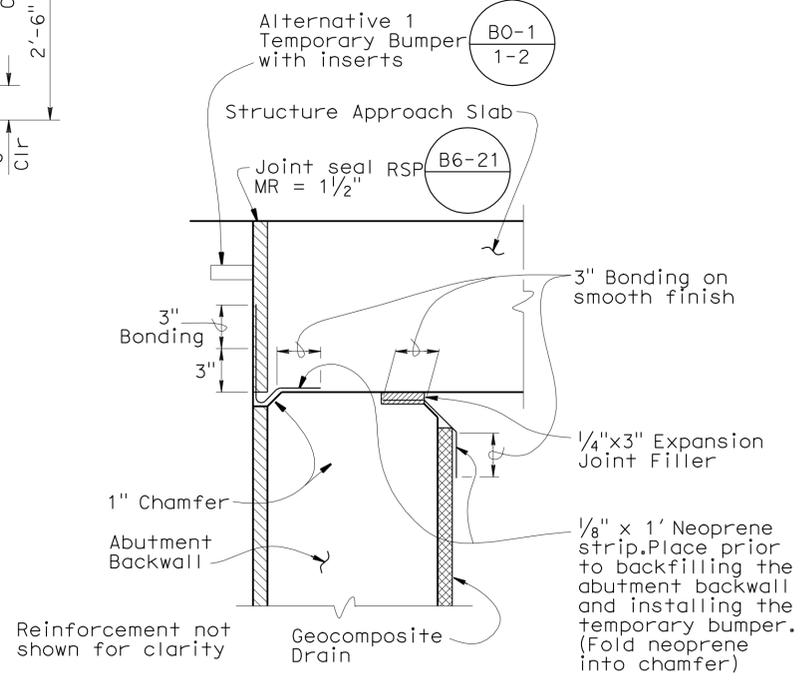
**SECTION D-D**  
1/2" = 1'-0"



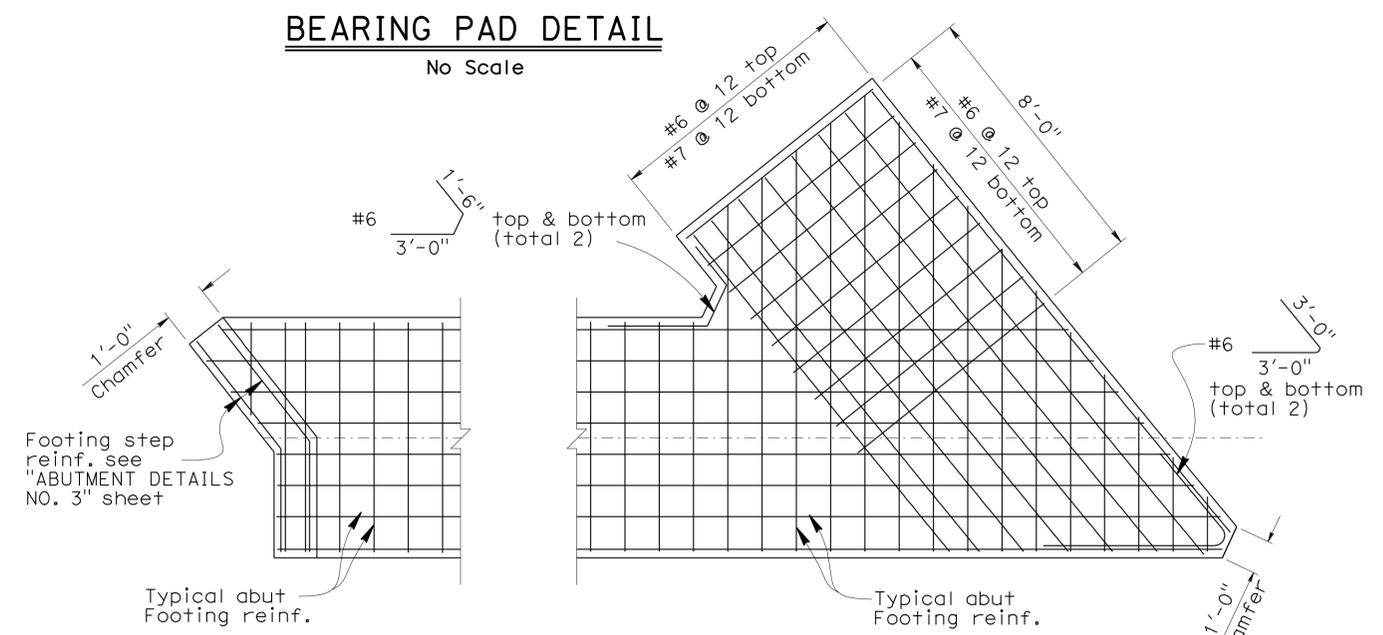
**SECTION F-F**  
No Scale



**BEARING PAD DETAIL**  
No Scale



**JOINT PROTECTION DETAIL**  
No Scale

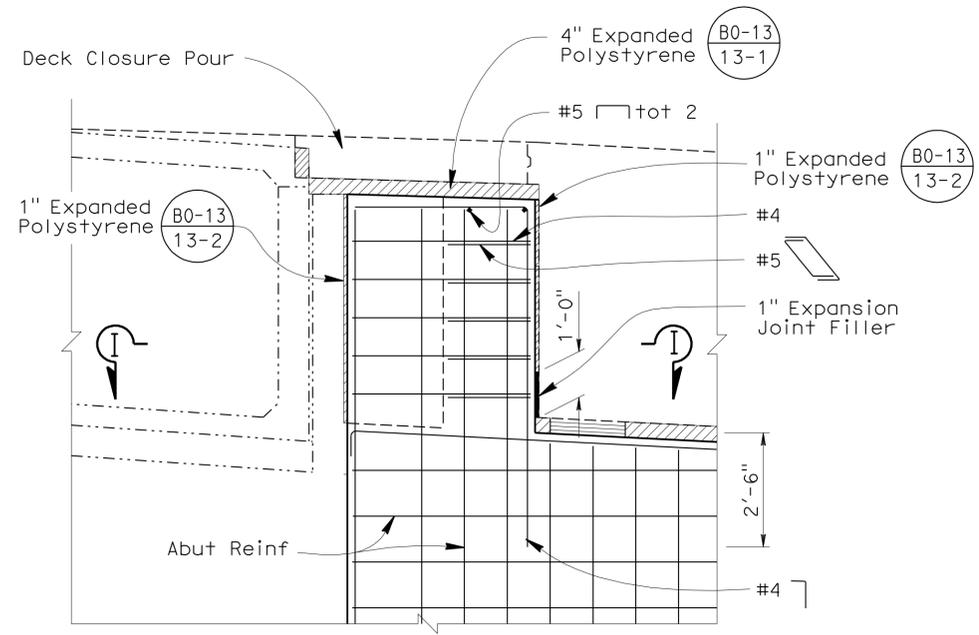


**FOOTING CORNER DETAIL, ABUTMENT 9**  
No Scale

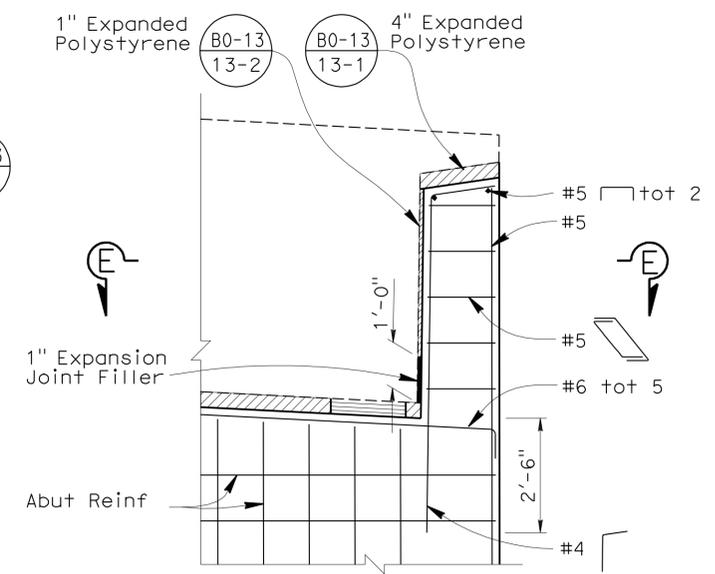
**NOTE:**  
The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

DESIGN	BY CHARLES LOMICKA	CHECKED R. WANG/ C. SANCHEZ	<b>STATE OF CALIFORNIA</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>DIVISION OF ENGINEERING SERVICES</b> <b>STRUCTURE DESIGN</b> <b>DESIGN BRANCH 19</b>	BRIDGE NO.	<b>RTE 710/5 SEPARATION EAST (WIDEN)</b> <b>ABUTMENT DETAILS NO. 2</b>
DETAILS	BY HENGAMEH MAHBOOBI	CHECKED R. WANG/ C. SANCHEZ			53-0785R	
QUANTITIES	BY B. Mc GAHEY	CHECKED EDWARD MERCADO			POST MILE 23.19	
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)			ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3621 PROJECT NUMBER & PHASE: 0700020869 1 CONTRACT NO.: 07-202111	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES: 11-30-09, 02-18-11, 02-02-11 SHEET 11 OF 52

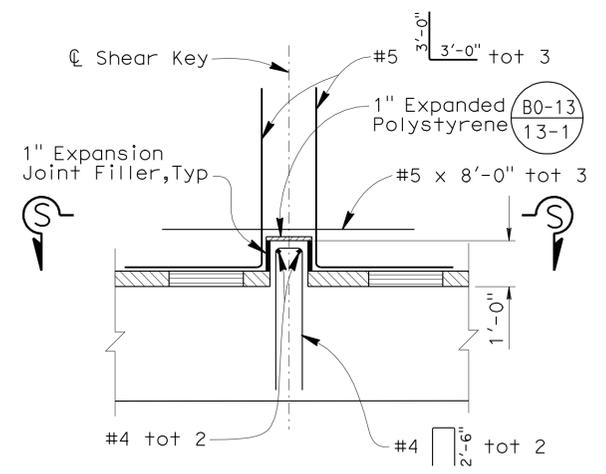
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1223	1507
<i>Wei-Kung Hsia</i> REGISTERED CIVIL ENGINEER DATE 03-01-11			WEI-KUNG HSIA No. C50210 Exp. 06-30-11 CIVIL STATE OF CALIFORNIA		
6-27-11 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



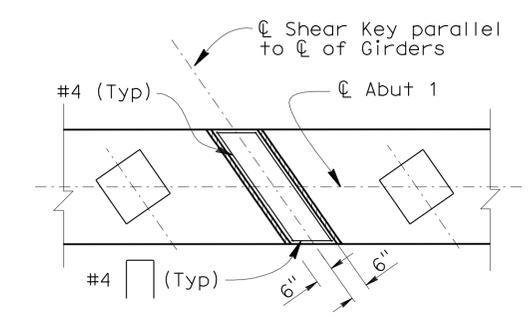
**ABUT 9 INTERIOR SHEAR KEY**  
 $\frac{1}{2}'' = 1'-0''$



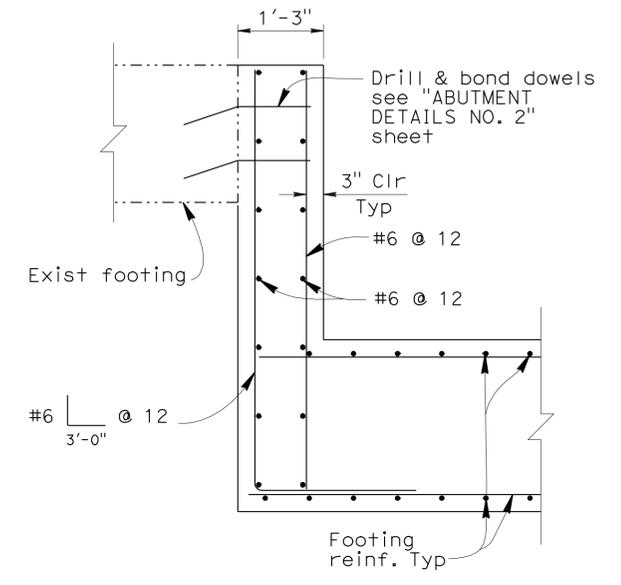
**ABUT 9 EXTERIOR SHEAR KEY**  
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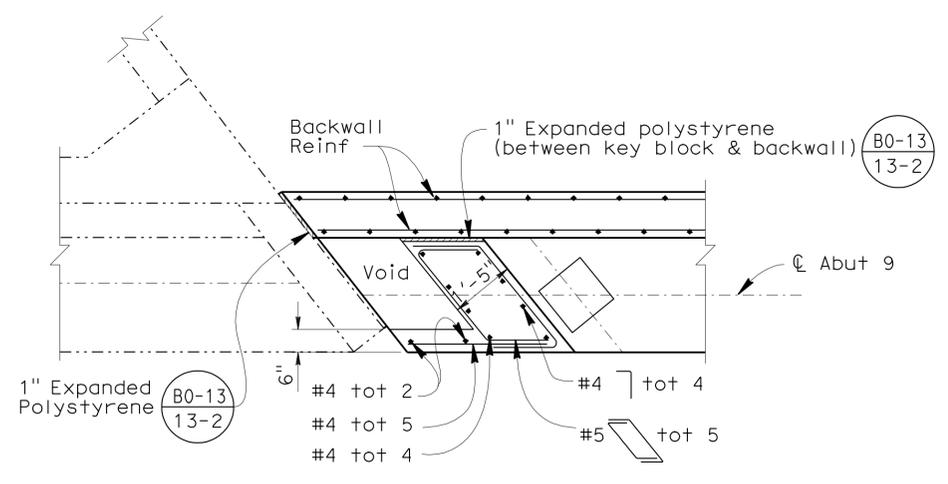
**ABUT 1 SHEAR KEY DETAIL**  
 No Scale



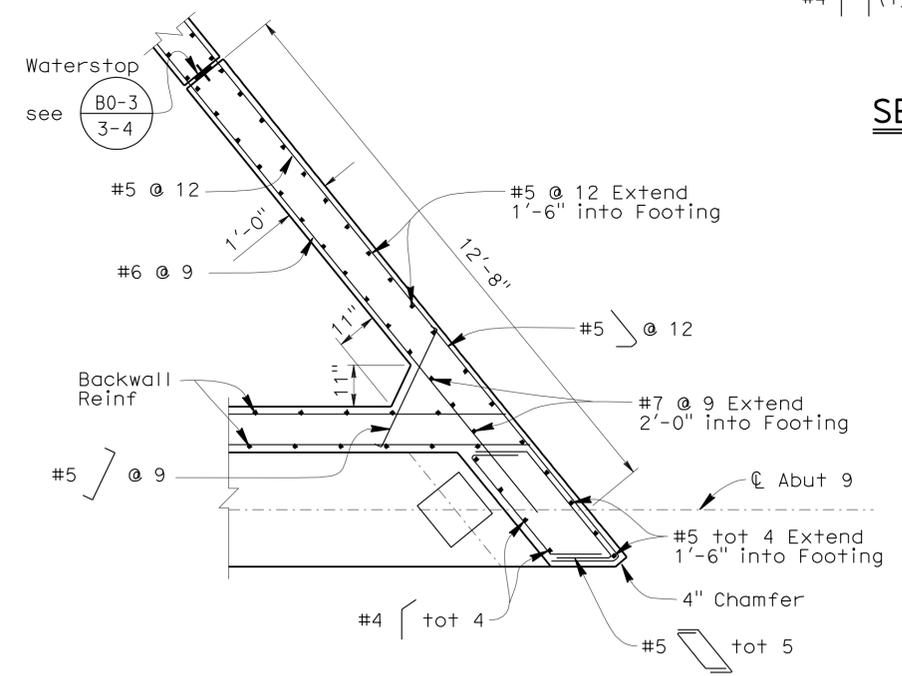
**SECTION S-S**  
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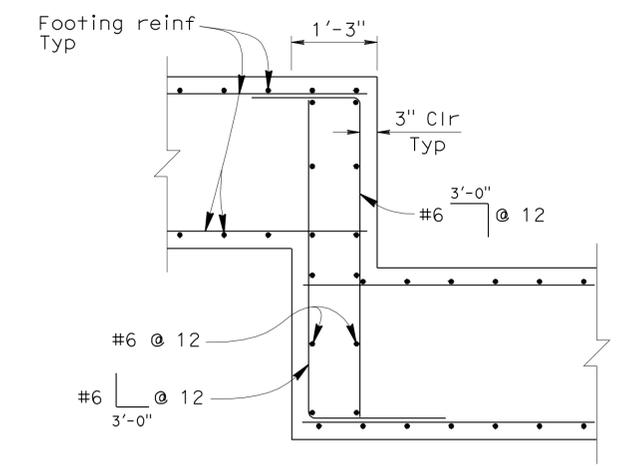
**ABUT 9 FOOTING STEP 1**  
 $\frac{3}{4}'' = 1'-0''$



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



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



**ABUT 9 FOOTING STEP 2**  
 $\frac{3}{4}'' = 1'-0''$

NOTE:  
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DESIGN	BY CHARLES LOMICKA	CHECKED R. WANG/ C. SANCHEZ
DETAILS	BY HENGAMEH MAHBOOBI	CHECKED R. WANG/ C. SANCHEZ
QUANTITIES	BY B. Mc GAHEY	CHECKED EDWARD MERCADO

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
**DESIGN BRANCH 19**

BRIDGE NO.	53-0785R
POST MILE	23.19

**RTE 710/5 SEPARATION EAST (WIDEN)**  
**ABUTMENT DETAILS NO. 3**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1224	1507

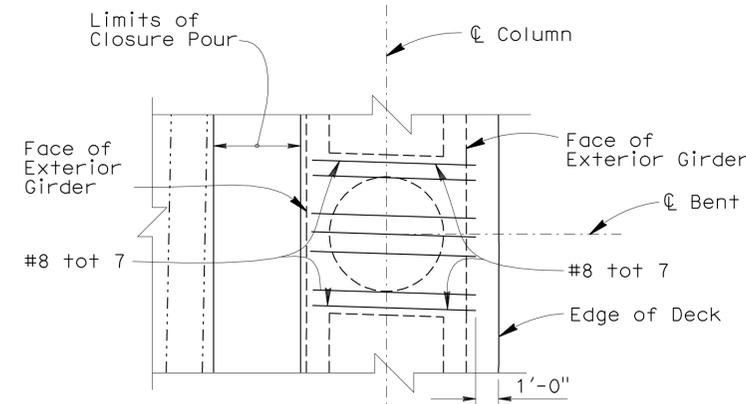
03-01-11  
DATE

REGISTERED CIVIL ENGINEER

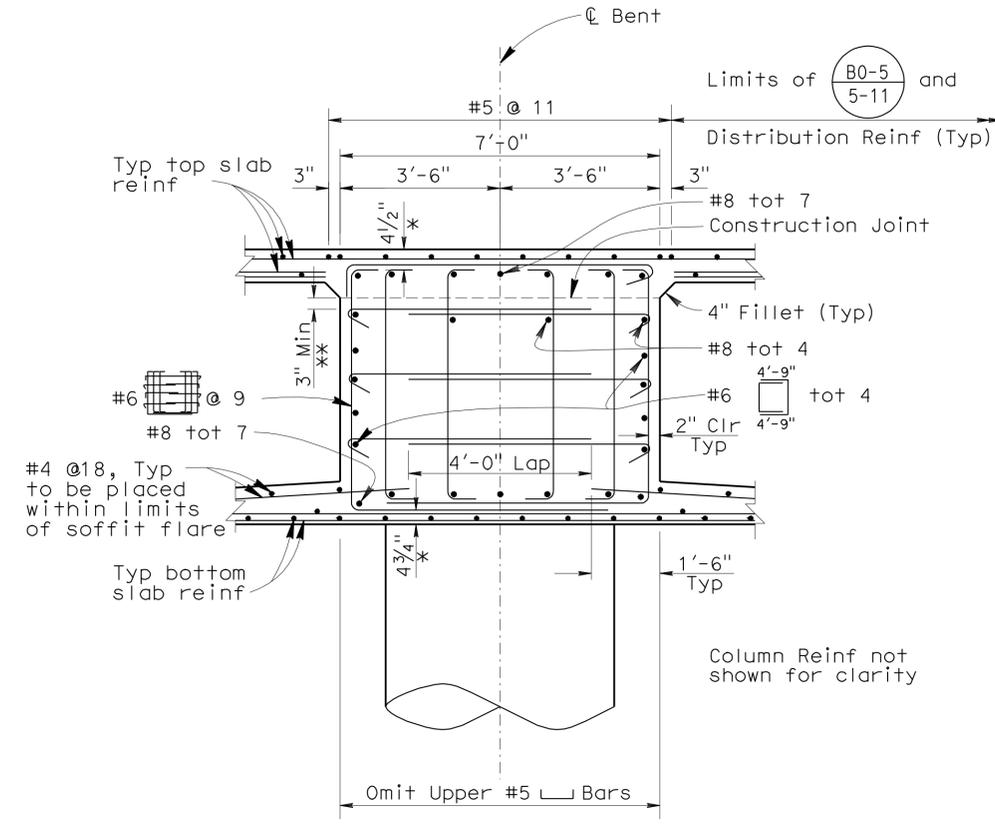
WEI-KUNG HSIA  
No. C50210  
Exp. 06-30-11  
CIVIL  
STATE OF CALIFORNIA

6-27-11  
PLANS APPROVAL DATE

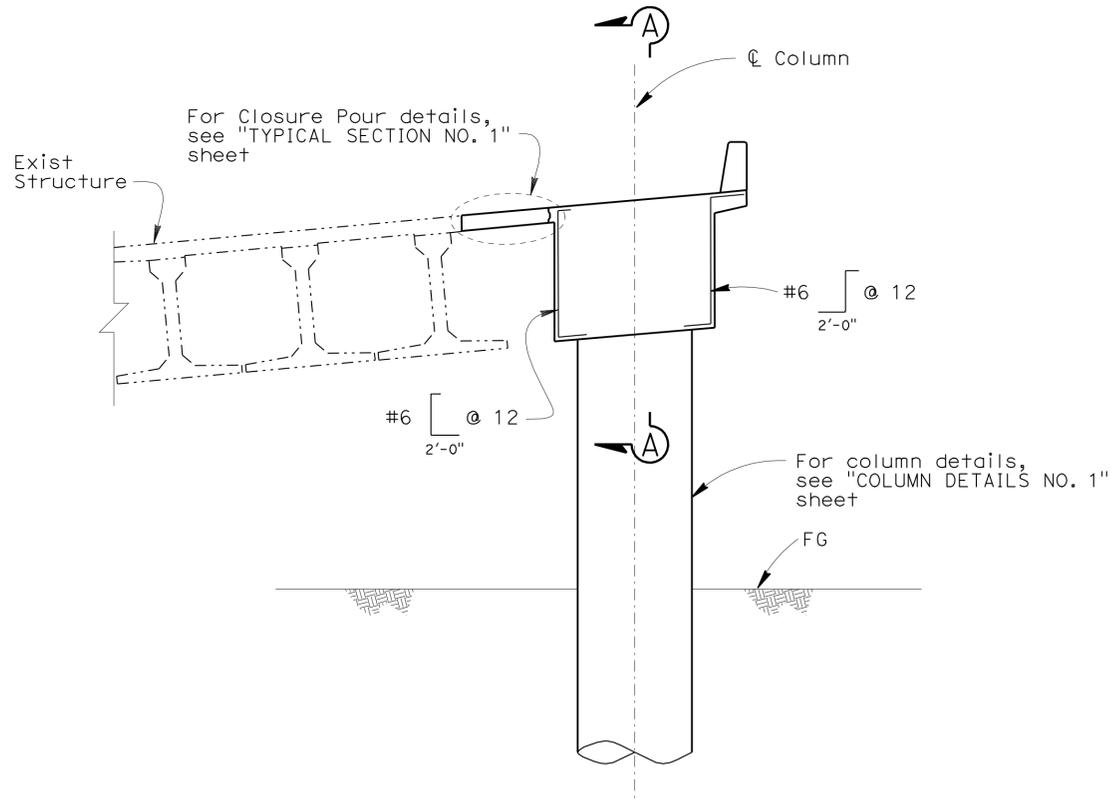
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



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



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



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

NOTES:  
 \* Indicates Clearance to main Cap Reinforcement  
 \*\* Indicates Clearance to #8 tot 4. Reinforcement may be adjusted as necessary to accommodate prestress ducts as directed by the Engineer  
 ----- Indicates existing

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

DESIGN	BY CHARLES LOMICKA	CHECKED R. WANG/ C. SANCHEZ
DETAILS	BY HENGAMEH MAHBOOBI	CHECKED R. WANG/ C. SANCHEZ
QUANTITIES	BY B. Mc GAHEY	CHECKED EDWARD MERCADO

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
**DESIGN BRANCH 19**

BRIDGE NO.	53-0785R
POST MILE	23.19

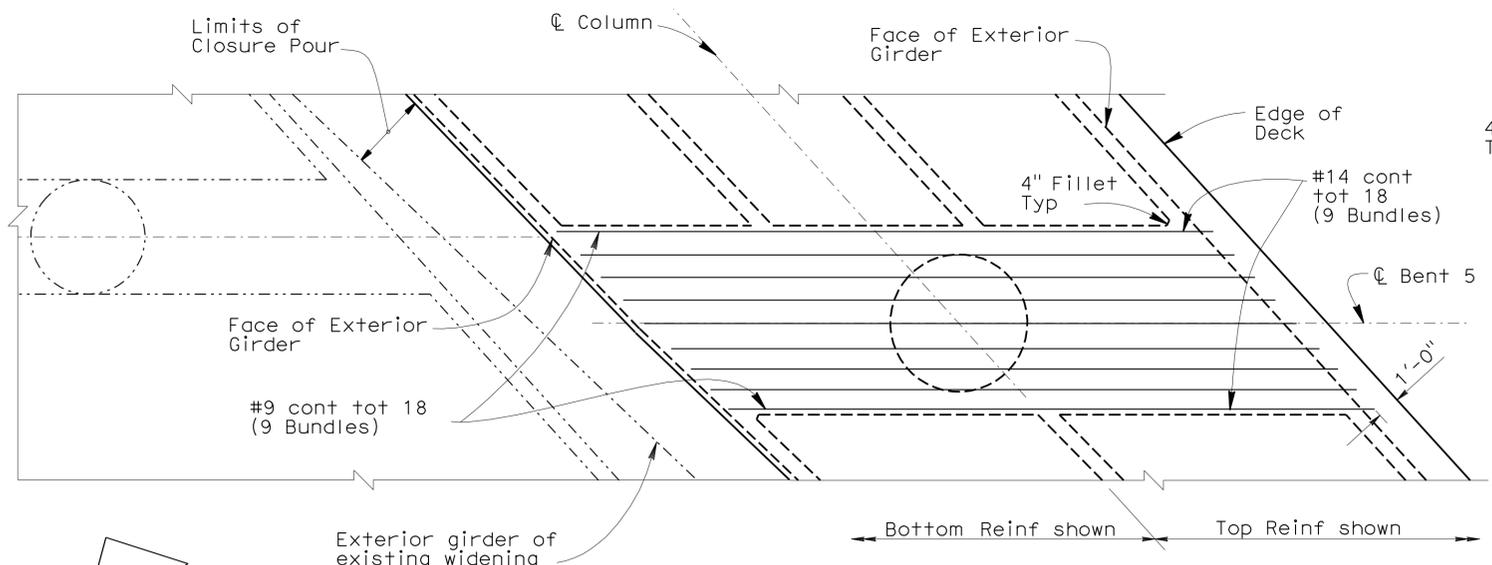
**RTE 710/5 SEPARATION EAST (WIDEN)**  
**BENT 2 & 3 LAYOUT**



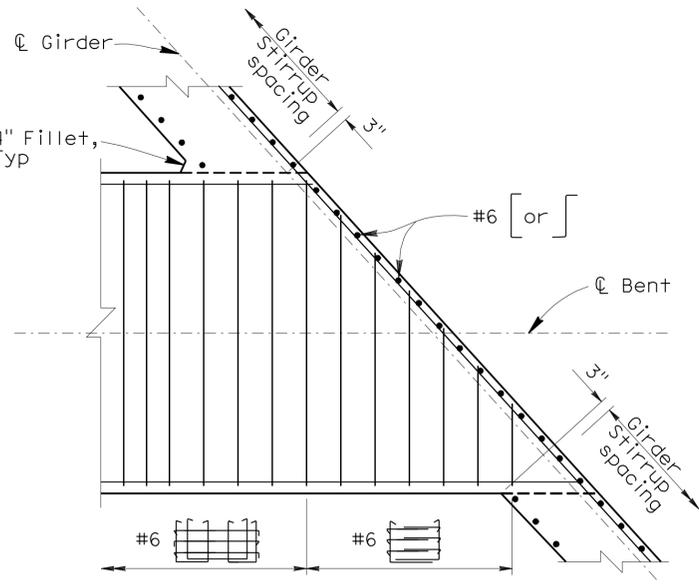
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1226	1507

03-01-11  
 REGISTERED CIVIL ENGINEER DATE  
 6-27-11  
 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.

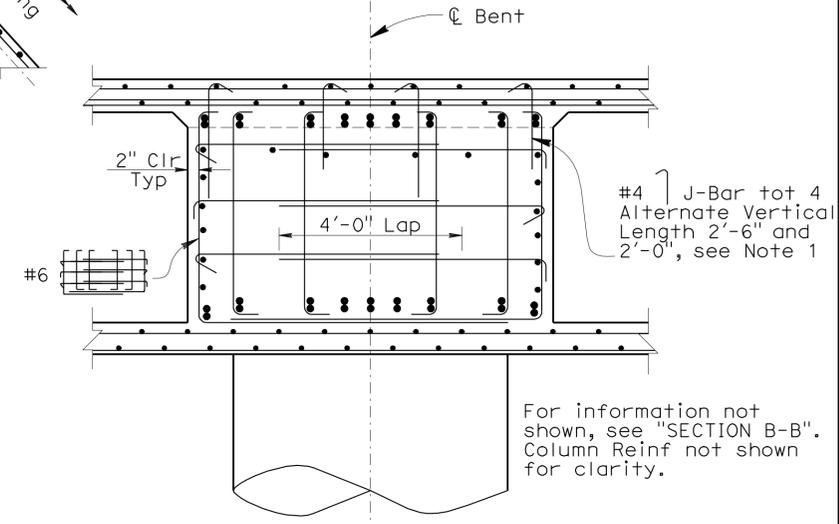
WEI-KUNG HSIA  
 No. C50210  
 Exp. 06-30-11  
 CIVIL  
 STATE OF CALIFORNIA



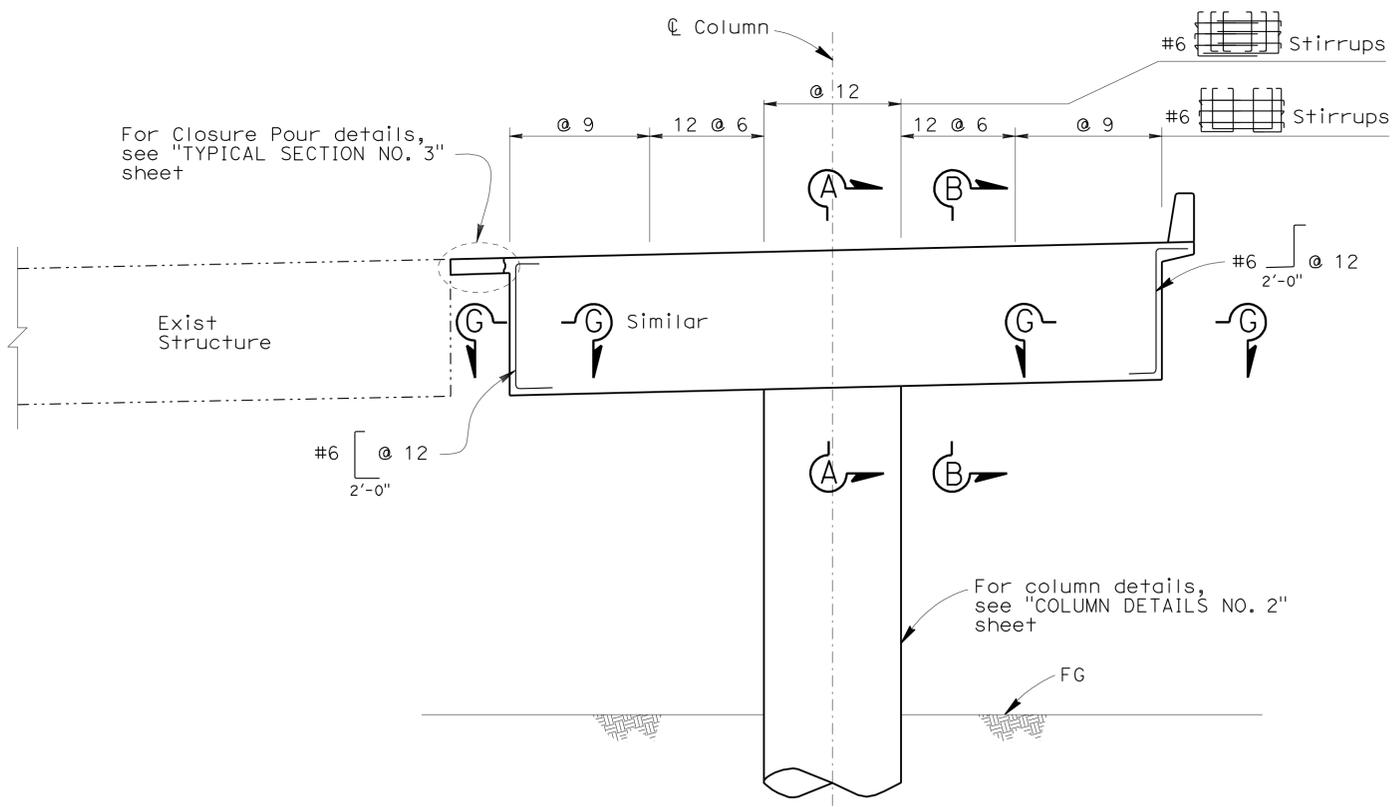
**PLAN**  
1/4" = 1'-0"



**BENT & GIRDER FLARE CORNER DETAIL**  
**SECTION G-G**  
1/2" = 1'-0"

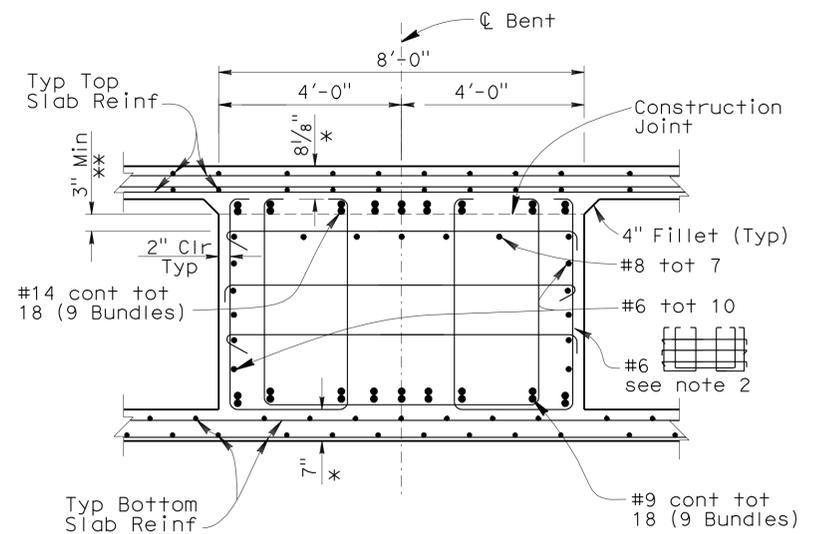


**SECTION A-A**  
1/2" = 1'-0"



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

- NOTES:
- Place #4 J within 6'-0" on either side of  $\bar{C}$  Column at 12" spacing tied around top longitudinal deck slab reinforcement.
  - Stirrups shown shall be placed normal to  $\bar{C}$  Bent.
- \* Indicates Clearance to main Cap Reinforcement.  
 \*\* Indicates Clearance to #8 tot 7.



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

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

DESIGN	BY CHARLES LOMICKA	CHECKED R. WANG/ C. SANCHEZ
DETAILS	BY HENGAMEH MAHBOOBI	CHECKED R. WANG/ C. SANCHEZ
QUANTITIES	BY B. Mc GAHEY	CHECKED EDWARD MERCADO

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

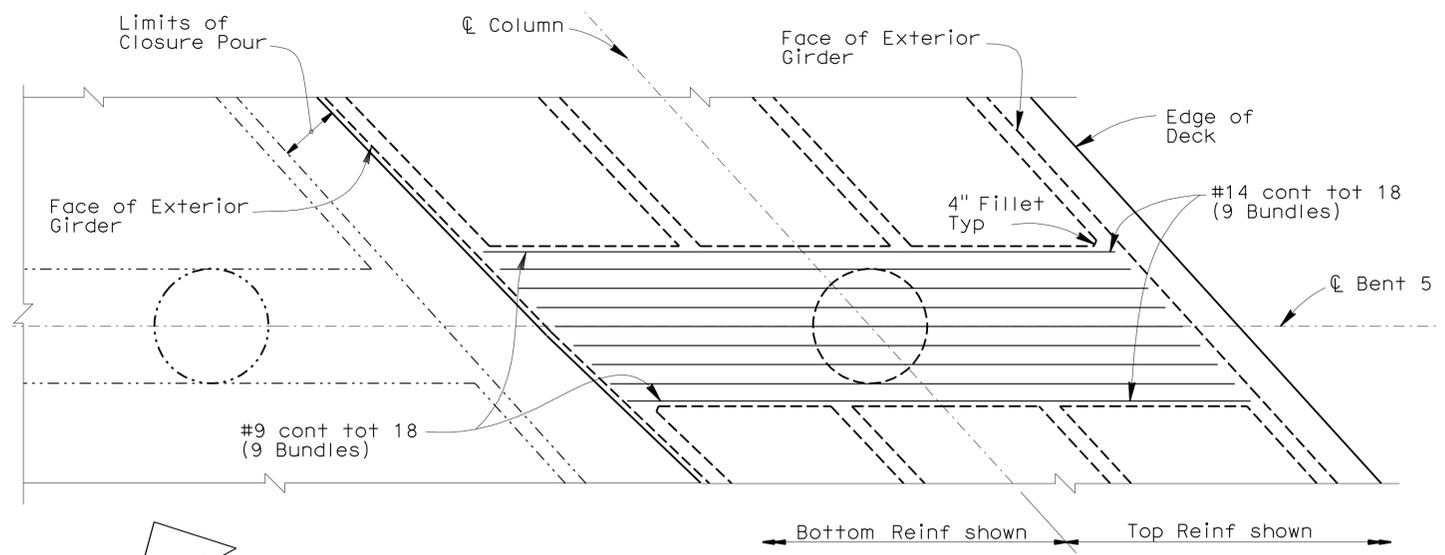
DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
**DESIGN BRANCH 19**

BRIDGE NO.	53-0785R
POST MILE	23.19

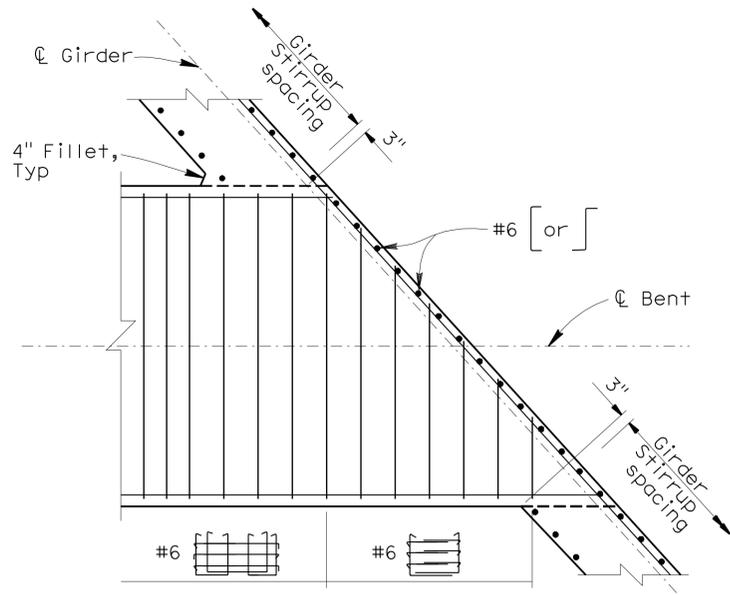
**RTE 710/5 SEPARATION EAST (WIDEN)**  
**BENT 5 LAYOUT**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1227	1507

03-01-11  
 REGISTERED CIVIL ENGINEER DATE  
 6-27-11  
 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.

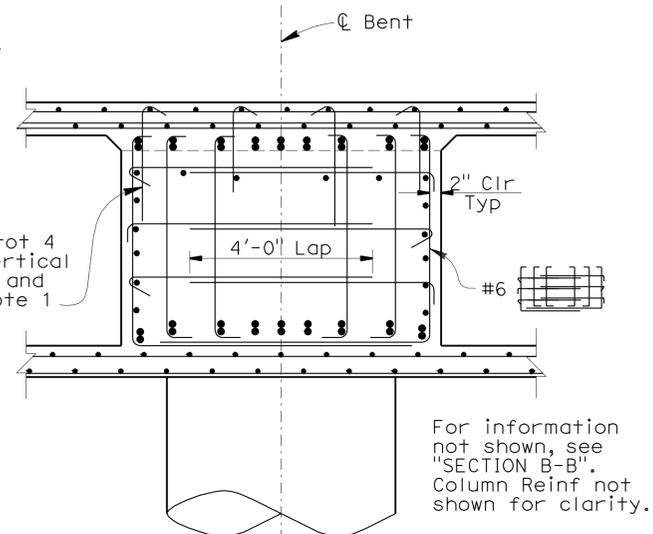


**PLAN**  
1/4" = 1'-0"



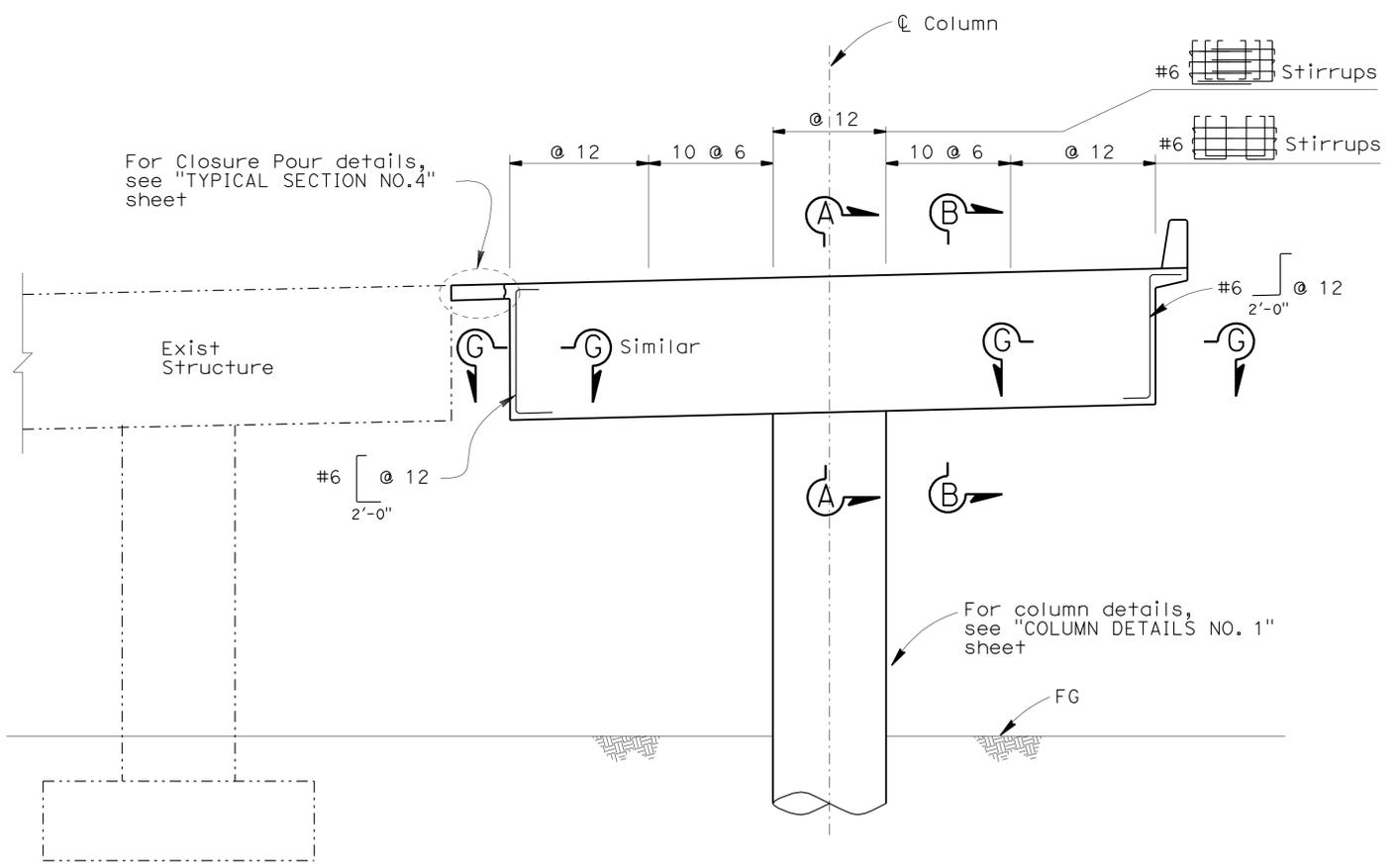
**BENT & GIRDER FLARE CORNER DETAIL**

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

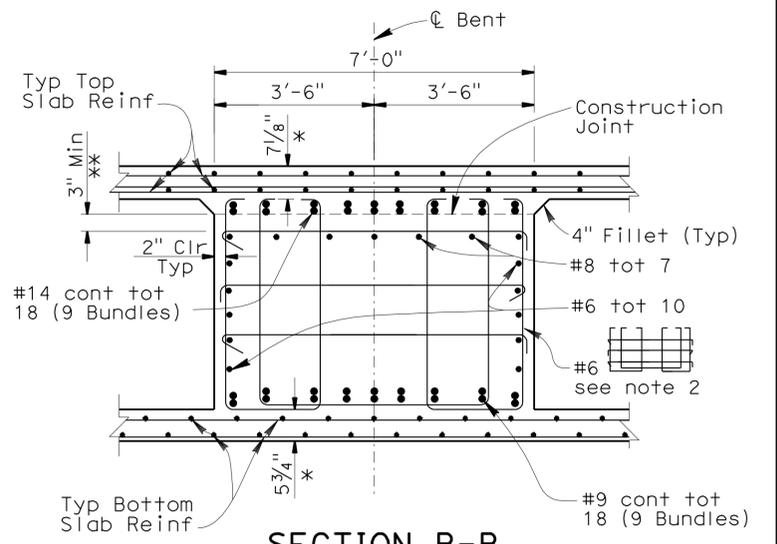


**SECTION A-A**  
1/2" = 1'-0"

- NOTES:**
- Place #4 J-Bar within 5'-0" on either side of  $\varnothing$  Column at 12" spacing tied around top longitudinal deck slab reinforcement.
  - Stirrups shown shall be placed normal to  $\varnothing$  Bents.
- \* Indicates Clearance to main Cap Reinforcement.  
 \*\* Indicates Clearance to #8 tot 7.



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



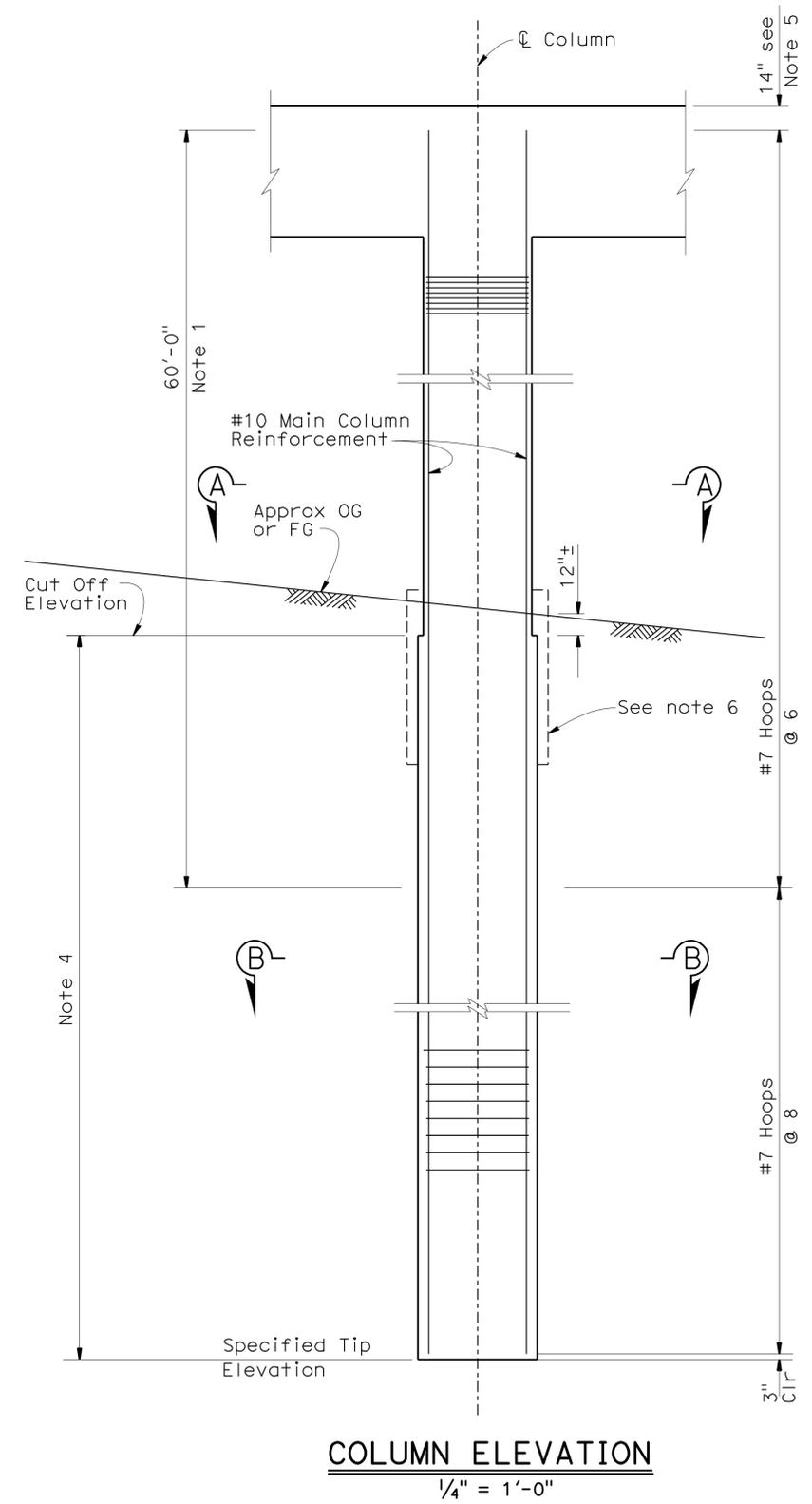
**SECTION B-B**  
1/2" = 1'-0"

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

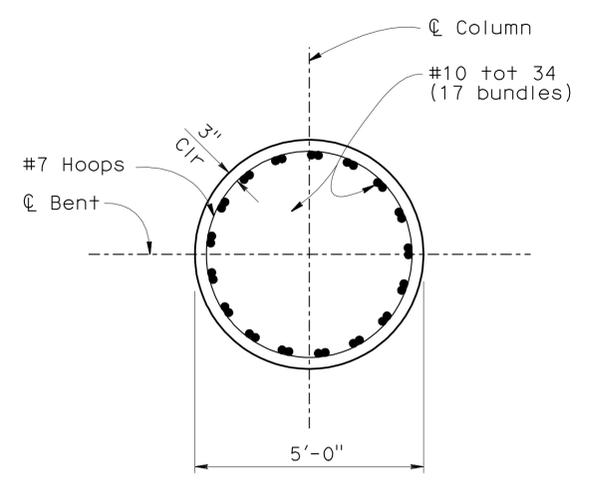
DESIGN	BY CHARLES LOMICKA	CHECKED R. WANG/ C. SANCHEZ	<b>STATE OF CALIFORNIA</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>DIVISION OF ENGINEERING SERVICES</b> <b>STRUCTURE DESIGN</b> <b>DESIGN BRANCH 19</b>	BRIDGE NO.	<b>RTE 710/5 SEPARATION EAST (WIDEN)</b> <b>BENT 6, 7 &amp; 8 LAYOUT</b>				
DETAILS	BY HENGAMEH MAHBOOBI	CHECKED R. WANG/ C. SANCHEZ			53-0785R					
QUANTITIES	BY B. Mc GAHEY	CHECKED EDWARD MERCADO			POST MILE 23.19					
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)			ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3621 PROJECT NUMBER & PHASE: 0700020869 1	CONTRACT NO.: 07-202111	DISREGARD PRINTS BEARING EARLIER REVISION DATES				
				0	1	2	3	REVISION DATES	SHEET	OF
								01-17-10	01-06-11	02-02-11
									16	52

**NOTES:**

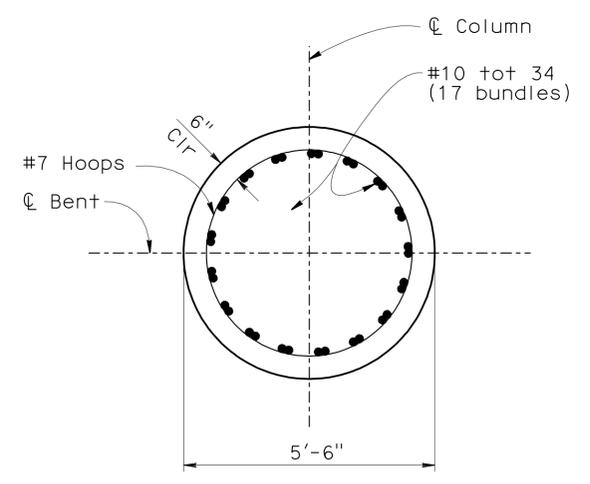
- No splice zone for main column reinforcement.
- Only "ultimate" butt splices are allowed in main column reinforcement outside no splice zone.
- All hoops are "ultimate" butt spliced continuous.
- Limits of payment for 66" CIDH concrete pile.
- Main column reinforcement may be adjusted to clear P/S Ducts as directed by the Engineer. Hoop reinforcement to begin as high as possible while clearing prestress duct.
- Isolation casing at Bents 6, 7, and 8 only. See "COLUMN DETAILS NO. 3" sheet.



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



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



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

**PILE DATA TABLE** (BENTS 2, 3, 6, 7, & 8)

Location	Pile Type	Nominal Resistance (Kips)		Design Tip Elevation (Ft)	Specified Tip Elevation (Ft)
		Compression	Tension		
Bent 2	66" CIDH	1380	0	112.0 (a-I) 140.0 (a-II) 137.0 (c)	112.0
Bent 3	66" CIDH	1840	0	90.0 (a-I) 138.0 (a-II) 139.0 (c)	90.0
Bent 6	66" CIDH	2540	0	60.0 (a-I) 114.0 (a-II) 111.0 (c)	60.0
Bent 7	66" CIDH	1860	0	74.0 (a-I) 133.0 (a-II) 125.0 (c)	74.0
Bent 8	66" CIDH	1940	0	68.0 (a-I) 120.0 (a-II) 114.0 (c)	68.0

Notes: 1) Design tip elevation for Bents are controlled by: (a-I) Compression (Strength Limit), (a-II) Compression (Extreme Event), (c) Settlement, (d) Lateral load

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

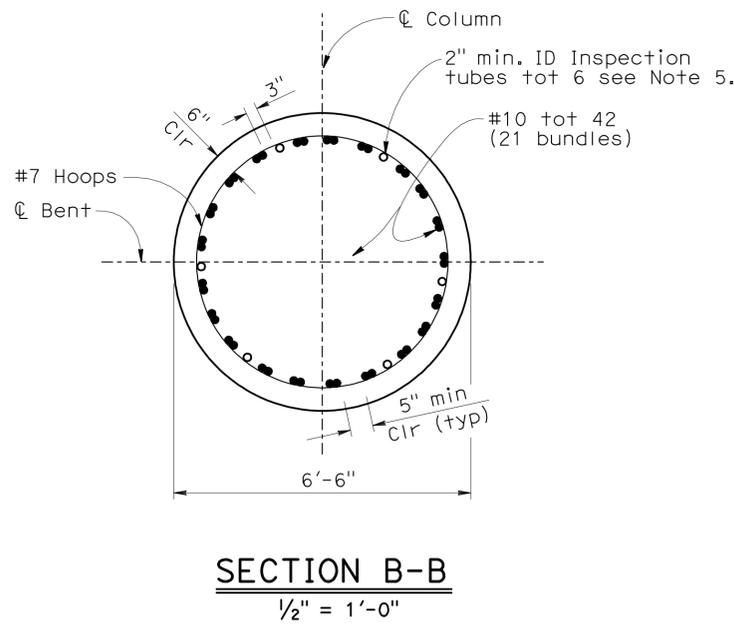
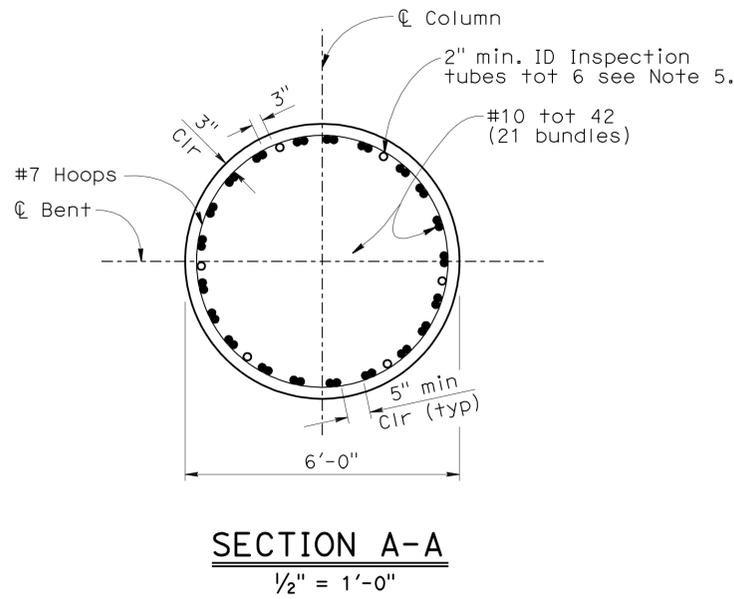
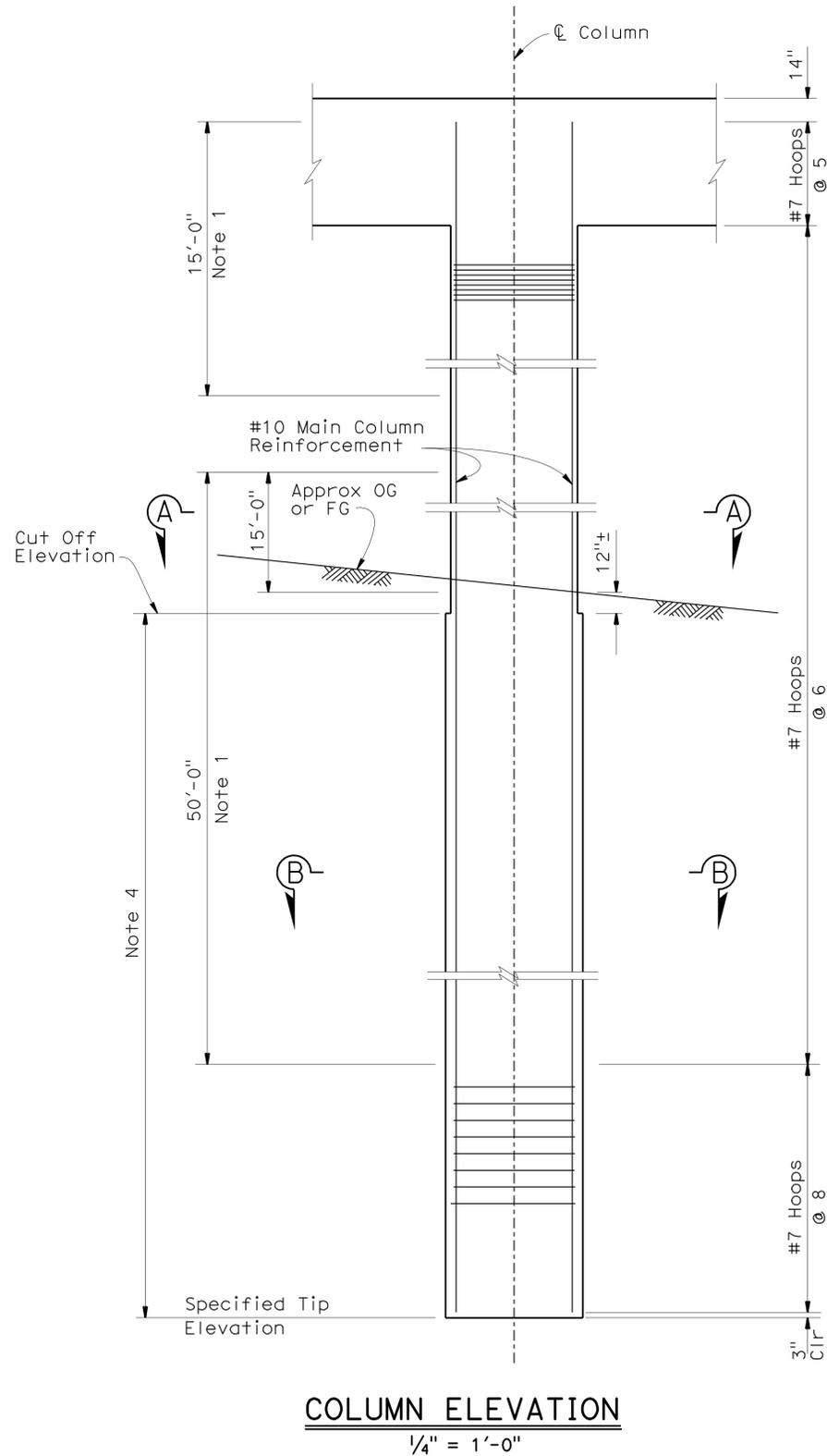
DESIGN	BY CHARLES LOMICKA	CHECKED R. WANG/ C. SANCHEZ
DETAILS	BY H. MAHBOOBI	CHECKED R. WANG/ C. SANCHEZ
QUANTITIES	BY B. Mc GAHEY	CHECKED EDWARD MERCADO

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
DESIGN BRANCH 19

BRIDGE NO.	53-0785R
POST MILE	23.19

RTE 710/5 SEPARATION EAST (WIDEN)  
COLUMN DETAILS NO. 1



- NOTES:**
1. No splice zone for main column reinforcement.
  2. Only "ultimate" butt splices are allowed in main column reinforcement outside no splice zone.
  3. All hoops are "ultimate" butt spliced continuous.
  4. Limits of payment for 78" CIDH concrete pile.
  5. Inspection tubes at Bent 5 if slurry displacement method is used.

**PILE DATA TABLE (BENTS 4 & 5)**

Location	Pile Type	Nominal Resistance (Kips)		Design Tip Elevation (Ft)	Specified Tip Elevation (Ft)
		Compression	Tension		
Bent 4	78" CIDH	2110	0	74.0 (a-I) 125.0 (a-II) 128.0 (c)	74.0
Bent 5	78" CIDH	2900	0	56.0 (a-I) 120.0 (a-II) 115.0 (c)	56.0

Notes: 1) Design tip elevation for Bents are controlled by: (a-I) Compression (Strength Limit), (a-II) Compression (Extreme Event), (c) Settlement, (d) Lateral load

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

DESIGN	BY CHARLES LOMICKA	CHECKED R. WANG/ C. SANCHEZ
DETAILS	BY H. MAHBOOBI	CHECKED R. WANG/ C. SANCHEZ
QUANTITIES	BY B. Mc GAHEY	CHECKED EDWARD MERCADO

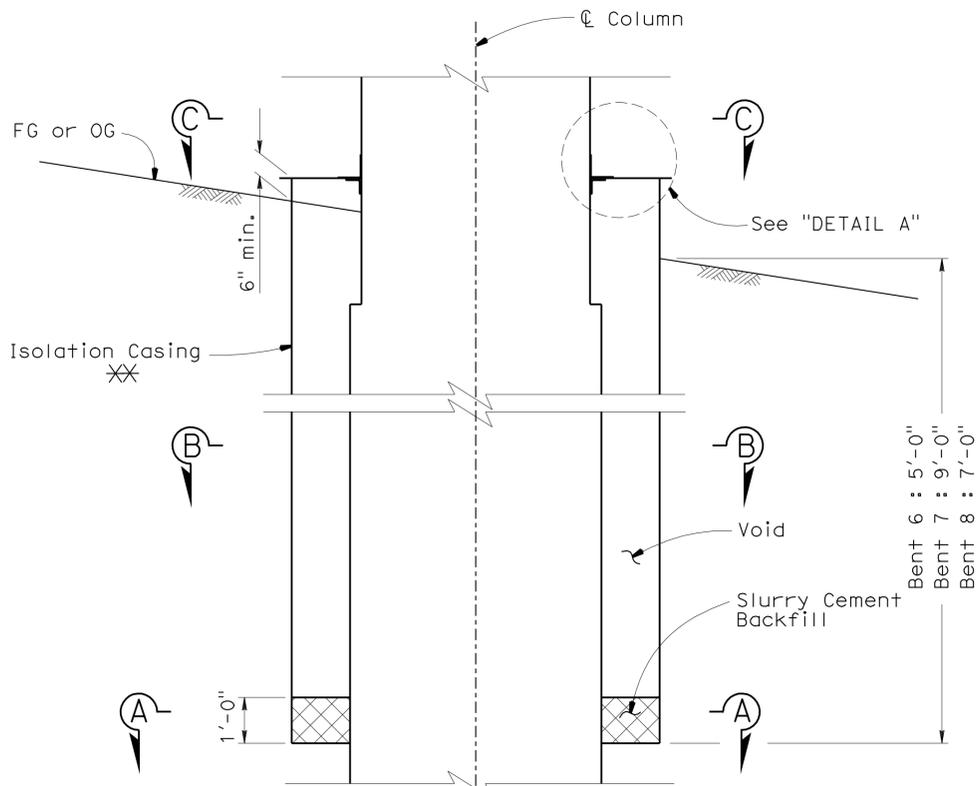
**STATE OF CALIFORNIA**  
DEPARTMENT OF TRANSPORTATION

**DIVISION OF ENGINEERING SERVICES**  
STRUCTURE DESIGN  
**DESIGN BRANCH 19**

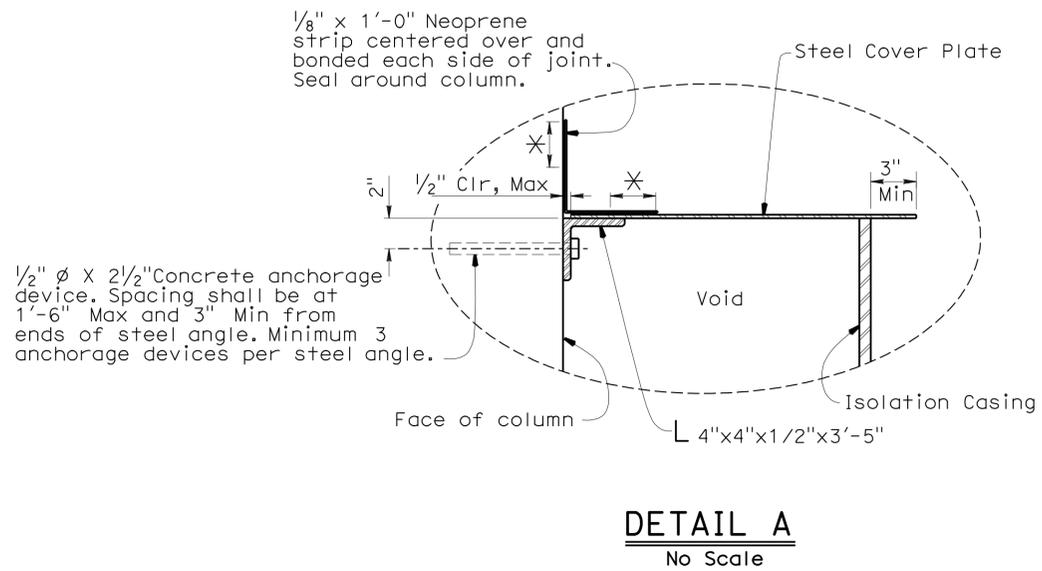
BRIDGE NO.	53-0785R
POST MILE	23.19

**RTE 710/5 SEPARATION EAST (WIDEN)**  
**COLUMN DETAILS NO. 2**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1230	1507
REGISTERED CIVIL ENGINEER DATE 03-01-11 PLANS APPROVAL DATE 6-27-11					
<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>					

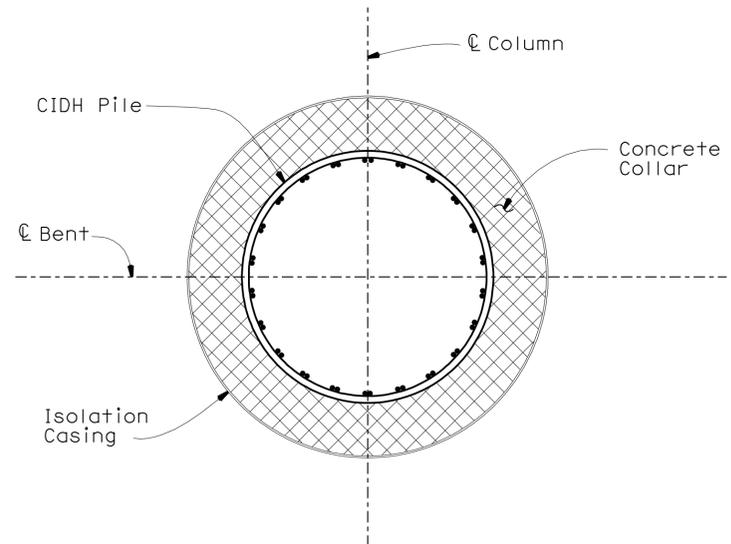


**ISOLATION CASING DETAILS**  
No Scale

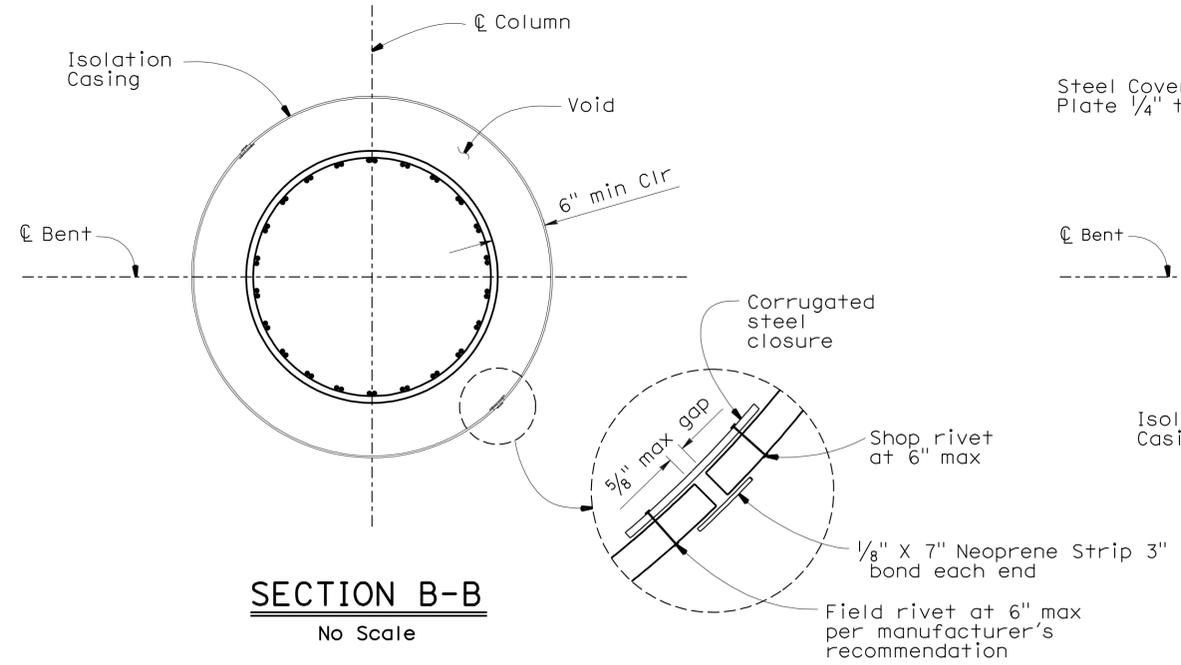


**DETAIL A**  
No Scale

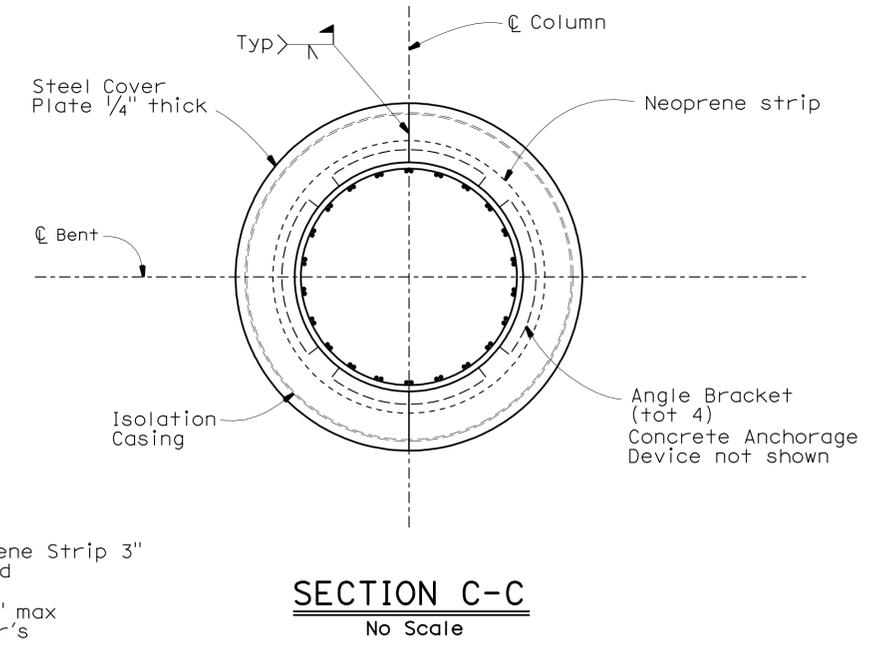
- NOTES:**
- For details not shown or noted, see COLUMN DETAILS NO. 1 & NO.2 sheets.
  - Steel cover plate, angles and all hardware shall be galvanized.
  - 3" Bonding.
  - Galvanized corrugated steel pipe, 0.109" thick (min).



