

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	401	456

Richard E. Schendel
 REGISTERED CIVIL ENGINEER DATE 04/12/11
 4-25-11
 PLANS APPROVAL DATE
 No. C 64259
 Exp. 06/30/11
 CIVIL
 STATE OF CALIFORNIA
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PILE DATA

Location	Pile Type	Nominal Resistance (kips)		Cut-Off Elevation (ft)	Design Tip Elevations (ft)	Specified Tip Elevation (ft)
		Compression	Tension			
Abut 1 Lt	24" CIDH	400	0	*	1467 (a), 1481 (b)	1467
Abut 1 Rt	24" CIDH	400	0	*	1467 (a), 1494 (b)	1467
Abut 1 Ret Wall	24" CIDH	280	0	*	1471 (a), 1484 (b)	1471
Bent 2 Lt	96" CIDH	8000	0	1460	1394 (a), 1388 (b)	1388
Bent 2 Rt	96" CIDH	8000	0	1478	1412 (a), 1401 (b)	1401
Bent 3 Lt	96" CIDH	8000	0	1460	1394 (a), 1376 (b)	1376
Bent 3 Rt	96" CIDH	8000	0	1457	1391 (a), 1387 (b)	1387
Abut 4 Lt	24" CIDH	400	0	*	1465 (a), 1463 (b)	1463
Abut 4 Rt	24" CIDH	400	0	*	1465 (a), 1463 (b)	1463
Abut 4 Ret Wall	24" CIDH	280	0	*	1472 (a), 1465 (b)	1465

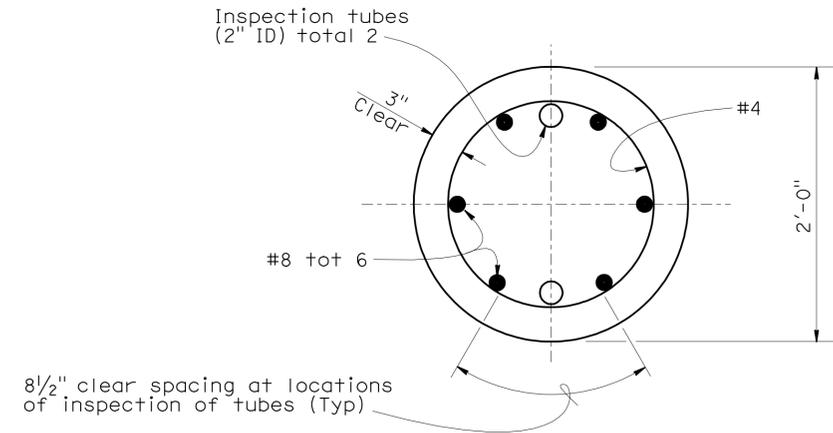
* See other sheets.

NOTES

- Design tip elevations are controlled by: (a) Compression, (b) Lateral Load.
- Piles at Abut 1 shall be embedded at least 13 feet into bedrock.
- Piles at Abut 1 Ret Wall shall be embedded at least 9 feet into bedrock.

QUANTITIES

BRIDGE REMOVAL (PORTION), LOCATION A	LUMP SUM	
STRUCTURE EXCAVATION (BRIDGE)	1,300	CY
STRUCTURE EXCAVATION (RETAINING WALL)	1,600	CY
STRUCTURE BACKFILL (BRIDGE)	980	CY
STRUCTURE BACKFILL (RETAINING WALL)	1,640	CY
PERVIOUS BACKFILL MATERIAL (RETAINING WALL)	122	CY
24" CAST-IN-DRILLED-HOLE CONCRETE PILING	9,218	LF
96" CAST-IN-DRILLED-HOLE CONCRETE PILING	303	LF
PRESTRESSING CAST-IN-PLACE CONCRETE	LUMP SUM	
STRUCTURAL CONCRETE, BRIDGE FOOTING	265	CY
STRUCTURAL CONCRETE, BRIDGE	3,975	CY
STRUCTURAL CONCRETE, RETAINING WALL	720	CY
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE N)	100	CY
ARCHITECTURAL TREATMENT	3,345	SQFT
DRILL AND BOND DOWEL	460	LF
PTFE BEARING	12	EA
REPLACE WABO NEOPRENE GLAND (MR 7")	1,430	LF
WABO JOINT SEAL ASSEMBLY (MR 7")	118	LF
BAR REINFORCING STEEL (BRIDGE)	1,509,500	LB
BAR REINFORCING STEEL (RETAINING WALL)	126,200	LB
ISOLATION CASING	10,150	LB
BRIDGE DECK DRAINAGE SYSTEM	4,780	LB
CONCRETE BARRIER (TYPE 736 MODIFIED)	1,846	LF



24" CIDH PILE SECTION WITH INSPECTION TUBES

Note:

1/2" = 1'-0"

For section without inspection tubes and for details not shown, see "STANDARD PLAN B2-3"

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY RICHARD SCHEDEL	CHECKED ZIHAN YAN	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO.	GAVIN CANYON UC (WIDEN) PILE DATA	
	DETAILS	BY RICHARD SCHEDEL	CHECKED ZIHAN YAN			53-2790R/L		
	QUANTITIES	BY DAVID P. MURRAY / RS	CHECKED RUPERD WILSON / ZY			POST MILE 47.9		
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				CU 07 EA 2332A1	DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES 04/28/10 06/04/10 07/28/10 08/23/10 12/02/10 04/11/11	SHEET 3 OF 38

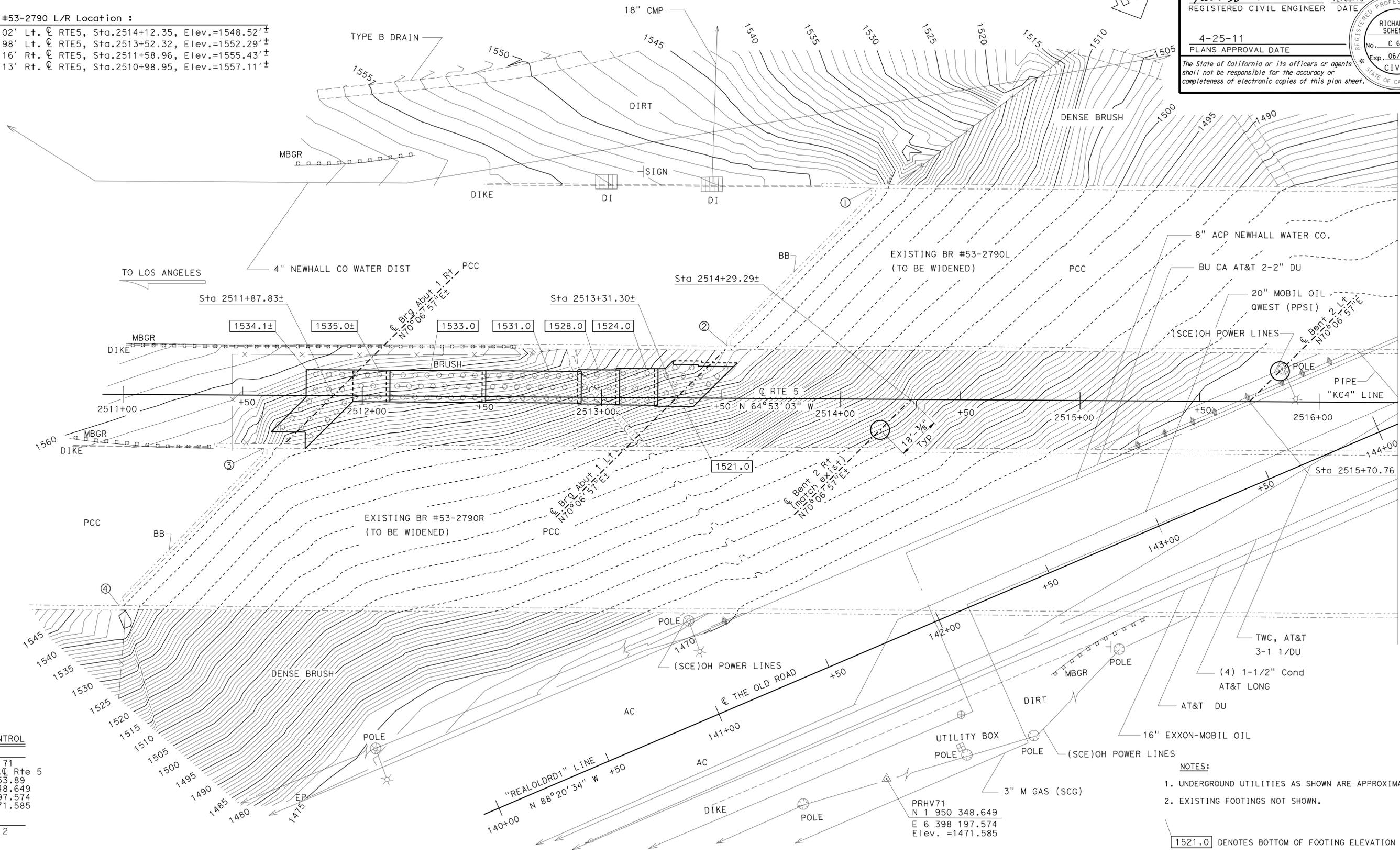
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	402	456

Richard E. Schendel
 REGISTERED CIVIL ENGINEER DATE 12/03/10
 4-25-11
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REGISTERED PROFESSIONAL ENGINEER
 RICHARD E. SCHENDEL
 No. C 64259
 Exp. 06/30/11
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- Bridge #53-2790 L/R Location :
- ① - 88.02' Lt. C RTE5, Sta.2514+12.35, Elev.=1548.52'±
 - ② - 21.98' Lt. C RTE5, Sta.2513+52.32, Elev.=1552.29'±
 - ③ - 22.16' Rt. C RTE5, Sta.2511+58.96, Elev.=1555.43'±
 - ④ - 88.13' Rt. C RTE5, Sta.2510+98.95, Elev.=1557.11'±



SURVEY CONTROL
 PRHV71
 Fnd PRHV 71
 52.36' Rt. C Rte 5
 Sta. 141+53.89
 N 1 950 348.649
 E 6 398 197.574
 Elev. =1471.585
 PRHV68
 SEE SHEET 2

- NOTES:
- UNDERGROUND UTILITIES AS SHOWN ARE APPROXIMATE
 - EXISTING FOOTINGS NOT SHOWN.
- 1521.0 DENOTES BOTTOM OF FOOTING ELEVATION

PRELIMINARY INVESTIGATION SECTION				DESIGN BY RICHARD SCHENDEL CHECKED ZIHAN YAN	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53-2790R/L	GAVIN CANYON UC (WIDEN) FOUNDATION PLAN NO. 1
SCALE VERT. DATUM NAVD 88 1:20	PHOTOGRAMMETRY AS OF: X	DETAILS BY RICHARD SCHENDEL CHECKED ZIHAN YAN	POST MILE 47.9					
ALIGNMENT TIES X	SURVEYED BY T. PHUNG 4/10 CHECKED BY S. ABASSY 04/10	QUANTITIES BY DAVID P. MURRAY / RS CHECKED PREM RIMAL / ZY	REVISION DATES 05/11/10 10/12/10 10/19/10					

STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 10/25/05) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS CU 07 EA 2332A DISREGARD PRINTS BEARING EARLIER REVISION DATES

FILE => 53-2790r1-e-fdp101.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	403	456

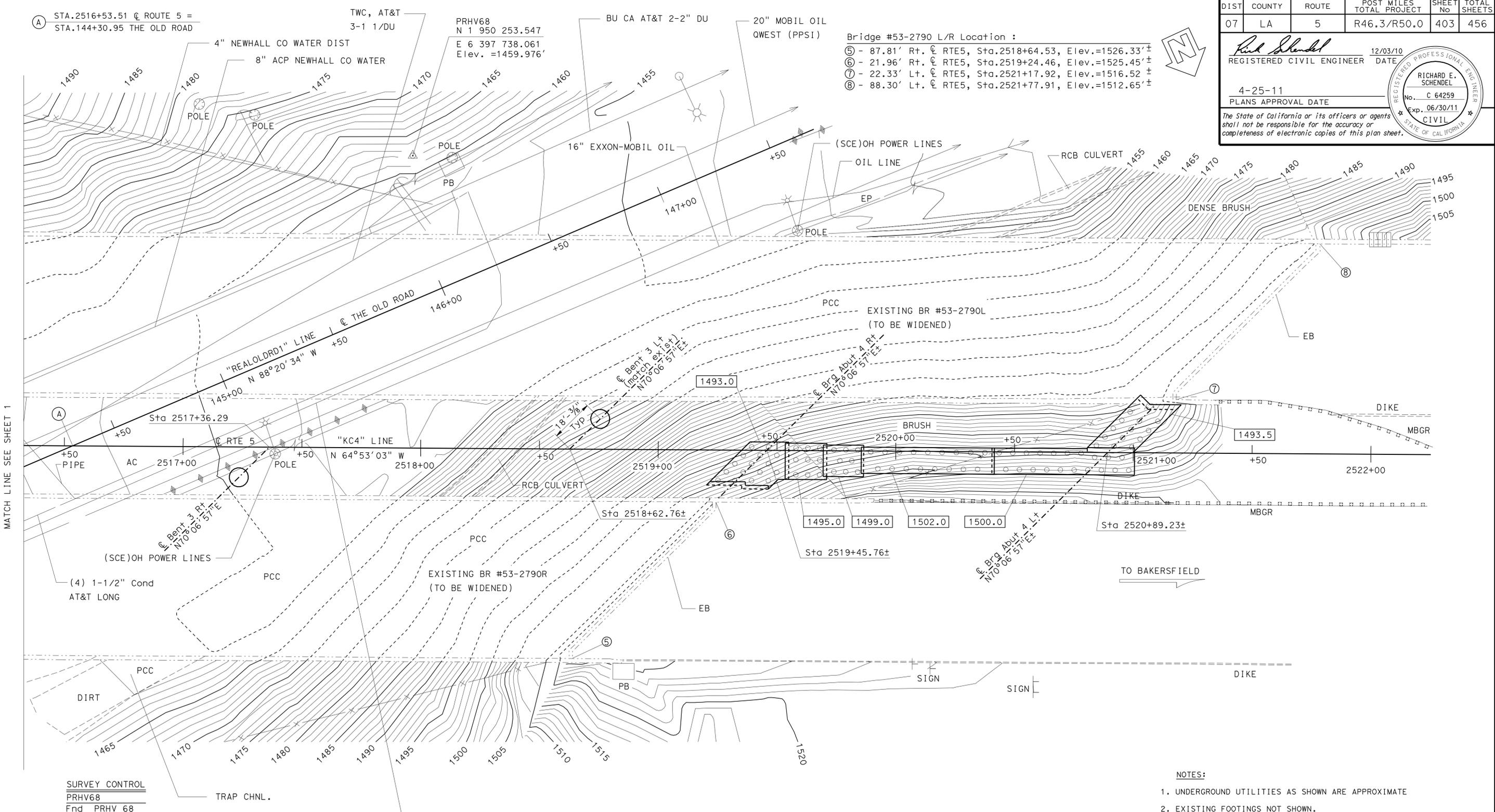
Richard E. Schendel
 REGISTERED CIVIL ENGINEER DATE 12/03/10
 No. C 64259
 Exp. 06/30/11
 CIVIL
 STATE OF CALIFORNIA

4-25-11
 PLANS APPROVAL DATE

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Bridge #53-2790 L/R Location :

⑤ - 87.81' Rt. @ RTE5, Sta.2518+64.53, Elev.=1526.33'±
 ⑥ - 21.96' Rt. @ RTE5, Sta.2519+24.46, Elev.=1525.45'±
 ⑦ - 22.33' Lt. @ RTE5, Sta.2521+17.92, Elev.=1516.52'±
 ⑧ - 88.30' Lt. @ RTE5, Sta.2521+77.91, Elev.=1512.65'±



MATCH LINE SEE SHEET 1

SURVEY CONTROL
 PRHV68
 Fnd PRHV 68
 122.82' Lt. @ Rte 5
 Sta. 2517+95.91
 N 1 950 253.547
 E 6 397 738.061
 Elev. =1459.976'
 PRHV71
 SEE SHEET 1

NOTES:

- UNDERGROUND UTILITIES AS SHOWN ARE APPROXIMATE
- EXISTING FOOTINGS NOT SHOWN.

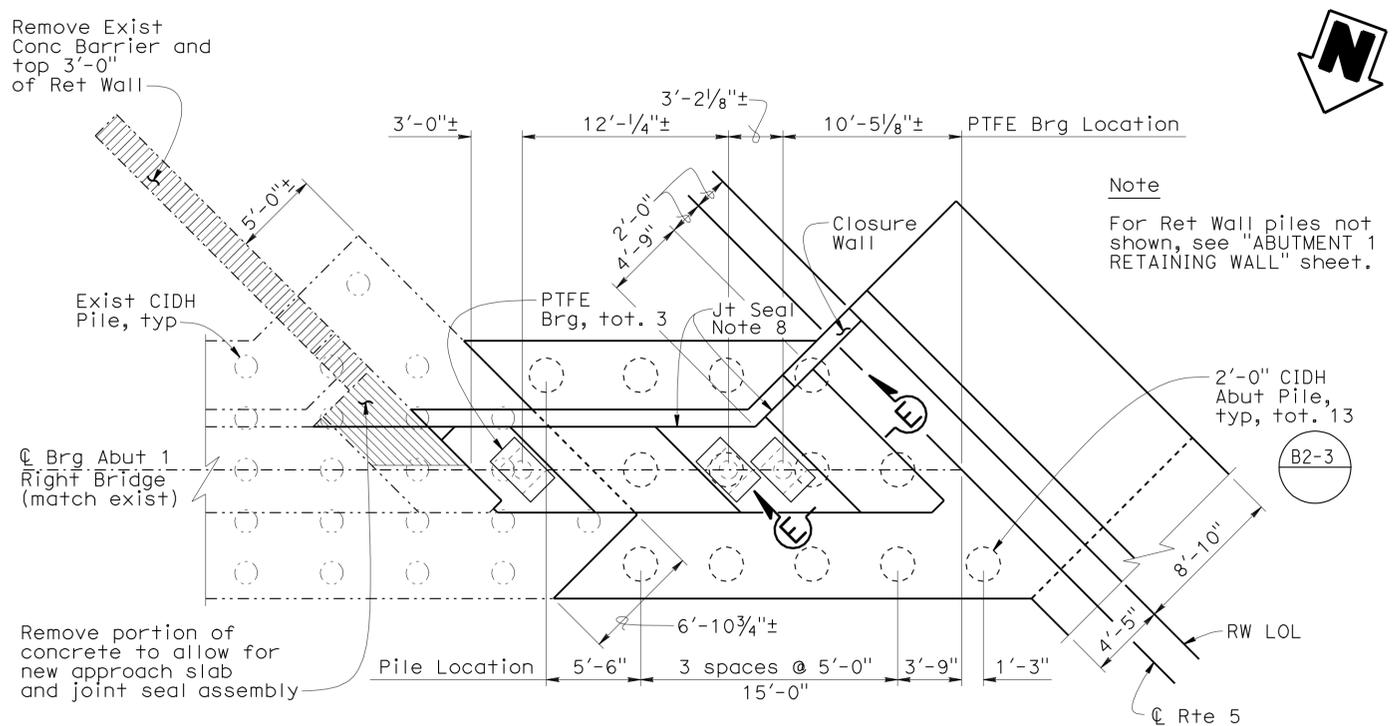
1499.0 DENOTES BOTTOM OF FOOTING ELEVATION

PRELIMINARY INVESTIGATION SECTION				DESIGN BY RICHARD SCHENDEL	CHECKED ZIHAN YAN	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53-2790R/L	GAVIN CANYON UC (WIDEN) FOUNDATION PLAN NO. 2
SCALE 1:20	VERT. DATUM NAVD 88	PHOTOGRAMMETRY AS OF: X	DETAILS BY RICHARD SCHENDEL	CHECKED ZIHAN YAN	POST MILE 47.9				
ALIGNMENT TIES X	HORIZ. DATUM NAD 83(1991.351)	SURVEYED BY T. PHUNG 4/10	CHECKED BY T. PHUNG 04/10	CHECKED ZIHAN YAN	REVISION DATES				
STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 10/25/05)				QUANTITIES BY DAVID P. MURRAY / RS	CHECKED PREM RIMAL / ZY	CU 07	EA 2332A	DISREGARD PRINTS BEARING EARLIER REVISION DATES	SHEET 5 OF 38

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

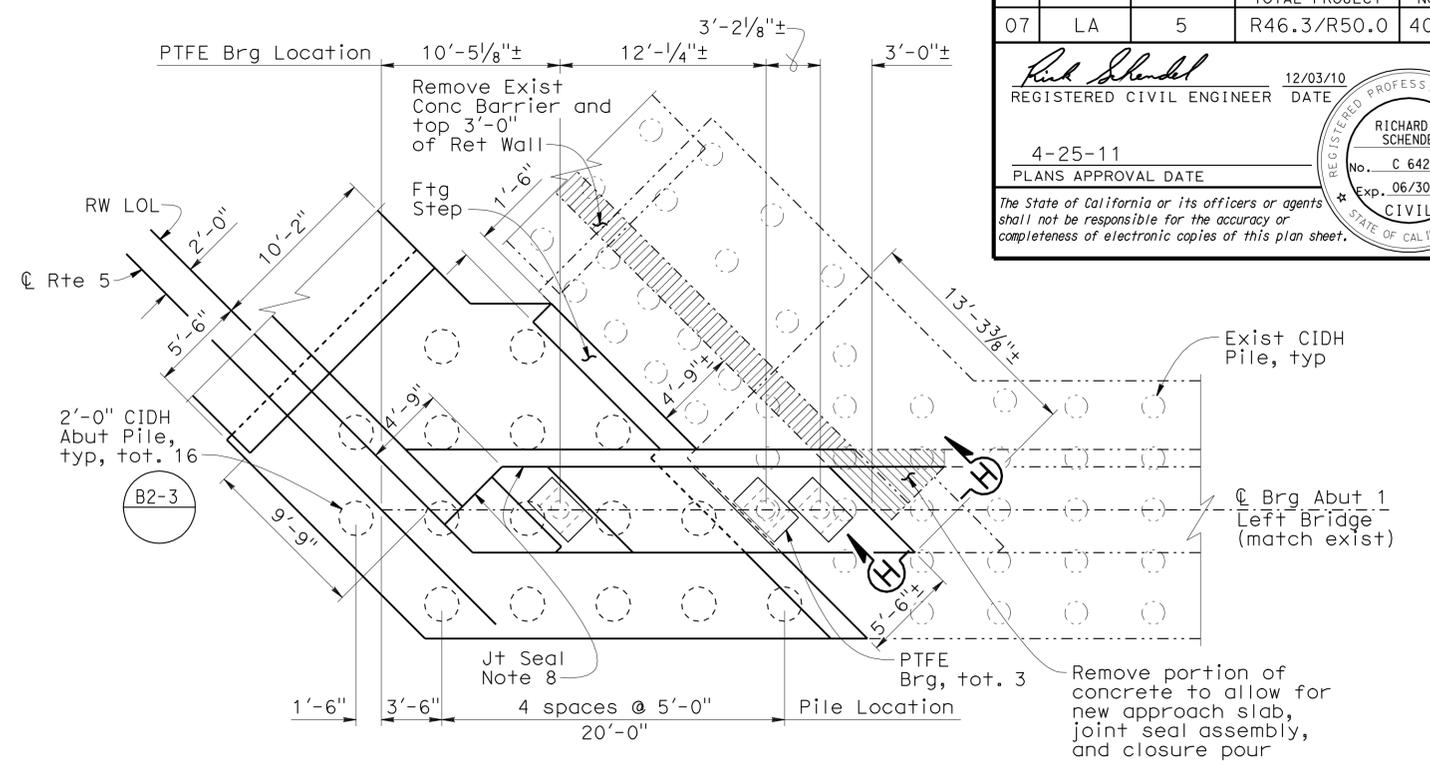
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	404	456
<i>Richard Schendel</i> REGISTERED CIVIL ENGINEER DATE 12/03/10			RICHARD E. SCHENDEL No. C 64259 Exp. 06/30/11 CIVIL STATE OF CALIFORNIA		
4-25-11 PLANS APPROVAL DATE					
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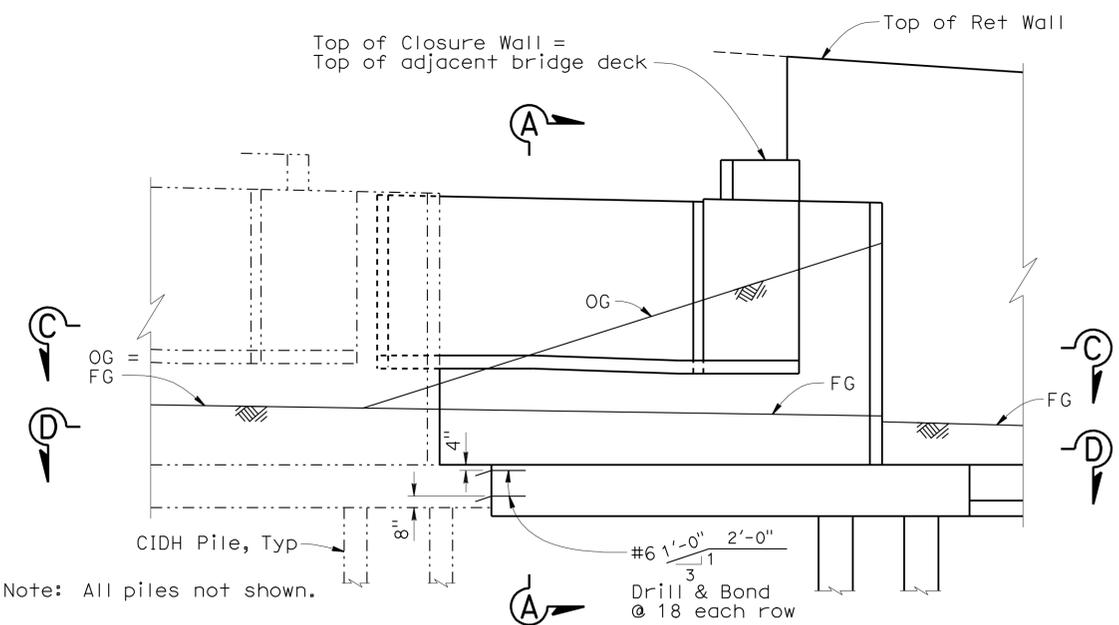
PLAN - ABUTMENT 1 RIGHT BRIDGE

3/16" = 1'-0"



PLAN - ABUTMENT 1 LEFT BRIDGE

3/16" = 1'-0"

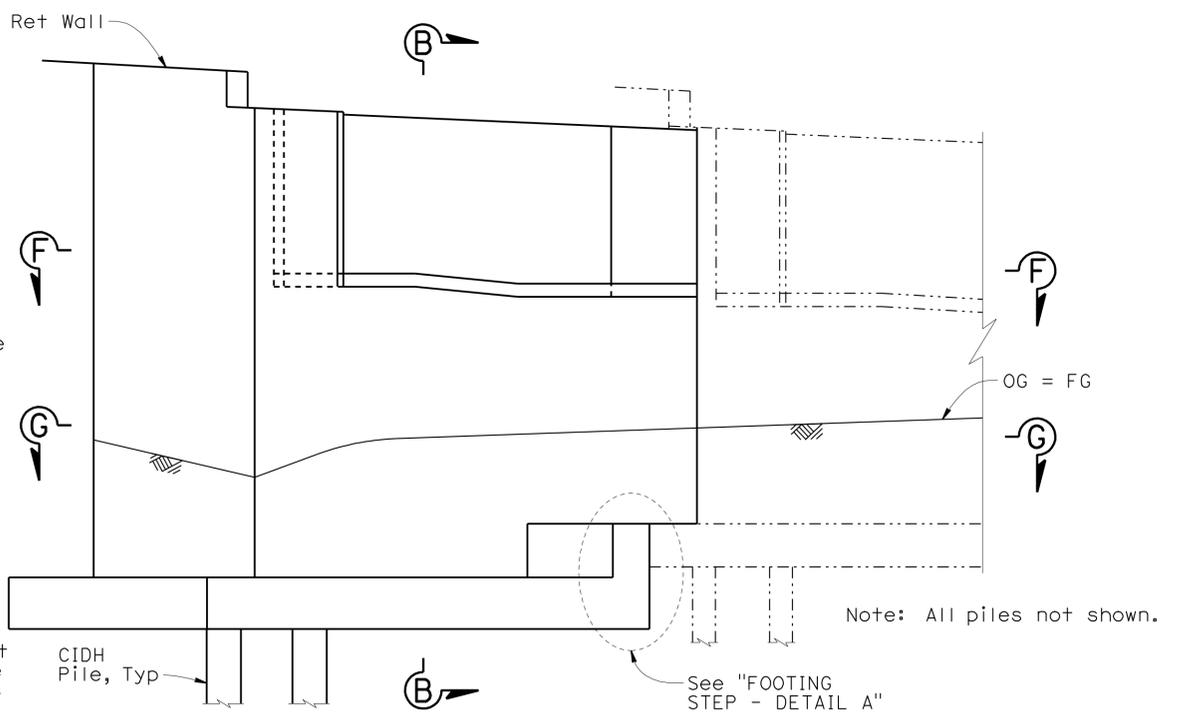


ELEVATION - ABUTMENT 1 RIGHT BRIDGE

3/16" = 1'-0"

NOTES

1. For SECTIONS "A-A" and "B-B", see "ABUTMENT DETAILS NO. 1" sheet.
2. For SECTIONS "C-C", "D-D", and "E-E", see "ABUTMENT DETAILS NO. 2" sheet.
3. For SECTIONS "F-F", "G-G", and "H-H", see "ABUTMENT DETAILS NO. 3" sheet.
4. For "FOOTING STEP - DETAIL A", see "ABUTMENT DETAILS NO. 5" sheet.
5. For PTFE Brg details, see "ABUTMENT BEARING DETAILS" sheet.
6. All Drill and Bond Dowels not shown.
7. Roughen existing surface at interface of new and existing concrete.
8. Match exist Watson Bowman Wabo STM1200 with Watson Bowman Wabo BETA1200 joint seal. Replace exist neoprene seals with cont neoprene seals in new and exist (no splices allowed). Jt seal angle change at widen side of bridge shown, other side similar.



ELEVATION - ABUTMENT 1 LEFT BRIDGE

3/16" = 1'-0"

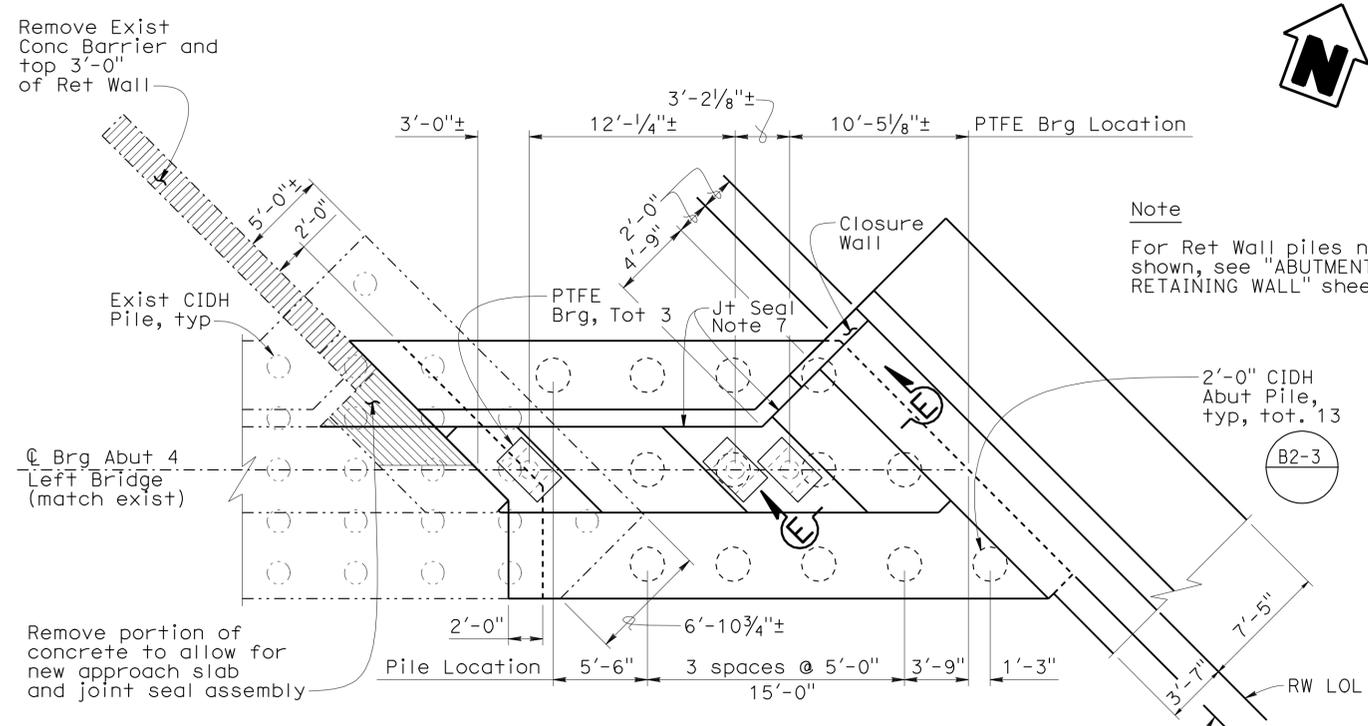
NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY RICHARD SCHENDEL	CHECKED ZIHAN YAN	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO.	53-2790R/L	GAVIN CANYON UC (WIDEN) ABUTMENT 1 LAYOUT
	DETAILS	BY MINH TRAN	CHECKED ZIHAN YAN			POST MILE	47.9	
	QUANTITIES	BY DAVID P. MURRAY / RS	CHECKED RUPERD WILSON / ZY			REVISION DATES	05/28/10 08/27/10 11/22/10	
			ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3	CU 07 EA 2332A1	DISREGARD PRINTS BEARING EARLIER REVISION DATES		SHEET 6 OF 38

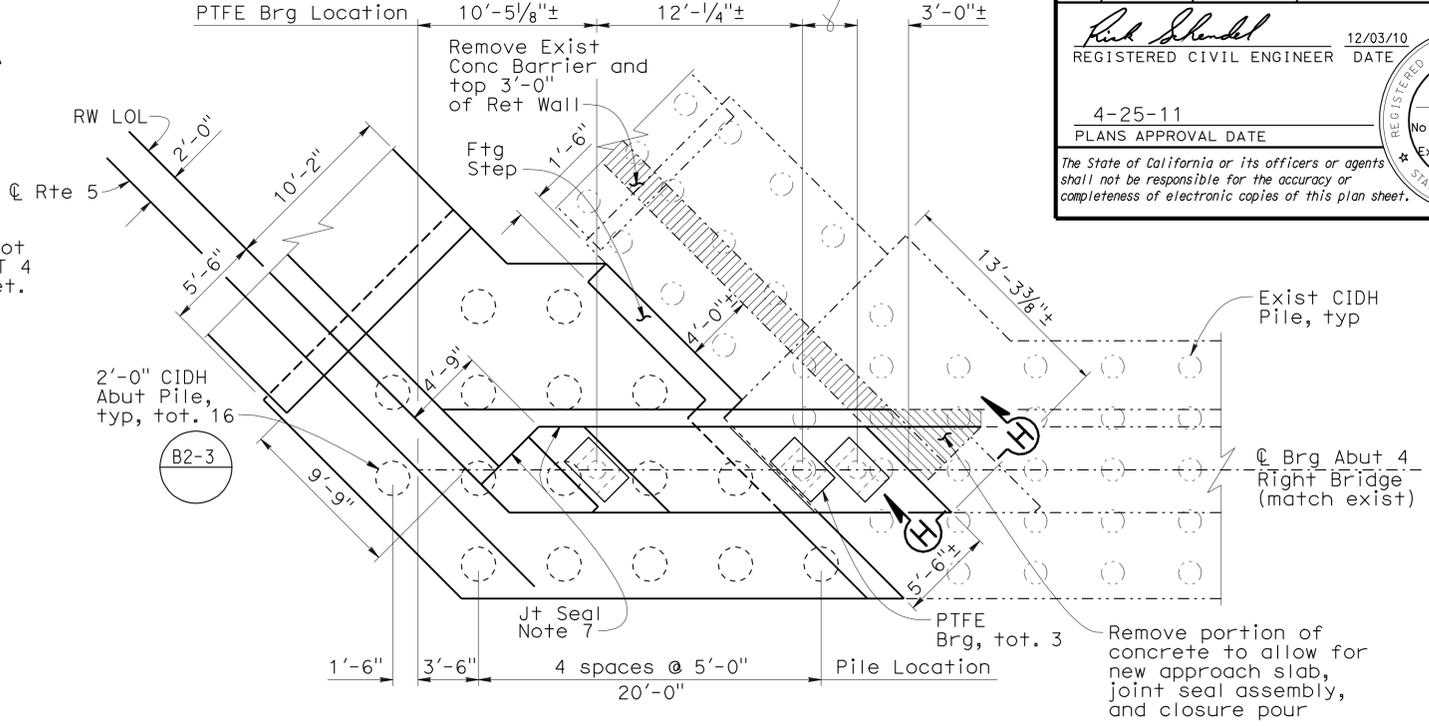
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	405	456

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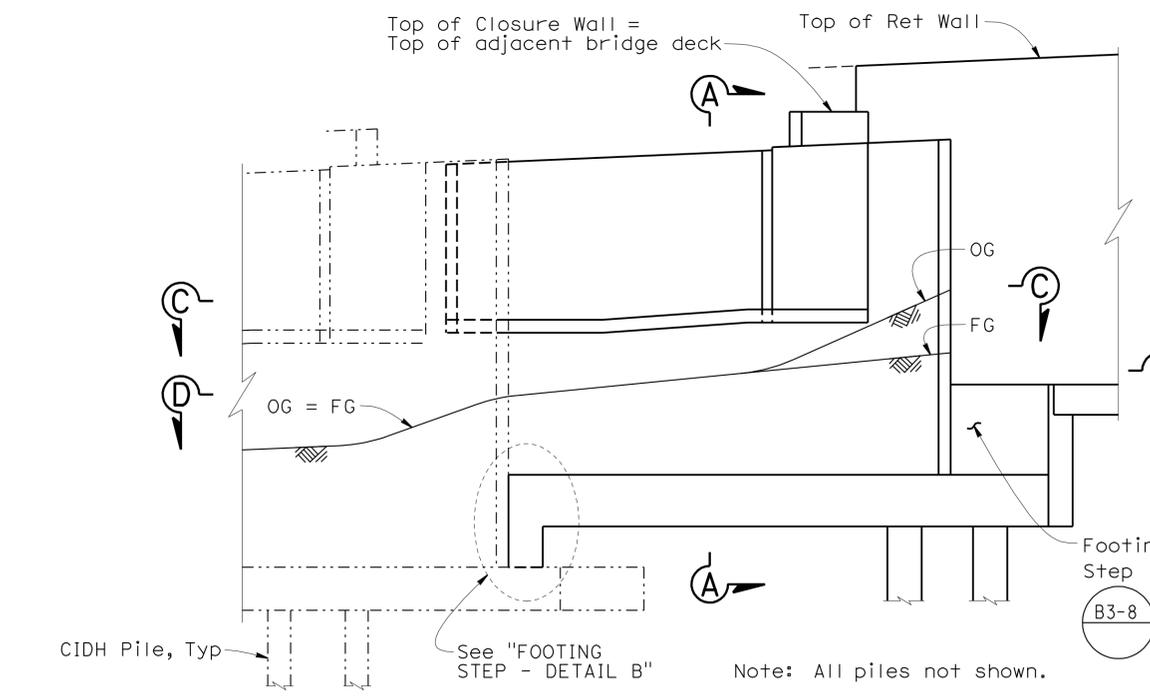
PLAN - ABUTMENT 4 LEFT BRIDGE
 3/16" = 1'-0"



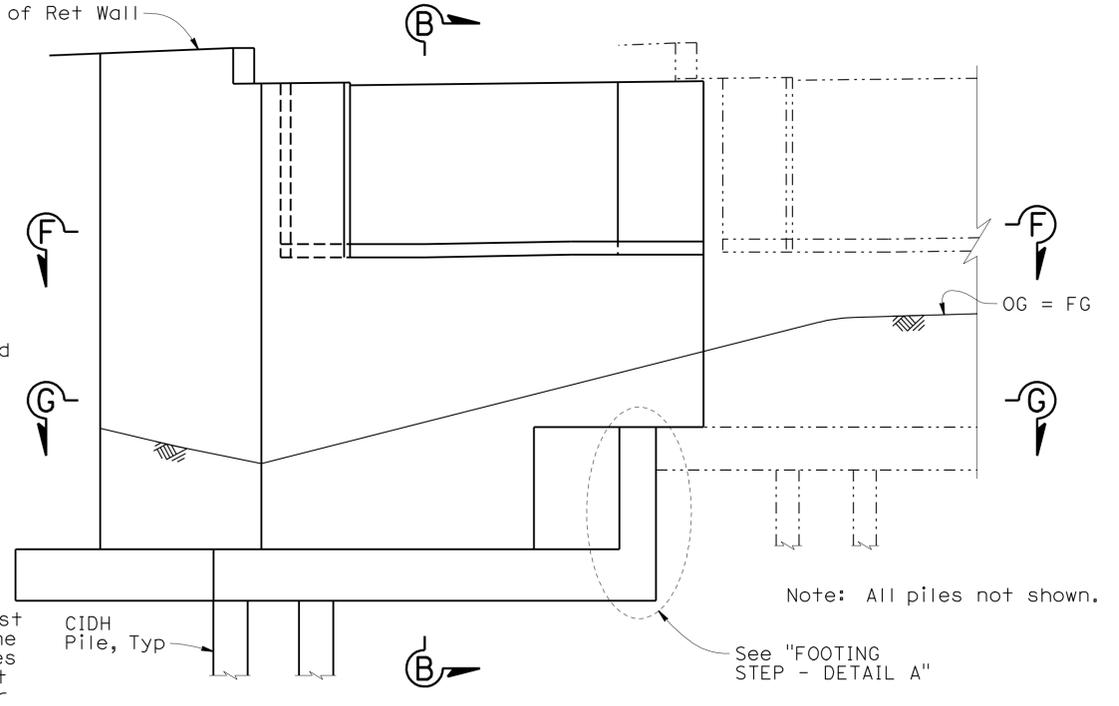
PLAN - ABUTMENT 4 RIGHT BRIDGE
 3/16" = 1'-0"

NOTES

1. For SECTIONS "A-A" and "B-B", see "ABUTMENT DETAILS NO. 1" sheet.
2. For SECTIONS "C-C", "D-D", and "E-E", see "ABUTMENT DETAILS NO. 2" sheet.
3. For SECTIONS "F-F", "G-G", and "H-H", see "ABUTMENT DETAILS NO. 3" sheet.
4. For "FOOTING STEP - DETAIL A" and "FOOTING STEP - DETAIL B", see "ABUTMENT DETAILS NO. 5" sheet.
5. For PTFE Brg details, see "ABUTMENT BEARING DETAILS" sheet.
6. Roughen existing surface at interface of new and existing concrete.
7. Match exist Watson Bowman Wabo STM1200 with Watson Bowman Wabo BETA1200 joint seal. Replace exist neoprene seals with cont neoprene seals in new and exist (no splices allowed). Jt seal angle change at widen side of bridge shown, other side similar.



