

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0, 0.0/3.4	301	477

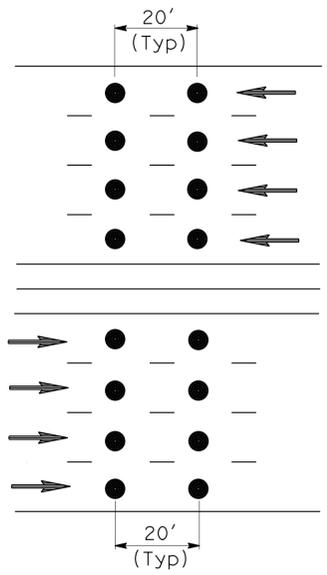
<i>M. Noor</i>	12/12/13
REGISTERED ELECTRICAL ENGINEER	DATE
1-13-14	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
Mahmood Noii
No. 13717
Exp. 6-30-15
ELECT

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.

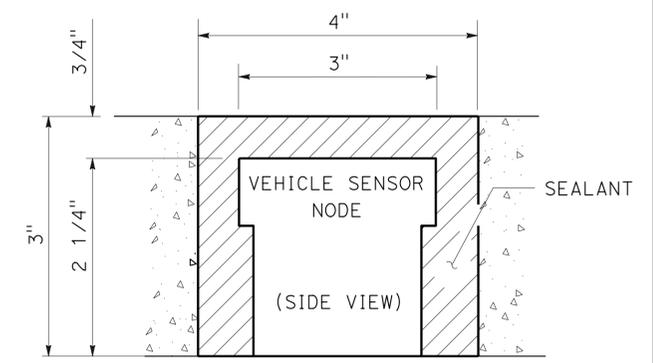
VEHICLE SENSOR NODE INSTALLATION PROCEDURE:

1. PRIOR TO INSTALLATION, IDENTIFY VEHICLE SENSOR NODES ID, LANE NUMBER, AND LOCATION IN LANE.
2. INSTALL VEHICLE SENSOR NODE FLAT IN THE CORED HOLED.
3. USE THE HEAT-GUN OR HOT COMPRESSED AIR TO DRY THE INSIDE OF THE CORED HOLE. THERE MUST BE ABSOLUTELY NO MOISTURE ON THE APPLIED SURFACE.
4. FILL THE HOLE ABOUT 1/4 FULL OF THE SEALANT.
5. PLACE VEHICLE SENSOR NODE IN THE HOLE WITH ARROW POINTING IN THE DIRECTION OF TRAFFIC. THE SEALANT SHOULD STILL HAVE WORK TIME, SO THE VEHICLE SENSOR NODE CAN BE ROTATED TO THE CORRECT ORIENTATION. PUSH VEHICLE SENSOR NODE DOWN SO IT LAYS FLAT ON THE BOTTOM OF THE HOLE.
6. FILL THE HOLE WITH THE REMAINING SEALANT TO COVER THE VEHICLE SENSOR NODE. LEVEL SEALANT WITH THE SURFACE OF THE ROAD.
7. AFTER THE FIRST APPLICATION, DO NOT LET THE SEALANT SIT FOR MORE THAN 30 SECONDS BEFORE THE NEXT APPLICATION.
8. DEPENDING ON AMBIENT TEMPERATURE AND HUMIDITY, SEALANT DRYING TIME WILL VARY FROM 5 MINUTES TO 15 MINUTES. VERIFY HARDNESS OF SEALANT BEFORE REOPENING THE LANE FOR TRAFFIC.
9. RECORD DISTANCES BETWEEN EACH VEHICLE SENSOR NODE PAIR.



WMVDS NOTES:

- FREEWAY MAINLINE DETECTOR DESIGNATION:
- N=NORTHBOUND LANES (NB)
 - S=SOUTHBOUND LANES (SB)
 - E=EASTBOUND LANES (EB)
 - W=WESTBOUND LANES (WB)
- NUMBER OF LANES FROM LEFT WITH RESPECT TO DIRECTION OF TRAFFIC:
- 1=FIRST LANE FROM LEFT
 - 2=SECOND LANE FROM LEFT
 - 3=THIRD LANE FROM LEFT
 - 4=FOURTH LANE FROM LEFT
- NUMBER OF VSN IN THE SAME LANE:
- 1=ENTERING DETECTOR
 - 2=LEAVING DETECTOR

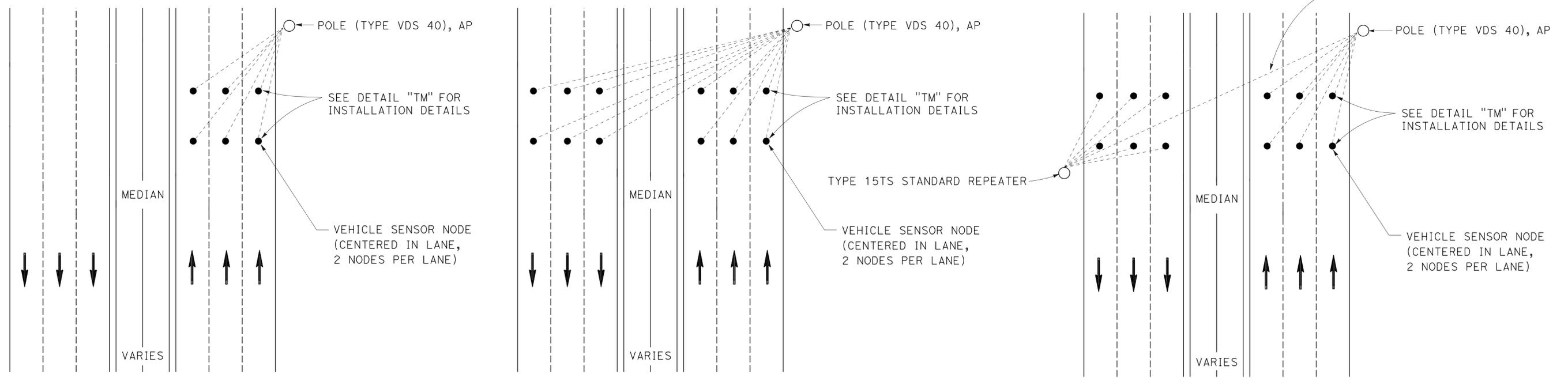


DETAIL B
VEHICLE SENSOR NODE
INSTALLED IN ROADWAY

LEGEND:



DETAIL "TM"



DETAIL A
VEHICLE SENSOR NODE PLACEMENT DETAIL

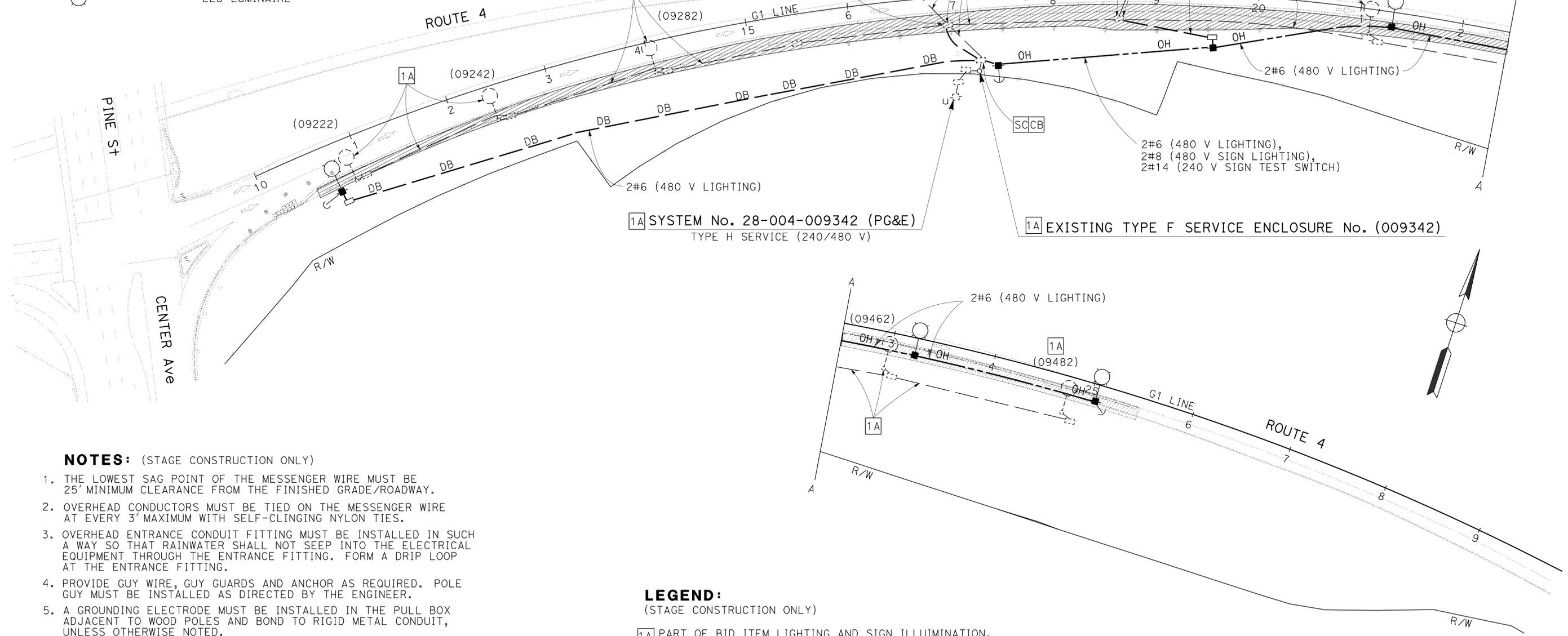
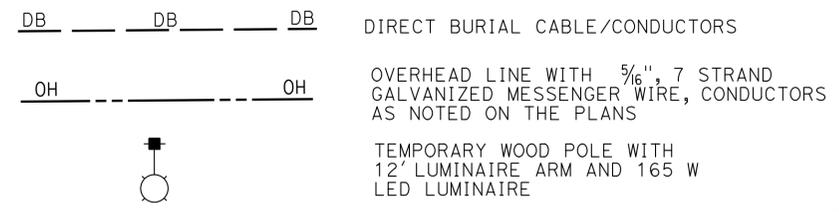
ELECTRICAL DETAILS
NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
ELECTRICAL
FUNCTIONAL SUPERVISOR: BEHZAD GOLEMOHAMMADI
REVISOR: PIERRE LASSALLE, MAHMOOD NOII
DATE: 12/18/13

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 FUNCTIONAL SUPERVISOR: BEHZAD GOLEMOHAMMADI
 CHECKED BY: MAHMOOD NOII
 REVISIONS: 12/18/13
 PL: 12/18/13

NOTE:
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

LEGEND:
 (STAGE CONSTRUCTION ONLY)



- NOTES:** (STAGE CONSTRUCTION ONLY)
1. THE LOWEST SAG POINT OF THE MESSENGER WIRE MUST BE 25' MINIMUM CLEARANCE FROM THE FINISHED GRADE/ROADWAY.
 2. OVERHEAD CONDUCTORS MUST BE TIED ON THE MESSENGER WIRE AT EVERY 3' MAXIMUM WITH SELF-CLINGING NYLON TIES.
 3. OVERHEAD ENTRANCE CONDUIT FITTING MUST BE INSTALLED IN SUCH A WAY SO THAT RAINWATER SHALL NOT SEEP INTO THE ELECTRICAL EQUIPMENT THROUGH THE ENTRANCE FITTING. FORM A DRIP LOOP AT THE ENTRANCE FITTING.
 4. PROVIDE GUY WIRE, GUY GUARDS AND ANCHOR AS REQUIRED. POLE GUY MUST BE INSTALLED AS DIRECTED BY THE ENGINEER.
 5. A GROUNDING ELECTRODE MUST BE INSTALLED IN THE PULL BOX ADJACENT TO WOOD POLES AND BOND TO RIGID METAL CONDUIT, UNLESS OTHERWISE NOTED.
 6. ESTABLISH CONTINUOUS GROUND WITH THE SYSTEM GROUND TO ALL METAL PARTS IN THE SYSTEM BY BONDING JUMPERS AND CONDUITS.
 7. TEMPORARY ELECTRICAL EQUIPMENT MUST BE INSTALLED AND MADE OPERATIONAL BEFORE THE BEGINNING OF EACH STAGE AND MUST BE MAINTAINED IN EFFECTIVE OPERATION THROUGHOUT THE STAGE, OR AS DIRECTED BY THE ENGINEER.
 8. TEMPORARY EQUIPMENT NOT TO BECOME PART OF THE PERMANENT SYSTEM MUST BE REMOVED AND BECOME PROPERTY OF THE CONTRACTOR WHEN NO LONGER REQUIRED FOR TEMPORARY USE.

- LEGEND:**
 (STAGE CONSTRUCTION ONLY)
- 1A PART OF BID ITEM LIGHTING AND SIGN ILLUMINATION. SEE SHEETS E-2 TO 19 FOR MORE INFORMATION.
 - 2A PERMANENT ELECTRICAL EQUIPMENT AND MUST BE OPERATIONAL BEFORE THE BEGINNING OF THIS STAGE.
 - 3A INSTALL TEMPORARY CONDUCTORS AS INDICATED. SEE SHEETS E-2 TO E-19 FOR MORE INFORMATION.

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REGISTERED ELECTRICAL ENGINEER: Mahmood Noii
 No. 13717
 Exp. 6-30-15
 DATE: 12/12/13
 PLANS APPROVAL DATE: 1-13-14

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LIGHTING AND SIGN ILLUMINATION (STAGE CONSTRUCTION)

SCALE: 1" = 50'

APPROVED FOR ELECTRICAL WORK ONLY

FOR ABBREVIATIONS, SEE SHEET E-1

E-86

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 ELECTRICAL

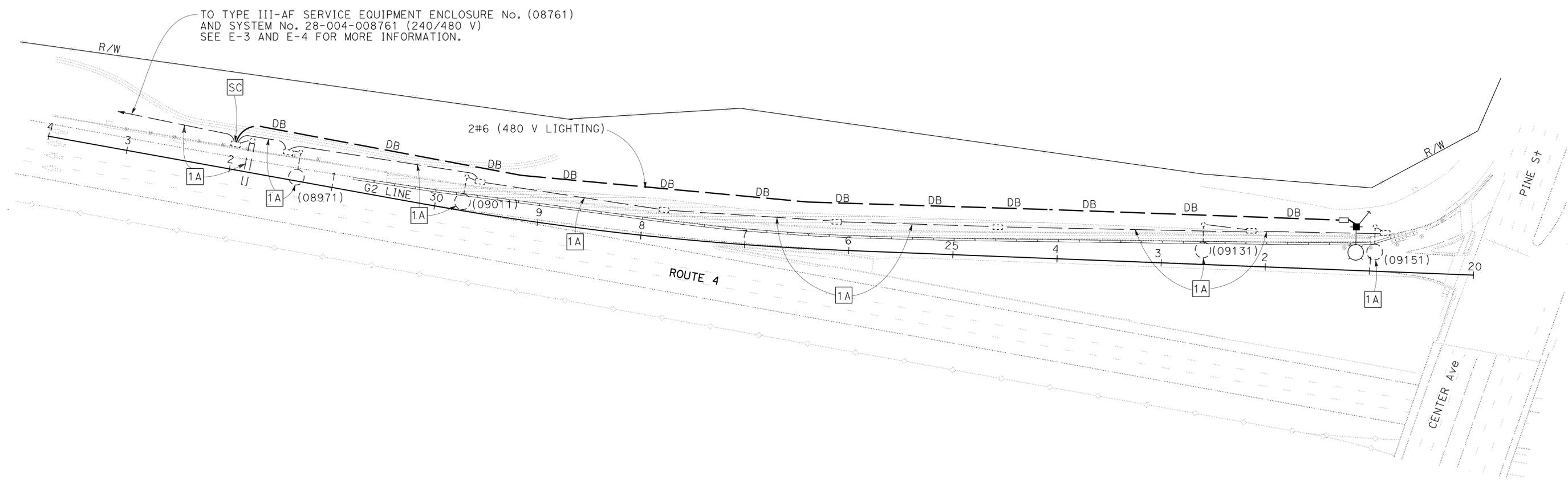
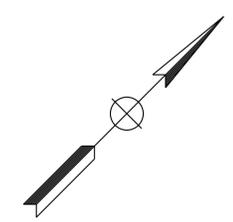
FUNCTIONAL SUPERVISOR: BEHZAD GOLEMOHAMMADI
 CALCULATED/DESIGNED BY: PIERRE LASSALLE
 CHECKED BY: MAHMOOD NOII
 REVISED BY: PL
 DATE REVISED: 12/18/13

NOTE:
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 ELECT
 STATE OF CALIFORNIA



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 (STAGE CONSTRUCTION)**

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E-87

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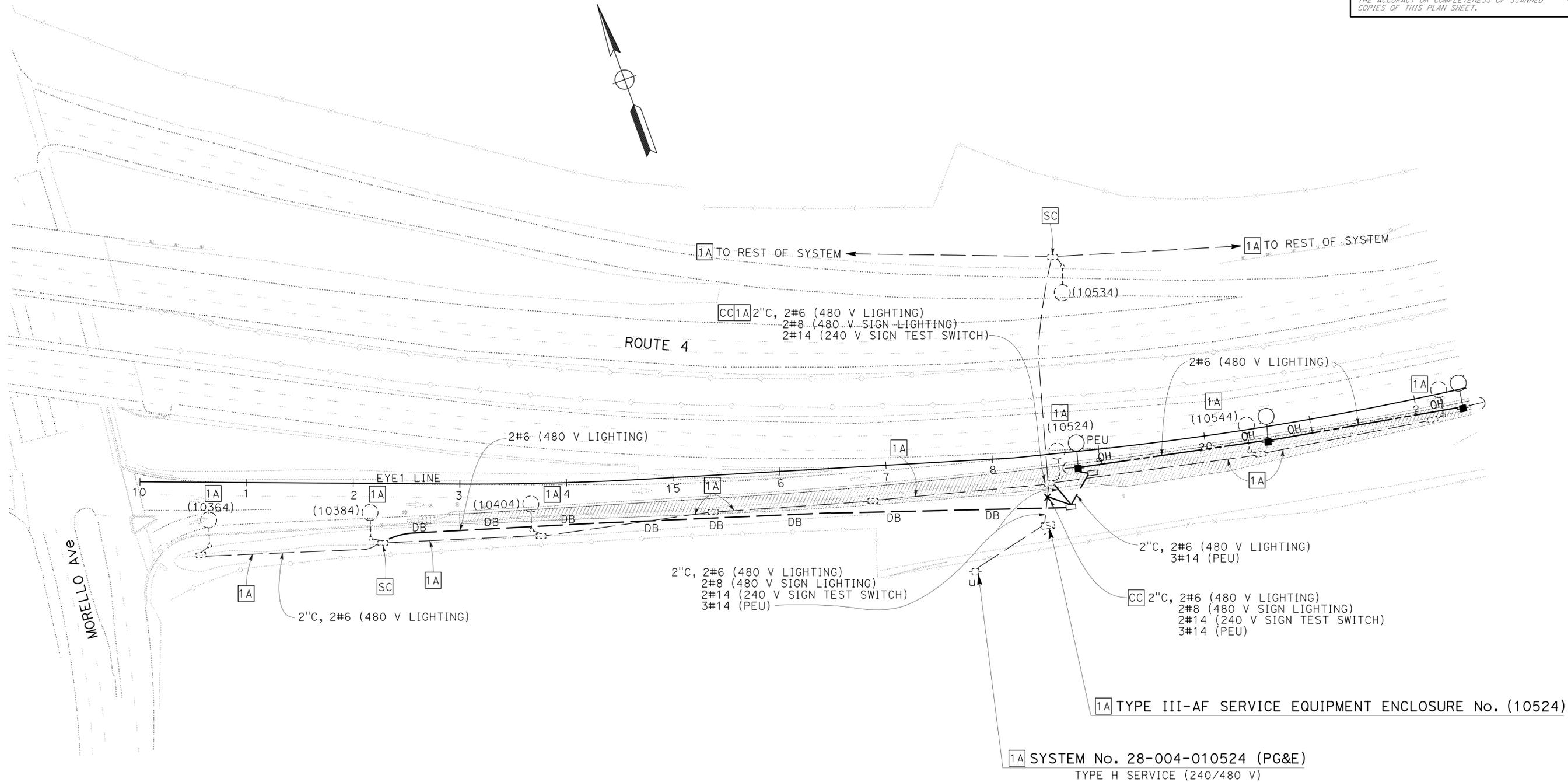
<i>M. Nou</i>	12/12/13
REGISTERED ELECTRICAL ENGINEER	DATE
1-13-14	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
Mahmood Noi
No. 13717
Exp. 6-30-15
ELECT
STATE OF CALIFORNIA

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ELECTRICAL
FUNCTIONAL SUPERVISOR BEHZAD GOLEMOHAMMADI
CALCULATED/DESIGNED BY CHECKED BY
PIERRE LASSALLE MAHMOOD NOII
REVISOR BY DATE REVISED
PL 12/18/13



**LIGHTING AND SIGN ILLUMINATION
(STAGE CONSTRUCTION)**

SCALE: 1" = 50'

APPROVED FOR ELECTRICAL WORK ONLY

FOR ABBREVIATIONS, SEE SHEET E-1
FOR NOTES AND LEGEND, SEE SHEET E-86

E-88

LAST REVISION DATE PLOTTED => 23-JAN-2014 12-10-13 TIME PLOTTED => 10:45

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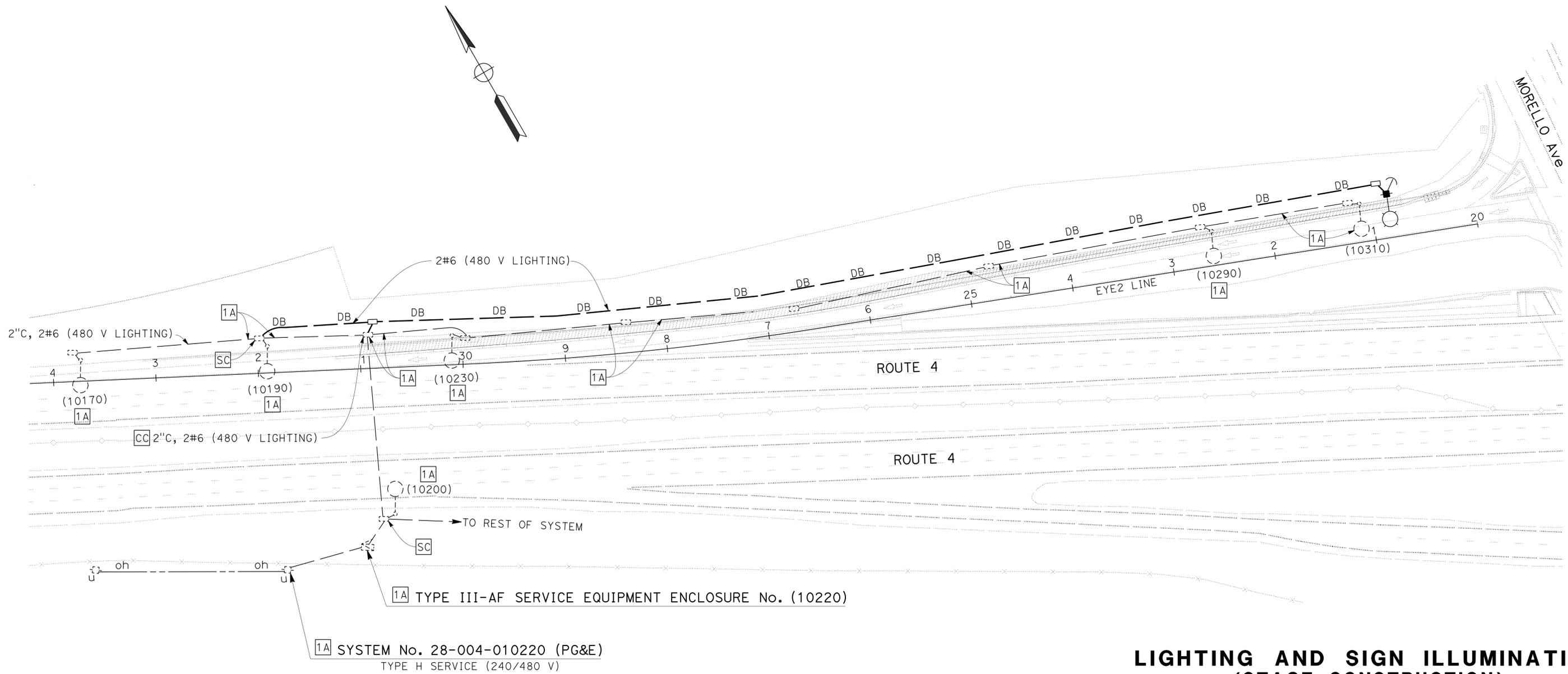
<i>M. Noii</i>	12/12/13
REGISTERED ELECTRICAL ENGINEER	DATE
1-13-14	
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REGISTERED PROFESSIONAL ENGINEER	Mahmood Noii
No.	13717
Exp.	6-30-15
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CALCULATED/DESIGNED BY	CHECKED BY	FUNCTIONAL SUPERVISOR	DEPARTMENT OF TRANSPORTATION	STATE OF CALIFORNIA
PIERRE LASSALLE	MAHMOOD NOII	BEHZAD GOLEMOHAMMADI	ELECTRICAL	Caltrans
REVISOR	DATE			
PL	12/18/13			



**LIGHTING AND SIGN ILLUMINATION
(STAGE CONSTRUCTION)**
SCALE: 1" = 50'

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FOR ABBREVIATIONS, SEE SHEET E-1
FOR NOTES AND LEGEND, SEE SHEET E-86

E-89

LAST REVISION DATE PLOTTED => 23-JAN-2014 12-09-13 TIME PLOTTED => 10:45

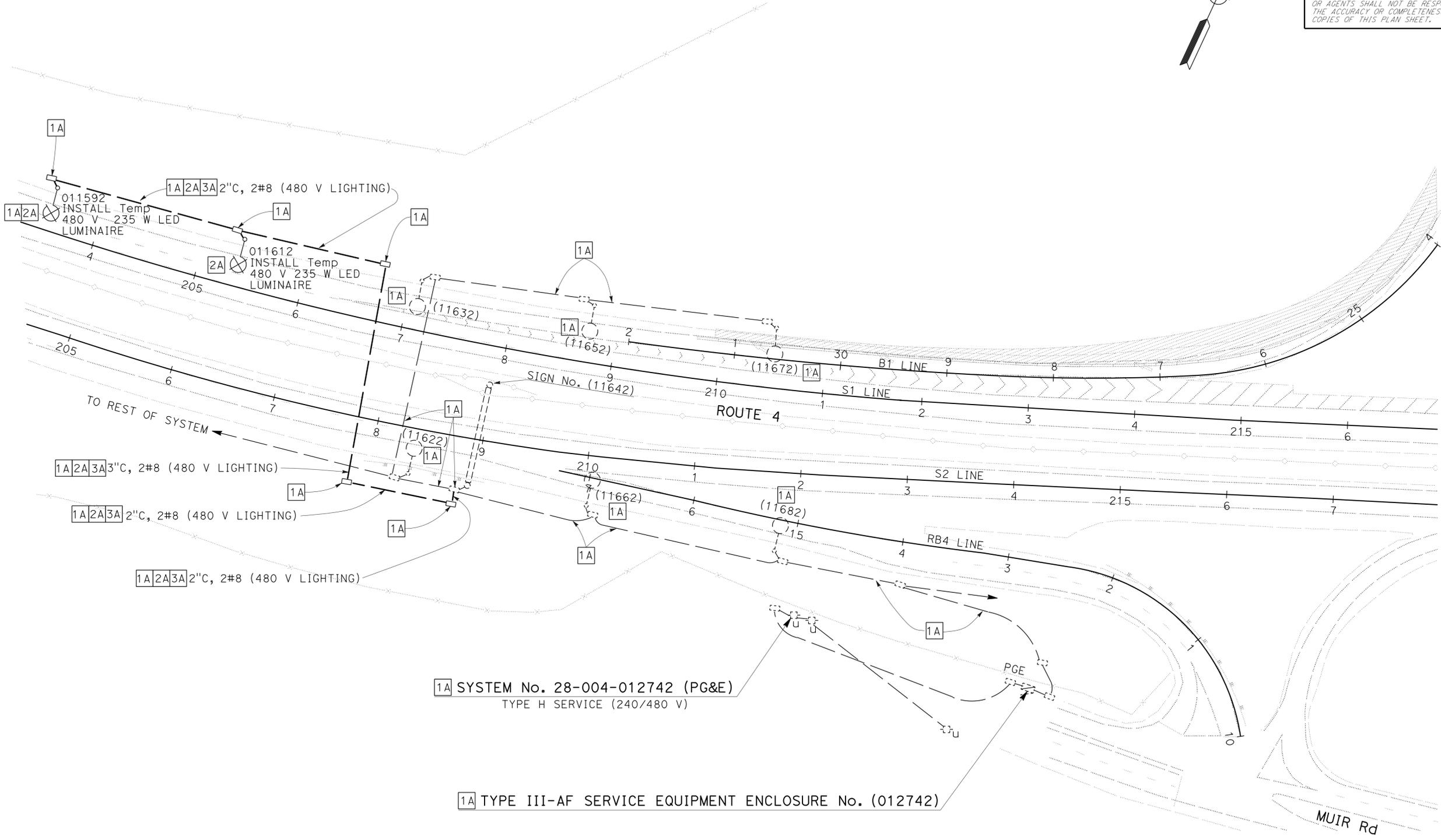
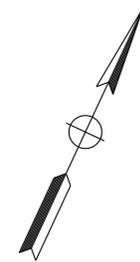
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REGISTERED ELECTRICAL ENGINEER *M. Noii* DATE 12/12/13
 No. 13717
 Exp. 6-30-15
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1-13-14
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Caltrans
ELECTRICAL
 FUNCTIONAL SUPERVISOR: BEHZAD GOLEMOHAMMADI
 CALCULATED/DESIGNED BY: PIERRE LASSALLE
 CHECKED BY: MAHMOOD NOII
 REVISED BY: PL
 DATE REVISED: 12/18/13

**LIGHTING AND SIGN ILLUMINATION
 (STAGE CONSTRUCTION)**
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 FOR NOTES AND LEGEND, SEE SHEET E-86

E-90

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 ELECTRICAL

FUNCTIONAL SUPERVISOR BEHZAD GOLEMOHAMMADI	REVISOR PIERRE LASSALLE	DATE 12/18/13
CHECKED BY	DATE REVISOR	DATE
DESIGNED BY	DATE REVISOR	DATE
CALCULATED BY	DATE REVISOR	DATE

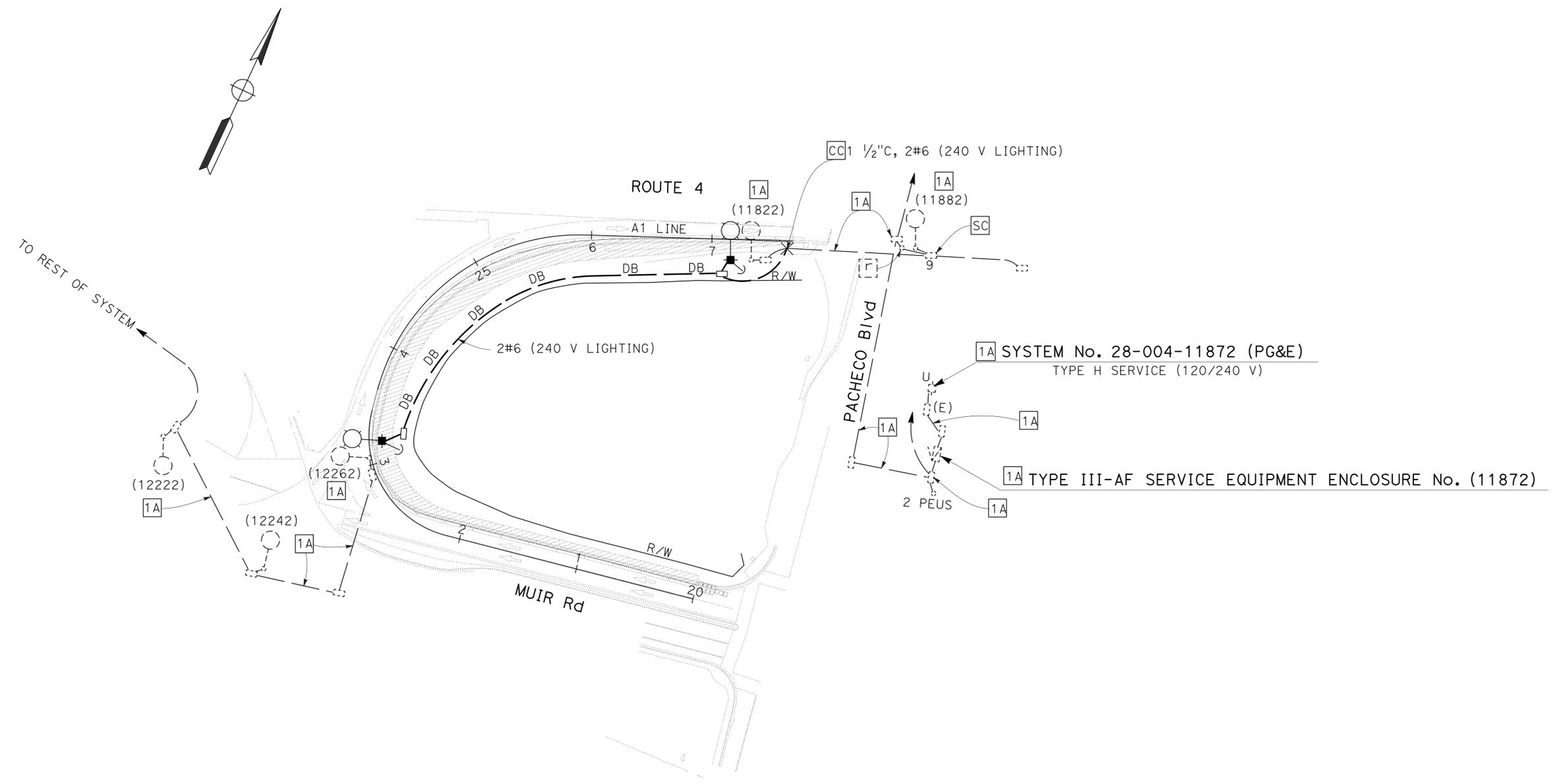
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E-91

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 ELECTRICAL

FUNCTIONAL SUPERVISOR
 BEHZAD GOLEMOHAMMADI

CALCULATED/DESIGNED BY
 CHECKED BY

PIERRE LASSALLE
 MAHMOOD NOII

REVISED BY
 DATE REVISED

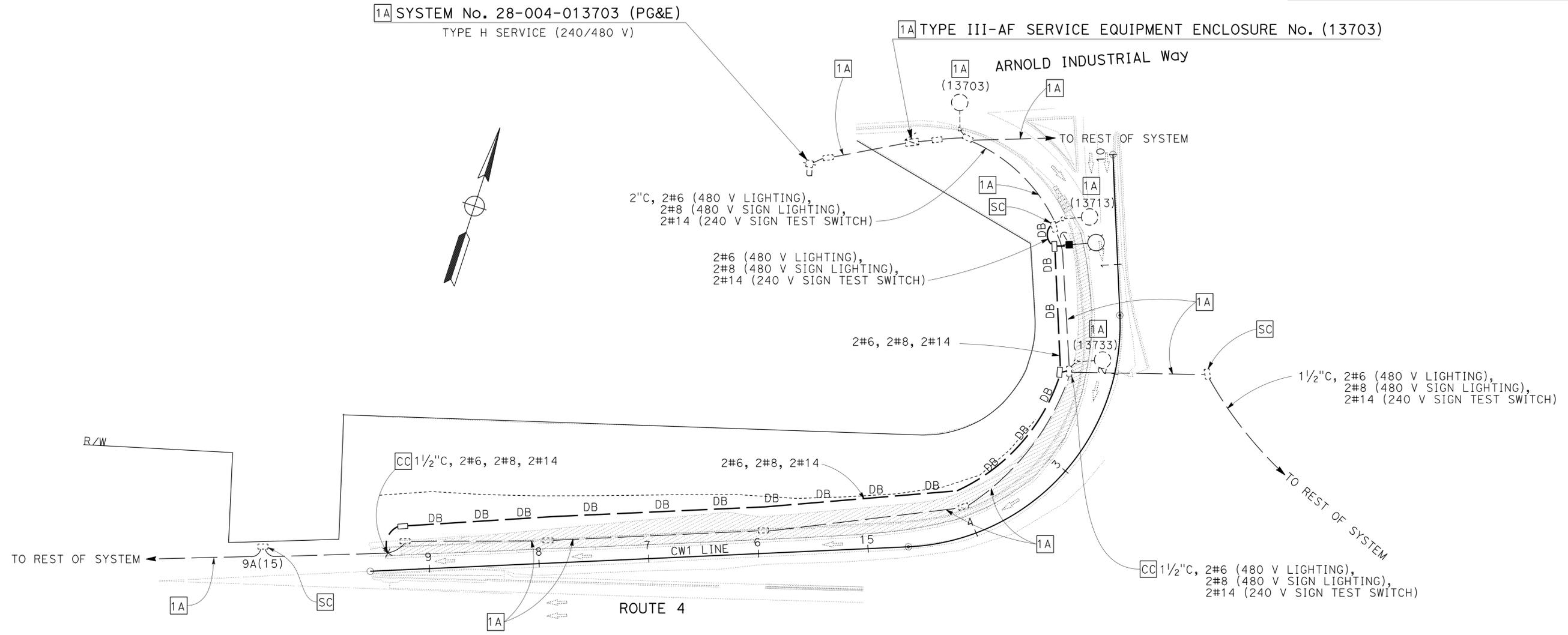
PL
 12/18/13

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**LIGHTING AND SIGN ILLUMINATION
 (STAGE CONSTRUCTION)**
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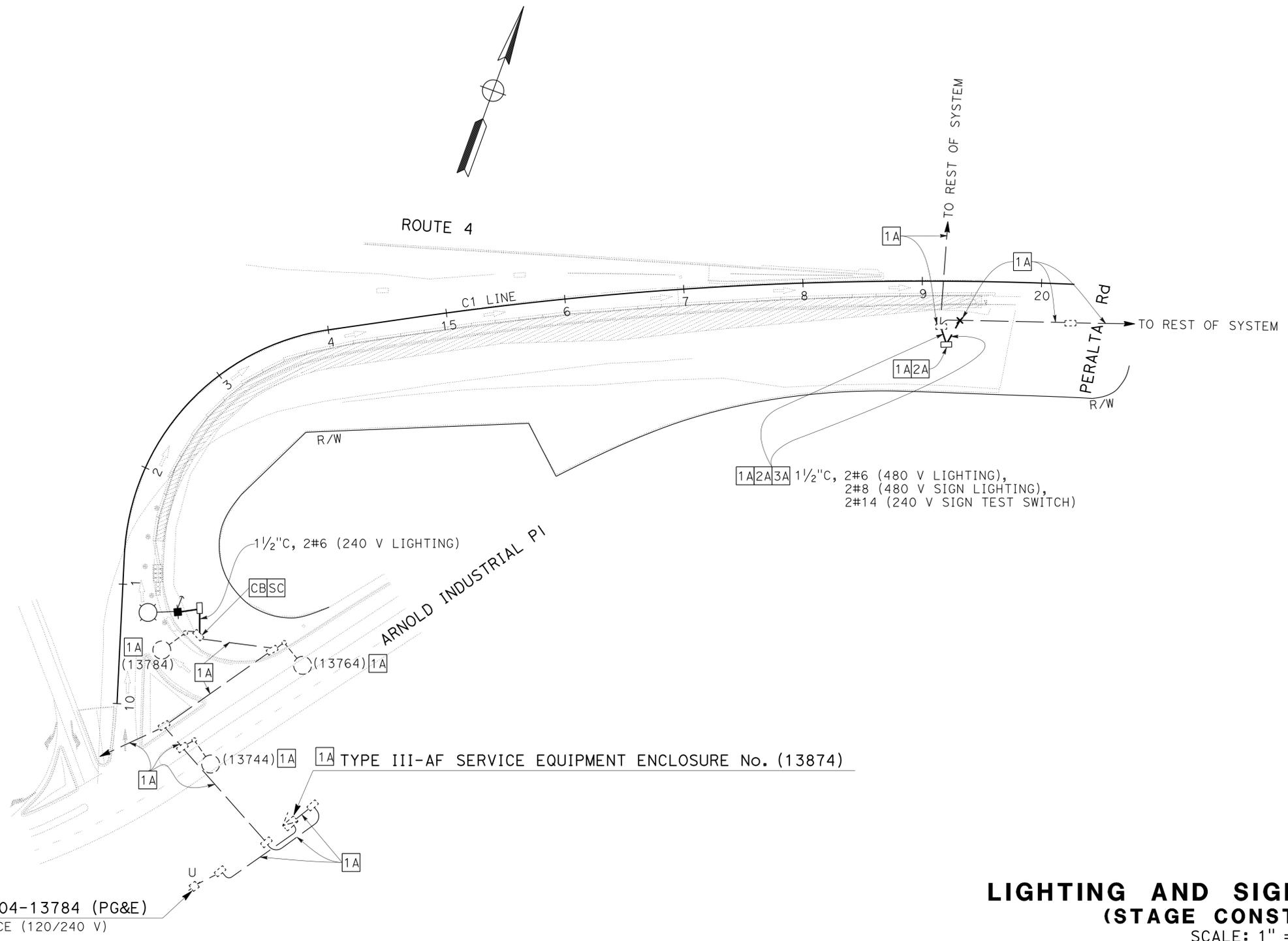
FOR ABBREVIATIONS, SEE SHEET E-1
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E-92

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	PIERRE LASSALLE	REVISOR	PL
Caltrans	BEHZAD GOLEMOHAMMADI	CHECKED BY	MAHMOOD NOII	DATE	12/18/13
ELECTRICAL					

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			No. 13717	Exp. 6-30-15	
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**LIGHTING AND SIGN ILLUMINATION
(STAGE CONSTRUCTION)**
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E-93

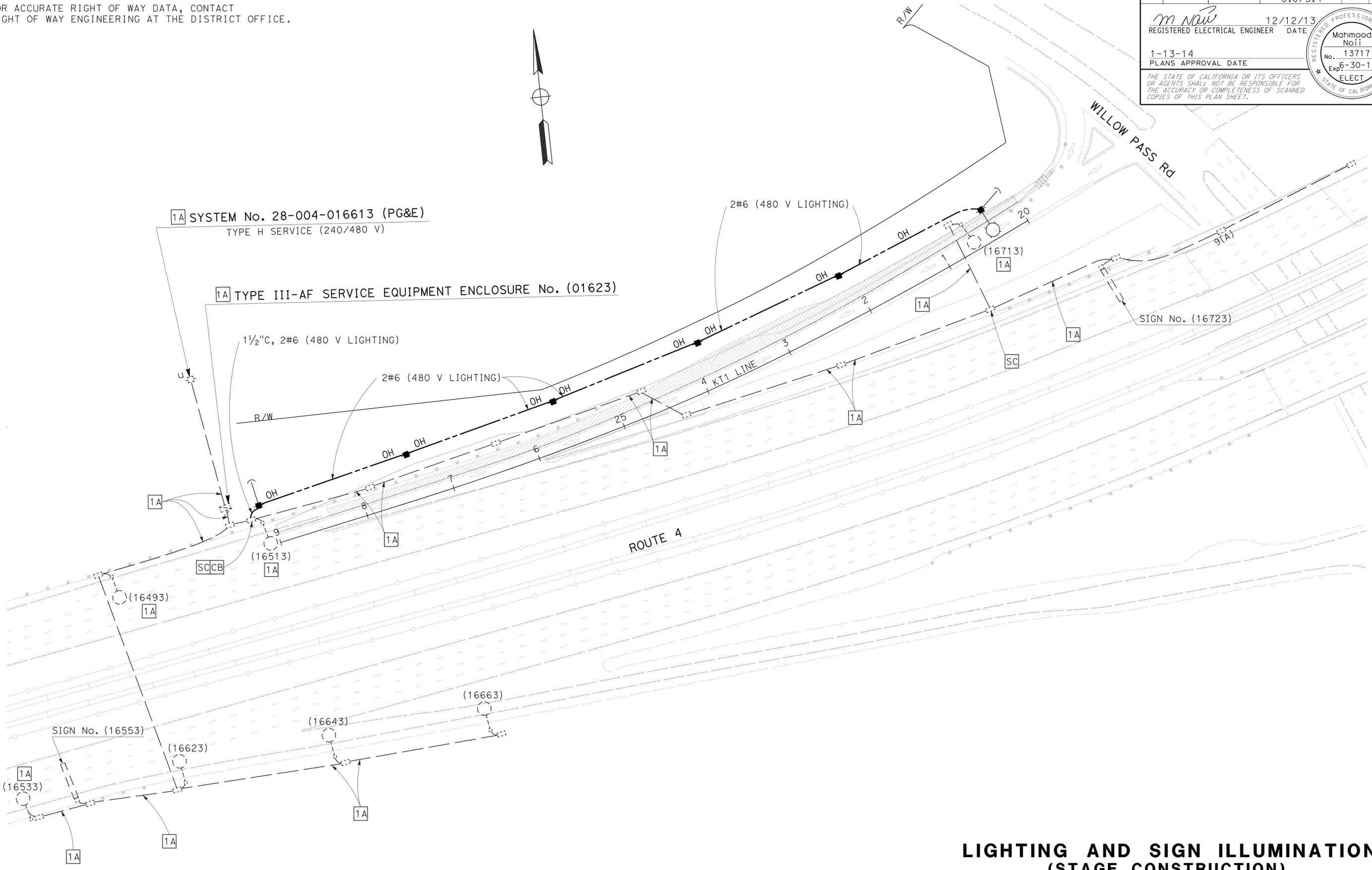
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
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 FUNCTIONAL SUPERVISOR: BEHZAD GOLEMOHAMMADI
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E-94



LAST REVISION: DATE PLOTTED => 23-JAN-2014
 11-08-13 TIME PLOTTED => 10:46

TRAFFIC OPERATIONS SYSTEM

SHEET No.	WMVDS SYSTEM	CMS SYSTEM	TMS SYSTEM	CCTV SYSTEM	RM POLE/STANDARD	DETECTORS	PB	SERVICE CABINET	CONTROLLER CABINET	TDC	EA		LF	
											CONDUIT	CONDUCTORS	CONDUIT	CONDUCTORS
E-20				1										
E-21, 22			1			12	14		1			1800	4300	
E-23				1			2	1	1			100	100	
E-24 TO 26			1			12	13					1800	3700	
E-27				1				1	1				100	
E-27, 28			1			16	9		1	1	1200	2900		
E-29				1			5		1		200	700		
E-30, 31			1		4	34	20					2400	14650	
E-32	1													
E-33, 34					1	13	14		1			1600	14200	
E-34					5	16	15		1			1700	16000	
E-35, 36	1			1	10	34	39		2	1	4100	38650		
E-37, 38	1			1	5	18	25		2	1	3300	16500		
E-39, 40	1			1	5	18	27		1	1	2000	12600		
E-40, 41			1			12	8		1		1300	5500		
E-42, 44					5	16	13		1		1100	8600		
E-42, 43	1				5	15	14		1		1400	8000		
E-45			1			8	11	1	1		1300	3700		
E-46				1	5	11	15		1	1	1300	8700		
E-47	1				5	16	12		1		900	6200		
E-48, 49			1		6	26	21	1	2		2000	12500		
E-49, 57			1	1		9	5	1			900	2450		
E-51	1		1	1		8	13	1	1	1	2200	30000		
E-53					5	18	9				1200	14000		
E-54		1		1			13	1	2	1	800	6000		
E-55			1	1		20	10		1		1500	12000		
E-56			1				5				800	7000		
E-57				1			14		1		1800	16000		
E-58			1			16						5000		
E-59			1	1		16	3				200	15000		
E-60												5000		
E-61			1	1		11	8	1	1		800	6000		
E-62								1				10000		
E-63											50	100		
E-64			1			16	2		1		500	5000		
E-65			1			16	1	1	1		400	6000		
E-66				1			15		1		2000	8000		
E-67			1			8	8				1000	8000		
E-68	1													
E-69	2			1			19		1		1800	5000		
E-70			1			10	4				700	16000		

NOTE:

ITEMS SHOWN NOT A SEPARATE PAY ITEM. FOR INFORMATION ONLY.

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 STATE OF CALIFORNIA

SIGNAL AND LIGHTING (LOCATION 1)

SHEET No.	SIGNAL STANDARD/ POLE	LED LUMINAIRE	PB	SIGNAL HEAD	PPB	CONDUIT	CONDUCTORS
	EA						LF
E-71			1			30	6000

SIGNAL AND LIGHTING (LOCATION 2)

SHEET No.	SIGNAL STANDARD/ POLE	LED LUMINAIRE	PB	SIGNAL HEAD	PPB	CONDUIT	CONDUCTORS
	EA						LF
E-72	1	1	2	4	1	120	

SIGNAL AND LIGHTING (LOCATION 3)

SHEET No.	SIGNAL STANDARD/ POLE	LED LUMINAIRE	PB	SIGNAL HEAD	PPB	CONDUIT	CONDUCTORS
	EA						LF
E-73	1			1	1	10	100

SIGNAL AND LIGHTING (LOCATION 4)

SHEET No.	SIGNAL STANDARD/ POLE	LED LUMINAIRE	PB	SIGNAL HEAD	PPB	CONDUIT	CONDUCTORS
	EA						LF
E-74	1		1	4	2	200	2000

LIGHTING AND SIGN ILLUMINATION

SHEET No.	LIGHT STANDARD	LED LUMINAIRE	ISL	PB	SERVICE CABINET	EA		LF	
						CONDUIT	CONDUCTORS	CONDUIT	CONDUCTORS
E-2	1	3		3	1	600	3800		
E-3 TO 5	4	16	5	7	1	700	1600		
E-5, 6	6	6	3	18	1	3000	16000		
E-7, 8	5	5	2	14	1	2200	10000		
E-8, 9	5	5	2	11	1	1700	6600		
E-10, 11, 13	4	6	5	9	1	1400	8000		
E-12, 13	6	11	7	7		900	2000		
E-14 TO 17	2	14	12	9	1	1200	8000		
E-15	2	5		2		300	600		
E-18, 19	5	5	2	14	1	1600	4500		

LIGHTING AND SIGN ILLUMINATION (STAGE CONSTRUCTION)

SHEET No.	WOOD POLE	LED LUMINAIRE	PB	CONDUIT	EA		LF	
					CONDUIT	CONDUCTORS	CONDUIT	CONDUCTORS
E-86	5	4	8	50		4400		
E-87	1	1	4			2200		
E-88	3	3	6	20		2200		
E-89	1	1	6	20		2600		
E-90		2				1500		
E-91	2	2	3	20		1000		
E-92	1	1	6	5		5700		
E-93	1	1	1	10		700		
E-94	6	1		10		2000		

**ELECTRICAL QUANTITIES
E-95**

	M	
Maint	MAINTENANCE	
Max	MAXIMUM	
MB	METAL BEAM	
MBB	METAL BEAM BARRIER	
MBGR	METAL BEAM GUARD RAILING	
Med	MEDIAN	
MGS	MIDWEST GUARDRAIL SYSTEM	
MH	MANHOLE	
Min	MINIMUM	
Misc	MISCELLANEOUS	
Misc I & S	MISCELLANEOUS IRON AND STEEL	
Mkr	MARKER	
Mod	MODIFIED, MODIFY	
Mon	MONUMENT	
MP	METAL PLATE	
MPGR	METAL PLATE GUARD RAILING	
MR	MOVEMENT RATING	
MSE	MECHANICALLY STABILIZED EMBANKMENT	
Mt	MOUNTAIN, MOUNT	
MtI	MATERIAL	
MVP	MAINTENANCE VEHICLE PULLOUT	
	N	
N	NORTH	
NB	NORTHBOUND	
No.	NUMBER (MUST HAVE PERIOD)	
Nos.	NUMBERS (MUST HAVE PERIOD)	
NPS	NOMINAL PIPE SIZE	
NS	NEAR SIDE	
NSP	NEW STANDARD PLAN	
NTS	NOT TO SCALE	
	O	
Obir	OBLITERATE	
OC	OVERCROSSING	
OD	OUTSIDE DIAMETER	
OF	OUTSIDE FACE	
OG	ORIGINAL GROUND	
OGAC	OPEN GRADED ASPHALT CONCRETE	
OGFC	OPEN GRADED FRICTION COURSE	
OH	OVERHEAD	
OHWM	ORDINARY HIGH WATER MARK	
O-O	OUT TO OUT	
Opp	OPPOSITE	
OSD	OVERSIDE DRAIN	
	P	
p	PAGE	
PAP	PERFORATED ALUMINUM PIPE	
PB	PULL BOX	
PC	POINT OF CURVATURE, PRECAST	
PCC	POINT OF COMPOUND CURVE, PORTLAND CEMENT CONCRETE	
PCMS	PORTABLE CHANGEABLE MESSAGE SIGN	
PCP	PERFORATED CONCRETE PIPE, PRESTRESSED CONCRETE PIPE	
PCVC	POINT OF COMPOUND VERTICAL CURVE	
PEC	PERMIT TO ENTER AND CONSTRUCT	
Ped	PEDESTRIAN	
Ped OC	PEDESTRIAN OVERCROSSING	
Ped UC	PEDESTRIAN UNDERCROSSING	
Perm MtI	PERMEABLE MATERIAL	

	P continued	
PG	PROFILE GRADE	
PI	POINT OF INTERSECTION	
PJP	PARTIAL JOINT PENETRATION	
Pkwy	PARKWAY	
PL, PL	PLATE	
P/L	PROPERTY LINE	
PM	POST MILE, TIME FROM NOON TO MIDNIGHT	
PN	PAVING NOTCH	
POC	POINT OF HORIZONTAL CURVE	
POT	POINT OF TANGENT	
POVC	POINT OF VERTICAL CURVE	
PP	PIPE PILE, PLASTIC PIPE, POWER POLE	
PPL	PREFORMED PERMEABLE LINER	
PPP	PERFORATED PLASTIC PIPE	
PRC	POINT OF REVERSE CURVE	
PRF	PAVEMENT REINFORCING FABRIC	
PRVC	POINT OF REVERSE VERTICAL CURVE	
PS&E	PLANS, SPECIFICATIONS AND ESTIMATES	
PS, P/S	PRESTRESSED	
PSP	PERFORATED STEEL PIPE	
PT	POINT OF TANGENCY	
PVC	POLYVINYL CHLORIDE	
Pvmt	PAVEMENT	
	Q	
Qty	QUANTITY	
	R	
R	RADIUS	
R & D	REMOVE AND DISPOSE	
R & S	REMOVE AND SALVAGE	
R/C	RATE OF CHANGE	
RCA	REINFORCED CONCRETE ARCH	
RCB	REINFORCED CONCRETE BOX	
RCP	REINFORCED CONCRETE PIPE	
RCPA	REINFORCED CONCRETE PIPE ARCH	
Rd	ROAD	
Reinf	REINFORCED, REINFORCEMENT, REINFORCING	
Rel	RELOCATE	
Repl	REPLACEMENT	
Ret	RETAINING	
Rev	REVISED, REVISION	
Rdwy	ROADWAY	
RHMA	RUBBERIZED HOT MIX ASPHALT	
Riv	RIVER	
RM	ROAD-MIXED	
RP	RADIUS POINT, REFERENCE POINT	
RR	RAILROAD	
RSP	ROCK SLOPE PROTECTION, REVISED STANDARD PLAN	
Rt	RIGHT	
Rte	ROUTE	
RW	REDWOOD, RETAINING WALL	
R/W	RIGHT OF WAY	
Rwy	RAILWAY	

	S	
S	SOUTH, SUPPLEMENT	
SAE	STRUCTURE APPROACH EMBANKMENT	
Salv	SALVAGE	
SAPP	STRUCTURAL ALUMINUM PLATE PIPE	
SB	SOUTHBOUND	
SC	SAND CUSHION	
SCSP	SLOTTED CORRUGATED STEEL PIPE	
SD	STORM DRAIN	
Sec	SECOND, SECTION	
Sep	SEPARATION	
SG	SUBGRADE	
Shld	SHOULDER	
Sht	SHEET	
Sim	SIMILAR	
SL	STATION LINE	
SM	SELECTED MATERIAL	
Spec	SPECIAL, SPECIFICATIONS	
SPP	SLOTTED PLASTIC PIPE	
SS	SLOPE STAKE	
SSBM	STRAP AND SADDLE BRACKET METHOD	
SSD	STRUCTURAL SECTION DRAIN	
SSPA	STRUCTURAL STEEL PLATE ARCH	
SSPP	STRUCTURAL STEEL PLATE PIPE	
SSPPA	STRUCTURAL STEEL PLATE PIPE ARCH	
SSRP	STEEL SPIRAL RIB PIPE	
St	STREET	
Sta	STATION	
STBB	SINGLE THRIE BEAM BARRIER	
Std	STANDARD	
Str	STRUCTURE	
Surf	SURFACING	
SW	SIDEWALK, SOUND WALL	
Swr	SEWER	
Sym	SYMMETRICAL	
S4S	SURFACE 4 SIDES	
	T	
T	SEMI-TANGENT	
Tan	TANGENT	
TBB	THRIE BEAM BARRIER	
Tbr	TIMBER	
TC	TOP OF CURB	
TCB	TRAFFIC CONTROL BOX	
TCE	TEMPORARY CONSTRUCTION EASEMENT	
TeI	TELEPHONE	
Temp	TEMPORARY	
TG	TOP OF GRADE	
Tot	TOTAL	
TP	TELEPHONE POLE	
TPB	TREATED PERMEABLE BASE	
TPM	TREATED PERMEABLE MATERIAL	
Trans	TRANSITION	

	T continued	
TS	TRANSVERSE, TRAFFIC SIGNAL, TUBULAR STEEL	
Typ	TYPICAL	U
UC	UNDERCROSSING	
UD	UNDERDRAIN	
UG	UNDERGROUND	
UON	UNLESS OTHERWISE NOTED	
UP	UNDERPASS	V
V	VALVE, DESIGN SPEED	
Var	VARIABLE, VARIES	
VC	VERTICAL CURVE	
VCP	VITRIFIED CLAY PIPE	
Vert	VERTICAL	
Via	VIADUCT	
Vol	VOLUME	W
W	WEST, WIDTH	
WB	WESTBOUND	
WH	WEEP HOLE	
WM	WIRE MESH	
WS	WATER SURFACE	
WSP	WELDED STEEL PIPE	
Wt	WEIGHT	
WV	WATER VALVE	
WW	WINGWALL	
WWLOL	WINGWALL LAYOUT LINE	X
X Sec	CROSS SECTION	
Xing	CROSSING	Y
Yr	YEAR	
Yrs	YEARS	

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0 0.0/3.4	312	477

Grace M. Tsushima
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Grace M. Tsushima
 No. C49814
 Exp. 9-30-14
 CIVIL
 STATE OF CALIFORNIA

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TO ACCOMPANY PLANS DATED 1-13-14

UNIT OF MEASUREMENT SYMBOLS:
Some of the symbols used in the project plan quantity tables and in the Bid Item List are:

TABLE A

SYMBOL USED	DEFINITIONS
ACRE	ACRE
CF	CUBIC FOOT
CY	CUBIC YARD
EA	EACH
GAL	GALLON
LB	POUND
LF	LINEAR FOOT
SQFT	SQUARE FOOT
SQYD	SQUARE YARD
STA	100 FEET
TAB	TABLET
TON	2,000 POUNDS

Some of the symbols used in the plans other than in the project plan quantity tables are:

TABLE B

SYMBOL USED	DEFINITIONS
ksi	KIPS PER SQUARE INCH
ksf	KIPS PER SQUARE FOOT
psi	POUNDS PER SQUARE INCH
psf	POUNDS PER SQUARE FOOT
lb/ft ³ , pcf	POUNDS PER CUBIC FOOT
tsf	TONS PER SQUARE FOOT
mph, MPH *	MILES PER HOUR
ø	NOMINAL DIAMETER
oz	OUNCE
lb	POUND
kíp	1,000 POUNDS
cal	CALORIE
ft	FOOT OR FEET
gal	GALLON

* For use on a sign panel only

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ABBREVIATIONS
(SHEET 2 OF 2)**

NO SCALE

RSP A10B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A10B
DATED MAY 20, 2011 - PAGE 2 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP A10B

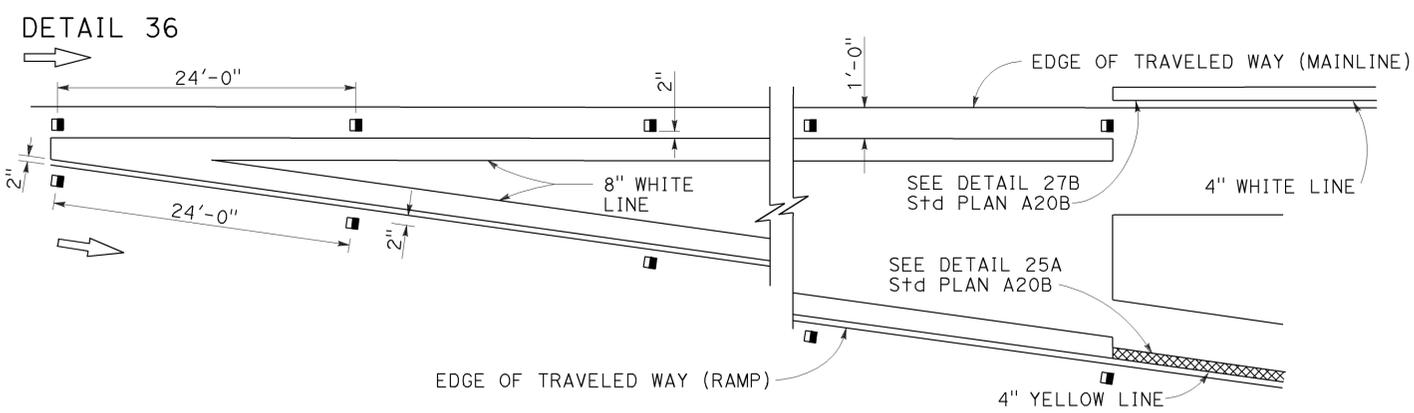
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0 0.0/3.4	313	477

REGISTERED CIVIL ENGINEER
 Roberto L. McLaughlin
 No. C40375
 Exp. 3-31-15
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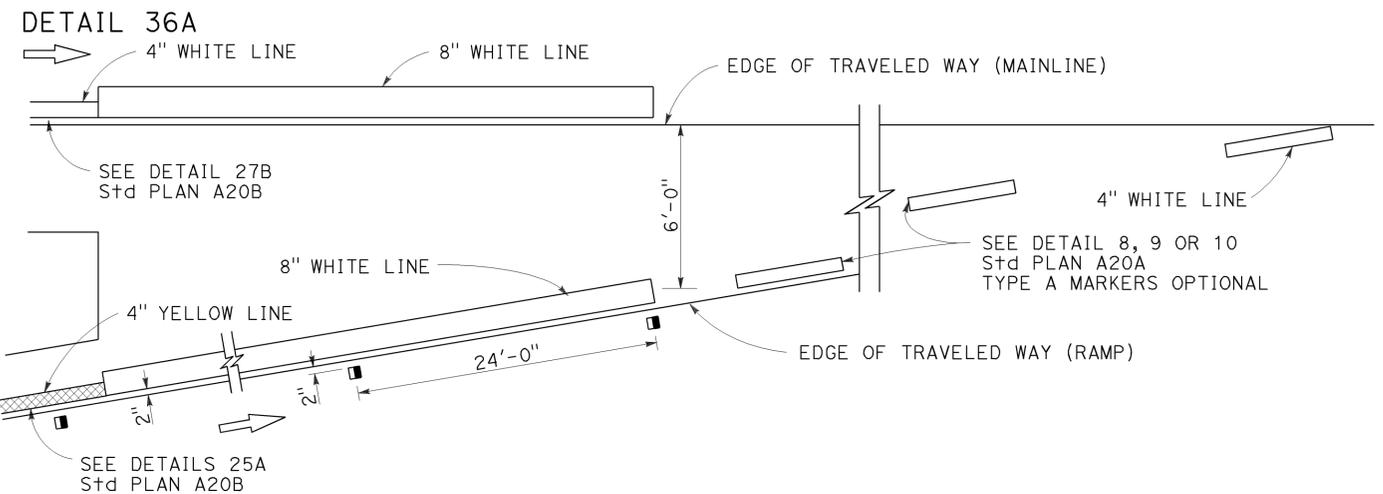
July 19, 2013
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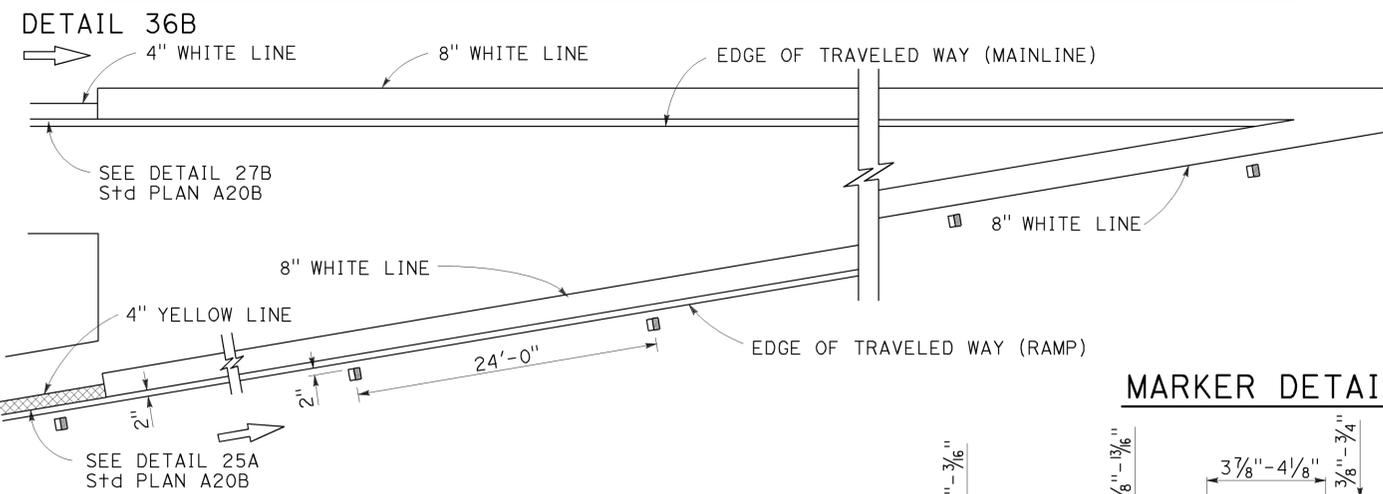
EXIT RAMP NEUTRAL AREA (GORE) TREATMENT



ENTRANCE RAMP NEUTRAL AREA (MERGE) TREATMENT

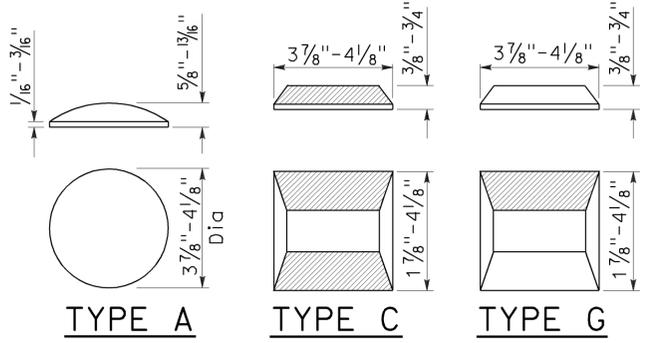


ENTRANCE RAMP NEUTRAL AREA (ACCELERATION LANE) TREATMENT

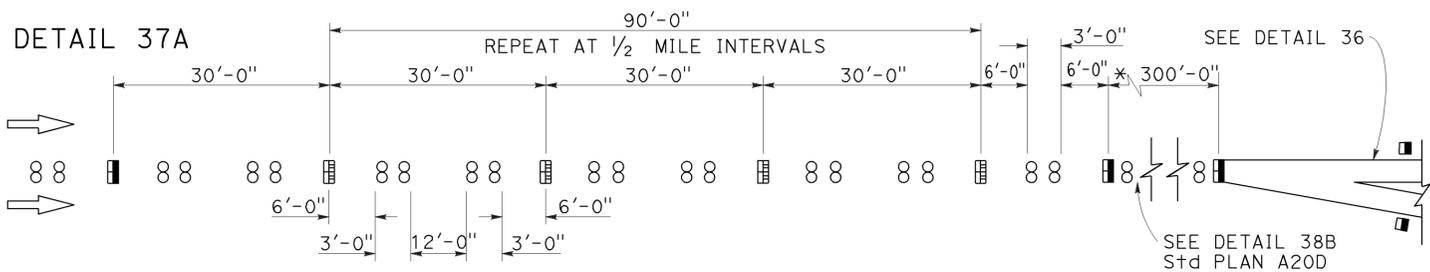
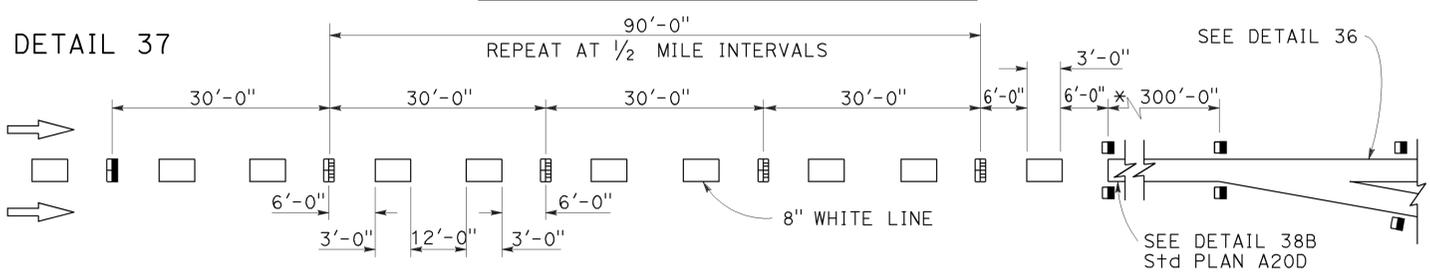


MARKER DETAILS

- LEGEND:**
- MARKERS
- TYPE A WHITE NON-REFLECTIVE
 - ◻ TYPE C RED-CLEAR RETROREFLECTIVE
 - TYPE G ONE-WAY CLEAR RETROREFLECTIVE

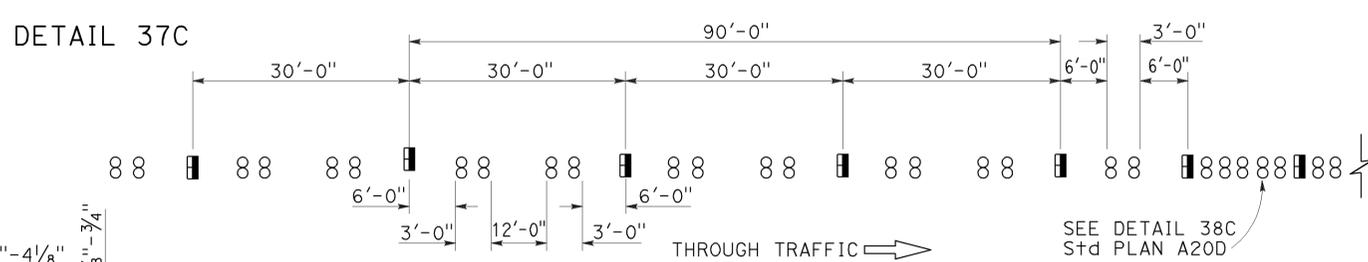
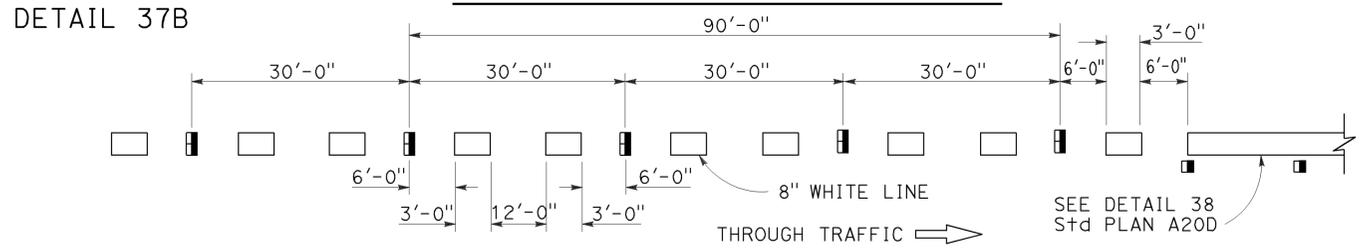


LANE DROP AT EXIT RAMPS



* The solid channelizing line shown may be omitted on short auxiliary lanes where weaving length is critical.

LANE DROP AT INTERSECTIONS



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKERS AND TRAFFIC LINE TYPICAL DETAILS

NO SCALE

RSP A20C DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A20C DATED MAY 20, 2011 - PAGE 11 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A20C

2010 REVISED STANDARD PLAN RSP A20C

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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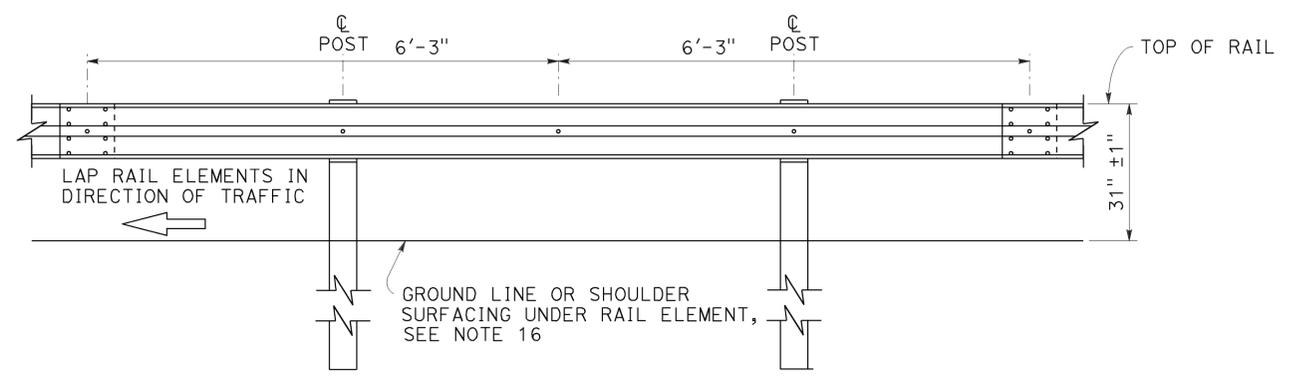
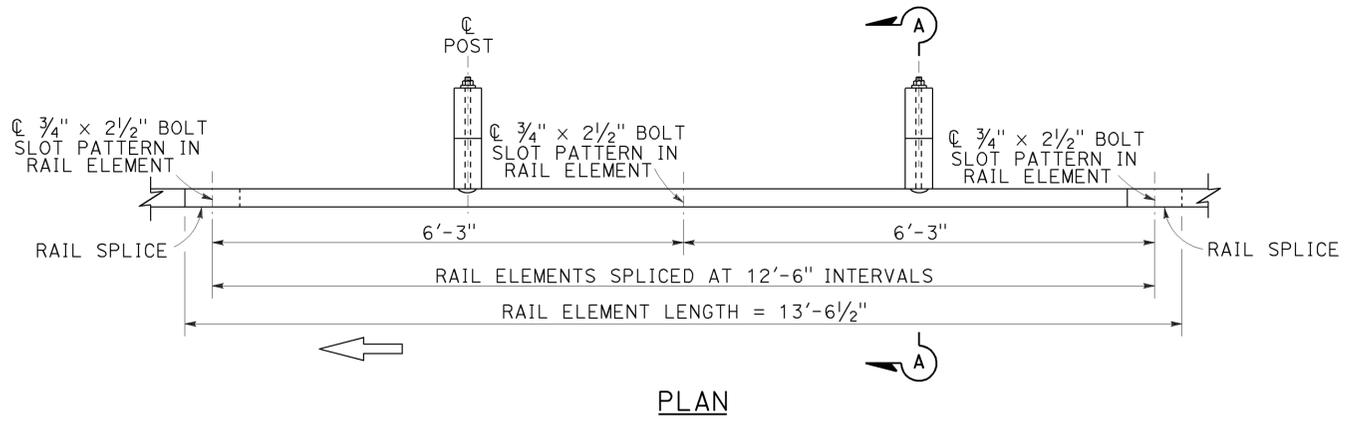
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

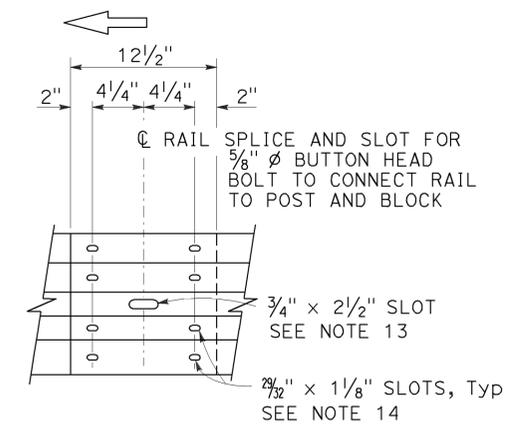
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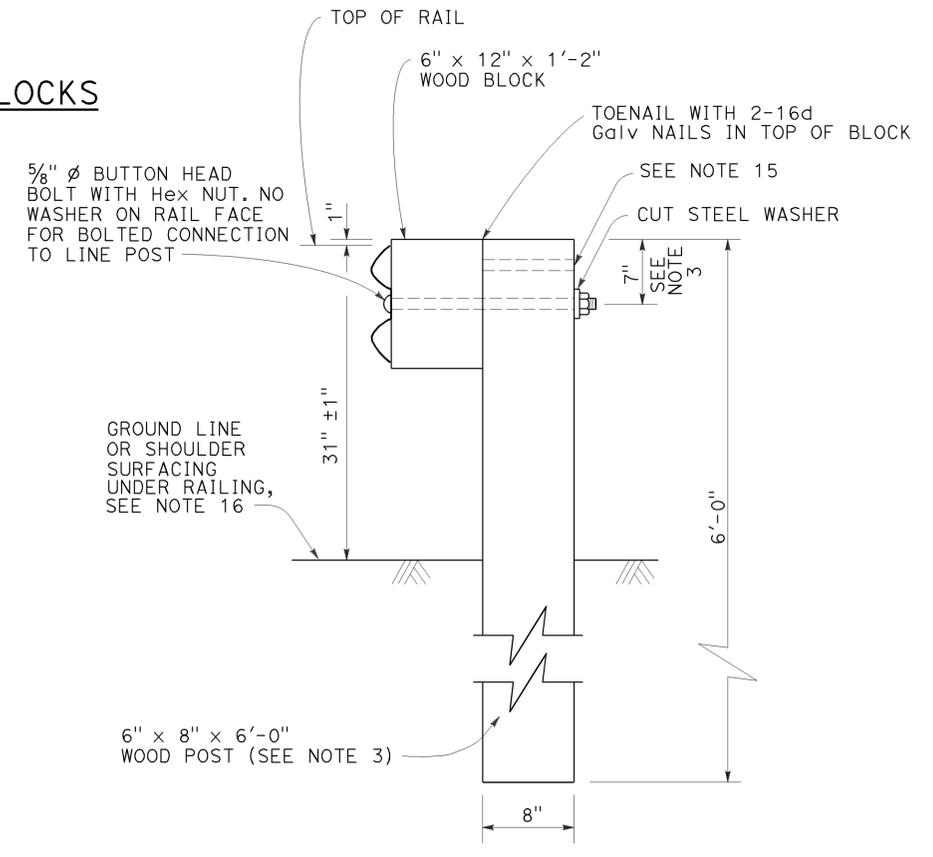
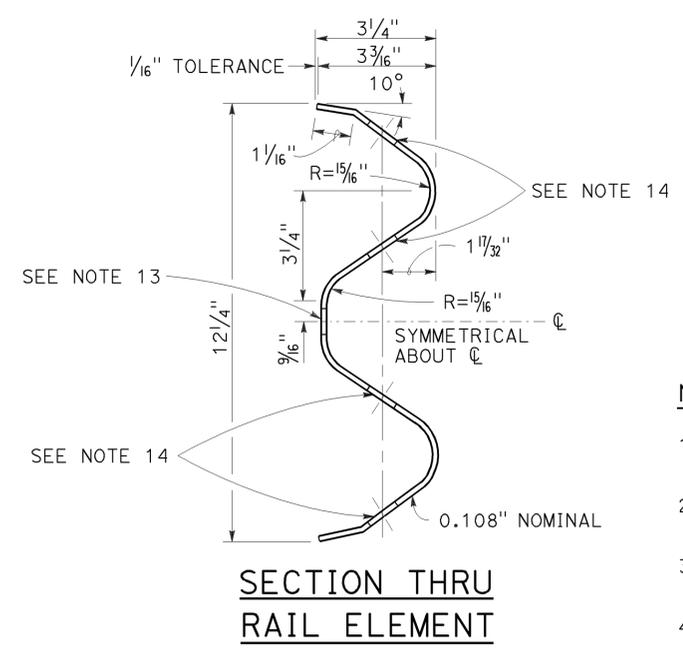
TO ACCOMPANY PLANS DATED 1-13-14



MIDWEST GUARDRAIL SYSTEM WITH WOOD POST AND BLOCKS



- Connect the over lapped end of the rail elements with 5/8" Ø x 1 3/8" button head oval shoulder splice bolts inserted into the 2 3/32" x 1 1/8" slots and bolted together with 5/8" Ø recessed hex nuts. Recess of hex nut points toward rail element. A total of 8 bolts and nuts are to be used at each rail splice connection.
- The ends of the rail elements are to be overlapped in the direction of traffic (see details).
- Where end cap is to be attached to the end of a rail element, a total of 4 of the above described splice bolts and nuts are to be used.



NOTES:

- For details of steel post installations, see Revised Standard Plan RSP A77L2.
- For details of standard hardware used to construct MGS, see Revised Standard Plan RSP A77M1.
- For details of wood posts and wood blocks used to construct MGS, see Revised Standard Plan RSP A77N1.
- For additional installation details, see Revised Standard Plan RSP A77N3.
- MGS post spacing to be 6'-3" center to center, except as otherwise noted.
- For MGS typical layouts, see the A77P, A77Q and A77R Series of Standard Plans.
- If railing is connected to terminal system end treatment, use 31" height terminal system end treatment.
- For MGS end anchor details, see Revised Standard Plans RSP A77S1 and RSP A77T2.
- For details of MGS transition to bridge railing, see Revised Standard Plan RSP A77U4.
- For additional details of MGS connection to bridge railing, see Revised Standard Plans RSP A77U1, RSP A77U2 and RSP A77V1.
- For MGS connection details to abutments and walls, see Revised Standard Plan RSP A77U3.
- For typical MGS delineation and dike positioning details, see Revised Standard Plan RSP A77N4.
- Slotted hole for bolted connection of rail element to block and post. See "Section Thru Rail Element".
- Slotted holes for splice bolts to overlap ends of rail element. See "Section Thru Rail Element".
- Additional hole in uppermost portion of line post is for potential future adjustments of railing height. See Revised Standard Plan RSP A77N1.
- Install posts in soil.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
STANDARD RAILING SECTION
(WOOD POST WITH
WOOD BLOCK)**

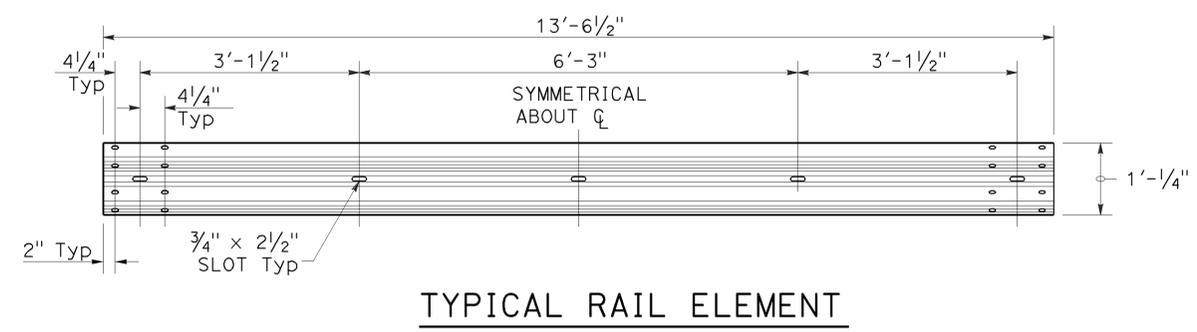
NO SCALE

RSP A77L1 DATED JULY 19, 2013 SUPPLEMENTS STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77L1

2010 REVISED STANDARD PLAN RSP A77L1

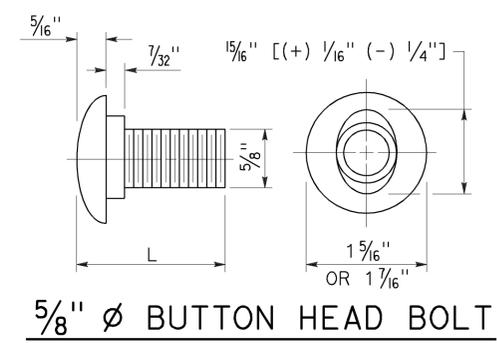
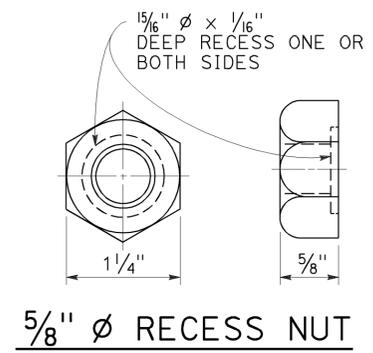
TO ACCOMPANY PLANS DATED 1-13-14



TYPICAL RAIL ELEMENT

NOTE:

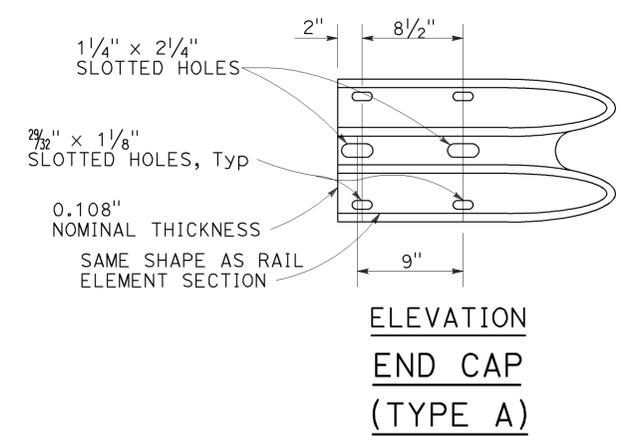
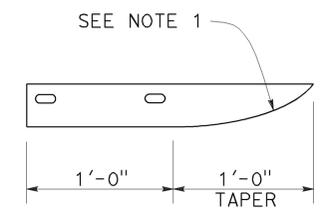
1. Slotted holes for splice bolts to overlap ends of rail element.



BUTTON HEAD BOLT

L	THREAD LENGTH
1 3/8"	FULL THREAD LENGTH
2"	FULL THREAD LENGTH
10"	4" Min THREAD LENGTH
18"	4" Min THREAD LENGTH
20"	4" Min THREAD LENGTH
22"	4" Min THREAD LENGTH
26"	4" Min THREAD LENGTH
36"	4" Min THREAD LENGTH
** 2 3/4"	2" Min THREAD LENGTH
** 19"	4" Min THREAD LENGTH

** For nested rail applications.



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
STANDARD HARDWARE**

NO SCALE

RSP A77M1 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77M1

2010 REVISED STANDARD PLAN RSP A77M1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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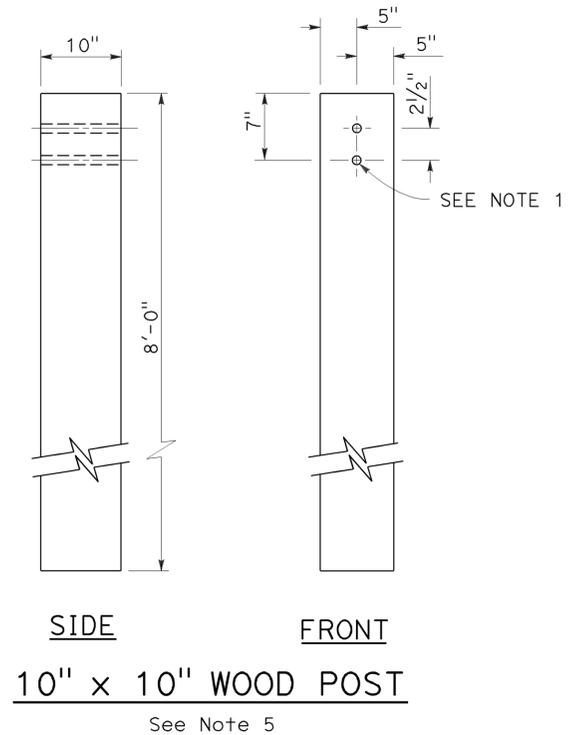
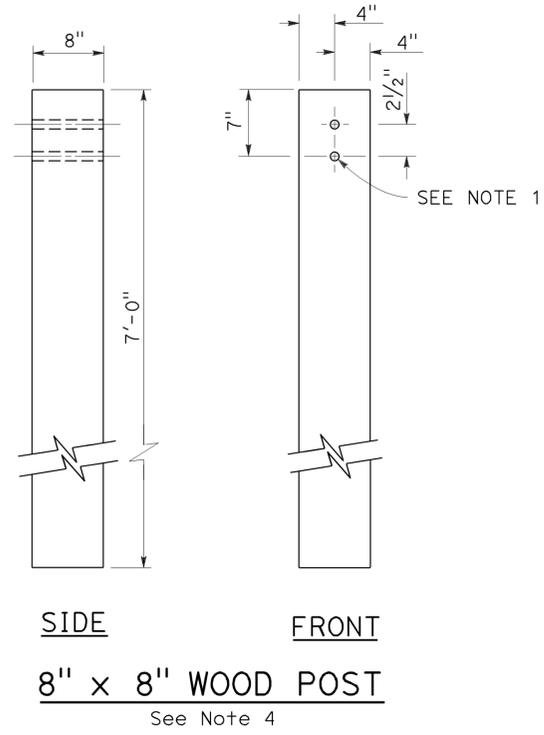
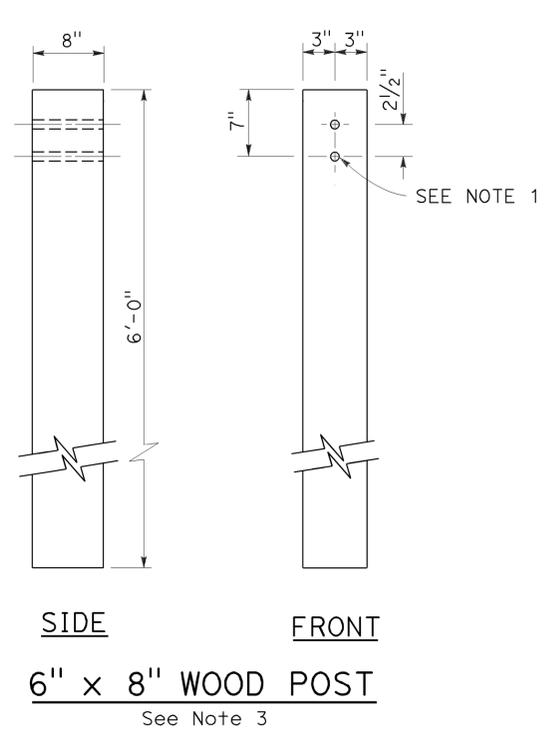
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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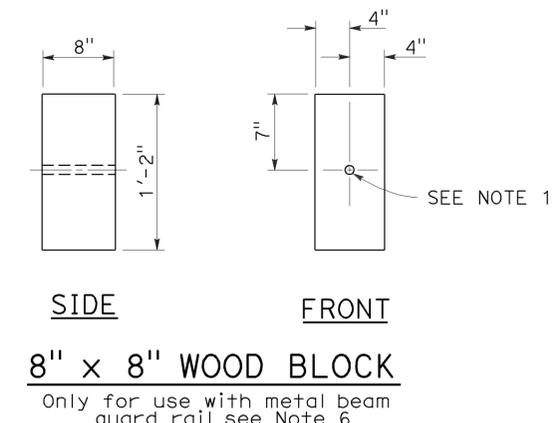
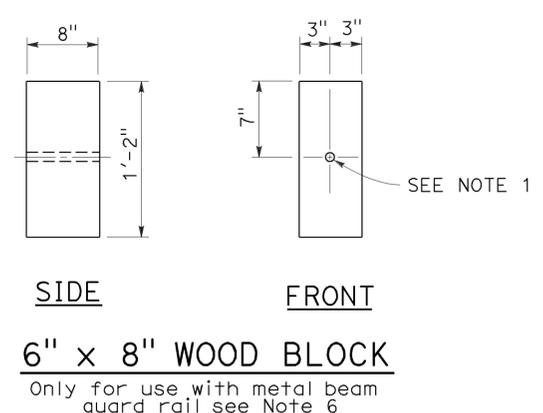
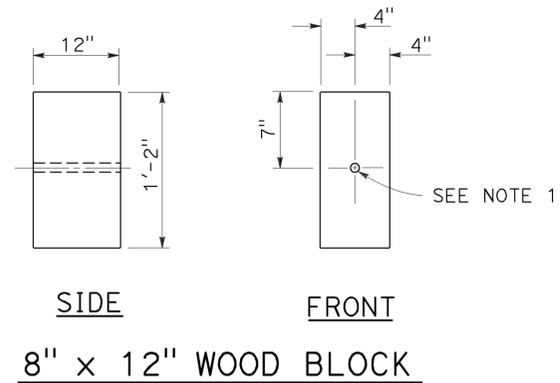
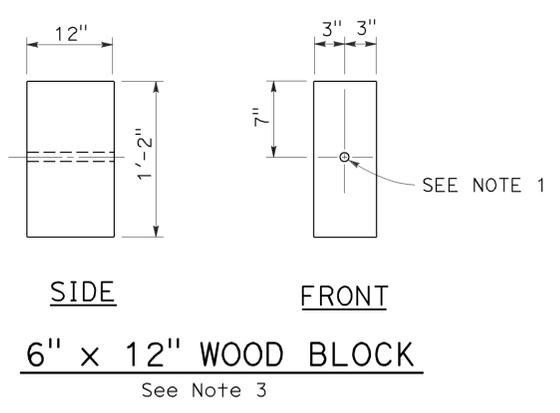
REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 1-13-14



NOTES:

1. All holes in wood posts and blocks shall be 3/4" Dia ± 1/16".
2. Dimensions shown for wood post are nominal.
3. This post and block combination used for standard line post sections of MGS.
4. This post and 8" x 12" block combination used for line post sections of MGS on narrow roadways.
5. This post and 8" x 12" block combination is typically used where strengthened line post sections of MGS are warranted to shield fixed objects.
6. See Revised Standard Plan RSP A77L3 for use of 6" x 8" and 8" x 8" wood blocks.