**SECTION A-A**  
No Scale



**SECTION B-B**  
No Scale



**SECTION C-C**  
No Scale

**OPTIONAL SPLICE DETAIL**  
No Scale

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

DESIGN	BY CHARLES LOMICKA	CHECKED R. WANG/ C. SANCHEZ
DETAILS	BY H. MAHBOOBI	CHECKED R. WANG/ C. SANCHEZ
QUANTITIES	BY B. Mc GAHEY	CHECKED EDWARD MERCADO

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

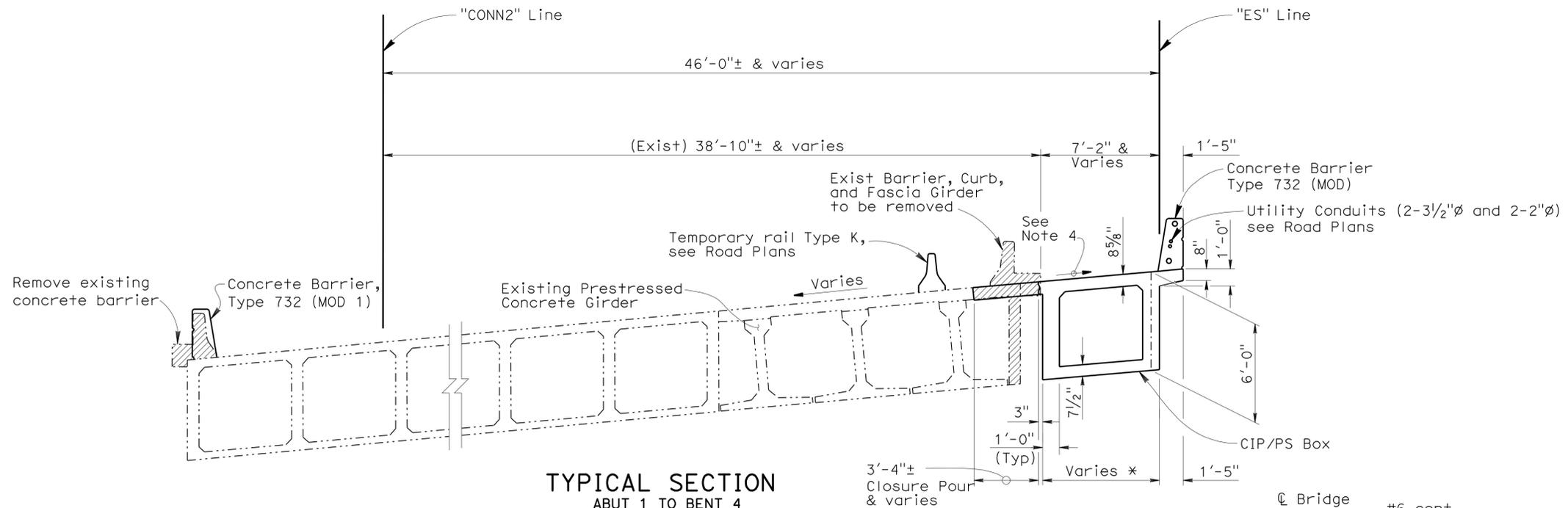
DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
**DESIGN BRANCH 19**

BRIDGE NO.	53-0785R
POST MILE	23.19

**RTE 710/5 SEPARATION EAST (WIDEN)**  
**COLUMN DETAILS NO. 3**

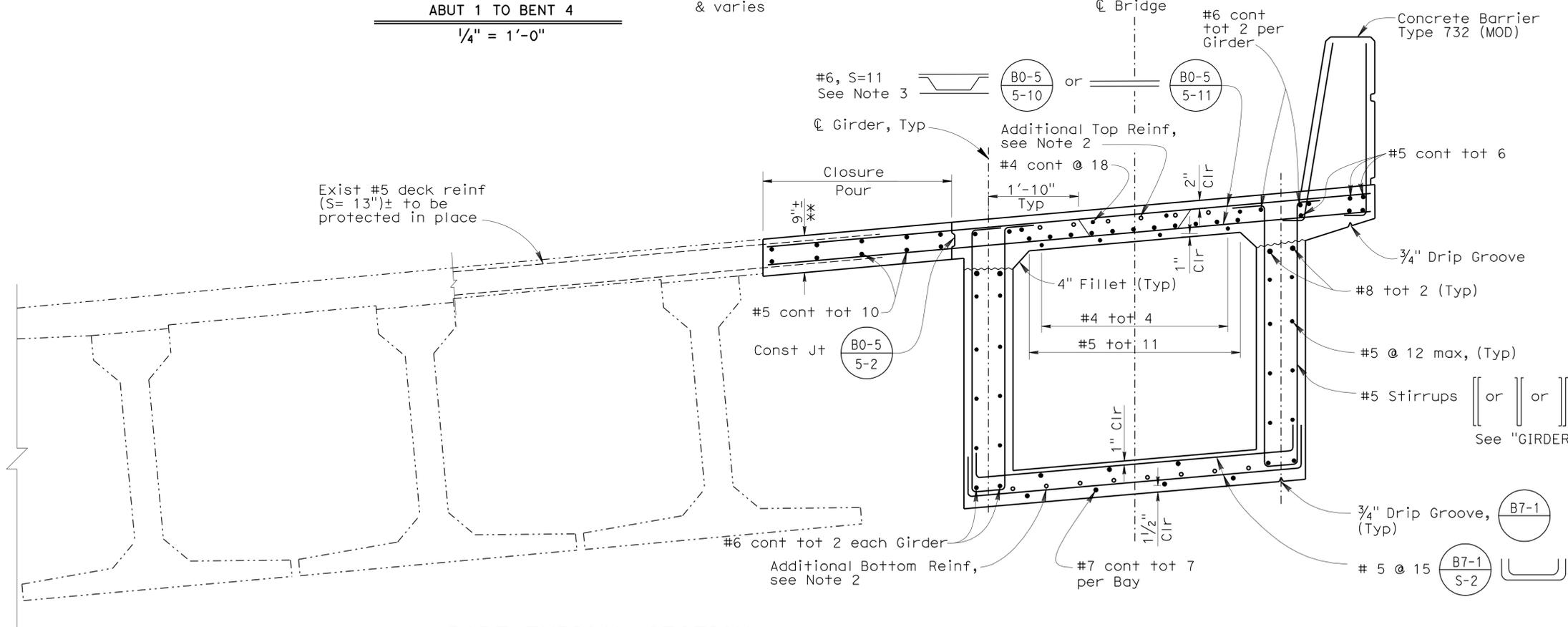
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1231	1507
			03-01-11	DATE	
			6-27-11	PLANS APPROVAL DATE	
REGISTERED CIVIL ENGINEER WEI-KUNG HSIA No. C50210 Exp. 06-30-11 CIVIL STATE OF CALIFORNIA					



**TYPICAL SECTION**  
 ABUT 1 TO BENT 4  
 1/4" = 1'-0"

- NOTES:
- \* See Girder Layout sheets
  - For additional longitudinal reinforcement, See girder reinforcement sheets
  - Place radial or normal to and space along  $\phi$  bridge as specified on "GIRDER LAYOUT NO. 1" sheet.
  - Match exist profile and cross slope.
  - \*\* See "TYPICAL SECTION NO. 2" for closure pour detail from Hinge 3 to Bent 4



**PART TYPICAL SECTION**  
 ABUT 1 TO BENT 4  
 3/4" = 1'-0"

- LEGEND**
- Bridge Removal (Portion)
  - Indicates Existing Structure

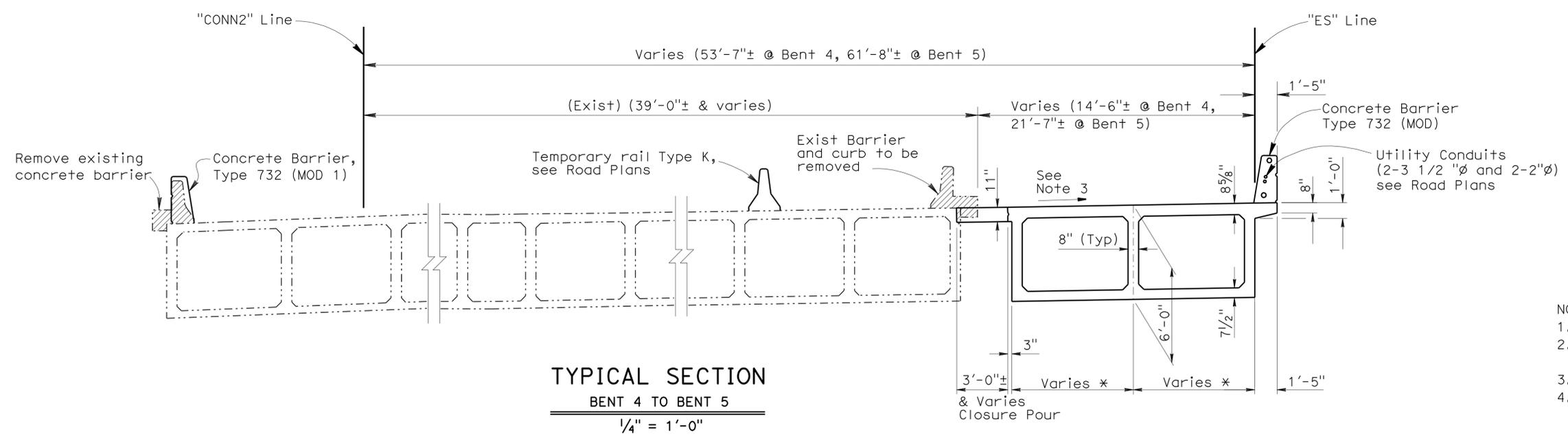
**NOTE:**  
 The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

DESIGN	BY CHARLES LOMICKA	CHECKED R. WANG/ C. SANCHEZ
DETAILS	BY H. MAHBOOBI	CHECKED R. WANG/ C. SANCHEZ
QUANTITIES	BY B. Mc GAHEY	CHECKED EDWARD MERCADO

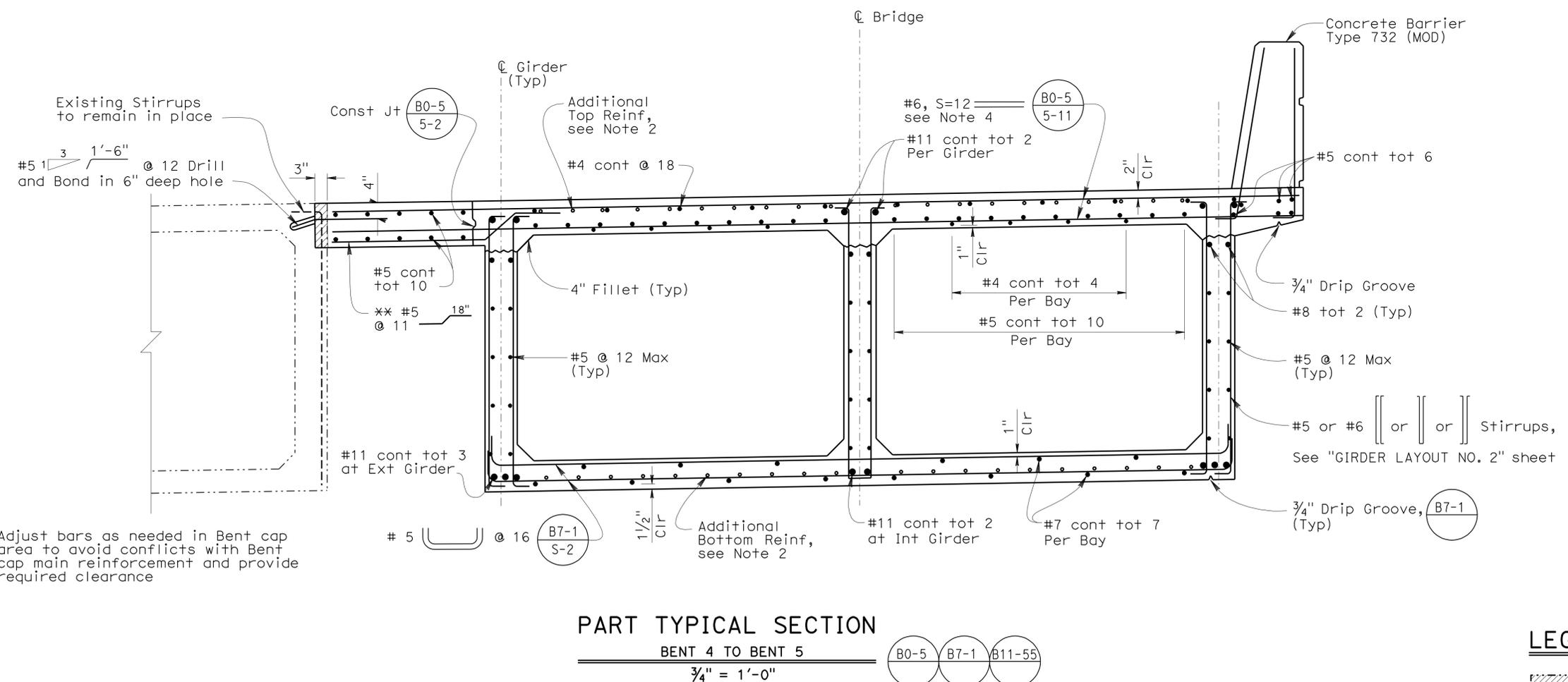
STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
**DESIGN BRANCH 19**

BRIDGE NO.	53-0785R	<b>RTE 710/5 SEPARATION EAST (WIDEN)</b>
POST MILE	23.19	
<b>TYPICAL SECTION NO. 1</b>		

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1232	1507
			03-01-11		
			REGISTERED CIVIL ENGINEER DATE		
			6-27-11		
			PLANS APPROVAL DATE		
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- NOTES:
- \* See "GIRDER LAYOUT NO. 2" sheet.
  - For additional longitudinal reinforcement, See GIRDER REINFORCEMENT NO. 2 & 3 sheets.
  - Match exist profile and cross slope.
  - Place normal to and space along  $\bar{C}$  Bridge as specified on "GIRDER LAYOUT NO. 2" sheet.



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

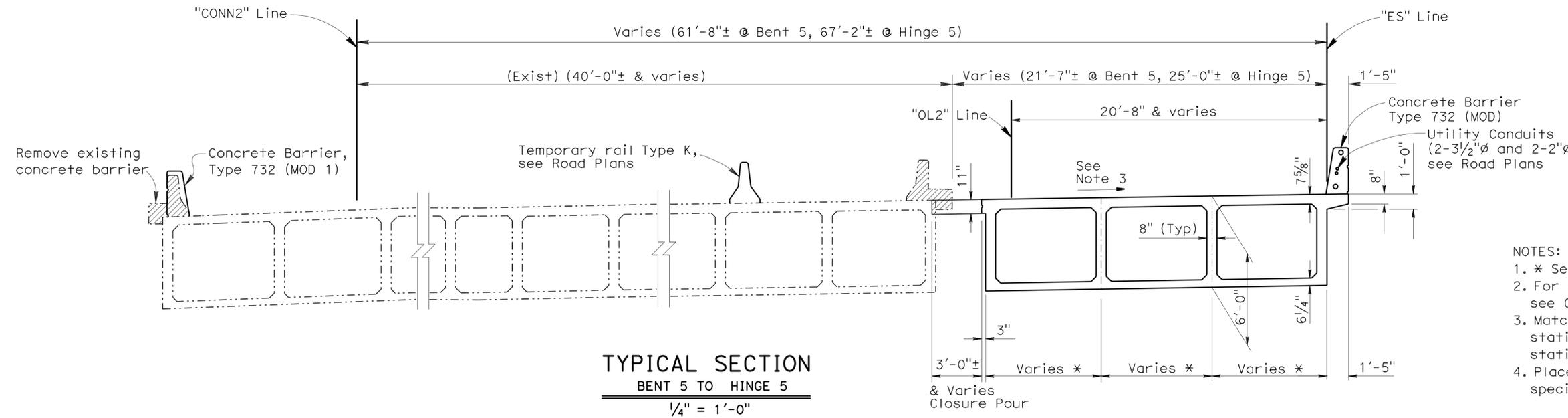
**LEGEND**

	Bridge Removal (Portion)
	Indicates Existing Structure

DESIGN BY CHARLES LOMICKA	CHECKED R. WANG/ C. SANCHEZ	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 19</b>	BRIDGE NO. 53-0785R	<b>RTE 710/5 SEPARATION EAST (WIDEN)</b> <b>TYPICAL SECTION NO. 2</b>				
DETAILS BY H. MAHBOOBI	CHECKED R. WANG/ C. SANCHEZ			POST MILE 23.19					
QUANTITIES BY B. Mc GAHEY	CHECKED EDWARD MERCADO								
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3621 PROJECT NUMBER & PHASE: 0700020869 1	CONTRACT NO.: 07-202111	DISREGARD PRINTS BEARING EARLIER REVISION DATES				
			0	1	2	3	REVISION DATES	SHEET 21	OF 52

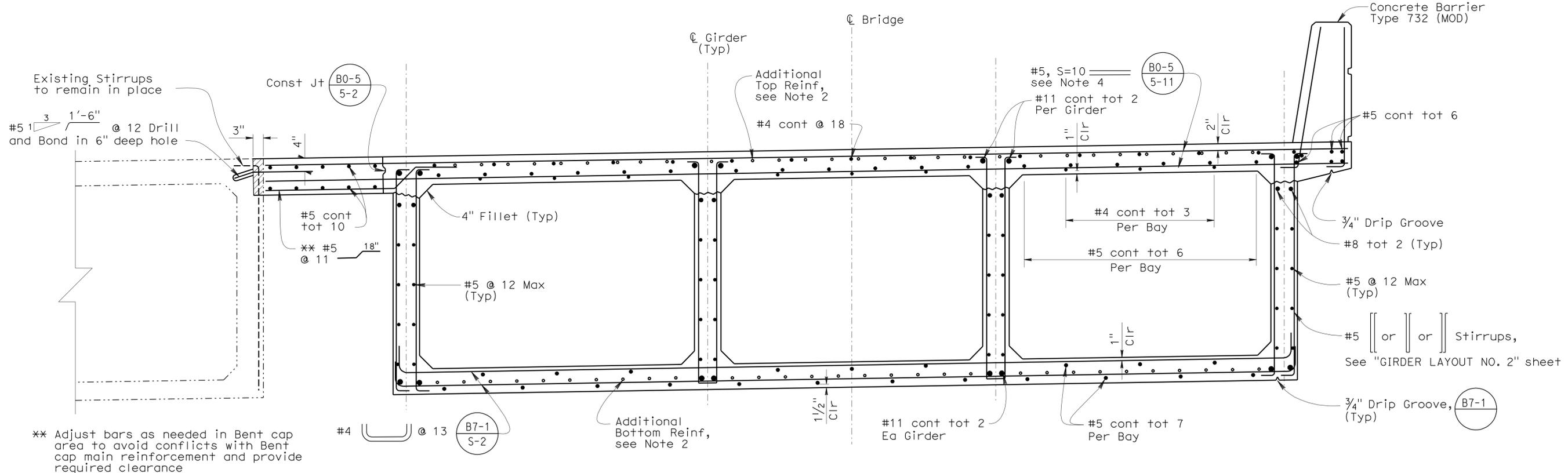
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1233	1507

03-01-11  
 REGISTERED CIVIL ENGINEER DATE  
 6-27-11  
 PLANS APPROVAL DATE  
 WEI-KUNG HSIA  
 No. C50210  
 Exp. 06-30-11  
 CIVIL  
 STATE OF CALIFORNIA  
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**TYPICAL SECTION**  
BENT 5 TO HINGE 5  
1/4" = 1'-0"

- NOTES:
- \* See "GIRDER LAYOUT NO. 2" sheet.
  - For additional longitudinal reinforcement, see GIRDER REINFORCEMENT NO. 2 & 3 sheets.
  - Match exist profile and cross slope prior to station 11+00 of "OL2" Line. For grades after station 11+00 "OL2" Line, see "GRID GRADES" sheet.
  - Place normal to and space along  $\bar{C}$  Bridge as specified on "GIRDER LAYOUT NO. 2" sheet.



**PART TYPICAL SECTION**  
BENT 5 TO HINGE 5  
3/4" = 1'-0"

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

LEGEND:  
 Bridge Removal (Portion)  
 Indicates Existing Structure

DESIGN	BY CHARLES LOMICKA	CHECKED R. WANG/ C. SANCHEZ
DETAILS	BY H. MAHBOOBI	CHECKED R. WANG/ C. SANCHEZ
QUANTITIES	BY B. Mc GAHEY	CHECKED EDWARD MERCADO

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
**DESIGN BRANCH 19**

BRIDGE NO.	53-0785R
POST MILE	23.19

**RTE 710/5 SEPARATION EAST (WIDEN)**  
**TYPICAL SECTION NO. 3**

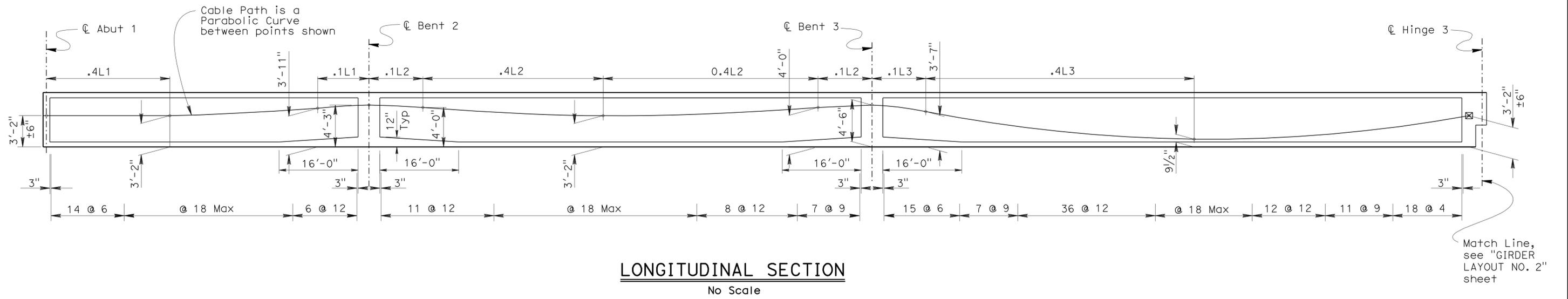
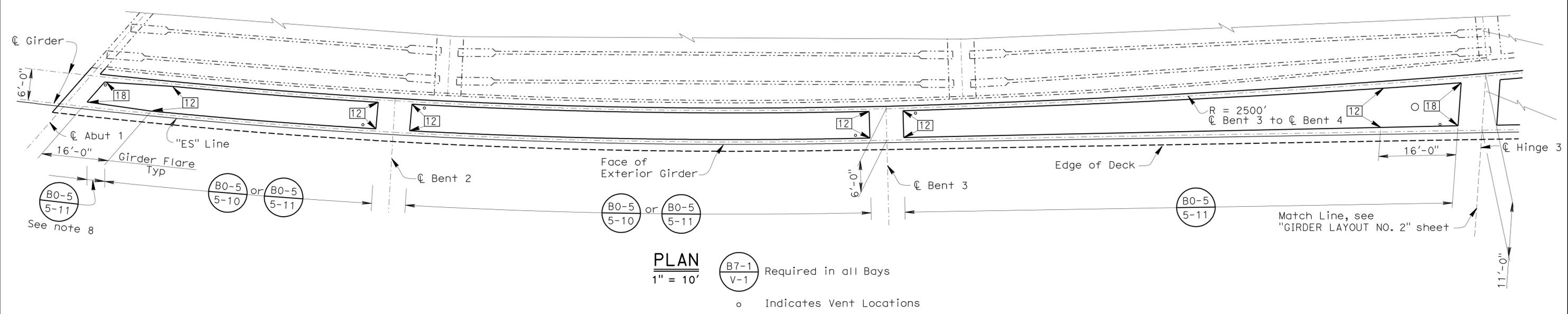
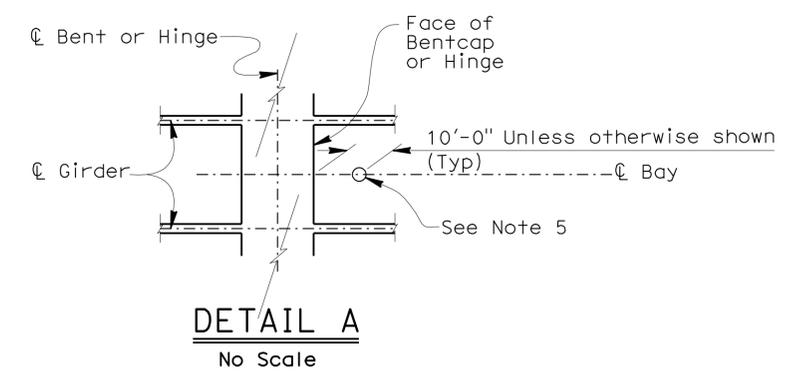


DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1235	1507

03-01-11  
 REGISTERED CIVIL ENGINEER DATE  
 6-27-11  
 PLANS APPROVAL DATE  
 WEI-KUNG HSIA  
 No. C50210  
 Exp. 06-30-11  
 CIVIL  
 STATE OF CALIFORNIA  
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- Notes:
- Girder stem thickness in inches shown thus: 00
  - For Prestressing Notes, see "INDEX TO PLANS" sheet
  - L=Span Length from  $\text{C}$  Abut or  $\text{C}$  Bent to  $\text{C}$  Bent measured along  $\text{C}$  Girder.
  - $\boxtimes$  Theoretical Point of No Movement
  - $\circ$  Soffit access opening locations as shown on layout. See also "DETAIL A" on this sheet. B14-5

- $\Uparrow$  Stirrup Spacing shown measured along  $\text{C}$  of Girder.
- #5  $\Uparrow$  Stirrup Spacing shown unless otherwise noted
- Extend alternate top transverse reinf 1'-6" min into end diaphragm. Terminate remaining transverse reinf 3" from face of diaphragm.



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

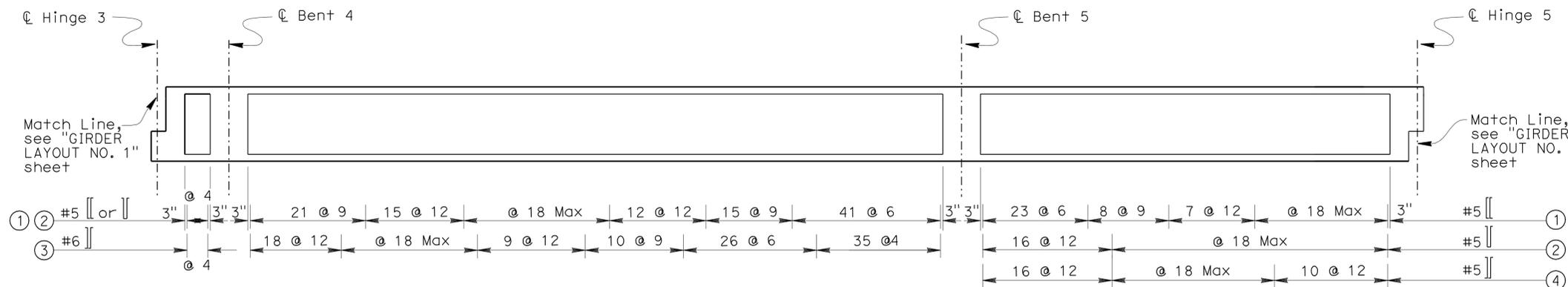
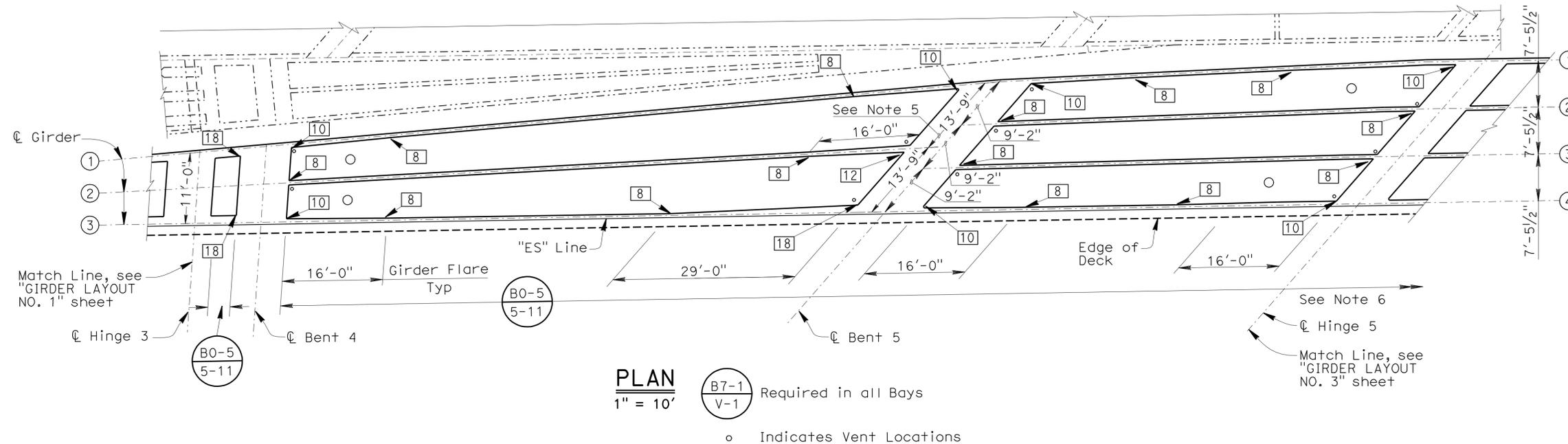
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY CHARLES LOMICKA	CHECKED R. WANG/ C. SANCHEZ	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 19</b>	BRIDGE NO.	53-0785R	RTE 710/5 SEPARATION EAST (WIDEN) <b>GIRDER LAYOUT NO. 1</b>	
	DETAILS	BY H. MAHBOOBI	CHECKED R. WANG/ C. SANCHEZ			POST MILE	23.19		
	QUANTITIES	BY B. Mc GAHEY	CHECKED EDWARD MERCADO						
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS					UNIT: 3621 PROJECT NUMBER & PHASE: 0700020869 1	CONTRACT NO.: 07-202111	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 24 OF 52

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1236	1507

03-01-11  
 REGISTERED CIVIL ENGINEER DATE  
 6-27-11  
 PLANS APPROVAL DATE  
 WEI-KUNG HSIA  
 No. C50210  
 Exp. 06-30-11  
 CIVIL  
 STATE OF CALIFORNIA  
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Notes:

- Girder stem thickness in inches shown thus:  $\square 00$
- O Soffit access opening locations as shown on layout. See also "DETAIL A" on "GIRDER LAYOUT NO.1" sheet.  $\bigcirc B14-5$
- Stirrup Spacing shown measured along  $\text{\textcircled{C}}$  of Girder.
- #5 Stirrup Spacing shown unless otherwise noted
- 13'-9" dimension applies along  $\text{\textcircled{C}}$  Bent 5.
- At Hinge 5, extend Transverse reinf 1'-6" into hinge diaphragm. See "HINGE DETAILS NO.3" for Deck corner details.



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

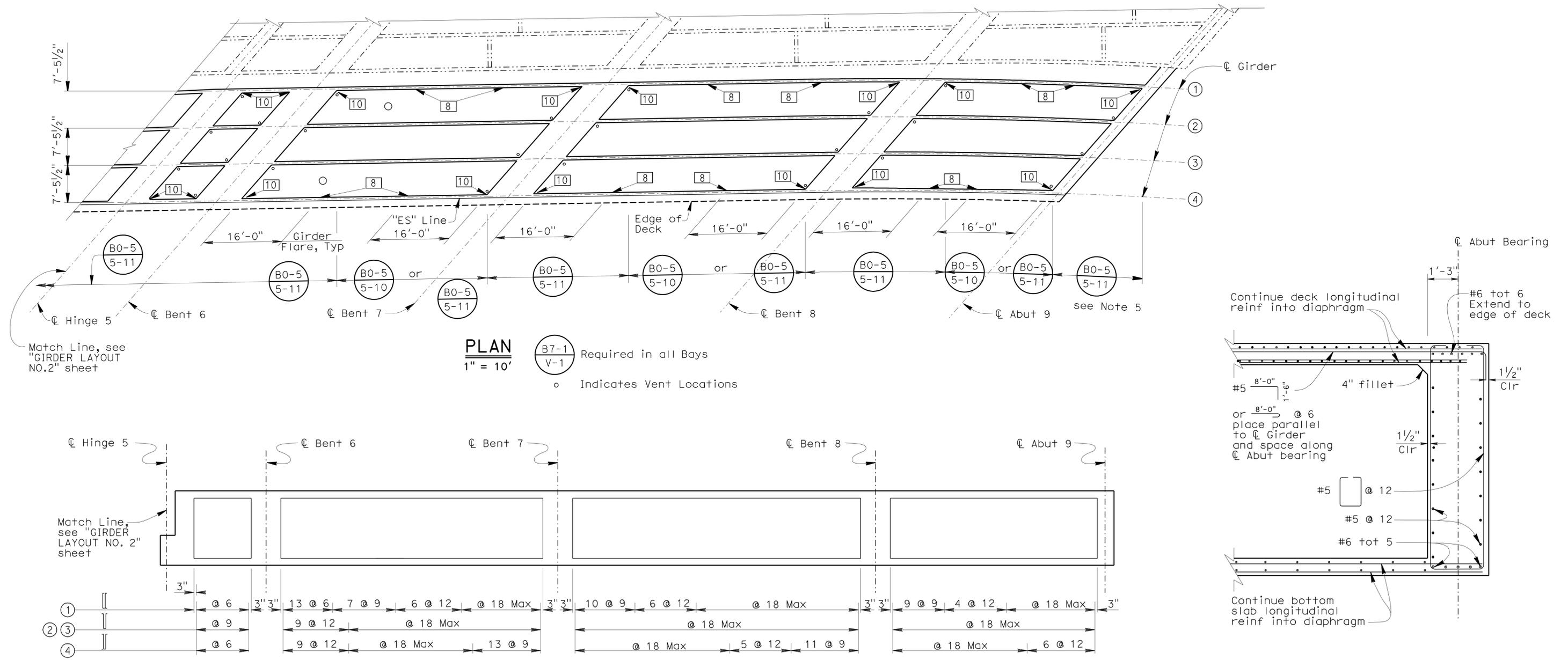
DESIGN	BY CHARLES LOMICKA	CHECKED R. WANG/ C. SANCHEZ	<b>STATE OF CALIFORNIA</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>DIVISION OF ENGINEERING SERVICES</b> <b>STRUCTURE DESIGN</b> <b>DESIGN BRANCH 19</b>	BRIDGE NO.	53-0785R
DETAILS	BY H. MAHBOOBI	CHECKED R. WANG/ C. SANCHEZ			POST MILE	23.19
QUANTITIES	BY B. Mc GAHEY	CHECKED EDWARD MERCADO				

RTE 710/5 SEPARATION EAST (WIDEN)	
GIRDER LAYOUT NO. 2	
REVISION DATES	SHEET OF
10-27-08	25 52

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1237	1507
			03-01-11		
REGISTERED CIVIL ENGINEER			DATE		
6-27-11			PLANS APPROVAL DATE		
WEI-KUNG HSIA			REGISTERED PROFESSIONAL ENGINEER		
No. C50210			Exp. 06-30-11		
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.					

Notes:

- Girder stem thickness in inches shown thus:  $\square 00$
- O Soffit access opening locations as shown on layout. See also "DETAIL A" on "GIRDER LAYOUT NO.1" sheet.  $\bigcirc B14-5$
- Stirrup Spacing shown measured along  $\phi$  of Girder.
- #5  $\square$  Stirrup Spacing shown unless otherwise noted
- Extend all transverse reinf 1'-6" min into end diaphragm.



**PLAN**  
1" = 10'  
Required in all Bays  
Indicates Vent Locations

**LONGITUDINAL SECTION**  
No Scale

**END DIAPHRAGM DETAIL-ABUT 9**  
1/2"=1'-0"

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

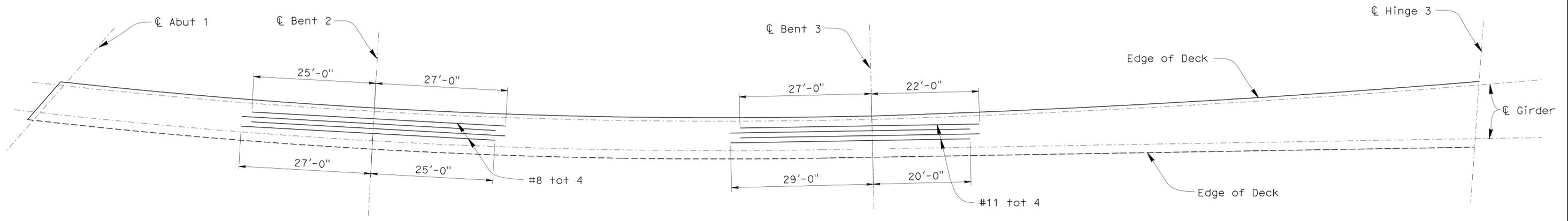
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY CHARLES LOMICKA	CHECKED R. WANG/ C. SANCHEZ	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 19	BRIDGE NO.	53-0785R	RTE 710/5 SEPARATION EAST (WIDEN) GIRDER LAYOUT NO. 3
	DETAILS	BY H. MAHBOOBI	CHECKED R. WANG/ C. SANCHEZ			POST MILE	23.19	
	QUANTITIES	BY B. Mc GAHEY	CHECKED EDWARD MERCADO			UNIT: 3621 PROJECT NUMBER & PHASE: 0700020869 1	CONTRACT NO.: 07-202111	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				FILE => 53-0785R-1-g_1o03.dgn		10-29-09 01-06-11 02-02-11		

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1238	1507

REGISTERED CIVIL ENGINEER DATE 03-01-11  
 WEI-KUNG HSIA  
 No. C50210  
 Exp. 06-30-11  
 CIVIL  
 STATE OF CALIFORNIA  
 PLANS APPROVAL DATE 6-27-11  
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

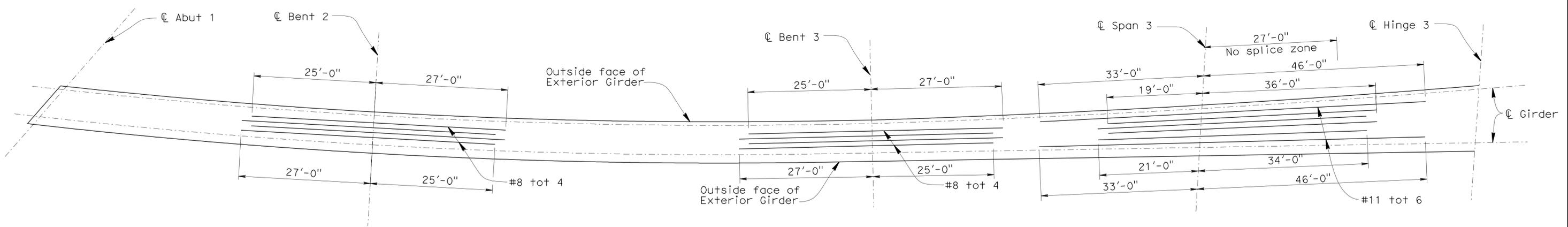
Notes:

- For additional details and reinforcement, see "TYPICAL SECTION NO. 1" sheet.
- No lap splice is allowed in main longitudinal reinforcement unless otherwise shown on the plan.
- Splices in main longitudinal reinforcement shall adhere to the service splice criteria.



**TOP LONGITUDINAL REINFORCEMENT FRAME 1**

1" = 10'



**BOTTOM LONGITUDINAL REINFORCEMENT FRAME 1**

1" = 10'

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

DESIGN	BY CHARLES LOMICKA	CHECKED R. WANG/ C. SANCHEZ
DETAILS	BY H. MAHBOOBI	CHECKED R. WANG/ C. SANCHEZ
QUANTITIES	BY B. Mc GAHEY	CHECKED EDWARD MERCADO

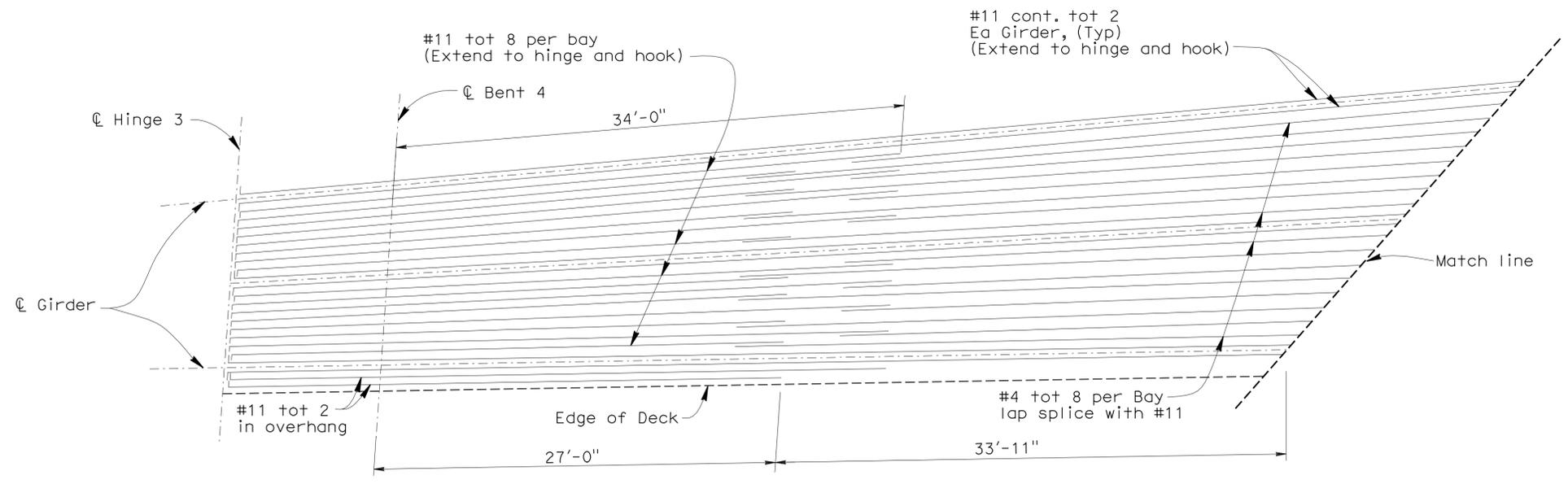
STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
**DESIGN BRANCH 19**

BRIDGE NO.	53-0785R
POST MILE	23.19

**RTE 710/5 SEPARATION EAST (WIDEN)**  
**GIRDER REINFORCEMENT NO. 1**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1239	1507
			03-01-11		
REGISTERED CIVIL ENGINEER			DATE		
6-27-11			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>					

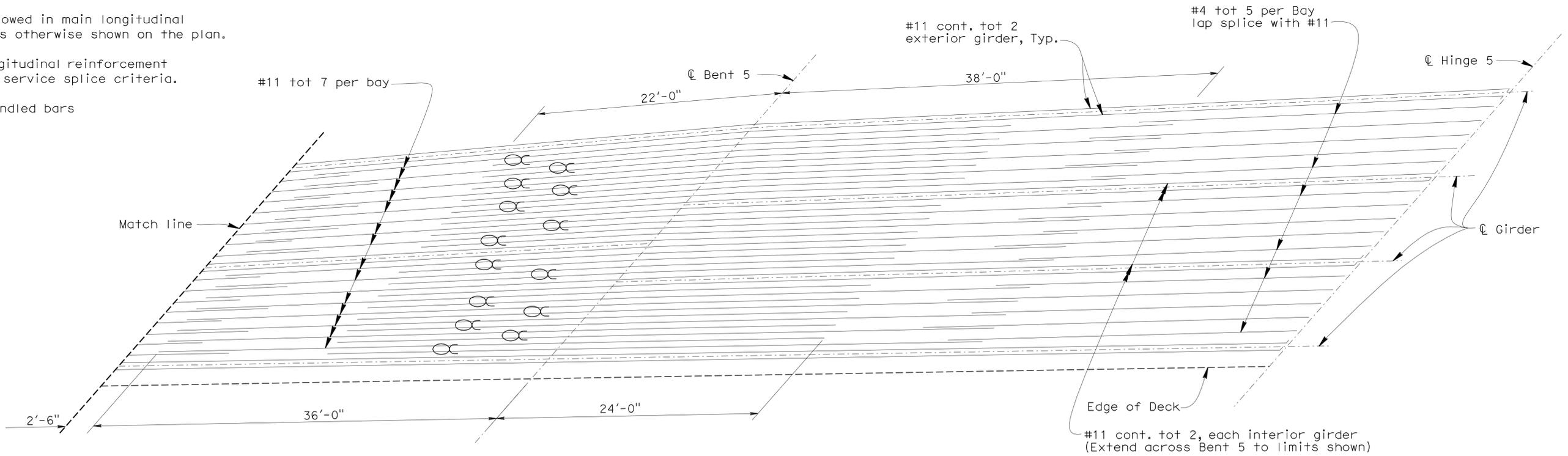


**PART REINFORCEMENT FRAME 2  
(TOP LONGITUDINAL)**

1" = 5'

Notes:

1. For additional details and reinforcement, see TYPICAL SECTION NO. 1 & 2 & 3 sheets.
2. No lap splice is allowed in main longitudinal reinforcement unless otherwise shown on the plan.
3. Splices in main longitudinal reinforcement shall adhere to the service splice criteria.
4. Indicates bundled bars



**PART REINFORCEMENT FRAME 2  
(TOP LONGITUDINAL)**

1" = 5'

NOTE:

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

DESIGN	BY CHARLES LOMICKA	CHECKED R. WANG/ C. SANCHEZ
DETAILS	BY H. MAHBOOBI	CHECKED R. WANG/ C. SANCHEZ
QUANTITIES	BY B. Mc GAHEY	CHECKED EDWARD MERCADO

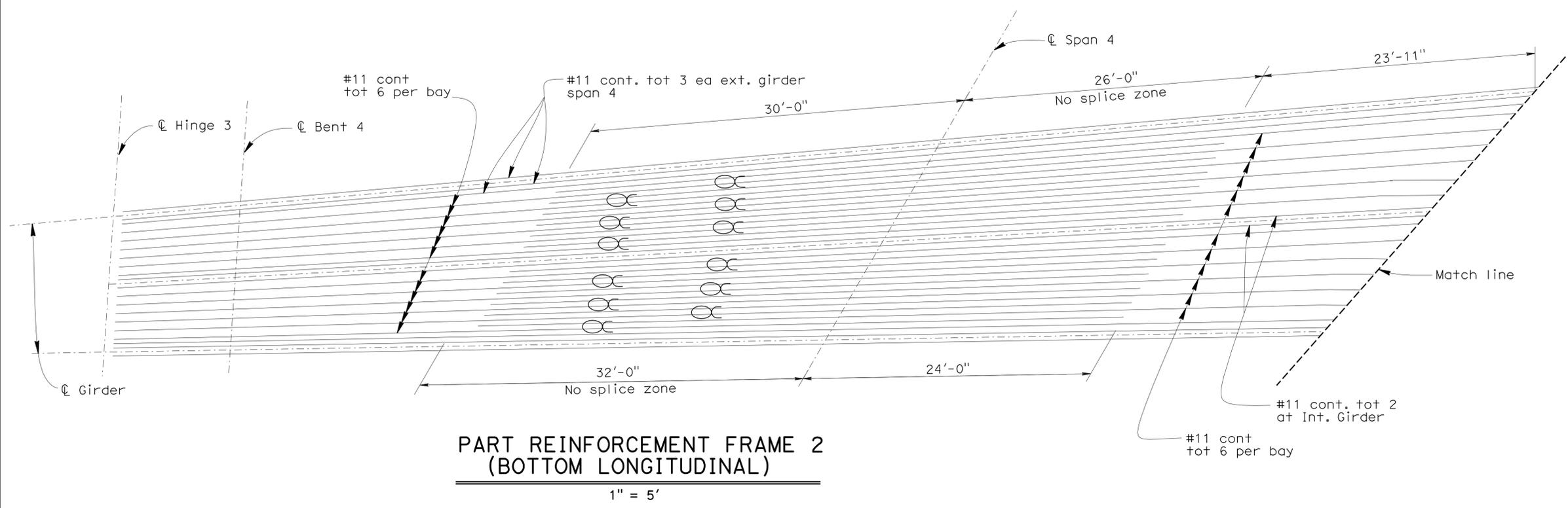
**STATE OF CALIFORNIA**  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
**DESIGN BRANCH 19**

BRIDGE NO.	53-0785R
POST MILE	23.19

**RTE 710/5 SEPARATION EAST (WIDEN)**  
**GIRDER REINFORCEMENT NO. 2**

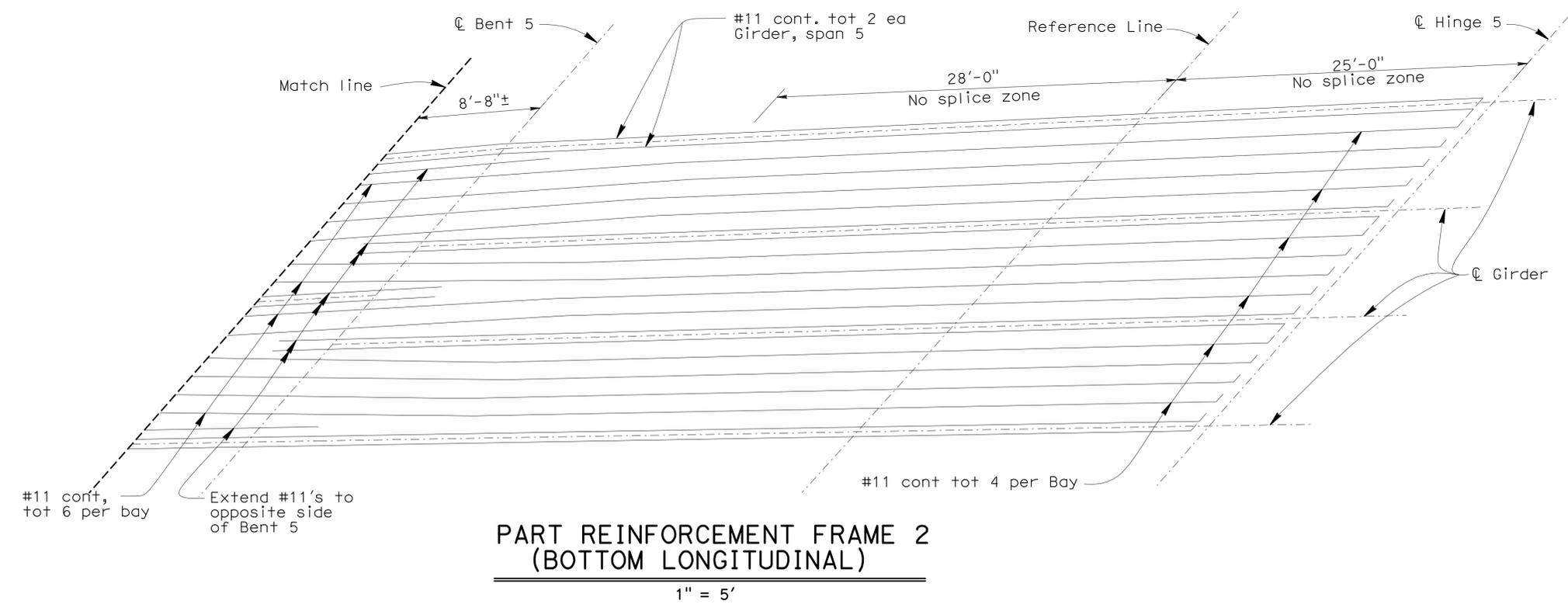
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1240	1507
REGISTERED CIVIL ENGINEER			DATE 03-01-11		
PLANS APPROVAL DATE 6-27-11					
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.					



**PART REINFORCEMENT FRAME 2  
(BOTTOM LONGITUDINAL)**

1" = 5'

- Notes:
1. For additional details and reinforcement, see TYPICAL SECTION NO. 2 & 3 sheets.
  2. No lap splice is allowed in main longitudinal reinforcement unless otherwise shown on the plan.
  3. Splices in main longitudinal reinforcement shall adhere to the service splice criteria.
  4. Indicates bundled bars



**PART REINFORCEMENT FRAME 2  
(BOTTOM LONGITUDINAL)**

1" = 5'

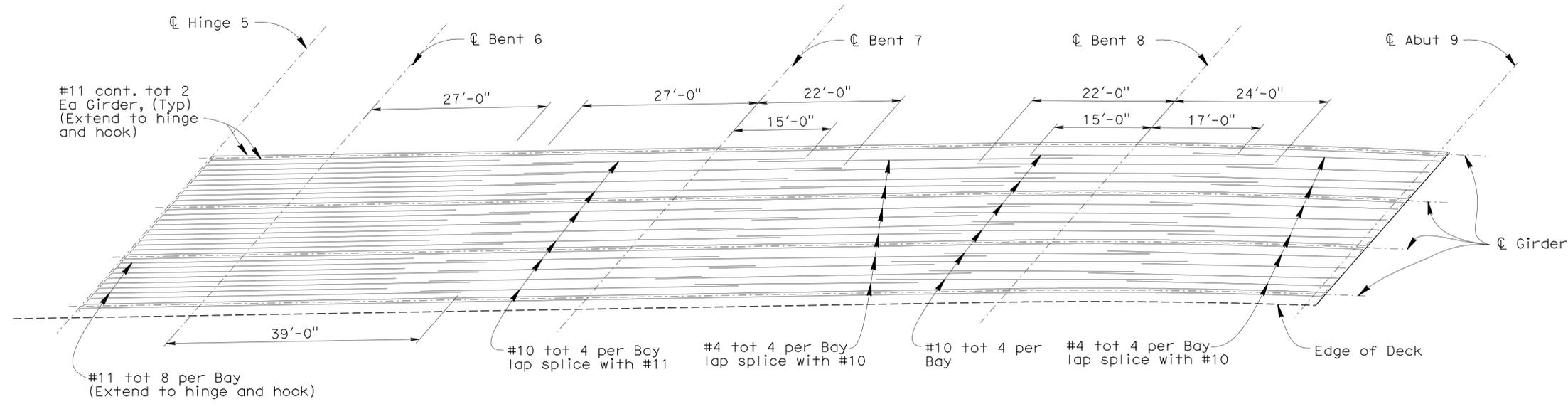
NOTE:  
The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY CHARLES LOMICKA	CHECKED R. WANG/ C. SANCHEZ	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 19	BRIDGE NO.	53-0785R	RTE 710/5 SEPARATION EAST (WIDEN) GIRDER REINFORCEMENT NO. 3
	DETAILS	BY H. MAHBOOBI	CHECKED R. WANG/ C. SANCHEZ			POST MILE	23.19	
	QUANTITIES	BY B. Mc GAHEY	CHECKED EDWARD MERCADO					
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS					UNIT: 3621	PROJECT NUMBER & PHASE: 0700020869 1	CONTRACT NO.: 07-202111	DISREGARD PRINTS BEARING EARLIER REVISION DATES
							REVISION DATES	SHEET 29 OF 52

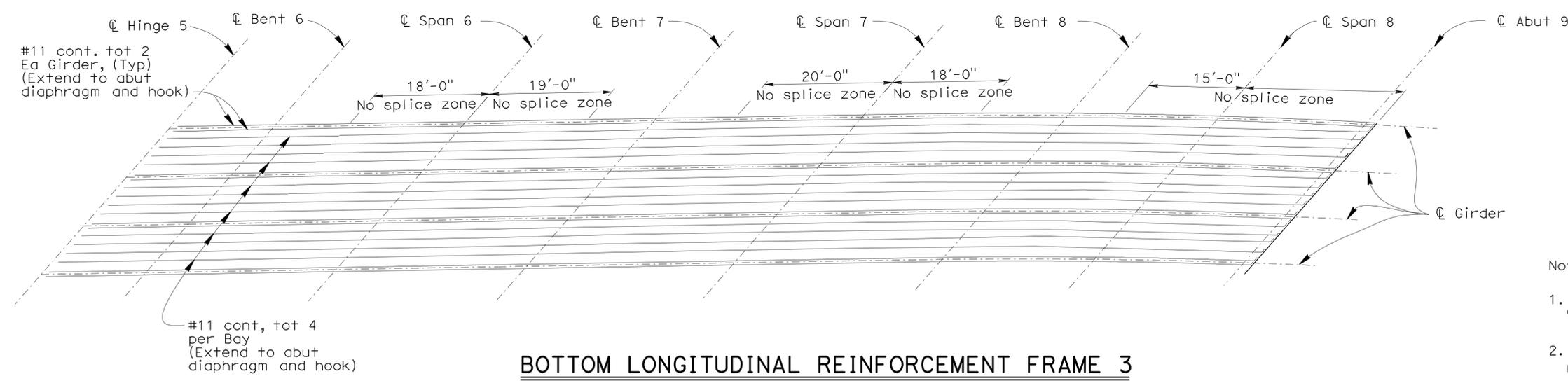
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1241	1507

REGISTERED CIVIL ENGINEER DATE 03-01-11  
 PLANS APPROVAL DATE 6-27-11  
 WEI-KUNG HSIA  
 No. C50210  
 Exp. 06-30-11  
 CIVIL  
 STATE OF CALIFORNIA  
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**TOP LONGITUDINAL REINFORCEMENT FRAME 3**  
1" = 10'



**BOTTOM LONGITUDINAL REINFORCEMENT FRAME 3**  
1" = 10'

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

- Notes:**
- For additional details and reinforcement, see "TYPICAL SECTION NO. 4" sheet.
  - No lap splice is allowed in main longitudinal reinforcement unless otherwise shown on the plan.
  - All reinforcement #11 unless otherwise noted.
  - Splices in main longitudinal reinforcement shall adhere to the service splice criteria.

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY CHARLES LOMICKA	CHECKED R. WANG/ C. SANCHEZ	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 19	BRIDGE NO.	53-0785R	RTE 710/5 SEPARATION EAST (WIDEN) GIRDER REINFORCEMENT NO. 4	
	DETAILS	BY H. MAHBOOBI	CHECKED R. WANG/ C. SANCHEZ			POST MILE	23.19		
	QUANTITIES	BY B. Mc GAHEY	CHECKED EDWARD MERCADO						
				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3621 PROJECT NUMBER & PHASE: 0700020869 1	CONTRACT NO.: 07-202111	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 30 OF 52

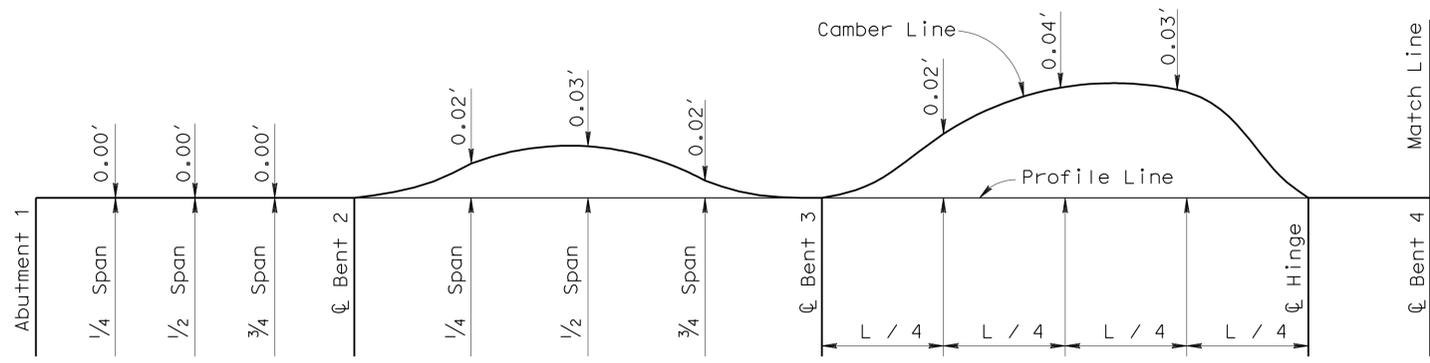
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1242	1507

03-01-11  
 REGISTERED CIVIL ENGINEER DATE  
 6-27-11  
 PLANS APPROVAL DATE

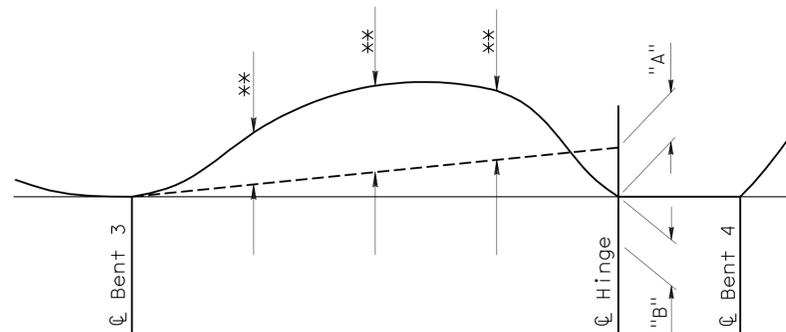
WEI-KUNG HSIA  
 No. C50210  
 Exp. 06-30-11  
 CIVIL  
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**CAMBER DIAGRAM**

Does not include Allowance for Falsework Settlement



**HINGE CAMBER DIAGRAM**

Span 3

**Hinge - Span 3**

Elapsed time in days measured from prestress of short hinge side until closure and load transfer	Adjustment "A"	Adjustment "B"
30 days	0.01'	0.01'
60 days	0.00	0.00
90 days	0.00	0.00
120 days	0.00	0.00
180 days	0.00	0.00
240 days	0.00	0.00
360 days	0.00	0.00
720 days	0.00	0.00

**NOTES:**

- Adjustment "A" = profile adjustment required for long cantilever.
  - Adjustment "B" = profile adjustment required for short cantilever.
  - Positive adjustment upward.
  - Hinge reaction due to dead load and prestress = 288 kips.
- \*\* Contractor shall determine the value based on period of time as specified in table.

**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 has 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.

**NOTE:**

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

DESIGN	BY CHARLES LOMICKA	CHECKED R. WANG/ C. SANCHEZ
DETAILS	BY H. MAHBOOBI	CHECKED R. WANG/ C. SANCHEZ
QUANTITIES	BY B. Mc GAHEY	CHECKED EDWARD MERCADO

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
**DESIGN BRANCH 19**

BRIDGE NO.	53-0785R
POST MILE	23.19

**RTE 710/5 SEPARATION EAST (WIDEN)**

**CAMBER DIAGRAM NO. 1**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1243	1507

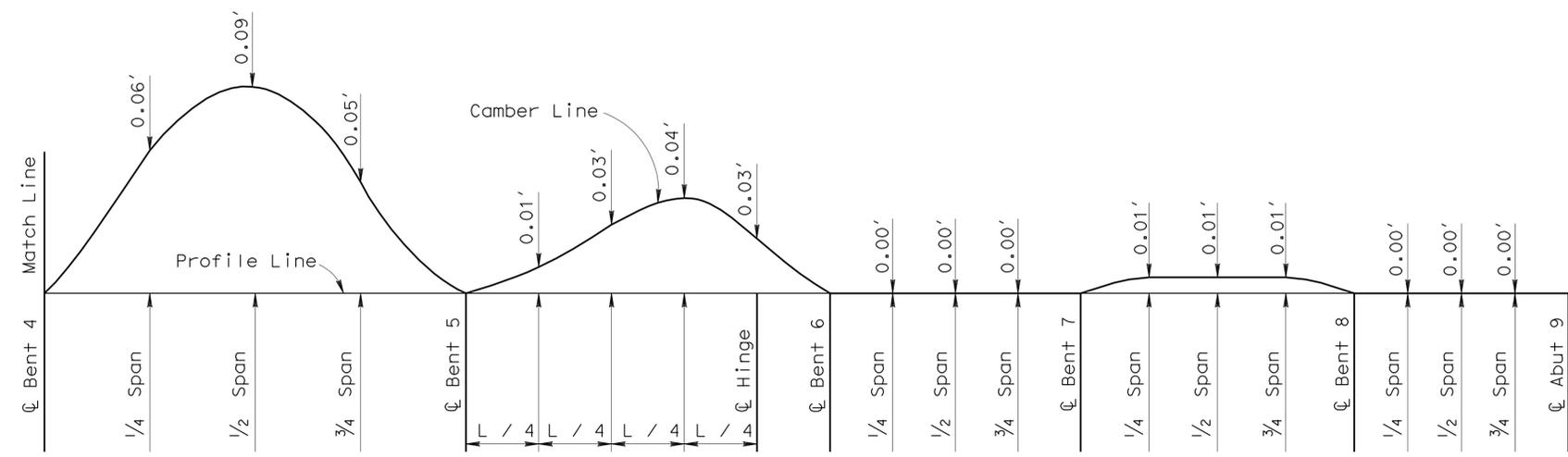
03-01-11  
DATE

REGISTERED CIVIL ENGINEER

WEI-KUNG HSIA  
No. C50210  
Exp. 06-30-11  
CIVIL

6-27-11  
PLANS APPROVAL DATE

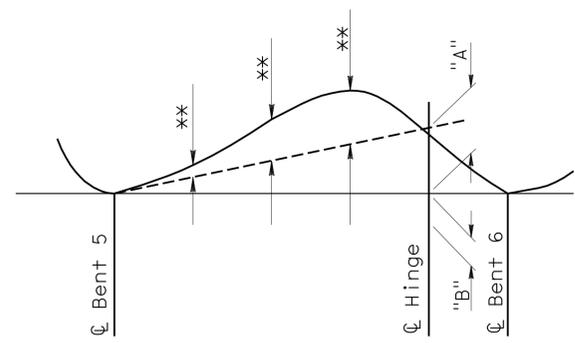
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**CAMBER DIAGRAM**  
Does not include Allowance for Falsework Settlement

Hinge - Span 5

Elapsed time in days measured from completion of short hinge side until closure and load transfer	Adjustment "A"	Adjustment "B"
30 days	0.02'	0.02'
60 days	0.02'	0.02'
90 days	0.01'	0.02'
120 days	0.01'	0.02'
180 days	0.01'	0.02'
240 days	0.01'	0.02'
360 days	0.01'	0.02'
720 days	0.01'	0.01'



**HINGE CAMBER DIAGRAM**  
Span 5

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

**NOTES:**

- Adjustment "A" = profile adjustment required for long cantilever.
  - Adjustment "B" = profile adjustment required for short cantilever.
  - Positive adjustment upward.
  - Hinge reaction due to dead load = 235 kips.
- \*\* Contractor shall determine the value based on period of time as specified in table.

**FALSEWORK RELEASE**

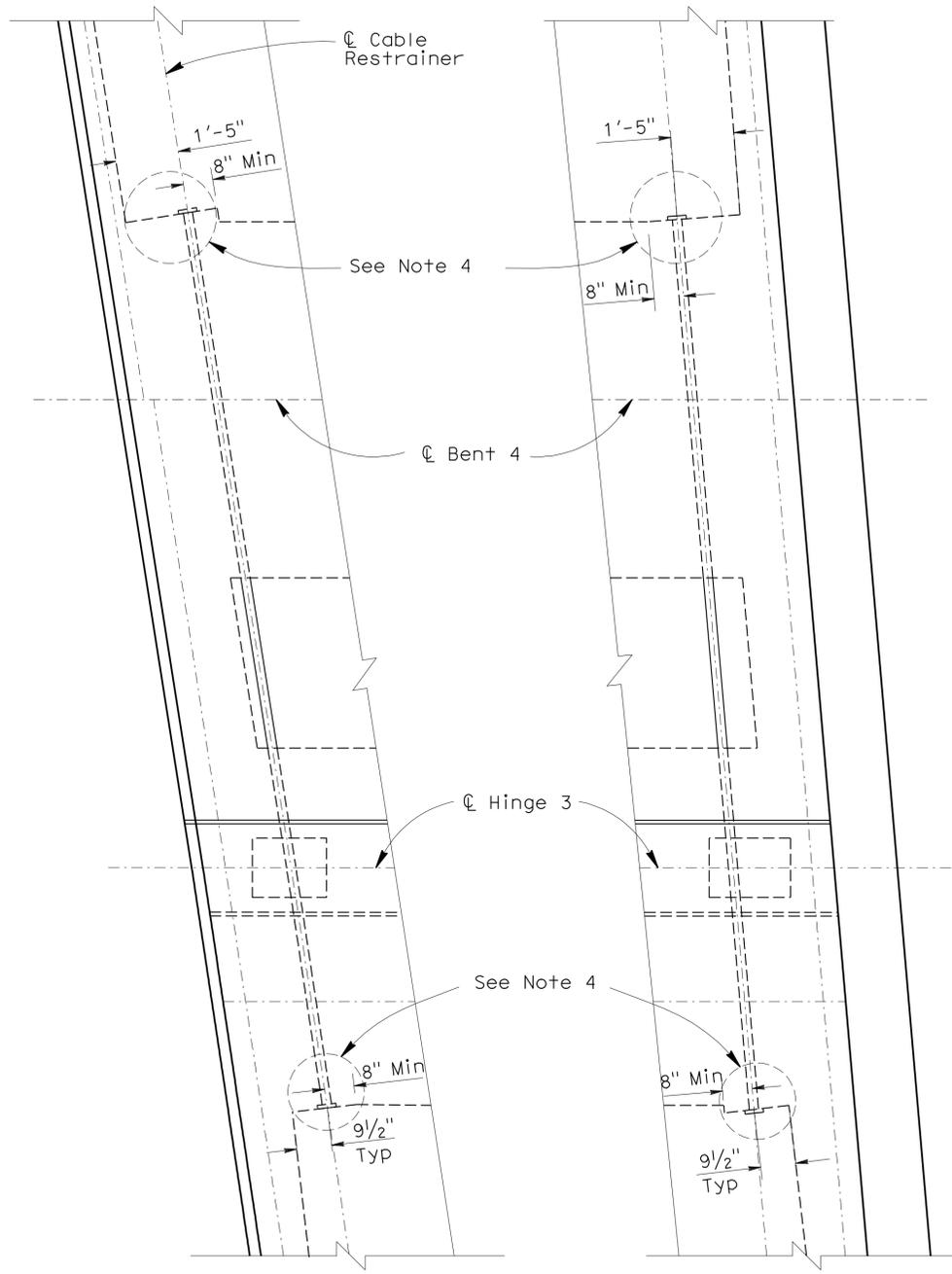
- Alternative 1:**  
Falsework shall be released as soon as permitted by the specifications.  
Closure pour shall not be placed sooner than 60 days after the falsework has been released.
- Alternative 2:**  
Falsework shall not be released less than 28 days after the last concrete has been placed.  
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.

