

INDEX OF PLANS

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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 SOLANO COUNTY**  
**IN DIXON**  
**AT VARIOUS LOCATIONS**  
**FROM ATKINSON ROAD TO ROUTE 80**

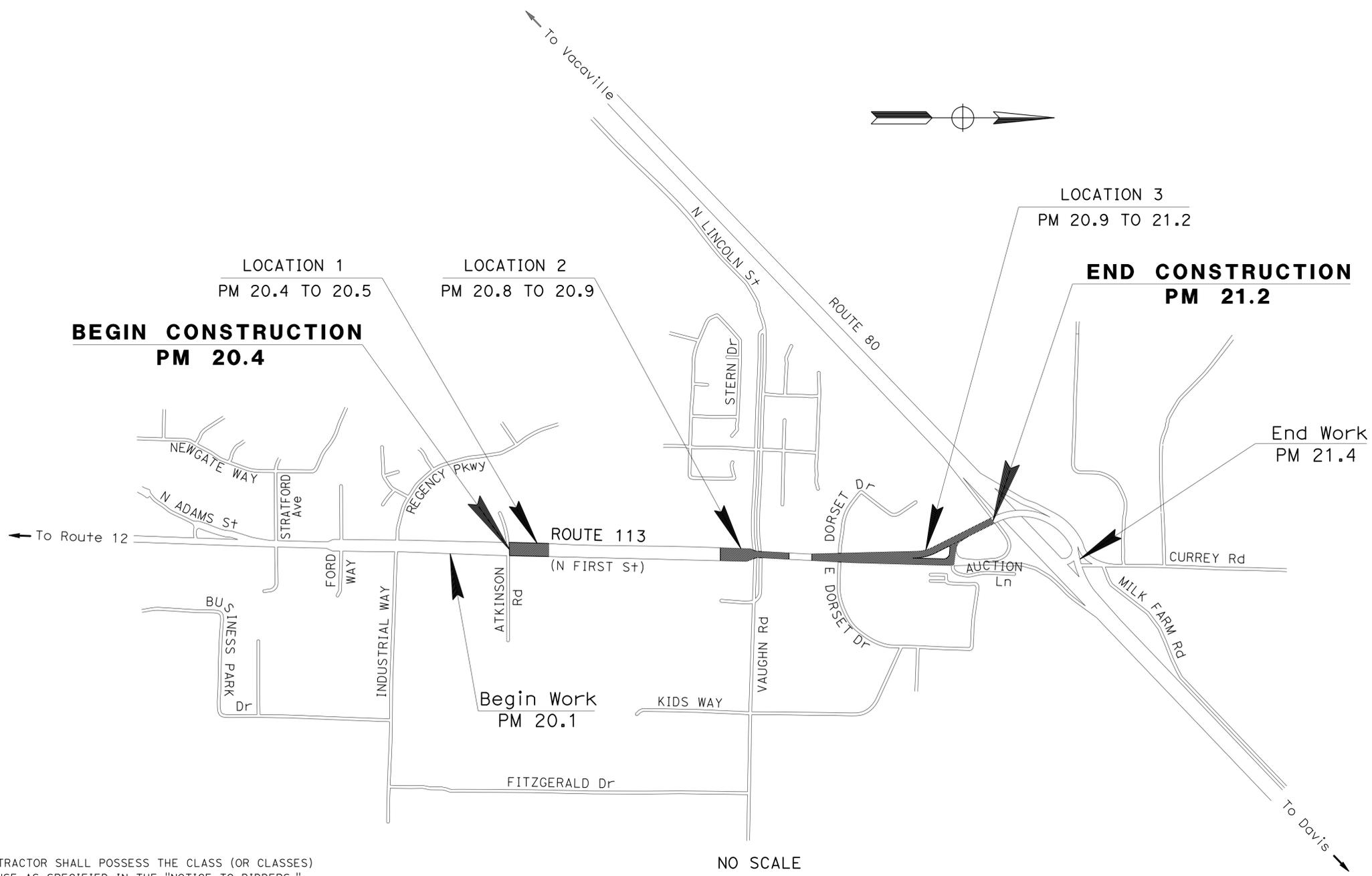
TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Sol	113	20.4/21.2	1	42





LOCATION MAP



LOCATION 1  
PM 20.4 TO 20.5  
**BEGIN CONSTRUCTION**  
PM 20.4

LOCATION 2  
PM 20.8 TO 20.9

LOCATION 3  
PM 20.9 TO 21.2

**END CONSTRUCTION**  
PM 21.2

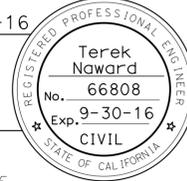
End Work  
PM 21.4

Begin Work  
PM 20.1

*Terek Naward* 1-19-16  
PROJECT ENGINEER DATE  
REGISTERED CIVIL ENGINEER

March 14, 2016  
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>04-3J6804</b>
PROJECT ID	<b>0415000327</b>

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

NO SCALE

x  
x  
x  
x  
x  
x  
x  
x  
x

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

FUNCTIONAL SUPERVISOR  
 RONNIE CHUA

CALCULATED/DESIGNED BY  
 CHECKED BY

TEREK NAWARD  
 RONNIE CHUA

REVISOR BY  
 DATE REVISED

TN  
 12-28-15

**NOTES:**

- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- DIMENSIONS OF THE STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
- EXISTING UTILITY FACILITIES ARE NOT PLOTTED ON THESE PLANS.

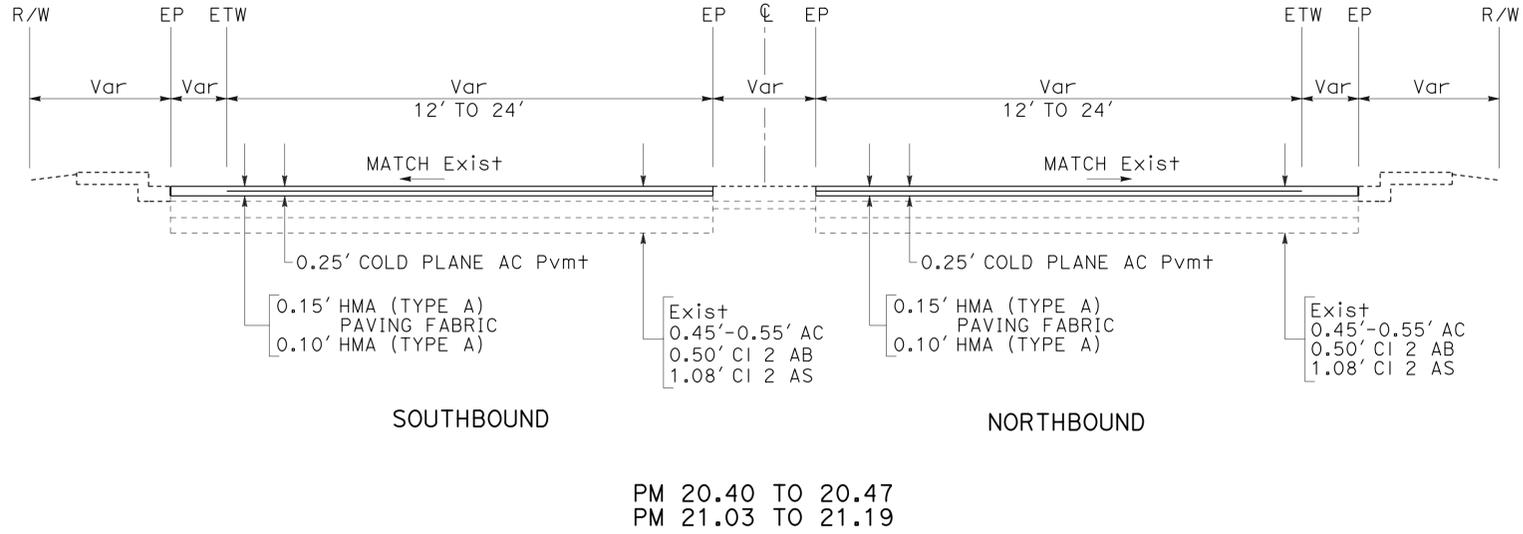
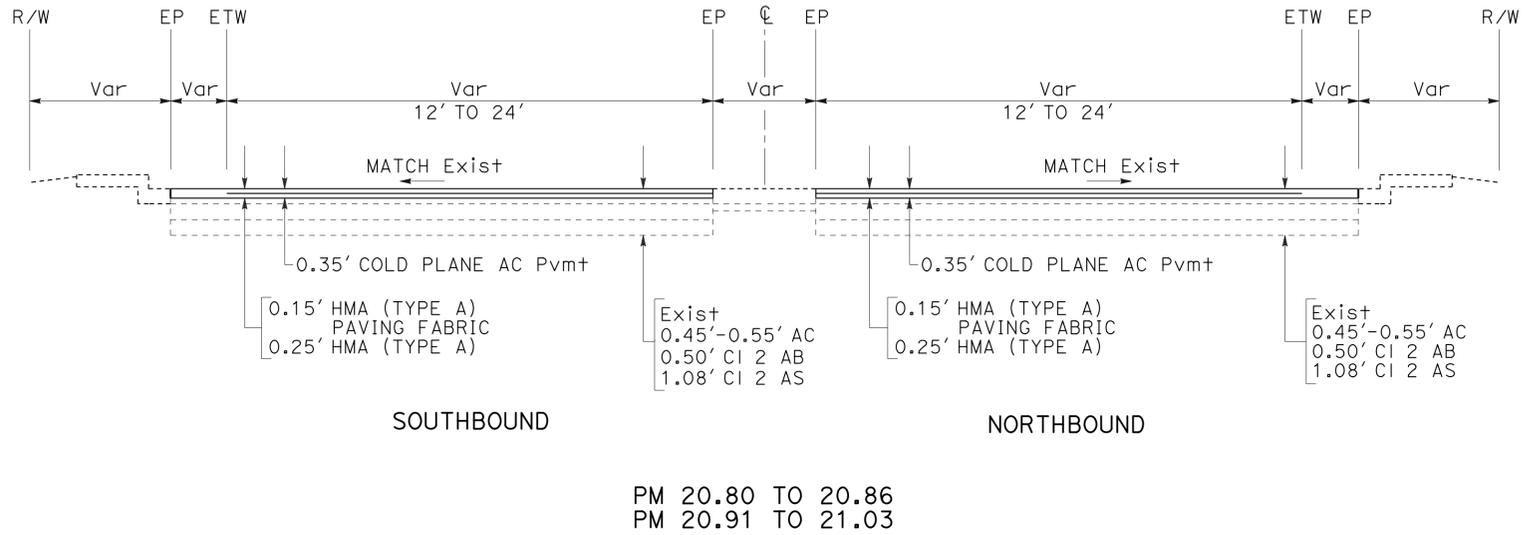
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SoI	113	20.4/21.2	2	42

1-19-16  
 REGISTERED CIVIL ENGINEER DATE

3-14-16  
 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  
 Terek Naward  
 No. 66808  
 Exp. 9-30-16  
 CIVIL  
 STATE OF CALIFORNIA



**ROUTE 113**

**TYPICAL CROSS SECTIONS**  
 NO SCALE

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

FUNCTIONAL SUPERVISOR  
 RONNIE CHUA

CALCULATED/DESIGNED BY  
 CHECKED BY

TEREK NAWARD  
 RONNIE CHUA

REVISOR BY  
 DATE REVISED

TN  
 12-28-15

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

**LEGEND:**

-  0.25' COLD PLANE AC PAVEMENT
-  0.25' HMA (TYPE A)
-  0.35' COLD PLANE AC PAVEMENT
-  0.35' HMA (TYPE A)

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SoI	113	20.4/21.2	3	42

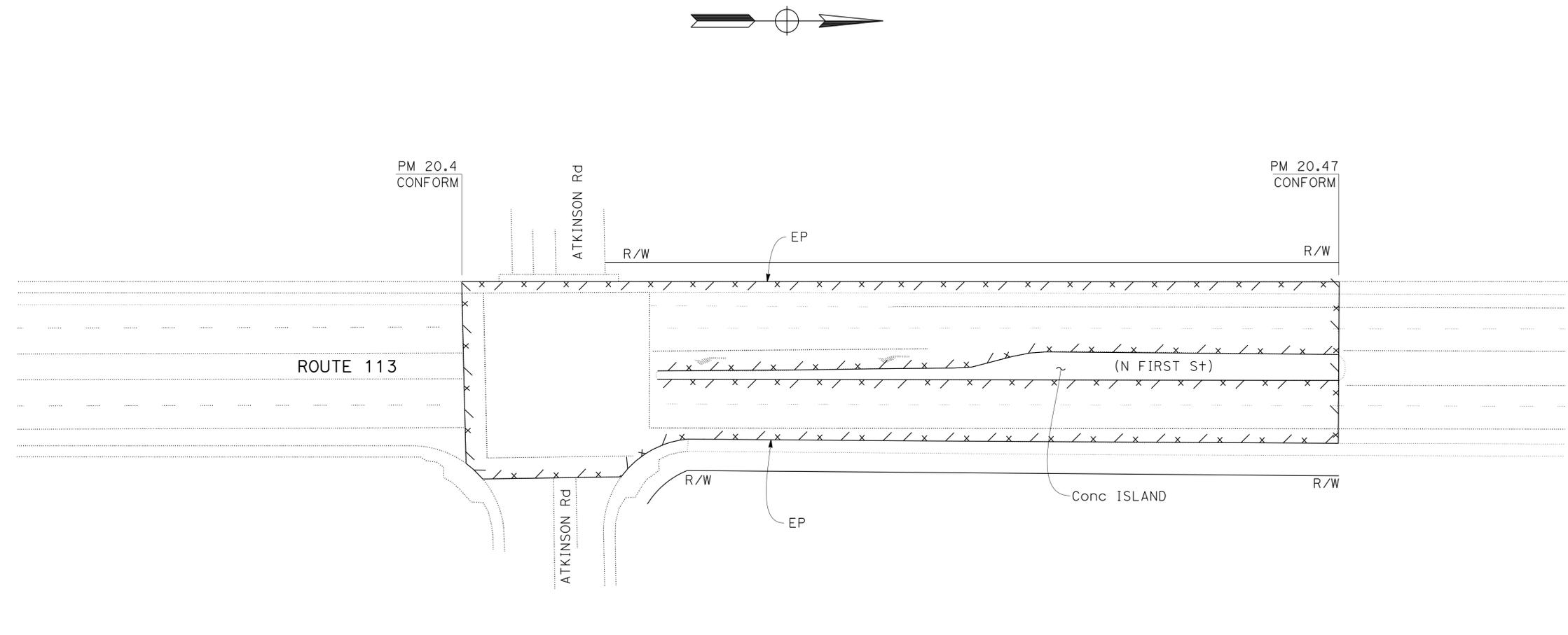
1-19-16  
 REGISTERED CIVIL ENGINEER DATE

3-14-16  
 PLANS APPROVAL DATE

Terek Naward  
 No. 66808  
 Exp. 9-30-16  
 CIVIL

REGISTERED PROFESSIONAL ENGINEER  
 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.



**LOCATION No. 1**

**LAYOUT**  
 SCALE: 1" = 50'

**L - 1**

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

FUNCTIONAL SUPERVISOR  
 RONNIE CHUA

CALCULATED-DESIGNED BY  
 CHECKED BY

TEREK NAWARD  
 RONNIE CHUA

REVISOR  
 DATE

TN  
 12-28-15

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

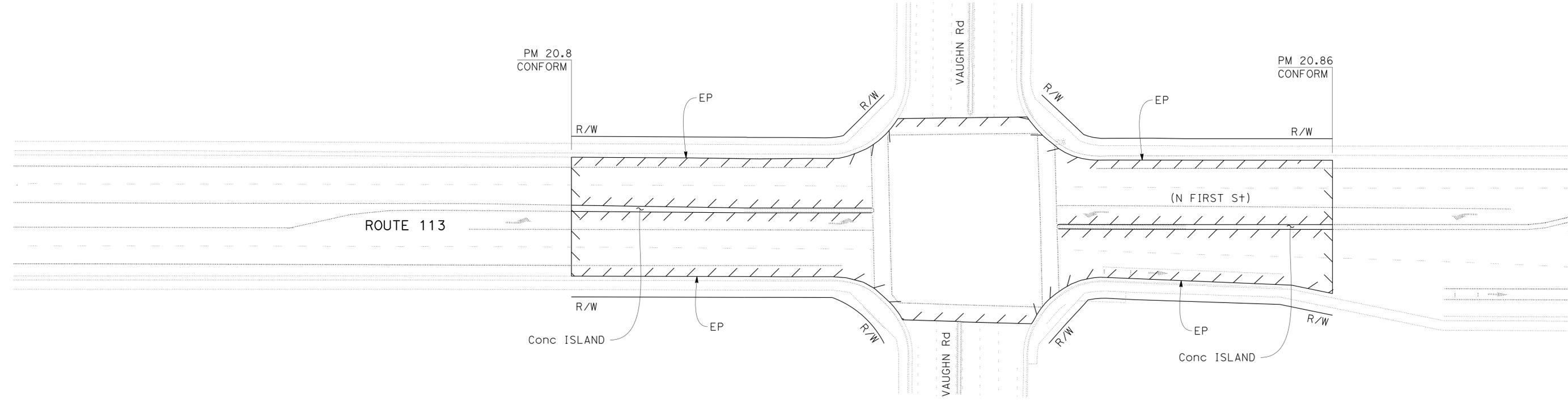
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SoI	113	20.4/21.2	4	42

1-19-16  
 REGISTERED CIVIL ENGINEER DATE

3-14-16  
 PLANS APPROVAL DATE

TEREK NAWARD  
 No. 66808  
 Exp. 9-30-16  
 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.



**LOCATION No. 2**

FOR LEGEND, SEE SHEET L-1

**LAYOUT**  
 SCALE: 1" = 50'

**L-2**

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

FUNCTIONAL SUPERVISOR  
 RONNIE CHUA

CALCULATED-DESIGNED BY  
 CHECKED BY

TEREK NAWARD  
 RONNIE CHUA

REVISED BY  
 DATE REVISED

TN  
 12-28-15

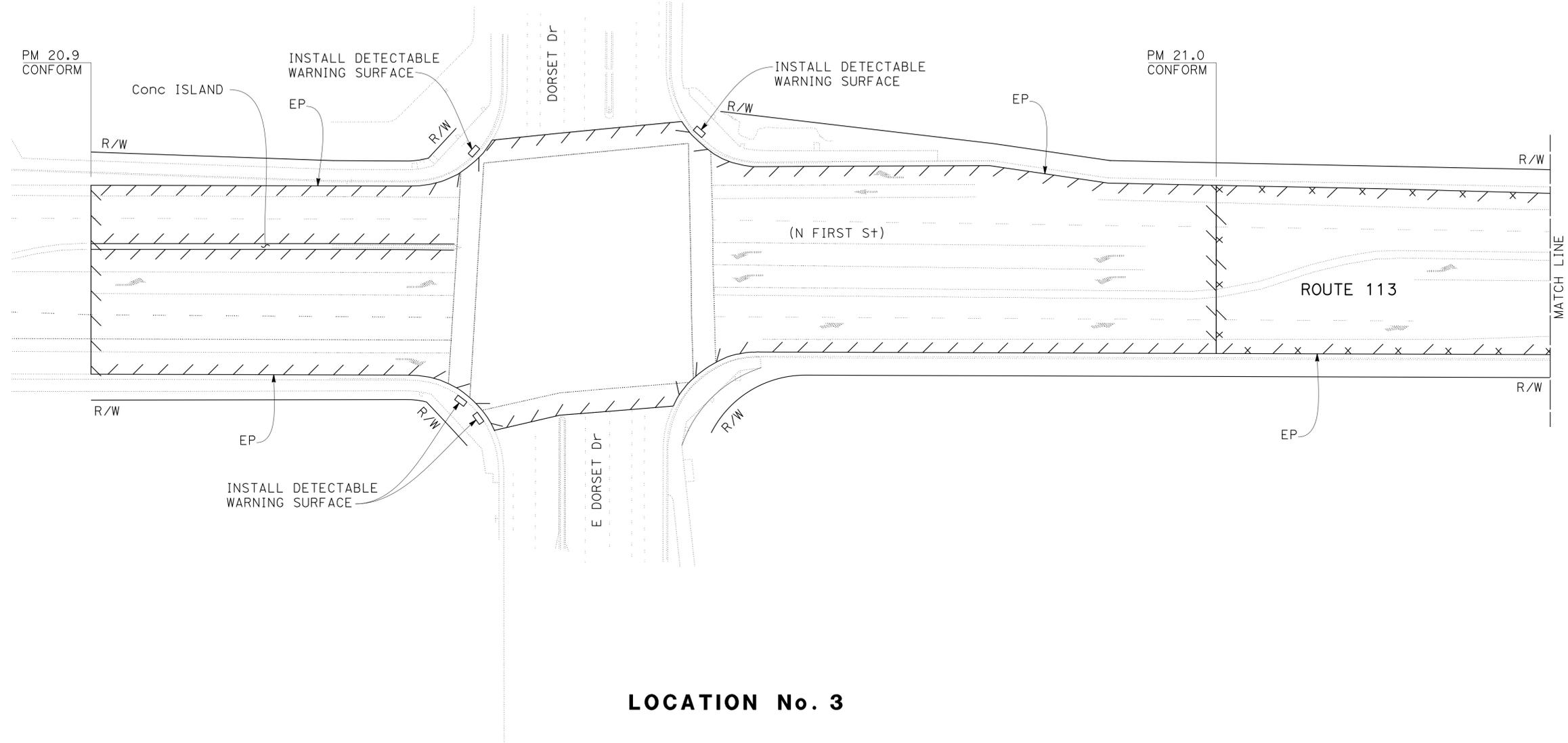
**NOTE:**  
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT  
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SoI	113	20.4/21.2	5	42

1-19-16  
 REGISTERED CIVIL ENGINEER DATE  
 3-14-16  
 PLANS APPROVAL DATE

Terek Naward  
 No. 66808  
 Exp. 9-30-16  
 CIVIL  
 STATE OF CALIFORNIA

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**LOCATION No. 3**

FOR LEGEND, SEE SHEET L-1

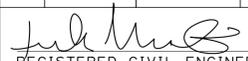
**LAYOUT**  
 SCALE: 1" = 50'

**L-3**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	TEREK NAWARD	REVISOR	TN
	DESIGN	RONNIE CHUA	DATE	12-28-15
Caltrans	CHECKED BY	RONNIE CHUA	DESIGNED BY	
	DESIGNED BY		CHECKED BY	

