

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT: FUNCTIONAL SUPERVISOR: NATALINA V. BERNARDI
 CHECKED BY: ANDREW LEE
 REVISIONS: 3/13/15
 DATE: 3/13/15

NOTE:

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

LEGEND (THIS SHEET ONLY):

- 1 INSTALL 235 W LED LUMINAIRE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Mrn	101	18.9/25.8	101	148

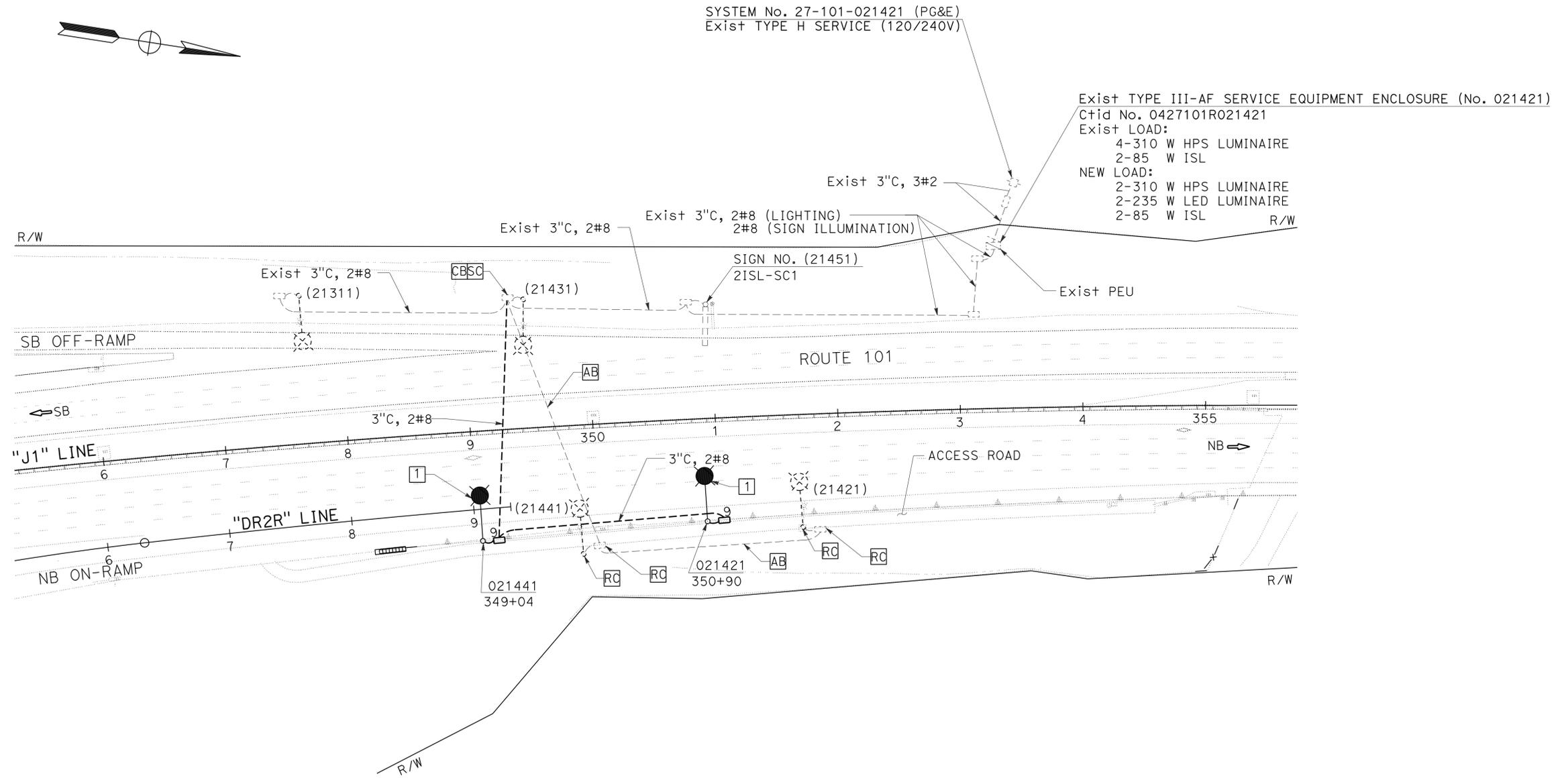
REGISTERED CIVIL ENGINEER DATE 4/8/15
 PLANS APPROVAL DATE 4-27-15

N.V. BERNARDI
 No. 45407
 Exp. 9/30/16
 CIVIL

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BKF ENGINEERS
 4670 WILLOW ROAD, SUITE 250
 PLEASANTON, CA. 94588

TAM
 781 LINCOLN AVENUE, SUITE 160
 SAN RAFAEL, CA 94901



LIGHTING AND SIGN ILLUMINATION
 SCALE: 1" = 50'

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Mrn	101	18.9/25.8	102	148

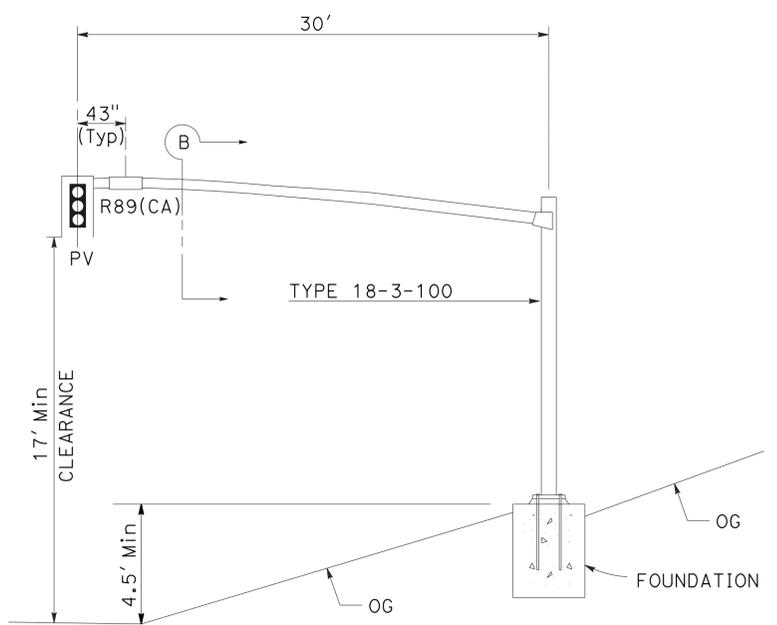
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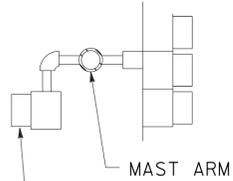
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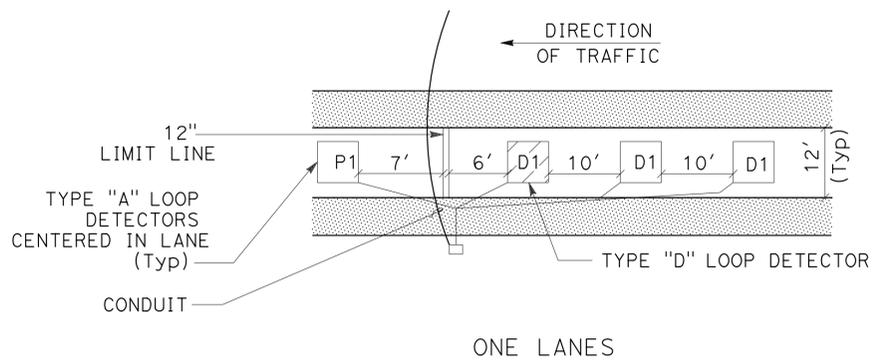


1 LANE MAST ARM AT "DR2R" 43+48
 DETAIL "MA"
 RAMP METER SIGNAL, MAST ARM MOUNTED



8" RED SECTION WITH MAT MOUNTING
 FACING OPPOSITE DIRECTION. PROVIDE
 PIPE TENON BEHIND SIGN FOR EACH
 METERED LANE.

SECTION B
 RAMP METER SIGNAL, MAST ARM MOUNTED



RAMP METERING STATION NOTES

1. SEE ES-5A AND 5B FOR ADDITIONAL DETAILS.
2. LEAD-IN WIRES SHALL BE SPLICED IN NEAREST PULL BOX.
3. COORDINATE EXACT LOCATION OF LOOP DETECTORS WITH THE ENGINEER.
4. SEE PD PLANS FOR EXACT LOCATION OF LIMIT LINES.

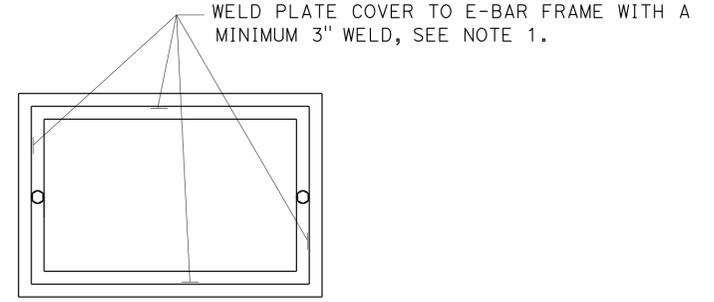
NOTES:

1. WELDING MUST COMPLY WITH STANDARD SPECIFICATIONS SECTION 75.
2. CONDUITS ENTERING THE PULL BOX MUST BE ENCASED IN PCC (3" ALL AROUND), PCC ENCASEMENT MUST EXTEND 5'-6" FROM THE PULL BOX.
3. PULL BOXES FOR ELECTROLIERS, POST AND SIGNAL STANDARDS MUST BE LOCATED WITHIN 5'-0" FROM THE STATION OF THE ADJACENT ELECTROLIER, POST OR SIGNAL STANDARD.
4. FOR ADDITIONAL NOTES AND DETAILS, SEE STANDARD PLAN RSP ES-8B.

SIGNAL CONDUCTORS FOR RAMP METERS SHALL BE COLOR CODED AS FOLLOWS:

PHASE	BASE	STRIPE	BAND	SYMBOLS
1	RE, YE, BRN	NONE		1
2	RE, YE, BRN	BLACK		2
3	RE, YE, BRN	PURPLE		3
4	RE, YE, BRN	ORANGE		4

DETAIL "CONDUCTOR COLOR CODING"



TOP VIEW

TRAFFIC PULL BOX WELDING DETAIL

**ELECTRICAL DETAILS
 (RAMP METERING SYSTEM)**
 SCALE: 1" = 50'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 Et Caltrans

LAST REVISION DATE PLOTTED => 07-JUL-2015
 11-10-14 TIME PLOTTED => 10:21

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 CONSULTANT - FUNCTIONAL SUPERVISOR: NATALINA V. BERNARDI
 CALCULATED/DESIGNED BY: ANDREW LEE
 CHECKED BY: RODOLFO ONCHI
 REVISED BY: AL
 DATE REVISED: 3/13/15

NOTE:

ITEMS SHOWN IN TABLE(S) ARE NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Mrn	101	18.9/25.8	103	148

REGISTERED CIVIL ENGINEER: *[Signature]* DATE: 4/8/15
 PLANS APPROVAL DATE: 4-27-15

N.V. BERNARDI
 No. 45407
 Exp. 9/30/16
 CIVIL
 STATE OF CALIFORNIA

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 4670 WILLOW ROAD, SUITE 250
 PLEASANTON, CA. 94588

TAM
 781 LINCOLN AVENUE, SUITE 160
 SAN RAFAEL, CA 94901

RAMP METERING SYSTEM

SHEET No.	FLASHING BEACON	PB	LOOP DETECTORS	TYPE 15-FBS STANDARD	TYPE 18-3-100 STANDARD (30' MAST ARM)	CONDUIT	CONDUCTOR
	EA				FT		
E-1	2	2	4	2	1	100	1700

LIGHTING & SIGN ILLUMINATION

SHEET No.	LUMINAIRE (LED)	PB	CONDUIT	CONDUCTOR
	EA		FT	
E-2	2	3	400	800

ELECTRICAL QUANTITIES

E-4



	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	Mrn	101	18.9/25.8	104	148

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 4-27-15

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

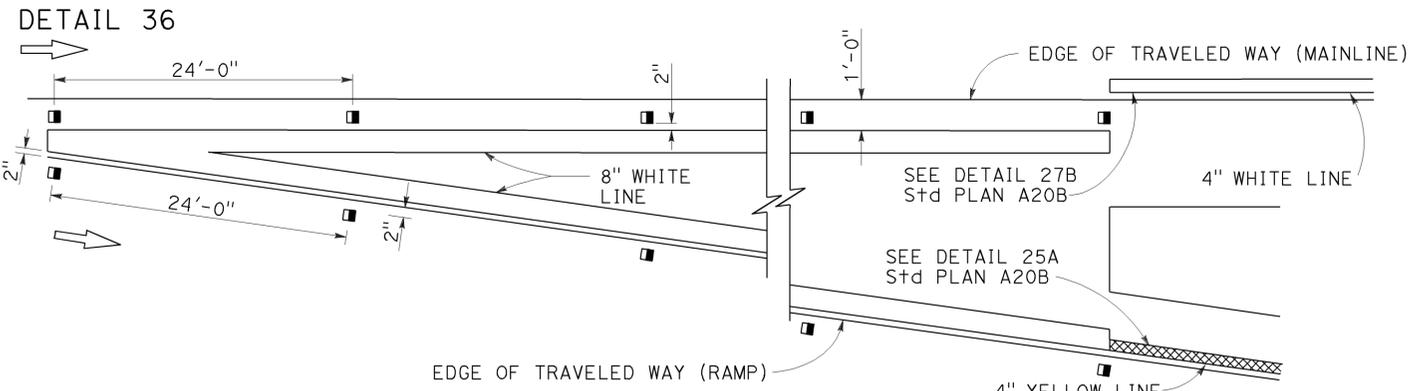
**ABBREVIATIONS
(SHEET 2 OF 2)**

NO SCALE

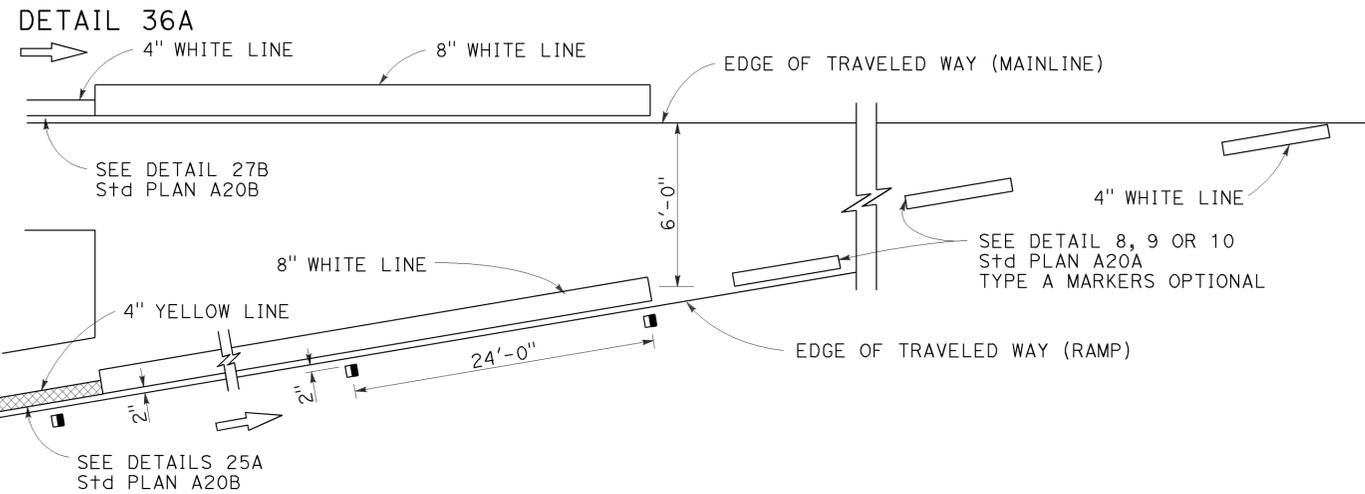
RSP A10B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A10B
DATED MAY 20, 2011 - PAGE 2 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP A10B

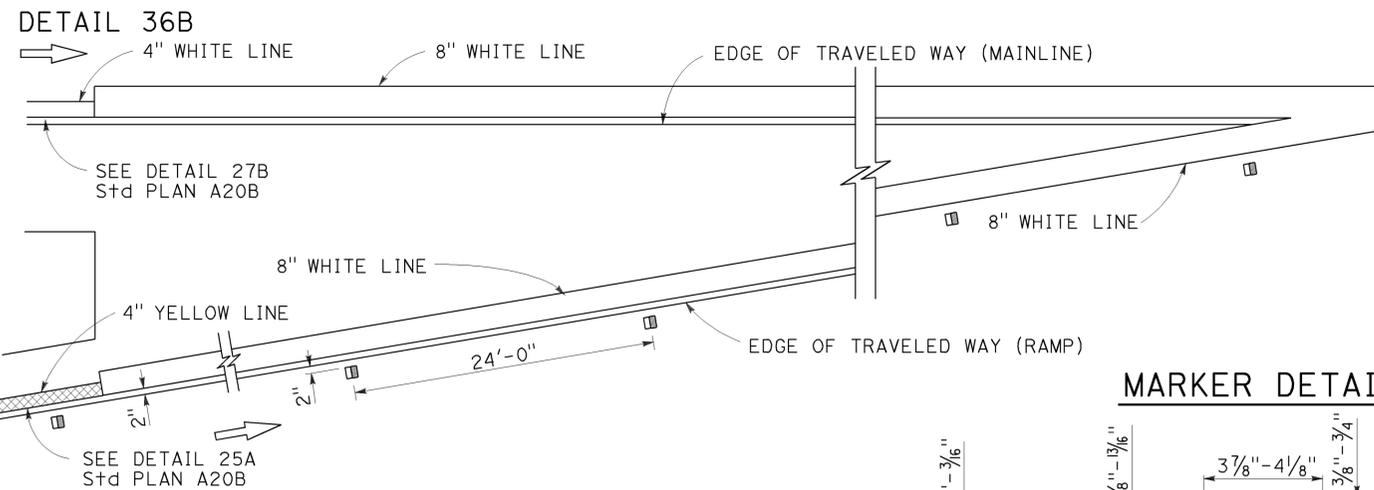
EXIT RAMP NEUTRAL AREA (GORE) TREATMENT



ENTRANCE RAMP NEUTRAL AREA (MERGE) TREATMENT



ENTRANCE RAMP NEUTRAL AREA (ACCELERATION LANE) TREATMENT

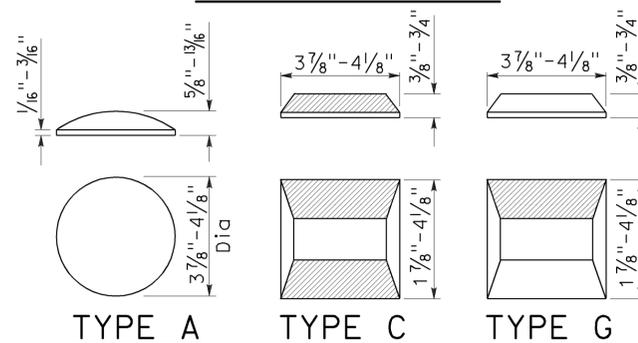


MARKER DETAILS

LEGEND:

MARKERS

- TYPE A WHITE NON-REFLECTIVE
- ◻ TYPE C RED-CLEAR RETROREFLECTIVE
- TYPE G ONE-WAY CLEAR RETROREFLECTIVE



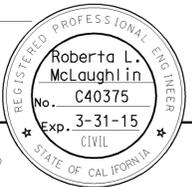
RETROREFLECTIVE FACE

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04	Mrn	101	18.9/25.8	105	148

Roberta L. McLaughlin
REGISTERED CIVIL ENGINEER

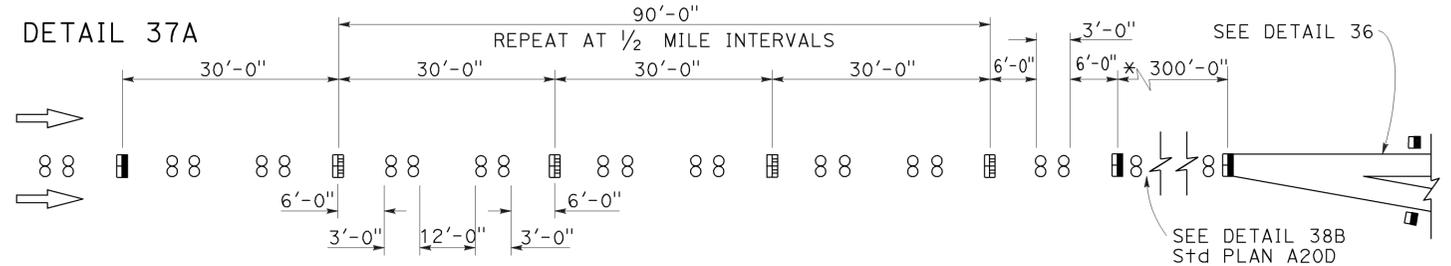
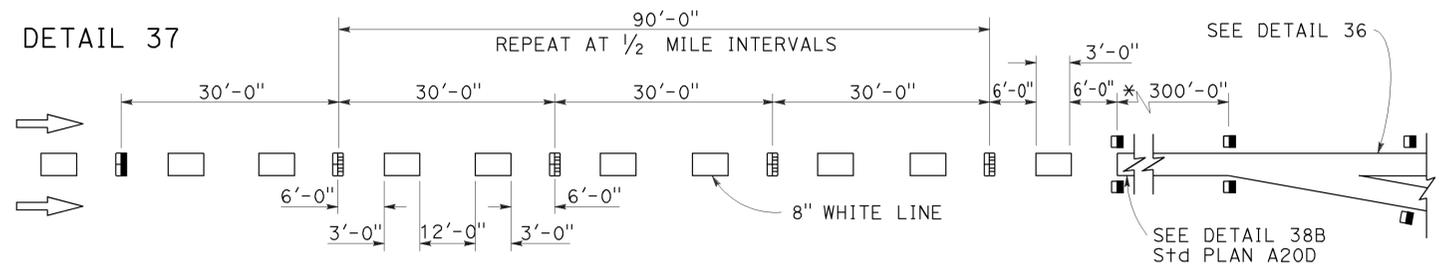
July 19, 2013
PLANS APPROVAL DATE

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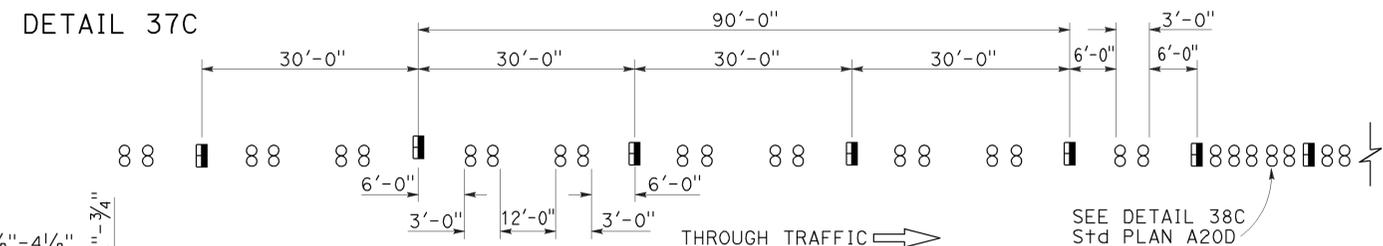
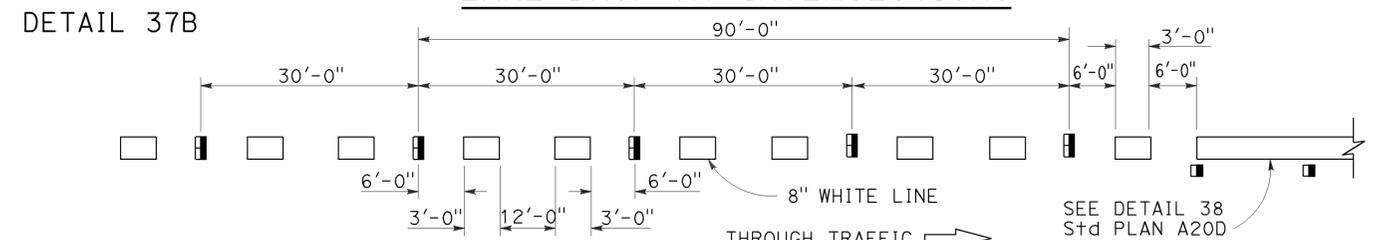
TO ACCOMPANY PLANS DATED 4-27-15

LANE DROP AT EXIT RAMP



* 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

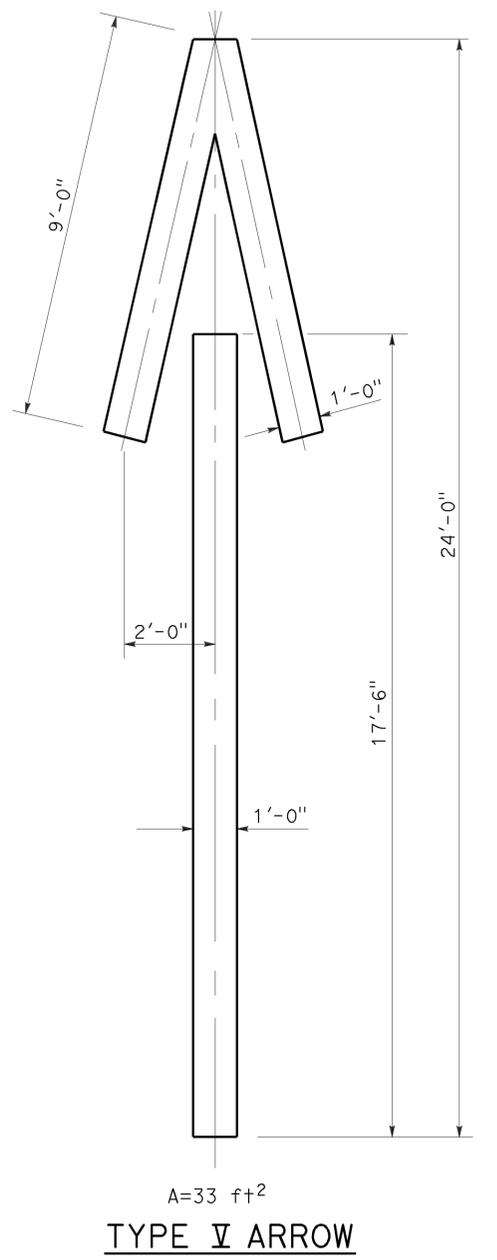
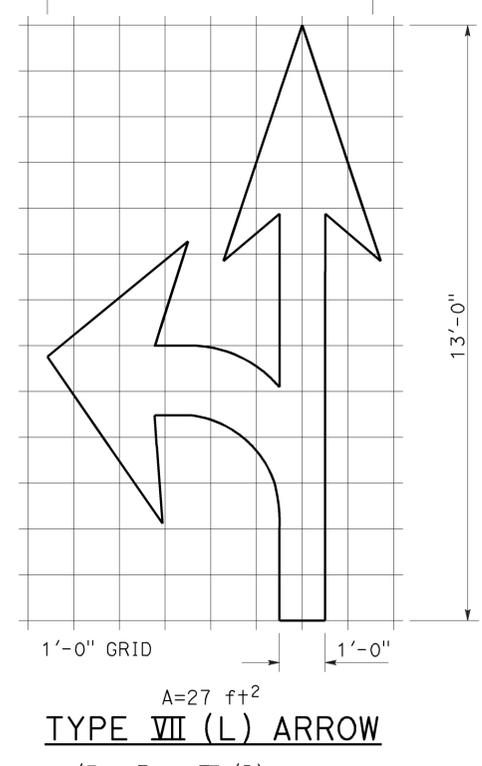
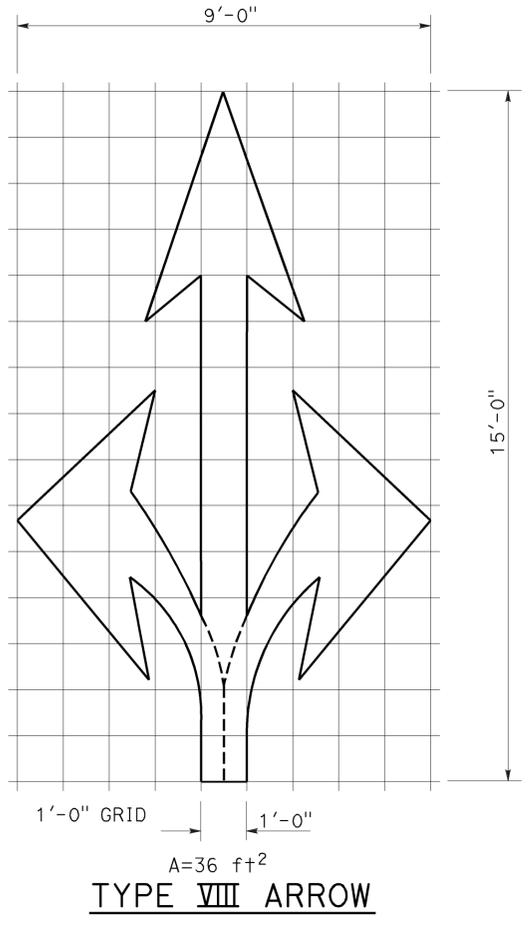
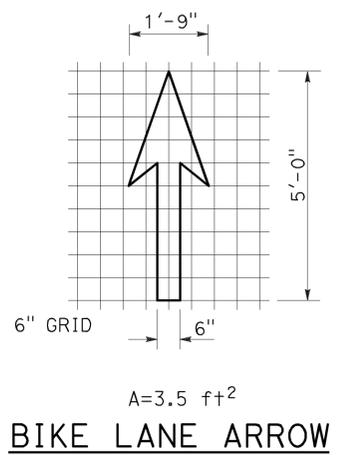
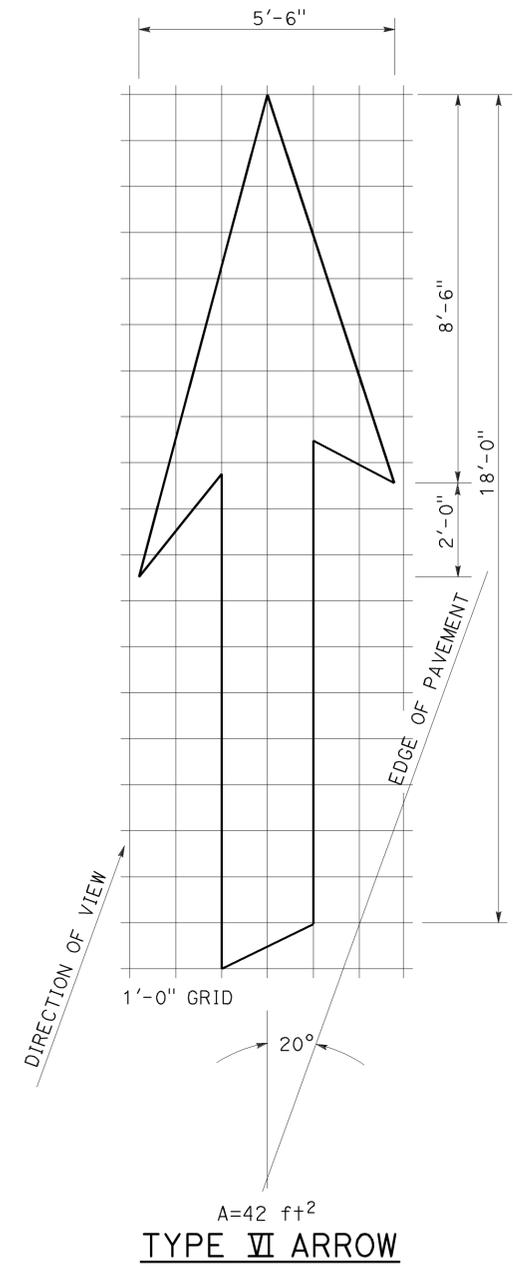
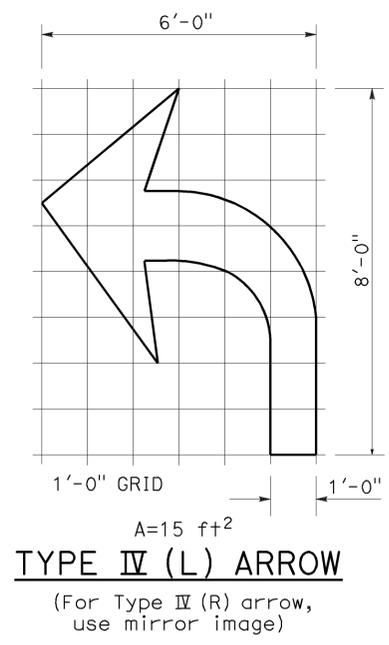
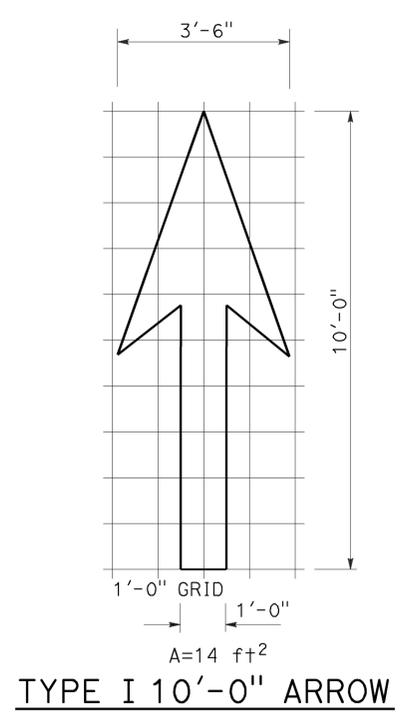
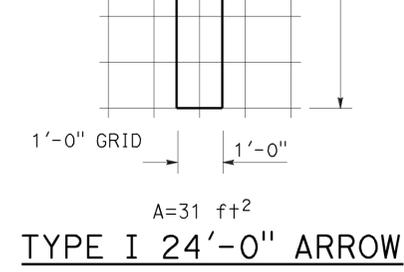
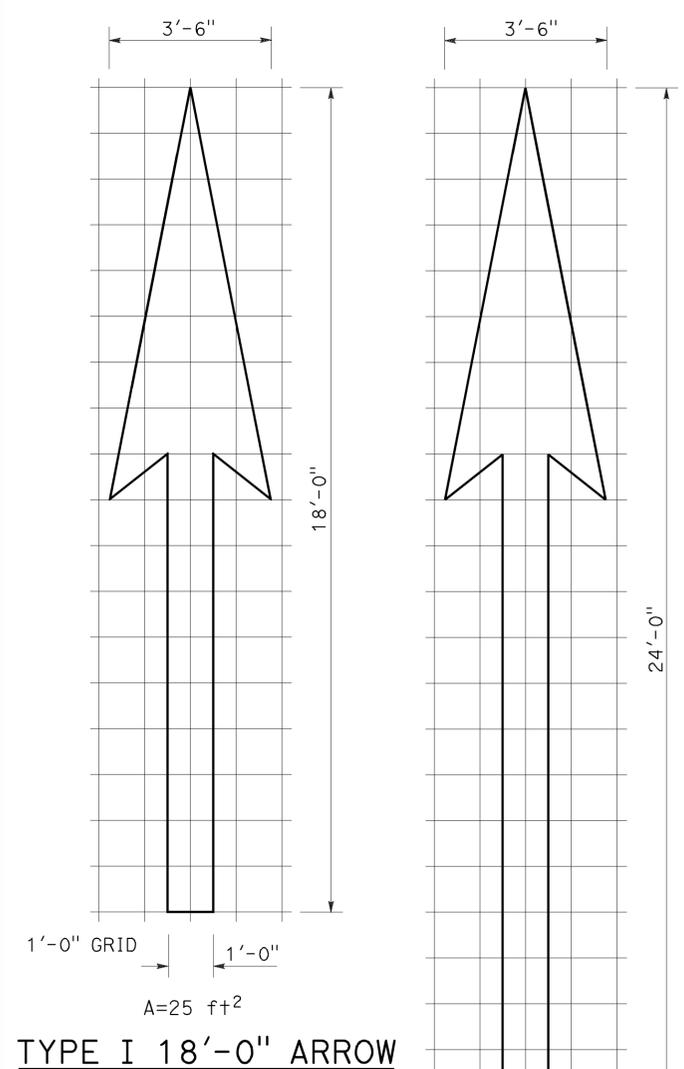
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Mrn	101	18.9/25.8	106	148

Registered Professional Engineer
 Roberta L. McLaughlin
 No. C40375
 Exp. 3-31-13
 CIVIL
 STATE OF CALIFORNIA

April 20, 2012
 PLANS APPROVAL DATE

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TO ACCOMPANY PLANS DATED 4-27-15

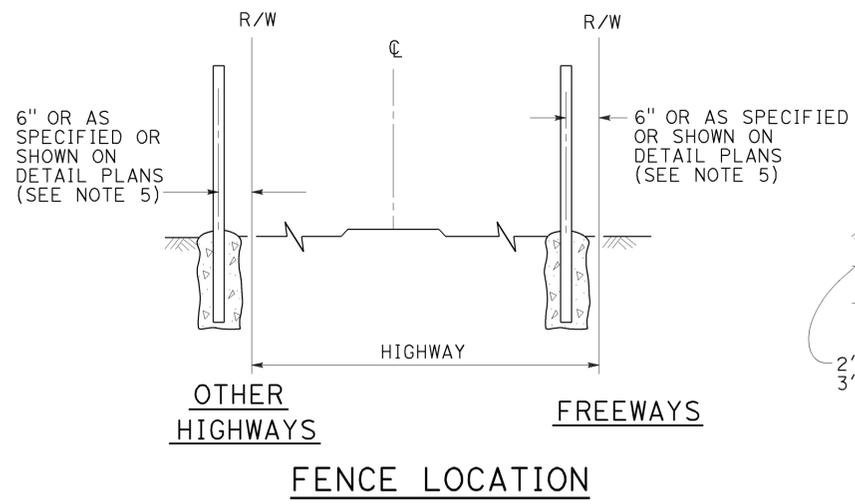


NOTE:
Minor variations in dimensions may be accepted by the Engineer.

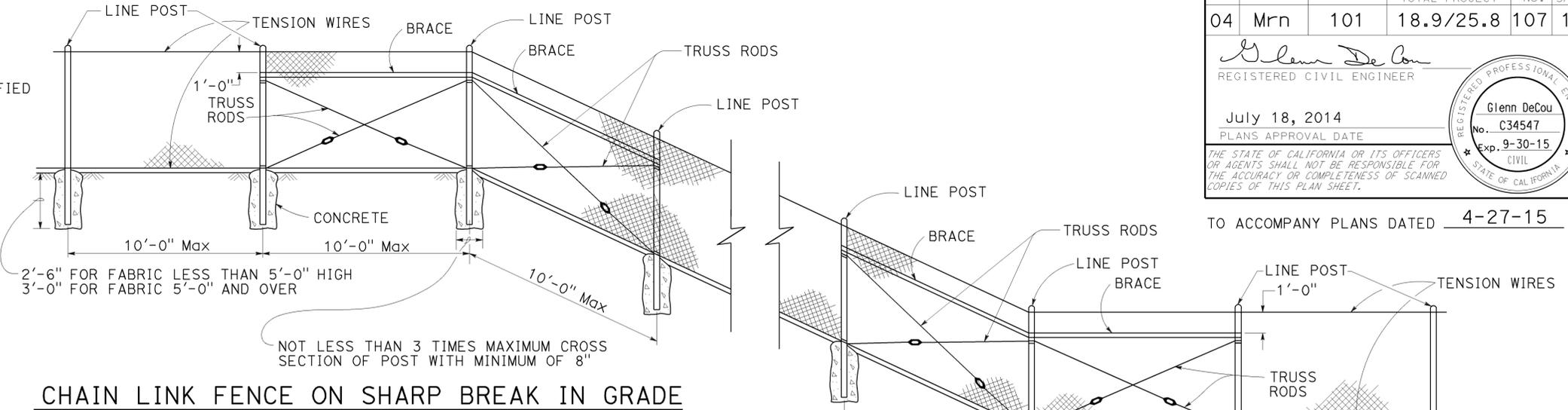
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**PAVEMENT MARKINGS
ARROWS**
NO SCALE

RSP A24A DATED APRIL 20, 2012 SUPERSEDES STANDARD PLAN A24A
DATED MAY 20, 2011 - PAGE 13 OF THE STANDARD PLANS BOOK DATED 2010.

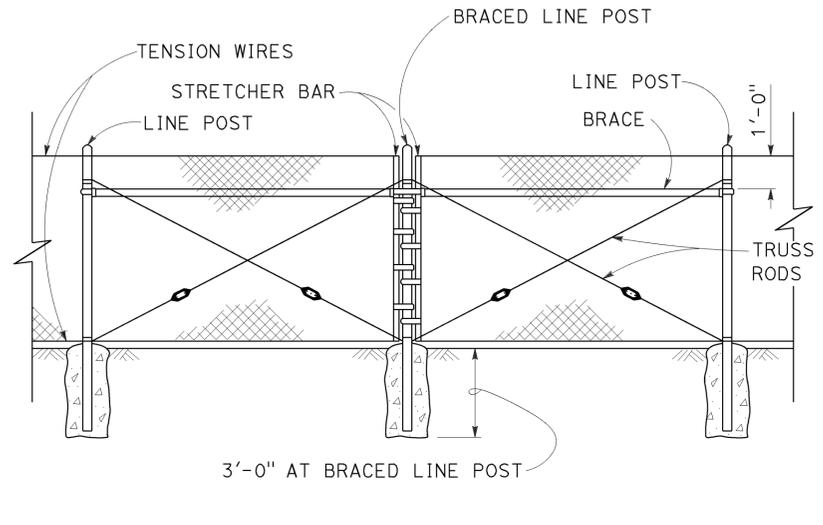
2010 REVISED STANDARD PLAN RSP A24A



FENCE LOCATION

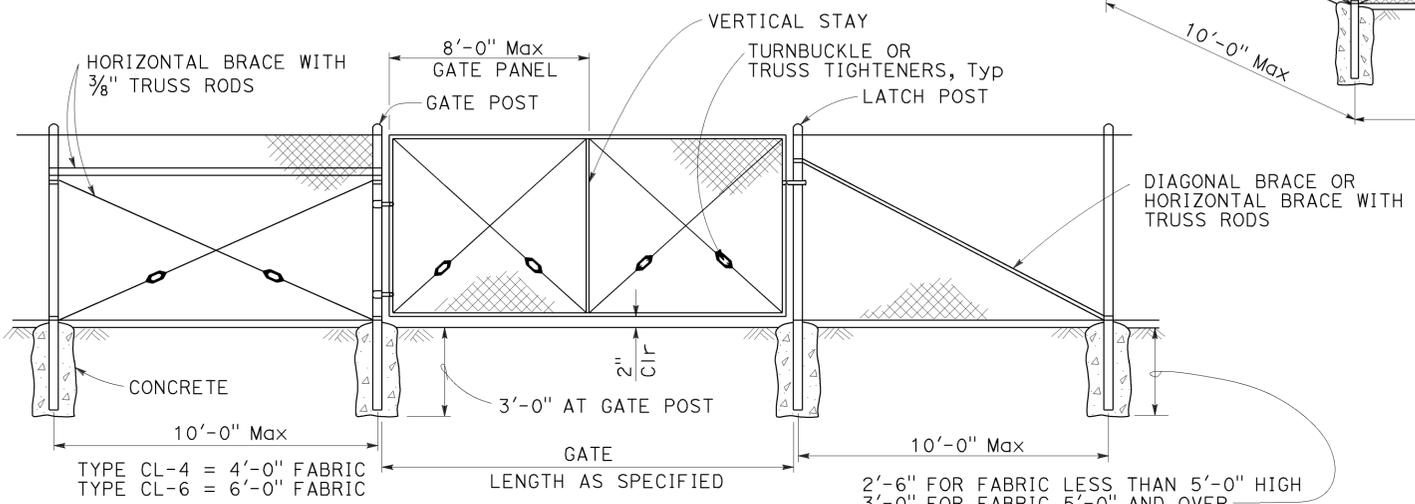


CHAIN LINK FENCE ON SHARP BREAK IN GRADE



BRACED LINE POST INSTALLATION

Braced line post at intervals not exceeding 1000'



CHAIN LINK GATE INSTALLATION

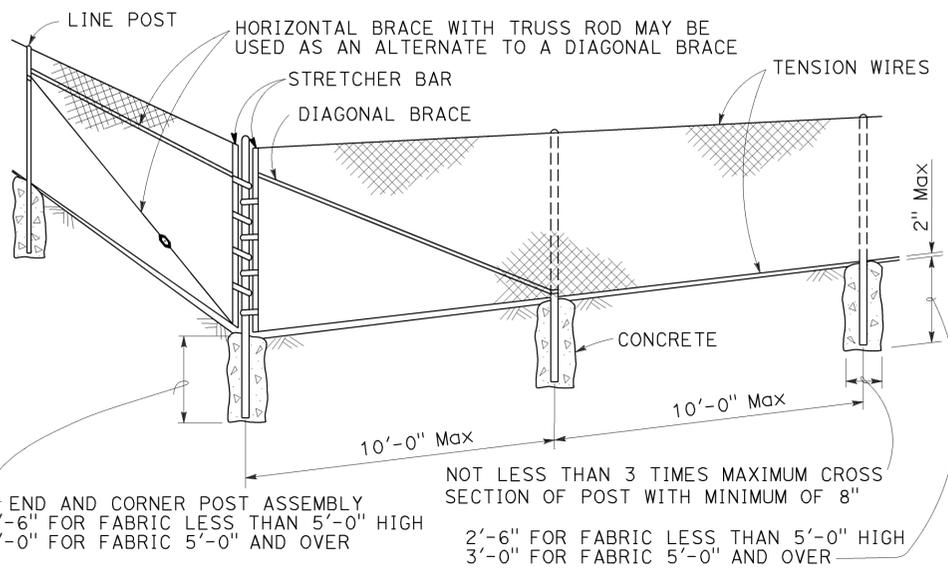
GATE POST			
FENCE HEIGHT	GATE WIDTHS	ROUND OD PIPE	WEIGHT (lb/ft)
6'-0" AND LESS	UP THRU 6'-0"	2.875"	5.80
	OVER 6'-0" THRU 12'-0"	4.500"	10.80
	OVER 12'-0" THRU 18'-0"	5.563"	14.63
OVER 6'-0" TO 8'-0" Max	OVER 18'-0" TO 24'-0" Max	6.625"	18.99
	UP THRU 6'-0"	3.500"	7.58
	OVER 6'-0" THRU 12'-0"	5.563"	14.63
	OVER 12'-0" THRU 18'-0"	6.625"	18.99
	OVER 18'-0" TO 24'-0" Max	8.625"	28.58

Above post dimensions and weights are minimums. Larger sizes may be used upon approval.