<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">DESIGN</td> <td style="width: 30%;">BY CHARLES LOMICKA</td> <td style="width: 30%;">CHECKED R. WANG/ C. SANCHEZ</td> </tr> <tr> <td>DETAILS</td> <td>BY H. MAHBOOBI</td> <td>CHECKED R. WANG/ C. SANCHEZ</td> </tr> <tr> <td>QUANTITIES</td> <td>BY B. Mc GAHEY</td> <td>CHECKED EDWARD MERCADO</td> </tr> </table>	DESIGN	BY CHARLES LOMICKA	CHECKED R. WANG/ C. SANCHEZ	DETAILS	BY H. MAHBOOBI	CHECKED R. WANG/ C. SANCHEZ	QUANTITIES	BY B. Mc GAHEY	CHECKED EDWARD MERCADO	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 19</b>	BRIDGE NO. 53-0785R POST MILE 23.19	<b>RTE 710/5 SEPARATION EAST (WIDEN)</b> <b>CAMBER DIAGRAM NO. 2</b>
DESIGN	BY CHARLES LOMICKA	CHECKED R. WANG/ C. SANCHEZ											
DETAILS	BY H. MAHBOOBI	CHECKED R. WANG/ C. SANCHEZ											
QUANTITIES	BY B. Mc GAHEY	CHECKED EDWARD MERCADO											
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 3621 PROJECT NUMBER & PHASE: 0700020869 1 CONTRACT NO.: 07-202111									
				DISREGARD PRINTS BEARING EARLIER REVISION DATES									
				REVISION DATES SHEET OF 12-08-09 01-07-11 02-02-11 32 52									

TIME PLOTTED => 18:31  
DATE PLOTTED => 28-JUN-2011  
USER NAME => s124496

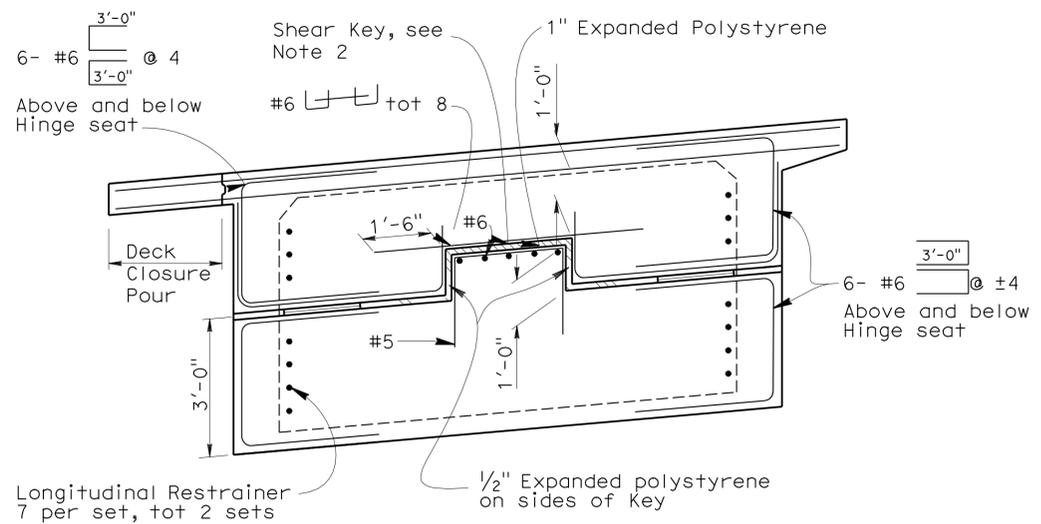
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07	LA	710	17.2/26.4	1244	1507

03-01-11  
 REGISTERED CIVIL ENGINEER DATE  
 6-27-11  
 PLANS APPROVAL DATE  
 WEI-KUNG HSIA  
 No. C50210  
 Exp. 06-30-11  
 CIVIL  
 STATE OF CALIFORNIA  
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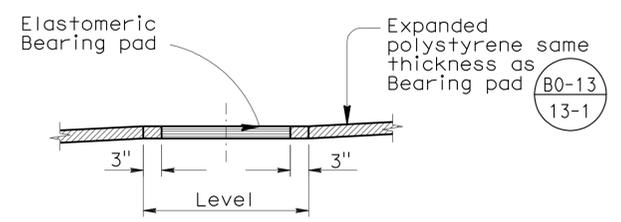


**HINGE 3 RESTRAINER PART PLAN**  
 $\frac{1}{2}'' = 1'-0''$

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

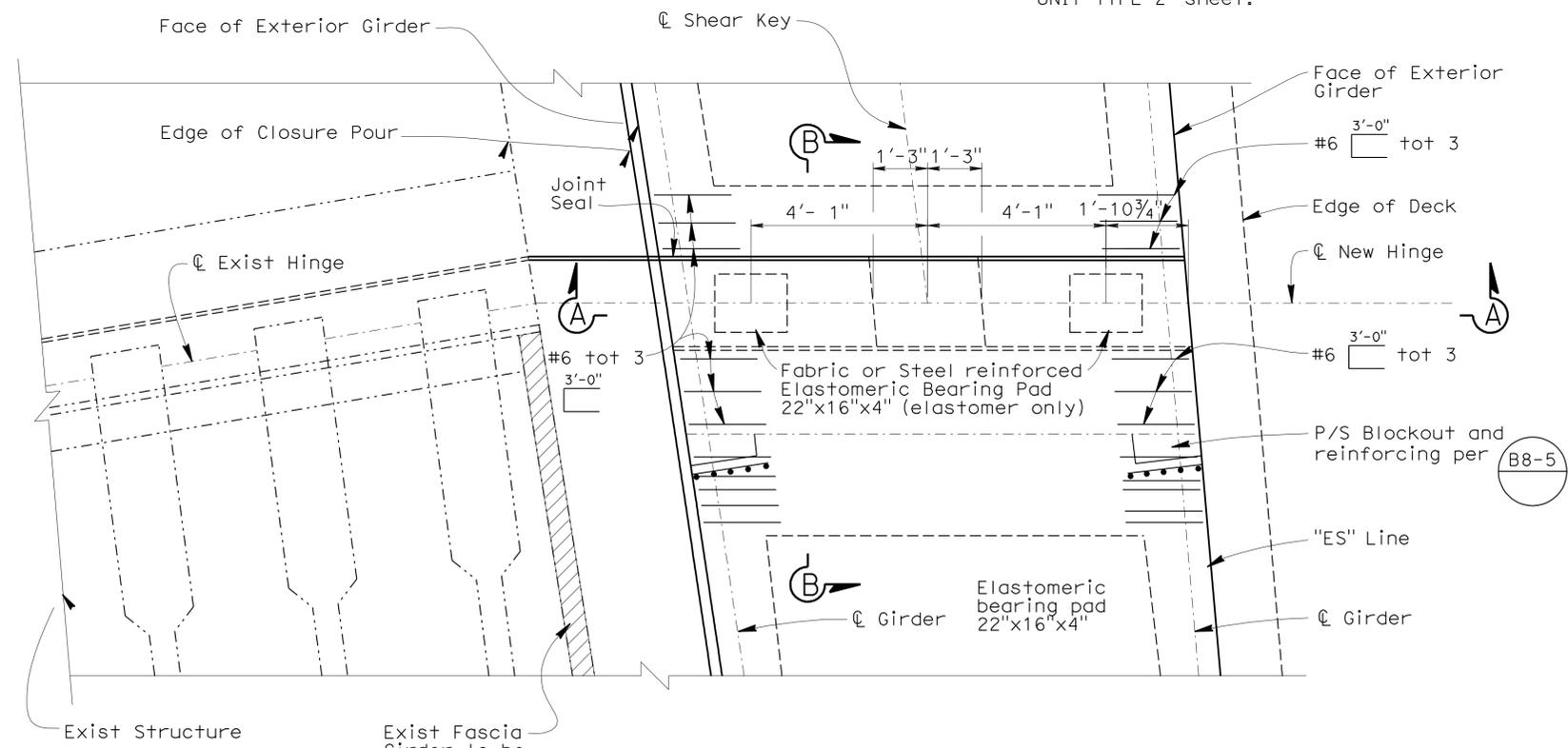


**SECTION A-A - HINGE 3**  
 $\frac{1}{2}'' = 1'-0''$



**TYPICAL BEARING DETAIL**  
 No Scale

- NOTES:**
1. For Section B-B, see "HINGE DETAILS NO. 2" sheet.
  2. For Shear key detail, see "HINGE DETAILS NO. 2" sheet.
  3. For Soffit access openings and Bent locations, see "GIRDER LAYOUT" sheets.
  4. For additional details, see "CABLE RESTRAINER UNIT-TYPE 2" sheet.



**PART PLAN HINGE 3**  
 $\frac{1}{2}'' = 1'-0''$

DESIGN	BY CHARLES LOMICKA	CHECKED R. WANG/ C. SANCHEZ
DETAILS	BY H. MAHBOOBI	CHECKED R. WANG/ C. SANCHEZ
QUANTITIES	BY B. Mc GAHEY	CHECKED EDWARD MERCADO

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

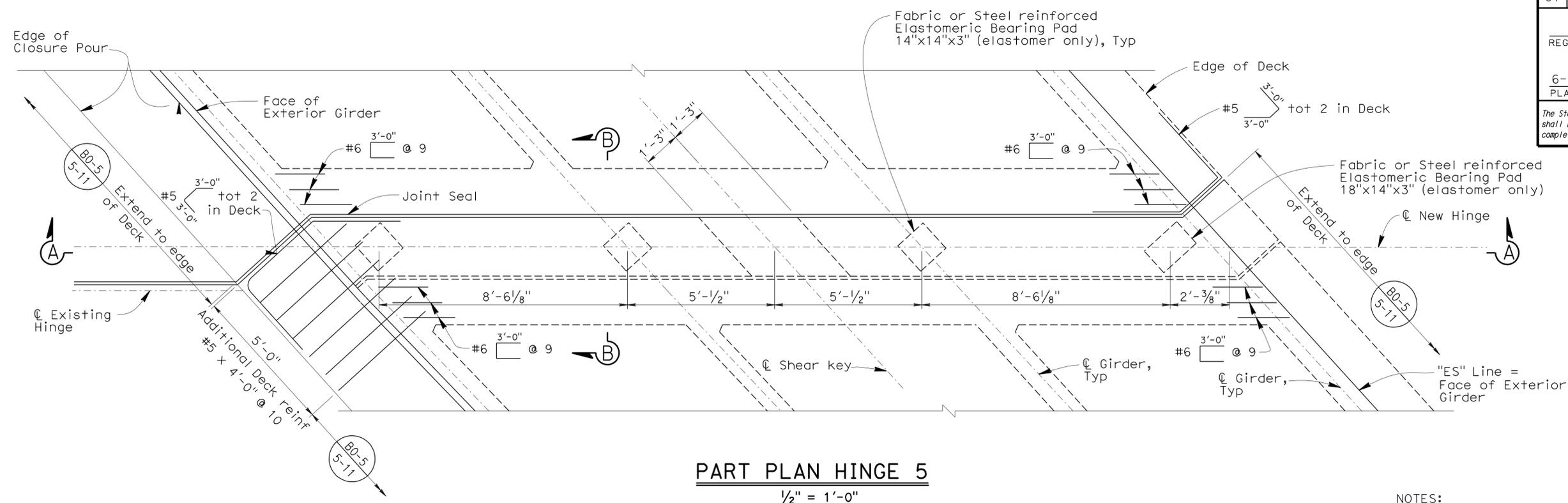
DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
**DESIGN BRANCH 19**

BRIDGE NO.	53-0785R
POST MILE	23.19

**RTE 710/5 SEPARATION EAST (WIDEN)**  
**HINGE DETAILS NO. 1**

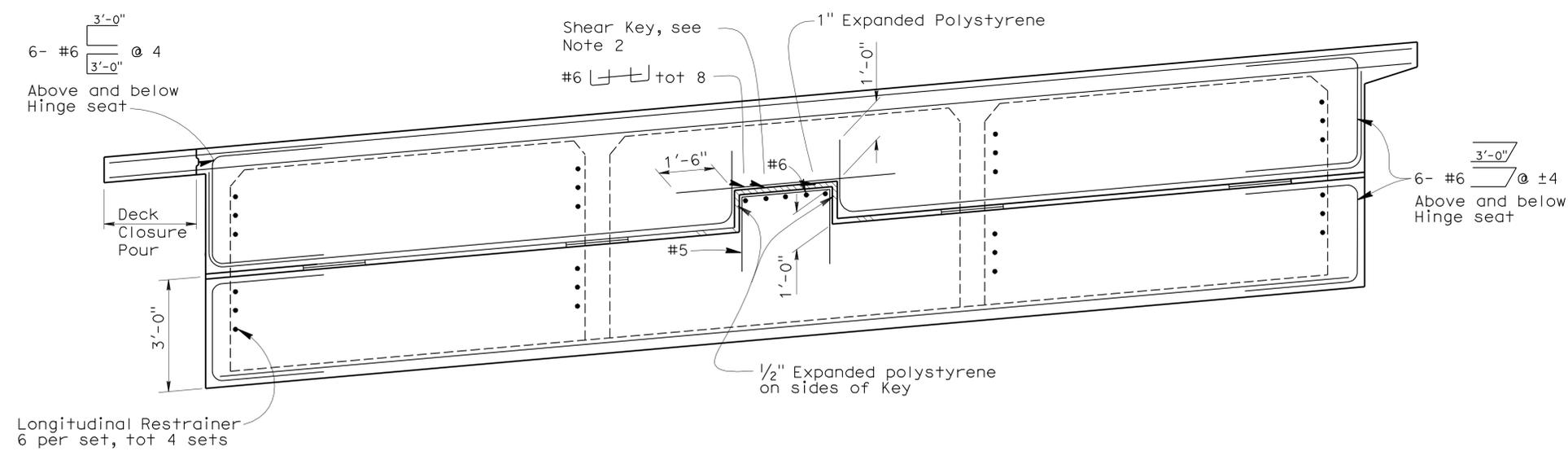


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07	LA	710	17.2/26.4	1246	1507
			03-01-11	DATE	
			6-27-11	PLANS APPROVAL DATE	
			REGISTERED CIVIL ENGINEER WEI-KUNG HSIA No. C50210 Exp. 06-30-11 CIVIL STATE OF CALIFORNIA		
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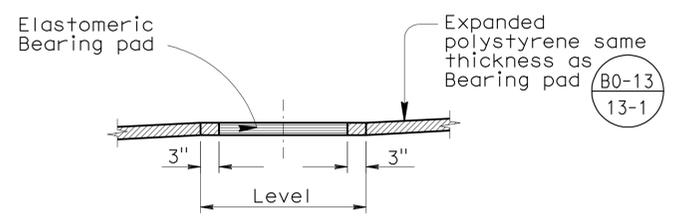


**PART PLAN HINGE 5**  
1/2" = 1'-0"

- NOTES:
1. For Section B-B, see "HINGE DETAILS NO. 4" sheet.
  2. For Shear key detail, see "HINGE DETAILS NO. 2" sheet.
  3. For Soffit access openings and Bent locations, see "GIRDER LAYOUT" sheets.
  4. For details, see "CABLE RESTRAINER UNIT-TYPE 2" sheet.



**SECTION A-A - HINGE 5**  
1/2" = 1'-0"

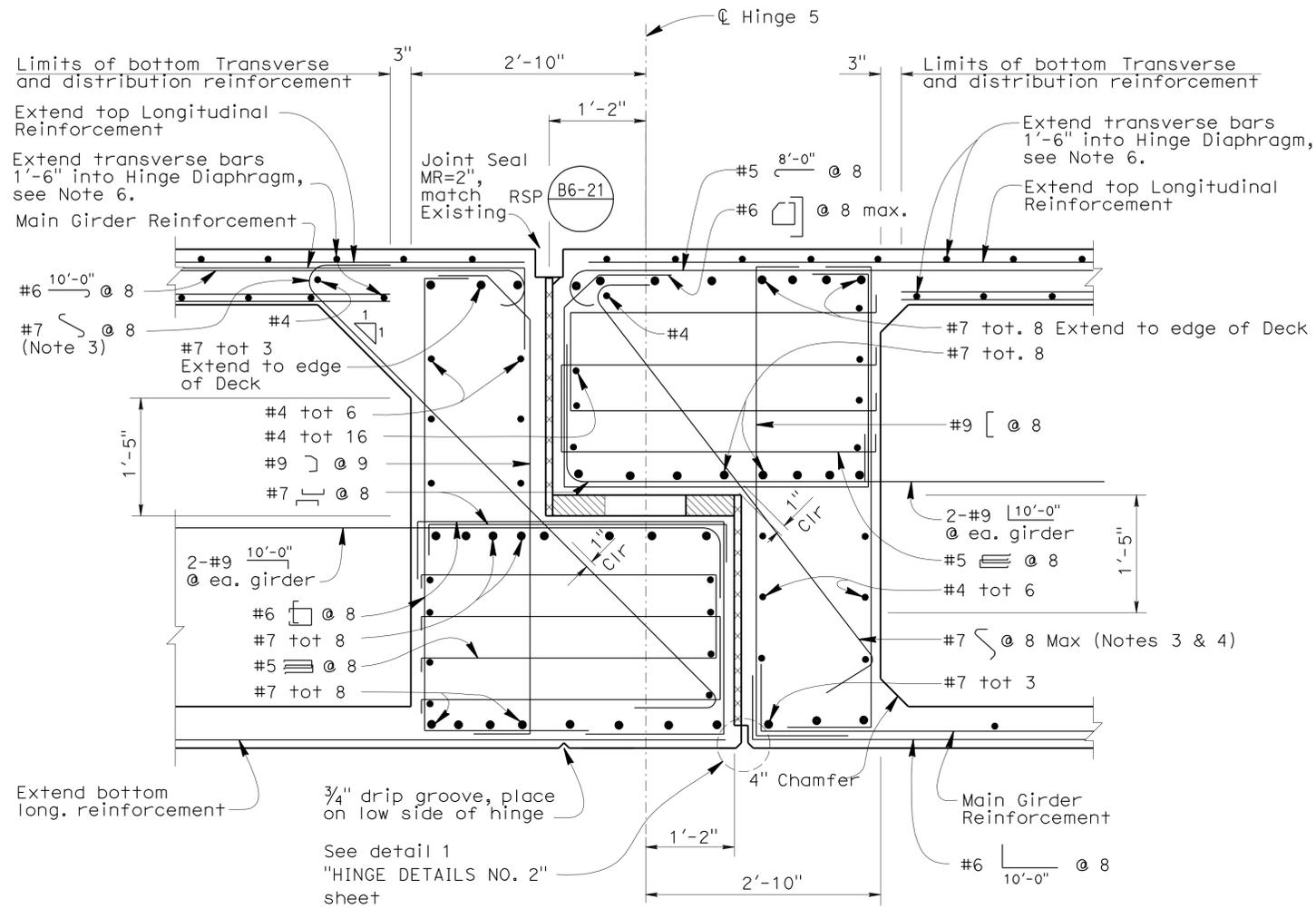


**TYPICAL BEARING DETAIL**  
No Scale

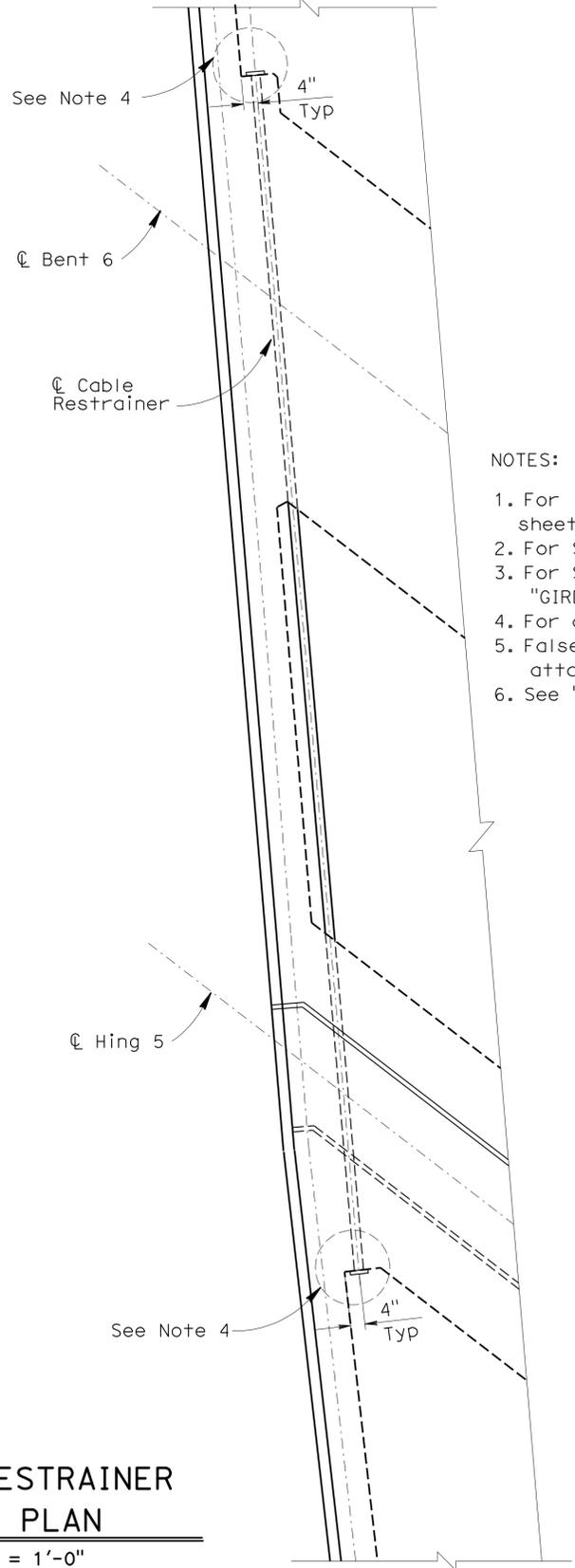
NOTE:  
The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY CHARLES LOMICKA	CHECKED R. WANG/ C. SANCHEZ	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 19	BRIDGE NO.	53-0785R	RTE 710/5 SEPARATION EAST (WIDEN)
	DETAILS	BY H. MAHBOOBI	CHECKED R. WANG/ C. SANCHEZ			POST MILE	23.19	
	QUANTITIES	BY B. Mc GAHEY	CHECKED EDWARD MERCADO					
				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3621 PROJECT NUMBER & PHASE: 0700020869 1	CONTRACT NO.: 07-202111	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES
								01-26-10 01-07-11 02-02-11
								SHEET 35 OF 52

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1247	1507
				03-01-11 REGISTERED CIVIL ENGINEER DATE 6-27-11 PLANS APPROVAL DATE	
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**SECTION B-B - HINGE 5**  
1" = 1'-0"



**HINGE 5 RESTRAINER PART PLAN**  
1/2" = 1'-0"

- NOTES:
1. For location of Section B-B, see "HINGE DETAILS NO. 3" sheet.
  2. For Shear key detail, see "HINGE DETAILS NO. 2" sheet.
  3. For Soffit access openings and Bent locations, see "GIRDER LAYOUT" sheets.
  4. For details, see "CABLE RESTRAINER UNIT-TYPE 2" sheet.
  5. Falsework to remain in place until concrete has attained a strength of at least 3600 psi.
  6. See "HINGE DETAILS NO. 3" sheet for deck corner details.

- NOTES:
1. For location of Section B-B, see "HINGE DETAILS NO. 3" sheet
  2. To provide for free movement of the completed hinge, concrete is to be excluded from the joint by sealing all openings.
  3. Bars may be placed with hooks horizontal if required for clearance.
  4. Adjust angle of bars at key to clear.
  5. Reinforcement shall be spaced along  $\bar{C}$  of hinge and placed parallel to  $\bar{C}$  structure.
  6. For dimension "a", see RSP B6-21

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

DESIGN	BY CHARLES LOMICKA	CHECKED R. WANG/ C. SANCHEZ
DETAILS	BY H. MAHBOOBI	CHECKED R. WANG/ C. SANCHEZ
QUANTITIES	BY B. Mc GAHEY	CHECKED EDWARD MERCADO

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
**DESIGN BRANCH 19**

BRIDGE NO.	53-0785R
POST MILE	23.19

**RTE 710/5 SEPARATION EAST (WIDEN)**  
**HINGE DETAILS NO. 4**

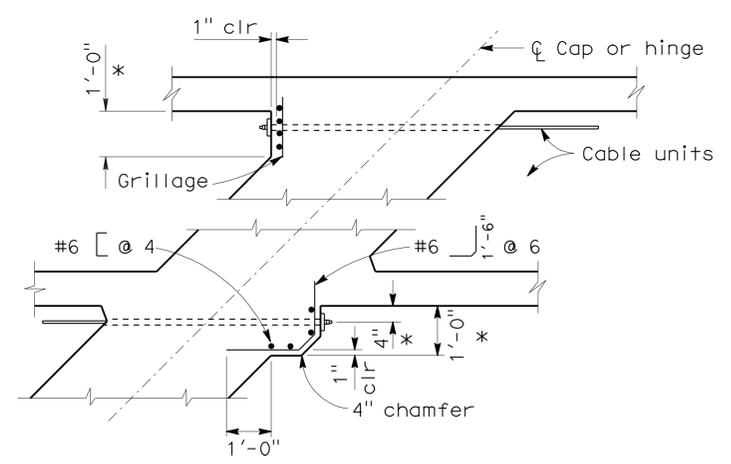
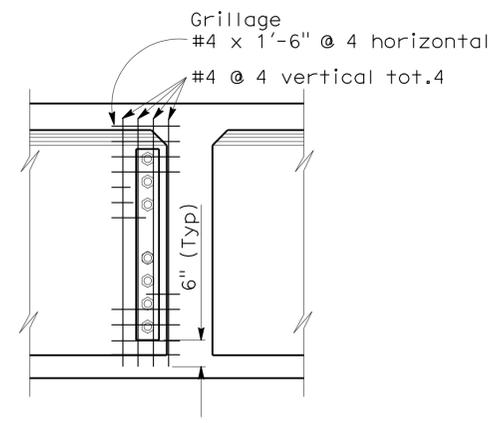
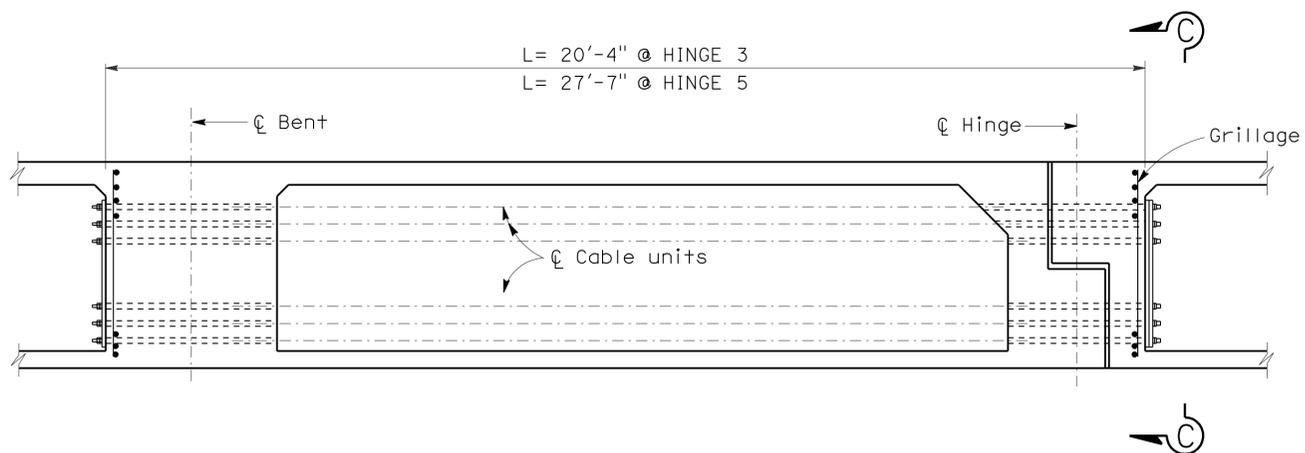
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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*Wei-Kung Hsia* 03-01-11  
REGISTERED CIVIL ENGINEER DATE

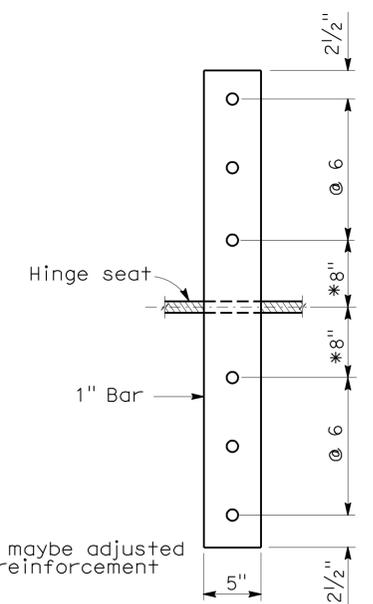
6-27-11  
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
WEI-KUNG HSIA  
No. C50210  
Exp. 06-30-11  
CIVIL  
STATE OF CALIFORNIA

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- NOTES:
1. Restrainer units to be on tangent alignment.
  2. Anchor nuts shall not be set until 30 days following completion of prestressing for CIP prestressed bridges.
  3. See Hinge details NO. 1 & NO. 3 for location and number of longitudinal hinge restrainers.
  4. Contractor may install restrainers in horizontal arrangement with approval of the Engineer. The location shall be in the middle 1/3 depth of the structure.
  5. An alternative is to place restrainers in two horizontal layers, equally located above and below the mid structure depth. The number of restrainers in each layer shall not differ by more than one.
- \* For dimensions at Hinge 3, see "HINGE DETAILS NO. 1" sheet.



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

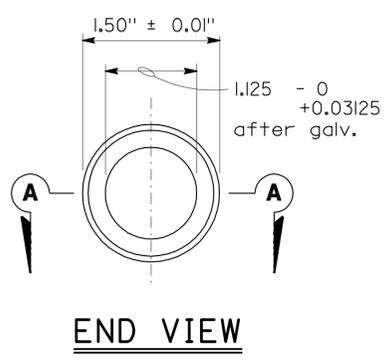
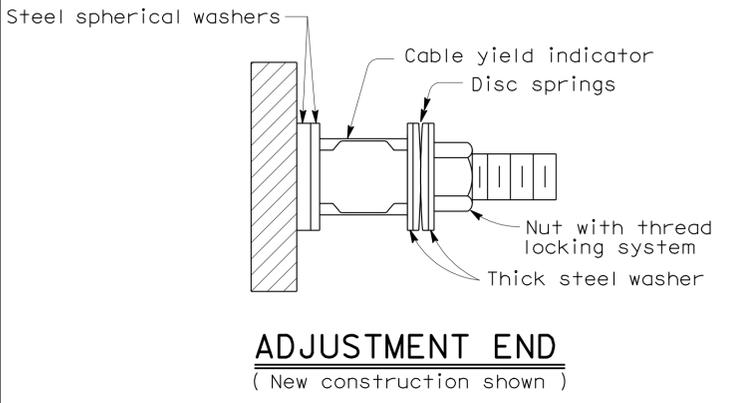
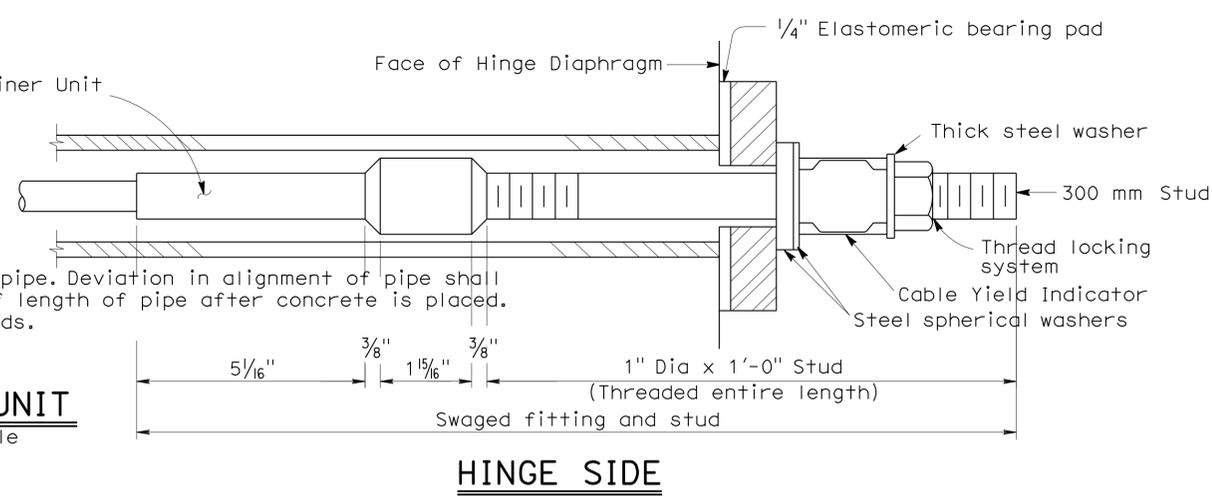
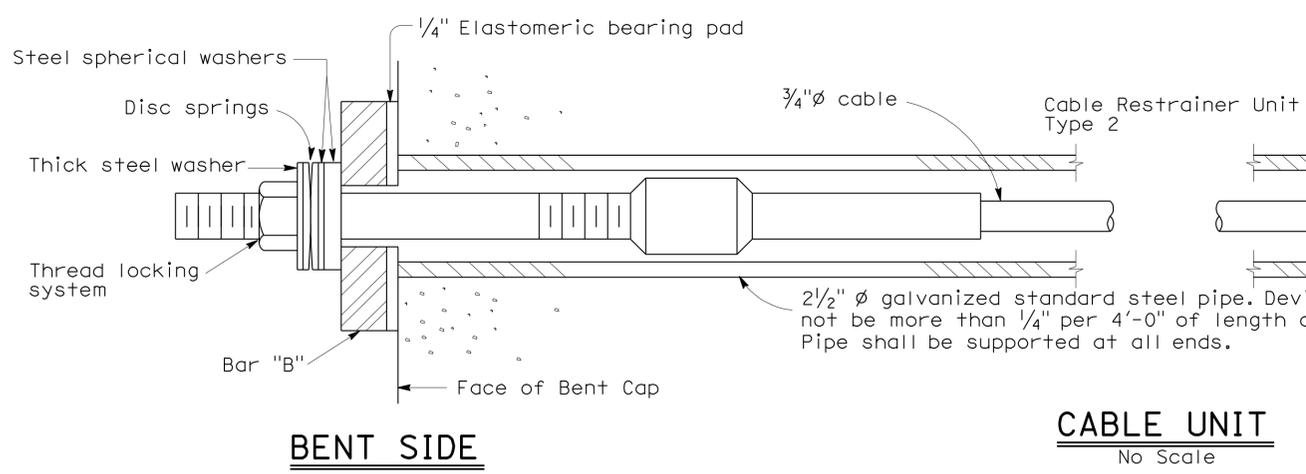
DESIGN	BY CHARLES LOMICKA	CHECKED R. WANG/ C. SANCHEZ
DETAILS	BY H. MAHBOOBI	CHECKED R. WANG/ C. SANCHEZ
QUANTITIES	BY B. Mc GAHEY	CHECKED EDWARD MERCADO

**STATE OF CALIFORNIA**  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
**DESIGN BRANCH 19**

BRIDGE NO.	53-0785R
POST MILE	23.19

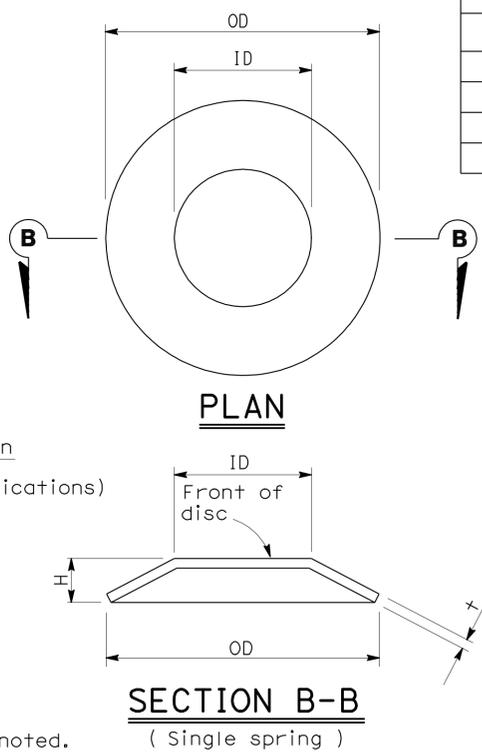
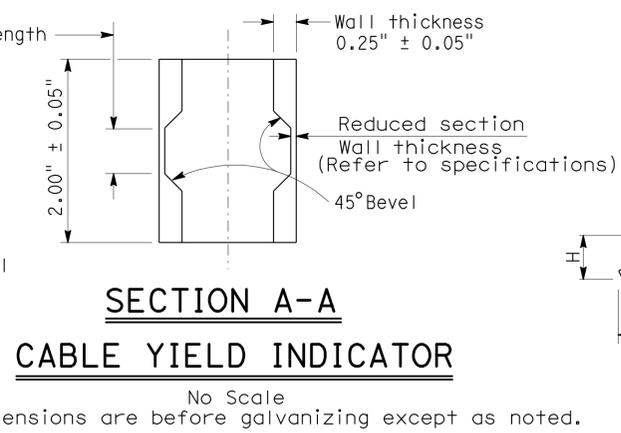
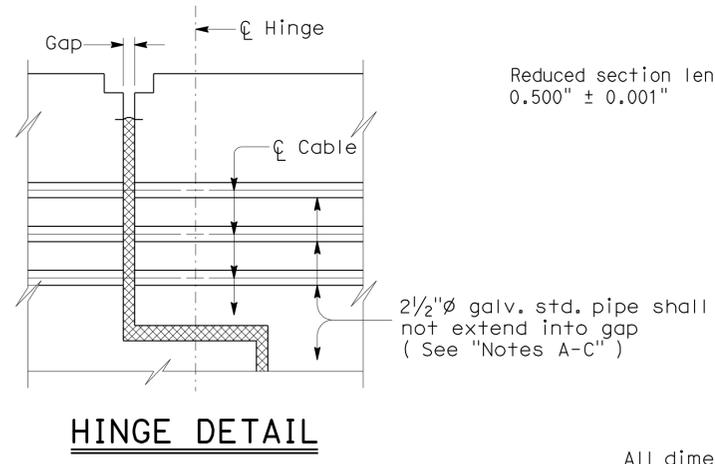
**RTE 710/5 SEPARATION EAST (WIDEN)**  
**CABLE RESTRAINER UNIT - TYPE 2**



**DISC SPRINGS AND WASHERS**  
"All dimensions in inches, except as noted"

L* (ft)	DISC SPRING					STEEL SPHERICAL WASHER			THICK WASHER		
	ID	OD	t	H	COLOR CODE	ID	OD	Nom. thick.	ID	OD	t**
0 - 25.0	1.00	2.00	0.065	0.130	WHITE	1.19	2.25	0.05	1.03	2.0	0.25
25.1 - 31.9	1.00	2.00	0.084	0.136	RED	1.19	2.25	0.05	1.03	2.0	0.25
32.0 - 37.9	1.00	2.00	0.097	0.145	BLUE	1.19	2.25	0.05	1.03	2.0	0.25
38.0 - 45.0	1.25	2.50	0.120	0.180	YELLOW	1.31	2.50	0.05	1.16	2.25	0.25

\*For length L, see "Cable Restrainer Unit - Type 2" sheet  
 \*\*Minimum value  
 NOTE: All OD and ID dimensions for washers and disc springs shall meet the dimensional tolerances for harden steel washers, ASTM F436



**AS INSTALLED ON STUD**  
**DISC SPRING**

Note: For dimensions not shown, see table

**RESTRAINER UNIT INSTALLATION PROCEDURE**

- NEW CONSTRUCTION:**
1. Install Cable Yield Indicator, spherical washers, disc springs, nut and washers on the hinge side of restrainers as shown in "Adjustment End" detail. Disc springs shall be installed front to front as shown in "Disc Spring" detail.
  2. Place only nut and washer on bent side of restrainers. Place thread locking system on bent side stud prior to installing nut and washers, and prior to setting the cable.
  3. Tighten nut on the cable from the adjustment end of restrainer until the disc springs collapse and there is no disc gap remaining between the discs. The cable should be approximately straight with no sag.
  4. An alternative is to place restrainers in two horizontal layers, equally located above and below the mid structure depth. The number of restrainers in each layer shall not differ by more than one.
  5. Place thread locking system on hinge side stud after tightening the cable, but before backing off the nut. Back off the nut at hinge side a distance equal to maximum additional amount that the hinge joint is expected to open, relative to existing ambient conditions, as shown on the plans for movement rating.

NOTE: If the cable needs to be secured from turning while tightening, use double nut locking technique on the stud to protect the threads.

**NO SCALE**

- NOTES:**
- A. The ends of pipe shall be covered or capped to prevent concrete and debris from entering the pipe until hinge concrete is placed.
  - B. Care should be taken to align the pipes on each side of the hinge.
  - C. All ends of pipes must be flush with or slightly recessed from the concrete. The inside edges of the pipes must be smooth to prevent fraying of cables.

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

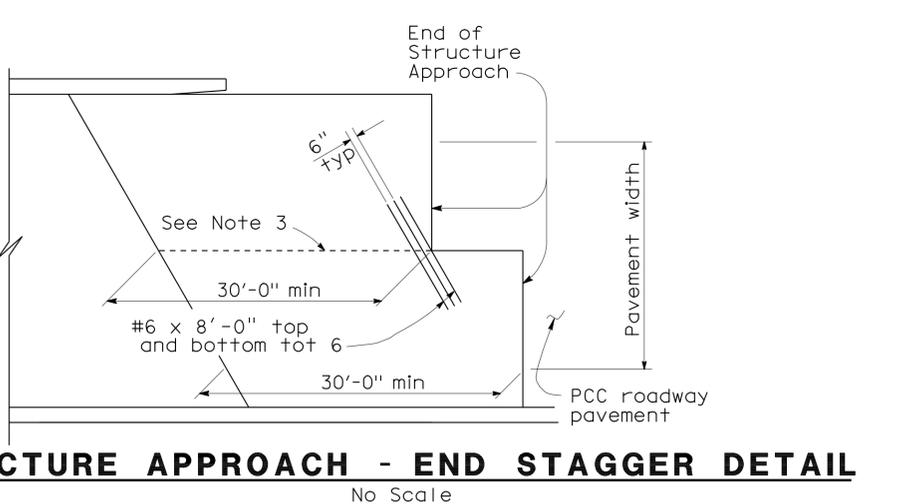
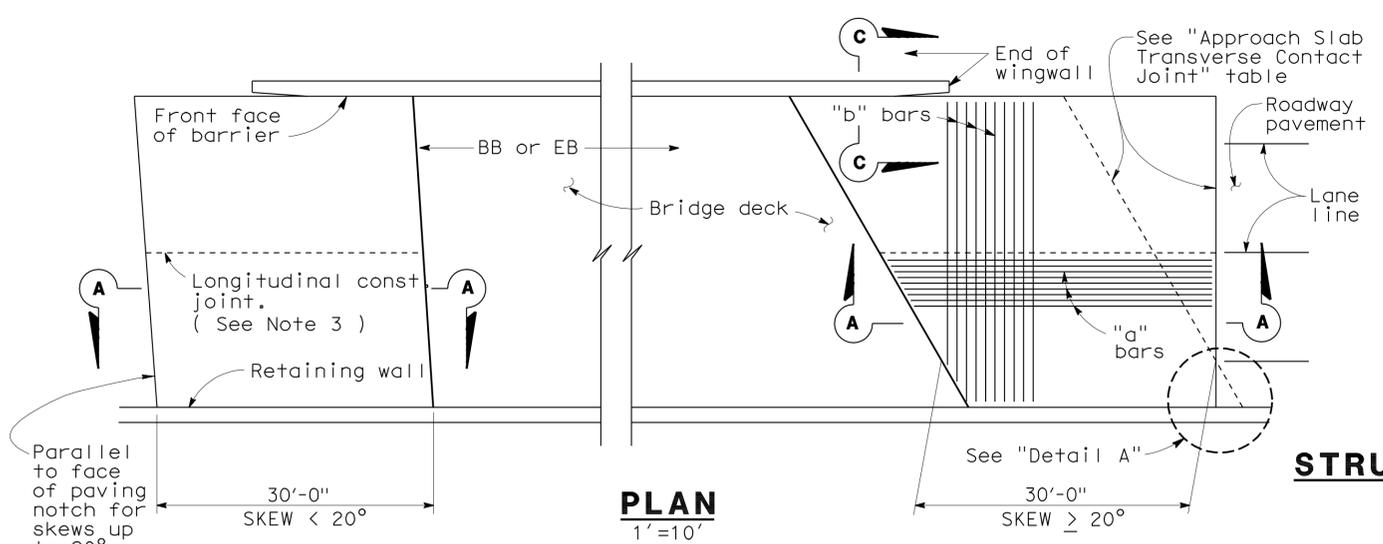
DESIGN	BY CHARLES LOMICKA	CHECKED R. WANG/ C. SANCHEZ
DETAILS	BY H. MAHBOOBI	CHECKED R. WANG/ C. SANCHEZ
QUANTITIES	BY B. Mc GAHEY	CHECKED EDWARD MERCADO

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

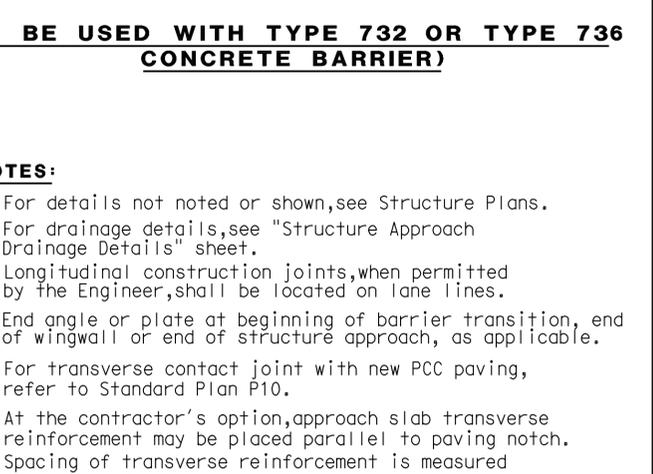
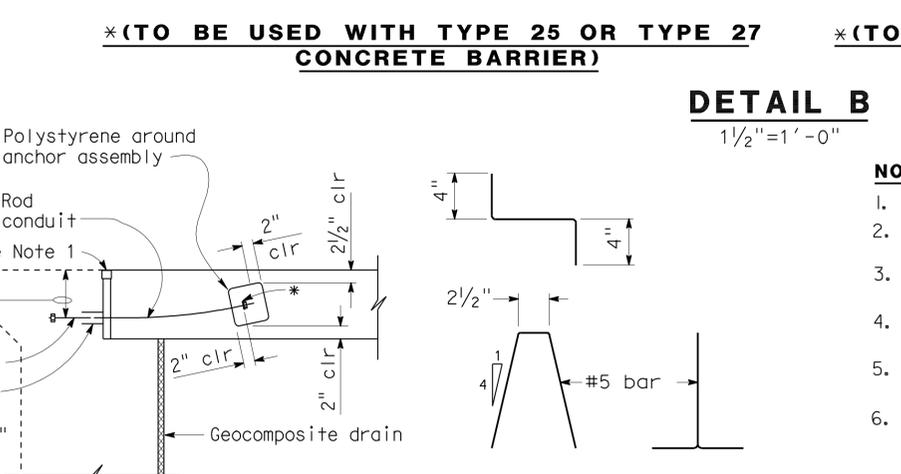
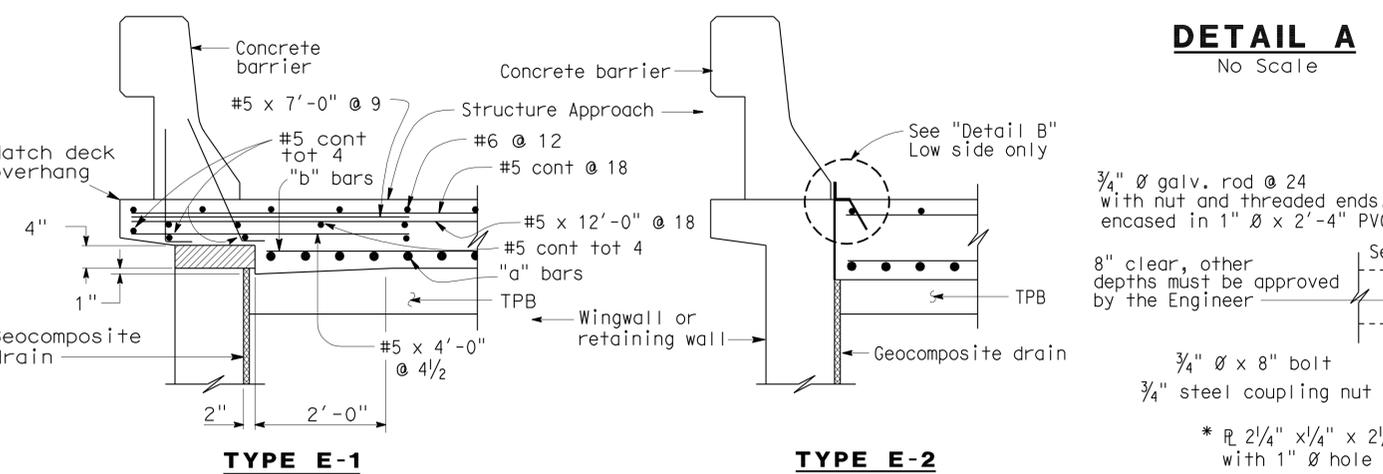
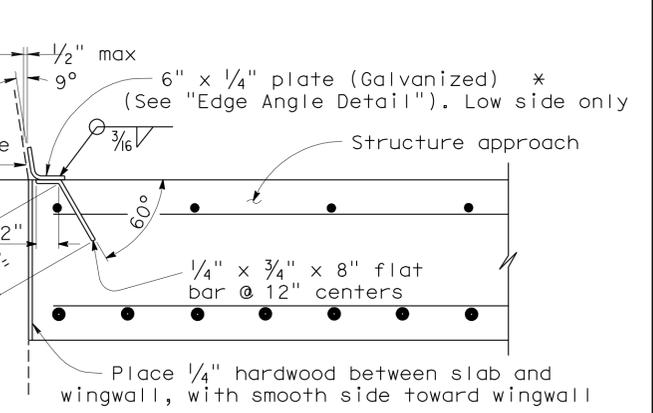
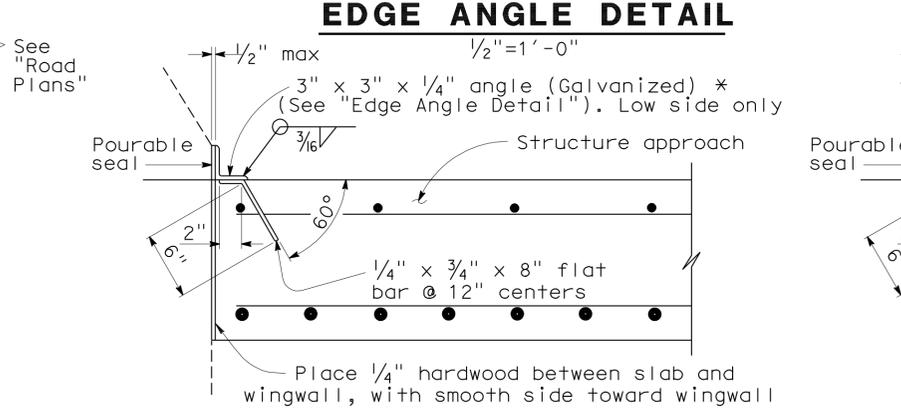
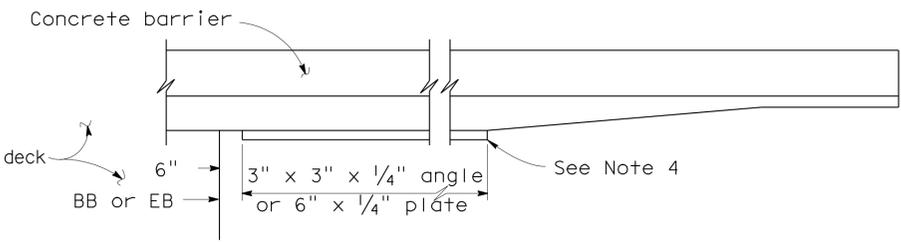
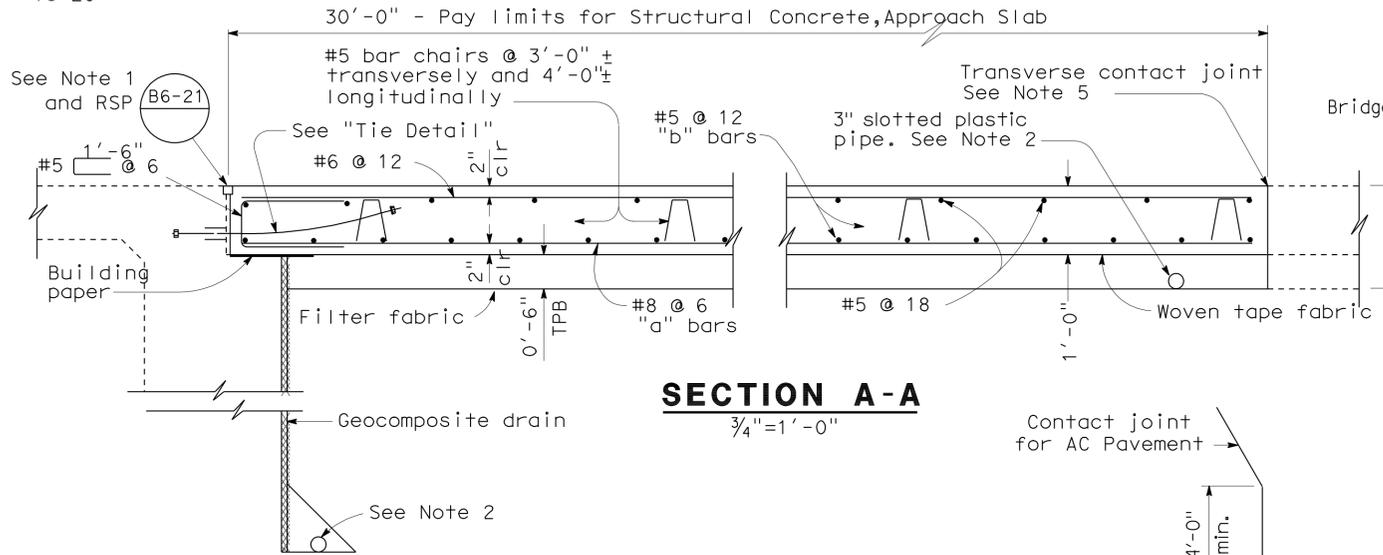
DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
**DESIGN BRANCH 19**

BRIDGE NO.	53-0785R
POST MILE	23.19

**RTE 710/5 SEPARATION EAST (WIDEN)**  
**CABLE RESTRAINER UNIT - TYPE 2 DETAILS**



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



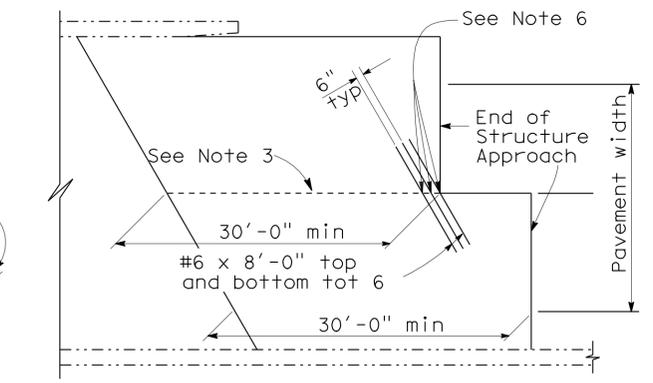
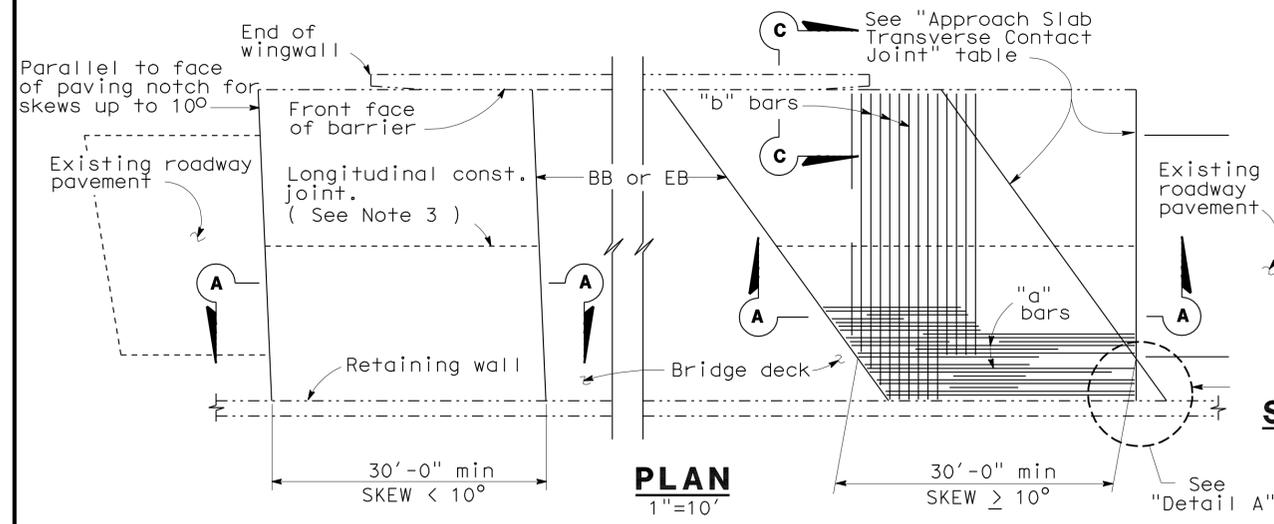
- NOTES:**
- For details not noted or shown, see Structure Plans.
  - For drainage details, see "Structure Approach Drainage Details" sheet.
  - Longitudinal construction joints, when permitted by the Engineer, shall be located on lane lines.
  - End angle or plate at beginning of barrier transition,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



STANDARD DRAWING  
 FILE NO. **xs3-180e**  
 APPROVAL DATE   X-X-X  

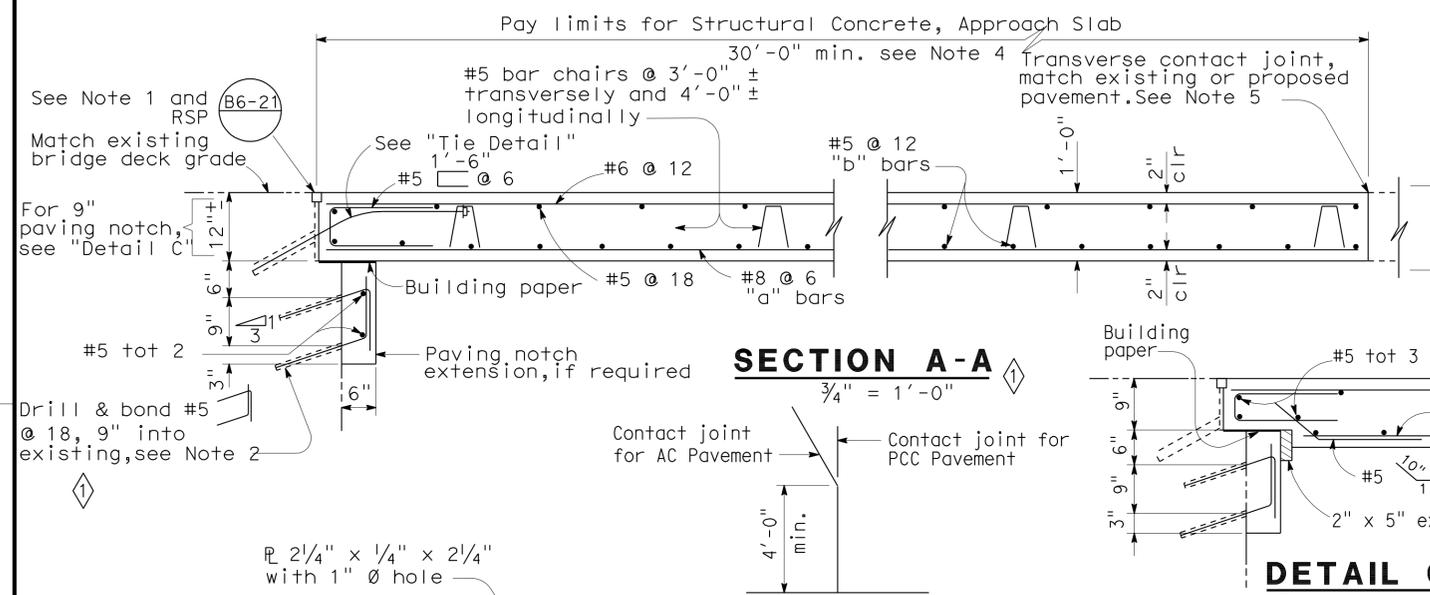
STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF ENGINEERING SERVICES  
 BRIDGE NO. 53-0785R  
 POST MILE 23.19

RTE 710/5 SEPARATION EAST (WIDEN)  
 STRUCTURE APPROACH TYPE N(30D)

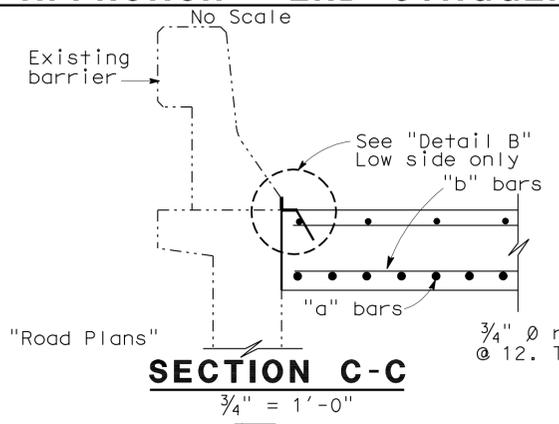


**STRUCTURE APPROACH - END STAGGER DETAIL**

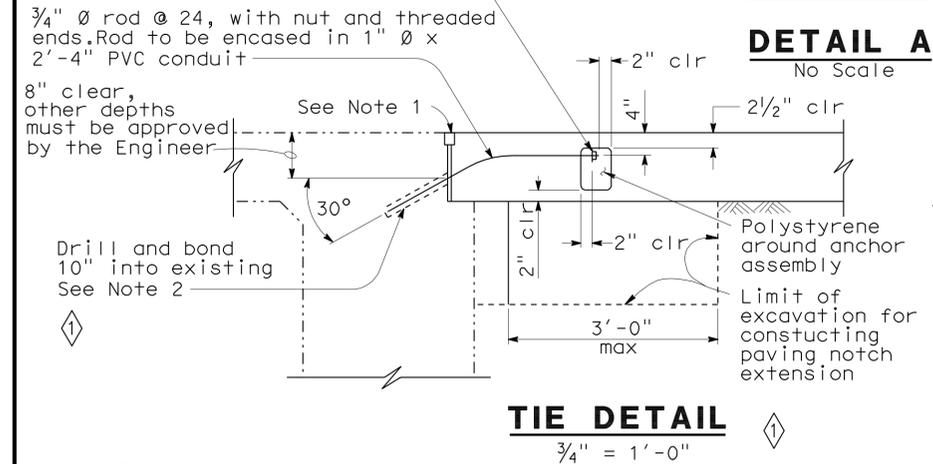
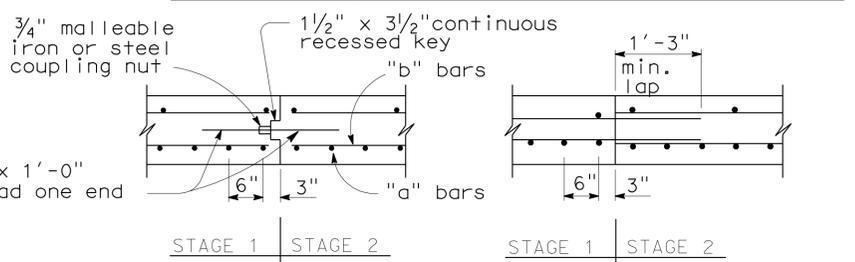
APPROACH SLAB TRANSVERSE CONTACT JOINT		
APPROACH SKEW	WITH AC ROADWAY PAVEMENT	WITH PCC ROADWAY PAVEMENT
< 10°	Parallel to face of paving notch	Parallel to face of paving notch
10° - 45°	Parallel to face of P N use (Detail A)	Stagger lines 24' to 36' apart
> 45°	Parallel to face of P N use (Detail A)	Stagger at each lane line



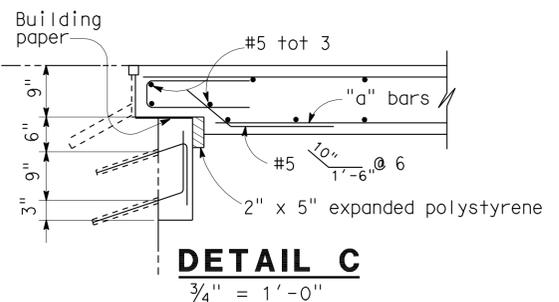
**SECTION A-A**



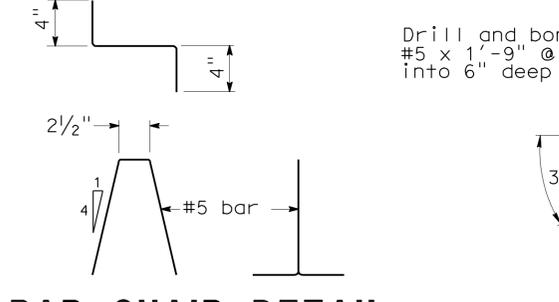
**SECTION C-C**



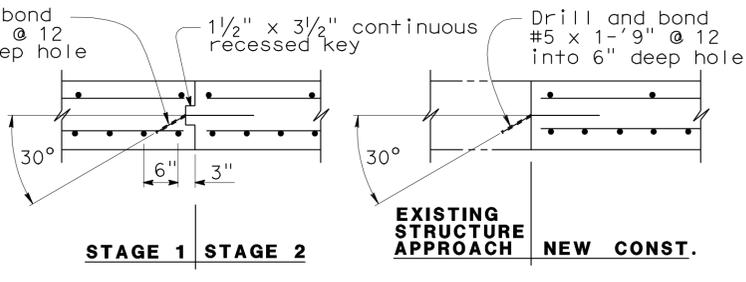
**DETAIL A**



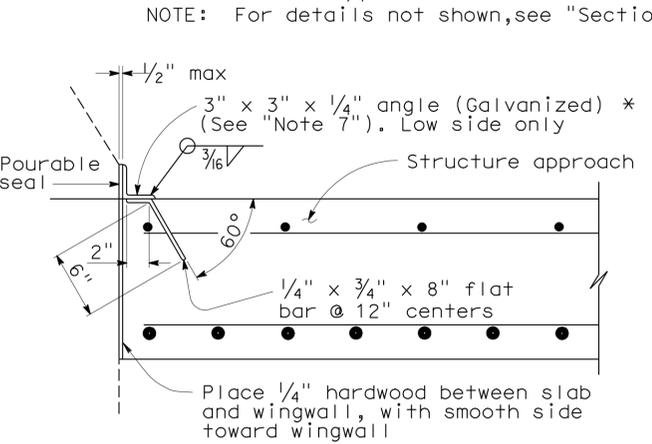
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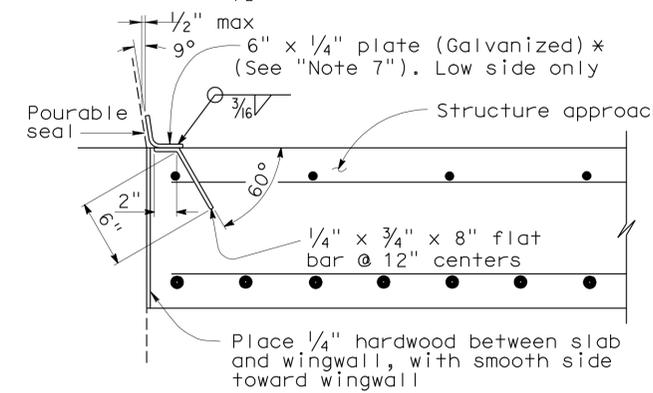
**BAR CHAIR DETAIL**



**LONGITUDINAL CONSTRUCTION JOINT ALTERNATIVES**



**DETAIL B**



**CONCRETE BARRIER**

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

**SPECIAL DETAILS**

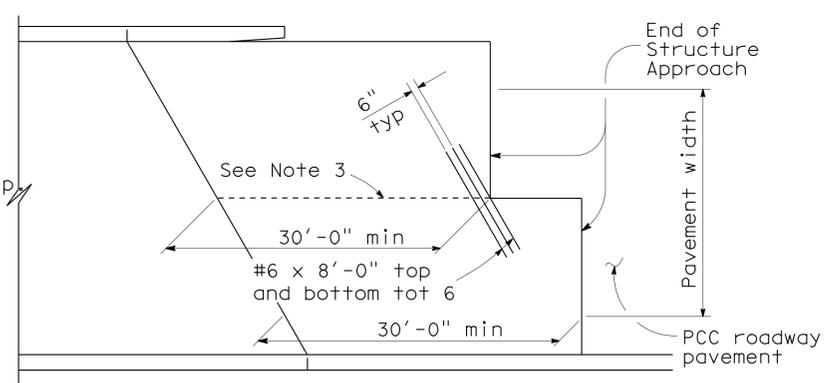
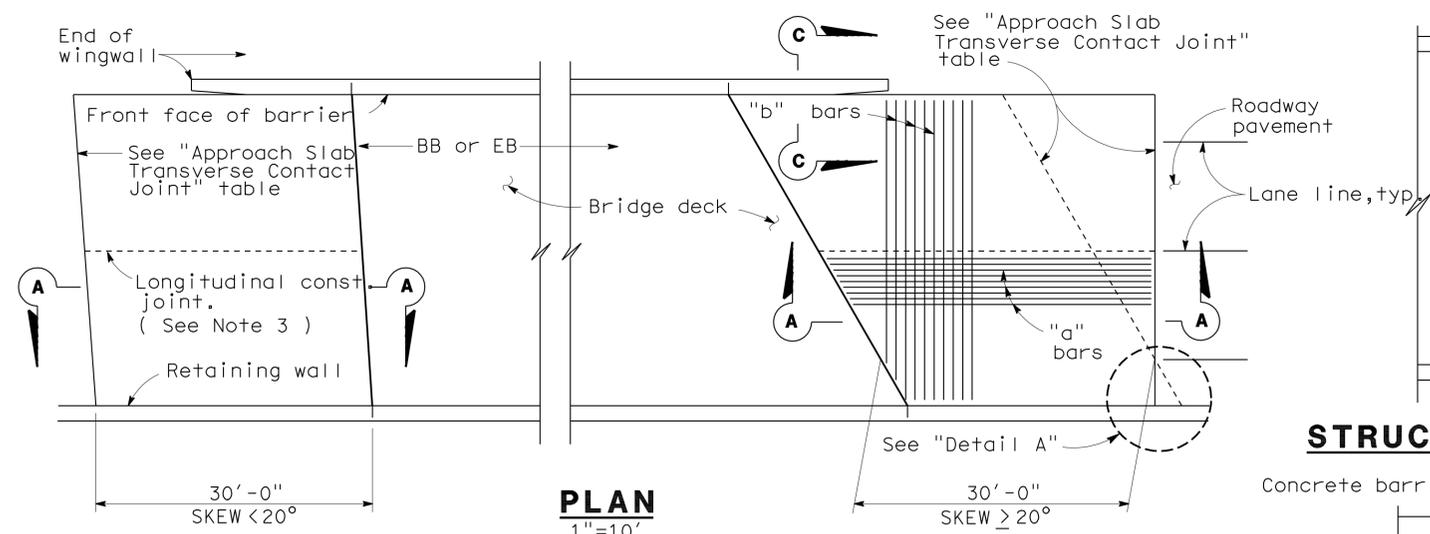
NOTE:  
 THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

