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

STATE OF CALIFORNIA  
**DEPARTMENT OF TRANSPORTATION**  
**PROJECT PLANS FOR CONSTRUCTION ON**  
**STATE HIGHWAY**  
**IN RIVERSIDE COUNTY NEAR MURRIETA**  
**AT 0.5 MILE NORTH OF KELLER ROAD**  
 TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	215	R15.0	1	29

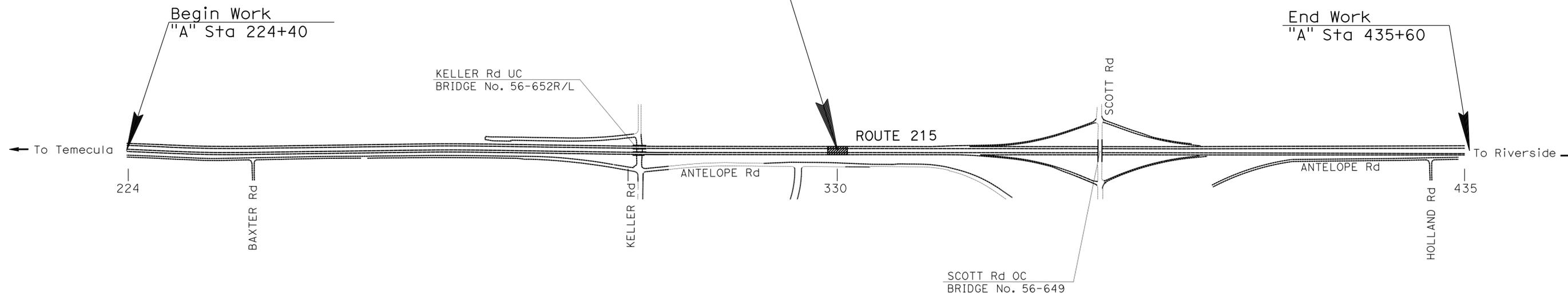




LOCATION MAP



**LOCATION OF CONSTRUCTION**  
**"A" STA 330+00 PM R15.0**



NO SCALE

PROJECT MANAGER  
**MUSTAPHA IAALI**  
 DESIGN MANAGER  
**JAIME ESTRADA**

  
 PROJECT ENGINEER  
 REGISTERED CIVIL ENGINEER  
 DATE: 2-2-15



February 2, 2015  
 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.

CONTRACT No.	<b>08-OR8114</b>
PROJECT ID	<b>0815000105</b>

DATE PLOTTED => 06-APR-2015  
 TIME PLOTTED => 09:20  
 02-02-15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	215	R14.9/R15.1	2	29

2-2-15  
 REGISTERED CIVIL ENGINEER DATE  
 2-2-15  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
**VINH TRUONG**  
 No. 67669  
 Exp. 6/30/15  
 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:**

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

**DESIGN DESIGNATION (I-215):**

ADT (2015) = 109,400  
 ADT (2035) = 152,200  
 DHV = 6,481  
 ESAL<sub>40</sub> = 13,345,892 (INSIDE LANES)

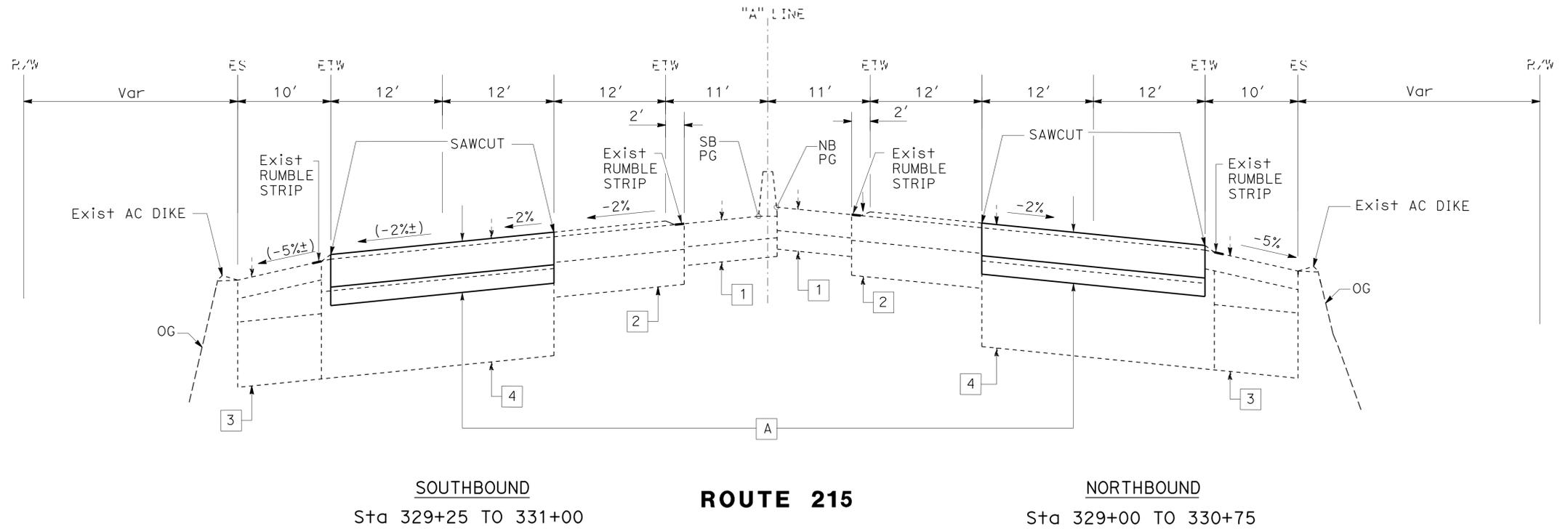
D = 53%  
 T = 4%  
 V = 70 mph  
 TI<sub>40</sub> = 12.5 (INSIDE LANES)  
 TI<sub>20</sub> = 7.5 (INSIDE SHOULDERS)

**PROPOSED STRUCTURAL SECTIONS:**

- 1.05' JPCP (RSC)
- A BASE BOND BREAKER
- 0.5' LCBRS

**EXISTING STRUCTURAL SECTIONS:**

- 1 0.50' HMA (TYPE A)  
0.40' CI 2 AB
- 2 0.10' HMA (OPEN GRADED)  
0.55' HMA (TYPE A)  
0.75' CI 2 AB
- 3 0.40' AC  
0.75' CI 2 AB  
1.40' AS
- 4 0.10' OGAC  
1.04' PCC  
1.40' AS



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 DESIGN

**TYPICAL CROSS SECTIONS**  
NO SCALE  
**X-1**



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	215	R14.9/R15.1	3	29

2-2-15  
 REGISTERED CIVIL ENGINEER DATE  
 2-2-15  
 PLANS APPROVAL DATE

VINH TRUONG  
 No. 67669  
 Exp. 6/30/15  
 CIVIL

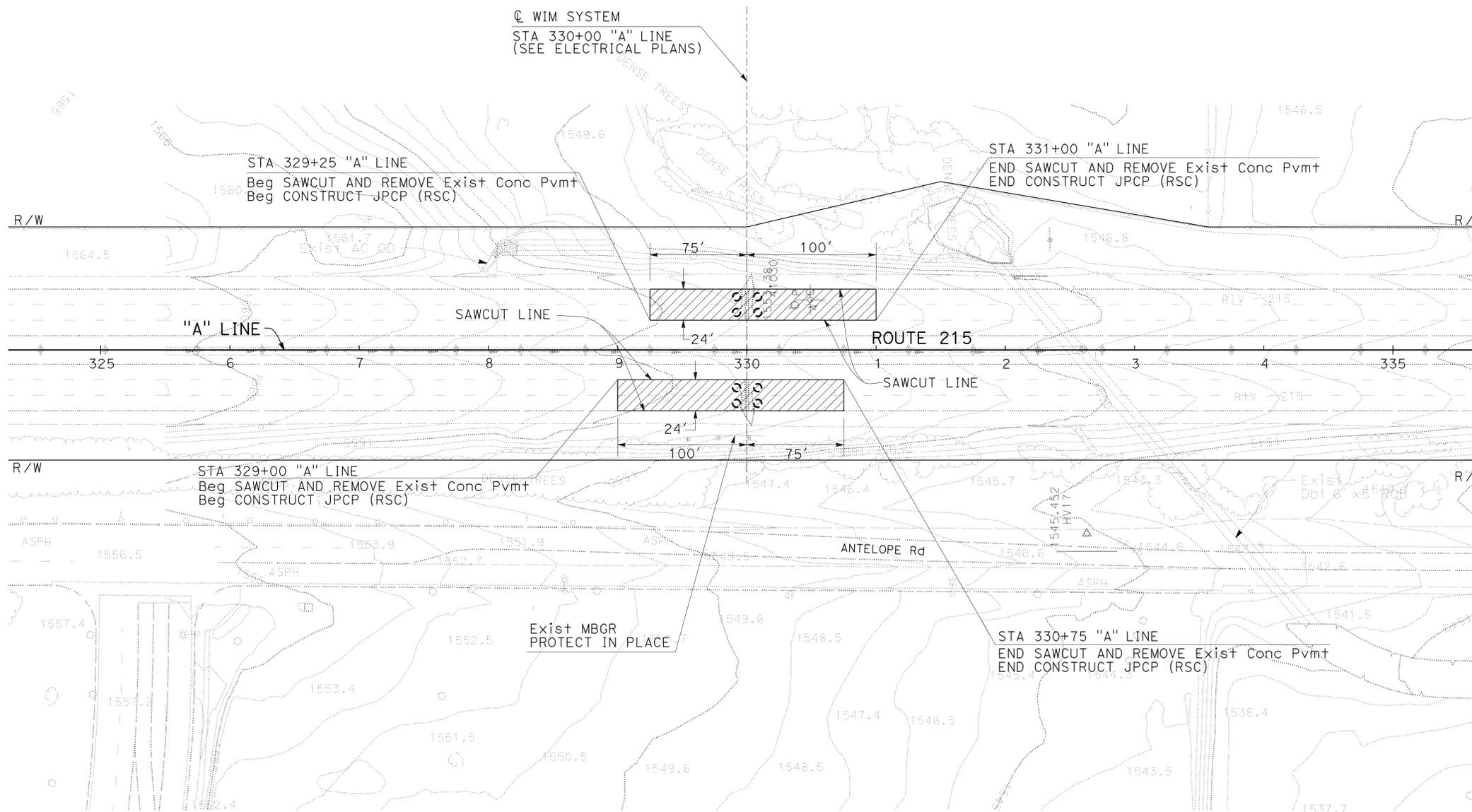
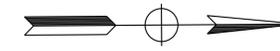
THE STATE OF CALIFORNIA OR ITS OFFICERS  
 OR AGENTS SHALL NOT BE RESPONSIBLE FOR  
 THE ACCURACY OR COMPLETENESS OF SCANNED  
 COPIES OF THIS PLAN SHEET.

**NOTES:**

- FOR ACURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT DISTRICT OFFICE.
- SEE ELECTRICAL PLANS FOR WIM SYSTEM DETAILS.
- CROSS SLOPE OF JPCP (RSC) TO BE DETERMINED BY WIM SPECIFICATION OR AS DIRECTED BY THE ENGINEER IN THE FIELD.

**LEGEND:**

 REMOVE Exist WIM SYSTEM AND Exist Conc Pvmt AND CONSTRUCT JPCP PAVEMENT (RSC)



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 DESIGN

VINH TRUONG  
 DIBORO KANABOLO  
 DIBORO KANABOLO

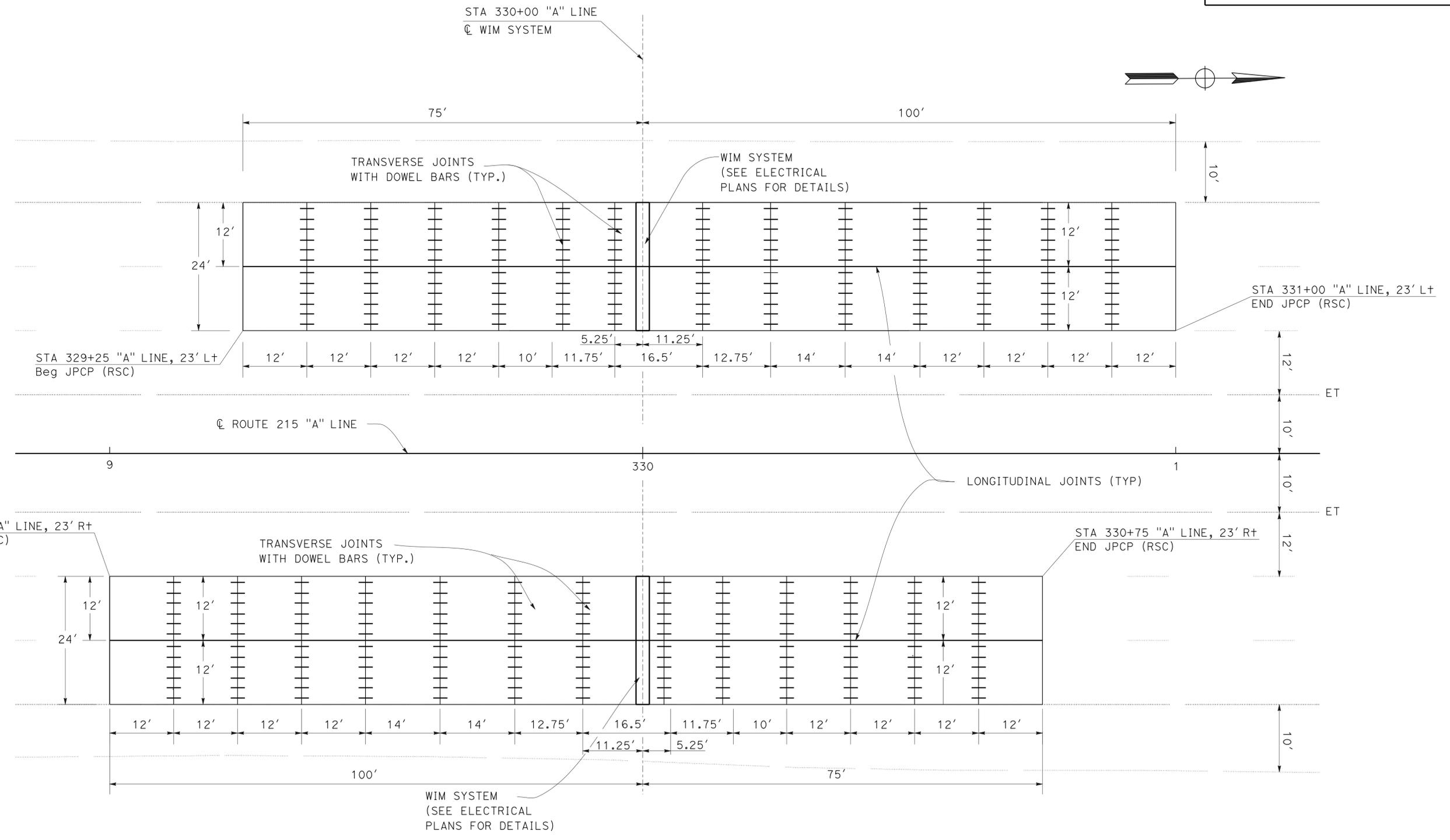
FUNCTIONAL SUPERVISOR  
 DIBORO KANABOLO

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	215	R14.9/R15.1	4	29
			REGISTERED CIVIL ENGINEER	DATE	
			2-2-15		
			PLANS APPROVAL DATE		
			2-2-15		
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					



**NOTE:**

1. FOR ACURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT DISTRICT OFFICE.
2. SEE ELECTRICAL PLANS FOR WIM SYSTEM DETAILS.
3. SEE RSP STD P-1, P-8, P-10, P-15, P-18, P-20 AND P-30 FOR JOINT AND DOWEL BAR DETAILS.



**DIMENSIONS AND LOCATIONS OF JPCP (RSC)**

**CONSTRUCTION DETAILS**  
SCALE 1"= 10'  
**C-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN
Caltrans	
FUNCTIONAL SUPERVISOR	DIBORO KANABOLO
CALCULATED/DESIGNED BY	CHECKED BY
VINH TRUONG	DIBORO KANABOLO
REVISOR BY	DATE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** DESIGN

FUNCTIONAL SUPERVISOR  
 DIBORO KANABOLO

CALCULATED/DESIGNED BY  
 CHECKED BY

VINH TRUONG  
 DIBORO KANABOLO

REVISED BY  
 DATE REVISED

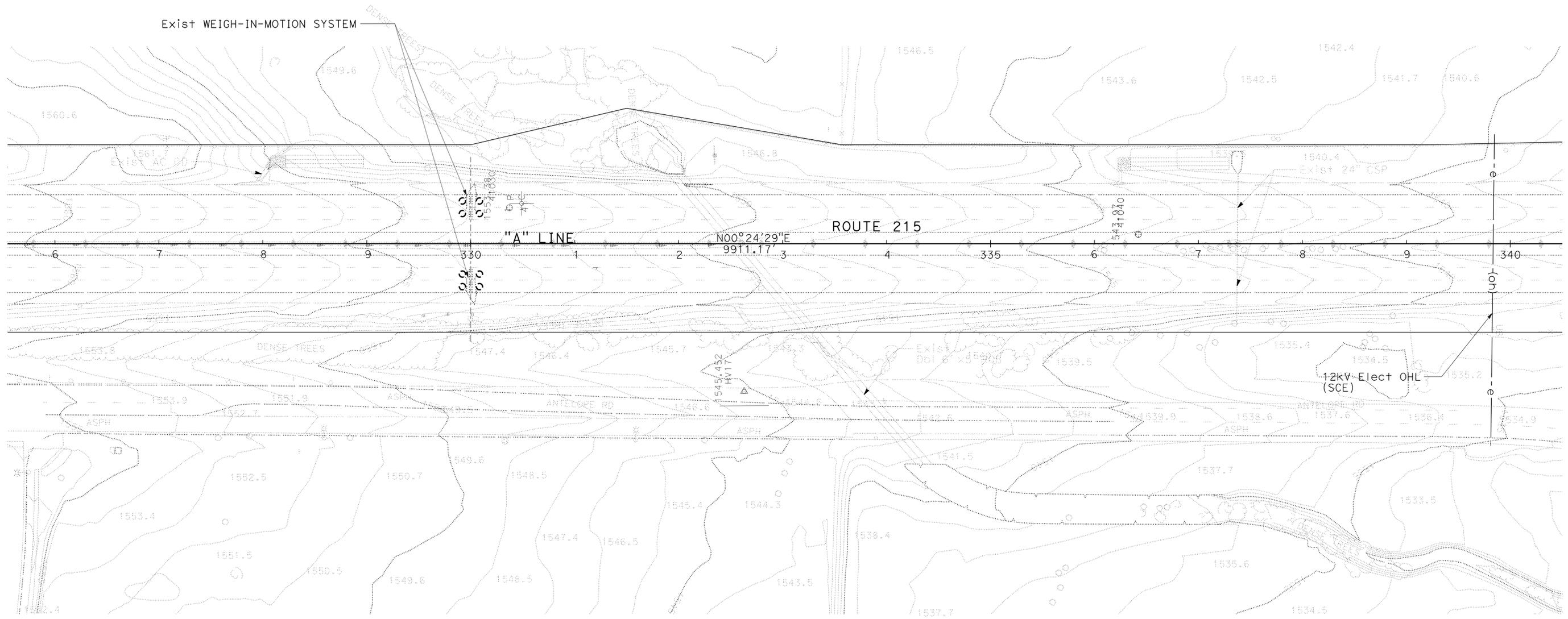
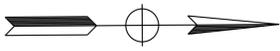
**NOTE:**  
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT  
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	215	R14.9/R15.1	5	29

2-2-15  
 REGISTERED CIVIL ENGINEER DATE  
 2-2-15  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
**VINH TRUONG**  
 No. 67669  
 Exp. 6/30/15  
 CIVIL  
 STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS  
 OR AGENTS SHALL NOT BE RESPONSIBLE FOR  
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**UTILITY PLAN**  
 SCALE 1" = 50'  
**U-1**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	215	R14.9/R15.1	6	29

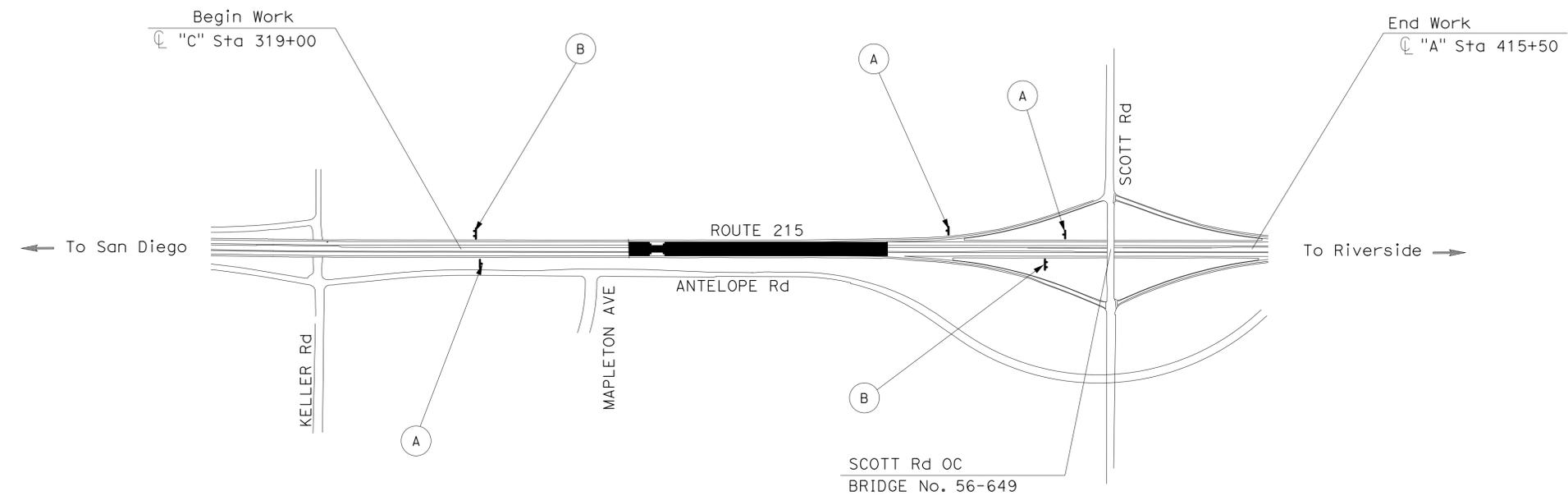
REGISTERED CIVIL ENGINEER	DATE
DEAN D TO	2-2-15
No. 81698	
Exp. 03-31-16	
CIVIL	

PLANS APPROVAL DATE: 2-2-15

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:**

1. EXACT LOCATION AND POSITION OF SIGNS WILL BE DETERMINED BY THE ENGINEER.
2. LOCATIONS OF PCMS WILL BE DETERMINED BY THE ENGINEER.



