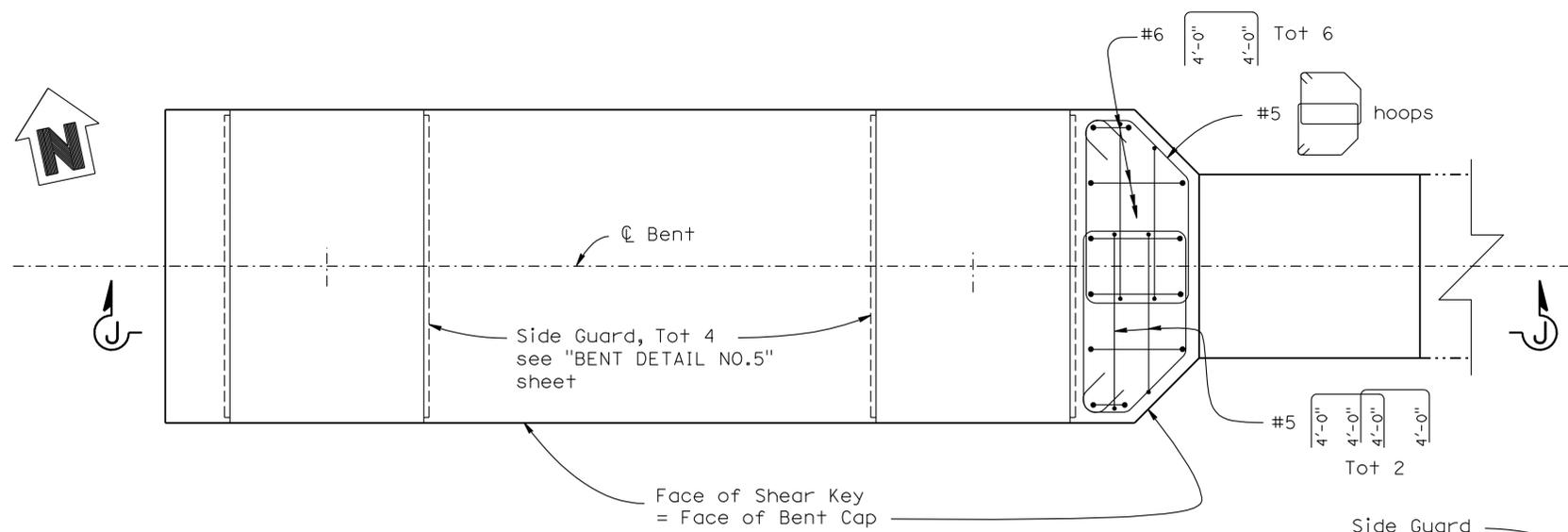
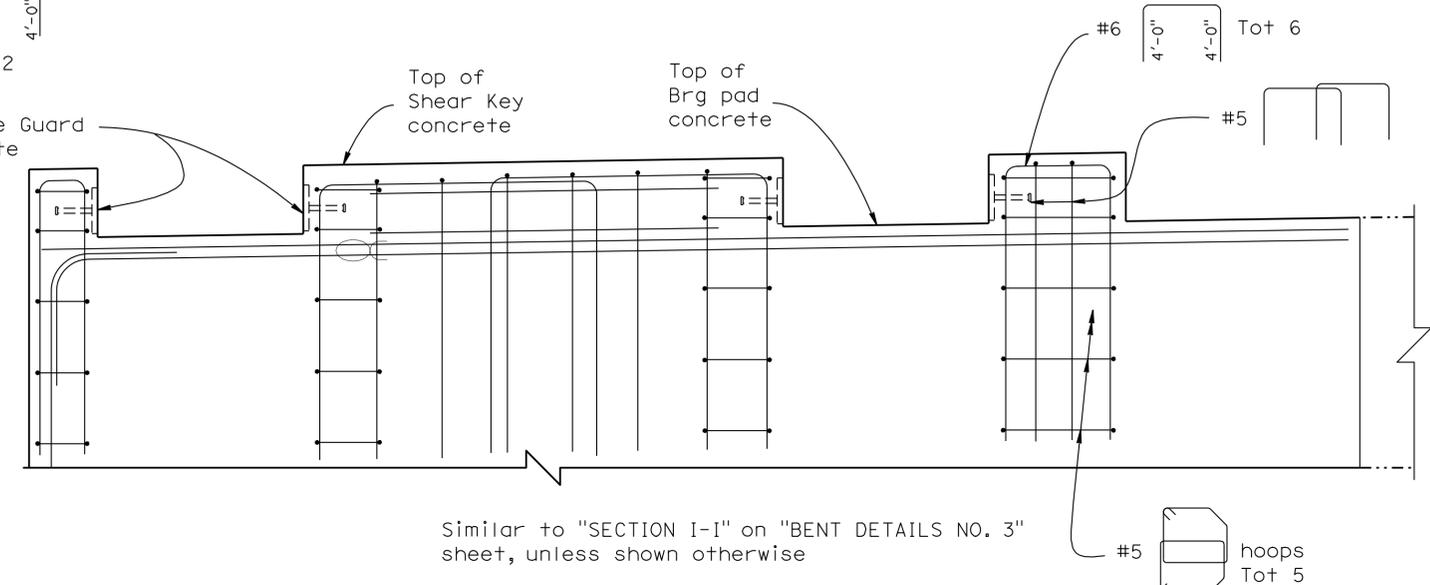


DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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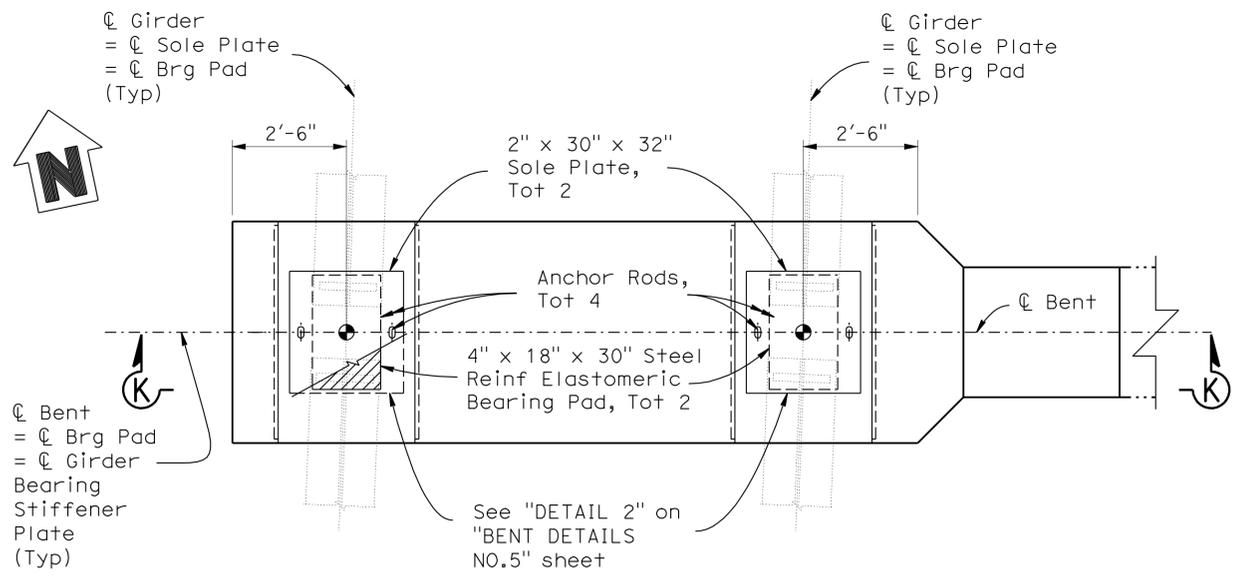
REGISTERED CIVIL ENGINEER
 LARRY WU
 No. C57035
 Exp. 6-30-13
 CIVIL
 STATE OF CALIFORNIA
 4-06-12 DATE
 4-16-12 PLANS APPROVAL DATE
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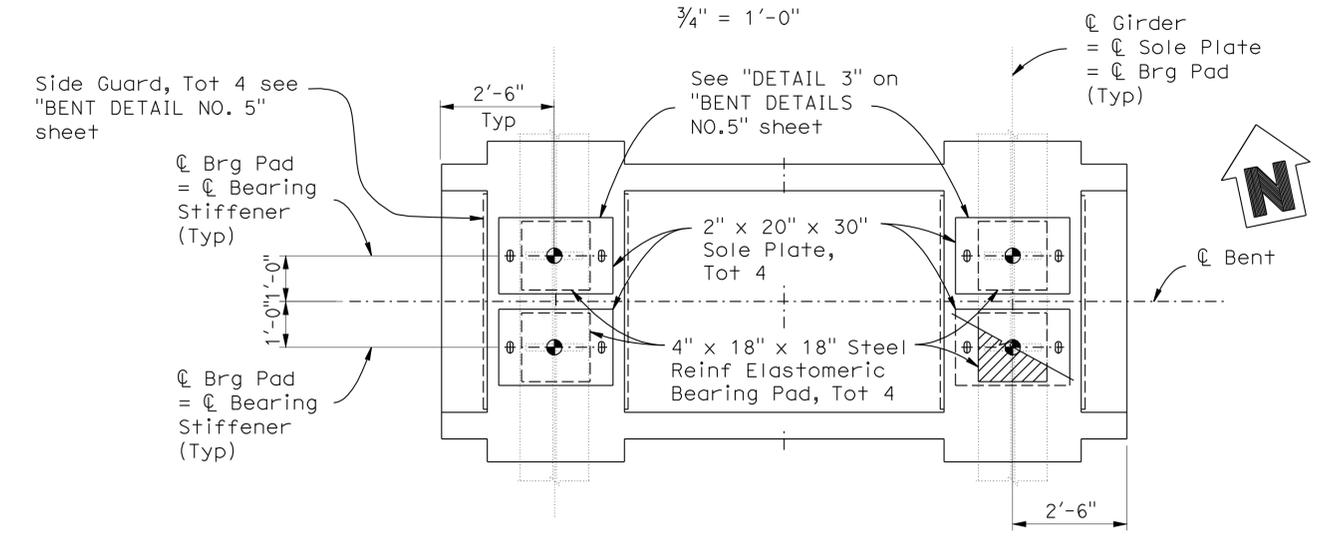
Similar to Bent 2, 5 & 6 unless shown otherwise
PLAN-BENT 3 & 4 SHEAR KEY
 $\frac{3}{4}'' = 1'-0''$



Similar to "SECTION I-I" on "BENT DETAILS NO. 3" sheet, unless shown otherwise
SHEAR KEY SECTION J-J
 $\frac{3}{4}'' = 1'-0''$



PLAN-BENT 3 & 4 BEARING PADS
 $\frac{1}{2}'' = 1'-0''$



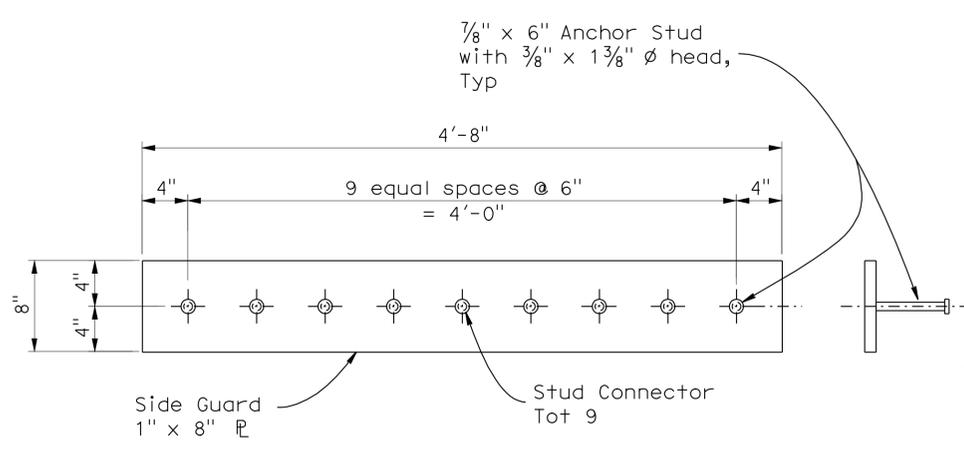
PLAN-BENT 6 BEARING PADS
 $\frac{1}{2}'' = 1'-0''$

NOTE:
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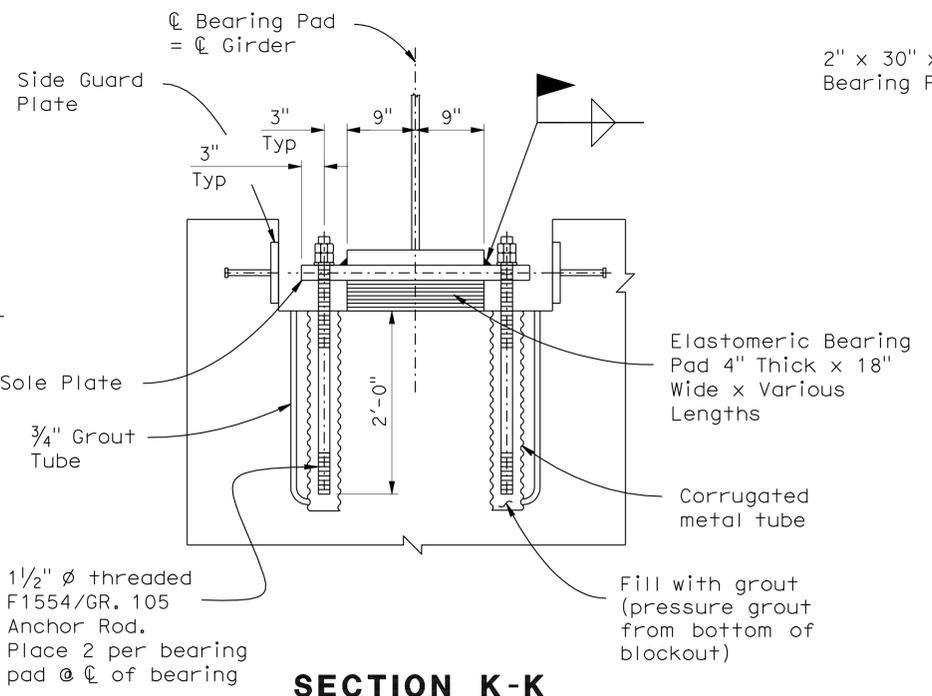
DESIGN BY J. Szabo CHECKED R. Stiltz DETAILS BY D. Wooten CHECKED J. Szabo QUANTITIES BY J. Szabo CHECKED R. Stiltz	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO. 54-0482R POST MILE 3.72	COLTON-LOMA LINDA OH RT (WIDEN) BENT DETAILS NO.4	
	STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3	UNIT: 3589 PROJECT NUMBER & PHASE: 0800000506 CONTRACT NO.: 08-0M9401	DISREGARD PRINTS BEARING EARLIER REVISION DATES REVISION DATES 3-30-12	SHEET OF 17 67

FILE => 540482rhdtd0417.dgn

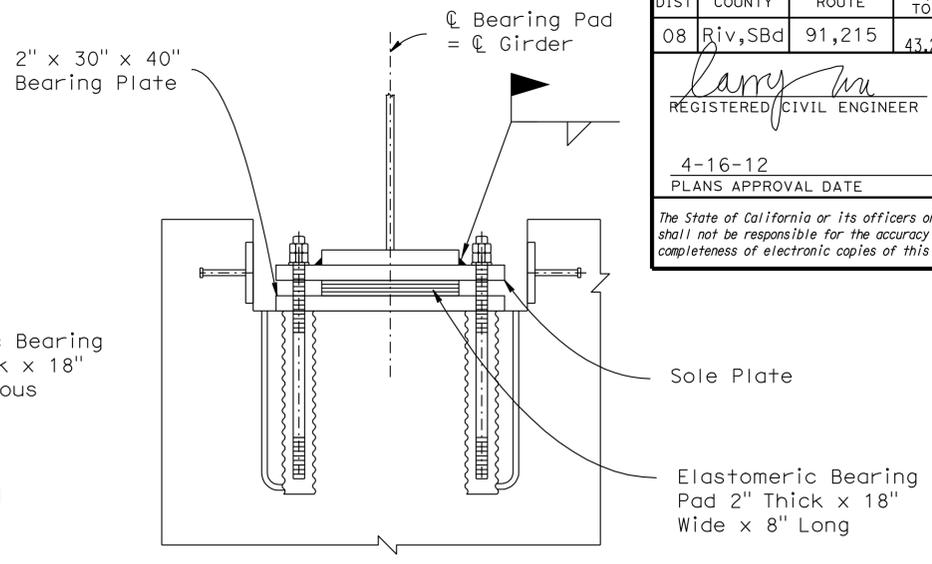
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7 43.2/45.2, 0.0/5.1	1502	1743
 REGISTERED CIVIL ENGINEER			4-06-12 DATE		
4-16-12 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



SIDE GUARD PLATE ELEVATION & SECTION
1/2" = 1'-0"

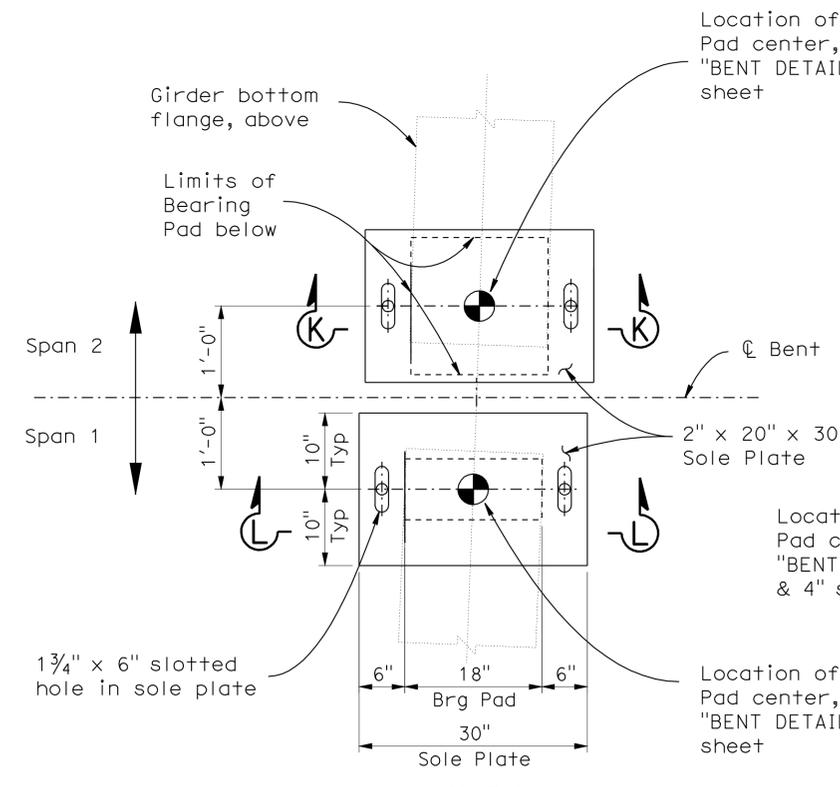


SECTION K-K
1" = 1'-0"

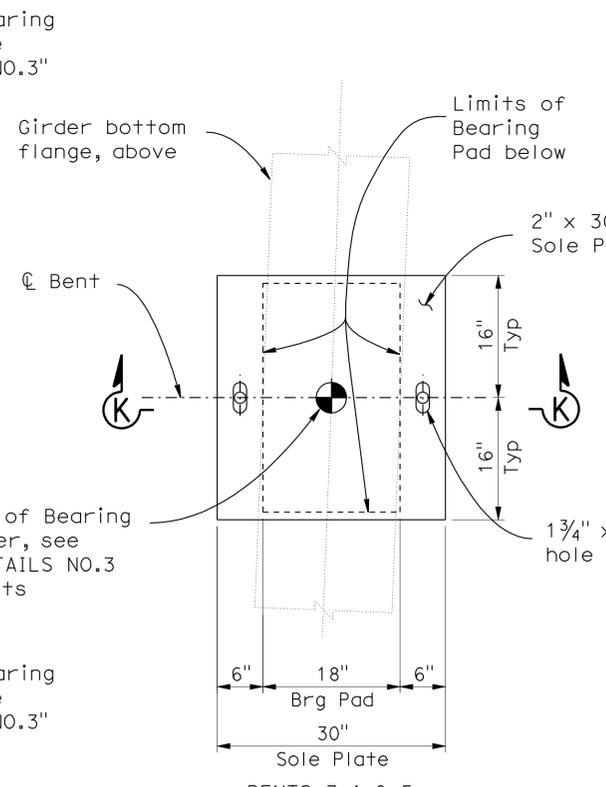


SECTION L-L
1" = 1'-0"

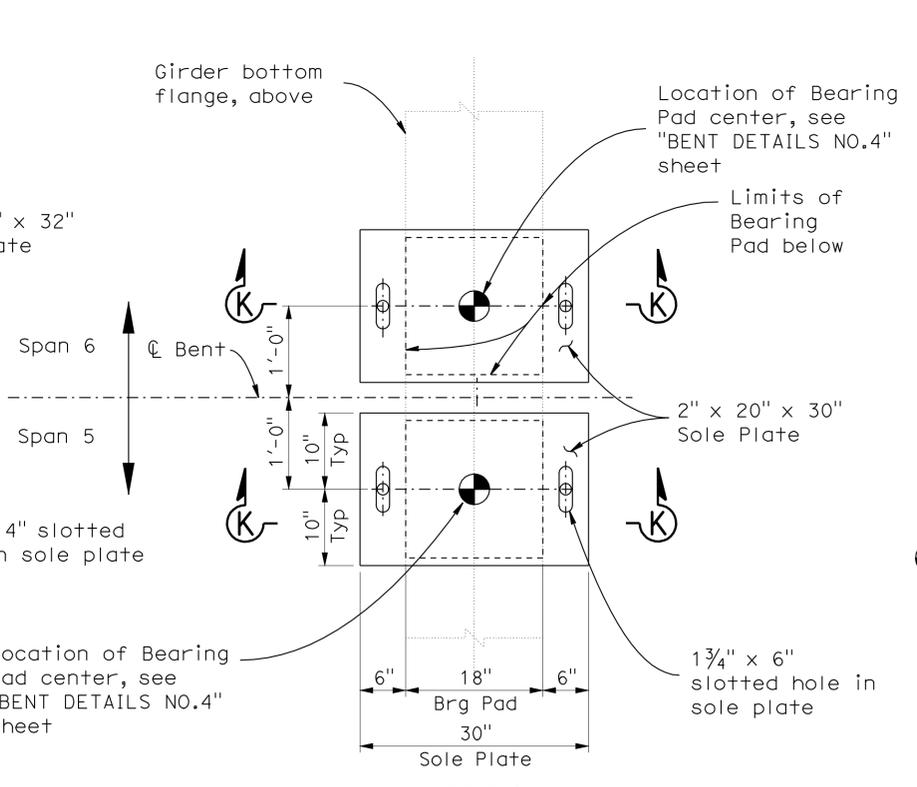
FOR DETAILS NOT SHOWN SEE SECTION K-K



DETAIL 1
1" = 1'-0"



DETAIL 2
1" = 1'-0"



DETAIL 3
1" = 1'-0"

LEGEND:

 Point of intersection of Girder Centerline and Bearing Pad Centerline

NOTES:

- See "STEEL GIRDER SHOP SPLICE AND STUD CONNECTOR DETAIL" sheet for stud connection welding and spacing

NOTE:
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DESIGN	BY J. Szabo	CHECKED R. Stiltz
DETAILS	BY D. Wooten	CHECKED J. Szabo
QUANTITIES	BY J. Szabo	CHECKED R. Stiltz

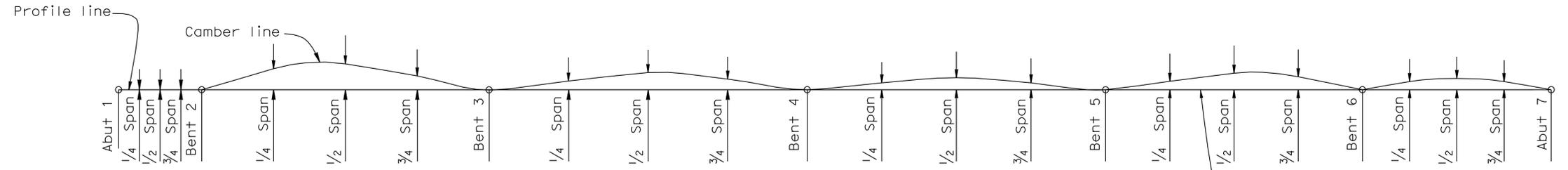
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 10

BRIDGE NO.	54-0482R
POST MILE	3.72

COLTON-LOMA LINDA OH RT (WIDEN)
BENT DETAILS NO.5

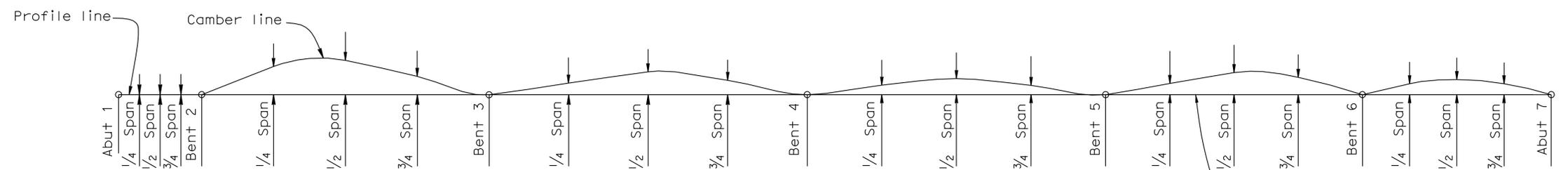
DATE PLOTTED => 18-APR-2012 09:40



HEADER CAMBER (HC) DIAGRAM

Adjust header grades to "HC" curve. Shown before the start of any concrete deck placing and after erection of all girders that influence deflections.

Profile between supports (Vertical Curve)



WEB CAMBER (WC) DIAGRAM

Fabricate girder web to "WC" curve shown when performing fabrication in a no-load condition.

Chord line between supports

CAMBER DIAGRAM

UNIT: INCHES

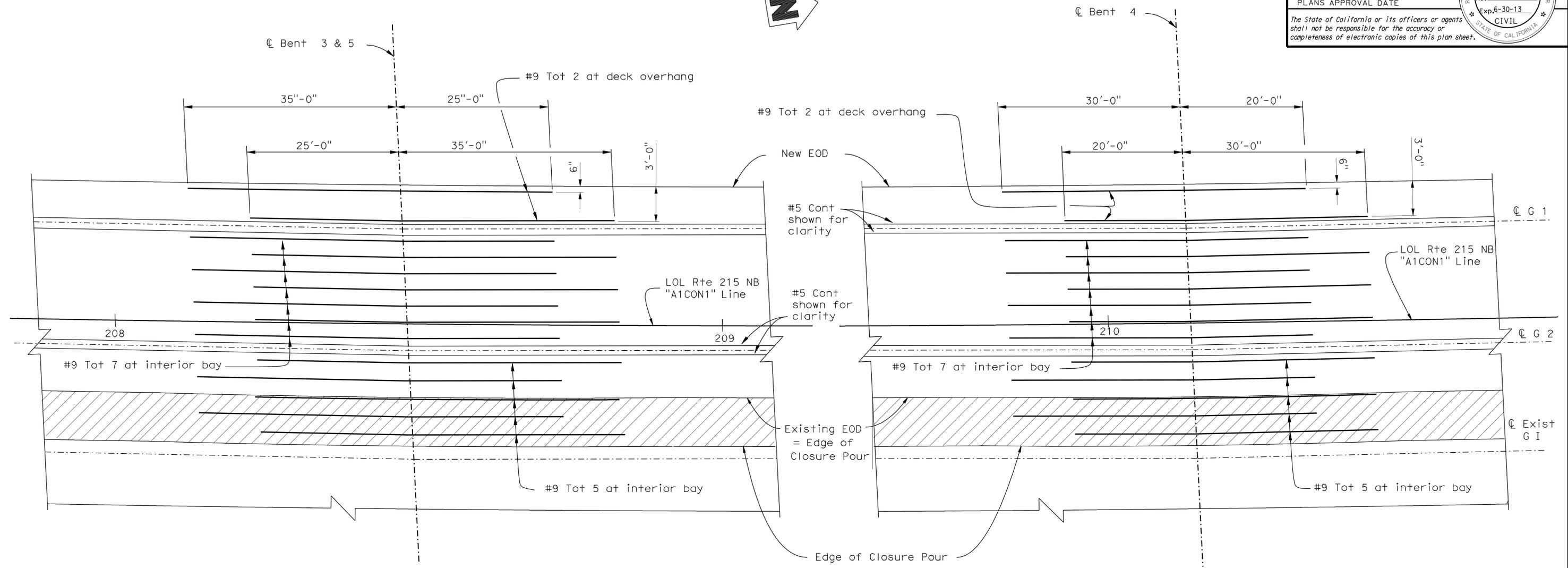
SPAN POINT	SPAN 1					SPAN 2					SPAN 3					SPAN 4					SPAN 5					SPAN 6				
	0.0	1/4	1/2	3/4	1.0	0.0	1/4	1/2	3/4	1.0	0.0	1/4	1/2	3/4	1.0	0.0	1/4	1/2	3/4	1.0	0.0	1/4	1/2	3/4	1.0	0.0	1/4	1/2	3/4	1.0
1. Deck Dead Load	0	0.02	0.03	0.02	0	0	1.10	1.33	0.71	0	0	0.45	0.89	0.55	0	0	0.36	0.62	0.35	0	0	0.44	0.86	0.67	0	0	0.42	0.59	0.42	0
2. Barrier	0	0	0	0	0	0	0.15	0.19	0.10	0	0	0.07	0.13	0.08	0	0	0.06	0.10	0.06	0	0	0.06	0.12	0.10	0	0	0.07	0.09	0.07	0
3. Deck Shrinkage	0	0	0	0	0	0	0.11	0.13	0.07	0	0	0.04	0.09	0.06	0	0	0.04	0.06	0.04	0	0	0.04	0.09	0.07	0	0	0.04	0.06	0.04	0
4. Gird Dead Load	0	0.01	0.01	0.01	0	0	0.46	0.56	0.81	0	0	0.19	0.37	0.23	0	0	0.15	0.26	0.15	0	0	0.19	0.36	0.28	0	0	0.18	0.25	0.18	0
5. Vertical Curve	Vertical curve camber values are to match existing bridge deck elevations. Contractor shall field measure; Engineer to verify.																													
HC = 1+2+3	0	.02	.04	.02	0	0	1.36	1.66	0.89	0	0	0.56	1.11	0.69	0	0	0.45	0.78	0.78	0	0	0.55	1.07	0.84	0	0	0.53	0.73	0.53	0
WC = 1+2+3+4+5	Contractor to provide; Engineer to verify.																													

NOTE:
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DESIGN	BY	J. Szabo	CHECKED	R. Stiltz	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO.	54-0482R	COLTON-LOMA LINDA OH RT (WIDEN) CAMBER DIAGRAM	
	DETAILS	BY	J. Szabo/ Y. Tang	CHECKED			D. Wooten	POST MILE		3.72
	QUANTITIES	BY	J. Szabo	CHECKED			R. Stiltz			

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3 UNIT: 3589 PROJECT NUMBER & PHASE: 0800000506 CONTRACT NO.: 08-0M9401 DISREGARD PRINTS BEARING EARLIER REVISION DATES REVISION DATES SHEET 20 OF 67

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1505	1743
 REGISTERED CIVIL ENGINEER			4-06-12 DATE		
4-16-12 PLANS APPROVAL DATE					
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ADDITIONAL TOP SLAB REINFORCEMENT

Horiz: 1/8" = 1'-0"
 Vert: 1/4" = 1'-0"

Note: Only service splice allowed for additional deck reinforcement

- Legend:
- Indicates new construction
 - Indicates existing structure
 - ▨ Indicates deck closure pour

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

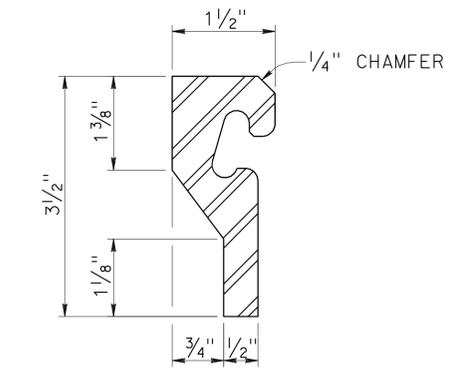
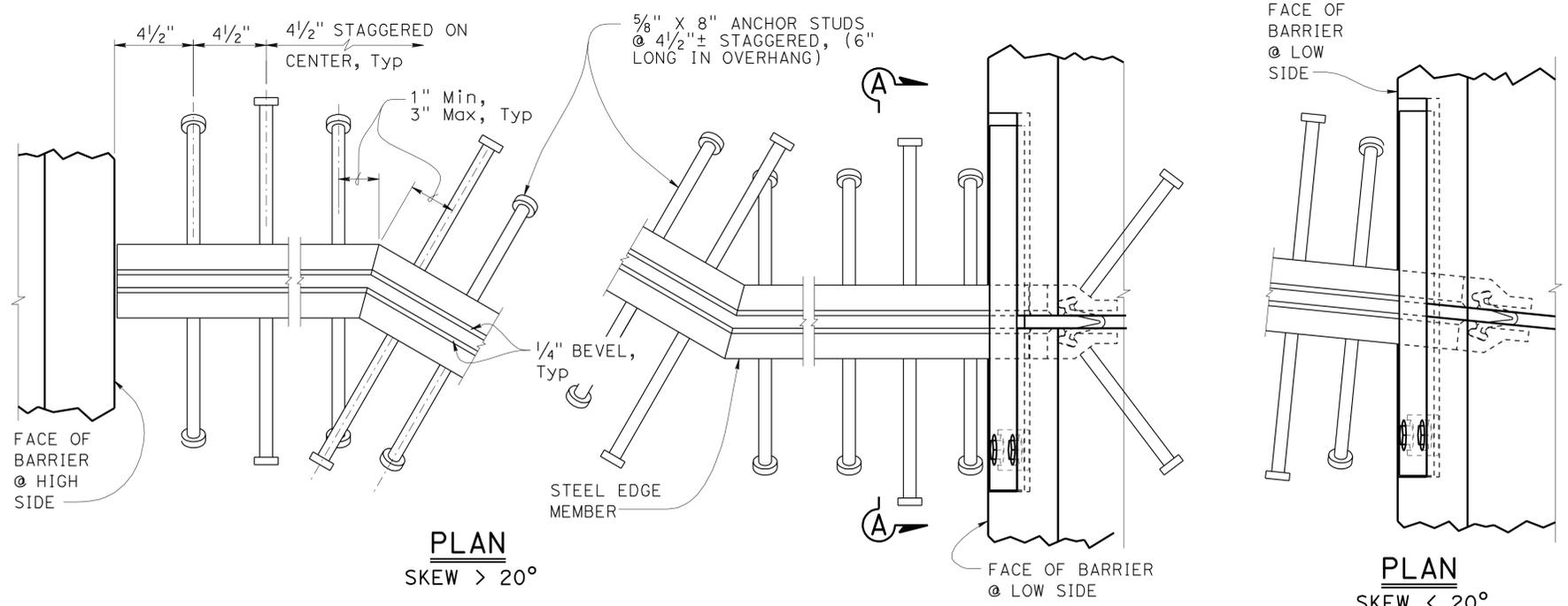
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY J. Szabo	CHECKED R. Stiltz	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO.	COLTON-LOMA LINDA OH RT (WIDEN) DECK REINFORCEMENT		
	DETAILS	BY D. Wooten	CHECKED J. Szabo			54-0482R			
	QUANTITIES	BY J. Szabo	CHECKED R. Stiltz			POST MILE 3.72			
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS					UNIT: 3589	PROJECT NUMBER & PHASE: 0800000506	CONTRACT NO.: 08-0M9401	REVISION DATES	SHEET 21 OF 67
							DISREGARD PRINTS BEARING EARLIER REVISION DATES	3-30-12	

USERNAME => s124496 DATE PLOTTED => 18-APR-2012 TIME PLOTTED => 09:01

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1506	1743

REGISTERED CIVIL ENGINEER
 LARRY WU
 No. C57035
 Exp. 6-30-13
 CIVIL
 STATE OF CALIFORNIA

4-06-12 DATE
 4-16-12 PLANS APPROVAL DATE
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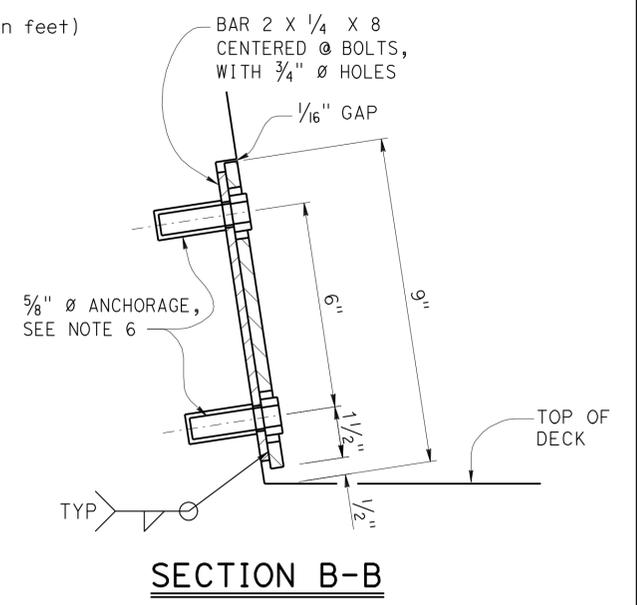
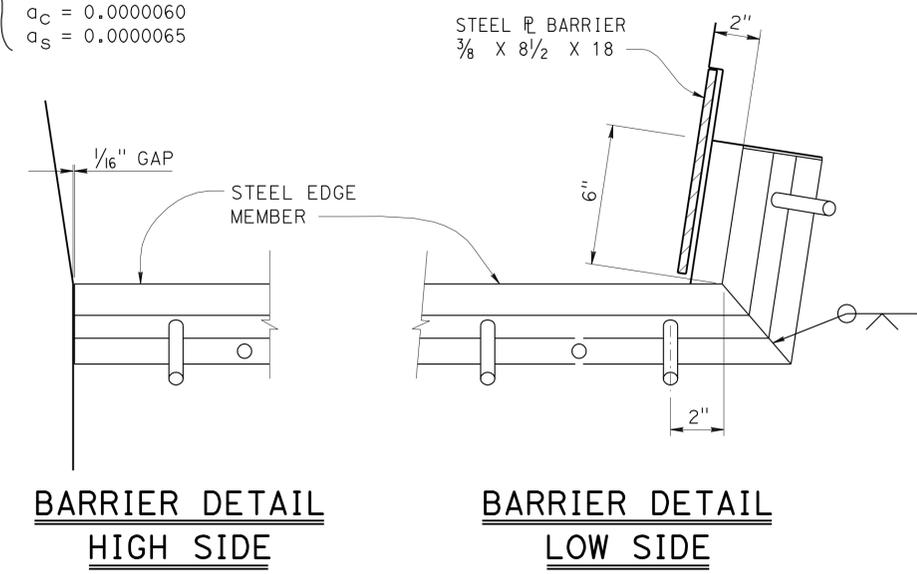
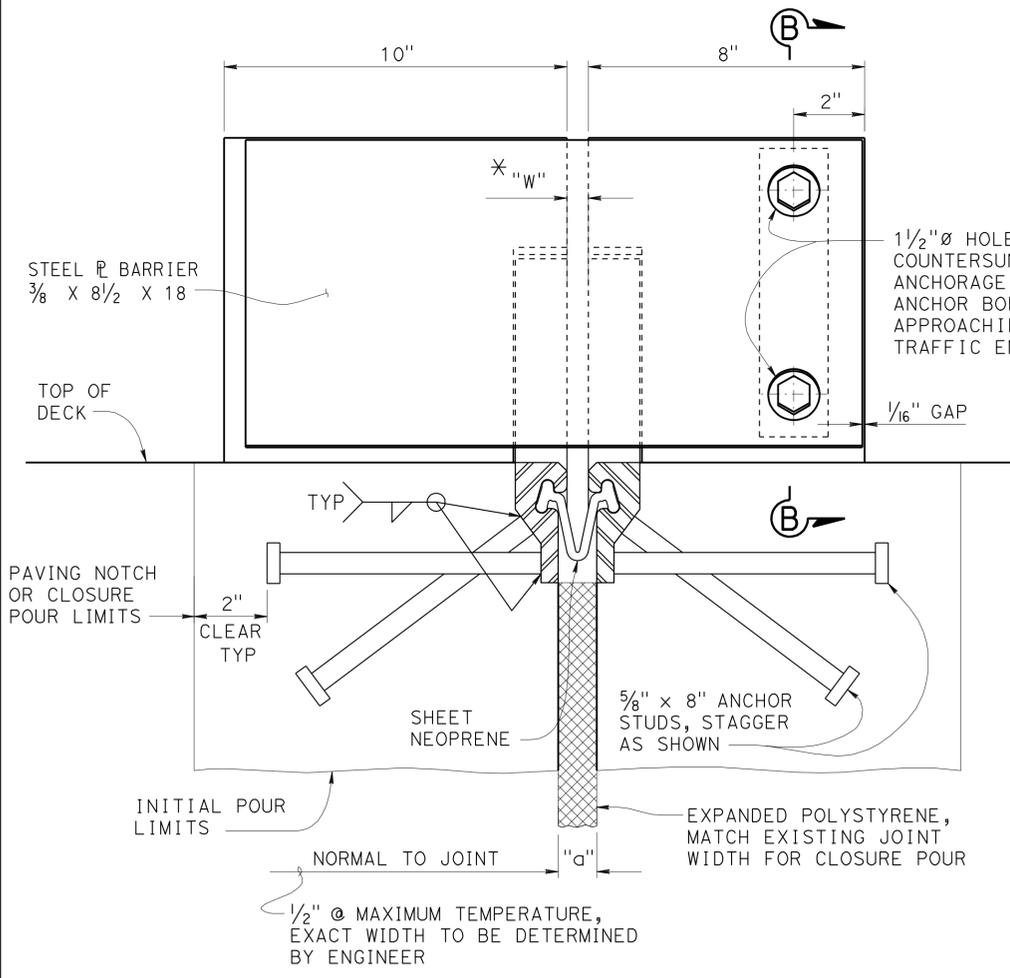
STEEL EDGE MEMBER

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

JOINT INFORMATION			"a" DIMENSIONS		
LOCATION	MOVEMENT RATING (MR)	SKEW	WINTER	SPRING & FALL	SUMMER
Bent 2	4"	2°	2 5/8"	2"	1 1/4"
Bent 6	4"	0°	3"	2 1/4"	1 1/2"

* TO SET MINIMUM JOINT OPENING "w"

$$w = \begin{cases} \frac{1}{2} + [(Max \text{ Str temperature in } F^\circ) - (actual \text{ Str temperature in } F^\circ)] * (a_c \text{ or } a_s) * (12) * (\text{contributory L in feet}) \\ \frac{1}{2} \text{ Minimum} \\ a_c = 0.0000060 \\ a_s = 0.0000065 \end{cases}$$



NO SCALE

COLTON-LOMA LINDA OH RT (WIDEN)

JOINT SEAL ASSEMBLY

MAXIMUM MOVEMENT RATING = 4"

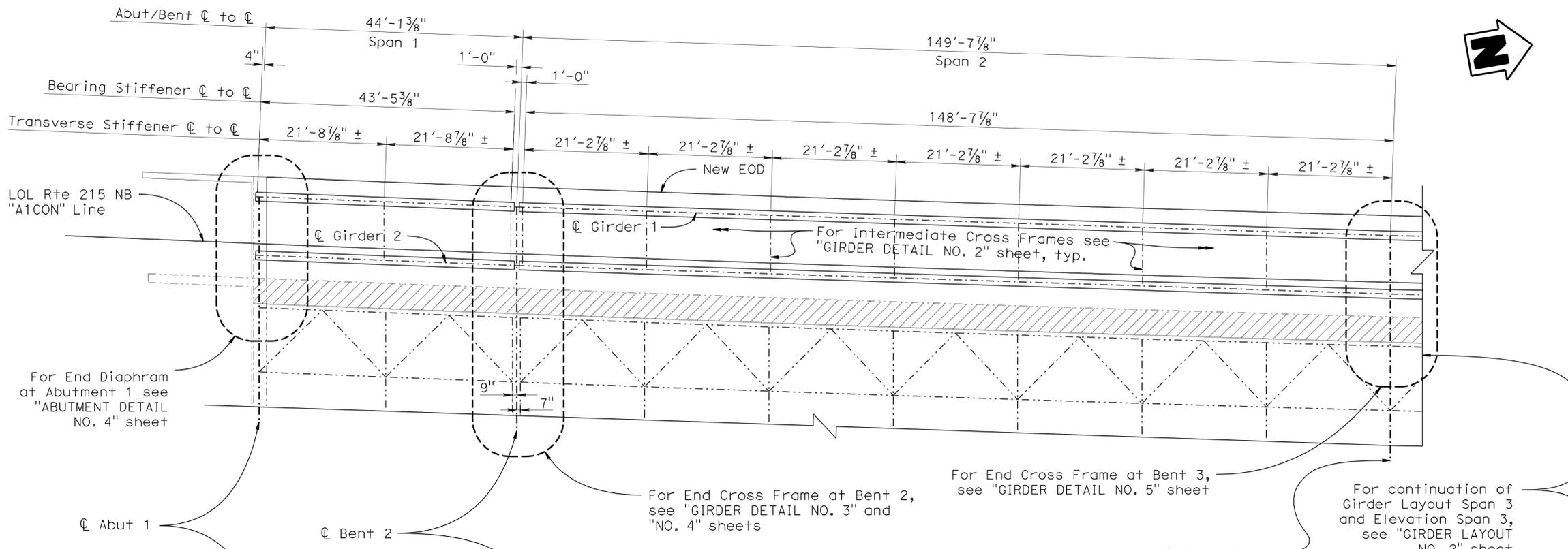
STANDARD DRAWING	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES	BRIDGE NO. 54-0482R	COLTON-LOMA LINDA OH RT (WIDEN)	
FILE NO. xs8-010	APPROVAL DATE <u>October 2011</u>	PROJECT NUMBER & PHASE: 0800000506	POST MILE 3.72	CONTRACT NO.: 080M9401	
UNIT: 3589			DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS			8/22/11		SHEET 22 OF 67

USERNAME => s124496 DATE PLOTTED => 14-JUN-2012 TIME PLOTTED => 09:53

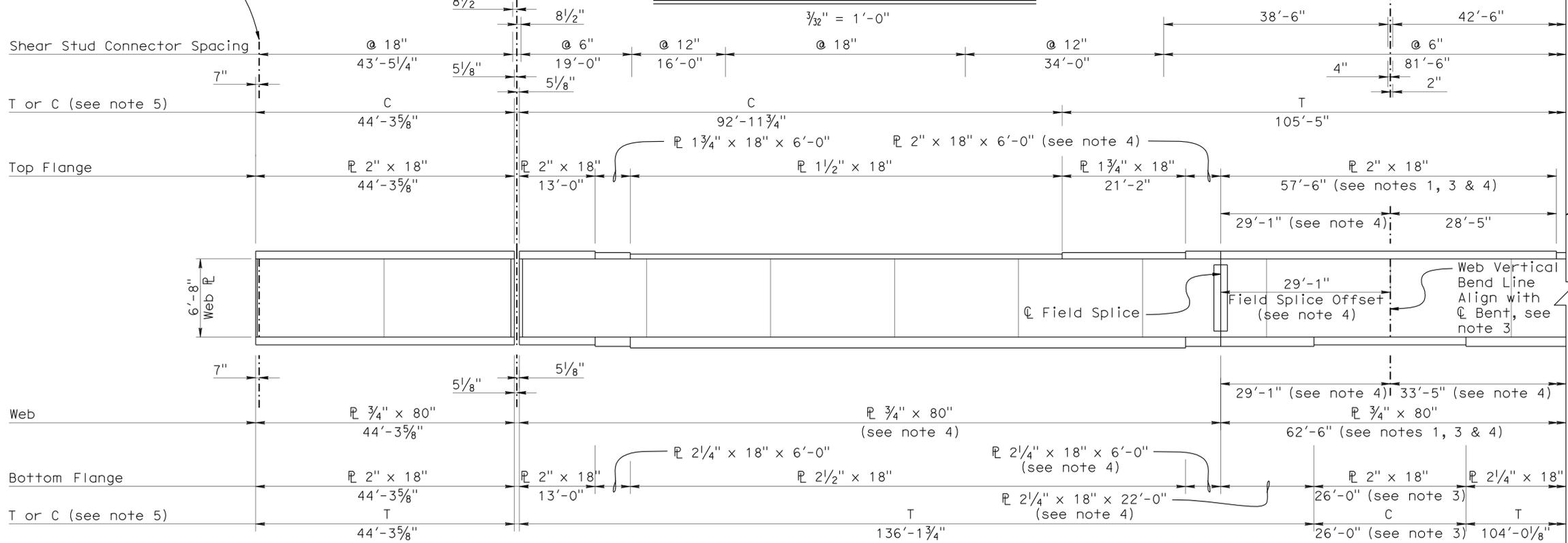
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1507	1743

REGISTERED CIVIL ENGINEER: *Larry Wu*
 DATE: 4-06-12
 PLANS APPROVAL DATE: 4-16-12
 LARRY WU
 No. C57035
 Exp. 6-30-13
 CIVIL
 STATE OF CALIFORNIA

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GIRDER LAYOUT SPAN 1 - 2



GIRDER ELEVATION SPAN 1 - 2

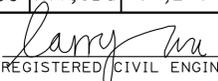
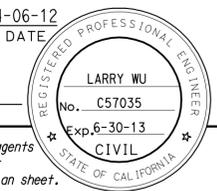
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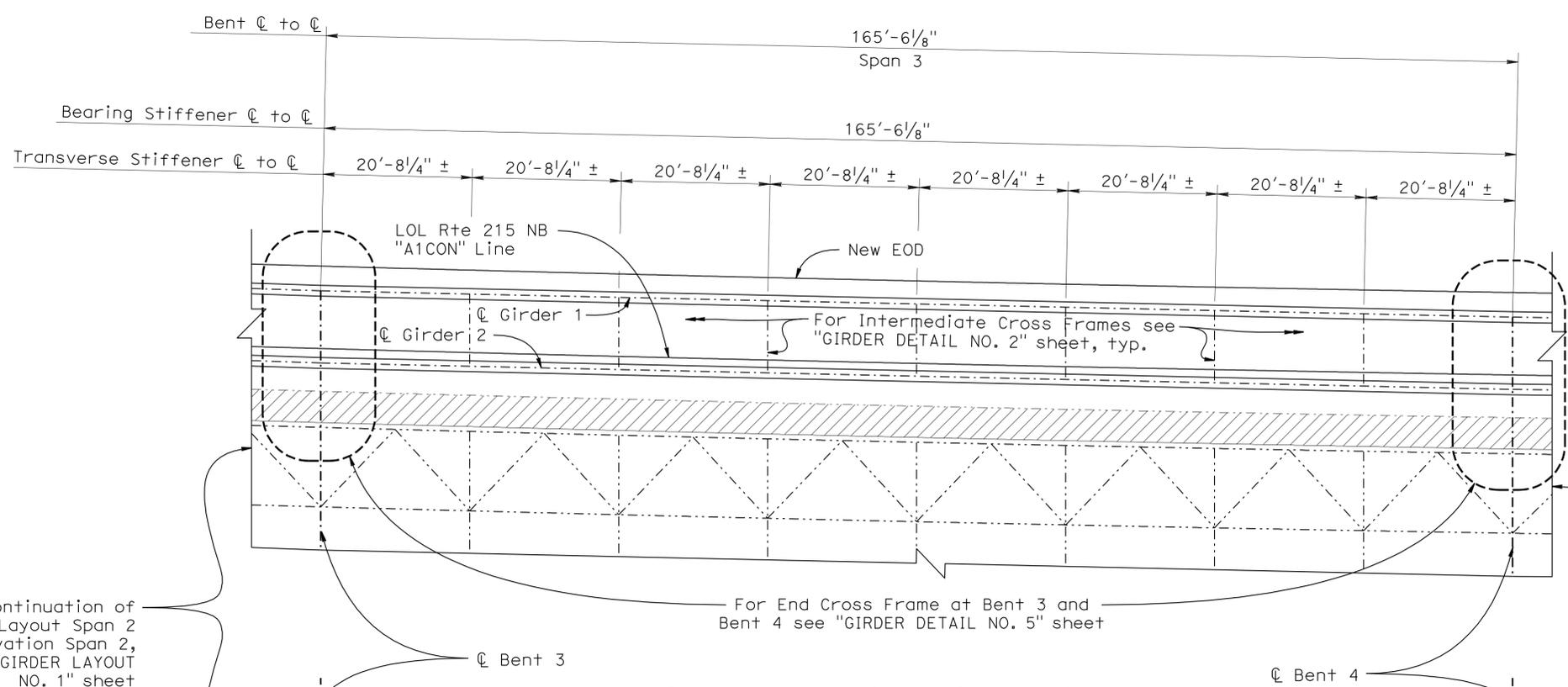
NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

- LEGEND:**
- Indicates new construction
 - - - - - Indicates existing structure
 - ▨ Indicates closure pour
- NOTES:**
- All horizontal dimensions measured level, along vertical plane of straight Girder 1 spans, span per span. Girder 2 similar.
 - Camber in Girder Elevation not shown, see "CAMBER DIAGRAM" sheet for vertical camber in the flange and web of girders.
 - Top and Bottom Flange and Web continuous through \bar{C} Bents 3, 4 and 5. Vertical web bend follows angle of continuous adjacent spans at Bent \bar{C} 3, 4, and 5.
 - Distance to \bar{C} Splice, steel length to be reduced by half of gap width at Splice \bar{C} , see "GIRDER DETAIL NO. 13" sheet.
 - T = Main Tension Member, C = Main Compression Member
 - Girder Layout and Elevation Span 1-2 shown. For Girder Layout and Elevation Span 3, see "GIRDER LAYOUT NO. 2" sheet.
 - For Intermediate Cross Frames, see "GIRDER DETAILS NO. 2" sheet.
 - For Bent 2 and 6 End Cross Frames, see "GIRDER DETAILS NO. 3" and "NO. 4" sheet.
 - For Bent 3, 4 and 5 End Cross Frames, see "GIRDER DETAILS NO. 5" sheet.
 - For Splice Detail, see "GIRDER DETAILS NO. 13" sheet.
 - For End Diaphragm at Abutment 1, see "ABUTMENT DETAILS NO. 4" sheet.

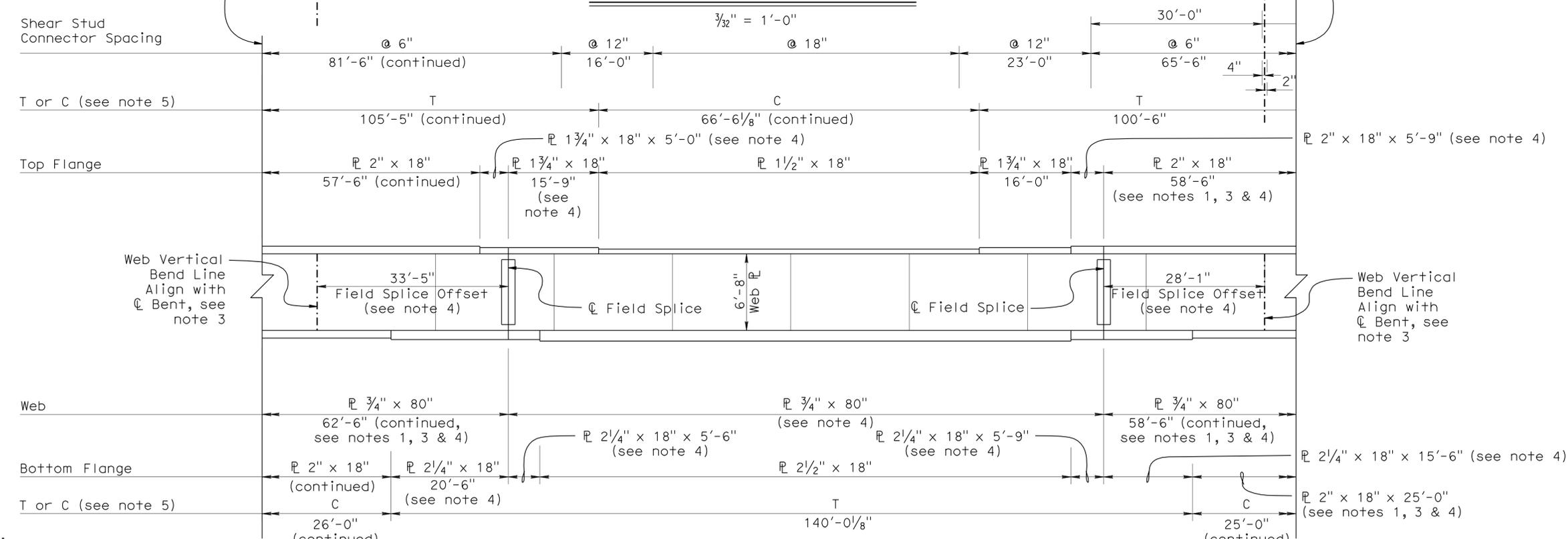
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY J. Szabo	CHECKED R. Stiltz	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO.	54-0482R	COLTON-LOMA LINDA OH RT (WIDEN) GIRDER LAYOUT NO. 1
	DETAILS	BY J. Szabo	CHECKED D. Wooten			POST MILE	3.72	
	QUANTITIES	BY J. Szabo	CHECKED R. Stiltz			CONTRACT NO.:	08-0M9401	

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS: 0 1 2 3
 UNIT: 3589 PROJECT NUMBER & PHASE: 0800000506 CONTRACT NO.: 08-0M9401
 DISREGARD PRINTS BEARING EARLIER REVISION DATES
 REVISION DATES SHEET OF: 23 67

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1508	1743
 REGISTERED CIVIL ENGINEER			4-06-12	DATE	
4-16-12			PLANS APPROVAL DATE		
					
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GIRDER LAYOUT SPAN 3



GIRDER ELEVATION SPAN 3

No Scale

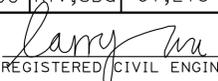
- LEGEND:**
- Indicates new construction
 - - - - - Indicates existing structure
 -  Indicates closure pour

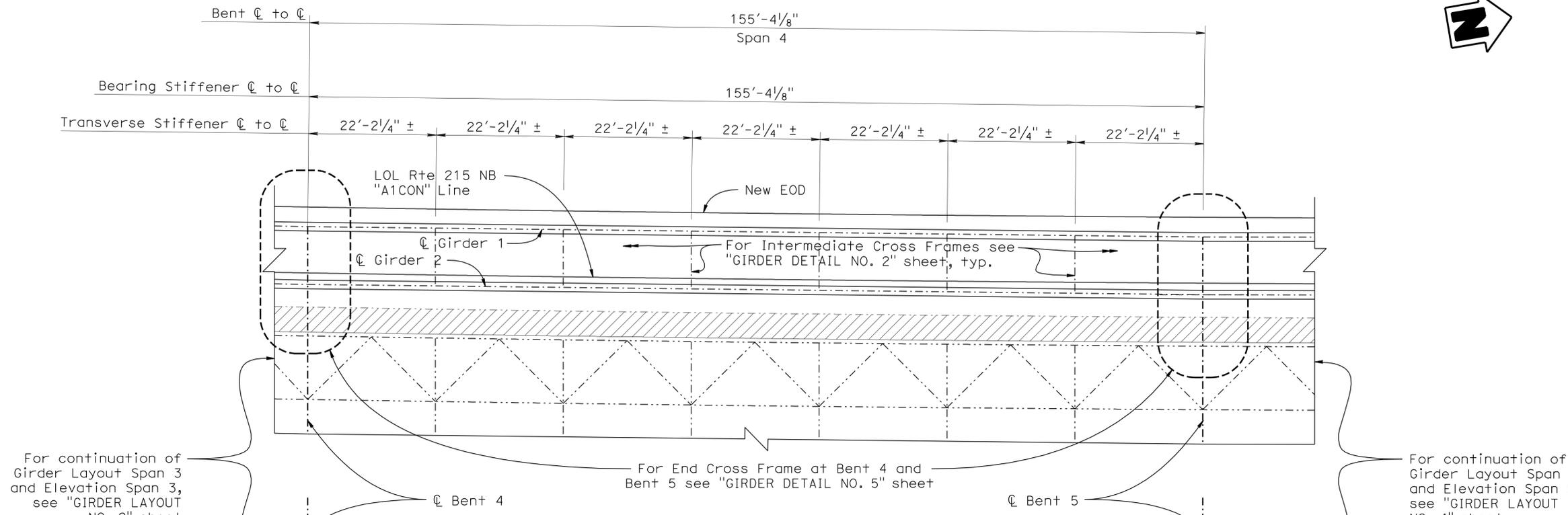
- NOTES:**
1. All horizontal dimensions measured level, along vertical plane of straight Girder 1 spans, span per span. Girder 2 similar.
 2. Camber in Girder Elevation not shown, see "CAMBER DIAGRAM" sheet for vertical camber in the flange and web of girders.
 3. Top and Bottom Flange and Web continuous through C Bents 3, 4 and 5. Vertical web bend follows angle of continuous adjacent spans at Bent C 3, 4, and 5.
 4. Distance to C Splice, steel length to be reduced by half of gap width at Splice C, see "GIRDER DETAIL NO. 13" sheet.
 5. T = Main Tension Member, C = Main Compression Member
 6. Girder Layout and Elevation Span 3 shown. For Girder Layout and Elevation Span 1-2, see "GIRDER LAYOUT NO. 1" sheet. For Girder Layout and Elevation Span 4, see "GIRDER LAYOUT NO. 3" sheet.
 7. For Intermediate Cross Frames, see "GIRDER DETAILS NO. 2" sheet.
 8. For Bent 3, 4 and 5 End Cross Frames, see "GIRDER DETAILS NO. 5" sheet.
 9. For Splice Detail, see "GIRDER DETAILS NO. 13" sheet.

NOTE:
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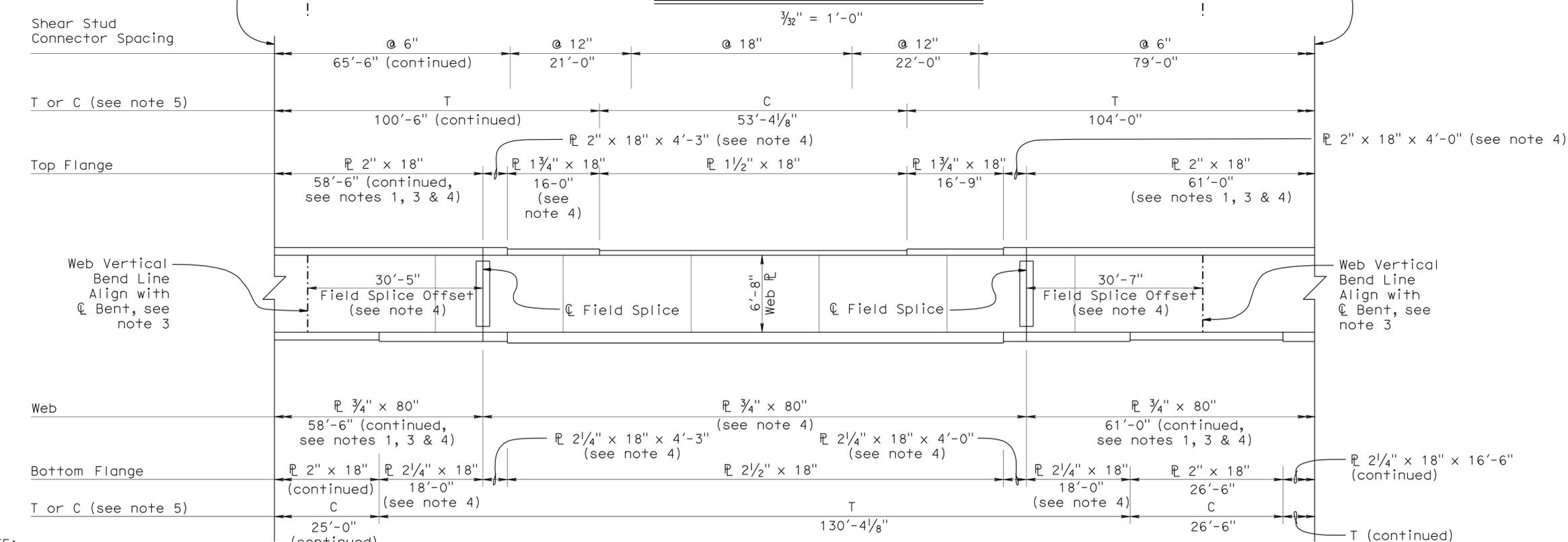
DESIGN BY J. Szabo DETAILS BY J. Szabo QUANTITIES BY J. Szabo	CHECKED R. Stiltz	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	BRIDGE NO. 54-0482R	COLTON-LOMA LINDA OH RT (WIDEN) GIRDER LAYOUT NO. 2
	CHECKED D. Wooten		POST MILE 3.72	
	CHECKED R. Stiltz		UNIT: 3589 PROJECT NUMBER & PHASE: 0800000506 CONTRACT NO.: 08-0M9401	
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)			DISREGARD PRINTS BEARING EARLIER REVISION DATES	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS			REVISION DATES	
0 1 2 3			SHEET 24 OF 67	

USERNAME => 8124486 DATE PLOTTED => 18-APR-2012 TIME PLOTTED => 09:40

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1509	1743
 REGISTERED CIVIL ENGINEER			4-06-12 DATE		
4-16-12 PLANS APPROVAL DATE					
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GIRDER LAYOUT SPAN 4



GIRDER ELEVATION SPAN 4

No Scale

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- LEGEND:**
- Indicates new construction
 - - - - - Indicates existing structure
 -  Indicates closure pour

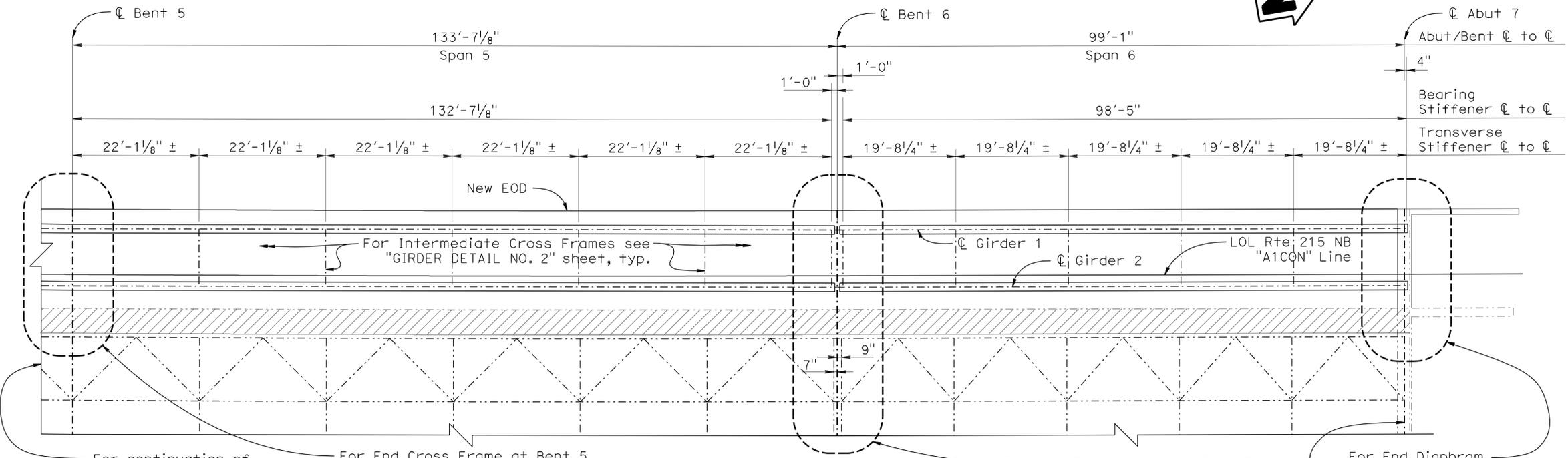
- NOTES:**
1. All horizontal dimensions measured level, along vertical plane of straight Girder 1 spans, span per span. Girder 2 similar.
 2. Camber in Girder Elevation not shown, see "CAMBER DIAGRAM" sheet for vertical camber in the flange and web of girders.
 3. Top and Bottom Flange and Web continuous through C Bents 3, 4 and 5. Vertical web bend follows angle of continuous adjacent spans at Bent C 3, 4, and 5.
 4. Distance to C Splice, steel length to be reduced by half of gap width at Splice C, see "GIRDER DETAIL NO. 13" sheet.
 5. T = Main Tension Member
C = Main Compression Member
 6. Girder Layout and Elevation Span 4 shown. For Girder Layout and Elevation Span 3, see "GIRDER LAYOUT NO. 2" sheet. For Girder Layout and Elevation Span 5-6, see "GIRDER LAYOUT NO. 4" sheet.
 7. For Intermediate Cross Frames, see "GIRDER DETAILS NO. 2" sheet.
 8. For Bent 3, 4 and 5 End Cross Frames, see "GIRDER DETAILS NO. 5" sheet.
 9. For Splice Detail, see "GIRDER DETAILS NO. 13" sheet.

DESIGN BY J. Szabo DETAILS BY J. Szabo QUANTITIES BY J. Szabo	CHECKED R. Stiltz	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO. 54-0482R	COLTON-LOMA LINDA OH RT (WIDEN) GIRDER LAYOUT NO. 3					
	CHECKED D. Wooten			POST MILE 3.72						
	CHECKED R. Stiltz			UNIT: 3589 PROJECT NUMBER & PHASE: 0800000506 CONTRACT NO.: 08-0M9401						
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)					ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES	SHEET 25 OF 67

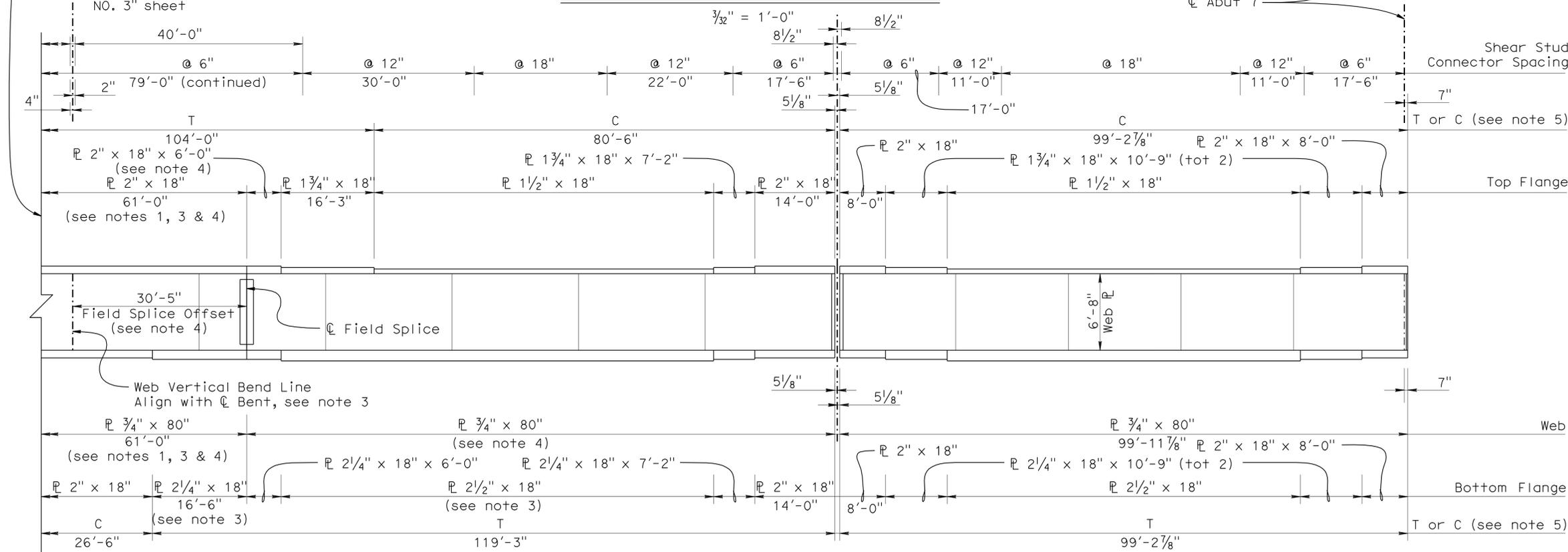
USERNAME => s124496 DATE PLOTTED => 18-APR-2012 TIME PLOTTED => 09:01

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1510	1743

REGISTERED CIVIL ENGINEER
 LARRY WU
 No. C57035
 Exp. 6-30-13
 CIVIL
 STATE OF CALIFORNIA
 4-06-12 DATE
 4-16-12 PLANS APPROVAL DATE
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GIRDER LAYOUT SPAN 5 - 6



GIRDER ELEVATION SPAN 5 - 6

No Scale

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

LEGEND:

- Indicates new construction
- - - - - Indicates existing structure
- ▨ Indicates closure pour

NOTES:

1. All horizontal dimensions measured level, along vertical plane of straight Girder 1 spans, span per span. Girder 2 similar.
2. Camber in Girder Elevation not shown, see "CAMBER DIAGRAM" sheet for vertical camber in the flange and web of girders.
3. Top and Bottom Flange and Web continuous through C Bents 3, 4 and 5. Vertical web bend follows angle of continuous adjacent spans at Bent C 3, 4, and 5.
4. Distance to C Splice, steel length to be reduced by half of gap width at Splice C, see "GIRDER DETAIL NO. 13" sheet.
5. T = Main Tension Member, C = Main Compression Member
6. Girder Layout and Elevation Span 5-6 shown. For Girder Layout and Elevation Span 4, see "GIRDER LAYOUT NO. 3" sheet.
7. For Intermediate Cross Frames, see "GIRDER DETAILS NO. 2" sheet.
8. For Bent 2 and 6 End Cross Frames, see "GIRDER DETAILS NO. 3" and "NO. 4" sheet.
9. For Bent 3, 4 and 5 End Cross Frames, see "GIRDER DETAILS NO. 5" sheet.
10. For Splice Detail, see "GIRDER DETAILS NO. 13" sheet.
11. For End Diaphragm at Abut 7, see "ABUTMENT DETAILS NO. 4" sheet.

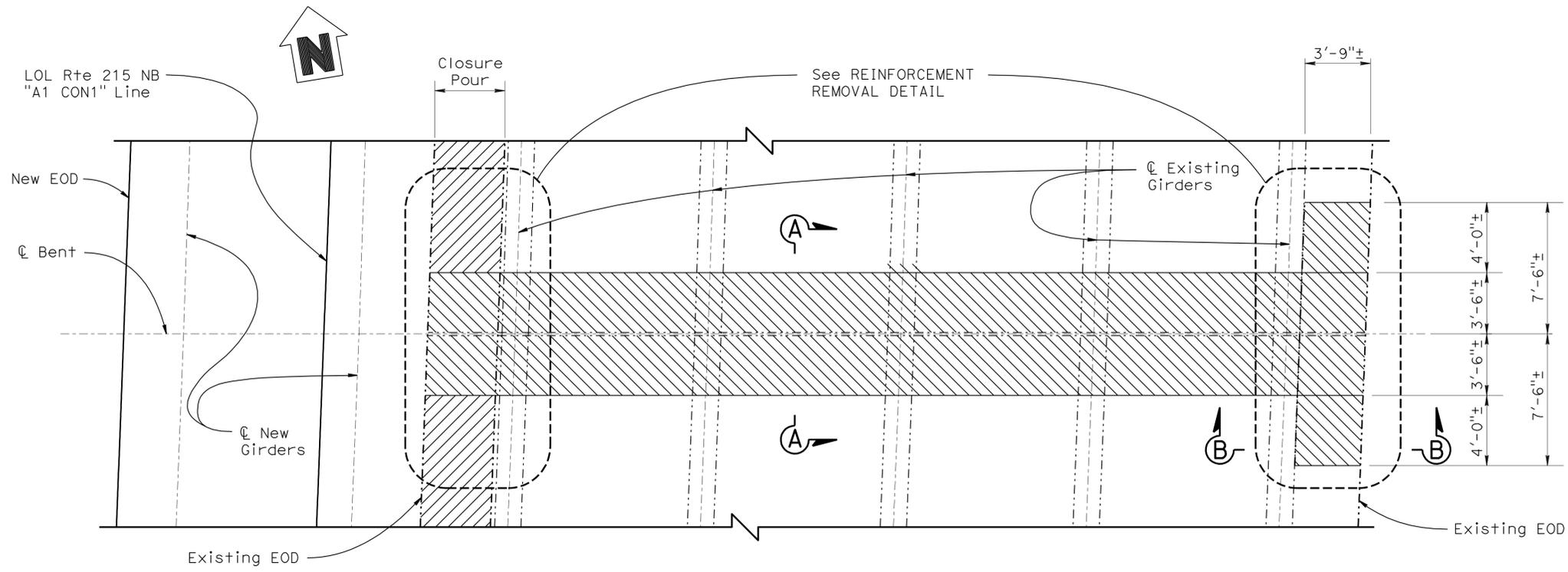
DESIGN BY J. Szabo DETAILS BY J. Szabo QUANTITIES BY J. Szabo	CHECKED R. Stiltz	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO. 54-0482R	COLTON-LOMA LINDA OH RT (WIDEN) GIRDER LAYOUT NO. 4
	CHECKED D. Wooten			POST MILE 3.72	
	CHECKED R. Stiltz			SHEET 26 OF 67	

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3 UNIT: 3589 PROJECT NUMBER & PHASE: 0800000506 CONTRACT NO.: 08-0M9401 DISREGARD PRINTS BEARING EARLIER REVISION DATES

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1511	1743

REGISTERED CIVIL ENGINEER: *Larry Wu*
 DATE: 4-06-12
 PLANS APPROVAL DATE: 4-16-12
 LARRY WU
 No. C57035
 Exp. 6-30-13
 CIVIL
 STATE OF CALIFORNIA

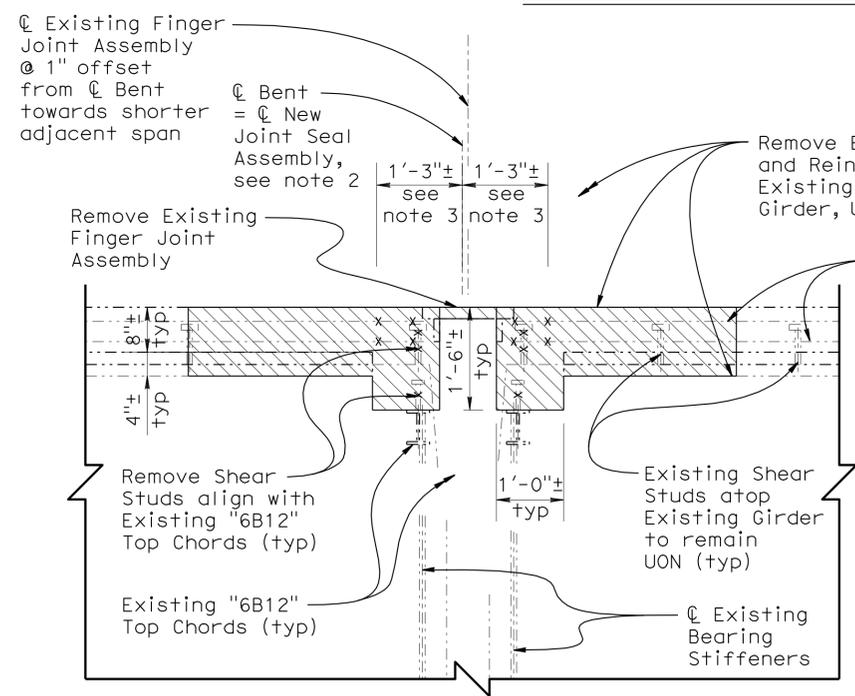
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



Note: Bent 2 shown, Bent 6 similar

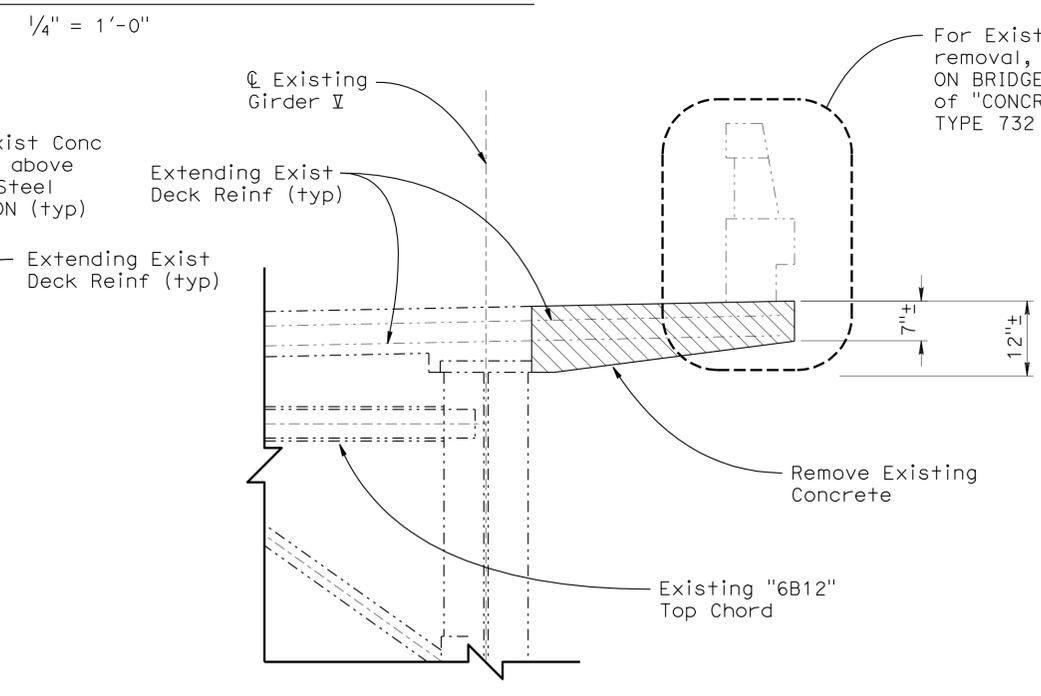
PARTIAL PLAN DECK REMOVAL - BENT 2 & 6

1/4" = 1'-0"



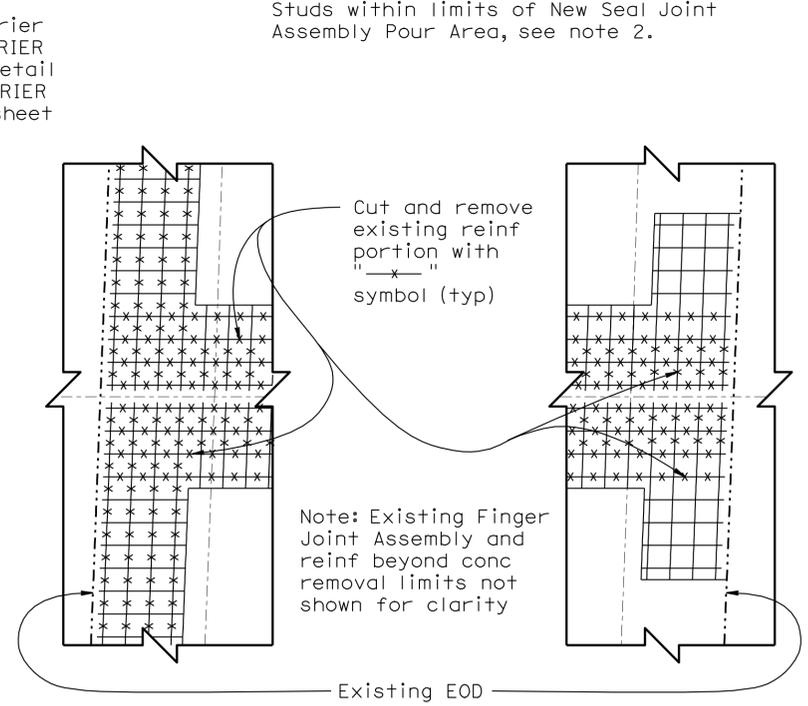
SECTION A-A

3/4" = 1'-0"



SECTION B-B

3/4" = 1'-0"



REINFORCEMENT REMOVAL DETAIL

No Scale

LEGEND:

- Indicates removal of Existing Finger Joint Assembly and concrete diaphragm (portion) with extending reinforcement of concrete removal portion to remain
- Indicates concrete removal portion with only extending reinforcement parallel to Bent C to remain
- Indicates new construction
- Indicates existing structure

NOTES:

1. For stages of concrete removal see "RETROFIT DETAILS NO. 3" sheet.
2. For New Conc Diaphragm reinforcement layout at Bent 2 and 6, see PLAN C-C and D-D of "GIRDER DETAIL NO. 6" sheet.
3. Cut and remove Exist Reinf and Shear Studs within limits of New Seal Joint Assembly Pour Area, see note 2.

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

DESIGN	BY J. Szabo	CHECKED R. Stiltz
DETAILS	BY J. Szabo	CHECKED D. Wooten
QUANTITIES	BY J. Szabo	CHECKED R. Stiltz

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

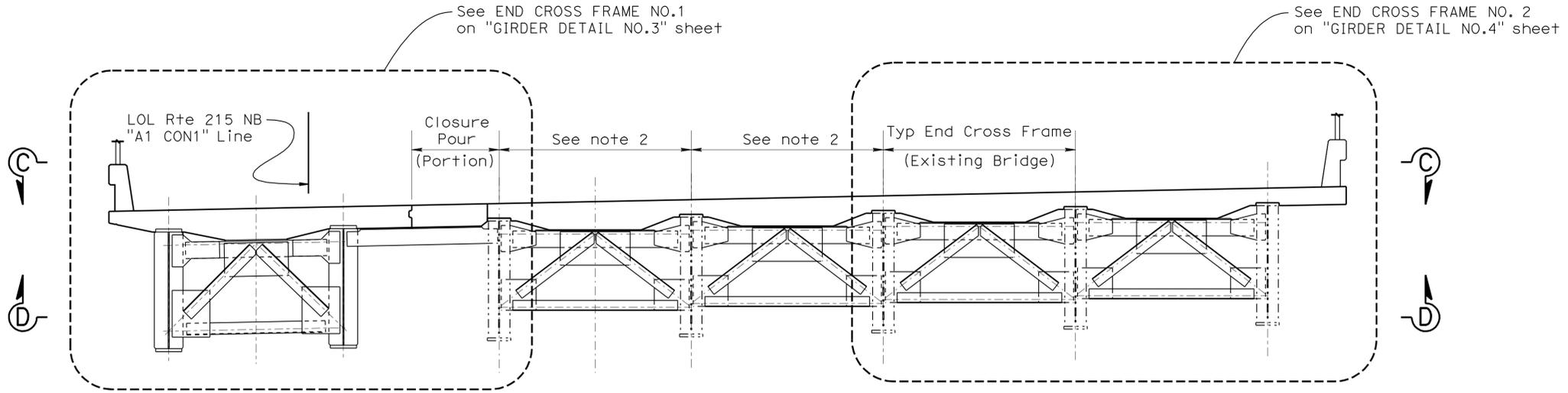
DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 10

BRIDGE NO.	54-0482R
POST MILE	3.72

COLTON-LOMA LINDA OH RT (WIDEN)
GIRDER DETAILS NO. 1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1512	1743

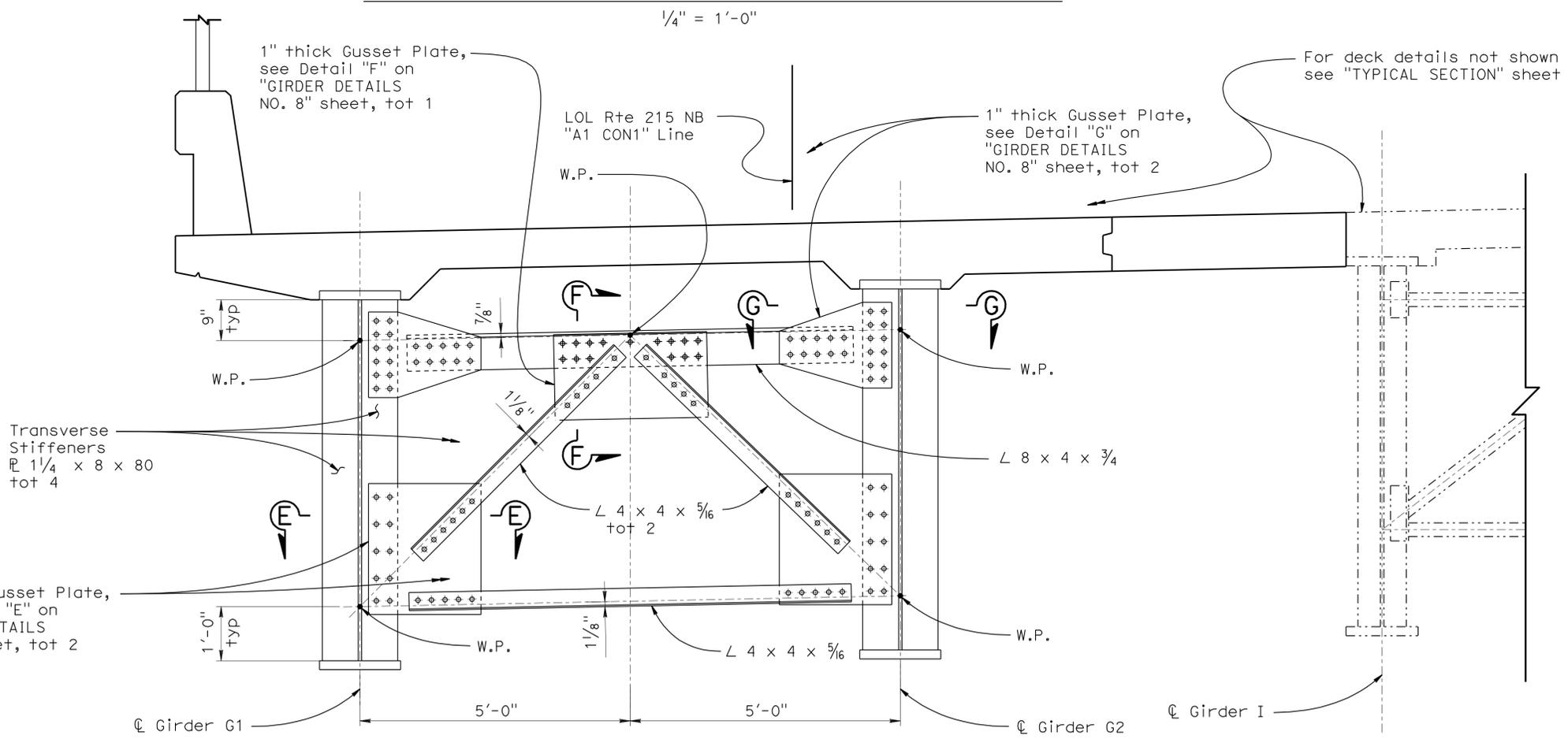
REGISTERED CIVIL ENGINEER *Larry Wu* DATE 4-06-12
 PLANS APPROVAL DATE 4-16-12
 LARRY WU No. C57035 Exp. 6-30-13 CIVIL
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END CROSS FRAME ELEVATION - BENT 2 & 6

LEGEND:
 ——— Indicates new construction.
 - - - - - Indicates existing structure.

- NOTES:**
1. For Concrete Diaphragm reinforcement layout at Bent 2 and 6, see PLAN C-C and D-D of "GIRDER DETAIL NO. 6" sheet.
 2. Adjacent interior end cross frames similar to Typ End Cross Frame (Existing Bridge), see END CROSS FRAME No. 2 of "GIRDER DETAIL NO. 4" sheet.
 3. For SECTION E-E, F-F and G-G, see "GIRDER DETAIL NO. 8" sheet.
 4. For location and spacing of TYPICAL INTERMEDIATE CROSS FRAME, see "GIRDER LAYOUT NO.1", "NO. 2" and "NO. 3" sheets.
 5. W.P. = Working Point.



TYPICAL INTERMEDIATE CROSS FRAME

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

DESIGN BY J. Szabo DETAILS BY J. Szabo QUANTITIES BY J. Szabo	CHECKED R. Stiltz CHECKED D. Wooten CHECKED R. Stiltz	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO. 54-0482R	COLTON-LOMA LINDA OH RT (WIDEN) GIRDER DETAILS NO. 2
				POST MILE 3.72	
				UNIT: 3589 PROJECT NUMBER & PHASE: 0800000506	

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

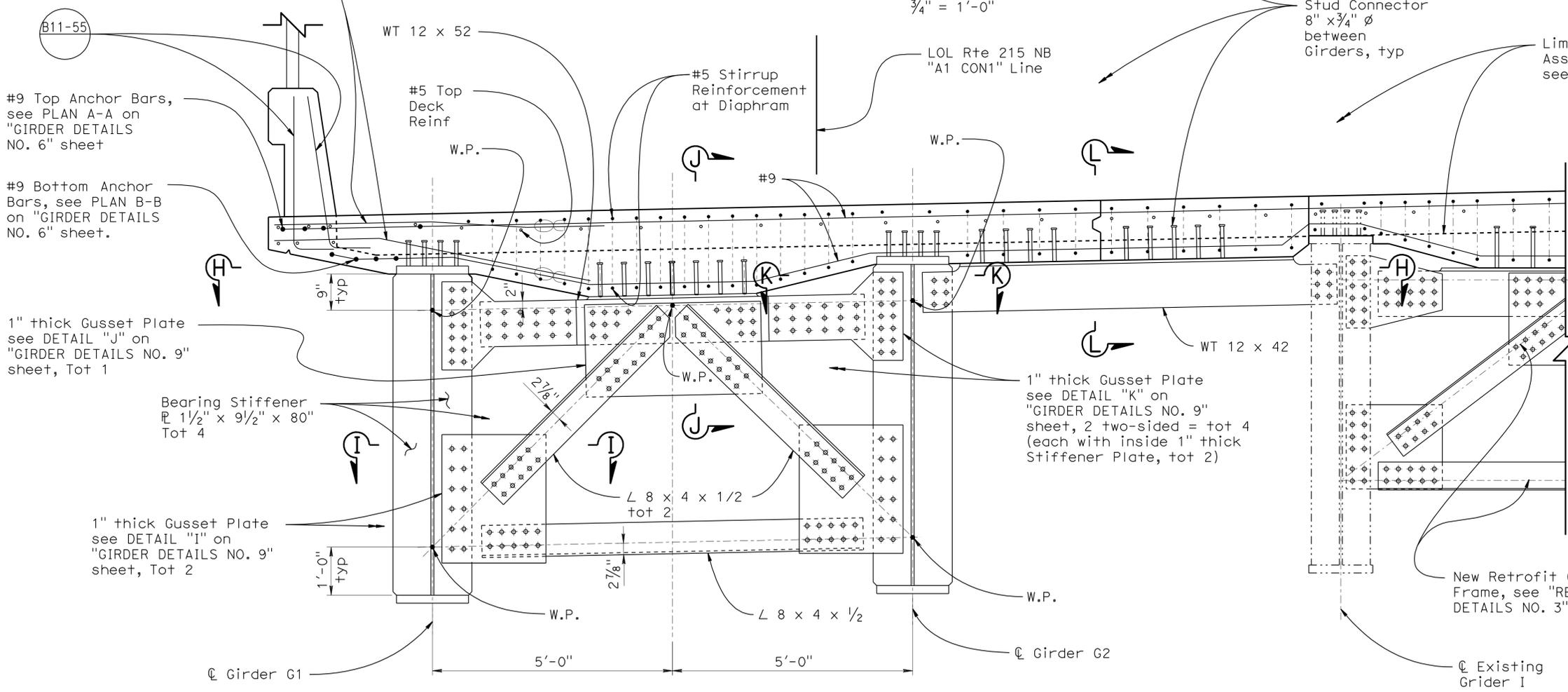
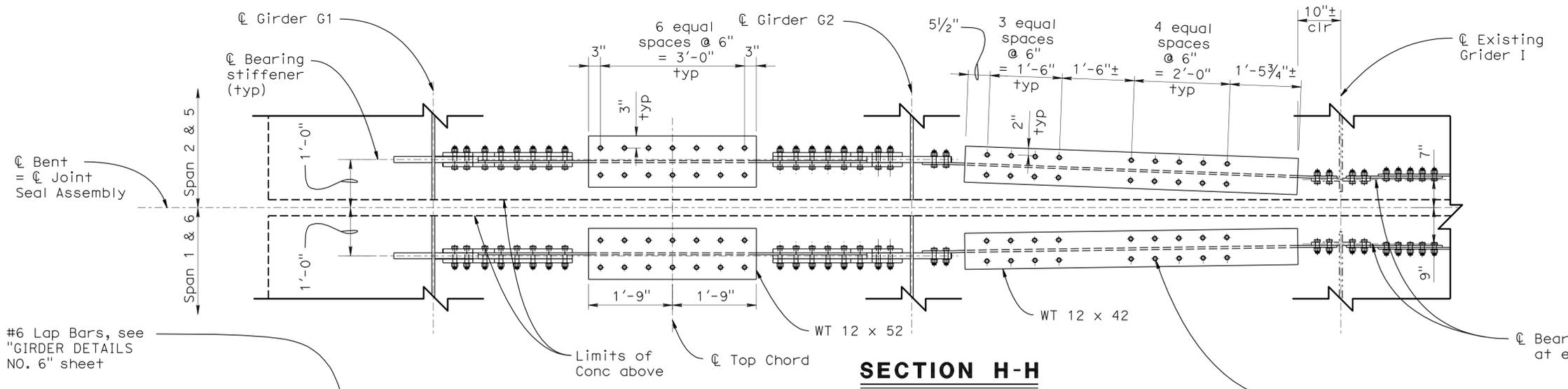
DISREGARD PRINTS BEARING EARLIER REVISION DATES

FILE => 540482r1gd10228.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1513	1743

REGISTERED CIVIL ENGINEER: *Larry Wu*
 DATE: 4-06-12
 PLANS APPROVAL DATE: 4-16-12
 LARRY WU
 No. C57035
 Exp. 6-30-13
 CIVIL
 STATE OF CALIFORNIA

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- LEGEND:**
- Indicates new construction
 - - - - - Indicates existing structure
 - Indicates bundled bar
 - Indicates TYPICAL SECTION longitudinal deck reinforcement

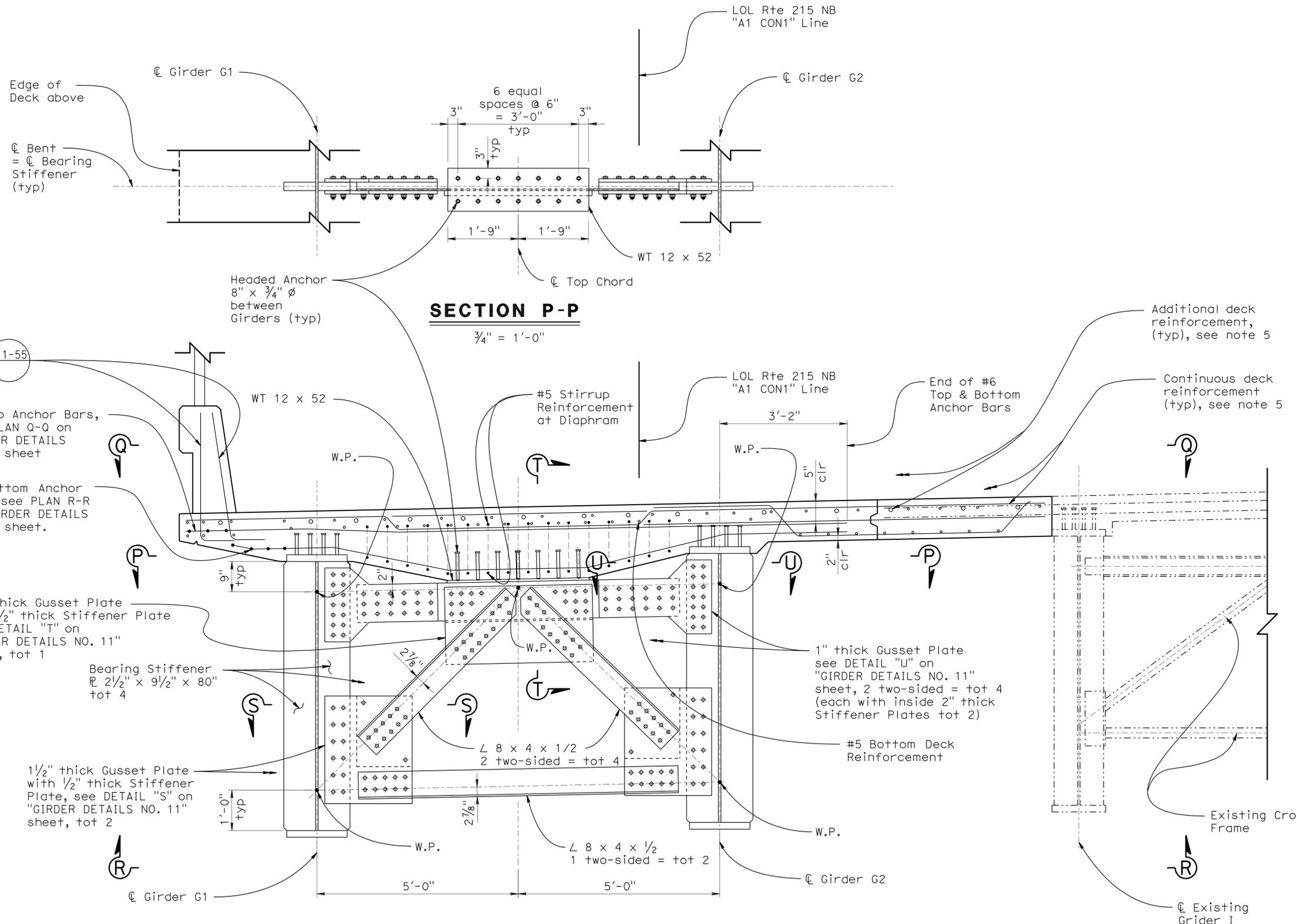
- NOTES:**
- Cross Frame of Bent 2 at Span 2 shown, Cross Frame of Bent 6 at Span 6 similar. Cross Frames of Bent 2 at Span 1 and Bent 6 at Span 5 similar in mirror elevation view about the middle Bent C.
 - For SECTION I-I, J-J & K-K, see "GIRDER DETAILS NO. 9" sheet.
 - For SECTION L-L, see "GIRDER DETAILS NO. 10" sheet.
 - Maintain 1" minimum concrete cover at Joint Seal Assembly Pour limits. See SECTION J-J of "GIRDER DETAILS NO. 9" sheet and SECTION L-L of "GIRDER DETAILS NO. 10" sheet.
 - For deck reinforcement beyond concrete diaphragm shown, see "TYPICAL SECTION" sheet.
 - W.P. = Working Point.