NOTES:

- The table below shows minimum sized posts and braces complying with the specifications. Larger or heavier post and brace sizes may be used upon approval.
- Sections shown in the tables must also comply with the strength requirements and other provisions of the Specifications.
- Other sections which comply with the strength requirements and other provisions of the Specifications may be used upon approval.
- Options exercised shall be uniform on any one project.
- Offset to be 2'-0" at monument locations, measured at right angles to R/W lines. Taper to achieve offset to be at least 20'-0" long.
- See Revised Standard Plan RSP A85B for Brace, Stretcher Bar, and Truss Tightener Details.

FENCE HEIGHT	TYPICAL MEMBER DIMENSIONS (See Notes)									
	LINE POSTS				END, LATCH AND CORNER POSTS		BRACES			
	ROUND OD PIPE	WEIGHT (lb/ft)	ROLL FORMED		ROUND OD PIPE	WEIGHT (lb/ft)	ROUND OD PIPE	WEIGHT (lb/ft)	ROLL FORMED	
			SECTION	WEIGHT (lb/ft)					SECTION	WEIGHT (lb/ft)
6'-0" AND LESS	1.900"	2.72	1.875" x 1.625"	1.85	2.375"	3.65	1.66"	2.27	1.625" x 1.25"	1.35
OVER 6'-0" TO 8'-0" Max	2.375"	3.65	2.25" x 1.70"	2.78	2.875"	5.80	1.66"	2.27	1.625" x 1.25"	1.35



CORNER POST

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
CHAIN LINK FENCE
NO SCALE

RSP A85 DATED JULY 18, 2014 SUPERSEDES STANDARD PLAN A85
DATED MAY 20, 2011 - PAGE 112 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A85

2010 REVISED STANDARD PLAN RSP A85

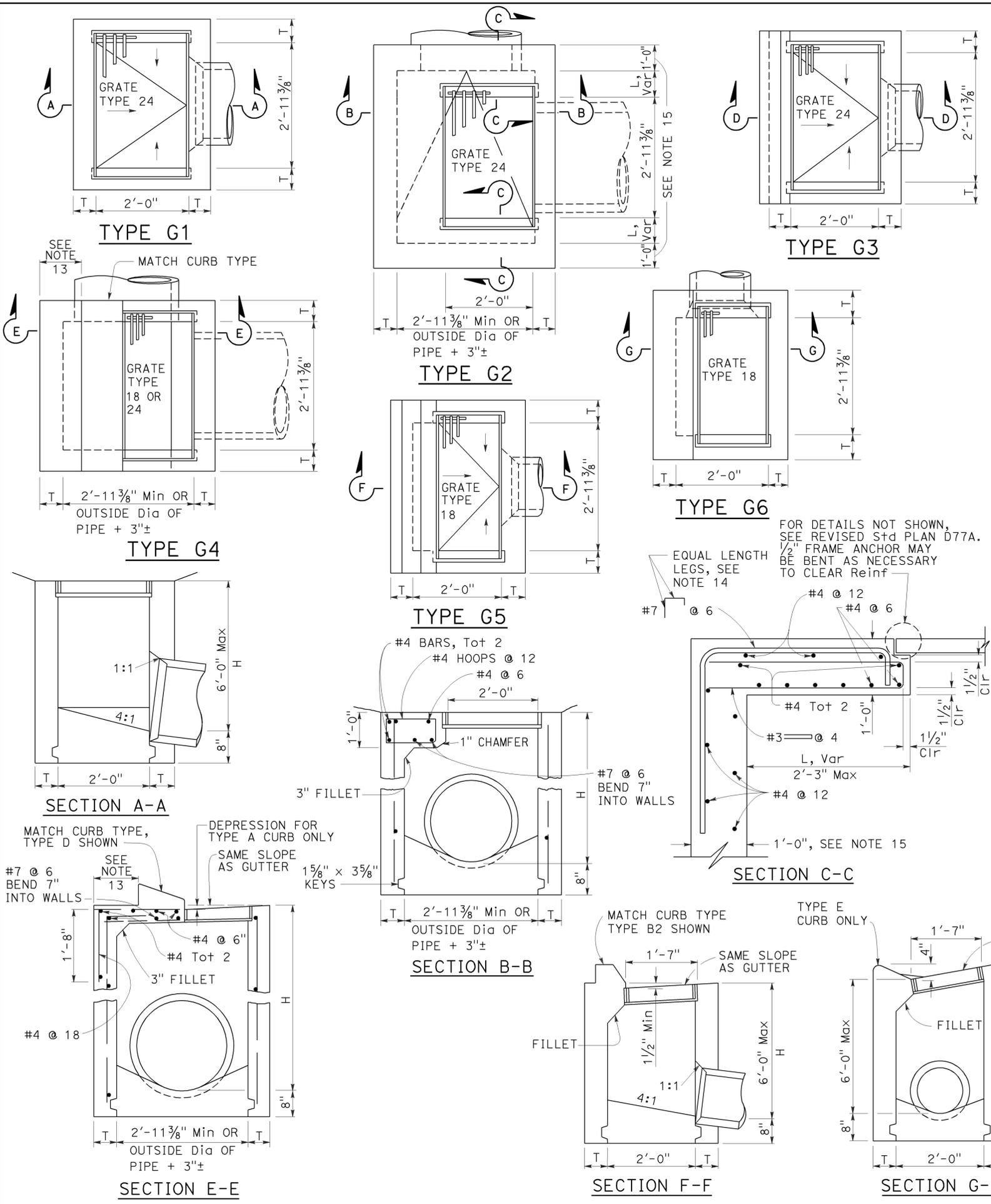
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Mrn	101	18.9/25.8	108	148

Glenn DeCou
REGISTERED CIVIL ENGINEER

October 19, 2012
PLANS APPROVAL DATE

Glenn DeCou
No. C34547
Exp. 9-30-13
CIVIL
STATE OF CALIFORNIA

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



- NOTES:**
- "H" is the difference in elevation between the outlet pipe flow line and the normal gutter grade line undepressed.
 - For "T" wall thickness, see Table A below.
 - Wall reinforcing not required when "H" is 8'-0" or less and the unsupported width or length is 7'-0" or less. Walls exceeding these limits shall be reinforced with #4 bars @ 1'-6" ± centers placed 1 1/2" clear to inside of box unless otherwise shown.
 - Inlet bottom reinforcing not required. See Standard Plan D74C for alternative reinforced bottom and alternative half round bottom.
 - Steps-None required where "H" is less than 2'-6". Where "H" is 2'-6" or more, install steps with lowest rung 1'-0" above the floor and highest rung not more than 6" below top of inlet. The distance between steps shall not exceed 1'-0" and shall be uniform throughout the length of the wall. Place steps in the wall without an opening. Steps inserts may be substituted for the bar steps. Step inserts shall comply with State Industrial Safety requirements. See Standard Plan D74C for step details.
 - Details shown apply to both metal and concrete pipe.
 - Pipe(s) can be placed in any wall.
 - Curb section shall match adjacent curb.
 - Basin floors shall have wood trowel finish and a minimum slope of 12:3 from all directions toward outlet pipe.
 - Set inlet so that grate bars are parallel to direction of principal surface flow.
 - See Revised Standard Plans D77A and D77B for grate and frame details and weights of miscellaneous iron and steel.
 - See Standard Plan D78A for gutter depression details.
 - This dimension will vary with different grates, curbs types, box width and wall thickness.
 - Bar may be rotated as necessary to clear opening. Where "L" is 6" or less, bar may be omitted.
 - Where "L" is 6" or less, wall thickness shall be as shown in Table A.
 - Cast-in-place inlets to be formed around all pipes/stubs intersecting the inlet, and concrete poured in one continuous operation. Precast inlets shall have mortared connections conforming to details for Type GCP Inlet shown on Standard Plan D75B. See Standard Specifications for mortar composition.

TABLE A

CONCRETE QUANTITIES

TYPE	H=3'-0" TO 8'-0" (T=6")		H=8'-1" TO 20'-0" (T=8")	
	H=3'-0" (CY)	ADDITIONAL PCC PER FOOT (CY)	H=8'-1" (CY)	ADDITIONAL PCC PER FOOT (CY)
G-1	0.95	0.220	See Note A	SEE NOTE A
G-2*	1.31	0.255	3.50	0.357
G-3	1.03	0.220	See Note A	SEE NOTE A
G-4* (TYPE 24)	1.27	0.255	3.48	0.357
G-4* (TYPE 18)	1.30	0.255	3.50	0.357
G-5	1.02	0.220	SEE NOTE A	SEE NOTE A
G-6	1.04	0.220	SEE NOTE A	SEE NOTE A

TABLE BASED ON 8" FLOOR SLAB. NO DEDUCTIONS ARE TO BE MADE TO THESE QUANTITIES BECAUSE OF PIPE OPENINGS, DIFFERENT FLOOR ALTERNATIVES OR DIFFERENT CURB TYPES. * QUANTITIES FOR TYPE G-2 AND G-4 INLETS BASED ON THE MINIMUM INTERIOR DIMENSIONS.

NOTE A:
Maximum allowable height 6'-0".

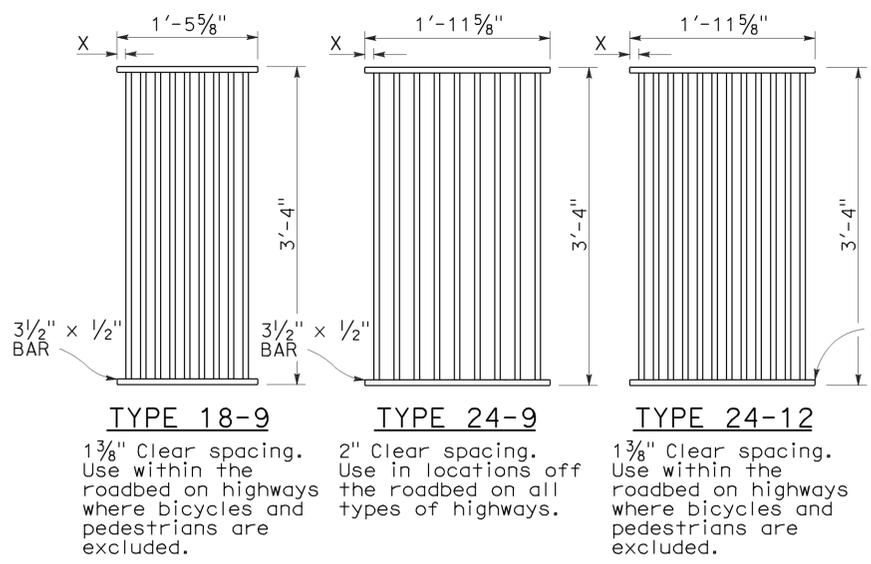
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DRAINAGE INLETS
NO SCALE

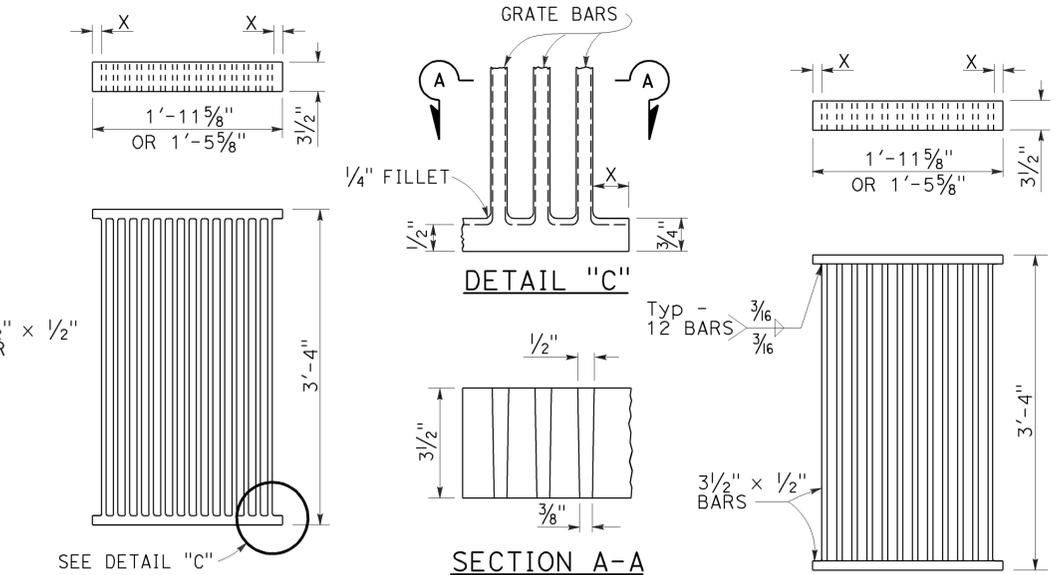
RSP D73 DATED OCTOBER 19, 2012 SUPERSEDES STANDARD PLAN D73 DATED MAY 20, 2011 - PAGE 156 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP D73

2010 REVISED STANDARD PLAN RSP D73

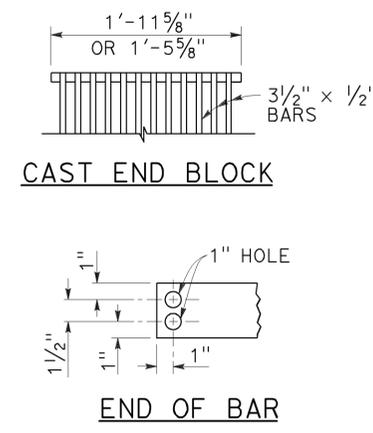


RECTANGULAR GRATE DETAILS
(See table below)

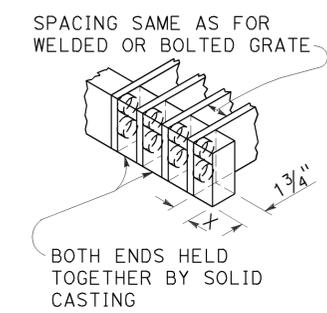


ALTERNATIVE CAST DUCTILE IRON GRATE OR CAST CARBON STEEL GRATE

ALTERNATIVE WELDED GRATE

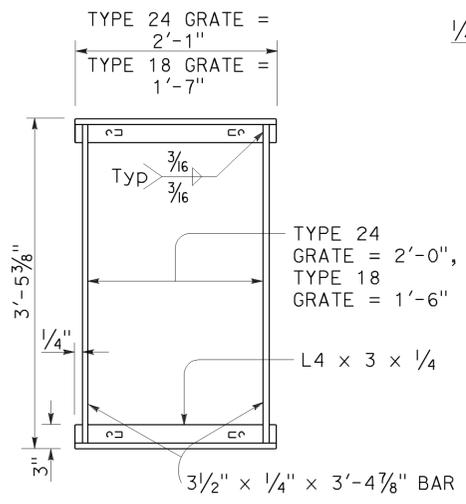


CAST END BLOCK

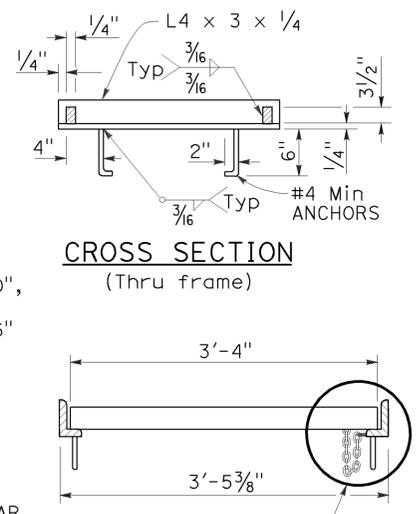


ALTERNATIVE CAST DUCTILE IRON OR CAST CARBON STEEL END BLOCK GRATE

- NOTES:**
- Grate type numbers refer to approximate width of grate in inches and number of bars, respectively.
 - Contractor has the option of using cast ductile iron, cast carbon steel, welded, bolted, or cast end block grate.
 - Rounded top of bars optional on all grates.
 - Pipe inlets with a grate shall be placed so that bars parallel direction of principle surface flow.
 - Complete joint penetration butt welds may be substituted for the fillet welds on all anchors.
 - Standard square, hexagon, round or equivalent headed anchors may be substituted for the right angle hooks on the anchors shown on this plan.
 - Grate and frame weights are based on welded grates (weights of face angles, steps, protection bars, etc. are not included).
 - Connect chain to grate and frame only at locations shown on the plans. When chain is required, do not use cast ductile iron grates.

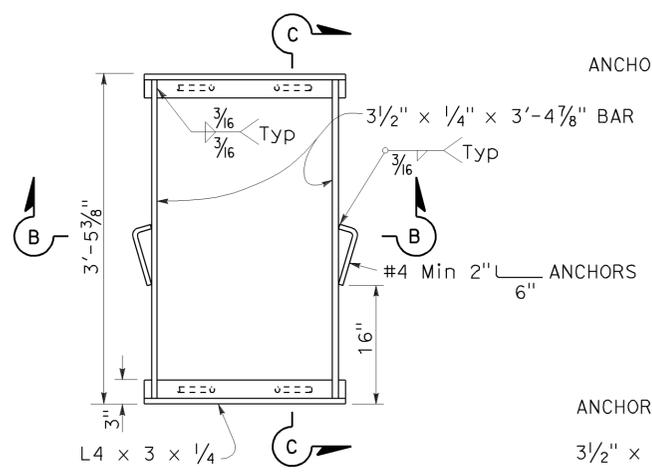


TYPICAL FRAME



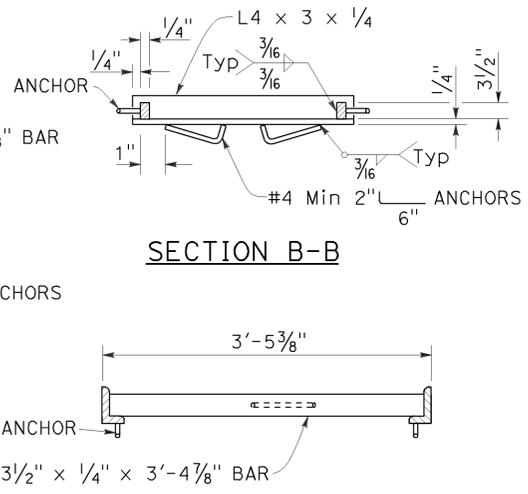
CROSS SECTION
(Thru frame)

LONGITUDINAL SECTION
(Thru frame and grate)



TYPICAL FRAME

ALTERNATIVE ANCHOR FOR RECTANGULAR FRAME
(For details not shown, See Rectangular Frame Details)



SECTION B-B

SECTION C-C

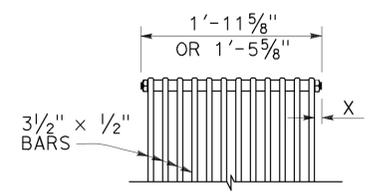
RECTANGULAR FRAME DETAILS
(For all rectangular grates)

GRATE BAR SPACING TABLE

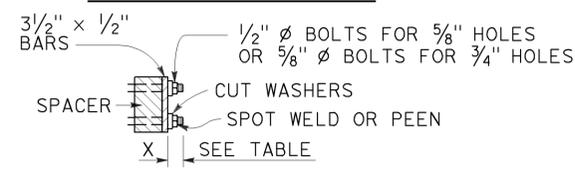
TYPE	NO. OF BARS	CLEAR BAR SPACING	X
18-9	9	1 3/8"	1 1/16"
24-9	9	2"	1 9/16"
24-12	12	1 3/8"	1 1/4"

INLET TYPE	COVER TYPE	WEIGHT LB
OS	PLATE	174
OL-7	PLATE	170
OL-10	PLATE	170
OL-14	PLATE	170
OL-21	PLATE	170
OCPI	PLATE	112
OCPI	PLATE	112
OCPI	REDWOOD	42
OMP	PLATE	177
OMPI	PLATE	177

INLET TYPE	GRATE TYPE	NO. OF GRATES	WEIGHT LB
GDO	24-12	2	634
GOL-7	24-12	1	326
GOL-10	24-12	1	326
G0,G1,G2,G3,G4 (TYPE 24)	24-9	1	263
	24-12	1	326
G4 (TYPE 18),G5,G6	18-9	1	249
GT1	18-9	2	498
GT2	18-9	2	498
GT3	24-12	2	652
GT4	24-12	2	652
TRASH RACK			22
GRATE CHAIN			3

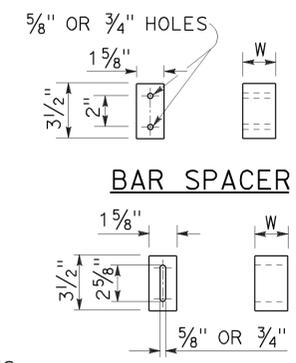


BOLTED END BLOCK



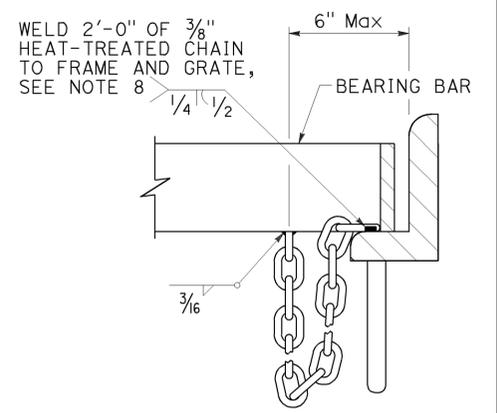
BOLTING DETAIL

ALTERNATIVE BOLTED GRATE



BAR SPACER

ALTERNATIVE SPACER
W = 1 3/8" or 2"



DETAIL "D"
(Steel grates only)

GRATE DETAILS No. 1
NO SCALE

BASIS FOR MISC IRON & STEEL FINAL PAY WEIGHTS FOR DRAINAGE INLETS
(See Note 7)

RSP D77A DATED APRIL 19, 2013 SUPERSEDES RSP D77A DATED JULY 20, 2012 AND STANDARD PLAN D77A DATED MAY 20, 2011 - PAGE 164 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP D77A

2010 REVISED STANDARD PLAN RSP D77A

Gregory A. Balzer
LICENSED LANDSCAPE ARCHITECT

July 19, 2013
PLANS APPROVAL DATE

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TO ACCOMPANY PLANS DATED 4-27-15

A

AB AGGREGATE BASE
 ABS ACRYLONITRILE-BUTADIENE-STYRENE
 AC ASPHALT CONCRETE
 ACC ARMOR-CLAD CONDUCTORS
 Adj ADJACENT/ADJUSTABLE
 AIC AUXILIARY IRRIGATION CONTROLLER
 Alt ALTERNATIVE
 AMEND AMENDMENT
 ARV AIR RELEASE VALVE
 AUTO AUTOMATIC
 AUX AUXILIARY
 AVB ATMOSPHERIC VACUUM BREAKER

B

B&B BALLED AND BURLAPPED
 B/B BRASS/BRONZE
 B/B/PL BRASS/BRONZE/PLASTIC
 B/PL BRASS/PLASTIC
 BFM BONDED FIBER MATRIX
 Bit Ctd BITUMINOUS COATED
 BP BOOSTER PUMP
 BPA BACKFLOW PREVENTER ASSEMBLY
 BPE BACKFLOW PREVENTER ENCLOSURE
 BV BALL VALVE

C

C CONDUIT
 CAP CORRUGATED ALUMINUM PIPE
 CARV COMBINATION AIR RELEASE VALVE
 CB COUPLING BAND
 CCA CAM COUPLER ASSEMBLY
 CEC CONTROLLER ENCLOSURE CABINET
 CHDPE CORRUGATED HIGH DENSITY POLYETHYLENE
 CL CHAIN LINK
 CNC CONTROL AND NEUTRAL CONDUCTORS
 Conc CONCRETE
 CP COPPER PIPE
 CS COMPOST SOCK
 CSP CORRUGATED STEEL PIPE
 CST CENTER STRIP
 CV CHECK VALVE

D

Dia DIAMETER
 DIP DUCTILE IRON PIPE
 DIT DRIP IRRIGATION TUBING
 DG DECOMPOSED GRANITE
 DN DIAMETER NOMINAL
 DVA DRIP VALVE ASSEMBLY

E

EC EROSION CONTROL
 ECTC EROSION CONTROL TECHNOLOGY COUNCIL
 ElecT ELECTRIC/ELECTRICAL
 Elev ELEVATION
 ELL ELBOW
 ENCL ENCLOSURE
 EP EDGE OF PAVEMENT
 ES EDGE OF SHOULDER
 EST END STRIP
 ESTB ESTABLISHMENT
 ETW EDGE OF TRAVELED WAY

F

F FULL CIRCLE
 F/P FULL/PART CIRCLE
 FCV FLOW CONTROL VALVE
 FERT FERTILIZER
 FG FINISHED GRADE
 FH FLEXIBLE HOSE
 FIPT FEMALE IRON PIPE THREAD
 FIS FERTILIZER INJECTOR SYSTEM
 FL FLOW LINE
 FR FIBER ROLL
 FS FLOW SENSOR
 FSC FLOW SENSOR CABLE
 FV FLUSH VALVE

G

Galv GALVANIZED
 GARV GARDEN VALVE
 GARVA GARDEN VALVE ASSEMBLY
 GM GRAVEL MULCH
 GPH GALLONS PER HOUR
 GPM GALLONS PER MINUTE
 GSP GALVANIZED STEEL PIPE
 GV GATE VALVE

H

H HALF CIRCLE
 HDPE HIGH DENSITY POLYETHYLENE
 HP HORSEPOWER/HINGE POINT
 HPL HIGH PRESSURE LINE
 Hwy HIGHWAY

I

IC IRRIGATION CONTROLLER
 ICC IRRIGATION CONTROLLER(S)
 IN CONTROLLER ENCLOSURE CABINET
 ID INSIDE DIAMETER
 IFS IRRIGATION FILTRATION SYSTEM
 IPS IRON PIPE SIZE
 IPT IRON PIPE THREAD
 Irr IRRIGATION

L

L LENGTH

M

Max MAXIMUM
 MBGR METAL BEAM GUARD RAILING
 MCV MANUAL CONTROL VALVE
 MIC MASTER IRRIGATION CONTROLLER
 Min MINIMUM
 MIPT MALE IRON PIPE THREAD
 Misc MISCELLANEOUS
 MtI MATERIAL
 MVP MAINTENANCE VEHICLE PULLOUT

N

NCN NO COMMON NAME
 NL NOZZLE LINE
 No. NUMBER
 NPT NATIONAL PIPE THREAD

O

O/C ON CENTER
 OD OUTSIDE DIAMETER
 OL OVERLAP

P

P PART CIRCLE
 PB PULL BOX
 PCC PORTLAND CEMENT CONCRETE
 PE POLYETHYLENE
 Pkt+ PACKET
 PL PLASTIC
 PLS PURE LIVE SEED
 PLT PLANT/PLANTING
 PLT ESTB PLANT ESTABLISHMENT
 PM POST MILE
 PR PRESSURE RATED
 PRLV PRESSURE RELIEF VALVE
 PRV PRESSURE REGULATING VALVE
 PVC POLYVINYL CHLORIDE
 Pvm+ PAVEMENT

Q

Q QUARTER CIRCLE
 QCV QUICK COUPLING VALVE

R

R RADIUS
 RCP REINFORCED CONCRETE PIPE
 RCV REMOTE CONTROL VALVE
 RCVM REMOTE CONTROL VALVE (MASTER)
 RCVMF REMOTE CONTROL VALVE (MASTER) W/FLOW SENSOR
 RCVP REMOTE CONTROL VALVE W/PRESSURE REGULATOR
 RCW RECYCLED WATER
 RECP ROLLED EROSION CONTROL PRODUCT
 REQ REQUIRED
 RICS REMOTE IRRIGATION CONTROL SYSTEM
 R/W RIGHT OF WAY

S

S SLIP
 SCH SCHEDULE
 SF STATE-FURNISHED
 Shld SHOULDER
 Sq SQUARE
 SST SIDE STRIP
 Sta STATION
 Std STANDARD
 SW SIDEWALK/SOUND WALL

T

T THIRD CIRCLE/THREAD
 TLS TRUCK LOADING STANDPIPE
 TQ THREE QUARTER CIRCLE
 TRM TURF REINFORCEMENT MAT
 TT TWO-THIRDS CIRCLE
 TWSA TREE WELL SPRINKLER ASSEMBLY
 Typ TYPICAL

U

UG UNDERGROUND

W

W WIDTH
 W/ WITH
 WM WATER METER
 WS WYE STRAINER
 WSA WYE STRAINER ASSEMBLY
 WSP WELDED STEEL PIPE
 WWM WELDED WIRE MESH

NOTE:
 For additional abbreviations,
 see Standard Plans A10A and A10B.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**LANDSCAPE AND
 EROSION CONTROL ABBREVIATIONS**
 NO SCALE

RSP H1 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN H1
 DATED MAY 20, 2011 - PAGE 218 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP H1

2010 REVISED STANDARD PLAN RSP H1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Mrn	101	18.9/25.8	111	148

Gregory A. Balzer
LICENSED LANDSCAPE ARCHITECT

November 15, 2013
PLANS APPROVAL DATE

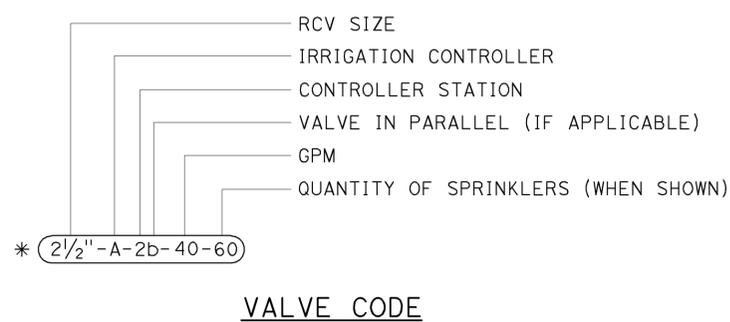
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TO ACCOMPANY PLANS DATED 4-27-15

2010 REVISED STANDARD PLAN RSP H2

EXISTING	NEW	ITEM DESCRIPTION
		WATER METER (WM)
		BACKFLOW PREVENTER ASSEMBLY (BPA)
		BACKFLOW PREVENTER ENCLOSURE (BPE)
		BOOSTER PUMP (BP)
		TRUCK LOADING STANDPIPE (TLS)
		FLOW SENSOR (FS)
		MASTER IRRIGATION CONTROLLER (MIC)
		AUXILIARY IRRIGATION CONTROLLER (AIC)
		IRRIGATION CONTROLLER (IC) IRRIGATION CONTROLLER (IC) (BATTERY) IRRIGATION CONTROLLER (IC) (SOLAR) IRRIGATION CONTROLLER (IC) (TWO WIRE) IRRIGATION CONTROLLER(S) IN CONTROLLER ENCLOSURE CABINET (ICC)
		ARMOR-CLAD CONDUCTORS (ACC)
		CONTROL AND NEUTRAL CONDUCTORS (CNC)
		IRRIGATION CONDUIT
		EXTEND IRRIGATION CONDUIT
		DUCTILE IRON PIPE (SUPPLY LINE) (MAIN) (DIP)
		GALVANIZED STEEL PIPE (SUPPLY LINE) (MAIN) (GSP)
		GALVANIZED STEEL PIPE (SUPPLY LINE) (LATERAL) (GSP)
		PLASTIC PIPE (SUPPLY LINE) (MAIN)
		PLASTIC PIPE (SUPPLY LINE) (LATERAL)
		COPPER PIPE (SUPPLY LINE)
		DRIP IRRIGATION TUBING
		REMOTE CONTROL VALVE (RCV) REMOTE CONTROL VALVE (MASTER) (RCVM) REMOTE CONTROL VALVE (MASTER) W/FLOW METER (RCVMF)
		REMOTE CONTROL VALVE W/PRESSURE REGULATOR (RCVP)
		EXISTING MANUAL CONTROL VALVE (MCV)
		DRIP VALVE ASSEMBLY (DVA)
		WYE STRAINER ASSEMBLY (WSA)

EXISTING	NEW	ITEM DESCRIPTION
		GATE VALVE (GV)
		BALL VALVE (BV)
		QUICK COUPLING VALVE (QCV)
		CAM COUPLER ASSEMBLY (CCA)
		GARDEN VALVE ASSEMBLY (GARVA)
		PRESSURE REGULATING VALVE (PRV)
		PRESSURE RELIEF VALVE (PRLV)
		FLOW CONTROL VALVE (FCV)
		COMBINATION AIR RELEASE VALVE (CARV)
		CHECK VALVE (CV)
		FLUSH VALVE (FV)
		EXISTING NOZZLE LINE W/TURNING UNION
		EXISTING IRRIGATION SYSTEM
		EXISTING IRRIGATION SYSTEM TO BE REMOVED
		CHAIN LINK GATE
		QUICK COUPLING VALVE W/SPRINKLER PROTECTOR
		SPRINKLER W/SPRINKLER PROTECTOR
		CONNECT TO EXISTING SYSTEM
		CAP
		CAP EXISTING
		FIBER ROLL
		COMPOST SOCK



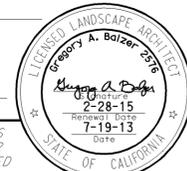
* VALVE CODES FOR EXISTING VALVES ARE SHOWN IN A DASHED ENCLOSURE.

RSP H2 DATED NOVEMBER 15, 2013 SUPERSEDES RSP H2 DATED JULY 19, 2013 AND STANDARD PLAN H2 DATED MAY 20, 2011 - PAGE 219 OF THE STANDARD PLANS BOOK DATED 2010.

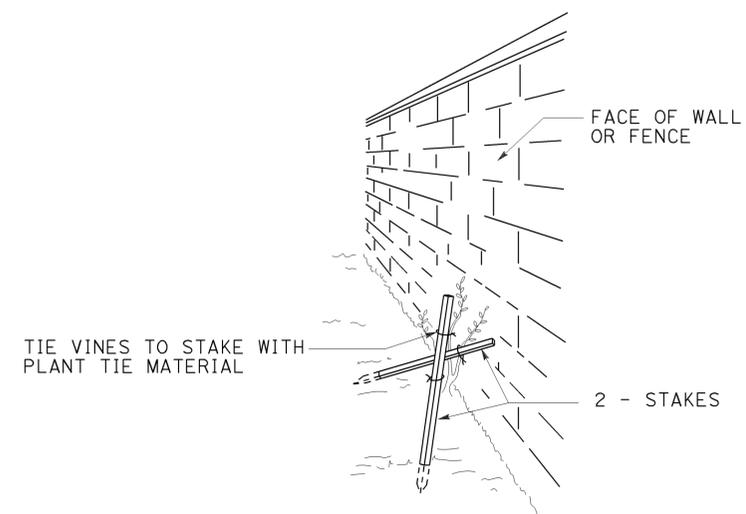
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**LANDSCAPE AND EROSION
CONTROL SYMBOLS**
NO SCALE

REVISED STANDARD PLAN RSP H2

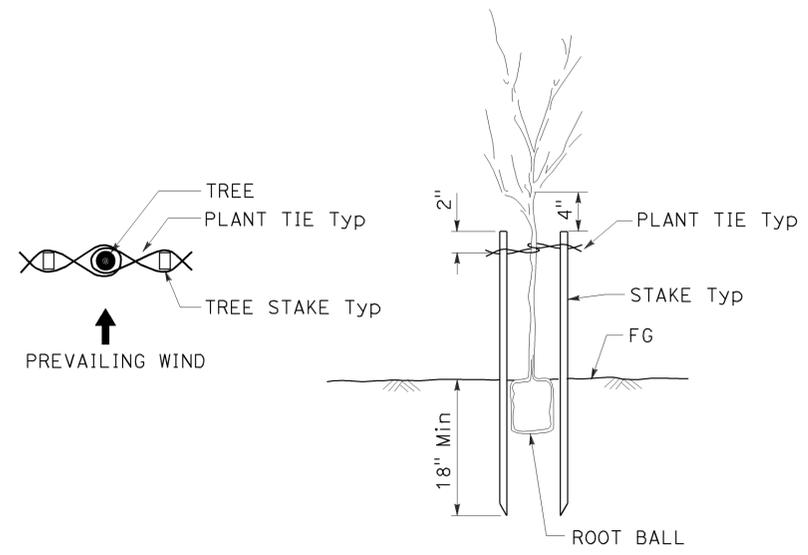
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Mrn	101	18.9/25.8	112	148
<i>Gregory A. Balzer</i> LICENSED LANDSCAPE ARCHITECT					
July 19, 2013 PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



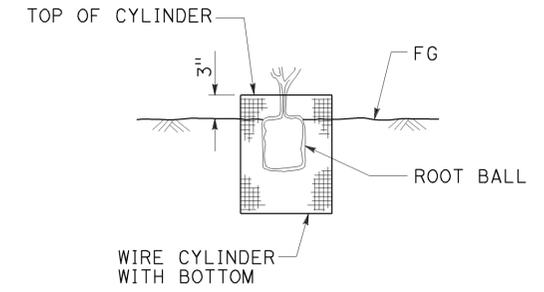
TO ACCOMPANY PLANS DATED 4-27-15



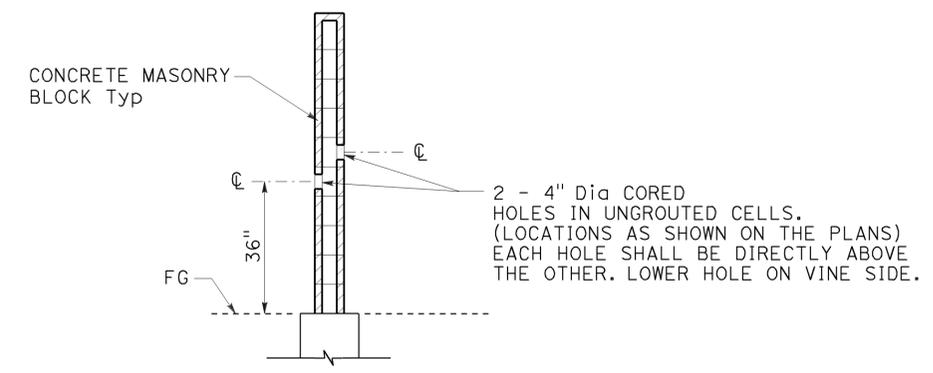
PERSPECTIVE
VINE STAKING



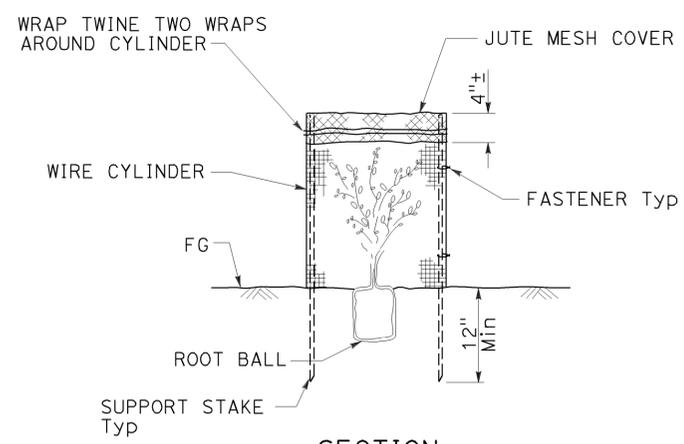
TREE STAKING



SECTION
ROOT PROTECTOR



SECTION
CORE HOLE (VINE)



SECTION
FOLIAGE PROTECTOR

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
LANDSCAPE DETAILS
 NO SCALE

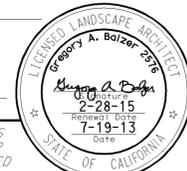
RSP H4 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN H4
 DATED MAY 20, 2011 - PAGE 221 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP H4

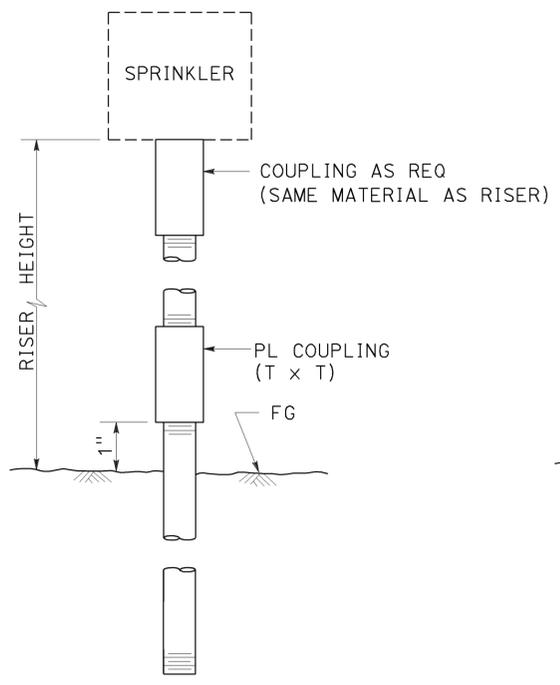
2010 REVISED STANDARD PLAN RSP H4

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Mrn	101	18.9/25.8	113	148

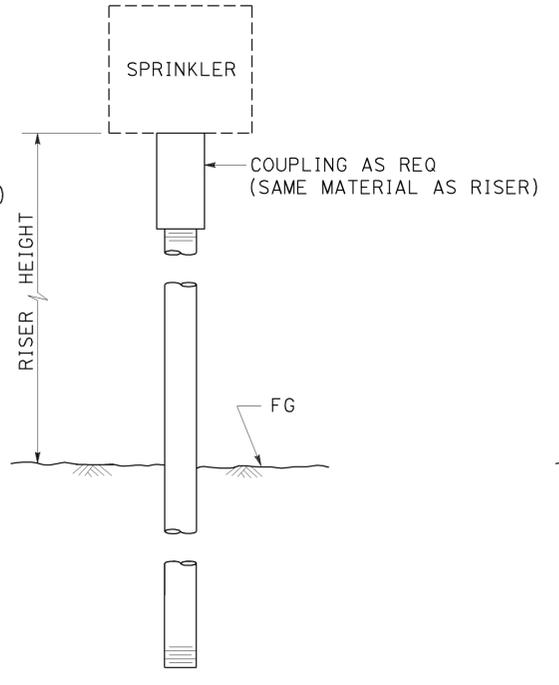
Gregory A. Balzer
 LICENSED LANDSCAPE ARCHITECT
 July 19, 2013
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



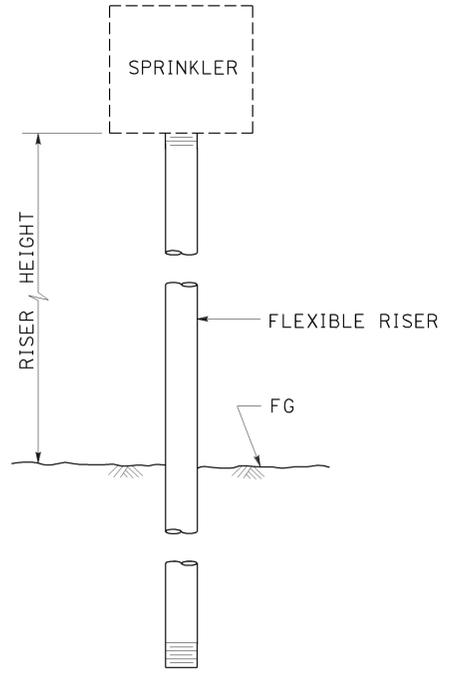
TO ACCOMPANY PLANS DATED 4-27-15



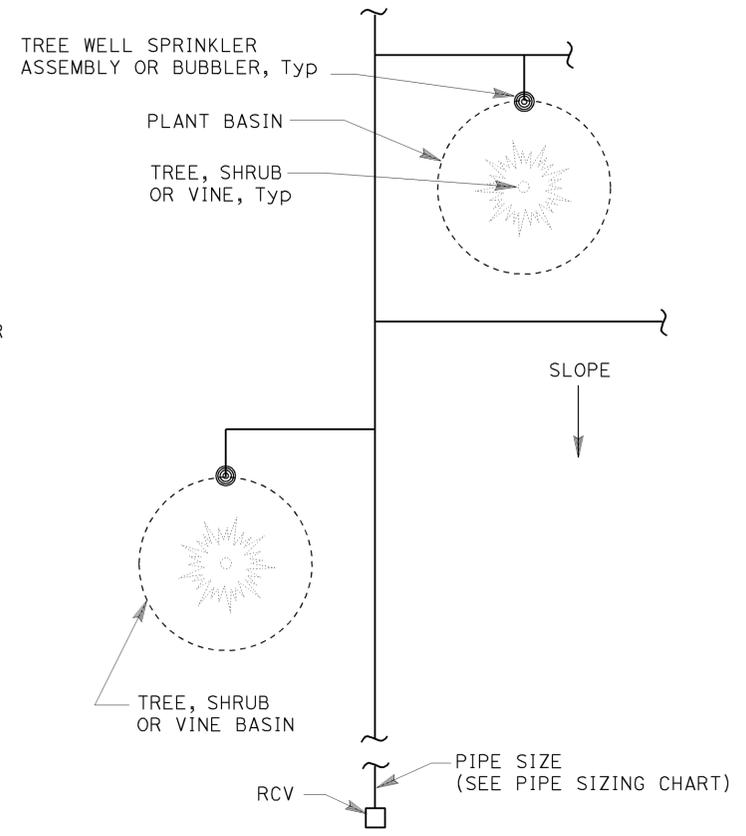
ELEVATION
RISER SPRINKLER ASSEMBLY TYPE I



ELEVATION
RISER SPRINKLER ASSEMBLY TYPE II



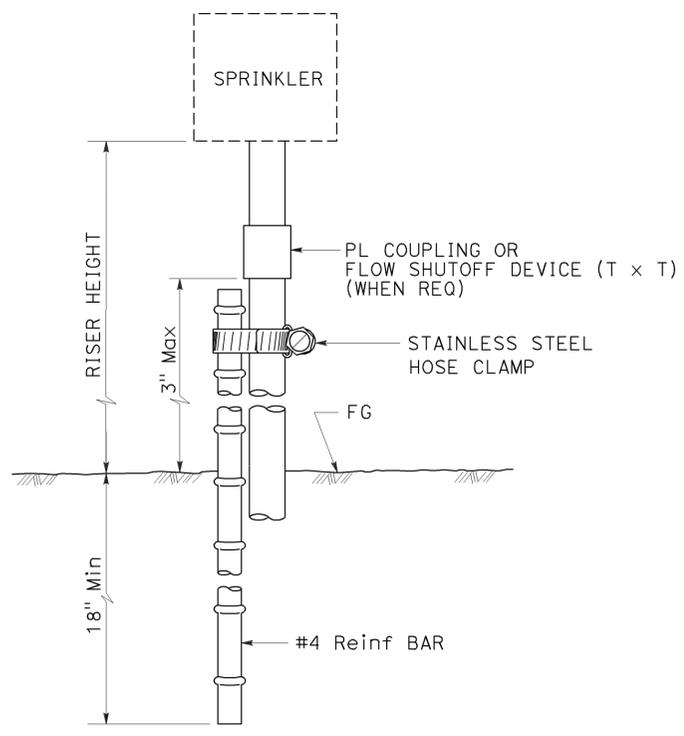
ELEVATION
RISER SPRINKLER ASSEMBLY TYPE III



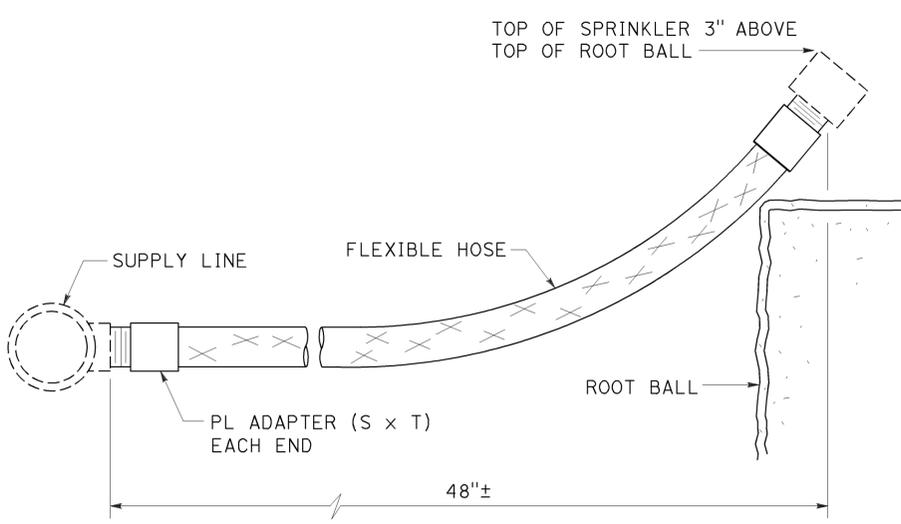
PLAN

NOTES:

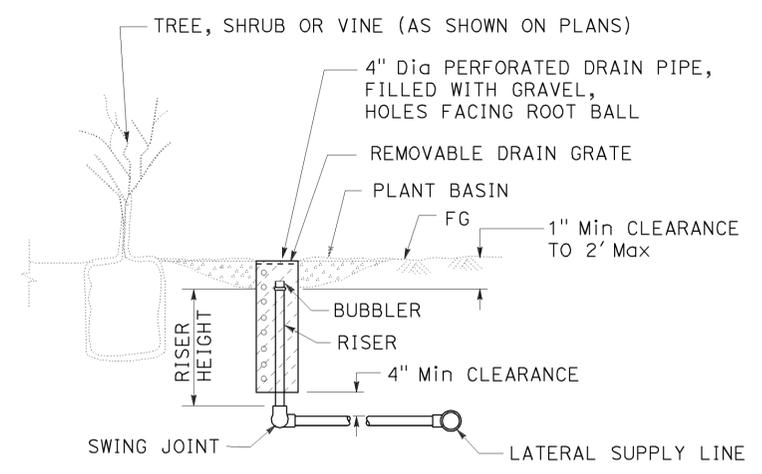
1. Install tree well sprinkler assembly on up-hill side of plant when on slope.
2. Install bubbler within basin.



