

SHEET No.	DESCRIPTION
1	TITLE AND LOCATION MAP
2-3	TYPICAL CROSS SECTIONS
4	LAYOUT
5	PROFILE AND SUPERELEVATION DIAGRAM
6-11	DRAINAGE PLAN, PROFILES, DETAILS AND QUANTITIES
12-13	PAVEMENT DELINEATION PLAN, DETAILS AND QUANTITIES
14	SUMMARY OF QUANTITIES
15-19	MOTORIST INFORMATION PLANS AND QUANTITIES
20	EROSION CONTROL PLAN
21-31	REVISED AND NEW STANDARD PLANS
STRUCTURE PLANS	
32-45	SLOPE REPAIR WALL Br No. 36E0018

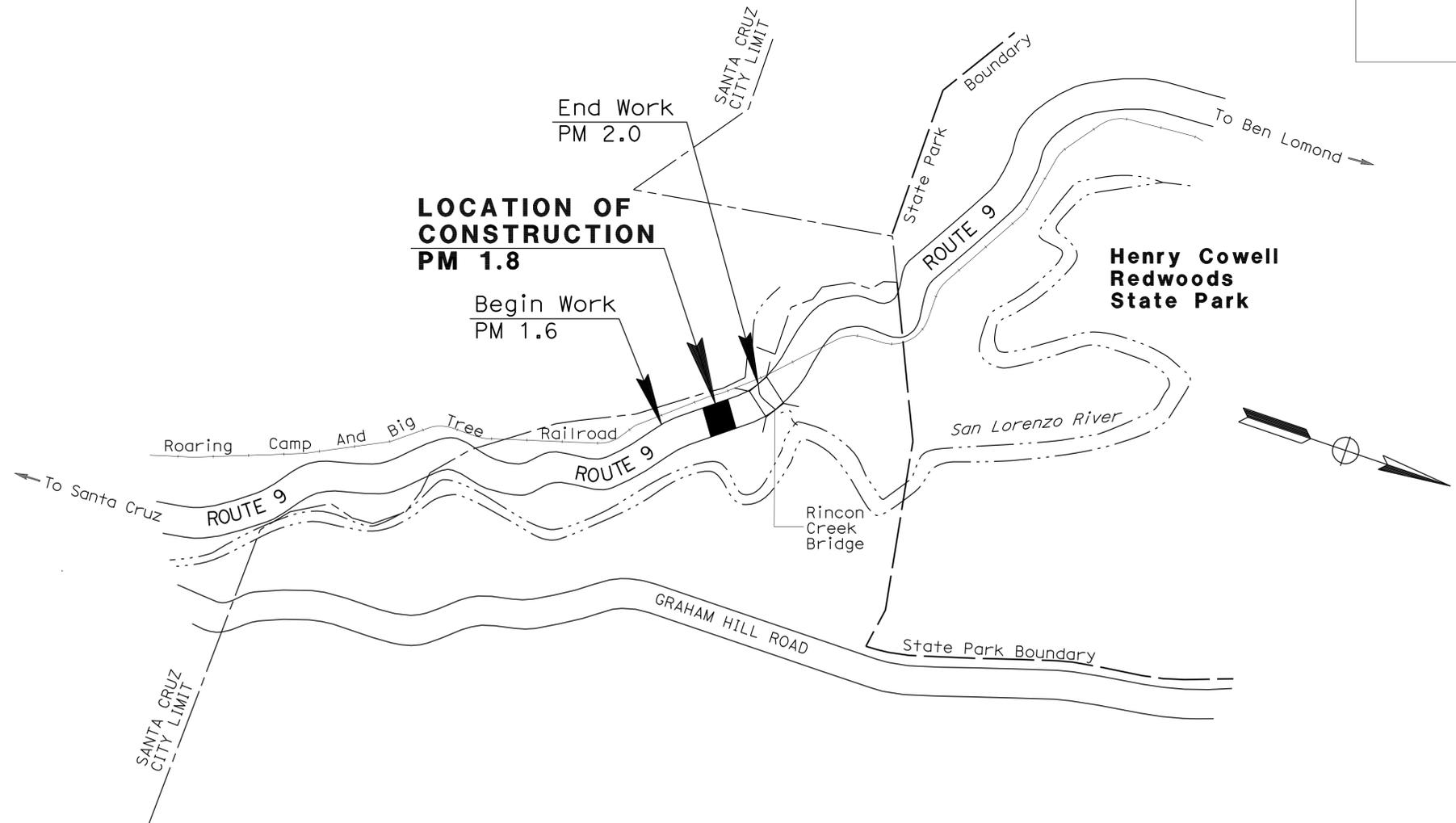
THE STANDARD PLANS LIST APPLICABLE TO THIS CONTRACT IS INCLUDED IN THE NOTICE TO BIDDERS AND SPECIAL PROVISIONS BOOK.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY
IN SANTA CRUZ COUNTY
NEAR SANTA CRUZ
0.2 MILE SOUTH OF RINCON CREEK BRIDGE

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006

ER-43J2(004)E

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	ScR	9	1.8	1	45



PROJECT MANAGER
S. DIGRAZIA
 DESIGN ENGINEER
A. RAMIREZ

James M. Orr 9-08-09
 PROJECT ENGINEER DATE
 REGISTERED CIVIL ENGINEER
December 21, 2009
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



NO SCALE

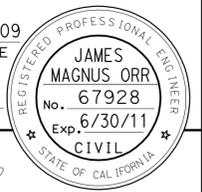
THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES) OF LICENSE AS SPECIFIED IN THE "NOTICE TO BIDDERS."

DATE PLOTTED => 03-FEB-2010
 TIME PLOTTED => 06:02
 LAST REVISION | 09-08-09

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	Scr	9	1.8	2	45

<i>James M. Orr</i> 9-08-09	
REGISTERED CIVIL ENGINEER	DATE
12-21-09	
PLANS APPROVAL DATE	

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

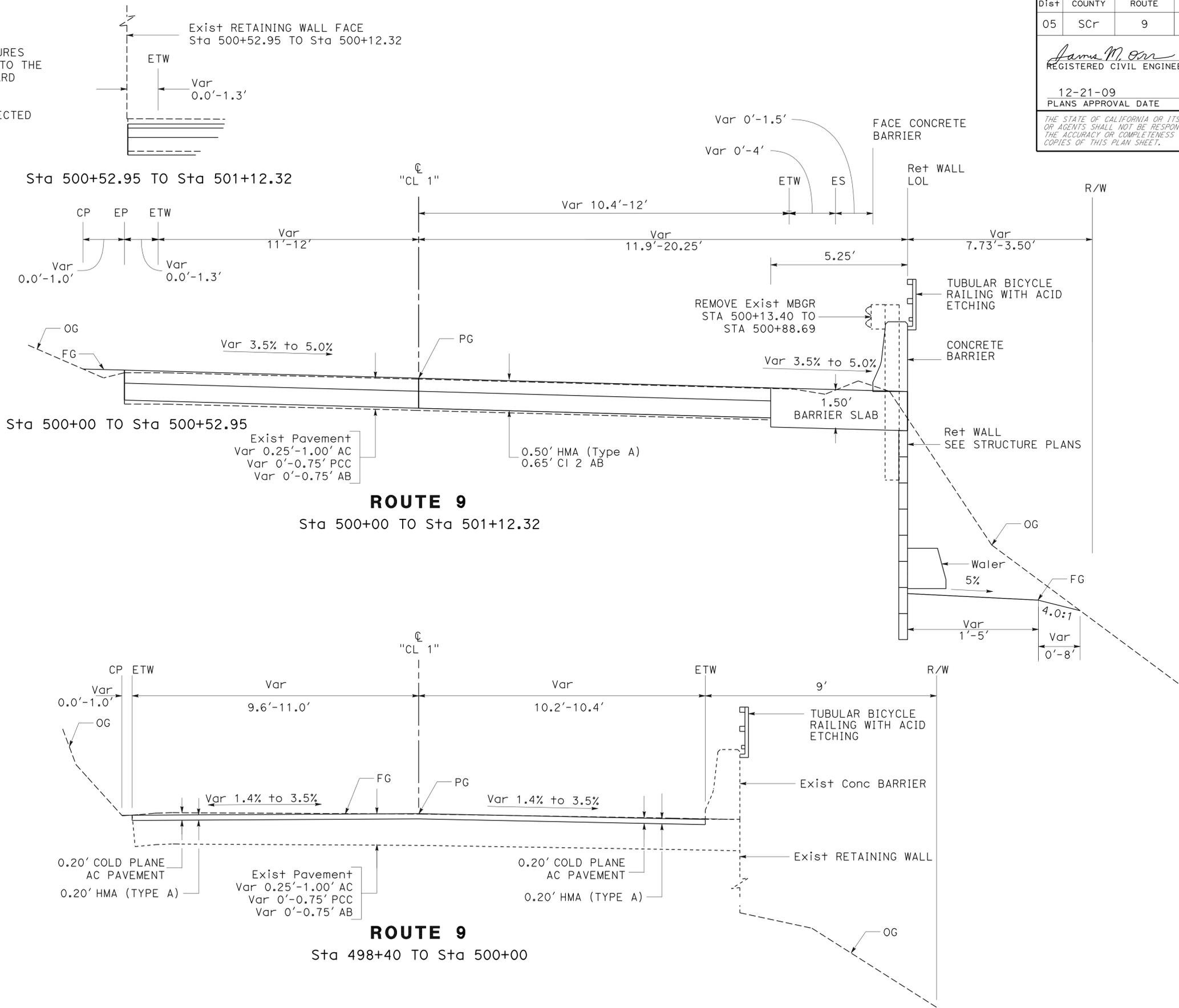


NOTES:

- DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO THE TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
- SUPERELEVATION AS SHOWN OR AS DIRECTED BY THE ENGINEER.

DESIGN DESIGNATION (ROUTE 9)

2018 ADT = 5752 D = 70%
 2008 DHV = 591 T = 2%
 V = 45 mph



TYPICAL CROSS SECTIONS

NO SCALE

X-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 06 - DESIGN
 JAMES M. ORR
 HASSAN SHAHRIARI
 ARTHUR RAMIREZ

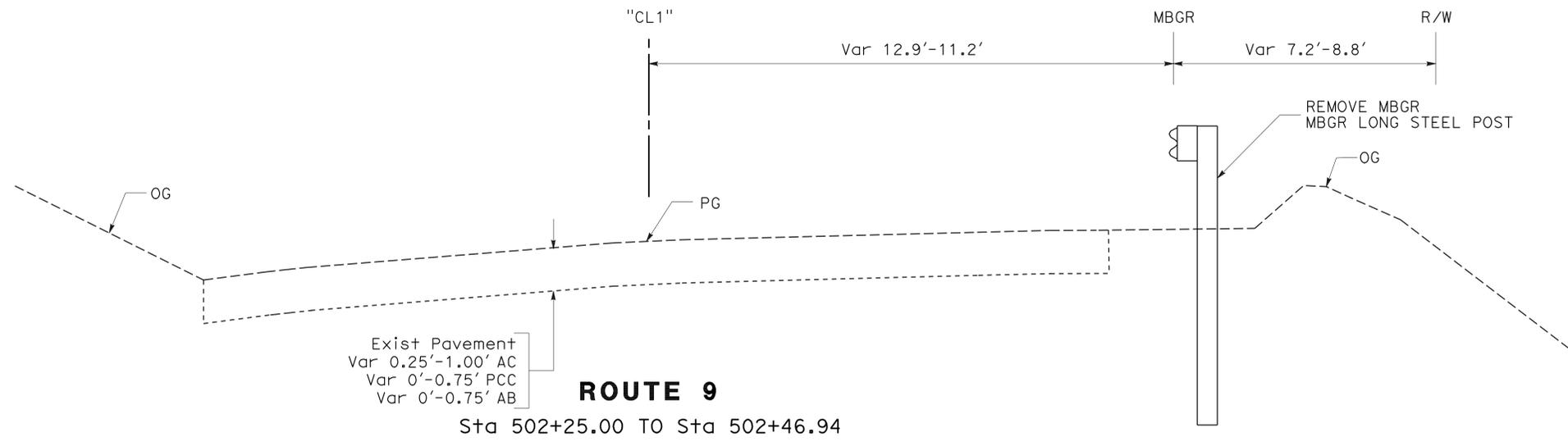


Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	Scr	9	1.8	3	45

James M. Orr 9-08-09
 REGISTERED CIVIL ENGINEER DATE
 12-21-09
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 JAMES MAGNUS ORR
 No. 67928
 Exp. 6/30/11
 CIVIL
 STATE OF CALIFORNIA

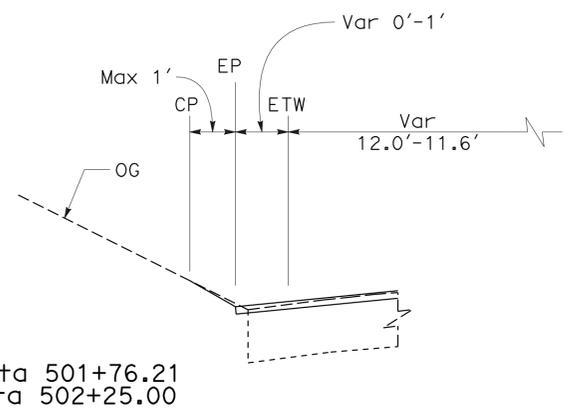
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



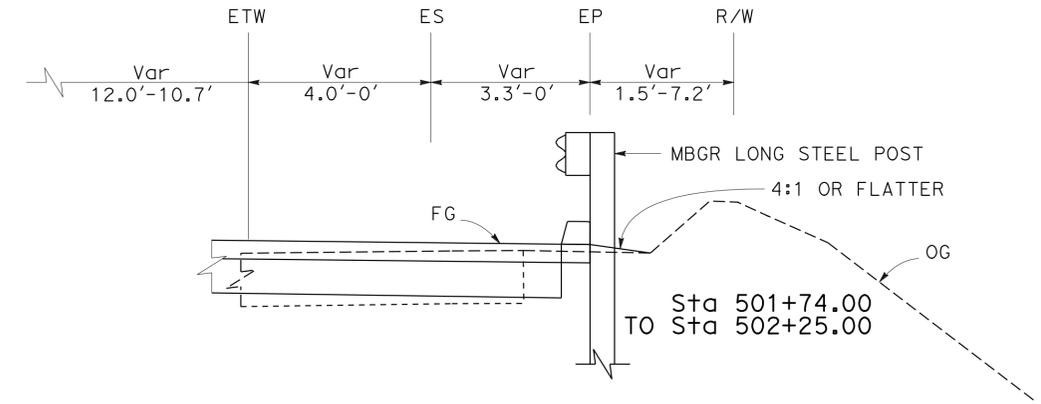
Exist Pavement
 Var 0.25'-1.00' AC
 Var 0'-0.75' PCC
 Var 0'-0.75' AB

ROUTE 9

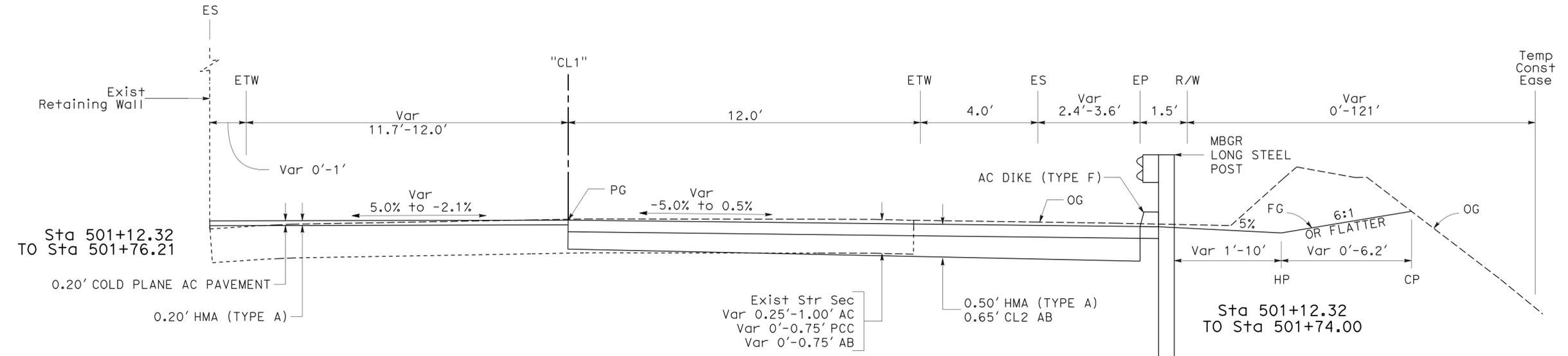
Sta 502+25.00 TO Sta 502+46.94



Sta 501+76.21 TO Sta 502+25.00



Sta 501+74.00 TO Sta 502+25.00



Sta 501+12.32 TO Sta 501+76.21

Sta 501+12.32 TO Sta 501+74.00

ROUTE 9

Sta 501+12.32 TO Sta 502+25.00

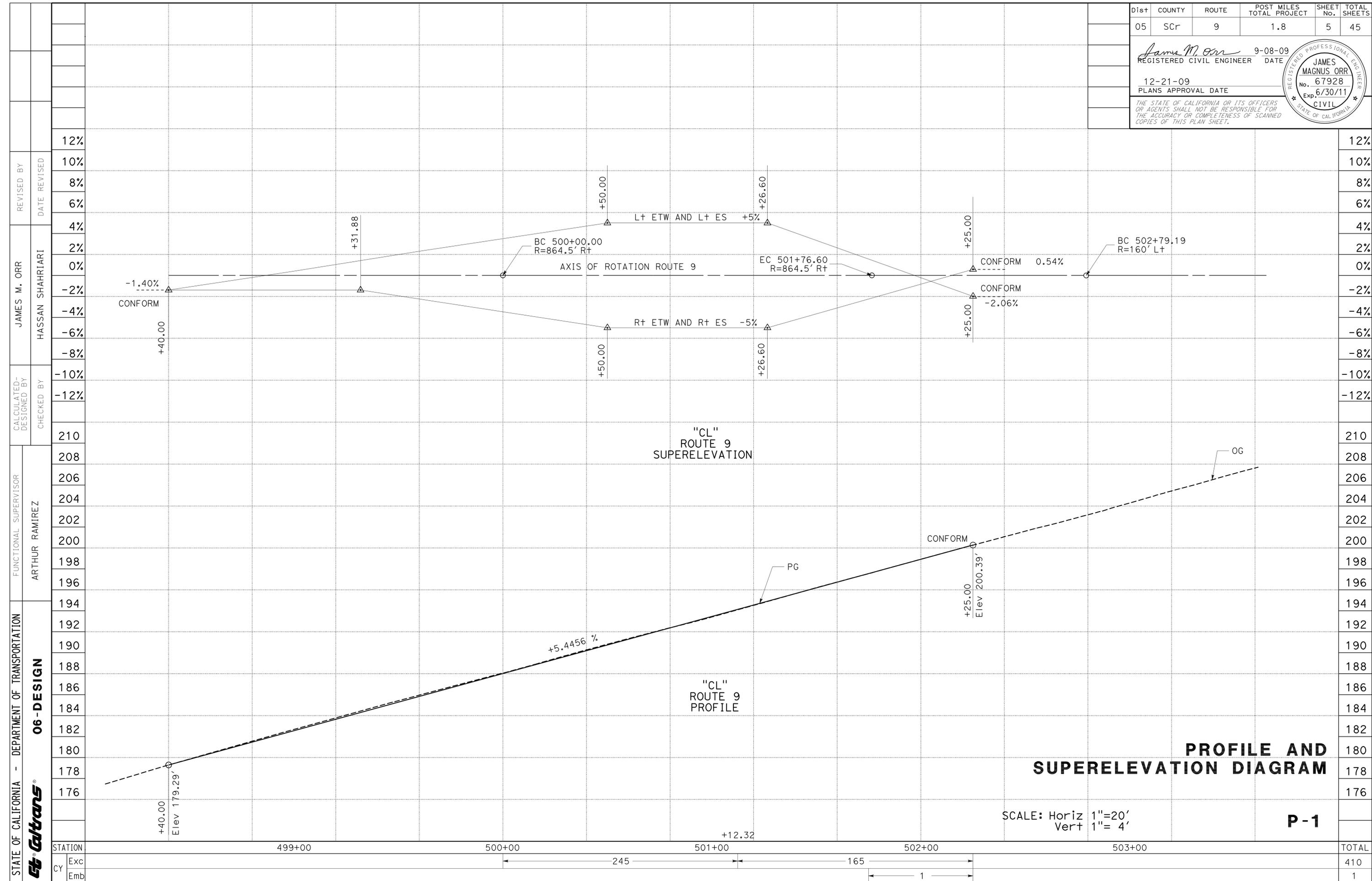
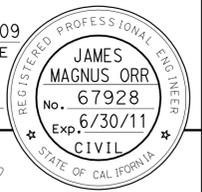
TYPICAL CROSS SECTIONS

NO SCALE

X-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 06-DESIGN
 Et Caltrans
 FUNCTIONAL SUPERVISOR: ARTHUR RAMIREZ
 CALCULATED/DESIGNED BY: JAMES M. ORR
 CHECKED BY: HASSAN SHARHIRI
 REVISED BY: JAMES M. ORR
 DATE REVISED: HASSAN SHARHIRI

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	Scr	9	1.8	5	45
<i>James M. Orr</i> REGISTERED CIVIL ENGINEER			9-08-09	DATE	
12-21-09 PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	DESIGNED BY	REVISOR
Caltrans	ARTHUR RAMIREZ	JAMES M. ORR	HASSAN SHAHRIARI
06-DESIGN			

STATION	499+00	500+00	501+00	502+00	503+00	TOTAL
Exc			245	165		410
Emb				1		1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	Scr	9	1.8	6	45

<i>James M. Orr</i>	9-08-09
REGISTERED CIVIL ENGINEER	DATE
12-21-09	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
JAMES MAGNUS ORR
No. 67928
Exp. 6/30/11
CIVIL

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTE:

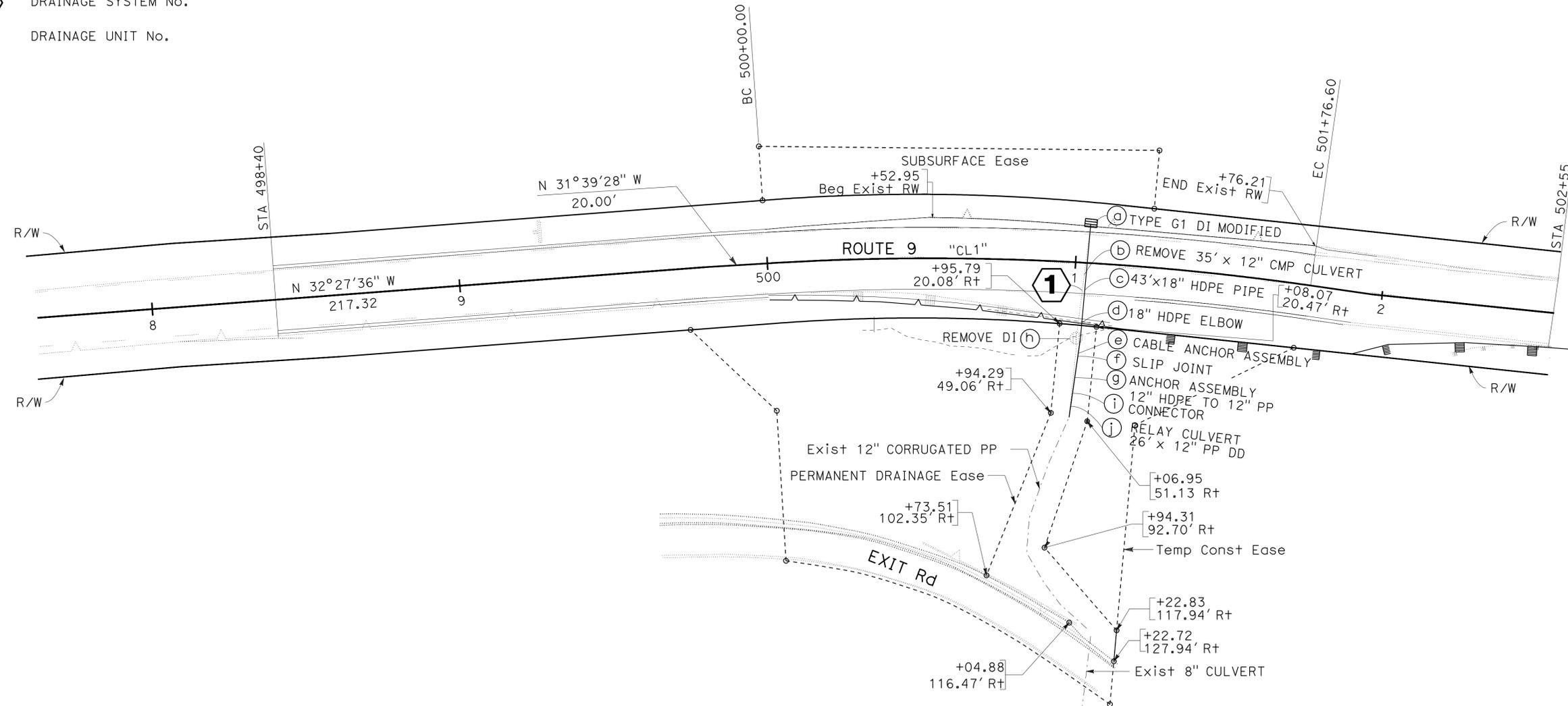
- SEE STRUCTURE PLANS FOR PIPE OPENING DETAIL.
- FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

ABBREVIATION:

HDPE = HIGH DENSITY POLYETHYLENE

LEGEND

- 1 DRAINAGE SYSTEM No.
- a DRAINAGE UNIT No.



DRAINAGE SYSTEM No. 1

ROUTE 9
STA 501+03.77

DRAINAGE PLAN D-1

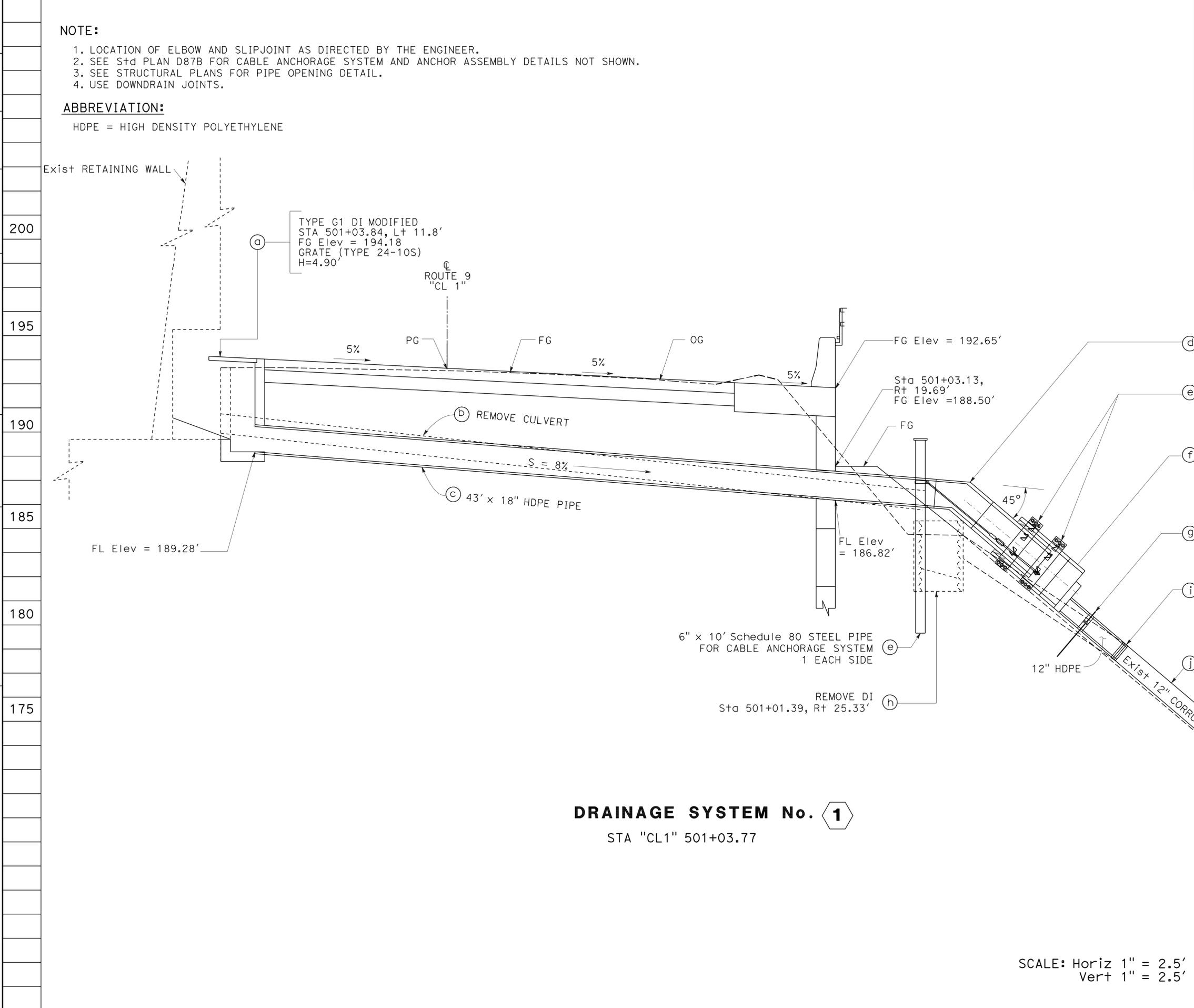
THIS PLAN ACCURATE FOR DRAINAGE WORK ONLY

SCALE: 1" = 20'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
06-DESIGN
FUNCTIONAL SUPERVISOR
ARTHUR RAMIREZ
CALCULATED-DESIGNED BY
CHECKED BY
JAMES M. ORR
HASSAN SHAHRIARI
REVISOR BY
DATE REVISED

LAST REVISION DATE PLOTTED => 22-DEC-2009 08-11-09 TIME PLOTTED => 09:35

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans 06-DESIGN



DRAINAGE SYSTEM No. 1
 STA "CL1" 501+03.77

SCALE: Horiz 1" = 2.5'
 Vert 1" = 2.5'

**DRAINAGE PROFILE
 DP-1**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	Scr	9	1.8	7	45

<i>James M. Orr</i>	9-08-09
REGISTERED CIVIL ENGINEER	DATE
12-21-09	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER JAMES MAGNUS ORR No. 67928 Exp. 6/30/11 CIVIL STATE OF CALIFORNIA	
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.	