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
WOOD POST AND
WOOD BLOCK DETAILS**

NO SCALE

RSP A77N1 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N1

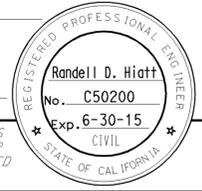
2010 REVISED STANDARD PLAN RSP A77N1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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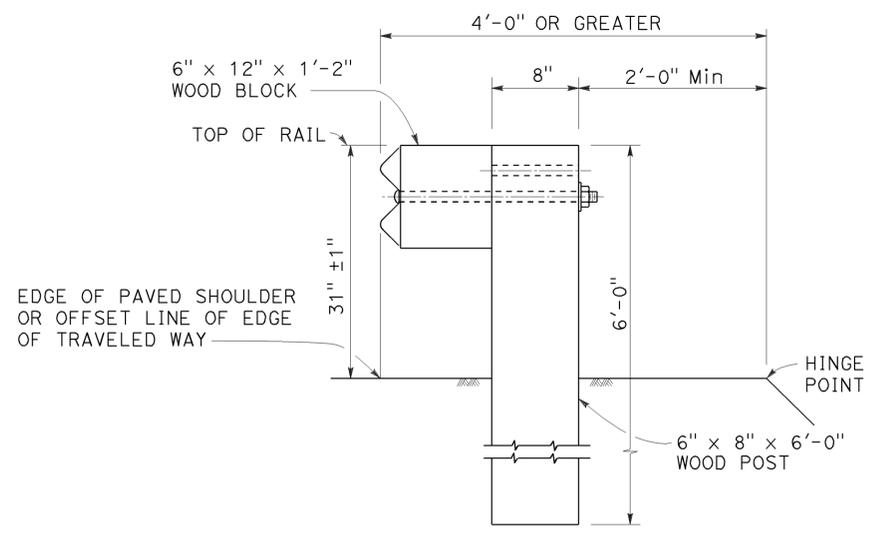
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

November 15, 2013
PLANS APPROVAL DATE

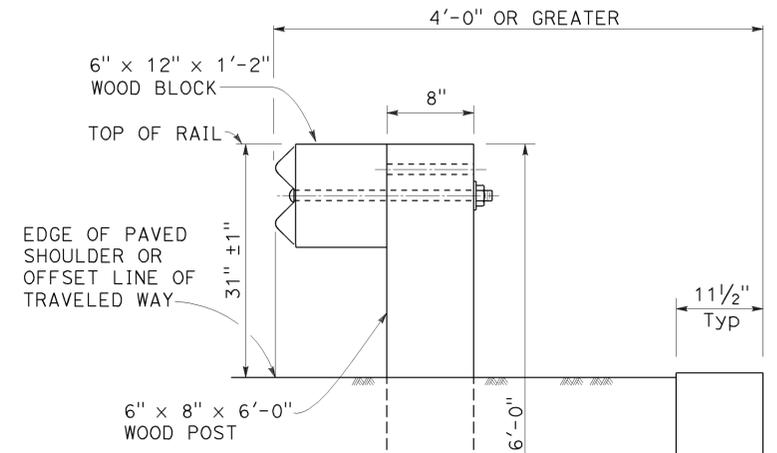
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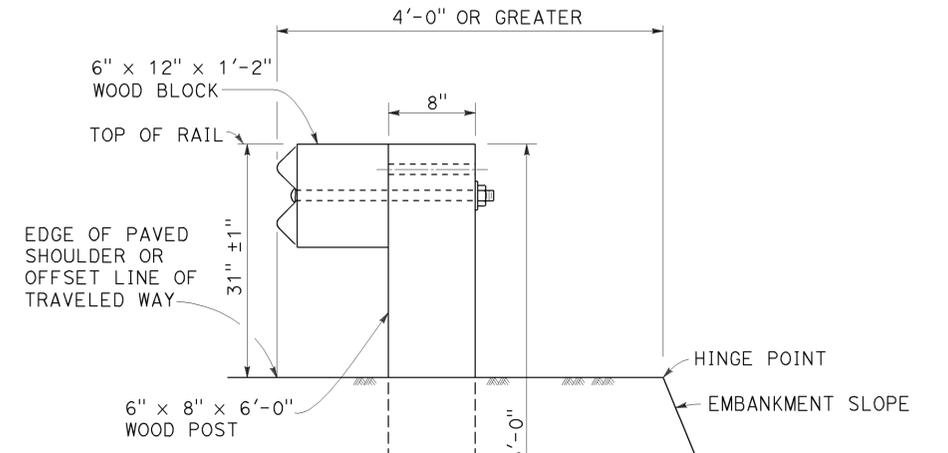
TO ACCOMPANY PLANS DATED 1-13-14



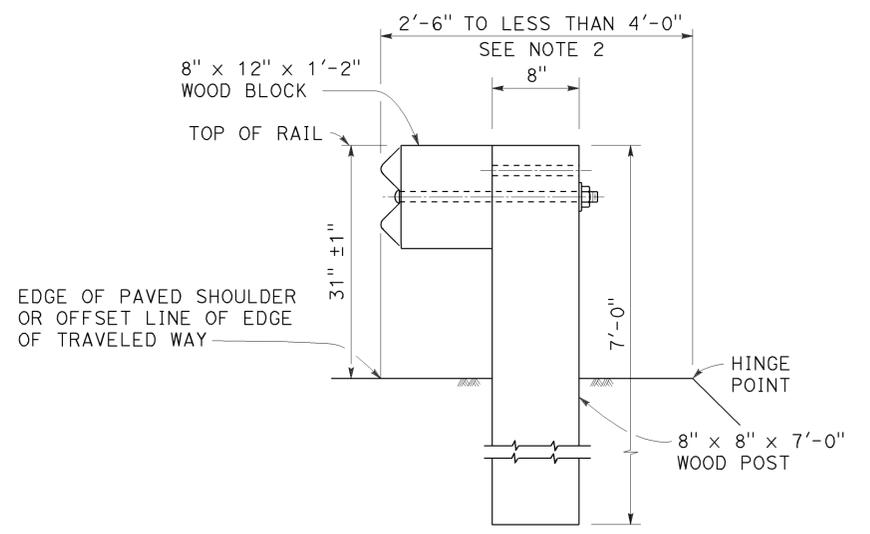
DETAIL A
TYPICAL ROADWAY
INSTALLATION
See Note 1



DETAIL C



DETAIL D



DETAIL B
NARROW ROADWAY
INSTALLATION
See Note 1

POST EMBEDMENT

INSTALLATION AT EARTH RETAINING WALLS

NOTES:

1. These installation details also applicable to steel line post installations. For Detail A, C, and D, where steel line post installations are constructed, W6 x 8.5 or W6 x 9 steel post, 6'-0" in length, with 6" x 12" x 1'-2" notched wood blocks or notched recycled plastic blocks are to be used in place of the size of wood post and wood block shown. For Detail B, where steel line post installations are constructed, W6 x 15 steel post, 8'-0" in length, with 8" x 12" x 1'-2" notched wood blocks or notched recycled plastic blocks are to be used in place of the size of wood post and wood block shown. For additional installation details, see Revised Standard Plan RSP A77L1 and RSP A77L2.
2. Where the distance between the face of the rail and the hinge point is less than 2'-6", see the Project Plans for special details.
3. For dike positioning with MGS installations, see Revised Standard Plan RSP A77N4.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM
TYPICAL LINE POST
EMBEDMENT AND
HINGE POINT OFFSET DETAILS

NO SCALE

RSP A77N3 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77N3
DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N3

2010 REVISED STANDARD PLAN RSP A77N3

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0 0.0/3.4	318	477

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

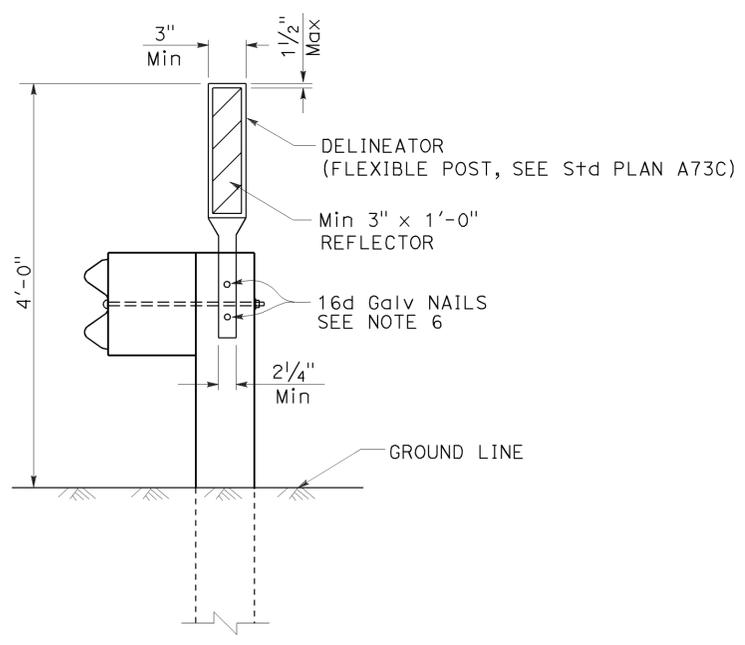
July 19, 2013
PLANS APPROVAL DATE

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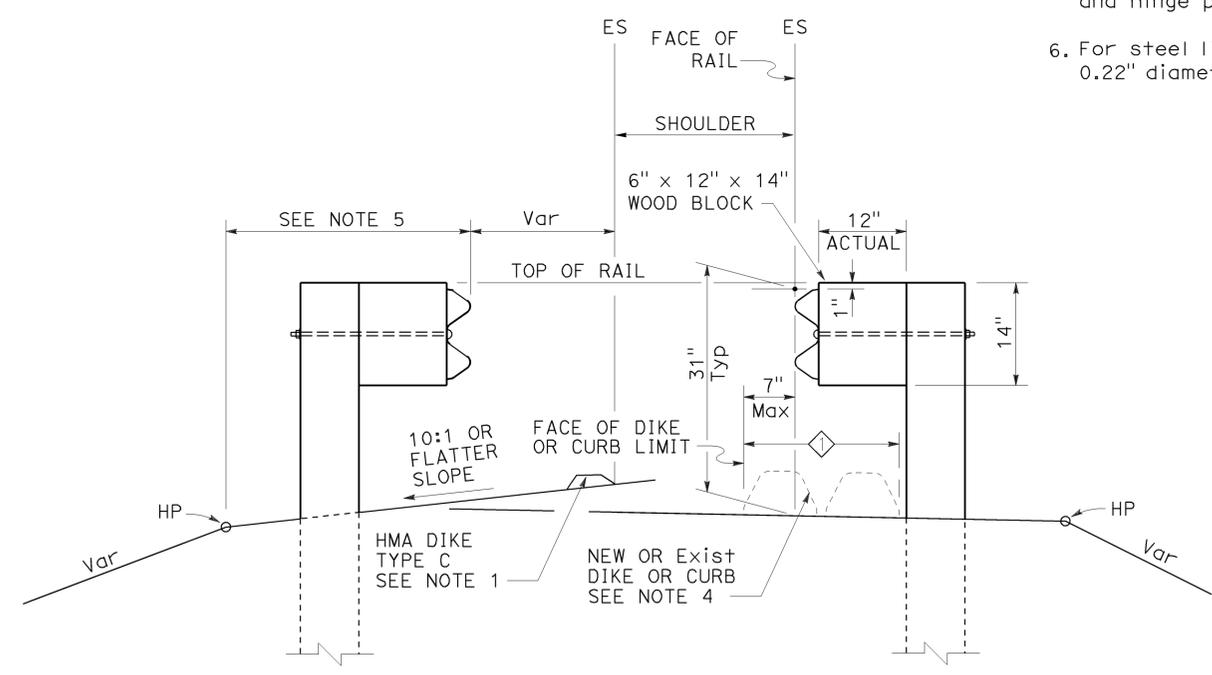
TO ACCOMPANY PLANS DATED 1-13-14

NOTES:

1. When necessary to place dike more than 7" in front of face of MGS, only Type C dike may be used. For dike details, see Revised Standard Plan RSP A87B.
2. For standard railing post embedment, see Revised Standard Plan RSP A77N3.
3. MGS delineation to be used where shown on the Project Plans.
4. When dike or curb is placed under MGS, the maximum height of the dike or curb shall be 6". Mountable dike should not be used. For dike and curb details, see Revised Standard Plans RSP A87A and RSP A87B.
5. For details of typical distance between the face of rail and hinge point, see Revised Standard Plan RSP A77N3.
6. For steel line posts, use 1/4" - 20 self-tapping screws in 0.22" diameter holes or 1/4" bolts in 3/32" diameter holes.



MGS DELINEATION
See Note 3



DIKE POSITIONING
See Note 1

◇ PERMISSIBLE DIKE OR CURB PLACEMENT AREA

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TYPICAL RAILING DELINEATION
AND DIKE POSITIONING DETAILS**
NO SCALE

RSP A77N4 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N4

2010 REVISED STANDARD PLAN RSP A77N4

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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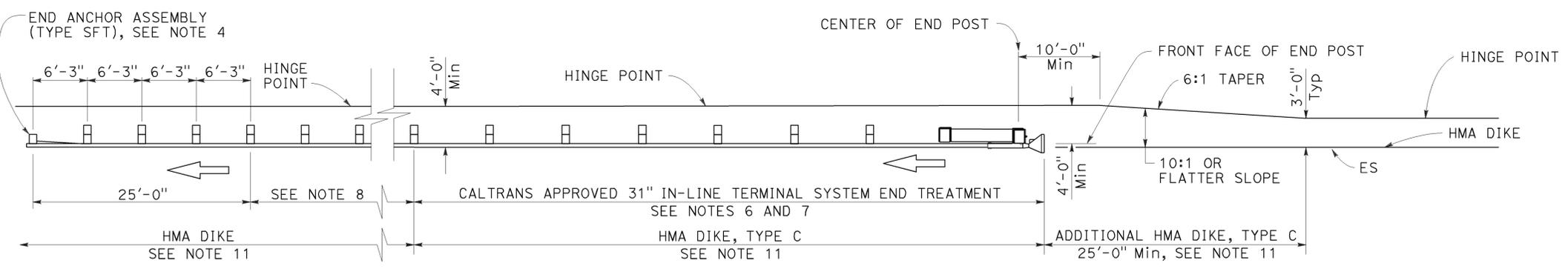
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November 15, 2013
PLANS APPROVAL DATE

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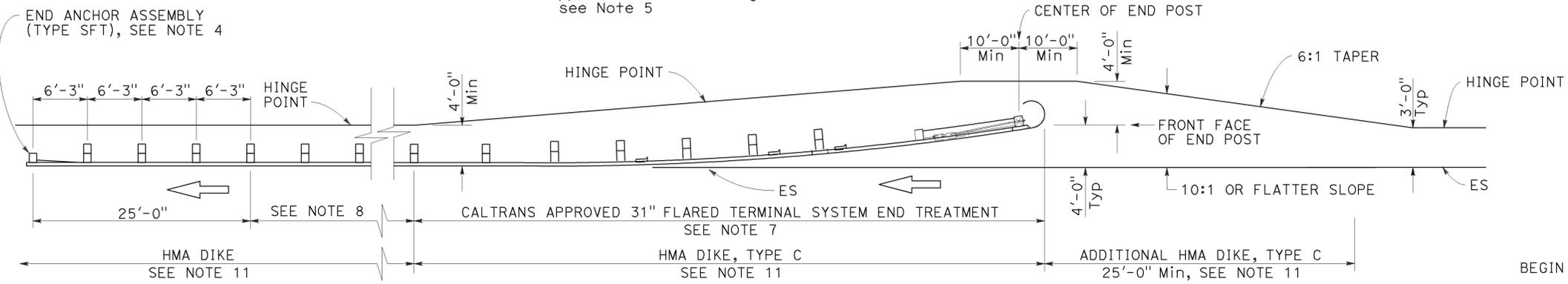
REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 1-13-14



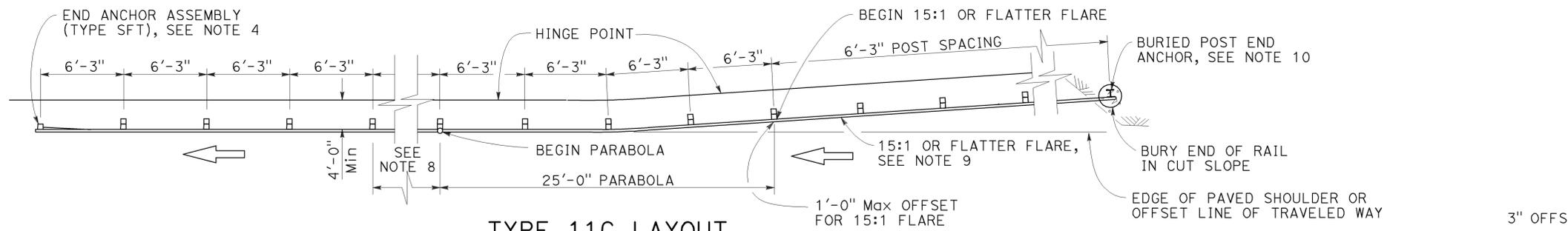
TYPE 11A LAYOUT

(Embankment MGS installation with 31" in-line end treatment at traffic approach end of railing) see Note 5



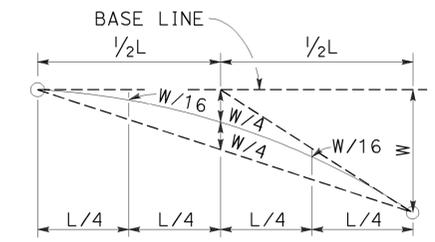
TYPE 11B LAYOUT

(Embankment MGS installation with 31" flared end treatment at traffic approach end of railing) see Note 5

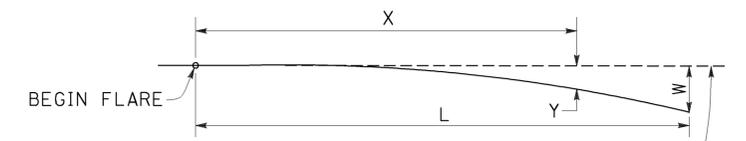


TYPE 11C LAYOUT

(Embankment MGS installation with buried end anchor treatment at traffic approach end of railing) see Notes 5 and 11



TYPICAL PARABOLIC LAYOUT

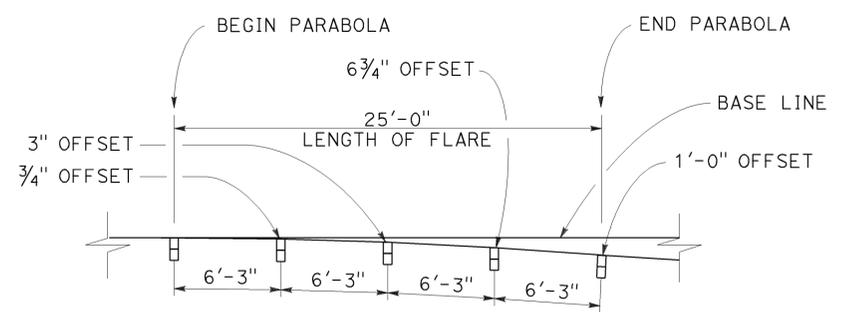


BASE LINE (EDGE OF PAVED SHOULDER OR OFFSET LINE OF EDGE OF TRAVELED WAY)

$$Y = \frac{WX^2}{L^2}$$

Y = OFFSET FROM BASE LINE
W = MAXIMUM OFFSET
X = DISTANCE ALONG BASE LINE
L = LENGTH OF FLARE

PARABOLIC FLARE OFFSETS



TYPICAL FLARE OFFSETS FOR 1 FOOT Max END OFFSET

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM TYPICAL LAYOUTS FOR EMBANKMENTS

NO SCALE

RSP A77P1 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77P1 DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77P1

NOTES:

- Line post, blocks and hardware to be used are shown on Revised Standard Plans RSP A77L1, RSP A77L2, RSP A77M1, RSP A77N1 and RSP A77N2.
- MGS post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 12" x 1'-2" wood blocks. W6 x 8.5 or W6 x 9 steel posts, 6'-0" in length, with 6" x 12" x 1'-2" notched wood blocks or recycled plastic blocks may be used for 6" x 8" x 6'-0" wood post with 6" x 12" x 1'-2" wood blocks where applicable and when specified.
- For End Anchor Assembly (Type SFT) details, see Revised Standard Plan RSP A77S1.
- Layout Types 11A, 11B or 11C are typically used where MGS is recommended to shield embankment slopes and a crashworthy end treatment is required for only one direction of traffic.
- 31" in-line terminal system end treatments are used where site conditions will not accommodate a flared end treatment.
- The type of 31" terminal system end treatment to be used will be shown on the Project Plans.
- Dependent on site conditions (embankment height and side slope), construction of additional MGS (length equal to multiples of 12'-6" with 6'-3" post spacing) may be advisable.
- The 15:1 or flatter flare used with buried end anchors is based on the edge of the paved shoulder or offset line of edge of the traveled way. The length of MGS within the 15:1 or flatter flare is based on site conditions and should be a length equal to multiples of 12'-6".
- For details of the buried post end anchor used with Type 11C Layout, see Revised Standard Plan RSP A77T2.
- Where placement of dike is required with MGS installations, see Revised Standard Plan RSP A77N4 for dike positioning details.

2010 REVISED STANDARD PLAN RSP A77P1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0 0.0/3.4	320	477

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

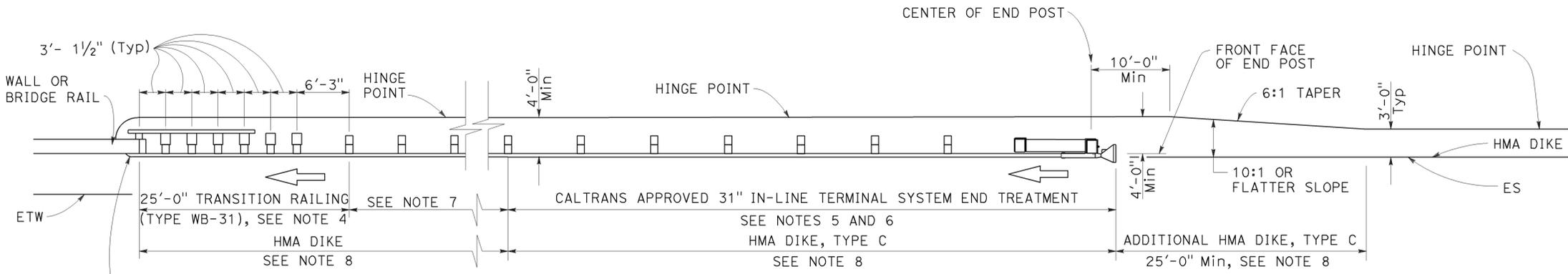
July 19, 2013
PLANS APPROVAL DATE

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TO ACCOMPANY PLANS DATED 1-13-14

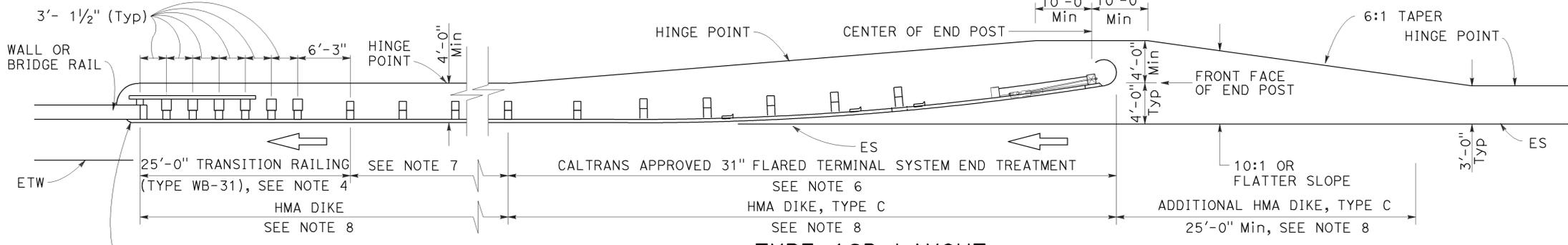


2010 REVISED STANDARD PLAN RSP A77Q1



TYPE 12A LAYOUT

(MGS installation at structure approach with 31" in-line end treatment at traffic approach end of railing)
See Notes 5 and 6
SEE NOTE 8
SEE NOTE 9



TYPE 12B LAYOUT

(MGS installation at structure approach with 31" Flared end treatment at traffic approach end of railing)
SEE NOTE 6
SEE NOTE 8
SEE NOTE 9

NOTES:

- Line post, blocks and hardware to be used are shown on Revised Standard Plans RSP A77L1, RSP A77L2, RSP A77M1, RSP A77N1 and RSP A77N2.
- MGS post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 12" x 1'-2" wood blocks. W6 x 8.5 or W6 x 9 steel posts, 6'-0" in length, with 6" x 12" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood posts with 6" x 12" x 1'-2" wood blocks where applicable and when specified.
- For Transition Railing (Type WB-31) details for Types 12A and 12B Layouts, see Revised Standard Plan RSP A77U4.
- 31" in-line terminal system end treatments are used where site conditions will not accommodate a 31" flared end treatment.
- The type 31" of terminal system end treatment to be used will be shown on the Project Plans.
- Dependent on site conditions (embankment height, side slopes, or other fixed objects), it may be advisable to construct additional guard railing (a length equal to multiples of 12'-6" with 6'-3" post spacing) between the transition railing and end treatment. A 12.5 degree angle of departure can be drawn on the Project Plans from the edge of traveled way through the outer most point of the fixed object to determine the additional length of railing needed.
- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77N4 for dike positioning details.
- Type 12A or Type 12B Layouts are typically used:
 - To the right of approaching traffic, at the end of a structure, on two-lane conventional highway where the roadbed width across the structure is less than 40 feet.
 - To the left of approaching traffic, at the end of a structure, on two-lane conventional highway where the roadbed width across the structure is less than 40 feet.
 - To the right of approaching traffic at the end of each structure on multilane freeways or expressways with separate adjacent or parallel bridges.
 - To the right of approaching traffic at the end of the structure on multilane freeways or expressways with decked median on the bridge.
- See Revised Standard Plan RSP A77Q3 for typical layout used left of approaching traffic at the ends of each structure on multilane freeways or expressways with separate adjacent or parallel bridges.
- For additional details of typical connections to bridge rail, see Connection Detail AA on Revised Standard Plans RSP A77U1 and RSP A77U2 and Connection Detail FF on Revised Standard Plans RSP A77V1 and RSP A77V2.
- For additional details of a typical connection to walls or abutments, see Revised Standard Plan RSP A77U3.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TYPICAL LAYOUTS FOR
STRUCTURE APPROACH**

NO SCALE

RSP A77Q1 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77Q1

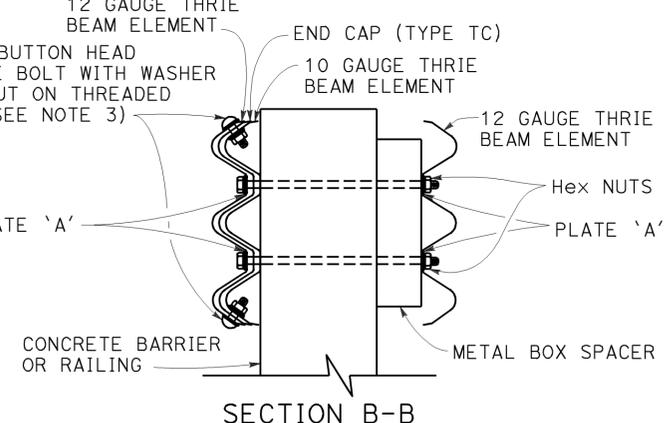
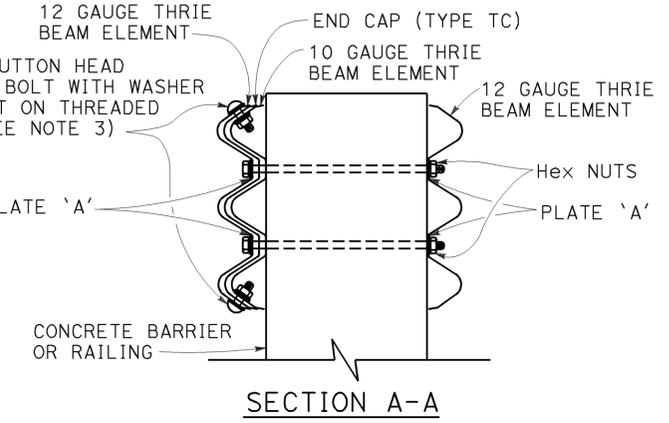
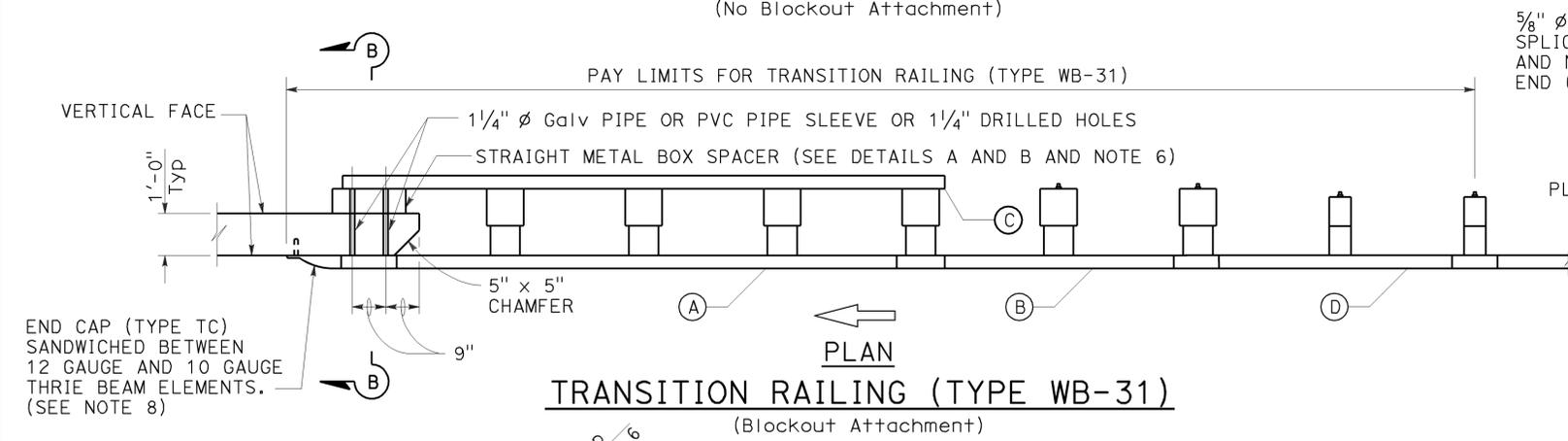
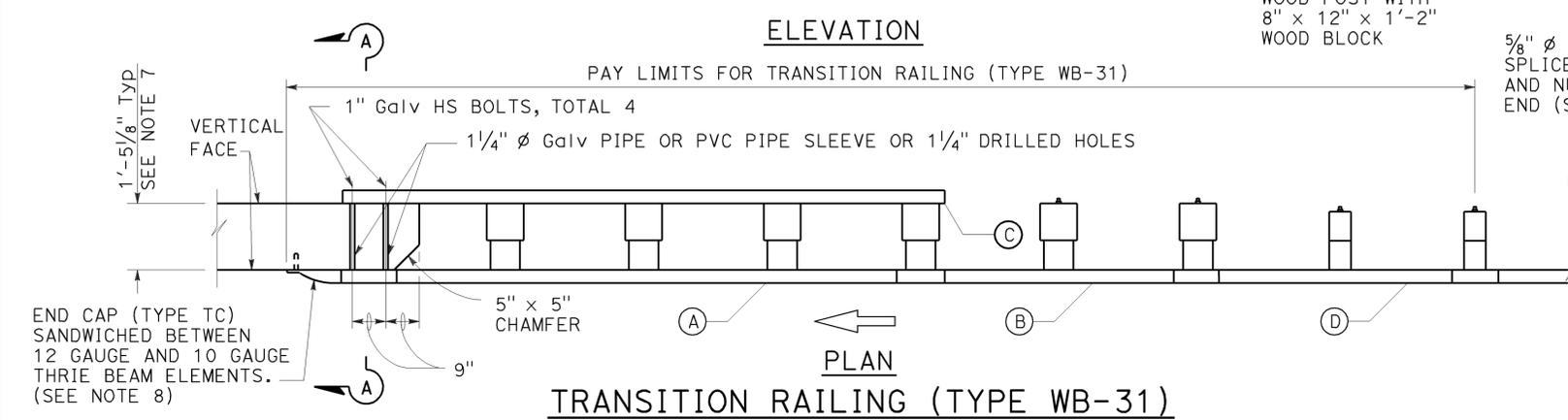
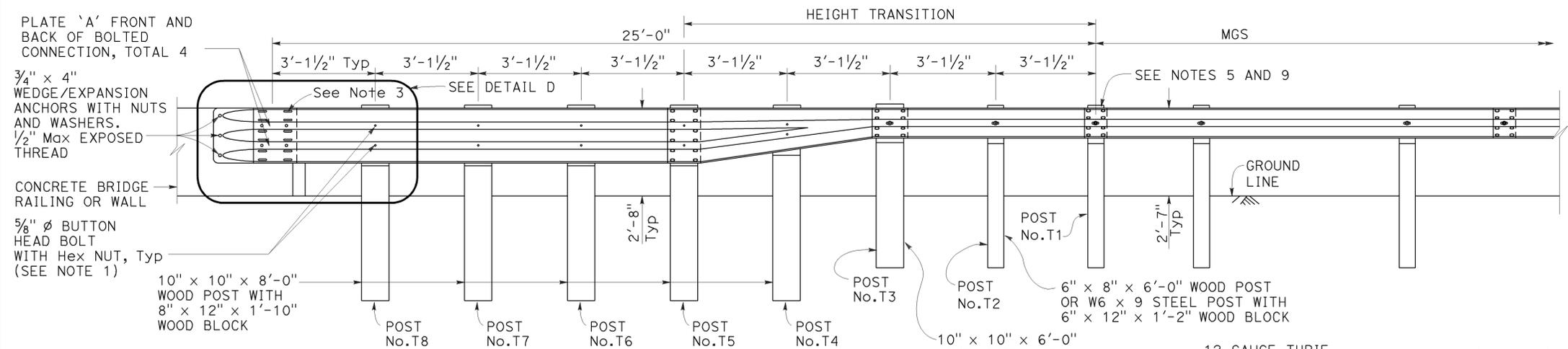
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0 0.0/3.4	321	477

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

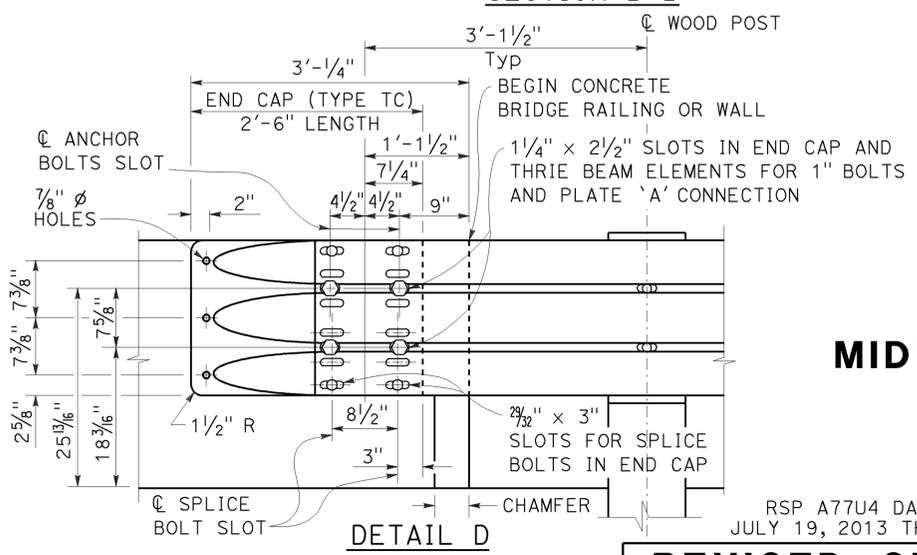
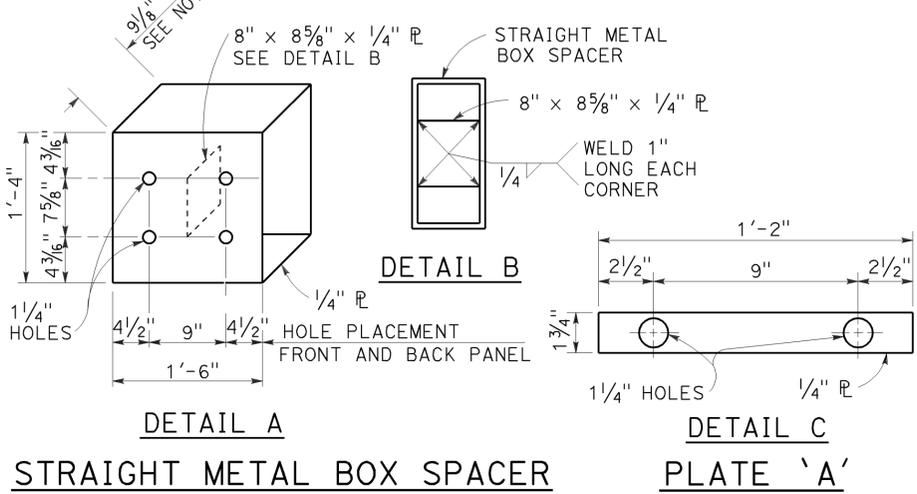
November 15, 2013
PLANS APPROVAL DATE

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- LEGEND:**
- (A) NESTED THRIE BEAM ELEMENTS (ONE 12 GAUGE ELEMENT NESTED OVER ONE 10 GAUGE ELEMENT).
 - (B) ONE ASYMMETRICAL 10 GAUGE "W" BEAM TO THRIE BEAM ELEMENT.
 - (C) ONE 12 GAUGE THRIE BEAM ELEMENT.
 - (D) ONE 10 GAUGE "W" BEAM RAIL ELEMENT (7'-3 1/2" LENGTH)
- 10 GAUGE = 0.138" THICK
12 GAUGE = 0.108" THICK



- NOTES:** TO ACCOMPANY PLANS DATED 1-13-14
1. Use 5/8" ϕ Button head bolts and hex nuts for connections to posts. No washer on rail face for bolted connections to post.
 2. 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.
 3. Exterior splice bolt holes for rail element splices at Post No. T5 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" ϕ . Only the top 4 and the bottom 4 splice bolts with washers and nuts are required for rail splices at Post No. T5 and the connection to the concrete barrier or railing.
 4. The top elevation of Posts No. T2 through No. T7 shall not project more than 1" above the top elevation of the rail element.
 5. Typically, the railing connected to Transition Railing (Type WB-31) will be either standard railing section of MGS with height transition ratio of 150:1 or a Caltrans approved 31" end treatment attached to Post No. T1.
 6. The depth of the metal box spacer varies from the 9/8" 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 21 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.
 7. 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. T5 through No. T8 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.
 8. End cap may be installed over 12 gauge and 10 gauge thrie beam elements where transition railing is installed on the departure end of bridge railing.
 9. Conform standard railing section height to 31" at Post No. T1 using height transition ratio of 150:1.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TRANSITION RAILING
(TYPE WB-31)**
NO SCALE

RSP A77U4 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77U4 DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77U4

2010 REVISED STANDARD PLAN RSP A77U4

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0 0.0/3.4	322	477

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

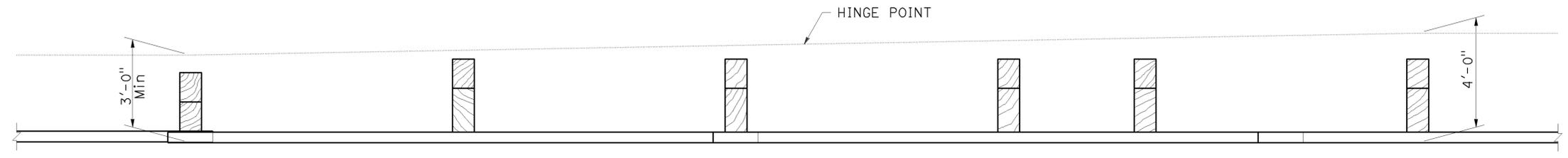
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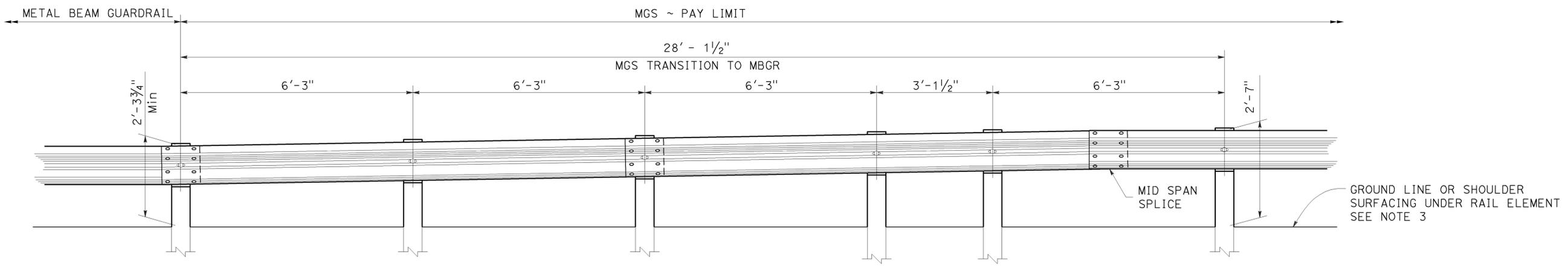
TO ACCOMPANY PLANS DATED 1-13-14

NOTES:

1. Refer to Revised Standard Plans RSP A77L1 and RSP A77L2 for component details for MGS not shown on this plan.
2. All posts for any standard barrier run shall be of the same type: Wood or Steel.
3. Install posts in soil.



PLAN



ELEVATION

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TRANSITION TO METAL BEAM GUARDRAIL**

NO SCALE

RSP A77U5 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

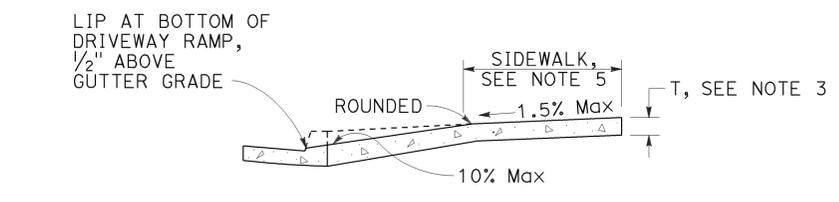
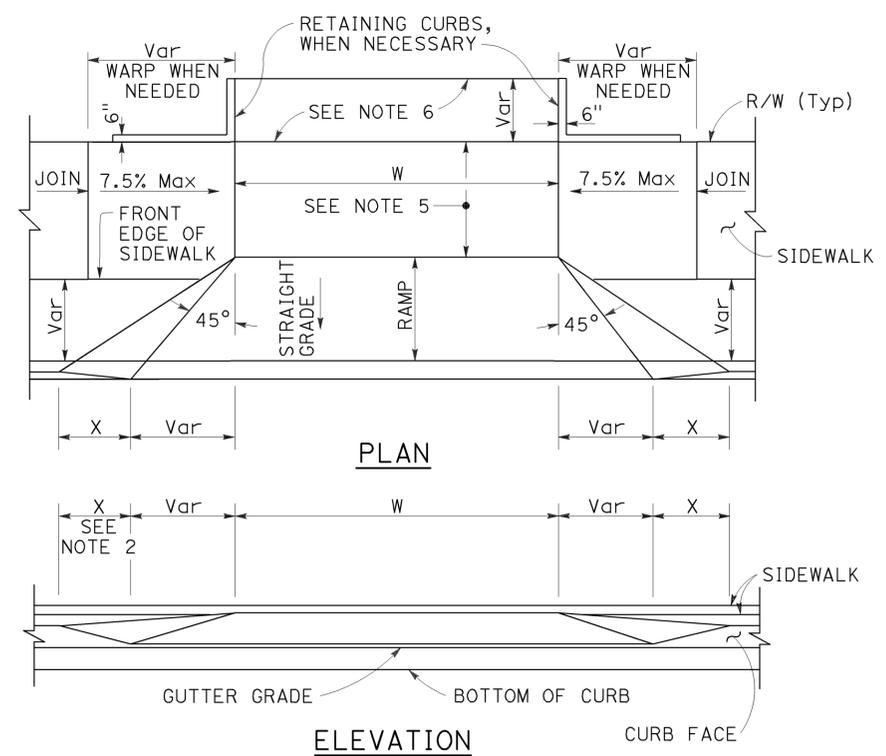
REVISED STANDARD PLAN RSP A77U5

2010 REVISED STANDARD PLAN RSP A77U5

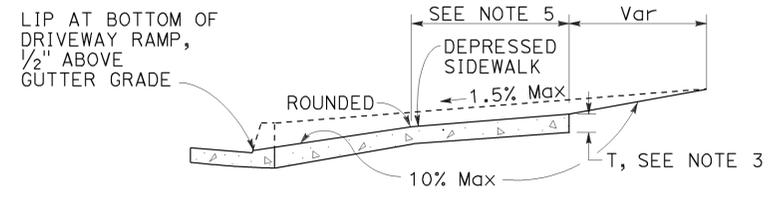
TO ACCOMPANY PLANS DATED 1-13-14

CURB QUANTITIES

TYPE	CUBIC YARDS PER LINEAR FOOT
A1-6	0.02585
A1-8	0.03084
A2-6	0.05903
A2-8	0.06379
A3-6	0.01036
A3-8	0.01435
B1-4	0.02185
B1-6	0.02930
B2-4	0.05515
B2-6	0.06171
B3-4	0.00641
B3-6	0.01074
B4	0.05709
D-4	0.04083
D-6	0.06804
E	0.06661



CASE A
Typical driveway, sidewalk not depressed



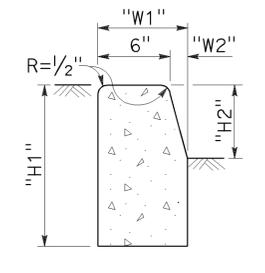
CASE B
Driveway with depressed sidewalk

SECTIONS

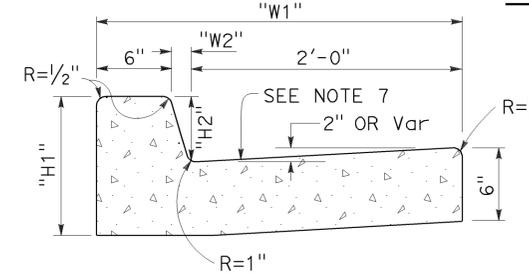
TABLE A

CURB TYPE	DIMENSIONS			
	"H1"	"H2"	"W1"	"W2"
A1-6	1'-2"	6"	7 1/2"	1 1/2"
A1-8	1'-4"	8"	8"	2"
A2-6	1'-0"	6"	2'-7 1/2"	1 1/2"
A2-8	1'-2"	8"	2'-8"	2"
A3-6	6"	5"	7 1/4"	1 1/4"
A3-8	8"	7"	7 3/4"	1 3/4"
B1-4	1'-0"	4"	7 1/2"	2 1/2"
B1-6	1'-2"	6"	9"	4"
B2-4	10"	4"	2'-7 1/2"	2 1/2"
B2-6	1'-0"	6"	2'-9"	4"
B3-4	4"	3"	7"	2"
B3-6	6"	5"	8 1/2"	3 1/2"
D-4	10"	4"	1'-6"	1'-1"
D-6	1'-0"	6"	2'-2"	1'-9"

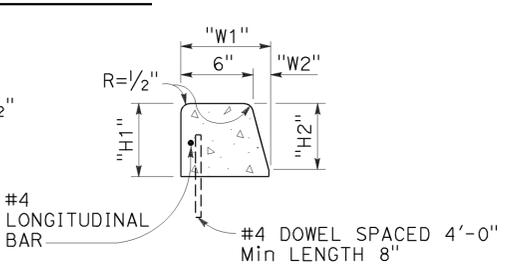
DRIVEWAYS



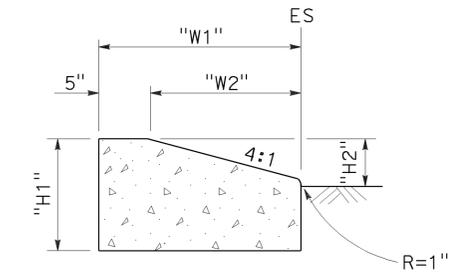
TYPE A1 CURBS
See Table A



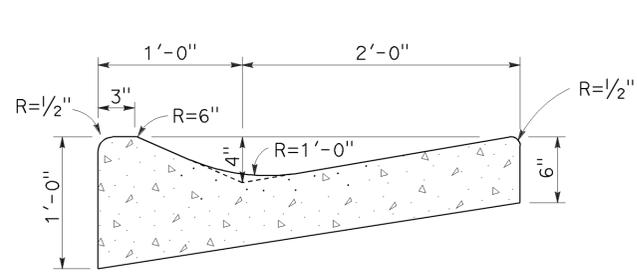
TYPE A2 CURBS
See Table A



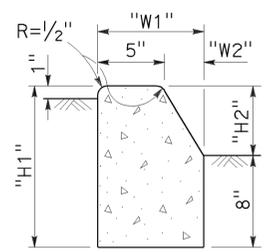
TYPE A3 CURBS
Superimposed on existing pavement
See Table A



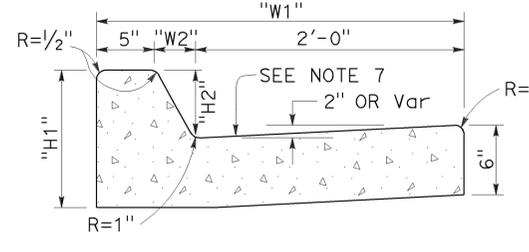
TYPE D CURBS
See Table A



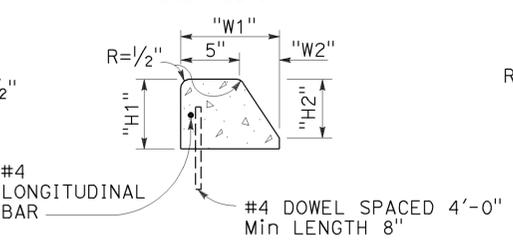
TYPE E CURB



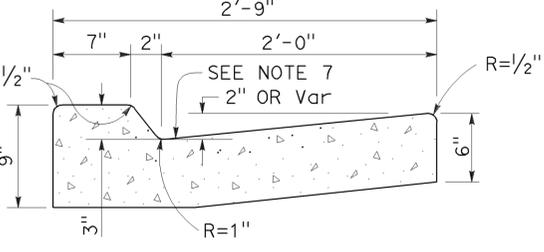
TYPE B1 CURBS
See Table A



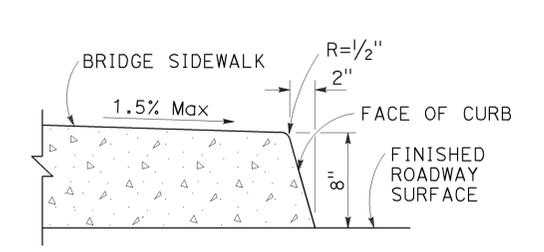
TYPE B2 CURBS
See Table A



TYPE B3 CURBS
Superimposed on existing pavement
See Table A



TYPE B4 CURBS



TYPE H CURB
On Bridges

CURBS

- NOTES:**
- Case A driveway section typically applies.
 - X=3'-0" except for curb heights over 10" where 4:1 slopes shall be used on curb slope.
 - Sidewalk and ramp thickness "T" at driveway shall be 4" for residential and 6" for commercial.
 - Difference in slope of the driveway ramp and the slope of a line between the gutter and a point on the roadway 5'-0" from gutter line shall not exceed 15%. Reduce driveway ramp slope, not gutter slope, where required.
 - Minimum width of clear passageway for sidewalk shall be 4'-2".
 - Retaining curbs and acquisition of construction easement may be necessary for narrow sidewalks or curb heights in excess of 6".
 - Across the pedestrian route at curb ramp locations, the gutter pan slope shall not exceed 1" of depth for each 2'-0" of width.

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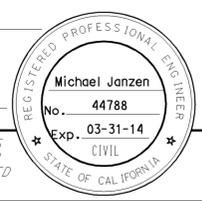
CURBS AND DRIVEWAYS

NO SCALE

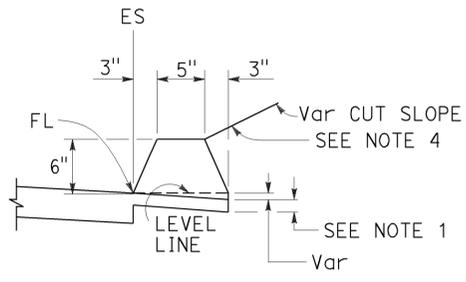
RSP A87A DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A87A
DATED MAY 20, 2011 - PAGE 119 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A87A

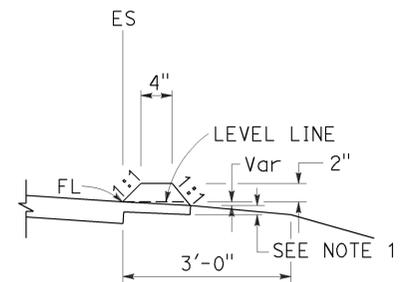
2010 REVISED STANDARD PLAN RSP A87A



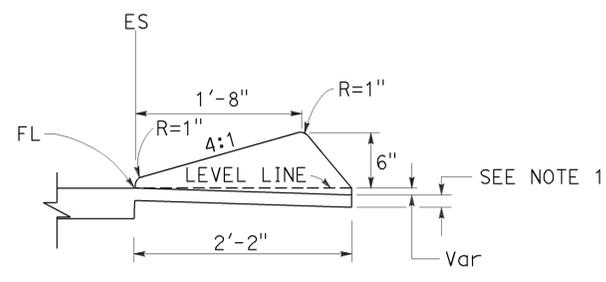
TO ACCOMPANY PLANS DATED 1-13-14



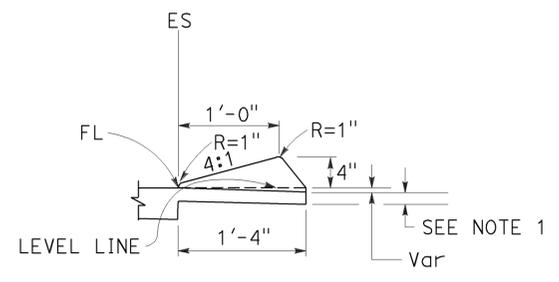
TYPE A
See Note 3



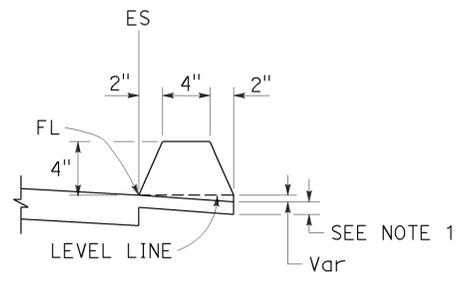
TYPE C



TYPE D

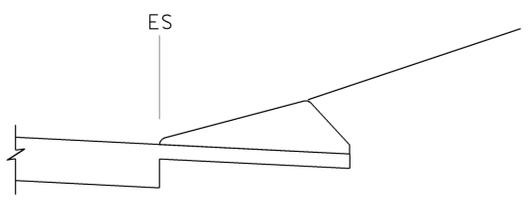


TYPE E

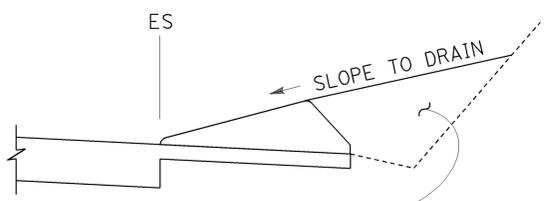


TYPE F
See Note 5

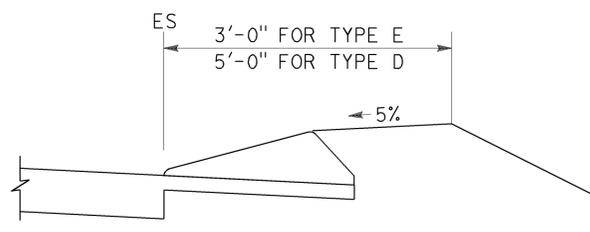
DIKES



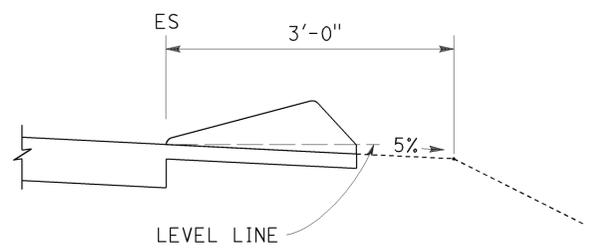
CASE C-1
Cut Slope



CASE C-2
Cut Slope



CASE F



CASE R
See Note 2

TYPE D AND E BACKFILL DETAILS

NOTES:

1. For HMA shoulders only, extend top layer of HMA placed on the shoulder under dike with no joint at the ES. For projects with OGFC shoulders, do not extend OGFC under dike. See project plans for modified dike detail.
2. Case R applies to retrofit only projects where restrictive conditions do not provide enough width for Case F backfill.
3. Type A dike only to be used where restrictive slope conditions do not provide enough width to use Type D or Type E dike.
4. Fill and compact with excavated material to top of dike.
5. Use Type F dike, where dike is required with guard railing installations. See Revised Standard Plan RSP A77N4 for dike positioning details.

DIKE QUANTITIES

TYPE	CUBIC YARDS PER LINEAR FOOT
A	0.0135
C	0.0038
D	0.0293
E	0.0130
F	0.0066

Quantities based on 5% cross slope.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

HOT MIX ASPHALT DIKES

NO SCALE

RSP A87B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A87B
DATED MAY 20, 2011 - PAGE 120 OF THE STANDARD PLANS BOOK DATED 2010.

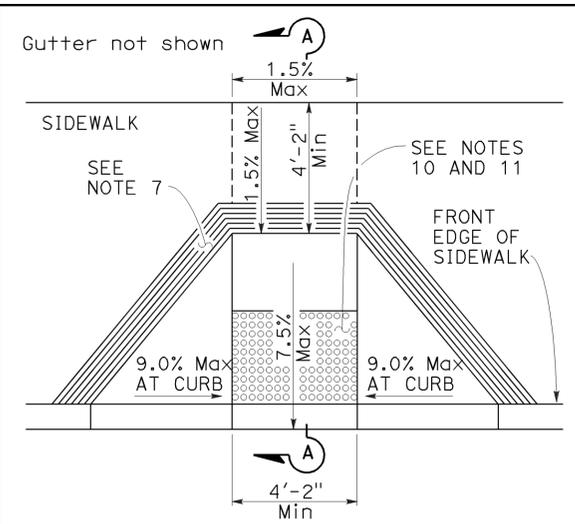
REVISED STANDARD PLAN RSP A87B

2010 REVISED STANDARD PLAN RSP A87B

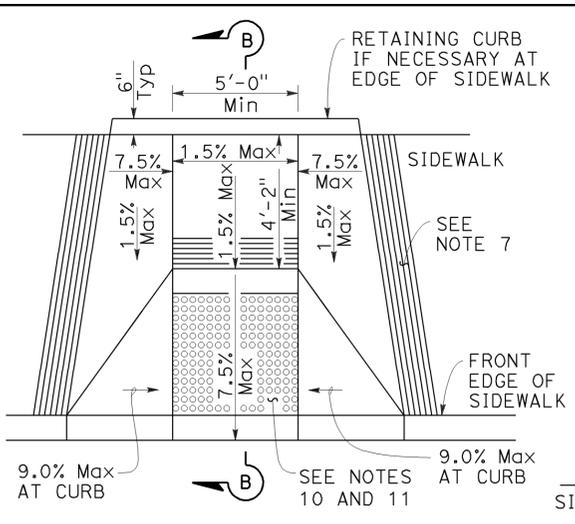
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0 0.0/3.4	325	477

H. David Cordova
 REGISTERED CIVIL ENGINEER
 July 19, 2013
 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.

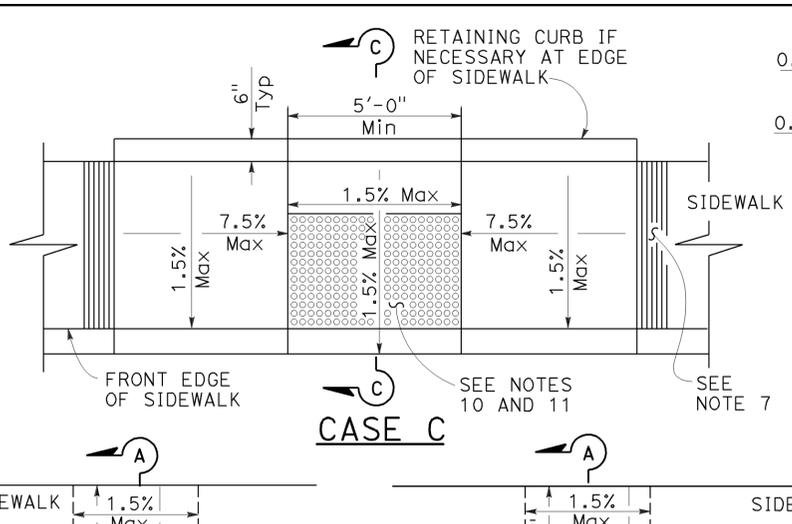
REGISTERED PROFESSIONAL ENGINEER
 Hector David Cordova
 No. C41957
 Exp. 3-31-14
 CIVIL
 STATE OF CALIFORNIA



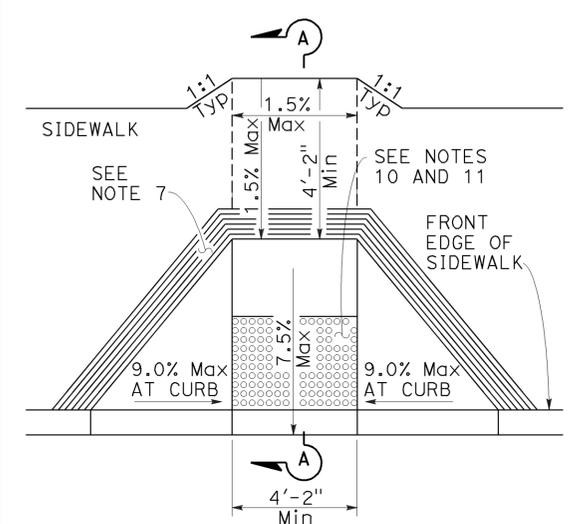
CASE A



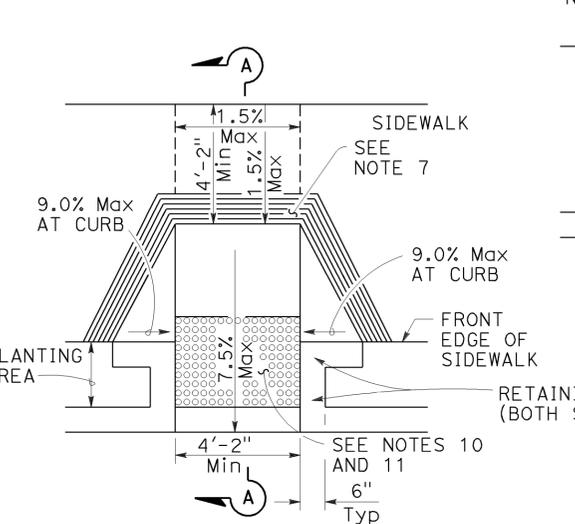
CASE B



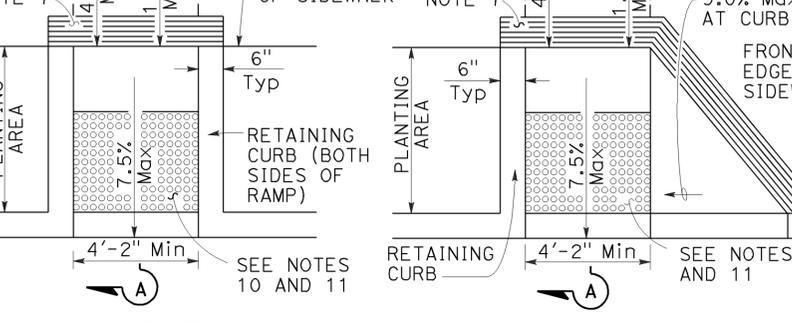
CASE C



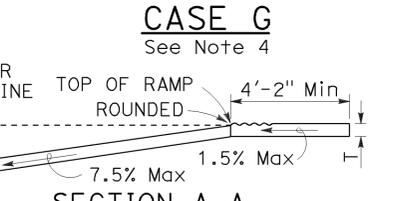
CASE D



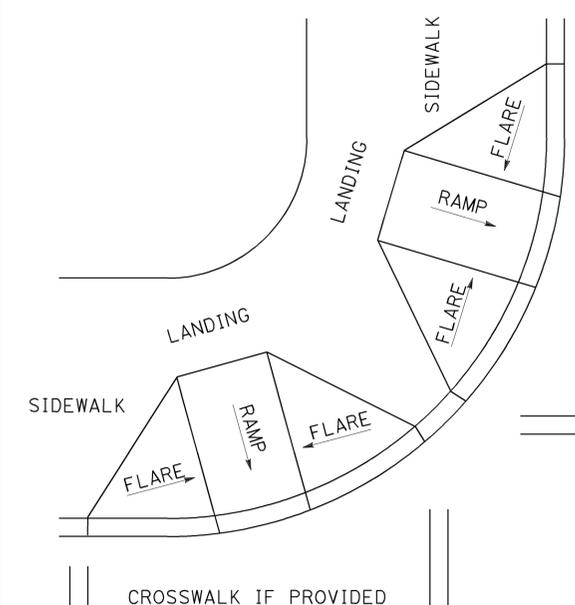
CASE E



CASE F



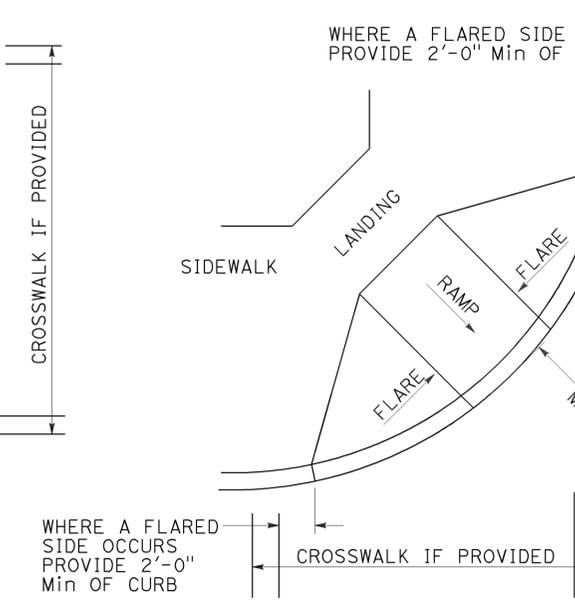
CASE G



DETAIL A

TYPICAL TWO-RAMP CORNER INSTALLATION

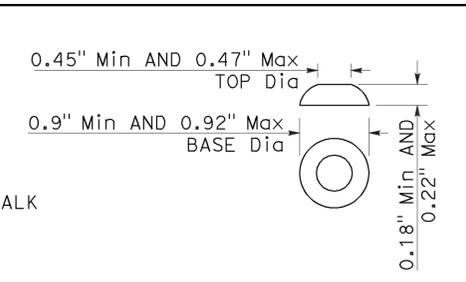
See Note 1



DETAIL B

TYPICAL ONE-RAMP CORNER INSTALLATION

See Notes 1 and 3

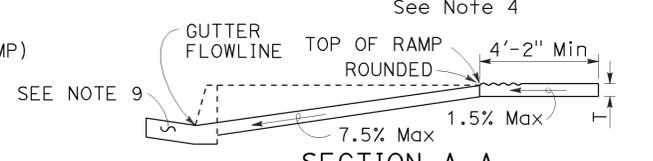


RAISED TRUNCATED DOME

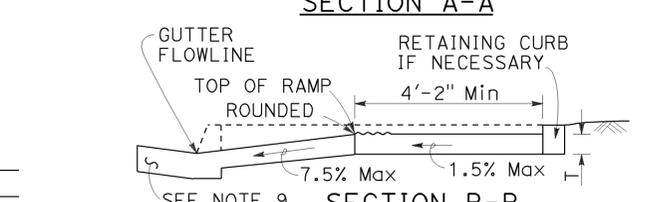
TO ACCOMPANY PLANS DATED 1-13-14

NOTES:

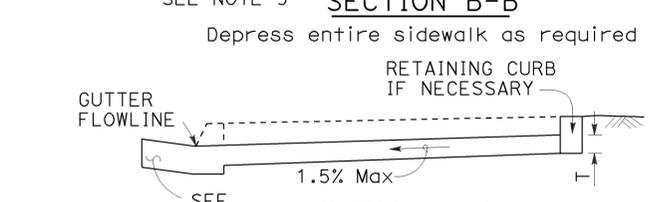
- As site conditions dictate, Case A through Case G curb ramps may be used for corner installations similar to those shown in Detail A and Detail B. The case of curb ramps used in Detail A do not have to be the same. Case A through Case G curb ramps also may be used at mid block locations, as site conditions dictate.
- If distance from curb to back of sidewalk is too short to accommodate ramp and 4'-2" platform (landing) as shown in Case A, the sidewalk may be depressed longitudinally as in Case B, or C or may be widened as in Case D.
- When ramp is located in center of curb return, crosswalk configuration must be similar to that shown for Detail B.
- As site conditions dictate, the retaining curb side and the flared side of the Case G ramp shall be constructed in reversed position.
- If located on a curve, the sides of the ramp need not be parallel, but the minimum width of the ramp shall be 4'-2".
- Side slope of ramp flares vary uniformly from a maximum of 9.0% at curb to conform with longitudinal sidewalk slope adjacent to top of the ramp, except in Case C and Case F.
- The curb ramp shall be outlined, as shown, with a 1'-0" wide border with 1/4" grooves approximately 3/4" on center. See grooving detail.
- Transitions from ramps and landing to walks, gutters or streets shall be flush (no lip) and free of abrupt changes.
- Counter slopes of adjoining gutters and road surfaces immediately adjacent to and within 24 inches of the curb ramp shall not be steeper than 1:20 (5.0%). Gutter pan slope shall not exceed 1" of depth for each 2'-0" of width.
- Curb ramps shall have a detectable warning surface that extends the full width and 3'-0" depth of the ramp. Detectable Warning Surfaces shall conform to the details on this plan and the requirements in the Standard Specifications.
- The edge of the detectable warning surface nearest the street shall be between 6" and 8" from the gutter flowline.
- Sidewalk and ramp thickness, "T", shall be 3/2" minimum.
- Utility pull boxes, manholes, vaults and all other utility facilities within the boundaries of the curb ramp will be relocated or adjusted to grade by the owner prior to, or in conjunction with, curb ramp construction.
- Detectable warning surface may have to be cut to allow removal of utility covers while maintaining full detectable warning width and depth.



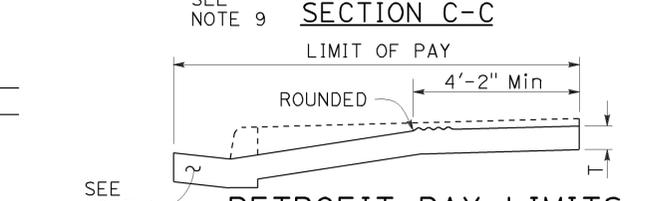
SECTION A-A



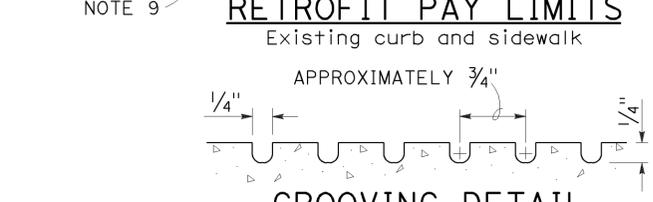
SECTION B-B



SECTION C-C



RETROFIT PAY LIMITS



GROOVING DETAIL



RAISED TRUNCATED DOME PATTERN (IN-LINE) DETECTABLE WARNING SURFACE

See Note 10

CURB RAMP DETAILS
NO SCALE

RSP A88A DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A88A DATED MAY 20, 2011 - PAGE 121 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A88A

2010 REVISED STANDARD PLAN RSP A88A

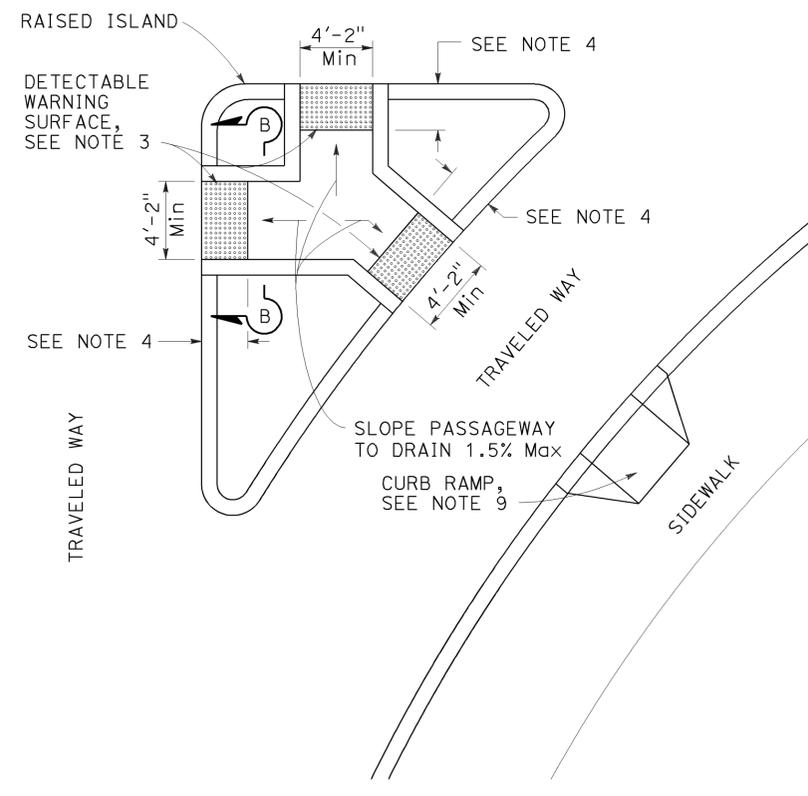
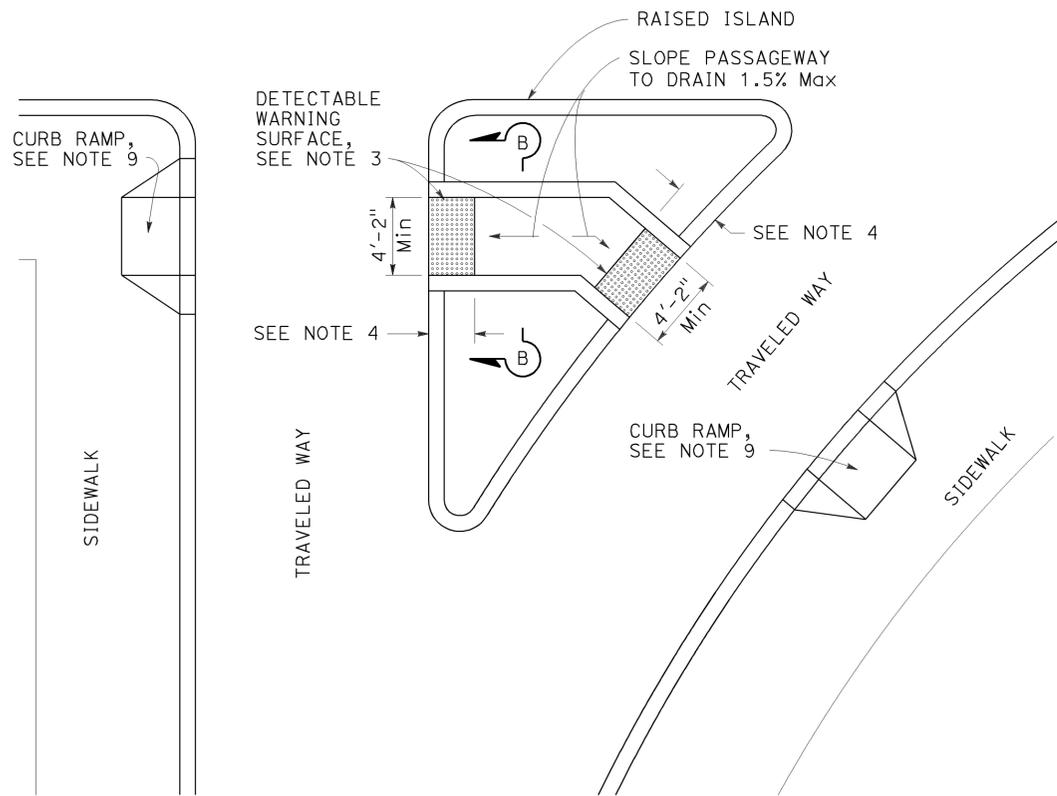
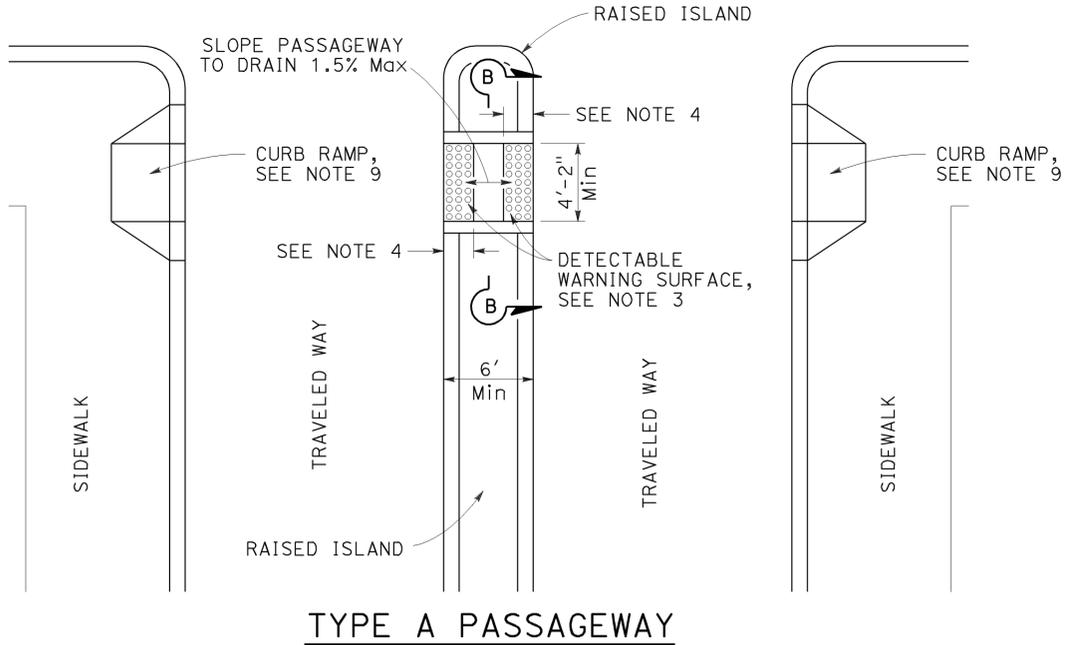
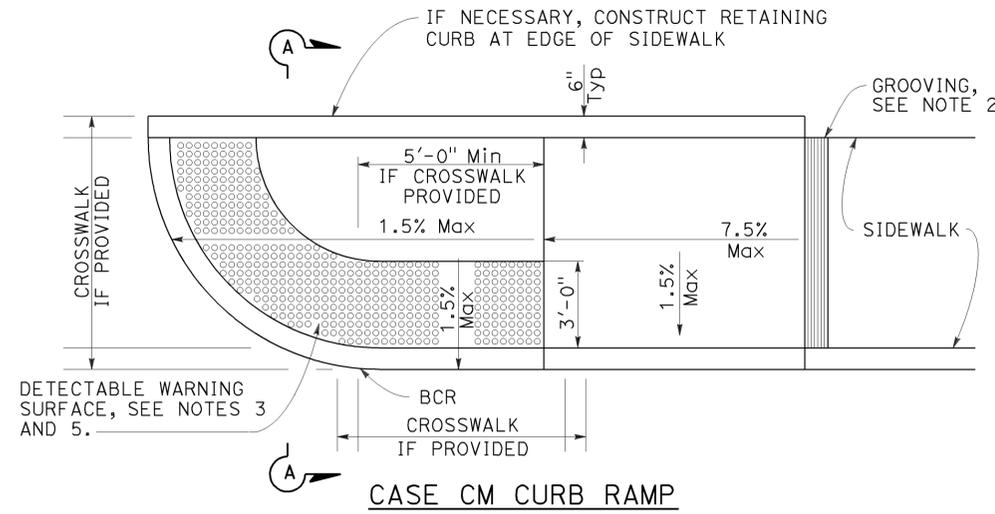
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0 0.0/3.4	326	477

H. David Cordova
 REGISTERED CIVIL ENGINEER
 No. C41957
 Exp. 3-31-14
 CIVIL
 STATE OF CALIFORNIA

July 19, 2013
 PLANS APPROVAL DATE

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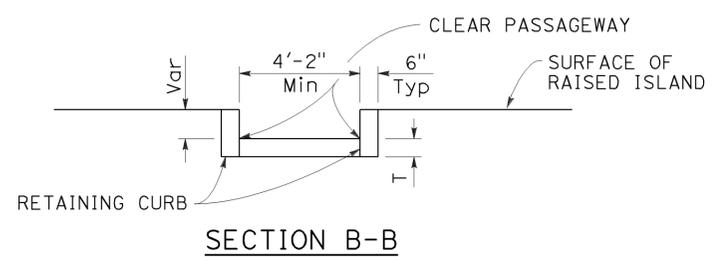
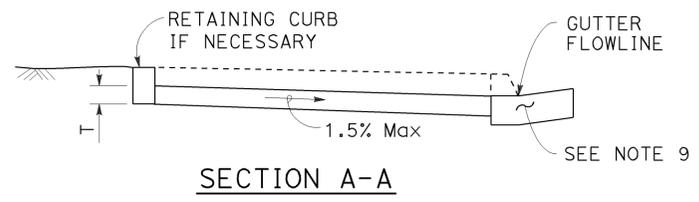
Gutter not shown



NOTES:

- Sidewalk, ramp and passageway thickness, "T", shall be 3 1/2" minimum.
- For details of grooving used with Case CM curb ramp, see Revised Standard Plan RSP A88A.
- For details of detectable warning surfaces, see Revised Standard Plan RSP A88A.
- Where an island passageway length is greater than or equal to 6'-0", but less than 8'-0", each detectable warning surface shall extend the full width and 2'-0" depth of the passageway length. Where an island passageway length is greater than or equal to 8'-0", each detectable warning surface shall extend the full width and 3'-0" depth of the passageway length.
- For Case CM curb ramp, the edge of the detectable warning surface nearest the street shall be between 6" and 8" from the gutter flowline.
- Transitions from ramps to walks, gutters or streets shall be flush (no lip) and free of abrupt changes.
- Utility pull boxes, manholes, vaults and all other utility facilities within the boundaries of the curb ramp will be relocated or adjusted to grade by the owner prior to, or in conjunction with, curb ramp construction.
- Detectable warning surface may have to be cut to allow removal of utility covers while maintaining full detectable warning width and depth.
- For additional curb ramp details, see Revised Standard Plan RSP A88A.

TO ACCOMPANY PLANS DATED 1-13-14



STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

CURB RAMP AND ISLAND PASSAGEWAY DETAILS

NO SCALE

RSP A88B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A88B DATED MAY 20, 2011 - PAGE 122 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A88B

2010 REVISED STANDARD PLAN RSP A88B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0 0.0/3.4	327	477

REGISTERED CIVIL ENGINEER

November 15, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Tillett Satter
No. C42892
Exp. 3-31-14
CIVIL
STATE OF CALIFORNIA

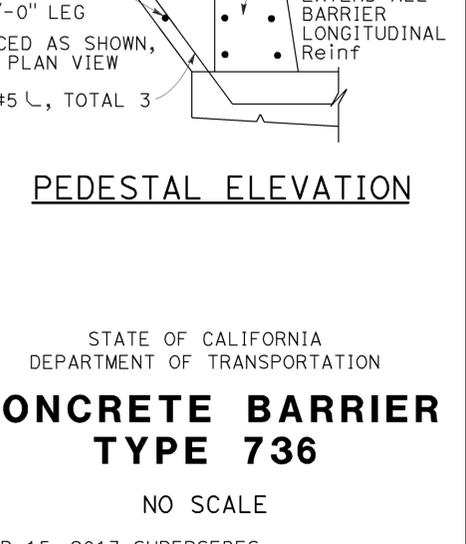
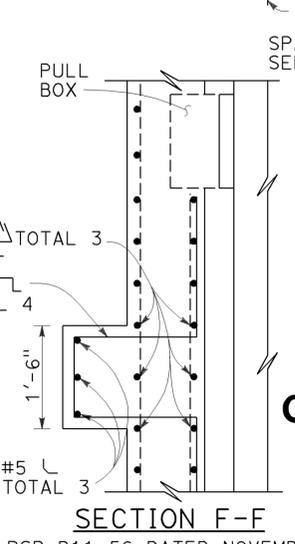
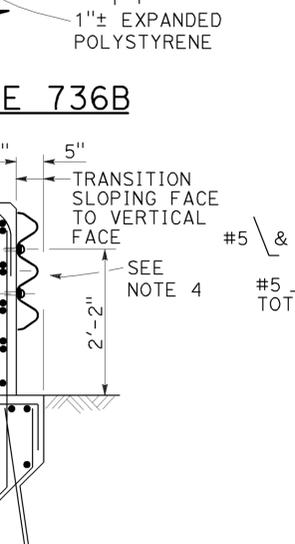
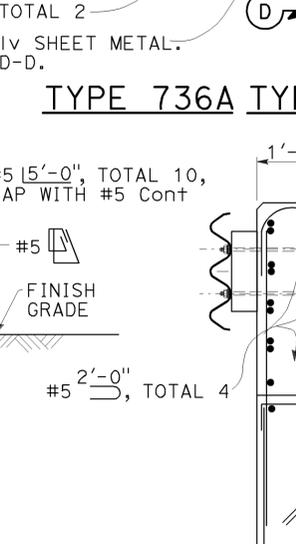
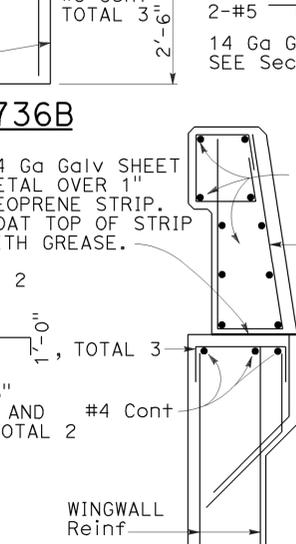
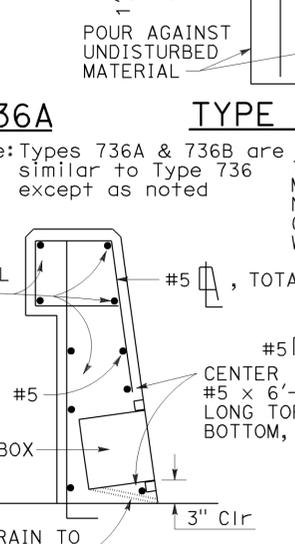
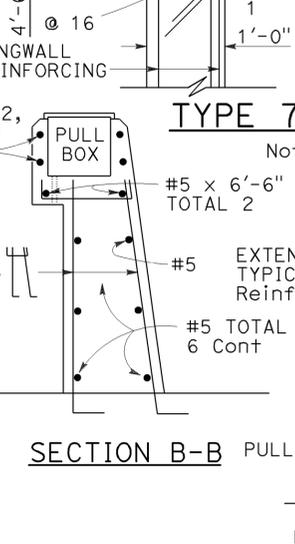
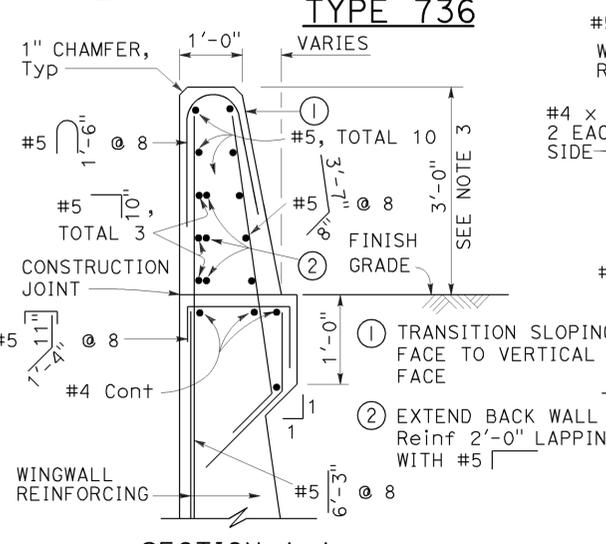
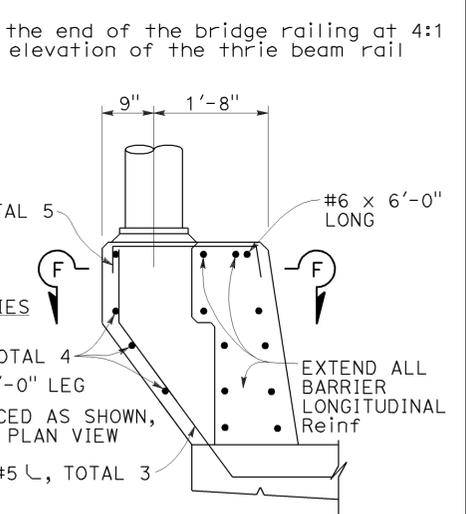
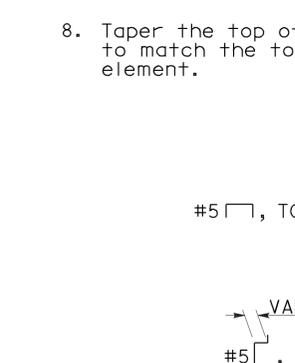
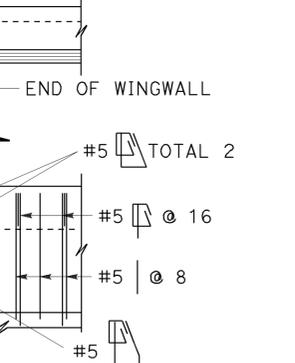
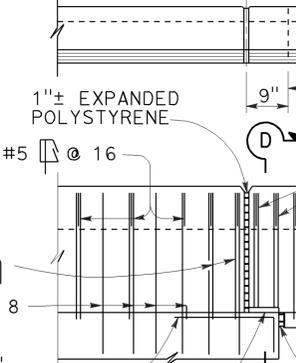
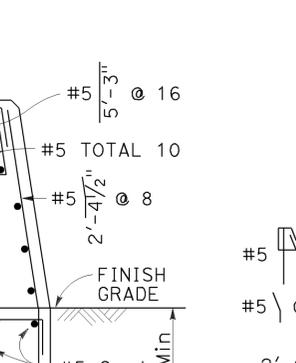
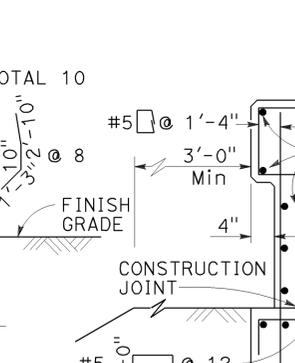
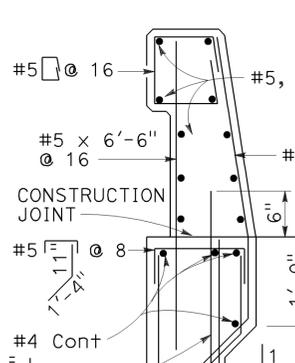
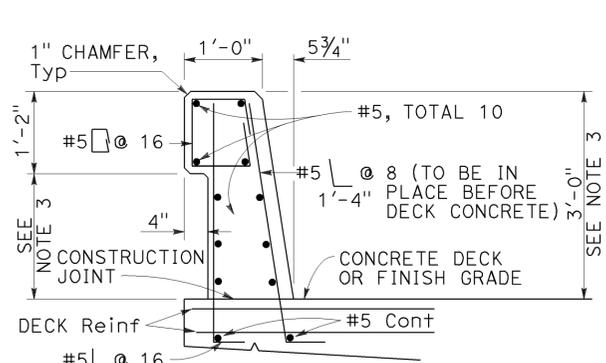
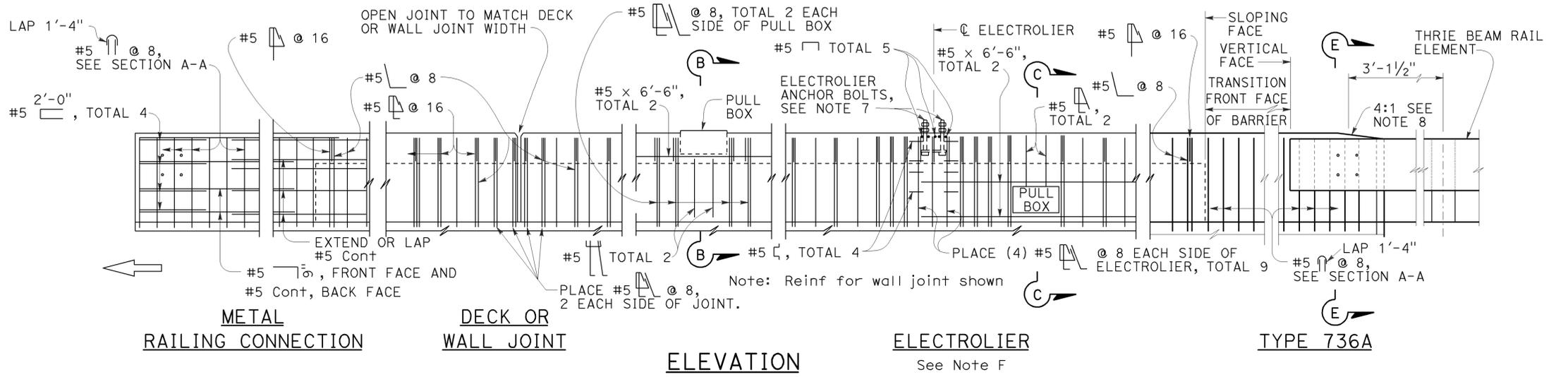
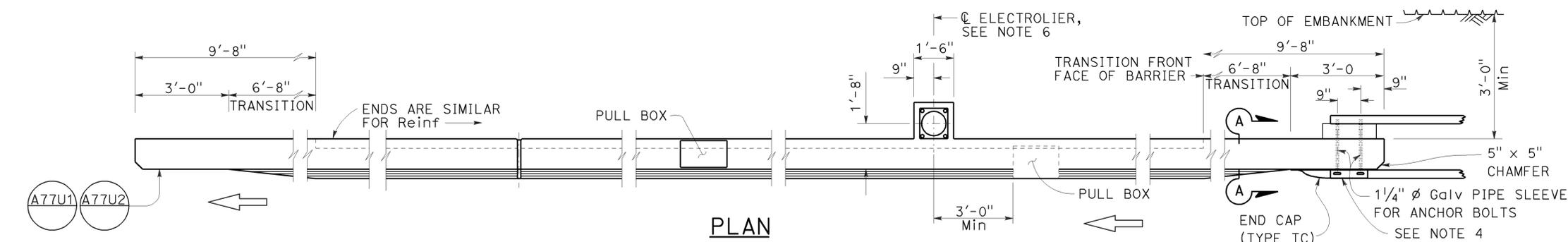
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 1-13-14

NOTES:

1. Walls are to be backfilled before barrier is placed.
2. Clearance to reinforcing steel in barrier to be 1", except as noted. Longitudinal reinforcement to stop at all expansion joints.
3. Dimensions may vary with roadway cross slope and with certain thickness of surfacing. See Project Plans.
4. For typical metal railing connection details not shown, see Revised Standard Plans RSP A77U1 and RSP A77U2.
5. See Standard Plans ES-9A, ES-9B, ES-9C, ES-9D and ES-9E for electrical details. The maximum number of conduits in the barrier is limited to two 2" conduits along with one 3" conduit. When a 3" conduit is used, it is restricted to the base of the barrier.
6. For electrolier mounting details, See Standard Plans ES-6A and ES-6B.
7. Minimum concrete edge distance, to the reinforcing shown, shall be maintained. Edge distance may be adjusted to accommodate increase in concrete cover for architectural treatment.
8. Taper the top of the end of the bridge railing at 4:1 to match the top elevation of the thrie beam rail element.