REVISED STANDARD DRAWING  
 FILE NO. **xs3-140e**  
 APPROVAL DATE X-X-X

Revised dimension

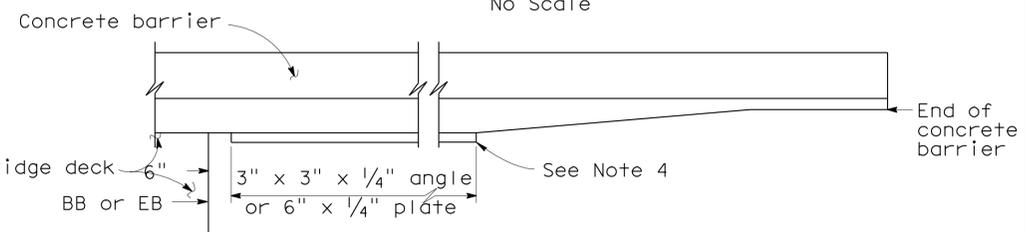
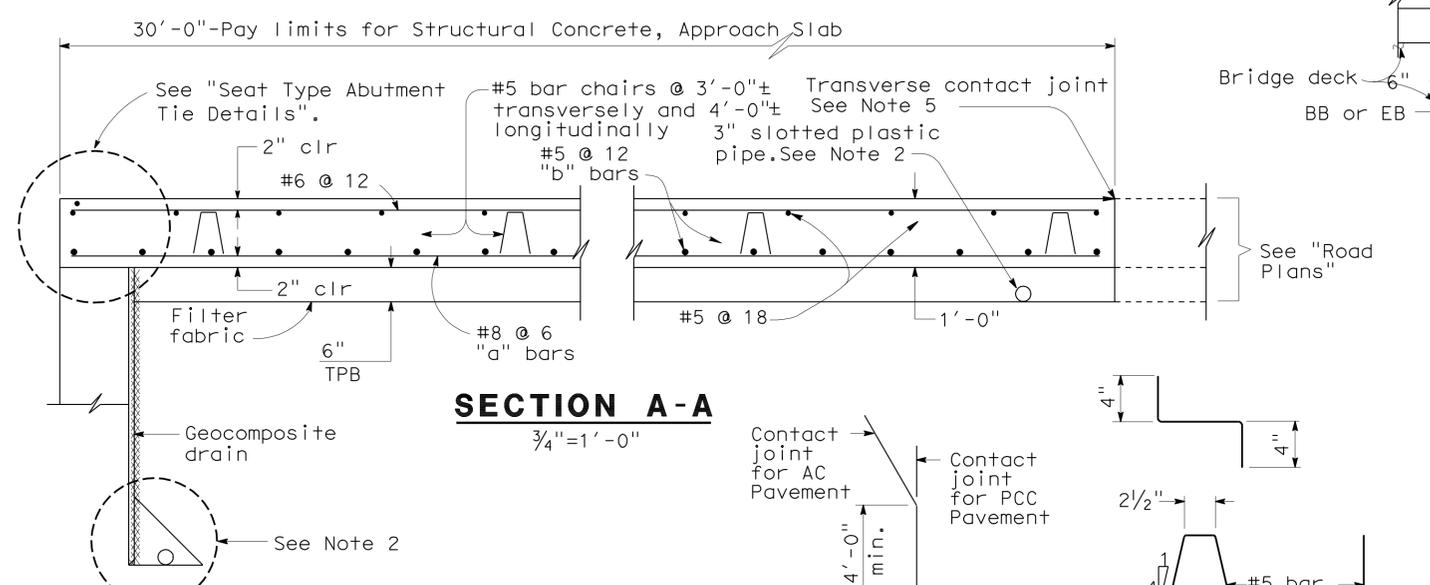
STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 53-0788L  
 POST MILE 23.19  
**RTE 710/5 SEPARATION EAST (WIDEN)**  
**STRUCTURE APPROACH TYPE R(30D)**

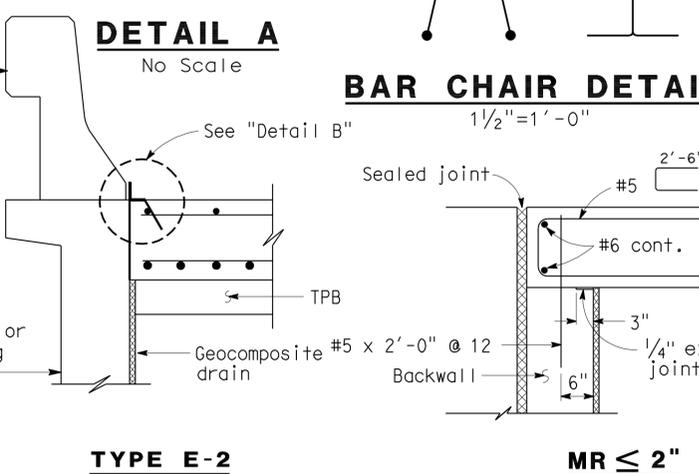
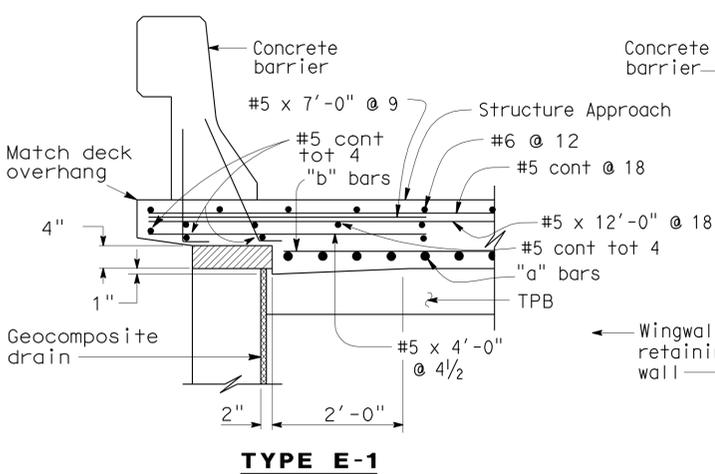
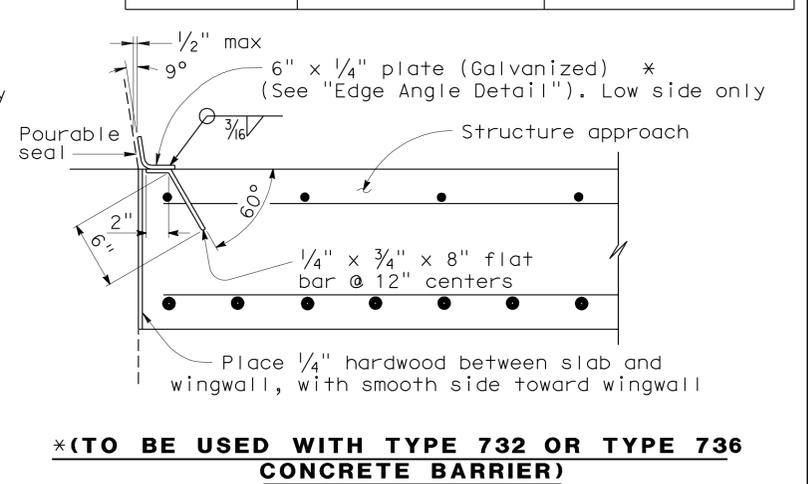
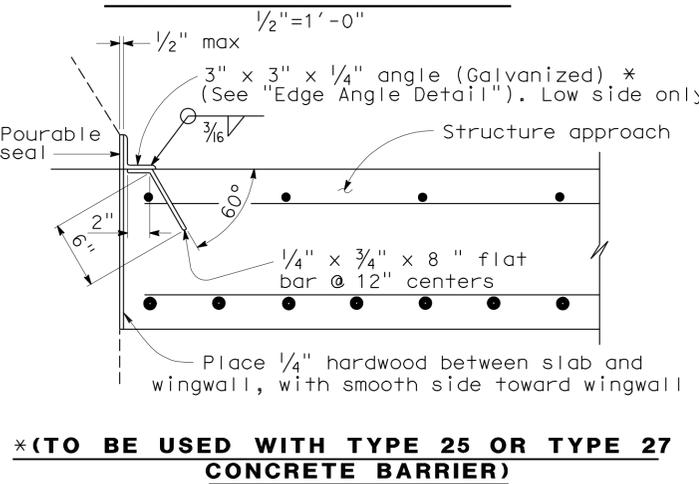


**STRUCTURE APPROACH - END STAGGER DETAIL**

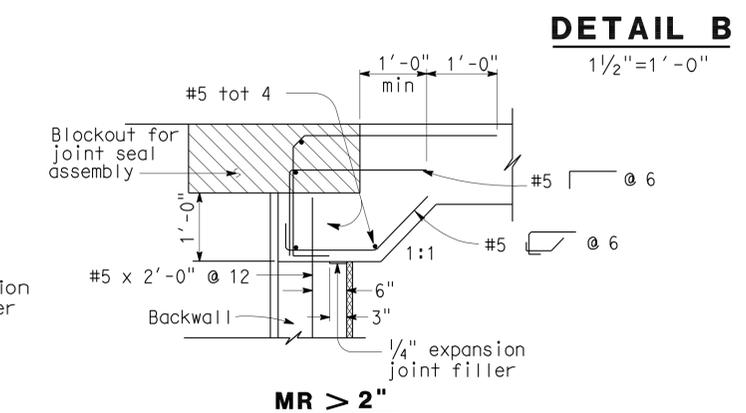
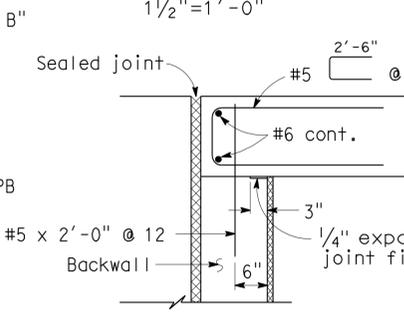
APPROACH SLAB TRANSVERSE CONTACT JOINT		
APPROACH SKEW	WITH AC ROADWAY PAVEMENT	WITH PCC ROADWAY PAVEMENT
< 20°	Parallel to face of paving notch	Parallel to face of paving notch
20° - 45°	Parallel to face of P N use (Detail A)	Stagger lines 24' to 36' apart.
> 45°	Parallel to face of P N use (Detail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



**EDGE ANGLE DETAIL**

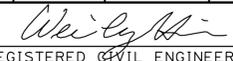


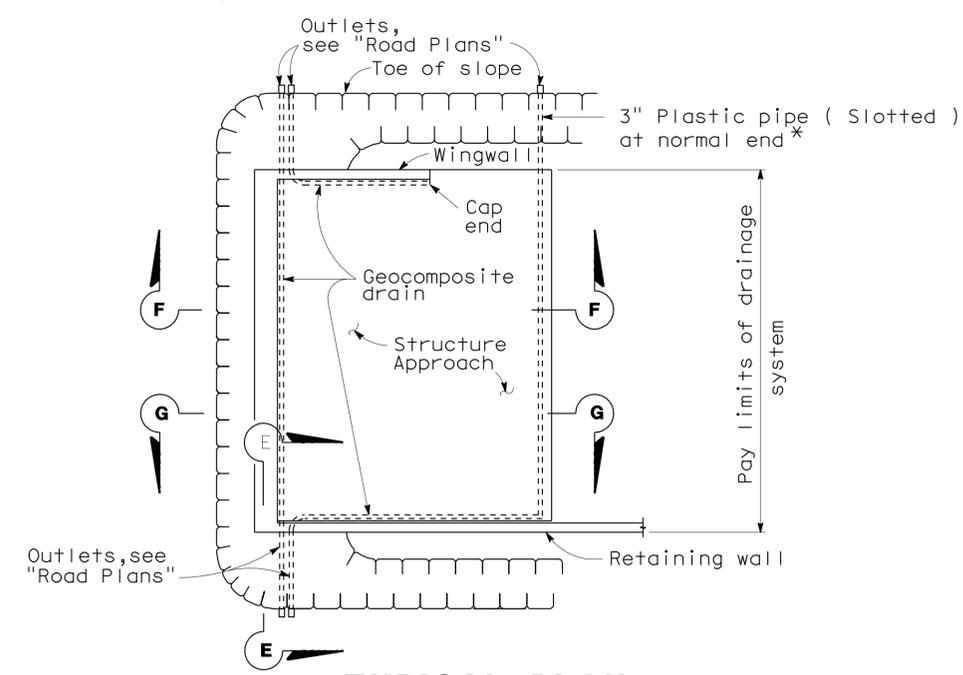
**BAR CHAIR DETAIL**  
1 1/2"=1'-0"



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

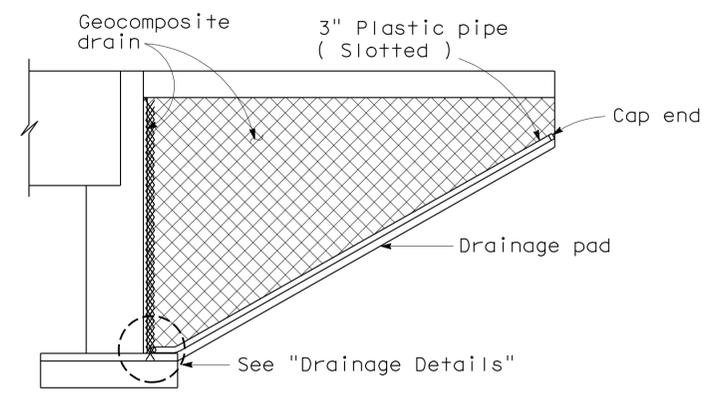
- NOTES:**
- For details not shown, see Structure Plans. For MR ≤ 2, adjust bar reinforcement to clear a sawcut for sealed joint, when required.
  - For drainage details, see "Structure Approach Drainage Details" sheet.
  - Longitudinal construction joints, when permitted by the Engineer, shall be located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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1253	1507
				03-01-11	DATE
REGISTERED CIVIL ENGINEER					
6-27-11				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>					

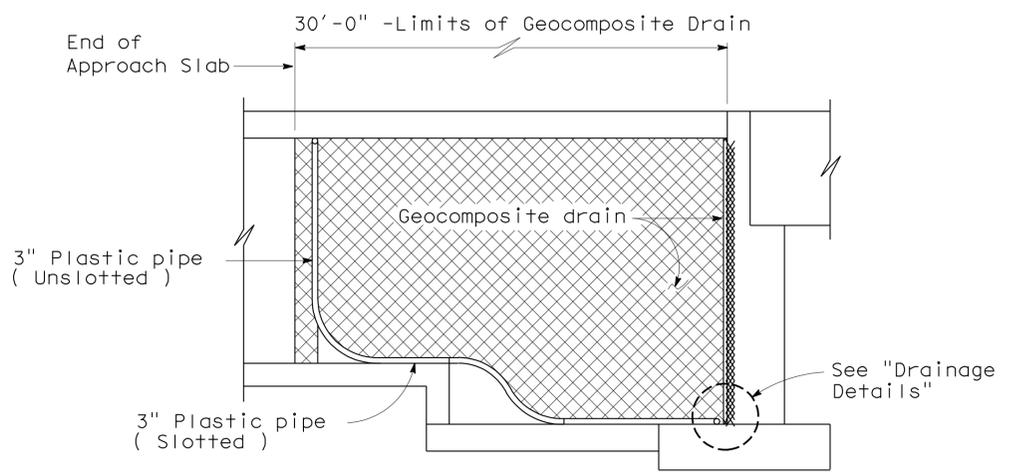


**TYPICAL PLAN**  
1"=10'

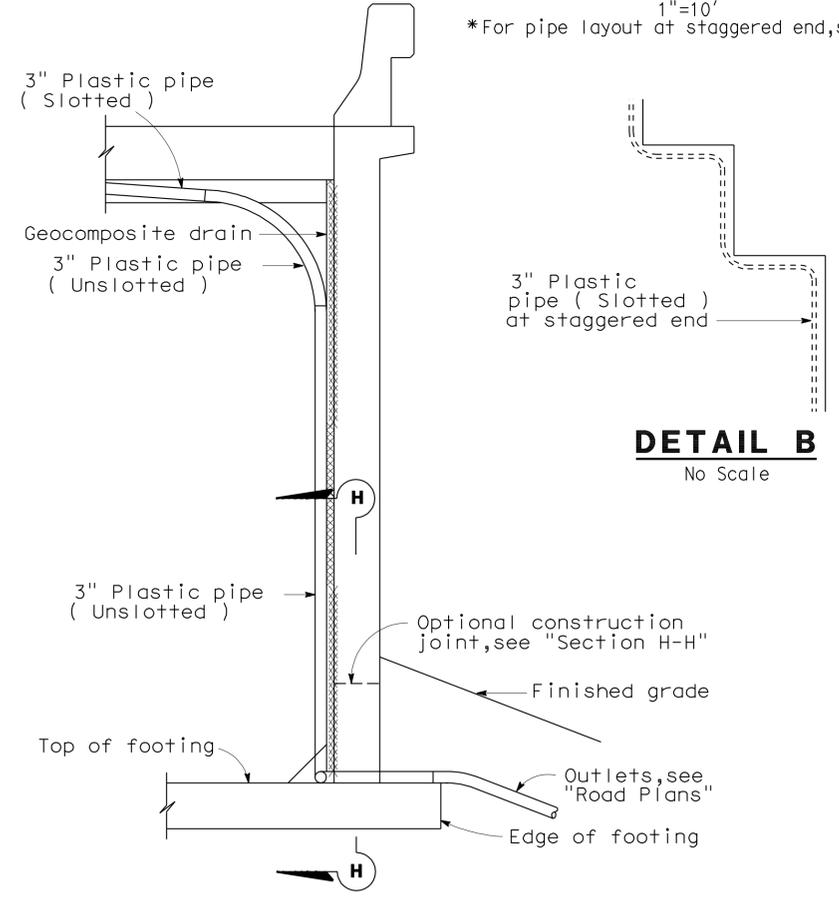
\*For pipe layout at staggered end, see "Detail B".



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



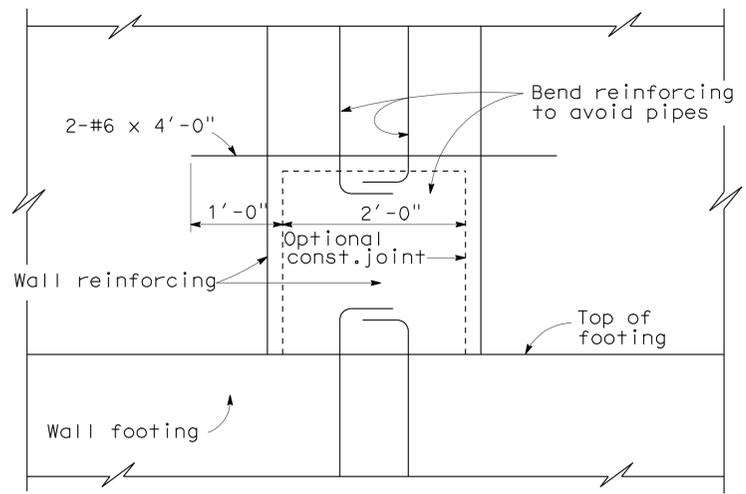
**RETAINING WALL WINGWALL SECTION G-G**  
1/4"=1'-0"



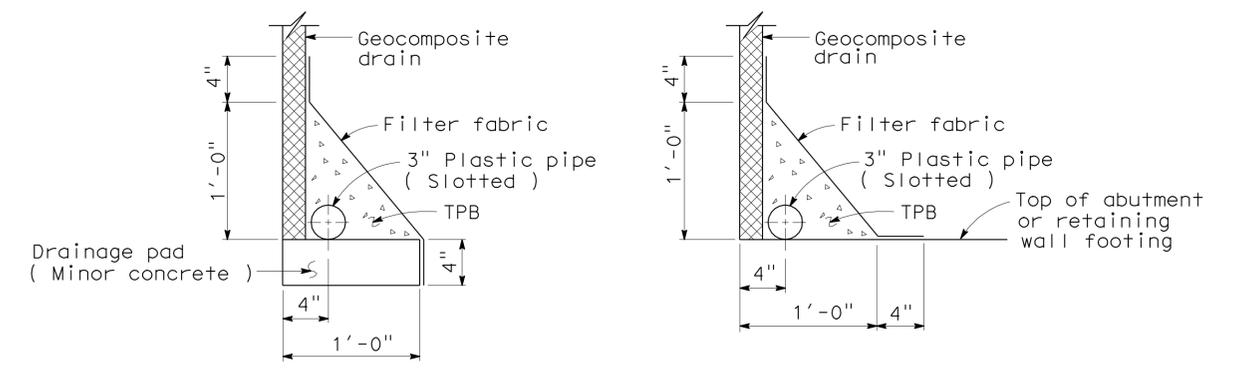
**DETAIL B**  
No Scale

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

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



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



**WITHOUT FOOTING**

**WITH FOOTING**

**DRAINAGE DETAILS**

1/2"=1'-0"

**SPECIAL DETAILS**

REVISED STANDARD DRAWING	
FILE NO. <b>xs3-110e</b>	APPROVAL DATE <u>  X-X-X  </u>

STATE OF CALIFORNIA	DIVISION OF ENGINEERING SERVICES
DEPARTMENT OF TRANSPORTATION	

BRIDGE NO. 53-0785R	<b>RTE 710/5 SEPARATION EAST (WIDEN)</b>
POST MILE 23.19	
<b>STRUCTURE APPROACH DRAINAGE DETAILS</b>	

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1254	1507

03-01-11  
REGISTERED CIVIL ENGINEER DATE

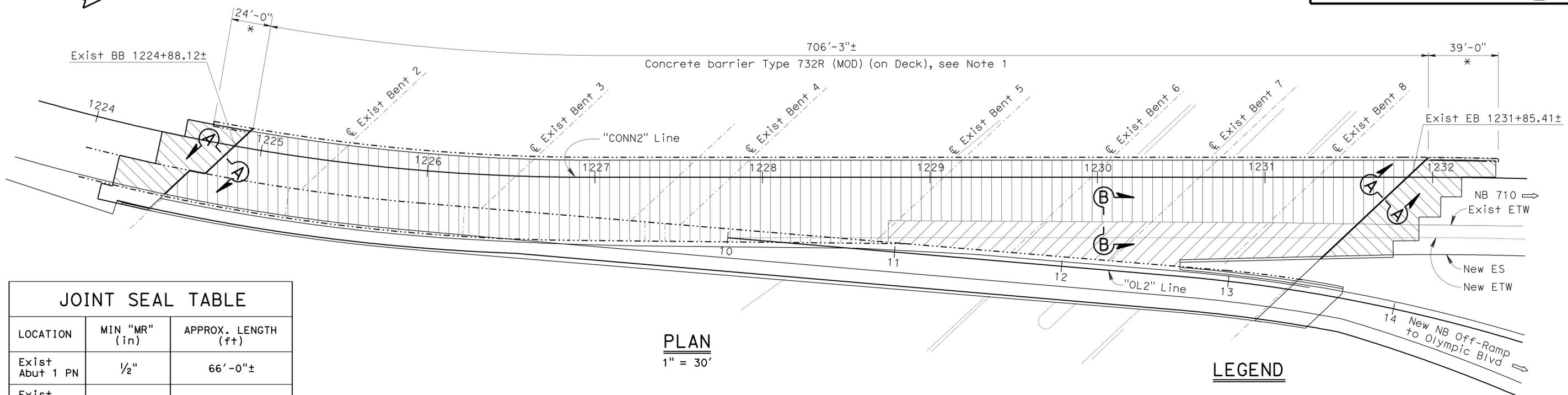
6-27-11  
PLANS APPROVAL DATE

WEI-KUNG HSIA  
No. C50210  
Exp. 06-30-11  
CIVIL

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**STANDARD PLANS DATED MAY 2006**

SHEET NO.	TITLE
A10A	ACRONYMS AND ABBREVIATIONS (SHEET 1 OF 2)
A10B	ACRONYMS AND ABBREVIATIONS (SHEET 2 OF 2)
B6-21	JOINT SEALS (MAXIMUM MOVEMENT RATING = 2")

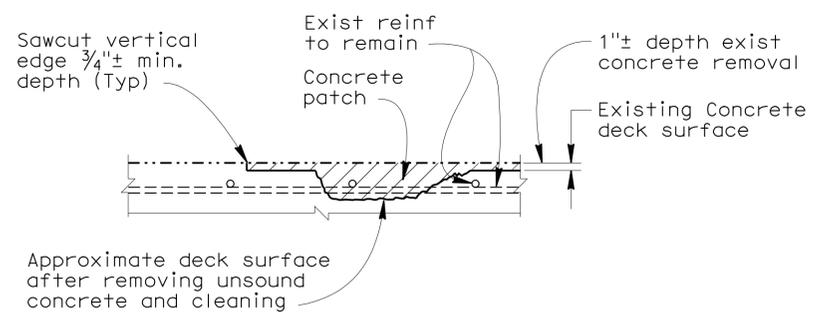


LOCATION	MIN "MR" (in)	APPROX. LENGTH (ft)
Exist Abut 1 PN	1/2"	66'-0"±
Exist Abut 9 PN	1/2"	86'-3"±

**PLAN**  
1" = 30'

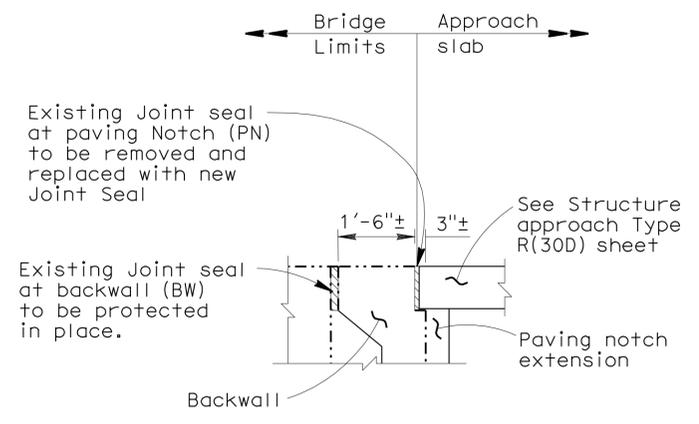
**LEGEND**

- Indicates existing
  - Indicates location of existing joint seal removal and placement of new joint seal. For details see JOINT SEAL TABLE and Section A-A.
  - ▨ Indicates limits of prepare bridge deck, repair unsound concrete with rapid setting concrete patch and place polyester concrete overlay. (± 3/4" min & varies to 4 3/4"± max) See "DECK REPAIR DETAIL" for unsound concrete repair. See "GRID GRADES" sheet for polyester concrete finish grades. See "DECK RIB DETAILS" for repairs prior to overlay.
  - ▨ Indicates limits of new structure approach slab Type R(30D). Match deck overlay grade at Abut 9.
  - ▨ Indicates Limits of repair unsound concrete with rapid setting concrete patch and clean and treat bridge deck with Methacrylate. See "DECK REPAIR DETAIL" for unsound concrete repair.
- \* Concrete Barrier Type 732B (MOD) (at wingwall).



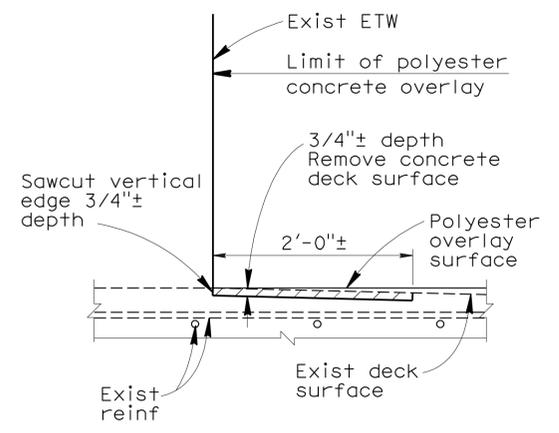
**DECK REPAIR DETAIL**

Note: Reinforcement may be encountered during deck concrete removal. Estimated patch depth is 3" average. Estimated area is 2% of total existing deck surface.



**SECTION A-A**

No Scale



**SECTION B-B**

No Scale

**NOTE:**

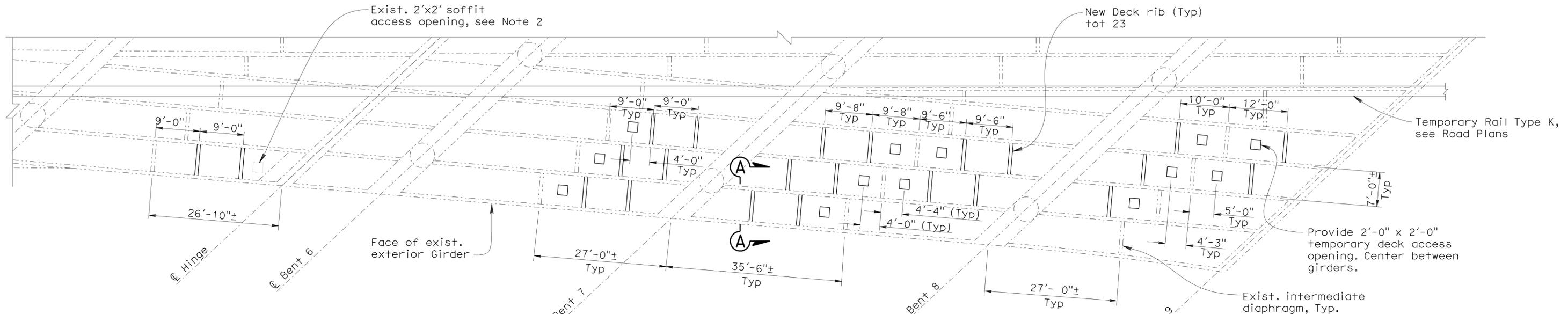
1. For barrier replacement details, see "CONCRETE BARRIER TYPE 732(MOD) DETAILS" sheet.

DESIGN BY CHARLES LOMICKA	CHECKED R. WANG / C. SANCHEZ	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 19	BRIDGE NO. 53-0785R	RTE 710/5 SEPARATION EAST (WIDEN) DECK REPAIR LAYOUT
DETAILS BY H. INIGUEZ / H.M.	CHECKED R. WANG / C. SANCHEZ			POST MILE 23.19	
QUANTITIES BY B. Mc GAHEY	CHECKED EDWARD MERCADO				

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3 UNIT: 3621 PROJECT NUMBER & PHASE: 0700020869 1 CONTRACT NO.: 07-202111 DISREGARD PRINTS BEARING EARLIER REVISION DATES 02-27-10 02-08-11 02-28-11 SHEET 43 OF 52

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1255	1507

03-01-11  
 REGISTERED CIVIL ENGINEER DATE  
 6-27-11  
 PLANS APPROVAL DATE  
 WEI-KUNG HSIA  
 No. C50210  
 Exp. 06-30-11  
 CIVIL  
 STATE OF CALIFORNIA  
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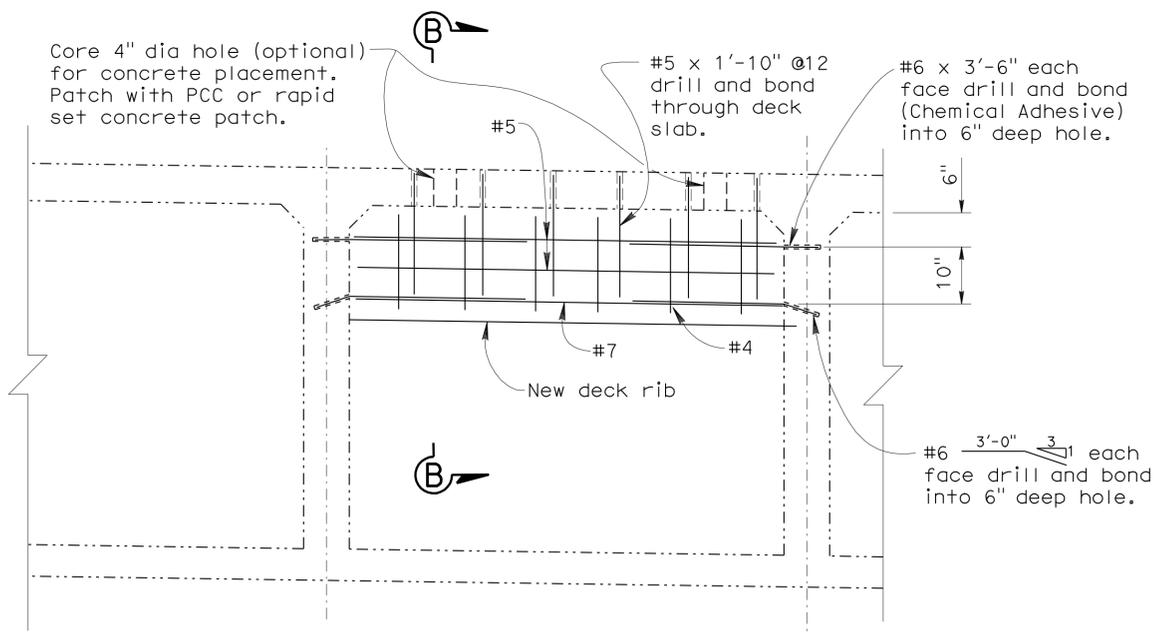


**DECK RIB LAYOUT PLAN**

1" = 10'

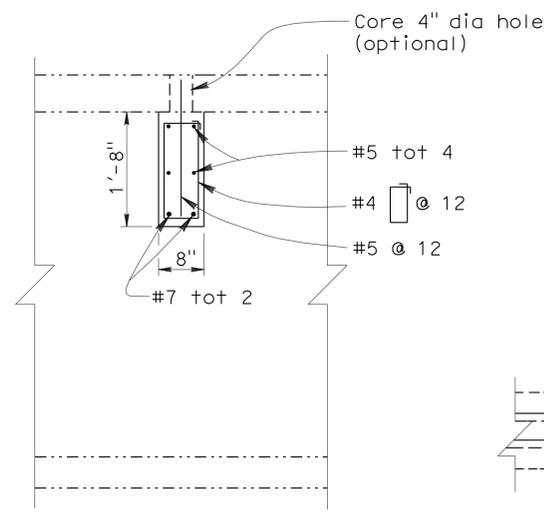
**NOTES:**

- ..... Indicates existing
- Location of existing soffit access opening is approximate.
- Complete construction of all deck ribs prior to polyester concrete overlay.
- Forms for completed deck ribs shall be removed for inspection.



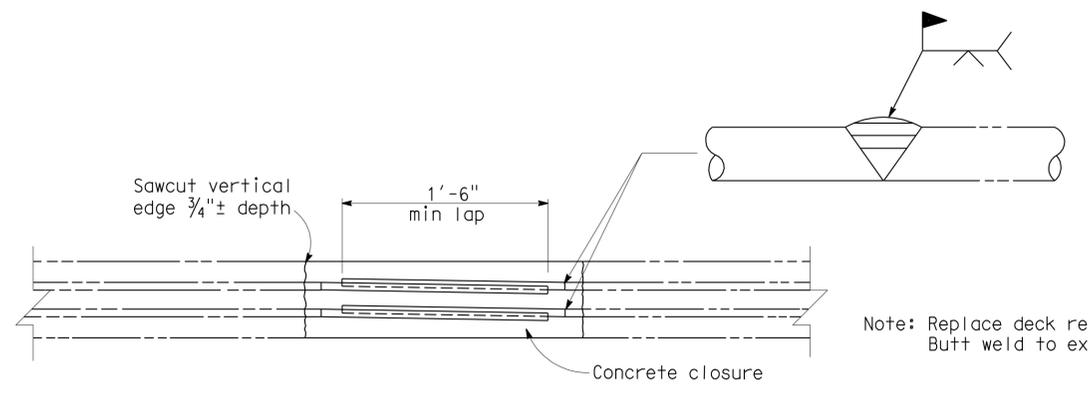
**SECTION A-A**

3/4" = 1'-0"



**SECTION B-B**

3/4" = 1'-0"



**DECK OPENING AND CLOSURE**

No Scale

Note: Replace deck reinf each. Butt weld to existing.

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

DESIGN	BY CHARLES LOMICKA	CHECKED R. WANG/ C. SANCHEZ
DETAILS	BY H. INIGUEZ / H.M.	CHECKED R. WANG/ C. SANCHEZ
QUANTITIES	BY B. Mc GAHEY	CHECKED EDWARD MERCADO

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
**DESIGN BRANCH 19**

BRIDGE NO.	53-0785R
POST MILE	23.19

**RTE 710/5 SEPARATION EAST (WIDEN)**  
**DECK RIB DETAILS**

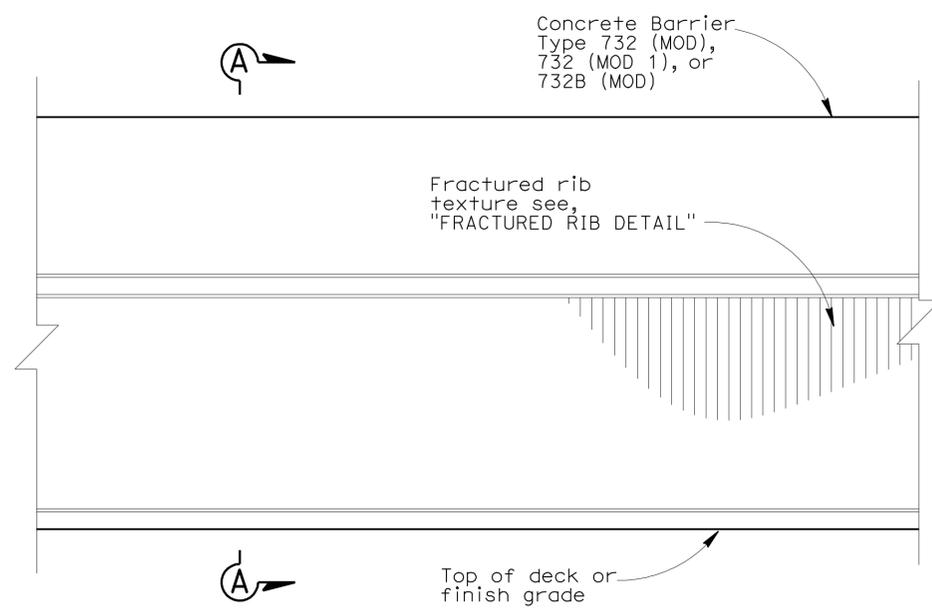
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1256	1507

03-01-11  
REGISTERED CIVIL ENGINEER DATE

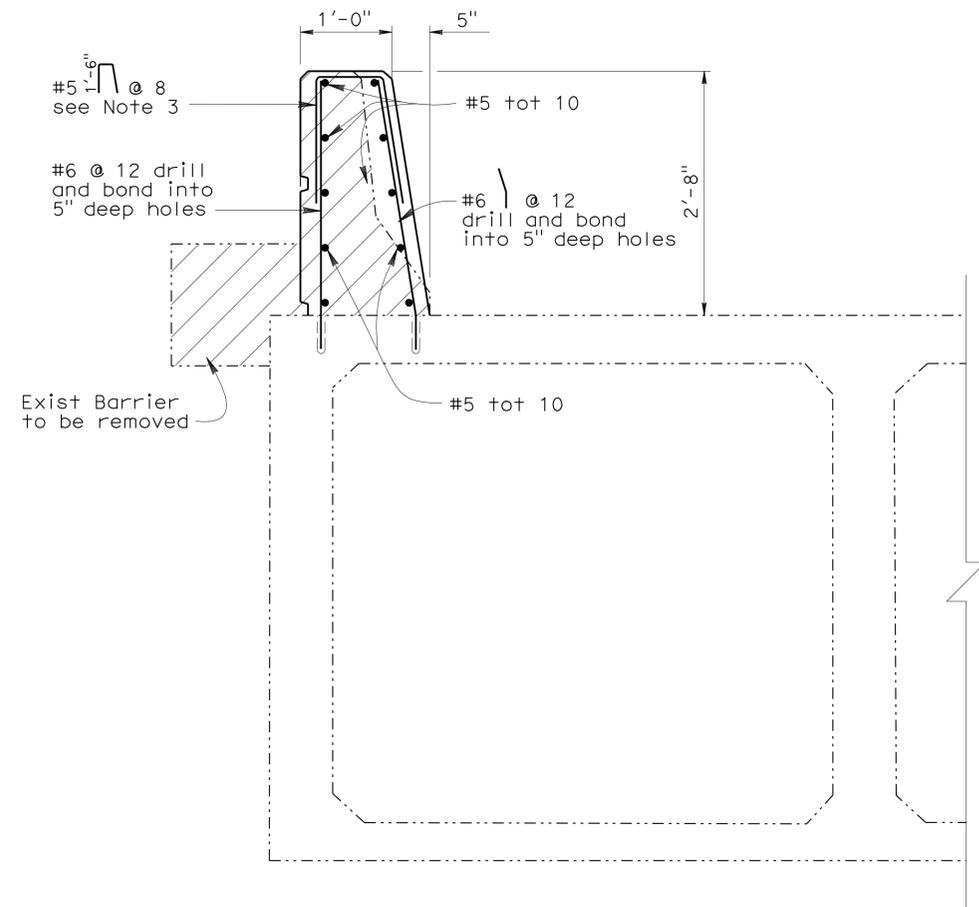
6-27-11  
PLANS APPROVAL DATE

WEI-KUNG HSIA  
No. C50210  
Exp. 06-30-11  
CIVIL

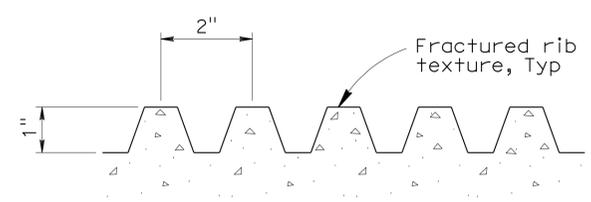
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



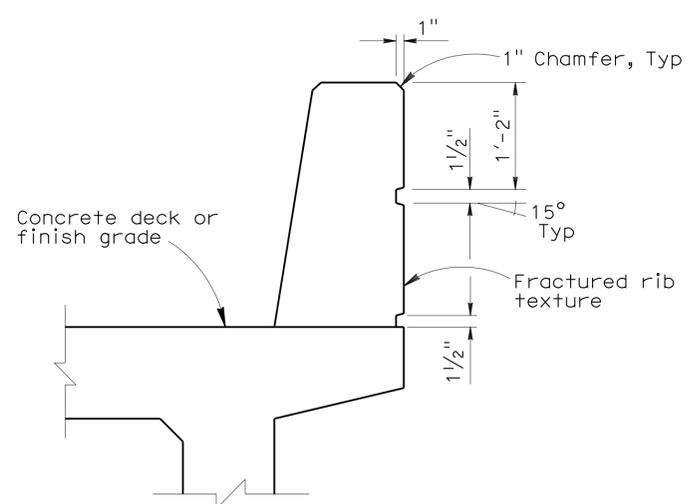
**BARRIER ELEVATION  
ARCHITECTURAL TREATMENT**  
1/2" = 1'-0"



**TYPE 732 (MOD 1)**  
1" = 1'-0"

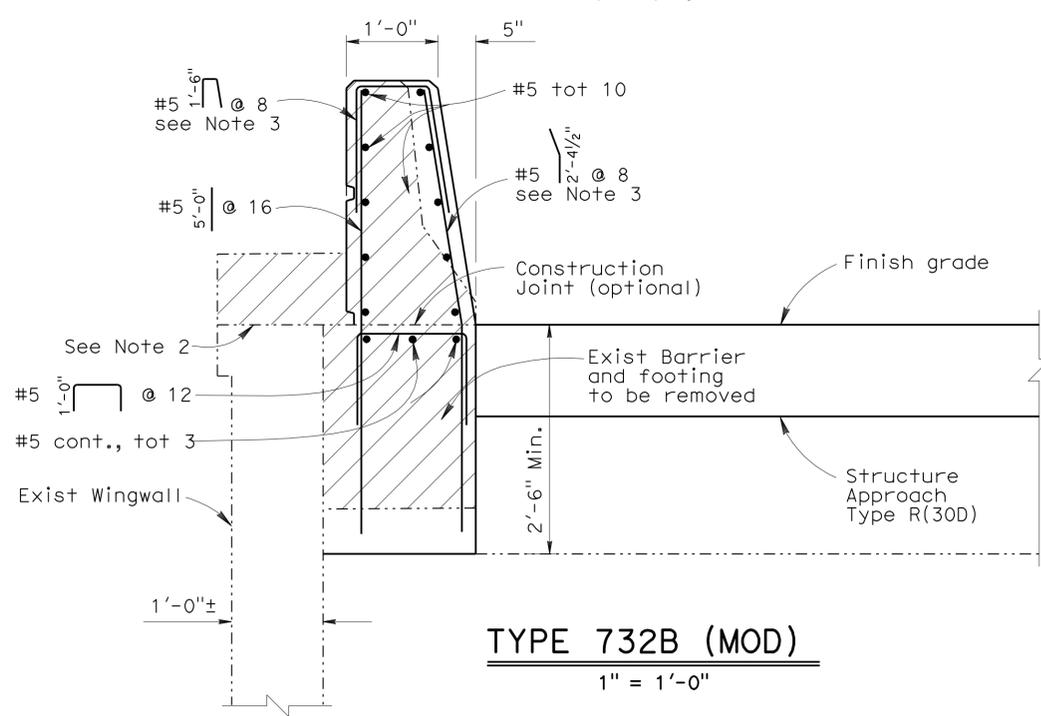


**FRACTURED RIB DETAIL**  
No Scale

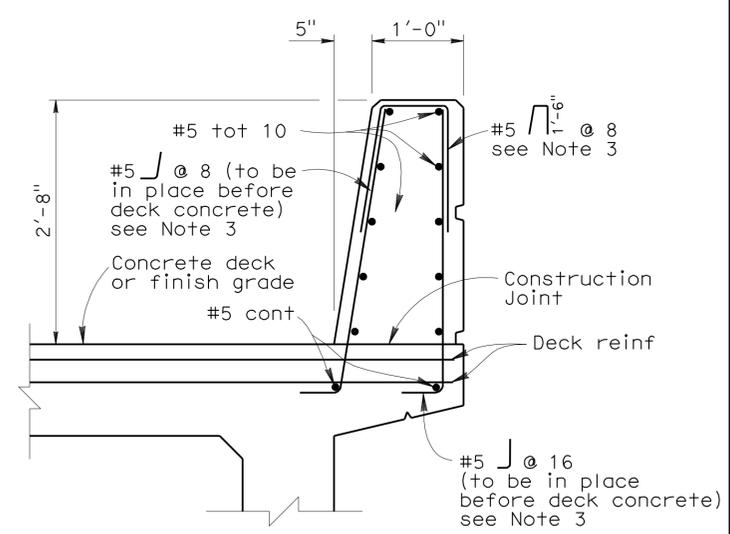


**SECTION A-A  
ARCHITECTURAL DETAILS**  
1" = 1'-0"

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



**TYPE 732B (MOD)**  
1" = 1'-0"



**TYPE 732 (MOD)**  
1" = 1'-0"

**LEGEND**

- Bridge Removal (Portion)
- Indicates Existing Structure

- NOTES:**
1. For barrier details not shown see B11-55
  2. Remove any rebar to depth of one inch below the surface and patch with mortar.
  3. Rebar may be adjusted to clear utility pull boxes
  4. For Utility Conduits, see Typical Section sheets.

DESIGN	BY CHARLES LOMICKA	CHECKED R. WANG/ C. SANCHEZ
DETAILS	BY H. MAHBOOBI	CHECKED R. WANG/ C. SANCHEZ
QUANTITIES	BY B. Mc GAHEY	CHECKED E. MERCADO

**STATE OF CALIFORNIA**  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
**DESIGN BRANCH 19**

BRIDGE NO.	53-0785R
POST MILE	23.19

**RTE 710/5 SEPARATION EAST (WIDEN)**  
**CONCRETE BARRIER TYPE 732 (MOD) DETAILS**

REVISION DATES	SHEET	OF
06-19-10	45	52

TIME PLOTTED => 8:57 28-JUN-2011 USERNAME => s124496 DATE PLOTTED =>

**BENCH MARK**

RTK731 Elev 204.597'  
 Fd PK Nail and Tin 11' behind MBGR  
 NB710 shldr, 20.5' south of Rte 5 Brdg  
 rail, 57.070' Rt Sta 1224+11.00 "Conn 2" Line.  
 N 1827956.0880  
 E 6509517.0560

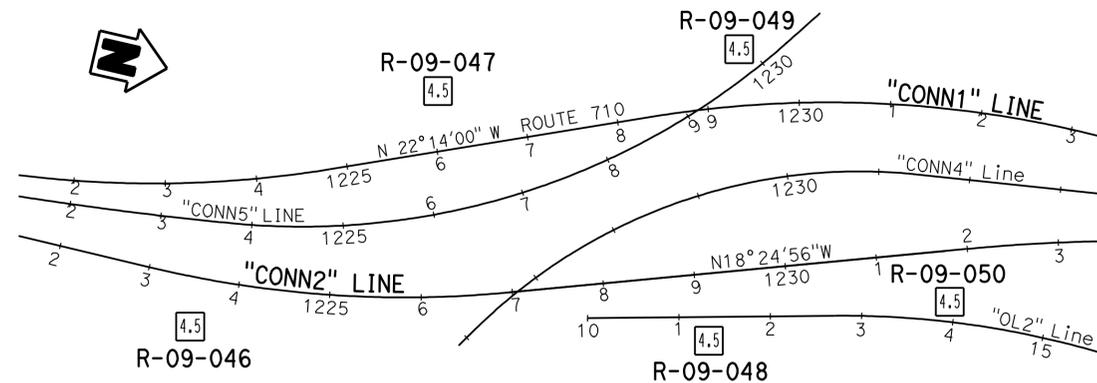
PRHV7907 Elev 180.946'  
 Fd PK Nail W'ly shldr SB5/SB710 Conctr,  
 346' north of Triggs St Brdg, 131.150' Lt Sta  
 1226+23.03 "Conn 1" Line.  
 N 1828092.1720  
 E 6509157.6170

PRHV7821 Elev 179.393'  
 Fd PK Nail 9' west of median nose Telegraph  
 Rd east of NB710 Brdg, 91.027' Rt Sta  
 1229+69.81 "Conn 2" Line.  
 N 1828518.2410  
 E 6509402.5430

PRHV7842 Elev 172.155'  
 Fd Spk in median btwn SB5 and Conctr from  
 at Top Slope under SB710 Brdg, 35.339' Lt Sta  
 1228+86.37 "Conn 1" Line.  
 N 1828373.7950  
 E 6509147.0320

RTK732 Elev 202.657'  
 Fd PK Nail and Tin 11' NB710 shldr at  
 gore Olympic off-rmp, 44.038' Rt Sta  
 1232+24.43 "Conn 2" Line.  
 N 1828744.1920  
 E 6509278.3030

VERT DATUM NAVD88



**PLAN**  
 1" = 100'

**NOTE:** Ground water was not encountered in Boring R-09-046.



**PROFILE**  
 Horiz: 1" = 10'  
 Vert: 1" = 10'

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	710	17.2/26.4	1257	1507

Joseph S. Pratt 1-18-11  
 CERTIFIED ENGINEERING GEOLOGIST

6-27-11  
 PLANS APPROVAL DATE

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PROFESSIONAL GEOLOGIST  
 Joseph S. Pratt  
 No. 2141  
 Exp. 5-3-11  
 CERTIFIED ENGINEERING GEOLOGIST  
 STATE OF CALIFORNIA

<b>ENGINEERING SERVICES</b>		<b>GEOTECHNICAL SERVICES</b>		<b>STATE OF CALIFORNIA</b>		<b>DIVISION OF ENGINEERING SERVICES</b>		<b>BRIDGE NO.</b>		<b>RTE 710/5 SEPARATION EAST (WIDEN)</b>	
FUNCTIONAL SUPERVISOR		DRAWN BY: C, Christian, I. G-Remmen 10/10		DEPARTMENT OF TRANSPORTATION		STRUCTURE DESIGN		53-0785R		<b>LOG OF TEST BORINGS 1 OF 7</b>	
NAME: S. Karimi		CHECKED BY: T. Haida		K. Lai		DESIGN BRANCH		POST MILES		SHEET OF	
								23.19		46 52	
065 GEOLOGIST LOG OF TEST BORINGS SHEET				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				CU 07 202111		REVISION DATES	
								DISREGARD PRINTS BEARING EARLIER REVISION DATES		12-14-10 01-13-11 01-18-11 02-02-11	

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	710	17.2/26.4	1258	1507

FOR PLAN VIEW, SEE  
"LOG OF TEST BORINGS" 1 OF 7

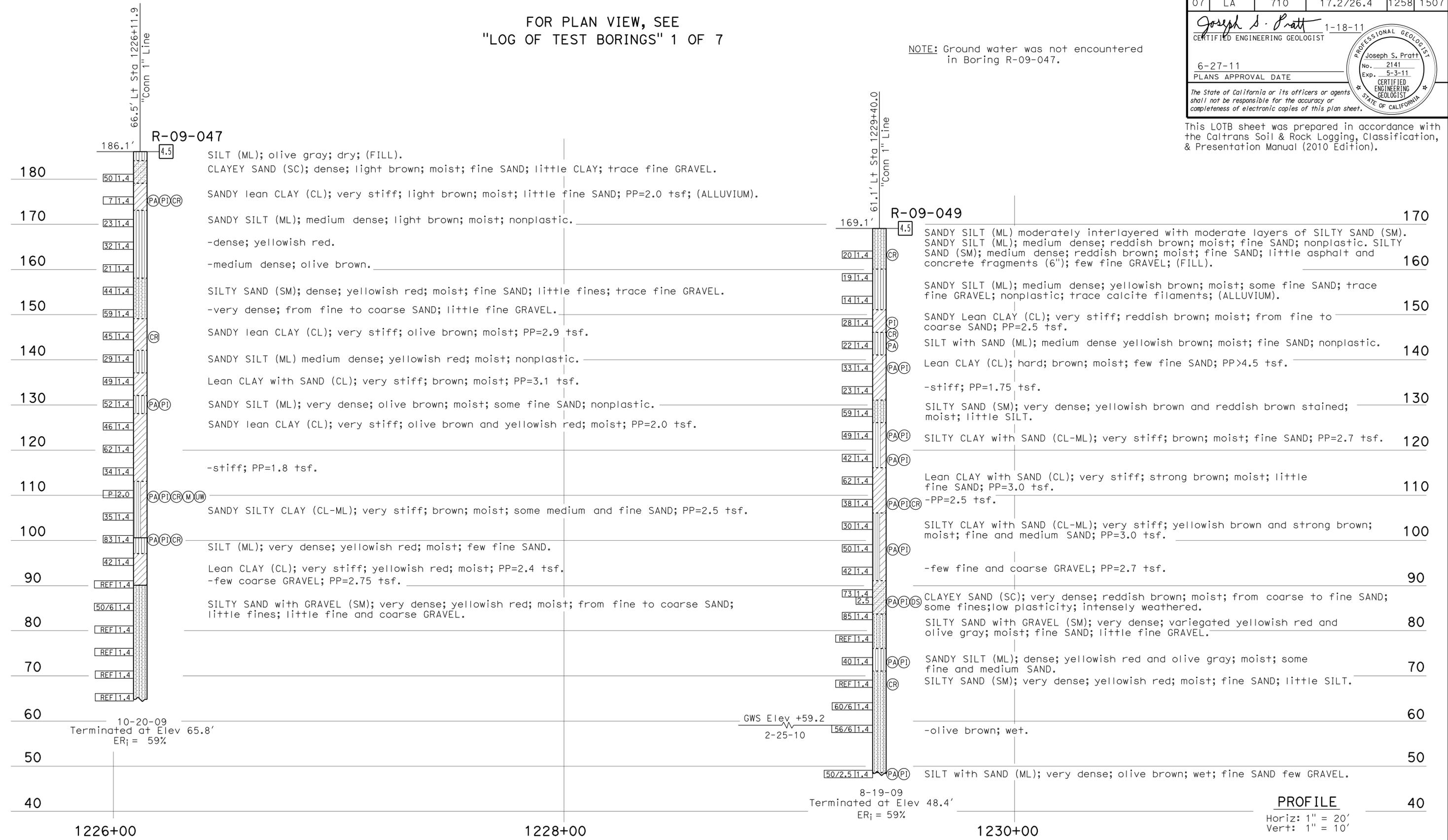
NOTE: Ground water was not encountered in Boring R-09-047.

Joseph S. Pratt 1-18-11  
CERTIFIED ENGINEERING GEOLOGIST

6-27-11  
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).



PROFILE  
Horiz: 1" = 20'  
Vert: 1" = 10'

<b>ENGINEERING SERVICES</b>		<b>GEOTECHNICAL SERVICES</b>		<b>STATE OF CALIFORNIA</b>		<b>DIVISION OF ENGINEERING SERVICES</b>		<b>BRIDGE NO.</b>		<b>RTE 710/5 SEPARATION EAST (WIDEN)</b>	
FUNCTIONAL SUPERVISOR		DRAWN BY: C, Christian, I. G-Remmen 10/10		FIELD INVESTIGATION BY:		STRUCTURE DESIGN		53-0785R		<b>LOG OF TEST BORINGS 2 OF 7</b>	
NAME: S. Karimi		CHECKED BY: M. Mushtaq Ahmed		K. Lai, J. Pratt, T. Halda		DESIGN BRANCH		23.19			
065 GEOLOGIST LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		CU 07 202111		EA		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES	
								12-14-10 01-13-11 01-18-11 02-02-11		SHEET 47 OF 52	

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	710	17.2/26.4	1259	1507

*Joseph S. Pratt* 1-18-11  
 CERTIFIED ENGINEERING GEOLOGIST

Joseph S. Pratt  
 No. 2141  
 Exp. 5-3-11  
 CERTIFIED ENGINEERING GEOLOGIST  
 STATE OF CALIFORNIA

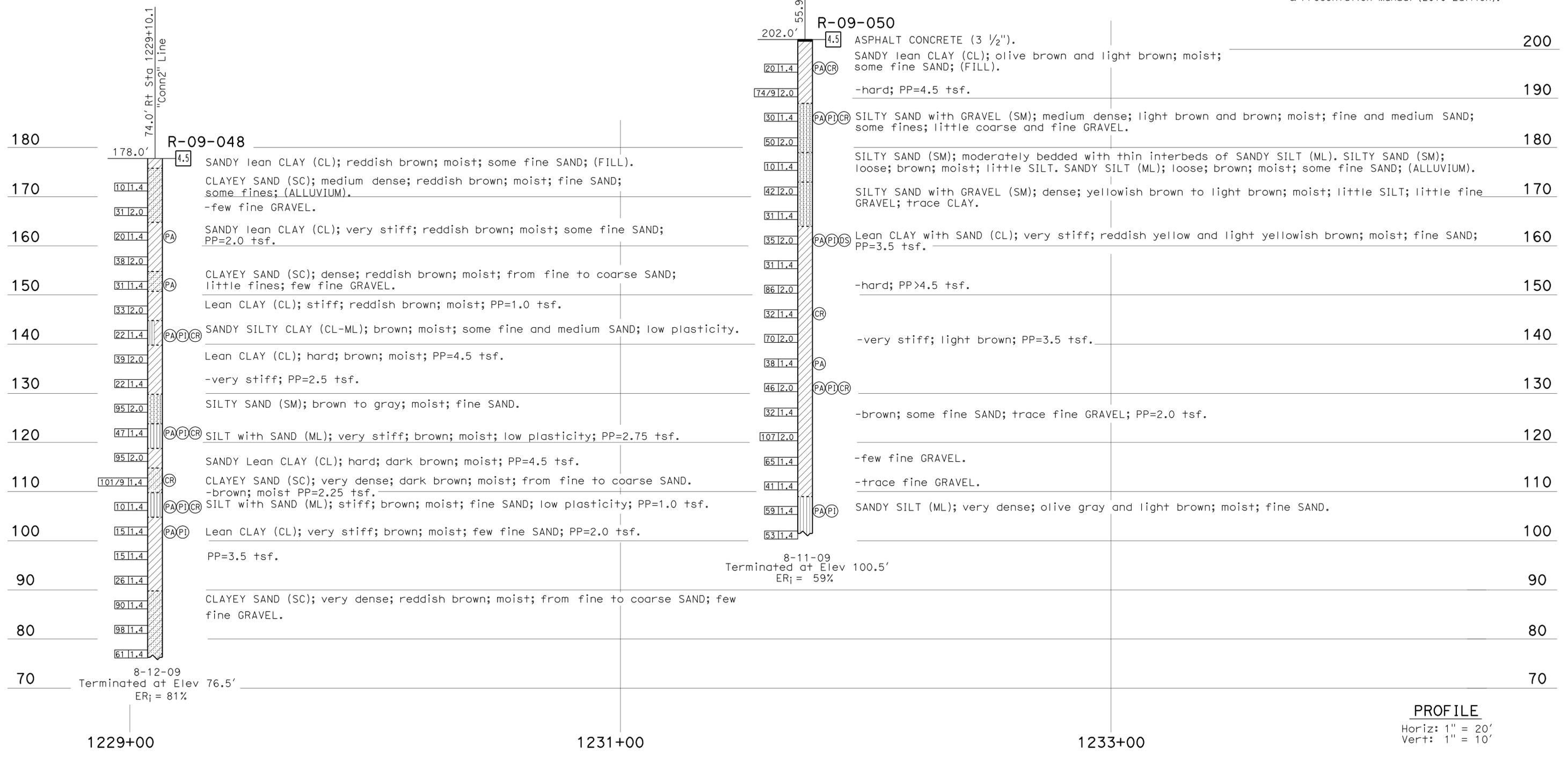
6-27-11  
 PLANS APPROVAL DATE

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FOR PLAN VIEW, SEE  
 "LOG OF TEST BORINGS" 1 OF 7

NOTE: Ground water was not encountered  
 in Borings R-09-048 and R-09-050.

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



PROFILE  
 Horiz: 1" = 20'  
 Vert: 1" = 10'

<b>ENGINEERING SERVICES</b>		<b>GEOTECHNICAL SERVICES</b>		<b>STATE OF CALIFORNIA</b>		<b>DIVISION OF ENGINEERING SERVICES</b>		<b>BRIDGE NO.</b>		<b>RTE 710/5 SEPARATION EAST (WIDEN)</b>	
FUNCTIONAL SUPERVISOR		DRAWN BY: C, Christian, I. G-Remmen 10/10		DEPARTMENT OF TRANSPORTATION		STRUCTURE DESIGN		53-0785R		<b>LOG OF TEST BORINGS 3 OF 7</b>	
NAME: S. Karimi		CHECKED BY: M. Mushfaq Ahmed		P. Piratheepan, T. Halda		DESIGN BRANCH		POST MILES			
						CU 07		23.19			
065 GEOLOGIST LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		0 1 2 3		EA 202111		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES	
								12-14-10 01-13-11 01-18-11 02-02-11		SHEET 48 OF 52	

USERNAME => s124496 DATE PLOTTED => 18:57 TIME PLOTTED => 18:57

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	710	17.2/26.4	1260	1507

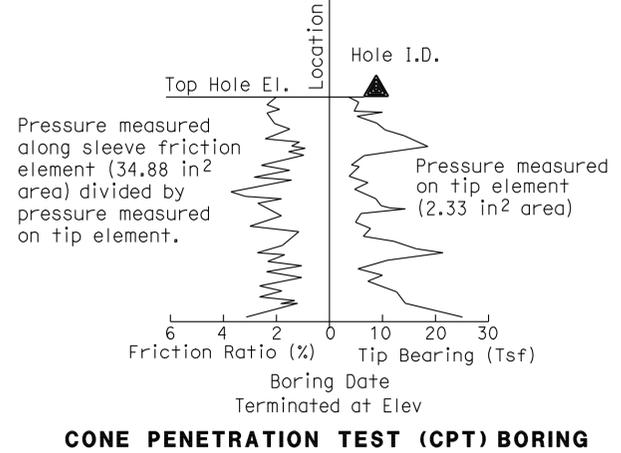
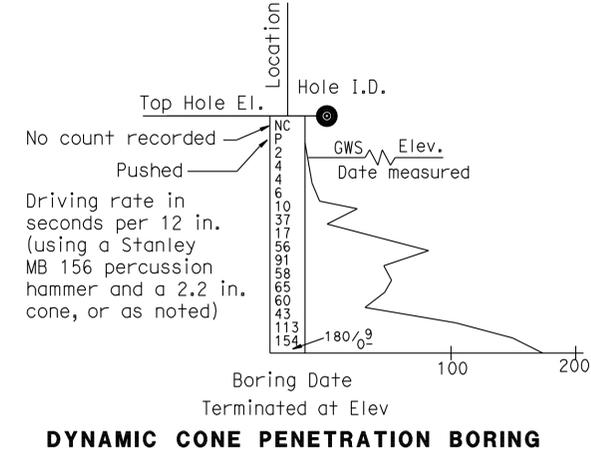
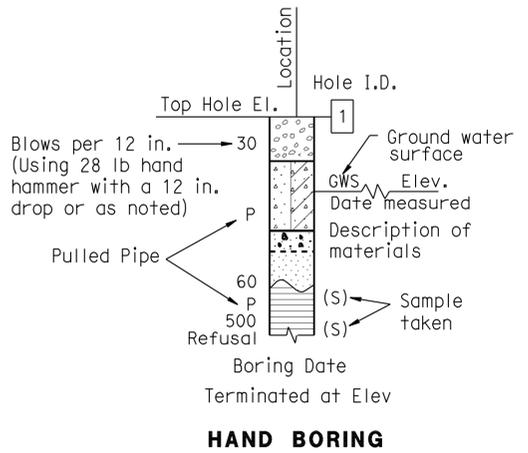
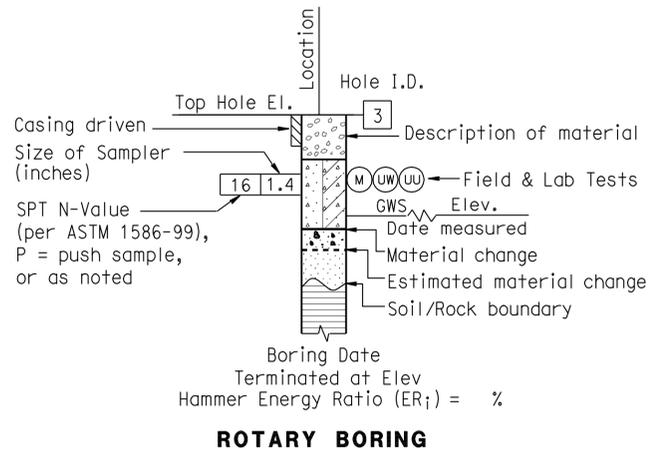
Joseph S. Pratt  
 REGISTERED ENGINEERING GEOLOGIST  
 No. 2141  
 Exp. 5-31-11  
 6-27-11  
 PLANS APPROVAL DATE  
 1-18-11 DATE  
 REGISTERED GEOLOGIST  
 STATE OF CALIFORNIA  
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

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.

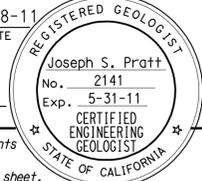
BOREHOLE IDENTIFICATION		
Symbol	Hole Type	Description
	A	Auger Boring (hollow or solid stem bucket)
	R	Rotary drilled boring (conventional)
	RW	Rotary drilled with self-casing wire-line
	RC	Rotary core with continuously-sampled, self-casing wire-line
	P	Rotary percussion boring (air)
	R	Rotary drilled 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



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	710	17.2/26.4	1261	1507


  
 Joseph S. Pratt 1-18-11 DATE
   
 CERTIFIED ENGINEERING GEOLOGIST
   
 6-27-11 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.*

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 SILT
	Poorly-graded SAND with CLAY (or SILTY CLAY)		ORGANIC SILT with SAND
	Poorly-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)		ORGANIC SILT with GRAVEL
	SILTY SAND		SANDY ORGANIC SILT
	SILTY SAND with GRAVEL		SANDY ORGANIC SILT with GRAVEL
	CLAYEY SAND		GRAVELLY elastic SILT
	CLAYEY SAND with GRAVEL		GRAVELLY elastic SILT with SAND
	SILTY, CLAYEY SAND		ORGANIC fat CLAY
	SILTY, CLAYEY SAND with GRAVEL		ORGANIC fat CLAY with SAND
	PEAT		ORGANIC fat CLAY with GRAVEL
			GRAVELLY ORGANIC fat CLAY
	COBBLES		GRAVELLY ORGANIC fat CLAY with SAND
	COBBLES and BOULDERS		ORGANIC elastic SILT
	BOULDERS		ORGANIC elastic SILT with SAND
			ORGANIC elastic SILT with GRAVEL

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%

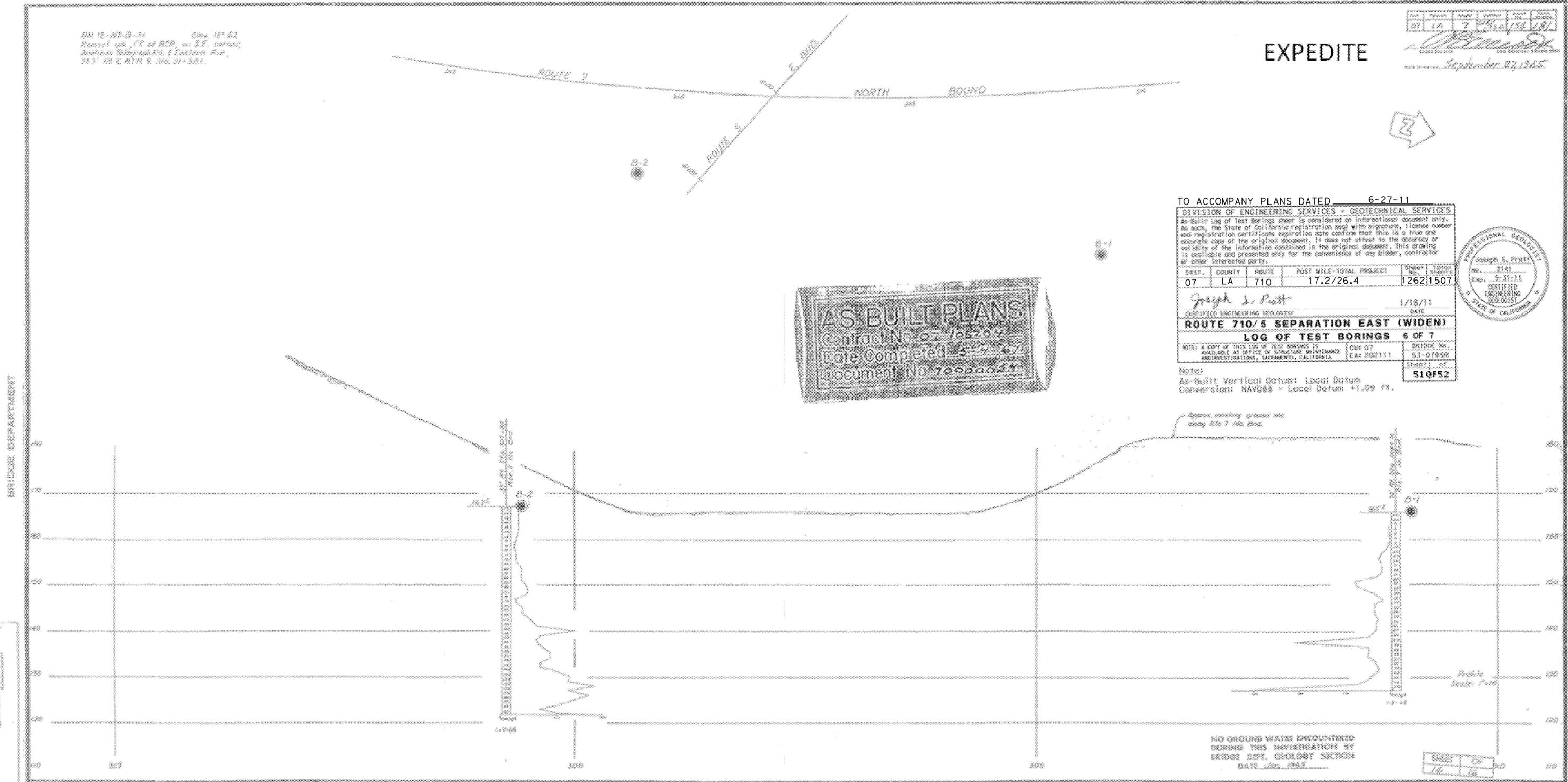
PARTICLE SIZE		
Description	Size (in.)	
Boulder	Greater than 12	
Cobble	3 - 12	
Gravel	Coarse	3/4 - 3
	Fine	1/5 - 3/4
Sand	Coarse	1/16 - 1/5
	Fine	1/64 - 1/16
Silt and Clay	Less than 1/300	

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH	BRIDGE NO. 53-0785R	RTE 710/5 SEPARATION EAST (WIDEN)
				POST MILE 23.19	
PREPARED BY: I.G-Remmen, 01/11	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU 07 EA 202111	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 50 OF 52

BM 12-47-B-31 Elev. 101.62  
 Ramsel Sta., PC of BCR on S.E. corner,  
 Anaheim Telephone Bldg. & Eastern Ave.,  
 252' N. E. ATR & 306.01' SOT.

**EXPEDITE**

DATE: 07/18/11  
 PROJECT: LA 7  
 SHEET: 53 OF 154  
 DRAWING: 51QF52  
 September 27, 1965



**AS-BUILT PLANS**  
 Contract No. 07-106204  
 Date Completed 05-7-67  
 Document No. 70000054

TO ACCOMPANY PLANS DATED 6-27-11  
 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. 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.

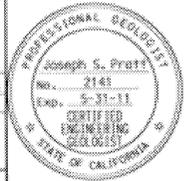
DIST.	COUNTY	ROUTE	POST MILE-TOTAL PROJECT	Sheet No.	Total Sheets
07	LA	710	17.2/26.4	1262	1507

Joseph J. Pratt  
 CERTIFIED ENGINEERING GEOLOGIST  
 DATE: 1/18/11

**ROUTE 710/5 SEPARATION EAST (WIDEN)**  
**LOG OF TEST BORINGS 6 OF 7**

NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATION, SACRAMENTO, CALIFORNIA. CUT 07 EA: 202111 BRIDGE No. 53-0785R SHEET OF 51QF52

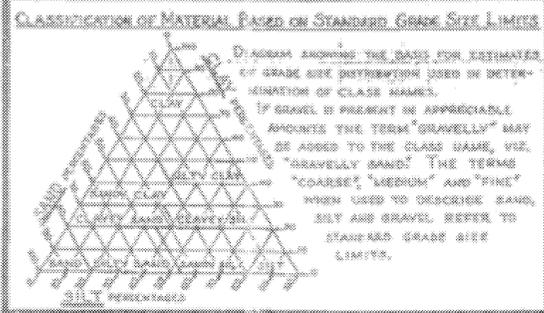
Note:  
 As-Built Vertical Datum: Local Datum  
 Conversion: NAVD83 = Local Datum +1.09 ft.