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	Scr	9	1.8	8	45

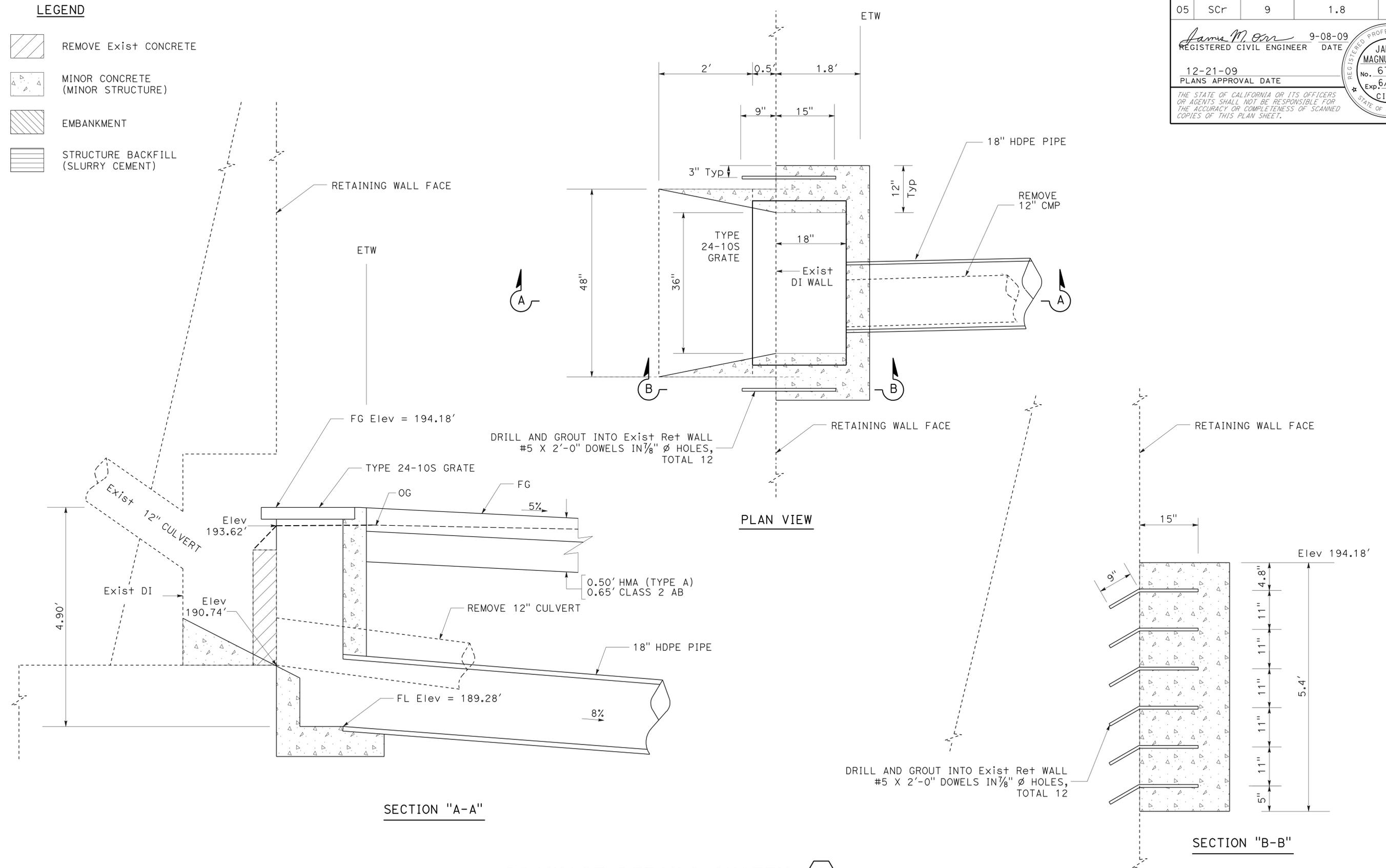
James M. Orr 9-08-09
 REGISTERED CIVIL ENGINEER DATE
 12-21-09
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
JAMES MAGNUS ORR
 No. 67928
 Exp. 6/30/11
 CIVIL
 STATE OF CALIFORNIA

LEGEND

- REMOVE Exist CONCRETE
- MINOR CONCRETE (MINOR STRUCTURE)
- EMBANKMENT
- STRUCTURE BACKFILL (SLURRY CEMENT)

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 06-DESIGN
 FUNCTIONAL SUPERVISOR: ARTHUR RAMIREZ
 CALCULATED/DESIGNED BY: JAMES M. ORR
 CHECKED BY: HASSAN SHAHRIARI
 REVISED BY: JAMES M. ORR
 DATE REVISED: HASSAN SHAHRIARI



DRAINAGE DETAILS SYSTEM 1
 STA 501+03.84, 11.8' L+ C "CL1" LINE
 TYPE G1 DI MODIFIED

DRAINAGE DETAILS DD-1
 NO SCALE

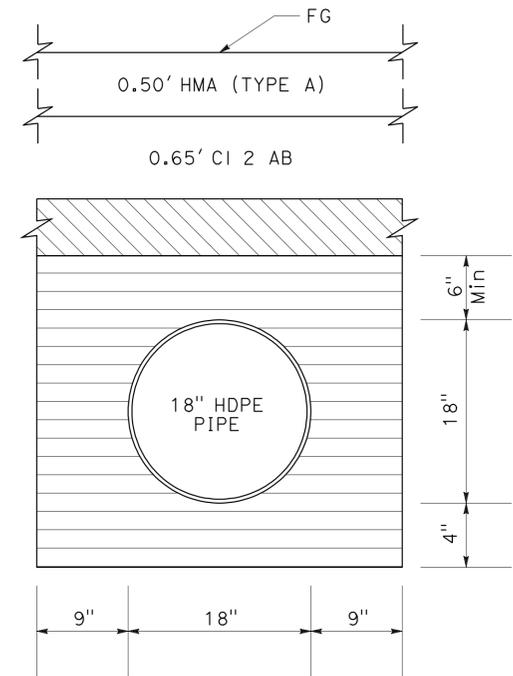
LAST REVISION | DATE PLOTTED => 22-DEC-2009 | 09-01-09 | TIME PLOTTED => 09:36

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SCR	9	1.8	9	45

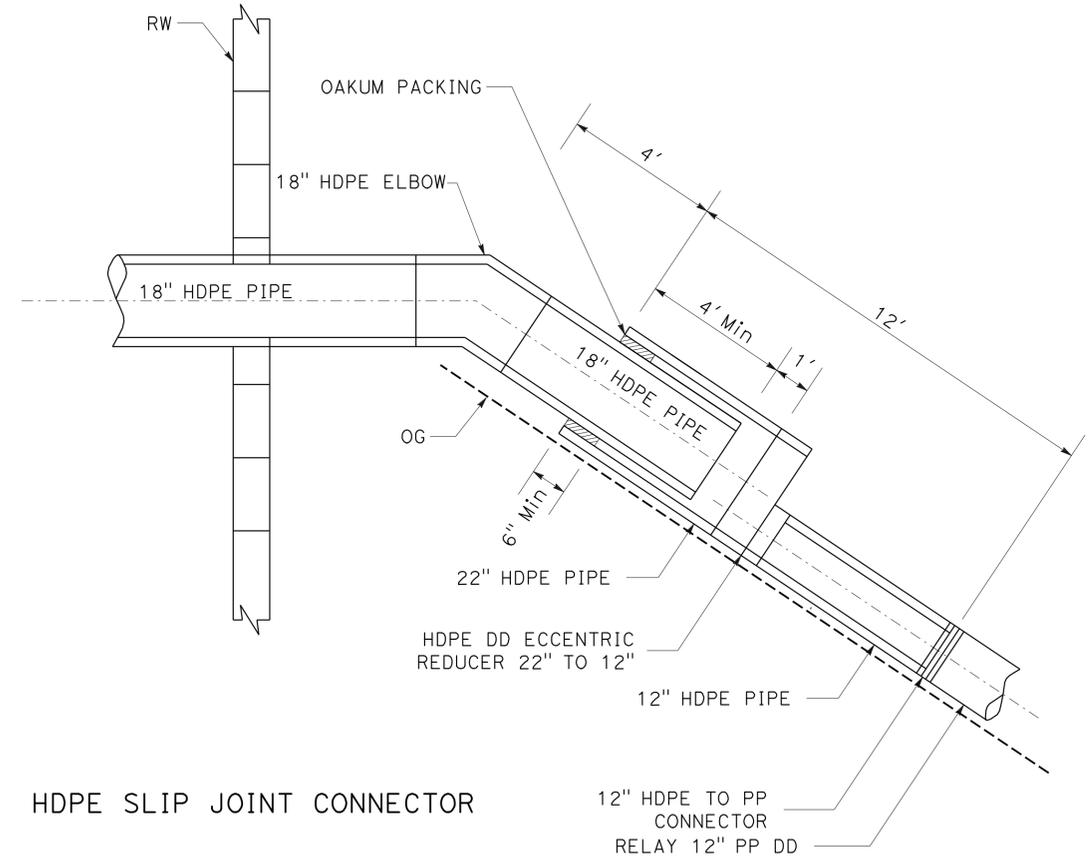
James M. Orr 9-08-09
 REGISTERED CIVIL ENGINEER DATE
 12-21-09
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 JAMES MAGNUS ORR
 No. 67928
 Exp. 6/30/11
 CIVIL
 STATE OF CALIFORNIA

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HDPE PIPE BEDDING



HDPE SLIP JOINT CONNECTOR

DRAINAGE SYSTEM 1

DRAINAGE DETAILS
 NO SCALE
DD-2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	Scr	9	1.8	12	45

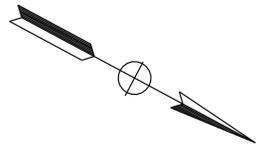
08-04-09
 REGISTERED CIVIL ENGINEER DATE
 12-21-09
 PLANS APPROVAL DATE

FAWZI YAGHMOUR
 No. C. 54750
 Exp. 12-31-09
 CIVIL

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LEGEND

 NEW STRIPE
 EXISTING STRIPE



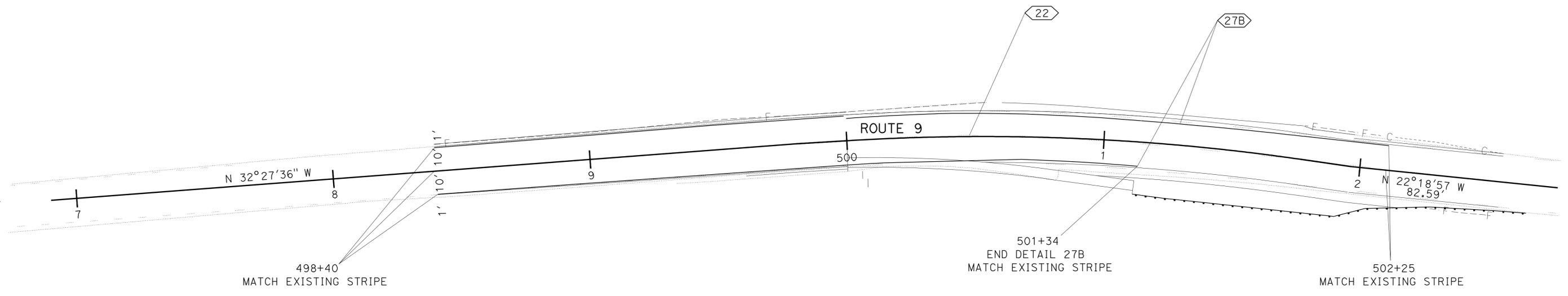
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN

FUNCTIONAL SUPERVISOR
 HASSAN MAREI

CALCULATED-DESIGNED BY
 CHECKED BY

DAVID BLACK
 RAJESH PATEL

REVISED BY
 DATE REVISED



THIS PLAN ACCURATE FOR PAVEMENT DELINEATION PLAN ONLY

PAVEMENT DELINEATIONS

SCALE: 1" = 50' PD-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	Scr	9	1.8	13	45

08-04-09
 REGISTERED CIVIL ENGINEER DATE
 12-21-09
 PLANS APPROVAL DATE

FAWZI YAGHMOUR
 No. C. 54750
 Exp. 2-31-09
 CIVIL

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PAVEMENT DELINEATION QUANTITIES

Sht No.	STATION	DETAIL No.	PAVEMENT MARKER		THERMOPLASTIC TRAFFIC STRIPE (SPRAYABLE)	
			RETROREFLECTIVE		4" WHITE	4" YELLOW
			TYPE D			
			EA		LF	
PD-1	STA 498+40 TO 502+25	22	34			385
		27B			679	
SUBTOTAL			34		679	385
TOTAL			34		1064	

PAVEMENT DELINEATION QUANTITIES

PDQ-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR HASSAN MAREI
 CALCULATED-DESIGNED BY CHECKED BY
 DAVID BLACK RAJESH PATEL
 REVISED BY DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	Scr	9	1.8	14	45

James M. Orr 9-08-09
 REGISTERED CIVIL ENGINEER DATE
 12-21-09
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 JAMES MAGNUS ORR
 No. 67928
 Exp. 6/30/11
 CIVIL
 STATE OF CALIFORNIA

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ROADWAY QUANTITIES

PLAN SHEET No.	STATION	PLACE AC DIKE (TYPE F)	COLD PLANE AC PAVEMENT	ROADWAY EXCAVATION	CLASS 2 AGGREGATE BASE	HOT MIX ASPHALT (TYPE A)	(N) EMBANKMENT
		LF	SQYD	CY	CY	TON	CY
L-1	498+40.00 TO 500+25.00		380				
L-1	500+00.00 TO 501+12.32			245	85		
L-1	501+12.32 TO 502+25.00	100	165	165	40	3	1
L-1	498+40.00 TO 502+25.00					272	
TOTAL		100	545	410	125	275	1

(N) NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.

METAL BEAM GUARD RAILING

PLAN SHEET No.	STATION	REMOVE MBGR	MBGR (STEEL POST)	TRANSITION RAILING (TYPE WB) (STEEL POST)
		LF	LF	EACH
L-1	500+00.00 TO 500+88.69	90		
L-1	502+23.04 TO 502+46.94	30		
L-1	501+12.32 TO 501+37.32			1
L-1	501+37.91 TO 502+46.94		140	
TOTAL		120	140	1

PERMANENT EROSION CONTROL

PLAN SHEET No.	STATION	FIBER ROLL	EROSION CONTROL (COMPOST BLANKET)	LARGE SEDIMENT BARRIER
		LF	CY	LF
EC-1	498+40.00 TO 502+25.00	350	20	124
TOTAL		350	20	124

SUMMARY OF QUANTITIES Q-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SCR	9	1.8	15	45

REGISTERED CIVIL ENGINEER	DATE
12-21-09	08-10-09
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER FAWZI YAGHMOUR No. C 54750 Exp. 12-31-09 CIVIL STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:

- EXACT LOCATION AND POSITION OF CONSTRUCTION AREA SIGNS TO BE DETERMINED BY THE ENGINEER
- EXACT MESSAGE FOR PCMS 1 AND 2 TO BE DETERMINED BY THE ENGINEER

NOTE: SIGN DETAILS

SPECIAL SIGN (A)

ROUTE 9 NB

CLOSED AHEAD USE DETOUR

4 INCH CAP D BLACK ON WHITE 70" x 35"

SPECIAL SIGN (B)

ROUTE 9 SB

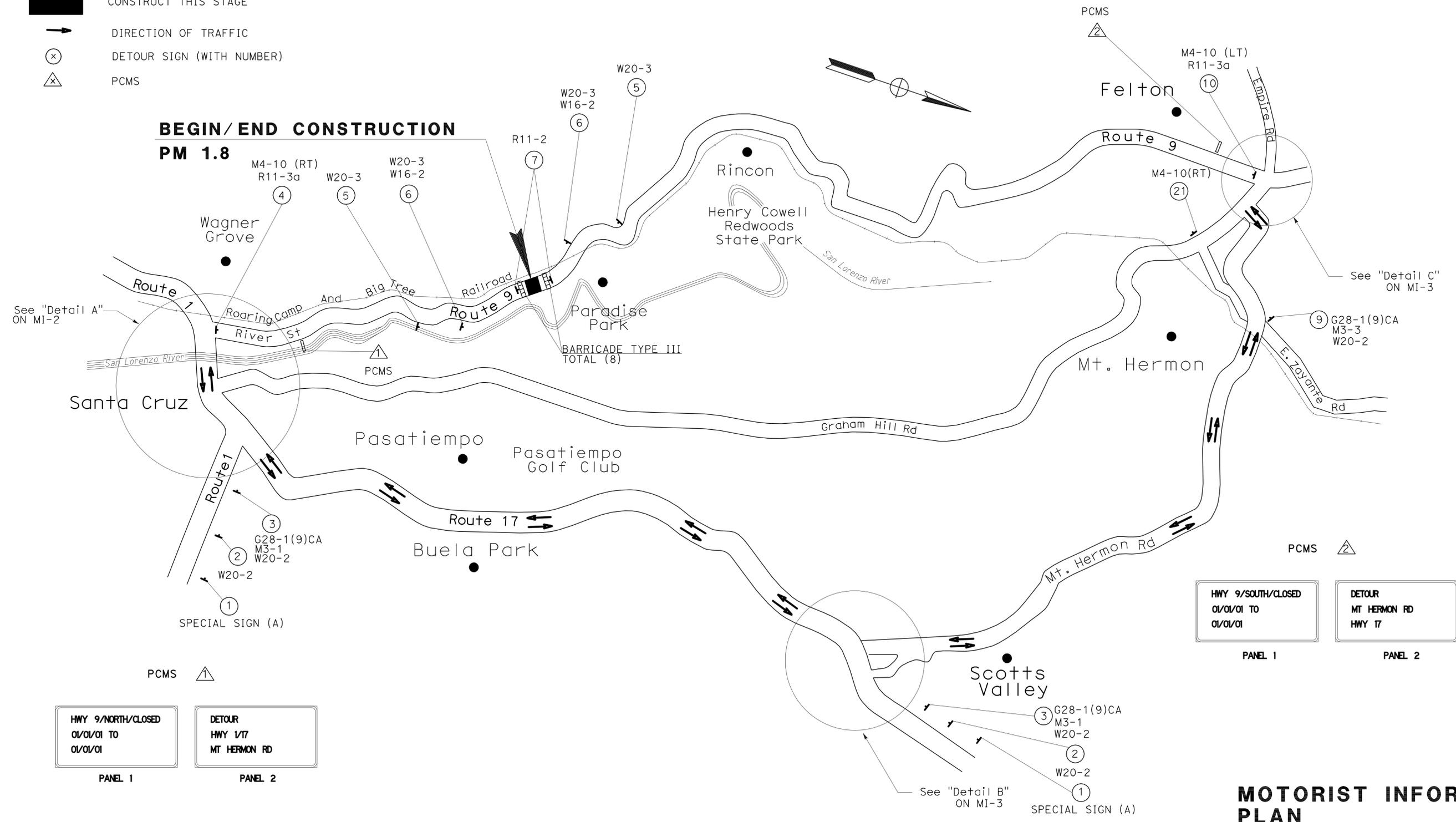
CLOSED AHEAD USE DETOUR

4 INCH CAP D BLACK ON WHITE 70" x 35"

LEGEND:

- CONSTRUCT THIS STAGE
- DIRECTION OF TRAFFIC
- x DETOUR SIGN (WITH NUMBER)
- x PCMS

BEGIN/END CONSTRUCTION PM 1.8



HWY 9/NORTH/CLOSED
01/01/01 TO 01/01/01

PANEL 1

DETOUR
HWY 17/
MT HERMON RD

PANEL 2

HWY 9/SOUTH/CLOSED
01/01/01 TO 01/01/01

PANEL 1

DETOUR
MT HERMON RD
HWY 17

PANEL 2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR: HASSAN MAREI
 CALCULATED/DESIGNED BY: DAVID BLACK
 CHECKED BY: RAJESH PATEL
 REVISED BY: DATE REVISION:

THIS PLAN ACCURATE FOR MOTORIST INFORMATION PLAN ONLY

MOTORIST INFORMATION PLAN

MI-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN

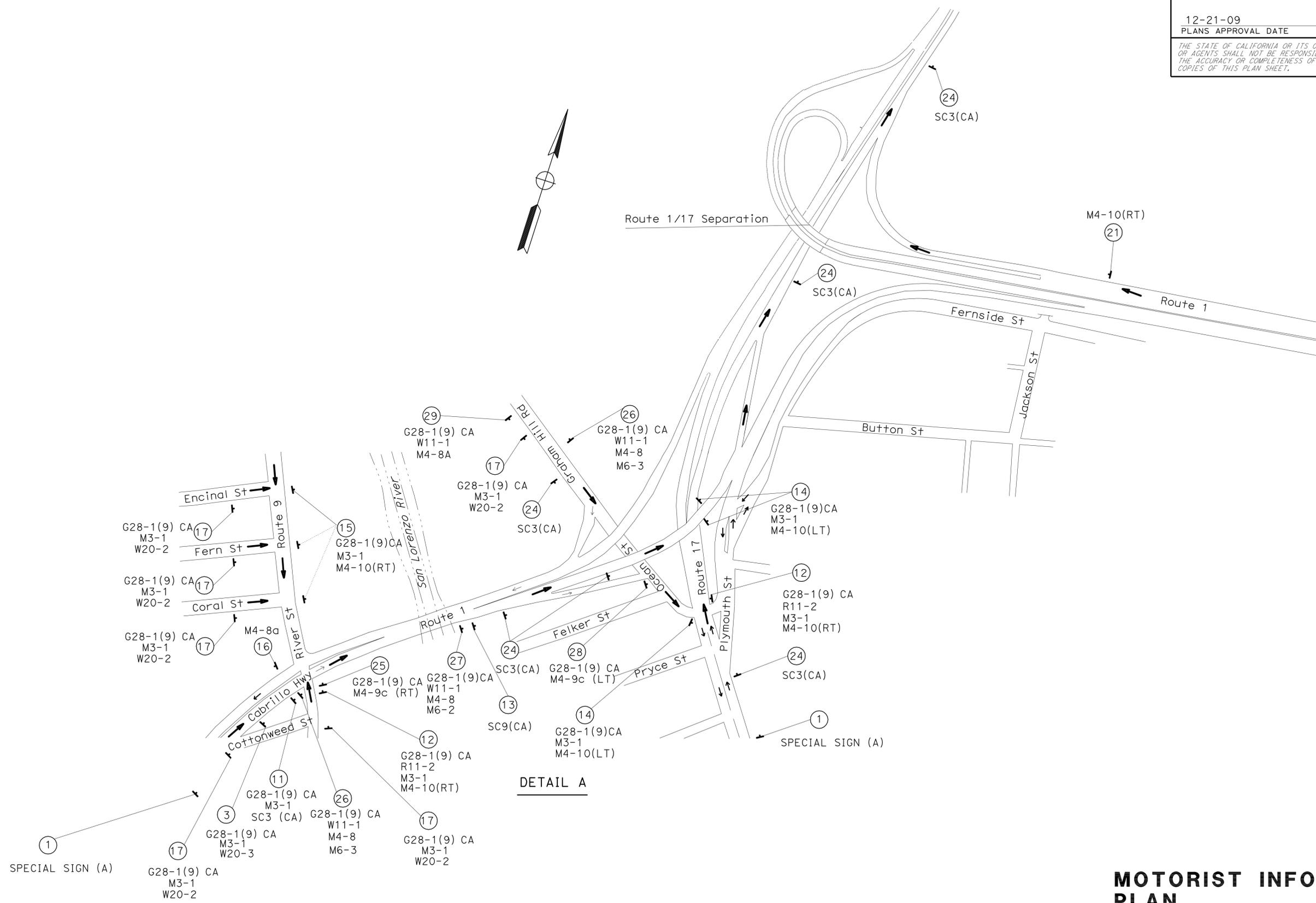
FUNCTIONAL SUPERVISOR	HASSAN MAREI
DESIGNED BY	CALCULATED BY
CHECKED BY	
REVISOR	DATE
DAVID BLACK	
RAJESH PATEL	

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	Scr	9	1.8	16	45

08/04/09
 REGISTERED CIVIL ENGINEER DATE
 12-21-09
 PLANS APPROVAL DATE

FAWZI YAGHMOUR
 No. C. 54750
 Exp. 12-31-09
 CIVIL

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MOTORIST INFORMATION PLAN

NO SCALE **MI-2**

THIS PLAN ACCURATE FOR MOTORIST INFORMATION PLAN ONLY

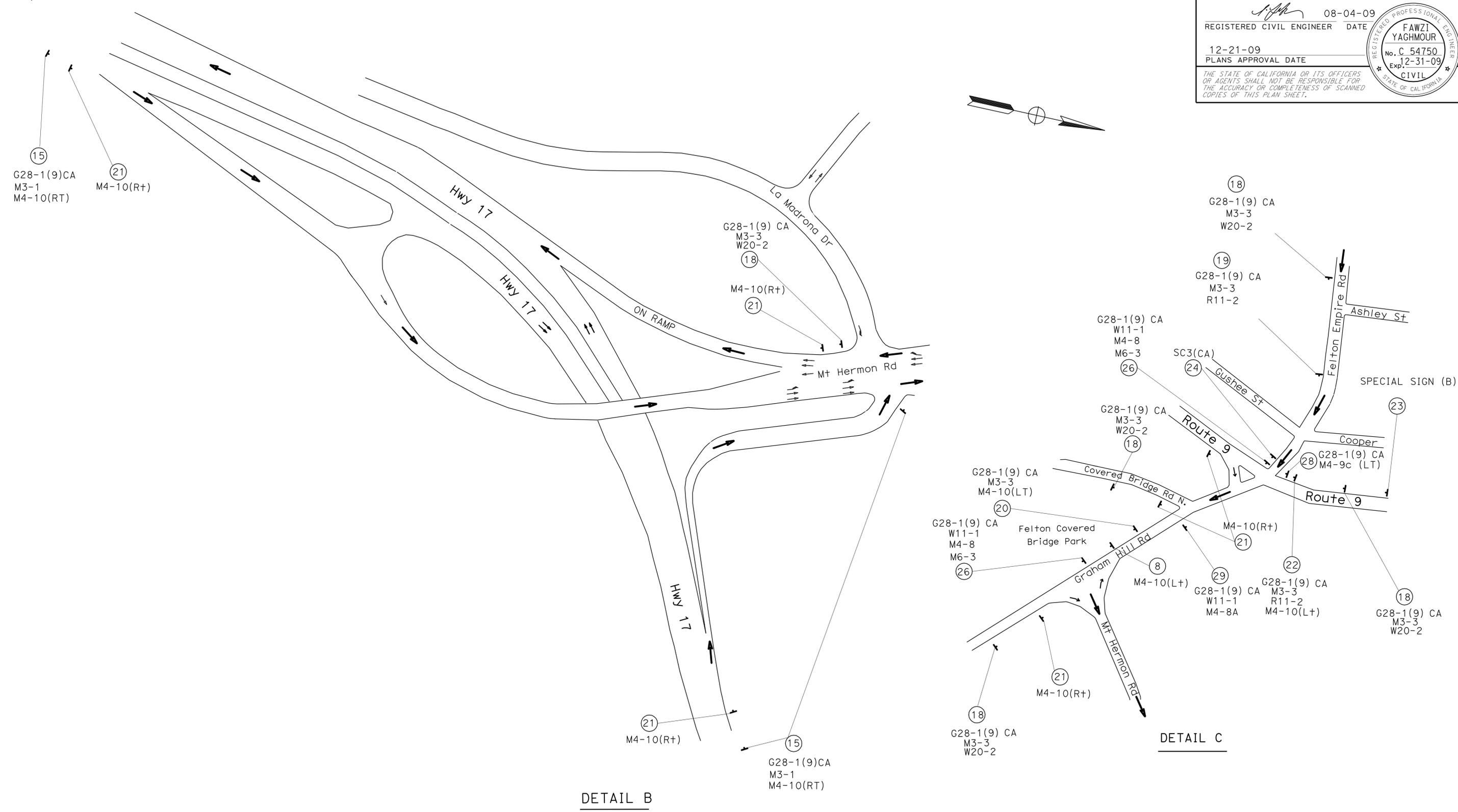
REVISOR	DATE	REVISION
DAVID BLACK		
RAJESH PATEL		
CALCULATED-DESIGNED BY	CHECKED BY	
HASSAN MAREI		
FUNCTIONAL SUPERVISOR		
HASSAN MAREI		
REVISOR	DATE	REVISION
DAVID BLACK		
RAJESH PATEL		
CALCULATED-DESIGNED BY	CHECKED BY	
HASSAN MAREI		
FUNCTIONAL SUPERVISOR		
HASSAN MAREI		

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	Scr	9	1.8	17	45

08-04-09
 REGISTERED CIVIL ENGINEER DATE
 12-21-09
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
FAWZI YAGHMOUR
 No. C 54750
 Exp. 12-31-09
 CIVIL
 STATE OF CALIFORNIA

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DETAIL B

DETAIL C

MOTORIST INFORMATION PLAN

NO SCALE **MI-3**

THIS PLAN ACCURATE FOR MOTORIST INFORMATION PLAN ONLY

REVISOR BY
 DATE REVISED

DAVID BLACK
 RAJESH PATEL

CALCULATED-DESIGNED BY
 CHECKED BY

FUNCTIONAL SUPERVISOR
 HASSAN MAREI

TRAFFIC DESIGN

CONSTRUCTION AREA SIGNS (STATIONARY MOUNTED)

SHEET No.	No.	SIGN CODE	PANEL SIZE INCH	POST SIZE INCH	SIGN MESSAGE	No. OF SIGNS
MI-1	1	SPECIAL SIGN (A)	70 x 35	1-6 x 6	NB (9) CLOSED AHEAD USE DETOUR	2
	2	W20-2	36 x 36	1-4 x 6	DETOUR AHEAD	2
	3	G28-1(9)CA	25 x 28	1-6 x 6	STATE. ROUTE SHIELD (9) CA	2
		M3-1	30 x 15		NORTH	
		W20-2	36 x 36		DETOUR AHEAD	
	4	M4-10(R+)	48 x 18	1-6 x 6	DETOUR ARROW (LEFT)	1
		R11-3a	60 x 30		ROAD CLOSED 1.80 MILES AHEAD LOCAL TRAFFIC ONLY	
	5	W20-3	48 x 48	1-4 x 6	ROAD CLOSED AHEAD	2
	6	W20-3	36 x 36	1-6 x 6	ROAD CLOSED AHEAD	2
		W16-2	24 x 18		500 FEET	
7	R11-2	48 x 30	1-4 x 6	ROAD CLOSED	2	
9	G28-1(9)CA	25 x 28	1-6 x 6	STATE. ROUTE SHIELD (9) CA	1	
	M3-3	30 x 15		SOUTH		
	W20-3	36 x 36		ROAD CLOSED AHEAD		
10	M4-10(L+)	48 x 18	1-6 x 6	DETOUR ARROW (LEFT)	1	
	R11-3a	60 x 30		ROAD CLOSED 4.66 MILES AHEAD LOCAL TRAFFIC ONLY		
21	M4-10(R+)	36 x 36	1-4 x 6	DETOUR ARROW (RIGHT)		
MI-2	1	SPECIAL SIGN (A)	72 x 36	1-6 x 6	NB (9) CLOSED AHEAD USE DETOUR	2
	3	G28-1(9)CA	25 x 28	1-6 x 6	STATE. ROUTE SHIELD (9) CA	1
		M3-1	30 x 15		NORTH	
		W20-3	36 x 36		ROAD CLOSED AHEAD	
	11	G28-1(9)CA	25 x 28	1-6 x 6	STATE. ROUTE SHIELD (9) CA	1
		M3-1	30 x 15		NORTH	
		SC3 (CA)	36 x 12		DETOUR ARROW (STRAIGHT)	
	12	G28-1(9)CA	25 x 28	1-6 x 6	STATE. ROUTE SHIELD (9) CA	2
		M3-1	30 x 15		NORTH	
		R11-2	48 x 30		ROAD CLOSED	
	13	M4-10(R+)	48 x 18	1-4 x 6	DETOUR ARROW (RIGHT)	1
		SC9(CA)	36 x 36		HWY DETOUR	
	14	G28-1(9)CA	25 x 28	1-6 x 6	STATE. ROUTE SHIELD (9) CA	3
		M3-1	30 x 15		NORTH	
M4-10(L+)		48 x 18	DETOUR ARROW (LEFT)			
SUBTOTAL						25

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
05	Scr	9	1.8	18	45

08-04-09
 REGISTERED CIVIL ENGINEER DATE

12-21-09
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
FAWZI YAGHMOUR
 No. C. 54750
 Exp. 12-31-09
 CIVIL

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CONSTRUCTION AREA SIGNS (STATIONARY MOUNTED)

SHEET No.	No.	SIGN CODE	PANEL SIZE INCH	POST SIZE INCH	SIGN MESSAGE	No. OF SIGNS
MI-2	15	G28-1(9)CA	25 x 28	1-6 x 6	STATE. ROUTE SHIELD (9) CA	3
		M3-1	30 x 15		NORTH	
		M4-10(R+)	48 x 18		DETOUR ARROW (RIGHT)	
	16	M4-8a	36 x 36	1-4 x 6	END DETOUR	1
		G28-1(9)CA	25 x 28		STATE. ROUTE SHIELD (9) CA	
	17	M3-1	30 x 15	1-6 x 6	NORTH	6
		W20-2	36 x 36		DETOUR AHEAD	
	21	M4-10(R+)	36 x 36	1-4 x 6	DETOUR ARROW (RIGHT)	1
	24	SC3 (CA)	36 x 12	1-4 x 4	DETOUR ARROW STRAIGHT	5
	25	G28-1(9)CA	25 x 28	1-4 x 6	STATE. ROUTE SHIELD (9) CA	1
		M4-9c(R+)	24 x 30		BIKE SYMBOL WITH ARROW RIGHT	
	26	G28-1(9)CA	25 x 28	1-6 x 6	STATE. ROUTE SHIELD (9) CA	2
		M4-8	12 x 24		DETOUR	
	27	M6-3	15 x 21	1-6 x 6	STRAIGHT ARROW	1
		G28-1(9)CA	25 x 28		STATE. ROUTE SHIELD (9) CA	
W11-1		24 x 24	BIKE SYMBOL			
28	M4-8	12 x 24	1-4 x 6	DETOUR	1	
	M6-2	15 x 21		ANGLE ARROW		
29	G28-1(9)CA	25 x 28	1-6 x 6	STATE. ROUTE SHIELD (9) CA	1	
	M4-9c(L+)	24 x 30		BIKE SYMBOL WITH ARROW LEFT		
29	G28-1(9)CA	25 x 28	1-6 x 6	STATE. ROUTE SHIELD (9) CA	1	
	W11-1	24 x 24		BIKE SYMBOL		
29	M4-8a	12 x 24	1-6 x 6	END DETOUR	1	
	G28-1(9)CA	25 x 28		STATE. ROUTE SHIELD (9) CA		
SUBTOTAL						22
SUBTOTAL						25
TOTAL MIQ-1						47

MOTORIST INFORMATION QUANTITIES

NO SCALE

MIQ-1



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	Scr	9	1.8	19	45

08-04-09
REGISTERED CIVIL ENGINEER DATE

12-21-09
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
FAWZI YAGHMOUR
 No. C. 54750
 Exp. 12-31-09
 CIVIL
 STATE OF CALIFORNIA

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CONSTRUCTION AREA SIGNS (STATIONARY MOUNTED)

SHEET No.	No.	SIGN CODE	PANEL SIZE INCH	POST SIZE INCH	SIGN MESSAGE	No. OF SIGNS
MI-3	8	M4-10(L+)	48 x 18	1-4 x 6	DETOUR ARROW (LEFT)	1
	15	G28-1(9)CA	25 x 28	1-6 x 6	STATE. ROUTE SHIELD (9) CA	3
		M3-1	30 x 15		NORTH	
		M4-10(R+)	48 x 18		DETOUR ARROW (RIGHT)	
	18	G28-1(9)CA	25 x 28	1-6 x 6	STATE. ROUTE SHIELD (9) CA	5
		M3-3	30 x 15		SOUTH	
		W20-2	36 x 36		DETOUR AHEAD	
	19	G28-1(9)CA	25 x 28	1-6 x 6	STATE. ROUTE SHIELD (9) CA	1
		M3-3	30 x 15		SOUTH	
		R11-2	48 x 30		ROAD CLOSED	
	20	G28-1(9)CA	25 x 28	1-6 x 6	STATE. ROUTE SHIELD (9) CA	1
		M3-3	30 x 15		SOUTH	
	21	M4-10(L+)	48 x 18	1-4 x 6	DETOUR ARROW (LEFT)	6
		M4-10(R+)	36 x 36		DETOUR ARROW (RIGHT)	
	22	G28-1(9)CA	25 x 28	1-6 x 6	STATE. ROUTE SHIELD (9) CA	1
		M3-3	30 x 15		SOUTH	
		R11-2	48 x 30		ROAD CLOSED	
	23	M4-10(L+)	48 x 18	1-6 x 6	DETOUR ARROW (LEFT)	1
		SPECIAL SIGN (B)	70 x 35		ROUTE 9 SB CLOSED AHEAD USE DETOUR	
	24	SC3 (CA)	36 x 12	1-4 x 4	DETOUR ARROW STRAIGHT	1
	26	G28-1(9)CA	25 x 28	1-6 x 6	STATE. ROUTE SHIELD (9) CA	2
		M4-8	12 x 24		DETOUR	
		M6-3	15 x 21		STRAIGHT ARROW	
	28	G28-1(9)CA	25 x 28	1-4 x 6	STATE. ROUTE SHIELD (9) CA	1
M4-9c(L+)		24 x 30	BIKE SYMBOL WITH ARROW LEFT			
29	G28-1(9)CA	25 x 28	1-6 x 6	STATE. ROUTE SHIELD (9) CA	1	
	W11-1	24 x 24		BIKE SYMBOL		
	M4-8a	12 x 24		END DETOUR		
SUBTOTAL SHEET MIQ-2						24
SUBTOTAL SHEET MIQ-1						47
TOTAL						71