2010 REVISED STANDARD PLAN RSP B11-56



Details shown for barrier anchorage to Type 736A. Anchorage for barrier Types 736 and 736B are similar to their respective details.

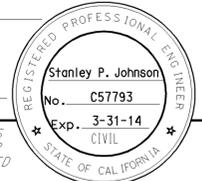
RSP B11-56 DATED NOVEMBER 15, 2013 SUPERSEDES RSP B11-56 DATED JULY 19, 2013 AND STANDARD PLAN B11-56 DATED MAY 20, 2011 - PAGE 298 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP B11-56

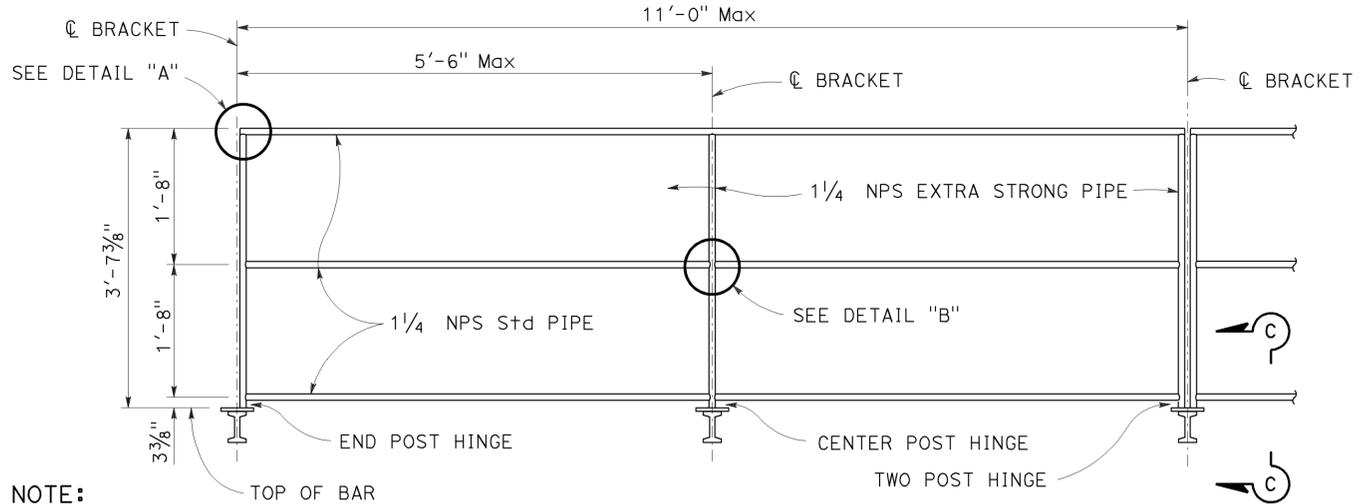
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**CONCRETE BARRIER
TYPE 736**
NO SCALE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0 0.0/3.4	328	477

Stanley P. Johnson
 REGISTERED CIVIL ENGINEER
 July 19, 2013
 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.



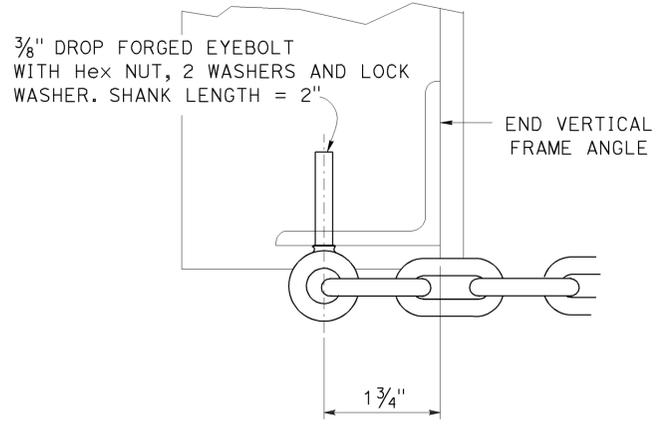
TO ACCOMPANY PLANS DATED 1-13-14



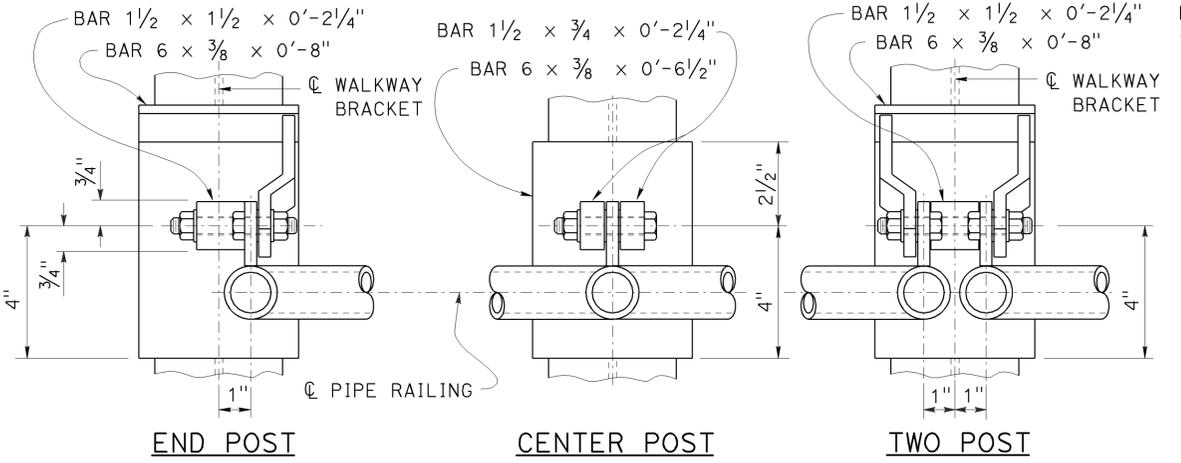
SAFETY RAILING ELEVATION

NOTE:
Chain assembly behind (see detail this page)

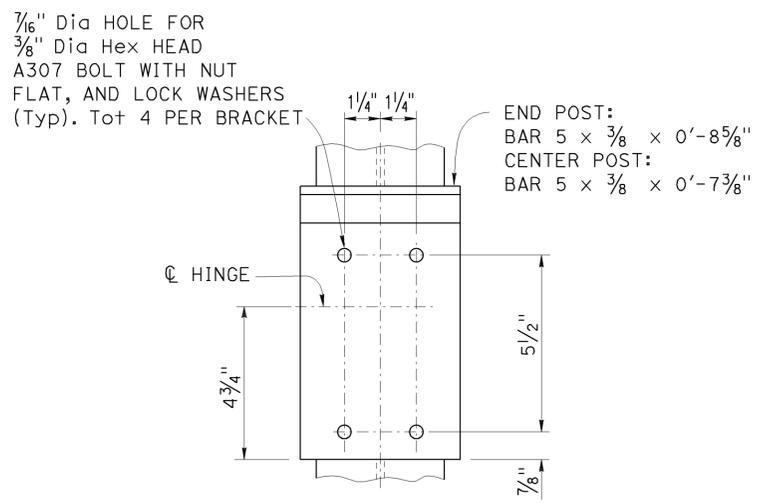
NOTE:
See Standard Plans S101 and S105 and S109 for walkway bracket spacing.



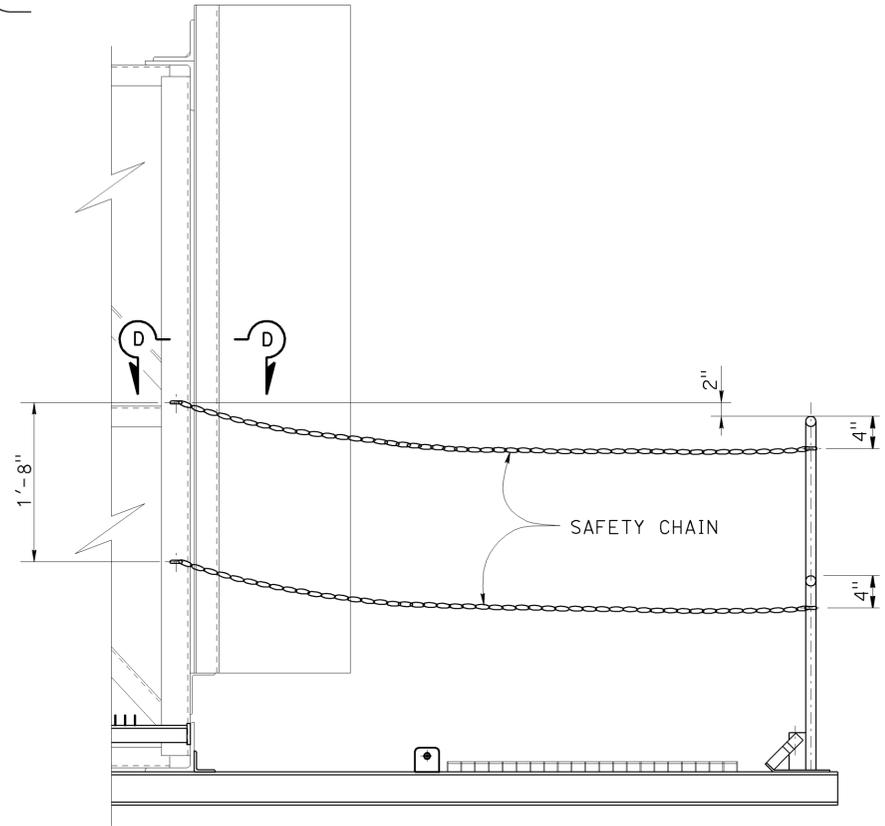
SECTION D-D



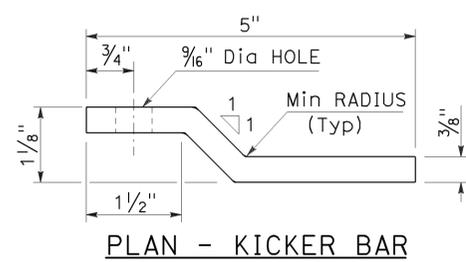
WELDED HINGE - PLAN



TYPICAL BOLTED (ALTERNATIVE) HINGED CONNECTION

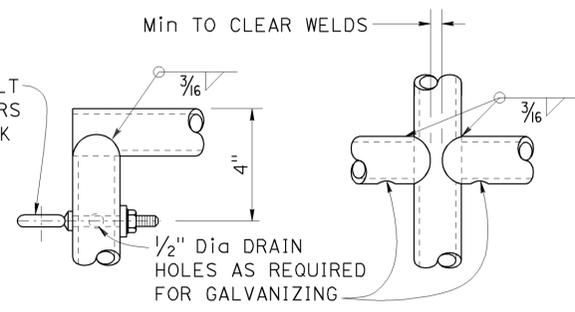


CHAIN ASSEMBLY

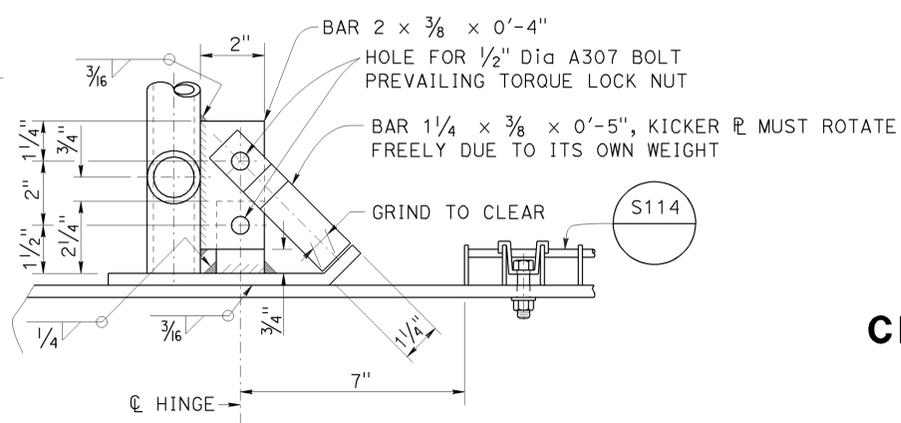


PLAN - KICKER BAR

3/8" DROP FORGED EYEBOLT WITH Hex NUT, 2 WASHERS AND LOCK WASHER. SHANK LENGTH = 3"



NOTE:
Alternative venting methods may be used if approved by the Engineer.



SECTION C-C ELEVATION VIEW

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**OVERHEAD SIGN-TRUSS
SINGLE POST TYPE
WALKWAY SAFETY
RAILING DETAILS
CHANGEABLE MESSAGE SIGNS
MODEL 500 AND 510**

NO SCALE

RSP S140 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN S140 DATED MAY 20, 2011 - PAGE 422 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP S140

2010 REVISED STANDARD PLAN RSP S140

LEGEND:

AB	ABANDON. IF APPLIED TO CONDUIT, REMOVE CONDUCTORS
BC	INSTALL PULL BOX IN EXISTING CONDUIT RUN
BP	PEDESTRIAN BARRICADE, TYPE AS INDICATED ON PLAN
CB	INSTALL CONDUIT INTO EXISTING PULL BOX
CC	CONNECT NEW AND EXISTING CONDUIT. REMOVE EXISTING CONDUCTORS AND INSTALL CONDUCTORS AS INDICATED
CF	CONDUIT TO REMAIN FOR FUTURE USE. REMOVE CONDUCTORS. INSTALL PULL TAPE
DH	DETECTOR HANDHOLE
FA	FOUNDATION TO BE ABANDONED
IS	INSTALL SIGN ON SIGNAL MAST ARM
NS	NO SLIP BASE ON STANDARD
PEC	PHOTOELECTRIC CONTROL
PEU	PHOTOELECTRIC UNIT
RC	EQUIPMENT OR MATERIAL TO BE REMOVED AND BECOME THE PROPERTY OF THE CONTRACTOR
RE	REMOVE ELECTROLIER, FUSES AND BALLAST. TAPE ENDS OF CONDUCTORS
RL	RELOCATE EQUIPMENT
RR	REMOVE AND REUSE EQUIPMENT
RS	REMOVE AND SALVAGE EQUIPMENT
SC	SPLICE NEW TO EXISTING CONDUCTORS
SD	SERVICE DISCONNECT
TSP	TELEPHONE SERVICE POINT

ABBREVIATIONS

APS	ACCESSIBLE PEDESTRIAN SIGNAL	M/M	MULTIPLE TO MULTIPLE TRANSFORMER
BBS	BATTERY BACKUP SYSTEM	Mtg	MOUNTING
BC	BOLT CIRCLE	MV	MERCURY VAPOR LIGHTING FIXTURE
BPB	BICYCLE PUSH BUTTON	MVDS	MICROWAVE VEHICLE DETECTION SYSTEM
C	CONDUIT	N	NEUTRAL (GROUNDED CONDUCTOR)
CB	CIRCUIT BREAKER	NB	NEUTRAL BUS
CCTV	CLOSED CIRCUIT TELEVISION	NC	NORMALLY CLOSE
Ck+	CIRCUIT	NO	NORMALLY OPEN
CMS	CHANGEABLE MESSAGE SIGN	P	CIRCUIT BREAKER'S POLE
Ctid	CALTRANS IDENTIFICATION	PB	PULL BOX
Comm	COMMUNICATION	PBA	PUSH BUTTON ASSEMBLY
DLC	LOOP DETECTOR LEAD-IN CABLE	PEC	PHOTOELECTRIC CONTROL
EMS	EXTINGUISHABLE MESSAGE SIGN	Ped	PEDESTRIAN
EVUC	EMERGENCY VEHICLE UNIT CABLE	PEU	PHOTOELECTRIC UNIT
EVUD	EMERGENCY VEHICLE UNIT DETECTOR	PT	CONDUIT WITH PULL TAPE
FB	FLASHING BEACON	RE	RELOCATED EQUIPMENT
FBCA	FLASHING BEACON CONTROL ASSEMBLY	RM	RAMP METERING
FBS	FLASHING BEACON WITH SLIP BASE	RWIS	ROADSIDE WEATHER INFORMATION SYSTEM
FO	FIBER OPTIC	SB	SLIP BASE
G	EQUIPMENT GROUNDING CONDUCTOR	SIC	SIGNAL INTERCONNECT CABLE
GB	GROUND BUS	Sig	SIGNAL
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	SMA	SIGNAL MAST ARM
HAR	HIGHWAY ADVISORY RADIO	SNS	STREET NAME SIGN
Hex	HEXAGONAL	SP	SERVICE POINT
HPS	HIGH PRESSURE SODIUM	TDC	TELEPHONE DEMARCATION CABINET
IISNS	INTERNALLY ILLUMINATED STREET NAME SIGN	TMS	TRAFFIC MONITORING STATION
ISL	INDUCTION SIGN LIGHTING	TOS	TRAFFIC OPERATIONS SYSTEM
LED	LIGHT EMITTING DIODE	Veh	VEHICLE
LMA	LUMINAIRE MAST ARM	VIVDS	VIDEO IMAGE VEHICLE DETECTION SYSTEM
LPS	LOW PRESSURE SODIUM	WIM	WEIGH-IN-MOTION
Ltg	LIGHTING	Xfmr	TRANSFORMER
Lum	LUMINAIRE		
M	METERED		
MAT	MAST ARM MOUNTING TOP ATTACHMENT		
MAS	MAST ARM MOUNTING SIDE ATTACHMENT		

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0 0.0/3.4	330	477

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

Theresa
Aziz Gabriel
No. E15129
Exp. 6-30-14
ELECTRICAL
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.

TO ACCOMPANY PLANS DATED 1-13-14

SOFFIT AND WALL MOUNTED LUMINAIRES

- PENDANT, 70 W HPS UNLESS OTHERWISE SPECIFIED
- FLUSH, 70 W HPS UNLESS OTHERWISE SPECIFIED
- WALL SURFACE, 70 W HPS UNLESS OTHERWISE SPECIFIED
- EXISTING SOFFIT OR WALL LUMINAIRE TO REMAIN UNMODIFIED
- EXISTING SOFFIT OR WALL LUMINAIRE TO BE MODIFIED AS SPECIFIED

NOTE:
Arrow indicates "street side" of luminaire.

COMMONLY USED SYMBOLS FOR UNITED STATES CUSTOMARY UNITS OF MEASUREMENT:

SYMBOL USED	DEFINITIONS
Ω	OHMS
min	MINUTE
s	SECOND
bps	BITS PER SECOND
Bps	BYTES PER SECOND
A	AMPERE
V	VOLT
V(dc)	VOLT (DIRECT CURRENT)
V(ac)	VOLT (ALTERNATING CURRENT)
FC	FOOT - CANDLE
W	WATTS
VA	VOLT-AMPERE
M	MEGA
k	KILO
m	MILLI
μ	MICRO
P	PICO
HZ	HERTZ

MISCELLANEOUS ELECTROLIERS

NEW	EXISTING	
		LUMINAIRE ON WOOD POLE
		NON-STANDARD ELECTROLIER (SEE PROJECT NOTES OR PROJECT PLANS)
		CITY ELECTROLIER
		ELECTROLIER FOUNDATION (FUTURE INSTALLATION)

NOTES:

- HPS luminaires shall be 310 W HPS when installed on Type 21, 21D, 30, 31 and 32 Standards, unless otherwise specified. HPS luminaires shall be 200 W when installed on other type standards or poles, unless otherwise specified.
- LED luminaires shall be 235 W when installed on Type 21, 21D, 30, 31 and 32 Standards, unless otherwise specified. LED luminaires shall be 165 W when installed on other type standards or poles, unless otherwise specified.
- Luminaires shall be the cutoff type, ANSI Type III medium cutoff lighting distribution, unless otherwise specified.

STANDARD ELECTROLIER

NEW	EXISTING	STANDARD TYPE
		15
		15D
		15 STRUCTURE
		15D STRUCTURE
		21
		21D
		21 STRUCTURE
		21D STRUCTURE
		30
		31
		32

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

NO SCALE

RSP ES-1A DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-1A DATED MAY 20, 2011 - PAGE 425 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-1A

2010 REVISED STANDARD PLAN RSP ES-1A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0 0.0/3.4	331	477

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

Theresa Aziz Gabriel
No. E15129
Exp. 6-30-14
ELECTRICAL
STATE OF CALIFORNIA

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TO ACCOMPANY PLANS DATED 1-13-14

CONDUIT

NEW	EXISTING	
---	---	LIGHTING CONDUIT, UNLESS OTHERWISE INDICATED OR NOTED
---	---	TRAFFIC SIGNAL CONDUIT
---C---	---c---	COMMUNICATION CONDUIT
---T---	---t---	TELEPHONE CONDUIT
---F---	---f---	FIRE ALARM CONDUIT
---FO---	---fo---	FIBER OPTIC CONDUIT
---	---	CONDUIT TERMINATION
		CONDUIT RISER ATTACHED TO THE STRUCTURE OR SERVICE POLE

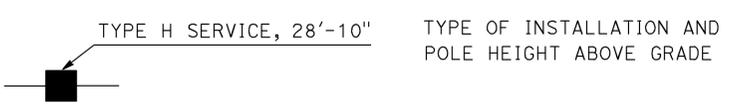
SIGNAL EQUIPMENT

NEW	EXISTING	
		PEDESTRIAN SIGNAL HEAD "C" INDICATES COUNTDOWN PEDESTRIAN HEAD
		PUSH BUTTON ASSEMBLY POST
		PEDESTRIAN BARRICADE
		VEHICLE SIGNAL HEAD (WITH BACKPLATE AND 3-SECTIONS: RED, YELLOW AND GREEN)
		VEHICLE SIGNAL HEAD WITH ANGLE VISOR
		MODIFICATIONS OF BASIC SYMBOL: "L" INDICATES ALL NON-ARROW SECTIONS LOUVERED "LG" INDICATES LOUVERED GREEN SECTION ONLY "PV" INDICATES ALL 12" SECTIONS PROGRAMMED VISIBILITY "8" INDICATES ALL 8" SECTIONS (ONLY WHEN SPECIFIED)
		VEHICLE SIGNAL HEAD CONSISTING OF RED, YELLOW AND GREEN LEFT ARROW SECTIONS
		VEHICLE SIGNAL HEAD CONSISTING OF RED AND YELLOW SECTIONS WITH AN UP GREEN ARROW SECTION
		VEHICLE SIGNAL HEAD (5 SECTION) CONSISTING OF RED, YELLOW AND GREEN SECTIONS WITH YELLOW AND GREEN RIGHT ARROW SECTIONS
		TYPE 15TS STANDARD WITH VEHICLE SIGNAL HEAD AND LUMINAIRE
		TYPE 21TS STANDARD WITH VEHICLE SIGNAL HEAD AND LUMINAIRE
		STANDARD WITH LUMINAIRE AND SIGNAL MAST ARMS AND ATTACHED VEHICLE SIGNAL HEADS
		TYPE 1 STANDARD WITH ATTACHED VEHICLE SIGNAL HEADS
		STANDARD WITH A SIGNAL MAST ARM, ATTACHED VEHICLE SIGNAL HEADS AND INTERNALLY ILLUMINATED STREET NAME SIGN
		CONTROLLER ASSEMBLY. DOOR INDICATES FRONT OF CABINET

SERVICE EQUIPMENT

NEW	EXISTING	
---OH---	---oh---	OVERHEAD LINES
		WOOD POLE, "U" INDICATES UTILITY OWNED
		POLE GUY WITH ANCHOR
		UTILITY TRANSFORMER - GROUND MOUNTED
		SERVICE EQUIPMENT ENCLOSURE TYPE. DOOR INDICATES FRONT OF ENCLOSURE
		TELEPHONE DEMARCATION CABINET

POLE-MOUNTED SERVICE DESIGNATION



FLASHING BEACON

NEW	EXISTING	
		FLASHING BEACON (ONE VEHICLE SIGNAL HEAD WITH BACKPLATE AND VISOR) "R" INDICATES RED INDICATION, "Y" INDICATES YELLOW INDICATION
		FLASHING BEACON WITH TYPE 15-FBS STANDARD AND A SIGN.
		FLASHING BEACON WITH TYPES 9, 9A OR 9B SIGN UNLESS OTHERWISE SPECIFIED OR INDICATED

SIGNAL EQUIPMENT Cont

NEW	EXISTING	
		GUARD POST
		TYPE 1 STANDARD WITH RAMP METERING SIGN
		OPTICAL DETECTOR FOR THE EMERGENCY VEHICLE DETECTION SYSTEM

NOTES:

- All signal sections shall be 12" unless shown otherwise.
- Signal heads shall be provided with backplates unless shown otherwise.

ILLUMINATED OVERHEAD SIGN

NEW	EXISTING	
		SINGLE POST, SINGLE ILLUMINATED SIGN, BALANCED BUTTERFLY
		SINGLE POST, DOUBLE ILLUMINATED SIGN, BALANCED BUTTERFLY
		SINGLE POST, SINGLE ILLUMINATED SIGN, FULL CANTILEVER
		DOUBLE POST, SINGLE ILLUMINATED SIGN
		SINGLE ILLUMINATED SIGN MOUNTED ON STRUCTURE
		DOUBLE POST, SINGLE ILLUMINATED SIGN WITH ELECTROLIER

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
(LEGEND AND ABBREVIATIONS)**

NO SCALE

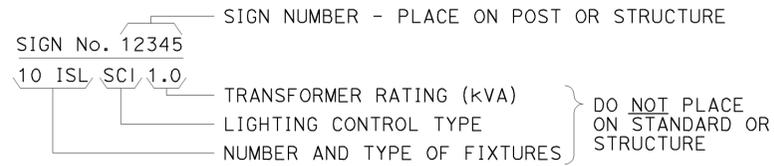
RSP ES-1B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-1B DATED MAY 20, 2011 - PAGE 426 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-1B

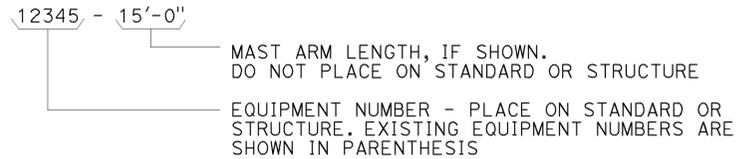
2010 REVISED STANDARD PLAN RSP ES-1B

EQUIPMENT IDENTIFICATION

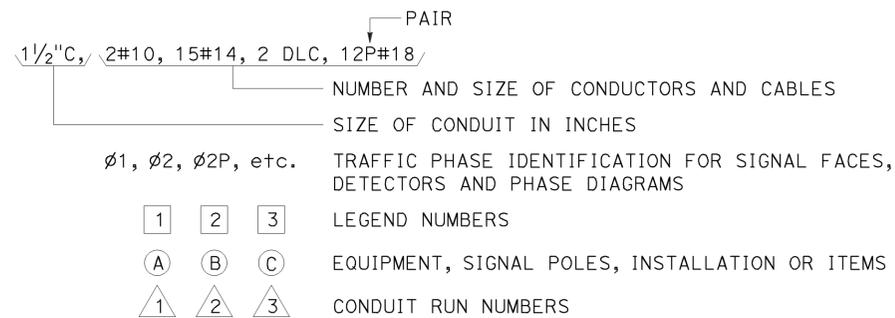
ILLUMINATED SIGN IDENTIFICATION NUMBER:



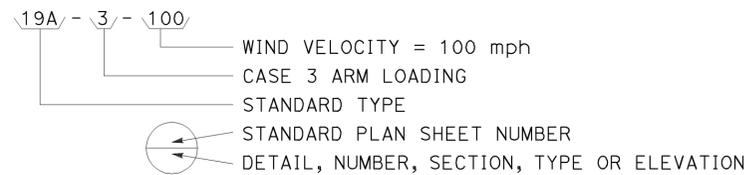
ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



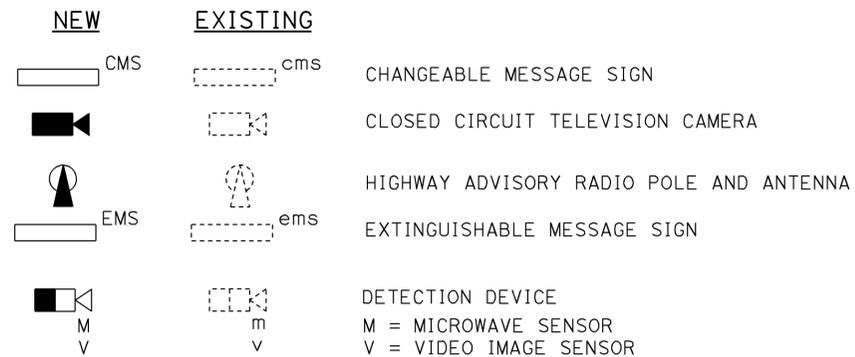
CONDUIT AND CONDUCTOR IDENTIFICATION:



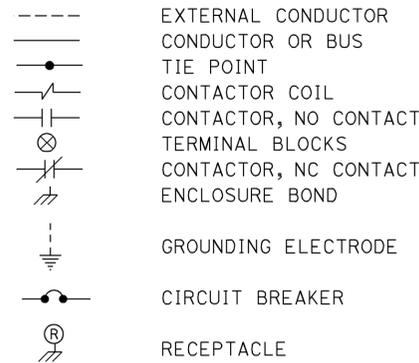
SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



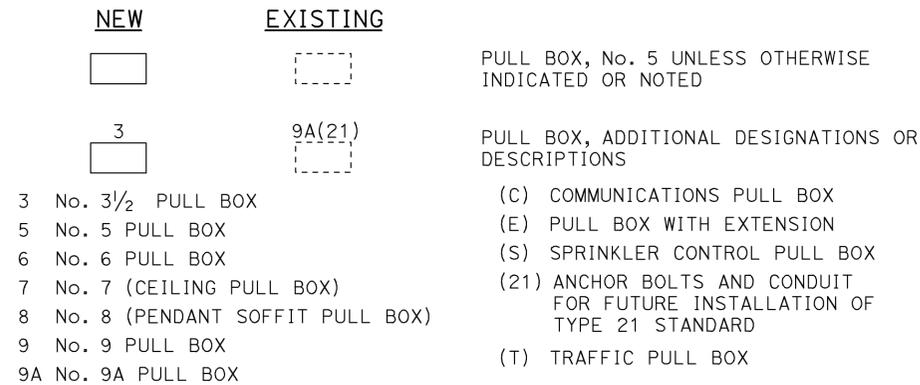
MISCELLANEOUS EQUIPMENT



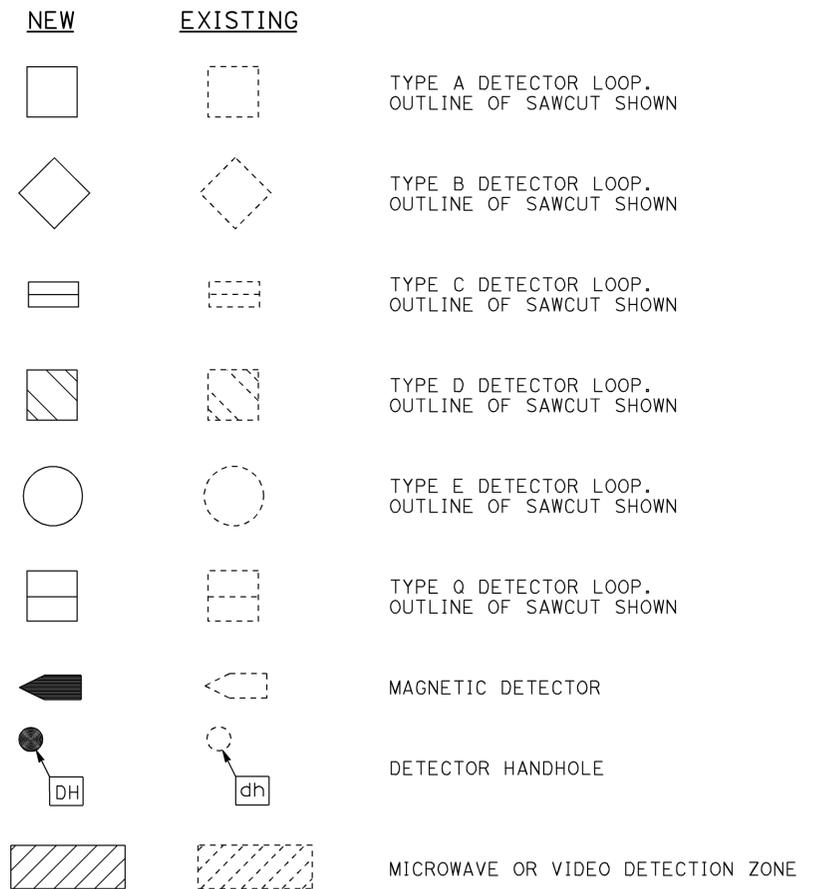
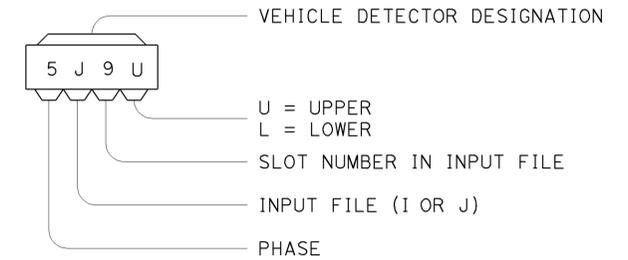
WIRING DIAGRAM LEGEND



PULL BOXES



VEHICLE DETECTORS



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

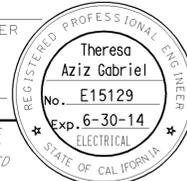
ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

NO SCALE

RSP ES-1C DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-1C
DATED MAY 20, 2011 - PAGE 427 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-1C

2010 REVISED STANDARD PLAN RSP ES-1C

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0 0.0/3.4	333	477
<i>Theresa Gabriel</i> REGISTERED ELECTRICAL ENGINEER July 19, 2013 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>					
					

TO ACCOMPANY PLANS DATED 1-13-14

PLAN VIEW OF OTHER
SIDE MOUNTINGS

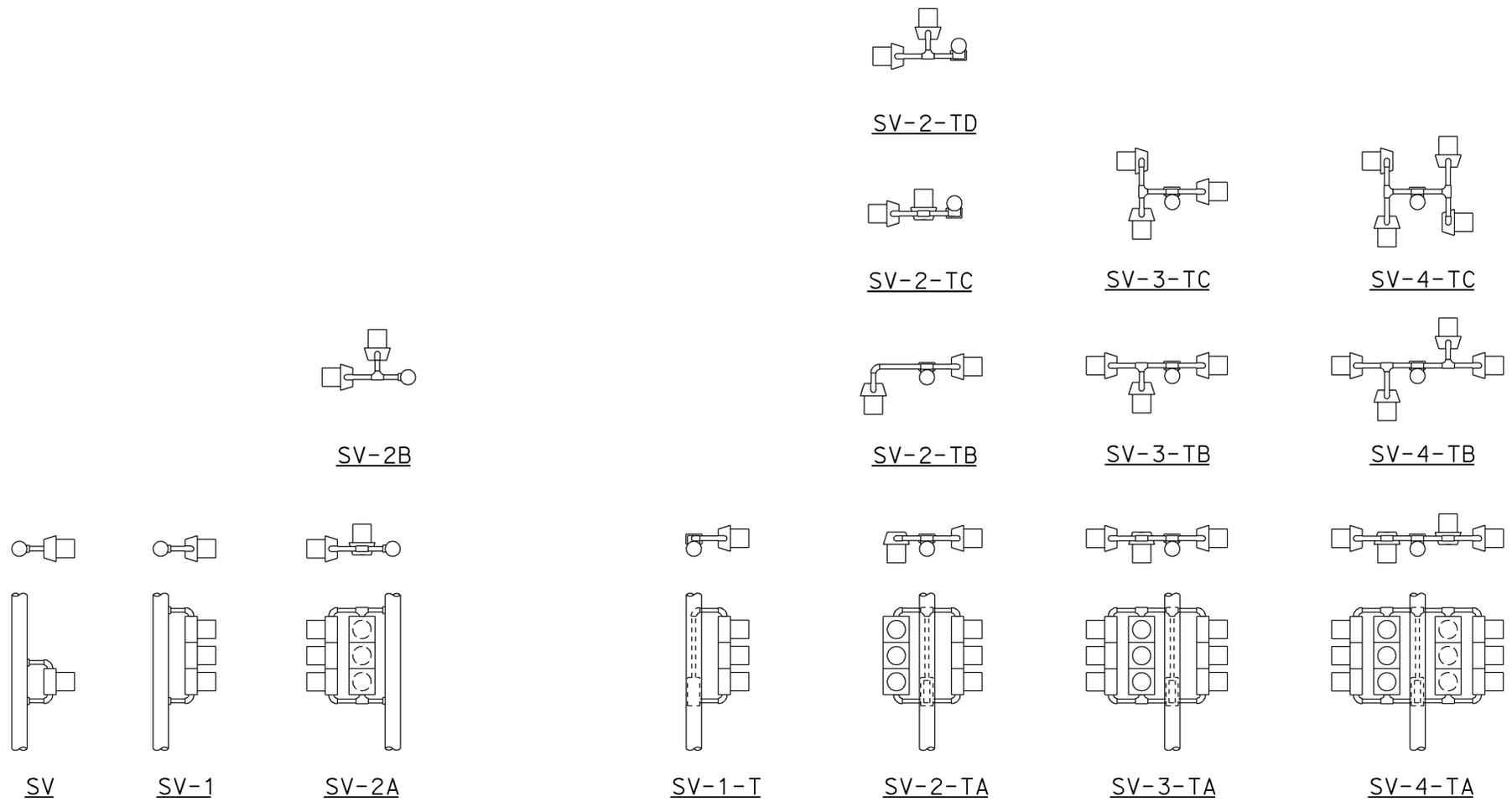
ABBREVIATIONS:

- SV SIDE MOUNTED VEHICLE SIGNALS
- T TERMINAL COMPARTMENT
- TV TOP MOUNTED VEHICLE SIGNALS
- 1, 2, 3, 4 NUMBER OF SIGNAL FACES
(3 - SECTION, UNLESS OTHERWISE INDICATED)
- A, B, C, D CONFIGURATION OF SIGNALS

NOTES:

1. Mountings shall be oriented to provide maximum horizontal clearance to adjacent roadway.
2. Bracket arms shall be long enough to permit proper alignment of signals and backplate installation.
3. See Standard Plans ES-4D and ES-4E for attachment fitting details.

PLAN VIEW OF
TOP MOUNTINGS



SIDE MOUNTINGS

TOP MOUNTINGS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
(VEHICULAR SIGNAL HEADS
AND MOUNTINGS)**

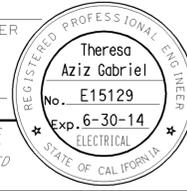
NO SCALE

RSP ES-4A DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-4A
DATED MAY 20, 2011 - PAGE 443 OF THE STANDARD PLANS BOOK DATED 2010.

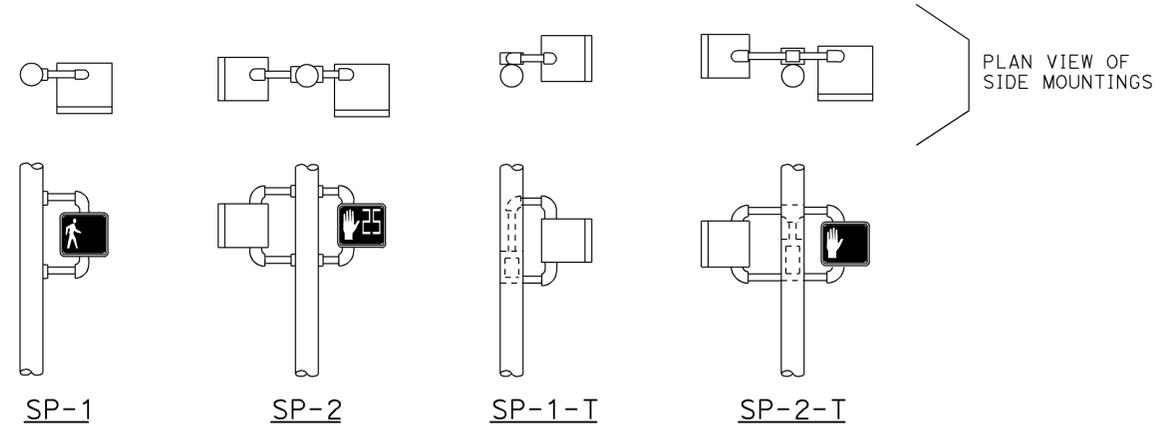
REVISED STANDARD PLAN RSP ES-4A

2010 REVISED STANDARD PLAN RSP ES-4A

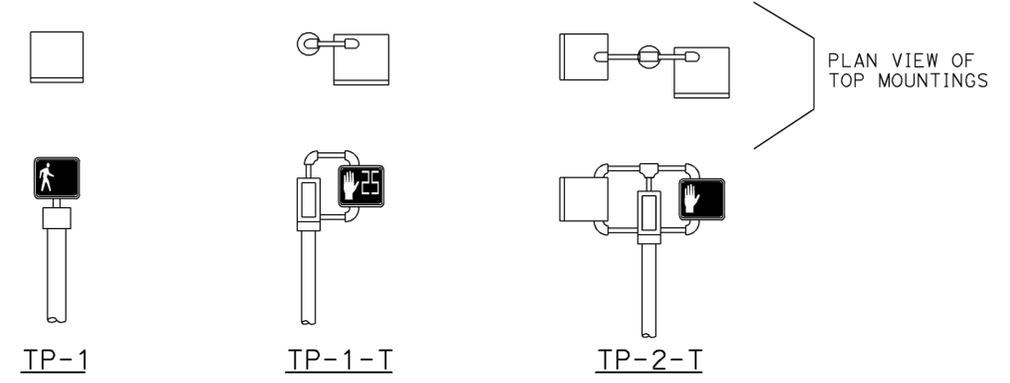
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0 0.0/3.4	334	477
<i>Theresa Gabriel</i> REGISTERED ELECTRICAL ENGINEER July 19, 2013 PLANS APPROVAL DATE					
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TO ACCOMPANY PLANS DATED 1-13-14



SIDE MOUNTINGS



TOP MOUNTINGS

PEDESTRIAN SIGNALS AND MOUNTINGS

DETAIL A

NOTES:

1. Mounting shall be oriented to provide maximum horizontal clearance to adjacent roadway.
2. Bracket arms shall be long enough to permit proper alignment of signals.
3. See Standard Plan ES-4D for attachment fittings details.

ABBREVIATIONS:

- 1, 2 NUMBER OF SIGNAL FACES
- SP SIDE MOUNTED PEDESTRIAN SIGNAL
- T TERMINAL COMPARTMENT
- TP TOP MOUNTED PEDESTRIAN SIGNAL



PERSON WALKING INTERVAL FLASHING UPRaised HAND INTERVAL STEADY UPRaised HAND INTERVAL

PEDESTRIAN SIGNAL MODULE WITH COUNTDOWN

DETAIL B



RAMP METERING SIGN

DETAIL D



PERSON WALKING INTERVAL STEADY UPRaised HAND INTERVAL

PEDESTRIAN SIGNAL MODULE WITHOUT COUNTDOWN

DETAIL C

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (PEDESTRIAN SIGNAL AND
 RAMP METERING SIGN)**

NO SCALE

RSP ES-4B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-4B
 DATED MAY 20, 2011 - PAGE 444 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-4B

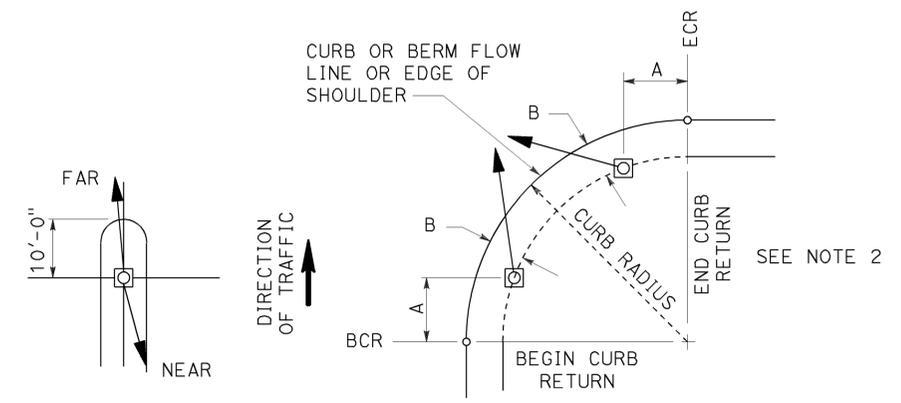
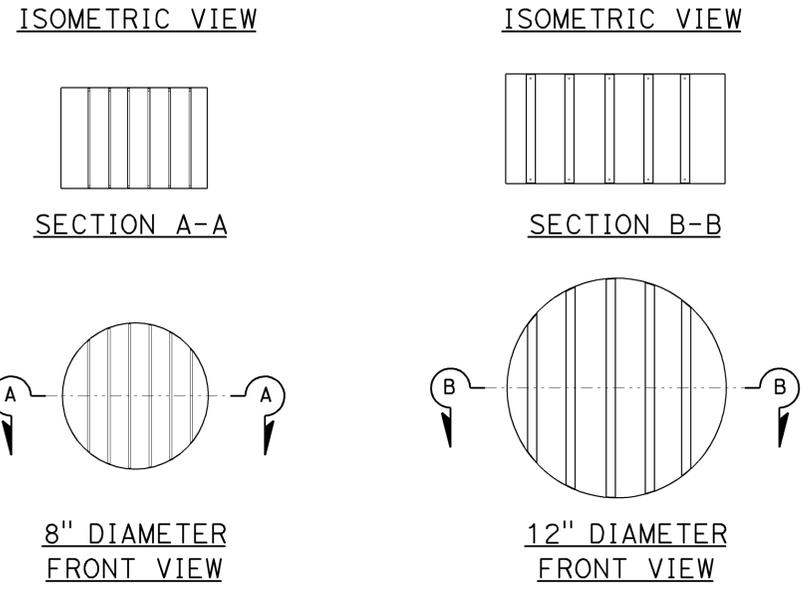
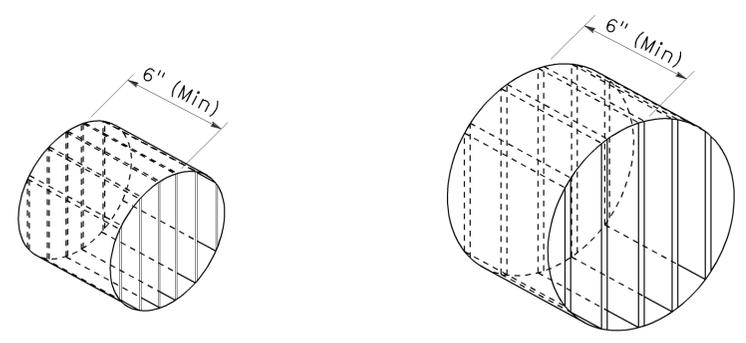
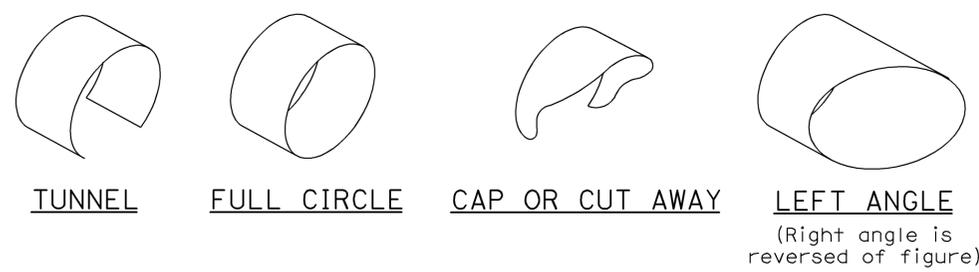
2010 REVISED STANDARD PLAN RSP ES-4B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0 0.0/3.4	335	477

Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE
 Theresa Aziz Gabriel
 No. E15129
 Exp. 6-30-14
 ELECTRICAL
 STATE OF CALIFORNIA

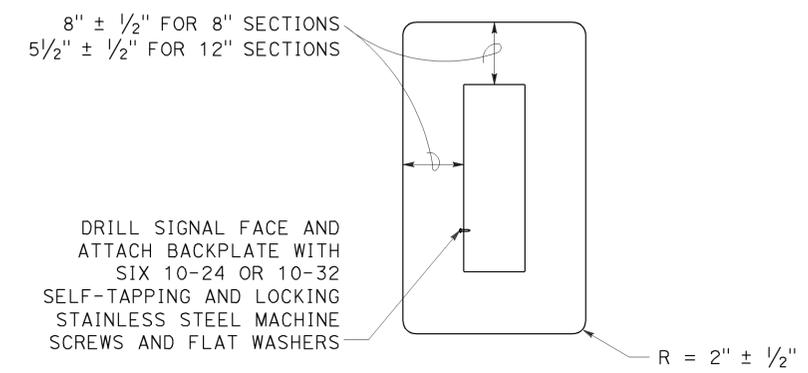
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TO ACCOMPANY PLANS DATED 1-13-14



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

VISORS



8" AND 12" SECTIONS

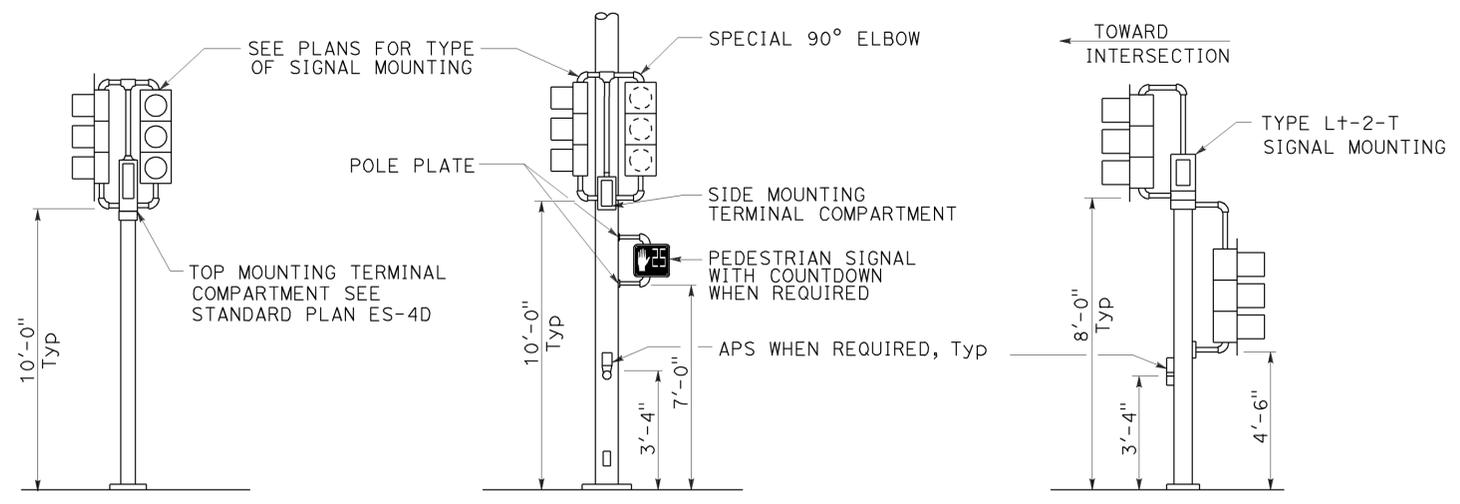
BACKPLATE

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

DIRECTIONAL LOUVER

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

SIGNAL STANDARD PLACEMENT DIMENSIONS AND EQUIPMENT LOCATIONS



TOP MOUNTED SIGNALS (TV)

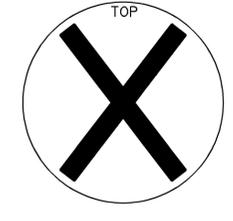
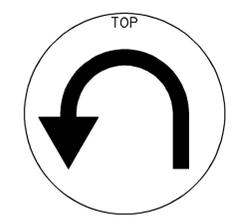
Type 1-A, 1-B, 1-C and 1-D standard as indicated on the plans

SIDE MOUNTED SIGNALS (SV AND SP)

Normally used on standards with luminaire or signal mast arm

LEFT TURN LANE SIGNAL

Type 1-A, 1-B, 1-C and 1-D standard as indicated on plans



SIGNAL FACES

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (VEHICULAR SIGNAL HEADS AND MOUNTINGS)

NO SCALE

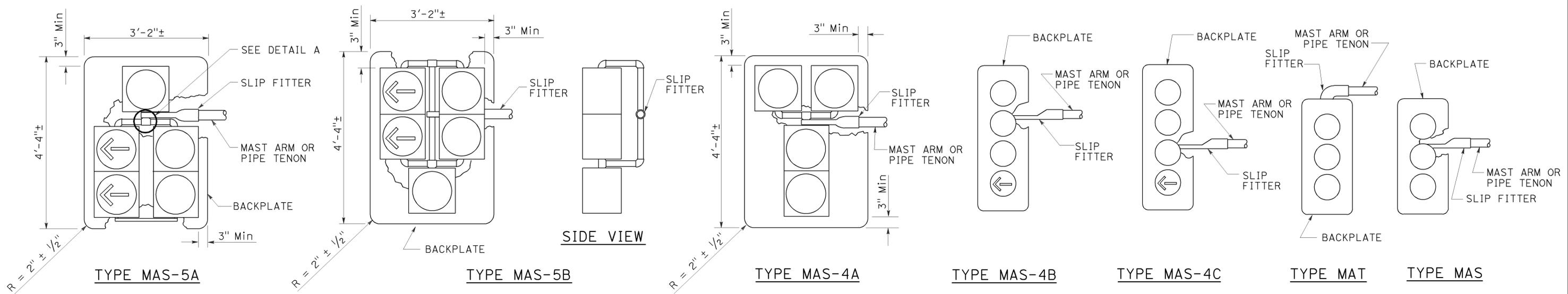
RSP ES-4C DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-04C DATED MAY 20, 2011 - PAGE 445 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP ES-4C

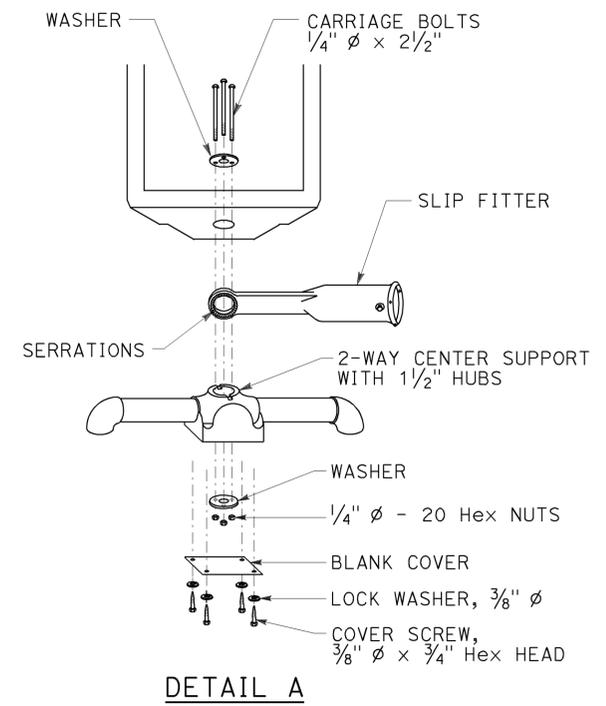
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0 0.0/3.4	336	477
<i>Theresa Gabriel</i> REGISTERED ELECTRICAL ENGINEER					
July 19, 2013 PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



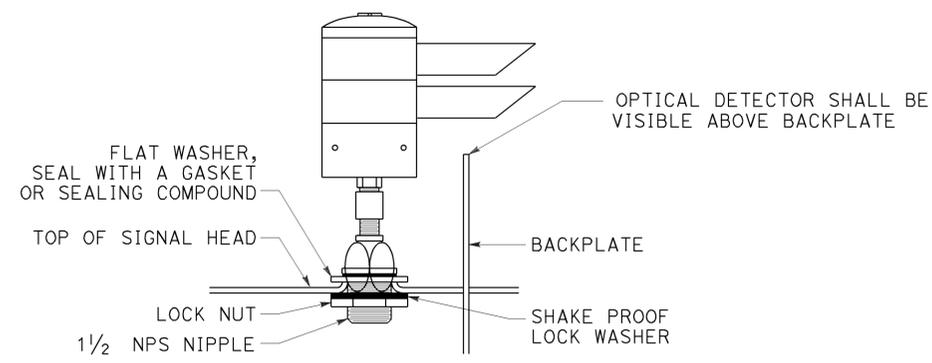
TO ACCOMPANY PLANS DATED 1-13-14



MAST ARM MOUNTINGS



DETAIL A



DETAIL B

OPTICAL DETECTOR MOUNTING FOR EMERGENCY VEHICLE DETECTION SYSTEM

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
(VEHICULAR SIGNAL HEADS AND
OPTICAL DETECTOR MOUNTING)**

NO SCALE

RSP ES-4E DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-4E DATED MAY 20, 2011 - 447 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-4E

2010 REVISED STANDARD PLAN RSP ES-4E

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0 0.0/3.4	337	477

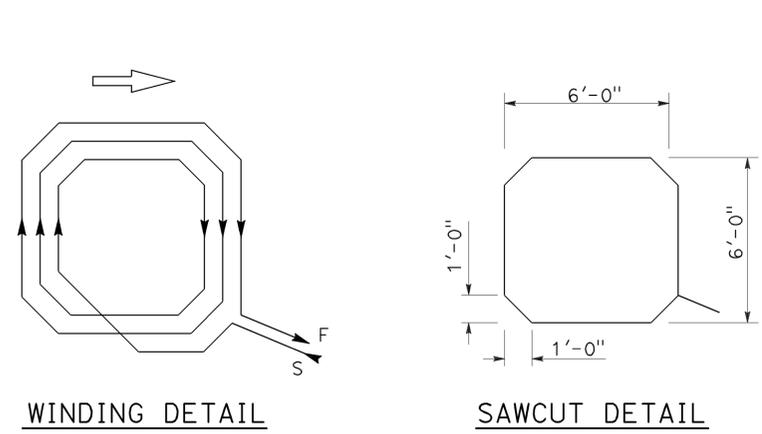
Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

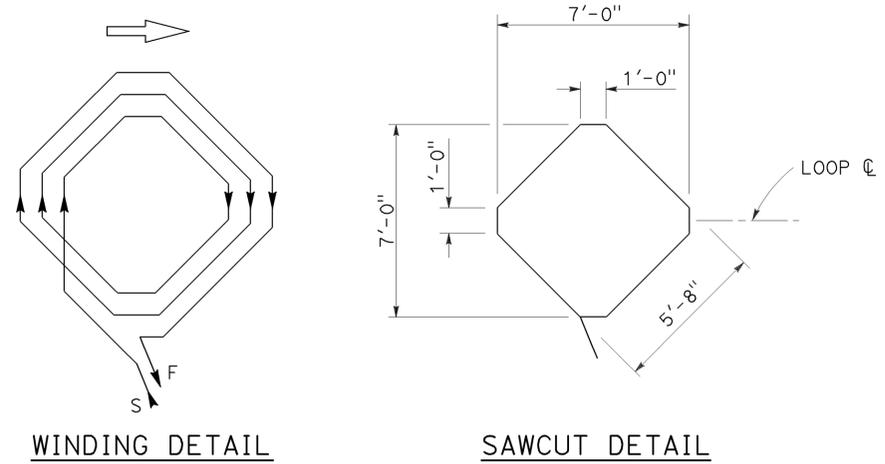
Theresa Aziz Gabriel
REGISTERED PROFESSIONAL ENGINEER
No. E15129
Exp. 6-30-14
ELECTRICAL
STATE OF CALIFORNIA

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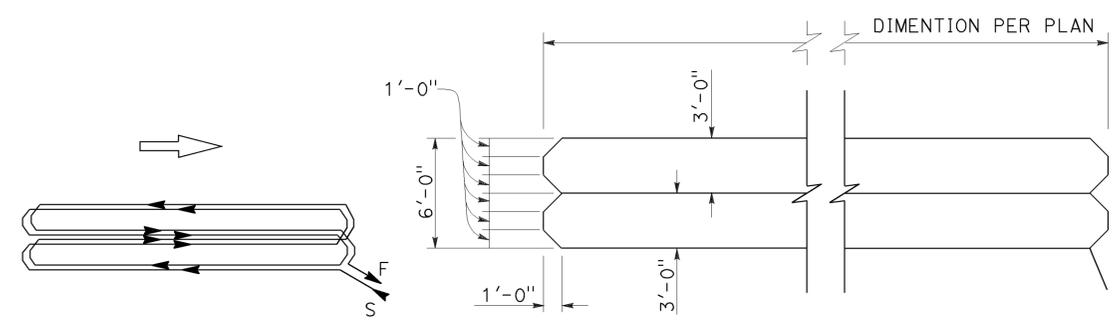
TO ACCOMPANY PLANS DATED 1-13-14



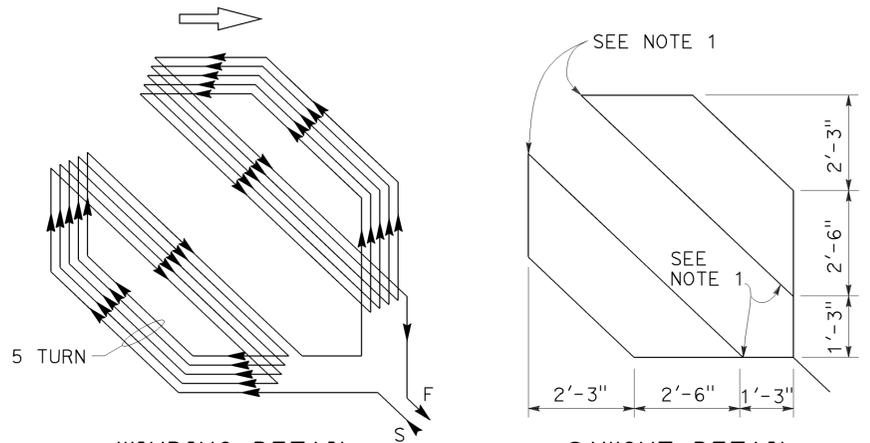
WINDING DETAIL
SAWCUT DETAIL
TYPE A LOOP DETECTOR CONFIGURATION



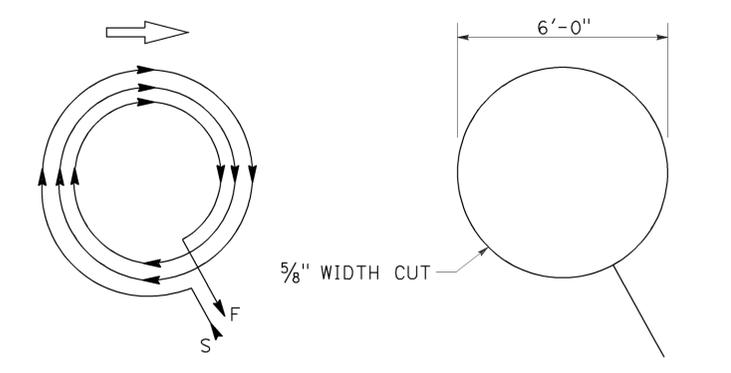
WINDING DETAIL
SAWCUT DETAIL
TYPE B LOOP DETECTOR CONFIGURATION



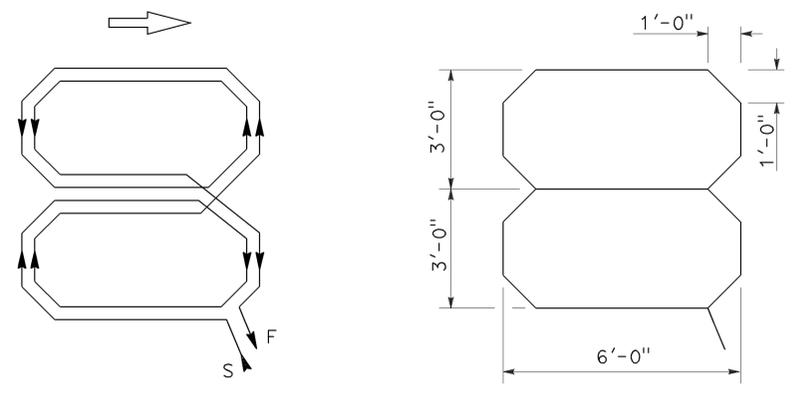
WINDING DETAIL
SAWCUT DETAIL
TYPE C LOOP DETECTOR CONFIGURATION



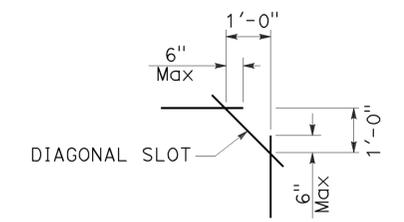
WINDING DETAIL
SAWCUT DETAIL
TYPE D LOOP DETECTOR CONFIGURATION



WINDING DETAIL
SAWCUT DETAIL
TYPE E LOOP DETECTOR CONFIGURATION



WINDING DETAIL
SAWCUT DETAIL
TYPE Q LOOP DETECTOR CONFIGURATION



PLAN VIEW OF
DIAGONAL SLOT
AT CORNERS

- NOTES:**
1. Round corners of acute angle sawcuts to prevent damage to conductors.
 2. Typical distance separating loops from edge to edge is 10' for Type A, B, D and E installation in single lane.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
(DETECTORS)**

NO SCALE

RSP ES-5B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-5B
DATED MAY 20, 2011 - PAGE 449 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP ES-5B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0 0.0/3.4	338	477

Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE

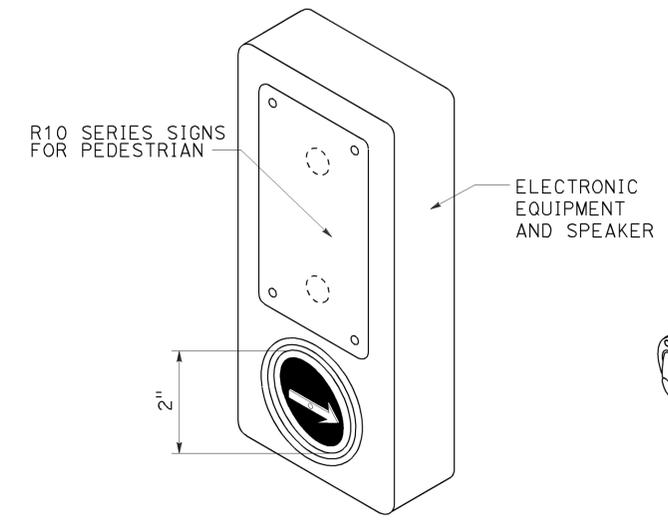
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
 Theresa Aziz Gabriel
 No. E15129
 Exp. 6-30-14
 ELECTRICAL
 STATE OF CALIFORNIA

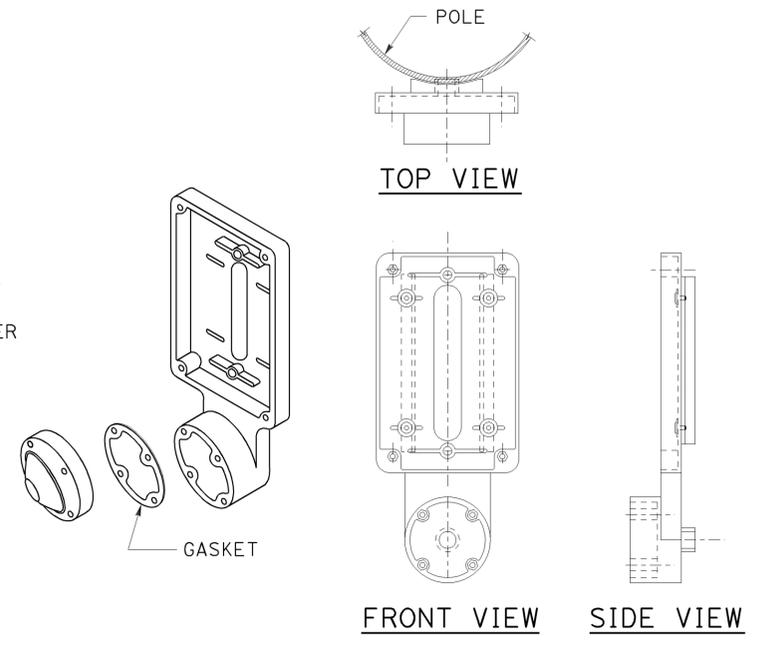
TO ACCOMPANY PLANS DATED 1-13-14

NOTES:

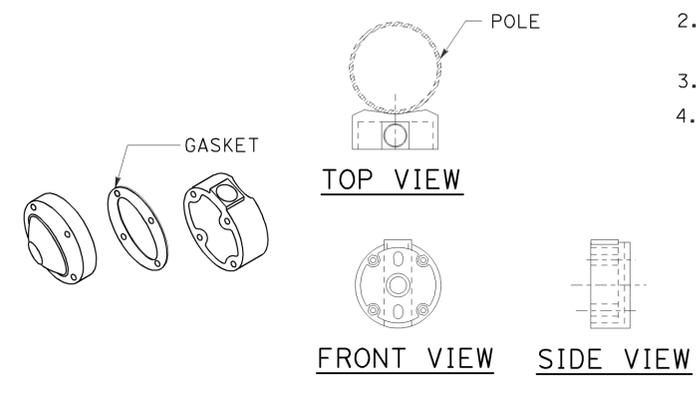
1. Back casting shape to fit curvature of pole.
2. Provide cover fitting for top of post, when PBA is mounted on push button assembly post.
3. Install push button on crosswalk side of standard.
4. Use R10 series regulatory signs and plaques for pedestrian and bicycle facilities.



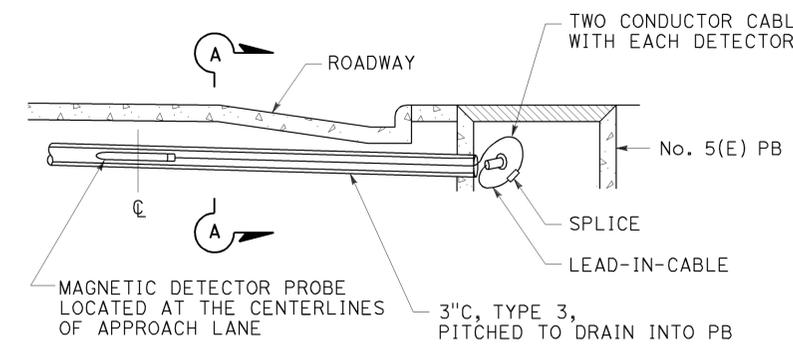
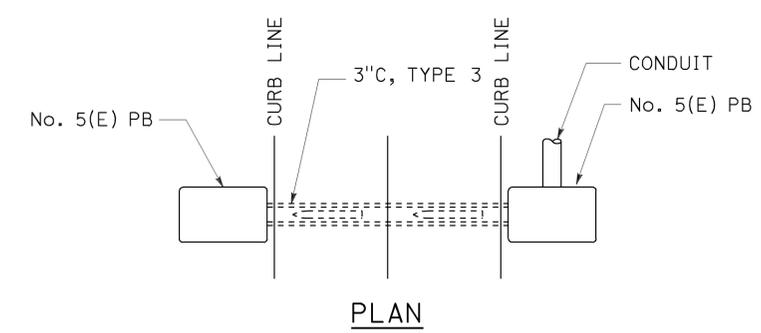
ACCESSIBLE PEDESTRIAN SIGNAL
DETAIL A
 (See note 1 to 4)



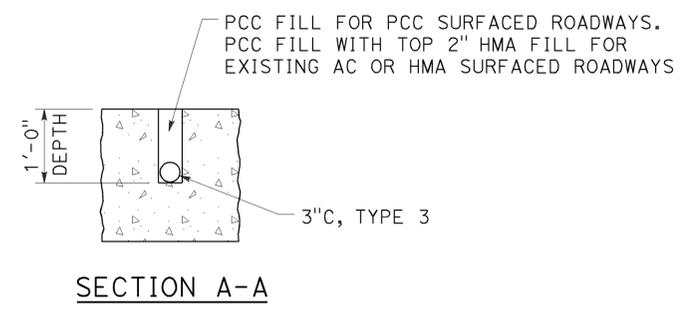
TYPE B PUSH BUTTON ASSEMBLY
DETAIL B
 (See note 1 to 4)



TYPE C PUSH BUTTON ASSEMBLY
DETAIL C
 (See note 1 to 4)



MAGNETIC VEHICLE DETECTOR
INSTALLATION DETAILS
DETAIL D



STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS
(ACCESSIBLE PEDESTRIAN SIGNAL, PUSH BUTTON ASSEMBLIES AND MAGNETIC VEHICLE DETECTOR)

NO SCALE

RSP ES-5C DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-5C DATED MAY 20, 2011 - PAGE 450 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-5C

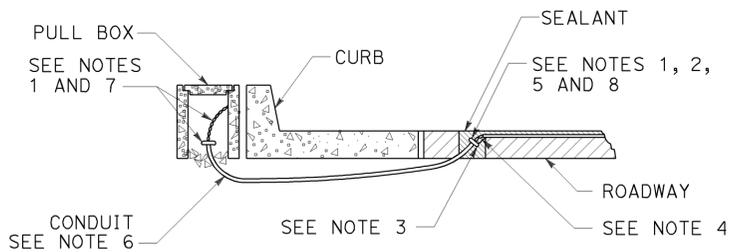
2010 REVISED STANDARD PLAN RSP ES-5C

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0 0.0/3.4	339	477

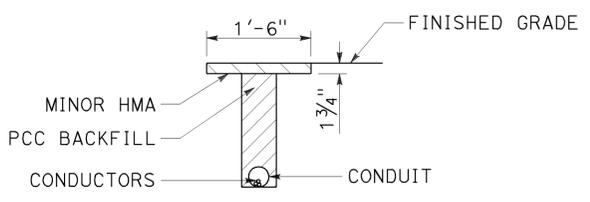
Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE
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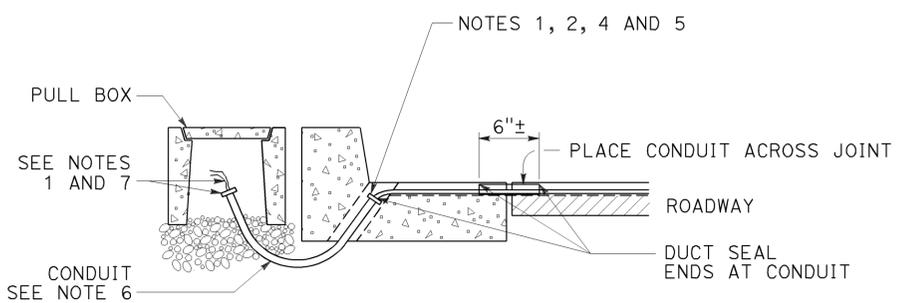
TO ACCOMPANY PLANS DATED 1-13-14



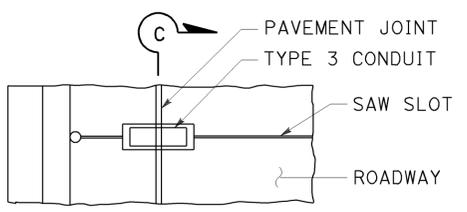
**TYPE A
CURB TERMINATION DETAIL**



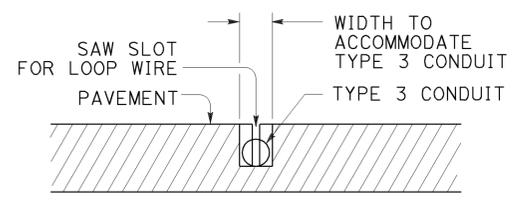
**"T" TRENCH
DETAIL T**



CROSS SECTION

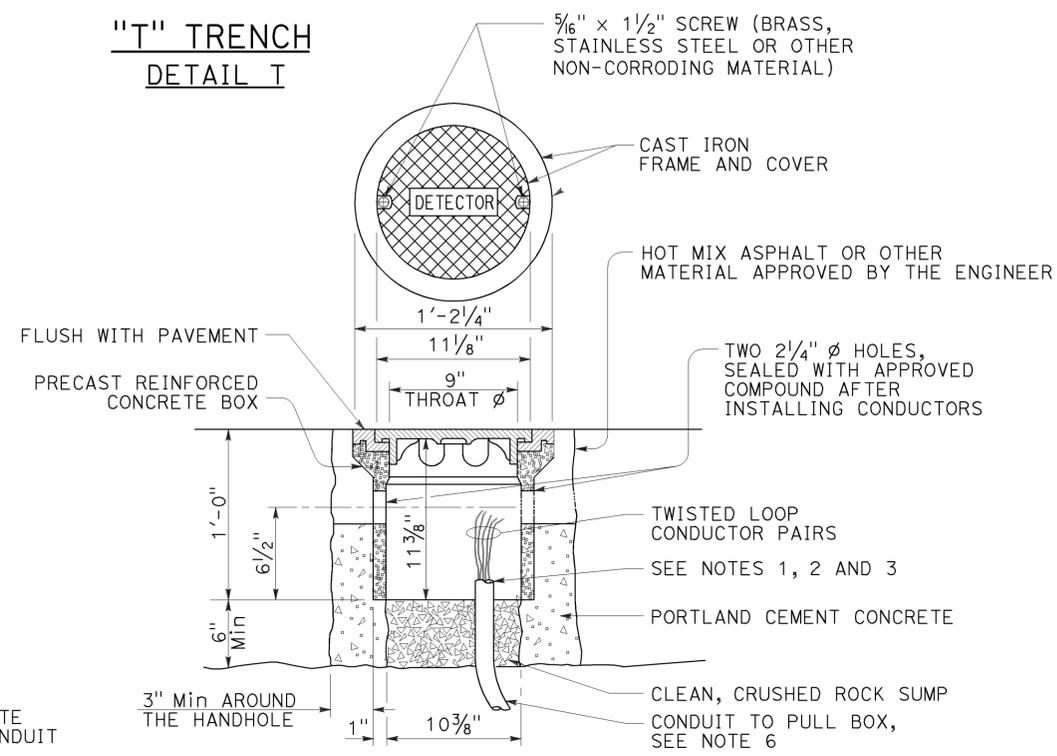


PLAN VIEW

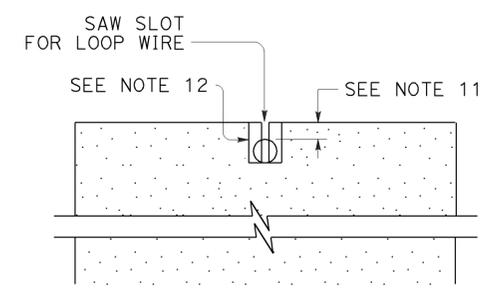


SECTION C-C

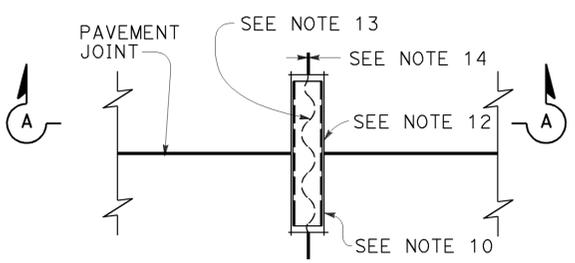
**TYPE B
CURB TERMINATION DETAIL**



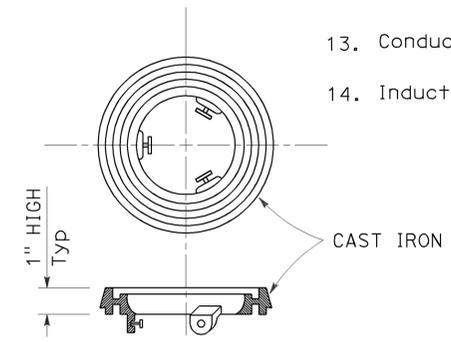
DETECTOR HANDHOLE DETAIL



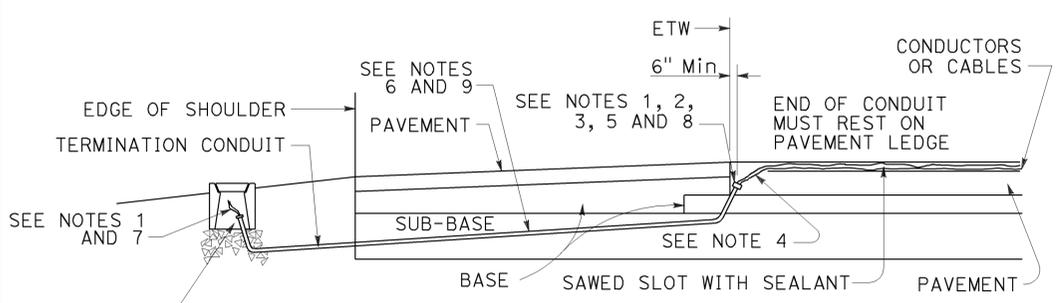
SECTION A-A



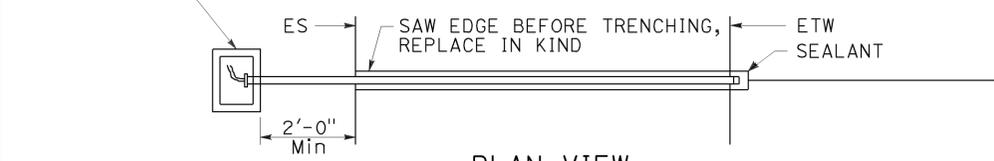
**PLAN VIEW
TYPICAL LOOP LEAD-IN DETAIL
AT PAVEMENT JOINT**



LOCKING GRADE RING



CROSS SECTION



**PLAN VIEW
SHOULDER TERMINATION DETAILS**

NOTES:

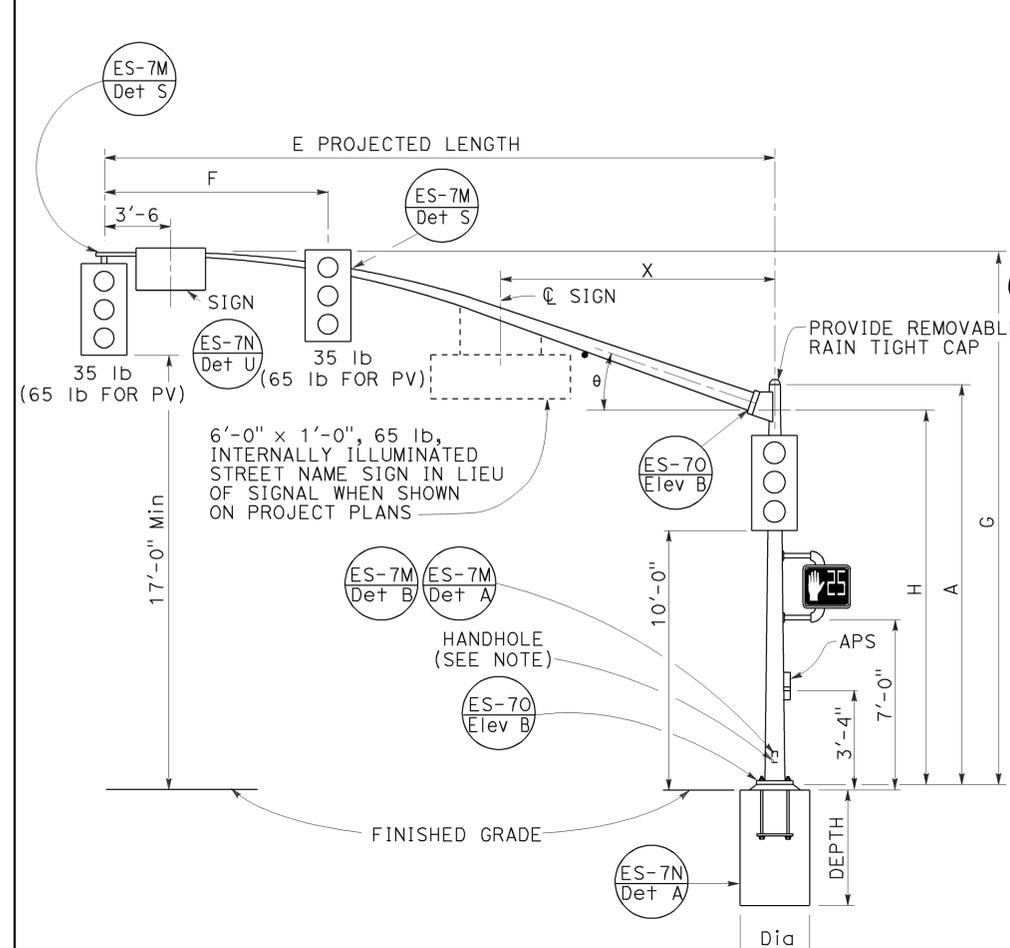
- Bushing shall be used at end of conduit.
- Tape detector conductors or cables 3" each side of bushings.
- Install duct seal compound to each end of termination conduit before installing sealant.
- Round all sharp edges where detector conductors or cables have to pass.
- End of conduit shall be 3/8" below roadway surface.
- Conduit size Loop conductors
 1"C minimum 1 to 2 pairs
 1 1/2"C minimum 3 to 4 pairs
 2"C minimum 5 or more pairs
- Splice detector conductors or cables to detector lead-in-cable.
- Location of detector handhole when shown on plans.
- When the shoulder and traveled way are paved with the same material and there is no joint between them, the conduit shall extend only 2'-0" into the shoulder pavement.
- 3/4"C, Type 3 conduit 6" long minimum, plug both ends with duct compound to keep out sealant.
- 1/2" Minimum between top of conduit and pavement surface.
- Sawcut shall not exceed 1" in width and 1/8" longer than conduit to be installed.
- Conductors with 1/2" minimum slack inside conduit.
- Inductive loop detector saw slot.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
(CURB TERMINATION
AND HANDHOLE)**
NO SCALE

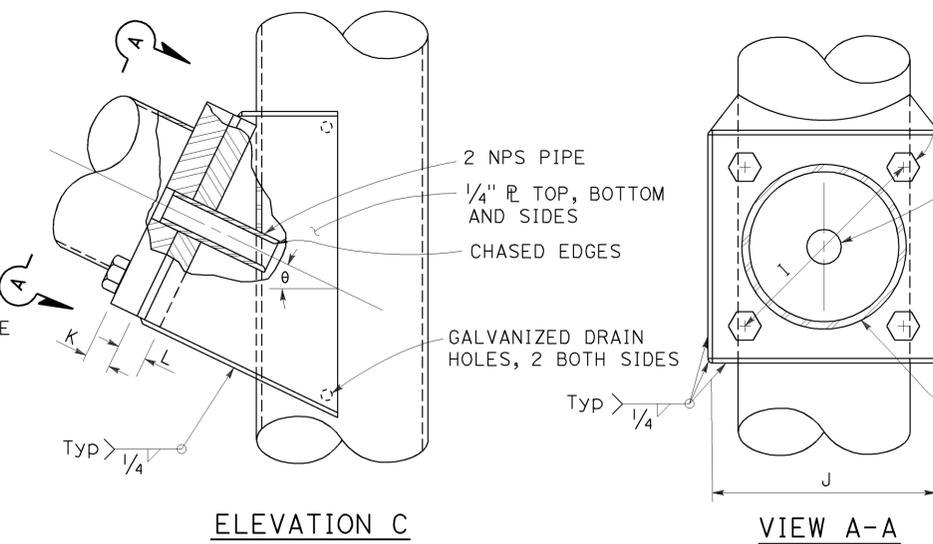
RSP ES-5D DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-5D DATED MAY 20, 2011 - PAGE 451 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-5D

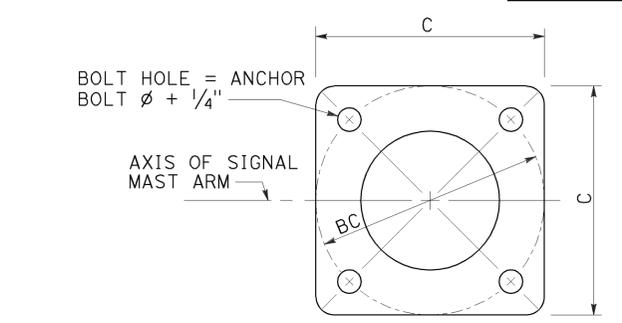
2010 REVISED STANDARD PLAN RSP ES-5D



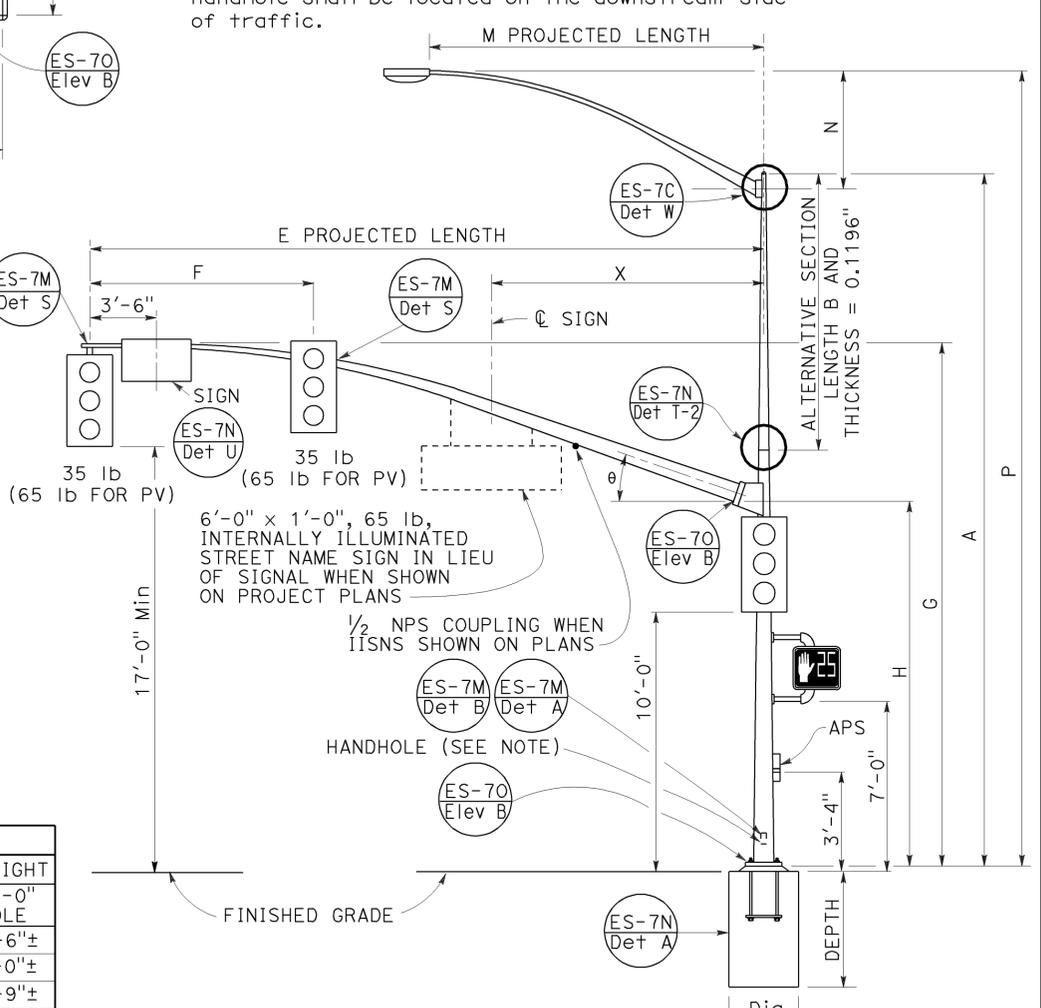
**TYPE 16-3-100, 18-3-100,
23-3-100, 27-3-100**
ELEVATION A



SIGNAL MAST ARM CONNECTION
ELEVATION C
VIEW A-A
DETAIL A



BASE PLATE
DETAIL B



**TYPE 17-3-100, 24A-3-100,
19-3-100, 26-3-100,
19A-3-100, 26A-3-100, 24-3-100**
ELEVATION B

E PROJECTED LENGTH	F Min SPACING	G MOUNTING HEIGHT	H	Min OD AT POLE	THICKNESS	I BOLT CIRCLE	HS CAP SCREWS	J PLATE SIZE	K MAST ARM R THICKNESS	L POLE R THICKNESS	θ	X Max
15'-0"	8'-0"	21'-8"±	17'-6"	7 3/8"	0.1793"							
20'-0"		21'-8"±		7 3/8"		12"		1'-0"	1 1/4"	1 1/2"	23°	
25'-0"		22'-8"±		7 3/8"								
30'-0"	12'-0"			8"				1 1/4"-7NC-3"				10'-6"
35'-0"	14'-0"	23'-0"±	16'-0"	8 3/4"	0.2391"						21°	
40'-0"				9 3/8"		13"		1'-1"	1 1/2"	1 3/4"	15°	13'-0"
45'-0"	15'-0"	23'-8"±		10 1/16"								

M PROJECTED LENGTH	N RISE	Min OD AT POLE	THICKNESS	P MOUNTING HEIGHT
6'-0"	2'-0"±	3 1/4"		30'-0" POLE 35'-0" POLE
8'-0"	2'-6"±	3 1/2"		31'-6"± 32'-0"± 36'-6"±
10'-0"	3'-3"±	3 3/8"	0.1196"	32'-0"± 32'-9"± 37'-9"±
12'-0"	4'-3"±			33'-9"± 38'-9"±
15'-0"	4'-9"±	4 1/4"		34'-3"± 39'-3"±

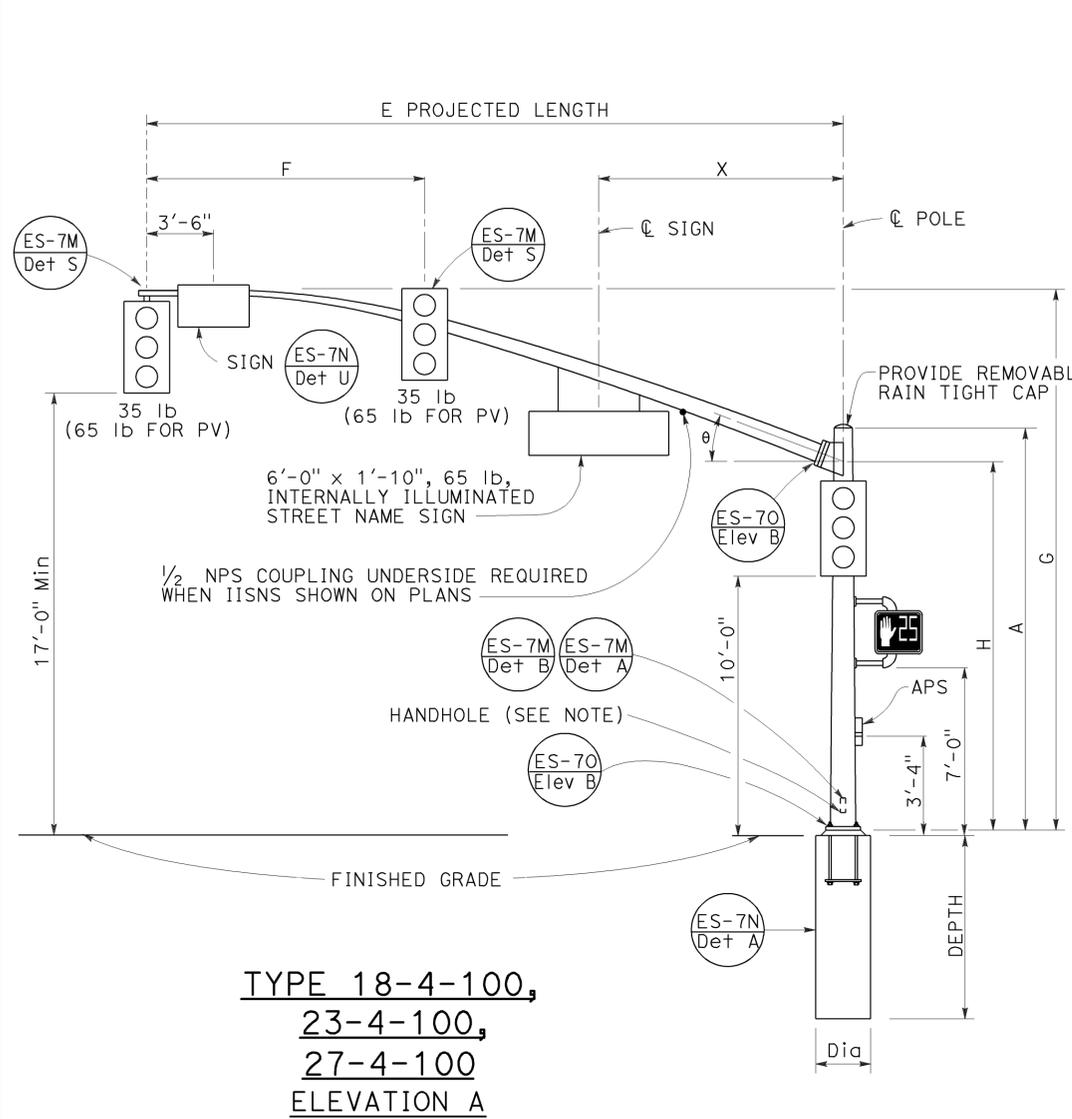
POLE TYPE	LOAD CASE	WIND VELOCITY (mph)	POLE DATA				BASE PLATE DATA				CIDH PILE FOUNDATION								
			A HEIGHT	Min OD		THICKNESS	ALTERNATIVE SECTION		C	BC = BOLT CIRCLE	THICKNESS	ANCHOR BOLT SIZE	LUMINAIRE MAST ARM	SIGNAL MAST ARM	DIAMETER	DEPTH	REINFORCED		
				BASE	TOP		B LENGTH	BOTTOM										TOP	
16-3-100			18'-6"		8 1/16"	0.1793"	NONE												
17-3-100			30'-0"	10 3/4"	6 7/16"		10'-0"	7 7/8"	6 7/16"	1'-5 1/2"			1 1/2" Ø x 42"	NONE	15'-0", 20'-0"		8'-6"		
18-3-100			17'-0"		8 9/16"		NONE							NONE	25'-0", 30'-0"		9'-6"		
19-3-100			30'-0"		7 11/16"		10'-0"	9 1/8"	7 11/16"					6'-15' 12'-0"	35'-0"				
19A-3-100			35'-0"		6 15/16"		15'-0"		6 15/16"					6'-15' 15'-0"					
23-3-100	3	100	17'-0"	1'-0"	9 9/16"	0.2391"	NONE			1'-7"	1'-5 1/2"	3"	2" Ø x 42"	NONE			3'-0"	11'-0"	YES
24-3-100			30'-0"		7 11/16"		10'-0"	9 1/8"	7 11/16"					6'-15' 12'-0"					
24A-3-100			35'-0"		6 15/16"		15'-0"	9 1/8"	6 15/16"					6'-15' 15'-0"					
26-3-100			30'-0"		7 13/16"		10'-0"	9 1/4"	7 13/16"					6'-15' 12'-0"	40'-0", 45'-0"		3'-6"	12'-0"	
26A-3-100			35'-0"	1'-2"	7 1/16"	0.3125"	15'-0"		7 1/16"	1'-11"	1'-9"		2 1/2" Ø x 42"	6'-15' 15'-0"					
27-3-100			17'-0"		9 1/16"		NONE							NONE					

INDICATES MAST ARM LENGTH TO BE USED UNLESS OTHERWISE NOTED ON PLANS.