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

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	DESIGN	BY J. Szabo	CHECKED R. Stiltz	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO.	54-0482R	COLTON-LOMA LINDA OH RT (WIDEN) GIRDER DETAILS NO. 3
	DETAILS	BY J. Szabo	CHECKED D. Wooten			POST MILE	3.72	
	QUANTITIES	BY J. Szabo	CHECKED R. Stiltz			UNIT: 3589	PROJECT NUMBER & PHASE: 0800000506	

DISREGARD PRINTS BEARING EARLIER REVISION DATES

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1515	1743
 REGISTERED CIVIL ENGINEER			4-06-12	DATE	
4-16-12			PLANS APPROVAL DATE		
					
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- LEGEND:**
- Indicates new construction
 - - - - - Indicates existing structure
 - Indicates bundled bar
 - Indicates TYPICAL SECTION longitudinal deck reinforcement

- NOTES:**
1. Cross Frame of Bent 3 facing Span 3 shown, Cross Frames of Bent 4 facing Span 4 and Bent 5 facing Span 5 similar.
 2. Concrete Deck and Barrier removal not shown for clarity.
 3. For Concrete Diaphragm reinforcement layout at Bent 3, 4 & 5, see PLAN Q-Q & R-R of "GIRDER DETAIL NO. 7" sheet.
 4. For SECTION S-S, T-T, & U-U see "GIRDER DETAIL NO. 11" sheet.
 5. For deck reinforcement beyond concrete diaphragm limits shown, see "TYPICAL SECTION" sheet.
 6. W.P. = Working Point.

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

END CROSS FRAME NO. 3 - BENT 3, 4 & 5

3/4" = 1'-0"

DESIGN BY J. Szabo CHECKED R. Stiltz DETAILS BY J. Szabo CHECKED D. Wooten QUANTITIES BY J. Szabo CHECKED R. Stiltz	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO. 54-0482R POST MILE 3.72	COLTON-LOMA LINDA OH RT (WIDEN) GIRDER DETAILS NO. 5
	UNIT: 3589 PROJECT NUMBER & PHASE: 0800000506		CONTRACT NO.: 08-0M9401	DISREGARD PRINTS BEARING EARLIER REVISION DATES
	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3		REVISION DATES SHEET 31 OF 67	FILE => 540482r1gd10531.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1516	1743
 REGISTERED CIVIL ENGINEER			4-06-12	DATE	
4-16-12			PLANS APPROVAL DATE		
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.					

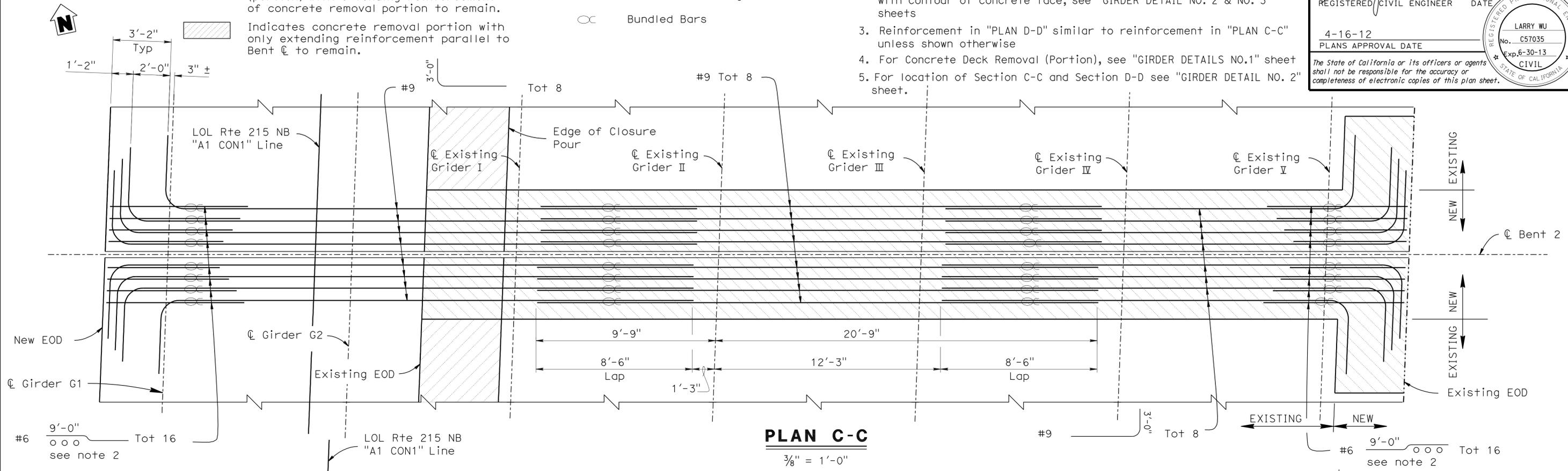


- NOTES:**
- Bent 2 shown, Bent 6 similar
 - Reinforcement steel at edge of deck and soffit to vertically bend with contour of concrete face, see "GIRDER DETAIL NO. 2 & NO. 3" sheets
 - Reinforcement in "PLAN D-D" similar to reinforcement in "PLAN C-C" unless shown otherwise
 - For Concrete Deck Removal (Portion), see "GIRDER DETAILS NO.1" sheet
 - For location of Section C-C and Section D-D see "GIRDER DETAIL NO. 2" sheet.

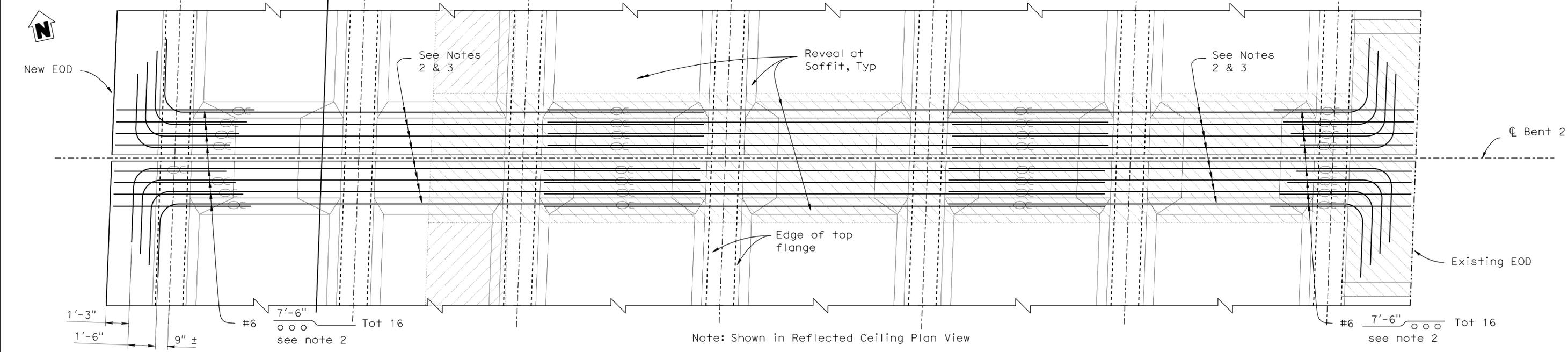
LEGEND:

-  Indicates removal of Existing Finger Joint Assembly and concrete diaphragm (portion) with extending reinforcement of concrete removal portion to remain.
-  Indicates concrete removal portion with only extending reinforcement parallel to Bent C to remain.

-  Indicates new construction.
-  Indicates existing structure.
-  Bundled Bars



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



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

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

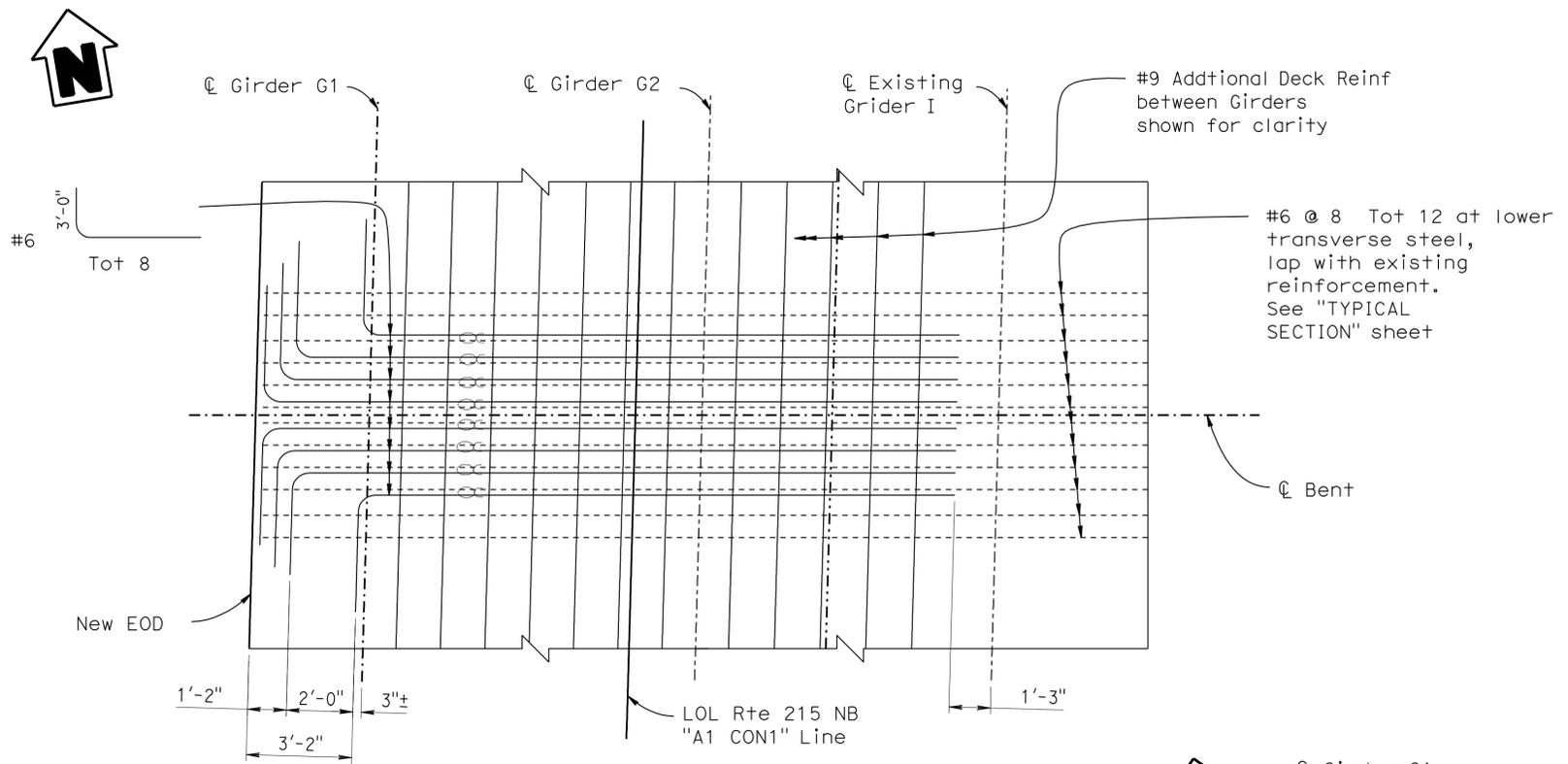
DESIGN	BY J. Szabo	CHECKED R. Stiltz	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO.	COLTON-LOMA LINDA OH RT (WIDEN) GIRDER DETAIL NO. 6
DETAILS	BY D. Wooten	CHECKED J. Szabo			54-0482R	
QUANTITIES	BY J. Szabo	CHECKED R. Stiltz			POST MILE 3.72	
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)			ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3589 PROJECT NUMBER & PHASE: 0800000506	CONTRACT NO.: 08-0M9401	DISREGARD PRINTS BEARING EARLIER REVISION DATES
					REVISION DATES	SHEET 32 OF 67

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1517	1743

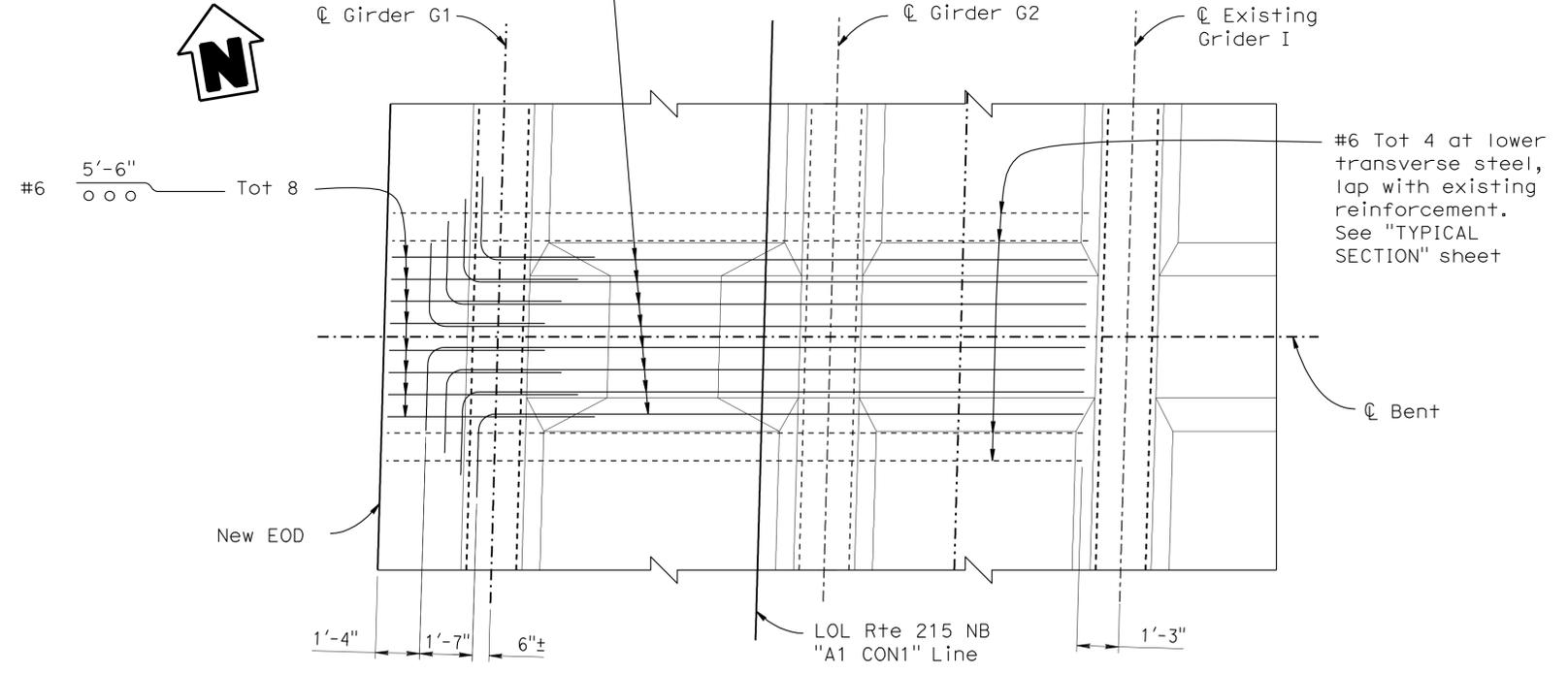
LARRY WU
 REGISTERED CIVIL ENGINEER
 DATE: 4-06-12
 PLANS APPROVAL DATE: 4-16-12

REGISTERED PROFESSIONAL ENGINEER
 LARRY WU
 No. C57035
 Exp. 6-30-13
 CIVIL
 STATE OF CALIFORNIA

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



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

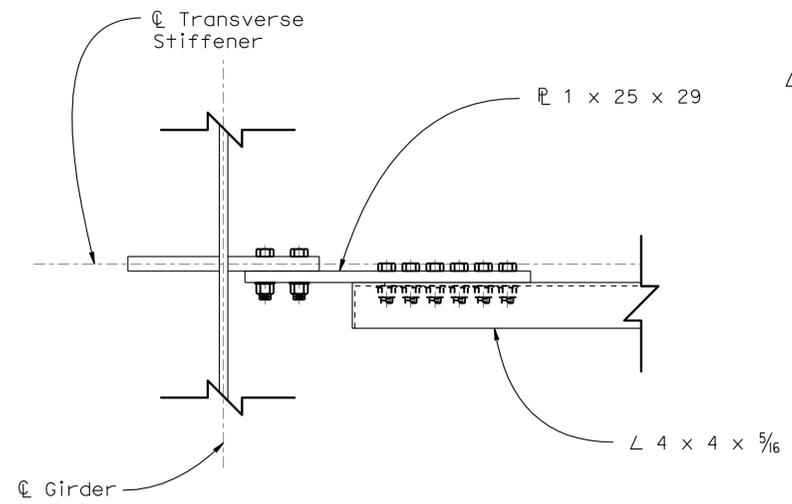
Note: Shown in Reflected Ceiling Plan View

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

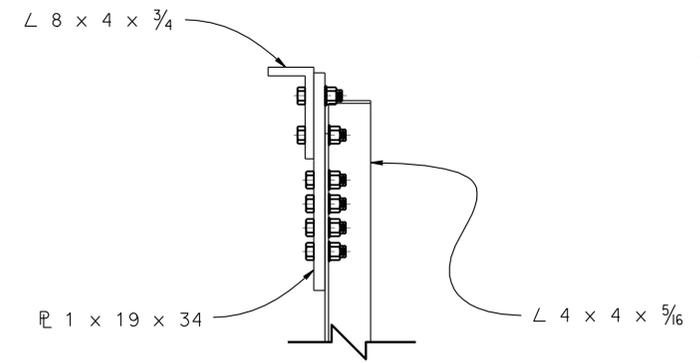
DESIGN BY J. Szabo DETAILS BY D. Wooten QUANTITIES BY J. Szabo	CHECKED R. Stiltz	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO. 54-0482R	COLTON-LOMA LINDA OH RT (WIDEN) GIRDER DETAIL NO. 7			
	CHECKED J. Szabo			POST MILE 3.72				
	CHECKED R. Stiltz			CONTRACT NO.: 08-0M9401				
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)			ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3589 PROJECT NUMBER & PHASE: 0800000506	CONTRACT NO.: 08-0M9401	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 33 OF 67

USERNAME => s124496 DATE PLOTTED => 18-APR-2012 TIME PLOTTED => 09:02

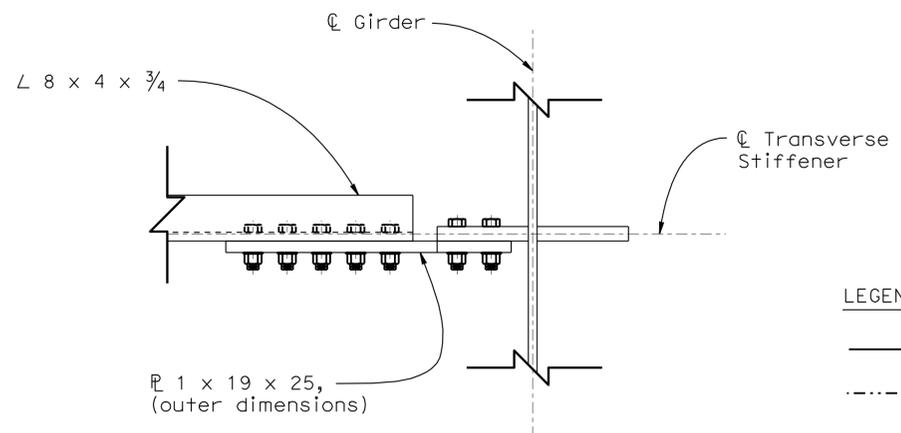
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1518	1743
 REGISTERED CIVIL ENGINEER			4-06-12	DATE	
4-16-12			PLANS APPROVAL DATE		
REGISTERED PROFESSIONAL ENGINEER LARRY WU No. C57035 Exp. 6-30-13 CIVIL STATE OF CALIFORNIA					
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.					



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



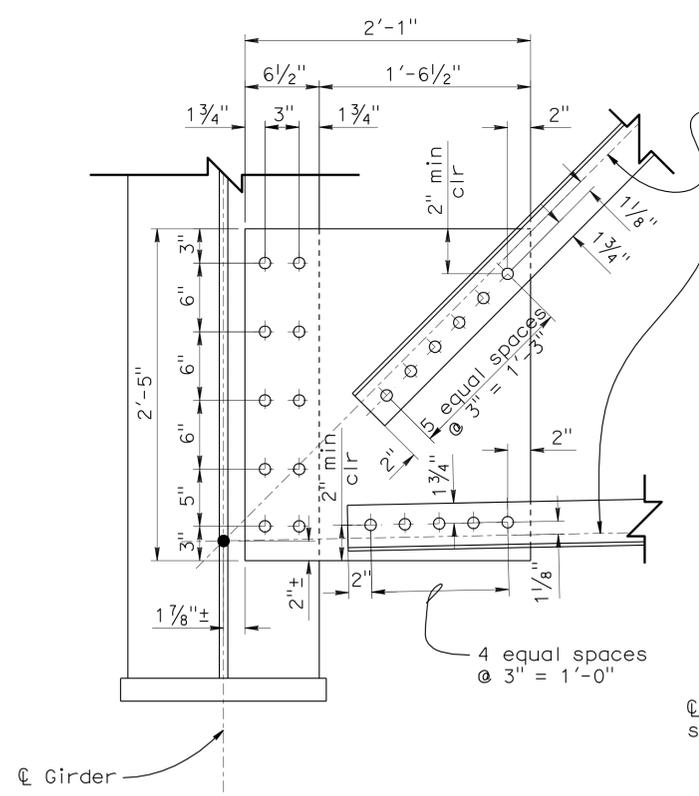
SECTION F-F
1/2" = 1'-0"



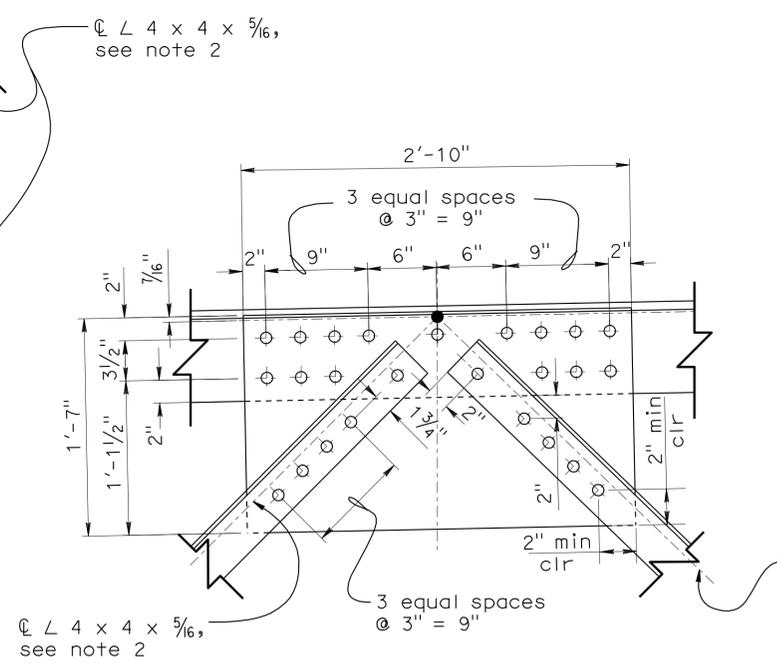
SECTION G-G
1/2" = 1'-0"

LEGEND:
 ————— Indicates new construction.
 - - - - - Indicates existing structure.

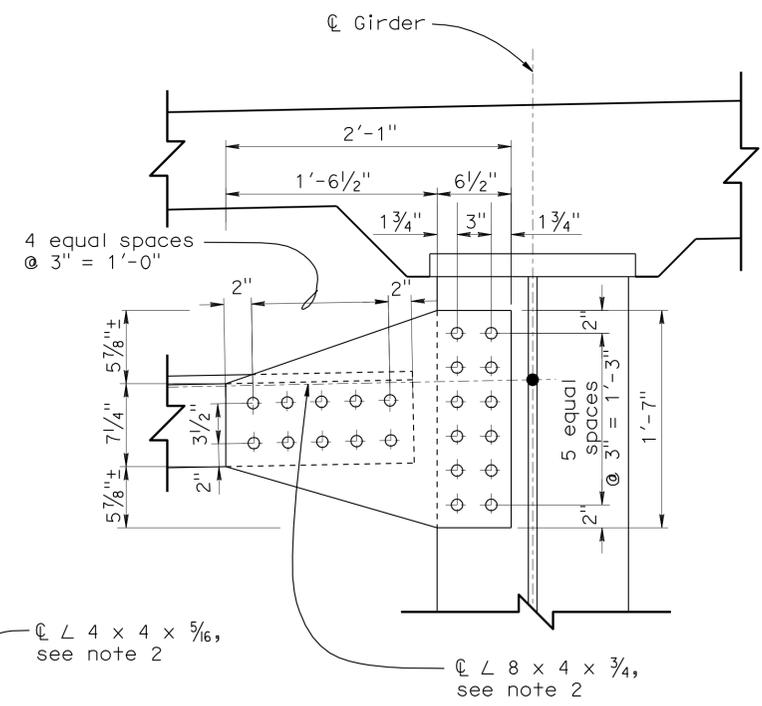
- NOTES:**
1. For location of SECTION E-E, F-F and G-G, see "GIRDER DETAILS NO. 2" sheet.
 2. \odot Cross Frame Braces match lines connecting W.P., see TYPICAL INTERMEDIATE CROSS SECTION on "GIRDER DETAILS NO. 2" sheet.
 3. Use $\frac{7}{8}$ " \odot Bolts A325x, unless shown otherwise.
 4. W.P. = Working Point.



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



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



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

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

DESIGN	BY J. Szabo	CHECKED R. Stiltz
DETAILS	BY J. Szabo	CHECKED D. Wooten
QUANTITIES	BY J. Szabo	CHECKED R. Stiltz

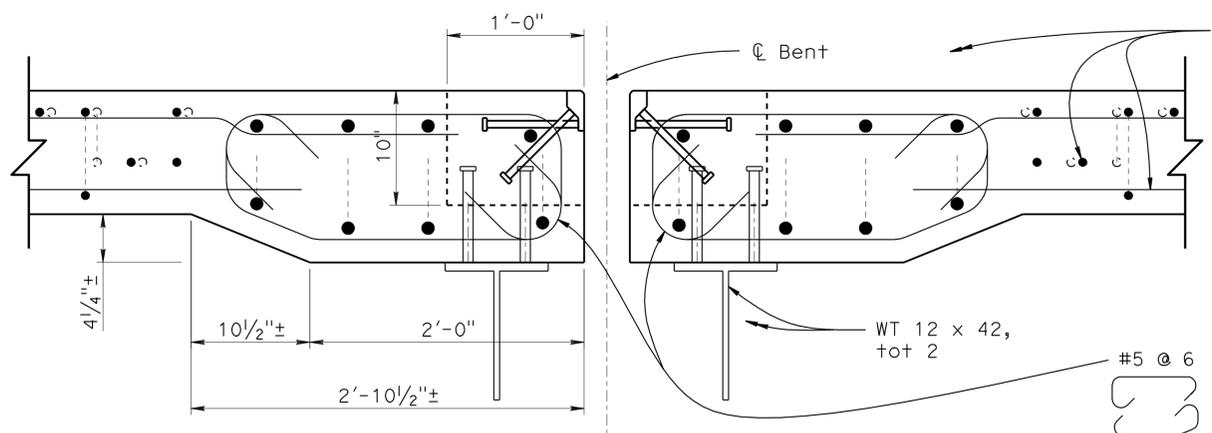
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
DESIGN BRANCH 10

BRIDGE NO.	54-0482R
POST MILE	3.72

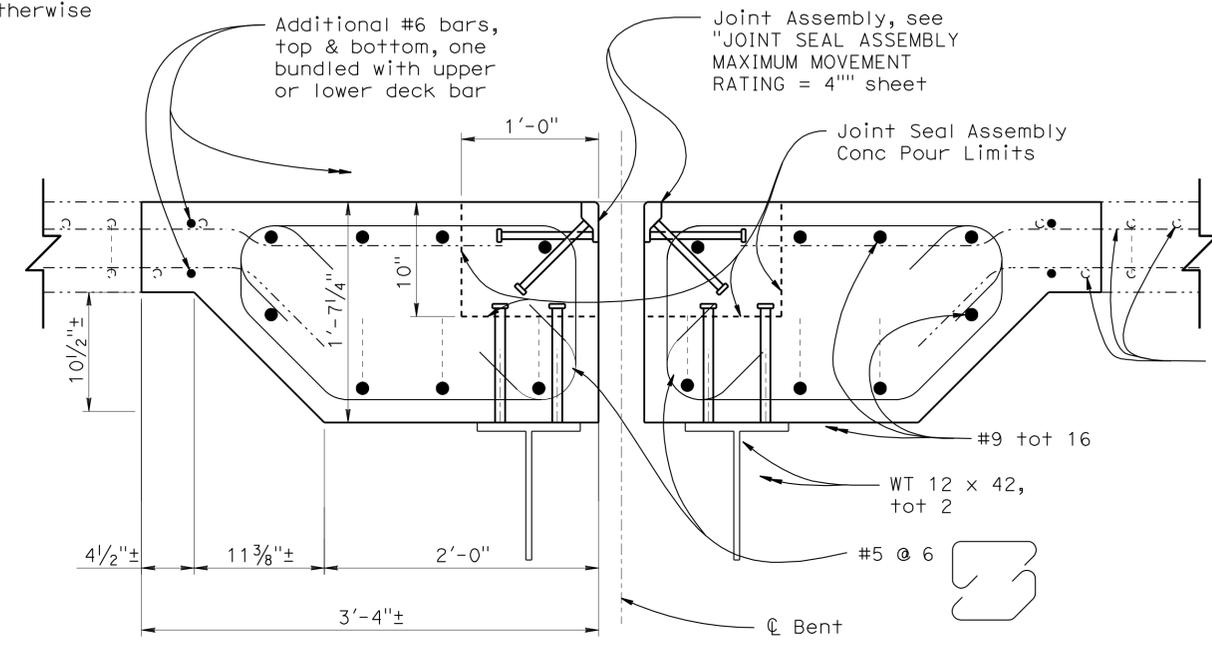
COLTON-LOMA LINDA OH RT (WIDEN)
GIRDER DETAILS NO. 8

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1520	1743
 REGISTERED CIVIL ENGINEER			4-06-12 DATE		
4-16-12 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					

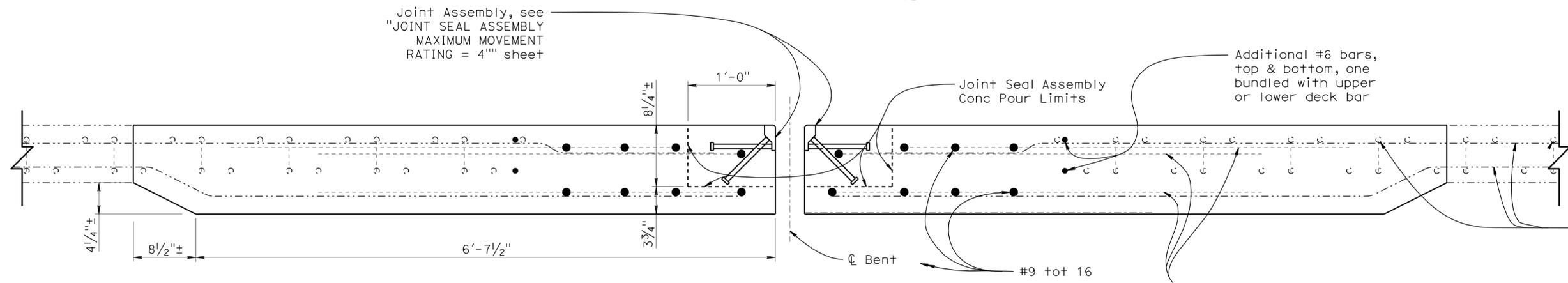


Note: same as Section N-N, unless shown otherwise

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



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



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

- LEGEND:**
- Indicates new construction
 - - - - - Indicates existing structure

- NOTES:**
- For location of SECTION L-L see "GIRDER DETAILS NO. 3" sheet.
 - For location of SECTION N-N & O-O see "GIRDER DETAILS NO. 4" sheet.
 - End Cross Frame Braces match lines connecting W.P., see END CROSS FRAME NO. 2 of "GIRDER DETAILS NO. 4" sheet.
 - Adjacent End Cross Frame members included in SECTION L-L, N-N & O-O for clarity.

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

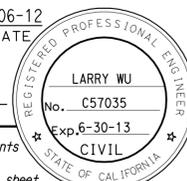
DESIGN	BY J. Szabo	CHECKED R. Stiltz
DETAILS	BY J. Szabo	CHECKED D. Wooten
QUANTITIES	BY J. Szabo	CHECKED R. Stiltz

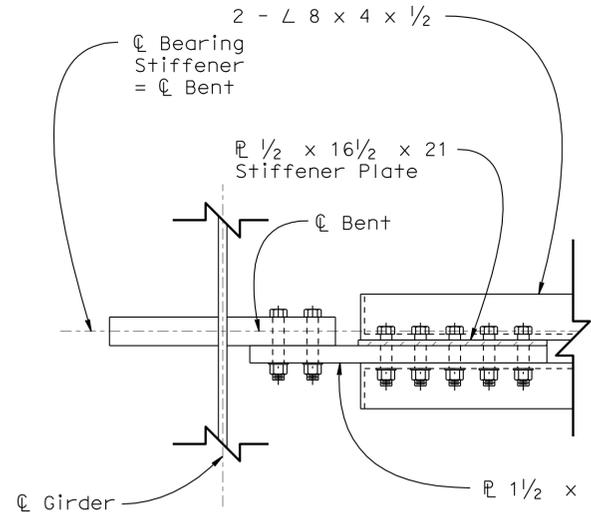
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 10

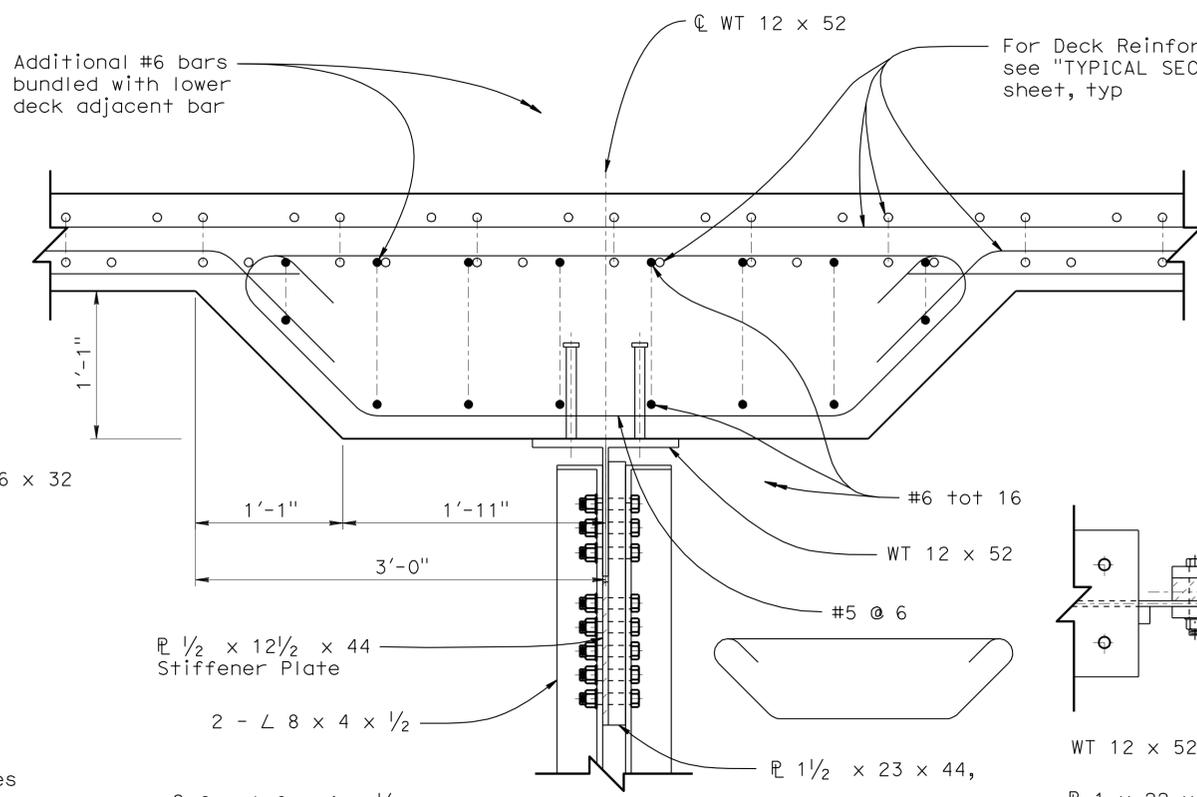
BRIDGE NO.
54-0482R
POST MILE
3.72

COLTON-LOMA LINDA OH RT (WIDEN)
GIRDER DETAILS NO. 10

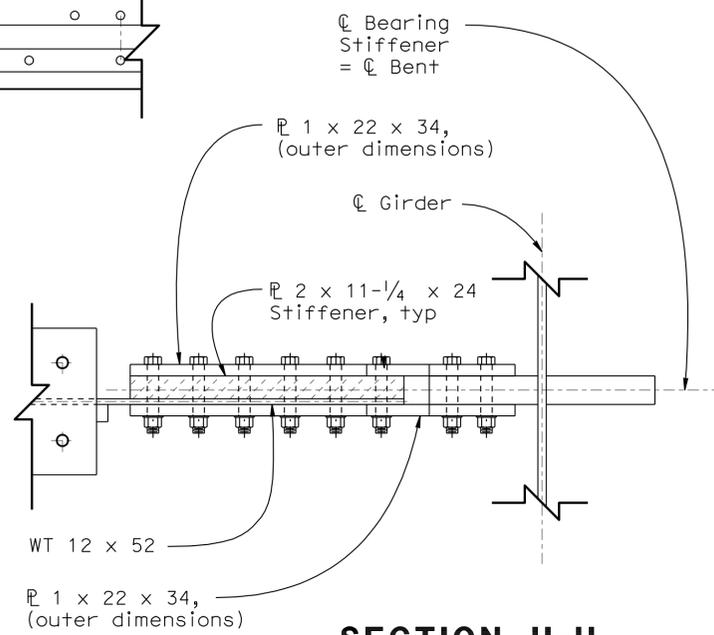
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, Sbd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1521	1743
 REGISTERED CIVIL ENGINEER			4-06-12 DATE		
4-16-12 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



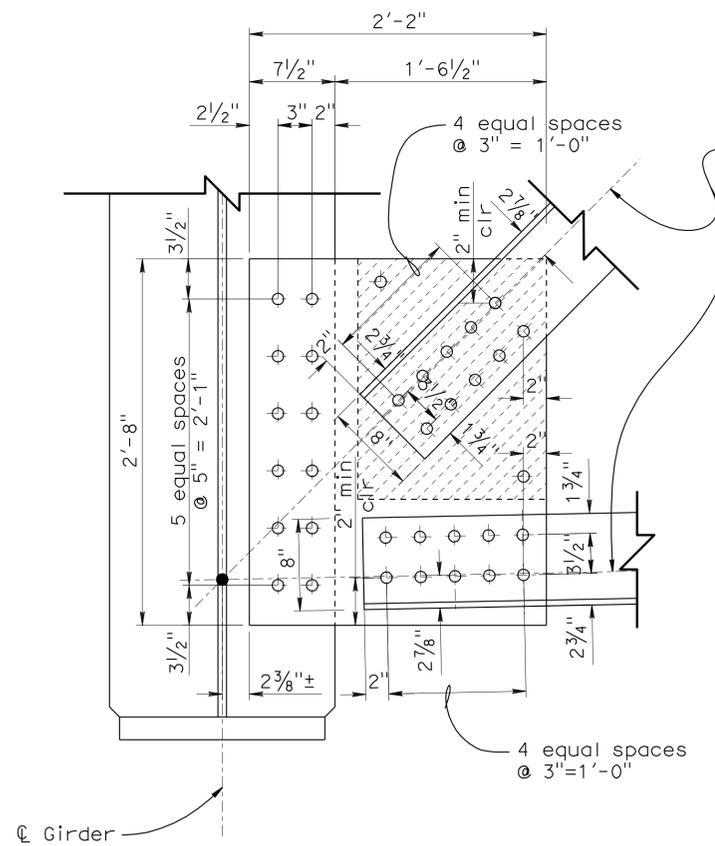
SECTION S-S
1/2" = 1'-0"



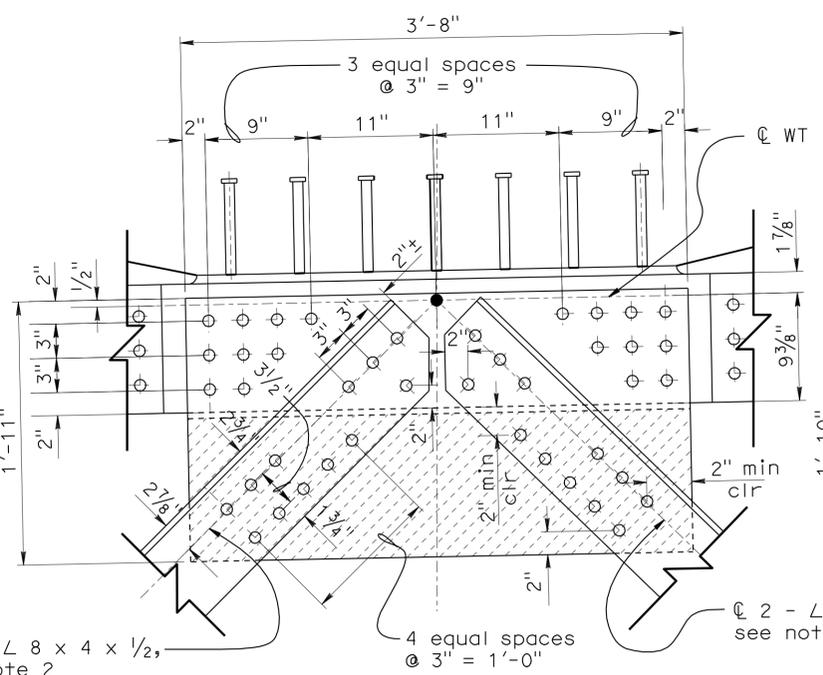
SECTION T-T
1/2" = 1'-0"



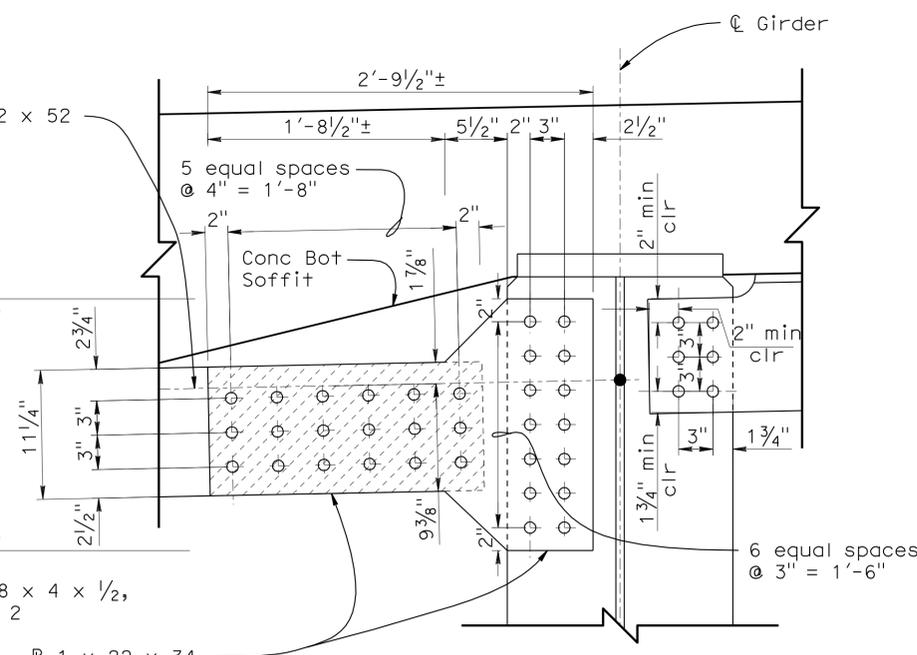
SECTION U-U
1/2" = 1'-0"



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



DETAIL "T"
1/2" = 1'-0"



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

- LEGEND:**
- Indicates new construction
 - - - - - Indicates existing structure
 -  Indicates gusset stiffener filler plates

- NOTES:**
- For location of SECTION S-S, T-T and U-U, see "GIRDER DETAILS NO. 5" sheet.
 - End Cross Frame Braces match lines connecting W.P., see END CROSS FRAME NO. 3 of "GIRDER DETAILS NO. 5" sheet.
 - Use 7/8" ϕ Bolts A325x, unless shown otherwise.
 - W.P. = Working Point.

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

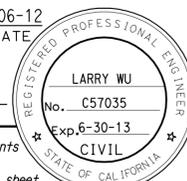
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DETAILS	BY J. Szabo	CHECKED D. Wooten
QUANTITIES	BY J. Szabo	CHECKED R. Stiltz

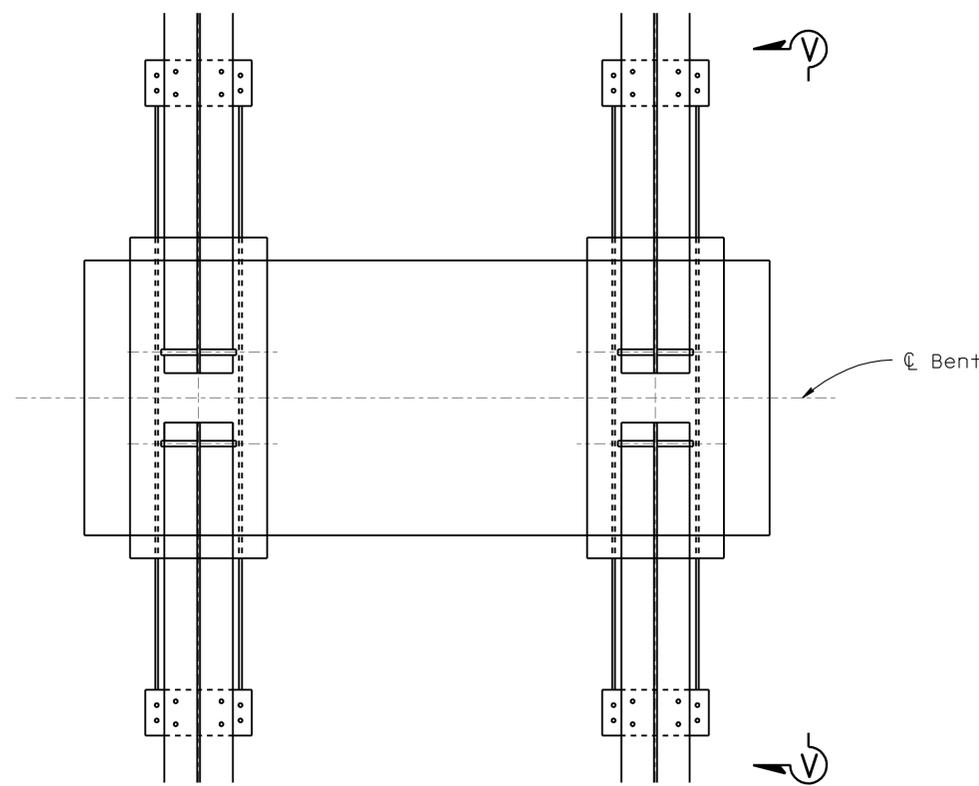
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 10

BRIDGE NO. 54-0482R
POST MILE 3.72

COLTON-LOMA LINDA OH RT (WIDEN)
GIRDER DETAILS NO. 11

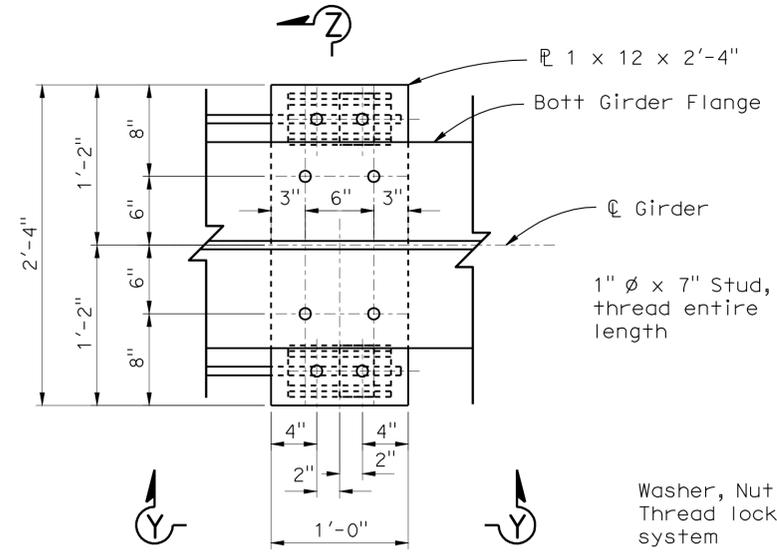
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1522	1743
			4-06-12		
REGISTERED CIVIL ENGINEER			DATE		
4-16-12			PLANS APPROVAL DATE		
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



Note: Bent 2 shown, Bent 6 similar

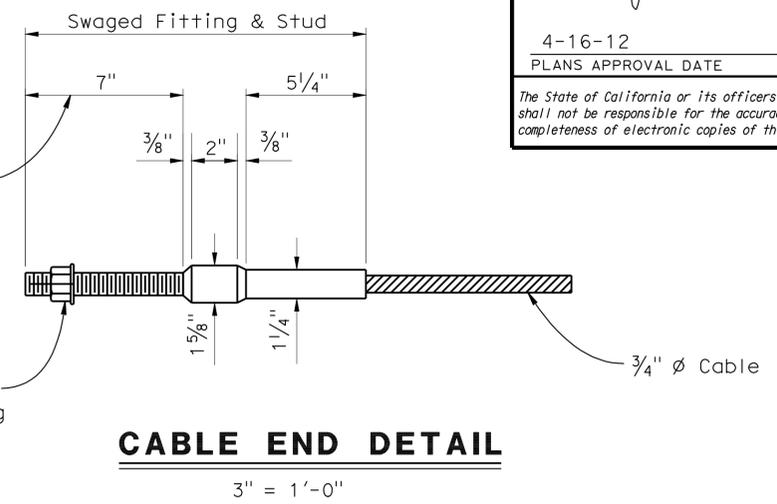
GIRDER RESTRAINER PLAN

1/2" = 1'-0"



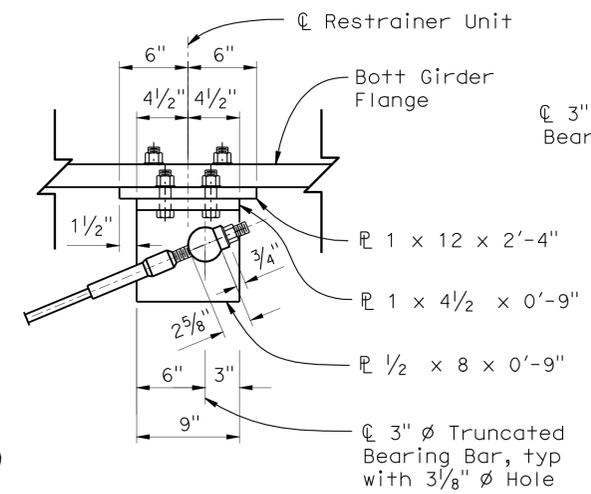
SECTION X-X

1/2" = 1'-0"



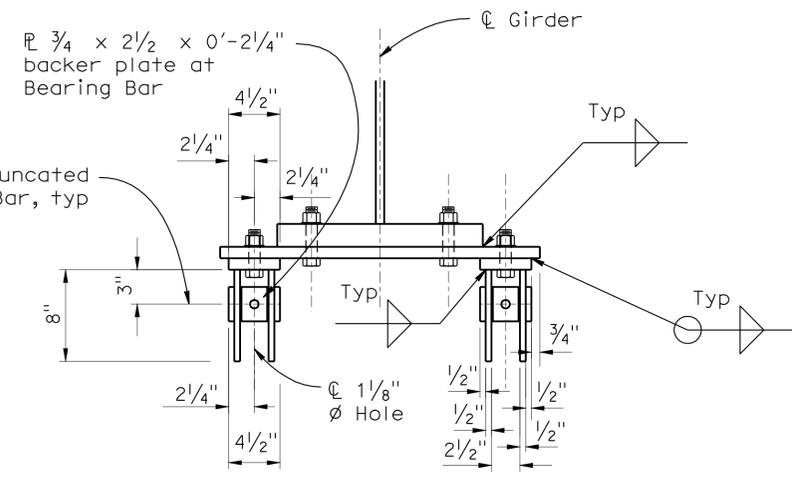
CABLE END DETAIL

3" = 1'-0"



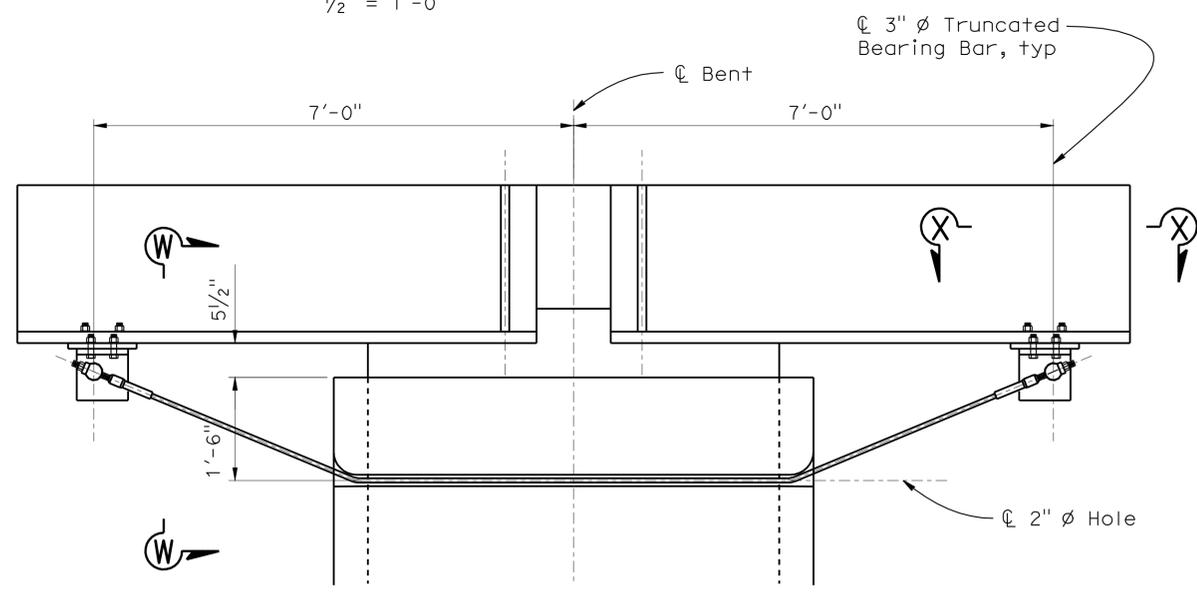
SECTION Y-Y

1/2" = 1'-0"



SECTION Z-Z

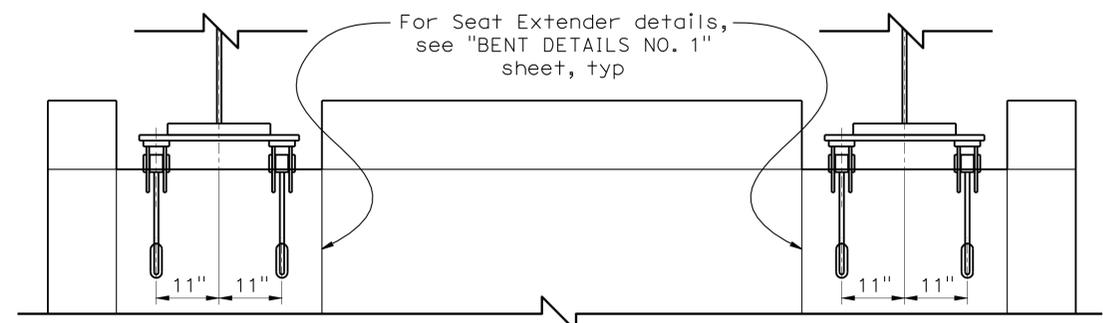
1/2" = 1'-0"



Note: Bent 2 shown, Bent 6 similar

SECTION V-V

3/4" = 1'-0"



SECTION W-W

3/4" = 1'-0"

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

Note: All bolts 7/8" Ø A325X unless shown otherwise

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY J. Szabo	CHECKED R. Stiltz	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO.	54-0482R	COLTON-LOMA LINDA OH RT (WIDEN) GIRDER DETAILS NO. 12
	DETAILS	BY J. Szabo	CHECKED D. Wooten			POST MILE	3.72	
	QUANTITIES	BY J. Szabo	CHECKED R. Stiltz			UNIT: 3589 PROJECT NUMBER & PHASE: 0800000506	CONTRACT NO.: 08-0M9401	

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

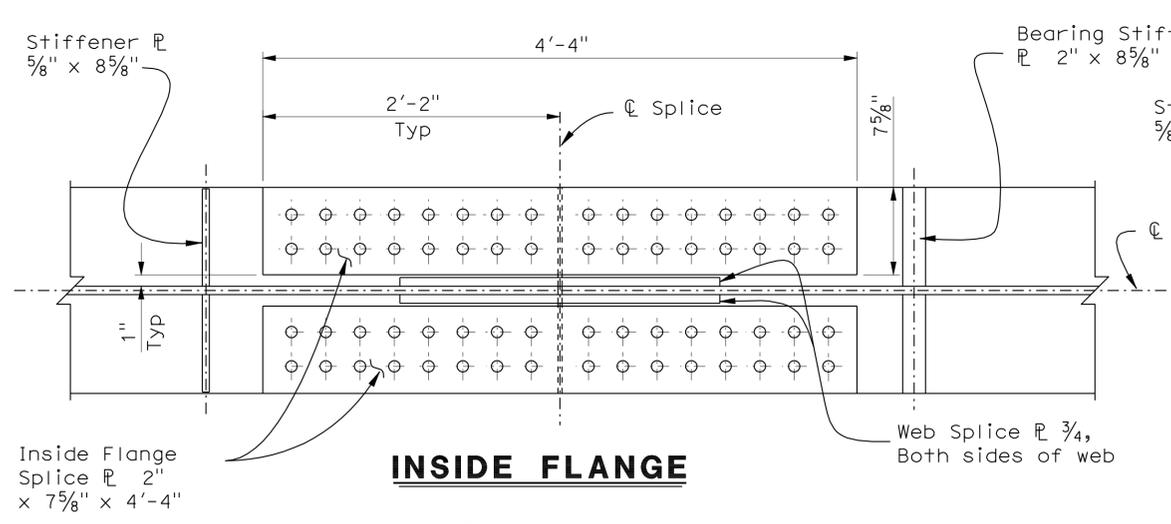
UNIT: 3589
PROJECT NUMBER & PHASE: 0800000506

CONTRACT NO.: 08-0M9401

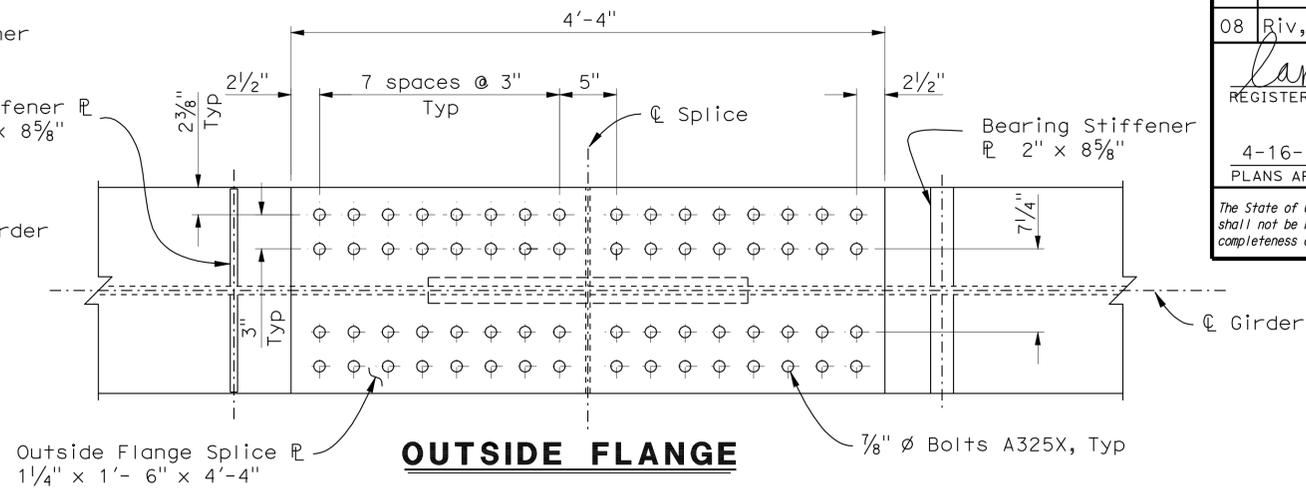
DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES SHEET 38 OF 67

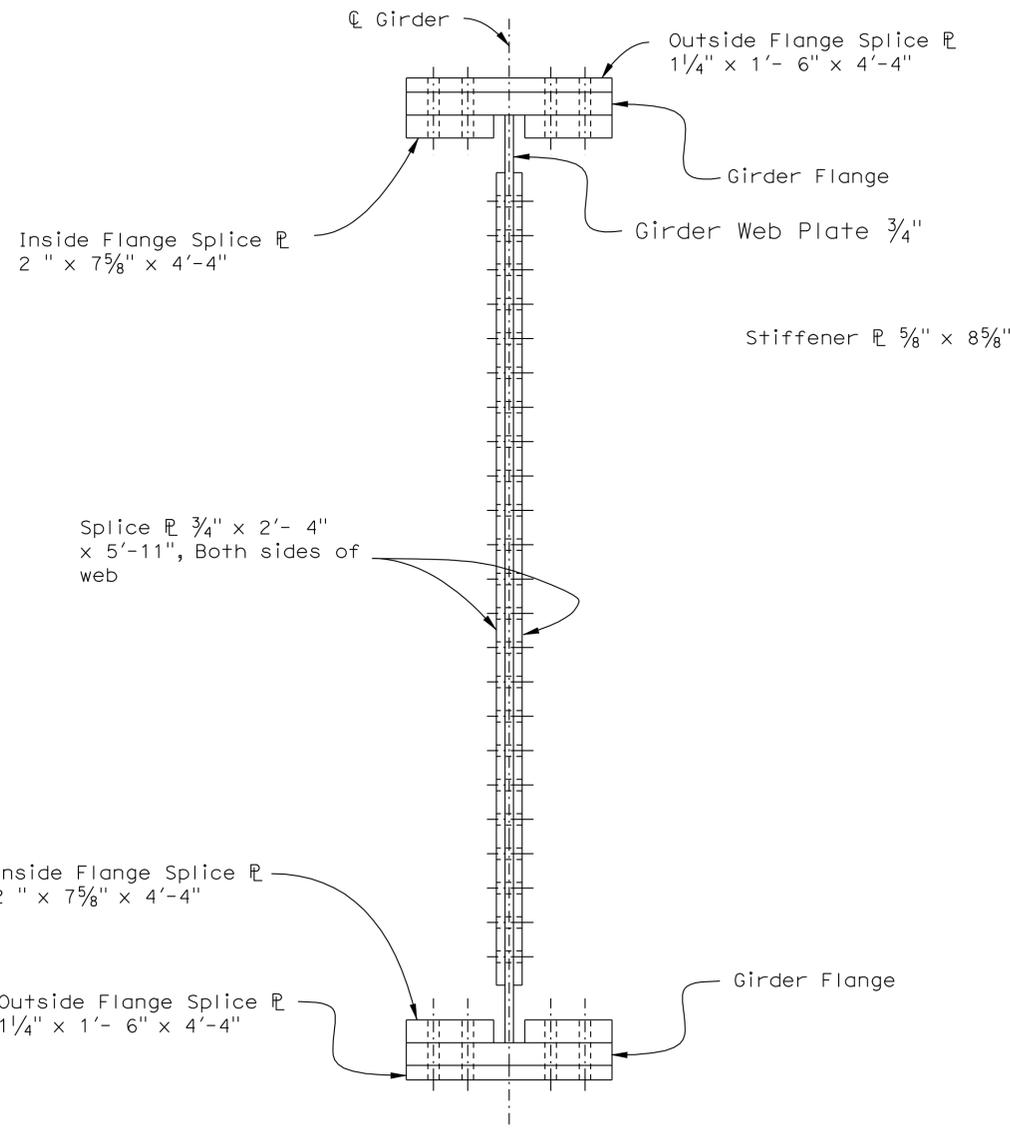
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1523	1743
 REGISTERED CIVIL ENGINEER			4-06-12	DATE	
4-16-12			PLANS APPROVAL DATE		
					
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.					



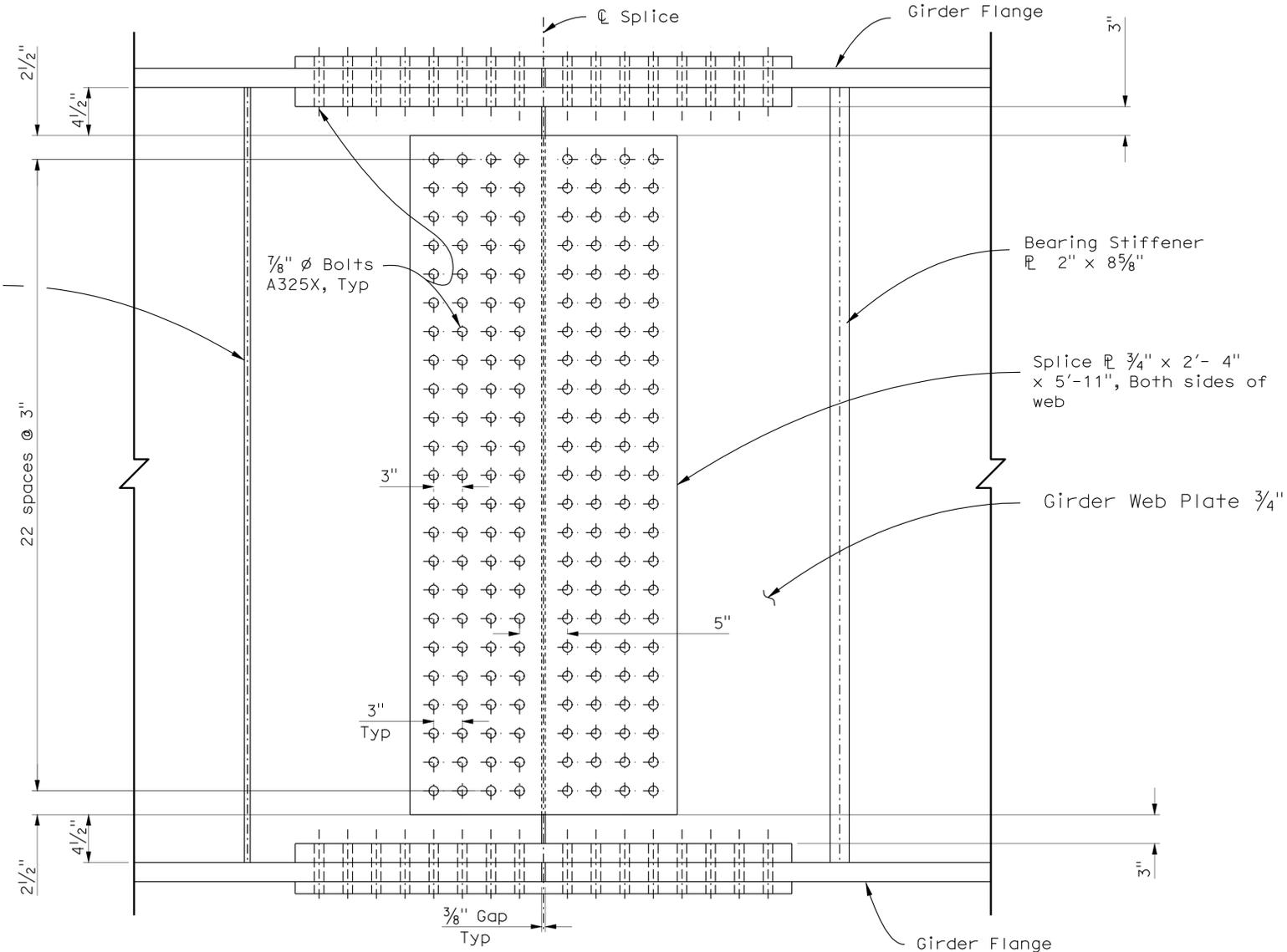
INSIDE FLANGE



OUTSIDE FLANGE



SECTION



SPLICE PLATE DETAIL

ELEVATION

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

DESIGN	BY J. Szabo	CHECKED R. Stiltz
DETAILS	BY D. Wooten	CHECKED J. Szabo
QUANTITIES	BY J. Szabo	CHECKED R. Stiltz

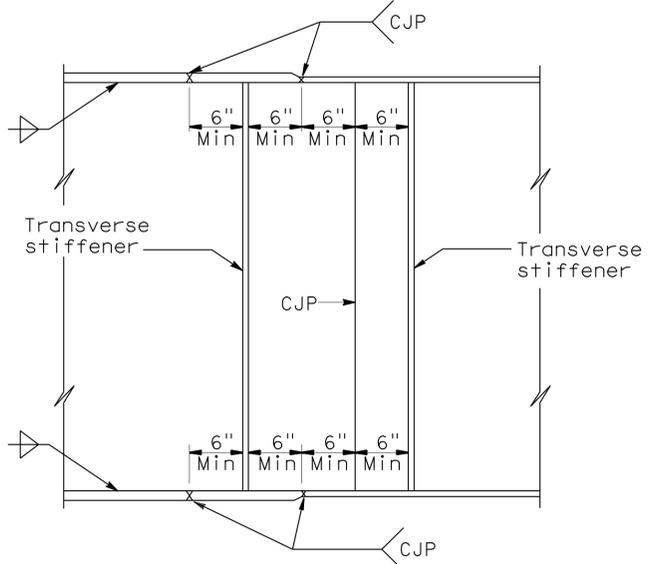
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 10

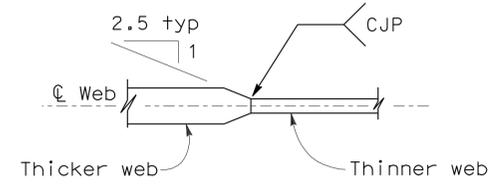
BRIDGE NO.	54-0482R
POST MILE	3.72

COLTON-LOMA LINDA OH RT (WIDEN)
GIRDER DETAILS NO. 13

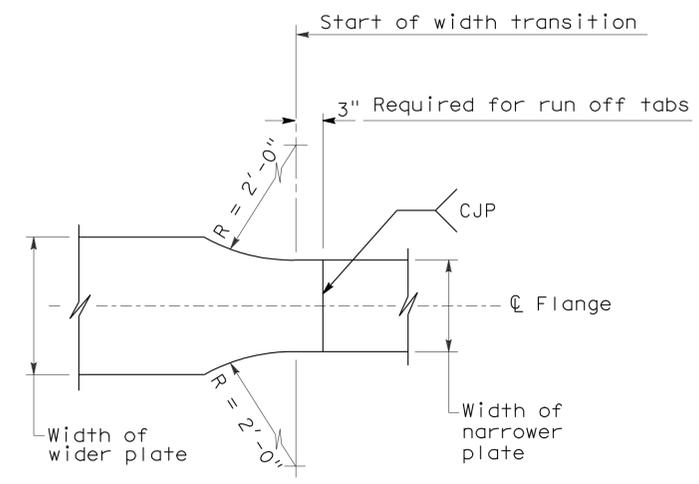
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1524	1743
 REGISTERED CIVIL ENGINEER			4-06-12	DATE	
4-16-12			PLANS APPROVAL DATE		
LARRY WU No. C57035 Exp. 6-30-11 CIVIL STATE OF CALIFORNIA					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



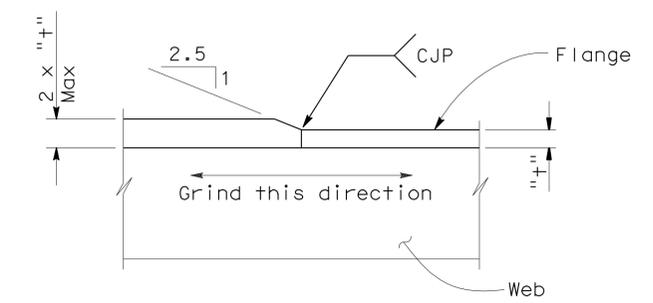
GIRDER SHOP SPLICE



WEB THICKNESS



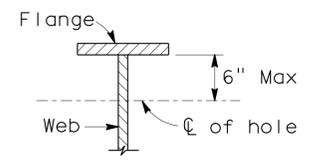
FLANGE WIDTH



FLANGE THICKNESS

NOTES:

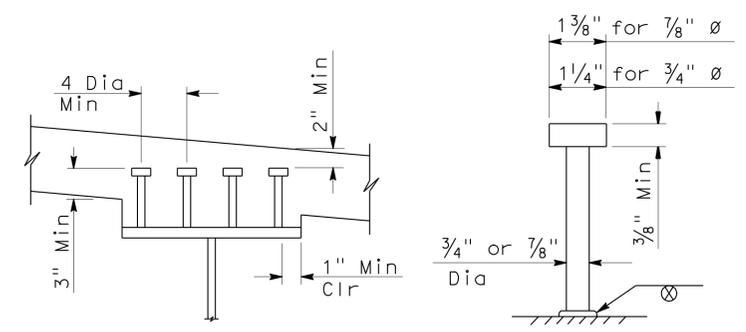
- Alternative girder splices may be permitted subject to approval by the Engineer.
- Web splices:
Grind all weld surfaces flush on the exterior face of exterior girders.
- Flange splices:
Grind all weld surfaces flush on tension flanges.
Grind all weld surfaces flush on compression flanges when required for non-destructive testing (NDT).
Grind all exterior weld surfaces flush on all bottom compression flanges.



1" Max diameter hole at 4' ± Min spacing to be used for falsework support when specified by the Contractor. Contractor to determine location, size and spacing.

2" Max diameter hole to be drilled where lighting conduit passes through girder web. For location and size of hole see "Road Plans".

HOLES FOR CONDUIT AND FALSEWORK



Lengths of studs to be determined by the Contractor, minimum length is 6".
Alternative types of shear connectors may be permitted subject to approval by the Engineer.

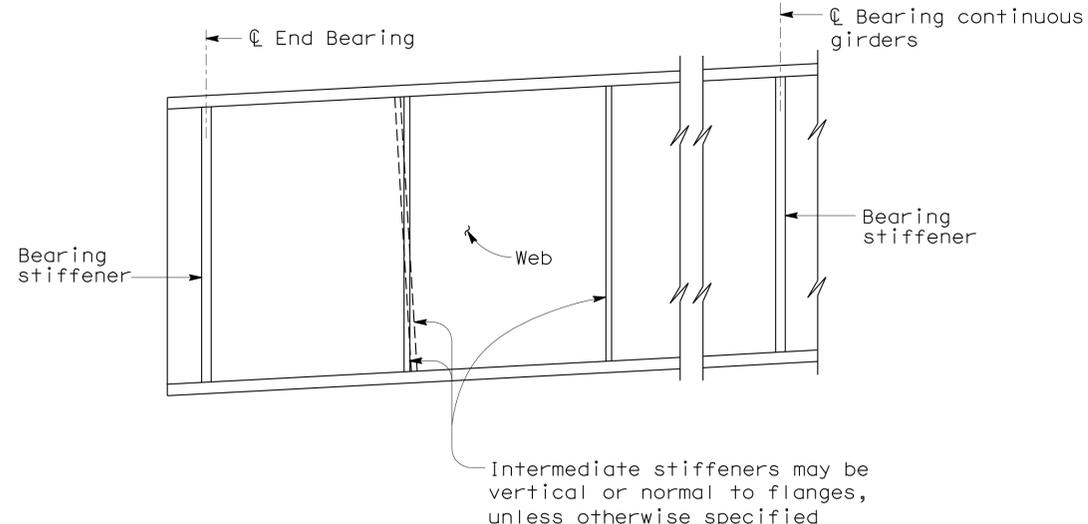
STUD CONNECTOR

NO SCALE

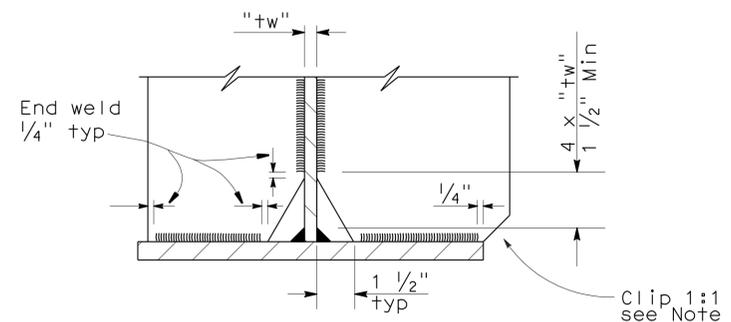
STANDARD DRAWING		APPROVED BY <u>Lian Duan</u> RESPONSIBLE TECHNICAL SPECIALIST	RELEASED BY <u>Susan Hida</u> RESPONSIBLE OFFICE CHIEF	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES	BRIDGE NO. 54-0482R	COLTON-LOMA LINDA OH RT (WIDEN)	
FILE NO. xs1-410-1	APPROVAL DATE <u>10-21-2009</u>	RELEASE DATE <u>- -</u>				POST MILE 3.72	STEEL GIRDER SHOP SPLICE AND STUD CONNECTOR DETAILS	
DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. (02-02-11))				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3	UNIT: 3589 PROJECT NUMBER & PHASE: 0800000506	CONTRACT NO.: 080M9401	DISREGARD PRINTS BEARING EARLIER REVISION DATES
							REVISION DATES	SHEET 40 OF 67

USERNAME => s124496 DATE PLOTTED => 18-APR-2012 TIME PLOTTED => 09:02

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1525	1743
 REGISTERED CIVIL ENGINEER			4-06-12	DATE	
4-16-12			PLANS APPROVAL DATE		
LARRY WU No. C57035 Exp. 6-30-11 CIVIL STATE OF CALIFORNIA					
<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>					

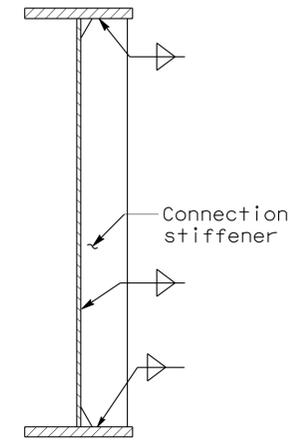


TRANSVERSE STIFFENERS



COPE AND WELDING DETAIL

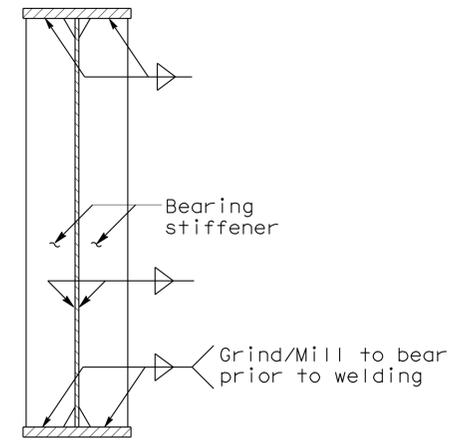
Note : Omit clip at bottom flange when less than 2"



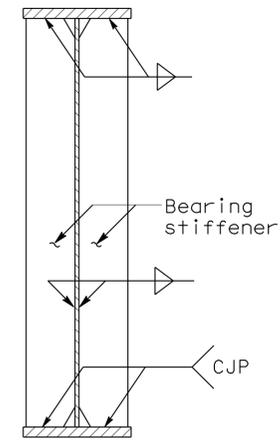
CONNECTION STIFFENER

NOTES:

- Under full dead load as shown on the camber diagram, girder ends and bearing stiffeners shall be vertical except they may be normal to grade for grades less than 2 percent.
- For intermediate stiffeners which have Cross Frames or Diaphragms attached, see xs1-410-3 "Steel Girder Connection Stiffener Details" sheet.
- For Bearing Stiffeners which have Cross Frames or Diaphragms attached, use details shown on this sheet. For top tension flange alternative connection see "Alternative 3 Bolted Connection" detail on xs1-410-3 "Steel Girder Connection Stiffener Details" sheet. See Project Plan sheets for locations where bolted connection is required.
- For stiffener sizes see Project Plan sheets.
- Fillet Weld size to be minimum size from Project Specifications unless otherwise shown on Project Plan sheets.

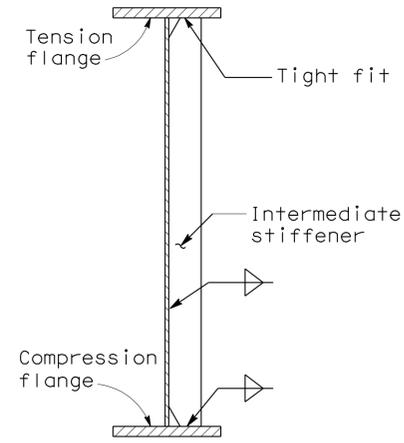
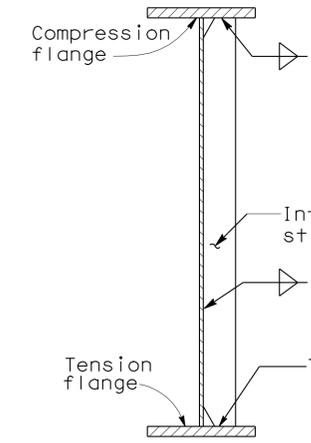


ALTERNATIVE 1



ALTERNATIVE 2

BEARING STIFFENER



INTERMEDIATE STIFFENER

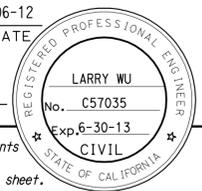
(Without Cross Frame attached)
(One-side stiffener shown, other side similar)

NO SCALE

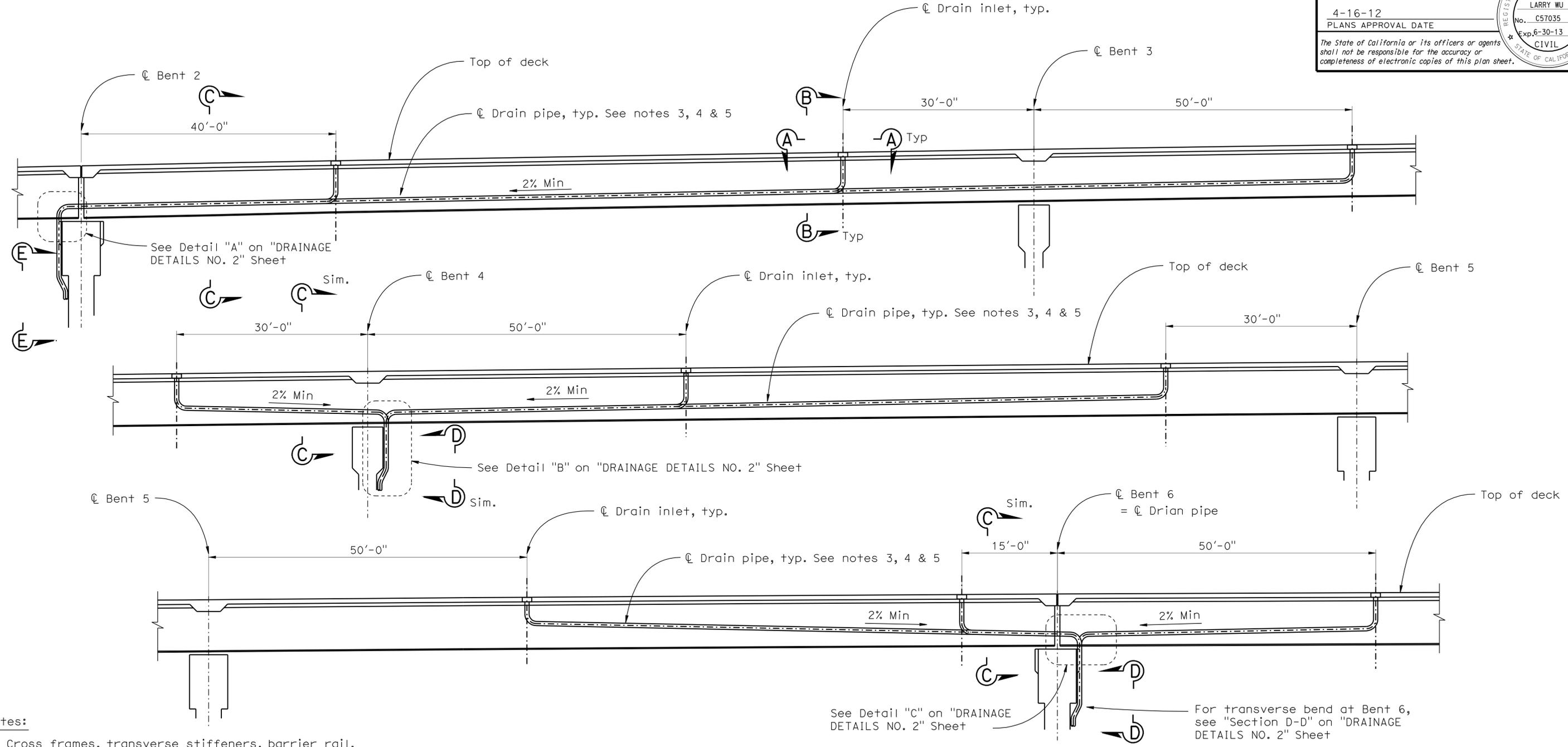
REVISED STANDARD DRAWING		 Added Detail
FILE NO. xs1-410-2	APPROVED BY <u>Lian Duan</u> RESPONSIBLE TECHNICAL SPECIALIST	
APPROVAL DATE <u>10-21-2009</u>	RELEASED BY <u>Susan Hida</u> RESPONSIBLE OFFICE CHIEF	

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES
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BRIDGE NO. 54-0482R	COLTON-LOMA LINDA OH RT (WIDEN)
POST MILE	
STEEL GIRDER TRANSVERSE STIFFENER DETAILS	

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1526	1743
 REGISTERED CIVIL ENGINEER			4-06-12 DATE		
4-16-12 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					

Note: For vertical and lateral clearances see "DRAIN DETAIL NO. 2" Sheet



Notes:

1. Cross frames, transverse stiffeners, barrier rail, shear keys and pipe anchors not shown for clarity.
2. Horizontal measurements at top of deck align with new edge of deck.
3. Hangers spaced at 8 feet maximum and at 4 feet maximum offset from vertical pipe centerline.

Note: Elevation at Girder 1 facing new edge of deck shown.

DRAINAGE ELEVATION

$\frac{1}{8}'' = 1'-0''$

4. All steel piping NPS 8 x .148" with 1/4" minimum sleeve wall thickness.
5. Continuous steel piping align with edge of deck to incline vertically towards nearest drainage inlet at minimum 2% slope from horizontal.
6. All steel piping bends at 1'-6" minimum radius to pipe centerline.

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

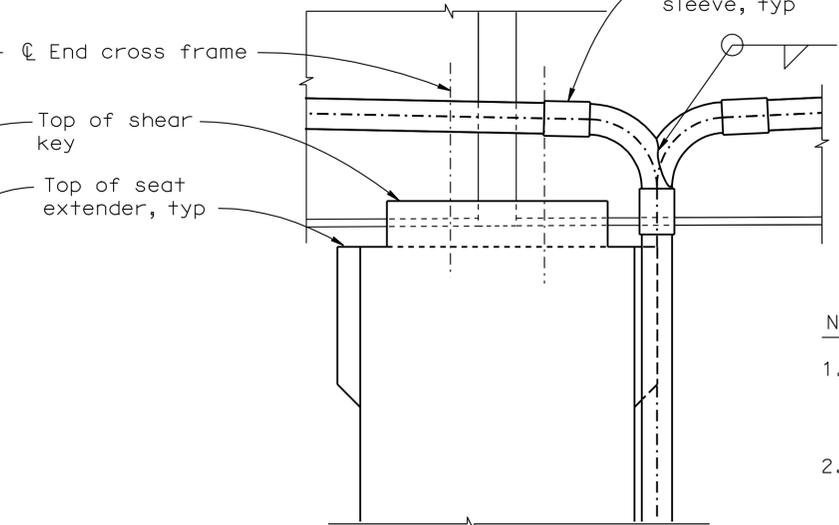
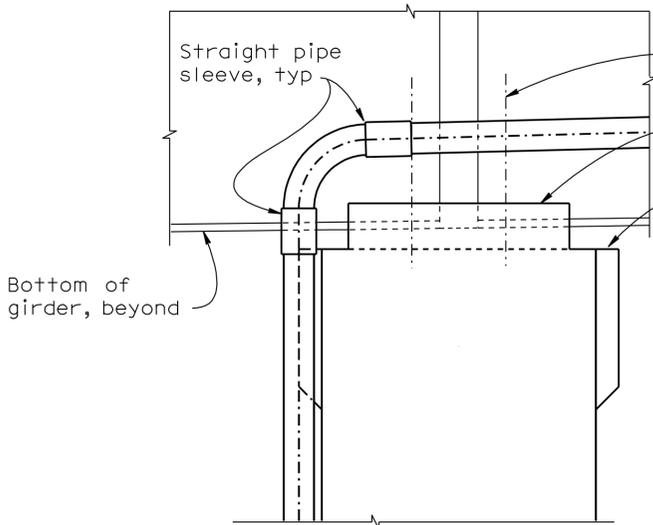
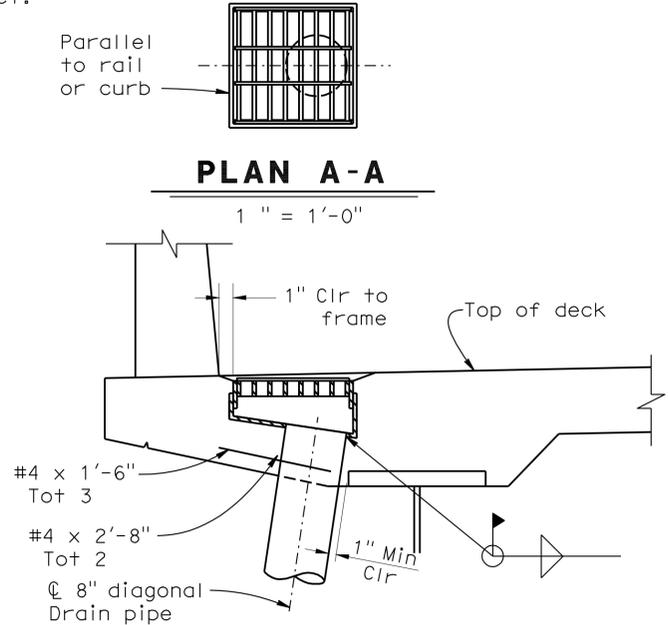
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY J. Szabo	CHECKED R. Stiltz	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO.	54-0482R	COLTON-LOMA LINDA OH RT (WIDEN) DRAIN DETAIL NO. 1
	DETAILS	BY J. Szabo	CHECKED J. Szabo			POST MILE	3.72	
	QUANTITIES	BY J. Szabo	CHECKED R. Stiltz			UNIT: 3589	PROJECT NUMBER & PHASE: 0800000506	

USERNAME => s124496 DATE PLOTTED => 18-APR-2012 TIME PLOTTED => 09:03

Note: For drainage inlet details not shown see Standard Plans "B7-6" sheet.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1527	1743

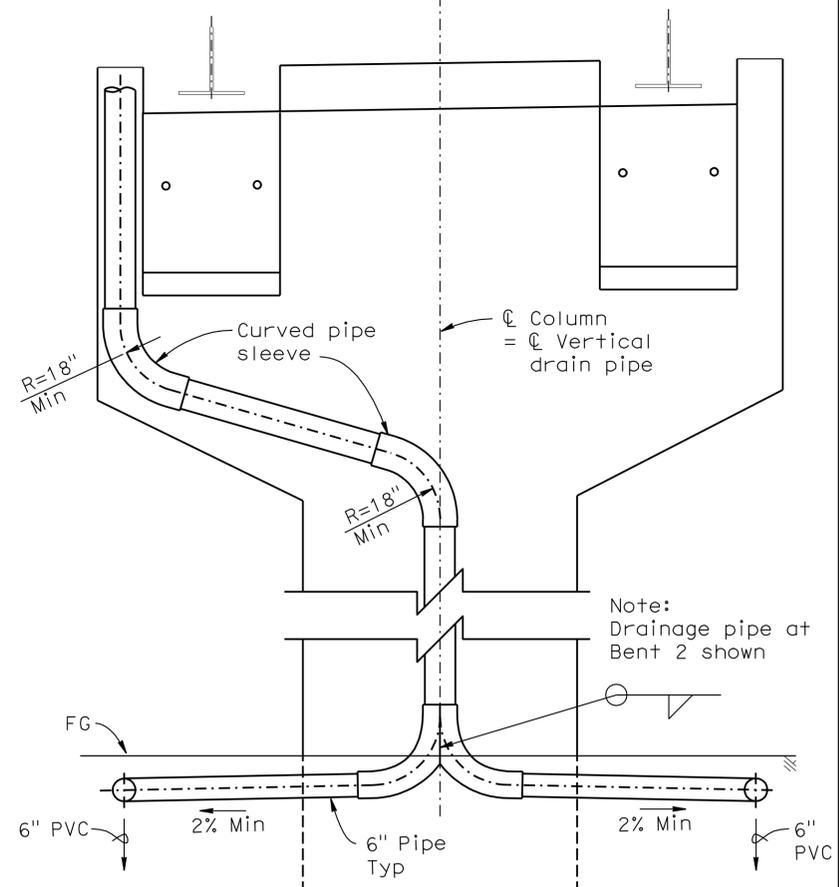
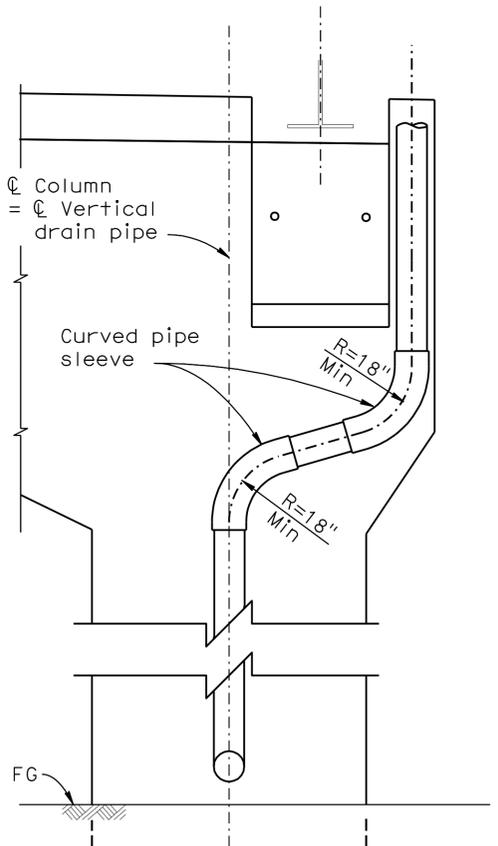
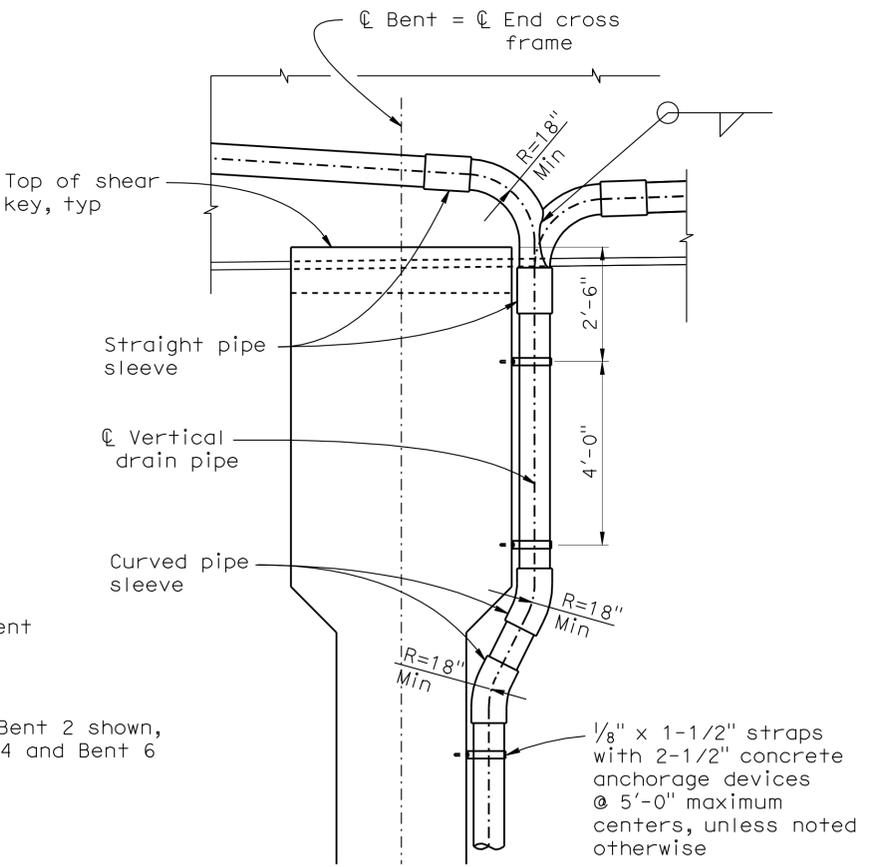
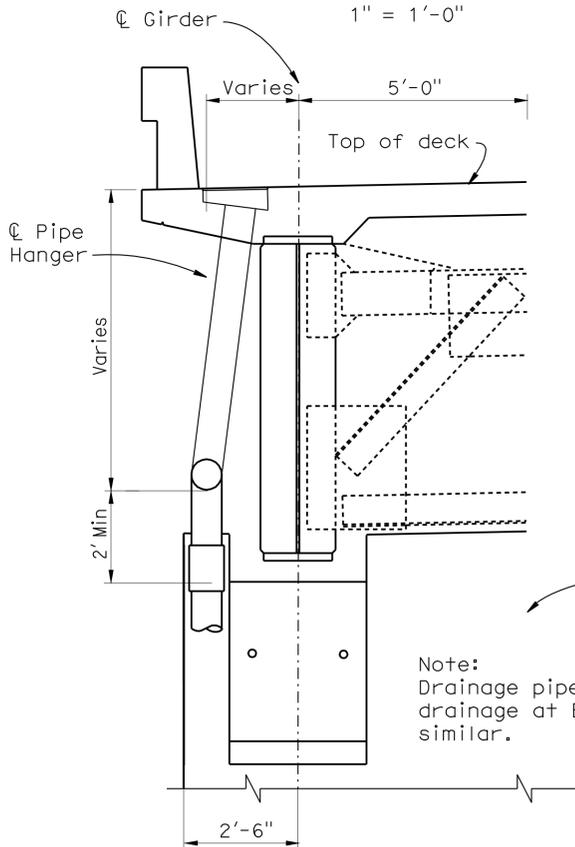
REGISTERED CIVIL ENGINEER: **LARRY WU**
 No. C57035
 Exp. 6-30-13
 CIVIL
 STATE OF CALIFORNIA
 DATE: 4-06-12
 PLANS APPROVAL DATE: 4-16-12
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



Note: Drainage pipe at Bent 2 shown

Note: Drainage pipe at Bent 6 shown

- Notes:
- For Pipe Hangers, Pipe Sleeves & Drain Outlets see "DRAIN DETAILS NO.3" sheet
 - All pipe and pipe sleeves not encased in concrete to maintain 3" radial clearance from cross frame chords, braces & plates extending between girders.
 - All lateral steel piping, sleeves and flares to incline at a minimum 2% slope from horizontal.