TYPE III BARRICADES

SIGNS No.	LIMIT	TYPE III BARRICADE
		EA
10	1.8 POST MILE	4
11	1.8 POST MILE	4
	TOTAL	8

MOTORIST INFORMATION QUANTITIES

NO SCALE

MIQ-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR: HASSAN MAREI
 CALCULATED/DESIGNED BY: DAVID BLACK
 CHECKED BY: RAJESH PATEL
 REVISED BY: DATE REVISOR

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	Scr	9	1.8	20	45

Signature: *Bryan Parker*
 LICENSED LANDSCAPE ARCHITECT
 12-21-09
 PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

ABBREVIATIONS

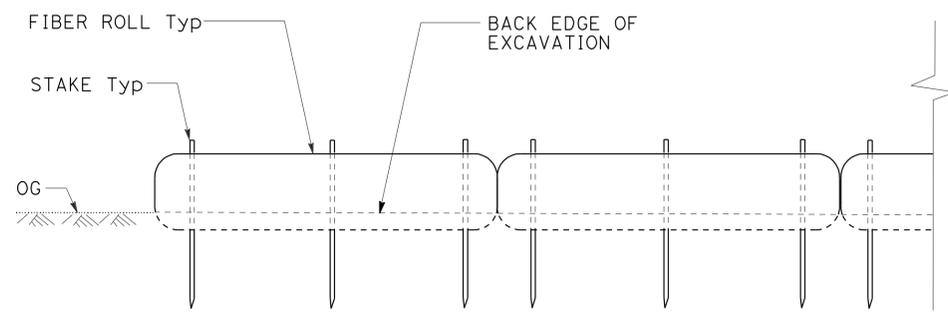
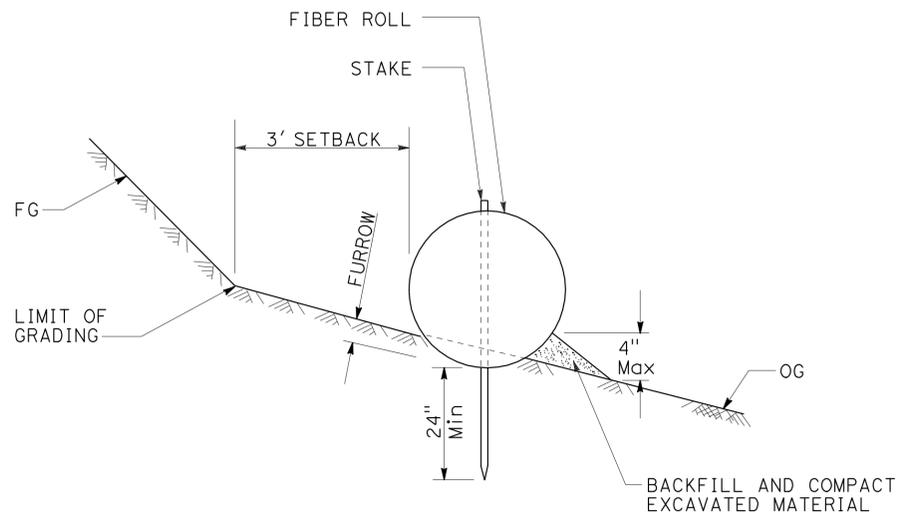
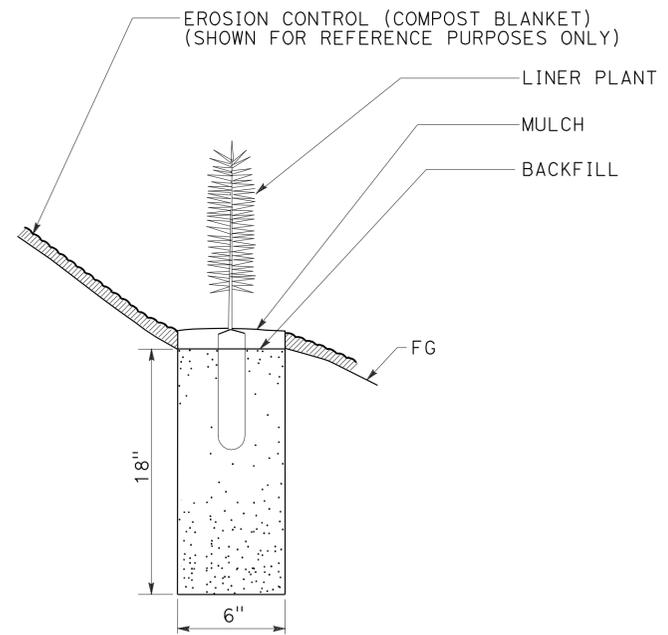
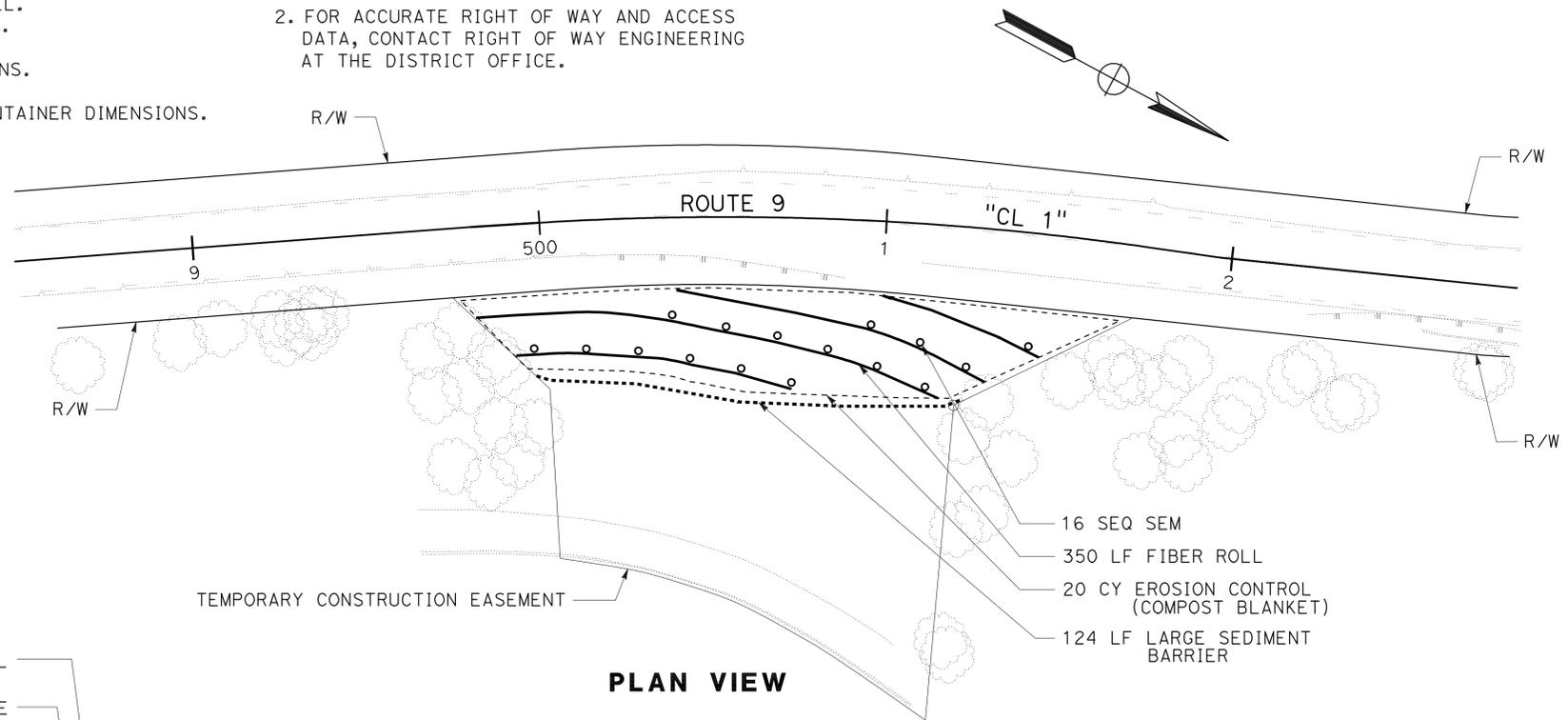
AMEND — AMENDMENT	MAX — MAXIMUM
B & B — BALLED AND BURLAPPED	MIN — MINIMUM
Dia — DIAMETER	NCN — NO COMMON NAME
EA — EACH	No. — NUMBER
LB — POUND	PK+ — PACKET
OZ — OUNCE	PLT ESTB — PLANT ESTABLISHMENT
F+ — FOOT/FEET	Pvmt — PAVEMENT
SQFT — SQUARE FEET	R/W — RIGHT OF WAY
SQYD — SQUARE YARD	SF — STATE FURNISHED
CF — CUBIC FEET	TRVD — TRAVELED

PLANT LIST AND PLANTING SPECIFICATIONS

PLANT GROUP	PLANT NO.	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY EACH	HOLE SIZE (INCH)		IRON SULFATE	SOIL AMEND ①	WATER RETAINING POLYMER ①		BASIN MULCH ①	STAKING	PLANTING LIMITS						REMARKS
							DIA	DEPTH			PLANTING	PLT ESTB			MINIMUM DISTANCE (FT) FROM				ON CENTER (FT)		
															TRVD WAY	PVMT	FENCE	WALL		PAVED DITCH	
M	1	o	<u>SEQUOIA</u> <u>SEMPERVIRENS</u>	COAST REDWOOD	LINER	16	⑥		-	0.5 CF	0.2 CF	-	0.1 CF	-	-	-	10	-	-	④	⑦

- APPLICABLE WHEN CIRCLED:**
- ① - QUANTITIES SHOWN ARE "PER PLANT" UNLESS SHOWN AS SQFT OR SQYD APPLICATION RATES.
 - 2 - SUFFICIENT TO RECEIVE ROOT BALL.
 - 3 - DOES NOT APPLY TO MULCH AREAS.
 - ④ - AS SHOWN ON PLANS.
 - 5 - UNLESS OTHERWISE SHOWN ON PLANS.
 - ⑥ - SEE DETAIL.
 - ⑦ - SEE SPECIAL PROVISIONS FOR CONTAINER DIMENSIONS.

- NOTE:**
- 1. UNDERLINED PORTIONS OF BOTANICAL NAME INDICATE ABBREVIATIONS USED ON EROSION CONTROL PLANS.
 - 2. FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



SECTION LARGE SEDIMENT BARRIER

THIS PLAN ACCURATE FOR EROSION CONTROL WORK ONLY.

ELEVATION LARGE SEDIMENT BARRIER

SECTION PLANT (GROUP M)
EROSION CONTROL PLAN EC-1
 NO SCALE

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
05	Scr	9	1.8	21	45

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

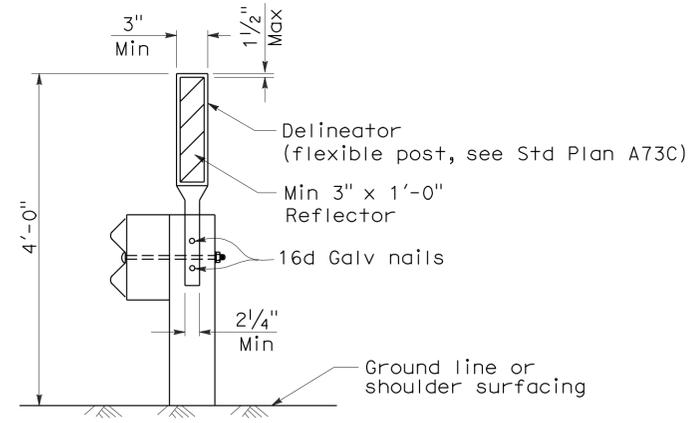
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REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

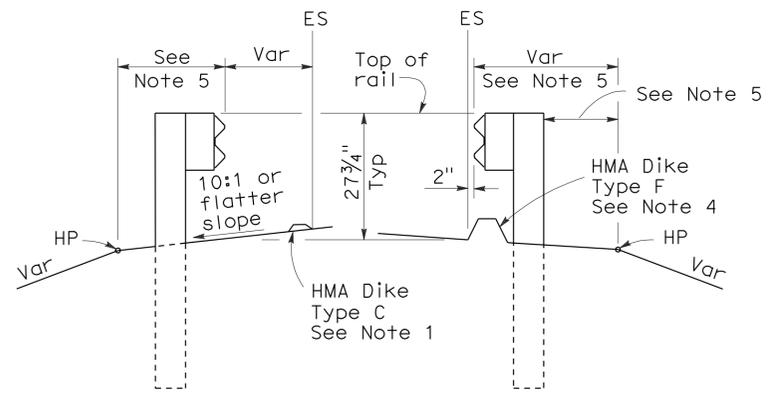
To accompany plans dated 12-21-09

NOTES:

1. When necessary to place dike in front of face of guard railing, only Type C dike may be used. For dike details, see Standard Plan A87B.
2. For standard railing post embedment, see Standard Plans A77C3.
3. Guard railing delineation to be used where shown on the Project Plans.
4. When dike or curb is placed under guard railing, the maximum height of the dike or curb shall be 4". Mountable dike should not be used. For dike and curb details, see Revised Standard Plans RSP A87A and Standard Plan A87B.
5. For details of typical distance between the face of rail and hinge point, see Standard Plan A77C3.



GUARD RAILING DELINEATION
See Note 3



DIKE POSITIONING
See Note 1

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TYPICAL RAILING DELINEATION
AND DIKE POSITIONING DETAILS**

NO SCALE

RSP A77C4 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77C4
DATED MAY 1, 2006 - PAGE 47 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77C4

2006 REVISED STANDARD PLAN RSP A77C4

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
05	Scr	9	1.8	22	45

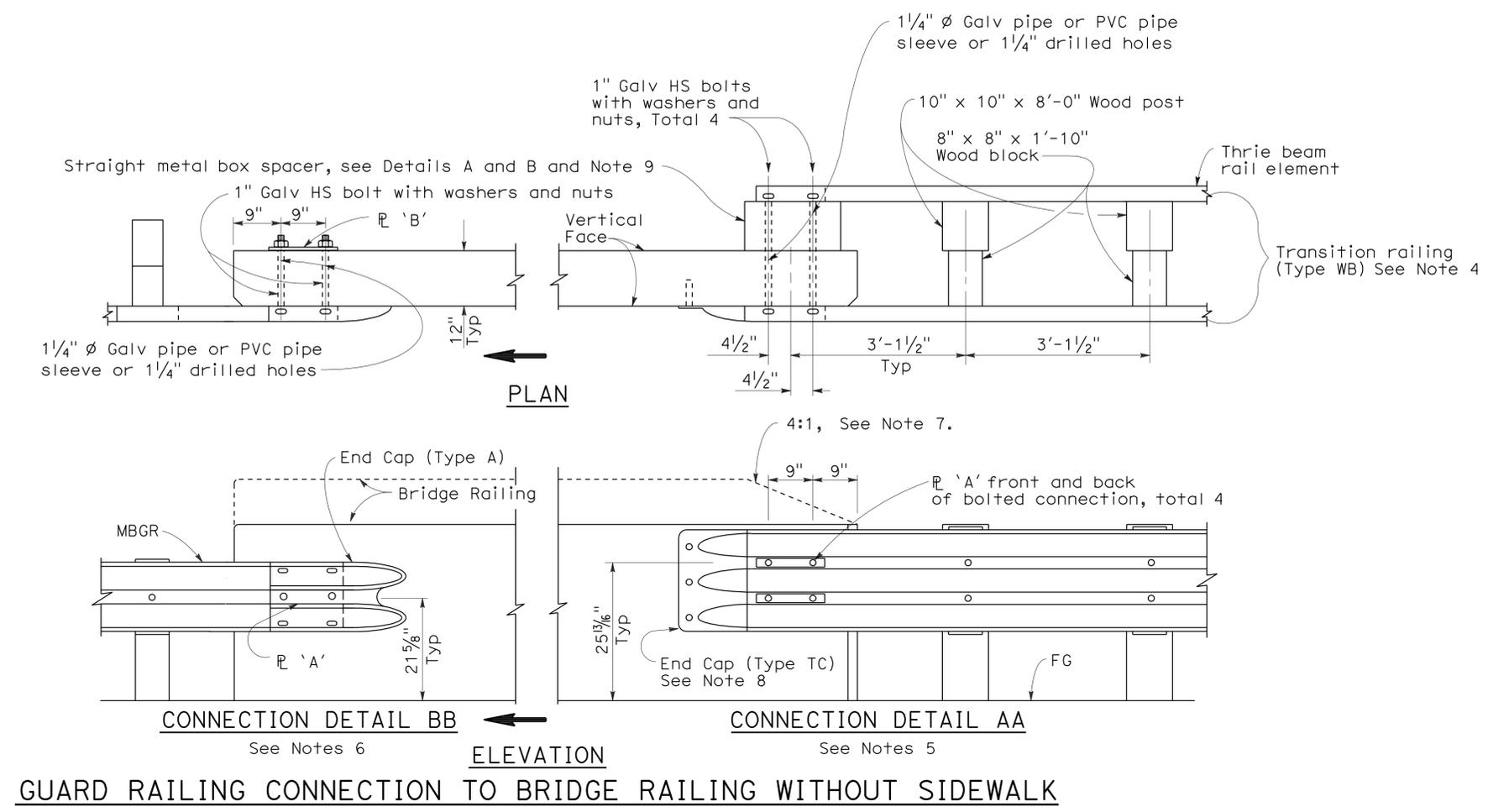
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

Randell D. Hiatt
REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

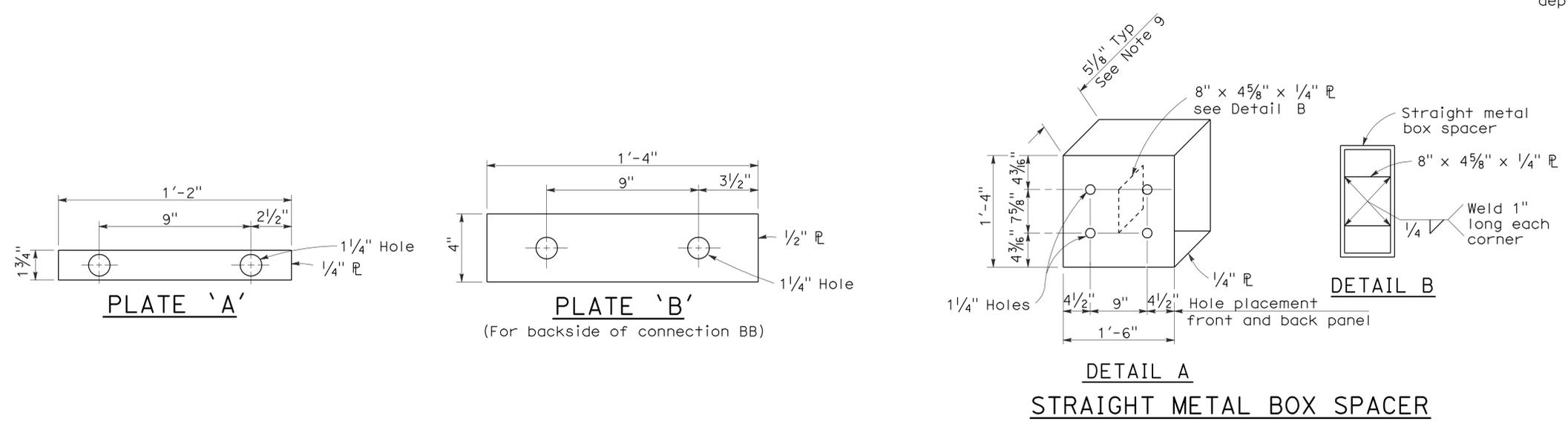
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To accompany plans dated 12-21-09



NOTES:

1. See Revised Standard Plan RSP A77J2 for additional connection details to bridges without sidewalks.
2. Additional details of posts, blocks and hardware are shown on Standard Plan A77B1, A77C1 and A77C2.
3. Direction of adjacent traffic indicated by \rightarrow .
4. For additional details of Transition Railing (Type WB), see Standard Plan A77J4. Transition Railing (Type WB) transitions the 12 gage w-beam standard railing section of guard railing to a heavier gage nested thrie beam railing section which is connected to the concrete bridge railing.
5. For typical use of Connection Detail AA, see Layout Types 12A and 12B on Revised Standard Plan RSP A77F1, Layout Types 12C and 12D on Standard Plan A77F2, and Layout Type 12E on Revised Standard Plan RSP A77F3.
6. For typical use of Connection Detail BB, see Layout Type 12D (structure departure railing connection) on Standard Plan A77F2 and Layout Type 12DD on Standard Plan A77F5.
7. Where the height of the bridge railing exceeds the height of the thrie beam railing by more than 1" at Connection Detail AA, taper the top of the end of the bridge railing at 4:1 to match the top elevation of the thrie beam rail.
8. For details of End Cap (Type TC), see Standard Plan A77J4.
9. See Standard Plan A77J4 for additional details regarding depth dimension for straight metal box spacer.



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
CONNECTIONS TO
BRIDGE RAILINGS
WITHOUT SIDEWALKS
DETAILS No.1**

NO SCALE

RSP A77J1 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77J1
DATED MAY 1, 2006 - PAGE 72 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP A77J1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
05	SCR	9	1.8	23	45

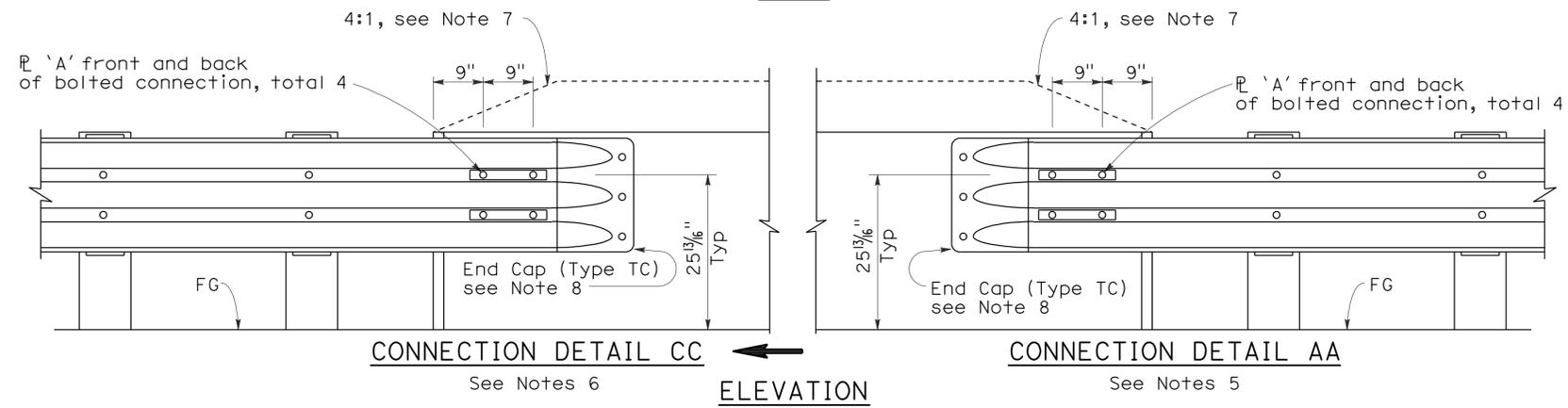
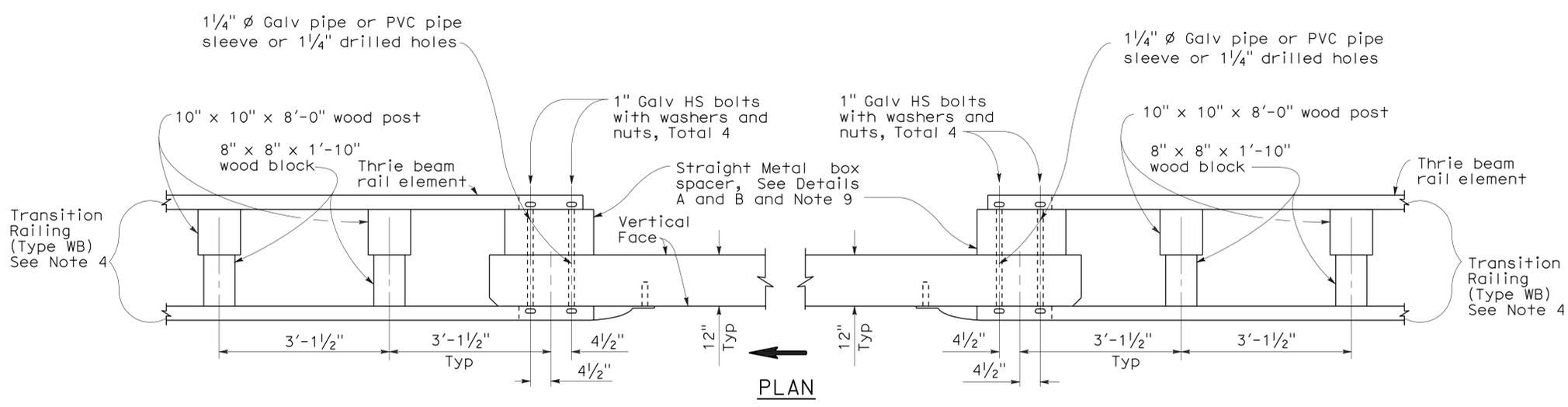
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

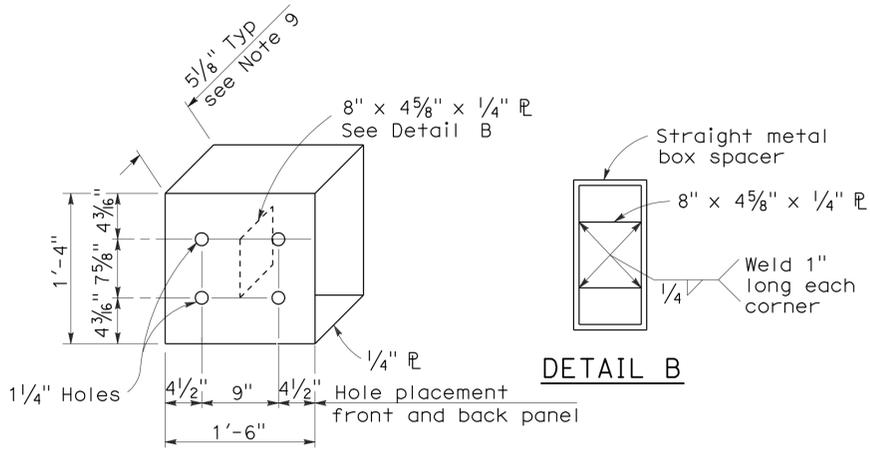
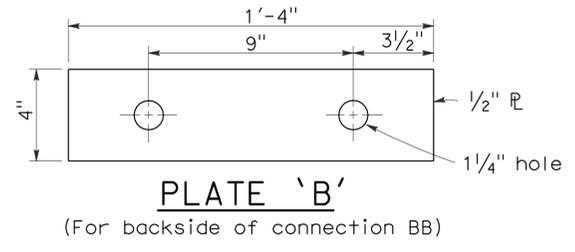
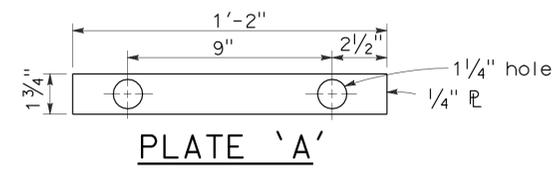
To accompany plans dated 12-21-09



GUARD RAILING CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK

NOTES:

1. See Revised Standard Plan RSP A77J1 for additional connection details to bridges without sidewalks.
2. Additional details of posts, blocks and hardware are shown on Standard Plan A77B1, A77C1 and A77C2.
3. Direction of adjacent traffic indicated by →.
4. For additional details of Transition Railing (Type WB), see Standard Plan A77J4. Transition Railing (Type WB) transitions the 12 gage w-beam standard railing section of guard railing to a heavier gage nested thrie beam railing section which is connected to the concrete bridge railing.
5. For typical use of Connection Detail AA, see Layout Types 12A and 12B on Revised Standard Plan RSP A77F1, Layout Types 12C and 12D on Standard Plan A77F2, and Layout Type 12E on Revised Standard Plan RSP A77F3.
6. For typical use of Connection Detail CC, see Layout Types 12AA and 12BB on Standard Plan A77F4 and Layout Type 12CC on Standard Plan A77F5.
7. Where the height of the bridge railing exceeds the height of the thrie beam railing by more than 1" at Connection Detail AA and connection Detail CC, taper the top of the end of the bridge railing at 4:1 to match the top elevation of the thrie beam railing.
8. For details of End Cap (Type TC), see Standard Plans A77J4.
9. See Standard Plans A77J4 for additional details regarding depth dimension for straight metal box spacer.