**STATIONARY MOUNTED CONSTRUCTION AREA SIGNS**

SIGN No. (X)	SIGN CODE		PANEL SIZE	SIGN MESSAGE	NUMBER OF POSTS AND SIZE	NUMBER OF SIGNS
	FEDERAL	CALIFORNIA				
A	W20-1		48" x 48"	ROAD WORK AHEAD	1- 6" x 6"	3
B	G20-2		132" x 120"	END ROAD WORK	2- 4" x 4"	2

**PCMS**

(ea)
2

**CONSTRUCTION AREA SIGN**  
NO SCALE  
**CS-1**

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

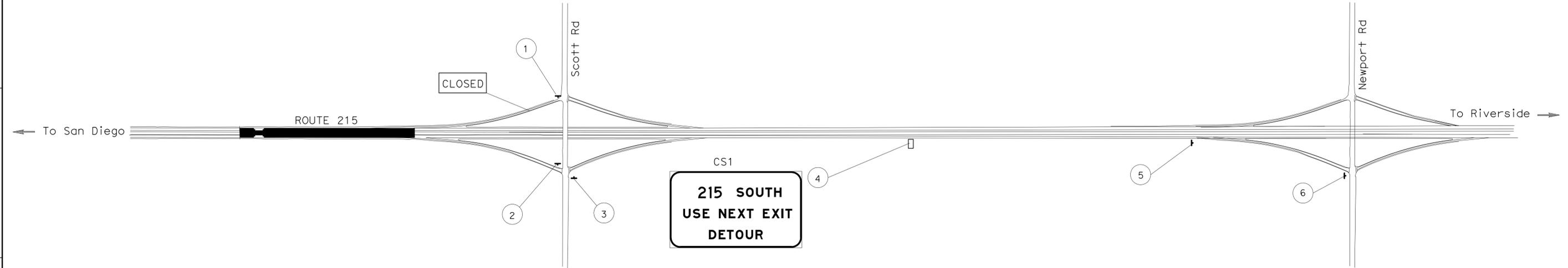
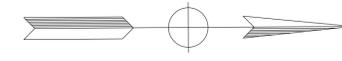
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 TRAFFIC DESIGN  
 FUNCTIONAL SUPERVISOR: PATRICK J HALLY  
 DEAN TO: PATRICK J HALLY  
 CALCULATED/DESIGNED BY: PATRICK J HALLY  
 CHECKED BY: PATRICK J HALLY  
 REVISED BY: PATRICK J HALLY  
 DATE REVISED:

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	215	R14.9/R15.1	7	29

DEAN D TO 2-2-15  
 REGISTERED CIVIL ENGINEER DATE  
 2-2-15  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 DEAN D TO  
 No. 81698  
 Exp. 03-31-16  
 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.



**STATIONARY MOUNTED CONSTRUCTION AREA SIGNS**

SIGN No. (X)	SIGN CODE		PANEL SIZE	SIGN MESSAGE	NUMBER OF POSTS AND SIZE
	FEDERAL	CALIFORNIA			
1		G27-2 (215)	30" x 25"	INTERSTATE SHIELD	1- 6" x 6"
	M3-3		30" x 15"	SOUTH	
		SC3-1(CA)	48" x 18"	DETOUR WITH UP ARROW	
2		G27-2 (215)	30" x 25"	INTERSTATE SHIELD	1- 6" x 6"
	M3-3		30" x 15"	SOUTH	
		M4-10L	48" x 18"	DETOUR WITH HORIZ. ARROW	
3		G27-2 (215)	30" x 25"	INTERSTATE SHIELD	1- 6" x 6"
	M3-3		30" x 15"	SOUTH	
		M4-10R	48" x 18"	DETOUR WITH HORIZ. ARROW	
4	CS1		114" x 66"		PCMS
5		G27-2 (215)	30" x 25"	INTERSTATE SHIELD	1- 6" x 6"
	M3-3		30" x 15"	SOUTH	
		M6-2	21" x 15"	DIAGONAL ARROW SYMBOL	
6		G27-2 (215)	30" x 25"	INTERSTATE SHIELD	1- 6" x 6"
	M3-3		30" x 15"	SOUTH	
		M4-10L	48" x 18"	DETOUR WITH HORIZ. ARROW	

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** TRAFFIC DESIGN  
 FUNCTIONAL SUPERVISOR: PATRICK J HALLY  
 DEAN TO: PATRICK J HALLY  
 REVISIONS: REVISION BY DATE REVISION BY DATE  
 CALCULATED/DESIGNED BY: CHECKED BY:

APPROVED FOR MOTORIST INFORMATION WORK ONLY

SCOTT RD SB ENTRANCE RAMP DETOUR  
**MOTORIST INFORMATION PLAN**  
 NO SCALE  
**MI-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** TRAFFIC DESIGN

FUNCTIONAL SUPERVISOR  
 PATRICK J HALLY

CALCULATED/DESIGNED BY  
 CHECKED BY

DEAN TO  
 PATRICK J HALLY

REVISED BY  
 DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	215	R14.9/R15.1	8	29

DEAN D TO  
 REGISTERED CIVIL ENGINEER DATE 2-2-15  
 PLANS APPROVAL DATE 2-2-15  
 No. 81698  
 Exp. 03-31-14  
 CIVIL  
 STATE OF CALIFORNIA

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**PAVEMENT DELINEATION QUANTITIES**

DETAIL No. OR PAVEMENT MARKING	THERMOPLASTIC TRAFFIC STRIPE (SPRAYABLE)		PAVEMENT MARKER		
	4" YELLOW LF	4" WHITE LF	NON REFLECTIVE	RETROREFLECTIVE	
			TYPE A	TYPE G	TYPE H
13M		800	72	18	
25	400				9
27B		400			
SHEET TOTAL	400	1200	72	18	9
TOTAL	1600		72	27	

**PAVEMENT DELINEATION QUANTITIES  
 PDQ-1**

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	215	R14.9/15.1	9	29

 2-2-15  
 REGISTERED CIVIL ENGINEER DATE

2-2-15  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 VINH TRUONG  
 No. 67669  
 Exp. 6/30/15  
 CIVIL  
 STATE OF CALIFORNIA

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### ROADWAY QUANTITIES

DESCRIPTION	LOCATION		JOINTED PLAIN CONCRETE PAVEMENT (RSC)	LEAN CONCRETE BASE RAPID SETTING	BASE BOND BREAKER	ISOLATION JOINT SEAL (SILICONE)	ISOLATION JOINT SEAL (PERFORMED COMPRESSION)	REMOVE CONCRETE PAVEMENT	2" PLASTIC PIPE (EDGE DRAIN)
	NB	SB	CY	CY	SQYD	LF	LF	CY	LF
X		FROM 329+00.00 TO 330+75.00 "A"	163.5	78	467	199	614	244	
	X	FROM 329+25.00 TO 331+00.00 "A"	163.5	78	467	199	614	244	
X	X	STA 330+00 "A1" SEE E-2 AND E-3							100
<b>TOTAL</b>			327	156	934	398	1228	488	100

## SUMMARY OF QUANTITIES

**Q-1**



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** ELECTRICAL DESIGN

FUNCTIONAL SUPERVISOR  
 DAVID A GONZALEZ

CALCULATED-DESIGNED BY  
 CHECKED BY

JAIME ESTRADA  
 DAVID A GONZALEZ

REVISED BY  
 DATE REVISED

**NOTES:**

- SCREENED TRANSMISSION CABLE AND SCALE LEAD-IN CABLE MUST NOT BE SPLICED AND MUST RUN CONTINUOUSLY TO THE EXISTING CABINETS.
- FOR WEIGH-IN-MOTION INSTALLATION DETAILS SEE SHEETS E-2 & E-3.
- GRIND THE SURFACE OF THE PAVED ROADWAY FOR SURFACE SMOOTHNESS 200 FEET IN ADVANCE OF AND 100 FEET BEYOND THE WIM SYSTEM SENSORS.
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

**ABBREVIATIONS:**

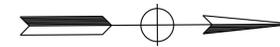
- STC SCREENED TRANSMISSION CABLE  
 SLC SCALE LEAD-IN CABLE

**LEGEND:**

- 1 RC ALL EXISTING WIM EQUIPMENT AND INSTALL DEPARTMENT FURNISHED WIM EQUIPMENT IN SAME LOCATION AS SHOWN.

**WIM EQUIPMENT:**

- EXISTING WEIGH-IN-MOTION
- PROPOSED WEIGH-IN-MOTION
- EXISTING PIEZO-ELECTRIC AXLE SENSOR
- PROPOSED PIEZO-ELECTRIC AXLE SENSOR

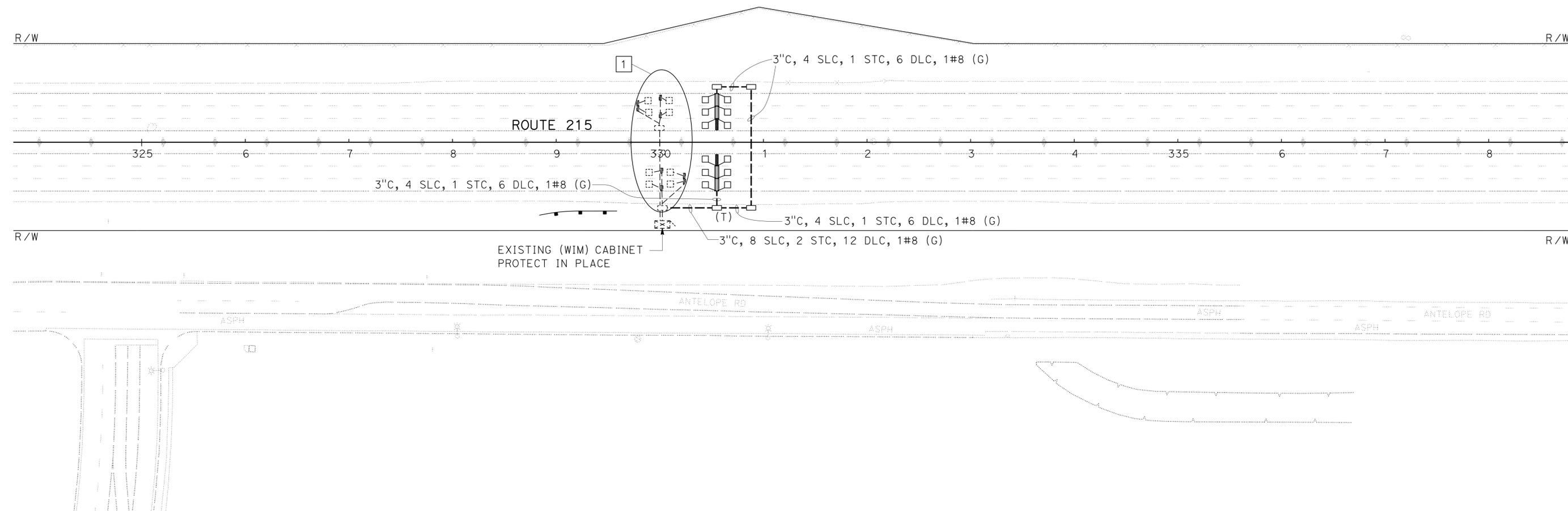


Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	Riv	215	R14.9/R15.1	10	29

REGISTERED ELECTRICAL ENGINEER DATE 2-2-15  
 REGISTERED ELECTRICAL ENGINEER DATE 2-2-15  
 PLANS APPROVAL DATE 2-2-15

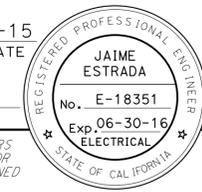
REGISTERED PROFESSIONAL ENGINEER  
 JAIME ESTRADA  
 No. E-18351  
 Exp. 06-30-16  
 ELECTRICAL  
 STATE OF CALIFORNIA

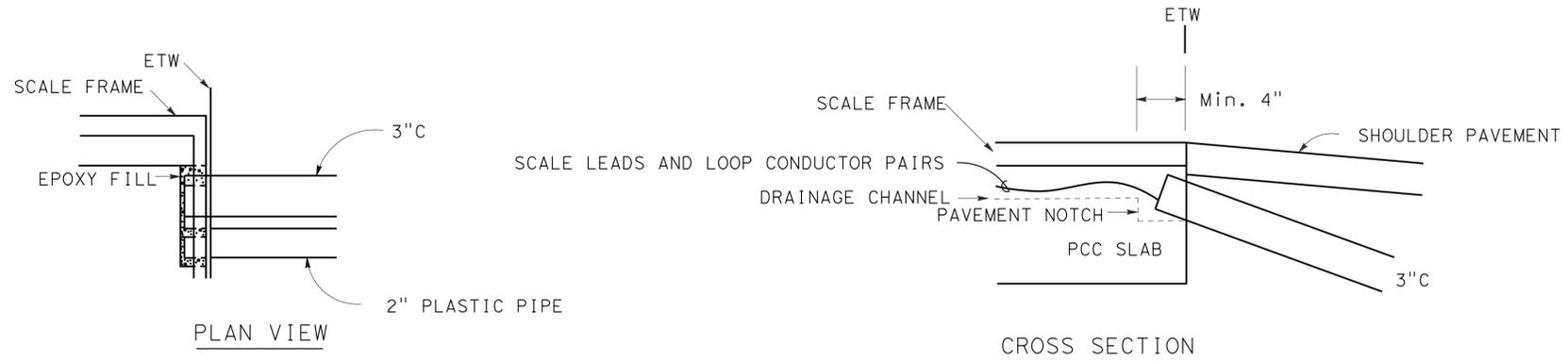
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



**WEIGH-IN-MOTION SYSTEM**  
 SCALE 1" = 50'  
**E-1**

APPROVED FOR ELECTRICAL WORK ONLY

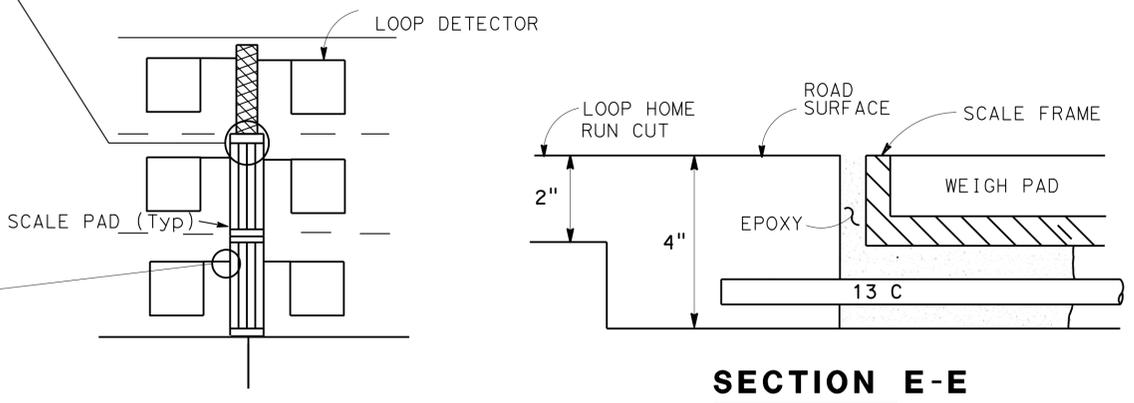
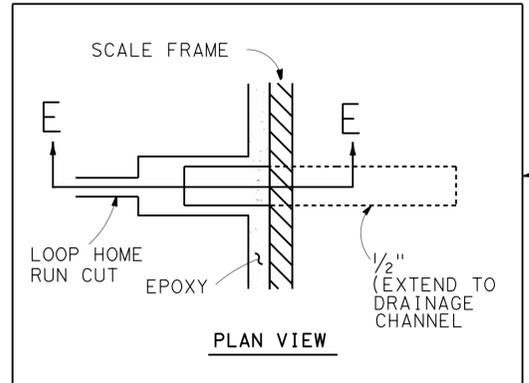
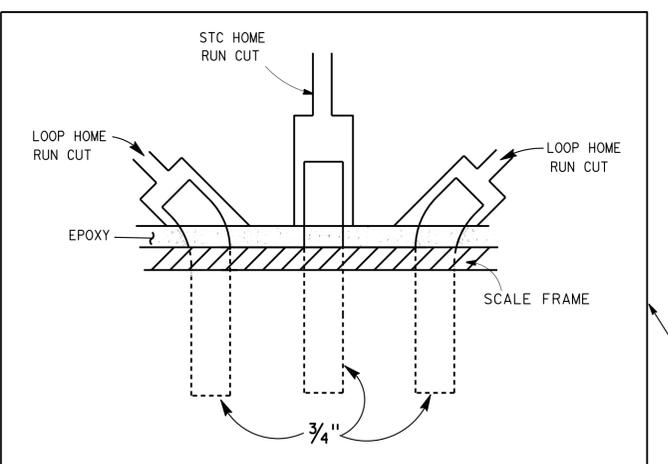
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	Riv	215	R14.9/R15.1	11	29
 REGISTERED ELECTRICAL ENGINEER			2-2-15	DATE	
PLANS APPROVAL DATE			2-2-15		
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					
					



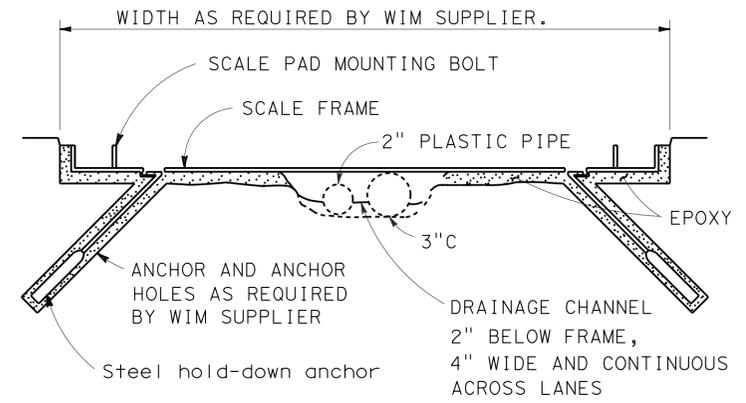
**CONDUIT AND DRAIN TERMINATION DETAILS**

**NOTES**

1. NON-METALLIC BUSHING SHALL BE USED AT ROADWAY END OF CONDUIT.
2. TAPE WIRE 3 INCHES EACH SIDE OF ROADWAY BUSHING.
3. INSTALL DUCT SEAL COMPOUND TO EACH END OF ROADWAY CONDUIT BEFORE INSTALLING EPOXY, OR OTHER APPROVED MATERIALS.
4. END OF CONDUIT AND/OR PVC DRAIN RESTS ON BOTTOM OF PAVEMENT NOTCH; CONDUIT BOTTOM MUST BE ABOVE PVC DRAIN BOTTOM.