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

Note: Drainage pipe at Bent 4 shown

Note: Drainage pipe at Bent 6 shown, drainage at Bent 4 similar.

Note: Drainage pipe at Bent 2 shown

DESIGN	BY J. Szabo	CHECKED R. Stiltz
DETAILS	BY J. Szabo	CHECKED J. Szabo
QUANTITIES	BY J. Szabo	CHECKED R. Stiltz

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 10

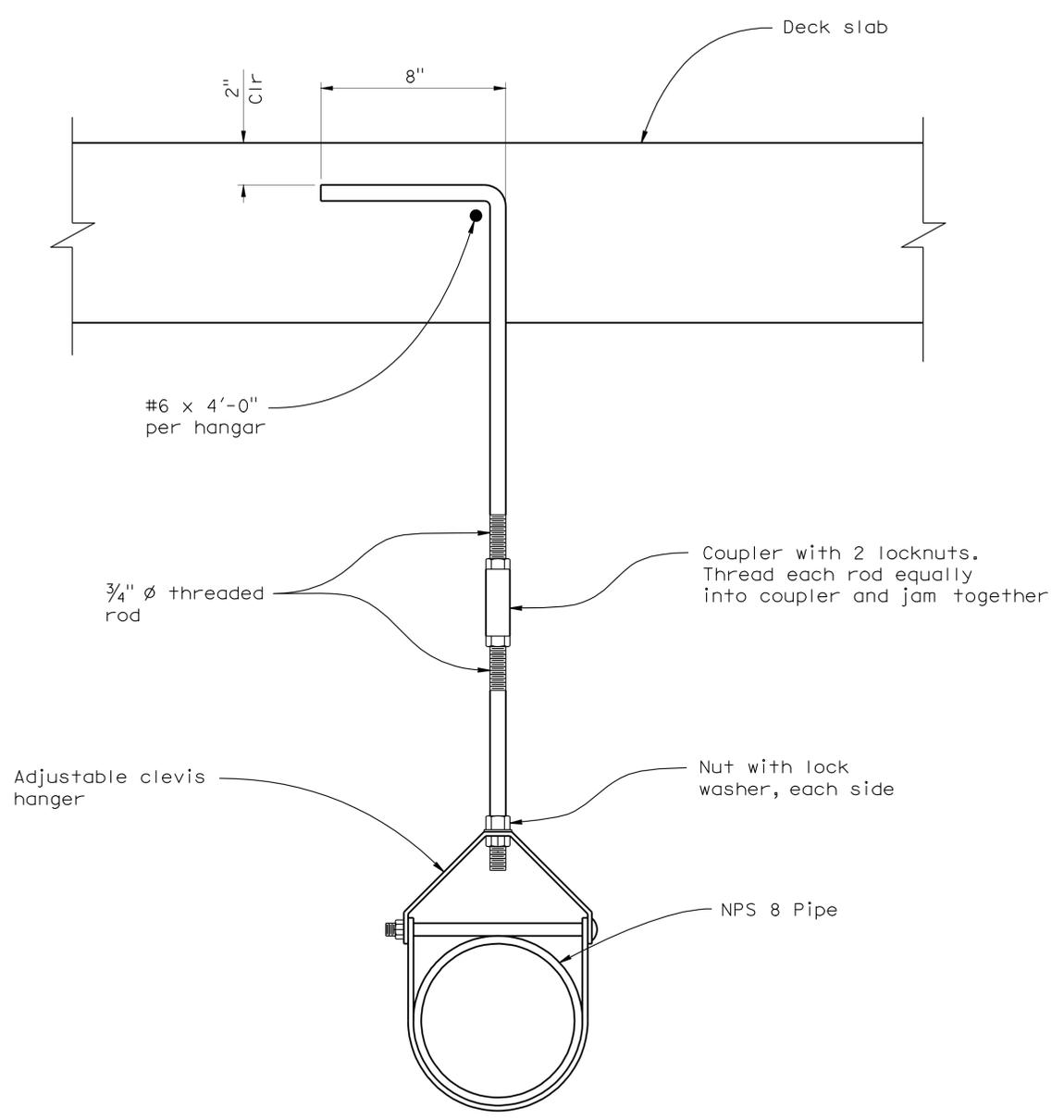
BRIDGE NO. 54-0482R
POST MILE 3.72

COLTON-LOMA LINDA OH RT (WIDEN)
DRAIN DETAIL NO.2

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1528	1743

REGISTERED CIVIL ENGINEER **LARRY WU** DATE **4-06-12**
 PLANS APPROVAL DATE **4-16-12**
 No. **C57035**
 Exp. **6-30-13**
 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.

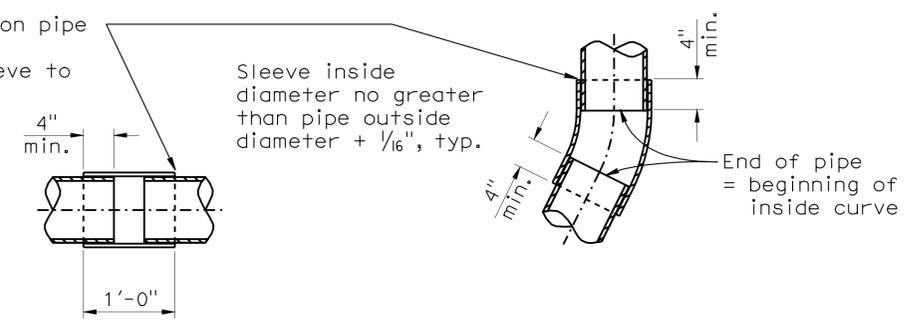


PIPE HANGER DETAIL
No Scale

Note:

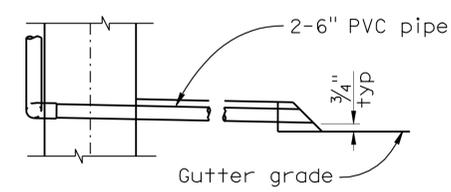
All pipe to be NPS 8 x .148" weld steel pipe except as noted and galvanized if not encased in concrete. Fittings and bends shall have a minimum wall thickness of 1/4". All joints or connections to be butt welded or connected by a steel pipe sleeve and to be smooth throughout inside of pipe except as noted. All bends to be on 1'-6" minimum radius measured along centerline of pipe. All bends to be smooth. Pipes not encased in concrete to be supported by suitable galvanized hangers @ 8'-0" maximum spacing throughout. Galvanize deck drain assembly after fabrication.

Apply adhesive sealant on pipe periphery to seal joint. Secure each end of sleeve to pipe with 3-#10-24 x 1/2" self tapping hex head screws.

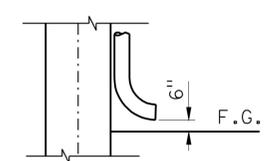


STRAIGHT SLEEVE CONNECTION
No Scale

CURVED SLEEVE CONNECTION
No Scale



AT BENT 2



AT BENT 4 & BENT 6

DRAIN OUTLET
No Scale

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

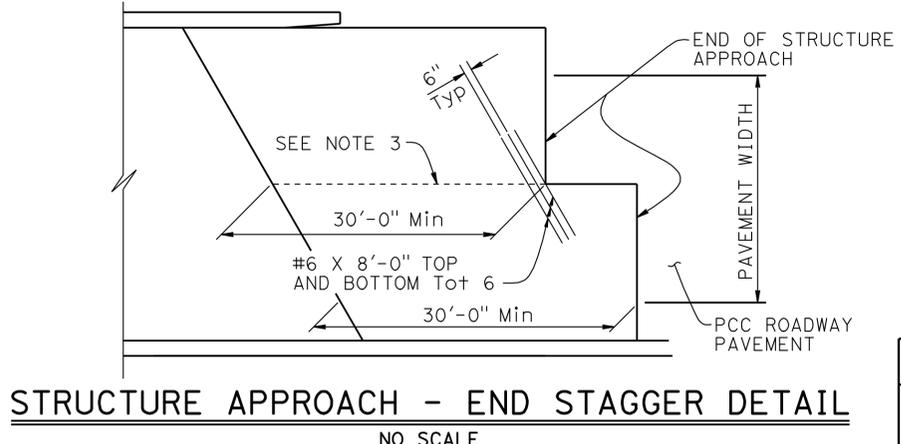
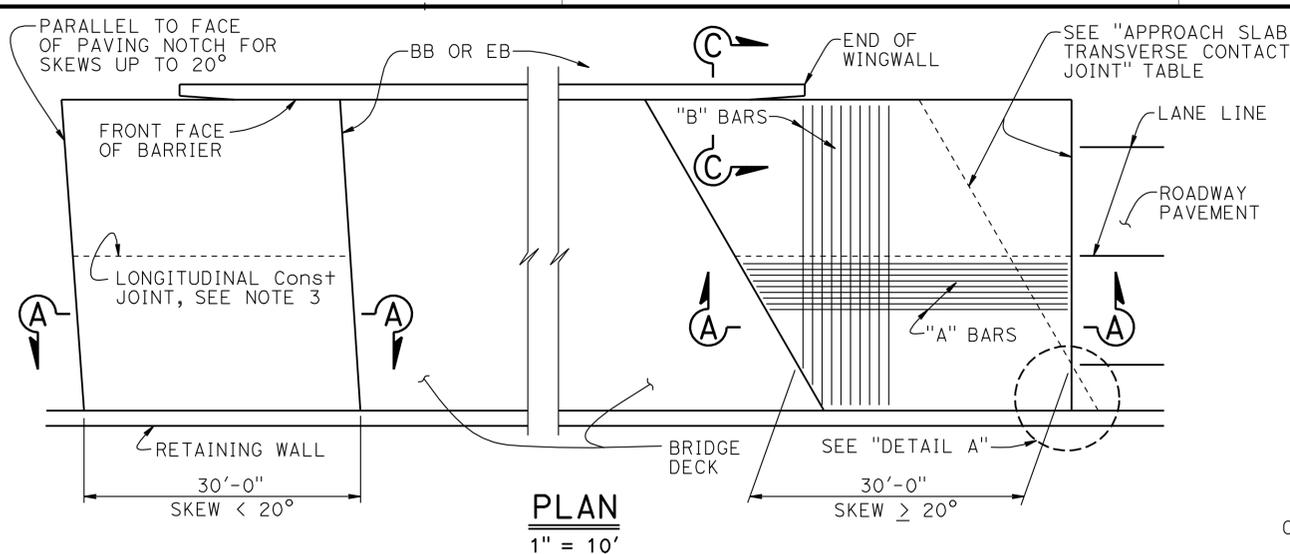
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY J. Szabo	CHECKED R. Stiltz	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO.	COLTON-LOMA LINDA OH RT (WIDEN) DRAIN DETAIL NO. 3			
	DETAILS	BY J. Szabo	CHECKED J. Szabo			54-0482R				
	QUANTITIES	BY J. Szabo	CHECKED R. Stiltz			POST MILE 3.72				
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS					UNIT: 3589	PROJECT NUMBER & PHASE: 0800000506	CONTRACT NO.: 08-0M9401	REVISION DATES	SHEET 44	OF 67

USERNAME => s124496 DATE PLOTTED => 18-APR-2012 TIME PLOTTED => 09:03

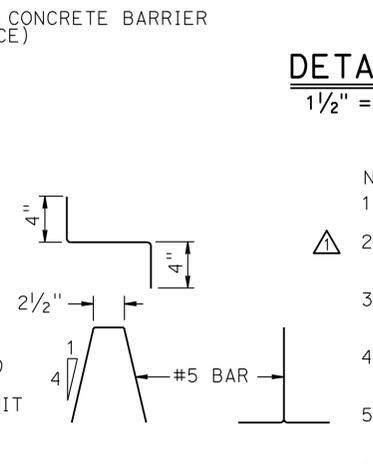
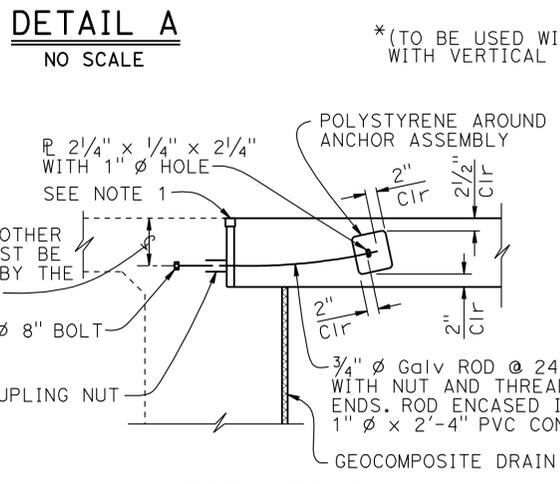
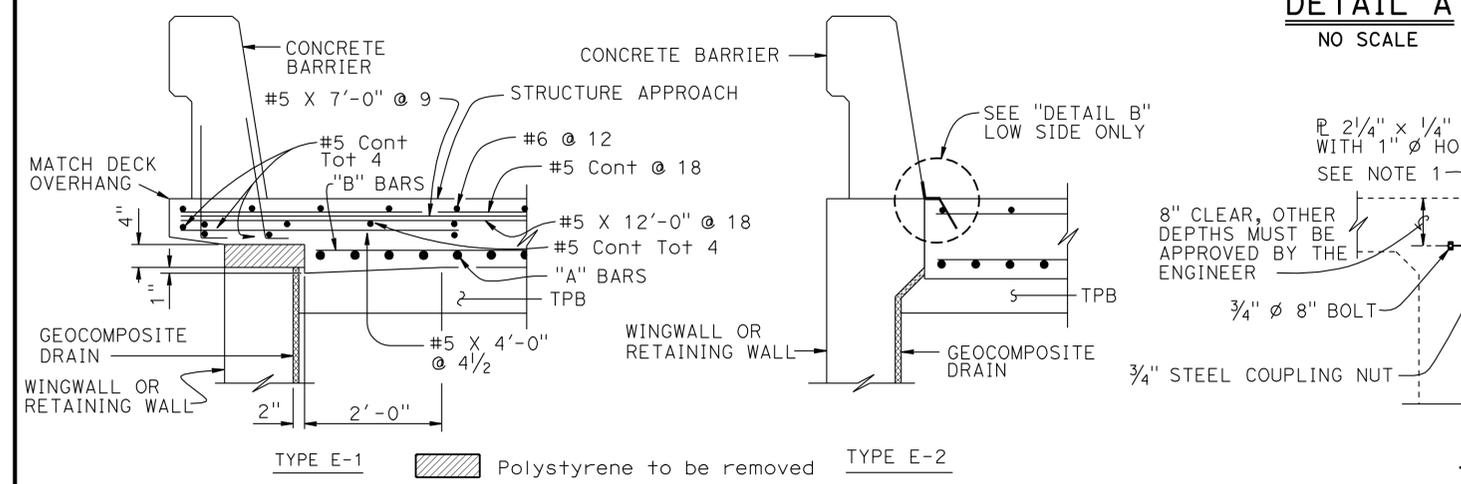
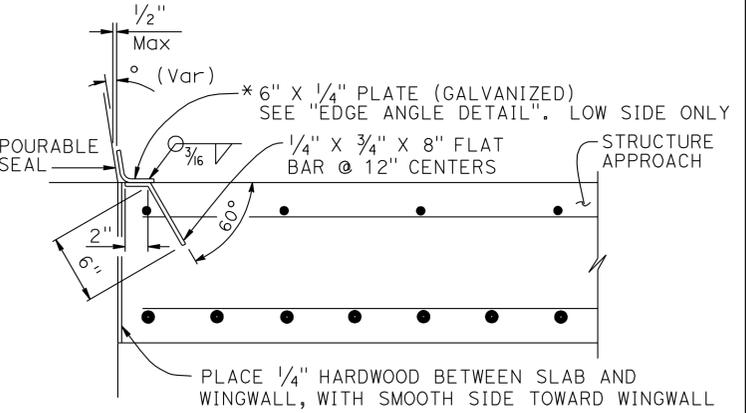
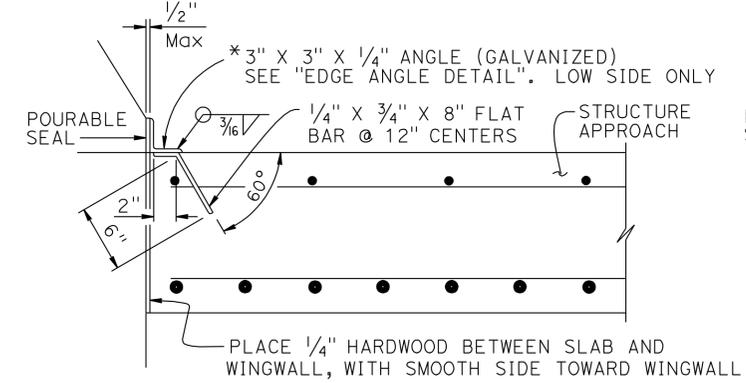
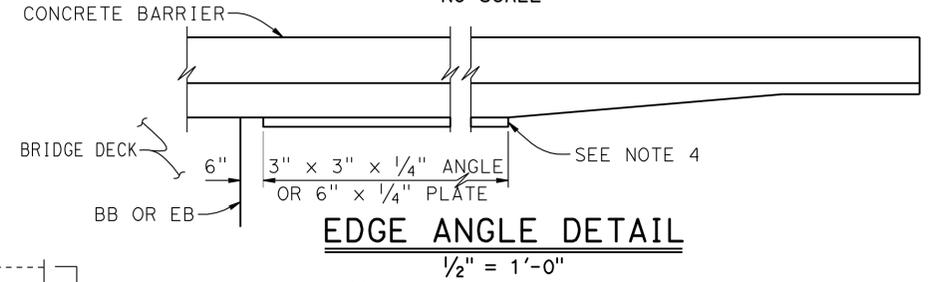
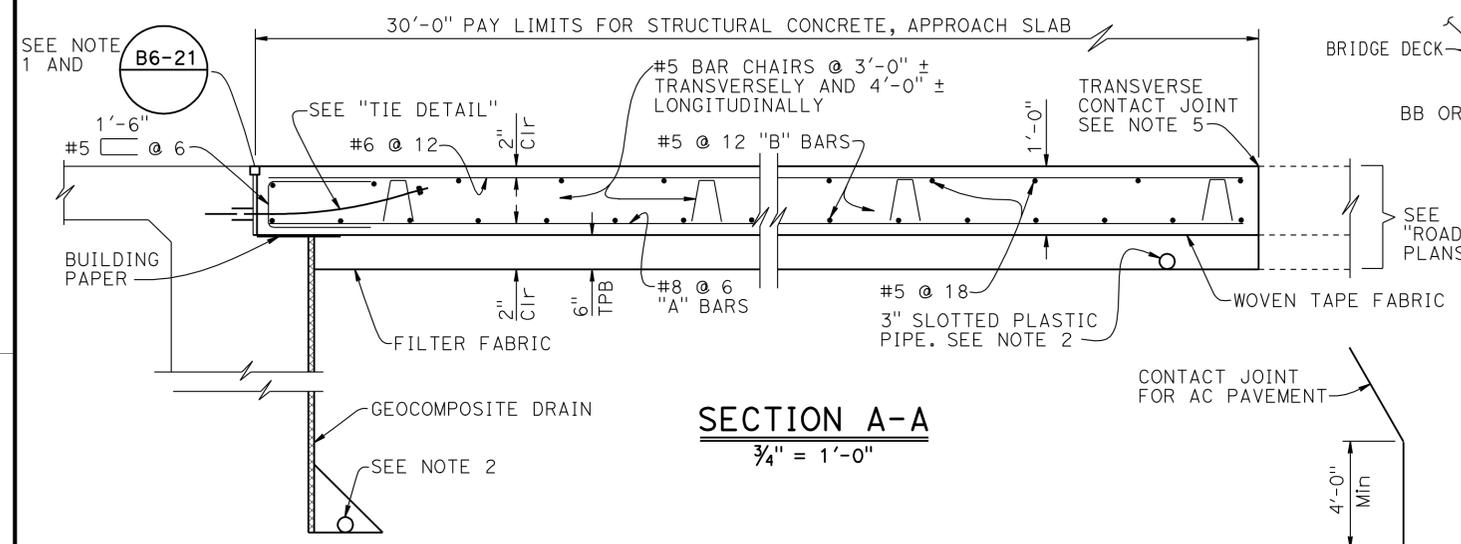
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1529	1743

REGISTERED CIVIL ENGINEER
 LARRY WU
 No. C57035
 Exp. 6-30-13
 CIVIL
 STATE OF CALIFORNIA

4-06-12 DATE
 4-16-12 PLANS APPROVAL DATE
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



APPROACH SLAB TRANSVERSE CONTACT JOINT		
APPROACH SKEW	WITH AC ROADWAY PAVEMENT	WITH PCC ROADWAY PAVEMENT
< 20°	PARALLEL TO FACE OF PN	PARALLEL TO FACE OF PN
20° - 45°	PARALLEL TO FACE OF PN USE "DETAIL A"	STAGGER LINES 24' TO 36' APART
> 45°	PARALLEL TO FACE OF PN USE "DETAIL A"	STAGGER AT EACH LANE LINE



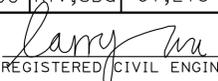
- NOTES:
- For details not noted or shown, see Structure Plans
 - For drainage details, see "ABUTMENT DETAILS NO. 3" sheet
 - Longitudinal construction joints, when permitted by the Engineer, shall be located on lane lines
 - End angle or plate at beginning of barrier transition, end of wingwall or end 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 C roadway

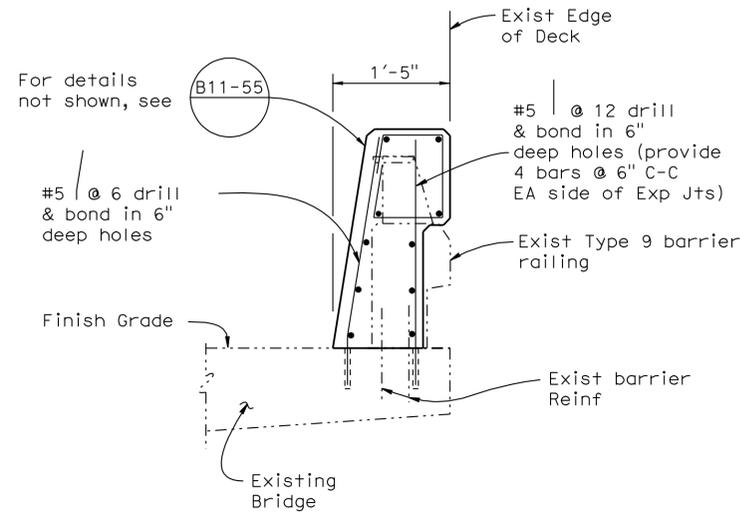
REVISED STANDARD DRAWING
 FILE NO. **xs3-140**
 APPROVAL DATE July 2011

Changed Note 2

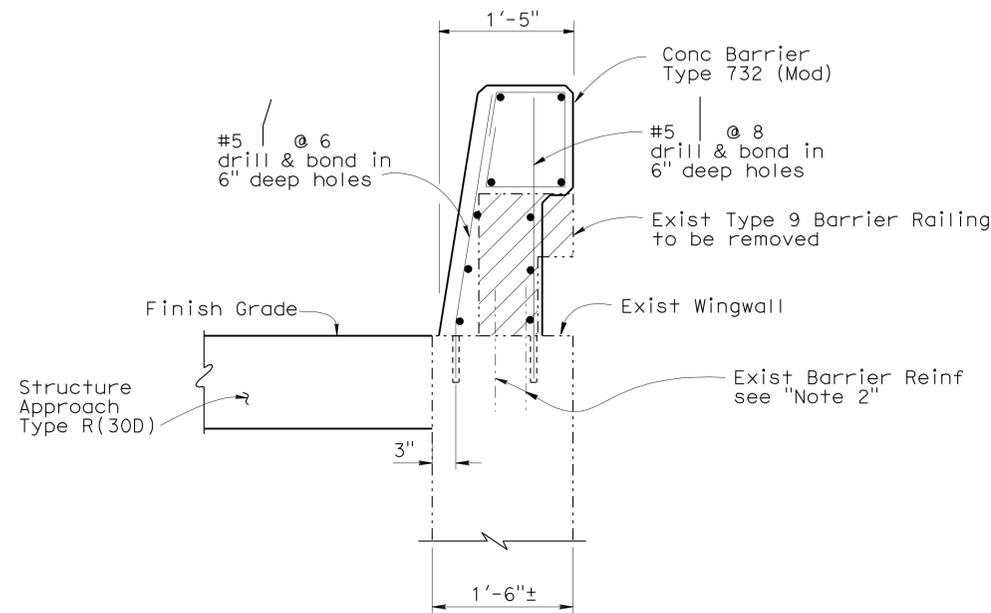
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 54-0482R
 POST MILE 3.72
COLTON-LOMA LINDA OH RT (WIDEN)
STRUCTURE APPROACH TYPE N(30D)

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1531	1743
 REGISTERED CIVIL ENGINEER			4-06-12 DATE		
4-16-12 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



**SECTION
BARRIER ON BRIDGE**
1" = 1'-0"



BARRIER ON EXISTING WINGWALL (ABUTMENT 1)
No Scale

NOTES:

- For barrier details not shown, see .
- Where exist barrier railing reinforcement will have required concrete cover in new barrier, exist barrier reinforcement may remain; where concrete cover is not available, cut reinforcement 1" below exist concrete surface and patch with epoxy or grout.
- Locations of drilled holes shown in the plans are approximate. Prior to placing holes in concrete, the contractor shall locate all reinforcing steel and adjust the location of the holes to clear all reinforcing bars (except as noted). Final hole locations are subject to the approval of the Engineer.

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

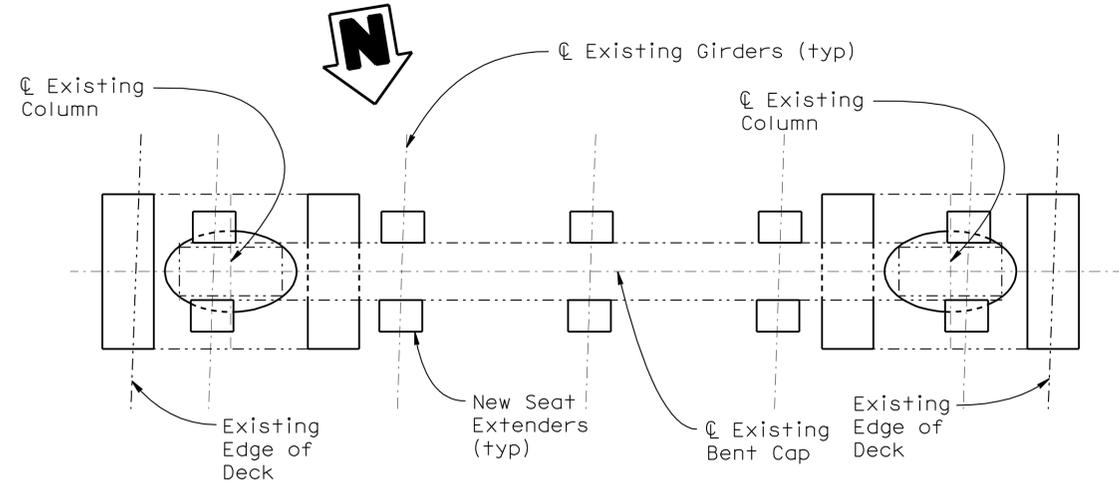
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY J. Szabo	CHECKED R. Stiltz	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO.	54-0482R	COLTON-LOMA LINDA OH RT (WIDEN) CONCRETE BARRIER TYPE 732 (MOD)
	DETAILS	BY D. Wooten	CHECKED J. Szabo			POST MILE	3.72	
	QUANTITIES	BY J. Szabo	CHECKED R. Stiltz					
				UNIT: 3589	PROJECT NUMBER & PHASE: 0800000506	CONTRACT NO.: 08-0M9401	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES SHEET 47 OF 67

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



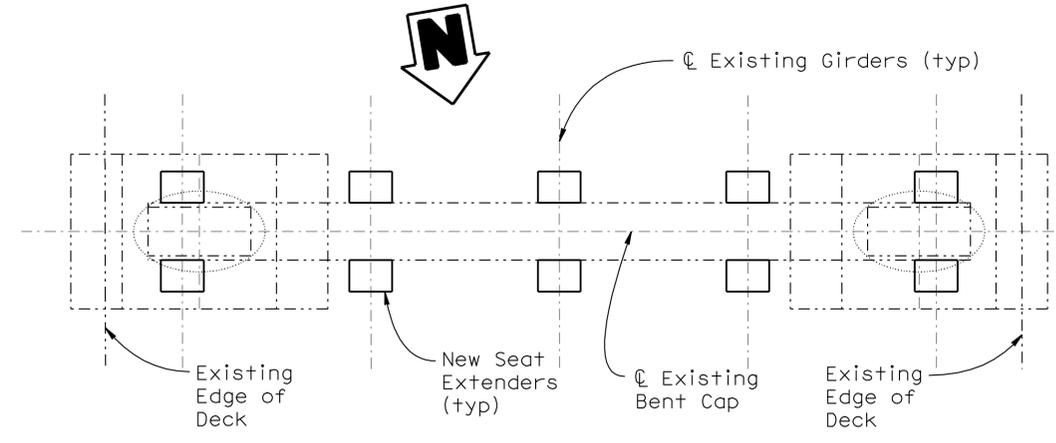
TIME PLOTTED => 09:03
 DATE PLOTTED => 18-APR-2012
 USERNAME => s124496

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1533	1743
 REGISTERED CIVIL ENGINEER			4-06-12 DATE		
4-16-12 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



PLAN - BENT 2 (RETROFIT)

3/16" = 1'-0"

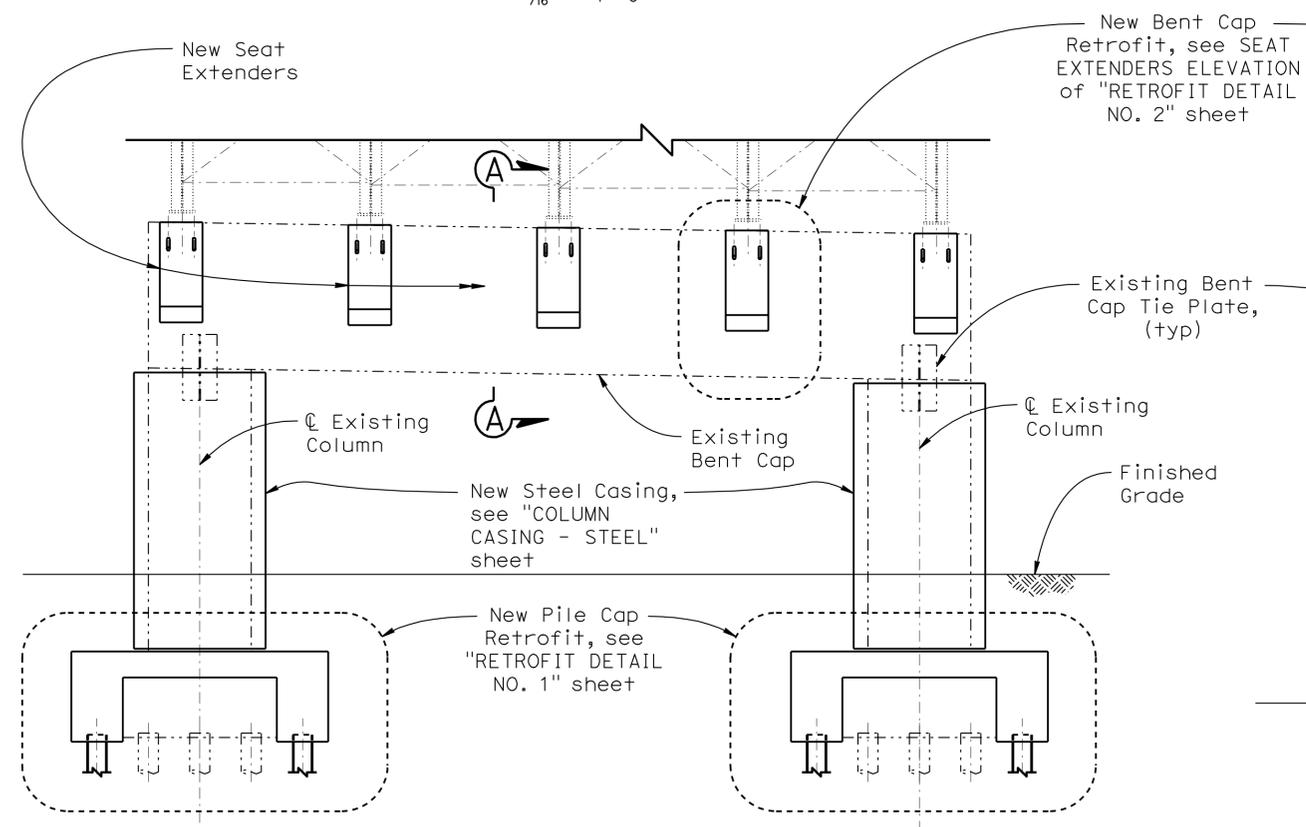


PLAN - BENT 6 (RETROFIT)

3/16" = 1'-0"

- LEGEND:**
- Indicates new construction
 - - - Indicates existing structure

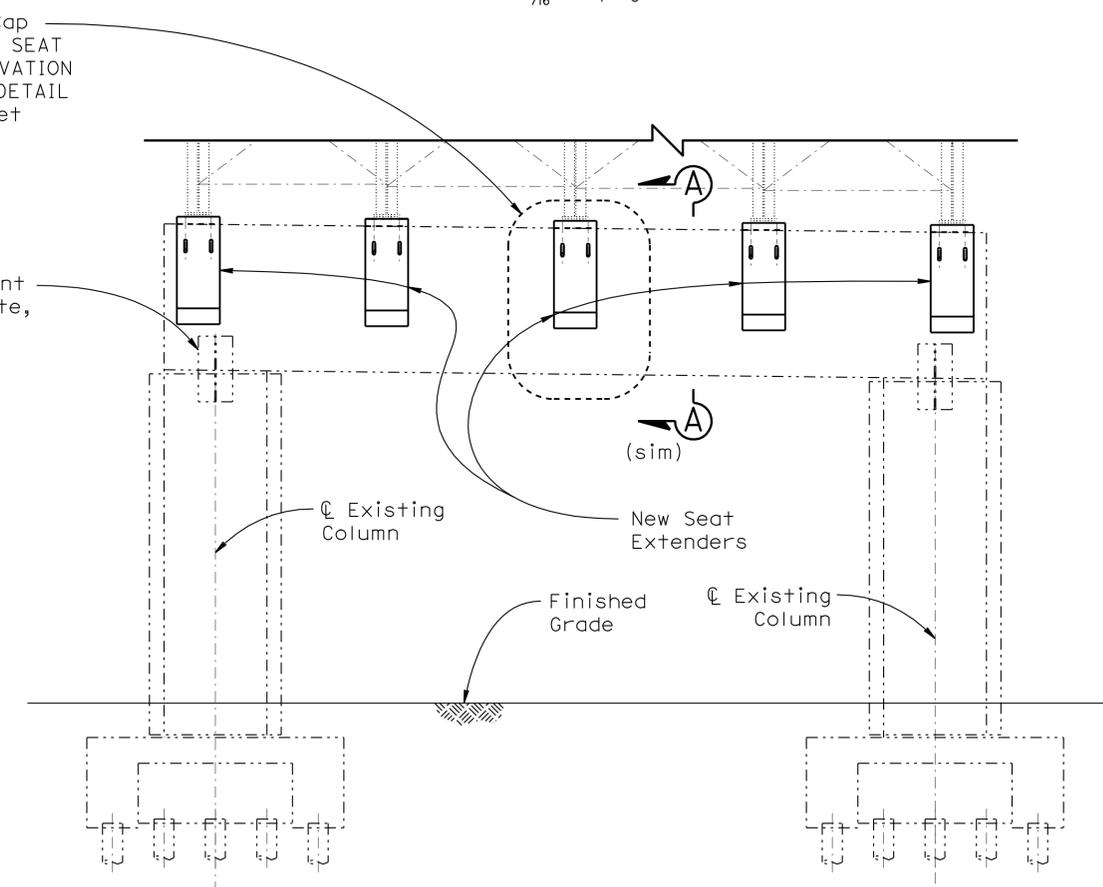
- NOTES:**
- For New Pile Cap Footing, see "RETROFIT DETAILS NO. 1" sheet
 - For new Steel Casing, see "COLUMN CASING - STEEL" sheet.
 - For SECTION A-A, see "RETROFIT DETAILS NO. 2" sheet.
 - New bridge widening not shown for clarity.



Note: Elevation shown facing Abut 1 at Beginning of Bridge (BB)

ELEVATION - BENT 2 (RETROFIT)

3/16" = 1'-0"



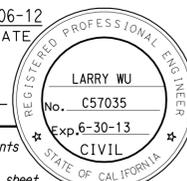
Note: Elevation shown facing Abut 1 at Beginning of Bridge (BB)

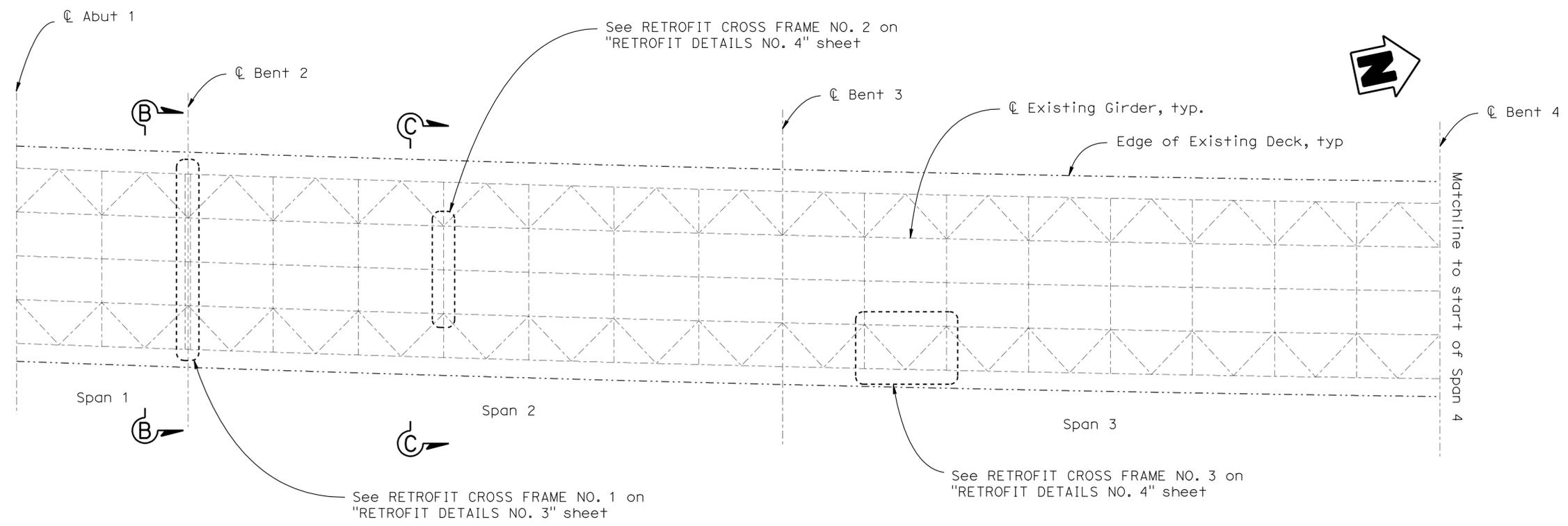
ELEVATION - BENT 6 (RETROFIT)

3/16" = 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 J. Szabo	CHECKED R. Stiltz	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO.	54-0482R	COLTON-LOMA LINDA OH RT (WIDEN) RETROFIT LAYOUT NO. 1
	DETAILS	BY J. Szabo	CHECKED D. Wooten			POST MILE	3.72	
	QUANTITIES	BY J. Szabo	CHECKED R. Stiltz			UNIT: 3589	PROJECT NUMBER & PHASE: 0800000506	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				0 1 2 3		DISREGARD PRINTS BEARING EARLIER REVISION DATES		

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1534	1743
 REGISTERED CIVIL ENGINEER			4-06-12 DATE		
4-16-12 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					

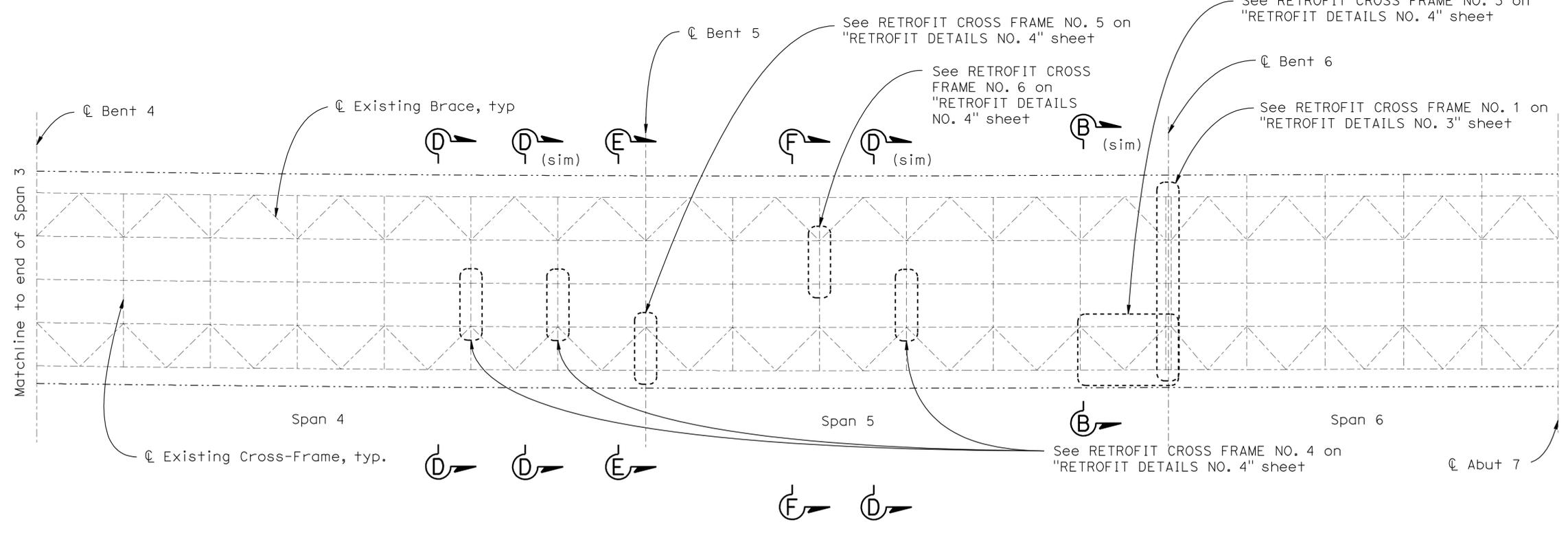


LEGEND:

----- Indicates existing frame and brace centerlines

----- Indicates existing structure

- NOTES:**
- Contractor to verify locations of cracked or failing braces and connectors including and in addition to the locations shown herein.
 - For SECTION B-B, see "RETROFIT DETAILS NO. 3" sheet.
 - For SECTION C-C, D-D, E-E and F-F, see "RETROFIT DETAILS NO. 4" sheet.



Note: New widening portion not shown for clarity

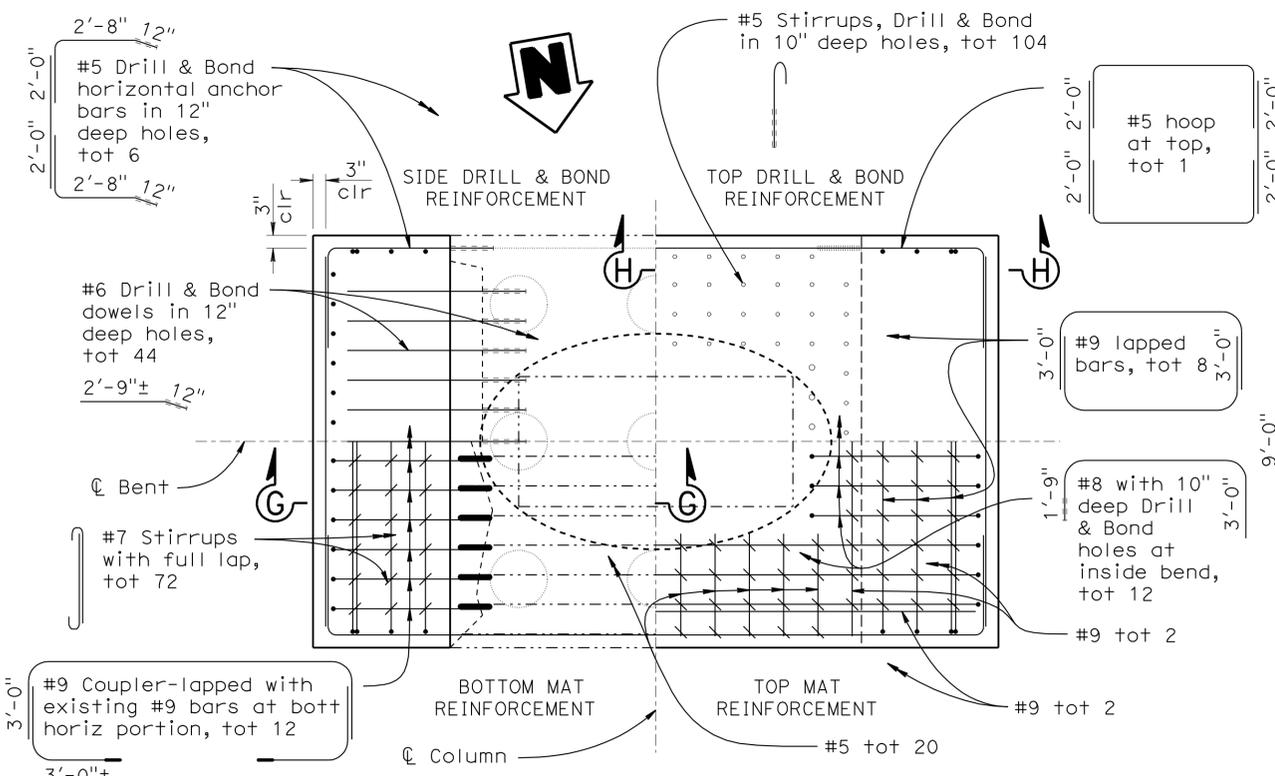
BRACING LAYOUT (RETROFIT) MIRROR PLAN

1/16" = 1'-0"

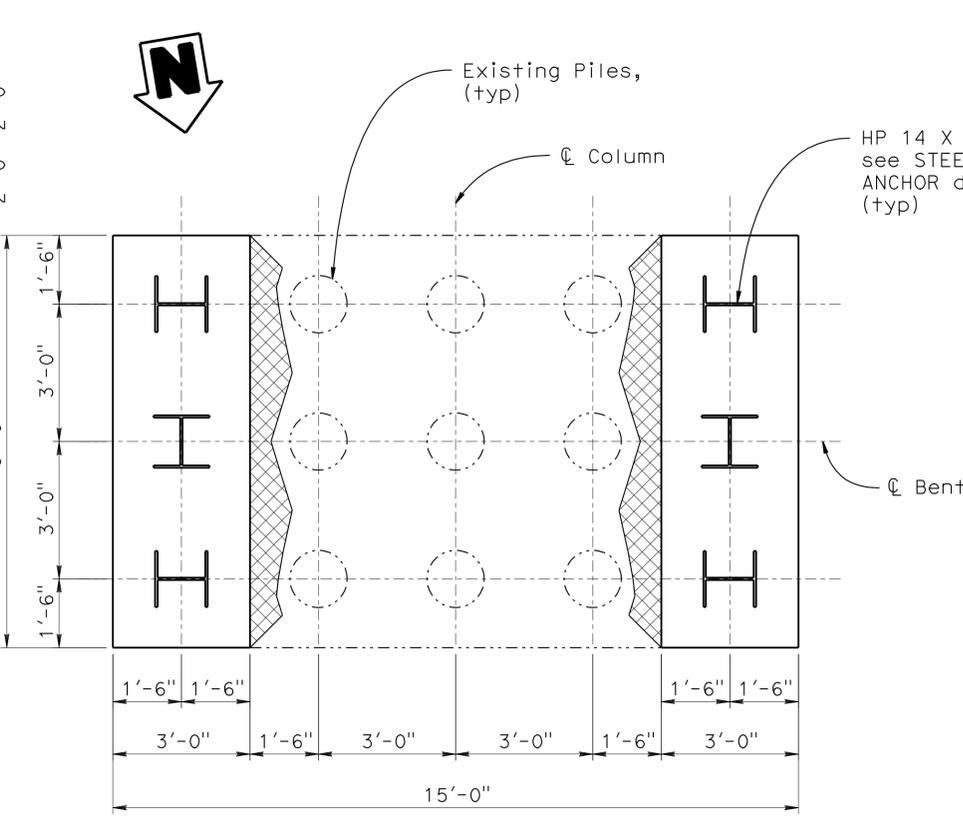
NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY J. Szabo	CHECKED R. Stiltz	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO.	54-0482R	COLTON-LOMA LINDA OH RT (WIDEN) RETROFIT LAYOUT NO. 2	
	DETAILS	BY J. Szabo	CHECKED D. Wooten			POST MILE	3.72		
	QUANTITIES	BY J. Szabo	CHECKED R. Stiltz			UNIT: 3589	PROJECT NUMBER & PHASE: 0800000506		CONTRACT NO.: 08-0M9401

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1535	1743
 REGISTERED CIVIL ENGINEER			4-06-12	DATE	
4-16-12 PLANS APPROVAL DATE					
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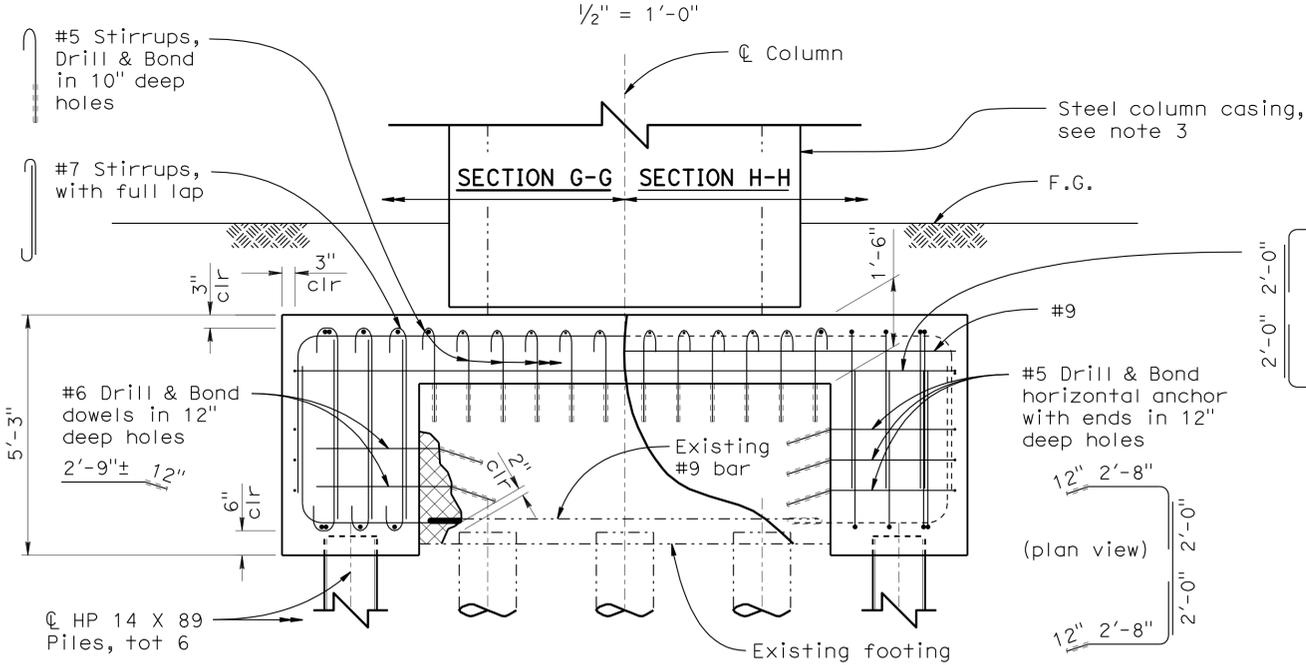
FOOTING PLAN - BENT 2 (RETROFIT)



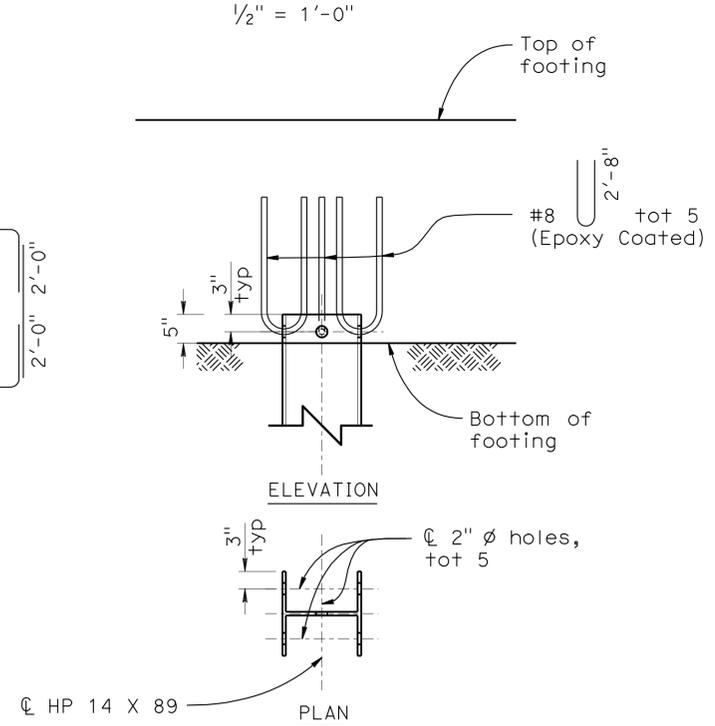
PILE LAYOUT - BENT 2 (RETROFIT)

- LEGEND:**
-  Indicates concrete removal
 -  Indicates concrete fill
 -  Indicates new construction
 -  Indicates existing structure
 -  Indicates reinforcement mechanical coupler
 -  Indicates HP 14 X 89 Pile
 -  Indicates Existing Pile

- NOTES:**
- For location of Pile Cap (Retrofit), see "RETROFIT LAYOUT NO. 1" sheet.
 - Pile Cap (Retrofit) at Existing Column 1 shown, Pile Cap (Retrofit) at Existing Column 2 similar.
 - For New Column Casing above Pile Cap (Retrofit), see "COLUMN CASING - STEEL" sheet.



ELEVATION - BENT 2 (RETROFIT)



STEEL PILE ANCHOR

No Scale

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

DESIGN	BY J. Szabo	CHECKED R. Stiltz
DETAILS	BY J. Szabo	CHECKED D. Wooten
QUANTITIES	BY J. Szabo	CHECKED R. Stiltz

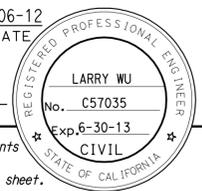
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

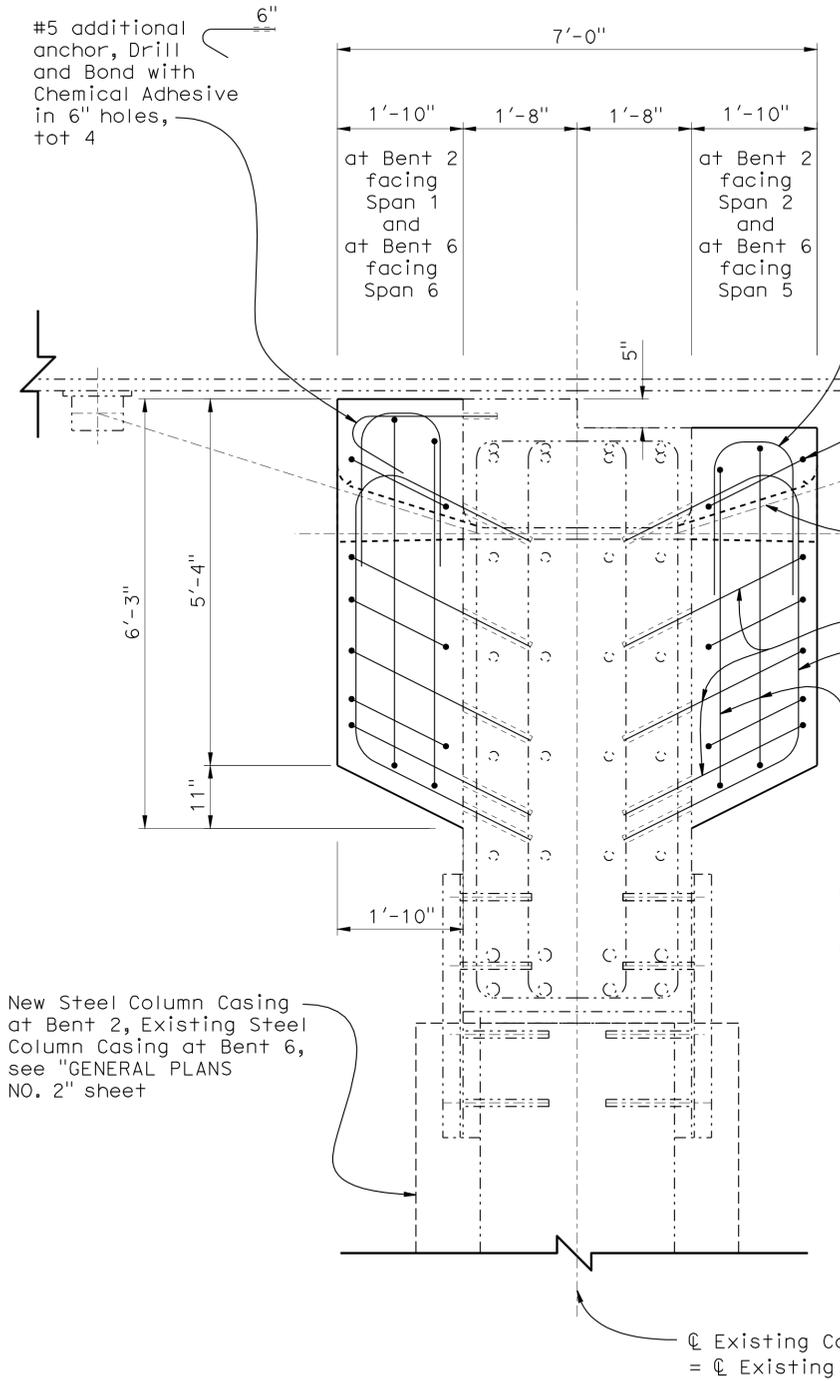
DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 10

BRIDGE NO.	54-0482R
POST MILE	3.72

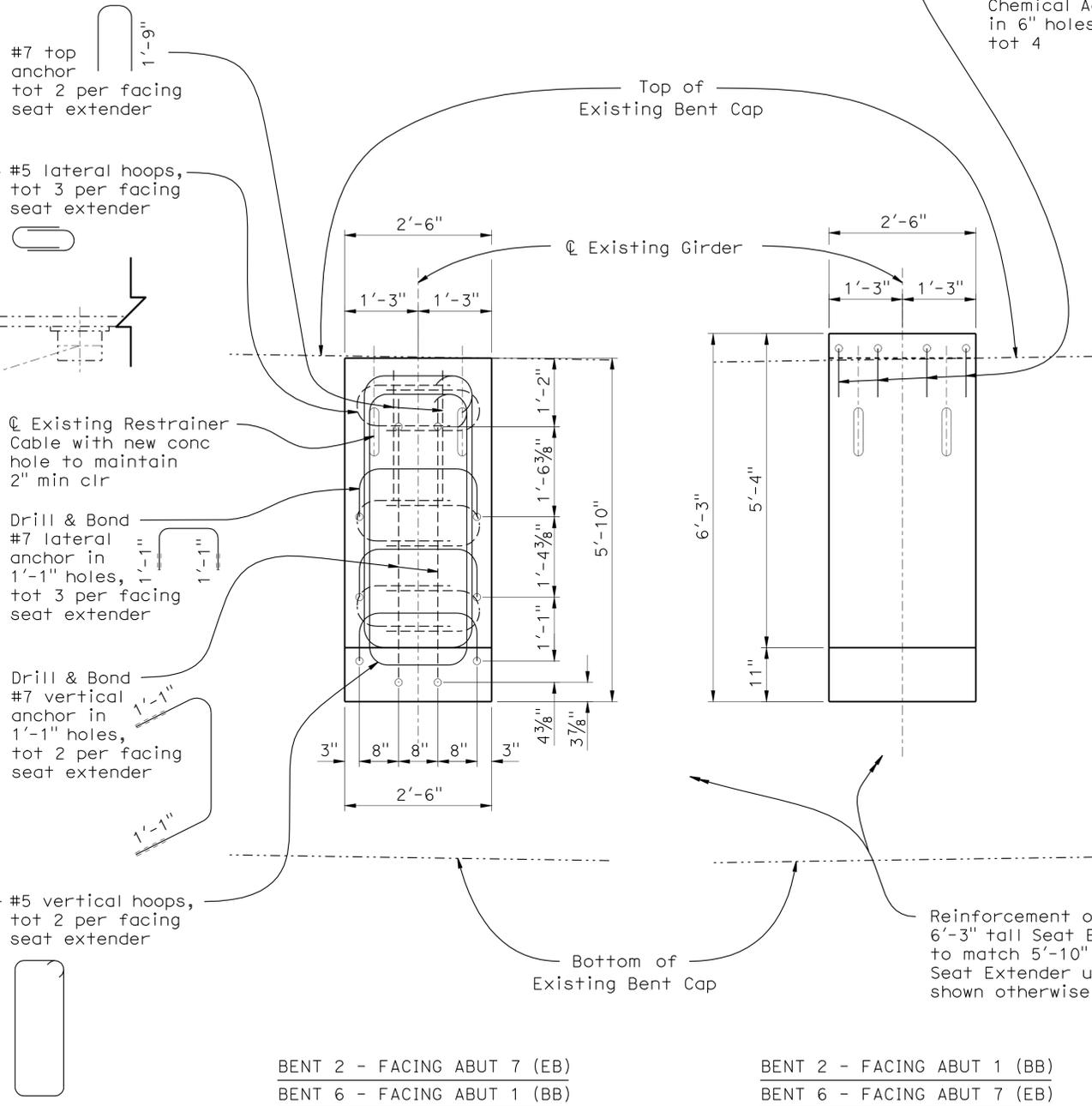
COLTON-LOMA LINDA OH RT (WIDEN)
RETROFIT DETAILS NO. 1

DATE PLOTTED => 18-APR-2012 09:03 USERNAME => s124496

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1536	1743
 REGISTERED CIVIL ENGINEER			4-06-12 DATE		
4-16-12 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



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



SEAT EXTENDER ELEVATIONS
3/4" = 1'-0"

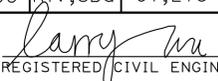
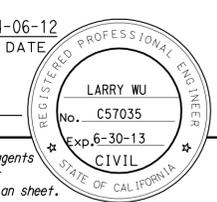
LEGEND:
 ——— Indicates new construction
 - - - - - Indicates existing structure

NOTES:
 1. For location of Seat Extenders and SECTION A-A, see "RETROFIT LAYOUT NO. 1" sheet.
 2. For New Column Casing above Pile Cap (Retrofit), see "COLUMN CASING - STEEL" sheet.

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

DESIGN BY J. Szabo DETAILS BY J. Szabo QUANTITIES BY J. Szabo	CHECKED R. Stiltz	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	BRIDGE NO. 54-0482R	COLTON-LOMA LINDA OH RT (WIDEN) RETROFIT DETAILS NO. 2
	CHECKED D. Wooten		POST MILE 3.72	
	CHECKED R. Stiltz		UNIT: 3589 PROJECT NUMBER & PHASE: 0800000506 CONTRACT NO.: 08-0M9401	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		0 1 2 3	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES SHEET OF 52 67

USERNAME => s124496 DATE PLOTTED => 18-APR-2012 TIME PLOTTED => 09:04

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1537	1743
 REGISTERED CIVIL ENGINEER			4-06-12 DATE		
4-16-12 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					

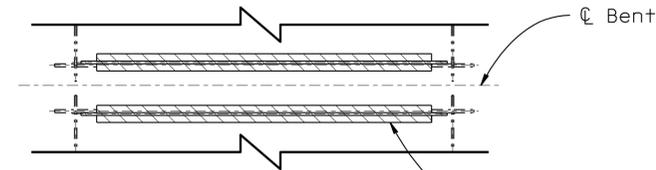
NOTES:

1. For location of Section B-B, see "RETROFIT LAYOUT NO. 2" sheet.
2. For SECTION J-J, K-K, and L-L, see "RETROFIT DETAILS NO. 6" sheet.
3. For Existing Deck (Portion) removal of concrete and reinforcement see "GIRDER DETAILS NO. 1" sheet
4. Traffic not allowed on deck portion of the shown width of (1) "Bay" undergoing retrofit construction. "Stage" sequence of retrofit construction may vary from shown Section B-B Retrofit Cross Frame No. 1 detail.

5. Cross Frame of Bent 2 at Span 2 shown, Cross Frame of Bent 6 at Span 6 similar. Cross Frames of Bent 2 at Span 1 and Bent 6 at Span 5 similar in mirror elevation view about the middle Bent C .

LEGEND:

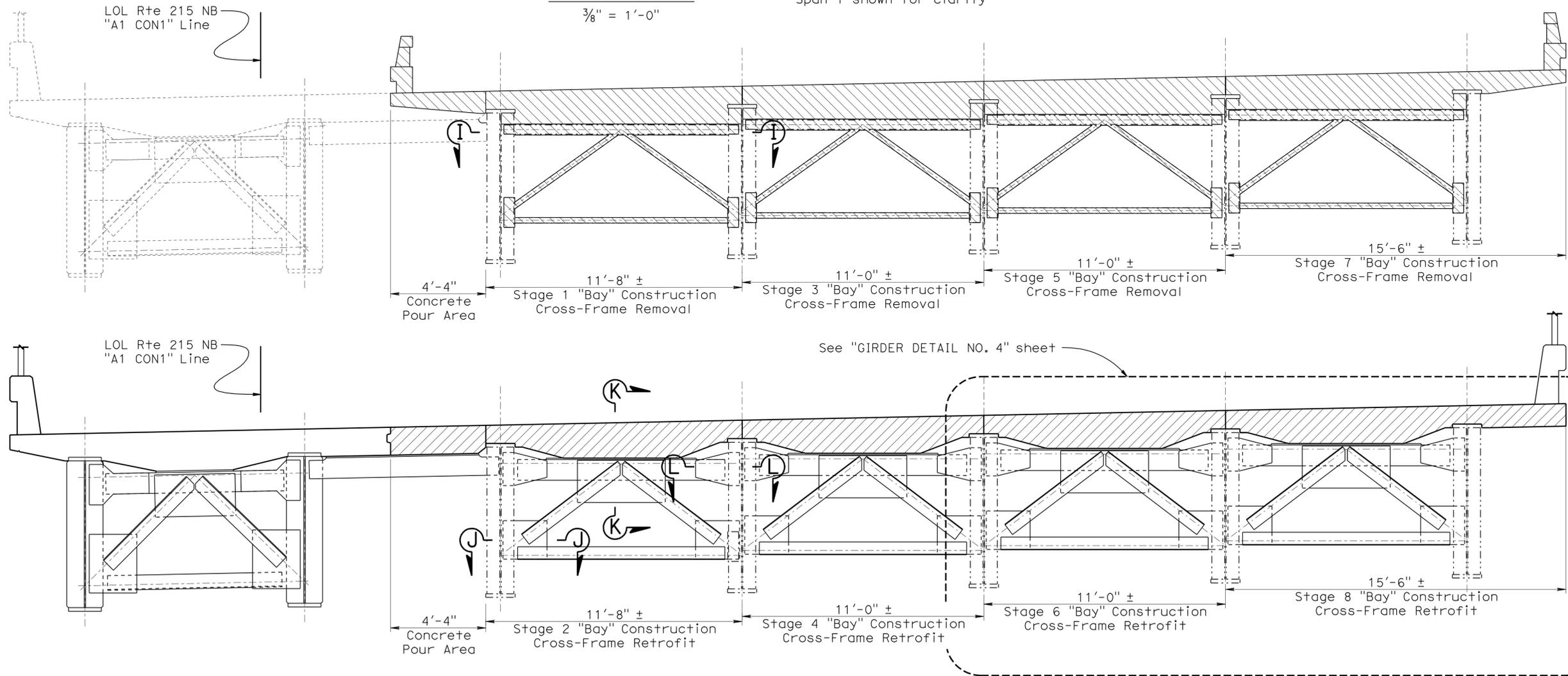
-  Indicates removal of Existing Finger Joint Assembly, barriers, concrete diaphragm (portion) and Existing cross frame steel.
-  Indicates new concrete pour on existing portion of bridge
-  Indicates new construction
-  Indicates existing structure



SECTION I-I

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

Adjacent cross frame at Span 1 shown for clarity



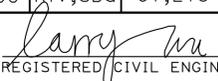
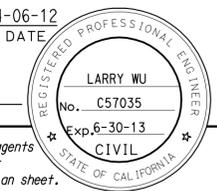
Note: Bent 2 shown, Bent 6 similar

SECTION B-B - RETROFIT CROSS FRAME NO. 1 (STAGED CONSTRUCTION)

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

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

DESIGN BY J. Szabo DETAILS BY J. Szabo QUANTITIES BY J. Szabo	CHECKED R. Stiltz CHECKED D. Wooten CHECKED R. Stiltz	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO. 54-0482R	COLTON-LOMA LINDA OH RT (WIDEN) RETROFIT DETAILS NO. 3
				POST MILE 3.72	
				UNIT: 3589 PROJECT NUMBER & PHASE: 0800000506 CONTRACT NO.: 08-0M9401	
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3					REVISION DATES SHEET 53 OF 67

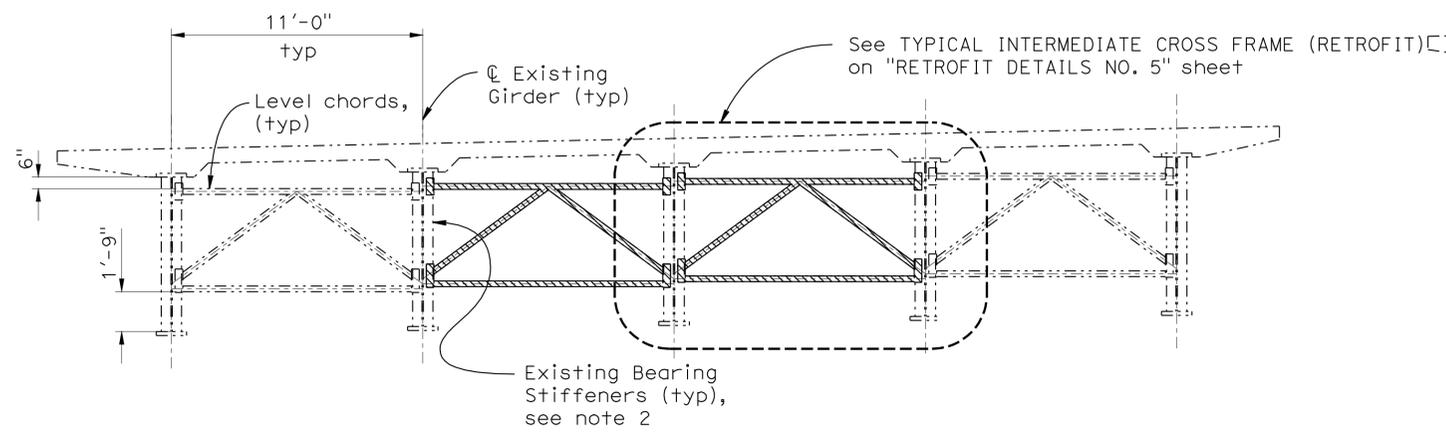
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1538	1743
 REGISTERED CIVIL ENGINEER			4-06-12 DATE		
4-16-12 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					

NOTES:

1. For location of Retrofit Cross Frames shown, see "RETROFIT LAYOUT NO. 2" sheet.
2. Existing Bearing Stiffeners not to be cut or removed with other steel removal.
3. New widening construction not shown for clarity.

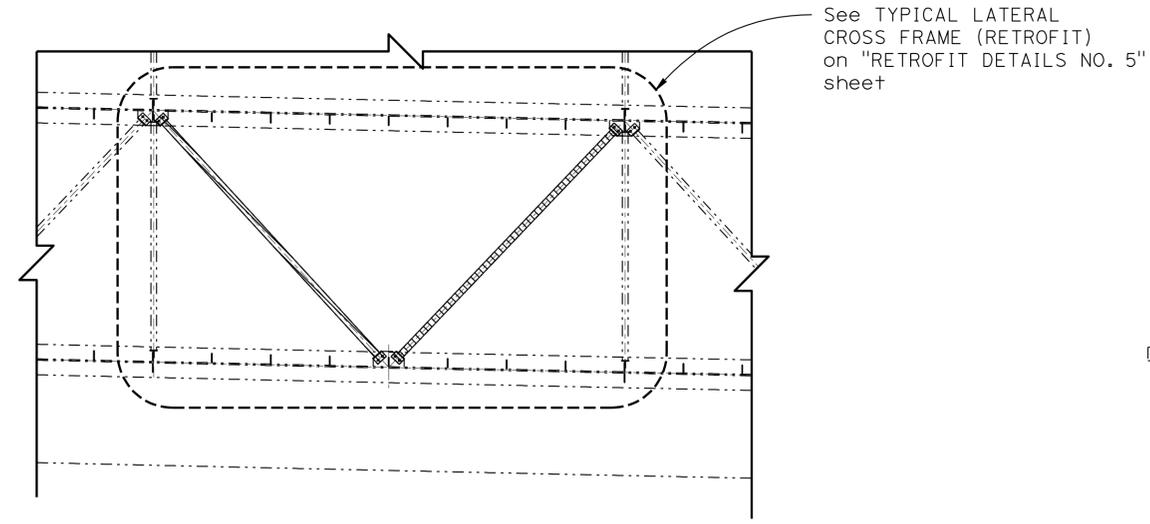
LEGEND:

-  Indicates removal of Existing Cross Frame steel
-  Indicates new construction
-  Indicates existing structure



SECTION C-C - RETROFIT CROSS FRAME NO. 2

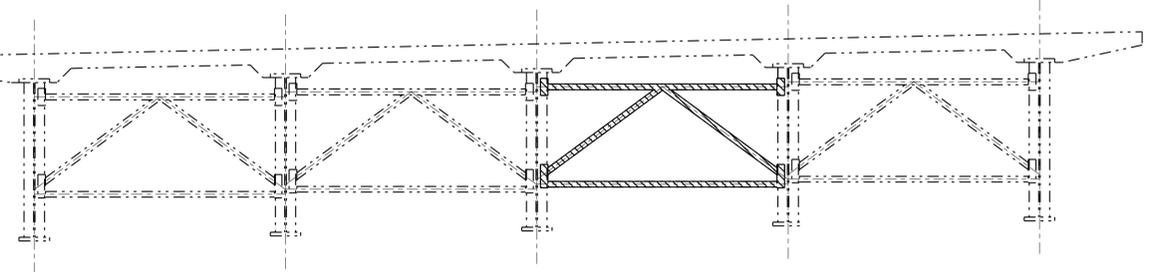
1/4" = 1'-0"



Note: Brace at Span 2 shown, brace at Span 5 similar

MIRROR (PARTIAL) PLAN - RETROFIT CROSS FRAME NO. 3

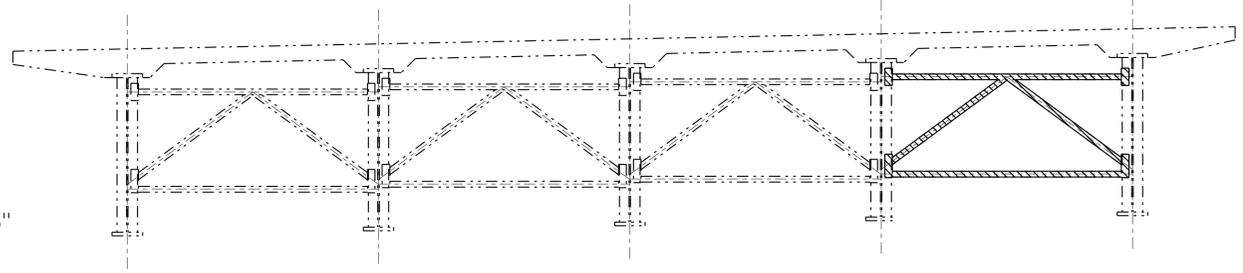
1/4" = 1'-0"



Note: Similar to Retrofit Cross Frame No. 2, unless shown otherwise.

SECTION D-D - RETROFIT CROSS FRAME NO. 4

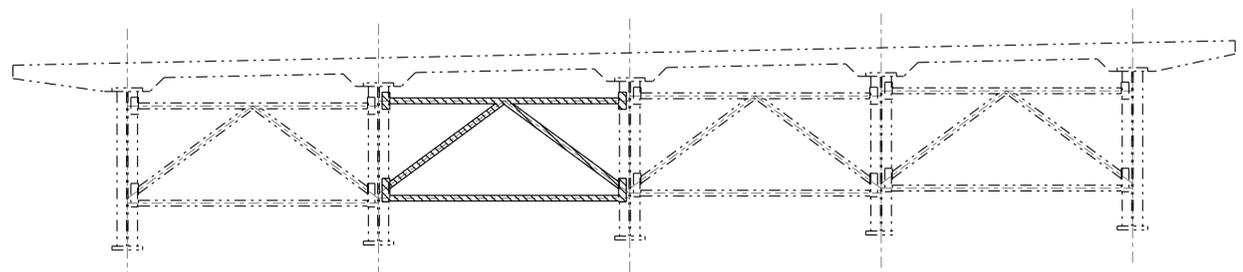
1/4" = 1'-0"



Note: Similar to Retrofit Cross Frame No. 2, unless shown otherwise.

SECTION E-E - RETROFIT CROSS FRAME NO. 5

1/4" = 1'-0"



Note: Similar to Retrofit Cross Frame No. 2, unless shown otherwise.

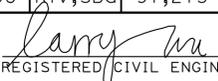
SECTION F-F - RETROFIT CROSS FRAME NO. 6

1/4" = 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 J. Szabo	CHECKED R. Stiltz	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO.	54-0482R	COLTON-LOMA LINDA OH RT (WIDEN) RETROFIT DETAIL NO. 4	
	DETAILS	BY J. Szabo	CHECKED D. Wooten			POST MILE	3.72		
	QUANTITIES	BY J. Szabo	CHECKED R. Stiltz						
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS					UNIT: 3589 PROJECT NUMBER & PHASE: 0800000506	CONTRACT NO.: 08-0M9401	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 54 OF 67

USERNAME => s124496 DATE PLOTTED => 18-APR-2012 TIME PLOTTED => 09:04

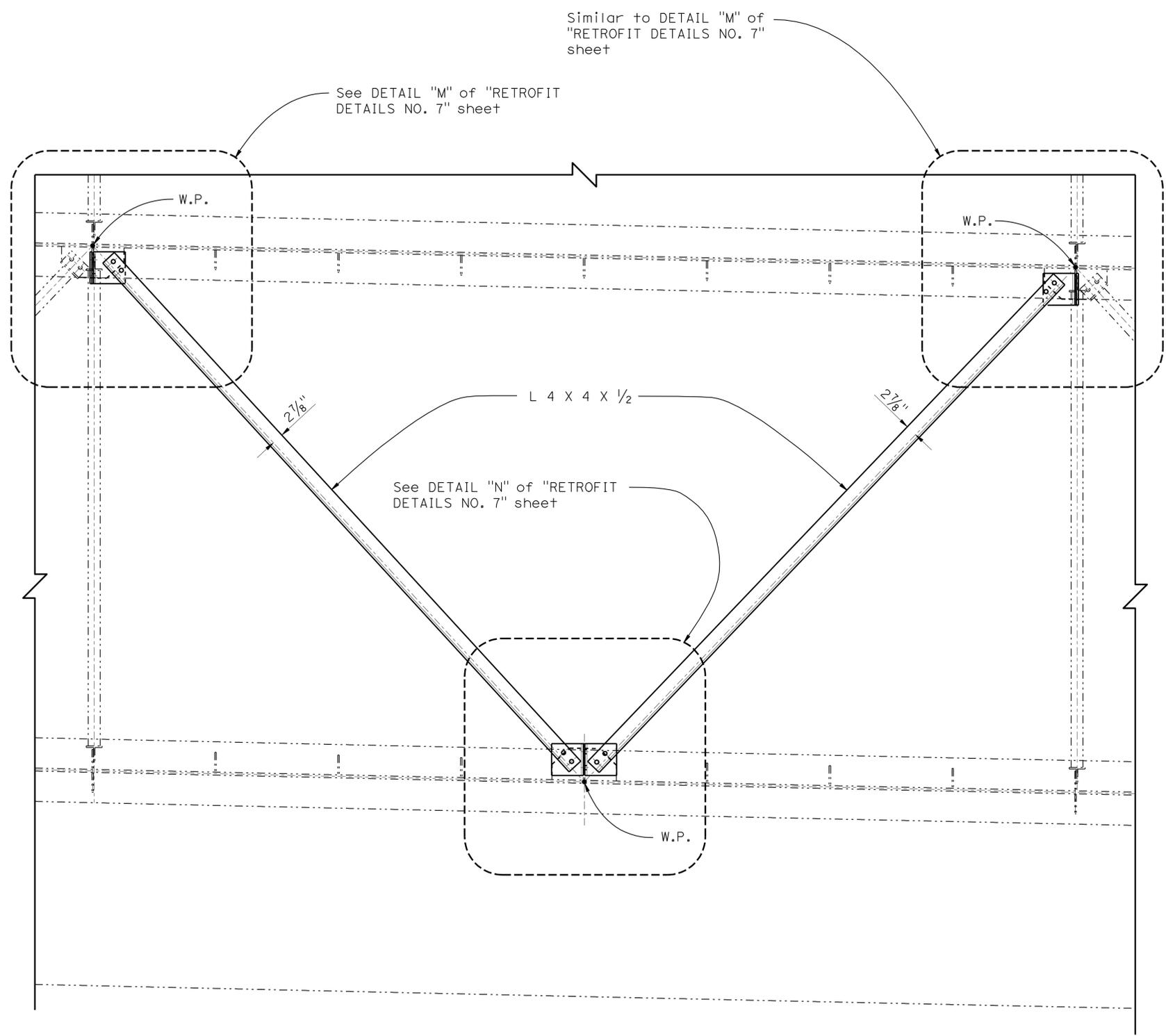
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1539	1743
 REGISTERED CIVIL ENGINEER			4-06-12 DATE		
4-16-12 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					

LEGEND:

- Indicates new construction
- Indicates existing structure

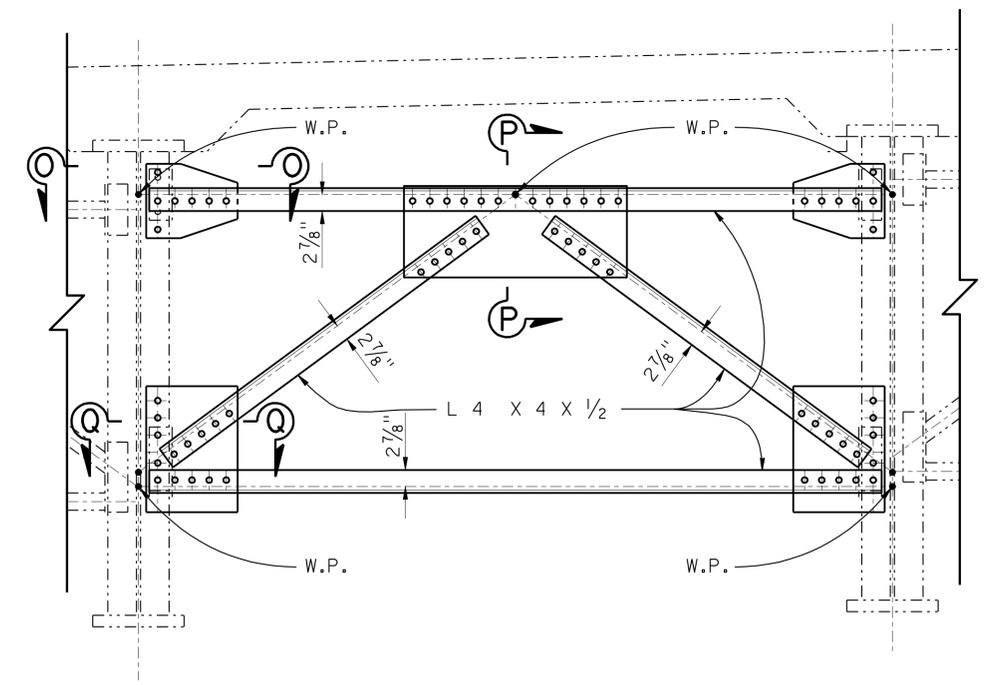
NOTES:

1. For location of "TYPICAL LATERAL CROSS FRAME (RETROFIT)" and "TYPICAL INTERMEDIATE CROSS FRAME (RETROFIT)", see "RETROFIT DETAILS NO. 4" sheet.
2. For DETAILS "M" and "N", see "RETROFIT DETAILS NO. 7" sheet.
3. For SECTIONS O-O, P-P, and Q-Q, see "RETROFIT DETAILS NO. 8" sheet.
4. Working Points (W.P.) to match existing locations.



TYPICAL LATERAL CROSS FRAME (RETROFIT)

3/4" = 1'-0"



TYPICAL INTERMEDIATE CROSS FRAME (RETROFIT)

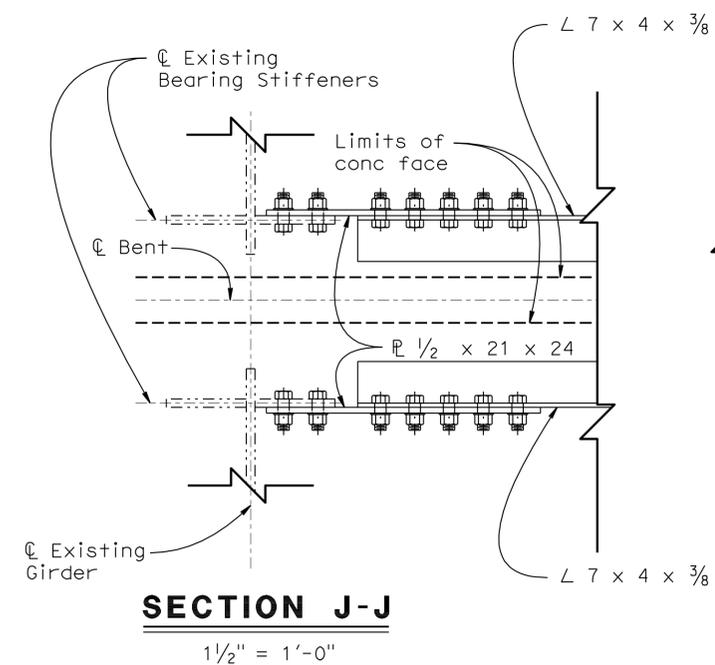
3/4" = 1'-0"

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

DESIGN BY J. Szabo CHECKED R. Stiltz DETAILS BY J. Szabo CHECKED D. Wooten QUANTITIES BY J. Szabo CHECKED R. Stiltz	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO. 54-0482R POST MILE 3.72	COLTON-LOMA LINDA OH RT (WIDEN) RETROFIT DETAIL NO. 5
	STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3	UNIT: 3589 PROJECT NUMBER & PHASE: 0800000506 CONTRACT NO.: 08-0M9401	DISREGARD PRINTS BEARING EARLIER REVISION DATES
	REVISION DATES SHEET OF 55 67			

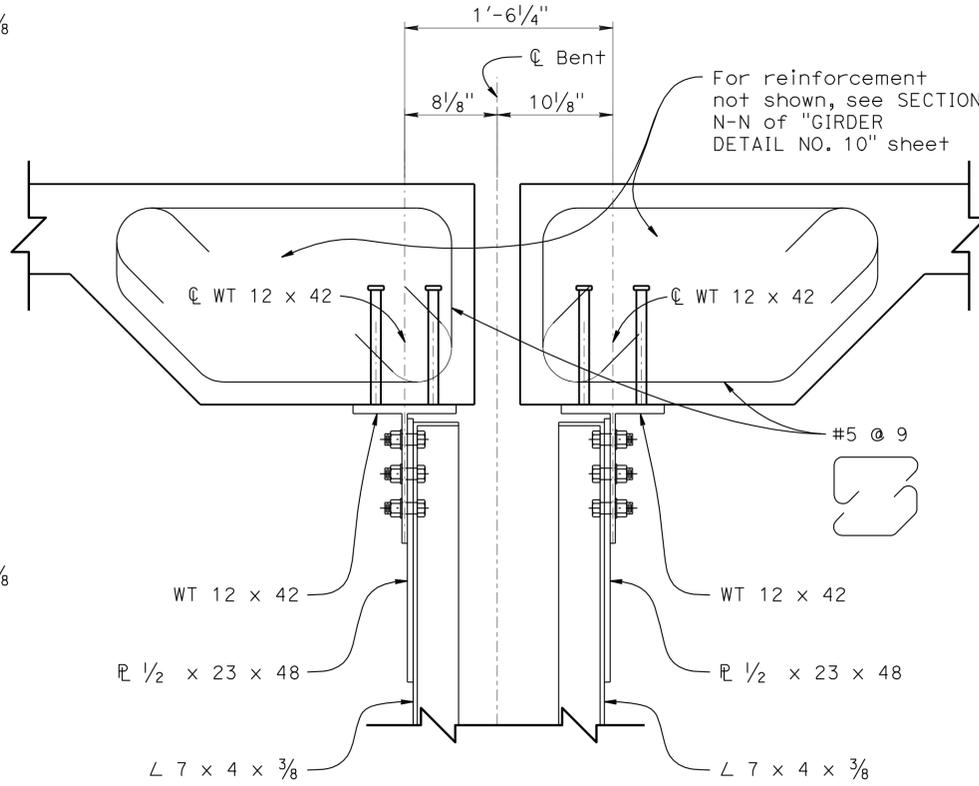
USERNAME => s124496 DATE PLOTTED => 14-JUN-2012 TIME PLOTTED => 05:53

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1540	1743
 REGISTERED CIVIL ENGINEER			4-06-12	DATE	
4-16-12			PLANS APPROVAL DATE		
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.					



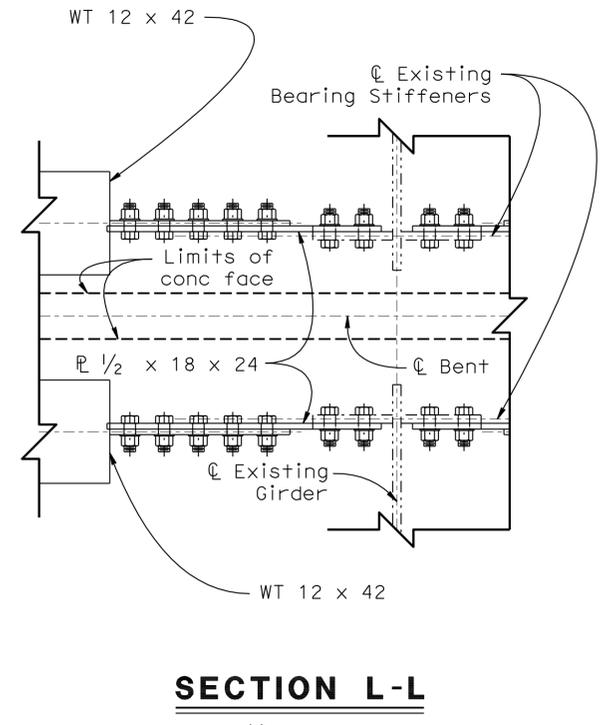
SECTION J-J

1/2" = 1'-0"



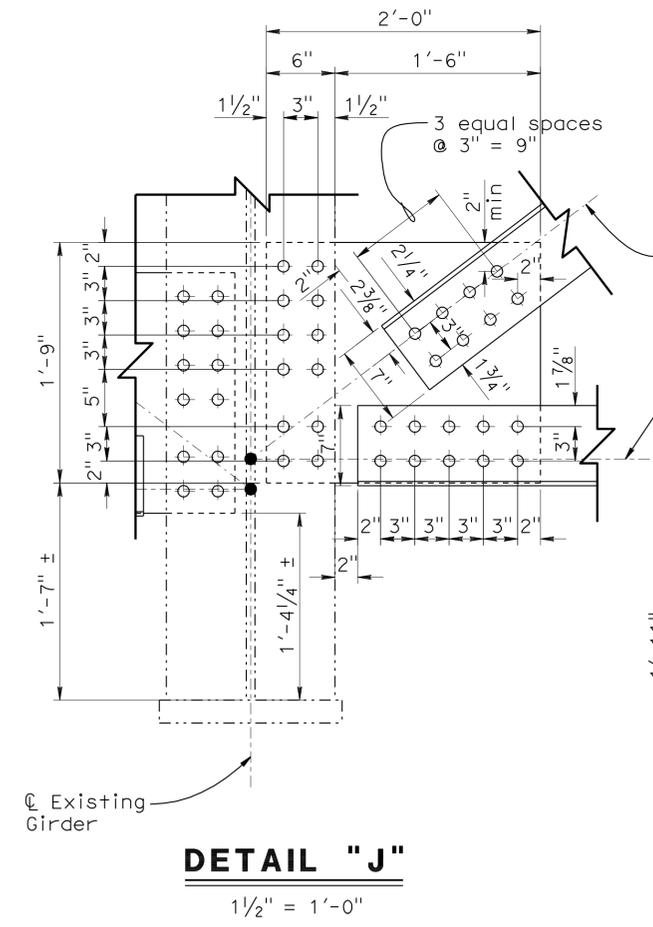
SECTION K-K

1/2" = 1'-0"



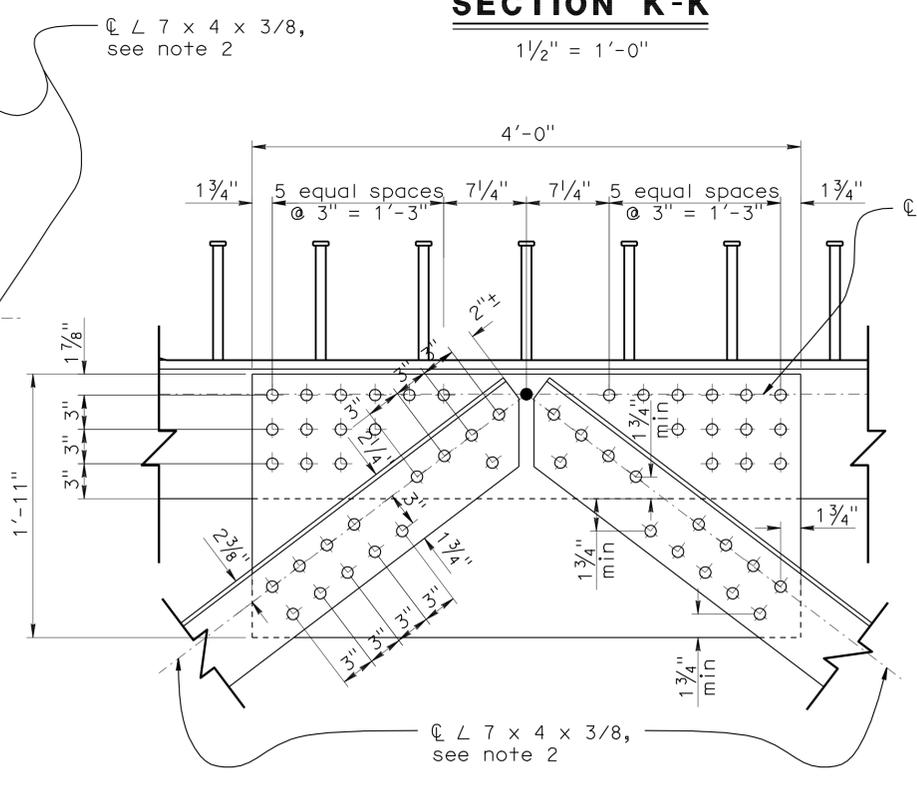
SECTION L-L

1/2" = 1'-0"



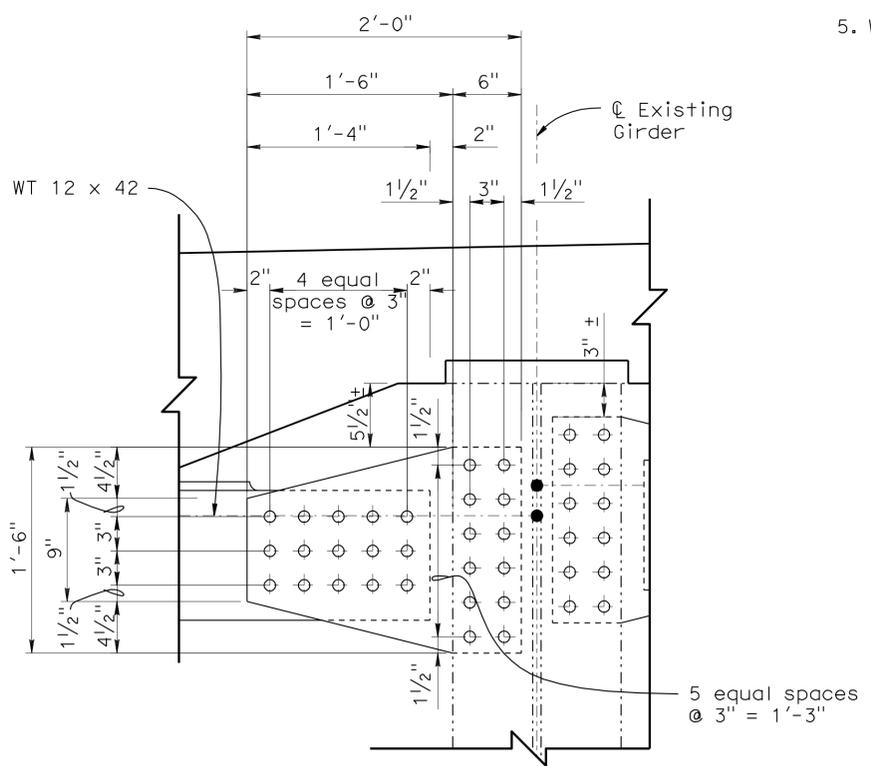
DETAIL "J"

1/2" = 1'-0"



DETAIL "K"

1/2" = 1'-0"



DETAIL "L"

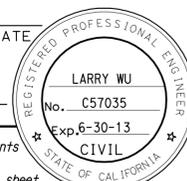
1/2" = 1'-0"

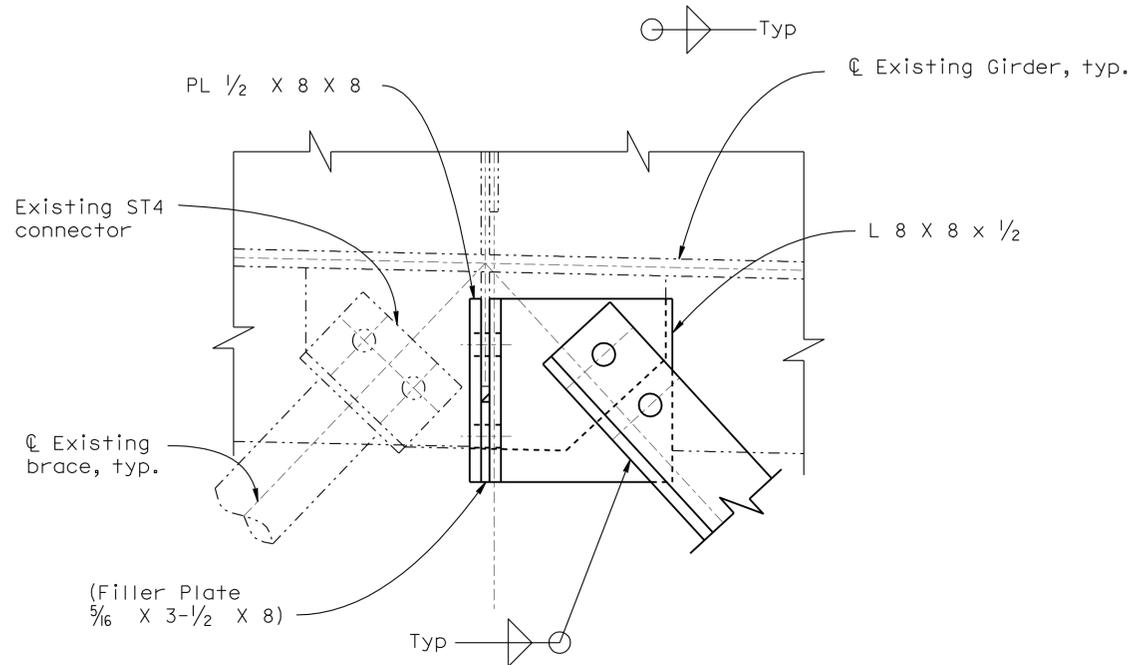
- LEGEND:**
- Indicates new construction
 - Indicates existing structure

- NOTES:**
- For location of SECTION J-J, K-K and L-L, see "RETROFIT DETAILS NO. 3" sheet.
 - End Cross Frame Braces match lines connecting W.P., see END CROSS FRAME NO. 2 of "GIRDER DETAILS NO. 4" sheet.
 - Adjacent End Cross Frame members included in SECTION I-I, J-J & K-K for clarity.
 - Use 7/8" ø Bolts A352x, unless shown otherwise.
 - W.P. = Working Point.