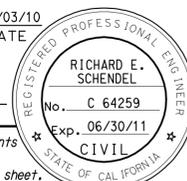
ELEVATION - ABUTMENT 4 LEFT BRIDGE
 3/16" = 1'-0"

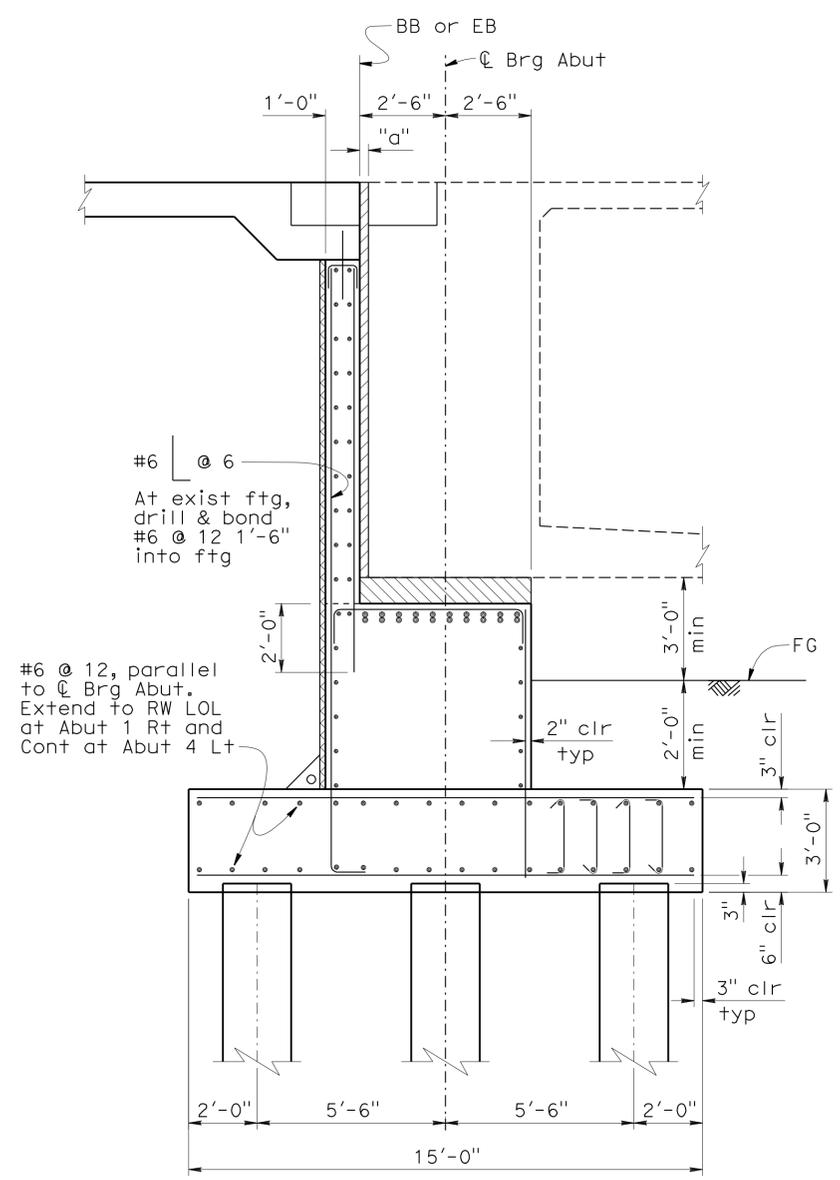


ELEVATION - ABUTMENT 4 RIGHT BRIDGE
 3/16" = 1'-0"

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

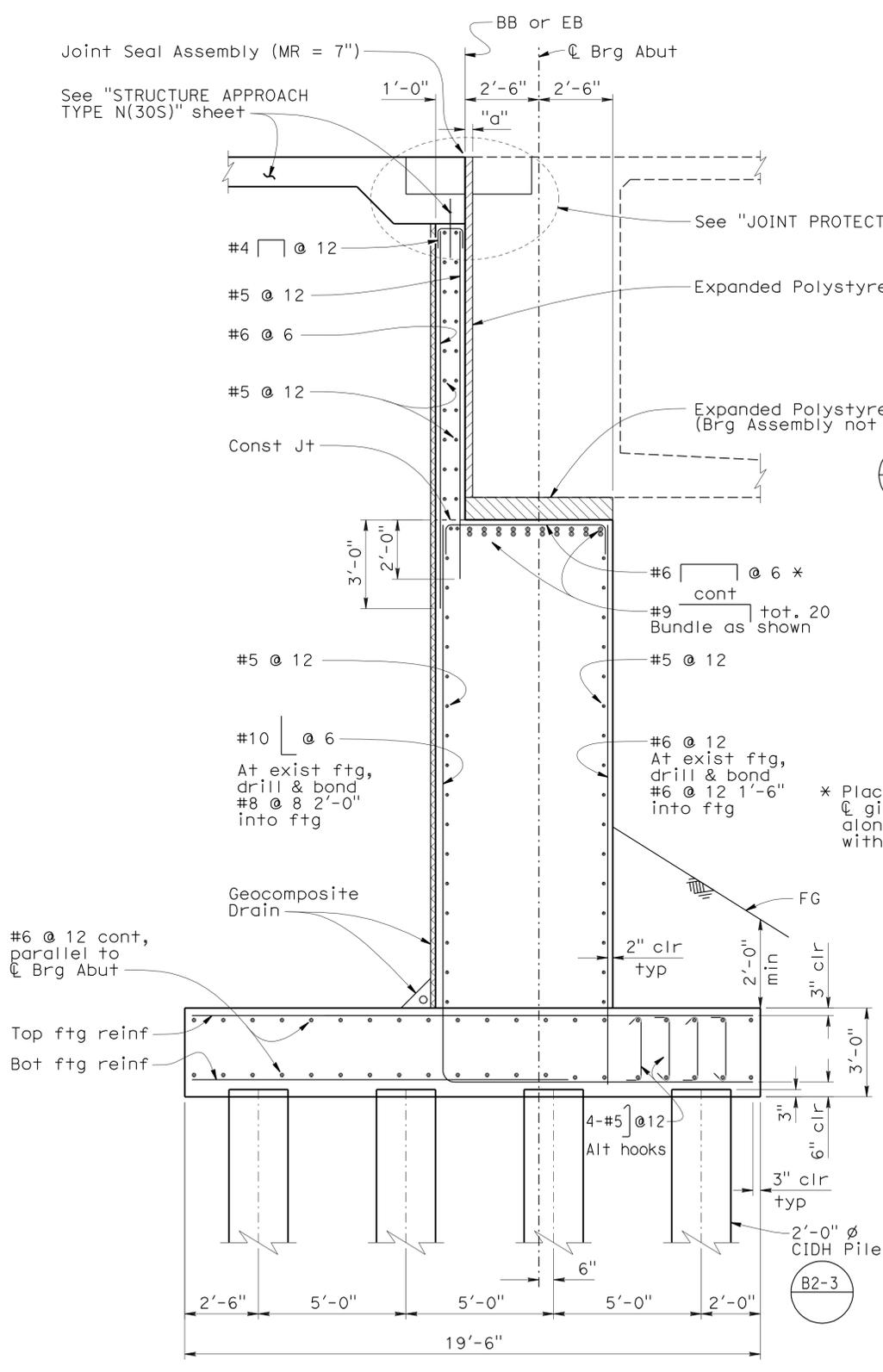
DESIGN	BY RICHARD SCHENDEL	CHECKED ZIHAN YAN	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO.	GAVIN CANYON UC (WIDEN) ABUTMENT 4 LAYOUT	
DETAILS	BY FARIDEH HOSSEINIOUN	CHECKED ZIHAN YAN			53-2790R/L		
QUANTITIES	BY DAVID P. MURRAY / RS	CHECKED RUPERD WILSON / ZY			POST MILE		47.9
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)			ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU 07 EA 2332A1	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 7 OF 38

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	406	456
 REGISTERED CIVIL ENGINEER DATE 12/03/10					
4-25-11 PLANS APPROVAL DATE					
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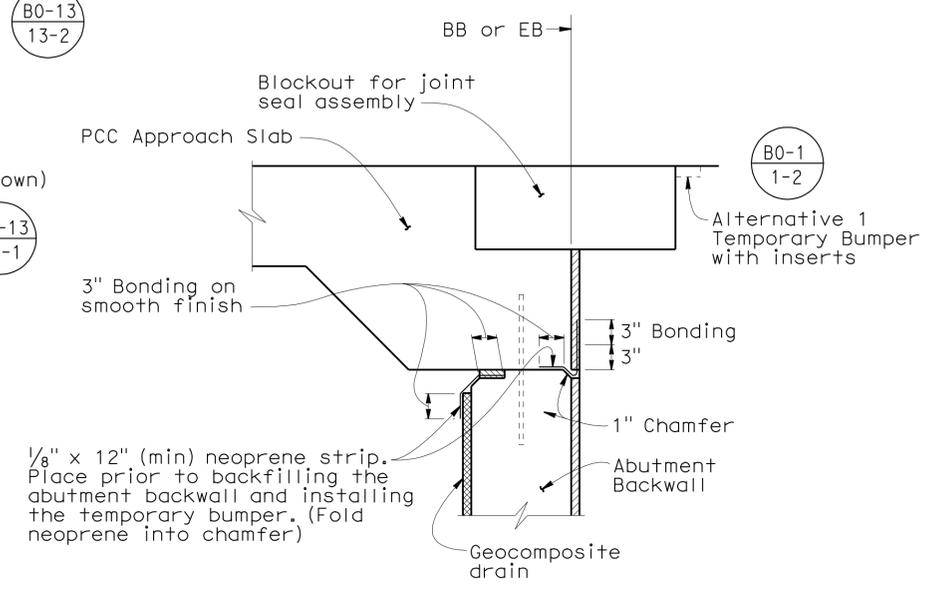


SECTION A-A
3/8" = 1'-0"

Note: For details shown but not noted, see "SECTION B-B".



SECTION B-B
3/8" = 1'-0"



JOINT PROTECTION DETAIL
No Scale

NOTES

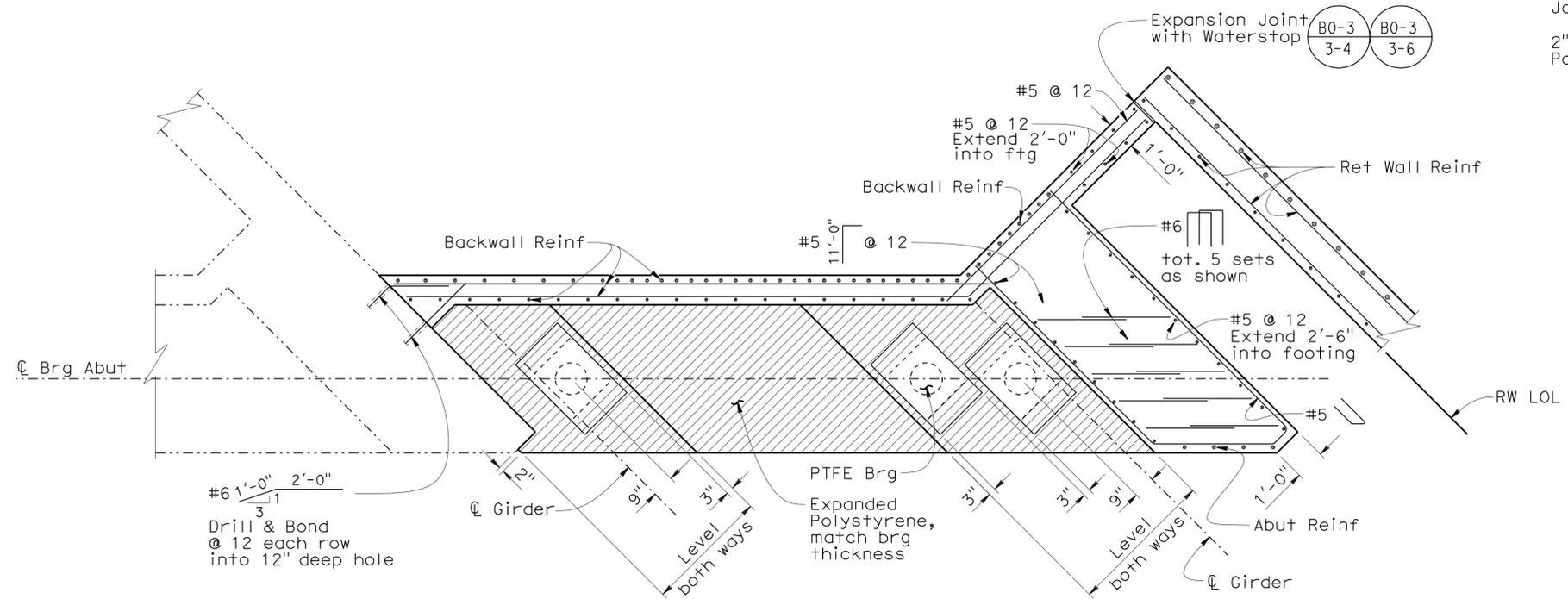
1. For Geocomposite Drain details, see "STRUCTURE APPROACH DRAINAGE DETAILS" sheet.
2. For top and bottom footing reinforcement, see "ABUTMENT DETAILS NO. 4" and "ABUTMENT DETAILS NO. 5" sheet.
3. For "a" dimension, see "ABUTMENT JOINT SEAL DETAILS" sheet.
4. Sections of Abutment 1 shown, sections of Abutment 4 similar.

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	DESIGN	BY RICHARD SCHENDEL	CHECKED ZIHAN YAN	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO.	53-2790R/L	GAVIN CANYON UC (WIDEN) ABUTMENT DETAILS NO. 1			
	DETAILS	BY RICHARD SCHENDEL	CHECKED ZIHAN YAN			POST MILE	47.9				
	QUANTITIES	BY DAVID P. MURRAY / RS	CHECKED RUPERD WILSON / ZY			CU 07 EA 2332A1	REVISION DATES		04/11/10 06/24/10 08/31/10		
FILE => 53-2790r1-f-adt01.dgn								SHEET	8	OF	38

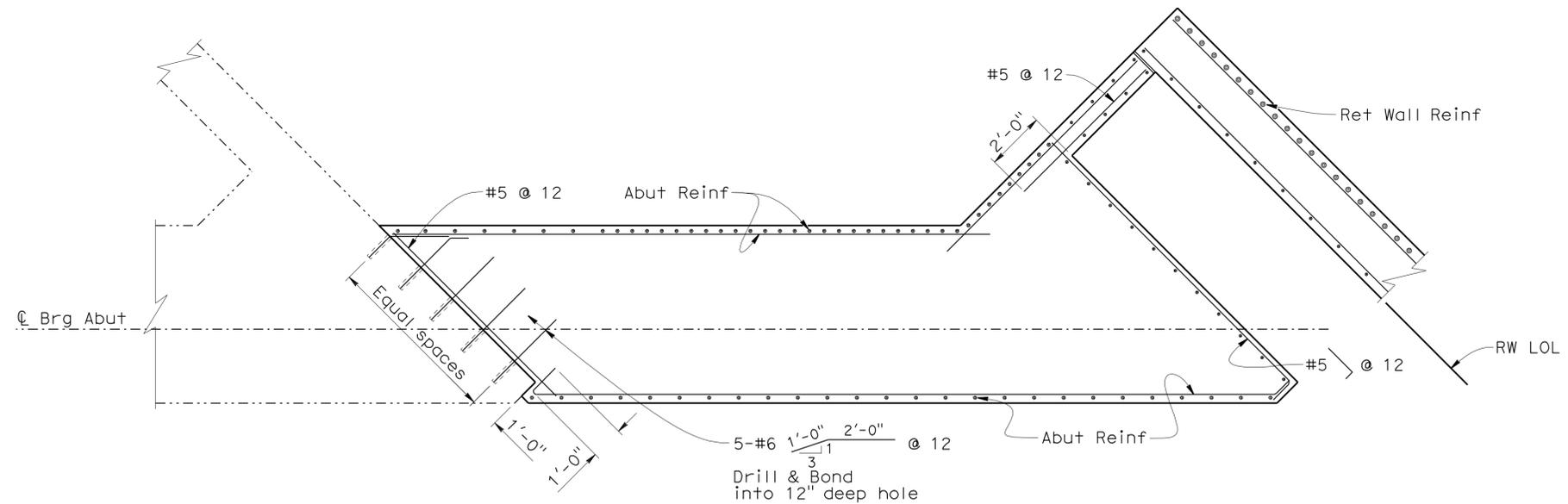
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	407	456

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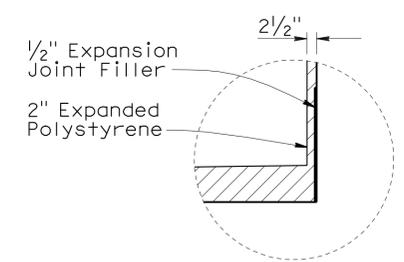


SECTION C-C
3/8" = 1'-0"

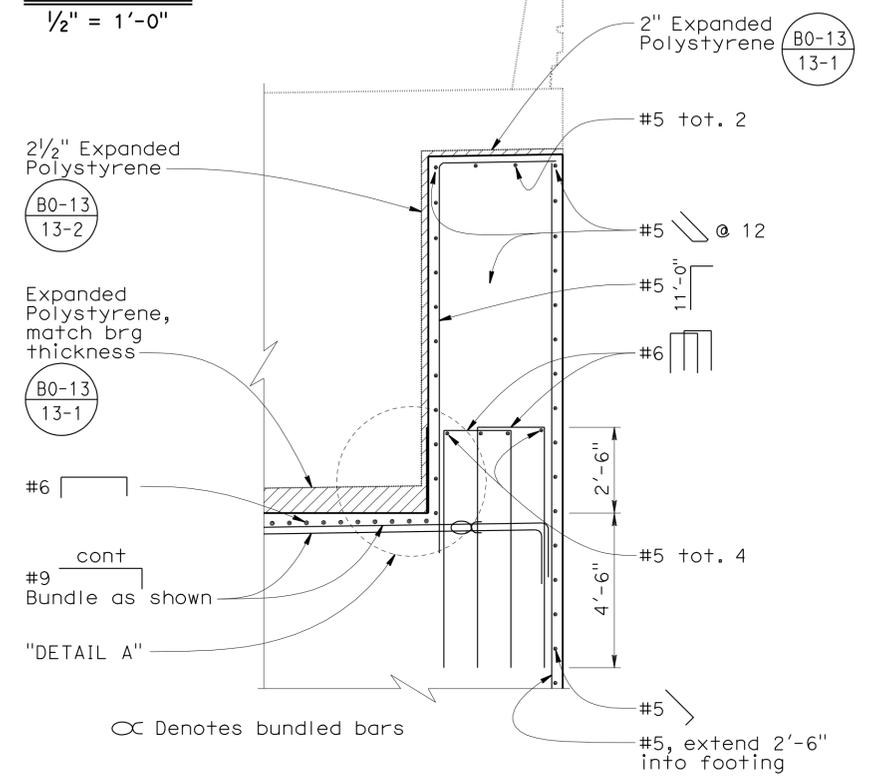


SECTION D-D
3/8" = 1'-0"

Note: For details shown but not noted, see "SECTION C-C".



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



SECTION E-E
3/8" = 1'-0"

Note: Abut 1 Right Bridge shown, other locations similar.

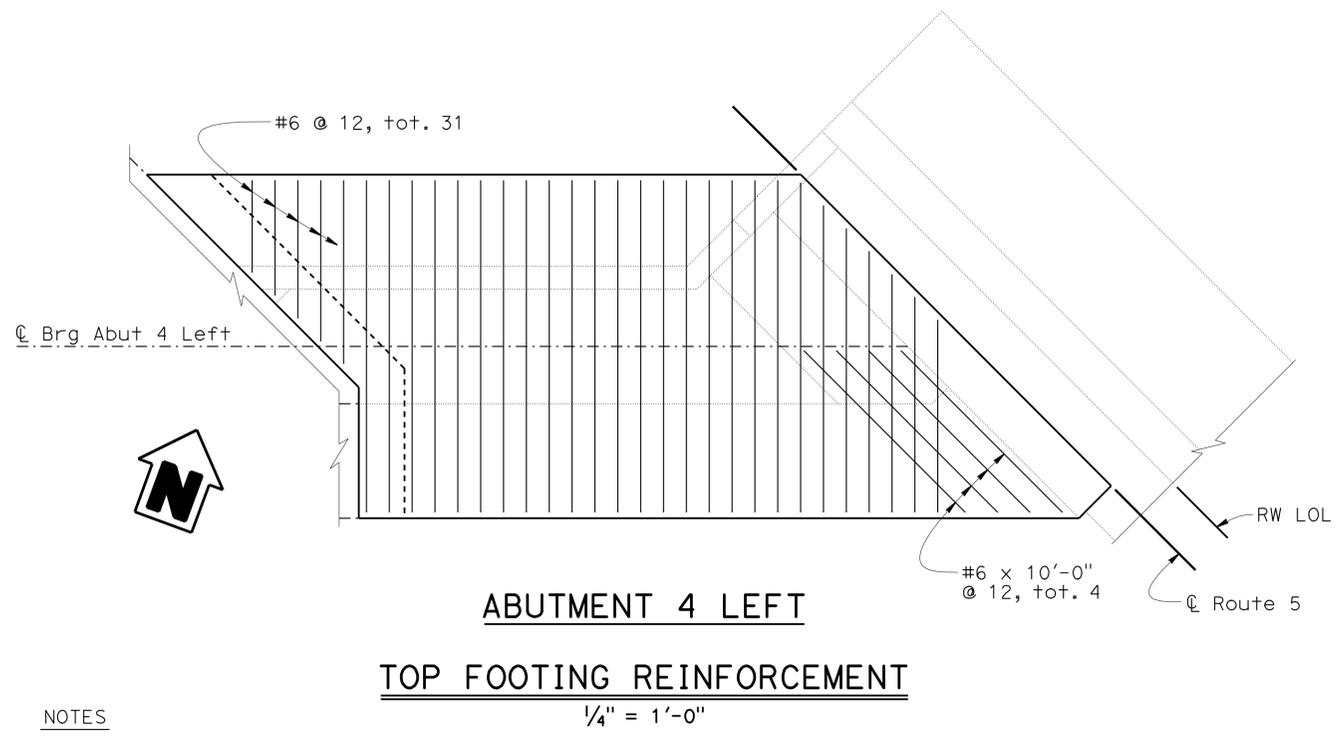
NOTES

1. For Backwall Reinf and Abut Reinf, see SECTIONS "A-A" and "B-B" ON "ABUTMENT DETAILS NO. 1" sheet.
2. For Ret Wall Reinf, see Standard Plan B3-1.

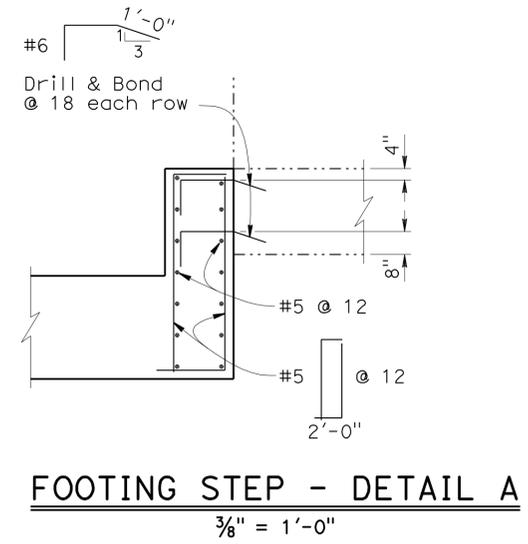
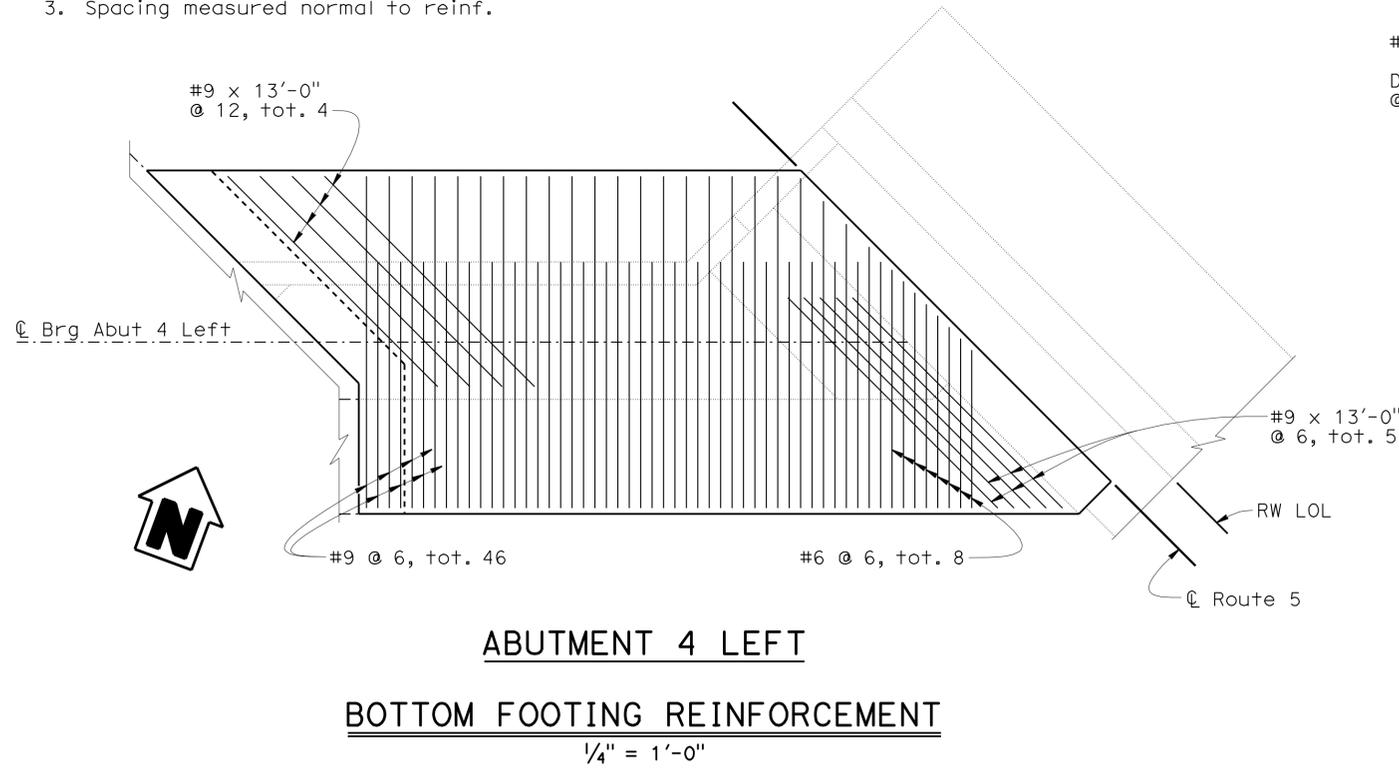
DESIGN	BY RICHARD SCHENDEL	CHECKED ZIHAN YAN	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53-2790R/L	GAVIN CANYON UC (WIDEN) ABUTMENT DETAILS NO. 2
	DETAILS	BY RICHARD SCHENDEL			CHECKED ZIHAN YAN	
QUANTITIES	BY DAVID P. MURRAY	CHECKED RUPERD WILSON	CU 07 EA 2332A1	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 9 OF 38

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	410	456

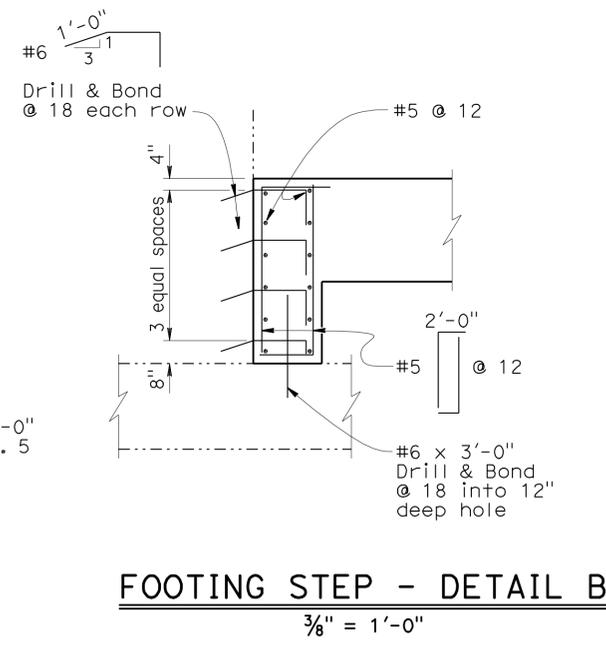
Richard E. Schendel
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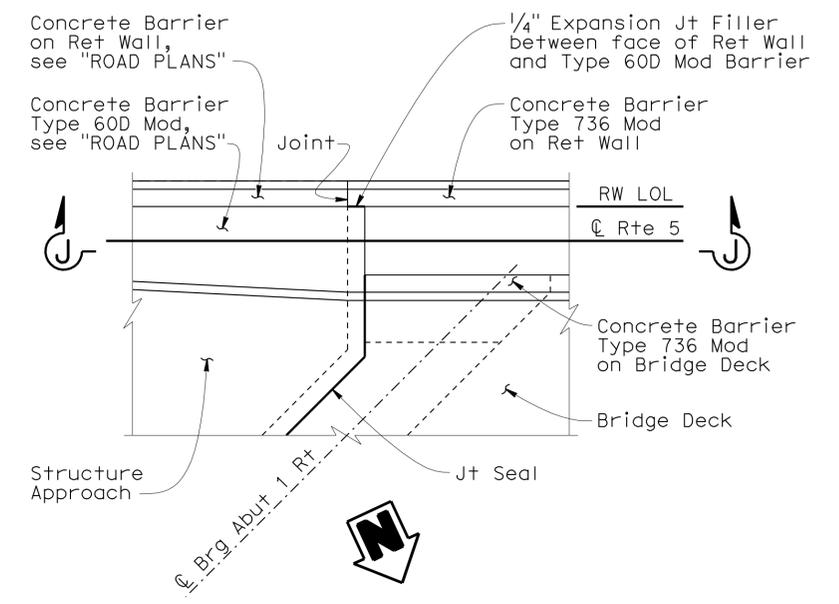
- NOTES
1. Reinf to be placed as shown.
 2. All footing reinf not shown.
 3. Spacing measured normal to reinf.



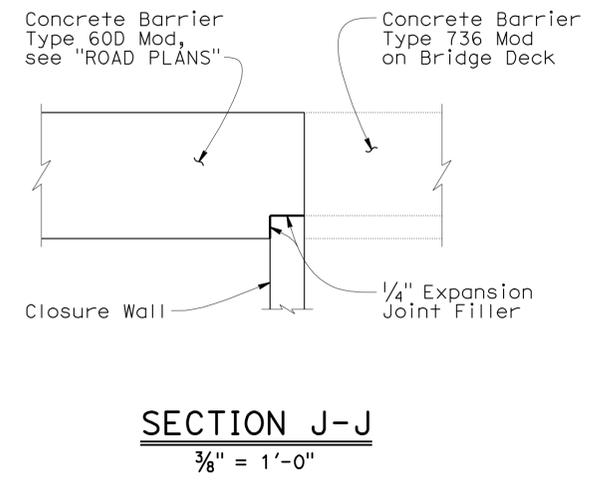
- NOTES
1. Abut 1 Left Bridge shown, Abut 4 Right Bridge similar.
 2. All reinf not shown.



- NOTES
1. All reinf not shown.
 2. Omit drill and bond dowels over footing toe.



Note: Abut 1 Rt shown, Abut 4 Lt similar.



DESIGN	BY RICHARD SCENDEL	CHECKED ZIHAN YAN
DETAILS	BY RICHARD SCENDEL	CHECKED ZIHAN YAN
QUANTITIES	BY DAVID P. MURRAY	CHECKED RUPERT WILSON

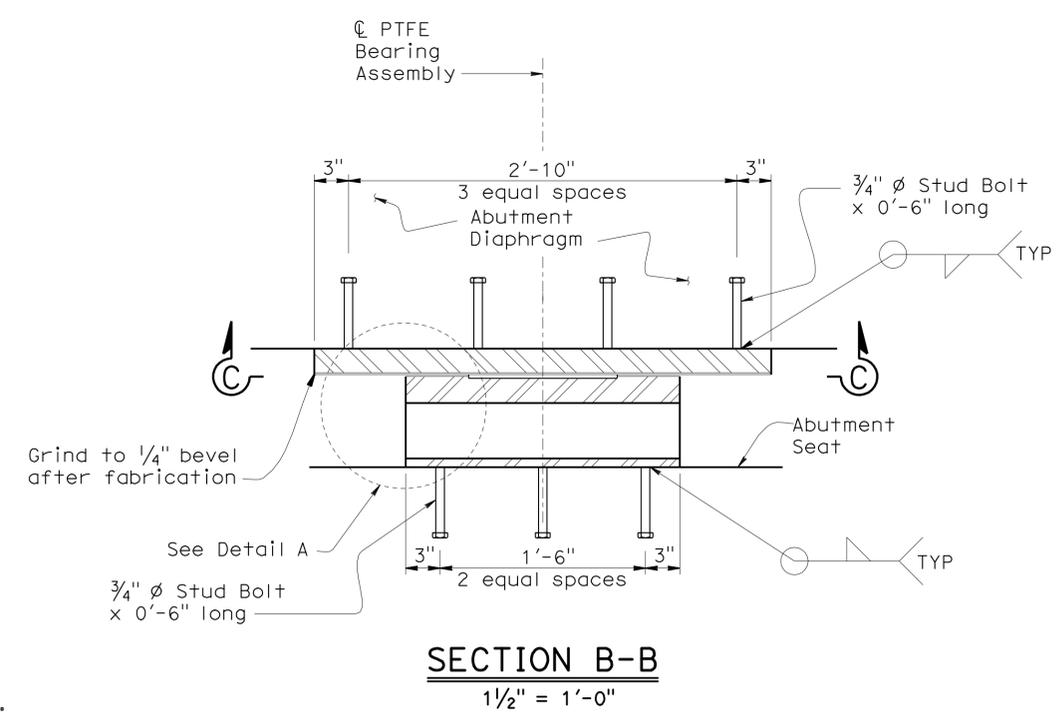
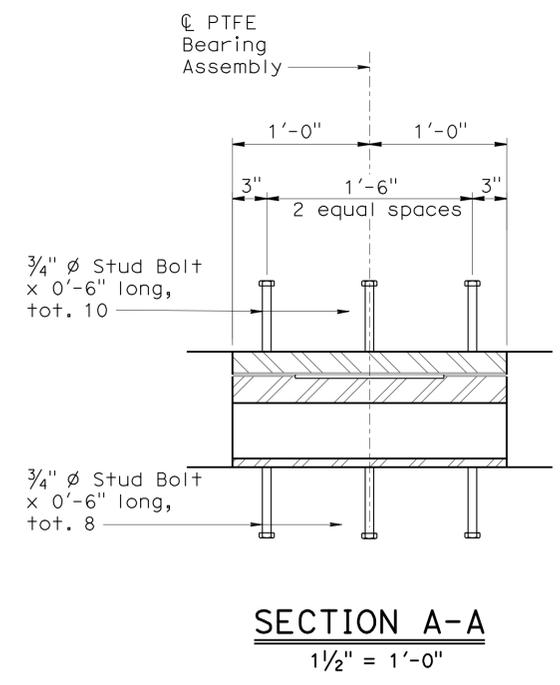
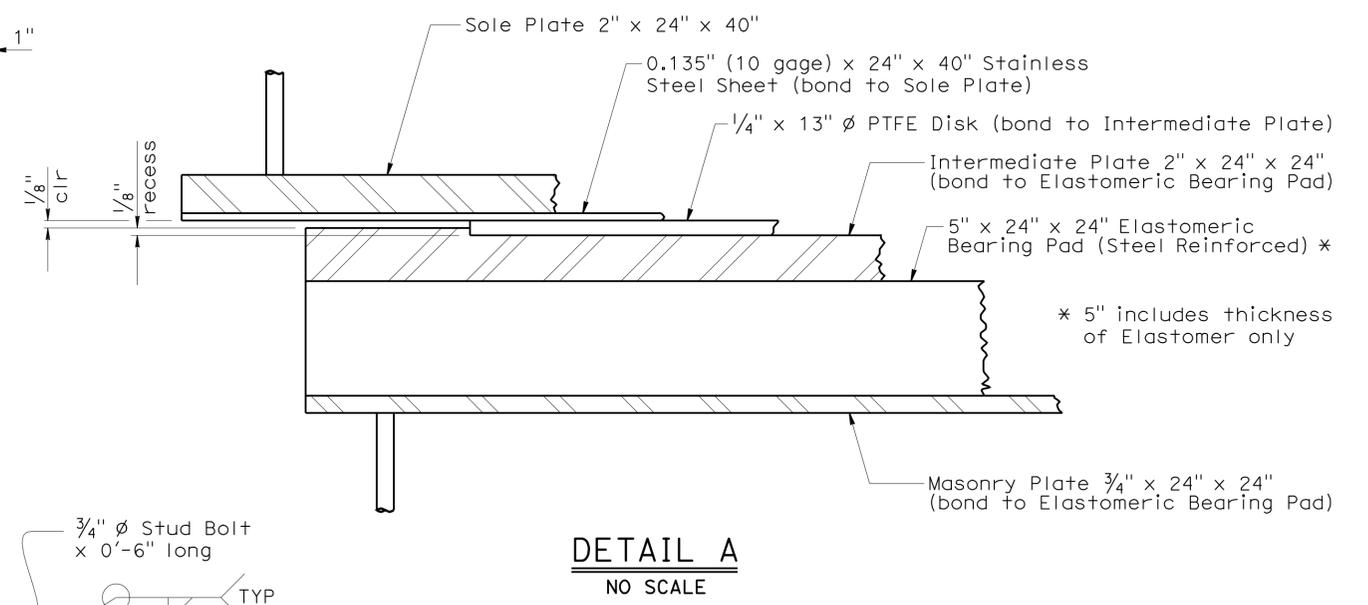
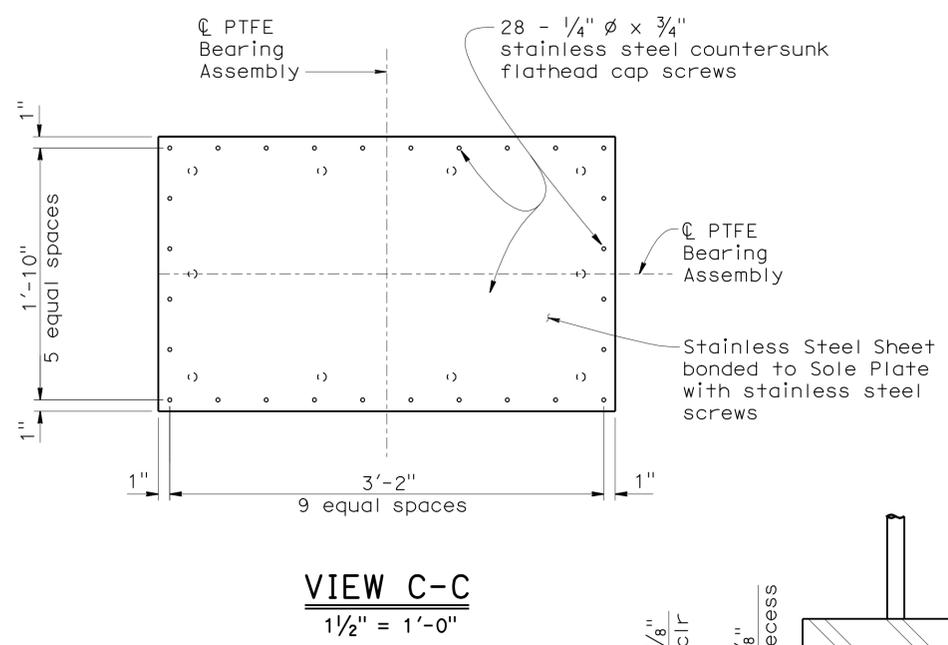
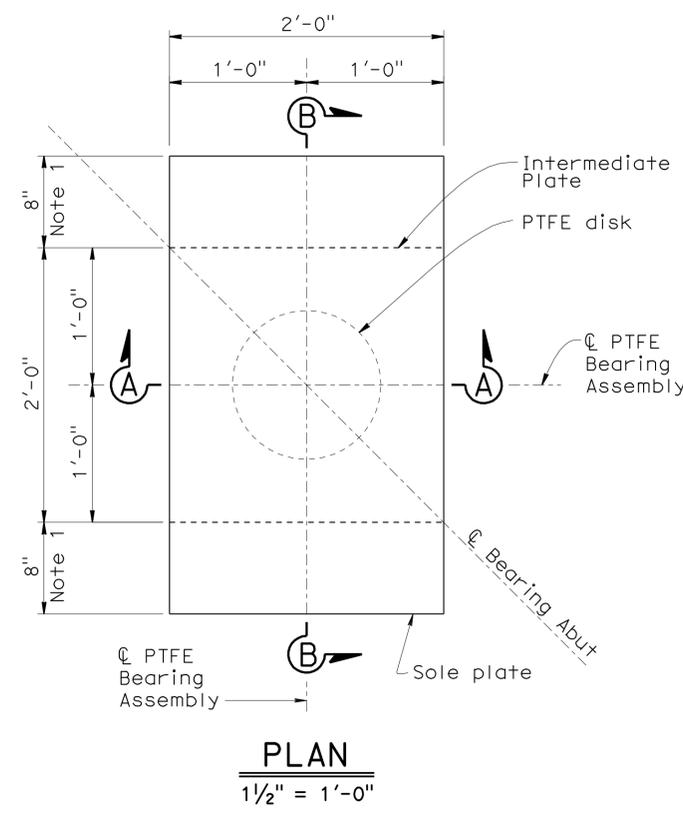
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO.	53-2790R/L	GAVIN CANYON UC (WIDEN)
POST MILE	47.9	
ABUTMENT DETAILS NO. 5		

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	411	456

Richard E. Schendel
 REGISTERED CIVIL ENGINEER DATE 12/03/10
 4-25-11
 PLANS APPROVAL DATE
 No. C 64259
 Exp. 06/30/11
 CIVIL
 STATE OF CALIFORNIA
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NOTES

1. The position of the Sole Plate with respect to the Intermediate Plate is shown after the anticipated prestress shortening has occurred. The Sole Plate position shall be adjusted at the time of construction to account for 4" of anticipated prestress shortening.
2. To provide for free movement of the completed bridge, concrete is to be excluded between the junction of the expanded polystyrene and bearing by sealing the joint.
3. The maximum vertical design load on the bearing is 450 kips. The minimum vertical design dead load on the bearing is 225 kips.

Note: For details shown but not noted, see "SECTION B-B".

DESIGN	BY RICHARD SCHENDEL	CHECKED ZIHAN YAN	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO.	GAVIN CANYON UC (WIDEN) ABUTMENT BEARING DETAILS
	DETAILS BY FARIDEH HOSSEINIOUN	CHECKED ZIHAN YAN			53-2790R/L	
	QUANTITIES BY RICHARD SCHENDEL	CHECKED ZIHAN YAN			POST MILE 47.9	
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)				CU 07 EA 2332A1	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				0 1 2 3	04-28-10 09/22/10	SHEET 13 OF 38

USERNAME => hrcgool DATE PLOTTED => 26-APR-2011 TIME PLOTTED => 11:07

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	412	456

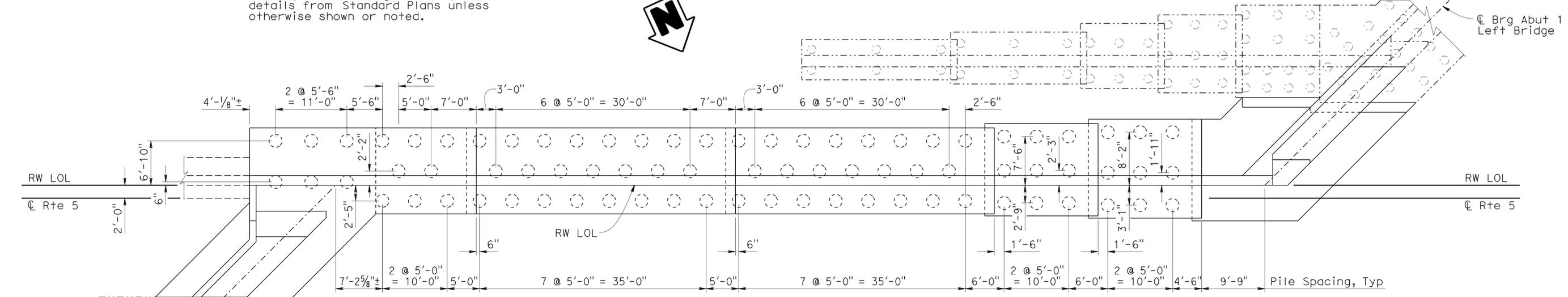
Richard E. Schendel
 REGISTERED CIVIL ENGINEER DATE 12/03/10
 4-25-11
 PLANS APPROVAL DATE
 No. C 64259
 Exp. 06/30/11
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NOTES

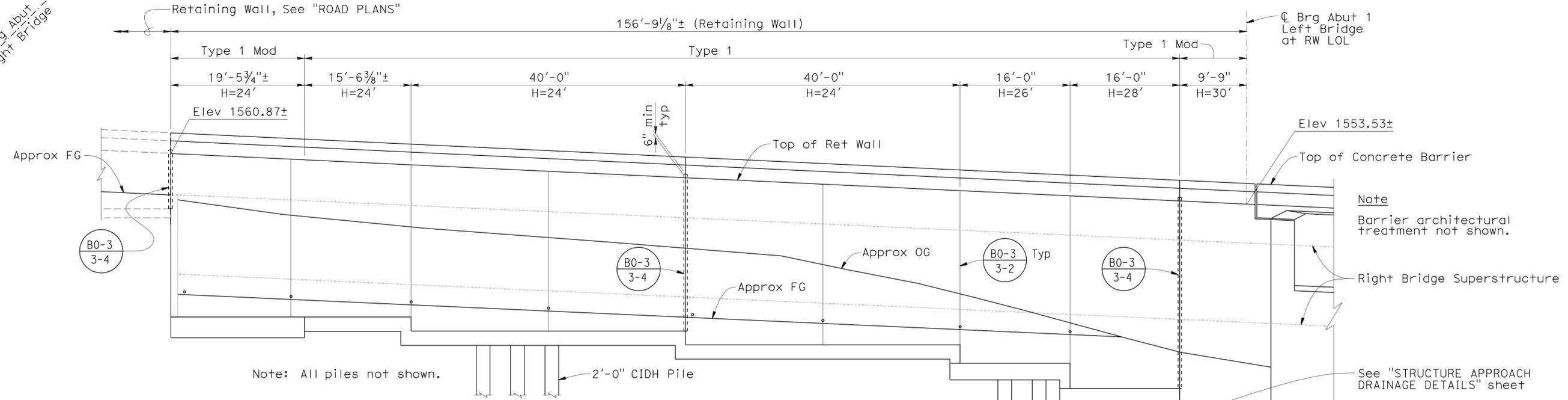
1. For "TYPICAL RETAINING WALL SECTION", see "RETAINING WALL DETAILS" sheet.
2. For new Abut piles not shown, see "ABUTMENT 1 LAYOUT" sheet.
3. For Type 1 Retaining Wall Mod, use details from Standard Plans unless otherwise shown or noted.