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING CONNECTIONS TO BRIDGE RAILINGS WITHOUT SIDEWALKS DETAILS No.2

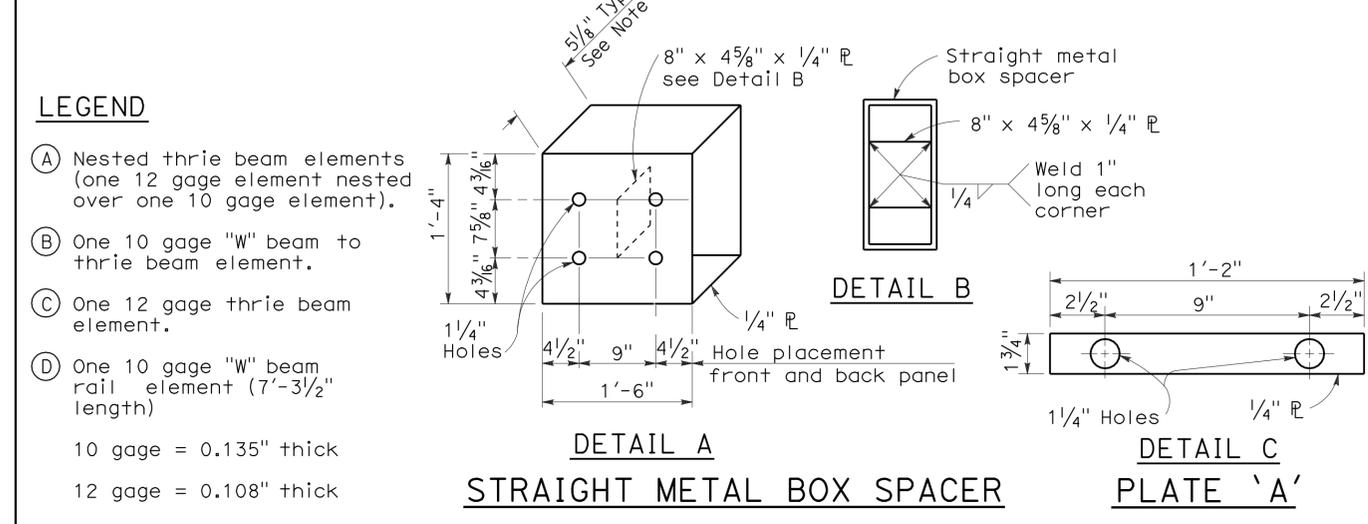
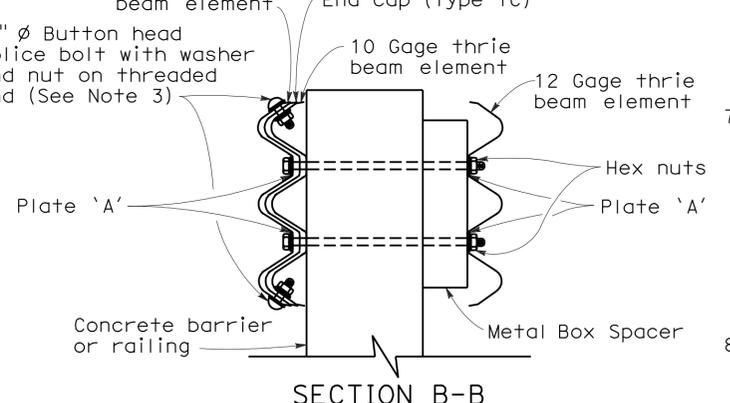
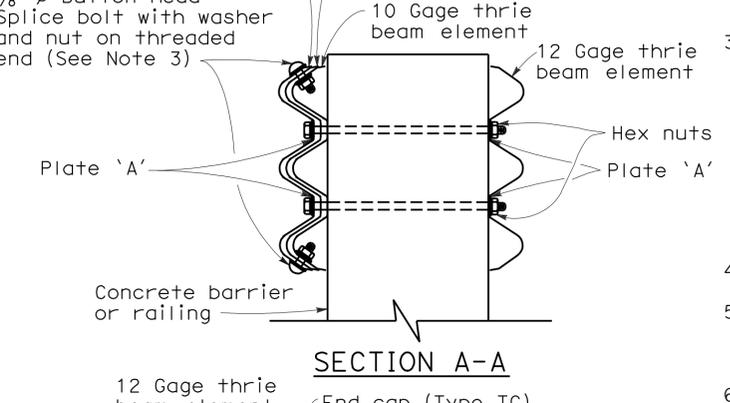
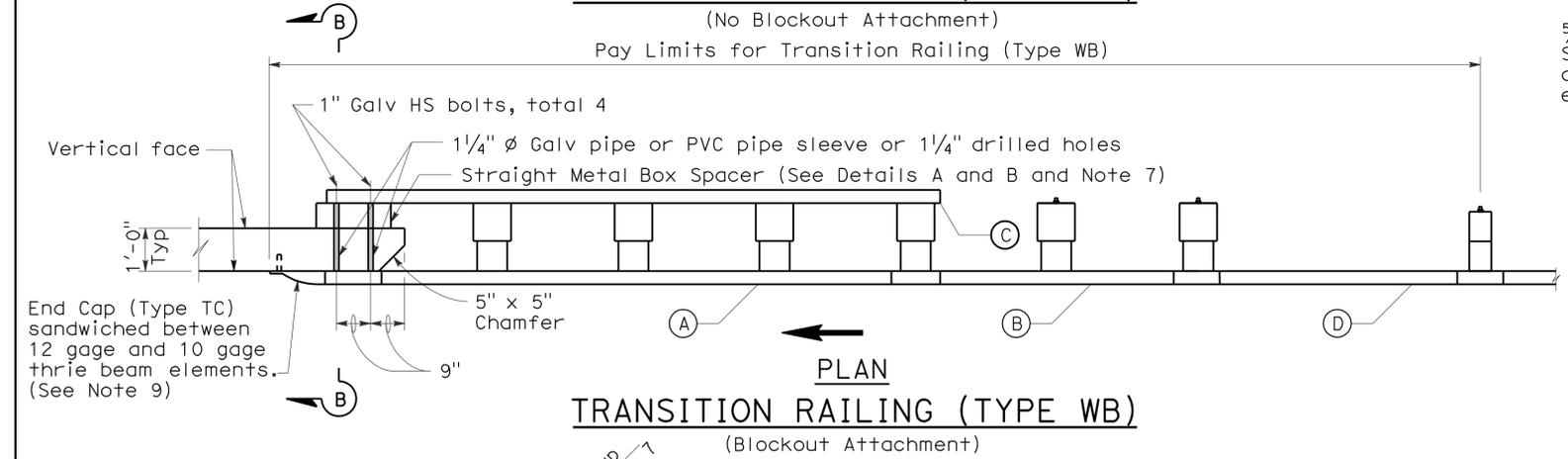
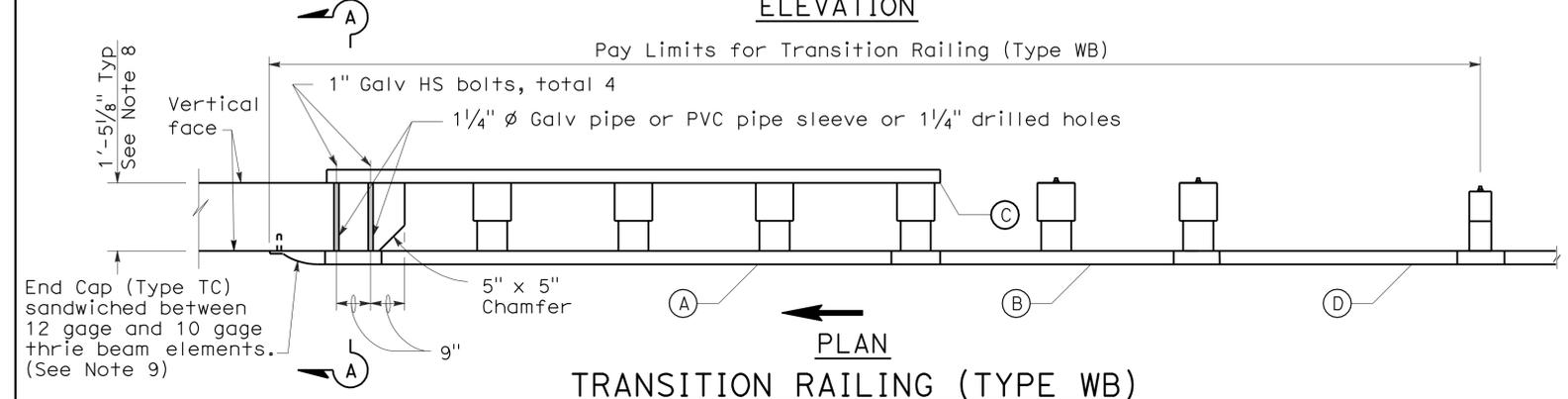
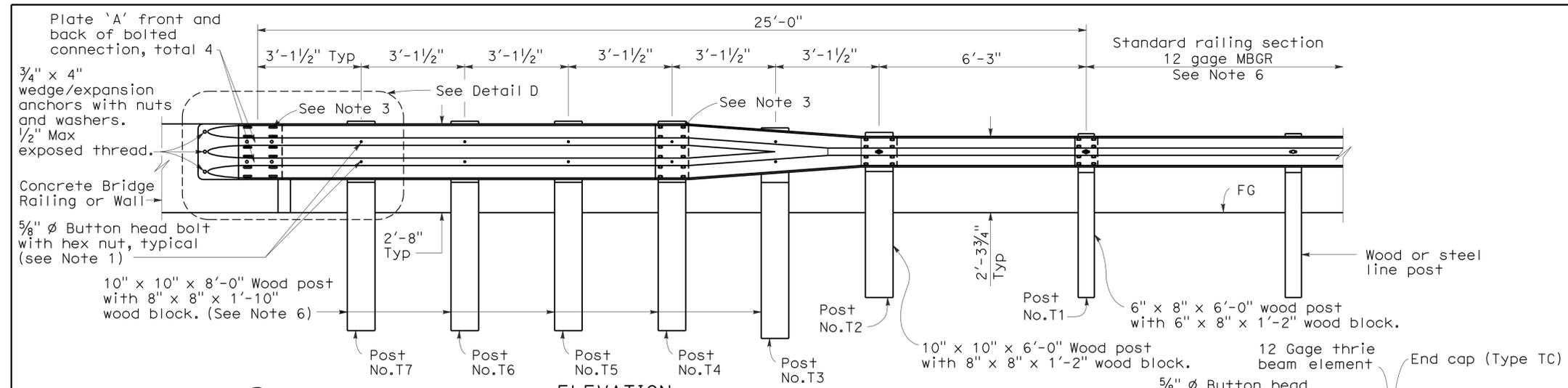
NO SCALE
RSP A77J2 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77J2
DATED MAY 1, 2006 - PAGE 73 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77J2

2006 REVISED STANDARD PLAN RSP A77J2

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
05	Scr	9	1.8	24	45

RANDALL D. HIATT
 REGISTERED CIVIL ENGINEER
 June 5, 2009
 PLANS APPROVAL DATE
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- NOTES:** To accompany plans dated 12-21-09
- Use 5/8" ø Button head bolts and hex nuts for connections to posts. No washer on rail face for bolted connections to post.
 - The nested rail elements, end cap, and "W" beam to thrie beam element may be spliced together prior to bolting the elements to the wood post and concrete barrier or railing.
 - Exterior splice bolt holes for rail element splices at Post No. T4 and the connection to the concrete barrier or railing shall be the standard 29/32" x 1 1/8" slot size. Interior splice bolt holes at these locations may be increased up to 1 1/4" ø. Only the top 2 and the bottom 2 splice bolts with washers and nuts are required for rail splices at Post No. T4 and the connection to the concrete barrier or railing.
 - Direction of adjacent traffic indicated by →.
 - The top elevation of Post Nos. T2 through T7 shall not project more than 1" above the top elevation of the rail element.
 - Typically, the railing connected to Transition Railing (Type WB) will be either standard railing section of metal beam guard railing or an approved Caltrans end treatment attached to Post No. T1.
 - The depth of the metal box spacer varies from the 5 1/8" to 1 1/2" and is dependent on the width of the concrete railing or wall. The combined dimension for the depth of the metal box spacer plus the width of railing or wall is typically 17 1/8". Where the space between the backside of the concrete railing or wall and the rear thrie beam element is less than 1 1/2", metal plates similar to Plate 'A' are to be used as spacers.
 - Where the width of the concrete railing or wall is greater than 17 1/8", wood blocks are to be used to fill the space created between the backside of Posts No. 4 through No. 7 and the rear thrie beam element. These wood blocks shall be 8" in width and 1'-2" in length. The dimension between the front thrie beam element and the rear thrie beam element is to match the width of the concrete railing or wall.
 - End cap may be installed over 12 gage and 10 gage thrie beam elements where transition railing is installed on the departure end of bridge railing.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TRANSITION RAILING
(TYPE WB)**

NO SCALE

RSP A77J4 DATED JUNE 5, 2009 SUPERSEDES RSP A77J4 DATED JUNE 6, 2008
AND STANDARD PLAN A77J4 DATED MAY 1, 2006 -
PAGE 75 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77J4

2006 REVISED STANDARD PLAN RSP A77J4

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
05	SCR	9	1.8	25	45

Gregory A. Balzer
 LICENSED LANDSCAPE ARCHITECT
 June 5, 2009
 PLANS APPROVAL DATE
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To accompany plans dated 12-21-09

2006 REVISED STANDARD PLAN RSP H1

A

AB aggregate base
 ABS acrylonitrile-butadiene-styrene
 AC asphalt concrete
 Adj adjacent/adjustable
 AIC auxiliary irrigation controller
 Alt alternative
 AMEND amendment
 ARV air release valve
 AUTO automatic
 AUX auxiliary
 AVB atmospheric vacuum breaker

B

B&B balled and burlapped
 B/B brass/bronze
 B/B/PL brass/bronze/plastic
 B/PL brass/plastic
 BFM bonded fiber matrix
 Bit Ctd bituminous coated
 BP booster pump
 BPA backflow preventer assembly
 BPAE backflow preventer assembly in enclosure
 BPE backflow preventer enclosure
 BV ball valve

C

CAP corrugated aluminum pipe
 CARV combination air release valve
 CCA cam coupler assembly
 CEC controller enclosure cabinet
 CHDPE corrugated high density polyethylene
 CL chain link
 CNC control and neutral conductors
 Conc concrete
 Cond conduit
 CSP corrugated steel pipe
 CST center strip
 CV check valve

D

Dia diameter
 DIP ductile iron pipe
 DN diameter nominal

E

EA each
 Elect electric/electrical
 Elev elevation
 ENCL enclosure
 EP edge of pavement
 ES edge of shoulder
 EST end strip
 ESTB establishment
 ETW edge of traveled way

F

F full circle
 F/P full/part circle
 FAU filter assembly unit
 FCV flow control valve
 FERT fertilizer
 FG finished grade
 FIPT female iron pipe thread
 FIS fertilizer injector system
 FL flow line
 FM flow monitor
 FS flow sensor
 Ft foot/feet
 FV flush valve

G

GAL Gallon(s)
 Galv galvanized
 GARV garden valve
 GPH gallons per hour
 GPM gallons per minute
 GSP galvanized steel pipe
 GV gate valve

H

H half circle
 HB hose bib
 HDPE high density polyethylene
 HP horsepower/hinge point
 HPL high pressure line
 Hwy highway

I

IC irrigation controller
 ICC irrigation controller(s) in controller enclosure cabinet
 ID inside diameter
 In inches
 IFS irrigation filtration system
 IPS iron pipe size
 IPT iron pipe thread
 Irr irrigation

L

L length
 LF linear foot

M

Max maximum
 MBGR metal beam guard railing
 MCV manual control valve
 MIC master irrigation controller
 Min minimum
 MIPT male iron pipe thread
 Misc miscellaneous
 Mtl material
 MVP maintenance vehicle pullout

N

NCN no common name
 NL nozzle line
 No. number
 NPT national pipe thread

O

O/C on center
 OD outside diameter
 Oz ounce

P

P part circle
 PB pull box
 PCC portland cement concrete
 PE polyethylene
 PKt packet
 PL plastic
 PLT plant/planting
 PLT ESTB plant establishment
 PM post mile
 PR pressure rated
 PRLV pressure relief valve
 PSFM polymer stabilized fiber matrix
 PSI pounds per square inch
 PRV pressure reducing valve
 PVC polyvinyl chloride
 Pvmt pavement

Q

Q quarter circle
 QCV quick coupling valve

NOTE:
 FOR ADDITIONAL ABBREVIATIONS,
 SEE STANDARD PLANS A10A AND A10B.

R

R radius
 RCP reinforced concrete pipe
 RCV remote control valve
 RCVM remote control valve (master)
 RCVMF remote control valve (master) w/ flow meter
 RCW recycled/reclaimed water
 RECP rolled erosion control product
 REQ required
 R/W right of way

S

S slip
 SCC sprinkler control conduit
 SCH schedule
 SF state-furnished
 Shld shoulder
 SQFT square foot/feet
 SQYD square yard(s)
 SST side strip
 Sta station
 Std standard
 SW sidewalk/sound wall

T

T third circle/thread
 TLS truck loading standpipe
 TQ three quarter circle
 TRM turf reinforcement mat
 TRVD traveled
 TT two third circle
 Typ typical

U

UG underground

V

VAU valve assembly unit

W

W width
 W/ with
 WM water meter
 WS wye strainer
 WSP welded steel pipe
 WWM welded wire mesh

PLANTING AND IRRIGATION ABBREVIATIONS

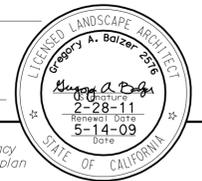
NO SCALE

RSP H1 DATED JUNE 5, 2009 SUPERSEDES STANDARD PLAN H1
 DATED MAY 1, 2006 - PAGE 201 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP H1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
05	Scr	9	1.8	26	45

Gregory A. Balzer
 LICENSED LANDSCAPE ARCHITECT
 June 5, 2009
 PLANS APPROVAL DATE
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

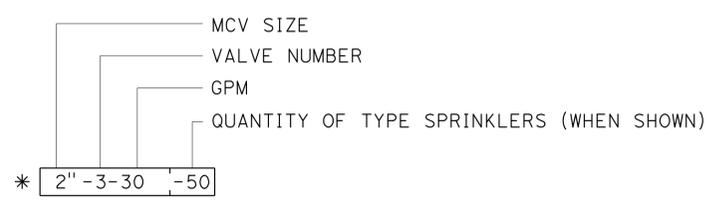
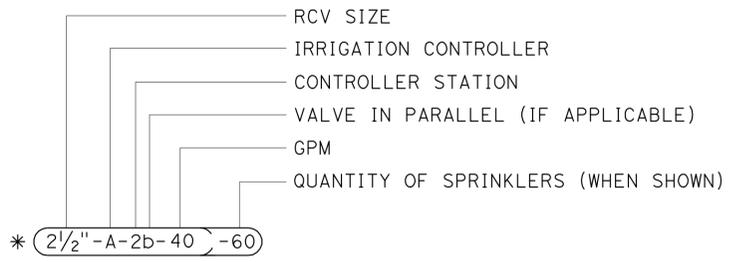


To accompany plans dated 12-21-09

EXISTING	PROPOSED	ITEM DESCRIPTION
		WATER METER (WM)
		BACKFLOW PREVENTER ASSEMBLY (BPA)
		BACKFLOW PREVENTER ASSEMBLY IN ENCLOSURE (BPAE)
		BACKFLOW PREVENTER ENCLOSURE (BPE)
		BOOSTER PUMP (BP)
		TRUCK LOADING STANDPIPE (TLS)
		FLOW SENSOR (FS)
		MASTER IRRIGATION CONTROLLER (MIC)
		AUXILIARY IRRIGATION CONTROLLER (AIC)
		IRRIGATION CONTROLLER (IC)/ IRRIGATION CONTROLLER (IC) (BATTERY) IRRIGATION CONTROLLER (IC) (SOLAR)
		IRRIGATION CONTROLLER(S) IN CONTROLLER ENCLOSURE CABINET (ICC)
		CONTROL AND NEUTRAL CONDUCTORS (CNC)
		SPRINKLER CONTROL CONDUIT (SCC)
		IRRIGATION CROSSOVER
		EXTEND IRRIGATION CROSSOVER
		IRRIGATION SLEEVE
		DUCTILE IRON PIPE (SUPPLY LINE) (MAIN) (DIP)
		GALVANIZED STEEL PIPE (SUPPLY LINE) (MAIN) (GSP)
		GALVANIZED STEEL PIPE (SUPPLY LINE) (LATERAL) (GSP)
		PLASTIC PIPE (PR 200) (SUPPLY LINE) (MAIN)
		PLASTIC PIPE (PR 200) (SUPPLY LINE) (LATERAL)
		PLASTIC PIPE (IRRIGATION LINE)
		REMOTE CONTROL VALVE (RCV) REMOTE CONTROL VALVE (MASTER) (RCVM) REMOTE CONTROL VALVE (MASTER) W/FLOW METER (RCVMF)
		MANUAL CONTROL VALVE (MCV)
		VALVE ASSEMBLY UNIT (VAU)
		WYE STRAINER (WS)
		FILTER ASSEMBLY UNIT (FAU)
		GATE VALVE (GV)
		BALL VALVE (BV)

EXISTING	PROPOSED	ITEM DESCRIPTION
		QUICK COUPLING VALVE (QCV)
		CAM COUPLER ASSEMBLY (CCA)
		PRESSURE REDUCING VALVE (PRV)
		PRESSURE RELIEF VALVE (PRLV)
		FLOW CONTROL VALVE (FCV)
		COMBINATION AIR RELEASE VALVE (CARV)
		CHECK VALVE (CV)
		FLUSH VALVE (FV)
		NOZZLE LINE W/TURNING UNION
		IRRIGATION SYSTEM
		IRRIGATION SYSTEM TO BE REMOVED
		CHAIN LINK GATE
		QUICK COUPLING VALVE W/SPRINKLER PROTECTOR
		SPRINKLER W/SPRINKLER PROTECTOR
		CONNECT TO EXISTING SYSTEM
		CAP
		CAP EXISTING

VALVE CODE



* VALVE CODES FOR EXISTING VALVES ARE SHOWN IN A DASHED ENCLOSURE.

PLANTING AND IRRIGATION SYMBOLS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

NO SCALE

RSP H2 DATED JUNE 5, 2009 SUPERSEDES RSP H2 DATED MARCH 7, 2008 AND STANDARD PLAN H2 DATED MAY 1, 2006 - PAGE 202 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP H2

2006 REVISED STANDARD PLAN RSP H2

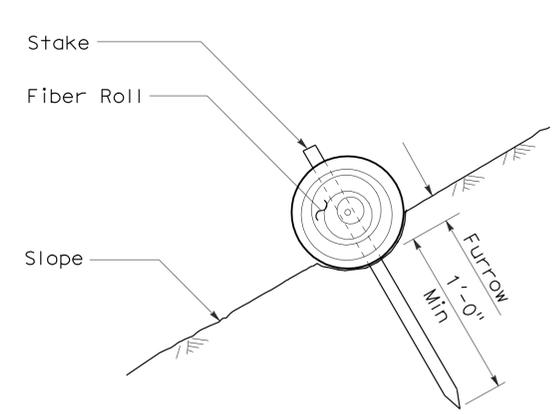
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
05	SCR	9	1.8	27	45

Gregory A. Balzer
 LICENSED LANDSCAPE ARCHITECT
 April 3, 2009
 PLANS APPROVAL DATE
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

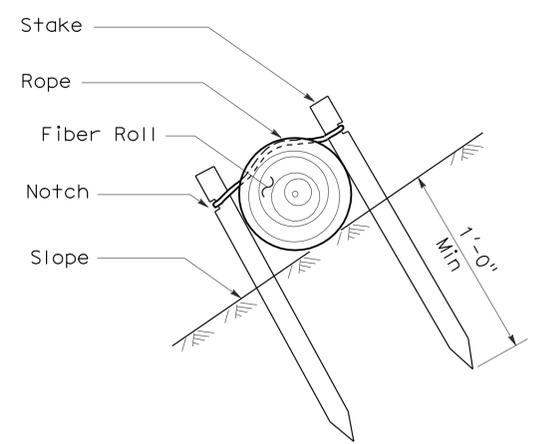
To accompany plans dated 12-21-09

NOTES:

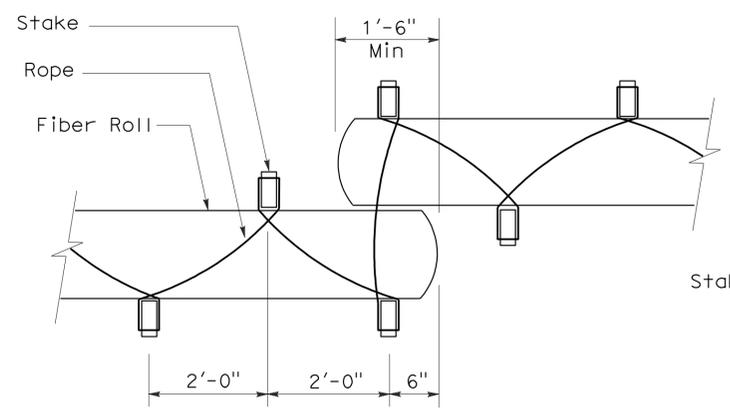
1. Fiber roll spacing varies depending upon slope inclination.
2. Installations shown in the perspectives are for slope inclination of 10:1 and steeper.



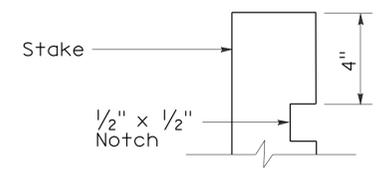
SECTION
FIBER ROLL
(TYPE 1)



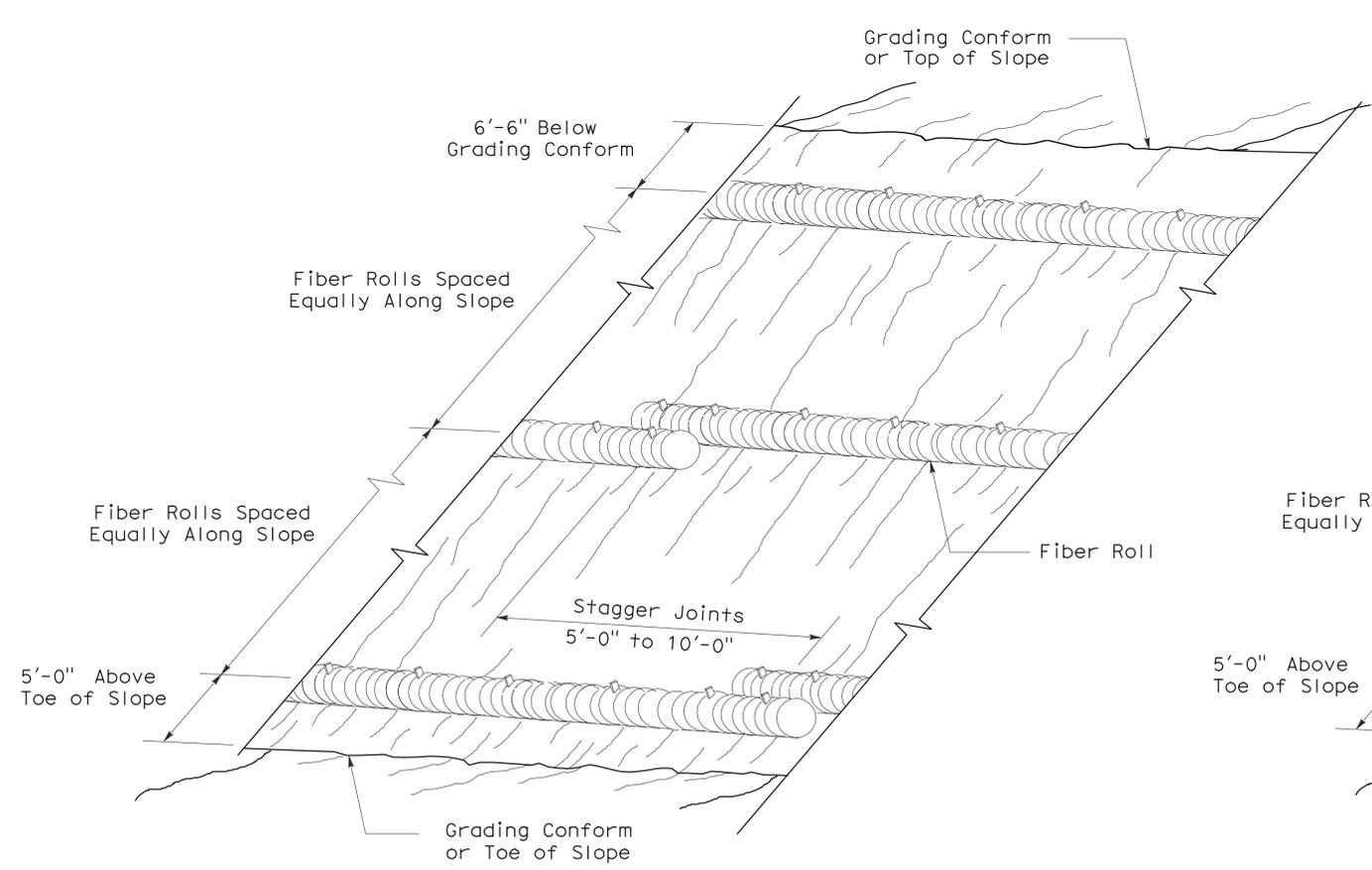
SECTION



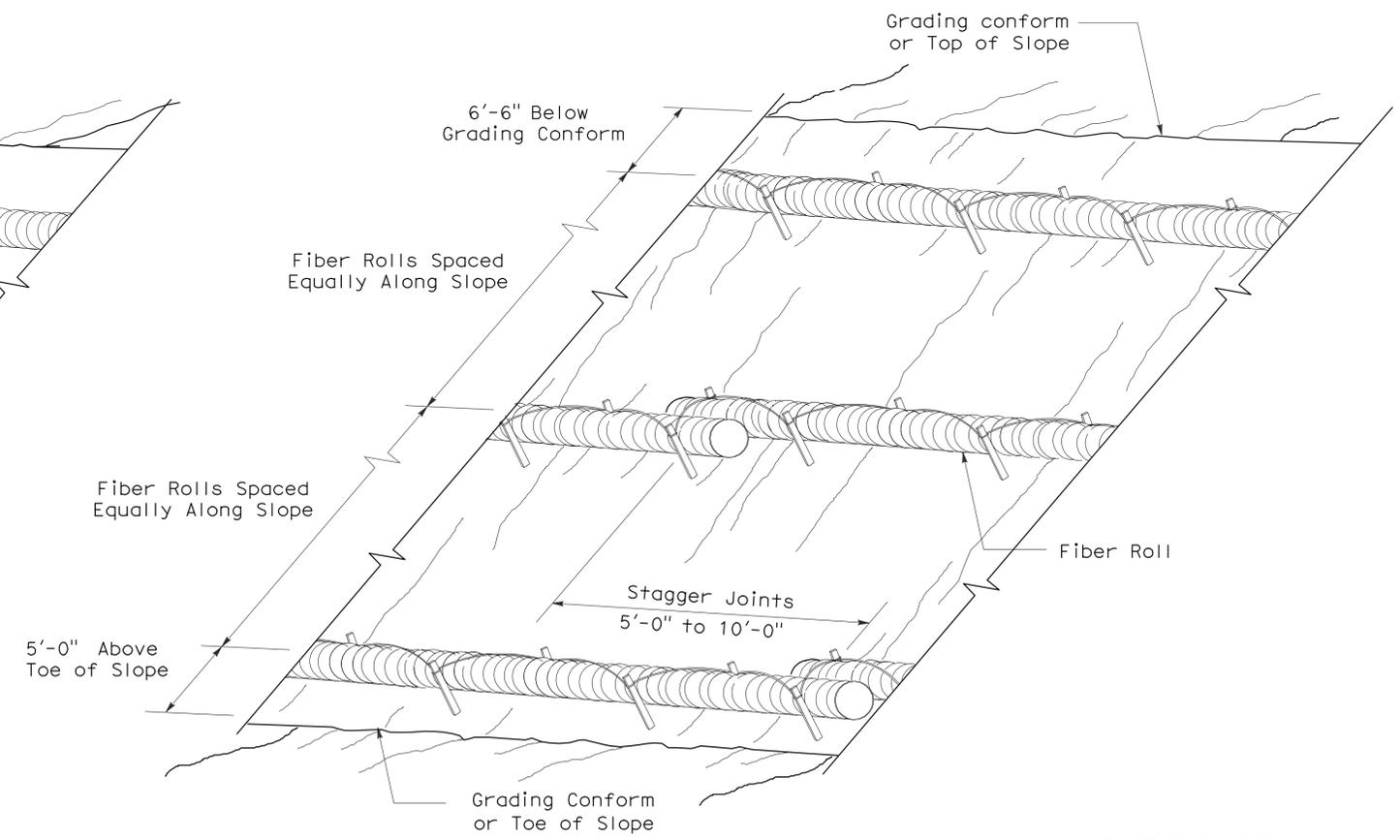
PLAN



ELEVATION
STAKE NOTCH DETAIL



PERSPECTIVE
FIBER ROLL (TYPE 1)



PERSPECTIVE
FIBER ROLL (TYPE 2)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
EROSION CONTROL DETAILS
(FIBER ROLL)

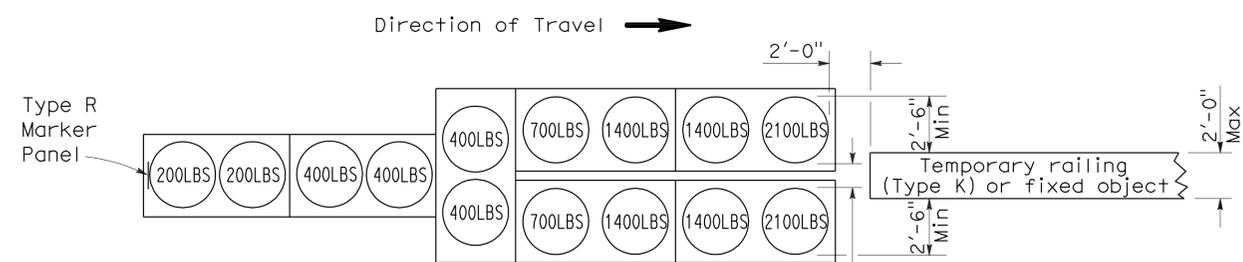
NO SCALE

RNSP H51 DATED APRIL 3, 2009 SUPERSEDES NSP H51 DATED DECEMBER 1, 2006 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED NEW STANDARD PLAN RNSP H51

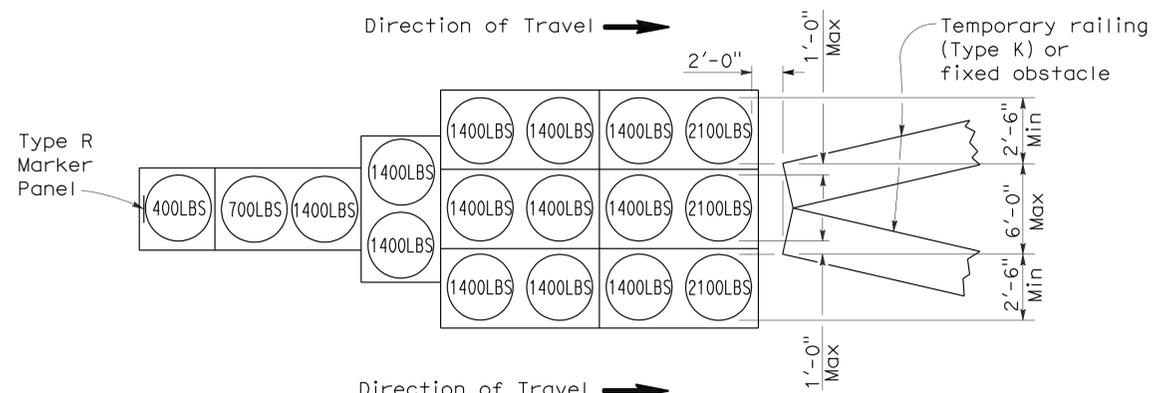
To accompany plans dated 12-21-09

2006 REVISED STANDARD PLAN RSP T1A



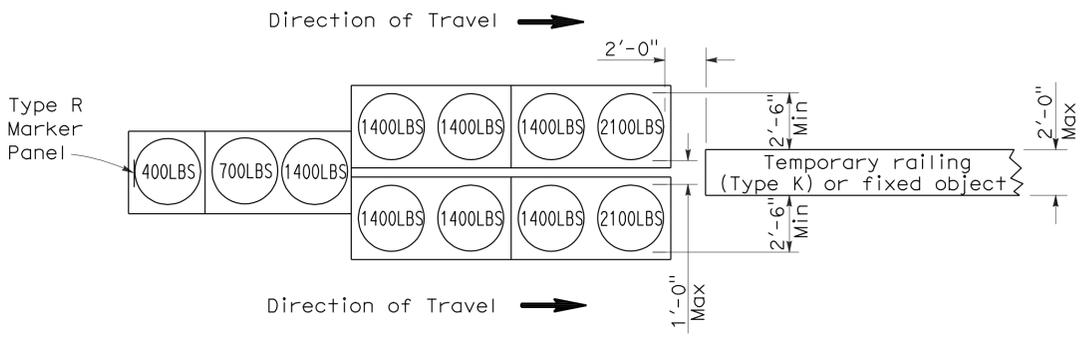
ARRAY 'TU14'