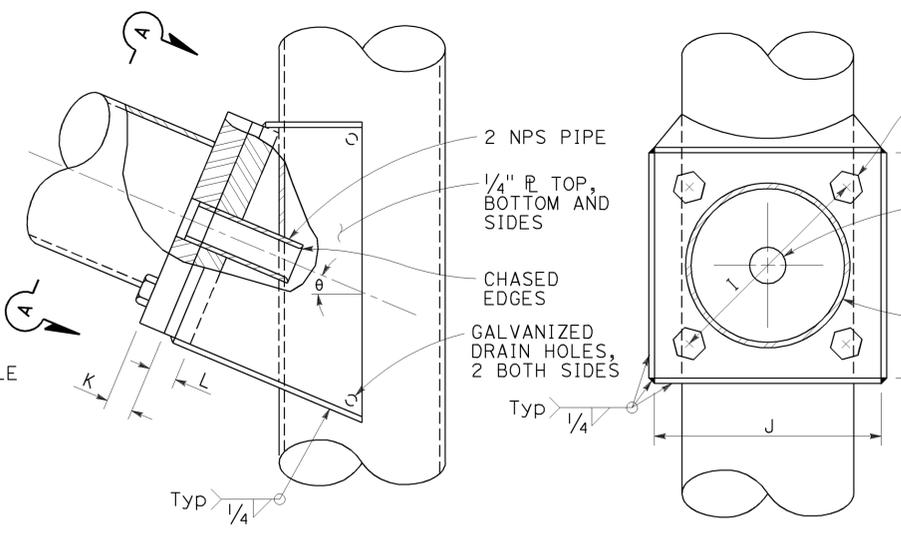
REVISED STANDARD PLAN RSP ES-7E

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(SIGNAL AND LIGHTING STANDARD,
CASE 3 SIGNAL MAST ARM LOADING,
WIND VELOCITY=100 MPH AND SIGNAL
MAST ARM LENGTHS 15' TO 45')
NO SCALE
RSP 7E DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN 7E
DATED MAY 20, 2011 - PAGE 466 OF THE STANDARD PLANS BOOK DATED 2010.

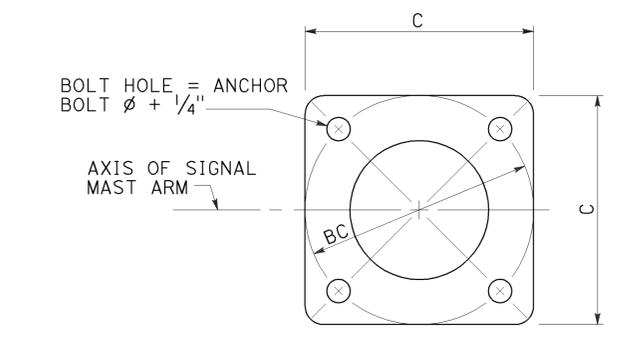
2010 REVISED STANDARD PLAN RSP ES-7E



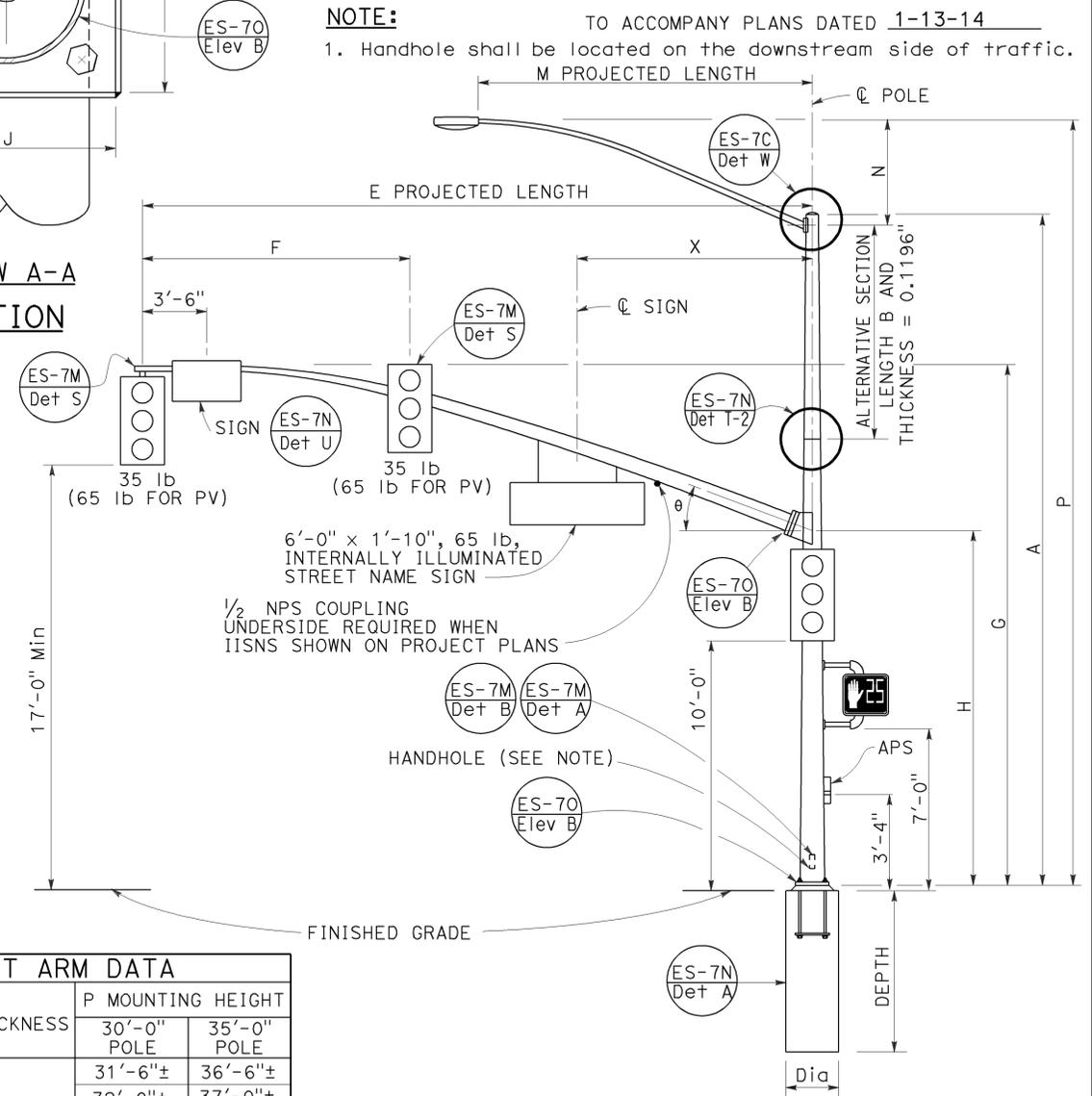
**TYPE 18-4-100,
23-4-100,
27-4-100
ELEVATION A**



**ELEVATION C
VIEW A-A
SIGNAL MAST ARM CONNECTION
DETAIL A**



**BASE PLATE
DETAIL B**



**TYPE 19-4-100, 19A-4-100,
24-4-100, 24A-4-100,
26-4-100, 26A-4-100
ELEVATION B**

E PROJECTED LENGTH	F Min SPACING	G MOUNTING HEIGHT	H	Min OD AT POLE	THICKNESS	I BOLT CIRCLE	HS CAP SCREWS	J PLATE SIZE	K MAST ARM THICKNESS	L POLE R THICKNESS	θ	X Max
25'-0"	10'-0"	22'-8"±	16'-0"	7 3/8"	0.2391"	12"	1 1/4"-7NC-3"	1'-0"	1 1/4"	1 1/2"	23°	10'-6"
30'-0"	12'-0"	8"										
35'-0"	14'-0"	8 1/8"										
40'-0"	15'-0"	9 3/8"										
45'-0"	17'-0"	10 1/4"										

M PROJECTED LENGTH	N RISE	Min OD AT POLE	THICKNESS	P MOUNTING HEIGHT	
				30'-0" POLE	35'-0" POLE
6'-0"	2'-0"±	3 1/4"	0.1196"	31'-6"±	36'-6"±
8'-0"	2'-6"±	3 1/2"		32'-0"±	37'-0"±
10'-0"	3'-3"±	3 7/8"		32'-9"±	37'-9"±
12'-0"	4'-3"±			33'-9"±	38'-9"±
15'-0"	4'-9"±	4 1/4"		34'-3"±	39'-3"±

POLE TYPE	LOAD CASE	WIND VELOCITY (mph)	POLE DATA			BASE PLATE DATA			CIDH PILE FOUNDATION									
			A HEIGHT	Min OD BASE	Min OD TOP	THICKNESS	ALTERNATIVE SECTION B LENGTH	ALTERNATIVE SECTION BOTTOM	ALTERNATIVE SECTION TOP	C	BC = BOLT CIRCLE	THICKNESS	ANCHOR BOLT SIZE	LUMINAIRE MAST ARM	SIGNAL MAST ARM	Dia	DEPTH	REINFORCED
18-4-100	4	100	17'-0"	12 1/8"	9 1/16"	0.3125"	NONE	9 1/8"	7 1/16"	1'-7"	1'-5 1/2"	3"	2" ø x 42"	NONE	35'-0"	3'-0"	11'-0"	YES
19-4-100			30'-0"		7 1/16"		10'-0"		7 1/16"									
19A-4-100			35'-0"		6 15/16"		15'-0"		6 5/16"									
23-4-100			17'-0"		9 1/16"		NONE		NONE									
24-4-100			30'-0"	7 1/16"	9 5/8"		7 1/16"											
24A-4-100			35'-0"	6 15/16"			6 5/16"											
26-4-100			30'-0"	8 3/16"			8 3/16"											
26A-4-100			35'-0"	7 7/16"			7 7/16"											
27-4-100	17'-0"	10 1/16"	NONE	NONE														

INDICATES MAST ARM LENGTH TO BE USED UNLESS OTHERWISE NOTED ON PLANS.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
(SIGNAL AND LIGHTING STANDARD,
CASE 4 SIGNAL MAST ARM LOADING,
WIND VELOCITY=100 MPH AND SIGNAL
MAST ARM LENGTHS 25' TO 45')**

NO SCALE

RSP ES-7F DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-7F
DATED MAY 20, 2011 - PAGE 467 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-7F

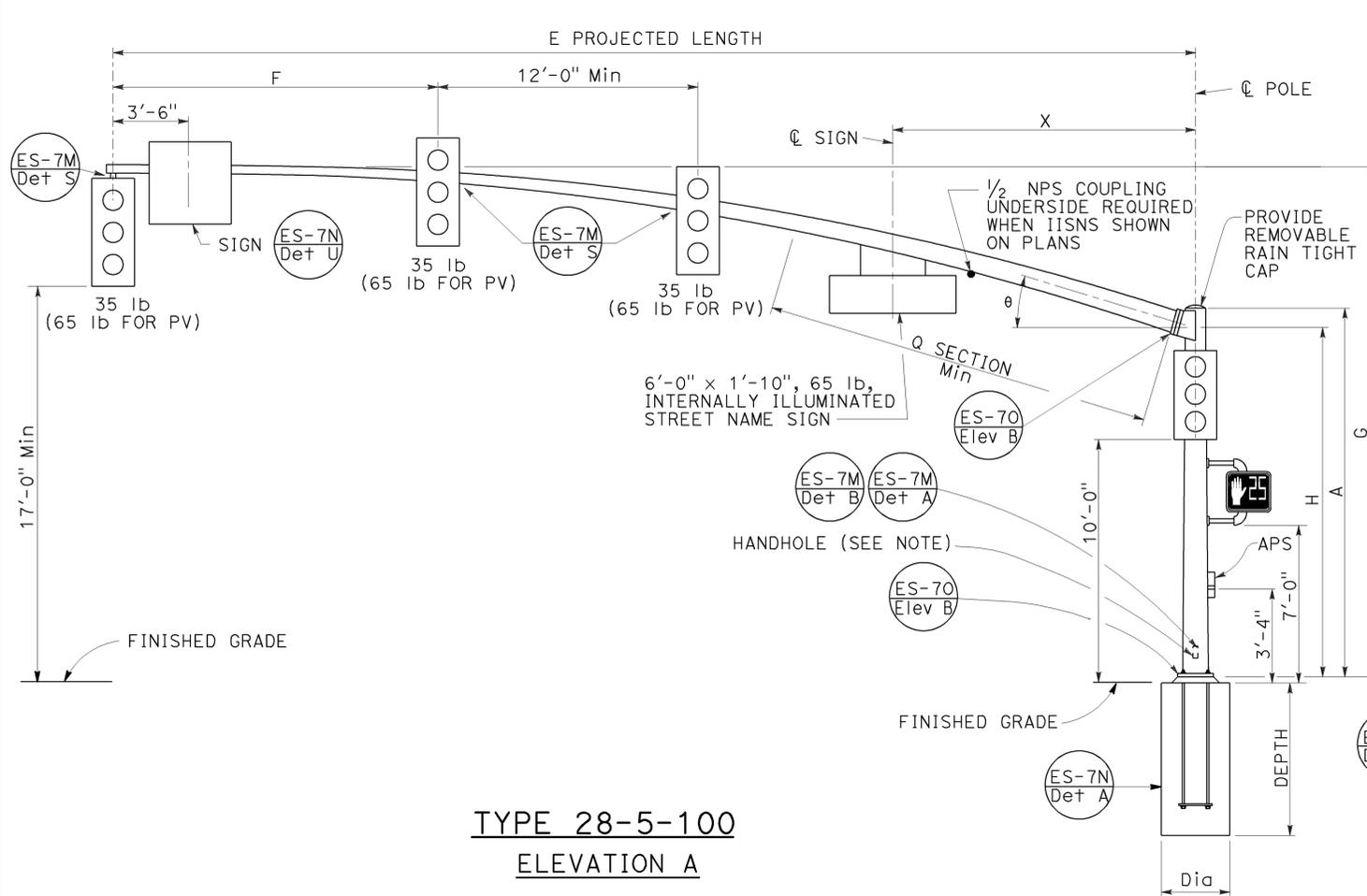
2010 REVISED STANDARD PLAN RSP ES-7F

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0 0.0/3.4	342	477

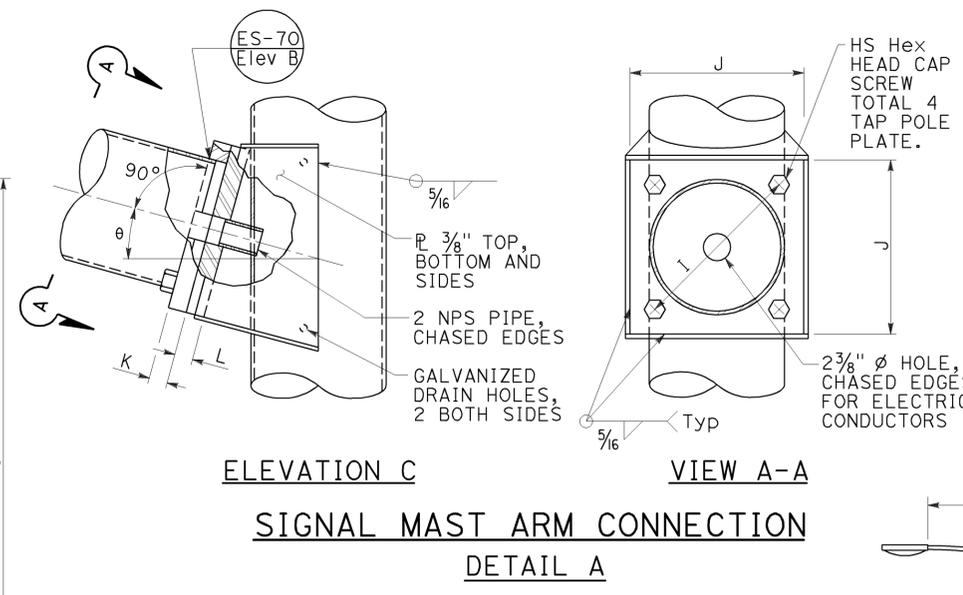
Stanley P. Johnson
 REGISTERED CIVIL ENGINEER
 No. C57793
 Exp. 3-31-14
 STATE OF CALIFORNIA

July 19, 2013
 PLANS APPROVAL DATE

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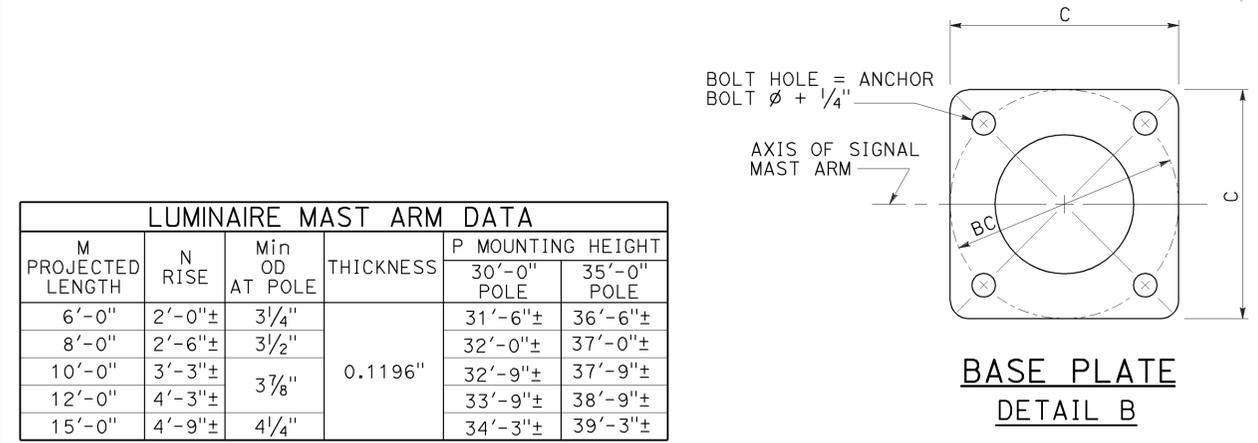
TYPE 28-5-100
ELEVATION A



ELEVATION C
VIEW A-A
SIGNAL MAST ARM CONNECTION
DETAIL A

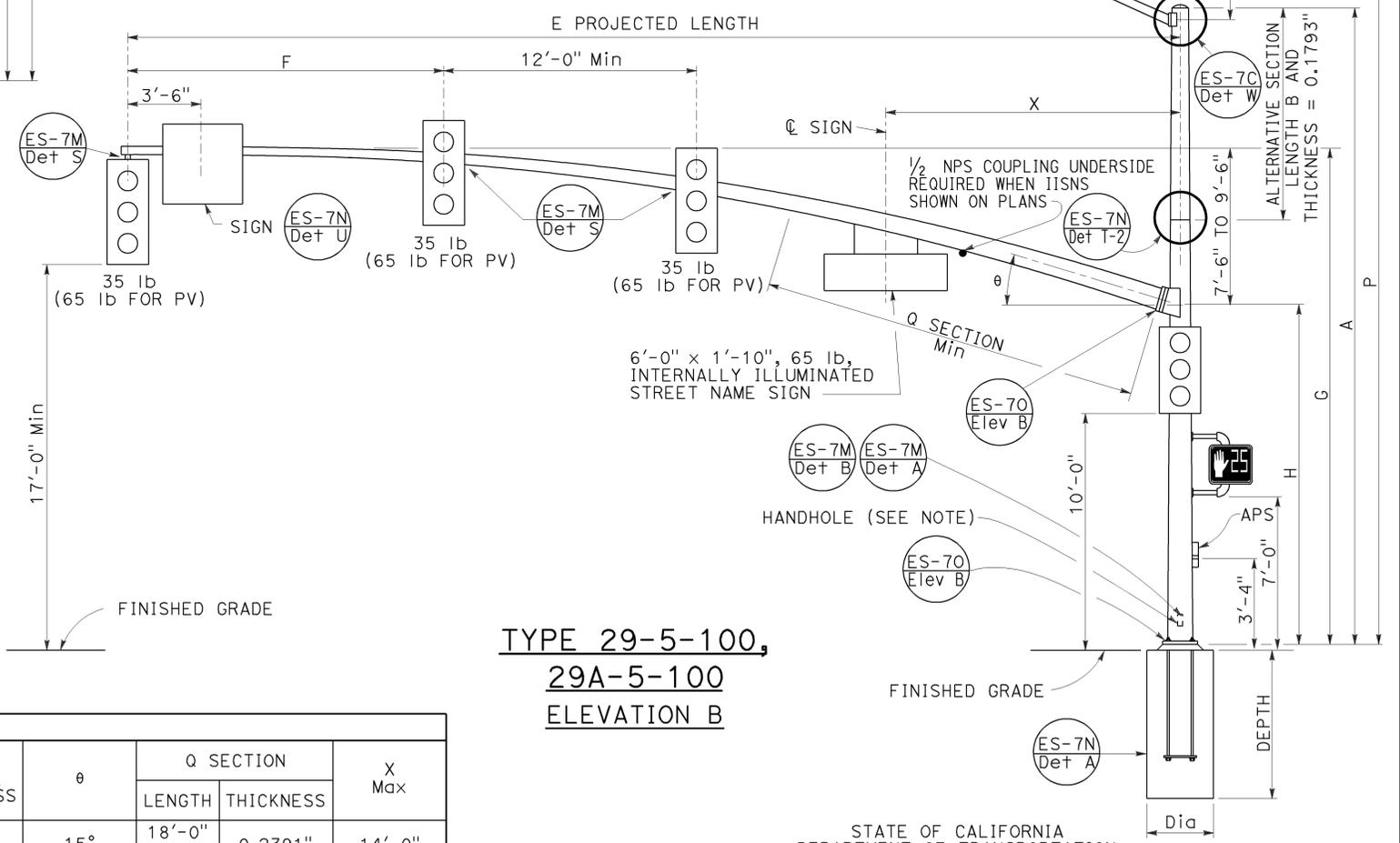
TO ACCOMPANY PLANS DATED 1-13-14

NOTE:
Handhole shall be located on the downstream side of traffic.



BASE PLATE
DETAIL B

M PROJECTED LENGTH	N RISE	Min OD AT POLE	THICKNESS	P MOUNTING HEIGHT	
				30'-0" POLE	35'-0" POLE
6'-0"	2'-0"±	3 3/4"	0.1196"	31'-6"±	36'-6"±
8'-0"	2'-6"±	3 1/2"		32'-0"±	37'-0"±
10'-0"	3'-3"±	3 7/8"		32'-9"±	37'-9"±
12'-0"	4'-3"±	3 7/8"		33'-9"±	38'-9"±
15'-0"	4'-9"±	4 1/4"		34'-3"±	39'-3"±



TYPE 29-5-100,
29A-5-100
ELEVATION B

E PROJECTED LENGTH	F Min SPACING	G MOUNTING HEIGHT	H	Min OD AT POLE	THICKNESS	I BOLT CIRCLE	HS CAP SCREWS	J PLATE SIZE	K MAST ARM P THICKNESS	L POLE P THICKNESS	θ	Q SECTION		X Max
												LENGTH	THICKNESS	
50'-0" 55'-0"	15'-0"	23'-7"± TO 25'-7"±	16'-0"	1 11/16" 1'-1/4"	0.1793"	16"	1 1/2"-6NC-3 1/4"	1'-4"	1 3/4"	1 3/4"	15°	18'-0" 23'-0"	0.2391"	14'-0"

POLE TYPE	LOAD CASE	WIND VELOCITY (mph)	POLE DATA				BASE PLATE DATA				LUMINAIRE MAST ARM	SIGNAL MAST ARM	CIDH PILE FOUNDATION					
			A HEIGHT	Min OD BASE	Min OD TOP	THICKNESS	C	BC = BOLT CIRCLE	THICKNESS	ANCHOR BOLT SIZE			Di	DEPTH	REINFORCED			
28-5-100			17'-0"	11 1/16"								NONE						
29-5-100	5	100	30'-0"	14"	9 1/16"	0.3125"	10'-0"	11 1/8"	9 1/16"	23"	21"	3"	2 1/2" Ø x 42"	6'-15" [15'-0"]	50'-0", 55'-0"	3'-6"	12'-0"	YES
29A-5-100			35'-0"		8 5/16"		15'-0"		8 5/16"									

INDICATES MAST ARM LENGTH TO BE USED UNLESS OTHERWISE NOTED ON PLANS.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS
(SIGNAL AND LIGHTING STANDARD,
CASE 5 SIGNAL MAST ARM LOADING,
WIND VELOCITY=100 MPH AND SIGNAL
MAST ARM LENGTHS 50' TO 55')

NO SCALE

RSP ES-7G DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-7G DATED MAY 20, 2011 - PAGE 468 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-7G

2010 REVISED STANDARD PLAN RSP ES-7G

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0 0.0/3.4	343	477

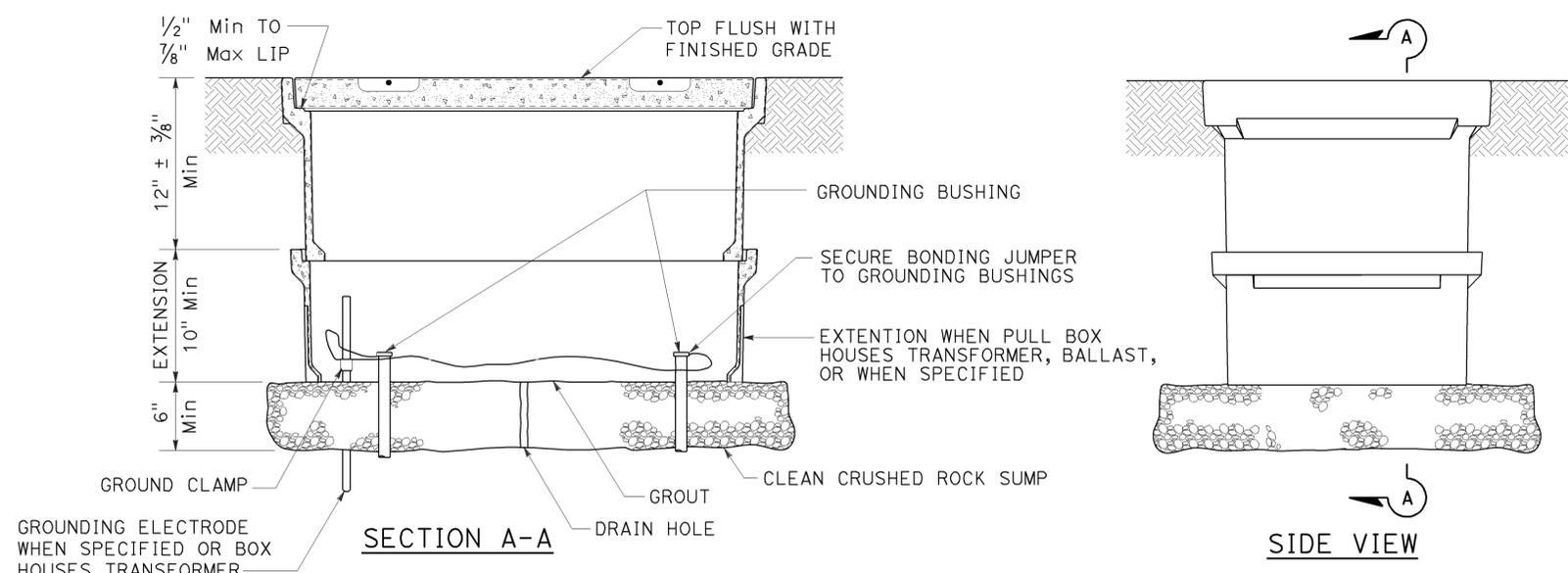
Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

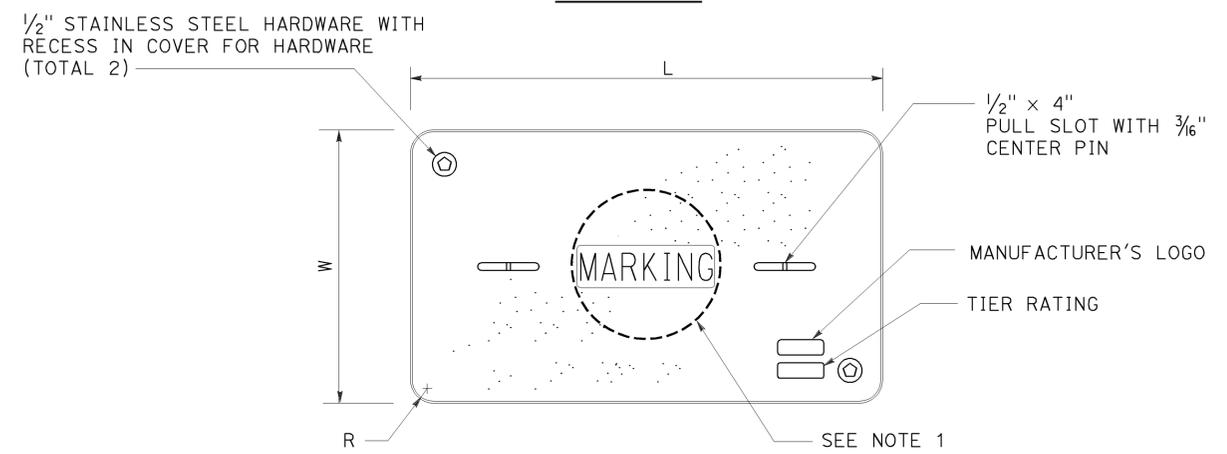
Theresa Aziz Gabriel
No. E15129
Exp. 6-30-14
ELECTRICAL
STATE OF CALIFORNIA

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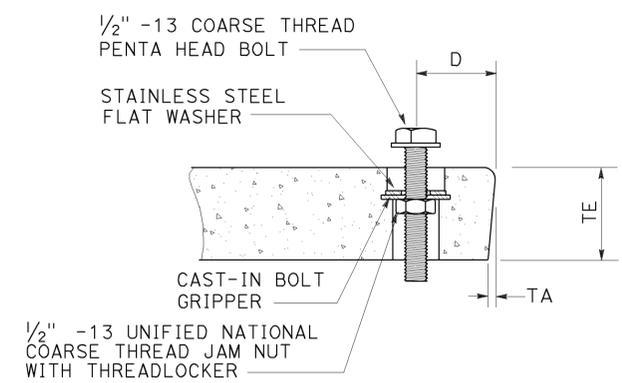
TO ACCOMPANY PLANS DATED 1-13-14



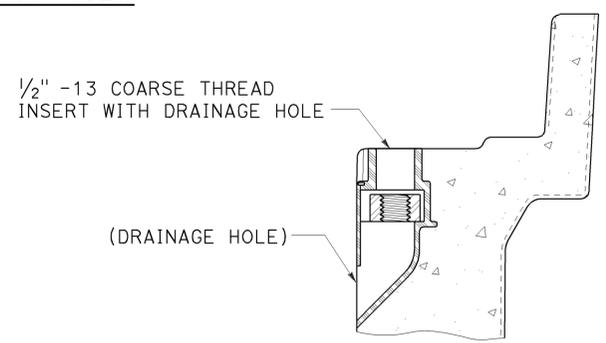
INSTALLATION DETAILS
DETAIL A



COVER TOP VIEW



TYPICAL COVER CAPTIVE BOLT
OR SIMILAR



TYPICAL THREADED INSERT
OR SIMILAR

NOTES:

- Pull box covers shall be marked as follows: "SERVICE" Service circuits between service point and service disconnect; "SPRINKLER-CONTROL" sprinkler control circuits, 50 V or less; "CALTRANS" on all pull boxes, except pull boxes marked "SPRINKLER-CONTROL"; and "TELEPHONE" Telephone service;
 - No. 3 1/2 pull box.
 - "SIGNAL" - Traffic signal circuits with or without lighting or sign lighting circuits.
 - "LIGHTING" - Lighting or sign lighting circuits where voltage is under 600 V.
 - No. 5, 6, 9 or 9A pull box.
 - "TRAFFIC SIGNAL" - Traffic signal circuits with or without lighting or sign lighting circuits.
 - "LIGHTING" - Lighting or sign lighting circuits where voltage is under 600 V.
 - "LIGHTING-HIGH VOLTAGE" - Lighting or sign lighting circuits where voltage is above 600 V.
 - "IRRIGATION" - Circuits to irrigation controller 120 V or more.
 - "RAMP METER" - Ramp meter circuits.
 - "COUNT STATION" - Count or speed monitor circuits.
 - "COMMUNICATIONS" - Communication circuits.
 - "TOS COMMUNICATIONS" - TOS communication line.
 - "TOS POWER" - TOS power.
 - "TDC POWER" - Telephone demarcation cabinet power.
 - "CCTV" - Closed circuit television circuits.
 - "TMS" - Traffic monitoring station circuits.
 - "CMS" - Changeable message sign circuits.
 - "HAR" - Highway advisory radio circuits.
 - "BOOSTER PUMP" - Booster pump circuit.
- The nominal dimensions of the opening in which the cover sets shall be the same as the cover dimensions except the length and width dimensions shall be 1/8" greater.
- Covers and boxes shall be interchangeable with California standard male and female gages. When interchanged with a standard male or female gage, the top surfaces shall be flush within 1/8". Top outside radius of covers and pull boxes shall have a 1/8" radius.
- Pull box extension may be another pull box as long as the bottom edge of the pull box can fit into the cover opening.
- All dimensions for the cover for non-traffic pull box are nominal values.

DIMENSION TABLE										
PULL BOX	PULL BOX			COVER						
	MINIMUM DEPTH BOX	MINIMUM DEPTH EXTENSION	MAXIMUM WEIGHT	L	W	R	TE	TA	D	MAXIMUM WEIGHT
No. 3 1/2	12"	N/A	40 lb	1' - 3 3/8"	10 1/8"	1 3/8"	2"	1/8"	1 3/4"	30 lb
No. 5	12"	10"	55 lb	1' - 11 1/4"	1' - 1 3/4"	1 3/8"	2"	1/8"	1 3/4"	60 lb
No. 6	12"	10"	70 lb	2' - 6 1/2"	1' - 5 1/2"	1 3/8"	2"	1/8"	2"	85 lb

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(NON-TRAFFIC PULL BOX)
NO SCALE

RSP ES-8A DATED JULY 19, 2013 SUPERSEDES RSP ES-8A DATED JANUARY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-8A

2010 REVISED STANDARD PLAN RSP ES-8A

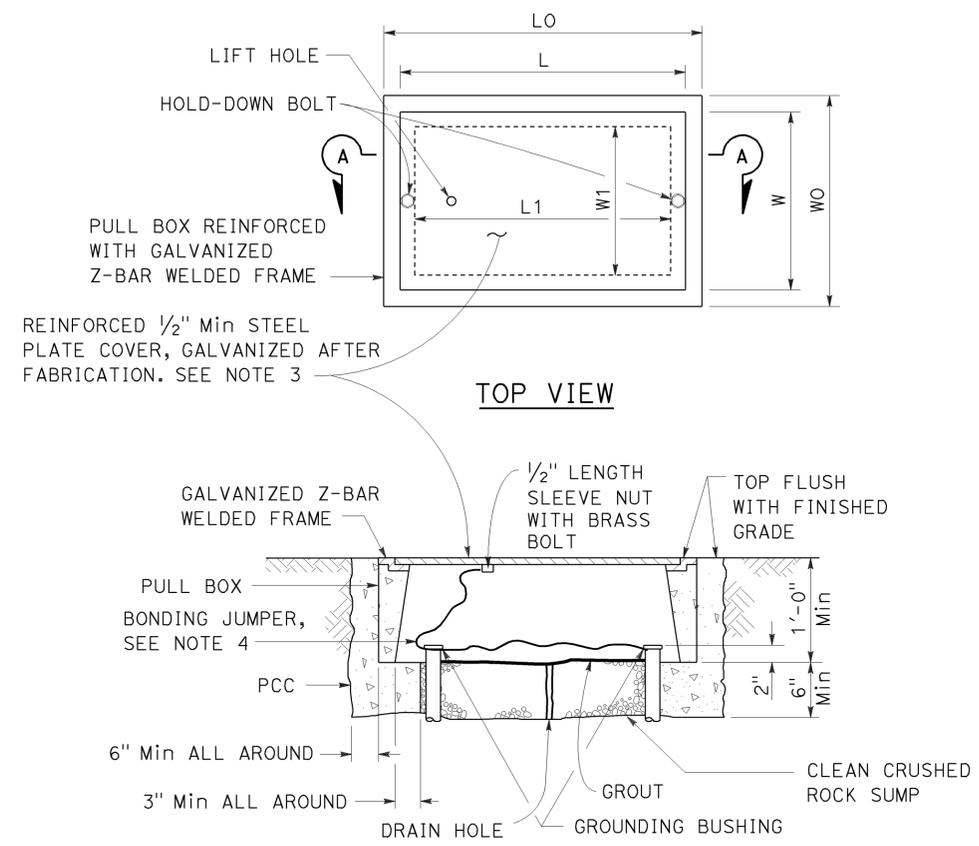
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0 0.0/3.4	344	477

Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Theresa Aziz Gabriel
 No. E15129
 Exp. 6-30-14
 ELECTRICAL
 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.

TO ACCOMPANY PLANS DATED 1-13-14



SECTION A-A
 No. 3 1/2(T), No. 5(T) AND
 No. 6(T) TRAFFIC PULL BOX

NOTES:

- Traffic pull box shall be provided with steel cover and special concrete footing. Steel cover shall have embossed non-skid pattern.
- Steel reinforcing shall be as regularly used in the standard products of the respective manufacturer.
- Pull box covers shall be marked as follows: "SERVICE" Service circuits between service point and service disconnect; "SPRINKLER-CONTROL" Sprinkler control circuits, 50 V or less; "CALTRANS" On all pull boxes, except pull boxes marked "SPRINKLER-CONTROL"; and "TELEPHONE" Telephone service.
 - No. 3 1/2(T) pull box.
 - "SIGNAL" - Traffic signal circuits with or without lighting or sign lighting circuits.
 - "LIGHTING" - Lighting or sign lighting circuits where voltage is under 600 V.
 - No. 5(T) or 6(T) pull box.
 - "TRAFFIC SIGNAL" - Traffic signal circuits with or without lighting or sign lighting circuits.
 - "LIGHTING" - Lighting or sign lighting circuits where voltage is under 600 V.
 - "LIGHTING-HIGH VOLTAGE" - Lighting or sign lighting circuits where voltage is above 600 V.
 - "IRRIGATION" - Circuits to irrigation controller 120 V or more.
 - "RAMP METER" - Ramp meter circuits.
 - "COUNT STATION" - Count or speed monitor circuits.
 - "COMMUNICATION" - Communication circuits.
 - "TOS COMMUNICATIONS" - TOS communications line.
 - "TOS POWER" - TOS power.
 - "TDC POWER" - Telephone demarcation cabinet power.
 - "CCTV" - Closed circuit television circuits.
 - "TMS" - Traffic monitoring station circuits.
 - "CMS" - Changeable message sign circuits.
 - "HAR" - Highway advisory radio circuits.
 - "BOOSTER PUMP" - Booster pump circuit.
- Bonding jumper for metal covers shall be 3' long, minimum.
- The nominal dimensions of the opening in which the cover sets shall be the same as the cover dimensions except the length and width dimensions shall be 1/8" greater.
- Covers and boxes shall be interchangeable with California standard male and female gages. When interchanged with a standard male or female gage, the top surfaces shall be flush within 1/8".

PULL BOX	PULL BOX						COVER				
	MINIMUM * THICKNESS	MINIMUM DEPTH BOX AND EXTENSION	W0	L0	L1	W1	L **	W **	R	EDGE THICKNESS	EDGE TAPER
No. 3 1/2(T)	1 1/2"	1'-0"	1'-5"± 1"	1'-8 3/8"±	1'-2 1/2"±	10 5/8"± 1"	1'-8"±	1'-1 3/4"±	0"	1/2"	NONE
No. 5(T)	1 3/4"	1'-0"	1'-11 1/2"± 1"	2'-5 1/2"±	1'-7"±	1'-1"± 1"	2'-3"±	1'-4"±	0"	1/2"	NONE
No. 6(T)	2"	1'-0"	2'-6"± 1"	2'-11 1/2"±	1'-11 1/2"±	1'-5"± 1"	2'-9"±	1'-8"±	0"	1/2"	NONE

* EXCLUDING CONDUIT WEB ** TOP DIMENSION

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (TRAFFIC PULL BOX)**
 NO SCALE

RSP ES-8B DATED JULY 19, 2013 SUPERSEDES RSP ES-8B DATED JANUARY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-8B

2010 REVISED STANDARD PLAN RSP ES-8B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0 0.0/3.4	345	477

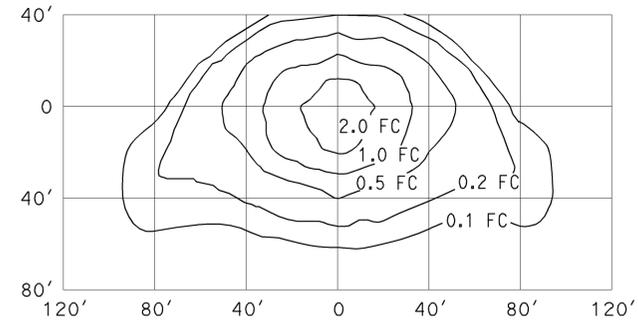
Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 No. E15129
 Exp. 6-30-14
 ELECTRICAL
 STATE OF CALIFORNIA

July 19, 2013
 PLANS APPROVAL DATE

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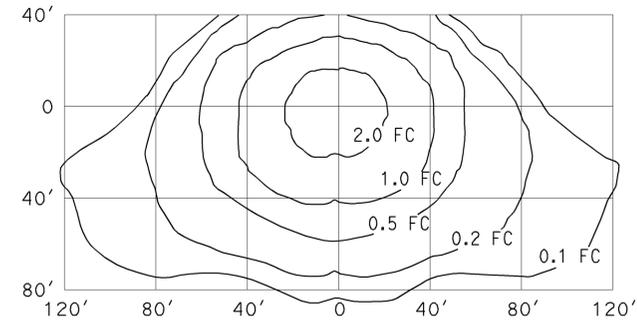
TO ACCOMPANY PLANS DATED 1-13-14

ISOFOOTCANDLE CURVE - MINIMUM



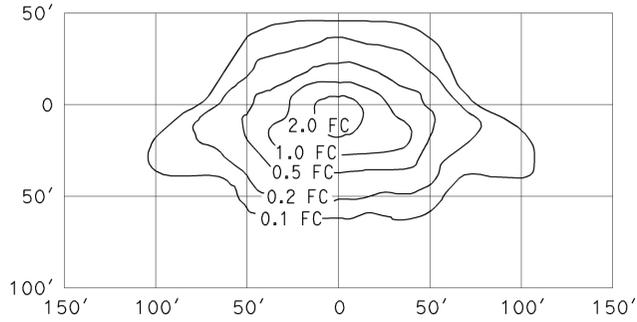
TYPE III MEDIUM CUTOFF
 Cutoff Luminaire
 34' Mounting Height
 Lamp operated at 22,000 lm
 200-W high pressure sodium lamp
 ANSI Designation S66

ISOFOOTCANDLE CURVE - MINIMUM



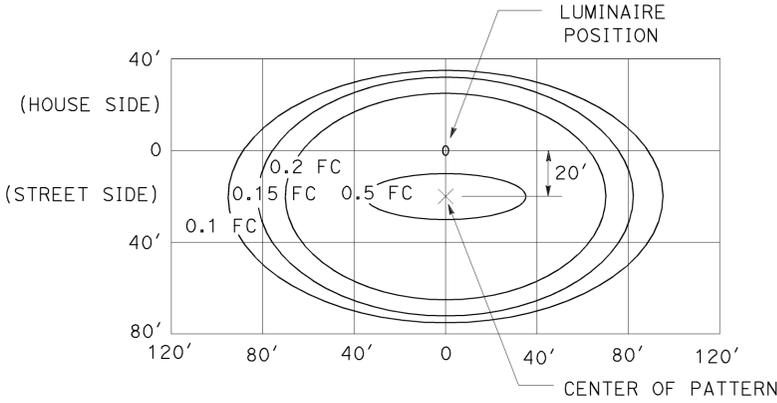
TYPE III MEDIUM CUTOFF
 Cutoff Luminaire
 40' Mounting Height
 Lamp operated at 37,000 lm
 310-W high pressure sodium lamp
 ANSI Designation S67

ISOFOOTCANDLE CURVE - MINIMUM



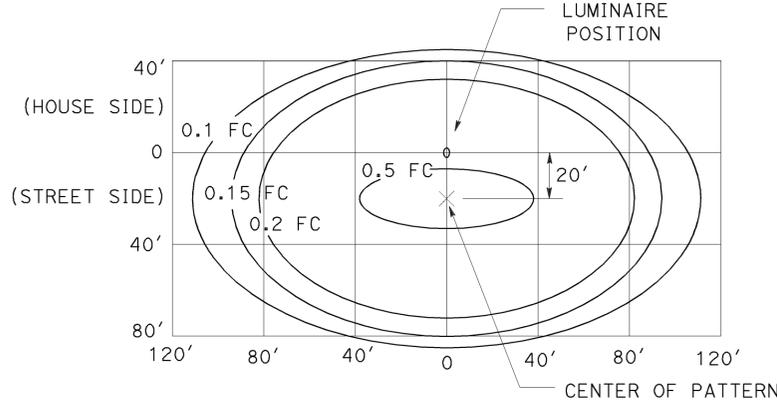
TYPE III MEDIUM CUTOFF
 Cutoff Luminaire
 30' Mounting Height
 Lamp operated at 16,000 lm
 150-W high pressure sodium lamp
 ANSI Designation S55

ISOFOOTCANDLE CURVE - MINIMUM



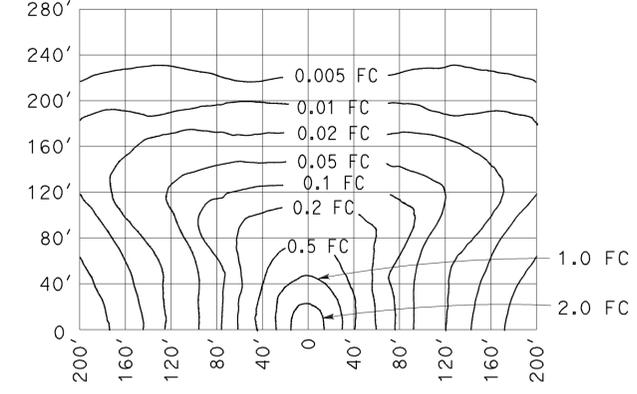
LED LUMINAIRE ROADWAY 1
 165-W at 34' Mounting Height

ISOFOOTCANDLE CURVE - MINIMUM



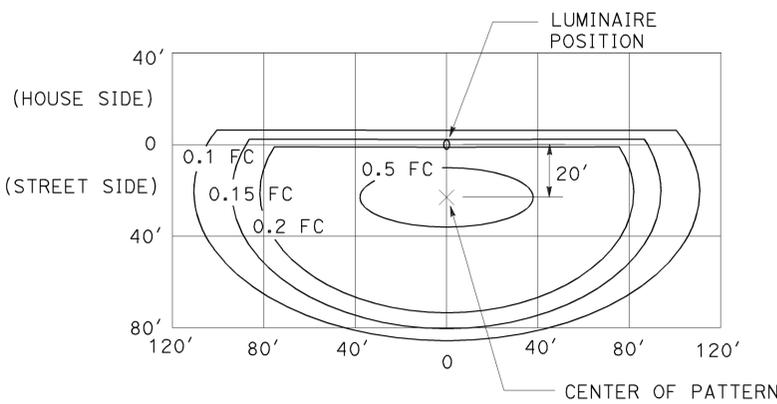
LED LUMINAIRE ROADWAY 2
 235-W at 40' Mounting Height

ISOFOOTCANDLE CURVE - MINIMUM



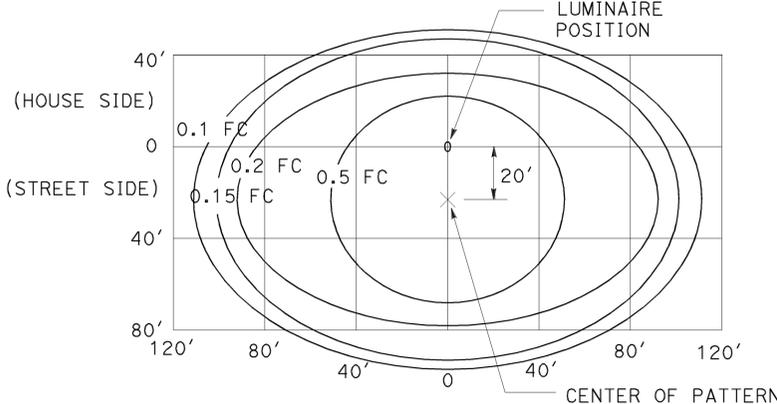
LOW PRESSURE SODIUM LUMINAIRE
 40' Mounting Height
 Lamp operated at 33,000 lm
 180-W low pressure sodium lamp

ISOFOOTCANDLE CURVE - MINIMUM



LED LUMINAIRE ROADWAY 3
 235-W at 40' Mounting Height
 with back side control

ISOFOOTCANDLE CURVE - MINIMUM



LED LUMINAIRE ROADWAY 4
 300-W at 40' Mounting Height

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

NO SCALE
 RSP ES-10A DATED JULY 19, 2013 SUPERSEDES RSP ES-10A DATED JULY 20, 2012
 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP ES-10A

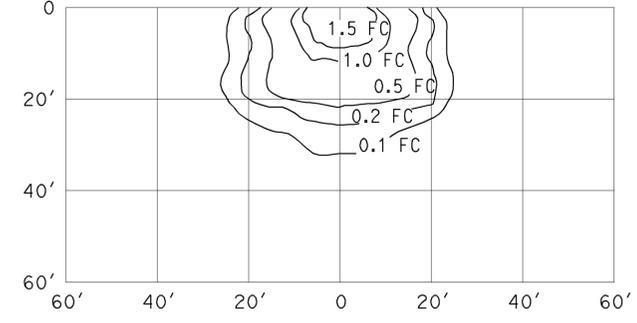
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0 0.0/3.4	346	477

Jeffery G. McRae
 REGISTERED ELECTRICAL ENGINEER
 July 20, 2012
 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
 Jeffery G. McRae
 No. E14512
 Exp. 6-30-14
 ELECTRICAL
 STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 1-13-14

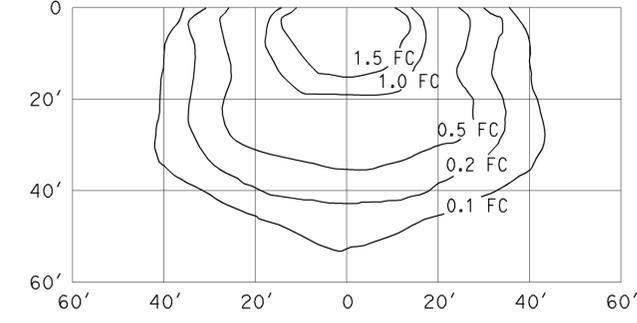
ISOFOOTCANDLE CURVE - MINIMUM



WALL LUMINAIRE

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

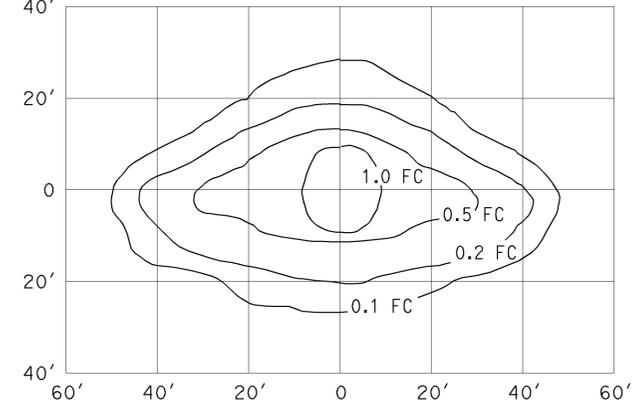
ISOFOOTCANDLE CURVE - MINIMUM



WALL LUMINAIRE

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

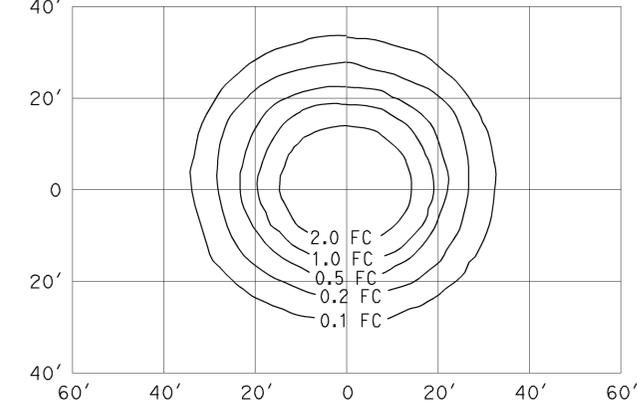
ISOFOOTCANDLE CURVE - MINIMUM



**PENDANT SOFFIT LUMINAIRE
 TYPE III SHORT**

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

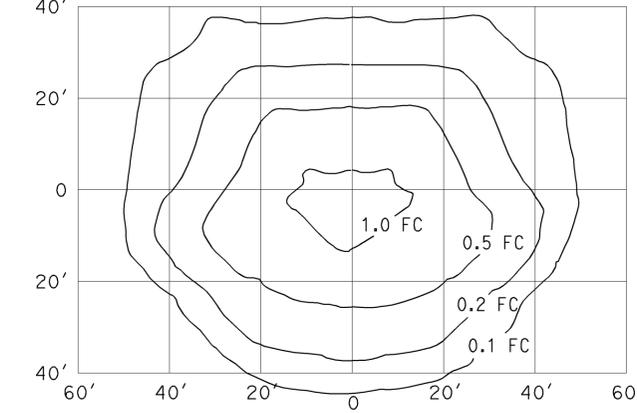
ISOFOOTCANDLE CURVE - MINIMUM



PENDANT SOFFIT LUMINAIRE

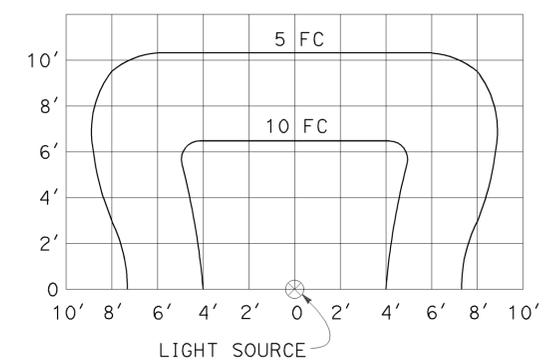
17' Mounting Height
 Lamp operated at 5,800 lm
 70-W high pressure sodium lamp
 ANSI Designation S62

ISOFOOTCANDLE CURVE - MINIMUM



FLUSH SOFFIT LUMINAIRE

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



**SIGN LIGHTING FIXTURE
 ISOFOOTCANDLE DIAGRAM**

NOTES:

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

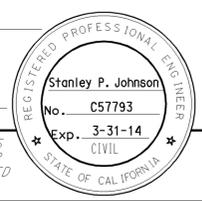
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
 (ISOFOOTCANDLE DIAGRAMS)**

NO SCALE

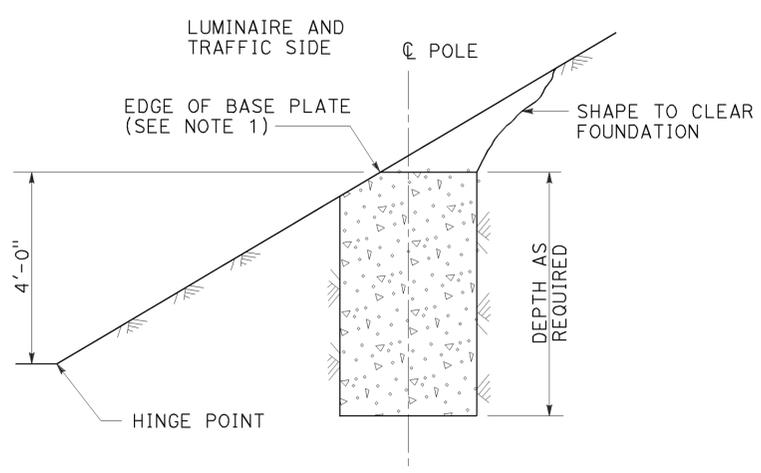
RSP ES-10B DATED JULY 20, 2012 SUPPLEMENTS THE
 STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP ES-10B

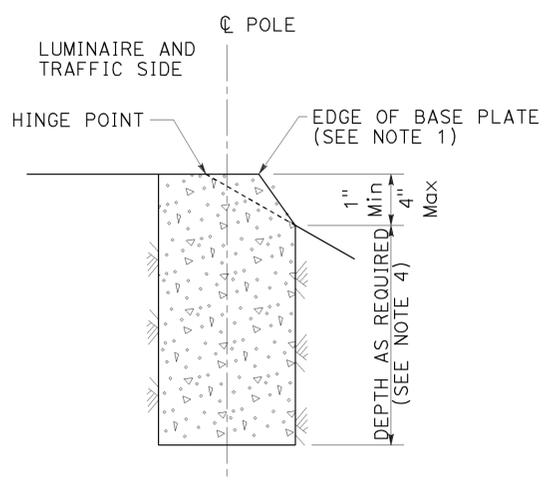


TO ACCOMPANY PLANS DATED 1-13-14

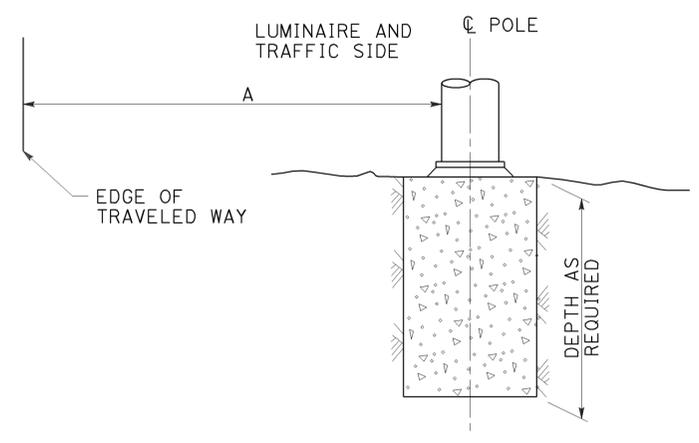
STANDARD TYPE	SETBACK (DIMENSION A)
32	30'-0" (Min)
31	20'-0" (Min)
15, 15D, 15-SB, 21, 21D, 30	ARM LENGTH (Min)



CUT SLOPES
STEEPER THAN 4:1,
LESS THAN 2:1
DETAIL A-1
 See Note 2 and 3



FILL SLOPES
STEEPER THAN 4:1,
LESS THAN 2:1
DETAIL A-2
 See Note 2 and 3

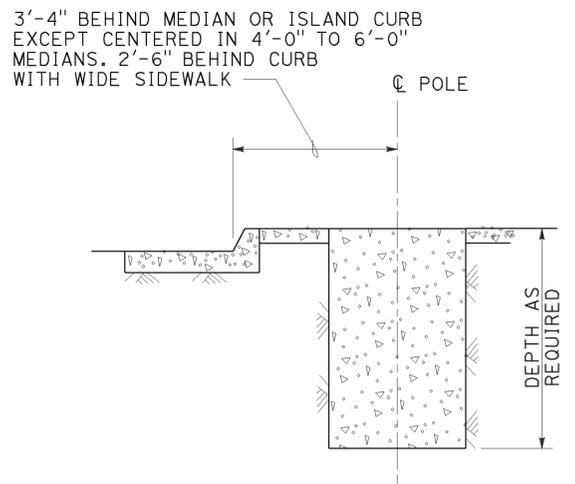


FLAT SECTIONS, CUT OR FILL SLOPES
4:1 OR FLATTER
DETAIL A-3
 See Note 2

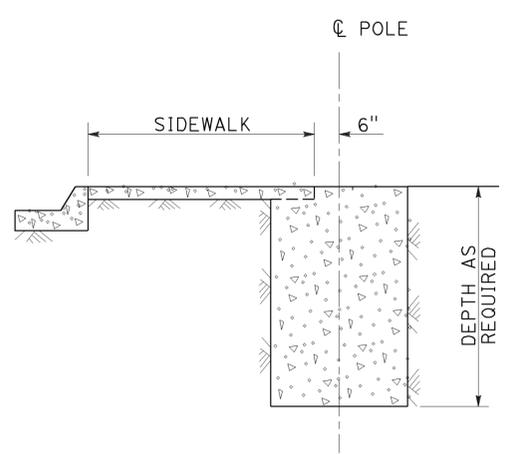
FOUNDATIONS ADJACENT TO ALL ROADWAYS EXCEPT
IN SIDEWALK, MEDIAN AND ISLAND AREAS
DETAIL A

NOTES:

1. Where a portion of the foundation is above grade, the top edges shall have a 1" chamfer.
2. Slopes shall be horizontal to vertical ratio (Horizontal : Vertical).
3. Horizontal setbacks on cut and fill slopes steeper than 4:1 shall not exceed the distance shown for flat sections.
4. CIDH embedment depth shall be increased beyond standard depths by the diameter of the CIDH.



MEDIAN, ISLAND
OR WIDE SIDEWALK
DETAIL B-1
 7' Wide and wider



NARROW SIDEWALK
DETAIL B-2
 Less than 7' wide

FOUNDATIONS IN SIDEWALK, MEDIAN AND ISLAND AREAS
DETAIL B

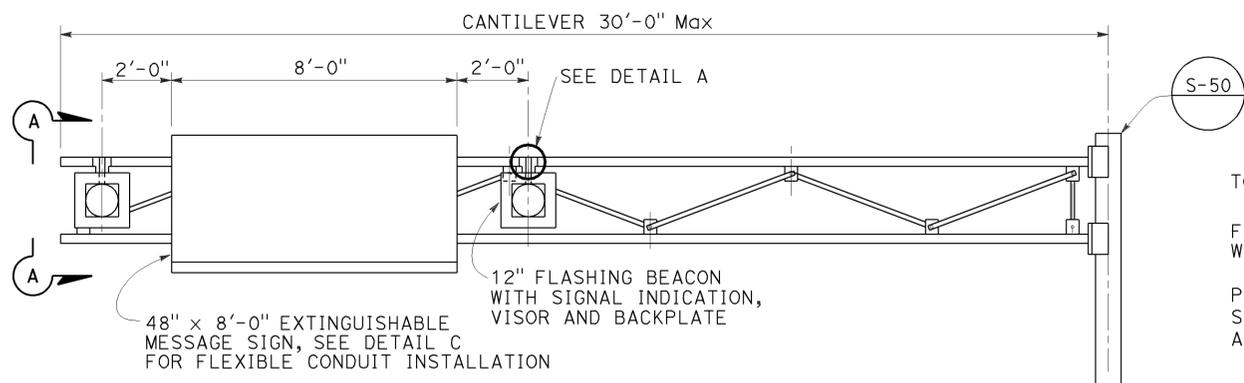
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(FOUNDATION INSTALLATIONS)
 NO SCALE

RSP ES-11 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-11
 DATED MAY 20, 2011 - PAGE 488 OF THE STANDARD PLANS BOOK DATED 2010.

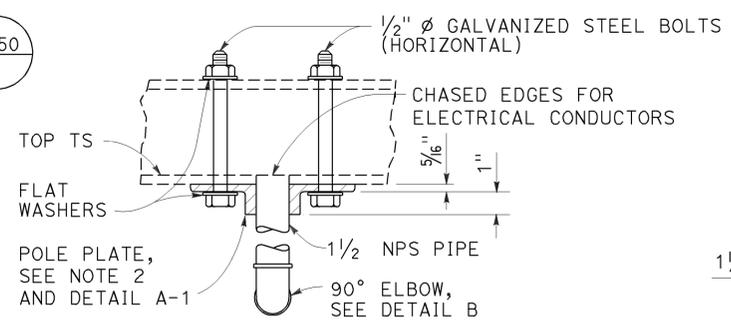
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0 0.0/3.4	348	477

Stanley P. Johnson
 REGISTERED CIVIL ENGINEER
 July 19, 2013
 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.

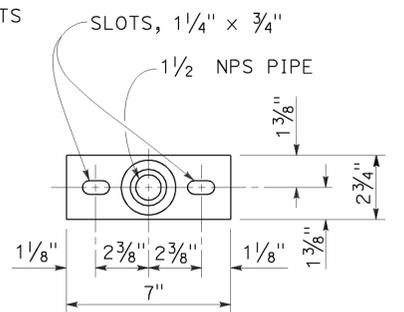
2010 REVISED STANDARD PLAN RSP ES-14C



EMS WITH FLASHING BEACONS
ELEVATION A

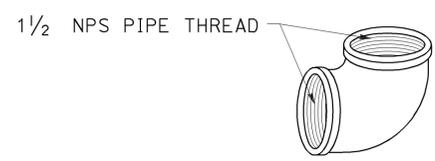
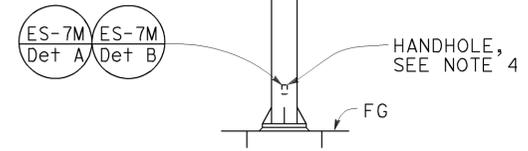


TOP VIEW SECTION B-B
POLE PLATE DETAIL A

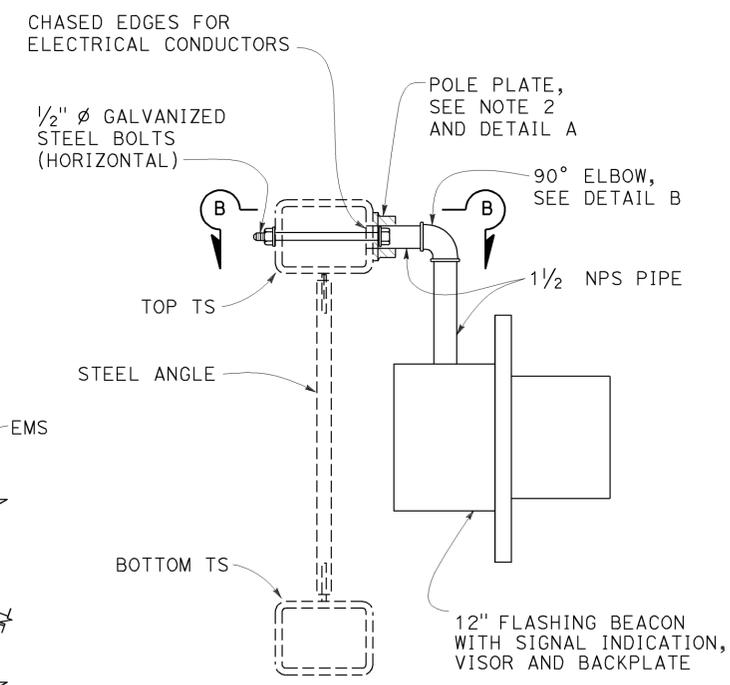


DETAIL A-1

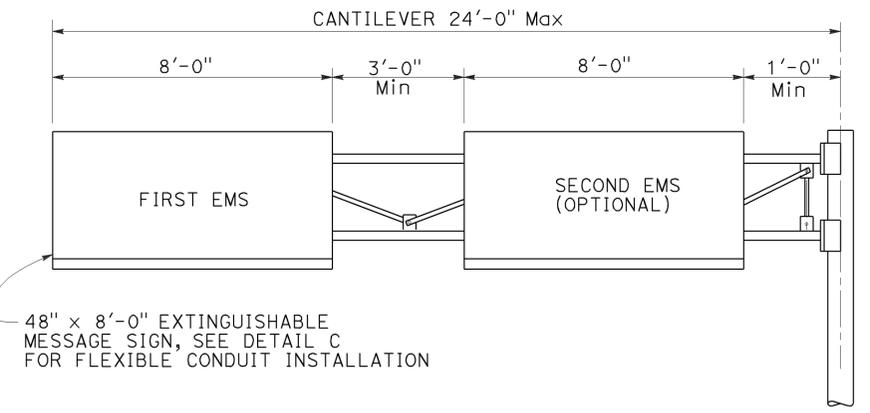
FOR FBCA WIRING DIAGRAM
SEE STANDARD PLAN ES-14B.
LOCATE ON THE SIDE OF POLE
AWAY FROM TRAFFIC.



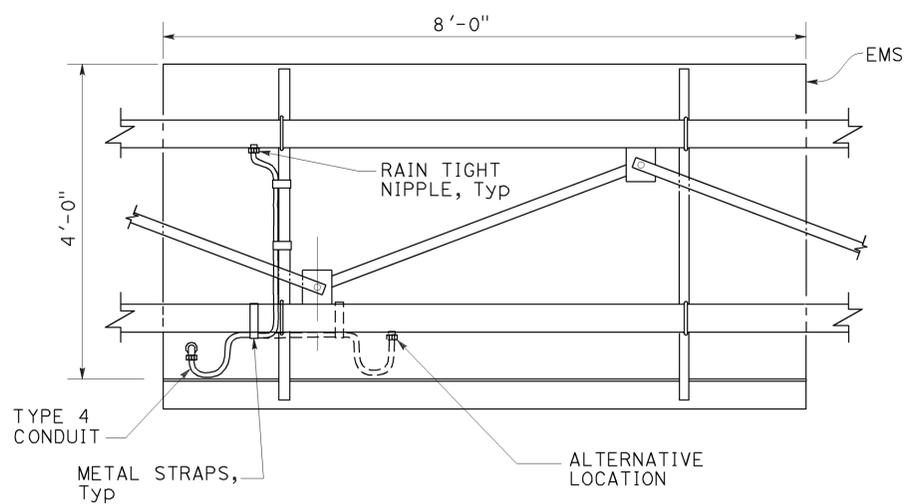
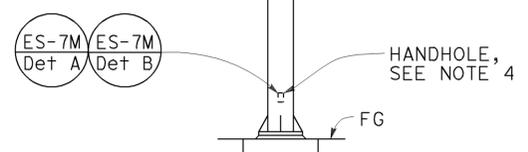
90° ELBOW DETAIL B



SECTION A-A



EMS WITHOUT FLASHING BEACONS
ELEVATION B



FLEXIBLE CONDUIT INSTALLATION
DETAIL C
Back view of sign

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
(EXTINGUISHABLE MESSAGE
SIGN ON A FULL CANTILEVER)**
NO SCALE

RSP ES-14C DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-14C
DATED MAY 20, 2011 - PAGE 495 OF THE STANDARD PLANS BOOK DATED 2010.
REVISED STANDARD PLAN RSP ES-14C

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0 0.0/3.4	349	477

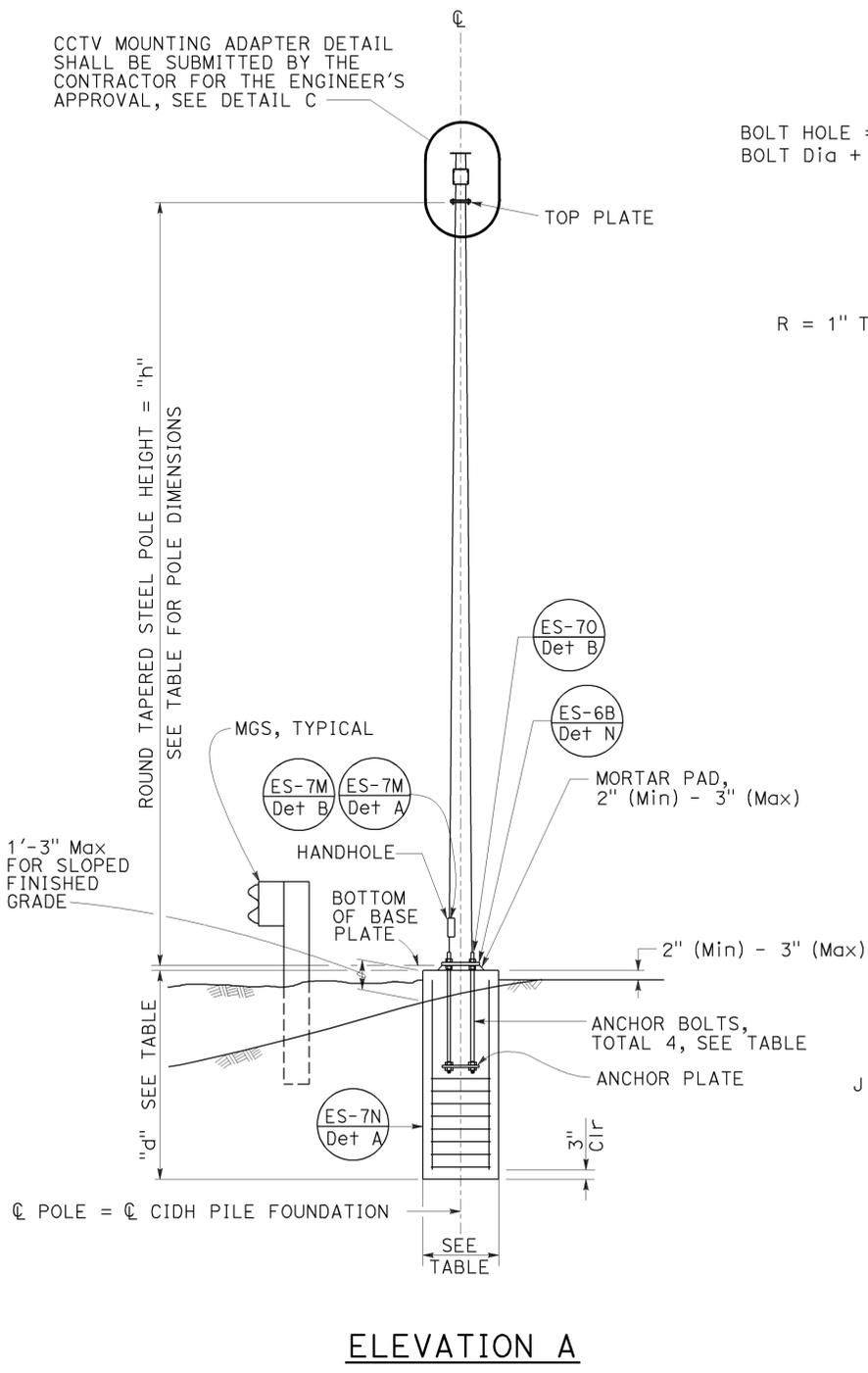
Stanley P. Johnson
 REGISTERED CIVIL ENGINEER
 November 15, 2013
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
 Stanley P. Johnson
 No. C57793
 Exp. 3-31-14
 CIVIL
 STATE OF CALIFORNIA

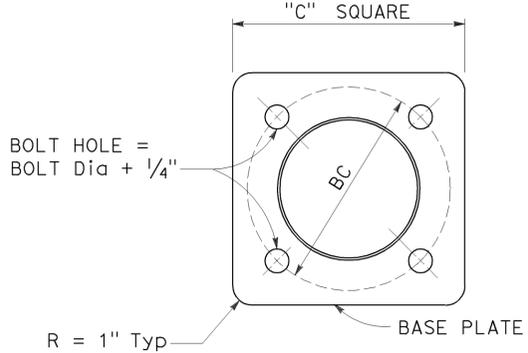
POLE TYPE	POLE DATA			BASE PLATE DATA				CIDH		
	HEIGHT "h"	Min OD		THICKNESS	"c"	THICKNESS	ANCHOR BOLT SIZE	BC = BOLT CIRCLE	Dia	"d"
		BASE	TOP							
CCTV 25	25'	7 ³ / ₈ "	3 ³ / ₄ "	0.1793"	1'-1"	1"	1/2" ϕ x 36"	11 ¹ / ₂ "	2'-6"	7'-0"
CCTV 30	30'	8"			1'-1 ¹ / ₂ "					7'-6"
CCTV 35	35'	8 ⁵ / ₈ "			1'-2"					8'-0"
CCTV 40	40'	9 ³ / ₈ "			1'-1 ¹ / ₂ "					8'-6"
CCTV 45	45'	10"			1'-3"					8'-6"

TO ACCOMPANY PLANS DATED 1-13-14

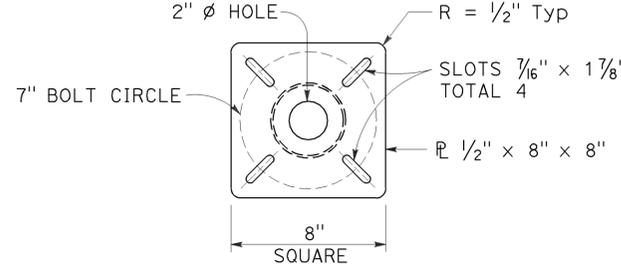
CCTV MOUNTING ADAPTER DETAIL SHALL BE SUBMITTED BY THE CONTRACTOR FOR THE ENGINEER'S APPROVAL, SEE DETAIL C



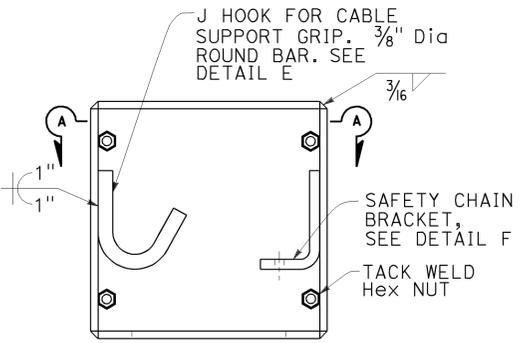
ELEVATION A



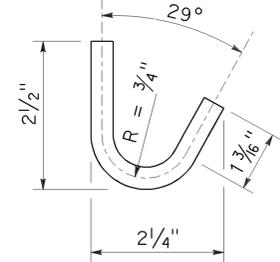
BASE PLATE
DETAIL A



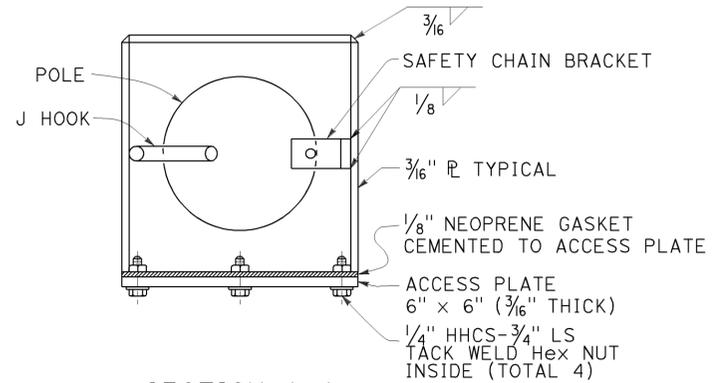
TOP PLATE
DETAIL B



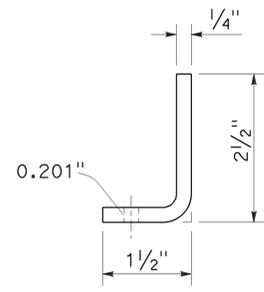
BOX ENCLOSURE
DETAIL D



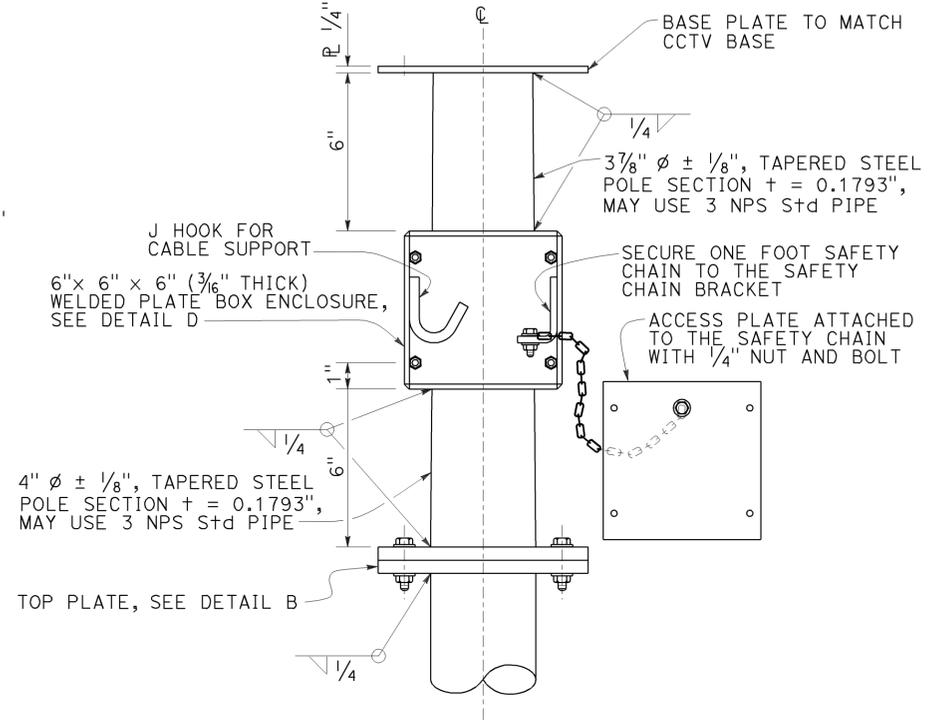
J HOOK
DETAIL E



SECTION A-A



SAFETY CHAIN BRACKET
DETAIL F



CLOSED CIRCUIT TELEVISION MOUNTING ADAPTER
DETAIL C

NOTES:

- The Contractor shall verify controlling field dimensions before ordering or fabricating any material.
- During pole installation, the post shall be raked as necessary with the use of leveling nuts to provide a plumb pole axis.
- Wind Loadings (3-second gust): 100 mph
- Unit Stresses (Structural Steel):
 - fy = 55,000 psi (tapered steel tube and anchor bolts)
 - fy = 50,000 psi (unless otherwise noted)
- Unit Stresses (Reinforced Concrete):
 - f'c = 3,625 psi
 - fy = 60,000 psi

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
(CLOSED CIRCUIT TELEVISION,
25' TO 45' POLE)**
NO SCALE

RSP ES-16B DATED NOVEMBER 15, 2013 SUPERSEDES STANDARD PLAN ES-16B DATED MAY 20, 2011 - PAGE 501 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-16B

2010 REVISED STANDARD PLAN RSP ES-16B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0 0.0/3.4	350	477

Stanley P. Johnson
 REGISTERED CIVIL ENGINEER
 November 15, 2013
 PLANS APPROVAL DATE
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2010 REVISED STANDARD PLAN RSP ES-16D

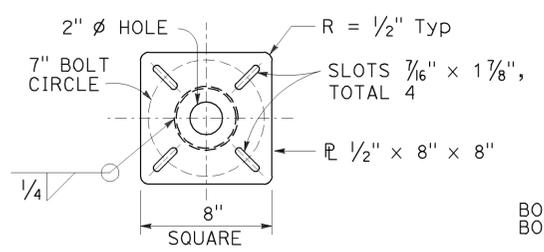
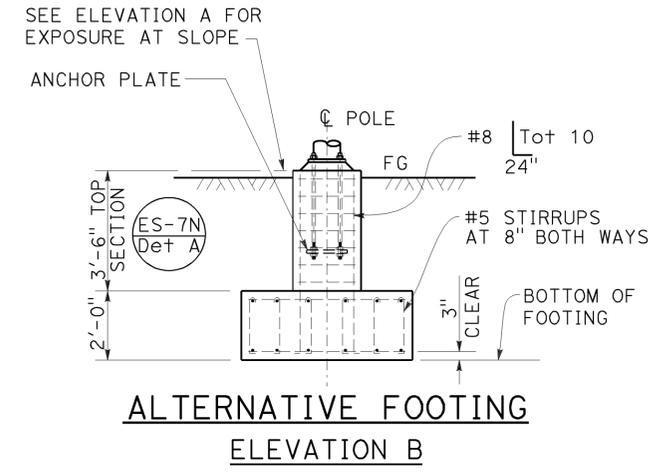
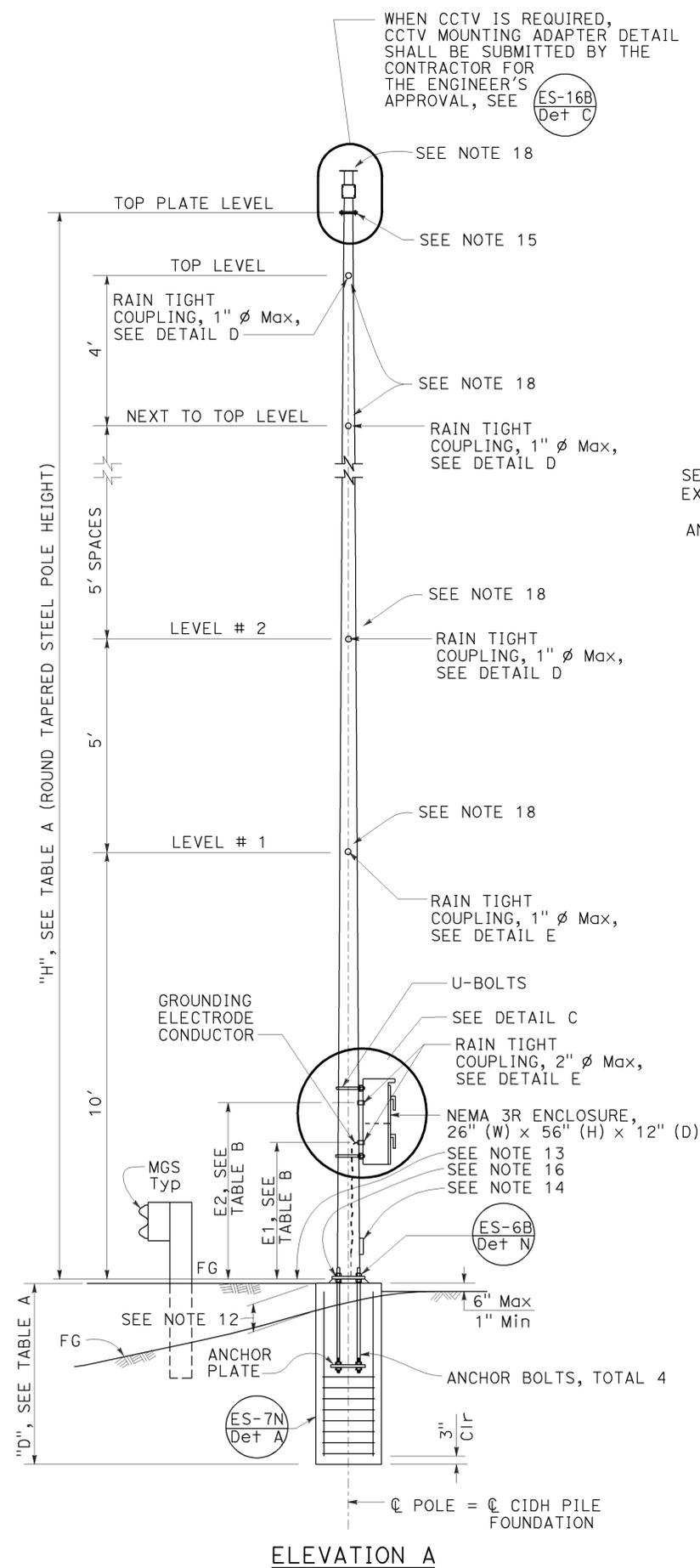
POLE TYPE	POLE DATA			BASE PLATE DATA			"D" 2'-6" ϕ CIDH Pile		
	HEIGHT "H"	Min OD		THICKNESS	"C" THICKNESS	ANCHOR BOLTS SIZE	BC = BOLT CIRCLE	LEVEL GROUND	UP TO 2:1
		BASE	TOP						
VDS 30	30'	8"			1'-1 1/2"		1'-1 1/2"	11'-0"	13'-0"
VDS 35	35'	8 5/8"	3 7/8"	0.1793"	1'-2"	1 1/2" ϕ x 3'-0"	1'-2"	11'-0"	
VDS 40	40'	9 3/8"			1'-3"		1'-3"	12'-0"	14'-0"

POLE TYPE	COUPLING	
	E1(Max)	E2(Max)
VDS 30		
VDS 35	3'-6"	4'-9"
VDS 40		

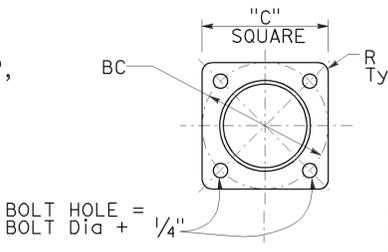
SPREAD FOOTING		
GROUND	FOOTING SIZE (LENGTH x WIDTH x DEPTH)	REINFORCEMENT TOP & BOTTOM
LEVEL	8'-6" x 8'-6" x 2'-0"	12 - #5 EW
UP TO 2:1	10'-0" x 10'-0" x 2'-0"	15 - #5 EW

LOCATION	MAXIMUM TOTAL EPA PER LEVEL (SQUARE FEET)	MAXIMUM TOTAL WEIGHT (lb)
LEVEL #1	14	200
LEVEL #2		
LEVEL #3		
LEVEL #4 (VDS 35 AND VDS 40 ONLY)	2.5	50
LEVEL #5 (VDS 40 ONLY)		
NEXT TO TOP LEVEL		
TOP LEVEL		
ON TOP PLATE LEVEL **		

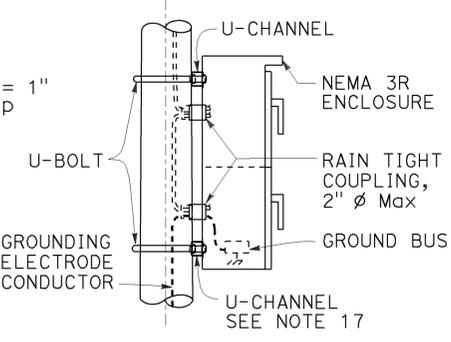
* MAXIMUM HORIZONTAL EXTENT BEYOND POLE FACE IS 4 FEET.
 ** MAXIMUM EXTENT ABOVE TOP PLATE IS 3 FEET.
 *** 14 IF LEVEL #1 IS ZERO.