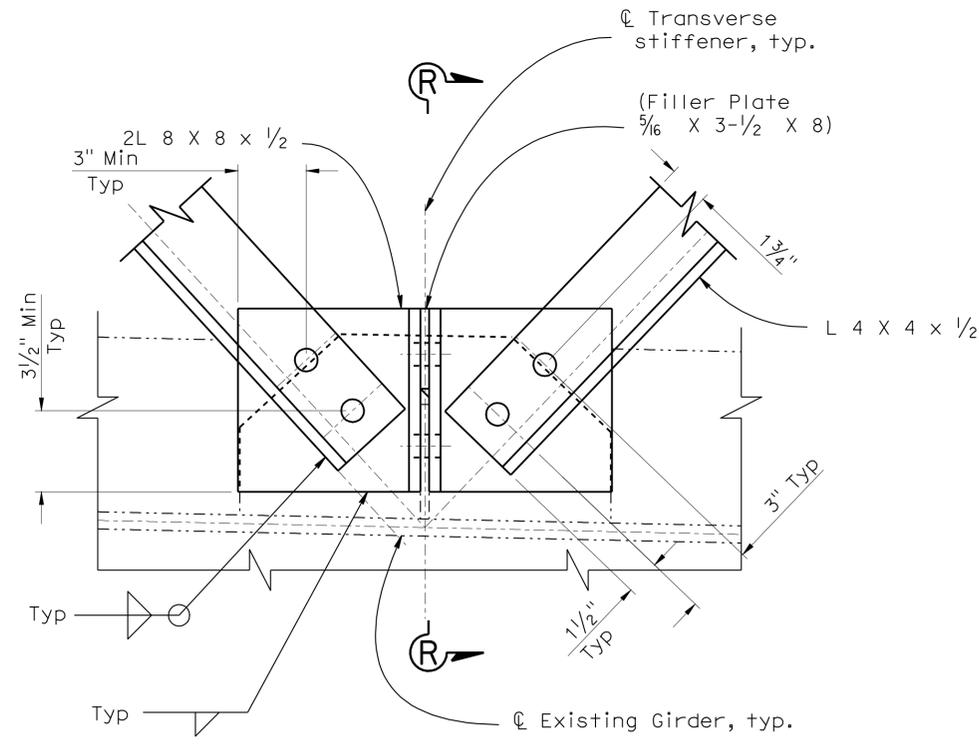
NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3	DESIGN	BY J. Szabo	CHECKED R. Stiltz	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO.	54-0482R	COLTON-LOMA LINDA OH RT (WIDEN) RETROFIT DETAILS NO. 6	
	DETAILS	BY J. Szabo	CHECKED D. Wooten			POST MILE	3.72		
	QUANTITIES	BY J. Szabo	CHECKED R. Stiltz			UNIT: 3589	PROJECT NUMBER & PHASE: 0800000506		CONTRACT NO.: 08-0M9401

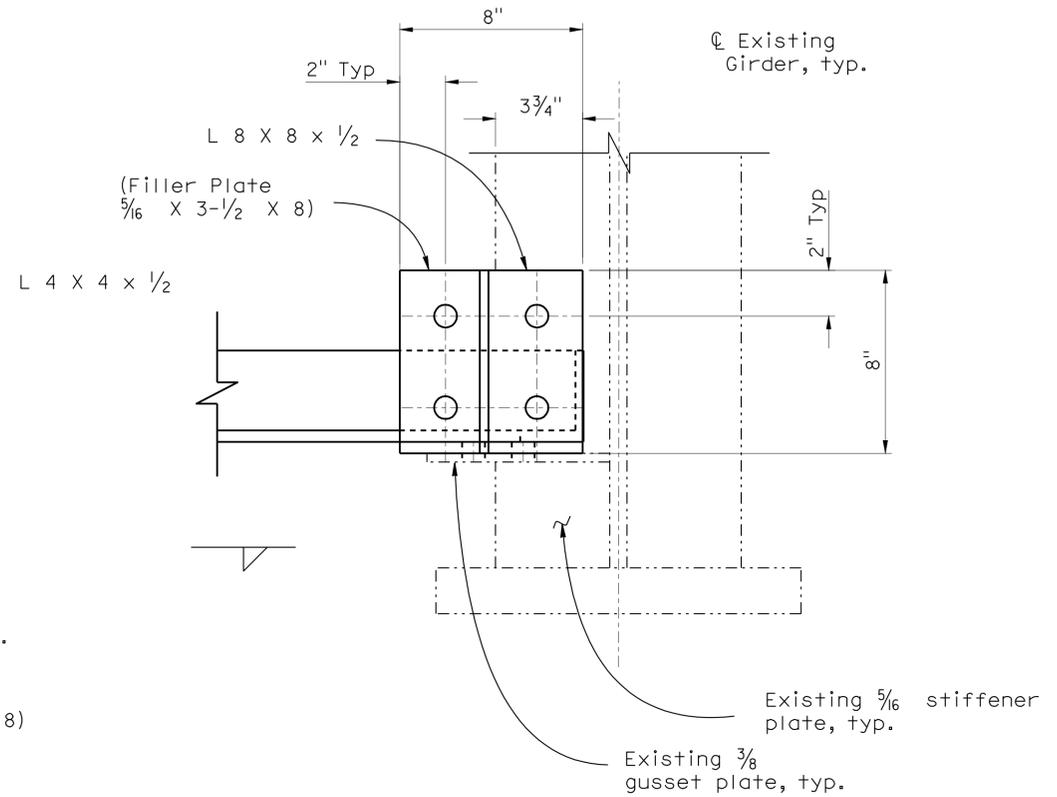
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1541	1743
 REGISTERED CIVIL ENGINEER DATE					
4-16-12 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



DETAIL "M"
3" = 1'-0"



DETAIL "N"
3" = 1'-0"



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

- Notes:
1. 7/8" A325X bolts, typ. Match centerline of new bolts to existing pipe centerline
 2. Fillet weld cut or drilled edges of existing plates to attached new plates

- Legend:
- Indicates new steel members, plates & welded bolts
 - - - - - Indicates existing structure

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

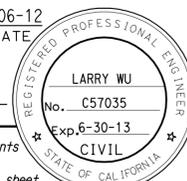
DESIGN	BY J. Szabo	CHECKED R. Stiltz
DETAILS	BY J. Szabo	CHECKED D. Wooten
QUANTITIES	BY J. Szabo	CHECKED R. Stiltz

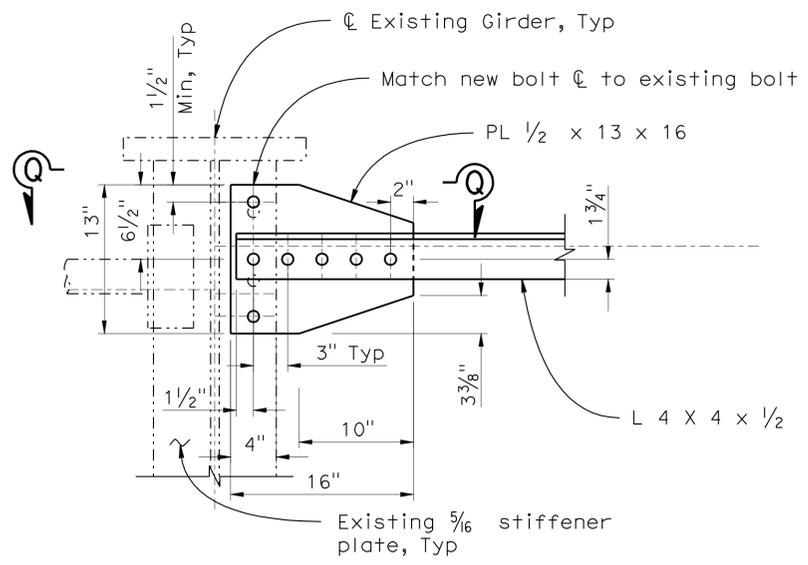
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 10

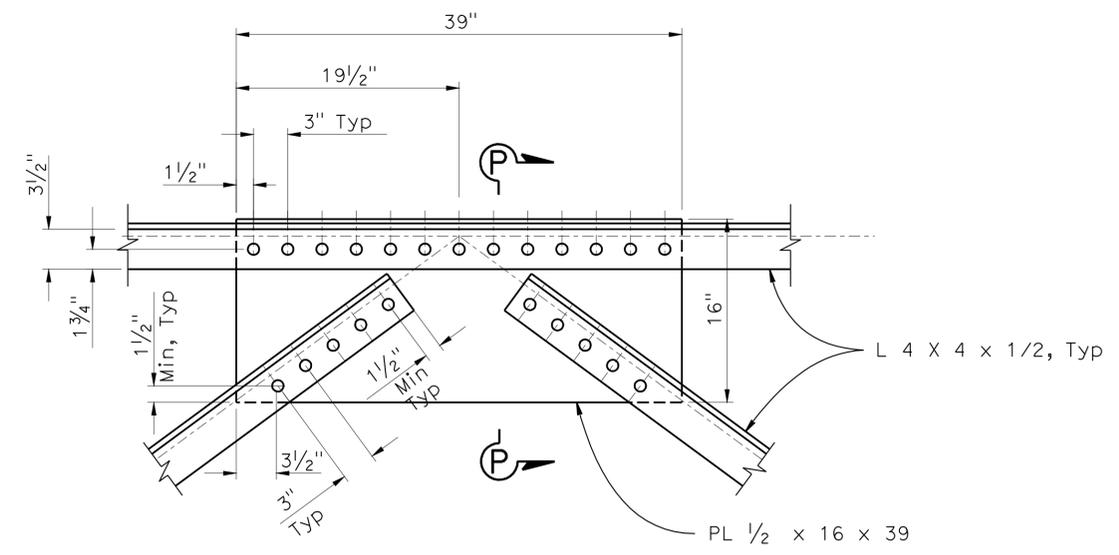
BRIDGE NO.	54-0482R
POST MILE	3.72

COLTON-LOMA LINDA OH RT (WIDEN)
RETROFIT DETAIL NO. 7

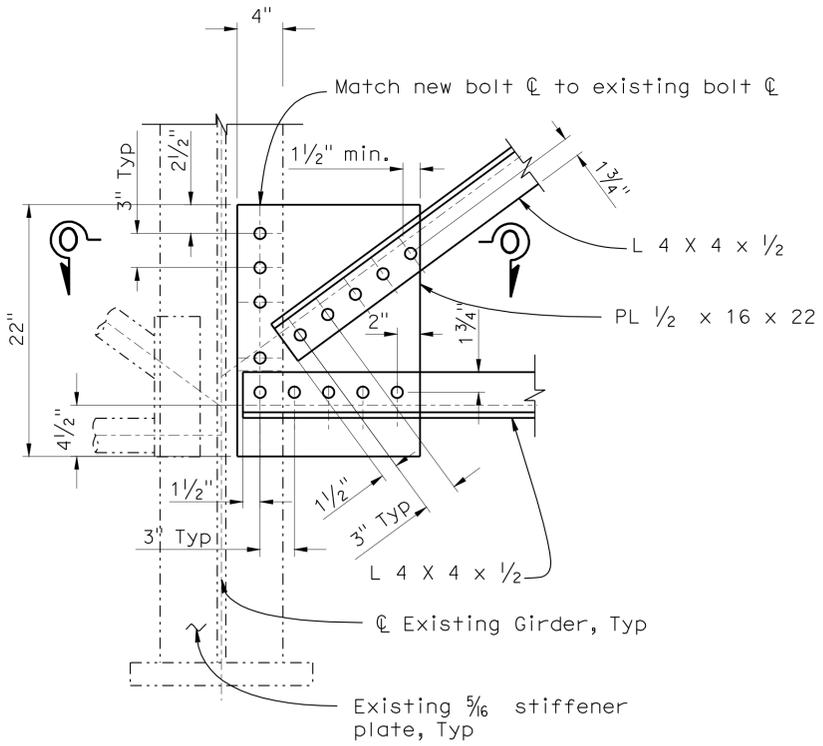
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1542	1743
 REGISTERED CIVIL ENGINEER			4-06-12	DATE	
4-16-12			PLANS APPROVAL DATE		
					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



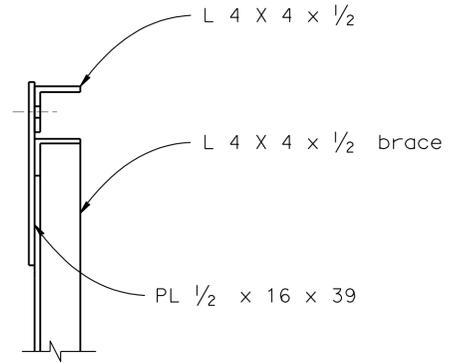
DETAIL "O"
1-1/2" = 1'-0"



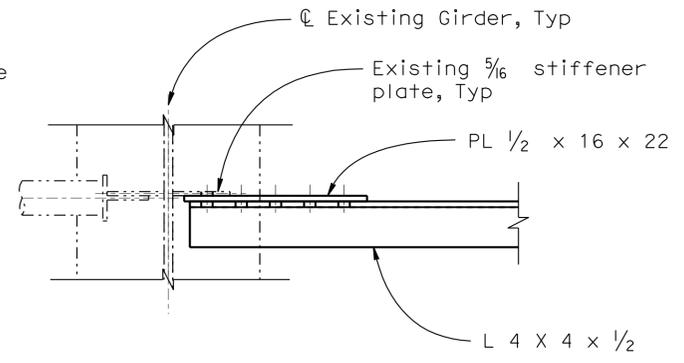
DETAIL "P"
1-1/2" = 1'-0"



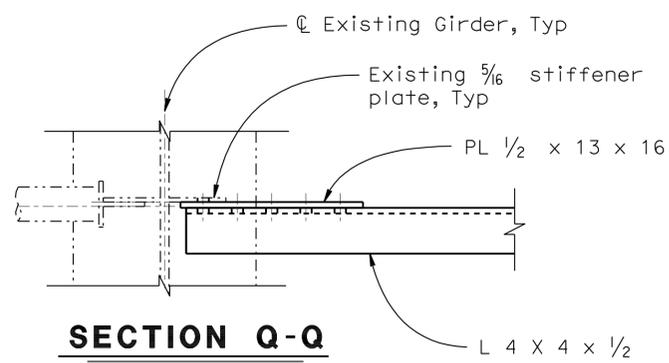
DETAIL "Q"
1-1/2" = 1'-0"



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



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



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

- Notes:
- 7/8" A325X bolts, Typ. Match centerline of new bolts to existing pipe centerline
 - Fillet weld cut or drilled edges of existing plates to attached new plates

- Legend:
- Indicates new steel members, plates & welded bolts
 - - - - - Indicates existing structure

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

DESIGN	BY	J. Szabo	CHECKED	R. Stiltz	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO.	54-0482R	COLTON-LOMA LINDA OH RT (WIDEN) RETROFIT DETAIL NO. 8				
	DETAILS	BY	J. Szabo	CHECKED			D. Wooten	POST MILE		3.72			
	QUANTITIES	BY	J. Szabo	CHECKED			R. Stiltz	CONTRACT NO.:		08-0M9401			
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)						ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3	UNIT: 3589 PROJECT NUMBER & PHASE: 0800000506	CONTRACT NO.: 08-0M9401	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET	OF
											58	67	

← To Riverside

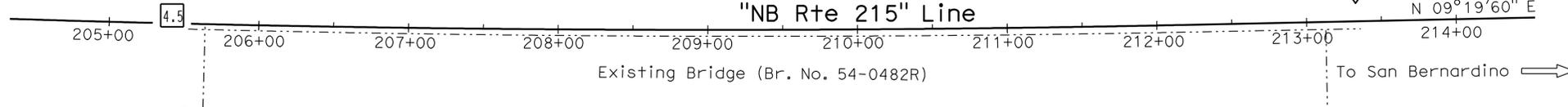


RC-10-002

BENCH MARK

PNO 600
N 1845480.19
E 6774684.10
1" IP W/CALTRANS RP PLUG
Elev 1004.2'

RC-10-001



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1543	1743

12-19-11
PROFESSIONAL GEOLOGIST
Hector Valencia
No. 7776
Exp. 2-29-12
PLANS APPROVAL DATE

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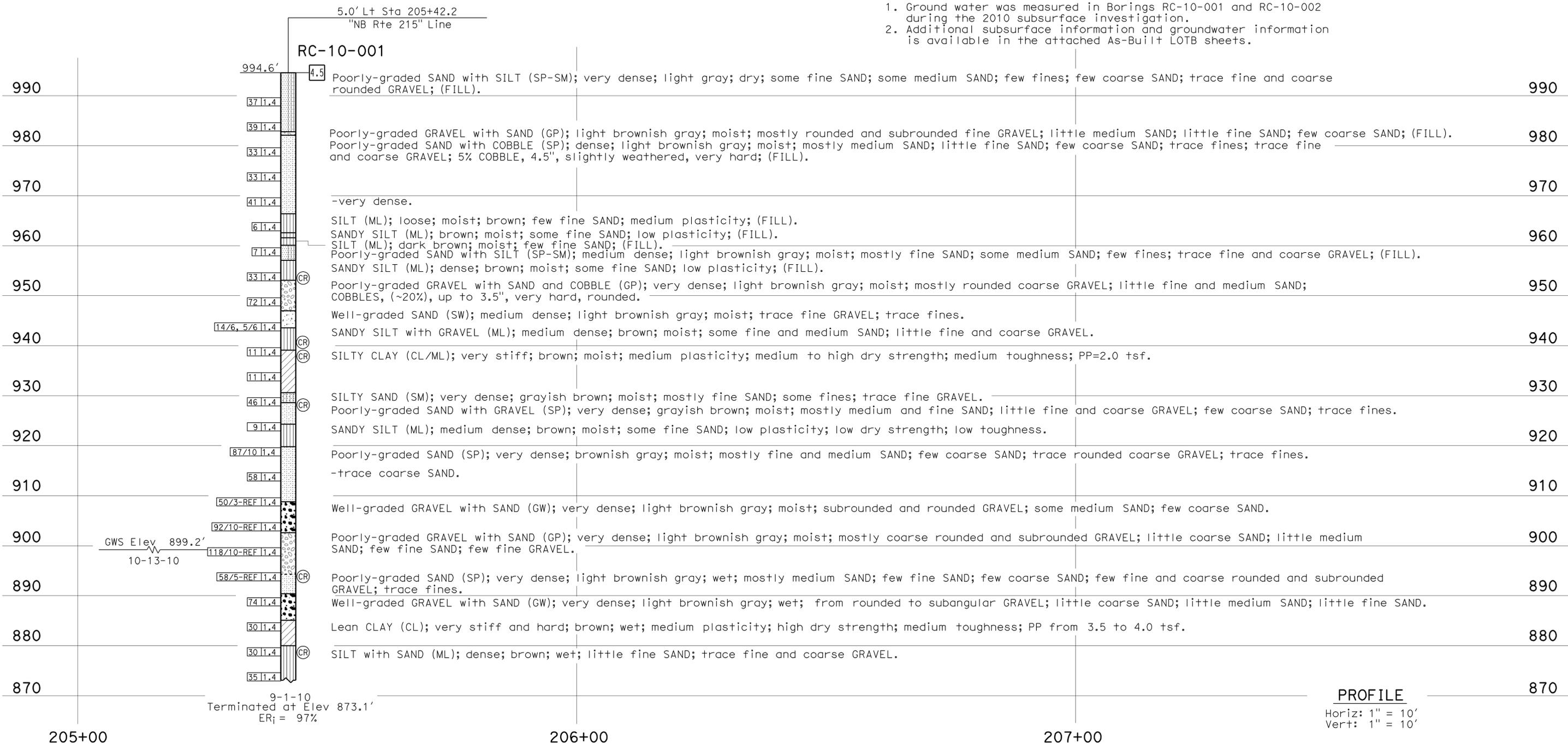
PLAN

1" = 50'

Note:

1. Ground water was measured in Borings RC-10-001 and RC-10-002 during the 2010 subsurface investigation.
2. Additional subsurface information and groundwater information is available in the attached As-Built LOTB sheets.

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



PROFILE

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

ENGINEERING SERVICES		MATERIALS AND GEOTECHNICAL SERVICES		STATE OF CALIFORNIA		DIVISION OF ENGINEERING SERVICES		COLTON-LOMA LINDA YARD OH RT (WIDEN)	
FUNCTIONAL SUPERVISOR		DRAWN BY: W. Tang 09/11		DEPARTMENT OF TRANSPORTATION		BRIDGE NO. 54-0482R		LOG OF TEST BORINGS 1 OF 9	
NAME: M. DeSalvatore		CHECKED BY: F. De Haro		FIELD INVESTIGATION BY: J. Klamecki		DESIGN BRANCH 10		PROJECT NUMBER & PHASE: 08000005061	
065 CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 3643		POST MILE 3.7		CONTRACT NO.: 08-0M9401	
				0 1 2 3		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES	
								12-14-11 12-16-11	
								SHEET 59 OF 67	

USERNAME => s124496 DATE PLOTTED => 18-APR-2012 TIME PLOTTED => 09:04

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1544	1743

12-19-11
 PROFESSIONAL GEOLOGIST
 4-16-12
 PLANS APPROVAL DATE
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PROFESSIONAL GEOLOGIST
 Hector Valencia
 No. 7776
 Exp. 2-29-12
 STATE OF CALIFORNIA

FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS" 1 OF 9

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



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

ENGINEERING SERVICES		MATERIALS AND GEOTECHNICAL SERVICES		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION		DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10		COLTON-LOMA LINDA YARD OH RT (WIDEN)	
FUNCTIONAL SUPERVISOR	DRAWN BY: W. Tang 09/11	FIELD INVESTIGATION BY:		BRIDGE NO.		LOG OF TEST BORINGS 2 OF 9			
NAME: M. DeSalvatore	CHECKED BY: F. De Haro	H. Valencia		54-0482R					
065 CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 3643		PROJECT NUMBER & PHASE: 08000005061		CONTRACT NO.: 08-0M9401	
				DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES		SHEET OF	
						12-14-11 12-16-11		60 67	

USERNAME => s124496 DATE PLOTTED => 18-APR-2012 TIME PLOTTED => 09:04

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1545	1743

12-19-11
 PROFESSIONAL GEOLOGIST
 Hector Valencia
 No. 7776
 Exp. 2-29-12
 PLANS APPROVAL DATE

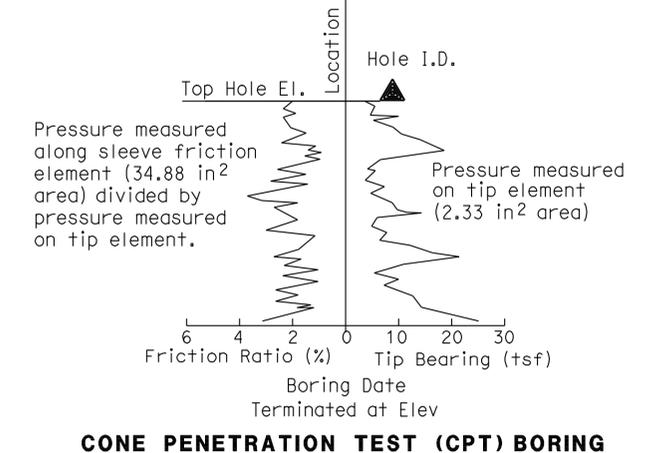
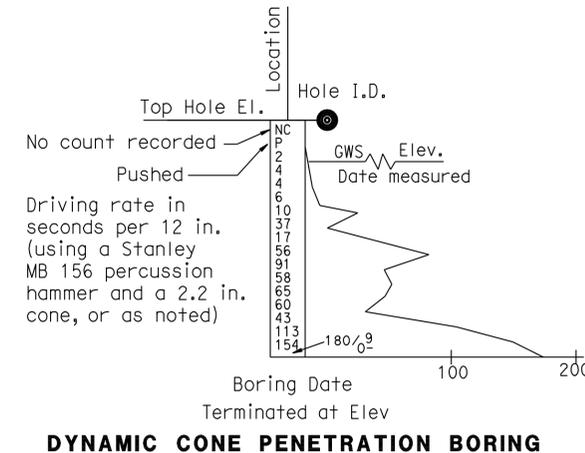
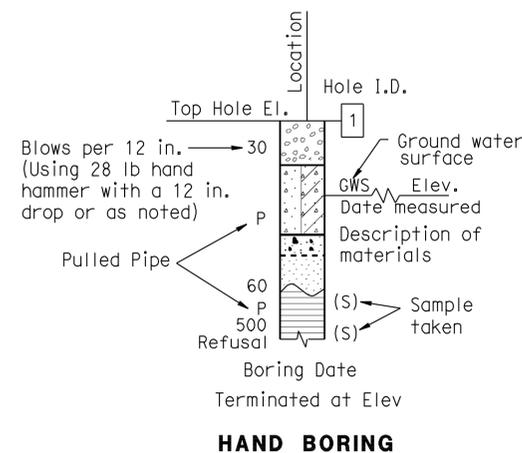
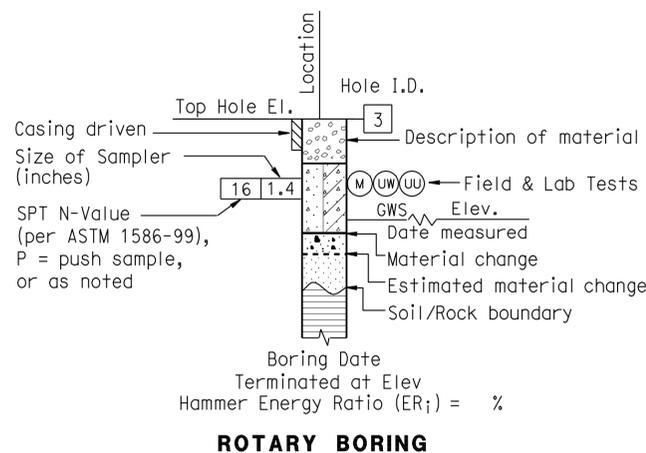
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

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
	RC	Rotary drilled rock 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
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1546	1743

12-19-11
 PROFESSIONAL GEOLOGIST
 HECTOR VALENCIA
 No. 7776
 Exp. 2-29-12
 PLANS APPROVAL DATE
 4-16-12
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

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

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

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

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

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

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

ENGINEERING SERVICES	MATERIALS AND GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO. 54-0482R	COLTON-LOMA LINDA YARD OH RT (WIDEN) LOG OF TEST BORINGS 4 OF 9
				POST MILE 3.7	
PREPARED BY: W. Tang	UNIT: 3643 PROJECT NUMBER & PHASE: 08000005061	CONTRACT NO.: 08-0M9401	REVISION DATES	SHEET 62 OF 67	

GS LOTB SOIL LEGEND ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

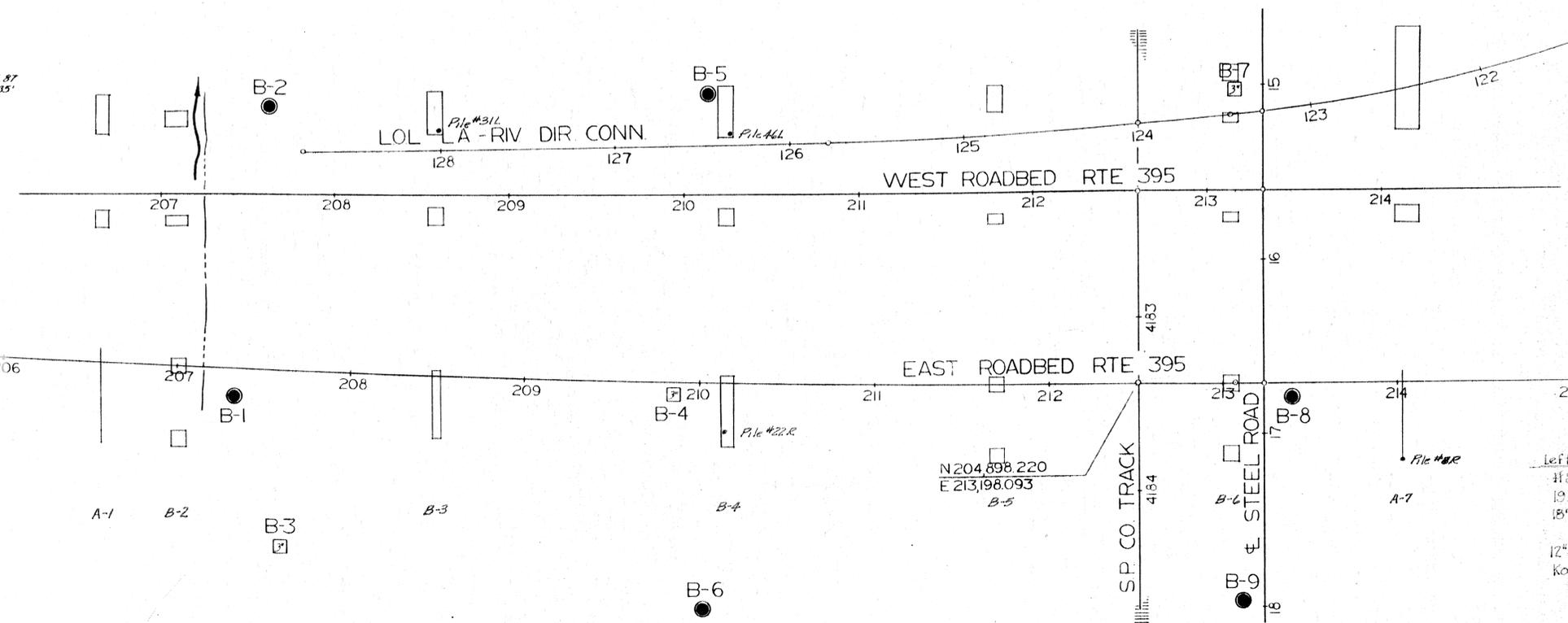
FILE => 540482r21fb462.dgn

DIST.	COUNTY	ROUTE	POST MILES-TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	SBd	395			

BRIDGE ENGINEER
REGISTERED CIVIL ENGINEER NO. 5845
DATE APPROVED _____

BENCH MARK

BM # 13-A-56 Elev 974.87
Chis X on S Corner PCC Endwall 35'
Lt Sta 125+60 & Imp. S Rdbd.



PLAN
Scale: 1" = 40'

Left Br.	Rt Br.	No. of Piles
187	116	LF (Plan)
195	3140	LF (As Built)
1878	3047	LF (As Built)
70'		Design Pile Loading
12" Square Pile Conc.		Pile type
Kobe K-22		Hammer

Scale: Vert. 1" = 10'
Horiz. 1" = 30'

DIVISION OF ENGINEERING SERVICES - MATERIALS AND GEOTECHNICAL SERVICES
As-built log of test borings sheet is considered an informational document only. As such, the State of California registration seal with signature, license number and registration certificate expiration date confirm that this is a true and accurate copy of the original document. It does not attest to the accuracy or validity of the information contained in the original document. This drawing is available and presented only for the convenience of any bidder, contractor or other interested party.

DIST.	COUNTY	ROUTE	POST MILE-TOTAL PROJECT	Sheet No.	Total Sheets
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1547	1743

PROFESSIONAL GEOLOGIST
DATE: 12-19-11

COLTON-LOMA LINDA YARD OH RT (WIDEN)
LOG OF TEST BORINGS 5 OF 9

UNIT:	3643	CONTRACT No.:	08-0M9401	BRIDGE No.:	54-0482R
PROJ. No. & PHASE:	08000005061				

VERT DATUM: NGVD29 CONVERSION: NAVD88 = NGVD29 + 2.1 ft
NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA

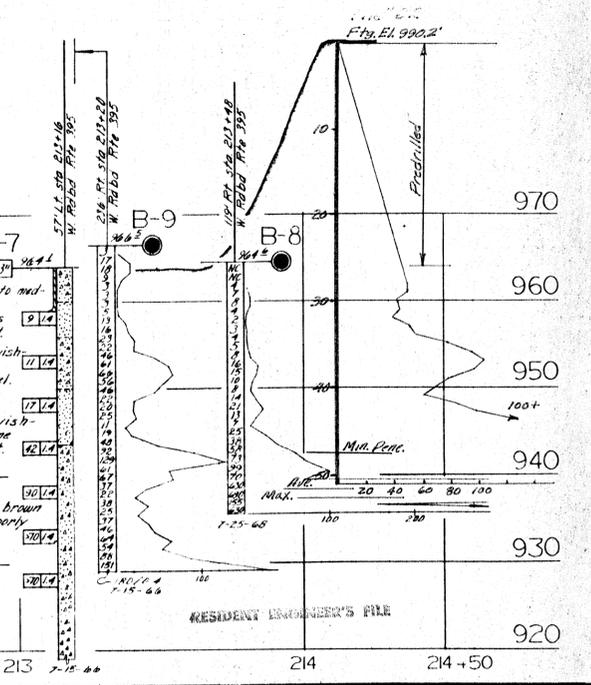
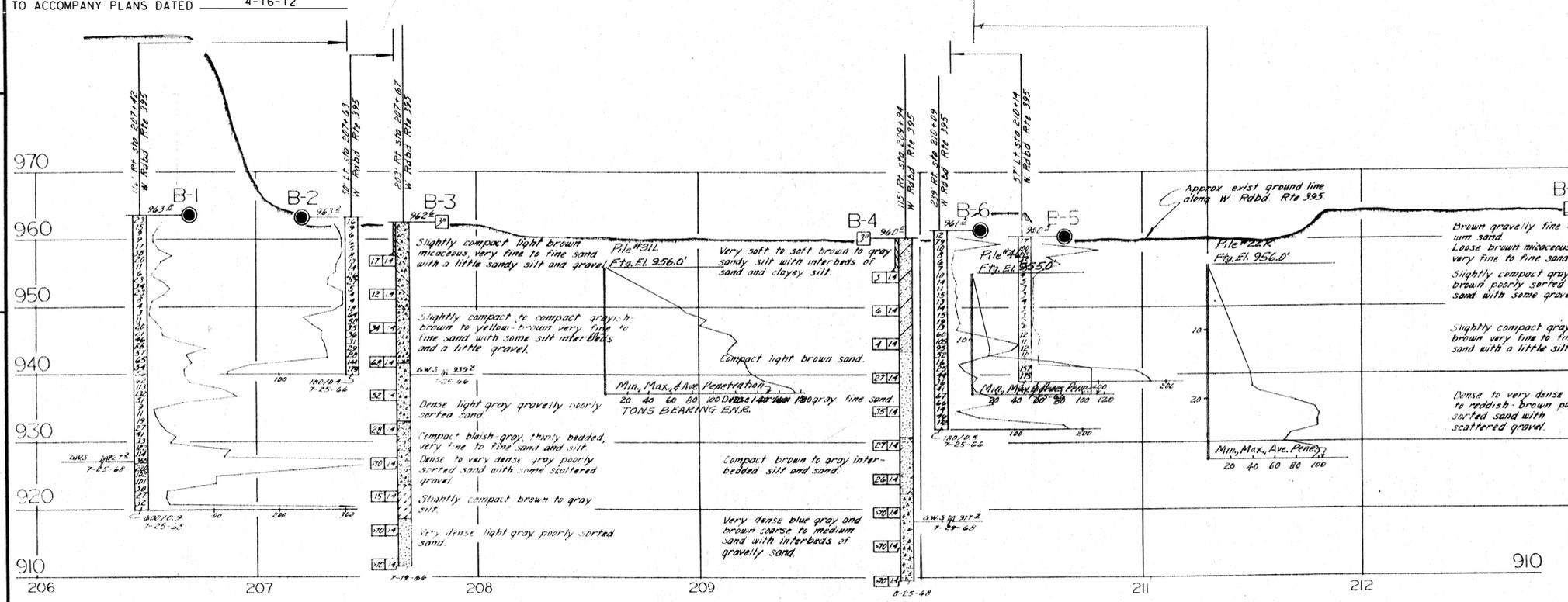
TO ACCOMPANY PLANS DATED 4-16-12

LEGEND OF EARTH MATERIALS

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

CLASSIFICATION OF MATERIAL BASED ON STANDARD GRADE SIZE LIMITS

Divisions showing the basis for determinations of grade size limits are shown in letters. If gravel is present in appreciable amount, the terms "GRAVELLY SAND", "GRAVELLY SILT", "GRAVELLY CLAY", "GRAVELLY SILTY SAND", "GRAVELLY SILTY SILT", and "GRAVELLY SILTY CLAY" are used. The terms "SAND", "SILT", and "CLAY" are used when used to describe sand, silt, or clay, respectively, based on standard grade size limits.



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.

STATE OF CALIFORNIA
TRANSPORTATION AGENCY
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

COLTON-LOMA LINDA YARD OVERHEAD
LOG OF TEST BORINGS

BRIDGE NO.	54-482	POST MILE	3.7	DRAWING NO.		SHEET	OF

REVISION DATES _____ (PRELIMINARY STAGE ONLY)

BRIDGE DEPARTMENT
ENGINEERING GEOLOGY SECTION

BENCH MARK
 BM 21-A-59 Elev. 999.76
 Settling pin on curb over bridge
 about 5.5' Lt. sta. 205+82 & Imp. WRB.

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DIST.	COUNTY	ROUTE	POST MILE-TOTAL PROJECT	Sheet No.	Total Sheets
08	Riv, Sbd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1548	1743

PROF. *Hector Valencia* DATE 10-19-11
 PROFESSIONAL GEOLOGIST

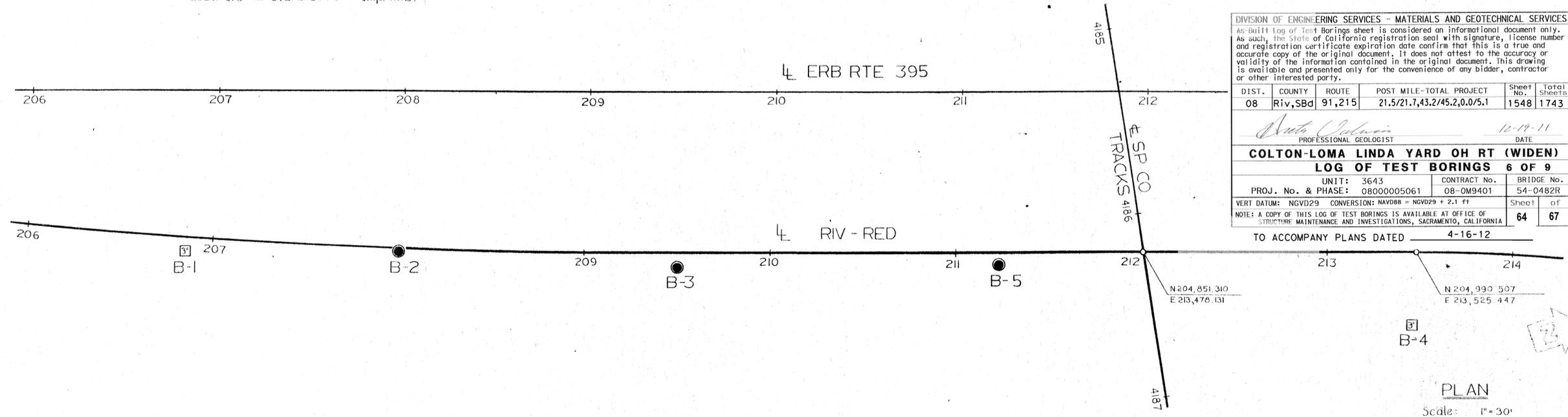
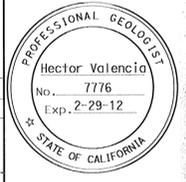
COLTON-LOMA LINDA YARD OH RT (WIDEN)
LOG OF TEST BORINGS 6 OF 9

UNIT:	3643	CONTRACT No.	BRIDGE No.
PROJ. No. & PHASE:	08000005061	08-0M9401	54-0482R

VERT DATUM: NGVD29 CONVERSION: NAVD88 = NGVD29 + 2.1 ft
 NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA

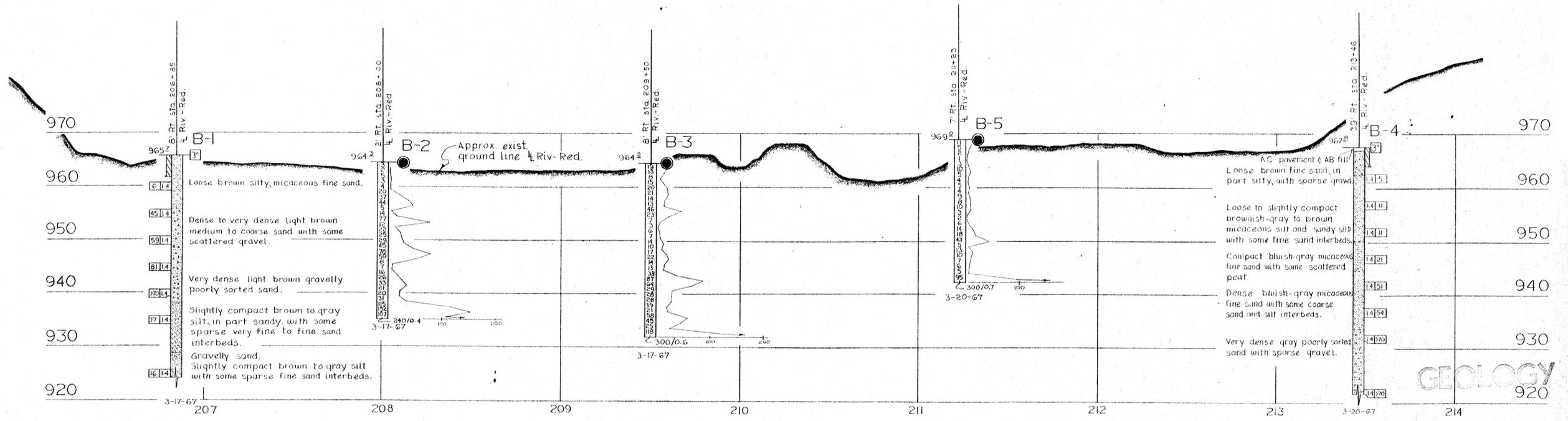
Sheet	of
64	67

TO ACCOMPANY PLANS DATED 4-16-12



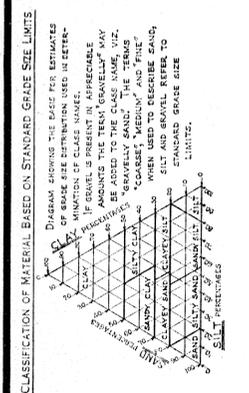
PLAN
 Scale: 1" = 30'

PROFILE
 Scale: Vert: 1" = 10'
 Horiz: 1" = 30'



LEGEND OF EARTH MATERIALS

GRAVEL	CLAY	CLAYEY SILT	CLAYEY SAND	CLAYEY SILT OR SAND	CLAYEY SAND	CLAYEY SILT	CLAYEY SAND	CLAYEY SILT	CLAYEY SAND
SAND	SILT	SANDY SILT	SANDY SAND	SANDY SILT	SANDY SAND	SANDY SILT	SANDY SAND	SANDY SILT	SANDY SAND
ORGANIC MATTER	IGNEOUS ROCK	SEDIMENTARY ROCK	METAMORPHIC ROCK	IGNEOUS ROCK	SEDIMENTARY ROCK	METAMORPHIC ROCK	IGNEOUS ROCK	SEDIMENTARY ROCK	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.

NO GROUND WATER ENCOUNTERED DURING THIS INVESTIGATION BY BRIDGE DEPT. GEOLOGY SECTION DATE Mar. 1967.

STATE OF CALIFORNIA
 DEPARTMENT OF PUBLIC WORKS
 DIVISION OF HIGHWAYS

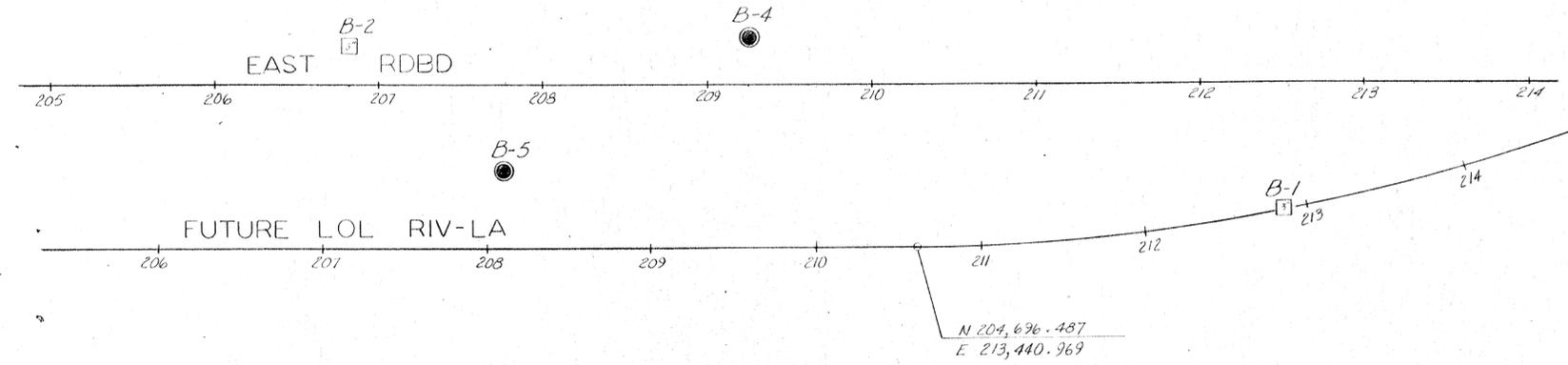
COLTON-LOMA LINDA YARD OH

LOG OF TEST BORINGS

SCALE AS NOTED	BRIDGE 54-482 QR	FILE	DRAWING
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BRIDGE DEPARTMENT
 ENGINEERING GEOLOGY SECTION

BENCH MARK
 BM# 13-A-56 Elev 974.87
 Chis. X on S. corner PCC endwall 35' Lt.
 Sta. 125+60 & Imp. S. Rdbd.



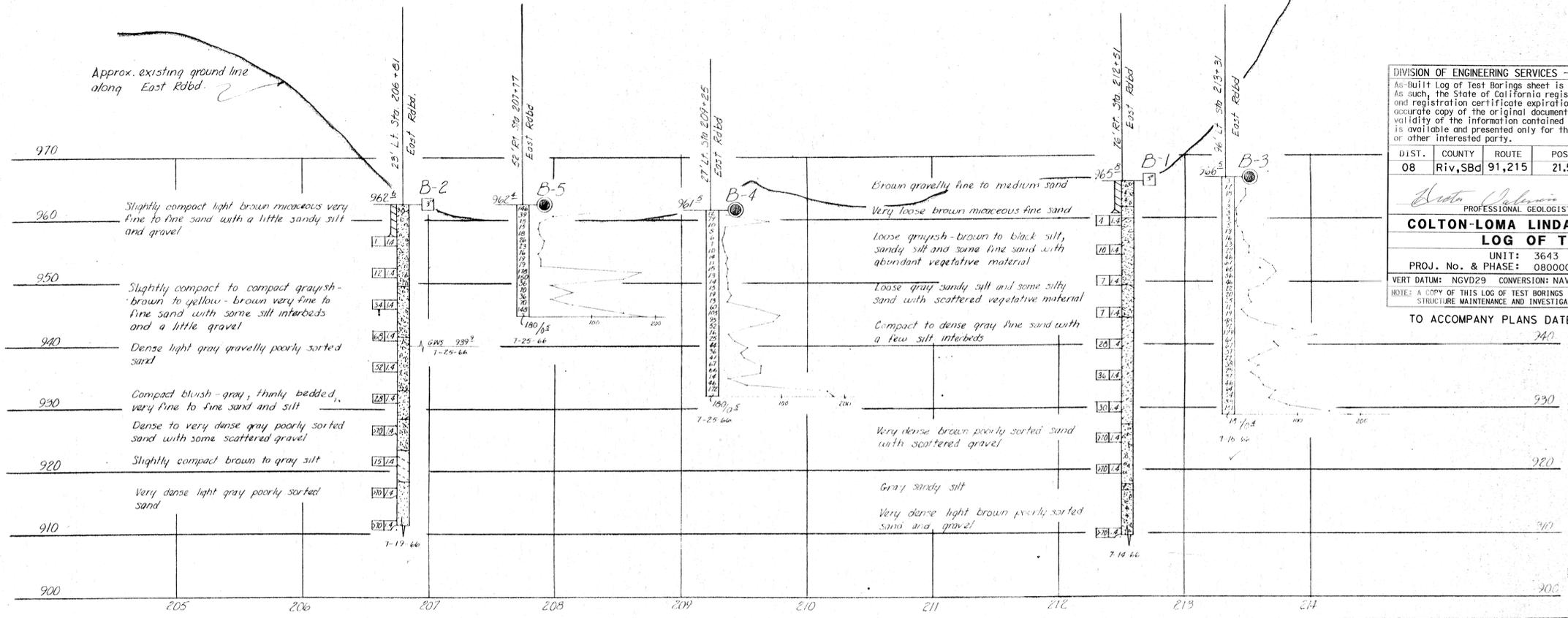
PLAN
 Scale 1"=50'



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DIST.	COUNTY	ROUTE	POST MILE-TOTAL PROJECT	Sheet No.	Total Sheets
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1550	1743

UNIT: 3643 CONTRACT No. 08-0W9401 BRIDGE No. 54-0482R
 PROJ. No. & PHASE: 08000005061
 VERT DATUM: NVD29 CONVERSION: NAVD88 = NVD29 + 2.1 ft
 SHEET 66 OF 67
 TO ACCOMPANY PLANS DATED 4-16-12



PROFILE
 Scale Vert. 1"=10'
 Horiz. 1"=50'

LEGEND

1" SOIL TUBE

PENETROMETER
 1/4" CONE PENETROMETER
 SAMPLER BORING (GRV)
 RETARY BORING (MET)
 AUGER BORING (GRV)
 JET BORING
 CORE BORING
 TEST PIT

ROTARY BORING

Location
 Top Hole El.
 Casing
 Size of casing
 Blow count
 Description of material
 (Unit weight (pcf))
 Moisture content (%)
 Liquid limit (%)
 Plastic limit (%)
 Shrinkage (%)
 Unconfined material change
 (pcf)
 Unconfined material change
 (%)
 Unconfined material change
 (pcf)

LEGEND OF EARTH MATERIALS

SILTY CLAY OR CLAYEY SILT
 BEAT AND/OR ORGANIC MATTER
 FILL MATERIAL
 IGNEOUS ROCK
 SEDIMENTARY ROCK
 METAMORPHIC ROCK

GRAVEL
 SAND
 SILT
 CLAY
 SANDY CLAY OR CLAYEY SAND
 SILTY SAND OR SANDY SILT

CLASSIFICATION OF MATERIAL BASED ON STANDARD GRADE SIZE LIMITS

DIAGRAM SHOWING THE BASIS FOR ESTIMATES OF GRADE SIZE DISTRIBUTION USED IN DETERMINING THE CLASSIFICATION OF MATERIALS. IF GRAVEL IS PRESENT IN APPRECIABLE AMOUNTS THE TERM "GRAVELLY" MAY BE ADDED TO THE CLASS NAME, I.E., "GRAVELLY SAND". THE TERMS "SANDY CLAY", "CLAYEY SAND", "SANDY SILT", "SILT", "CLAY", "SANDY SILT", "SILT", "CLAY", "SANDY CLAY", "CLAYEY SAND", "SANDY SILT", "SILT", "CLAY" ARE USED TO DESCRIBE SAND, SILT AND GRAVEL REFER TO STANDARD GRADE SIZE LIMITS.

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.

STATE OF CALIFORNIA
 DEPARTMENT OF PUBLIC WORKS
 DIVISION OF HIGHWAYS

COLTON LOMA LINDA YARD OVERHEAD (WIDEN)

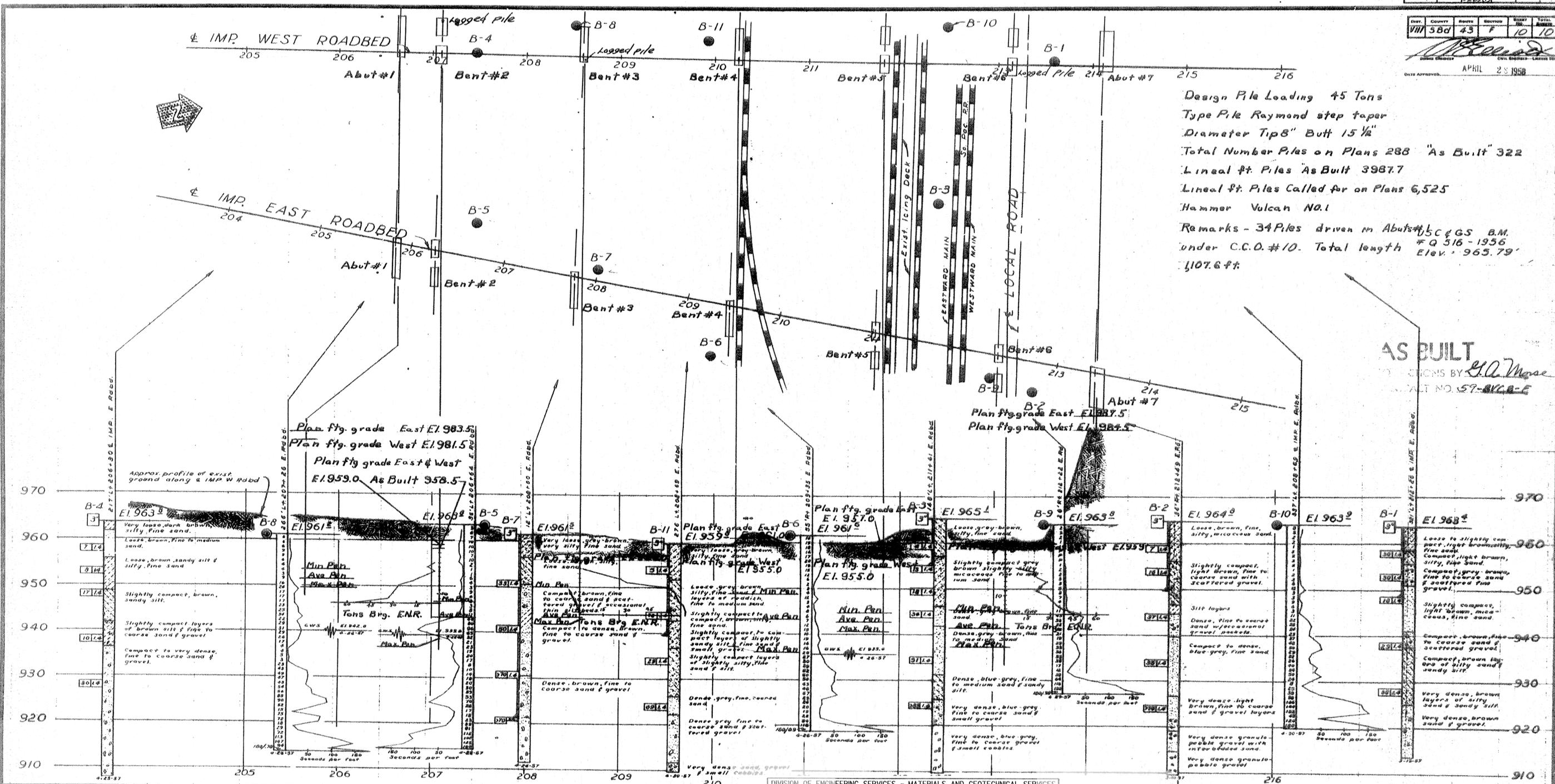
LOG OF TEST BORINGS

SCALE As Noted BRIDGE 54-432 R FILL DRAWING

PREL. DRAWING NO. PR-

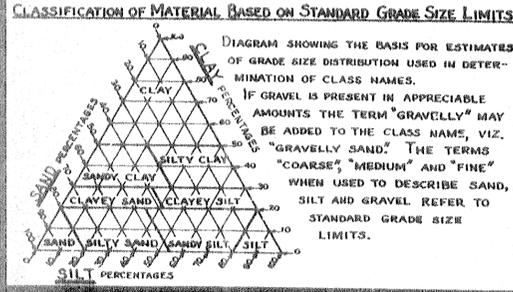
Design Pile Loading 45 Tons
 Type Pile Raymond step taper
 Diameter Tip 8" Butt 15 1/2"
 Total Number Piles on Plans 288 "As Built" 322
 Lineal Ft. Piles "As Built" 3987.7
 Lineal Ft. Piles Called for on Plans 6,525
 Hammer Vulcan No. 1
 Remarks - 34 Piles driven in Abutments & G.S. B.M. under C.C.O. #10. Total length 795.16 ft. Elev. 965.79'

AS BUILT
 REVISIONS BY *W.A. Morse*
 DRAWING NO. 57-4164-E



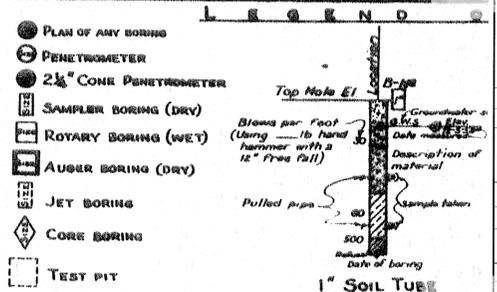
BRIDGE DEPARTMENT

DRAWN BY: L. COLTAR...
 CHECKED BY: L. COLTAR...
 APPROVED BY: *[Signature]*
 APPROVED BY: *[Signature]*



LEGEND OF EARTH MATERIALS

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



DIVISION OF ENGINEERING SERVICES - MATERIALS AND GEOTECHNICAL SERVICES

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DIST.	COUNTY	ROUTE	POST MILE-TOTAL PROJECT	Sheet No.	Total Sheets
08	Riv, Sbd	91,215	21,521,743,245,2,0,0,5,1	1551	1743

PROF. GEOLOGIST
Hector Valencia
 No. 7776
 Exp. 2-29-12

DATE: 12-11-55
COLTON-LOMA LINDA YARD OH RT (WIDEN)
LOG OF TEST BORINGS 9 OF 9

UNIT:	CONTRACT No.	BRIDGE No.
3643	08-0M9401	54-0482R

PROJ. No. & PHASE: 08000005061
 VERT DATUM: NGVD29 CONVERSION: NAVD88 = NGVD29 + 2.1 ft
 NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA

Sheet of	67	67
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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.

STATE OF CALIFORNIA
 DEPARTMENT OF PUBLIC WORKS
 DIVISION OF HIGHWAYS

COLTON-LOMA LINDA YARD O.H.

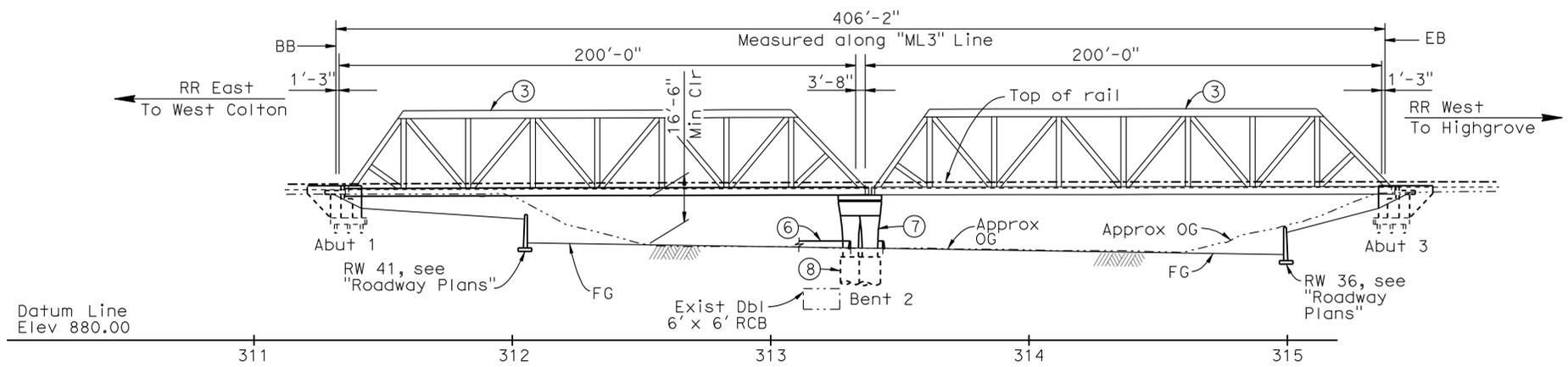
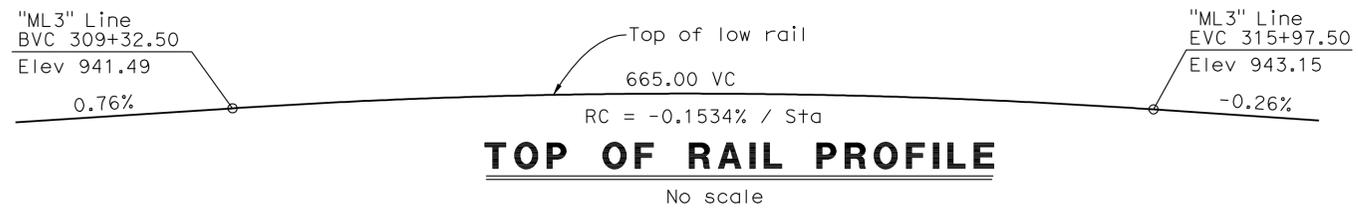
LOG OF TEST BORINGS

NO. 1530
 SCALE VERT. 1"=10'
 BRIDGE 54-482R FILE 54-0482R DRAWING C4164-10
 PREL. DRAWING NO. P. 4164

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1552	1743

REGISTERED CIVIL ENGINEER: **Larry Wu**
 DATE: 4-06-12
 PLANS APPROVAL DATE: 4-16-12
 LARRY WU
 No. C57035
 Exp. 6-30-13
 CIVIL
 STATE OF CALIFORNIA

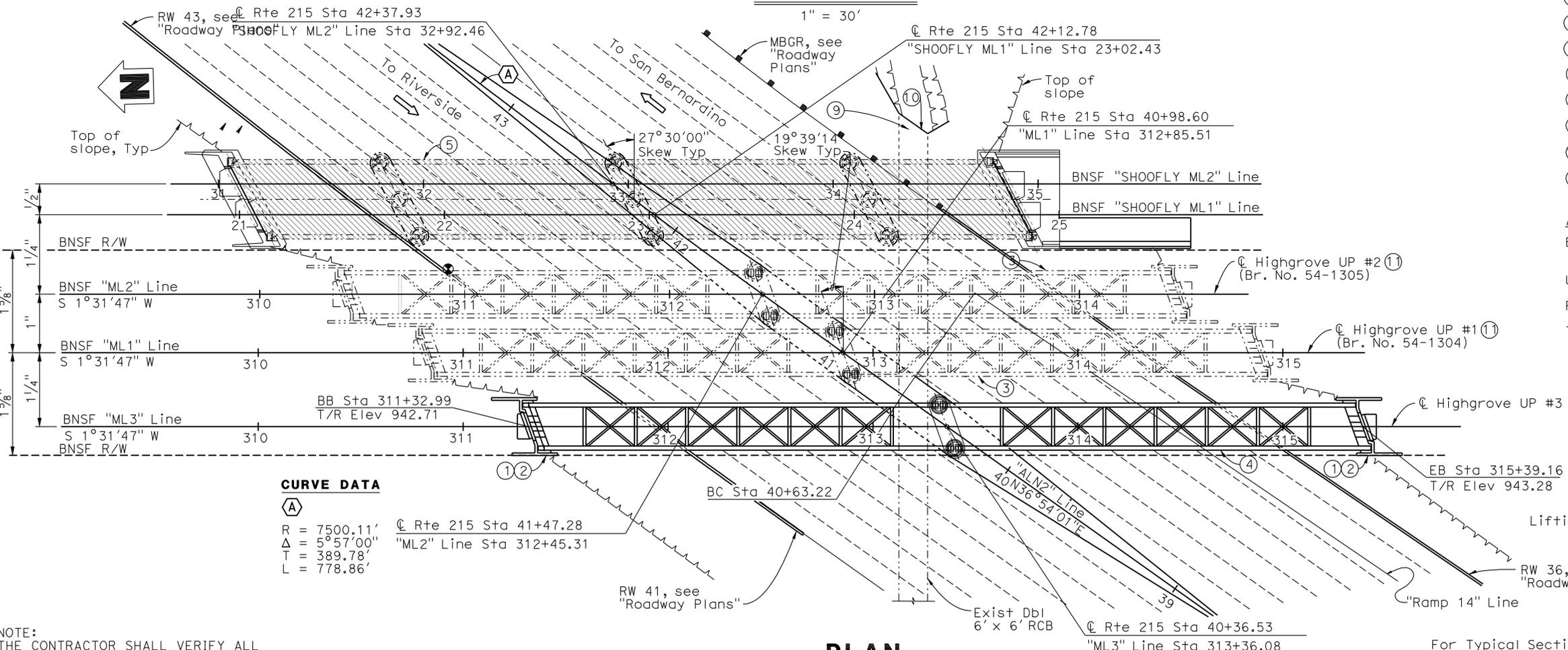
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- LEGEND:**
- Indicates new construction
 - Indicates existing structure
 - ▨ Limits of bridge removal after construction of Replacement Bridges.
 - ⊗ Point of minimum vertical clearance
 - ➔ Indicates Direction of Traffic

- NOTES:**
- ① Paint "BR. NO. 54-1304"
 - ② Paint "HIGHGROVE UP #1"
 - ③ Steel Through Truss, Replacement Structure
 - ④ Future BNSF "ML3" Construction
 - ⑤ Steel Through Girder, Highgrove UP (Shoofly)
 - ⑥ Concrete Barrier Type 60E, see "Roadway Plans"
 - ⑦ 6'-0" Dia Column
 - ⑧ 8'-0" Dia CIDH Shaft
 - ⑨ RCB Extension
 - ⑩ Grand Terrace Storm Drain
 - ⑪ For details of Highgrove #1 and Highgrove #2, see separate structure plans

- ABBREVIATIONS:**
- BNSF Burlington Northern and Santa Fe Railway (Bridge Owner)
 - UP Underpass
 - R/W Right of Way
 - T/R Top of Rail



CURVE DATA

Ⓐ	R = 7500.11'	Ⓞ Rte 215 Sta 41+47.28
	Δ = 5° 57' 00"	"ML2" Line Sta 312+45.31
	T = 389.78'	
	L = 778.86'	

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

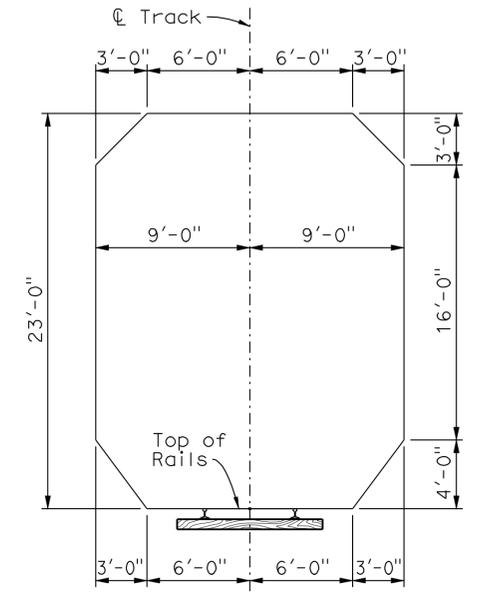
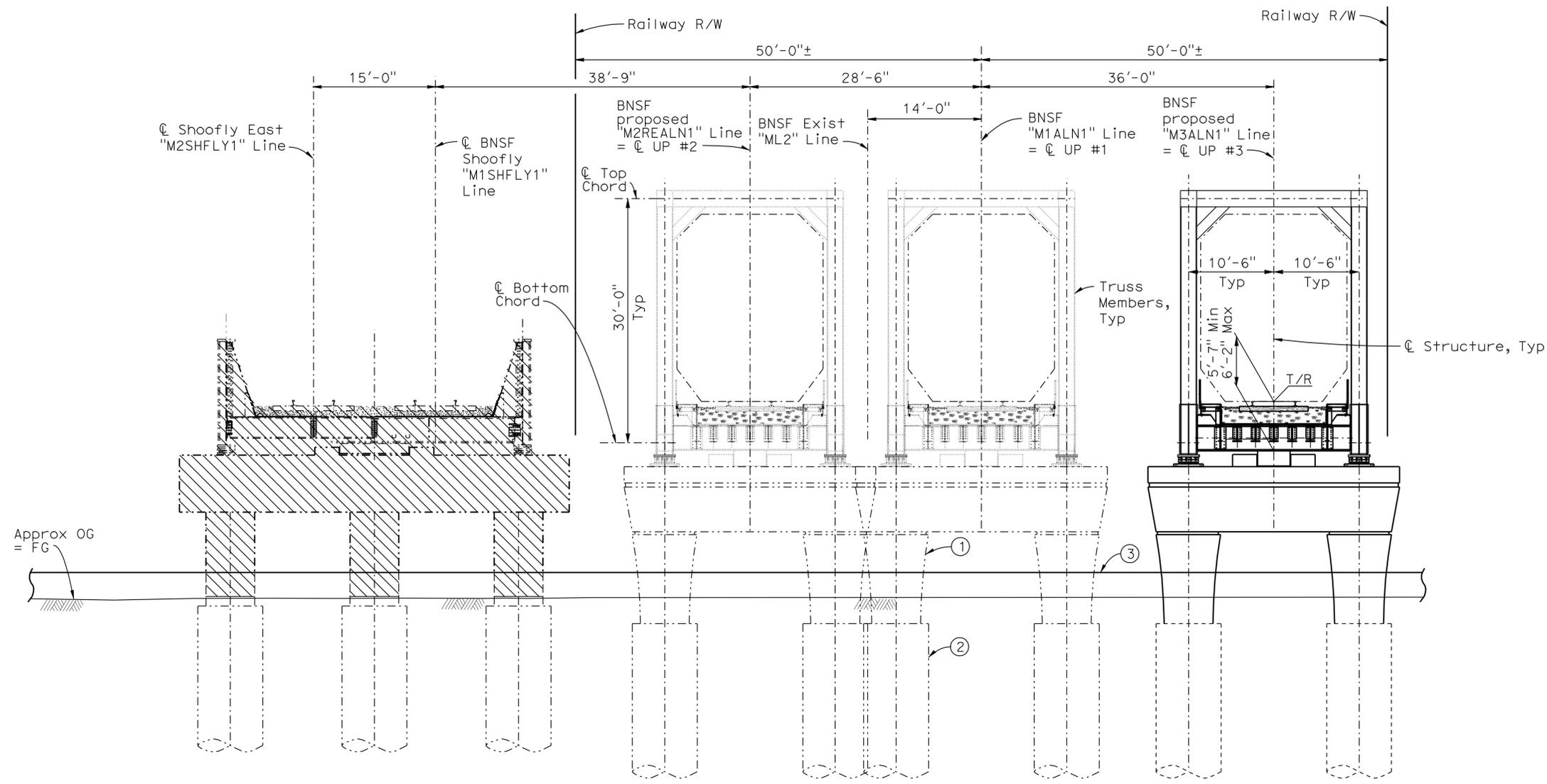
For Typical Section, see "GENERAL PLAN NO. 2" sheet.
 For General Notes and Index to Plans, see "INDEX TO PLANS" sheet.
 For Pile Data Table and Quantities, see "GENERAL PLAN NO. 2" sheet.

DESIGN ENGINEER: DANIEL T. ADAMS DESIGNER: DANIEL T. ADAMS	DESIGN BY: L. Wu	CHECKED BY: B. Addlespurger	LFD = RC ASD = STEEL	LIVE LOADING: AREMA COOPER E-80 AND ALTERNATIVE LIVE LOAD	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO. 54-1303	HIGHGROVE UNDERPASS #3 GENERAL PLAN NO. 1	
	DETAILS BY: G. Hallstrom	CHECKED BY: B. Addlespurger	LAYOUT BY: L. Wu	CHECKED BY: B. Addlespurger			R.R. MILE POST 5.91		LINE SEG. 7602
	QUANTITIES BY: T. Sanderson	CHECKED BY: A. McPhee	SPECIFICATIONS BY: J. Corrado	PLANS AND SPECS COMPARED BY: J. Corrado	UNIT: 3589	PROJECT NUMBER & PHASE: 08000005061	CONTRACT NO.: 08-0M9401	DISREGARD PRINTS BEARING EARLIER REVISION DATES	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS: 0 1 2 3								REVISION DATES: 3-08-11, 12-08-11, 3-28-12	SHEET 1 OF 42

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91,215	21.5/21.7, 43.2/45.2, 0.0/5.1	1553	1743

REGISTERED CIVIL ENGINEER: **LARRY WU**
 No. C57035
 Exp. 6-30-13
 CIVIL
 DATE: 4-06-12
 PLANS APPROVAL DATE: 4-16-12

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

PILE DATA TABLE

Location	Pile Type	Design Loading (WSD) (kips)		Nominal Resistance (kips)		Cut-off Elevations (ft)	Design Tip Elevation (ft)	Specified Tip Elevation (ft)
		Compression	Tension	Compression	Tension			
Abut 1	24" CIDH	200	0	200	0	924.0	894.0 (a)	894.0
Bent 2	96" CICH	2400	0	2400	0	915.0	822.0 (a)	822.0
Abut 3	24" CIDH	200	0	200	0	924.9	887.0 (a)	887.0

NOTE: Design tip elevations are controlled by the following demands: (a) Compression

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

QUANTITIES

STRUCTURE EXCAVATION (BRIDGE)	625	CY
STRUCTURE BACKFILL (BRIDGE)	271	CY
PERVIOUS BACKFILL MATERIAL	21	CY
24" CAST-IN-DRILLED-HOLE CONCRETE PILING	1,222	LF
96" CAST-IN-DRILLED-HOLE CONCRETE PILING	186	LF
STRUCTURAL CONCRETE, BRIDGE FOOTING	100	CY
STRUCTURAL CONCRETE, BRIDGE BEARING	288	CY
BAR REINFORCING STEEL (BRIDGE)	8	EA
WATERPROOFING AND COVER	270,738	LB
FURNISH STRUCTURAL STEEL (BRIDGE)	6,859	SQFT
ERECT STRUCTURAL STEEL (BRIDGE)	1,918,493	LB
CLEAN AND PAINT STRUCTURAL STEEL	1,918,493	LB
MISCELLANEOUS METAL (BRIDGE)	LUMP	SUM
BRIDGE DECK DRAINAGE SYSTEM	27,955	LB
PIPE HANDRAILING	2,722	LB
	812	LF

LEGEND:

- Indicates new construction
- Indicates existing structure
- ▨ Indicates bridge removal after construction of Replacement Bridges

NOTES:

- ① 6'-0" Dia Column
- ② 8'-0" Dia CIDH Shaft
- ③ Concrete Barrier Type 60E, see "Roadway Plans"

ABBREVIATIONS:

- BNSF Burlington Northern and Santa Fe Railway (Bridge Owner)
- UP Underpass
- R/W Right of Way
- T/R Top of Rail

DESIGN ENGINEER DANIEL T. ADAMS	DESIGN BY: L. Wu	CHECKED: B. Addlespurger	LFD = RC ASD = STEEL	LIVE LOADING: AREMA COOPER E-80 AND ALTERNATIVE LIVE LOAD	BRIDGE NO. 54-1303	HIGHGROVE UNDERPASS #3
	DETAILS BY: G. Hallstrom/Y. Tang	CHECKED: B. Addlespurger	LAYOUT BY: L. Wu	CHECKED: B. Addlespurger	R.R. MILE POST 5.91	
	QUANTITIES BY: T. Sanderson	CHECKED: A. McPhee	SPECIFICATIONS BY: J. Corrado	CHECKED: J. Corrado	LINE SEG. 7602	GENERAL PLAN NO. 2
				PLANS AND SPECS COMPARED	UNIT: 3589 PROJECT NUMBER & PHASE: 08000005061	

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS: 0 1 2 3
 CONTRACT NO.: 08-0M9401
 DISREGARD PRINTS BEARING EARLIER REVISION DATES
 REVISION DATES: 7-28-11, 7-28-12, 3-28-12
 SHEET 2 OF 42

INDEX TO PLANS

Sheet No.	Title
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 LAYOUT
7.	ABUTMENT DETAILS NO. 1
8.	ABUTMENT DETAILS NO. 2
9.	BENT LAYOUT
10.	BENT DETAILS NO. 1
11.	BENT DETAILS NO. 2
12.	SHEAR KEY BEAM LAYOUT
13.	SHEAR KEY BEAM DETAILS
14.	SCHEMATIC LAYOUT / STRESS SHEET
15.	TRUSS DETAILS NO. 1
16.	TRUSS DETAILS NO. 2
17.	TRUSS DETAILS NO. 3
18.	TRUSS DETAILS NO. 4
19.	TRUSS DETAILS NO. 5
20.	TRUSS DETAILS NO. 6
21.	TRUSS DETAILS NO. 7
22.	TRUSS DETAILS NO. 8
23.	TOP LATERAL BRACING NO. 1
24.	TOP LATERAL BRACING NO. 2
25.	BOTTOM LATERAL BRACING NO. 1
26.	BOTTOM LATERAL BRACING NO. 2
27.	FLOOR SYSTEM
28.	FLOOR SYSTEM DETAILS NO. 1
29.	FLOOR SYSTEM DETAILS NO. 2
30.	DECK PLATE DETAILS
31.	BEARING LAYOUT
32.	BEARING DETAILS
33.	DRAINAGE DETAILS
34.	WATERPROOF DETAILS
35.	WALKWAY AND HANDRAIL DETAILS
36.	LOG OF TEST BORINGS SHEET 1 OF 7
37.	LOG OF TEST BORINGS SHEET 2 OF 7
38.	LOG OF TEST BORINGS SHEET 3 OF 7
39.	LOG OF TEST BORINGS SHEET 4 OF 7
40.	LOG OF TEST BORINGS SHEET 5 OF 7
41.	LOG OF TEST BORINGS SHEET 6 OF 7
42.	LOG OF TEST BORINGS SHEET 7 OF 7

GENERAL NOTES

- DESIGN:
- "MANUAL FOR RAILWAY ENGINEERING" AREMA 2010 EDITION, Chapter 8 & Chapter 15
 - BNSF RAILWAY-UNION PACIFIC RAILROAD, "GUIDELINES FOR RAILROAD GRADE SEPARATION PROJECTS" - 2007
 - STEEL CONSTRUCTION MANUAL-AISC 13th EDITION
 - BRIDGE DESIGN SPECIFICATIONS" LFD VERSION, APRIL 2000 (1996 16th Edition AASHTO with Interims and Revisions by CALTRANS)
- SEISMIC DESIGN:
- Caltrans Seismic Design Criteria (SDC) Version 1.6, November, 2010
 "MANUAL FOR RAILWAY ENGINEERING" AREMA 2010 EDITION, Chapter 9
- LIVE LOADING:
- COOPER E-80 with Diesel Impact and Alternate Live Load
- SEISMIC LOADING:
- AREMA Peak Rock Acceleration (PRA): Level 1 PRA= 0.33g
 Level 2 PRA=0.58g, Level 3 PRA= 0.91g

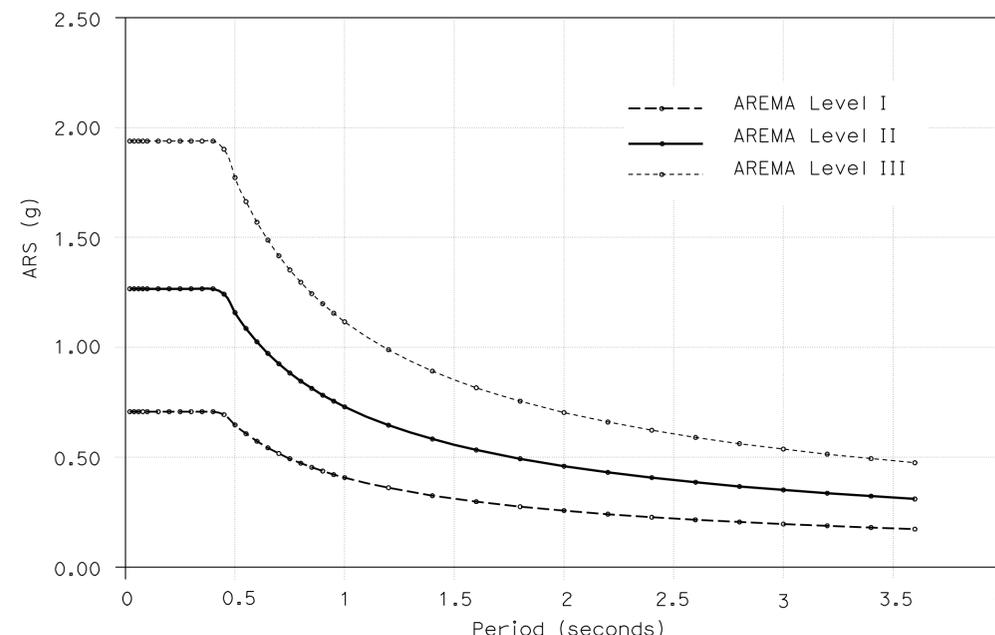
NOTE:
 THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91,215	21.5/21.7, 43.2/45.2, 0.0/5.1	1554	1743

REGISTERED CIVIL ENGINEER
 LARRY WU
 No. C57035
 Exp. 6-30-13
 CIVIL
 STATE OF CALIFORNIA

4-06-12 DATE
 4-16-12 PLANS APPROVAL DATE

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



REINFORCED CONCRETE:

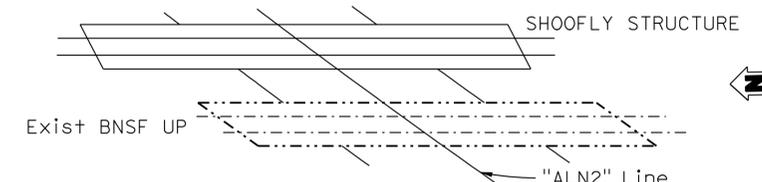
Load Factor Design
 $f_c = 4,500$ psi
 $f_y = 60,000$ psi
 $n = 8$

STRUCTURAL STEEL:

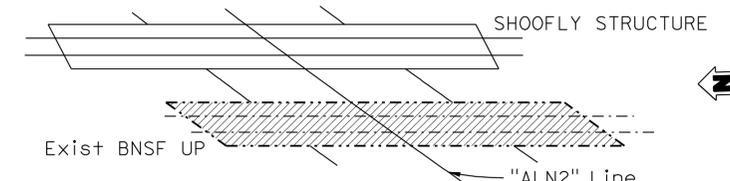
Allowable Stress Design
 1. For ASTM Designation of steel members, see Table below:

Members	Material
All Truss Members / Connection	ASTM A709 Grade 50W (50WF for FCM)
Floor Beam / Connection	ASTM A709 Grade 50W (50WF for FCM)
Stringer / Bracing Assy	ASTM A709 Grade 50W (50WF for FCM)
Deck Plate	ASTM A709 Grade 36 (Painted)
Walkway Checkered Plate	ASTM A709 Grade 36 (Galvanized)
Walkway Support Components	ASTM A709 Grade 36 (Painted)
Bearing Anchor Rod	ASTM F1554 Grade 105
Bearing Pintles	ASTM A354 BD
Bearing Rocker Plate/Base Plate	ASTM A709 Grade HPS 70W
Ladder Assy & Handrail Post	ASTM A709 Grade 36 (Galvanized)

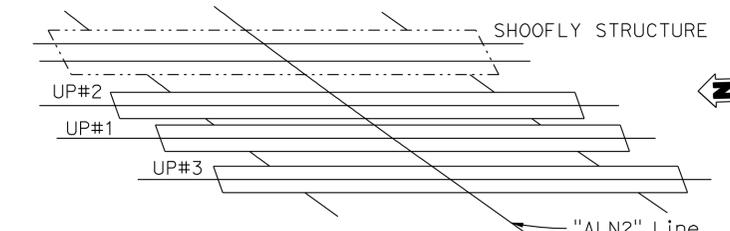
- Unless noted otherwise, HS bolts, including nuts and washers shall be 1" \emptyset ASTM A325X Type 3 Bolts with bolt heads toward the outside or the underside of the bridge.
- All bolted parts shall be prepared for Class A slip critical contact surfaces according to AREMA.
- Electrodes shall be E70XX unless noted otherwise.



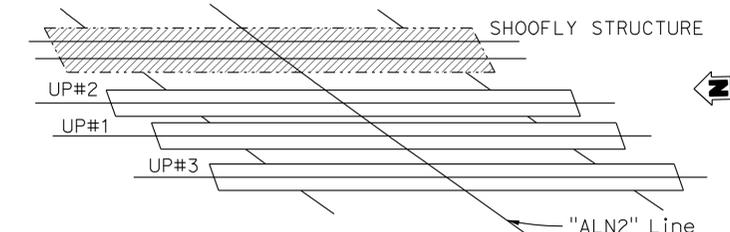
STAGE 1 - CONSTRUCT SHOOFLY STRUCTURE
 No Scale



STAGE 2 - REMOVE EXISTING UNDERPASS
 No Scale



STAGE 3 - CONSTRUCT UP#1, #2, #3
 No Scale

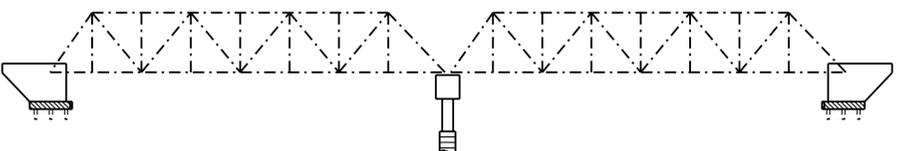
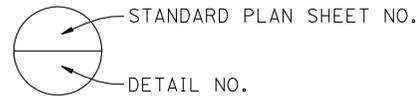


STAGE 4 - REMOVE SHOOFLY
 No Scale

CONSTRUCTION STAGES

STANDARD PLANS DATED MAY 2006

A10A	ACRONYMS AND ABBREVIATIONS (SHEET 1 OF 2)
A10B	ACRONYMS AND ABBREVIATIONS (SHEET 2 OF 2)
A10C	SYMBOLS (SHEET 1 OF 2)
A10D	SYMBOLS (SHEET 2 OF 2)
A62B	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL-BRIDGE SURCHARGE AND WALL
A62C	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL-BRIDGE
B0-3	BRIDGE DETAILS
B0-13	BRIDGE DETAILS
B2-3	16" AND 24" CAST-IN-DRILLED-HOLE CONCRETE PILE
B7-6	DECK DRAINS TYPES D-1 AND D-2
B11-47	CABLE RAILING



- Structural Concrete, Bridge
- Structural Concrete, Bridge Footing ($f_c' = 4,000$ psi)
- CIDH Pile ($f_c' = 4,000$ psi)

CONCRETE STRENGTH AND TYPE LIMITS

No Scale

DESIGN	BY L. Wu	CHECKED B. Addiespurger	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO.	HIGHGROVE UNDERPASS #3
DETAILS	BY Y. Tang/G. Hallstrom	CHECKED B. Addiespurger			54-1303	
QUANTITIES	BY T. Sanderson	CHECKED A. McPhee			R.R. MILE POST 5.91 LINE SEG. 7602	

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

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

UNIT: 3589 PROJECT NUMBER & PHASE: 08000005061 CONTRACT NO.: 08-0M9401

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
2-08-11	3	42

FILE => 541303a1tp03.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1555	1743

REGISTERED CIVIL ENGINEER **Larry Wu** DATE **4-06-12**
 PLANS APPROVAL DATE **4-16-12**
 No. **C57035** Exp. **6-30-13**
 LARRY WU
 REGISTERED PROFESSIONAL ENGINEER
 STATE OF CALIFORNIA
 CIVIL

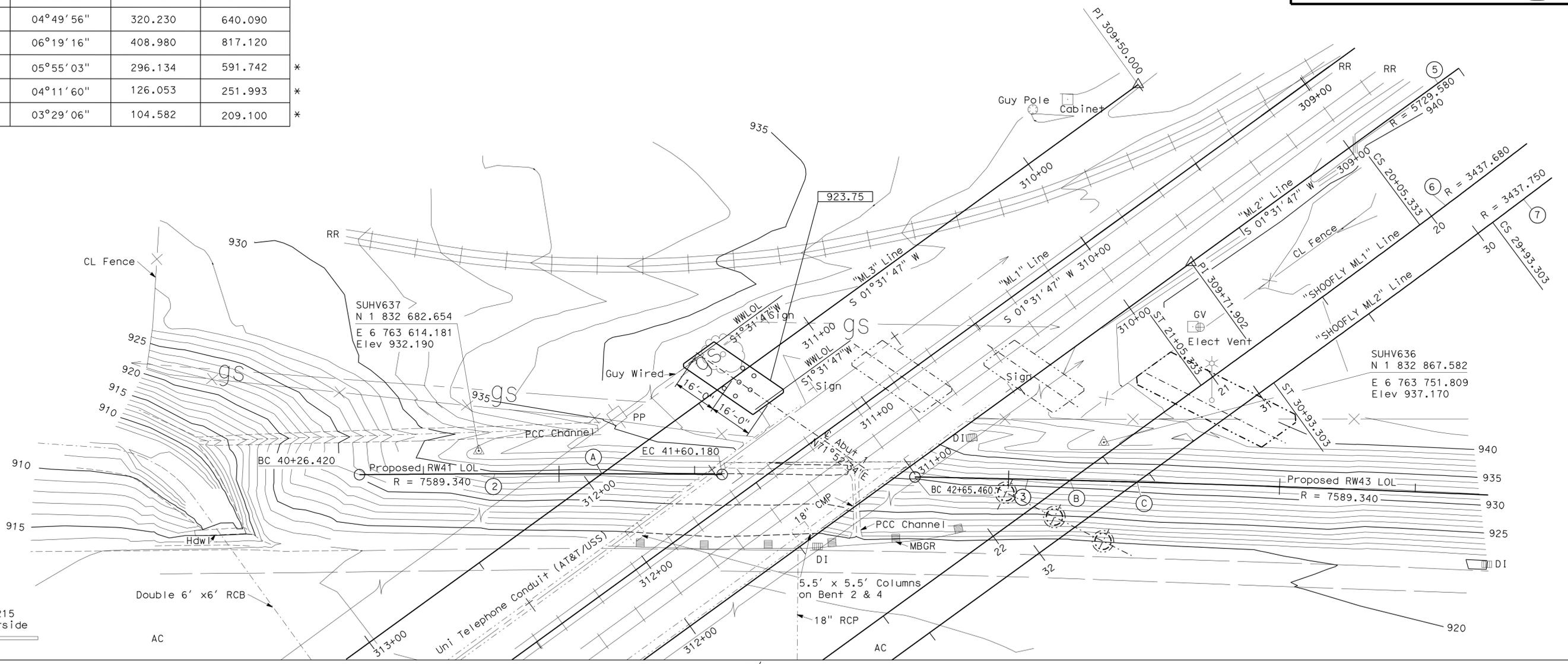
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

Bridge Location
Paving Notch are buried.

No.	R	Δ	T	L
①	7500.110	05°56'60"	389.780	778.860
②	7589.340	01°00'35"	66.880	133.760
③	7589.340	04°49'56"	320.230	640.090
④	7406.420	06°19'16"	408.980	817.120
⑤	5729.580	05°55'03"	296.134	591.742
⑥	3437.680	04°11'60"	126.053	251.993
⑦	3437.750	03°29'06"	104.582	209.100

* Part of Spiral

- Ⓐ 311+94.210 "ML3" Line =
41+15.780 Proposed RW41 LOL
- Ⓑ 21+64.880 "SHOOFLY ML1" Line =
43+22.740 Proposed RW43 LOL
- Ⓒ 31+55.510 "SHOOFLY ML2" Line =
43+47.41 Proposed RW43 LOL



Match Line- See "FOUNDATION PLAN No. 2 OF 2"

SURVEY CONTROL
 SUHV637
 PD: 1" IP/ Caltrans Plug
 91.110 Lt. @ Rte 215
 Sta 41+06.400
 N 1 832 682.654
 E 6 763 614.181
 Elev 932.190
 SUHV636
 PD: 1" IP/ Caltrans Plug
 96.940 Lt. @ Rte 215
 Sta 43+34.000
 N 1 832 867.582
 E 6 763 751.809
 Elev 937.170

- LEGEND:**
- TS: Point of change from tangent to spiral
 - SC: Point of change from spiral to circle
 - CS: Point of change from circle to spiral
 - ST: Point of change from TS to any point on the spiral
 - XXX.XX Indicates bottom of footing elevation

NOTE:

- Underground utilities as shown are approximate. See District Utility Plans for details.
- For abbreviation of Spiral Notation, see LEGEND.

PRELIMINARY INVESTIGATION SECTION				DESIGN BY L. Wu	CHECKED BY B. Addiespurger	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO. 54-1303	HIGHGROVE UNDERPASS #3 FOUNDATION PLAN NO. 1			
SCALE 1"=20'	VERT. DATUM NAVD88	PHOTOGRAMMETRY AS OF: X	DETAILS BY G. Hallstrom	CHECKED BY B. Addiespurger	R.R. MILE POST 5.91							
ALIGNMENT TIES Dist. Traverse Sheet	SURVEYED BY T. Phung/ C. Stewart	CHECKED BY X	QUANTITIES BY T. Sanderson	CHECKED BY D. Azzam	LINE SEG. 7602							
STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 09-01-10)						ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3647	PROJECT NUMBER & PHASE: 08000005061	CONTRACT NO.: 08-0M9401	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 4 OF 42

USERNAME => s124496 DATE PLOTTED => 14-JUN-2012 TIME PLOTTED => 05:54

Bridge Location
Paving Notch are buried.

No.	R	Δ	T	L
①	7500.110	05°56'60"	389.780	778.860
②	7589.340	01°00'35"	66.880	133.760
③	7589.340	04°49'56"	320.230	640.090
④	7406.420	06°19'16"	408.980	817.120
⑧	8595.230	00°58'54"	73.629	147.255
⑨	3437.680	04°25'02"	132.579	265.026
⑩	3437.680	04°24'60"	132.562	264.993

* Part of Spiral

- Ⓓ 40+36.530 @ Rte 215 =
313+36.080 "ML3" Line
- Ⓔ 40+98.600 @ Rte 215 =
312+85.510 "ML1" Line
- Ⓕ 41+47.280 @ Rte 215 =
312+45.310 "ML2" Line
- Ⓖ 42+12.780 @ Rte 215 =
23+02.420 "SHOOFLY ML1" Line

- Ⓗ 42+37.930 @ Rte 215 =
32+92.450 "SHOOFLY ML2" Line
- Ⓘ 24+73.050 "SHOOFLY ML1" Line =
40+73.640 Proposed RW40 LOL
- Ⓙ 34+62.280 "SHOOFLY ML2" Line =
40+99.440 Proposed RW40 LOL



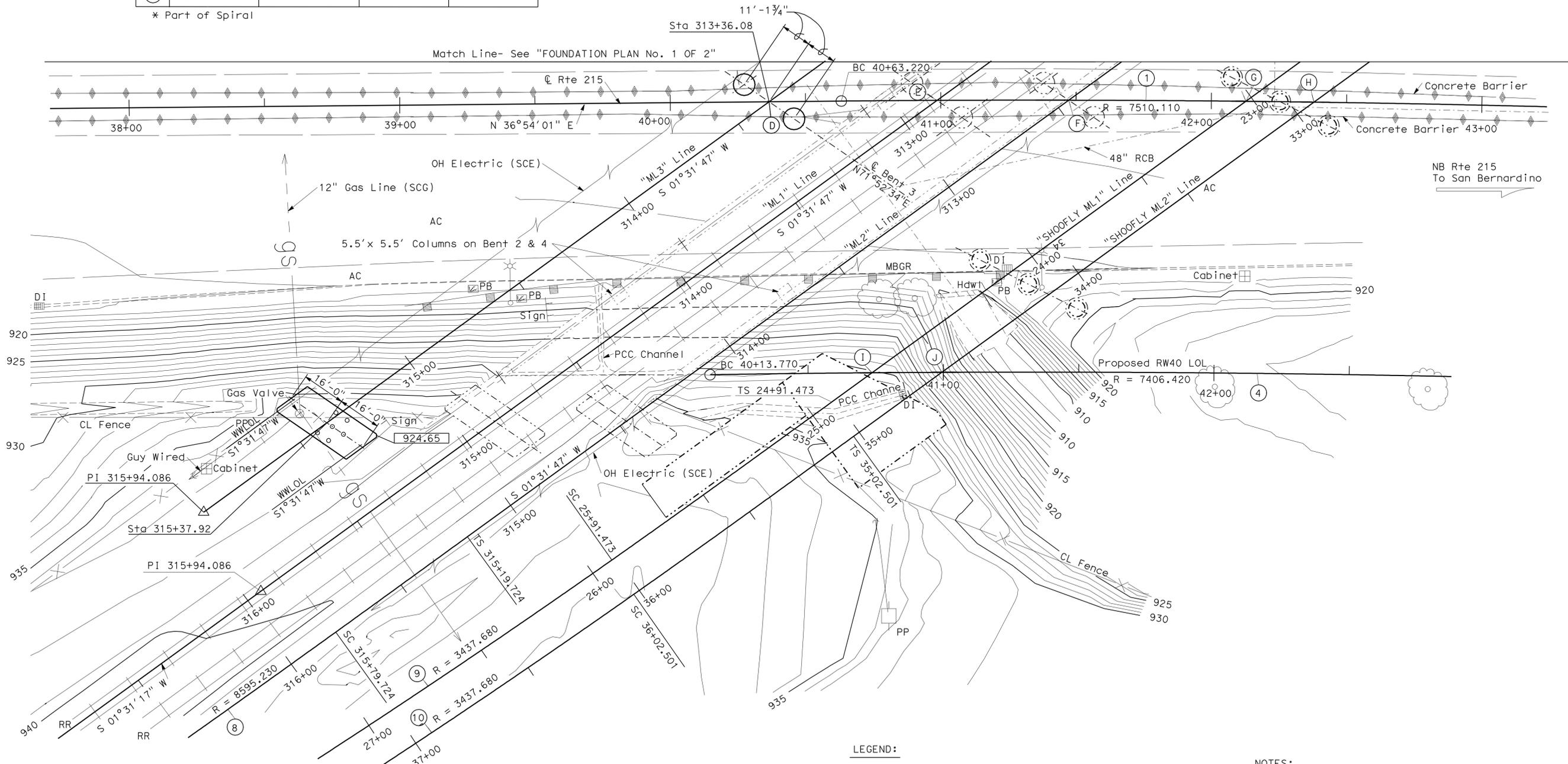
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1556	1743

REGISTERED CIVIL ENGINEER **LARRY WU** No. C57035 Exp. 6-30-13 CIVIL

DATE: 4-06-12

PLANS APPROVAL DATE: 4-16-12

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- LEGEND:**
- TS: Point of change from tangent to spiral
 - SC: Point of change from spiral to circle
 - CS: Point of change from circle to spiral
 - ST: Point of change from TS to any point on the spiral
 - XXX.XX Indicates bottom of footing elevation

- NOTES:**
- Underground utilities as shown are approximate. See District Utility Plans for details.
 - For abbreviation of Spiral Notation, see LEGEND.