BRIDGE DEPARTMENT

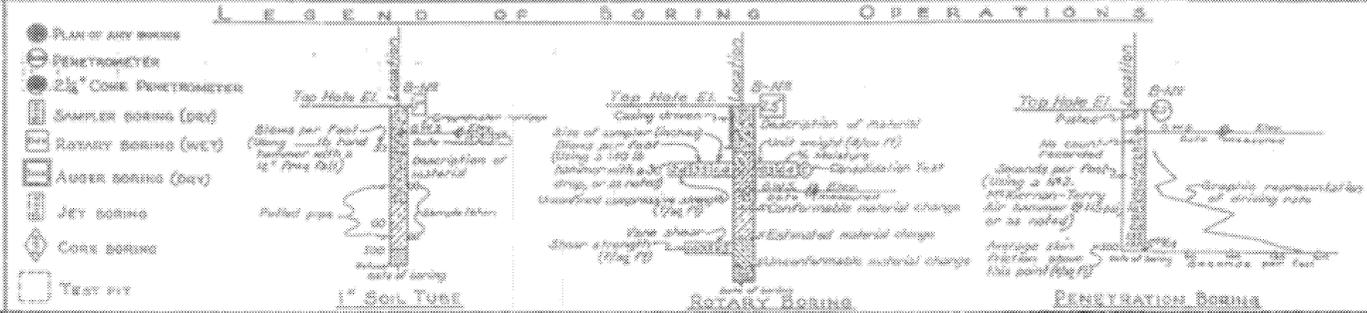
NO GROUND WATER ENCOUNTERED DURING THIS INVESTIGATION BY BRIDGE DEPT. GEOLOGY SECTION DATE 08/18/65

SHEET 76 OF 154



**LEGEND OF EARTH MATERIALS**

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



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

07-106204  
 ROUTE 7 NORTHBOUND/5 SEPARATION WIDENING  
 LOG OF TEST BORINGS SHT. 2

SCALE: As Noted  
 BRIDGE 53-785  
 FILE  
 DRAWING 53785-16

54

Old VII-LA-167 Cont.  
 V-0260 (1)

FILE NO.	DATE	BY	REVISION
2	CAL.		

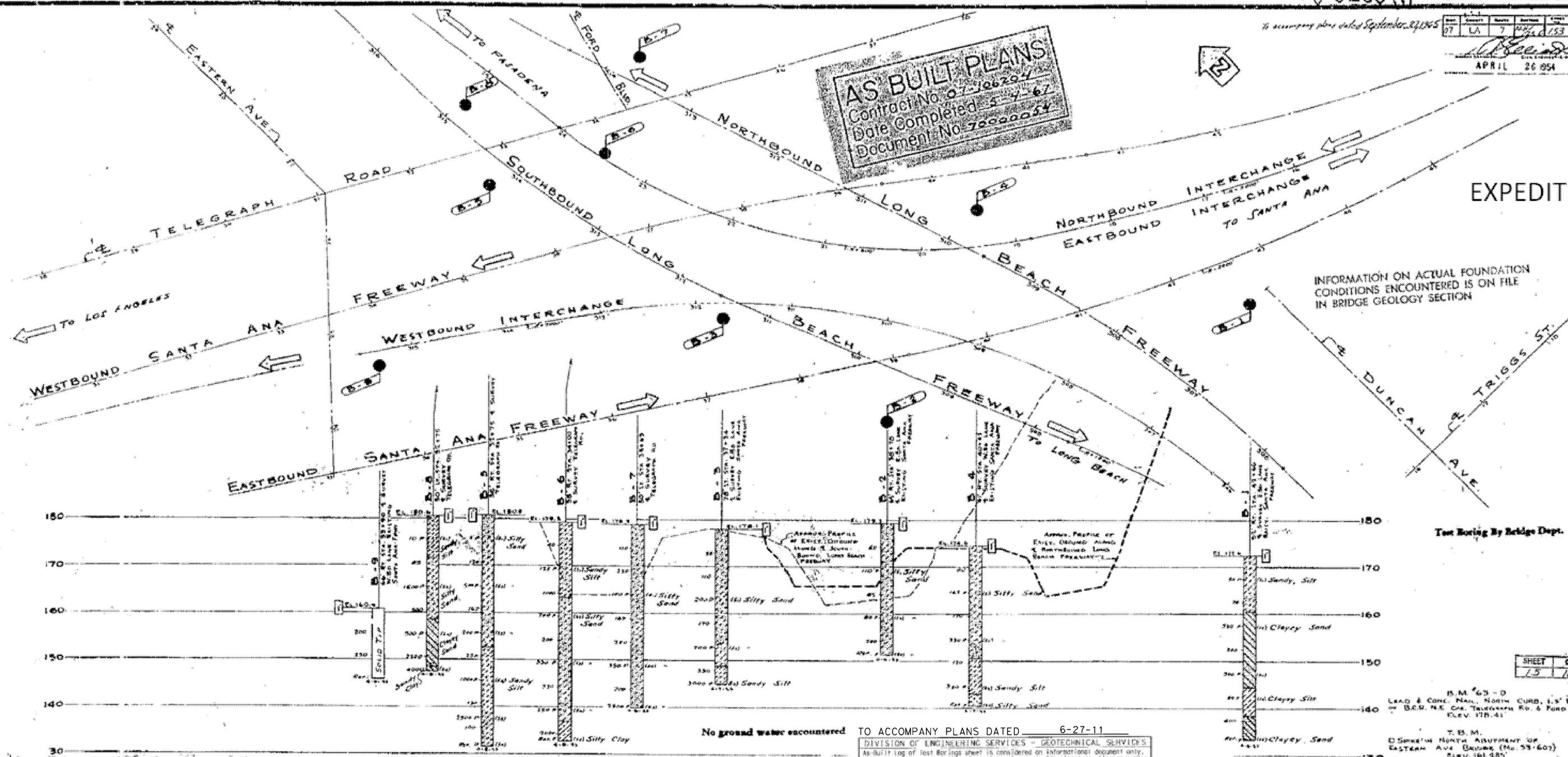
DATE	BY	REVISION
07	LA	7

APRIL 26 1954

**AS BUILT PLANS**  
 Contract No. 07-106204  
 Date Completed 3-7-62  
 Document No. 70000054

**EXPEDITE**

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



No ground water encountered

TO ACCOMPANY PLANS DATED 6-27-11

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 CONFIRMS 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.

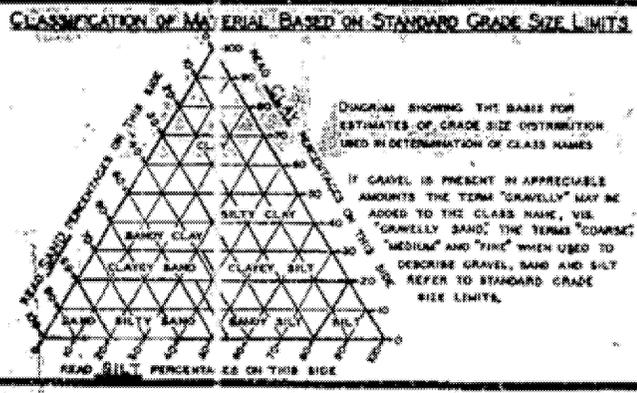
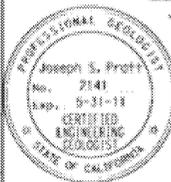
Joseph S. Pratt  
 REGISTERED ENGINEERING GEOLOGIST  
 1/18/11  
 DATE

**ROUTE 710/5 SEPARATION EAST (WIDEN)**  
**LOG OF TEST BORINGS 7 OF 7**

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

CITY OF  
 53-0785R  
 SHEET OF  
 52 OF 52

Notes:  
 1. As-Built Vertical Datum:  
 Local Datum Conversion NAVD83 = Local Datum +1.09 ft. (elevation shift  
 applies to 710/5 Separation East, Soil Tubes B-1, B-4, B-6, and B-7)  
 2. As-Built Vertical Datum:  
 Local Datum Conversion NAVD83 = Local Datum +1.31 ft. (elevation shift  
 applies to 710/5 Separation West, Soil Tubes B-2, B-3, B-5, B-8, and B-9)



**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

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

**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 NO. 2 SPRINGER-TERRY AIR HAMMER AT 115 P.S.I.

07-106204  
 ROUTE 7 NORTHBOUND/5 SEPARATION  
 WIDENING  
**LOG OF TEST BORINGS, SHT. 1**

SCALE: HORIZ. 1" = 20' VERT. 1" = 10'  
 SHEET NO. 53-0785R  
 DRAWING NO. P. 2544

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1264	1507

REGISTERED CIVIL ENGINEER		DATE	
WEI-KUNG HSIA		03-01-11	
No. C50210		PLANS APPROVAL DATE	
Exp. 06-30-11		6-27-11	
CIVIL			

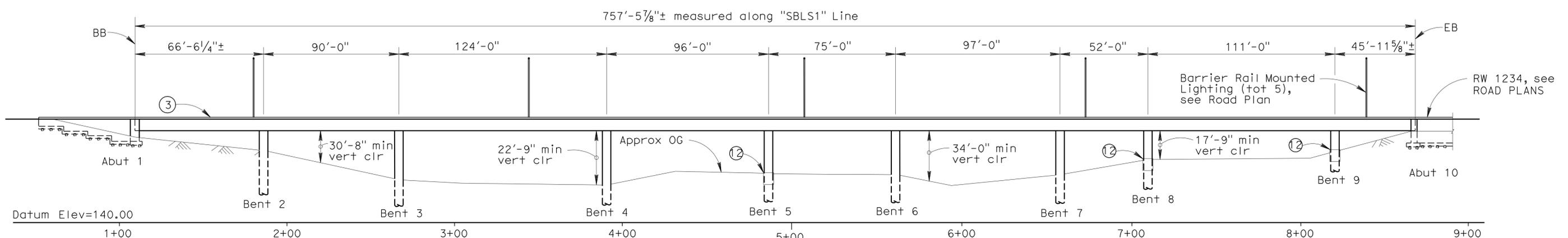
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**NOTES:**

- ① Paint "BRIDGE NO. 53-0788L"
- ② Paint "Rte 710/5 SEPARATION WEST"
- ③ Concrete Barrier Type 732
- ④ Structure Approach Type R(30D) and Paving Notch Extension
- ⑤ Structure Approach Type N(30S)
- ⑥ Existing Railing Type 1 and curb to be removed
- ⑦ Clean bridge deck and treat bridge deck with methacrylate resin.
- ⑧ Remove Existing Type 27 MOD Barrier and Construct New Concrete Barrier Type 732 MOD
- ⑨ Remove Existing Type 27B MOD Barrier and Construct New Concrete Barrier Type 732B MOD
- ⑩ Existing Electroliers to be relocated (tot 5), see Road Plan
- ⑪ Clean Existing expansion joint and install new Joint Seal, see "JOINT REPLACEMENT DETAIL" on "ABUTMENT DETAILS NO. 2" sheet
- ⑫ Isolation Casing, see "ISOLATION CASING DETAILS" sheet.

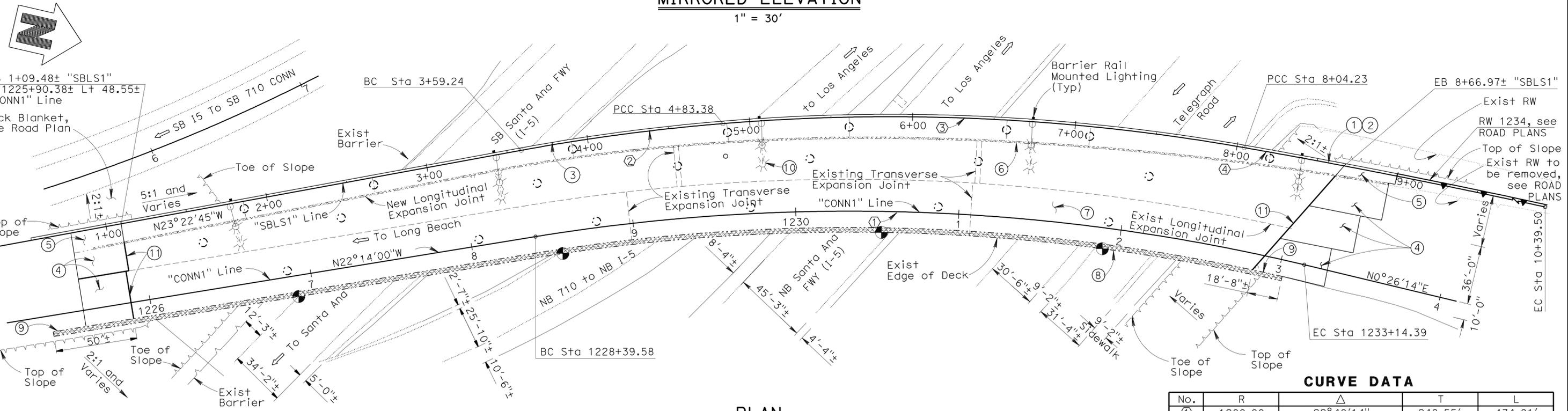
**LEGEND:**

- Indicates Bridge Removal, portion
- Indicates Existing Structure
- Indicates direction of traffic
- Point of minimum vertical clearance
- Indicates Existing Electrolier
- Indicates Relocated Electrolier



**MIRRORED ELEVATION**

1" = 30'



**PLAN**

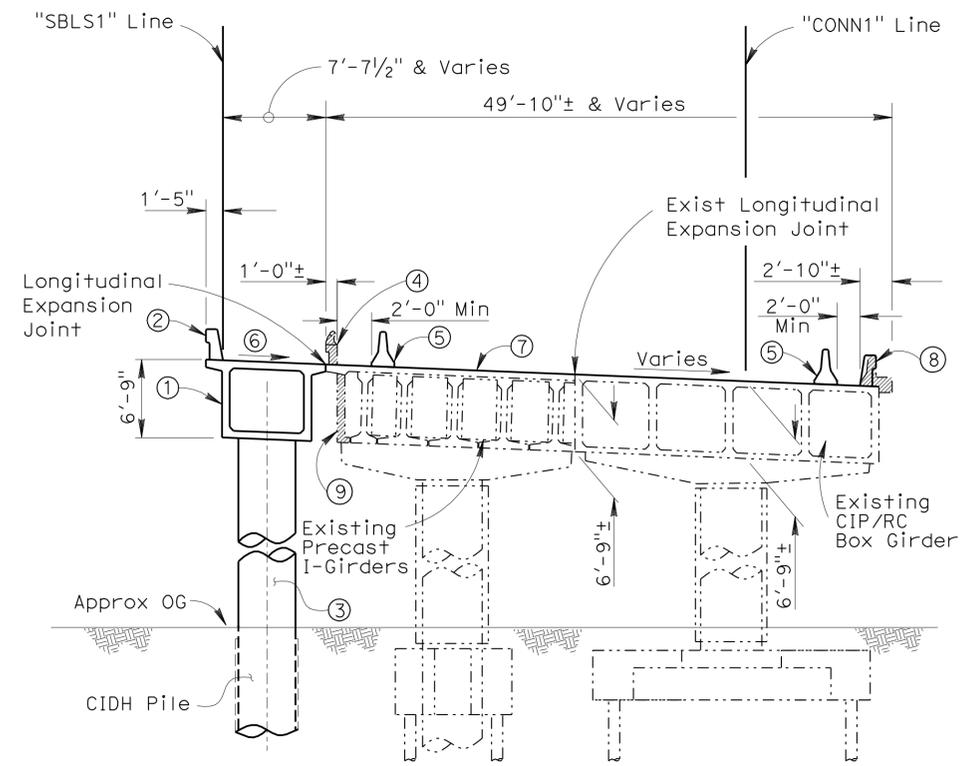
1" = 30'

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

**CURVE DATA**

No.	R	Δ	T	L
①	1200.00	22° 40' 14"	240.55'	474.81'
②	1244.00	5° 43' 03"	62.12'	124.14'
③	1256.00	14° 38' 12"	161.30'	320.85'
④	4520.00	2° 58' 56"	117.66'	235.26'

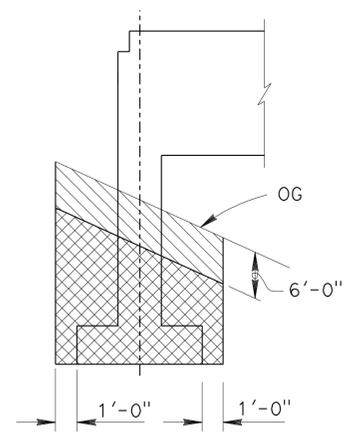
DESIGN ENGINEER <b>PAUL CHUNG</b>	DESIGN BY	WEI-KUNG HSIA	CHECKED	JUAN TORRES	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 19</b>	BRIDGE NO.	53-0788L	<b>RTE 710/5 SEPARATION WEST (WIDEN)</b> <b>GENERAL PLAN NO. 1</b>
	DETAILS BY	HECTOR INIGUEZ	CHECKED	JUAN TORRES	LAYOUT BY	WEI-KUNG HSIA			POST MILE	23.2	
	QUANTITIES BY	EDWARD MERCADO	CHECKED	DARYOUSH BALBAS	SPECIFICATIONS BY	K. ELLINGSON			PLANS AND SPECS COMPARED	K. ELLINGSON	



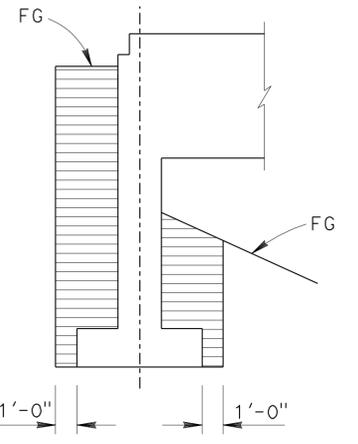
**TYPICAL SECTION**  
1/8" = 1'-0"

**NOTE:**  
Spans 2 to 9 shown,  
Span 1 similar.

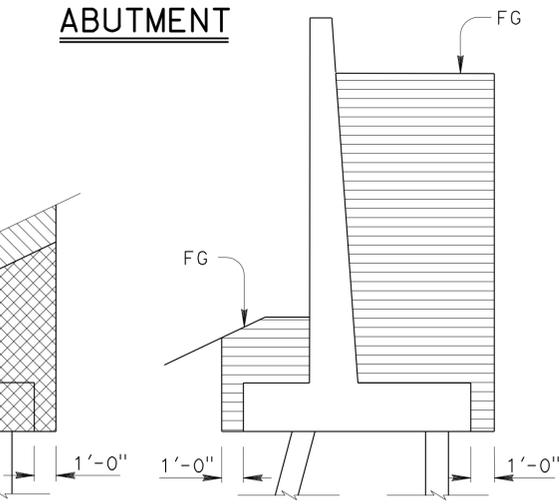
- NOTES:**
- ① CIP/RC Box Girder
  - ② Concrete Barrier Type 732
  - ③ Concrete column and CIDH pile
  - ④ Existing Type 1 Barrier and concrete curb to be removed
  - ⑤ Temporary Barrier (Type K), see Road Plan
  - ⑥ Match existing cross slope and grade
  - ⑦ Clean bridge deck and treat bridge deck with methacrylate resin.
  - ⑧ Remove Existing Type 27 MOD Barrier and Construct New Concrete Barrier Type 732 MOD
  - ⑨ Existing Concrete Facade to be removed



**EXCAVATION**



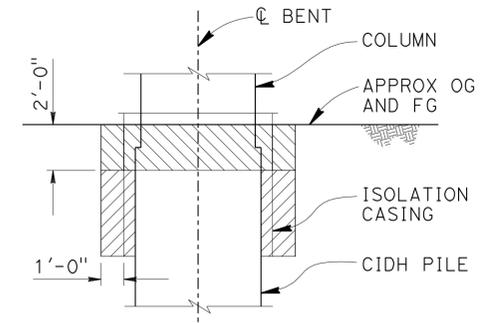
**BACKFILL**



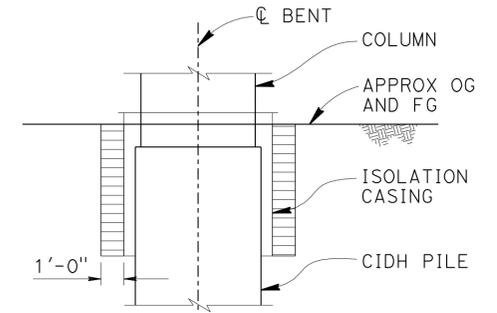
**EXCAVATION**

**BACKFILL**

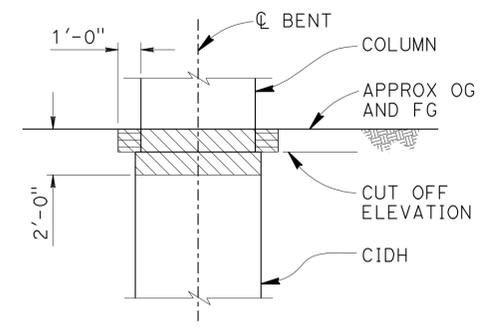
**RETAINING WALL**  
**LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL**  
NO SCALE



**EXCAVATION**  
BENTS 6, 7, 8



**BACKFILL**  
BENTS 6, 7, 8



**EXCAVATION AND BACKFILL**  
BENTS 2, 3, 4, 5

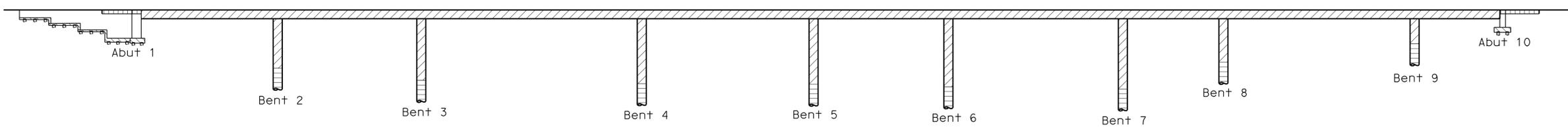
**BENT SHAFT**  
No Scale

- LEGEND:**
- Indicates Bridge Removal, portion
  - Indicates Existing Structure
  - Structure Excavation (Aerially Deposited Lead Type Z-2)
  - Structure Excavation
  - Structure Backfill

**QUANTITIES**

REMOVE UNSOUND CONCRETE	200 CF
CLEAN BRIDGE DECK	39,000 SQFT
BRIDGE REMOVAL (PORTION), LOCATION D	LUMP SUM
STRUCTURE EXCAVATION (BRIDGE)	45 CY
STRUCTURE EXCAVATION (TYPE Z-2) (AERIALY DEPOSITED LEAD)	135 CY
STRUCTURE BACKFILL (BRIDGE)	200 CY
AGGREGATE BASE (APPROACH SLAB)	15 CY
16" CAST-IN-DRILLED-HOLE CONCRETE PILING	1,080 LF
54" CAST-IN-DRILLED-HOLE CONCRETE PILING	210 LF
66" CAST-IN-DRILLED-HOLE CONCRETE PILING	570 LF
STRUCTURAL CONCRETE, BRIDGE FOOTING	36 CY
STRUCTURAL CONCRETE, BRIDGE	950 CY
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE N)	25 CY
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE R)	150 CY
PAVING NOTCH EXTENSION	94 CF
DRILL AND BOND DOWEL	26 LF
RAPID SETTING CONCRETE (PATCH)	200 CF
REFINISH BRIDGE DECK	750 SQFT
JOINT SEAL (MR 1/2")	125 LF
JOINT SEAL (MR 2")	10 LF
JOINT SEAL (TYPE AL)	750 LF
BONDED JOINT SEAL (MR 2 1/2")	14 LF
BAR REINFORCING STEEL (BRIDGE)	426,210 LB
TREAT BRIDGE DECK	39,000 SQFT
FURNISH BRIDGE DECK TREATMENT MATERIAL	260 GAL
PUBLIC SAFETY PLAN	LUMP SUM
ISOLATION CASING	2,660 LB
CONCRETE BARRIER (TYPE 732 MODIFIED)	692 LF
CONCRETE BARRIER (TYPE 732)	820 LF
CONCRETE BARRIER (TYPE 732A)	27 LF
CONCRETE BARRIER (TYPE 732B MOD)	69 LF

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



**CONCRETE STRENGTH AND TYPE LIMITS**  
No Scale

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1266	1507

03-01-11  
REGISTERED CIVIL ENGINEER DATE

6-27-11  
PLANS APPROVAL DATE

WEI-KUNG HSIA  
No. C50210  
Exp. 06-30-11  
CIVIL  
STATE OF CALIFORNIA

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**STANDARD PLANS DATED MAY 2006**

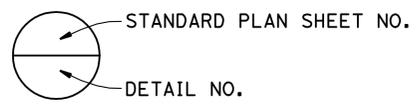
- A10A ACRONYMS AND ABBREVIATIONS (A-L)
- A10B ACRONYMS AND ABBREVIATIONS (M-Z)
- A10C SYMBOLS (SHEET 1 OF 2)
- A10D SYMBOLS (SHEET 2 OF 2)
- A62C LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL - BRIDGE
- B0-1 BRIDGE DETAILS
- B0-3 BRIDGE DETAILS
- B0-5 BRIDGE DETAILS
- B0-13 BRIDGE DETAILS
- B2-3 16" AND 24" CAST IN DRILLED HOLE CONCRETE PILE
- B3-1 RETAINING WALL TYPE 1 H = 4' THROUGH 30'
- B3-8 RETAINING WALL DETAILS NO. 1
- B3-9 RETAINING WALL DETAILS NO. 2
- RSP B6-21 JOINT SEALS (MAXIMUM MOVEMENT RATING = 2")
- B7-1 BOX GIRDER DETAILS
- B11-55 CONCRETE BARRIER TYPE 732
- RSP ES-6A ELECTRICAL SYSTEMS (LIGHTING STANDARDS TYPES 15 AND 21)
- ES-6B ELECTRICAL SYSTEMS (LIGHTING STANDARDS TYPES 15 AND 21 BARRIER RAIL MOUNTED DETAILS)
- RSP ES-9A ELECTRICAL SYSTEMS (ELECTRICAL DETAILS STRUCTURE INSTALLATIONS)
- ES-9B ELECTRICAL SYSTEMS (ELECTRICAL DETAILS STRUCTURE INSTALLATIONS)
- RSP ES-9C ELECTRICAL SYSTEMS (ELECTRICAL DETAILS STRUCTURE INSTALLATIONS)
- ES-9D ELECTRICAL SYSTEMS (ELECTRICAL DETAILS STRUCTURE INSTALLATIONS)
- RSP P10 CONCRETE PAVEMENT DOWEL BAR DETAILS

**LEGEND**

- CIDH Pile (f'c = 4000 psi @ 28 days)
- Structural Concrete, Bridge Footing
- Structural Concrete, Bridge
- Structural Concrete, Bridge (f'c = 4000 psi @ 28 days)
- Structural Concrete, Approach Slab

**INDEX TO PLANS**

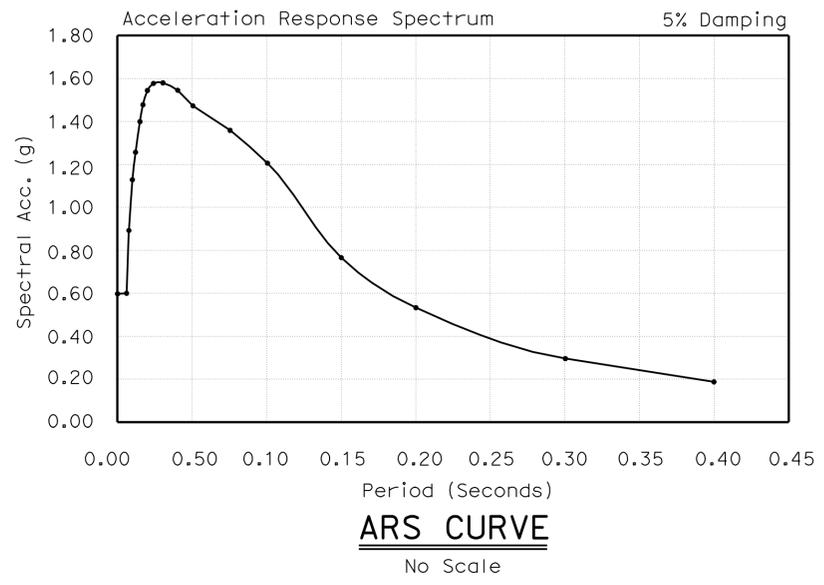
NO.	SHEET NAME
1	GENERAL PLAN NO. 1
2	GENERAL PLAN NO. 2
3	INDEX TO PLANS
4	FOUNDATION PLAN NO.1
5	FOUNDATION PLAN NO.2
6	ABUTMENT 1 LAYOUT
7	ABUTMENT 10 LAYOUT
8	ABUTMENT DETAILS NO. 1
9	ABUTMENT DETAILS NO. 2
10	ABUTMENT DETAILS NO. 3
11	ABUTMENT DETAILS NO. 4
12	TYPICAL BENT ELEVATION & SECTION
13	ISOLATION CASING DETAILS
14	TYPICAL BENT CAP DETAILS
15	TYPICAL SECTIONS
16	PART TYPICAL SECTIONS
17	GIRDER LAYOUT NO. 1
18	GIRDER LAYOUT NO. 2
19	GIRDER LAYOUT NO. 3
20	CAMBER DIAGRAM
21	GIRDER REINFORCEMENT NO. 1
22	GIRDER REINFORCEMENT NO. 2
23	GIRDER REINFORCEMENT NO. 3
24	STRUCTURE APPROACH TYPE N (30S)
25	STRUCTURE APPROACH TYPE R (30D)
26	STRUCTURE APPROACH DRAINAGE DETAILS
27	LOG OF TEST BORINGS 1 of 7
28	LOG OF TEST BORINGS 2 of 7
29	LOG OF TEST BORINGS 3 of 7
30	LOG OF TEST BORINGS 4 of 7
31	LOG OF TEST BORINGS 5 of 7
32	LOG OF TEST BORINGS 6 of 7
33	LOG OF TEST BORINGS 7 of 7



**GENERAL NOTES**

**LOAD AND RESISTANCE FACTOR DESIGN**

- DESIGN: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS - 4th edition with California Amendments .
- SEISMIC DESIGN: CALTRANS SEISMIC DESIGN CRITERIA (SDC) Version 1.4, June 2006
- DEAD LOAD: Includes 35 psf for Future Wearing Surface
- LIVE LOAD: HL93 and permit design load.
- SEISMIC LOAD: SDC figure B.8 (Modified). Soil Type D, M=7.25 ± 0.25 Peak Rock Acceleration = 0.6 g
- REINFORCED CONCRETE: f<sub>y</sub> = 60,000 psi  
f'c = 3600 psi (except as shown on "CONCRETE STRENGTH & TYPE LIMITS")
- PILES: See "PILE DATA TABLE" on this sheet and "TYPICAL BENT ELEVATION & SECTION" sheet



**PILE DATA TABLE**

LOCATION	PILE TYPE	NOMINAL RESISTANCE (kips)		DESIGN TIP ELEVATION (ft)	SPECIFIED TIP ELEVATION (ft)
		COMPRESSION	TENSION		
Abut 1	16" CIDH	180	N/A	139.0 (a)	139.0
				154.0 (c)	
				159.0 (d)	
Abut 1 RW	16" CIDH	180	N/A	140.0	140.0
				143.0	
				146.0	
				149.0	
Abut 10	16" CIDH	180	N/A	152.0 (a)	152.0
				170.0 (c)	
				167.0 (d)	

- Notes:**
- Design tip elevations for Abutments are controlled by: (a) Compression, (c) Settlement, (d) Lateral Load.
  - The CIDH specified tip elevation shall not be raised.

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY EDWARD MERCADO	CHECKED JUAN TORRES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 19	BRIDGE NO.	53-0788L	RTE 710/5 SEPARATION WEST (WIDEN)	
	DETAILS	BY HECTOR INIGUEZ	CHECKED JUAN TORRES			POST MILE	23.2		
	QUANTITIES	BY EDWARD MERCADO	CHECKED DARYOUSH BALBAS			INDEX TO PLAN			
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				UNIT: 3621	PROJECT NUMBER & PHASE: 0700020869 1			CONTRACT NO.: 07-202111	DISREGARD PRINTS BEARING EARLIER REVISION DATES

DATE PLOTTED => 18:58  
DATE PLOTTED => 28-JUN-2011  
USERNAME => s124496

Bridge Location

- ① - 36.393 Lt. "CONN1" Line, Sta 1225+89.330, Elev 200.340 (Projection of exist PN)
- ② - 10.210 Rt. "CONN1" Line, Sta 1225+89.110, Elev 201.758

No.	R	Δ	T	L
②	1244.000	5°43'03"	62.120	124.140
⑤	1200.000	18°51'40"	199.315	395.023
⑥	1200.000	22°40'14"	240.552	474.811
⑦	600.000	49°41'42"	277.843	520.405
⑨	800.000	46°57'54"	347.558	655.753
⑪	2500.000	07°49'00"	170.798	341.066
⑫	1999.979	15°45'36"	276.807	550.119

- Ⓐ Sta 38+67.450 @ SB Rte 5 =  
Sta 1227+25.147 "CONN1" Line
- Ⓑ Sta 1228+88.539 "CONN1" Line =  
Sta 1229+12.381 @ NB Rte 710/ NB Rte 5 Connector
- Ⓒ Sta 39+78.524 @ SB Rte 5 =  
Sta 1226+49.668 @ NB Rte 710/ NB Rte 5 Connector
- Ⓓ Sta 37+70.892 @ NB Rte 5 =  
Sta 1229+57.166 @ SB Rte 710/ SB Rte 5 Connector

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



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1267	1507

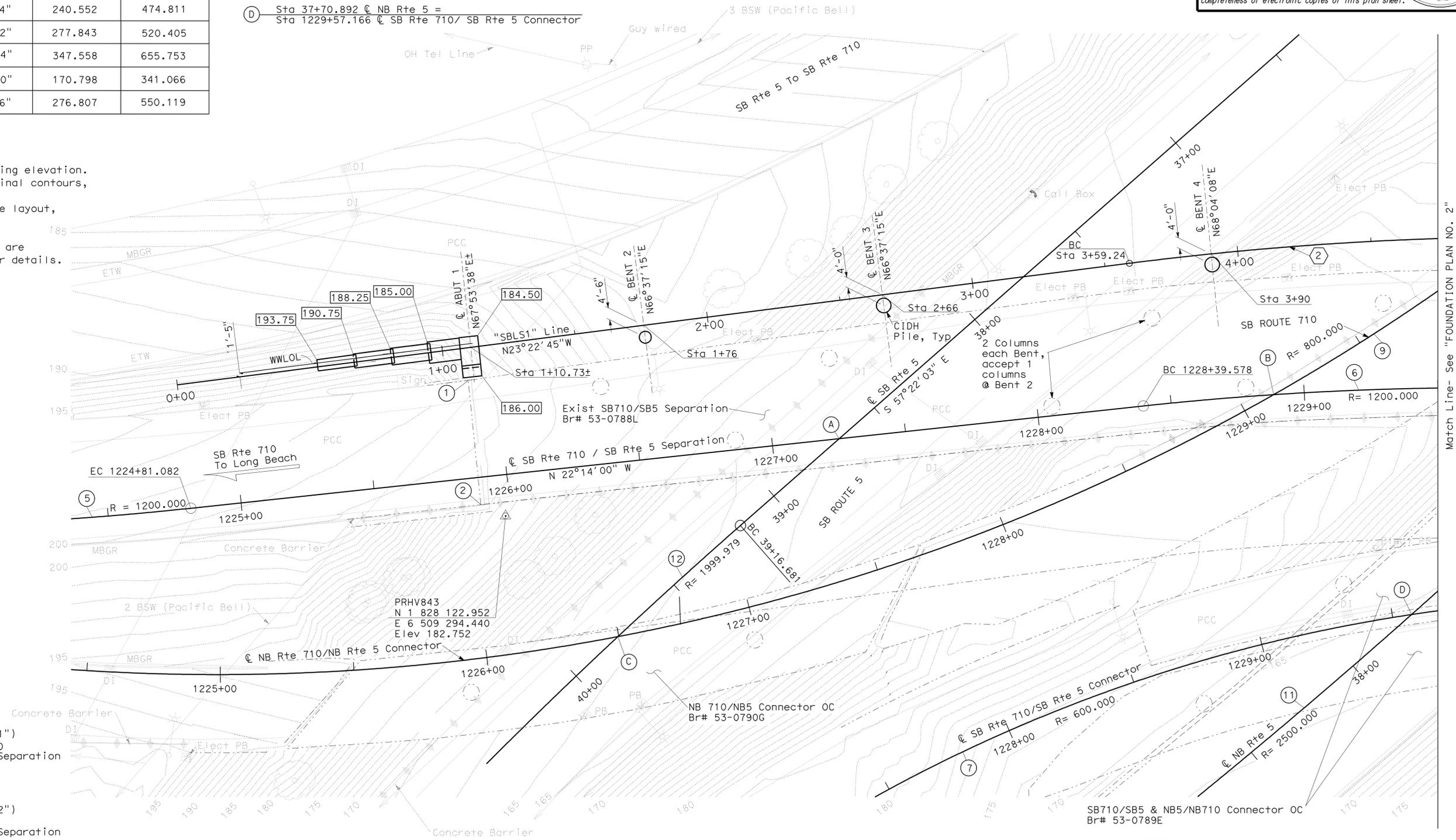
03-01-11  
REGISTERED CIVIL ENGINEER DATE

6-27-11  
PLANS APPROVAL DATE

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

NOTES:

1.  Indicates bottom of footing elevation.
2. Existing contours shown, for final contours, see ROAD PLANS.
3. For footing dimensions and pile layout, see "ABUTMENT 1 LAYOUT" and "ABUTMENT 10 LAYOUT" sheets.
4. Underground utilities as shown are approximate, see ROAD PLANS for details.



SURVEY CONTROL

PRHV843 (See "FOUNDATION PLAN NO. 1")  
 Fd: PD Spk top slope under Rte 710  
 Sta 1225+97.872  
 N 1 828 122.952  
 E 6 509 294.440  
 Elev 182.752

PRHV221 (See "FOUNDATION PLAN NO. 2")  
 Fd: Pd PK nail  
 Sta 1234+23.070  
 N 1 828 913.022  
 E 6 509 064.367  
 Elev 206.676

NOTES:  
Underground utilities as shown are approximate

<b>PRELIMINARY INVESTIGATION SECTION</b>				DESIGN BY EDWARD MERCADO	CHECKED JUAN TORRES	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	<b>DIVISION OF ENGINEERING SERVICES</b> STRUCTURE DESIGN <b>DESIGN BRANCH 19</b>	BRIDGE NO. 53-0788L	<b>RTE 710/5 SEPARATION WEST (WIDEN)</b> <b>FOUNDATION PLAN NO. 1</b>				
SCALE VERT. DATUM NAVD88	PHOTOGRAMMETRY AS OF: X	DETAILS BY HECTOR INIGUEZ	CHECKED JUAN TORRES	POST MILE 23.21									
1:20	HORIZ. DATUM NAD83	CHECKED BY T. Phung/ C. Stewart	CHECKED DARYOUSH BALBAS										
ALIGNMENT TIES Dist Traverse Sheets		DRAFTED BY C. Pham	CHECKED BY E. Viojar	QUANTITIES BY EDWARD MERCADO	CHECKED DARYOUSH BALBAS	UNIT: 3621	PROJECT NUMBER & PHASE: 0700020869	1	CONTRACT NO.: 07-202111	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 4	OF 33

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

FILE => 53-0788L-e-fdpl01.dgn

Bridge Location  
 ③ - 57.171 Lt. "CONN1" Line, Sta 1233+22.010, Elev 209.564  
 ④ - 10.267 Rt. "CONN1" Line, Sta 1232+85.930, Elev 205.753  
 E Sta 1230+65.759 @ SB Rte 710 Olympic On-Ramp =  
 Sta 35+98.100 @ NB Rte 5  
 F Sta 1230+29.512 "CONN1" Line =  
 Sta 36+48.903 @ NB Rte 5

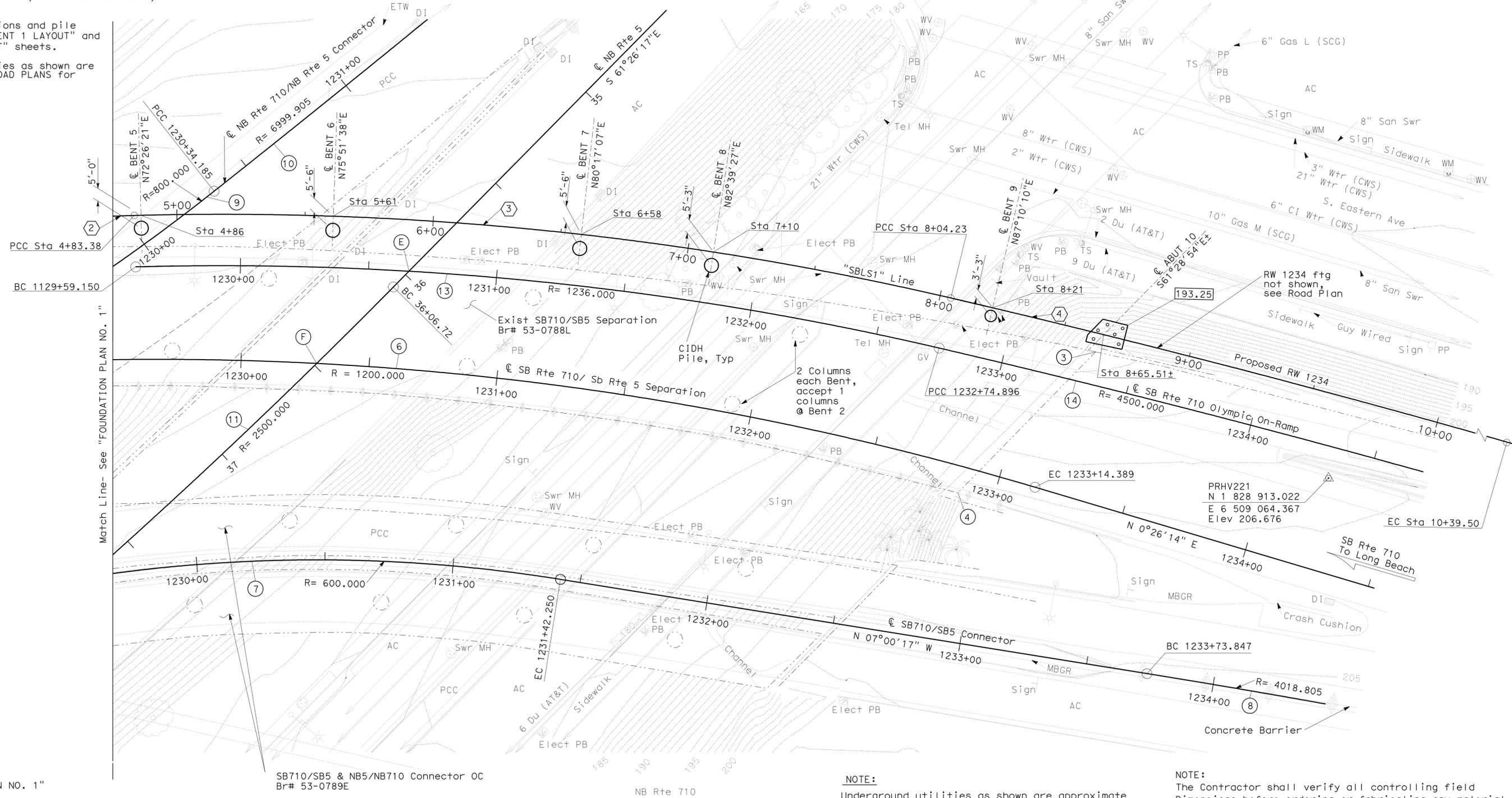
No.	R	Δ	T	L
②	1244.000	5°43'03"	62.12	124.14
③	1256.000	14°38'12"	161.30	320.85
④	4520.000	02°58'56"	117.66	235.26
⑥	1200.000	22°40'14"	240.552	474.811
⑦	600.000	49°41'42"	277.843	520.405
⑧	4018.805	01°59'54"	70.085	140.156

No.	R	Δ	T	L
⑨	800.000	46°57'54"	347.558	655.753
⑩	6999.905	02°05'56"	128.228	256.427
⑪	2500.000	07°49'00"	170.798	341.066
⑬	1236.000	04°38'08"	158.737	315.746
⑭	4500.000	02°58'56"	117.137	234.221

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1268	1507

03-01-11  
 REGISTERED CIVIL ENGINEER DATE  
 WEI-KUNG HSIA  
 No. C 50210  
 Exp. 06-30-11  
 CIVIL  
 STATE OF CALIFORNIA  
 6-27-11  
 PLANS APPROVAL DATE  
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- NOTES:
- Indicates bottom of footing elevation.
  - Existing contours shown, for final contours, see ROAD PLANS.
  - For footing dimensions and pile layout, see "ABUTMENT 1 LAYOUT" and "ABUTMENT 10 LAYOUT" sheets.
  - Underground utilities as shown are approximate, see ROAD PLANS for details.



SURVEY CONTROL  
 See "FOUNDATION PLAN NO. 1"

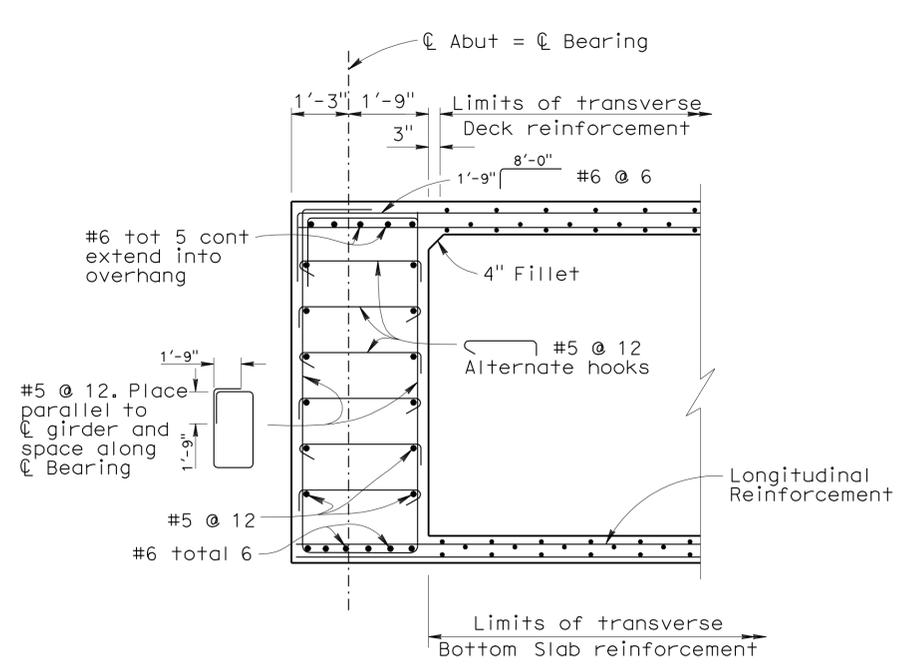
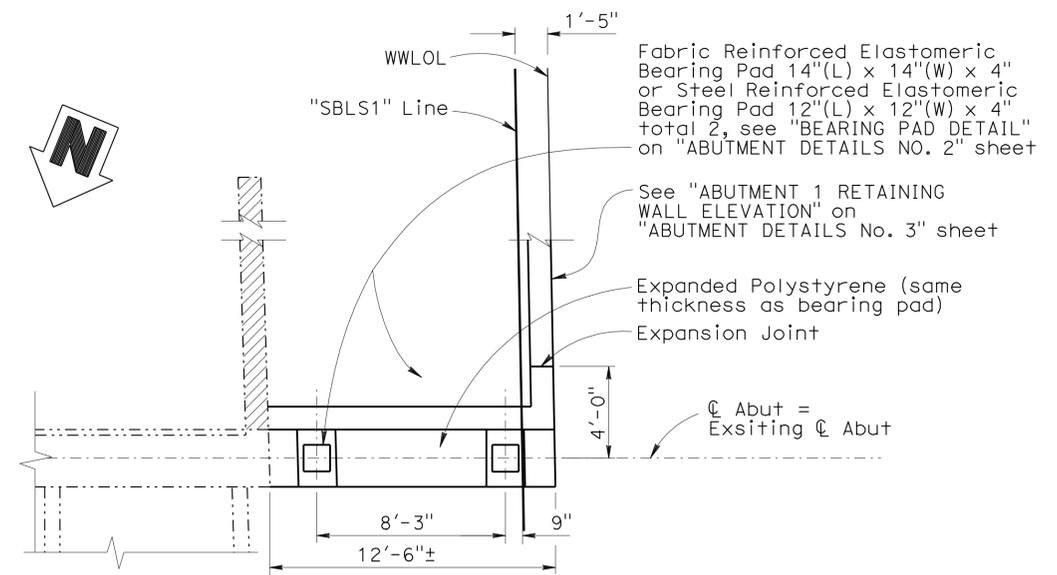
SB710/SB5 & NB5/NB710 Connector OC  
 Br# 53-0789E

NB Rte 710

NOTE:  
 Underground utilities as shown are approximate

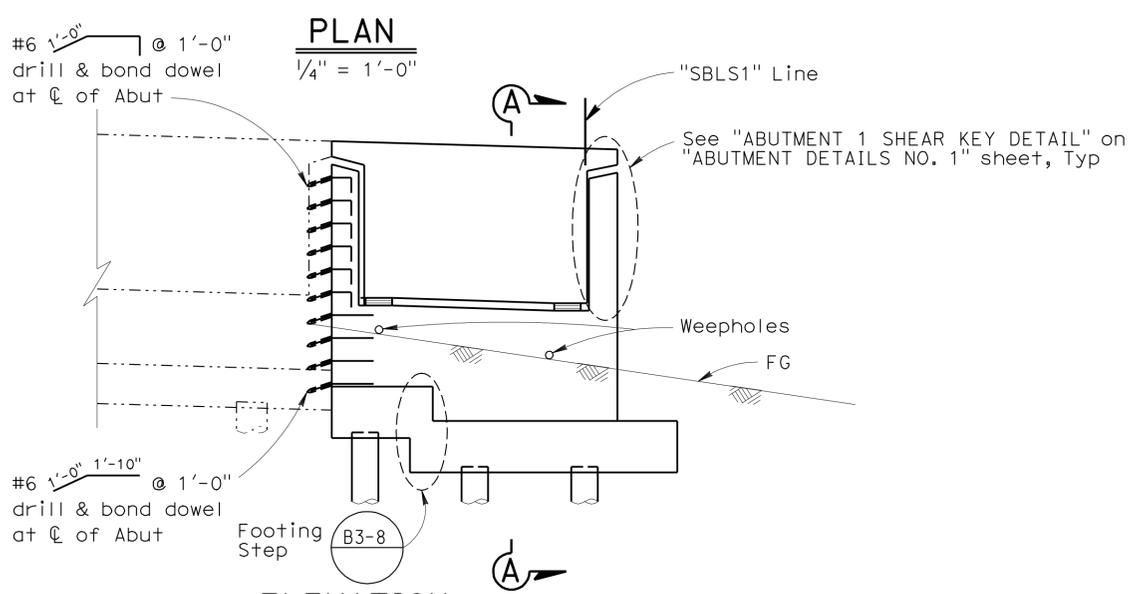
NOTE:  
 The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

PRELIMINARY INVESTIGATION SECTION				DESIGN BY EDWARD MERCADO	CHECKED JUAN TORRES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 19	BRIDGE NO. 53-0788L	RTE 710/5 SEPARATION WEST (WIDEN) FOUNDATION PLAN NO. 2		
SCALE 1:20	VERT. DATUM NAVD88	PHOTOGRAMMETRY AS OF: X	DETAILS BY HECTOR INIGUEZ	CHECKED JUAN TORRES	POST MILE 23.21						
ALIGNMENT TIES Dist Traverse Sheets	SURVEYED BY D7	CHECKED BY T. Phung / C. Stewart	QUANTITIES BY EDWARD MERCADO	CHECKED DARYOUSH BALBAS							
STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 09-01-10)						ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3621 PROJECT NUMBER & PHASE: 0700020869	1 CONTRACT NO.: 07-202111	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES: 12/14/09, 02/10/11, 03/01/11	SHEET 5 OF 33



**DIMENSIONS "a"**

MR	WINTER	FALL SPRING	SUMMEER
2.5"	2 1/4"	1 5/8"	1 1/8"

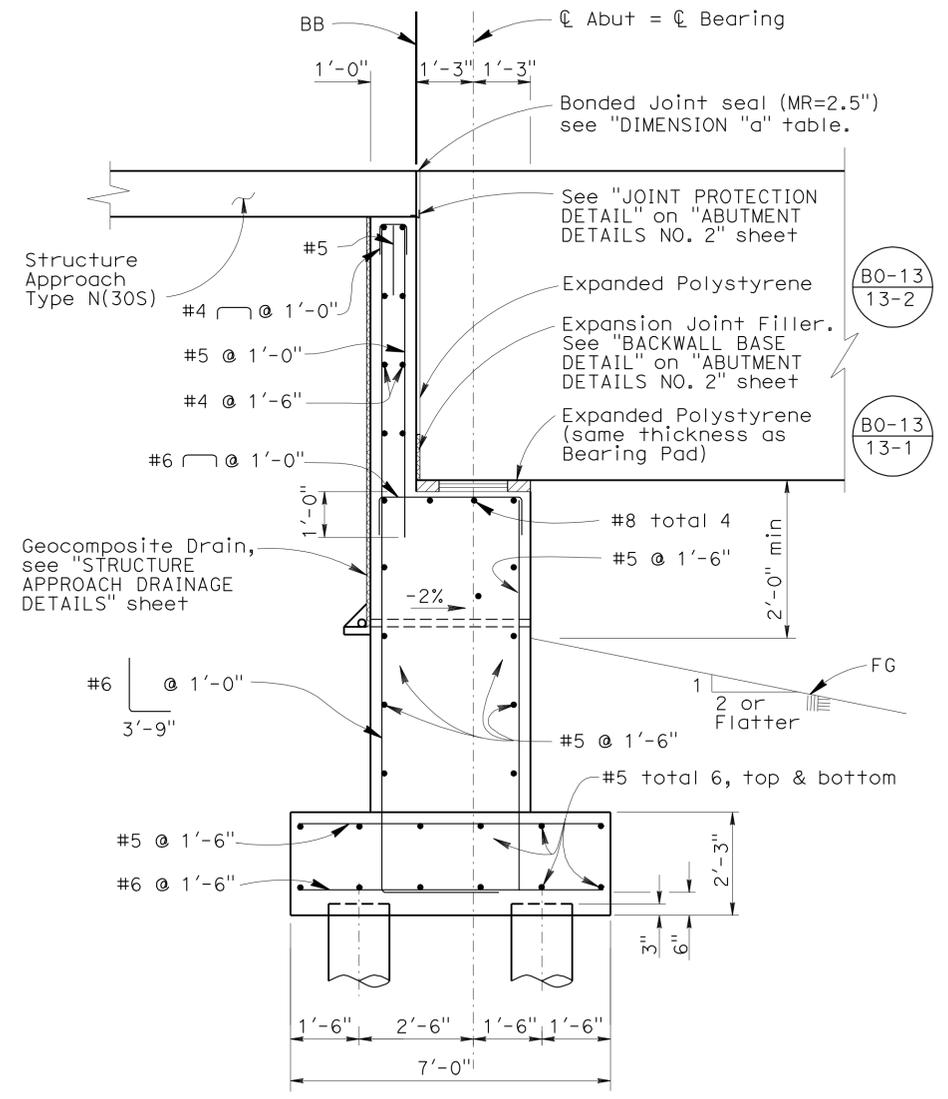


**ABUTMENT 1 END DIAPHRAGM**  
1/2" = 1'-0"

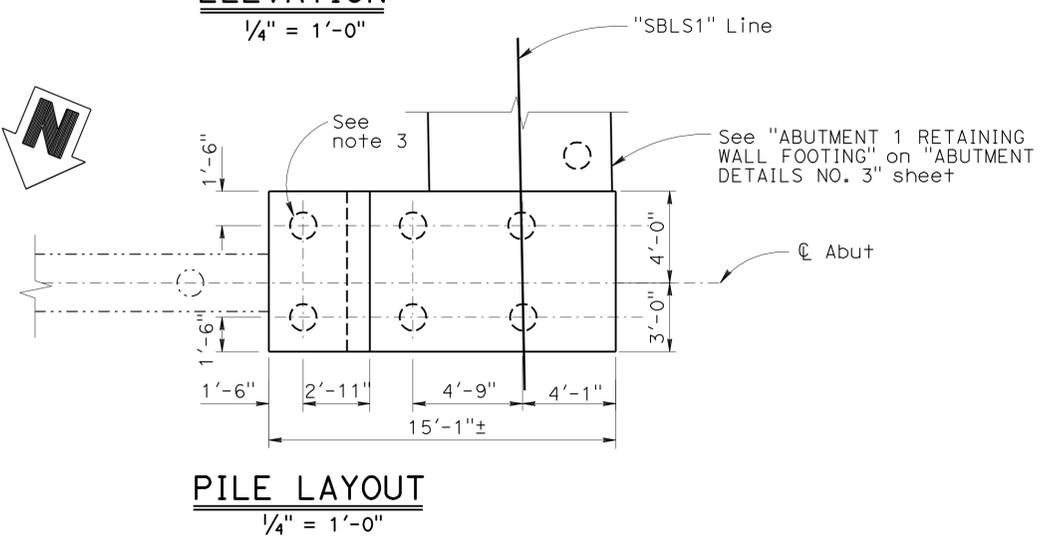
- NOTES:**
- Barrier not shown
  - Pile reinforcement not shown
  - All piles are 16" CIDH piles, see B2-3

- LEGEND**
- Indicates Bridge Removal, Portion, see "ABUTMENT DETAILS NO. 4" sheet
  - Indicates Existing Structure

**NOTE :**  
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIALS



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

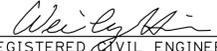


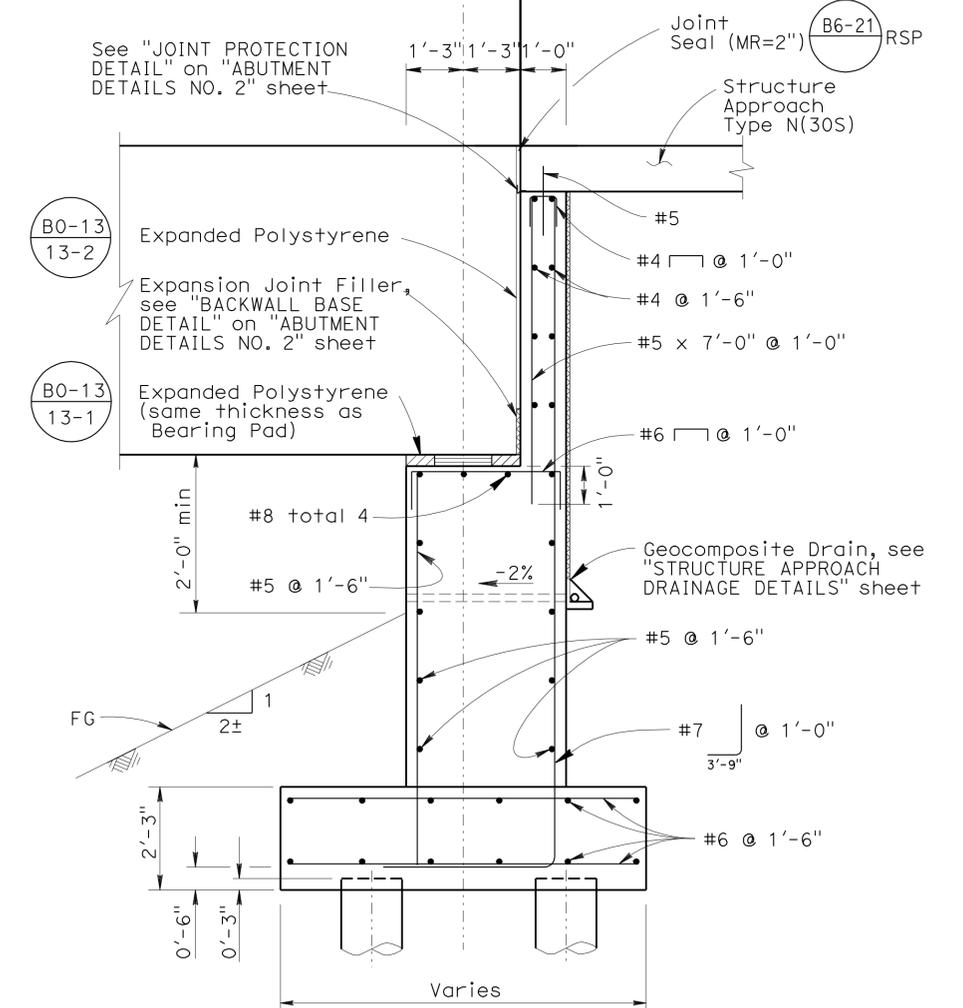
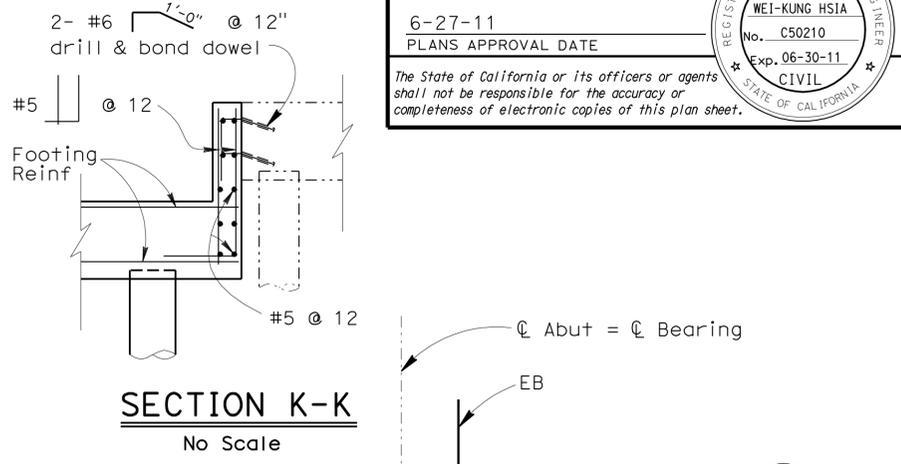
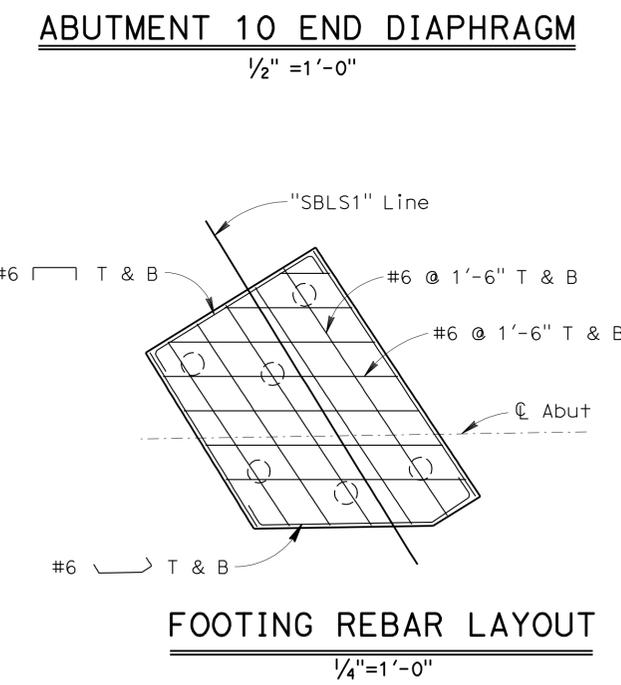
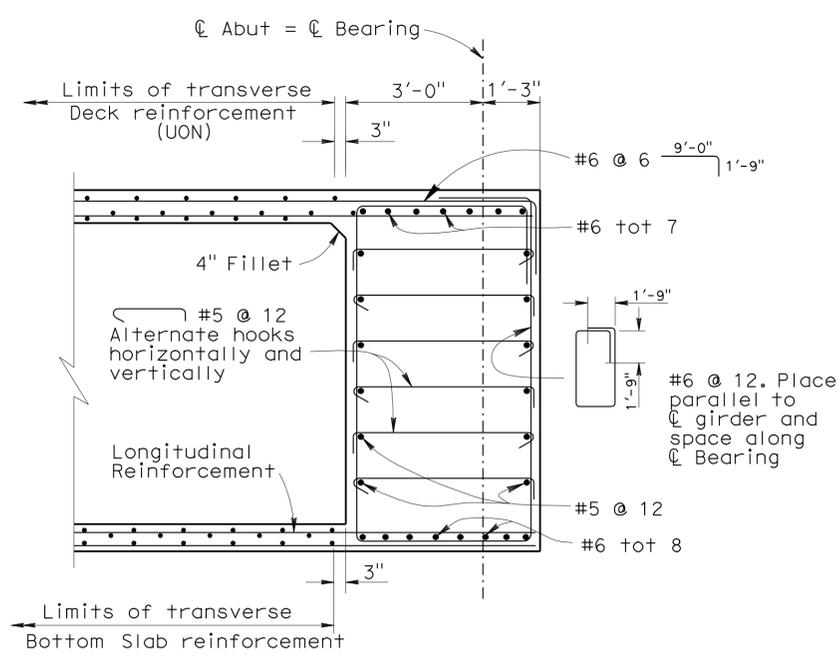
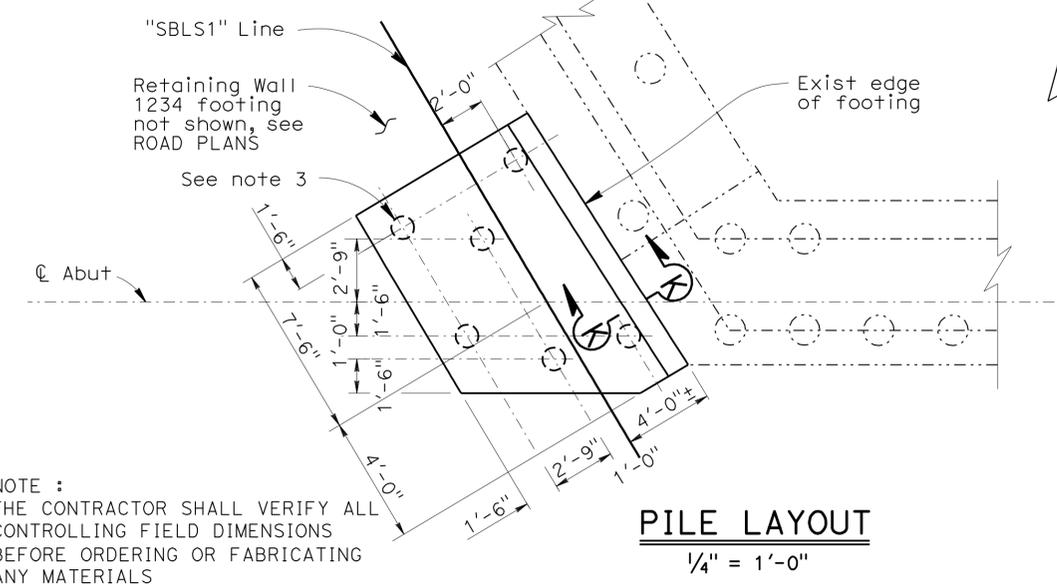
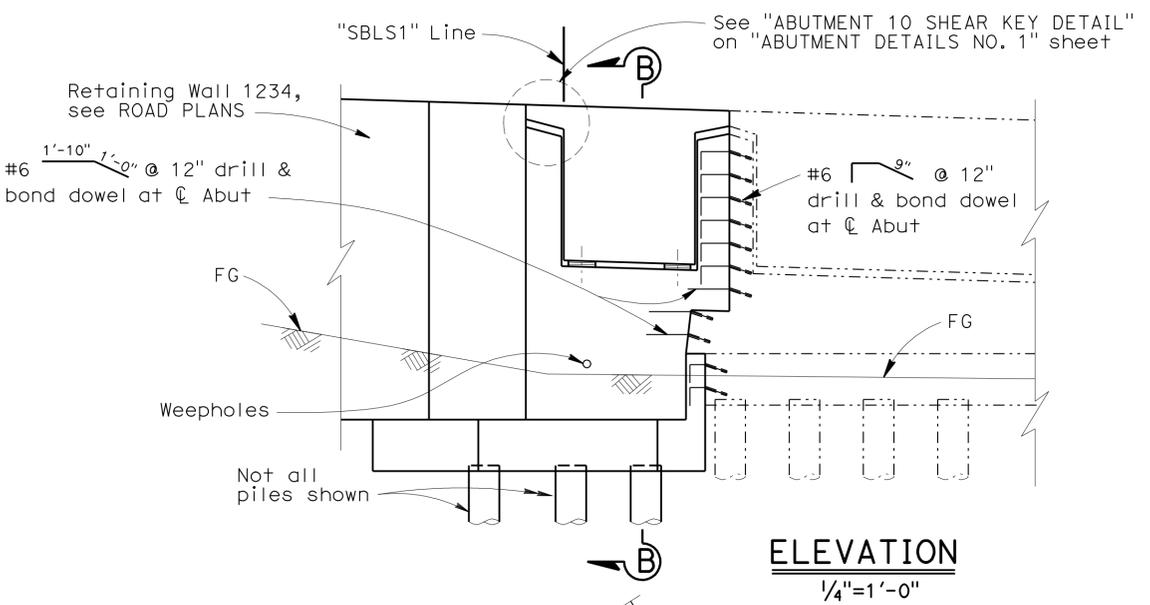
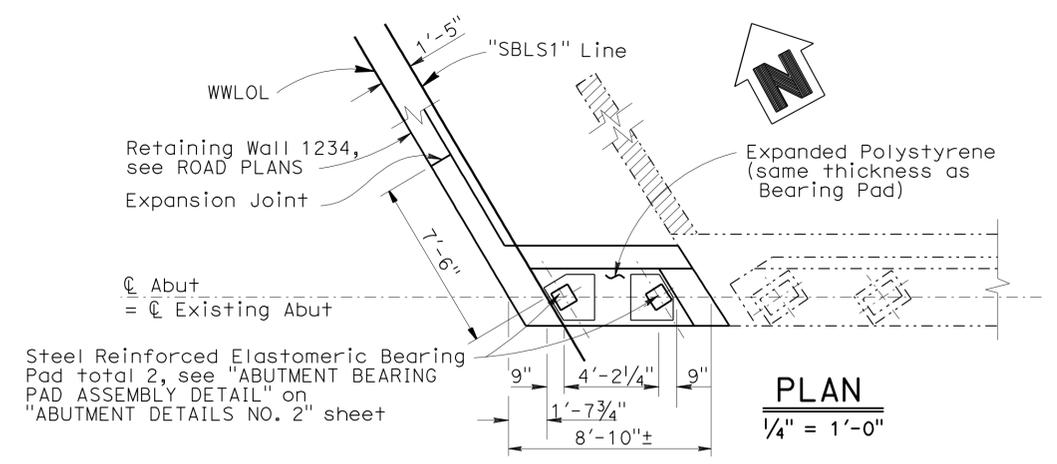
DESIGN	BY RUI WANG	CHECKED CESAR SANCHEZ
DETAILS	BY H. INIGUEZ / H. MAHBOOBI	CHECKED CESAR SANCHEZ
QUANTITIES	BY EDWARD MERCADO	CHECKED DARYOUSH BALBAS

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
 DESIGN BRANCH 19

BRIDGE NO.	53-0788L
POST MILE	23.2

**RTE 710/5 SEPARATION WEST (WIDEN)**  
**ABUTMENT 1 LAYOUT**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1270	1507
			03-01-11		
REGISTERED CIVIL ENGINEER			DATE		
6-27-11			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:**

- Barrier not shown
- Pile reinforcement not shown
- All piles are 16" CIDH piles, see 

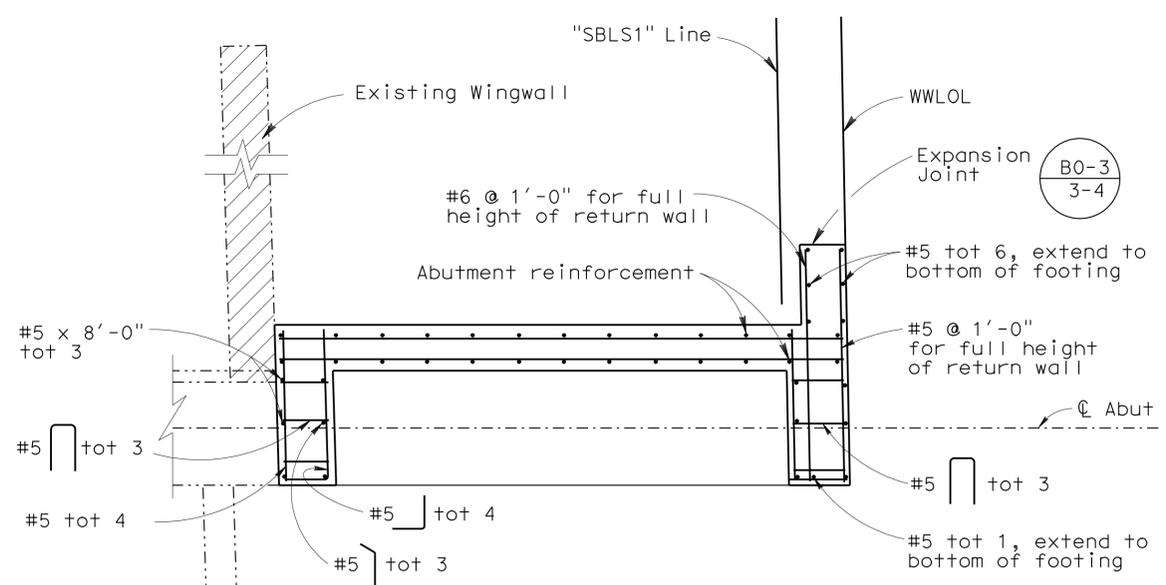
**LEGEND**

-  Indicates Bridge Removal, portion, see "ABUTMENT DETAILS NO. 4" sheet
-  Indicates Existing Structure

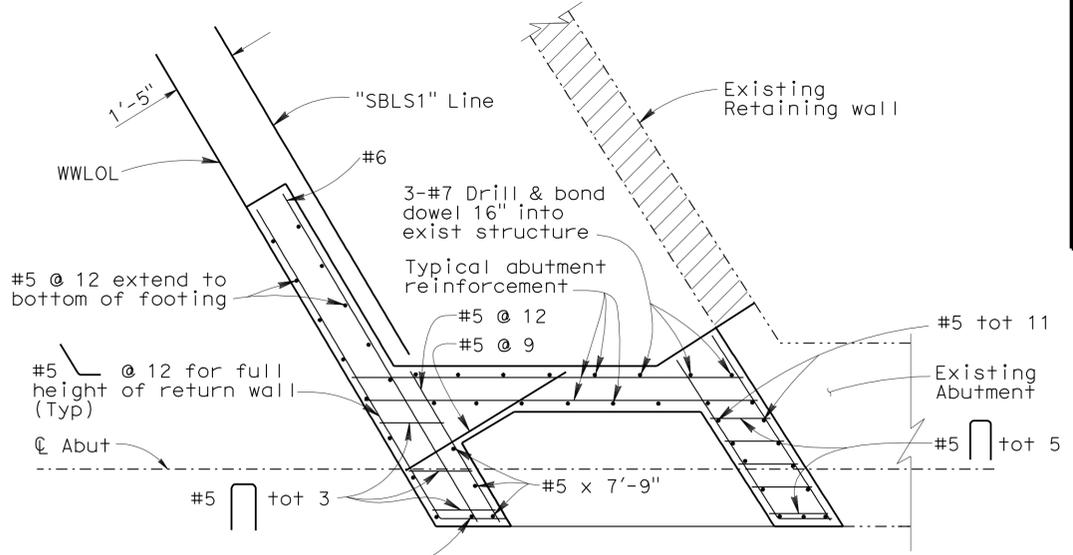
NOTE :  
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIALS

DESIGN	BY	RUI WANG	CHECKED	CESAR SANCHEZ	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 19	BRIDGE NO.	53-0788L	RTE 710/5 SEPARATION WEST (WIDEN) ABUTMENT 10 LAYOUT					
	DETAILS	BY	HENGAMEH MAHBOOBI	CHECKED			CESAR SANCHEZ	POST MILE		23.2				
QUANTITIES	BY	EDWARD MERCADO	CHECKED	DARYOUSH BALBAS	UNIT: 3621	PROJECT NUMBER & PHASE: 0700020869 1	CONTRACT NO.: 07-202111	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET	OF			
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)										07-14-08	07-14-11	03-01-11	7	33

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1271	1507
			03-01-11 REGISTERED CIVIL ENGINEER DATE 6-27-11 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.		