ELEVATION
RISER SPRINKLER ASSEMBLY TYPE IV



ELEVATION
RISER SPRINKLER ASSEMBLY TYPE V



SECTION
TREE WELL SPRINKLER ASSEMBLY

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
LANDSCAPE DETAILS
NO SCALE

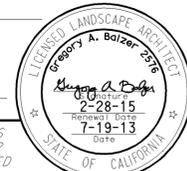
RSP H5 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN H5 DATED MAY 20, 2011 - PAGE 222 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP H5

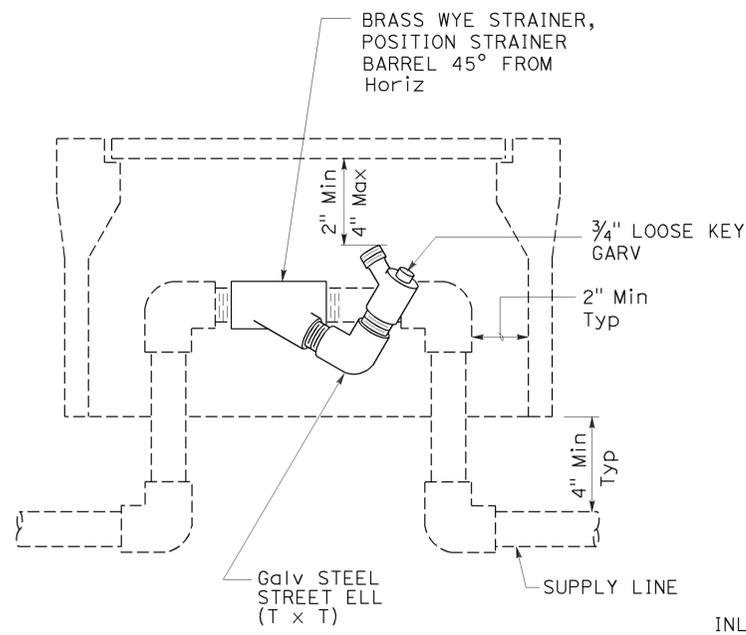
2010 REVISED STANDARD PLAN RSP H5

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Mrn	101	18.9/25.8	114	148

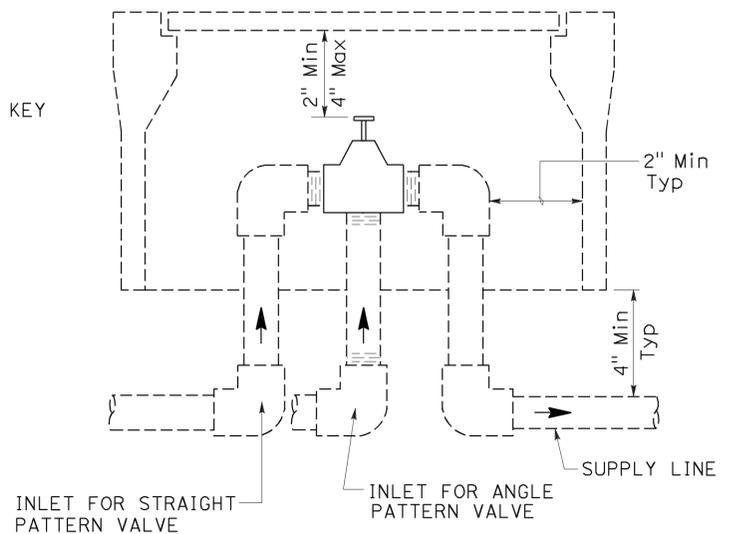
Gregory A. Balzer
 LICENSED LANDSCAPE ARCHITECT
 July 19, 2013
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



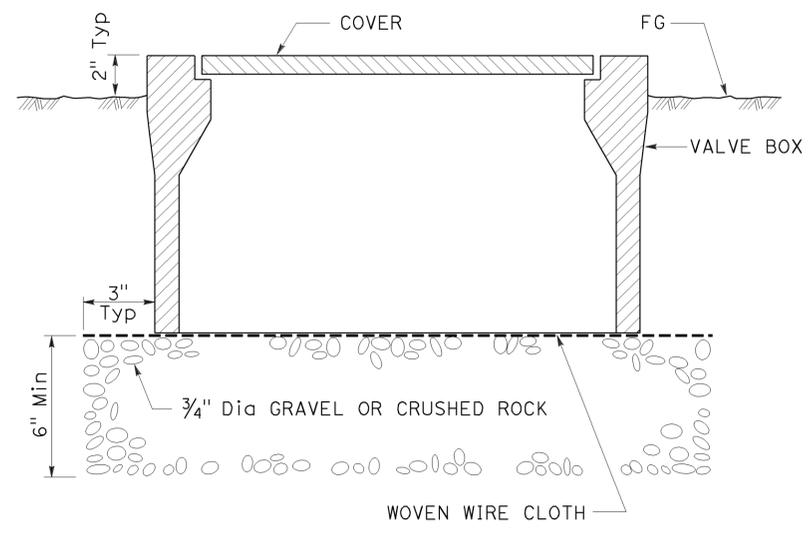
TO ACCOMPANY PLANS DATED 4-27-15



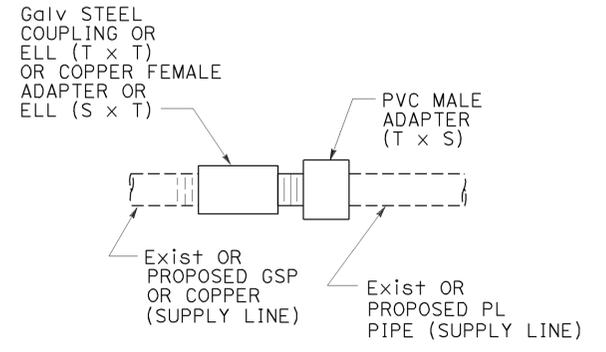
**ELEVATION
WYE STRAINER ASSEMBLY**



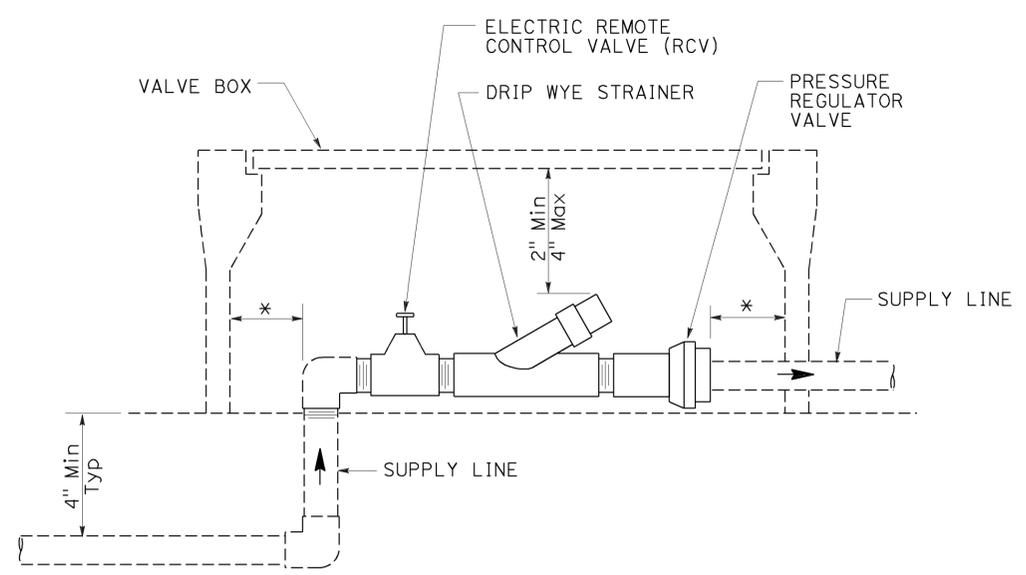
**ELEVATION
VALVE**



**SECTION
VALVE BOX**



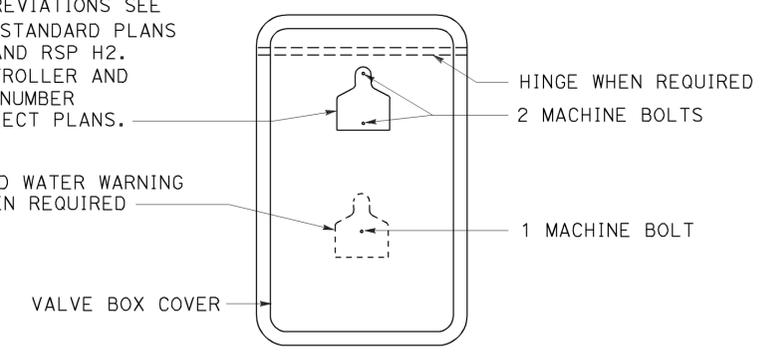
**GALVANIZED OR COPPER PIPE
CONNECTION TO PLASTIC PIPE**



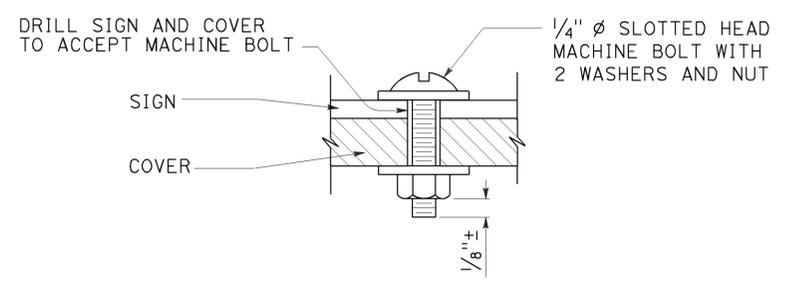
**ELEVATION
DRIP VALVE ASSEMBLY**

IDENTIFICATION LABEL:
FOR ABBREVIATIONS SEE
REVISED STANDARD PLANS
RSP H1 AND RSP H2.
FOR CONTROLLER AND
STATION NUMBER
SEE PROJECT PLANS.

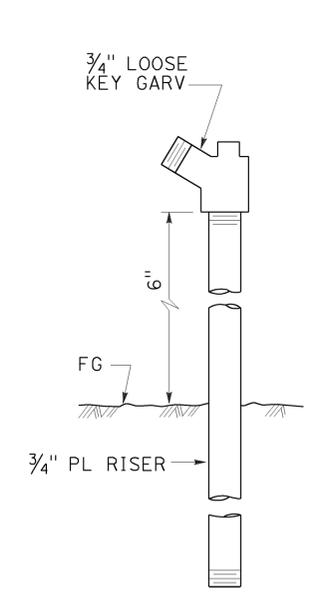
RECYCLED WATER WARNING
SIGN WHEN REQUIRED



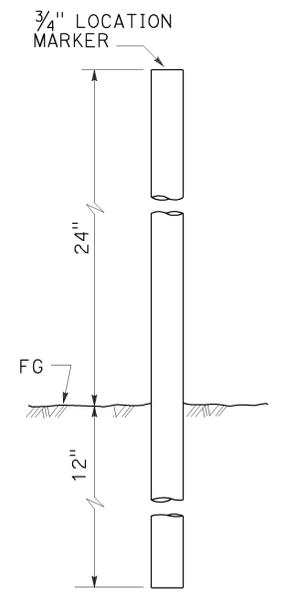
PLAN



**SECTION
VALVE BOX IDENTIFICATION**



**ELEVATION
GARDEN VALVE ASSEMBLY**



**ELEVATION
LOCATION MARKER**

GARDEN VALVE ASSEMBLY

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

LANDSCAPE DETAILS

NO SCALE

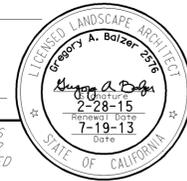
RSP H7 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN H7
DATED MAY 20, 2011 - PAGE 224 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP H7

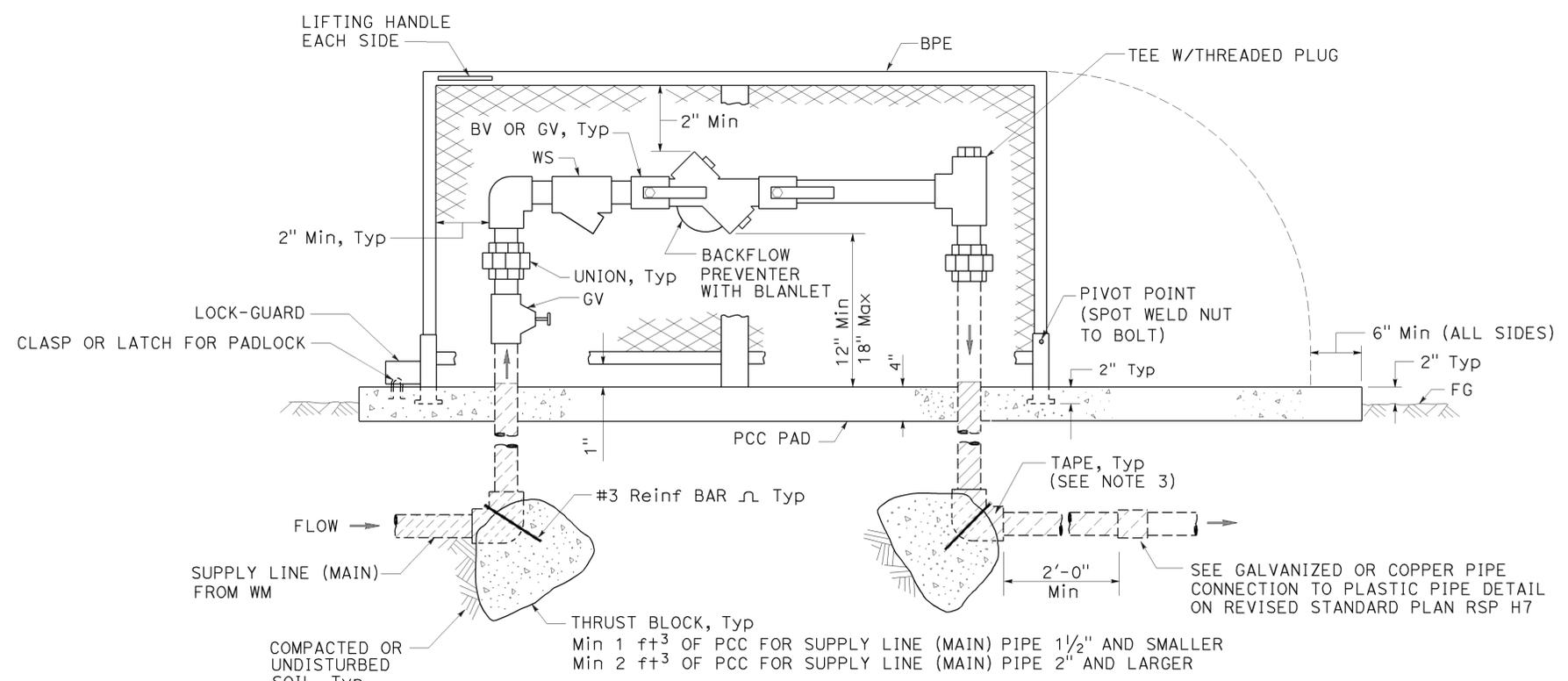
2010 REVISED STANDARD PLAN RSP H7

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Mrn	101	18.9/25.8	115	148

Gregory A. Balzer
 LICENSED LANDSCAPE ARCHITECT
 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.



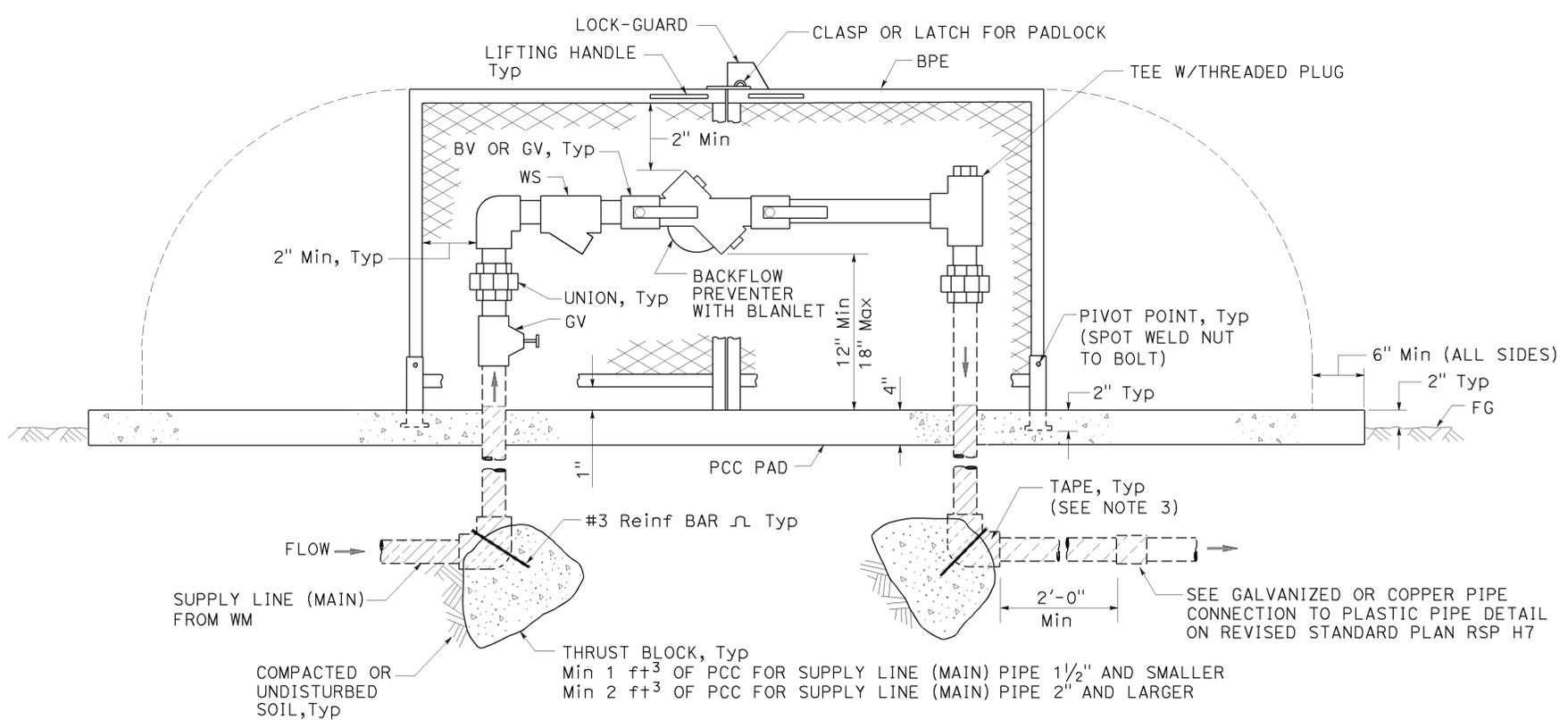
TO ACCOMPANY PLANS DATED 4-27-15



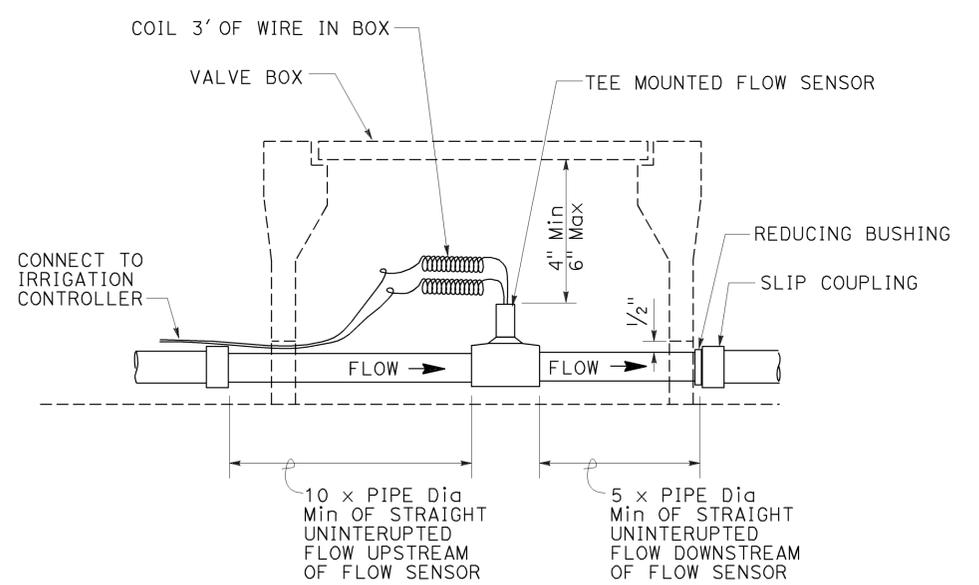
ELEVATION
BACKFLOW PREVENTER ASSEMBLY
 IN ONE PIECE ENCLOSURE

NOTES:

1. Wye strainer and fittings must be the same size as the backflow preventer shown on the plans.
2. Backflow preventer assembly manifold pipe must be the same pipe as the supply line (main) pipe to be installed from the water meter to the backflow preventer assembly.
3. All metal in contact with soil and Portland Cement Concrete must be wrapped with 2" wide plastic backed adhesive polyethylene tape 20 mil thick with 1/2" overlap.



ELEVATION
BACKFLOW PREVENTER ASSEMBLY
 IN TWO PIECE ENCLOSURE



SECTION
FLOW SENSOR

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
LANDSCAPE DETAILS
 NO SCALE

RSP H8 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN H8 DATED MAY 20, 2011 - PAGE 225 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP H8

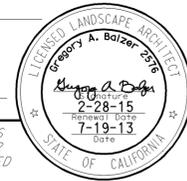
2010 REVISED STANDARD PLAN RSP H8

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Mrn	101	18.9/25.8	116	148

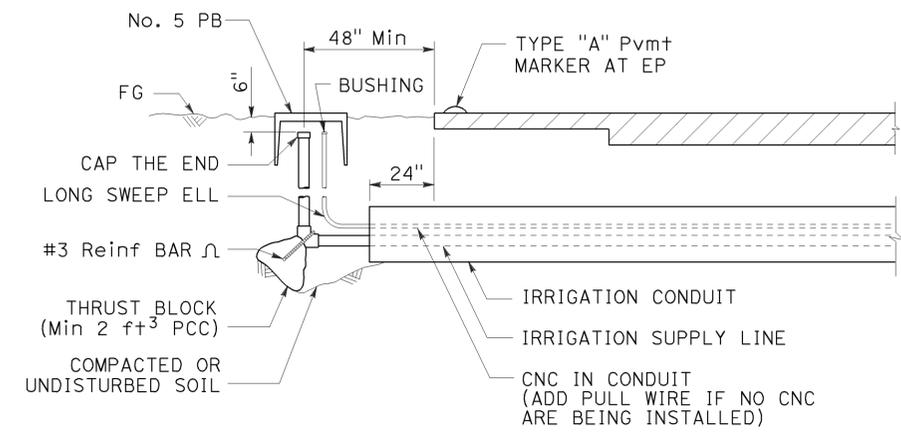
Gregory A. Balzer
 LICENSED LANDSCAPE ARCHITECT

July 19, 2013
 PLANS APPROVAL DATE

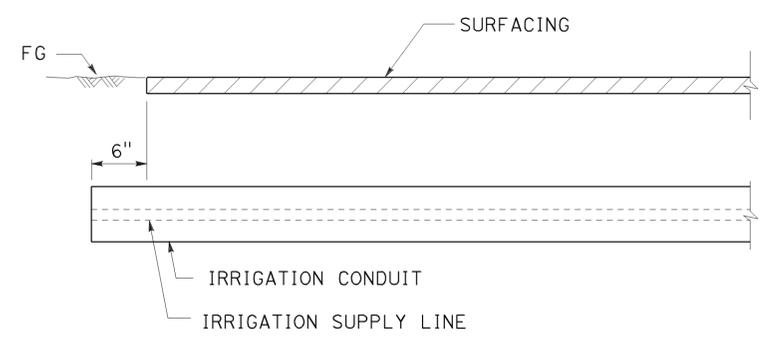
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



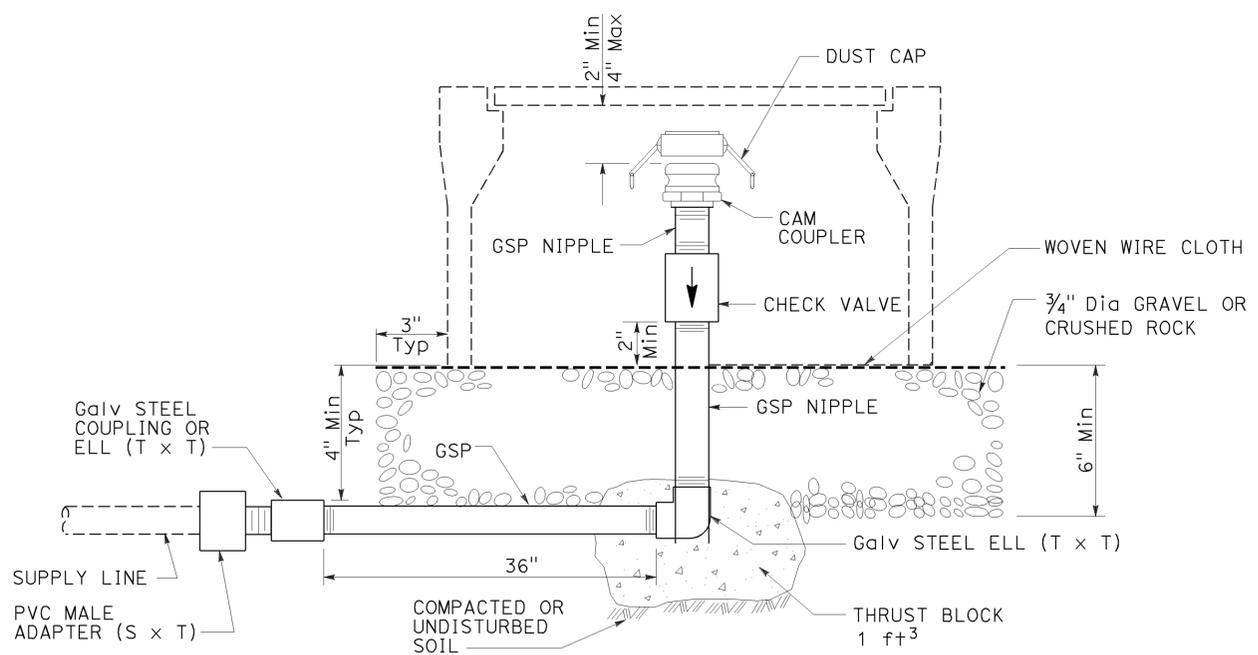
TO ACCOMPANY PLANS DATED 4-27-15



SECTION
IRRIGATION CONDUIT
UNDER TRAVELED WAY



SECTION
IRRIGATION CONDUIT
UNDER SIDEWALKS, DRIVEWAYS AND PATHS



ELEVATION
CAM COUPLER ASSEMBLY

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
LANDSCAPE DETAILS
NO SCALE

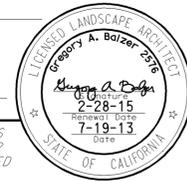
RSP H9 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN H9 DATED MAY 20, 2011 - PAGE 226 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP H9

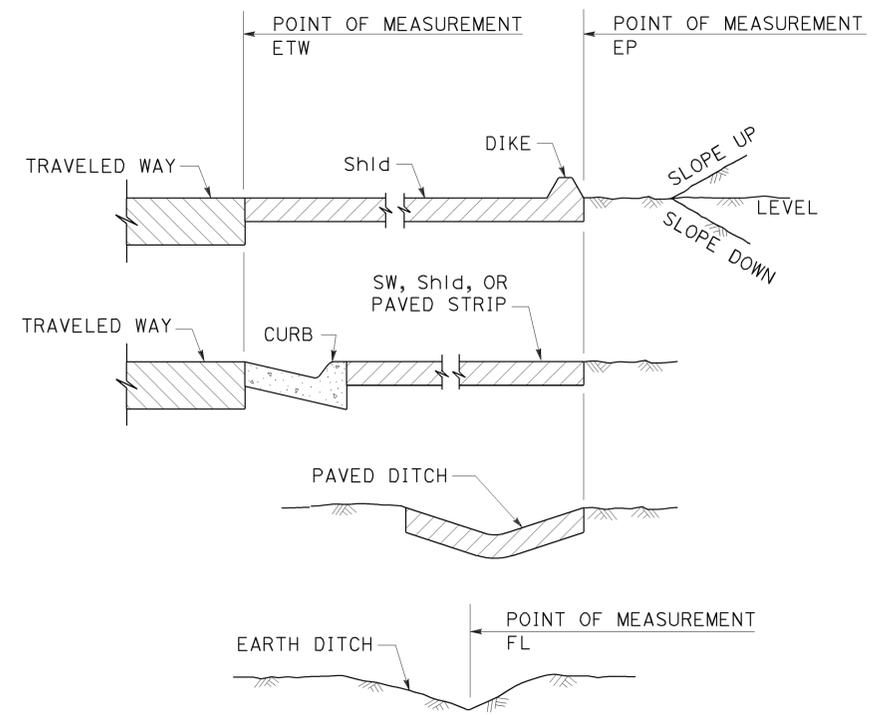
2010 REVISED STANDARD PLAN RSP H9

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Mrn	101	18.9/25.8	117	148

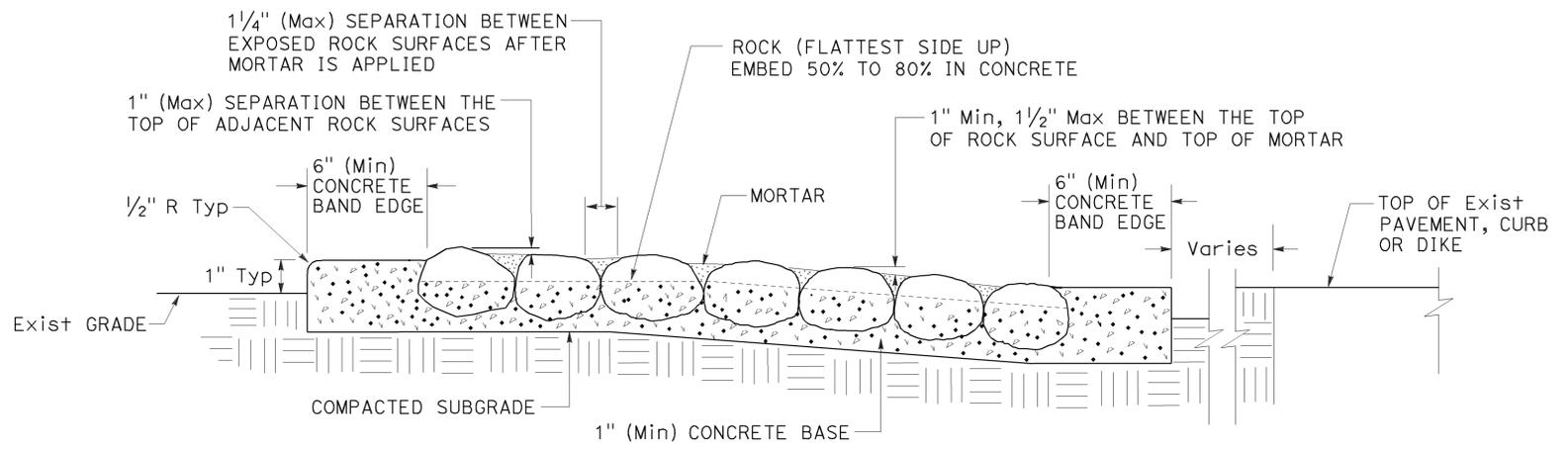
Gregory A. Balzer
 LICENSED LANDSCAPE ARCHITECT
 July 19, 2013
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



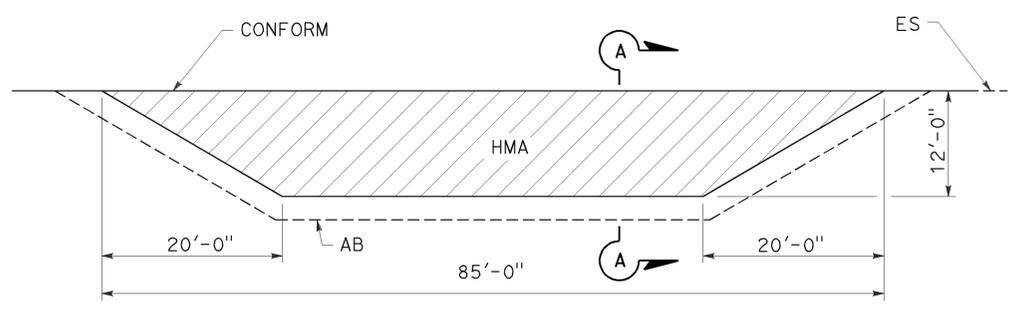
TO ACCOMPANY PLANS DATED 4-27-15



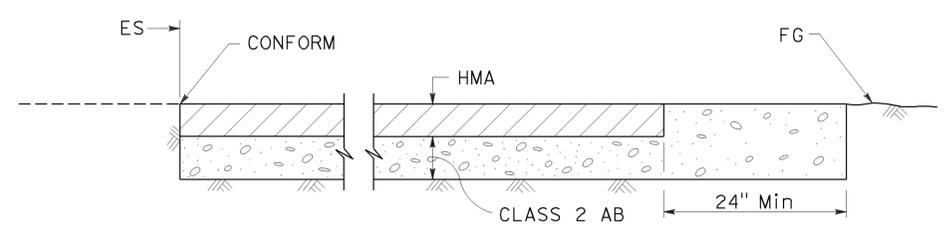
**SECTION
POINTS OF MEASUREMENT**



**SECTION
ROCK BLANKET**



PLAN



**SECTION A-A
MAINTENANCE VEHICLE PULLOUT**

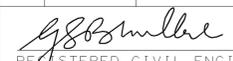
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
LANDSCAPE DETAILS
 NO SCALE

RSP H9A DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP H9A

2010 REVISED STANDARD PLAN RSP H9A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Mrn	101	18.9/25.8	118	148


 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 4-27-15

TABLE 1

TAPER LENGTH CRITERIA AND CHANNELIZING DEVICE SPACING							
SPEED (S)	MINIMUM TAPER LENGTH * FOR WIDTH OF OFFSET 12 FEET (W)				MAXIMUM CHANNELIZING DEVICE SPACING		
	TANGENT 2L	MERGING L	SHIFTING L/2	SHOULDER L/3	X	Y	Z **
					TAPER	TANGENT	CONFLICT
mph	ft	ft	ft	ft	ft	ft	ft
20	160	80	40	27	20	40	10
25	250	125	63	42	25	50	12
30	360	180	90	60	30	60	15
35	490	245	123	82	35	70	17
40	640	320	160	107	40	80	20
45	1080	540	270	180	45	90	22
50	1200	600	300	200	50	100	25
55	1320	660	330	220	55	110	27
60	1440	720	360	240	60	120	30
65	1560	780	390	260	65	130	32
70	1680	840	420	280	70	140	35

* - For other offsets, use the following merging taper length formula for L:
 For speed of 40 mph or less, $L = WS^2/60$
 For speed of 45 mph or more, $L = WS$

Where: L = Taper length in feet
 W = Width of offset in feet
 S = Posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph

** - Use for taper and tangent sections where there are no pavement markings or where there is a conflict between existing pavement markings and channelizers (CA).

TABLE 2

LONGITUDINAL BUFFER SPACE AND FLAGGER STATION SPACING				
SPEED *	Min D **	DOWNGRADE Min D ***		
		-3%	-6%	-9%
		ft	ft	ft
mph	ft	ft	ft	ft
20	115	116	120	126
25	155	158	165	173
30	200	205	215	227
35	250	257	271	287
40	305	315	333	354
45	360	378	400	427
50	425	446	474	507
55	495	520	553	593
60	570	598	638	686
65	645	682	728	785
70	730	771	825	891

* - Speed is posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph
 ** - Longitudinal buffer space or flagger station spacing
 *** - Use on sustained downgrade steeper than -3 percent and longer than 1 mile.

TABLE 3

ADVANCE WARNING SIGN SPACING			
ROAD TYPE	DISTANCE BETWEEN SIGNS *		
	A	B	C
	ft	ft	ft
URBAN - 25 mph OR LESS	100	100	100
URBAN - MORE THAN 25 mph TO 40 mph	250	250	250
URBAN - MORE THAN 40 mph	350	350	350
RURAL	500	500	500
EXPRESSWAY / FREEWAY	1000	1500	2640

* - The distances are approximate, are intended for guidance purposes only, and should be applied with engineering judgment. These distances should be adjusted by the Engineer for field conditions, if necessary, by increasing or decreasing the recommended distances.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM TABLES FOR LANE AND RAMP CLOSURES

NO SCALE

RSP T9 DATED JULY 19, 2013 SUPERSEDES RSP T9 DATED APRIL 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

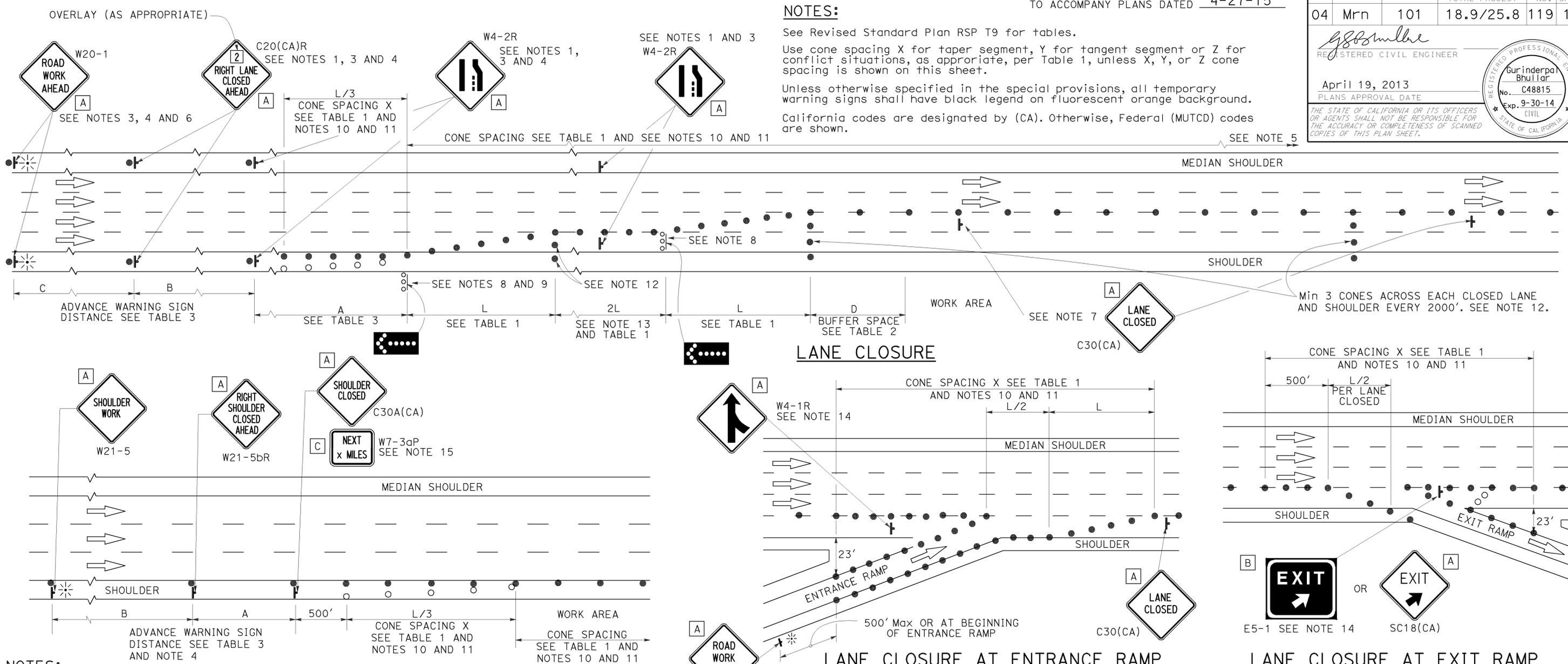
2010 REVISED STANDARD PLAN RSP T9

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Mrn	101	18.9/25.8	119	148

REGISTERED CIVIL ENGINEER
 April 19, 2013
 PLANS APPROVAL DATE

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2010 REVISED STANDARD PLAN RSP T10



- NOTES:**
1. Median lane closures shall conform to the details as shown except that C20(CA)L and W4-2L signs shall be used.
 2. At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closures.
 3. Duplicate sign installations are not required:
 - a) On opposite shoulder if at least one-half of the available lanes remain open to traffic.
 - b) In the median if the width of the median shoulder is less than 8' and the outside lanes are to be closed.
 4. Each advance warning sign on each side of the roadway shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
 5. A G20-2 "END ROAD WORK" sign, with minimum size of 48" x 24" as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious or ends within a larger project's limits.

- SHOULDER CLOSURE**
6. If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT ___ MILES", use a C20(CA) and W4-2L signs shall be used.
 7. Place a C30(CA) sign every 2000' throughout length of lane closure.
 8. One flashing arrow sign for each lane closed. The flashing arrow signs shall be Type I.
 9. A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at top of crest vertical curve or on a horizontal curve.
 10. All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
 11. Portable delineators, placed at one-half the spacing indicated for traffic cones may be used instead of cones for daytime closures only.

- LANE CLOSURE AT ENTRANCE RAMP**
12. Unless otherwise specified in the special provisions, a minimum of 3 cones shall be placed transversely across each closed lane and shoulder at each location where a taper across a traffic lane ends and every 2000' as shown on the "Lane Closure" detail. Two Type II barricades may be used instead of the 3 cones. The transverse alignment of the cones or barricades on the closed shoulder may be shifted from the transverse alignment to provide access to the work.
 13. Unless otherwise specified in the special provisions, the 2L tangent shown along lane lines shall be used between the L tapers required for each closed traffic lane.
 14. Unless otherwise specified in the special provisions, the E5-1 or SC18(CA) and W4-1 signs shall be used as shown.
 15. A W7-3aP "NEXT ___ MILES" plaque must be used if the shoulder closure extends beyond the distance that can be perceived by road users.

LEGEND

- TRAFFIC CONE
- TRAFFIC CONE (OPTIONAL TAPER)
- † TEMPORARY TRAFFIC CONTROL SIGN
- ⬢ FLASHING ARROW SIGN (FAS)
- ⬢ FAS SUPPORT OR TRAILER
- ☼ PORTABLE FLASHING BEACON

SIGN PANEL SIZE (Min)

A	48" x 48"
B	72" x 60"
C	36" x 30"

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

**TRAFFIC CONTROL SYSTEM
 FOR LANE CLOSURE ON
 FREEWAYS AND EXPRESSWAYS**

NO SCALE

RSP T10 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T10 DATED MAY 20, 2011 - PAGE 237 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T10

NOTES:

See Revised Standard Plan RSP T9 for tables.