SURVEY CONTROL
See "FOUNDATION PLAN No. 1 OF 2"

PRELIMINARY INVESTIGATION SECTION				DESIGN BY L. Wu	CHECKED B. Addlespurger	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION DESIGN BRANCH 10	BRIDGE NO. 54-1303	HIGHGROVE UNDERPASS #3 FOUNDATION PLAN NO. 2
SCALE: VERT. DATUM NAVD88	PHOTOGRAMMETRY AS OF: X	DRAFTED BY T. Phung / C. Stewart	CHECKED BY X	DETAILS BY G. Hallstrom	CHECKED B. Addlespurger		R.R. MILE POST 5.91	
ALIGNMENT TIES Dist. Traverse Sheet	DRAFTED BY C. Pham	CHECKED BY E. Viagar	QUANTITIES BY T. Sanderson	CHECKED D. Azzam	CHECKED D. Azzam		LINE SEG. 7602	

STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 09-01-10)

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

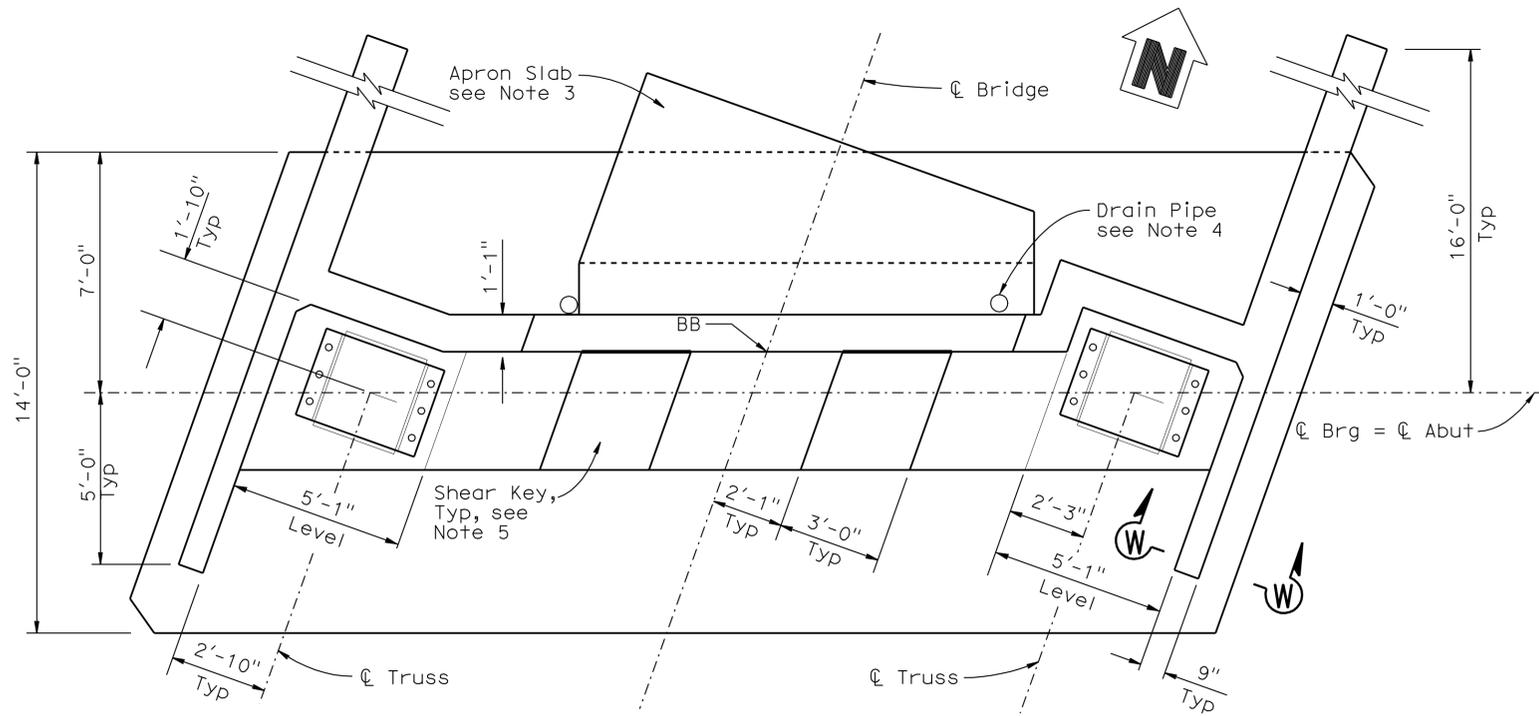
UNIT: 3647 PROJECT NUMBER & PHASE: 08000005061 CONTRACT NO.: 08-0M9401

DISREGARD PRINTS BEARING EARLIER REVISION DATES

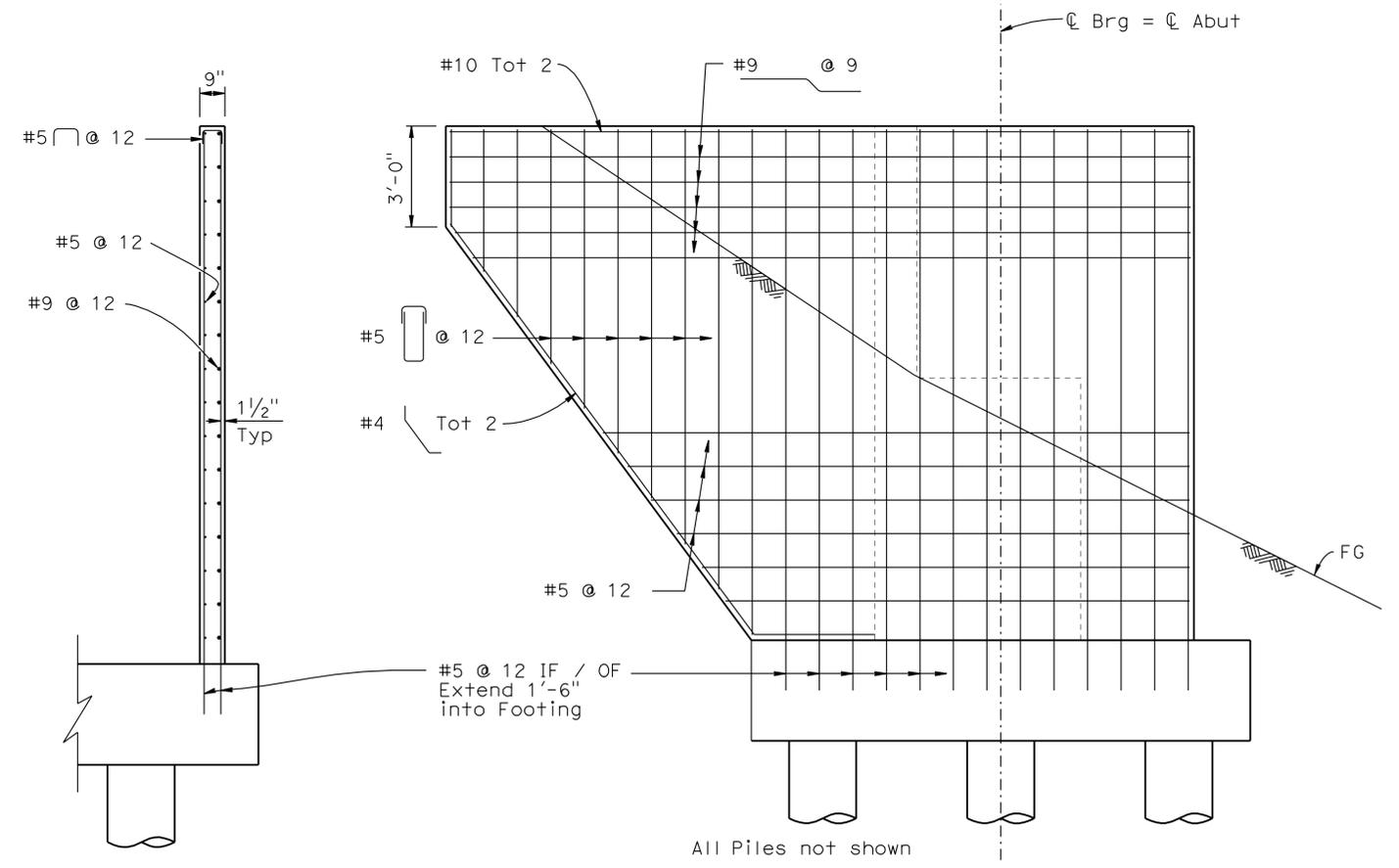
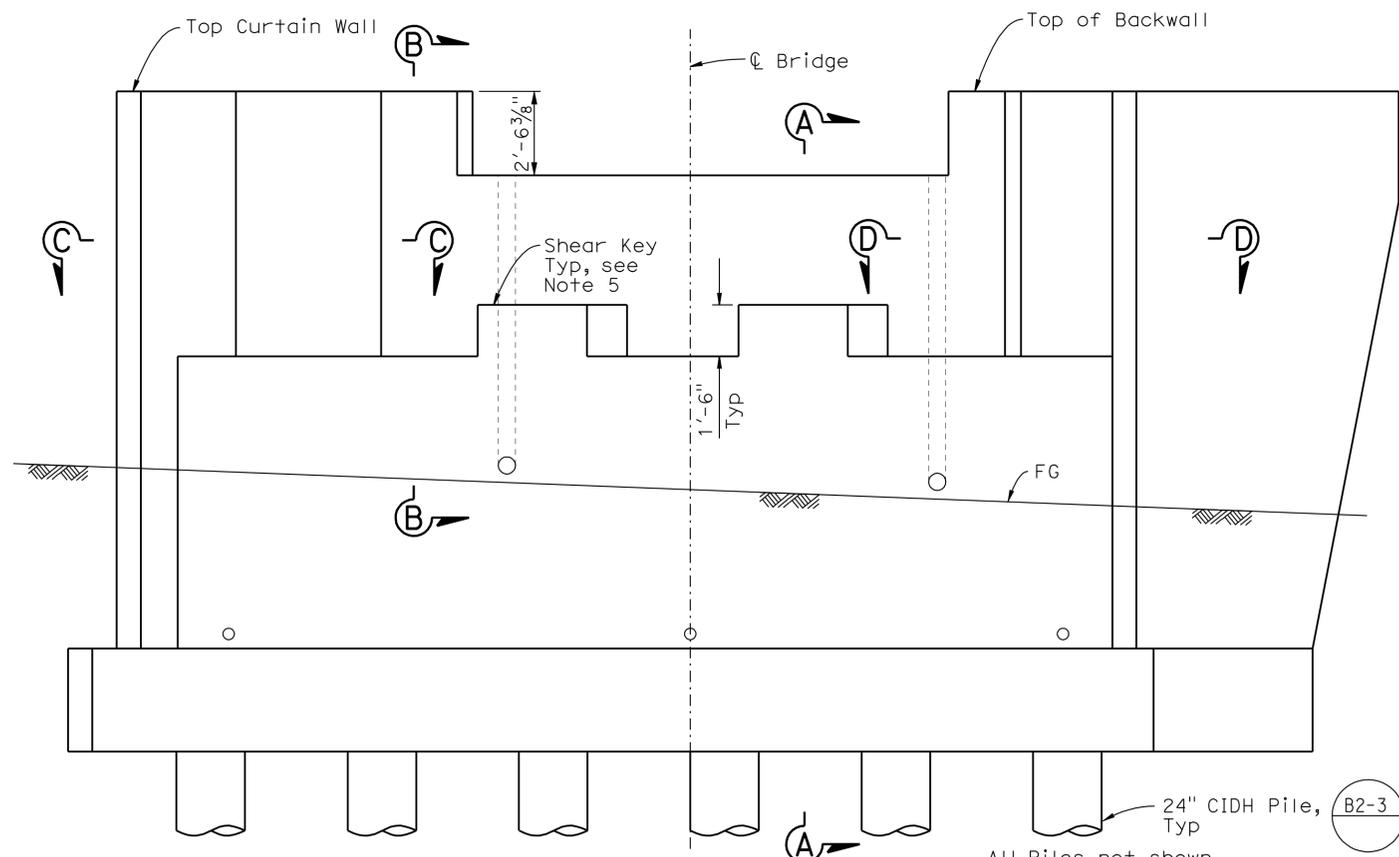
REVISION DATES	SHEET	OF
03/30/12	5	42

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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1557	1743
 REGISTERED CIVIL ENGINEER			4-06-12 DATE		
4-16-12 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



- NOTES:
1. For Section A-A, Section B-B & Shear Key Details, see "ABUTMENT DETAILS NO. 1" sheet.
 2. For Section C-C, Section D-D, Footing and Pile Layout, see "ABUTMENT DETAILS NO. 2" sheet.
 3. For Apron Slab details, see "ABUTMENT DETAILS NO. 2" sheet.
 4. For Drain Pipe details, see "DRAINAGE DETAILS" sheet.
 5. For Shear Key details, see "ABUTMENT DETAILS NO. 1" sheet.
 6. Abutment 1 shown, Abutment 3 reverse identical.



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

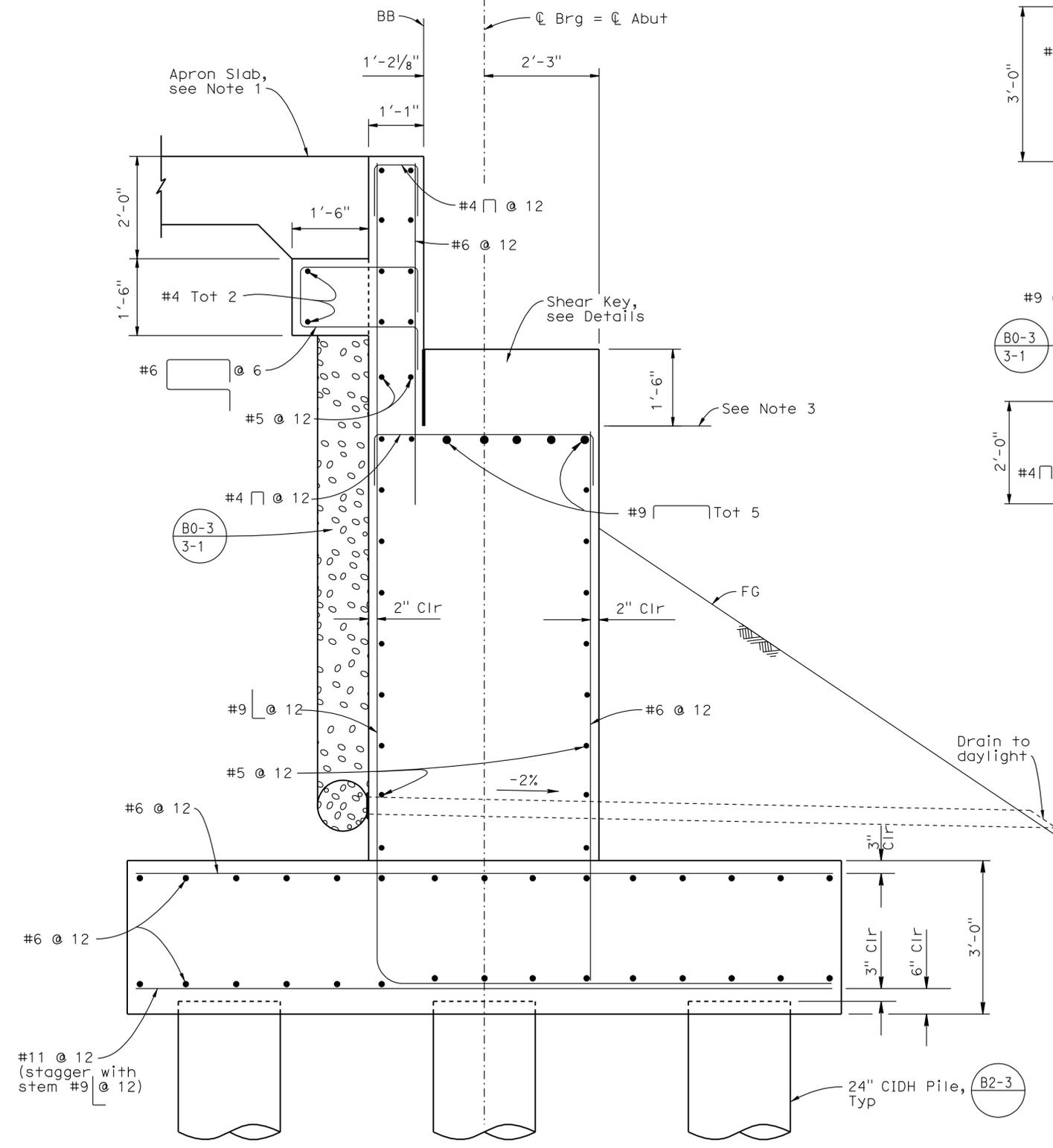
DESIGN BY L. Wu CHECKED B. Addiespurger DETAILS BY Y. Tang CHECKED B. Addiespurger QUANTITIES BY T. Sanderson CHECKED A. McPhee	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO. 54-1303	HIGHGROVE UNDERPASS #3 ABUTMENT LAYOUT		
			R.R. MILE POST 5.91			
			LINE SEG. 7602			
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3589 PROJECT NUMBER & PHASE: 08000005061	CONTRACT NO.: 08-0M9401	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 8-08-11 5-08-12 5-14-12	SHEET 6 OF 42

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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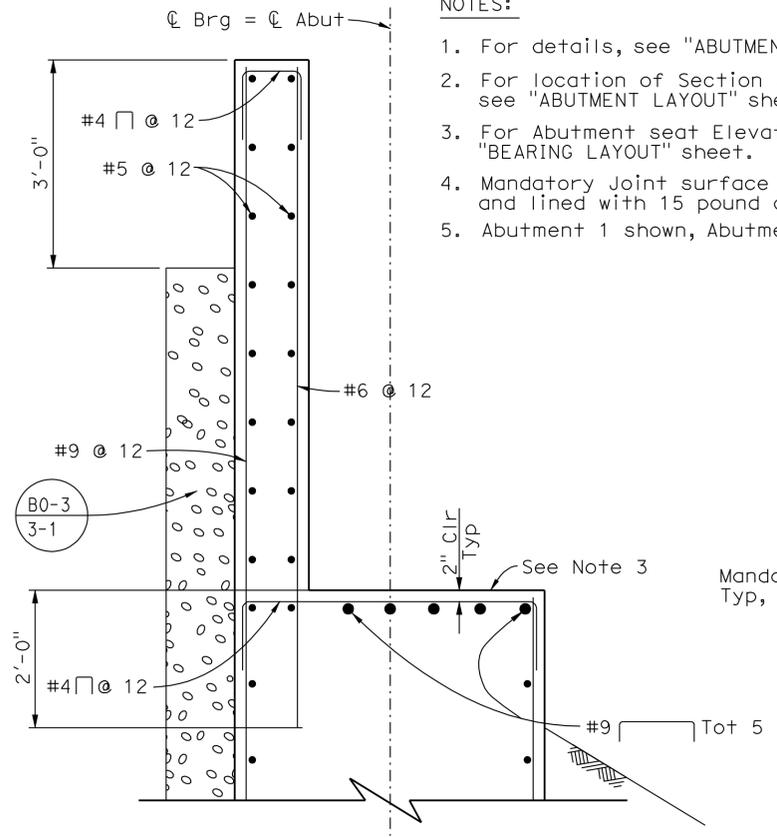
REGISTERED CIVIL ENGINEER
 LARRY WU
 No. C57035
 Exp. 6-30-13
 CIVIL
 STATE OF CALIFORNIA

4-06-12 DATE
 4-16-12 PLANS APPROVAL DATE
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

- NOTES:
- For details, see "ABUTMENT DETAILS NO. 2" sheet.
 - For location of Section A-A & Section B-B, see "ABUTMENT LAYOUT" sheet.
 - For Abutment seat Elevation, see "BEARING LAYOUT" sheet.
 - Mandatory Joint surface to be smooth finished and lined with 15 pound construction paper.
 - Abutment 1 shown, Abutment 3 similar.

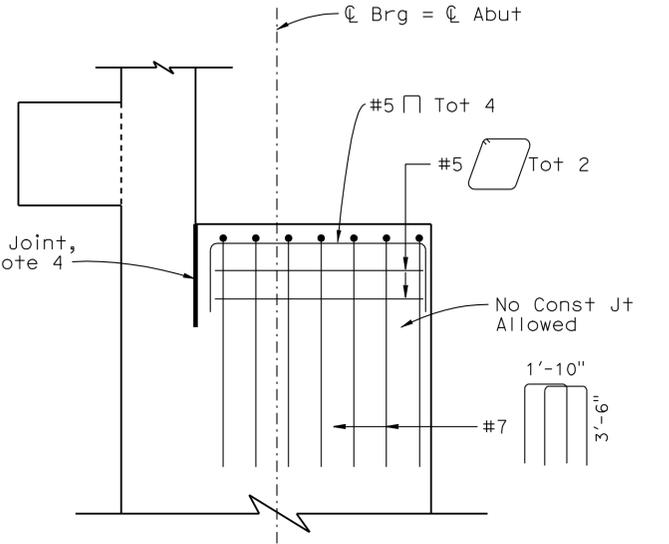


SECTION A-A
3/4" = 1'-0"



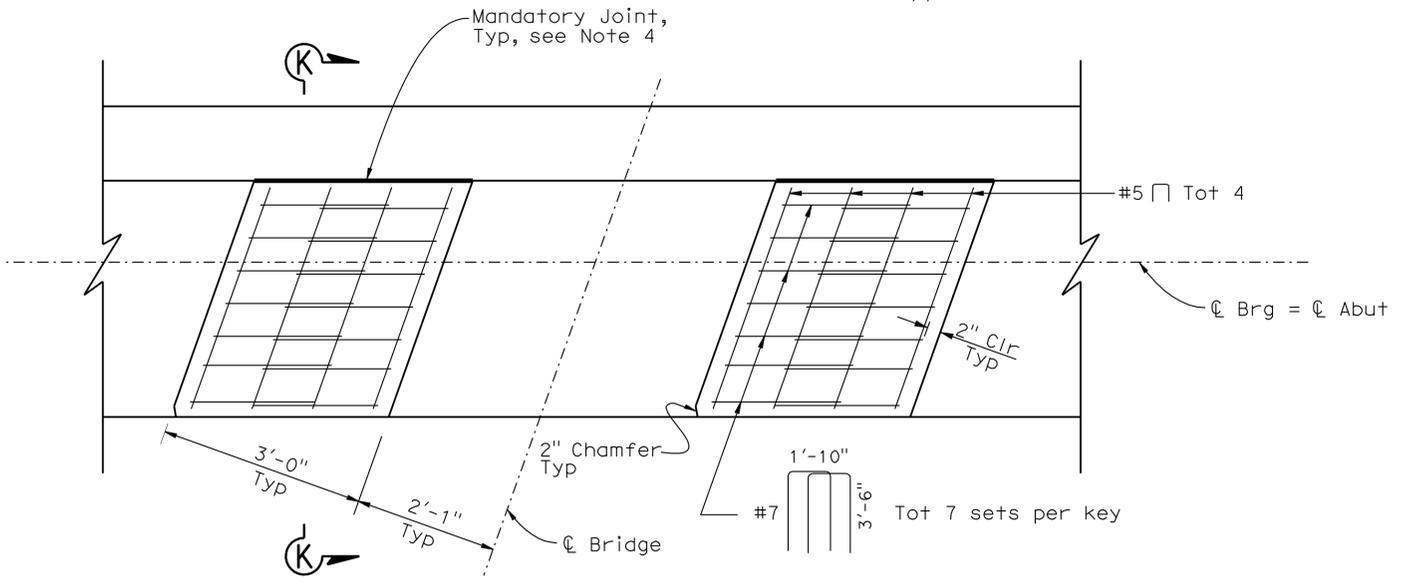
(For Details not shown, see Section A-A)

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



(For Details not shown, see Section A-A)

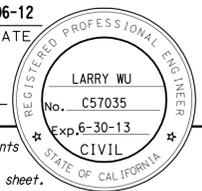
SECTION K-K
3/4" = 1'-0"

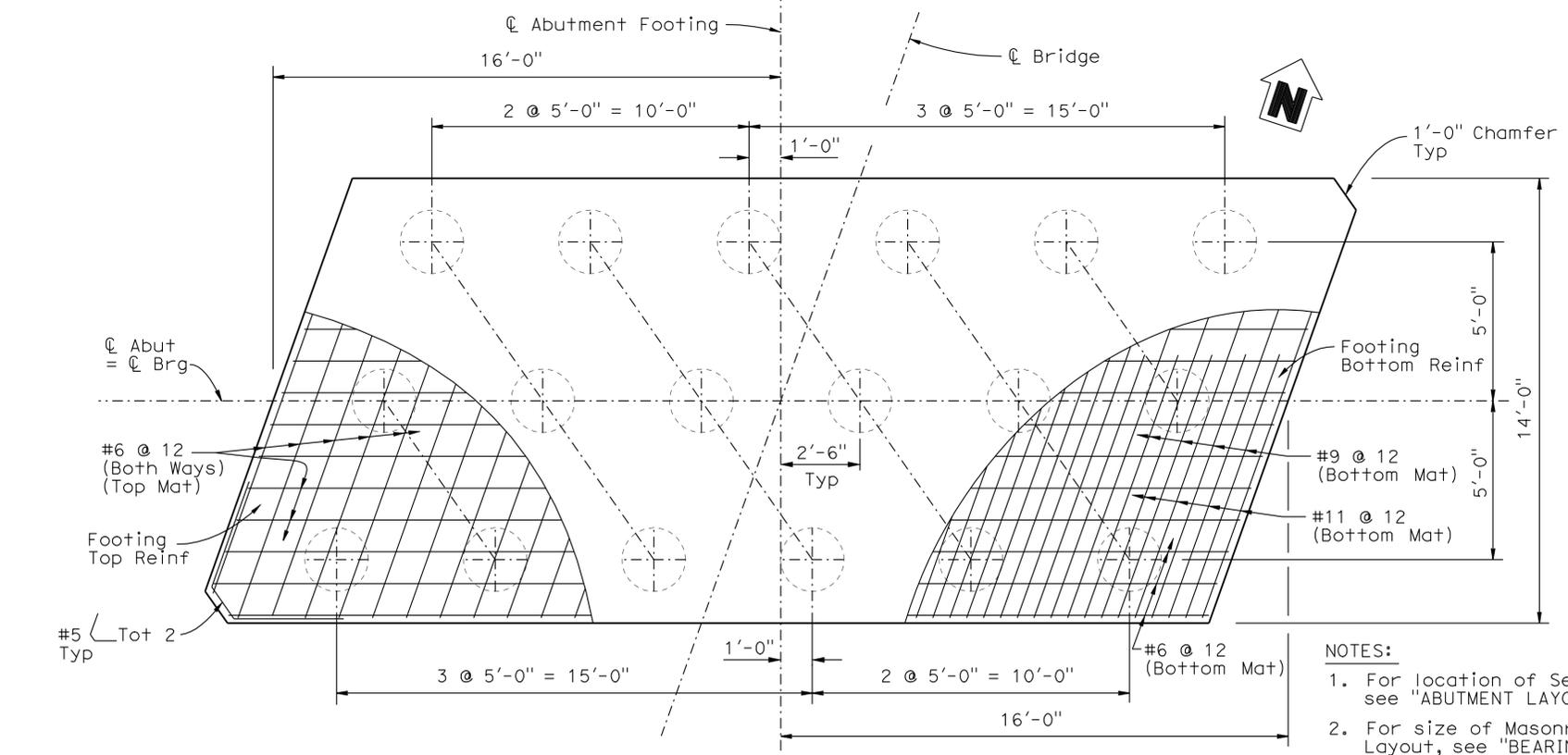
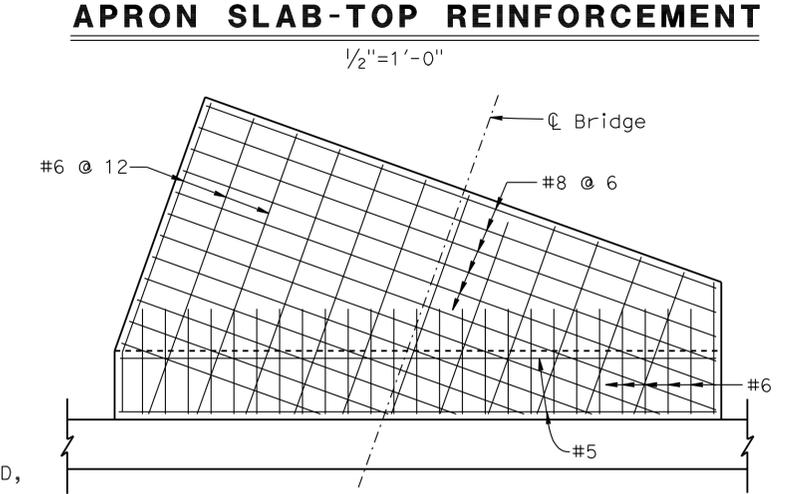
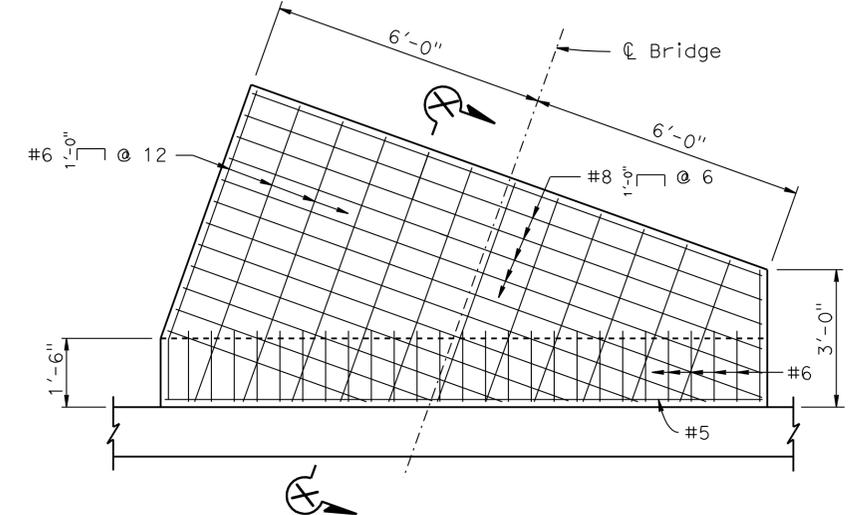
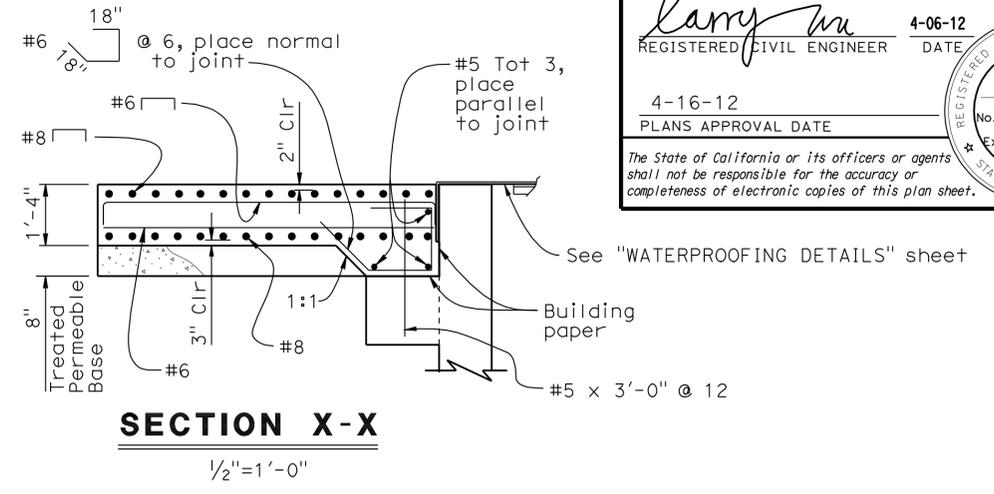
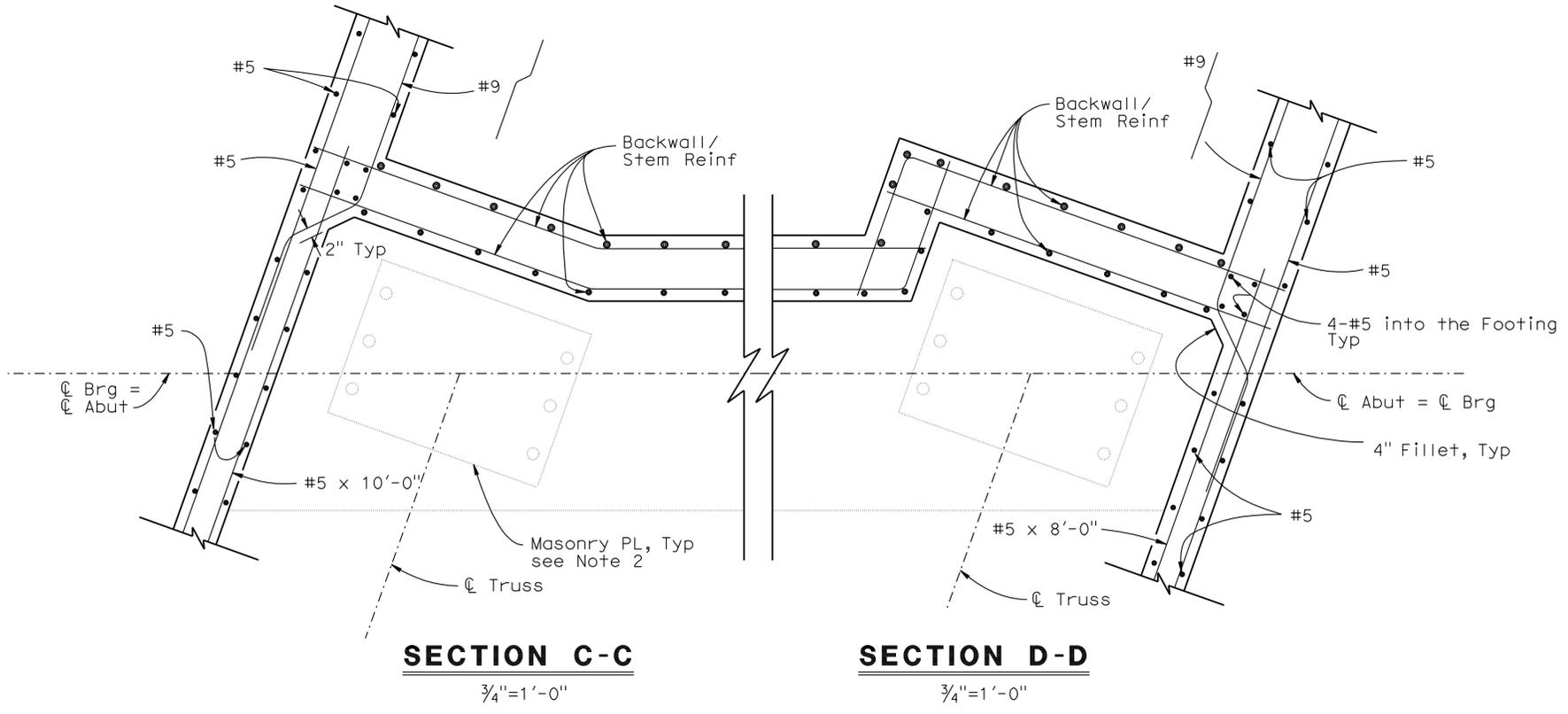


SHEAR KEY - PLAN
3/4" = 1'-0"

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

DESIGN	BY	L. Wu	CHECKED	B. Addiespurger	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO.	54-1303	HIGHGROVE UNDERPASS #3 ABUTMENT DETAILS NO. 1	
	DETAILS	BY	Y. Tang	CHECKED			B. Addiespurger	R.R. MILE POST		5.91
	QUANTITIES	BY	T. Sanderson	CHECKED			A. McPhee	LINE SEG. 7602		
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)					ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3589 PROJECT NUMBER & PHASE: 08000005061	CONTRACT NO.: 08-0M9401	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 7 OF 42

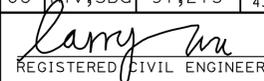
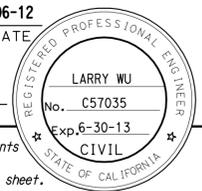
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1559	1743
 REGISTERED CIVIL ENGINEER			DATE 4-06-12		
PLANS APPROVAL DATE 4-16-12					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					

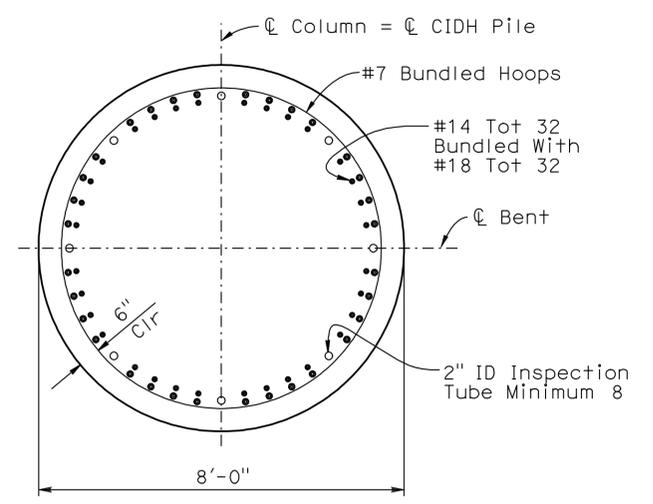
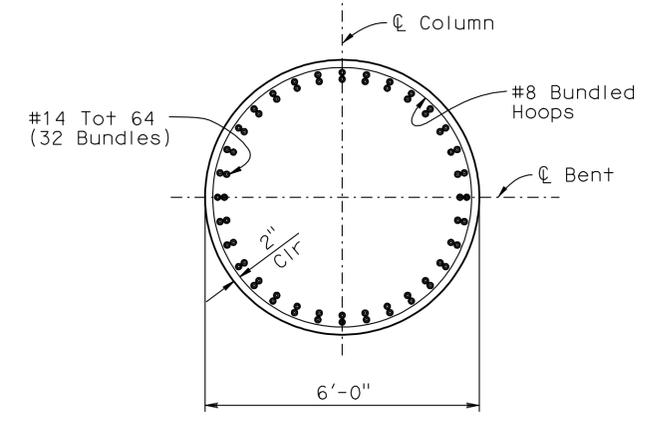
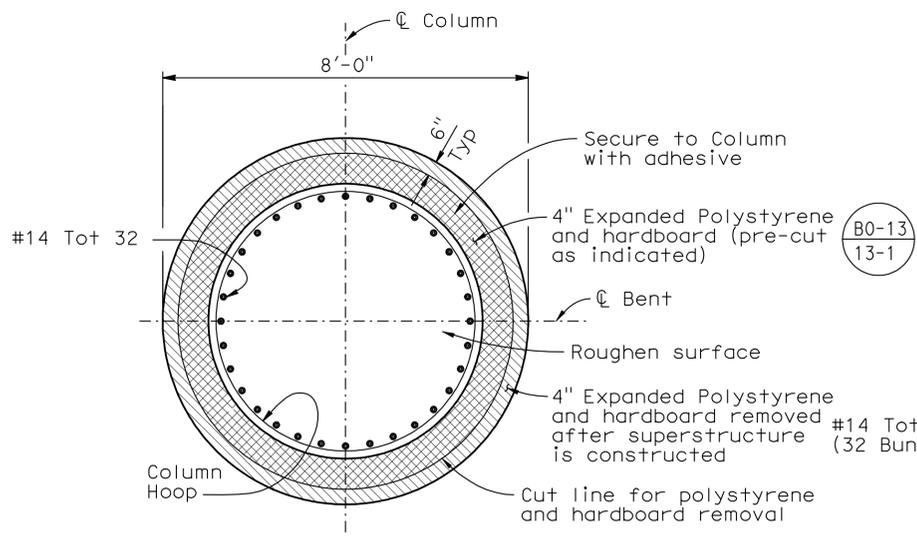
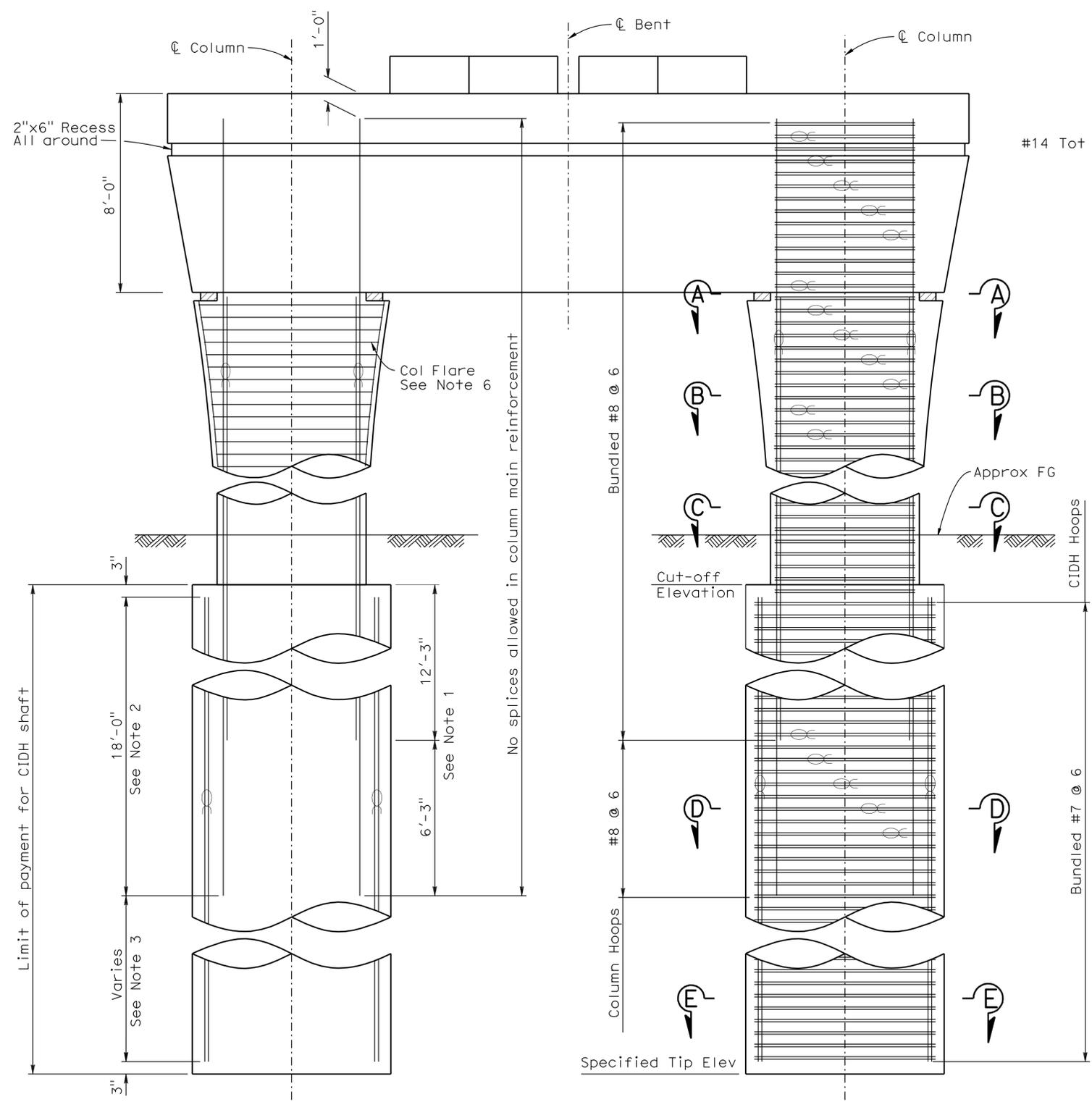


- NOTES:
- For location of Section C-C & Section D-D, see "ABUTMENT LAYOUT" sheet.
 - For size of Masonry Plate and Anchorage Layout, see "BEARING DETAILS" sheet.
 - For detail of Footing Reinf, see Section A-A on "ABUTMENT DETAILS NO. 1" sheet.
 - Abutment 1 shown, Abutment 3 similar.

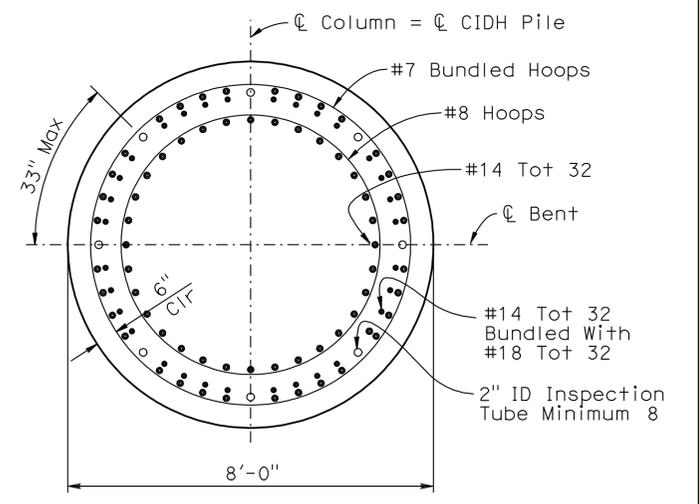
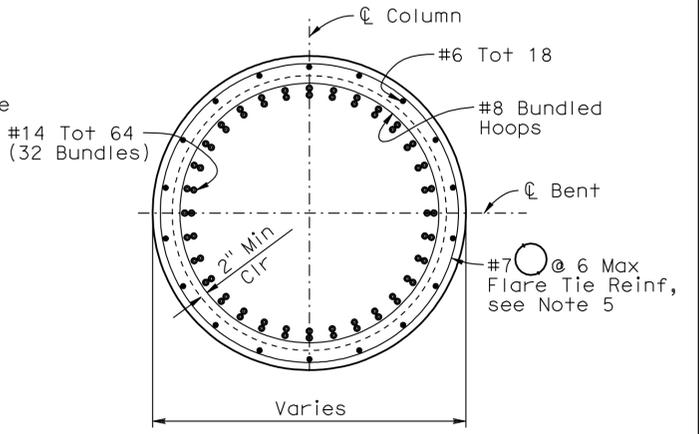
NOTE:
 THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN BY L. Wu	CHECKED BY B. Addiespurger	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO. 54-1303	HIGHGROVE UNDERPASS #3 ABUTMENT DETAILS NO. 2
	DETAILS BY Y. Tang	CHECKED BY B. Addiespurger			R.R. MILE POST 5.91	
	QUANTITIES BY T. Sanderson	CHECKED BY A. McPhee			LINE SEG. 7602	
			ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3	UNIT: 3589 PROJECT NUMBER & PHASE: 08000005061	CONTRACT NO.: 08-0M9401	DISREGARD PRINTS BEARING EARLIER REVISION DATES
						REVISION DATES 8-08-11 3-15-12 5-16-12
						SHEET 8 OF 42

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1560	1743
 REGISTERED CIVIL ENGINEER			4-06-12 DATE		
4-16-12 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



B0-13
13-1



- NOTES:**
1. Alternate cut-off lengths of main column Reinf.
 2. No splices allowed in main shaft Reinf.
 3. Only staggered "Ultimate" butt splices allowed in main shaft Reinf.
 4. All hoops are "Ultimate" butt spliced continuous.
 5. Splice Flare Tie Reinforcement with mechanical couplers. Stagger location of couplers.
 6. For Column Flare details, see "BENT DETAILS NO. 2" sheet.

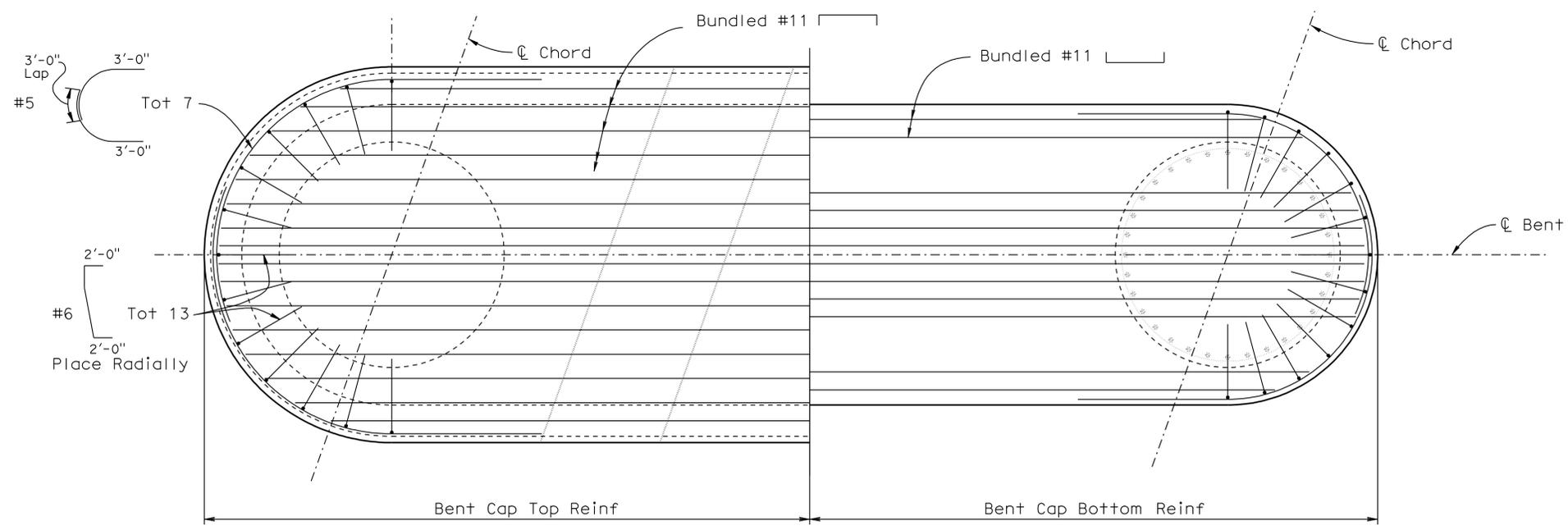
LEGEND

 Denotes Bundled bars

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

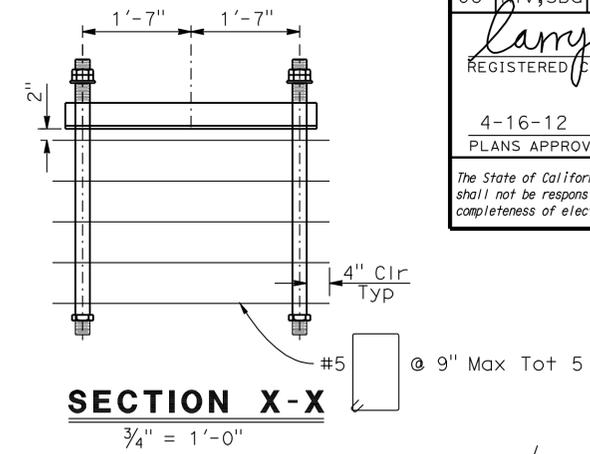
DESIGN	BY L. Wu	CHECKED B. Addiespurger	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO. 54-1303	HIGHGROVE UNDERPASS #3 BENT LAYOUT				
DETAILS	BY Y. Tang	CHECKED B. Addiespurger			R.R. MILE POST 5.91					
QUANTITIES	BY T. Sanderson	CHECKED A. McPhee			LINE SEG. 7602					
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)			ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3589 PROJECT NUMBER & PHASE: 08000005061	CONTRACT NO.: 08-0M9401	DISREGARD PRINTS BEARING EARLIER REVISION DATES				
				0	1	2	3	REVISION DATES	SHEET	OF
								7-21-11	9	42

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1561	1743
 REGISTERED CIVIL ENGINEER			4-06-12 DATE		
4-16-12 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



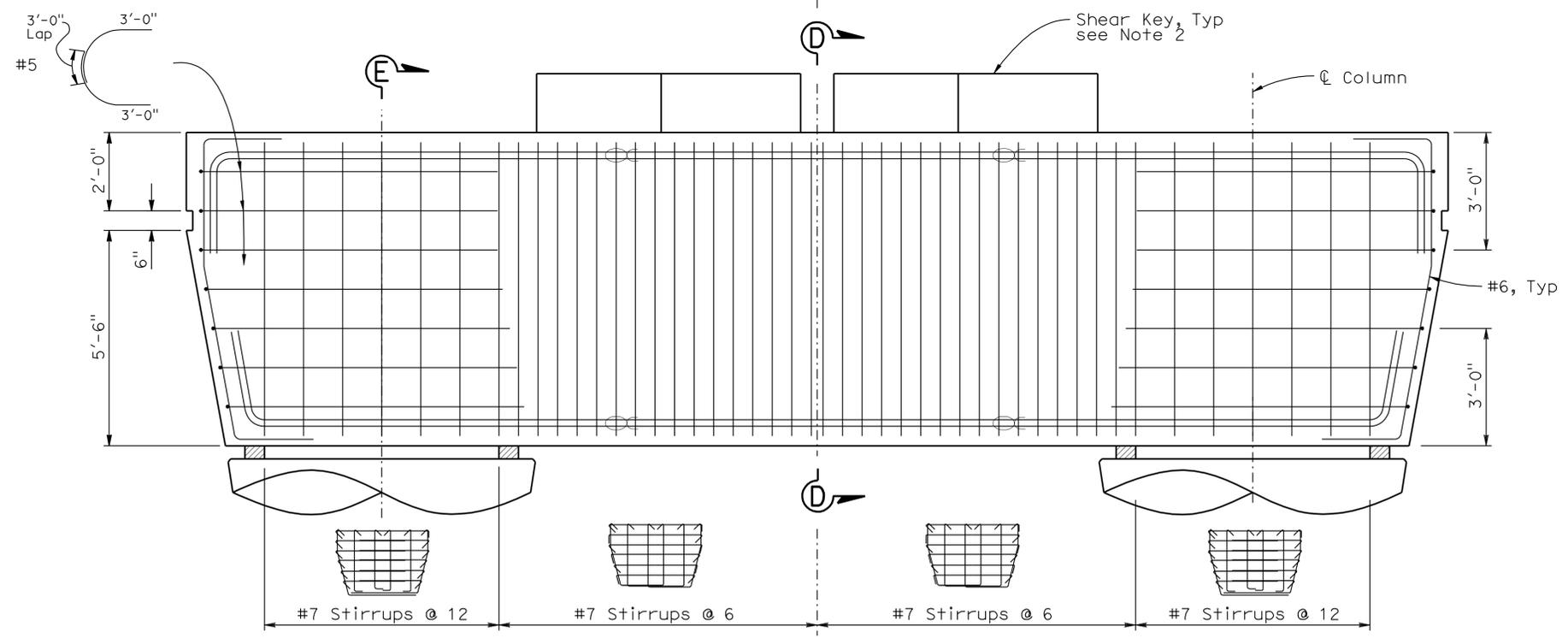
BENT CAP REINFORCEMENT - PLAN

1/2" = 1'-0"



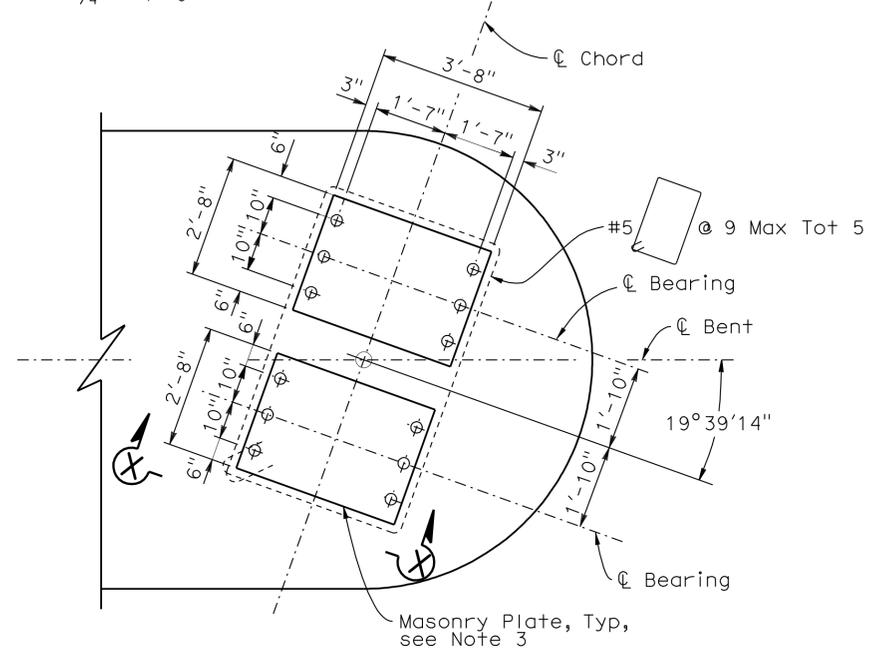
SECTION X-X

3/4" = 1'-0"



BENT CAP REINFORCEMENT - ELEVATION

1/2" = 1'-0"



ANCHOR BOLT LAYOUT

1/2" = 1'-0"

NOTES:

1. For Section D-D & Section E-E, see "BENT DETAILS NO. 2" sheet.
2. For Shear Key details, see "BENT DETAILS NO. 2" sheet.
3. For size of Masonry plate, see "BEARING DETAILS" sheet.

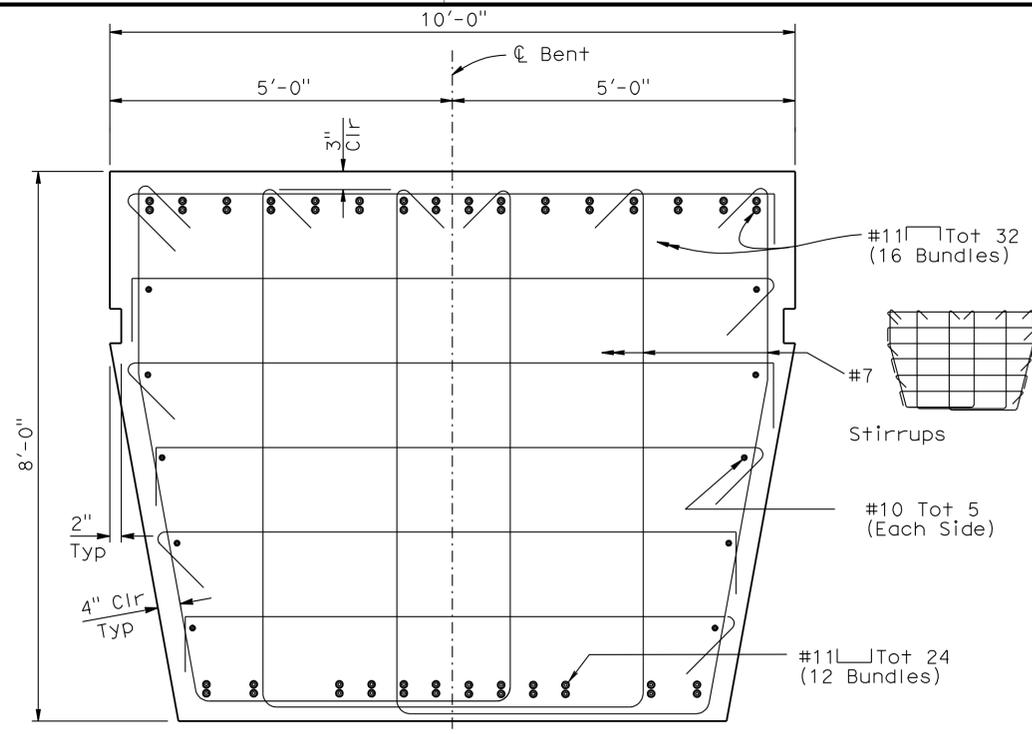
LEGEND

 Indicate bundled bars

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

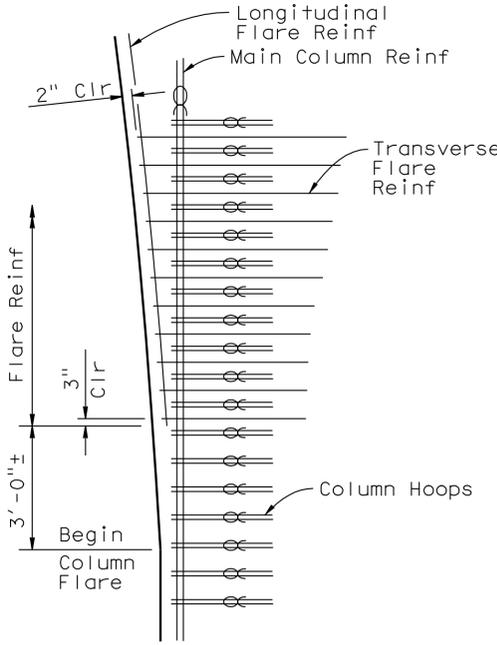
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY L. Wu	CHECKED B. Addiespurger	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO.	HIGHGROVE UNDERPASS #3 BENT DETAILS NO. 1
	DETAILS	BY Y. Tang	CHECKED B. Addiespurger			54-1303	
	QUANTITIES	BY T. Sanderson	CHECKED A. McPhee			R.R. MILE POST 5.91 LINE SEG. 7602	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				UNIT: 3589 PROJECT NUMBER & PHASE: 08000005061	CONTRACT NO.: 08-0M9401	DISREGARD PRINTS BEARING EARLIER REVISION DATES	
						REVISION DATES	SHEET 10 OF 42

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1562	1743
 REGISTERED CIVIL ENGINEER			4-06-12 DATE		
4-16-12 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



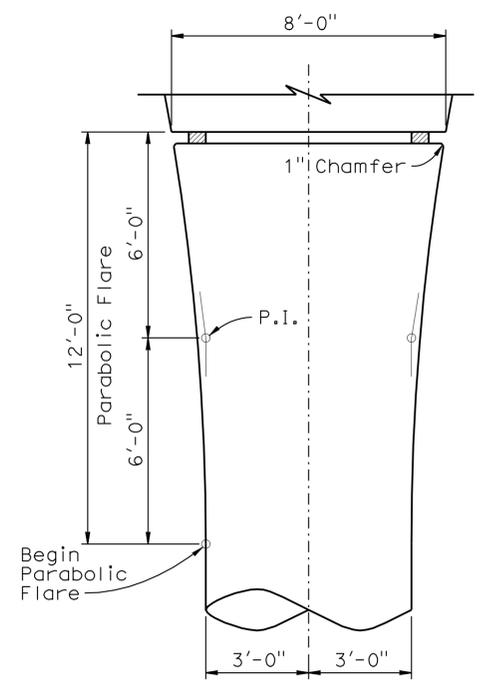
SECTION D-D

3/4" = 1'-0"



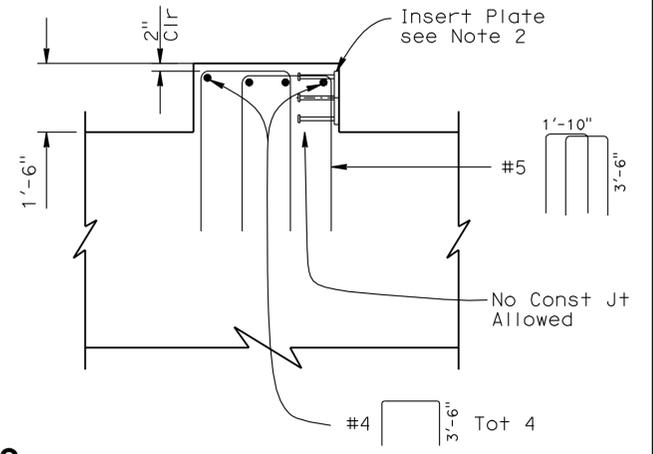
COLUMN FLARE REINFORCEMENT DETAIL

NO SCALE



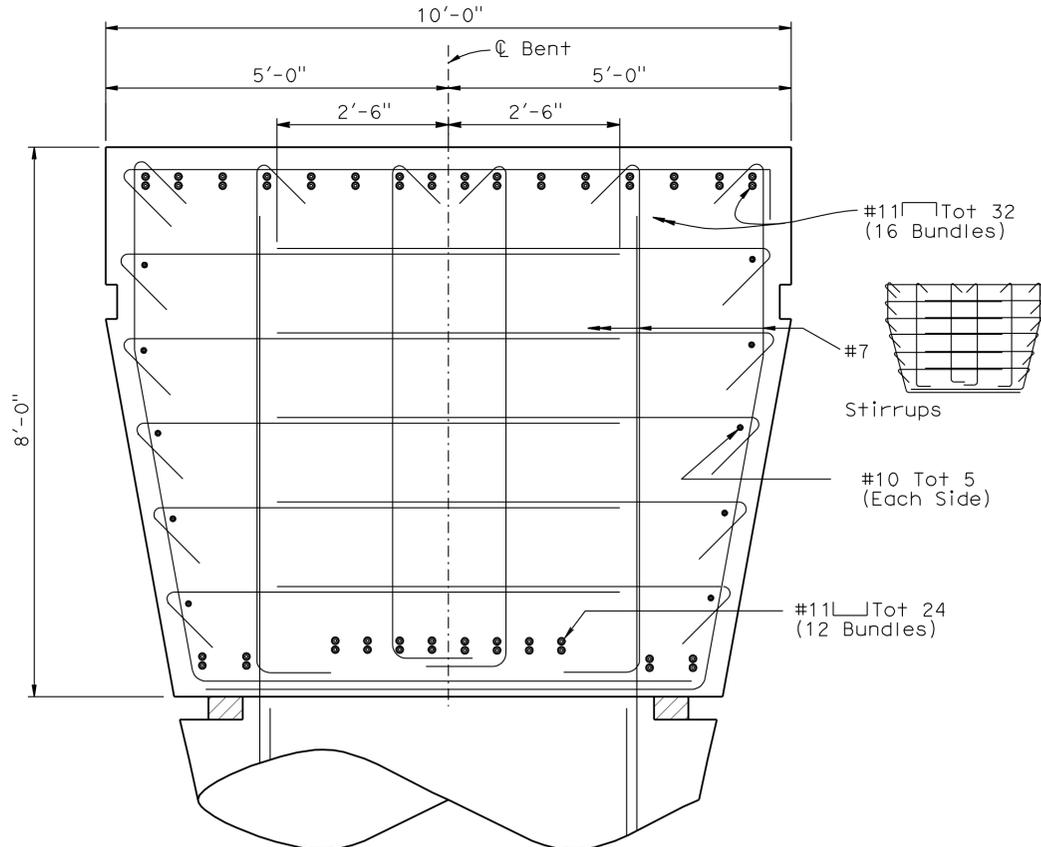
COLUMN GEOMETRICS

3/8" = 1'-0"



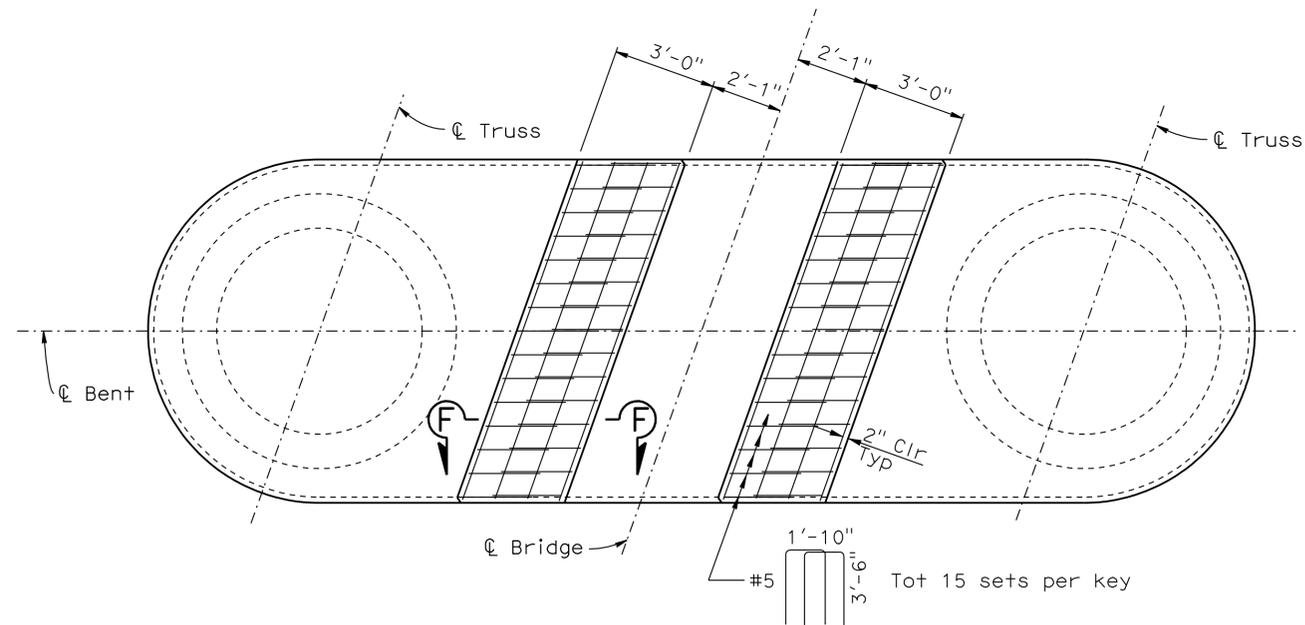
SECTION F-F

1/2" = 1'-0"



SECTION E-E

3/4" = 1'-0"



SHEAR KEY - PLAN

3/8" = 1'-0"

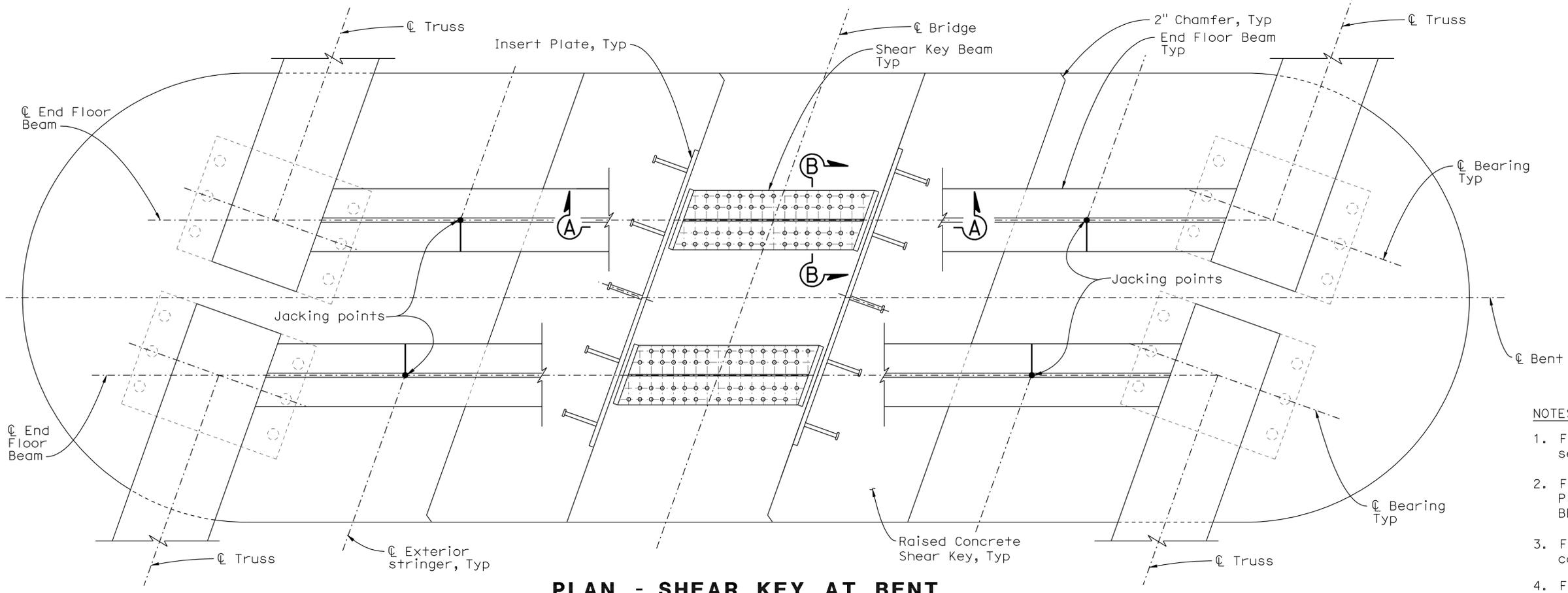
NOTES:

1. For location of Section D-D & Section E-E, see "BENT DETAILS NO. 1" sheet.
2. For Details of Insert Plate, see "SHEAR KEY BEAM DETAILS" sheet.

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

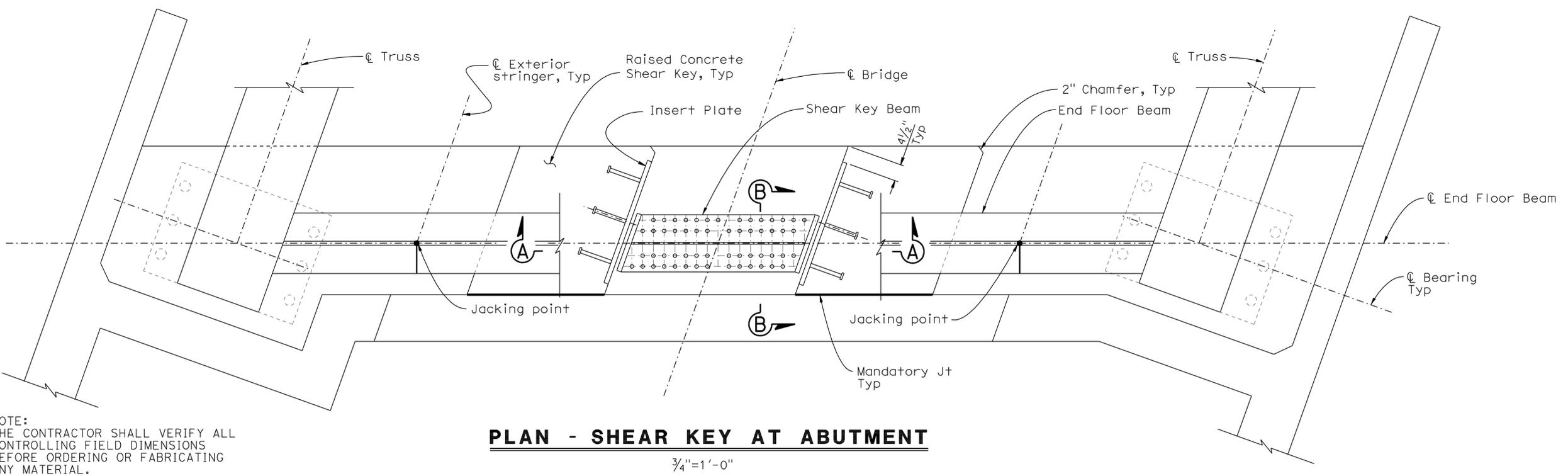
DESIGN BY L. Wu CHECKED B. Addiespurger DETAILS BY Y. Tang CHECKED B. Addiespurger QUANTITIES BY T. Sanderson CHECKED A. McPhee	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO. 54-1303 R.R. MILE POST 5.91 LINE SEG. 7602	HIGHGROVE UNDERPASS #3 BENT DETAILS NO. 2	
	STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3589 PROJECT NUMBER & PHASE: 08000005061	CONTRACT NO.: 08-0M9401	DISREGARD PRINTS BEARING EARLIER REVISION DATES
	0 1 2 3	FILE => 541303hbd+11.dgn	REVISION DATES: 7-28-11, 3-29-12, 5-01-12	SHEET 11 OF 42	

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1563	1743
 REGISTERED CIVIL ENGINEER			4-06-12	DATE	
4-16-12			PLANS APPROVAL DATE		
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.					
					



PLAN - SHEAR KEY AT BENT
 $\frac{3}{4}'' = 1' - 0''$

- NOTES:**
1. For Section A-A & Section B-B, see "SHEAR KEY BEAM DETAILS" sheet.
 2. For Shear Key Beam and Insert Plate details, see "SHEAR KEY BEAM DETAILS" sheet.
 3. Floor Beam connections and stringer connections not shown for clarity.
 4. For Jacking Point location and Jacking stiffener details, see "TRUSS DETAILS NO. 2" sheet.



PLAN - SHEAR KEY AT ABUTMENT
 $\frac{3}{4}'' = 1' - 0''$

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

DESIGN	BY L. Wu	CHECKED B. Addiespurger
DETAILS	BY G. Hallstrom	CHECKED B. Addiespurger
QUANTITIES	BY T. Sanderson	CHECKED A. McPhee

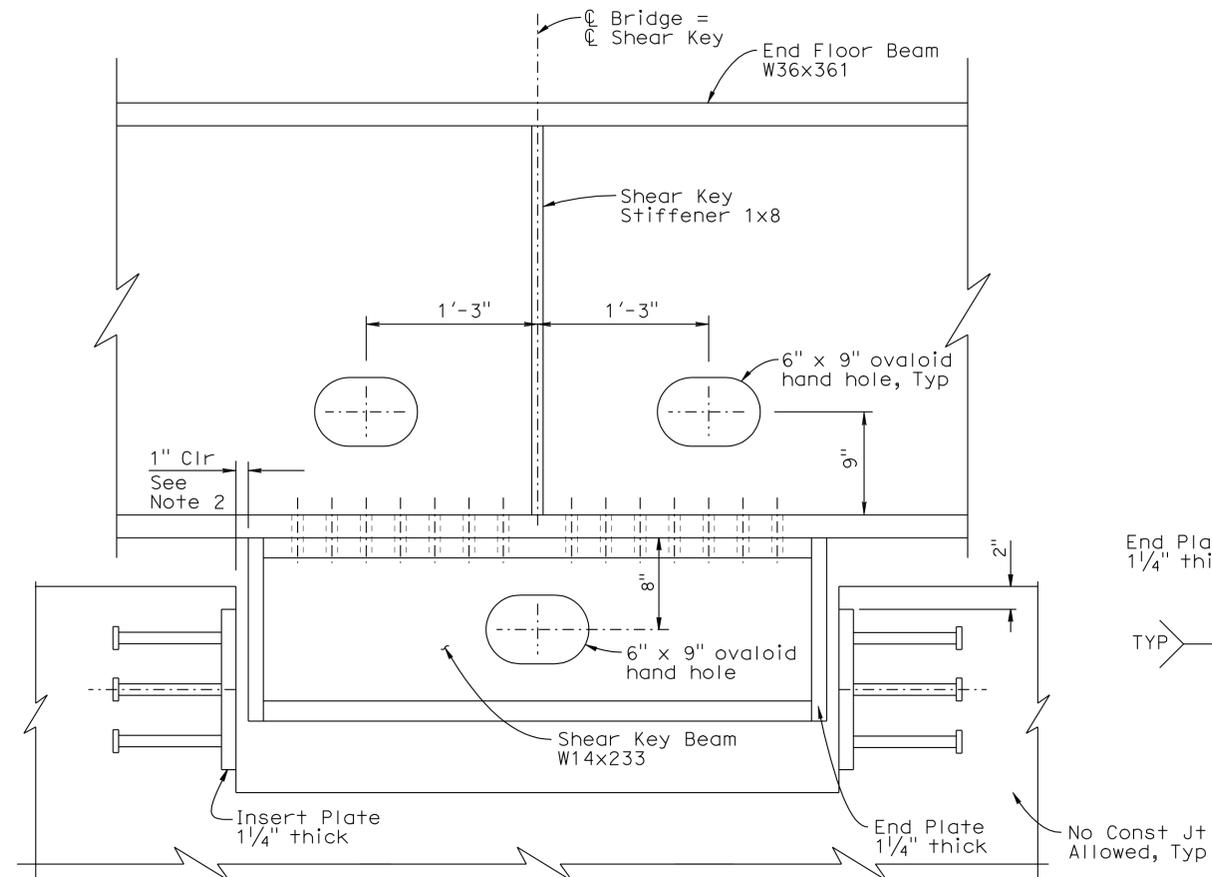
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
DESIGN BRANCH 10

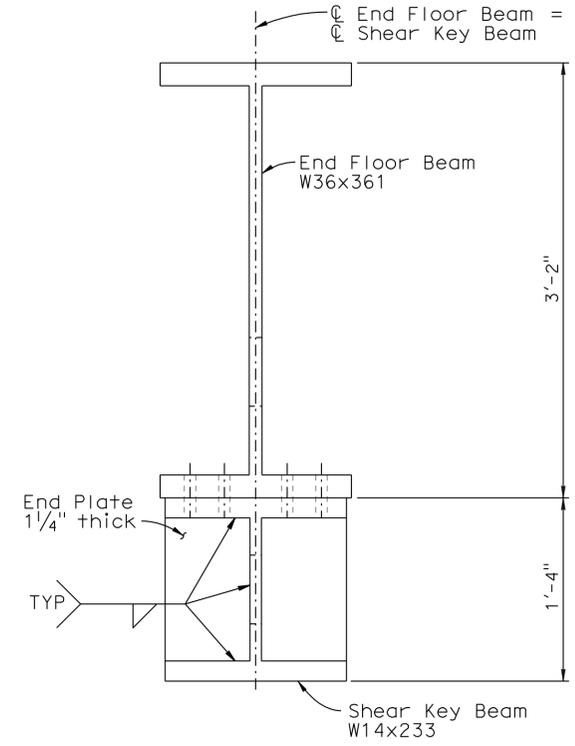
BRIDGE NO.	54-1303
R.R. MILE POST	5.91
LINE SEG. 7602	

HIGHGROVE UNDERPASS #3
SHEAR KEY BEAM LAYOUT

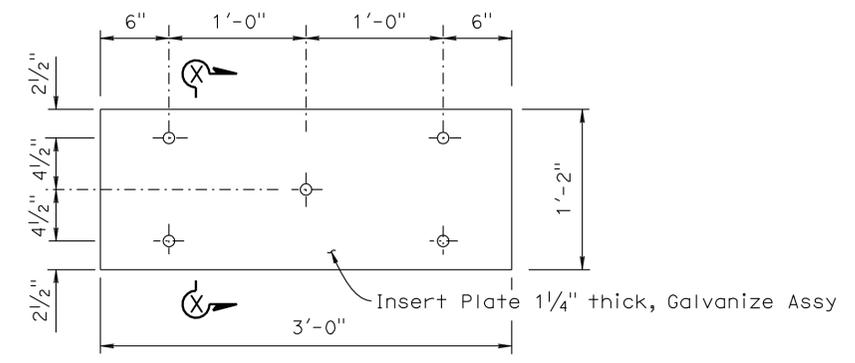
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1564	1743
 REGISTERED CIVIL ENGINEER			4-06-12 DATE		
4-16-12 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



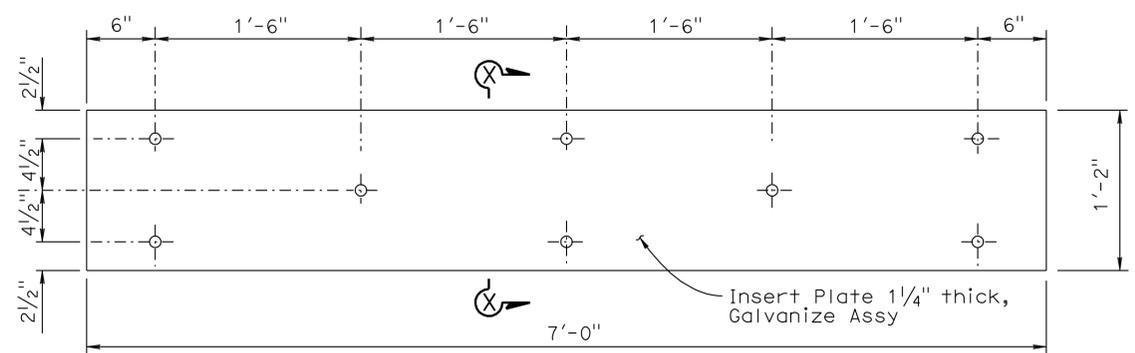
SECTION A-A
1/2"=1'-0"



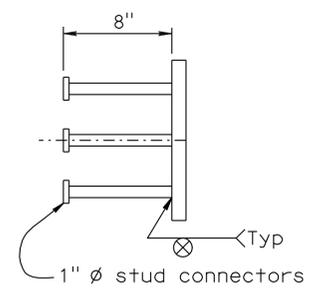
SECTION B-B
1/2"=1'-0"



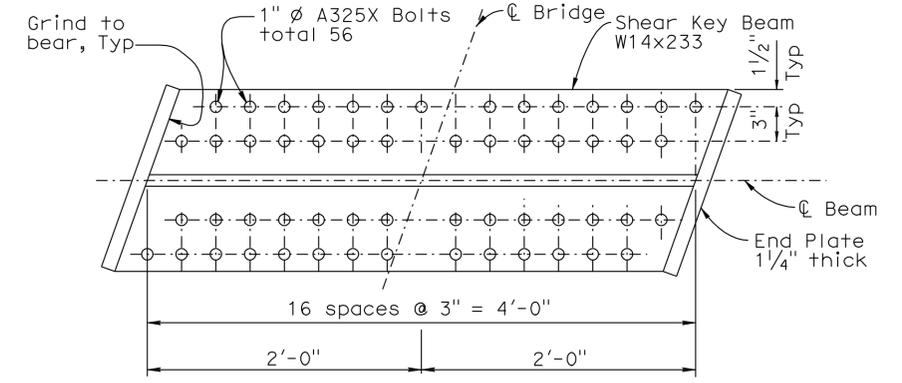
INSERT PLATE DETAIL - AT ABUTMENT
1/2"=1'-0"



INSERT PLATE DETAIL - AT BENT
1/2"=1'-0"



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

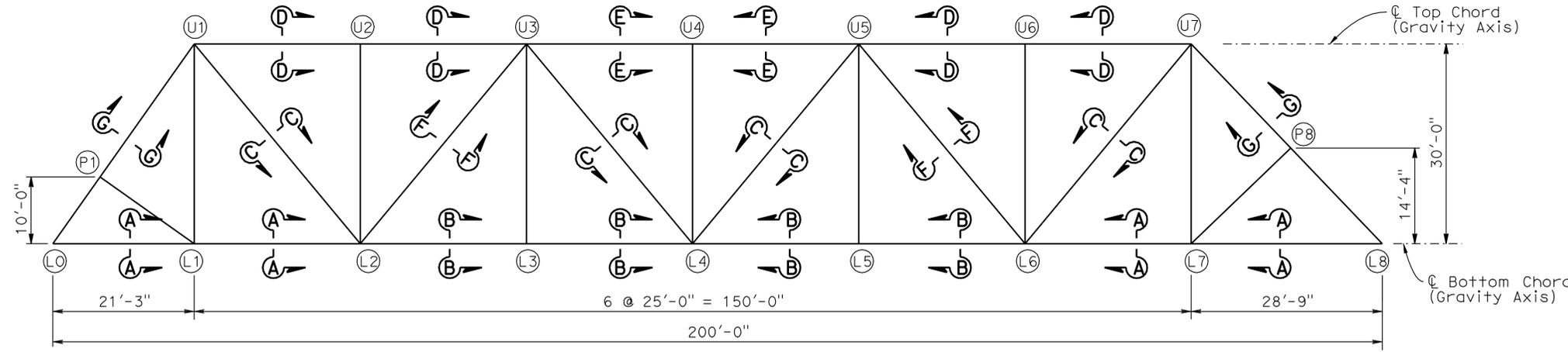


SHEAR KEY BEAM DETAIL
1/2"=1'-0"

- NOTES:
- For location of Section A-A & Section B-B, see "SHEAR KEY BEAM LAYOUT" sheet.
 - Gap measured normal to Insert Plate and End Plate

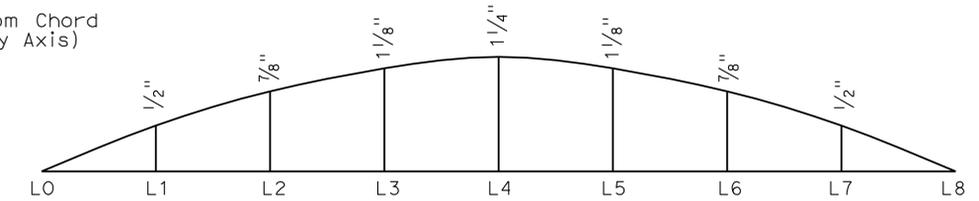
NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN BY L. Wu CHECKED B. Addiespurger DETAILS BY G. Hallstrom CHECKED B. Addiespurger QUANTITIES BY T. Sanderson CHECKED A. McPhee	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO. 54-1303	HIGHGROVE UNDERPASS #3 SHEAR KEY BEAM DETAILS		
			R.R. MILE POST 5.91			
			LINE SEG. 7602			
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3589 PROJECT NUMBER & PHASE: 08000005061	CONTRACT NO.: 08-0M9401	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 10-19-11 2-28-12 5-01-12	SHEET 13 OF 42



FRONT TRUSS ELEVATION

$\frac{3}{32}'' = 1'-0''$

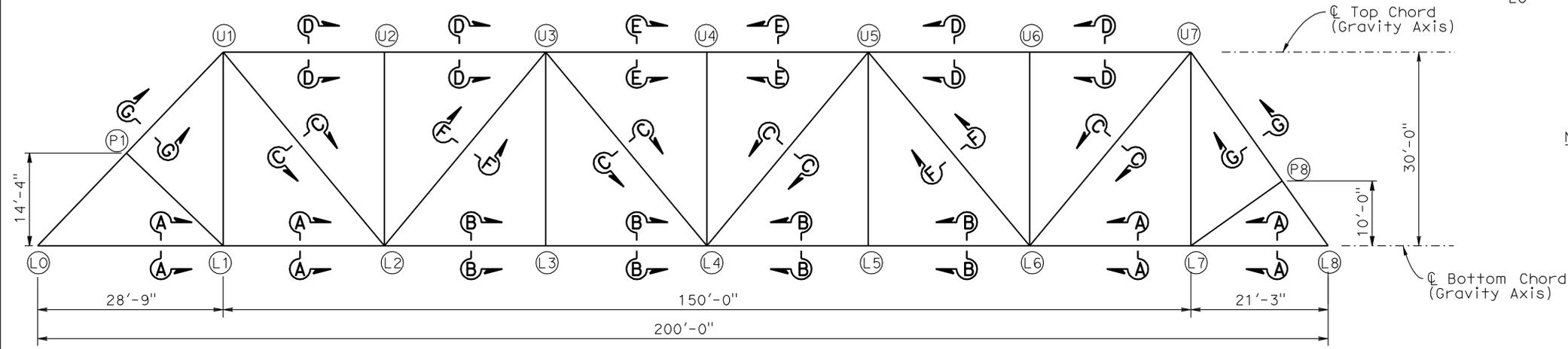


TRUSS CAMBER DIAGRAM

NO SCALE

NOTES:

1. Camber calculated for dead load plus a uniform load of 1500 lb/ft on each truss.
2. Method of camber fabrication to be shown on shop drawings.



REAR TRUSS ELEVATION

$\frac{3}{32}'' = 1'-0''$

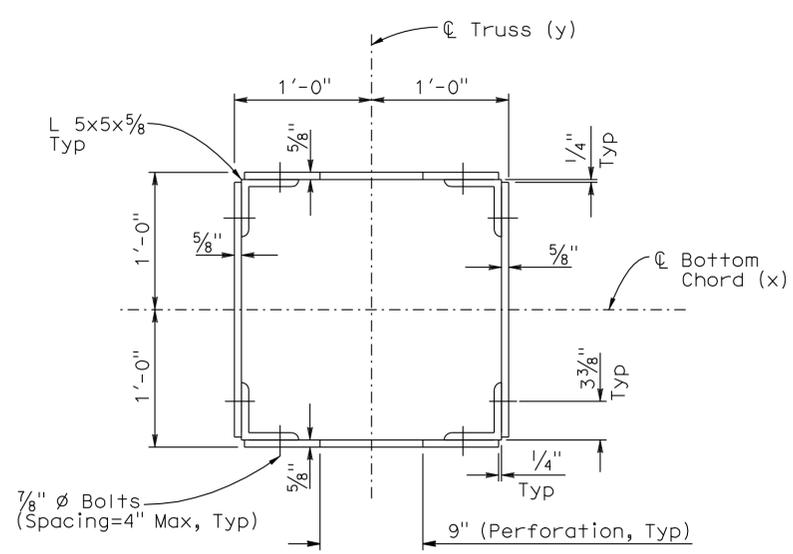
NOTE: For Truss Member Sections, see "TRUSS DETAILS NO. 1" sheet.