Approach speed 45 mph or more



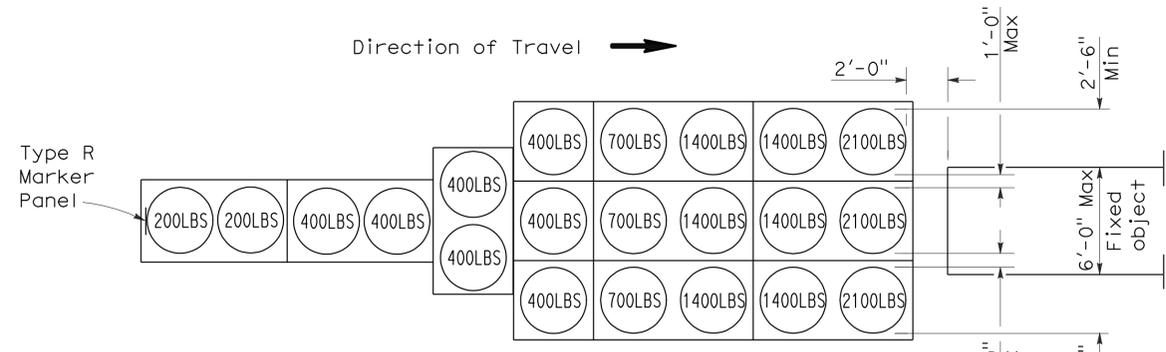
ARRAY 'TU17'

Approach speed less than 45 mph



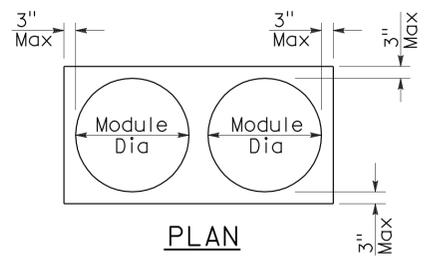
ARRAY 'TU11'

Approach speed less than 45 mph

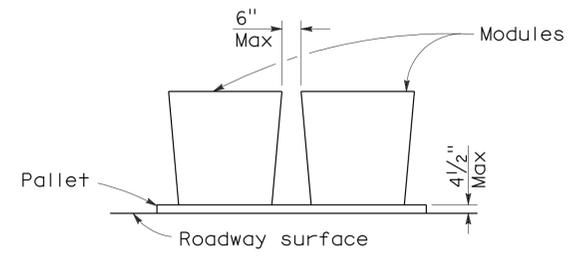


ARRAY 'TU21'

Approach speed 45 mph or more



PLAN



ELEVATION

CRASH CUSHION PALLET DETAIL

See Note 7

NOTES:

1. (XXX) Indicates sand filled module location and weight of sand in pounds for each module. Module spacing is based on the greater diameter of the module.
2. All sand weights are nominal.
3. Temporary crash cushion arrays shall not encroach on the traveled way.
4. Place the top of Type R marker panel 1" below the module lid.
5. Refer to Standard Plan A73B for marker details.
6. Approach speeds indicated conform to NCHRP 350 Report criteria.
7. Use of pallets is optional.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**TEMPORARY CRASH CUSHION,
SAND FILLED
(UNIDIRECTIONAL)**

NO SCALE

RSP T1A DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T1A
DATED MAY 1, 2006 - PAGE 211 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP T1A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
05	Scr	9	1.8	29	45

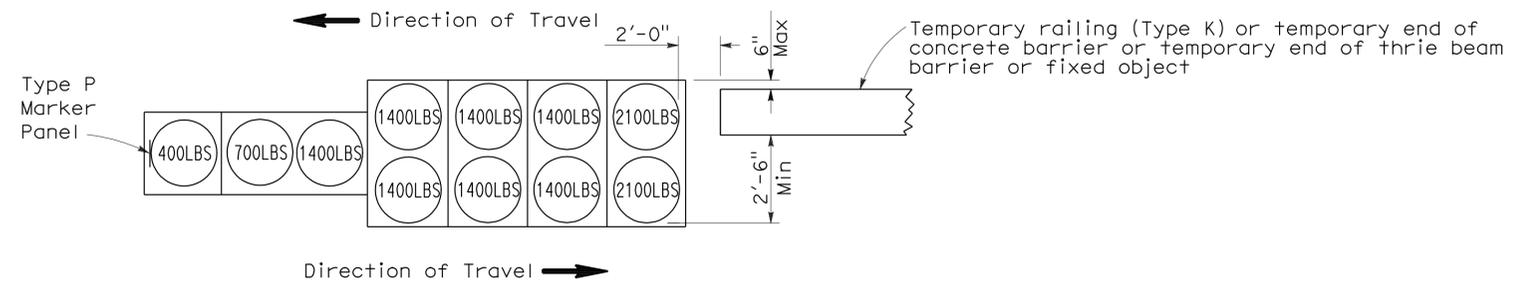
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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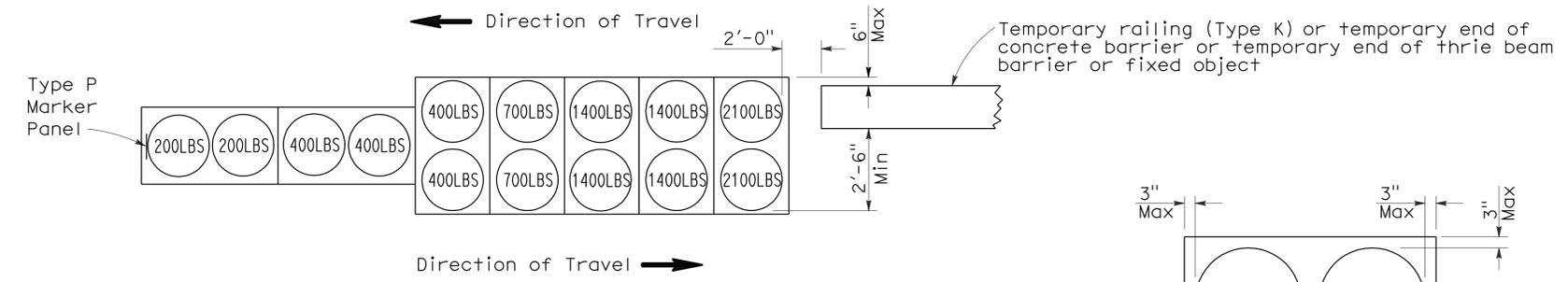
REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

To accompany plans dated 12-21-09



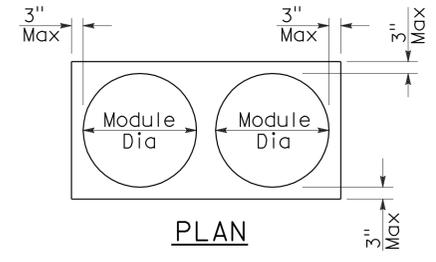
ARRAY 'TB11'

Approach speed less than 45 mph

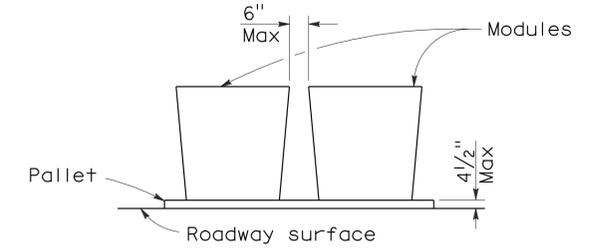


ARRAY 'TB14'

Approach speed 45 mph or more



PLAN



ELEVATION

CRASH CUSHION PALLET DETAIL

See Note 7

NOTES:

1. (XXX) Indicates sand filled module location and weight of sand in pounds for each module. Module spacing is based on the greater diameter of the module.
2. All sand weights are nominal.
3. Temporary crash cushion arrays shall not encroach on the traveled way.
4. Place the Type P marker panel so that the bottom of the panel rests upon the pallet.
5. Refer to Standard Plan A73B for marker details.
6. Approach speeds indicated conform to NCHRP 350 Report criteria.
7. Use of pallets is optional.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**TEMPORARY CRASH CUSHION,
SAND FILLED
(BIDIRECTIONAL)**

NO SCALE

RSP T1B DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T1B
DATED MAY 1, 2006 - PAGE 212 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP T1B

2006 REVISED STANDARD PLAN RSP T1B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
05	Scr	9	1.8	30	45

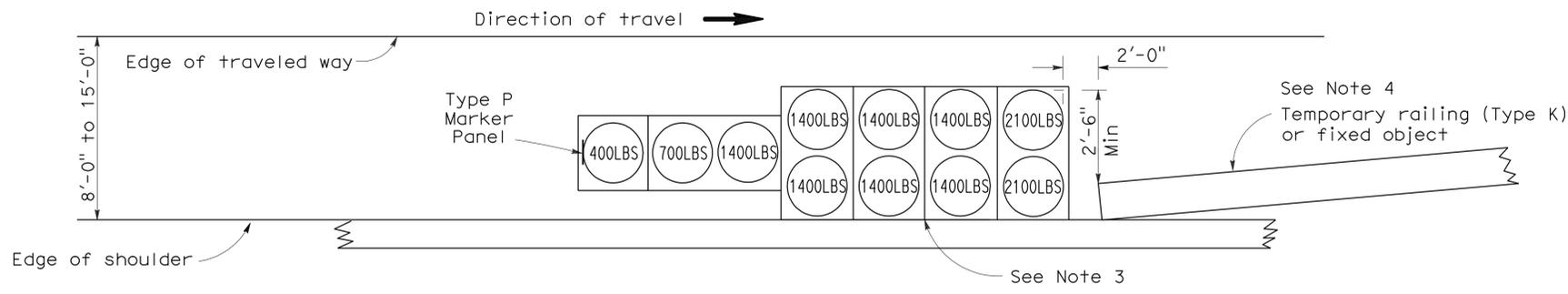
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

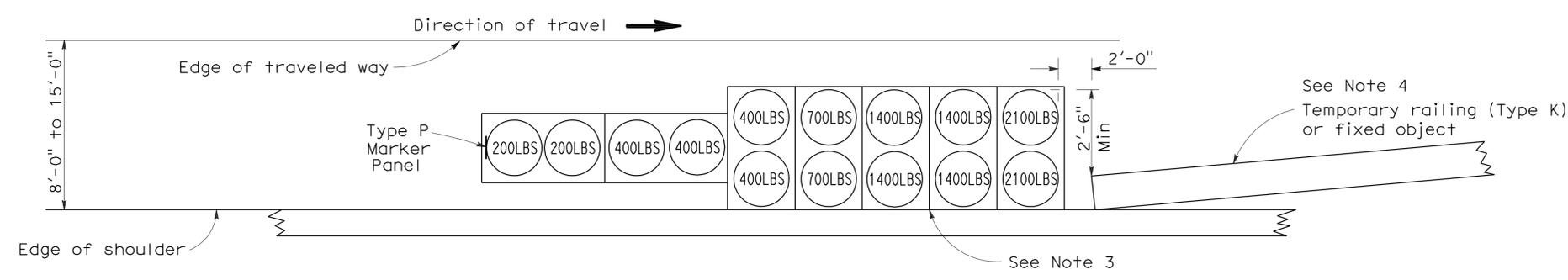
Randell D. Hiatt
REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

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To accompany plans dated 12-21-09



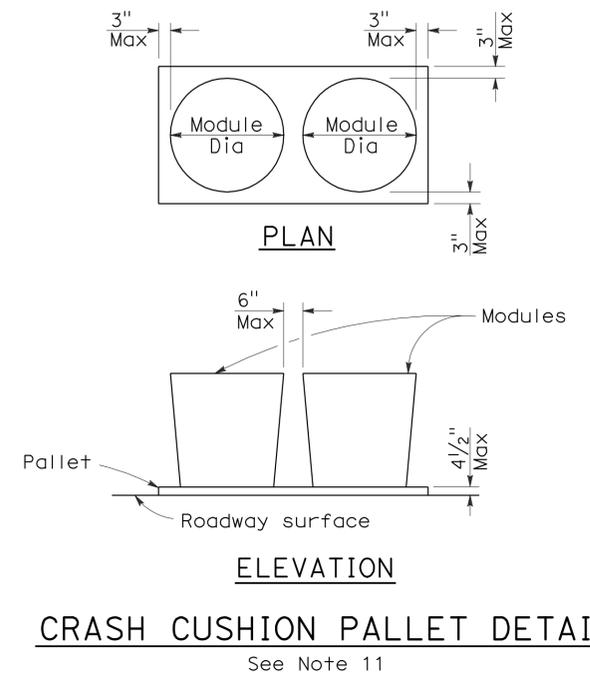
ARRAY 'TS11'
Approach speed less than 45 mph
See Note 9



ARRAY 'TS14'
Approach speed 45 mph or more
See Note 9

NOTES:

1. (XXX) Indicates sand filled module location and weight of sand in pounds for each module. Module spacing is based on the greater diameter of the module.
2. All sand weights are nominal.
3. The temporary crash cushion arrays shown on this plan shall be used only in locations where there will be traffic on one side of the temporary crash cushion array.
4. If the fixed object or approach end of the temporary railing is less than 15'-0" from the edge of traveled way, a temporary crash cushion is required in a construction or work zone.
5. Temporary crash cushion arrays shall not encroach on the traveled way.
6. Arrays for median shoulders shall conform to details shown on this plan for outside shoulders.
7. Place the Type P marker panel so that the bottom of the panel rests upon the pallet and faces traffic.
8. Refer to Standard Plan A73B for marker details.
9. For shoulder widths less than 8'-0", appropriate approved crash cushion protection, other than sand filled modules, shall be provided at fixed objects and at approach ends of temporary railing. The specific type of crash cushion shall be as shown on the project plans or as specified in the Special Provisions, or if not shown on the project plans or specified in the Special Provisions, shall be as approved by the Engineer.
10. Approach speeds indicated conform to NCHRP 350 Report criteria.
11. Use of pallets is optional.



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**TEMPORARY CRASH CUSHION,
SAND FILLED
(SHOULDER INSTALLATIONS)**

NO SCALE

RSP T2 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T2
DATED MAY 1, 2006 - PAGE 213 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP T2

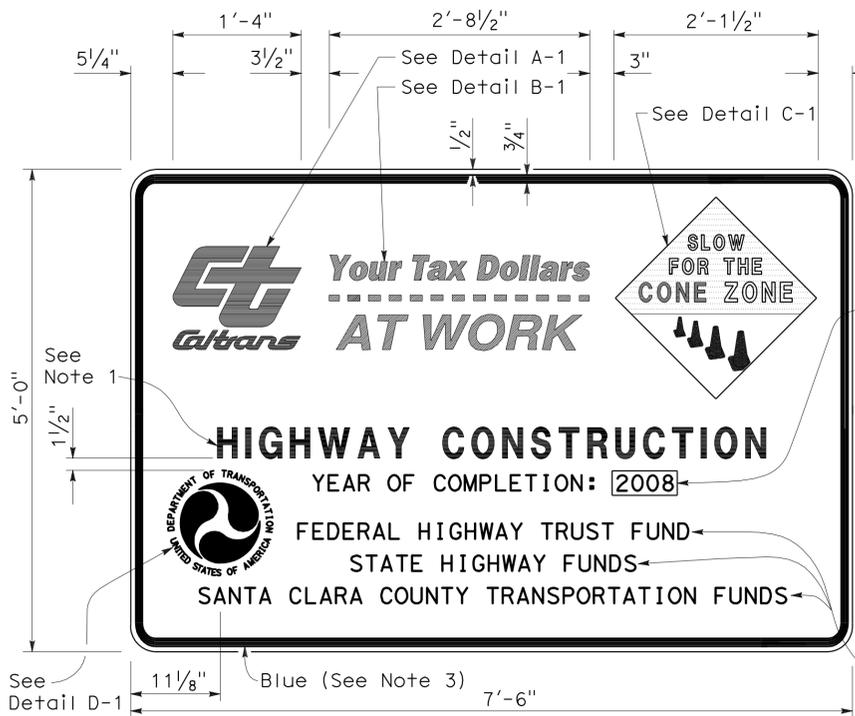
2006 REVISED STANDARD PLAN RSP T2

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
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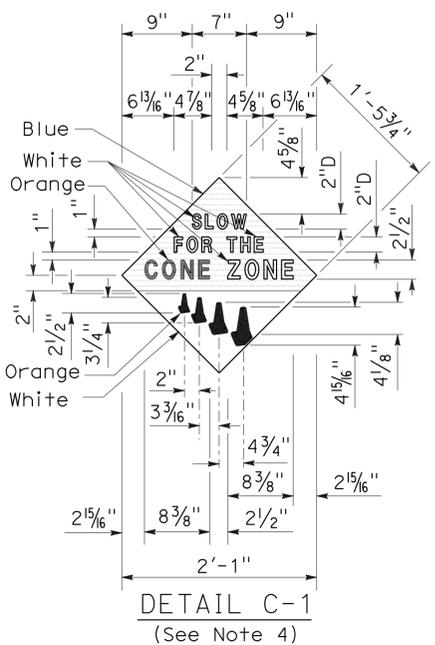
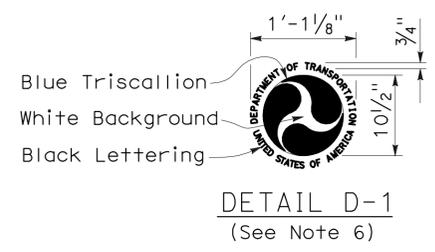
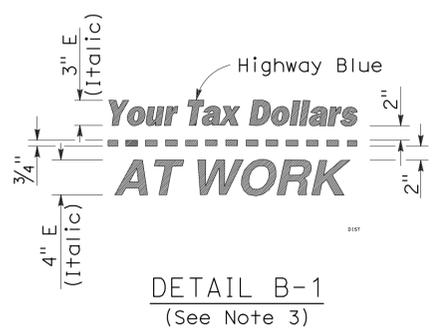
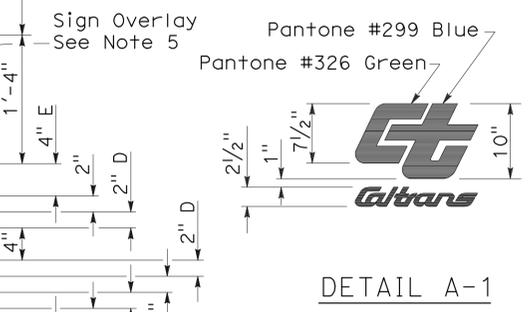
Craig W. Edwards
 REGISTERED CIVIL ENGINEER
 November 17, 2006
 PLANS APPROVAL DATE
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REGISTERED PROFESSIONAL ENGINEER
 Creg W. Edwards
 No. C36386
 Exp. 6-30-08
 CIVIL
 STATE OF CALIFORNIA

To accompany plans dated 12-21-09

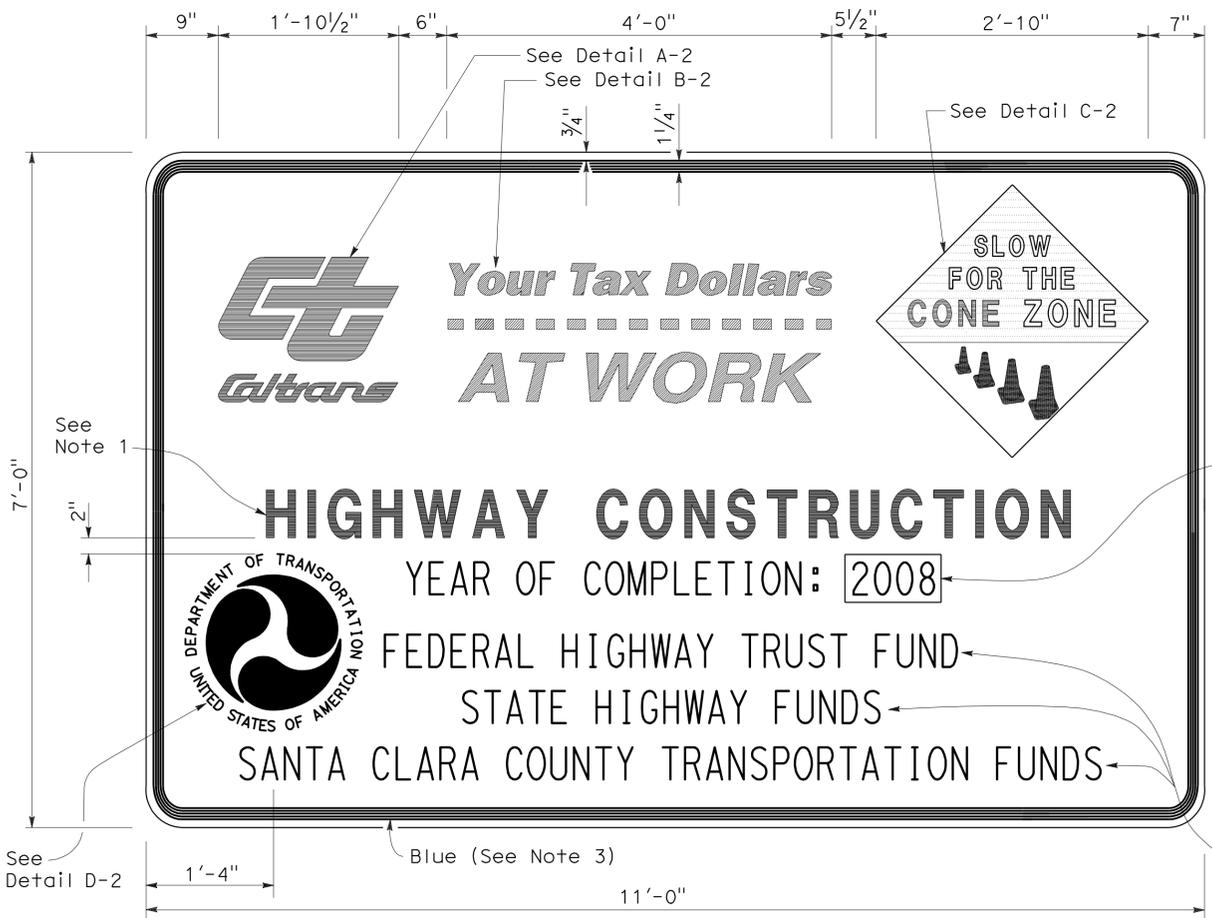


TYPE 1

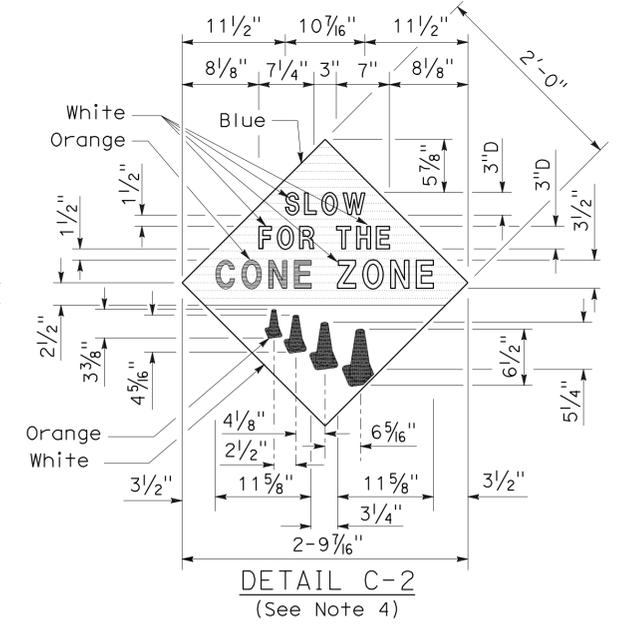
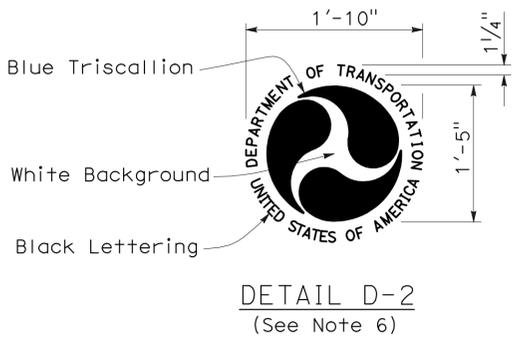
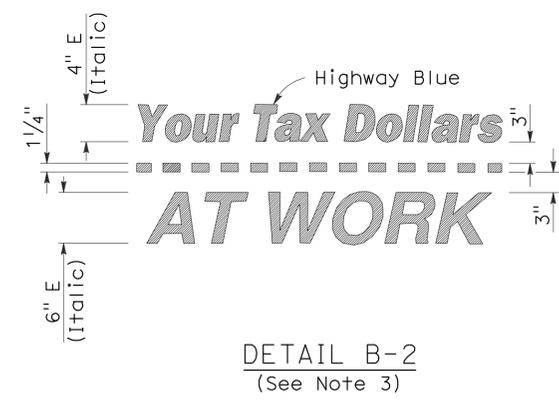
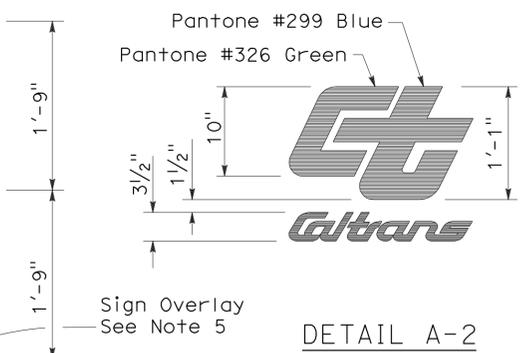


NOTES:

1. The sign messages shown for type of project and fund types are examples only. See the Special Provisions for the applicable type of project and fund type messages to be used.
2. Except as otherwise shown, the legend of sign shall be black on a white background (non-reflective).
3. The border of the signs and details "B-1" and "B-2" shall be blue (non-reflective).
4. The diamond in details "C-1" and "C-2" shall be blue for the background of message, "SLOW FOR THE CONE ZONE", and white background for the orange cones. The color and type of font for the "SLOW FOR THE CONE ZONE" message shall be: "SLOW" white D; "FOR THE" white D; "CONE" orange Arial font; "ZONE" white Arial font.
5. Year of completion of project construction shown on the overlay is an example only. See the Special Provisions.
6. Use when the Project involves Federal Highway Trust Fund.



TYPE 2



STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
CONSTRUCTION PROJECT FUNDING IDENTIFICATION SIGNS

NO SCALE

RSP T7 DATED NOVEMBER 17, 2006 SUPERSEDES STANDARD PLAN T7 DATED MAY 1, 2006 - PAGE 217 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP T7

2006 REVISED STANDARD PLAN RSP T7

Note:

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

LEGEND:

- ① Paint "Br. No. 36E0018"
- ② Concrete Barrier Type 27 Mod
- ③ Bicycle rail to be mounted on new and existing barrier. Existing barrier length is Approx 265'

----- Denotes existing structure

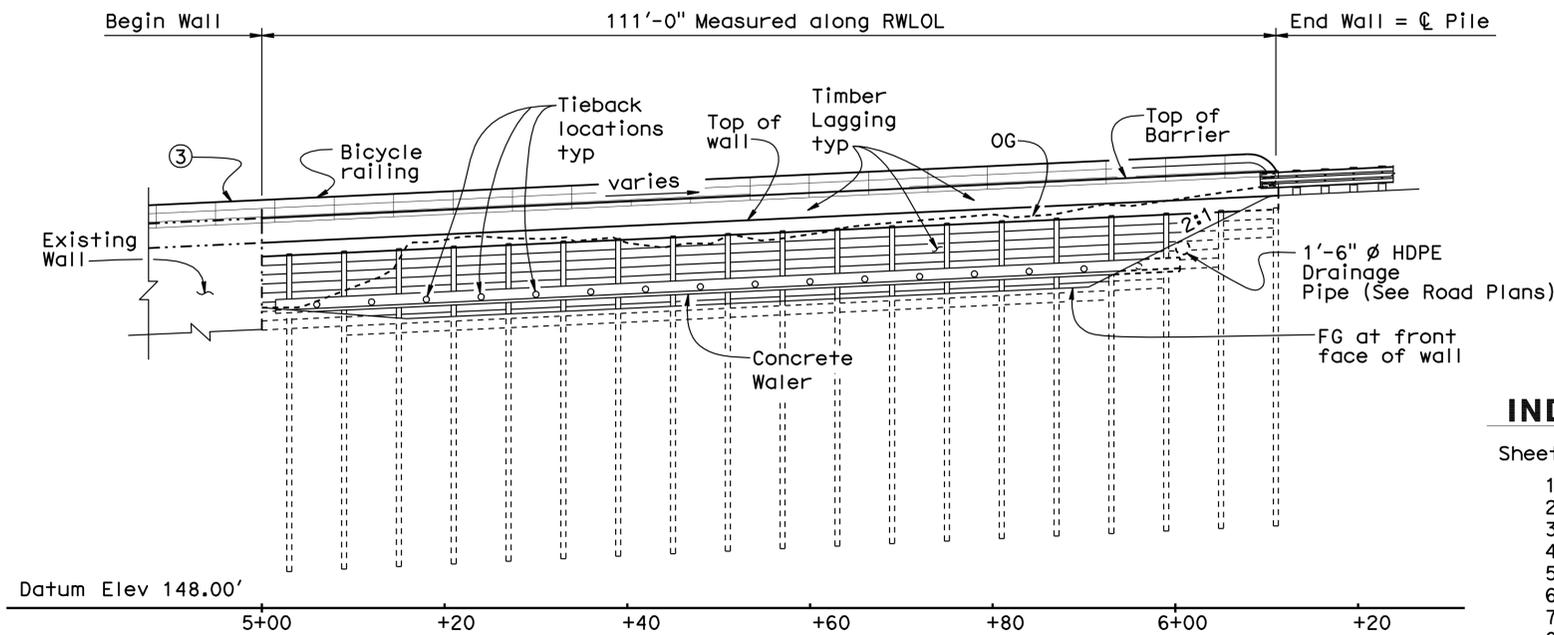
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	Scr	9	1.8	32	45

Marc Friedheim
REGISTERED CIVIL ENGINEER DATE 10-01-08

12-21-09
PLANS APPROVAL DATE

MARC FRIEDHEIM
No. 57968
Exp. 06-30-10
CIVIL
STATE OF CALIFORNIA

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

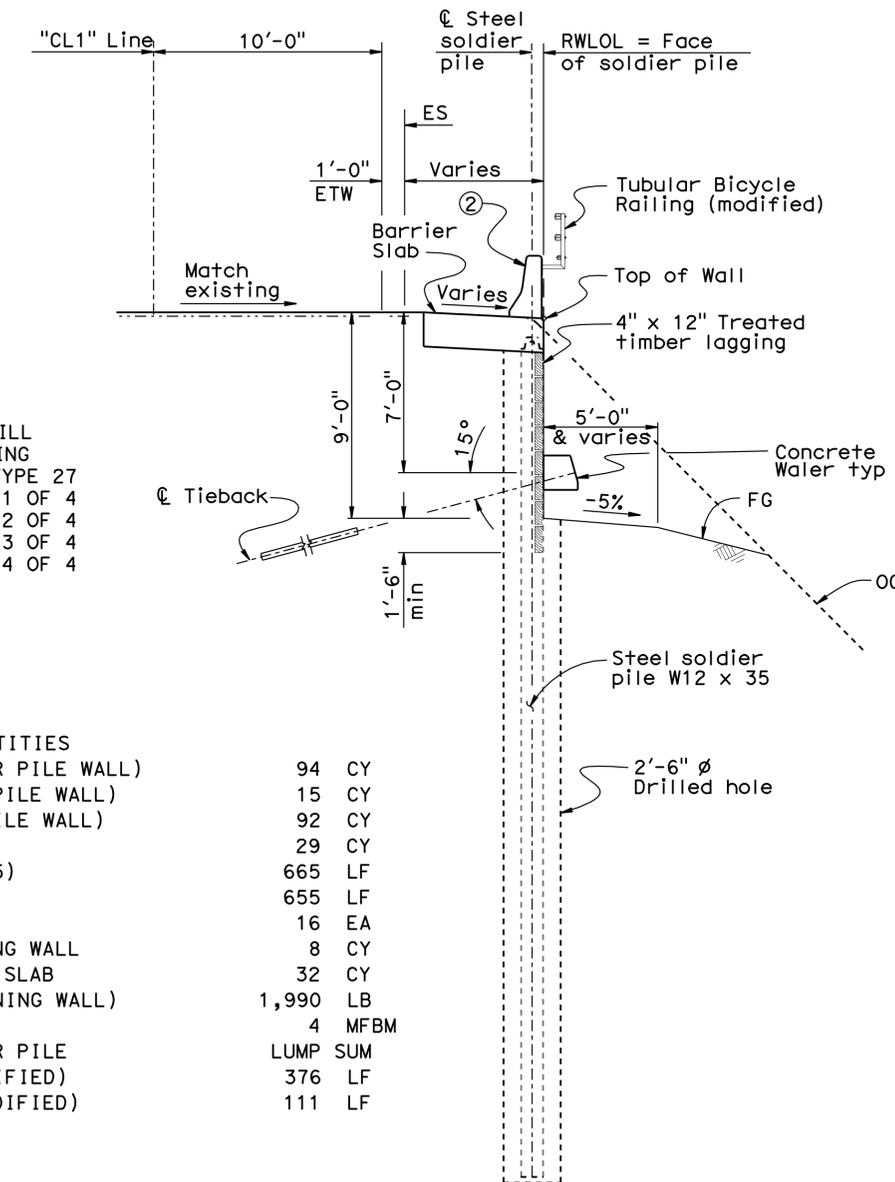


DEVELOPED ELEVATION

1" = 10'

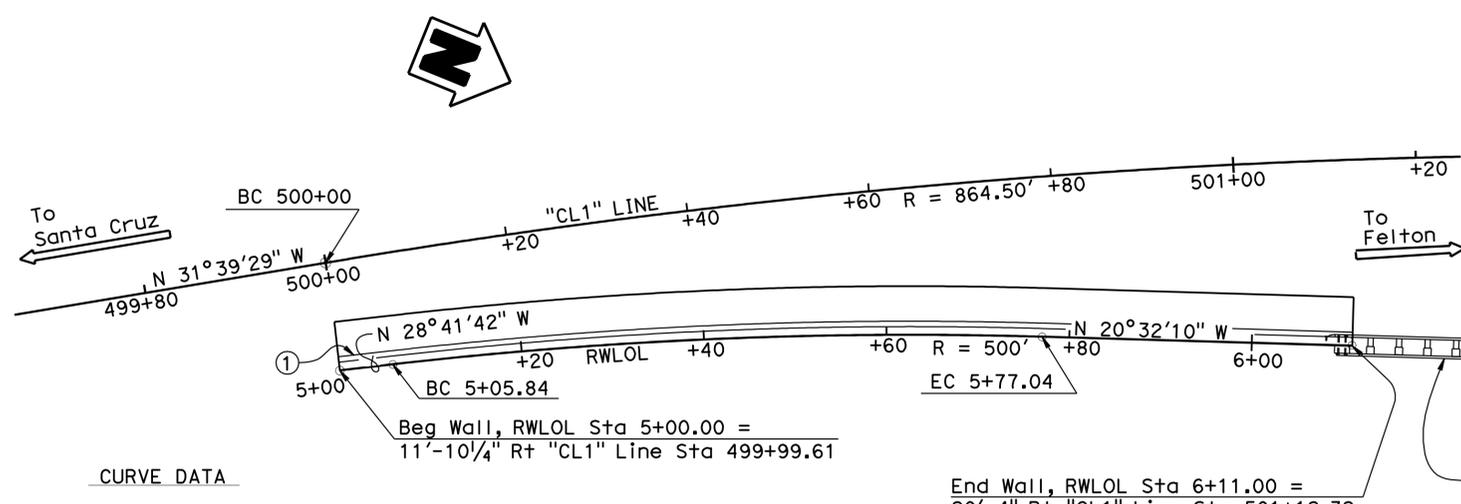
INDEX TO PLANS

Sheet No.	Title
1.	GENERAL PLAN
2.	STRUCTURE PLAN
3.	FOUNDATION PLAN
4.	DETAILS NO. 1
5.	DETAILS NO. 2
6.	DETAILS NO. 3
7.	DETAILS NO. 4
8.	EXCAVATION AND BACKFILL
9.	TUBULAR BICYCLE RAILING
10.	BARRIER - CONCRETE TYPE 27
11.	LOG OF TEST BORINGS 1 OF 4
12.	LOG OF TEST BORINGS 2 OF 4
13.	LOG OF TEST BORINGS 3 OF 4
14.	LOG OF TEST BORINGS 4 OF 4



TYPICAL SECTION

1/4" = 1'-0"



PLAN

1" = 10'

QUANTITIES

STRUCTURE EXCAVATION (SOLDIER PILE WALL)	94	CY
STRUCTURE BACKFILL (SOLDIER PILE WALL)	15	CY
CONCRETE BACKFILL (SOLDIER PILE WALL)	92	CY
LEAN CONCRETE BACKFILL	29	CY
STEEL SOLDIER PILE (W 12 X 35)	665	LF
30" DRILLED HOLE	655	LF
TIEBACK ANCHOR	16	EA
STRUCTURAL CONCRETE, RETAINING WALL	8	CY
STRUCTURAL CONCRETE, BARRIER SLAB	32	CY
BAR REINFORCING STEEL (RETAINING WALL)	1,990	LB
TIMBER LAGGING	4	MFBM
CLEAN AND PAINT STEEL SOLDIER PILE	LUMP	SUM
TUBULAR BICYCLE RAILING (MODIFIED)	376	LF
CONCRETE BARRIER (TYPE 27 MODIFIED)	111	LF

Note: For "General Notes" and "Top of Wall Elevations" see "STRUCTURE PLAN" sheet.