**LOOP HOME RUN DETAILS**



**SCALE FRAME INSTALLATION DETAIL**

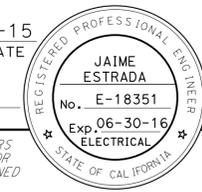
(TYPICAL)  
(DRAIN AND CONDUIT AS SHOWN AT ETW ONLY)

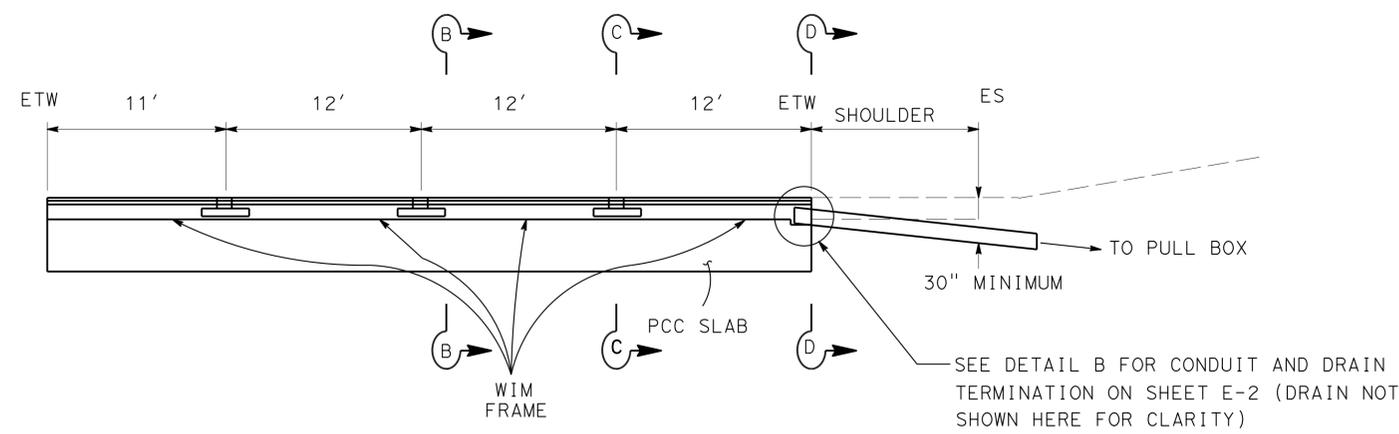
**SECTION E-E**

**WEIGH IN MOTION SYSTEM (DETAILS)**

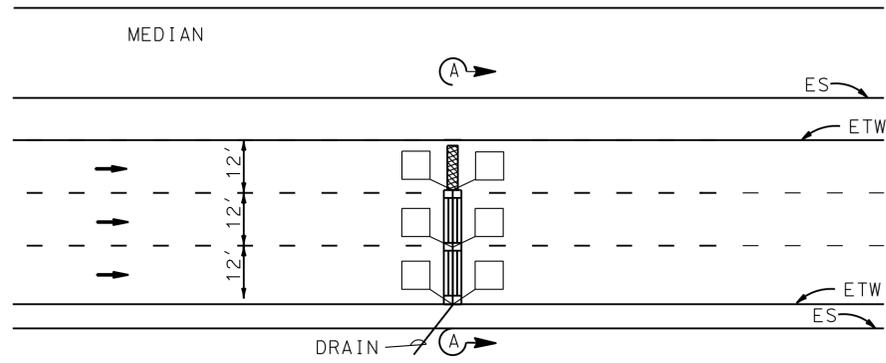
NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** ELECTRICAL DESIGN  
 FUNCTIONAL SUPERVISOR: DAVID A GONZALEZ  
 CALCULATED/DESIGNED BY: DAVID A GONZALEZ  
 REVISOR: JAIM E ESTRADA  
 DATE REVISOR: DAVID A GONZALEZ  
 REVISOR: JAIM E ESTRADA  
 DATE REVISOR: DAVID A GONZALEZ

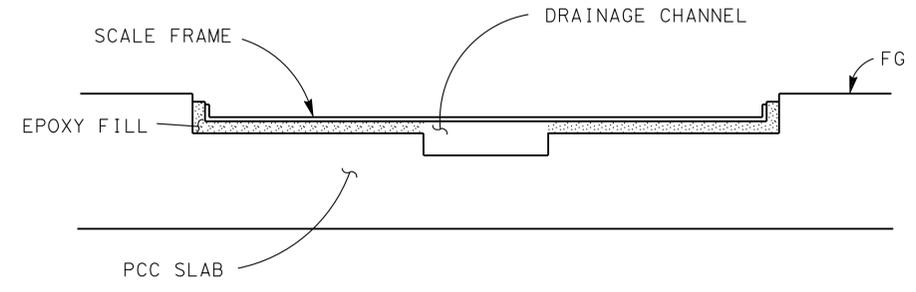
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
8	Riv	215	R14.9/R15.1	12	29
 REGISTERED ELECTRICAL ENGINEER			2-2-15	DATE	
PLANS APPROVAL DATE			2-2-15		
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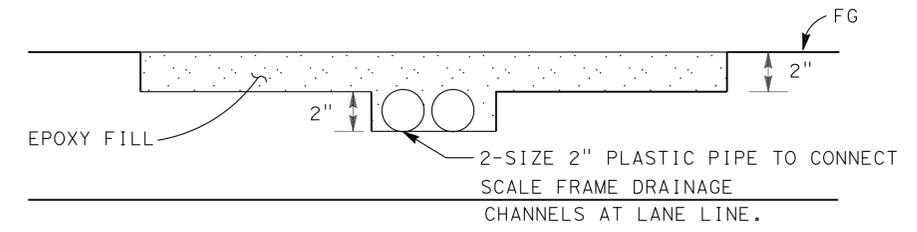
SECTION A-A



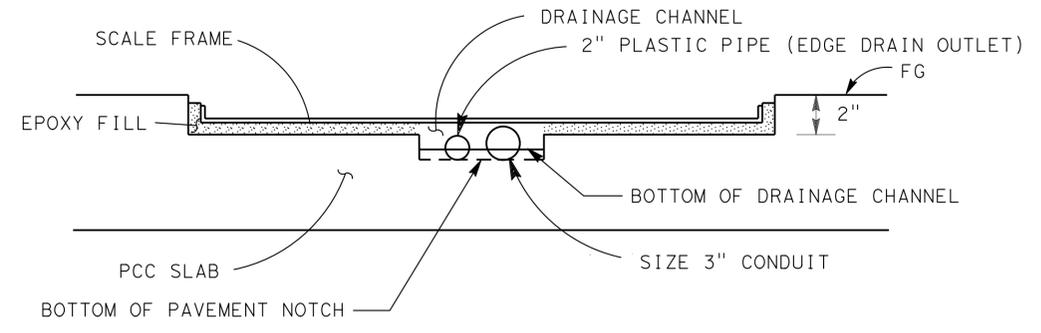
TYPICAL INSTALLATION DETAIL



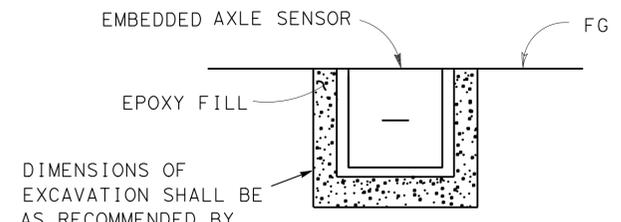
SECTION B-B



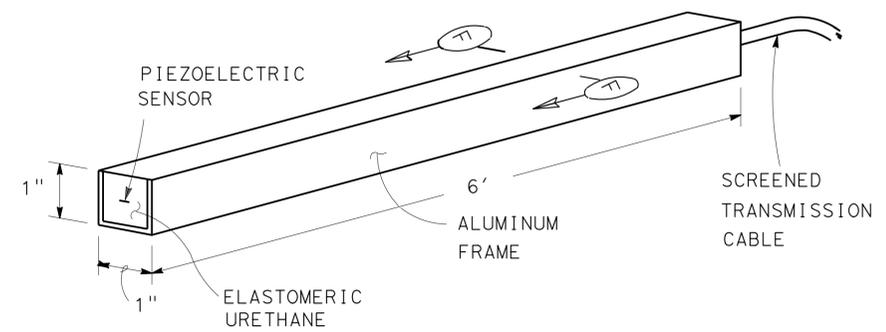
SECTION C-C



SECTION D-D



SECTION F-F



EMBEDDED AXLE SENSOR

DIMENSIONS OF EXCAVATION SHALL BE AS RECOMMENDED BY SENSOR SUPPLIER

NOTES:

1. THE EXACT LOCATION OF THE WIM SCALES TO BE DETERMINED BY THE ENGINEER. THE ENGINEER SHALL VERIFY THE FINAL LOCATION OF THE WIM SCALES PRIOR TO THE CONTRACTOR PERFORMING ANY WORK IN THE TRAVELED WAY OR SHOULDERS. STATIONS SHOWN ON THE PLANS ARE APPROXIMATE.
2. EDGE DRAIN OUTLET SHALL CONFORM TO TYPE C OUTLET WITH OUTLET COVER AS SHOWN ON S+D. PLAN D99B EXCEPT THAT PIPE SHALL BE 2".
3. WIM SCALE TO MATCH EXISTING ROADWAY PROFILE AND CROSS-SLOPE.
4. EXACT CONFIGNURATION AND INSTALLATION PROCEDURES OF SCALE FRAME AND LOOP DETECTORS SHALL CONFORM TO THE REQUIREMENTS OF THE WIM SUPPLIER.

**WEIGH IN MOTION SYSTEM (DETAILS)**  
NO SCALE **E-3**

APPROVED FOR ELECTRICAL WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** ELECTRICAL DESIGN  
 FUNCTIONAL SUPERVISOR: DAVID A GONZALEZ  
 CHECKED BY: DAVID A GONZALEZ  
 DESIGNED BY: DAVID A GONZALEZ  
 REVISIONS: REVISED BY: DAVID A GONZALEZ, DATE: 7/2/2010

LAST REVISION: DATE PLOTTED => 06-APR-2015  
 02-02-15 TIME PLOTTED => 09:21

	<b>M</b>	
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	
	<b>N</b>	
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	
	<b>O</b>	
Oblr	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	
	<b>P</b>	
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	

	<b>P continued</b>	
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	
	<b>Q</b>	
Qty	QUANTITY	
	<b>R</b>	
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	

	<b>S</b>	
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	
	<b>T</b>	
T	SEMI-TANGENT	
Tan	TANGENT	
TBB	THRIE BEAM BARRIER	
Tbr	TIMBER	
TC	TOP OF CURB	
TCB	TRAFFIC CONTROL BOX	
TCE	TEMPORARY CONSTRUCTION EASEMENT	
Tel	TELEPHONE	
Temp	TEMPORARY	
TG	TOP OF GRADE	
ToT	TOTAL	
TP	TELEPHONE POLE	
TPB	TREATED PERMEABLE BASE	
TPM	TREATED PERMEABLE MATERIAL	
Trans	TRANSITION	

	<b>T continued</b>	
TS	TRANSVERSE, TRAFFIC SIGNAL, TUBULAR STEEL TYPICAL	
Typ	TYPICAL	
	<b>U</b>	
UC	UNDERCROSSING	
UD	UNDERDRAIN	
UG	UNDERGROUND	
UON	UNLESS OTHERWISE NOTED	
UP	UNDERPASS	
	<b>V</b>	
V	VALVE, DESIGN SPEED	
Var	VARIABLE, VARIES	
VC	VERTICAL CURVE	
VCP	VITRIFIED CLAY PIPE	
Vert	VERTICAL	
Via	VIADUCT	
Vol	VOLUME	
	<b>W</b>	
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	
	<b>X</b>	
X Sec	CROSS SECTION	
Xing	CROSSING	
	<b>Y</b>	
Yr	YEAR	
Yrs	YEARS	

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	215	R15.0	13	29

*Grace M. Tsushima*  
 REGISTERED CIVIL ENGINEER  
 July 19, 2013  
 PLANS APPROVAL DATE  
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

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

TO ACCOMPANY PLANS DATED 2-2-15

**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 <sup>3</sup> , 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

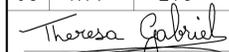
\* For use on a sign panel only

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.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	215	R15.0	14	29
 REGISTERED ELECTRICAL ENGINEER					
July 19, 2013 PLANS APPROVAL DATE					
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TO ACCOMPANY PLANS DATED 2-2-15

### 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
$\Omega$	OHMS
min	MINUTE
s	SECOND
bps	BITS PER SECOND
Bps	BYTES PER SECOND
A	AMPERE
V	VOLT
V <sub>(dc)</sub>	VOLT (DIRECT CURRENT)
V <sub>(ac)</sub>	VOLT (ALTERNATING CURRENT)
FC	FOOT - CANDLE
W	WATTS
VA	VOLT-AMPERE
M	MEGA
k	KILO
m	MILLI
$\mu$	MICRO
P	PICO
Hz	HERTZ

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**

### 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       |       |                                      |

### 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            |

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	215	R15.0	15	29

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

TO ACCOMPANY PLANS DATED 2-2-15

### CONDUIT

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

### SIGNAL EQUIPMENT

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

### SERVICE EQUIPMENT

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

### POLE-MOUNTED SERVICE DESIGNATION

	TYPE H SERVICE, 28'-10"	TYPE OF INSTALLATION AND POLE HEIGHT ABOVE GRADE
--	-------------------------	--------------------------------------------------

### FLASHING BEACON

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

### SIGNAL EQUIPMENT Cont

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

#### NOTES:

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

### ILLUMINATED OVERHEAD SIGN

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

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS  
(LEGEND AND ABBREVIATIONS)**

NO SCALE

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

**REVISED STANDARD PLAN RSP ES-1B**

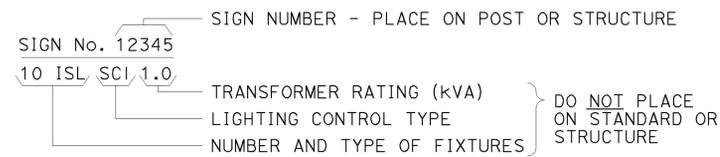
2010 REVISED STANDARD PLAN RSP ES-1B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	215	R15.0	16	29

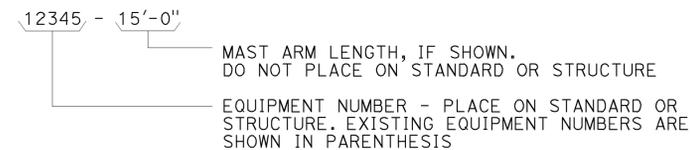
Theresa Gabriel  
 REGISTERED ELECTRICAL ENGINEER  
 July 19, 2013  
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### EQUIPMENT IDENTIFICATION

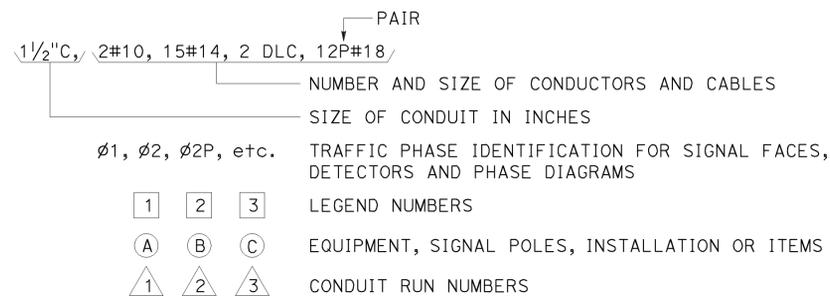
#### ILLUMINATED SIGN IDENTIFICATION NUMBER:



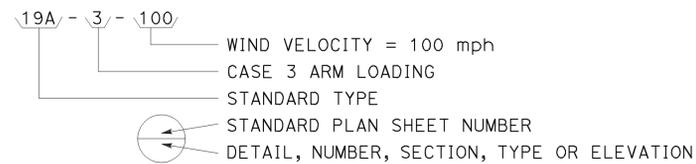
#### ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



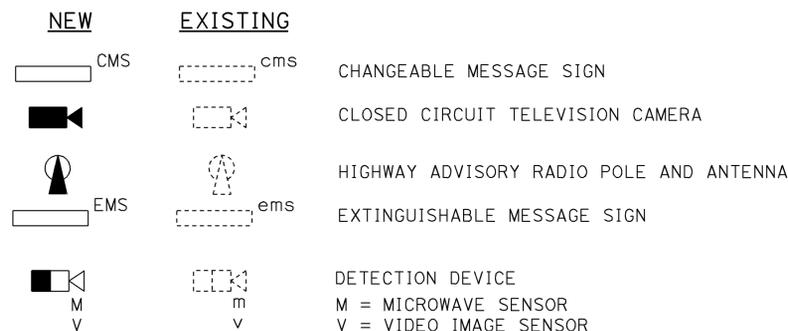
#### CONDUIT AND CONDUCTOR IDENTIFICATION:



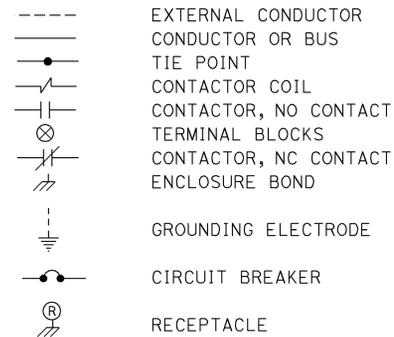
#### SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