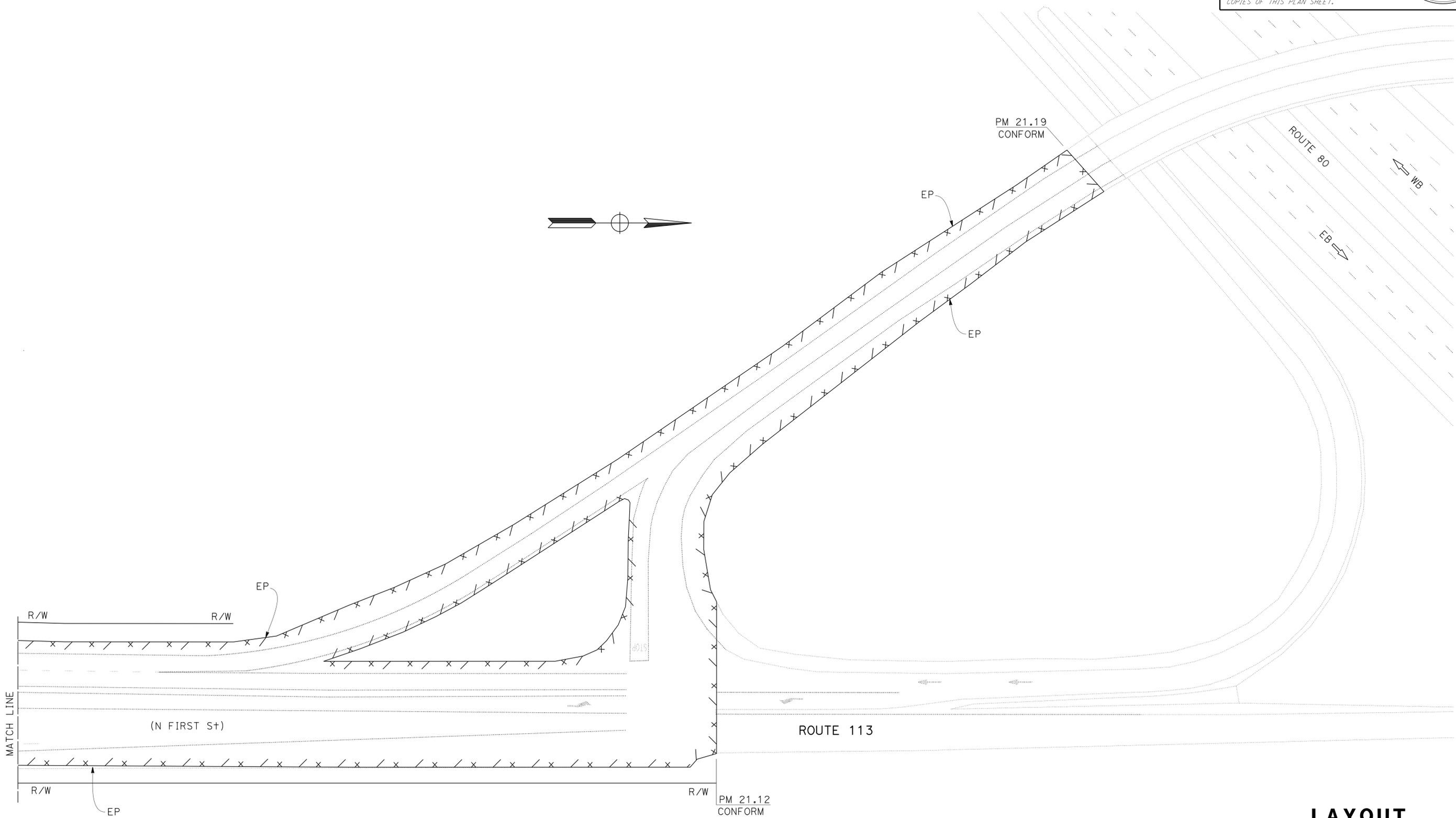
**NOTE:**  
FOR ACCURATE RIGHT OF WAY DATA, CONTACT  
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SoI	113	20.4/21.2	6	42

 1-19-16  
 REGISTERED CIVIL ENGINEER DATE  
 3-14-16  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 Terek Naward  
 No. 66808  
 Exp. 9-30-16  
 CIVIL  
 STATE OF CALIFORNIA

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**LOCATION No. 3**

FOR LEGEND, SEE SHEET L-1

**LAYOUT**  
SCALE: 1" = 50'

**L-4**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** WATER QUALITY

BORDER LAST REVISED 7/2/2010

USERNAME => s136183  
 DGN FILE => 0415000327gd001.dgn

RELATIVE BORDER SCALE  
 IS IN INCHES



UNIT 0609

PROJECT NUMBER & PHASE 04150003271

### TEMPORARY DRAINAGE INLET PROTECTION

LOCATION PM	DIRECTION	EA
20.4 TO 20.47	SB/NB	2
20.8 TO 20.86		4
20.91 TO 21.19		5
TOTAL		11

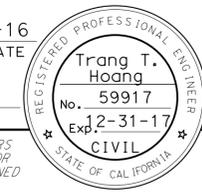
## TEMPORARY WATER POLLUTION CONTROL QUANTITIES WPCQ-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SoI	113	20.4/21.2	7	42

*Trang Hoang* 3-8-16  
 REGISTERED CIVIL ENGINEER DATE

3-14-16  
 PLANS APPROVAL DATE

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



x  
x  
x  
x  
x  
x  
x

TH  
3-6-16

REVISOR  
DATE

TRANG HOANG  
KAMRAN NAKHJURI

CALCULATED-  
DESIGNED BY  
CHECKED BY

FUNCTIONAL SUPERVISOR  
KAMRAN NAKHJURI

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	DESIGNED BY	REVISOR	DATE
<b>Caltrans</b>	ROLAND AU-YEUNG	CHECKED BY	STEPHEN LAU	12-28-15
<b>TRAFFIC</b>			RAJESH OBEROI	

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Soi	113	20.4/21.2	8	42

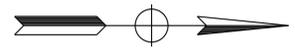
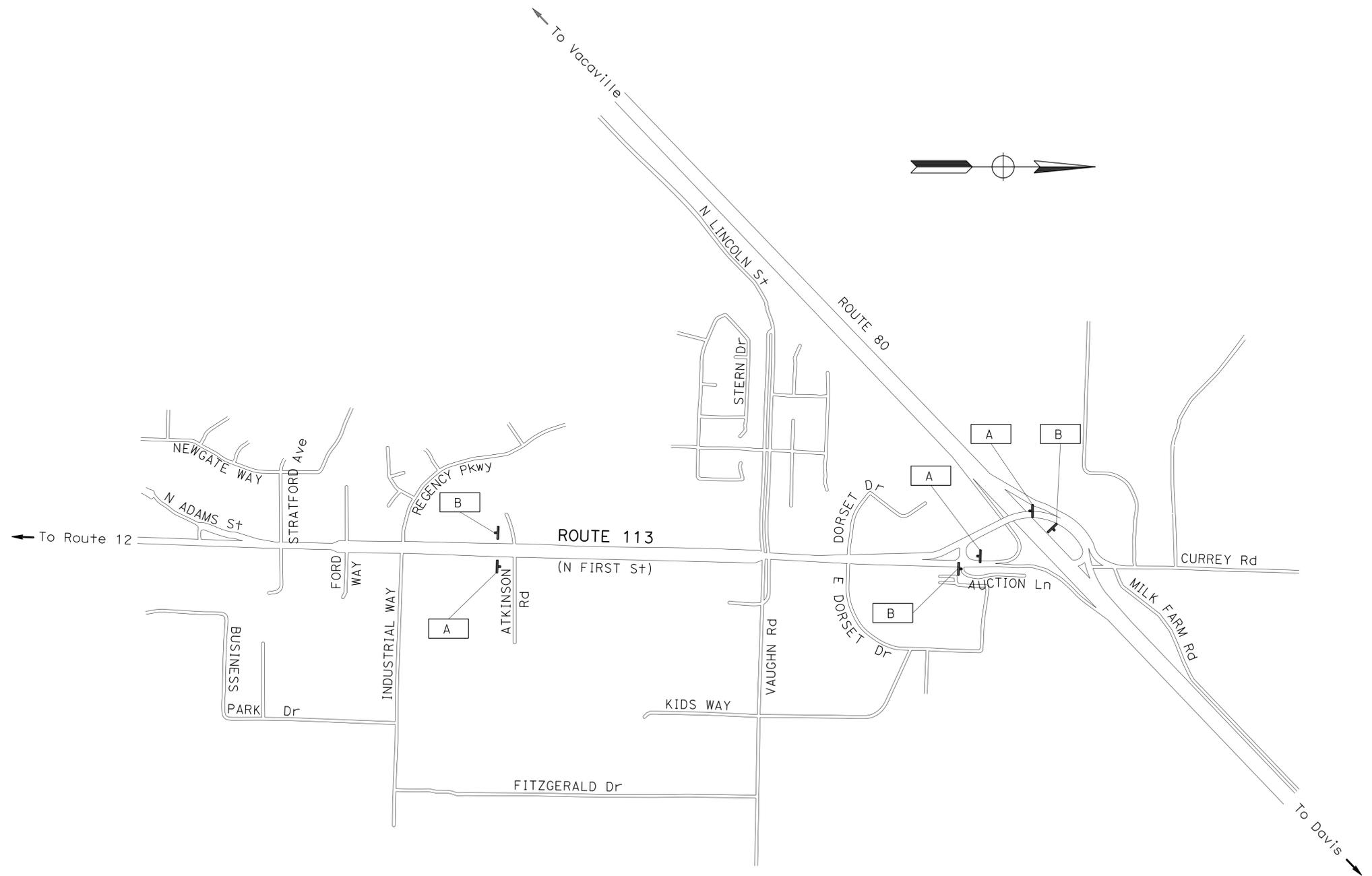
REGISTERED CIVIL ENGINEER: *Rajesh Oberoi* 3-14-16  
 DATE: 3-14-16  
 PLANS APPROVAL DATE: 3-14-16

REGISTERED PROFESSIONAL ENGINEER  
 No. 46046  
 Exp. 2-31-16  
 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.

**NOTE:**  
 1. EXACT LOCATION AND POSITION OF CONSTRUCTION AREA SIGNS TO BE DETERMINED BY THE ENGINEER.

**LEGEND:**  
 [ ] CONSTRUCTION AREA SIGN LETTER  
 X RAMP CLOSED



**CONSTRUCTION AREA SIGNS**  
 NO SCALE

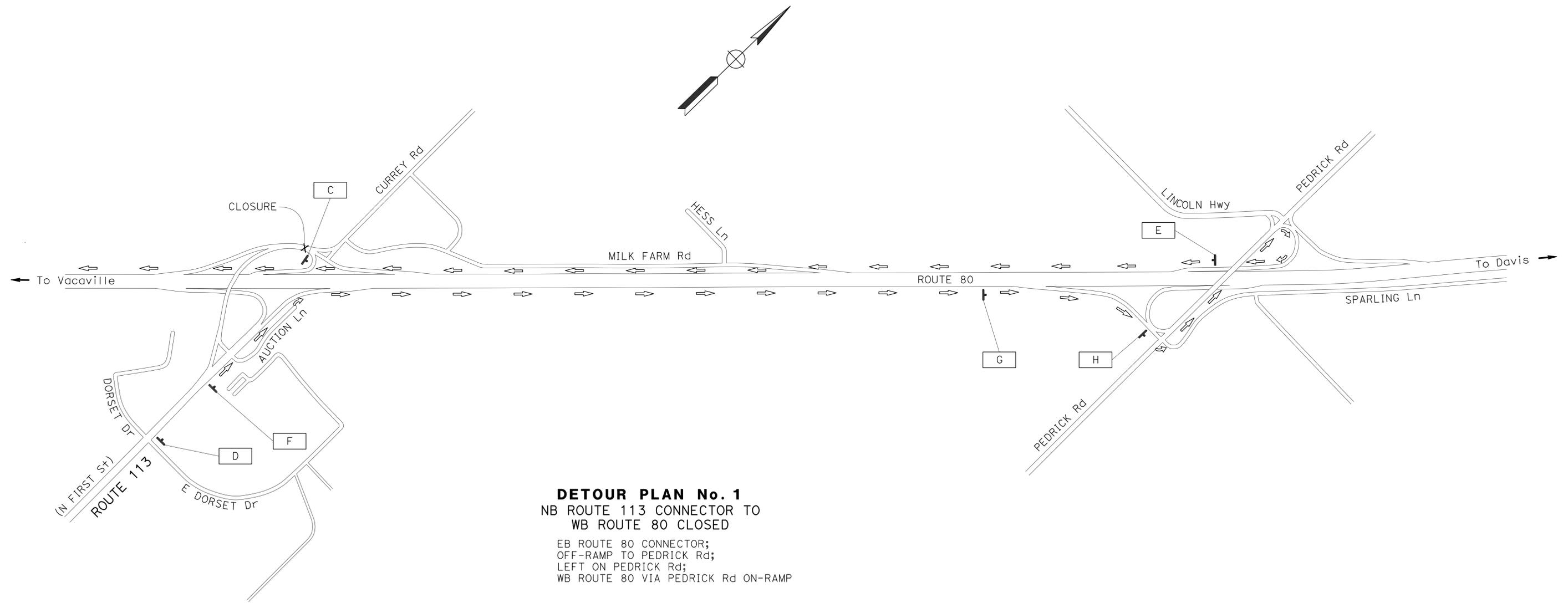
APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

**CS-1**

LAST REVISION | DATE PLOTTED => 23-MAR-2016  
 03-08-16 | TIME PLOTTED => 1:3:28

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION <b>Caltrans</b>	FUNCTIONAL SUPERVISOR	ROLAND AU-YEUNG
	CALCULATED/DESIGNED BY	CHECKED BY
STEPHEN LAU	REVISOR	RAJESH OBEROI
SL	DATE	12-28-15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SoI	113	20.4/21.2	9	42
Rajesh Oberoi			3-14-16	REGISTERED CIVIL ENGINEER DATE	
3-14-16			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>					



**DETOUR PLAN No. 1**  
 NB ROUTE 113 CONNECTOR TO  
 WB ROUTE 80 CLOSED

EB ROUTE 80 CONNECTOR;  
 OFF-RAMP TO PEDRICK Rd;  
 LEFT ON PEDRICK Rd;  
 WB ROUTE 80 VIA PEDRICK Rd ON-RAMP

FOR NOTE AND LEGEND,  
 SEE SHEET CS-1

**CONSTRUCTION AREA SIGNS**

NO SCALE

**CS-2**

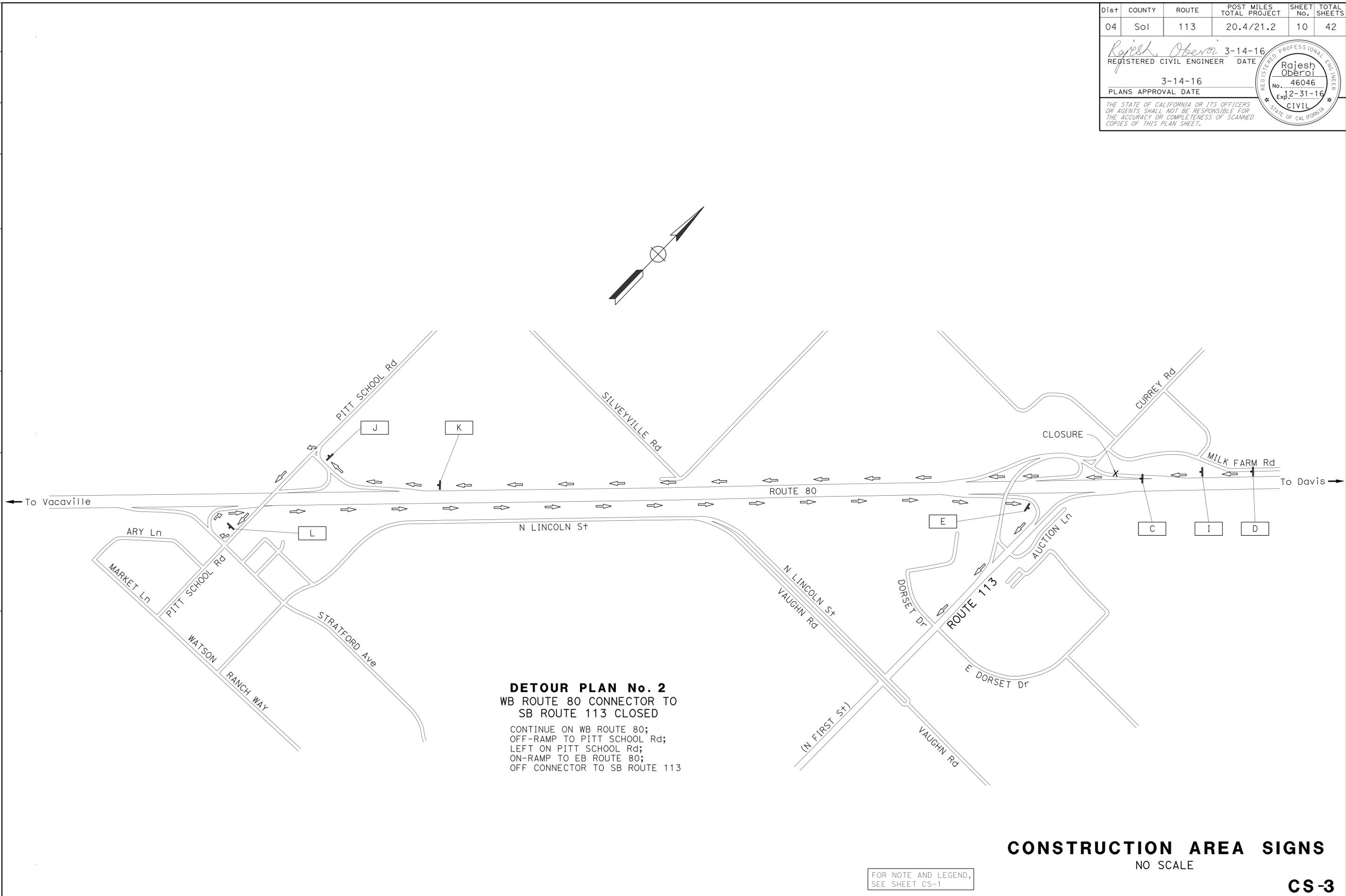
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SoI	113	20.4/21.2	10	42

*Rajesh Oberoi* 3-14-16  
 REGISTERED CIVIL ENGINEER DATE  
 3-14-16  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 Rajesh Oberoi  
 No. 46046  
 Exp. 2-31-16  
 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.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	DESIGNED BY	REVISOR	DATE
<b>Caltrans</b>	ROLAND AU-YEUNG	STEPHEN LAU	SL	12-28-15
TRAFFIC	CHECKED BY	RAJESH OBEROI		



**CONSTRUCTION AREA SIGNS**  
NO SCALE

FOR NOTE AND LEGEND,  
SEE SHEET CS-1

**CS-3**

LAST REVISION DATE PLOTTED => 23-MAR-2016  
 03-08-16 TIME PLOTTED => 1:3:29

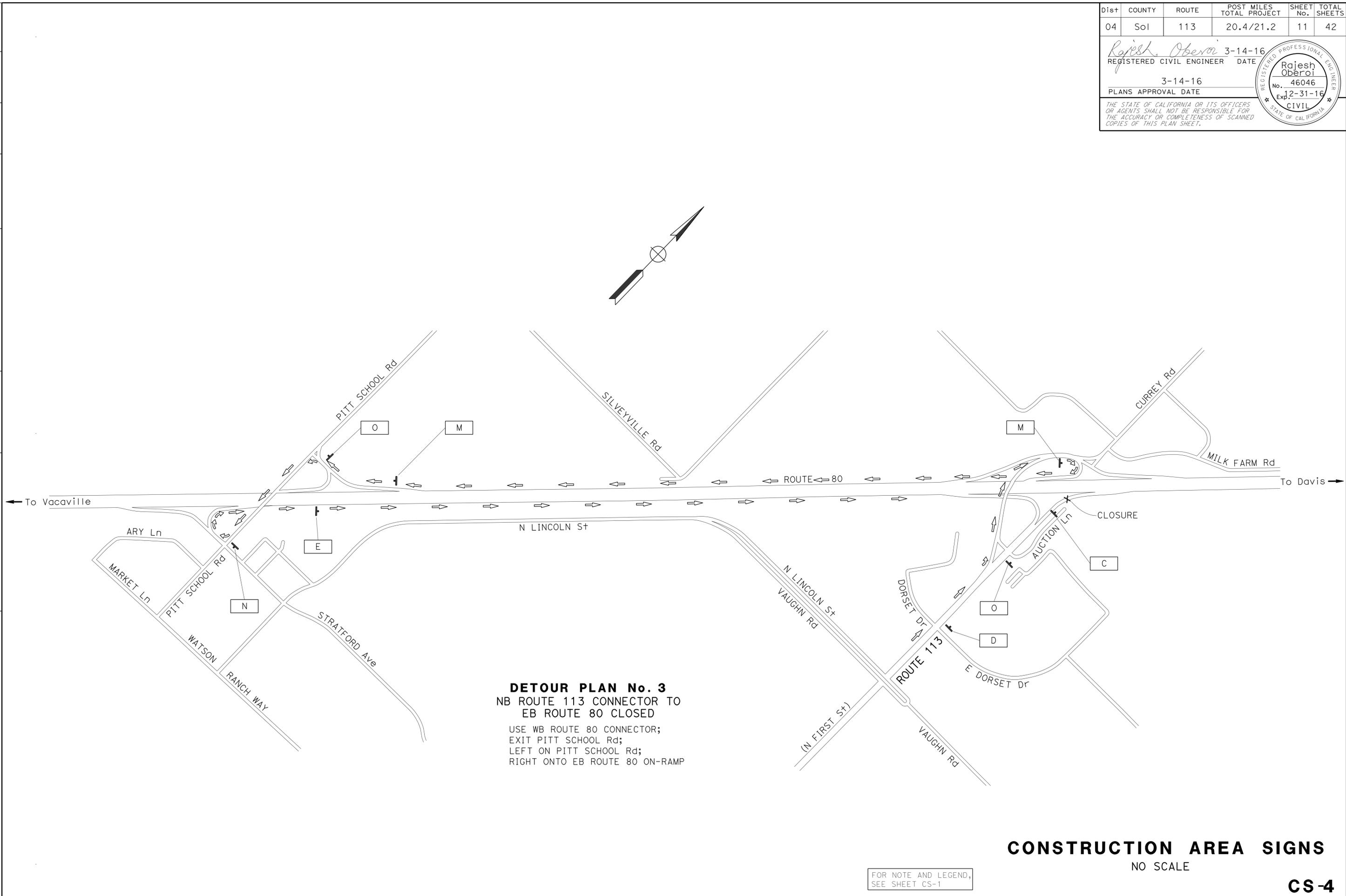
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SoI	113	20.4/21.2	11	42

*Rajesh Oberoi* 3-14-16  
 REGISTERED CIVIL ENGINEER DATE  
 3-14-16  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 Rajesh Oberoi  
 No. 46046  
 Exp. 2-31-16  
 CIVIL  
 STATE OF CALIFORNIA

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	REVISOR	DATE
<b>Caltrans</b>	ROLAND AU-YEUNG	STEPHEN LAU	12-28-15
TRAFFIC		RAJESH OBEROI	
		CALCULATED-DESIGNED BY	CHECKED BY