LEGEND

- Denotes Exist 1'-4" ∅ CIDH Pile
- ⊙ Denotes New 2'-0" ∅ CIDH Pile (B2-3)



PLAN
 1/8" = 1'-0"



ELEVATION
 1/8" = 1'-0"

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

Note: All piles not shown.

Note
 Barrier architectural treatment not shown.

Right Bridge Superstructure

See "STRUCTURE APPROACH DRAINAGE DETAILS" sheet

DESIGN BY RICHARD SCHEDEL CHECKED ZIHAN YAN	BY RICHARD SCHEDEL CHECKED ZIHAN YAN	CHECKED RUPERD WILSON / ZY	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53-2790R/L	GAVIN CANYON UC (WIDEN) ABUTMENT 1 RETAINING WALL		
					POST MILE 47.9			
					REVISION DATES			
QUANTITIES BY DAVID P. MURRAY / RS					CU 07 EA 2332A1	DISREGARD PRINTS BEARING EARLIER REVISION DATES	03/02/10 04/02/10 08/31/10	SHEET 14 OF 38

USERNAME => frcg001 DATE PLOTTED => 26-APR-2011 TIME PLOTTED => 11:07

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	413	456

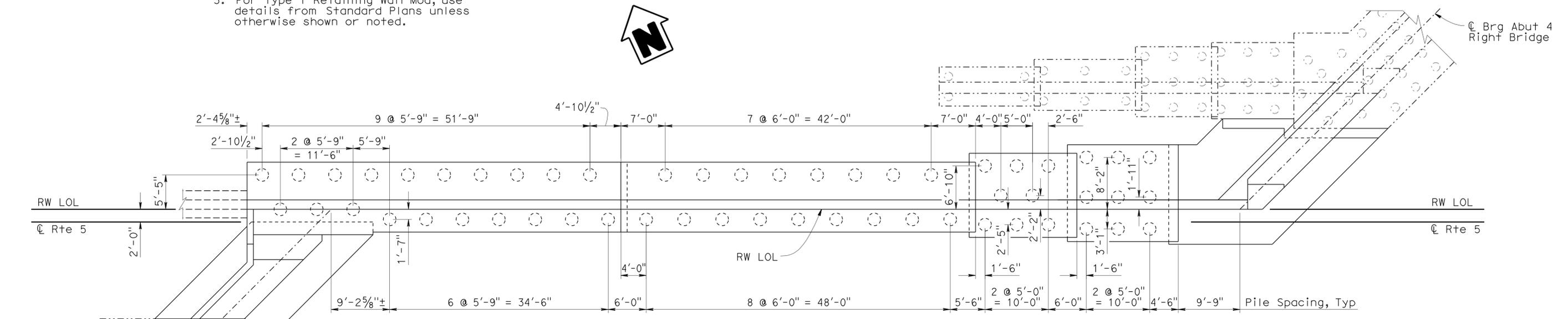
Richard E. Schendel
 REGISTERED CIVIL ENGINEER DATE 12/03/10
 4-25-11
 PLANS APPROVAL DATE
 No. C 64259
 Exp. 06/30/11
 CIVIL
 STATE OF CALIFORNIA
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NOTES

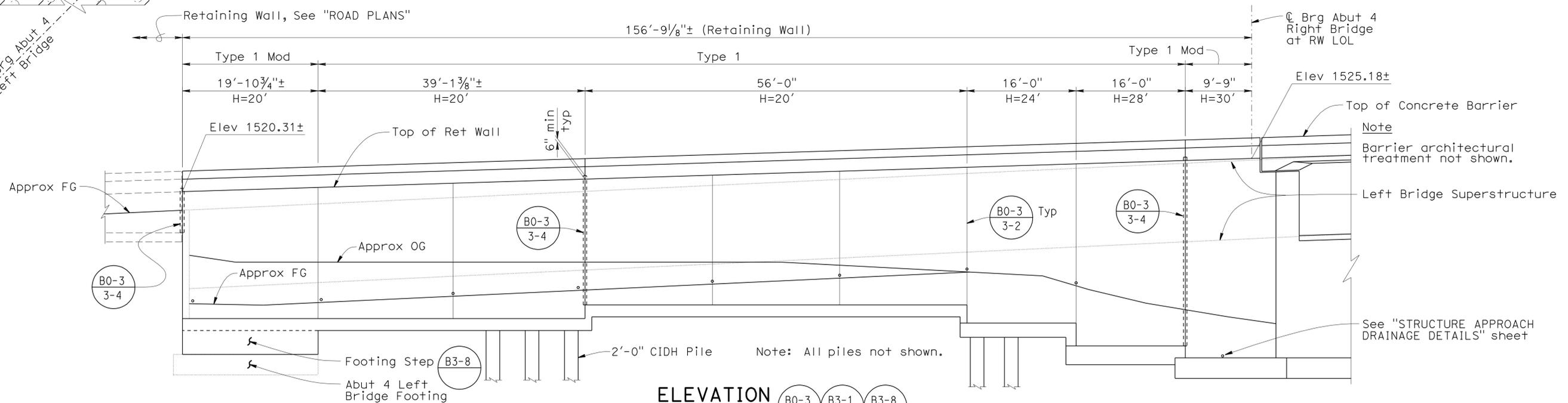
1. For "TYPICAL RETAINING WALL SECTION", see "RETAINING WALL DETAILS" sheet.
2. For new Abut piles not shown, see "ABUTMENT 4 LAYOUT" sheet.
3. For Type 1 Retaining Wall Mod, use details from Standard Plans unless otherwise shown or noted.

LEGEND

- Denotes Exist 1'-4" ∅ CIDH Pile
- ⊙ Denotes New 2'-0" ∅ CIDH Pile (B2-3)



PLAN
 1/8" = 1'-0"



ELEVATION
 1/8" = 1'-0"

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

DESIGN	BY RICHARD SCHEDEL	CHECKED ZIHAN YAN	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53-2790R/L	GAVIN CANYON UC (WIDEN) ABUTMENT 4 RETAINING WALL
	DETAILS BY RICHARD SCHEDEL	CHECKED ZIHAN YAN			POST MILE 47.9	
	QUANTITIES BY DAVID P. MURRAY / RS	CHECKED RUPERD WILSON / ZY			REVISION DATES	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS			CU 07 EA 2332A1	DISREGARD PRINTS BEARING EARLIER REVISION DATES	03/02/10 04/06/10 08/31/10	SHEET 15 OF 38

USERNAME => frcg001 DATE PLOTTED => 26-APR-2011 TIME PLOTTED => 11:08

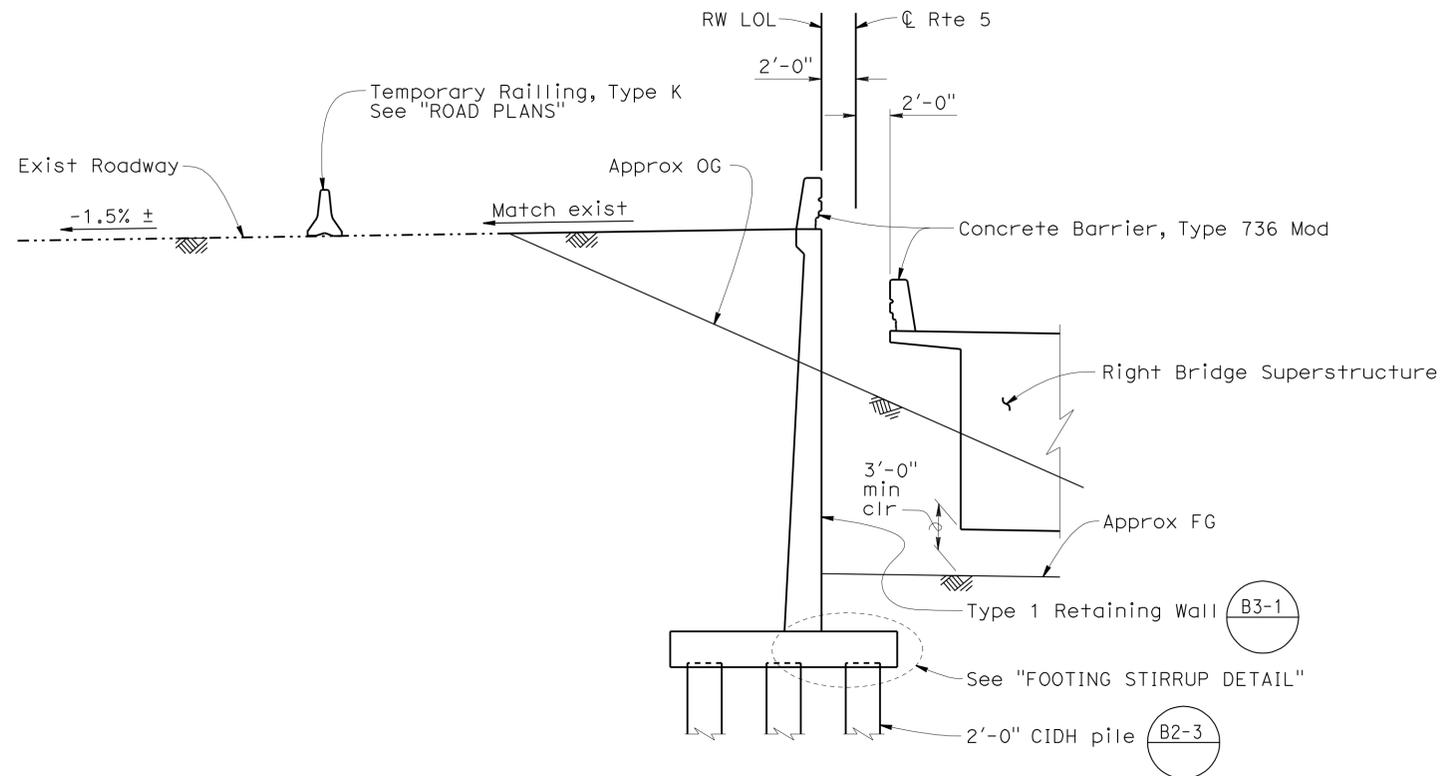
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	414	456

Richard Schendel 12/03/10
REGISTERED CIVIL ENGINEER DATE

4-25-11
PLANS APPROVAL DATE

Richard E. Schendel
REGISTERED PROFESSIONAL ENGINEER
No. C 64259
Exp. 06/30/11
CIVIL
STATE OF CALIFORNIA

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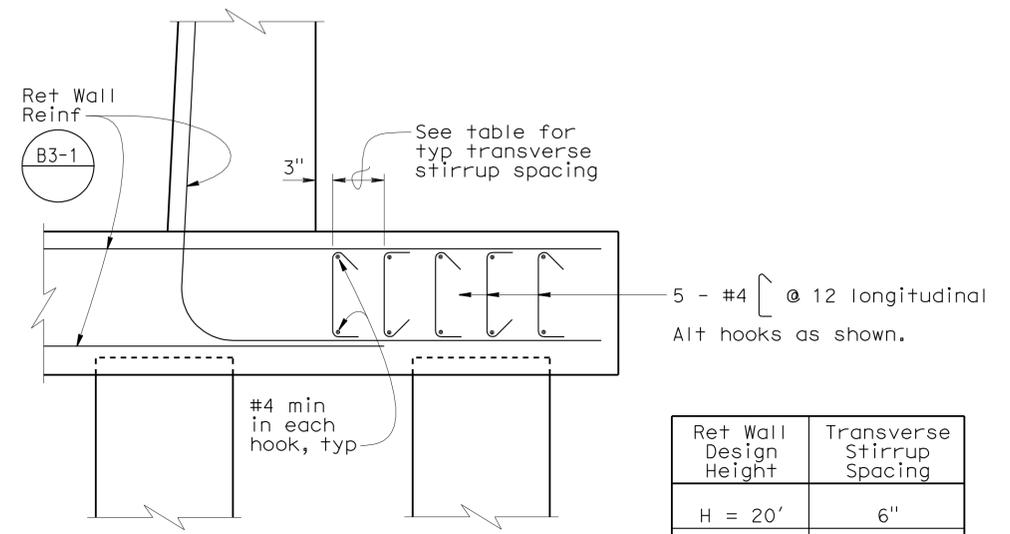


Note: Abut 1 shown, Abut 4 similar.

TYPICAL RETAINING WALL SECTION

3/16" = 1'-0"

Note
Retaining walls shall include reinf shown on detail, "90 KIP PILE FOOTING SECTION" in Standard Plan B3-1.



Note: All reinf not shown.

FOOTING STIRRUP DETAIL

3/4" = 1'-0"

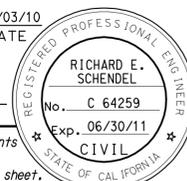
Ret Wall Design Height	Transverse Stirrup Spacing
H = 20'	6"
H = 24'	9"
H = 26'	10"
H = 28'	11"

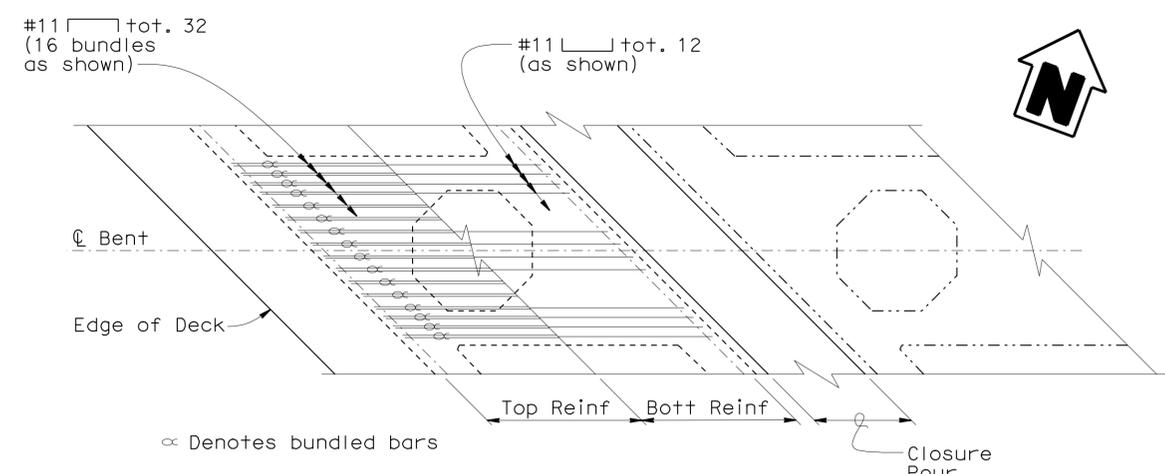
NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN	BY RICHARD SCHEDEL	CHECKED ZIHAN YAN	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53-2790R/L	GAVIN CANYON UC (WIDEN) RETAINING WALL DETAILS	
	DETAILS	BY RICHARD SCHEDEL			CHECKED ZIHAN YAN		POST MILE 47.9
	QUANTITIES	BY DAVID P. MURRAY			CHECKED RUPERD WILSON		
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)			ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU 07 EA 2332A1	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 16 OF 38

FILE => 53-2790r1-g-rwdt.dgn

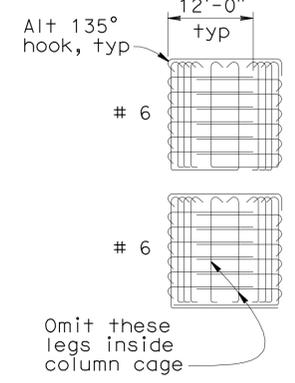
USERNAME => rjccrc01 DATE PLOTTED => 26-APR-2011 TIME PLOTTED => 11:08

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	415	456
 REGISTERED CIVIL ENGINEER DATE 12/03/10					
4-25-11 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					

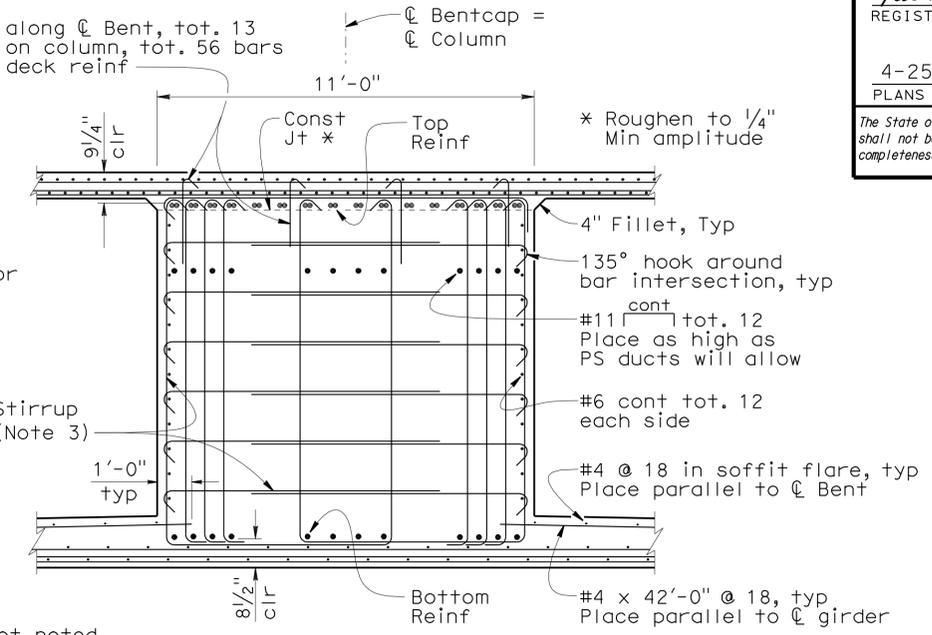


PLAN
3/16" = 1'-0"

#5 $\left\{ \begin{array}{l} 2'-0" \\ \text{or} \\ 2'-6" \end{array} \right.$ (alt both ways, sets of 4 parallel to \perp Girder)
 Space sets @ 12 along \perp Bent, tot. 13 spaces centered on column, tot. 56 bars
 Hook around top deck reinf



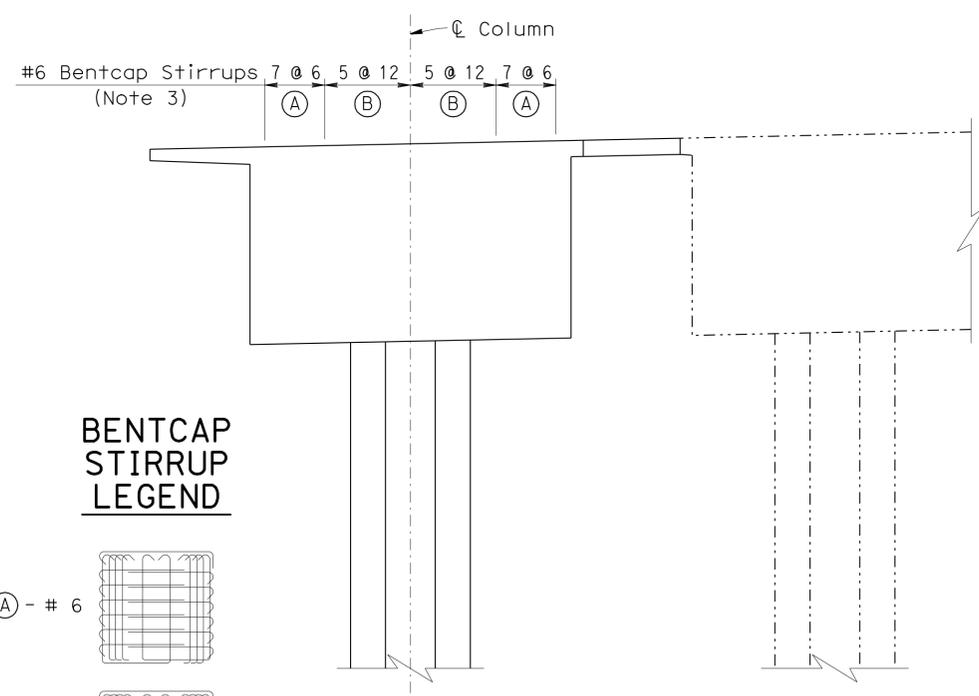
Note
 For reinf shown but not noted, see "TYPICAL SECTION" sheet.



BENTCAP SECTION
3/8" = 1'-0"
Section shown normal to \perp Bent

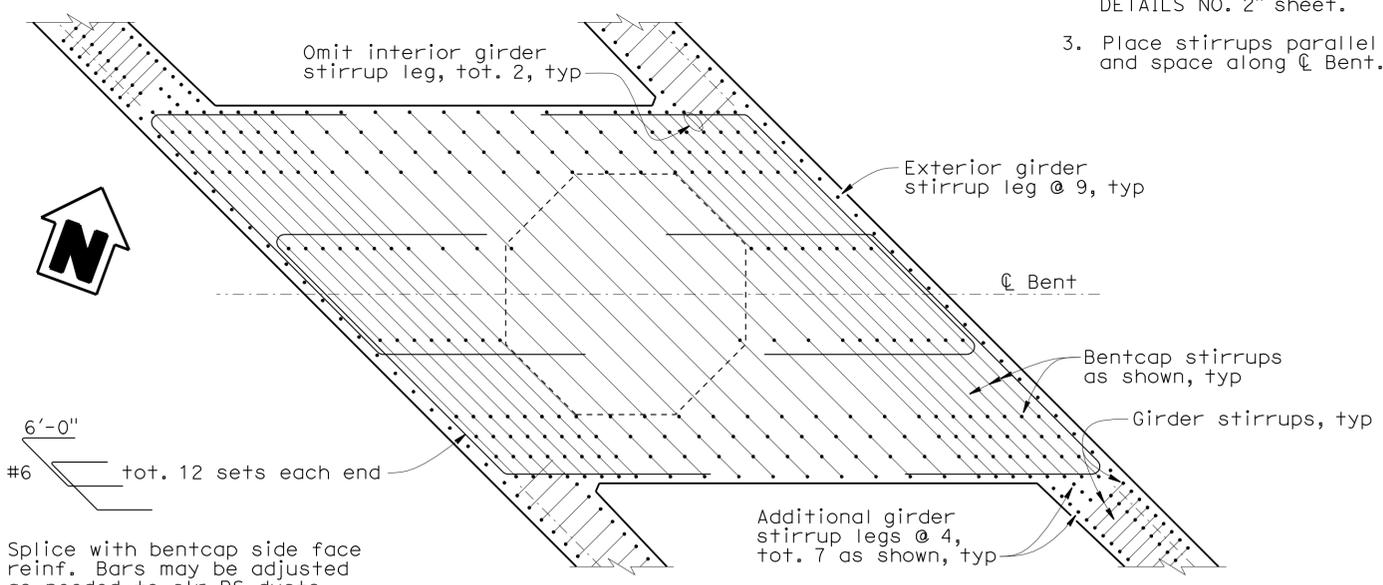
NOTES

- Bent 2 Rt shown, other bents similar.
- For column reinforcement, see "BENT DETAILS NO. 2" sheet.
- Place stirrups parallel to \perp Girder and space along \perp Bent.



ELEVATION
3/16" = 1'-0"

Bentcap elevation shown at \perp Bent



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

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

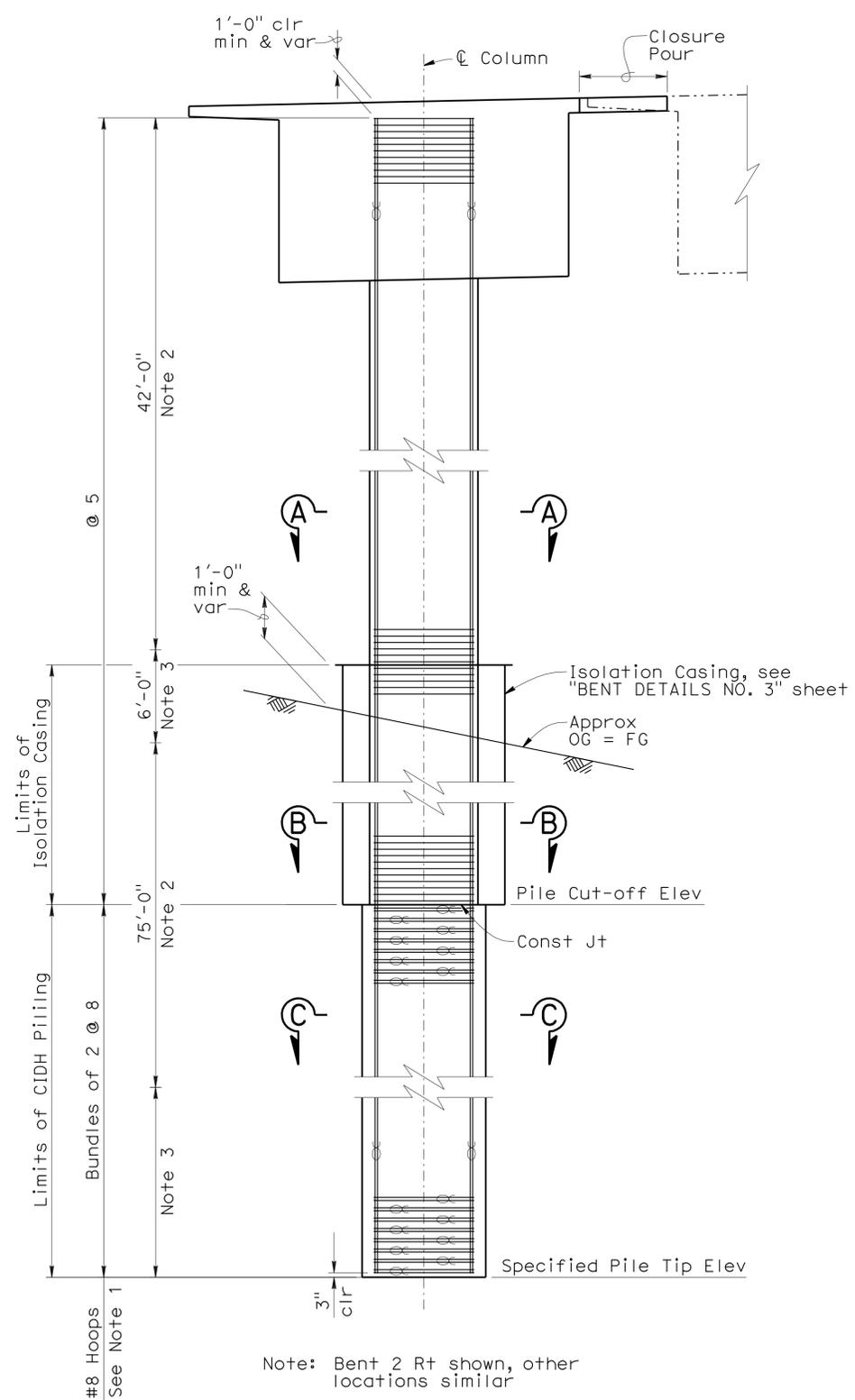
DESIGN	BY RICHARD SCHENDEL	CHECKED PREM RIMAL / ZIHAN YAN	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53-2790R/L	GAVIN CANYON UC (WIDEN) BENT DETAILS NO. 1
	DETAILS	BY RICHARD SCHENDEL			CHECKED PREM RIMAL / ZIHAN YAN	
QUANTITIES	BY DAVID P. MURRAY	CHECKED RUPERD WILSON	CU 07 EA 2332A1	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 17 OF 38

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	416	456

Richard E. Schendel
 REGISTERED CIVIL ENGINEER DATE 12/03/10
 No. C 64259
 Exp. 06/30/11
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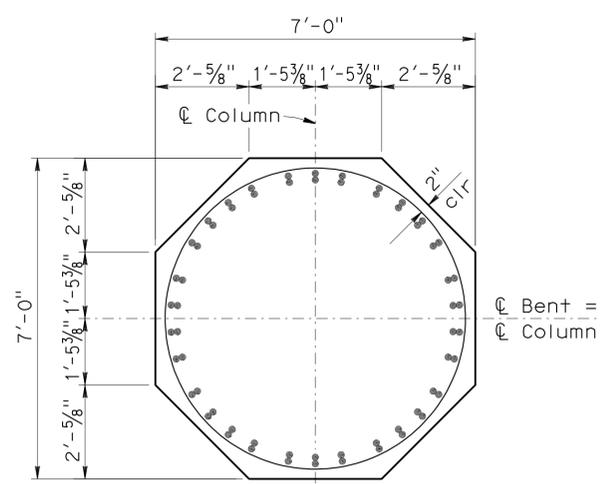
4-25-11
 PLANS APPROVAL DATE

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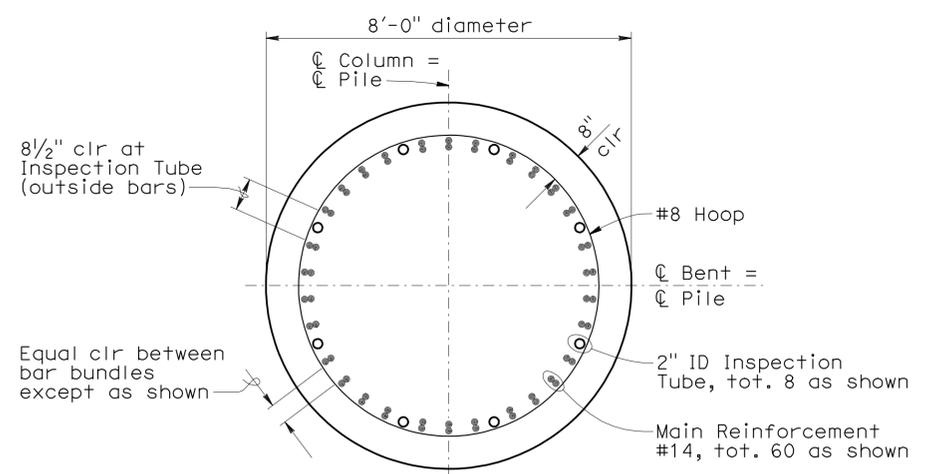
Note: Bent 2 Rt shown, other locations similar

BENT ELEVATION
 $\frac{3}{16}'' = 1'-0''$

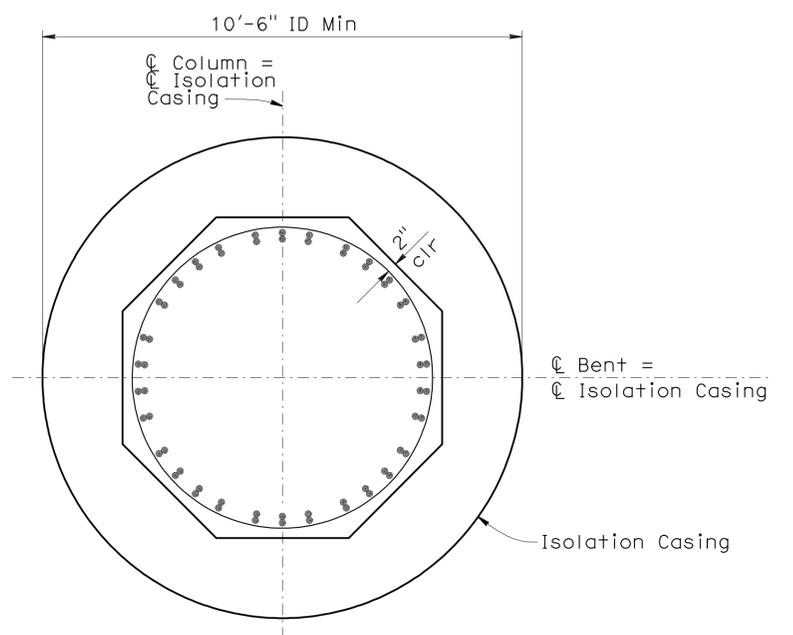


Note: For details shown but not noted, see "SECTION C-C".

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



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



Note: For details shown but not noted, see "SECTION A-A" and "SECTION C-C".

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

NOTES

1. All Hoops are "Ultimate" butt-spliced continuous.
 2. No splices are allowed in main reinforcement in this zone.
 3. Only staggered "Ultimate" butt splices are allowed in main reinforcement in this zone.
 4. For "PILE DATA TABLE", see "PILE DATA" sheet.
- ∞ Denotes bundled bars

DESIGN	BY RICHARD SCHENDEL	CHECKED PREM RIMAL / ZIHAN YAN
DETAILS	BY RICHARD SCHENDEL	CHECKED PREM RIMAL / ZIHAN YAN
QUANTITIES	BY DAVID P. MURRAY	CHECKED RUPERD WILSON

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
DESIGN BRANCH 18

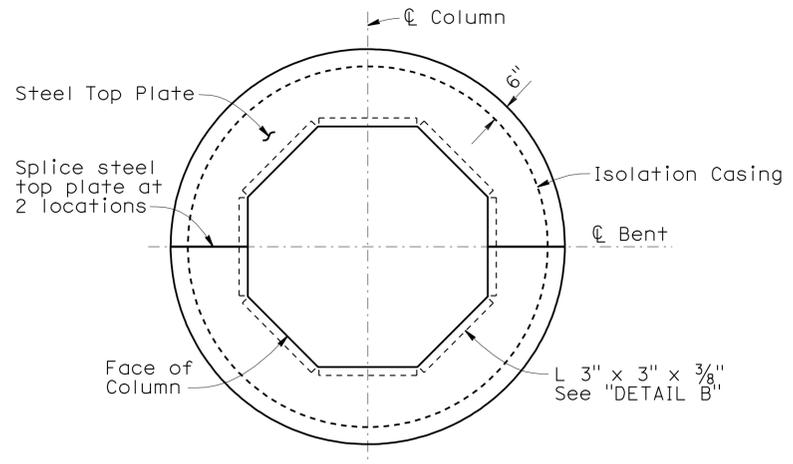
BRIDGE NO.	53-2790R/L
POST MILE	47.9

GAVIN CANYON UC (WIDEN)
BENT DETAILS NO. 2

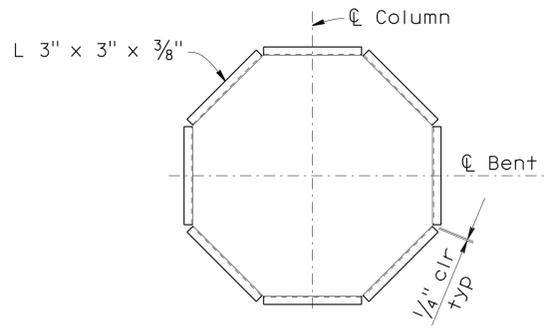
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	417	456

REGISTERED CIVIL ENGINEER DATE 12/03/10
 RICHARD E. SCHENDEL
 No. C 64259
 Exp. 06/30/11
 CIVIL
 STATE OF CALIFORNIA

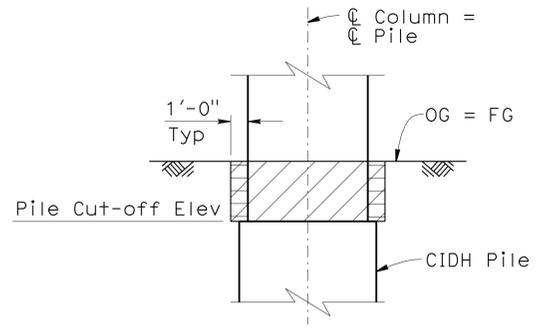
4-25-11
 PLANS APPROVAL DATE
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SECTION D-D
3/8" = 1'-0"

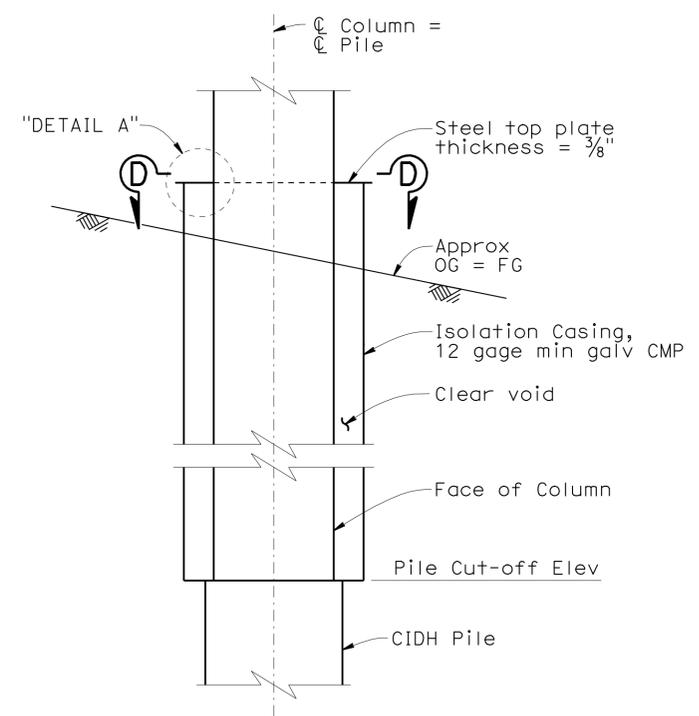


DETAIL B
3/8" = 1'-0"



PAY LIMITS FOR STRUCTURE EXCAVATION AND BACKFILL AT BENT 2 LT AND BENT 3 RT
No Scale

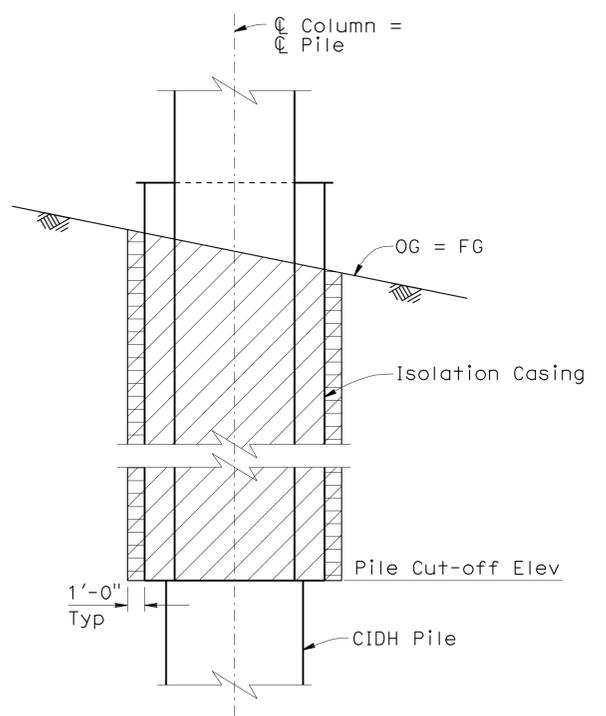
- Denotes Structure Excavation (Bridge)
- Denotes Structure Backfill (Bridge)



Note: Bent 2 Rt shown, Bent 3 Lt similar.

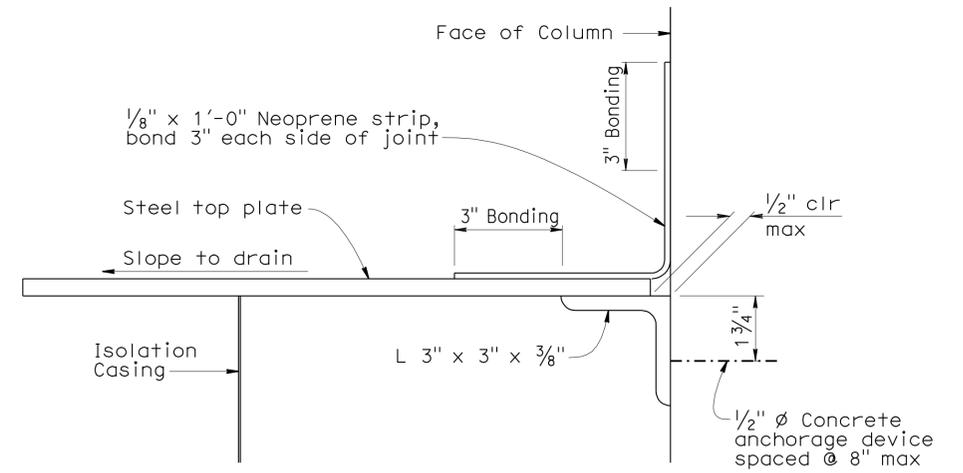
ISOLATION CASING ELEVATION
3/16" = 1'-0"

ISOLATION CASING	
Location	Length
Bent 2 Rt Bridge	22'-0"
Bent 3 Lt Bridge	18'-0"



PAY LIMITS FOR STRUCTURE EXCAVATION AND BACKFILL AT ISOLATION CASINGS
No Scale

- Denotes Structure Excavation (Bridge)
- Denotes Structure Backfill (Bridge)



DETAIL A
No Scale

Note
Paint neoprene strip and exposed portion of top plate and Isolation Casing to match concrete.