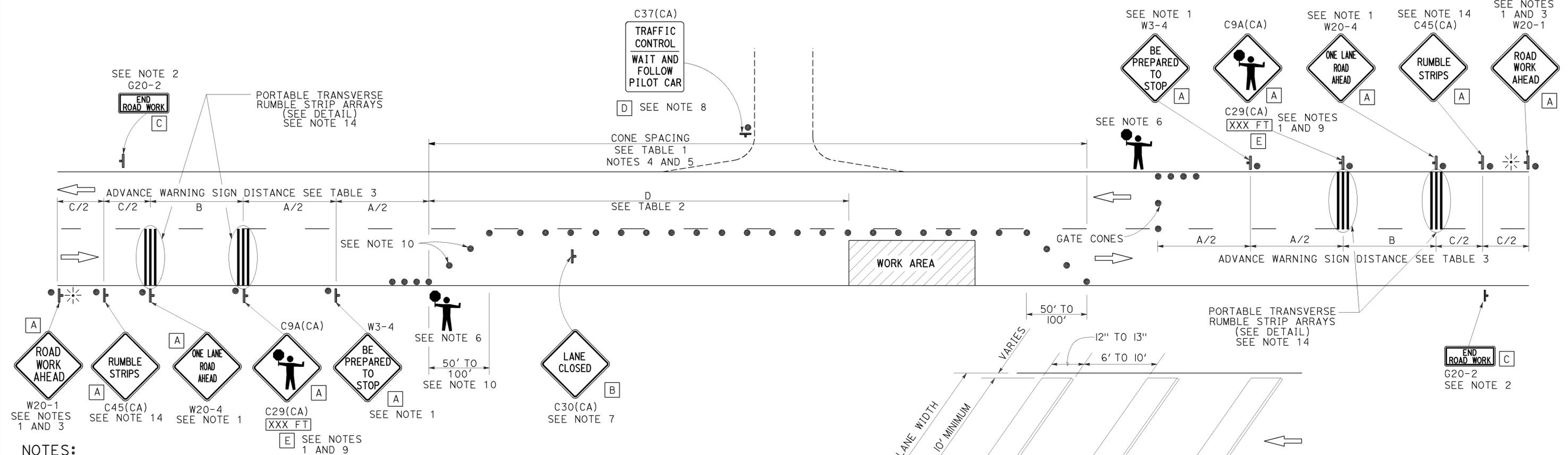
Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.

Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on fluorescent orange background.

California codes are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.

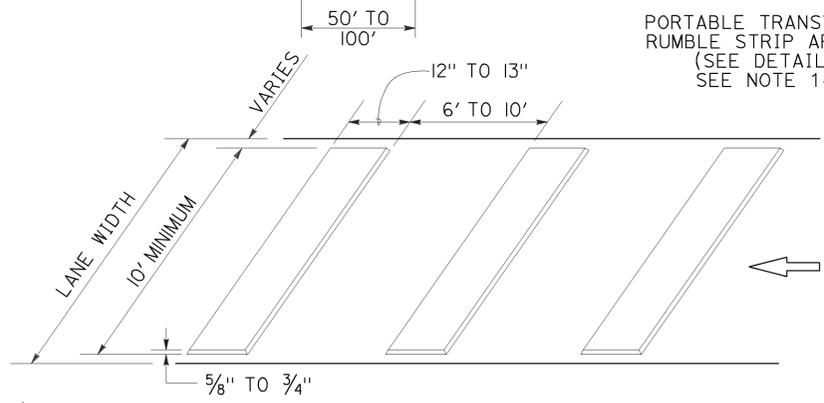
TYPICAL LANE CLOSURE WITH REVERSIBLE CONTROL

TO ACCOMPANY PLANS DATED 4-27-15



- NOTES:**
- Each advance warning sign in each direction of travel shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
 - A G20-2 "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane control unless the end of work area is obvious, or ends within a larger project's limits.
 - If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT _____ MILES", use a W20-4 sign for the first advance warning sign.
 - All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
 - Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
 - Additional advance flaggers may be required. Flagger should stand in a conspicuous place, be visible to approaching traffic as well as approaching vehicles after the first vehicle has stopped. During the hours of darkness, the flagging-station and flagger shall be illuminated and clearly visible to approaching traffic. The illumination footprint of the lighting on the ground shall be at least 20' in diameter. Place a minimum of four cones at 50' intervals in advance of flagger station as shown.

- Place C30(CA) "LANE CLOSED" sign at 500' to 1000' intervals throughout extended work areas. They are optional if the work area is visible from the flagger station.
- When a pilot car is used, place a C37(CA) "TRAFFIC CONTROL-WAIT AND FOLLOW PILOT CAR" sign with black legend on white background at all intersections, driveways and alleys without a flagger within traffic control area. Signs shall be clean and visible at all times. Where traffic can not be effectively self-regulated, at least one flagger shall be used at each intersection within traffic control area.
- An optional C29(CA) sign may be placed below the C9A(CA) sign.
- Either traffic cones or barricades shall be placed on the taper. Barricades shall be Type I, II, or III.
- The color of the portable transverse rumble strips shall be black or orange. Use 2 arrays, each array shall consist of 3 rumble strips.
- Portable transverse rumble strips shall not be placed on sharp horizontal or vertical curves nor shall they be placed through pedestrian crossings.
- If the portable transverse rumble strips become out of alignment (skewed) by more than 6 inches, measured from one end to the other, they shall be readjusted to bring the placement back to the original location.
- Portable transverse rumble strips are not required if any one of the following conditions is satisfied:
 - Work duration occupies a location for four hours or less
 - Posted speed limit is below 45 MPH
 - Work is of emergency nature
 - Work zone is in snow or icy weather conditions



SIGN PANEL SIZE (Min)

- A 48" x 48"
- B 30" x 30"
- C 36" x 18"
- D 36" x 42"
- E 20" x 7"

LEGEND

- TRAFFIC CONE
- ⊥ TEMPORARY TRAFFIC CONTROL SIGN
- ⚡ PORTABLE FLASHING BEACON
- 🚧 FLAGGER

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**TRAFFIC CONTROL SYSTEM
FOR LANE CLOSURE ON
TWO LANE CONVENTIONAL
HIGHWAYS**

NO SCALE

RSP T13 DATED OCTOBER 17, 2014 SUPERSEDES RSP T13 DATED JULY 18, 2014
AND RSP T13 DATED APRIL 19, 2013 AND STANDARD PLAN T13 DATED
MAY 20, 2011 - PAGE 241 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP T13

TYPICAL RAMP CLOSURES

SIGN PANEL SIZE (Min)

- A 48" x 48"
- B 48" x 30"
- C 36" x 36"
- D 48" x 36"

LEGEND

- TRAFFIC CONE
- † TEMPORARY TRAFFIC CONTROL SIGN
- ‡ BARRICADES
- ⚡ PORTABLE FLASHING BEACON

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Mrn	101	18.9/25.8	121	148

Gurinderpal Bhullar
 REGISTERED CIVIL ENGINEER
 April 19, 2013
 PLANS APPROVAL DATE

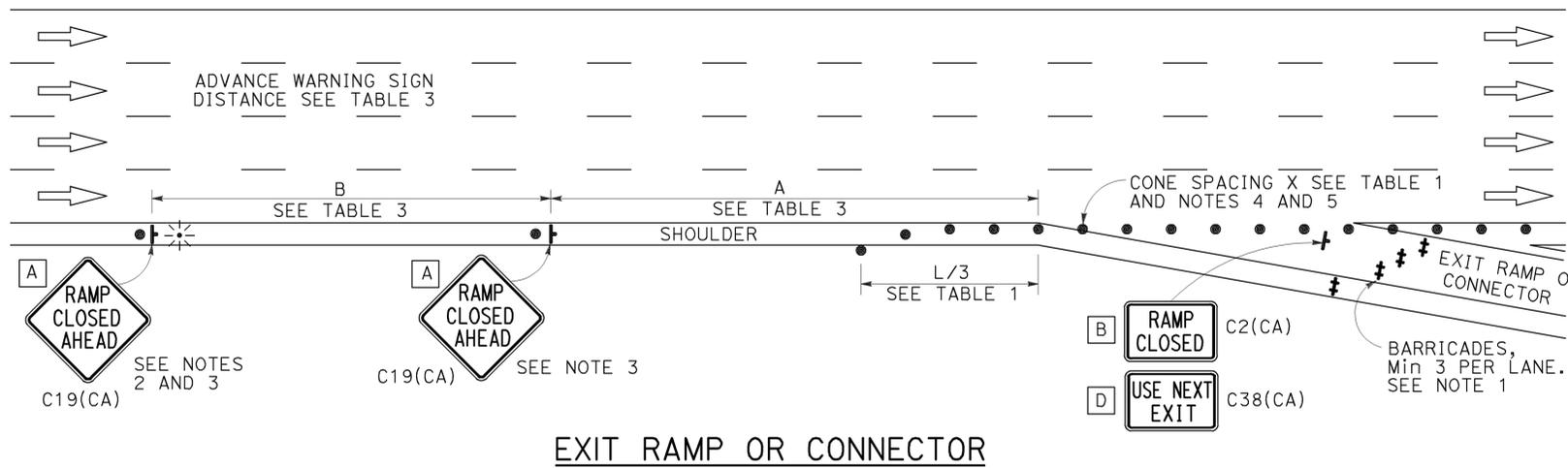
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
 Gurinderpal Bhullar
 No. C48815
 Exp. 9-30-14
 CIVIL
 STATE OF CALIFORNIA

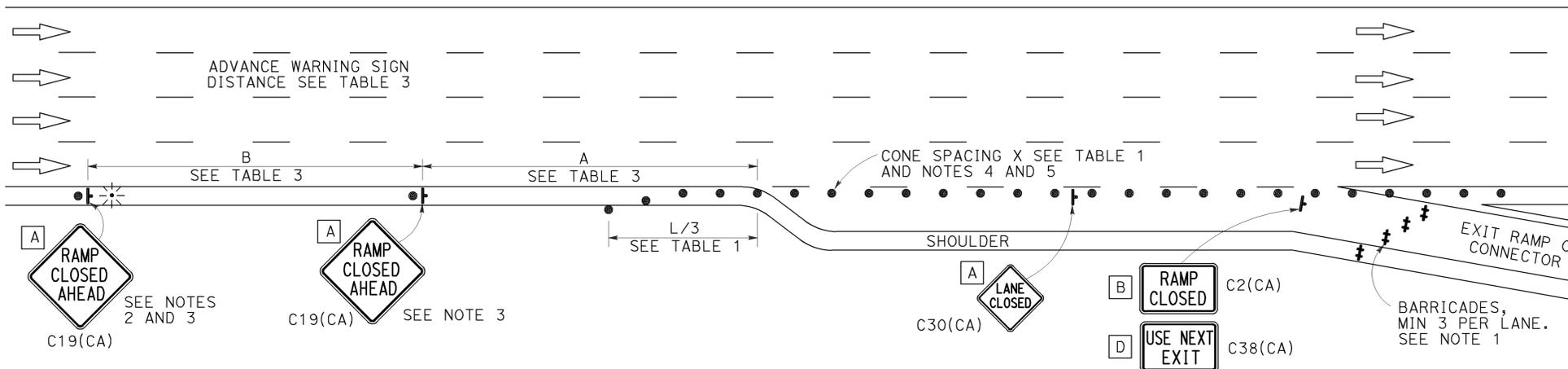
TO ACCOMPANY PLANS DATED 4-27-15

NOTES:

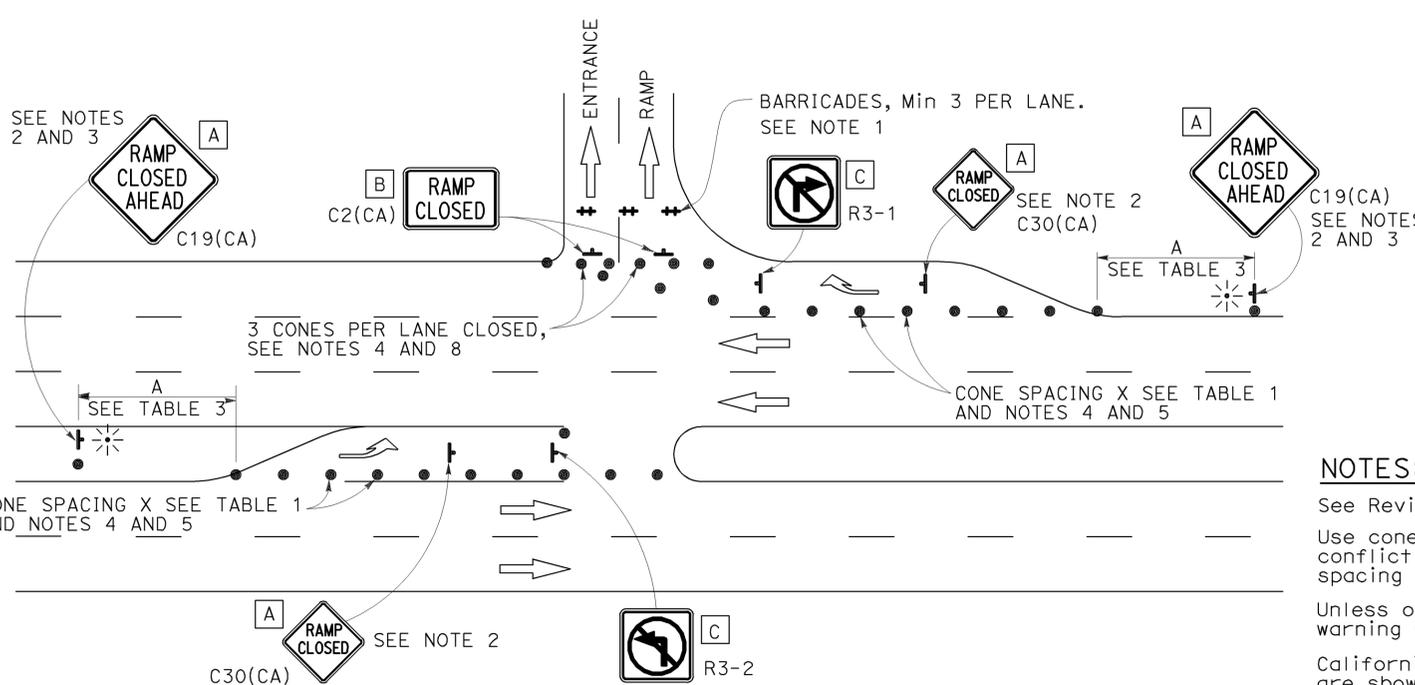
- Barricades shall be Type I, II, or III for closures lasting one week or less and Type III for closures lasting longer than one week.
- In addition to placing the C19(CA) "RAMP CLOSED AHEAD" and C30(CA) "RAMP CLOSED" signs, black on orange overlay plates with the word "CLOSED" may be mounted, as directed by the Engineer, on all guide signs that refer to the closed ramp. The letter size on the overlay shall be the same as the guide sign.
- Each advance C19(CA) "RAMP CLOSED AHEAD" sign shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. A flashing beacon shall be placed on top of the first C19(CA) sign during hours of darkness.
- All cones used for ramp closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
- Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime ramp closures only.
- At least one person shall be assigned to provide full time maintenance of traffic control devices, unless otherwise directed by the Engineer.
- The existing "EXIT" signs shall be covered during ramp closures.
- A minimum of 3 cones shall be placed transversely across each closed lane and shoulder.



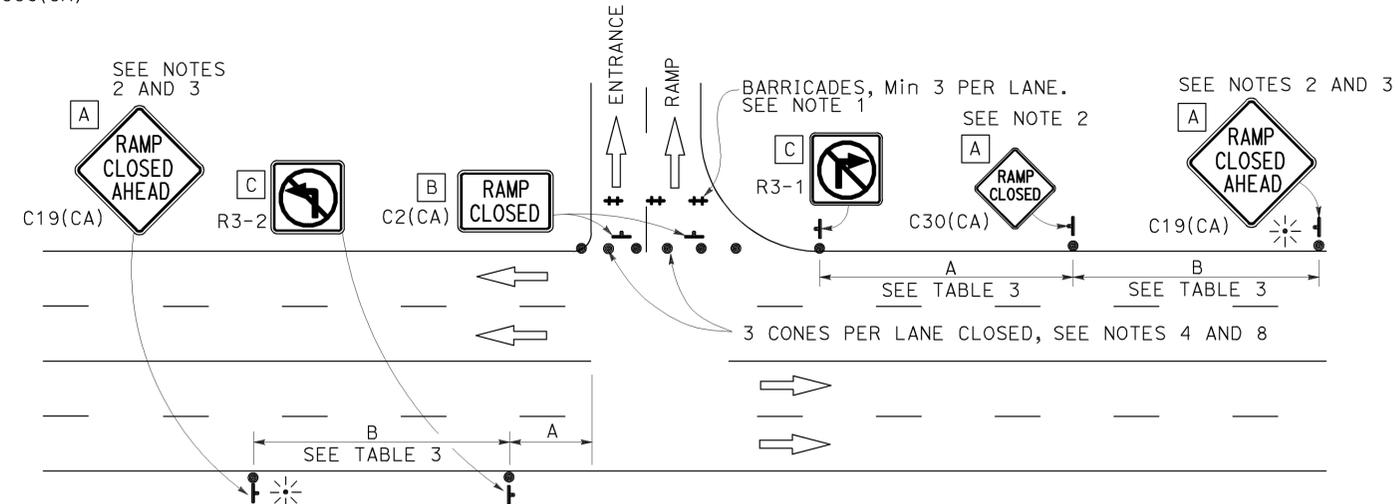
EXIT RAMP OR CONNECTOR



EXIT RAMP OR CONNECTOR WITH ADDITIONAL LANE



ENTRANCE RAMP WITH TURNING POCKETS



ENTRANCE RAMP WITHOUT TURNING POCKETS

NOTES:

- See Revised Standard Plan RSP T9 for tables.
- Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.
- Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on fluorescent orange background.
- California codes are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**TRAFFIC CONTROL SYSTEM
 FOR RAMP CLOSURE**
 NO SCALE

RSP T14 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T14
 DATED MAY 20, 2011 - PAGE 242 OF THE STANDARD PLANS BOOK DATED 2010.
REVISED STANDARD PLAN RSP T14

2010 REVISED STANDARD PLAN RSP T14

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Mrn	101	18.9/25.8	122	148

REGISTERED CIVIL ENGINEER

November 15, 2013
PLANS APPROVAL DATE

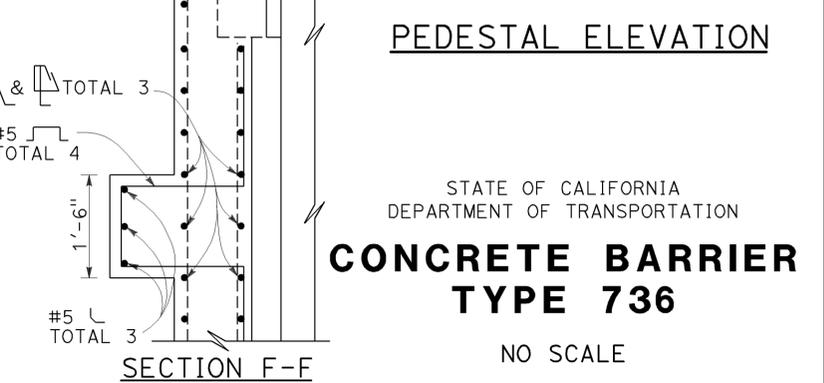
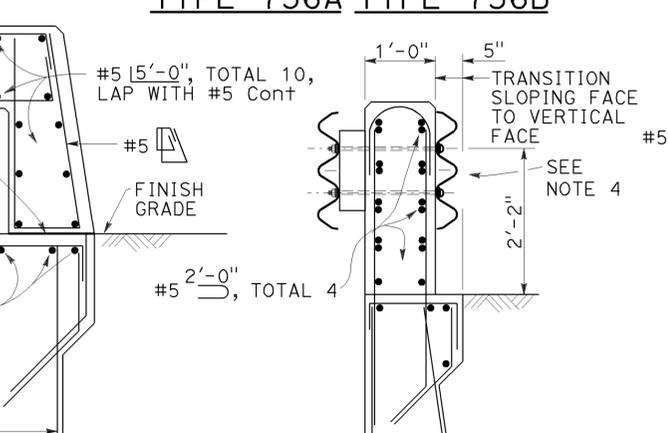
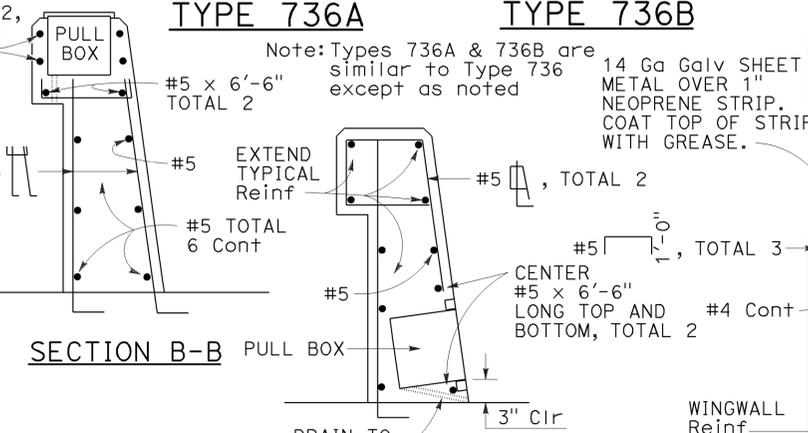
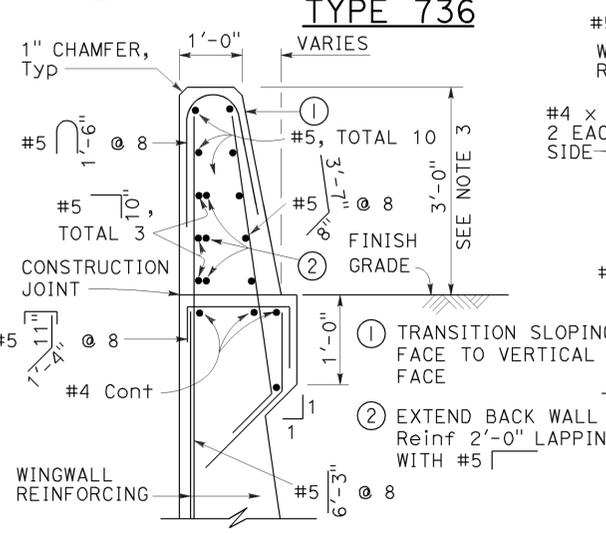
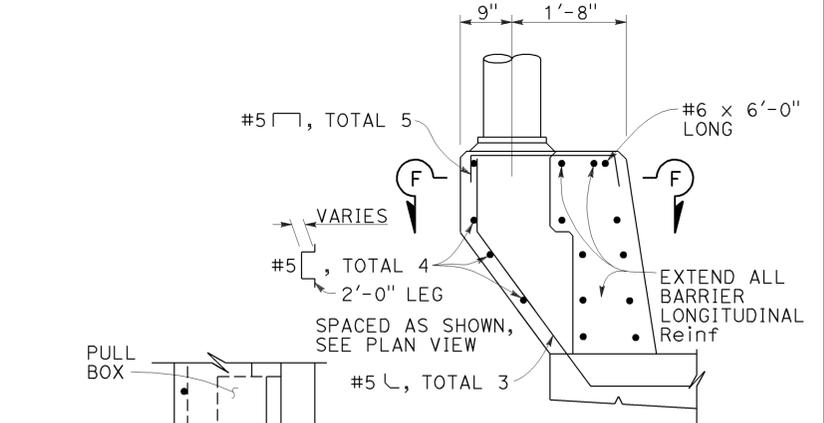
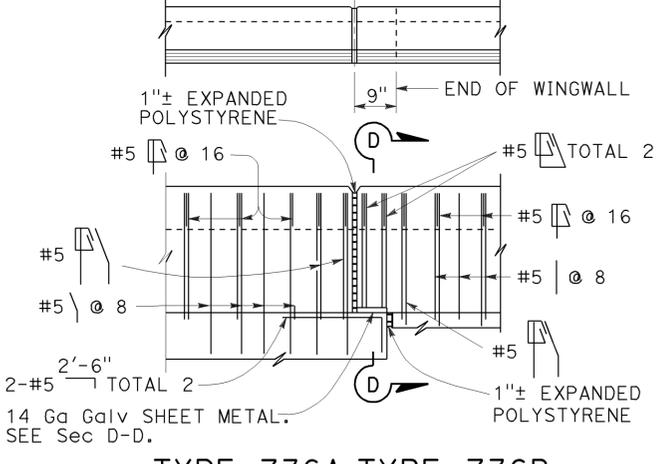
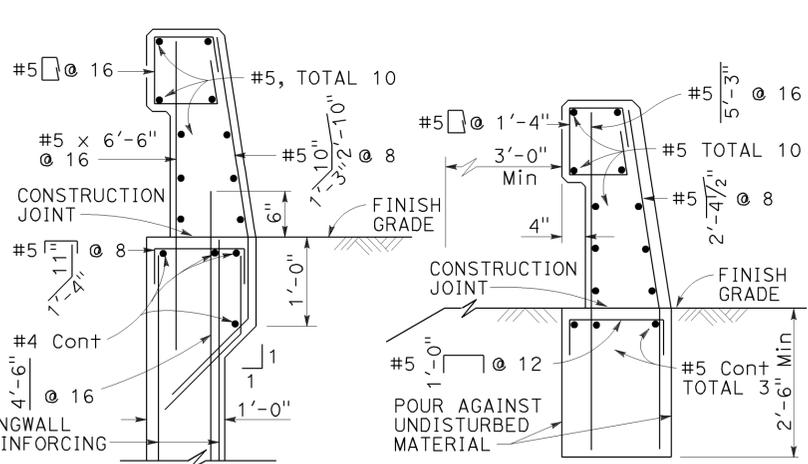
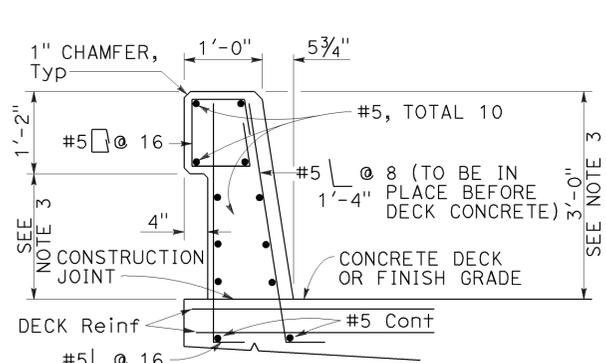
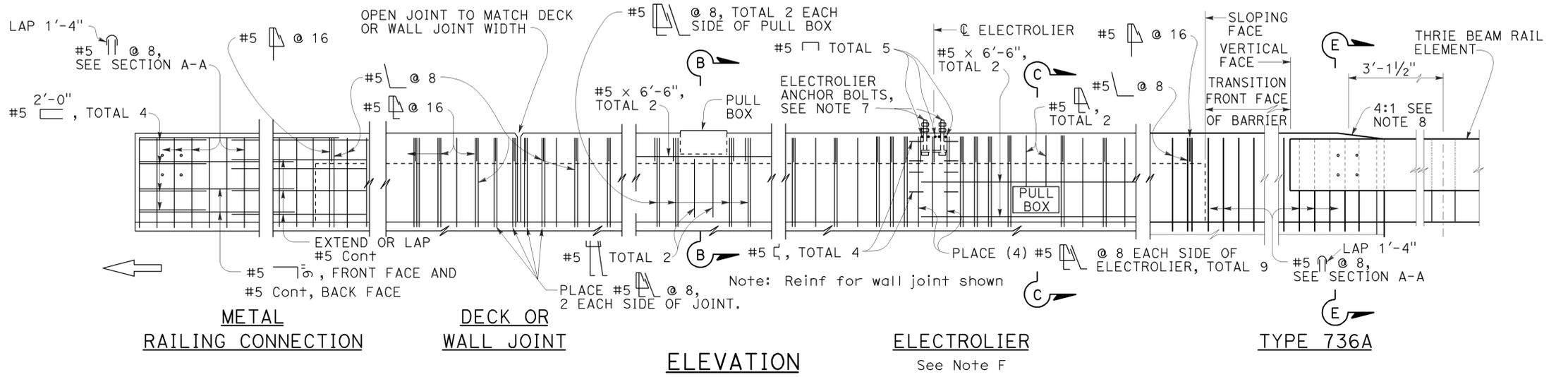
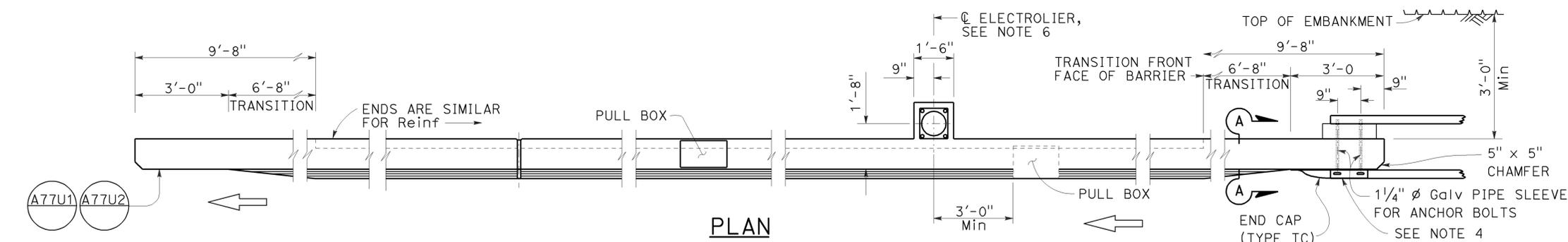
REGISTERED PROFESSIONAL ENGINEER
Tillett Satter
No. C42892
Exp. 3-31-14
CIVIL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 4-27-15

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

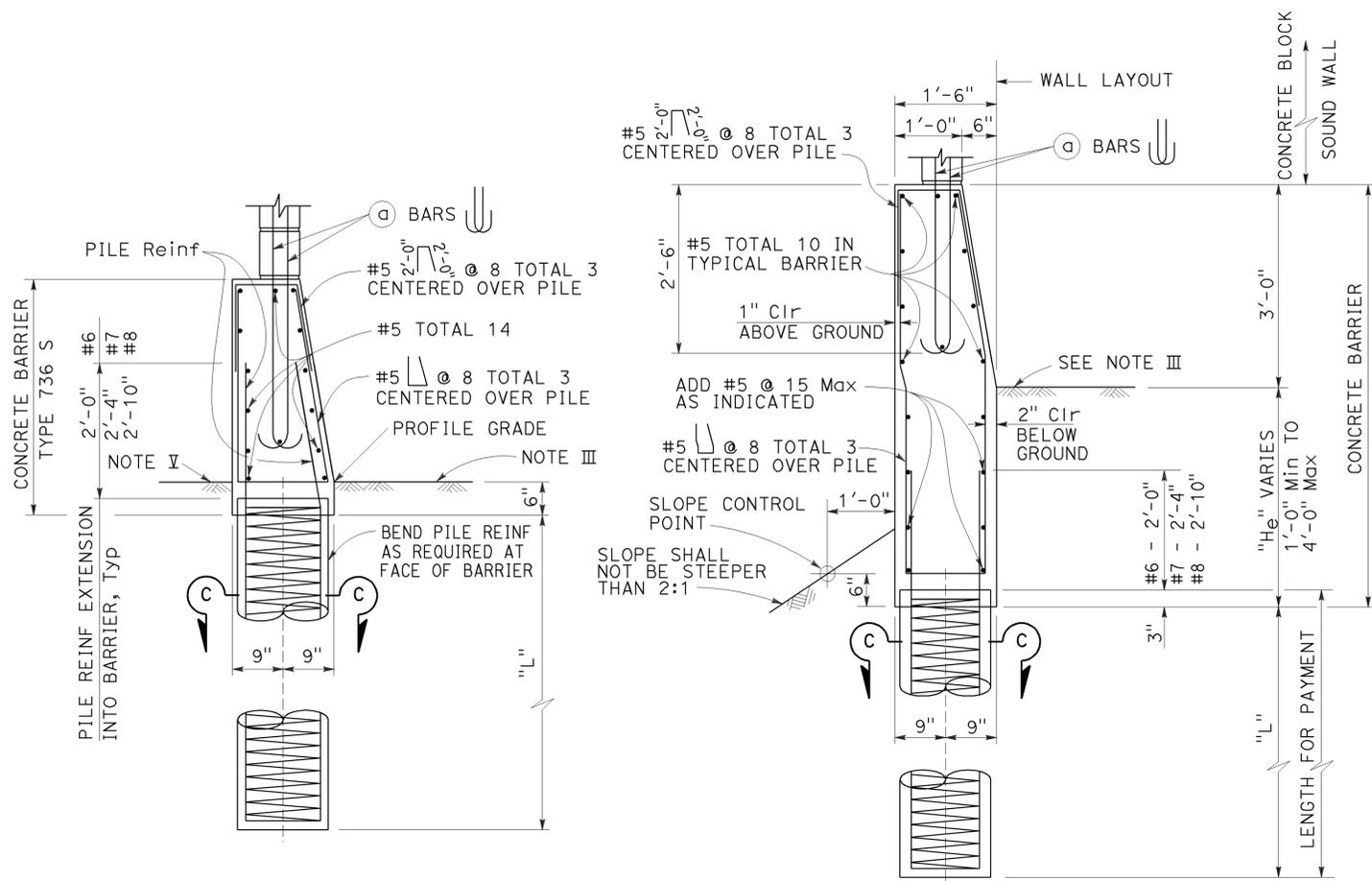


SECTION A-A
Details shown for barrier anchorage to Type 736A. Anchorage for barrier Types 736 and 736B are similar to their respective details.

SECTION B-B
Note: Types 736A & 736B are similar to Type 736 except as noted.

SECTION D-D
See Notes

SECTION F-F
NO SCALE



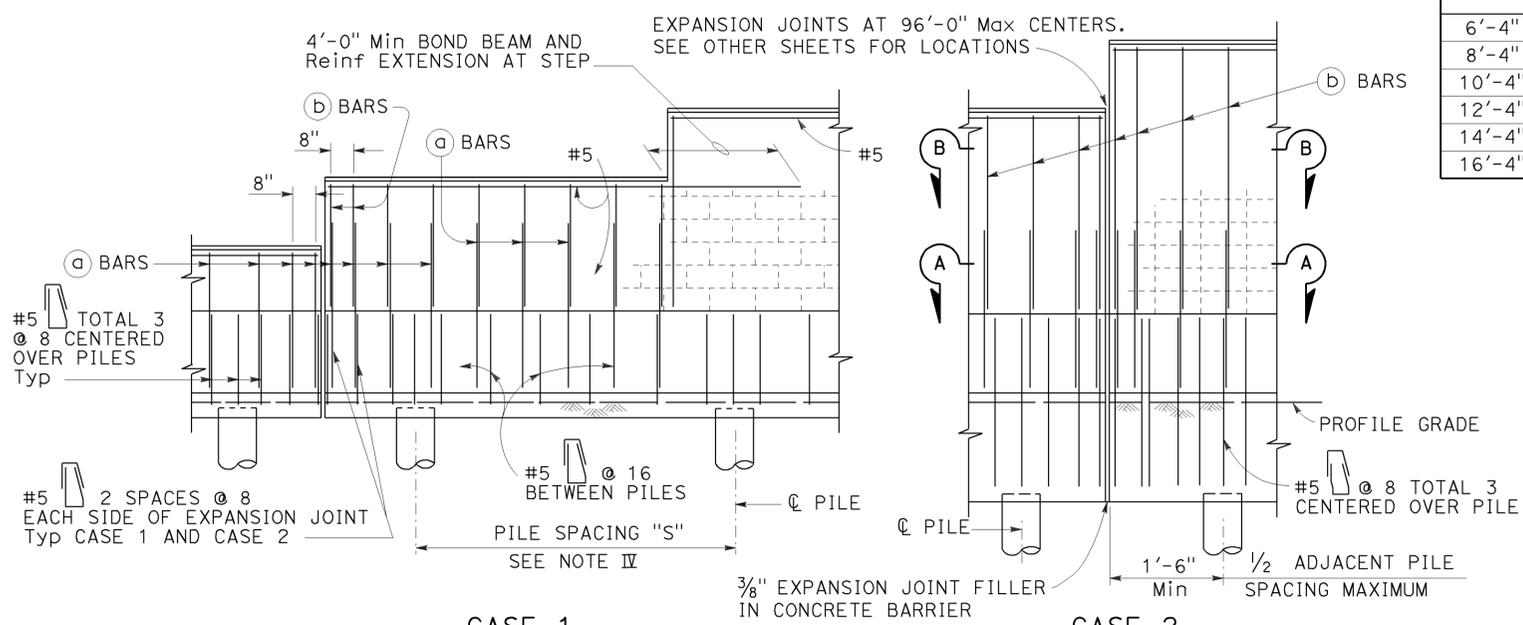
CASE 1

For details not shown, See Case 2.
 Level ground ±10% on both sides of barrier.

CASE 2

For details not shown, See Case 1.
 Level ground ±10% at the traffic side of barrier and sloping ground on the opposite side.

BARRIER SECTIONS



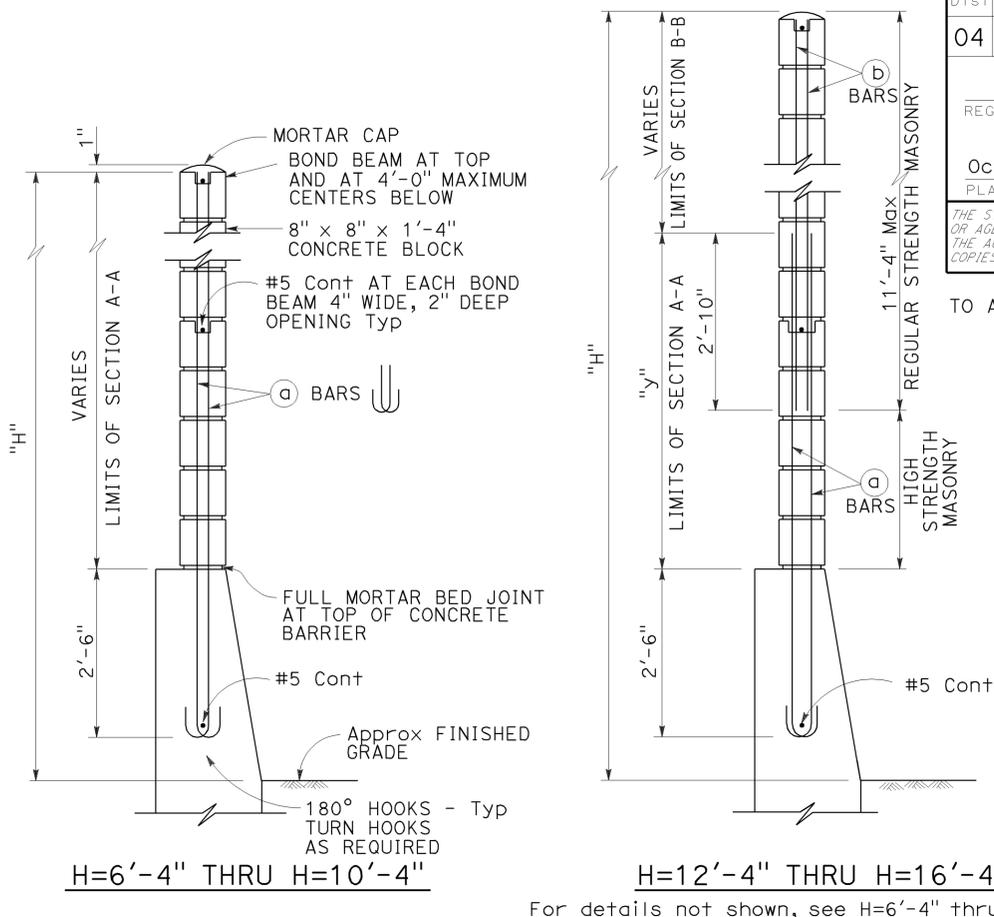
CASE 1

For details not shown, See Case 2.

CASE 2

For details not shown, See Case 1.

PARTIAL ELEVATIONS



TYPICAL SECTIONS

See Standard Plan B15-8 for pile details.

SOUND WALL REINFORCEMENT TABLE

MAXIMUM H	(a) BARS @ 1'-4" Max	(b) BARS @ 1'-4" Max	"y"	f'm (psi)	COMPRESSIVE STRENGTH OF CMU (psi)	H
6'-4"	#4	---	---	1500	1900	6'-4"
8'-4"	#4	---	---	1500	1900	8'-4"
10'-4"	#4	---	---	1500	1900	10'-4"
12'-4"	#5	#4	5'-0"	1500	1900	12'-4"
14'-4"	#6	#4	7'-0"	1500	1900	14'-4"
16'-4"	#6	#4	9'-0"	2500	3750	16'-4"

NOTES I THROUGH VI:

- I. Details shown are primarily to conform design of sound walls to Type 736S and Type 736 SV Concrete Barriers. For sound wall details conforming with barriers see Standard Plans B15-7 and B15-8.
- II. For details and sections not shown, see Standard Plans B15-7 and B15-8.
- III. Slope ground at traffic side of barrier to drain. Maximum slope ±10%. See Std Plan B11-56, Note 3.
- IV. Pile spacing may be varied, but shall not exceed the tabular values. See Standard Plan B15-8.
- V. For Case 1 - ground line to be at the same elevation on both sides of the barrier. Barrier shall not be used to retain earth.
- VI. See Standard Plan B15-9 for other details.

NOTES A THROUGH F:

- A. For type of block, type of block bond, and joint finish, see other sheets.
- B. When blocks are laid in stacked bond, ladder type, galvanized joint reinforcement shall be provided. A minimum of 2-9 gauge wires continuous at 4'-0" maximum to be used. Locate reinforcement in joints that are at the approximate midpoint between bond beams.
- C. Horizontal joints shall be tooled concave or may be weathered. Vertical joints shall be tooled concave or may be raked.
- D. For intermediate wall heights (H), or barrier depths (H_e), that are between the values given, use the tabular information for the next higher (H) or (H_e).
- E. Concrete to be used for the barrier shall contain not less than 590 pounds of cementitious material per cubic yard.
- F. Masonry strengths are listed in the "SOUND WALL REINFORCEMENT TABLE".

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
SOUND WALL MASONRY BLOCK ON TYPE 736S/SV BARRIER DETAILS (1)
 NO SCALE

RSP B15-6 DATED OCTOBER 19, 2012 SUPERSEDES STANDARD PLAN B15-6 DATED MAY 20, 2011 - PAGE 320 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP B15-6

2010 REVISED STANDARD PLAN RSP B15-6

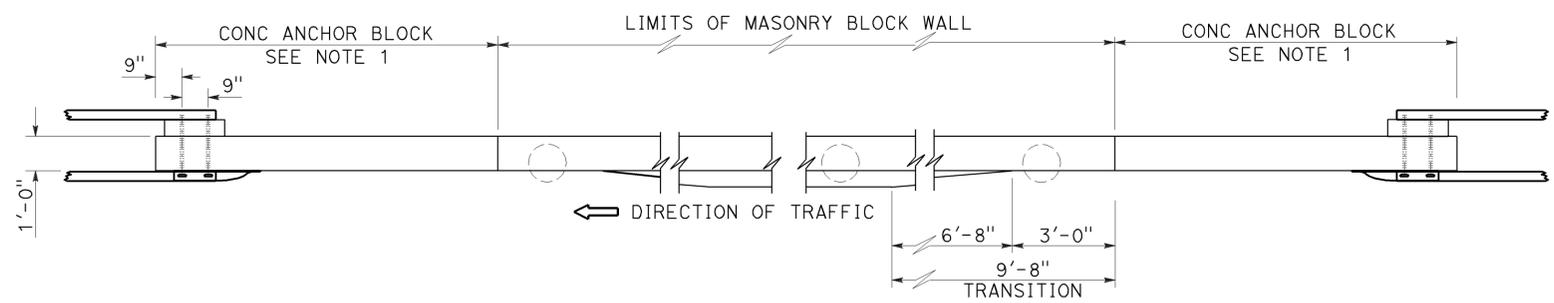
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Mrn	101	18.9/25.8	124	148

REGISTERED CIVIL ENGINEER
 November 15, 2013
 PLANS APPROVAL DATE

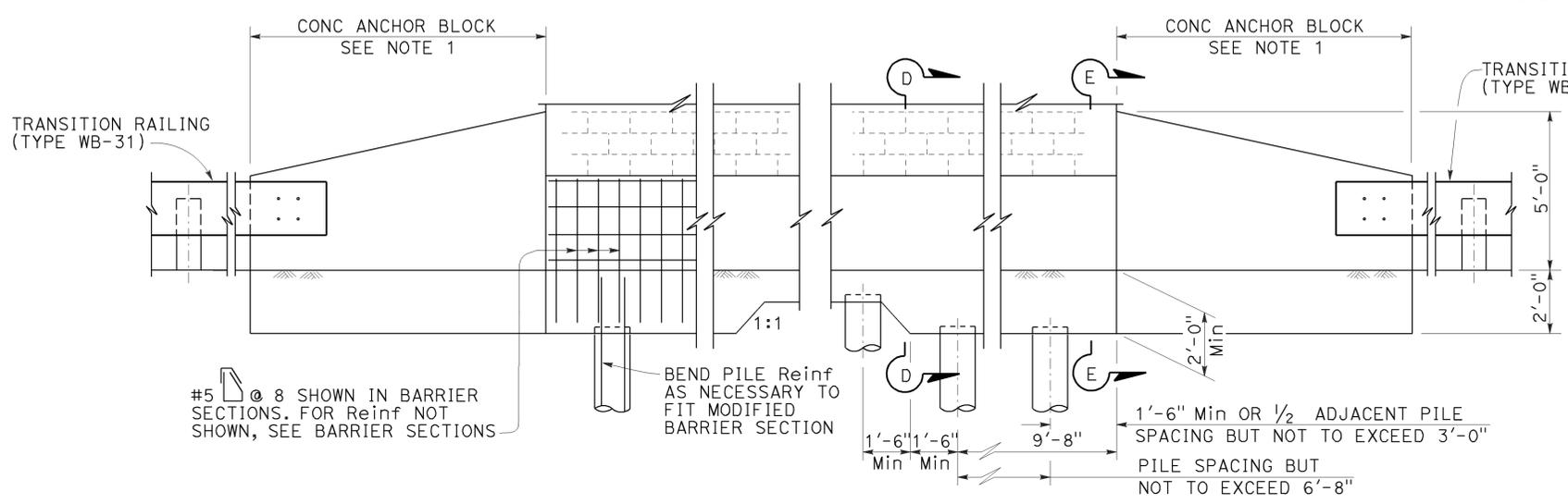
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

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

TO ACCOMPANY PLANS DATED 4-27-15



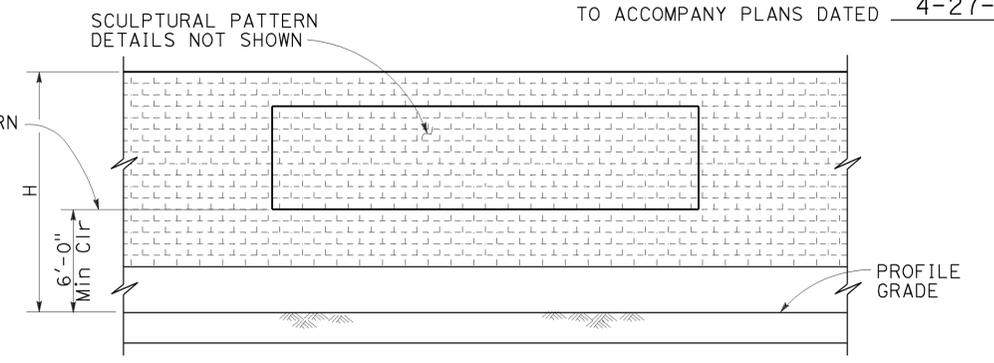
PLAN



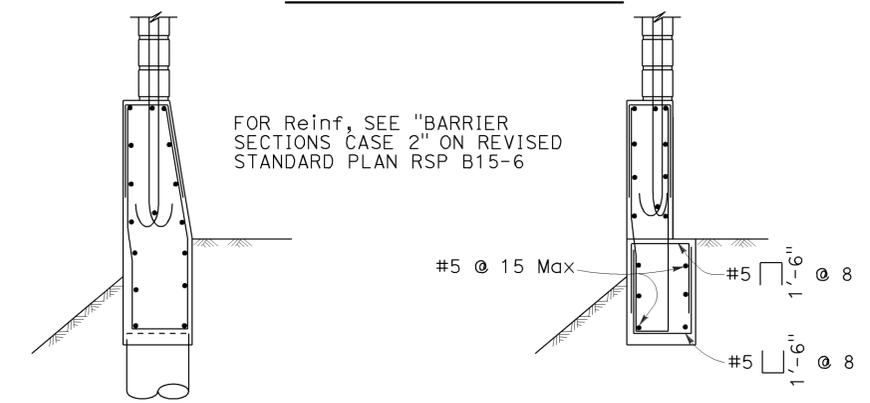
ELEVATION

MIDWEST GUARDRAIL SYSTEM ANCHORAGE

For details not shown, see Revised Standard Plan RSP B11-56.