**CONSTRUCTION AREA SIGNS**  
NO SCALE

FOR NOTE AND LEGEND,  
SEE SHEET CS-1

**CS-4**

LAST REVISION DATE PLOTTED => 23-MAR-2016 13:29  
 01-13-16 TIME PLOTTED => 13:29

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SoI	113	20.4/21.2	12	42

*Rajesh Oberoi* 3-14-16  
REGISTERED CIVIL ENGINEER DATE

3-14-16  
PLANS APPROVAL DATE

**Rajesh Oberoi**  
No. 46046  
Exp. 2-31-16  
CIVIL  
STATE OF CALIFORNIA

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### STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN LETTER	SIGN CODE		SIGN MESSAGE	PANEL SIZE	NUMBER OF POSTS AND SIZE	No. OF SIGNS
	FEDERAL	CALIFORNIA				
A	W20-1		ROAD WORK AHEAD	48" x 48"	1 - 4" x 6"	3
B	G20-2		END ROAD WORK	48" x 24"	1 - 4" x 4"	3
C		SC6-4	RAMP CLOSED	48" x 60"	1 - 6" x 6"	3
D	W20-2		DETOUR AHEAD	48" x 48"	1 - 6" x 6"	3
E	M4-8A		END DETOUR	24" x 18"	1 - 4" x 4"	3
F	M4-8		DETOUR	24" x 12"	1 - 4" x 6"	1
		G27-2(80)	ROUTE SHIELD 80	21" x 18"		
	M3-4		WEST	24" x 12"		
G	M6-3(↑)		UP ARROW	21" x 15"	1 - 4" x 6"	1
	M4-8		DETOUR	24" x 12"		
		G27-2(80)	ROUTE SHIELD 80	21" x 18"		
H	M3-4		WEST	24" x 12"	1 - 4" x 6"	1
	M6-2(↘)		DIAGONAL ARROW	21" x 15"		
	M4-11(L+)		DETOUR (LEFT)	48" x 18"		
I		G27-2(80)	ROUTE SHIELD 80	21" x 18"	1 - 4" x 6"	1
	M4-8		DETOUR	24" x 12"		
		G28-2(113)	ROUTE SHIELD 113	21" x 18"		
J	M3-3		SOUTH	24" x 12"	1 - 4" x 6"	1
	M6-3(↑)		UP ARROW	21" x 15"		
	M4-8(L+)		DETOUR (LEFT)	48" x 18"		
K		G28-2(113)	ROUTE SHIELD 113	21" x 18"	1 - 4" x 6"	1
	M4-8		DETOUR	24" x 12"		
	M3-3		SOUTH	24" x 12"		
L	M6-2(↘)		DIAGONAL ARROW	21" x 15"	1 - 4" x 6"	1
	M4-8(R+)		DETOUR (RIGHT)	48" x 18"		
		G28-2(113)	ROUTE SHIELD 113	21" x 18"		
	M3-3		SOUTH	24" x 12"		

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

FUNCTIONAL SUPERVISOR: ROLAND AU-YEUNG

CALCULATED/DESIGNED BY: STEPHEN LAU  
CHECKED BY: RAJESH OBEROI

REVISOR: SL  
DATE: 12-28-15

### CONSTRUCTION AREA SIGNS

CS - 5

LAST REVISION DATE PLOTTED => 23-MAR-2016 10-06-15 TIME PLOTTED => 13:29

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SoI	113	20.4/21.2	13	42

Rajesh Oberoi 3-14-16  
REGISTERED CIVIL ENGINEER DATE

3-14-16  
PLANS APPROVAL DATE

**Rajesh Oberoi**  
No. 46046  
Exp. 2-31-16  
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.

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

FUNCTIONAL SUPERVISOR  
ROLAND AU-YEUNG

CALCULATED/DESIGNED BY  
CHECKED BY

STEPHEN LAU  
RAJESH OBEROI

REVISOR BY  
DATE REVISED

SL  
12-28-15

**STATIONARY MOUNTED CONSTRUCTION AREA SIGNS**

SIGN LETTER	SIGN CODE		SIGN MESSAGE	PANEL SIZE	NUMBER OF POSTS AND SIZE	No. OF SIGNS
	FEDERAL	CALIFORNIA				
M	M4-8		DETOUR	24" x 12"	1 - 4" x 6"	2
		G27-2(80)	ROUTE SHIELD 80	21" x 18"		
	M3-2		EAST	24" x 12"		
	M6-2(↗)		DIAGONAL ARROW	21" x 15"		
N	M4-10(R+)		DETOUR (RIGHT)	48" x 18"	1 - 4" x 6"	1
		G27-2(80)	ROUTE SHIELD 80	21" x 18"		
	M3-2		EAST	24" x 12"		
O	M4-10 (L+)		DETOUR (LEFT)	48" x 18"	1 - 4" x 6"	2
		G27-2(80)	ROUTE SHIELD 80	21" x 18"		
	M3-2		EAST	24" x 12"		

**CONSTRUCTION AREA SIGNS**

**CS - 6**



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	TEREK NAWARD	TN
<b>Caltrans</b>	RONNIE CHUA	12-28-15
DESIGN	RONNIE CHUA	
FUNCTIONAL SUPERVISOR	CHECKED BY	
RONNIE CHUA	RONNIE CHUA	
DESIGNED BY	REVISOR	
	DATE	

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

**NOTE:**  
1. ALL EXISTING PAVEMENT DELINEATION REMOVED SHALL BE REPLACED  
AT THE SAME LOCATION AS THE EXISTING.

**LEGEND:**

↔ CHANGE OF PAVEMENT DELINEATION DETAILS

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SoI	113	20.4/21.2	14	42

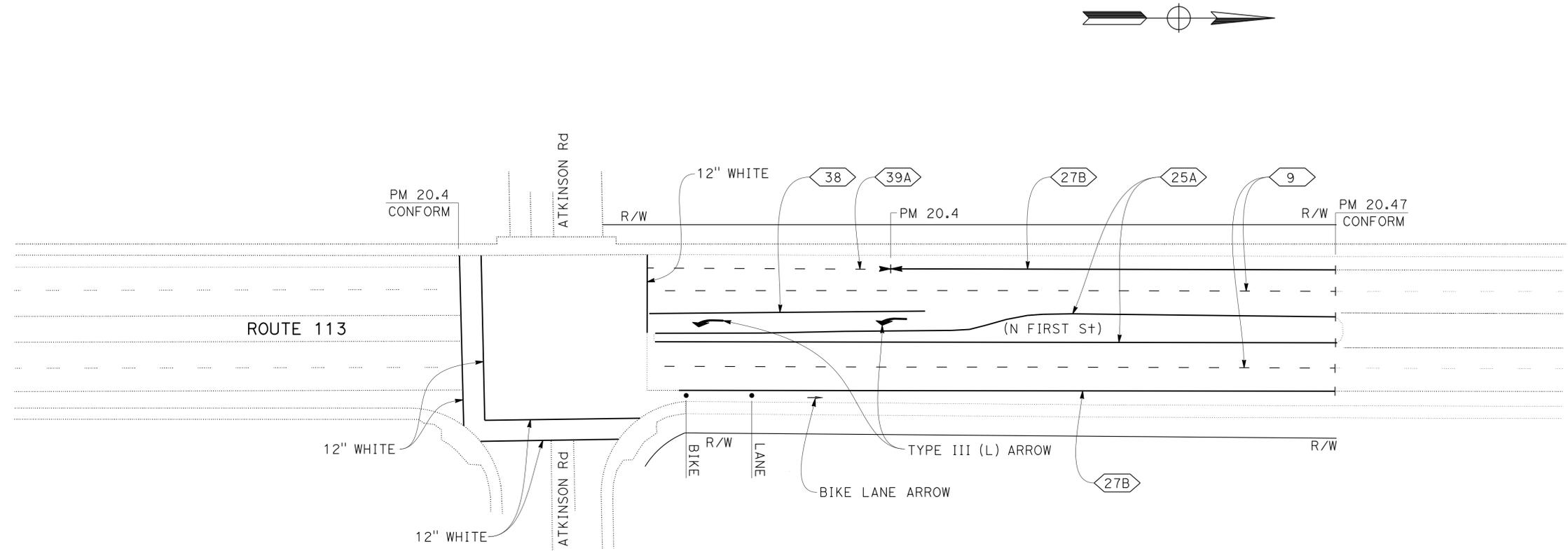
1-19-16  
REGISTERED CIVIL ENGINEER DATE

3-14-16  
PLANS APPROVAL DATE

Terek Naward  
No. 66808  
Exp. 9-30-16  
CIVIL

REGISTERED PROFESSIONAL ENGINEER  
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.



**PAVEMENT DELINEATION PLAN**  
SCALE: 1" = 50'

APPROVED FOR PAVEMENT DELINEATION WORK ONLY

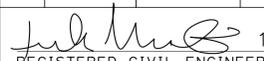
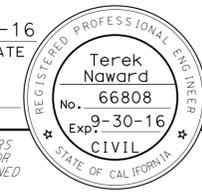
**PD - 1**

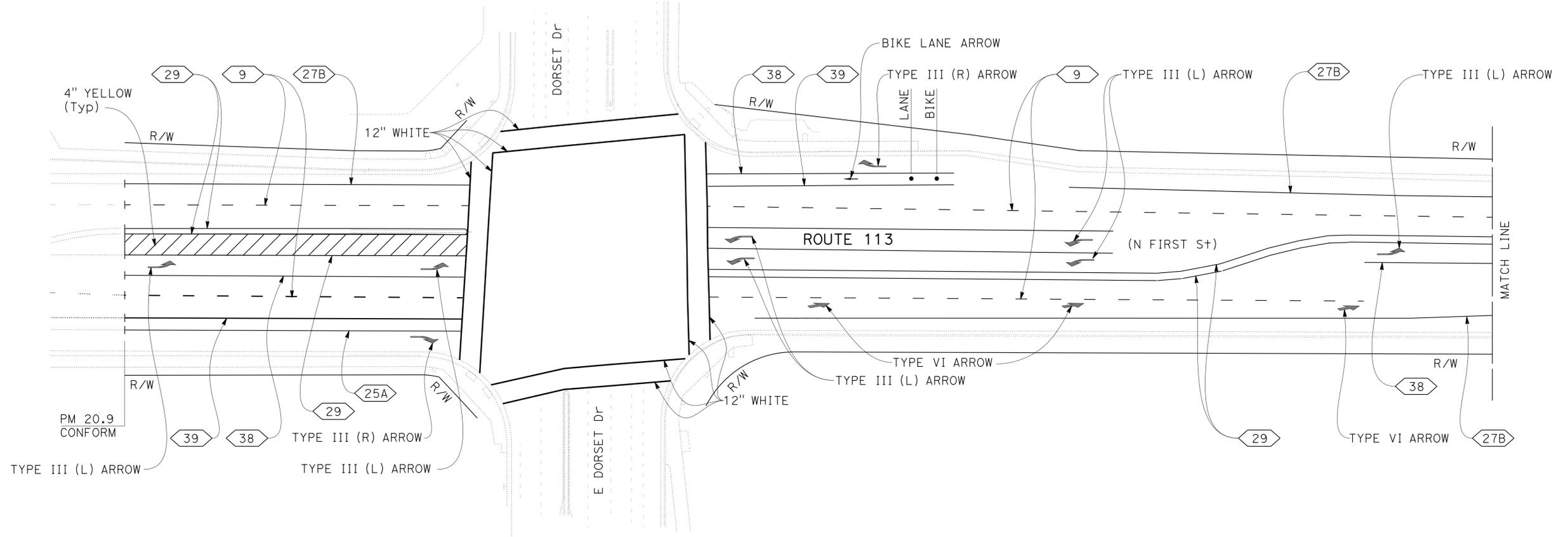


STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 DESIGN

FUNCTIONAL SUPERVISOR	RONNIE CHUA
CALCULATED/DESIGNED BY	CHECKED BY
TEREK NAWARD	RONNIE CHUA
REVISOR	DATE
TN	12-28-15

**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
04	SoI	113	20.4/21.2	16	42
 REGISTERED CIVIL ENGINEER			1-19-16	DATE	
PLANS APPROVAL DATE			3-14-16		
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.					
					



**PAVEMENT DELINEATION PLAN**  
 SCALE: 1" = 50'

APPROVED FOR PAVEMENT DELINEATION WORK ONLY

FOR NOTE AND LEGEND,  
 SEE SHEET PD-1

**PD-3**

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

FUNCTIONAL SUPERVISOR: RONNIE CHUA  
 TEREK NAWARD  
 RONNIE CHUA  
 TN  
 12-28-15

REVISOR: TEREK NAWARD  
 DATE: 12-28-15

CALCULATED/DESIGNED BY: TEREK NAWARD  
 CHECKED BY: RONNIE CHUA

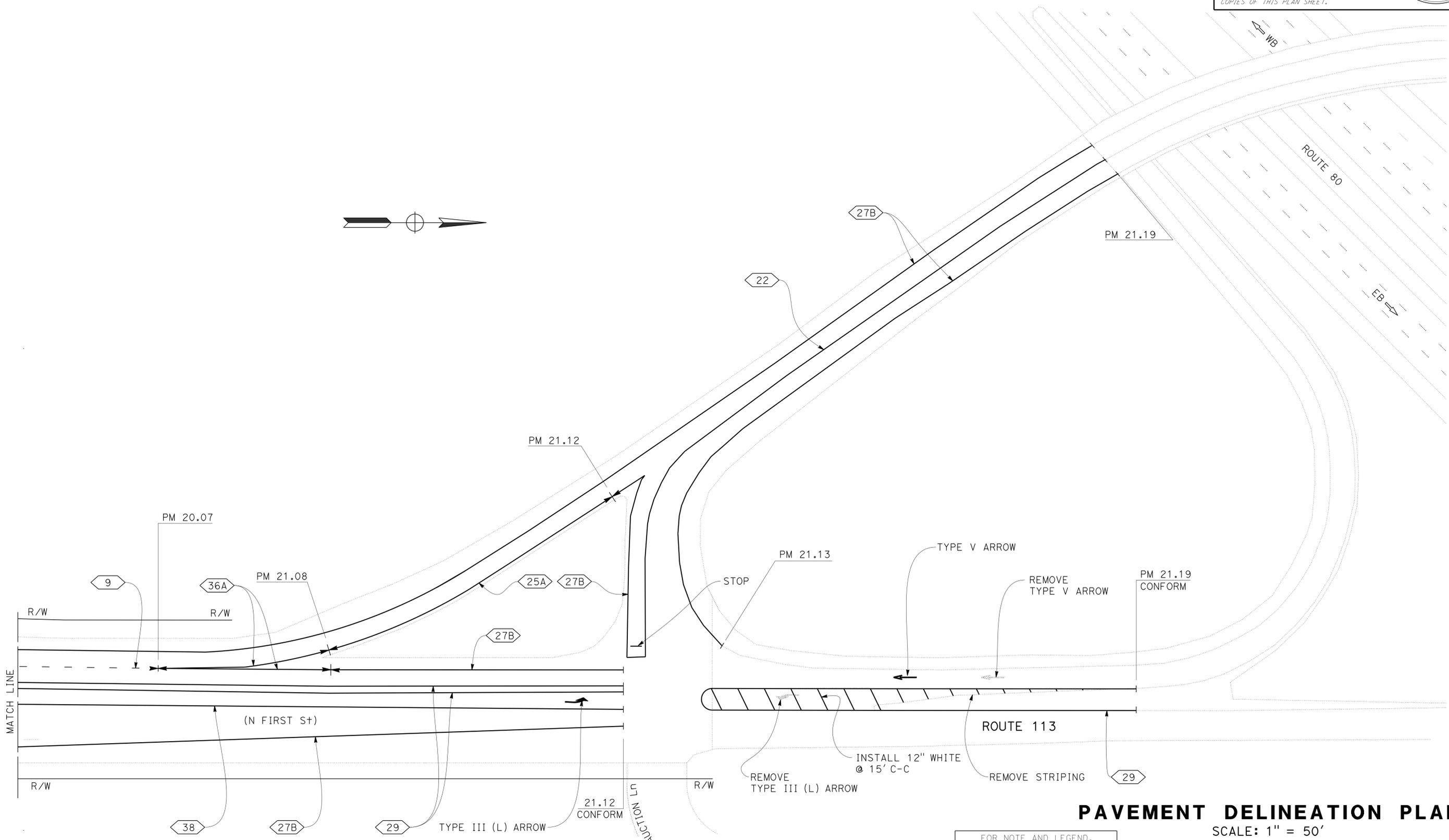
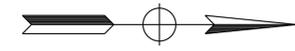
NOTE:  
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT  
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SoI	113	20.4/21.2	17	42

REGISTERED CIVIL ENGINEER: Terek Naward  
 No. 66808  
 Exp. 9-30-16  
 CIVIL

DATE: 1-19-16  
 PLANS APPROVAL DATE: 3-14-16

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.



**PAVEMENT DELINEATION PLAN**  
 SCALE: 1" = 50'

FOR NOTE AND LEGEND, SEE SHEET PD-1

APPROVED FOR PAVEMENT DELINEATION WORK ONLY

PD-4

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SoI	113	20.4/21.2	18	42

 1-19-16  
 REGISTERED CIVIL ENGINEER DATE  
 3-14-16  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 Terek Naward  
 No. 66808  
 Exp. 9-30-16  
 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.

### TRAFFIC STRIPES, PAVEMENT MARKINGS AND PAVEMENT MARKERS

SHEET No.	LOCATION PM	DETAIL No. OR PAVEMENT MARKING	THERMOPLASTIC TRAFFIC STRIPE				PAVEMENT MARKER			THERMOPLASTIC PAVEMENT MARKING			REMOVE YELLOW THERMOPLASTIC TRAFFIC STRIPE (HAZARDOUS WASTE)	REMOVE THERMOPLASTIC PAVEMENT MARKING
			4" WHITE	4" YELLOW	8" WHITE	4" WHITE (BROKEN 17-7)	RETROREFLECTIVE			ARROWS	WORDS	CROSSWALK		
							TYPE D	TYPE G	TYPE H					
			LF				EA			SQFT				
PD-1	PM 20.4 TO 20.47	9			580		13							
		25A		520					23					
		27B	438											
		38			156		7							
		39A	90											
		12" WHITE										352		
		PAVEMENT MARKING							91	11				
PD-2	PM 20.8 TO 20.86	9			824		18							
		27B	572											
		29		1648		70								
		38			412		18							
		39	112											
		4" YELLOW		260										
		12" WHITE									750			
		PAVEMENT MARKING							91	11				
PD-3 TO PD-4	PM 20.9 TO 21.19	9			1350		30							
		22		966		83								
		25A		510				22					510	
		27B	2589											
		29		4140		98								
		36A			152		3							
		38			867		37							
		38A			367									
		39	350											
		4" YELLOW		350										
		12" WHITE										890		
		PAVEMENT MARKING							594	67			75	
SUBTOTAL			4151	8394	1954	2754	251	126	45	776	89	1992	510	75
TOTAL			12545		1954	2754	422			2857			510	75

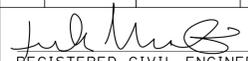
## PAVEMENT DELINEATION QUANTITIES

### PDQ-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  


FUNCTIONAL SUPERVISOR	RONNIE CHUA
CALCULATED/DESIGNED BY	CHECKED BY
TEREK NAWARD	RONNIE CHUA
REVISED BY	DATE REVISED
TN	12-28-15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SoI	113	20.4/21.2	19	42

 1-19-16  
 REGISTERED CIVIL ENGINEER DATE  
 3-14-16  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
**Terek Naward**  
 No. 66808  
 Exp. 9-30-16  
 CIVIL  
 STATE OF CALIFORNIA

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### PAVEMENT STRUCTURE QUANTITIES SUMMARY

SHEET No.	LOCATION PM	DIRECTION	(N)	(N)	(N)	GEOSYNTHETIC PAVEMENT INTERLAYER (PAVING FABRIC)	COLD PLANE ASPHALT CONCRETE PAVEMENT (Max 0.25')	COLD PLANE ASPHALT CONCRETE PAVEMENT (Max 0.35')	HOT MIX ASPHALT (TYPE A)	TACK COAT
			WIDTH	LENGTH	DEPTH					
			LF			SQYD		TON		
L-1	20.44 TO 20.47	SB	40	195	0.25	778	944		167	0.36
L-1	20.44 TO 20.47	NB	32	195	0.25	532	693		123	0.26
L-2	20.80 TO 20.86	SB/NB (VAUGHN Rd)	75	350	0.35	3211		3577	806	1.29
L-3	20.93 TO 21.03	SB/NB (DORSET Dr)	102	584	0.35	5977		7166	1761	2.71
L-3 AND L-4	21.03 TO 21.20	SB/NB	87	653	0.25	3995	5966		1057	2.26
L-4	21.09 TO 21.20	CONNECTOR	27	660	0.25		3444		581	1.30
<b>SUBTOTAL</b>						14493	11047	10743	4495	8.18
<b>TOTAL</b>						14493	21790		4495	8.18

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

### CURB RAMP

LOCATION	DETECTABLE WARNING SURFACE
	SQFT
DORSET Dr	60
<b>TOTAL</b>	<b>60</b>

## SUMMARY OF QUANTITIES

**Q - 1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  


DESIGN

FUNCTIONAL SUPERVISOR  
 RONNIE CHUA

CALCULATED/DESIGNED BY  
 CHECKED BY

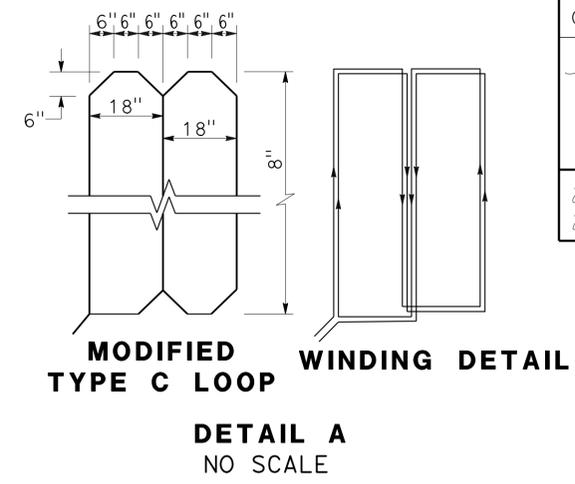
TEREK NAWARD  
 RONNIE CHUA

REVISED BY  
 DATE REVISED

TN  
 12-28-15



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SoI	113	20.4/21.2	20	42
<i>Elaine Wong</i> 3-14-16 REGISTERED ELECTRICAL ENGINEER DATE			Elaine T. Wong No. 13753 Exp. 6-30-17 ELECTRICAL STATE OF CALIFORNIA		
3-14-16			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>					



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

**LEGEND:**

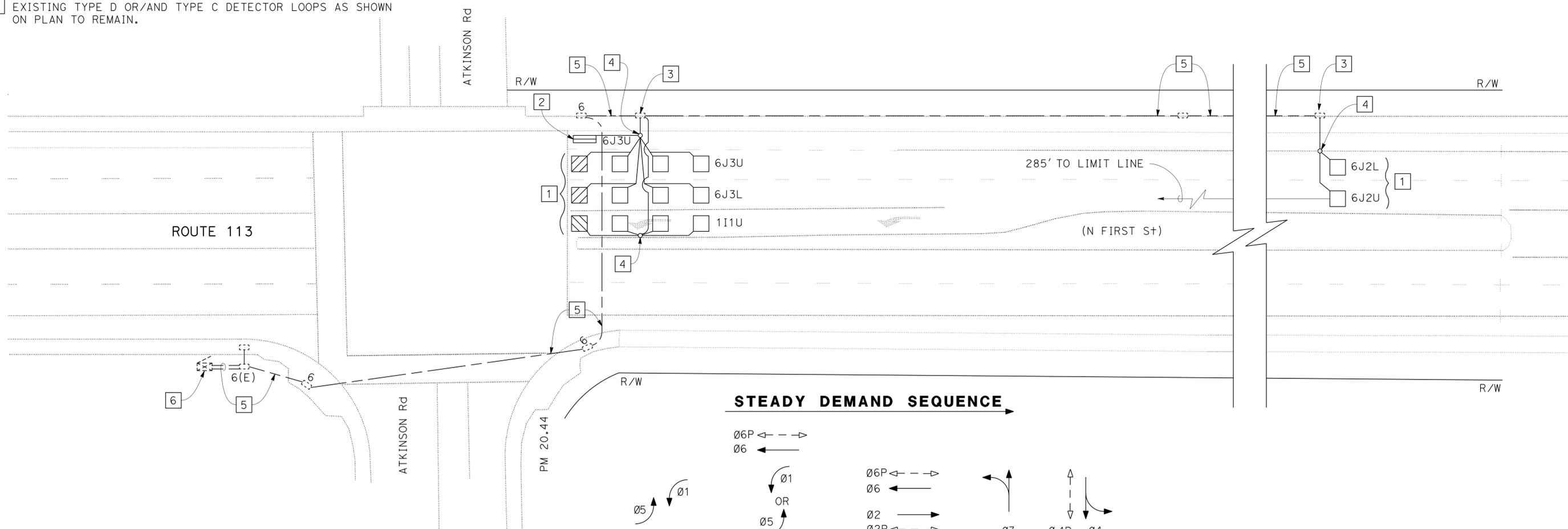
- 1 ABANDON EXISTING LOOP DETECTORS (NOT SHOWN FOR CLARITY), INSTALL 6' x 6' 3 TURNS, TYPE A OR/AND TYPE D LOOPS CENTERED IN EACH LANE AS SHOWN ON THE PLAN. EACH LOOP DETECTOR AND DLC SHALL BE IDENTIFIED WITH DETECTOR DESIGNATION NUMBER INDICATED ON THE PLAN IN EACH TERMINATION PULL BOX AND CONTROLLER CABINET. SEE INSTALLATION DETAILS ON RSP ES-5A, RSP ES-5B AND RSP ES-5D.
- 2 ABANDON EXISTING LOOP DETECTORS (NOT SHOWN FOR CLARITY), INSTALL 3' x 8' 3 TURNS, TYPE C LOOPS CENTERED IN EACH LANE AS SHOWN ON THE PLAN. EACH LOOP DETECTOR AND DLC SHALL BE IDENTIFIED WITH DETECTOR DESIGNATION NUMBER INDICATED ON THE PLAN IN EACH TERMINATION PULL BOX AND CONTROLLER CABINET. SEE INSTALLATION DETAILS ON SHEET E-1, RSP ES-5A, RSP ES-5B AND RSP ES-5D.
- 3 REMOVE EXISTING DETECTOR LOOP CONDUCTORS AND SPLICE NEW DETECTOR LOOP CONDUCTORS TO EXISTING DLC CABLES RESPECTIVELY.
- 4 ADJUST AND RAISED AFFECTED EXISTING DETECTOR HANDHOLE TO GRADE AS REQUIRED. SEE RSP ES-5D.
- 5 EXISTING CONDUIT WITH CONDUCTORS OR/AND CABLES TO REMAIN.
- 6 EXISTING CONTROLLER CABINET TO REMAIN.
- 7 EXISTING TYPE D OR/AND TYPE C DETECTOR LOOPS AS SHOWN ON PLAN TO REMAIN.