Member	DL (kips)	LL (kips)		Impact (kips)		WL(±) (kips)	LF (±)	Fatigue load range (kips)	EQ (±) (kips)	Design Load			Gross Section	Gross Area (in ²)	Net Area (in ²)	Allowable Stress Ratio	Actual Stress Ratio	Fracture Critical Member	Allowable Fatigue Stress Range (ksi)	Actual Fatigue Stress Range (ksi)	
		Tension	Comp.	Tension	Comp.					P(kips)	M _x (k-ft)	M _y (k-ft)									
Chord	U1U3 & U5U7	-523	0	-539	0	-118	32	1	0	105	-1180	53	132	Top & Bottom PL 7/8x23, Perforated, 2-Web PL 7/8x22 1/4 (D-D)	79.19	79.19	1.00	0.920	NO	N/A	N/A
	U3U4 & U4U5	-730	1	-743	0	-162	18	1	0	160	-1635	31	71	Top & Bottom PL 1 1/8x23, Perforated, 2-Web PL 1 1/8x21 3/4 (E-E)	100.69	100.69	1.00	0.880	NO	N/A	N/A
	L0L2 & L6L8	259	276	0	60	0	116	157	315	499	868	280	165	Top & Bottom PL 5/8x22 1/4, Perforated, 2-Web PL 5/8x22 1/4, 4-L5x5x5/8 (A-A)	79.07	51.50	1.00	0.699	YES	16.00	13.08
Diagonal	L2L4 & L4L6	499	512	-1	112	0	174	89	586	658	1123	89	194	Top & Bottom PL 7/8x21 3/4, Perforated, 2-Web PL 7/8x21 3/4, 4-L5x5x5/8 (B-B)	99.57	63.80	1.00	0.738	YES	16.00	15.90
	L0U1 & U7L8	-547	1	-575	0	-126	77	1	0	153	-1326	558	100	Top & Bottom PL 1 1/4x23, Perforated, 2-Web PL 1 1/4x21 1/2 (G-G)	111.25	111.25	1.00	0.858	NO	N/A	N/A
	U1L2 & L6U7	410	455	-8	99	-2	38	0	529	69	964	217	34	Top & Bottom PL 5/8x22 1/4, Perforated, 2-Web PL 5/8x22 1/4, 4-L5x5x5/8 (C-C)	79.07	43.19	1.00	0.758	YES	16.00	13.38
Vertical	L2U3 & U5L6	-265	45	-323	10	-71	12	0	0	41	-671	198	28	Top & Bottom PL 3/4x23, Perforated, 2-Web PL 3/4x22 1/2 (F-F)	54.75	54.75	1.00	0.703	NO	N/A	N/A
	U3L4 & L4U5	106	221	-95	48	-21	14	1	361	34	390	155	33	Top & Bottom PL 5/8x22 1/4, Perforated, 2-Web PL 5/8x22 1/4, 4-L5x5x5/8 (C-C)	79.07	43.19	1.00	0.347	YES	16.00	9.13
	U1L1 & U7L7	85	141	-1	51	0	2	0	162	9	279	32	66	Top & Bottom PL 3/4x18, 1-Web PL 1/2x22 1/2	38.25	31.50	1.00	0.408	YES	16.00	6.00
	U2L2 & U6L6	10	5	0	1	0	2	0	6	6	18	24	69	Top & Bottom PL 3/4x18, 1-Web PL 1/2x22 1/2	38.25	31.50	1.00	0.201	NO	N/A	N/A
U3L3 & U5L5	82	139	-1	50	0	0	0	160	8	272	21	38	Top & Bottom PL 3/4x18, 1-Web PL 1/2x22 1/2	38.25	31.50	1.00	0.392	YES	16.00	5.93	
U4L4	12	5	0	1	0	1	0	6	6	19	17	22	Top & Bottom PL 3/4x18, 1-Web PL 1/2x22 1/2	38.25	31.50	1.00	0.169	NO	N/A	N/A	

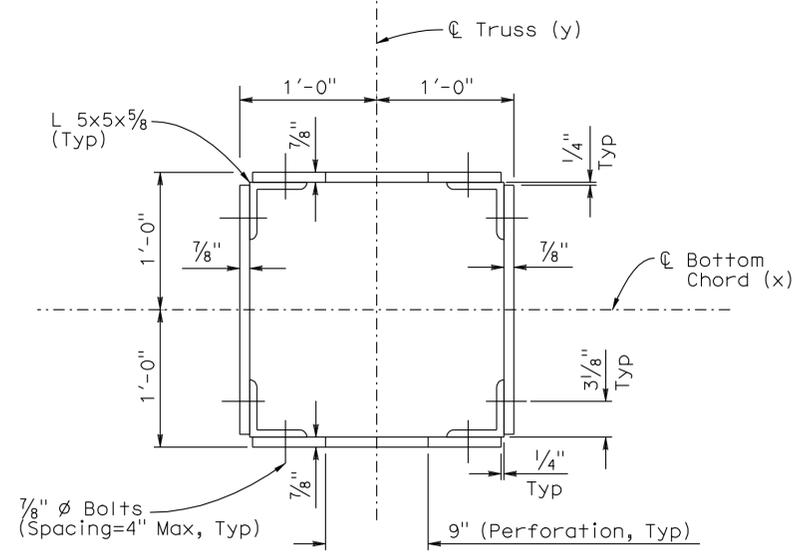
DESIGN	BY	L. Wu	CHECKED	B. Addiespurger	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO.	54-1303	HIGHGROVE UNDERPASS #3 SCHEMATIC LAYOUT / STRESS SHEET	
	DETAILS	BY	Y. Tang	CHECKED			B. Addiespurger	R.R. MILE POST		5.91
	QUANTITIES	BY	T. Sanderson	CHECKED			A. McPhee	LINE SEG. 7602		5.91

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
 UNIT: 3589 PROJECT NUMBER & PHASE: 08000005061 CONTRACT NO.: 08-0M9401
 DISREGARD PRINTS BEARING EARLIER REVISION DATES

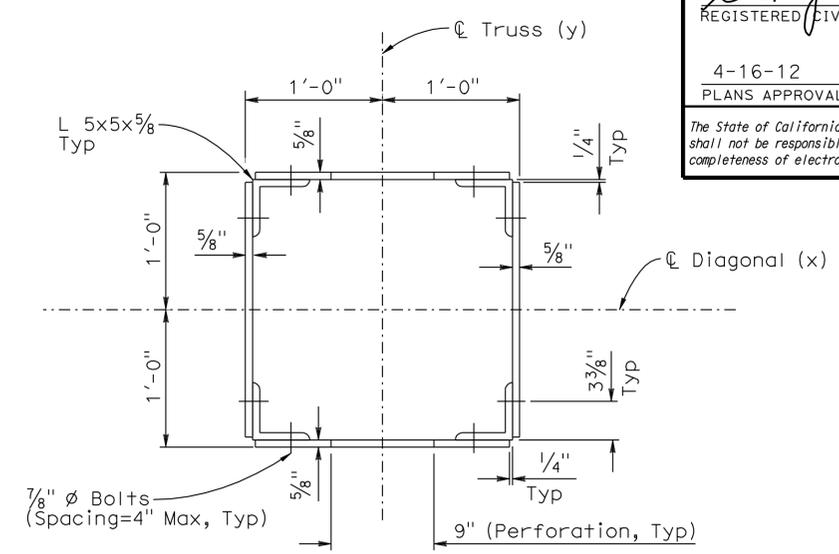
REVISION DATES	SHEET	OF
7-21-11	14	42



(Lower Chord: L0-L2 & L6-L8)
(FCM)
SECTION A-A
1/2" = 1'-0"

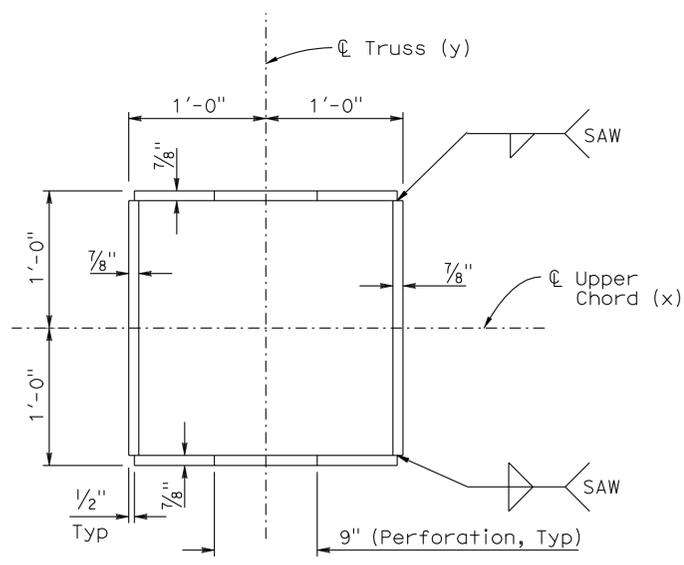


(Lower Chord: L2-L6)
(FCM)
SECTION B-B
1/2" = 1'-0"

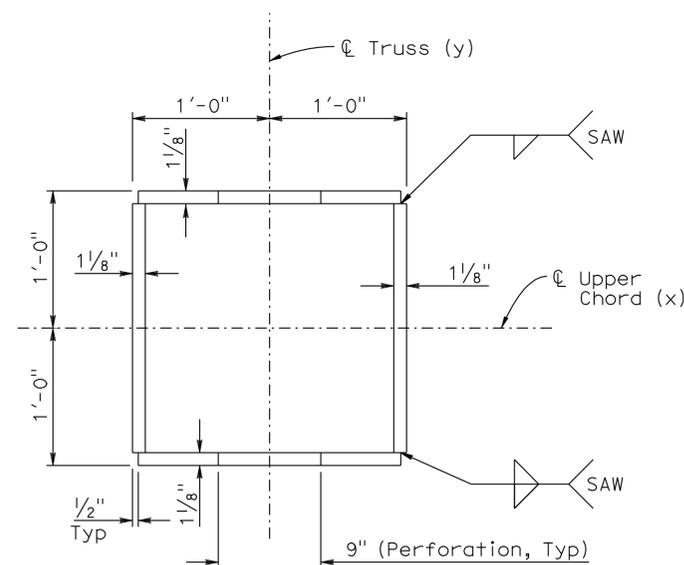


(Diagonal: U1-L2 & U7-L6)
(Diagonal: U3-L4 & L4-U5)
(FCM)
SECTION C-C
1/2" = 1'-0"

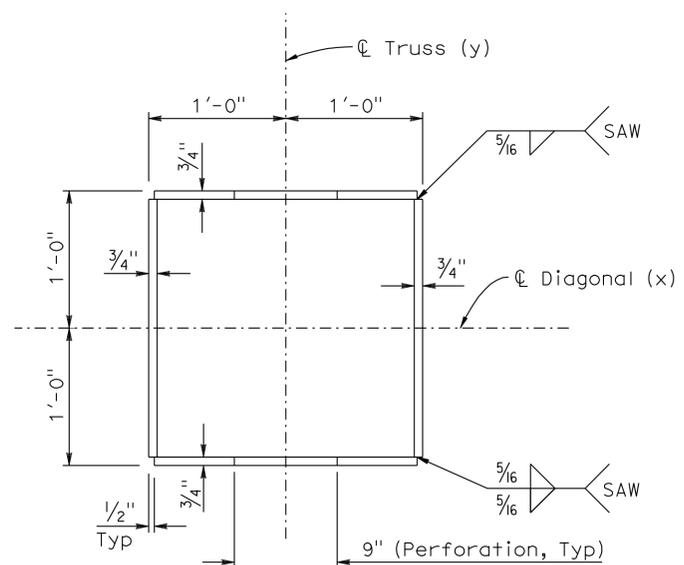
- NOTES:**
1. For location of all sections, see "SCHEMATIC LAYOUT/STRESS SHEET" sheet.
 2. For Perforation details, see "TRUSS DETAILS NO. 3" sheet.
 3. FCM: Fracture Critical Member
 4. SAW: Submerged Arc Welding



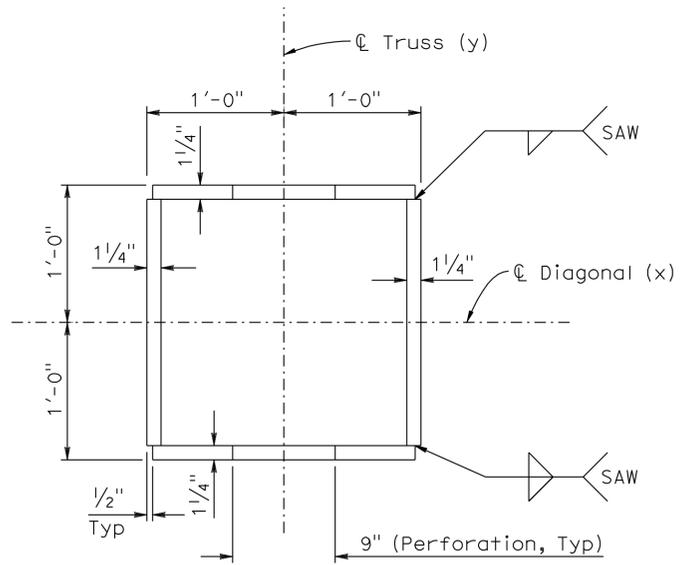
(Upper Chord: U1-U3 & U5-U7)
SECTION D-D
1/2" = 1'-0"



(Upper Chord: U3-U4 & U4-U5)
SECTION E-E
1/2" = 1'-0"



(Diagonal: L2-U3 & U5-L6)
SECTION F-F
1/2" = 1'-0"



(Diagonal: L0-U1 & U7-L8)
SECTION G-G
1/2" = 1'-0"

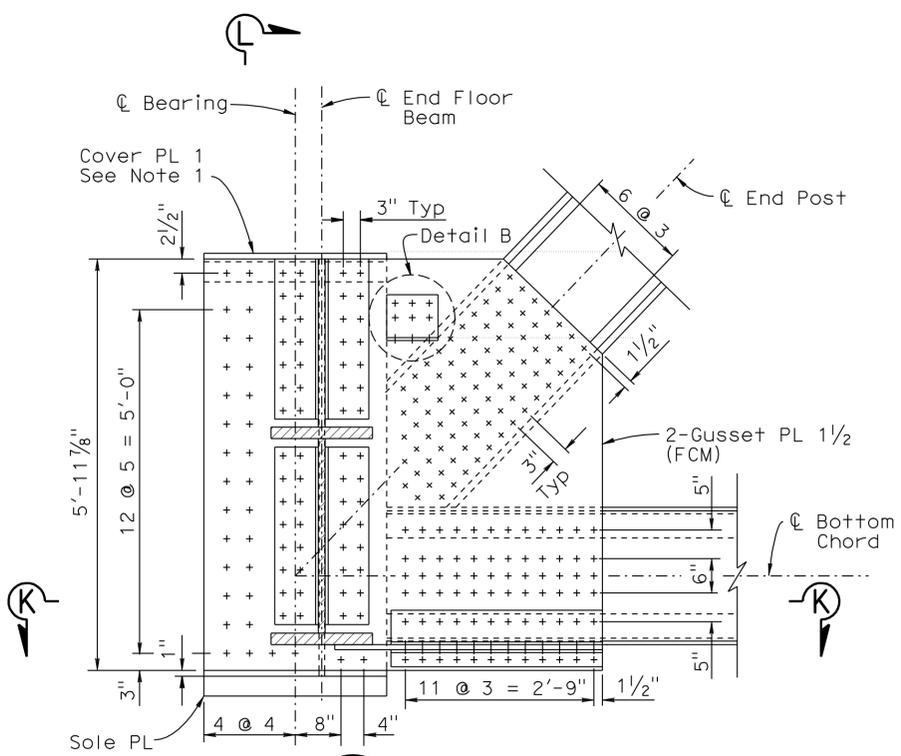
NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN	BY	L. Wu	CHECKED	B. Addiespurger	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO.	54-1303	HIGHGROVE UNDERPASS #3 TRUSS DETAILS NO. 1	
	DETAILS	BY	Y. Tang	CHECKED			B. Addiespurger	R.R. MILE POST		5.91
	QUANTITIES	BY	T. Sanderson	CHECKED			A. McPhee	LINE SEG. 7602		
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)						UNIT: 3589 PROJECT NUMBER & PHASE: 08000005061	CONTRACT NO.: 08-0M9401	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 15 OF 42

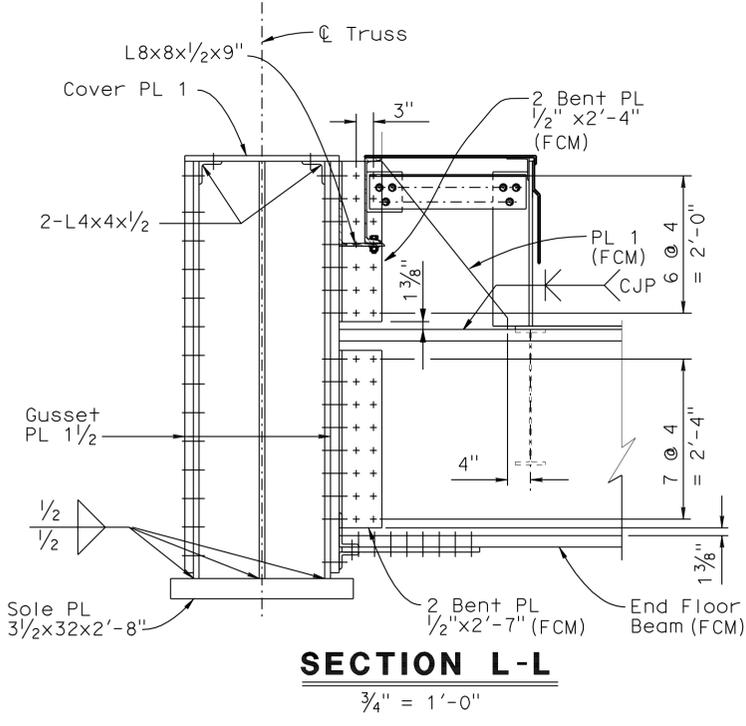
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91,215	21.5/21.7, 43.2/45.2, 0.0/5.1	1567	1743
 REGISTERED CIVIL ENGINEER			4-06-12 DATE		
4-16-12 PLANS APPROVAL DATE					
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.					

NOTES:

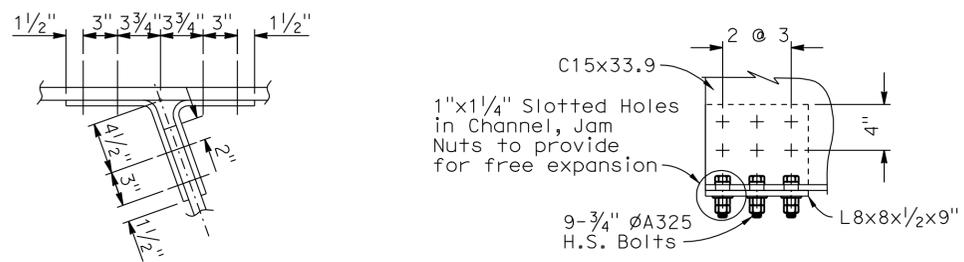
1. For Cover Plate Details see "TRUSS DETAILS NO. 3" sheet.
2. For Perforation Detail, see "TRUSS DETAILS NO. 3" sheet.
3. For End Post Detail, see "TRUSS DETAILS NO. 3" sheet.
4. For connection of Gusset Plate, see "BOTTOM LATERAL BRACING DETAILS NO. 1" sheet.
5. All bolts edge distance 1/2" unless otherwise shown.
6. FCM: Fracture Critical Member



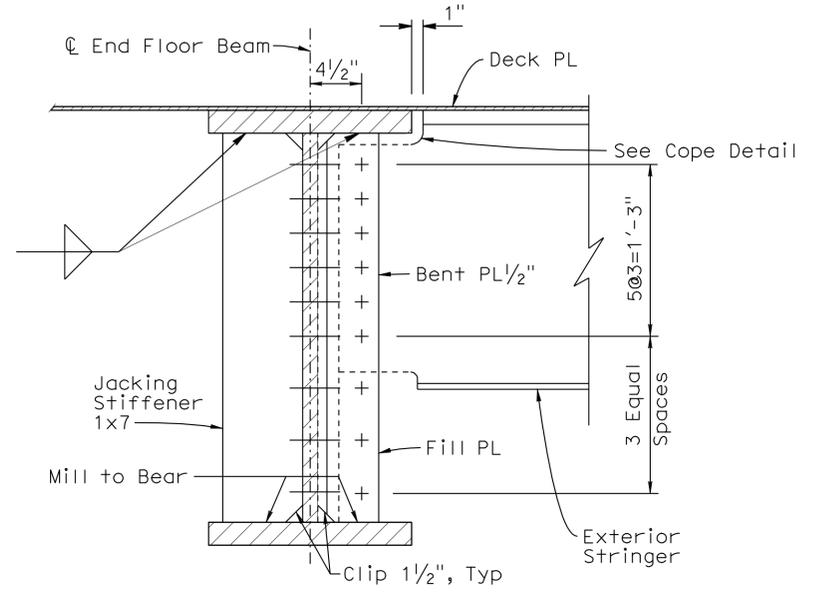
ELEVATION - LO (REAR TRUSS)
 3/4" = 1'-0"



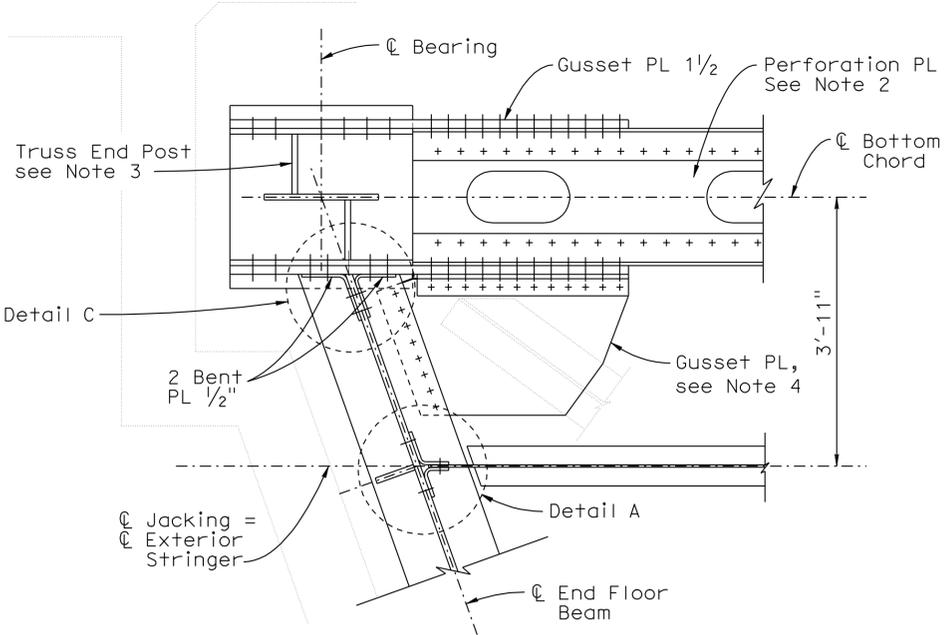
SECTION L-L
 3/4" = 1'-0"



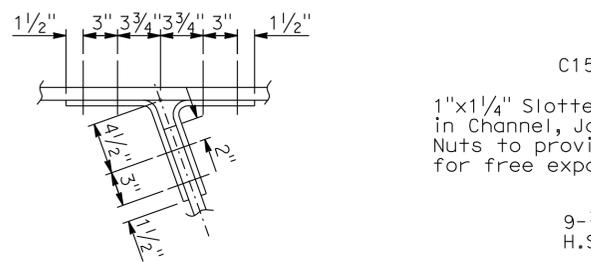
DETAIL B
 1 1/2" = 1'-0"



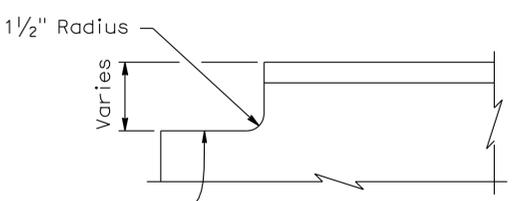
SECTION M-M
 1 1/2" = 1'-0"



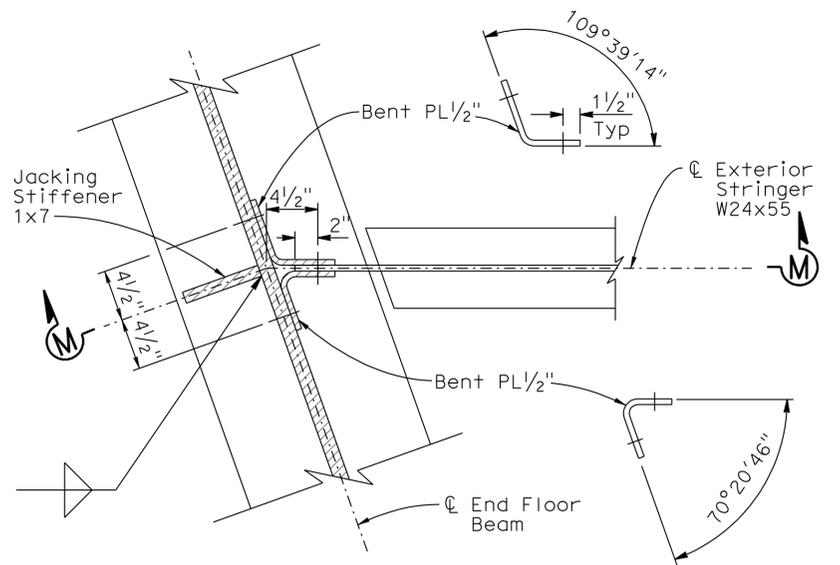
SECTION K-K
 3/4" = 1'-0"



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



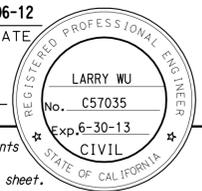
COPE DETAIL
 1 1/2" = 1'-0"

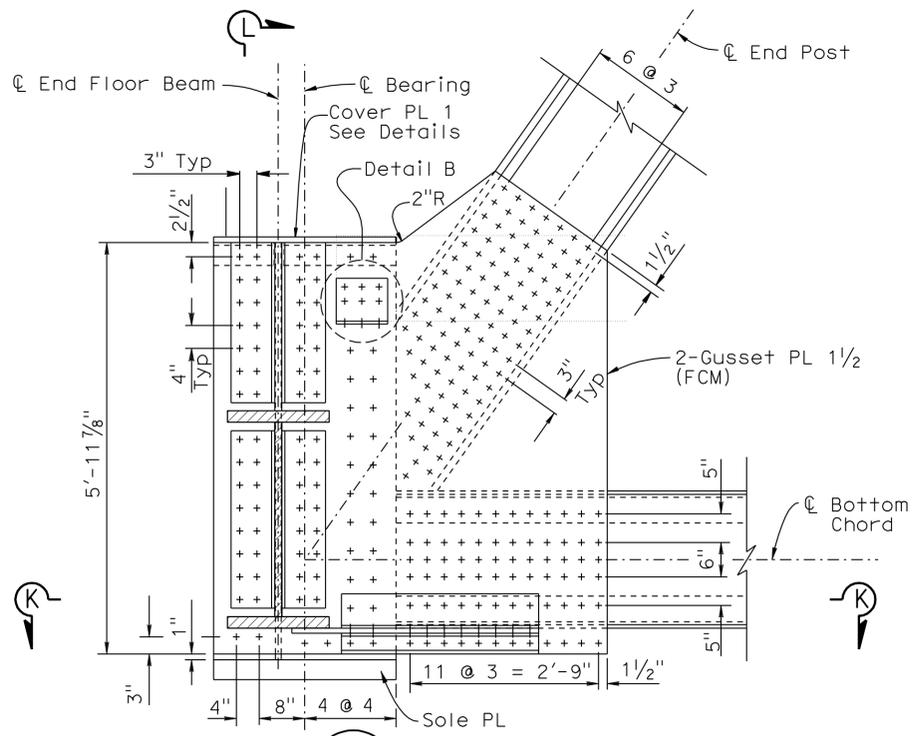


DETAIL A
 1 1/2" = 1'-0"

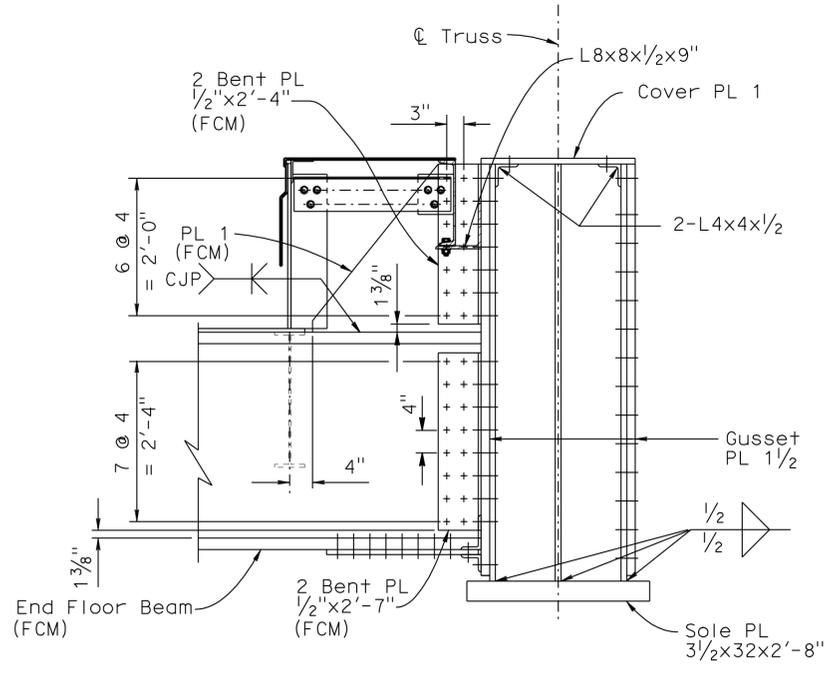
NOTE:
 THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY L. Wu	CHECKED B. Addiespurger	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO. 54-1303	HIGHGROVE UNDERPASS #3 TRUSS DETAILS NO. 2		
	DETAILS	BY Y. Tang	CHECKED B. Addiespurger			R.R. MILE POST 5.91			
	QUANTITIES	BY T. Sanderson	CHECKED A. McPhee			LINE SEG. 7602			
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				UNIT: 3589 PROJECT NUMBER & PHASE: 08000005061	CONTRACT NO.: 08-0M9401	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 7-21-11, 5-14-12, 3-25-12	SHEET 16	OF 42

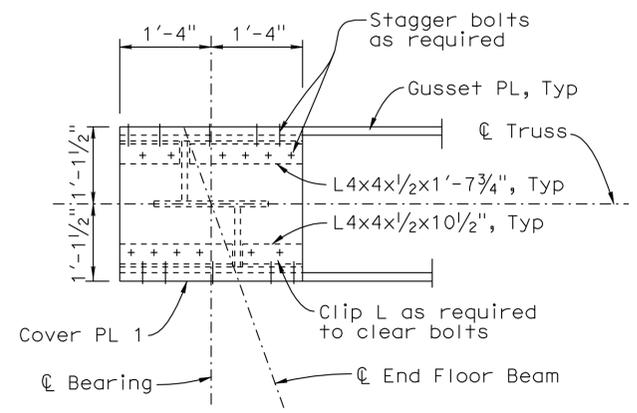
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1568	1743
			4-06-12		
REGISTERED CIVIL ENGINEER			DATE		
4-16-12			PLANS APPROVAL DATE		
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					
					



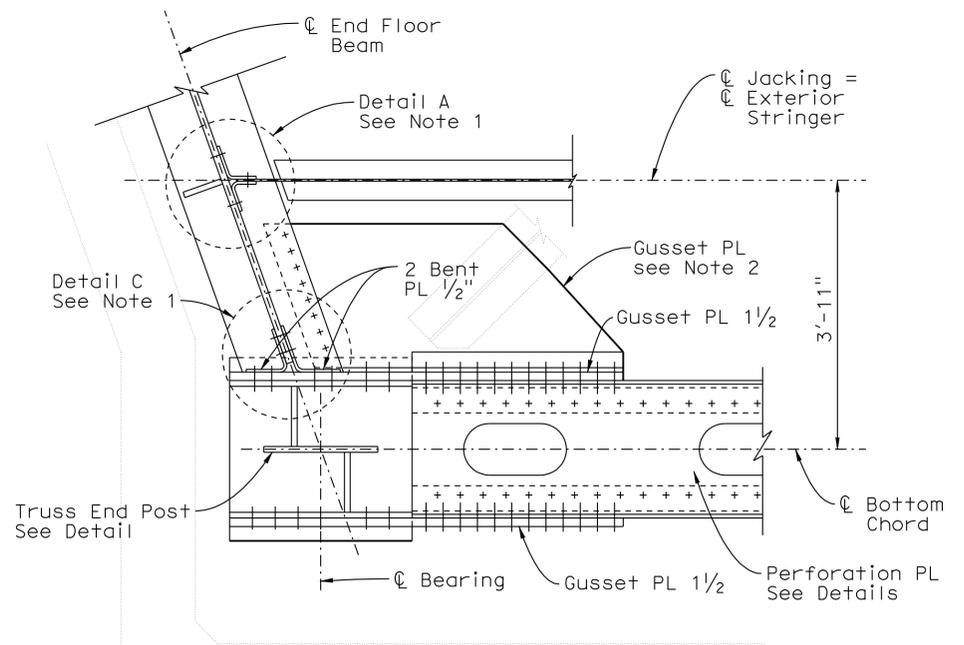
MIRROR ELEVATION - LO (FRONT TRUSS)
 $\frac{3}{4}'' = 1'-0''$



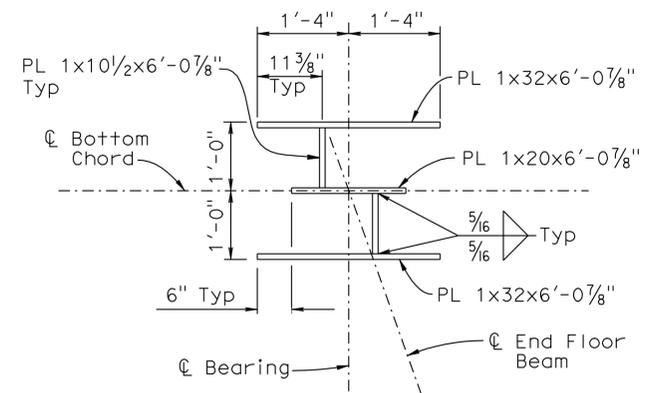
SECTION L-L
 $\frac{3}{4}'' = 1'-0''$



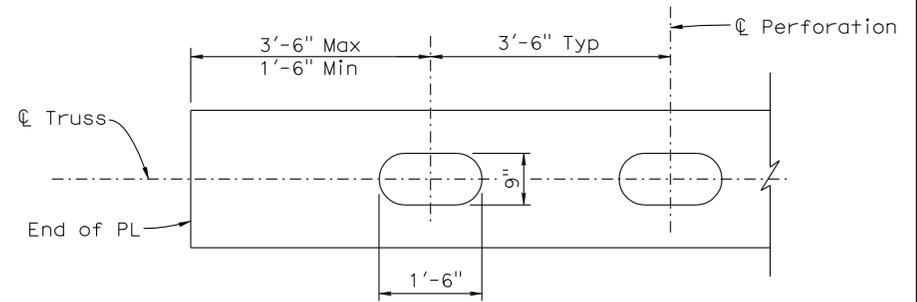
COVER PLATE DETAILS
 $\frac{3}{4}'' = 1'-0''$



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



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



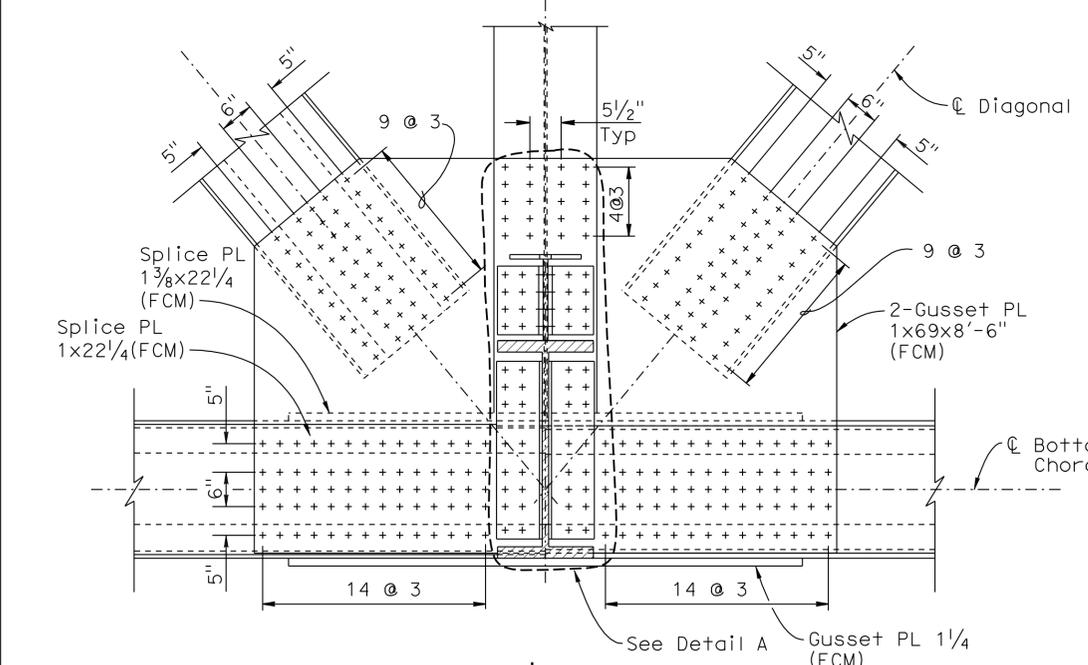
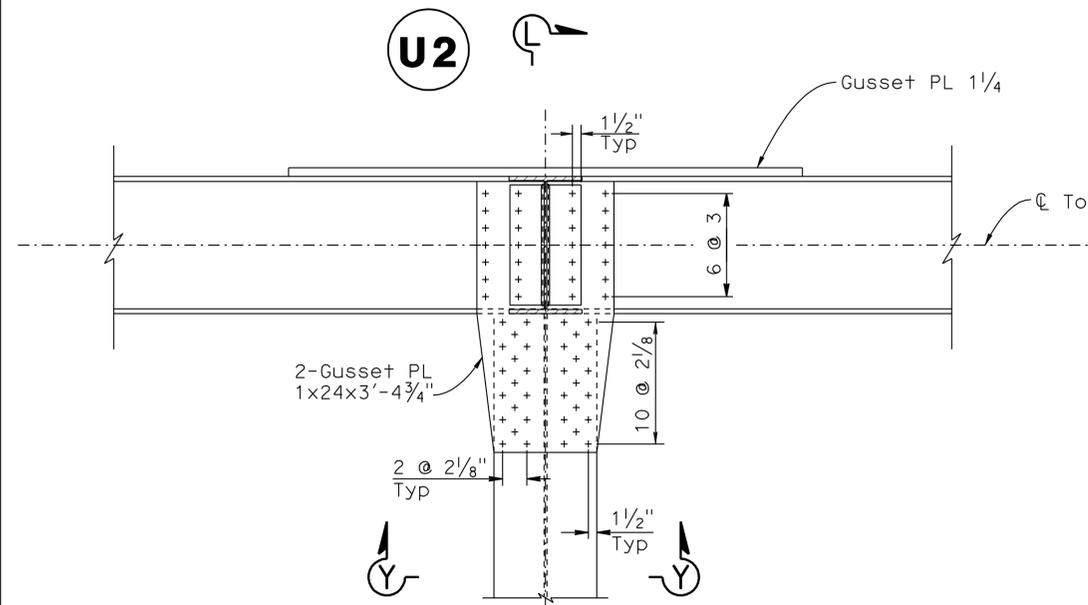
PERFORATION DETAIL
 $\frac{3}{4}'' = 1'-0''$

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

- NOTES:
1. For Detail A, Detail B, and Detail C, see "TRUSS DETAILS NO. 2" sheet.
 2. For connection of Gusset Plate, see "BOTTOM LATERAL BRACING DETAILS NO. 2" sheet.
 3. All bolts edge distance 1/2" unless otherwise shown.
 4. FCM: Fracture Critical Member

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY L. Wu	CHECKED B. Addiespurger	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO.	HIGHGROVE UNDERPASS #3 TRUSS DETAILS NO. 3							
	DETAILS	BY Y. Tang	CHECKED B. Addiespurger			54-1303								
	QUANTITIES	BY T. Sanderson	CHECKED A. McPhee			R.R. MILE POST 5.91 LINE SEG. 7602								
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				UNIT: 3589 PROJECT NUMBER & PHASE: 08000005061	CONTRACT NO.: 08-0M9401	DISREGARD PRINTS BEARING EARLIER REVISION DATES		<table border="1"> <tr> <td>REVISION DATES</td> <td>SHEET</td> <td>OF</td> </tr> <tr> <td>7-21-11</td> <td>17</td> <td>42</td> </tr> </table>	REVISION DATES	SHEET	OF	7-21-11	17	42
REVISION DATES	SHEET	OF												
7-21-11	17	42												

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1570	1743
 REGISTERED CIVIL ENGINEER			4-06-12 DATE		
4-16-12 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					

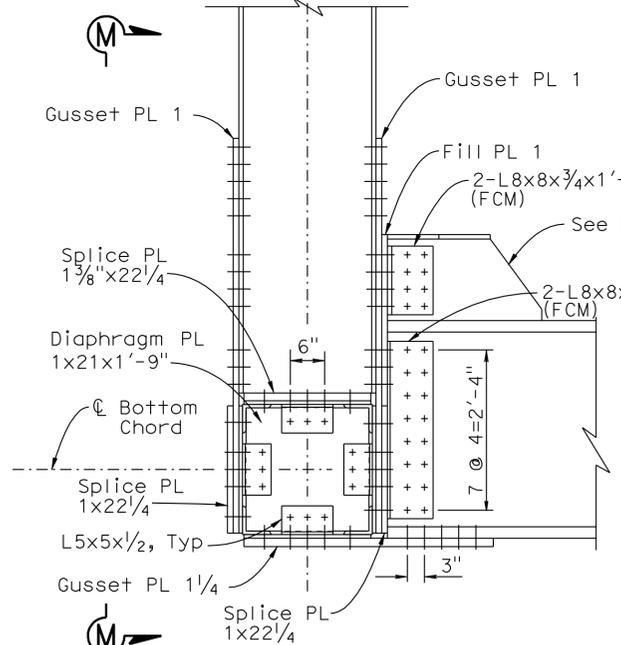
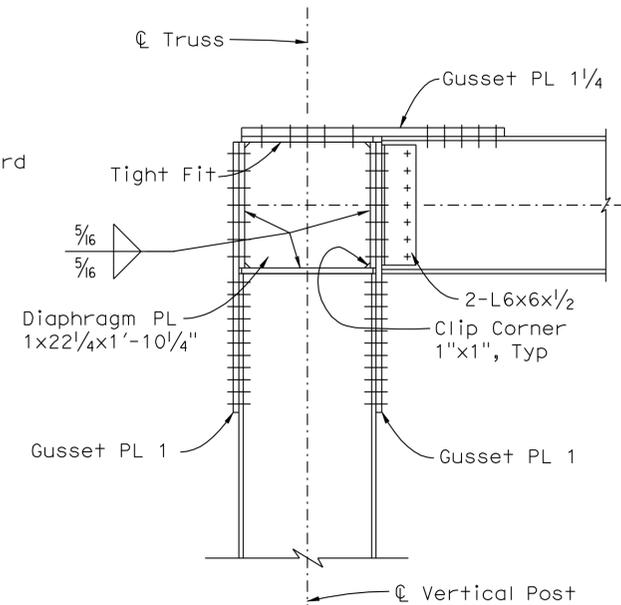


L2

ELEVATION - L2-U2 (REAR TRUSS)

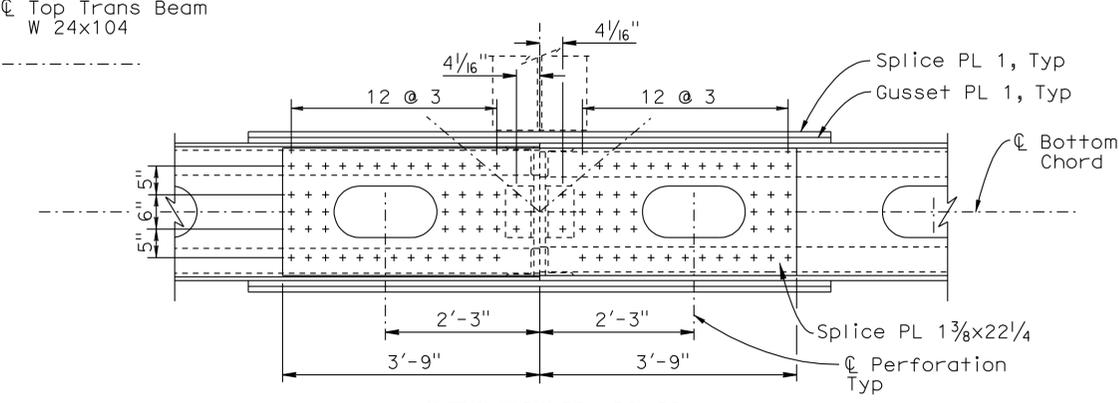
3/4" = 1'-0"

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



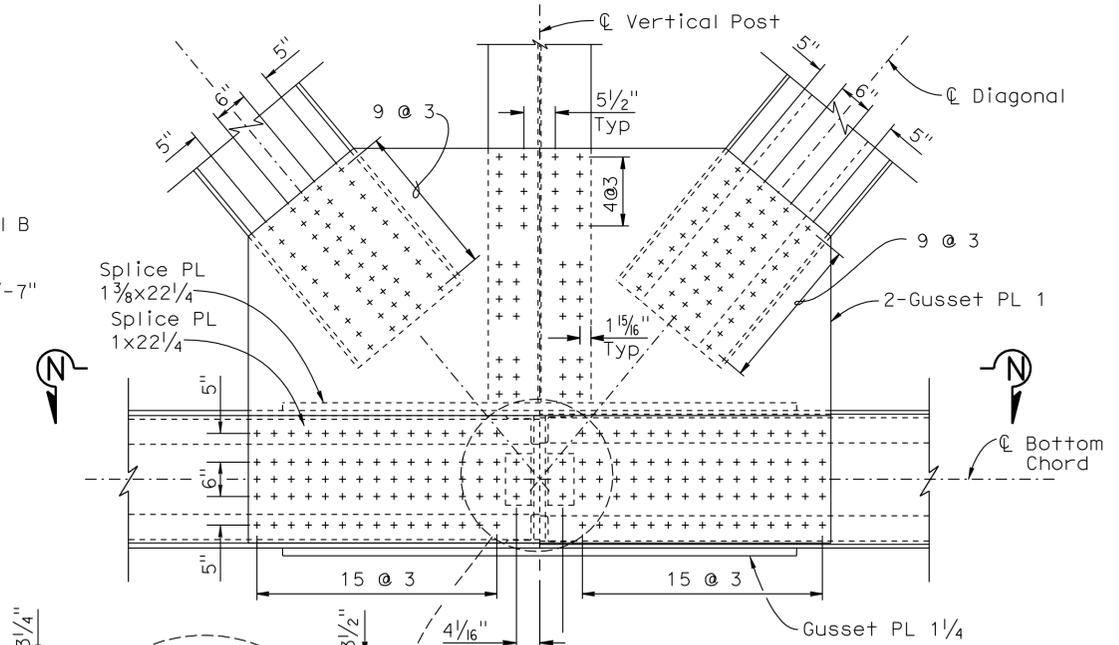
SECTION L-L

3/4" = 1'-0"



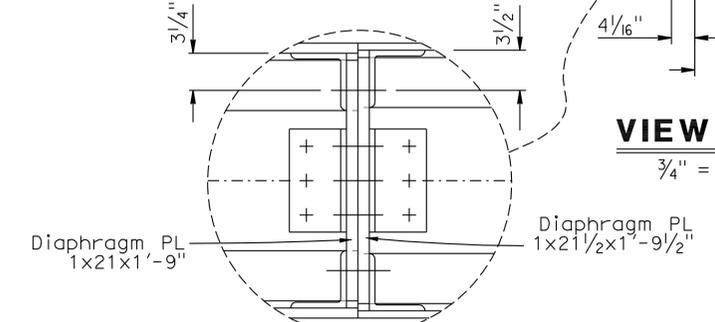
SECTION N-N

3/4" = 1'-0"



VIEW M-M

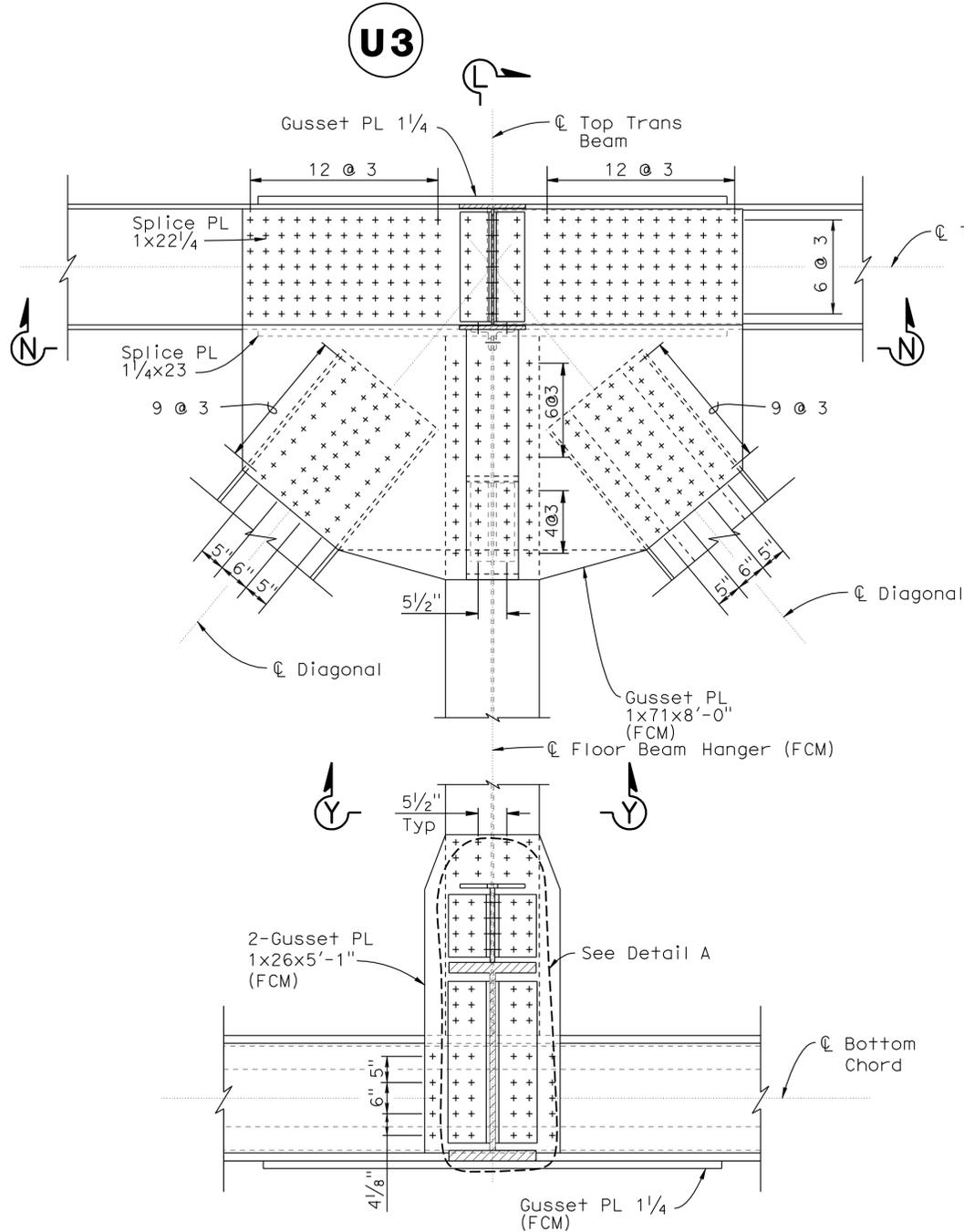
3/4" = 1'-0"



- NOTES:
- For Detail A and Detail B, see "TRUSS DETAILS NO. 4" sheet.
 - For Section Y-Y, see "TRUSS DETAILS NO. 7" sheet.
 - All bolts edge distance 1 1/2" unless otherwise shown.
 - FCM: Fracture Critical Member

DESIGN	BY L. Wu	CHECKED B. Addiespurger	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO.	HIGHGROVE UNDERPASS #3 TRUSS DETAILS NO. 5
DETAILS	BY Y. Tang/G. Hallstrom	CHECKED B. Addiespurger			54-1303	
QUANTITIES	BY T. Sanderson	CHECKED A. McPhee			R.R. MILE POST 5.91	
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)			UNIT: 3589	PROJECT NUMBER & PHASE: 08000005061	CONTRACT NO.: 08-0M9401	DISREGARD PRINTS BEARING EARLIER REVISION DATES
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS			0	1	2	3
FILE => 541303mtrussdt19.dgn			REVISION DATES		SHEET 19	OF 42

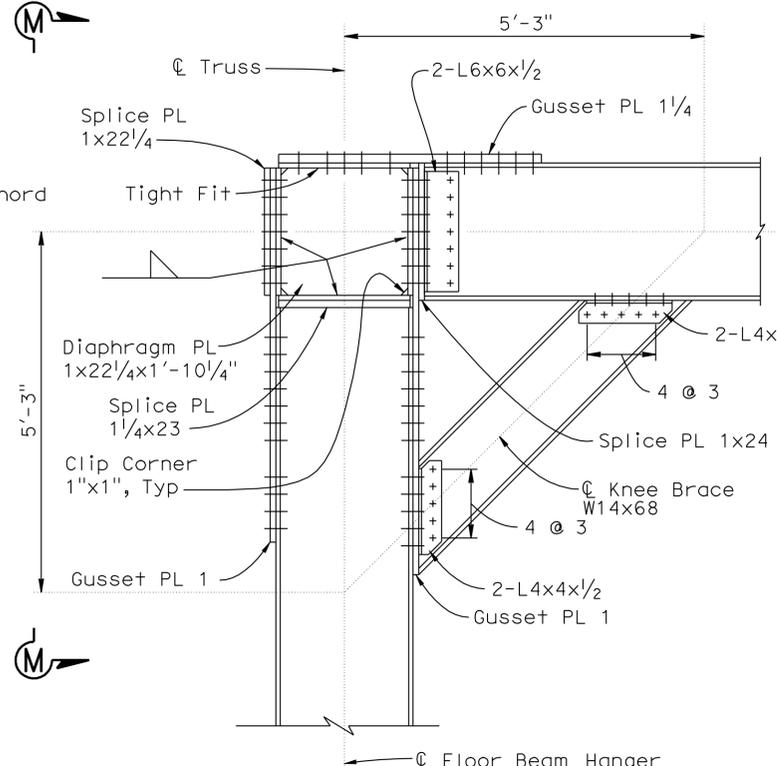
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1571	1743
			4-06-12	DATE	
			4-16-12	DATE	
			REGISTERED CIVIL ENGINEER		
			LARRY WU		
			No. C57035		
			Exp. 6-30-13		
			CIVIL		
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.					



L3

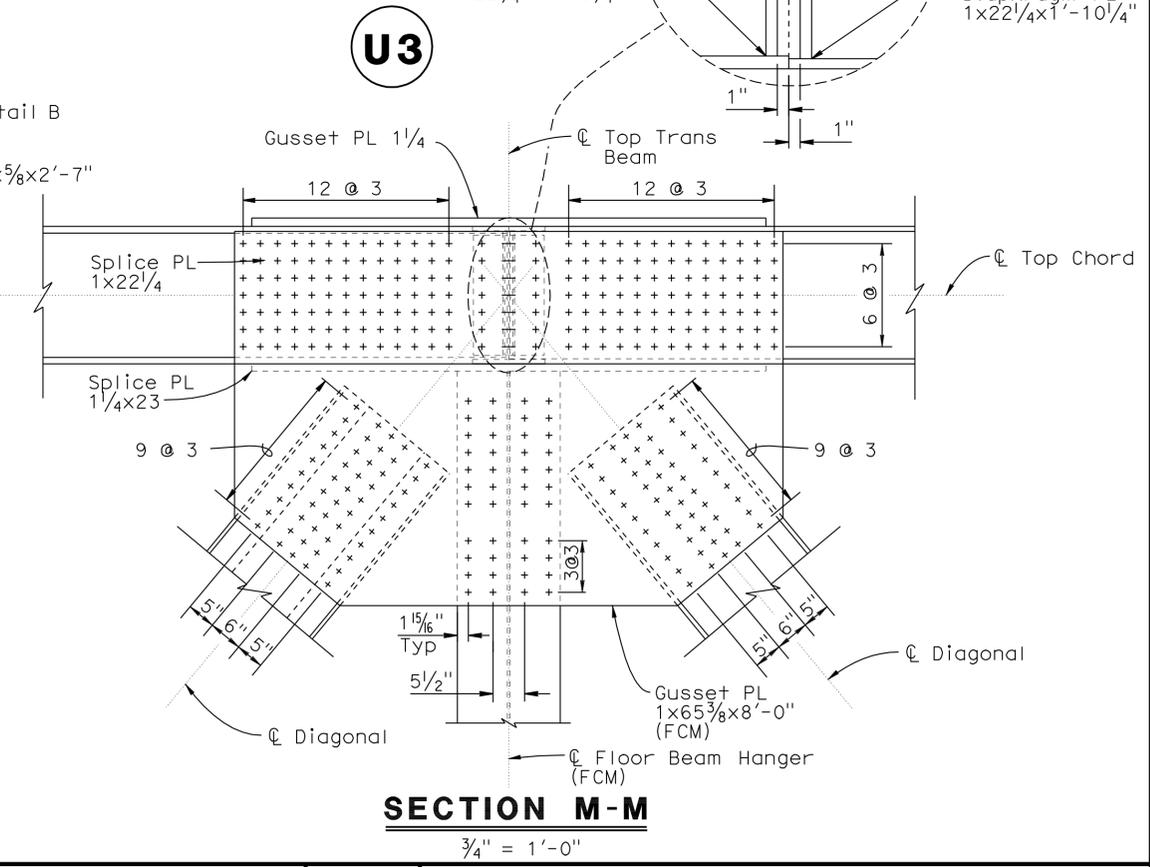
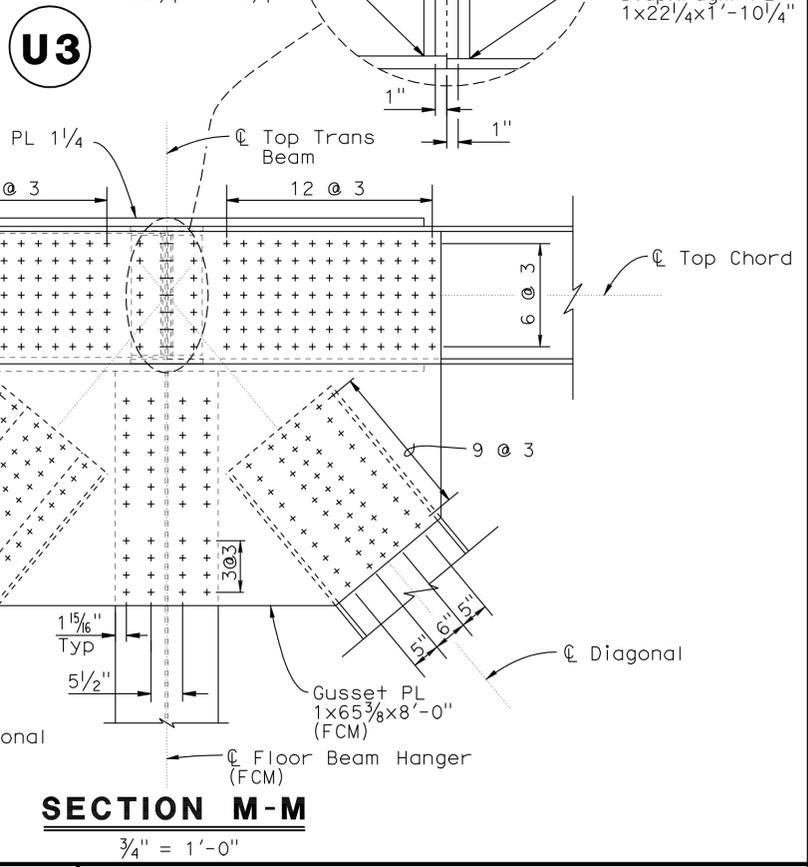
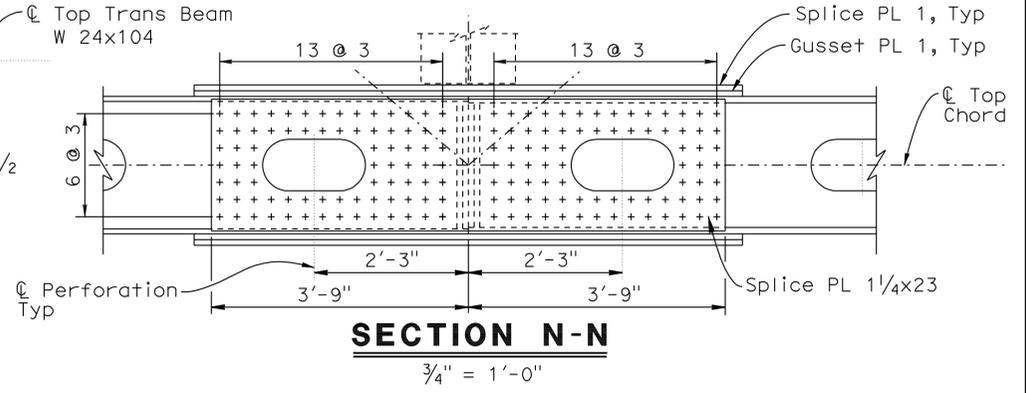
ELEVATION - L3-U3

3/4" = 1'-0"



SECTION M-M

3/4" = 1'-0"



- NOTES:**
1. For Detail A and Detail B, see "TRUSS DETAILS NO. 4" sheet.
 2. For Section Y-Y, see "TRUSS DETAILS NO. 7" sheet.
 2. All bolts edge distance 1 1/2", unless otherwise shown.
 3. FCM: Fracture Critical Member

NOTE:
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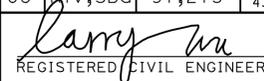
DESIGN	BY L. Wu	CHECKED B. Addiespurger
DETAILS	BY Y. Tang	CHECKED B. Addiespurger
QUANTITIES	BY T. Sanderson	CHECKED A. McPhee

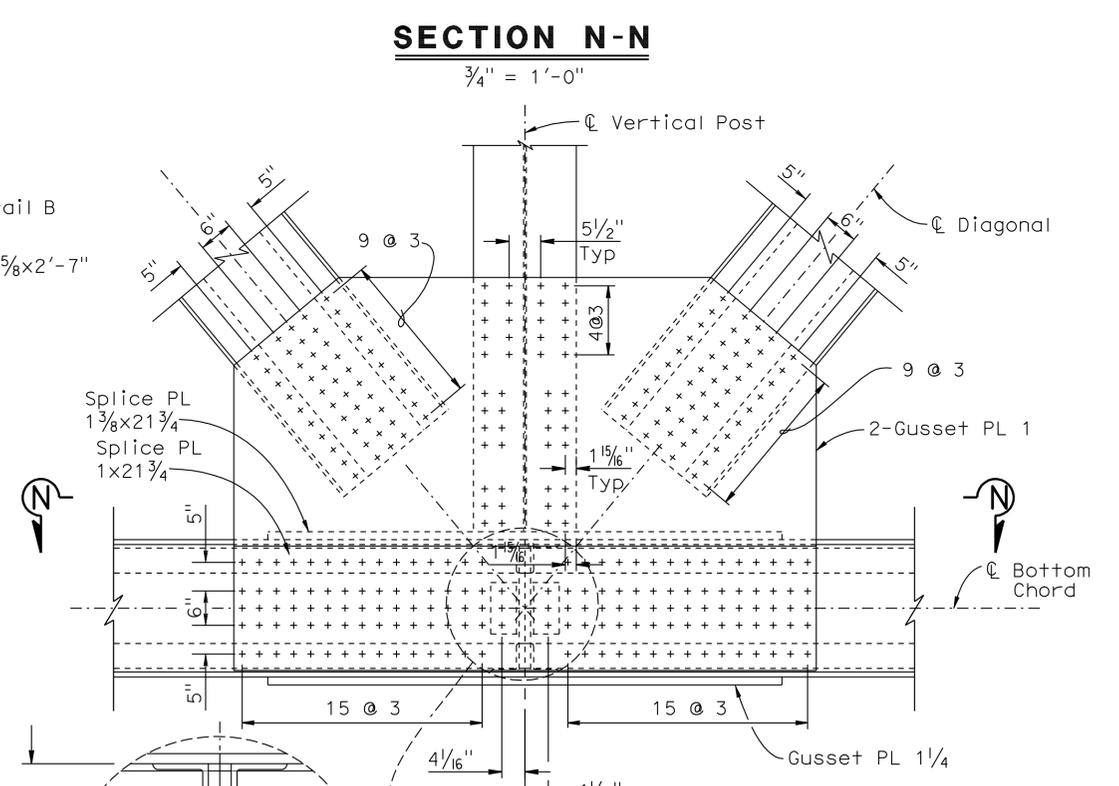
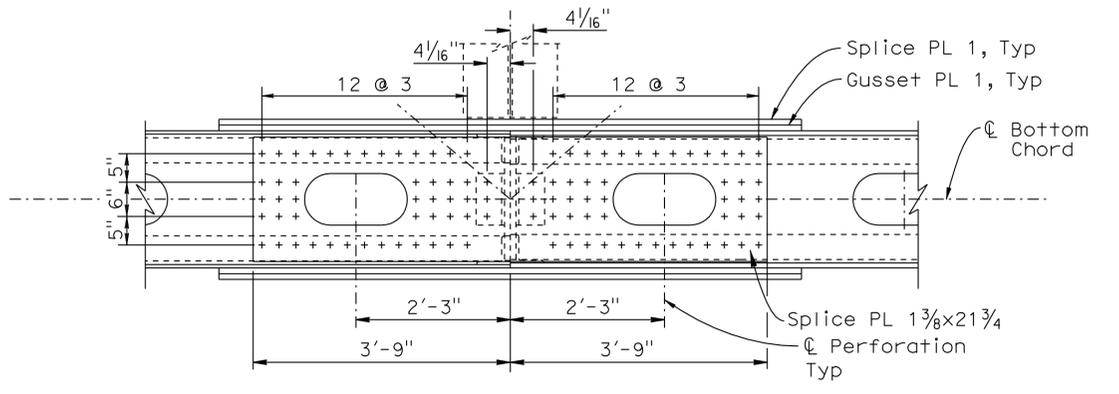
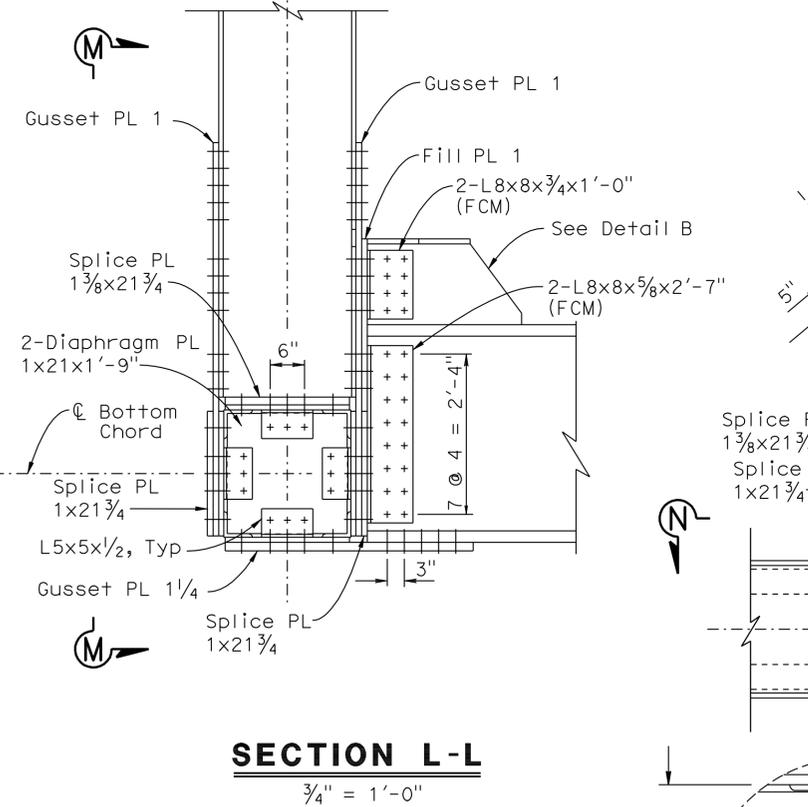
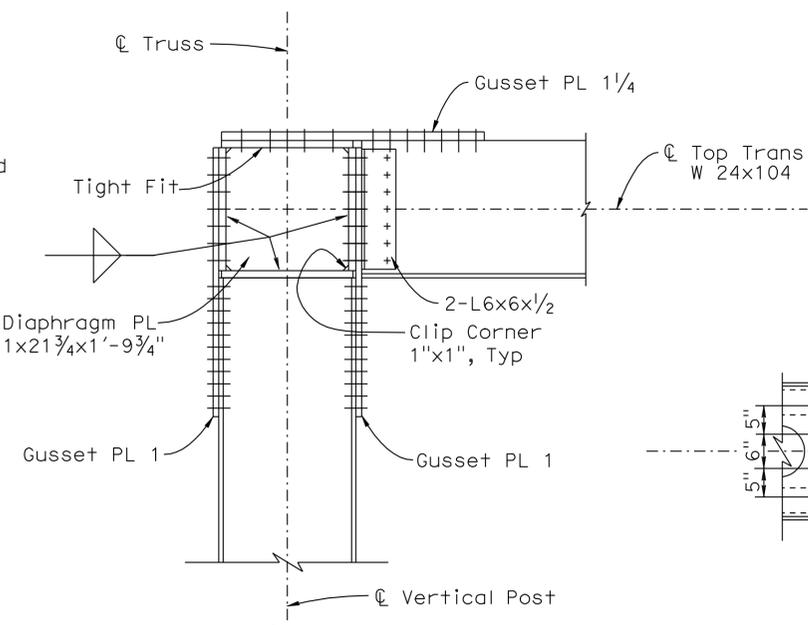
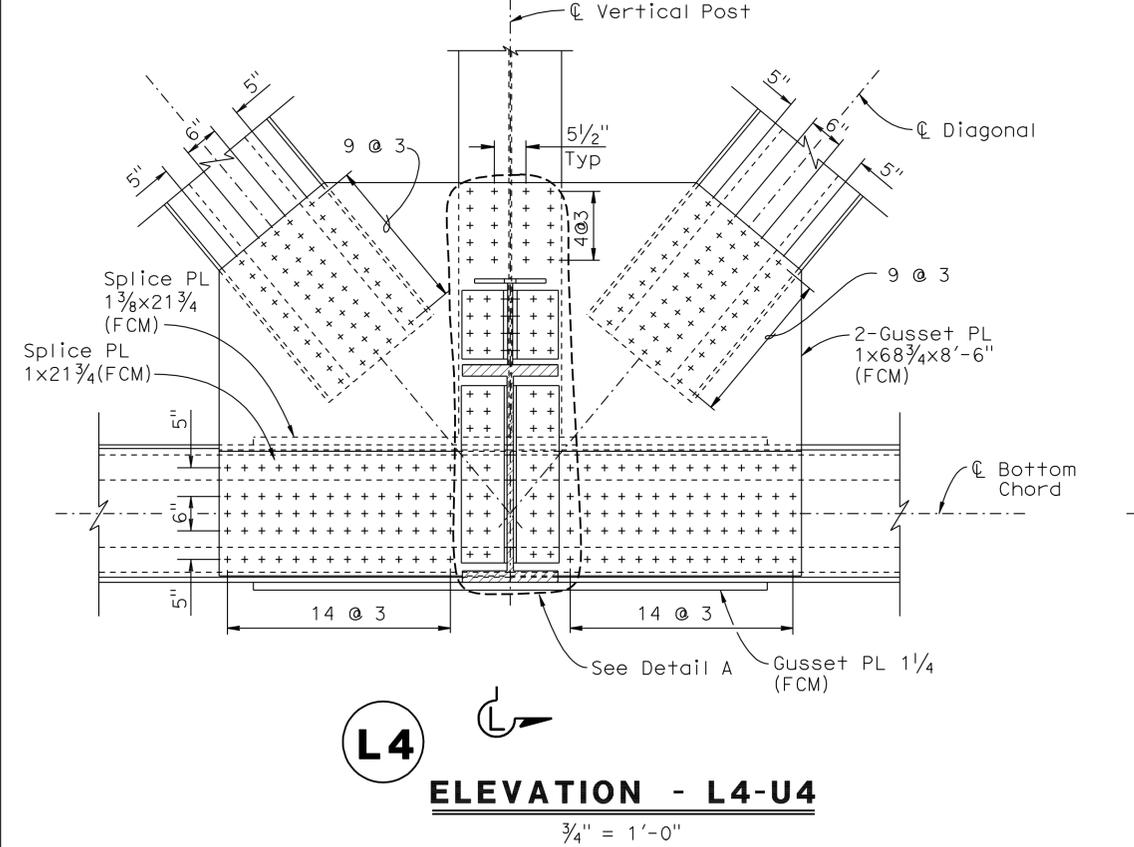
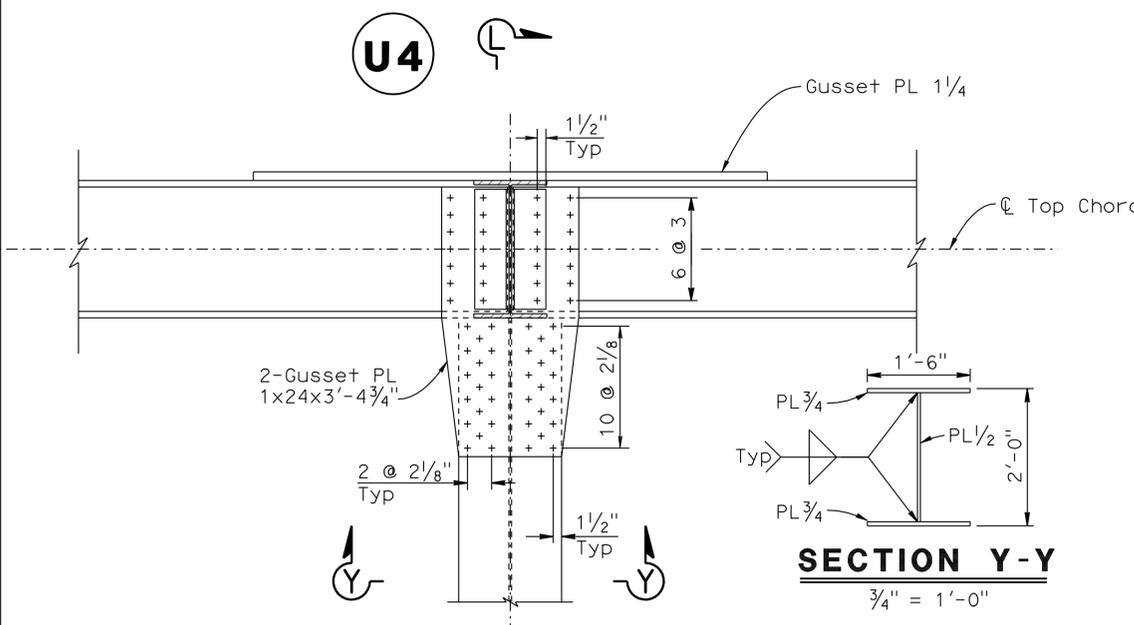
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 10

BRIDGE NO. 54-1303
R.R. MILE POST 5.91
LINE SEG. 7602

HIGHGROVE UNDERPASS #3
TRUSS DETAILS NO. 6

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91,215	21.5/21.7, 43.2/45.2, 0.0/5.1	1572	1743
			4-06-12		
REGISTERED CIVIL ENGINEER			DATE		
4-16-12			PLANS APPROVAL DATE		
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					

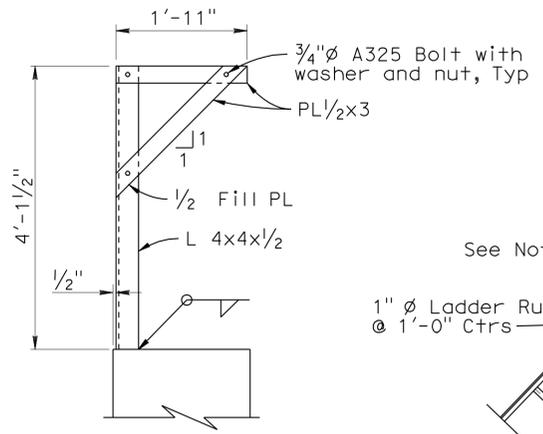


NOTE:
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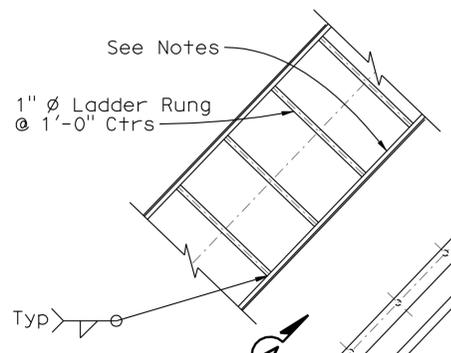
- NOTES:
1. For Detail A and Detail B, see " TRUSS DETAILS NO. 4" sheet.
 2. All bolts edge distance 1 1/2" unless otherwise shown.
 3. FCM: Fracture Critical Member

DESIGN	BY L. Wu	CHECKED B. Addiespurger	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO. 54-1303	HIGHGROVE UNDERPASS #3 TRUSS DETAILS NO. 7				
DETAILS	BY Y. Tang/G. Hallstrom	CHECKED B. Addiespurger			R.R. MILE POST 5.91					
QUANTITIES	BY T. Sanderson	CHECKED A. McPhee			LINE SEG. 7602					
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)			ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3589 PROJECT NUMBER & PHASE: 08000005061	CONTRACT NO.: 08-0M9401	DISREGARD PRINTS BEARING EARLIER REVISION DATES				
				0	1	2	3	REVISION DATES	SHEET	OF
								7-2-11	21	42

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1573	1743
 REGISTERED CIVIL ENGINEER			4-06-12 DATE		
4-16-12 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					

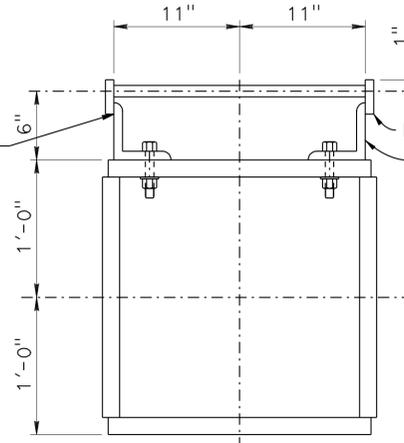
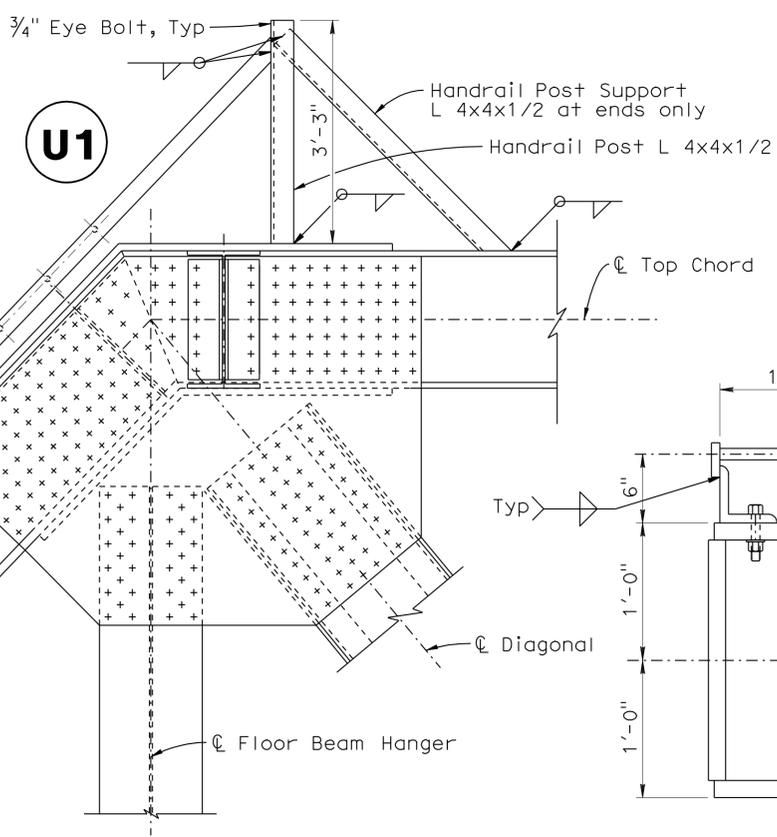


SECTION C-C
3/4" = 1'-0"

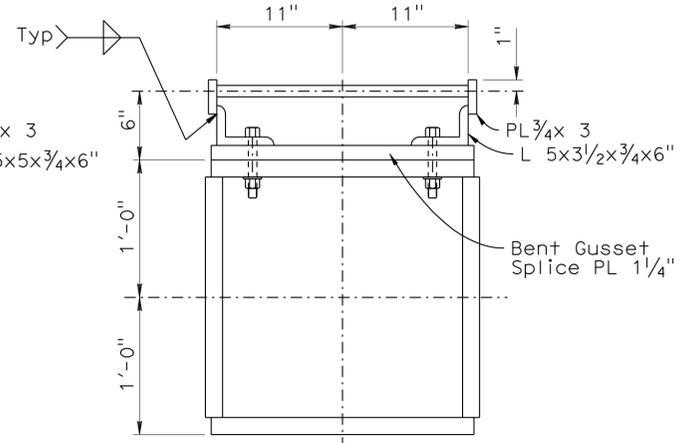


NOTES:

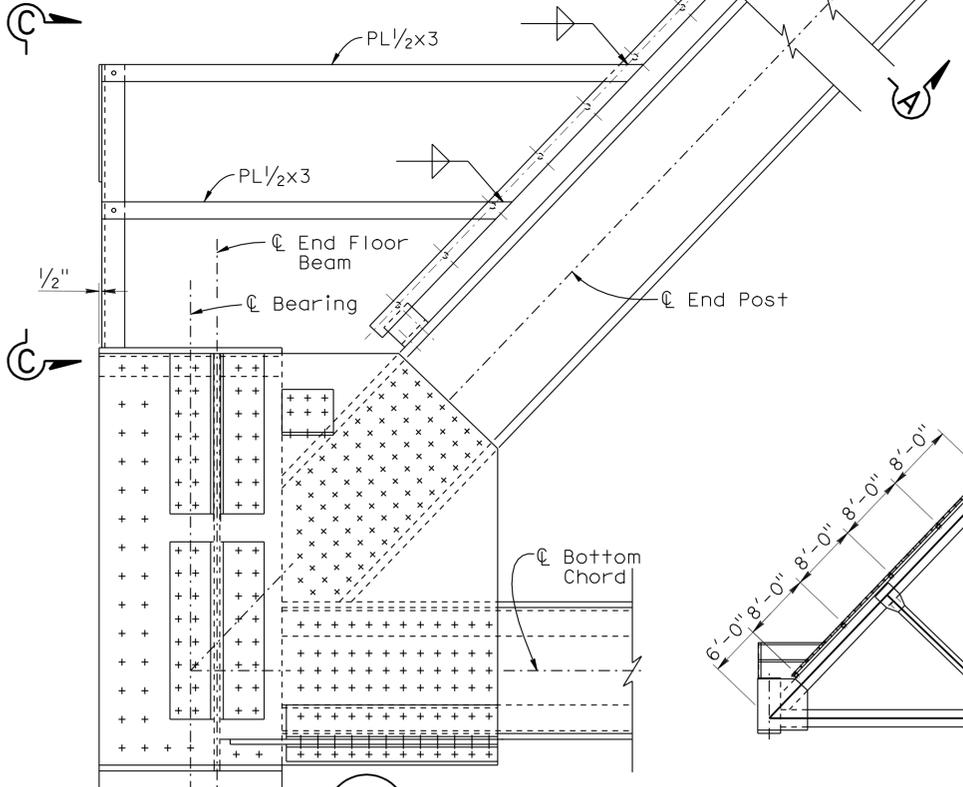
1. Ladders to be placed on both ends of both trusses on members L0-U1 and L8-U7.
2. The ladders shall also have the Dyna-Glide Ladder Climbing System with automatic pass-through manufactured by MSA or approved equal. The ladder climbing system shall be installed in accordance with the manufacturer's recommendations with details approved by the engineer.
3. The ladder rungs shall have a skid resistance coating that is described further in the additional special conditions in the manufacturer's manual.
4. The ladder shall be galvanized after fabrication.



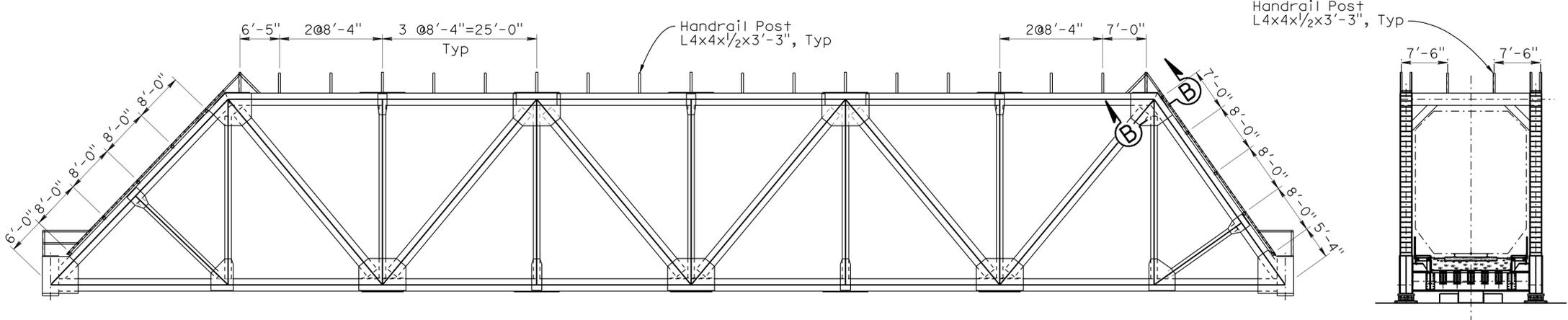
SECTION A-A
1 1/2" = 1'-0"



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



ELEVATION - L0 U1 (REAR TRUSS)
3/4" = 1'-0"



SCHEMATIC LAYOUT - LADDER & HANDRAIL POST
3/32" = 1'-0"

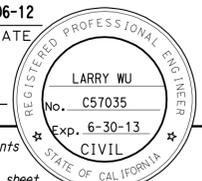
DESIGN	BY L. Wu	CHECKED B. Addiespurger
DETAILS	BY G. Hallstrom	CHECKED B. Addiespurger
QUANTITIES	BY T. Sanderson	CHECKED A. McPhee

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 10

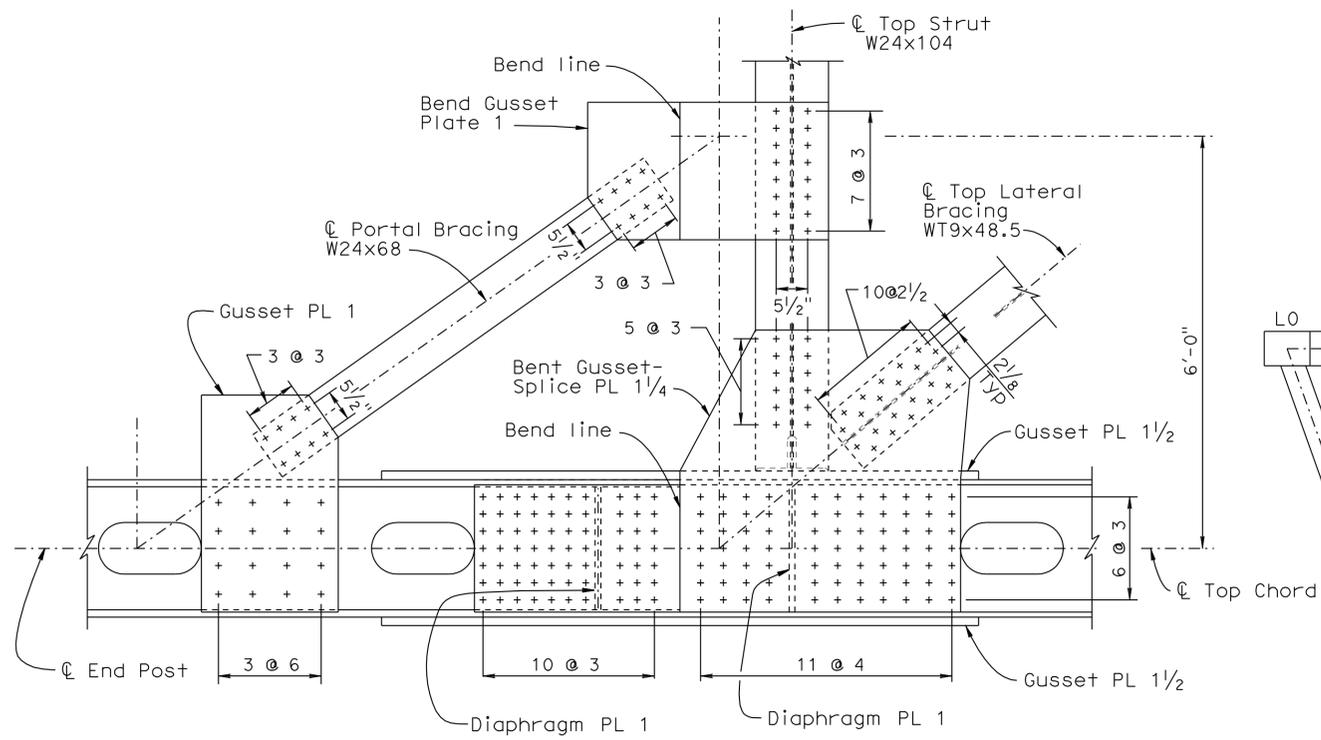
BRIDGE NO.	54-1303
R.R. MILE POST	5.91
LINE SEG.	7602

HIGHGROVE UNDERPASS #3
TRUSS DETAILS NO. 8

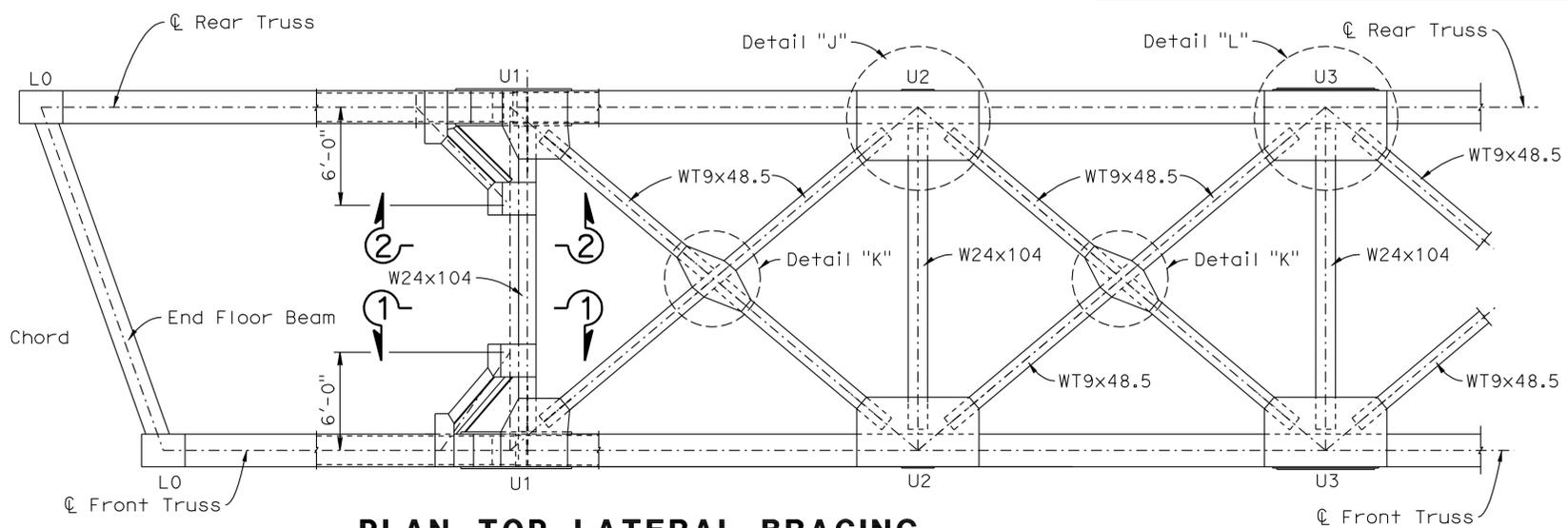
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1574	1743
 REGISTERED CIVIL ENGINEER			4-06-12 DATE		
4-16-12 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					

NOTES:

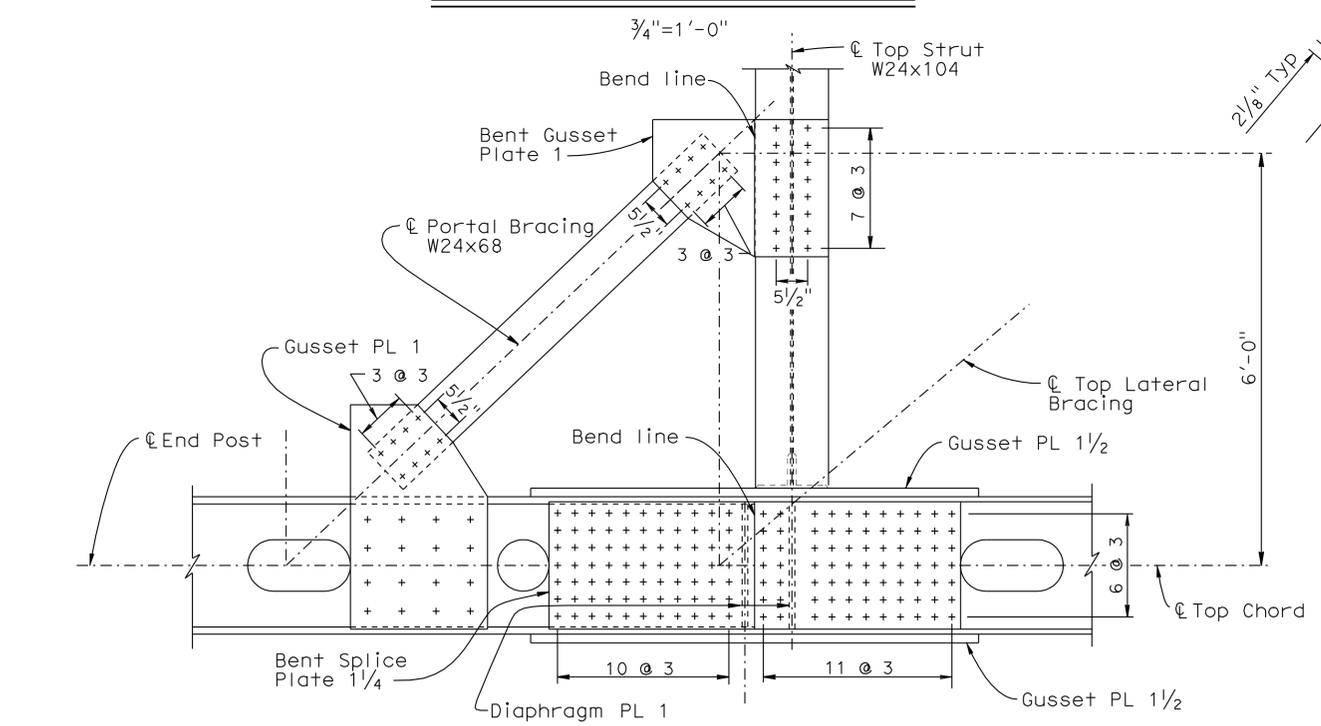
1. For View 2-2, Detail J, and Detail L, see "TOP LATERAL BRACING NO. 2" sheet.
2. All bolts edge distance 1 1/2" unless otherwise shown.
3. FCM: Fracture Critical Member



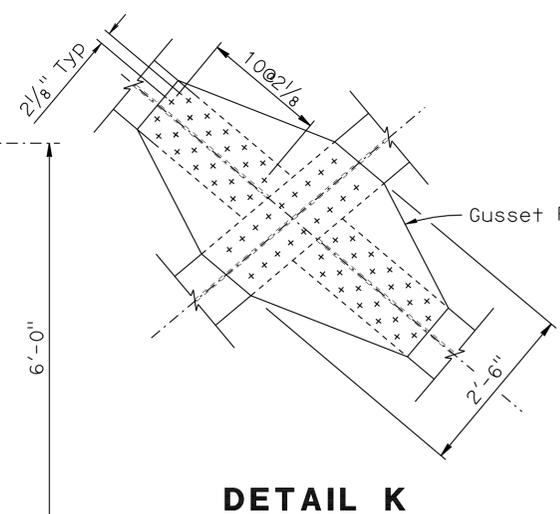
VIEW X-X (DEVELOPED)
3/4" = 1'-0"



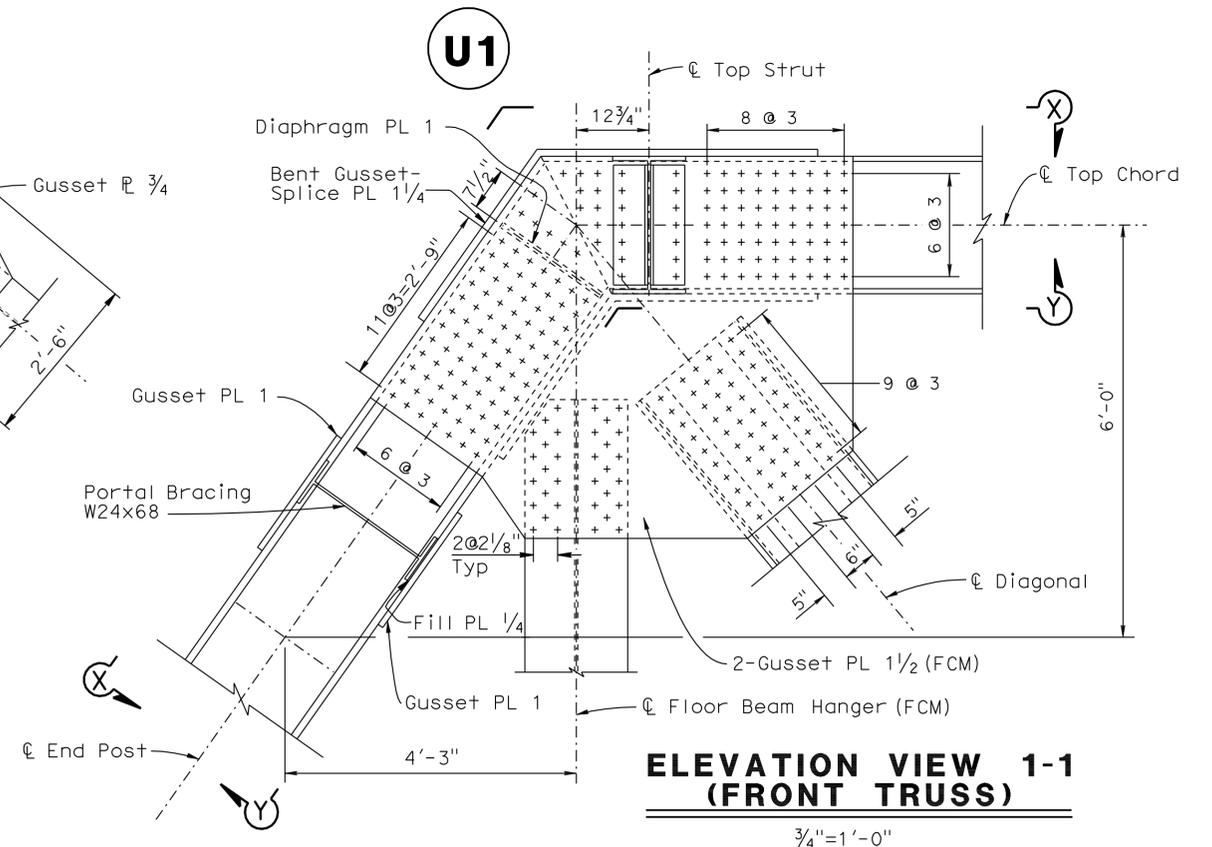
PLAN TOP LATERAL BRACING
3/16" = 1'-0"



VIEW Y-Y (DEVELOPED)
3/4" = 1'-0"



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



ELEVATION VIEW 1-1 (FRONT TRUSS)
3/4" = 1'-0"

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

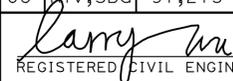
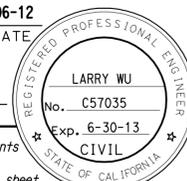
DESIGN	BY L. Wu	CHECKED B. Addiespurger
DETAILS	BY G. Hallstrom	CHECKED B. Addiespurger
QUANTITIES	BY T. Sanderson	CHECKED A. McPhee

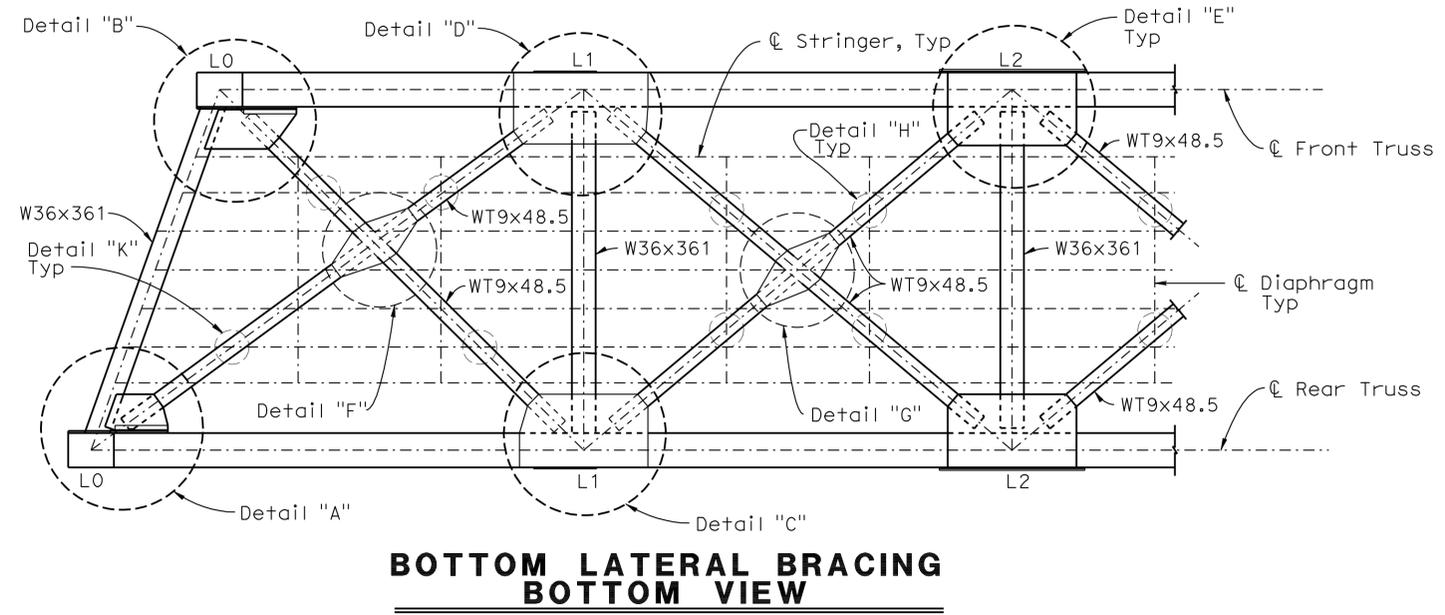
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 10

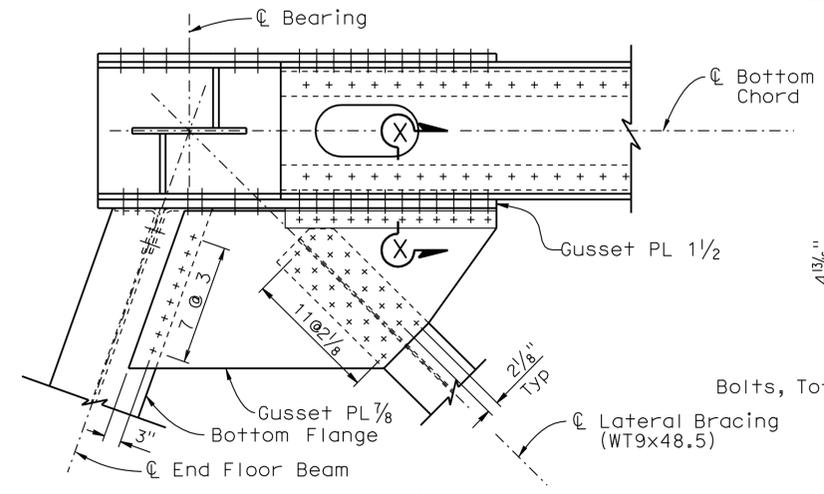
BRIDGE NO.	54-1303
R.R. MILE POST	5.91
LINE SEG.	7602

HIGHGROVE UNDERPASS #3
TOP LATERAL BRACING NO. 1

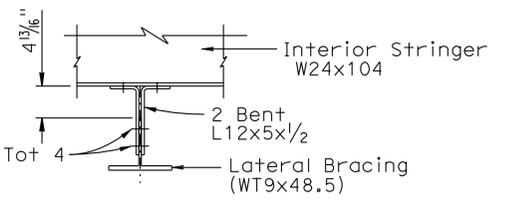
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1576	1743
			4-06-12		
REGISTERED CIVIL ENGINEER			DATE		
4-16-12			PLANS APPROVAL DATE		
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



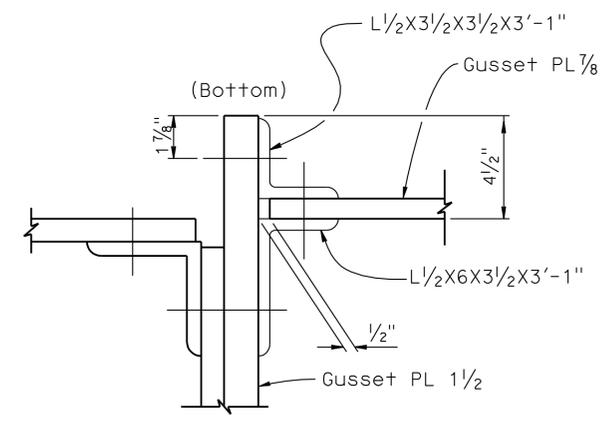
**BOTTOM LATERAL BRACING
BOTTOM VIEW**
3/16" = 1'-0"



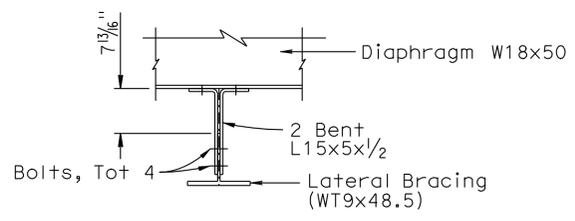
(Bottom View)
DETAIL B
3/4" = 1'-0"



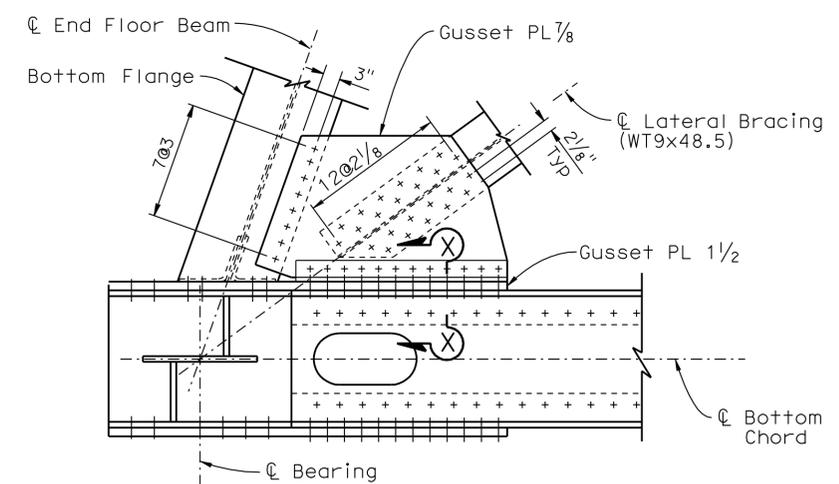
SECTION Y-Y
3/4" = 1'-0"



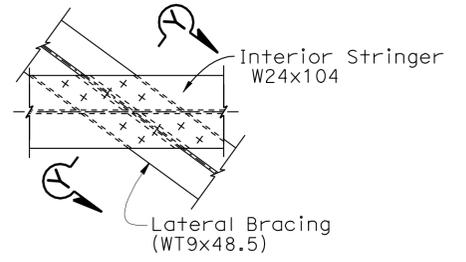
SECTION X-X
3" = 1'-0"



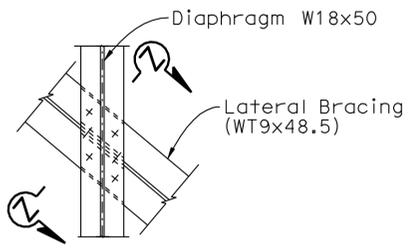
SECTION Z-Z
3/4" = 1'-0"



(Bottom View)
DETAIL A
3/4" = 1'-0"



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

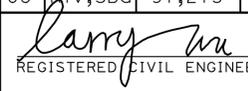


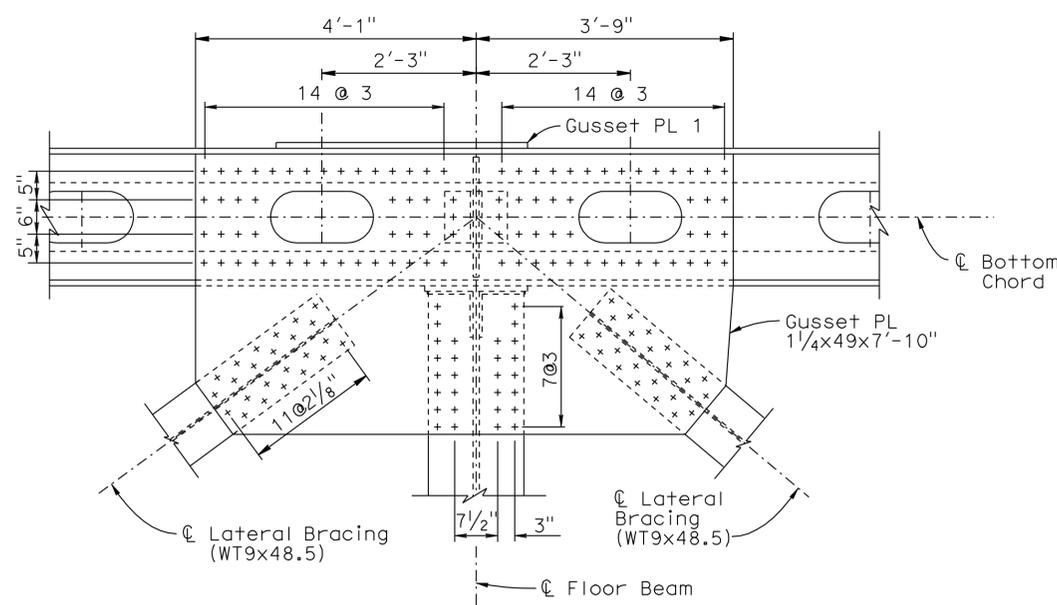
DETAIL H
3/4" = 1'-0"

- NOTES:
1. For Detail C, Detail D, Detail E, Detail F, and Detail G, see "BOTTOM LATERAL BRACING NO. 2" sheet.
 2. Detail H and Detail K are as viewed from the top of structure.
 3. All bolts edge distance 1/2" unless otherwise shown.