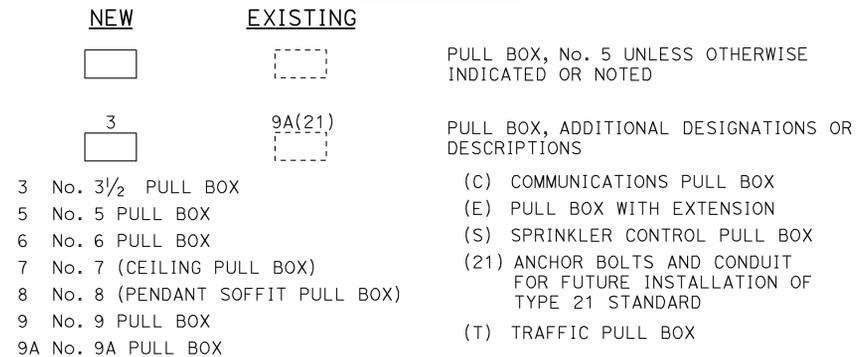
### MISCELLANEOUS EQUIPMENT



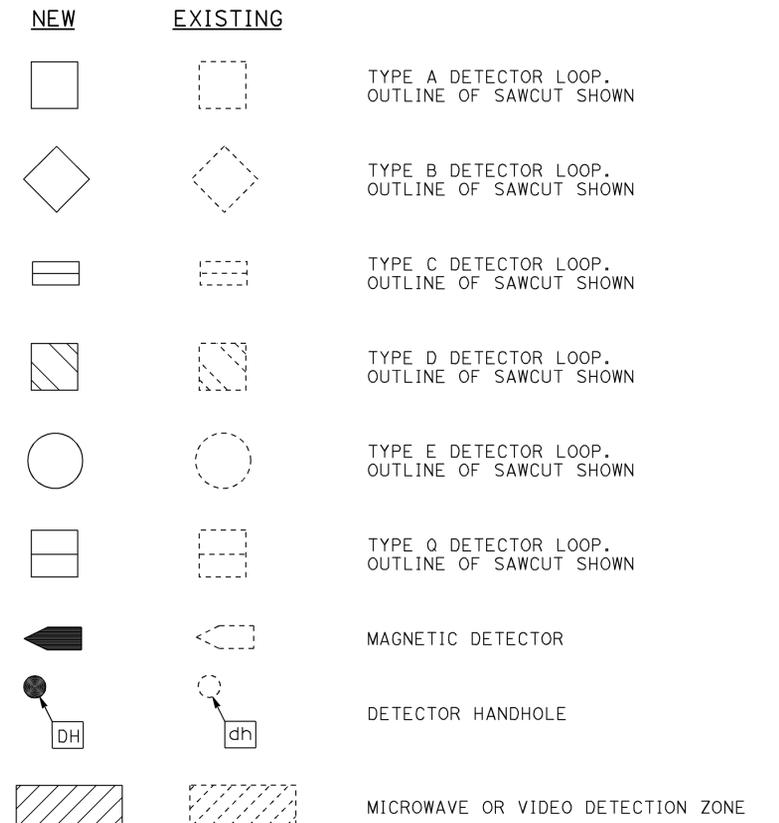
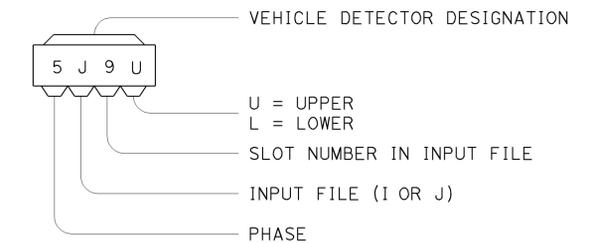
### WIRING DIAGRAM LEGEND



### 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

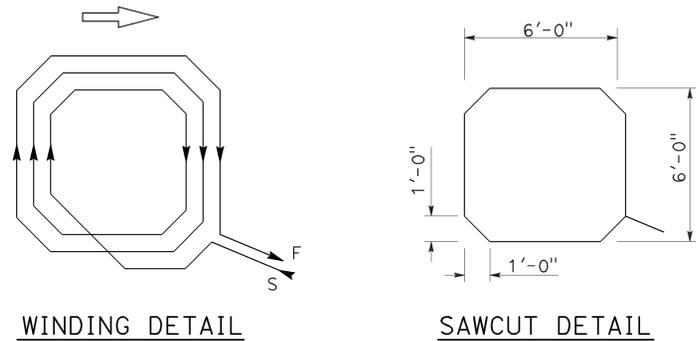
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	215	R15.0	17	29

Theresa Gabriel  
 REGISTERED ELECTRICAL ENGINEER  
 July 19, 2013  
 PLANS APPROVAL DATE  
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

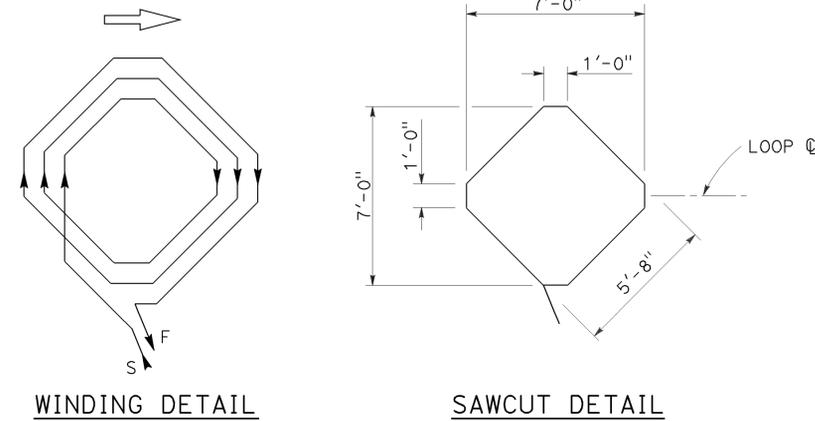
REGISTERED PROFESSIONAL ENGINEER  
 Theresa Aziz Gabriel  
 No. E15129  
 Exp. 6-30-14  
 ELECTRICAL  
 STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 2-2-15

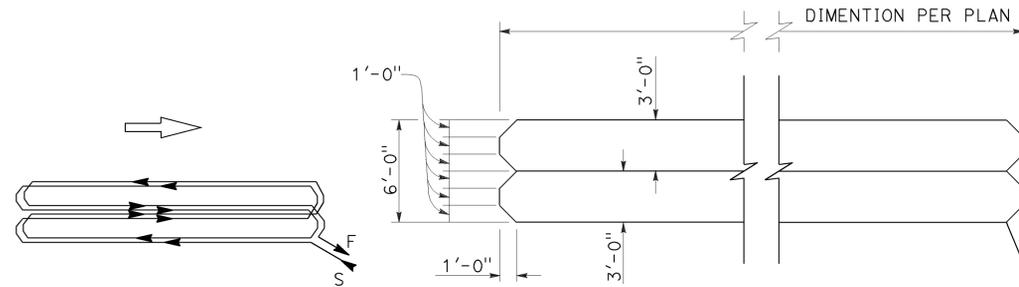
2010 REVISED STANDARD PLAN RSP ES-5B



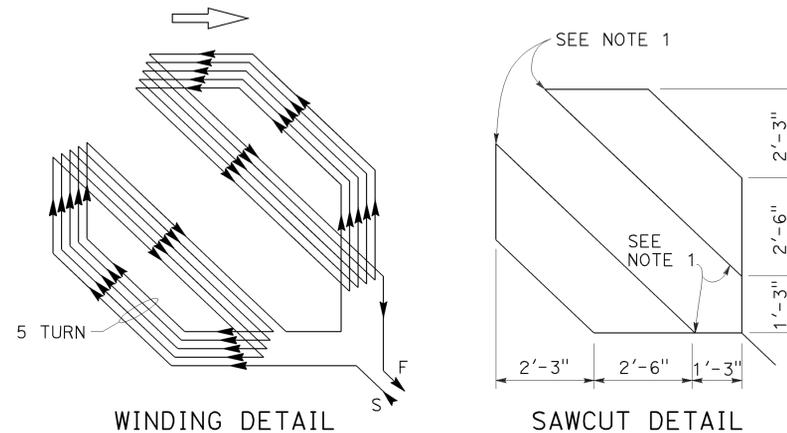
WINDING DETAIL  
SAWCUT DETAIL  
**TYPE A LOOP DETECTOR CONFIGURATION**



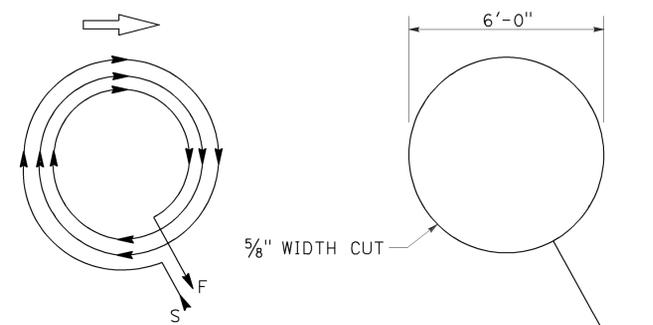
WINDING DETAIL  
SAWCUT DETAIL  
**TYPE B LOOP DETECTOR CONFIGURATION**



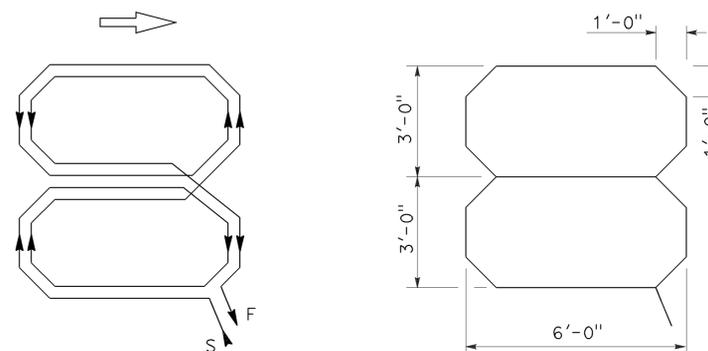
WINDING DETAIL  
SAWCUT DETAIL  
**TYPE C LOOP DETECTOR CONFIGURATION**



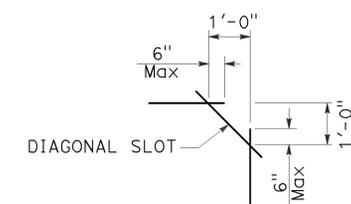
WINDING DETAIL  
SAWCUT DETAIL  
**TYPE D LOOP DETECTOR CONFIGURATION**



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.

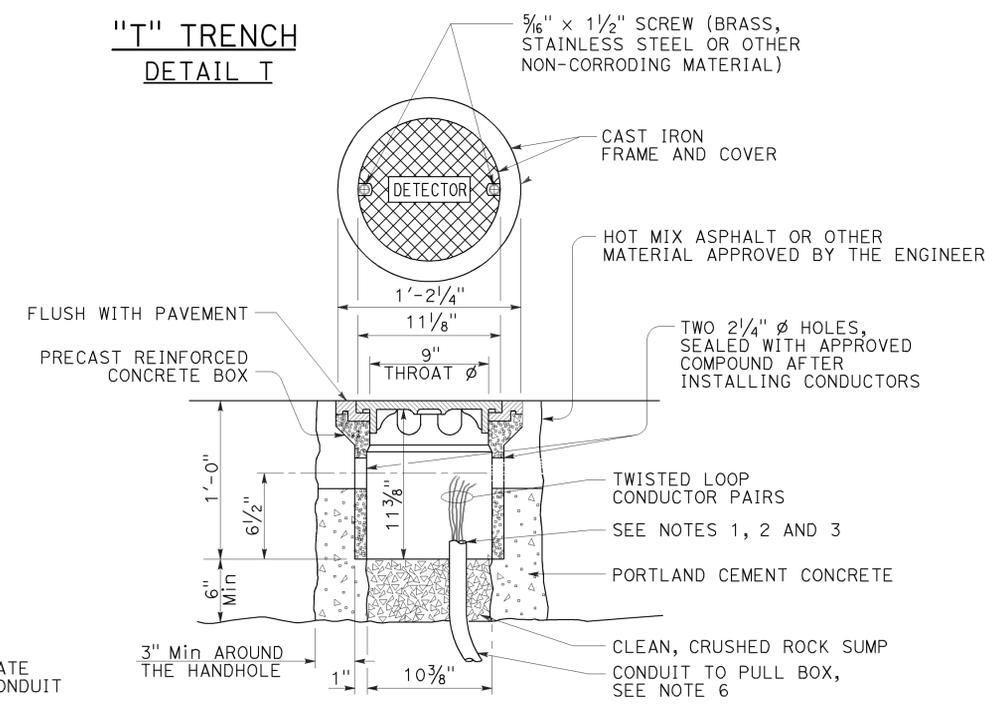
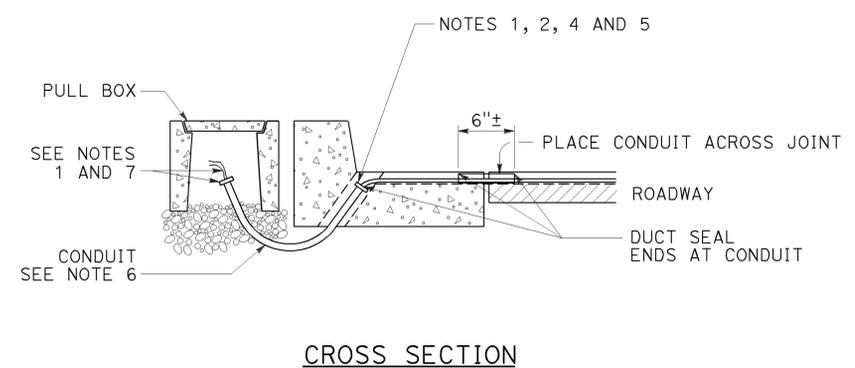
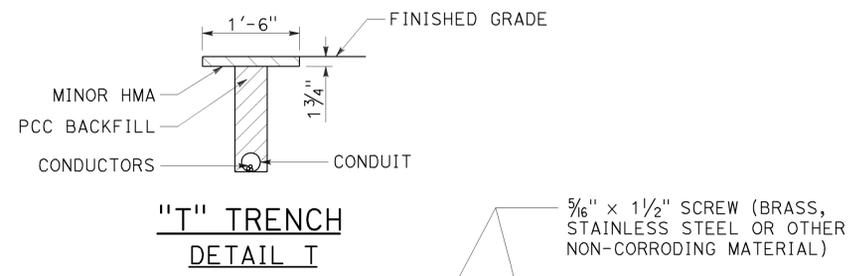
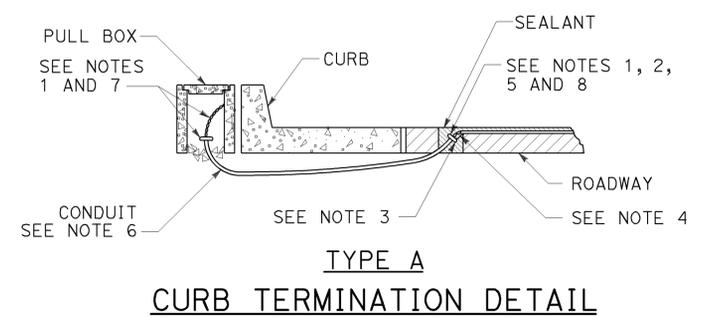
**REVISED STANDARD PLAN RSP ES-5B**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	215	R15.0	18	29

Theresa Gabriel  
 REGISTERED ELECTRICAL ENGINEER  
 July 19, 2013  
 PLANS APPROVAL DATE  
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

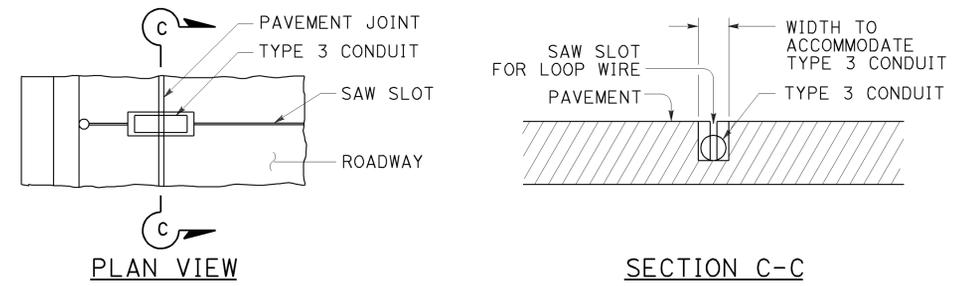


TO ACCOMPANY PLANS DATED 2-2-15

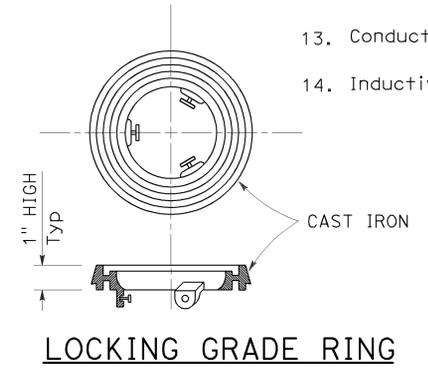
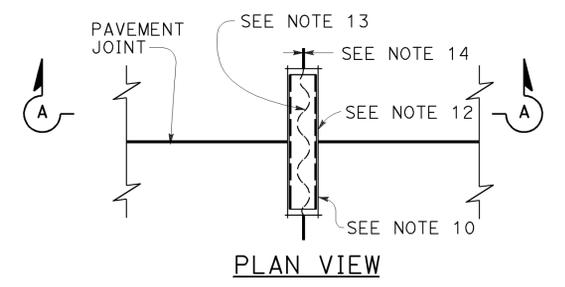
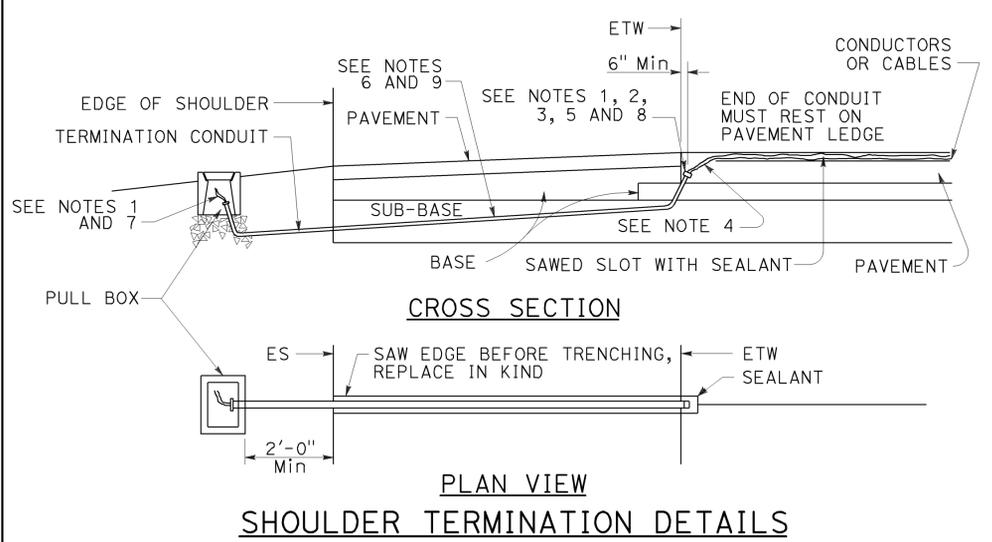
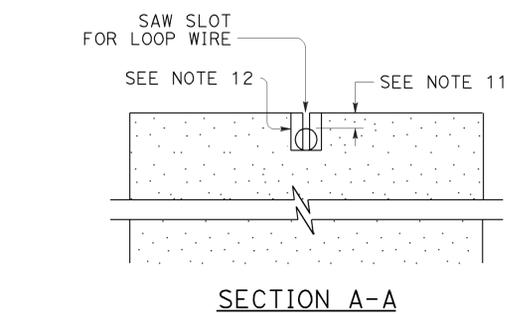


**NOTES:**

- 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.