**NOTES:**

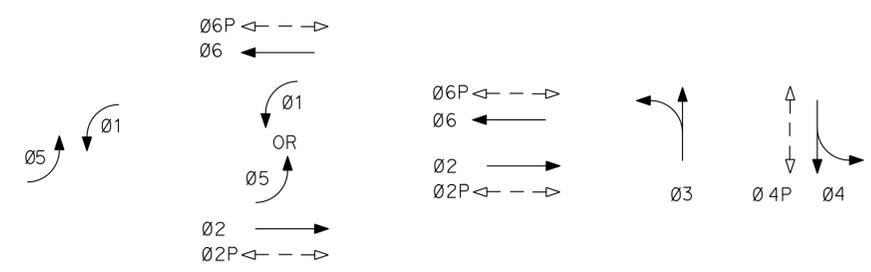
1. THE CONTRACTOR SHALL VERIFY THE LOCATION OF THE LOOP DETECTORS TO BE REPLACED PRIOR TO REPAVING.
2. THE CONTRACTOR SHALL PROVIDE TWO REPORTS PER LOCATION ON THE STATUS OF EACH DETECTOR LOOP REPLACEMENT SHOWING CONTINUITY AND INSULATION RESISTANCE READINGS. THE REPORTS SHALL BE SUBMITTED TO THE ENGINEER, ONE DAY BEFORE STARTING WORK AND THE OTHER AFTER WORK HAS BEEN COMPLETED AT EACH LOCATION.

**ELECTRICAL INDEX:**

- E-1 TO E-3 SIGNAL AND LIGHTING (REPLACE)  
E-4 ELECTRICAL QUANTITIES



**STEADY DEMAND SEQUENCE**



**EXISTING TRAFFIC PHASE DIAGRAM TO REMAIN  
MODEL 170E CONTROLLER**

**SIGNAL AND LIGHTING  
(REPLACE)  
SCALE: 1" = 20'**

APPROVED FOR ELECTRICAL WORK ONLY

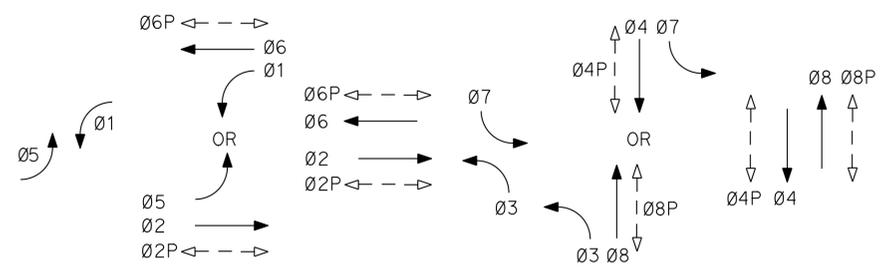
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL**  
 BEHZAD GOLEMOHAMMADI  
 BEHZAD GOLEMOHAMMADI  
 ALEX KHOO  
 ELAINE WONG  
 AK  
 12-28-15  
 REVISOR BY DATE  
 CALCULATED/DESIGNED BY  
 CHECKED BY  
 FUNCTIONAL SUPERVISOR  
 BEHZAD GOLEMOHAMMADI  
 BEHZAD GOLEMOHAMMADI  
 BEHZAD GOLEMOHAMMADI

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISED BY	AK
<b>Caltrans</b>	BEHZAD GOLEMOHAMMADI	CHECKED BY	ALEX KHOO	12-28-15
<b>ELECTRICAL</b>			ELAINE WONG	

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

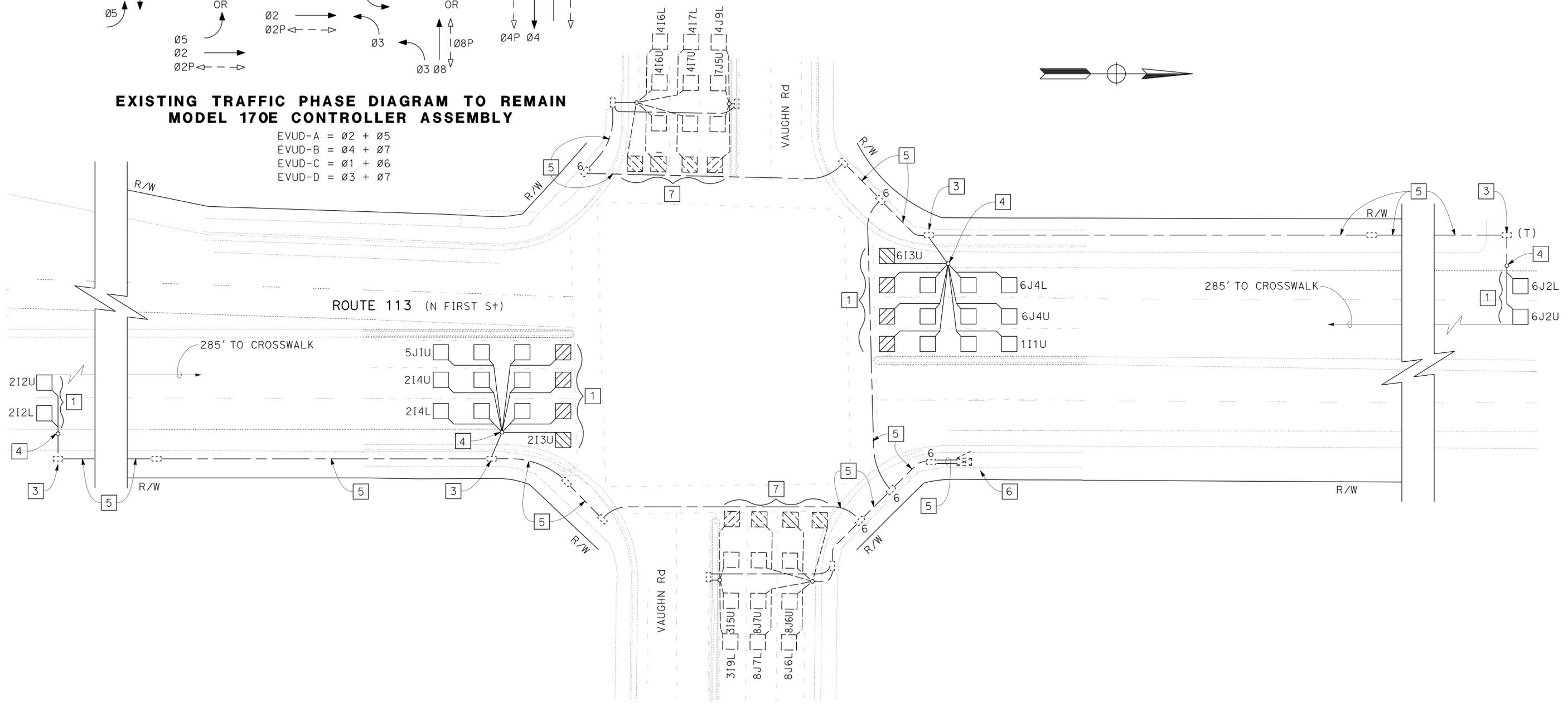
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SoI	113	20.4/21.2	21	42
			3-14-16	DATE	
			3-14-16	PLANS APPROVAL DATE	
REGISTERED ELECTRICAL ENGINEER Elaine T. Wong No. 13753 Exp. 6-30-17 ELECTRICAL					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

**STEADY DEMAND SEQUENCE**



**EXISTING TRAFFIC PHASE DIAGRAM TO REMAIN MODEL 170E CONTROLLER ASSEMBLY**

- EVUD-A = Ø2 + Ø5
- EVUD-B = Ø4 + Ø7
- EVUD-C = Ø1 + Ø6
- EVUD-D = Ø3 + Ø8



**SIGNAL AND LIGHTING  
(REPLACE)**  
SCALE: 1" = 20'

APPROVED FOR ELECTRICAL WORK ONLY

FOR NOTES AND LEGEND,  
SEE SHEET E-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SoI	113	20.4/21.2	22	42

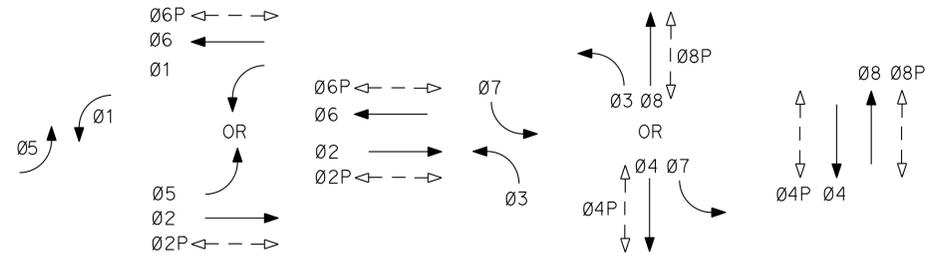
<i>Elaine Wong</i> 3-14-16 REGISTERED ELECTRICAL ENGINEER DATE	
PLANS APPROVAL DATE 3-14-16	

REGISTERED PROFESSIONAL ENGINEER Elaine T. Wong No. 13753 Exp. 6-30-17 ELECTRICAL STATE OF CALIFORNIA
--

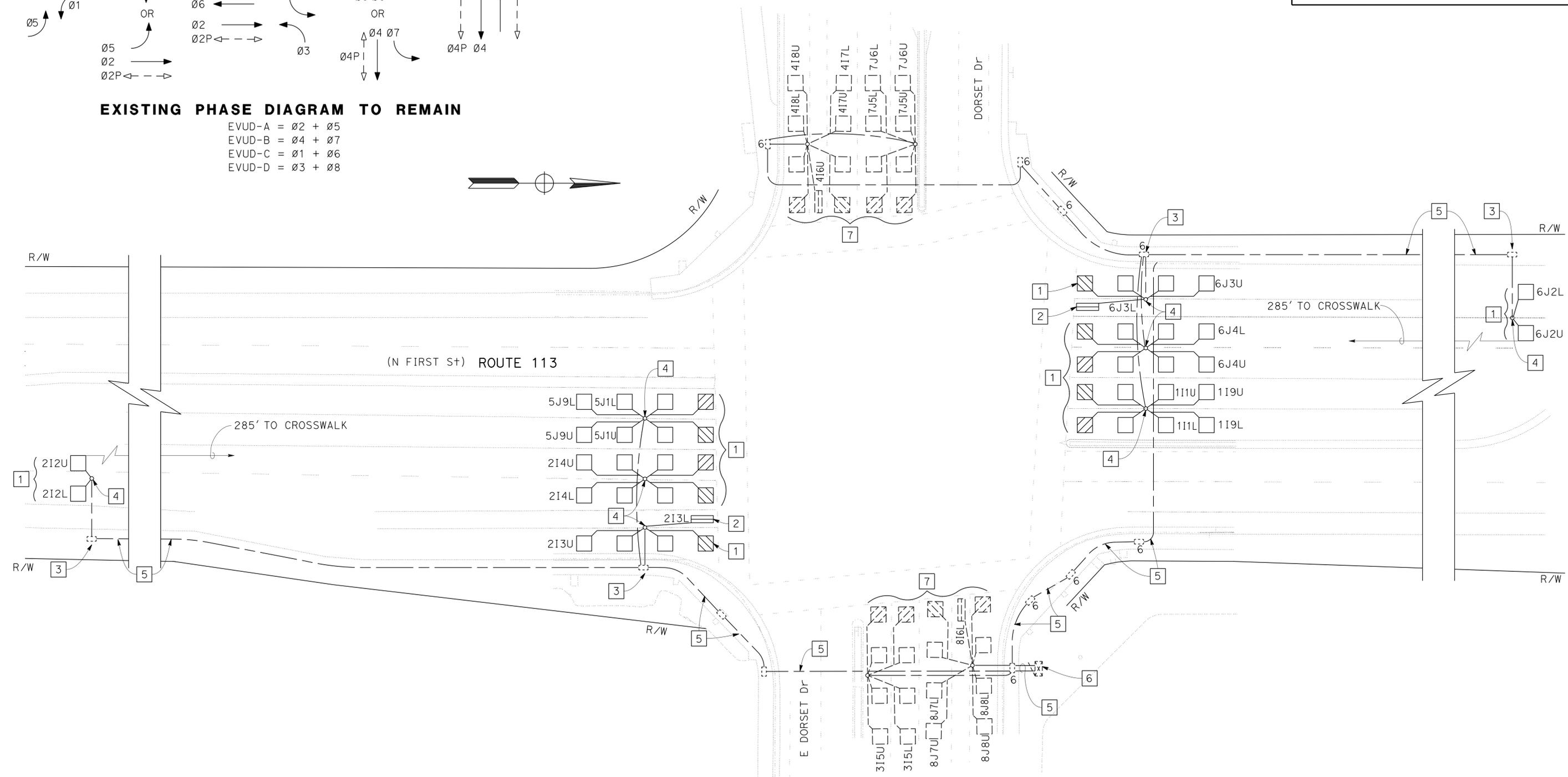
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 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



**EXISTING PHASE DIAGRAM TO REMAIN**

- EVUD-A = Ø2 + Ø5
- EVUD-B = Ø4 + Ø7
- EVUD-C = Ø1 + Ø6
- EVUD-D = Ø3 + Ø8



**SIGNAL AND LIGHTING  
 (REPLACE)**  
 SCALE: 1" = 20'

FOR NOTES AND LEGEND,  
 SEE SHEET E-1

APPROVED FOR ELECTRICAL WORK ONLY

**E-3**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	REVISOR	DATE
<b>Caltrans</b>	BEHZAD GOLEMHAMMADI	ALEX KHOO	12-28-15
<b>ELECTRICAL</b>	CHECKED BY	ELAINE WONG	

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

FUNCTIONAL SUPERVISOR  
 BEHZAD GOLEMOHAMMADI

CALCULATED-DESIGNED BY  
 CHECKED BY

ALEX KHOO  
 ELAINE WONG

REVISED BY  
 DATE REVISED

AK  
 12-28-15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SoI	113	20.4/21.2	23	42

*Elaine Wong* 3-14-16  
 REGISTERED ELECTRICAL ENGINEER DATE

3-14-16  
 PLANS APPROVAL DATE

Elaine T. Wong  
 No. 13753  
 Exp. 6-30-17  
 ELECTRICAL  
 STATE OF CALIFORNIA

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**TEMPORARY SIGNAL SYSTEM**

SHEET No.	LOOP DETECTOR		
	TYPE A	TYPE C	TYPE D
E-1	11	1	3
E-2	22		8
E-3	34	2	10

ITEMS SHOWN IN THIS TABLE ARE NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY

**ELECTRICAL QUANTITIES**

	<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>	
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	
	<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	
±	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	
TeI	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	
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	
WWL	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
04	SoI	113	20.4/21.2	24	42

*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 3-14-16

**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

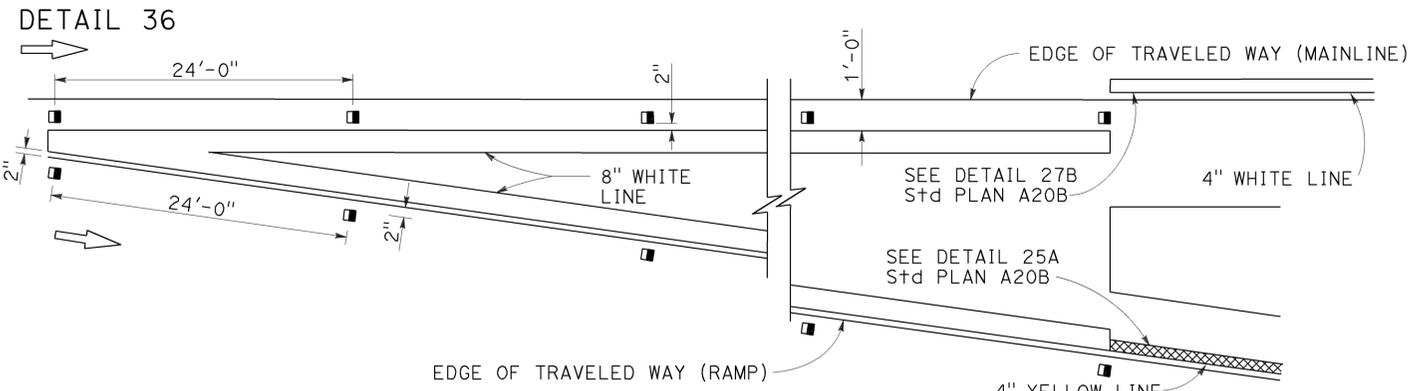
**ABBREVIATIONS  
(SHEET 2 OF 2)**

NO SCALE

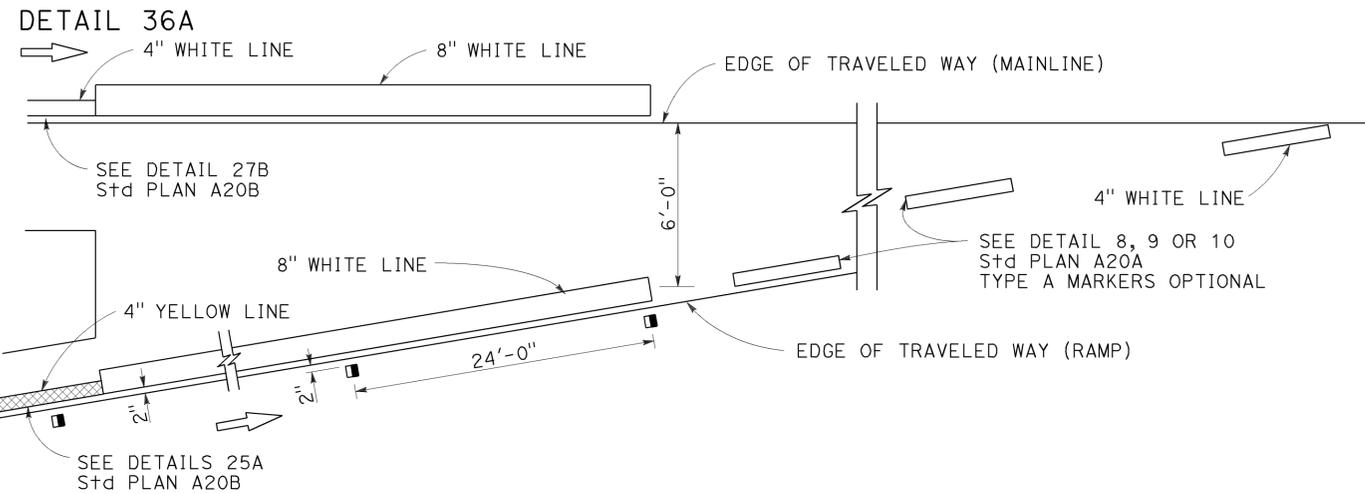
RSP A10B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A10B  
DATED MAY 20, 2011 - PAGE 2 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP A10B