CLEARANCE DETAIL



SECTION D-D

SECTION E-E

DESIGN NOTES:

DESIGN
 Uniform Building Code, 1997 Edition
 and the Bridge Design Specifications.

DESIGN WIND LOAD
 27 psf

DESIGN SEISMIC LOAD
 0.57 Dead load

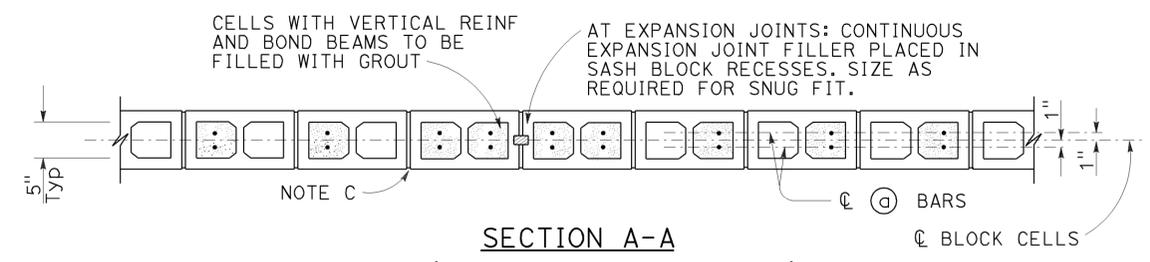
REINFORCED CONCRETE
 $f'_c = 3.6 \text{ ksi}$
 $f_y = 60 \text{ ksi}$

CONCRETE MASONRY

REGULAR STRENGTH	HIGH STRENGTH
$f'_m = 1500 \text{ psi}$	$f'_m = 2000 \text{ psi}$
$f_b = 495 \text{ psi}$	$f_b = 660 \text{ psi}$
$f_s = 24,000 \text{ psi}$	$f_s = 24,000 \text{ psi}$
$n = 25.8$	$n = 19.3$
	$f'_m = 2500 \text{ psi}$
	$f_b = 830 \text{ psi}$
	$f_s = 24,000 \text{ psi}$
	$n = 15.5$

NOTE:

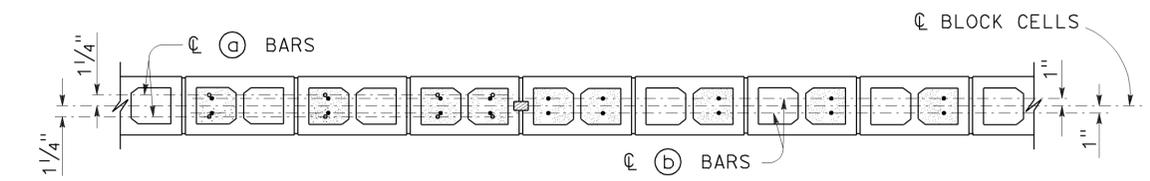
1. For Concrete Anchor Block and connection details, see "Connection Detail DD" on Revised Standard Plan RSP A77U3.



SECTION A-A

For details not shown, see other details.

H=6'-4" THRU H=10'-4"



SECTION A-A

For details not shown, see other details.

H=12'-4" THRU H=16'-4"

SECTION B-B

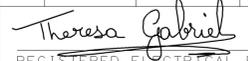
2010 REVISED STANDARD PLAN RSP B15-7

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	Mrn	101	18.9/25.8	125	148
 REGISTERED ELECTRICAL ENGINEER Theresa Aziz Gabriel No. E15129 Exp. 6-30-14 ELECTRICAL STATE OF CALIFORNIA					
July 19, 2013 PLANS APPROVAL DATE					
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TO ACCOMPANY PLANS DATED 4-27-15

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:

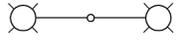
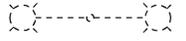
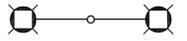
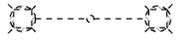
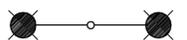
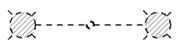
SYMBOL USED	DEFINITIONS
Ω	OHMS
min	MINUTE
s	SECOND
bps	BITS PER SECOND
Bps	BYTES PER SECOND
A	AMPERE
V	VOLT
V(dc)	VOLT (DIRECT CURRENT)
V(ac)	VOLT (ALTERNATING CURRENT)
FC	FOOT - CANDLE
W	WATTS
VA	VOLT-AMPERE
M	MEGA
k	KILO
m	MILLI
μ	MICRO
P	PICO
HZ	HERTZ

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	Mrn	101	18.9/25.8	126	148

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 4-27-15

CONDUIT

SIGNAL EQUIPMENT

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

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)

SIGNAL EQUIPMENT Cont

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

SERVICE EQUIPMENT

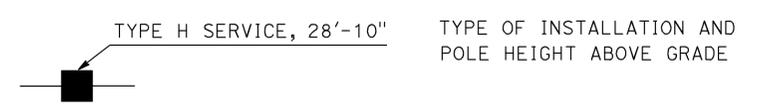
NEW	EXISTING	
---OH---	---oh---	OVERHEAD LINES
		WOOD POLE, "U" INDICATES UTILITY OWNED
		POLE GUY WITH ANCHOR
		UTILITY TRANSFORMER - GROUND MOUNTED
		SERVICE EQUIPMENT ENCLOSURE TYPE. DOOR INDICATES FRONT OF ENCLOSURE
		TELEPHONE DEMARCATION CABINET

		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

NOTES:

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

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

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

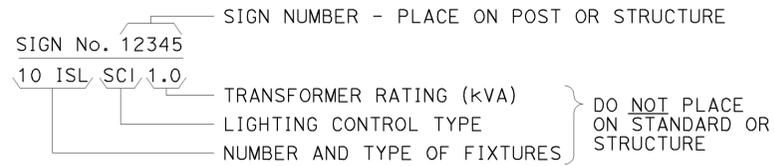
2010 REVISED STANDARD PLAN RSP ES-1B



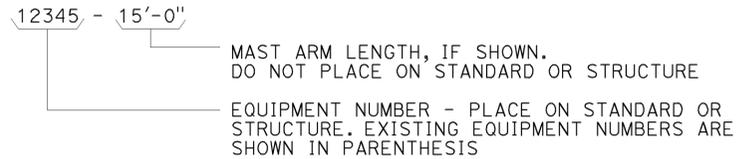
TO ACCOMPANY PLANS DATED 4-27-15

EQUIPMENT IDENTIFICATION

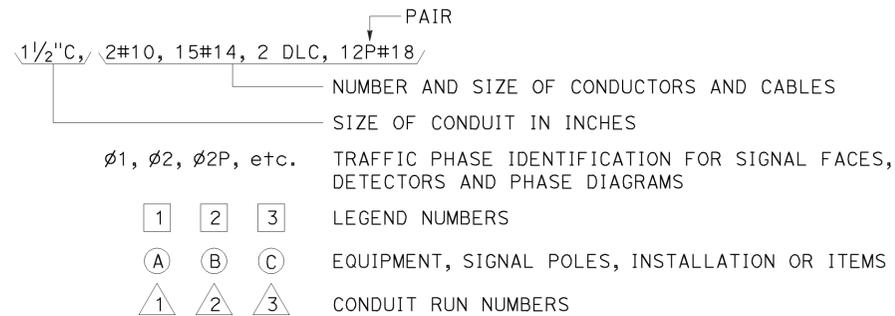
ILLUMINATED SIGN IDENTIFICATION NUMBER:



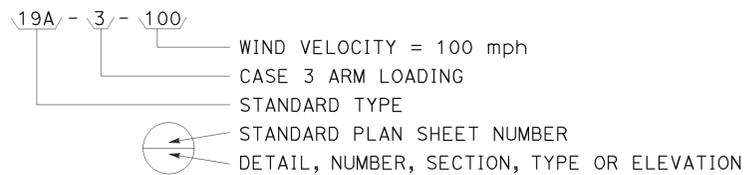
ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



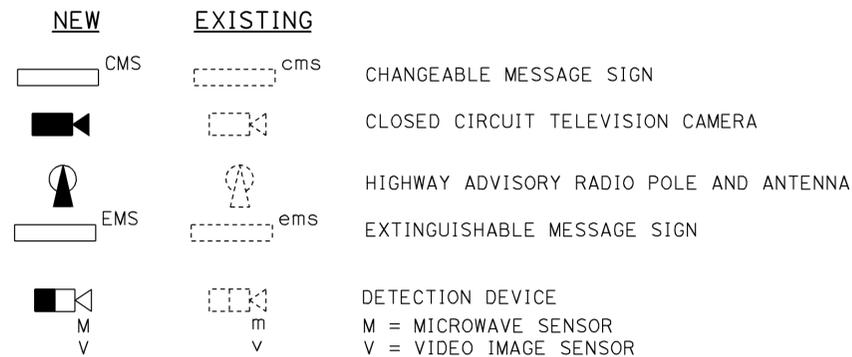
CONDUIT AND CONDUCTOR IDENTIFICATION:



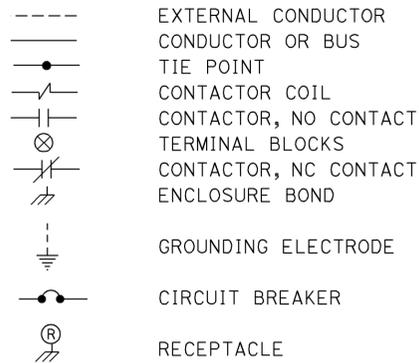
SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



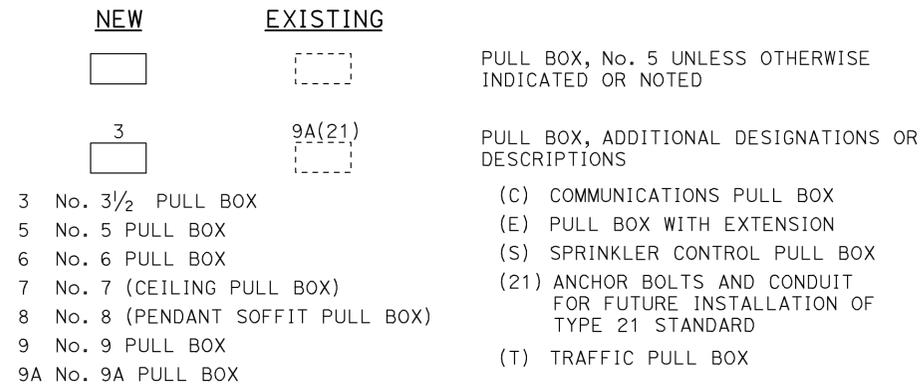
MISCELLANEOUS EQUIPMENT



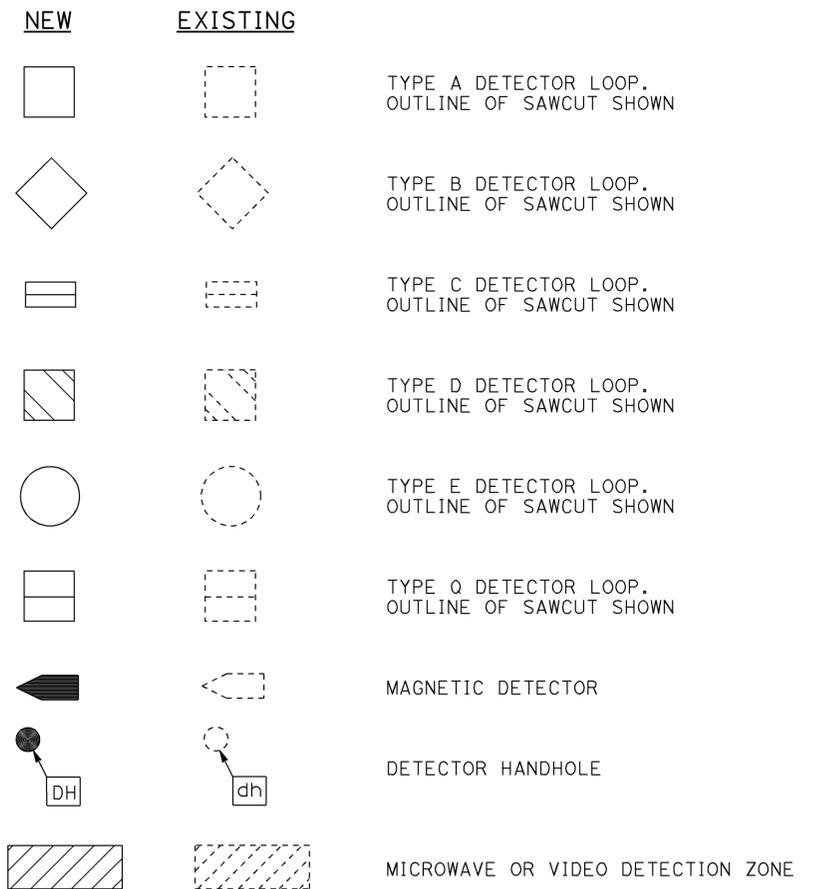
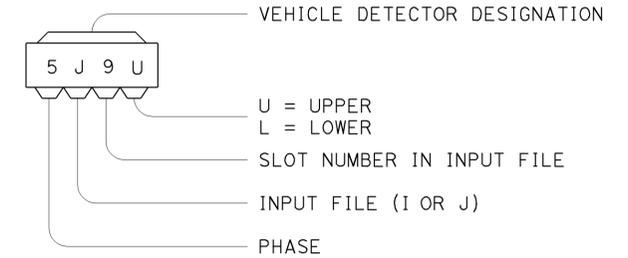
WIRING DIAGRAM LEGEND



PULL BOXES



VEHICLE DETECTORS



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

NO SCALE

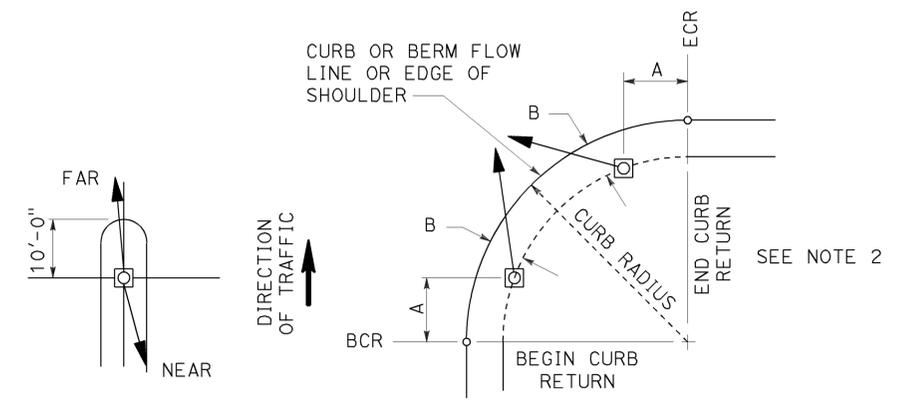
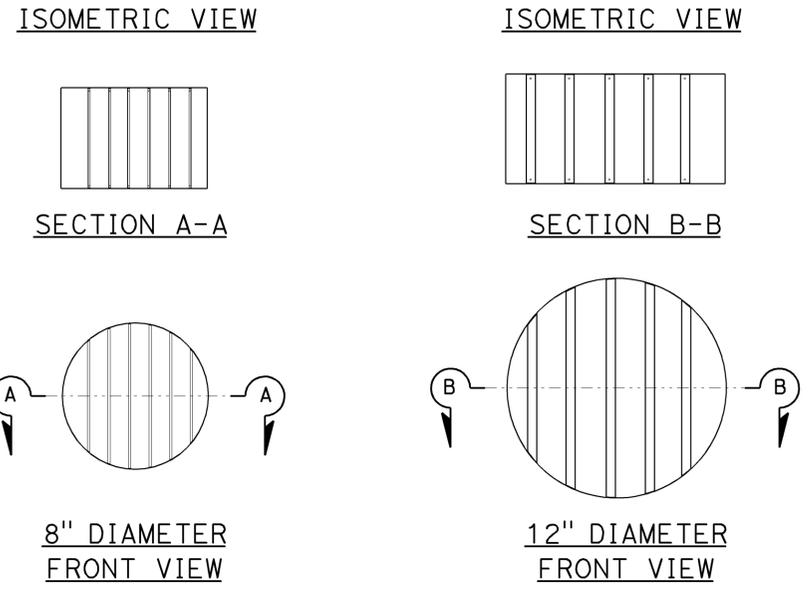
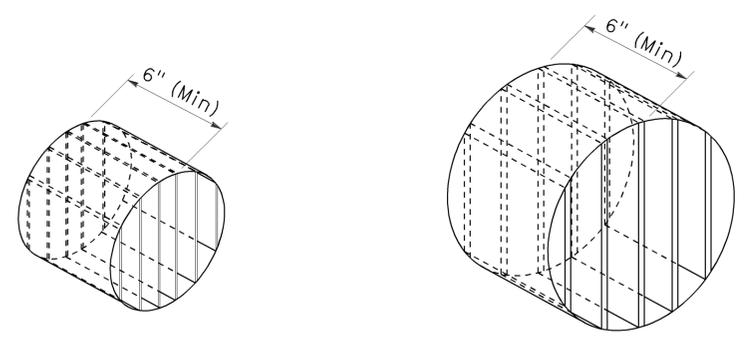
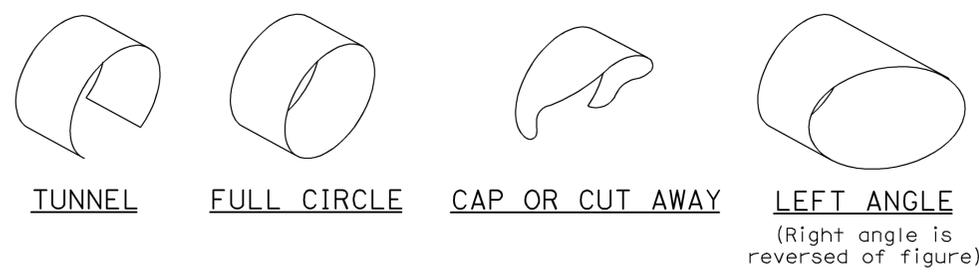
RSP ES-1C DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-1C DATED MAY 20, 2011 - PAGE 427 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-1C

2010 REVISED STANDARD PLAN RSP ES-1C

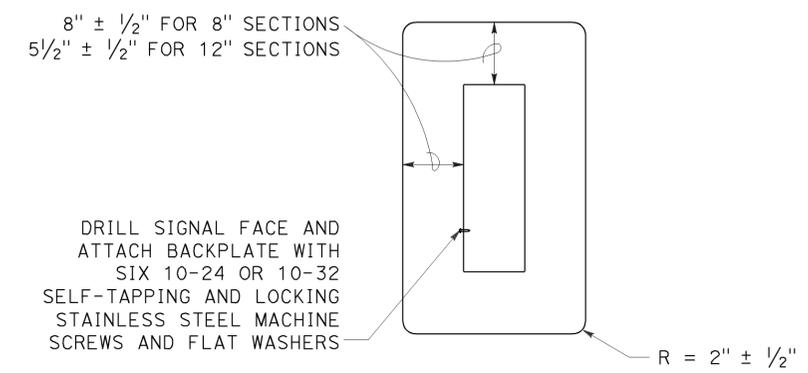
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Mrn	101	18.9/25.8	128	148
<i>Theresa Gabriel</i> REGISTERED ELECTRICAL ENGINEER No. E15129 Exp. 6-30-14 ELECTRICAL STATE OF CALIFORNIA					
July 19, 2013 PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

TO ACCOMPANY PLANS DATED 4-27-15



- 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

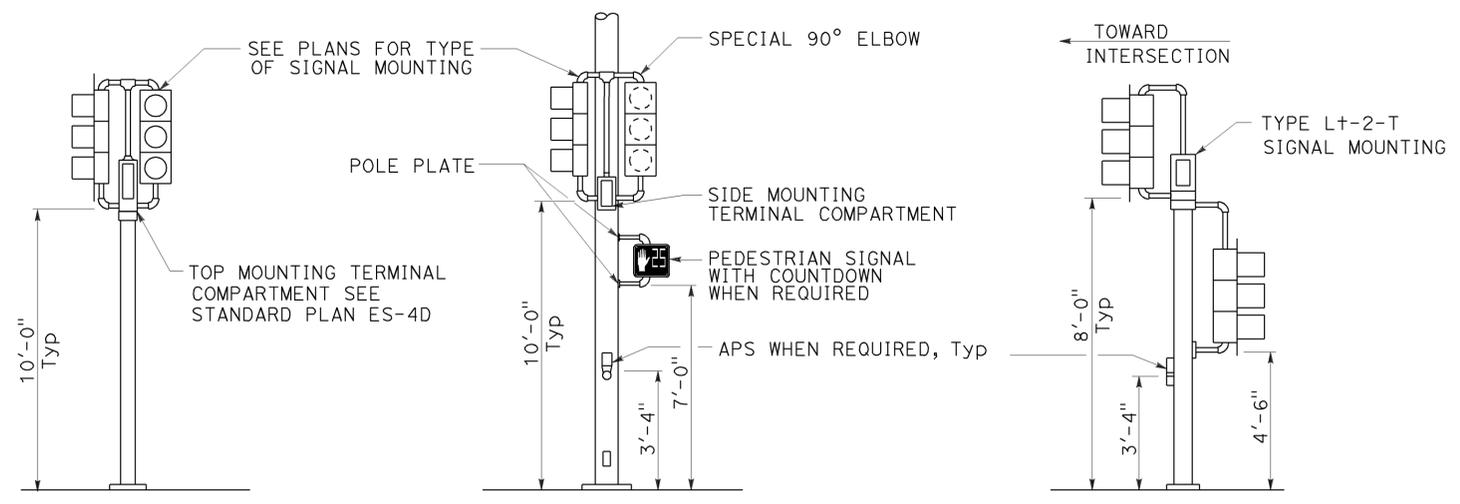
BACKPLATE

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)

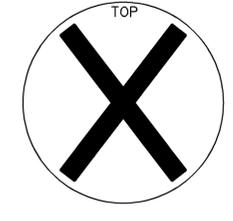
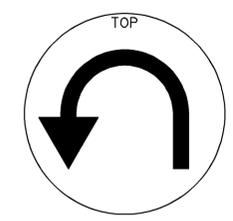
Type 1-A, 1-B, 1-C and 1-D standard as indicated on the plans

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)

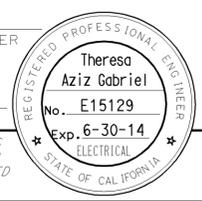
NO SCALE

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.

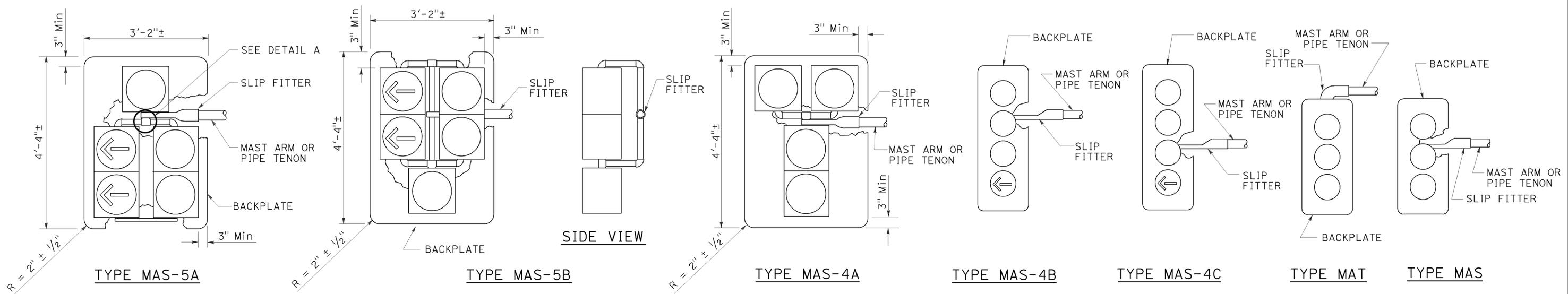
REVISED STANDARD PLAN RSP ES-4C

2010 REVISED STANDARD PLAN RSP ES-4C

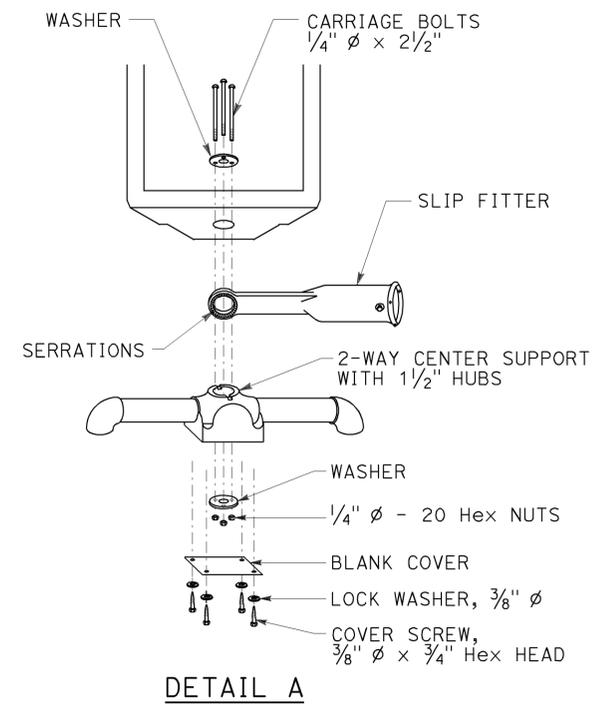
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Mrn	101	18.9/25.8	129	148
<i>Theresa Gabriel</i> REGISTERED ELECTRICAL ENGINEER July 19, 2013 PLANS APPROVAL DATE					
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					



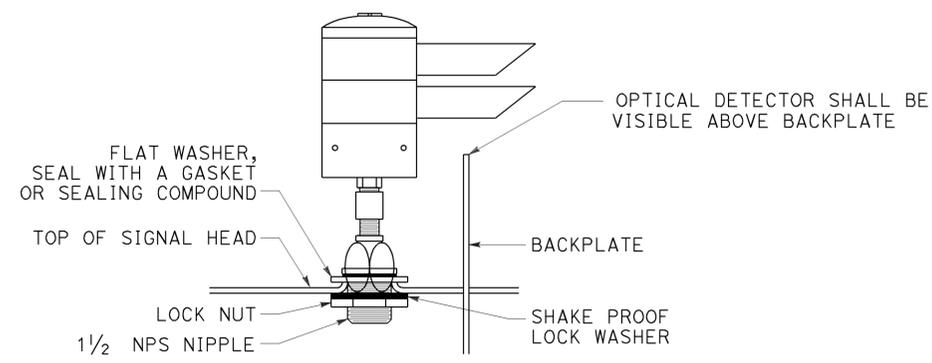
TO ACCOMPANY PLANS DATED 4-27-15



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)**

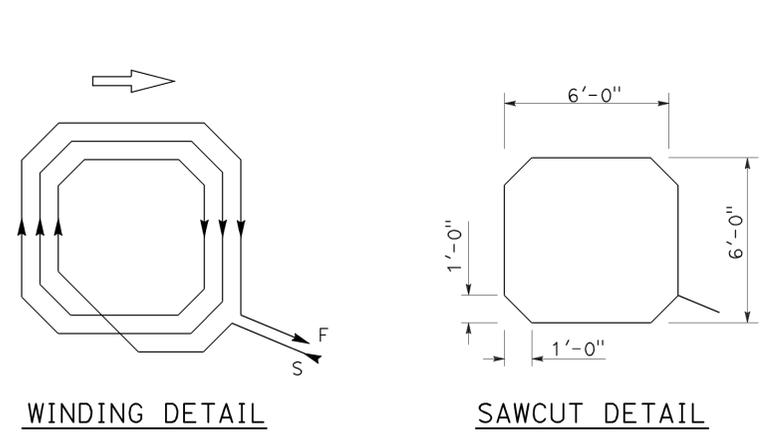
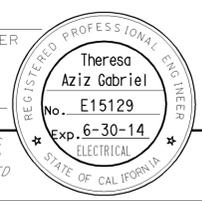
NO SCALE

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

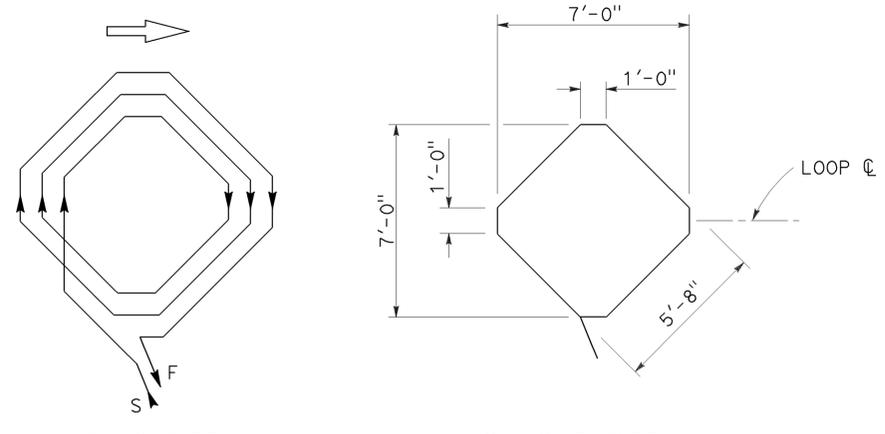
REVISED STANDARD PLAN RSP ES-4E

2010 REVISED STANDARD PLAN RSP ES-4E

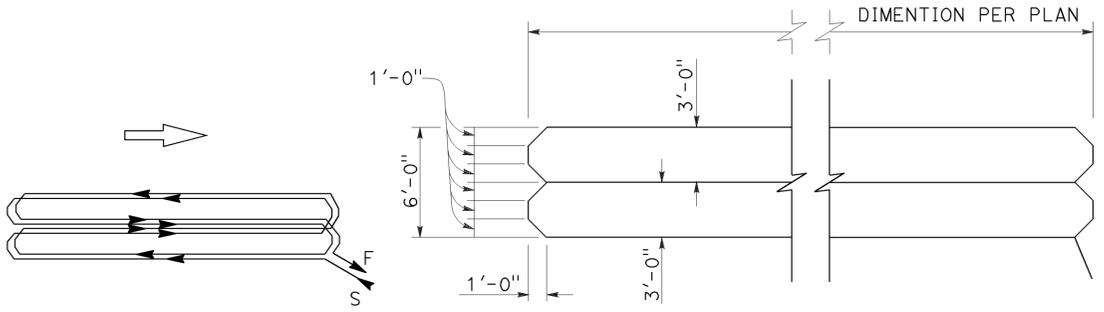
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Mrn	101	18.9/25.8	130	148
<i>Theresa Gabriel</i> REGISTERED ELECTRICAL ENGINEER July 19, 2013 PLANS APPROVAL DATE <small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					
TO ACCOMPANY PLANS DATED <u>4-27-15</u>					



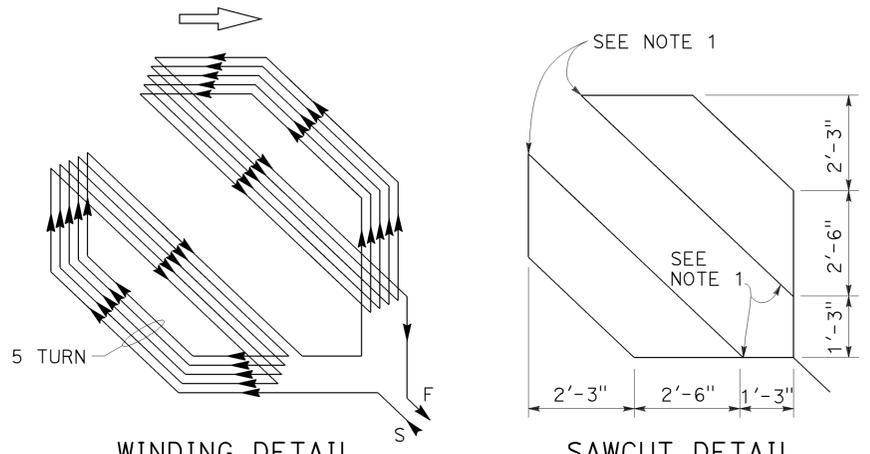
WINDING DETAIL
SAWCUT DETAIL
TYPE A LOOP DETECTOR CONFIGURATION



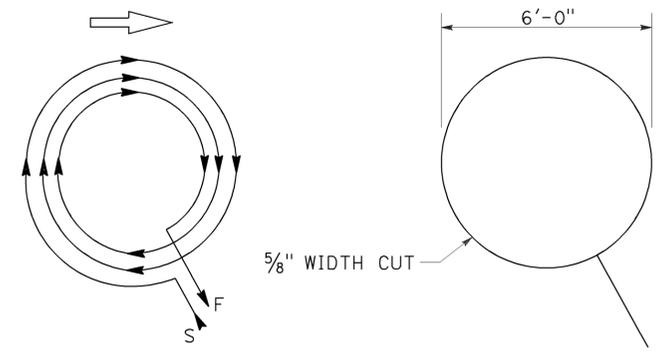
WINDING DETAIL
SAWCUT DETAIL
TYPE B LOOP DETECTOR CONFIGURATION



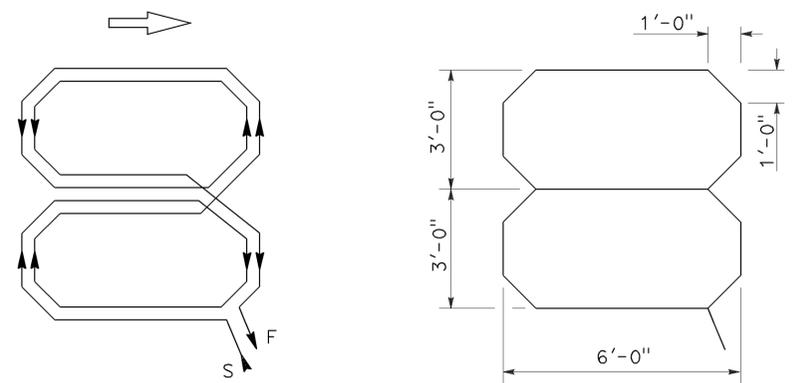
WINDING DETAIL
SAWCUT DETAIL
TYPE C LOOP DETECTOR CONFIGURATION



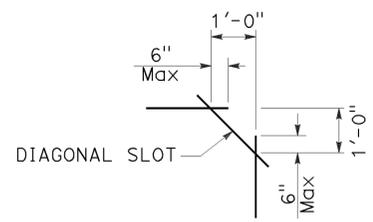
WINDING DETAIL
SAWCUT DETAIL
TYPE D LOOP DETECTOR CONFIGURATION



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)**

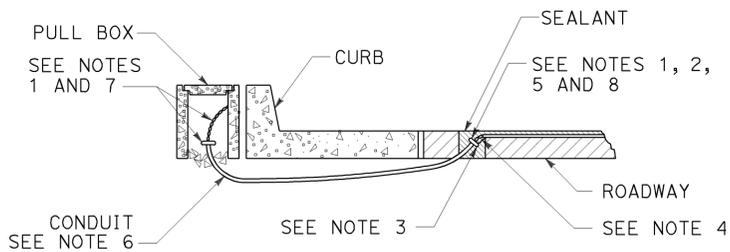
NO SCALE

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.

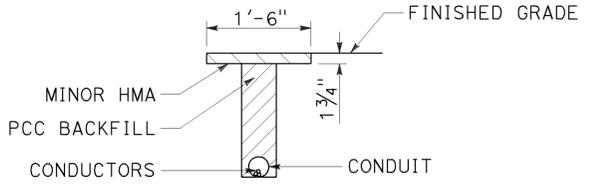
2010 REVISED STANDARD PLAN RSP ES-5B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Mrn	101	18.9/25.8	131	148
<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 <u>4-27-15</u>					

2010 REVISED STANDARD PLAN RSP ES-5D

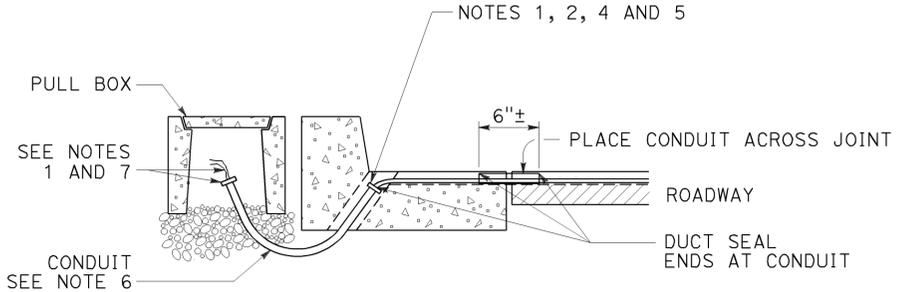


**TYPE A
CURB TERMINATION DETAIL**

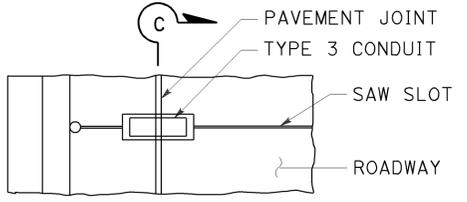


**"T" TRENCH
DETAIL T**

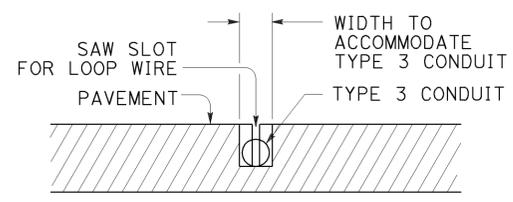
5/16" x 1 1/2" SCREW (BRASS, STAINLESS STEEL OR OTHER NON-CORRODING MATERIAL)