**TYPE B  
CURB TERMINATION DETAIL**



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

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

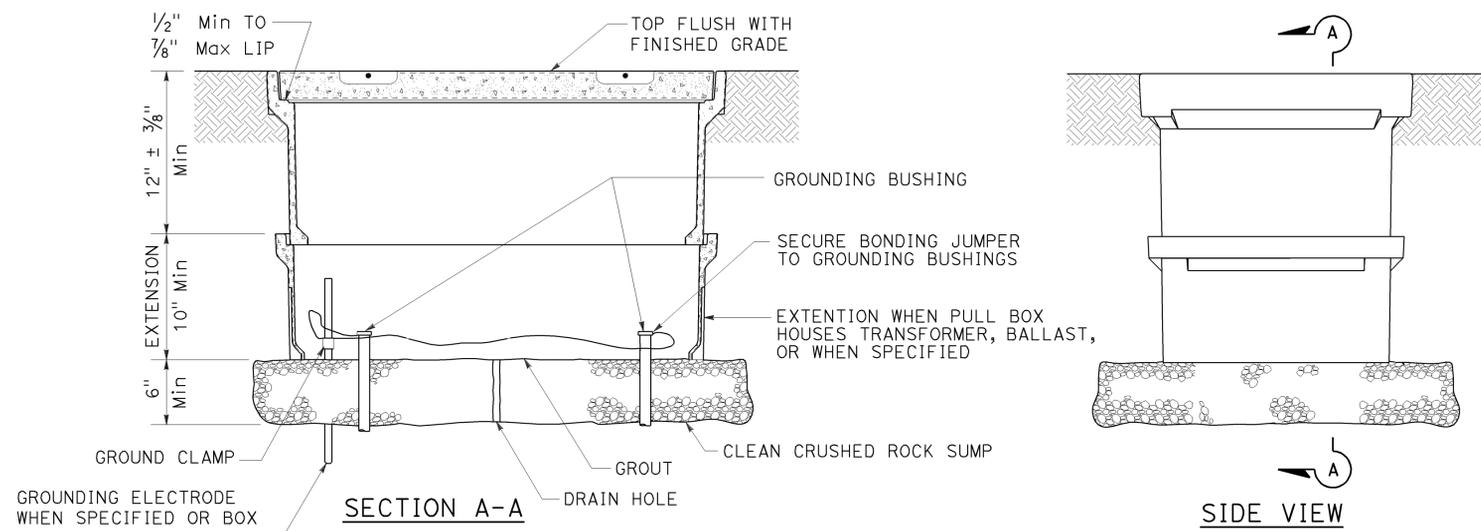
**REVISED STANDARD PLAN RSP ES-5D**

2010 REVISED STANDARD PLAN RSP ES-5D

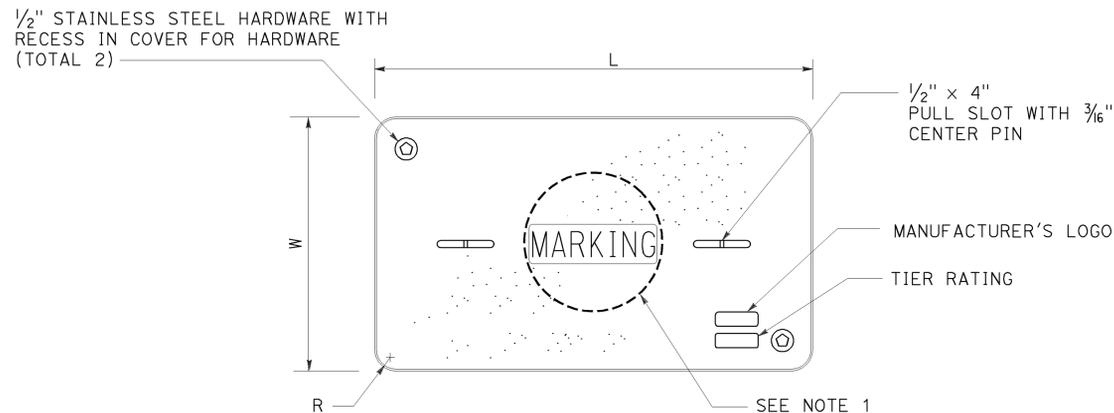
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv	215	R15.0	19	29

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

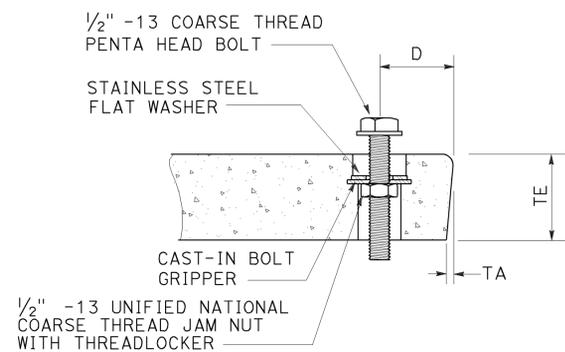
TO ACCOMPANY PLANS DATED 2-2-15



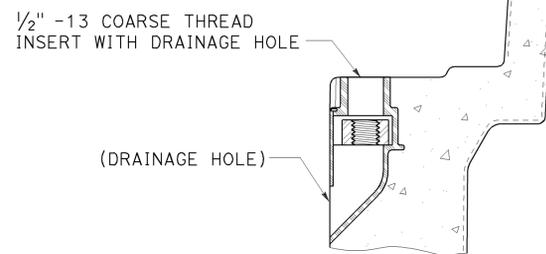
**INSTALLATION DETAILS  
DETAIL A**



**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
08	Riv	215	R15.0	20	29

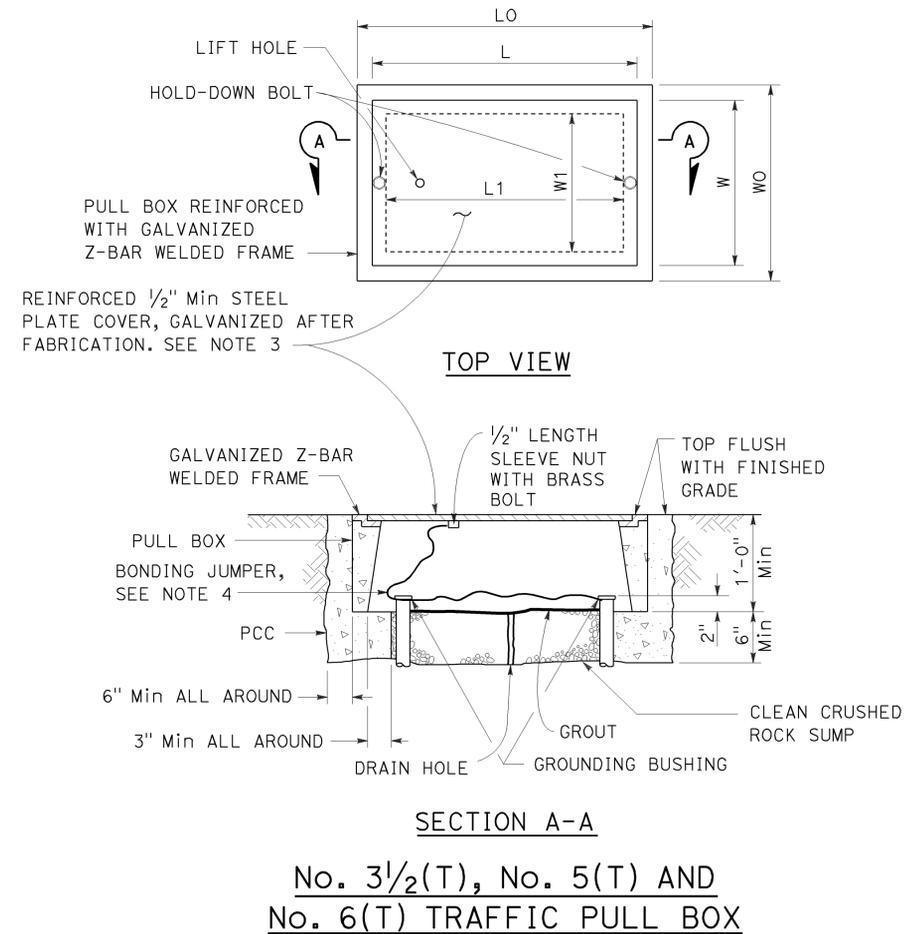
*Theresa Gabriel*  
 REGISTERED ELECTRICAL ENGINEER

July 19, 2013  
 PLANS APPROVAL DATE

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

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

TO ACCOMPANY PLANS DATED 2-2-15



**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 7/8"±	1'-2 1/2"±	10 5/8"± 1"	1'-8"±	1'-1 3/4"±	0"	1/2"	NONE
No. 5(T)	1 3/4"	1'-0"	1'-11 1/2"± 1"	2'-5 1/2"±	1'-7"±	1'-1"± 1"	2'-3"±	1'-4"±	0"	1/2"	NONE
No. 6(T)	2"	1'-0"	2'-6"± 1"	2'-11 1/2"±	1'-11 1/2"±	1'-5"± 1"	2'-9"±	1'-8"±	0"	1/2"	NONE

\* EXCLUDING CONDUIT WEB      \*\* TOP DIMENSION

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

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

**REVISED STANDARD PLAN RSP ES-8B**

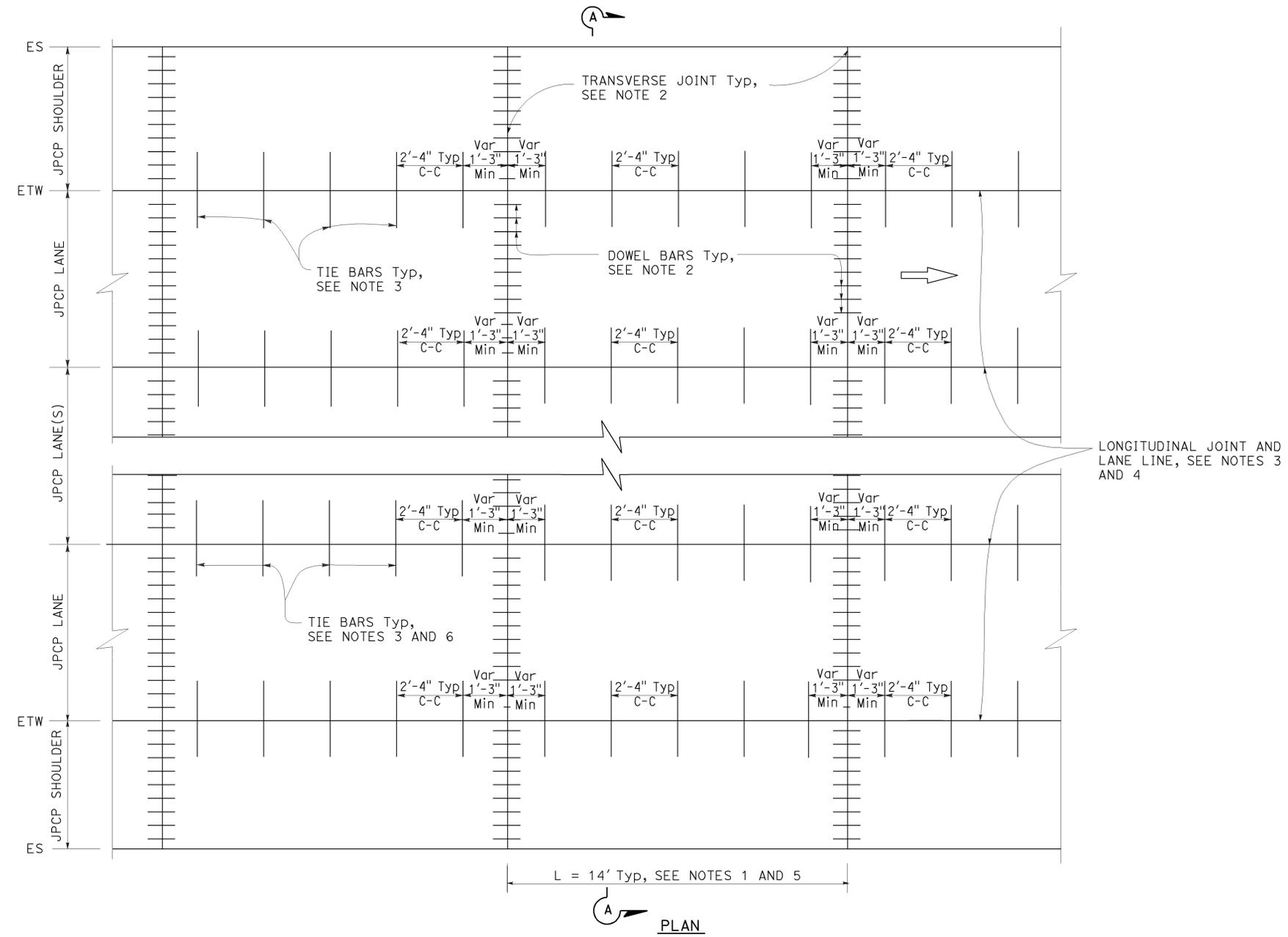
2010 REVISED STANDARD PLAN RSP ES-8B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	215	R15.0	21	29

*William K. Farnbach*  
 REGISTERED CIVIL ENGINEER  
 July 19, 2013  
 PLANS APPROVAL DATE  
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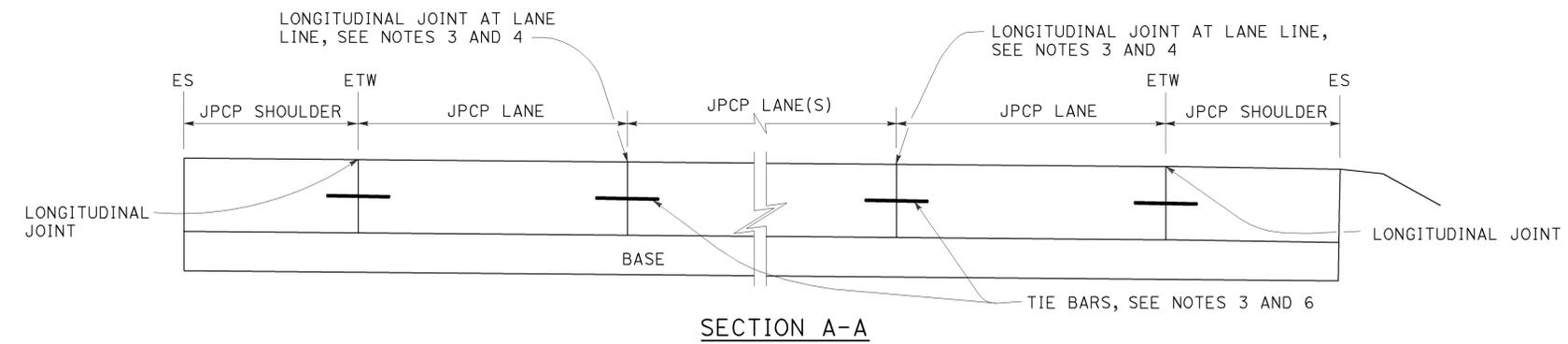


TO ACCOMPANY PLANS DATED 2-2-15



**NOTES:**

1. Transverse joint spacing may be adjusted to no less than 10' and no more than 14' to conform to bridges, change in pavement type, and hardened concrete pavement.
2. For transverse joint and dowel bar details not shown, see Revised Standard Plan RSP P10.
3. For longitudinal joint and tie bar details not shown, see Revised Standard Plan RSP P15.
4. For additional longitudinal joint layout details, see Revised Standard Plan RSP P18.
5. For joint layout at intersections, see Project Plans.
6. For dowel bars at longitudinal joint, see Revised Standard Plan RSP P18.



STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**JOINTED PLAIN  
 CONCRETE PAVEMENT  
 NEW CONSTRUCTION**

NO SCALE

RSP P1 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN P1 DATED MAY 20, 2011 - PAGE 125 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP P1**

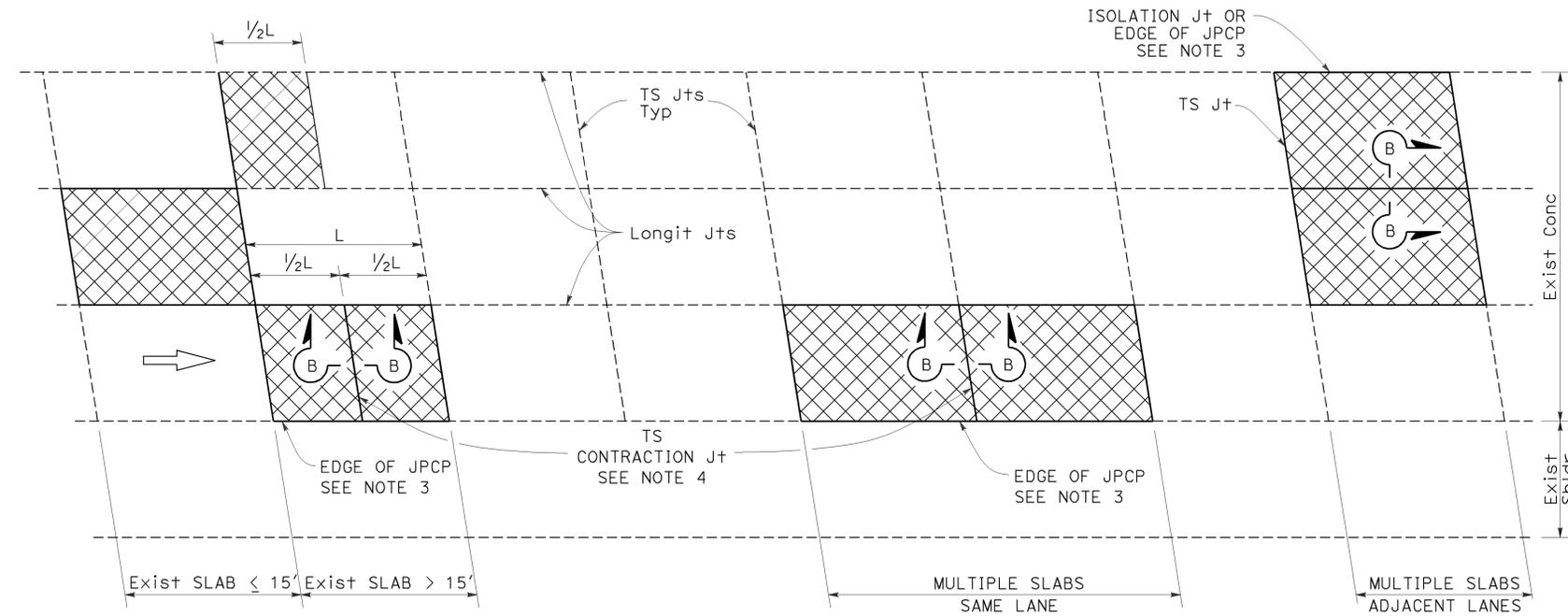
2010 REVISED STANDARD PLAN RSP P1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	215	R15.0	22	29

*William K. Farnbach*  
 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 2-2-15



**PLAN**

**LEGEND:**

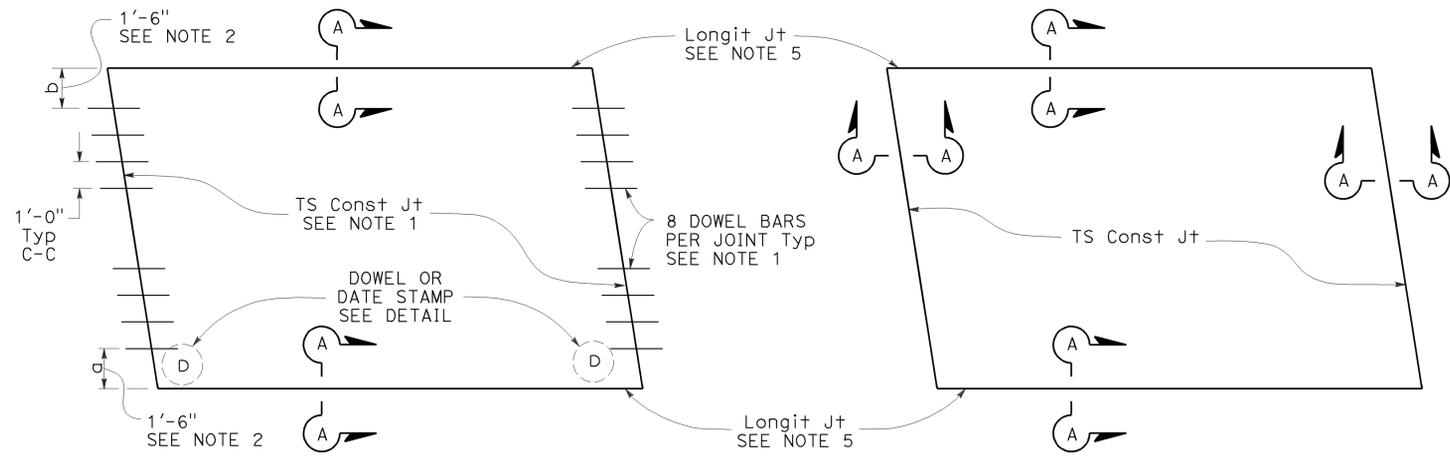
- RSC RAPID STRENGTH CONCRETE
- INDIVIDUAL SLAB REPLACEMENT WITH RSC

**NOTES:**

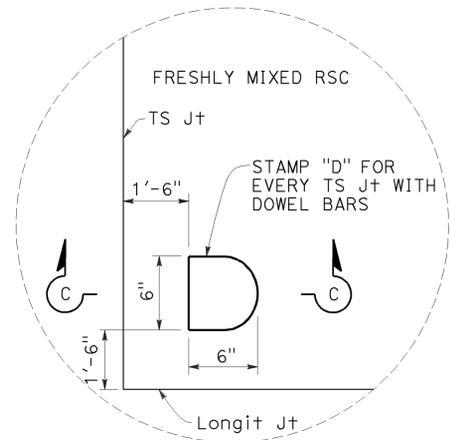
1. For details not shown, see Revised Standard Plan RSP P10.
2. Where the existing outside shoulder is asphalt concrete pavement, "a" = 1'-0" and "b" = 2'-0".
3. Use side forms where edge of RSC pavement is adjacent to asphalt concrete.
4. Transverse contraction joint to match skew of existing joint. Omit dowel bars.
5. Do not place tie bars at longitudinal joints.