KEVIN KEADY DESIGN ENGINEER	DESIGN	BY M. Moore/M. Friedheim	CHECKED T. Bui	LOAD FACTOR DESIGN	LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 17	BRIDGE NO.	36E0018	SLOPE REPAIR WALL GENERAL PLAN	
	DETAILS	BY L. Wang	CHECKED T. Bui	LAYOUT	BY M. Friedheim			CHECKED T. Bui	POST MILE		1.8
	QUANTITIES	BY T. Bui	CHECKED A. Tern	SPECIFICATIONS	BY K. Meier			PLANS AND SPECS COMPARED M. Friedheim	REVISION DATES		02-04-08 05-18-08 08-06-09 08-26-08 10-04-08 02-27-09 05-01-09 05-13-09

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

FILE => 36e0018-a-gp.dgn

STRUCTURES DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.07-24-06)

USERNAME => fhmikes DATE PLOTTED => 22-DEC-2009 TIME PLOTTED => 09:41

GENERAL NOTES WORKING STRESS DESIGN

DESIGN: Bridge Design Specifications April 2000
(1996 AASHTO with interms and Revision by Caltrans)

LIVE LOADING: Includes 2-ft level surcharge

REINFORCED CONCRETE: $f_y = 60,000$ psi $f_s = 24,000$ psi
 $f'_c = 4,000$ psi $f_c = 1,450$ psi
 $n = 8$ $n = 10$

STRUCTURAL STEEL: Steel piles: ASTM A709/A709M, Grade 50 [345]

STRUCTURAL TIMBER: Treated Douglas Fir, No. 1 or better, full sawn.

PRESTRESSING STEEL: Strands-ASTM A416

T - Design force per Tieback = 70 kips

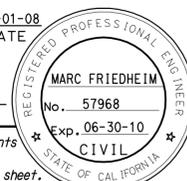
f_{pu} = Minimum tensile strength of prestressing steel = 270 ksi.

A_s (min) = Minimum cross sectional area of prestressing steel in Tieback Tendon, (in²)

A_s (min) = $\frac{1.5 T}{0.75 f_{pu}}$

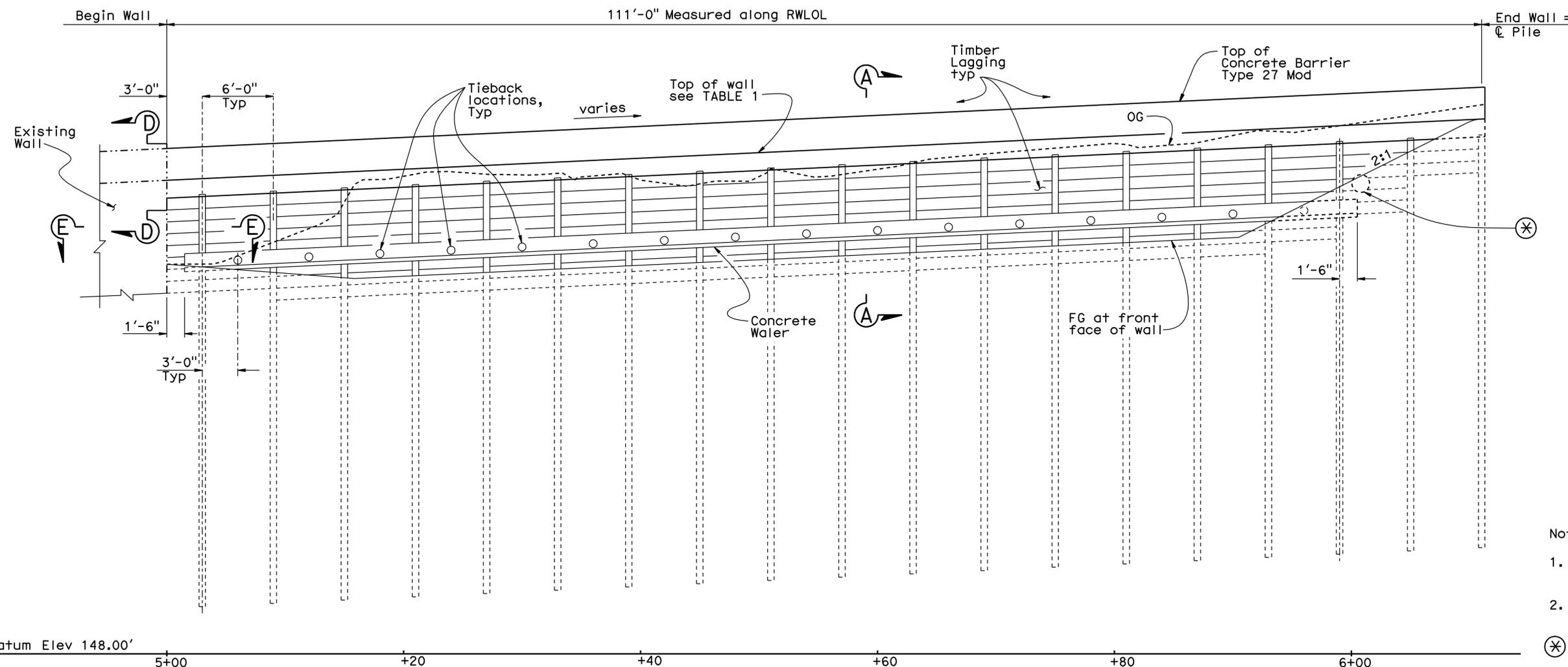
SOIL PARAMETERS: $\phi = 28^\circ$ $\gamma = 130$ pcf

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	Scr	9	1.8	33	45



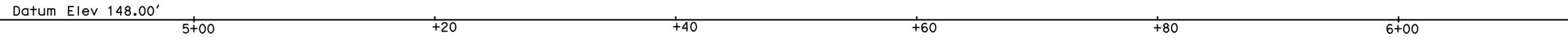
Marc Friedheim
REGISTERED CIVIL ENGINEER DATE 10-01-08
12-21-09
PLANS APPROVAL DATE

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Location	Top of Wall Elevation
5+03	187.76
5+09	188.06
5+15	188.35
5+21	188.63
5+27	188.92
5+33	189.20
5+39	189.48
5+45	189.75
5+51	190.03
5+57	190.34
5+63	190.64
5+69	190.95
5+75	191.25
5+81	191.55
5+87	191.85
5+93	192.16
5+99	192.47
6+05	192.78
6+11	193.09

- Notes:
1. For Section A-A and Section D-D see "DETAILS NO. 1" sheet
 2. For Section E-E see "DETAILS NO. 4" sheet
- ⊗ 1'-6" ϕ Drainage Pipe (See Road Plans) For opening in wall see "DETAILS NO. 4" Sheet



DEVELOPED ELEVATION

1" = 5'

Pile #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Pile length (ft)	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Number of Timber Lagging	8	8	9	9	9	9	9	9	9	9	9	9	9	9	9	8	6	3	

DESIGN BY M. Friedheim CHECKED T. Bui DETAILS BY L. Wang CHECKED T. Bui QUANTITIES BY T. Bui CHECKED A. Tern	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 17	BRIDGE NO. 36E0018 POST MILE 1.8	SLOPE REPAIR WALL STRUCTURE PLAN
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3	CU 05 EA 0P6501	DISREGARD PRINTS BEARING EARLIER REVISION DATES REVISION DATES: 02-13-08, 10-04-08, 12-11-08, 05-01-09, 05-13-09, 04-28-08, 05-12-08, 06-24-08, 08-26-08

CURVE DATA

No.	R	Δ	T	L
(A)	864.50	11°42'15"	88.61	176.60
(B)	500.00	8°9'32"	35.66	71.20

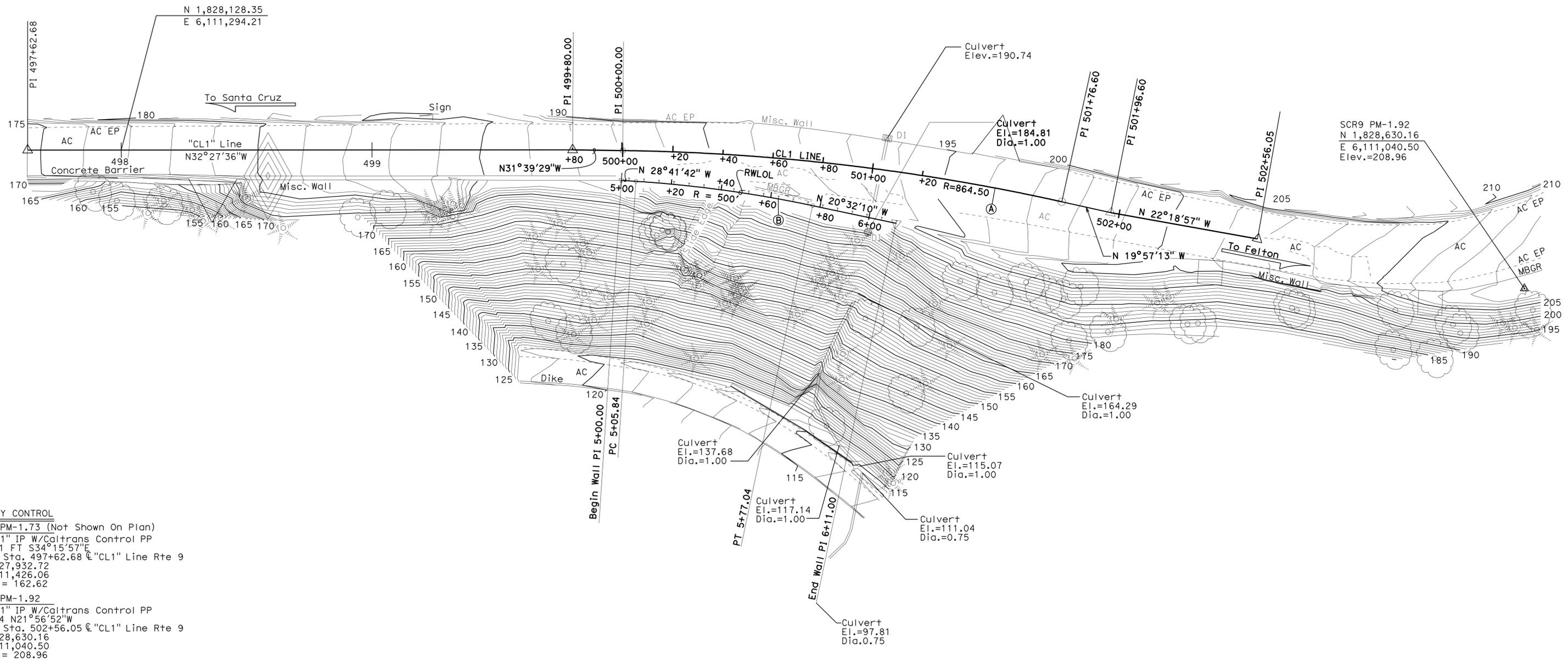
Note:

⊠ Denote Steel Soldier Pile

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	Scr	9	1.8	34	45

Marc Friedheim
 REGISTERED CIVIL ENGINEER DATE 10-01-08
 PLANS APPROVAL DATE 12-21-09
 No. 57968
 Exp. 06-30-10
 CIVIL
 STATE OF CALIFORNIA

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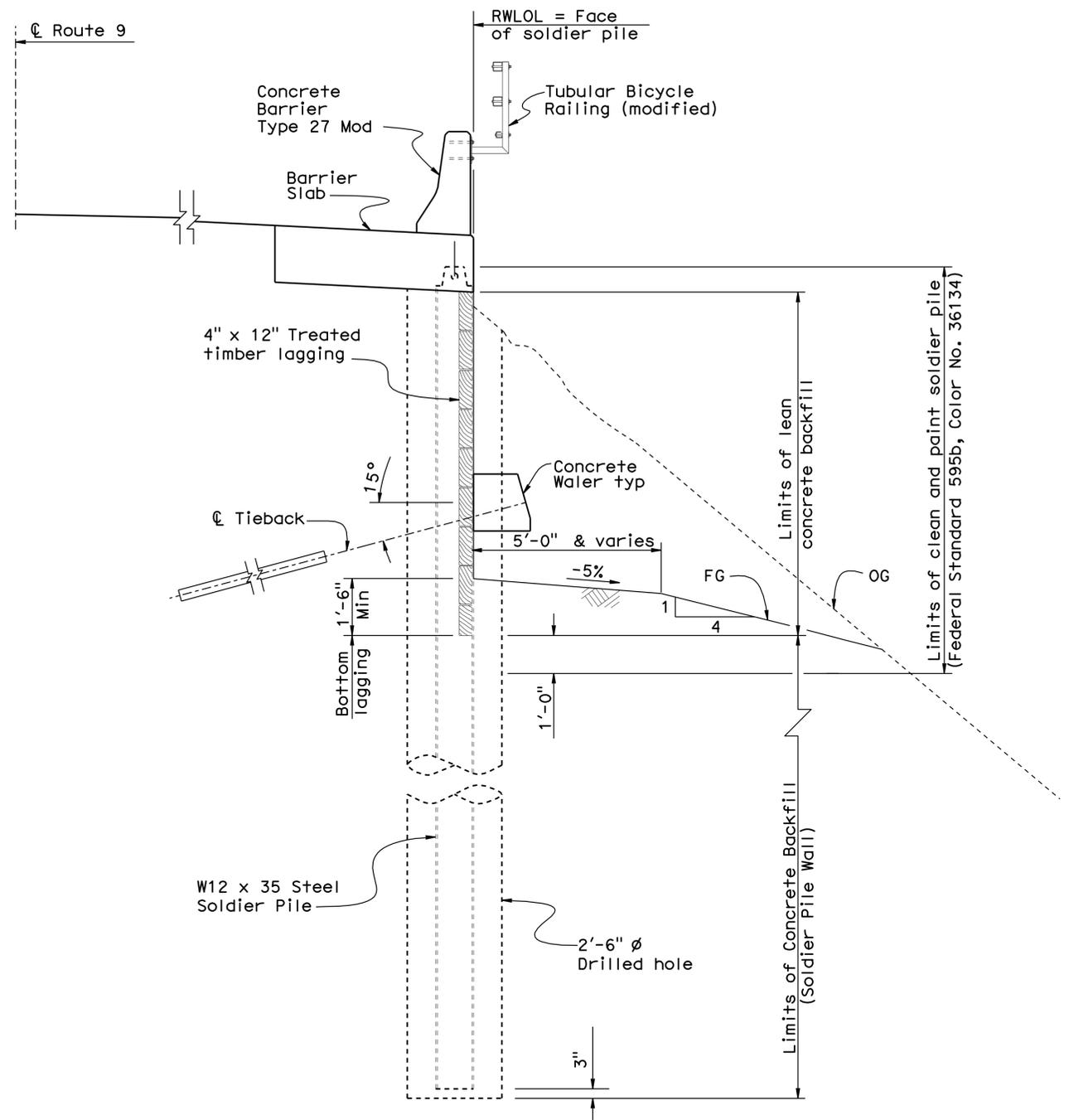


SURVEY CONTROL
 SCR9 PM-1.73 (Not Shown On Plan)
 Fnd 1" IP W/Caltrans Control PP
 198.61 FT S34°15'57"E
 From Sta. 497+62.68 @ "CL1" Line Rte 9
 N 1,827,932.72
 E 6,111,426.06
 Elev. = 162.62
 SCR9 PM-1.92
 Fnd 1" IP W/Caltrans Control PP
 108.24 N21°56'52"W
 From Sta. 502+56.05 @ "CL1" Line Rte 9
 N 1,828,630.16
 E 6,111,040.50
 Elev. = 208.96

PRELIMINARY INVESTIGATION SECTION				DESIGN BY M. Friedheim	CHECKED T. Bui	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 17	BRIDGE NO. 36E0018	SLOPE REPAIR WALL FOUNDATION PLAN
SCALE 1"=20'	VERT. DATUM NAVD88	PHOTOGRAMMETRY AS OF: X	DETAILS BY L. Wang	CHECKED T. Bui	POST MILE 1.82				
ALIGNMENT TIES Dist. Traverse Sheet	DRAFTED BY T. Zolnikova 03/2008	CHECKED BY C. Fasset 03/2008	QUANTITIES BY T. Bui	CHECKED A. Tern	REVISION DATES				

STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 10/25/05) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
 CU 05 EA 0P6501
 DISREGARD PRINTS BEARING EARLIER REVISION DATES
 SHEET 3 OF 14
 FILE => 36e0018-e-fp.dgn

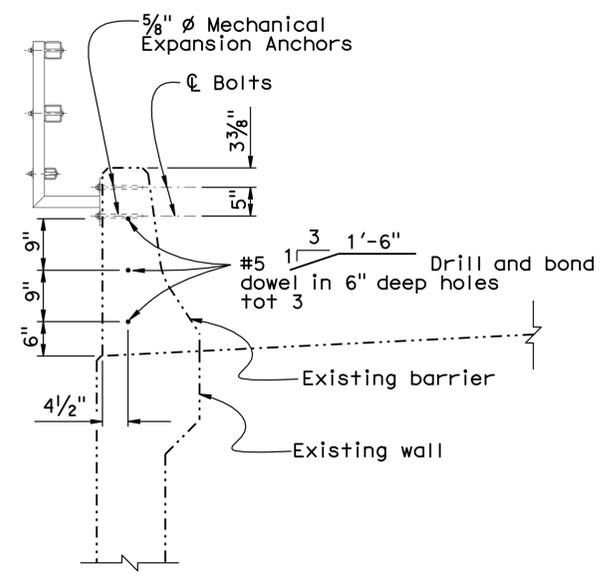
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	Scr	9	1.8	35	45
 REGISTERED CIVIL ENGINEER DATE 10-01-08					
12-21-09 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



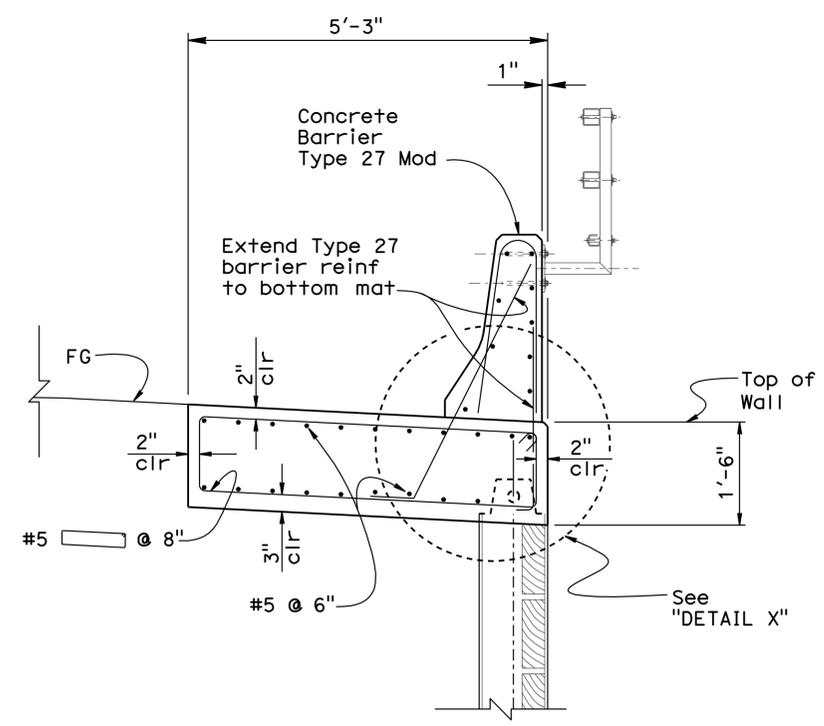
SECTION A-A
1/2" = 1'

Notes:

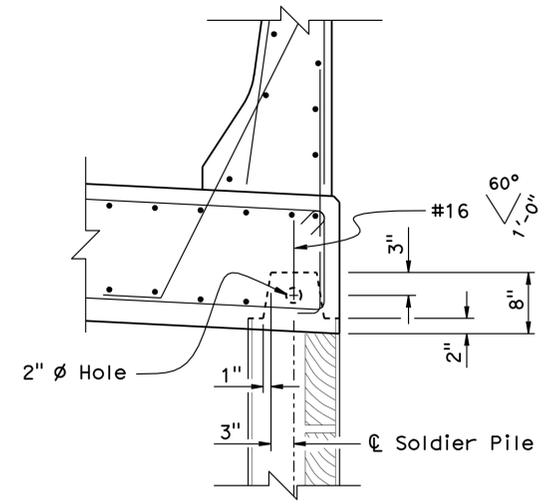
1. Filter fabric shall be placed against lagging before backfilling. Splices in fabric shall have a 1'-0" lap.
2. Lean concrete shall be removed only as necessary for placement of timber lagging.
3. For Tubular Bicycle Railing details not shown, see "TUBULAR BICYCLE RAILING" sheet.



SECTION D-D
3/4" = 1'



TYPICAL SECTION AT TOP OF WALL
3/4" = 1'



DETAIL "X"
1" = 1'

DESIGN	BY M. Friedheim	CHECKED T. Bui
DETAILS	BY L. Wang	CHECKED T. Bui
QUANTITIES	BY T. Bui	CHECKED A. Tern

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 17

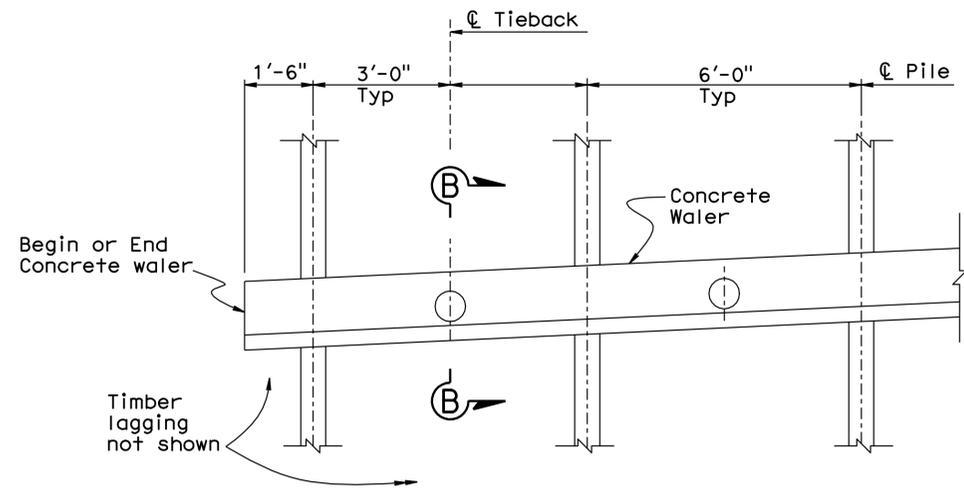
BRIDGE NO.	36E0018
POST MILE	1.8

SLOPE REPAIR WALL
DETAILS NO. 1

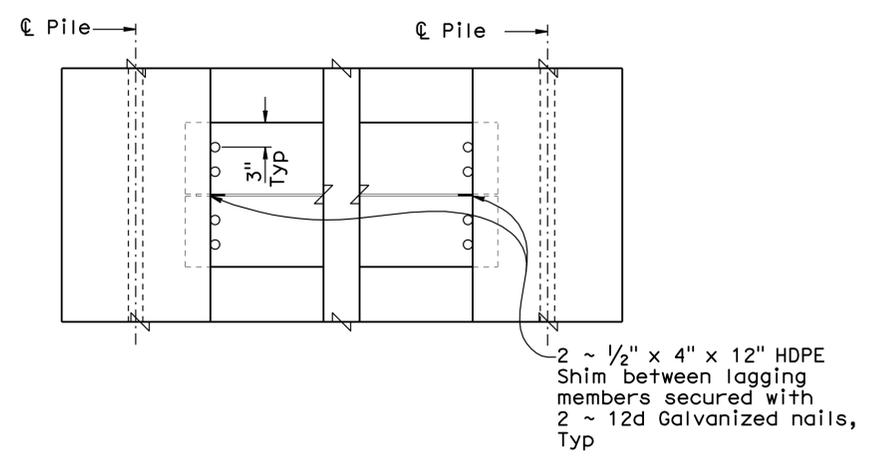
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	Scr	9	1.8	36	45

Marc Friedheim
 REGISTERED CIVIL ENGINEER DATE 10-01-08
 12-21-09
 PLANS APPROVAL DATE
 No. 57968
 Exp. 06-30-10
 CIVIL
 STATE OF CALIFORNIA

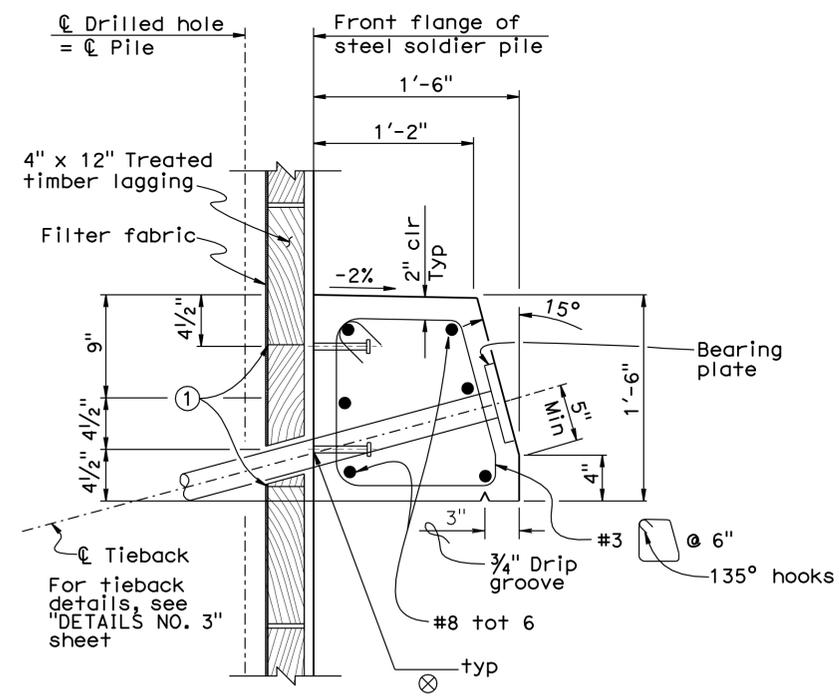
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PART ELEVATION
1/2" = 1'

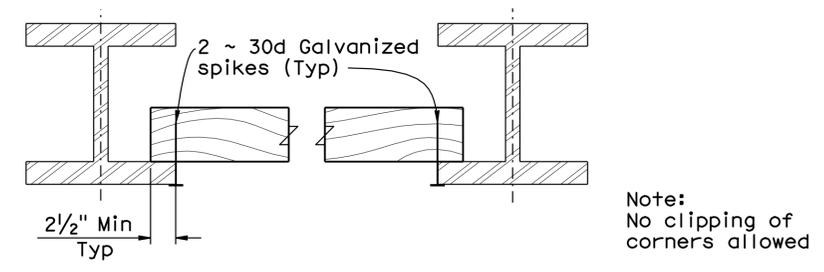


PART ELEVATION
No Scale

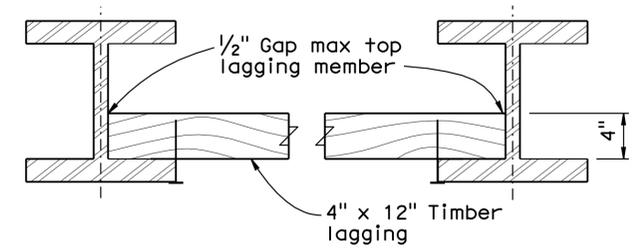


① Omit gap between lagging members at joints behind concrete water.

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

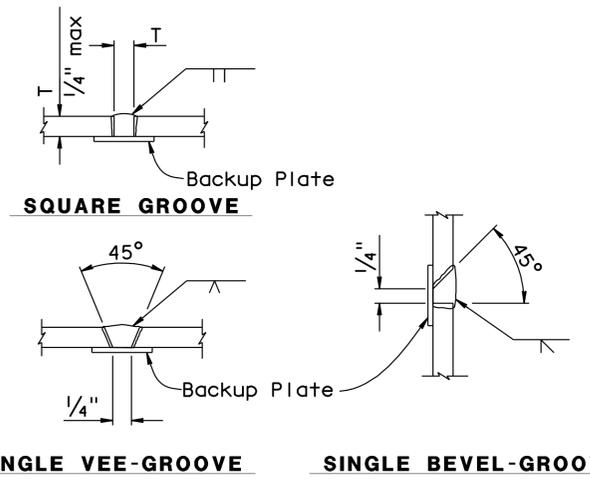


PART PLAN OF LAGGING MEMBER



PART PLAN OF TOP LAGGING MEMBER

LAGGING DETAILS
No Scale



PILE WELDING DETAIL-BUTT JOINTS
No Scale

- Notes:
1. Single Vee-Groove And Square Groove permitted for all positions
 2. Single Bevel-Groove permitted for horizontal joints only
 3. For purpose of non-destructive testing pile shall be considered a main tension member from top of pile to 8' below bottom of lagging. The remaining embedded portion of the pile shall be considered a main compression member.