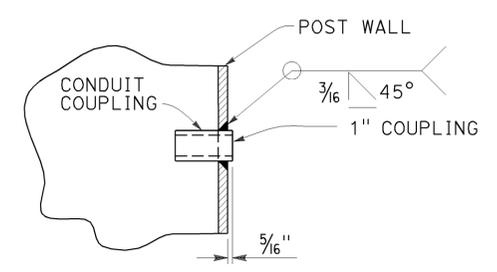
TOP PLATE DETAIL A



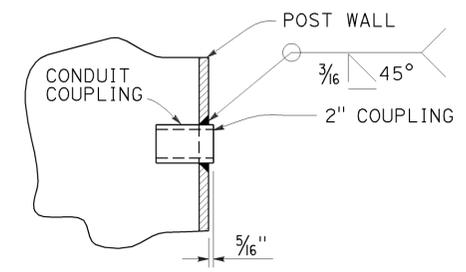
BASE PLATE DETAIL B



DETAIL C



1" COUPLING DETAIL D



2" COUPLING DETAIL E

- NOTES:
- All steel shall be galvanized after fabrication.
 - During pole installation the post shall be raked as necessary with the use of leveling nuts to provide a plumb pole axis.
 - The foundation shall be treated as level ground condition if the slope inclination is flatter than 4 : 1 (Horizontal : Vertical)
 - For devices mounted and mounting heights, see TABLE B.
 - Design Specification: AASHTO Standard Specification for structural support for highway signs, luminaires and traffic signal dated 2001.
 - Wind Loadings: 100 mph (3-second gust)
 - Unit Stresses (Structural Steel):
 - fy = 55,000 psi (tapered steel tube)
 - fy = 50,000 psi (unless otherwise noted)
 - Anchor bolts: fy = 55,000 psi
 - Unit Stresses (Reinforced Concrete):
 - f'c = 3,600 psi
 - fy = 60,000 psi
 - The Contractor shall verify all controlling field dimensions before ordering of fabricating any material.
 - When no barriers are used, the NEMA 3R enclosure shall be located on the downstream side and perpendicular to the roadway.
 - 1'-3" (Max) for sloped finished grade.
 - Bottom of base plate.
 - Handhole. ES-7M Det B, ES-7M Det A
 - Top plate. Install a blank flange on the top plate when closed circuit television is not used.
 - ES-70 Elev B
 - U-channel with bracket.
 - Use the manufacturer's Effective Projected Area (EPA) for attachments. Assign attachments to nearest level and sum each level, see Table D for limitations.
- STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
 (CLOSED CIRCUIT TELEVISION WITH
 VEHICLE DETECTION SYSTEM,
 30' TO 40' POLE)**

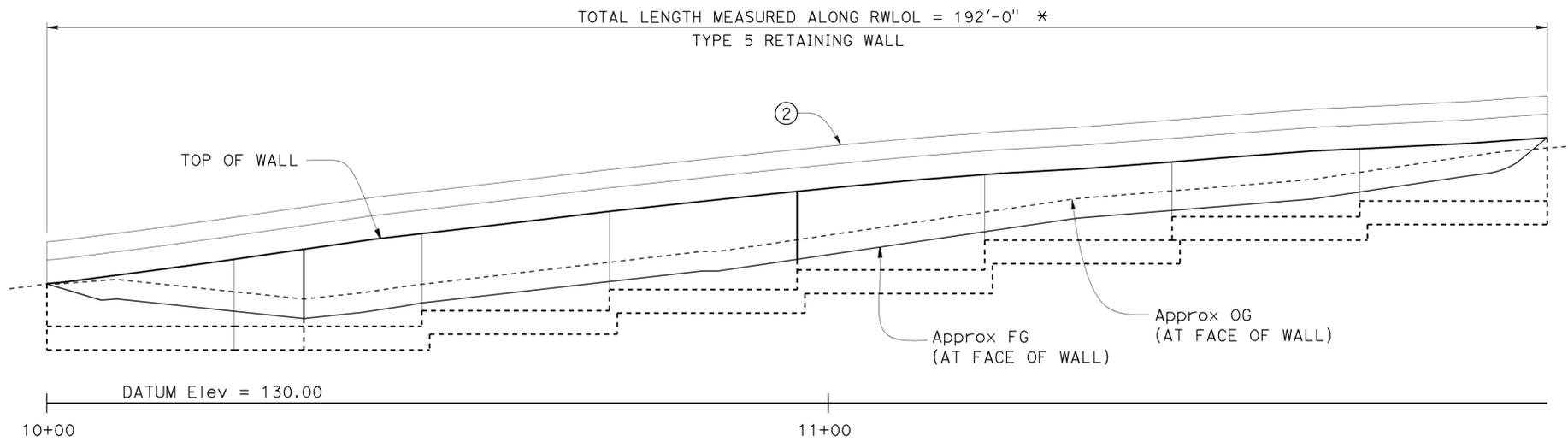
NO SCALE

RSP ES-16D DATED NOVEMBER 15, 2013 SUPERSEDES RSP ES-16D DATED JULY 19, 2013 AND STANDARD PLAN ES-16D DATED MAY 20, 2011 - PAGE 503 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-16D

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0 0.0/3.4	351	477

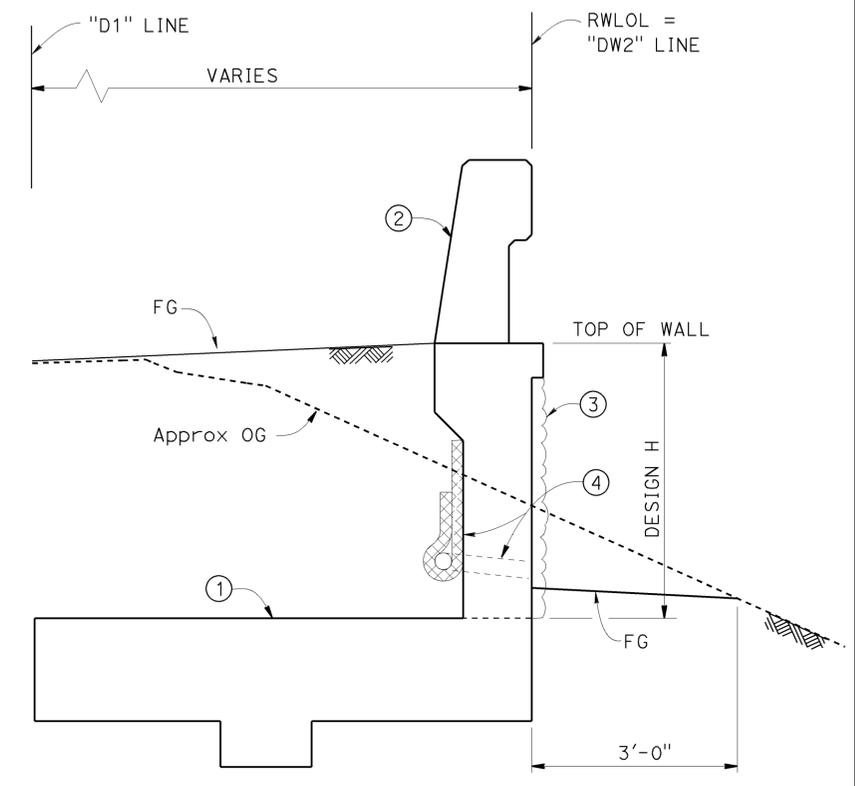
10/14/13
 REGISTERED CIVIL ENGINEER DATE
 1-13-14
 PLANS APPROVAL DATE
 John E Peterson
 No. C60724
 Exp. 12/31/14
 CIVIL
 STATE OF CALIFORNIA
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DEVELOPED ELEVATION * Limits of random rough stacked rock texture
 HORIZONTAL 1" = 10'
 VERTICAL 1" = 5'

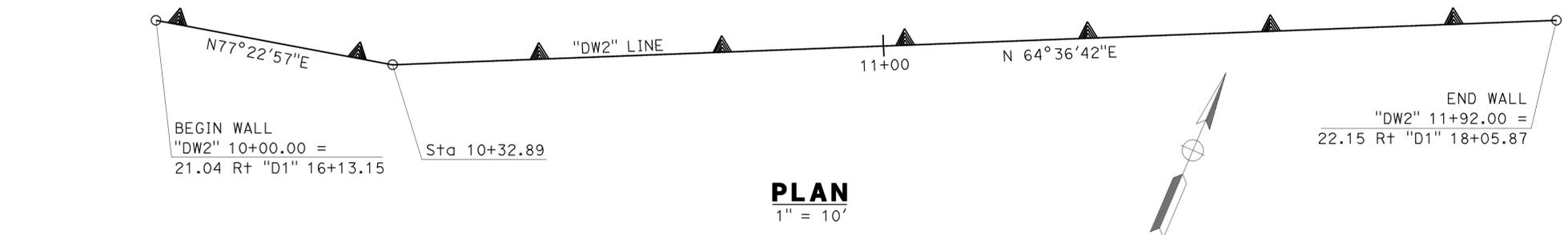
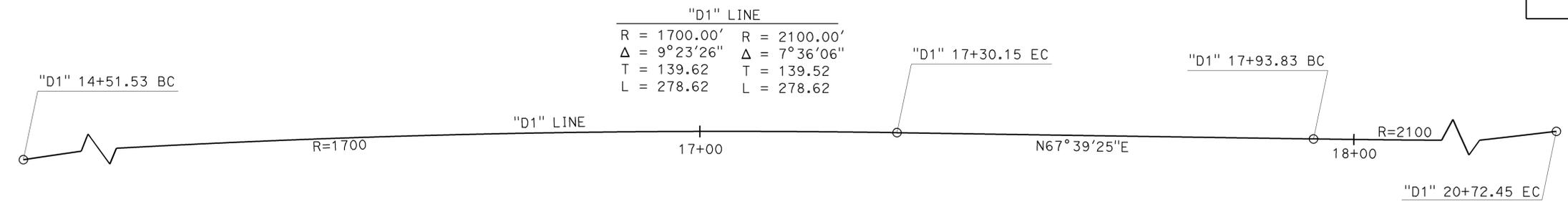
QUANTITIES

STRUCTURE EXCAVATION (RETAINING WALL)	247	CY
STRUCTURE BACKFILL (RETAINING WALL)	164	CY
STRUCTURAL CONCRETE, RETAINING WALL	124	CY
RANDOM ROUGH STACKED ROCK TEXTURE	712	SQFT
BAR REINFORCING STEEL (RETAINING WALL)	16,800	LB
CONCRETE BARRIER (TYPE 732A)	192	LF



TYPICAL SECTION
 3/4" = 1'

- NOTES:
- ① Retaining Wall Type 5 (CASE 1) RSP (B3-4A)
 - ② Concrete Barrier Type 732A RSP (B11-55)
 - ③ Random Rough Stacked Rock Texture
 - ④ Weep Hole and Geocomposite Drain, see "INDEX TO PLANS" sheet for details



PLAN
 1" = 10'

X DESIGN ENGINEER	DESIGN	BY John Peterson	CHECKED Tanzeeba Kishwar	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: SURCHARGE ON LEVEL GROUND SURFACE	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO.	ALHAMBRA Ave EB WALL		
	DETAILS	BY Liang Ma	CHECKED Tanzeeba Kishwar	LAYOUT	BY John Peterson			CHECKED E. Pongpairoj		RETW	GENERAL PLAN
	QUANTITIES	BY Alireza Yazdani	CHECKED Monzer Jaber	SPECIFICATIONS	BY Dave Klein			CHECKED Dave Klein		POST MILE	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS						UNIT: 3617	PROJECT NUMBER & PHASE: 04120006281	CONTRACT NO.: 04-152724	REVISION DATES	SHEET 1 OF 7	

DISREGARD PRINTS BEARING EARLIER REVISION DATES
 10-14-13 01-06-14
 FILE => 28-alhambra-eb-a-gp01.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.07/25.0 0.0/3.4	352	477

10/14/13
 REGISTERED CIVIL ENGINEER DATE
 1-13-14
 PLANS APPROVAL DATE
 John E. Peterson
 No. C60724
 Exp. 12/31/14
 CIVIL
 STATE OF CALIFORNIA
 REGISTERED PROFESSIONAL ENGINEER
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INDEX TO PLANS

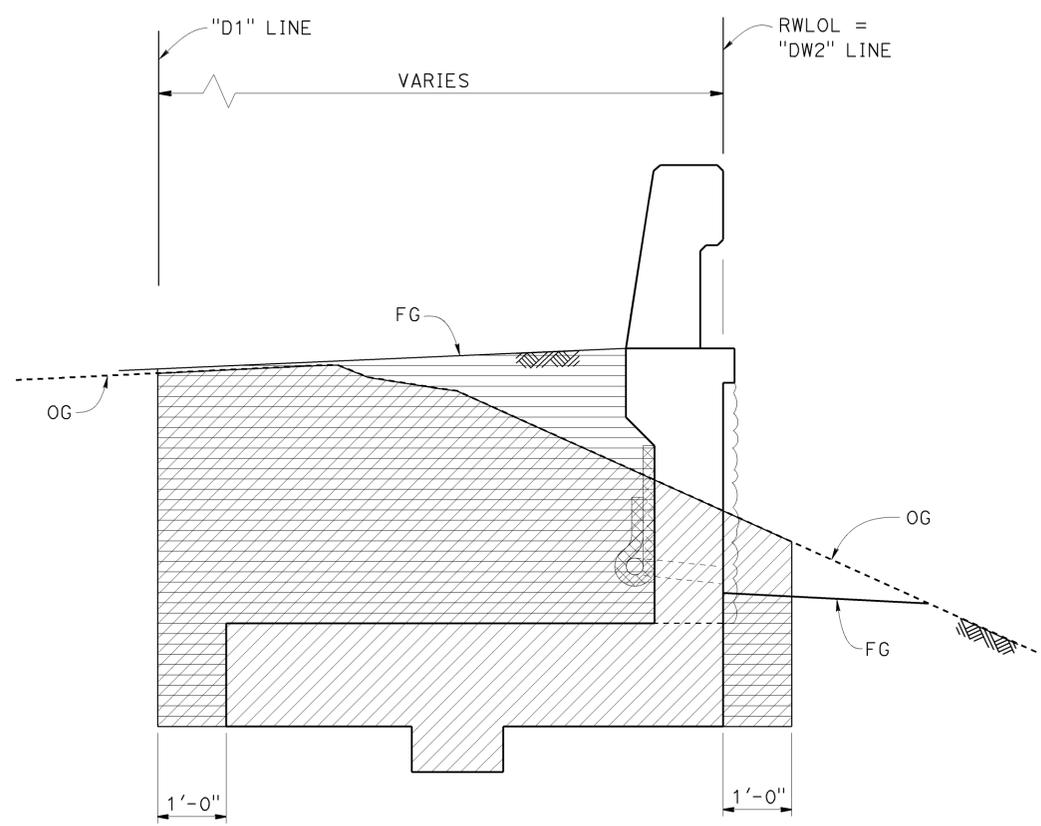
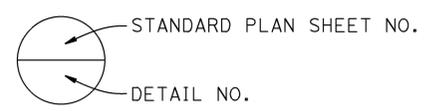
SHEET NO.	TITLE
1	GENERAL PLAN
2	INDEX TO PLANS
3	STRUCTURE PLAN No. 1
4	STRUCTURE PLAN No. 2
5	FOUNDATION PLAN
6	ARCHITECTURAL TREATMENT DETAILS
7	LOG OF TEST BORINGS

GENERAL NOTES

SEE RSP B3-4A FOR DESIGN SPECIFICATIONS WITH THE FOLLOW REVISIONS
 SEISMIC DESIGN:
 $K_h = 0.23$

STANDARD PLANS DATED 2010

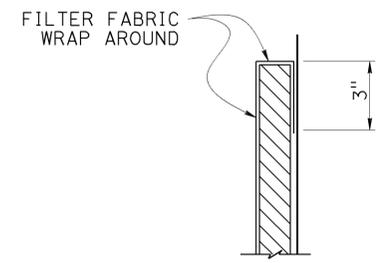
A10A	ABBREVIATIONS (SHEET 1 OF 2)
RSP A10B	ABBREVIATIONS (SHEET 2 OF 2)
A10C	LINES AND SYMBOLS (SHEET 1 OF 2)
A10D	LINES AND SYMBOLS (SHEET 2 OF 2)
A10E	LINES AND SYMBOLS (SHEET 3 OF 2)
A10F	LEGEND - SOIL (SHEET 1 OF 2)
A10G	LEGEND - SOIL (SHEET 2 OF 2)
A10H	LEGEND - ROCK
BO-3	BRIDGE DETAILS
RSP B3-4A	RETAINING WALL TYPE 5 (CASE 1)
RSP B3-5	RETAINING WALL DETAILS No. 1
RSP B11-55	CONCRETE BARRIER TYPE 732



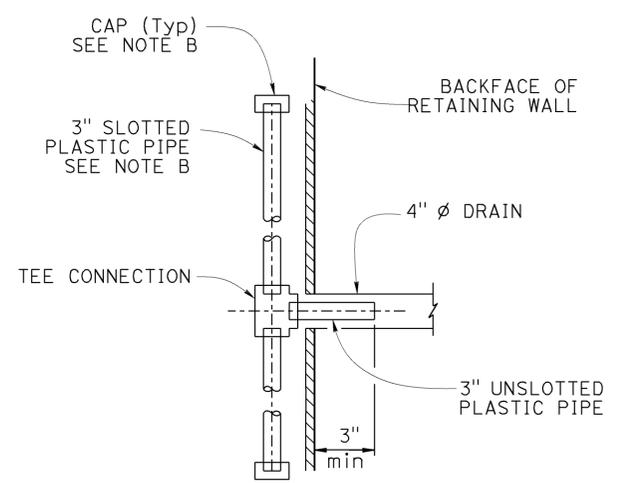
EXCAVATION AND BACKFILL
NO SCALE

LEGEND:

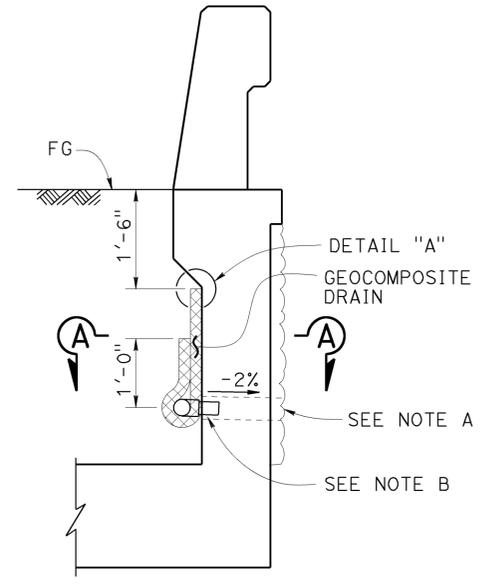
	STRUCTURE EXCAVATION
	STRUCTURE BACKFILL



DETAIL "A"



SECTION A-A



WALL SECTION

WEEP HOLE AND GEOCOMPOSITE DRAIN

NO SCALE
 ALTERNATIVE TO BRIDGE DETAIL (BO-3/3-1)

- Notes:
- 4" Ø drains at intermediate sag points and at 25' max center to center. Exposed wall drains shall be located 3" ± above finished grade.
 - Geocomposite drain and 3" Ø slotted plastic pipe continuous behind retaining wall. Cap ends of pipe. Provide "Tee" connection at each 4" Ø drain.
 - Connect the low end of plastic pipe to the main outlet pipe as applicable.

DESIGN	BY John Peterson	CHECKED Tanzeeba Kishwar
DETAILS	BY Liang Ma/T. Cotton	CHECKED Tanzeeba Kishwar
QUANTITIES	BY Alireza Yazdani	CHECKED Monzer Jober

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

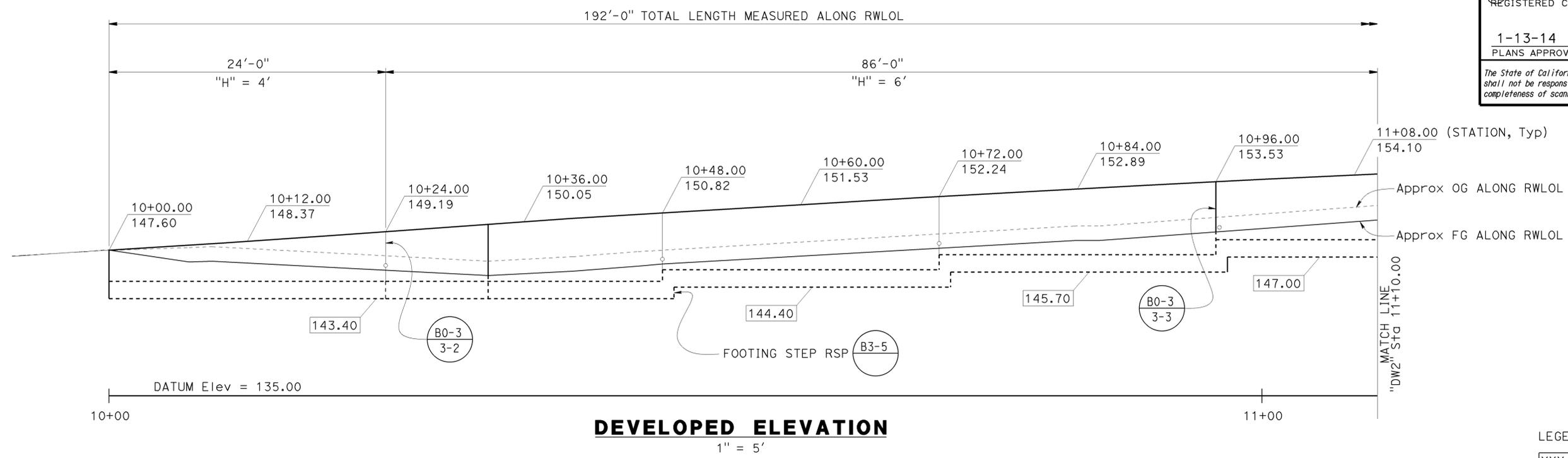
DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
DESIGN BRANCH 16

BRIDGE NO.	RETW
POST MILE	8.72

ALHAMBRA Ave EB WALL
INDEX TO PLANS

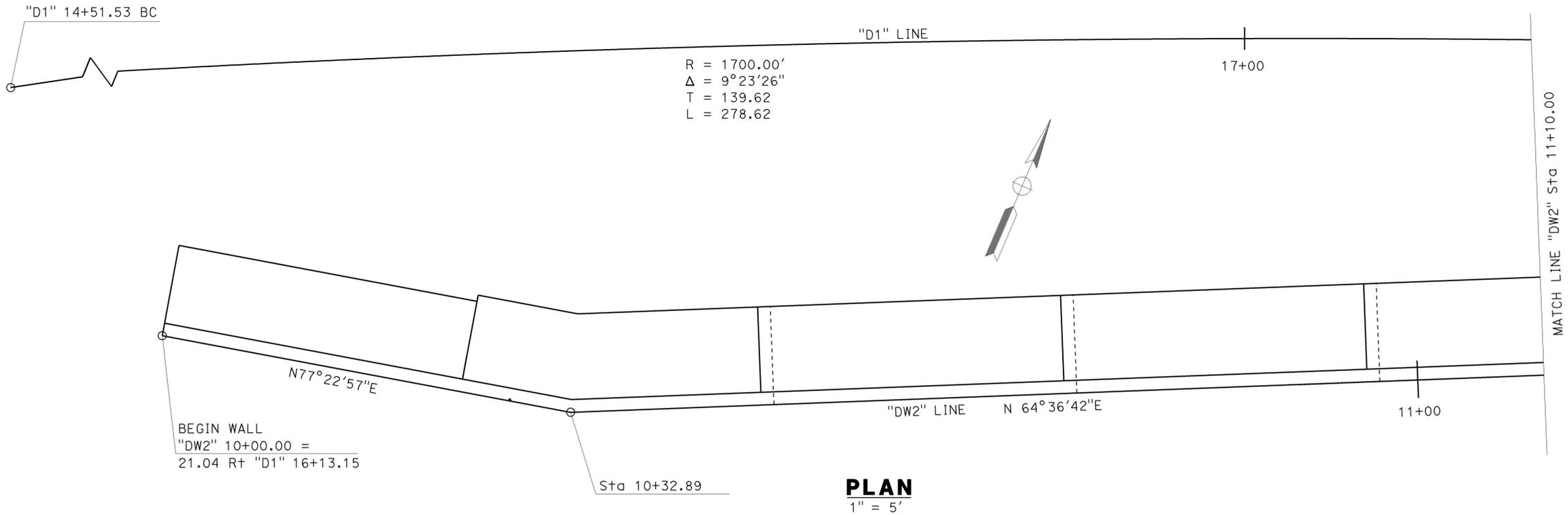
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0 0.0/3.4	353	477

10/14/13
 REGISTERED CIVIL ENGINEER DATE
 1-13-14
 PLANS APPROVAL DATE
 John E. Peterson
 No. C60724
 Exp. 12/31/14
 CIVIL
 STATE OF CALIFORNIA
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- LEGEND:
- XXX.XX Denotes bottom of footing elevation
 - Weep Hole

- NOTES:
1. Concrete Barrier not shown
 2. Random Rough Stacked Rock Texture not shown, for details see "ARCHITECTURAL TREATMENT DETAILS" sheet

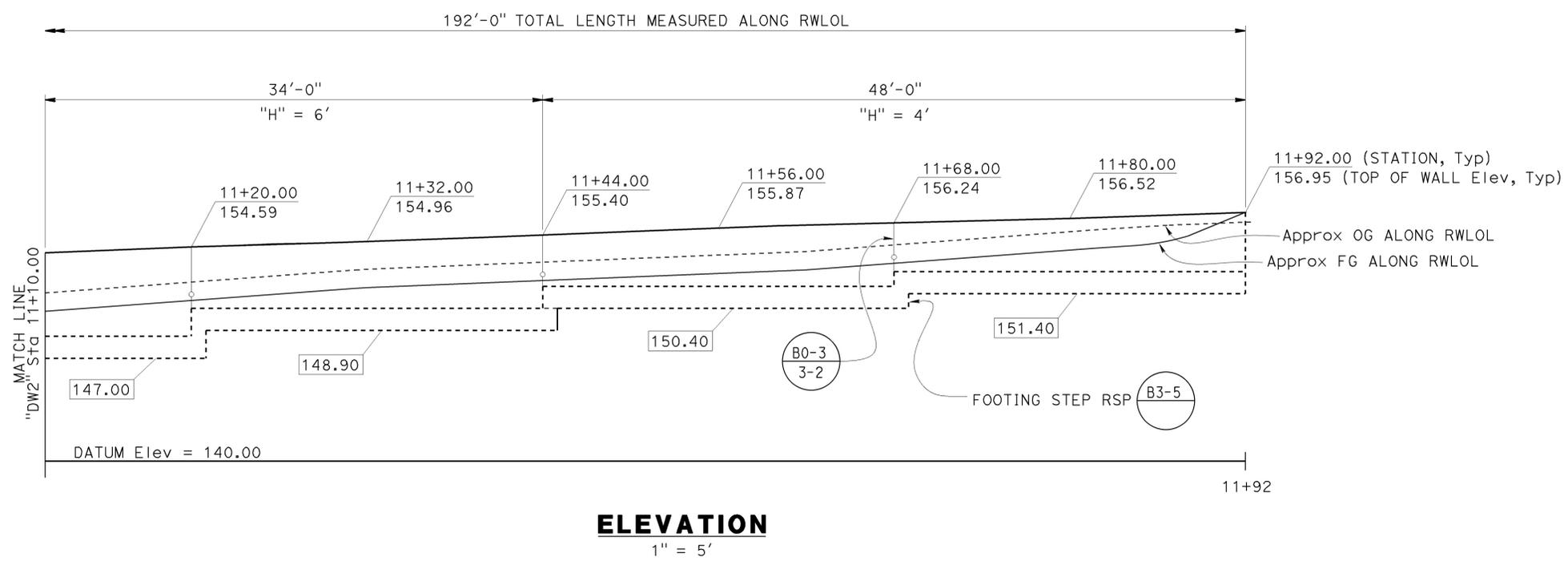


STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY John Peterson	CHECKED Tanzeeba Kishwar	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO.	ALHAMBRA Ave EB WALL STRUCTURE PLAN No. 1					
	DETAILS	BY Liang Ma	CHECKED Tanzeeba Kishwar			RETW						
	QUANTITIES	BY Alireza Yazdani	CHECKED Monzer Jober			POST MILE 8.72						
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS					UNIT: X PROJECT NUMBER & PHASE: 04120006281		CONTRACT NO.: 04-152724		DISREGARD PRINTS BEARING EARLIER REVISION DATES			
								REVISION DATES		SHEET	OF	
								8-13	10-14-13	01-06-14	3	7

FILE => 28-alhambra-eb-c-sp01.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0 0.0/3.4	354	477

10/14/13
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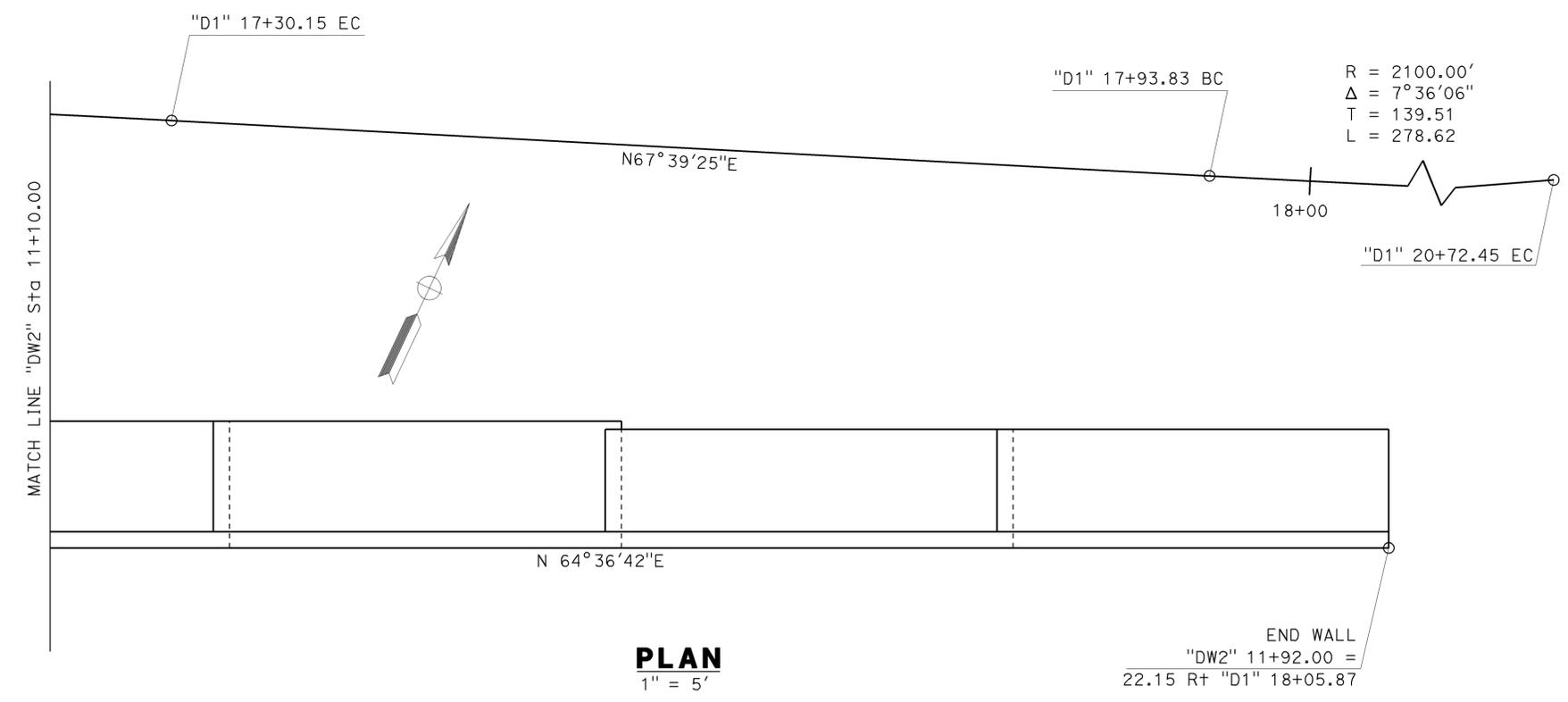
LEGEND:

XXX.XX Denotes bottom of footing elevation

○ Weep Hole

NOTES:

- Concrete Barrier not shown
- Random Rough Stacked Rock Texture not shown, for details see "ARCHITECTURAL TREATMENT DETAILS" sheet



DESIGN	BY John Peterson	CHECKED Tanzeeba Kishwar
DETAILS	BY Liang Ma	CHECKED Tanzeeba Kishwar
QUANTITIES	BY Alireza Yazdani	CHECKED Monzer Jober

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 16

BRIDGE NO.	RETW
POST MILE	8.72

ALHAMBRA Ave EB WALL
STRUCTURE PLAN No. 2

CURVE DATA

No.	R	Δ	T	L
1	1700.00	9°23'26"	139.62	278.62
2	2100.00	7°36'06"	139.52	278.62

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0 0.0/3.4	355	477

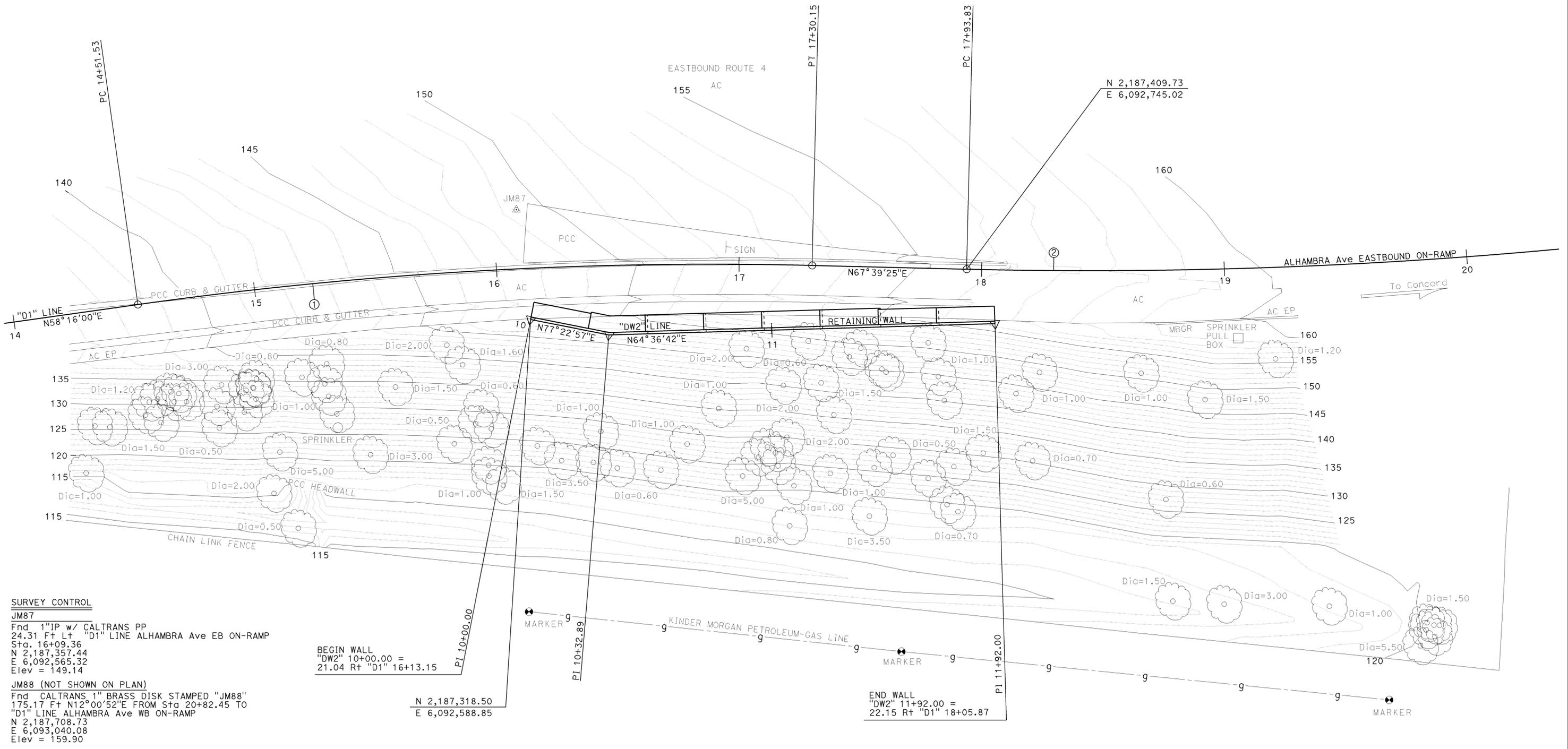


10/14/13
REGISTERED CIVIL ENGINEER DATE

1-13-14
PLANS APPROVAL DATE

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Exp. 12/31/14
CIVIL

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SURVEY CONTROL
JM87
 Fnd 1"IP w/ CALTRANS PP
 24.31 Ft Lt "D1" LINE ALHAMBRA Ave EB ON-RAMP
 Sta. 16+09.36
 N 2,187,357.44
 E 6,092,565.32
 Elev = 149.14

JM88 (NOT SHOWN ON PLAN)
 Fnd CALTRANS 1" BRASS DISK STAMPED "JM88"
 175.17 Ft N12°00'52"E FROM Sta 20+82.45 TO
 "D1" LINE ALHAMBRA Ave WB ON-RAMP
 N 2,187,708.73
 E 6,093,040.08
 Elev = 159.90

BEGIN WALL
 "DW2" 10+00.00 =
 21.04 Rt "D1" 16+13.15

N 2,187,318.50
 E 6,092,588.85

END WALL
 "DW2" 11+92.00 =
 22.15 Rt "D1" 18+05.87

PRELIMINARY INVESTIGATION SECTION				DESIGN BY John Peterson	CHECKED Tanzeeba Kishwar	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO. RETW	ALHAMBRA Ave EB WALL FOUNDATION PLAN
SCALE VERT. DATUM NAVD88	PHOTOGRAMMETRY AS OF: X	DETAILS BY Liang Ma	CHECKED Tanzeeba Kishwar	POST MILE 8.72					
1"=20'	HORIZ. DATUM NAD83	QUANTITIES BY Alireza Yazdani	CHECKED Monzer Jaber						
ALIGNMENT TIES Dist TRAVERSE SHEET		DRAFTED BY T. ZOLNIKOV 08/2013	CHECKED BY L. LEW 08/2013	UNIT: 3617		PROJECT NUMBER & PHASE: 04120006281	CONTRACT NO.: 04-152724	DISREGARD PRINTS BEARING EARLIER REVISION DATES	
STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 09-01-10)						ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3	REVISION DATES	SHEET 5 OF 7

USERNAME => s134959 DATE PLOTTED => 07-JAN-2014 TIME PLOTTED => 15:14

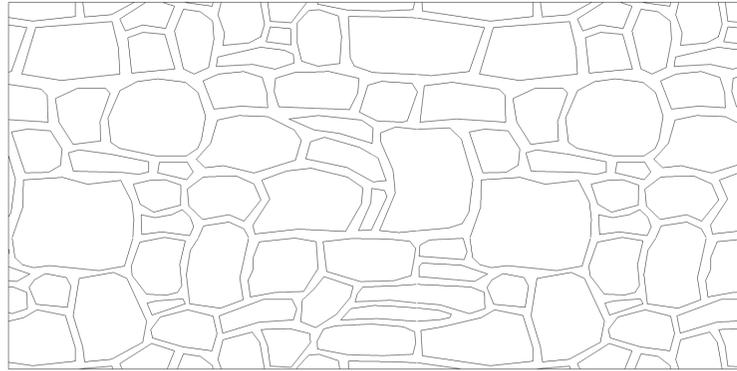
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0 0.0/3.4	356	477

John E. Peterson 10/14/13
 REGISTERED CIVIL ENGINEER DATE

1-13-14
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REGISTERED PROFESSIONAL ENGINEER
 John E. Peterson
 No. C60724
 Exp. 12/31/14
 CIVIL
 STATE OF CALIFORNIA

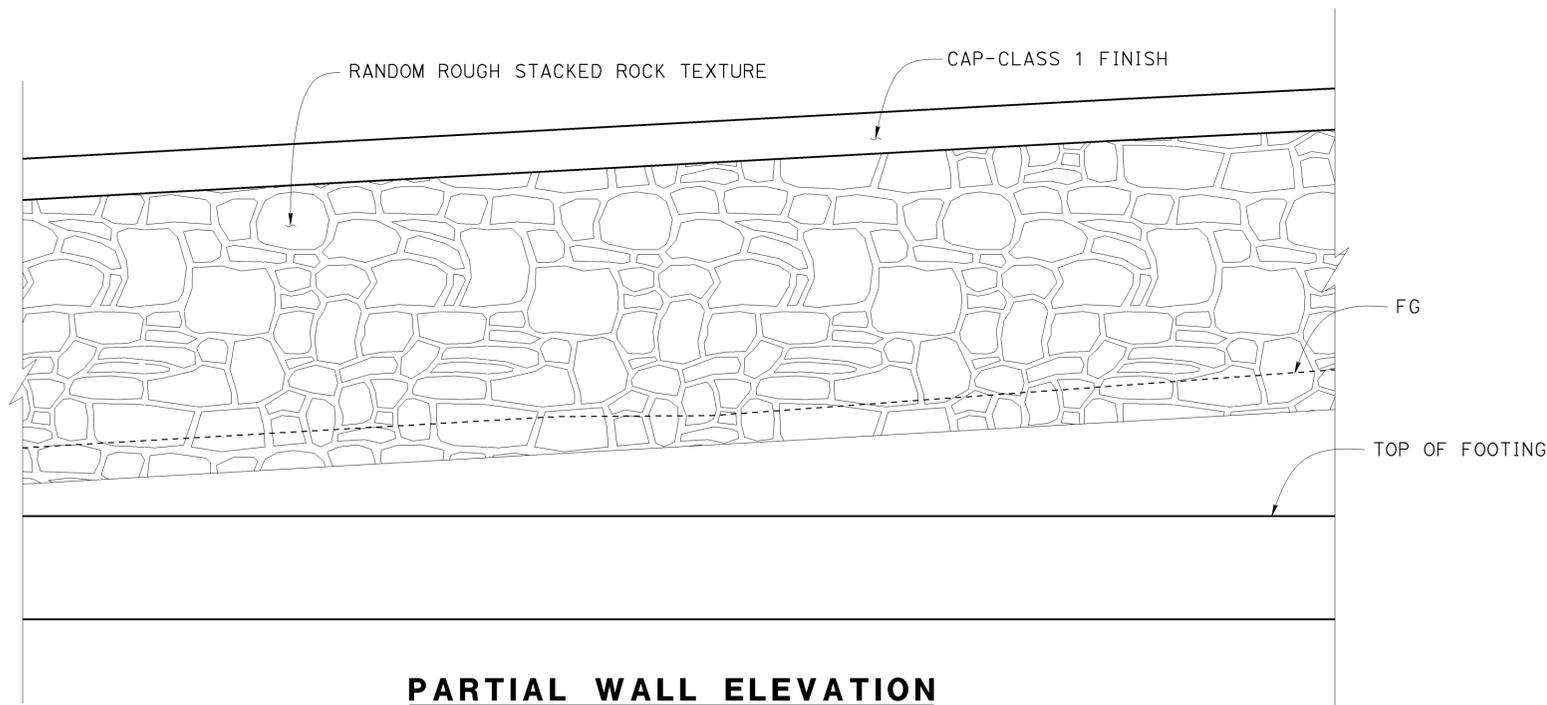


PATTERN ELEVATION
NO SCALE

**RANDOM ROUGH STACKED ROCK
TEXTURE DETAILS**

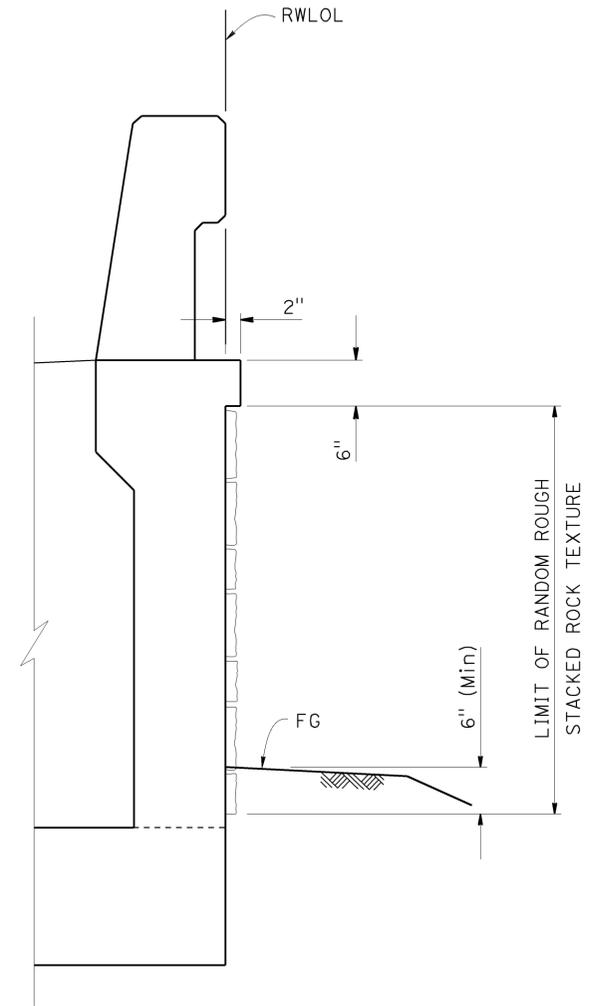
TEXTURE NOTES:

Random Rough Stacked Rock
 Texture relief to be 1.5" maximum
 Stone sizes shall be random
 2.5" to 18" in width
 2" to 12" in Height



PARTIAL WALL ELEVATION

$\frac{3}{4}'' = 1'$
(BARRIER NOT SHOWN)



SECTION

1" = 1'

DESIGN	BY John Peterson	CHECKED Tanzeeba Kishwar
DETAILS	BY Liang Ma	CHECKED Tanzeeba Kishwar
QUANTITIES	BY Alireza Yazdani	CHECKED Monzer Jober

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 16

BRIDGE NO.	RETW
POST MILE	8.72

ALHAMBRA Ave EB WALL
ARCHITECTURAL TREATMENT DETAILS

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	CC	4,242	R8.0/25.0 0.0/3.4	357	477

09/24/13
REGISTERED CIVIL ENGINEER
1-13-14
PLANS APPROVAL DATE

Samuel Awad
No. 64589
Exp. 6-30-15
REGISTERED PROFESSIONAL ENGINEER
CIVIL
STATE OF CALIFORNIA

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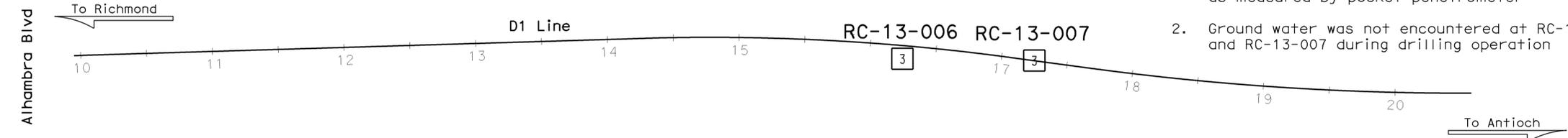
BENCH MARK

SURVEY CONTROL

JM87
Fnd 1"IP w/ CALTRANS PP
24.31 Ft Lt "D1" LINE ALHAMBRA Ave EB ON-RAMP
Sta. 16+09.36
N 2,187,357.44
E 6,092,565.32
Elev=149.14

JM88 (NOT SHOWN ON PLAN)

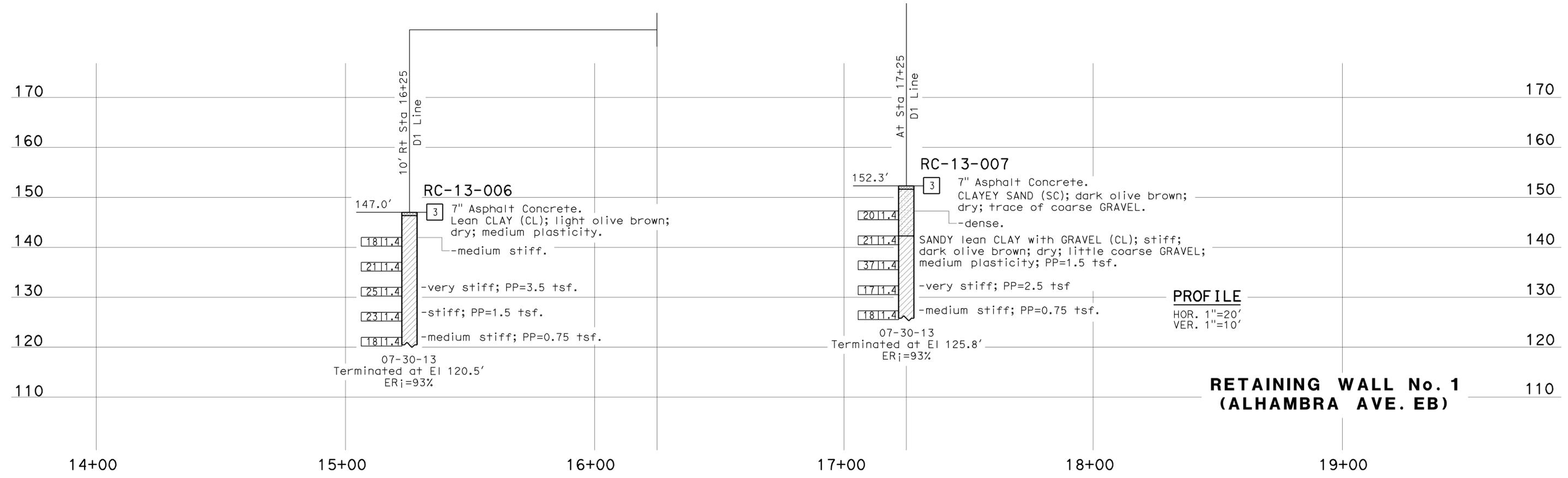
Fnd CALTRANS 1" BRASS DISK STAMPED "JM88"
175.17 Ft N12\9400'52"E FROM Sta 20+82.45 TO
"D1" LINE ALHAMBRA Ave WB ON-RAMP
N 2,187,708.73
E 6,093,040.08
Elev=159.90



PLAN
1"=50'

NOTES:

1. PP=unconfined compressive strength (tsf) as measured by pocket penetrometer
2. Ground water was not encountered at RC-13-006 and RC-13-007 during drilling operation



PROFILE
HOR. 1"=20'
VER. 1"=10'

**RETAINING WALL No. 1
(ALHAMBRA AVE. EB)**

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA		DIVISION OF ENGINEERING SERVICES		BRIDGE NO.		ALHAMBRA Ave EB WALL	
FUNCTIONAL SUPERVISOR		DRAWN BY: M. Reynolds 09/ 13		DEPARTMENT OF TRANSPORTATION		STRUCTURE DESIGN		RETW		LOG OF TEST BORINGS	
NAME: H. Nikouli		CHECKED BY: S. Yanf		FIELD INVESTIGATION BY: S. Awad		DESIGN BRANCH A		POST MILES 8.72			
065 CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 3660		PROJECT NUMBER & PHASE: 04120006281		CONTRACT NO.: 04-152724		DISREGARD PRINTS BEARING EARLIER REVISION DATES	
				0 1 2 3				REVISION DATES		SHEET 7 OF 7	

USERNAME => s134959 DATE PLOTTED => 07-JAN-2014 TIME PLOTTED => 15:14

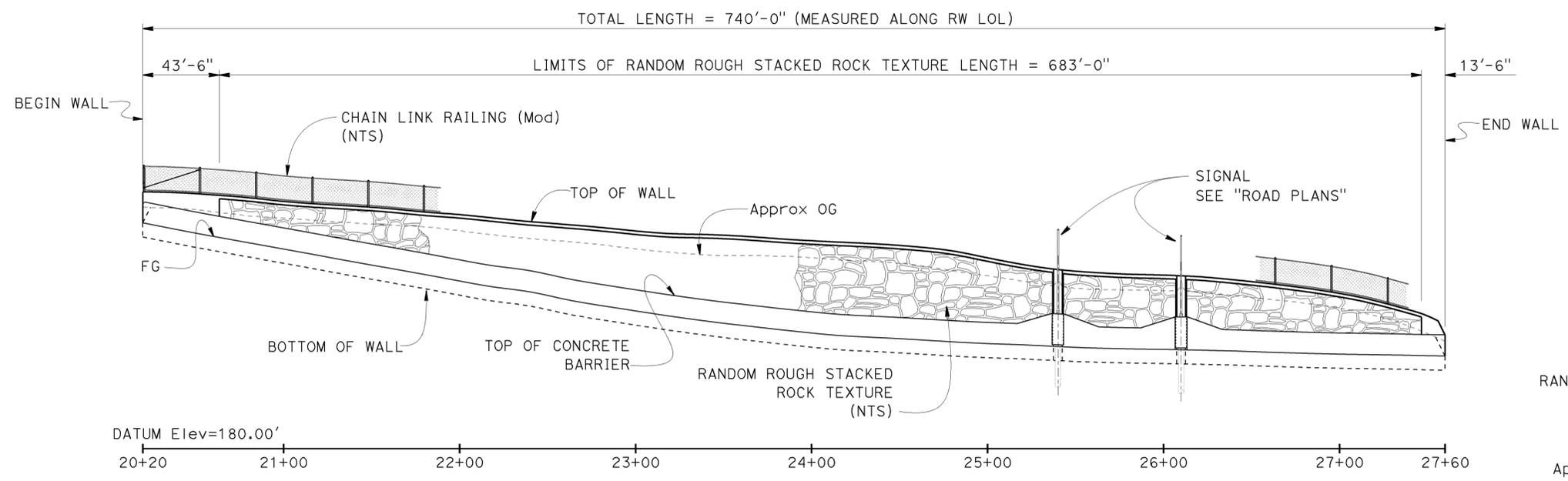
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0, 0.0/3.4	358	477

John E. Peterson 10/14/13
 REGISTERED CIVIL ENGINEER DATE

1-13-14
 PLANS APPROVAL DATE

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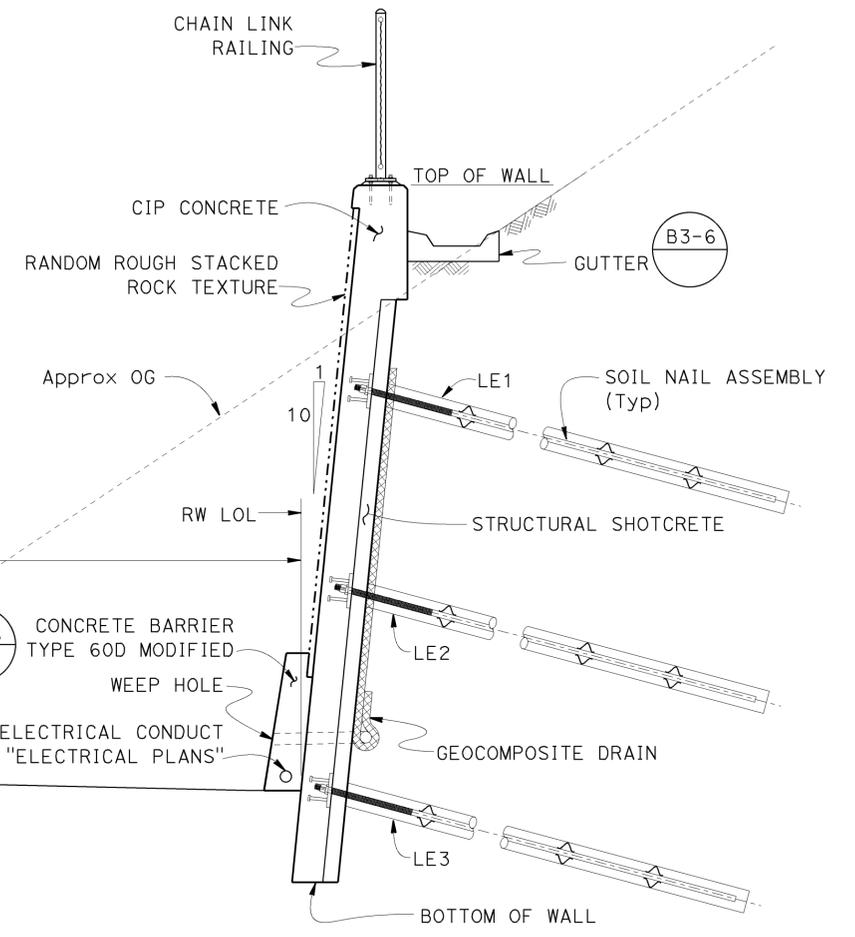
REGISTERED PROFESSIONAL ENGINEER
 JOHN E. PETERSON
 No. 60724
 Exp. 12-31-14
 CIVIL
 STATE OF CALIFORNIA



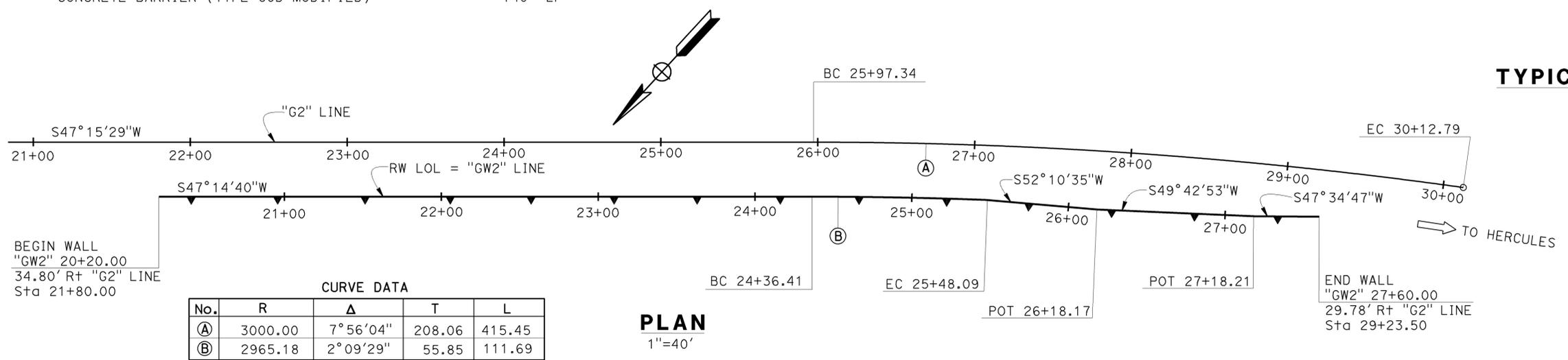
DEVELOPED MIRROR ELEVATION
 Horiz (1"=40') Vert (1"=10')

QUANTITIES

STRUCTURE EXCAVATION (SOIL NAIL WALL)	595	CY
STRUCTURE BACKFILL (SOIL NAIL WALL)	60	CY
SOIL NAIL	5,863	LF
STRUCTURAL CONCRETE, RETAINING WALL	250	CY
RANDOM ROUGH STACKED ROCK TEXTURE	5,100	SQFT
BAR REINFORCING STEEL (RETAINING WALL)	29,050	LB
STRUCTURAL SHOTCRETE	87	CY
MINOR CONCRETE (GUTTER) (LF)	740	LF
CHAIN LINK RAILING	740	LF
CONCRETE BARRIER (TYPE 60D MODIFIED)	740	LF



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



PLAN
 1"=40'

<i>Muthanna S. Omtan</i> DESIGN ENGINEER	DESIGN	BY Thanh D Phung	CHECKED Son Ly	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: SURCHARGE ON LEVEL GROUND SURFACE	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO.	PINE STREET WB WALL GENERAL PLAN			
	DETAILS	BY Min Yu	CHECKED Son Ly	LAYOUT	BY John E Peterson			CHECKED E. Pongpairaj		28E0208		
	QUANTITIES	BY Hardeep Singh	CHECKED Ghiath Taleb-Agha	SPECIFICATIONS	BY Dave Klein			PLANS AND SPECS COMPARED Dave Klein		POST MILE	9.05	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS						0 1 2 3	UNIT: 3617	PROJECT NUMBER & PHASE: 04120006281	CONTRACT NO.: 04-152724	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 1 OF 19

STRUCTURES DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.09-01-10) FILE => 28e0208-a-gp01.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0, 0.0/3.4	359	477

10/14/13
 REGISTERED CIVIL ENGINEER DATE
 1-13-14
 PLANS APPROVAL DATE
 JOHN E PETERSON
 No. 60724
 Exp. 12-31-14
 CIVIL
 STATE OF CALIFORNIA
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INDEX TO PLANS

SHEET NO.	TITLES
1	GENERAL PLAN
2	INDEX TO PLANS
3	STRUCTURE PLAN NO. 1
4	STRUCTURE PLAN NO. 2
5	STRUCTURE PLAN NO. 3
6	STRUCTURE PLAN NO. 4
7	STRUCTURE PLAN NO. 5
8	FOUNDATION PLAN NO. 1
9	FOUNDATION PLAN NO. 2
10	RETAINING WALL DETAILS NO. 1
11	RETAINING WALL DETAILS NO. 2
12	RETAINING WALL DETAILS NO. 3
13	RETAINING WALL DETAILS NO. 4
14	RETAINING WALL DETAILS NO. 5
15	RETAINING WALL DETAILS NO. 6
16	CHAIN LINK RAILING DETAILS
17	ARCHITECTURAL TREATMENT DETAILS
18	LOG OF TEST BORINGS (1 OF 2)
19	LOG OF TEST BORINGS (2 OF 2)

GENERAL NOTES

DESIGN:
"SOIL NAIL WALLS" (FHWA0-IF-03-017)

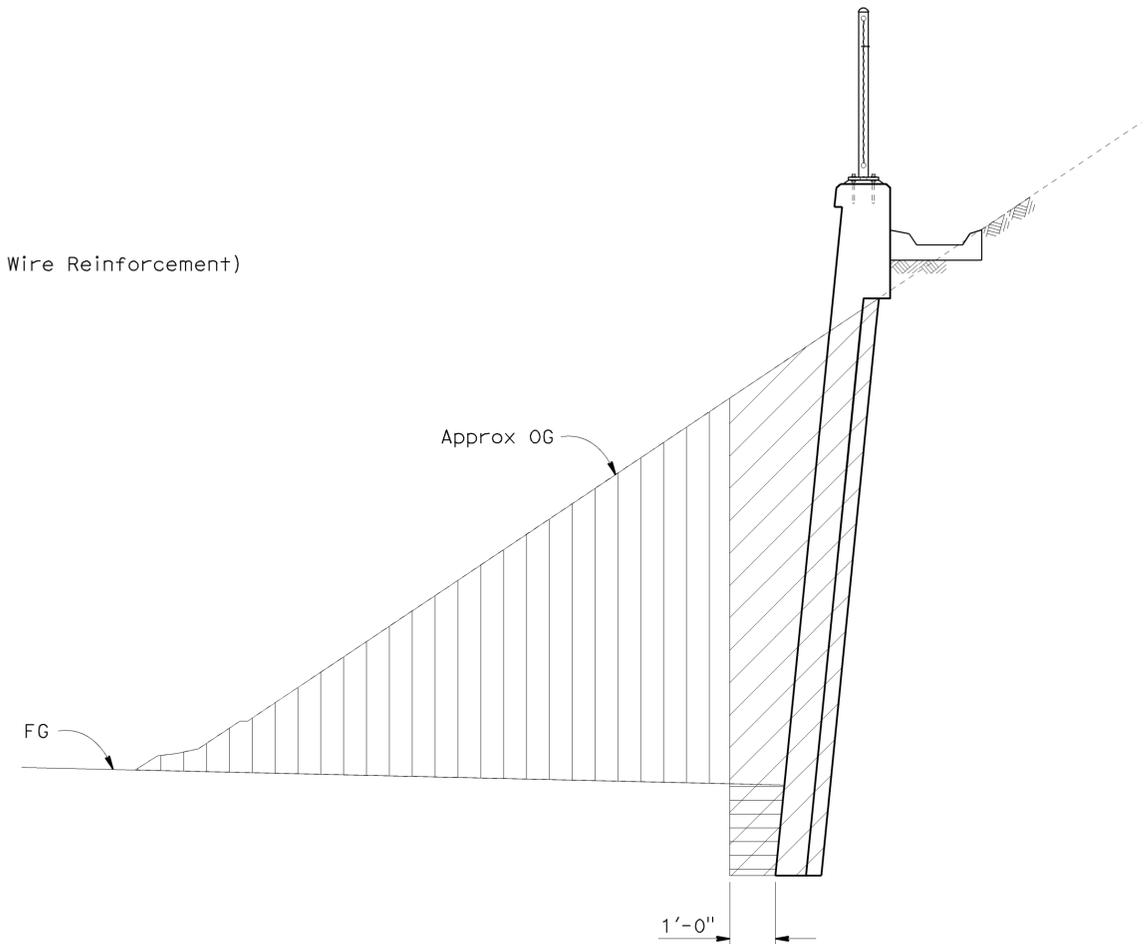
REINFORCED CONCRETE:
 $f'_c = 4000$ psi
 $f_y = 60000$ psi

STRUCTURAL SHOTCRETE:
 $f'_c = 3000$ psi
 $f_y = 65000$ psi (ASTM A185, PLAIN Welded Wire Reinforcement)

SOIL PARAMETERS:
 $\phi = 0^\circ$ $\gamma = 135$ pcf $c = 1500$ psf
 Pull Out Resistance = 1.6 kips/ft

SOIL NAILS:
ASTM A 615 / A 615M, Grade 60

SEISMIC DESIGN:
Kh = 0.23



EXCAVATION AND BACKFILL

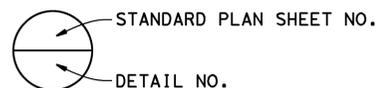
NO SCALE

LEGEND:

	Structure Excavation (Soil Nail Wall)
	Structure Backfill (Soil Nail Wall)
	Roadway Excavation

STANDARD PLANS DATED 2010

A10A	ABBREVIATIONS (SHEET 1 OF 2)
RSP A10B	ABBREVIATIONS (SHEET 2 OF 2)
A10C	LINES AND SYMBOLS (SHEET 1 OF 3)
A10D	LINES AND SYMBOLS (SHEET 2 OF 3)
A10E	LINES AND SYMBOLS (SHEET 3 OF 3)
A10F	LEGEND - SOIL (SHEET 1 OF 2)
A10G	LEGEND - SOIL (SHEET 2 OF 2)
A10H	LEGEND - ROCK
A76A	CONCRETE BARRIER TYPE 60
B3-6	RETAINING WALL DETAILS NO. 2



DESIGN	BY Thanh D Phung	CHECKED Son Ly
DETAILS	BY Min Yu	CHECKED Son Ly
QUANTITIES	BY Hardeep Singh	CHECKED Ghiath Taleb-Agha

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 16

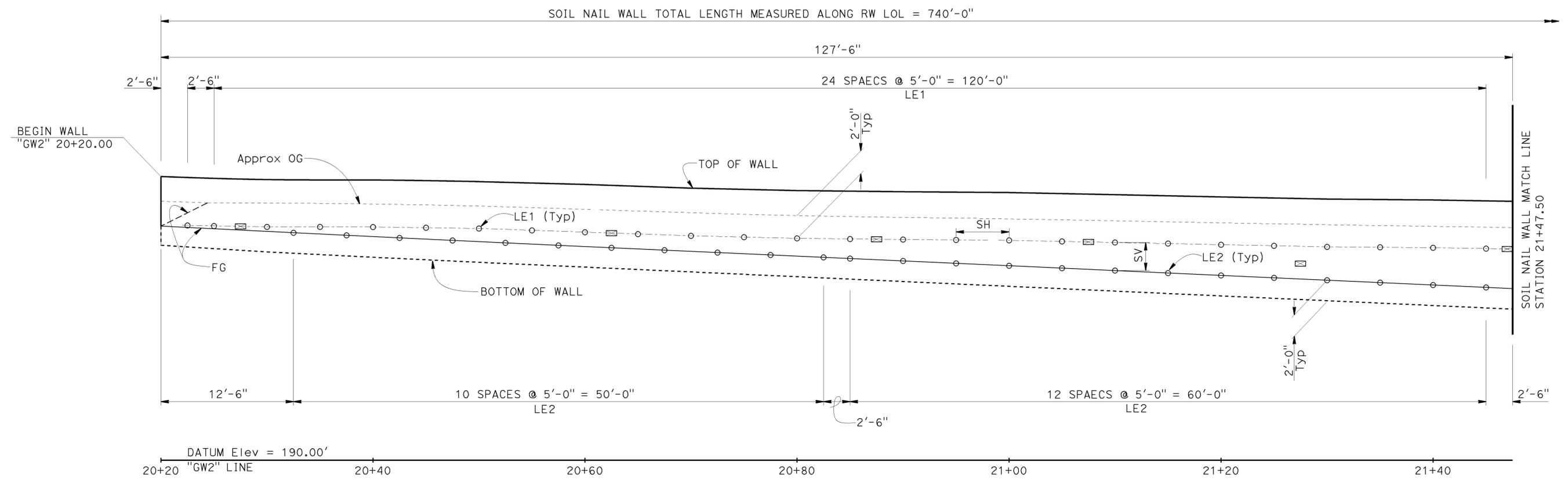
BRIDGE NO.	28E0208
POST MILE	9.05

PINE STREET WB WALL
INDEX TO PLANS

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0, 0.0/3.4	360	477

 10/14/13
 REGISTERED CIVIL ENGINEER DATE
 1-13-14
 PLANS APPROVAL DATE
 JOHN E. PETERSON
 No. 60724
 Exp. 12-31-14
 CIVIL
 STATE OF CALIFORNIA
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LEGEND:
 ○ - Indicates Soil Nail location
 □ - Indicates Proof Test Soil Nail location
 (location may be adjusted by the Engineer)



STATION	TOP WALL Elev (ft)	Bot WALL Elev (ft)
20+20	216.67	210.00
20+30	216.38	209.50
20+40	216.34	209.00
20+50	216.20	208.53
20+60	215.98	208.08
20+70	215.71	207.63
20+80	215.51	207.18
20+90	215.28	206.73
21+00	215.09	206.28
21+10	214.89	205.82
21+20	214.68	205.37
21+30	214.48	204.92
21+40	214.39	204.46

MIRROR ELEVATION
1"=5'

LEVEL	NAIL SIZE	LENGTH (ft)
LE1	#9	15
LE2	#9	15

- NOTES:
- SH - Horizontal spacing of Soil Nail, SH (Max) = 5'-0"
 - SV - Vertical spacing of Soil Nail, SV (Min) = 1'-6", SV (Max) = 5'-0"
 - Vertical distance from top of wall to the top of cut = 3'-0" (Max), 2'-0" (Min)
 - Concrete Barrier, Chain Link Railing, and Architectural Treatment not shown for clarity

DESIGN	BY Thanh D Phung	CHECKED Son Ly	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO. 28E0208	PINE STREET WB WALL STRUCTURE PLAN NO. 1	
	DETAILS	BY Min Yu			CHECKED Son Ly		POST MILE 9.05
QUANTITIES	BY Hardeep Singh	CHECKED Ghiath Taleb-Agha	UNIT: 3617 PROJECT NUMBER & PHASE: 04120006281	CONTRACT NO.: 04-152724	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 10-02-13 01-06-14	
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)						ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3
FILE => 28e0208-c-sp01.dgn						SHEET 3 OF 19	

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0, 0.0/3.4	361	477

10/14/13
REGISTERED CIVIL ENGINEER DATE

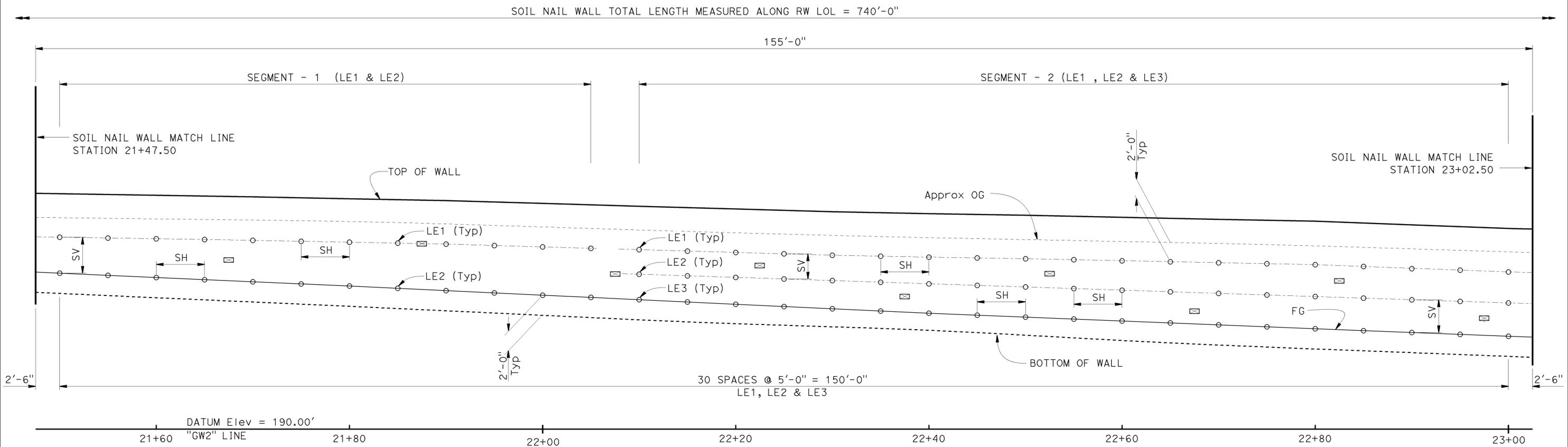
1-13-14
PLANS APPROVAL DATE

JOHN E PETERSON
No. 60724
Exp. 12-31-14
CIVIL
STATE OF CALIFORNIA

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LEGEND:

- - Indicates Soil Nail location
- ⊠ - Indicates Proof Test Soil Nail location (location may be adjusted by the Engineer)



MIRROR ELEVATION
1"=5'

STATION	TOP WALL Elev (ft)	Bot WALL Elev (ft)	STATION	TOP WALL Elev (ft)	Bot WALL Elev (ft)
21+50	214.23	204.02	22+30	212.37	200.34
21+60	214.07	203.57	22+40	212.17	199.88
21+70	213.91	203.13	22+50	212.01	199.48
21+80	213.76	202.69	22+60	211.80	199.08
21+90	213.52	202.22	22+70	211.59	198.68
22+00	213.23	201.75	22+80	211.39	198.28
22+10	212.94	201.28	22+90	211.10	197.89
22+20	212.66	200.81	23+00	210.83	197.51

SEGMENT - 1 STATION 21+50.00 TO 22+05.00		
LEVEL	NAIL SIZE	LENGTH (ft)
LE1	#9	15
LE2	#9	15

SEGMENT - 2 STATION 22+10.00 TO 23+00.00		
LEVEL	NAIL SIZE	LENGTH (ft)
LE1	#9	15
LE2	#9	15
LE3	#9	10

- NOTES:
- SH - Horizontal spacing of Soil Nail, SH (Max) = 5'-0"
 - SV - Vertical spacing of Soil Nail, SV (Min) = 1'-6", SV (Max) = 5'-0"
 - Vertical distance from top of wall to the top of cut = 3'-0" (Max), 2'-0" (Min)
 - Concrete Barrier, Chain Link Railing, and Architectural Treatment not shown for clarity

DESIGN	BY Thanh D Phung	CHECKED Son Ly	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO.	PINE STREET WB WALL STRUCTURE PLAN NO. 2
DETAILS	BY Min Yu	CHECKED Son Ly			28E0208	
QUANTITIES	BY Hardeep Singh	CHECKED Ghiath Taleb-Agha			POST MILE 9.05	

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 3617
PROJECT NUMBER & PHASE: 04120006281
CONTRACT NO.: 04-152724

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
11-07-13 01-06-14	4	19

FILE => 28e0208-c-sp02.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0, 0.0/3.4	362	477

10/14/13
REGISTERED CIVIL ENGINEER DATE

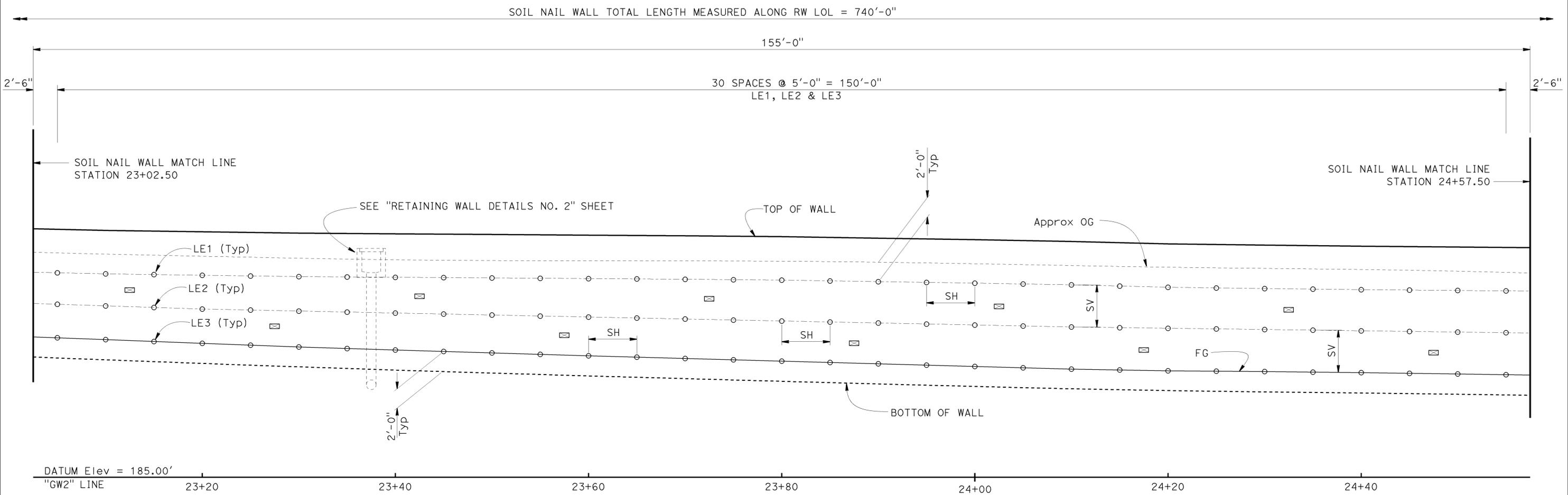
1-13-14
PLANS APPROVAL DATE

JOHN E PETERSON
No. 60724
Exp. 12-31-14
CIVIL
STATE OF CALIFORNIA

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LEGEND:

- - Indicates Soil Nail location
- ⊠ - Indicates Proof Test Soil Nail location (location may be adjusted by the Engineer)



DEVELOPED MIRROR ELEVATION
1"=5'

STATION	TOP WALL Elev (ft)	Bot WALL Elev (ft)	STATION	TOP WALL Elev (ft)	Bot WALL Elev (ft)
23+10	210.57	197.13	23+90	209.61	194.63
23+20	210.35	196.75	24+00	209.46	194.36
23+30	210.20	196.37	24+10	209.31	194.08
23+40	210.10	196.06	24+20	209.23	193.91
23+50	210.01	195.76	24+30	209.11	193.83
23+60	209.94	195.46	24+40	209.02	193.72
23+70	209.86	195.18	24+50	208.90	193.58
23+80	209.77	194.91			

LEVEL	NAIL SIZE	LENGTH (ft)
LE1	#9	15
LE2	#9	15
LE3	#9	10

- NOTES:
- SH - Horizontal spacing of Soil Nail, SH (Max) = 5'-0"
 - SV - Vertical spacing of Soil Nail, SV (Min) = 1'-6", SV (Max) = 5'-0"
 - Vertical distance from top of wall to the top of cut = 3'-0" (Max), 2'-0" (Min)
 - Concrete Barrier, Chain Link Railing, and Architectural Treatment not shown for clarity

DESIGN	BY	Thanh D Phung	CHECKED	Son Ly	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO.	28E0208	PINE STREET WB WALL STRUCTURE PLAN NO. 3	
	DETAILS	BY	Min Yu	CHECKED			Son Ly			POST MILE
QUANTITIES	BY	Hardeep Singh	CHECKED	Ghiath Taleb-Agha	UNIT: 3617	PROJECT NUMBER & PHASE: 04120006281	CONTRACT NO.: 04-152724	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 5 OF 19

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

FILE => 28e0208-c-sp03.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0, 0.0/3.4	363	477

10/14/13
REGISTERED CIVIL ENGINEER DATE

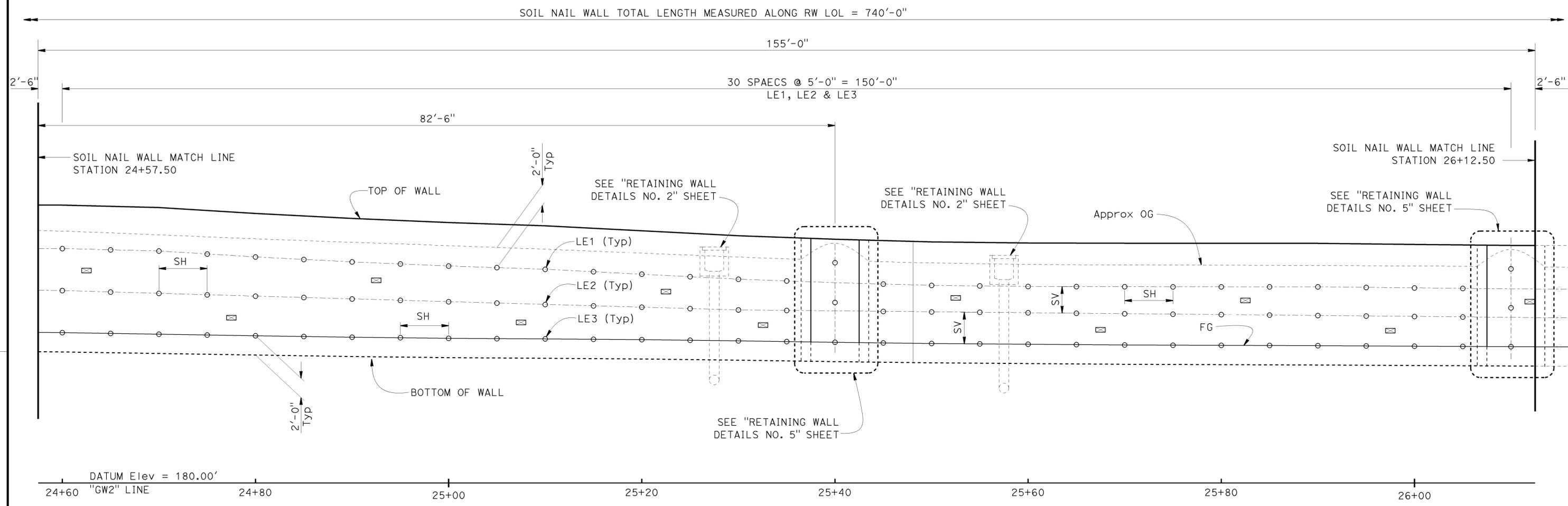
1-13-14
PLANS APPROVAL DATE

JOHN E PETERSON
No. 60724
Exp. 12-31-14
CIVIL
STATE OF CALIFORNIA

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LEGEND:

- - Indicates Soil Nail location
- ⊠ - Indicates Proof Test Soil Nail location (location may be adjusted by the Engineer)



DEVELOPED MIRROR ELEVATION
1"=5'

STATION	TOP WALL Elev (ft)	Bot WALL Elev (ft)
24+60	208.62	193.44
24+70	208.37	193.28
24+80	207.83	193.12
24+90	207.41	192.97
25+00	206.96	191.86
25+10	206.49	192.79
25+20	206.04	192.72
25+30	205.57	192.60

STATION	TOP WALL Elev (ft)	Bot WALL Elev (ft)
25+40	205.32	192.45
25+50	205.09	192.32
25+60	204.91	192.24
25+70	204.81	192.17
25+80	204.70	192.13
25+90	204.67	192.10
26+00	204.56	192.05
26+10	204.45	191.99

LEVEL	NAIL SIZE	LENGTH (ft)
LE1	#9	15
LE2	#9	15
LE3	#9	10

- NOTES:
- SH - Horizontal spacing of Soil Nail, SH (Max) = 5'-0"
 - SV - Vertical spacing of Soil Nail, SV (Min) = 1'-6", SV (Max) = 5'-0"
 - Vertical distance from top of wall to the top of cut = 3'-0" (Max), 2'-0" (Min)
 - Concrete Barrier, Chain Link Railing, and Architectural Treatment not shown for clarity

DESIGN	BY Thanh D Phung	CHECKED Son Ly	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO. 28E0208	PINE STREET WB WALL STRUCTURE PLAN NO. 4
	DETAILS	BY Min Yu			CHECKED Son Ly	
QUANTITIES	BY Hardeep Singh	CHECKED Ghiath Taleb-Agha	UNIT: 3617 PROJECT NUMBER & PHASE: 04120006281	CONTRACT NO.: 04-152724	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 10-02-13 11-04-13 01-06-14

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

FILE => 28e0208-c-sp04.dgn

DATE PLOTTED => 07-JAN-2014 15:04

SHEET 6 OF 19

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0, 0.0/3.4	364	477

10/14/13
REGISTERED CIVIL ENGINEER DATE

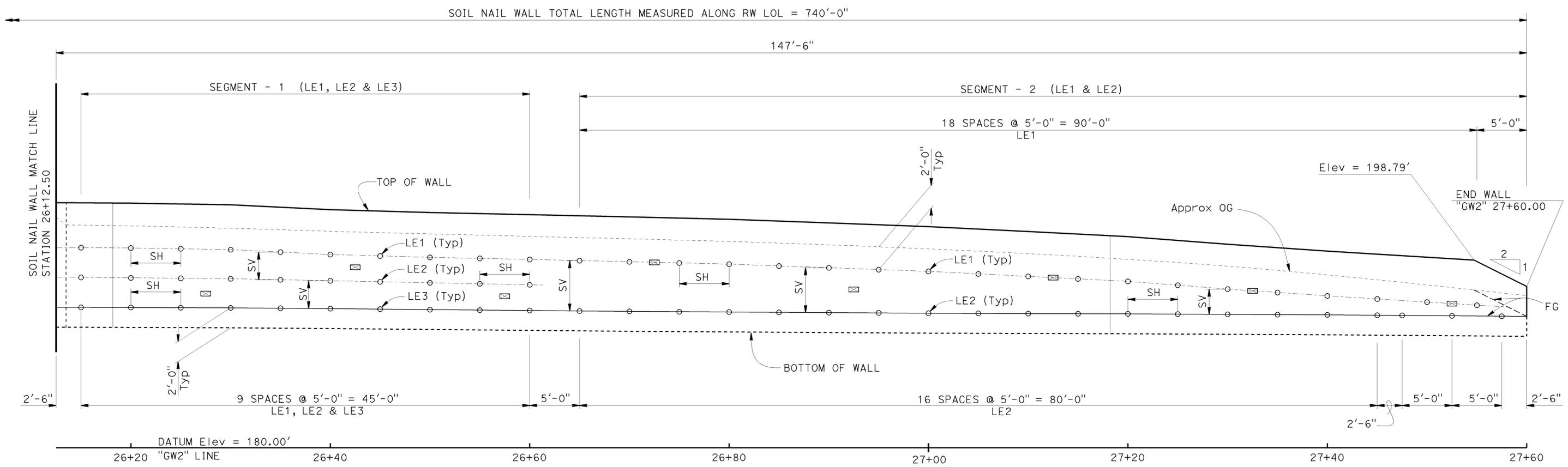
1-13-14
PLANS APPROVAL DATE

JOHN E. PETERSON
No. 60724
Exp. 12-31-14
CIVIL
STATE OF CALIFORNIA

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LEGEND:

- - Indicates Soil Nail location
- ⊠ - Indicates Proof Test Soil Nail location (location may be adjusted by the Engineer)



DEVELOPED MIRROR ELEVATION
1"=5'

STATION	TOP WALL Elev (ft)	Bot WALL Elev (ft)
26+20	204.36	191.95
26+30	204.19	191.91
26+40	203.87	191.84
26+50	203.53	191.74
26+60	203.23	191.65
26+70	202.91	191.56
26+80	202.67	191.50
26+90	202.32	191.44

STATION	TOP WALL Elev (ft)	Bot WALL Elev (ft)
27+00	202.01	191.38
27+10	201.55	191.34
27+20	201.04	191.31
27+30	200.28	191.27
27+40	199.61	191.22
27+50	198.99	191.14
27+60	196.15	191.06