**DESIGN NOTES:**

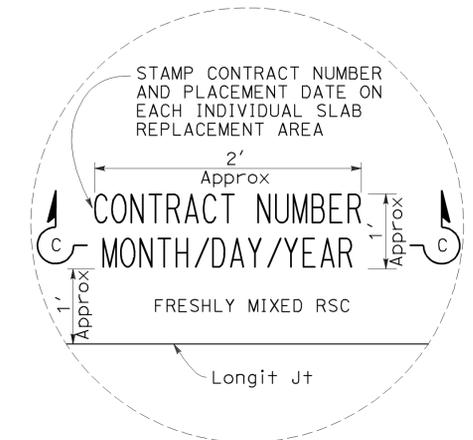
1. For concrete slab repair with at least 5 years design life.
2. For short term repairs < 5 yrs design life or for slab replacements with cracking and seating.



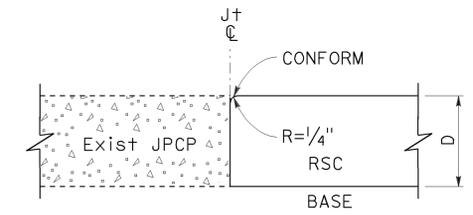
**SLAB LAYOUT**



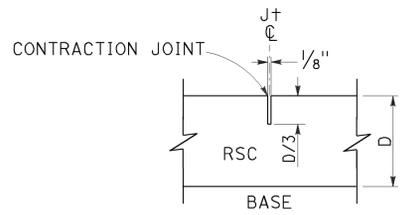
**DOWEL STAMP DETAIL**



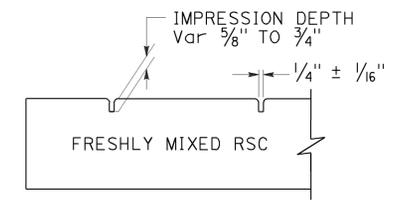
**DATE STAMP DETAIL**



**SECTION A-A**



**SECTION B-B**



**SECTION C-C**

**INDIVIDUAL SLAB REPLACEMENT WITH RAPID STRENGTH CONCRETE**

NO SCALE

RSP P8 DATED JULY 19, 2013 SUPERSEDES RSP P8 DATED APRIL 20, 2012 AND STANDARD PLAN P8 DATED MAY 20, 2011 - PAGE 130 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP P8**

2010 REVISED STANDARD PLAN RSP P8

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	215	R15.0	23	29

William K. Farnbach  
 REGISTERED CIVIL ENGINEER  
 No. C49042  
 Exp. 9-30-14  
 CIVIL  
 STATE OF CALIFORNIA

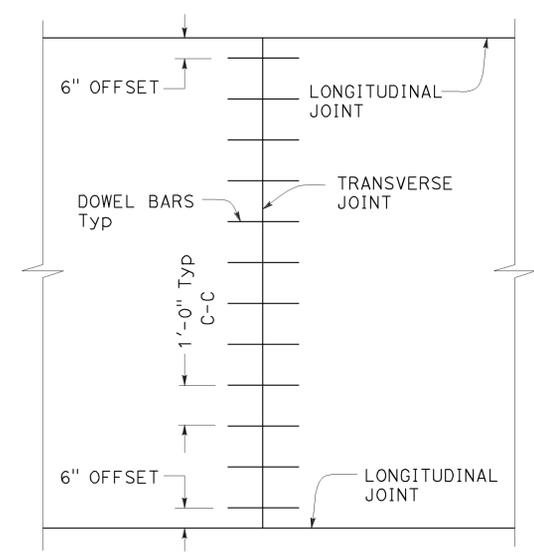
July 19, 2013  
 PLANS APPROVAL DATE

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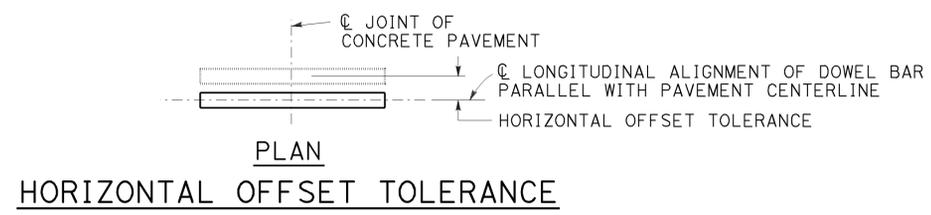
TO ACCOMPANY PLANS DATED 2-2-15

**NOTES:**

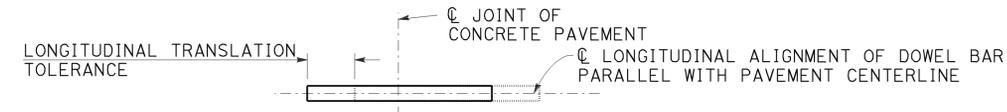
1. See Revised Standard Plan RSP P1 for typical dowel bar placement and locations.
2. Where fresh concrete pavement is placed against new concrete or existing concrete pavement, rounding the corner of the existing concrete pavement is not required.
3. May also use 3/4" Dia dowel bars 2'-4" ± 1/4" in length. Center the length of dowel bars at the centerline of longitudinal joint.



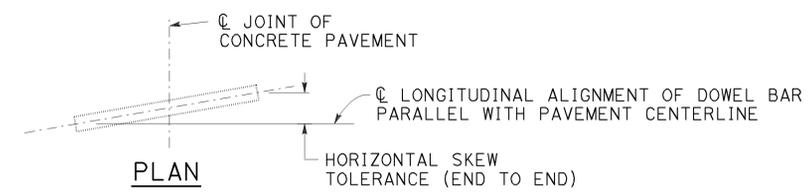
**TRANSVERSE JOINT  
DOWEL BAR LAYOUT**



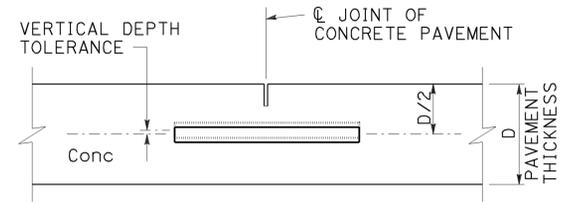
**HORIZONTAL OFFSET TOLERANCE**



**LONGITUDINAL TRANSLATION TOLERANCE**

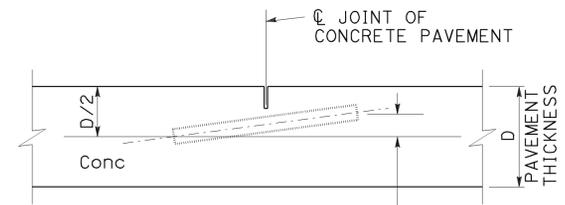


**HORIZONTAL SKEW TOLERANCE**



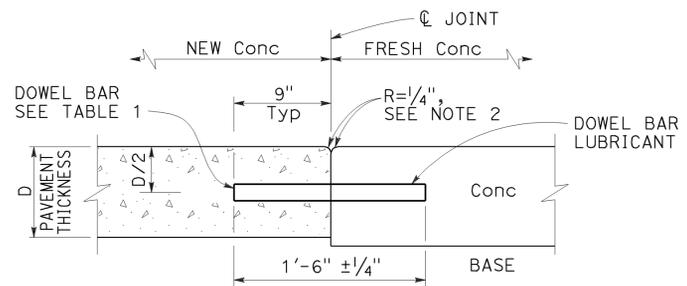
**ELEVATION**

**VERTICAL DEPTH TOLERANCE**

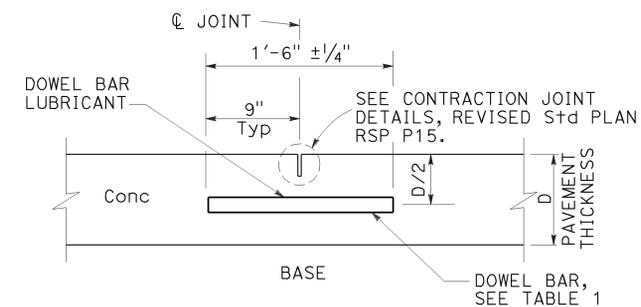


**ELEVATION**

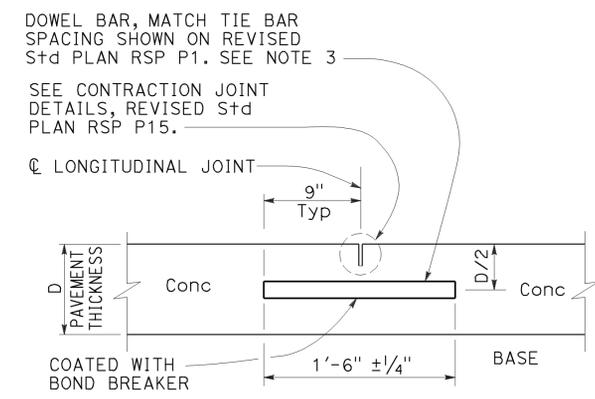
**VERTICAL SKEW TOLERANCE**



**TRANSVERSE  
CONSTRUCTION JOINT DETAIL**



**TRANSVERSE CONTRACTION JOINT**



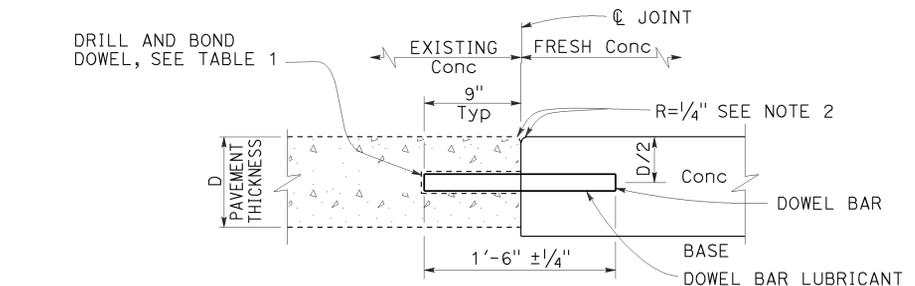
**LONGITUDINAL CONTRACTION  
JOINT WITH DOWEL BARS**

See Revised Std Plan RSP P18

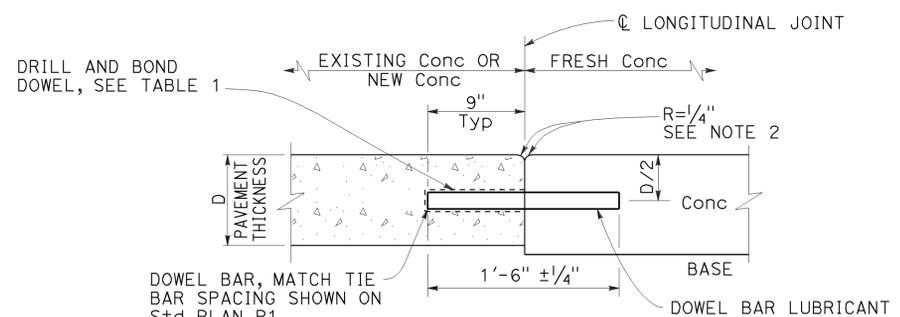
**TABLE 1  
DOWEL BAR DIAMETER TABLE**

PAVEMENT THICKNESS	0.65'	> 0.65' - 0.85'	> 0.85'
MINIMUM DOWEL * BAR DIAMETER	1"	1 1/4"	1 1/2"

\* The drilled hole diameter must be 1/8" to 3/16" larger than the bar diameter.



**TRANSVERSE CONSTRUCTION JOINT  
FOR EXISTING CONCRETE PAVEMENT**



**LONGITUDINAL CONSTRUCTION JOINT  
WITH DOWEL BARS**

See Revised Std Plan RSP P18

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**CONCRETE PAVEMENT  
DOWEL BAR  
DETAILS**

NO SCALE

RSP P10 DATED JULY 19, 2013 SUPERSEDES RSP P10 DATED APRIL 20, 2012 AND STANDARD PLAN P10 DATED MAY 20, 2011 - PAGE 131 OF THE STANDARD PLANS BOOK DATED 2010.

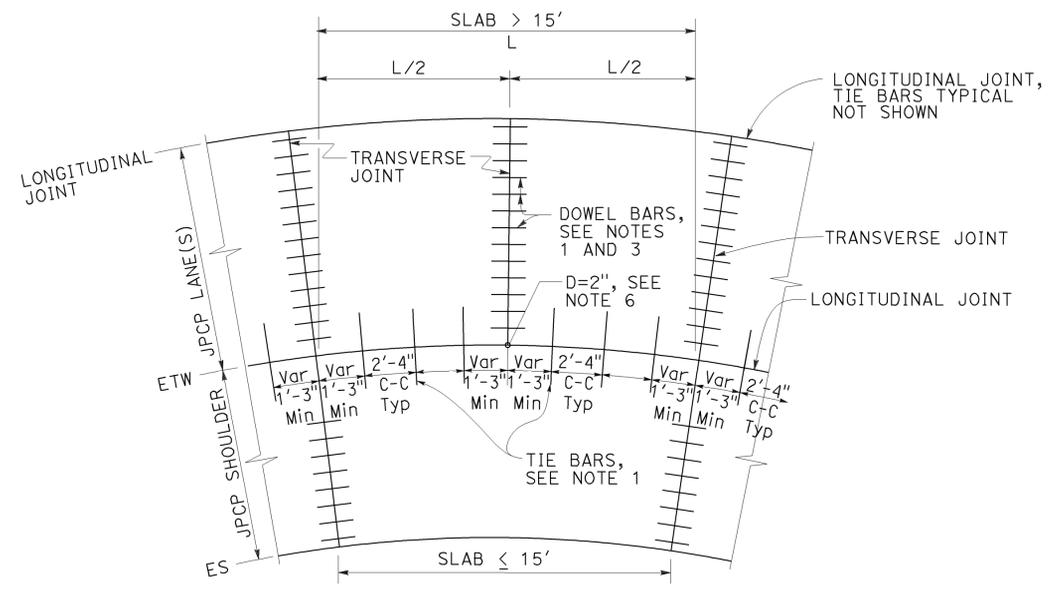
**REVISED STANDARD PLAN RSP P10**

2010 REVISED STANDARD PLAN RSP P10

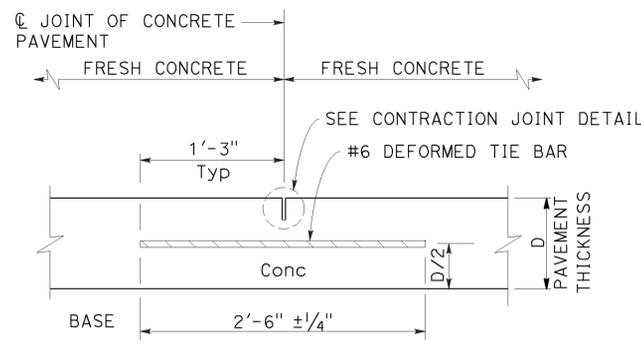
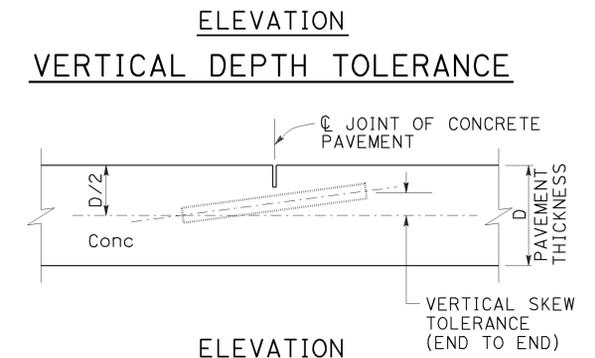
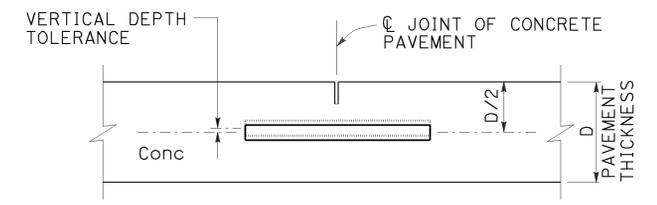
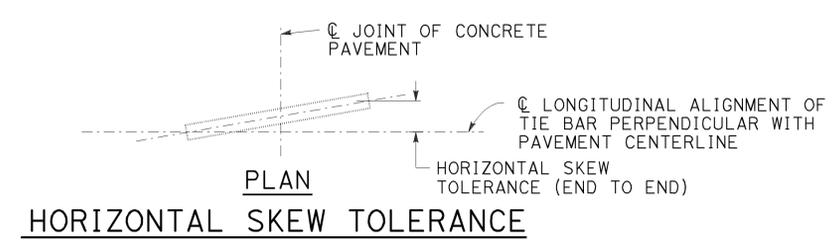
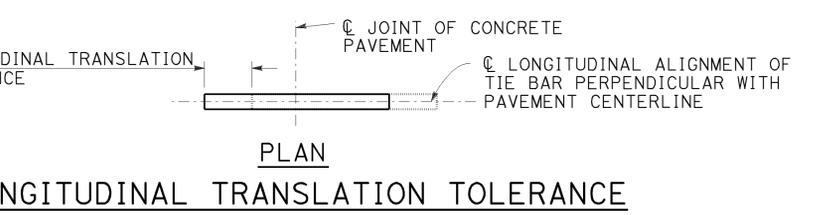
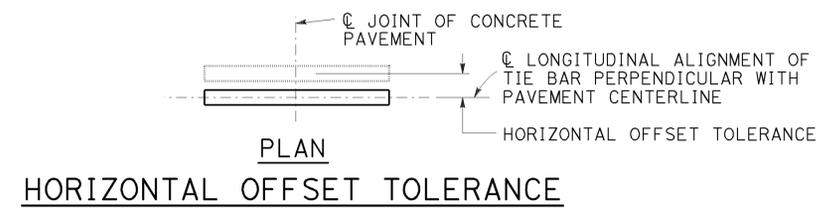
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	215	R15.0	24	29

William K. Farnbach  
 REGISTERED CIVIL ENGINEER  
 July 19, 2013  
 PLANS APPROVAL DATE  
 No. C49042  
 Exp. 9-30-14  
 CIVIL  
 STATE OF CALIFORNIA

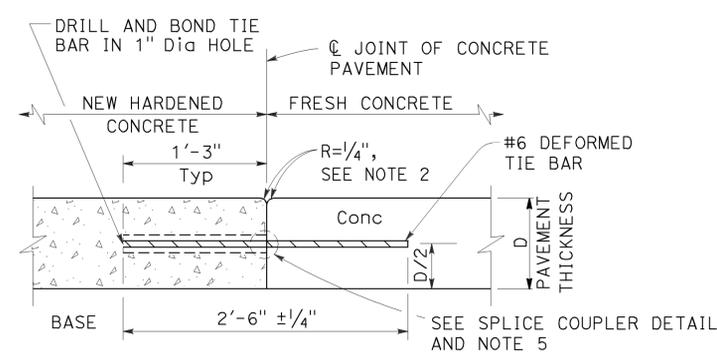
TO ACCOMPANY PLANS DATED 2-2-15



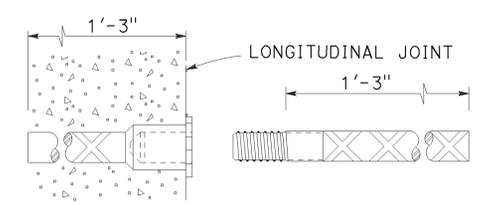
**TIE BAR LAYOUT IN CURVED LANES**



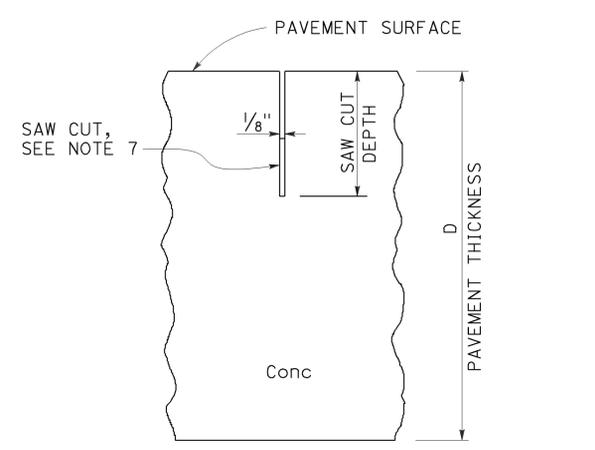
**LONGITUDINAL CONTRACTION JOINT**



**LONGITUDINAL CONSTRUCTION JOINT**



**ALTERNATIVE SPLICE COUPLER**



**CONTRACTION JOINT DETAIL**

- NOTES:**
1. See Revised Standard Plan RSP P1 for typical dowel bar and tie bar placement and locations.
  2. Where new pavement is placed against existing concrete pavement, rounding the corner is not required.
  3. For dowel bar sizes, See Revised Standard Plan RSP P10.
  4. Tie bar details apply to inside widenings.
  5. Use either drill and bond or splice couplers.
  6. Full depth drilled hole. Fill hole with filler material.
  7. The bottom of the saw cut must be at least 0.5" clear of any dowel bar, tie bar and bar reinforcement.