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY M. Friedheim	CHECKED T. Bui	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 17	BRIDGE NO.	SLOPE REPAIR WALL	
	DETAILS	BY L. Wang	CHECKED T. Bui			36E0018	DETAILS NO. 2	
	QUANTITIES	BY T. Bui	CHECKED A. Tern			POST MILE	1.8	
				CU 05 EA 0P6501	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 5	OF 14

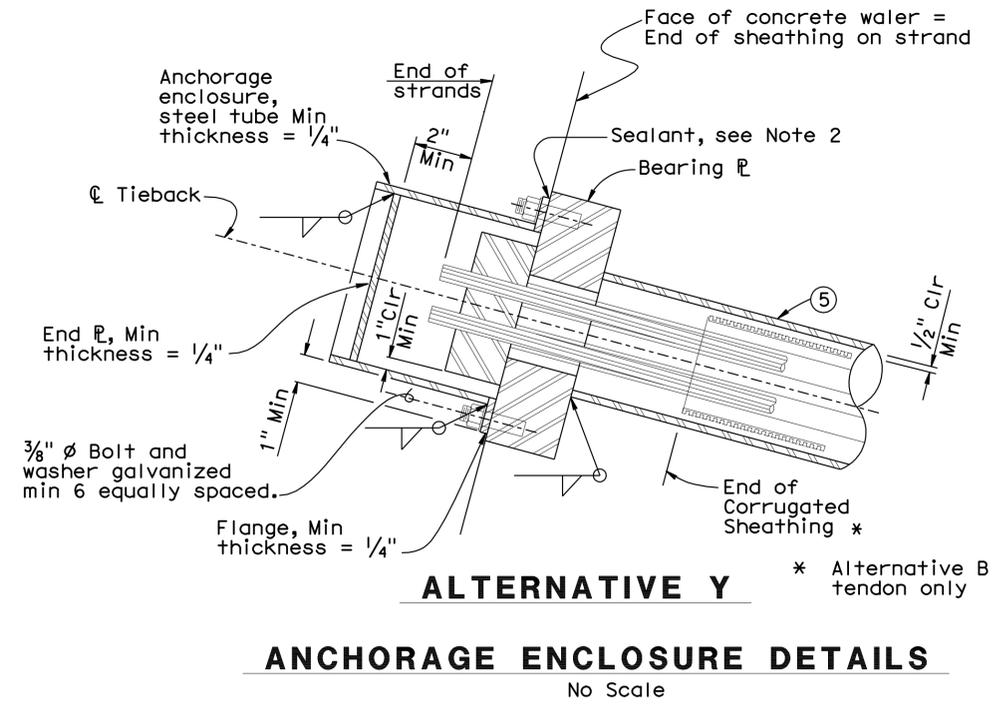
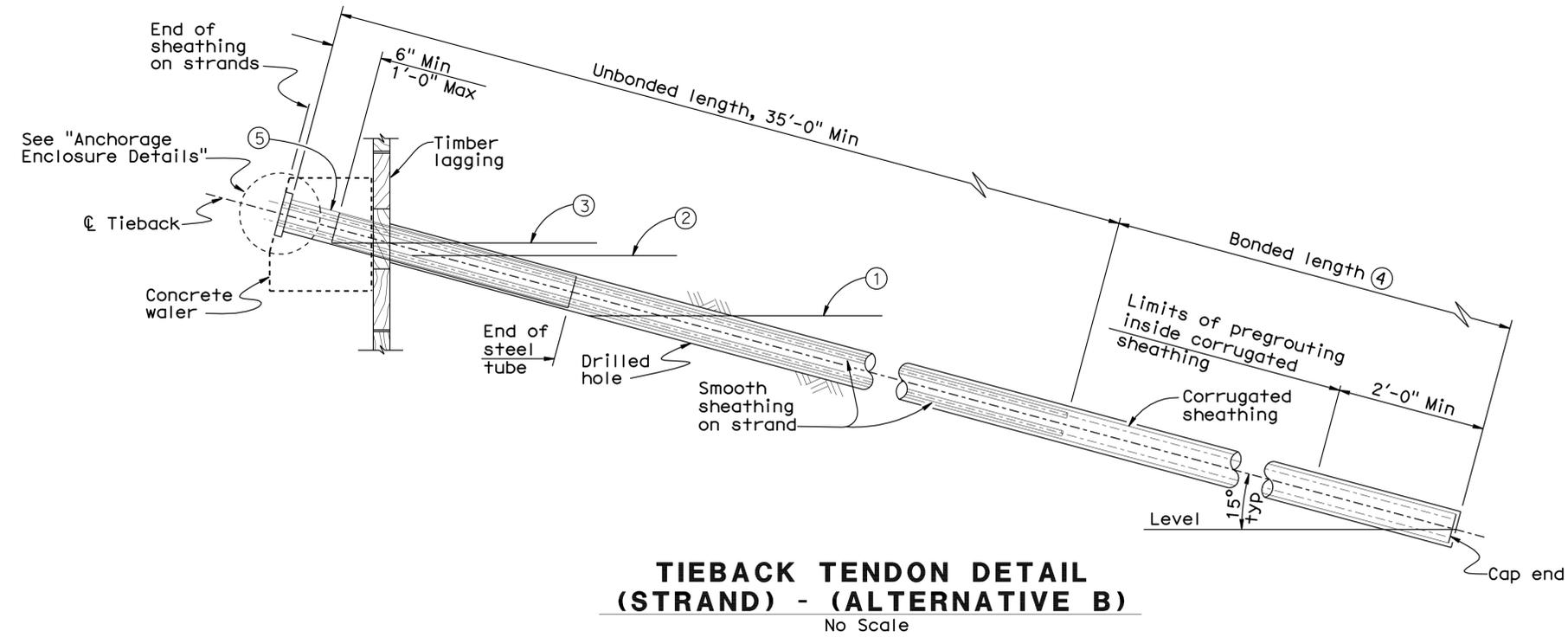
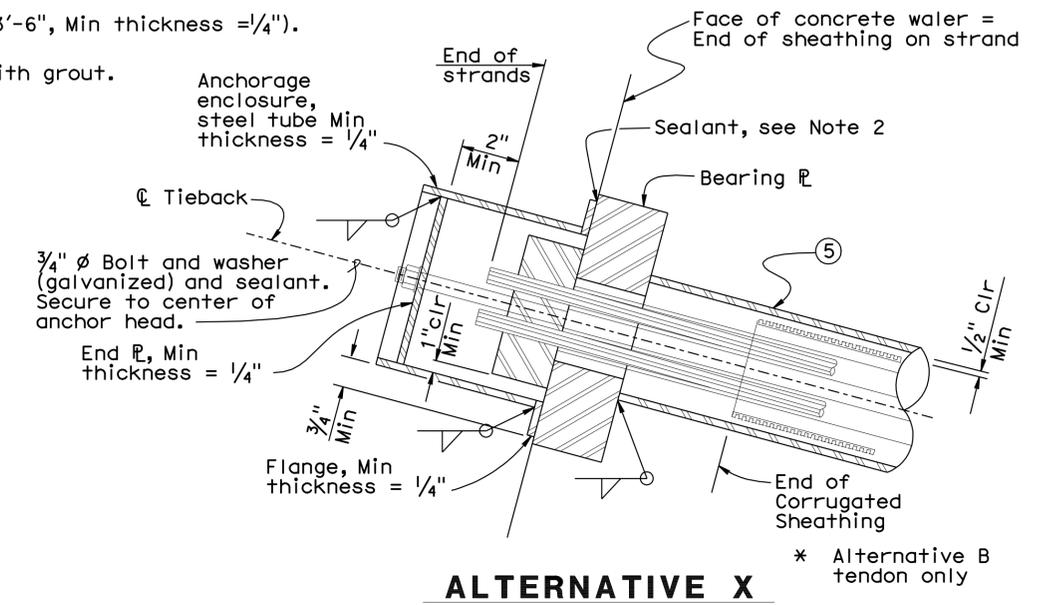
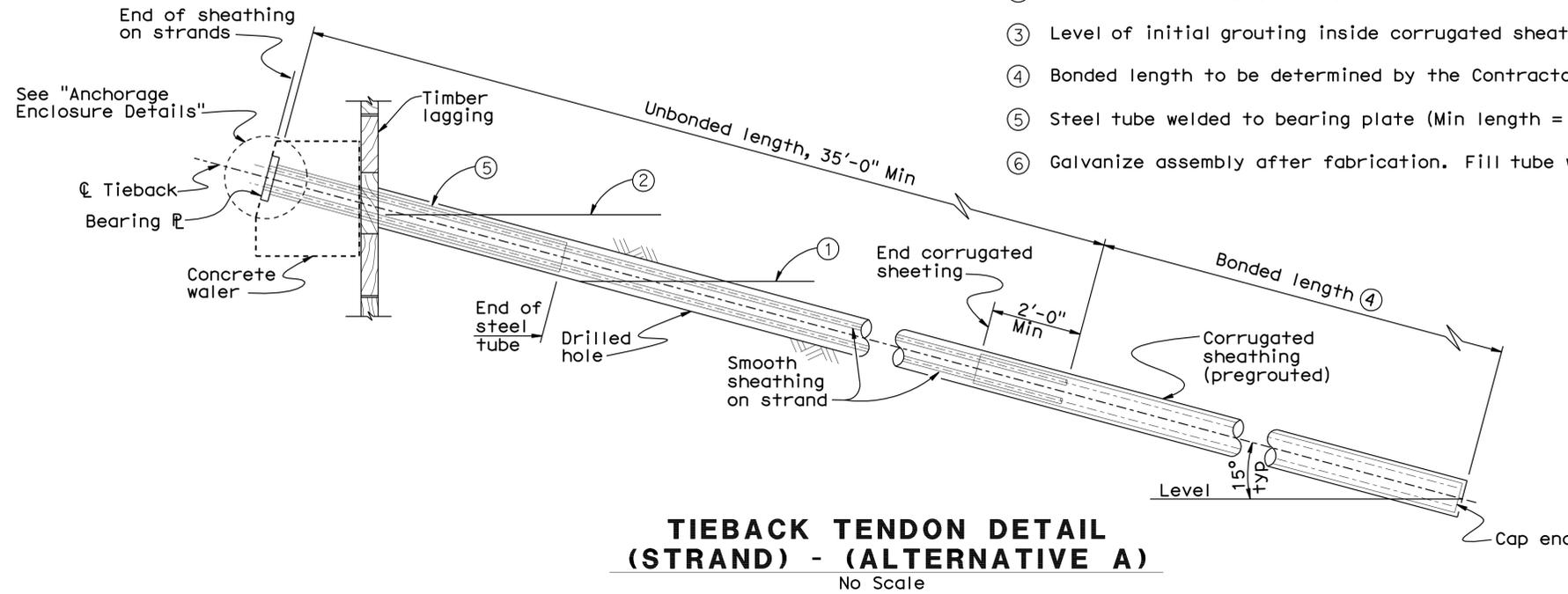
USERNAME => hrmikes DATE PLOTTED => 22-DEC-2009 TIME PLOTTED => 09:42

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	Scr	9	1.8	37	45

Marc Friedheim
 REGISTERED CIVIL ENGINEER DATE 10-01-08
 12-21-09
 PLANS APPROVAL DATE
 No. 57968
 Exp. 06-30-10
 CIVIL
 STATE OF CALIFORNIA

Notes:

1. Anchorage enclosure shall have provisions to allow injecting grout at low end and venting at high end. Galvanize after fabrication.
2. Sealant to cover full width of flange.
- ① Level of initial grouting.
- ② Level of secondary grouting.
- ③ Level of initial grouting inside corrugated sheathing.
- ④ Bonded length to be determined by the Contractor.
- ⑤ Steel tube welded to bearing plate (Min length = 3'-6", Min thickness = 1/4").
- ⑥ Galvanize assembly after fabrication. Fill tube with grout.



DESIGN	BY M. Friedheim	CHECKED T. Bui
DETAILS	BY L. Wang	CHECKED T. Bui
QUANTITIES	BY T. Bui	CHECKED A. Tern

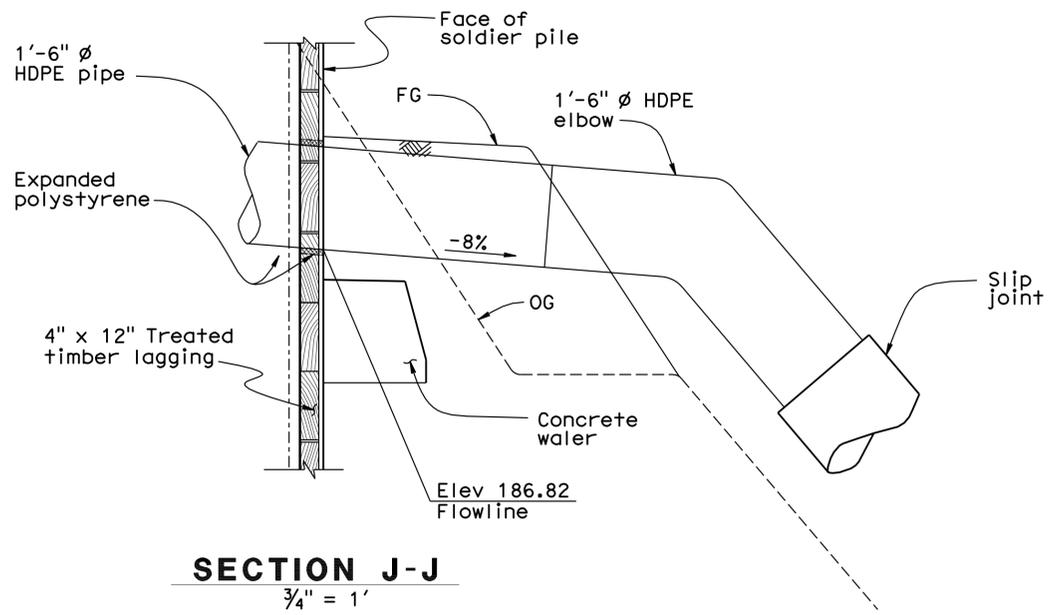
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 17

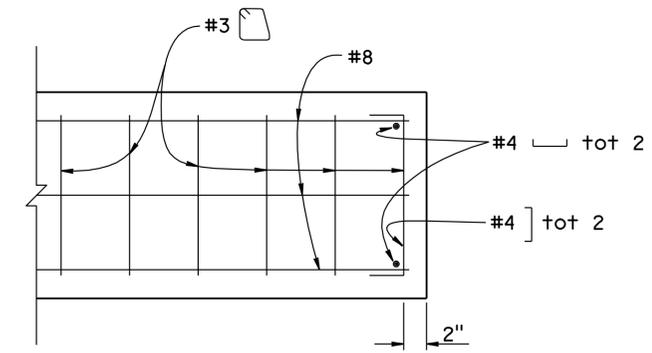
BRIDGE NO.	36E0018
POST MILE	1.8

SLOPE REPAIR WALL
DETAILS NO. 3

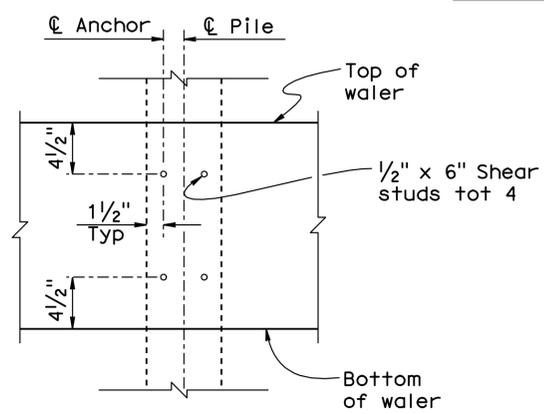
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	Scr	9	1.8	38	45
 REGISTERED CIVIL ENGINEER DATE 10-01-08					
PLANS APPROVAL DATE 12-21-09 <small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



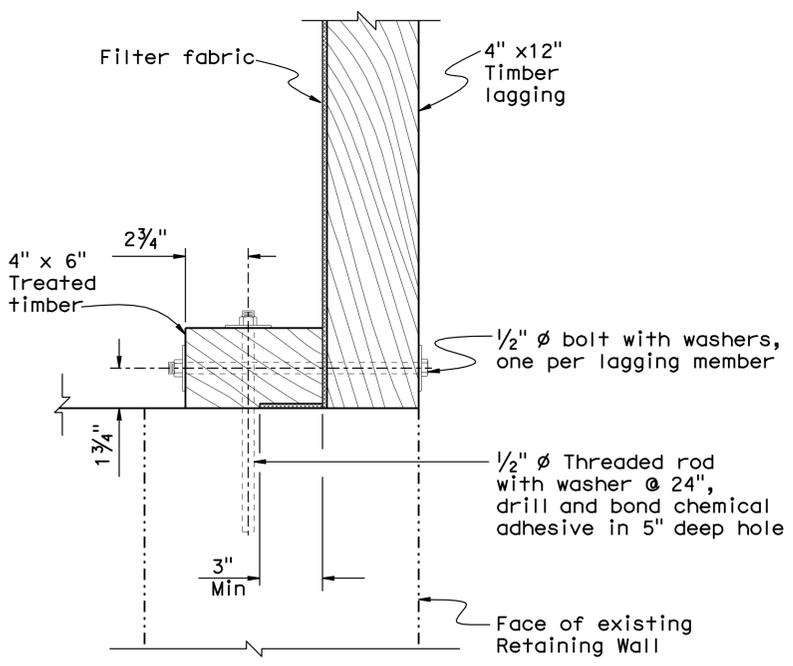
SECTION J-J
3/4" = 1'



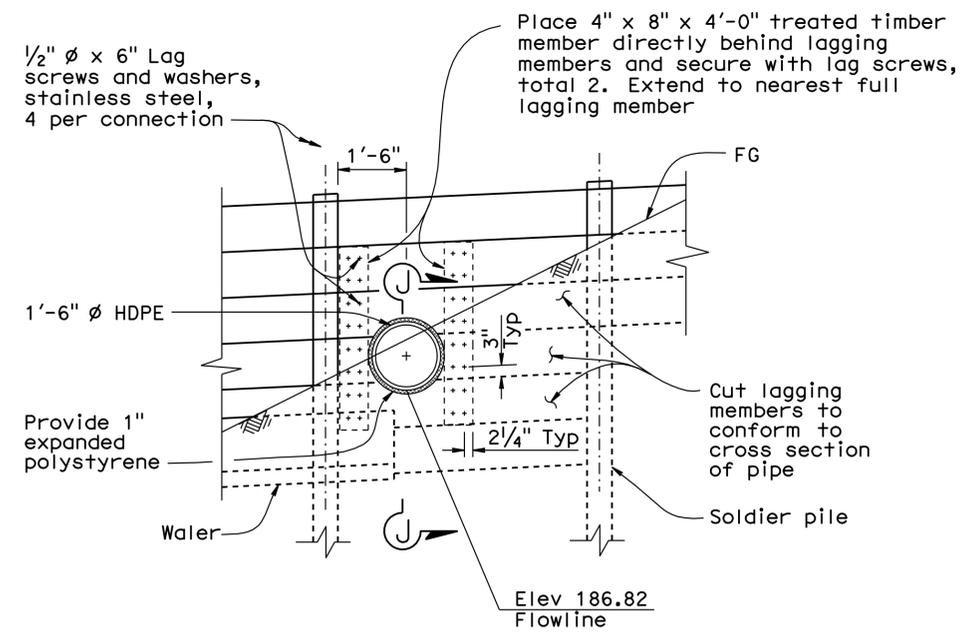
CONCRETE WALER END DETAILS
1 1/2" = 1'



CONCRETE ANCHOR PLACEMENT
1 1/2" = 1'



SECTION E-E
3" = 1'



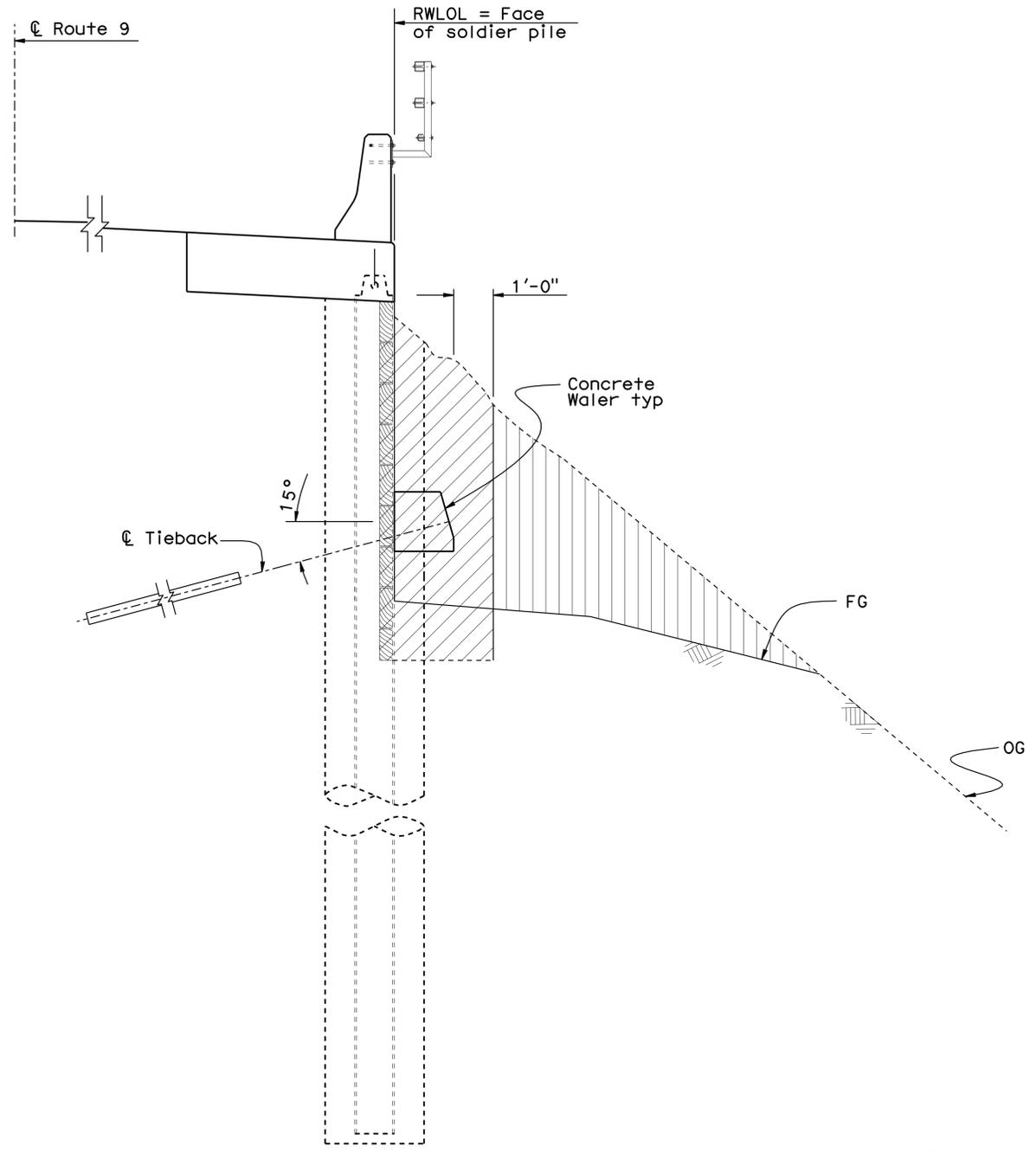
PIPE OPENING DETAIL
1/2" = 1'

- Notes:
- All bolts, nuts, washers to be stainless steel
 - Bolts to be placed in predrilled holes

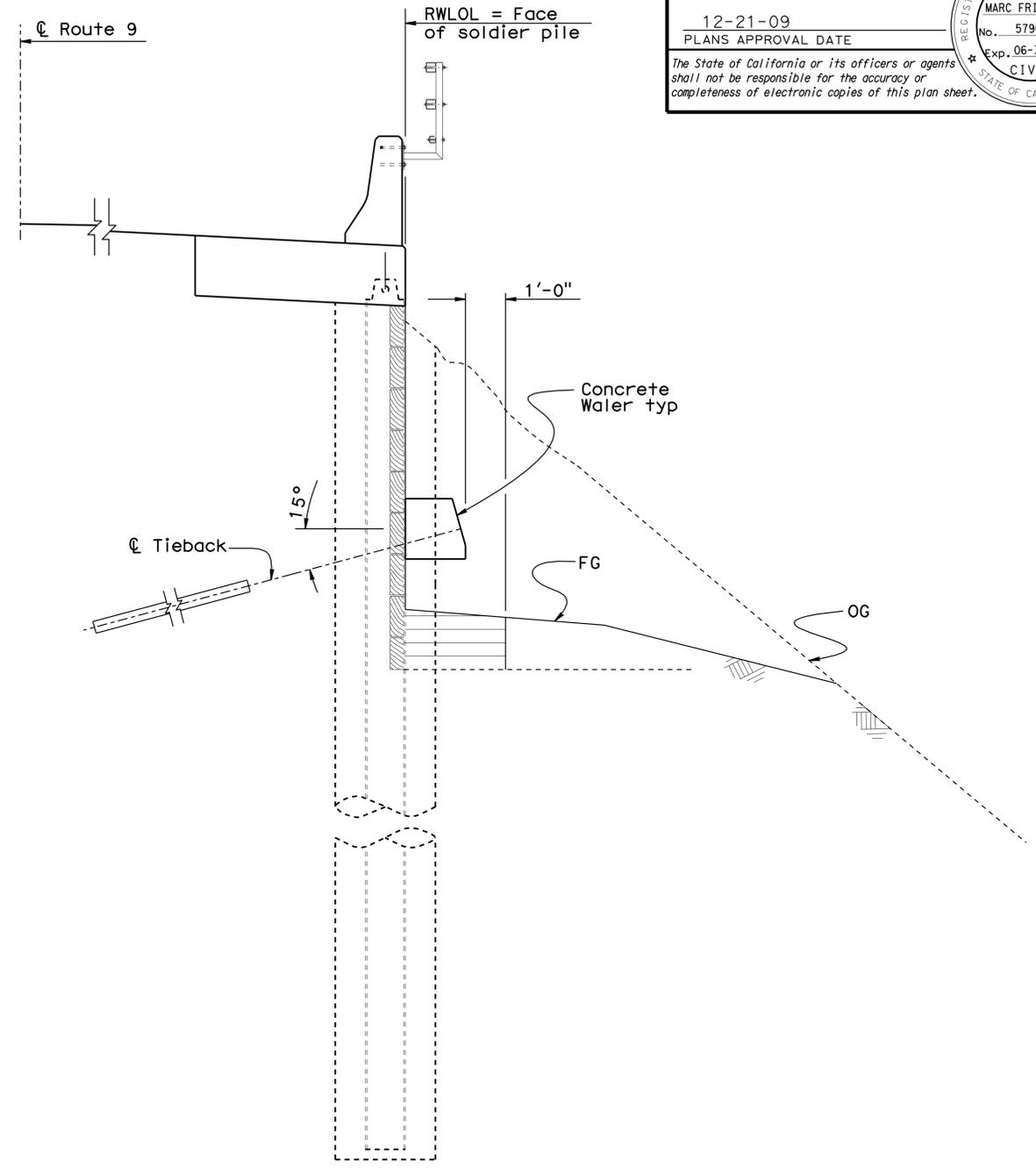
DESIGN	BY	M. Friedheim	CHECKED	T. Bui	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 17	BRIDGE NO.	SLOPE REPAIR WALL		
	DETAILS	BY	L. Wang/S. Ng	CHECKED			T. Bui	36E0018	DETAILS NO. 4	
QUANTITIES	BY	T. Bui	CHECKED	A. Tern			POST MILE	1.8		
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)						CU 05 EA 0P6501	DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES	SHEET 7 OF 14

USERNAME => hrmikes DATE PLOTTED => 22-DEC-2009 TIME PLOTTED => 09:42

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	Scr	9	1.8	39	45
 REGISTERED CIVIL ENGINEER DATE			10-01-08		
PLANS APPROVAL DATE			12-21-09		
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.					
					



LIMITS OF EXCAVATION
1/2" = 1'



LIMITS OF BACKFILL
1/2" = 1'

LEGEND

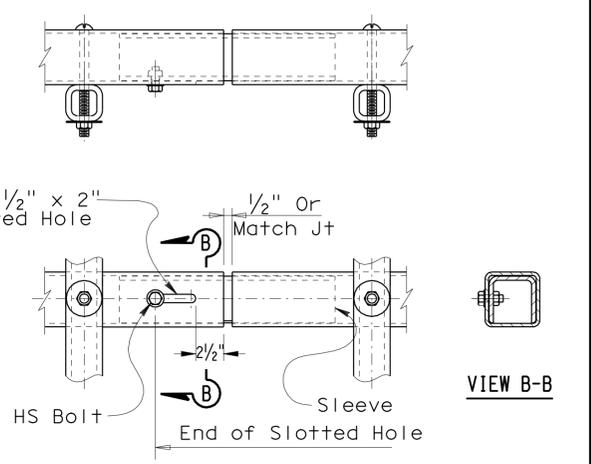
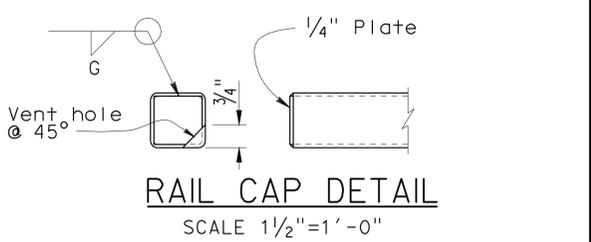
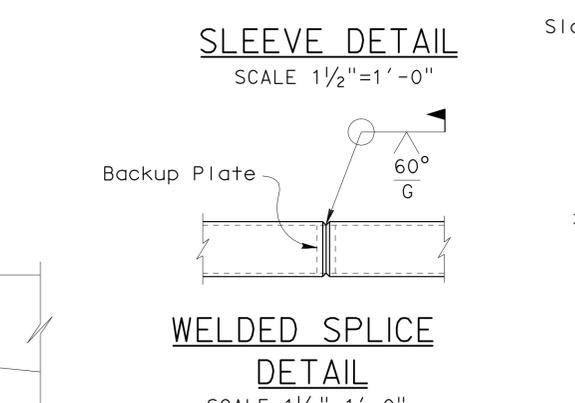
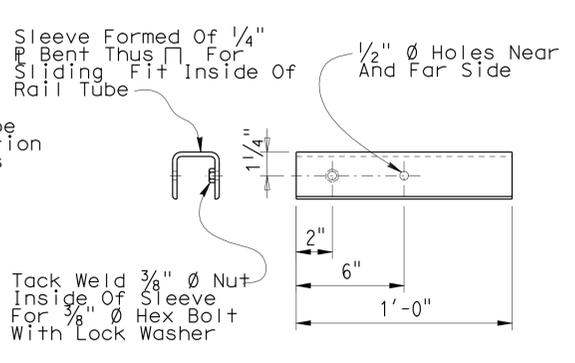
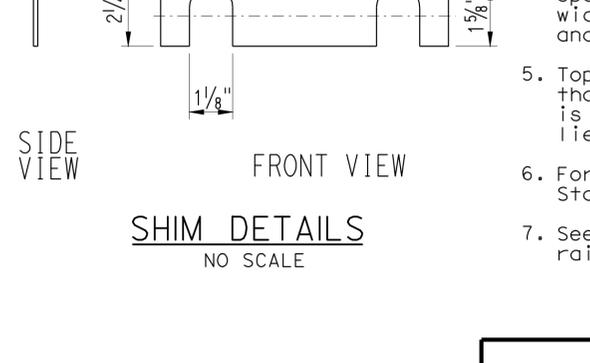
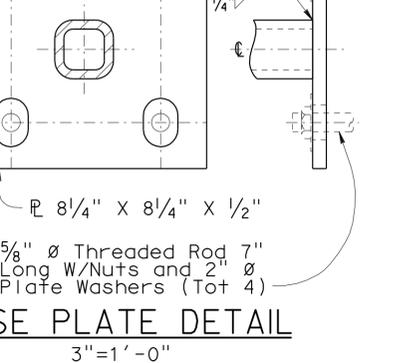
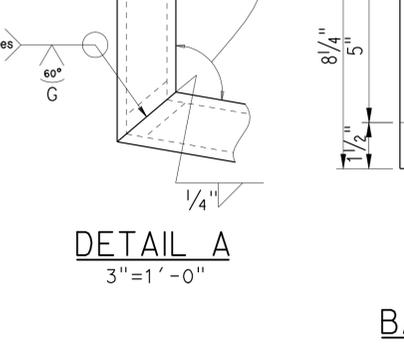
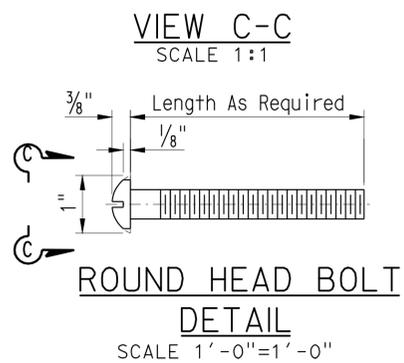
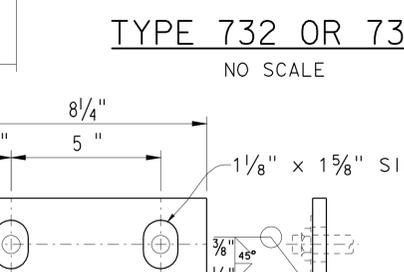
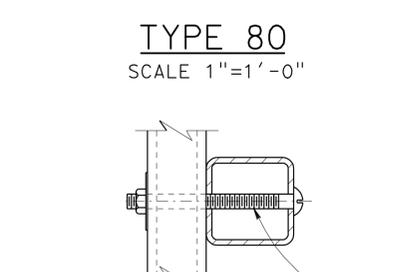
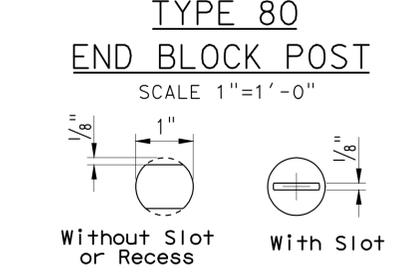
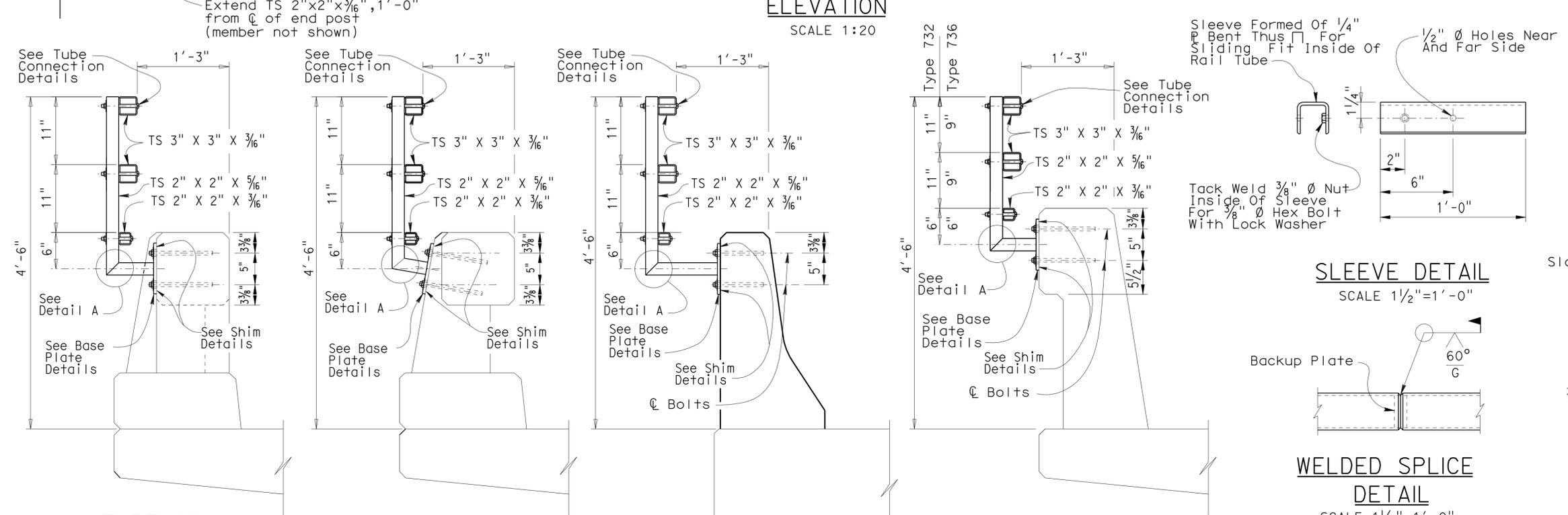
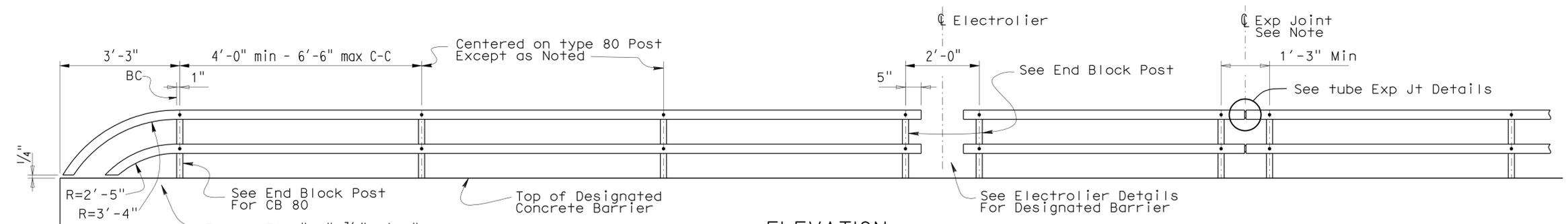
-  Structure Excavation (Soldier Pile Wall)
-  Structure Backfill (Soldier Pile Wall)
-  Roadway Excavation

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY M. Friedheim	CHECKED T. Bui	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 17	BRIDGE NO.	SLOPE REPAIR WALL EXCAVATION AND BACKFILL					
	DETAILS	BY L. Wang	CHECKED T. Bui			36E0018						
	QUANTITIES	BY T. Bui	CHECKED A. Tern			POST MILE 1.8						
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS						CU 05	DISREGARD PRINTS BEARING EARLIER REVISION DATES					
FILE => 36e0018-u-excbkf.dgn						EA 0P6501	REVISION DATES					SHEET 8 OF 14

USERNAME => hrmikes | DATE PLOTTED => 22-DEC-2009 | TIME PLOTTED => 09:43

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
05	Scr	9	1.8	40	45

REGISTERED ENGINEER - CIVIL
 12-21-09
 PLANS APPROVAL DATE
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- NOTES:**
- Galvanize rail assembly after fabrication.
 - Post shall be normal to railing.
 - Rail tubes shall be shop bent or fabricated to fit horizontal curve when radius is less than 300 m.
 - Tube splices shall be located in the tubes spanning deck or wall joints. Increase joint width in tubes to match expansion joint width and increase sleeve length correspondingly.
 - Top rail tube shall be continuous over not less than two posts except a short post spacing is permitted near deck or wall joints, electroliers, or other rail discontinuities as noted.
 - For details and reinforcement not shown see Standard Plan.
 - See project plans for limits of tubular bicycle railing.