CROSS SECTION

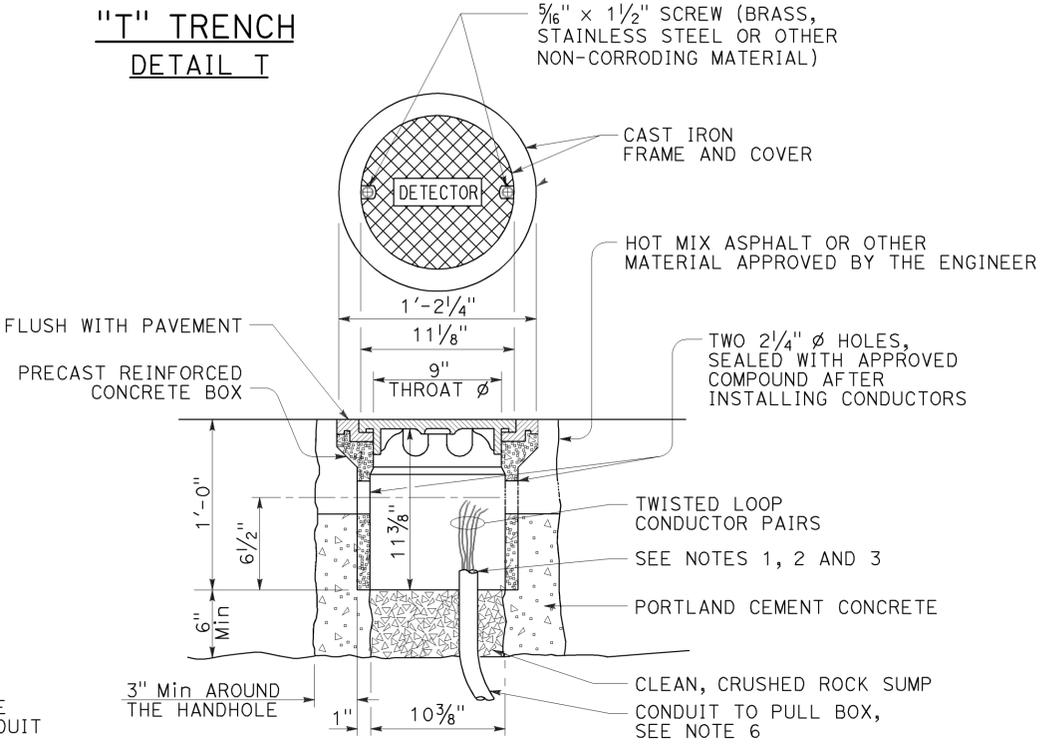


PLAN VIEW

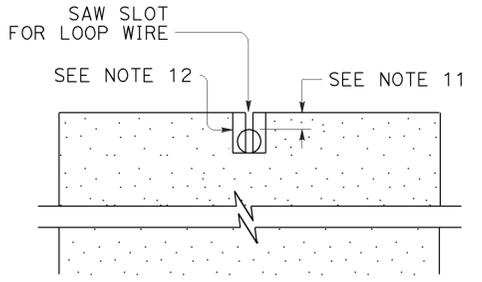


SECTION C-C

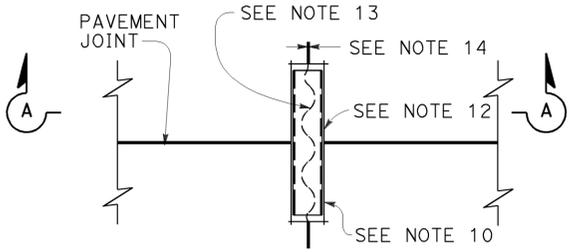
**TYPE B
CURB TERMINATION DETAIL**



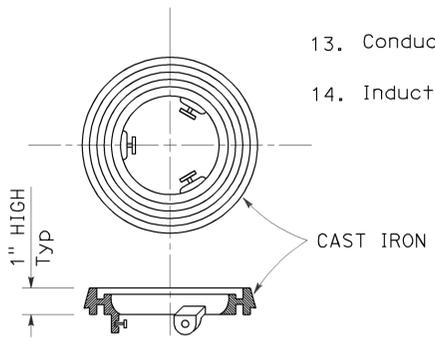
DETECTOR HANDHOLE DETAIL



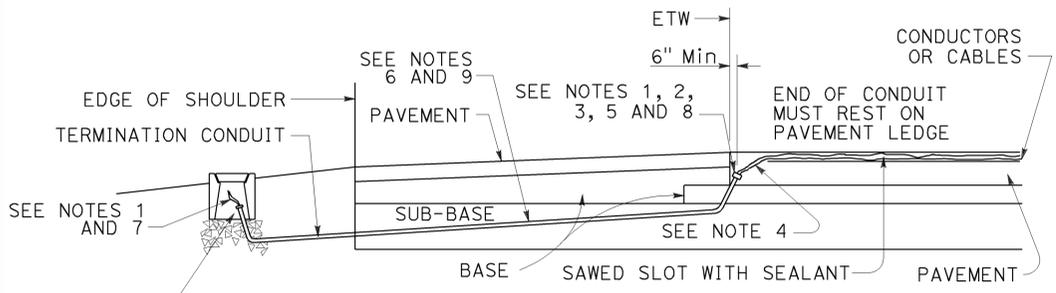
SECTION A-A



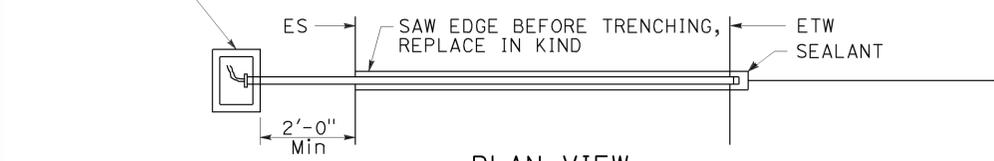
**PLAN VIEW
TYPICAL LOOP LEAD-IN DETAIL
AT PAVEMENT JOINT**



LOCKING GRADE RING



CROSS SECTION



**PLAN VIEW
SHOULDER TERMINATION DETAILS**

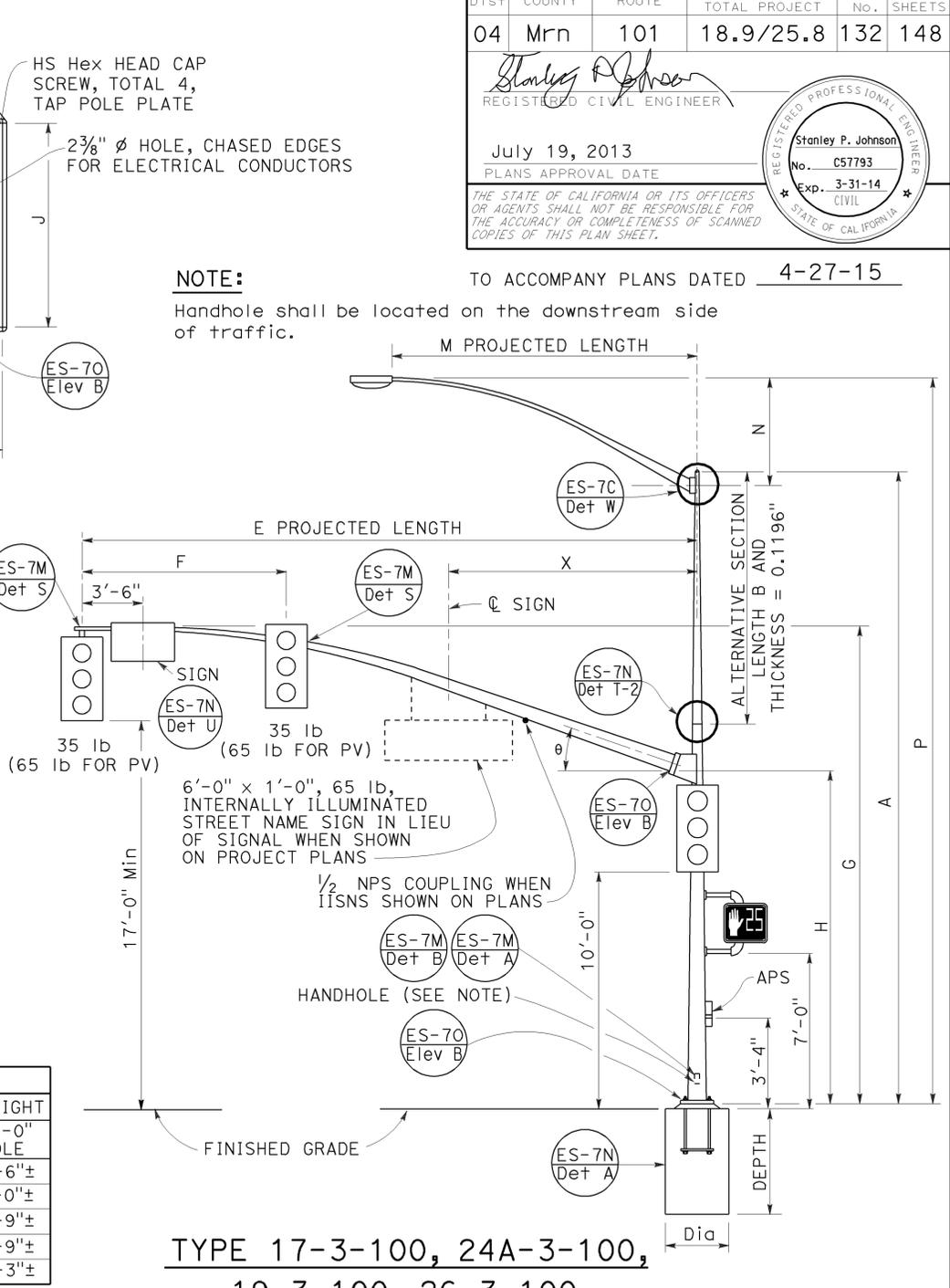
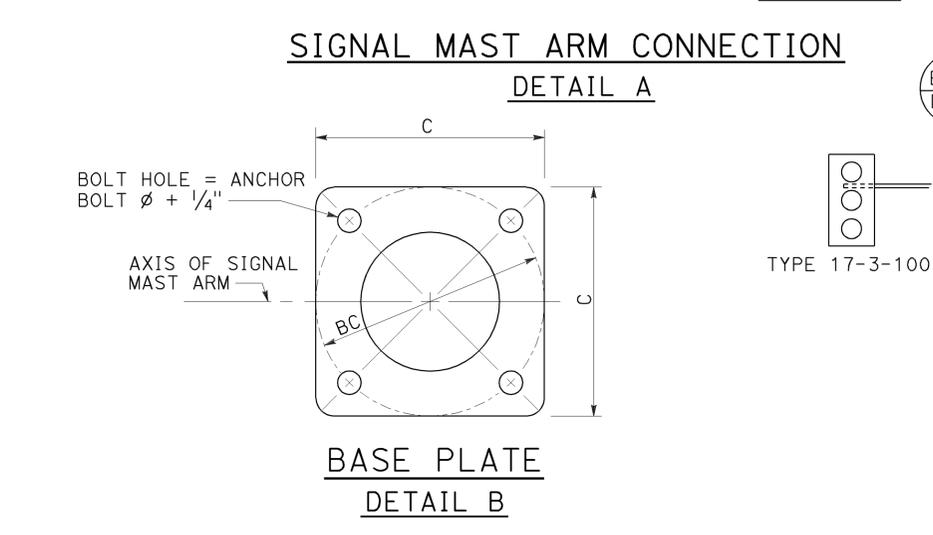
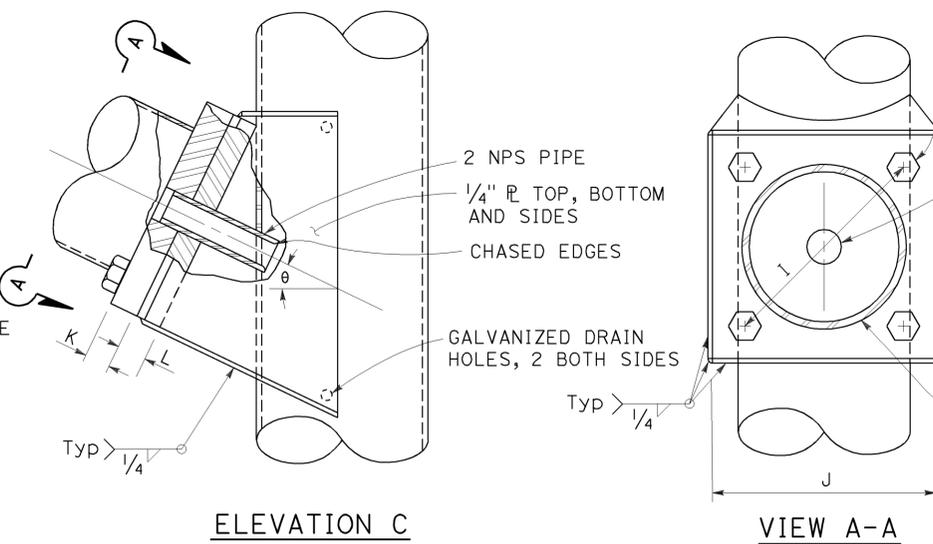
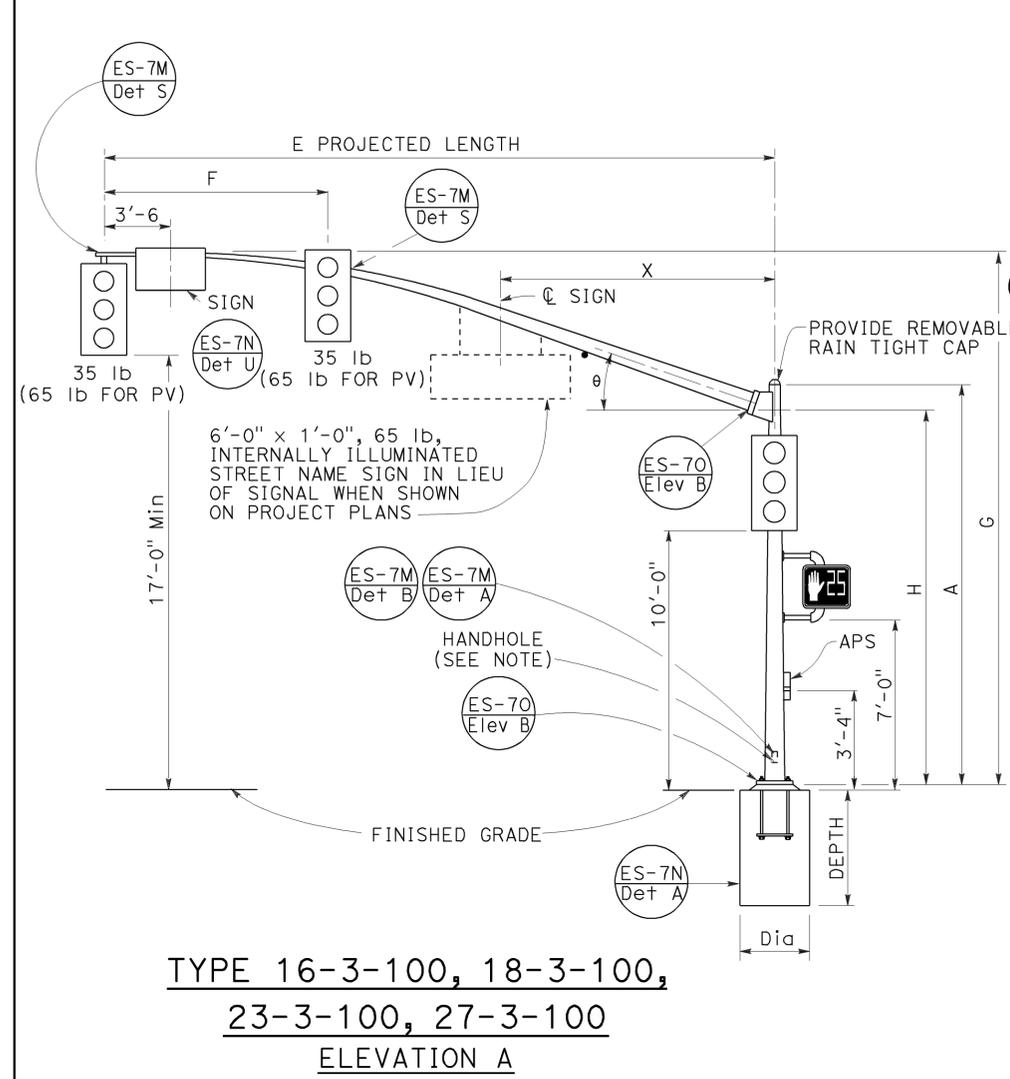
NOTES:

- 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



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 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"	22'-8"±		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
8'-0"	2'-6"±	3 1/2"		35'-0" POLE
10'-0"	3'-3"±	3 7/8"	0.1196"	31'-6"±
12'-0"	4'-3"±	4 1/4"		32'-0"±
15'-0"	4'-9"±			36'-6"±
				37'-0"±
				37'-9"±
				38'-9"±
				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"															
17-3-100			30'-0"	10 3/4"	8 1/16"	0.1793"	NONE	10'-0"	7 7/8"	6 7/16"	1'-5 1/2"		1 1/2" φ × 42"	NONE	15'-0"	8'-6"		
18-3-100			17'-0"		8 9/16"		NONE							NONE	20'-0"	9'-6"		
19-3-100			30'-0"		7 11/16"		10'-0"	9 1/8"	7 11/16"					6'-15' 12'-0"	25'-0"			
19A-3-100			35'-0"		6 15/16"		15'-0"		6 15/16"					6'-15' 15'-0"	30'-0"			
23-3-100	3	100	17'-0"	1'-0"	9 9/16"	0.2391"	NONE				1'-7"	1'-5 1/2"	3"	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"	35'-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"			
26A-3-100			35'-0"	1'-2"	7 1/16"	0.3125"	15'-0"		7 1/16"		1'-11"	1'-9"		6'-15' 15'-0"	45'-0"	3'-6"	12'-0"	
27-3-100			17'-0"		9 11/16"		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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Mrn	101	18.9/25.8	133	148

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

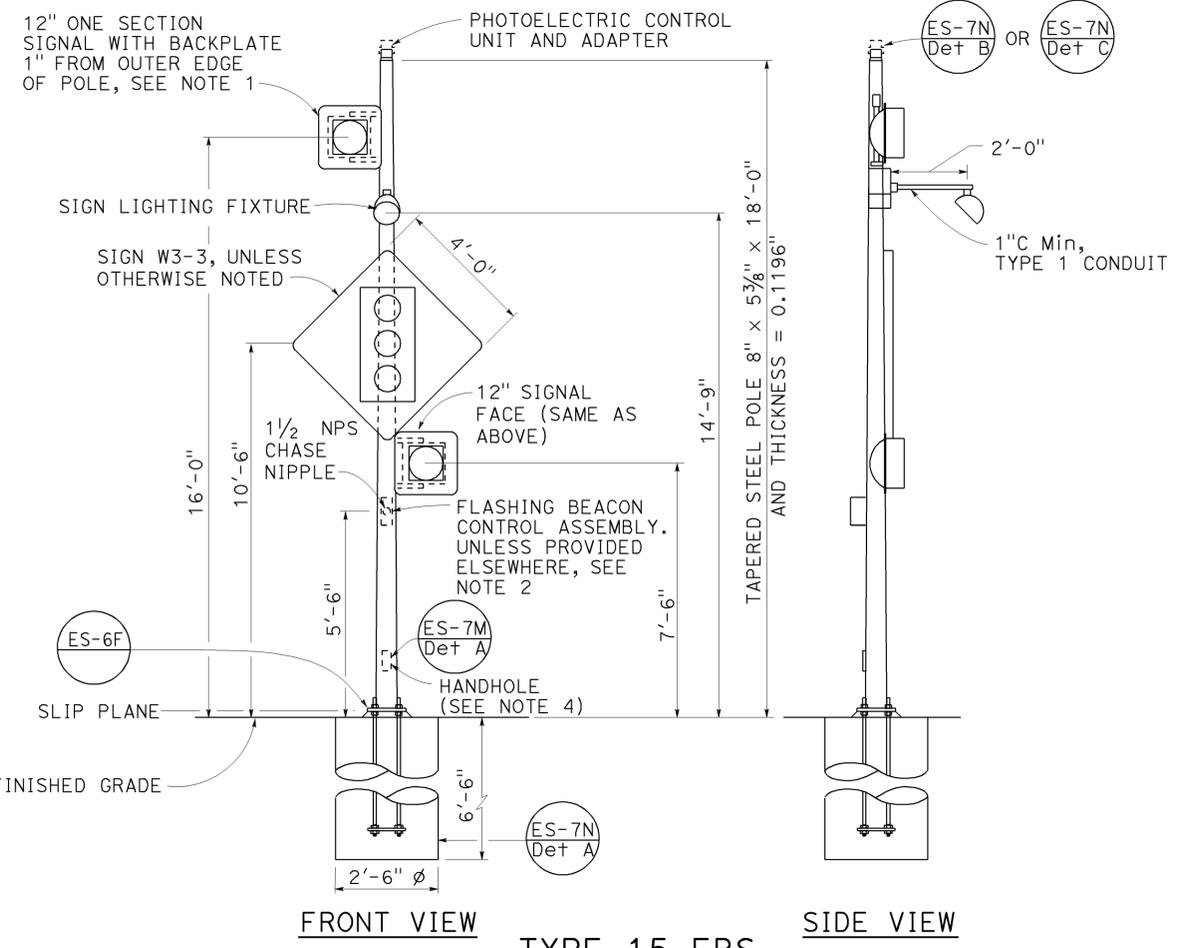
July 19, 2013
 PLANS APPROVAL DATE

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.

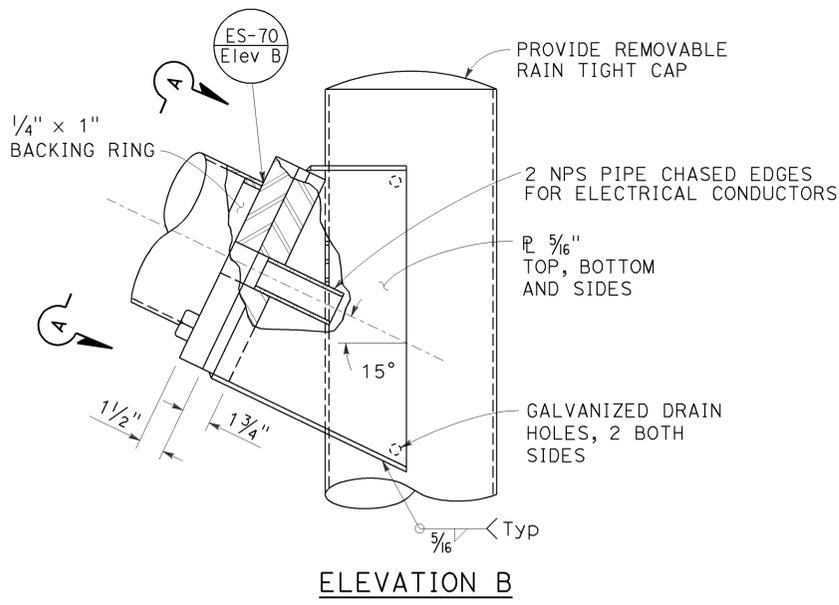
TO ACCOMPANY PLANS DATED 4-27-15

NOTES:

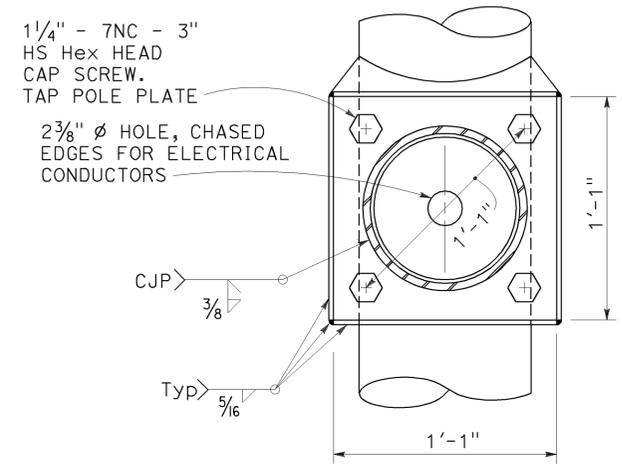
1. See Revised Standard Plan RSP ES-4A and Standard Plan ES-4D for attachment fitting details.
2. For wiring diagram, see Standard Plan ES-14B.
3. For additional notes and details, see Standard Plans ES-7M and ES-7N.
4. Handhole shall be located on the downstream side of traffic.
5. See project plans for type of standard to be installed.



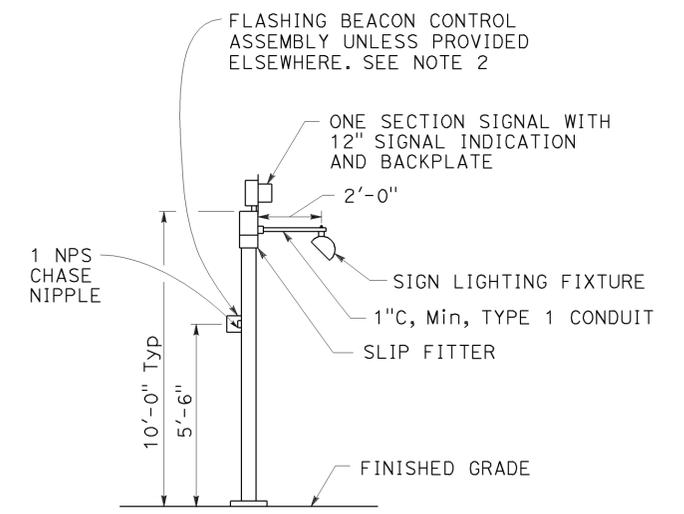
**TYPE 15-FBS
ADVANCE FLASHING BEACON WITH SLIP BASE INSTALLATION
DETAIL A**



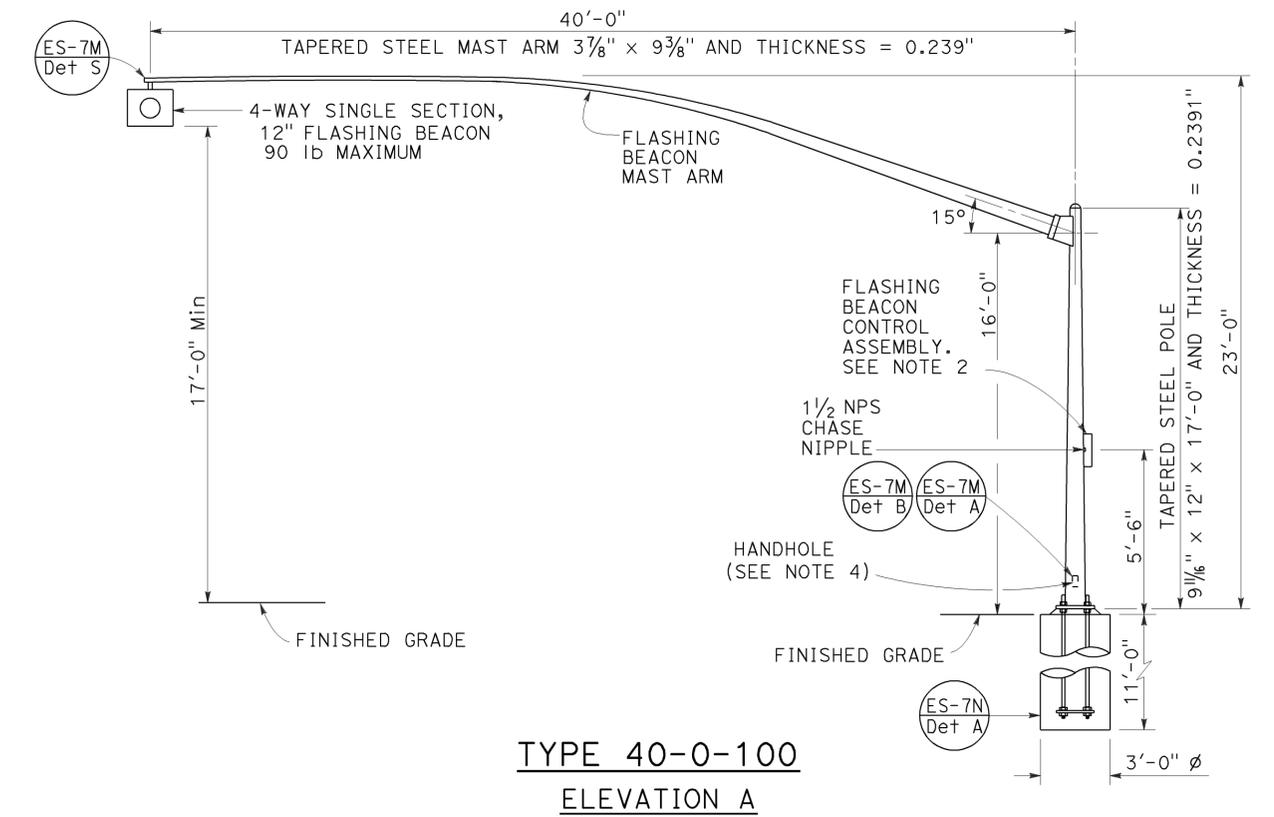
ELEVATION B



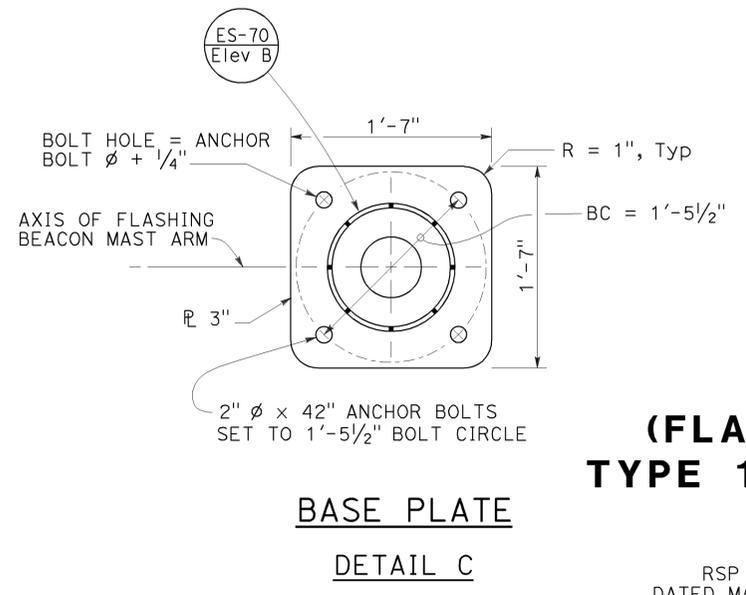
**VIEW A-A
FLASHING BEACON MAST ARM
CONNECTION DETAIL
DETAIL B**



**TYPE 1-A, 1-B, 1-C AND 1-D
ADVANCE FLASHING
BEACON INSTALLATION
DETAIL D
See Note 5**



**TYPE 40-0-100
ELEVATION A**



**BASE PLATE
DETAIL C**

**ELECTRICAL SYSTEMS
(FLASHING BEACON ON A TYPE 1,
TYPE 15-FBS AND TYPE 40 STANDARD)
NO SCALE**

RSP ES-7J DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-7J DATED MAY 20, 2011 - PAGE 471 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP ES-7J

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Mrn	101	18.9/25.8	134	148

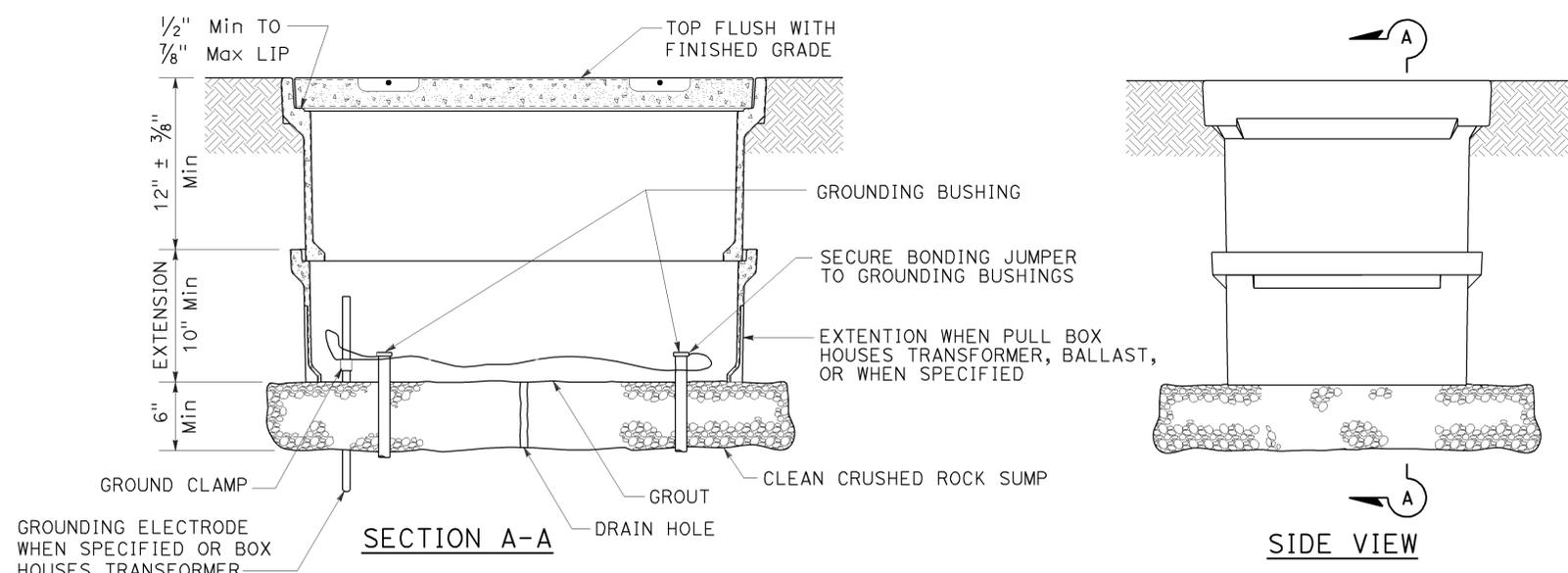
Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

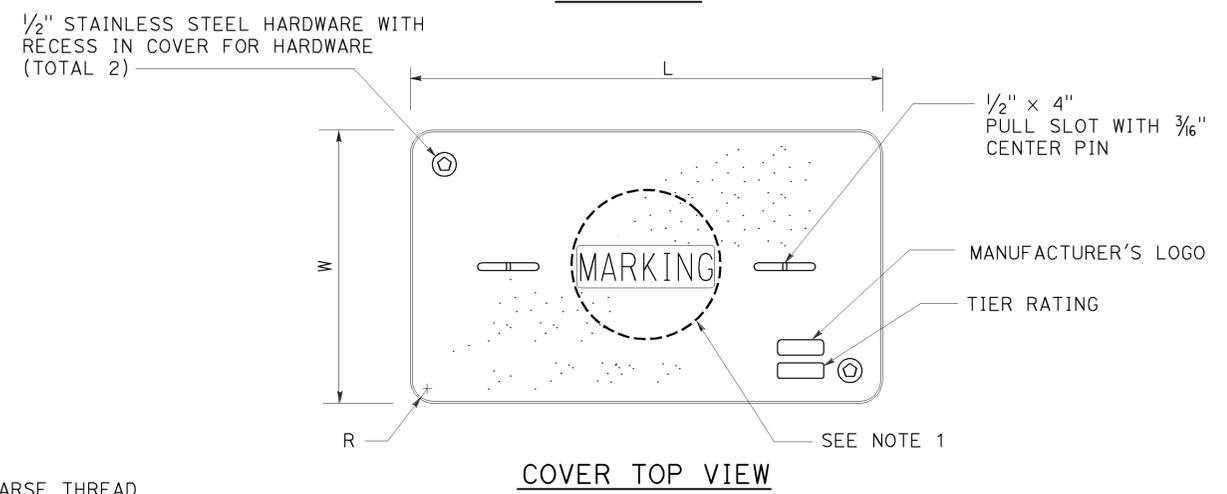
Theresa Aziz Gabriel
No. E15129
Exp. 6-30-14
ELECTRICAL
STATE OF CALIFORNIA

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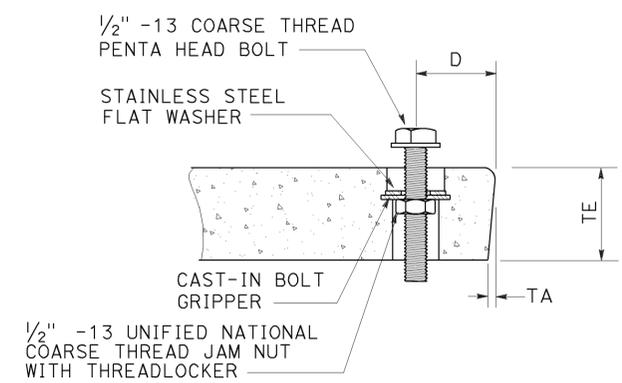
TO ACCOMPANY PLANS DATED 4-27-15



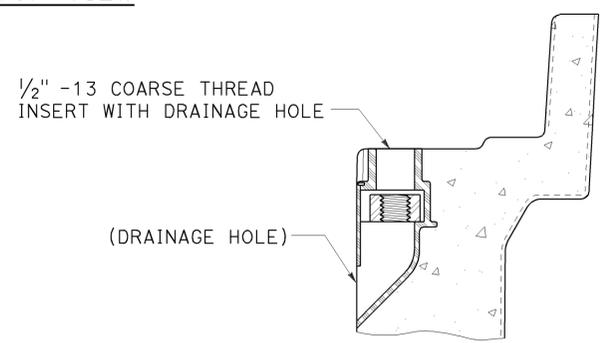
INSTALLATION DETAILS
DETAIL A



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

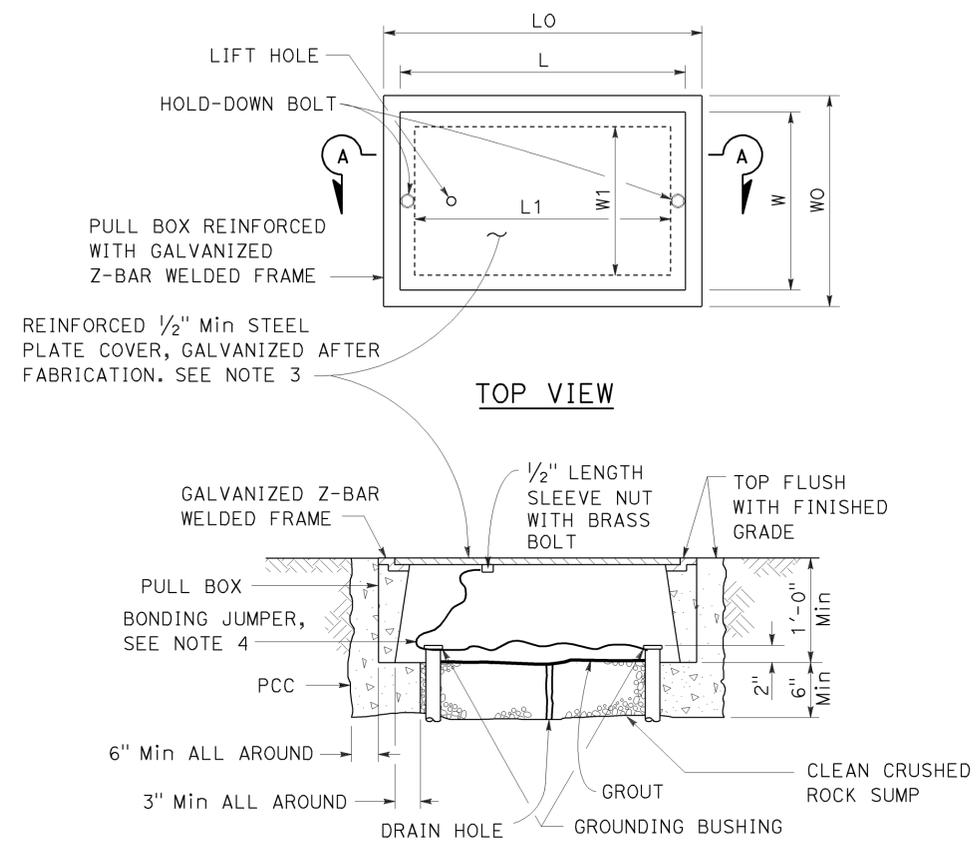
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Mrn	101	18.9/25.8	135	148

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

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 4-27-15



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

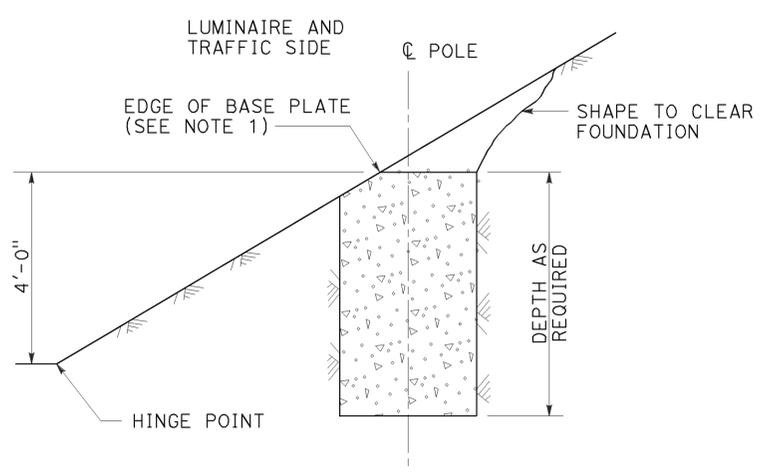
RSP ES-8B DATED JULY 19, 2013 SUPERSEDES RSP ES-8B DATED JANUARY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-8B

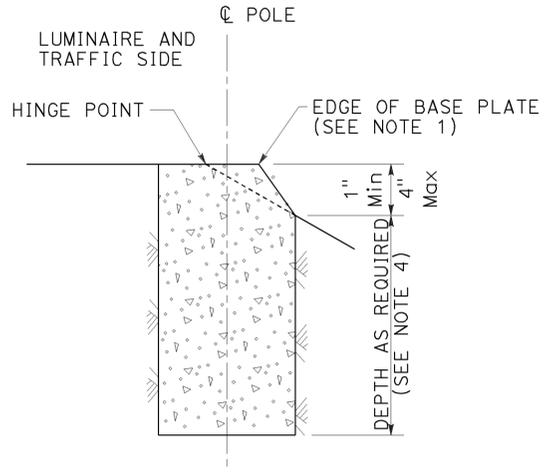
2010 REVISED STANDARD PLAN RSP ES-8B

TO ACCOMPANY PLANS DATED 4-27-15

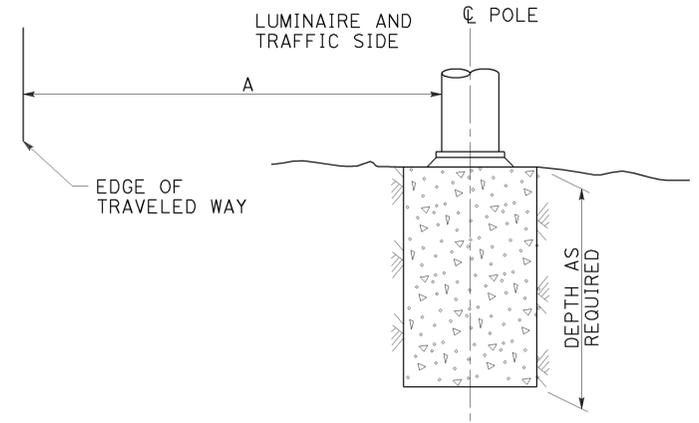
STANDARD TYPE	SETBACK (DIMENSION A)
32	30'-0" (Min)
31	20'-0" (Min)
15, 15D, 15-SB, 21, 21D, 30	ARM LENGTH (Min)



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

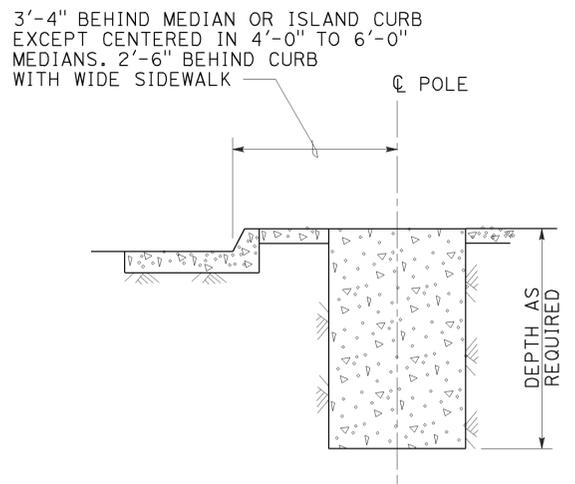


FLAT SECTIONS, CUT OR FILL SLOPES
4:1 OR FLATTER
DETAIL A-3
 See Note 2

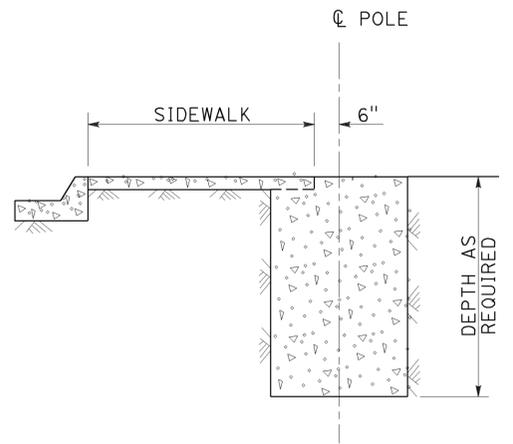
FOUNDATIONS ADJACENT TO ALL ROADWAYS EXCEPT
IN SIDEWALK, MEDIAN AND ISLAND AREAS
DETAIL A

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

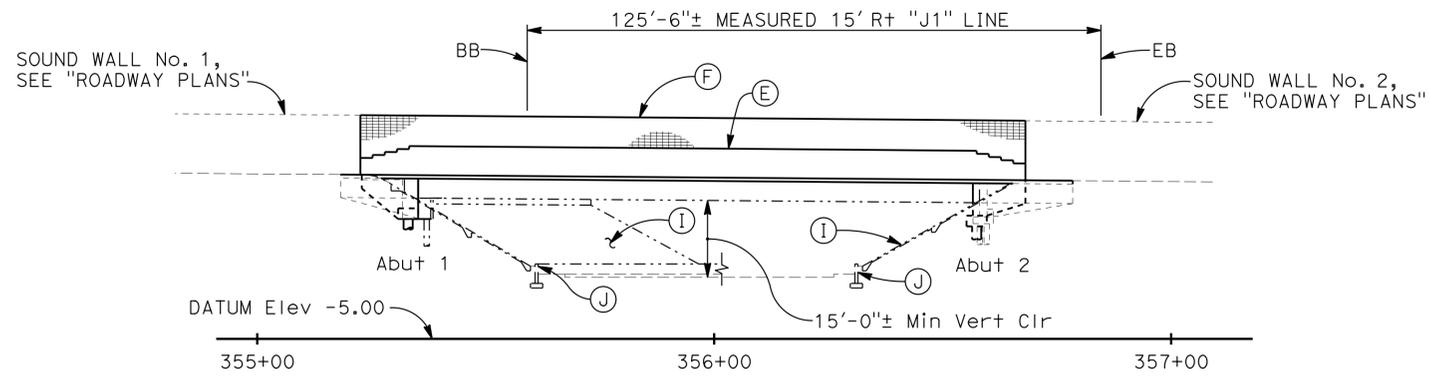
FOUNDATIONS IN SIDEWALK, MEDIAN AND ISLAND AREAS
DETAIL B

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

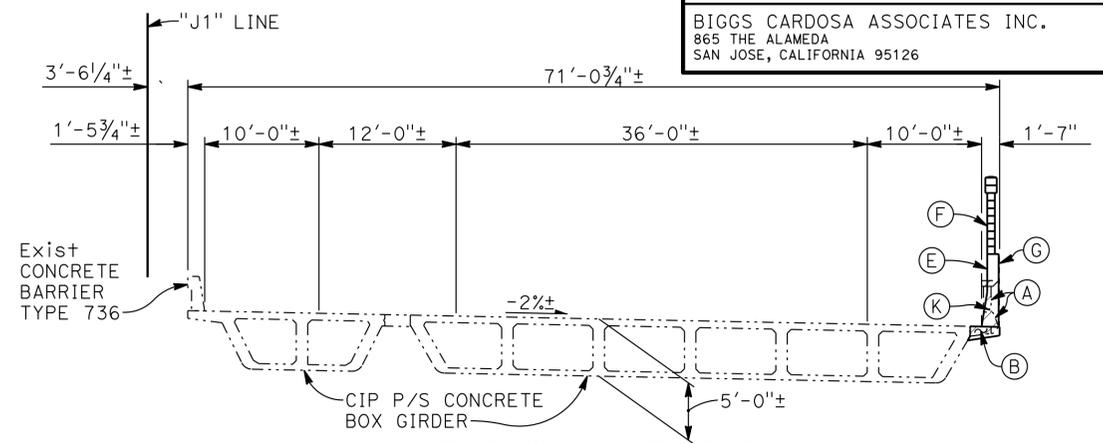
RSP ES-11 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-11
 DATED MAY 20, 2011 - PAGE 488 OF THE STANDARD PLANS BOOK DATED 2010.

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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Mrrn	101	18.9/25.8	137	148
			4/10/15	DATE	
REGISTERED CIVIL ENGINEER			No. C51561		
			Exp. 6/30/16		
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.					
TAM 781 LINCOLN AVE, SUITE 160 SAN RAFAEL, CALIFORNIA 94901					
BIGGS CARDOSA ASSOCIATES INC. 865 THE ALAMEDA SAN JOSE, CALIFORNIA 95126					



ELEVATION
1" = 20'



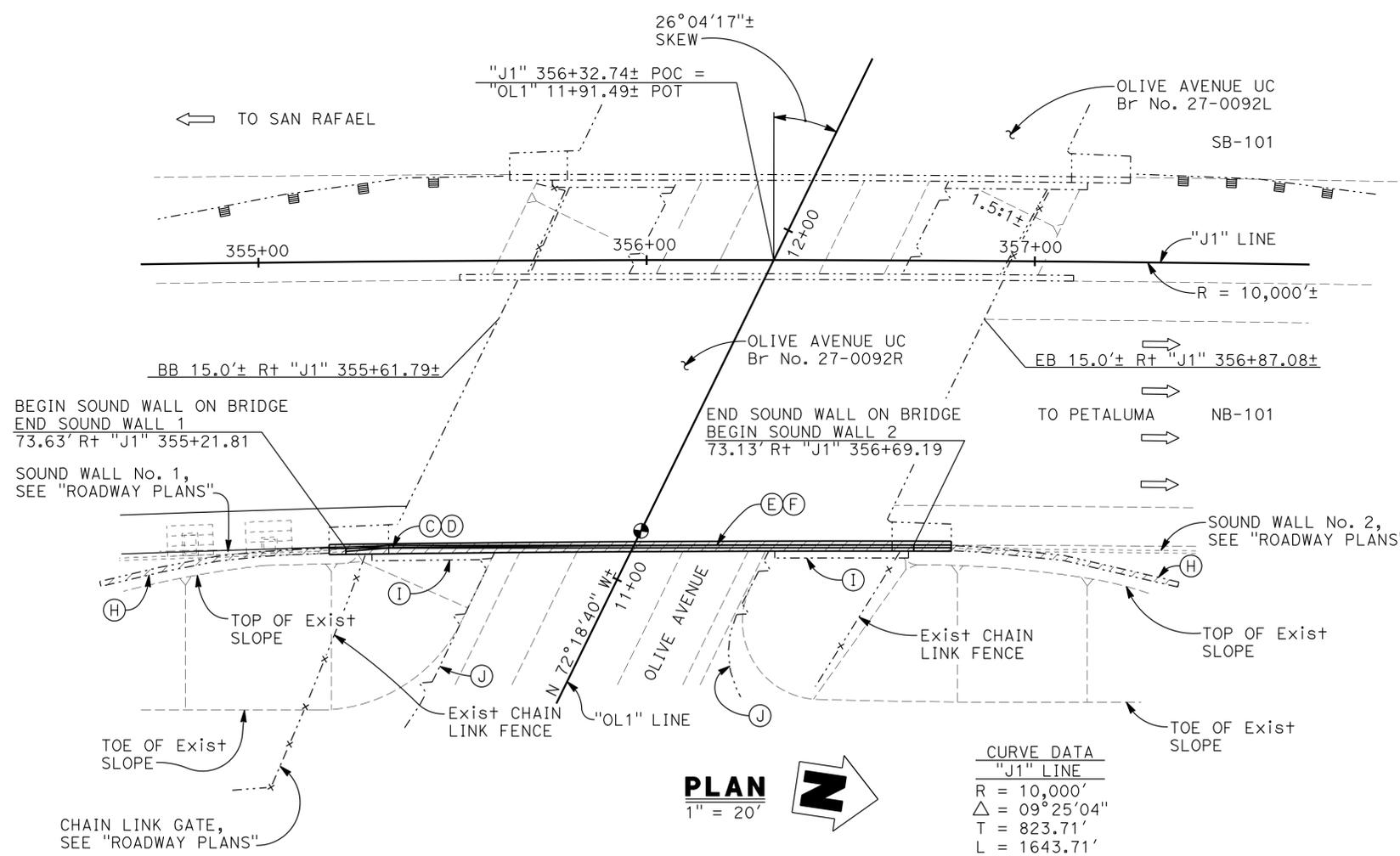
TYPICAL SECTION
1/8" = 1'-0"

NOTES:

- (A) Remove Existing Concrete Barrier on Bridge
 - (B) Remove Existing Overhang
 - (C) PAINT "OLIVE AVENUE OVERCROSSING"
 - (D) PAINT "BRIDGE No. 27-0092R"
 - (E) Concrete Barrier Type 736 (Mod)
 - (F) Sound Wall (Barrier) (Light Weight Masonry Block)
 - (G) Concrete Surface Texture
 - (H) Remove Existing Concrete Barrier off Bridge
 - (I) Existing Slope Paving
 - (J) Existing Retaining Wall
 - (K) 1 1/4" Dia Irrigation Line
1. For General Notes and Index to Plans, see "INDEX TO PLANS" sheet.