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**CONCRETE PAVEMENT - TIE BAR DETAILS**  
 NO SCALE

RSP P15 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

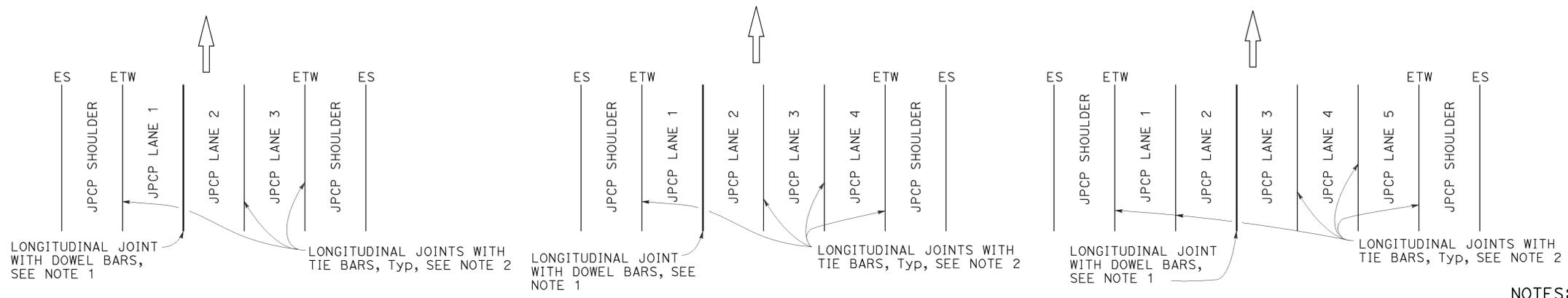
**REVISED STANDARD PLAN RSP P15**

2010 REVISED STANDARD PLAN RSP P15

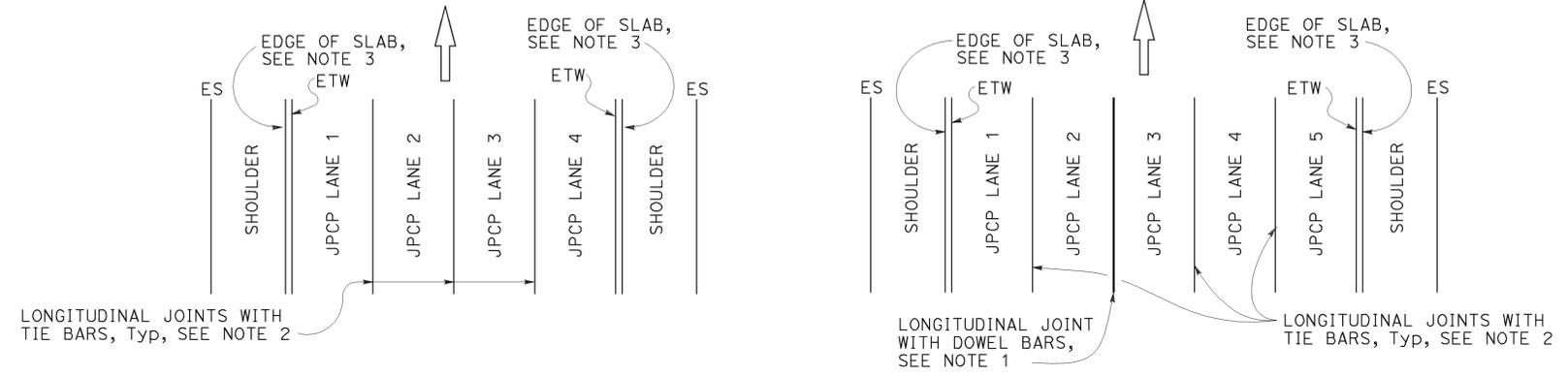
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	215	R15.0	25	29

William K. Farnbach  
 REGISTERED CIVIL ENGINEER  
 July 19, 2013  
 PLANS APPROVAL DATE  
 No. C49042  
 Exp. 9-30-14  
 CIVIL  
 STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 2-2-15

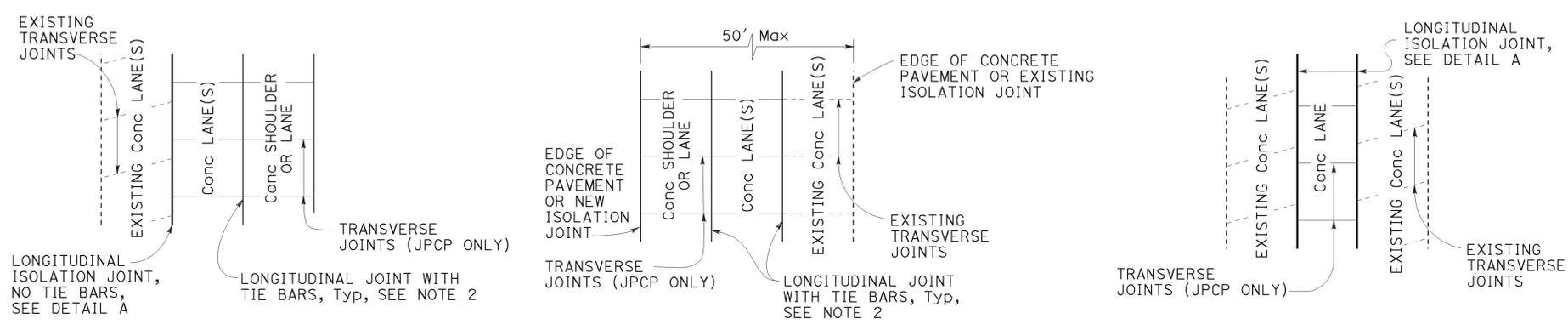


3 LANES WITH CONCRETE SHOULDERS PLAN  
 4 LANES WITH CONCRETE SHOULDERS PLAN  
 5 LANES WITH CONCRETE SHOULDERS PLAN



4 LANES OR LESS WITH AC SHOULDERS PLAN  
 5 LANES WITH AC SHOULDERS PLAN

**NEW CONSTRUCTION**  
 Location of Longitudinal Joints  
 For JPCP



**CASE 1 PLAN**  
 Transverse Joints do not align between new and existing.

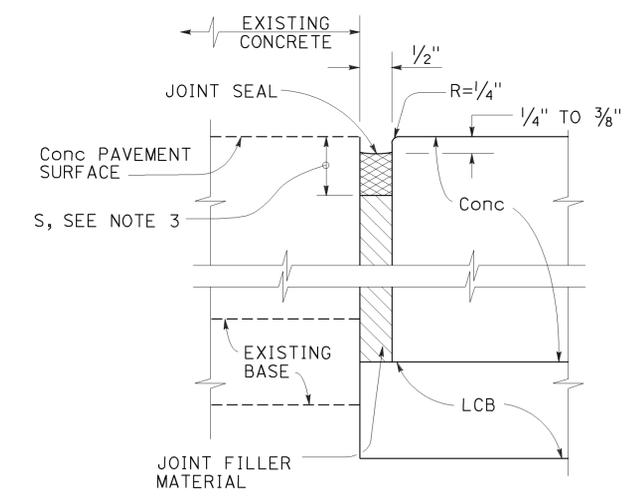
**CASE 2 PLAN**  
 Transverse Joints align between new and existing. (For JPCP only)

**CASE 3 (INTERIOR LANE REPLACEMENT) PLAN**  
 Transverse Joints do not align between new and existing.

**LANE/SHOULDER ADDITION OR RECONSTRUCTION**  
 For JPCP and CRCP

**NOTES:**

- See Revised Standard Plan RSP P10 for longitudinal joint with dowel bars.
- See Revised Standard Plan RSP P15 for longitudinal joint with tie bars.
- S = Reservoir depth.  
 $S = \frac{7}{8}'' \pm \frac{1}{16}''$  for asphalt rubber seals  
 $S = \frac{9}{16}'' \pm \frac{1}{16}''$  for silicone seals  
 Preformed compression seals must be  $\frac{13}{16}''$  wide and  $S = 1\frac{1}{16}'' \pm \frac{1}{16}''$



**DETAIL "A"**  
**ISOLATION JOINT**

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**CONCRETE PAVEMENT  
 LANE SCHEMATICS  
 AND ISOLATION JOINT DETAIL**  
 NO SCALE

RSP P18 DATED JULY 19, 2013 SUPERSEDES RSP P18 DATED APRIL 20, 2012 AND STANDARD PLAN P18 DATED MAY 20, 2011 - PAGE 135 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP P18**

2010 REVISED STANDARD PLAN RSP P18

**NOTES:**

1. Details do not apply to isolation joints and longitudinal construction joints.
2. Tie bars, dowel bars, and bar reinforcement are not shown.
3. Depths are measured from the final concrete pavement surface elevation after any grinding.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	215	R15.0	26	29

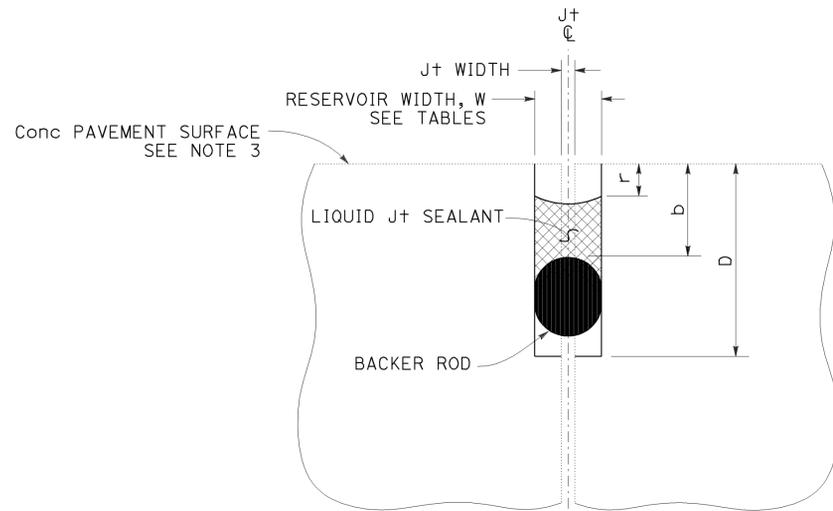
*William K. Farnbach*  
 REGISTERED CIVIL ENGINEER

July 19, 2013  
 PLANS APPROVAL DATE

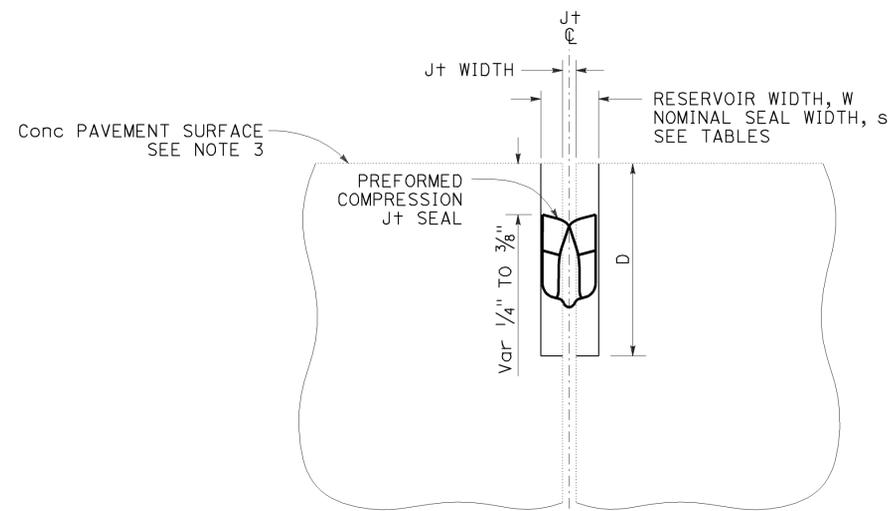
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER  
 William K. Farnbach  
 No. C49042  
 Exp. 9-30-14  
 CIVIL  
 STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 2-2-15



**LIQUID JOINT SEALANT**



**PREFORMED COMPRESSION JOINT SEAL**

Const SEASON	Min RESERVOIR WIDTH * W ± 1/16"
WINTER	1/4"
SPRING	3/8"
SUMMER	
FALL	

\* Minimum reservoir width for replace joint seal = existing joint width + 1/8"

RESERVOIR WIDTH W ± 1/16"	LIQUID JOINT SEALANT DIMENSIONS					
	BACKER ROD NOMINAL Dia *	DEPTHS (ASPHALT RUBBER) **		DEPTHS (SILICONE)		
		RESERVOIR D ± 1/4"	BACKER ROD b ± 1/16"	RESERVOIR D ± 1/4"	BACKER ROD b ± 1/16"	RECESS r ± 1/16"
1/4"	3/8"	1 3/4"	7/8"	1 3/8"	1/2"	1/4"
3/8"	1/2"	1 7/8"	7/8"	1 1/2"	1/2"	1/4"
1/2"	3/4"	2"	7/8"	1 3/4"	9/16"	5/16"
5/8"	7/8"	2 1/4"	1"	2"	5/8"	5/16"
3/4"	1"	2 3/4"	1 1/8"	2 1/4"	3/4"	3/8"
7/8"	1 1/4"	3"	1 1/4"	2 1/2"	13/16"	3/8"
1"	1 1/2"	3 1/4"	1 3/8"	2 5/8"	7/8"	3/8"
1 1/8"	1 1/2"	3 1/2"	1 1/2"	2 13/16"	1"	1/2"

\* Larger diameter backer rods may be substituted according to manufacturer recommendations if reservoir depth is increased equivalently.

\*\* Asphalt rubber sealant recess depth "r" varies from 1/4" to 3/8"

RESERVOIR WIDTH W ± 1/16"	PREFORMED COMPRESSION JOINT SEAL DIMENSIONS	
	NOMINAL SEAL WIDTH s	RESERVOIR DEPTH D ± 1/4"
1/4"	7/16"	1 1/4"
3/8"	1/2"	1 7/16"
1/2"	13/16"	1 11/16"
5/8"	1"	1 7/8"
3/4"	1 1/4"	2 1/8"
7/8"	1 5/8"	2 5/8"
1"	1 5/8"	2 5/8"
1 1/8"	2"	2 7/8"

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**JOINT SEALS**

NO SCALE

RSP P20 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN P20 DATED MAY 20, 2011 - PAGE 136 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP P20**

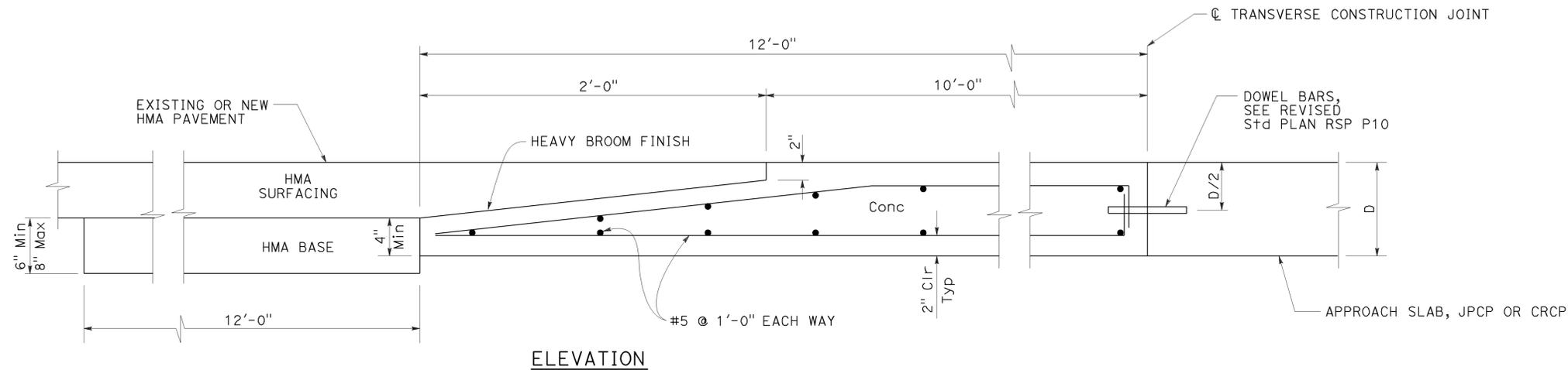
2010 REVISED STANDARD PLAN RSP P20

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	215	R15.0	27	29

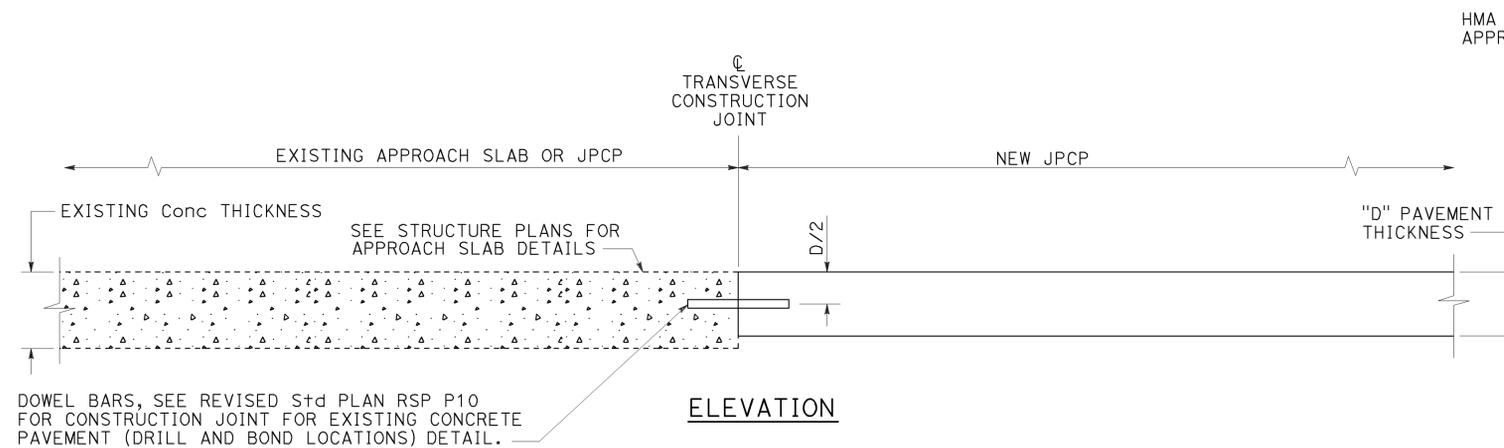
William K. Farnbach  
 REGISTERED CIVIL ENGINEER  
 July 19, 2013  
 PLANS APPROVAL DATE  
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