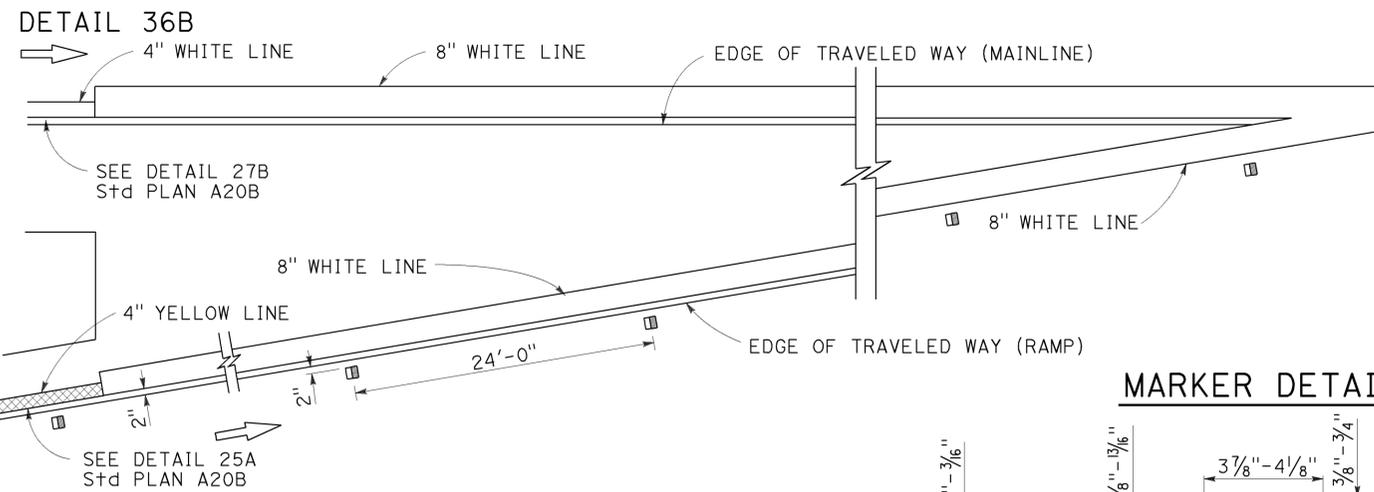
### EXIT RAMP NEUTRAL AREA (GORE) TREATMENT



### ENTRANCE RAMP NEUTRAL AREA (MERGE) TREATMENT



### ENTRANCE RAMP NEUTRAL AREA (ACCELERATION LANE) TREATMENT

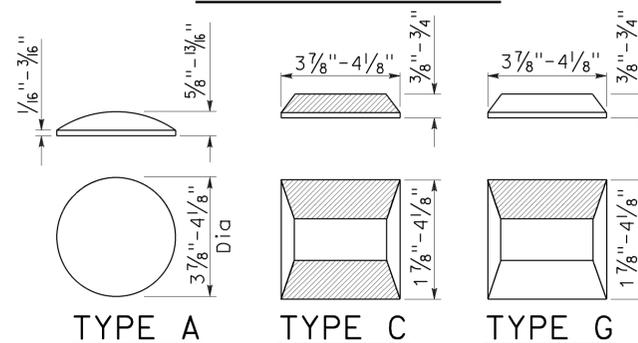


### MARKER DETAILS

#### LEGEND:

#### MARKERS

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



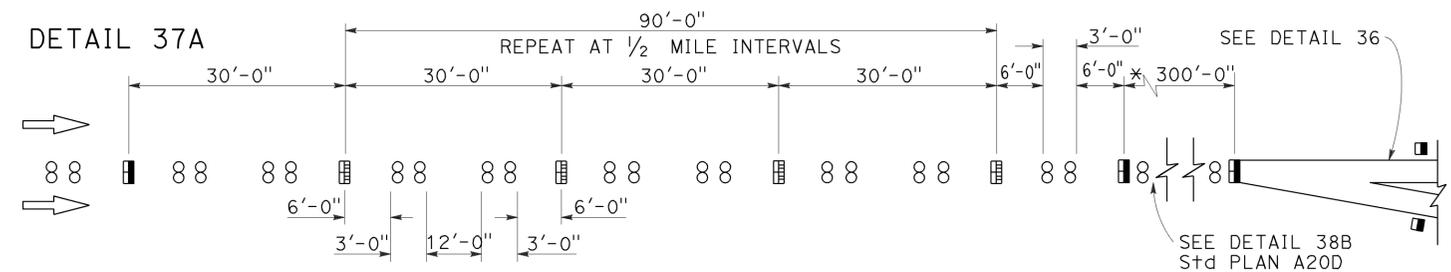
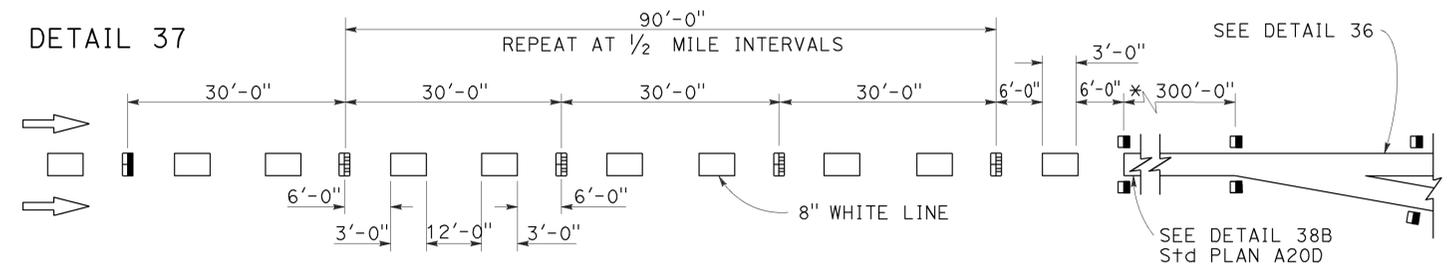
RETROREFLECTIVE FACE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Soi	113	20.4/21.2	25	42

REGISTERED CIVIL ENGINEER  
 July 19, 2013  
 PLANS APPROVAL DATE  
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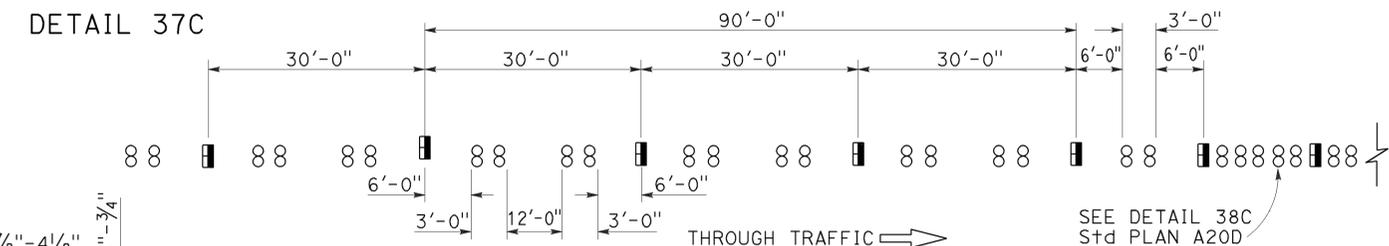
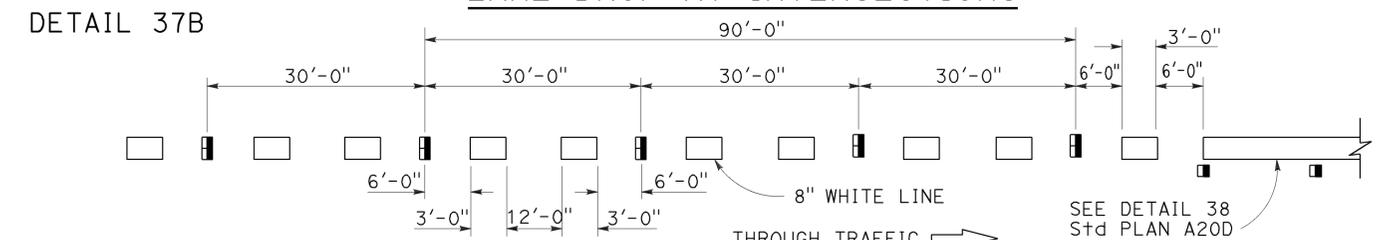
TO ACCOMPANY PLANS DATED 3-14-16

### 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

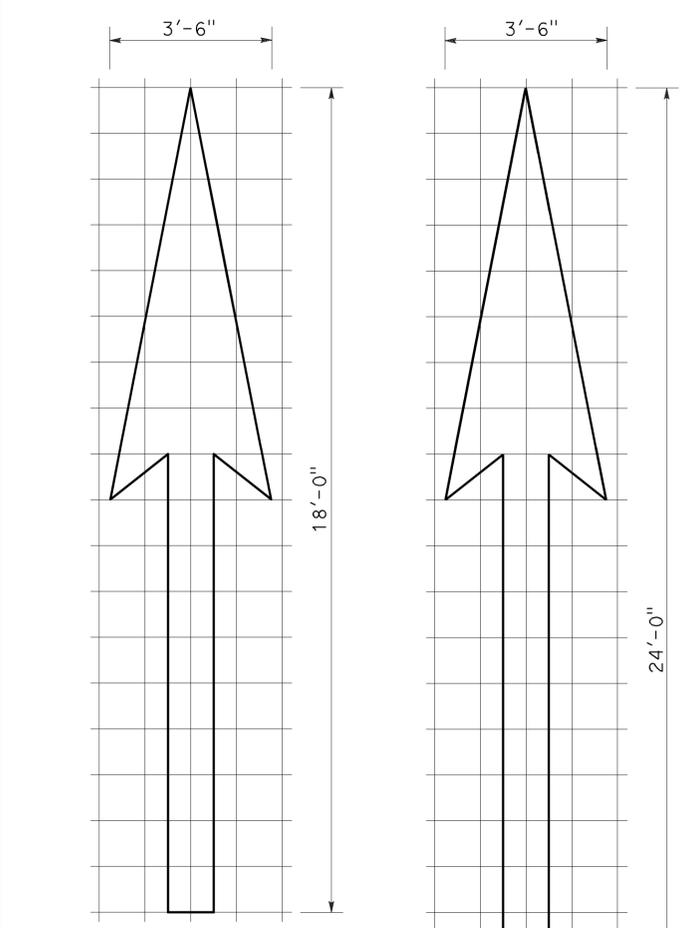
2010 REVISED STANDARD PLAN RSP A20C

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Sol	113	20.4/21.2	26	42

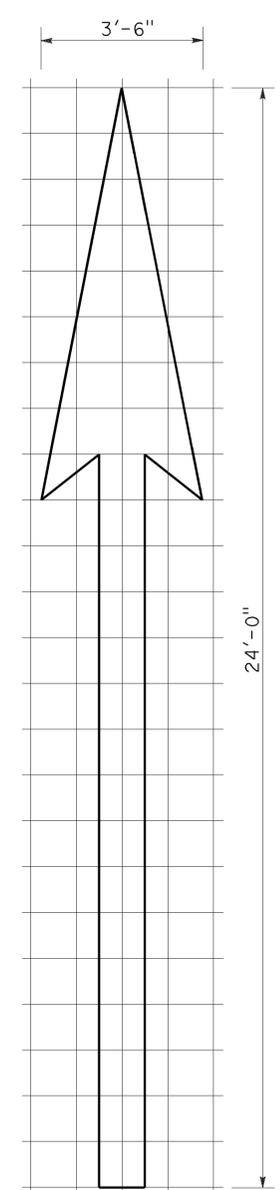
*Roberta L. McLaughlin*  
 REGISTERED CIVIL ENGINEER  
 April 20, 2012  
 PLANS APPROVAL DATE  
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER  
 Roberta L. McLaughlin  
 No. C40375  
 Exp. 3-31-13  
 CIVIL  
 STATE OF CALIFORNIA

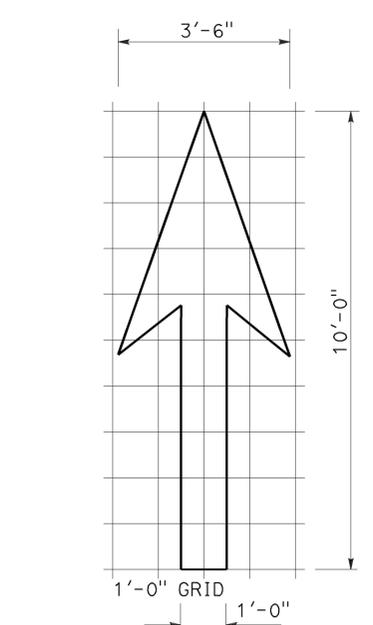
TO ACCOMPANY PLANS DATED 3-14-16



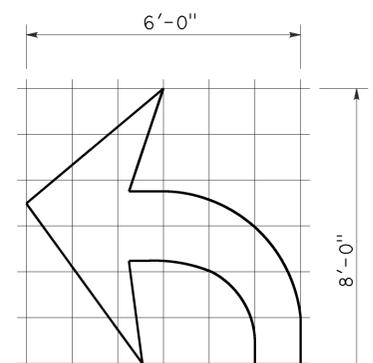
A=25 ft<sup>2</sup>  
**TYPE I 18'-0" ARROW**



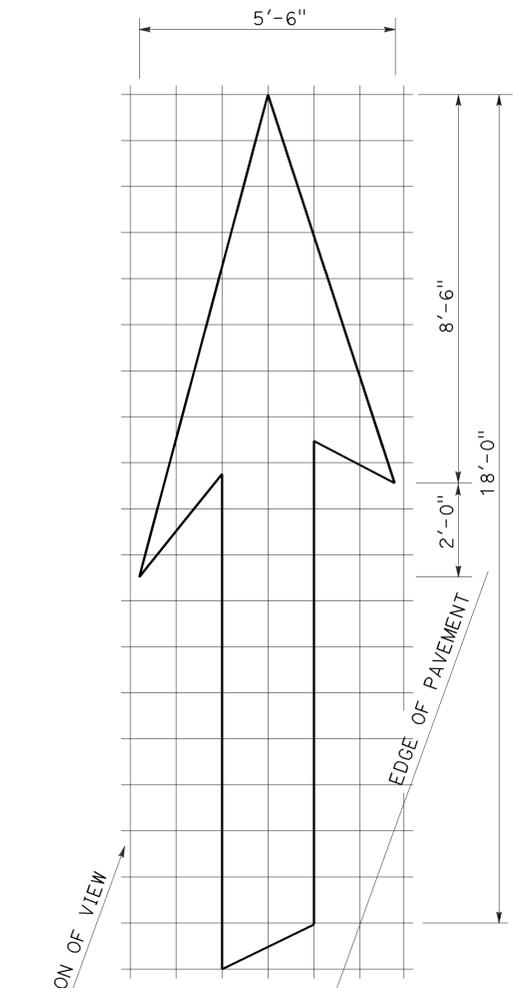
A=31 ft<sup>2</sup>  
**TYPE I 24'-0" ARROW**



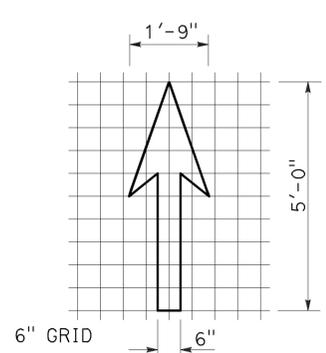
A=14 ft<sup>2</sup>  
**TYPE I 10'-0" ARROW**



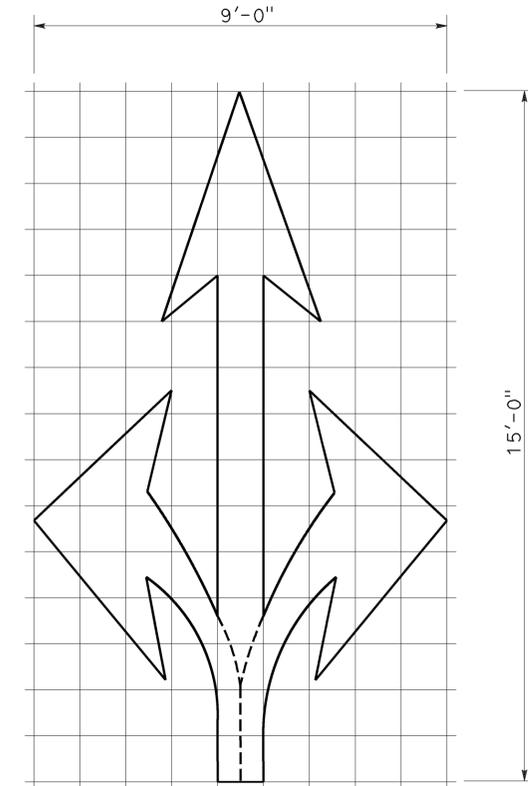
A=15 ft<sup>2</sup>  
**TYPE IV (L) ARROW**  
 (For Type IV (R) arrow, use mirror image)



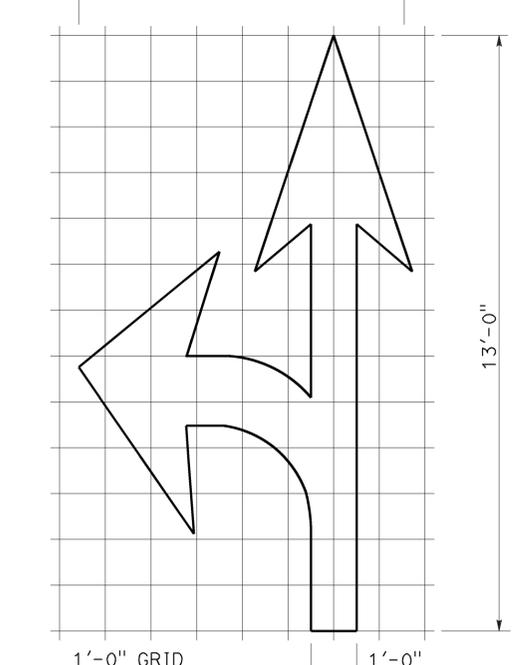
A=42 ft<sup>2</sup>  
**TYPE VI ARROW**  
 Right lane drop arrow  
 (For left lane, use mirror image)



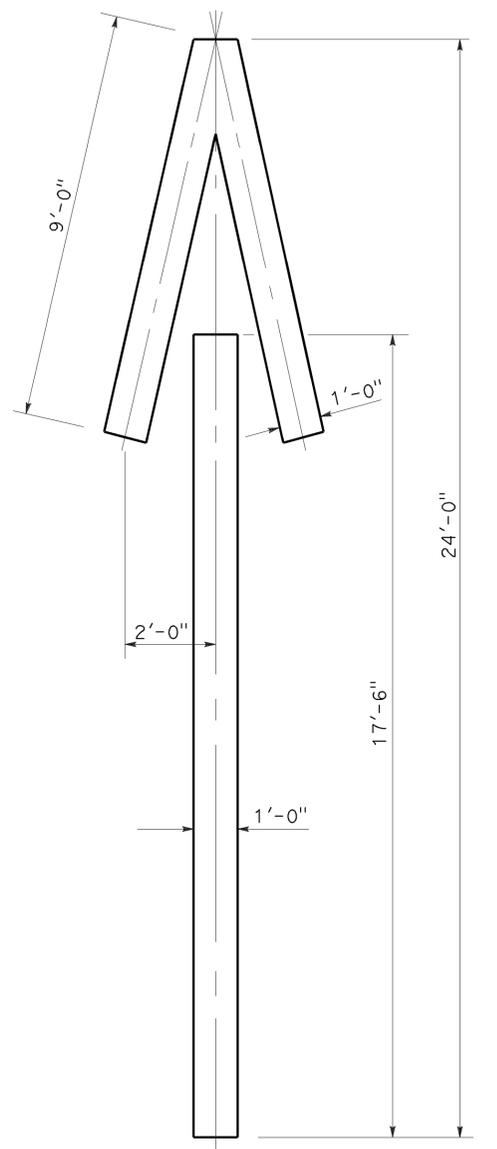
A=3.5 ft<sup>2</sup>  
**BIKE LANE ARROW**



A=36 ft<sup>2</sup>  
**TYPE VIII ARROW**



A=27 ft<sup>2</sup>  
**TYPE VII (L) ARROW**  
 (For Type VII (R) arrow, use mirror image)



A=33 ft<sup>2</sup>  
**TYPE V ARROW**

**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.

**REVISED STANDARD PLAN RSP A24A**

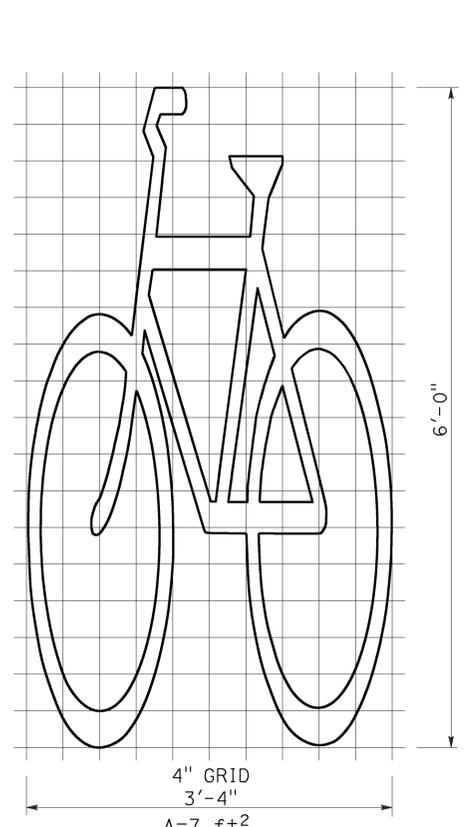
2010 REVISED STANDARD PLAN RSP A24A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SoI	113	20.4/21.2	27	42

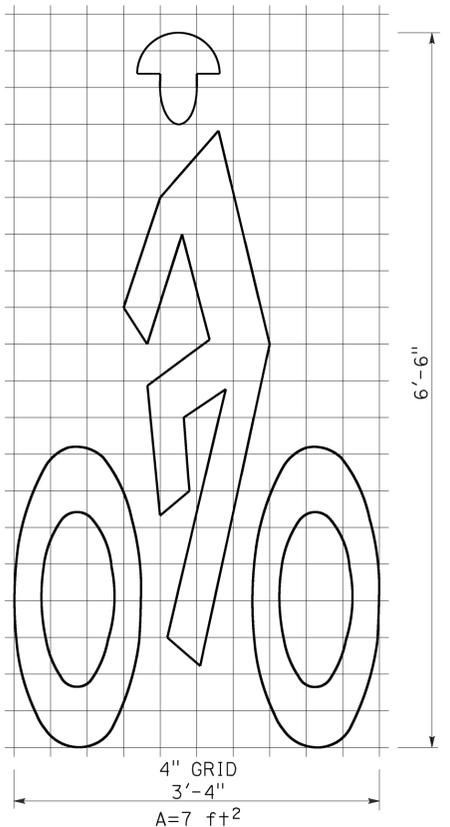
Registered Professional Engineer  
 Roberto L. McLaughlin  
 No. C40375  
 Exp. 3-31-13  
 CIVIL  
 STATE OF CALIFORNIA

October 19, 2012  
 PLANS APPROVAL DATE

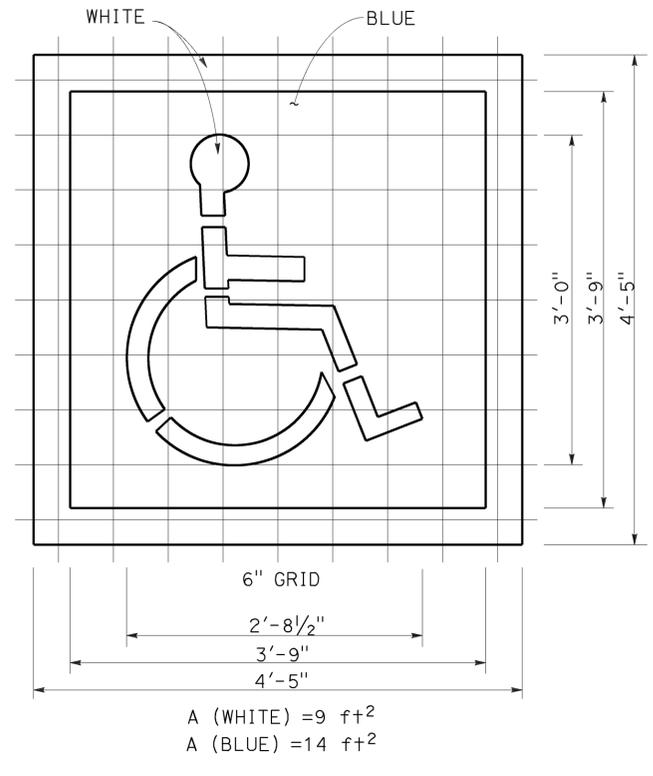
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