SEGMENT - 1 STATION 26+15.00 TO 26+60.00		
LEVEL	NAIL SIZE	LENGTH (ft)
LE1	#9	15
LE2	#9	15
LE3	#9	10

SEGMENT - 2 STATION 26+65.00 TO 27+60.00		
LEVEL	NAIL SIZE	LENGTH (ft)
LE1	#9	15
LE2	#9	15

- NOTES:
- SH - Horizontal spacing of Soil Nail, SH (Max) = 5'-0"
 - SV - Vertical spacing of Soil Nail, SV (Min) = 1'-6", SV (Max) = 5'-0"
 - Vertical distance from top of wall to the top of cut = 3'-0" (Max), 2'-0" (Min)
 - Concrete Barrier, Chain Link Railing, and Architectural Treatment not shown for clarity

DESIGN	BY Thanh D Phung	CHECKED Son Ly	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO. 28E0208	PINE STREET WB WALL STRUCTURE PLAN NO. 5
DETAILS	BY Min Yu	CHECKED Son Ly			POST MILE 9.05	
QUANTITIES	BY Hardeep Singh	CHECKED Ghiath Taleb-Agha				

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 3617
PROJECT NUMBER & PHASE: 04120006281
CONTRACT NO.: 04-152724

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
10-16-13 10-21-13 01-06-14	7	19

FILE => 28e0208-c-sp05.dgn

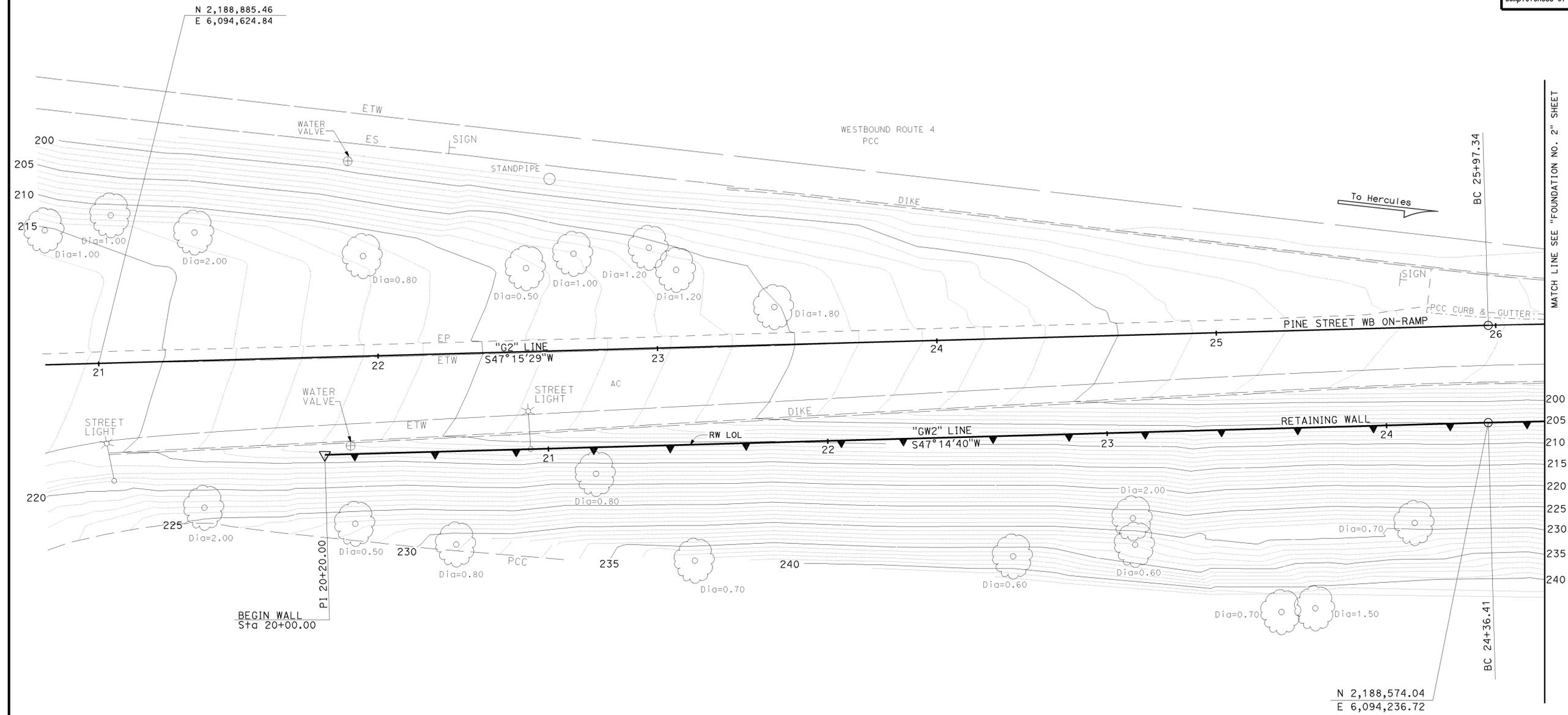
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0, 0.0/3.4	365	477

John E. Peterson 10/14/13
 REGISTERED CIVIL ENGINEER DATE

1-13-14
 PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
 JOHN E. PETERSON
 No. 60724
 Exp. 12-31-14
 CIVIL
 STATE OF CALIFORNIA



SURVEY CONTROL
 SS254 (NOT SHOWN ON PLAN)
 Fnd 1" IP w/ CALTRANS PP
 347.71 F+ S65°04'54"E FROM Sta 20+00.00
 "G2" LINE PINE STREET WB ON-RAMP
 N 2,188,806.83
 E 6,095,013.63
 Elev = 215.76
 SS253
 Fnd 1" IP w/ CALTRANS PP
 143.60 F+ Lt "G2" LINE PINE STREET WB ON-RAMP
 Sta 22+43.47
 N 2,188,682.63
 E 6,094,616.94
 Elev = 194.48

PRELIMINARY INVESTIGATION SECTION				DESIGN BY Hardeep Singh	CHECKED Son Ly	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO. 28E0208	PINE STREET WB WALL FOUNDATION PLAN NO. 1			
SCALE 1"=20'	VERT.DATUM NAVD88	PHOTOGRAMMETRY AS OF: X	DETAILS BY Min Yu	CHECKED Son Ly	POST MILE 9.05							
ALIGNMENT TIES Dist TRAVERSE SHEET	DRAFTED BY T. ZOLNIKOV	CHECKED 08/2013	QUANTITIES BY Hardeep Singh	CHECKED Ghiath Taleb-Agha	REVISION DATES							
STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 09-01-10)						ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3646	PROJECT NUMBER & PHASE: 04120006281	CONTRACT NO.: 04-152724	DISREGARD PRINTS BEARING EARLIER REVISION DATES	8	19

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0, 0.0/3.4	366	477

CURVE DATA

No.	R	Δ	T	L
5	3000.00	07°56'04"	208.06	415.45
23	2965.18	02°09'29"	55.85	111.69
24	2977.18	02°08'03"	55.45	110.89

10/14/13
DATE

REGISTERED CIVIL ENGINEER

1-13-14
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER

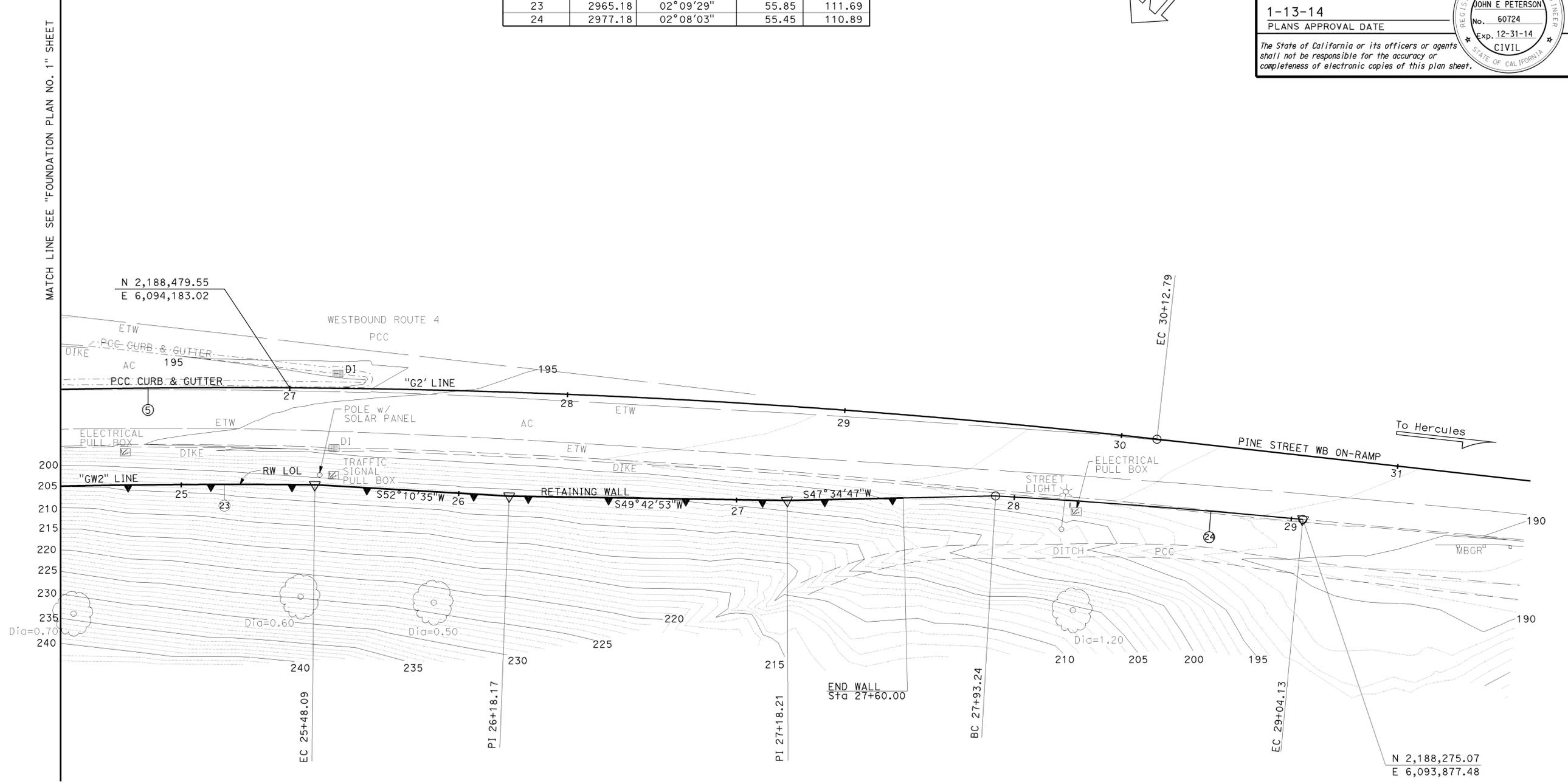
JOHN E. PETERSON

No. 60724

Exp. 12-31-14

CIVIL

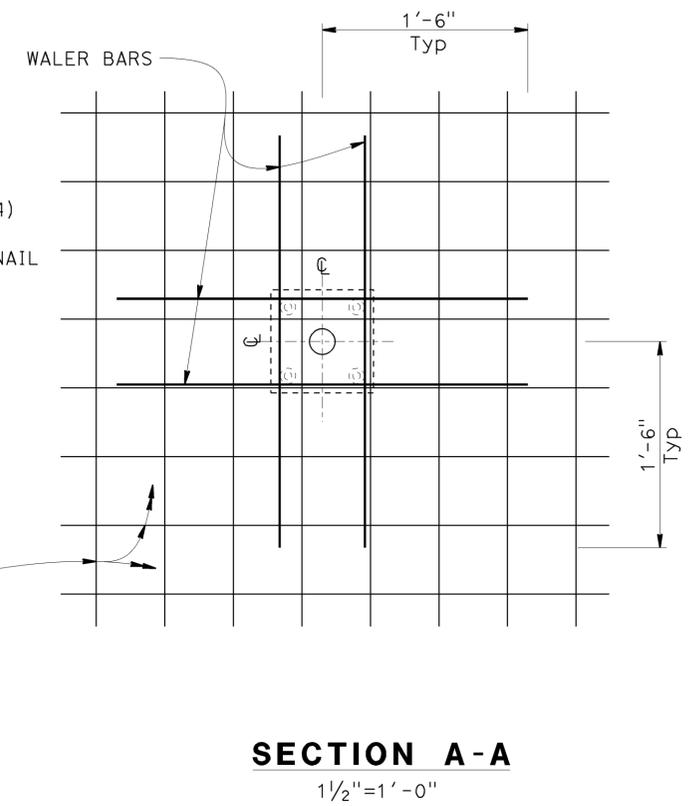
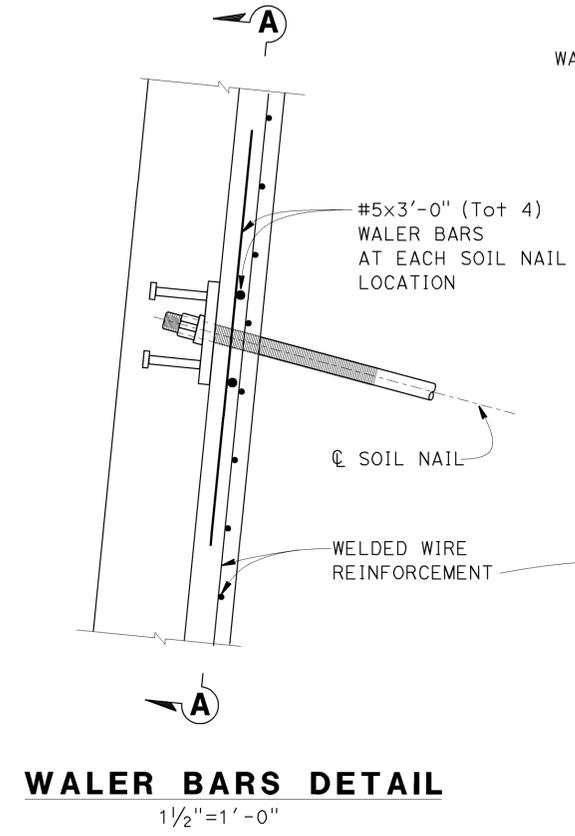
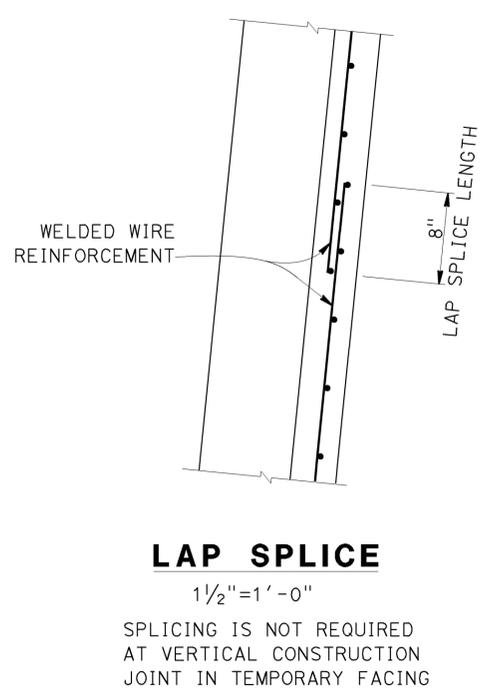
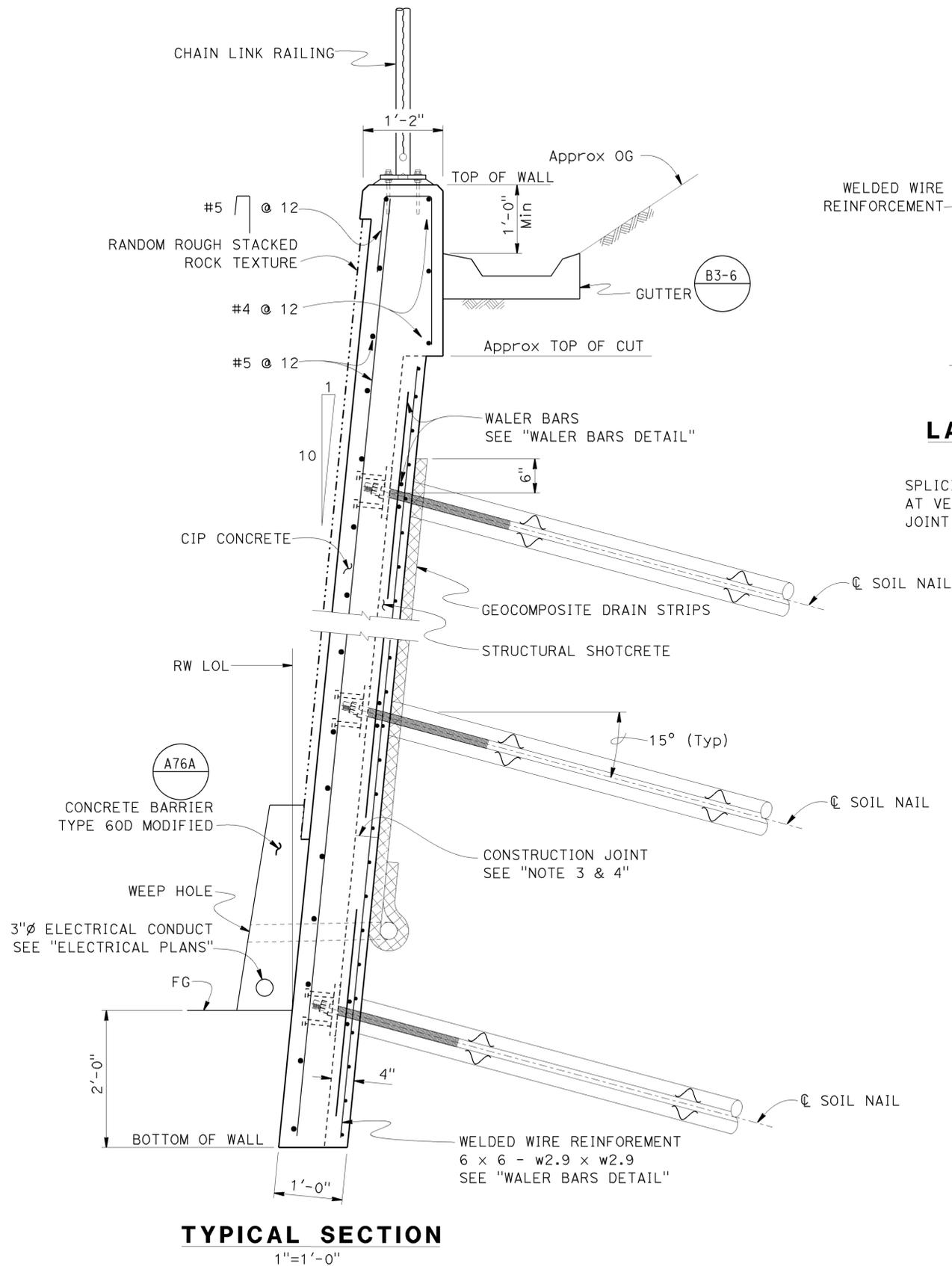
STATE OF CALIFORNIA



PRELIMINARY INVESTIGATION SECTION				DESIGN BY Hardeep Singh	CHECKED Son Ly	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO. 28E0208	PINE STREET WB WALL FOUNDATION PLAN NO. 2			
SCALE 1"=20'	VERT. DATUM NAVD88	PHOTOGRAMMETRY AS OF: X	DETAILS BY Min Yu	CHECKED Son Ly	POST MILE 9.05							
ALIGNMENT TIES Dist	TRAVERSE SHEET	DRAFTED BY T. ZOLNIKOV 08/2013	CHECKED BY L. LEW 08/2013	QUANTITIES BY Hardeep Singh	CHECKED Ghiath Taleb-Aqha							
STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 09-01-10)						ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3646	PROJECT NUMBER & PHASE: 04120006281	CONTRACT NO.: 04-152724	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 9 OF 19

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0, 0.0/3.4	367	477

10/14/13
 REGISTERED CIVIL ENGINEER DATE
 1-13-14
 PLANS APPROVAL DATE
 JOHN E. PETERSON
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- NOTES:
- For soil nail spacing, length and size, see "STRUCTURE PLAN" sheets
 - For gutter drain inlet and down drain locations see "ROAD PLANS"
 - The vertical and horizontal construction joints in the structural shotcrete layer shall be located a minimum of 1'-6" from adjacent soil nails
 - No horizontal construction joints in the CIP concrete shall be allowed CIP vertical construction joint to be placed a minimum of 1'-6" from adjacent shotcrete vertical construction joint
 - For geocomposite drain details, see "RETAINING WALL DETAILS NO. 2" sheet
 - For bearing plate and studs details, see "RETAINING WALL DETAILS NO. 3" sheet

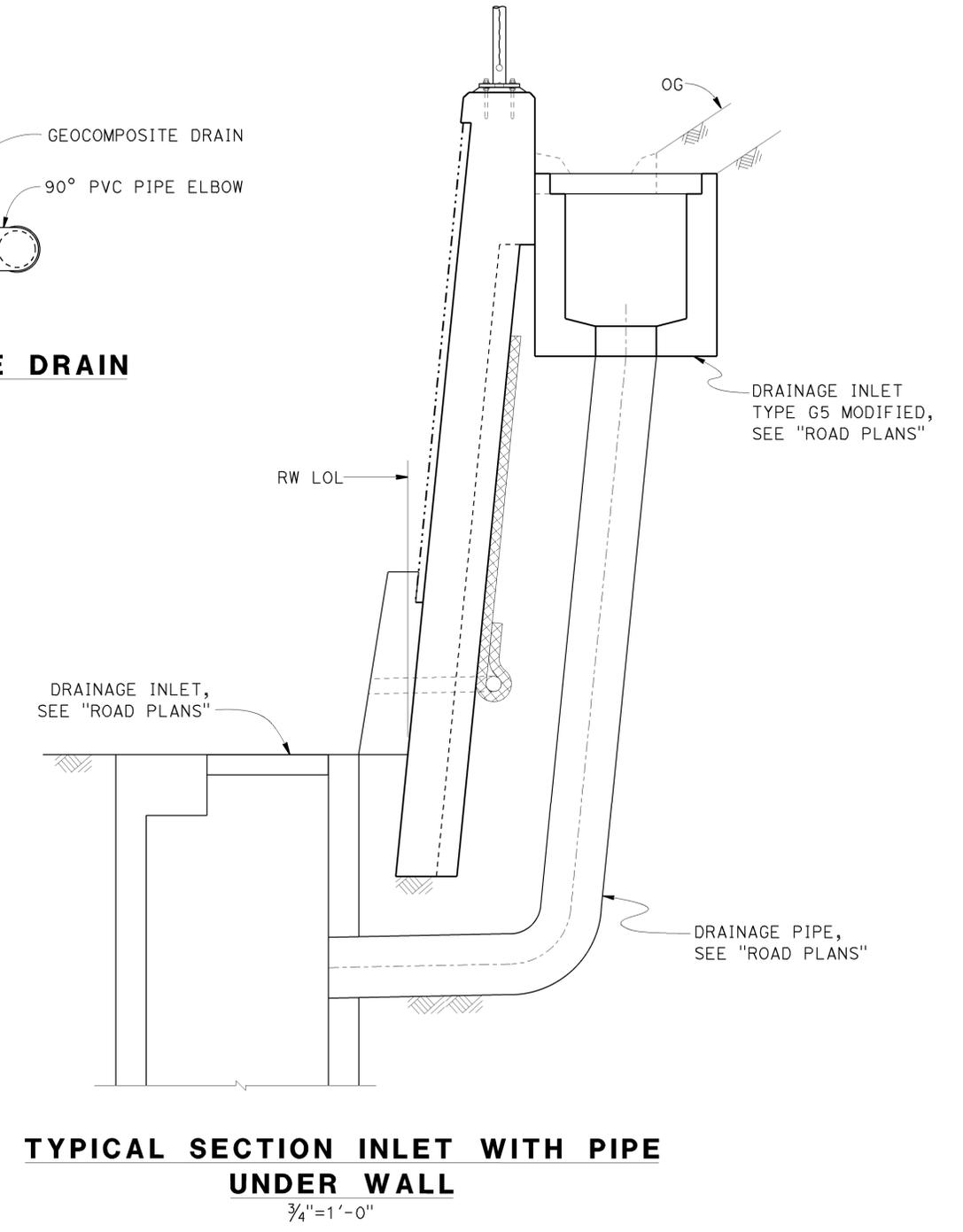
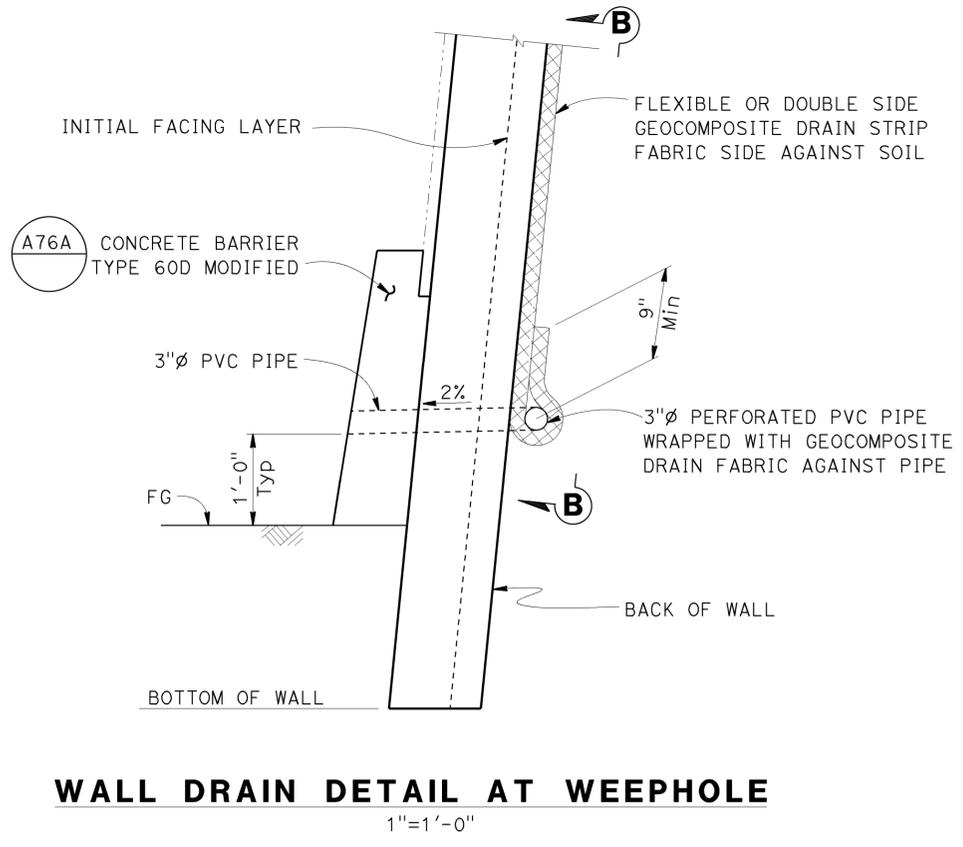
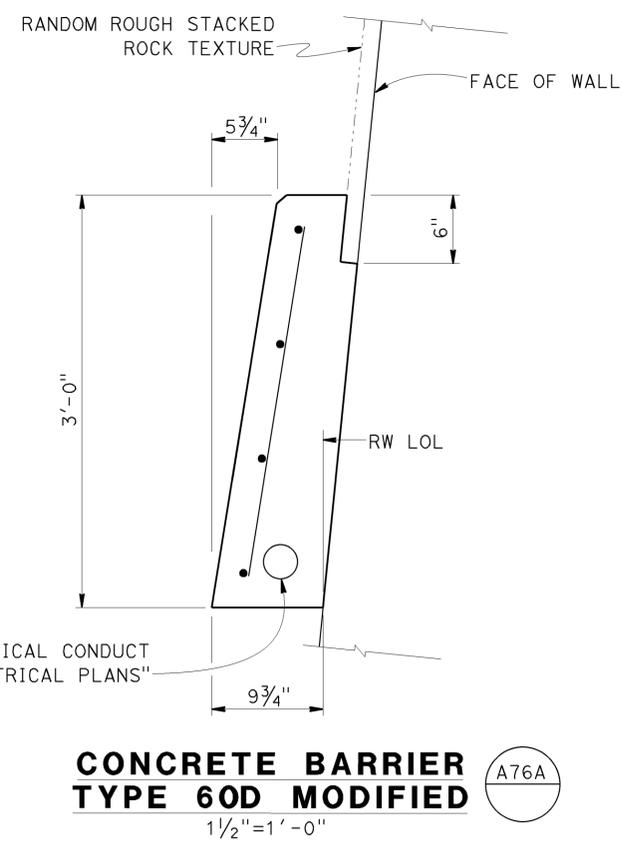
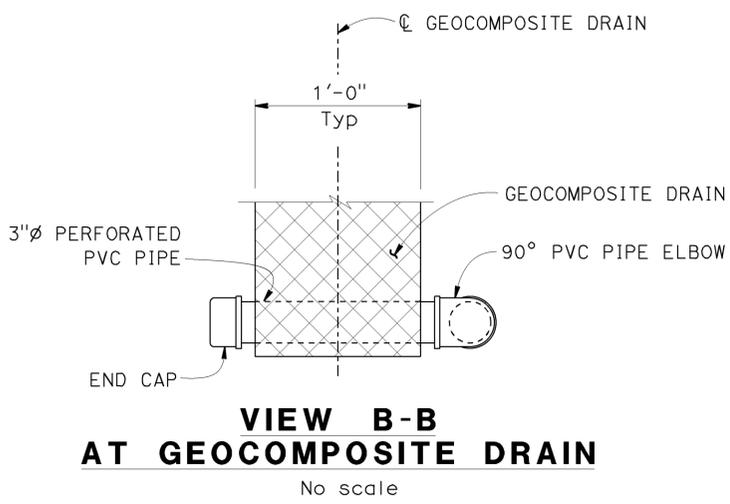
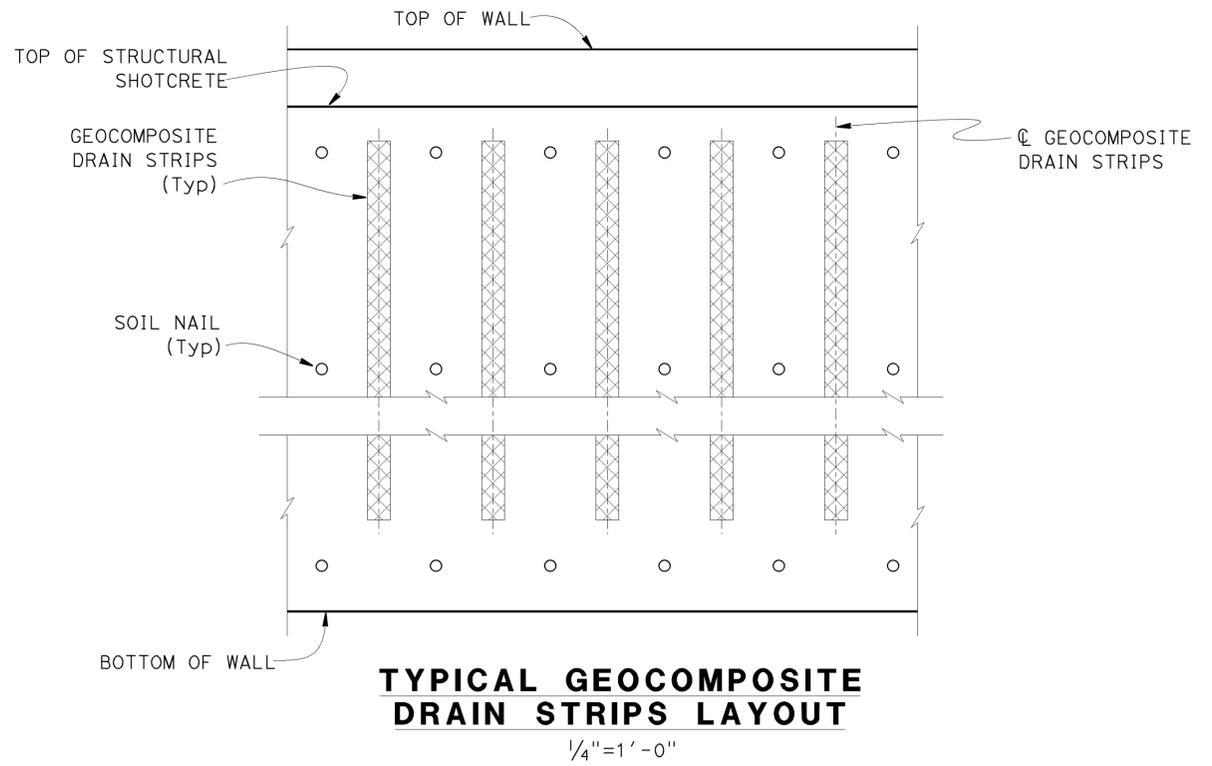
DESIGN	BY	Thanh D Phung	CHECKED	Son Ly	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO.	28E0208	PINE STREET WB WALL RETAINING WALL DETAILS NO. 1	
	DETAILS	BY	Min Yu	CHECKED			Son Ly	POST MILE		9.05
	QUANTITIES	BY	Hardeep Singh	CHECKED			Ghiath Taleb-Agha	UNIT: 3617 PROJECT NUMBER & PHASE: 04120006281		CONTRACT NO.: 04-152724
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)					ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3	11-07-13	01-06-14	SHEET 10 OF 19	

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0, 0.0/3.4	368	477

10/14/13
 REGISTERED CIVIL ENGINEER DATE
 1-13-14
 PLANS APPROVAL DATE
 JOHN E PETERSON
 No. 60724
 Exp. 12-31-14
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NOTES:

- Center geocomposite vertical drain between soil nails
- Geocomposite drain may be omitted when conflicting with test soil nail
- Geocomposite drains are not required for wall height less than 6 feet

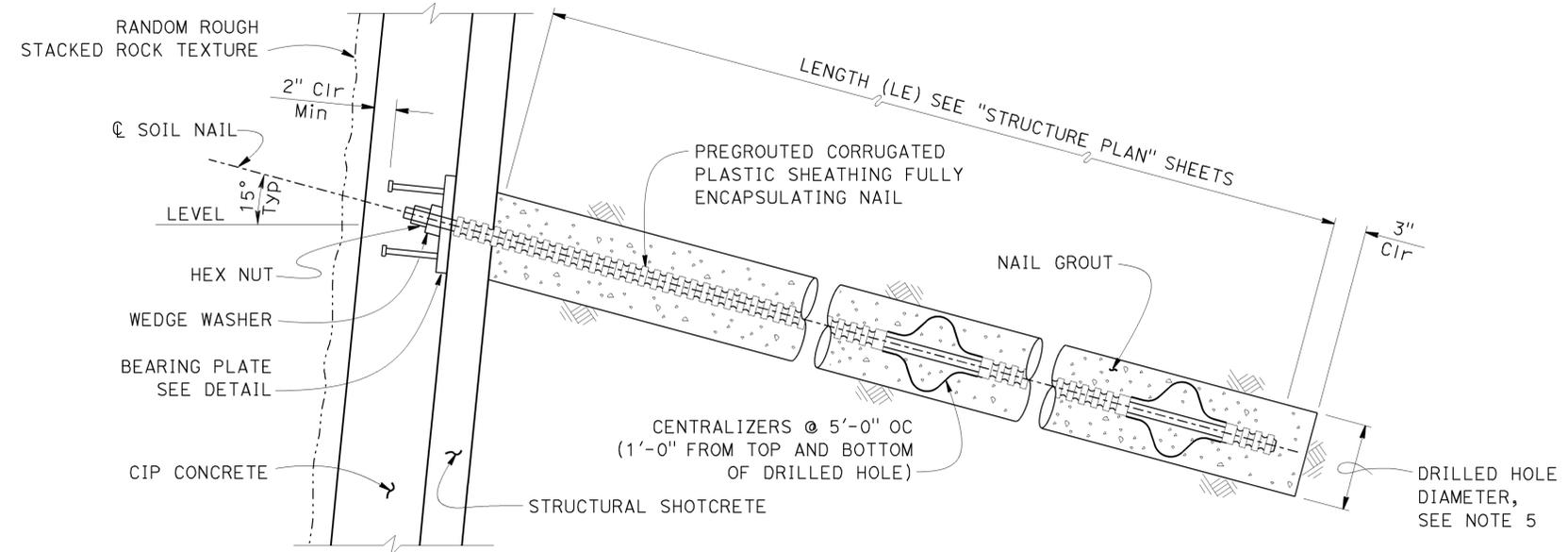


STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	DESIGN	BY Thanh D Phung	CHECKED Son Ly	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO.	PINE STREET WB WALL RETAINING WALL DETAILS NO. 2	
	DETAILS	BY Min Yu	CHECKED Son Ly			28E0208		
	QUANTITIES	BY Hardeep Singh	CHECKED Ghiath Taleb-Agha			POST MILE 9.05		
UNIT: 3617 PROJECT NUMBER & PHASE: 04120006281					CONTRACT NO.: 04-152724		DISREGARD PRINTS BEARING EARLIER REVISION DATES	
							REVISION DATES 08-28-13 09-12-13 10-02-13 01-06-14	SHEET 11 OF 19

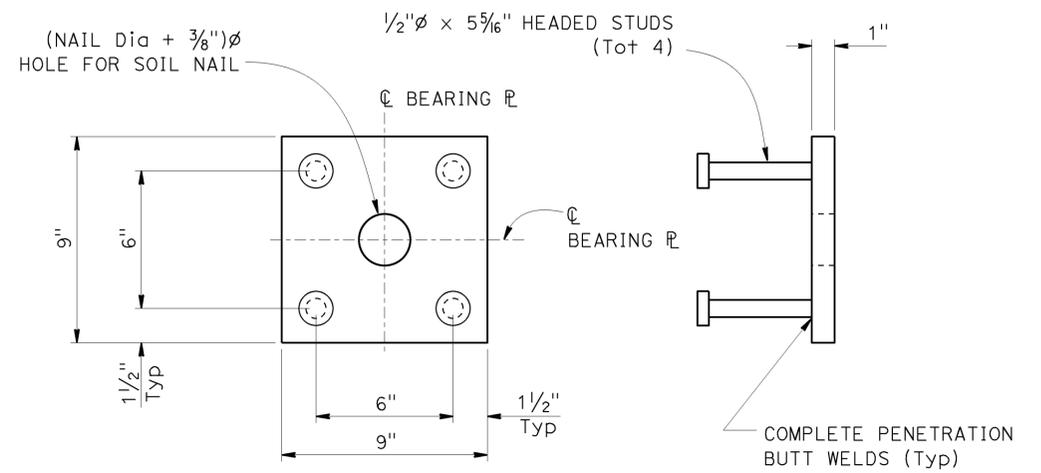
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0, 0.0/3.4	369	477

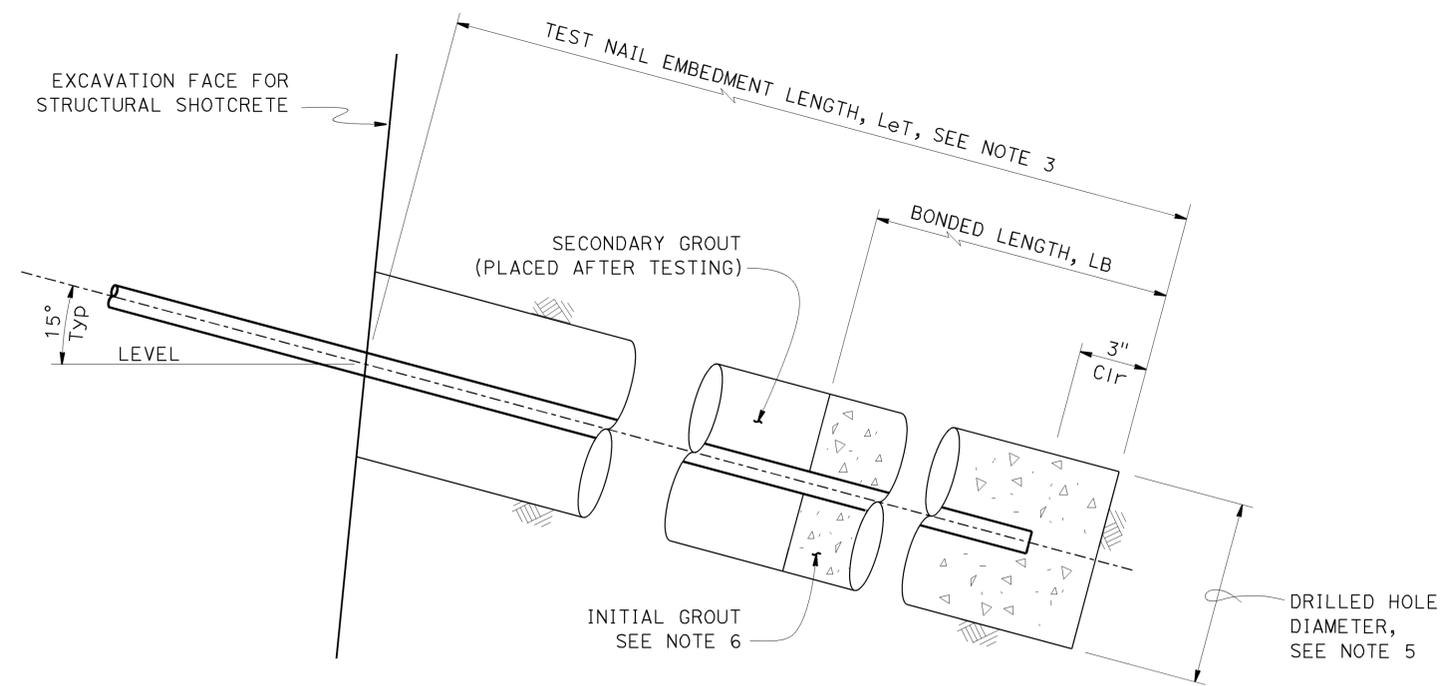
10/14/13
 REGISTERED CIVIL ENGINEER DATE
 1-13-14
 PLANS APPROVAL DATE
 JOHN E PETERSON
 No. 60724
 Exp. 12-31-14
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PRODUCTION SOIL NAIL DETAIL
1 1/2" = 1' - 0"



BEARING PLATE DETAIL
3" = 1' - 0"



TEST SOIL NAIL DETAIL
3" = 1' - 0"

- NOTES:
1. Reinforcement in facing is not shown
 2. The test nail embedment length LeT , shall equal to $\frac{2}{3}$ of the embedment length, Le of adjacent production soil nail assemblies, but not less than 12 feet
 3. The total length of the test soil nail assembly equals the embedment length plus the required length for jacking equipment
 4. For location of proof test nail see "STRUCTURE PLAN" sheets
 5. Contractor to determine drilled hole diameter
 6. Finished grout surface for test nail to be normal to the bar

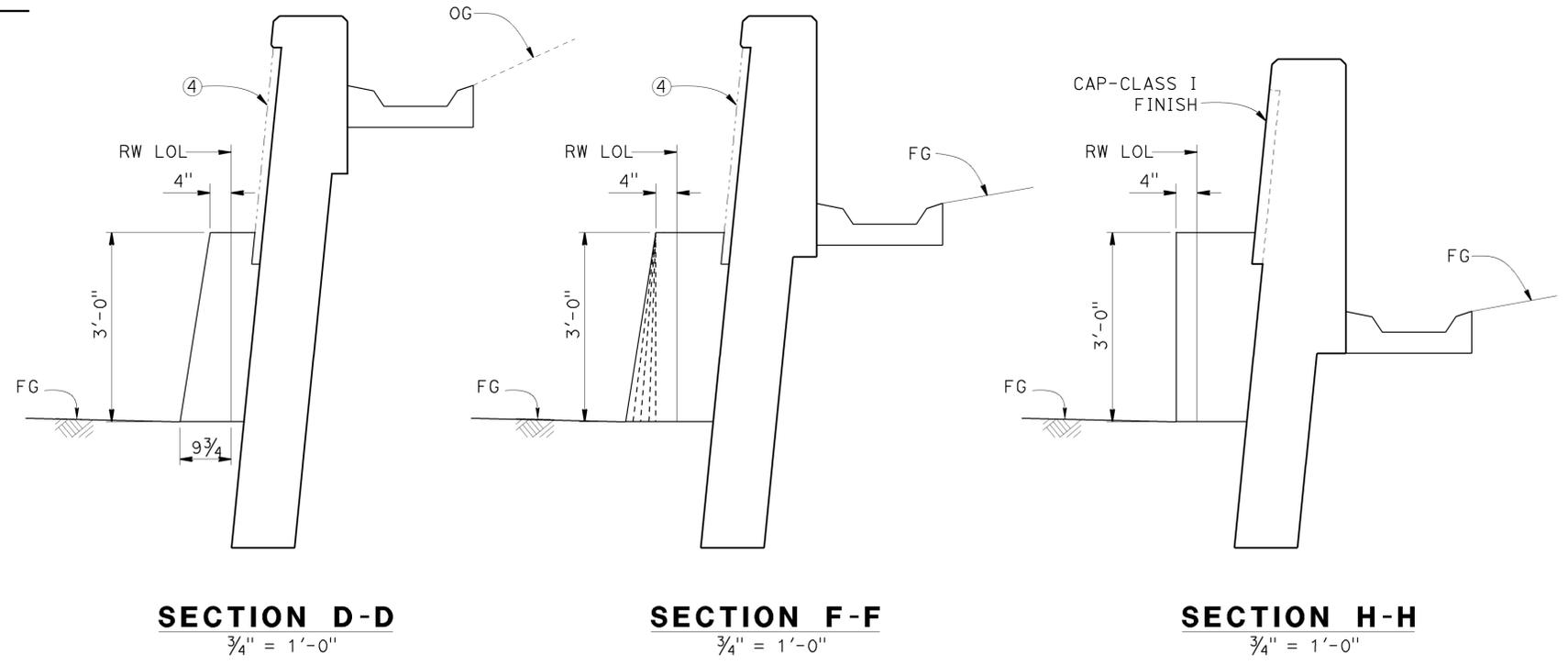
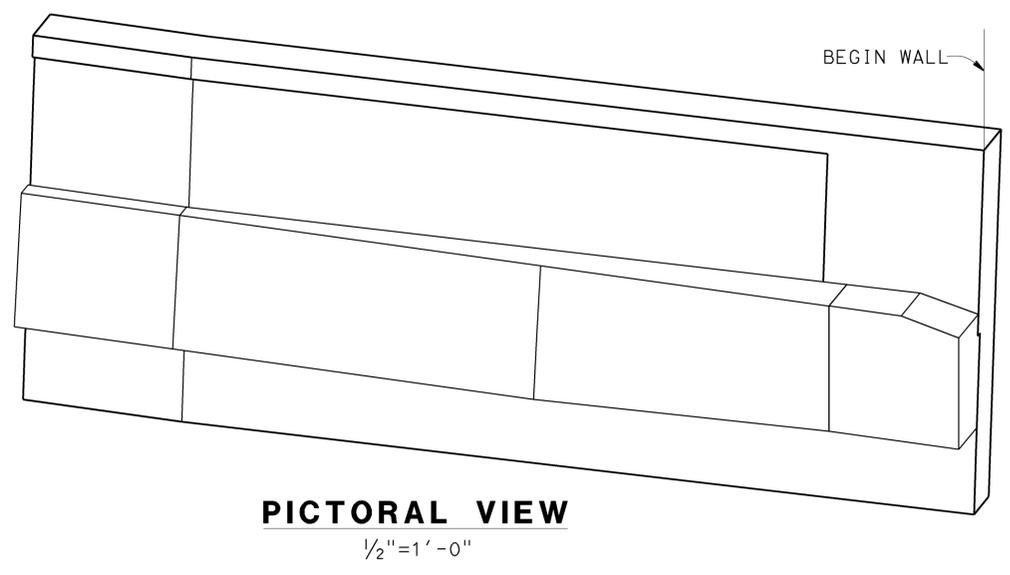
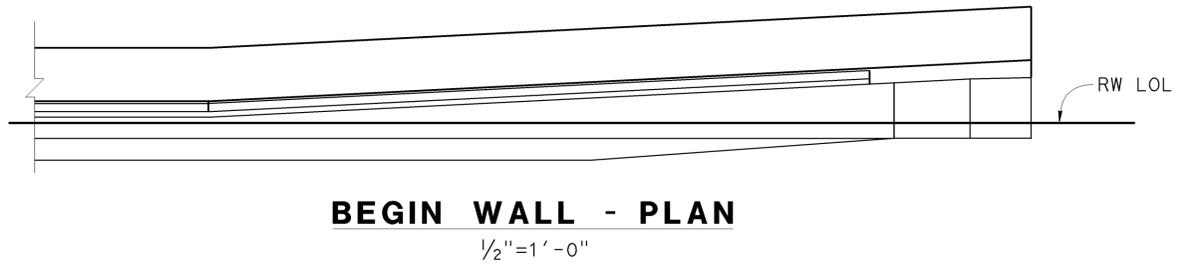
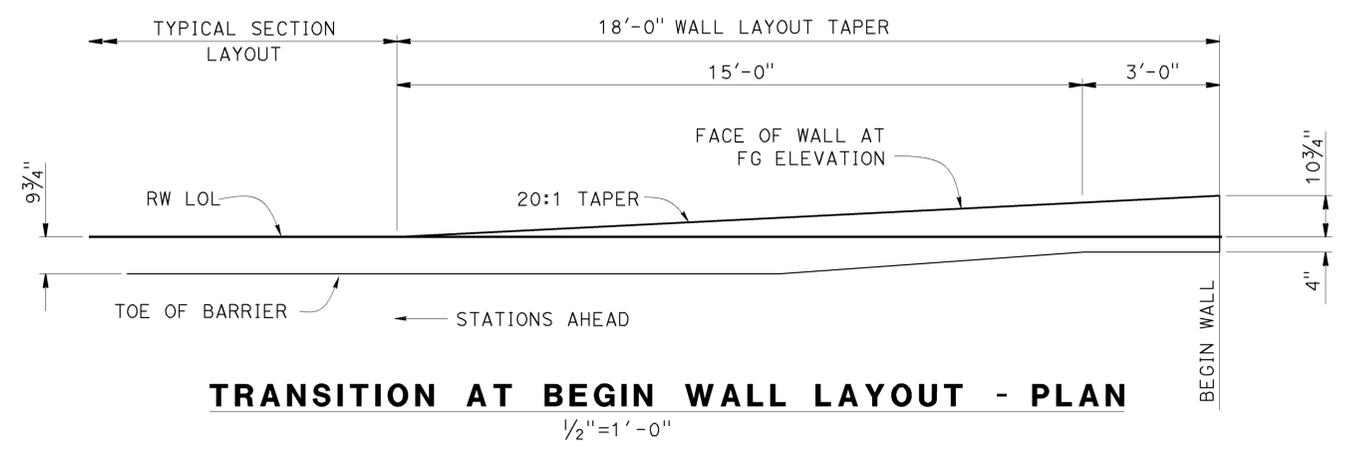
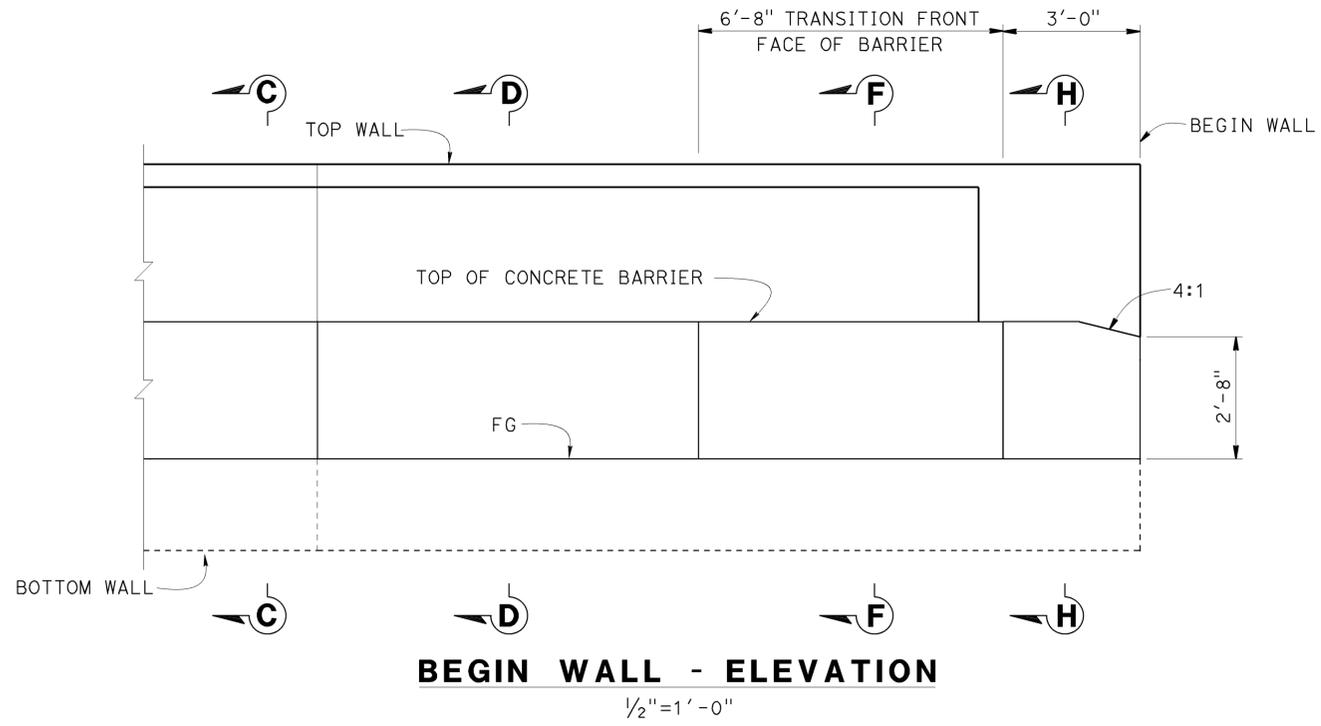
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3	DESIGN	BY Thanh D Phung	CHECKED Son Ly	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO.	PINE STREET WB WALL RETAINING WALL DETAILS NO. 3	
	DETAILS	BY Min Yu	CHECKED Son Ly			28E0208		
	QUANTITIES	BY Hardeep Singh	CHECKED Ghiath Taleb-Agha			9.05		
UNIT: 3617					PROJECT NUMBER & PHASE: 04120006281		CONTRACT NO.: 04-152724	DISREGARD PRINTS BEARING EARLIER REVISION DATES REVISION DATES: 11-07-13 01-06-14 SHEET 12 OF 19

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0, 0.0/3.4	370	477

10/14/13
 REGISTERED CIVIL ENGINEER DATE
 1-13-14
 PLANS APPROVAL DATE
 JOHN E PETERSON
 No. 60724
 Exp. 12-31-14
 CIVIL
 STATE OF CALIFORNIA

NOTES:

- For the "SECTION C-C" detail see "TYPICAL SECTION" on "RETAINING WALL DETAILS NO. 1" sheet
- Random Rough Stacked Texture not shown in all views
- Horizontal and Vertical profile grades not shown, see "STRUCTURE PLANS" for details
- Random Stacked Rock Texture



DESIGN	BY John E Peterson	CHECKED Son Ly
DETAILS	BY Min Yu	CHECKED Son Ly
QUANTITIES	BY John E Peterson	CHECKED Ghiath Taleb-Agha

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
DESIGN BRANCH 16

BRIDGE NO.	28E0208
POST MILE	9.05

PINE STREET WB WALL
RETAINING WALL DETAILS NO. 4

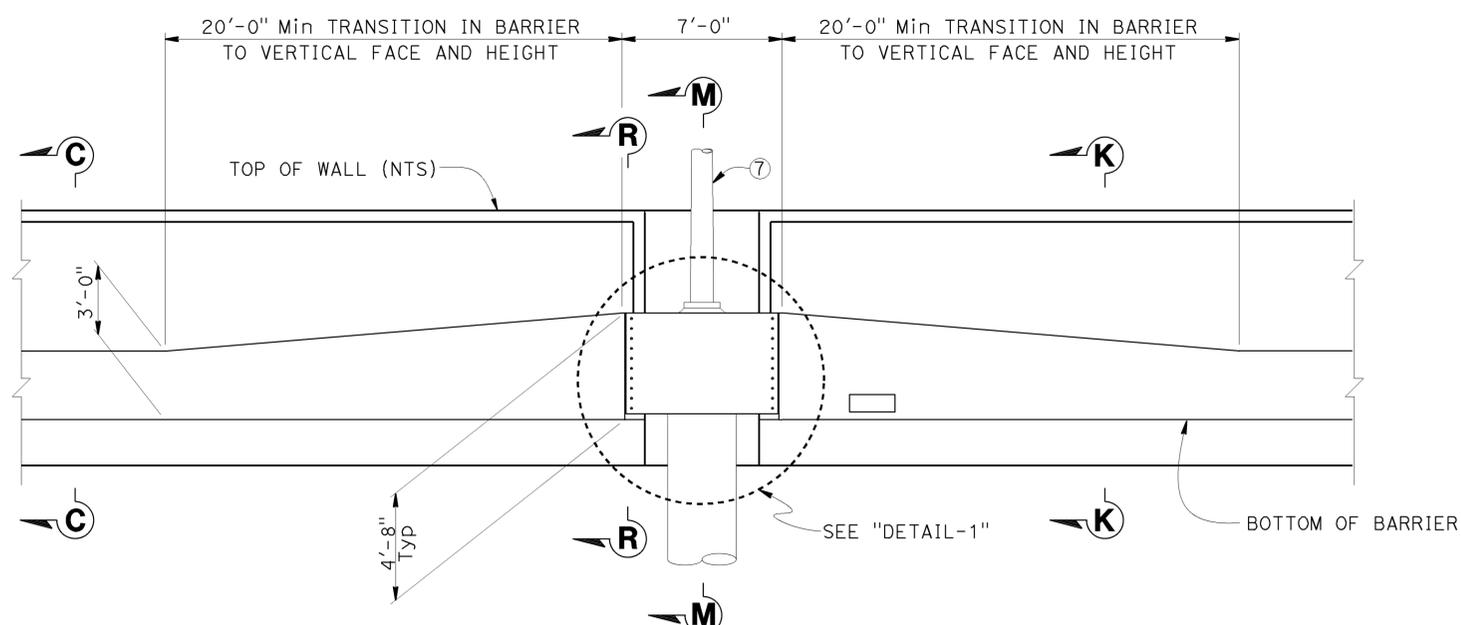
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0, 0.0/3.4	371	477

10/14/13
REGISTERED CIVIL ENGINEER DATE

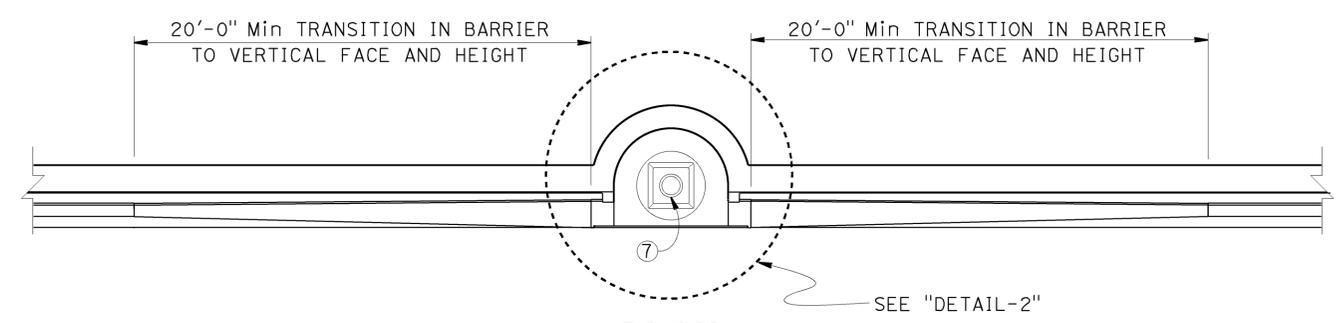
1-13-14
PLANS APPROVAL DATE

JOHN E. PETERSON
No. 60724
Exp. 12-31-14
CIVIL
STATE OF CALIFORNIA

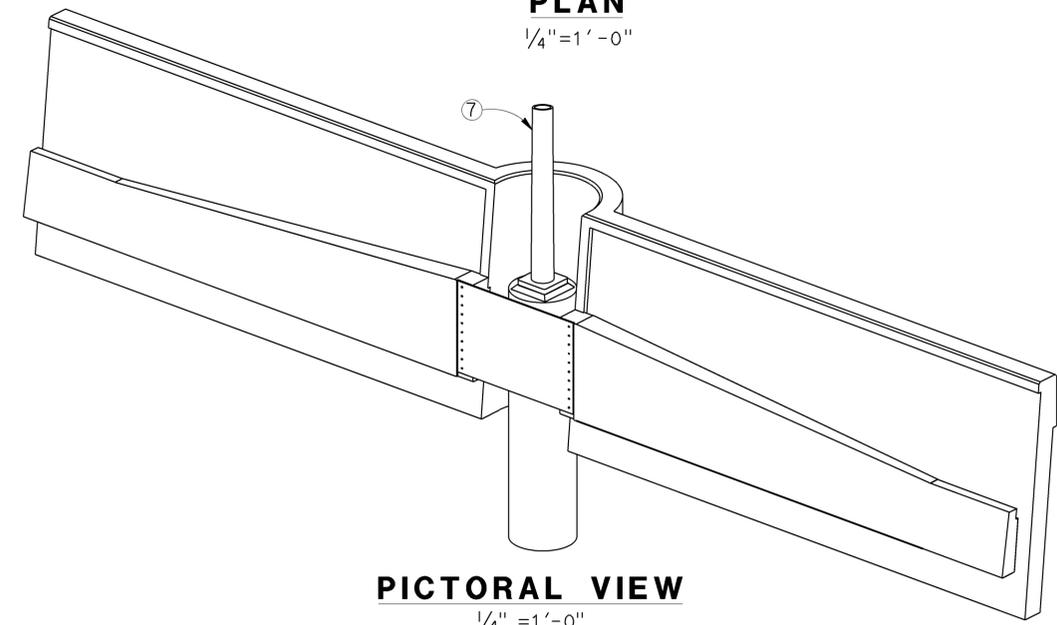
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ELEVATION
1/4" = 1'-0"



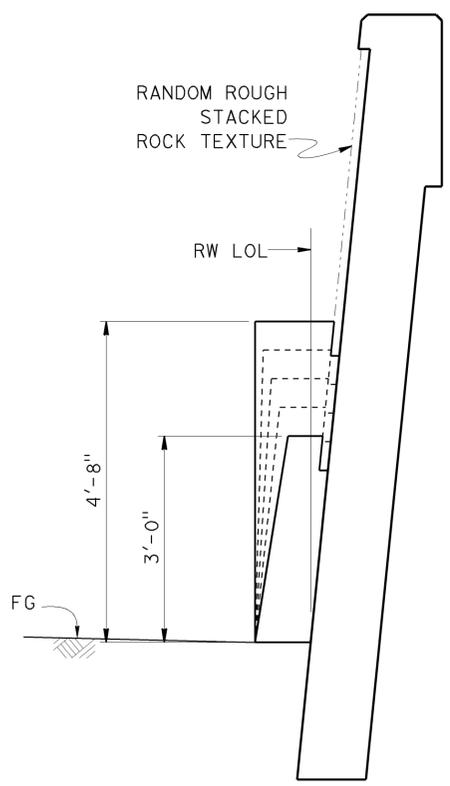
PLAN
1/4" = 1'-0"



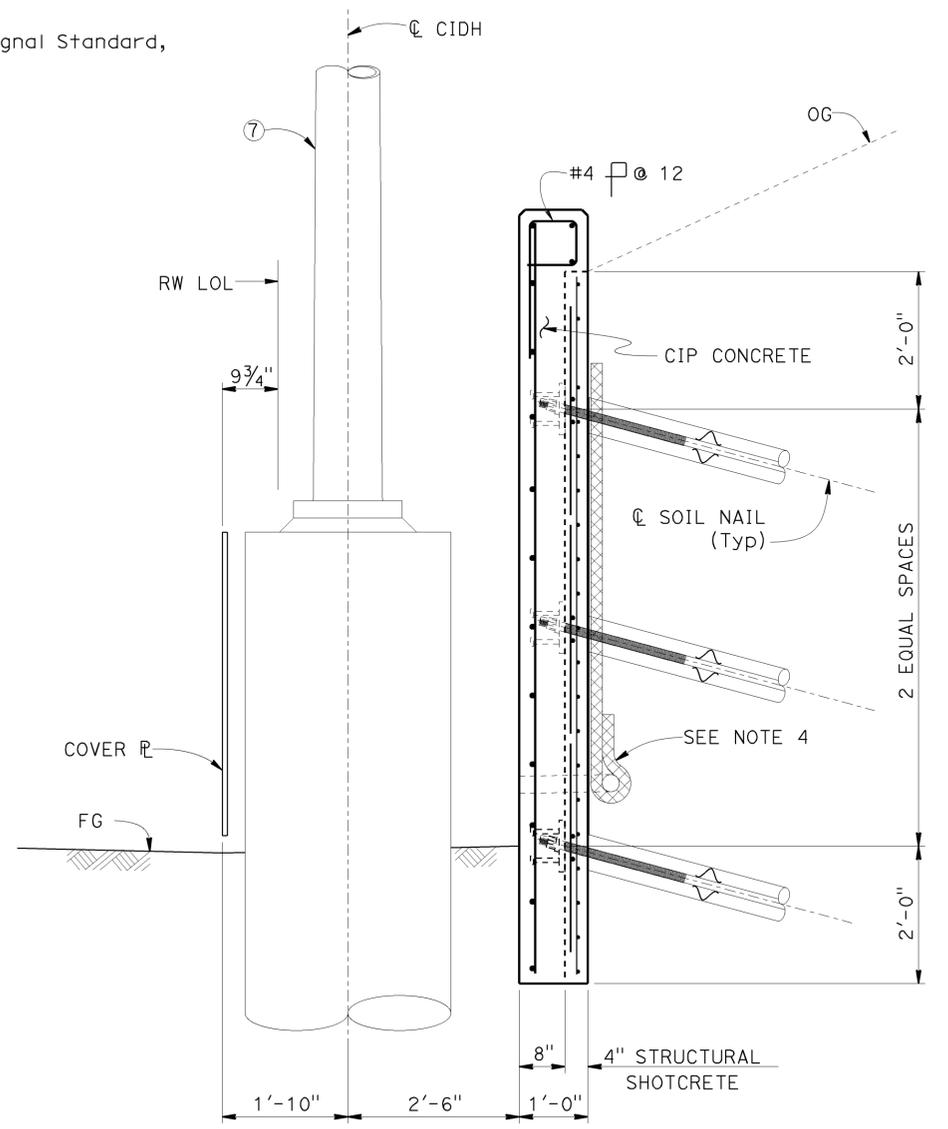
PICTORAL VIEW
1/4" = 1'-0"

NOTES:

- For the "SECTION C-C" detail see "TYPICAL SECTION" on "RETAINING WALL DETAILS NO. 1" sheet
 - For "DETAIL-1", "DETAIL-2" and "SECTION R-R" see "RETAINING WALL DETAILS NO. 6" sheet
 - Random Rough Stacked Rock Texture not shown in all views
 - Geocomposite Drain, place continuously on back of post pocket
 - For details not shown, see "TYPICAL SECTION" on "RETAINING WALL DETAILS NO. 1" sheet
 - Horizontal and Vertical profile grades not shown, see "STRUCTURE PLANS" for details
- ⑦ TYPE 1B or TYPE 23-4-100 Signal Standard, see "ROAD PLANS"



SECTION K-K
3/4" = 1'-0"
(SECTIONS THRU BARRIER TRANSITION)



SECTION M-M
3/4" = 1'-0"
(SEE NOTE 5)

DESIGN	BY John E Peterson	CHECKED Son Ly
DETAILS	BY Min Yu	CHECKED Son Ly
QUANTITIES	BY John E Peterson	CHECKED Ghiath Taleb-Agha

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 16

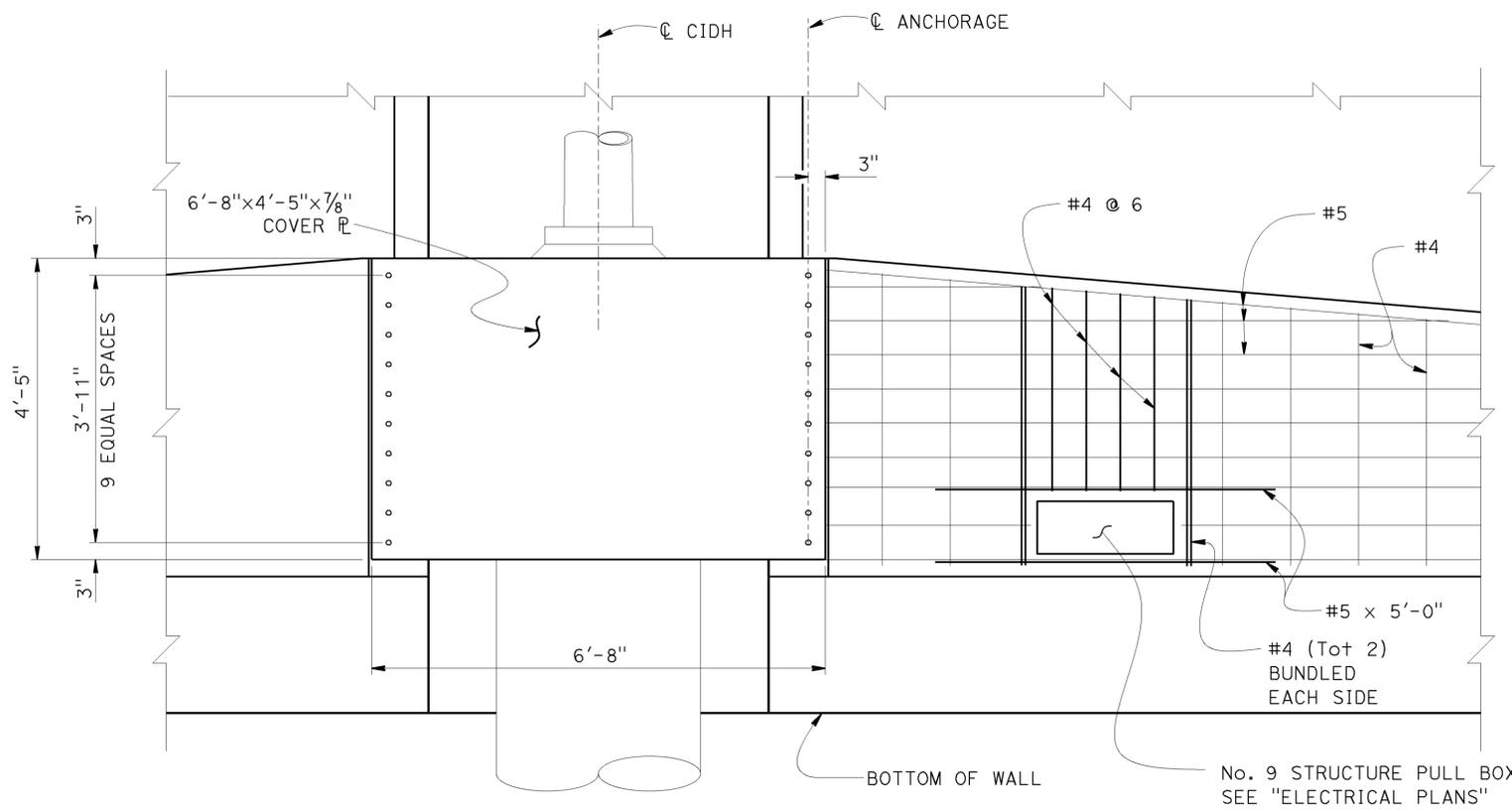
BRIDGE NO.	28E0208
POST MILE	9.05

PINE STREET WB WALL
RETAINING WALL DETAILS NO. 5

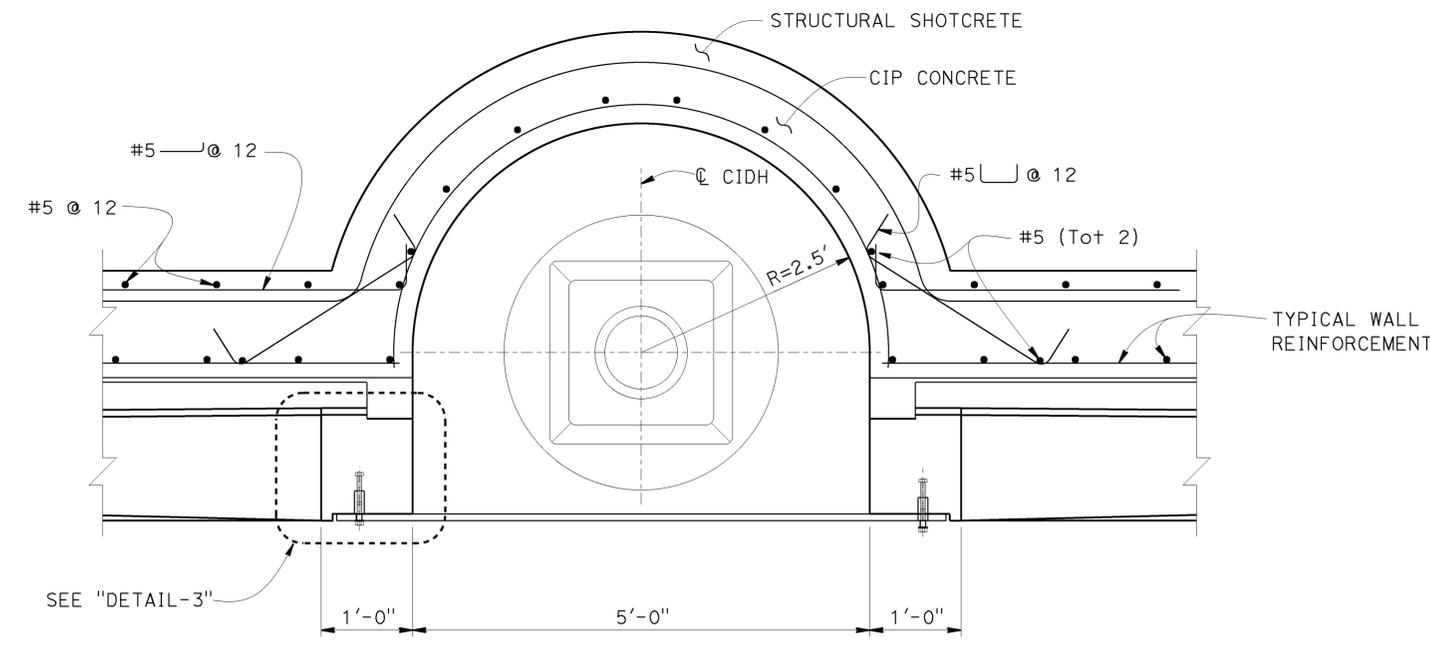
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0, 0.0/3.4	372	477

10/14/13
 REGISTERED CIVIL ENGINEER DATE
 1-13-14
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JOHN E. PETERSON
 No. 60724
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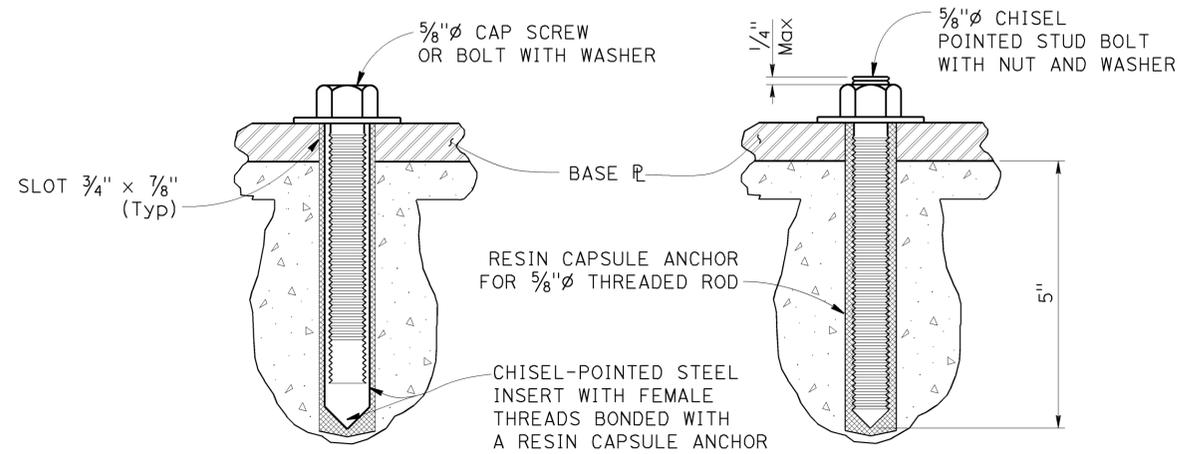


DETAIL - 1
3/4" = 1'-0"

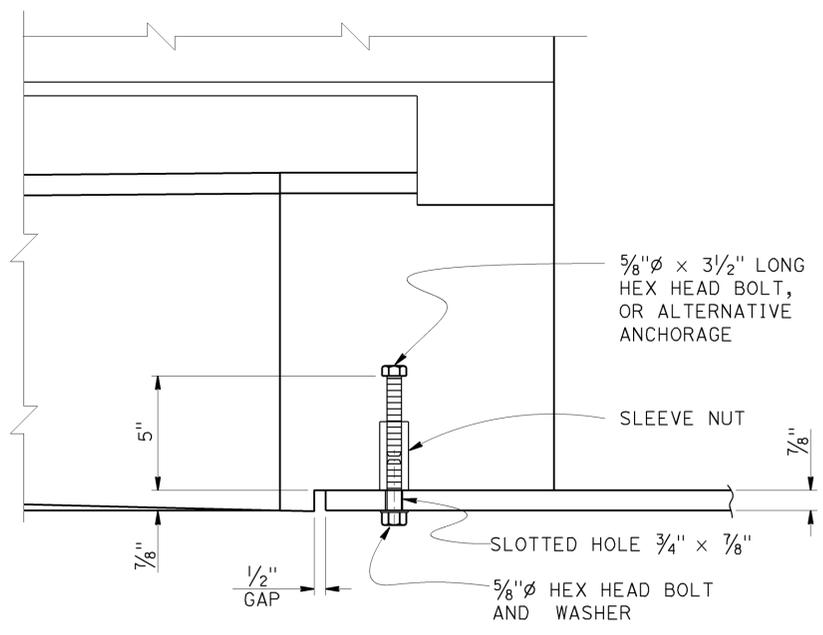


DETAIL - 2
1" = 1'-0"

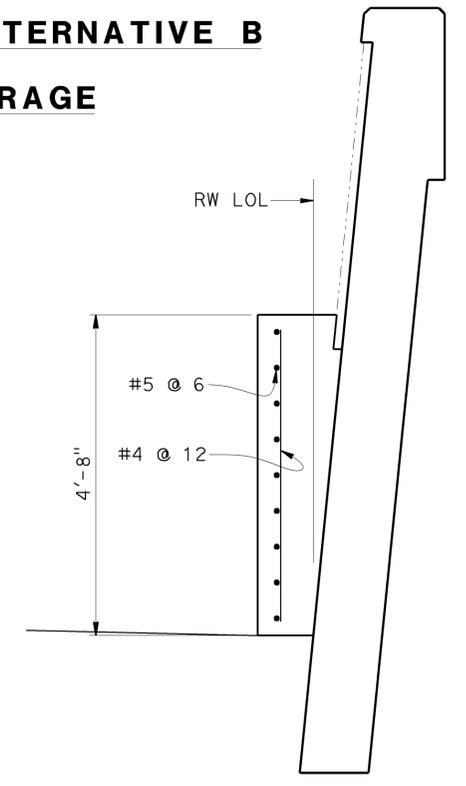
NOTE:
Structural steel, $f_y = 50,000$ psi unless otherwise noted



ALTERNATIVE A **ALTERNATIVE B**
ALTERNATIVE ANCHORAGE
NO SCALE



DETAIL - 3
3" = 1'-0"



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

DESIGN	BY John E Peterson	CHECKED Son Ly
DETAILS	BY Min Yu	CHECKED Son Ly
QUANTITIES	BY John E Peterson	CHECKED Ghiath Taleb-Agha

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 16

BRIDGE NO.	28E0208
POST MILE	9.05

PINE STREET WB WALL
RETAINING WALL DETAILS NO. 6

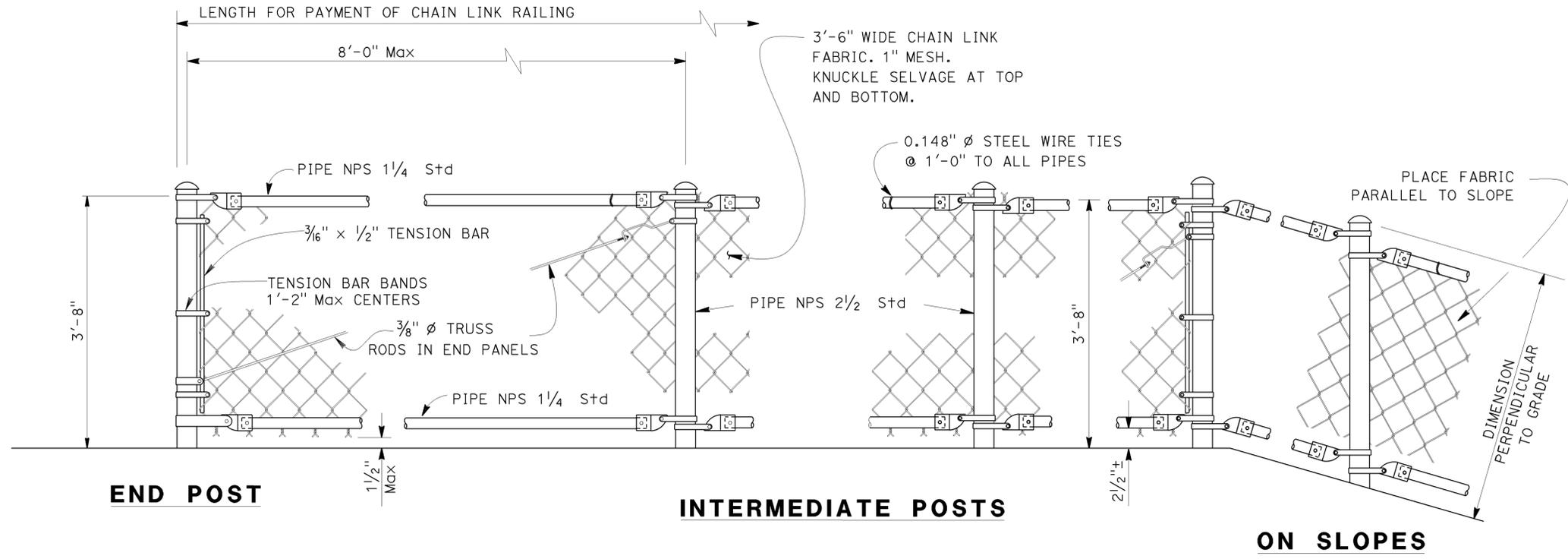
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0, 0.0/3.4	373	477

John E. Peterson 10/14/13
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1-13-14
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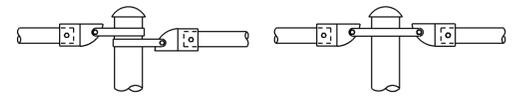
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REGISTERED PROFESSIONAL ENGINEER
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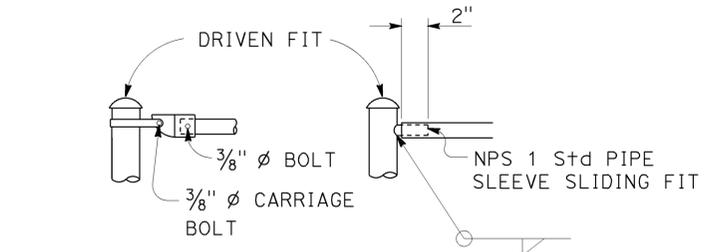


ELEVATION
NO SCALE

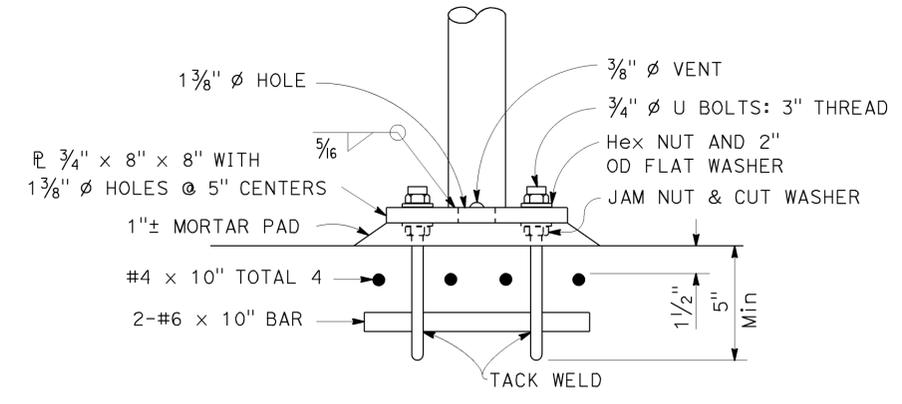
- NOTES:
1. Peen all bolt threads
 2. Railing must conform to horizontal and vertical alignment. Posts must be vertical. Top and bottom pipes must be bent if radius is 148'-0" or less; may be on 8'-0" chords if radius is over 148'-0"
 3. When railing is on slope, 3'-6" chain link fabric must be placed parallel to slope
 4. Chain link fabric must be black vinyl coated



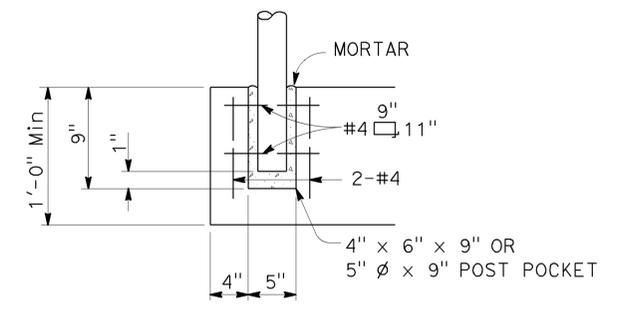
ALTERNATIVE DETAILS



TYPICAL CONNECTION DETAILS
NO SCALE



ANCHORAGE DETAIL
NO SCALE



ALTERNATIVE ANCHORAGE DETAIL
MAY BE USED WHEN THICKNESS OF CONCRETE IS 1'-0" OR MORE
NO SCALE

DESIGN	BY John E Peterson	CHECKED Son Ly
DETAILS	BY Min Yu	CHECKED Son Ly
QUANTITIES	BY Hardeep Singh	CHECKED Ghiath Taleb-Agha

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

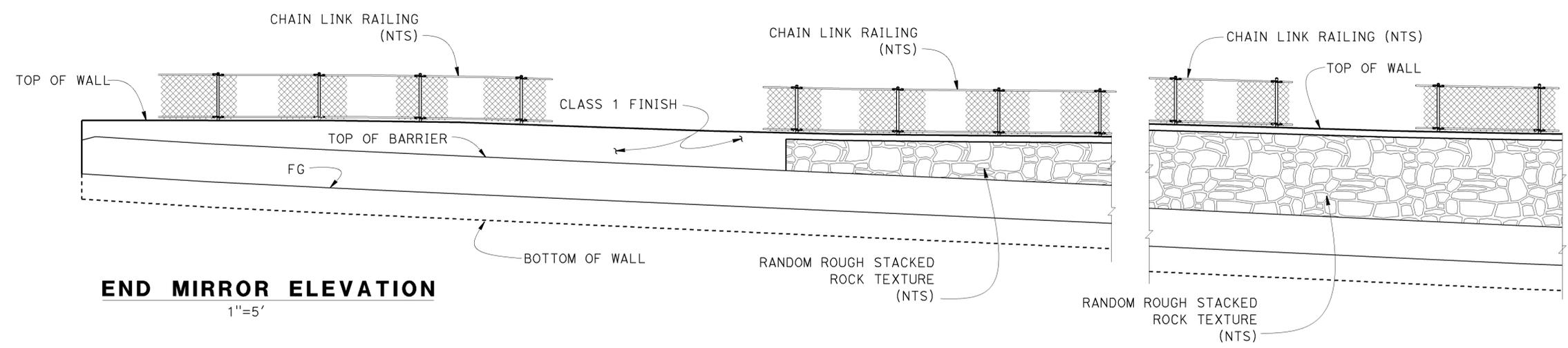
DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 16

BRIDGE NO.	28E0208
POST MILE	9.05

**PINE STREET WB WALL
CHAIN LINK RAILING DETAILS**

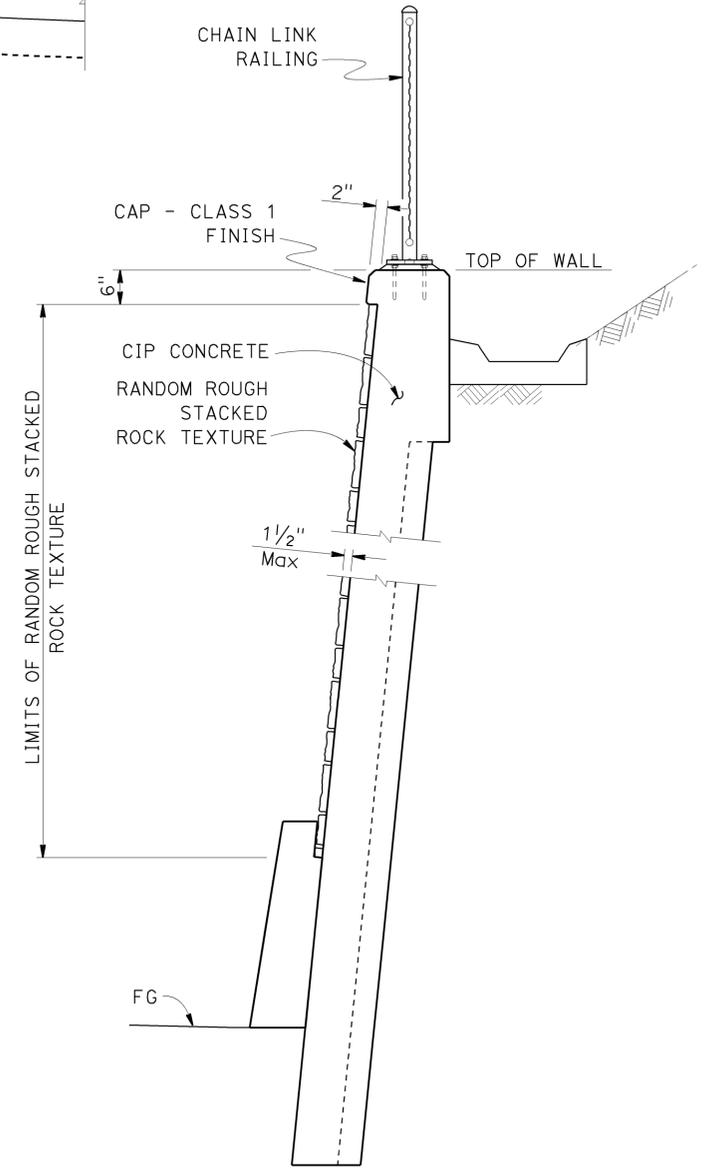
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0, 0.0/3.4	374	477

10/14/13
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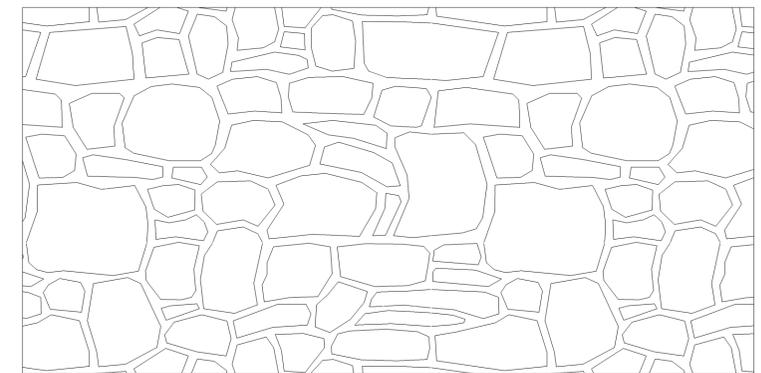


END MIRROR ELEVATION
1"=5'

TYPICAL ELEVATION
1"=5'

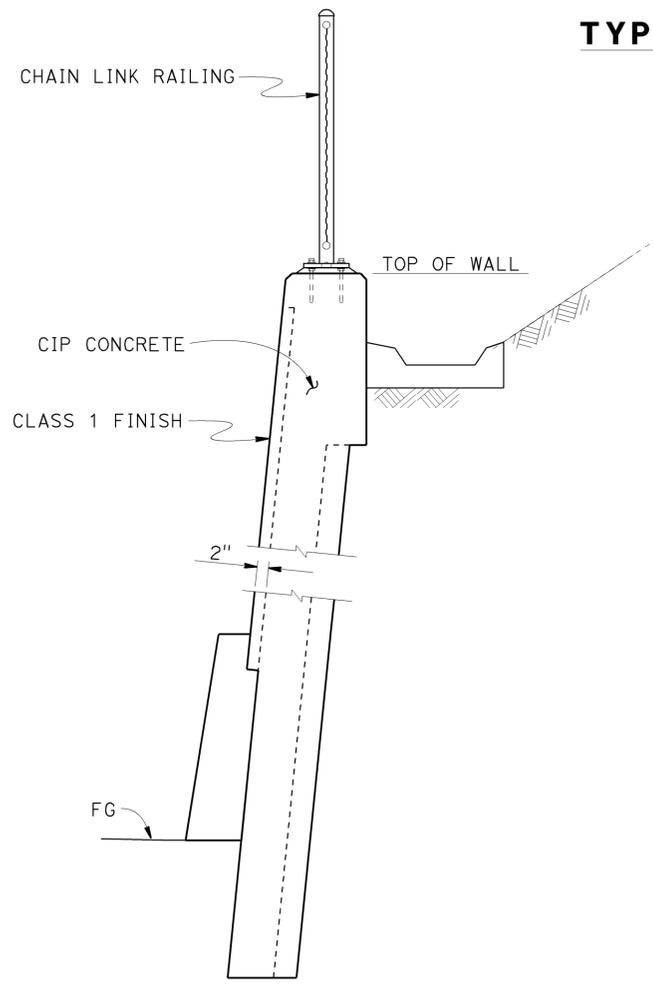


TYPICAL SECTION
3/4"=1'-0"



PATTERN ELEVATION
NO SCALE
RANDOM ROUGH STACKED ROCK TEXTURE DETAILS

TEXTURE NOTES:
 Random Rough Stacked Rock
 Texture relief to be 1.5" maximum
 Stone sizes shall be random
 2.5" to 18" in Width
 2" to 12" in Height



TYPICAL END SECTION
3/4"=1'-0"

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY John E. Peterson	CHECKED Hardeep Singh	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO.	PINE STREET WB WALL ARCHITECTURAL TREATMENT DETAILS		
	DETAILS	BY Min Yu	CHECKED Hardeep Singh			28E0208			
	QUANTITIES	BY Hardeep Singh	CHECKED Chiath Taleb-Agha			POST MILE 9.05			
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS					UNIT: 3617 PROJECT NUMBER & PHASE: 04120006281	CONTRACT NO.: 04-152724	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 17 OF 19

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	CC	4,242	R8.0/25.0, 0.0/3.4	375	477

BENCH MARK

TBM3

Find 80d Spike
 N 2,188,597.44
 E 6,094,355.80
 Elev. 196.79'
 10.1' Lt. Sta. 24+95

TBM4

Find Form Stake (Irom)
 N 2,188,712.98
 E 6,094,472.99
 Elev. 205.65'
 22.9' Lt. Sta. 23+30

12/13/12
 REGISTERED CIVIL ENGINEER

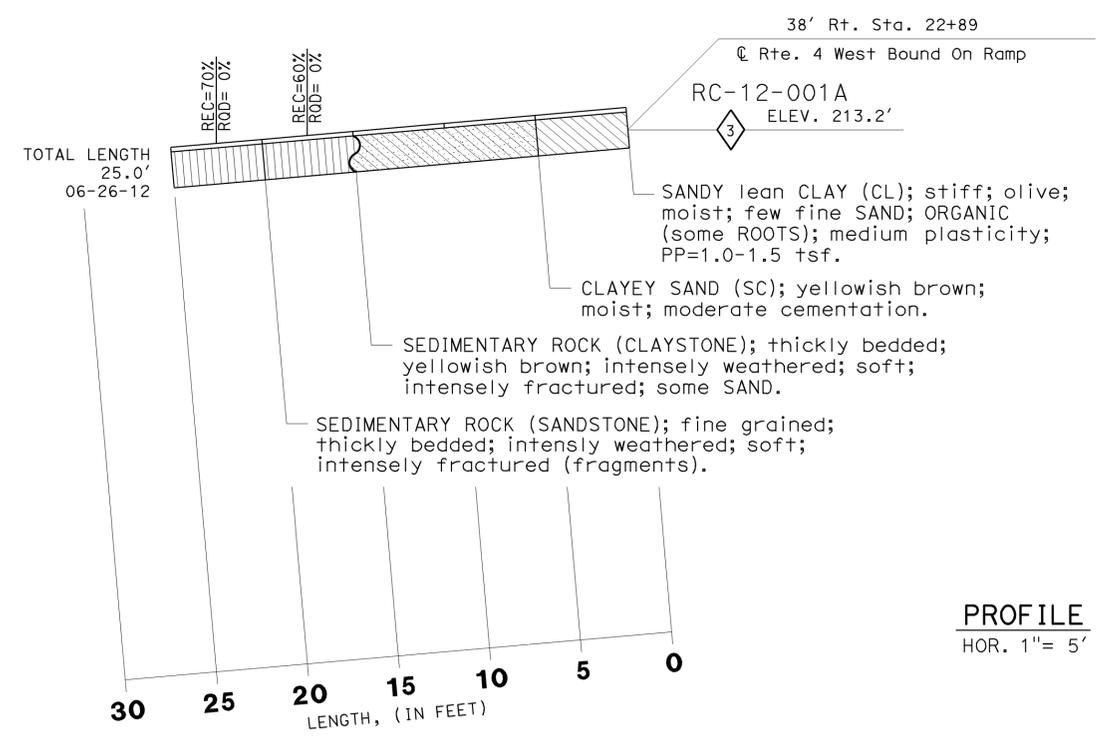
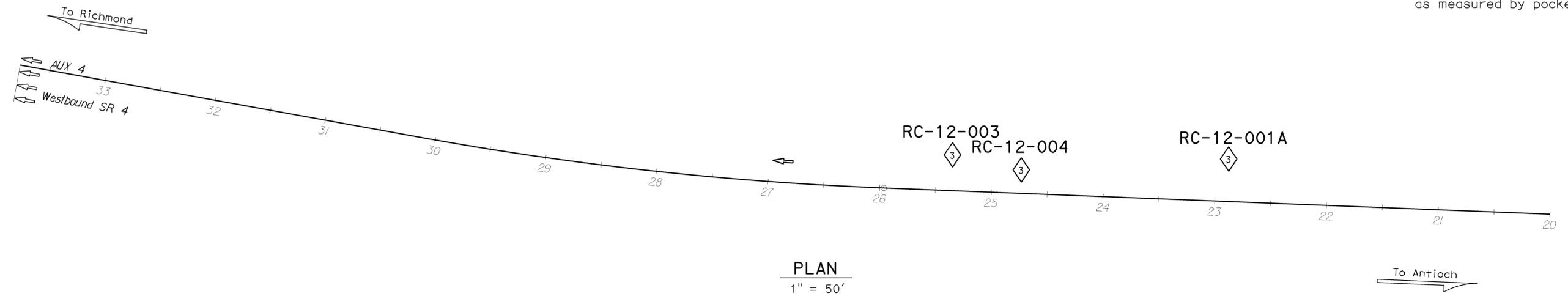
1-13-14
 PLANS APPROVAL DATE

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

NOTE: PP=unconfined compressive strength (tsf) as measured by pocket penetrometer.



ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA		DIVISION OF ENGINEERING SERVICES		BRIDGE NO.		PINE STREET WB WALL	
FUNCTIONAL SUPERVISOR		DRAWN BY: M. Reynolds 11/12		DEPARTMENT OF TRANSPORTATION		OFFICE OF GEOTECHNICAL		28E0208		LOG OF TEST BORINGS (1 OF 2)	
NAME: N. Name		CHECKED BY: M. Gaffney		FIELD INVESTIGATION BY: V. Khato, S. Awad		DESIGN BRANCH		POST MILES: 9.05			
065 CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 3660		PROJECT NUMBER & PHASE: 04120006281		CONTRACT NO.: 04-152724		DISREGARD PRINTS BEARING EARLIER REVISION DATES	
				0 1 2 3		04-152724		01-30-13		18 19	

USERNAME => s134959 DATE PLOTTED => 07-JAN-2014 TIME PLOTTED => 15:04

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	CC	4,242	R8.0/25.0, 0.0/3.4	376	477

12/13/12
REGISTERED CIVIL ENGINEER

1-13-14
PLANS APPROVAL DATE

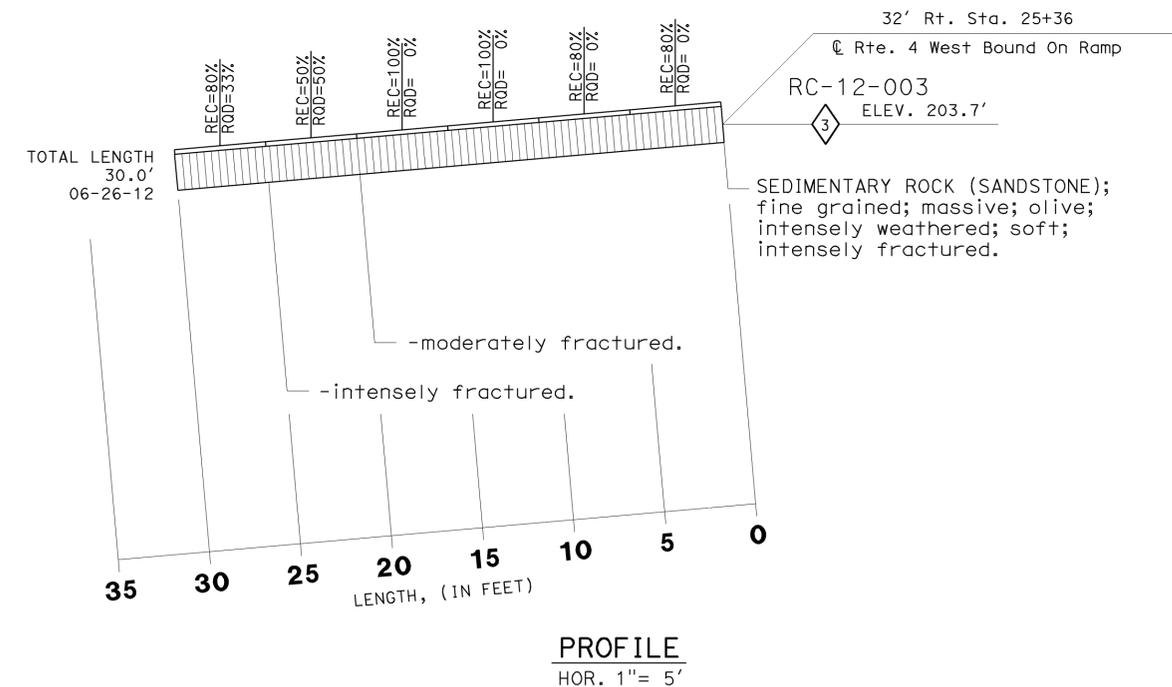
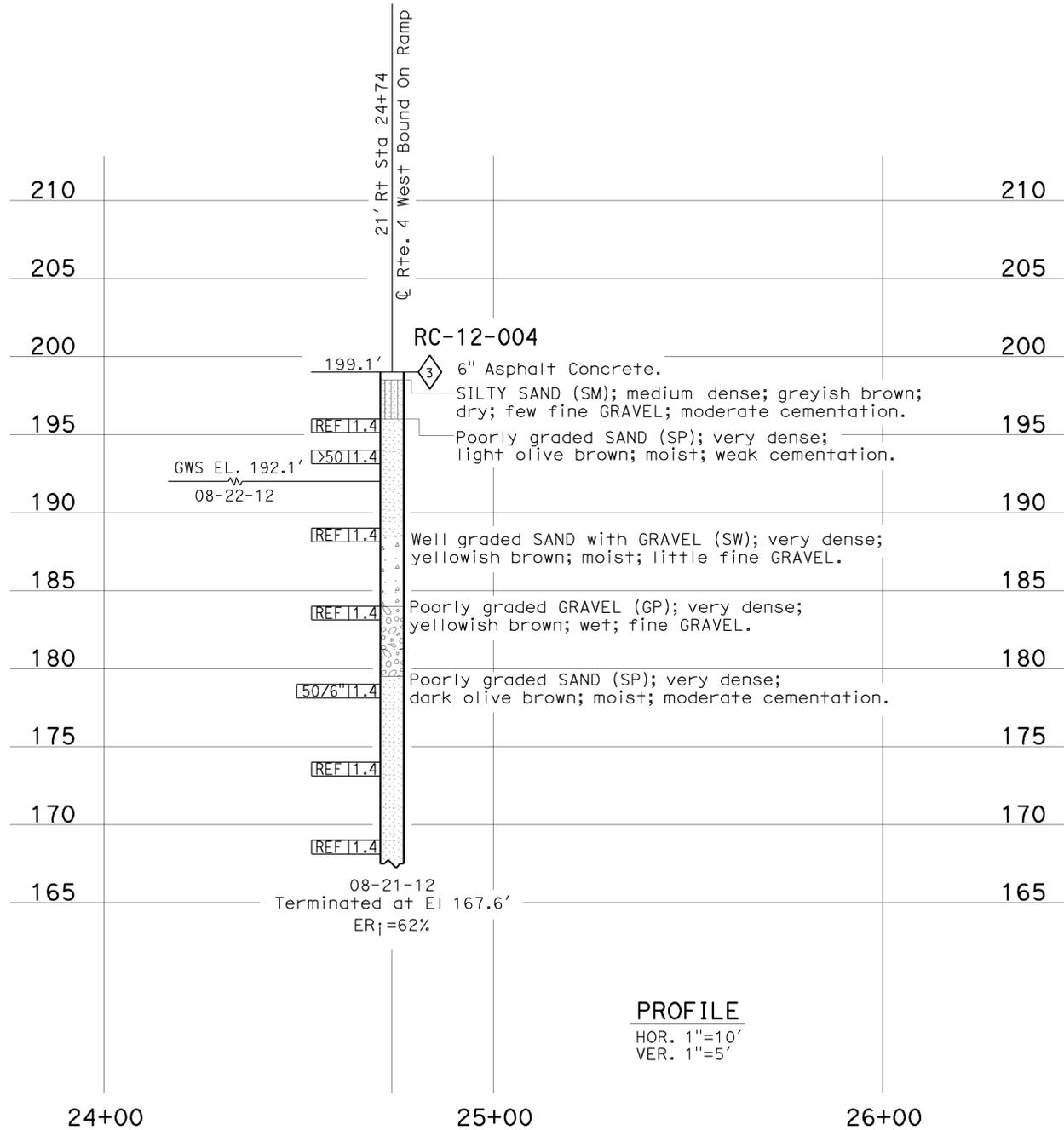
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REGISTERED PROFESSIONAL ENGINEER
Samuel Awad
No. 64589
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

(For Boring Location See Plan, LOTB Sheet 1 of 2)

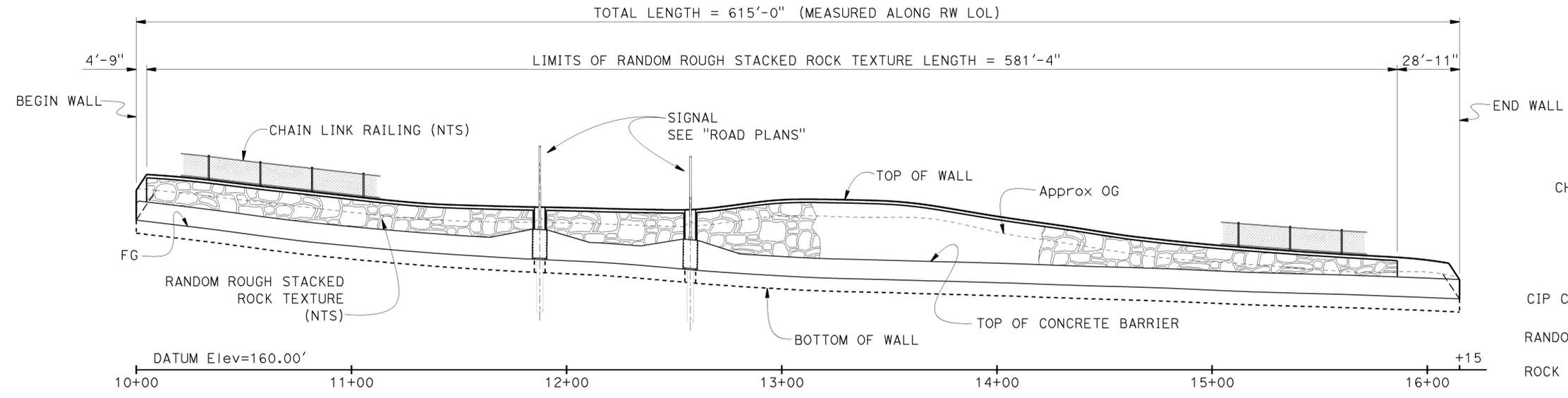
This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).

NOTE: PP=unconfined compressive strength (tsf) as measured by pocket penetrometer.



ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION		DIVISION OF ENGINEERING SERVICES OFFICE OF GEOTECHNICAL DESIGN BRANCH		BRIDGE NO. 28E0208 POST MILES 9.05		PINE STREET WB WALL LOG OF TEST BORINGS (2 OF 2)	
FUNCTIONAL SUPERVISOR NAME: N. Name	DRAWN BY: M. Reynolds 11/12 CHECKED BY: M. Gaffney	FIELD INVESTIGATION BY: V. Khato S. Awad		UNIT: 3660 PROJECT NUMBER & PHASE: 04120006281		CONTRACT NO.: 04-152724		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES 01-30-13	
065 CIVIL LOG OF TEST BORINGS SHEET										ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	
										SHEET 19 OF 19	

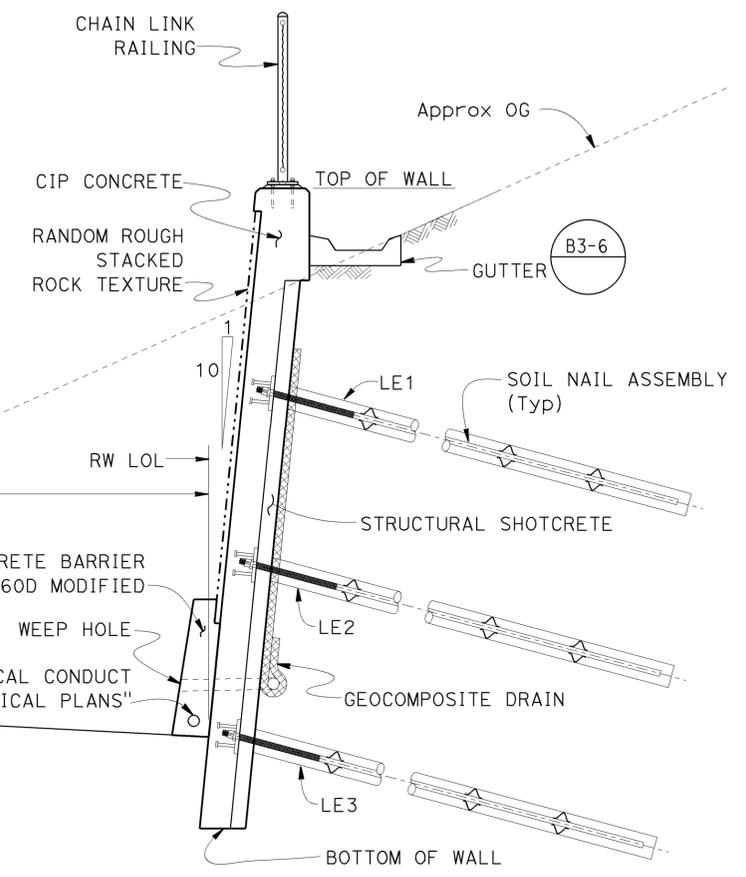
USERNAME => s134959 DATE PLOTTED => 07-JAN-2014 TIME PLOTTED => 15:04



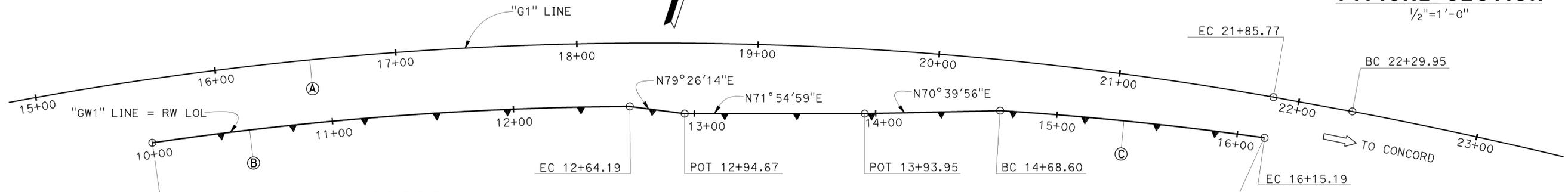
DEVELOPED MIRROR ELEVATION
 Horiz (1"=30') Vert (1"=10')

QUANTITIES

STRUCTURE EXCAVATION (SOIL NAIL WALL)	438	CY
STRUCTURE BACKFILL (SOIL NAIL WALL)	50	CY
SOIL NAIL	4,974	LF
STRUCTURAL CONCRETE, RETAINING WALL	180	CY
RANDOM ROUGH STACKED ROCK TEXTURE	3,400	SQFT
BAR REINFORCING STEEL (RETAINING WALL)	21,400	LB
STRUCTURAL SHOTCRETE	65	CY
MINOR CONCRETE (GUTTER) (LF)	615	LF
CHAIN LINK RAILING	615	LF
CONCRETE BARRIER (TYPE 60D MODIFIED)	615	LF



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



CURVE DATA

No.	R	Δ	T	L
Ⓐ	1961.560	34°38'08"	611.625	1185.771
Ⓑ	1926.751	07°51'22"	132.303	264.191
Ⓒ	1926.751	04°21'33"	73.329	146.588

PLAN
 1"=30'

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0, 0.0/3.4	378	477

John E. Peterson 10/14/13
 REGISTERED CIVIL ENGINEER DATE

1-13-14
 PLANS APPROVAL DATE

JOHN E. PETERSON
 No. 60724
 Exp. 12-31-14
 CIVIL
 STATE OF CALIFORNIA

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INDEX TO PLANS

SHEET NO.	TITLES
1	GENERAL PLAN
2	INDEX TO PLANS
3	STRUCTURE PLAN NO. 1
4	STRUCTURE PLAN NO. 2
5	STRUCTURE PLAN NO. 3
6	STRUCTURE PLAN NO. 4
7	STRUCTURE PLAN NO. 5
8	FOUNDATION PLAN NO. 1
9	FOUNDATION PLAN NO. 2
10	RETAINING WALL DETAILS NO. 1
11	RETAINING WALL DETAILS NO. 2
12	RETAINING WALL DETAILS NO. 3
13	RETAINING WALL DETAILS NO. 4
14	RETAINING WALL DETAILS NO. 5
15	RETAINING WALL DETAILS NO. 6
16	CHAIN LINK RAILING DETAILS
17	ARCHITECTURAL TREATMENT DETAILS
18	LOG OF TEST BORINGS

GENERAL NOTES

DESIGN:
"SOIL NAIL WALLS" (FHWA0-IF-03-017)

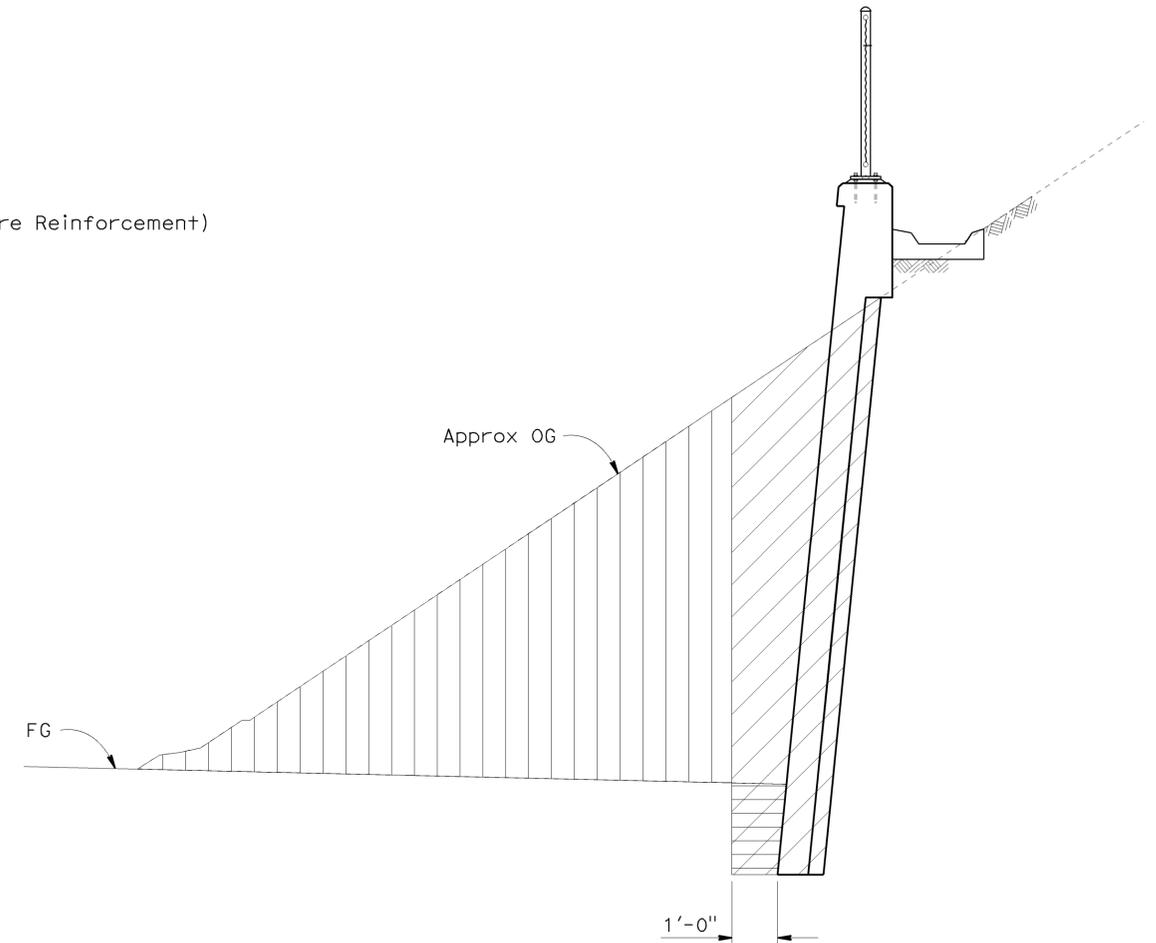
REINFORCED CONCRETE:
 $f'_c = 4000$ psi
 $f_y = 60000$ psi

STRUCTURAL SHOTCRETE:
 $f'_c = 3000$ psi
 $f_y = 65000$ psi (ASTM A185, PLAIN Welded Wire Reinforcement)

SOIL PARAMETERS:
 $\phi = 0^\circ$ $\gamma = 135$ pcf $c = 1000$ psf
 Pull Out Resistance = 1.6 kips/ft

SOIL NAILS:
ASTM A 615 / A 615M, Grade 60

SEISMIC DESIGN:
 $K_h = 0.23$



EXCAVATION AND BACKFILL

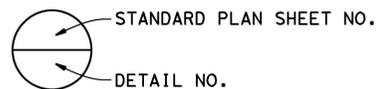
NO SCALE

LEGEND:

- Structure Excavation (Soil Nail Wall)
- Structure Backfill (Soil Nail Wall)
- Roadway Excavation

STANDARD PLANS DATED 2010

A10A	ABBREVIATIONS (SHEET 1 OF 2)
RSP A10B	ABBREVIATIONS (SHEET 2 OF 2)
A10C	LINES AND SYMBOLS (SHEET 1 OF 3)
A10D	LINES AND SYMBOLS (SHEET 2 OF 3)
A10E	LINES AND SYMBOLS (SHEET 3 OF 3)
A10F	LEGEND - SOIL (SHEET 1 OF 2)
A10G	LEGEND - SOIL (SHEET 2 OF 2)
A10H	LEGEND - ROCK
A76A	CONCRETE BARRIER TYPE 60D
B3-6	RETAINING WALL DETAILS NO. 2



DESIGN	BY Hardeep Singh	CHECKED Son Ly
DETAILS	BY Min Yu	CHECKED Son Ly
QUANTITIES	BY Hardeep Singh	CHECKED Ghiath Taleb-Agha

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 16

BRIDGE NO.	28E0207
POST MILE	9.37

PINE STREET EB WALL
INDEX TO PLANS

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4, 242	R8.0/25.0, 0.0/3.4	379	477

10/14/13
REGISTERED CIVIL ENGINEER DATE

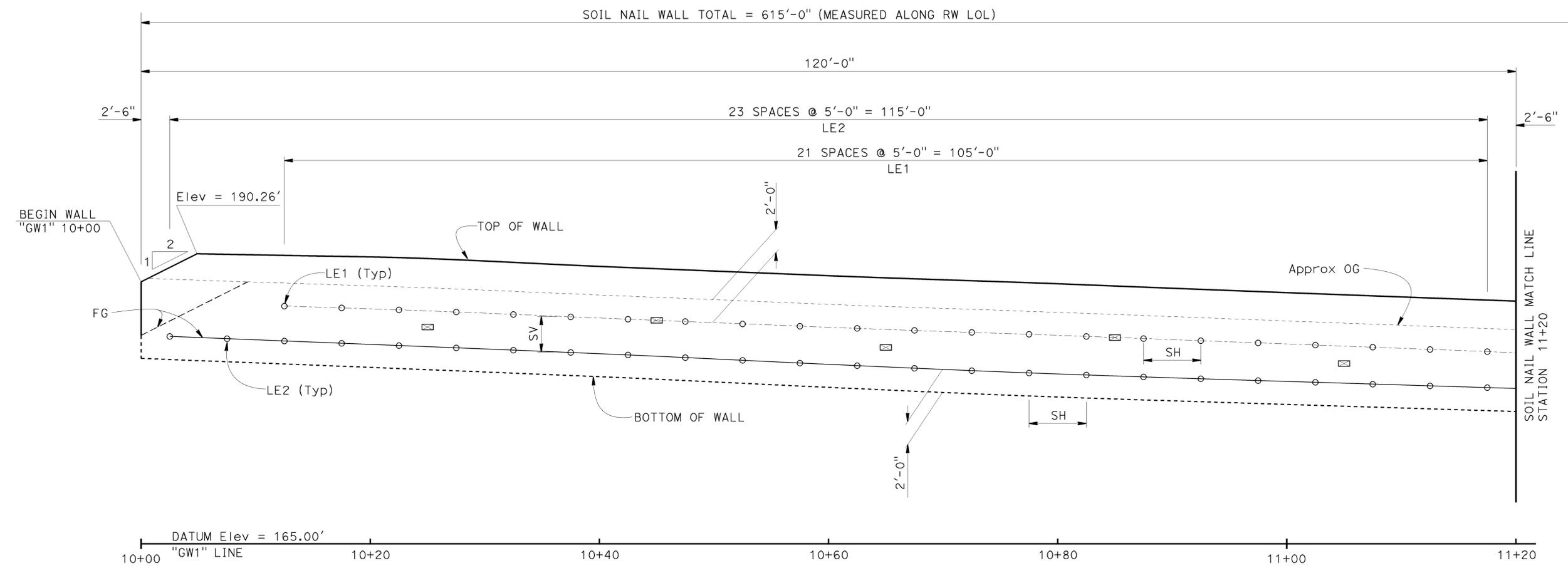
1-13-14
PLANS APPROVAL DATE

JOHN E PETERSON
No. 60724
Exp. 12-31-14
CIVIL
STATE OF CALIFORNIA

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LEGEND:

○ - Indicates Soil Nail location
 ☒ - Indicates Proof Test Soil Nail location
 (location may be adjusted by the Engineer)



DEVELOPED MIRROR ELEVATION
1"=5'

STATION	TOP WALL Elev (ft)	Bot WALL Elev (ft)
10+00	187.82	181.16
10+20	189.99	180.37
10+40	189.17	179.56
10+60	188.36	178.63
10+80	187.65	177.79
11+00	186.88	177.14
11+20	186.14	176.53

LEVEL	NAIL SIZE	LENGTH (ft)
LE1	#9	20
LE2	#9	15

- NOTES:
- SH - Horizontal spacing of Soil Nail, SH (Max) = 5'-0"
 - SV - Vertical spacing of Soil Nail, SV (Min) = 1'-6", SV (Max) = 5'-0"
 - Vertical distance from top of wall to the top of cut = 3'-0" (Max), 2'-0" (Min)
 - Concrete Barrier, Chain Link Railing, and Architectural Treatment not shown for clarity

DESIGN	BY Hardeep Singh	CHECKED Son Ly	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO. 28E0207	PINE STREET EB WALL STRUCTURE PLAN NO. 1	
	DETAILS	BY Min Yu			CHECKED Son Ly		POST MILE 9.37
	QUANTITIES	BY Hardeep Singh			CHECKED Ghiath Taleb-Agha		

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 3617
PROJECT NUMBER & PHASE: 04120006281

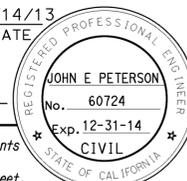
CONTRACT NO.: 04-152724

DISREGARD PRINTS BEARING EARLIER REVISION DATES

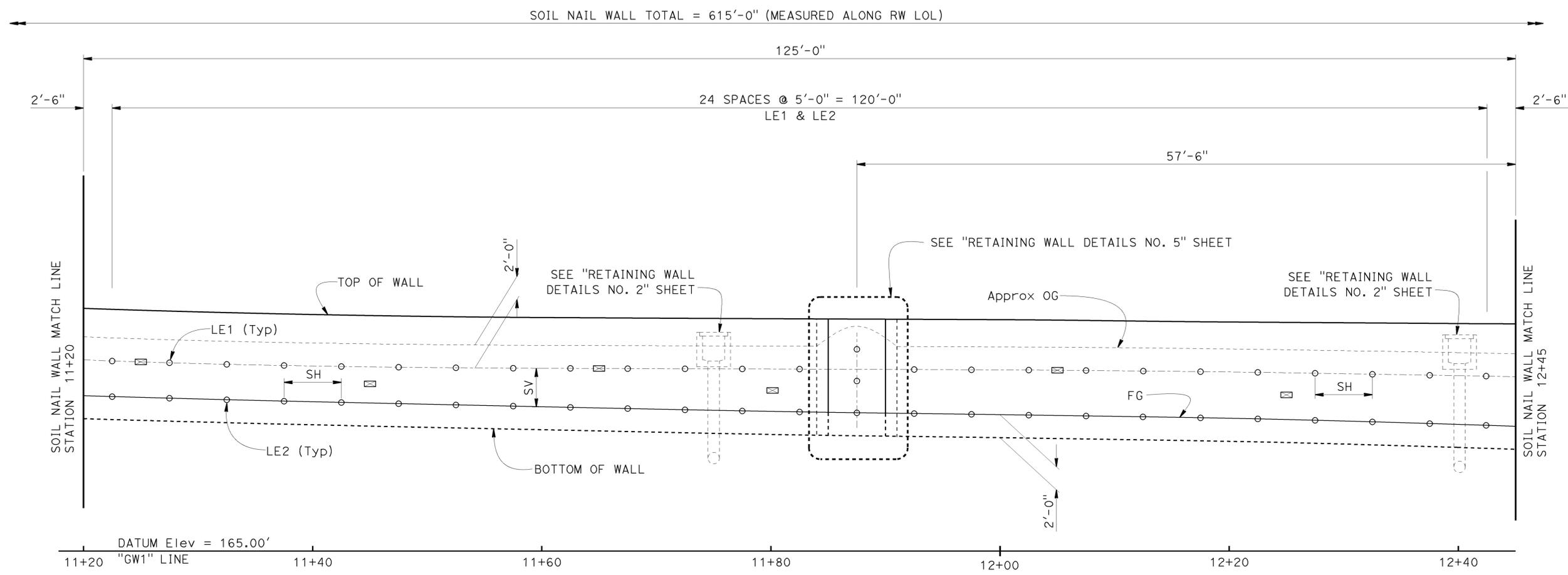
REVISION DATES	SHEET	OF
08-28-13 09-29-13 10-21-13 01-06-14	3	18

FILE => 28e0207-c-sp01.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0, 0.0/3.4	380	477


 10/14/13
 REGISTERED CIVIL ENGINEER DATE
 1-13-14
 PLANS APPROVAL DATE
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LEGEND:
 ○ - Indicates Soil Nail location
 ⊠ - Indicates Proof Test Soil Nail location
 (location may be adjusted by the Engineer)



DEVELOPED MIRROR ELEVATION
1"=5'

STATION	TOP WALL Elev (ft)	Bot WALL Elev (ft)
11+20	186.14	176.53
11+40	185.61	176.00
11+60	185.43	175.57
11+80	185.24	175.16
12+00	185.16	174.88
12+20	184.95	174.56
12+40	184.82	174.03

LEVEL	NAIL SIZE	LENGTH (ft)
LE1	#9	20
LE2	#9	15

- NOTES:**
- SH - Horizontal spacing of Soil Nail, SH (Max) = 5'-0"
 - SV - Vertical spacing of Soil Nail, SV (Min) = 1'-6", SV (Max) = 5'-0"
 - Vertical distance from top of wall to the top of cut = 3'-0" (Max), 2'-0" (Min)
 - Concrete Barrier, Chain Link Railing, and Architectural Treatment not shown for clarity

DESIGN BY Hardeep Singh CHECKED Son Ly DETAILS BY Min Yu CHECKED Son Ly QUANTITIES BY Hardeep Singh CHECKED Ghiath Taleb-Agha	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO. 28E0207	PINE STREET EB WALL STRUCTURE PLAN NO. 2			
			POST MILE 9.37				
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3	UNIT: 3617 PROJECT NUMBER & PHASE: 04120006281	CONTRACT NO.: 04-152724	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 10-02-13 11-04-13 01-06-14	SHEET 4 OF 18

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0, 0.0/3.4	381	477

10/14/13
REGISTERED CIVIL ENGINEER DATE

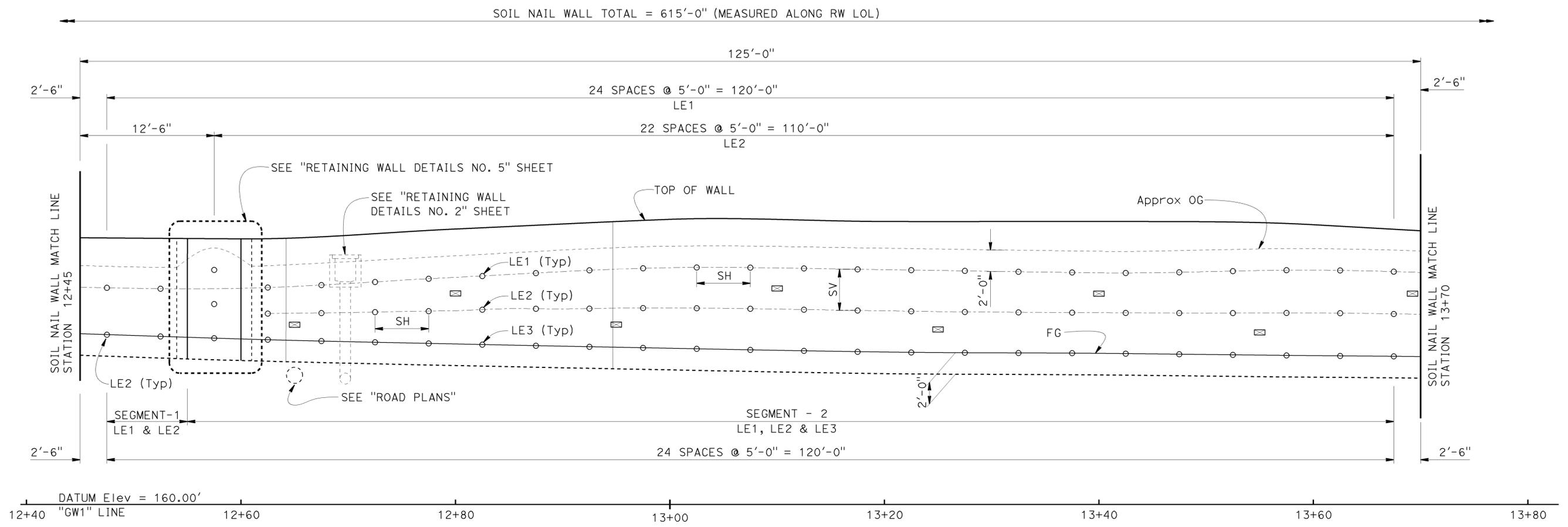
1-13-14
PLANS APPROVAL DATE

JOHN E PETERSON
No. 60724
Exp. 12-31-14
CIVIL
STATE OF CALIFORNIA

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LEGEND:

- - Indicates Soil Nail location
- ⊠ - Indicates Proof Test Soil Nail location (location may be adjusted by the Engineer)



DEVELOPED MIRROR ELEVATION

1"=5'

STATION	TOP WALL Elev (ft)	Bot WALL Elev (ft)
12+40	184.82	174.03
12+60	184.69	173.38
12+80	185.61	172.91
13+00	186.50	172.51
13+20	186.40	172.16
13+40	186.30	172.04
13+60	186.00	171.83
13+80	184.88	171.66

SEGMENT - 1 STATION 12+45.00 TO 12+60		
LEVEL	NAIL SIZE	LENGTH (ft)
LE1	#9	20
LE2	#9	15

SEGMENT - 2 STATION 12+60 TO 13+67.50		
LEVEL	NAIL SIZE	LENGTH (ft)
LE1	#9	20
LE2	#9	15
LE3	#9	10

NOTES:

1. SH - Horizontal spacing of Soil Nail, SH (Max) = 5'-0"
2. SV - Vertical spacing of Soil Nail, SV (Min) = 1'-6", SV (Max) = 5'-0"
3. Vertical distance from top of wall to the top of cut = 3'-0" (Max), 2'-0" (Min)
4. Concrete Barrier, Chain Link Railing, and Architectural Treatment not shown for clarity

DESIGN	BY Hardeep Singh	CHECKED Son Ly
DETAILS	BY Min Yu	CHECKED Son Ly
QUANTITIES	BY Hardeep Singh	CHECKED Ghiath Taleb-Agha

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 16

BRIDGE NO.	28E0207
POST MILE	9.37

**PINE STREET EB WALL
STRUCTURE PLAN NO. 3**



REVISION DATES	SHEET	OF
08-28-13 09-29-13 10-02-13 01-06-14	5	18

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0, 0.0/3.4	382	477

10/14/13
REGISTERED CIVIL ENGINEER DATE

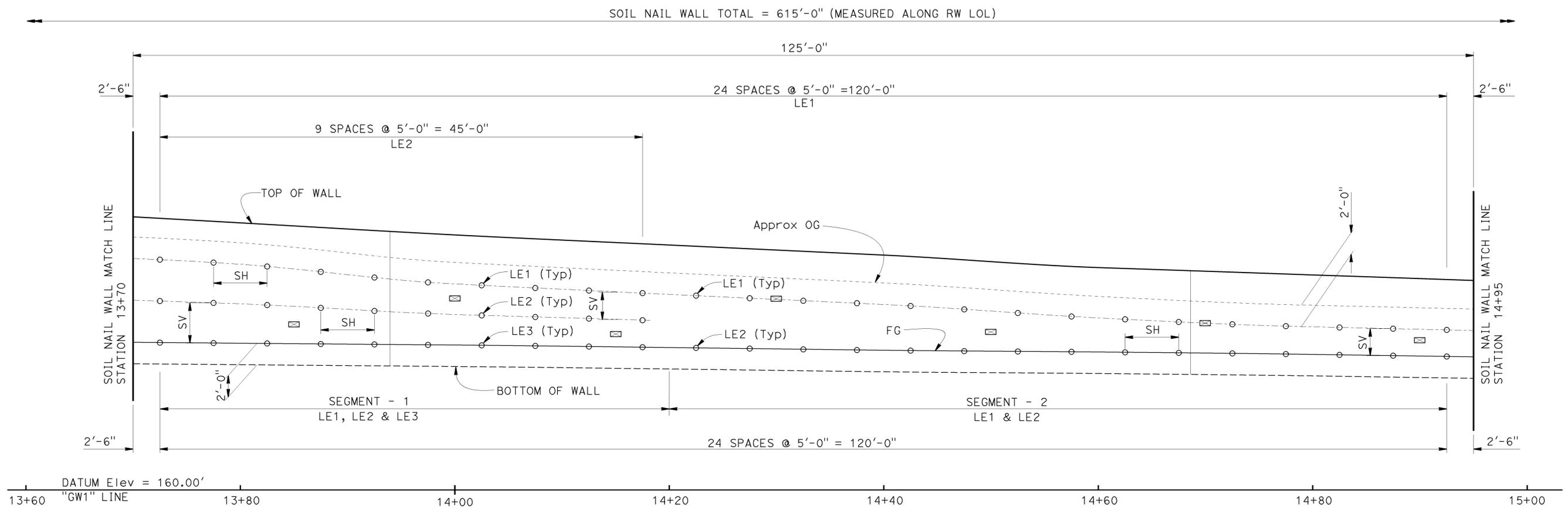
1-13-14
PLANS APPROVAL DATE

JOHN E PETERSON
No. 60724
Exp. 12-31-14
CIVIL
STATE OF CALIFORNIA

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LEGEND:

○ - Indicates Soil Nail location
 ☒ - Indicates Proof Test Soil Nail location
 (location may be adjusted by the Engineer)



DEVELOPED MIRROR ELEVATION
1"=5'

STATION	TOP WALL Elev (ft)	Bot WALL Elev (ft)
13+60	186.00	171.83
13+80	184.88	171.66
14+00	183.75	171.49
14+20	182.81	171.26
14+40	181.87	171.00
14+60	180.71	170.84
14+80	180.03	170.62
15+00	179.34	170.31

SEGMENT - 1 STATION 13+72.50 TO 14+20		
LEVEL	NAIL SIZE	LENGTH (ft)
LE1	#9	20
LE2	#9	15
LE3	#9	10

SEGMENT - 2 STATION 14+20 TO 14+92.50		
LEVEL	NAIL SIZE	LENGTH (ft)
LE1	#9	20
LE2	#9	15

- NOTES:
- SH - Horizontal spacing of Soil Nail, SH (Max) = 5'-0"
 - SV - Vertical spacing of Soil Nail, SV (Min) = 1'-6", SV (Max) = 5'-0"
 - Vertical distance from top of wall to the top of cut = 3'-0" (Max), 2'-0" (Min)
 - Concrete Barrier, Chain Link Railing, and Architectural Treatment not shown for clarity

DESIGN	BY Hardeep Singh	CHECKED Son Ly
DETAILS	BY Min Yu	CHECKED Son Ly
QUANTITIES	BY Hardeep Singh	CHECKED Ghiath Taleb-Agha

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 16

BRIDGE NO.	28E0207
POST MILE	9.37

**PINE STREET EB WALL
STRUCTURE PLAN NO. 4**

USERNAME => s134959 DATE PLOTTED => 07-JAN-2014 TIME PLOTTED => 14:37

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0, 0.0/3.4	383	477

10/14/13
REGISTERED CIVIL ENGINEER DATE

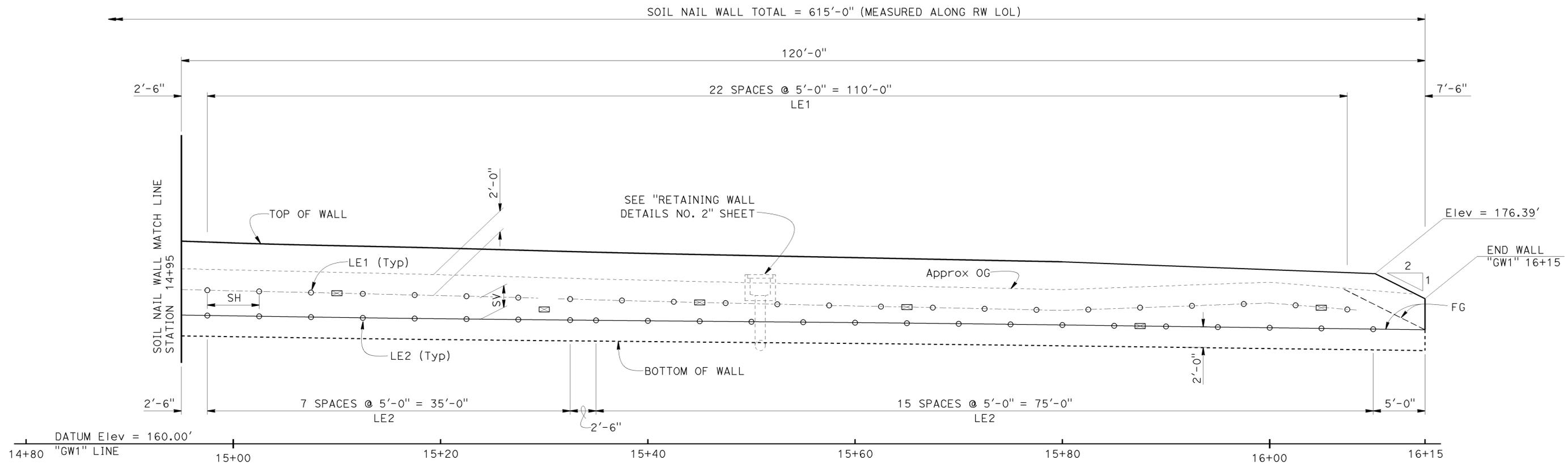
1-13-14
PLANS APPROVAL DATE

JOHN E PETERSON
No. 60724
Exp. 12-31-14
CIVIL
STATE OF CALIFORNIA

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LEGEND:

○ - Indicates Soil Nail location
 ☒ - Indicates Proof Test Soil Nail location
 (location may be adjusted by the Engineer)



DEVELOPED MIRROR ELEVATION
1"=5'

STATION	TOP WALL Elev (ft)	Bot WALL Elev (ft)
14+80	180.03	170.62
15+00	179.34	170.31
15+20	178.85	170.03
15+40	178.33	169.84
15+60	177.92	169.66
15+80	177.52	169.43
16+00	177.17	169.17
16+15	173.95	168.95

LEVEL	NAIL SIZE	LENGTH (ft)
LE1	#9	20
LE2	#9	15

- NOTES:
- SH - Horizontal spacing of Soil Nail, SH (Max) = 5'-0"
 - SV - Vertical spacing of Soil Nail, SV (Min) = 1'-6", SV (Max) = 5'-0"
 - Vertical distance from top of wall to the top of cut = 3'-0" (Max), 2'-0" (Min)
 - Concrete Barrier, Chain Link Railing, and Architectural Treatment not shown for clarity

DESIGN	BY	Hardeep Singh	CHECKED	Son Ly	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO.	PINE STREET EB WALL STRUCTURE PLAN NO. 5			
	DETAILS	BY	Min Yu	CHECKED			Son Ly		28E0207		
	QUANTITIES	BY	Hardeep Singh	CHECKED			Ghiath Taleb-Agha		POST MILE 9.37		
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)						ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3617 PROJECT NUMBER & PHASE: 04120006281	CONTRACT NO.: 04-152724	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 7 OF 18

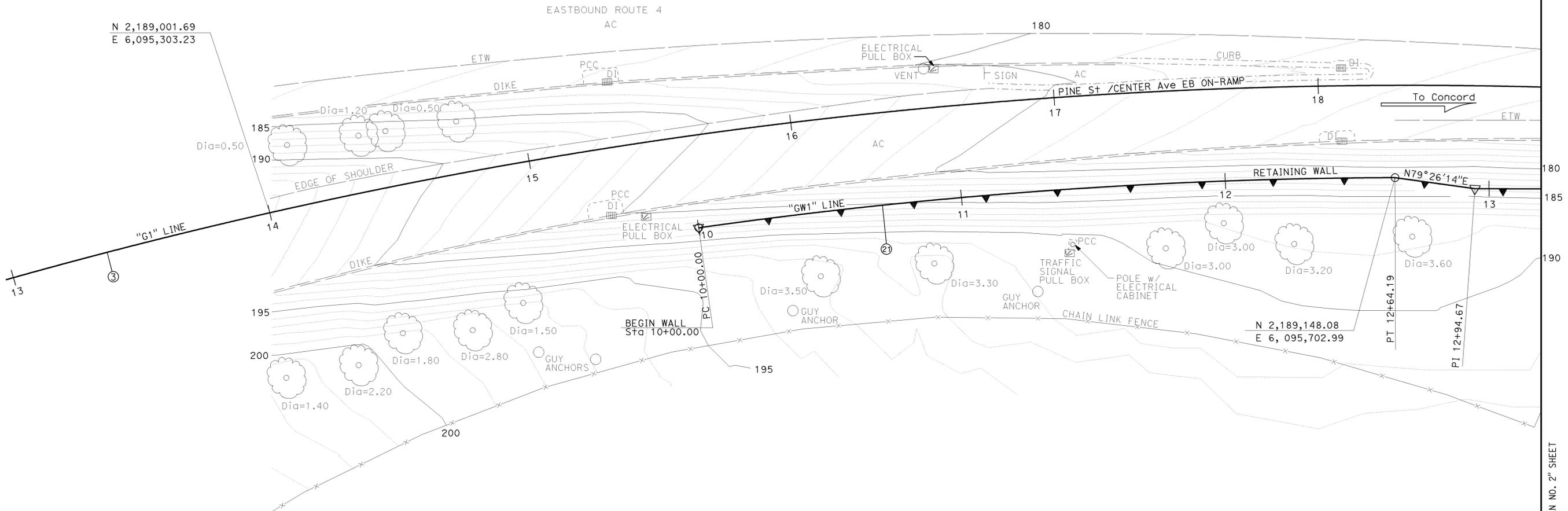
CURVE DATA

No.	R	Δ	T	L
3	1961.56	34°38'08"	611.62	1185.77
21	1926.75	07°51'22"	132.30	264.19

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0, 0.0/3.4	384	477



John E. Peterson 10/14/13
 REGISTERED CIVIL ENGINEER DATE
 1-13-14
 PLANS APPROVAL DATE
 JOHN E. PETERSON
 No. 60724
 Exp. 12-31-14
 CIVIL
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SURVEY CONTROL

SS253 (NOT SHOWN ON PLAN)
 Fnd 1" IP W/ CALTRANS PLASTIC PLUG
 375.39 Ft S77°47'14"W FROM Sta 10+00.00
 "G1" LINE PINE St/ CENTER Ave EB ON-RAMP
 N 2,188,682.63
 E 6,094,616.94
 Elev = 194.48
 SS254 (NOT SHOWN ON PLAN)
 Fnd 1" IP W/ CALTRANS PLASTIC PLUG
 13.38 Ft Lt "G1" LINE PINE St/ CENTER Ave EB ON-RAMP
 Sta 10+51.93
 N 2,188,806.83
 E 6,095,013.63
 Elev = 215.76

MATCH LINE SEE "FOUNDATION PLAN NO. 2" SHEET

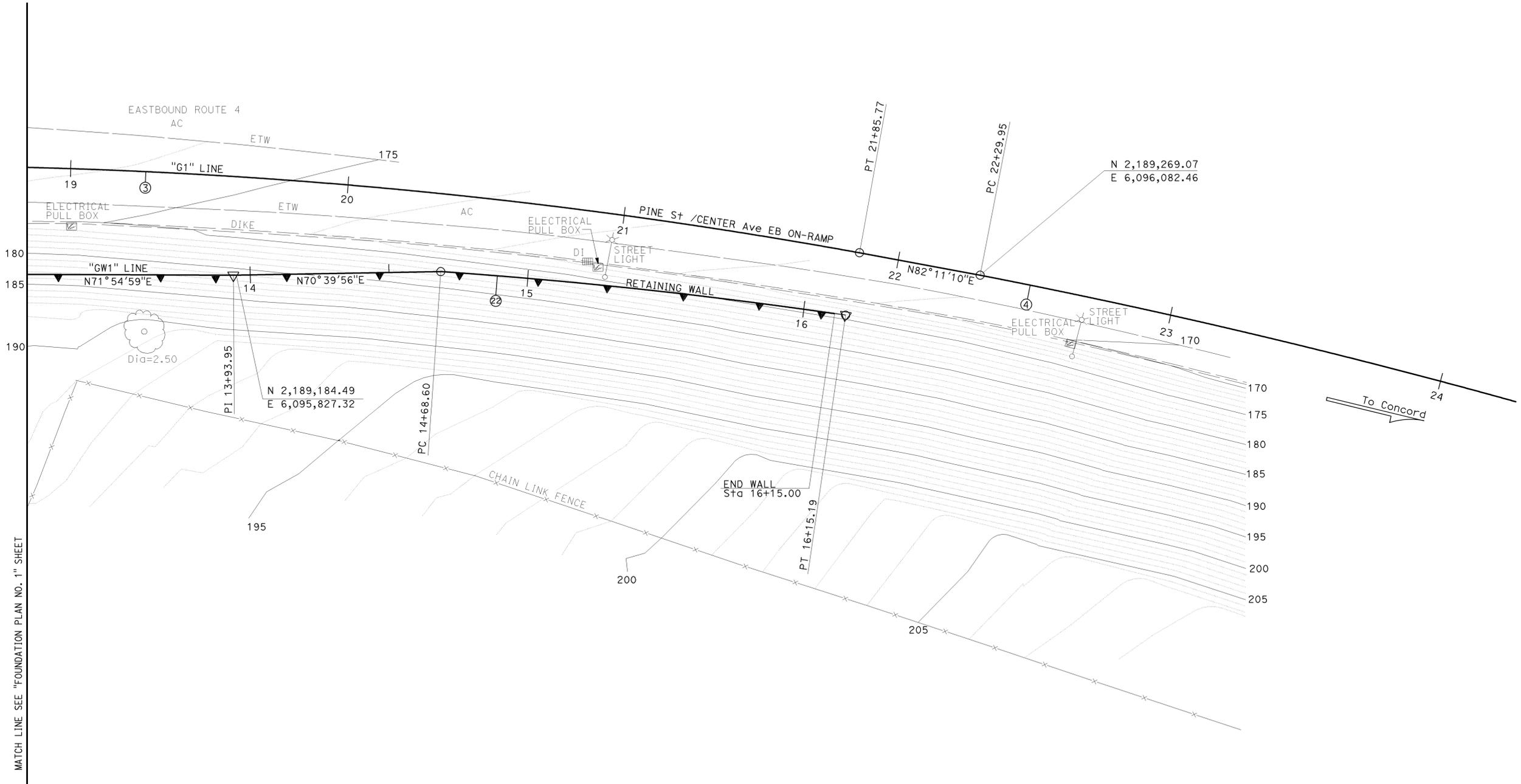
PRELIMINARY INVESTIGATION SECTION				DESIGN BY Hardeep Singh	CHECKED Son Ly	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO. 28E0207	PINE STREET EB WALL FOUNDATION PLAN NO. 1								
SCALE 1"=20'	VERT.DATUM NAVD83	PHOTOGRAMMETRY AS OF: X	DETAILS BY Min Yu	CHECKED Son Ly	POST MILE 9.37												
ALIGNMENT TIES Dist TRAVERSE SHEET	DRAFTED BY T. ZOLNIKOV 08/2013	CHECKED BY J. BORDEN 08/2013	QUANTITIES BY Hardeep Singh	CHECKED Ghiath Taleb-Agha	REVISION DATES												
STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 09-01-10)						ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3646	PROJECT NUMBER & PHASE: 04120006281	CONTRACT NO.: 04-152724	DISREGARD PRINTS BEARING EARLIER REVISION DATES	<table border="1" style="font-size: small;"> <tr> <th>REVISION DATES</th> <th>SHEET</th> <th>OF</th> </tr> <tr> <td>08-22-13 08-26-13 09-16-13 01-06-14</td> <td>8</td> <td>18</td> </tr> </table>	REVISION DATES	SHEET	OF	08-22-13 08-26-13 09-16-13 01-06-14	8	18
REVISION DATES	SHEET	OF															
08-22-13 08-26-13 09-16-13 01-06-14	8	18															

CURVE DATA				
No.	R	Δ	T	L
4	2538.00	16° 14' 59"	362.34	719.81
22	1926.75	04° 21' 33"	73.33	146.59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0, 0.0/3.4	385	477



 10/14/13
 REGISTERED CIVIL ENGINEER DATE
 1-13-14
 PLANS APPROVAL DATE
 JOHN E PETERSON
 No. 60724
 Exp. 12-31-14
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PRELIMINARY INVESTIGATION SECTION				DESIGN BY Hardeep Singh	CHECKED Son Ly	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO. 28E0207	PINE STREET EB WALL FOUNDATION PLAN NO. 2
SCALE VERT. DATUM NAVD88	PHOTOGRAMMETRY AS OF: X	DRAFTED BY T. ZOLNIKOV 08/2013	CHECKED BY L. LEW 08/2013	DETAILS BY Min Yu	CHECKED Son Ly			POST MILE 9.37	
ALIGNMENT TIES Dist TRAVERSE SHEET	DRAFTED BY T. ZOLNIKOV 08/2013	CHECKED BY L. LEW 08/2013	QUANTITIES BY Hardeep Singh	CHECKED Ghiath Taleb-Agha					
STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 09-01-10)		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 3646 PROJECT NUMBER & PHASE: 04120006281 CONTRACT NO.: 04-152724		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES	SHEET 9 OF 18

USERNAME => s134959 DATE PLOTTED => 07-JAN-2014 TIME PLOTTED => 14:37

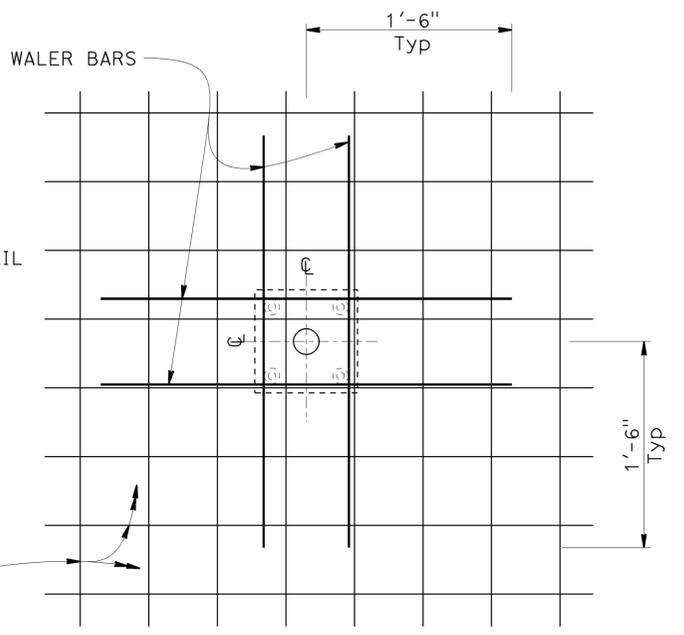
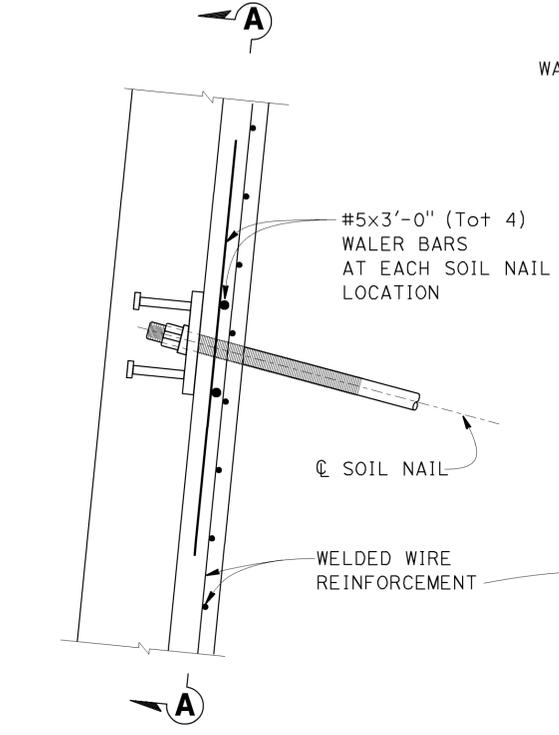
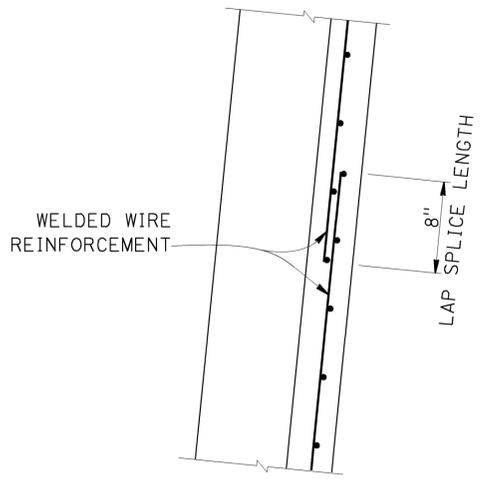
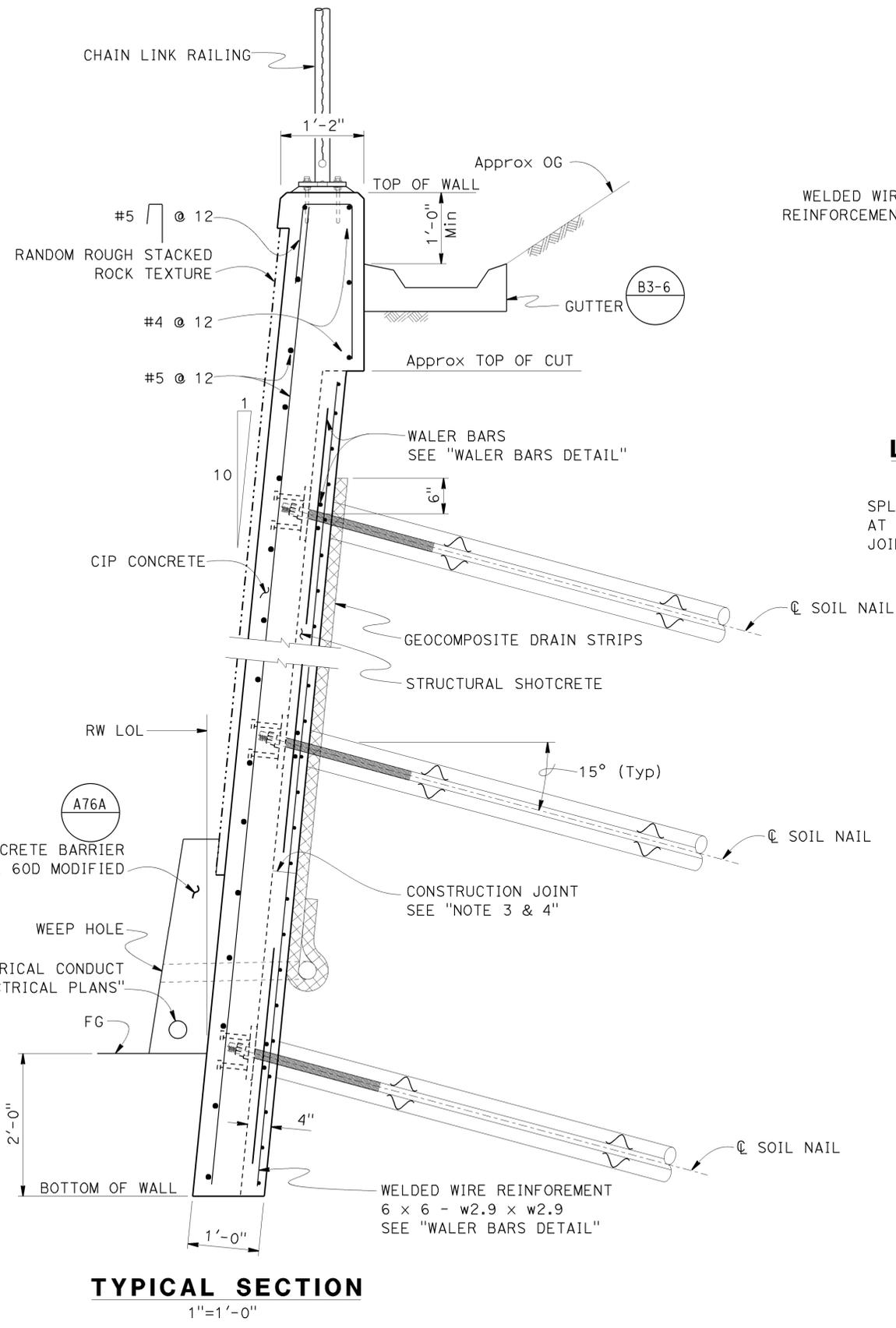
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0, 0.0/3.4	386	477

John E. Peterson 10/14/13
 REGISTERED CIVIL ENGINEER DATE

1-13-14
 PLANS APPROVAL DATE

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 No. 60724
 Exp. 12-31-14
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- NOTES:
- For soil nail spacing, length and size, see "STRUCTURE PLAN" sheets
 - For gutter drain inlet and down drain locations see "ROAD PLANS"
 - The vertical and horizontal construction joints in the structural shotcrete layer shall be located a minimum of 1'-6" from adjacent soil nails
 - No horizontal construction joints in the CIP concrete shall be allowed CIP vertical construction joint to be placed a minimum of 1'-6" from adjacent shotcrete vertical construction joint
 - For geocomposite drain details, see "RETAINING WALL DETAILS NO. 2" sheet
 - For bearing plate and studs details, see "RETAINING WALL DETAILS NO. 3" sheet

DESIGN	BY Hardeep Singh	CHECKED Son Ly
DETAILS	BY Min Yu	CHECKED Son Ly
QUANTITIES	BY Hardeep Singh	CHECKED Ghiath Taleb-Agha

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 16

BRIDGE NO.	28E0207
POST MILE	9.37

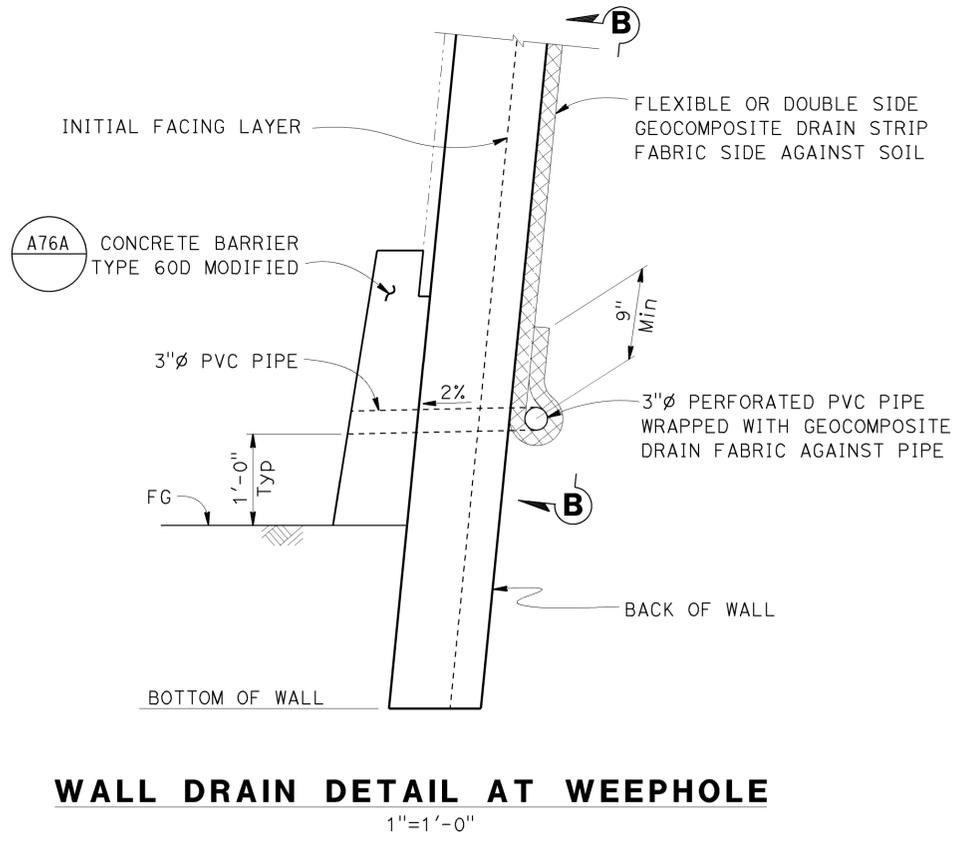
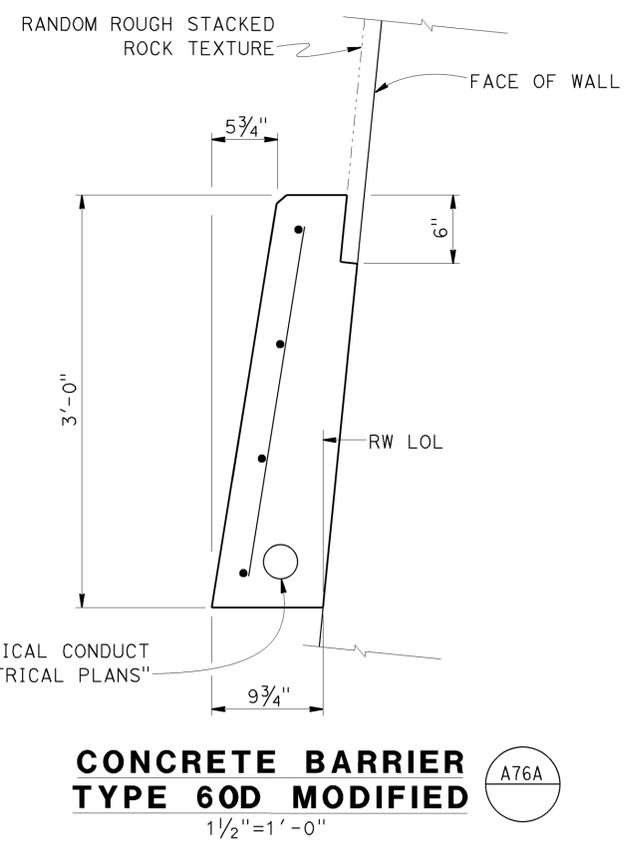
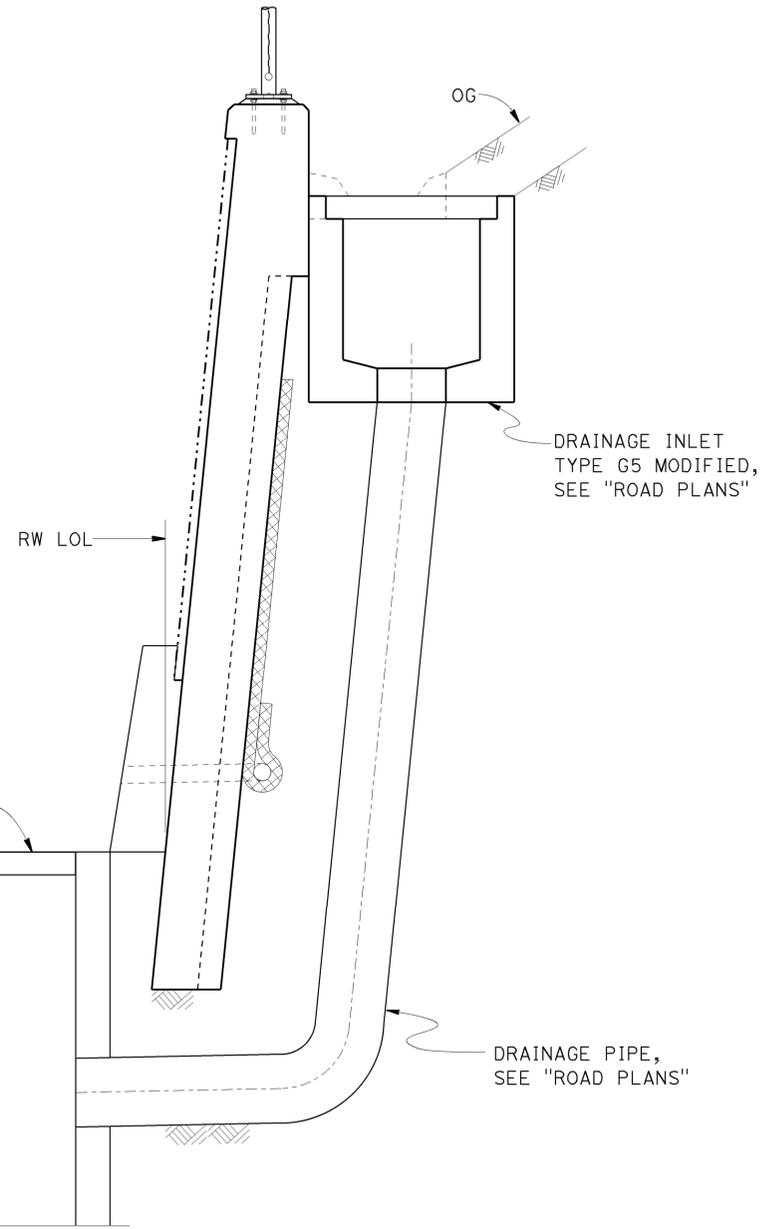
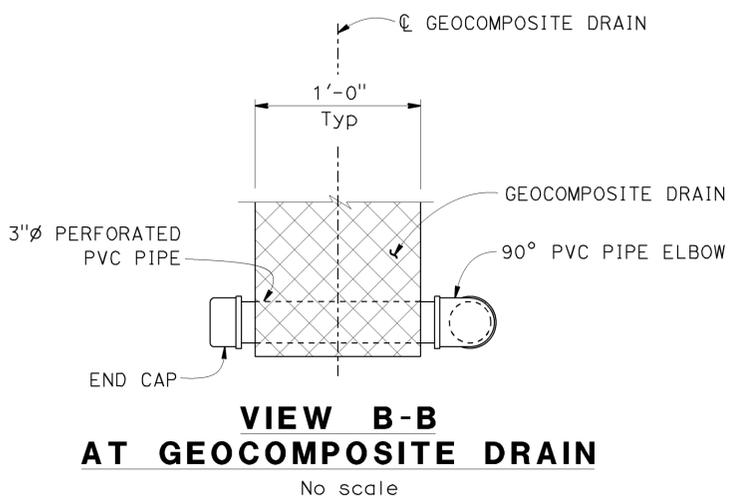
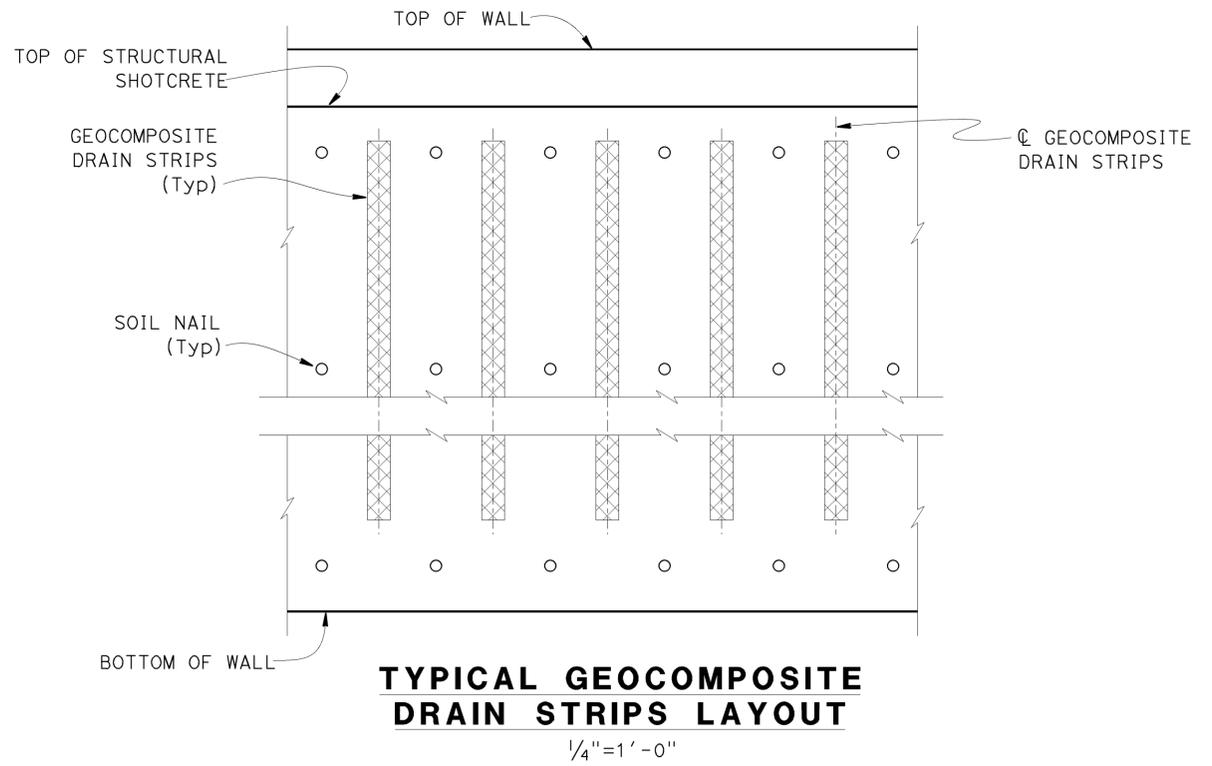
PINE STREET EB WALL
RETAINING WALL DETAILS NO. 1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0, 0.0/3.4	387	477

10/14/13
 REGISTERED CIVIL ENGINEER DATE
 1-13-14
 PLANS APPROVAL DATE
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 Exp. 12-31-14
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NOTES:

- Center geocomposite vertical drain between soil nails
- Geocomposite drain may be omitted when conflicting with test soil nail
- Geocomposite drains are not required for wall height less than 6 feet



TYPICAL SECTION INLET WITH PIPE UNDER WALL
3/4"=1'-0"

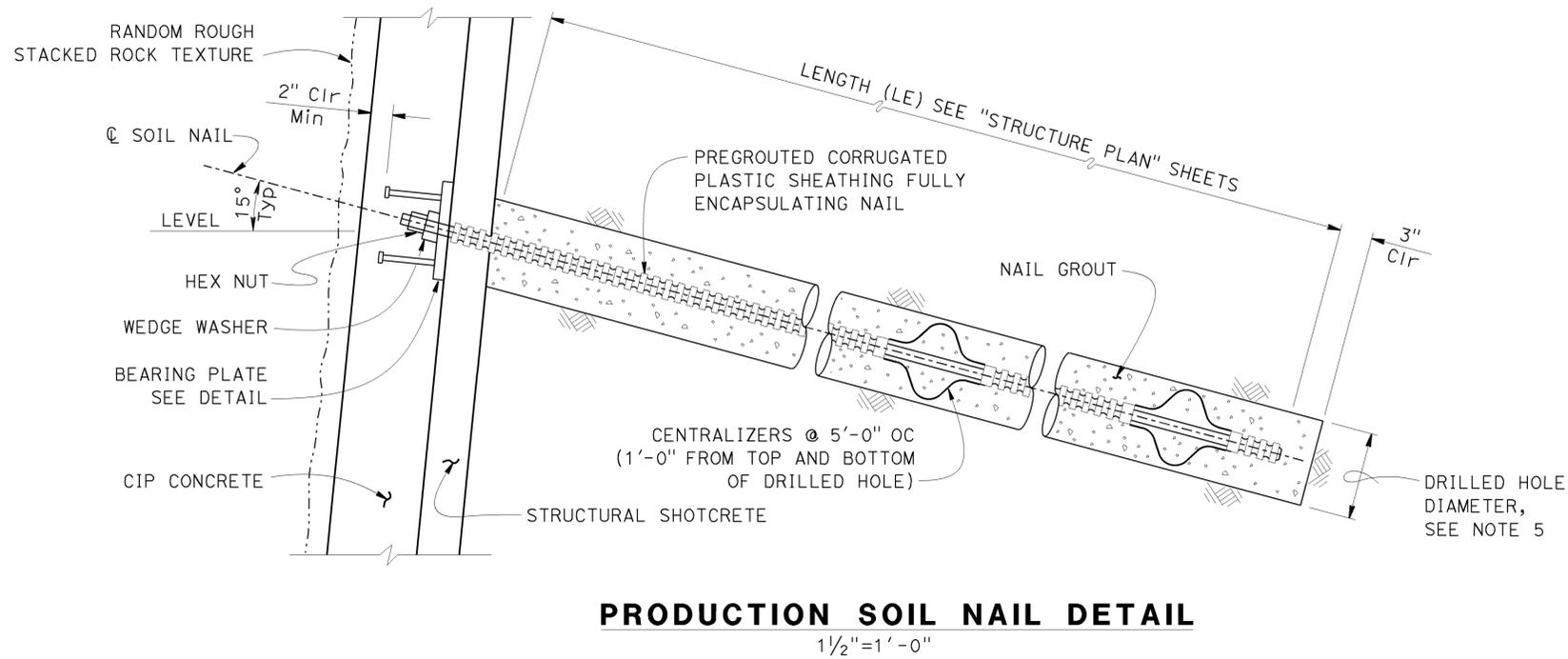
WALL DRAIN DETAIL AT WEEP HOLE
1"=1'-0"

CONCRETE BARRIER TYPE 60D MODIFIED
1/2"=1'-0"

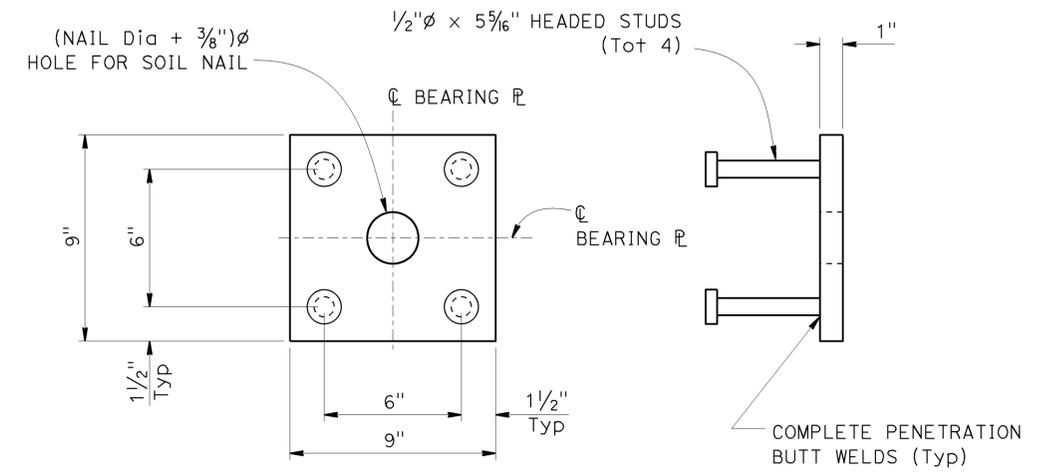
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY Hardeep Singh	CHECKED Son Ly	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO.	PINE STREET EB WALL RETAINING WALL DETAILS NO. 2			
	DETAILS	BY Min Yu	CHECKED Son Ly			28E0207				
	QUANTITIES	BY Hardeep Singh	CHECKED Ghiath Taleb-Agha			POST MILE 9.37				
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS					UNIT: 3617	PROJECT NUMBER & PHASE: 04120006281	CONTRACT NO.: 04-152724	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 11 OF 18

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0, 0.0/3.4	388	477

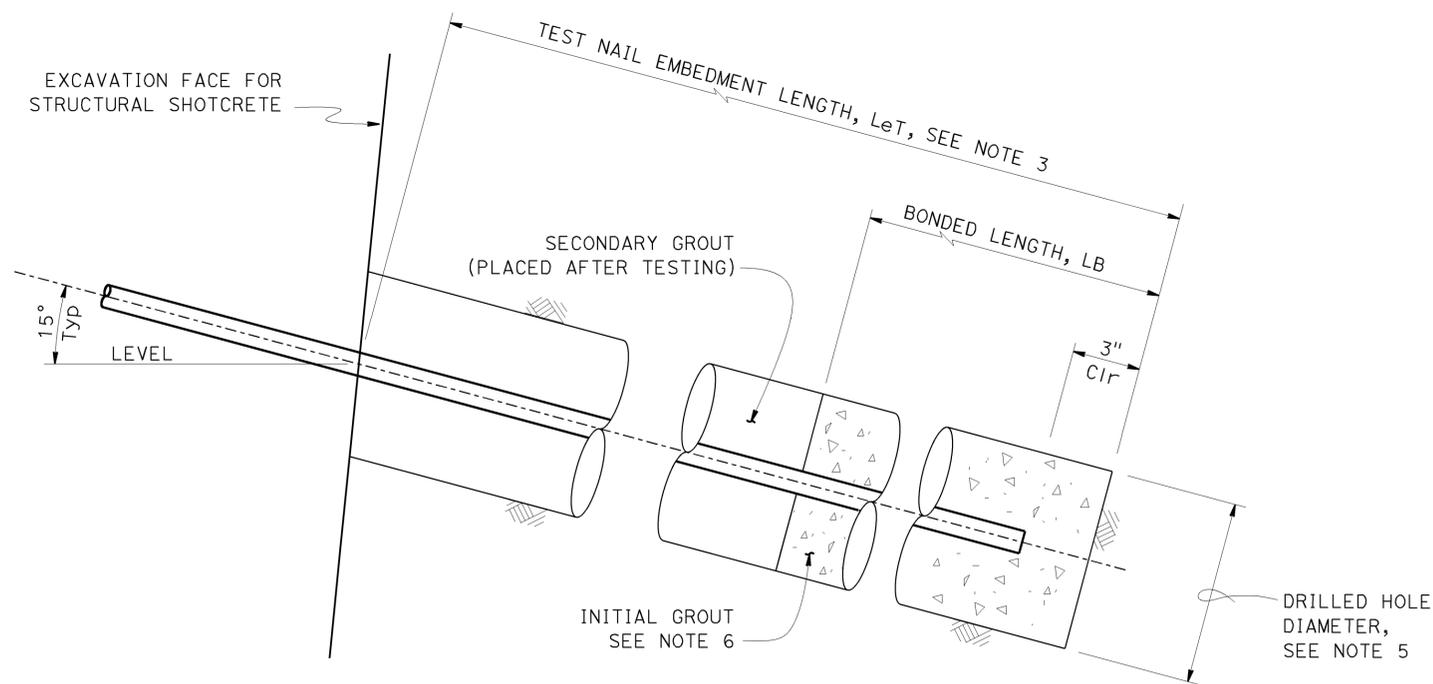
10/14/13
 REGISTERED CIVIL ENGINEER DATE
 1-13-14
 PLANS APPROVAL DATE
 JOHN E PETERSON
 No. 60724
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PRODUCTION SOIL NAIL DETAIL
1/2"=1'-0"



BEARING PLATE DETAIL
3"=1'-0"



TEST SOIL NAIL DETAIL
3"=1'-0"

NOTES:

1. Reinforcement in facing is not shown
2. The test nail embedment length L_{eT} , shall equal to $\frac{2}{3}$ of the embedment length, L_e of adjacent production soil nail assemblies, but not less than 12 feet
3. The total length of the test soil nail assembly equals the embedment length plus the required length for jacking equipment
4. For location of proof test nail see "STRUCTURE PLAN" sheets
5. Contractor to determine drilled hole diameter
6. Finished grout surface for test nail to be normal to the bar