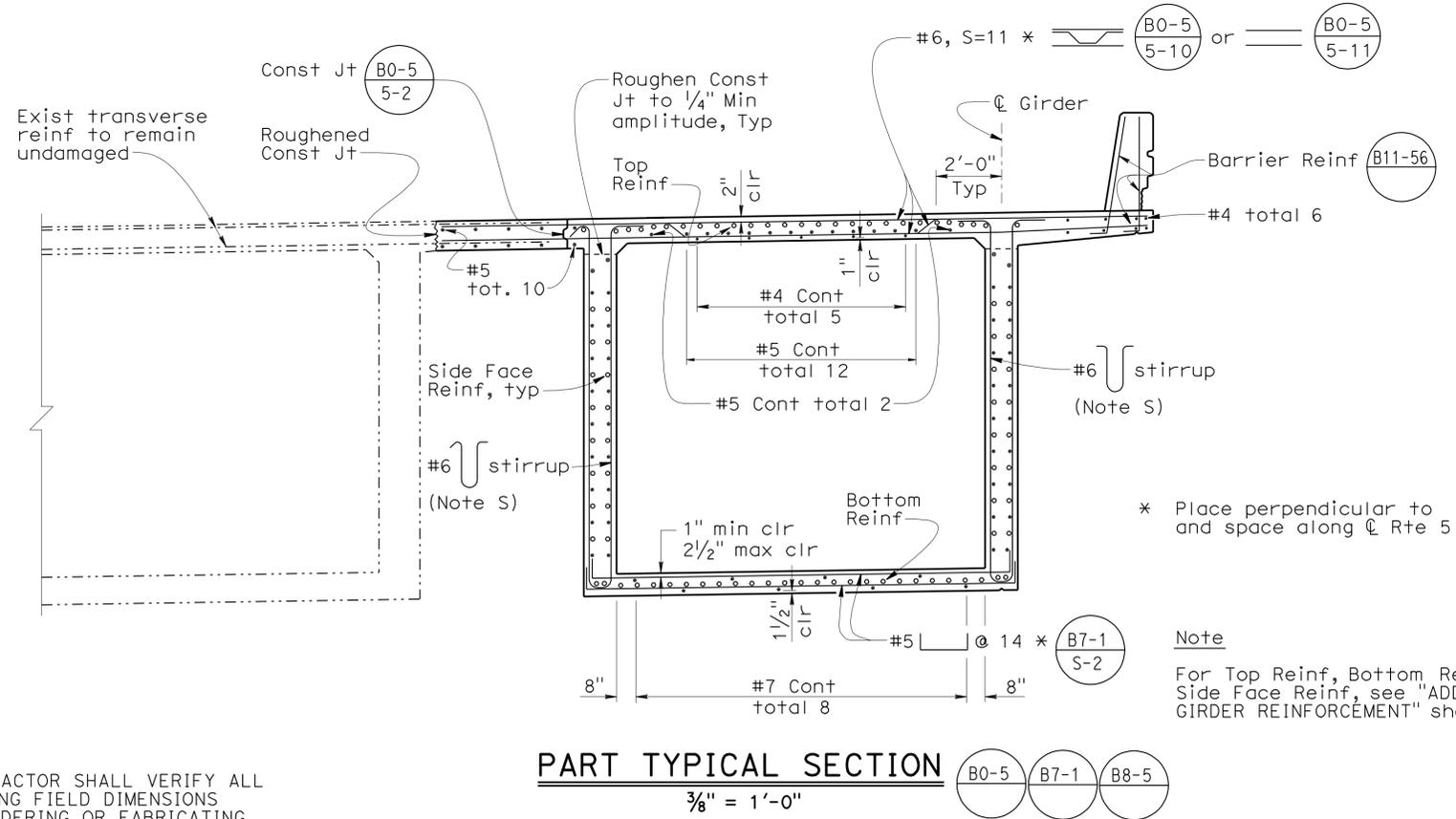
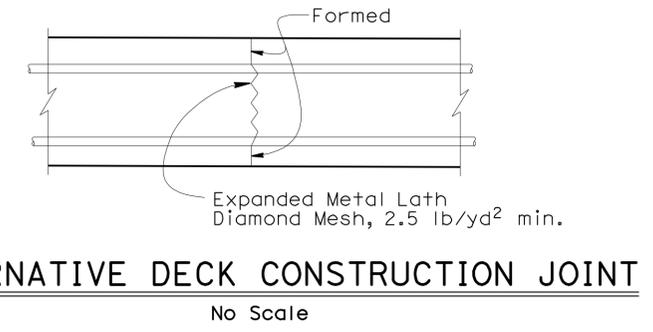
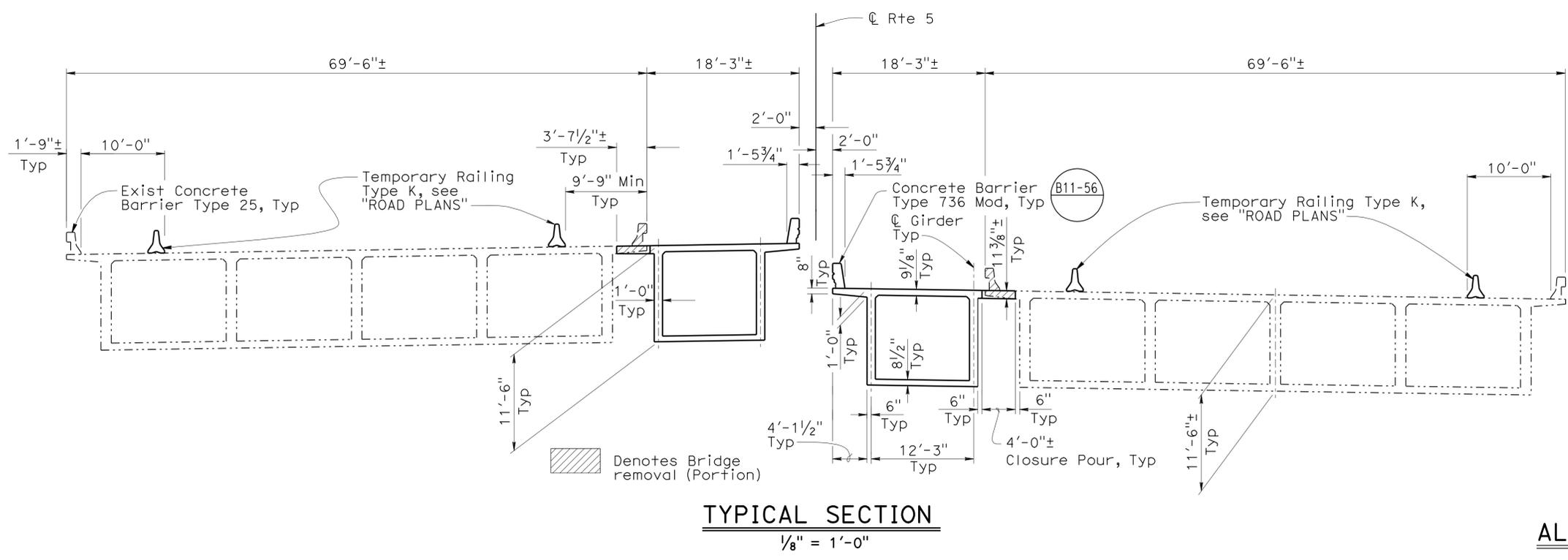
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	418	456

Richard Schendel 12/03/10
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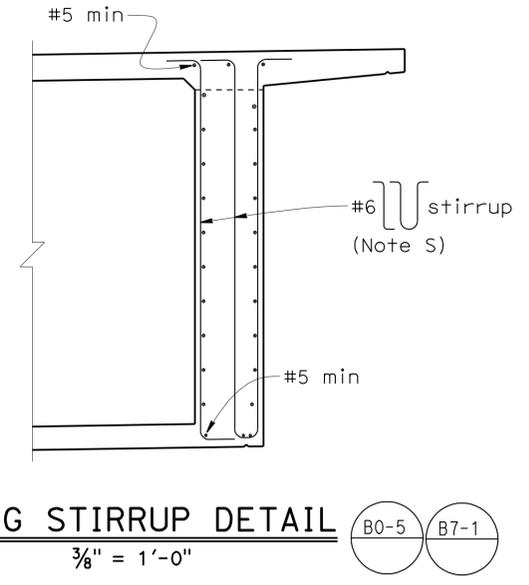
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Note S
 For stirrup layout, see "GIRDER LAYOUT" sheets.

* Place perpendicular to and space along C Rte 5

Note
 For Top Reinf, Bottom Reinf, and Side Face Reinf, see "ADDITIONAL GIRDER REINFORCEMENT" sheet.



- NOTES
1. Rt Girder Lt Bridge shown, other girders similar.
 2. See "PART TYPICAL SECTION" for reinf not shown.

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

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY RICHARD SCHENDEL	CHECKED PREM RIMAL / ZIHAN YAN	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO.	GAVIN CANYON UC (WIDEN)	
	DETAILS	BY FARIDEH HOSSEINIYOU	CHECKED PREM RIMAL / ZIHAN YAN			53-2790R/L	TYPICAL SECTION	
	QUANTITIES	BY DAVID P. MURRAY	CHECKED RUPERD WILSON			POST MILE	20	
						47.9	38	
							REVISION DATES	
							2/28/10 4/28/10 05/06/10 06/28/10 07/29/10 08/11/10 09/30/10	

USERNAME => frcg001 DATE PLOTTED => 26-APR-2011 TIME PLOTTED => 11:08

Richard E. Schendel
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LEGEND

24 Girder stem width in inches

Note

For End Diaphragm and "DECK CORNER DETAILS", see "MISCELLANEOUS GIRDER DETAILS" sheet.

PRESTRESSING NOTES

270 KSI Low Relaxation Strand:

$P_{jack} = 9,000$ kips

Anchor Set = $\frac{3}{8}$ in

Total Number of Girders = 2

Prestress force (P_{jack}) shall be distributed evenly between girders.

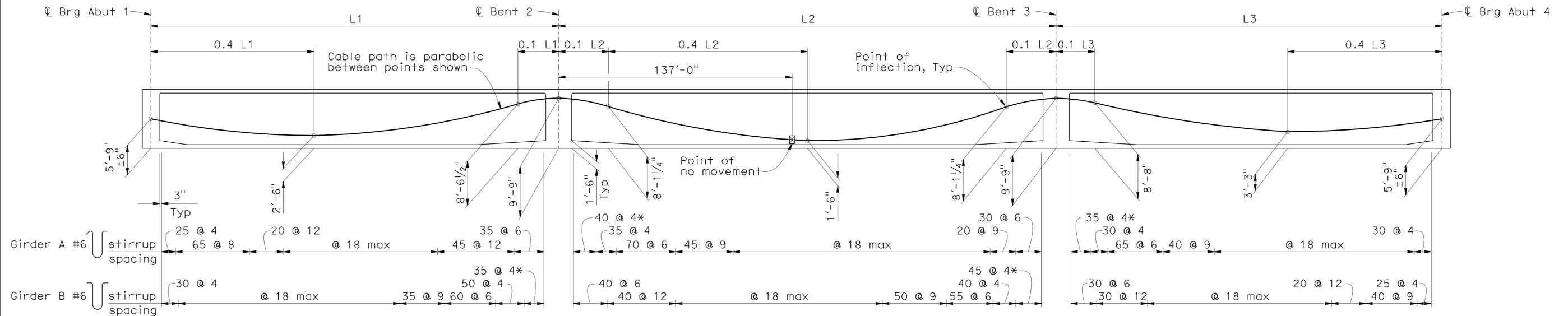
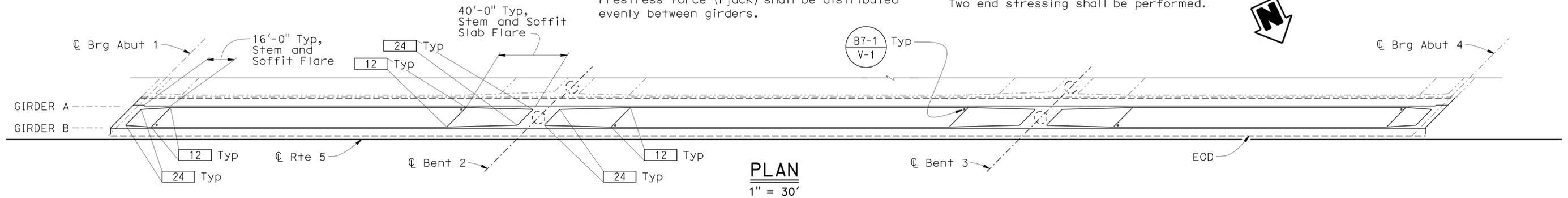
Concrete: $f'_c = 6,000$ psi @ 28 days

$f'_{ci} = 3,500$ psi @ time of stressing

Contractor shall submit elongation calculations based on initial stress at

$\epsilon = 0.842$ times jacking stress.

Two end stressing shall be performed.



* #6 stirrup

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

Note: Does not include allowance for falsework settlement

TIME DEPENDENT CAMBER VALUE	
Elapsed time measured from prestressing box girder to placement of closure pour	% of the values as shown in camber diagram
30 days	140
45 days	160
60 days	180
75 days	200
90 days	220
120 days	240
150 days	245
180 days	250

DESIGN BY ZIHAN YAN CHECKED RICHARD SCHENDEL	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53-2790R/L	GAVIN CANYON UC (WIDEN) GIRDER LAYOUT LEFT BRIDGE	
			POST MILE 47.9		
DETAILS BY FARIDEH HOSSEINIOUN CHECKED RICHARD SCHENDEL	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU 07 EA 2332A1	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 21 OF 38
QUANTITIES BY DAVID P. MURRAY / RS CHECKED RUPERT WILSON / ZY	FILE => 53-2790r1-1-g_1o01.dgn				

LEGEND

24 Girder stem width in inches

Note

For End Diaphragm and "DECK CORNER DETAILS", see "MISCELLANEOUS GIRDER DETAILS" sheet.

PRESTRESSING NOTES

270 KSI Low Relaxation Strand:

$P_{jack} = 10,100$ kips

Anchor Set = $\frac{3}{8}$ in

Total Number of Girders = 2

Prestress force (P_{jack}) shall be distributed evenly between girders.

Concrete: $f'_c = 6,000$ psi @ 28 days

$f'_{ci} = 3,500$ psi @ time of stressing

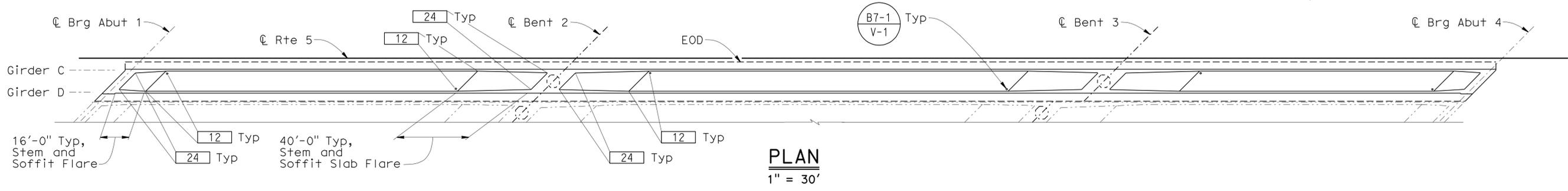
Contractor shall submit elongation calculations based on initial stress at

$\lambda = 0.851$ times jacking stress.

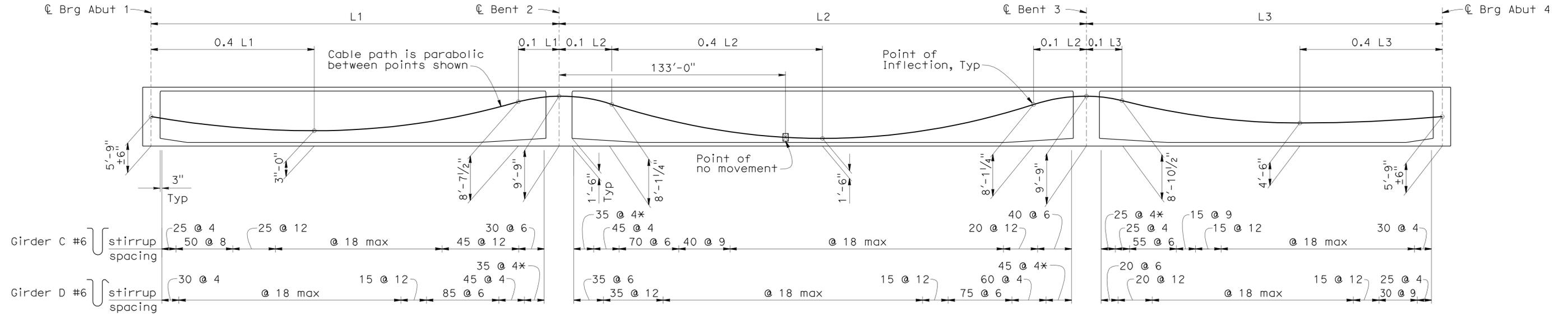
Two end stressing shall be performed.



Richard E. Schendel
 REGISTERED CIVIL ENGINEER DATE 12/03/10
 4-25-11
 PLANS APPROVAL DATE
 No. C 64259
 Exp. 06/30/11
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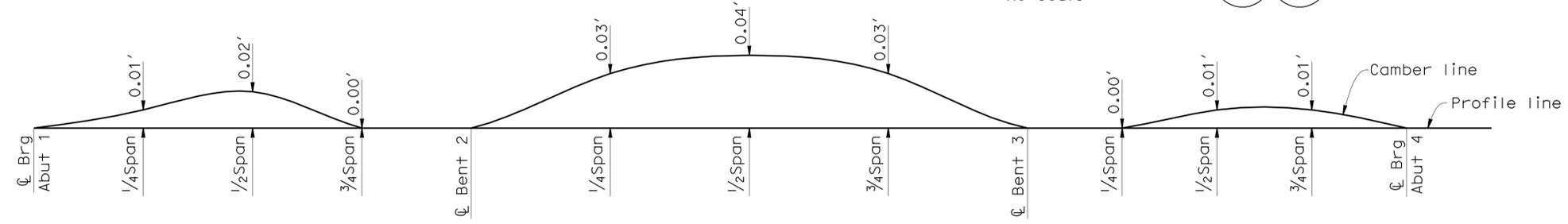


PLAN
1" = 30'



LONGITUDINAL SECTION (B7-1, B8-5)
No Scale

TIME DEPENDENT CAMBER VALUE	
Elapsed time measured from prestressing box girder to placement of closure pour	% of the values as shown in camber diagram
30 days	140
45 days	160
60 days	180
75 days	200
90 days	220
120 days	240
150 days	245
180 days	250



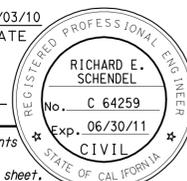
CAMBER DIAGRAM
No Scale

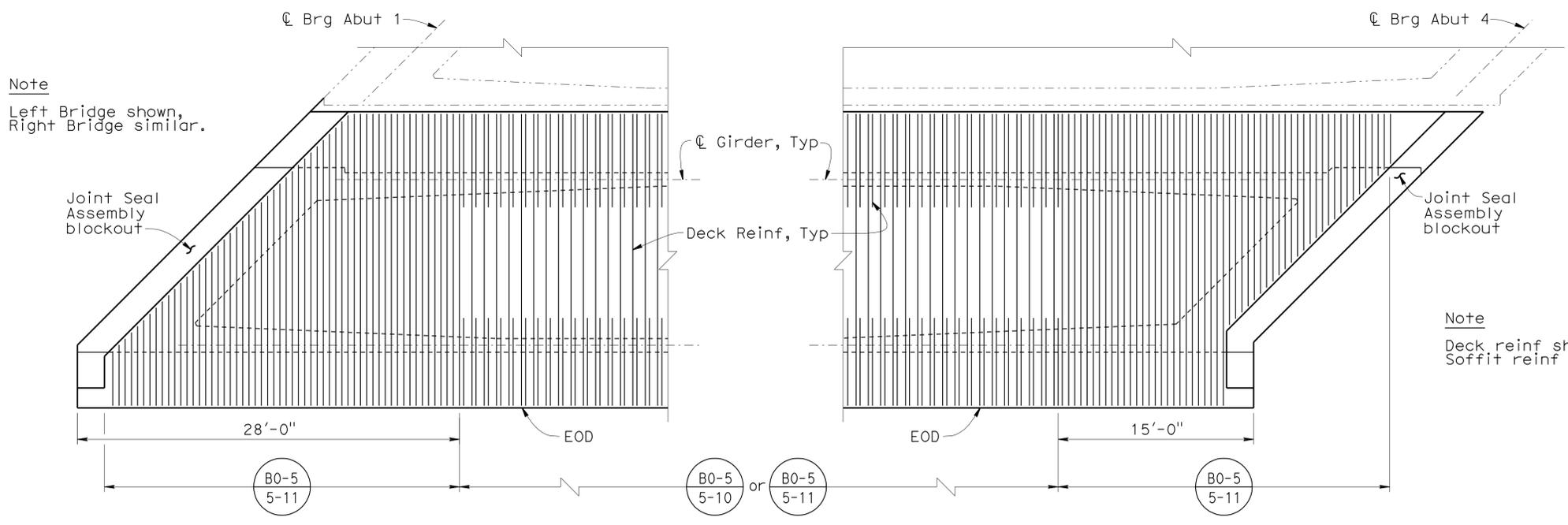
Note: Does not include allowance for falsework settlement

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

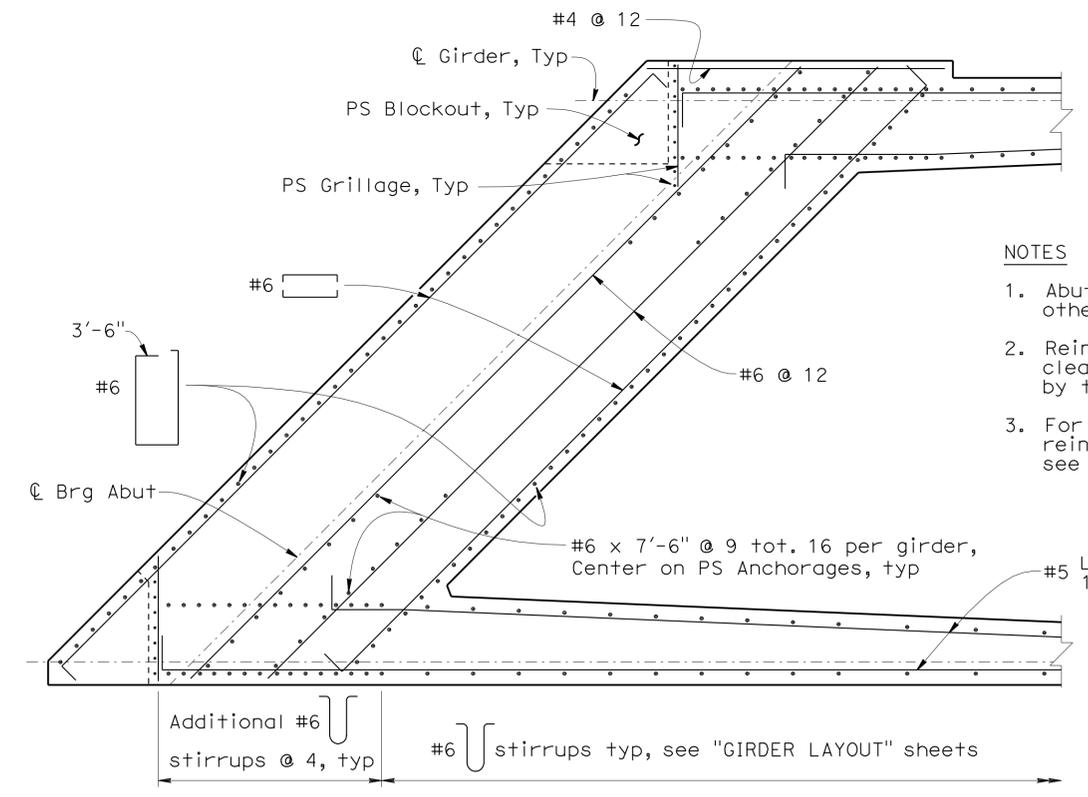
DESIGN	BY PREM RIMAL	CHECKED RICHARD SCHENDEL	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53-2790R/L	GAVIN CANYON UC (WIDEN) GIRDER LAYOUT RIGHT BRIDGE
	DETAILS BY MINH TRAN	CHECKED RICHARD SCHENDEL			POST MILE 47.9	
	QUANTITIES BY DAVID P. MURRAY / RS	CHECKED RUPERD WILSON / ZY			REVISION DATES	
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)			ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU 07 EA 2332A1	DISREGARD PRINTS BEARING EARLIER REVISION DATES	SHEET 22 OF 38

USERNAME => rjg001 DATE PLOTTED => 26-APR-2011 TIME PLOTTED => 11:08

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	421	456
 REGISTERED CIVIL ENGINEER DATE 12/03/10					
PLANS APPROVAL DATE 4-25-11 <small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					

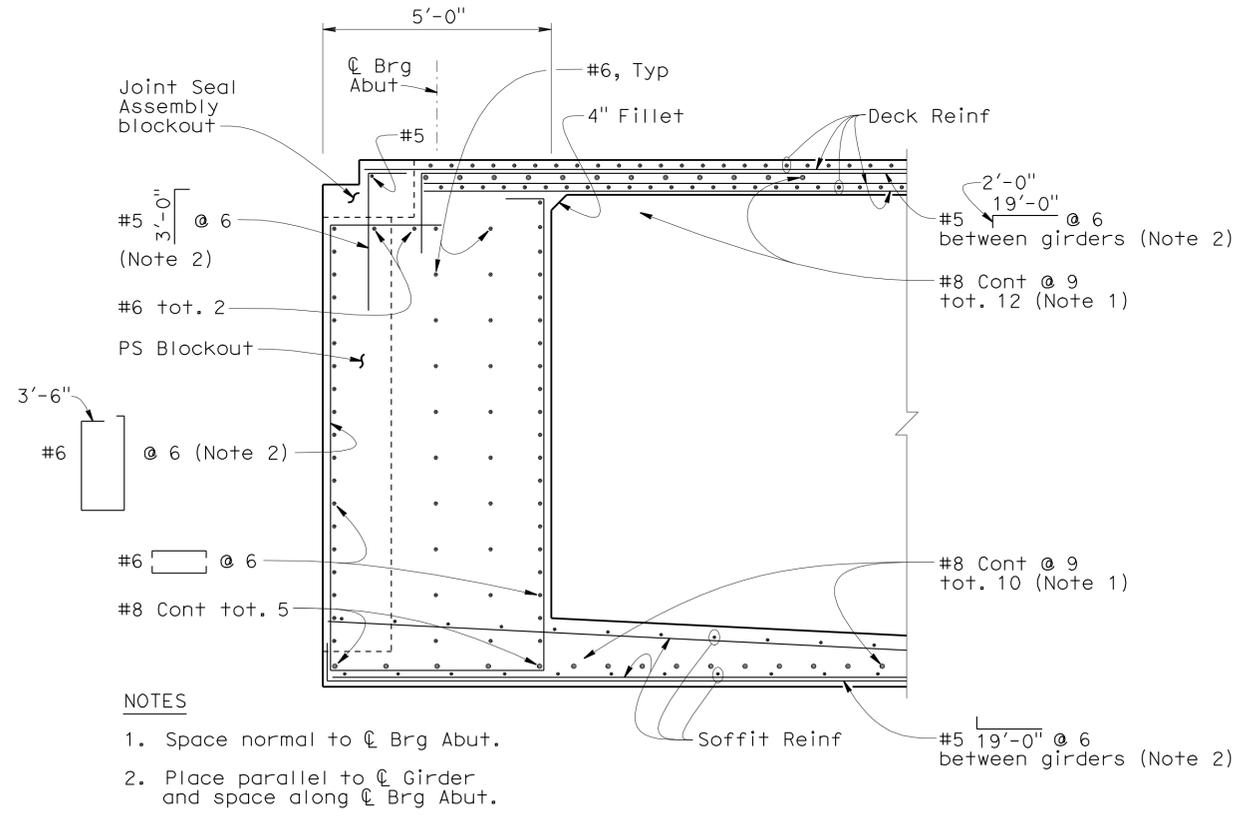


DECK CORNER DETAILS
 $\frac{3}{16}'' = 1'-0''$



END DIAPHRAGM - PLAN
 $\frac{1}{2}'' = 1'-0''$

- NOTES**
1. Abut 1 Lt Bridge shown, other locations similar.
 2. Reinf shall be adjusted to clear PS Ducts as approved by the Engineer.
 3. For reinf not shown and for reinf shown but not noted, see Standard Plan B8-5.



END DIAPHRAGM - SECTION
 $\frac{1}{2}'' = 1'-0''$

- NOTES**
1. Space normal to \O Brg Abut.
 2. Place parallel to \O Girder and space along \O Brg Abut.

DESIGN	BY PREM RIMAL	CHECKED ZIHAN YAN
DETAILS	BY MINH TRAN	CHECKED ZIHAN YAN
QUANTITIES	BY DAVID P. MURRAY	CHECKED RUPERD WILSON

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO.	53-2790R/L
POST MILE	47.9

GAVIN CANYON UC (WIDEN)
 MISCELLANEOUS GIRDER DETAILS

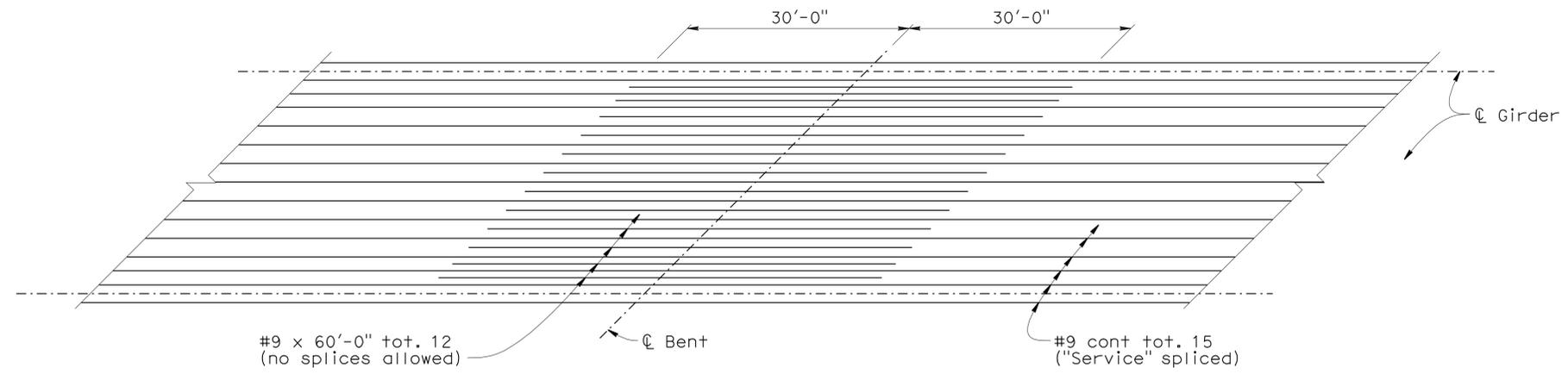
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	422	456

Richard E. Schendel 12/03/10
REGISTERED CIVIL ENGINEER DATE

4-25-11
PLANS APPROVAL DATE

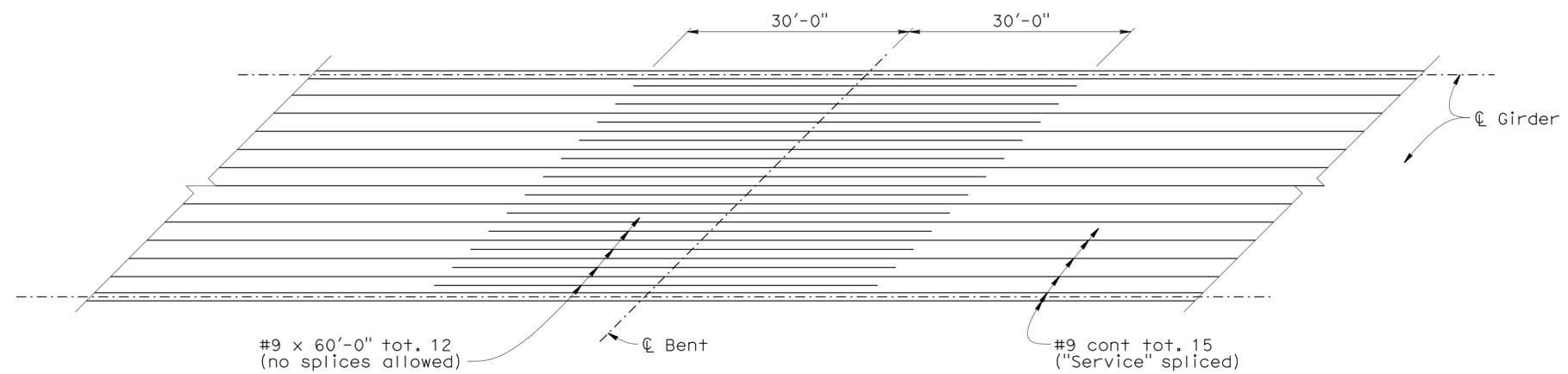
RICHARD E. SCHENDEL
No. C 64259
Exp. 06/30/11
CIVIL
STATE OF CALIFORNIA

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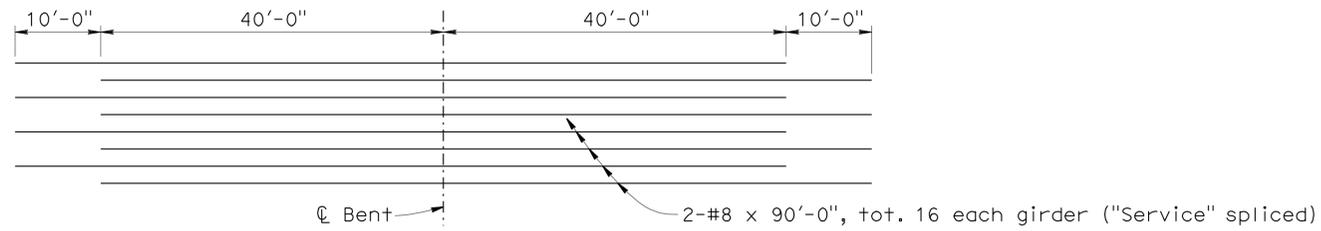
TOP GIRDER REINFORCEMENT

3/32" = 1'-0"



BOTTOM GIRDER REINFORCEMENT

3/32" = 1'-0"



SIDE FACE GIRDER REINFORCEMENT

No Scale

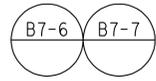
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY RICHARD SCHENDEL	CHECKED ZIHAN YAN	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO.	GAVIN CANYON UC (WIDEN)					
	DETAILS	BY RICHARD SCHENDEL	CHECKED ZIHAN YAN			53-2790R/L	ADDITIONAL GIRDER REINFORCEMENT					
QUANTITIES	BY DAVID P. MURRAY	CHECKED RUPERD WILSON	EA 2332A1			POST MILE	47.9					
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS						CU 07	DISREGARD PRINTS BEARING EARLIER REVISION DATES				SHEET	OF
FILE => 53-2790r1-o-gir_rf.dgn						EA 2332A1	REVISION DATES				24	38

USERNAME => hrcgcoi DATE PLOTTED => 26-APR-2011 TIME PLOTTED => 11:39

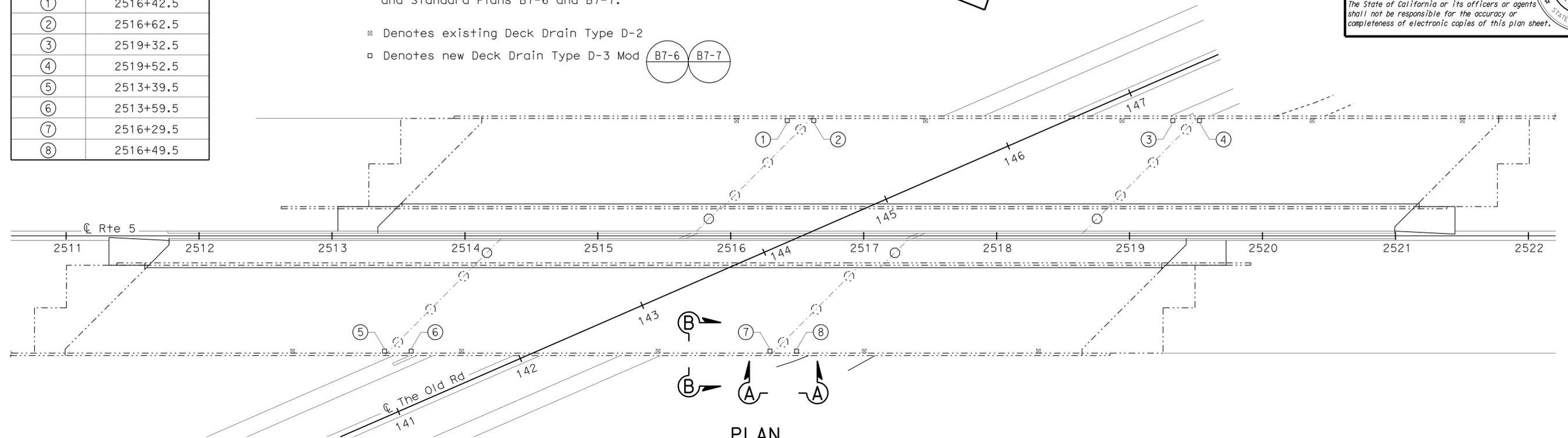
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	423	456

NOTES

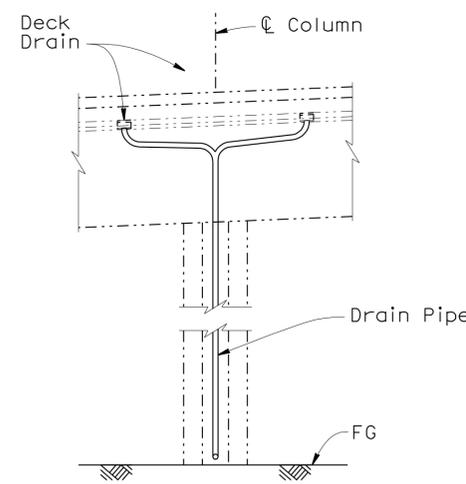
- All drain pipe shall be fastened to existing concrete with suitable pipe straps and a min of two 1/2" Ø mechanical expansion anchors per strap. Pipe straps shall be spaced at 10'-0" max.
- For details not shown, see "DECK DRAINAGE DETAILS" sheet and Standard Plans B7-6 and B7-7.
 - ⊞ Denotes existing Deck Drain Type D-2
 - Denotes new Deck Drain Type D-3 Mod



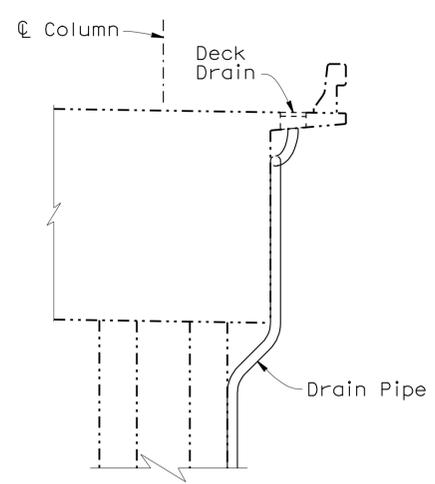
DECK DRAINS	
Location	℄ Rte 5 Station
①	2516+42.5
②	2516+62.5
③	2519+32.5
④	2519+52.5
⑤	2513+39.5
⑥	2513+59.5
⑦	2516+29.5
⑧	2516+49.5



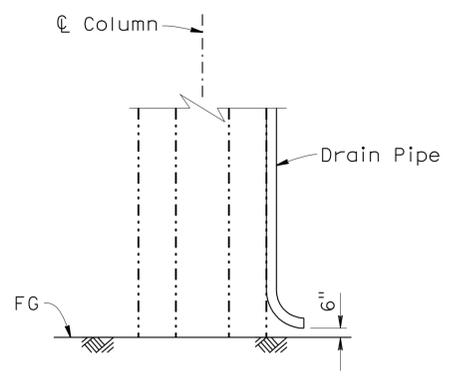
PLAN
1" = 40'



ELEVATION A-A
1" = 10'



ELEVATION B-B
1" = 5'



DRAIN OUTLET
1" = 5'

Note: Bent 3 Rt shown, other locations similar.