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



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

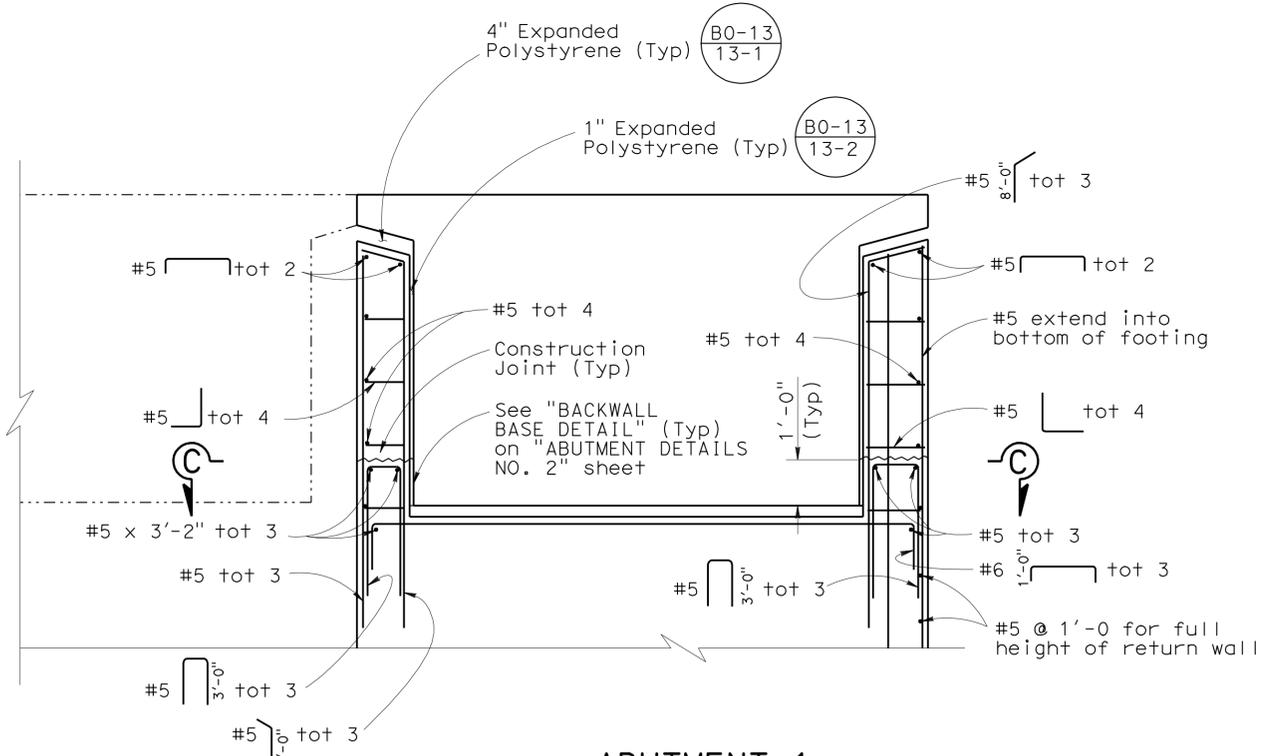
**LEGEND**

Indicates Bridge Removal, portion

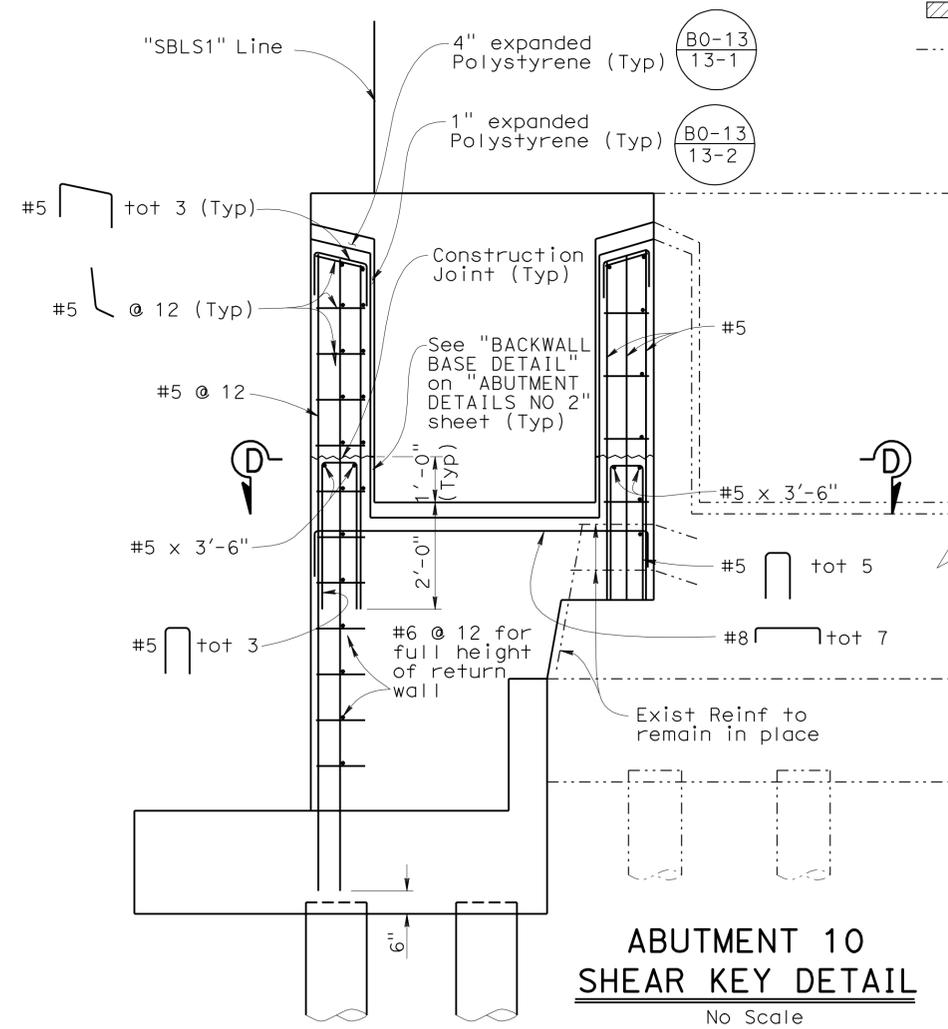
Indicates Existing Structure or Reinforcement

**NOTE:**

1. Drill and bond dowel reinf not shown, see "ABUTMENT 1 LAYOUT" and "ABUTMENT 10 LAYOUT" sheets for details.



**ABUTMENT 1 SHEAR KEY DETAIL**  
1/2"=1'-0"



**ABUTMENT 10 SHEAR KEY DETAIL**  
No Scale

**NOTE:**  
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING

DESIGN	BY RUI WANG	CHECKED CESAR SANCHEZ
DETAILS	BY HECTOR INIGUEZ	CHECKED CESAR SANCHEZ
QUANTITIES	BY EDWARD MERCADO	CHECKED DARYOUSH BALBAS

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
**DESIGN BRANCH 19**

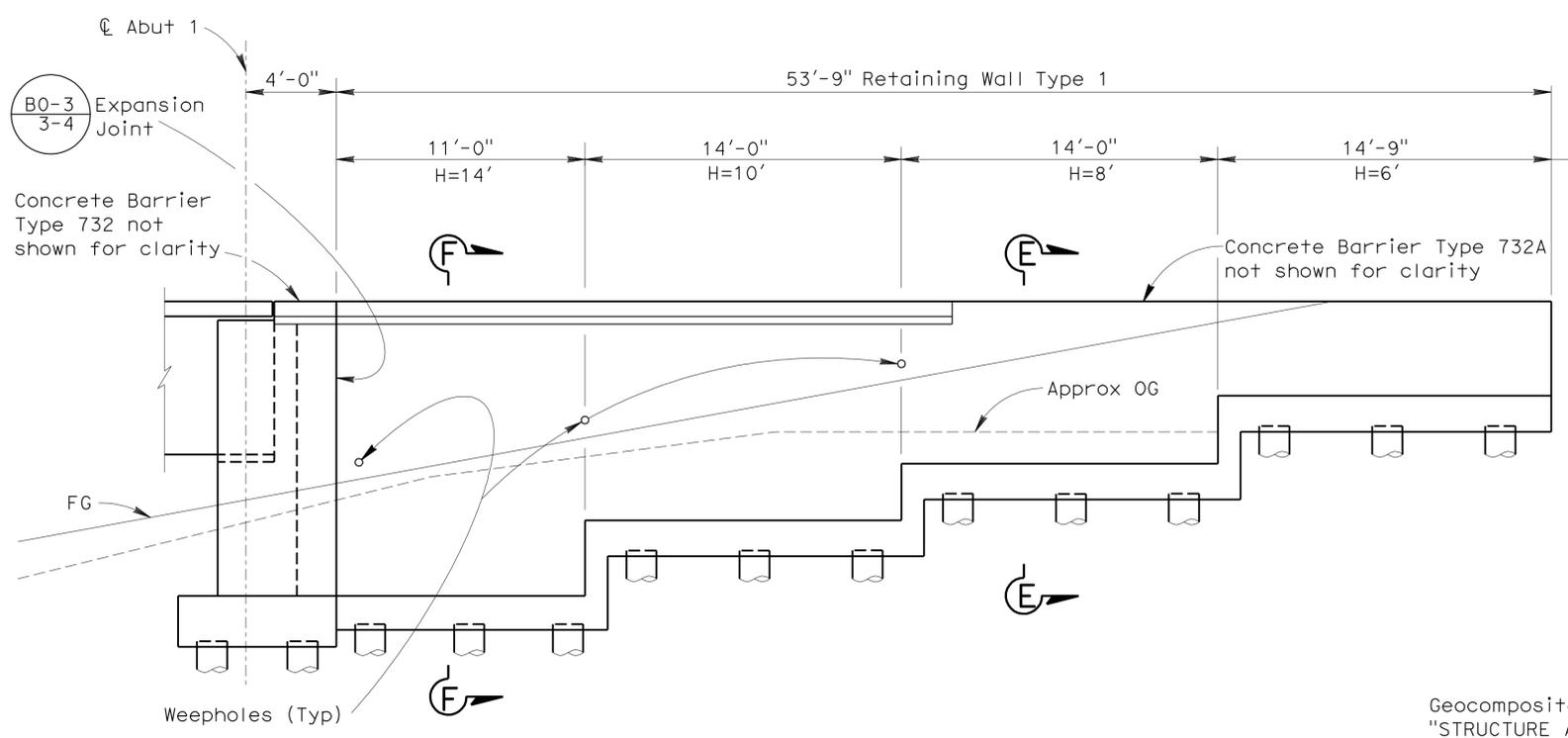
BRIDGE NO.	53-0788L
POST MILE	23.2

**RTE 710/5 SEPARATION WEST (WIDEN)**  
**ABUTMENT DETAILS NO. 1**

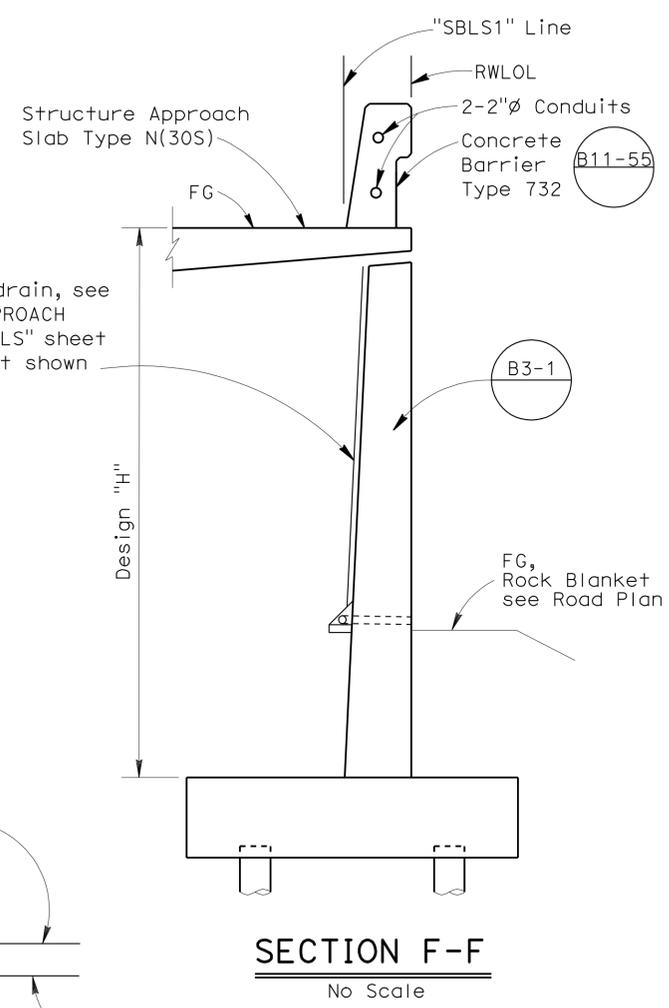
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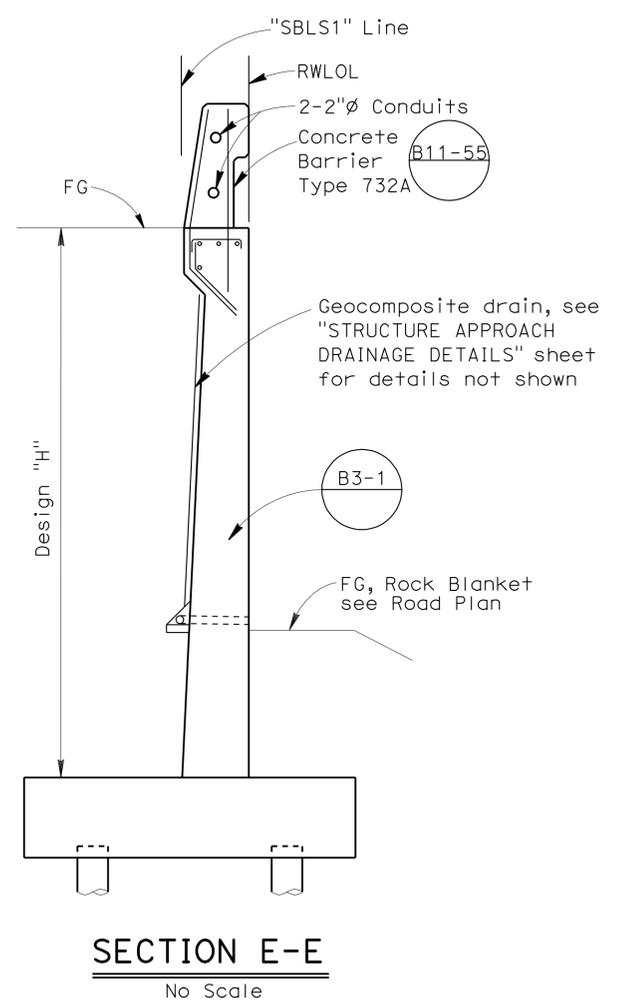
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1273	1507
			03-01-11		
REGISTERED CIVIL ENGINEER			DATE		
6-27-11			PLANS APPROVAL DATE		
REGISTERED PROFESSIONAL ENGINEER WEI-KUNG HSIA No. C50210 Exp. 06-30-11 CIVIL STATE OF CALIFORNIA					
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.					



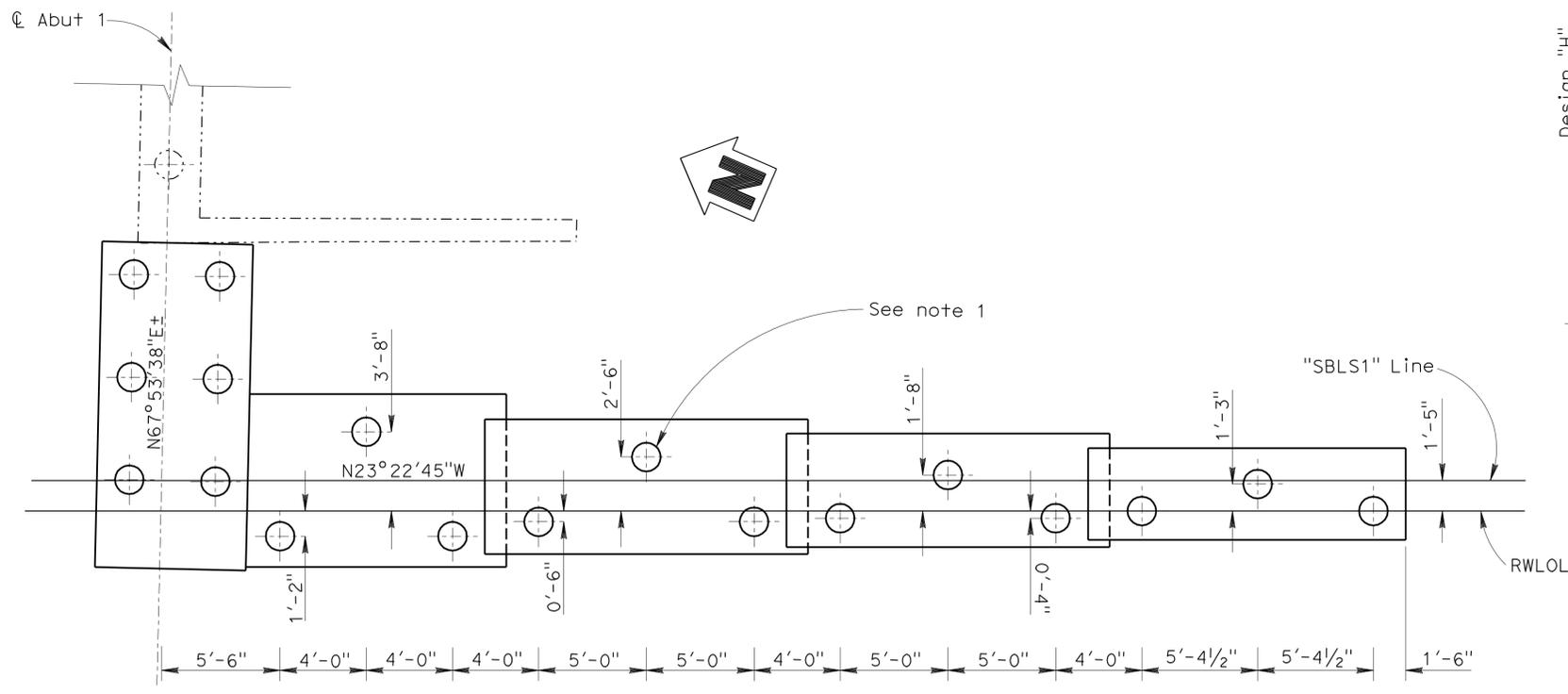
**ABUTMENT 1 RETAINING WALL ELEVATION**  
 1/4"=1' -0" (B3-1) (B3-8)



**SECTION F-F**  
 No Scale



**SECTION E-E**  
 No Scale



**ABUTMENT 1 RETAINING WALL FOOTING**  
 1/4"=1' -0"

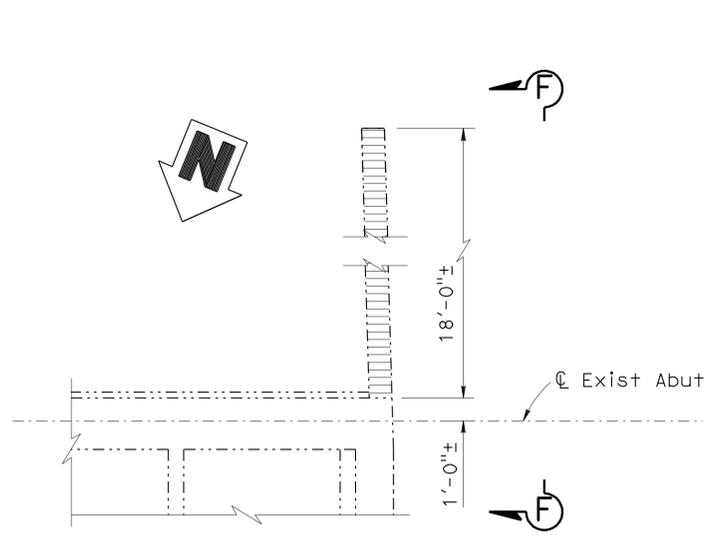
**NOTE:**  
 1. All piles are 16" CIDH piles, see (B2-3)

**NOTE:**  
 THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIALS

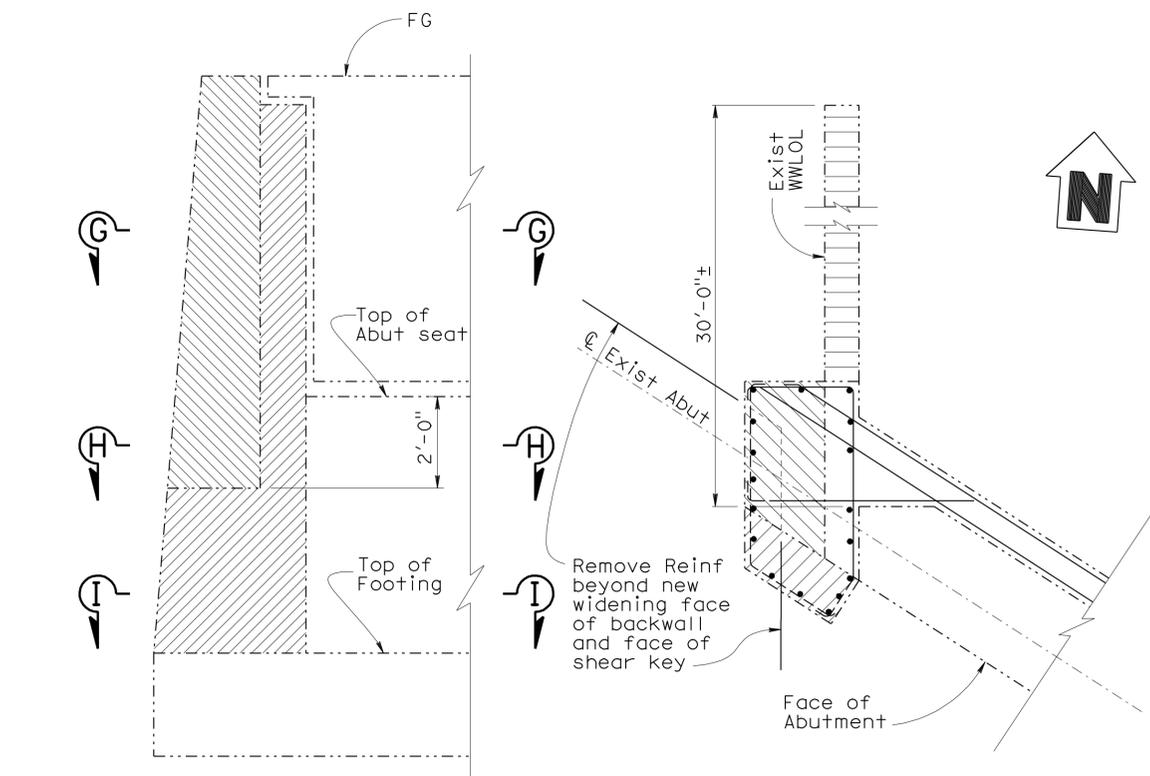
**LEGEND**  
 ----- Indicates Existing Structure

DESIGN BY RUI WANG CHECKED CESAR SANCHEZ DETAILS BY HECTOR INIGUEZ CHECKED CESAR SANCHEZ QUANTITIES BY EDWARD MERCADO CHECKED DARYOUSH BALBAS	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 19</b>	BRIDGE NO. 53-0788L	<b>RTE 710/5 SEPARATION WEST (WIDEN)</b> <b>ABUTMENT DETAILS NO. 3</b>
			POST MILE 23.2	
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)			UNIT: 3621 PROJECT NUMBER & PHASE: 0700020869 1 CONTRACT NO.: 07-202111	DISREGARD PRINTS BEARING EARLIER REVISION DATES
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS			REVISION DATES 12-14-09 03-01-11 02-08-11	SHEET OF 10 33

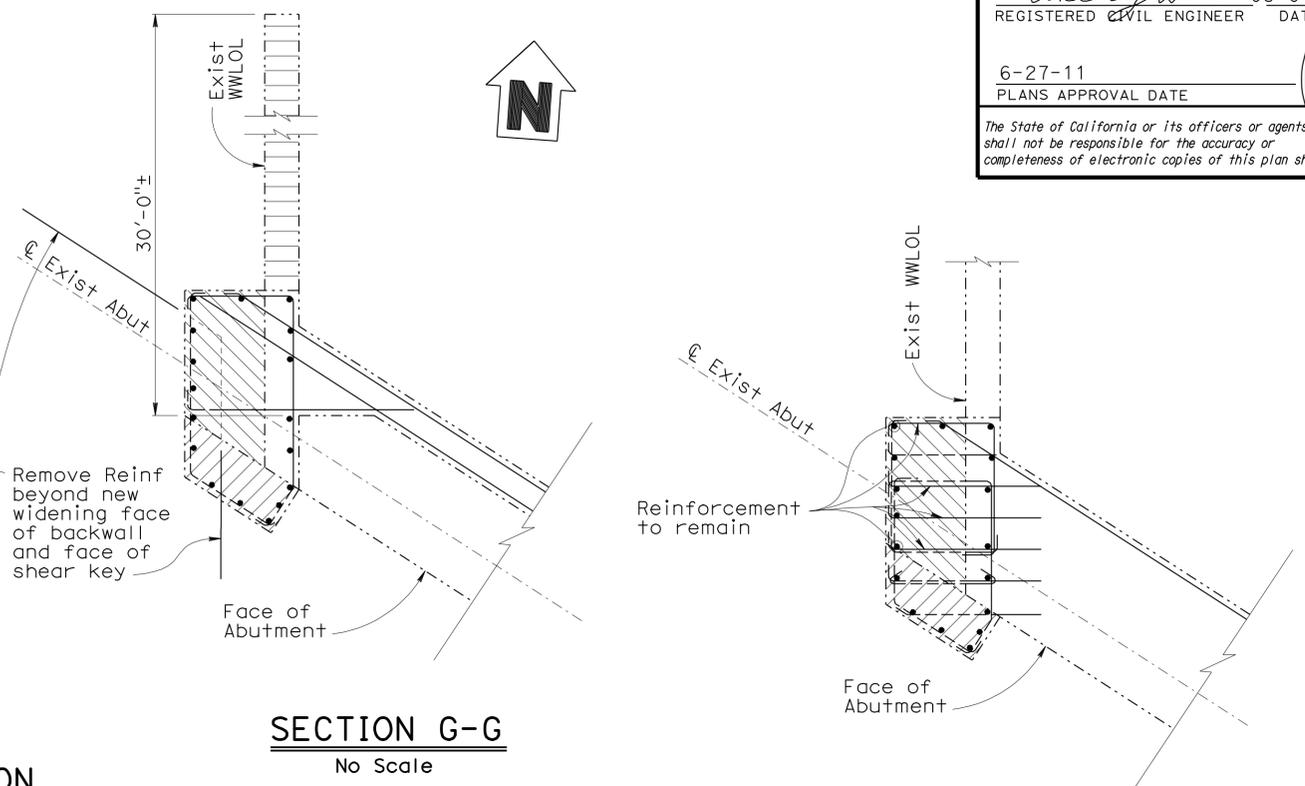
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1274	1507
<i>Wei Kung Hsia</i> 03-01-11 REGISTERED CIVIL ENGINEER DATE				REGISTERED PROFESSIONAL ENGINEER WEI-KUNG HSIA No. C50210 Exp. 06-30-11 CIVIL STATE OF CALIFORNIA	
6-27-11 PLANS APPROVAL DATE					
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.					



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

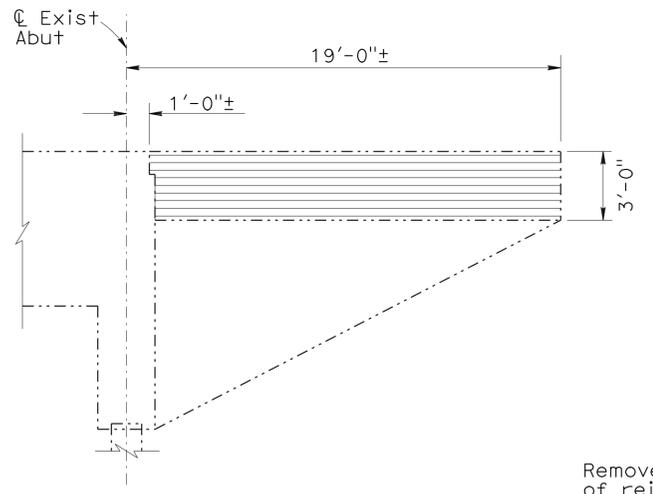


**ABUTMENT 10 EXISTING SHEAR KEY REMOVAL ELEVATION**  
 No Scale

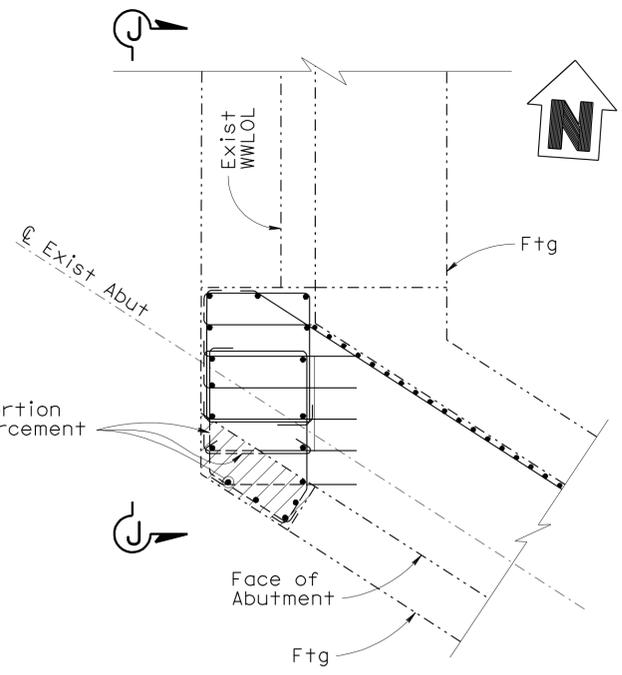


**SECTION G-G**  
 No Scale

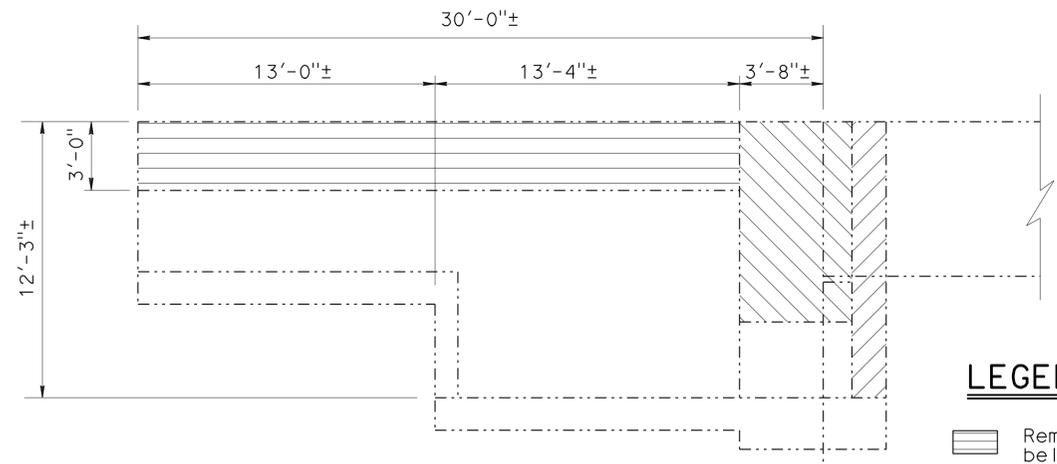
**SECTION H-H**  
 No Scale



**VIEW F-F**  
 1/4"=1'-0"



**SECTION I-I**  
 No Scale



**VIEW J-J**  
 1/4"=1'-0"

**LEGEND**

- Remove concrete to 3'-0" below FG
- Remove concrete beyond face of Abutment and above exist top of footing
- Remove concrete beyond face of wingwall to 2'-0" below Abutment seat
- Existing reinforcement to be cut-off
- Existing reinforcement to remain
- Indicates Existing Structure

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

DESIGN	BY RUI WANG	CHECKED CESAR SANCHEZ
DETAILS	BY HECTOR INIGUEZ	CHECKED CESAR SANCHEZ
QUANTITIES	BY EDWARD MERCADO	CHECKED DARYOUSH BALBAS

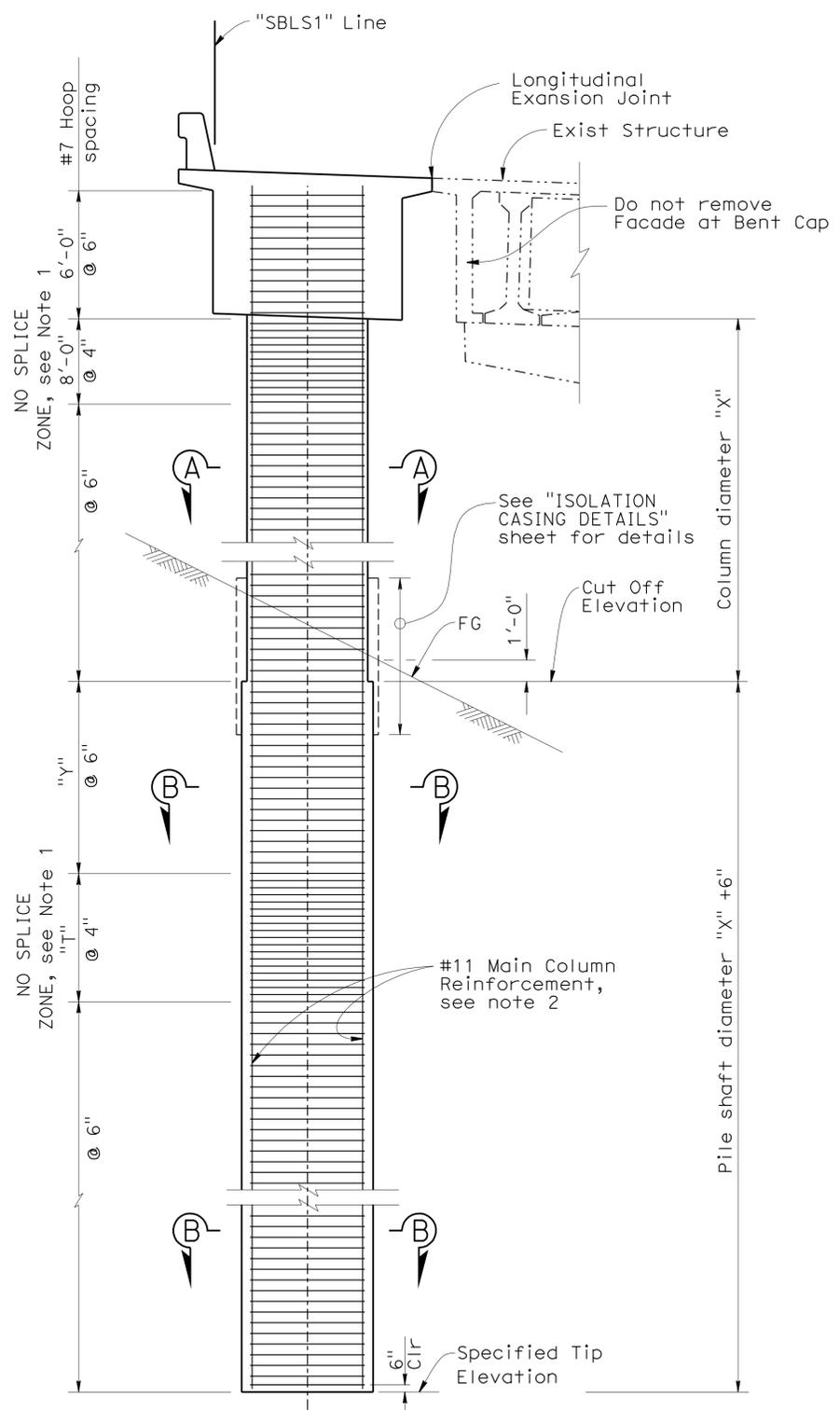
STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
**DESIGN BRANCH 19**

BRIDGE NO.	53-0788L
POST MILE	23.2

**RTE 710/5 SEPARATION WEST (WIDEN)**  
**ABUTMENT DETAILS NO. 4**

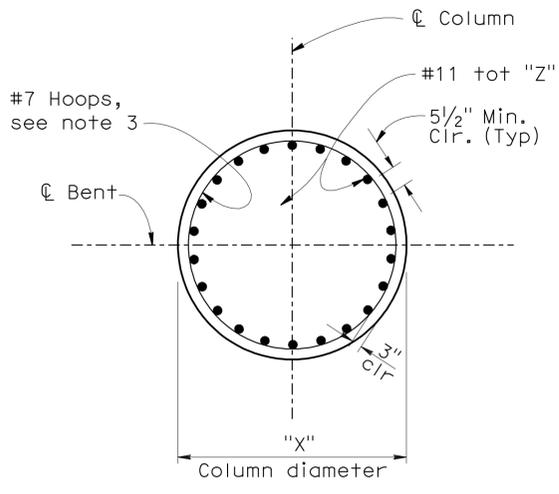
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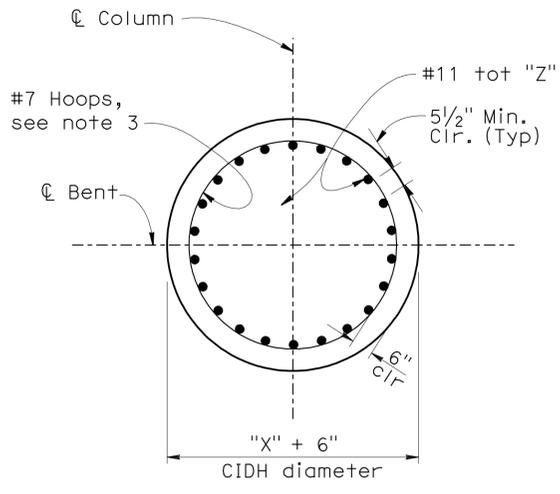
**TYPICAL BENT ELEVATION**

No Scale

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



**SECTION A-A**  
NO SCALE



**SECTION B-B**  
NO SCALE

- NOTES:**
1. No splice zone for main reinforcement.
  2. Only Staggered "ultimate" butt splices are allowed in main column reinforcement outside of no splice zone.
  3. All hoops are "ultimate" butt spliced continuous.

**PILE DATA TABLE**

LOCATION	PILE TYPE	NOMINAL RESISTANCE (kips)		DESIGN TIP ELEVATION (ft)	SPECIFIED TIP ELEVATION (ft)
		COMPRESSION	TENSION		
Bent 2	54" CIDH	1540	0	79.0 (a-I) 141.0 (c) 121.0 (d)	79.0
Bent 3	66" CIDH	1770	0	64.0 (a-I) 100.0 (c) 96.0 (d)	64.0
Bent 4	66" CIDH	1740	0	65.0 (a-I) 120.0 (c) 91.0 (d)	65.0
Bent 5	66" CIDH	1590	0	78.0 (a-I) 129.0 (c) 97.0 (d)	78.0
Bent 6	66" CIDH	1790	0	68.0 (a-I) 126.0 (c) 92.0 (d)	68.0
Bent 7	66" CIDH	1530	0	80.0 (a-I) 125.0 (c) 93.0 (d)	80.0
Bent 8	66" CIDH	1690	0	88.0 (a-I) 135.5 (c) 108.0 (d)	88.0
Bent 9	54" CIDH	1510	0	78.0 (a-I) 129.0 (c) 119.0 (d)	78.0

- Notes:**
- 1) Design tip elevations for Bents are controlled by: (a-I) Compression (Strength Limit), (a-II) Compression (Extreme Event), (b) Tension, (c) Settlement (d) Lateral Load.
  - 2) The CIDH specified tip elevation shall not be raised.

**BENT TABLE**

LOCATION	COLUMN DIAMETER "X"	DISTANCE "Y"	NO SPLICE ZONE "T"	#11 TOTAL "Z" BARS
Bent 2	4'-0"	5'-0"	25'-0"	15
Bent 3	5'-0"	5'-6"	15'-0"	22
Bent 4	5'-0"	0'-0"	20'-0"	22
Bent 5	5'-0"	15'-0"	15'-0"	22
Bent 6	5'-0"	0'-0"	20'-0"	22
Bent 7	5'-0"	5'-0"	15'-0"	22
Bent 8	5'-0"	5'-6"	30'-0"	22
Bent 9	4'-0"	15'-0"	20'-0"	15

DESIGN	BY EDWARD MERCADO	CHECKED JUAN TORRES
DETAILS	BY HECTOR INIGUEZ- H.M.	CHECKED JUAN TORRES
QUANTITIES	BY EDWARD MERCADO	CHECKED DARYOUSH BALBAS

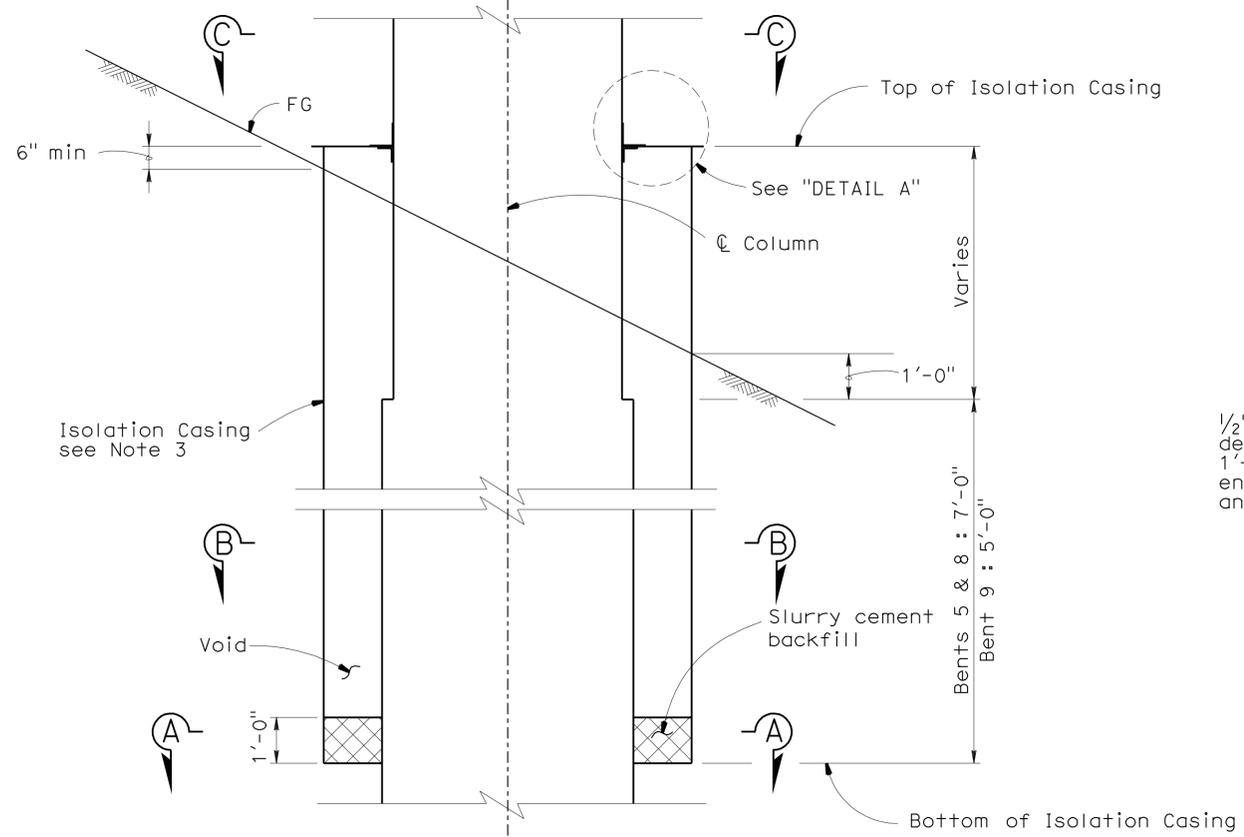
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
**DESIGN BRANCH 19**

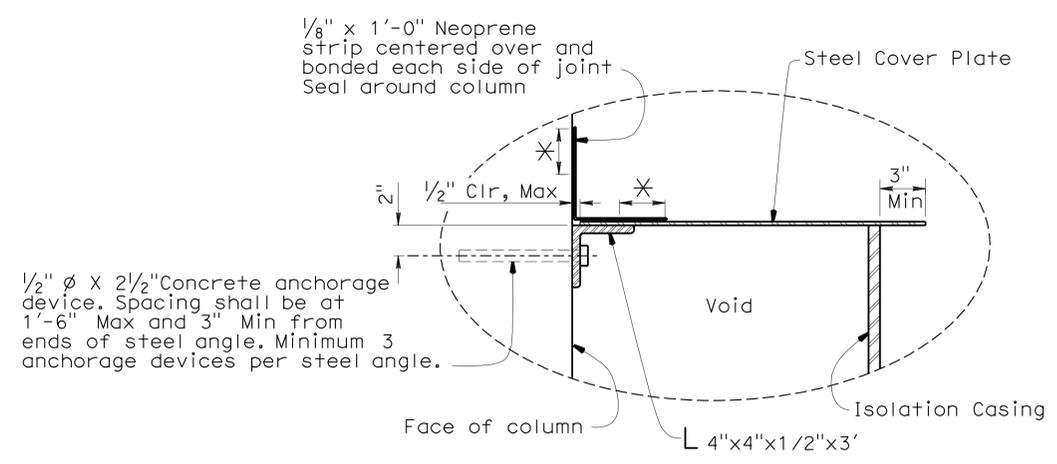
BRIDGE NO.  
53-0788L  
POST MILE  
23.2

**RTE 710/5 SEPARATION WEST (WIDEN)**  
**TYPICAL BENT ELEVATION & SECTION**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1276	1507
			03-01-11 REGISTERED CIVIL ENGINEER DATE 6-27-11 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.		

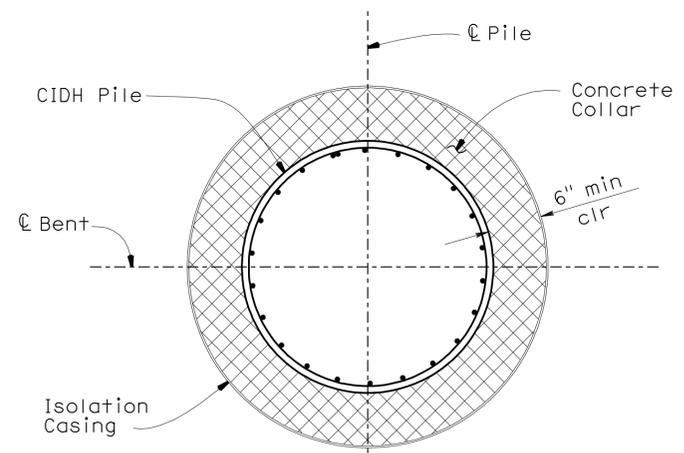


**ISOLATION CASING DETAILS**  
no scale

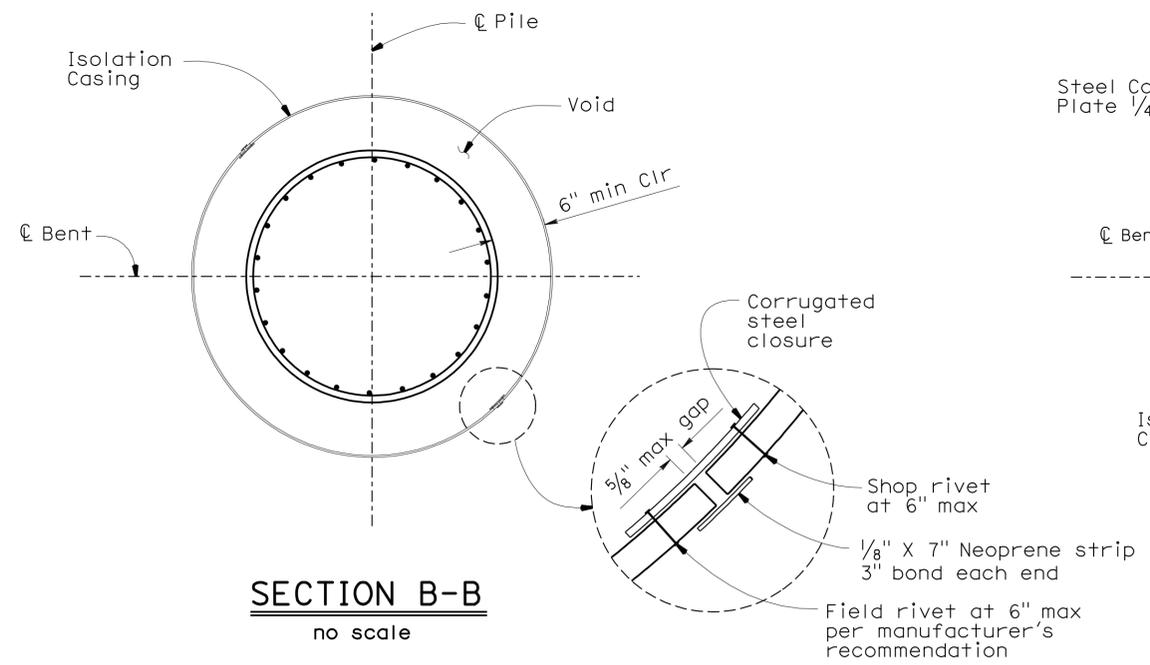


**DETAIL A**  
no scale

- Notes:**
- For details not shown or noted, see "TYPICAL BENT ELEVATION & SECTION" sheet.
  - Steel cover plate, angles and all hardware shall be galvanized.
  - Galvanized corrugated steel pipe 0.109" thick (min).
- \* Denotes 3" Bonding

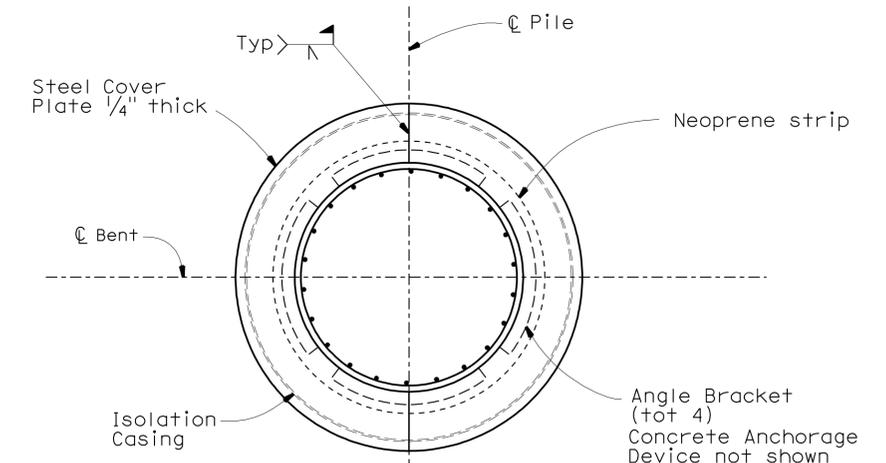


**SECTION A-A**  
no scale



**SECTION B-B**  
no scale

**OPTIONAL SPLICE DETAIL**  
No Scale



**SECTION C-C**  
no scale

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

DESIGN	BY EDWARD MERCADO	CHECKED JUAN TORRES
DETAILS	BY H. MAHBOOBI	CHECKED JUAN TORRES
QUANTITIES	BY EDWARD MERCADO	CHECKED DARYOUSH BALBAS

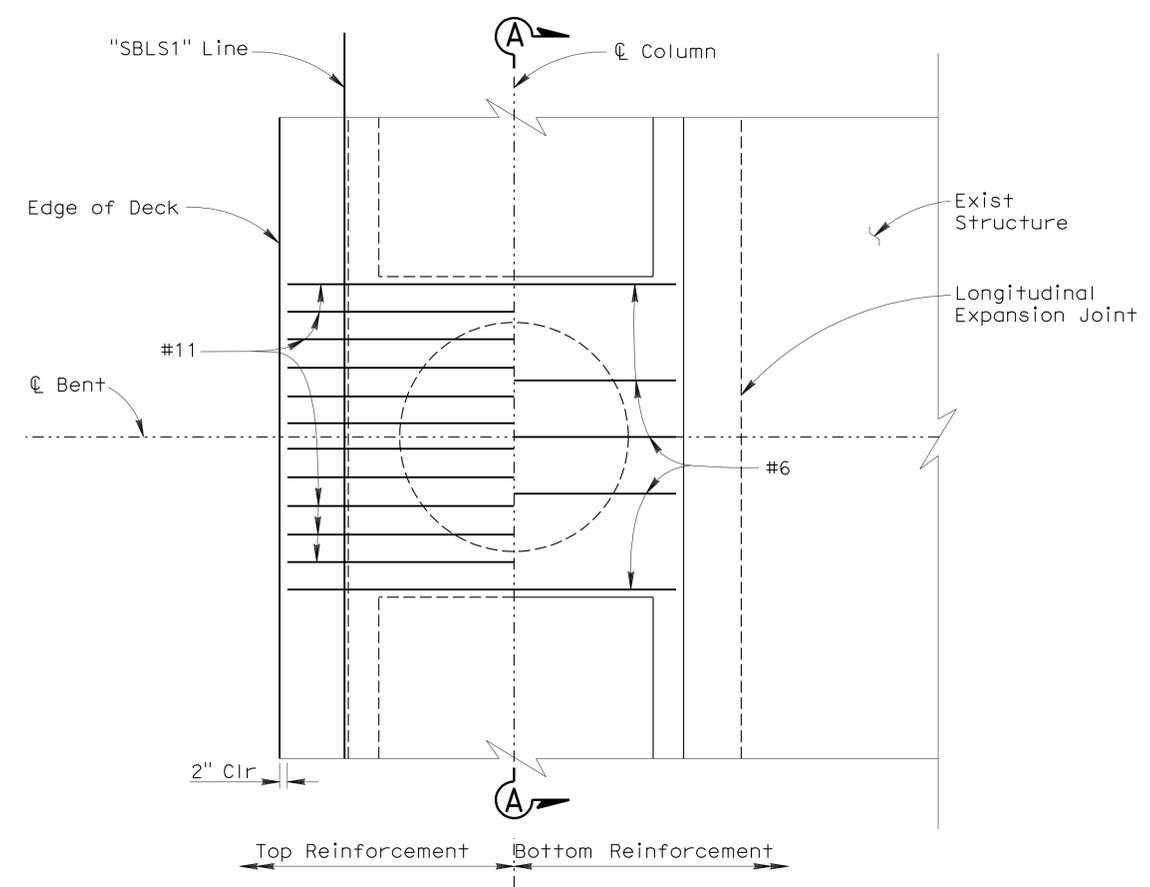
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
**DESIGN BRANCH 19**

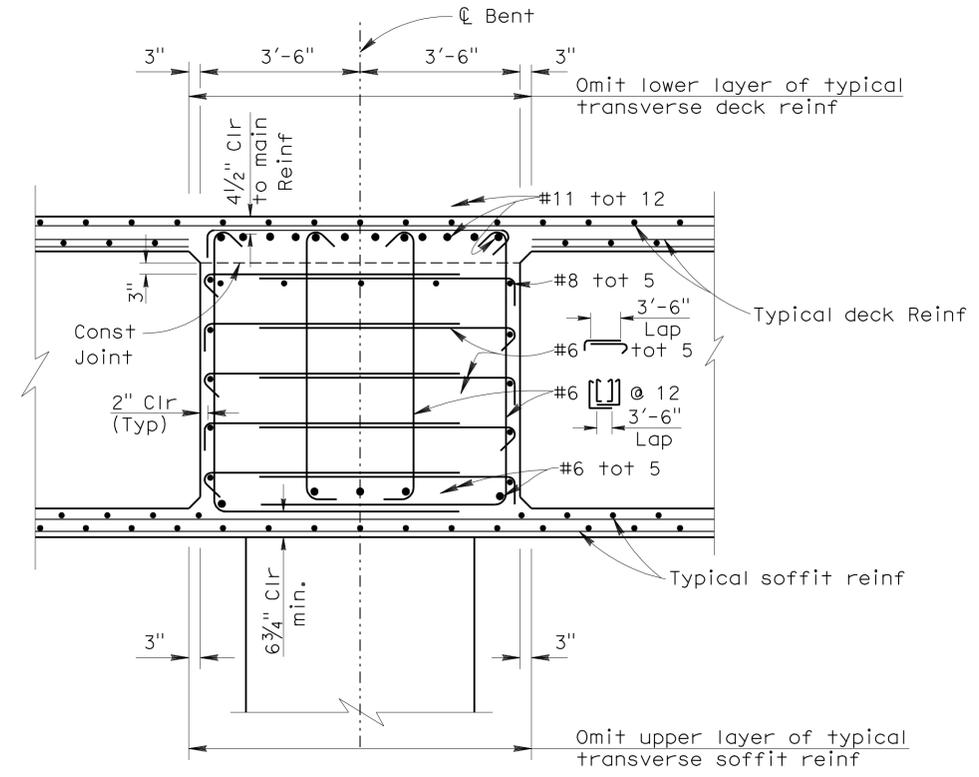
BRIDGE NO.	53-0788L
POST MILE	23.19

**RTE 710/5 SEPARATION WEST (WIDEN)**  
**ISOLATION CASING DETAILS**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1277	1507
			03-01-11		
REGISTERED CIVIL ENGINEER			DATE		
6-27-11			PLANS APPROVAL DATE		
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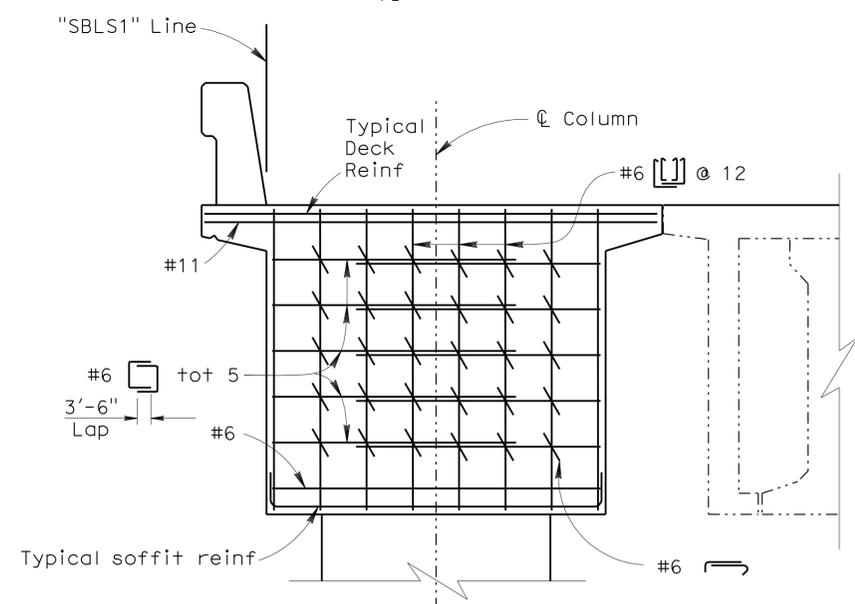


**PLAN**  
1/2" = 1'-0"



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

NOTE:  
Column and Hoop reinf not shown for clarity



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

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

DESIGN	BY EDWARD MERCADO	CHECKED JUAN TORRES
DETAILS	BY HECTOR INIGUEZ	CHECKED JUAN TORRES
QUANTITIES	BY EDWARD MERCADO	CHECKED DARYOUSH BALBAS

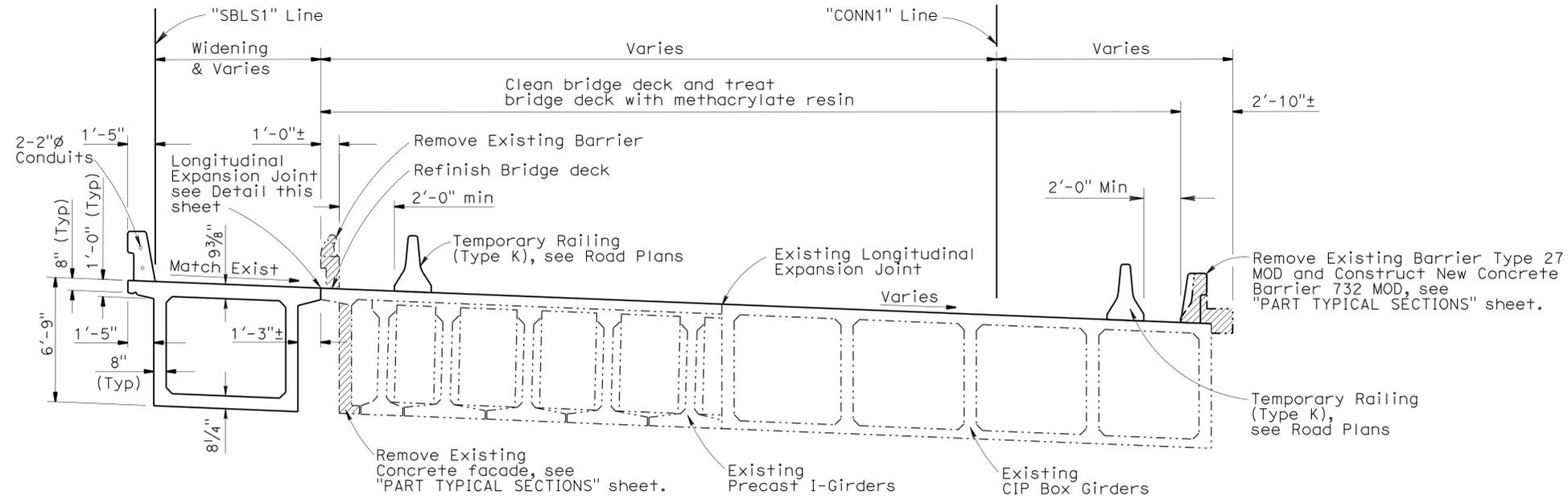
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
**DESIGN BRANCH 19**

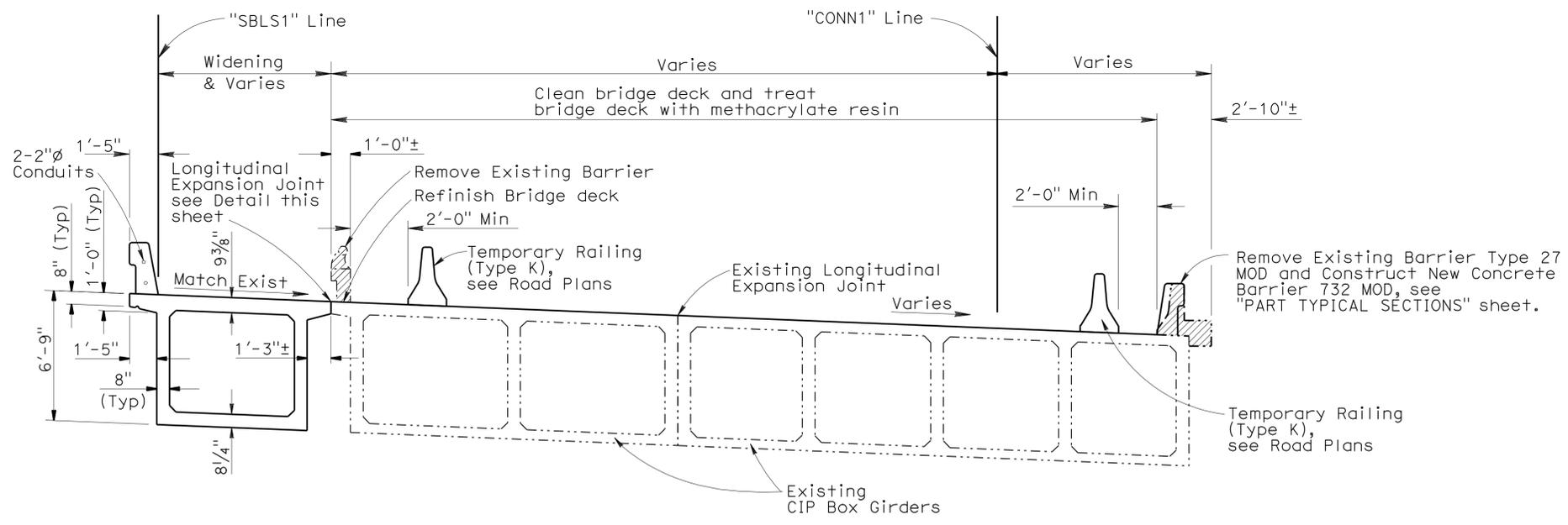
BRIDGE NO.	53-0788L
POST MILE	23.2

**RTE 710/5 SEPARATION WEST (WIDEN)**  
**TYPICAL BENT CAP DETAILS**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1278	1507
			03-01-11		
REGISTERED CIVIL ENGINEER			DATE		
6-27-11			PLANS APPROVAL DATE		
			REGISTERED PROFESSIONAL ENGINEER		
			WEI-KUNG HSIA		
			No. C50210		
			Exp. 06-30-11		
			CIVIL		
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.					

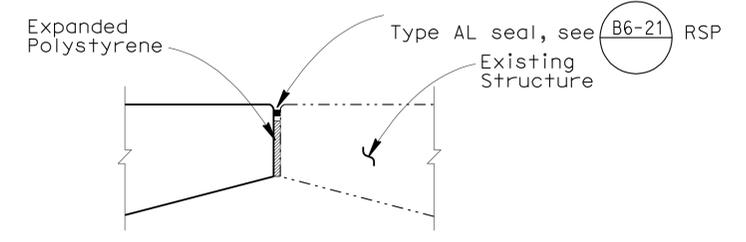


**TYPICAL SECTION (SPANS 2 TO 9)**  
1/4" = 1'-0"

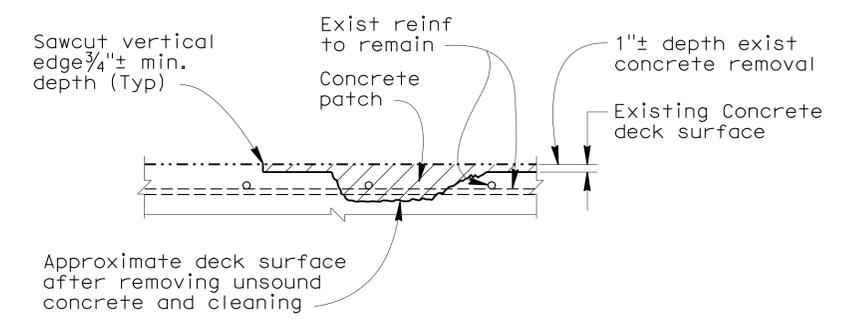


**TYPICAL SECTION (SPAN 1)**  
1/4" = 1'-0"

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



**LONGITUDINAL EXPANSION JOINT**  
No Scale



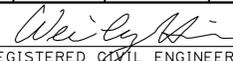
**DECK REPAIR DETAIL**

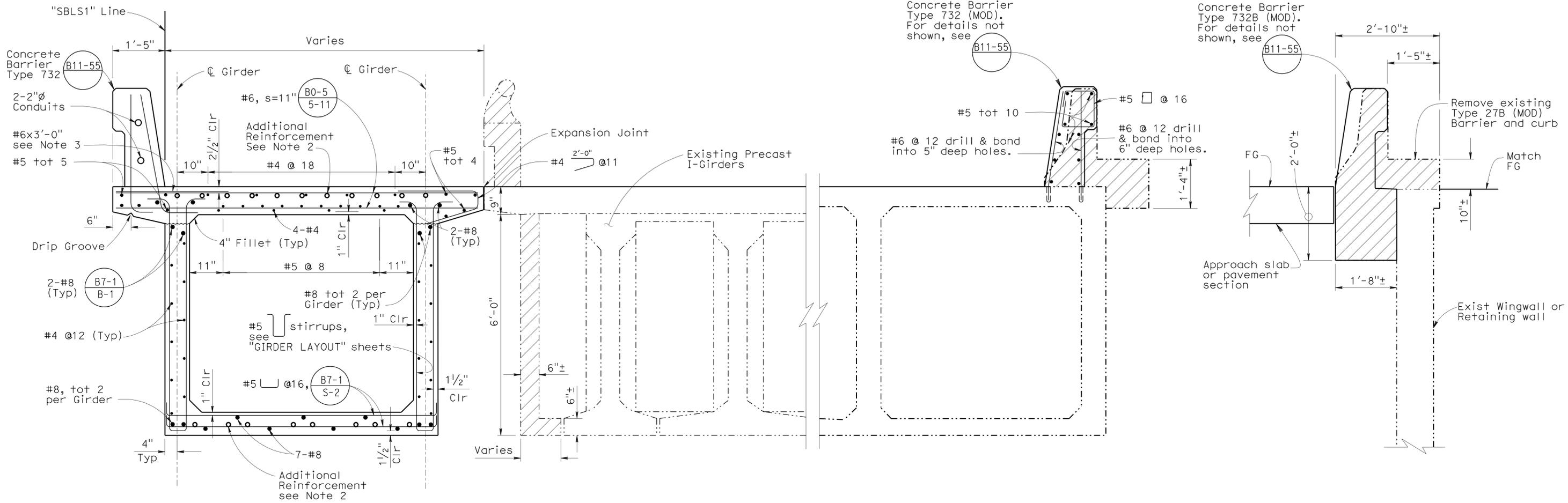
- Notes:**
- Reinforcement may be encountered during deck concrete removal.
  - Estimated patch depth is 3" average.
  - Estimated area is 2% of total existing deck surface.