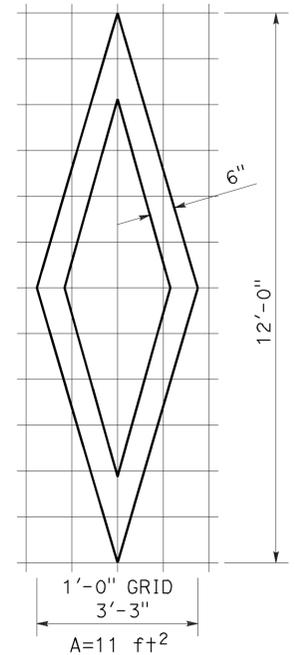
**BIKE LANE SYMBOL WITHOUT PERSON**



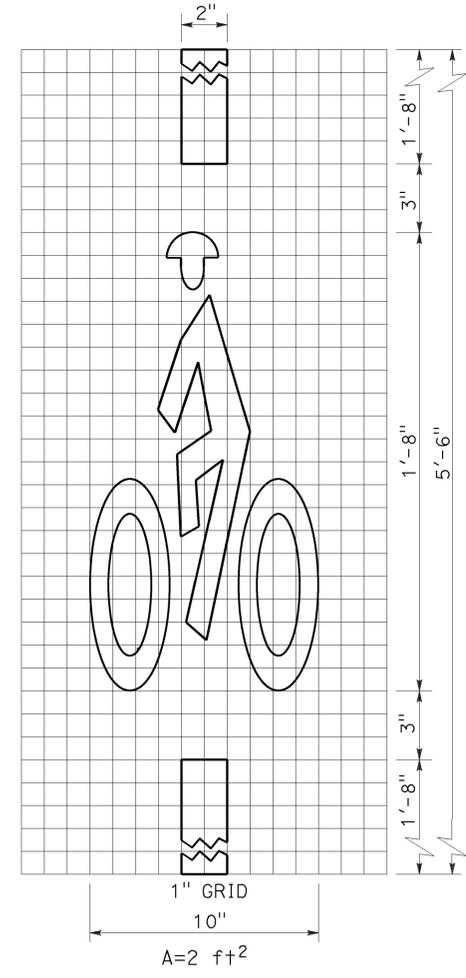
**BIKE LANE SYMBOL WITH PERSON**



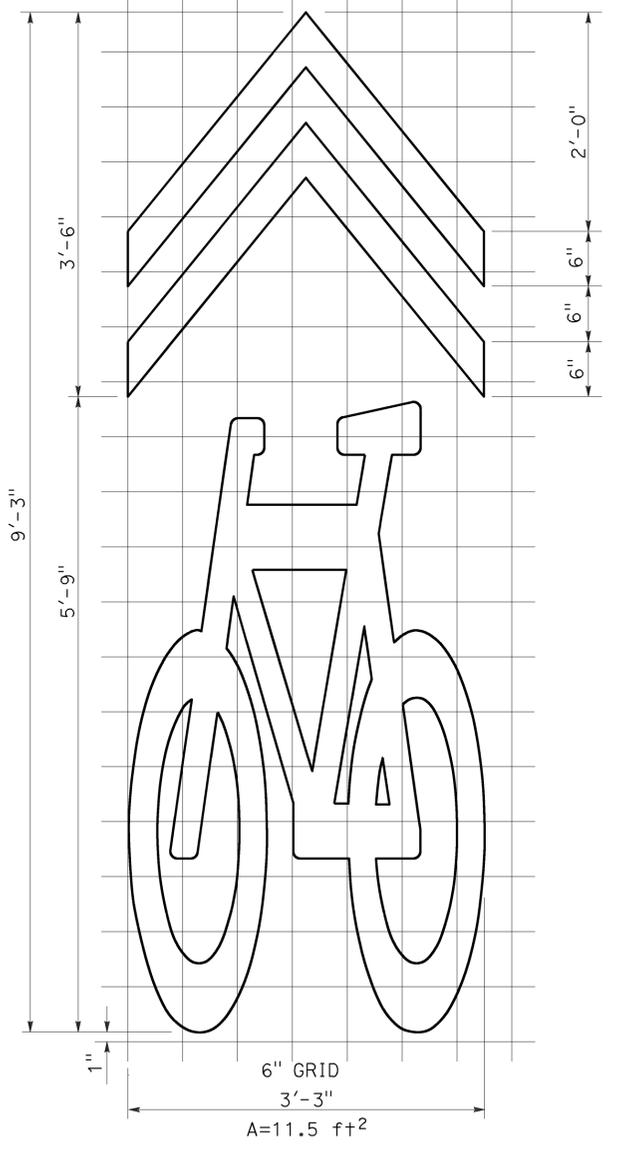
**INTERNATIONAL SYMBOL OF ACCESSIBILITY (ISA) MARKING**



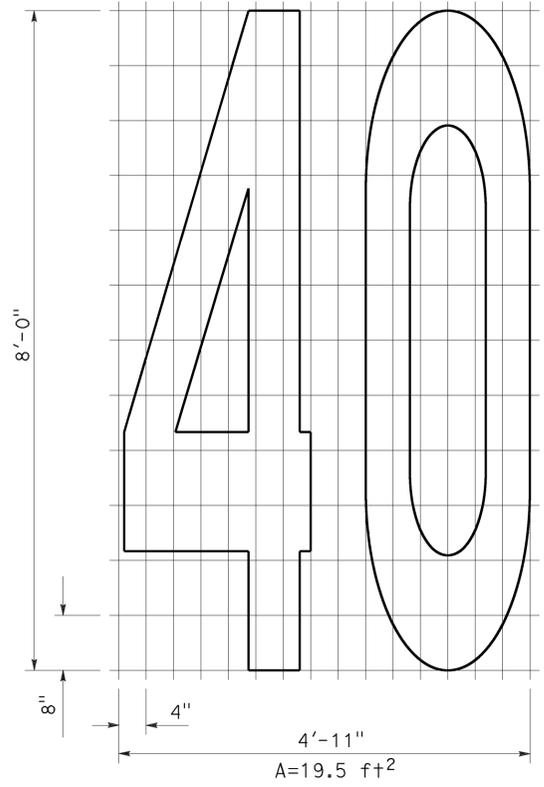
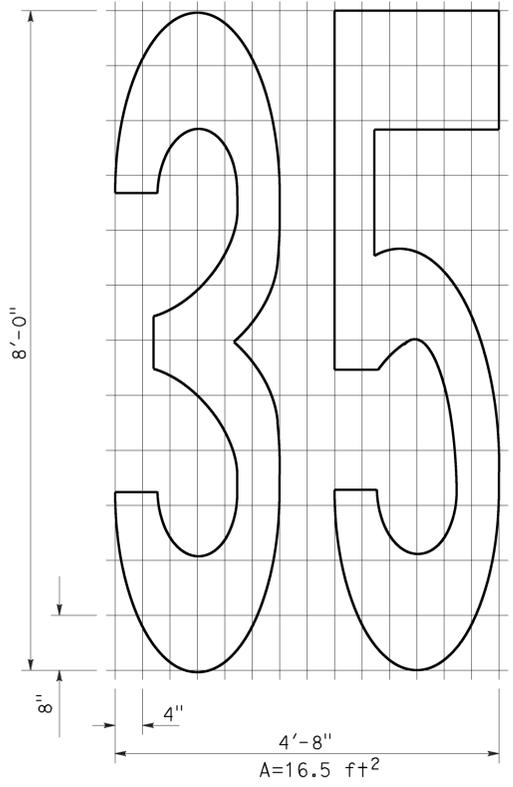
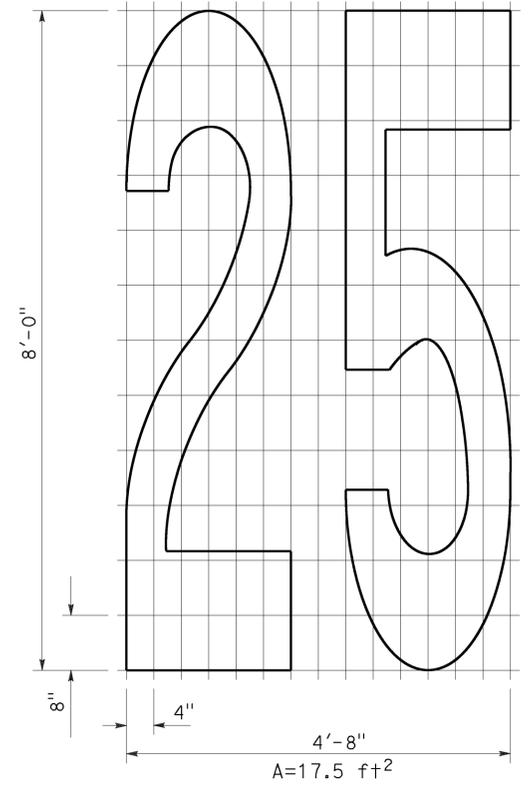
**DIAMOND SYMBOL**



**BICYCLE LOOP DETECTOR SYMBOL**



**SHARED ROADWAY BICYCLE MARKING**



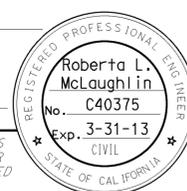
**NUMERALS**

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**PAVEMENT MARKINGS  
 SYMBOLS AND NUMERALS**  
 NO SCALE

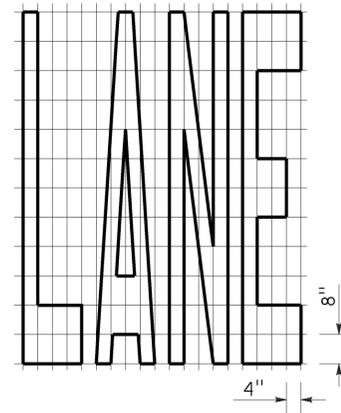
RSP A24C DATED OCTOBER 19, 2012 SUPERSEDES STANDARD PLAN A24C DATED MAY 20, 2011 - PAGE 15 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP A24C**

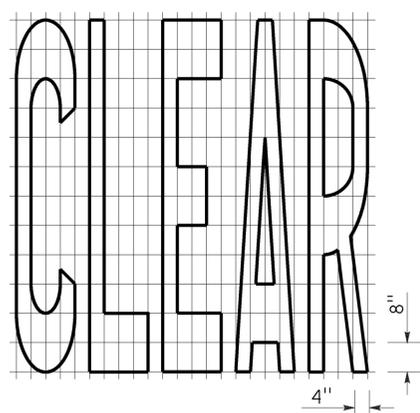
**2010 REVISED STANDARD PLAN RSP A24C**



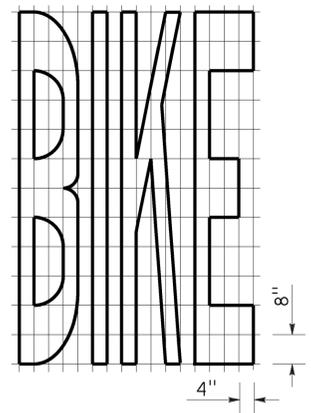
TO ACCOMPANY PLANS DATED 3-14-16



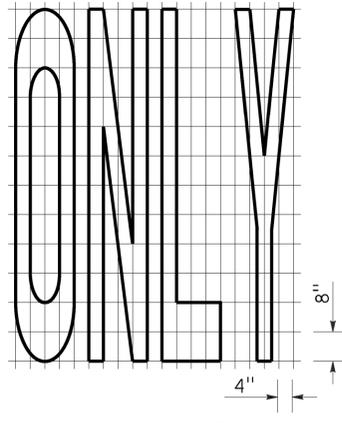
A=24 ft<sup>2</sup>



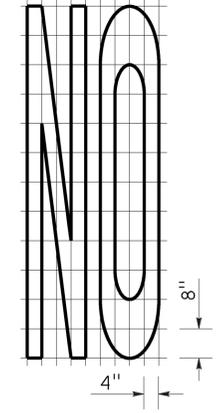
A=27 ft<sup>2</sup>



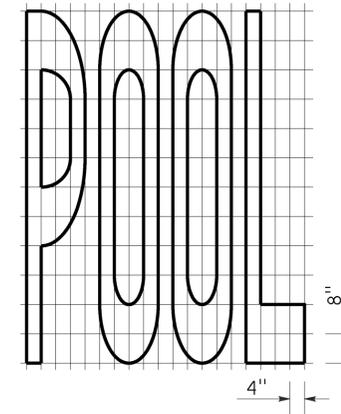
A=21 ft<sup>2</sup>



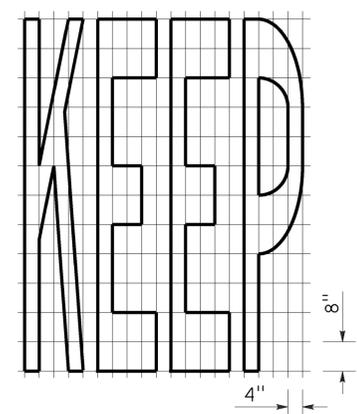
A=22 ft<sup>2</sup>



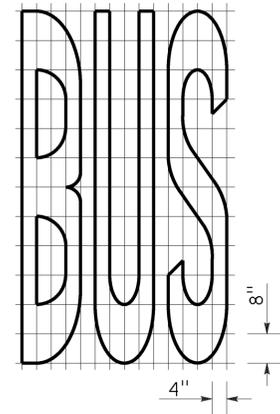
A=14 ft<sup>2</sup>



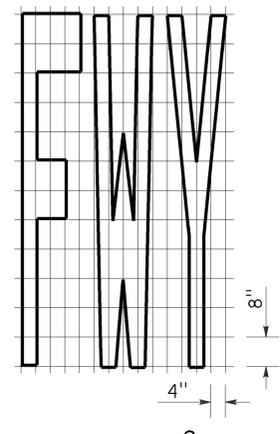
A=23 ft<sup>2</sup>



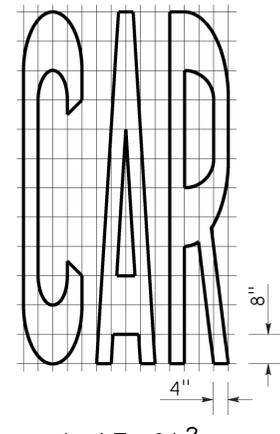
A=24 ft<sup>2</sup>



A=20 ft<sup>2</sup>

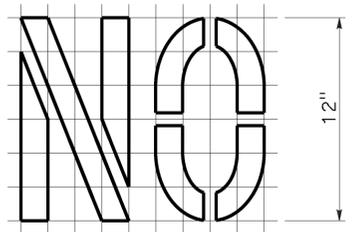


A=16 ft<sup>2</sup>



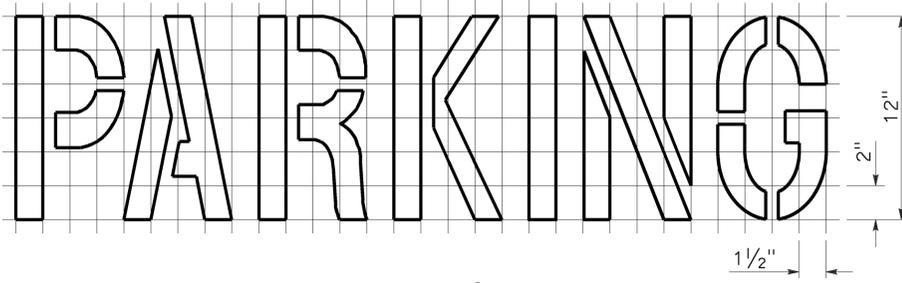
A=17 ft<sup>2</sup>

WORD MARKINGS			
ITEM	ft <sup>2</sup>	ITEM	ft <sup>2</sup>
LANE	24	NO	14
POOL	23	BIKE	21
CAR	17	BUS	20
CLEAR	27	ONLY	22
KEEP	24	FWY	16



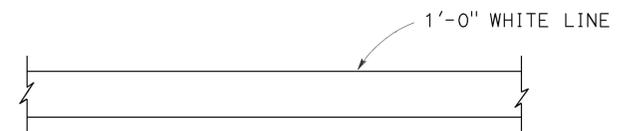
A=2 ft<sup>2</sup>

See Notes 6 and 7



A=2 ft<sup>2</sup>

See Notes 6 and 7



LIMIT LINE (STOP LINE)



YIELD LINE

**NOTES:**

1. If a message consists of more than one word, it should read "UP", i.e., the first word should be nearest the driver.
2. The space between words should be at least four times the height of the characters for low speed roads, but not more than ten times the height of the characters. The space may be reduced appropriately where there is limited space because of local conditions.
3. Minor variations in dimensions may be accepted by the Engineer.
4. Portions of a letter, number or symbol may be separated by connecting segments not to exceed 2" in width.
5. The words "NO PARKING" pavement marking is to be used for parking facilities. For typical locations of markings, see Standard Plans A90A and A90B.
6. The words "NO PARKING", shall be painted in white letters no less than 1'-0" high on a contrasting background and located so that it is visible to traffic enforcement officials.

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**PAVEMENT MARKINGS  
 WORDS, LIMIT AND YIELD LINES**  
 NO SCALE

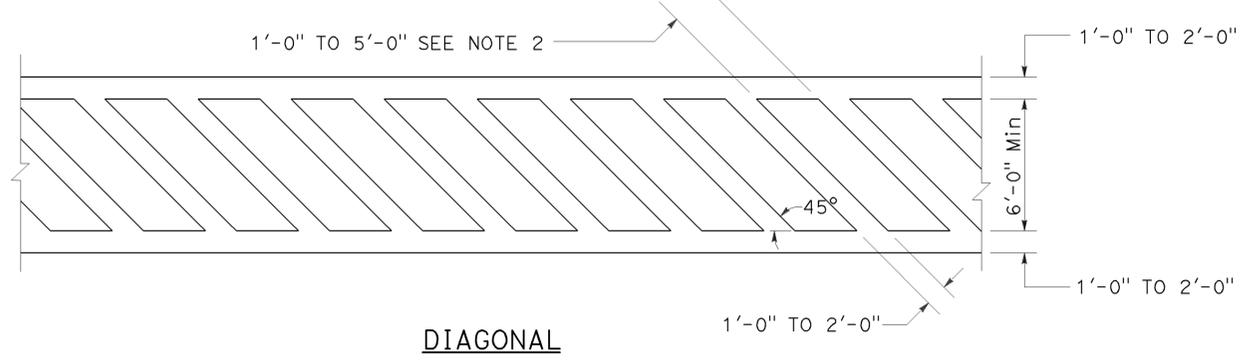
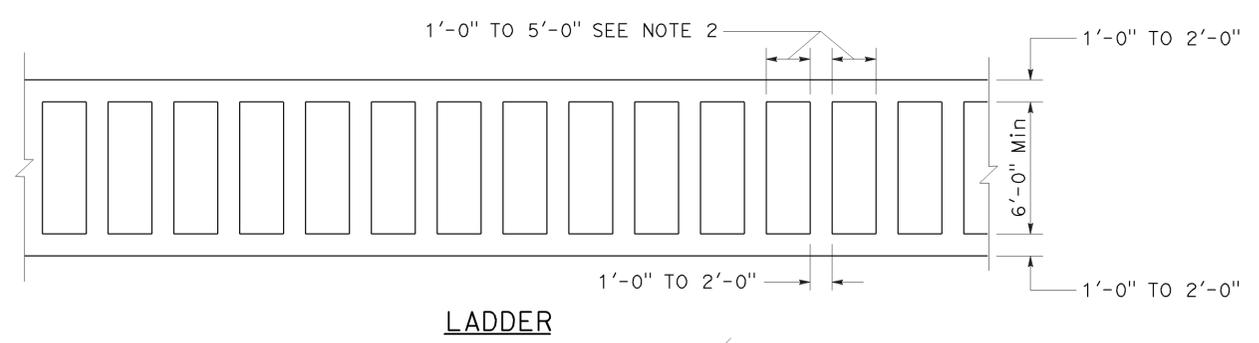
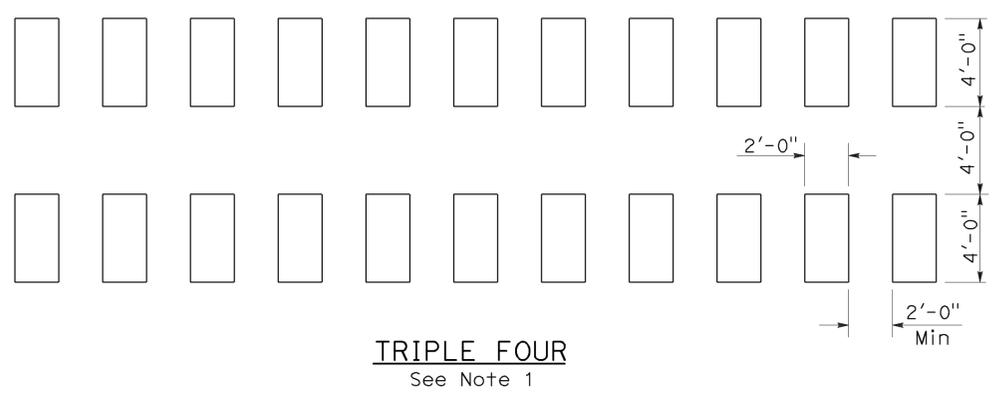
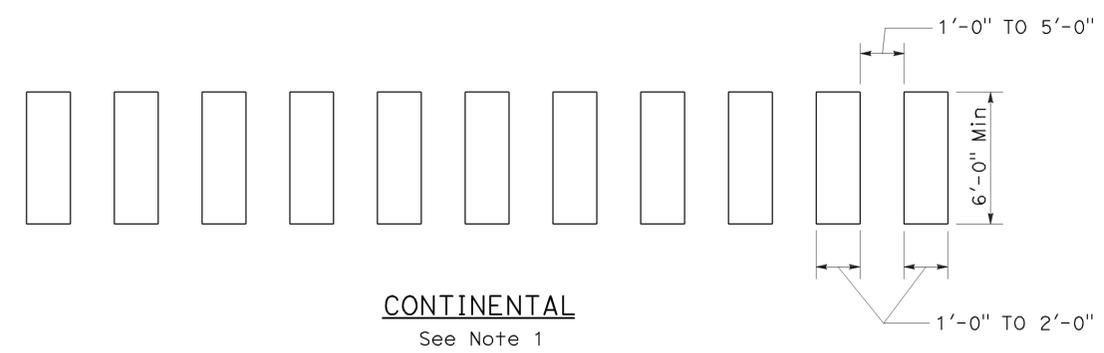
RSP A24E DATED JULY 20, 2012 SUPERSEDES STANDARD PLAN A24E  
 DATED MAY 20, 2011 - PAGE 17 OF THE STANDARD PLANS BOOK DATED 2010.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Soi	113	20.4/21.2	29	42

*Roberta L. McLaughlin*  
 REGISTERED CIVIL ENGINEER  
 July 20, 2012  
 PLANS APPROVAL DATE  
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TO ACCOMPANY PLANS DATED 3-14-16

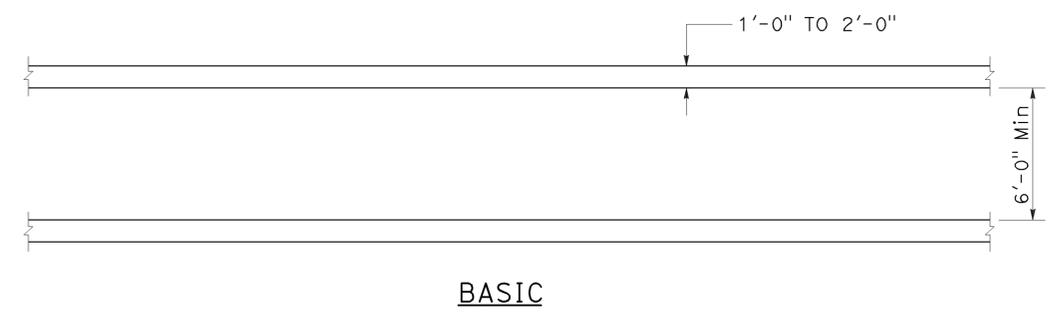
2010 REVISED STANDARD PLAN RSP A24F



**HIGHER VISIBILITY CROSSWALKS**

**NOTES:**

1. Spaces between markings should be placed in wheel tracks of each lane.
2. Spacings not to exceed 2.5 times width of longitudinal line.
3. All crosswalk markings must be white except for those near schools must be yellow.