Richard E. Schendel
REGISTERED CIVIL ENGINEER DATE 12/03/10

4-25-11
PLANS APPROVAL DATE

No. C 64259
Exp. 06/30/11
CIVIL
STATE OF CALIFORNIA

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DESIGN	BY RICHARD SCHENDEL	CHECKED ZIHAN YAN
DETAILS	BY RICHARD SCHENDEL	CHECKED ZIHAN YAN
QUANTITIES	BY RICHARD SCHENDEL	CHECKED ZIHAN YAN

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO.	53-2790R/L
POST MILE	47.9

GAVIN CANYON UC (WIDEN)
DECK DRAIN LAYOUT



REVISION DATES
04/22/10 08/31/10 10/01/10

USERNAME => rrcg001 DATE PLOTTED => 26-APR-2011 TIME PLOTTED => 11:40

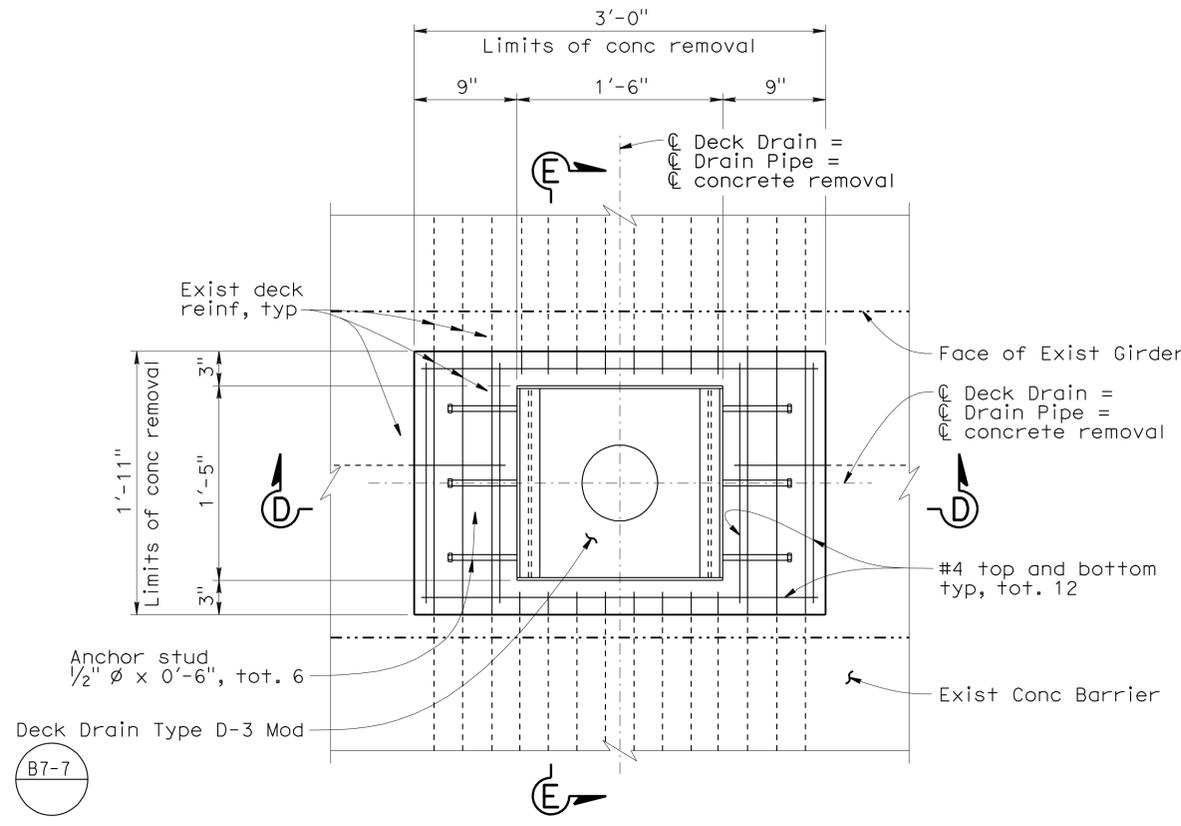
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	424	456

Richard Schendel
REGISTERED CIVIL ENGINEER DATE 12/03/10

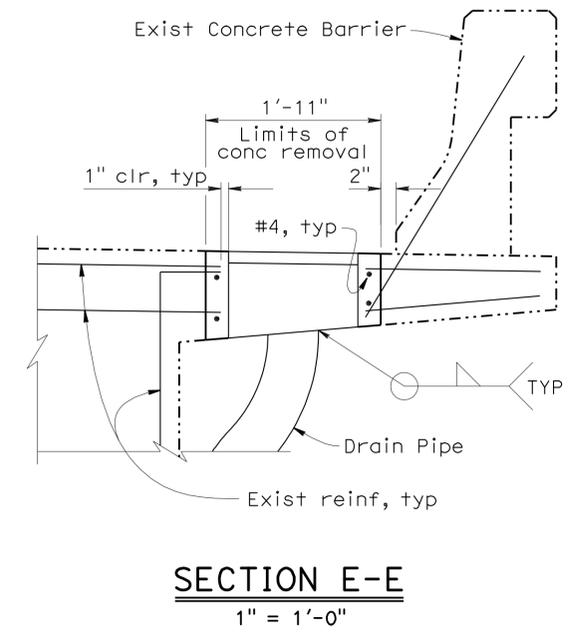
4-25-11
PLANS APPROVAL DATE

RICHARD E. SCHENDEL
REGISTERED PROFESSIONAL ENGINEER
No. C 64259
Exp. 06/30/11
CIVIL
STATE OF CALIFORNIA

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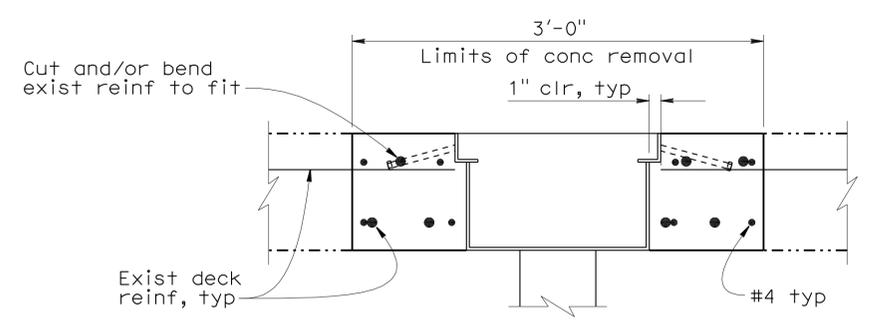


DECK DRAIN PLAN
1/2" = 1'-0"



NOTES

1. Place concrete around Deck Drain.
2. For details not shown, see Standard Plans B7-6 and B7-7.



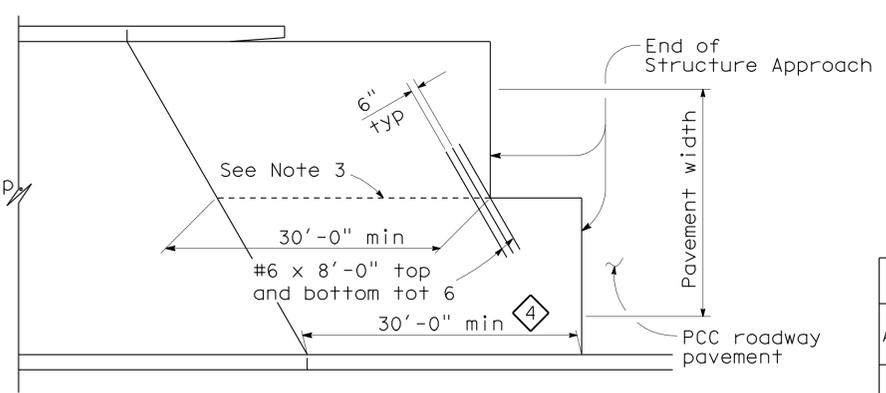
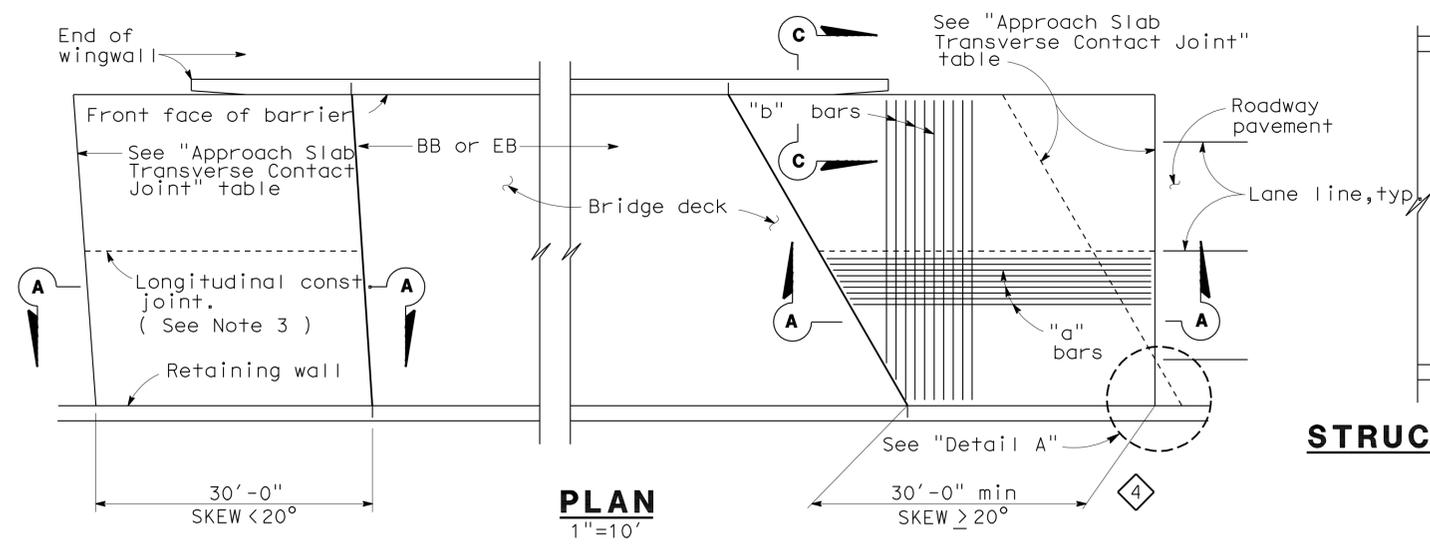
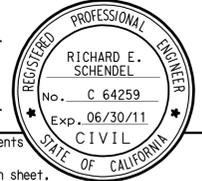
SECTION D-D
1/2" = 1'-0"

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY RICHARD SCHENDEL	CHECKED ZIHAN YAN	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO.	53-2790R/L	GAVIN CANYON UC (WIDEN) DECK DRAIN DETAILS
	DETAILS	BY RICHARD SCHENDEL	CHECKED ZIHAN YAN			POST MILE	47.9	
	QUANTITIES	BY RICHARD SCHENDEL	CHECKED ZIHAN YAN			CU 07 EA 2332A1	REVISION DATES	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				0 1 2 3	DISREGARD PRINTS BEARING EARLIER REVISION DATES	SHEET 26 OF 38		

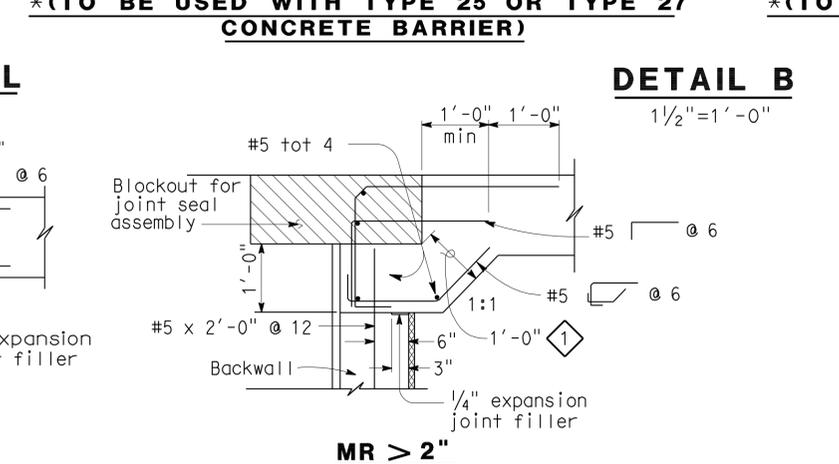
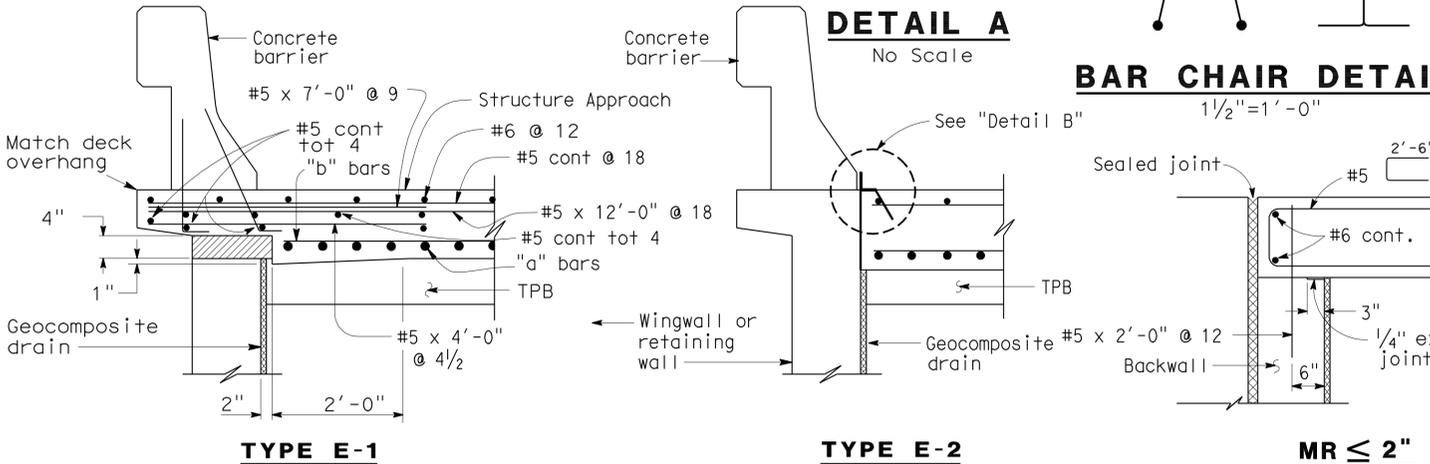
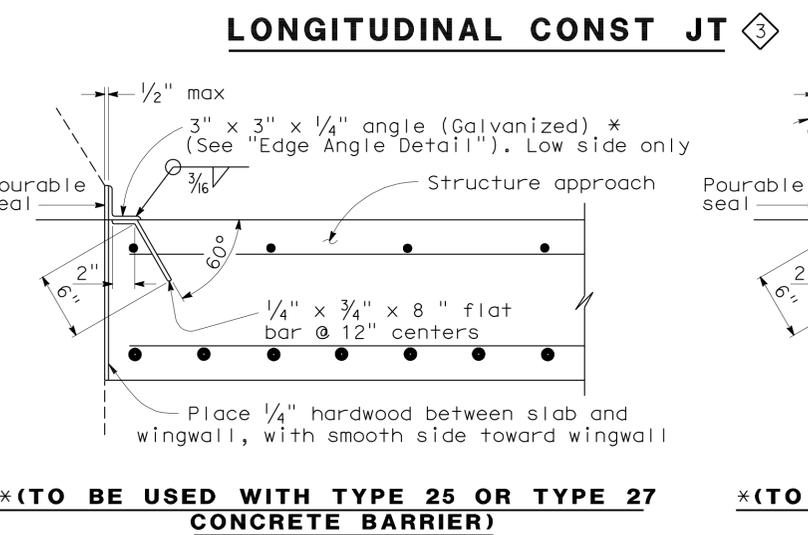
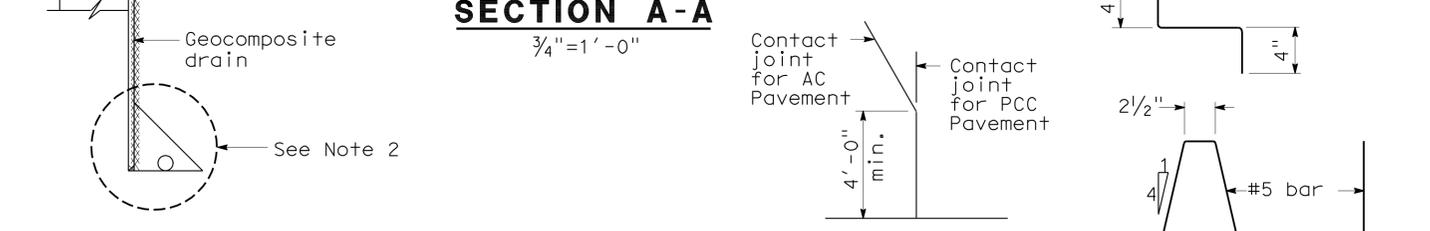
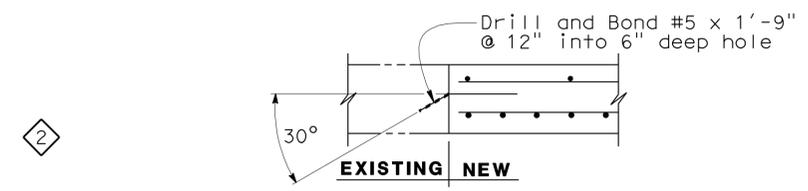
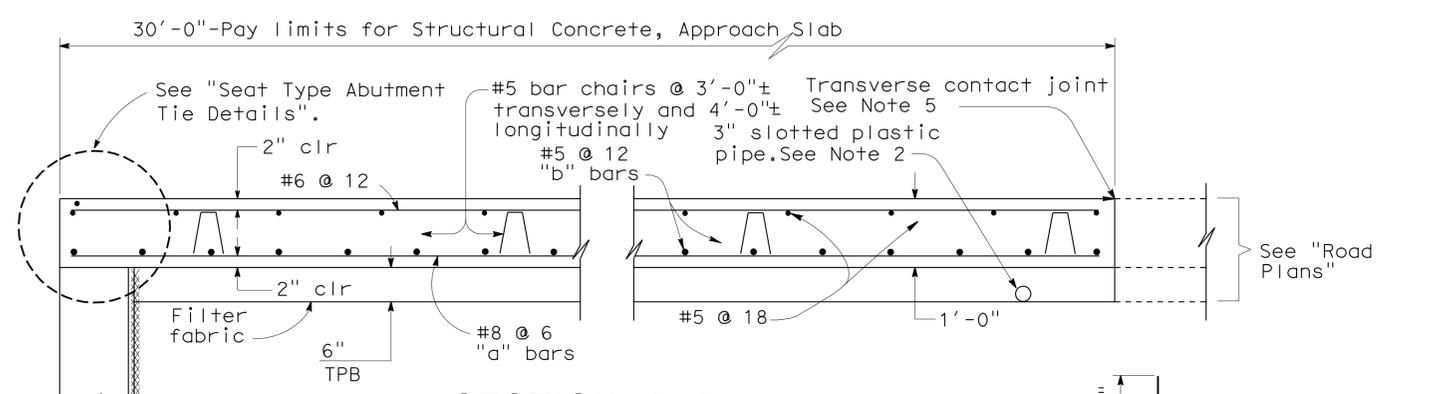
USERNAME => hrcgco1 DATE PLOTTED => 26-APR-2011 TIME PLOTTED => 11:40

DIST.	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
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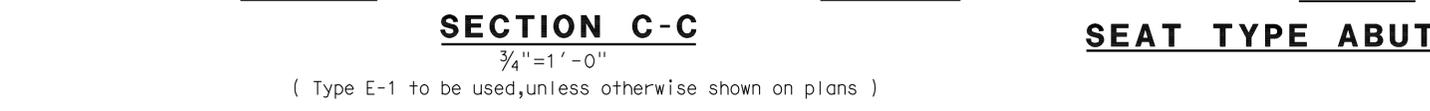
4-25-11
 PLANS APPROVAL DATE
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APPROACH SLAB TRANSVERSE CONTACT JOINT		
APPROACH SKEW	WITH AC ROADWAY PAVEMENT	WITH PCC ROADWAY PAVEMENT
< 20°	Parallel to face of paving notch	Parallel to face of paving notch
20° - 45°	Parallel to face of P N use (Detail A)	Stagger lines 24' to 36' apart.
> 45°	Parallel to face of P N use (Detail A)	Stagger at each lane line.



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



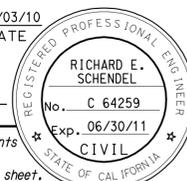
REVISED STANDARD DRAWING			
RELEASE DATE REVISED 3/14/05	DESIGN BY M. TRAFFALIS	CHECKED BY E. THORKILDSEN	RELEASED BY
FILE NO. xs3-120e	DETAILS BY R. YEE	CHECKED BY E. THORKILDSEN	
	SUBMITTED BY M. HA	DRAWING DATE 4/98	OFFICE CHIEF

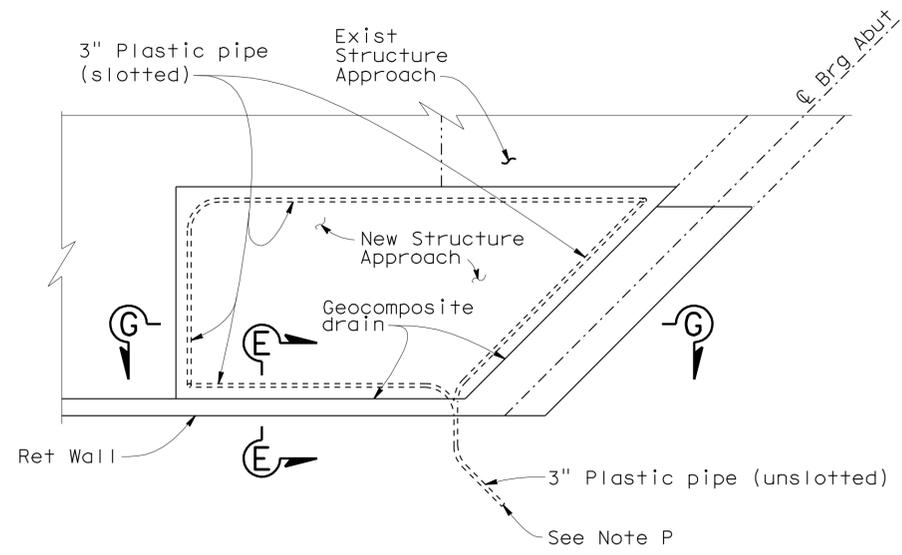
- ① Added dimension
- ② Removed Edge Angle detail
- ③ Added Const Jt detail
- ④ Modified detail

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DIVISION OF ENGINEERING SERVICES

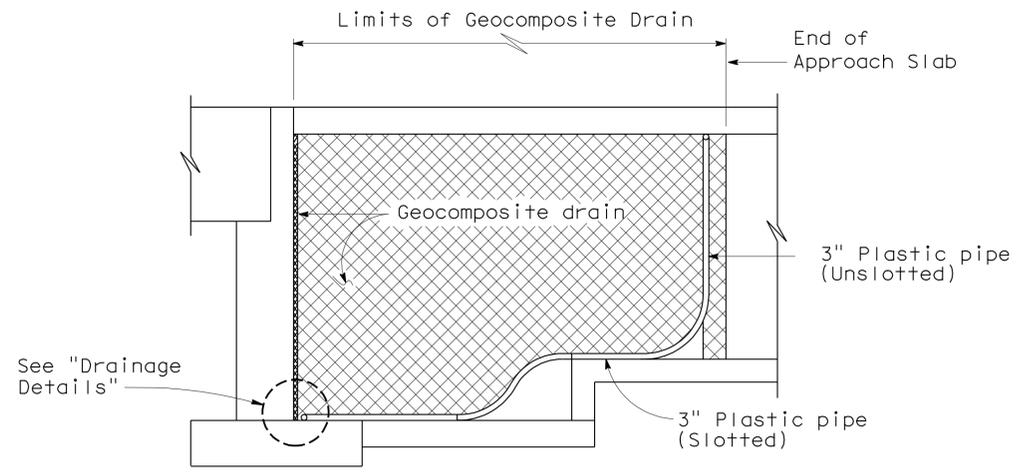
BRIDGE NO. 53-2790R/L	GAVIN CANYON UC (WIDEN)	
MILE POST 47.9	STRUCTURE APPROACH TYPE N(30S)	

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	426	456
 REGISTERED CIVIL ENGINEER			12/03/10	DATE	
4-25-11			PLANS APPROVAL DATE		
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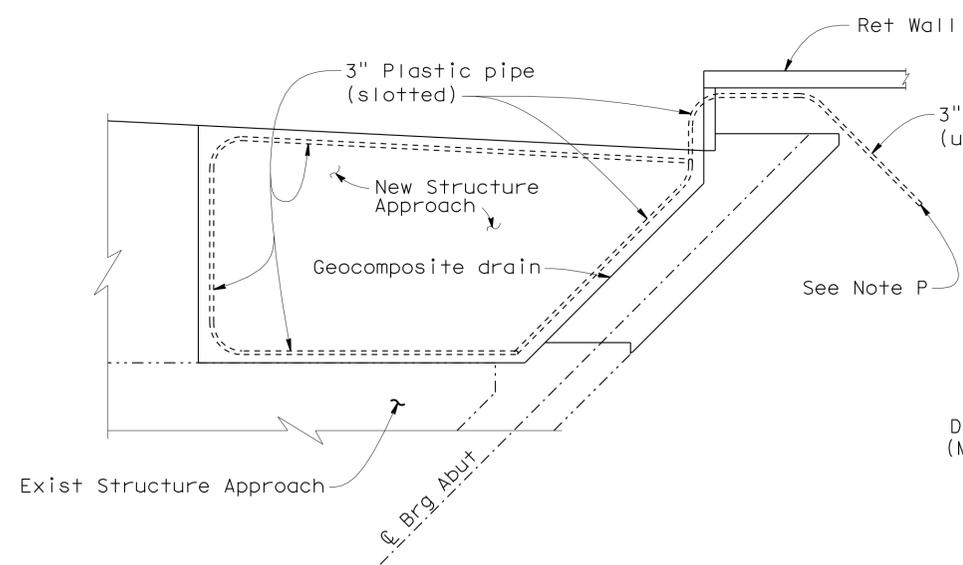


PLAN - ABUTMENT 1 LEFT AND ABUTMENT 4 RIGHT
No Scale

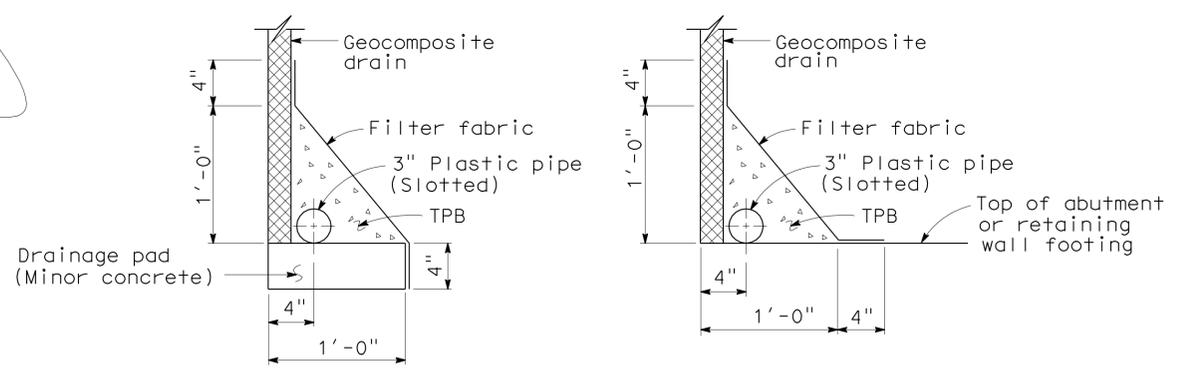
NOTE P
Outlet into existing concrete ditch at toe of embankment at Abut 1. Outlet at toe of embankment slope at Abut 4.



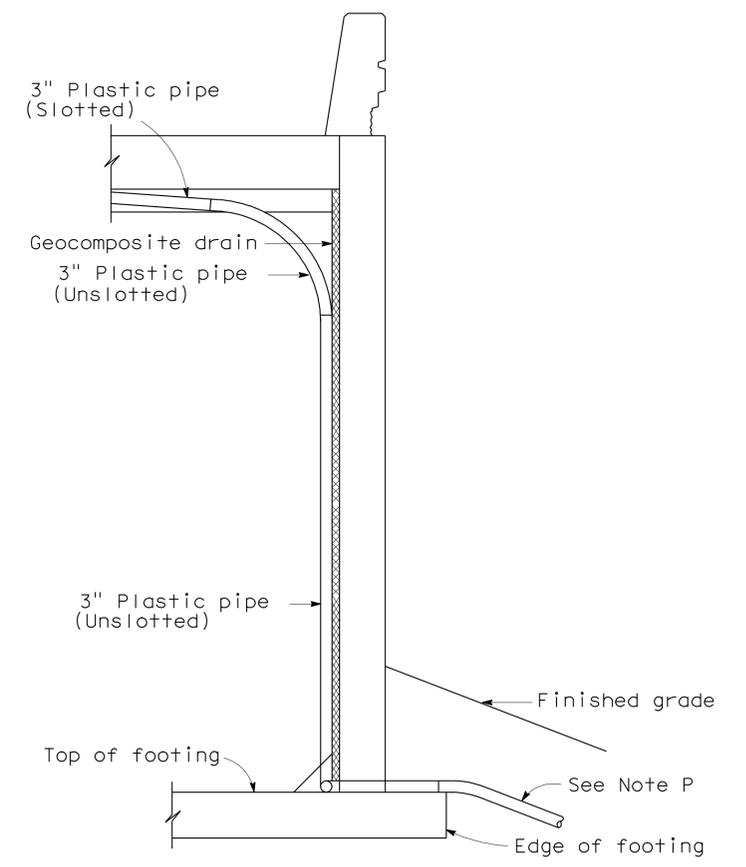
RETAINING WALL WINGWALL SECTION G-G
No Scale



PLAN - ABUTMENT 1 RIGHT AND ABUTMENT 4 LEFT
No Scale



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



SECTION E-E
No Scale

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

DESIGN	BY RICHARD SCHENDEL	CHECKED ZIHAN YAN
DETAILS	BY RICHARD SCHENDEL	CHECKED ZIHAN YAN
QUANTITIES	BY DAVID P. MURRAY	CHECKED RUPERD WILSON

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

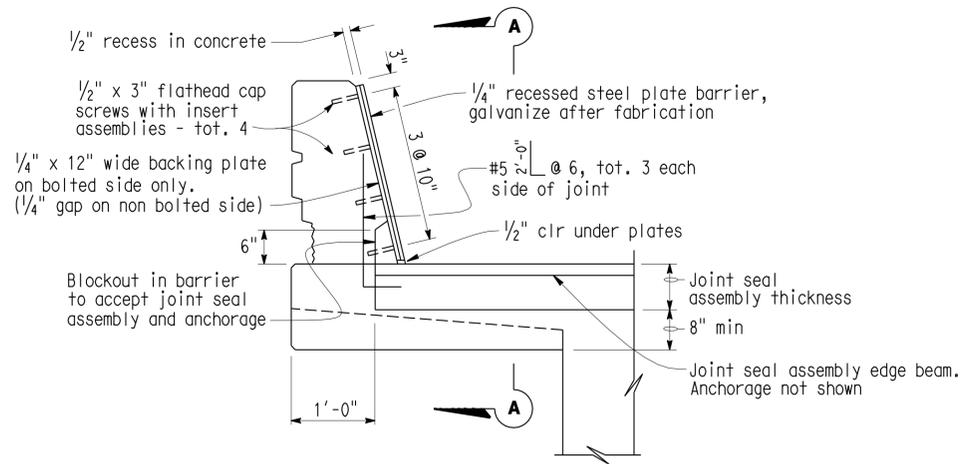
BRIDGE NO.	53-2790R/L
POST MILE	47.9

GAVIN CANYON UC (WIDEN)
STRUCTURE APPROACH DRAINAGE DETAILS

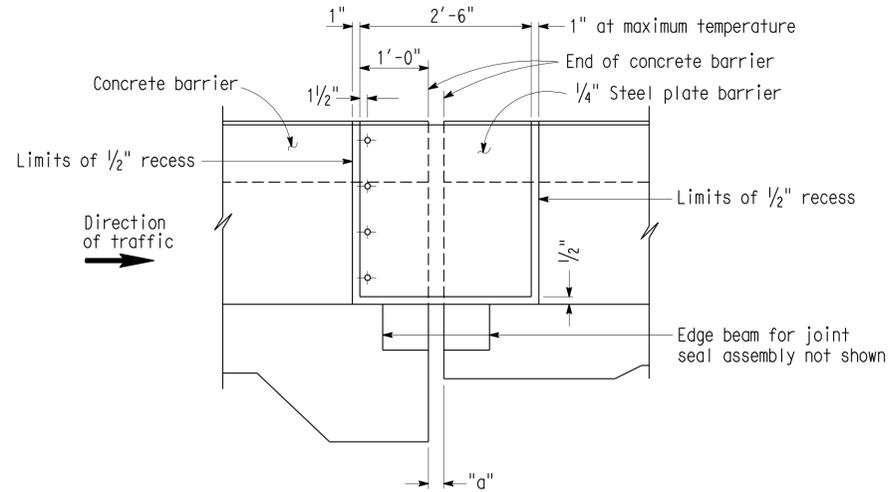
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	5	R46.3/R50.0	427	456

12/03/10
 REGISTERED ENGINEER - CIVIL
 4-25-11
 PLANS APPROVAL DATE
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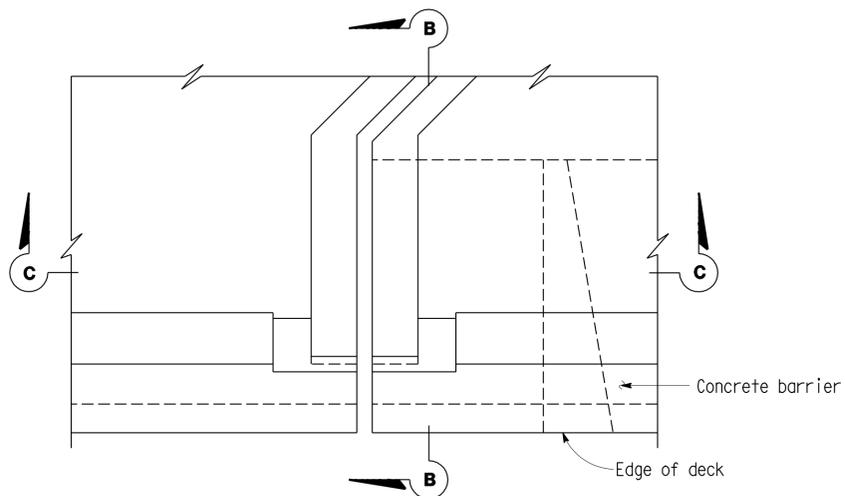


SEAL INSTALLATION ①
No Scale

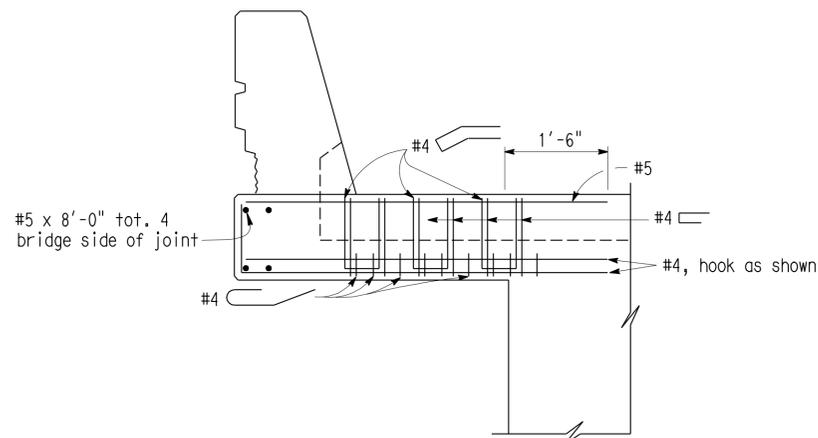


ELEVATION A-A ①
No Scale

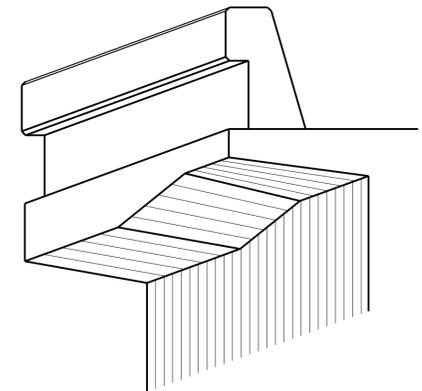
LOCATION	MOVEMENT RATING (M.R.)	"a" DIMENSION			
		SKEW	WINTER	SPRING & FALL	SUMMER
Abut 1 Lt	7"	45°	4"	3"	2"
Abut 1 Rt	7"	45°	4"	3"	2"
Abut 4 Lt	7"	45°	4"	3"	2"
Abut 4 Rt	7"	45°	4"	3"	2"



PLAN - DECK JOINT ①
No Scale



SECTION B-B ①
No Scale
Note: Reinf shown is in addition to slab reinf.

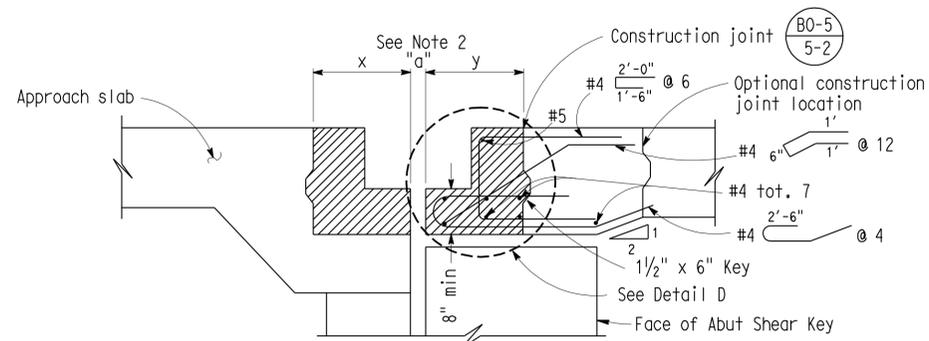


DECK OVERHANG AT ABUTMENT ①
No Scale

- Notes:
- Abutment not shown.
 - Barrier architectural treatment not shown.

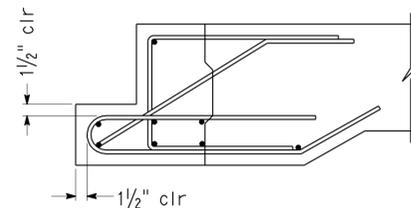
NOTES

- For details not shown, see other sheets.
- x is greater than or equal to y



SECTION C-C ①
No Scale

Indicates joint seal assembly blockout



DETAIL D
No Scale

SPECIAL DETAILS

GAVIN CANYON UC (WIDEN)

ABUTMENT JOINT SEAL DETAILS

MOVEMENT RATING GREATER THAN 4"

REVISED STANDARD DRAWING

FILE NO. **xs8-030e**

APPROVED BY **T DELIS** RESPONSIBLE TECHNICAL SPECIALIST

RELEASED BY **ROBERTO LACALLE** RESPONSIBLE OFFICE CHIEF

APPROVAL DATE **5-8-08 REVISED**

RELEASE DATE **5-8-08 REVISED**

- Modified detail
- Removed detail

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 53-2790R/L

POST MILE 47.9

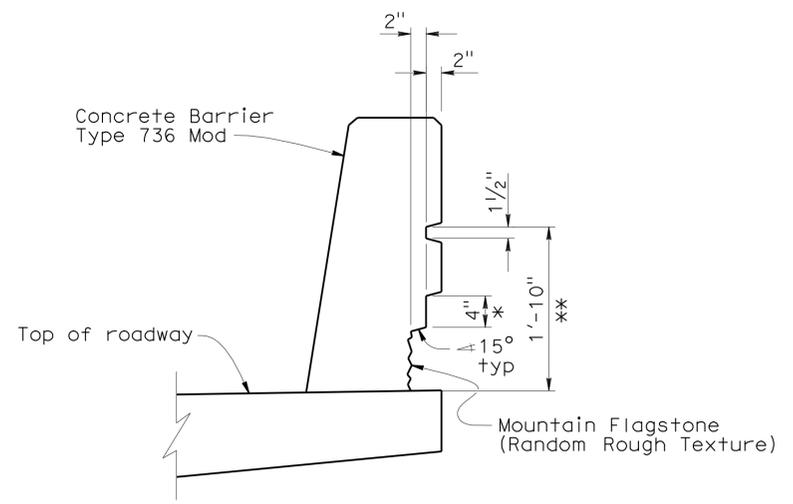
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	428	456

Richard Schendel
REGISTERED CIVIL ENGINEER DATE 04/12/11

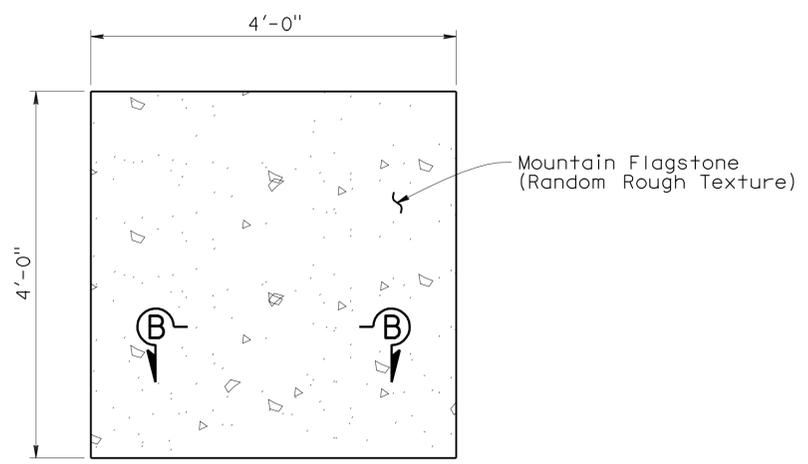
4-25-11
PLANS APPROVAL DATE

RICHARD E. SCHENDEL
No. C 64259
Exp. 06/30/11
CIVIL
STATE OF CALIFORNIA

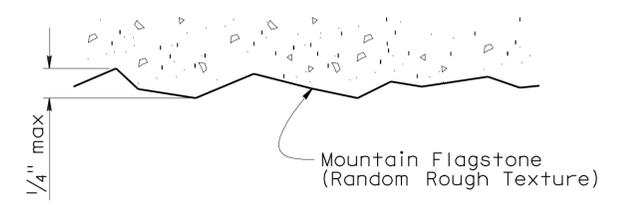
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SECTION A-A
1" = 1'-0"



TEST PANEL
No Scale

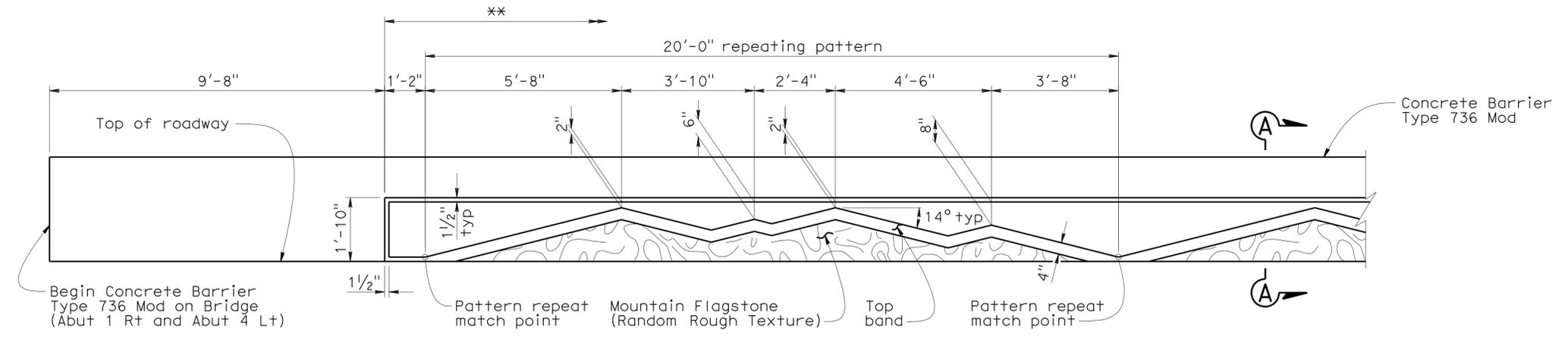


SECTION B-B
No Scale

* Measured normal to top band
** Limits of architectural treatment

NOTES

1. All concrete surfaces are smooth concrete texture unless otherwise noted.
2. For details not shown, see Standard Plan B11-56.
3. Mountain Flagstone (Random Rough Texture) shall be stain color concrete, see Special Provisions for color.



ELEVATION
1/2" = 1'-0"

Note
Pattern to continue uninterrupted onto RW 2452 and RW 2521, see "ROAD PLANS".

DESIGN	BY RICHARD SCHENDEL	CHECKED ZIHAN YAN
DETAILS	BY RICHARD SCHENDEL	CHECKED ZIHAN YAN
QUANTITIES	BY RICHARD SCHENDEL	CHECKED ZIHAN YAN

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

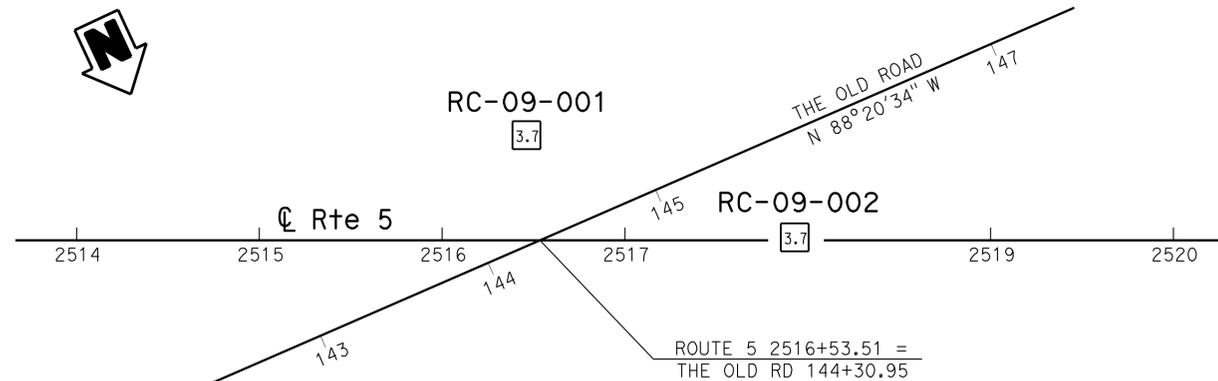
DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO.	53-2790R/L
POST MILE	47.9

GAVIN CANYON UC (WIDEN)
CONCRETE BARRIER TYPE 736 MODIFIED

BENCH MARK

PRHV 69 Elev 1460.57'
 Fd 1" Pk nail w/CT washer flush in AC, ±2.0' from the back of concrete barrier on NB The Old Road, ±10.0' from the first column of bent 3 of NB Gavin Canyon Bridge, 22.45' Rt Sta 2516+94.62 @ Rte 5.
 N 1950342.10
 E 6397891.43
 NAVD 88

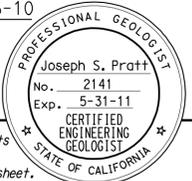


PLAN

1" = 50'

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	429	456

Joseph S. Pratt 10-26-10
 CERTIFIED ENGINEERING GEOLOGIST



4-25-11
 PLANS APPROVAL DATE

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



PROFILE

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

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA		DIVISION OF ENGINEERING SERVICES		BRIDGE NO.		GAVIN CANYON UC (WIDEN)	
FUNCTIONAL SUPERVISOR		DRAWN BY: I.G-Remmen, 10/10		DEPARTMENT OF TRANSPORTATION		STRUCTURE DESIGN		53-2790R/L		LOG OF TEST BORINGS 1 OF 8	
NAME: T. Le		CHECKED BY: Hung Po Yang		FIELD INVESTIGATION BY: J. Pratt		DESIGN BRANCH 18		POST MILES		REVISION DATES	
065 CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		CU 07		2332A1		47.9		10-19-10 10-25-10	
										SHEET 31 OF 38	

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	430	456

Joseph S. Pratt 10-26-10
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 No. 2141
 Exp. 5-31-11
 4-25-11
 PLANS APPROVAL DATE
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FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 8"

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



ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA		DIVISION OF ENGINEERING SERVICES		BRIDGE NO.		GAVIN CANYON UC (WIDEN)	
FUNCTIONAL SUPERVISOR		DRAWN BY: I.G-Remmen, 10/10		DEPARTMENT OF TRANSPORTATION		STRUCTURE DESIGN		53-2790R/L		LOG OF TEST BORINGS 2 OF 8	
NAME: T. Le		CHECKED BY: Hung Po Yang		FIELD INVESTIGATION BY: J. Pratt		DESIGN BRANCH 18		POST MILES			
065 CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		CU 07 EA 2332A1		47.9		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES	
				0 1 2 3				10-19-10 10-25-10		SHEET 32 OF 38	

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	431	456

Joseph S. Pratt 10-26-10
 CERTIFIED ENGINEERING GEOLOGIST

4-25-11
 PLANS APPROVAL DATE

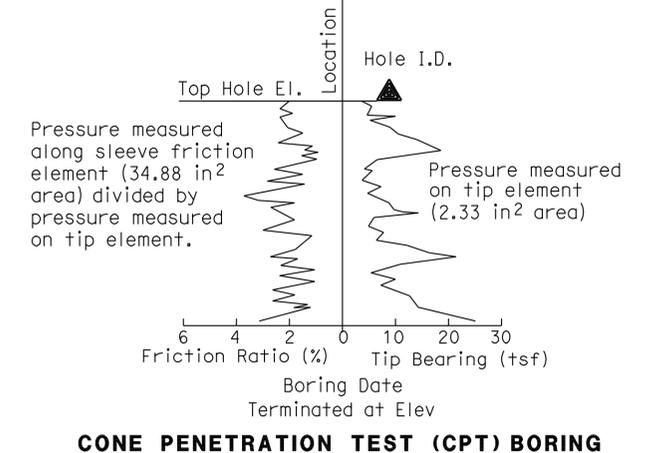
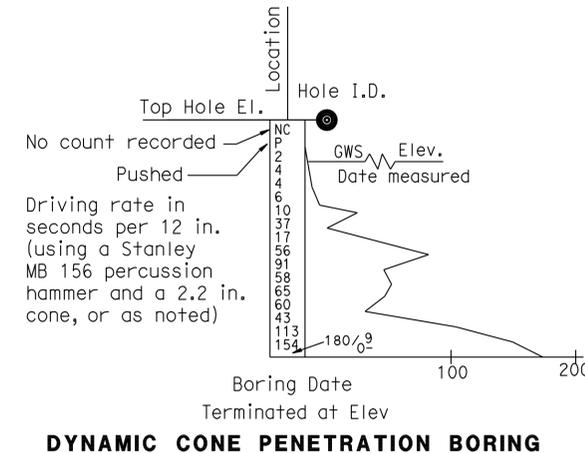
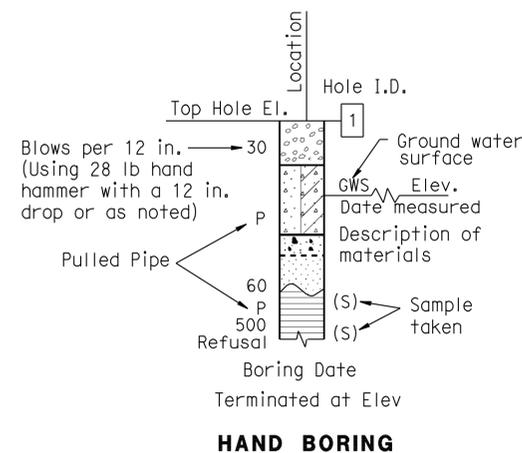
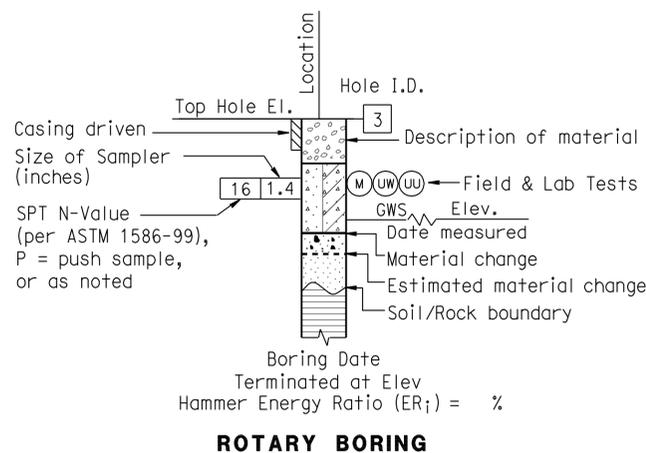
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CEMENTATION	
Description	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

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

Note: Size in inches.