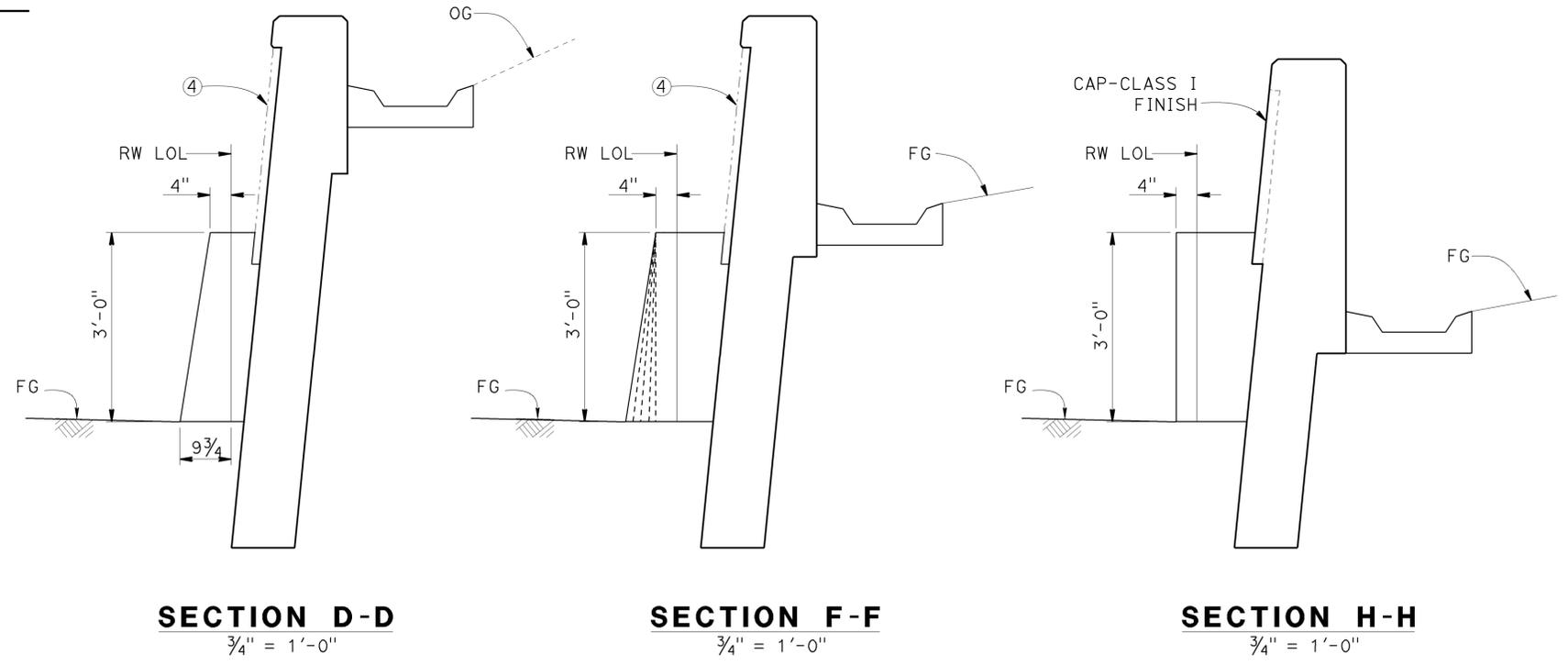
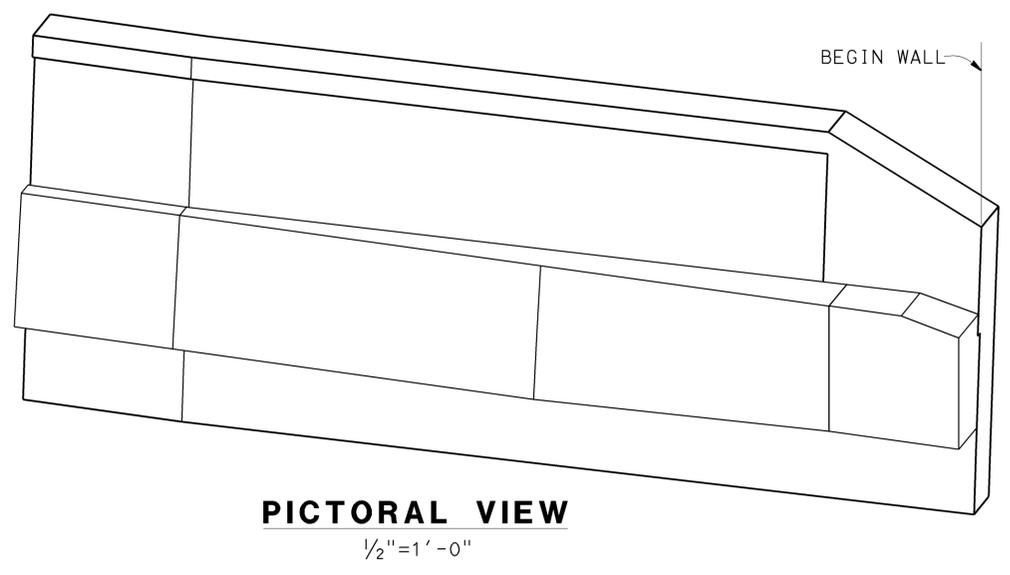
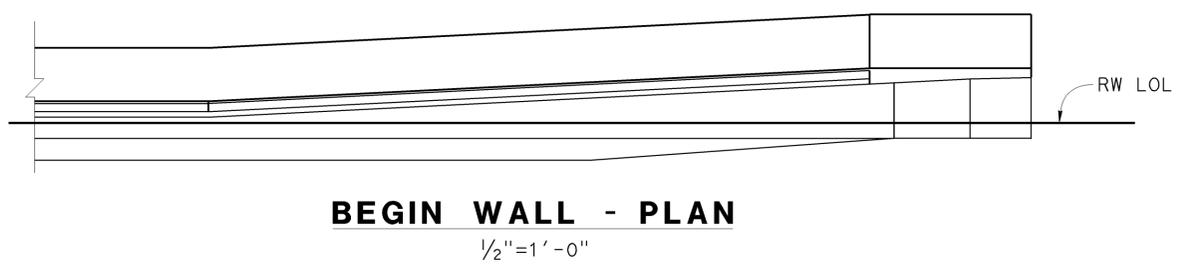
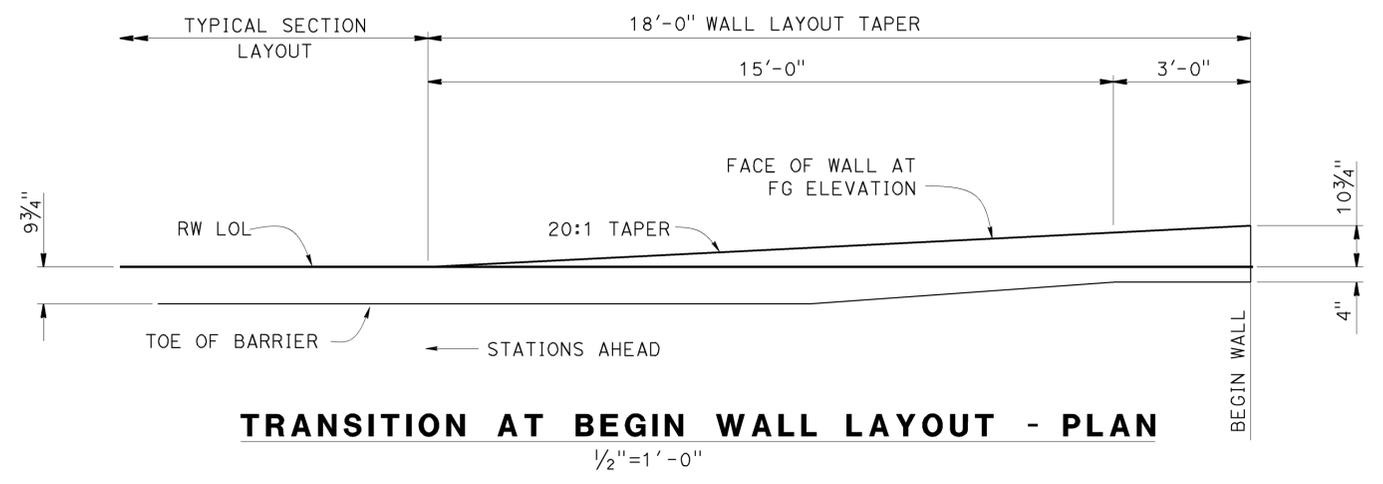
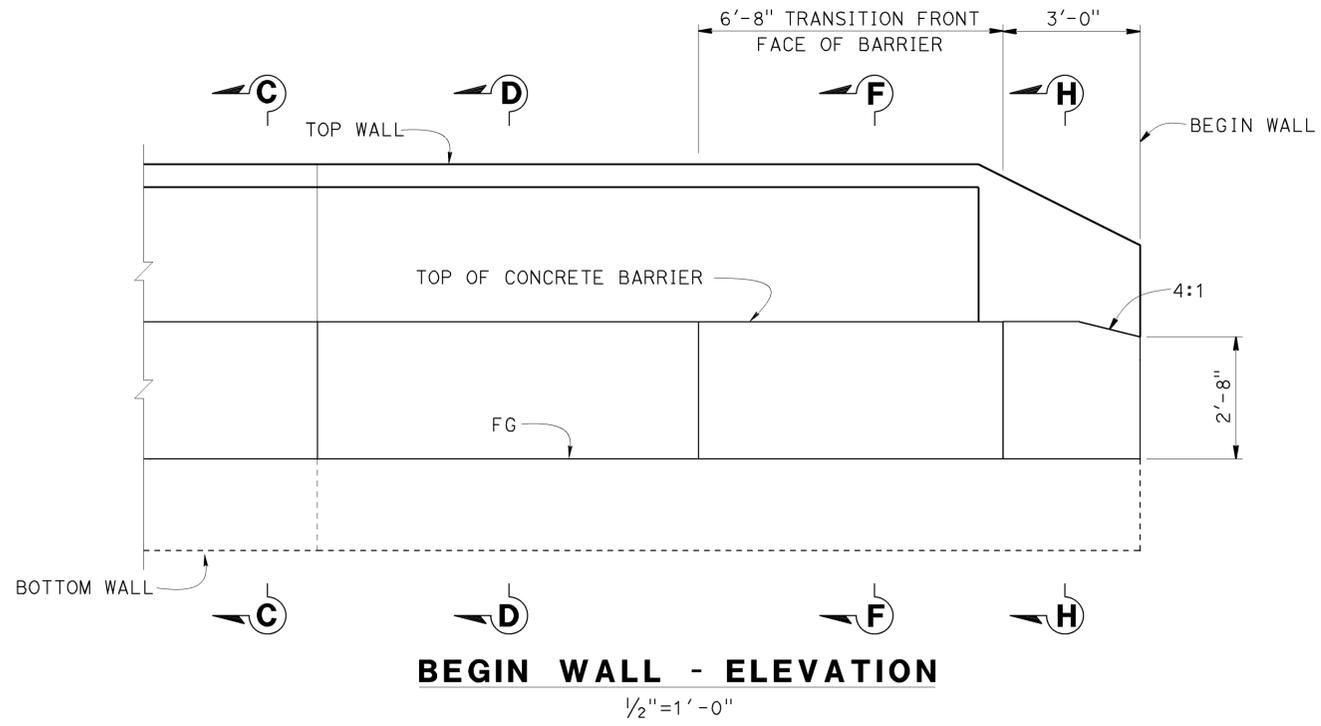
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY Hardeep Singh	CHECKED Son Ly	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO.	PINE STREET EB WALL RETAINING WALL DETAILS NO. 3			
	DETAILS	BY Min Yu	CHECKED Son Ly			28E0207				
	QUANTITIES	BY Hardeep Singh	CHECKED Ghiath Taleb-Agha			POST MILE 9.37				
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS					UNIT: 3617	PROJECT NUMBER & PHASE: 04120006281	CONTRACT NO.: 04-152724	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 12 OF 18

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0, 0.0/3.4	389	477

10/14/13
 REGISTERED CIVIL ENGINEER DATE
 1-13-14
 PLANS APPROVAL DATE
 JOHN E. PETERSON
 No. 60724
 Exp. 12-31-14
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 STATE OF CALIFORNIA

NOTES:

- For the "SECTION C-C" detail see "TYPICAL SECTION" on "RETAINING WALL DETAILS NO. 1" sheet
- Random Rough Stacked Rock Texture not shown in all views
- Horizontal and Vertical profile grades not shown, see "STRUCTURE PLANS" for details
- Random Stacked Rock Texture



DESIGN	BY John E Peterson	CHECKED Son Ly
DETAILS	BY Min Yu	CHECKED Son Ly
QUANTITIES	BY John E Peterson	CHECKED Ghiath Taleb-Agha

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
DESIGN BRANCH 16

BRIDGE NO.	28E0207
POST MILE	9.37

PINE STREET EB WALL
RETAINING WALL DETAILS NO. 4

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0, 0.0/3.4	390	477

10/14/13
REGISTERED CIVIL ENGINEER DATE

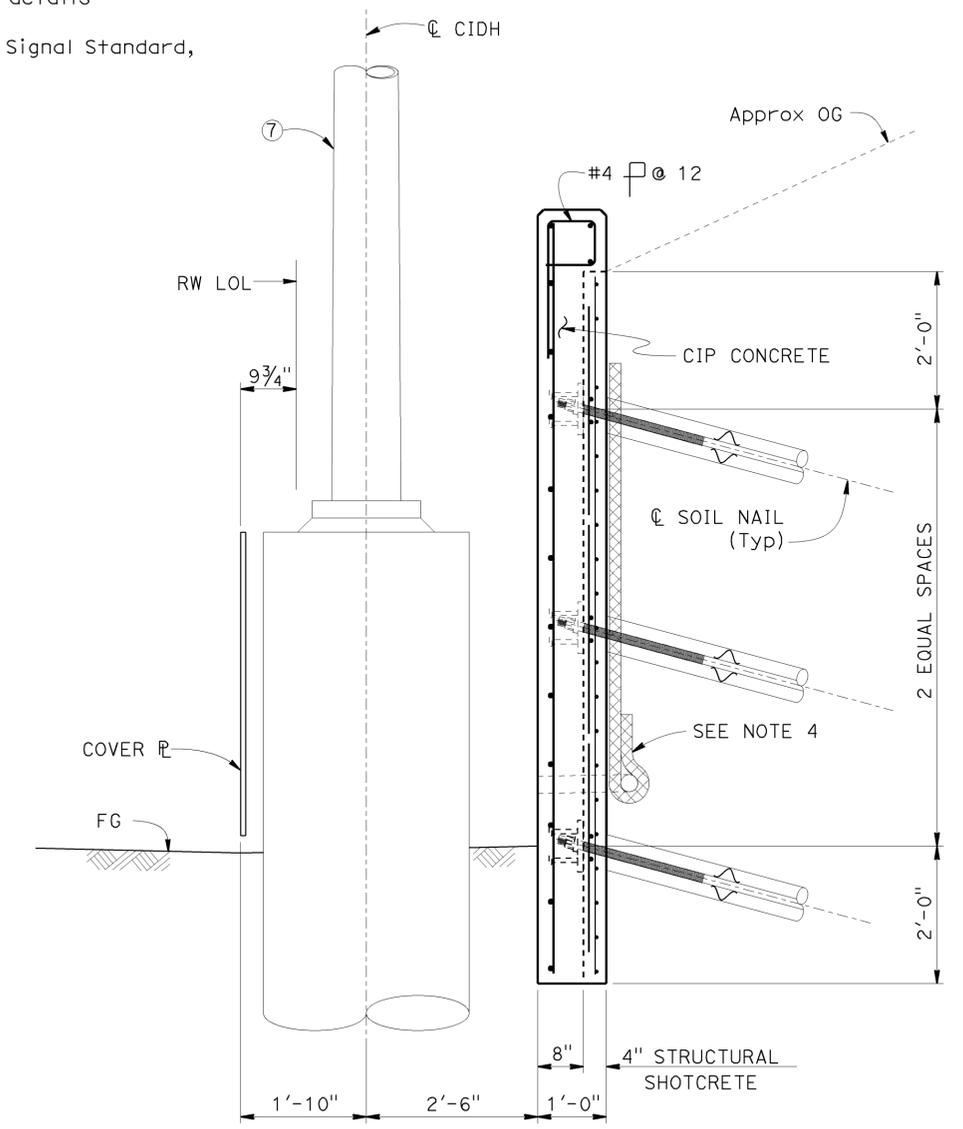
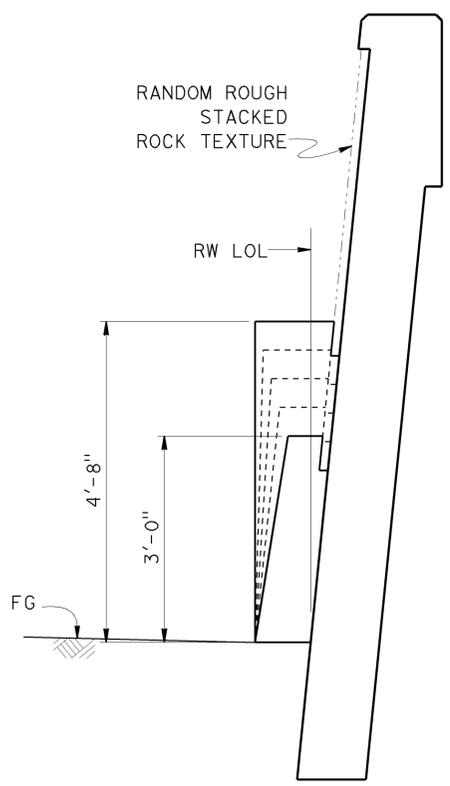
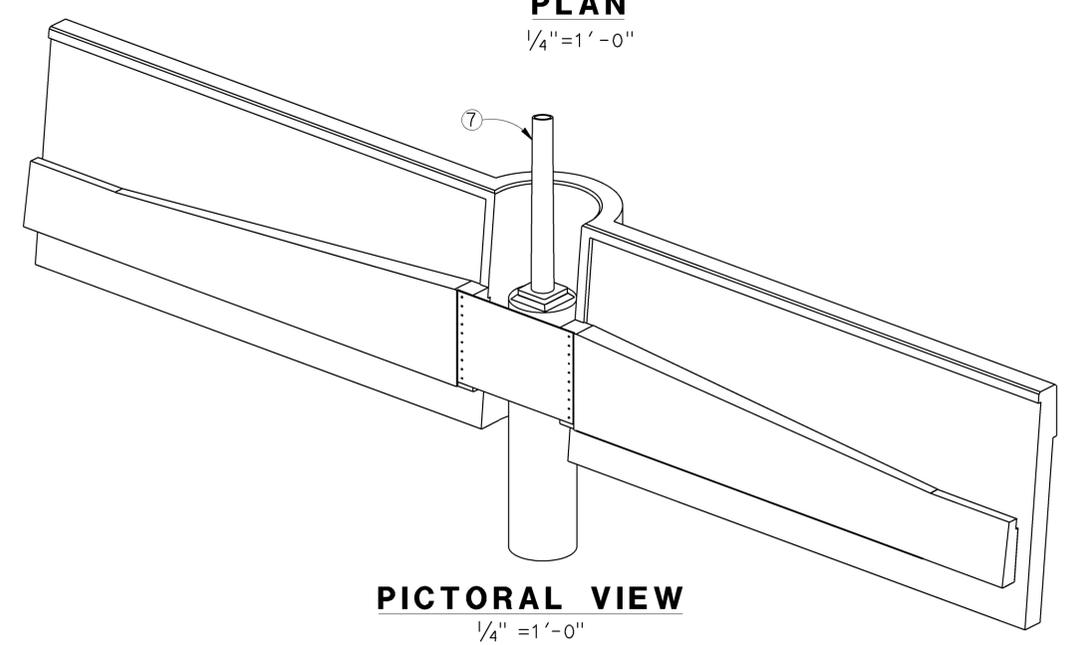
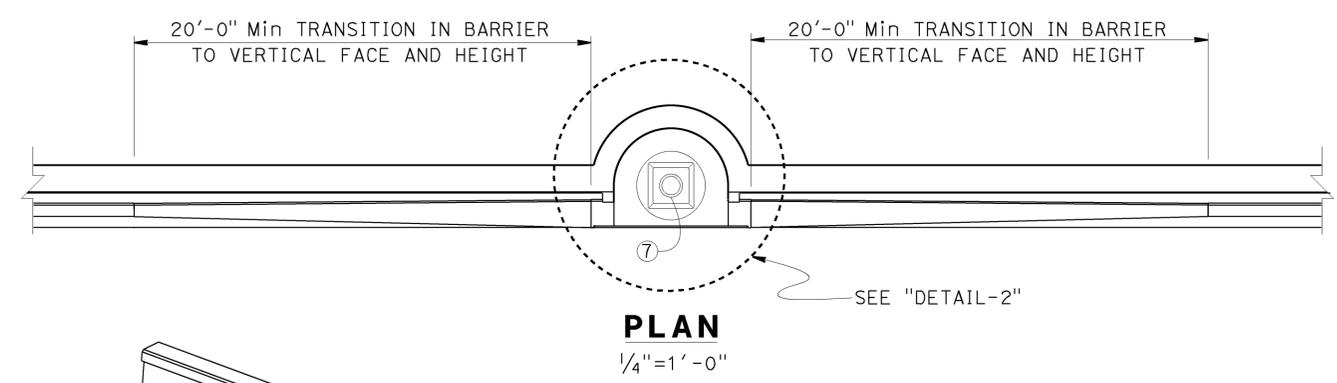
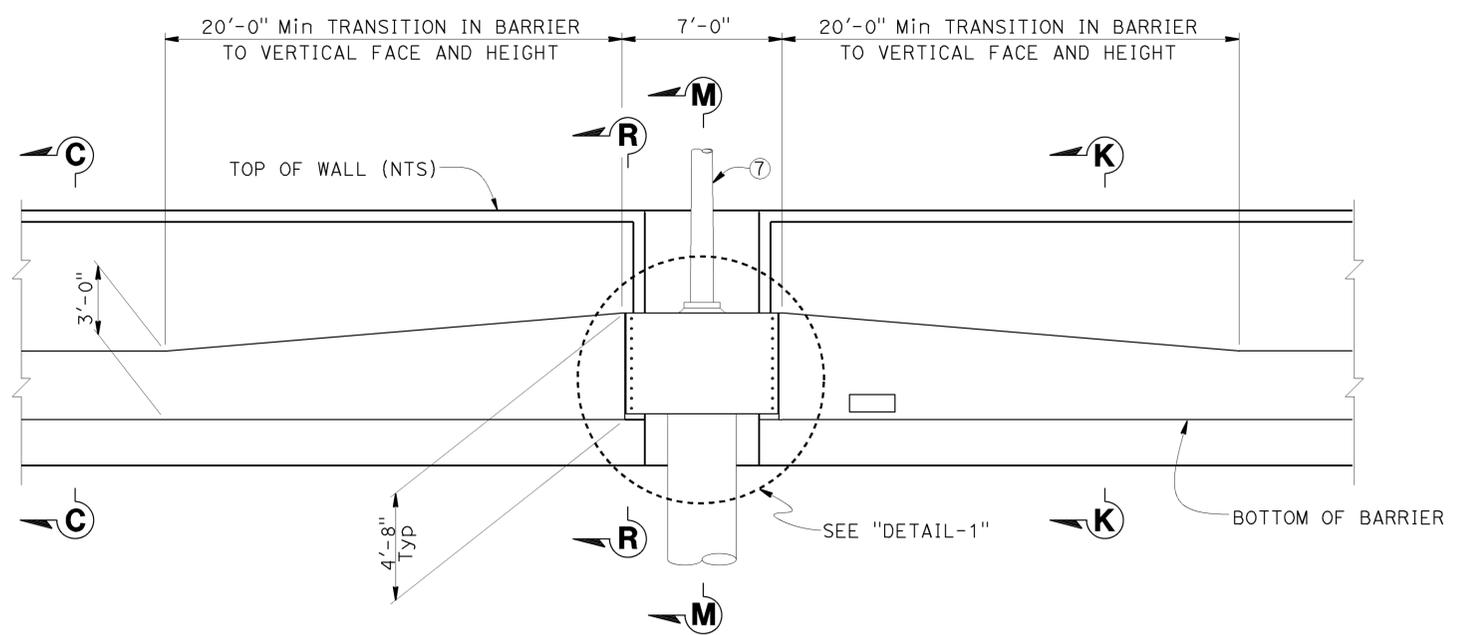
1-13-14
PLANS APPROVAL DATE

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No. 60724
Exp. 12-31-14
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NOTES:

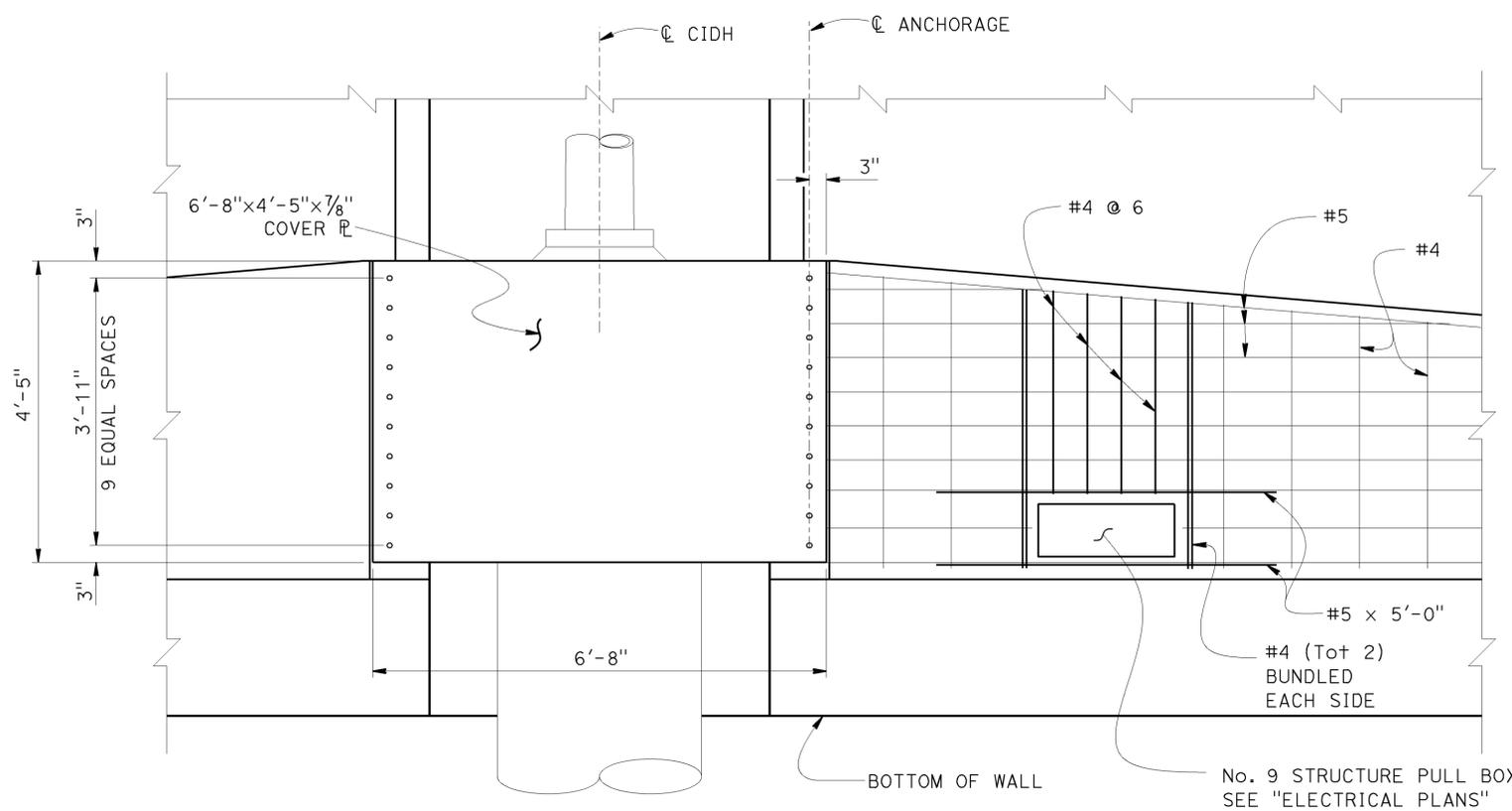
- For the "SECTION C-C" detail see "TYPICAL SECTION" on "RETAINING WALL DETAILS NO. 1" sheet
 - For "DETAIL-1", "DETAIL-2" and "SECTION R-R" see "RETAINING WALL DETAILS NO. 6" sheet
 - Random Rough Stacked Texture not shown in all views
 - Geocomposite Drain, place continuously on back of post pocket
 - For details not shown, see "TYPICAL SECTION" on "RETAINING WALL DETAILS NO. 1" sheet
 - Horizontal and Vertical profile grades not shown, see "STRUCTURE PLANS" for details
- ⑦ TYPE 1B or TYPE 18-4-100 Signal Standard, see "ROAD PLANS"



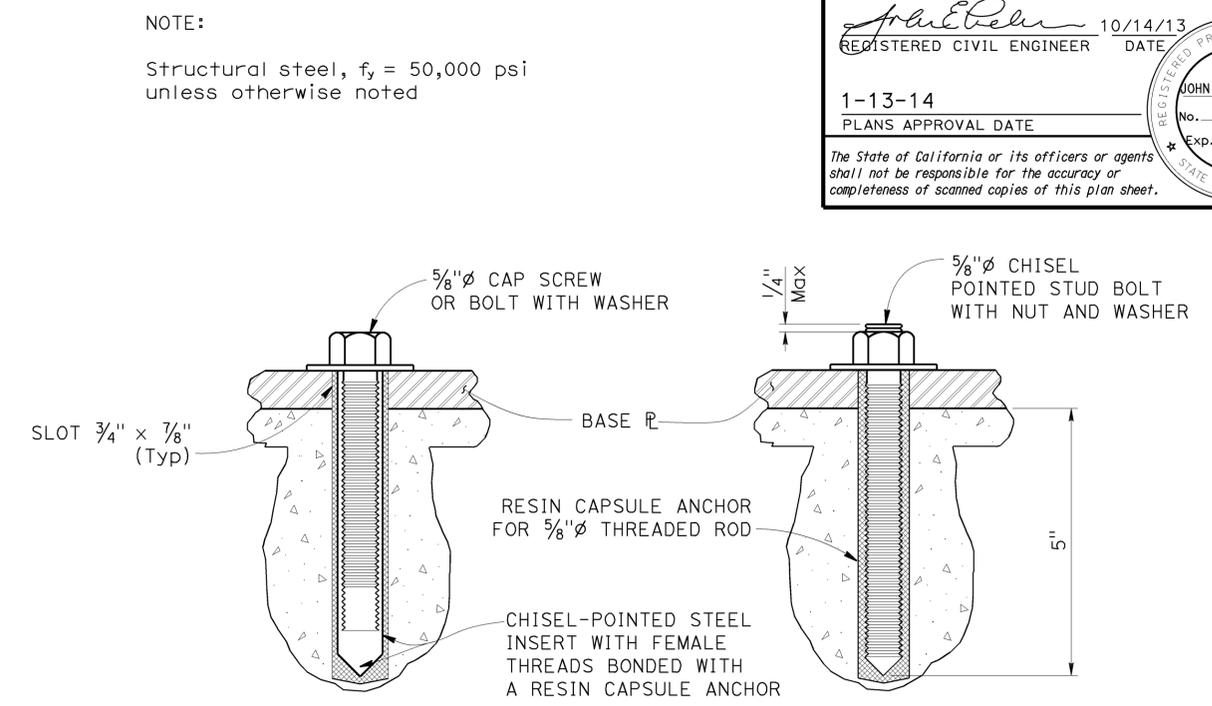
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY John E Peterson	CHECKED Son Ly	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO.	PINE STREET EB WALL RETAINING WALL DETAILS NO. 5			
	DETAILS	BY Min Yu	CHECKED Son Ly			28E0207				
	QUANTITIES	BY John E Peterson	CHECKED Ghiath Taleb-Agha			POST MILE 9.37				
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS					UNIT: 3617	PROJECT NUMBER & PHASE: 04120006281	CONTRACT NO.: 04-152724	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 14 OF 18

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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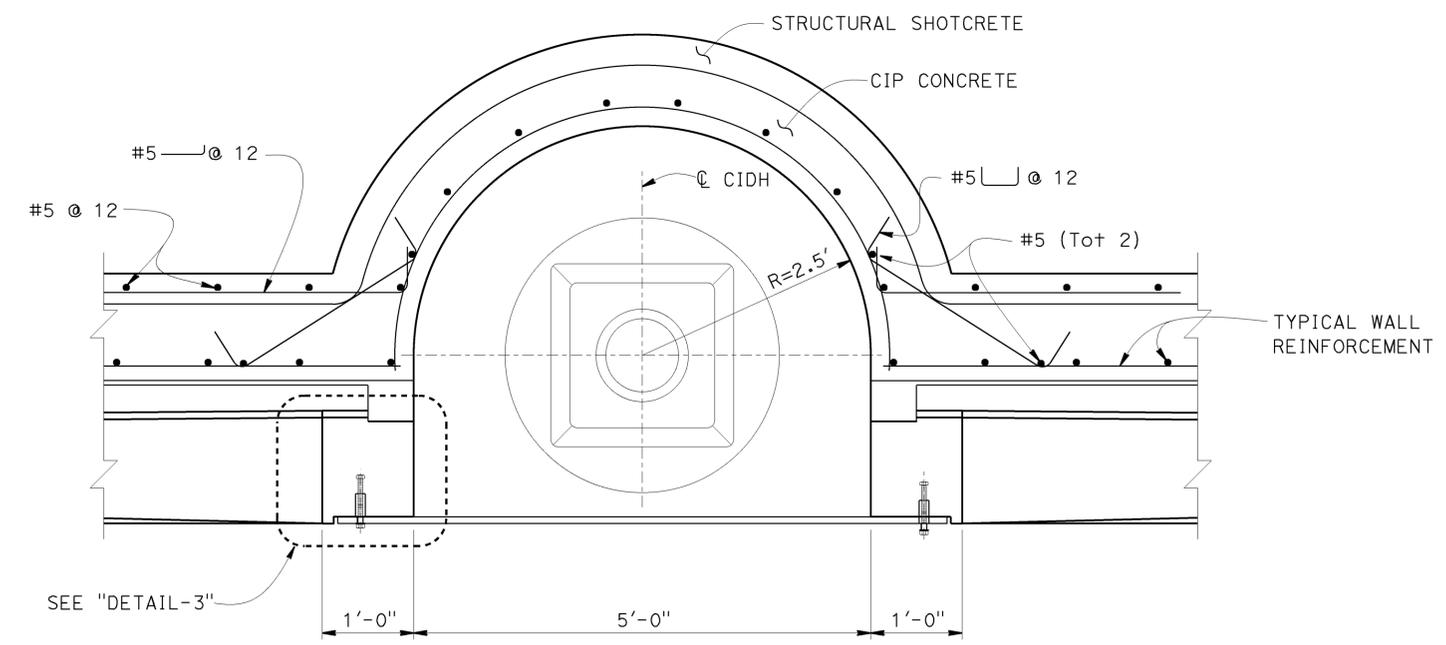
10/14/13
 REGISTERED CIVIL ENGINEER DATE
 1-13-14
 PLANS APPROVAL DATE
 JOHN E. PETERSON
 No. 60724
 Exp. 12-31-14
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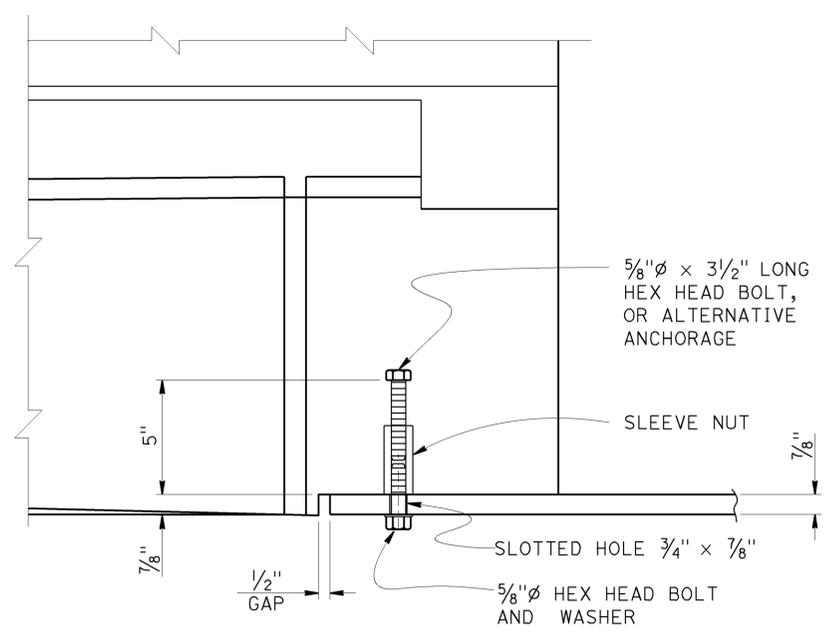
DETAIL - 1
3/4" = 1'-0"



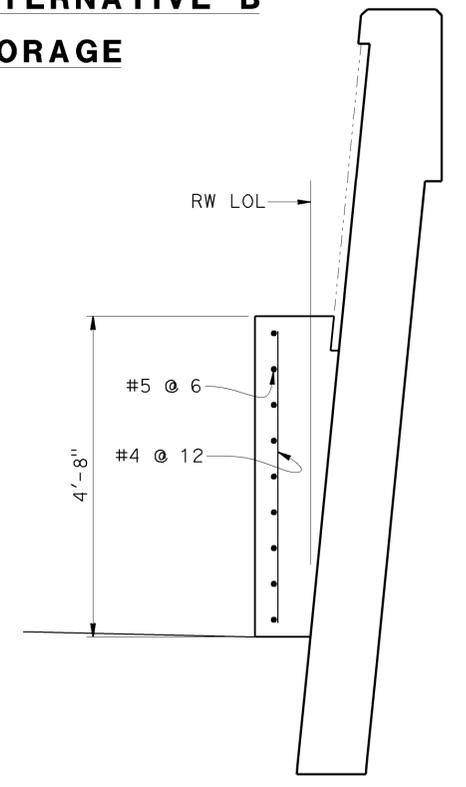
ALTERNATIVE A **ALTERNATIVE B**
ALTERNATIVE ANCHORAGE
 NO SCALE



DETAIL - 2
1" = 1'-0"



DETAIL - 3
3" = 1'-0"



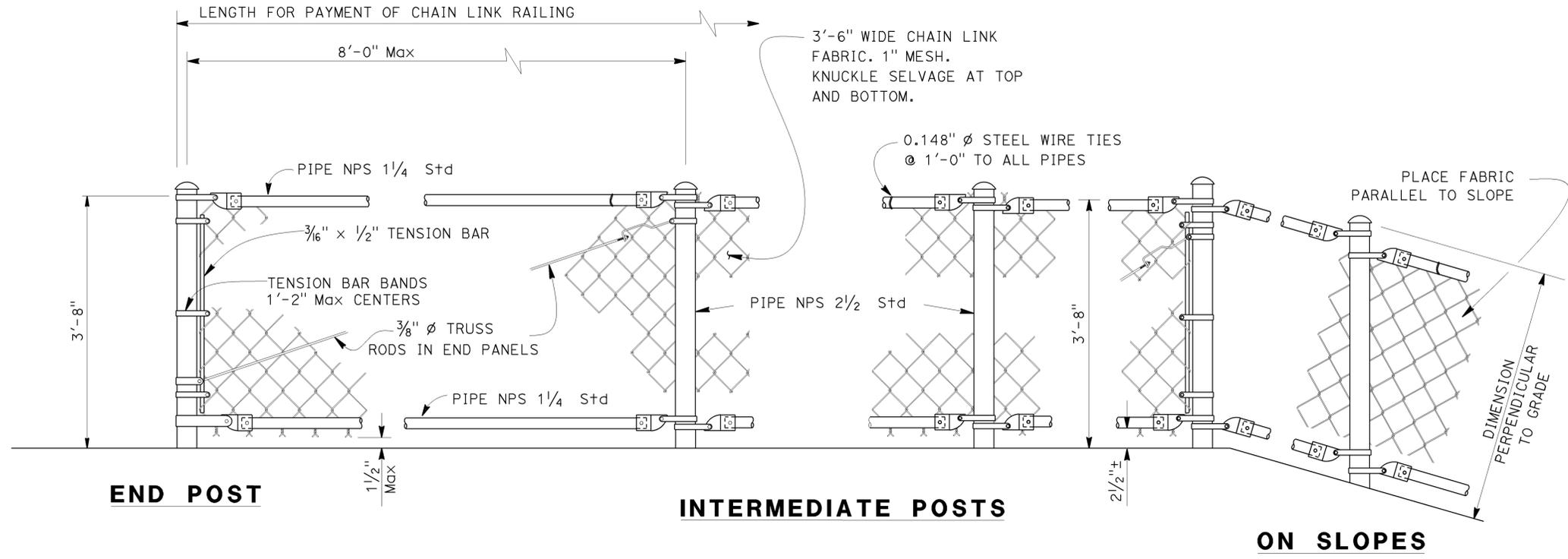
SECTION R-R
3/4" = 1'-0"

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY John E Peterson	CHECKED Son Ly	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO.	PINE STREET EB WALL RETAINING WALL DETAILS NO. 6			
	DETAILS	BY Min Yu	CHECKED Son Ly			28E0207				
	QUANTITIES	BY John E Peterson	CHECKED Ghiath Taleb-Agha			9.37				
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS					UNIT: 3617	PROJECT NUMBER & PHASE: 04120006281	CONTRACT NO.: 04-152724	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 15 OF 18

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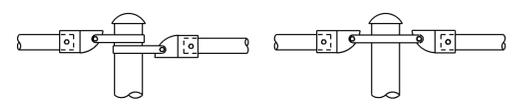
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0, 0.0/3.4	392	477

10/14/13
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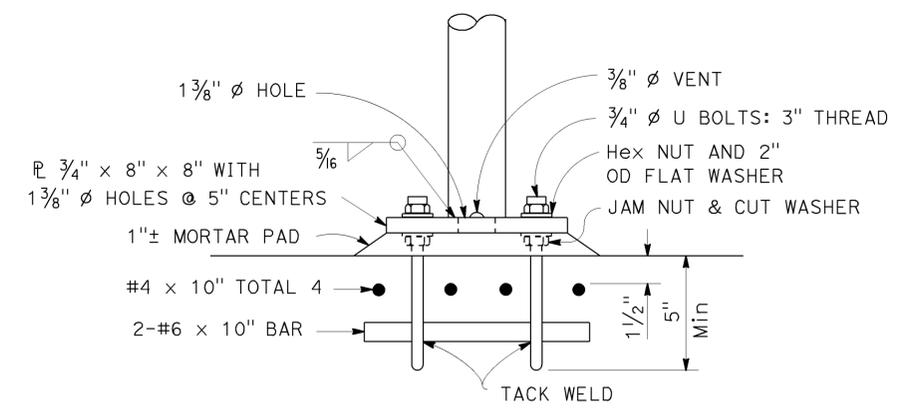


ELEVATION
NO SCALE

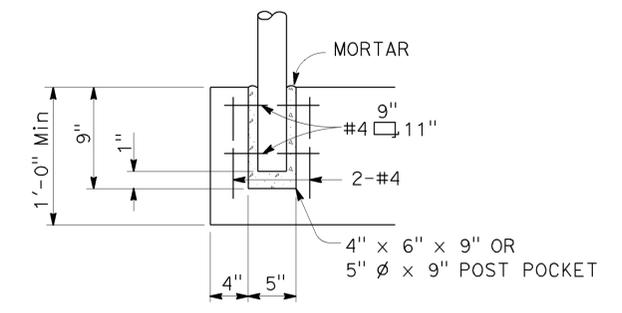
- NOTES:
1. Peen all bolt threads
 2. Railing must conform to horizontal and vertical alignment. Posts must be vertical. Top and bottom pipes must be bent if radius is 148'-0" or less; may be on 8'-0" chords if radius is over 148'-0"
 3. When railing is on slope, 3'-6" chain link fabric must be placed parallel to slope
 4. Chain link fabric must be black vinyl coated



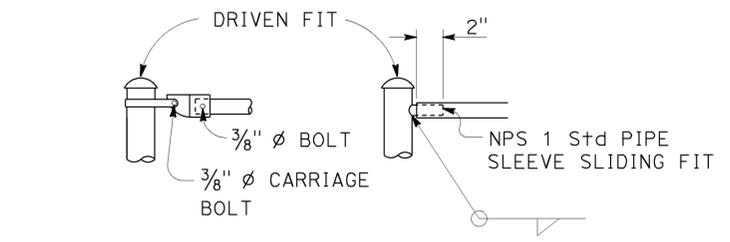
ALTERNATIVE DETAILS



ANCHORAGE DETAIL
NO SCALE



ALTERNATIVE ANCHORAGE DETAIL
MAY BE USED WHEN THICKNESS OF CONCRETE IS 1'-0" OR MORE
NO SCALE



TYPICAL CONNECTION DETAILS
NO SCALE

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY John E Peterson	CHECKED Son Ly	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO.	PINE STREET EB WALL CHAIN LINK RAILING DETAILS		
	DETAILS	BY Min Yu	CHECKED Son Ly			28E0207			
	QUANTITIES	BY Hardeep Singh	CHECKED Ghiath Taleb-Agha			POST MILE 9.37			
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS					UNIT: 3617 PROJECT NUMBER & PHASE: 04120006281	CONTRACT NO.: 04-152724	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 16 OF 18

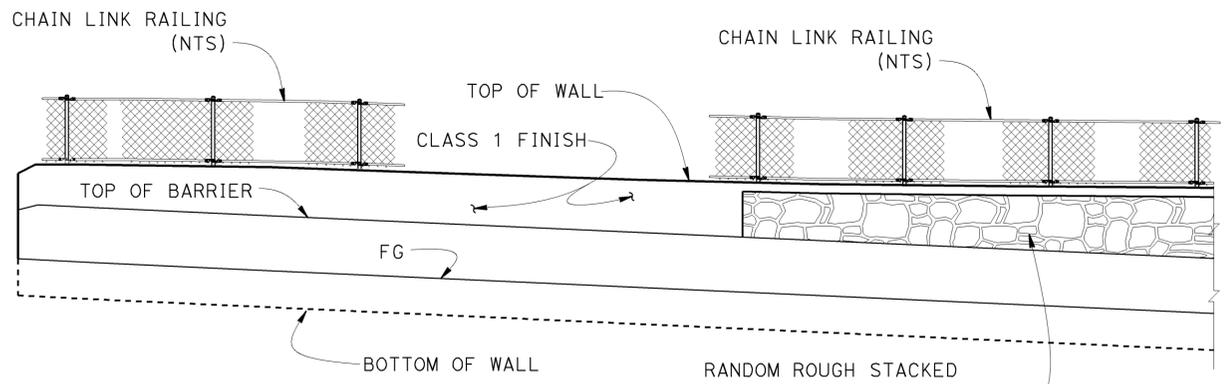
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0, 0.0/3.4	393	477

10/14/13
REGISTERED CIVIL ENGINEER DATE

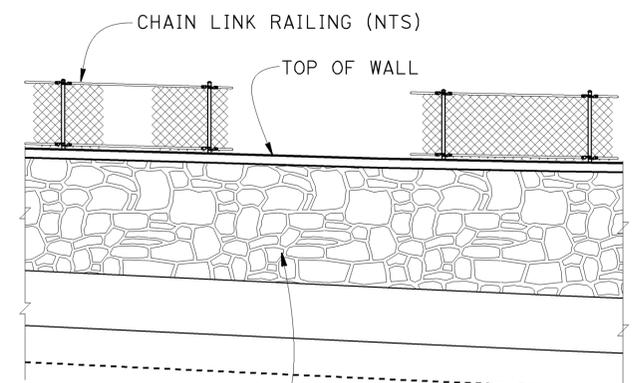
1-13-14
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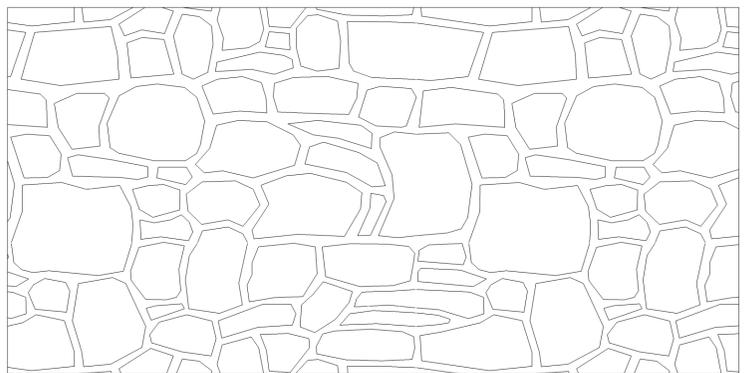
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END MIRROR ELEVATION
1"=5'

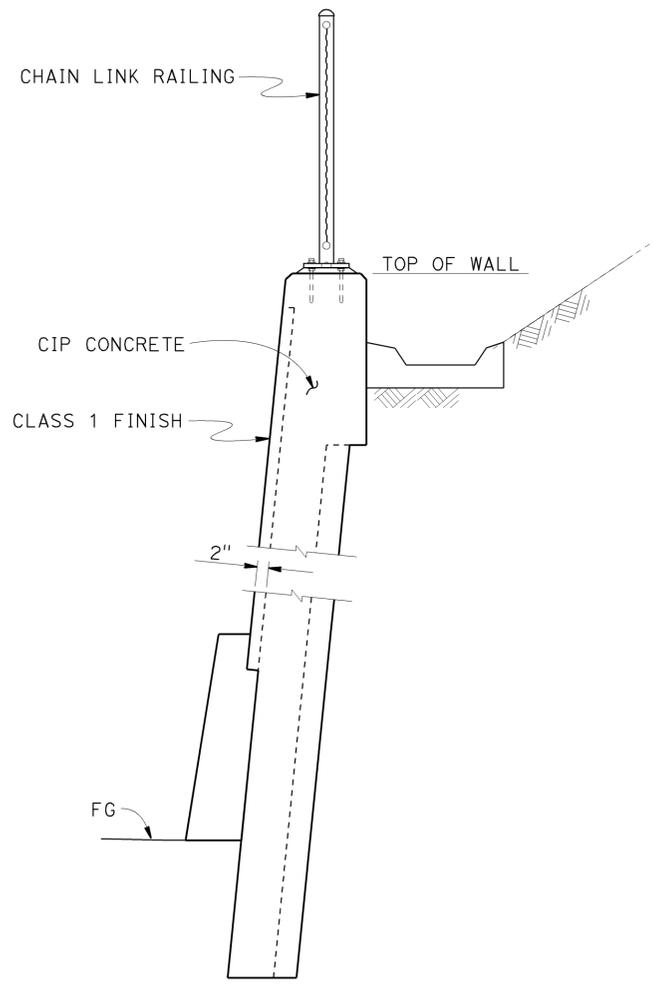


TYPICAL ELEVATION
1"=5'

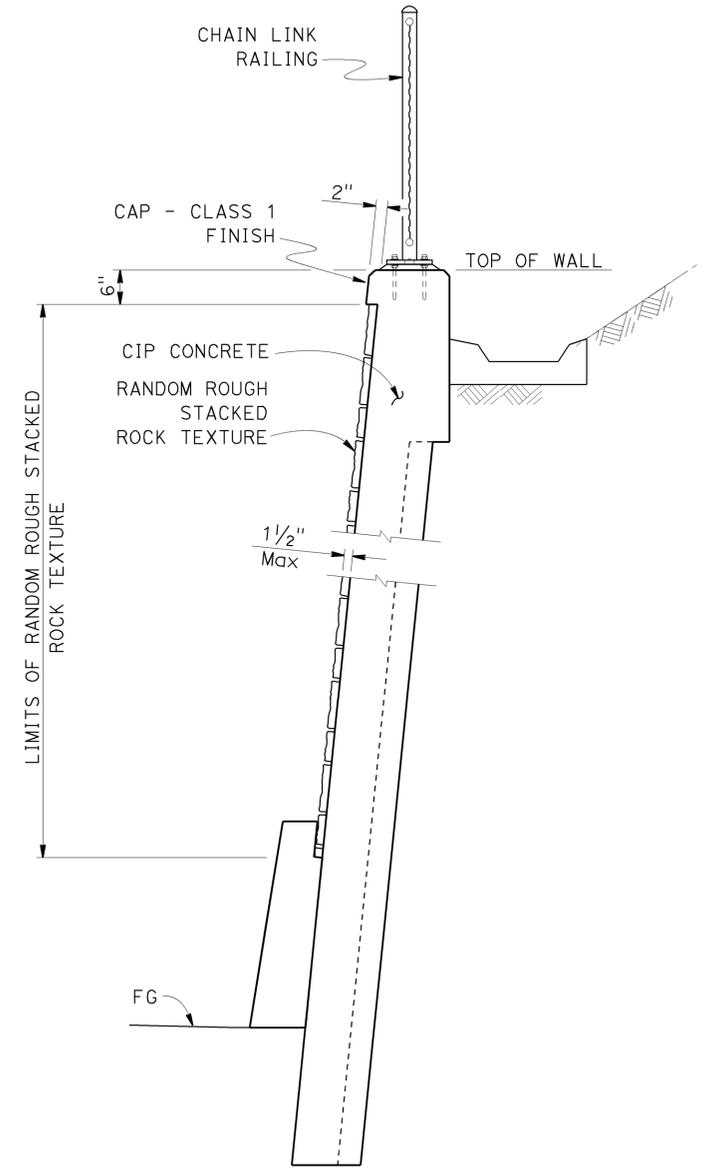


PATTERN ELEVATION
NO SCALE
RANDOM ROUGH STACKED ROCK TEXTURE DETAILS

TEXTURE NOTES:
Random Rough Stacked Rock
Texture relief to be 1.5" maximum
Stone sizes shall be random
2.5" to 18" in Width
2" to 12" in Height



TYPICAL END SECTION
3/4"=1'-0"



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

DESIGN	BY John E. Peterson	CHECKED Hardeep Singh
DETAILS	BY Min Yu	CHECKED Hardeep Singh
QUANTITIES	BY Hardeep Singh	CHECKED Chiath Taleb-Agha

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 16

BRIDGE NO.	28E0207
POST MILE	9.37

PINE STREET EB WALL
ARCHITECTURAL TREATMENT DETAILS

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	CC	4,242	R8.0/25.0, 0.0/3.4	394	477

12/13/12
REGISTERED CIVIL ENGINEER

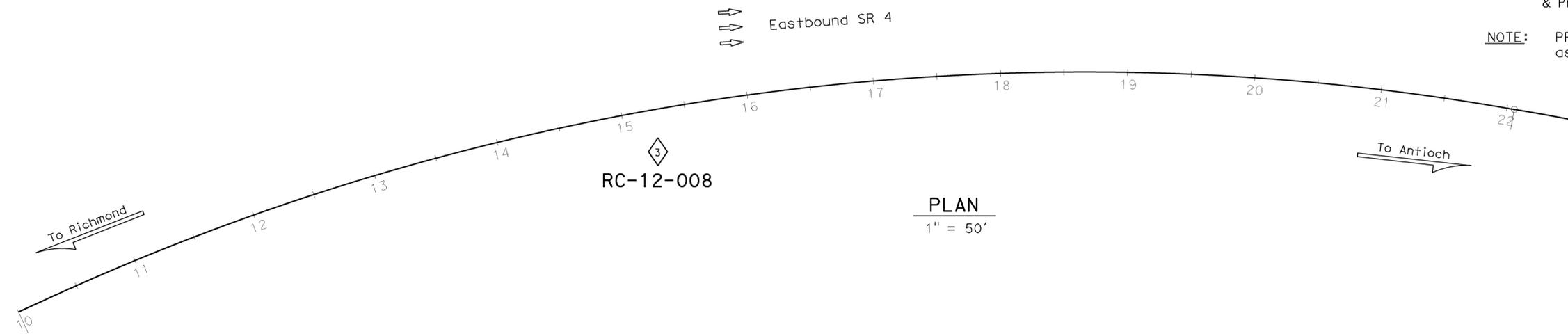
1-13-14
PLANS APPROVAL DATE

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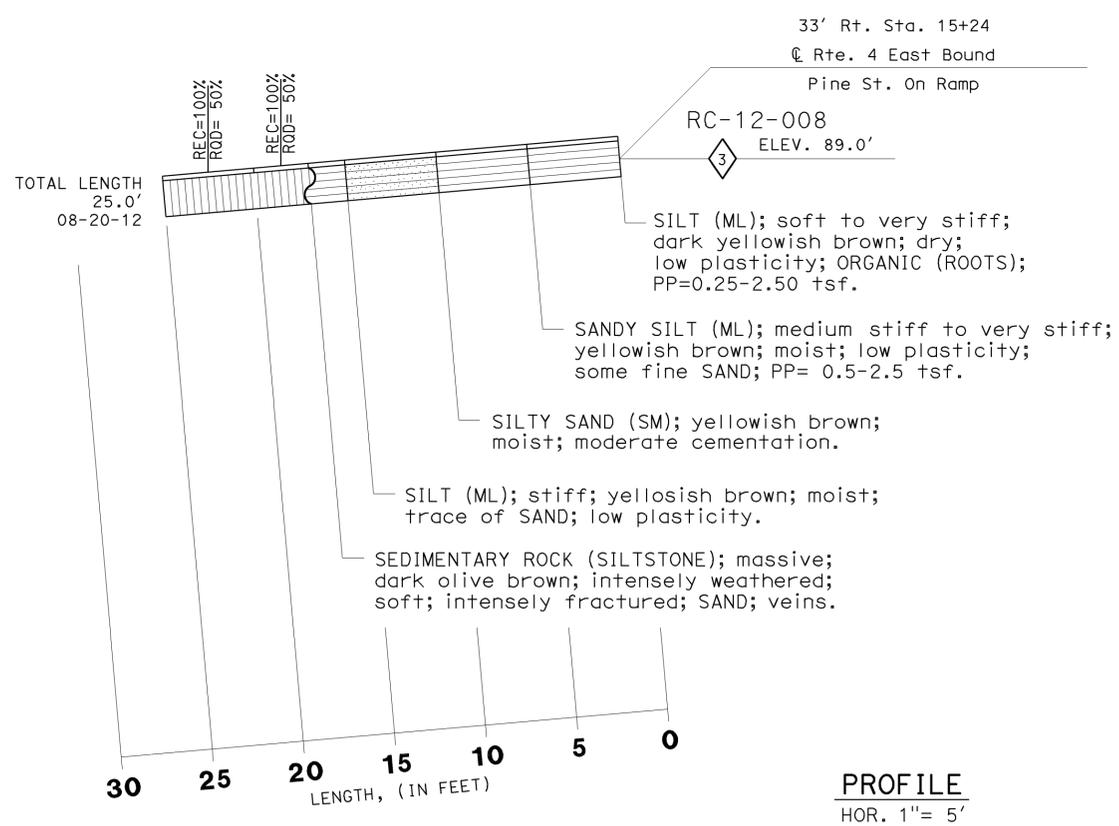
REGISTERED PROFESSIONAL ENGINEER
Samuel Awad
No. 64589
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

BENCH MARK

TBM5
Find Hub+tack
N 2,189,055.88
E 6,095,511.64
Elev. 192.22'
49.3' Rt. Sta. 16+27



NOTE: PP=unconfined compressive strength (tsf) as measured by pocket penetrometer.



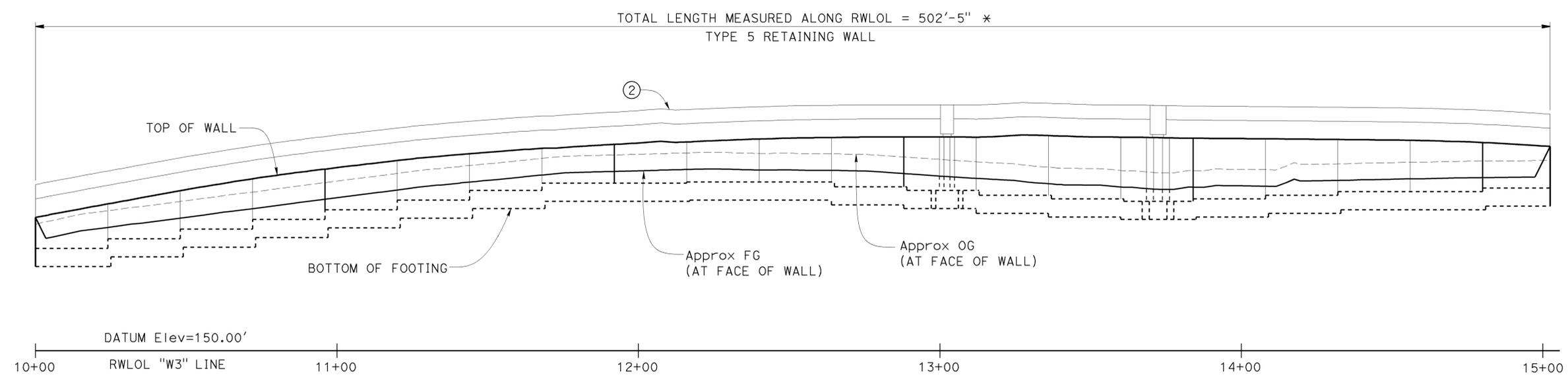
PROFILE
HOR. 1" = 5'

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA		DIVISION OF ENGINEERING SERVICES		BRIDGE NO.		PINE STREET EB WALL	
FUNCTIONAL SUPERVISOR		DRAWN BY: M. Reynolds 11/12		DEPARTMENT OF TRANSPORTATION		OFFICE OF GEOTECHNICAL		28E0207		LOG OF TEST BORINGS	
NAME: N. Name		CHECKED BY: M. Gaffney		FIELD INVESTIGATION BY: S. Awad		DESIGN BRANCH		POST MILES			
								9.37			
065 CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 3660		PROJECT NUMBER & PHASE: 04120006281		CONTRACT NO.:04-152724		DISREGARD PRINTS BEARING EARLIER REVISION DATES	
				0 1 2 3						REVISION DATES	
										SHEET OF	
										18 18	

USERNAME => s134959 DATE PLOTTED => 07-JAN-2014 TIME PLOTTED => 14:37

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.07/25.0 0.0/3.4	395	477

10/14/13
 REGISTERED CIVIL ENGINEER DATE
 1-13-14
 PLANS APPROVAL DATE
 John E Peterson
 No. C60724
 Exp. 12/31/14
 CIVIL
 STATE OF CALIFORNIA
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DEVELOPED ELEVATION

1" = 20' HORIZONTAL
1" = 5' VERTICAL

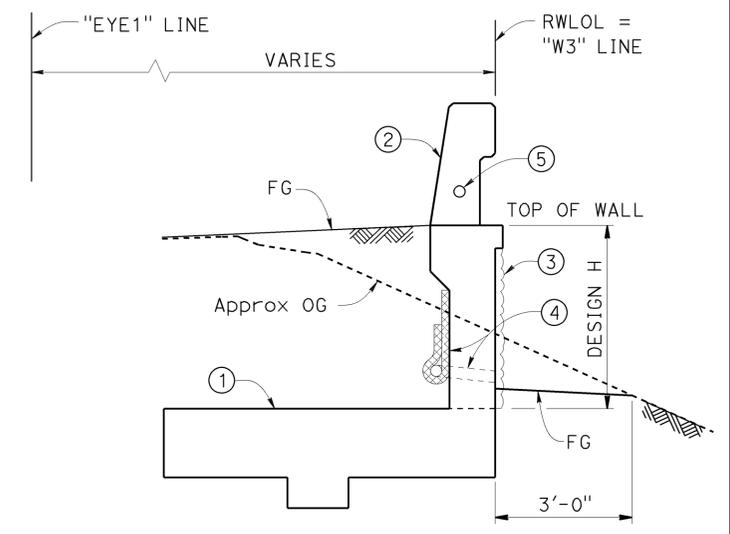
* Limits of random rough stacked rock texture

QUANTITIES

STRUCTURE EXCAVATION (RETAINING WALL)	540	CY
STRUCTURE BACKFILL (RETAINING WALL)	305	CY
STRUCTURAL CONCRETE, RETAINING WALL	305	CY
RANDOM ROUGH STACKED ROCK TEXTURE	1,620	SQFT
BAR REINFORCING STEEL (RETAINING WALL)	41,000	LB
CONCRETE BARRIER (TYPE 732A)	503	LF

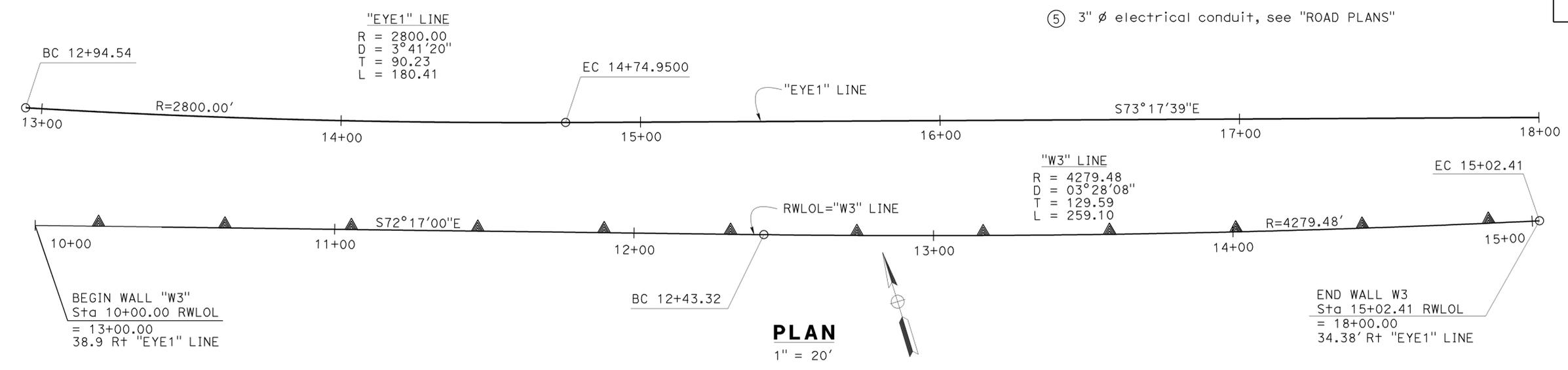
NOTES:

- ① Retaining Wall Type 5 (CASE 1) RSP (B3-4A)
- ② Concrete Barrier Type 732A RSP (B11-55)
- ③ Random Rough Stacked Rock Texture
- ④ Weep Hole and Geocomposite Drain, see "INDEX TO PLANS" sheet for details
- ⑤ 3" \varnothing electrical conduit, see "ROAD PLANS"



TYPICAL SECTION

1/2" = 1'



PLAN

1" = 20'

X
DESIGN ENGINEER

DESIGN	BY Tanzeeba Kishwar	CHECKED John Peterson	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOAD SURECHARGE ON LEVEL GROUND SURFACE
DETAILS	BY Liang Ma	CHECKED John Peterson	LAYOUT	BY Tanzeeba Kishwar
QUANTITIES	BY Tanzeeba Kishwar	CHECKED Monzer Jaber	SPECIFICATIONS	BY Dave Klein

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 16

BRIDGE NO.	RETW
POST MILE	10.49

MORELLO Ave EB WALL
GENERAL PLAN

USERNAME => s134959 DATE PLOTTED => 08-JAN-2014 TIME PLOTTED => 15:12

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0 0.0/3.4	396	477

10/14/13
 REGISTERED CIVIL ENGINEER DATE
 1-13-14
 PLANS APPROVAL DATE
 John E. Peterson
 No. C60724
 Exp. 12/31/14
 CIVIL
 STATE OF CALIFORNIA
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INDEX TO PLANS

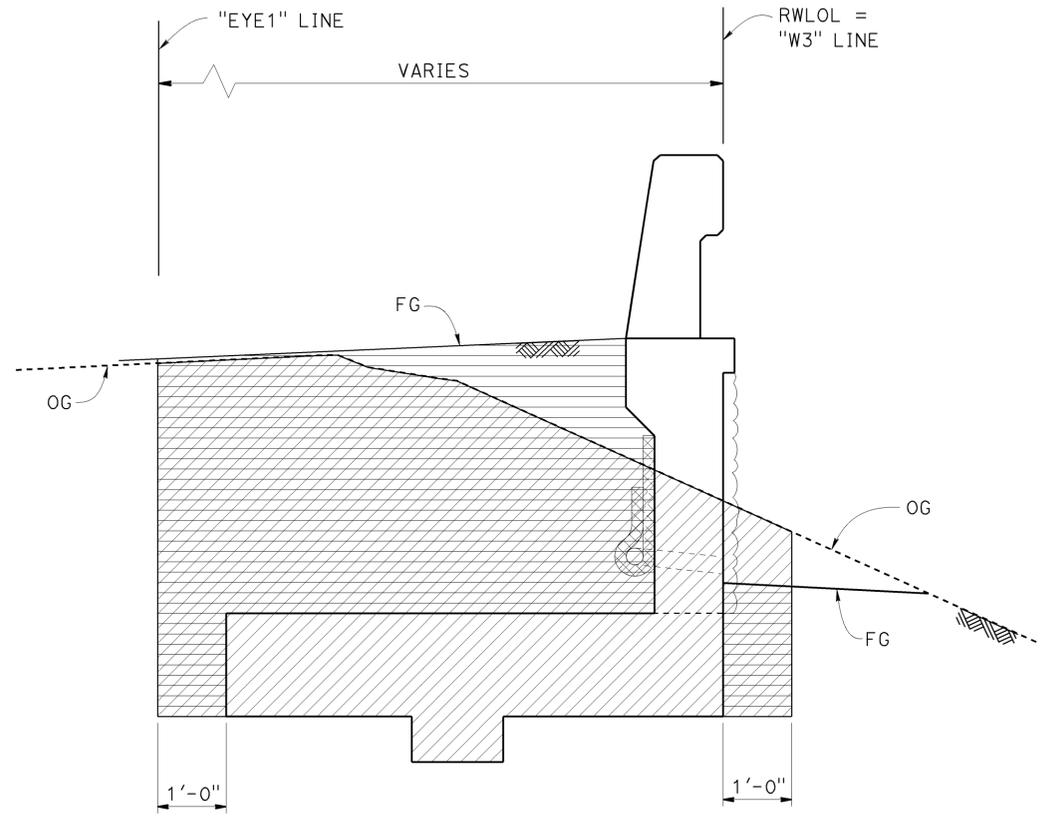
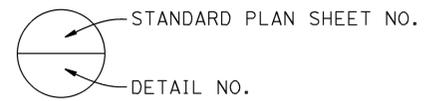
SHEET NO.	TITLE
1	GENERAL PLAN
2	INDEX TO PLANS
3	STRUCTURE PLAN No. 1
4	STRUCTURE PLAN No. 2
5	STRUCTURE PLAN No. 3
6	STRUCTURE PLAN No. 4
7	FOUNDATION PLAN
8	PEDESTAL DETAILS NO. 1
9	PEDESTAL DETAILS NO. 2
10	PEDESTAL DETAILS NO. 3
11	PEDESTAL DETAILS NO. 4
12	PEDESTAL DETAILS NO. 5
13	PEDESTAL DETAILS NO. 6
14	PEDESTAL DETAILS NO. 7
15	ARCHITECTURAL TREATMENT DETAILS
16	LOG OF TEST BORING

GENERAL NOTES

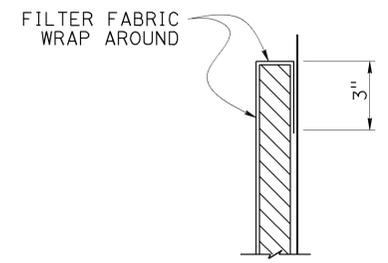
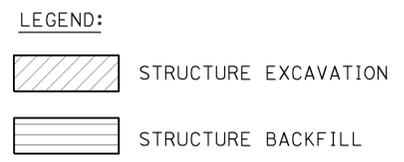
SEE RSP B3-4A FOR DESIGN SPECIFICATIONS WITH THE FOLLOW REVISIONS
 SEISMIC DESIGN:
 $K_h = 0.24$

STANDARD PLANS DATED 2010

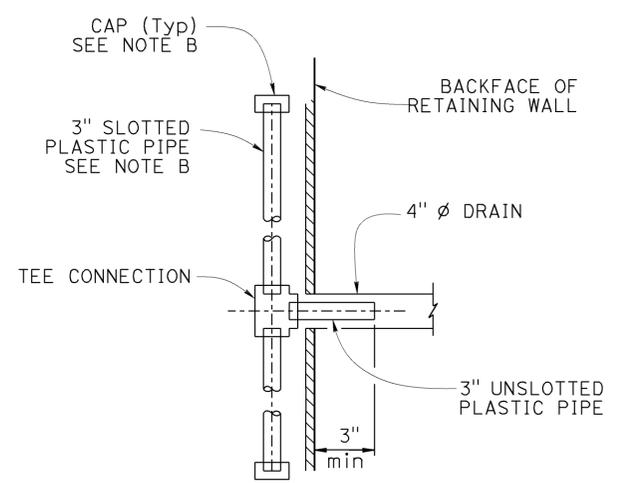
A10A	ABBREVIATIONS (SHEET 1 OF 2)
RSP A10B	ABBREVIATIONS (SHEET 2 OF 2)
A10C	LINES AND SYMBOLS (SHEET 1 OF 3)
A10D	LINES AND SYMBOLS (SHEET 2 OF 3)
A10E	LINES AND SYMBOLS (SHEET 3 OF 3)
A10F	LEGEND - SOIL (SHEET 1 OF 2)
A10G	LEGEND - SOIL (SHEET 2 OF 2)
A10H	LEGEND - ROCK
BO-3	BRIDGE DETAILS
RSP B3-4A	RETAINING WALL TYPE 5 (CASE 1)
RSP B3-5	RETAINING WALL DETAILS No. 1
RSP B11-55	CONCRETE BARRIER TYPE 732
B14-3	COMMUNICATION AND SPRINKLER CONTROL CONDUITS (CONDUIT LESS THAN 4")



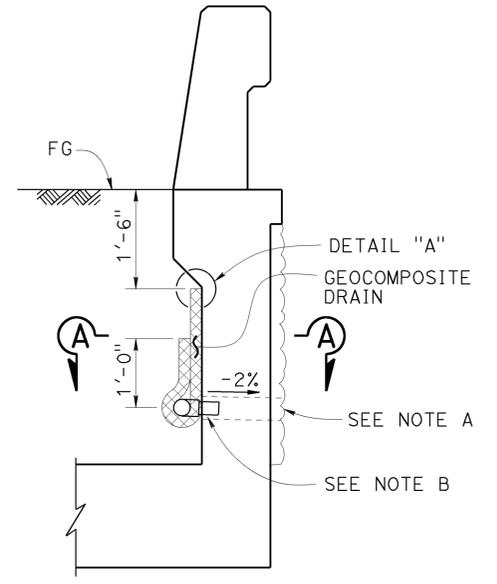
EXCAVATION AND BACKFILL
NO SCALE



DETAIL "A"



SECTION A-A



WALL SECTION

WEEP HOLE AND GEOCOMPOSITE DRAIN

NO SCALE
 ALTERNATIVE TO BRIDGE DETAIL (BO-3/3-1)

- Notes:
- 4" ϕ drains at intermediate sag points and at 25' max center to center. Exposed wall drains shall be located 3" \pm above finished grade.
 - Geocomposite drain and 3" ϕ slotted plastic pipe continuous behind retaining wall. Cap ends of pipe. Provide "Tee" connection at each 4" ϕ drain.
 - Connect the low end of plastic pipe to the main outlet pipe as applicable.

DESIGN	BY Tanzeeba Kishwar	CHECKED John Peterson
DETAILS	BY Liang Ma/T. Cotton	CHECKED John Peterson
QUANTITIES	BY Tanzeeba Kishwa	CHECKED Monzer Jober

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

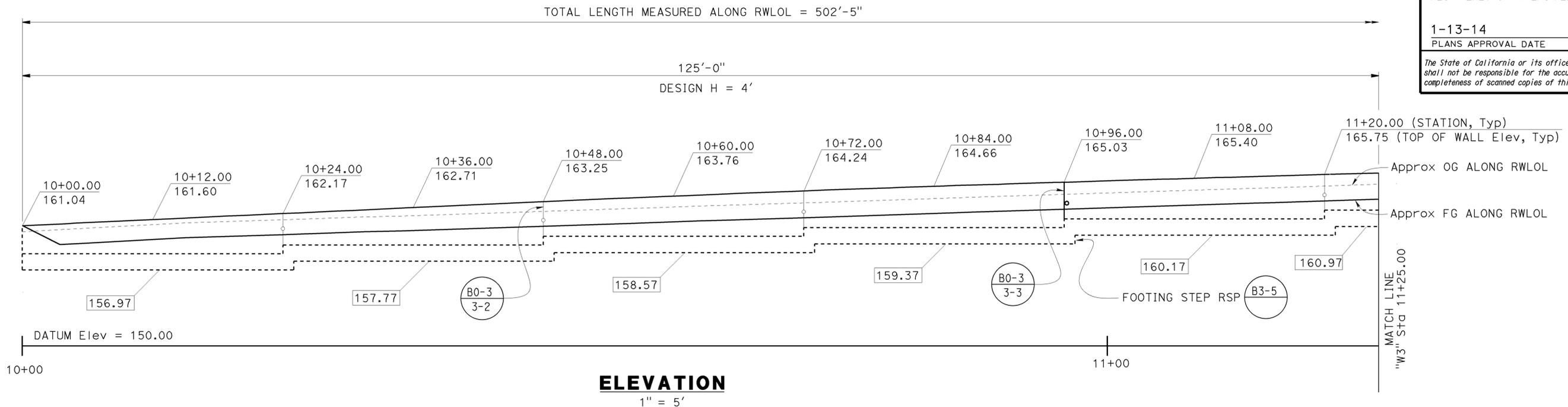
DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
DESIGN BRANCH 16

BRIDGE NO.	RETW
POST MILE	10.49

MORELLO Ave EB WALL
INDEX TO PLANS

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0 0.0/3.4	397	477

10/14/13
 REGISTERED CIVIL ENGINEER DATE
 1-13-14
 PLANS APPROVAL DATE
 John E Peterson
 No. C60724
 Exp. 12/31/14
 CIVIL
 STATE OF CALIFORNIA
 REGISTERED PROFESSIONAL ENGINEER
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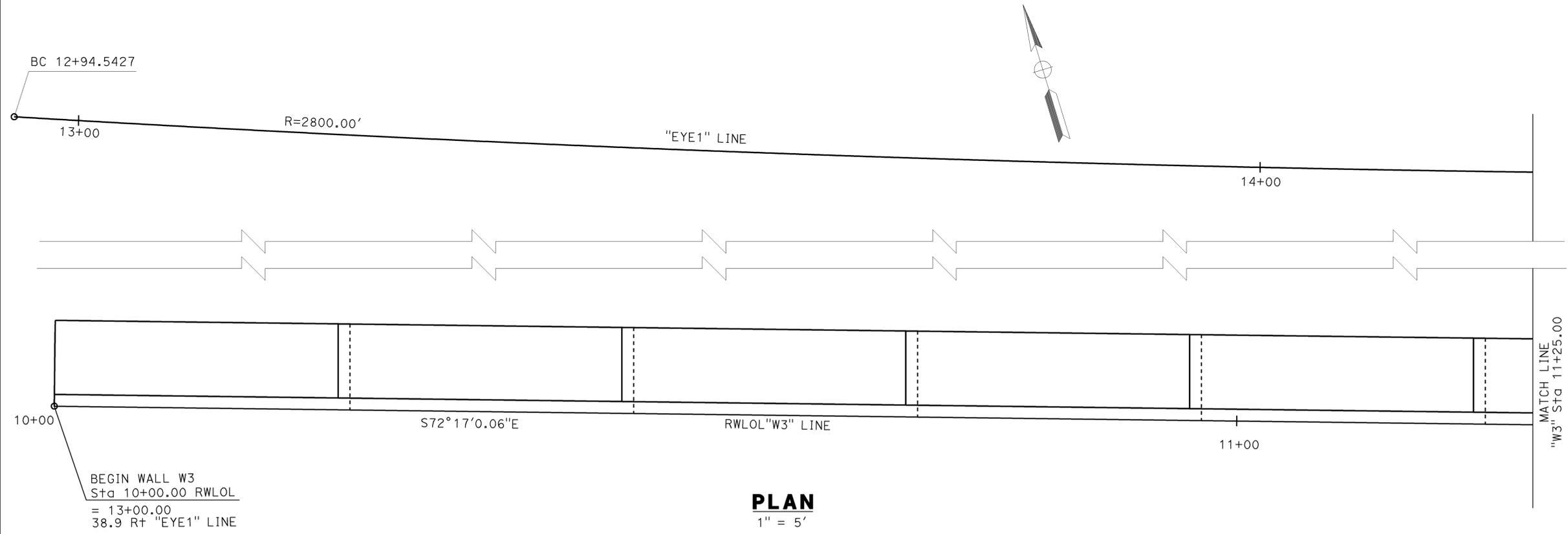
LEGEND:

XXX.XX Denotes bottom of footing elevation

○ Weep Hole

NOTES:

- Concrete Barrier not shown
- Random Rough Stacked Rock Texture not shown, for details see "ARCHITECTURAL TREATMENT DETAILS" sheet



STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY Tanzeeba Kishwar	CHECKED John Peterson	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO.	MORELLO Ave EB WALL STRUCTURE PLAN No. 1
	DETAILS	BY Liang Ma	CHECKED John Peterson			RETW	
	QUANTITIES	BY Tanzeeba Kishwar	CHECKED Monzer Jaber			POST MILE 10.49	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS					UNIT: 3617 PROJECT NUMBER & PHASE: 04120006281	CONTRACT NO.: 04-152724	DISREGARD PRINTS BEARING EARLIER REVISION DATES
						REVISION DATES	SHEET 3 OF 16

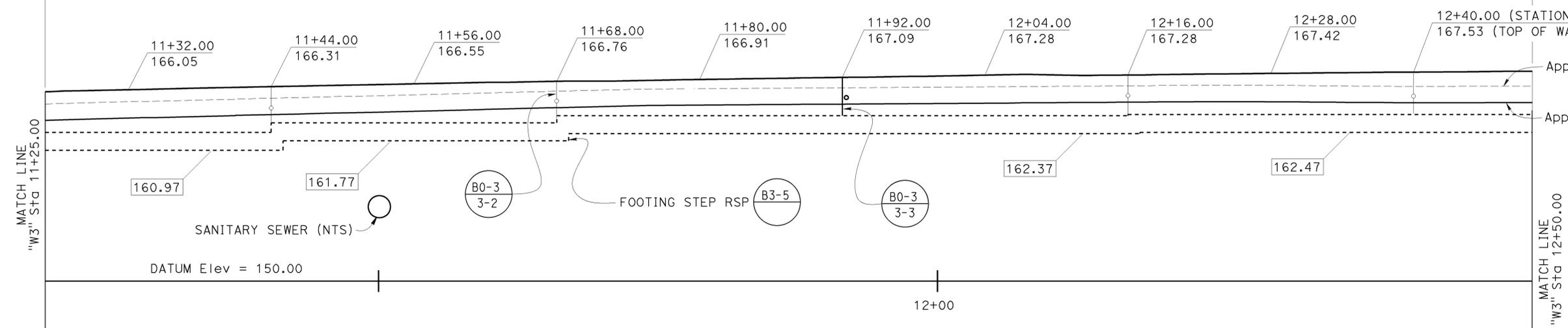
FILE => 28-morello-eb-c-sp01.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0 0.0/3.4	398	477

10/14/13
 REGISTERED CIVIL ENGINEER DATE
 1-13-14
 PLANS APPROVAL DATE
 John E Peterson
 No. C60724
 Exp. 12/31/14
 CIVIL
 STATE OF CALIFORNIA
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TOTAL LENGTH MEASURED ALONG RWLOL = 502'-5"

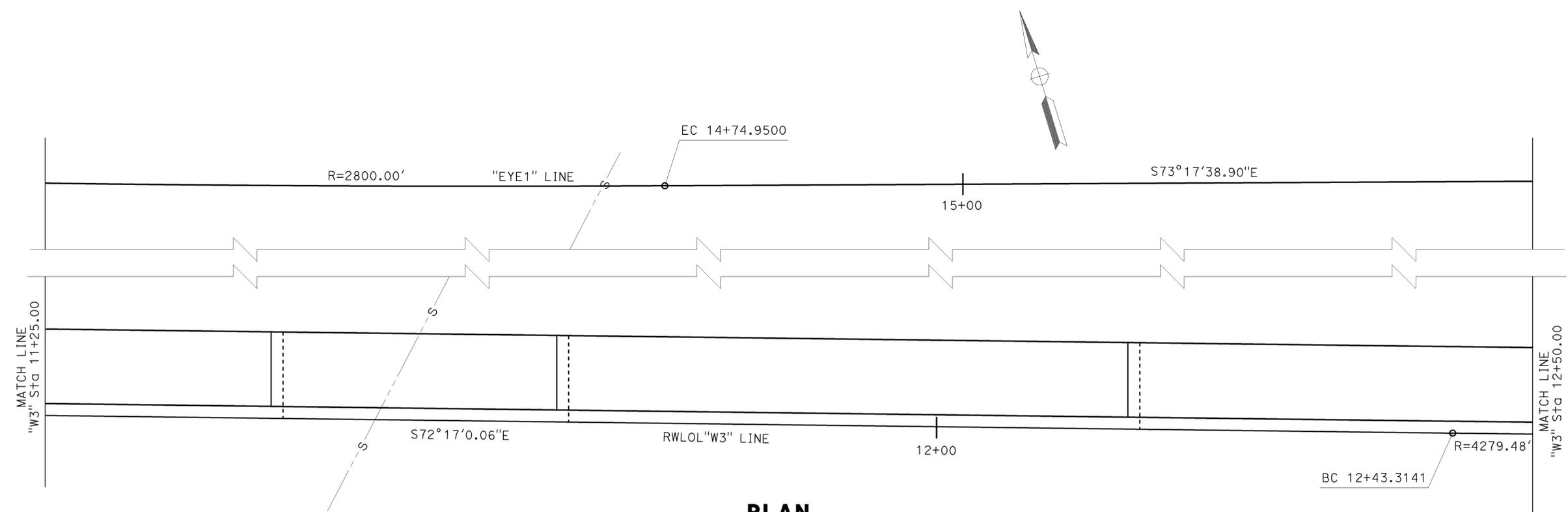
125'-0"
DESIGN H = 4'



ELEVATION
1" = 5'

- LEGEND:
- XXX.XX Denotes bottom of footing elevation
 - Weep Hole

- NOTES:
- Concrete Barrier not shown
 - Random Rough Stacked Rock Texture not shown, for details see "ARCHITECTURAL TREATMENT DETAILS" sheet



PLAN
1" = 5'

DESIGN	BY Tanzeeba Kishwar	CHECKED John Peterson
DETAILS	BY Liang Ma	CHECKED John Peterson
QUANTITIES	BY Tanzeeba Kishwar	CHECKED Monzer Jaber

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 16

BRIDGE NO.	RETW
POST MILE	10.49

**MORELLO Ave EB WALL
STRUCTURE PLAN No. 2**

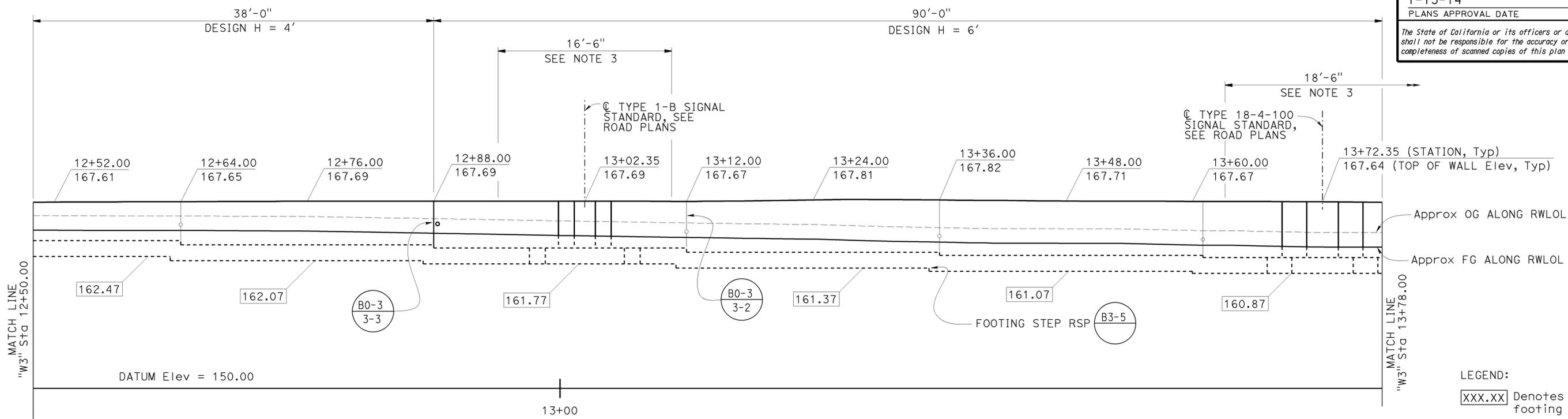


REVISION DATES	SHEET	OF
10-14-13 01-03-14	4	16

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0 0.0/3.4	399	477

10/14/13
 REGISTERED CIVIL ENGINEER DATE
 1-13-14
 PLANS APPROVAL DATE
 John E Peterson
 No. C60724
 Exp. 12/31/14
 CIVIL
 STATE OF CALIFORNIA
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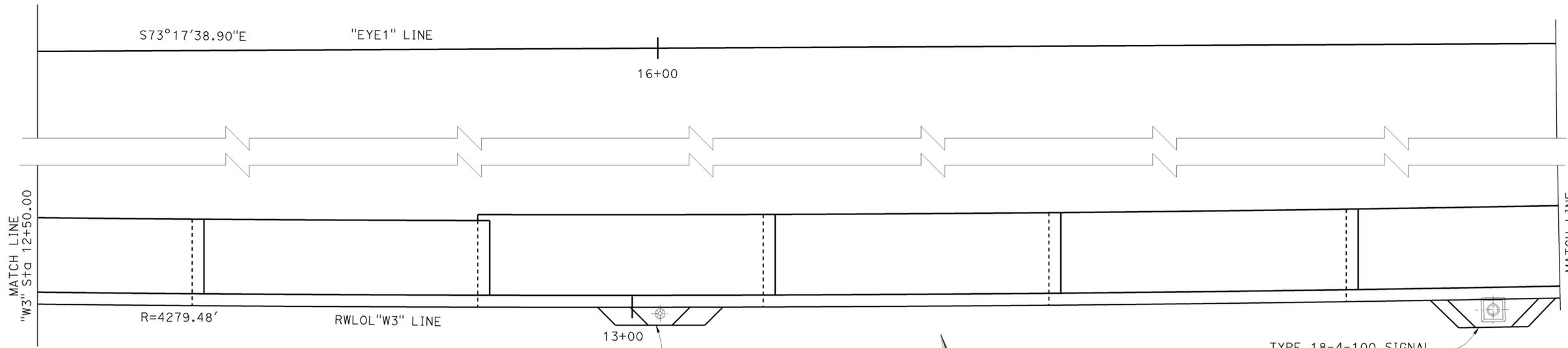
TOTAL LENGTH MEASURED ALONG RWLOL = 502'-5"



ELEVATION
1" = 5'

LEGEND:
 [XXX.XX] Denotes bottom of footing elevation
 ○ Weep Hole

- NOTES:
- Concrete Barrier not shown
 - Random Rough Stacked Rock Texture not shown, for details see "ARCHITECTURAL TREATMENT DETAILS" sheet
 - Modified Pedestal Zone, for details see "PEDESTAL DETAILS" sheets



PLAN
1" = 5'

DESIGN	BY Tanzeeba Kishwar	CHECKED John Peterson
DETAILS	BY Liang Ma	CHECKED John Peterson
QUANTITIES	BY Tanzeeba Kishwar	CHECKED Monzer Jaber

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
 DESIGN BRANCH 16

BRIDGE NO.	RETW
POST MILE	10.49

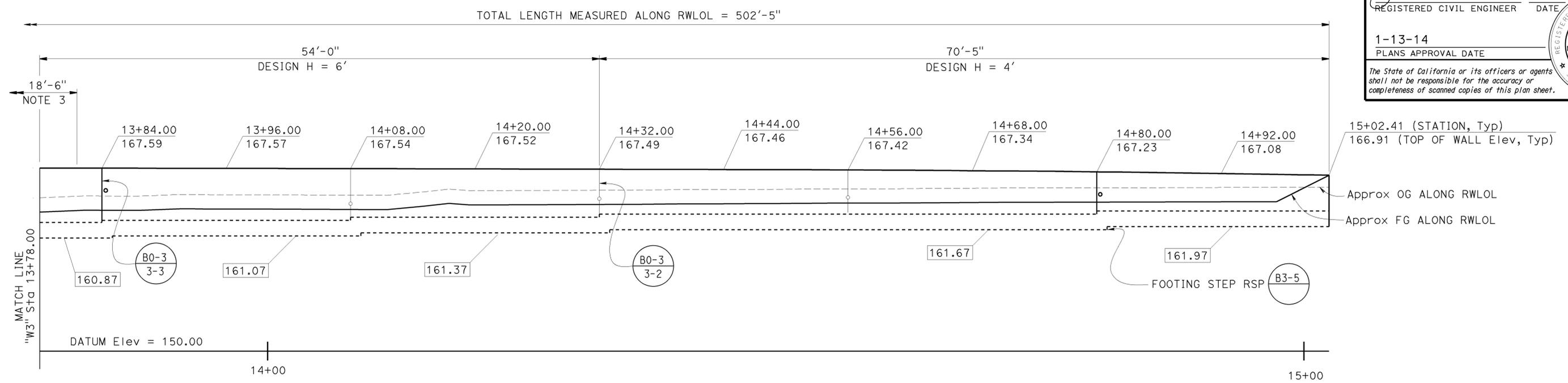
MORELLO Ave EB WALL
STRUCTURE PLAN No. 3



REVISION DATES	SHEET	OF
10-14-13 01-03-14	5	16

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	CC	4,242	R8.0/25.0 0.0/3.4	400	477

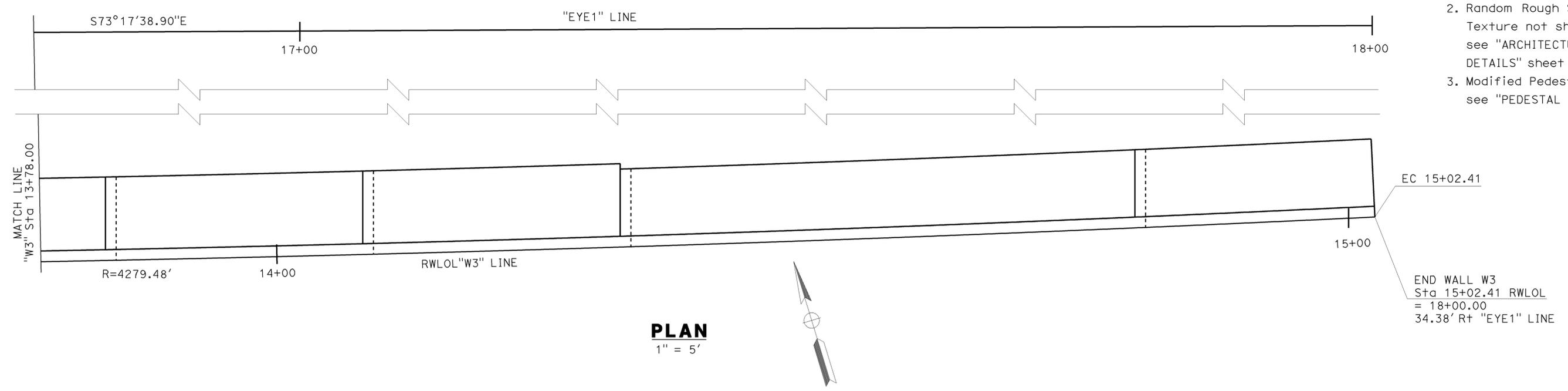
10/14/13
 REGISTERED CIVIL ENGINEER DATE
 1-13-14
 PLANS APPROVAL DATE
 John E. Peterson
 No. C60724
 Exp. 12/31/14
 CIVIL
 STATE OF CALIFORNIA
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ELEVATION
1" = 5'

- LEGEND:
- XXX.XX Denotes bottom of footing elevation
 - Weep Hole

- NOTES:
- Concrete Barrier not shown
 - Random Rough Stacked Rock Texture not shown, for details see "ARCHITECTURAL TREATMENT DETAILS" sheet
 - Modified Pedestal Zone, for details see "PEDESTAL DETAILS" sheets



DESIGN	BY	Tanzeeba Kishwar	CHECKED	John Peterson	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 16	BRIDGE NO.	RETW	MORELLO Ave EB WALL STRUCTURE PLAN No. 4		
	DETAILS	BY	Liang Ma	CHECKED			John Peterson			POST MILE	10.49
	QUANTITIES	BY	Tanzeeba Kishwar	CHECKED			Monzer Jaber				

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: 3617
PROJECT NUMBER & PHASE: 04120006281
CONTRACT NO.: 04-152724

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
10-14-13 01-06-14	6	16

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