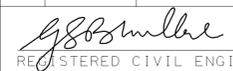


**BASIC**

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

RSP A24F DATED JULY 20, 2012 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Soi	113	20.4/21.2	30	42

  
 REGISTERED CIVIL ENGINEER  
 July 19, 2013  
 PLANS APPROVAL DATE



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TO ACCOMPANY PLANS DATED 3-14-16

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
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

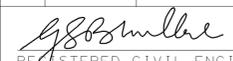
## TRAFFIC CONTROL SYSTEM TABLES FOR LANE AND RAMP CLOSURES

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

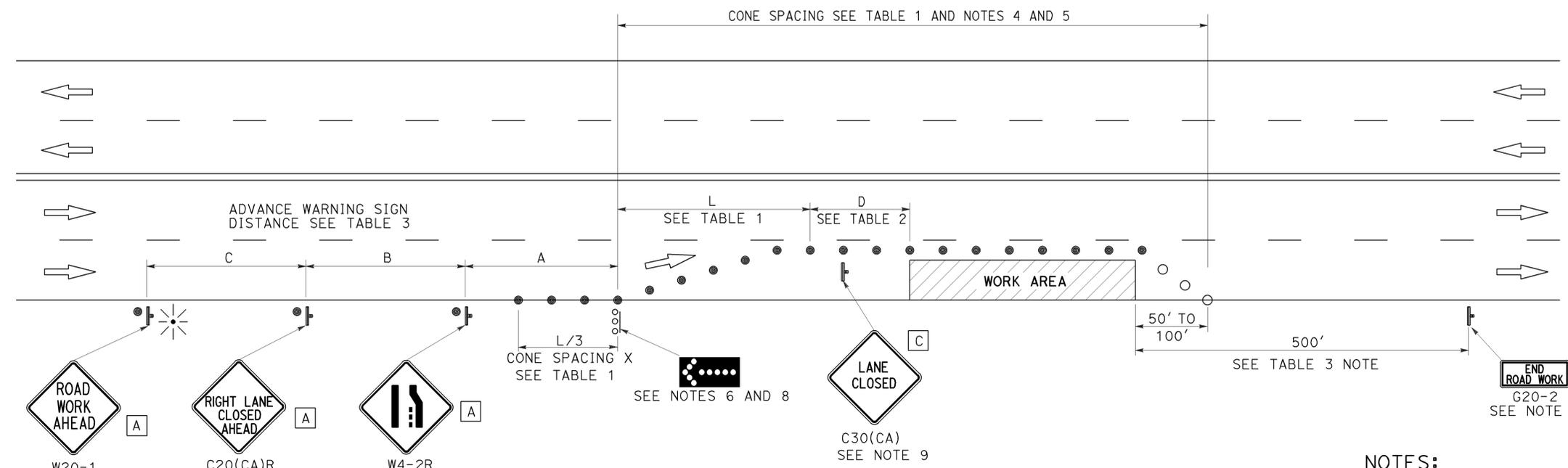
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SoI	113	20.4/21.2	31	42

  
 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.

TO ACCOMPANY PLANS DATED 3-14-16



TYPICAL LANE CLOSURE

**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:**

- Each advance warning 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. 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 closure 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 C20(CA) 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.
- Flashing arrow sign shall be either Type I or Type II.
- For approach speeds over 50 mph, use the "Traffic Control System for Lane Closure On Freeways And Expressways" plan for lane closure details and requirements.
- 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 the top of crest vertical curve or on a horizontal curve.
- Place a C30(CA) sign every 2000' throughout length of lane closure.
- 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 closure unless, otherwise directed by the Engineer.

**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** 36" x 18"
- C** 30" x 30"

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

RSP T11 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T11 DATED MAY 20, 2011 - PAGE 239 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP T11**

2010 REVISED STANDARD PLAN RSP T11

**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.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SoI	113	20.4/21.2	32	42

*Devinder Singh*  
REGISTERED CIVIL ENGINEER

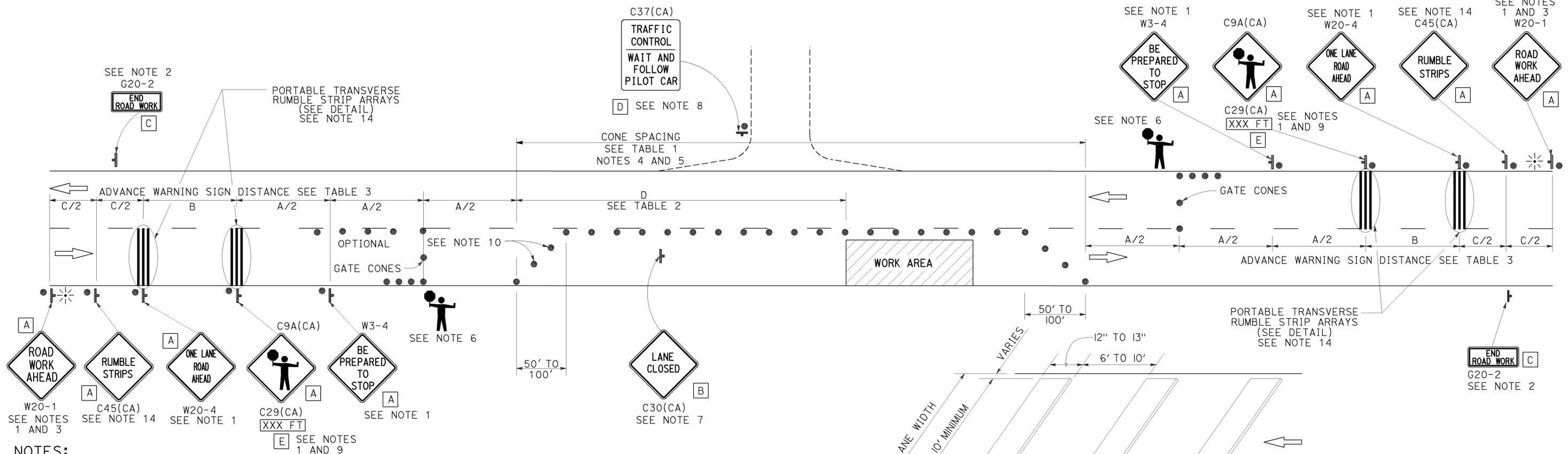
October 30, 2015  
PLANS APPROVAL DATE

Devinder Singh  
No. C50470  
Exp. 6-30-17  
CIVIL  
STATE OF CALIFORNIA

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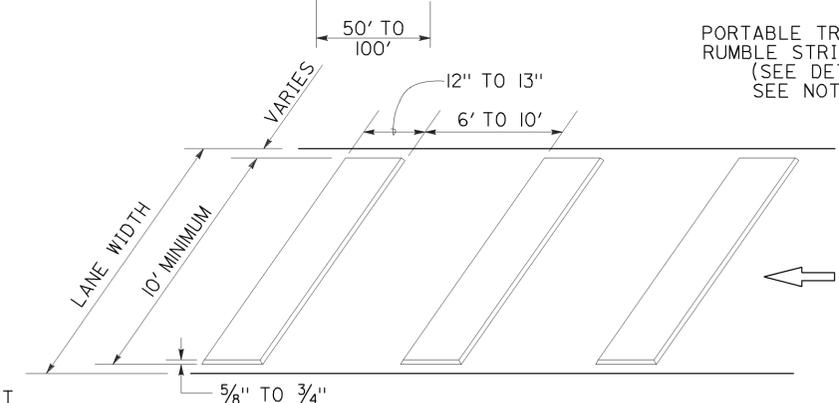
**TYPICAL LANE CLOSURE WITH REVERSIBLE CONTROL**

TO ACCOMPANY PLANS DATED 3-14-16



**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



**LEGEND**

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

**SIGN PANEL SIZE (Min)**

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

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

NO SCALE

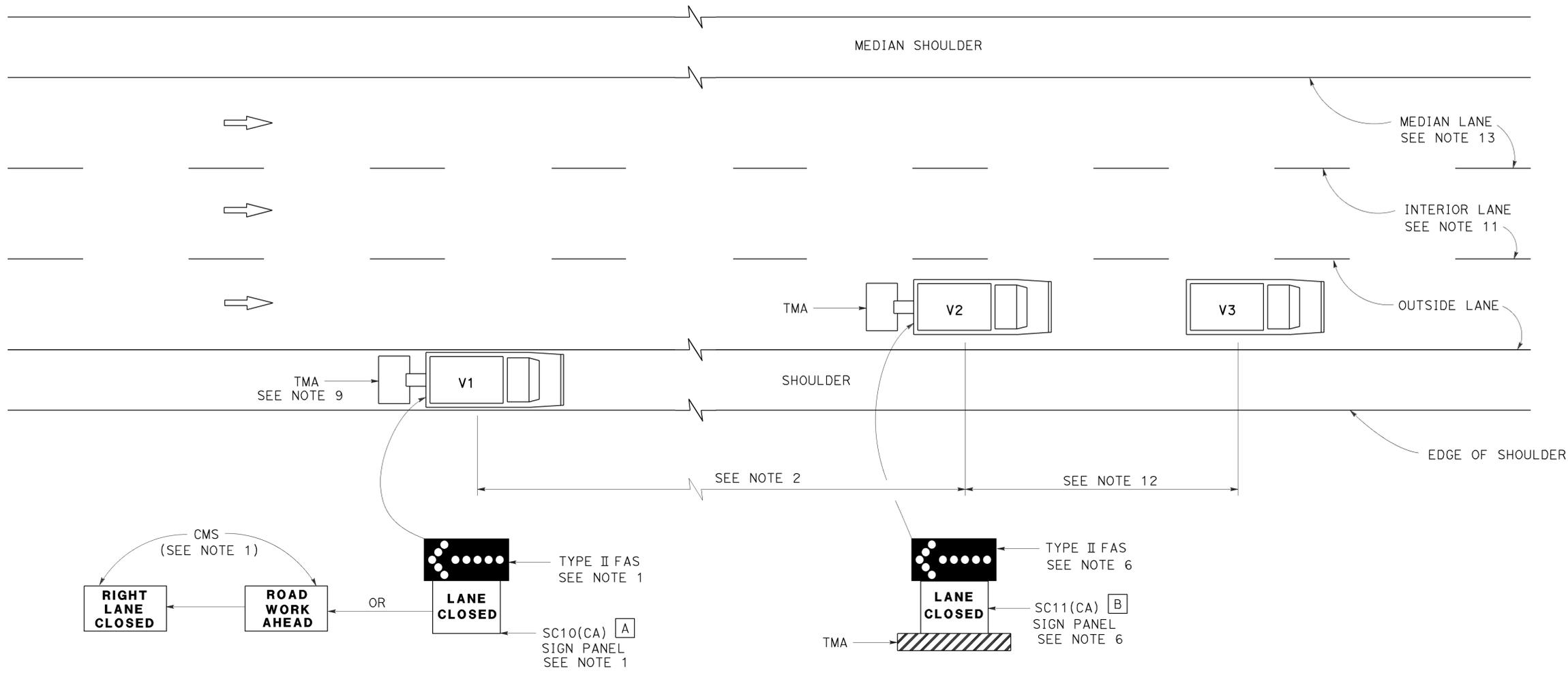
RSP T13 DATED OCTOBER 30, 2015 SUPERSEDES RSP T13 DATED OCTOBER 17, 2014, RSP T13 DATED JULY 18, 2014 AND RSP T13 DATED APRIL 19, 2013 AND STANDARD PLAN T13 DATED MAY 20, 2011 - PAGE 241 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP T13**

2010 REVISED STANDARD PLAN RSP T13



TO ACCOMPANY PLANS DATED 3-14-16



**SIGN PANEL SIZE (Min)**

- A 66" x 36"
- B 54" x 42"

**LEGEND**

- V1 SIGN VEHICLE
- V2 SHADOW VEHICLE
- V3 WORK/APPLICATION VEHICLE
- FLASHING ARROW SIGN (FAS)
- CMS CHANGEABLE MESSAGE SIGN
- TMA TRUCK-MOUNTED ATTENUATOR

**MOVING LANE CLOSURE ON MEDIAN LANE OR OUTSIDE LANE OF MULTILANE HIGHWAYS**

**NOTES:**

1. Either a changeable message sign or a SC10(CA) sign panel and a Type II flashing arrow sign shall be mounted on the rear of sign vehicle V1. The changeable message sign shall be sequenced to show the "ROAD WORK AHEAD" message first, followed by the "RIGHT LANE CLOSED" message. For median lane closure, the flashing arrow symbol shall be reversed with the arrowhead on the right and the changeable message sign shall show "LEFT LANE CLOSED".
2. If traffic queues develop, sign vehicle V1 should be positioned upstream from the end of queue. Sign vehicle V1 shall be positioned where highly visible when shoulders are not available.
3. A minimum sight distance of 1500' should be provided in advance of sign vehicle V1.
4. Sign vehicle V1 should remain at the beginning of horizontal or vertical curves until the other vehicles (V2 and V3) are far enough beyond the curve to resume the minimum sight distance of 1500'.
5. Vehicle-mounted sign panels shall have Type III or above retroreflective sheeting, black on white, or black on fluorescent orange, with 6" minimum series D letters per Caltrans sign specifications.
6. Shadow vehicle V2 shall be equipped with a truck-mounted attenuator. The sign panel shown and a Type II flashing arrow sign shall be mounted on the rear of shadow vehicle V2. For median lane closure the flashing arrow sign symbol shall be displayed with the arrowhead on the right.
7. All vehicles used for lane closures shall be equipped with two-way radios, and the vehicle operators shall maintain communication during the work or application operation.
8. All vehicles shall be equipped with flashing or rotating amber lights.
9. If sign vehicle V1 encroaches into the traffic lane due to insufficient shoulder width, sign vehicle V1 shall be equipped with a truck-mounted attenuator. Sign vehicle V1 shall stay as close to the edge of shoulder as practicable.
10. Where workers would be on foot in the work area, a stationary type lane closure (Revised Standard Plan T10, T11, etc., as applicable) shall be used instead of this plan.
11. For moving lane closure on interior lane of multilane highways, use Revised Standard Plan T16.
12. The spacing between work vehicle(s) and the shadow vehicles, and between each shadow vehicle should be minimized to deter road users from driving in between.
13. When the work/application vehicle V3 occupies the median lane, sign vehicle V1 should drive in the median shoulder and indicate left lane closed ahead.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**TRAFFIC CONTROL SYSTEM FOR MOVING LANE CLOSURE ON MULTILANE HIGHWAYS**

NO SCALE

RSP T15 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T15 DATED MAY 20, 2011 - PAGE 243 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP T15**

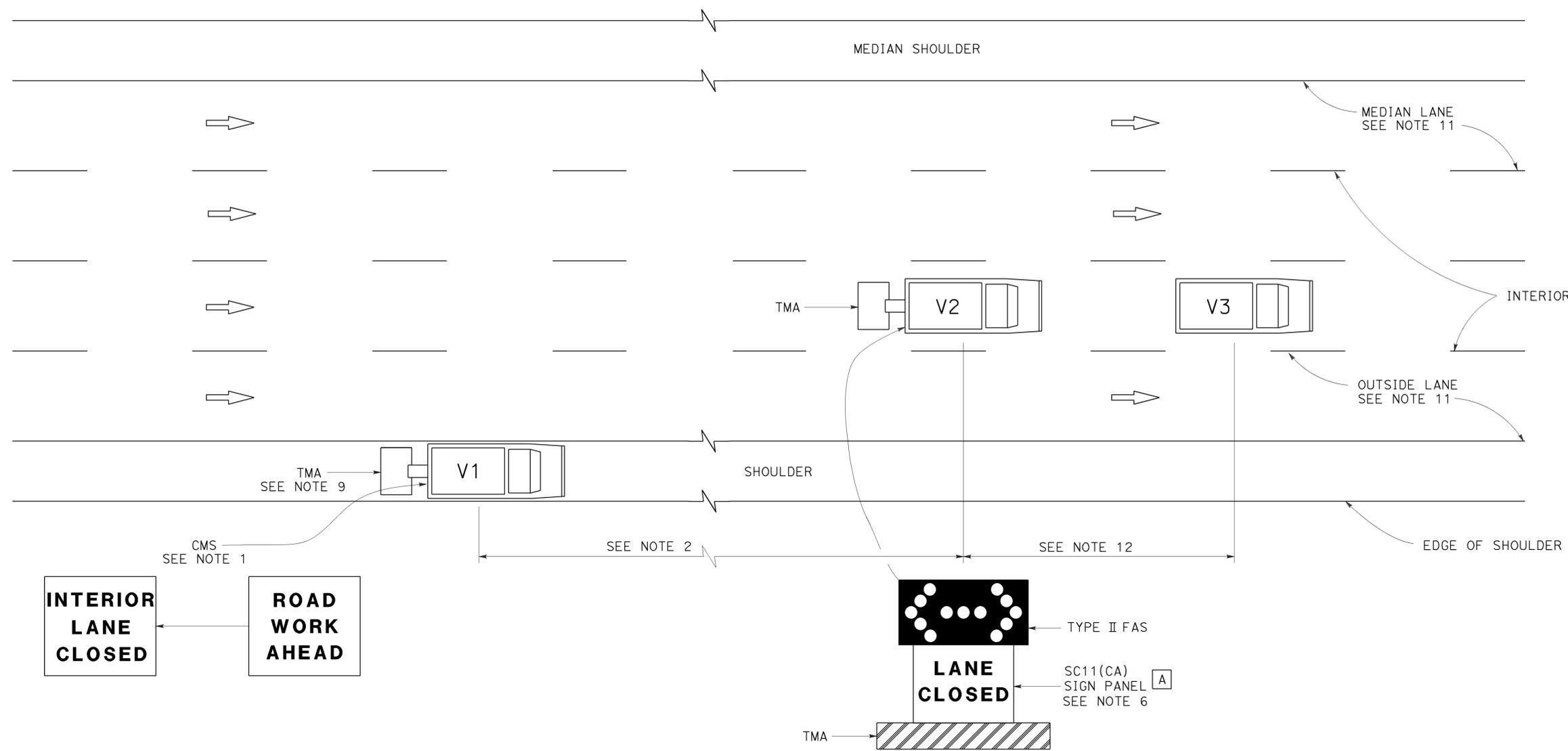
2010 REVISED STANDARD PLAN RSP T15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SoI	113	20.4/21.2	34	42

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.



TO ACCOMPANY PLANS DATED 3-14-16



SIGN PANEL SIZE (Min)

A 54" x 42"

LEGEND

- V1 SIGN VEHICLE
- V2 SHADOW VEHICLE
- V3 WORK/APPLICATION VEHICLE
- FLASHING ARROW SIGN (FAS) IN FLASHING DOUBLE ARROW MODE
- CMS CHANGEABLE MESSAGE SIGN
- TMA TRUCK-MOUNTED ATTENUATOR

MOVING LANE CLOSURE ON INTERIOR LANE OF MULTILANE HIGHWAYS

NOTES:

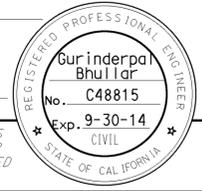
1. A changeable message sign shall be mounted on the rear of sign vehicle V1. The changeable message sign shall be sequenced to show the "ROAD WORK AHEAD" message first, followed by the "INTERIOR LANE CLOSED" message. The message "CENTER LANE CLOSED" may be used in place of the "INTERIOR LANE CLOSED" message.
2. If traffic queues develop, sign vehicle V1 should be positioned upstream from the end of queue. Sign vehicle V1 shall be positioned where highly visible when shoulders are not available.
3. A minimum sight distance of 1500' should be provided in advance of sign vehicle V1.
4. Sign vehicle V1 should remain at the beginning of horizontal or vertical curves until the other vehicles (V2 and V3) are far enough beyond the curve to resume the minimum sight distance of 1500'.
5. Vehicle-mounted sign panels shall have Type III or above retroreflective sheeting, black on white, or black on fluorescent orange, with 6" minimum series D letters per Caltrans sign specifications.
6. Shadow vehicle V2 shall be equipped with a truck-mounted attenuator. The sign panel shown and a Type II flashing arrow sign shall be mounted on the rear of shadow vehicle V2.
7. All vehicles used for lane closures shall be equipped with two-way radios, and the vehicle operators shall maintain communication during the work or application operation.
8. All vehicles shall be equipped with flashing or rotating amber lights.
9. If sign vehicle V1 encroaches into the traffic lane due to insufficient shoulder width, sign vehicle V1 shall be equipped with a truck-mounted attenuator. Sign vehicle V1 shall stay as close to the edge of shoulder as practicable.
10. Where workers would be on foot in the work area, a stationary type lane closure (Revised Standard Plan T10, T11 etc., as applicable) shall be used instead of this plan.
11. For moving lane closure on median lane or outside lane of multilane highways, use Revised Standard Plan T15.
12. The spacing between work vehicle(s) and the shadow vehicles, and between each shadow vehicle should be minimized to deter road users from driving in between.

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**TRAFFIC CONTROL SYSTEM  
 FOR MOVING LANE CLOSURE  
 ON MULTILANE HIGHWAYS**  
 NO SCALE

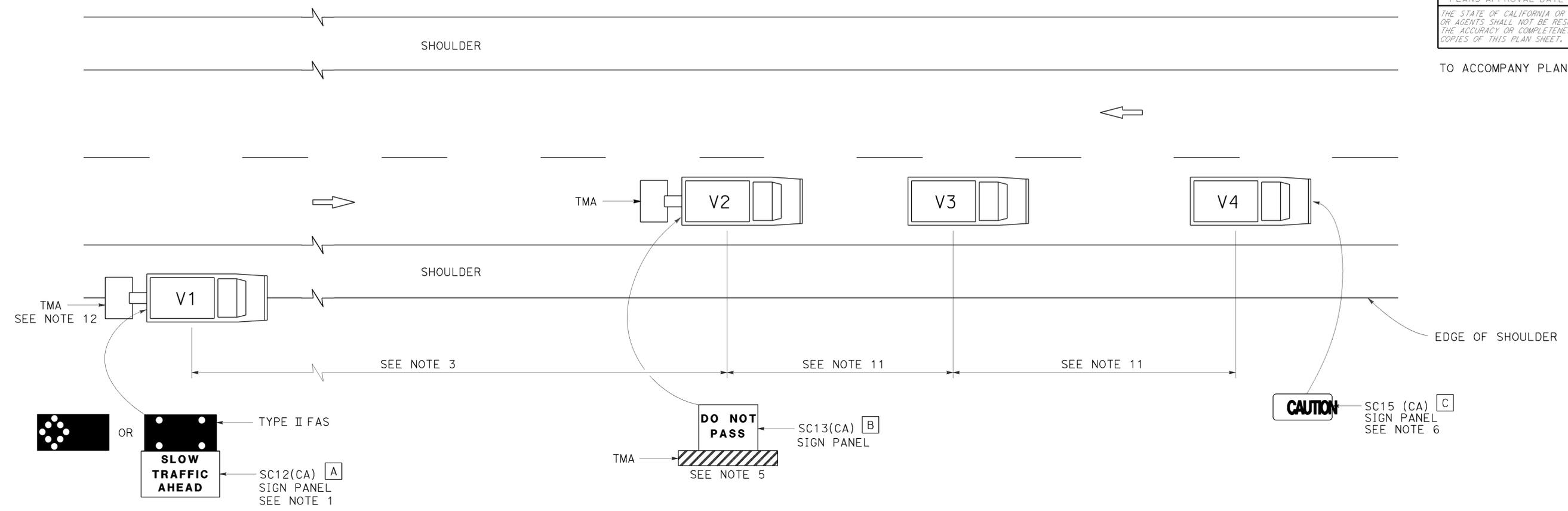
RSP T16 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T16 DATED MAY 20, 2011 - PAGE 244 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP T16**

2010 REVISED STANDARD PLAN RSP T16



TO ACCOMPANY PLANS DATED 3-14-16



**NOTES:**

1. Either a changeable message sign or a SC12(CA) "SLOW TRAFFIC AHEAD" sign shall be mounted on the rear of sign vehicle V1. The changeable message sign shall be sequenced to show the "CAUTION" message first, follow by the "SLOW TRAFFIC AHEAD" message. A Type II flashing arrow sign may be used with the SC12(CA) sign panel.
2. Sign vehicle V1 should be positioned where highly visible when shoulders are not available.
3. If traffic queues develop, sign vehicle V1 should be positioned upstream from the end of queue.
4. Vehicle-mounted sign panels shall have Type III or above retroreflective sheeting, black on white, or black on fluorescent orange, with 6" minimum series D letters per Caltrans sign specifications.
5. Shadow vehicle shall be equipped with a truck-mounted attenuator. The sign panel shown shall be mounted on the rear of shadow vehicle V2. The message "LANE CLOSED" may be used in place of the "DO NOT PASS" message.
6. The sign panel shown shall be mounted on the front of sign vehicle V4, facing opposing traffic.