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



ENGINEERING SERVICES	GEOTECHNICAL SERVICES PREPARED BY: I.G-Remmen, 10/10	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53-2790R/L	GAVIN CANYON UC (WIDEN) LOG OF TEST BORINGS 3 OF 8
				POST MILE 47.9	
GS LOTB SOIL LEGEND	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU 07 EA 2332A1	DISREGARD PRINTS BEARING EARLIER REVISION DATES	10-19-10	SHEET 33 OF 38

FILE => 53-2790r1-z-1+tb03.dgn

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

Joseph S. Pratt 10-26-10
 CERTIFIED ENGINEERING GEOLOGIST
 No. 2141
 Exp. 5-31-11
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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	

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4-25-11
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PERCENT CORE RECOVERY (REC) & ROCK QUALITY DESIGNATION (RQD)

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

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

RQD* Indicates soundness criteria not met.

BEDDING SPACING

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

LEGEND OF ROCK MATERIALS

- IGNEOUS ROCK
- SEDIMENTARY ROCK
- METAMORPHIC ROCK

ROCK HARDNESS

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

WEATHERING DESCRIPTORS FOR INTACT ROCK

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

FRACTURE DENSITY

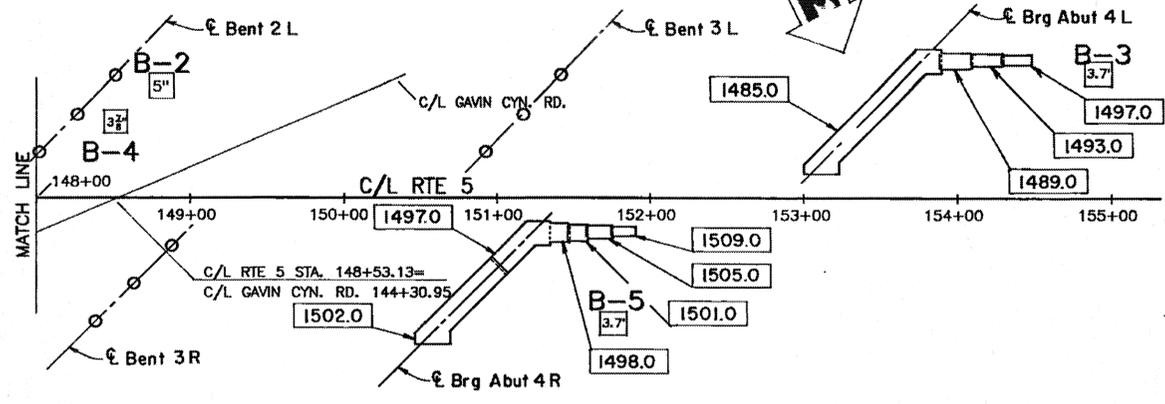
Description	Observed Fracture Density
Unfractured	No fractures.
Very Slightly Fractured	Core lengths greater than 3 ft.
Slightly Fractured	Core lengths mostly from 1 to 3 ft.
Moderately Fractured	Core lengths mostly from 4 in. to 1 ft.
Intensely Fractured	Core lengths mostly from 1 to 4 in.
Very Intensely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

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	5	R47.6/R48.1	32AS2	32

REGISTERED ENGINEER - CIVIL	
R.C. DORIA	
No. 50821	
Exp. 9-30-97	
CIVIL	
STATE OF CALIFORNIA	

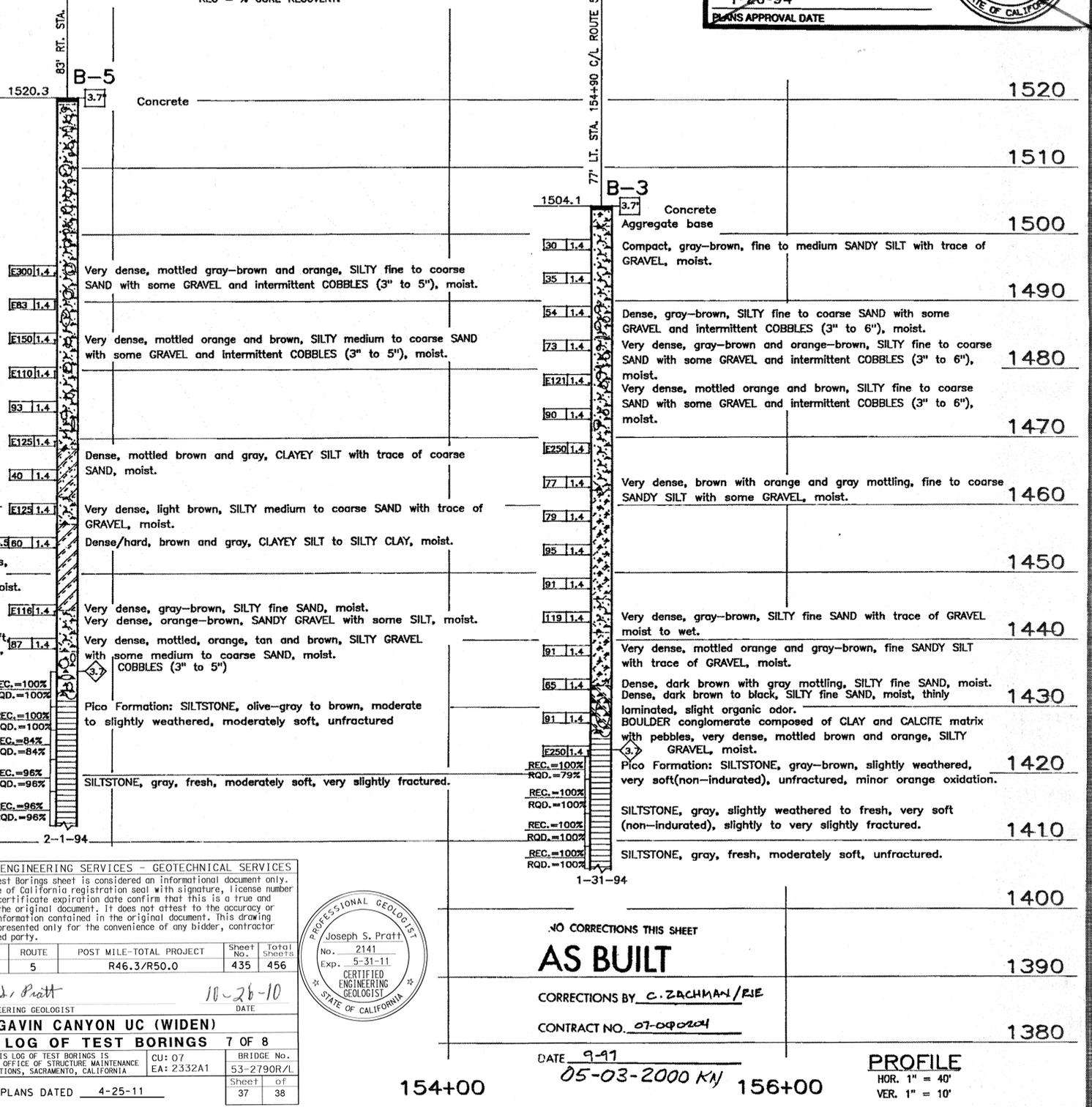
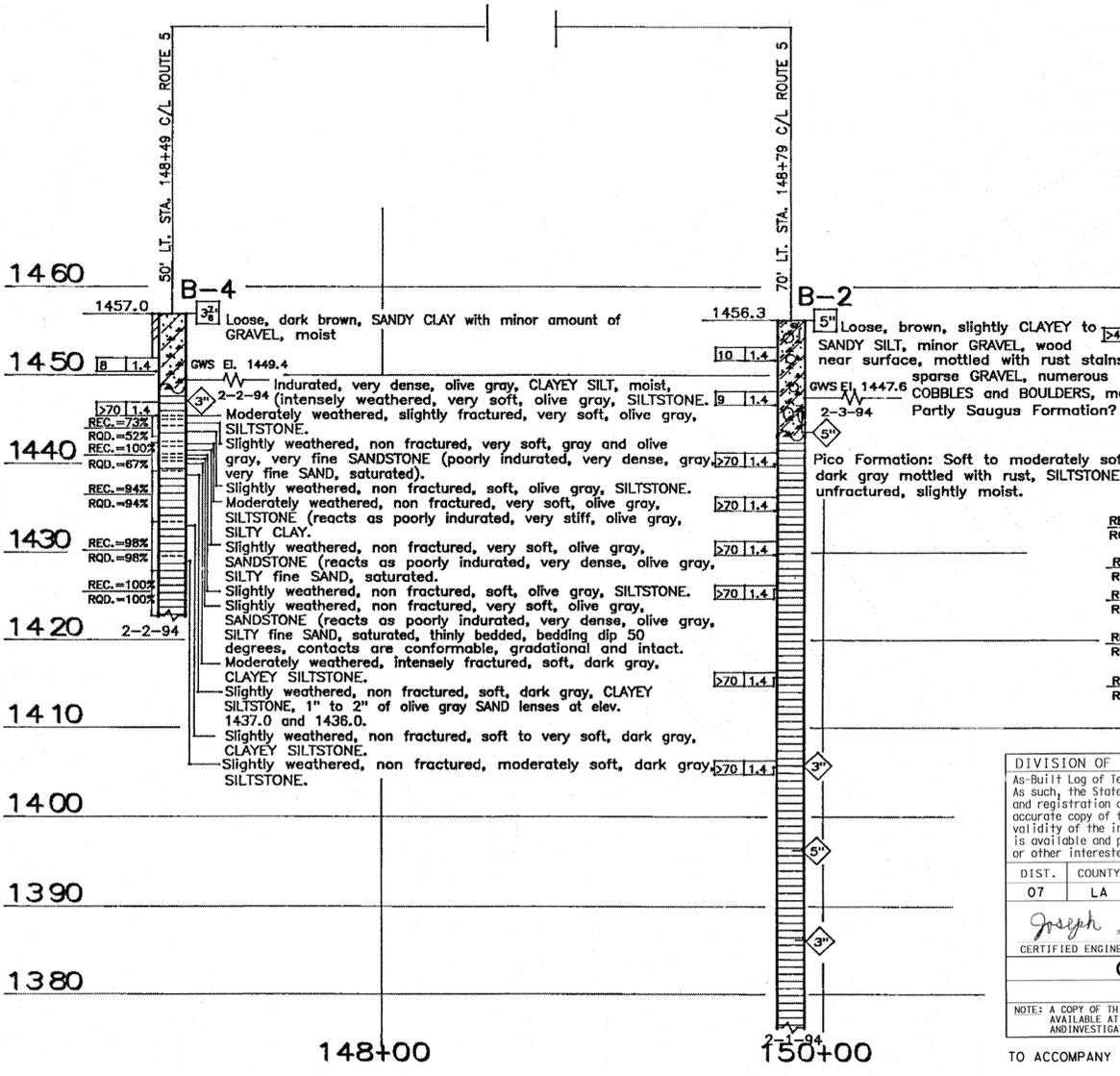
1-26-94
PLANS APPROVAL DATE

- NOTES:
- E = BLOW COUNT FOR ONE FOOT PENETRATION EXTRAPOLATED FROM BLOW COUNT FOR LESS THAN ONE FOOT (DUE TO CHANGE IN MATERIAL OR HARD DRIVING).
 - UNCONFINED COMPRESSIVE STRENGTH DETERMINED BY "POCKET PENETROMETER".
 - RQD = ROCK QUALITY DESIGNATION.
REC = % CORE RECOVERY.



BENCH MARK
SEE LOG OF TEST BORINGS, SHEET 1 OF 3.

PLAN
1" = 60'



DIVISION OF ENGINEERING SERVICES - GEOTECHNICAL SERVICES

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

DIST.	COUNTY	ROUTE	POST MILE-TOTAL PROJECT	Sheet No.	Total Sheets
07	LA	5	R46.3/R50.0	435	456

Joseph S. Pratt
10-26-10
DATE

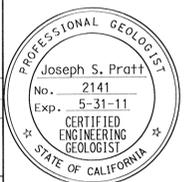
CERTIFIED ENGINEERING GEOLOGIST

GAVIN CANYON UC (WIDEN)
LOG OF TEST BORINGS 7 OF 8

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

CU 07	BRIDGE No.
EA 2332A1	53-2790R/L
	Sheet of
	37 38

TO ACCOMPANY PLANS DATED 4-25-11



NO CORRECTIONS THIS SHEET

AS BUILT

CORRECTIONS BY C. ZACHMAN/RIE

CONTRACT NO. 07-090204

DATE 9-97

05-03-2000 KAJ

PROFILE
HOR. 1" = 40'
VER. 1" = 10'

LEGEND OF BORING OPERATIONS

LEGEND OF EARTH MATERIALS

CONSISTENCY CLASSIFICATION FOR SOILS

According to the Standard Penetration Test

Penetration Index (Blows / Ft)	Cohesive	Granular
0-4	Very soft	Very loose
5-9	Soft	Loose
10-14	Stiff	Medium dense
15-19	Very stiff	Dense
20-29	Hard	Very dense
30-39	Very hard	
40-49		
50-59		
60-69		
70		

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.

DIVISION OF NEW TECHNOLOGY, MATERIALS AND RESEARCH		OFFICE OF ENGINEERING GEOLOGY		FIELD INVESTIGATION BY:		State of CALIFORNIA DEPARTMENT OF TRANSPORTATION		DIVISION OF STRUCTURES STRUCTURE DESIGN 11		BRIDGE NO. 53-2790R/L POST MILE 48.0		GAVIN CANYON ROAD UC (REPLACE) LOG OF TEST BORINGS 2 OF 3	
DRAWN BY	K. WAHL	2-94		T. ALDERMAN, J. PRATT M. PALMER, B. KOMORNICZAK, R. DORIA, F. GERAMI		CU 07 EA 00201		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES (PRELIMINARY STAGE ONLY)		SHEET 07	

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

FILENAME => 53-2790R1-z-1tb07.tif

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	437	456

Richard E. Schendel
 REGISTERED CIVIL ENGINEER DATE 12/03/10

4-25-11
 PLANS APPROVAL DATE

Richard E. Schendel
 No. C 64259
 Exp. 06/30/11
 CIVIL
 STATE OF CALIFORNIA

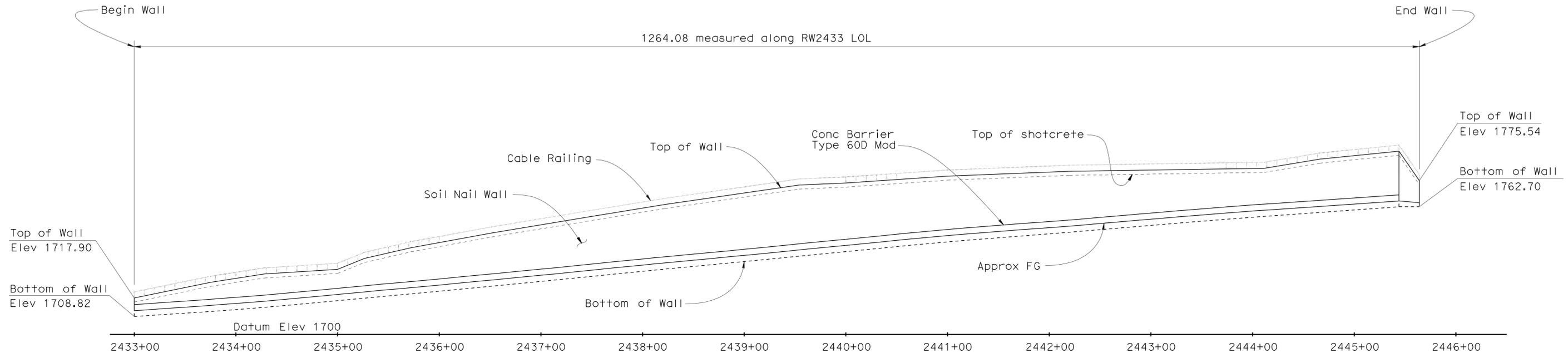
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CURVE DATA

CURVE	R	Δ	T	L
①	3018.00	21°41'21"	578.15'	1142.46'
②	2879.76	7°52'00"	198.01'	395.39'

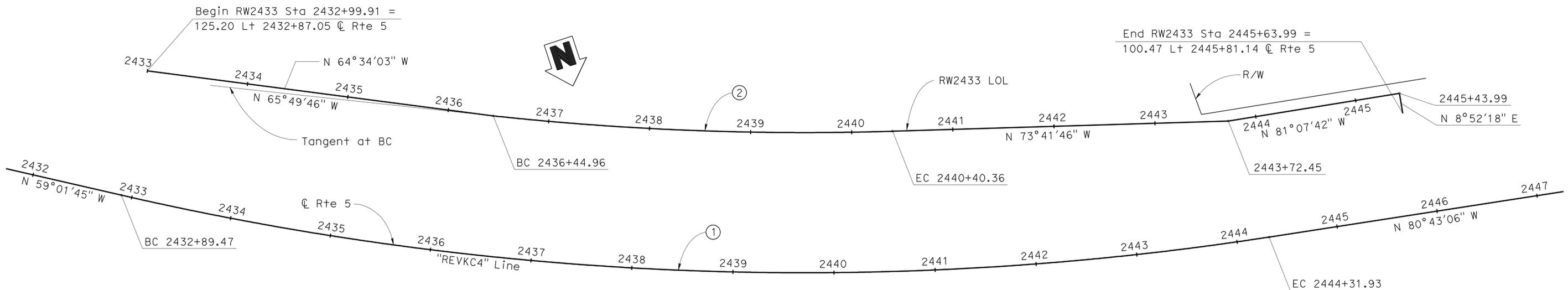
NOTES:

1. For typical sections of Soil Nail Wall, see "GENERAL PLAN NO. 2" and "TYPICAL SECTION" sheets.
2. For "GENERAL NOTES", "INDEX TO PLANS", and "STANDARD PLANS", see "INDEX TO PLANS" sheet.
3. For "QUANTITIES", see "GENERAL PLAN NO. 2" sheet.



DEVELOPED ELEVATION

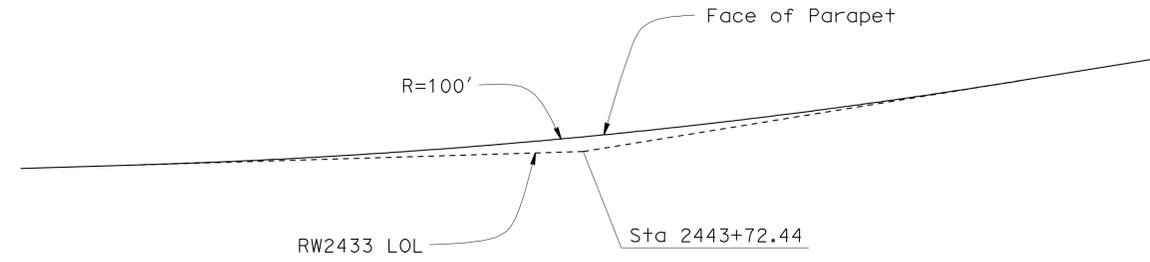
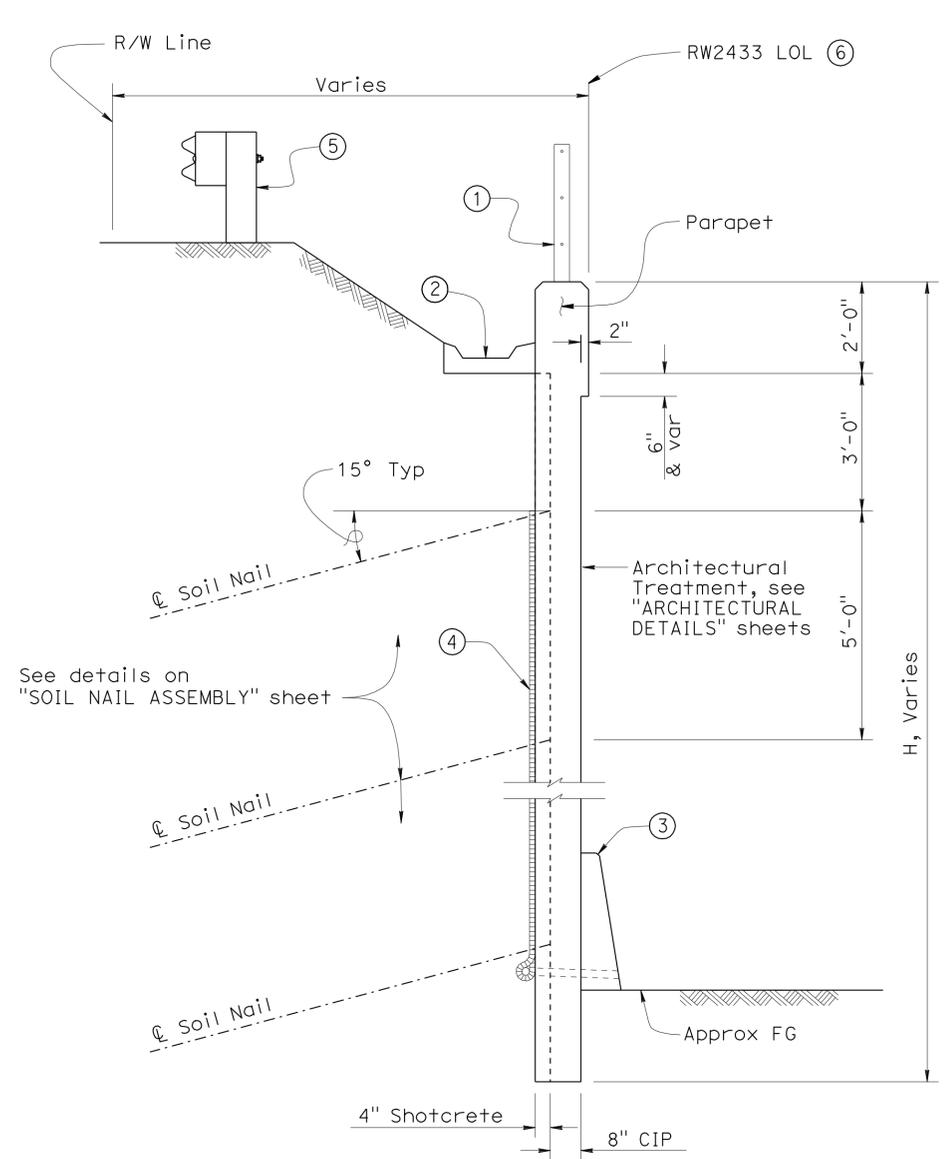
Horiz 1" = 50'
 Vert 1" = 25'



PLAN
 1" = 50'

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

MICHAEL POPE DESIGN ENGINEER	DESIGN	BY MICHAEL POPE	CHECKED MATTHEW SCHOTT	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO.	RETAINING WALL NO. 2433		
	DETAILS	BY MICHAEL POPE	CHECKED MATTHEW SCHOTT	LAYOUT	BY MICHAEL POPE			CHECKED MATTHEW SCHOTT	53E2365	GENERAL PLAN NO. 1	
	QUANTITIES	BY MICHAEL POPE	CHECKED MATTHEW SCHOTT	SPECIFICATIONS	BY THERESA NEDWICK			PLANS AND SPECS COMPARED THERESA NEDWICK	POST MILE		
							CU 07 EA 2332A1	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 1 OF 20	



DETAIL A
No Scale

SOIL NAIL WALL DESIGN TABLE

Zone	Station	Approximate Wall Height (ft)	Minimum Nail Length (ft)	Maximum Nail Spacing Vertical (ft)	Maximum Nail Spacing Horizontal (ft)	Q _D (lbs/ft)
1	2433+00 to 2435+50	7 to 19	25	5	5	2300
2	2435+50 to 2439+00	19 to 32	20	5	5	2300
3	2439+00 to 2442+00	28 to 33	20	5	5	2300
4	2442+00 to 2445+64	11 to 28	20	5	5	2300

Notes

1. Wall Height is a vertical distance from the top of shotcrete to the finished grade.
2. Inclination angle of nails is 15 degrees measured from horizontal.
3. First row of the nails is placed 5 feet below the top of wall, and nail spacing needs to be adjusted in areas with geometric constraints.

TYPICAL SECTION SOIL NAIL WALL

1/2" = 1'-0"

NOTES:

- ① Cable Railing
- ② Gutter, see Standard Plan B3-9 (from Begin RW2433 to sta 2445+44)
- ③ Concrete Barrier Type 60D Mod, see "ARCHITECTURAL DETAILS NO. 2" sheet
- ④ Geocomposite Drain, see "DRAINAGE DETAILS" sheet
- ⑤ Metal Beam Guard Rail, see "ROAD PLANS"
- ⑥ Face of Parapet at RW2433 LOL except as shown in "DETAIL A"

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

QUANTITIES

STRUCTURE EXCAVATION (SOIL NAIL WALL)	2,450 CY
STRUCTURE BACKFILL (SOIL NAIL WALL)	139 CY
SOIL NAIL ASSEMBLY	27,065 LF
STRUCTURAL CONCRETE, RETAINING WALL	880 CY
ARCHITECTURAL TREATMENT	24,300 SQFT
BAR REINFORCING STEEL (RETAINING WALL)	133,960 LB
SHOTCRETE	377 CY
MINOR CONCRETE (GUTTER)	42 CY
CONCRETE BARRIER (TYPE 60D MODIFIED)	1,244 LF
CABLE RAILING	1,264 LF

MICHAEL POPE DESIGN ENGINEER	DESIGN	BY MICHAEL POPE	CHECKED MATTHEW SCHOTT	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO.	RETAINING WALL NO. 2433 GENERAL PLAN NO. 2	
	DETAILS	BY MICHAEL POPE	CHECKED MATTHEW SCHOTT	LAYOUT	BY MICHAEL POPE			CHECKED MATTHEW SCHOTT		53E2365
	QUANTITIES	BY MICHAEL POPE	CHECKED MATTHEW SCHOTT	SPECIFICATIONS	BY THERESA NEDWICK			PLANS AND SPECS COMPARED THERESA NEDWICK		POST MILE 46.3
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS						CU 07 EA 2332A1	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 2 OF 20	

STRUCTURES DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.07-24-06) FILE => 53e2365-a-gp02.dgn

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	FOUNDATION PLAN NO. 3
7	STRUCTURE PLAN NO. 1
8	STRUCTURE PLAN NO. 2
9	STRUCTURE PLAN NO. 3
10	TYPICAL SECTION
11	SOIL NAIL ASSEMBLY
12	DRAINAGE DETAILS
13	ARCHITECTURAL DETAILS NO. 1
14	ARCHITECTURAL DETAILS NO. 2
15	LOG OF TEST BORINGS 1 OF 6
16	LOG OF TEST BORINGS 2 OF 6
17	LOG OF TEST BORINGS 3 OF 6
18	LOG OF TEST BORINGS 4 OF 6
19	LOG OF TEST BORINGS 5 OF 6
20	LOG OF TEST BORINGS 6 OF 6

GENERAL NOTES LOAD FACTOR DESIGN

DESIGN: BRIDGE DESIGN SPECIFICATIONS - April 2000 (1996 AASHTO with Revisions by CALTRANS)
 LIVE LOADING: No live loading
 REINFORCED CONCRETE & SHOTCRETE: $f_y = 60$ ksi (Yield Strength of Reinforcement)
 $f'_c = 3.6$ ksi (Compressive Strength at 28 days)
 STRUCTURAL PLATE: ASTM Designation: A36/A 36M, Grade 36, $F_y = 36$ ksi
 SOIL NAIL: ASTM Designation: A 615/A 615M Grade 75, $F_y = 75$ ksi

Soil Nail Wall Sta. 2433+00 to 2435+50

Layer No.	Depth (ft)	Unit Weight (pcf)	Shear Strength Parameters
1	0-19	125	$\Phi = 35^\circ$ Cu = 50 psf
2	19-39	125	$\Phi = 30^\circ$ Cu = 500 psf

Soil Nail Wall Sta. 2435+50 to 2442+00

Layer No.	Depth (ft)	Unit Weight (pcf)	Shear Strength Parameters
1	0-10	132	$\Phi = 36^\circ$ Cu = 50 psf
2	10-20	134	$\Phi = 35^\circ$ Cu = 500 psf
3	20-45	125	$\Phi = 34^\circ$ Cu = 50 psf

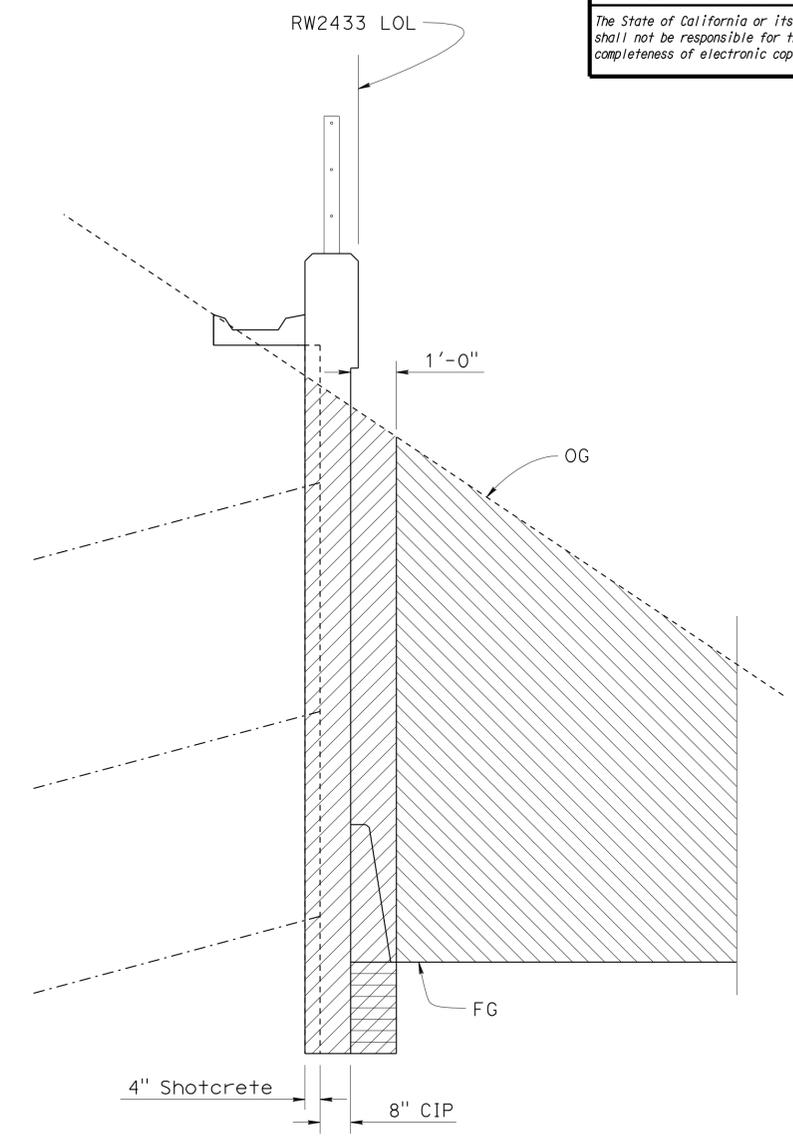
Soil Nail Wall Sta. 2442+00 to 2445+64

Layer No.	Depth (ft)	Unit Weight (pcf)	Shear Strength Parameters
1	0-15	133	$\Phi = 37^\circ$ Cu = 50 psf
2	15-30	128	$\Phi = 38^\circ$ Cu = 50 psf
3	30-100	133	$\Phi = 40^\circ$ Cu = 50 psf

Note: Depths are measured approximately from top of shotcrete

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)
- RSP A76A CONCRETE BARRIER TYPE 60
- B0-3 BRIDGE DETAILS
- B3-8 RETAINING WALL DETAILS NO. 1
- B3-9 RETAINING WALL DETAILS NO. 2
- B11-47 CABLE RAILING



LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL

1/2" = 1'-0"

LEGEND:

	Structure Excavation (Soil Nail Wall)
	Roadway Excavation, see "ROAD PLANS"
	Structure Backfill (Soil Nail Wall)

CURVE DATA

No.	R	Δ	T	L
①	2879.761'	7°52'00"	198.007'	395.392'
②	3018.002'	21°41'21"	578.151'	1142.462'

Ⓐ Sta 2432+99.91 Beginning of RW2433 LOL
 Sta 2432+87.05, 125.200' Lt @ Route 5

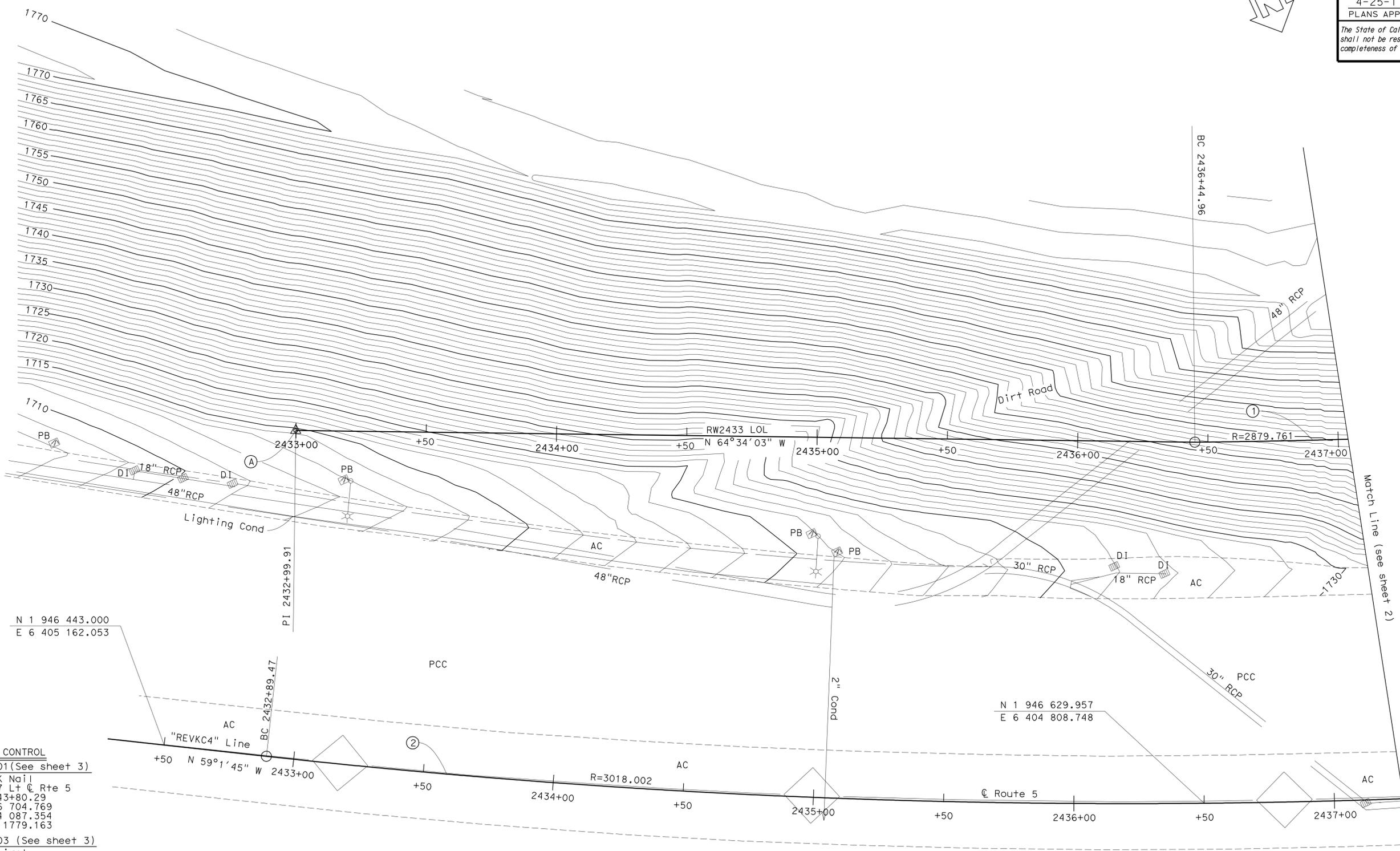
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	440	456

Richard E. Schendel 12/03/10
 REGISTERED CIVIL ENGINEER DATE

4-25-11
 PLANS APPROVAL DATE

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RICHARD E. SCHEDEL
 No. C 64259
 Exp. 06/30/11
 CIVIL
 STATE OF CALIFORNIA



N 1 946 443.000
 E 6 405 162.053

N 1 946 629.957
 E 6 404 808.748

SURVEY CONTROL
 PRHV 801 (See sheet 3)
 Fnd PK Nail
 142.827 Lt @ Rte 5
 Sta 2443+80.29
 N 1 946 704.769
 E 6 404 087.354
 Elev = 1779.163

PMHV 803 (See sheet 3)
 Fnd Spiral
 154.236 Lt @ Rte 5
 Sta 2446+55.66
 N 1 946 737.943
 E 6 403 816.232
 Elev = 1791.538

NOTES:
 UNDERGROUND UTILITIES AS SHOWN ARE APPROXIMATE

PRELIMINARY INVESTIGATION SECTION				DESIGN BY MICHAEL POPE	CHECKED MATTHEW SCHOTT	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53E2365	RETAINING WALL NO. 2433 FOUNDATION PLAN NO. 1
SCALE VERT. DATUM NAVD 88(1991.35)	PHOTOGRAMMETRY AS OF: X	DRAFTED BY M Sadaghiani 05-10	CHECKED BY E Viajar 05-10	DETAILS BY MATTHEW SCHOTT	CHECKED RICHARD SCHEDEL			POST MILE 46.3	
1"=20'	HORZ. DATUM NAD 83	SURVEYED BY District	CHECKED BY T Phung 04-10	QUANTITIES BY MICHAEL POPE	CHECKED MATTHEW SCHOTT				
STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 10/25/05)		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				CU 07 EA 2332A1	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 5/6/10 8/2/10 09-15-10 09-21-10 09-29-10 10-07-10	SHEET 4 OF 20

USERNAME => HSTFK DATE PLOTTED => 26-APR-2011 TIME PLOTTED => 12:19

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	441	456

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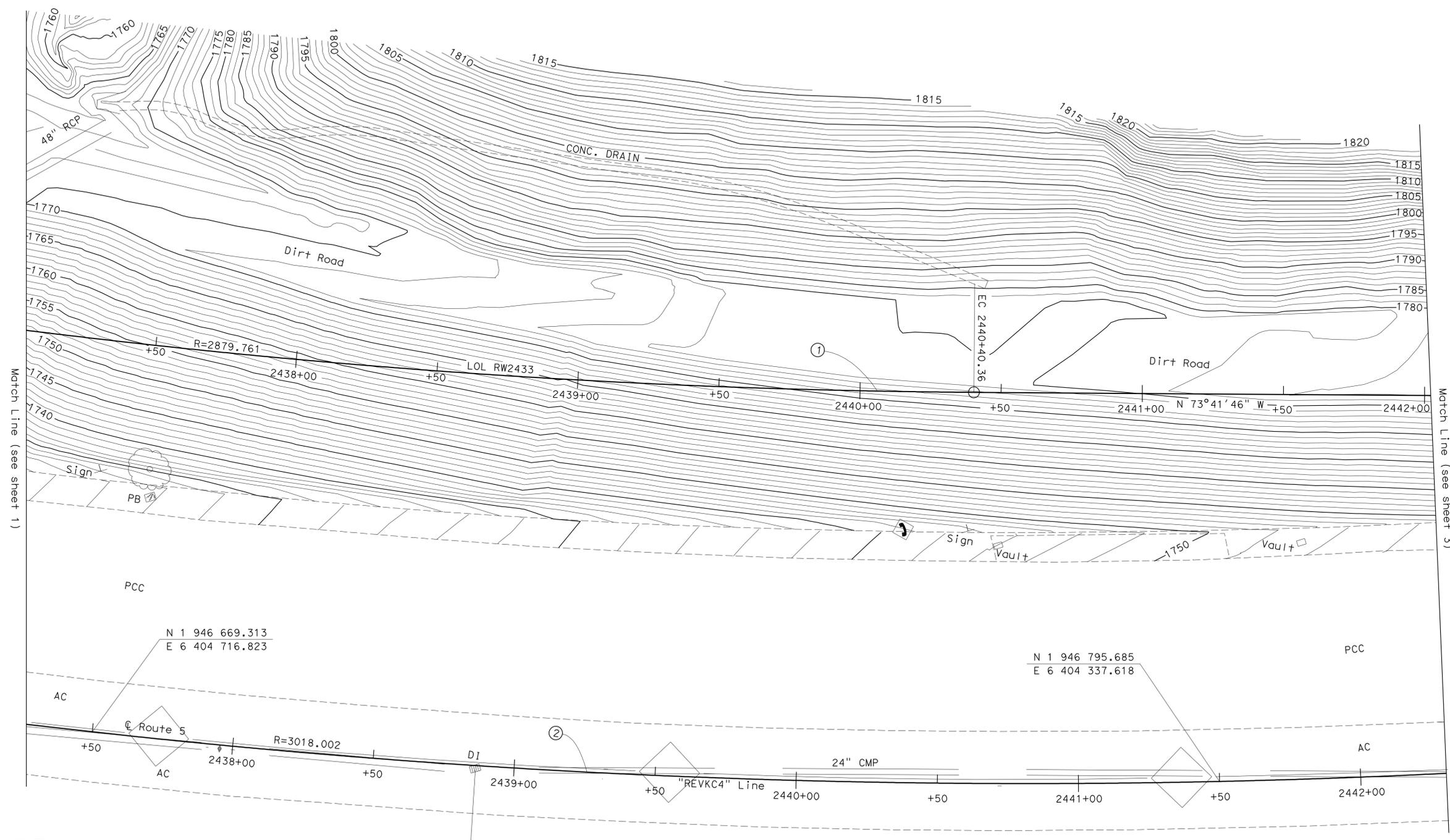
No.	R	Δ	T	L
①	2879.761'	7°52'00"	198.007'	395.392'
②	3018.002'	21°41'21"	578.151'	1142.462'