LEGEND:

- Indicates Bridge Removal (Portion)
- Indicates Existing Structure
- Indicates Traffic Direction
- Indicates Point of Minimum Vertical Clearance



PLAN
1" = 20'

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

OLIVE AVENUE UC (MODIFICATION) QUANTITIES		BR NO 27-0092R
BRIDGE REMOVAL (PORTION)	LUMP	SUM
STRUCTURE EXCAVATION (BRIDGE)	35	CY
STRUCTURE BACKFILL (BRIDGE)	17	CY
24" CAST-IN-DRILLED-HOLE CONCRETE PILING	79	LF
STRUCTURAL CONCRETE, BRIDGE FOOTING	2	CY
STRUCTURAL CONCRETE, BRIDGE	32	CY
CONCRETE SURFACE TEXTURE	919	SQFT
DRILL AND BOND DOWEL (CHEMICAL ADHESIVE)	355	EA
BAR REINFORCING STEEL (BRIDGE)	7,959	LB
SOUND WALL (BARRIER) (LIGHT WEIGHT MASONRY BLOCK)	1,202	SQFT
ANTI-GRAFFITI COATING	4,172	SQFT
8" PERFORATED STEEL PIPE UNDERDRAIN (.064" THICK)	31	LF
PERMEABLE MATERIAL (BRIDGE)	2	CY
SLOPE PAVING (CONCRETE)	1	CY
CONCRETE BARRIER (TYPE 736 MODIFIED)	146	LF

DESIGN OVERSIGHT 4-24-15 SIGN OFF DATE	DESIGN BY D. CHAN	CHECKED BY J. ALCIATI	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	BRIDGE NO. 27-0092R	OLIVE AVENUE UC (MODIFICATION) GENERAL PLAN
	DETAILS BY D. CHAN	CHECKED BY J. ALCIATI	LAYOUT BY I. LI	CHECKED BY J. ALCIATI	PROJECT ENGINEER INES S. LI	POST MILES R21.47	
	QUANTITIES BY A. NICHOLAS	CHECKED BY A. YOUSSEF	SPECIFICATIONS BY I. LI	PLANS AND SPECS COMPARED BY J. ALCIATI			

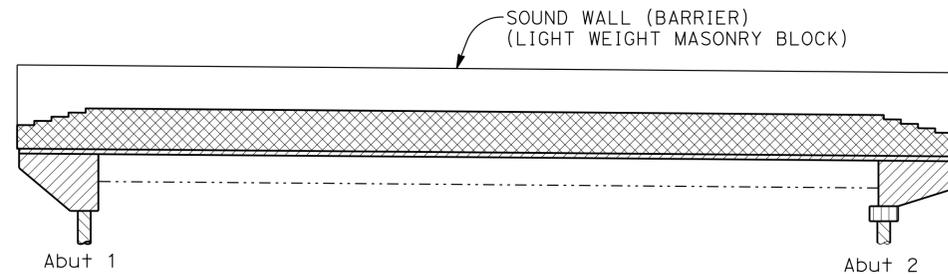
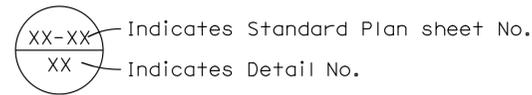
INDEX TO BRIDGE PLANS

SHEET	TITLE
1	GENERAL PLAN
2	INDEX TO PLANS
3	FOUNDATION PLAN
4	ABUTMENT LAYOUT
5	ABUTMENT DETAILS No. 1
6	ABUTMENT DETAILS No. 2
7	TYPICAL SECTION
8	SOUND WALL AND BARRIER DETAILS No. 1
9	SOUND WALL AND BARRIER DETAILS No. 2
10	LOG OF TEST BORINGS No. 1 OF 3
11	LOG OF TEST BORINGS No. 2 OF 3
12	LOG OF TEST BORINGS No. 3 OF 3

2010 STANDARD PLANS

RSP 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)
A62C	A62C LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL
T3A	TEMPORARY RAILING (TYPE K)
B0-3	BRIDGE DETAILS
B2-3	16" AND 24" CAST-IN-DRILLED-HOLE CONCRETE PILES
RSP B11-56	CONCRETE BARRIER TYPE 736

LEGEND:



	STRUCTURAL CONCRETE, BRIDGE (f'c = 5.0 ksi)
	STRUCTURAL CONCRETE, BRIDGE FOOTING (f'c = 4.0 ksi)
	CONCRETE BARRIER (TYPE 736 MODIFIED) OR (TYPE 736A MODIFIED) (f'c = 5.0 ksi)
	CAST-IN-DRILLED-HOLE CONCRETE PILE

CONCRETE STRENGTH AND TYPE LIMITS

NO SCALE

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

DESIGN OVERSIGHT
PHILIP A. Vergara Jr.
4-24-15
SIGN OFF DATE

DESIGN	BY D. CHAN	CHECKED J. ALCIATI
DETAILS	BY D. CHAN	CHECKED J. ALCIATI
QUANTITIES	BY A. NICHOLAS	CHECKED A. YOUSSEF

**PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION**

BRIDGE NO.
27-0092R
PROJECT ENGINEER
INES S. LI
POST MILES
R21.47

**OLIVE AVENUE UC (MODIFICATION)
INDEX TO PLANS**

DESIGN DETAIL SHEET (ENGLISH) (REV. 03/14/12)

ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS

0 1 2 3

UNIT: 0716
PROJECT NUMBER & PHASE: 04140002211 CONTRACT NO.: 04-264H34

DISREGARD PRINTS BEARING
EARLIER REVISION DATES

REVISION DATES	SHEET	OF
2/13/15, 2/27/15, 3/16/15, 4/10/15	2	12

**GENERAL NOTES
LOAD AND RESISTANCE FACTOR DESIGN**

DESIGN: Concrete barrier and new deck overhang designed based on AASHTO LRFD Bridge Design Specifications, 4th Edition and the Caltrans Amendments, preface dated November 2011. Existing cast-in-place prestressed box girder structure evaluated using Bridge Design Specifications (1996 AASHTO w/ revisions by Caltrans)

DEAD LOAD: No allowance for future overlay is considered

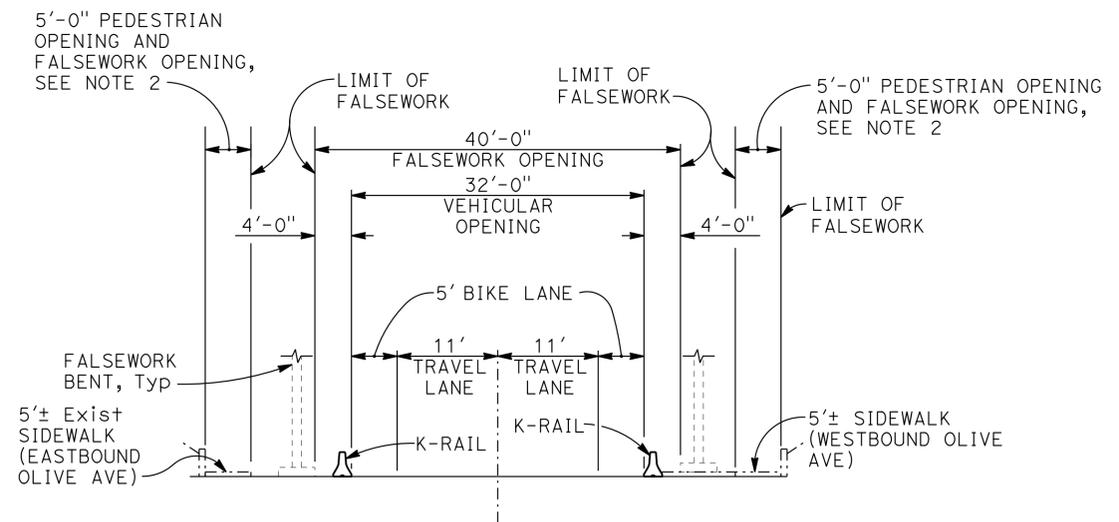
LIVE LOAD: HS 20-44 and Alternate Military Loading considered for existing girders

SEISMIC DESIGN: See "DESIGN NOTES" on "SOUND WALL AND BARRIER DETAILS No. 1" sheet for seismic design of sound wall and barrier on bridge

CONCRETE: f_y = 60 ksi
f'c, see "CONCRETE STRENGTH AND TYPE LIMITS" diagram

EXISTING PRESTRESSED
CONCRETE SUPERSTRUCTURE: f'c = 6600 psi (Aged concrete)
f_y = 60 ksi

For design notes for soundwall on bridge and on wingwall, see "SOUNDWALL AND BARRIER DETAILS No. 1" sheet.



NOTE:
1. All dimensions measured normal to traffic.
2. One sidewalk must remain open at all times during construction.

(SECTION LOOKING WEST)

FALSEWORK OPENING DETAIL

NO SCALE

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Mrry	101	18.9/25.8	138	148

REGISTERED CIVIL ENGINEER DATE 4/10/15
PLANS APPROVAL DATE 4-27-15
No. C51561 Exp. 6/30/16
CIVIL ENGINEER STATE OF CALIFORNIA
TAM
781 LINCOLN AVE, SUITE 160
SAN RAFAEL, CALIFORNIA 94901
BIGGS CARDOSA ASSOCIATES INC.
865 THE ALAMEDA
SAN JOSE, CALIFORNIA 95126

2014228 (2014228S2) 2014228 TIME PLOTTED => 10:22 USERNAME => s141070 DATE PLOTTED => 07-JUL-2015

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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Mrry	101	18.9/25.8	139	148

4/10/15
REGISTERED CIVIL ENGINEER DATE

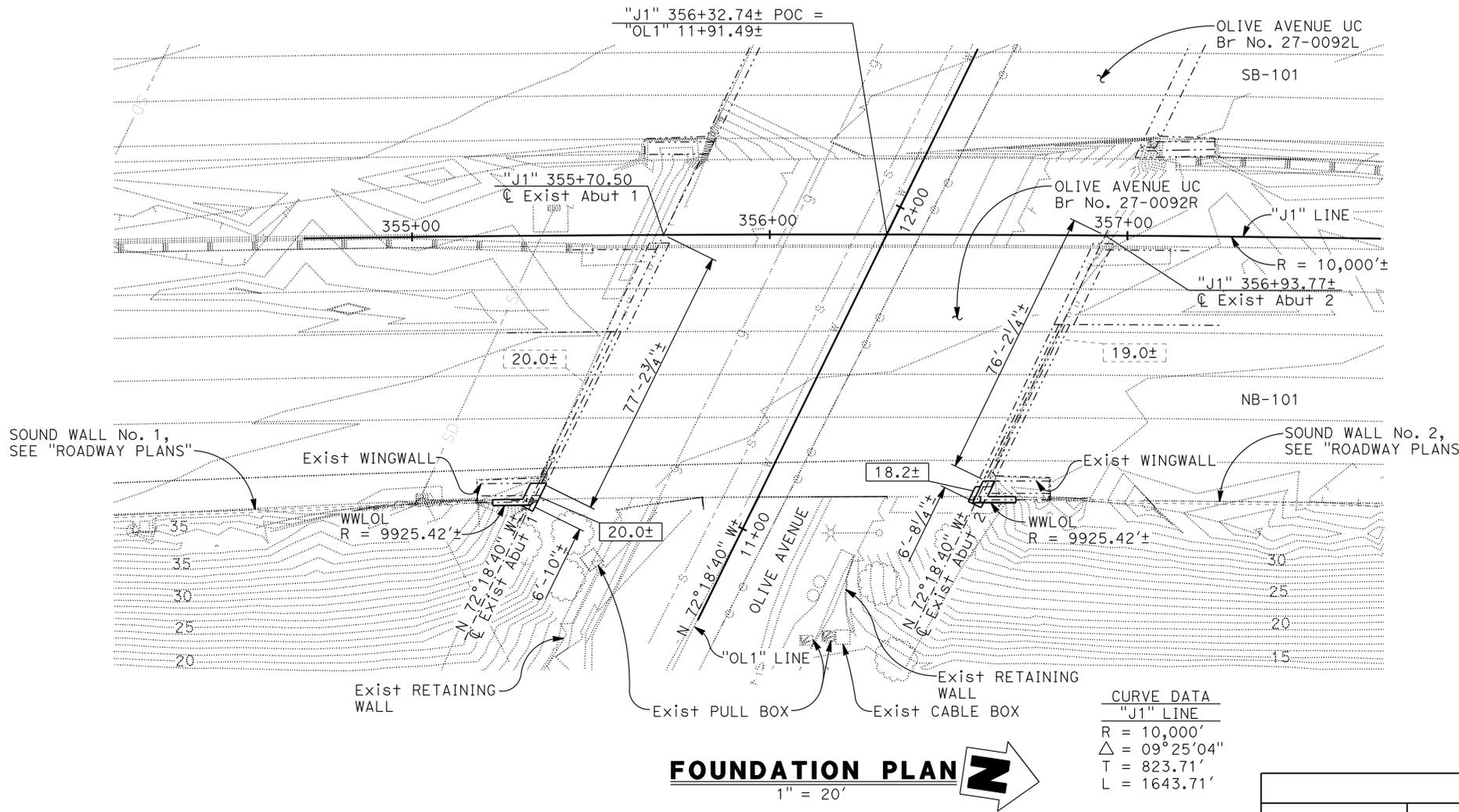
4-27-15
PLANS APPROVAL DATE

No. C51561
Exp. 6/30/16

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TAM
781 LINCOLN AVE, SUITE 160
SAN RAFAEL, CALIFORNIA 94901

BIGGS CARDOSA ASSOCIATES INC.
865 THE ALAMEDA
SAN JOSE, CALIFORNIA 95126



- NOTES:
- Vertical datum based on NGVD29.
 - See "Roadway Plans" for utilities details.

- LEGEND:
- Indicates Existing Structure
 - Indicates Bottom of Footing Elevation
 - Indicates Bottom of Existing Footing Elevation
 - Indicates CIDH Pile
 - Indicates Existing Precast Concrete Pile

Location	Pile Type	Nominal Resistance (kips)		Design Tip Elev (ft)	Specified Tip Elev (ft)
		Compression	Tension		
Abutment 1	24" dia CIDH Conc Pile	280k	0	-16.7 (a)	-16.7
Abutment 2	24" dia CIDH Conc Pile	390k	0	-23.6 (a)	-23.6

- NOTES:
- Design tip elevation is controlled by the following demands:
(a) Compression
 - SEE $\frac{B2-3}{-}$ for CIDH concrete pile details
 - The CIDH specified tip elevation shall not be raised

SURVEY CONTROL
SUHV 6
Fnd 1" I.P. w/CT CTPP
83.05 Lt. "J1" Line, Q Rte 101
Sta. 355+78.54
N 2,233,186.18
E 5,967,823.03
EL.=37.99
MRN 25 (Not Shown on Plan)

Fnd 1" I.P. w/Brass Disk Stamped MRN-25
87.08 Rt. "J1" Line, Q Rte 101
Sta. 330+91.74
N 2,230,787.55
E 5,968,544.72
EL.=49.52

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

DESIGN OVERSIGHT BY A. Vergara Jr.	SCALE: AS SHOWN	VERT.DATUM NGVD29	HORZ.DATUM	DESIGN BY D. CHAN	CHECKED J. ALCIATI	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	BRIDGE NO. 27-0092R	OLIVE AVENUE UC (MODIFICATION) FOUNDATION PLAN
4-24-15 SIGN OFF DATE	SURVEYED BY	ALIGNMENT TIES	DETAILS BY D. CHAN	CHECKED J. ALCIATI	PROJECT ENGINEER INES S. LI		POST MILES R21.47	
FOUNDATION PLAN SHEET (ENGLISH) (REV. 03-14-12)	FIELD CHECKED BY	CHECKED BY	QUANTITIES BY A. NICHOLAS	CHECKED A. YOUSSEF	UNIT: 0716		CONTRACT NO.: 04-264H34	

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES: 2/13/15, 2/26/15, 3/16/15, 4/10/15

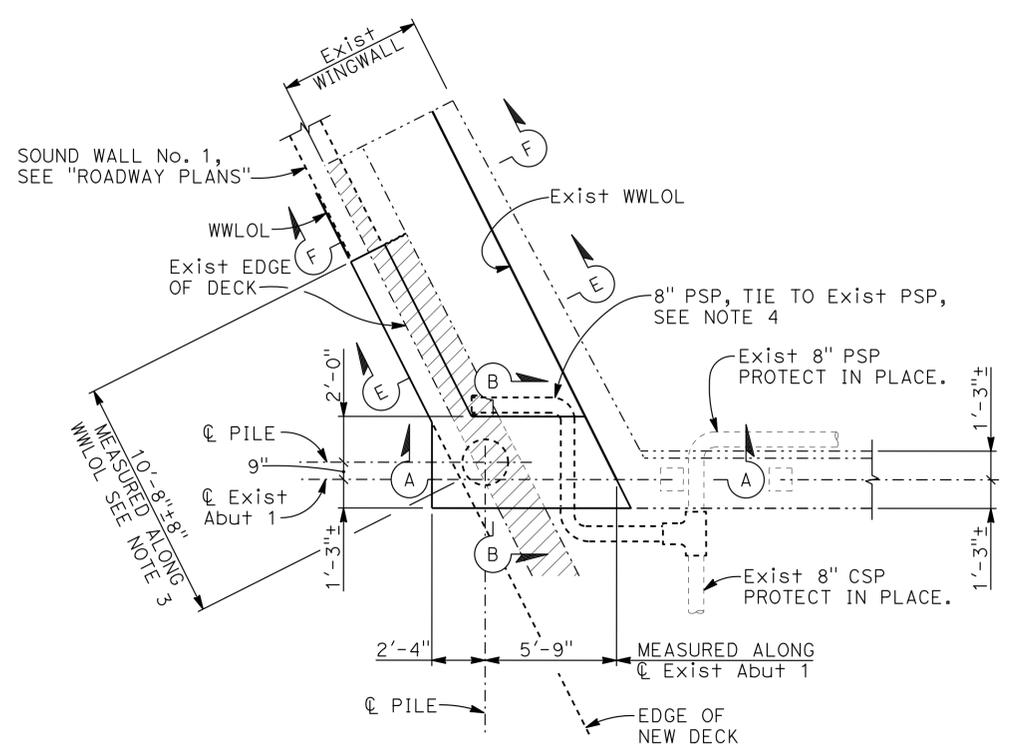
SHEET 3 OF 12

FILE => 27-0092r-e-fp01.dgn

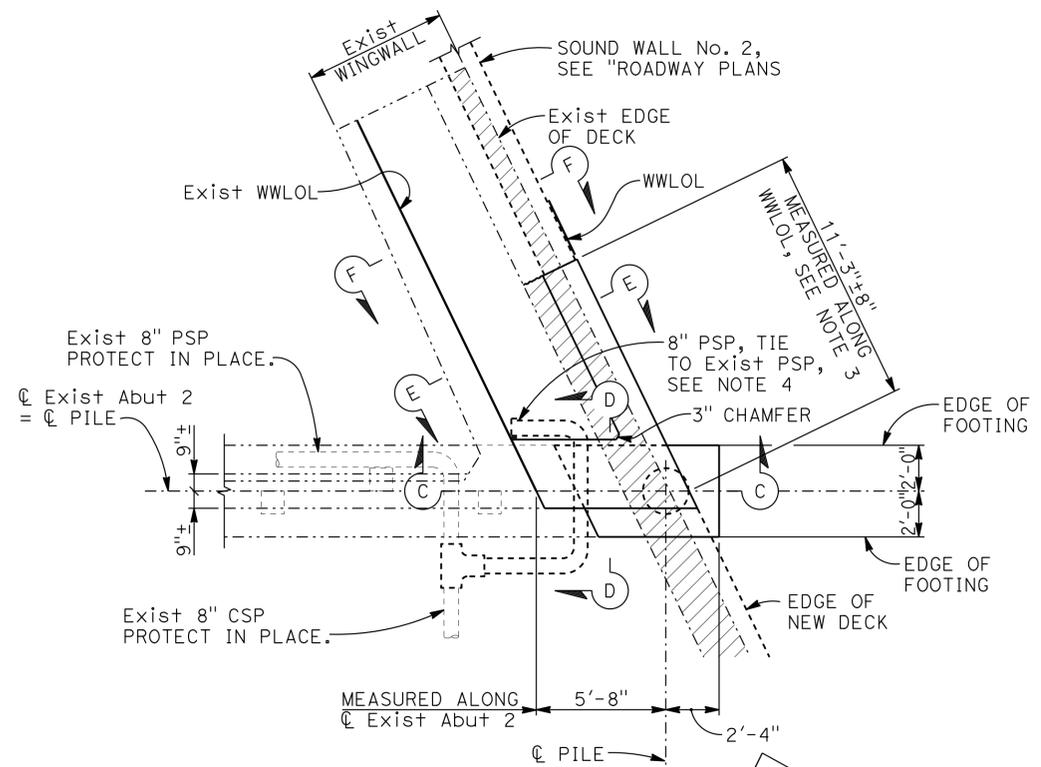
4/10/15 APPROVAL DATE
PROFESSIONAL
GEO-TECHNICAL

2014228 (2014228S3) TIME PLOTTED => 10:22 USERNAME => s141070 DATE PLOTTED => 07-JUL-2015

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Mrrn	101	18.9/25.8	140	148
			4/10/15	DATE	
REGISTERED CIVIL ENGINEER					
4-27-15			PLANS APPROVAL DATE		
BIGGS CARDOSA ASSOCIATES INC.			No. C51561		
865 THE ALAMEDA			Exp. 6/30/16		
SAN JOSE, CALIFORNIA 95126			CIVIL ENGINEER		

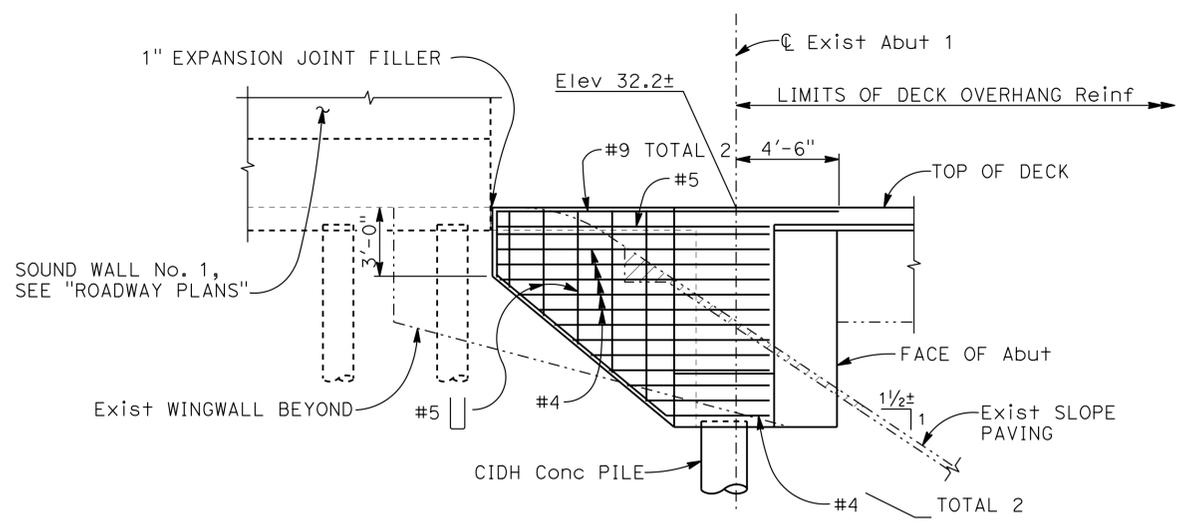


ABUTMENT 1 PLAN
1/4" = 1'-0"

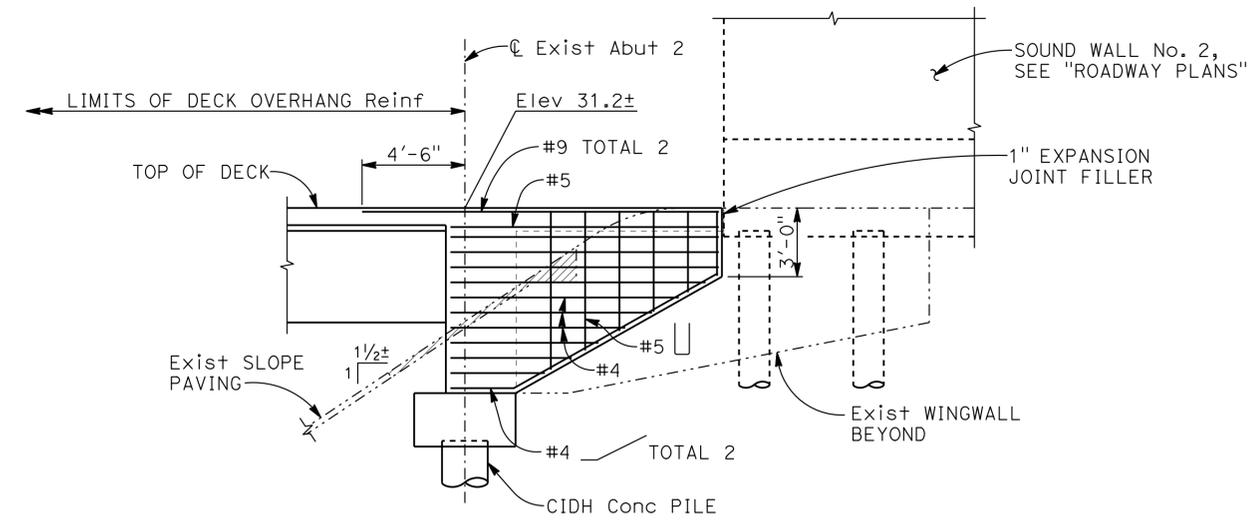


ABUTMENT 2 PLAN
1/4" = 1'-0"

- LEGEND:**
 Indicates Bridge Removal (Portion)
 Indicates Existing Structure
- NOTES:**
1. For "SECTION A-A", "SECTION B-B", "SECTION C-C" and "SECTION D-D", see "ABUTMENT DETAILS No. 1" sheet
2. For "SECTION E-E", and "SECTION F-F" see "ABUTMENT DETAILS No. 2" sheet.
3. To ensure equal block placement of soundwall from end of wingwall to end of wingwall, length of wingwall is provided for additional tolerance.
4. Field verify existing PSP location before ordering material.



ABUTMENT 1 WINGWALL ELEVATION
1/4" = 1'-0"



ABUTMENT 2 WINGWALL ELEVATION
1/4" = 1'-0"

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

DESIGN OVERSIGHT

Phil A. Vergara Jr.
4-24-15
SIGN OFF DATE

DESIGN	BY D. CHAN	CHECKED J. ALCIATI
DETAILS	BY D. CHAN	CHECKED J. ALCIATI
QUANTITIES	BY A. NICHOLAS	CHECKED A. YOUSSEF

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 27-0092R
PROJECT ENGINEER INES S. LI
POST MILES R21.47

OLIVE AVENUE UC (MODIFICATION) ABUTMENT LAYOUT

DESIGN DETAIL SHEET (ENGLISH) (REV. 03/14/12)

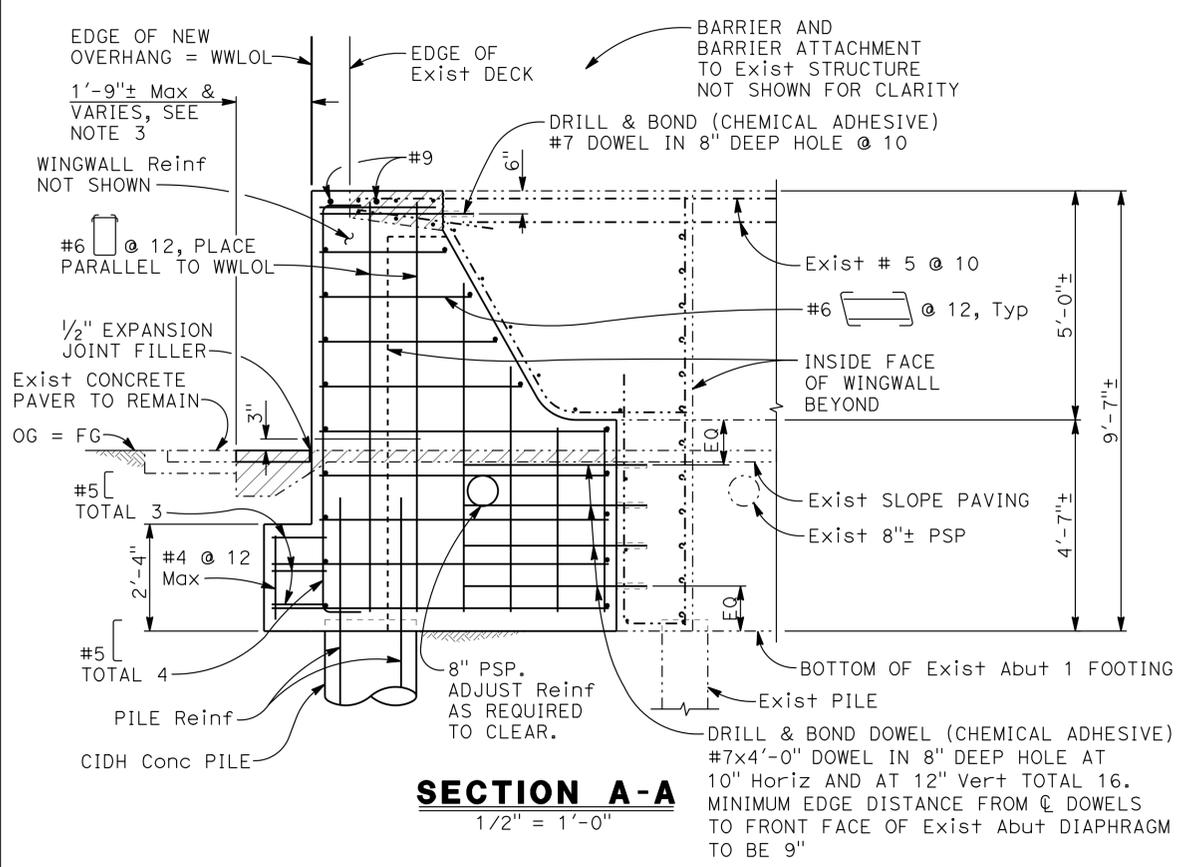
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 0716
PROJECT NUMBER & PHASE: 04140002211
CONTRACT NO.: 04-264H34

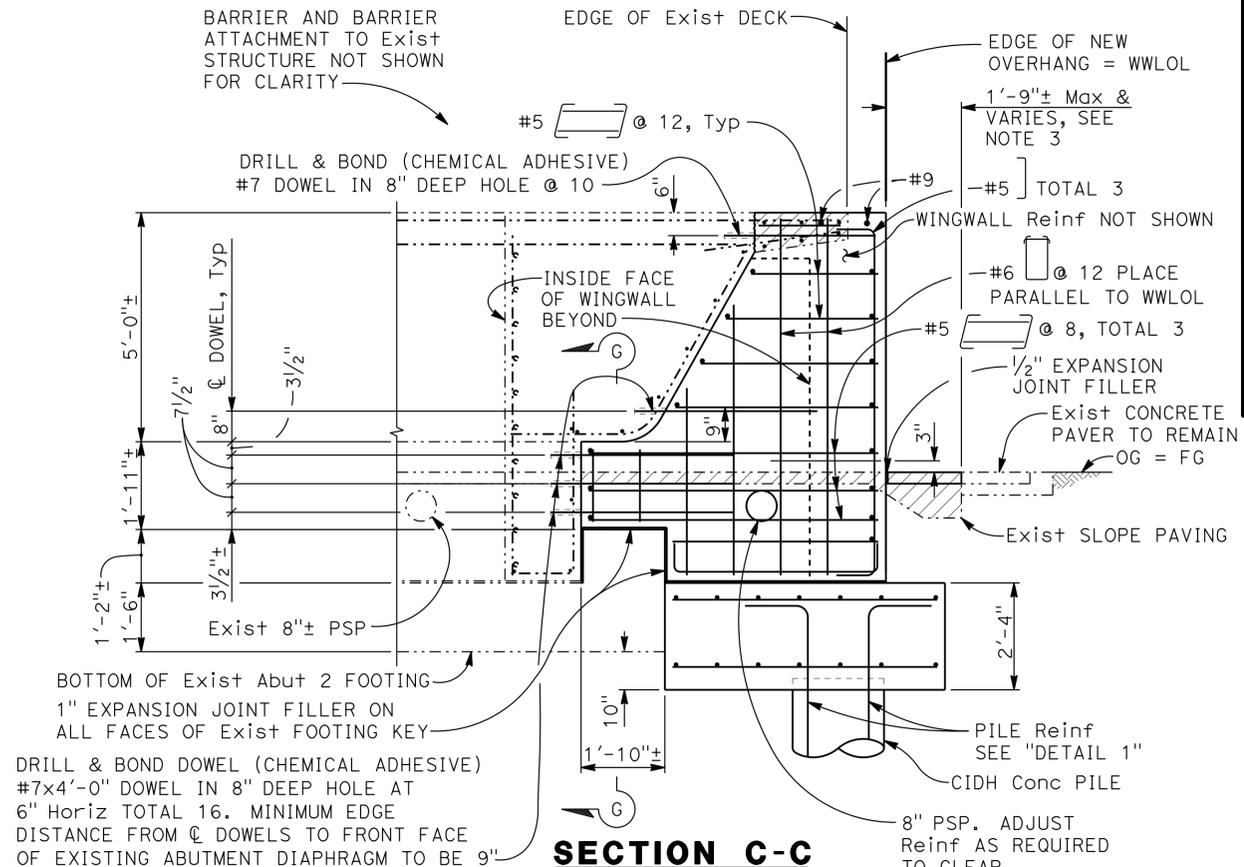
REVISION DATES	SHEET	OF
2/13/15, 2/27/15, 3/16/15, 4/10/15	4	12

USERNAME => s141070 DATE PLOTTED => 07-JUL-2015 TIME PLOTTED => 10:22 2014228 (201422854)

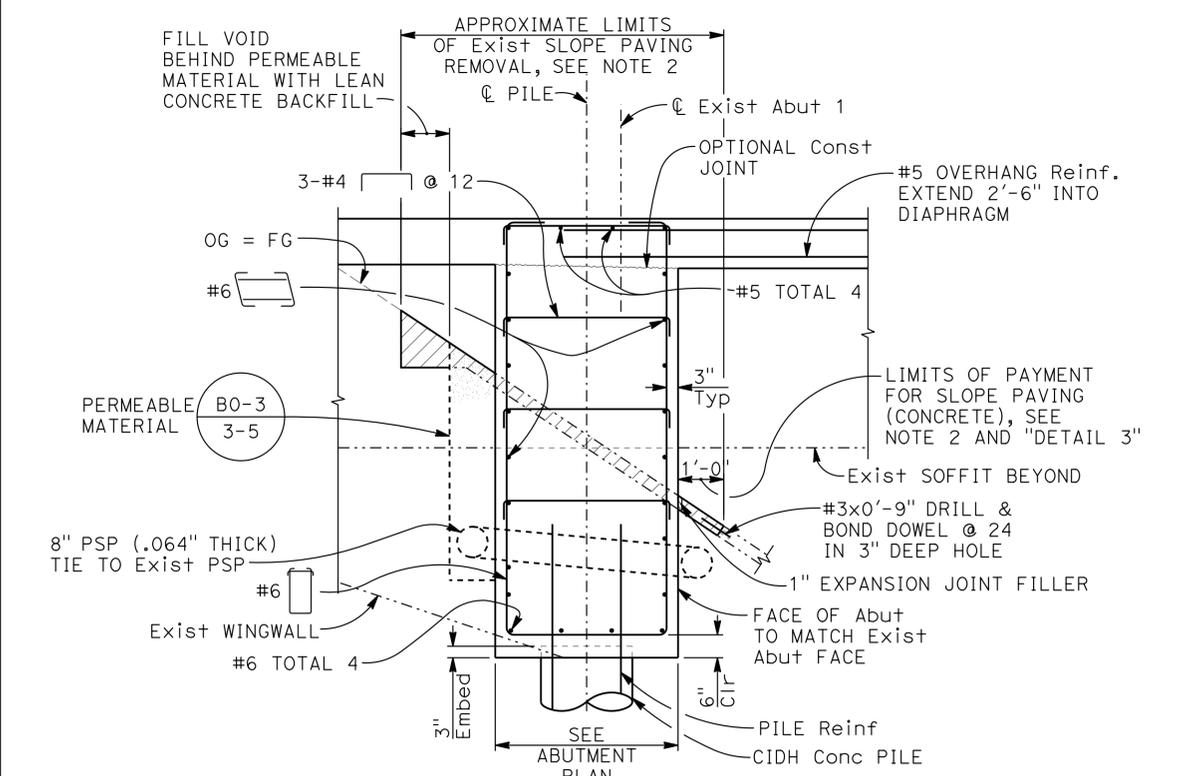
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Mrrn	101	18.9/25.8	141	148
			4/10/15		
REGISTERED CIVIL ENGINEER			DATE		
			4-27-15	PLANS APPROVAL DATE	
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.					
TAM 781 LINCOLN AVE, SUITE 160 SAN RAFAEL, CALIFORNIA 94901					
BIGGS CARDOSA ASSOCIATES INC. 865 THE ALAMEDA SAN JOSE, CALIFORNIA 95126					



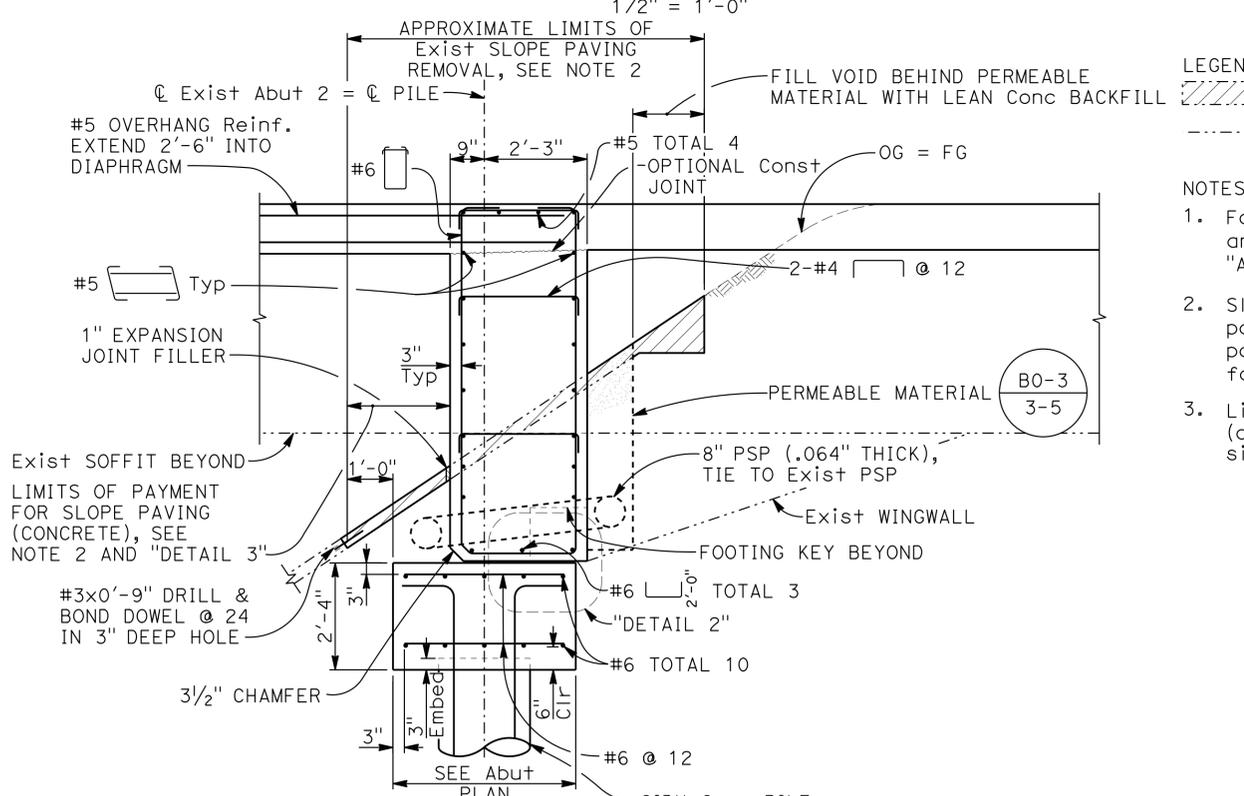
SECTION A-A
1/2" = 1'-0"



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



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



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

LEGEND:
 Indicates Bridge Removal (Portion)
 Indicates Existing Structure

- NOTES:**
- For "DETAIL 1", "DETAIL 2", "DETAIL 3" and "SECTION G-G", see "ABUTMENT DETAILS No. 2" sheet
 - Slope removal limits shown are for payment purpose only. Additional slope paving removal may be required to facilitate contractor's falsework system.
 - Limits of payment for slope paving (concrete), see Note 2 and "DETAIL 3", similar

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

DESIGN OVERSIGHT
 Phil A. Vergara Jr.
 4-24-15
 SIGN OFF DATE

DESIGN	BY D. CHAN	CHECKED J. ALCIATI
DETAILS	BY D. CHAN	CHECKED J. ALCIATI
QUANTITIES	BY A. NICHOLAS	CHECKED A. YOUSSEF

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 27-0092R
 PROJECT ENGINEER INES S. LI
 POST MILES R21.47

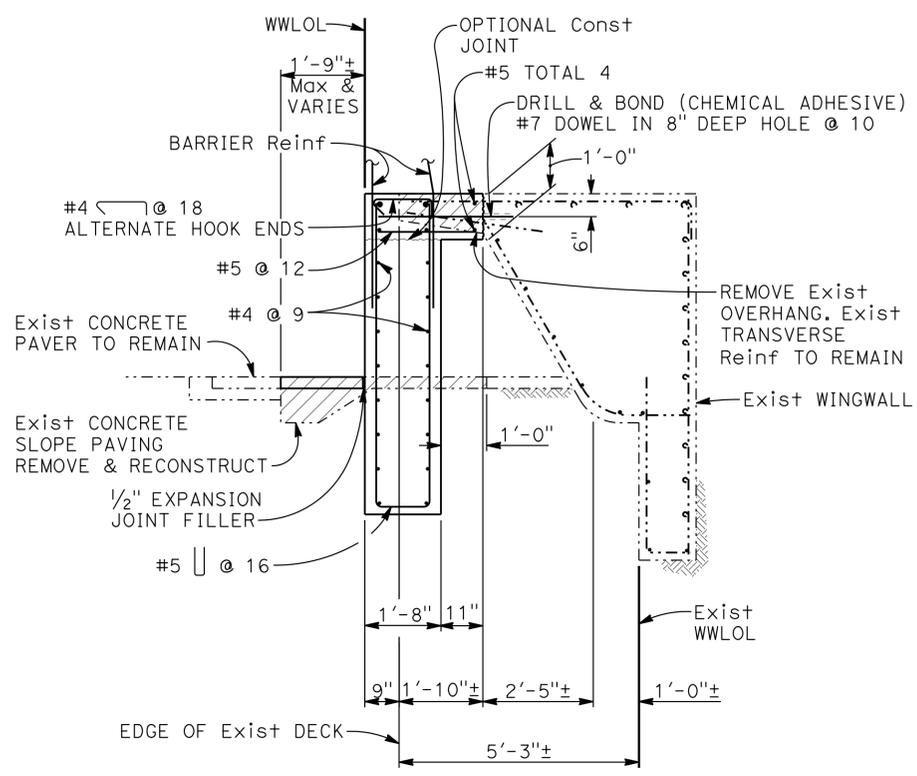
OLIVE AVENUE UC (MODIFICATION) ABUTMENT DETAILS No. 1

USERNAME => s141070 DATE PLOTTED => 07-JUL-2015 TIME PLOTTED => 10:22 (201422855)

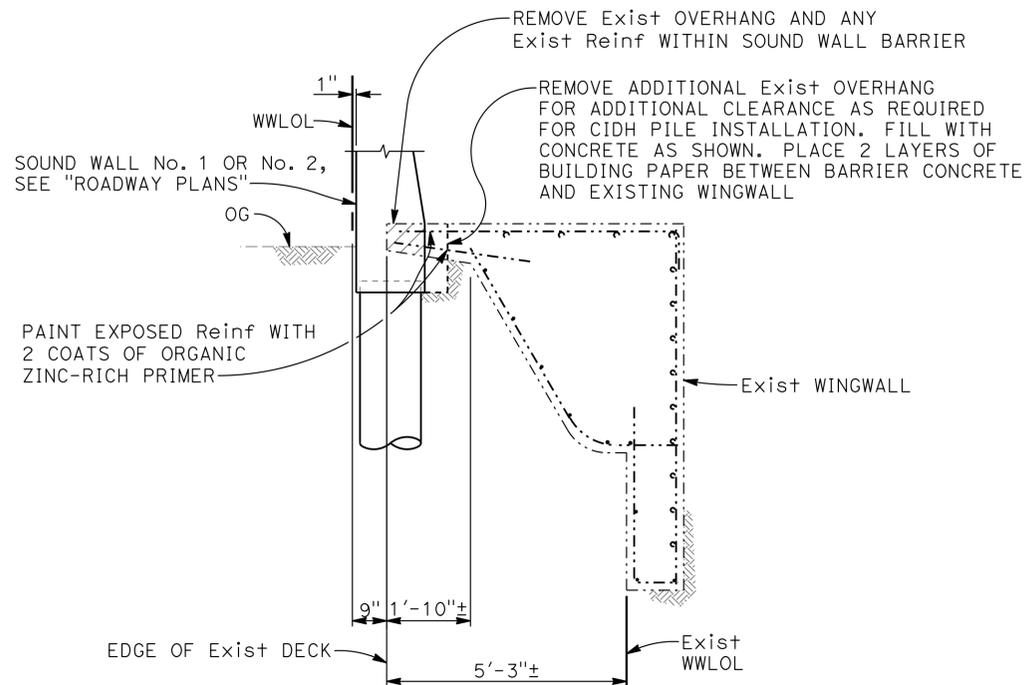
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Mrrn	101	18.9/25.8	142	148

REGISTERED CIVIL ENGINEER DATE 4/10/15
 4-27-15
 PLANS APPROVAL DATE
 No. C51561
 Exp. 6/30/16
 REGISTERED PROFESSIONAL ENGINEER
 INES S. LI
 CIVIL
 STATE OF CALIFORNIA