SPECIAL DETAILS

RELEASE DATE	DESIGN	BY	CHECKED	RELEASED BY
REVISED	TILLAT SATTER	TILLAT SATTER	NEELIMA PATIL	
FILE NO. XS16-500	DETAILS	BY H. NGUYEN	CHECKED TILLAT SATTER	ROBERTO SMALL
	SUBMITTED	BY	DRAWING DATE 08/06	OFFICE CHIEF

Modified for Type 27 barrier

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

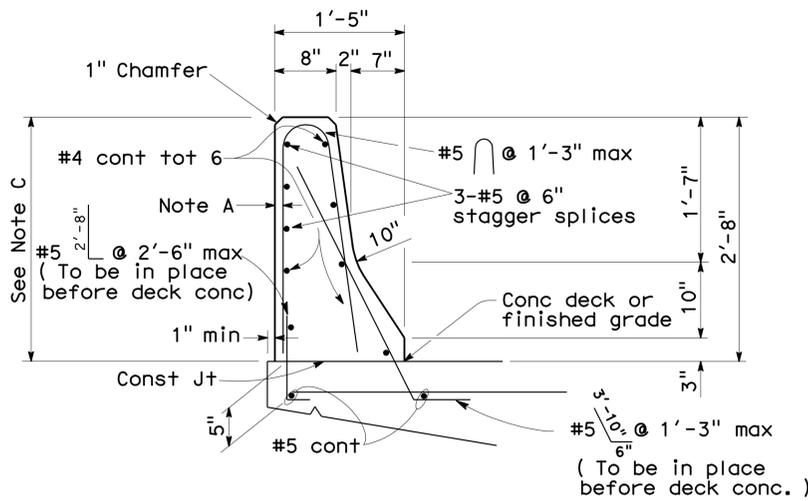
BRIDGE NO. 36E0018
KILOMETER POST 1.8

SLOPE REPAIR WALL
TUBULAR BICYCLE RAILING
BARRIER RAILINGS TYPE 27, 80, 732 & 736

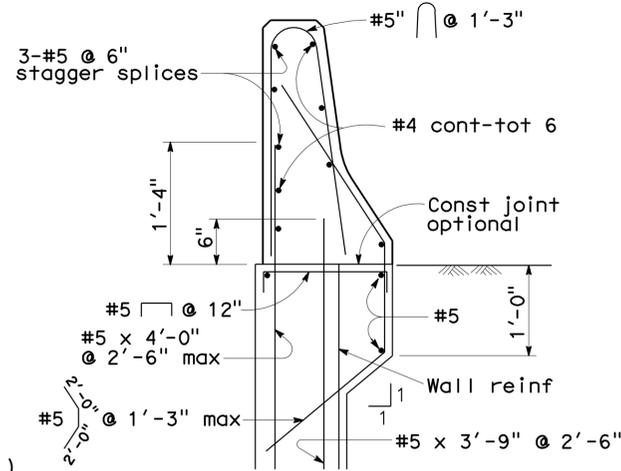
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
05	SCr	9	1.8	41	45

<i>Marc Friedheim</i>	
REGISTERED ENGINEER - CIVIL	
12-21-09	
PLANS APPROVAL DATE	
No. 57968	Exp. 06-30-10
CIVIL	
STATE OF CALIFORNIA	

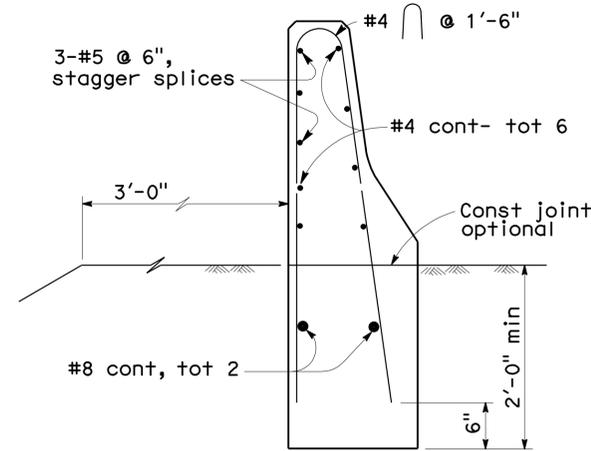
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TYPE 27



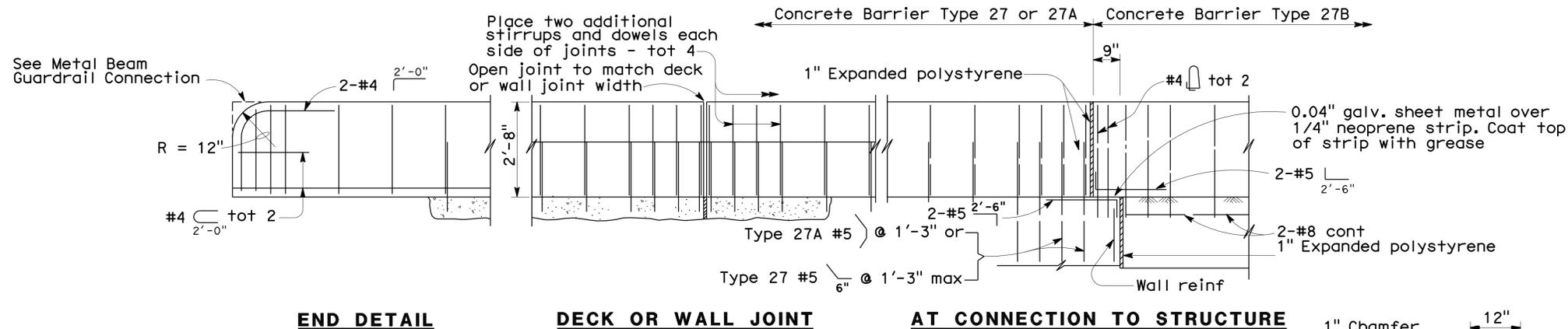
TYPE 27A



TYPE 27B

NOTES:

- A. Clearance to reinforcing steel in rail to be 1". Longitudinal reinforcement to stop at expansion joints, and be continuous at construction joints. Hairpin stirrups to be rotated to meet clearance.
- B. Rail joints shall be located at deck and principal wall joints.
- C. Dimension may vary with cross-slope and with certain thickness of surfacing. See Bridge Plans.
- D. When glare screen is required, see "Concrete Barrier Type 50".
- E. For Metal Beam Guardrail details not shown see Standard Plans.

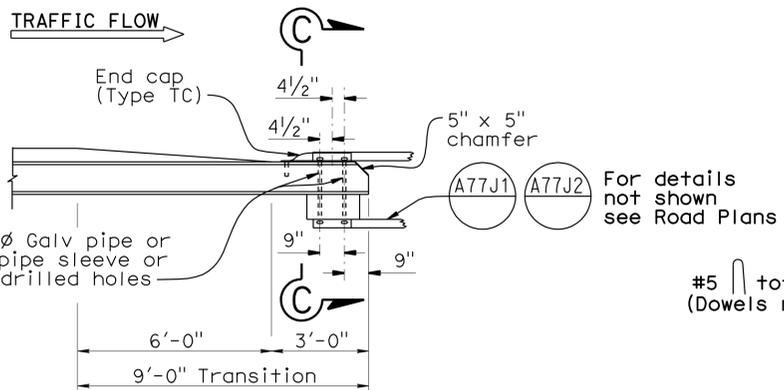


END DETAIL

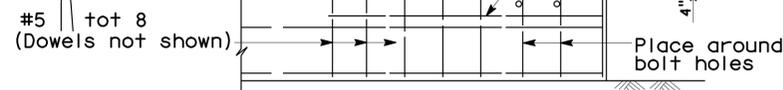
DECK OR WALL JOINT

AT CONNECTION TO STRUCTURE

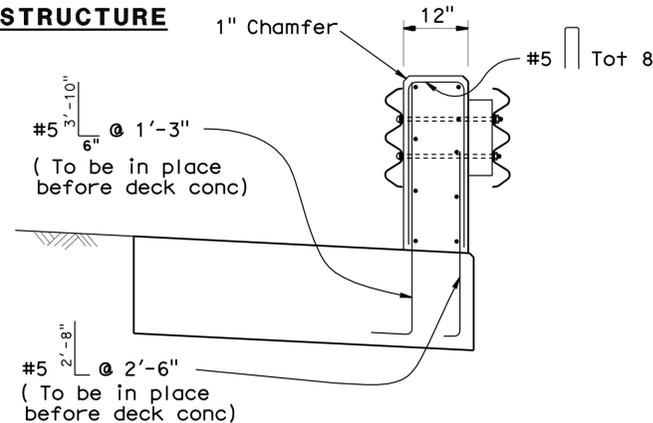
ELEVATION



PLAN



ELEVATION



SECTION C-C

METAL BEAM GUARD RAILING CONNECTION

Special details

NO SCALE

STANDARD DRAWING			
RELEASE DATE	DESIGN BY	CHECKED	RELEASER
REVISED	R. W. BISHOP	P. HALE	
FILE NO.	DETAILS BY	CHECKED	OFFICE CHIEF
xs16-010	R. YEE	P. HALE	
	SUBMITTED BY	DRAWING DATE	
	J. HAMAGUCHI	12/07	

- Metric conversion to English
- Type WB Transition Railing added
- Modified Section C-C

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO.
36E0018
POST MILE
1.8

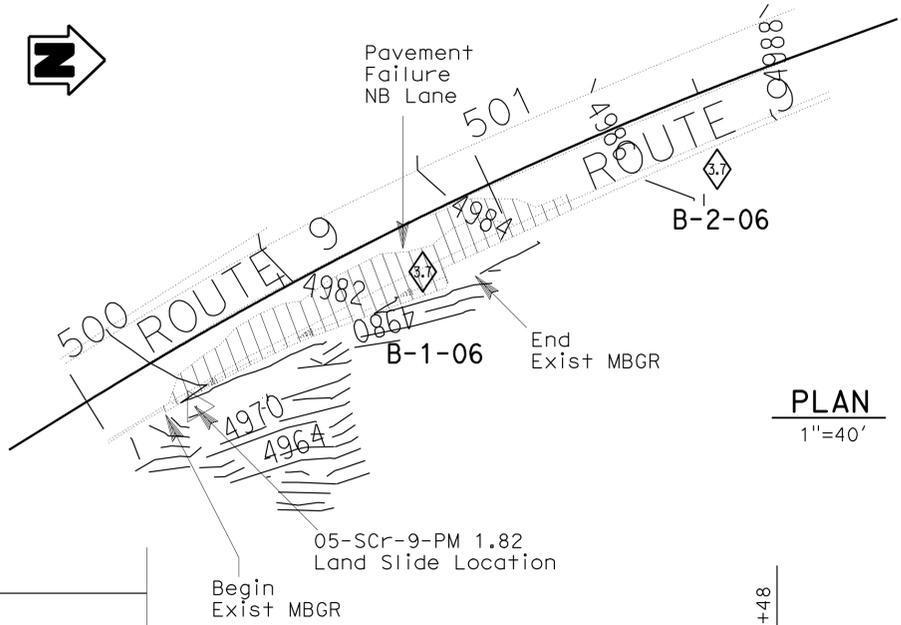
SLOPE REPAIR WALL
BARRIER - CONCRETE TYPE 27

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	Scr	9	1.8	42	45

06-02-08
 REGISTERED CIVIL ENGINEER
 Eduardo Ortega
 No. 41012
 Exp. 03-31-09
 CIVIL
 STATE OF CALIFORNIA

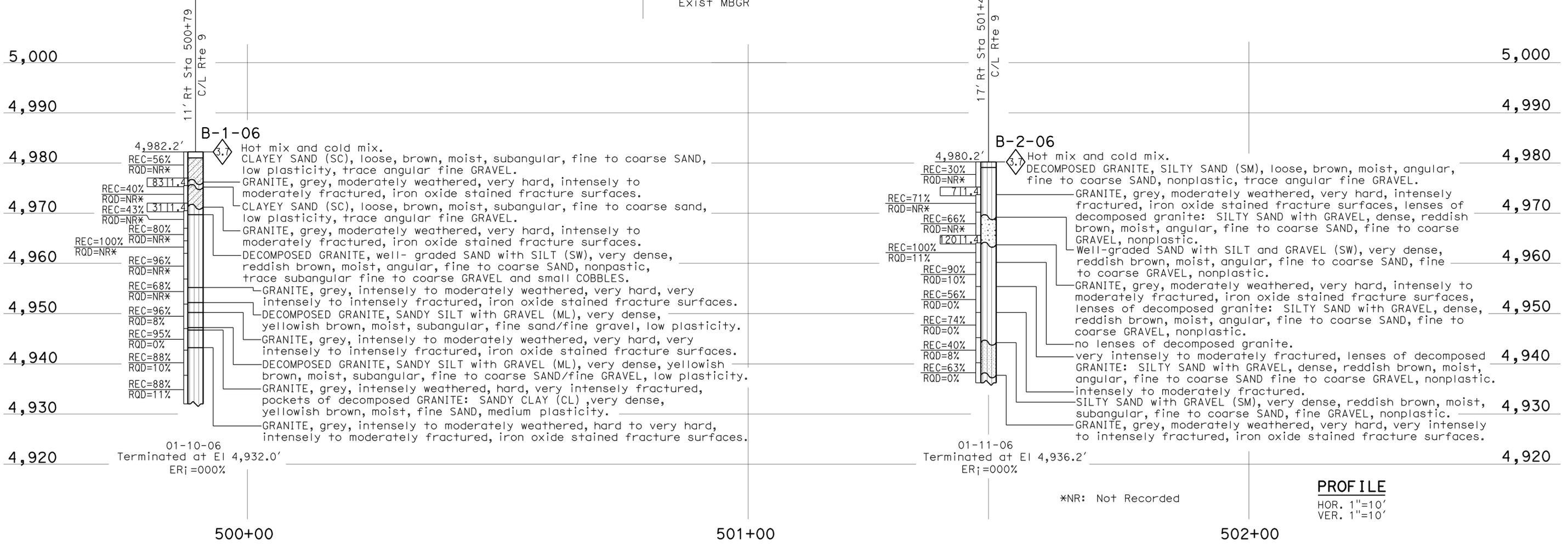
12-21-09
 PLANS APPROVAL DATE

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PLAN
1"=40'

NOTE: This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (June 2007).



*NR: Not Recorded

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

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA		GEOTECHNICAL SERVICES OFFICE OF GEOTECHNICAL		BRIDGE NO.		SLOPE REPAIR WALL	
FUNCTIONAL SUPERVISOR		DRAWN BY: M. Reynolds		FIELD INVESTIGATION BY: D. Applebaum		DEPARTMENT OF TRANSPORTATION		36E0018		LOG OF TEST BORINGS 1 OF 4	
NAME:		CHECKED BY: E. Ortega				DESIGN BRANCH 17		POST MILES 1.8			
065 CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		0 1 2 3		CU 05 EA 0P6501		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES	
						FILE => 36e0018-z-1+tb01.dgn		06-12-08 08-26-08		SHEET 11 OF 14	

USERNAME => hrmkgs DATE PLOTTED => 22-DEC-2009 TIME PLOTTED => 09:43

DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST No	SHEET No	TOTAL SHEETS
05	Scr	9	1.8	43	45	

Eduardo Ortega 06-02-08
 REGISTERED CIVIL ENGINEER DATE
 12-21-09
 PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
 Eduardo Ortega
 No. 41012
 Exp. 03-31-09
 CIVIL
 STATE OF CALIFORNIA

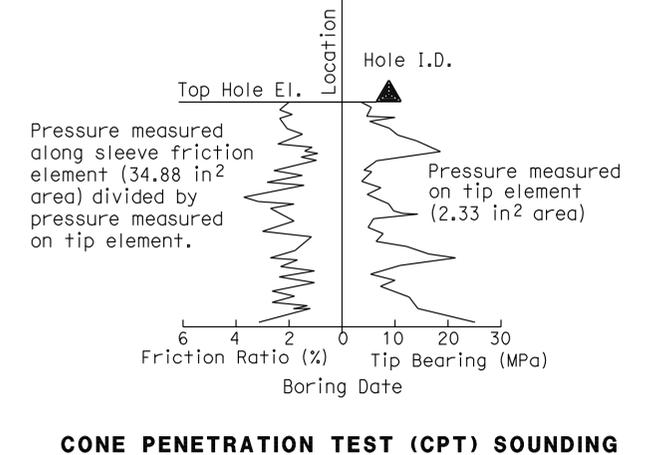
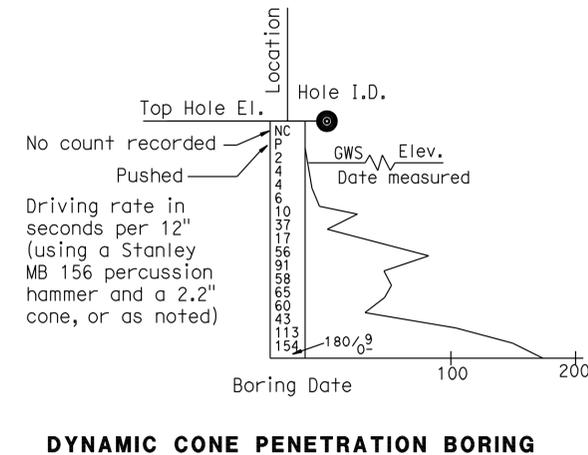
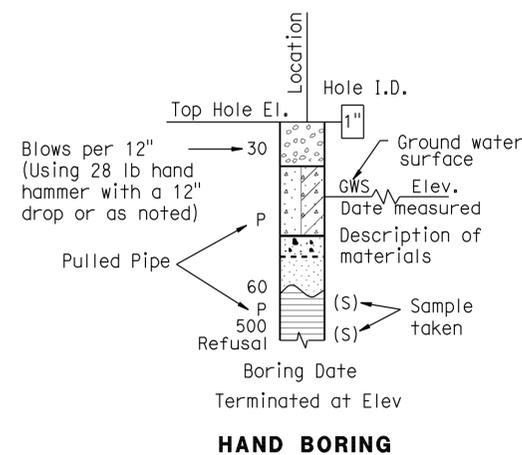
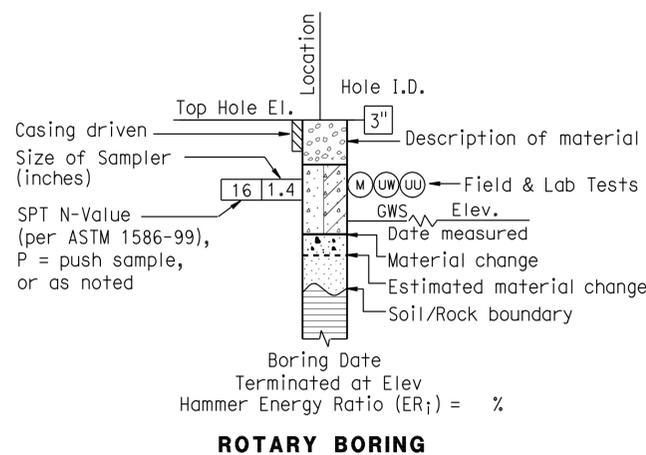
CEMENTATION	
Description	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

CONSISTENCY OF COHESIVE SOILS				
Description	Unconfined Compressive Strength (tsf)	Pocket Penetrometer Measurement (tsf)	Torvane Measurement (tsf)	Field Approximation
Very Soft	< 0.25	< 0.25	< 0.12	Easily penetrated several inches by fist
Soft	0.25 to 0.50	0.25 to 0.50	0.12 to 0.25	Easily penetrated several inches by thumb
Medium Stiff	0.50 to 1.0	0.50 to 1.0	0.25 to 0.50	Penetrated several inches by thumb with moderate effort
Stiff	1 to 2	1 to 2	0.50 to 1.0	Readily indented by thumb but penetrated only with great effort
Very Stiff	2 to 4	2 to 4	1.0 to 2.0	Readily indented by thumbnail
Hard	> 4.0	> 4.0	> 2.0	Indented by thumbnail with difficulty

BOREHOLE IDENTIFICATION		
Symbol	Hole Type	Description
	A	Auger Boring
	R	Rotary drilled boring
	P	Rotary percussion boring (air)
	R	Rotary drilled diamond core
	HD	Hand driven (1-inch soil tube)
	HA	Hand Auger
	D	Dynamic Cone Penetration Boring
	CPT	Cone Penetration Test (ASTM D 5778-95)
	O	Other

Note: Size in inches.

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



ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA		GEOTECHNICAL SERVICES OFFICE OF GEOTECHNICAL		BRIDGE NO. 36E0018		SLOPE REPAIR WALL	
PREPARED BY M. Reynolds		FIELD INVESTIGATION BY: D. Applebaum		DEPARTMENT OF TRANSPORTATION		DESIGN BRANCH 17		POST MILE 1.8		LOG OF TEST BORINGS 2 OF 4	
CHECKED BY E. Ortega				CU 05 EA 0P6501		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES		SHEET 12 OF 14	

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
 FILE => 36e0018-z-1+tb02.dgn

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	Scr	9	1.8	44	45
			06-02-08		
REGISTERED CIVIL ENGINEER			DATE		
12-21-09			PLANS APPROVAL DATE		
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GROUP SYMBOLS AND NAMES					
Graphic/Symbol	Group Names	Graphic/Symbol	Group Names	Graphic/Symbol	Group Names
	GW		CL		Lean CLAY
	Well-graded GRAVEL with SAND				Lean CLAY with SAND
	GP		CL		Lean CLAY with GRAVEL
	Poorly graded GRAVEL with SAND				SANDY lean CLAY
	GW-GM		CL-ML		SILTY CLAY
	Well-graded GRAVEL with SILT and SAND				SILTY CLAY with GRAVEL
	GW-GC		CL-ML		SANDY SILTY CLAY
	Well-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)				GRAVELLY SILTY CLAY
	GP-GM		ML		SILT
	Poorly graded GRAVEL with SILT and SAND				SILT with SAND
	GP-GC		ML		SILT with GRAVEL
	Poorly graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)				SANDY SILT
	GM		OL		ORGANIC lean CLAY
	SILTY GRAVEL with SAND				ORGANIC lean CLAY with GRAVEL
	GC		OL		SANDY ORGANIC lean CLAY
	CLAYEY GRAVEL with SAND				GRAVELLY ORGANIC lean CLAY
	GC-GM		OL		ORGANIC SILT
	SILTY, CLAYEY GRAVEL with SAND				ORGANIC SILT with GRAVEL
	SW		OL		SANDY ORGANIC SILT
	Well-graded SAND with GRAVEL				GRAVELLY ORGANIC SILT
	SP		CH		Fat CLAY
	Poorly graded SAND with GRAVEL				Fat CLAY with GRAVEL
	SW-SM		MH		SANDY fat CLAY
	Well-graded SAND with SILT and GRAVEL				GRAVELLY fat CLAY
	SW-SC		MH		GRAVELLY fat CLAY with SAND
	Well-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)				Elastic SILT
	SP-SM		OH		Elastic SILT with SAND
	Poorly graded SAND with SILT and GRAVEL				Elastic SILT with GRAVEL
	SP-SC		OH		SANDY elastic SILT
	Poorly graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)				GRAVELLY elastic SILT
	SM		OH		GRAVELLY elastic SILT with SAND
	SILTY SAND with GRAVEL				ORGANIC fat CLAY
	SC		OH		ORGANIC fat CLAY with SAND
	CLAYEY SAND with GRAVEL				ORGANIC fat CLAY with GRAVEL
	SC-SM		OH		SANDY ORGANIC fat CLAY
	SILTY, CLAYEY SAND with GRAVEL				GRAVELLY ORGANIC fat CLAY
	PT		OL/OH		GRAVELLY ORGANIC fat CLAY with SAND
	PEAT				ORGANIC SOIL
			OL/OH		ORGANIC SOIL with SAND
	COBBLES and BOULDERS				ORGANIC SOIL with GRAVEL
					SANDY ORGANIC SOIL
					GRAVELLY ORGANIC SOIL
					GRAVELLY ORGANIC SOIL with SAND

FIELD AND LABORATORY TESTING	
(C)	Consolidation (ASTM D 2435)
(CL)	Collapse Potential (ASTM D 5333)
(CP)	Compaction Curve (CTM 216)
(CR)	Corrosivity Testing (CTM 643, CTM 422, CTM 417)
(CU)	Consolidated Undrained Triaxial (ASTM D 4767)
(DS)	Direct Shear (ASTM D 3080)
(EI)	Expansion Index (ASTM D 4829)
(M)	Moisture Content (ASTM D 2216)
(OC)	Organic Content-% (ASTM D 2974)
(P)	Permeability (CTM 220)
(PA)	Particle Size Analysis (ASTM D 422)
(PI)	Plasticity Index (AASHTO T 90) Liquid Limit (AASHTO T 89)
(PL)	Point Load Index (ASTM D 5731)
(PM)	Pressure Meter
(PP)	Pocket Penetrometer
(R)	R-Value (CTM 301)
(SE)	Sand Equivalent (CTM 217)
(SG)	Specific Gravity (AASHTO T 100)
(SL)	Shrinkage Limit (ASTM D 427)
(SW)	Swell Potential (ASTM D 4546)
(TV)	Pocket Torvane
(UC)	Unconfined Compression-Soil (ASTM D 2166)
	Unconfined Compression-Rock (ASTM D 2938)
(UU)	Unconsolidated Undrained Triaxial (ASTM D 2850)
(UW)	Unit Weight (ASTM D 4767)
(VS)	Vane Shear (AASHTO T 223)

APPARENT DENSITY OF COHESIONLESS SOILS	
Description	SPT N ₆₀ (Blows / 12 inches)
Very loose	0 - 4
Loose	5 - 10
Medium Dense	11 - 30
Dense	31 - 50
Very Dense	> 50

MOISTURE	
Description	Criteria
Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table

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

PARTICLE SIZE		
Description	Size	
Boulder	> 12"	
Cobble	3" to 12"	
Gravel	Coarse	3/4" to 3"
	Fine	No. 4 to 3/4"
Sand	Coarse	No. 10 to No. 4
	Medium	No. 40 to No. 10
	Fine	No. 200 to No. 40

USERNAME => hrmkgs DATE PLOTTED => 22-DEC-2009 TIME PLOTTED => 09:44

DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST MILE	SHEET No	TOTAL SHEETS
05	Scr	9	1.8		45	45

06-02-08
 REGISTERED CIVIL ENGINEER DATE
 12-21-09
 PLANS APPROVAL DATE

Eduardo Ortega
 No. 41012
 Exp. 03-31-09
 CIVIL
 STATE OF CALIFORNIA

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

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

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

RELATIVE STRENGTH OF INTACT ROCK

Term	Uniaxial Compressive Strength (PSI)
Extremely Strong	> 30,000
Very Strong	14,500 - 30,000
Strong	7,000 - 14,500
Medium Strong	3,500 - 7,000
Weak	700 - 3,500
Very Weak	150 - 700
Extremely Weak	< 150

BEDDING SPACING

Description	Thickness / Spacing
Massive	Greater than 10 ft
Very thickly bedded	3 to 10 ft
Thickly bedded	1 to 3 ft
Moderately bedded	3-5/8" to 1 ft
Thinly bedded	1-1/4" to 3-5/8"
Very thinly bedded	3/8" to 1-1/4"
Laminated	Less than 3/8"

LEGEND OF ROCK MATERIALS

- IGNEOUS ROCK
- SEDIMENTARY ROCK
- METAMORPHIC ROCK

ROCK HARDNESS

Description	Criteria
Extremely Hard	Specimen cannot be scratched with a pocket knife or sharp pick; can only be chipped with repeated heavy hammer blows.
Very Hard	Specimen cannot be scratched with a pocket knife or sharp pick. Breaks with repeated heavy hammer blows.
Hard	Specimen can be scratched with a pocket knife or sharp pick with difficulty (heavy pressure). Heavy hammer blows required to break specimen.
Moderately Hard	Specimen can be scratched with pocket knife or sharp pick with light or moderate pressure. Core breaks with moderate hammer pressure.
Moderately Soft	Specimen can be grooved 1/6" deep with a pocket knife or sharp pick with moderate or heavy pressure. Breaks with light hammer blow or heavy manual pressure.
Soft	Specimen can be grooved or gouged easily by a pocket knife or sharp pick with light pressure, can be scratched with fingernail. Breaks with light to moderate manual pressure.
Very Soft	Specimen can be readily indented, grooved or gouged with fingernail, or carved with a pocket knife. 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 Solutioning		
	Body of Rock	Fracture Surfaces		Texture	Solutioning	
Fresh	No discoloration, not oxidized.	No discoloration or oxidation.	No separation, intact (tight).	No change.	No solutioning.	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 may be noted.	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."

Combination descriptors (such as "slightly weathered to fresh") are permissible where equal distribution of both weathering characteristics is present over significant intervals or where characteristics present are "in between" the diagnostic feature. However, combination descriptors should not be used where significant, identifiable zones can be delineated. Only two adjacent descriptors may be combined. "Very intensely weathered" is the combination descriptor for "intensely weathered to decomposed."

FRACTURE DENSITY

Description	Observed Fracture Density
Unfractured	No fractures.
Very slightly fractured	Lengths greater than 3 feet.
Slightly fractured	Lengths from 1 to 3 feet with few lengths less than 1 foot or greater than 3 feet.
Moderately fractured	Lengths mostly in 4" to 1 foot range with most lengths about 8"
Intensely fractured	Lengths average from 1 to 4" with scattered fragmented intervals with lengths less than 4"
Very intensely fractured	Mostly chips and fragments with a few scattered short core lengths.

Combination descriptors (such as "Very intensely to intensely fractured") are used where equal distribution of both fracture density characteristics is present over a significant interval or exposure, or where characteristics are "in between" the descriptor definitions. Only two adjacent descriptors may be combined.

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA		GEOTECHNICAL SERVICES OFFICE OF GEOTECHNICAL		BRIDGE NO. 36E0018		SLOPE REPAIR WALL	
FUNCTIONAL SUPERVISOR		PREPARED BY M. Reynolds		FIELD INVESTIGATION BY: D. Applebaum		DEPARTMENT OF TRANSPORTATION		POST MILE 1.8		LOG OF TEST BORINGS 4 OF 4	
NAME:		CHECKED BY E. Ortega		CU 05 EA 0P6501		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES		SHEET 14 OF 14	

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

FILE => 36e0018-z-1+bd04.dgn