Richard E. Schendel 12/03/10
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4-25-11
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REGISTERED PROFESSIONAL ENGINEER
 RICHARD E. SCHENDEL
 No. C 64259
 Exp. 06/30/11
 CIVIL
 STATE OF CALIFORNIA



SURVEY CONTROL
 See sheet (1)

NOTES:
 UNDERGROUND UTILITIES AS SHOWN ARE APPROXIMATE

PRELIMINARY INVESTIGATION SECTION				DESIGN BY MICHAEL POPE	CHECKED MATTHEW SCHOTT	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53E2365	RETAINING WALL NO. 2433 FOUNDATION PLAN NO. 2	
SCALE 1"=20'	VERT. DATUM NAVD 88(1991.35)	PHOTOGRAMMETRY AS OF: X	DETAILS BY MATTHEW SCHOTT	CHECKED RICHARD SCHENDEL	POST MILE 46.3					
ALIGNMENT TIES Dist Trav Sheets	DRAFTED BY M Sadaghiani 05/10	CHECKED BY E Viajar 05-10	QUANTITIES BY MICHAEL POPE	CHECKED MATTHEW SCHOTT						
STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 10/25/05)						ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU 07 EA 2332A1	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 5/6/10 8/22/10 09-13-10	SHEET 5 OF 20

FILE => 53E2365-e-fdp102.dgn

USERNAME => HSTFK DATE PLOTTED => 26-APR-2011 TIME PLOTTED => 12:19

CURVE DATA				
No.	R	Δ	T	L
②	3018.002'	21°41'21"	578.151'	1142.462'

Ⓑ Sta 2445+63.99 End of RW2433 LOL
Sta 2445+81.14, 100.471' Lt @ Route 5

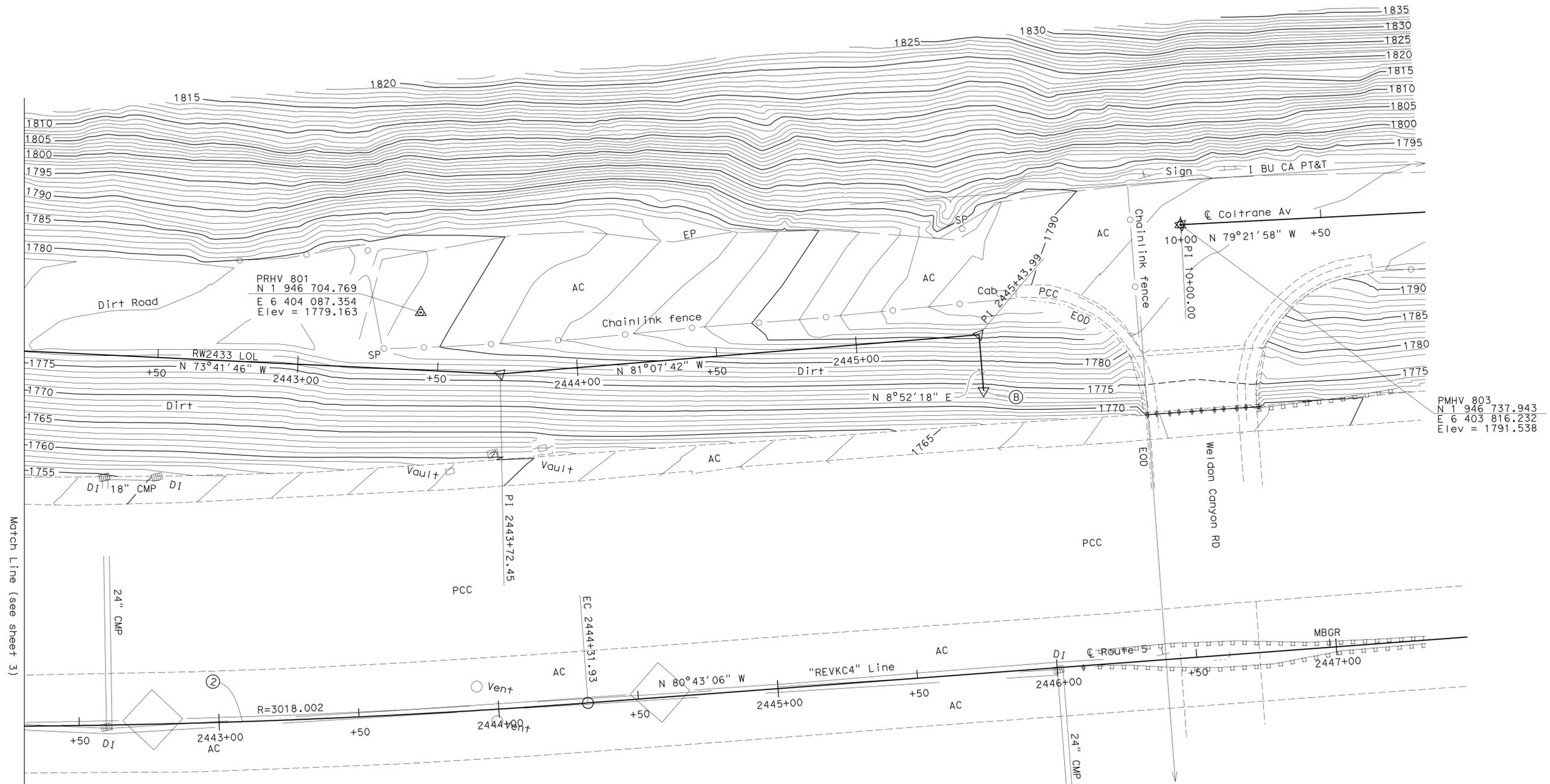
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	442	456

Richard E. Schendel
REGISTERED CIVIL ENGINEER DATE 12/03/10

4-25-11
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RICHARD E. SCHENDEL
No. C 64259
Exp. 06/30/11
CIVIL
STATE OF CALIFORNIA



Match Line (see sheet 3)

SURVEY CONTROL
See sheet (1)

NOTES:
UNDERGROUND UTILITIES AS SHOWN ARE APPROXIMATE

PRELIMINARY INVESTIGATION SECTION				DESIGN	BY MICHAEL POPE	CHECKED MATTHEW SCHOTT	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO.	RETAINING WALL NO. 2433								
SCALE	VERT. DATUM	NAVD 88(1991.35)	PHOTOGRAMMETRY AS OF: X	DETAILS	BY MATTHEW SCHOTT	CHECKED RICHARD SCHENDEL			53E2365	FOUNDATION PLAN NO. 3								
1"=20'	HORZ. DATUM	NAD 83	SURVEYED BY District	QUANTITIES	BY MICHAEL POPE	CHECKED MATTHEW SCHOTT			POST MILE									
ALIGNMENT TIES Dist Trav Sheets				DRAFTED BY M Sadaghiani 05-10	CHECKED BY E Viator 05-10		46.3	REVISION DATES		SHEET 6	OF 20							
STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 10/25/05)				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				CU 07 EA 2332A1	DISREGARD PRINTS BEARING EARLIER REVISION DATES		5/6/10	8/2/10	09-13-10					

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DATE PLOTTED => 26-APR-2011
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NOTES:

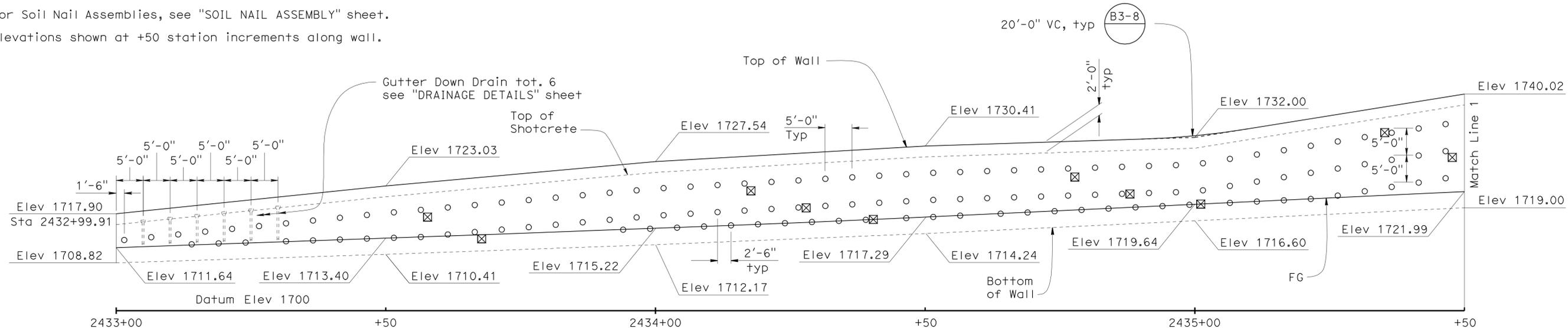
1. The exact location of the proof test nails are to be determined by the Engineer in the field.
2. Cable Railing and Concrete Barrier not shown for clarity.
3. Soil Nail Assembly inclination is 15°.
4. Bottom row of Soil Nails should be no more than 5 feet and no less than 3 feet from bottom of wall.
5. Vertical distance from top of Shotcrete to the top level of soil nail assemblies shall be 3 feet.
6. For Soil Nail Assemblies, see "SOIL NAIL ASSEMBLY" sheet.
7. Elevations shown at +50 station increments along wall.

LEGEND

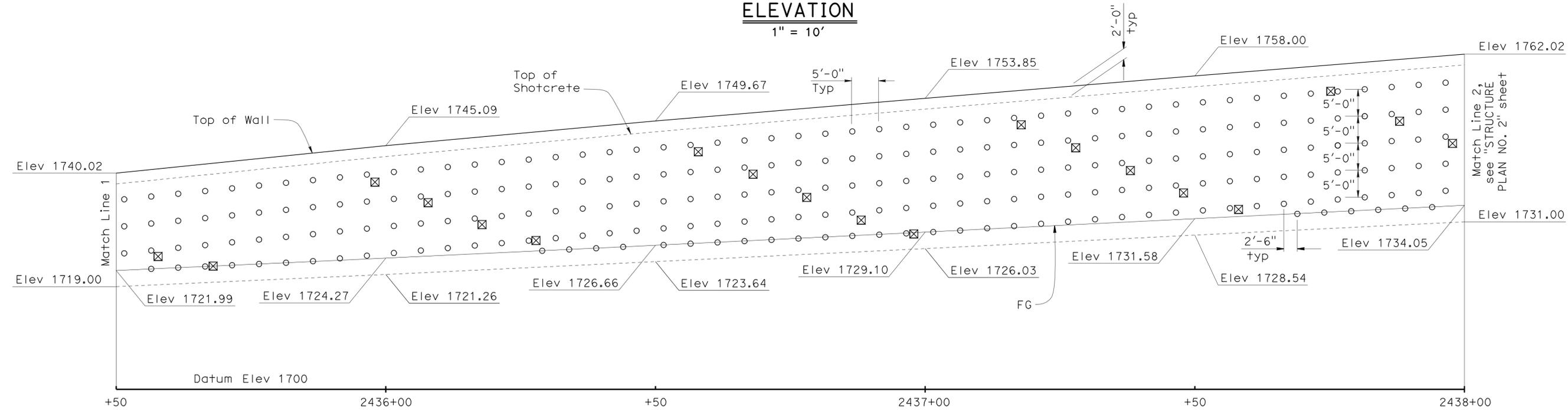
- Location of Soil Nail Assembly. (Total 366 this sheet)
- ⊗ Location of proof test nail or as directed by the Engineer. (Total 29 this sheet)

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	443	456

Richard E. Schendel
 REGISTERED CIVIL ENGINEER DATE 12/03/10
 4-25-11
 PLANS APPROVAL DATE
 No. C 64259
 Exp. 06/30/11
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 STATE OF CALIFORNIA
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ELEVATION
1" = 10'



ELEVATION
1" = 10'

DESIGN	BY MICHAEL POPE	CHECKED MATTHEW SCHOTT
DETAILS	BY MICHAEL POPE	CHECKED MATTHEW SCHOTT
QUANTITIES	BY MICHAEL POPE	CHECKED MATTHEW SCHOTT

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO.	53E2365
POST MILE	46.3

RETAINING WALL NO. 2433
STRUCTURE PLAN NO. 1



DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET	OF
	04/18/10 05/27/10 09-14-10 09-22-10 09-28-10 09-29-10	7	20

NOTES:

1. The exact location of the proof test nails are to be determined by the Engineer in the field.
2. Cable Railing and Concrete Barrier not shown for clarity.
3. Soil Nail Assembly inclination is 15°.
4. Bottom row of Soil Nails should be no more than 5 feet and no less than 3 feet from bottom of wall.
5. Vertical distance from top of Shotcrete to the top level of soil nail assemblies shall be 3 feet.
6. For Soil Nail Assemblies, see "SOIL NAIL ASSEMBLY" sheet.
7. Elevations shown at +50 station increments along wall.

LEGEND

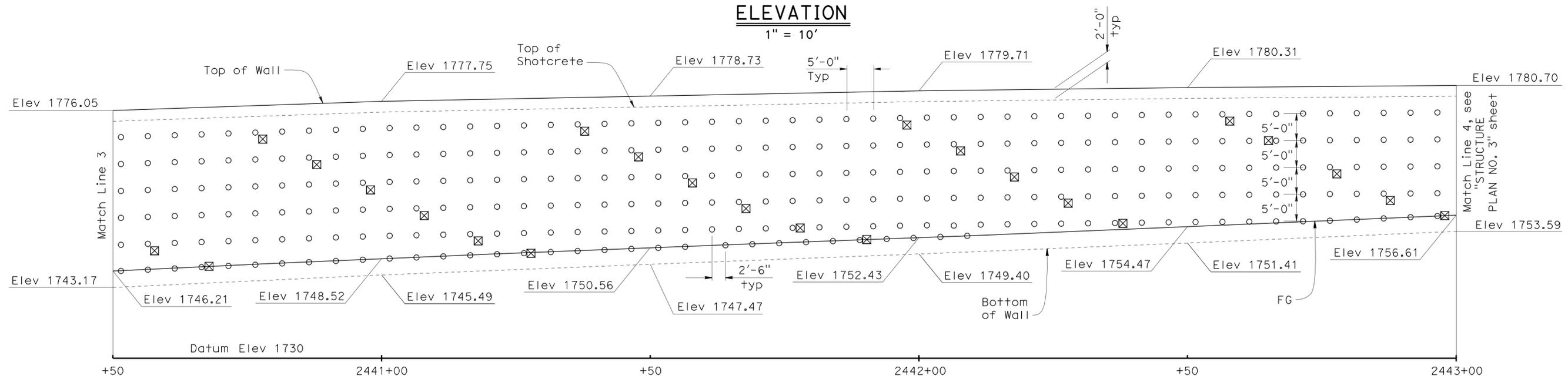
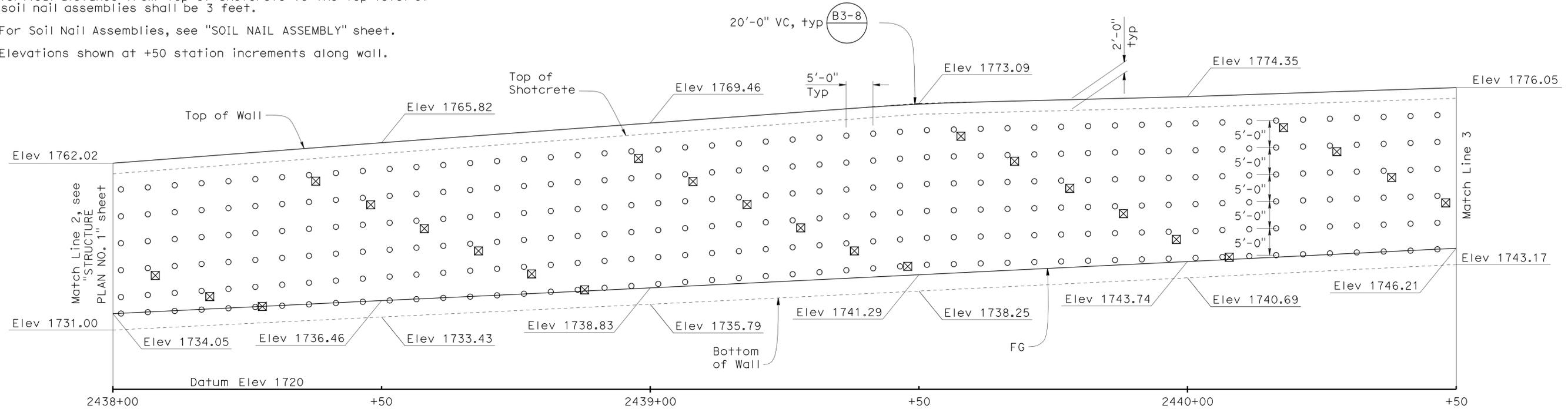
- Location of Soil Nail Assembly. (Total 582 this sheet)
- ☒ Location of proof test nail or as directed by the Engineer. (Total 49 this sheet)

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	444	456

REGISTERED CIVIL ENGINEER DATE 12/03/10
 RICHARD E. SCHEDEL
 No. C 64259
 Exp. 06/30/11
 CIVIL
 STATE OF CALIFORNIA

4-25-11
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DESIGN	BY MICHAEL POPE	CHECKED MATTHEW SCHOTT
DETAILS	BY MICHAEL POPE	CHECKED MATTHEW SCHOTT
QUANTITIES	BY MICHAEL POPE	CHECKED MATTHEW SCHOTT

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO.	53E2365
POST MILE	46.3

RETAINING WALL NO. 2433
STRUCTURE PLAN NO. 2

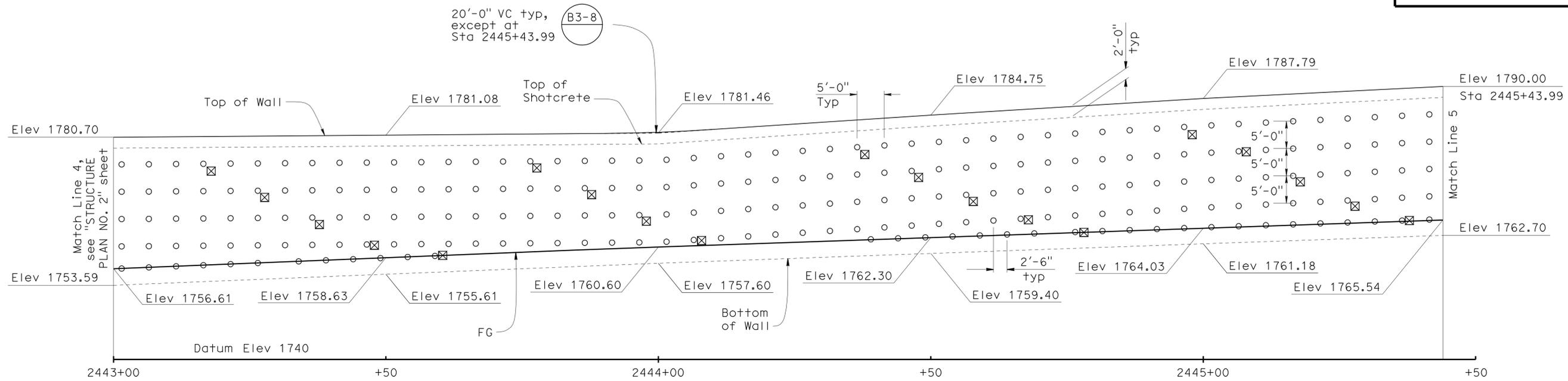


REVISION DATES	04/18/10	04/27/10	05/14/10	05/28/10	09-29-10
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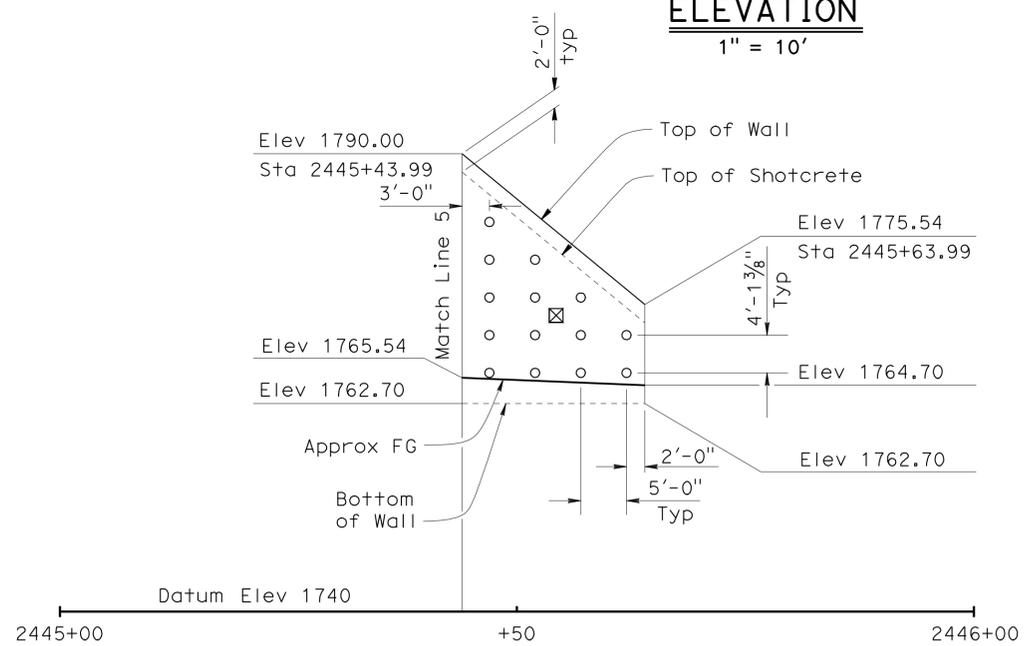
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	445	456

Richard E. Schendel
 REGISTERED CIVIL ENGINEER DATE 12/03/10
 4-25-11
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 No. C 64259
 Exp. 06/30/11
 CIVIL
 STATE OF CALIFORNIA
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ELEVATION
1" = 10'



ELEVATION
1" = 10'

NOTES:

- The exact location of the proof test nails are to be determined by the Engineer in the field.
- Cable Railing and Concrete Barrier not shown for clarity.
- Soil Nail Assembly inclination is 15°.
- Bottom row of Soil Nails should be no more than 5 feet and no less than 3 feet from bottom of wall.
- Vertical distance from top of Shotcrete to the top level of soil nail assemblies shall be 3 feet.
- For Soil Nail Assemblies, see "SOIL NAIL ASSEMBLY" sheet.
- Elevations shown at +50 station increments along wall.

LEGEND

- Location of Soil Nail Assembly. (Total 243 this sheet)
- ⊗ Location of proof test nail or as directed by the Engineer. (Total 20 this sheet)

DESIGN	BY MICHAEL POPE	CHECKED MATTHEW SCHOTT
DETAILS	BY MICHAEL POPE	CHECKED MATTHEW SCHOTT
QUANTITIES	BY MICHAEL POPE	CHECKED MATTHEW SCHOTT

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
 DESIGN BRANCH 18

BRIDGE NO.	53E2365
POST MILE	46.3

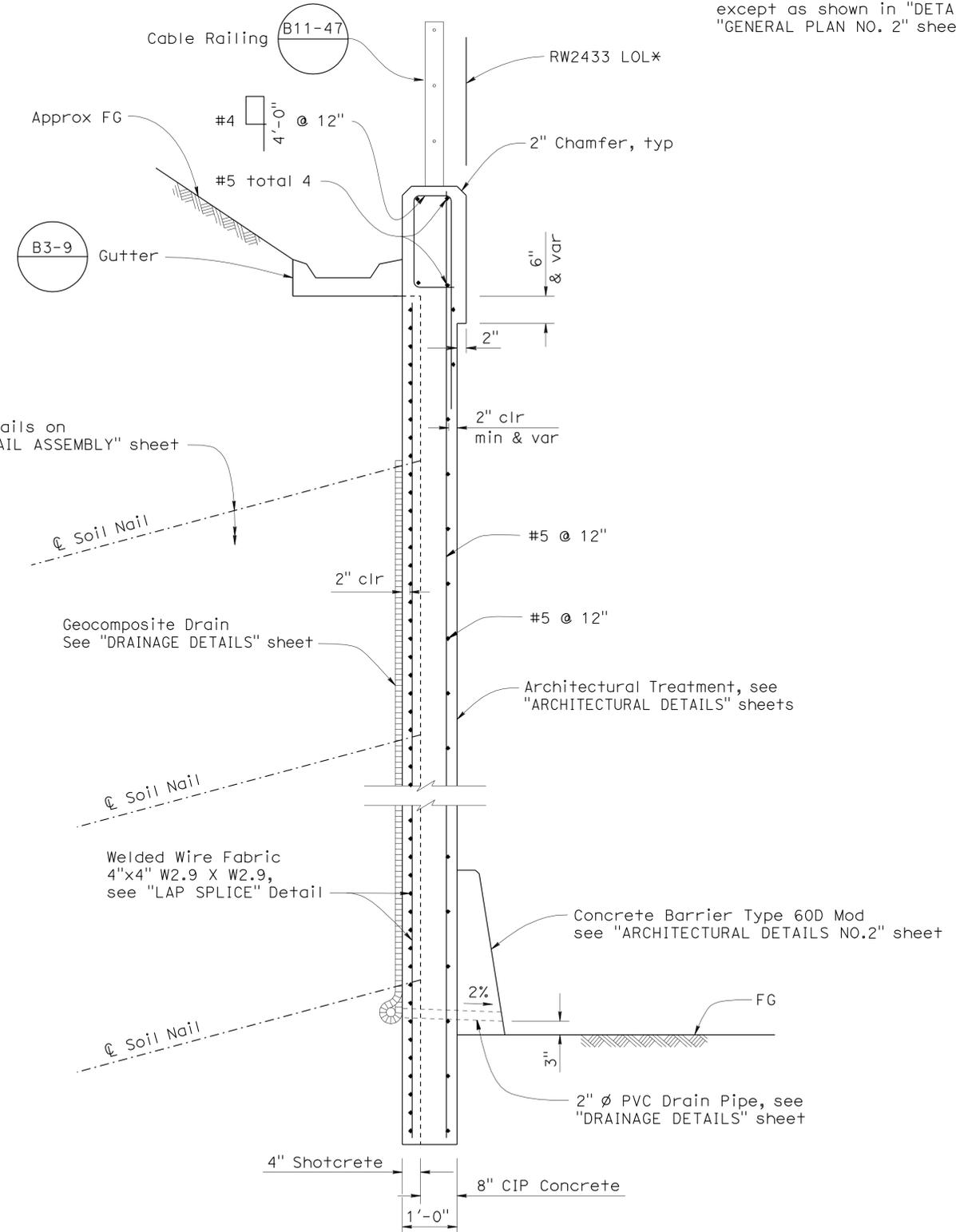
RETAINING WALL NO. 2433
 STRUCTURE PLAN NO. 3

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	446	456

Richard E. Schendel
REGISTERED CIVIL ENGINEER DATE 12/03/10
4-25-11
PLANS APPROVAL DATE
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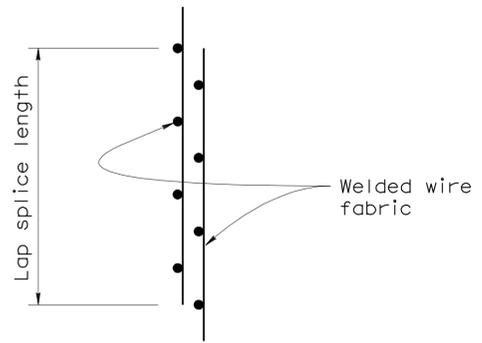
RICHARD E. SCHENDEL
REGISTERED PROFESSIONAL ENGINEER
No. C 64259
Exp. 06/30/11
CIVIL
STATE OF CALIFORNIA

* Face of Parapet at RW2433 LOL except as shown in "DETAIL A" on "GENERAL PLAN NO. 2" sheet.

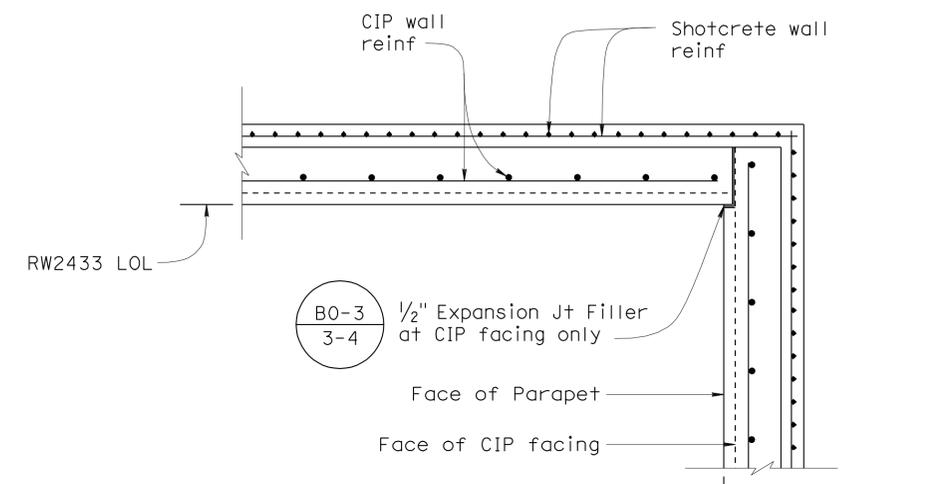


TYPICAL SECTION SOIL NAIL WALL
 $\frac{3}{4}'' = 1'-0''$

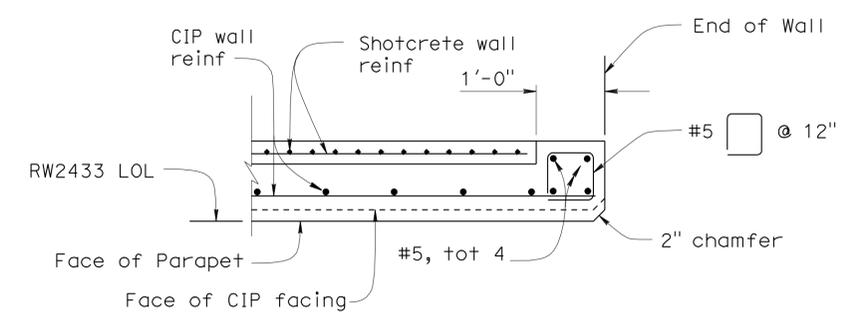
Note: See "DETAIL B" on "SOIL NAIL ASSEMBLY" sheet for reinf not shown.



LAP SPLICE
No Scale



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



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

Note: End of wall shown, beginning similar

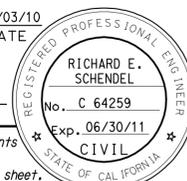
DESIGN	BY MICHAEL POPE	CHECKED MATTHEW SCHOTT
DETAILS	BY MICHAEL POPE	CHECKED MATTHEW SCHOTT
QUANTITIES	BY MICHAEL POPE	CHECKED MATTHEW SCHOTT

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

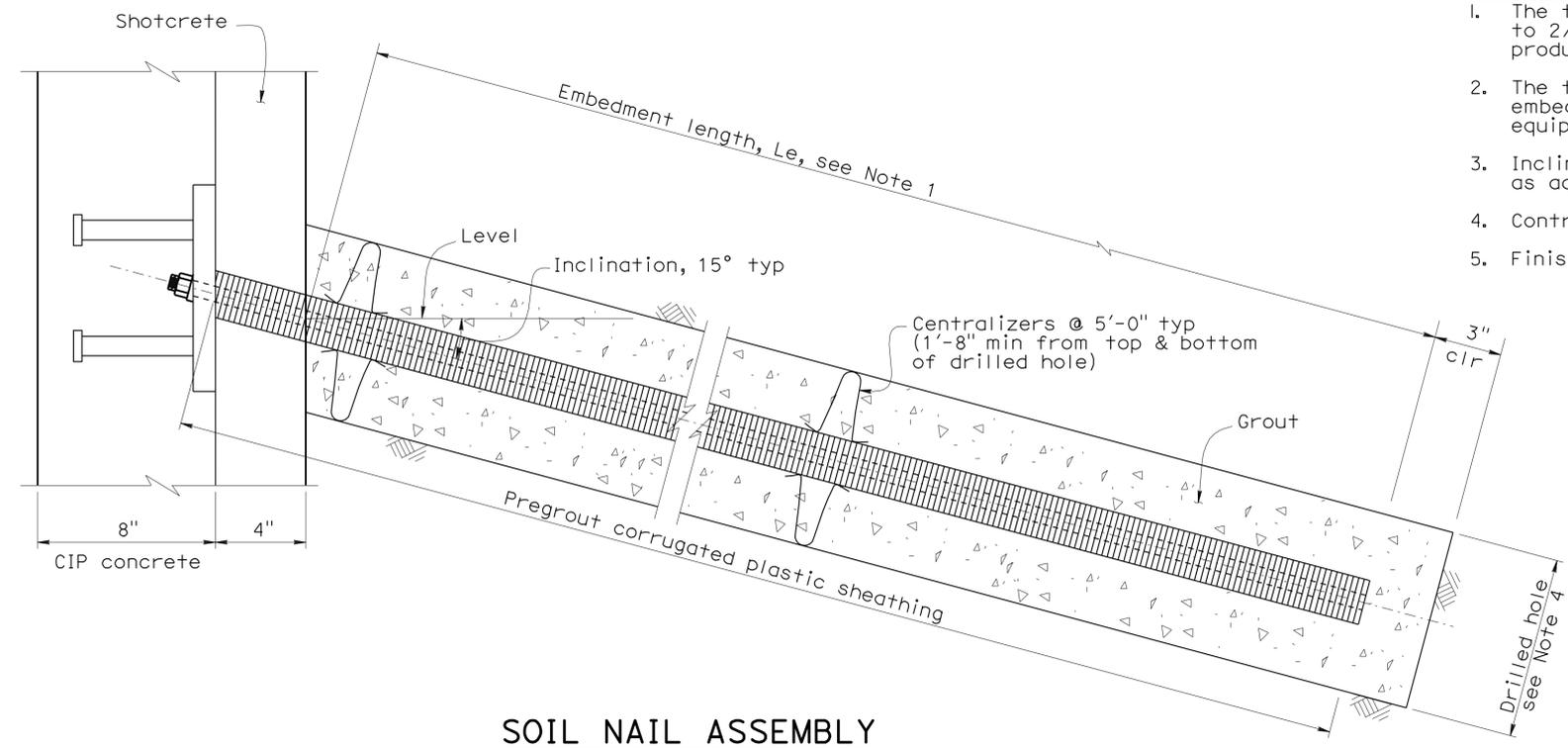
BRIDGE NO.	53E2365
POST MILE	46.3

RETAINING WALL NO. 2433
TYPICAL SECTION

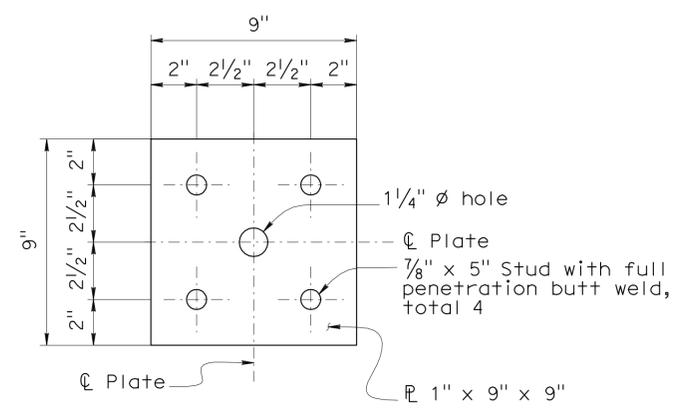
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	447	456
 REGISTERED CIVIL ENGINEER DATE 12/03/10					
4-25-11 PLANS APPROVAL DATE					
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NOTES:

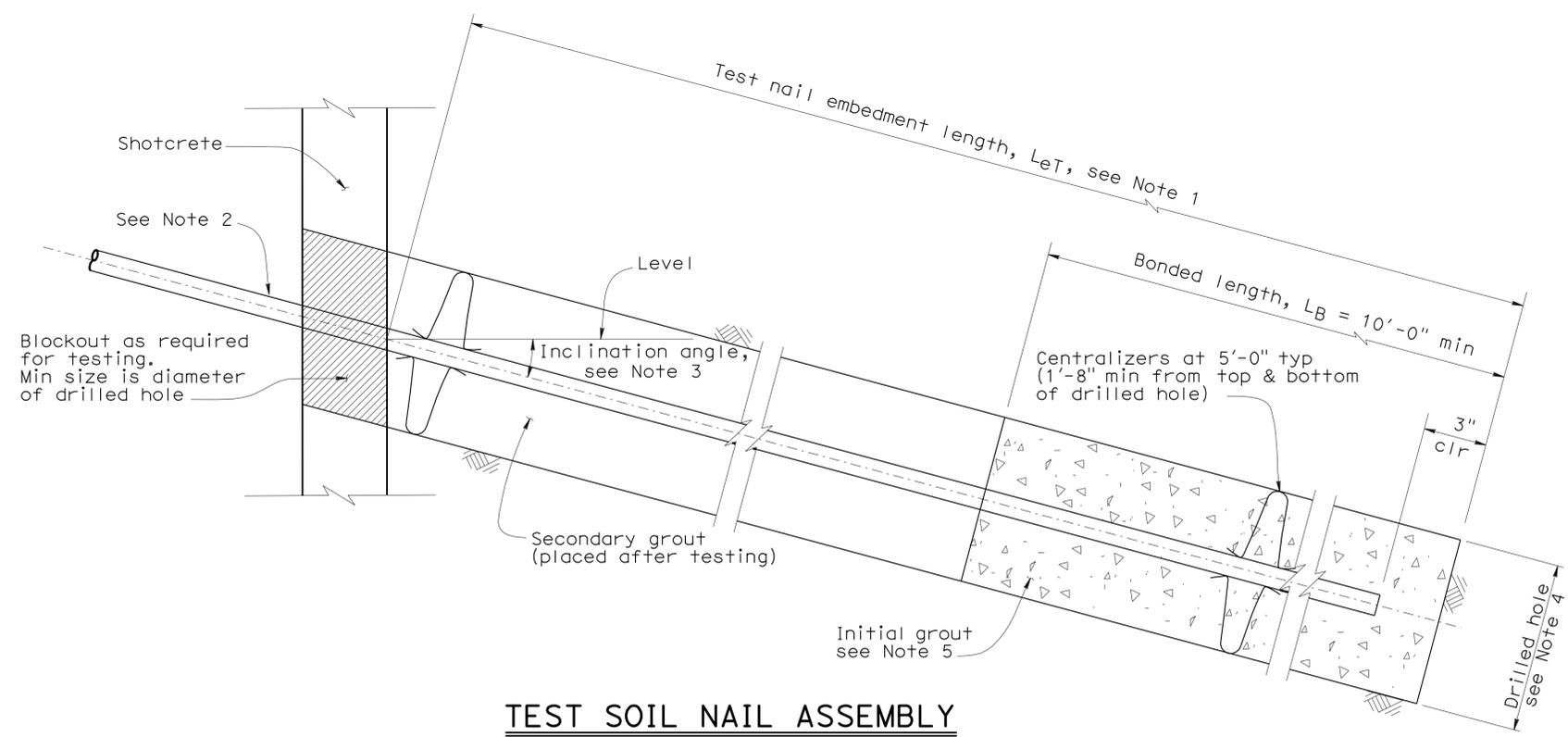
1. The test nail embedment length L_{eT} , shall be equal to $2/3$ of the embedment length, L_e , of adjacent production soil nail assemblies, but not less than 12'-0".
2. The total length of the test nail assembly equals the embedment length plus the length required for jacking equipment.
3. Inclination of proof test soil nail assembly to be the same as adjacent soil nail assembly.
4. Contractor to determine drilled hole diameter.
5. Finished grout surface to be normal to the bar.