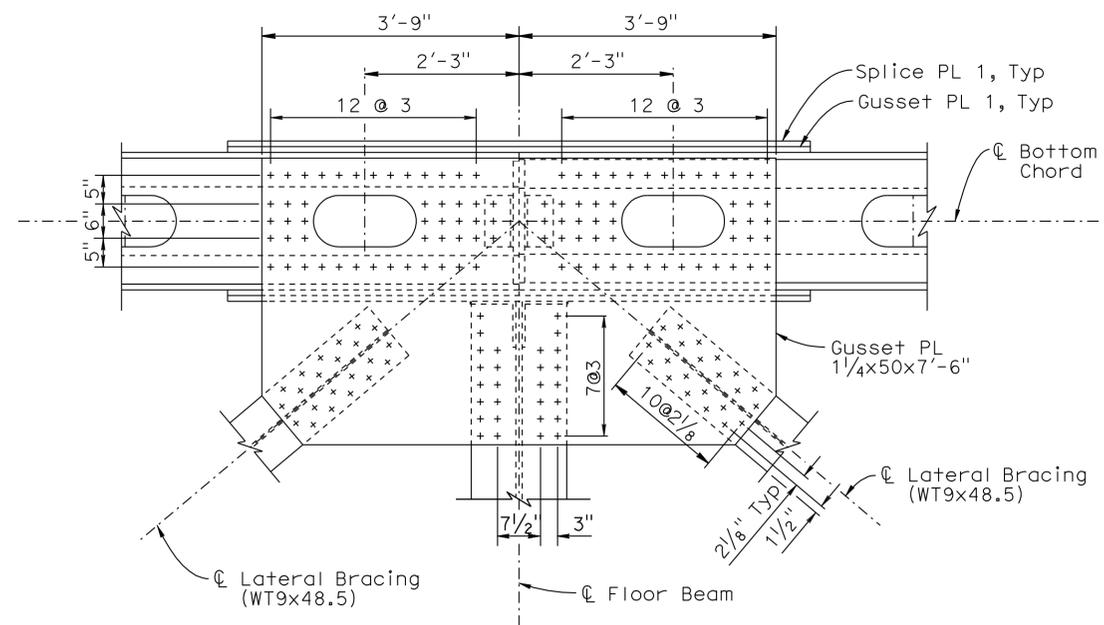
NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN	BY	L. Wu	CHECKED	B. Addiespurger	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO.	54-1303	HIGHGROVE UNDERPASS #3 BOTTOM LATERAL BRACING NO. 1						
	DETAILS	BY	Y. Tang/G. Hallstrom	CHECKED			B. Addiespurger	R.R. MILE POST		5.91					
QUANTITIES	BY	T. Sanderson	CHECKED	A. McPhee	UNIT: 3589	PROJECT NUMBER & PHASE: 08000005061	CONTRACT NO.: 08-0M9401	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET	OF				
					ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0	1	2	3	7-08-11	10-01-11	12-01-11	4-05-12	25	42

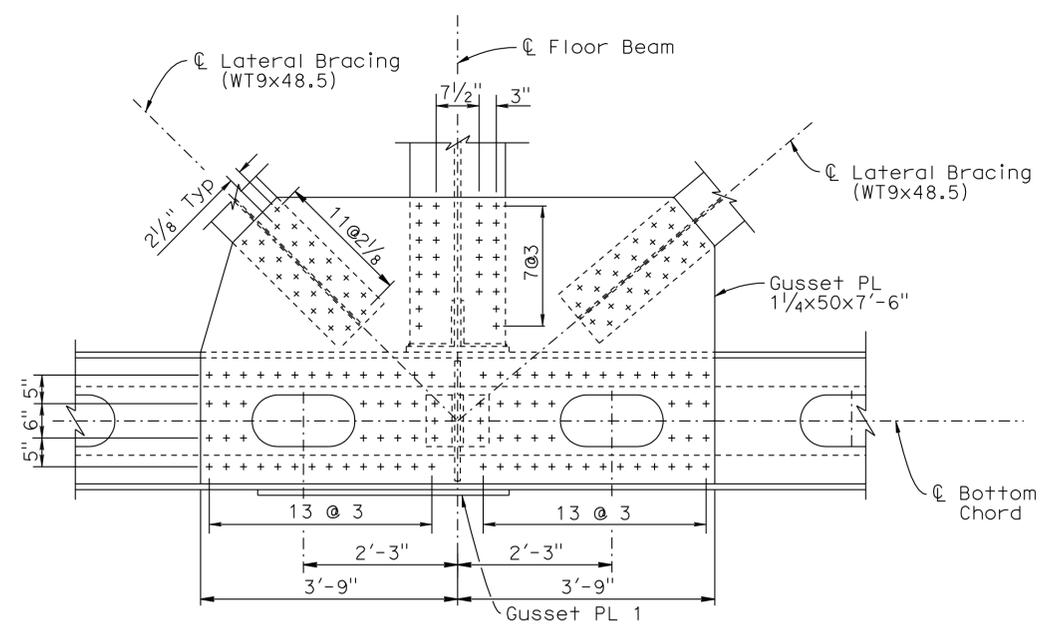
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1577	1743
 REGISTERED CIVIL ENGINEER			4-06-12 DATE		
4-16-12 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



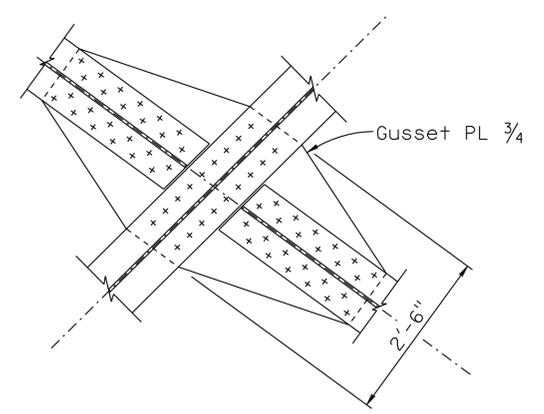
(Bottom View)
DETAIL D
3/4"=1'-0"



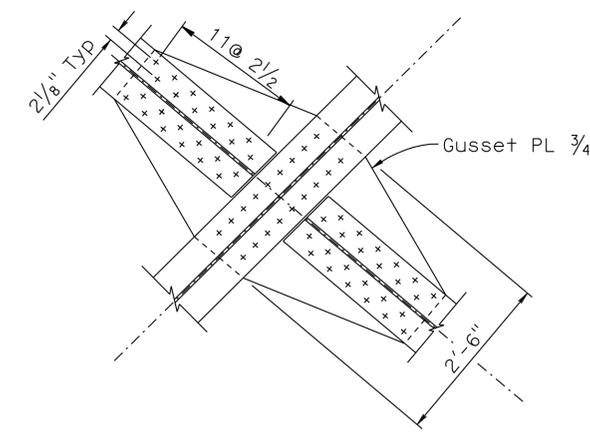
(Bottom View)
DETAIL E
3/4"=1'-0"



(Bottom View)
DETAIL C
3/4"=1'-0"



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



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

- NOTES:
1. For location of Detail C, Detail D, Detail E, Detail F, and Detail G, see "BOTTOM LATERAL BRACING NO. 1" sheet.
 2. All bolts edge distance 1 1/2" unless otherwise shown.
 3. Detail C, Detail D, and Detail E, are as viewed from the bottom of structure.
 4. Detail F and Detail G, are as viewed from the top of structure.

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

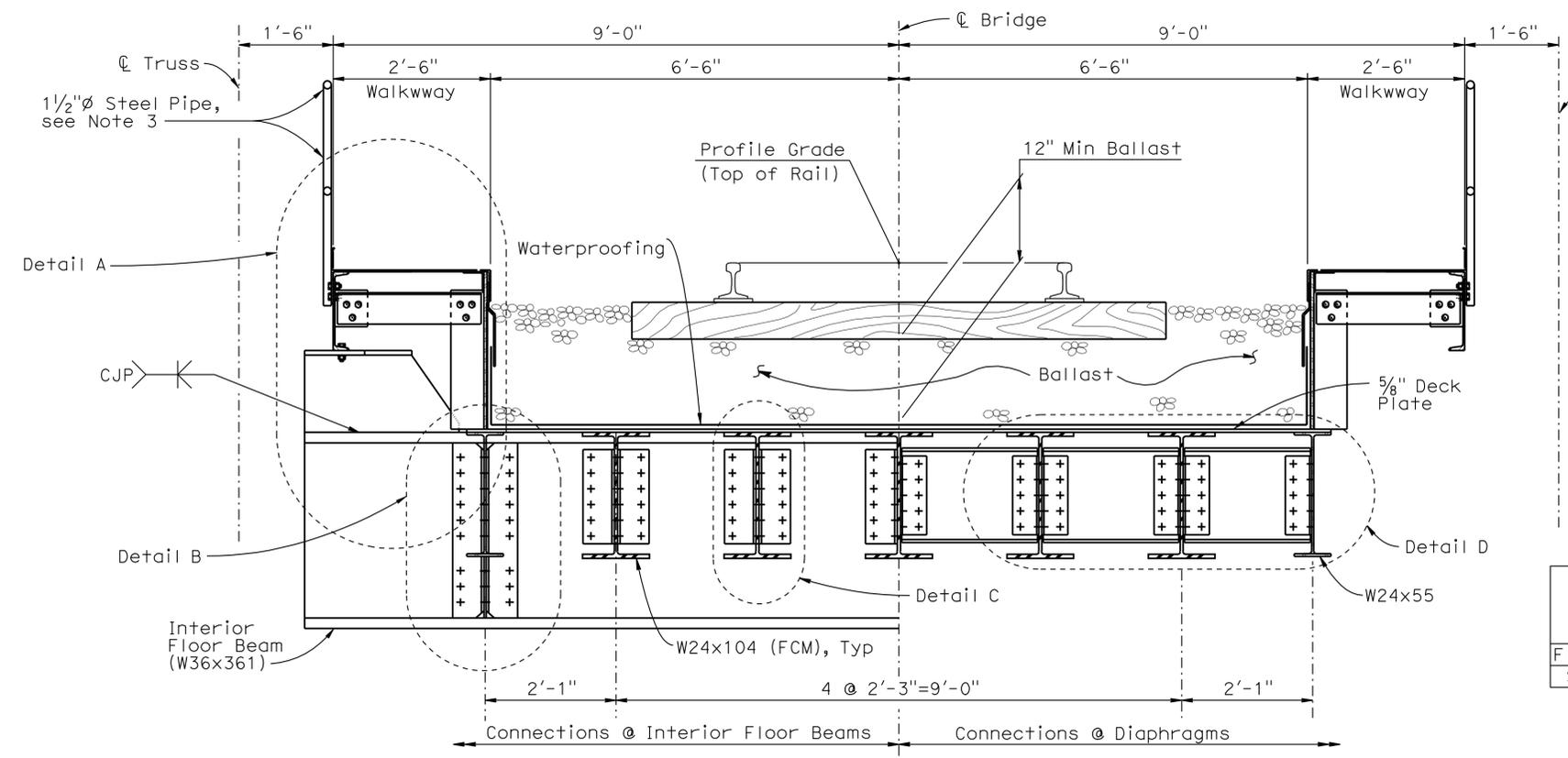
DESIGN	BY L. Wu	CHECKED B. Addiespurger
DETAILS	BY Y. Tang/G. Hallstrom	CHECKED B. Addiespurger
QUANTITIES	BY T. Sanderson	CHECKED A. McPhee

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 10

BRIDGE NO.
54-1303
R.R. MILE POST
5.91
LINE SEG. 7602
HIGHGROVE UNDERPASS #3
BOTTOM LATERAL BRACING NO. 2

USERNAME => 8124496 DATE PLOTTED => 14-JUN-2012 TIME PLOTTED => 05:56



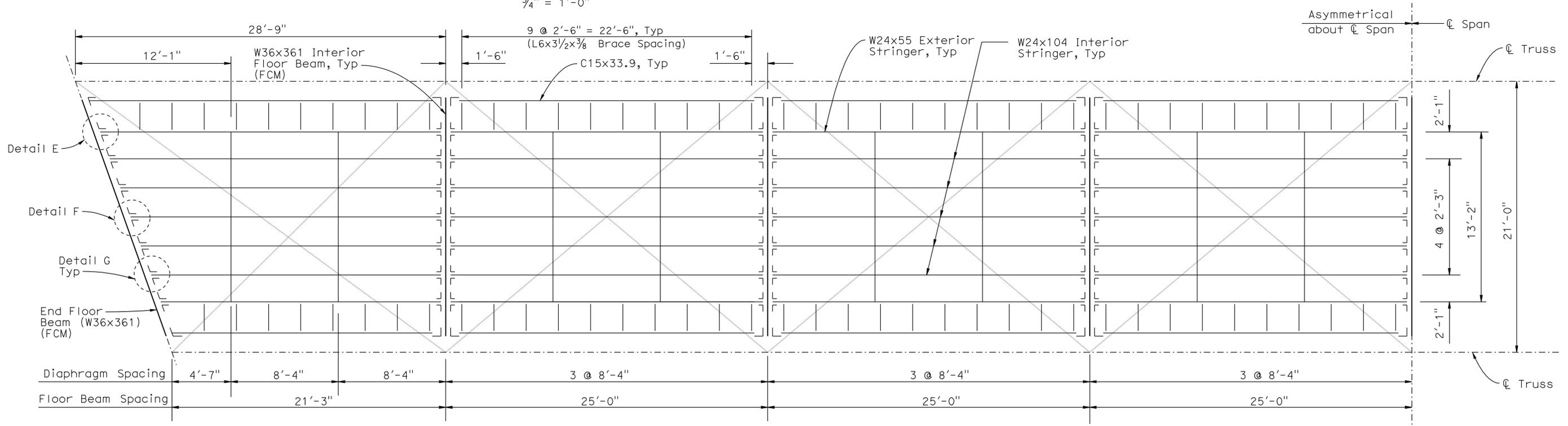
NOTES:

1. For Detail A, Detail D, Detail F, and Detail G, see "FLOOR SYSTEM DETAILS NO. 1" sheet.
2. For Detail B and Detail C, see "FLOOR SYSTEM DETAILS NO. 2" sheet.
3. For steel pipe connection detail, see "WALKWAY AND HANDRAIL DETAILS" sheet.
4. FCM: Fracture Critical Member.
5. For Detail E, see Detail A on "TRUSS DETAILS NO. 2" sheet.

Member	DL (K-ft)	LL (K-ft)	Impact (K-ft)	Fatigue Load Range (K-ft)	Design Load (K-ft)	Section	Allowable Stress (ksi)	Actual Stress (ksi)	Allowable Fatigue Stress Range (ksi)	Actual Fatigue Stress Range (ksi)
Floor Beam	487	1391	556	1630	2434	W36x361	27.50	21.84	24.00	14.62
Stringer	76	233	110	272	420	W24x104	27.50	19.75	24.00	12.77

TYPICAL INTERIOR FLOOR BEAM SECTION

3/4" = 1'-0"



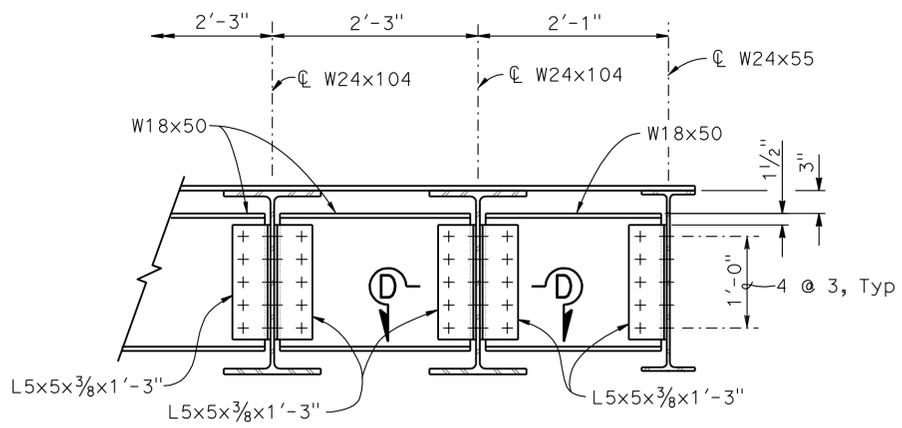
FLOOR SYSTEM PLAN

1/4" = 1'-0"

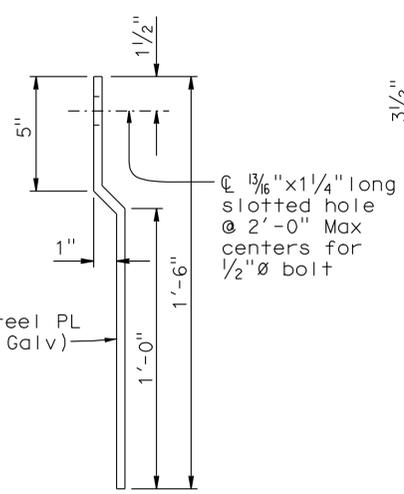
NOTE:
 THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN BY L. Wu CHECKED B. Addiespurger	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO.	HIGHGROVE UNDERPASS #3 FLOOR SYSTEM
			54-1303	
			R.R. MILE POST	
DETAILS BY Y. Tang CHECKED B. Addiespurger	UNIT: 3589 PROJECT NUMBER & PHASE: 08000005061	CONTRACT NO.: 08-0M9401	REVISION DATES 7-27-11, 7-28-12, 4-05-12	SHEET 27 OF 42
QUANTITIES BY T. Sanderson CHECKED A. McPhee	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3	DISREGARD PRINTS BEARING EARLIER REVISION DATES	FILE => 541303ofs_27.dgn	

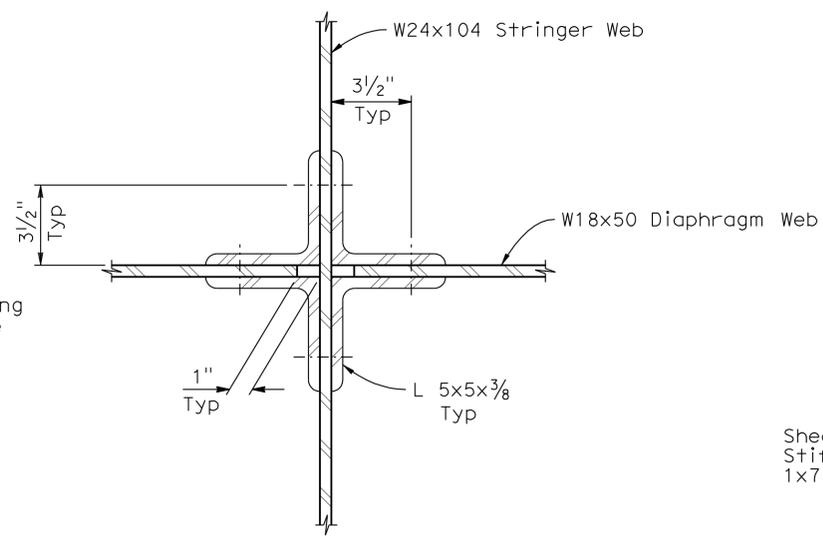
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1579	1743
			4-06-12	DATE	
REGISTERED CIVIL ENGINEER			DATE		
4-16-12			PLANS APPROVAL DATE		
					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



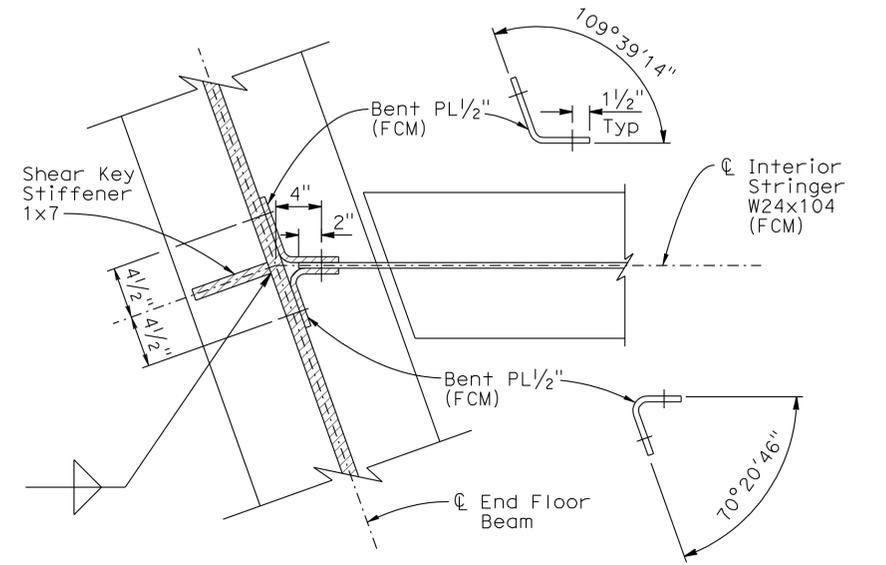
DETAIL D
1" = 1'-0"



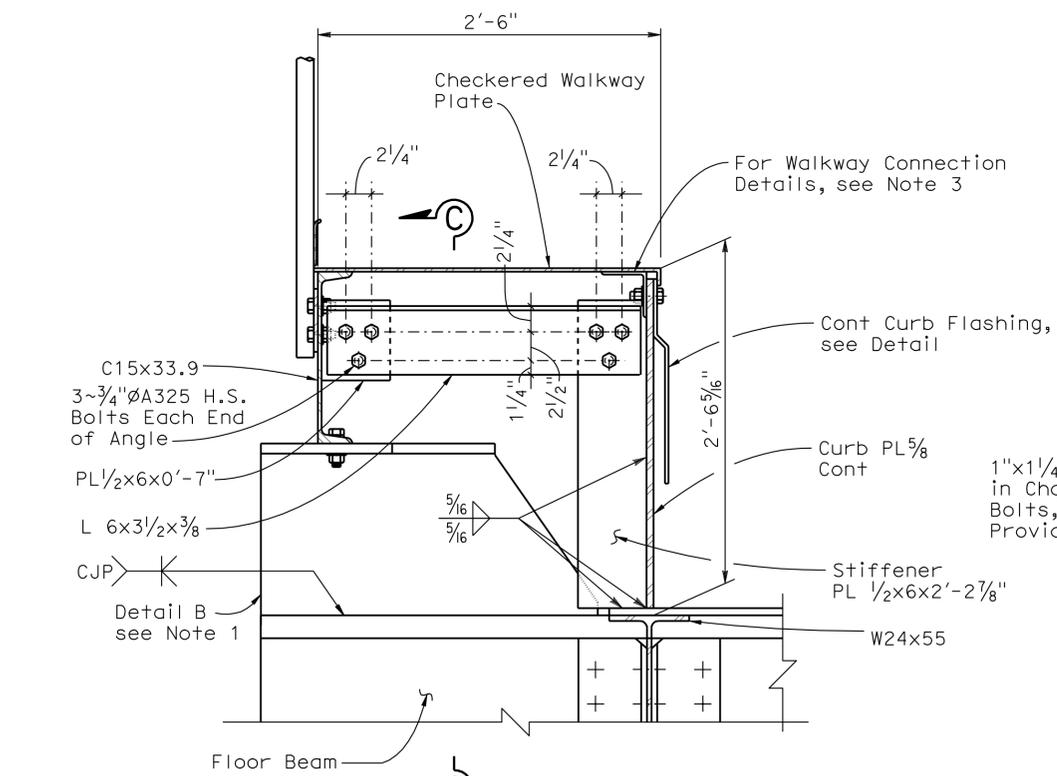
CURB FLASHING DETAIL
3" = 1'-0"



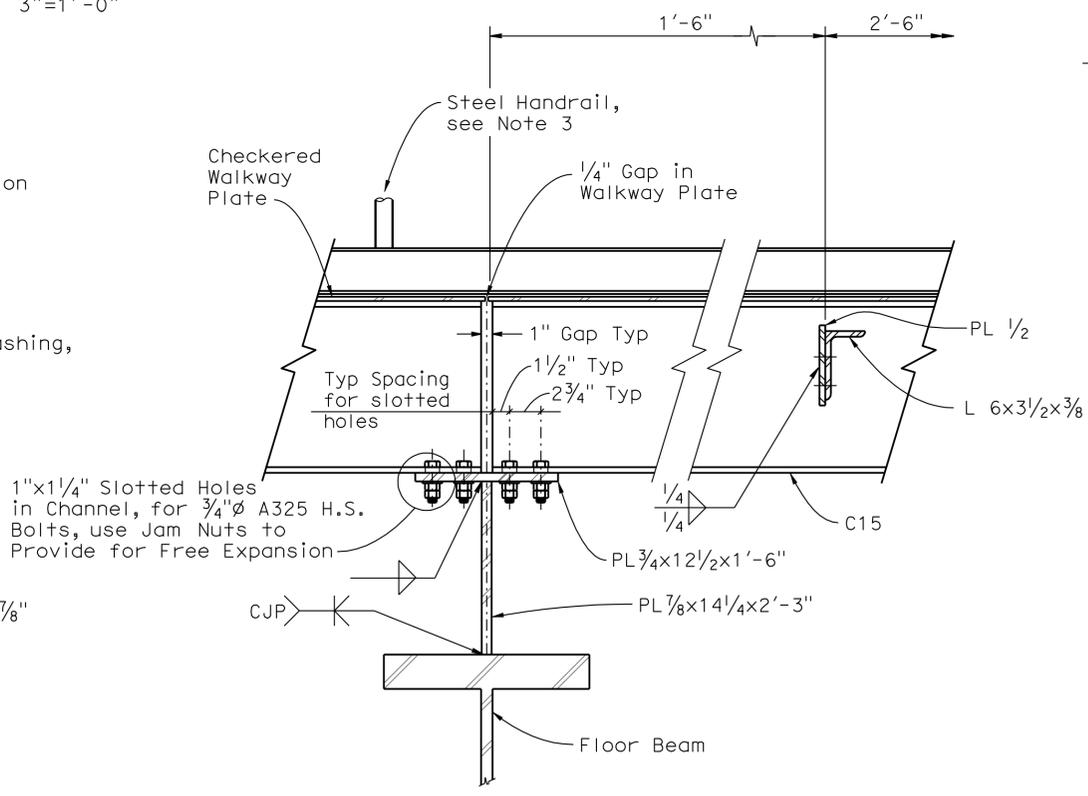
SECTION D-D
3" = 1'-0"



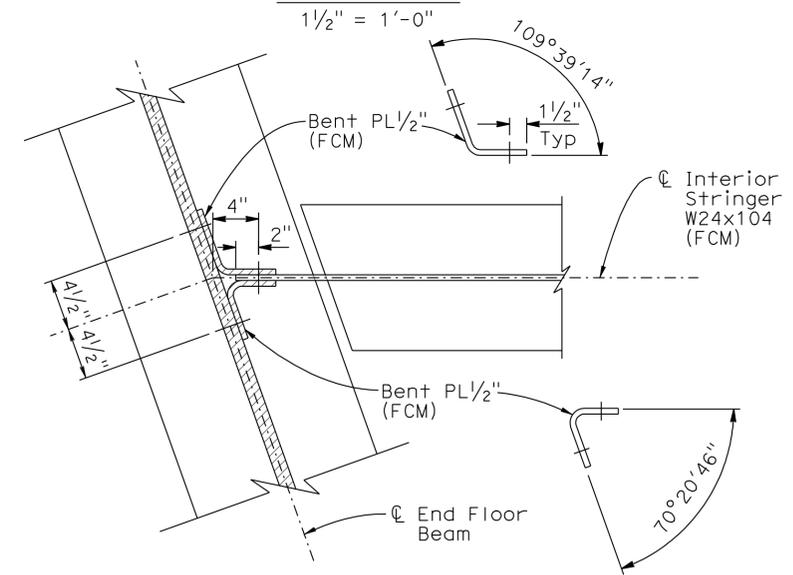
DETAIL F
1 1/2" = 1'-0"



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



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

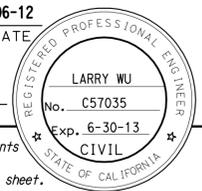


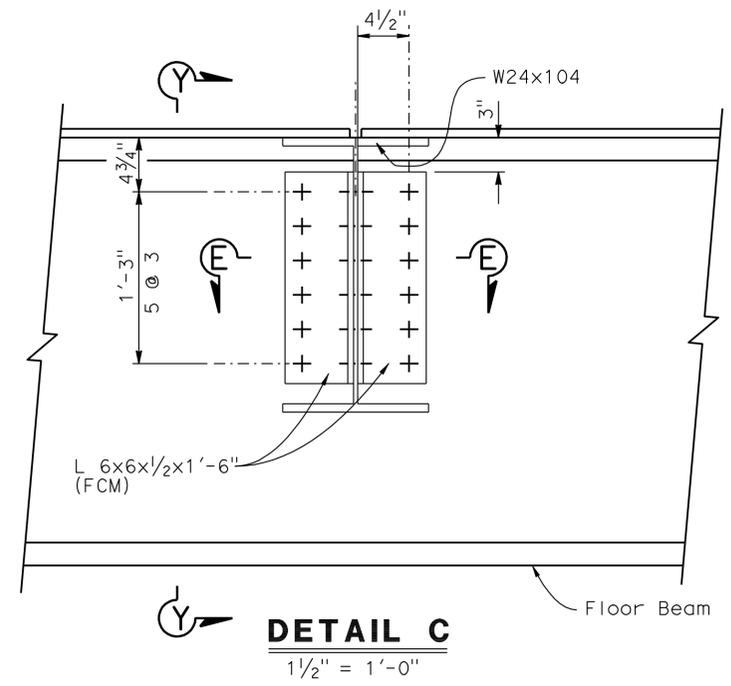
DETAIL G
1 1/2" = 1'-0"

NOTE:
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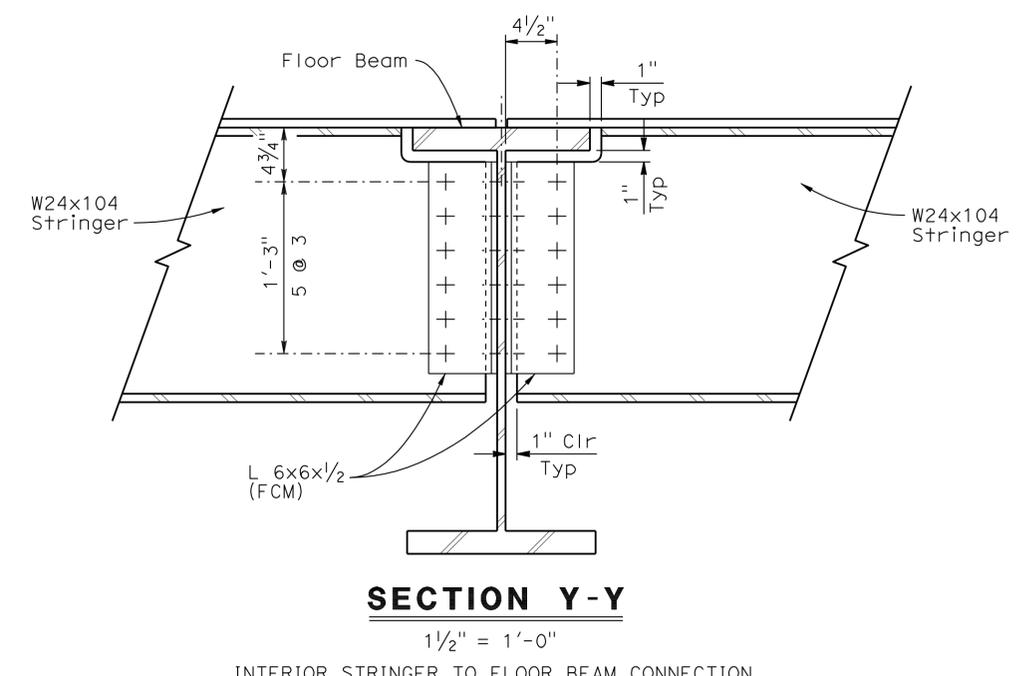
- NOTES:**
- For Detail B, see "TRUSS DETAILS NO. 4" sheet.
 - For location of Detail A, Detail D, Detail F and Detail G, see "FLOOR SYSTEM" sheet.
 - For details, see "WALKWAY AND HANDRAIL DETAILS" sheet.
 - All bolts edge distance 1 1/2" unless otherwise shown.
 - FCM: Fracture Critical Member.

DESIGN	BY	L. Wu	CHECKED	B. Addiespurger	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO.	54-1303	HIGHGROVE UNDERPASS #3			
	DETAILS	BY	Y. Tang/ G. Hallstrom	CHECKED			B. Addiespurger	R.R. MILE POST		5.91	FLOOR SYSTEM DETAILS NO. 1	
	QUANTITIES	BY	T. Sanderson	CHECKED			A. McPhee	LINE SEG.		7602		
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)					ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3589 PROJECT NUMBER & PHASE: 08000005061	CONTRACT NO.: 08-0M9401	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET	OF	
							7-22-11	9-18-11	10-24-11	4-06-12	28	42

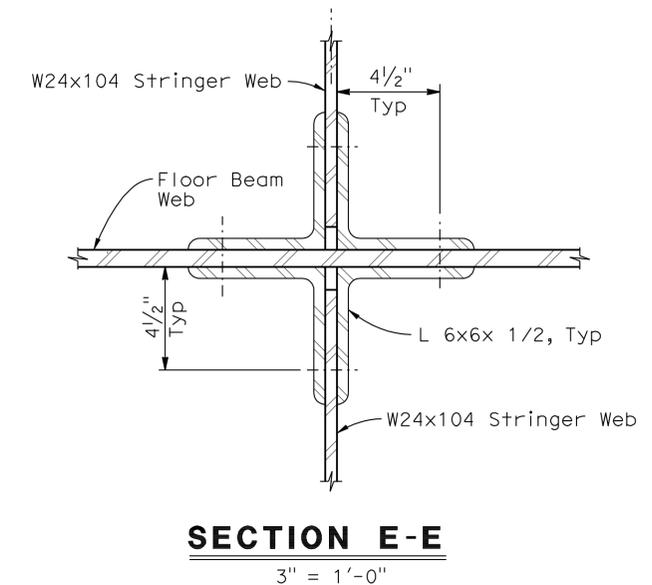
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1580	1743
 REGISTERED CIVIL ENGINEER			4-06-12 DATE		
4-16-12 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



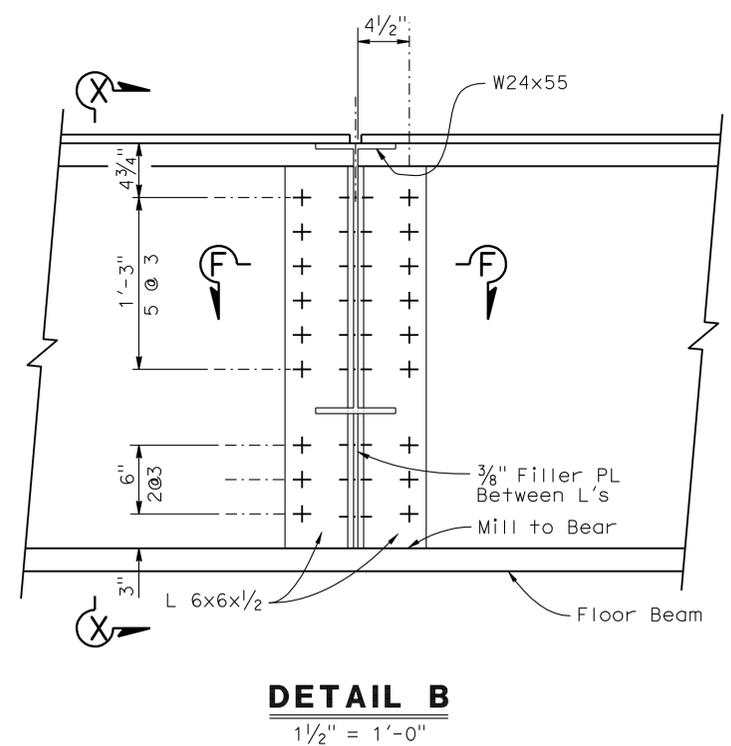
DETAIL C
1 1/2" = 1'-0"



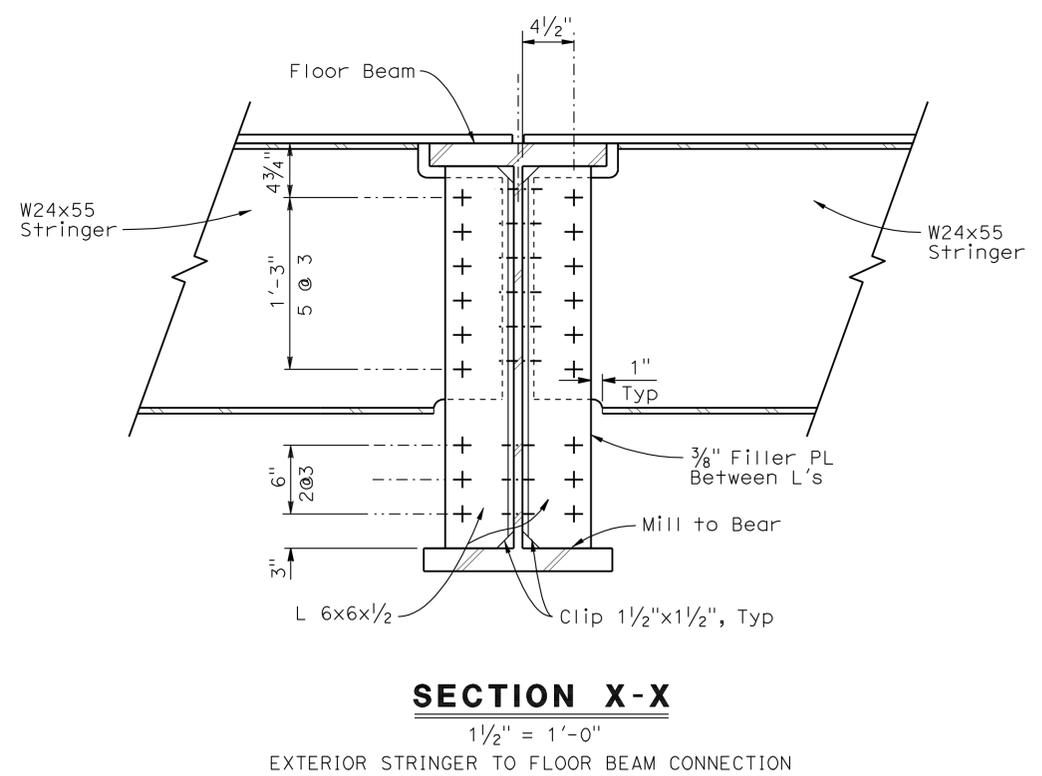
SECTION Y-Y
1 1/2" = 1'-0"
INTERIOR STRINGER TO FLOOR BEAM CONNECTION



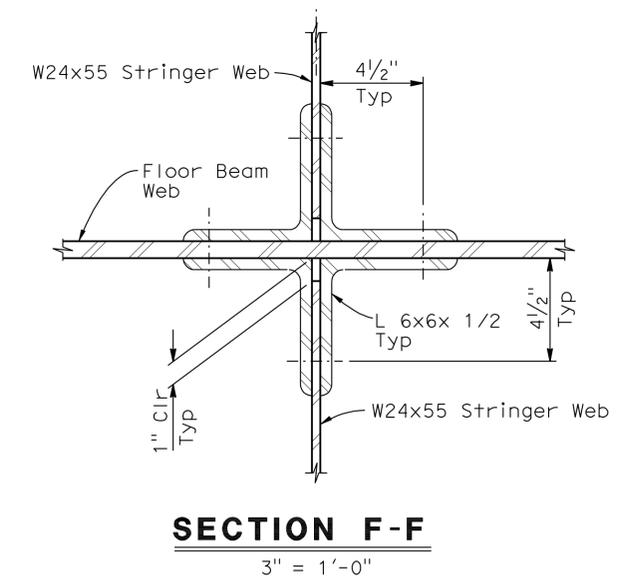
SECTION E-E
3" = 1'-0"



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



SECTION X-X
1 1/2" = 1'-0"
EXTERIOR STRINGER TO FLOOR BEAM CONNECTION



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

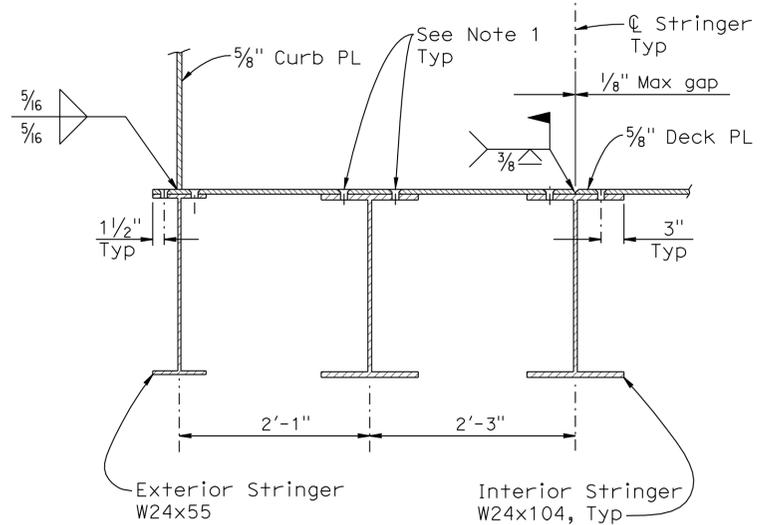
- NOTES:**
- For location of Detail B and Detail C, see "FLOOR SYSTEM" sheet.
 - Floor Beam bottom flange to conform to requirements for FCM.
 - All bolts edge distance 1 1/2" unless otherwise shown.
 - FCM: Fracture Critical Member

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

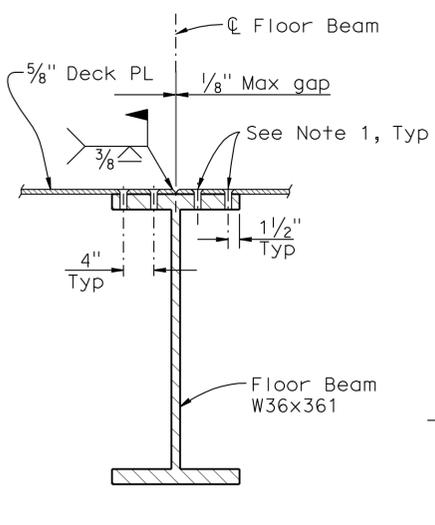
DESIGN BY L. Wu CHECKED B. Addiespurger	BY Y. Tang/G. Hallstrom CHECKED B. Addiespurger	BY T. Sanderson CHECKED A. McPhee	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO. 54-1303	HIGHGROVE UNDERPASS #3 FLOOR SYSTEM DETAILS NO. 2
					R.R. MILE POST 5.91	
					LINE SEG. 7602	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS			UNIT: 3589 PROJECT NUMBER & PHASE: 08000005061	CONTRACT NO.: 08-0M9401	DISREGARD PRINTS BEARING EARLIER REVISION DATES	SHEET 29 OF 42

USERNAME => s124496 DATE PLOTTED => 14-JUN-2012 TIME PLOTTED => 05:56

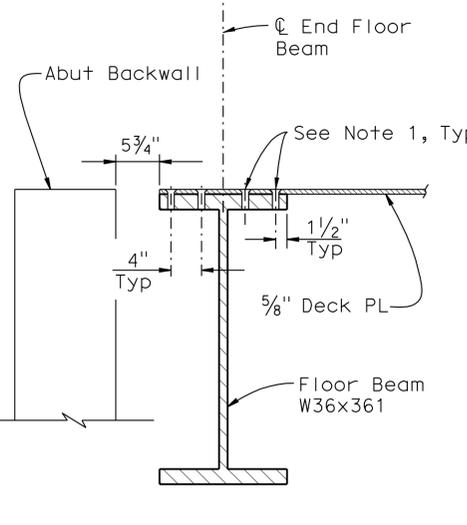
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1581	1743
 REGISTERED CIVIL ENGINEER			4-06-12 DATE		
4-16-12 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



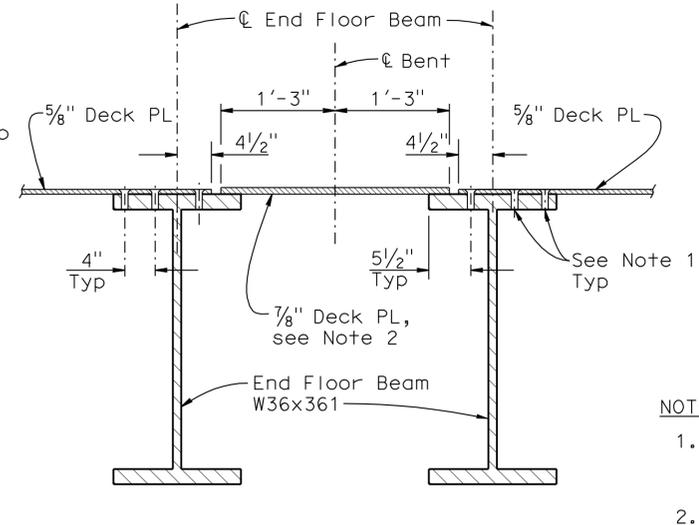
SECTION A-A
1" = 1'-0"



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

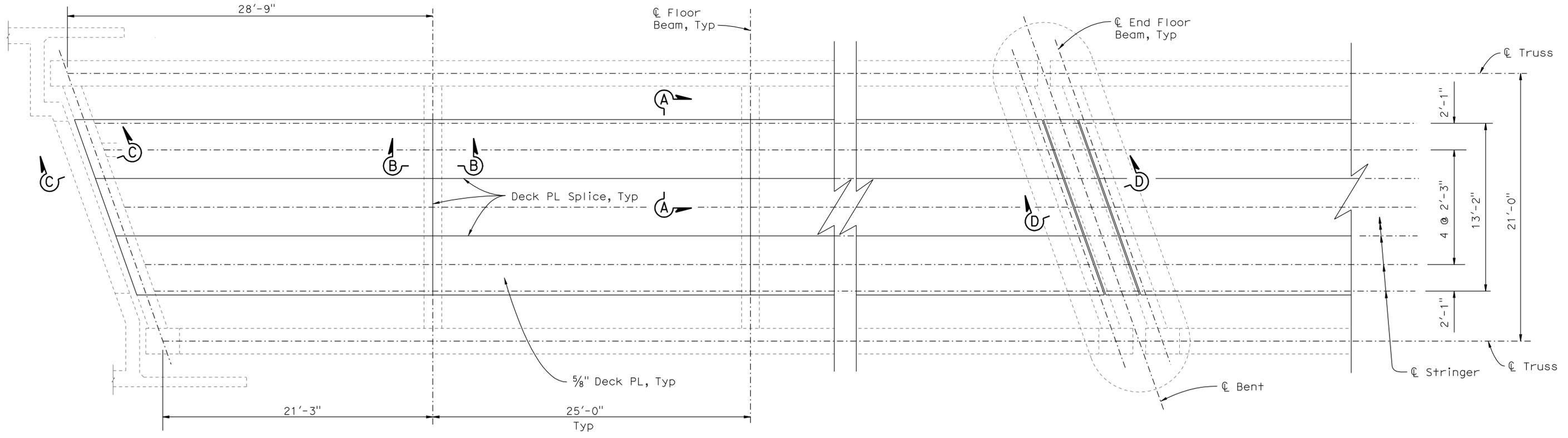


SECTION C-C
1" = 1'-0"



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

- NOTES:**
- 7/8" ø Countersunk Bolts (ASTM A449) spaced @ 6" C-C Max along Stringer or Floor Beam.
 - Do not bolt or weld Deck Plate to top flange of End Floor Beams at C of Bent.



PARTIAL PLAN - DECK PLATE
1/4" = 1'-0"

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

DESIGN	BY L. Wu	CHECKED B. Addiespurger
DETAILS	BY G. Hallstrom	CHECKED B. Addiespurger
QUANTITIES	BY T. Sanderson	CHECKED A. McPhee

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

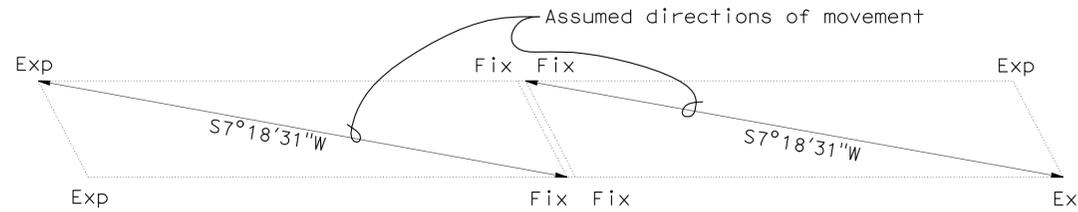
DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 10

BRIDGE NO.
54-1303
R.R. MILE POST
5.91
LINE SEG. 7602

HIGHGROVE UNDERPASS #3
DECK PLATE DETAILS

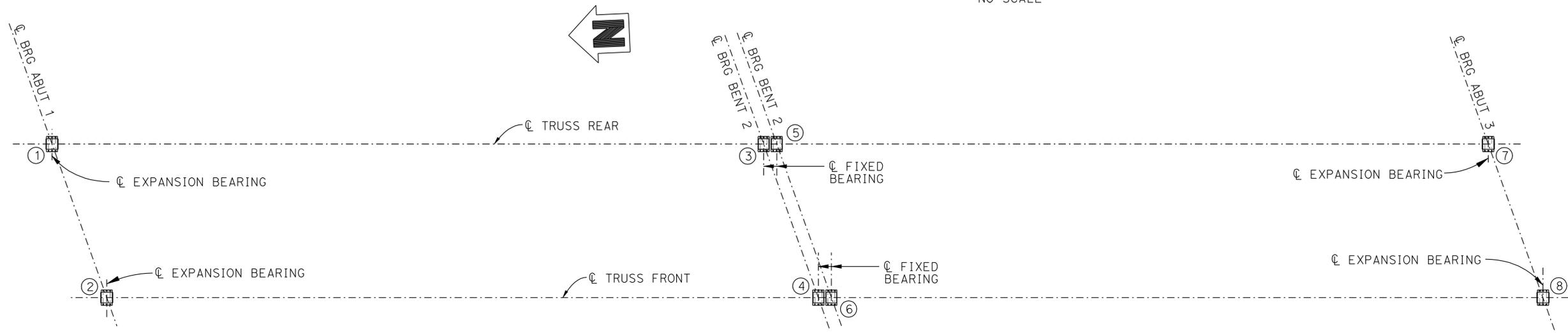
TABLE FOR PLATE SETTING DATA-EXPANSION BEARINGS POSITION OF SOLE PLATE RELATIVE TO BASE PLATES

TEMP @ TIME OF SETTING	20°F	70°F	120°F
SPAN ADJUSTMENT ALONG C WEB TOWARDS BENT 2	+3/4"	0"	-3/4"



SLOTTED HOLE ORIENTATION

NO SCALE



MASONRY PLATE AND ANCHOR BOLT LAYOUT

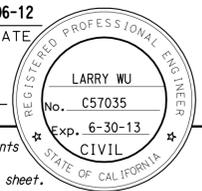
NO SCALE

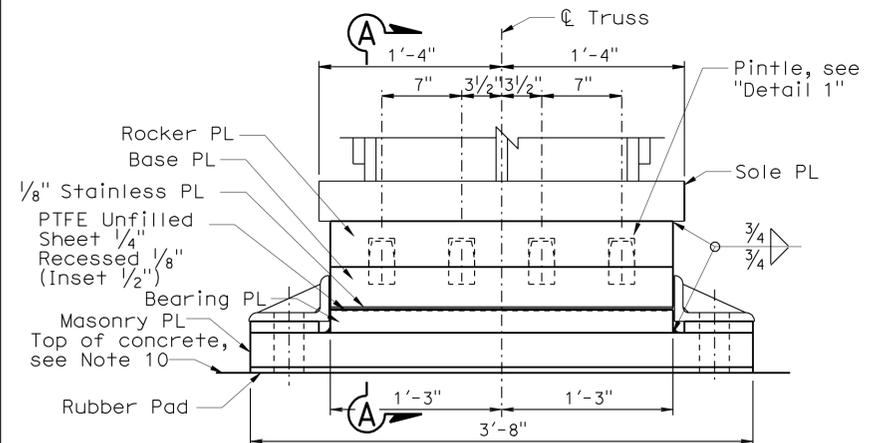
CONCRETE ELEVATION AT BOTTOM OF BEARING		
LOCATIONS		ELEVATIONS
FRONT TRUSS	Abut 1	935.25
	Bent 2	935.83
	Abut 3	935.41
REAR TRUSS	Abut 1	935.25
	Bent 2	935.83
	Abut 3	935.41

BEARING REACTION						
LOAD	FIXED BEARING (BENT) (3) (6)			EXPANSION BEARING (ABUTMENT) (1) (8)		
	F _v (kips)	F _{long} (kips)	F _{trans} (kips)	F _v (kips)	F _{long} (kips)	F _{trans} (kips)
DL	510	5	20	420	0	10
LL+I	690	20	30	580	0	20
WL	90	230	100	90	0	100
LF	20	170	10	20	0	10
EQ	190	840	380	200	0	320
LOAD	FIXED BEARING (BENT) (4) (5)			EXPANSION BEARING (ABUTMENT) (2) (7)		
	F _v (kips)	F _{long} (kips)	F _{trans} (kips)	F _v (kips)	F _{long} (kips)	F _{trans} (kips)
DL	420	5	20	510	0	10
LL+I	580	15	5	690	0	10
WL	80	230	70	100	0	220
LF	20	200	10	20	0	15
EQ	170	920	210	210	0	700

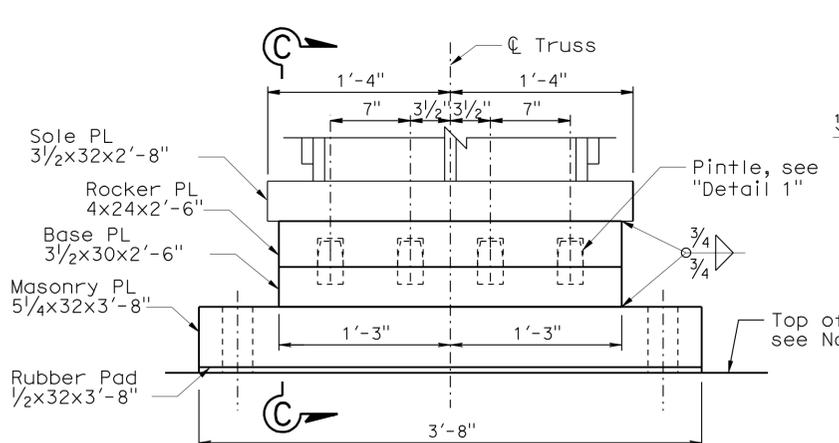
NOTES:

- The welding operation shall be performed at an ambient temperature between 55°F to 85°F
- If grouting is performed after welding sole plate to flange plate, then grout should be placed at the ambient temperature requirement of Note 1.
- Slotted holes in Masonry Plate for expansion bearings shall be oriented parallel to assumed direction of movement.
- Anchorage method shown on "BEARING DETAILS" Sheet.
- All bearings shall be marked prior to shipping. The marks shall indicate the bearing location and direction on the bridge, and a direction arrow that points up station. All marks shall be permanent and visible after the bearing is installed.

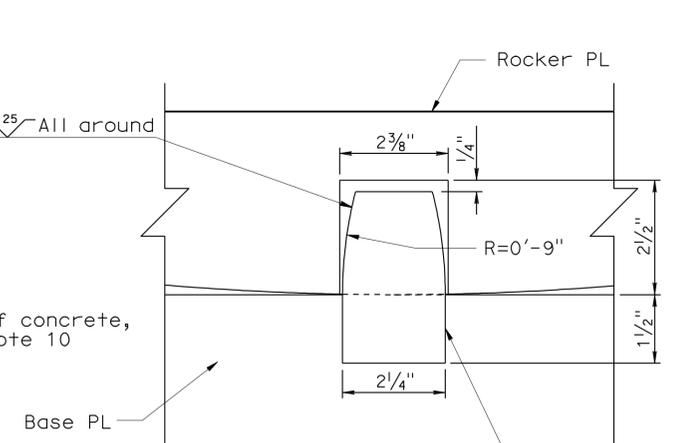
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1583	1743
 REGISTERED CIVIL ENGINEER			4-06-12	DATE	
4-16-12 PLANS APPROVAL DATE					
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.					



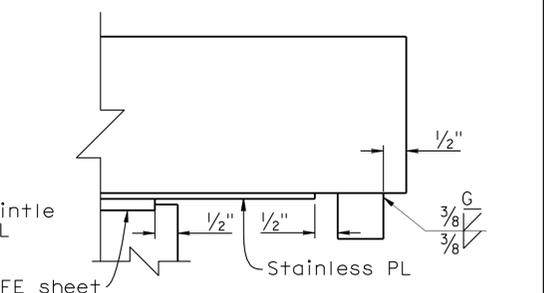
EXPANSION BEARING (ABUTMENT)



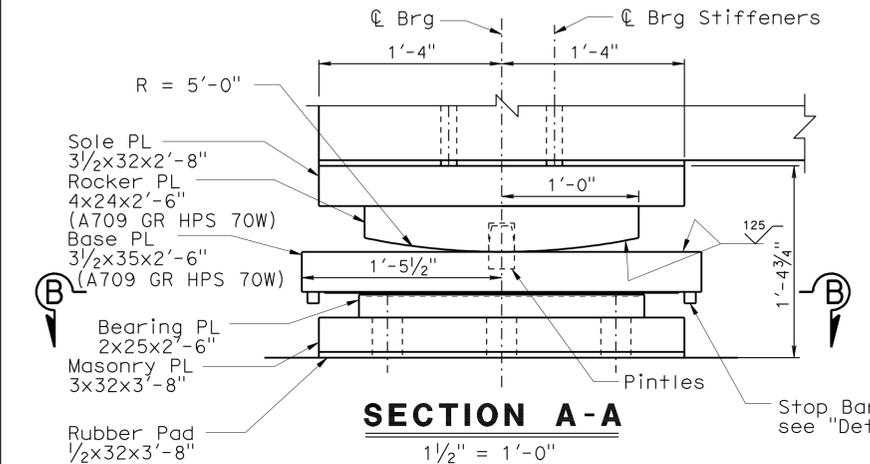
FIXED BEARING (BENT)



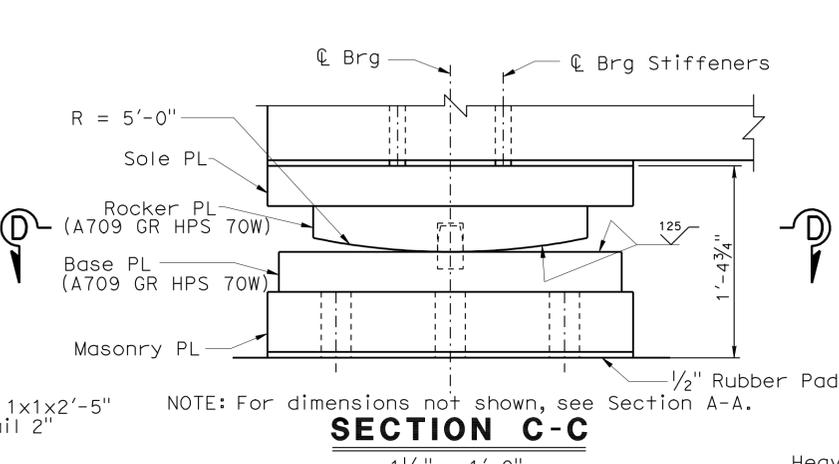
DETAIL 1



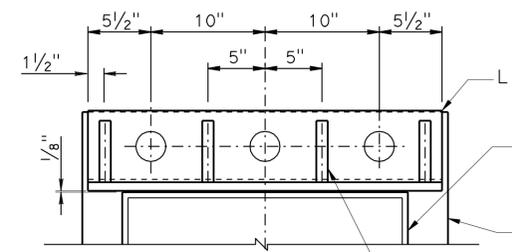
DETAIL 2



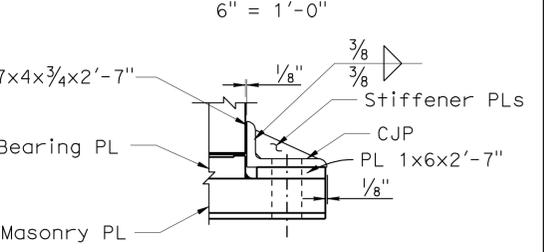
SECTION A-A



SECTION C-C



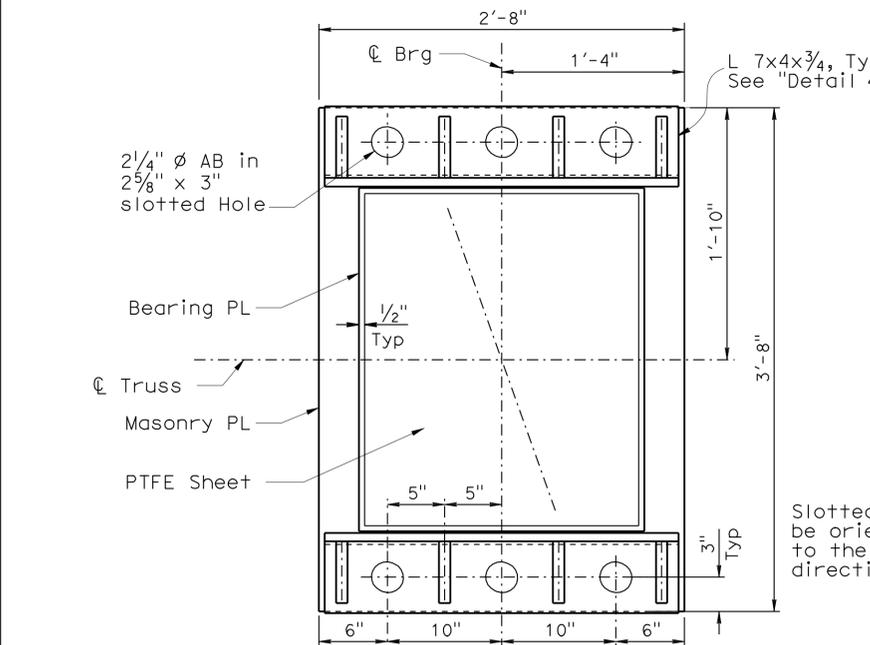
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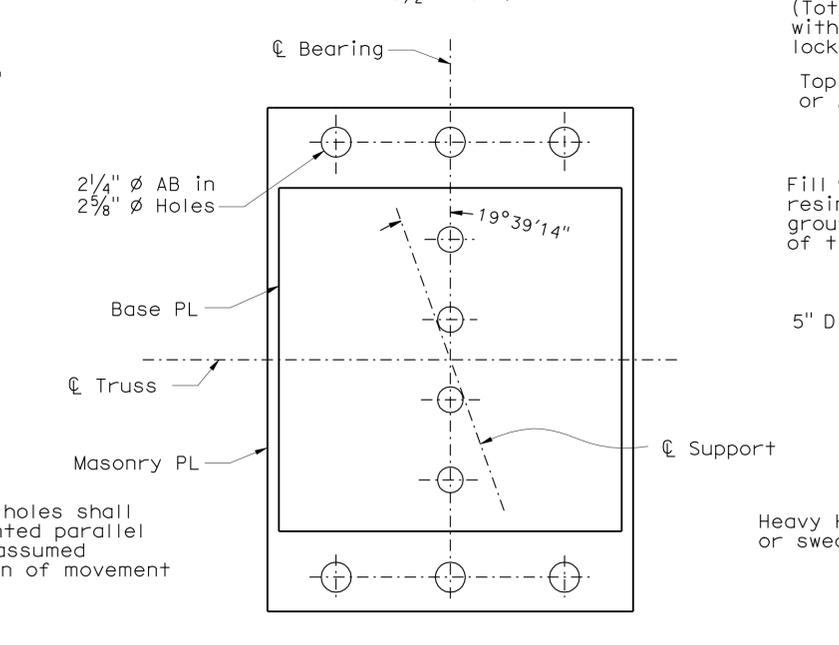
SECTION



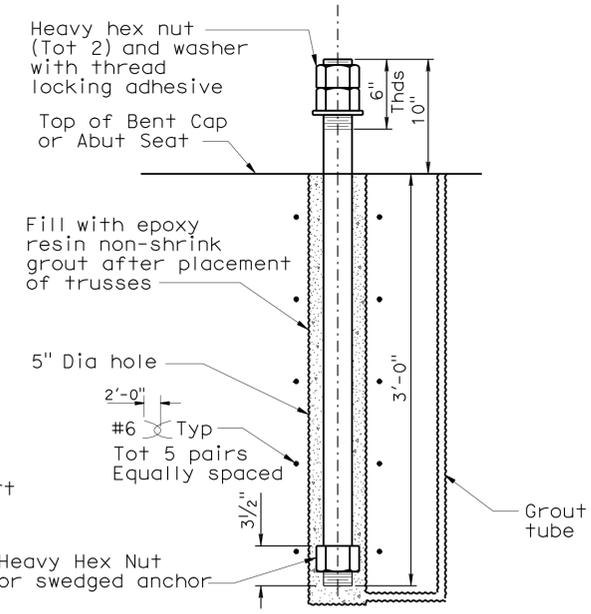
DETAIL 4



BRG PL VIEW B-B



BASE PL VIEW D-D

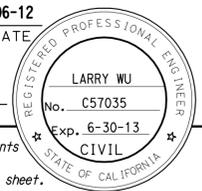


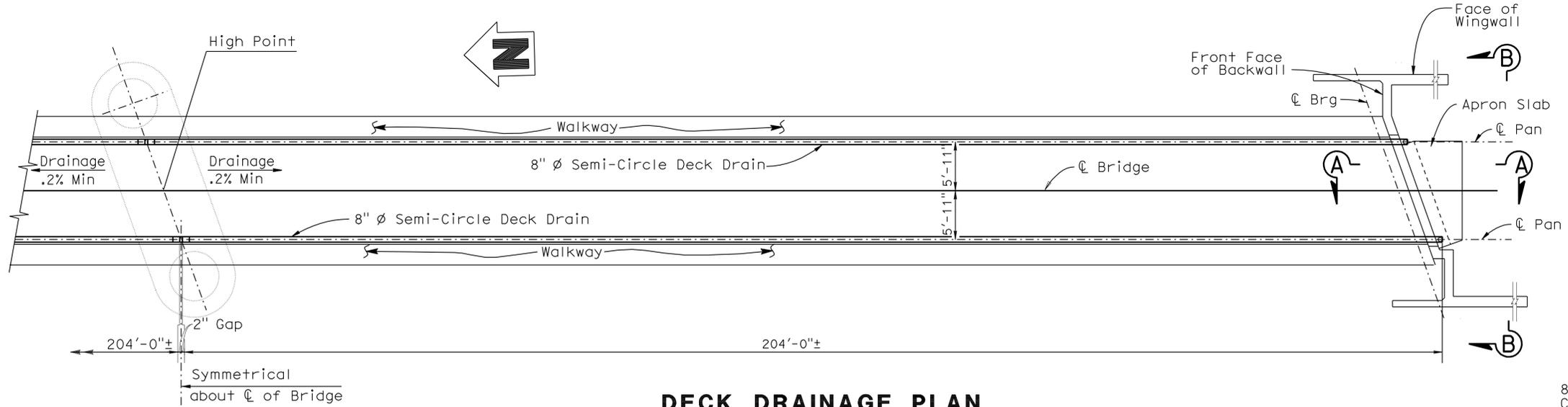
ANCHOR ROD DETAIL 3

- NOTES:**
- All material shall conform to ASTM A709 Gr50W unless otherwise noted.
 - All weld assemblies shall be stress relieved after fabrication in accordance with bridge welding code AWS D1.5.
 - Fabrication tolerances, packing, handling, storage, and installation of bearings shall conform to AREMA Manual, Chapter 15 Part 11.
 - Steel including anchor rods and nuts shall be painted per specifications.
 - Pintles shall conform to ASTM A354 BD, Anchor Rods shall conform to ASTM F1554 Gr 105, and nuts shall conform to ASTM A563 DH heavy hex.
 - PTFE sheet shall conform to AREMA Chapter 15, Sections 10.5 and 11.4.
 - Stainless steel sliding surface shall conform to AREMA Chapter 15, Section 10.5.
 - Rubber pad shall be natural rubber with Shore A hardness 50 and shall conform to AREMA Chapter 15, Section 10.6.
 - Sole plate to bottom chord connection may be field welded.
 - Concrete surface under Rubber Pad to be ground to a smooth level plane to give even bearing.
 - The minimum dead load for friction coefficient proof test shall be 400kips. The maximum vertical load for compression proof test shall be 1200kips.

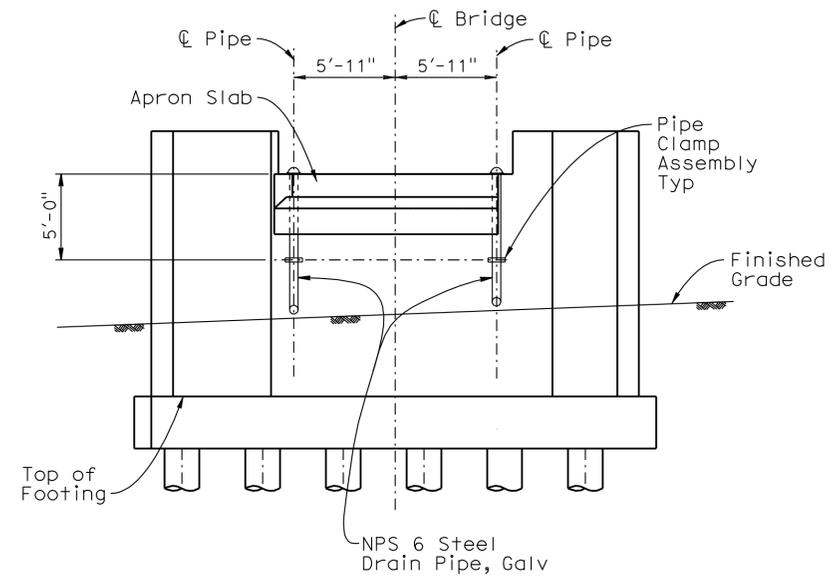
NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN	BY L. Wu	CHECKED B. Addiespurger	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO. 54-1303	HIGHGROVE UNDERPASS #3 BEARING DETAILS	
DETAILS	BY Y. Tang/G. Hallstrom	CHECKED B. Addiespurger			R.R. MILE POST 5.91		
QUANTITIES	BY T. Sanderson	CHECKED A. McPhee			LINE SEG. 7602		
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)			ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3589 PROJECT NUMBER & PHASE: 08000005061	CONTRACT NO.: 08-0M9401	DISREGARD PRINTS BEARING EARLIER REVISION DATES	
				REVISION DATES	SHEET	OF	
				7-28-11	17-24-12	3-28-12	4-06-12
					32	42	

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1584	1743
 REGISTERED CIVIL ENGINEER			4-06-12 DATE		
4-16-12 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					

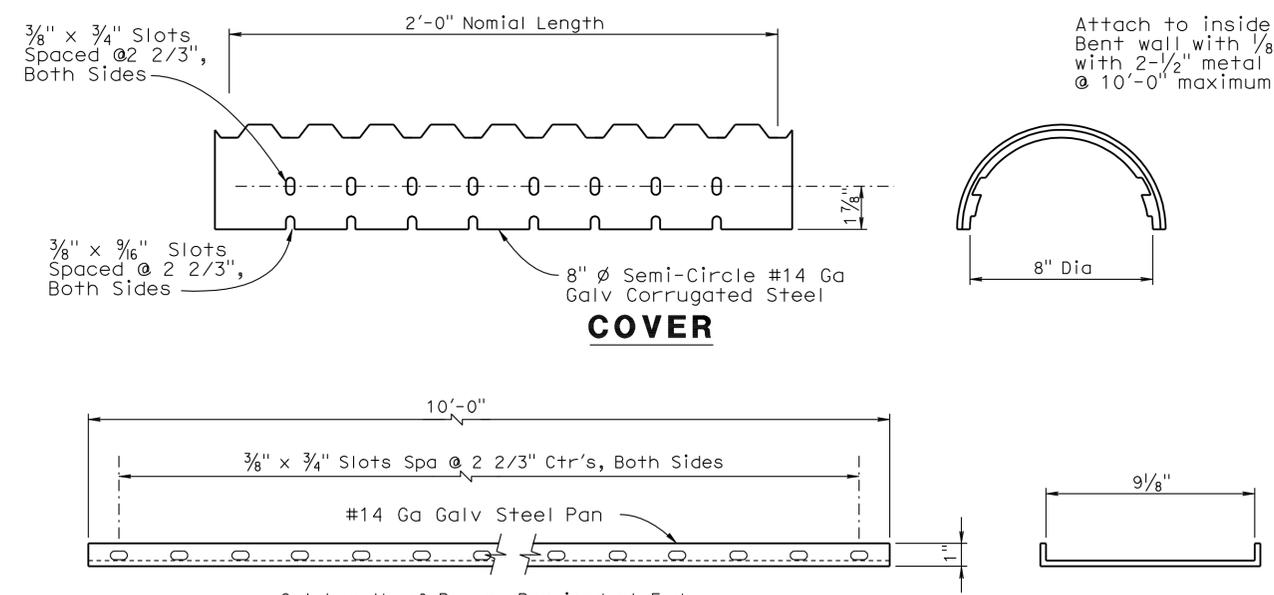


DECK DRAINAGE PLAN
NO SCALE



SECTION B-B
3/16" = 1'-0"

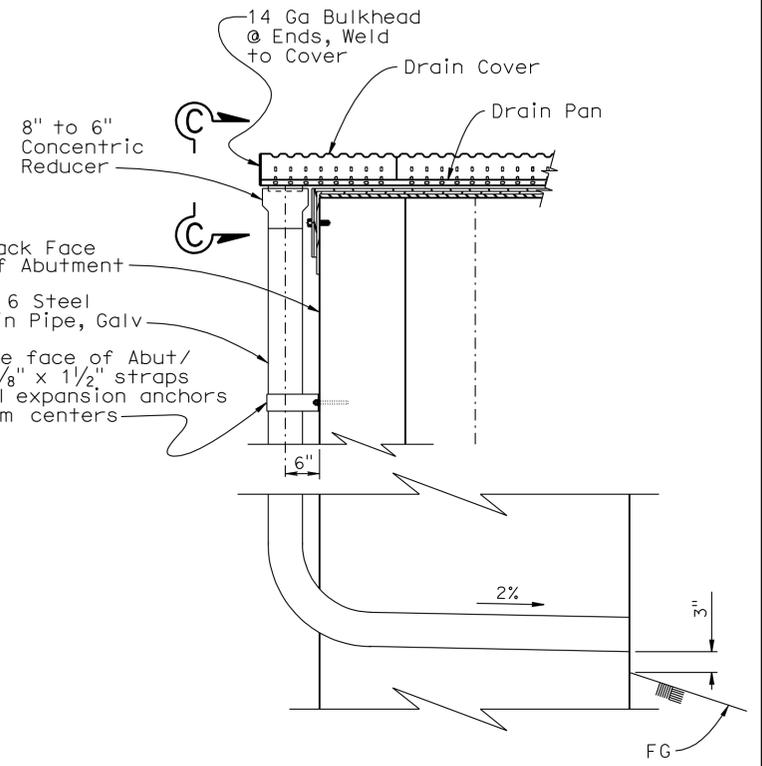
Abutment 3 Shown, Abutment 1 Similar



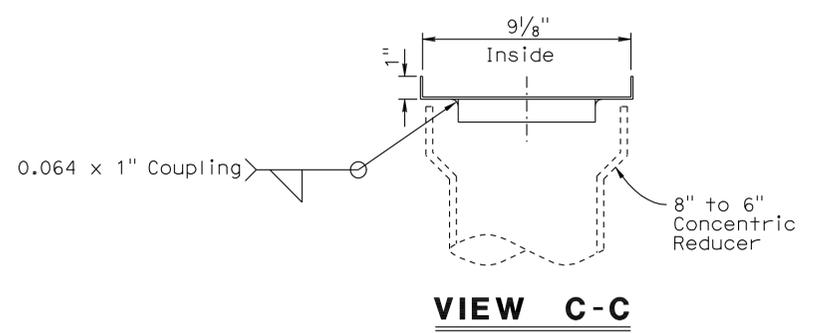
COVER
2'-0" Nomial Length

BOTTOM PAN
10'-0"

DECK DRAIN DETAILS
3" = 1'-0"



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



VIEW C-C

NOTES:

- Deck drain Covers, Bottom Pans, Collars, Outlet Stubs, and All Necessary Connections and Fasteners to be Galvanized.
- Place Bottom Pans End to End and Lap Cover Sections One Corrugation.
- For Waterproofing Details, see "WATERPROOFING DETAILS" sheet.
- All Dimensions are to be Taken Along C Pipe or Pan.

DESIGN	BY L. Wu	CHECKED B. Addlespurger
DETAILS	BY Y. Tang/G. Hallstrom	CHECKED B. Addlespurger
QUANTITIES	BY T. Sanderson	CHECKED A. McPhee

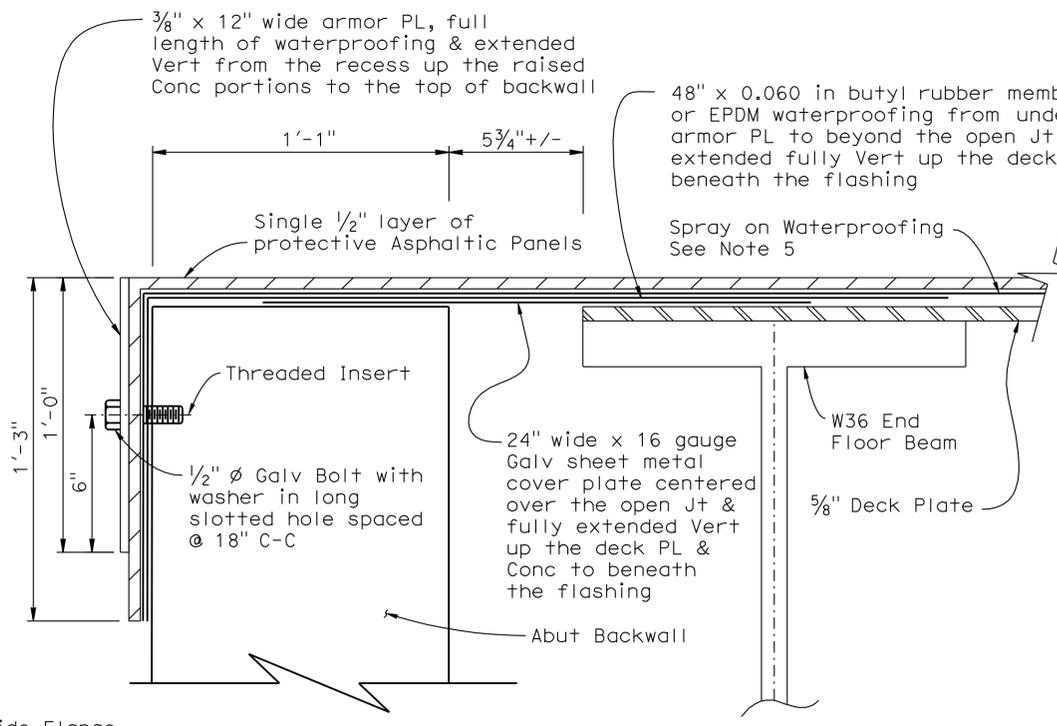
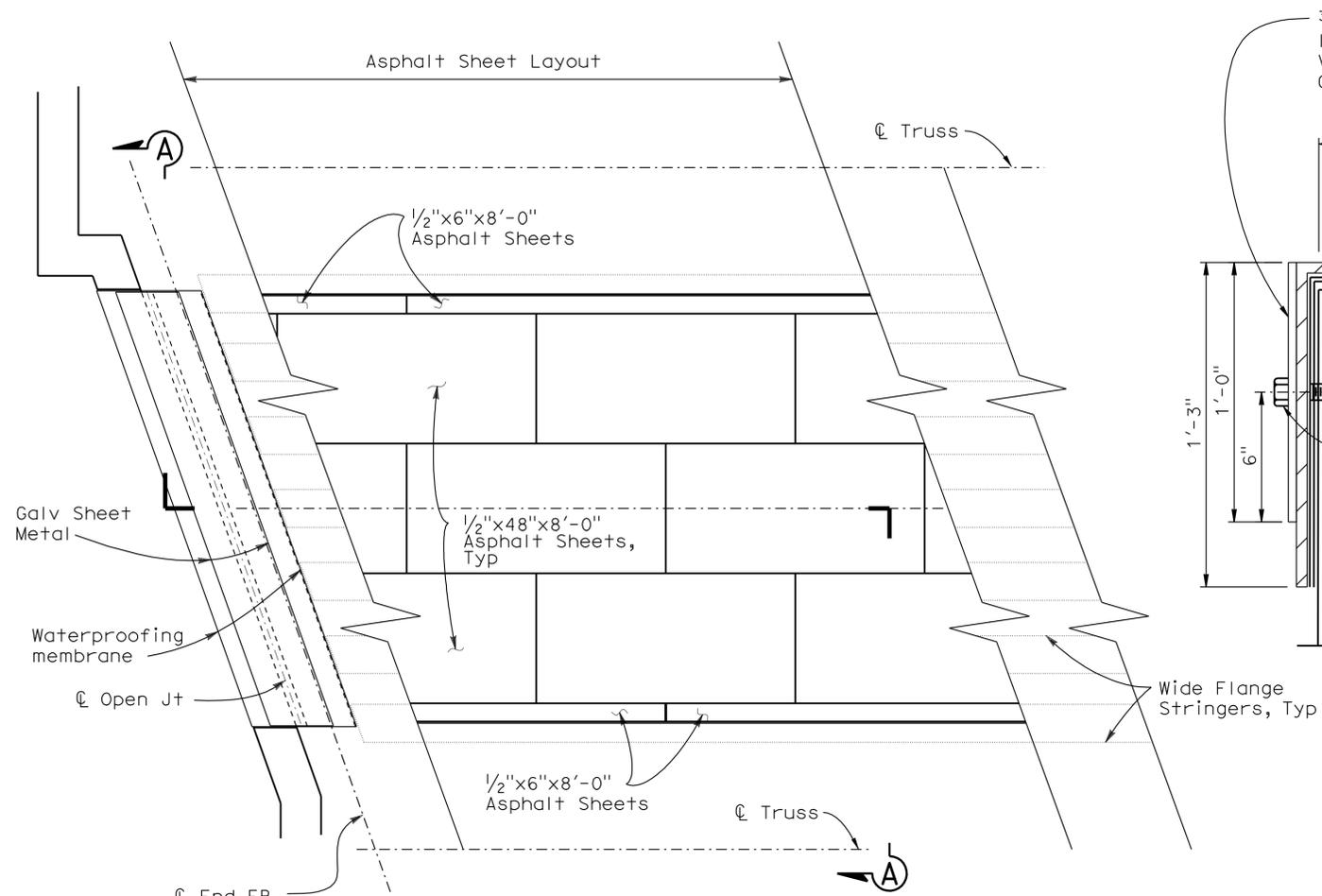
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 10

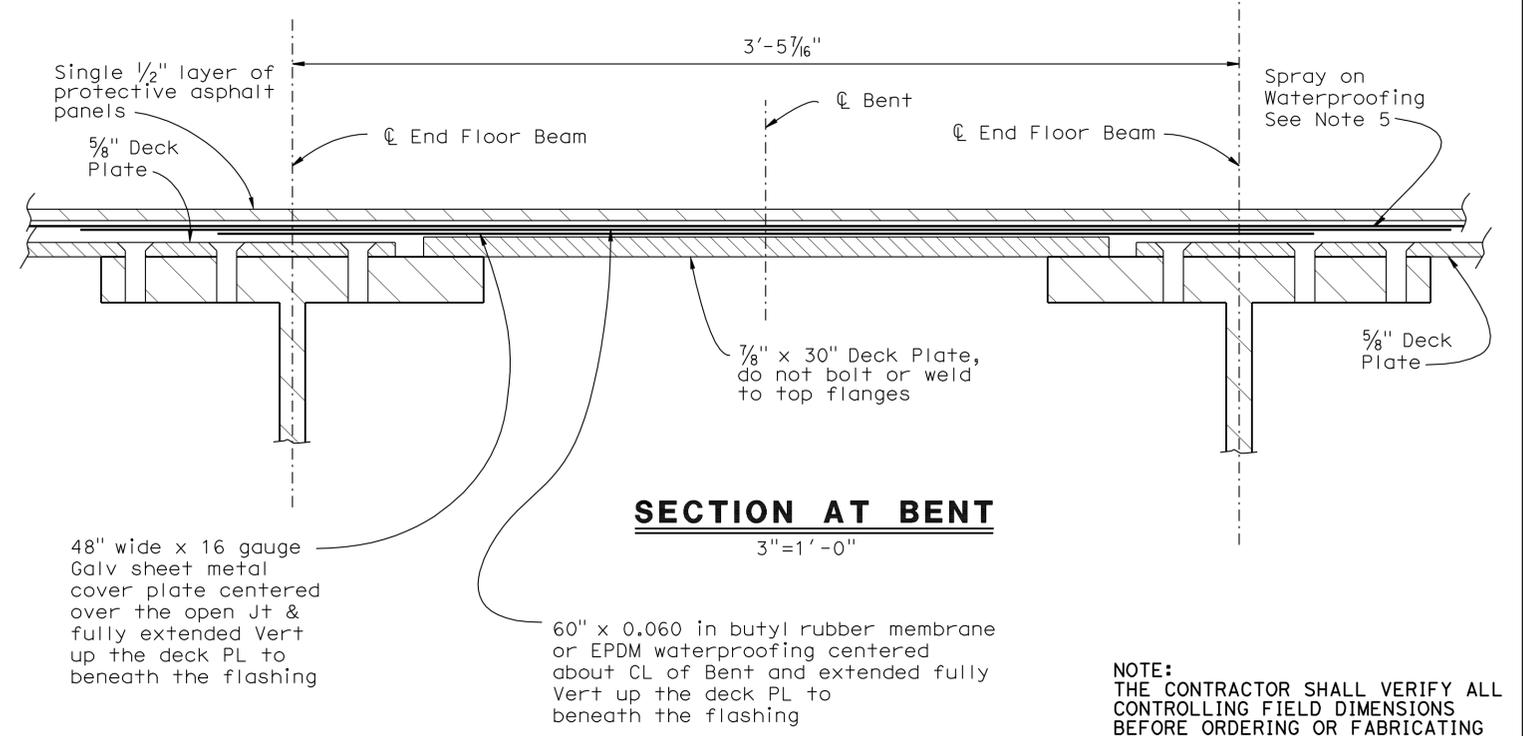
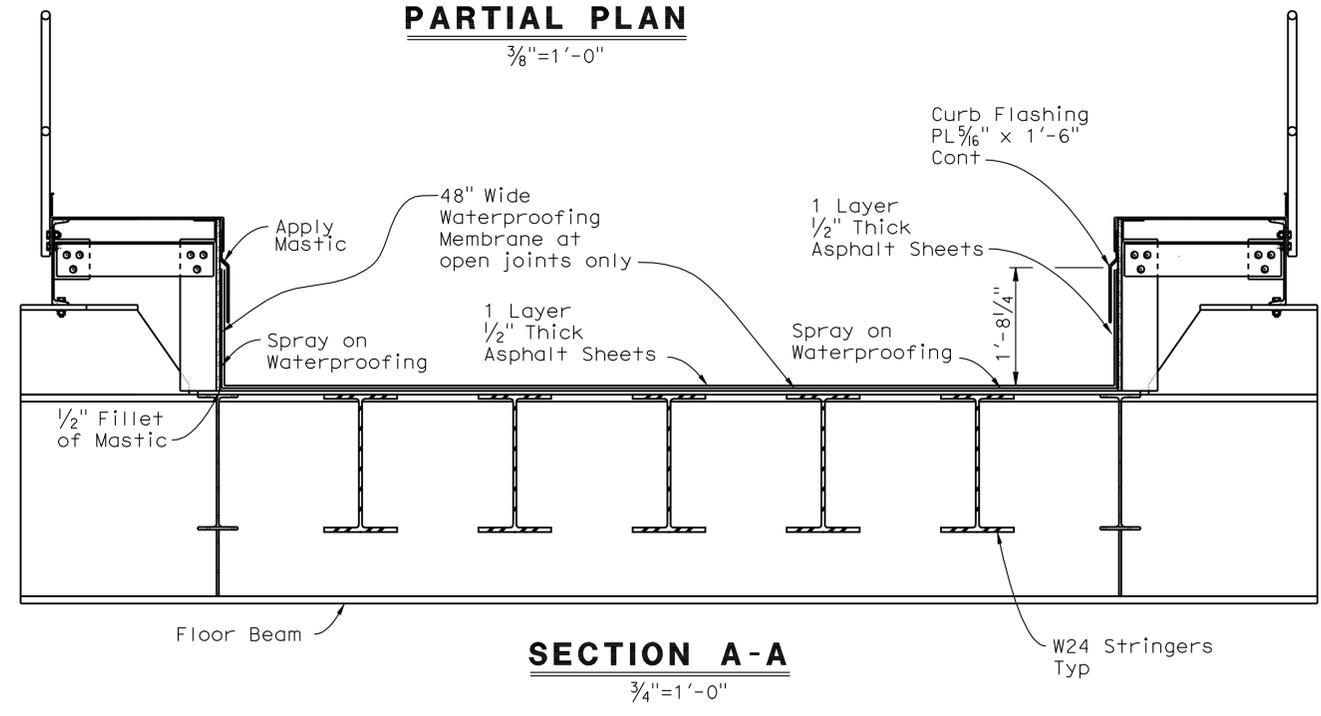
BRIDGE NO.
54-1303
R.R. MILE POST
5.91
LINE SEG. 7602

HIGHGROVE UNDERPASS #3
DRAINAGE DETAILS

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1585	1743
 REGISTERED CIVIL ENGINEER			4-06-12 DATE		
4-16-12 PLANS APPROVAL DATE					
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- NOTES:**
- Asphalt Panels should be placed as soon as possible after the completion of Membrane Application, but not more than five days later.
 - All Panels shall be bonded to the Membrane and to each other with a complete coat of Semi-Mastic. Asphalt Panels shall be placed while the bond coat is still tacky.
 - All Joints between panels shall be laid tight and sealed with Semi-Mastic.
 - Place ballast on deck as soon as possible after Asphalt Panels and Deck Drains have been installed.
 - Waterproofing system shall be 120 mil acrylic based, cold spray applied seamless waterproofing membrane as manufactured by Stirling-Lloyd, 420 Sackett Road, New Haven, Conn 06473, (203) 561-9448. At the option of the Contractor, a similar spray applied system manufactured by Bridge Preservation, LLC, Kansas City, Mo 64171, (816) 561-9996, may be used. Contractor shall submit detailed application procedures, material specifications, and shop drawings for all waterproofing details for approval.