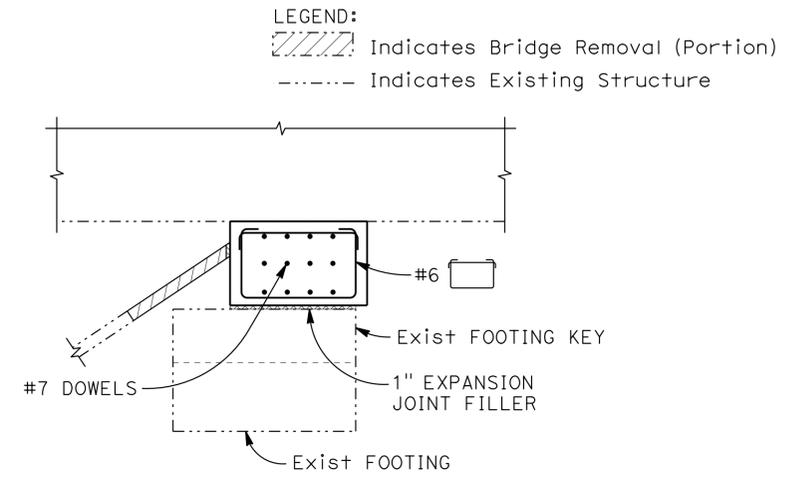
TAM
 781 LINCOLN AVE, SUITE 160
 SAN RAFAEL, CALIFORNIA 94901
 BIGGS CARDOSA ASSOCIATES INC.
 865 THE ALAMEDA
 SAN JOSE, CALIFORNIA 95126



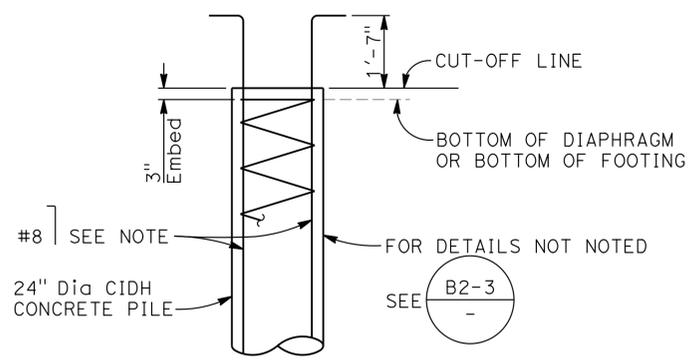
SECTION E-E
 1/2" = 1'-0"



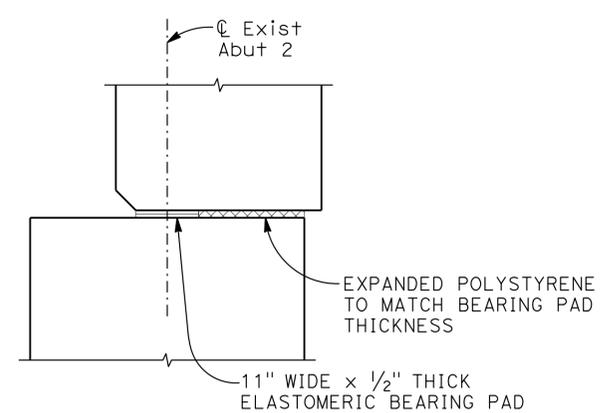
SECTION F-F
 1/2" = 1'-0"



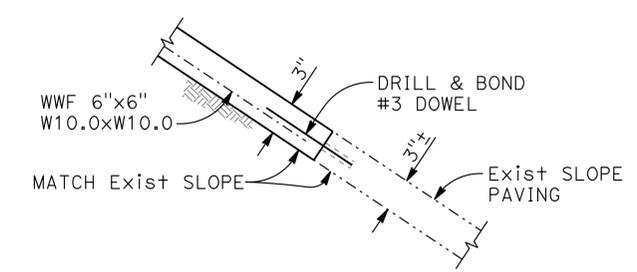
SECTION G-G
 1/2" = 1'-0"



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



DETAIL 2
 3/4" = 1'-0"



DETAIL 3
 1 1/2" = 1'-0"

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

DESIGN OVERSIGHT
 4-24-15
 SIGN OFF DATE

DESIGN	BY D. CHAN	CHECKED J. ALCIATI
DETAILS	BY D. CHAN	CHECKED J. ALCIATI
QUANTITIES	BY A. NICHOLAS	CHECKED A. YOUSSEF

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
 INES S. LI
 PROJECT ENGINEER

BRIDGE NO. 27-0092R
 POST MILES R21.47
OLIVE AVENUE UC (MODIFICATION)
ABUTMENT DETAILS No. 2

DESIGN DETAIL SHEET (ENGLISH) (REV. 03/14/12)

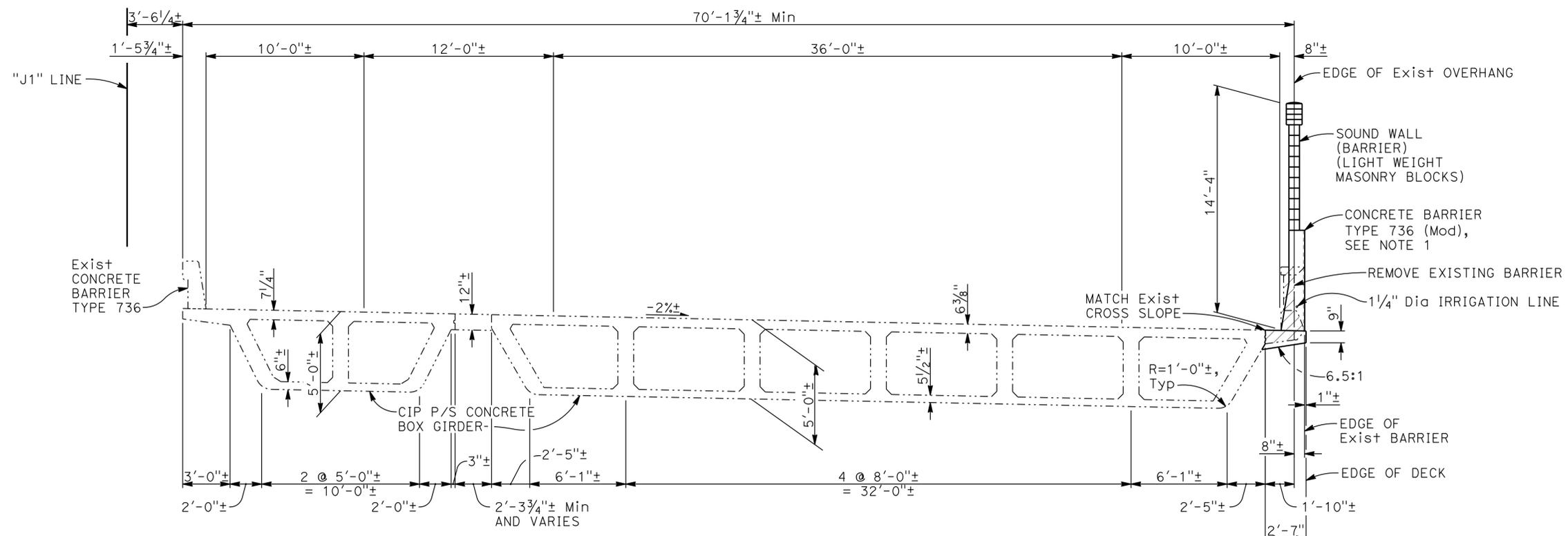
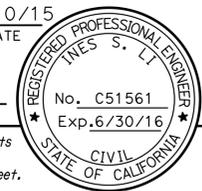
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 0716
 PROJECT NUMBER & PHASE: 04140002211
 CONTRACT NO.: 04-264H34

REVISION DATES	SHEET	OF
2/13/15, 2/26/15, 3/16/15, 4/10/15	6	12

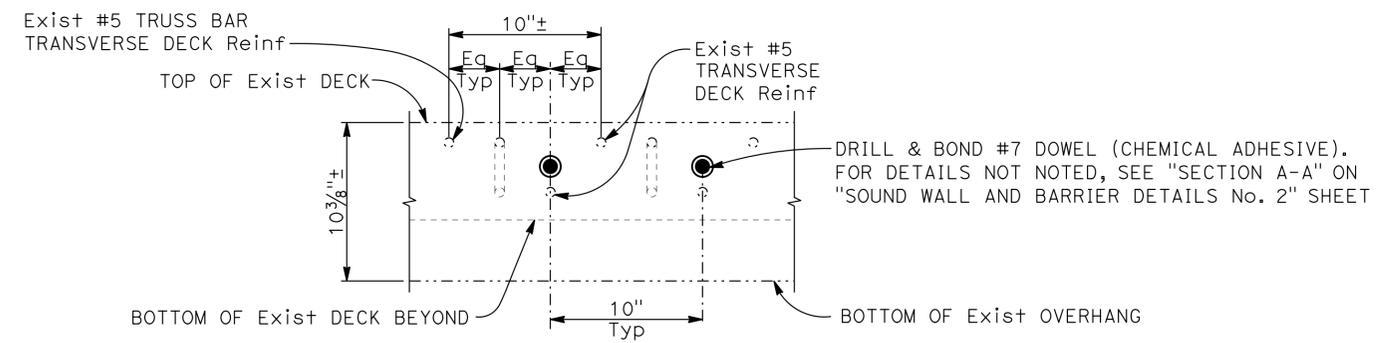
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Mrrn	101	18.9/25.8	143	148
REGISTERED CIVIL ENGINEER			DATE	4/10/15	
PLANS APPROVAL DATE			4-27-15		
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TAM 781 LINCOLN AVE, SUITE 160 SAN RAFAEL, CALIFORNIA 94901					
BIGGS CARDOSA ASSOCIATES INC. 865 THE ALAMEDA SAN JOSE, CALIFORNIA 95126					

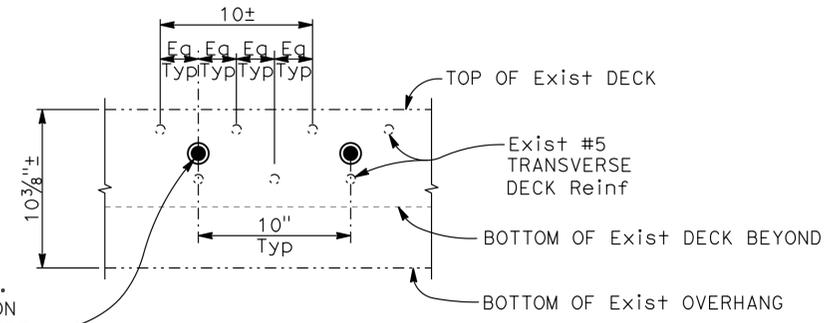


TYPICAL SECTION
1/4" = 1'-0"

- LEGEND:**
 [Hatched Area] Indicates Bridge Removal (Portion)
 [Dashed Line] Indicates Existing Structure
- NOTES:**
 1. For barrier details, see "SOUND WALL AND BARRIER DETAILS No. 2" sheet
 2. Falsework for overhang/concrete barrier must not be released until barrier concrete has achieved a compressive strength of 5,000 psi and a minimum of 28 days after barrier concrete is poured.
 3. Falsework for overhang concrete barrier must be a stand alone system not connected to the existing bridge. Attachment to the existing structure is not permitted



EXISTING TRANSVERSE DECK Reinf WITH TRUSS BARS



EXISTING TRANSVERSE DECK Reinf WITHOUT TRUSS BARS

DRILL & BOND #7 DOWEL (CHEMICAL ADHESIVE). FOR DETAILS NOT NOTED, SEE "SECTION A-A" ON "SOUND WALL AND BARRIER DETAILS No. 2" SHEET

DRILL & BOND DOWEL PATTERN AT EXISTING DECK DETAIL
NO SCALE

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

DESIGN OVERSIGHT
 Phil A. Vergara Jr.
 4-24-15
 SIGN OFF DATE

DESIGN	BY D. CHAN	CHECKED J. ALCIATI
DETAILS	BY D. CHAN	CHECKED J. ALCIATI
QUANTITIES	BY A. NICHOLAS	CHECKED A. YOUSSEF

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

INES S. LI
 PROJECT ENGINEER

BRIDGE NO.	27-0092R
POST MILES	R21.47

OLIVE AVENUE UC (MODIFICATION)
TYPICAL SECTION

DESIGN DETAIL SHEET (ENGLISH) (REV. 03/14/12)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 0716
 PROJECT NUMBER & PHASE: 04140002211

CONTRACT NO.: 04-264H34

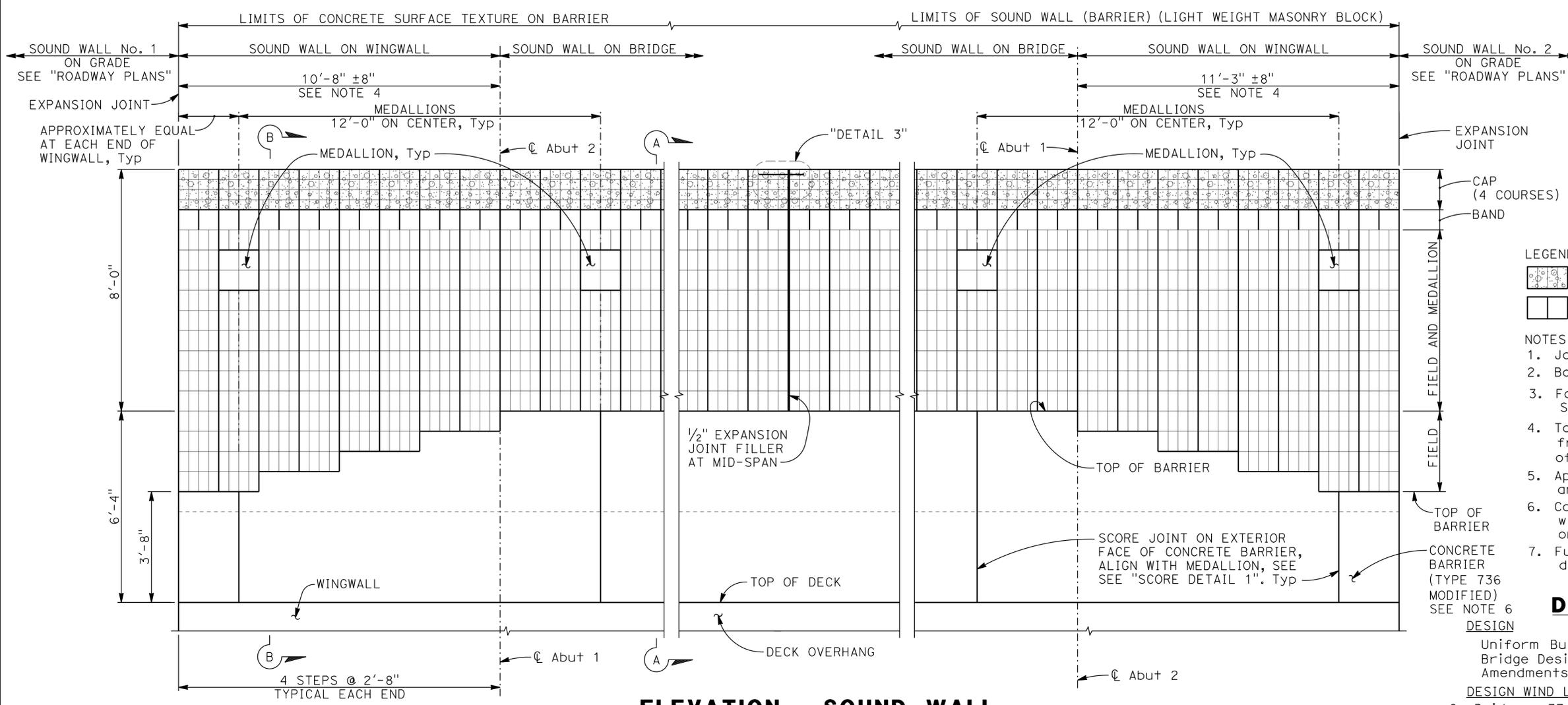
REVISION DATES	SHEET	OF
2/13/15, 2/26/15, 3/16/15, 4/10/15	7	12

USERNAME => s141070 DATE PLOTTED => 07-JUL-2015 TIME PLOTTED => 10:23 (201422857)

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Mrry	101	18.9/25.8	144	148

REGISTERED CIVIL ENGINEER
 DATE 4/10/15
 No. C51561
 Exp. 6/30/16
 CIVIL ENGINEER
 STATE OF CALIFORNIA

TAM
 781 LINCOLN AVE, SUITE 160
 SAN RAFAEL, CALIFORNIA 94901
 BIGGS CARDOSA ASSOCIATES INC.
 865 THE ALAMEDA
 SAN JOSE, CALIFORNIA 95126



ELEVATION - SOUND WALL
 NO SCALE

- LEGEND:**
- Cap
 - Band and Medallion
 - Field
- NOTES:**
- Joints shall be mortar bed and tooled only
 - Bond type shall be stacked bond
 - For "SECTION A-A", "SECTION B-B", and "DETAIL 3", SEE "SOUND WALL AND BARRIER DETAILS No. 2" sheet
 - To ensure equal block placement of sound wall from end of wingwall to end of wingwall, length of wingwall is provided additional tolerance
 - Apply anti-graffiti coating to masonry blocks and concrete barrier, both sides full height
 - Concrete barrier must be colored concrete with sandblast texture (cast with form liner) on the exterior face
 - Full time special inspection must be performed during sound wall construction

DESIGN NOTES

Uniform Building Code, 1997 Edition and AASHTO LRFD Bridge Design Specifications, 4th Edition with California Amendments.

DESIGN WIND LOAD	DESIGN SEISMIC LOAD
On Bridge 37 psf	2.0 Dead load
On Wingwall 33 psf	0.57 Dead Load

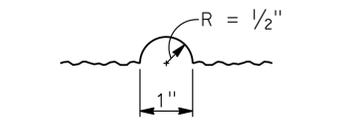
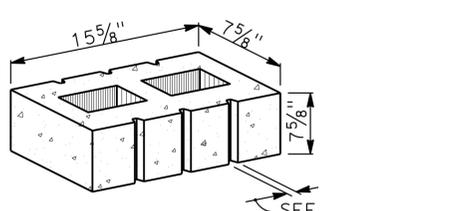
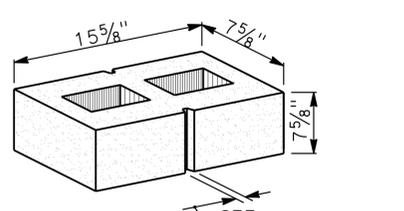
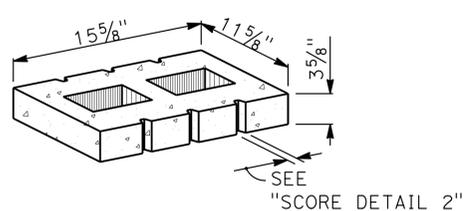
REINFORCED CONCRETE	CONCRETE MASONRY HIGH STRENGTH LIGHTWEIGHT
f'c = 5 ksi	f'm = 2500 psi
fy = 60 ksi	fb = 833 psi
	fs = 24000 psi
	n = 11

LOAD FACTORS AND LOAD COMBINATIONS

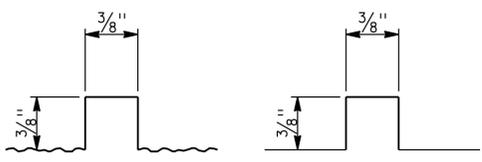
WORKING STRESS DESIGN (WSD)	LOAD FACTOR DESIGN (LFD)
Group 1: D+E+SC	Group A: $\beta D + 1.7 E + 1.7 SC$
Group 2: D+W+SC+E	Group B: $\beta D + 1.7 E + 1.3 W$
Group 3: D+EQD/1.4 + E	Group C: $\beta D + 1.3 E + 1.0 EQE$
	Group D: $\beta D + 1.3 E + 1.0 EQD$
	Group E: $\beta D + 1.1 E + 0.85 (EQE + EQD)$
	Where: $\beta = 0.9$ or 1.2 , whichever controls in design

Where:
 D = Dead load
 E = Lateral earth pressure
 SC = Live load surcharge
 W = Wind load
 EQD = Seismic dead load

D = Dead load
 E = Lateral earth pressure
 SC = Live load surcharge
 W = Wind load
 EQD = Seismic dead load
 EQE = Seismic earth load



SCORE DETAIL 1
 NO SCALE



SCORE DETAIL 2
 NO SCALE

CAP
 4 x 12 x 16
 SPLIT FACE
 4" SCORE JOINTS
 ON BOTH SIDES

BAND AND MEDALLION
 8 x 8 x 16
 PLAIN FACE
 8" SCORE JOINTS
 ON BOTH SIDES

FIELD
 8 x 8 x 16
 SPLIT FACE
 4" SCORE JOINTS
 ON BOTH SIDES

MASONRY BLOCK TYPES
 NO SCALE

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

DESIGN OVERSIGHT
 Phil A. Vergara Jr.
 4-24-15
 SIGN OFF DATE

DESIGN	BY D. CHAN	CHECKED J. ALCIATI
DETAILS	BY D. CHAN	CHECKED J. ALCIATI
QUANTITIES	BY A. NICHOLAS	CHECKED A. YOUSSEF

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

INES S. LI
 PROJECT ENGINEER

BRIDGE NO.	27-0092R
POST MILES	R21.47

OLIVE AVENUE UC (MODIFICATION) SOUND WALL AND BARRIER DETAILS No. 1

REVISION DATES	SHEET	OF
2/13/15, 2/26/15, 3/16/15, 4/10/15	8	12

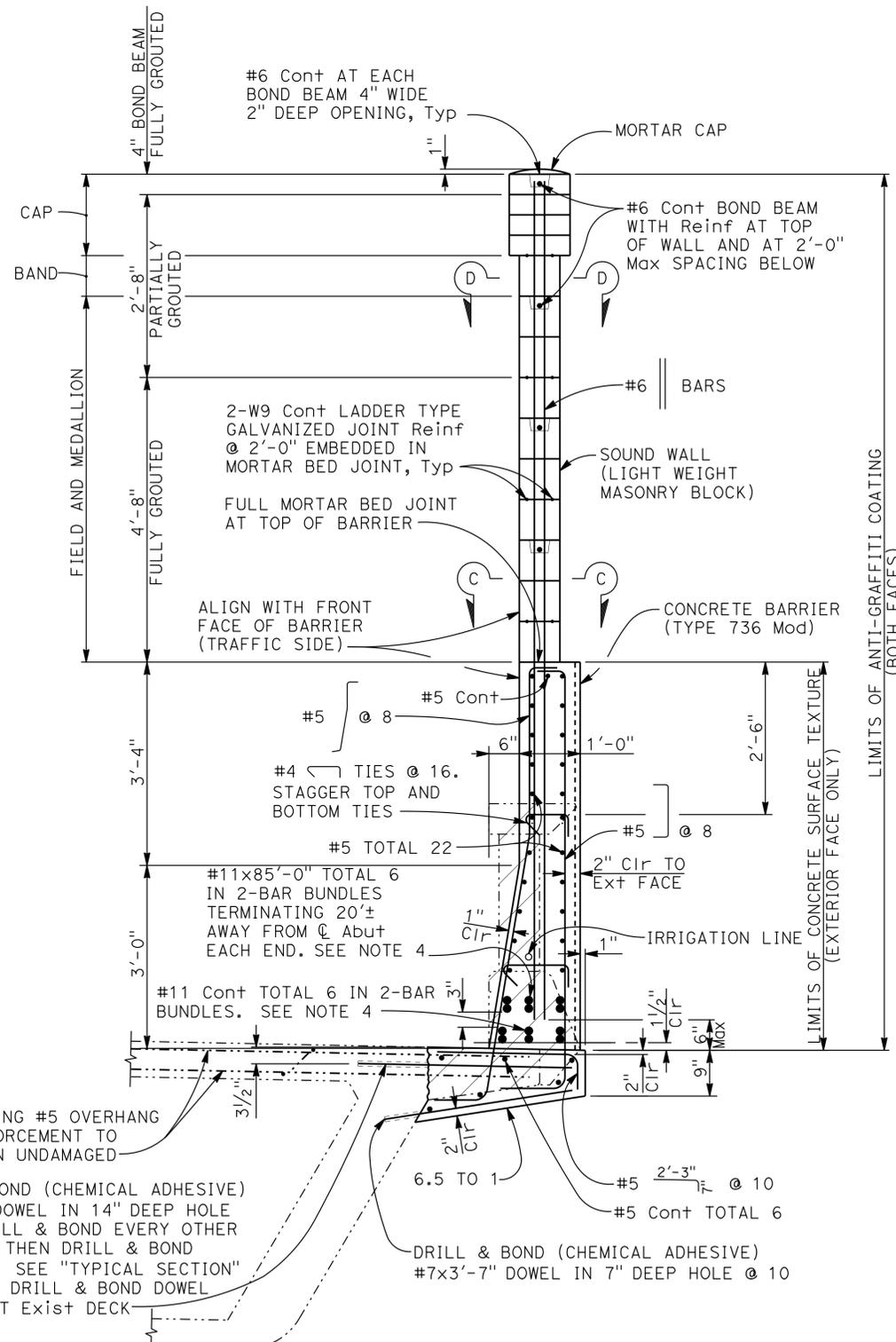
USERNAME => s141070 DATE PLOTTED => 07-JUL-2015 TIME PLOTTED => 10:23

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Mrrn	101	18.9/25.8	145	148

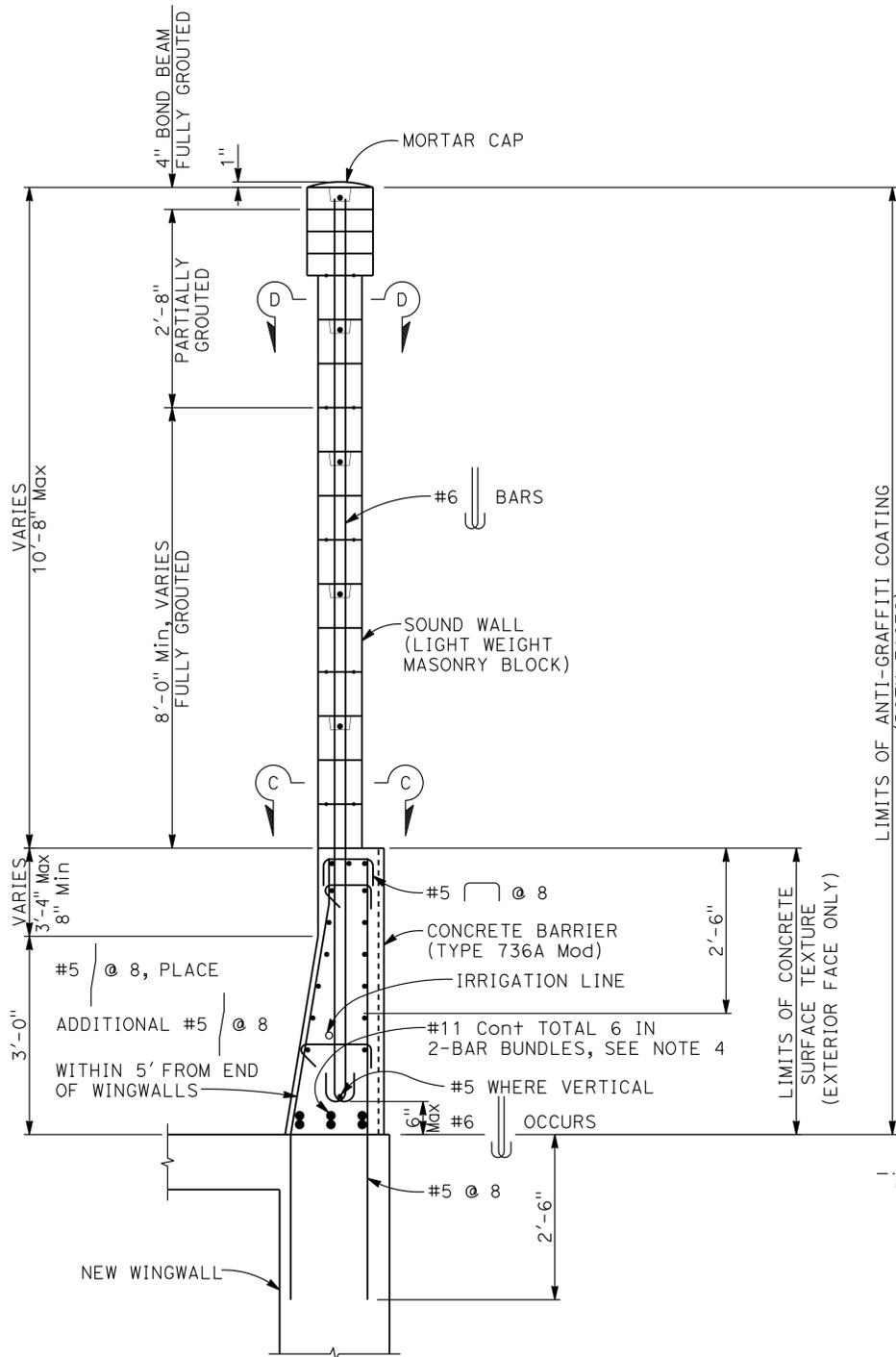
REGISTERED CIVIL ENGINEER
 DATE 4/10/15
 No. C51561
 Exp. 6/30/16
 CIVIL ENGINEER
 STATE OF CALIFORNIA

TAM
 781 LINCOLN AVE, SUITE 160
 SAN RAFAEL, CALIFORNIA 94901
 BIGGS CARDOSA ASSOCIATES INC.
 865 THE ALAMEDA
 SAN JOSE, CALIFORNIA 95126

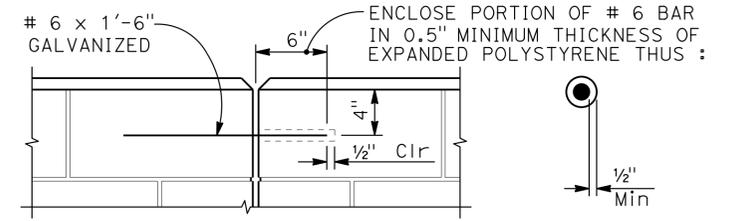
- NOTES:
- For details not noted, see B11-56
 - At Expansion Joints: Continuous expansion joint filler placed in sash block recesses. Size as required for snug fit. Expansion joint at begin/end of new wingwall and at middle point of the bridge
 - Horizontal joints shall be tooled concave or may be weathered. vertical joints shall be tooled concave or may be raked
 - No splice zone within center 1/3 of span



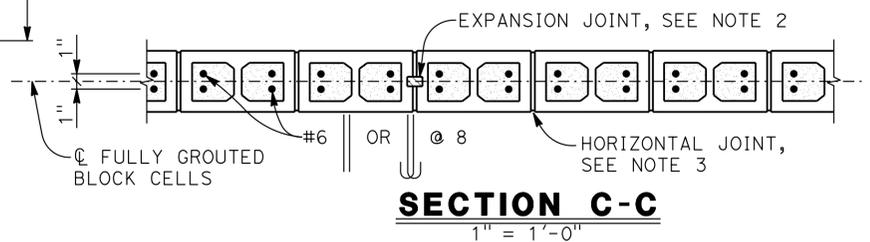
SECTION A-A AT DECK OVERHANG
 3/4" = 1'-0"



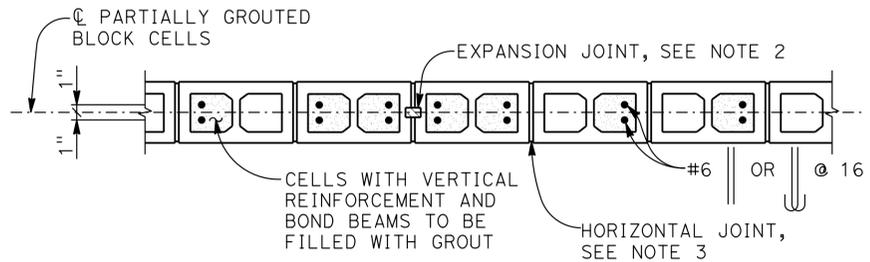
SECTION B-B AT WINGWALL
 3/4" = 1'-0"



DETAIL 3
 NO SCALE



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



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

EXISTING #5 OVERHANG REINFORCEMENT TO REMAIN UNDAMAGED
 DRILL & BOND (CHEMICAL ADHESIVE) #7x3'-7" DOWEL IN 14" DEEP HOLE @ 10. DRILL & BOND EVERY OTHER #7 FIRST, THEN DRILL & BOND THE REST. SEE "TYPICAL SECTION" SHEET FOR DRILL & BOND DOWEL PATTERN AT EXIST DECK
 DRILL & BOND (CHEMICAL ADHESIVE) #7x3'-7" DOWEL IN 7" DEEP HOLE @ 10

NOTE:
 For details not noted, see "SECTION A-A"

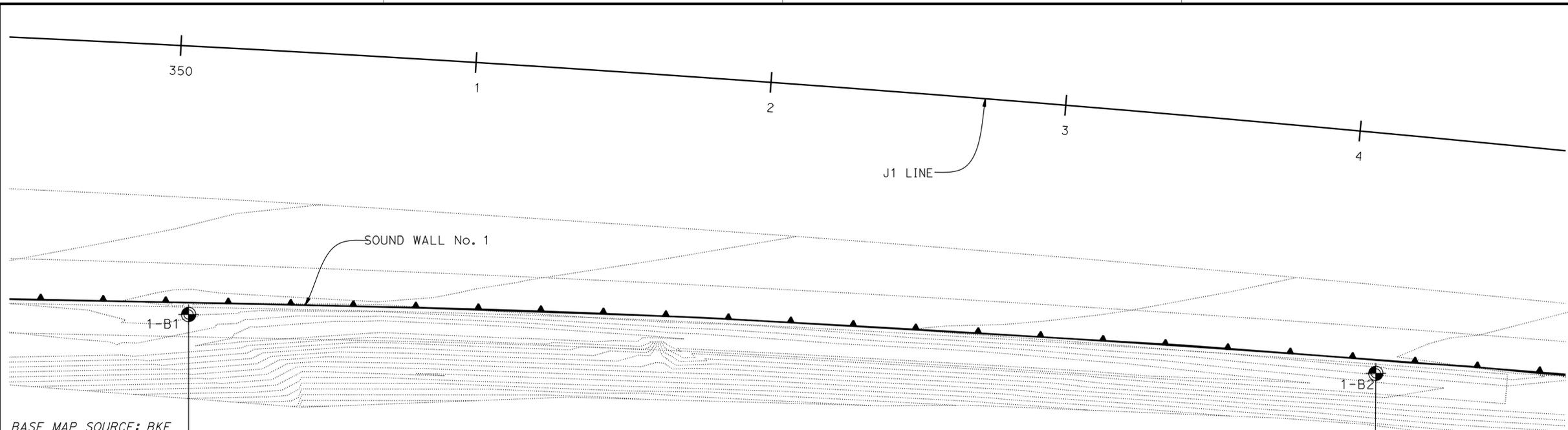
NOTE:
 THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL

DESIGN OVERSIGHT PHILIP A. VERGARA JR. 4-24-15 SIGN OFF DATE	DESIGN	BY D. CHAN	CHECKED J. ALCIATI	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	BRIDGE NO.	27-0092R	OLIVE AVENUE UC (MODIFICATION) SOUND WALL AND BARRIER DETAILS No. 2
	DETAILS	BY D. CHAN	CHECKED J. ALCIATI		PROJECT ENGINEER	POST MILES	
DESIGN DETAIL SHEET (ENGLISH) (REV. 7/16/10)	QUANTITIES	BY A. NICHOLAS	CHECKED A. YOUSSEF	UNIT: 0716	PROJECT NUMBER & PHASE: 04140002211	CONTRACT NO.: 04-264H34	DISREGARD PRINTS BEARING EARLIER REVISION DATES
				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3	REVISION DATES	SHEET 9 OF 12

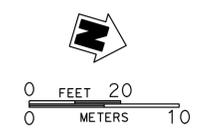
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	MND	101	18.9/25.8	146	148

GEOTECHNICAL PROFESSIONAL
 DATE: 4/10/15
 PLANS APPROVAL DATE: 4-27-15
 REGISTERED PROFESSIONAL ENGINEER
 JEFFREY A. FIPPIN
 No. 2631
 Exp. 6/30/15
 STATE OF CALIFORNIA

TAM
 781 LINCOLN AVE, SUITE 160
 SAN RAFAEL, CALIFORNIA 94901
 (925) 866-9000
 FAX (888) 279-2698
 ENGeo
 2010 CROW CANYON PLACE, SUITE 250
 SAN RAMON, CALIFORNIA 94583
 (925) 866-9000
 FAX (888) 279-2698

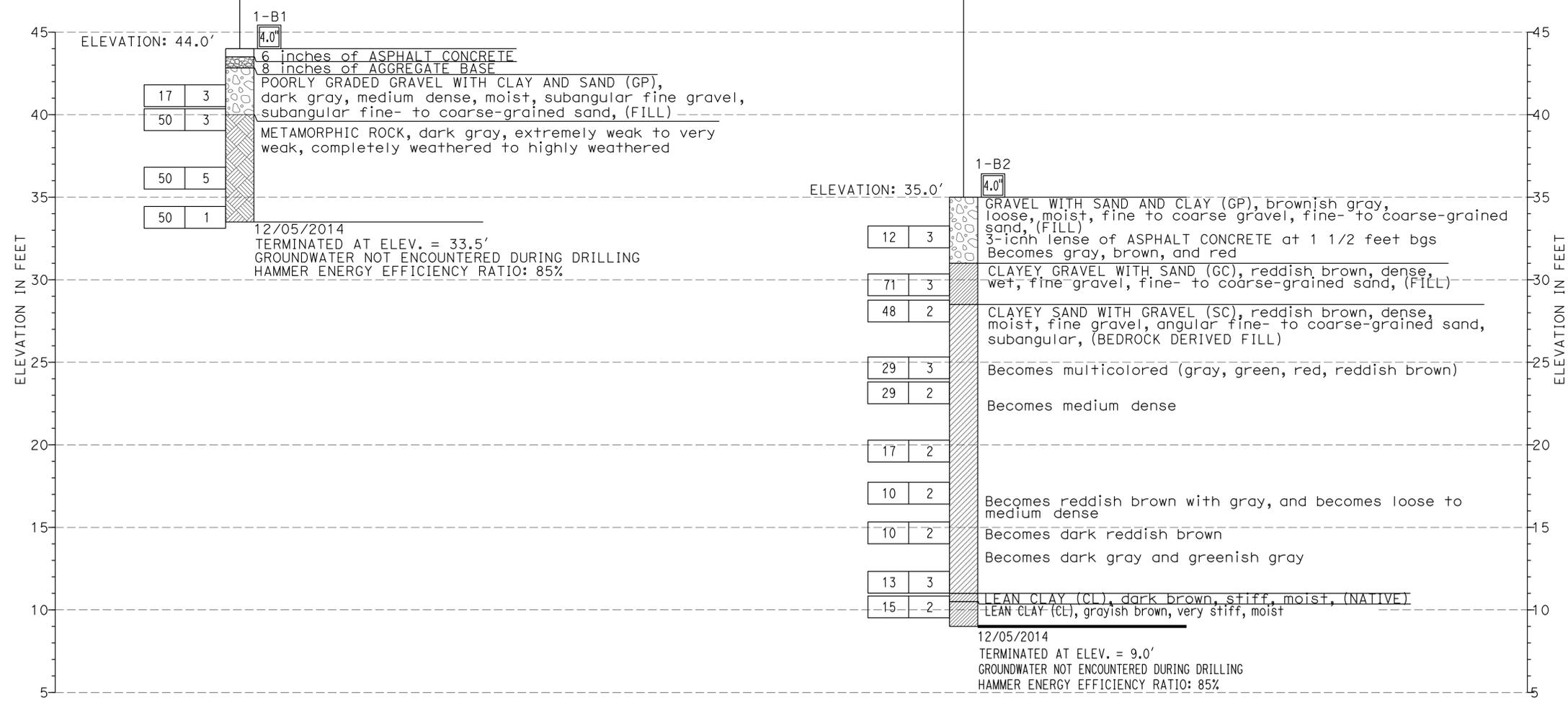


EXPLANATION
 ALL LOCATIONS ARE APPROXIMATE
 1-B2 BORING (ENGeo, 2014)



BASE MAP SOURCE: BKF

PLAN
 1" = 20'



NOTES:
 1) THIS LOTB SHEET WAS PREPARED IN ACCORDANCE WITH THE CALTRANS SOIL & ROCK LOGGING, CLASSIFICATION, & PRESENTATION MANUAL (2010 EDITION).
 2) SEE 2010 STANDARD PLANS A10F AND A10G FOR SOIL LEGEND.

DESIGN OVERSIGHT S. A. Vergara Jr. 4-24-15 SIGN OFF DATE	DRAWN BY S. PATTERSON	ENGeo FIELD INVESTIGATION BY: DATE: DEC. 5, 2014	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	BRIDGE NO. 27-0092R POST MILES R21.47	OLIVE AVENUE UC (MODIFICATION) LOG OF TEST BORINGS 1 OF 3
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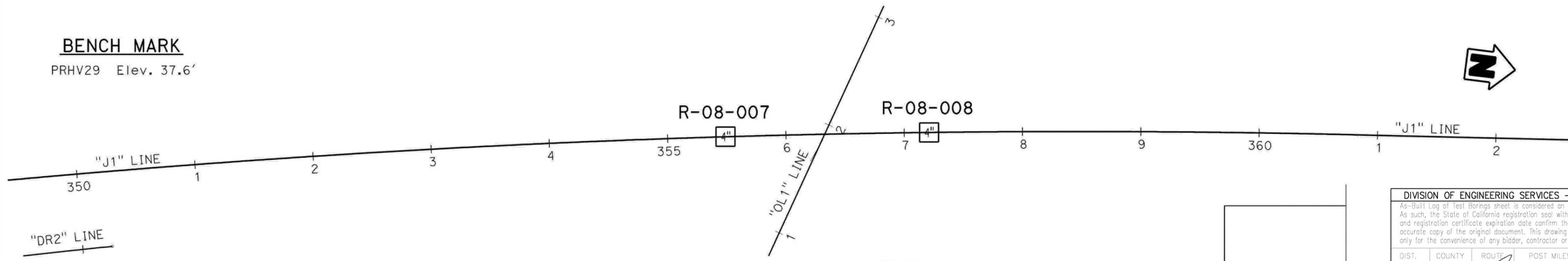
USERNAME => s141070 DATE PLOTTED => 07-JUL-2015 TIME PLOTTED => 10:23

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	Mtn	101	18.9/25.8	147	148

TO ACCOMPANY PLANS DATED 4-27-15

BENCH MARK

PRHV29 Elev. 37.6'



PLAN
1"=50'

DIVISION OF ENGINEERING SERVICES - GEOTECHNICAL SERVICES
As-Built Log of Test Borings sheet is considered an informational document only. As such, the State of California registration seal with signature, license number and registration certificate expiration date confirm that this is a true and accurate copy of the original document. This drawing is available and presented only for the convenience of any bidder, contractor or other interested party.

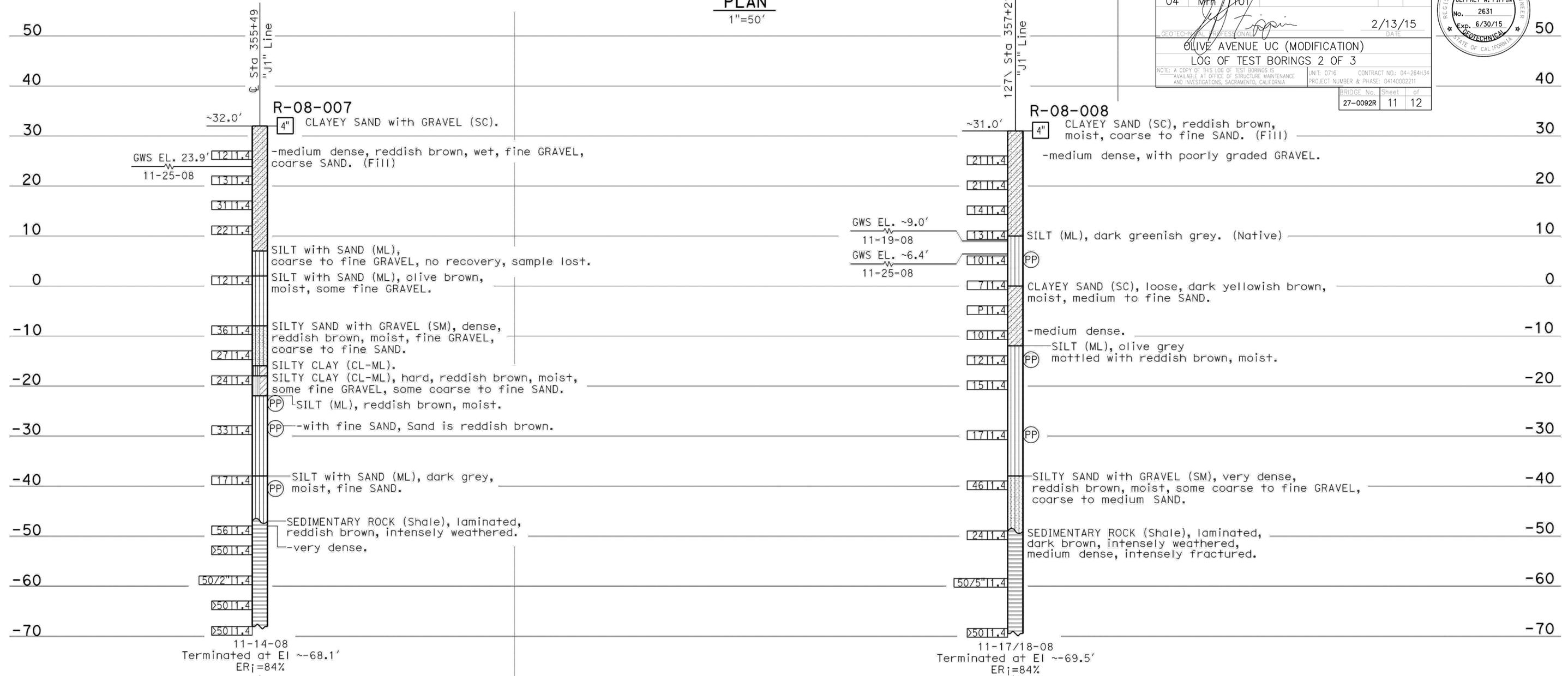
DIST.	COUNTY	ROUTE	POST MILES-TOTAL PROJECT	Sheet No.	Total Sheets
04	Mtn	101			

DATE: 2/13/15

OLIVE AVENUE UC (MODIFICATION)
LOG OF TEST BORINGS 2 OF 3

NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA. UNIT: 0716 CONTRACT NO.: 04-264H34 PROJECT NUMBER & PHASE: 04140002211

BRIDGE No.	Sheet	of
27-0092R	11	12



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

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA		DIVISION OF ENGINEERING SERVICES OFFICE OF GEOTECHNICAL		BRIDGE NO. 27-0092R		OLIVE AVENUE UC (WIDEN)	
FUNCTIONAL SUPERVISOR		DRAWN BY: M. Reynolds		FIELD INVESTIGATION BY: J. Moore		DESIGN BRANCH 8		POST MILES R21.47		LOG OF TEST BORINGS	
NAME: M. Momenzadeh		CHECKED BY: C. Risdén								REVISION DATES	
OGS CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		CU 04 EA 264061		DISREGARD PRINTS BEARING EARLIER REVISION DATES		03-15-08		SHEET 2 OF 3	