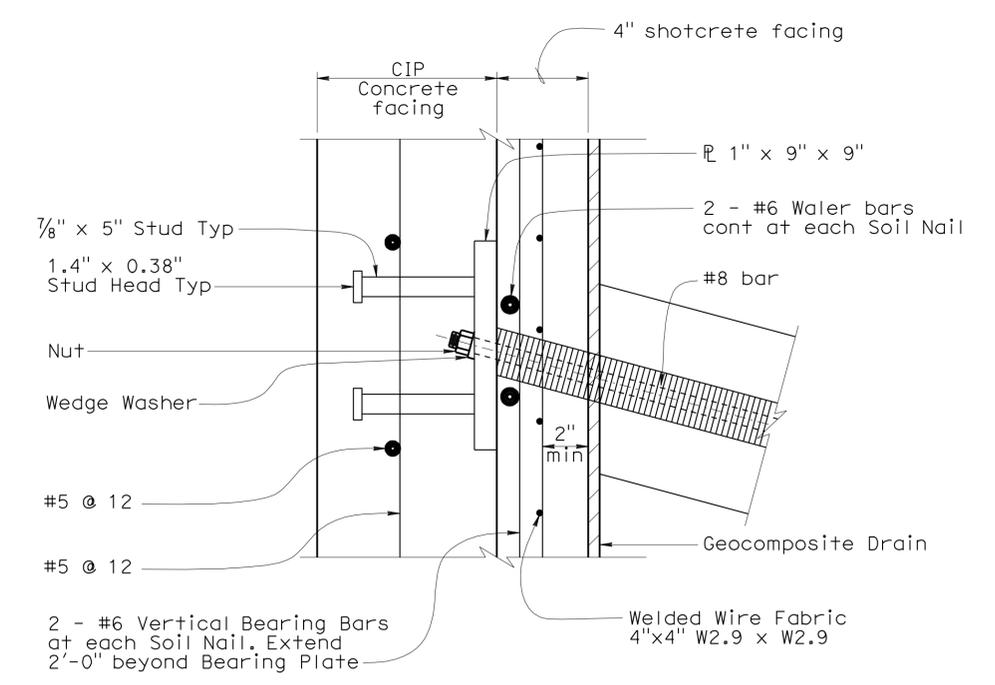
SOIL NAIL ASSEMBLY
3" = 1'



BEARING PLATE DETAIL
3" = 1'



TEST SOIL NAIL ASSEMBLY
3" = 1'



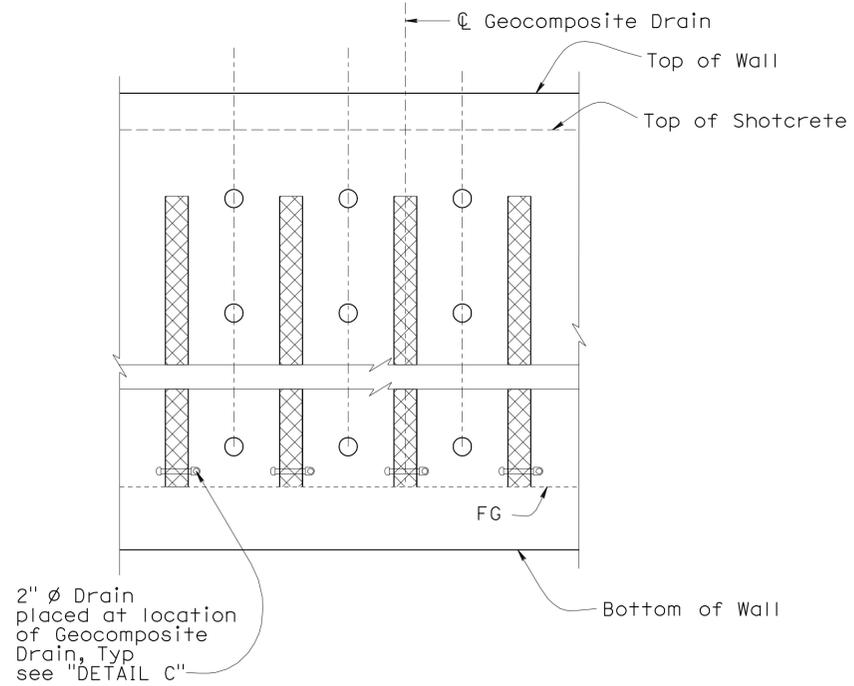
DETAIL B
3" = 1'

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3	DESIGN	BY MICHAEL POPE	CHECKED MATTHEW SCHOTT	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO.	53E2365	RETAINING WALL NO. 2433 SOIL NAIL ASSEMBLY	SHEET 11 OF 20
	DETAILS	BY FARIDEH RASHEDI	CHECKED MATTHEW SCHOTT			POST MILE	46.3		
	QUANTITIES	BY MICHAEL POPE	CHECKED MATTHEW SCHOTT			CU 07 EA 2332A1	DISREGARD PRINTS BEARING EARLIER REVISION DATES REVISION DATES: 04/18/10, 05/22/10, 05/24/10, 09/18/10, 09/20/10, 09-28-10, 09-29-10		

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	448	456

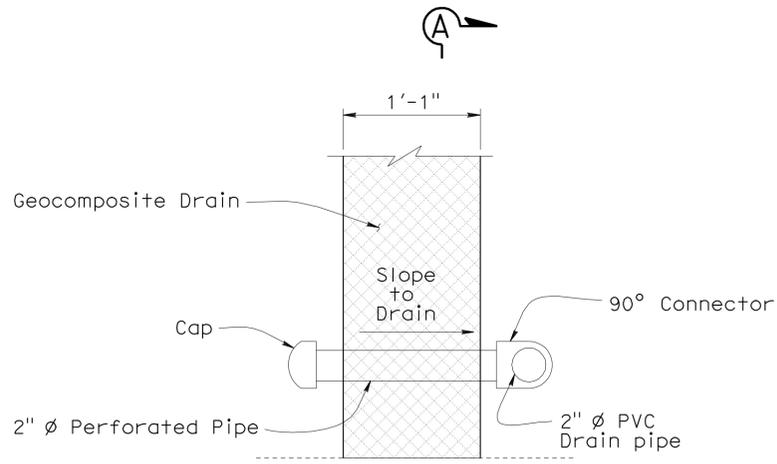
REGISTERED CIVIL ENGINEER DATE 12/03/10
 RICHARD E. SCHEDEL
 No. C 64259
 Exp. 06/30/11
 CIVIL
 STATE OF CALIFORNIA

4-25-11
 PLANS APPROVAL DATE
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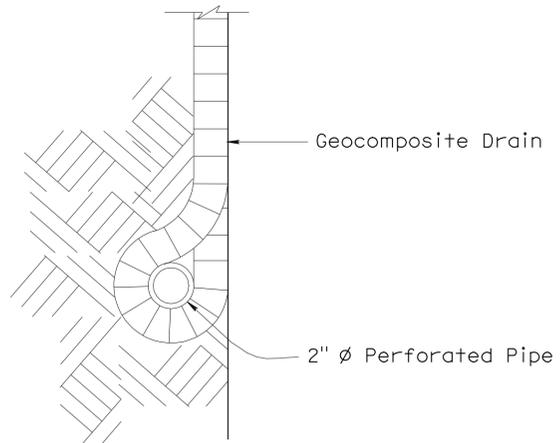


SOIL NAIL WALL PART ELEVATION
NO SCALE

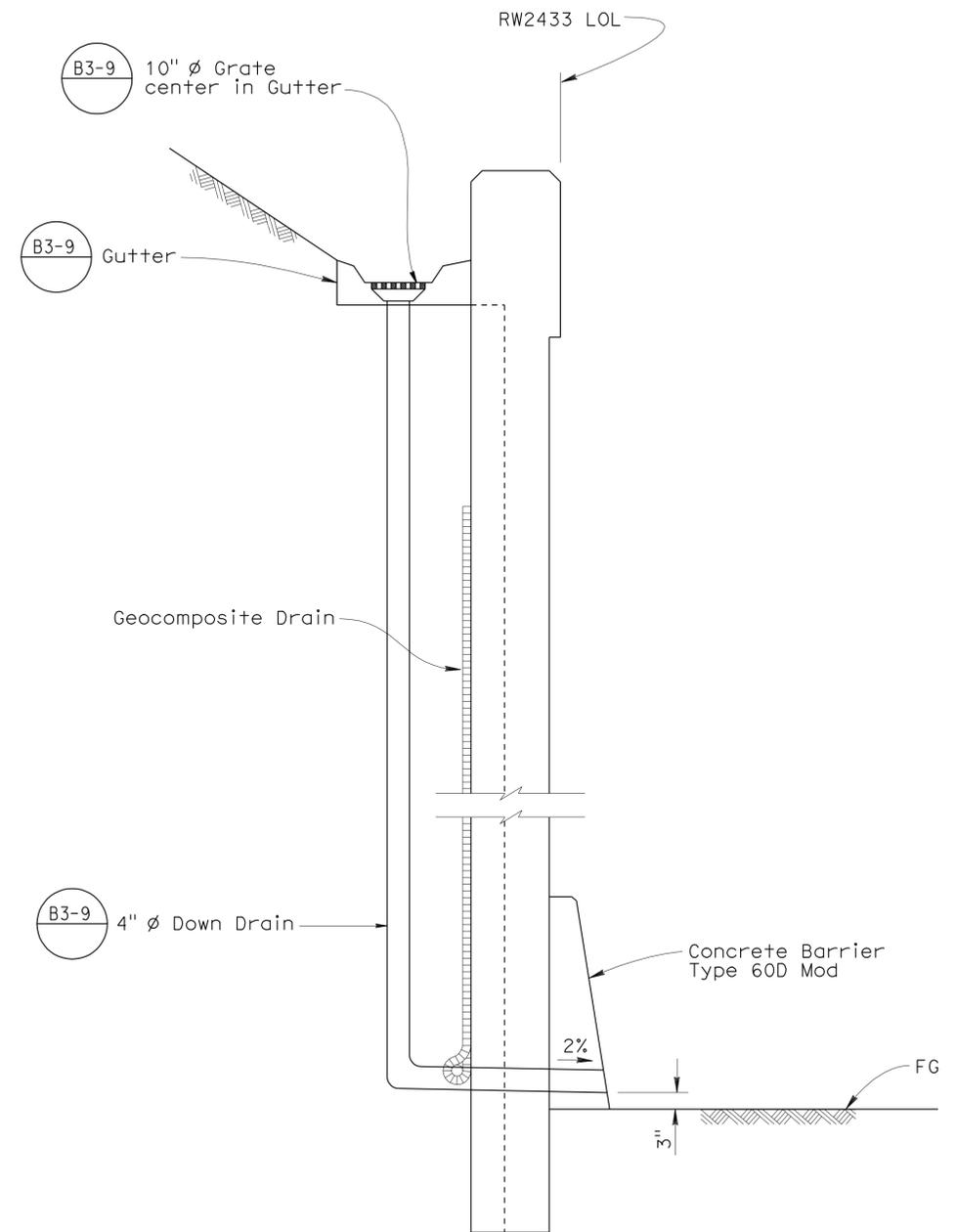
Note: Geocomposite drains at 5'-0" max spacing. Center between columns of Soil Nails.



DETAIL C
NO SCALE



SECTION A-A
NO SCALE



GUTTER DOWN DRAIN
NO SCALE

DESIGN	BY MATTHEW SCHOTT	CHECKED MATTHEW SCHOTT
DETAILS	BY FARIDEH RASHEDI	CHECKED MATTHEW SCHOTT
QUANTITIES	BY MICHAEL POPE	CHECKED MATTHEW SCHOTT

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

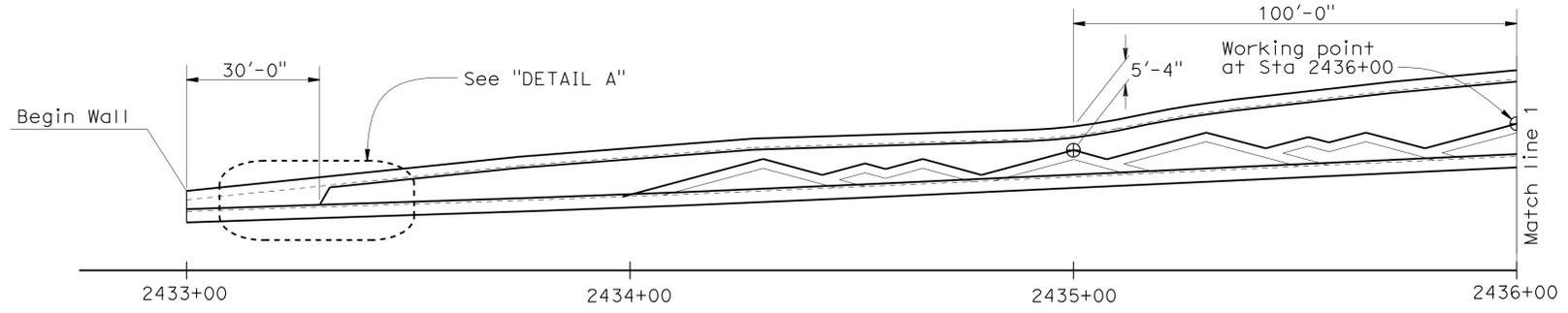
DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO.	53E2365
POST MILE	46.3

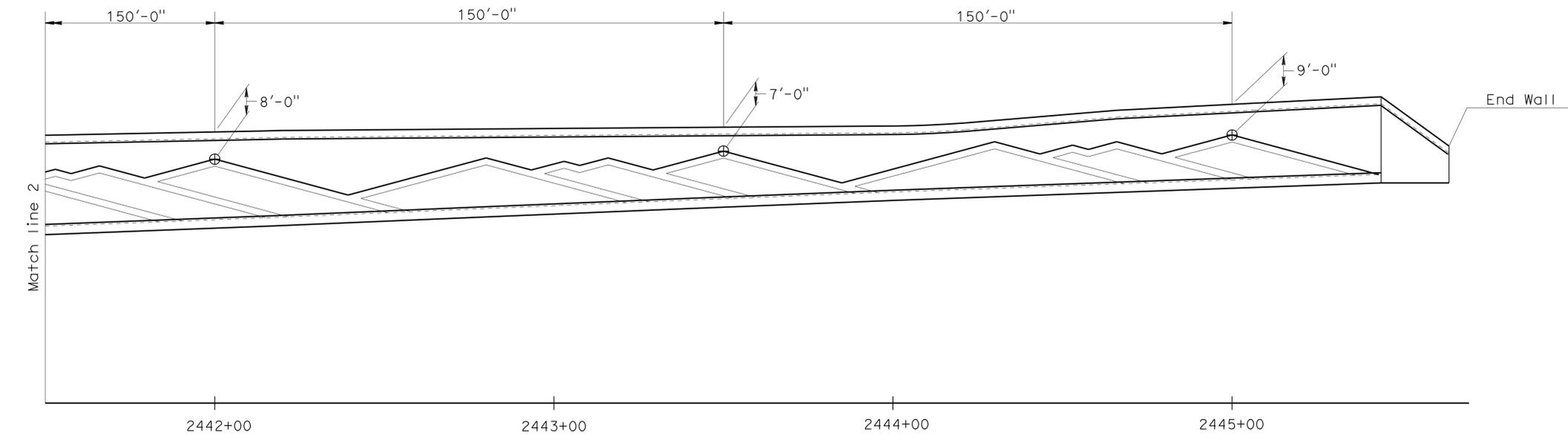
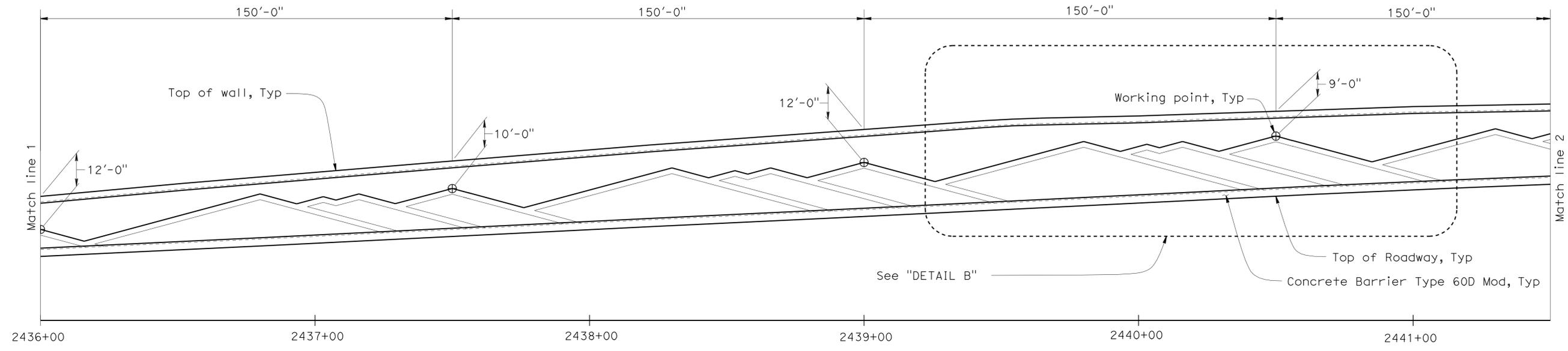
RETAINING WALL NO. 2433
DRAINAGE DETAILS

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	449	456

Richard E. Schendel
REGISTERED CIVIL ENGINEER DATE 04/12/11
4-25-11
PLANS APPROVAL DATE
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Note
For DETAILS "A" and "B" see
"ARCHITECTURAL DETAILS NO. 2"
sheet.



DEVELOPED ELEVATION
1" = 20'

DESIGN	BY MICHAEL POPE	CHECKED MATTHEW SCHOTT
DETAILS	BY JINLI GUO	CHECKED MATTHEW SCHOTT
QUANTITIES	BY MICHAEL POPE	CHECKED MATTHEW SCHOTT

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 18

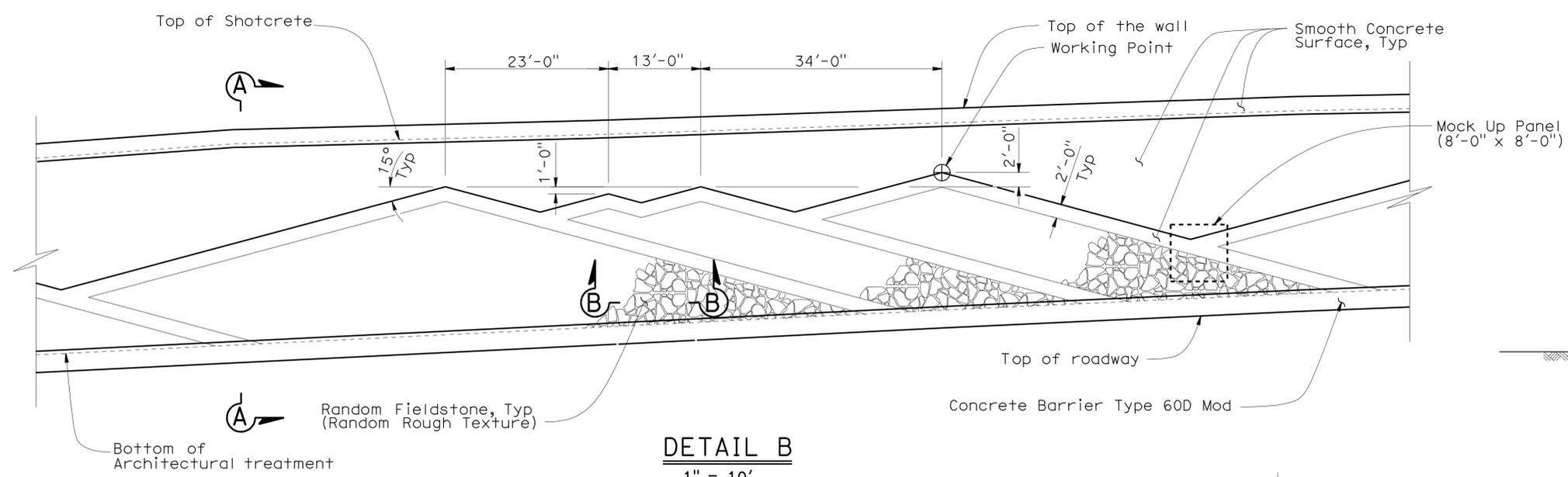
BRIDGE NO.	53E2365
POST MILE	46.3

RETAINING WALL NO. 2433
ARCHITECTURAL DETAILS NO. 1

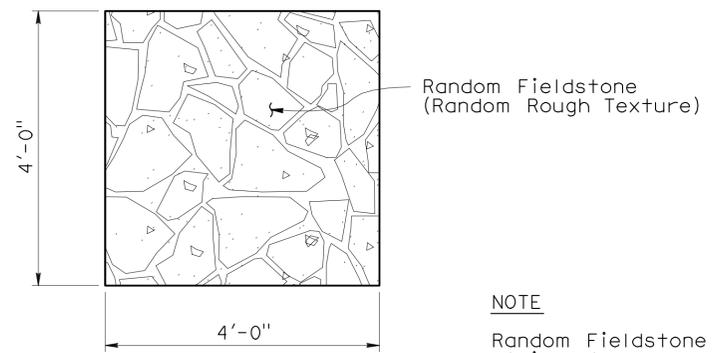
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	450	456

Richard E. Schendel
 REGISTERED CIVIL ENGINEER DATE 04/12/11
 4-25-11
 PLANS APPROVAL DATE
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REGISTERED PROFESSIONAL ENGINEER
 RICHARD E. SCHEDEL
 No. C 64259
 Exp. 06/30/11
 CIVIL
 STATE OF CALIFORNIA

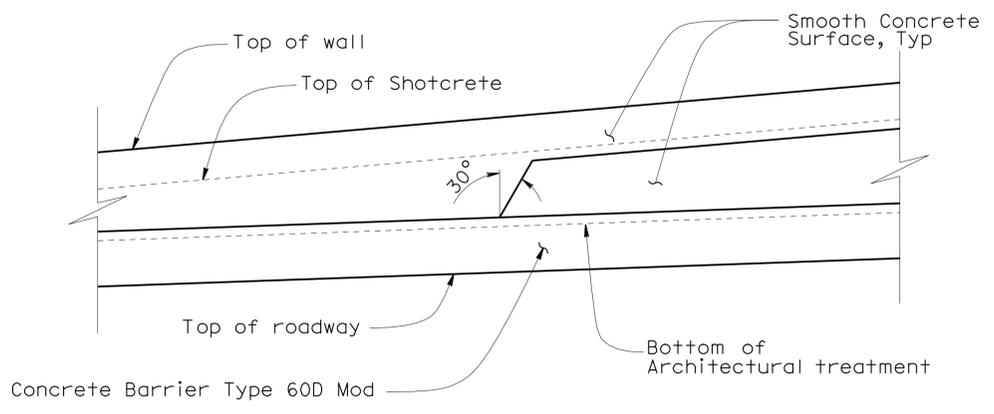
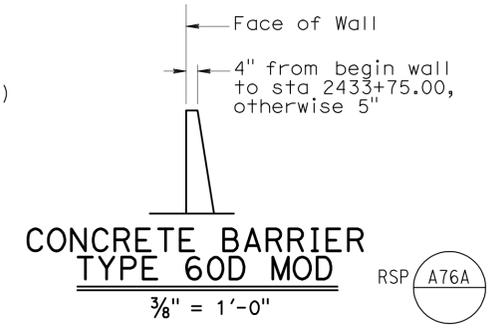
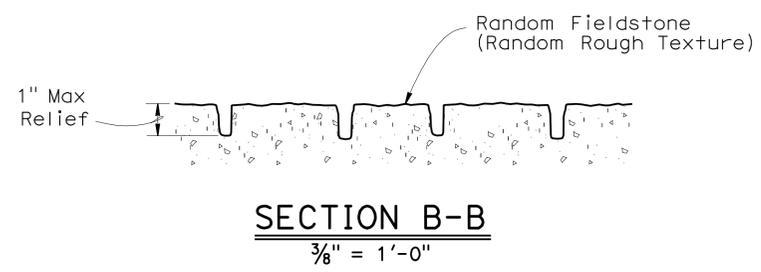


DETAIL B
1" = 10'

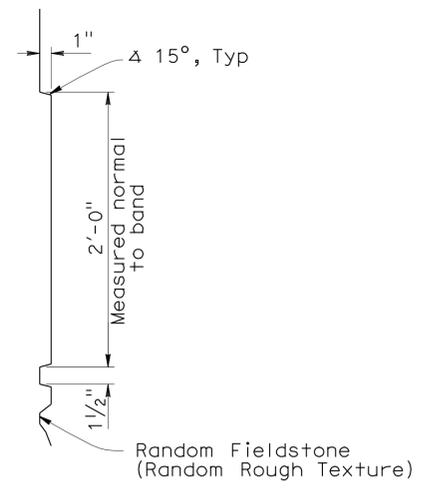


TEST PANEL
No Scale

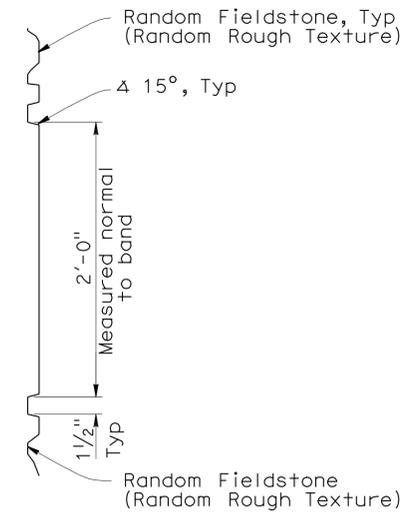
NOTE
Random Fieldstone (Random Rough Texture) shall be stain color concrete, see Special Provisions for color.



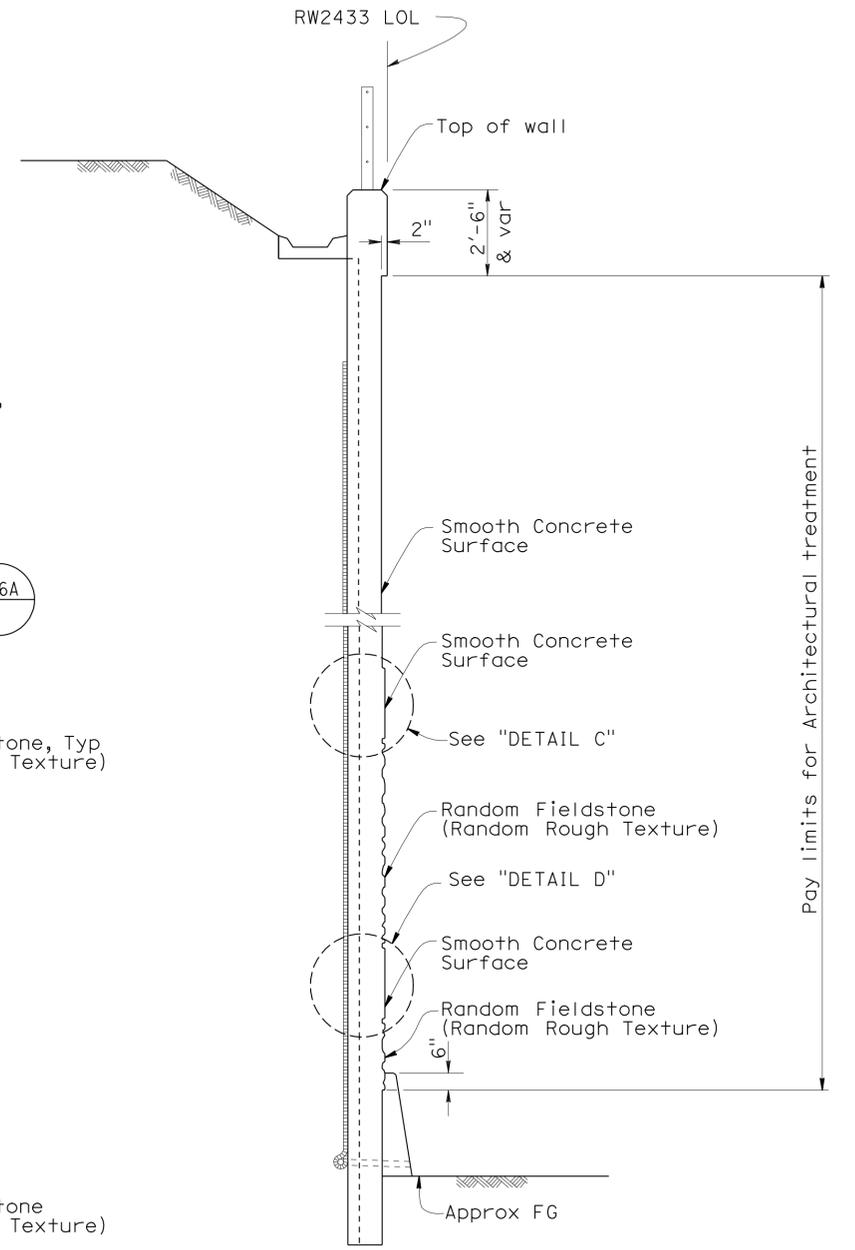
DETAIL A
No Scale



DETAIL C
 $\frac{1}{2}" = 1'-0"$



DETAIL D
 $\frac{1}{2}" = 1'-0"$



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

DESIGN	BY MICHAEL POPE	CHECKED MATTHEW SCHOTT
DETAILS	BY JINLI GUO	CHECKED MATTHEW SCHOTT
QUANTITIES	BY MICHAEL POPE	CHECKED MATTHEW SCHOTT

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

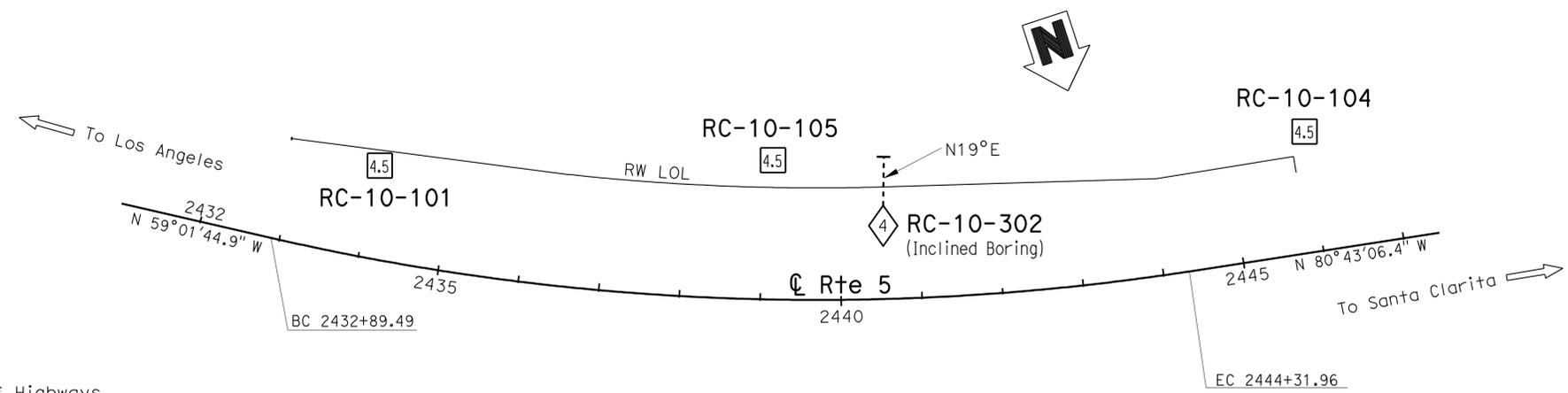
DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
DESIGN BRANCH 18

BRIDGE NO.	53E2365
POST MILE	46.3

RETAINING WALL NO. 2433
 ARCHITECTURAL DETAILS NO. 2

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	451	456

12-21-10
REGISTERED CIVIL ENGINEER
Hung Po Yang
No. C66376
PLANS APPROVAL DATE
4-25-11
Exp. 6-30-12
CIVIL
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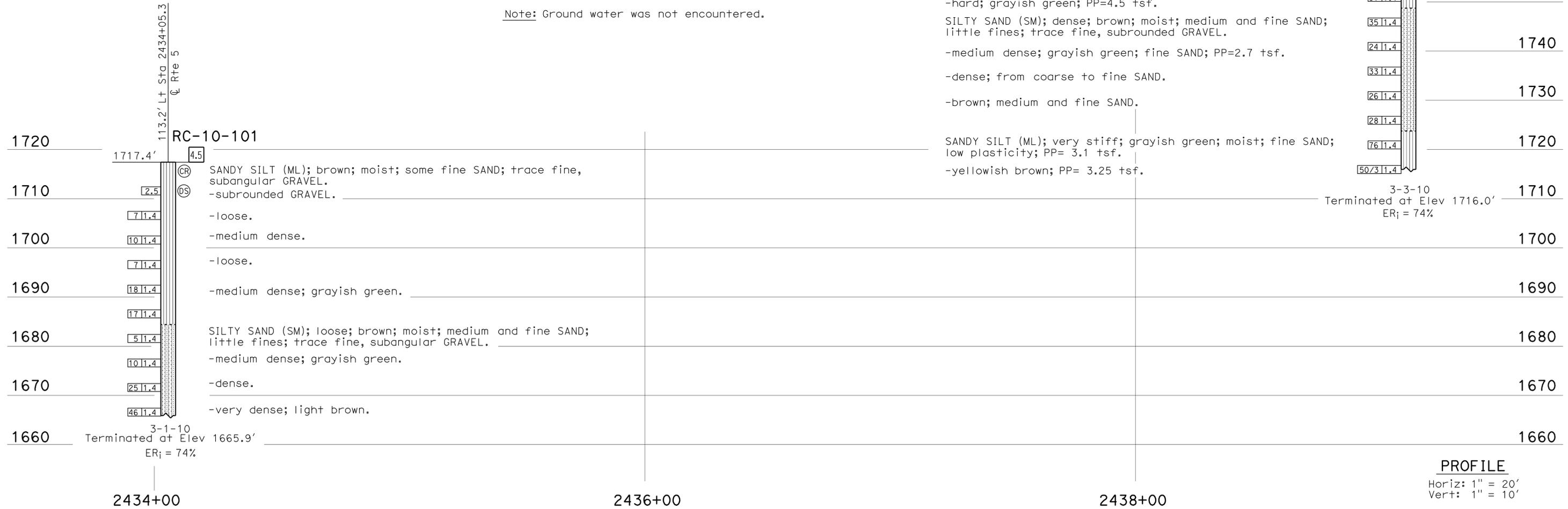


BENCH MARK

California Division of Highways
Brass Cap Monument, "LA-05-PM 46.5,"
85.299' Rt \bar{C} Rte 5 Sta 2444+31.41
Elev 1765.58'
N 1946938.17, E 6404076.21
VERT DATUM: NAVD 88

PLAN
1" = 100'

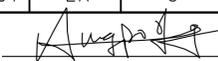
Note: Ground water was not encountered.



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

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA		DIVISION OF ENGINEERING SERVICES		BRIDGE NO.		RETAINING WALL NO. 2433	
FUNCTIONAL SUPERVISOR		DRAWN BY: I.G-Remmen		DEPARTMENT OF TRANSPORTATION		STRUCTURE DESIGN		53E2365		LOG OF TEST BORINGS 1 OF 6	
NAME: T. Le		CHECKED BY: X. Zheng		FIELD INVESTIGATION BY: Hung Po Yang		DESIGN BRANCH 18		POST MILES			
						46.3		46.3			
06S CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		CU 07 EA 2332A1		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES		SHEET 15 OF 20	

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	453	456

 12-21-10
 REGISTERED CIVIL ENGINEER

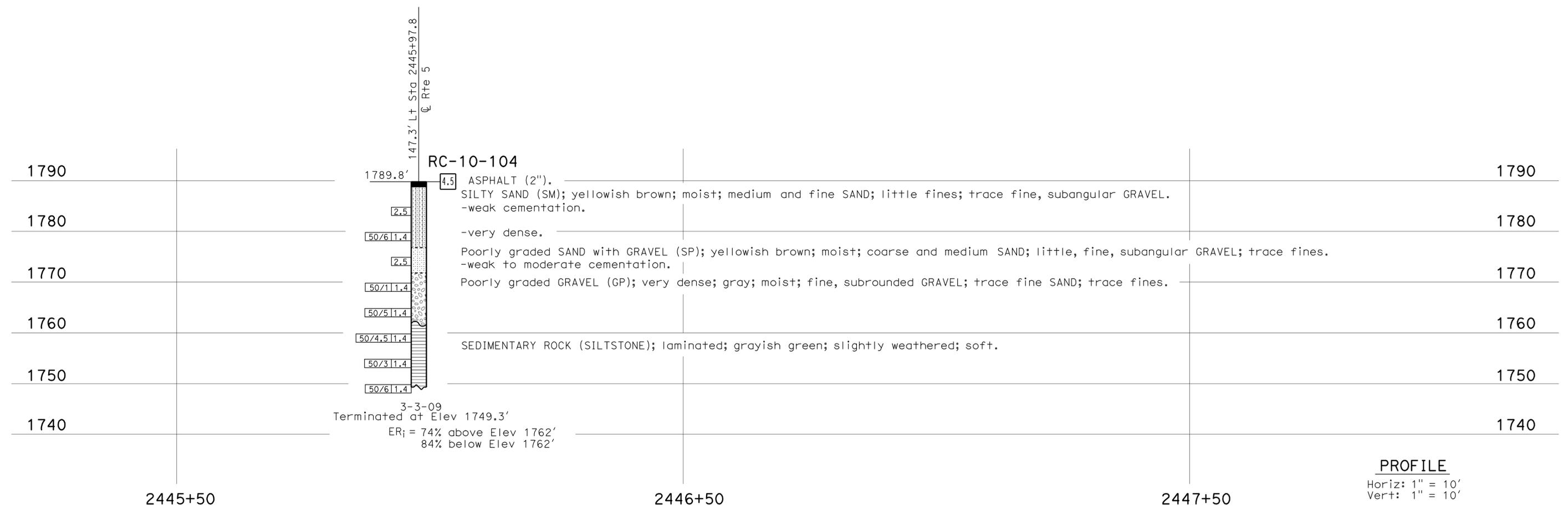
4-25-11
 PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
 Hung Po Yang
 No. C66376
 Exp. 6-30-12
 CIVIL
 STATE OF CALIFORNIA

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

FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 6"



ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53E2365	RETAINING WALL NO. 2433	
FUNCTIONAL SUPERVISOR NAME: T. Le	DRAWN BY: I.G-Remmen CHECKED BY: X. Zheng	FIELD INVESTIGATION BY: Hung Po Yang				POST MILES 46.3		LOG OF TEST BORINGS 3 OF 6
O&S CIVIL LOG OF TEST BORINGS SHEET				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3	CU 07 EA 2332A1	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 10-09-10 10-07-10 10-14-10 12-20-10 12-21-10	SHEET 17 OF 20

FILE => 53e2365-z-1+b03.dgn

TIME PLOTTED => 12:21
DATE PLOTTED => 26-APR-2011
USERNAME => HSTFK

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	454	456

12-21-10
REGISTERED CIVIL ENGINEER

4-25-11
PLANS APPROVAL DATE

Hung Po Yang
No. C66376
Exp. 6-30-12
CIVIL
STATE OF CALIFORNIA

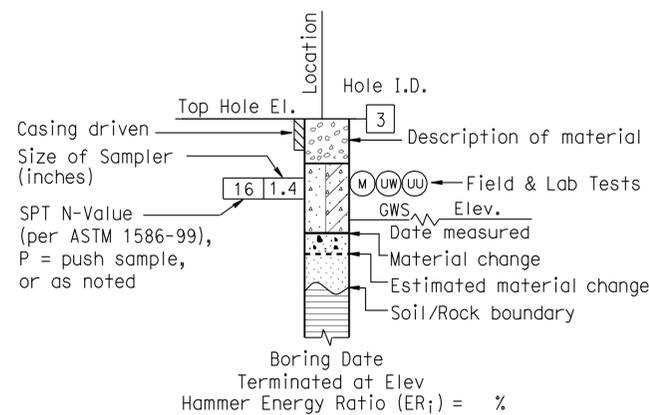
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CEMENTATION	
Description	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

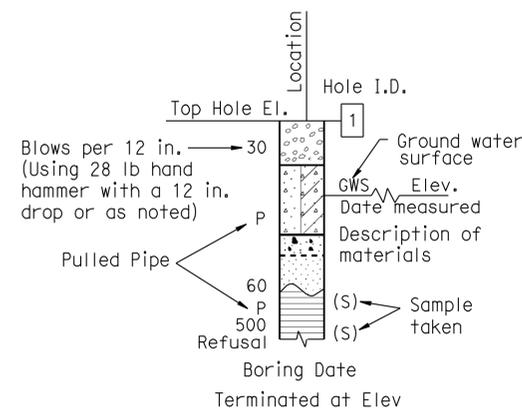
BOREHOLE IDENTIFICATION		
Symbol	Hole Type	Description
	A	Auger Boring (hollow or solid stem bucket)
	R	Rotary drilled boring (conventional)
	RW	Rotary drilled with self-casing wire-line
	RC	Rotary core with continuously-sampled, self-casing wire-line
	P	Rotary percussion boring (air)
	R	Rotary drilled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

Note: Size in inches.

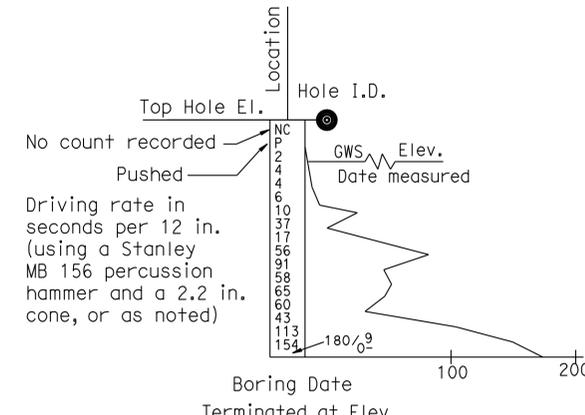
CONSISTENCY OF COHESIVE SOILS				
Description	Shear Strength (tsf)	Pocket Penetrometer Measurement, PP, (tsf)	Torvane Measurement, TV, (tsf)	Vane Shear Measurement, VS, (tsf)
Very Soft	Less than 0.12	Less than 0.25	Less than 0.12	Less than 0.12
Soft	0.12 - 0.25	0.25 - 0.5	0.12 - 0.25	0.12 - 0.25
Medium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



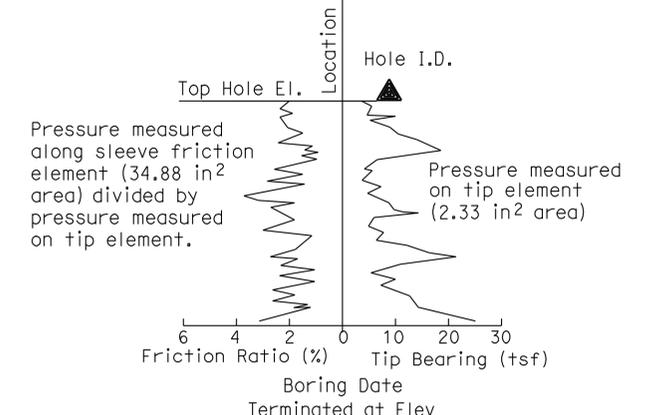
ROTARY BORING



HAND BORING



DYNAMIC CONE PENETRATION BORING



CONE PENETRATION TEST (CPT) BORING

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53E2365	RETAINING WALL NO. 2433 LOG OF TEST BORINGS 4 OF 6
	PREPARED BY: I.G-Remmen, 9/10			POST MILE 46.3	
GS LOTB SOIL LEGEND	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU 07 EA 2332A1	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 18 OF 20

FILE => 53e2365-z-1+b04.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	455	456

12-21-10
REGISTERED CIVIL ENGINEER

Hung Po Yang
No. C66376
Exp. 6-30-12
CIVIL
STATE OF CALIFORNIA

4-25-11
PLANS APPROVAL DATE

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GROUP SYMBOLS AND NAMES			
Graphic/Symbol	Group Names	Graphic/Symbol	Group Names
	GW Well-graded GRAVEL		CL Lean CLAY Lean CLAY with SAND Lean CLAY with GRAVEL SANDY lean CLAY SANDY lean CLAY with GRAVEL GRAVELLY lean CLAY GRAVELLY lean CLAY with SAND
	GP Poorly-graded GRAVEL Poorly-graded GRAVEL with SAND		
	GW-GM Well-graded GRAVEL with SILT Well-graded GRAVEL with SILT and SAND		CL-ML SILTY CLAY SILTY CLAY with SAND SILTY CLAY with GRAVEL SANDY SILTY CLAY SANDY SILTY CLAY with GRAVEL GRAVELLY SILTY CLAY GRAVELLY SILTY CLAY with SAND
	GW-GC Well-graded GRAVEL with CLAY (or SILTY CLAY) Well-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)		
	GP-GM Poorly-graded GRAVEL with SILT Poorly-graded GRAVEL with SILT and SAND		ML SILT SILT with SAND SILT with GRAVEL SANDY SILT SANDY SILT with GRAVEL GRAVELLY SILT GRAVELLY SILT with SAND
	GP-GC Poorly-graded GRAVEL with CLAY (or SILTY CLAY) Poorly-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)		
	GM SILTY GRAVEL SILTY GRAVEL with SAND		OL ORGANIC lean CLAY ORGANIC lean CLAY with SAND ORGANIC lean CLAY with GRAVEL SANDY ORGANIC lean CLAY SANDY ORGANIC lean CLAY with GRAVEL GRAVELLY ORGANIC lean CLAY GRAVELLY ORGANIC lean CLAY with SAND
	GC CLAYEY GRAVEL CLAYEY GRAVEL with SAND		
	GC-GM SILTY, CLAYEY GRAVEL SILTY, CLAYEY GRAVEL with SAND		OL ORGANIC SILT ORGANIC SILT with SAND ORGANIC SILT with GRAVEL SANDY ORGANIC SILT SANDY ORGANIC SILT with GRAVEL GRAVELLY ORGANIC SILT GRAVELLY ORGANIC SILT with SAND
	SW Well-graded SAND Well-graded SAND with GRAVEL		
	SP Poorly-graded SAND Poorly-graded SAND with GRAVEL		CH Fat CLAY Fat CLAY with SAND Fat CLAY with GRAVEL SANDY fat CLAY SANDY fat CLAY with GRAVEL GRAVELLY fat CLAY GRAVELLY fat CLAY with SAND
	SW-SM Well-graded SAND with SILT Well-graded SAND with SILT and GRAVEL		
	SW-SC Well-graded SAND with CLAY (or SILTY CLAY) Well-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)		MH Elastic SILT Elastic SILT with SAND Elastic SILT with GRAVEL SANDY elastic SILT SANDY elastic SILT with GRAVEL GRAVELLY elastic SILT GRAVELLY elastic SILT with SAND
	SP-SM Poorly-graded SAND with SILT Poorly-graded SAND with SILT and GRAVEL		
	SP-SC Poorly-graded SAND with CLAY (or SILTY CLAY) Poorly-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)		OH ORGANIC fat CLAY ORGANIC fat CLAY with SAND ORGANIC fat CLAY with GRAVEL SANDY ORGANIC fat CLAY SANDY ORGANIC fat CLAY with GRAVEL GRAVELLY ORGANIC fat CLAY GRAVELLY ORGANIC fat CLAY with SAND
	SM SILTY SAND SILTY SAND with GRAVEL		
	SC CLAYEY SAND CLAYEY SAND with GRAVEL		OH 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
	SC-SM SILTY, CLAYEY SAND SILTY, CLAYEY SAND with GRAVEL		
	PT PEAT		OL/OH 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	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 18	BRIDGE NO. 53E2365	RETAINING WALL NO. 2433 LOG OF TEST BORINGS 5 OF 6
				POST MILE 46.3	
PREPARED BY: I.G-Remmen, 9/10	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU 07 EA 2332A1	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 19 OF 20

FILE => 53e2365-z-1+b05.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	5	R46.3/R50.0	456	456

12-21-10
 REGISTERED CIVIL ENGINEER
 Hung Po Yang
 No. C66376
 Exp. 6-30-12
 CIVIL
 STATE OF CALIFORNIA

4-25-11
 PLANS APPROVAL DATE

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PERCENT CORE RECOVERY (REC) & ROCK QUALITY DESIGNATION (RQD)

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

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

RQD* Indicates soundness criteria not met.

BEDDING SPACING

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

LEGEND OF ROCK MATERIALS

- IGNEOUS ROCK
- SEDIMENTARY ROCK
- METAMORPHIC ROCK

ROCK HARDNESS

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

WEATHERING DESCRIPTORS FOR INTACT ROCK

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

FRACTURE DENSITY

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

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA	DIVISION OF ENGINEERING SERVICES	BRIDGE NO. 53E2365	RETAINING WALL NO. 2433
	PREPARED BY: I.G-Remmen, 9/10	DEPARTMENT OF TRANSPORTATION	STRUCTURE DESIGN	POST MILE 46.3	LOG OF TEST BORINGS 6 OF 6
GS LOTB SOIL LEGEND	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU 07 EA 2332A1	DESIGN BRANCH 18	DISREGARD PRINTS BEARING EARLIER REVISION DATES	SHEET 20 OF 20

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