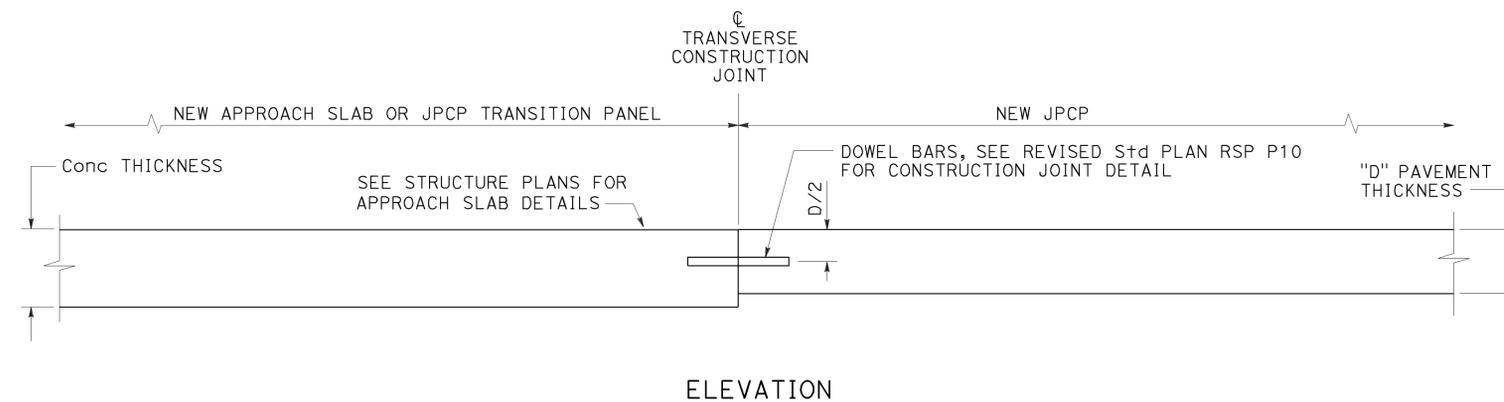
TO ACCOMPANY PLANS DATED 2-2-15



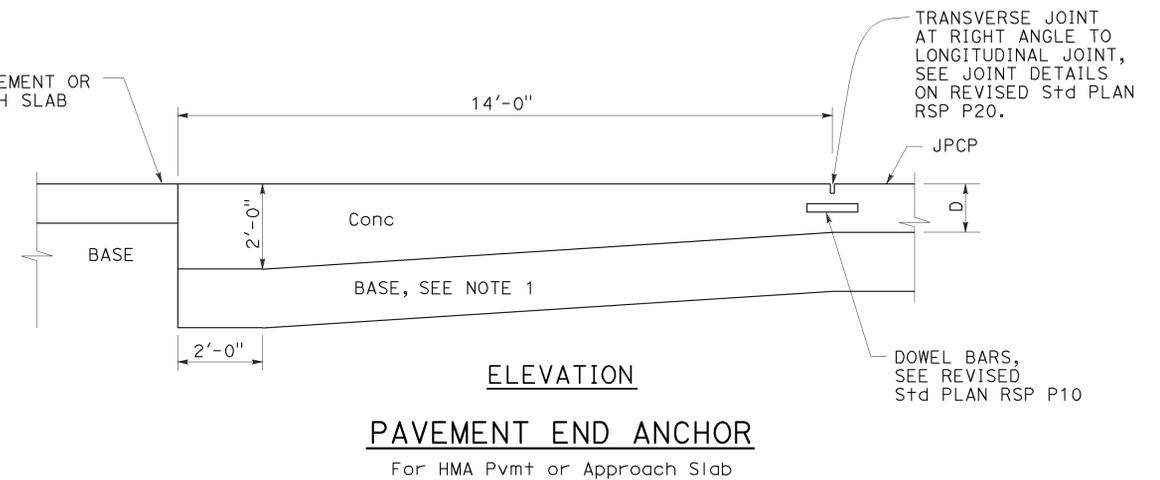
**ELEVATION**  
**CONCRETE PAVEMENT**  
**TRANSITION PANEL**



**ELEVATION**  
**TERMINAL JOINT TYPE 1**  
For Exist JPCP or Approach Slab



**ELEVATION**  
**TERMINAL JOINT TYPE 2**  
For JPCP Transition Panel or Approach Slab



**ELEVATION**  
**PAVEMENT END ANCHOR**  
For HMA Pvmnt or Approach Slab

**NOTE:**

1. Maintain same base thickness as JPCP.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**CONCRETE PAVEMENT-  
END PANEL  
PAVEMENT TRANSITIONS**

NO SCALE

RSP P30 DATED JULY 19, 2013 SUPERSEDES RSP P30 DATED APRIL 20, 2012 AND STANDARD PLAN P30 DATED MAY 20, 2011 - PAGE 137 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP P30**

2010 REVISED STANDARD PLAN RSP P30

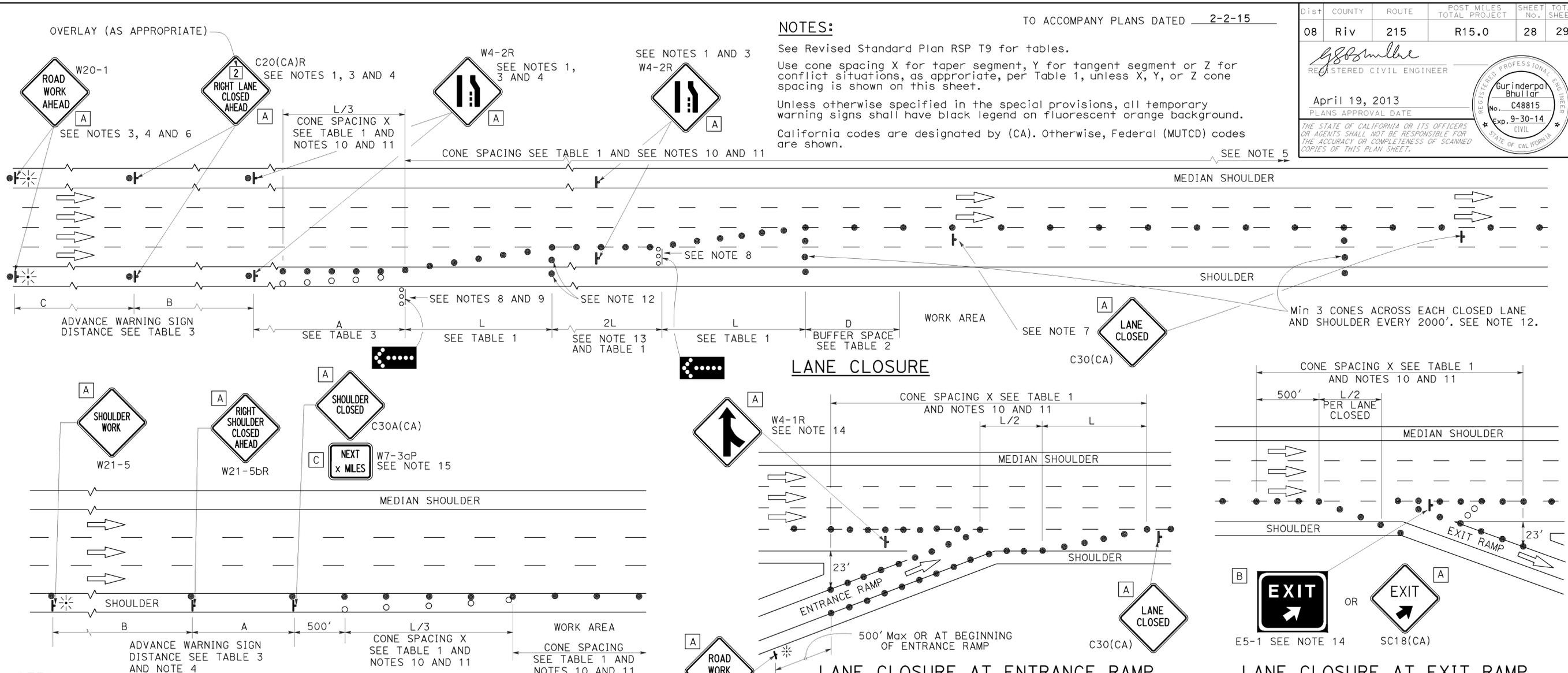
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	215	R15.0	28	29

gsbmlbe  
 REGISTERED CIVIL ENGINEER  
 April 19, 2013  
 PLANS APPROVAL DATE  
 Gurinderpal Bhullar  
 No. C48815  
 Exp. 9-30-14  
 CIVIL  
 REGISTERED PROFESSIONAL ENGINEER  
 STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 2-2-15

**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.



**NOTES:**

- Median lane closures shall conform to the details as shown except that C20(CA)L and W4-2L signs shall be used.
- At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closures.
- Duplicate sign installations are not required:
  - On opposite shoulder if at least one-half of the available lanes remain open to traffic.
  - In the median if the width of the median shoulder is less than 8' and the outside lanes are to be closed.
- 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.
- 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**

- 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) sign for the first advance warning sign.
- Place a C30(CA) sign every 2000' throughout length of lane closure.
- One flashing arrow sign for each lane closed. The flashing arrow signs shall be Type I.
- 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.
- 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.

W20-1 SEE NOTE 4

- 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.
- 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.
- Unless otherwise specified in the special provisions, the E5-1 or SC18(CA) and W4-1 signs shall be used as shown.
- 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"

**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**

2010 REVISED STANDARD PLAN RSP T10

# 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

## NOTES:

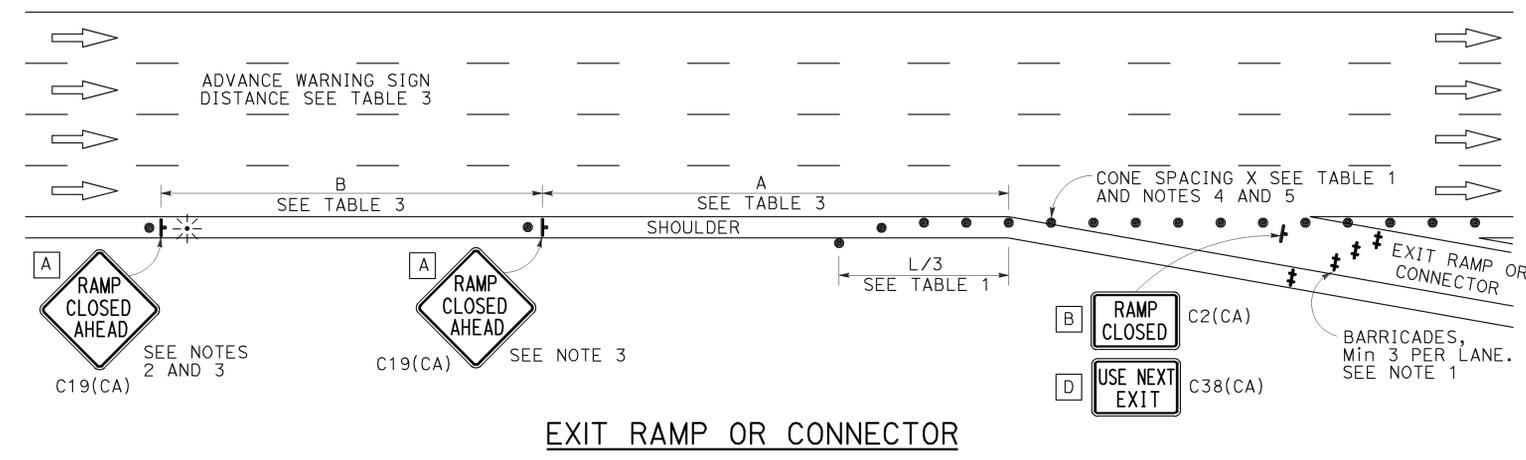
1. Barricades shall be Type I, II, or III for closures lasting one week or less and Type III for closures lasting longer than one week.
2. In addition to placing the C19(CA) "RAMP CLOSED AHEAD" and C30(CA) "RAMP CLOSED" signs, black on orange overlay plates with the word "CLOSED" may be mounted, as directed 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.
3. 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.
4. All cones used for ramp closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
5. Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime ramp closures only.
6. At least one person shall be assigned to provide full time maintenance of traffic control devices, unless otherwise directed by the Engineer.
7. The existing "EXIT" signs shall be covered during ramp closures.
8. A minimum of 3 cones shall be placed transversely across each closed lane and shoulder.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv	215	R15.0	29	29

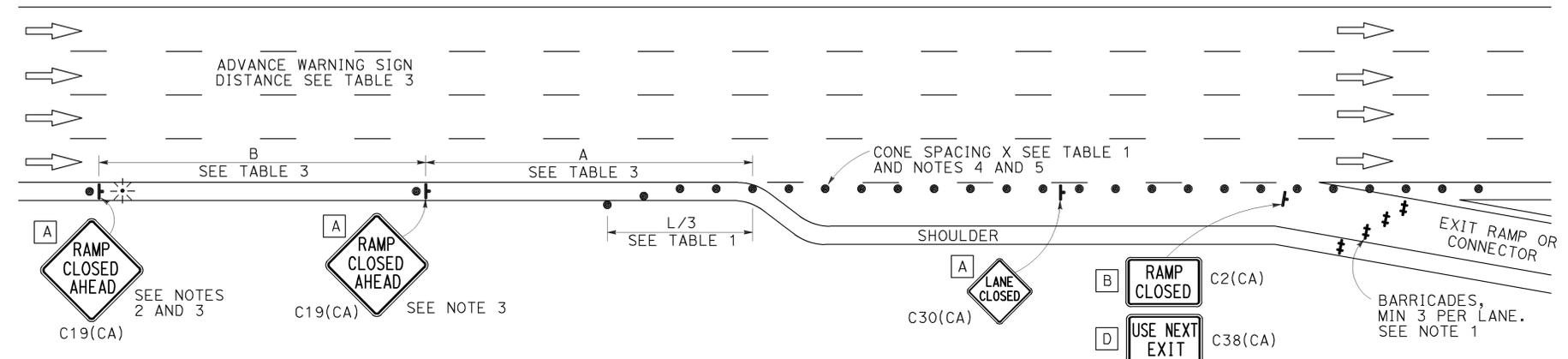
*G. S. Miller*  
 REGISTERED CIVIL ENGINEER  
 April 19, 2013  
 PLANS APPROVAL DATE  
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

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

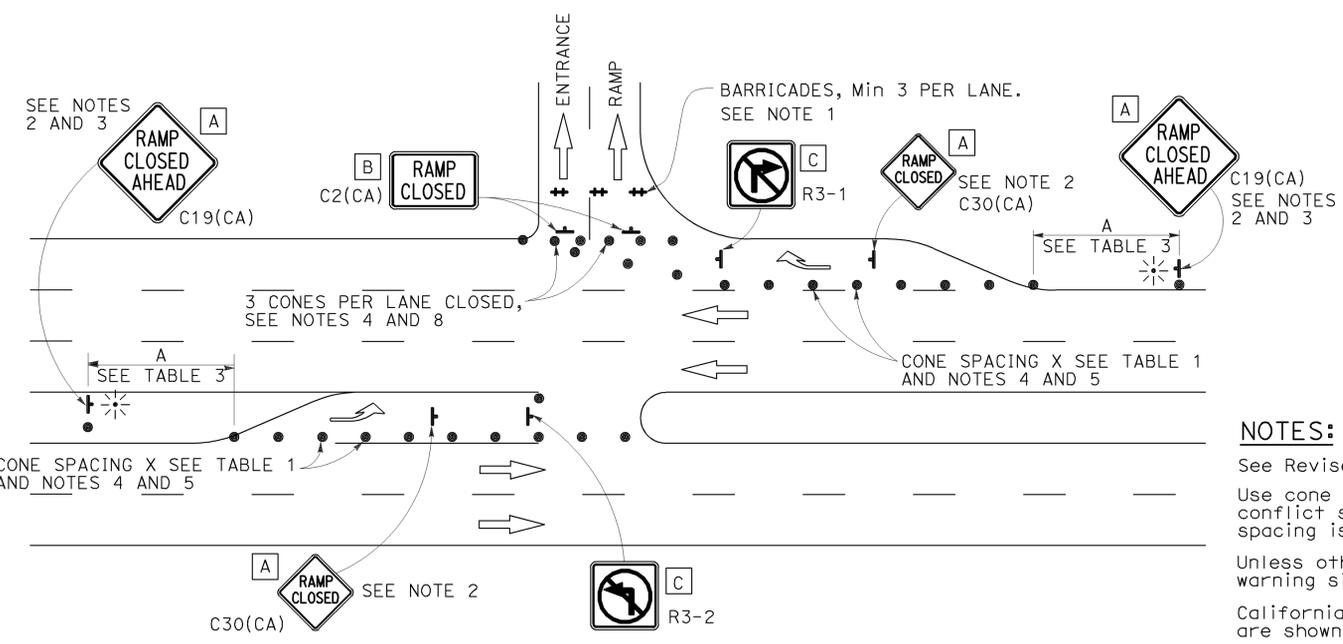
TO ACCOMPANY PLANS DATED 2-2-15



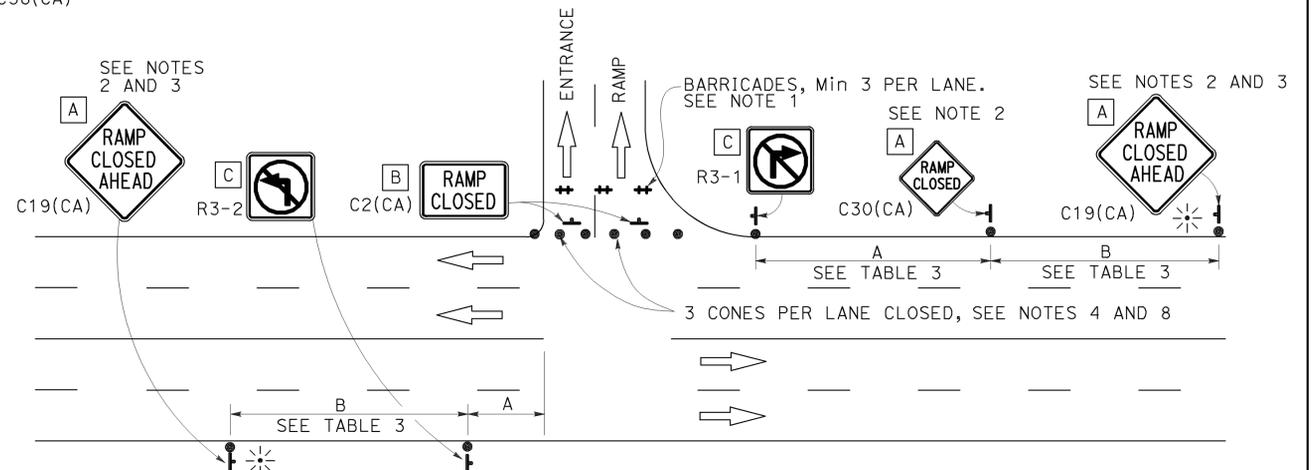
EXIT RAMP OR CONNECTOR



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