**NOTE:**  
1. See "PART TYPICAL SECTIONS" sheet for details not shown.

- LEGEND**
- Indicates Existing Structure
  - ▨ Indicates Bridge Removal, Portion

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY EDWARD MERCADO	CHECKED JUAN TORRES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 19	BRIDGE NO.	53-0788L	RTE 710/5 SEPARATION WEST (WIDEN)					
	DETAILS	BY HECTOR INIGUEZ - H.M.	CHECKED JUAN TORRES			POST MILE	23.2						
	QUANTITIES	BY EDWARD MERCADO	CHECKED DARYOUSH BALBAS			TYPICAL SECTIONS							
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS					UNIT: 3621	PROJECT NUMBER & PHASE: 0700020869	1	CONTRACT NO.: 07-202111	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET	OF	
					0	1	2	3	12-14-09	03-01-11	02-08-11	15	33

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1279	1507
				03-01-11	DATE
REGISTERED CIVIL ENGINEER				STATE OF CALIFORNIA	
6-27-11				PLANS APPROVAL DATE	
				CIVIL	
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**PART TYPICAL SECTION** (B0-5) (B7-1) (B11-55)  
 $\frac{3}{4}" = 1'-0"$

**EXISTING WINGWALL/RETAINING WALL**  
 $\frac{3}{4}" = 1'-0"$

- NOTES:**
- Span 2 to 9 shown, Span 1 similar.
  - For additional deck and soffit longitudinal reinforcement, see "GIRDER REINFORCEMENT NO. 1, NO. 2 and NO. 3" sheets.
  - Bar shall be placed within 5'-0" of BB & EB. Bundled with alternate transverse bars.

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

**LEGEND**  
 - - - - - Indicates Existing Structure  
 [Hatched Area] Indicates Concrete Removal Portion

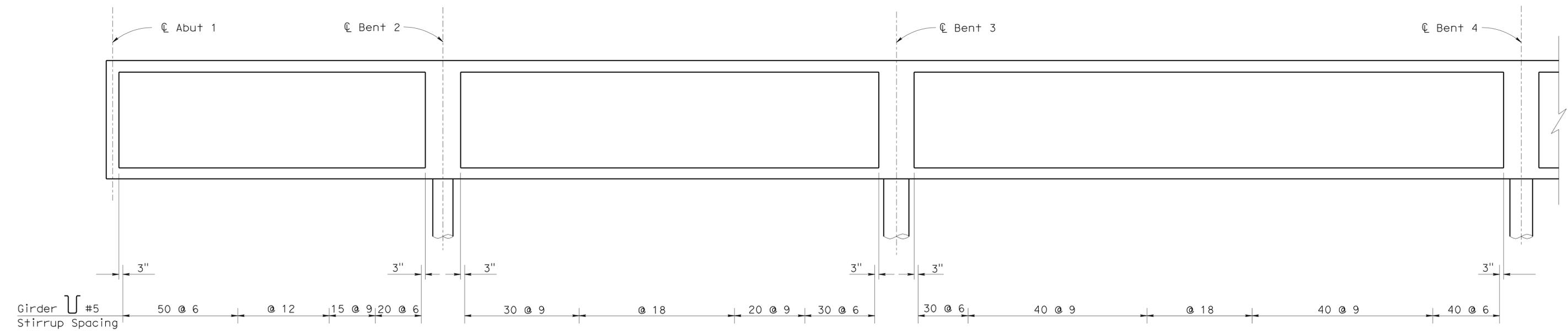
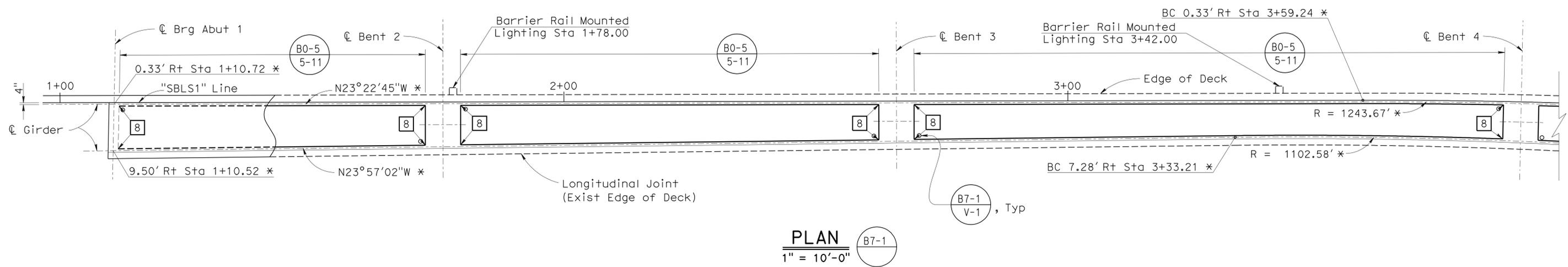
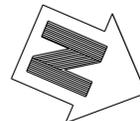
DESIGN BY EDWARD MERCADO CHECKED JUAN TORRES DETAILS BY HENGAMEH MAHBOOBI CHECKED JUAN TORRES QUANTITIES BY EDWARD MERCADO CHECKED BARBARA MCGAHEY	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 19</b>	BRIDGE NO. 53-0788L POST MILE 23.2	<b>RTE 710/5 SEPARATION WEST (WIDEN)</b> <b>PART TYPICAL SECTIONS</b>
	STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3	UNIT: 3621 PROJECT NUMBER & PHASE: 0700020869 1 CONTRACT NO.: 07-202111	DISREGARD PRINTS BEARING EARLIER REVISION DATES REVISION DATES: 09-27-10, 01-10-11, 03-01-11 SHEET 16 OF 33
	FILE => 53-0788L-k-ts_02.dgn			

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1280	1507

03-01-11  
 REGISTERED CIVIL ENGINEER DATE  
 6-27-11  
 PLANS APPROVAL DATE

**WEI-KUNG HSIA**  
 No. C50210  
 Exp. 06-30-11  
 CIVIL  
 STATE OF CALIFORNIA

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

- NOTES:**
- Stirrup spacing shown measured along C of Girder.
  - \* C Girder Bearing, Radius, Station and Offset. For "SBLS1" Line information see "GENERAL PLAN NO. 1" sheet.
  - Indicates Girder stem width in inches

DESIGN	BY EDWARD MERCADO	CHECKED JUAN TORRES
DETAILS	BY HECTOR INIGUEZ	CHECKED JUAN TORRES
QUANTITIES	BY EDWARD MERCADO	CHECKED DARYOUSH BALBAS

**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
**DESIGN BRANCH 19**

BRIDGE NO.	53-0788L
POST MILE	23.2

**RTE 710/5 SEPARATION WEST (WIDEN)**  
**GIRDER LAYOUT NO. 1**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1281	1507

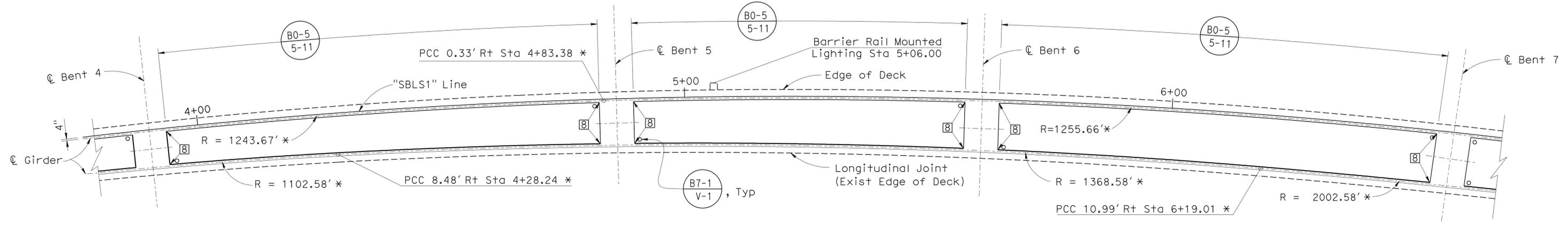
03-01-11  
DATE

REGISTERED CIVIL ENGINEER

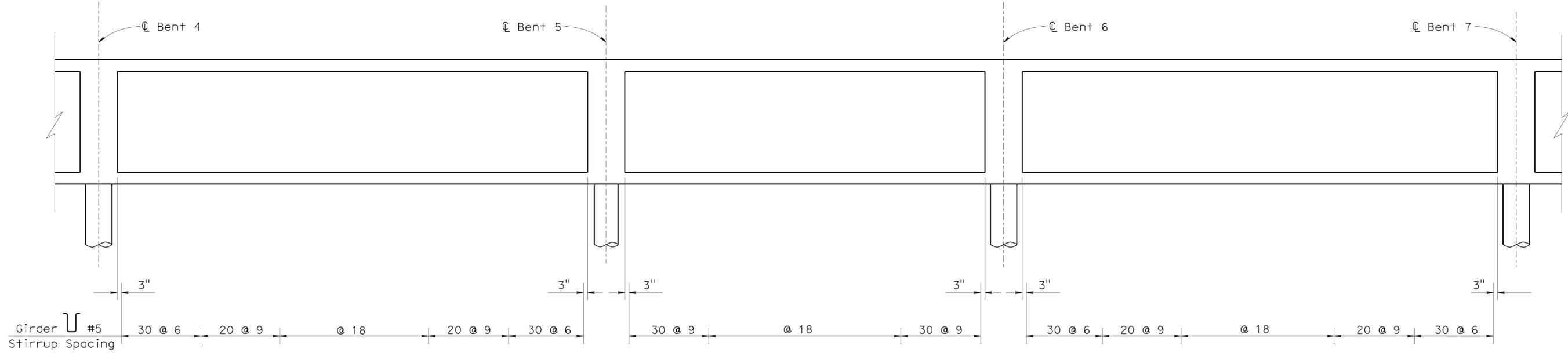
6-27-11  
PLANS APPROVAL DATE

WEI-KUNG HSIA  
No. C50210  
Exp. 06-30-11  
CIVIL

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**PLAN**  
1" = 10'-0"



**LONGITUDINAL SECTION**  
No Scale

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

- NOTES:
- Stirrup spacing shown measured along  $\mathcal{C}$  of Girder.
  - \*  $\mathcal{C}$  Girder Bearing Radius, Station and Offset. For "SBLS1" Line information see "GENERAL PLAN NO. 1" sheet.
  - ☐ Indicates Girder stem width in inches

DESIGN	BY EDWARD MERCADO	CHECKED JUAN TORRES
DETAILS	BY HECTOR INIGUEZ	CHECKED JUAN TORRES
QUANTITIES	BY EDWARD MERCADO	CHECKED DARYOUSH BALBAS

**STATE OF CALIFORNIA**  
DEPARTMENT OF TRANSPORTATION

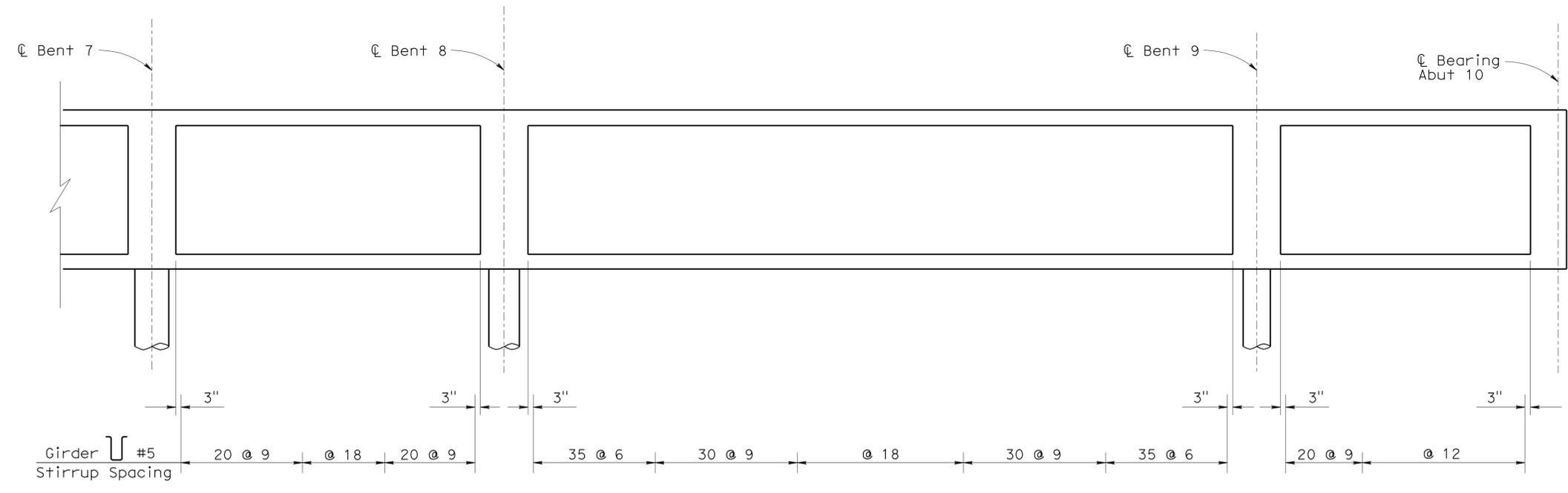
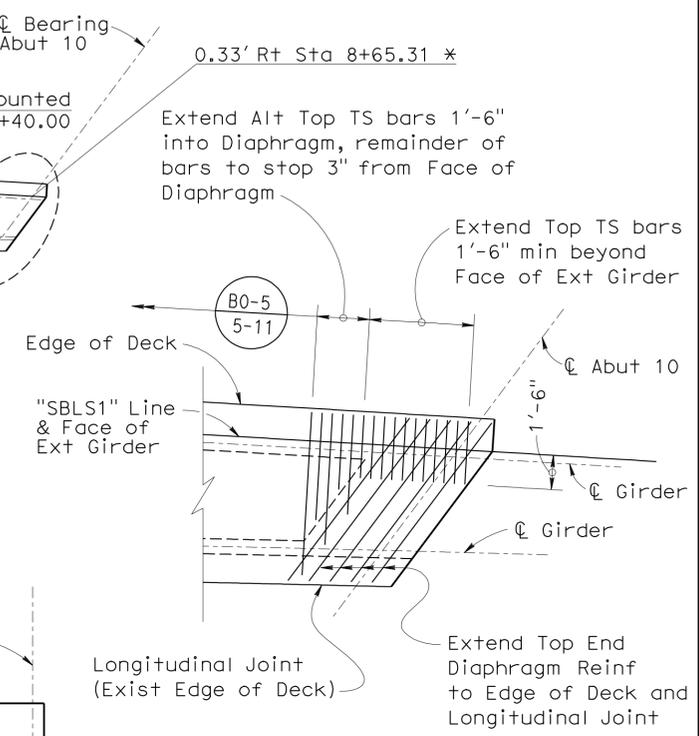
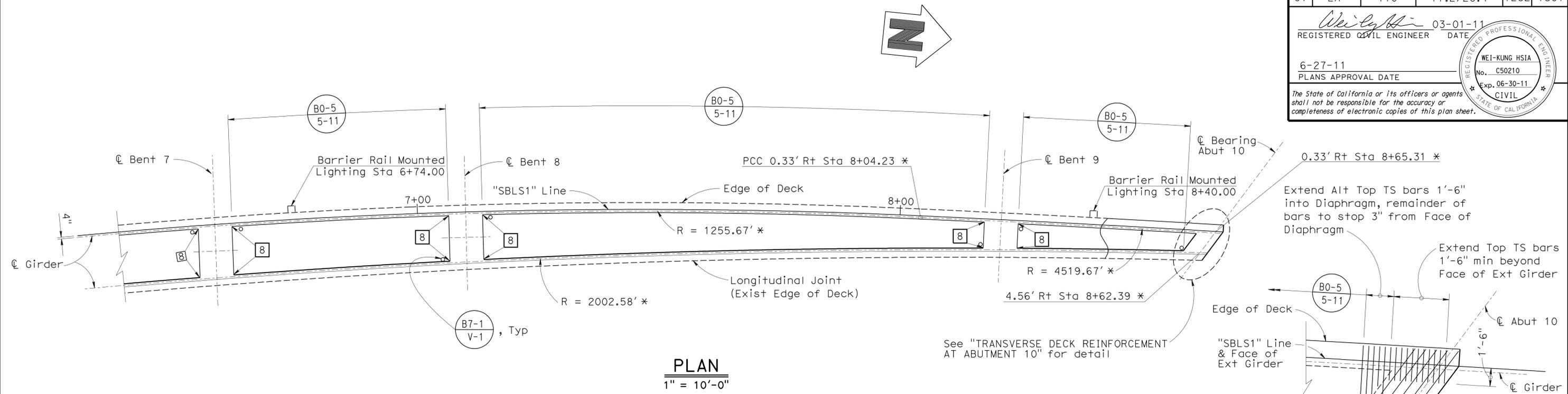
DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
**DESIGN BRANCH 19**

BRIDGE NO.	53-0788L
POST MILE	23.2

**RTE 710/5 SEPARATION WEST (WIDEN)**  
**GIRDER LAYOUT NO. 2**

USERNAME => s124496 DATE PLOTTED => 28-JUN-2011 18:59 TIME PLOTTED =>

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1282	1507
			03-01-11 REGISTERED CIVIL ENGINEER DATE 6-27-11 PLANS APPROVAL DATE		
<i>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</i>					



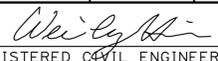
NOTE:  
The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

- NOTES:
- Stirrup spacing shown measured along  $\phi$  of Girder.
  - \*  $\phi$  Girder Bearing, Radius, Station and Offset. For "SBLS1" Line information see "GENERAL PLAN NO. 1" sheet.
  - Indicates Girder stem width in inches.

DESIGN BY EDWARD MERCADO CHECKED JUAN TORRES DETAILS BY HECTOR INIGUEZ - H.M. CHECKED JUAN TORRES QUANTITIES BY EDWARD MERCADO CHECKED DARYOUSH BALBAS	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 19</b>	BRIDGE NO. 53-0788L	<b>RTE 710/5 SEPARATION WEST (WIDEN)</b> <b>GIRDER LAYOUT NO. 3</b>			
			POST MILE 23.2				
			UNIT: 3621 PROJECT NUMBER & PHASE: 0700020869 1 CONTRACT NO.: 07-202111				
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 03-11-11 03-01-11	SHEET OF 19 33



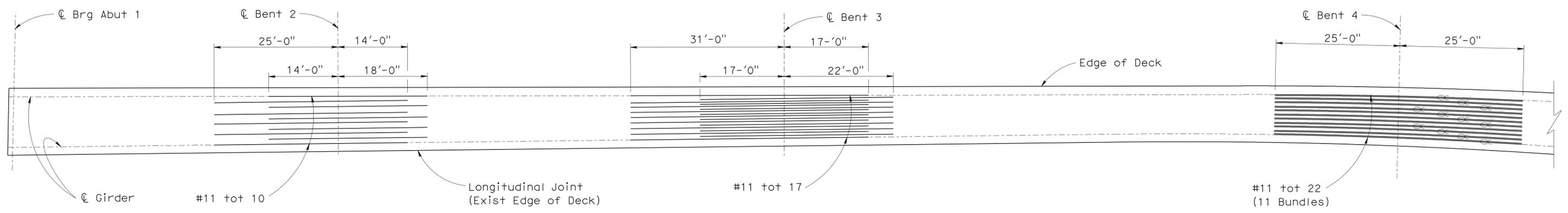
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07	LA	710	17.2/26.4	1284	1507

 03-01-11  
 REGISTERED CIVIL ENGINEER DATE

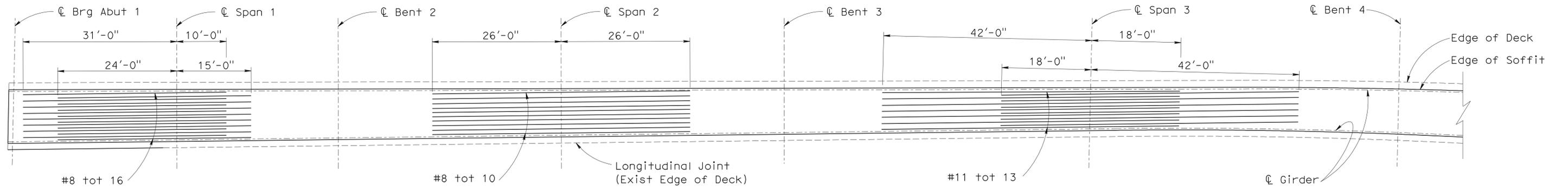
6-27-11  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 WEI-KUNG HSIA  
 No. C50210  
 Exp. 06-30-11  
 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.



**TOP REINFORCEMENT**  
1"=10'-0"



**BOTTOM REINFORCEMENT**  
1"=10'-0"

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

DESIGN	BY EDWARD MERCADO	CHECKED JUAN TORRES
DETAILS	BY HECTOR INIGUEZ	CHECKED JUAN TORRES
QUANTITIES	BY EDWARD MERCADO	CHECKED DARYOUSH BALBAS

**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
**DESIGN BRANCH 19**

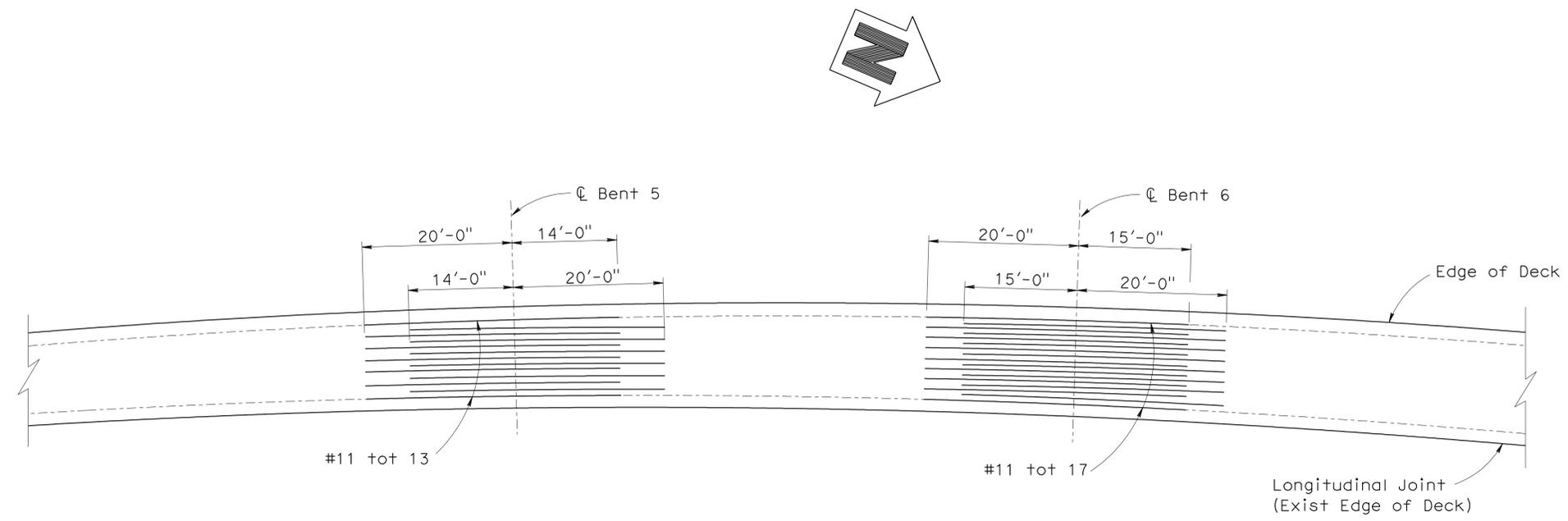
BRIDGE NO.	53-0788L
POST MILE	23.2

**RTE 710/5 SEPARATION WEST (WIDEN)**  
**GIRDER REINFORCEMENT NO. 1**

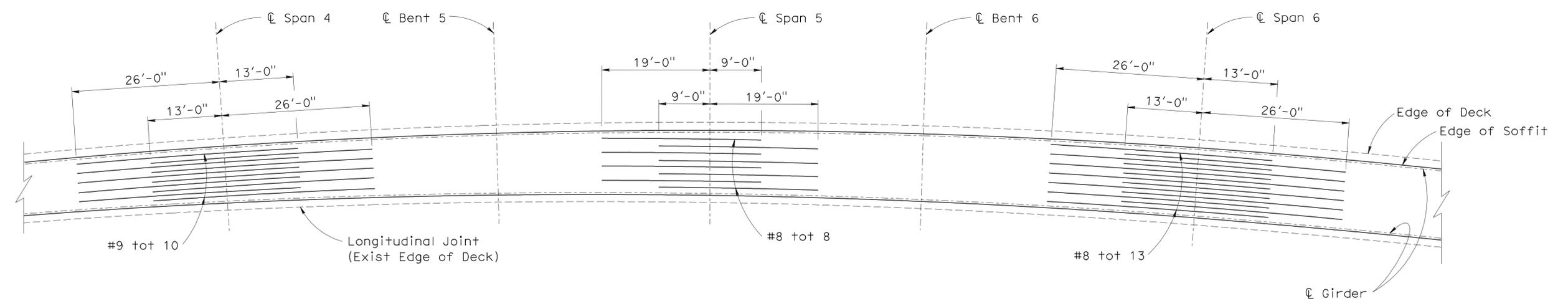
USERNAME => s124496 DATE PLOTTED => 28-JUN-2011 TIME PLOTTED => 19:00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1285	1507

*Wei-Kung Hsia* 03-01-11  
 REGISTERED CIVIL ENGINEER DATE  
 6-27-11  
 PLANS APPROVAL DATE  
 REGISTERED PROFESSIONAL ENGINEER  
 WEI-KUNG HSIA  
 No. C50210  
 Exp. 06-30-11  
 CIVIL  
 STATE OF CALIFORNIA  
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**TOP GIRDER REINFORCEMENT**  
1"=10'-0"



**BOTTOM GIRDER REINFORCEMENT**  
1"=10'-0"

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

DESIGN	BY EDWARD MERCADO	CHECKED JUAN TORRES
DETAILS	BY HECTOR INIGUEZ - H.M.	CHECKED JUAN TORRES
QUANTITIES	BY EDWARD MERCADO	CHECKED DARYOUSH BALBAS

**STATE OF CALIFORNIA**  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
**DESIGN BRANCH 19**

BRIDGE NO.	53-0788L
POST MILE	23.2

**RTE 710/5 SEPARATION WEST (WIDEN)**  
**GIRDER REINFORCEMENT NO. 2**



REVISION DATES	SHEET	OF
12-14-09 03-01-11	22	33

USERNAME => s124496 DATE PLOTTED => 28-JUN-2011 TIME PLOTTED => 19:00

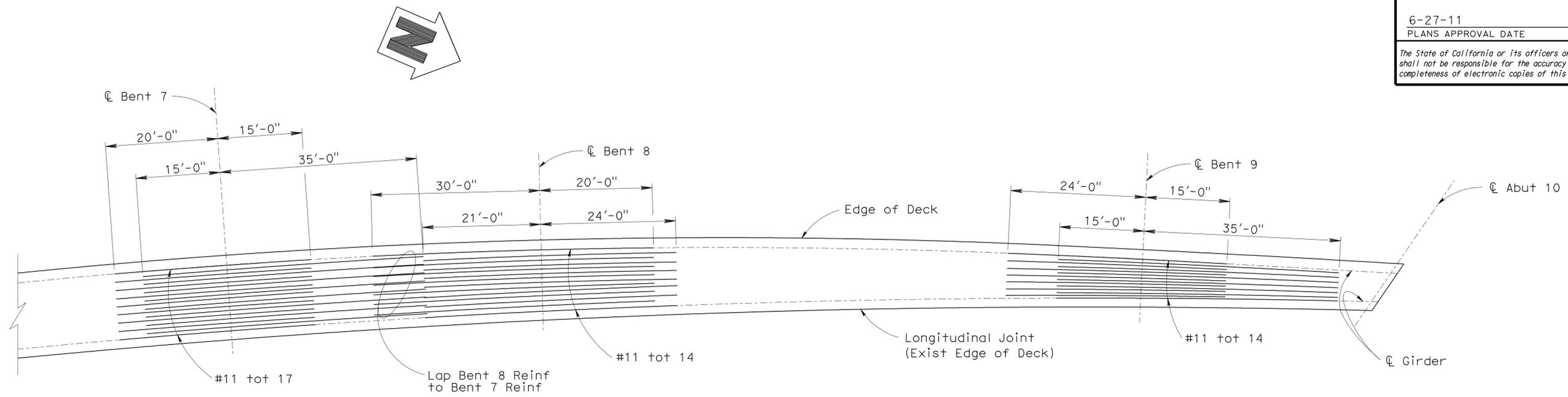
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1286	1507

03-01-11  
REGISTERED CIVIL ENGINEER DATE

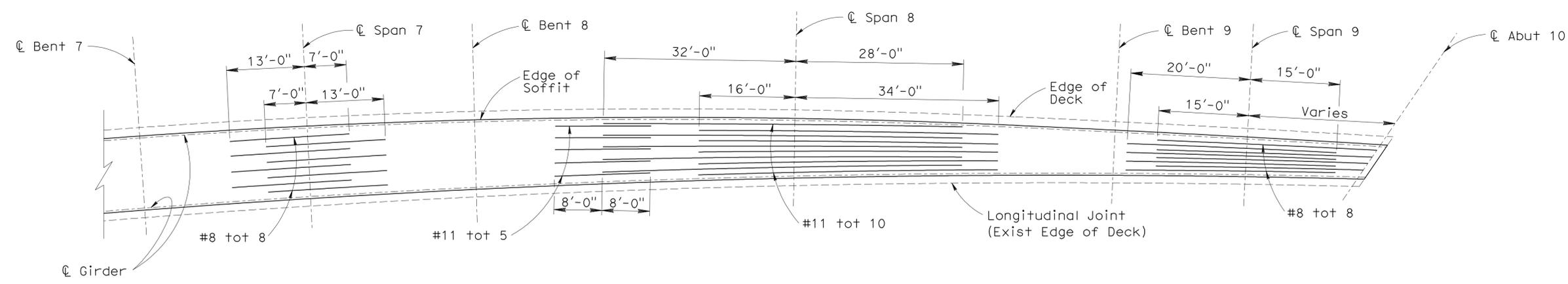
6-27-11  
PLANS APPROVAL DATE

WEI-KUNG HSIA  
No. C50210  
Exp. 06-30-11  
CIVIL  
STATE OF CALIFORNIA

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**TOP REINFORCEMENT**  
1"=10'-0"



**BOTTOM REINFORCEMENT**  
1"=10'-0"

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

DESIGN	BY EDWARD MERCADO	CHECKED JUAN TORRES
DETAILS	BY HECTOR INIGUEZ	CHECKED JUAN TORRES
QUANTITIES	BY EDWARD MERCADO	CHECKED DARYOUSH BALBAS

**STATE OF CALIFORNIA**  
DEPARTMENT OF TRANSPORTATION

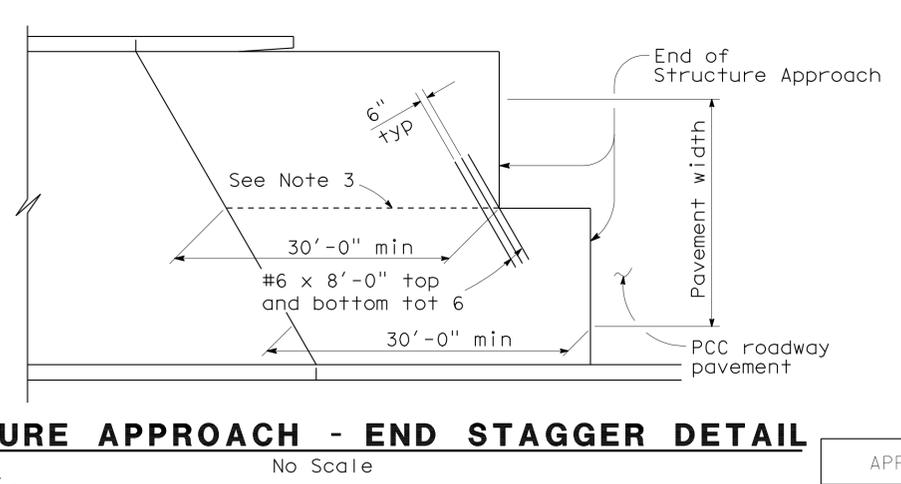
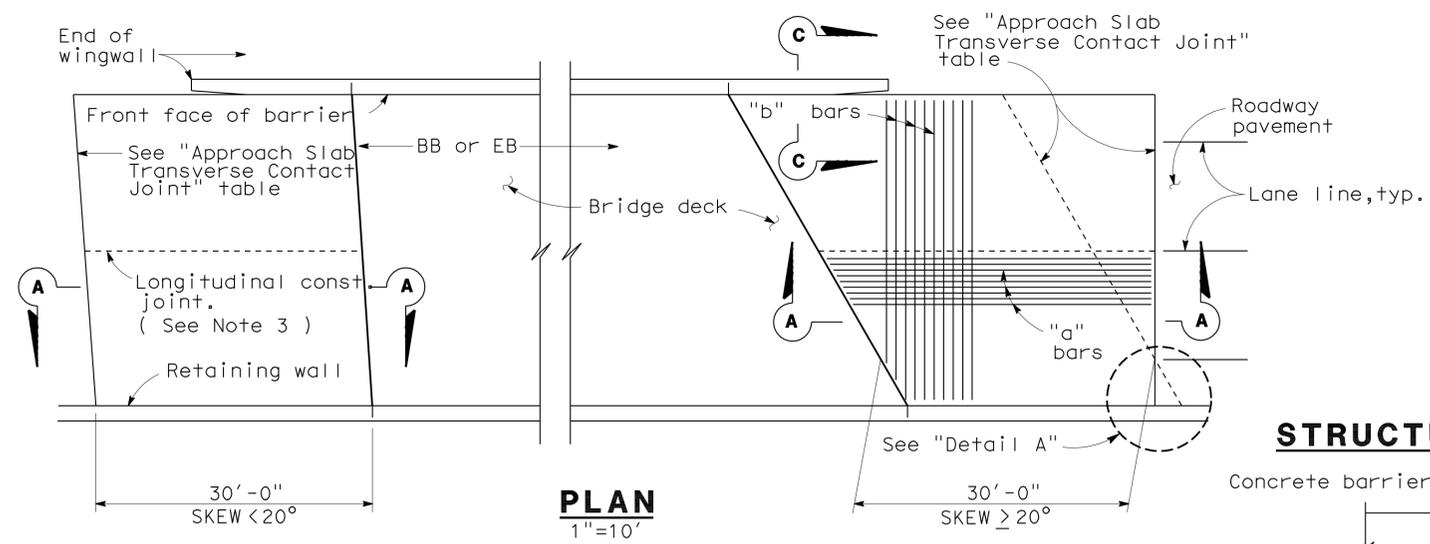
DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
**DESIGN BRANCH 19**

BRIDGE NO.	53-0788L
POST MILE	23.2

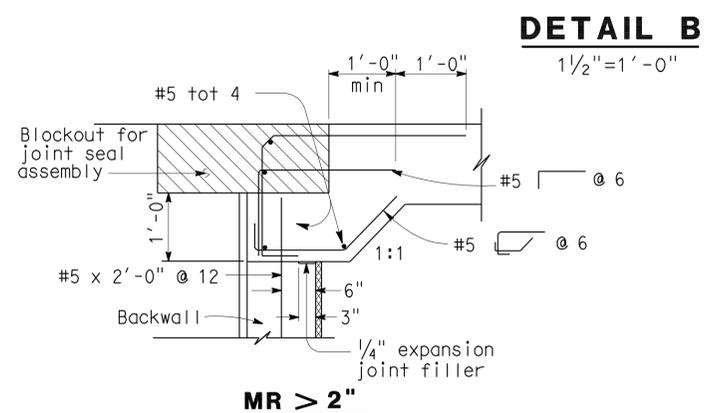
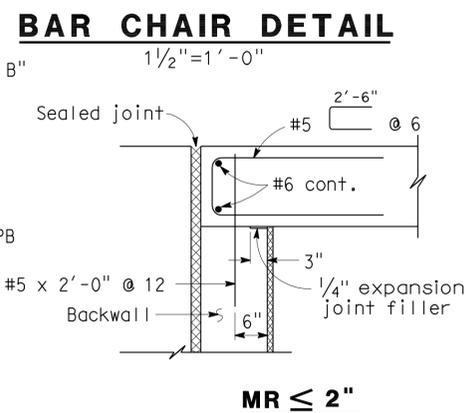
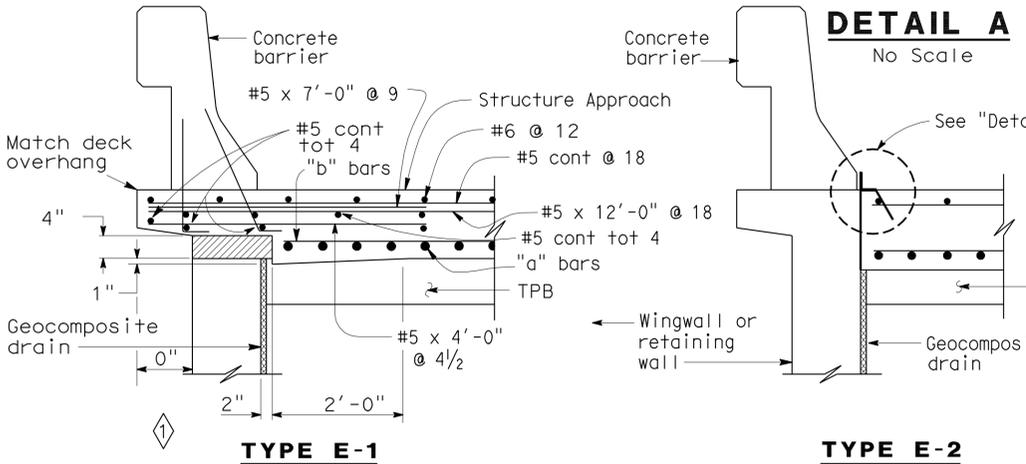
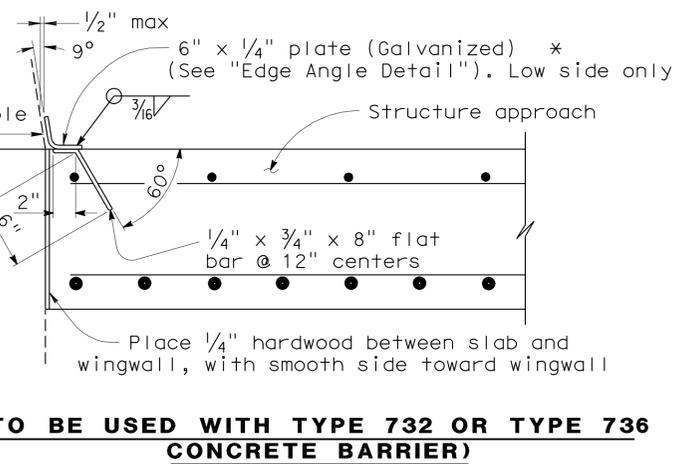
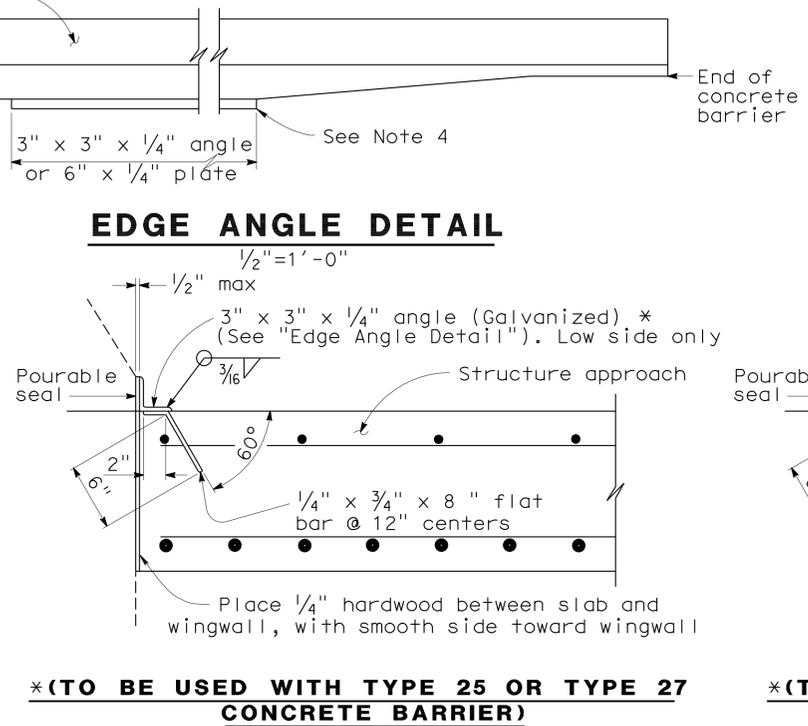
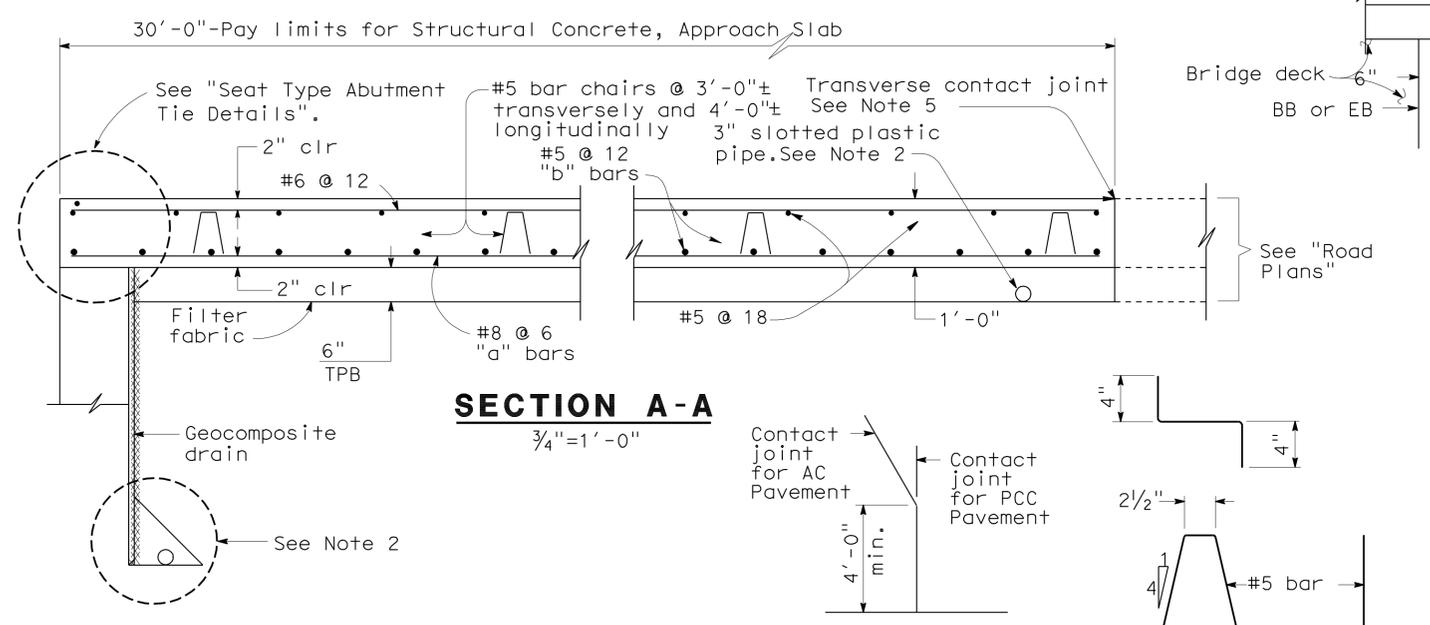
**RTE 710/5 SEPARATION WEST (WIDEN)**  
**GIRDER REINFORCEMENT NO. 3**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1287	1507

03-01-11  
 REGISTERED CIVIL ENGINEER DATE  
 6-27-11  
 PLANS APPROVAL DATE  
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APPROACH SLAB TRANSVERSE CONTACT JOINT		
APPROACH SKEW	WITH AC ROADWAY PAVEMENT	WITH PCC ROADWAY PAVEMENT
<math>< 20^\circ</math>	Parallel to face of paving notch	Parallel to face of paving notch
<math>20^\circ - 45^\circ</math>	Parallel to face of P N use (Detail A)	Stagger lines 24' to 36' apart.
> 45°	Parallel to face of P N use (Detail A)	Stagger at each lane line.



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

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

**SPECIAL DETAILS**

REVISED STANDARD DRAWING

FILE NO. **xs3-120e**

APPROVAL DATE   X-X-X  

DETAIL REVISED

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 53-0788L  
POST MILE 23.2

RTE 710/5 SEPARATION WEST (WIDEN)  
STRUCTURE APPROACH TYPE N(30S)

UNIT: 3621  
PROJECT NUMBER & PHASE: 0700020869 1  
CONTRACT NO.: 07-202111

DISREGARD PRINTS BEARING EARLIER REVISION DATES

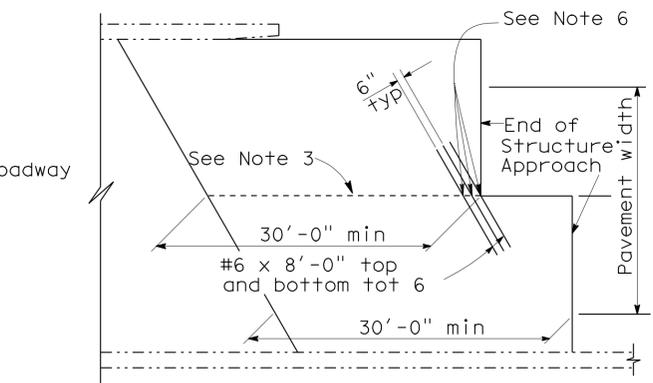
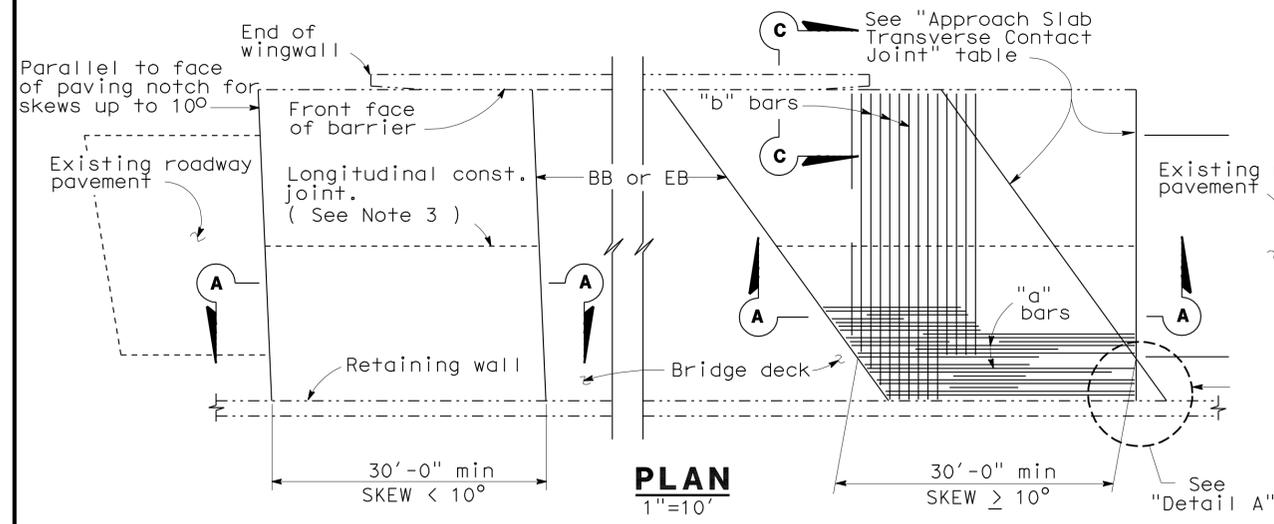
REVISION DATES	SHEET	OF
11-17-10	24	33

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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03-01-11  
 REGISTERED CIVIL ENGINEER DATE  
 6-27-11  
 PLANS APPROVAL DATE

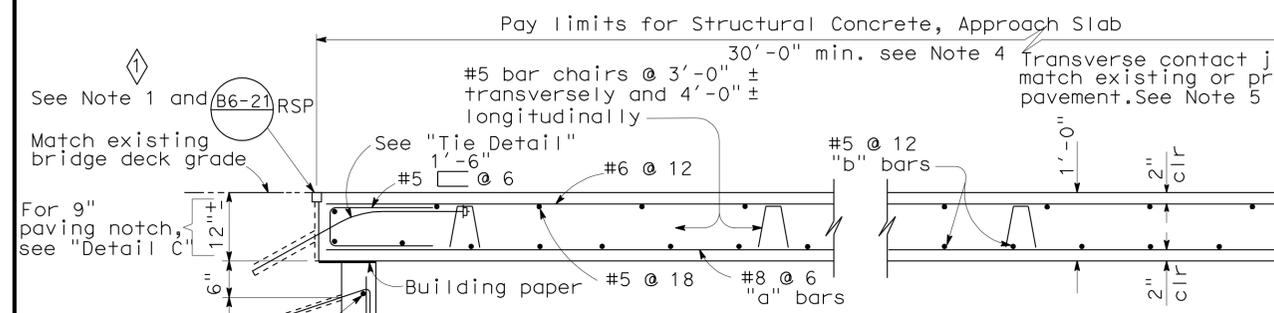
WEL-KUNG HSIA  
 No. C50210  
 Exp. 06-30-11  
 CIVIL  
 STATE OF CALIFORNIA

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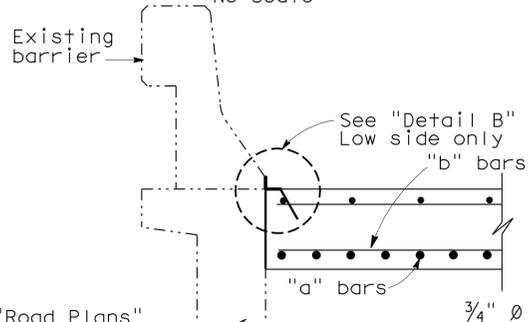


**STRUCTURE APPROACH - END STAGGER DETAIL**  
 No Scale

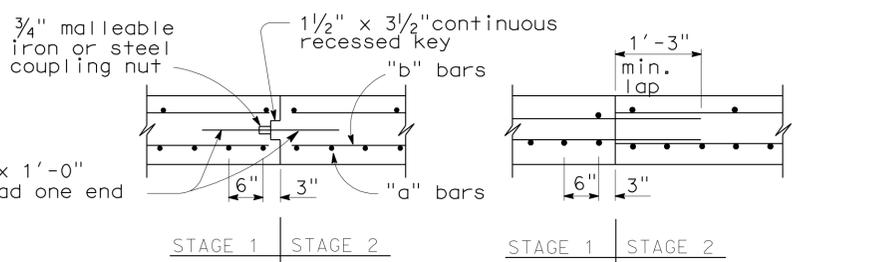
APPROACH SLAB TRANSVERSE CONTACT JOINT		
APPROACH SKEW	WITH AC ROADWAY PAVEMENT	WITH PCC ROADWAY PAVEMENT
< 10°	Parallel to face of paving notch	Parallel to face of paving notch
10° - 45°	Parallel to face of P N use (Detail A)	Stagger lines 24' to 36' apart
> 45°	Parallel to face of P N use (Detail A)	Stagger at each lane line



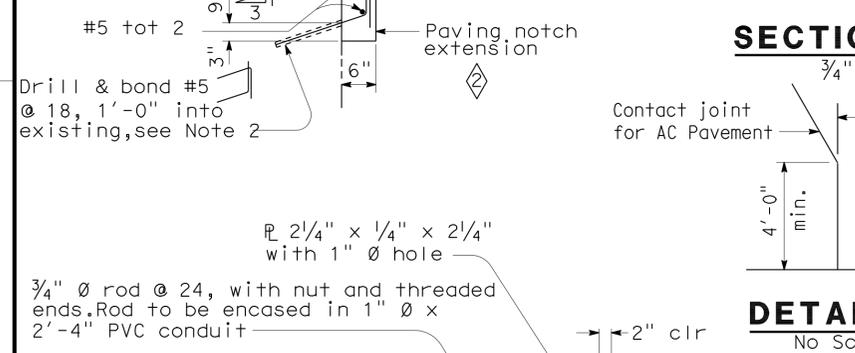
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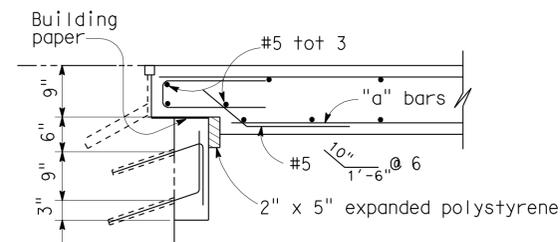
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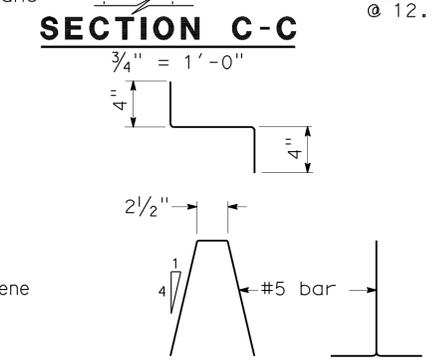
**LONGITUDINAL CONSTRUCTION JOINT ALTERNATIVES**  
 No Scale



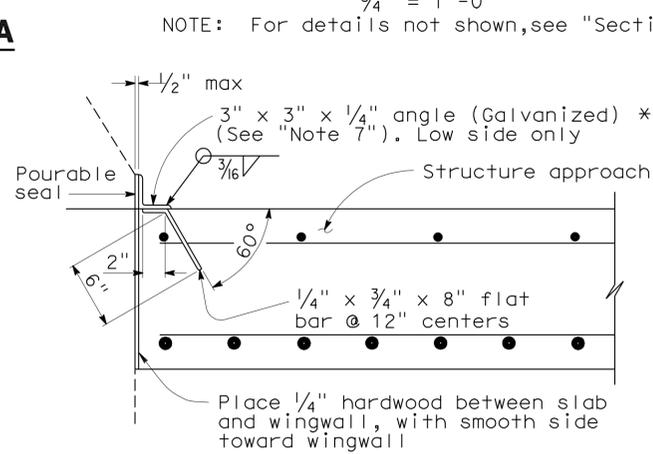
**TIE DETAIL**  
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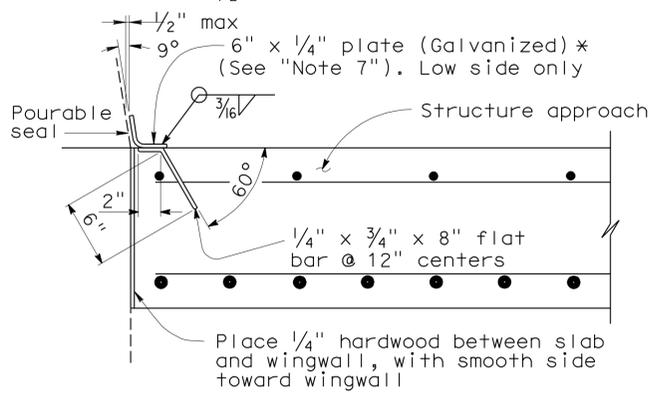
**DETAIL C**  
 No Scale



**BAR CHAIR DETAIL**  
 No Scale



**DETAIL B**  
 No Scale



**DETAIL B**  
 No Scale

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

Note:  
 End Diaphragm Abutment shown, Seat type Abutment similar.

\*(TO BE USED WITH TYPE 25 OR TYPE 27 CONCRETE BARRIER) \*(TO BE USED WITH TYPE 732 OR TYPE 736 CONCRETE BARRIER)

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

**SPECIAL DETAILS**

REVISED STANDARD DRAWING

FILE NO. **xs3-140e**

APPROVAL DATE   X-X-X  

- NOTE ADDED
- NOTE MODIFIED

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 53-0788L  
 POST MILE 23.2

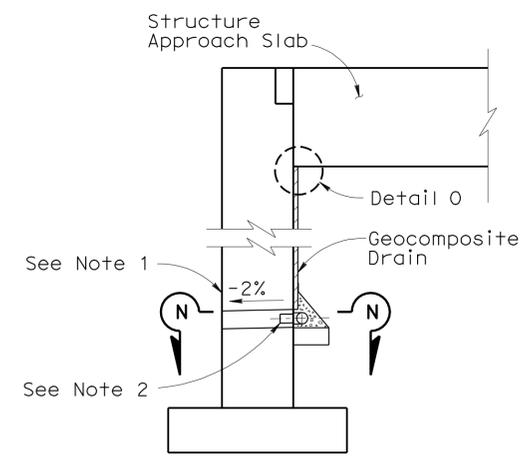
RTE 710/5 SEPARATION WEST (WIDEN)  
 STRUCTURE APPROACH TYPE R(30D)

UNIT: 3621  
 PROJECT NUMBER & PHASE: 07200020869 1 CONTRACT NO.: 07-202111

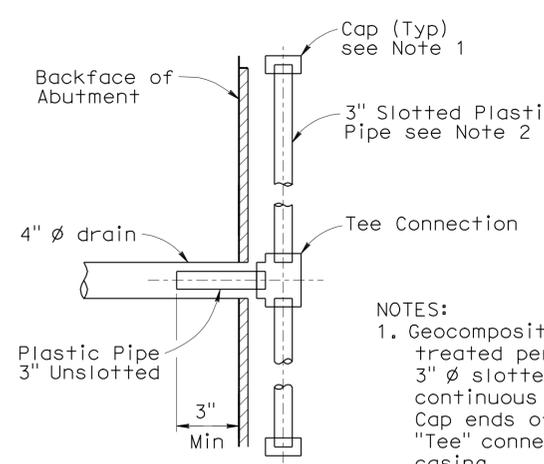
DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
11-18-10	25	33

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1289	1507
				03-01-11 REGISTERED CIVIL ENGINEER DATE 6-27-11 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.					

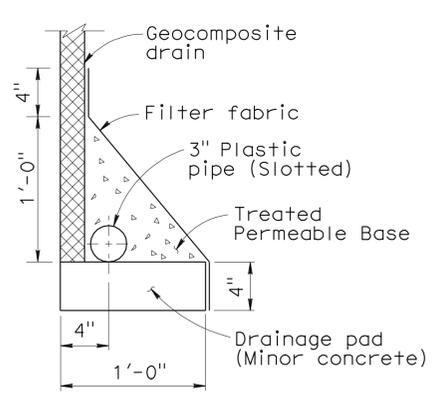


**WALL SECTION**  
No Scale

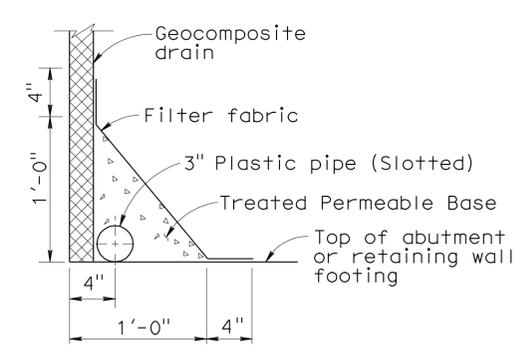


**SECTION N-N**  
No Scale

- NOTES:
1. Geocomposite drain, cement treated permeable base, and 3"  $\phi$  slotted plastic pipe continuous behind Abutment. Cap ends of pipe, provide "Tee" connection at each 4"  $\phi$  casing.
  2. Connect the low end of plastic pipe to the main outlet pipe as applicable.

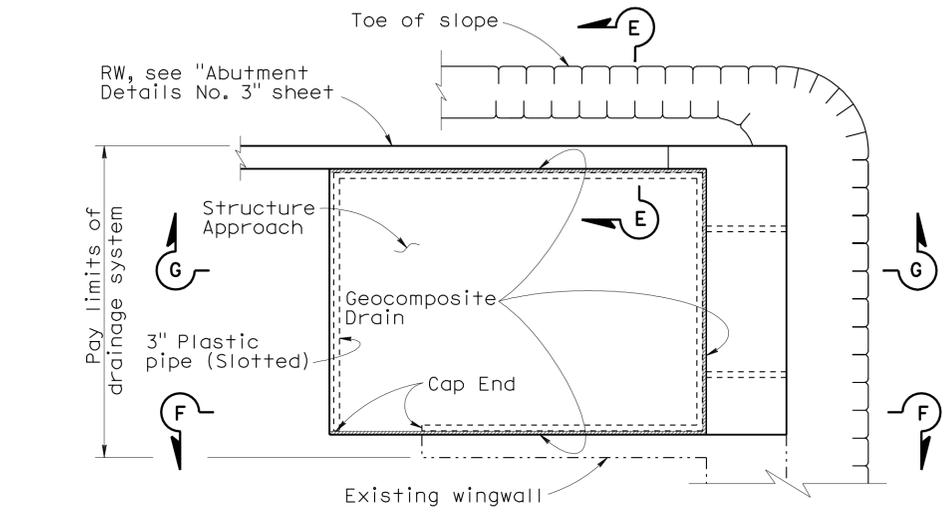


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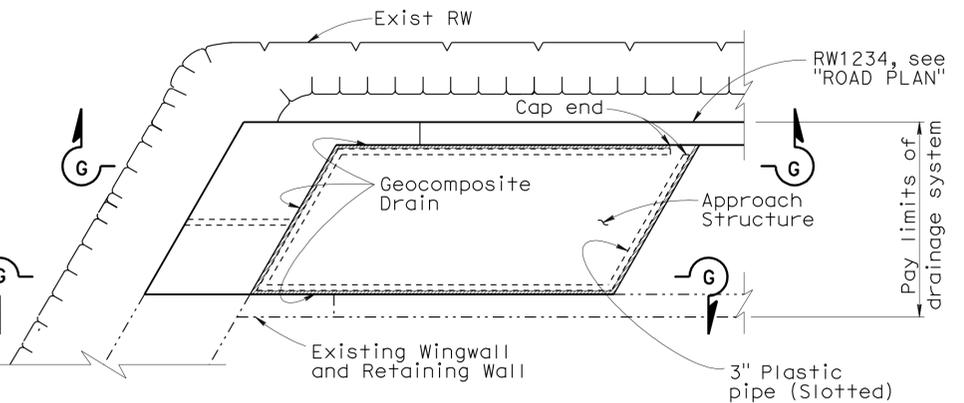


**WITH FOOTING**

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

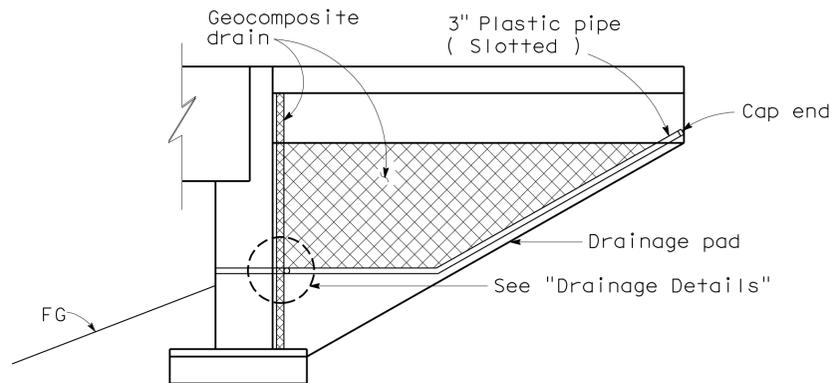


**PLAN - ABUTMENT 1**  
No Scale

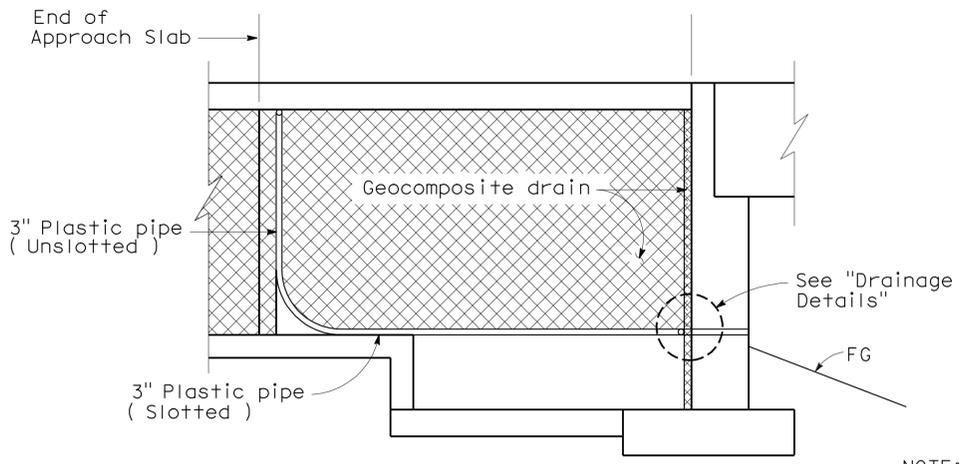


**PLAN - ABUTMENT 10**  
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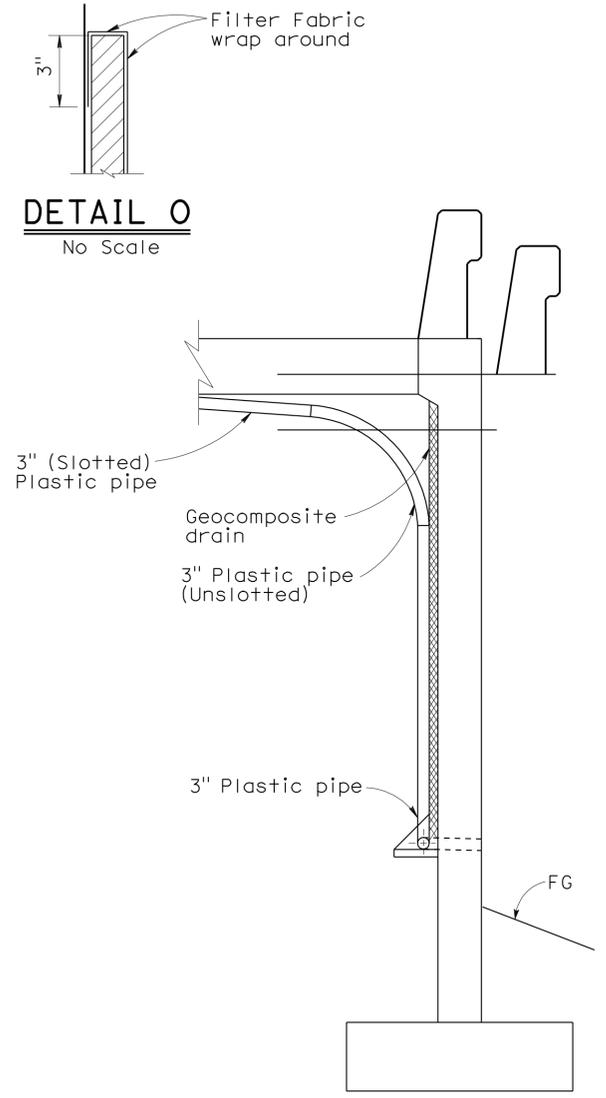
NOTE :  
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIALS



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



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



**DETAIL O**  
No Scale

**SECTION E-E**  
No Scale

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

**SPECIAL DETAILS**

REVISED STANDARD DRAWING	
FILE NO. <b>xs3-110e</b>	APPROVAL DATE <u>  X-X-X  </u>

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	
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DIVISION OF ENGINEERING SERVICES	
BRIDGE NO. 53-0788L	POST MILE 23.2

RTE 710/5 SEPARATION WEST (WIDEN)	
STRUCTURE APPROACH DRAINAGE DETAILS	

**BENCH MARK**

RTK731 Elev 204.597'  
 Fd PK Nail and Tin 11' behind MBGR  
 NB710 shldr, 20.5' south of Rte 5 Brdg  
 rail, 57.070' Rt Sta 1224+11.00 "Conn 2" Line.  
 N 1827956.0880  
 E 6509517.0560

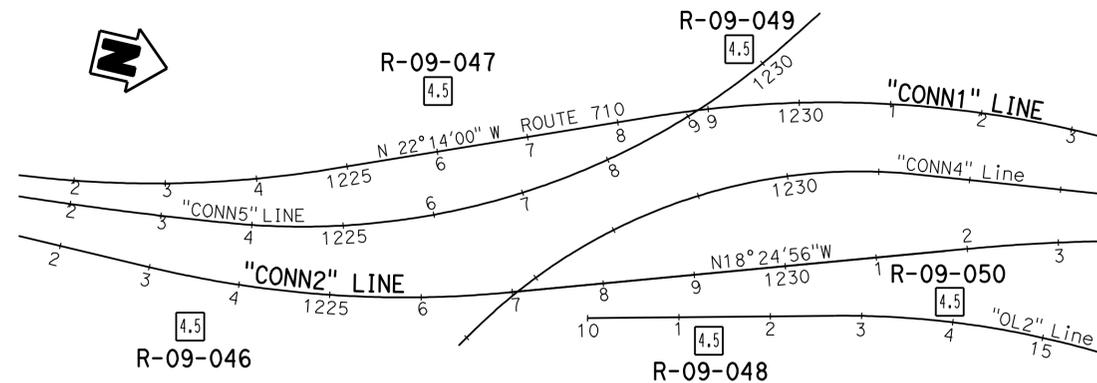
PRHV7907 Elev 180.946'  
 Fd PK Nail W'ly shldr SB5/SB710 Conctr,  
 346' north of Triggs St Brdg, 131.150' Lt Sta  
 1226+23.03 "Conn 1" Line.  
 N 1828092.1720  
 E 6509157.6170

PRHV7821 Elev 179.393'  
 Fd PK Nail 9' west of median nose Telegraph  
 Rd east of NB710 Brdg, 91.027' Rt Sta  
 1229+69.81 "Conn 2" Line.  
 N 1828518.2410  
 E 6509402.5430

PRHV7842 Elev 172.155'  
 Fd Spk in median btwn SB5 and Conctr from  
 at Top Slope under SB710 Brdg, 35.339' Lt Sta  
 1228+86.37 "Conn 1" Line.  
 N 1828373.7950  
 E 6509147.0320

RTK732 Elev 202.657'  
 Fd PK Nail and Tin 11' NB710 shldr at  
 gore Olympic off-rmp, 44.038' Rt Sta  
 1232+24.43 "Conn 2" Line.  
 N 1828744.1920  
 E 6509278.3030

VERT DATUM NAVD88



**PLAN**

1" = 100'

NOTE: Ground water was not encountered in Boring R-09-046.