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

DESIGN	BY L. Wu	CHECKED B. Addlespurger
DETAILS	BY Y. Tang	CHECKED B. Addlespurger
QUANTITIES	BY T. Sanderson	CHECKED A. McPhee

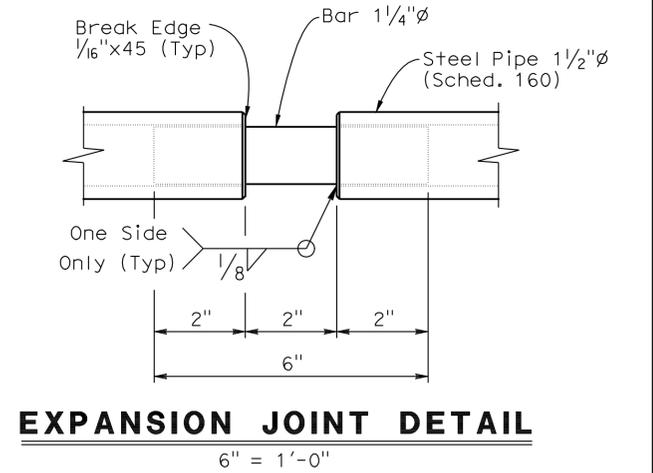
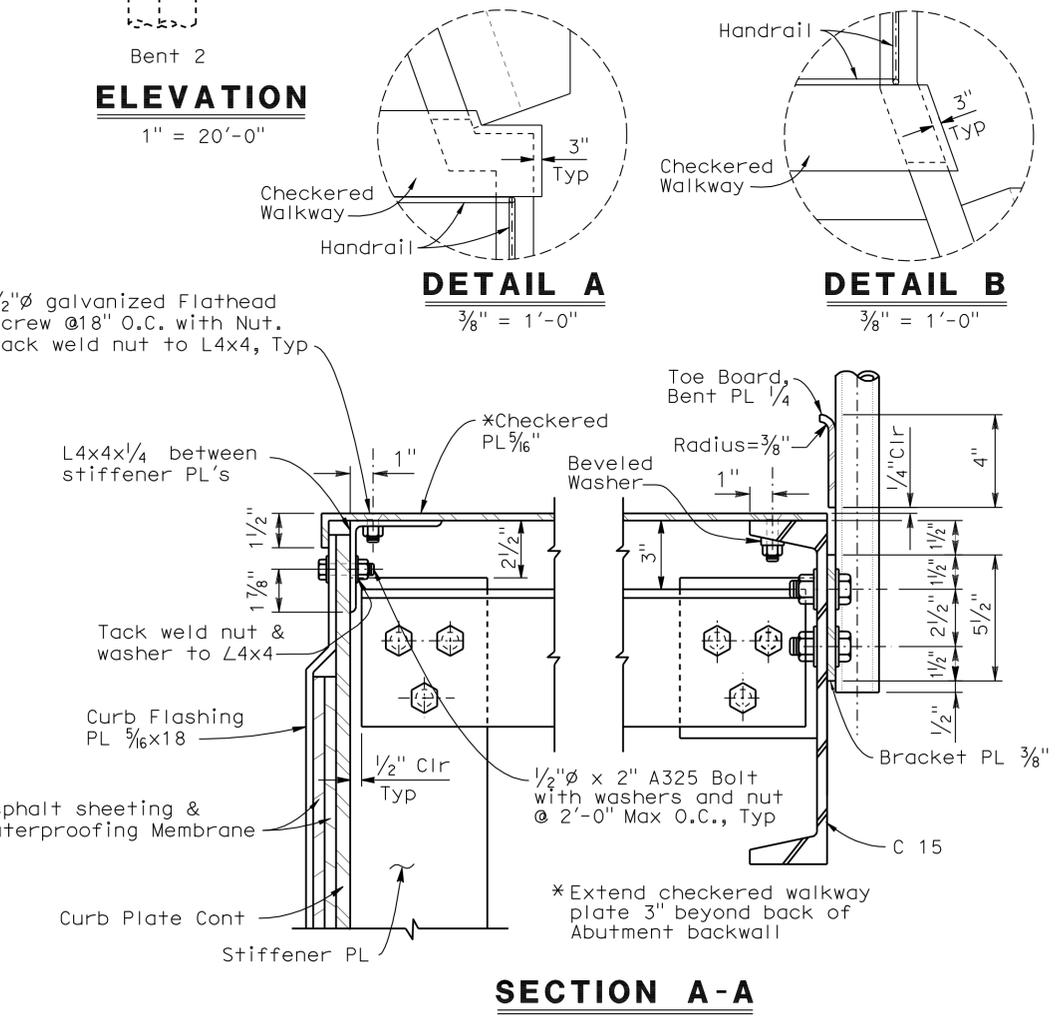
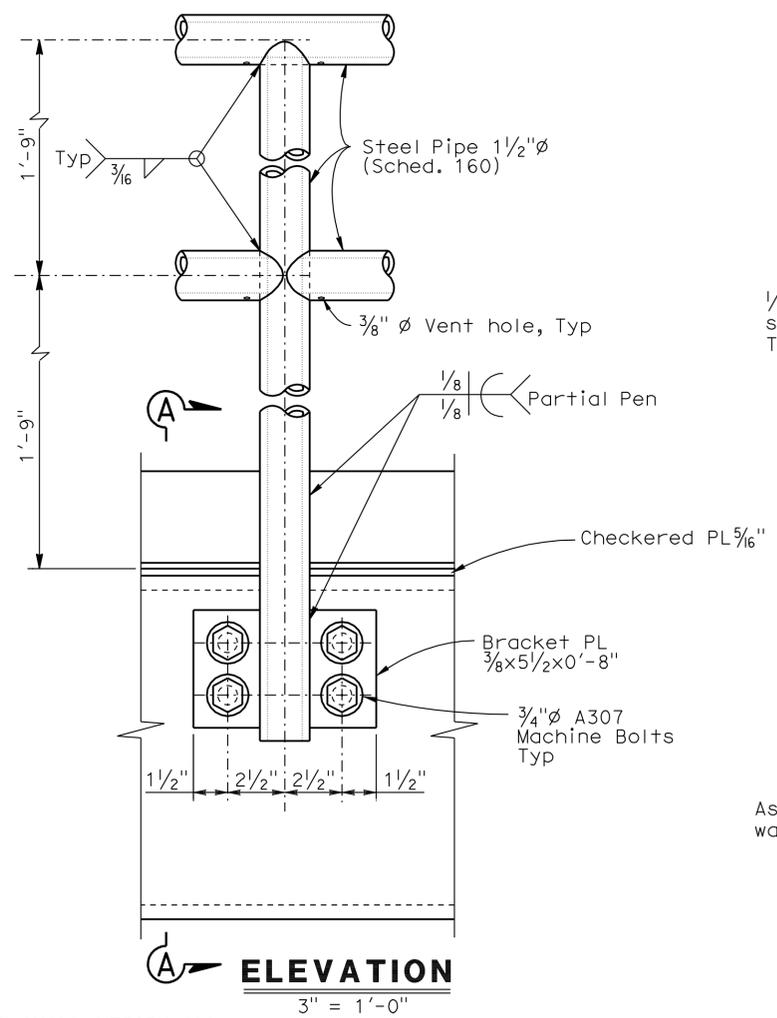
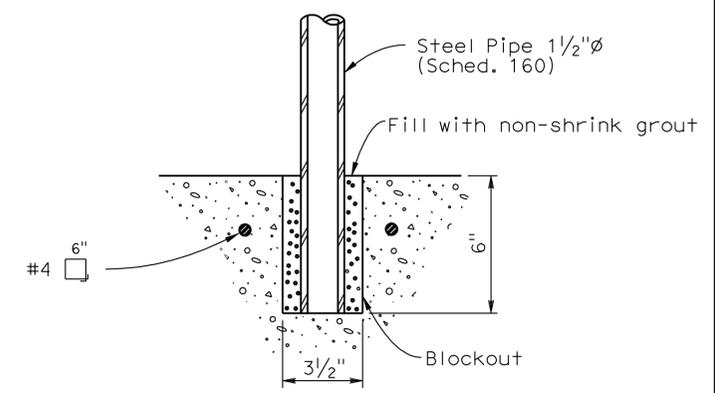
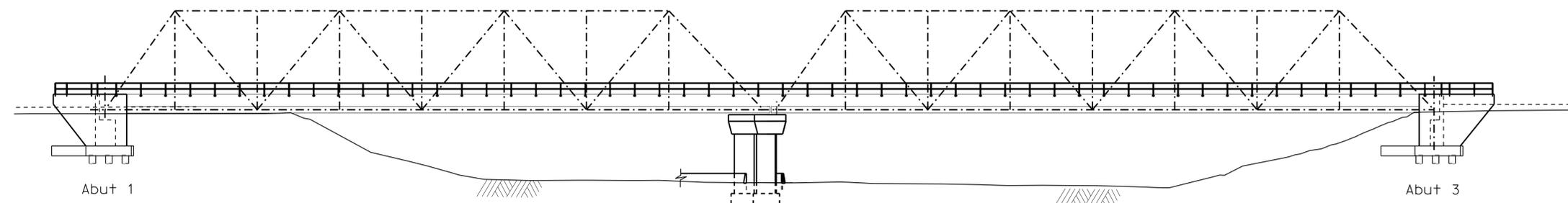
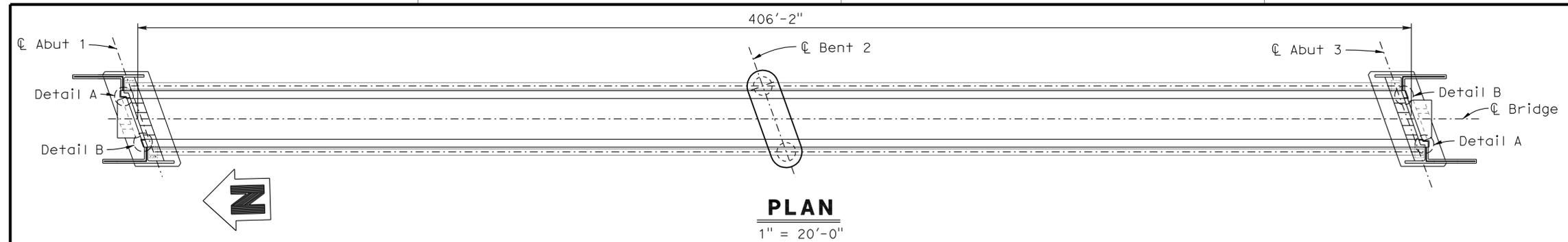
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
DESIGN BRANCH 10

BRIDGE NO.	54-1303
R.R. MILE POST	5.91
LINE SEG. 7602	

HIGHGROVE UNDERPASS #3
WATERPROOFING DETAILS

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1586	1743
 REGISTERED CIVIL ENGINEER			4-06-12 DATE		
4-16-12 PLANS APPROVAL DATE					
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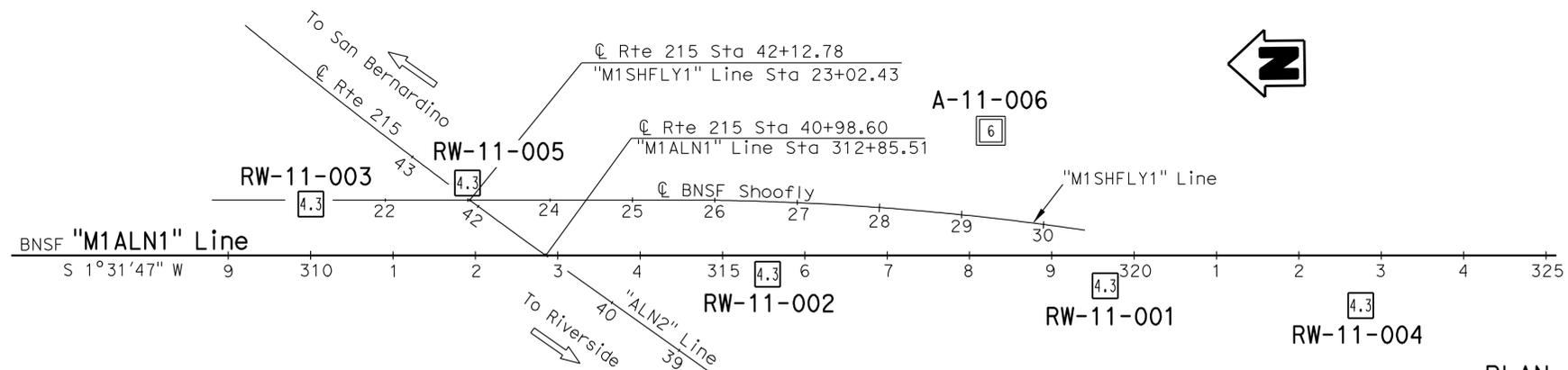
- HANDRAIL NOTES:**
1. Posts shall be perpendicular to the grade of the walkway.
 2. Maximum post spacing shall be 7'-6".
 3. Structural steel pipe shall be ASTM A-53 Grade B, or A-501. Structural steel plate shall be ASTM A-36, or equal.
 4. All structural steel pipe and plate for handrail, walkway plate brackets, A-307 bolts and washers shall be hot-dipped galvanized (per ASTM A-123) after fabrication.

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

DESIGN BY L. Wu CHECKED BY B. Addiespurger	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO.	HIGHGROVE UNDERPASS #3 WALKWAY AND HANDRAIL DETAILS	
			54-1303		
			R.R. MILE POST		
DETAILS BY Y. Tang CHECKED BY B. Addiespurger			5.91		
QUANTITIES BY T. Sanderson CHECKED BY A. McPhee			LINE SEG. 7602		
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS			UNIT: 3589 PROJECT NUMBER & PHASE: 08000005061	CONTRACT NO.: 08-M09401	DISREGARD PRINTS BEARING EARLIER REVISION DATES
			REVISION DATES 7-2-11 4-06-12	SHEET OF 35 42	

BENCH MARK

PNO 630
 N 1,832,297.50
 E 6,763,657.81
 1" IP W/CALTRANS RP PLUG
 Elev 938.24'
 Vertical Datum: NAVD88



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1587	1743

1-18-12
 PROFESSIONAL GEOLOGIST
 HECTOR VALENCIA
 No. 7776
 Exp. 2-28-14
 STATE OF CALIFORNIA

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



6-29-11
 Terminated at Elev 809.2'
 Eri = 74%

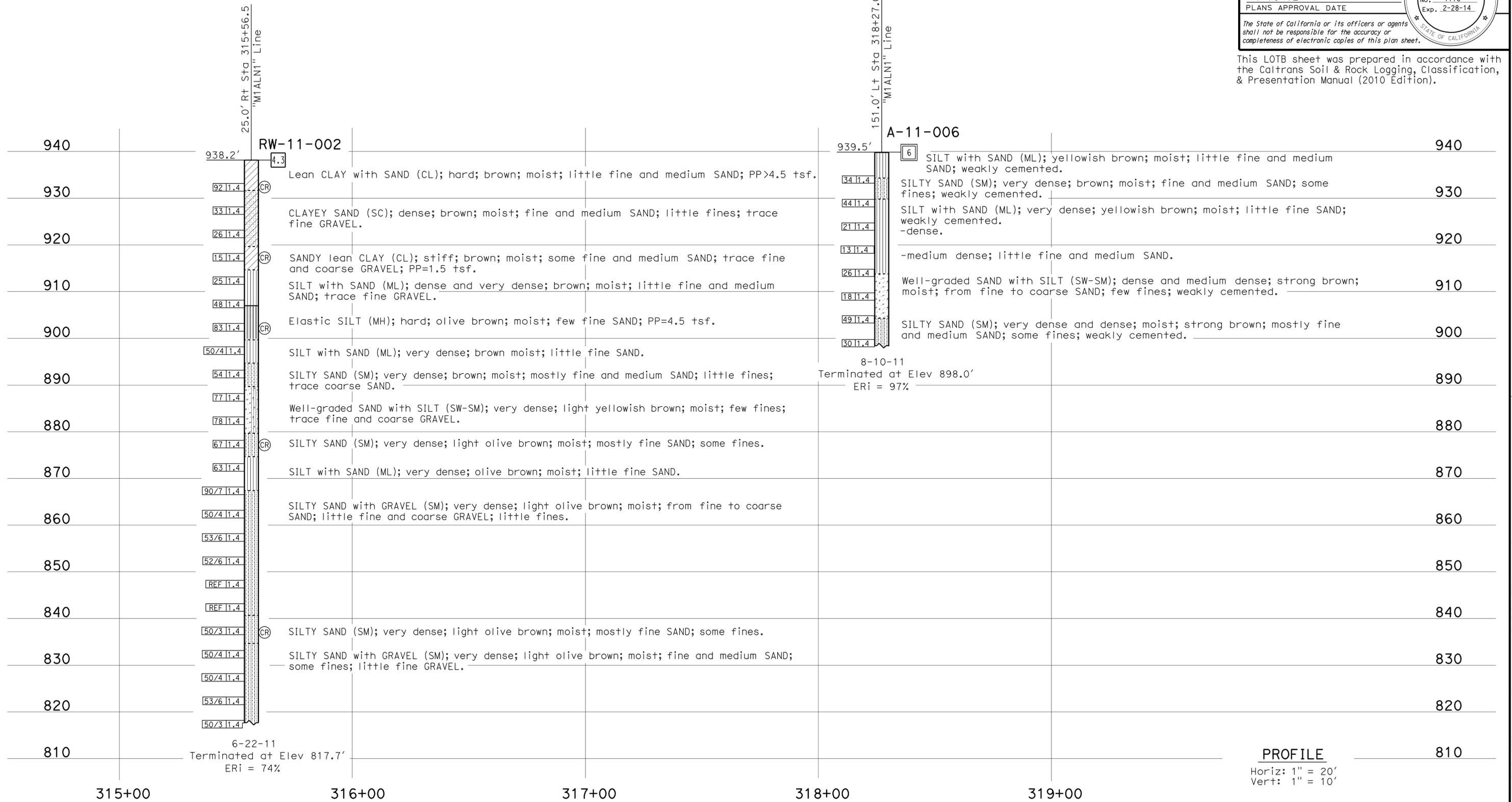
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FUNCTIONAL SUPERVISOR		DRAWN BY: W. Tang 09/11		FIELD INVESTIGATION BY:		STRUCTURE DESIGN		54-1303		LOG OF TEST BORINGS 1 OF 7	
NAME: M. DeSalvatore		CHECKED BY: S. Logeswaran		H. Valencia		DESIGN BRANCH 10		R.R. MILE POST		REVISION DATES	
065 CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		0 1 2 3		UNIT: 3643		5.91		SHEET OF	
						PROJECT NUMBER & PHASE: 08000005061		LINE SEG. 7602		EARLIER REVISION DATES	
						CONTRACT NO.: 08-0M9401				36 42	

USERNAME => s124496 DATE PLOTTED => 18-APR-2012 TIME PLOTTED => 09:31

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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1589	1743

1-18-12
PROFESSIONAL GEOLOGIST
Hector Valencia
No. 7776
Exp. 2-28-14
PLANS APPROVAL DATE
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PROFILE
Horiz: 1" = 20'
Vert: 1" = 10'

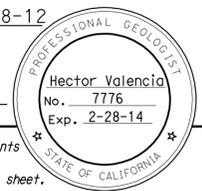
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FUNCTIONAL SUPERVISOR		DRAWN BY: W. Tang 09/11		FIELD INVESTIGATION BY:		STRUCTURE DESIGN		54-1303		LOG OF TEST BORINGS 3 OF 7	
NAME: M. DeSalvatore		CHECKED BY: S. Logeswaran		H. Valencia / M. Wilson		DESIGN BRANCH 10		R.R. MILE POST			
065 CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		0 1 2 3		UNIT: 3643		5.91		REVISION DATES	
						PROJECT NUMBER & PHASE: 08000005061		CONTRACT NO.: 08-0M9401		SHEET OF	
										38 42	

USERNAME => s124496 DATE PLOTTED => 18-APR-2012 TIME PLOTTED => 09:31

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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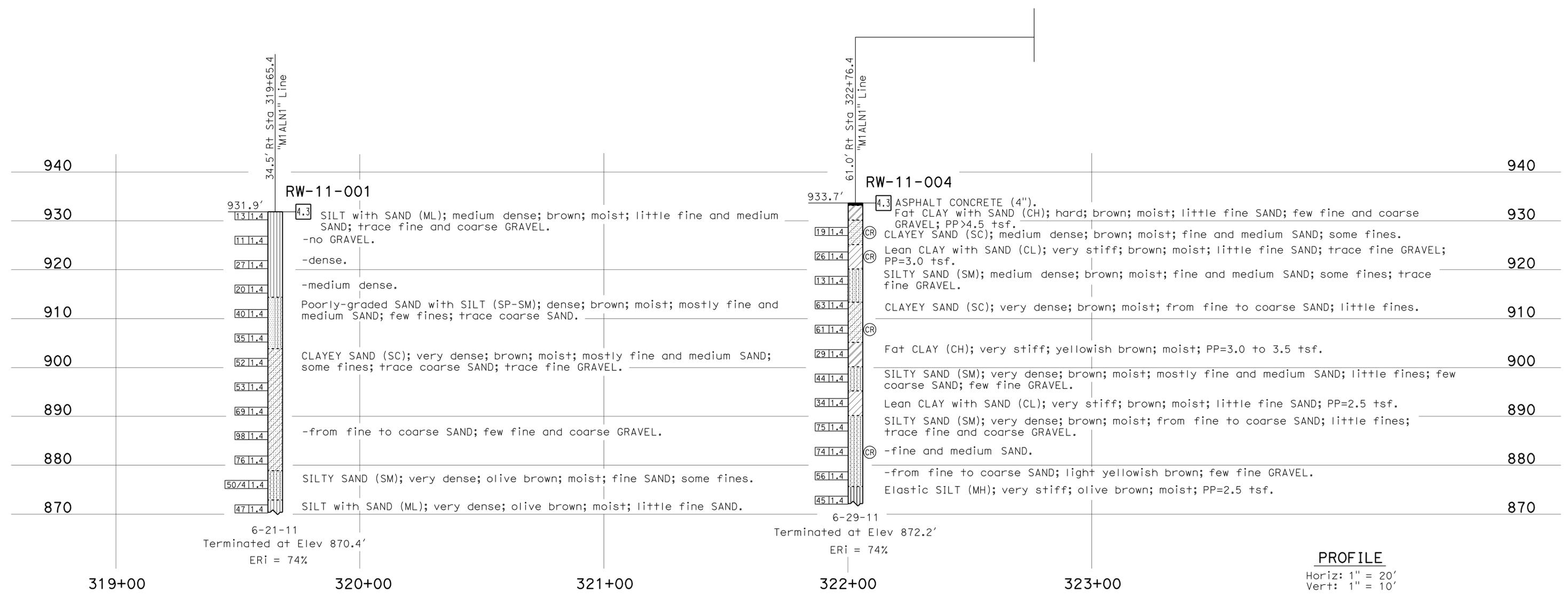
1-18-12
 PROFESSIONAL GEOLOGIST
 4-16-12
 PLANS APPROVAL DATE

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

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'

ENGINEERING SERVICES		MATERIALS AND GEOTECHNICAL SERVICES		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION		DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10		BRIDGE NO. 54-1303 R.R. MILE POST 5.91 LINE SEG. 7602		HIGHGROVE UNDERPASS #3 LOG OF TEST BORINGS 4 OF 7	
FUNCTIONAL SUPERVISOR NAME: M. DeSalvatore	DRAWN BY: W. Tang 09/11 CHECKED BY: S. Logeswaran	FIELD INVESTIGATION BY: H. Valencia		UNIT: 3643 PROJECT NUMBER & PHASE: 08000005061		CONTRACT NO.: 08-0M9401		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES 01-10-12 01-13-12 SHEET 39 OF 42	

065 CIVIL LOG OF TEST BORINGS SHEET ORIGINAL SCALE IN INCHES FOR REDUCED PLANS FILE => 541303z1+b39.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1591	1743

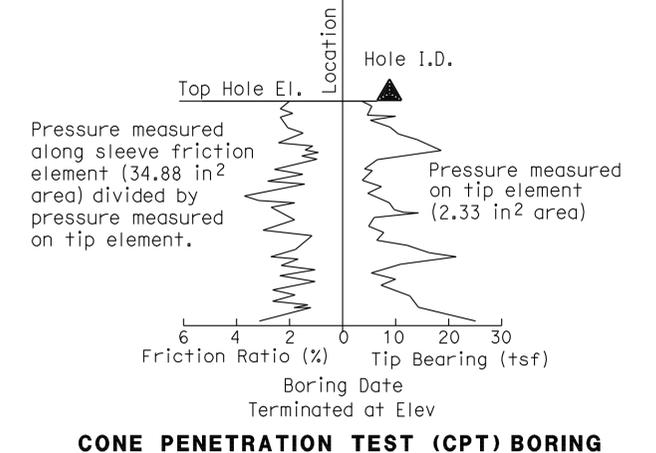
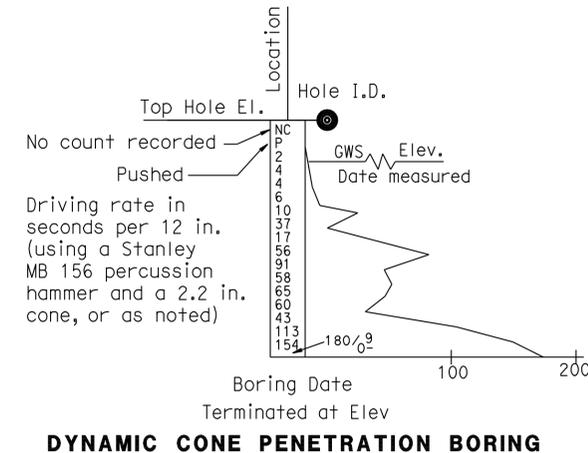
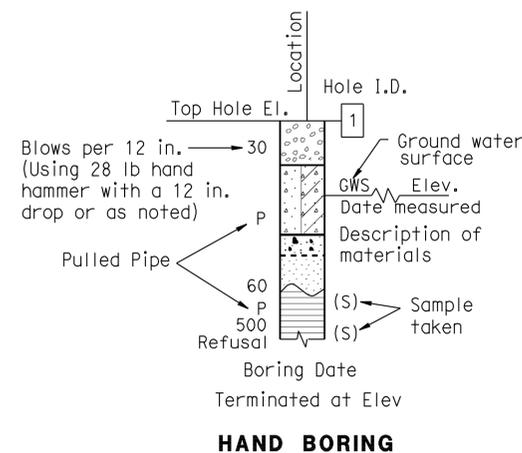
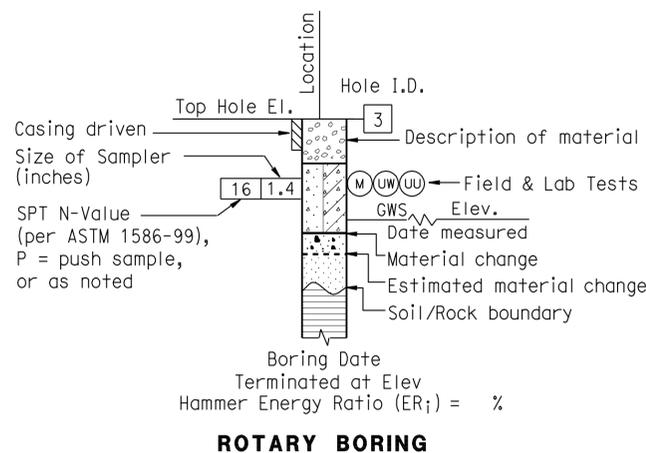
1-18-12
 PROFESSIONAL GEOLOGIST
 4-16-12
 PLANS APPROVAL DATE
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CEMENTATION	
Description	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

BOREHOLE IDENTIFICATION		
Symbol	Hole Type	Description
	A	Auger Boring (hollow or solid stem bucket)
	R	Rotary drilled boring (conventional)
	RW	Rotary drilled with self-casing wire-line
	RC	Rotary core with continuously-sampled, self-casing wire-line
	P	Rotary percussion boring (air)
	R	Rotary drilled diamond core
	RC	Rotary drilled rock 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
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1592	1743

1-18-12
PROFESSIONAL GEOLOGIST
Hector Valencia
No. 7776
Exp. 2-28-14
PLANS APPROVAL DATE
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GROUP SYMBOLS AND NAMES					
Graphic/Symbol	Group Names	Graphic/Symbol	Group Names	Graphic/Symbol	Group Names
	GW		CL		Lean CLAY
	GW				Well-graded GRAVEL with SAND
	GP		CL		Lean CLAY with GRAVEL
	GP				Poorly-graded GRAVEL with SAND
	GW-GM		CL-ML		SILTY CLAY
	GW-GM				Well-graded GRAVEL with SILT and SAND
	GW-GC		CL-ML		SILTY CLAY with GRAVEL
	GW-GC				Well-graded GRAVEL with CLAY and SAND (or SILTY CLAY)
	GP-GM		CL-ML		SANDY SILTY CLAY with GRAVEL
	GP-GM				Poorly-graded GRAVEL with SILT and SAND
	GP-GC		CL-ML		GRAVELLY SILTY CLAY with SAND
	GP-GC				Poorly-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)
	GM		ML		SILT
	GM				SILTY GRAVEL with SAND
	GC		ML		SILT with GRAVEL
	GC				CLAYEY GRAVEL
	GC-GM		ML		SANDY SILT with GRAVEL
	GC-GM				SILTY, CLAYEY GRAVEL
	SW		ML		GRAVELLY SILT with SAND
	SW				Well-graded SAND with GRAVEL
	SP		OL		ORGANIC lean CLAY with SAND
	SP				Poorly-graded SAND
	SW-SM		OL		SANDY ORGANIC lean CLAY
	SW-SM				Well-graded SAND with SILT and GRAVEL
	SW-SC		OL		GRAVELLY ORGANIC lean CLAY with SAND
	SW-SC				Well-graded SAND with CLAY (or SILTY CLAY)
	SP-SM		OL		ORGANIC SILT with SAND
	SP-SM				Poorly-graded SAND with SILT and GRAVEL
	SP-SC		OL		SANDY ORGANIC SILT
	SP-SC				Well-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)
	SM		MH		SANDY ORGANIC SILT with GRAVEL
	SM				SILTY SAND with GRAVEL
	SC		MH		GRAVELLY ORGANIC SILT with SAND
	SC				CLAYEY SAND
	SC-SM		MH		ORGANIC fat CLAY with SAND
	SC-SM				SILTY, CLAYEY SAND
	PT		MH		SANDY ORGANIC fat CLAY
	PT				PEAT
	PT		MH		GRAVELLY ORGANIC fat CLAY with SAND
					PT
	PT		MH		ORGANIC elastic SILT with SAND
					PT
	PT		MH		SANDY ORGANIC elastic SILT
					PT
	PT		MH		GRAVELLY ORGANIC elastic SILT with SAND
					PT
	PT		MH		ORGANIC SOIL with SAND
					PT
	PT		MH		SANDY ORGANIC SOIL
					PT
	PT		MH		GRAVELLY ORGANIC SOIL with SAND
					PT

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

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

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

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

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

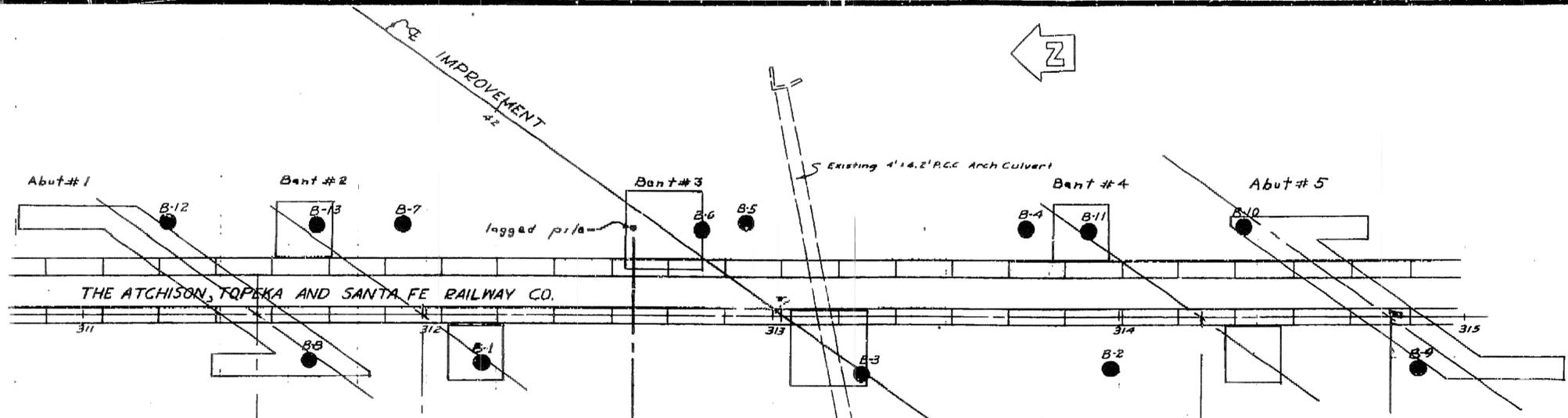
ENGINEERING SERVICES	MATERIALS AND GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO. 54-1303	HIGHGROVE UNDERPASS #3 LOG OF TEST BORINGS 6 OF 7
				R.R. MILE POST 5.91	
PREPARED BY: W. Tang 09/11	UNIT: 3643 PROJECT NUMBER & PHASE: 08000005061	CONTRACT NO.: 08-0M9401	REVISION DATES	SHEET 41 OF 42	

GS LOTB SOIL LEGEND ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

DISREGARD PRINTS BEARING EARLIER REVISION DATES

FILE => 541303z1+b41.dgn

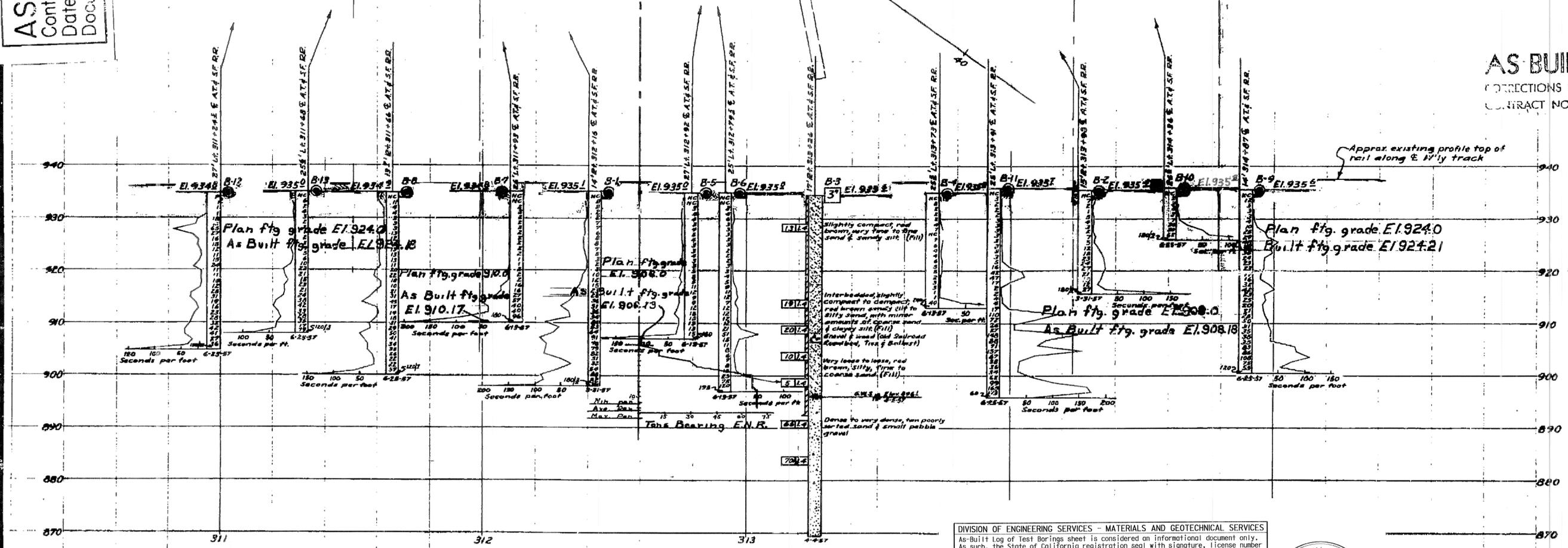
AS BUILT PLANS
 Contract No. 57-8VCE
 Date Completed _____
 Document No. 8020766



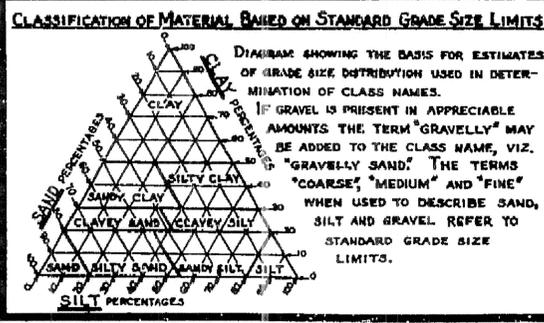
Design Pile Loading 45 Tons
 Type Pile Raymond step taper
 Diameter Top 8" Butt 15 1/2"
 Total Number Piles 72
 Lineal ft. Piles "As Built" 889.7
 Lineal ft. Piles Called for on Plans 585
 Hammer Vulcan NO. 1
 Remarks:
 Lineal ft. of piles increased to 1170 @ 114

BRIDGE DEPARTMENT

AS BUILT
 CORRECTIONS BY *H.C. Moore*
 CONTRACT NO. 59-8VCE-F

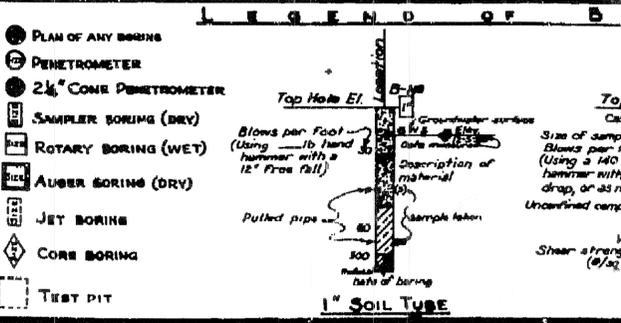


B.M. U.S.C. 4 25 2443 1949
 Std. base line D.T.M.M.L.
 along the A.T. & S.F. RR.
 rd. wall of P.C.C. cul. of
 canal.
 Elev. 933.62



LEGEND OF EARTH MATERIALS

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



DIVISION OF ENGINEERING SERVICES - MATERIALS AND GEOTECHNICAL SERVICES

As-Built Log of Test Borings sheet is considered an informational document only. As such, the State of California registration seal with signature, license number and registration certificate expiration date confirm that this is a true and accurate copy of the original document. It does not attest to the accuracy or validity of the information contained in the original document. This drawing is available and presented only for the convenience of any bidder, contractor or other interested party.

DIST.	COUNTY	ROUTE	POST MILE-TOTAL PROJECT	Sheet No.	Total Sheets
08	Riv. Sbd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1593	1743

UNIT: 3643
 CONTRACT No.: 08-0M9401
 BRIDGE No.: 54-1303
 PROJ. No. & PHASE: 0800005061
 SHEET 54-1303 of 54

VERT DATUM: NGVD29
 CONVERSION: NAVD88 = NGVD29 + 2.5 ft
 NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA

TO ACCOMPANY PLANS DATED 4-16-12



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.

STATE OF CALIFORNIA
 DEPARTMENT OF PUBLIC WORKS
 DIVISION OF HIGHWAYS

HIGHGROVE UNDERPASS

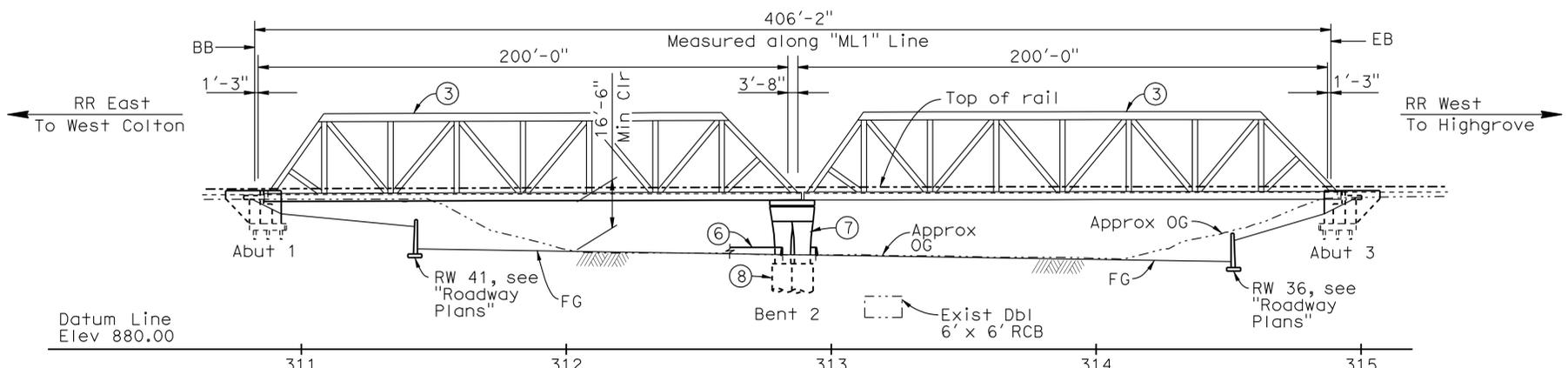
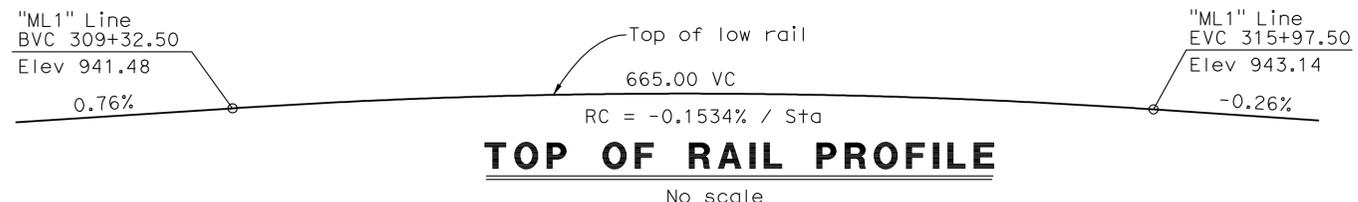
LOG OF TEST BORINGS

HORIZ 1"=20'
 SCALE VERT 1"=10'
 BRIDGE 54-518
 FILE 54-1303 DRAWING 24858-NO

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1594	1743

REGISTERED CIVIL ENGINEER **LARRY WU** DATE **4-06-12**
 PLANS APPROVAL DATE **4-16-12**
 No. **C57035**
 Exp. **6-30-13**
 CIVIL
 STATE OF CALIFORNIA

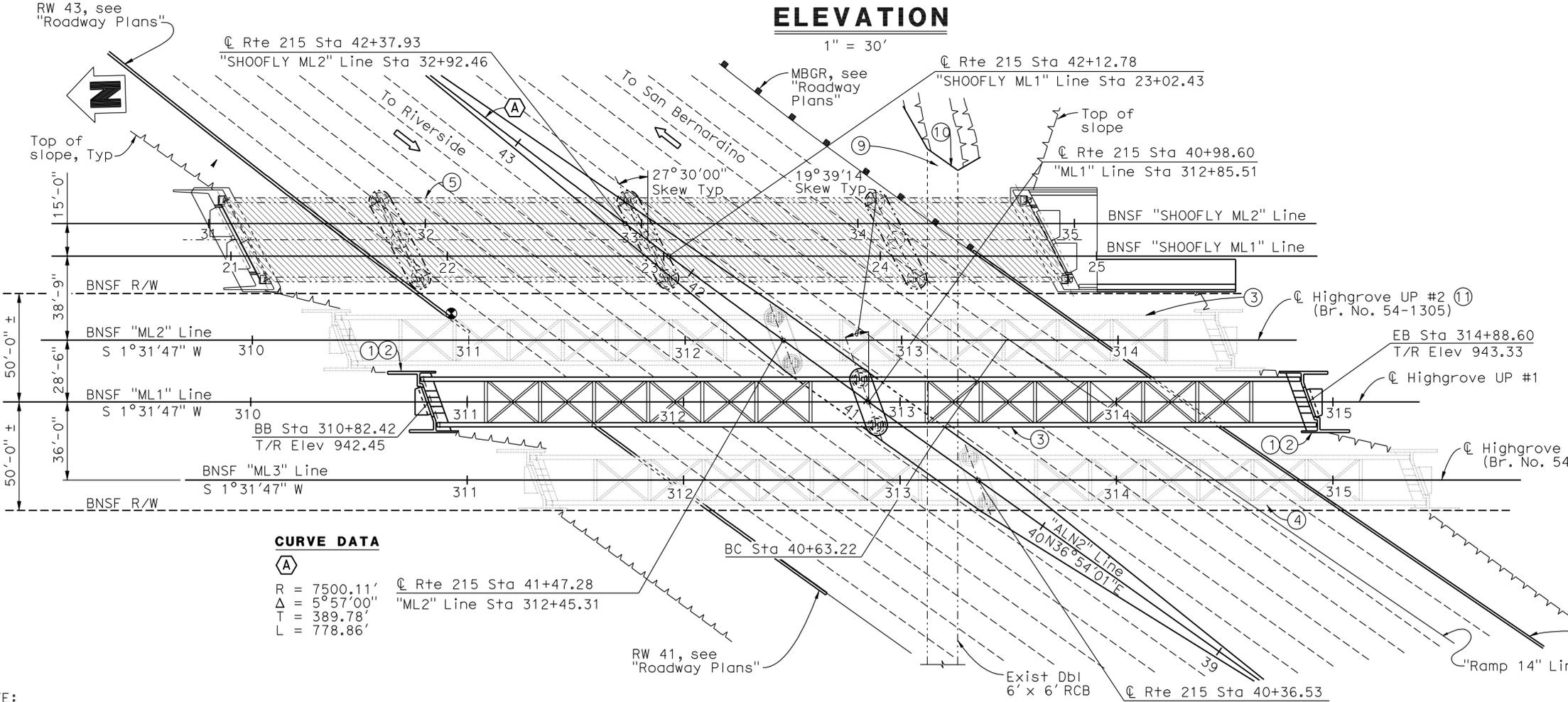
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- LEGEND:**
- Indicates new construction
 - Indicates existing structure
 - ▨ Limits of bridge removal after construction of Replacement Bridges.
 - ⊙ Point of minimum vertical clearance
 - ⇒ Indicates Direction of Traffic

- NOTES:**
- ① Paint "BR. NO. 54-1304"
 - ② Paint "HIGHGROVE UP #1"
 - ③ Steel Through Truss, Replacement Structure
 - ④ BNSF "ML3" Construction (for future Track)
 - ⑤ Steel Through Girder, Highgrove UP (Shoofly)
 - ⑥ Concrete Barrier Type 60E, see "Roadway Plans"
 - ⑦ 6'-0" Dia Column
 - ⑧ 8'-0" Dia CIDH Shaft
 - ⑨ RCB Extension
 - ⑩ Grand Terrace Storm Drain
 - ⑪ For details of Highgrove UP #2 and Highgrove UP #3, see separate structure plans

- ABBREVIATIONS:**
- BNSF Burlington Northern and Santa Fe Railway (Bridge Owner)
 - UP Underpass
 - R/W Right of Way
 - T/R Top of Rail



CURVE DATA

A	R = 7500.11'	℄ Rte 215 Sta 41+47.28
	Δ = 5°57'00"	"ML2" Line Sta 312+45.31
	T = 389.78'	
	L = 778.86'	

Lifting Weight for a panel of Truss (200'-0")=270.0kips

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

For Typical Section, see "GENERAL PLAN NO. 2" sheet.
 For General Notes and Index to Plans, see "INDEX TO PLANS" sheet.
 For Pile Data Table and Quantities, see "GENERAL PLAN NO. 2" sheet.

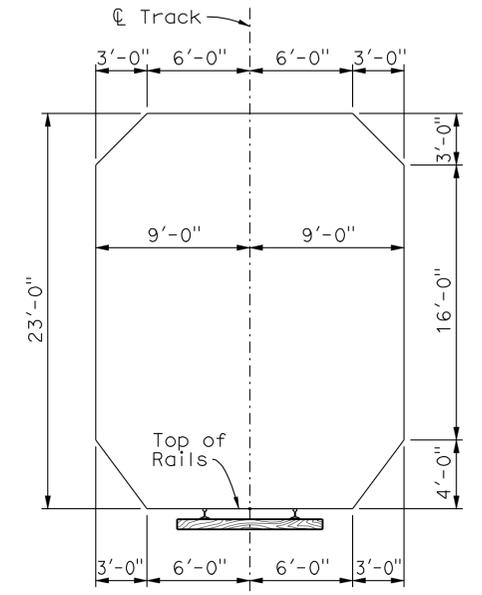
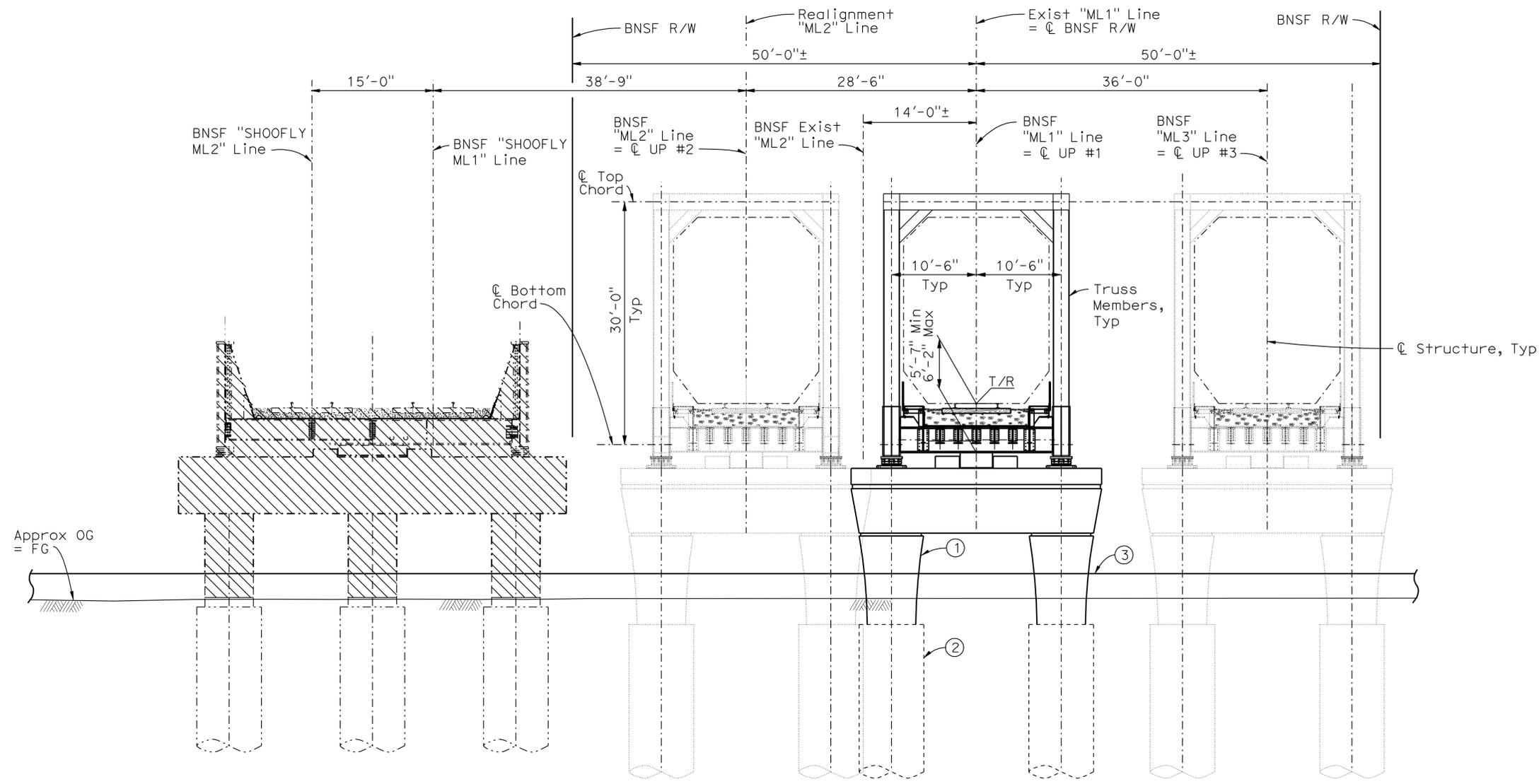
DESIGN BY L. Wu	CHECKED B. Addlespurger	LFD: RC ASD: STEEL	LIVE LOADING: AREMA COOPER E-80 AND ALTERNATIVE LIVE LOAD	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO. 54-1304	R.R. MILE POST 5.90	LINE SEG. 7602	HIGHGROVE UNDERPASS #1 GENERAL PLAN NO. 1
QUANTITIES BY T. Sanderson	CHECKED A. McPhee	SPECIFICATIONS BY J. Corrado	PLANS AND SPECS COMPARED J. Corrado	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3589	DISREGARD PRINTS BEARING EARLIER REVISION DATES	3-28-11	5-14-12	3-28-12

STRUCTURES DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.09-01-10) FILE => 541304agp01.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1595	1743

REGISTERED CIVIL ENGINEER: **Larry Wu**
 DATE: 4-06-12
 PLANS APPROVAL DATE: 4-16-12
 No. C57035
 Exp. 6-30-13
 CIVIL
 STATE OF CALIFORNIA

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MINIMUM RAILWAY BRIDGE CLEARANCES
 $\frac{3}{16}'' = 1'-0''$

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

PILE DATA TABLE

Location	Pile Type	Design Loading (WSD) (kips)		Nominal Resistance (kips)		Cut-off Elevations (ft)	Design Tip Elevation (ft)	Specified Tip Elevation (ft)
		Compression	Tension	Compression	Tension			
Abut 1	24" CIDH	200	0	200	0	924.0	894.0 (a)	894.0
Bent 2	96" CIDH	2400	0	2400	0	915.0	822.0 (a)	822.0
Abut 3	24" CIDH	200	0	200	0	924.9	887.0 (a)	887.0

NOTE: Design tip elevations are controlled by the following demands: (a) Compression

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

QUANTITIES

STRUCTURE EXCAVATION (BRIDGE)	625	CY
STRUCTURE BACKFILL (BRIDGE)	271	CY
PERVIOUS BACKFILL MATERIAL	21	CY
24" CAST-IN-DRILLED-HOLE CONCRETE PILING	1,222	LF
96" CAST-IN-DRILLED-HOLE CONCRETE PILING	186	LF
STRUCTURAL CONCRETE, BRIDGE FOOTING	100	CY
STRUCTURAL CONCRETE, BRIDGE BEARING	288	CY
BAR REINFORCING STEEL (BRIDGE)	8	EA
WATERPROOFING AND COVER	270,738	LB
FURNISH STRUCTURAL STEEL (BRIDGE)	6,859	SQFT
ERECT STRUCTURAL STEEL (BRIDGE)	1,918,493	LB
CLEAN AND PAINT STRUCTURAL STEEL	1,918,493	LB
MISCELLANEOUS METAL (BRIDGE)	LUMP	SUM
BRIDGE DECK DRAINAGE SYSTEM	27,955	LB
PIPE HANDRAILING	2,722	LB
	812	LF

LEGEND:

- Indicates new construction
- Indicates existing structure
- ▨ Indicates bridge removal after construction of Replacement Bridges

NOTES:

- ① 6'-0" Dia Column
- ② 8'-0" Dia CIDH Shaft
- ③ Concrete Barrier Type 60E, see "Roadway Plans"

ABBREVIATIONS:

- BNSF Burlington Northern and Santa Fe Railway (Bridge Owner)
- UP Underpass
- R/W Right of Way
- T/R Top of Rail

DANIEL T. ADAMS
 DESIGN ENGINEER

DESIGN BY: L. Wu
 DETAILS BY: G. Hallstrom/Y. Tang
 QUANTITIES BY: T. Sanderson

CHECKED BY: B. Addlespurger
 CHECKED BY: B. Addlespurger
 CHECKED BY: A. McPhee

LFD: RC ASD: STEEL
 LIVE LOADING: AREMA COOPER E-80 AND ALTERNATIVE LIVE LOAD
 LAYOUT BY: L. Wu
 SPECIFICATIONS BY: J. Corrado

CHECKED BY: B. Addlespurger
 PLANS AND SPECS COMPARED BY: J. Corrado

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
 DESIGN BRANCH 10

BRIDGE NO. 54-1304
 R.R. MILE POST 5.90
 LINE SEG. 7602

HIGHGROVE UNDERPASS #1
 GENERAL PLAN NO. 2

INDEX TO PLANS

Sheet No.	Title
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 LAYOUT
7.	ABUTMENT DETAILS NO. 1
8.	ABUTMENT DETAILS NO. 2
9.	BENT LAYOUT
10.	BENT DETAILS NO. 1
11.	BENT DETAILS NO. 2
12.	SHEAR KEY BEAM LAYOUT
13.	SHEAR KEY BEAM DETAILS
14.	SCHEMATIC LAYOUT / STRESS SHEET
15.	TRUSS DETAILS NO. 1
16.	TRUSS DETAILS NO. 2
17.	TRUSS DETAILS NO. 3
18.	TRUSS DETAILS NO. 4
19.	TRUSS DETAILS NO. 5
20.	TRUSS DETAILS NO. 6
21.	TRUSS DETAILS NO. 7
22.	TRUSS DETAILS NO. 8
23.	TOP LATERAL BRACING NO. 1
24.	TOP LATERAL BRACING NO. 2
25.	BOTTOM LATERAL BRACING NO. 1
26.	BOTTOM LATERAL BRACING NO. 2
27.	FLOOR SYSTEM
28.	FLOOR SYSTEM DETAILS NO. 1
29.	FLOOR SYSTEM DETAILS NO. 2
30.	DECK PLATE DETAILS
31.	BEARING LAYOUT
32.	BEARING DETAILS
33.	DRAINAGE DETAILS
34.	WATERPROOF DETAILS
35.	WALKWAY AND HANDRAIL DETAILS
36.	LOG OF TEST BORINGS SHEET 1 OF 7
37.	LOG OF TEST BORINGS SHEET 2 OF 7
38.	LOG OF TEST BORINGS SHEET 3 OF 7
39.	LOG OF TEST BORINGS SHEET 4 OF 7
40.	LOG OF TEST BORINGS SHEET 5 OF 7
41.	LOG OF TEST BORINGS SHEET 6 OF 7
42.	LOG OF TEST BORINGS SHEET 7 OF 7

GENERAL NOTES

- DESIGN:
- "MANUAL FOR RAILWAY ENGINEERING" AREMA 2010 EDITION, Chapter 8 & Chapter 15
 - BNSF RAILWAY-UNION PACIFIC RAILROAD, "GUIDELINES FOR RAILROAD GRADE SEPARATION PROJECTS" - 2007
 - STEEL CONSTRUCTION MANUAL-AISC 13th EDITION
 - BRIDGE DESIGN SPECIFICATIONS" LFD VERSION, APRIL 2000 (1996 16th Edition AASHTO with Interims and Revisions by CALTRANS)
- SEISMIC DESIGN:
- Caltrans Seismic Design Criteria (SDC) Version 1.6, November, 2010
 "MANUAL FOR RAILWAY ENGINEERING" AREMA 2010 EDITION, Chapter 9
- LIVE LOADING:
- COOPER E-80 with Diesel Impact and Alternate Live Load
- SEISMIC LOADING:
- AREMA Peak Rock Acceleration (PRA): Level 1 PRA= 0.33g
 Level 2 PRA=0.58g, Level 3 PRA= 0.91g

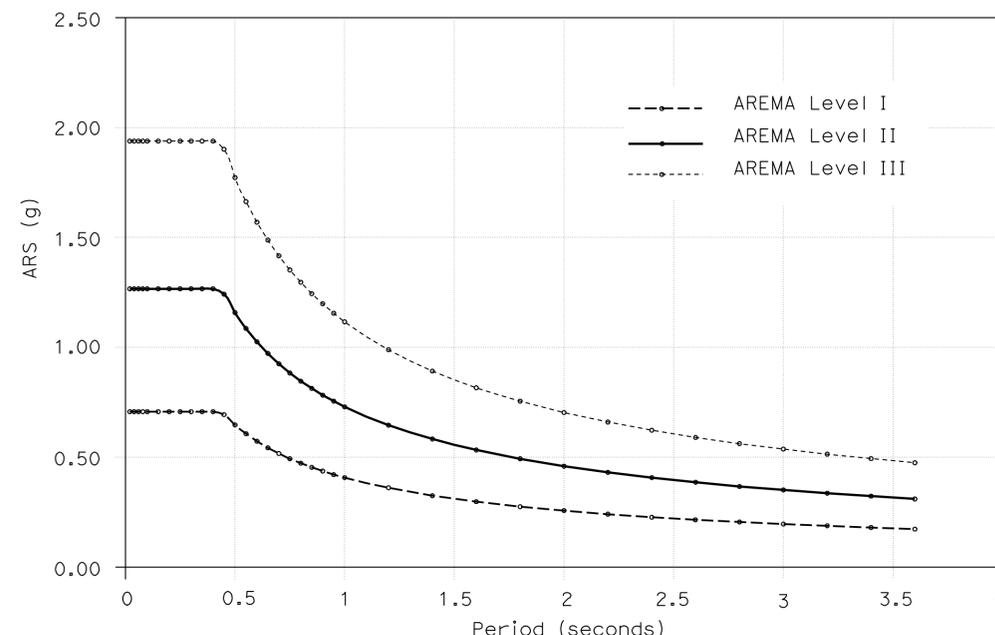
NOTE:
 THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91,215	21.5/21.7, 43.2/45.2, 0.0/5.1	1596	1743

REGISTERED CIVIL ENGINEER
 LARRY WU
 No. C57035
 Exp. 6-30-13
 CIVIL
 STATE OF CALIFORNIA

4-06-12 DATE
 4-16-12 PLANS APPROVAL DATE

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REINFORCED CONCRETE:

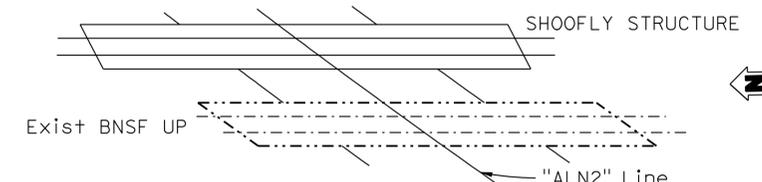
Load Factor Design
 $f_c = 4,500$ psi
 $f_y = 60,000$ psi
 $n = 8$

STRUCTURAL STEEL:

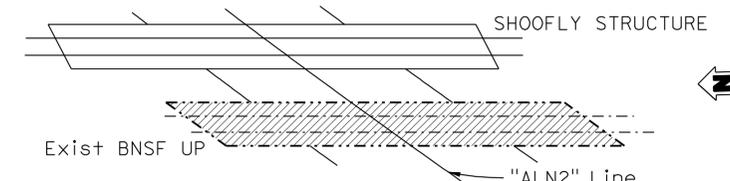
Allowable Stress Design
 1. For ASTM Designation of steel members, see Table below:

Members	Material
All Truss Members / Connection	ASTM A709 Grade 50W (50WF for FCM)
Floor Beam / Connection	ASTM A709 Grade 50W (50WF for FCM)
Stringer / Bracing Assy	ASTM A709 Grade 50W (50WF for FCM)
Deck Plate	ASTM A709 Grade 36 (Painted)
Walkway Checkered Plate	ASTM A709 Grade 36 (Galvanized)
Walkway Support Components	ASTM A709 Grade 36 (Painted)
Bearing Anchor Rod	ASTM F1554 Grade 105
Bearing Pintles	ASTM A354 BD
Bearing Rocker Plate/Base Plate	ASTM A709 Grade HPS 70W
Ladder Assy & Handrail Post	ASTM A709 Grade 36 (Galvanized)

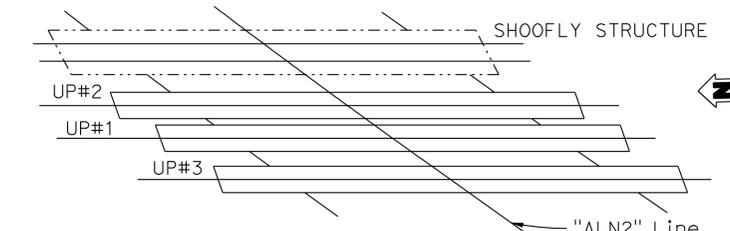
- Unless noted otherwise, HS bolts, including nuts and washers shall be 1" \emptyset ASTM A325X Type 3 Bolts with bolt heads toward the outside or the underside of the bridge.
- All bolted parts shall be prepared for Class A slip critical contact surfaces according to AREMA.
- Electrodes shall be E70XX unless noted otherwise.



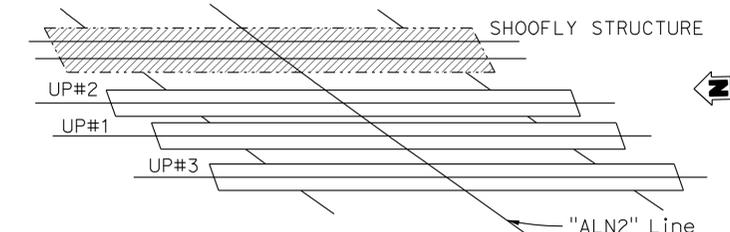
STAGE 1 - CONSTRUCT SHOOFLY STRUCTURE
 No Scale



STAGE 2 - REMOVE EXISTING UNDERPASS
 No Scale



STAGE 3 - CONSTRUCT UP#1, #2, #3
 No Scale

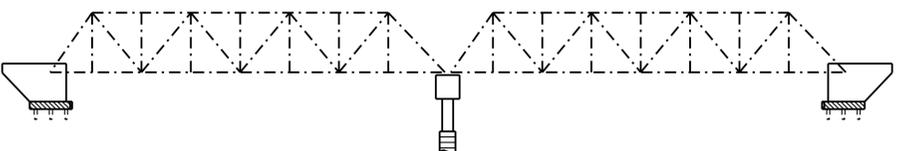
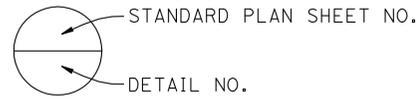


STAGE 4 - REMOVE SHOOFLY
 No Scale

CONSTRUCTION STAGES

STANDARD PLANS DATED MAY 2006

A10A	ACRONYMS AND ABBREVIATIONS (SHEET 1 OF 2)
A10B	ACRONYMS AND ABBREVIATIONS (SHEET 2 OF 2)
A10C	SYMBOLS (SHEET 1 OF 2)
A10D	SYMBOLS (SHEET 2 OF 2)
A62B	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL-BRIDGE SURCHARGE AND WALL
A62C	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL-BRIDGE
B0-3	BRIDGE DETAILS
B0-13	BRIDGE DETAILS
B2-3	16" AND 24" CAST-IN-DRILLED-HOLE CONCRETE PILE
B7-6	DECK DRAINS TYPES D-1 AND D-2
B11-47	CABLE RAILING



- Structural Concrete, Bridge
- Structural Concrete, Bridge Footing ($f_c=4,000$ psi)
- CIDH Pile ($f_c=4,000$ psi)

CONCRETE STRENGTH AND TYPE LIMITS

No Scale

DESIGN	BY L. Wu	CHECKED B. Addiespurger	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO.	HIGHGROVE UNDERPASS #1
DETAILS	BY Y. Tang/G. Hallstrom	CHECKED B. Addiespurger			54-1304	
QUANTITIES	BY T. Sanderson	CHECKED A. McPhee			R.R. MILE POST 5.90 LINE SEG. 7602	

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 3589
 PROJECT NUMBER & PHASE: 08000005061
 CONTRACT NO.: 08-0M9401

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
2-08-11	3	42

FILE => 541304a1tp03.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1597	1743

REGISTERED CIVIL ENGINEER **Larry Wu** DATE **4-06-12**
 PLANS APPROVAL DATE **4-16-12**
 No. **C57035** Exp. **6-30-13**
 LARRY WU
 REGISTERED PROFESSIONAL ENGINEER
 STATE OF CALIFORNIA
 CIVIL

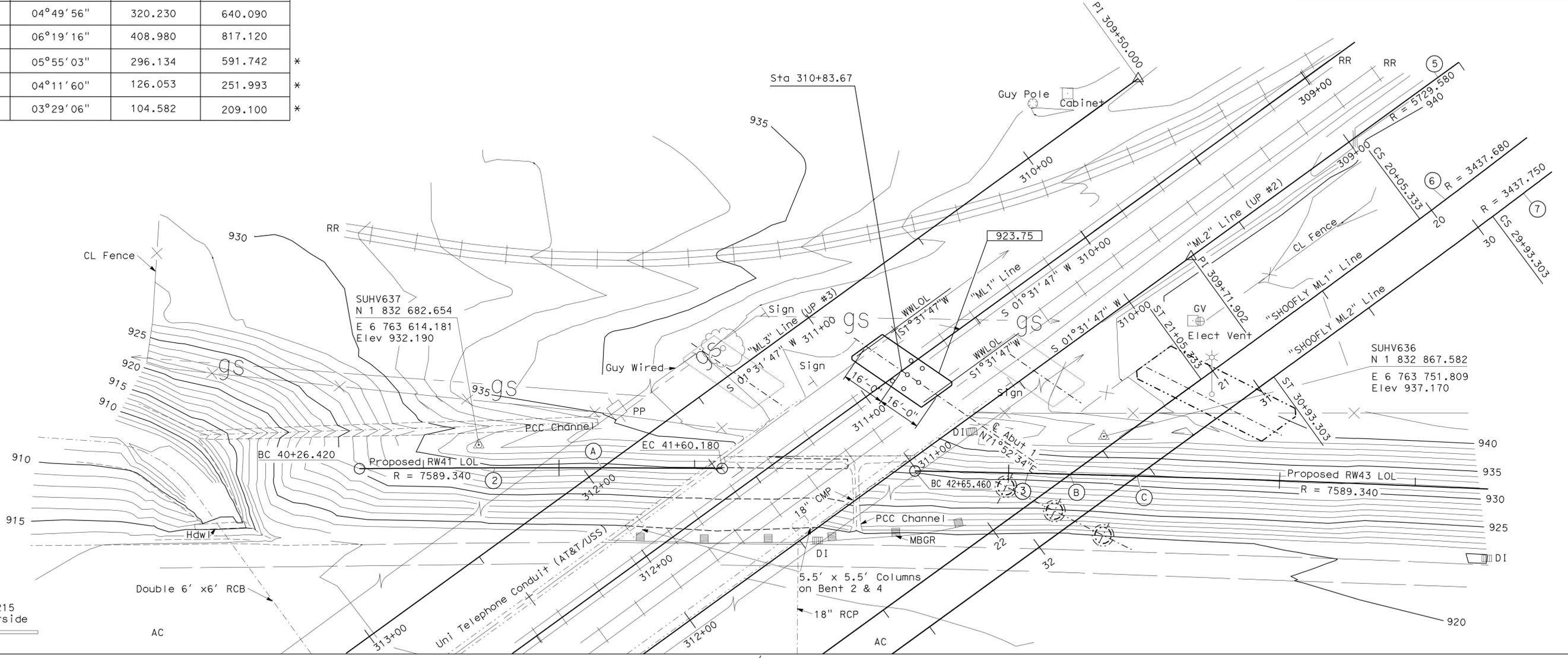
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Bridge Location
Paving Notch are buried.

No.	R	Δ	T	L
①	7500.110	05°57'00"	389.780	778.860
②	7589.340	01°00'35"	66.880	133.760
③	7589.340	04°49'56"	320.230	640.090
④	7406.420	06°19'16"	408.980	817.120
⑤	5729.580	05°55'03"	296.134	591.742
⑥	3437.680	04°11'60"	126.053	251.993
⑦	3437.750	03°29'06"	104.582	209.100

* Part of Spiral

- Ⓐ 311+94.210 "ML3" Line =
41+15.780 Proposed RW41 LOL
- Ⓑ 21+64.880 "SHOOFLY ML1" Line =
43+22.740 Proposed RW43 LOL
- Ⓒ 31+55.510 "SHOOFLY ML2" Line =
43+47.41 Proposed RW43 LOL



SURVEY CONTROL
 SUHV637
 PD: 1" IP/ Caltrans Plug
 91.110 Lt. @ Rte 215
 Sta 41+06.400
 N 1 832 682.654
 E 6 763 614.181
 Elev 932.190
 SUHV636
 PD: 1" IP/ Caltrans Plug
 96.940 Lt. @ Rte 215
 Sta 43+34.000
 N 1 832 867.582
 E 6 763 751.809
 Elev 937.170

- LEGEND:**
- TS: Point of change from tangent to spiral
 - SC: Point of change from spiral to circle
 - CS: Point of change from circle to spiral
 - ST: Point of change from TS to any point on the spiral
 - XXX.XX Indicates bottom of footing elevation

NOTE:

- Underground utilities as shown are approximate. See District Utility Plans for details.
- For abbreviation of Spiral Notation, see LEGEND.

PRELIMINARY INVESTIGATION SECTION				DESIGN BY L. Wu	CHECKED B. Addlespurger	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO. 54-1304	HIGHGROVE UNDERPASS #1 FOUNDATION PLAN NO. 1		
SCALE 1"=20'	VERT. DATUM NAVD88	PHOTOGRAMMETRY AS OF: X	DETAILS BY G. Hallstrom	CHECKED B. Addlespurger	R.R. MILE POST 5.90						
ALIGNMENT TIES Dist. Traverse Sheet	SURVEYED BY T. Phung/ C. Stewart	CHECKED BY X	QUANTITIES BY T. Sanderson	CHECKED A. McPhee	LINE SEG. 7602						
STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 09-01-10)						ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3647 PROJECT NUMBER & PHASE: 08000005061	CONTRACT NO.: 08-0M9401	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 03/30/12	SHEET 4 OF 42

USERNAME => s124496 DATE PLOTTED => 14-JUN-2012 TIME PLOTTED => 05:57

Bridge Location
Paving Notch are buried.

No.	R	Δ	T	L
①	7500.110	05°56'60"	389.780	778.860
②	7589.340	01°00'35"	66.880	133.760
③	7589.340	04°49'56"	320.230	640.090
④	7406.420	06°19'16"	408.980	817.120
⑧	8595.230	00°58'54"	73.629	147.255
⑨	3437.680	04°25'02"	132.579	265.026
⑩	3437.680	04°24'60"	132.562	264.993

* Part of Spiral

- Ⓓ 40+36.530 @ Rte 215 =
313+36.080 "ML3" Line
- Ⓔ 40+98.600 @ Rte 215 =
312+85.510 "ML1" Line
- Ⓕ 41+47.280 @ Rte 215 =
312+45.310 "ML2" Line
- Ⓖ 42+12.780 @ Rte 215 =
23+02.420 "SHOOFLY ML1" Line

- Ⓗ 42+37.930 @ Rte 215 =
32+92.450 "SHOOFLY ML2" Line
- Ⓘ 24+73.050 "SHOOFLY ML1" Line =
40+73.640 Proposed RW40 LOL
- Ⓙ 34+62.280 "SHOOFLY ML2" Line =
40+99.440 Proposed RW40 LOL

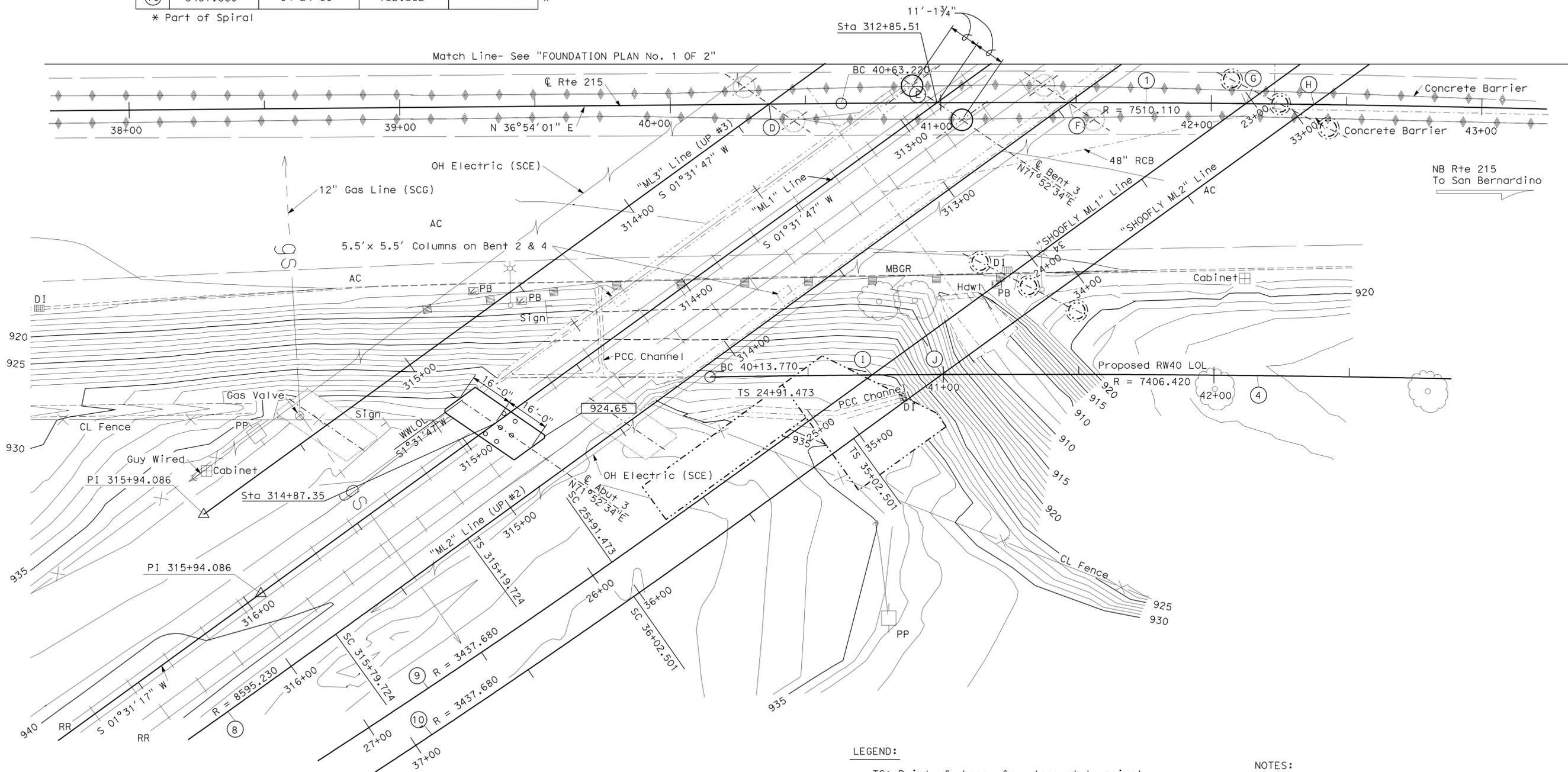


DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1598	1743

LARRY WU
 REGISTERED CIVIL ENGINEER
 No. C57035
 Exp. 6-30-13
 CIVIL

4-06-12 DATE
 4-16-12 PLANS APPROVAL DATE

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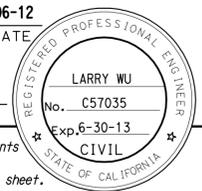
SURVEY CONTROL
See "FOUNDATION PLAN No. 1 OF 2"

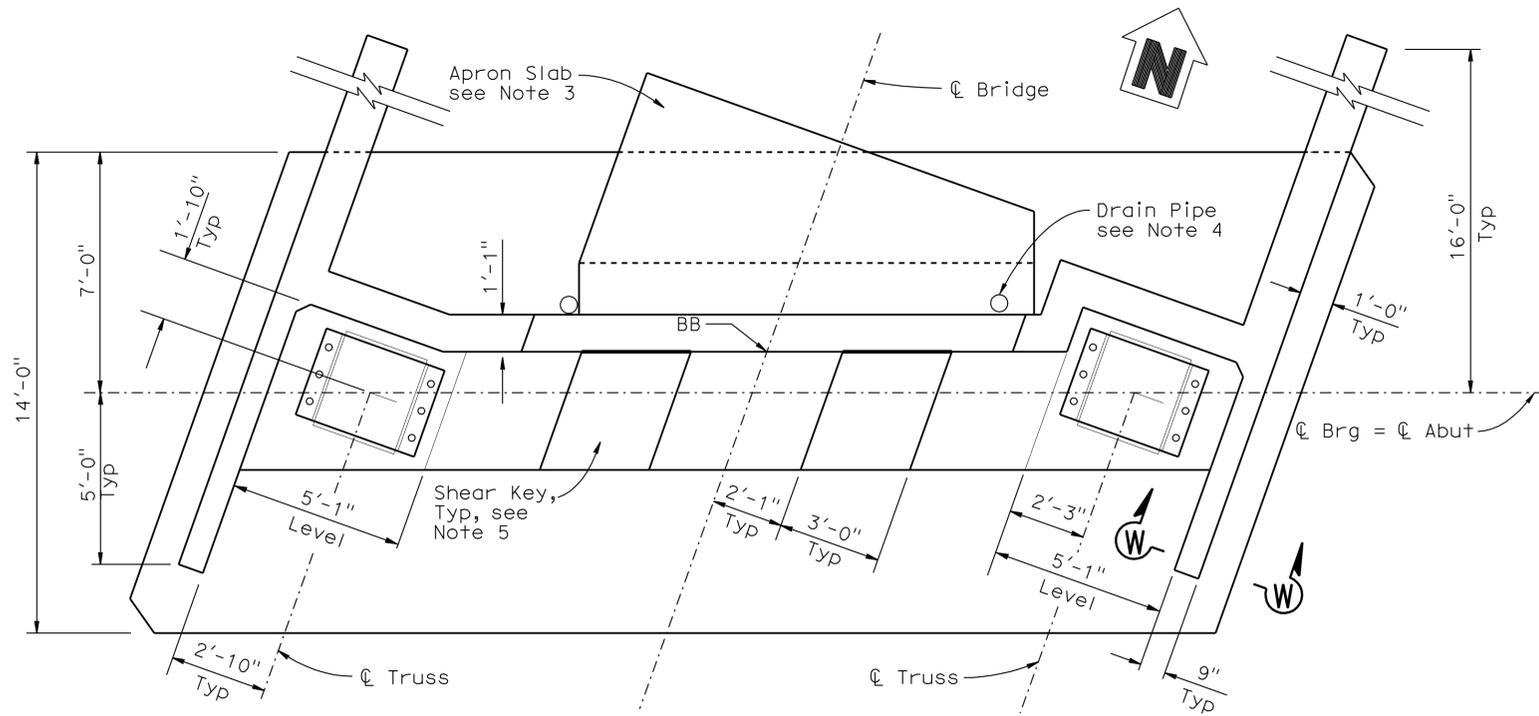
- LEGEND:**
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 - CS: Point of change from circle to spiral
 - ST: Point of change from TS to any point on the spiral
 - XXX.XX Indicates bottom of footing elevation

- NOTES:**
- Underground utilities as shown are approximate. See District Utility Plans for details.
 - For abbreviation of Spiral Notation, see LEGEND.

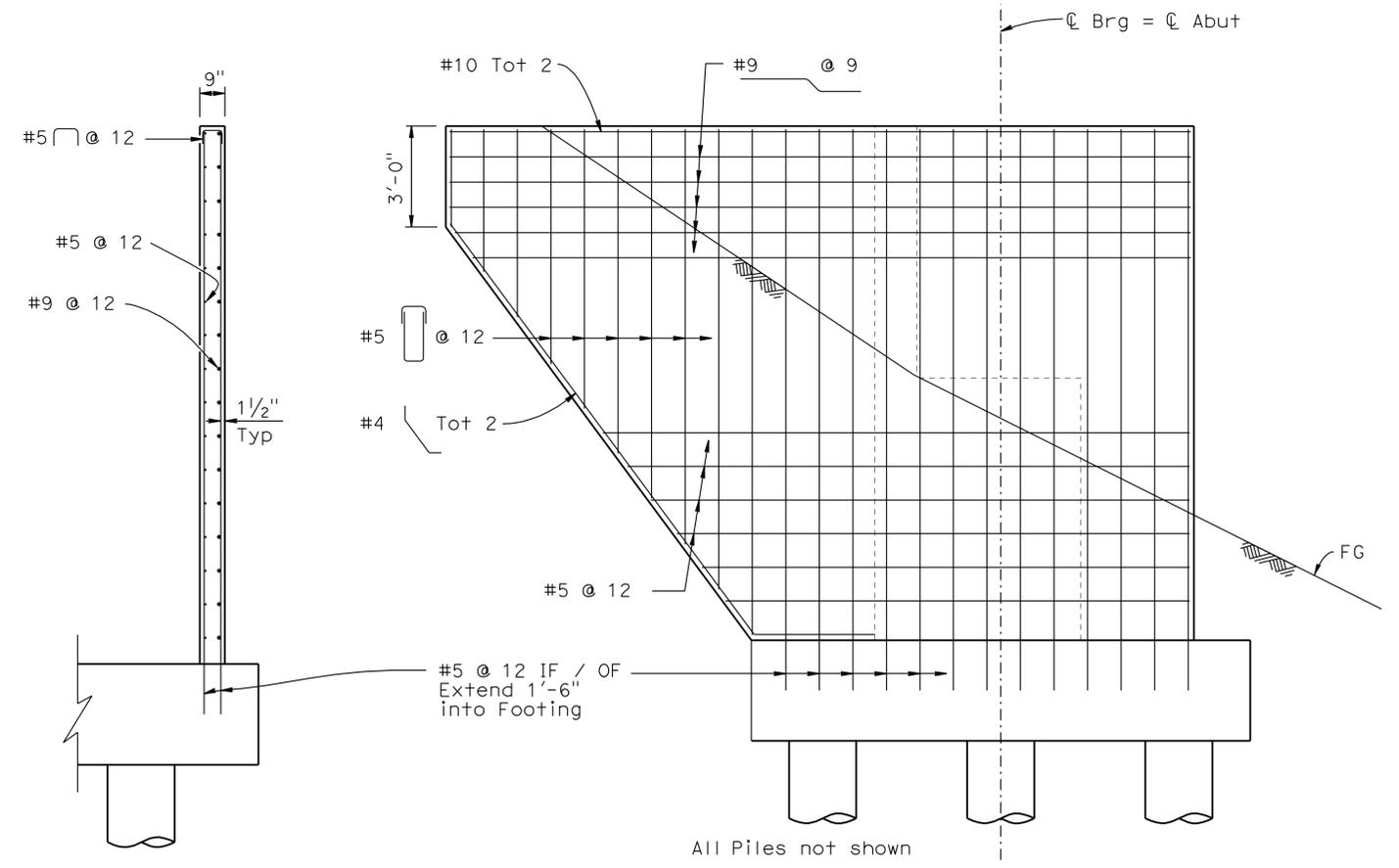
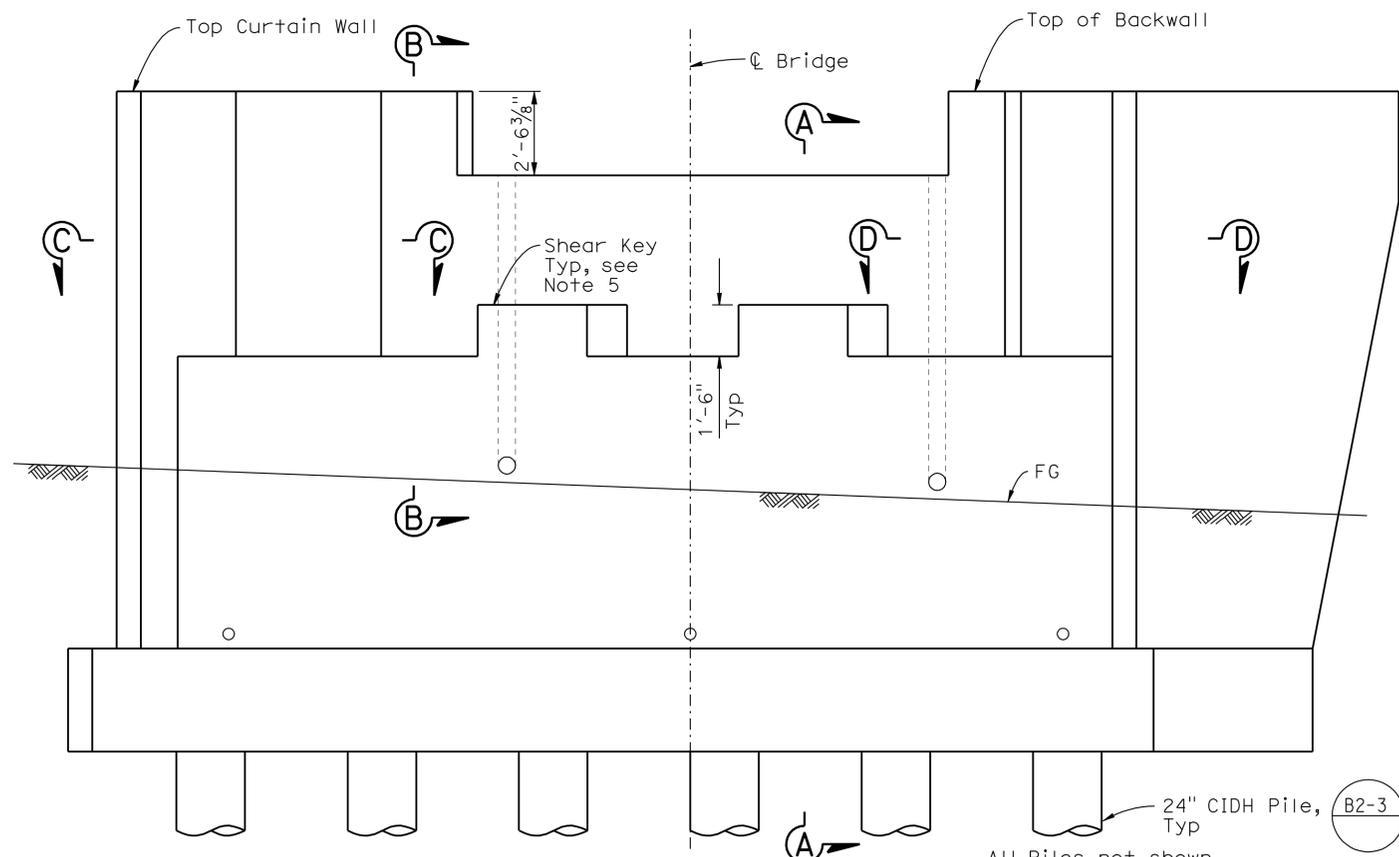
PRELIMINARY INVESTIGATION SECTION				DESIGN BY L. Wu	CHECKED B. Addlespurger	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO. 54-1304	HIGHGROVE UNDERPASS #1 FOUNDATION PLAN NO. 2			
SCALE 1"=20'	VERT. DATUM NAVD88	PHOTOGRAMMETRY AS OF: X	DETAILS BY G. Hallstrom	CHECKED B. Addlespurger	R.R. MILE POST 5.90							
ALIGNMENT TIES Dist. Traverse Sheet	DRAFTED BY C. Pham	CHECKED BY E. Viagar	QUANTITIES BY T. Sanderson	CHECKED A. McPhee	LINE SEG. 7602							
STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 09-01-10)						ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3647	PROJECT NUMBER & PHASE: 08000005061	CONTRACT NO.: 08-0M9401	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 5 OF 42

USERNAME => s124496 DATE PLOTTED => 14-JUN-2012 TIME PLOTTED => 05:58

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1599	1743
 REGISTERED CIVIL ENGINEER			4-06-12 DATE		
4-16-12 PLANS APPROVAL DATE					
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- NOTES:
1. For Section A-A, Section B-B & Shear Key Details, see "ABUTMENT DETAILS NO. 1" sheet.
 2. For Section C-C, Section D-D, Footing and Pile Layout, see "ABUTMENT DETAILS NO. 2" sheet.
 3. For Apron Slab details, see "ABUTMENT DETAILS NO. 2" sheet.
 4. For Drain Pipe details, see "DRAINAGE DETAILS" sheet.
 5. For Shear Key details, see "ABUTMENT DETAILS NO. 1" sheet.
 6. Abutment 1 shown, Abutment 3 reverse identical.

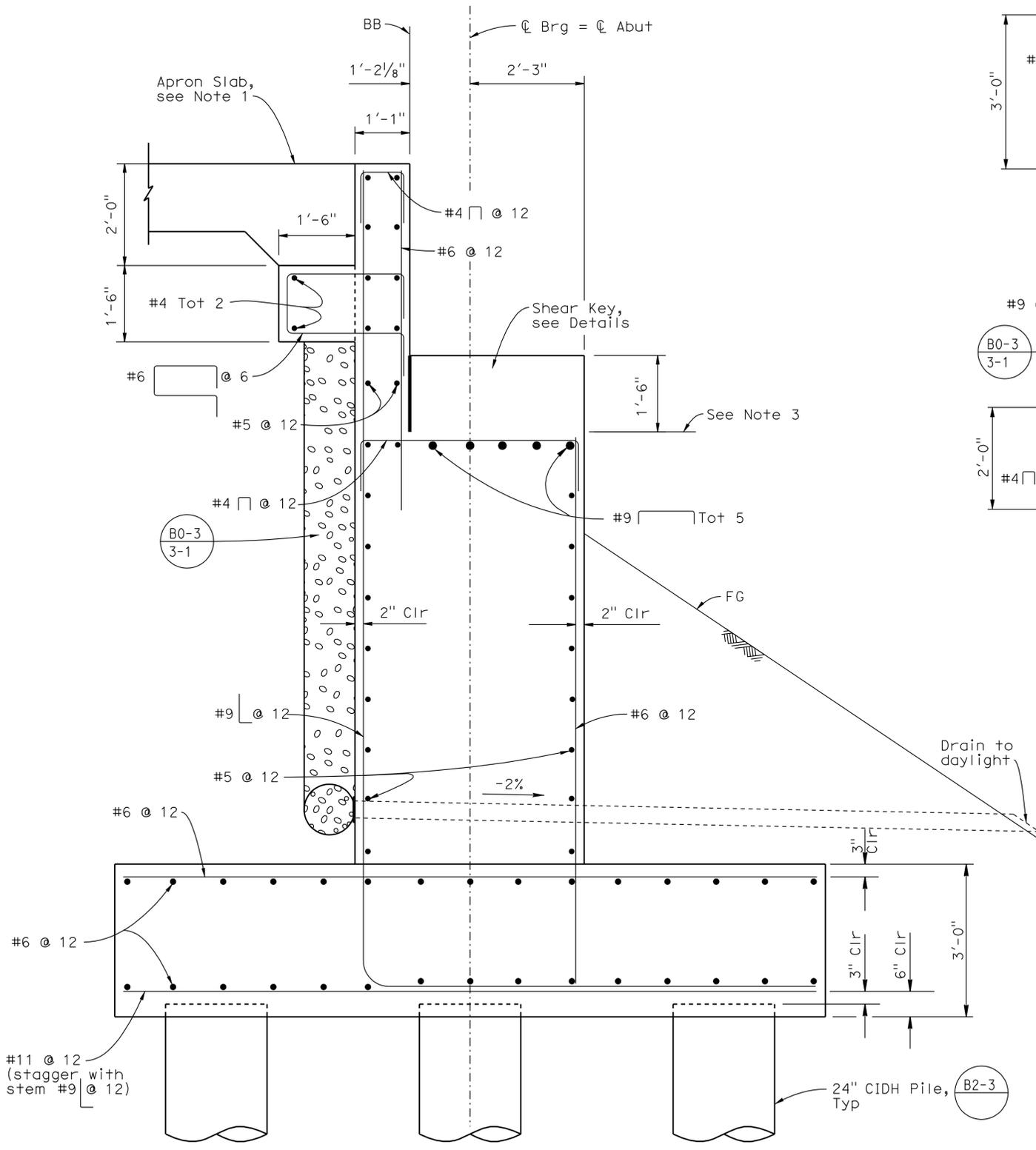
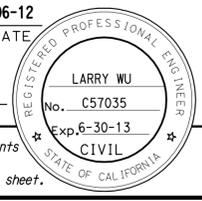


NOTE:
 THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

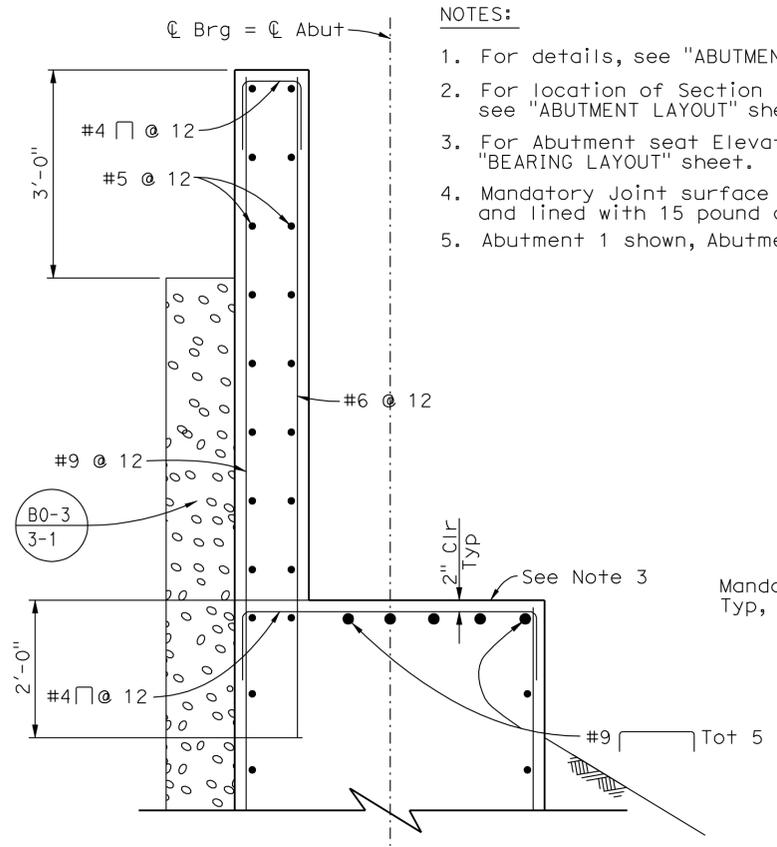
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY L. Wu	CHECKED B. Addiespurger	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO.	54-1304	HIGHGROVE UNDERPASS #1 ABUTMENT LAYOUT		
	DETAILS	BY Y. Tang	CHECKED B. Addiespurger			R.R. MILE POST	5.90			
	QUANTITIES	BY T. Sanderson	CHECKED A. McPhee			LINE SEG. 7602				
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS					UNIT: 3589 PROJECT NUMBER & PHASE: 08000005061	CONTRACT NO.: 08-0M9401	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 8-08-11 5-08-12 5-14-12	SHEET 6	OF 42

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	91, 215	21.5/21.7, 43.2/45.2, 0.0/5.1	1600	1743
REGISTERED CIVIL ENGINEER			DATE	LARRY WU	
4-16-12			PLANS APPROVAL DATE	LARRY WU	
No. C57035			Exp. 6-30-13		
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:
- For details, see "ABUTMENT DETAILS NO. 2" sheet.
 - For location of Section A-A & Section B-B, see "ABUTMENT LAYOUT" sheet.
 - For Abutment seat Elevation, see "BEARING LAYOUT" sheet.
 - Mandatory Joint surface to be smooth finished and lined with 15 pound construction paper.
 - Abutment 1 shown, Abutment 3 similar.

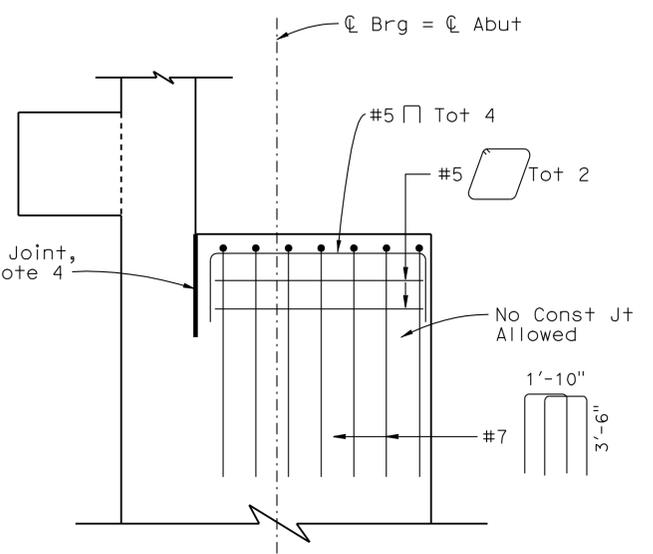


SECTION A-A
3/4" = 1'-0"



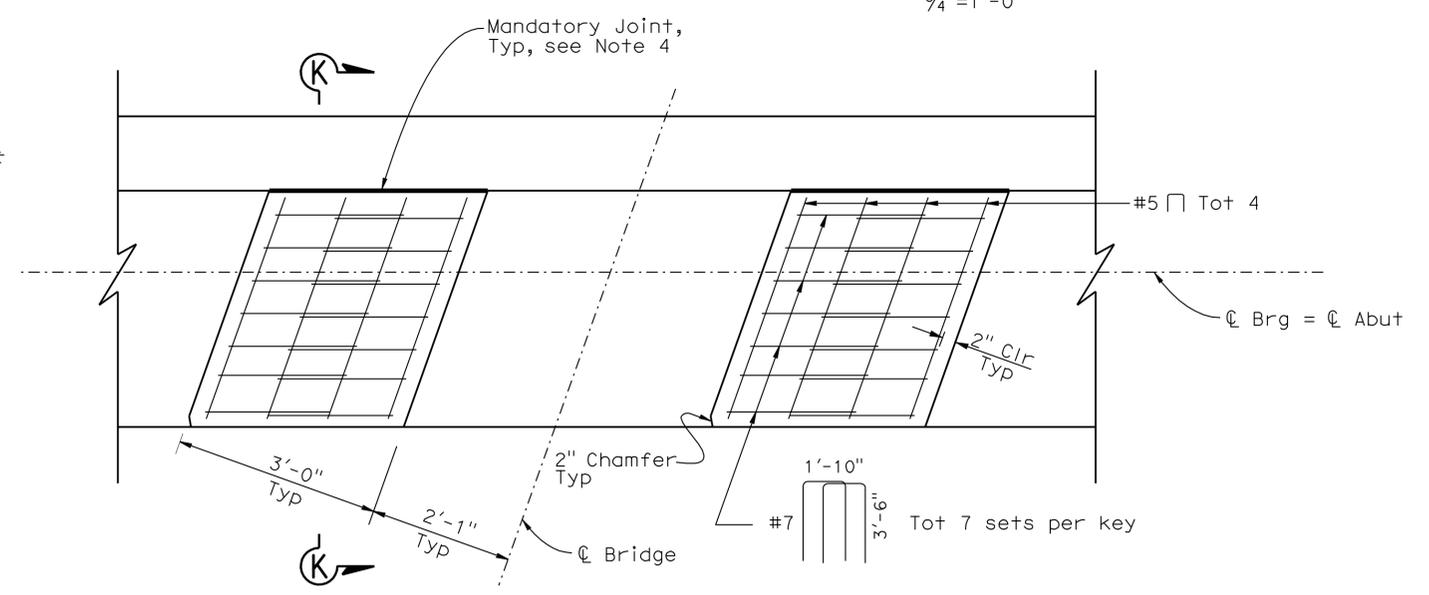
(For Details not shown, see Section A-A)

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



(For Details not shown, see Section A-A)

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



SHEAR KEY - PLAN
3/4" = 1'-0"

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

DESIGN	BY	L. Wu	CHECKED	B. Addiespurger	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 10	BRIDGE NO.	54-1304	HIGHGROVE UNDERPASS #1 ABUTMENT DETAILS NO. 1	
	DETAILS	BY	Y. Tang	CHECKED			B. Addiespurger	R.R. MILE POST		5.90
	QUANTITIES	BY	T. Sanderson	CHECKED			A. McPhee	LINE SEG.		7602
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)					ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3589 PROJECT NUMBER & PHASE: 08000005061	CONTRACT NO.: 08-0M9401	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 7 OF 42