Elev	Depth	Soil Description	Notes
200	0	ASPHALT CONCRETE (3.5").	
190	9   1.4	CLAYEY SAND (SC); loose; brown; moist; (FILL).	
180	42   2.0	SILTY SAND (SM); loose brown; moist; fine SAND; little fines; few fine GRAVEL.	
170	38   2.0	-few coarse GRAVEL.	
160	42   1.4	CLAYEY SAND (SC) moderately interlayered with moderate layers of Lean CLAY (CL). CLAYEY SAND (SC); dense; brown and olive gray; moist; fine SAND; some fines. Lean CLAY (CL); hard; olive gray and brown; moist; PP = 4.25 tsf.	CR
150	33   2.0	SANDY lean CLAY (CL); hard; brown; moist; fine SAND; PP=4.5 tsf; (ALLUVIUM).	
140	46   1.4	CLAYEY SAND (SC); dense; light brown; moist; fine SAND; some fines.	PA(P)
130	58   2.0	SANDY Lean CLAY (CL); very stiff; light brown; moist; some fine SAND; PP = 3.75 tsf.	PA(P) CR(DS)
120	42   1.4	SILT with SAND (ML); dense; light brown; moist; little fine SAND; nonplastic.	
110	61   2.0	-medium dense.	
100	30   1.4	Lean CLAY with SAND (CL); very stiff; brown; moist; little fine SAND; PP = 3.75 tsf.	PA(P) CR
90	84   2.0	-light brown.	PA(P)
80	26   1.4	SILTY SAND (SM) moderately bedded with moderate interbeds of SANDY SILT (ML). SILTY SAND (SM); very dense; light brown; moist; fine and medium SAND; some fines. SANDY SILT (ML); very dense; light brown; moist; some fine SAND; nonplastic.	PA(P)
70	96   2.0	SILTY SAND (SM) moderately bedded with moderate interbeds of CLAYEY SAND (SC). SILTY SAND (SM); very dense; light brown; moist; fine and medium SAND; little fines, trace fine GRAVEL. CLAYEY SAND (SC); very dense; light brown; moist; fine and medium SAND; little fines; nonplastic.	PA(P)
60	68   1.4	-dense.	
50	57   1.4	SANDY SILT (ML); dense; light brown; moist; some fine SAND; trace fine GRAVEL; nonplastic.	
40	50   4   1.4		
30	71   1.4		
20	34   1.4		
10	49   1.4		

8-12-09  
 Terminated at Elev 101.9'  
 ER<sub>i</sub> = 59%

**PROFILE**

Horiz: 1" = 10'  
 Vert: 1" = 10'

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	710	17.2/26.4	1290	1507

Joseph S. Pratt 1-18-11  
 CERTIFIED ENGINEERING GEOLOGIST

6-27-11  
 PLANS APPROVAL DATE

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PROFESSIONAL GEOLOGIST  
 Joseph S. Pratt  
 No. 2141  
 Exp. 5-3-11  
 CERTIFIED ENGINEERING GEOLOGIST  
 STATE OF CALIFORNIA

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

<b>ENGINEERING SERVICES</b>		<b>GEOTECHNICAL SERVICES</b>		<b>STATE OF CALIFORNIA</b>		<b>DIVISION OF ENGINEERING SERVICES</b>		<b>BRIDGE NO.</b>		<b>RTE 710/5 SEPARATION WEST (WIDEN)</b>	
FUNCTIONAL SUPERVISOR		DRAWN BY: I. G-Remmen 1/11		DEPARTMENT OF TRANSPORTATION		STRUCTURE DESIGN		53-0788L		<b>LOG OF TEST BORINGS 1 OF 7</b>	
NAME: S. Karimi		CHECKED BY: T. Haida		K. Lai		DESIGN BRANCH		POST MILES			
								23.21			
065 GEOLOGIST LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		CU 07		EA 202111		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES	
				0 1 2 3						SHEET 27 OF 33	

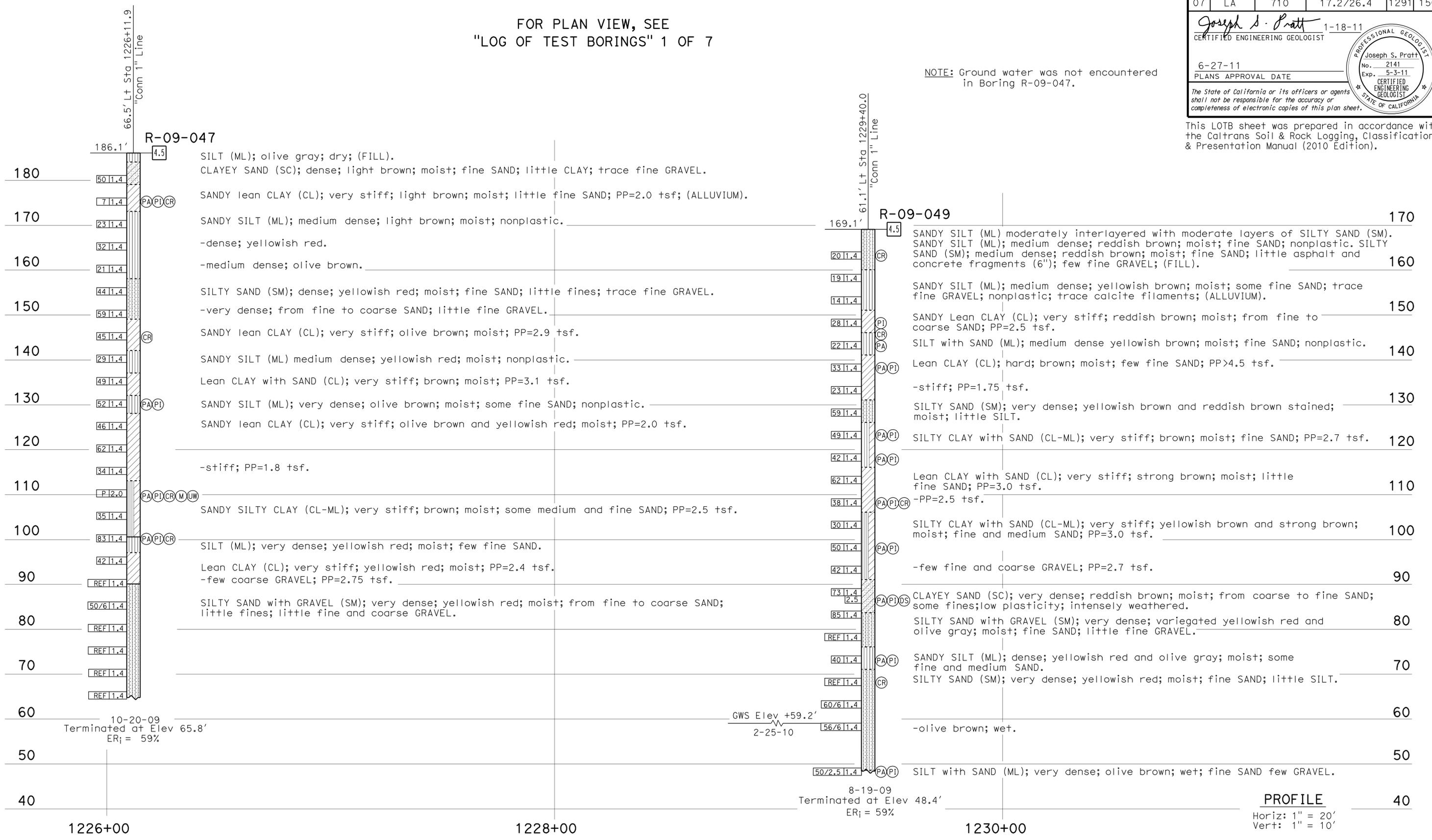
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	710	17.2/26.4	1291	1507

Joseph S. Pratt 1-18-11  
 CERTIFIED ENGINEERING GEOLOGIST  
 No. 2141  
 Exp. 5-3-11  
 PROFESSIONAL GEOLOGIST  
 STATE OF CALIFORNIA  
 CERTIFIED ENGINEERING GEOLOGIST  
 6-27-11  
 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.

FOR PLAN VIEW, SEE  
"LOG OF TEST BORINGS" 1 OF 7

NOTE: Ground water was not encountered in Boring R-09-047.



<b>ENGINEERING SERVICES</b>		<b>GEOTECHNICAL SERVICES</b>		<b>STATE OF CALIFORNIA</b>		<b>DIVISION OF ENGINEERING SERVICES</b>		<b>BRIDGE NO.</b>		<b>RTE 710/5 SEPARATION WEST (WIDEN)</b>	
FUNCTIONAL SUPERVISOR		DRAWN BY: I. G-Remmen 1/11		DEPARTMENT OF TRANSPORTATION		STRUCTURE DESIGN		53-0788L		<b>LOG OF TEST BORINGS 2 OF 7</b>	
NAME: S. Karimi		CHECKED BY: M. Mushfaq Ahmed		FIELD INVESTIGATION BY: K. Lai, J. Pratt, T. Halda		DESIGN BRANCH		POST MILES		23.21	
065 GEOLOGIST LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		CU 07 202111		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES		SHEET 28 OF 33	

FILE PLOTTED => 19:00 USERNAME => s124496 DATE PLOTTED => 28-JUN-2011

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	710	17.2/26.4	1292	1507

Joseph S. Pratt 1-18-11  
 CERTIFIED ENGINEERING GEOLOGIST

6-27-11  
 PLANS APPROVAL DATE

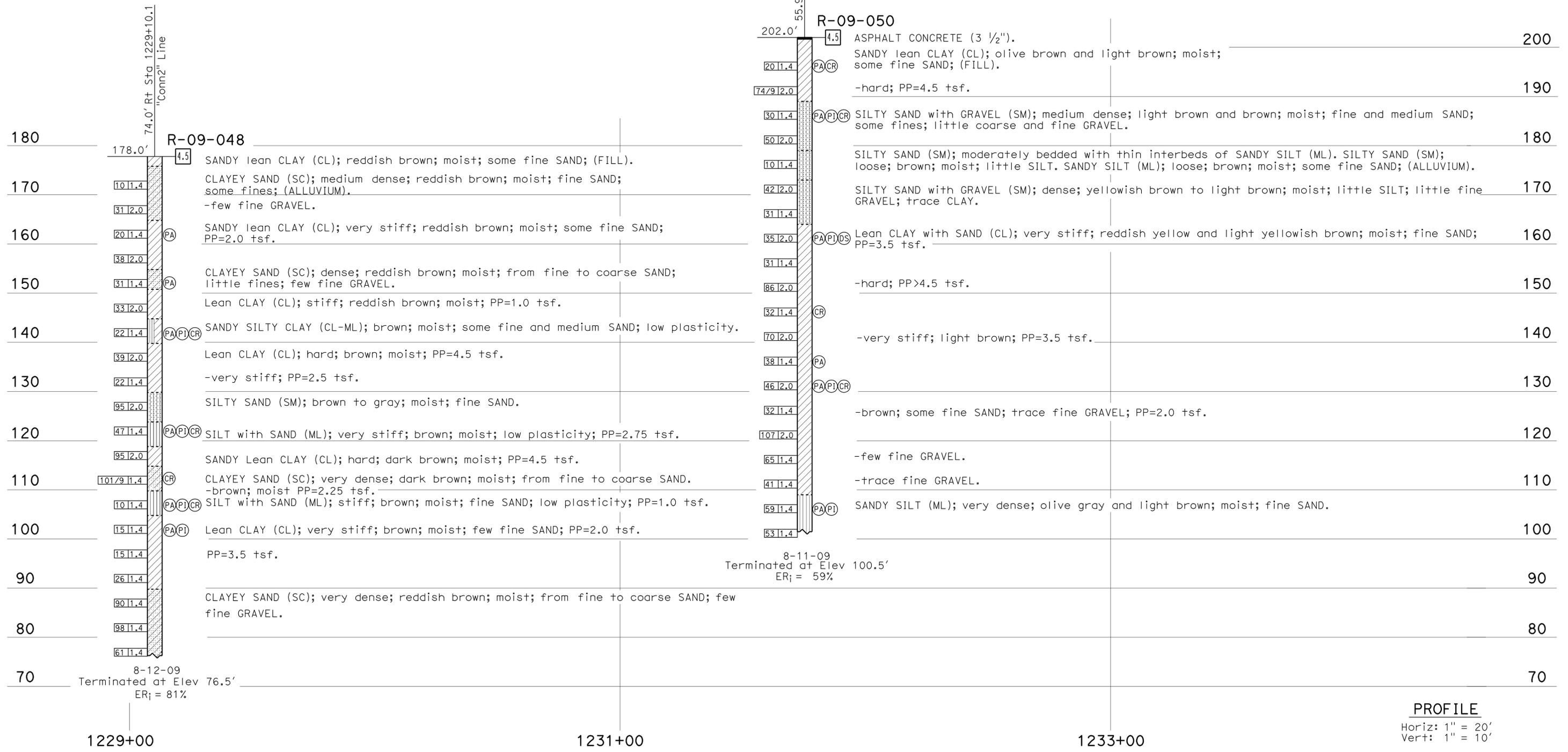
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

Professional Geologist  
 Joseph S. Pratt  
 No. 2141  
 Exp. 5-3-11  
 CERTIFIED ENGINEERING GEOLOGIST  
 STATE OF CALIFORNIA

FOR PLAN VIEW, SEE  
 "LOG OF TEST BORINGS" 1 OF 7

NOTE: Ground water was not encountered  
 in Borings R-09-048 and R-09-050.

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



PROFILE  
 Horiz: 1" = 20'  
 Vert: 1" = 10'

<b>ENGINEERING SERVICES</b>		<b>GEOTECHNICAL SERVICES</b>		<b>STATE OF CALIFORNIA</b>		<b>DIVISION OF ENGINEERING SERVICES</b>		<b>BRIDGE NO.</b>		<b>RTE 710/5 SEPARATION WEST (WIDEN)</b>	
FUNCTIONAL SUPERVISOR		DRAWN BY: I. G-Remmen 1/11		DEPARTMENT OF TRANSPORTATION		STRUCTURE DESIGN		53-0788L		<b>LOG OF TEST BORINGS 3 OF 7</b>	
NAME: S. Karimi		CHECKED BY: M. Mushtaq Ahmed		FIELD INVESTIGATION BY: P. Piratheepan, T. Halda		DESIGN BRANCH		POST MILES			
						CU 07		23.21			
065 GEOLOGIST LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		0 1 2 3		EA 202111		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES	
										SHEET 29 OF 33	

DATE PLOTTED => 19:01 USERNAME => s124496

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	710	17.2/26.4	1293	1507

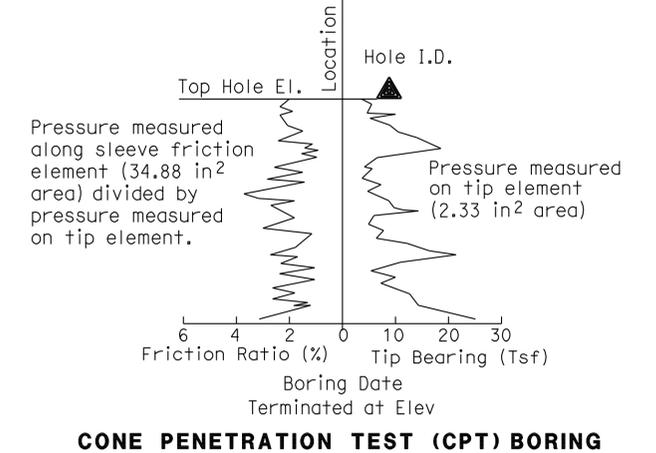
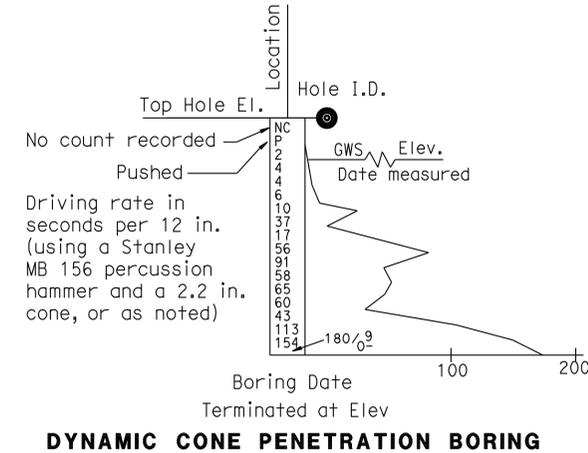
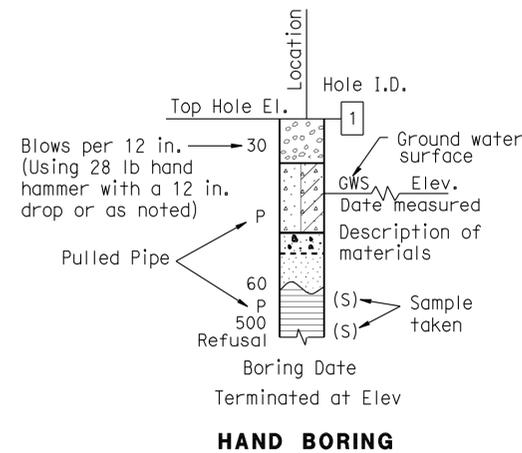
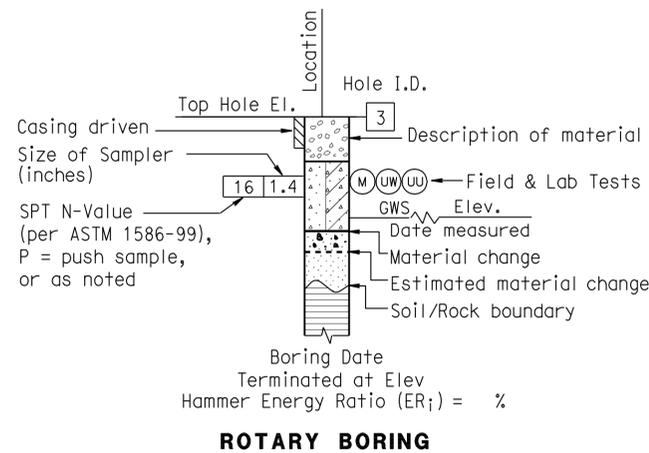
Joseph S. Pratt  
 CERTIFIED ENGINEERING GEOLOGIST  
 1-18-11 DATE  
 6-27-11 PLANS APPROVAL DATE  
 No. 2141  
 Exp. 5-31-11  
 REGISTERED GEOLOGIST  
 CERTIFIED ENGINEERING GEOLOGIST  
 STATE OF CALIFORNIA  
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

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

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

Note: Size in inches.

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



ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH	BRIDGE NO. 53-0788L	RTE 710/5 SEPARATION WEST (WIDEN)	
	PREPARED BY: I.G-Remmen, 1/11			POST MILE 23.21		LOG OF TEST BORINGS 4 OF 7
GS LOTB SOIL LEGEND	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU 07 EA 202111	FILE => 53-0788L-z-1otb_04.dgn	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 30 OF 33

USERNAME => s124496 DATE PLOTTED => 28-JUN-2011 TIME PLOTTED => 19:01

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	710	17.2/26.4	1294	1507

*Joseph S. Pratt*  
 REGISTERED ENGINEERING GEOLOGIST  
 No. 2141  
 Exp. 5-31-11  
 CERTIFIED ENGINEERING GEOLOGIST  
 STATE OF CALIFORNIA

1-18-11 DATE  
 6-27-11 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.

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		SANDY lean CLAY
	Poorly-graded GRAVEL with SAND		GRAVELLY lean CLAY
	Well-graded GRAVEL with SILT		SILTY CLAY
	Well-graded GRAVEL with SILT and SAND		SILTY CLAY with SAND
	Well-graded GRAVEL with CLAY (or SILTY CLAY)		SANDY SILTY CLAY
	Well-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)		GRAVELLY SILTY CLAY
	Poorly-graded GRAVEL with SILT		SANDY SILTY CLAY with GRAVEL
	Poorly-graded GRAVEL with SILT and SAND		GRAVELLY SILTY CLAY with SAND
	Poorly-graded GRAVEL with CLAY (or SILTY CLAY)		SILT
	Poorly-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)		SILT with SAND
	SILTY GRAVEL		SILT with GRAVEL
	SILTY GRAVEL with SAND		SANDY SILT
	CLAYEY GRAVEL		SANDY SILT with GRAVEL
	CLAYEY GRAVEL with SAND		GRAVELLY SILT
	SILTY, CLAYEY GRAVEL		GRAVELLY SILT with SAND
	SILTY, CLAYEY GRAVEL with SAND		ORGANIC lean CLAY
	Well-graded SAND		ORGANIC lean CLAY with SAND
	Well-graded SAND with GRAVEL		ORGANIC lean CLAY with GRAVEL
	Poorly-graded SAND		SANDY ORGANIC lean CLAY
	Poorly-graded SAND with GRAVEL		GRAVELLY ORGANIC lean CLAY
	Well-graded SAND with SILT		GRAVELLY ORGANIC lean CLAY with SAND
	Well-graded SAND with SILT and GRAVEL		ORGANIC SILT
	Well-graded SAND with CLAY (or SILTY CLAY)		ORGANIC SILT with SAND
	Well-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)		ORGANIC SILT with GRAVEL
	Poorly-graded SAND with SILT		SANDY ORGANIC SILT
	Poorly-graded SAND with SILT and GRAVEL		SANDY ORGANIC SILT with GRAVEL
	Poorly-graded SAND with CLAY (or SILTY CLAY)		GRAVELLY ORGANIC SILT
	Poorly-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)		GRAVELLY ORGANIC SILT with SAND
	SILTY SAND		Fat CLAY
	SILTY SAND with GRAVEL		Fat CLAY with SAND
	CLAYEY SAND		Fat CLAY with GRAVEL
	CLAYEY SAND with GRAVEL		SANDY fat CLAY
	SILTY, CLAYEY SAND		SANDY fat CLAY with GRAVEL
	SILTY, CLAYEY SAND with GRAVEL		GRAVELLY fat CLAY
	PEAT		GRAVELLY fat CLAY with SAND
	COBBLES		Elastic SILT
	COBBLES and BOULDERS		Elastic SILT with SAND
	BOULDERS		Elastic SILT with GRAVEL
			SANDY elastic SILT
			SANDY elastic SILT with GRAVEL
			GRAVELLY ORGANIC elastic SILT
			GRAVELLY ORGANIC elastic SILT with SAND
			ORGANIC SOIL
			ORGANIC SOIL with SAND
			ORGANIC SOIL with GRAVEL
			SANDY ORGANIC SOIL
			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

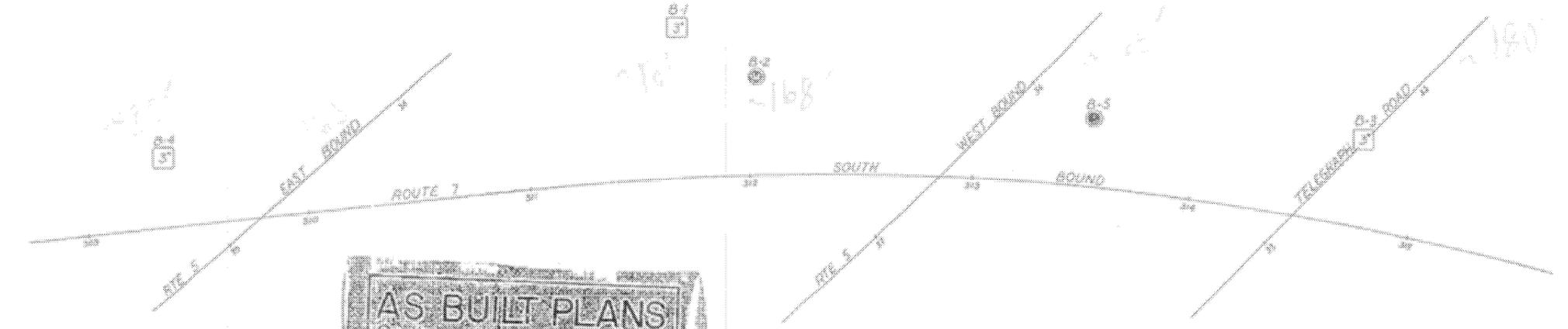
PERCENT OR PROPORTION OF SOILS	
Description	Criteria
Trace	Particles are present but estimated to be less than 5%
Few	5% - 10%
Little	15% - 25%
Some	30% - 45%
Mostly	50% - 100%

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	

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH	BRIDGE NO. 53-0788L	RTE 710/5 SEPARATION WEST (WIDEN)
				POST MILE 23.21	
PREPARED BY: I.G-Remmen, 1/11		CU 07 EA 202111		REVISION DATES	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		0 1 2 3		SHEET 31 OF 33	

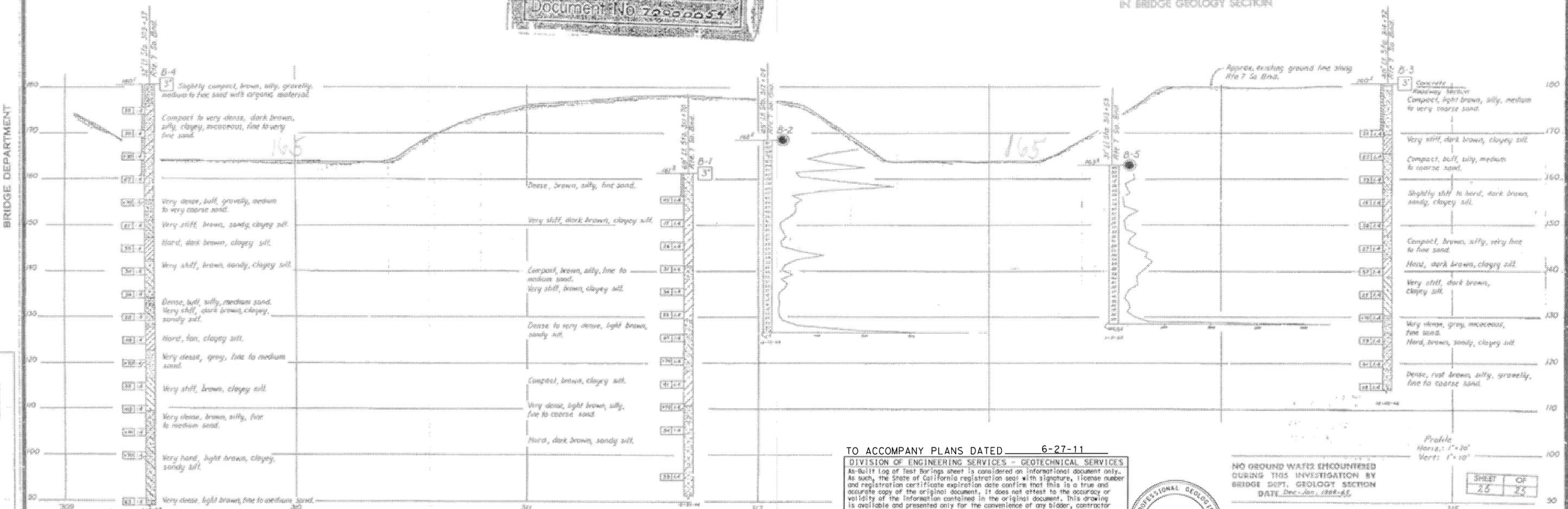
GS LOTB SOIL LEGEND      FILE => 53-0788L-z-1ofb\_05.dgn

BM 710-167-B-24 Elev. 181.62  
 Found at 1/2 mi. SE of BCR, on SE corner  
 Anaheim Telegraph Rd. (Eastern Ave.,  
 363.87, & ATR E 1/4 34 + 35.7



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

Plan  
 Scale 1"=20'



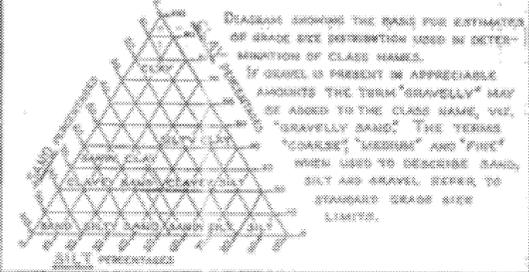
TO ACCOMPANY PLANS DATED 6-27-11  
 DIVISION OF ENGINEERING SERVICES - GEOTECHNICAL SERVICES  
 As-Built Log of Test Borings sheet is considered an informational document only. As such, the State of California registration seal with signature, license number and registration certificate expiration date confirm that this is a true and accurate copy of the original document. 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.



NO GROUND WATER ENCOUNTERED  
 DURING THIS INVESTIGATION BY  
 BRIDGE DEPT. GEOLOGY SECTION  
 DATE Dec. 20, 1964

DIST.	COUNTY	ROUTE	POST MILE - TOTAL PROJECT	Sheet No.	Total Sheets
07	LA	710	17.2/26.4	1295	1507
Joseph S. Pratt			1/18/11		
CERTIFIED ENGINEERING GEOLOGIST			DATE		
<b>ROUTE 710/5 SEPARATION WEST (WIDEN)</b>					
<b>LOG OF TEST BORINGS 6 OF 7</b>					
NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA		DATE OF	BRIDGE NO.		
		EAS 202111	53-0788L		
NOTE:		DATE	SHEET		
As-Built Vertical Datum: Local Datum			320F33		
Conversion: NAVD83 = Local Datum +1.31 ft.					

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



**LEGEND OF EARTH MATERIALS**

- GRAVEL
- SAND
- SILT
- CLAY
- SANDY CLAY OR CLAYEY SAND
- SANDY SILT OR SILTY SAND
- SILTY CLAY OR CLAYEY SILT
- CLAY WITH ORGANIC MATTER
- FILL MATERIAL
- IGNEOUS ROCK
- SEDIMENTARY ROCK
- METAMORPHIC ROCK

**LEGEND OF TEST BORINGS**

- PLAN OF ANY BORING
- PENETROMETER
- 2 1/2" CONE PENETROMETER
- SAMPLER BORING (SPT)
- ROTKVY BORING (RVT)
- AUGER BORING (OVC)
- JET BORING
- CORE BORING
- TEST PIT

**NOTE**

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

07-106204  
 ROUTE 7 SOUTHBOUND/5 SEPARATION  
 WIDENING  
 LOG OF TEST BORINGS SHT. 2

SCALE: As Noted  
 BRIDGE 53-788  
 FILE  
 DRAWING 51704-25

179

7/1/04/65

1-5-6-1-1

FED. ROAD DIST. NO.	STATE	ROUTE	SECTION	POST MILE	TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	710	17.2/26.4	1296	1507	33	33

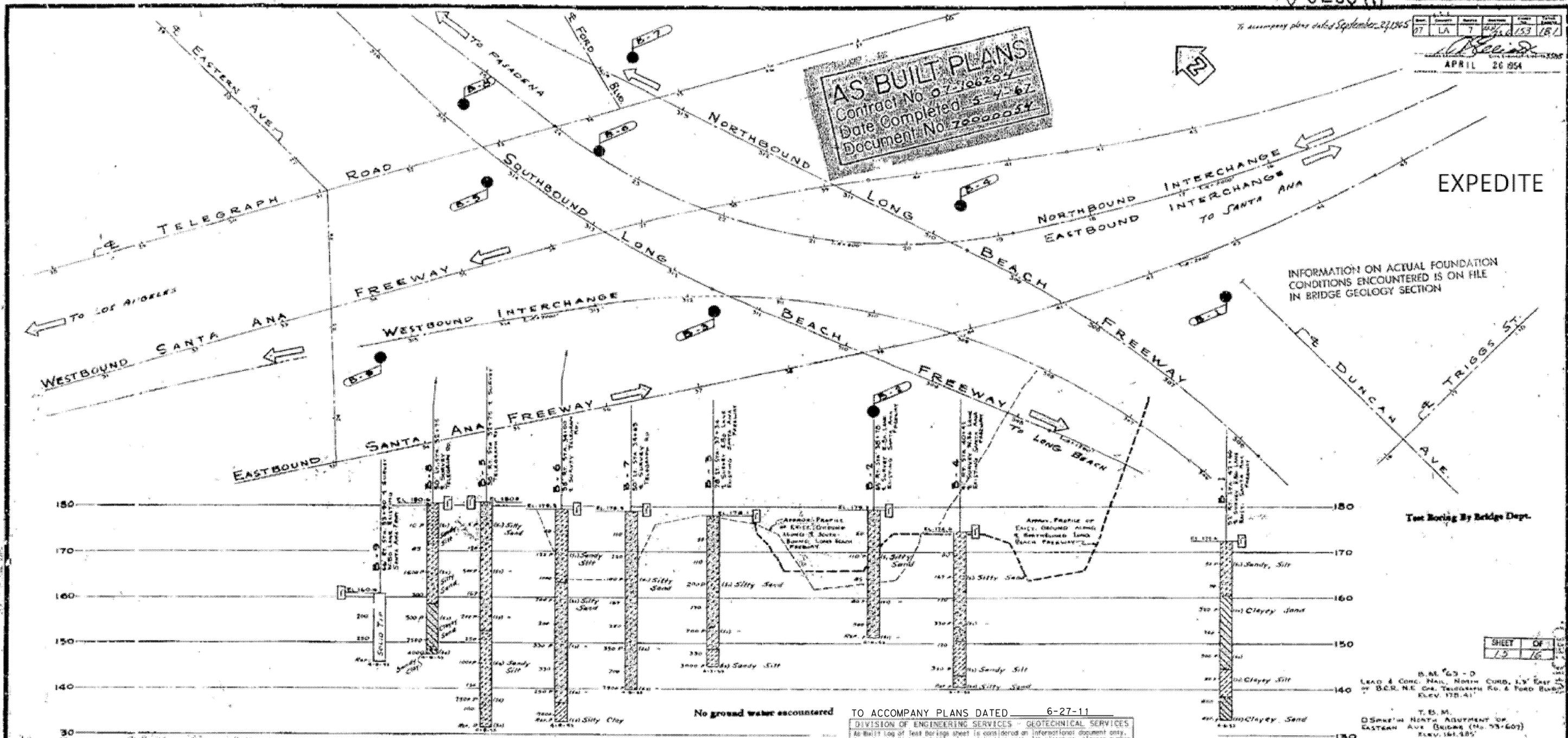
To accompany plans dated September 27, 1965  
 APRIL 26 1964

**AS BUILT PLANS**  
 Contract No. 07-106204  
 Date Completed 5-4-67  
 Document No. 70000014

**EXPEDITE**

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

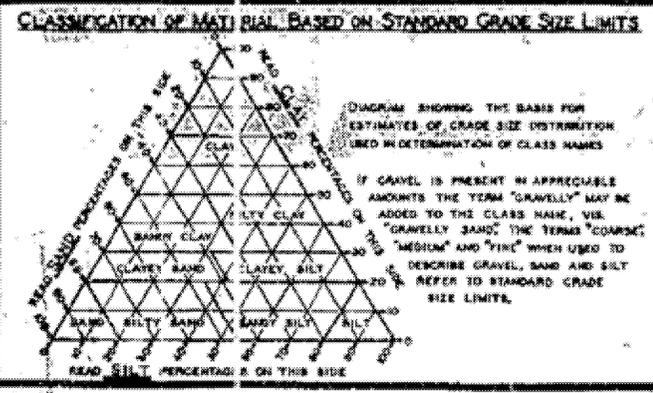
BRIDGE DEPARTMENT



Test Borings By Bridge Dept.

SHEET	OF
13	26

B. 61 63 - 0  
 LEAD & CONC. PILE, NORTH CURB, 1/2' EAST OF B.C.R. N.E. COR. TELEGRAPH RD. & FORD BLVD. ELEV. 178.41  
 T. S. M.  
 O'SHEA NORTH ALIGNMENT OF EASTERN AVE. BRIDGE (No. 53-607) ELEV. 181.85



**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

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

TO ACCOMPANY PLANS DATED 6-27-11

DIVISION OF ENGINEERING SERVICES - GEOTECHNICAL SERVICES  
 A Well 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 confirms 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 documents. This drawing is available and presented only for the convenience of the bidder, contractor or other interested party.

DIST.	COUNTY	ROUTE	POST MILE - TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	710	17.2/26.4	1296	1507

Joseph S. Proff  
 REGISTERED PROFESSIONAL GEOLOGIST  
 DATE 1/18/11

**ROUTE 710/5 SEPARATION WEST (WIDEN)**  
**LOG OF TEST BORINGS 7 OF 7**

NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE (ENGINEERING DIVISION), CALIFORNIA DEPARTMENT OF TRANSPORTATION.

Notes:  
 1. As-Built Vertical Datum: Local Datum Conversion: NAVD88 Local Datum +1.29 ft. (elevation shift applies to 710/5 Separation West, Soil Tubes B-1, B-4, B-6, and B-7)  
 2. As-Built Vertical Datum: Local Datum Conversion: NAVD88 Local Datum +1.31 ft. (elevation shift applies to 710/5 Separation West, Soil Tubes B-2, B-3, B-5, B-8, and B-9)



**NOTES**

THE CONTRACTOR'S ATTENTION IS DIRECTED TO SECTION 2, ARTICLE (2) 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 #2 WINKLER-TERRY AIR HAMMER AT 125 P.S.I.

07-106204  
 STATE OF CALIFORNIA  
 DEPARTMENT OF PUBLIC WORKS  
 DIVISION OF HIGHWAYS

**ROUTE 7 NORTHBOUND/5 SEPARATION WIDENING**  
**LOG OF TEST BORINGS, SHT. 1**

SCALE: HORIZ. 1" = 30' VERT. 1" = 10'  
 BRIDGE 57  
 DRAWING 33785-10

PS&L DRAWING NO. P-2966

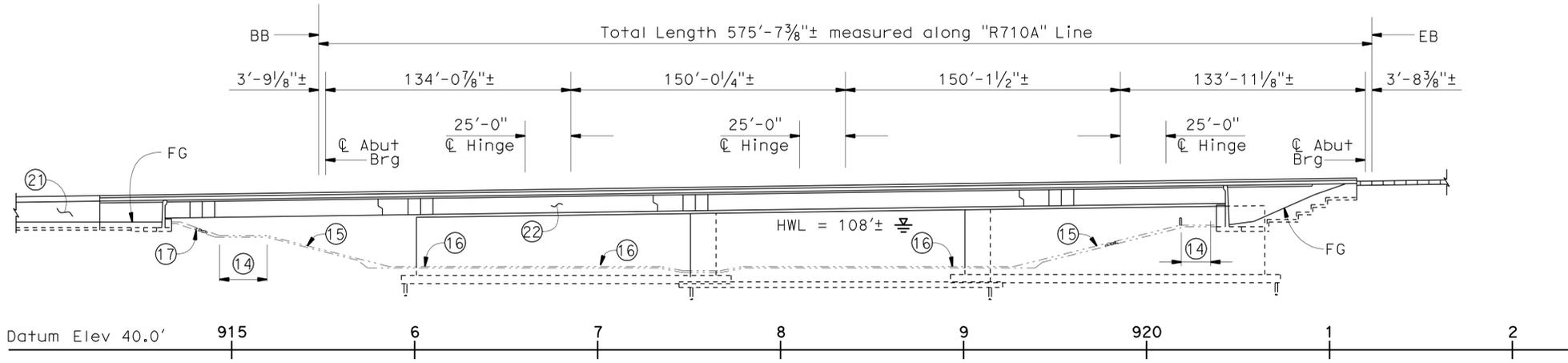
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1297	1507
 REGISTERED CIVIL ENGINEER DATE 03/01/11					
6-27-11 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					

**NOTES:**

- For General Notes and Pile Data Table, see "INDEX TO PLANS" sheet.
- For Quantities, see "INDEX TO PLANS" sheet.

**LEGEND:**

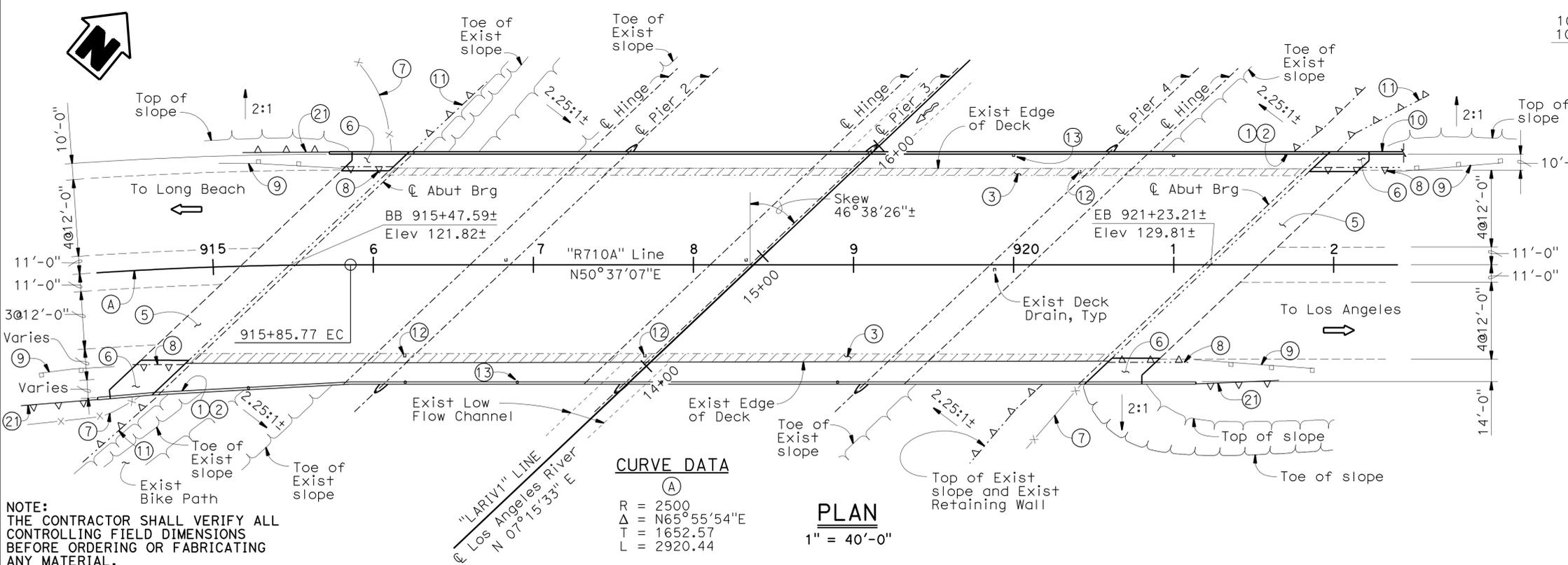
- ① Paint "Bridge Number 53-0828"
  - ② Paint "Los Angeles River Bridge" and year completed
  - ③  Remove existing Concrete Barrier Type 25 and deck overhang
  - ④ Concrete Barrier Type 736 (Mod) with Fracture Rib Texture and with two 3/2" communication conduits and one 2" electrical conduit
  - ⑤ Existing Structure Approach Type R(30D)
  - ⑥ Structure Approach Type N(30D)
  - ⑦ Existing fence, see "ROAD PLANS"
  - ⑧ Existing wingwall/retaining wall. Portions to be removed, see "REMOVAL PLAN" sheets.
  - ⑨ Existing MBGR, see "ROAD PLANS"
  - ⑩ Concrete Barrier, see "ROAD PLANS"
  - ⑪ Existing retaining wall. Portions to be removed, see "REMOVAL PLAN" sheets
  - ⑫ Existing Deck Drain to be removed
  - ⑬ New Deck Drain
  - ⑭ Existing Bike Path
  - ⑮ Existing grouted cobble stone blanket.
  - ⑯ Existing channel concrete slab. Portion to be reconstructed See "REMOVAL PLAN" sheets
  - ⑰ Existing concrete channel lining, portion to be reconstructed
  - ⑱ Existing communication conduit to be relocated, see "ROAD PLANS"
  - ⑲ Permanent Steel Deck Forms (Optional)
  - ⑳ Temporary Railing, Type K. See ROAD PLANS"
  - ㉑ Retaining Wall, see "ROAD PLANS"
  - ㉒ Clean and paint structure steel
- ➡ Direction of Traffic



**ELEVATION**

Note: All piles and stiffeners not shown

1" = 40'-0"

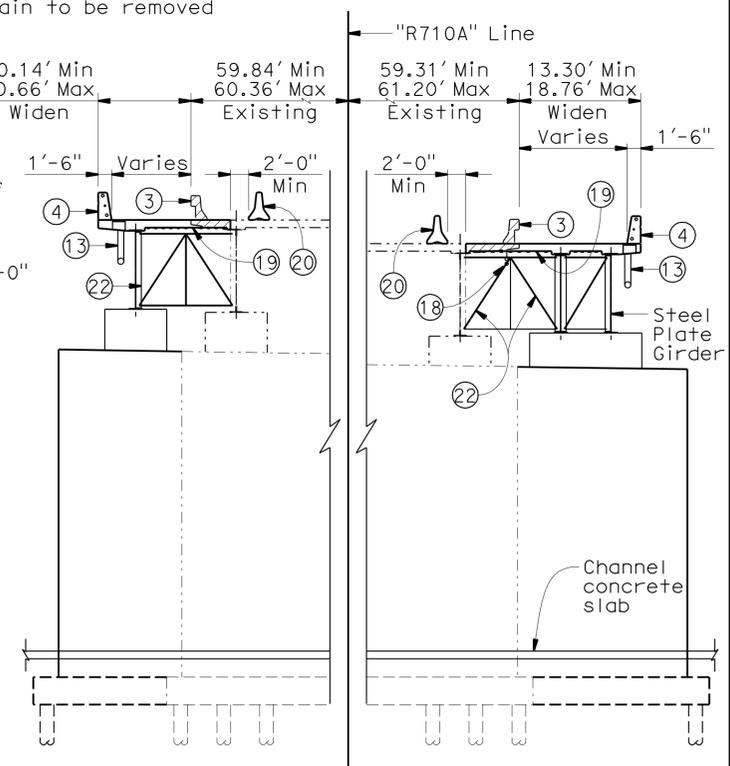


**CURVE DATA**

- ① R = 2500
- ① Δ = N65° 55' 54" E
- ① T = 1652.57
- ① L = 2920.44

**PLAN**

1" = 40'-0"



**TYPICAL SECTION**

1" = 10'-0"

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

<b>CHUNG-YUAN WEN</b> DESIGN ENGINEER	DESIGN	BY F. Wei	CHECKED S. Barajas / J. Railey	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 <b>DESIGN BRANCH 21</b>	BRIDGE NO.	53-0828	<b>LOS ANGELES RIVER BRIDGE (WIDEN)</b> <b>GENERAL PLAN</b>
	DETAILS	BY P. Perez	CHECKED F. Wei	LAYOUT	BY P. Perez		POST MILE	17.30	
	QUANTITIES	BY F. Wei	CHECKED L. Sanchez-Manzo	SPECIFICATIONS	BY K. Ellingson		PLANS AND SPECS COMPARED	K. Ellingson	

# INDEX TO PLANS

Sheet No. Title

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5. REMOVAL PLAN NO. 3
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9. ABUTMENT 5 LAYOUT
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20. RETAINING WALL DETAILS NO. 1
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28. PIER WALL PILE LAYOUT
29. PIER WALL DETAILS NO. 1
30. PIER WALL DETAILS NO. 2
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57. EXPANSION JOINT DETAILS NO. 3
58. EXPANSION JOINT DETAILS NO. 4
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64. STRUCTURE APPROACH TYPE N(30D)
65. STRUCTURE APPROACH DRAINAGE DETAILS
66. LOG OF TEST BORINGS 1 OF 9
67. LOG OF TEST BORINGS 2 OF 9
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69. LOG OF TEST BORINGS 4 OF 9
70. LOG OF TEST BORINGS 5 OF 9
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72. LOG OF TEST BORINGS 7 OF 9
73. LOG OF TEST BORINGS 8 OF 9
74. LOG OF TEST BORINGS 9 OF 9

## GENERAL NOTES LOAD AND RESISTANCE FACTOR DESIGN

**DESIGN:** AASHTO LRFD Bridge Design Specifications, 4th Edition and the Caltrans Amendments, preface dated 2008; except that earth retaining systems, Bridge Barrier and Structure approach slabs are designed using Bridge Design Specifications ('96 AASHTO w/ Revisions by Caltrans).

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

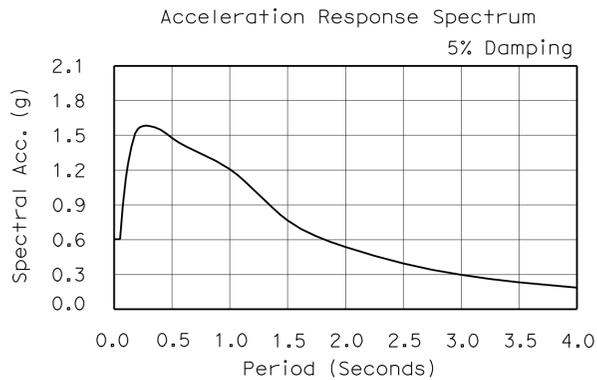
**DEAD LOAD:** Deck dead load between girders has been increased by a factor of 10% to allow for the Steel Deck Forms

**LIVE LOADING:** HL-93 and Permit Design Load

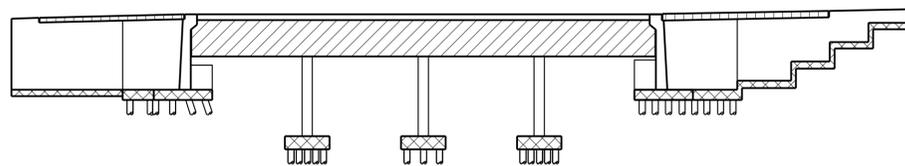
**SEISMIC LOADING:** Standard SDC ARS Curve for Soil Profile Type D, Magnitude 7.25±0.25  
Peak Rock Acceleration = 0.6g

**REINFORCED CONCRETE:**  $f_y = 60$  Ksi  
 $f'_c = 4.0$  Ksi (see "Concrete Strength and Type Limits")  
 $n = 8$

**STRUCTURAL STEEL:** Girder Flange, Web, Splice, Hanger Plate, and Stiffener Plates:  $f_y = 50$  Ksi ASTM A709 Grade 50  
All Other Members:  $f_y = 36$  Ksi ASTM A709 Grade 36  
Shear Stud Connectors:  $f_y = 50$  Ksi ASTM A709 Grade 50  
High Strength Bolts: ASTM A325  
Anchor Rods: ASTM A307



**MODIFIED ARS CURVE**  
No Scale



**CONCRETE STRENGTH AND TYPE LIMITS**  
No Scale

- Structural Concrete, Bridge Footing ( $f'_c = 3600$  psi @ 28 days)
- Steel Plate Girder
- Structural Concrete, Bridge ( $f'_c = 4000$  psi @ 28 days)
- Structural Concrete, Approach Slab ( $f'_c = 3600$  psi @ 28 days)

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

## PILE DATA TABLE

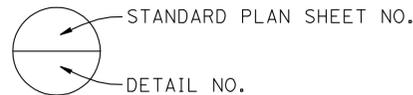
Location	Pile Type	Nominal Resistance (kips)		Design Tip Elevation (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance (kips)
		Compression	Tension			
Abut 1	Class 140 A1t W	230	-	44 (1) 64 (3)	44	230
Pier 2	Class 140 A1t W	130	60	30 (1) 50 (2) 56 (3) 46 (4)	30	250
Pier 3	Class 140 A1t W	200	-	25 (1) 40 (3) 44 (4)	25	280
Pier 4	Class 140 A1t W	130	60	30 (1) 50 (2) 56 (3) 46 (4)	30	250
Abut 5	Class 140 A1t W	260	-	40 (1) 60 (3)	40	260
Abut 5 North RW H=24'	Class 90 A1t W	180	-	55	55	180
Abut 5 North RW H=20'	Class 90 A1t W	180	-	55	55	180
Abut 5 South RW H=20'	Class 90 A1t W	180	-	58	58	180
Abut 5 South RW H=16'	Class 90 A1t W	180	-	58	58	180
Abut 5 South RW H=12'	Class 90 A1t W	180	-	58	58	180
Abut 5 South RW H=8'	Class 90 A1t W	180	-	58	58	180

### NOTE:

1. Design tip elevations are controlled by the following:
  - (1) Compression; (2) Tension; (3) Settlement; (4) Lateral Loads.

## STANDARD PLANS DATED MAY 2006

- A10A ACRONYMS AND ABBREVIATIONS (A-L)
- A10B ACRONYMS AND ABBREVIATIONS (M-Z)
- A10C SYMBOLS (SHEET 1 OF 2)
- A10D SYMBOLS (SHEET 2 OF 2)
- A62C LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL BRIDGE
- B0-1 BRIDGE DETAILS
- B0-3 BRIDGE DETAILS
- B0-5 BRIDGE DETAILS
- B0-13 BRIDGE DETAILS
- B2-5 PILE DETAILS, CLASS 90 AND CLASS 140
- B3-1 RETAINING WALL, TYPE 1
- B3-8 RETAINING WALL DETAILS NO. 1
- B6-21 JOINT SEALS (MAXIMUM MOVEMENT RATING = 2")
- B7-1 BOX GIRDER DETAILS
- B7-7 DECK DRAINS TYPE D-3
- B7-8 DECK DRAINAGE DETAILS
- B7-10 UTILITY OPENING BOX GIRDER
- B11-7 CHAIN LINK RAILING
- B11-56 CONCRETE BARRIER TYPE 736
- ES-9E ELECTRICAL SYSTEMS (ELECTRICAL DETAILS STRUCTURE INSTALLATIONS)
- RSP P10 CONCRETE PAVEMENT - DOWEL BAR DETAILS



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1298	1507

03/01/11  
REGISTERED CIVIL ENGINEER DATE

6-27-11  
PLANS APPROVAL DATE

FRANK H. WEI  
REGISTERED PROFESSIONAL ENGINEER  
No. C 52918  
Exp. 12-31-12  
CIVIL  
STATE OF CALIFORNIA

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## SPREAD FOOTING DATA TABLE

Location	Gross Allowable Soil Bearing Pressure (qall) (ksf)
Abut 1 North RW H=14'	3.4
Abut 1 North RW H=10'	2.5
Abut 1 North RW H=6'	1.9
Abut 5 South RW H=12'	2.9

## QUANTITIES

DESCRIPTION	UNIT	QUANTITY	TYPE
BRIDGE REMOVAL (PORTION), LOCATION A	LUMP		SUM
STRUCTURE EXCAVATION (BRIDGE)	CY	1,240	
STRUCTURE EXCAVATION (TYPE Z-2) (AERIALY DEPOSITED LEAD)	CY	450	
STRUCTURE BACKFILL (BRIDGE)	CY	910	
FURNISH PILING (CLASS 90) (ALTERNATIVE W)	LF	1,980	
DRIVE PILE (CLASS 90) (ALTERNATIVE W)	EA	36	
FURNISH PILING (CLASS 140) (ALTERNATIVE W)	LF	12,290	
DRIVE PILE (CLASS 140) (ALTERNATIVE W)	EA	233	
STRUCTURAL CONCRETE, BRIDGE FOOTING	CY	500	
STRUCTURAL CONCRETE, BRIDGE	CY	1,680	
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE N)	CY	66	
RIB TEXTURE (VERTICAL AND DIAGONAL)	SOFT	840	
DRILL AND BOND DOWEL	LF	750	
DRILL AND BOND DOWEL (CHEMICAL ADHESIVE)	EA	64	
CORE AND PRESSURE GROUT DOWEL	LF	1,750	
JOINT SEAL (MR 1")	LF	89	
BAR REINFORCING STEEL (BRIDGE)	LB	447,000	
FURNISH STRUCTURAL STEEL (BRIDGE)	LB	1,000,000	
ERECT STRUCTURAL STEEL (BRIDGE)	LB	1,000,000	
ABUTMENT LUMBER BLOCKING	MFBM	1.2	
CLEAN AND PAINT STRUCTURAL STEEL	LUMP		SUM
SPOT BLAST CLEAN AND PAINT UNDERCOAT	SOFT	260	
WELDED STEEL PIPE CASING (BRIDGE)	LF	77	
CONCRETE (CHANNEL LINING)	CY	310	
MISCELLANEOUS METAL (RESTRAINER - CABLE TYPE)	LB	3,400	
MISCELLANEOUS METAL (BRIDGE)	LB	32,000	
BRIDGE DECK DRAINAGE SYSTEM	LB	18,400	
CHAIN LINK RAILING	LF	34	
CONCRETE BARRIER (TYPE 736 MODIFIED)	LF	1,280	
CONCRETE BARRIER (TYPE 736A MOD)	LF	56	

DESIGN BY F. Wei	CHECKED S. Barajas / J. Railey	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 21	BRIDGE NO. 53-0828	LOS ANGELES RIVER BRIDGE (WIDEN)
DETAILS BY P. Perez	CHECKED F. Wei			POST MILE 17.30	
QUANTITIES BY F. Wei	CHECKED L. Sanchez-Manzo				

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

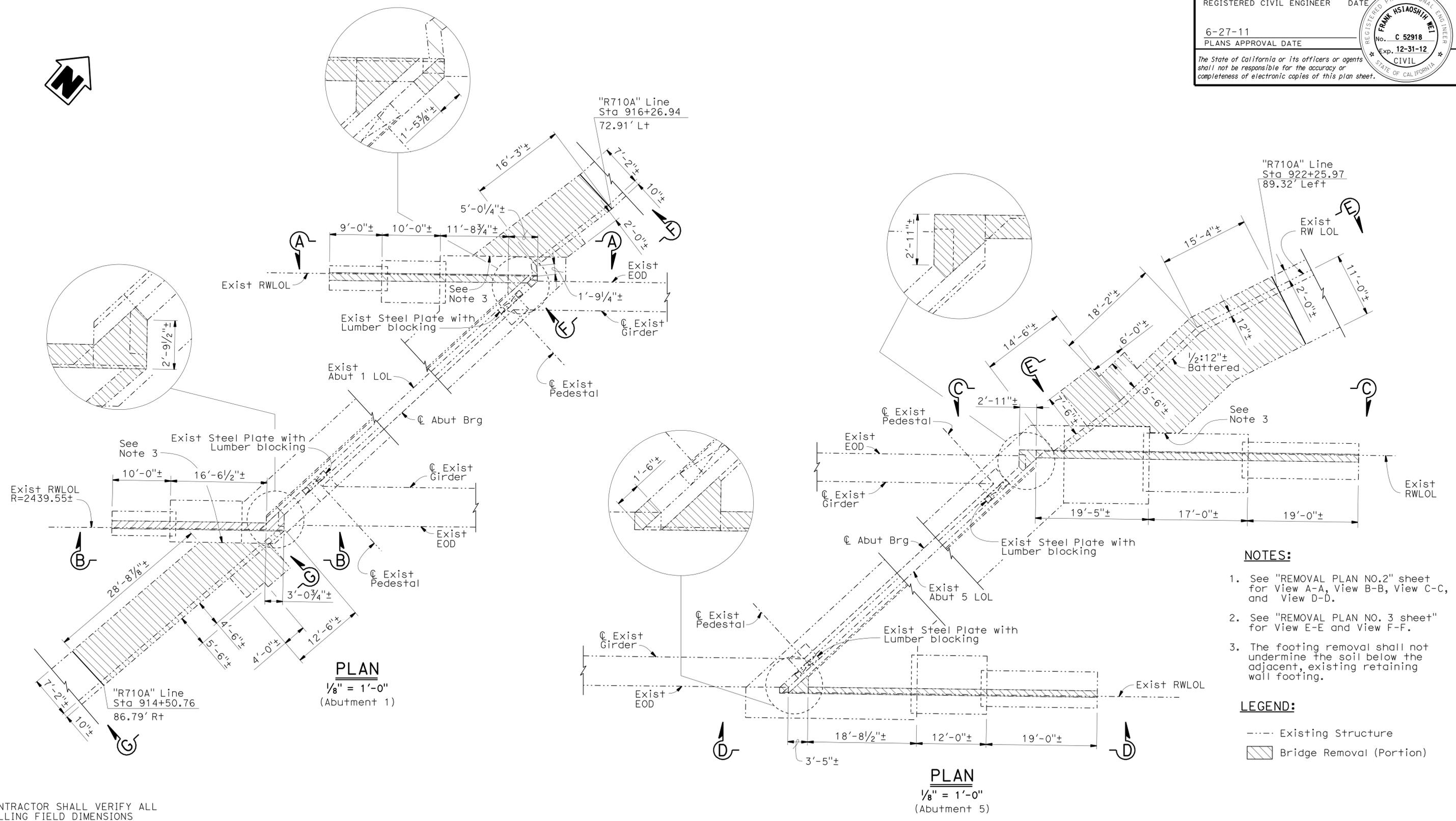
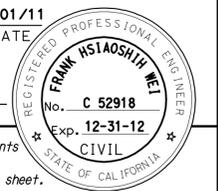
UNIT: 3623 PROJECT NUMBER & PHASE: 0700020869 & 1 CONTRACT NO.: 202111

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
08/04/10 10/07/10 11/24/10 03/01/11	2	74

FILE => 53-0828-a-1tp.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1299	1507
			03/01/11		
REGISTERED CIVIL ENGINEER			DATE		
6-27-11			PLANS APPROVAL DATE		
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- NOTES:**
- See "REMOVAL PLAN NO.2" sheet for View A-A, View B-B, View C-C, and View D-D.
  - See "REMOVAL PLAN NO. 3 sheet" for View E-E and View F-F.
  - The footing removal shall not undermine the soil below the adjacent, existing retaining wall footing.

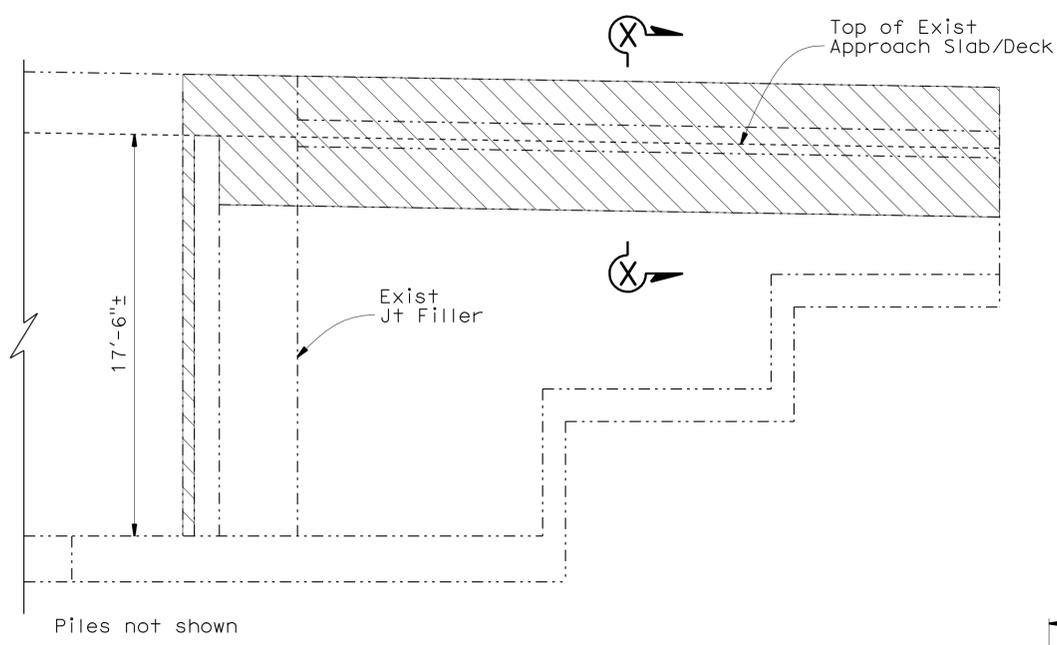
- LEGEND:**
- Existing Structure
  - ▨ Bridge Removal (Portion)

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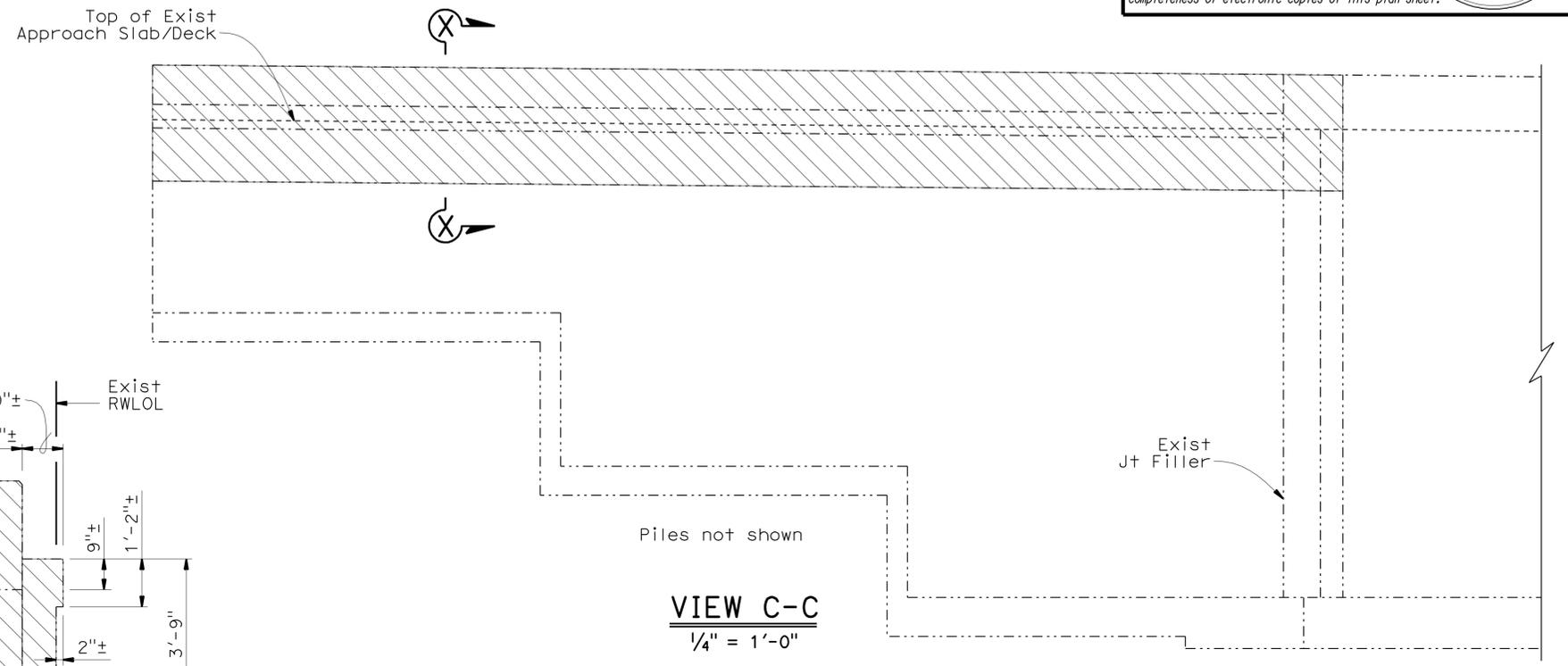
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY F. Wei	CHECKED S. Barajas / J. Railey	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 21	BRIDGE NO.	53-0828	LOS ANGELES RIVER BRIDGE (WIDEN)	
	DETAILS	BY P. Perez	CHECKED F. Wei			POST MILE	17.30		REMOVAL PLAN NO. 1
	QUANTITIES	BY F. Wei	CHECKED L. Sanchez-Manzo	UNIT: 3623	PROJECT NUMBER & PHASE: 0700020869 & 1	CONTRACT NO.: 202111	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 3 OF 74

USERNAME => s124496 DATE PLOTTED => 28-JUN-2011 TIME PLOTTED => 19:01

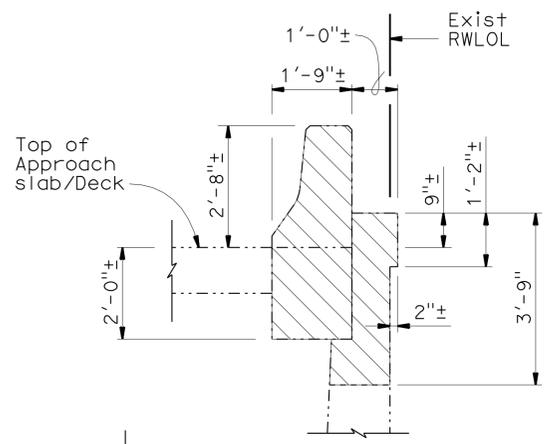
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	710	17.2/26.4	1300	1507
REGISTERED CIVIL ENGINEER <i>Frank H. Wei</i> DATE 03/01/11			REGISTERED PROFESSIONAL ENGINEER FRANK H. SHIAOSHIAO No. C 52918 Exp. 12-31-12 CIVIL STATE OF CALIFORNIA		
6-27-11 PLANS APPROVAL DATE					
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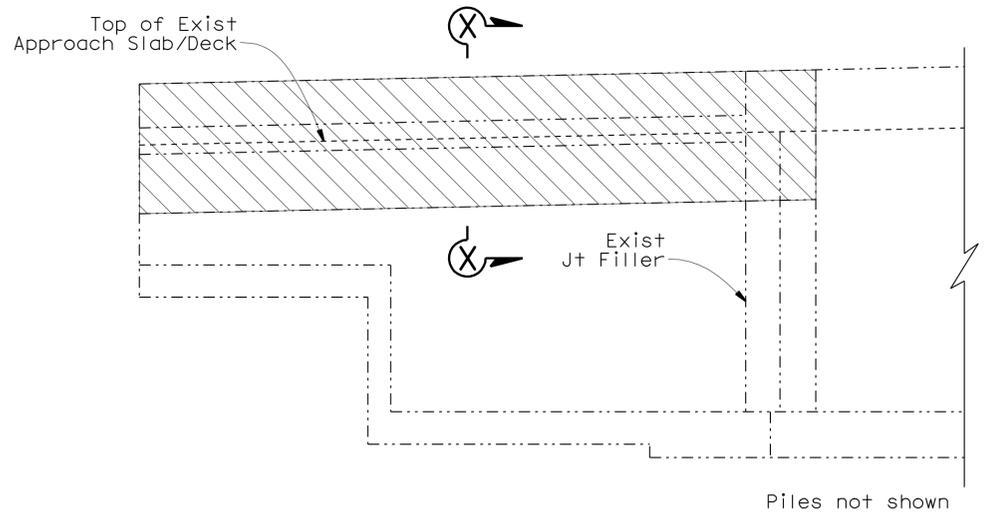
**VIEW A-A**  
1/4" = 1'-0"



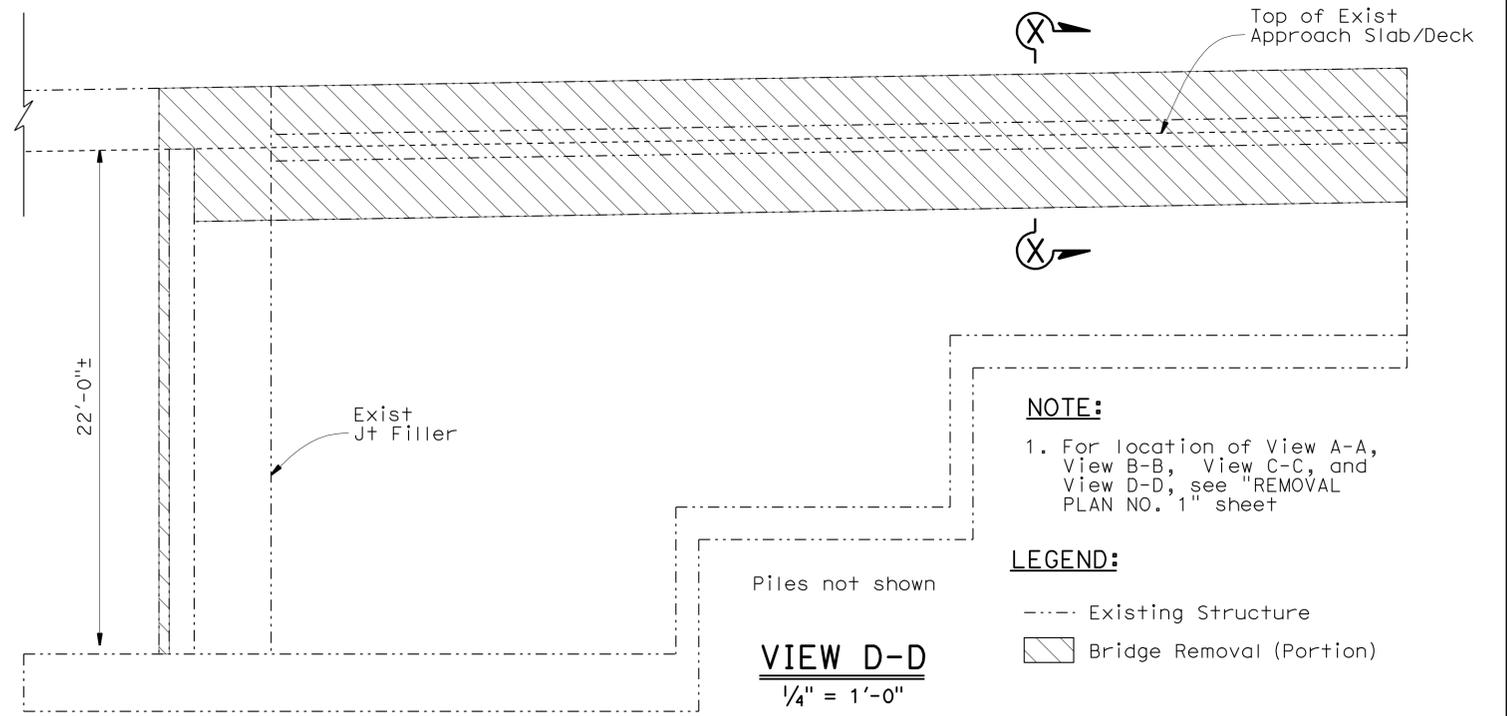
**VIEW C-C**  
1/4" = 1'-0"



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



**VIEW B-B**  
1/4" = 1'-0"



**VIEW D-D**  
1/4" = 1'-0"

**NOTE:**  
1. For location of View A-A, View B-B, View C-C, and View D-D, see "REMOVAL PLAN NO. 1" sheet

**LEGEND:**  
 - - - - Existing Structure  
 ▨ Bridge Removal (Portion)

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DESIGN	BY F. Wei	CHECKED S. Barajas / J. Ralley
DETAILS	BY P. Perez	CHECKED F. Wei
QUANTITIES	BY F. Wei	CHECKED L. Sanchez-Manzo

**STATE OF CALIFORNIA**  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
**DESIGN BRANCH 21**

BRIDGE NO.	53-0828
POST MILE	17.30

**LOS ANGELES RIVER BRIDGE (WIDEN)**  
**REMOVAL PLAN NO. 2**