7. All vehicles shall be equipped with flashing or rotating amber lights.
8. Sign vehicle V4 will not be required when the work and vehicles V2 and V3 are 2' or more from the centerline of the highway during the work or application operations.
9. All vehicles used for lane closures shall be equipped with two-way radios and the vehicle operators shall maintain communication during the work or application operation.
10. This plan shall not be used where workers would be on foot in the work area. Use a stationary type lane closure (Revised Standard Plan T13) for this condition.
11. Minimize spacing between vehicles V2 and V3 and vehicles V3 and V4 to deter road users from driving in between them.
12. If sign vehicle V1 encroaches into the traffic lane due to insufficient shoulder width, sign vehicle V1 shall be equipped with a truck-mounted attenuator. Sign vehicle V1 shall stay as close to the edge of shoulder as practicable.

**LEGEND**

- V1 SIGN VEHICLE
- V2 SHADOW VEHICLE
- V3 WORK/APPLICATION VEHICLE
- V4 SIGN VEHICLE
- TMA TRUCK-MOUNTED ATTENUATOR
-  FLASHING ARROW SIGN (FAS) IN FLASHING CAUTION MODE
-  FLASHING ARROW SIGN (FAS) IN ALTERNATING DIAMOND CAUTION

**SIGN PANEL SIZE (Min)**

- A** 72" x 42"
- B** 54" x 42"
- C** 54" x 24"

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**TRAFFIC CONTROL SYSTEM  
 FOR MOVING LANE CLOSURE  
 ON TWO LANE HIGHWAYS**  
 NO SCALE

RSP T17 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T17  
 DATED MAY 20, 2011 - PAGE 245 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP T17**

2010 REVISED STANDARD PLAN RSP T17

**LEGEND:**

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

**ABBREVIATIONS**

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SoI	113	20.4/21.2	36	42

*Theresa Gabriel*  
REGISTERED ELECTRICAL ENGINEER

October 30, 2015  
PLANS APPROVAL DATE

Theresa  
Aziz Gabriel  
No. E15129  
Exp. 6-30-16  
ELECTRICAL

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 3-14-16

**SOFFIT AND WALL-MOUNTED LUMINAIRES**

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

**NOTE:**  
Arrow indicates "street side" of luminaire.

COMMONLY USED SYMBOLS FOR UNITED STATES CUSTOMARY UNITS OF MEASUREMENT:

SYMBOL	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 LEGEND)
		CITY ELECTROLIER
		ELECTROLIER FOUNDATION (FUTURE INSTALLATION)

- NOTES:**
- 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
		150
		15 STRUCTURE
		150 STRUCTURE
		21
		210
		21 STRUCTURE
		210 STRUCTURE
		30
		31
		32

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)**

NO SCALE

RSP ES-1A DATED OCTOBER 30, 2015 SUPERSEDES RSP ES-1A DATED JULY 19, 2013 AND 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	SoI	113	20.4/21.2	37	42

*Theresa Gabriel*  
REGISTERED ELECTRICAL ENGINEER

October 30, 2015  
PLANS APPROVAL DATE

Theresa  
Aziz Gabriel  
No. E15129  
Exp. 6-30-16  
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.

TO ACCOMPANY PLANS DATED 3-14-16

**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
		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

**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

		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.

**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

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**ELECTRICAL SYSTEMS  
(LEGEND AND ABBREVIATIONS)**

NO SCALE

RSP ES-1B DATED OCTOBER 30, 2015 SUPERSEDES RSP ES-1B DATED JULY 19, 2013 AND STANDARD PLAN ES-1B DATED MAY 20, 2011 - PAGE 426 OF THE STANDARD PLANS BOOK DATED 2010.

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

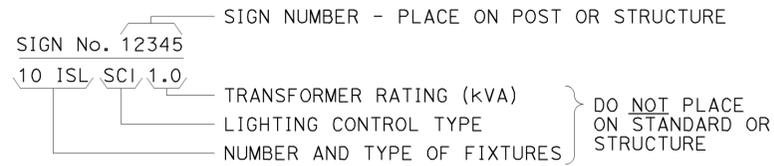
2010 REVISED STANDARD PLAN RSP ES-1B



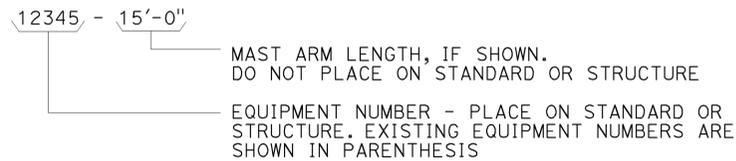
TO ACCOMPANY PLANS DATED 3-14-16

### EQUIPMENT IDENTIFICATION

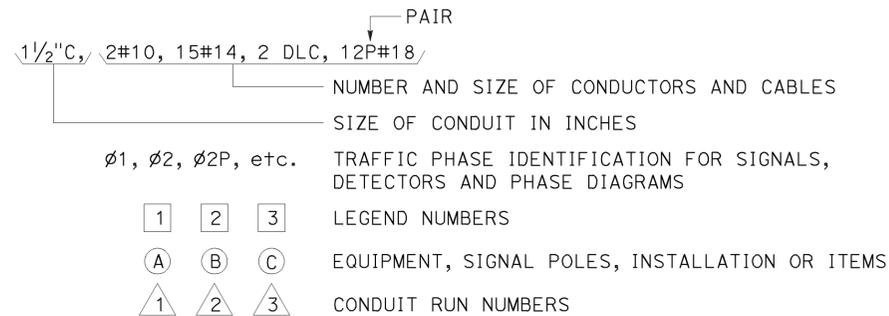
#### ILLUMINATED SIGN IDENTIFICATION NUMBER:



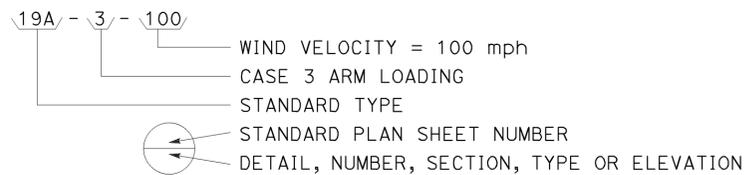
#### ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



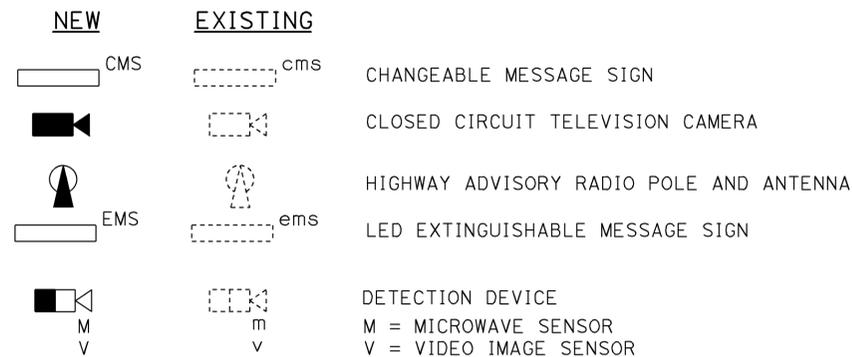
#### CONDUIT AND CONDUCTOR IDENTIFICATION:



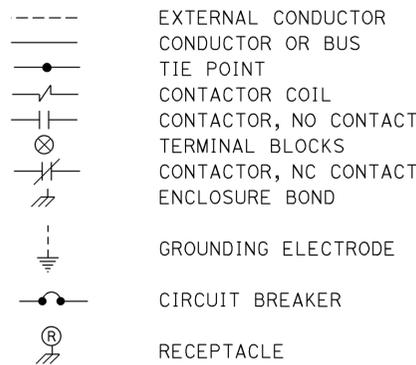
#### SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



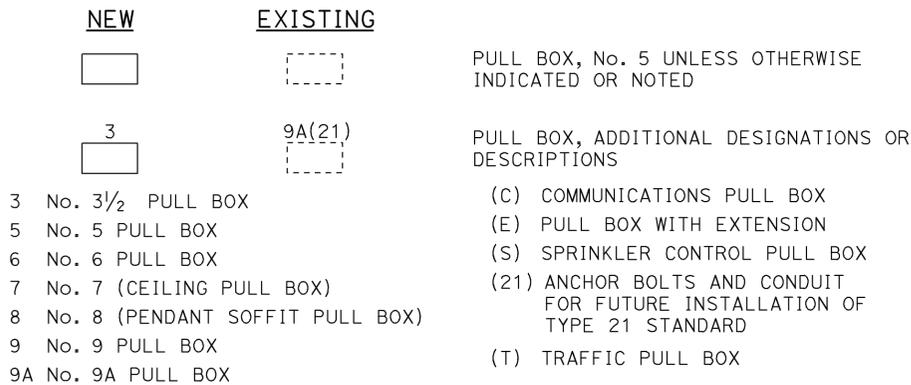
### MISCELLANEOUS EQUIPMENT



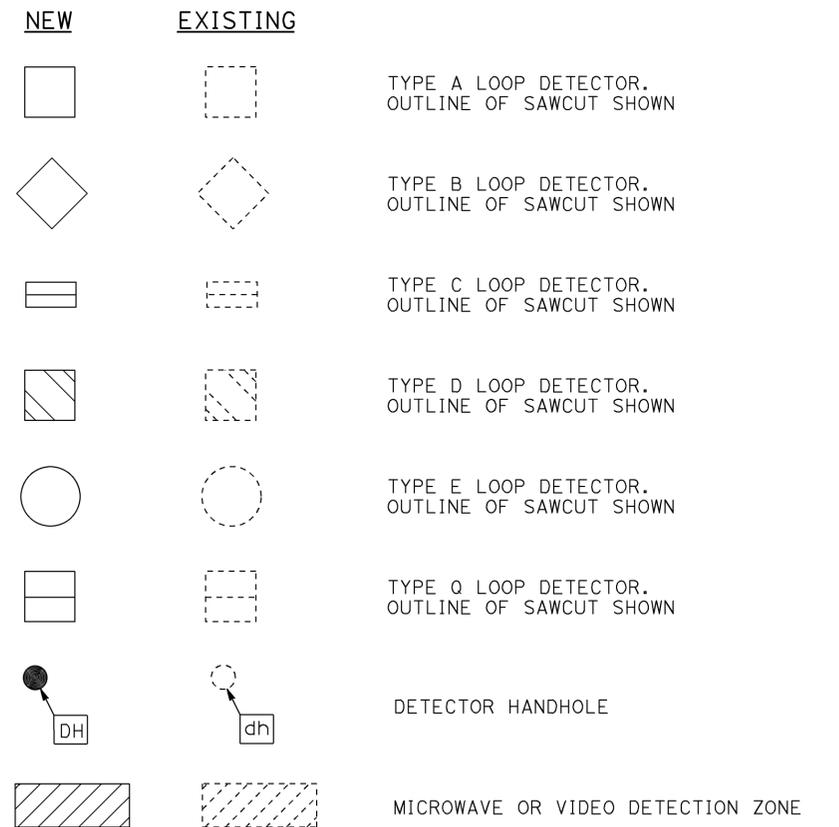
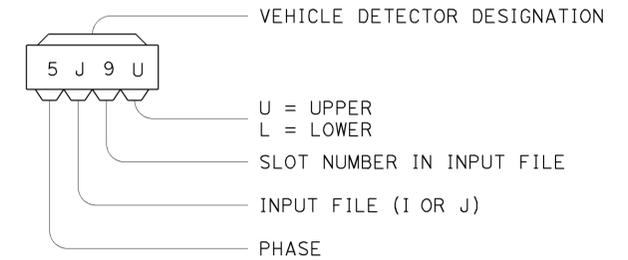
### WIRING DIAGRAM LEGEND



### PULL BOXES



### VEHICLE DETECTORS



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## ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

NO SCALE

RSP ES-1C DATED OCTOBER 30, 2015 SUPERSEDES RSP ES-1C DATED JULY 19, 2013 AND 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	SoI	113	20.4/21.2	39	42

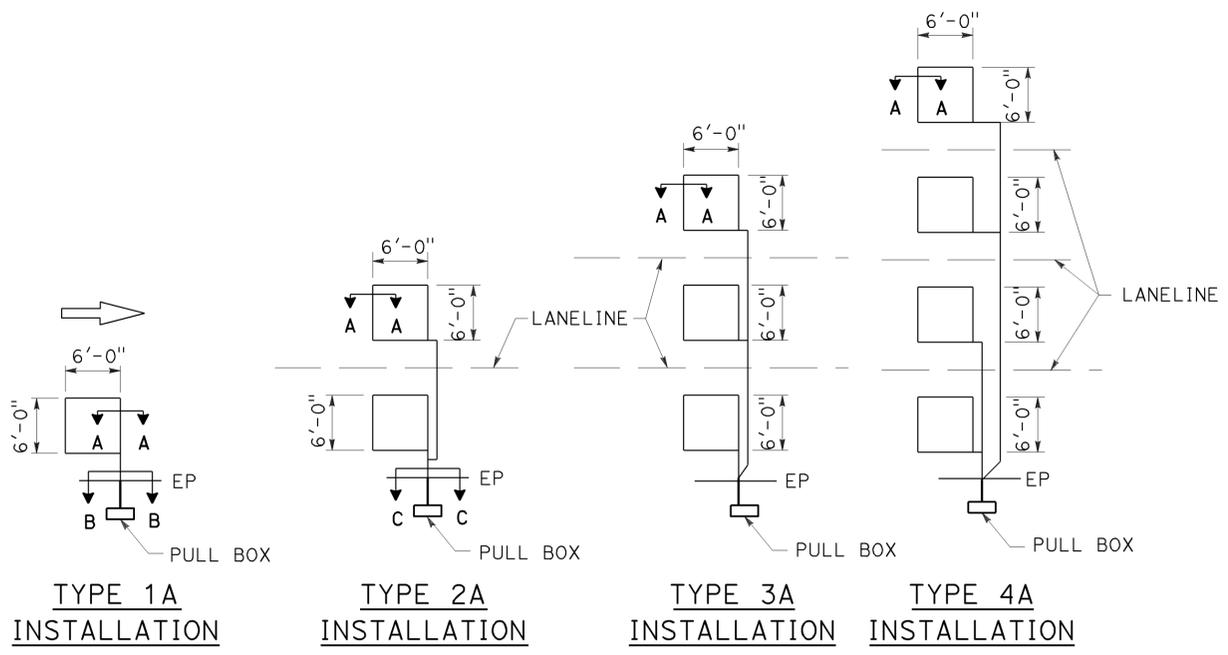
Theresa Gabriel  
REGISTERED ELECTRICAL ENGINEER

October 30, 2015  
PLANS APPROVAL DATE

Theresa Aziz Gabriel  
REGISTERED PROFESSIONAL ENGINEER  
No. E15129  
Exp. 6-30-16  
ELECTRICAL  
STATE OF CALIFORNIA

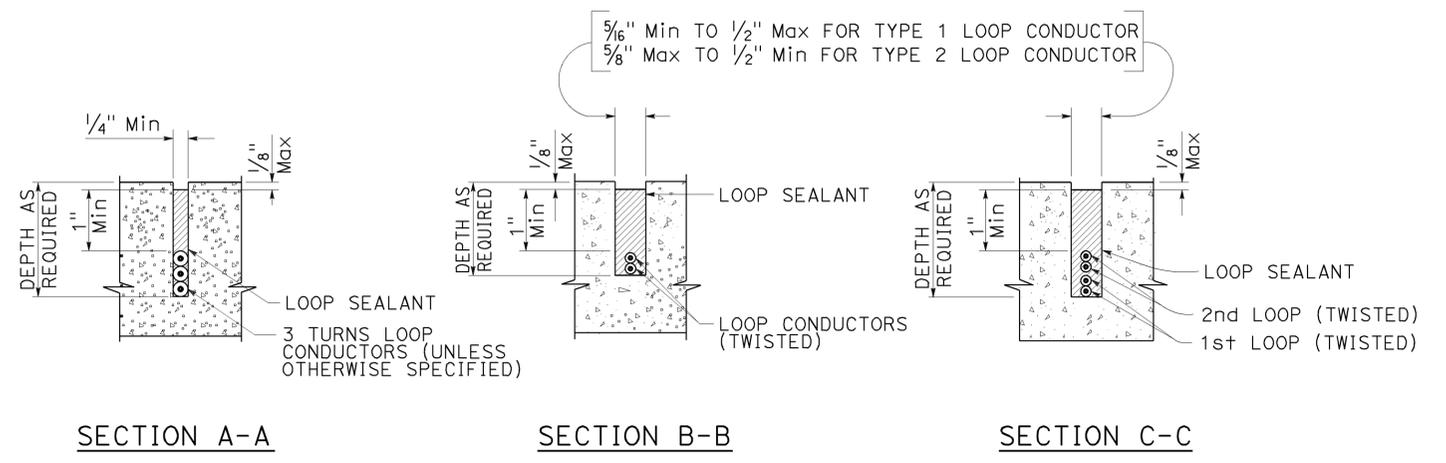
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TO ACCOMPANY PLANS DATED 3-14-16

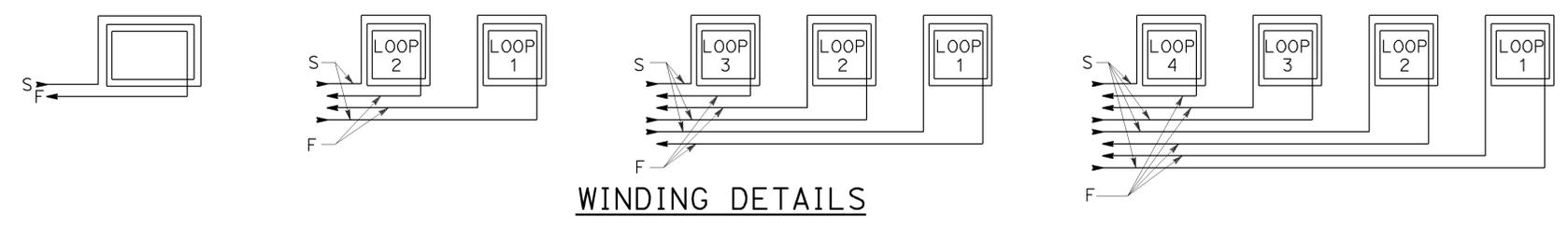


**SAWCUT DETAILS**

- Type A loop detector configurations illustrated
- 1A thru 4A = 1 Type A loop configuration in each lane.
  - 1B thru 4B = 1 Type B loop configuration in each lane.
  - 1C = 1 Type C loop configuration entering lanes as required.
  - 1D thru 4D = 1 Type D loop configuration in each lane.
  - 1E thru 4E = 1 Type E loop configuration in each lane.
  - 1Q thru 4Q = 1 Type Q loop configuration in each lane.
- Use Type A, B, C, D, E or Q loop detector configurations only when specified or shown on plans.



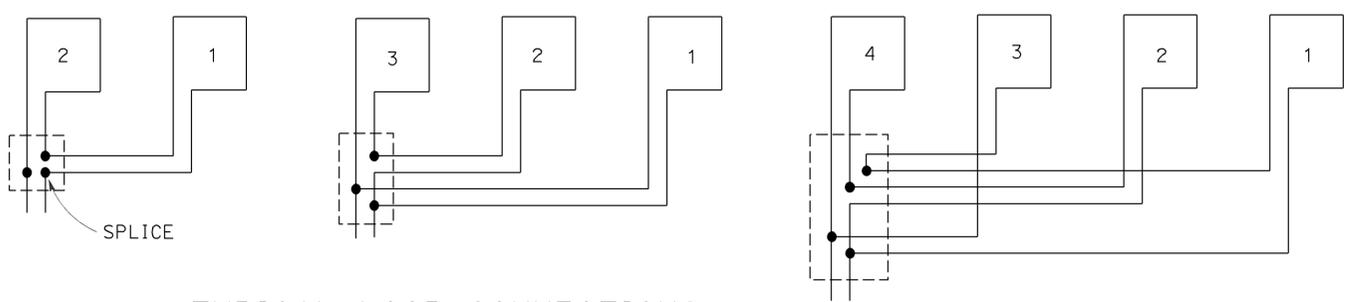
**SLOT DETAILS - TYPE 1 AND TYPE 2 LOOP CONDUCTOR**



**ABBREVIATIONS:**

S - START

F - FINISH



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**ELECTRICAL SYSTEMS  
(LOOP DETECTORS)**

NO SCALE

RSP ES-5A DATED OCTOBER 30, 2015 SUPERSEDES STANDARD PLAN ES-5A DATED MAY 20, 2011 - PAGE 448 OF THE STANDARD PLANS BOOK DATED 2010.

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

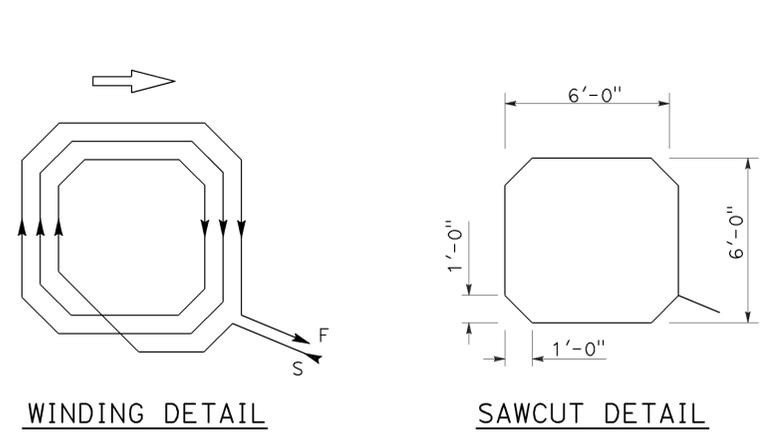
2010 REVISED STANDARD PLAN RSP ES-5A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Soi	113	20.4/21.2	40	42

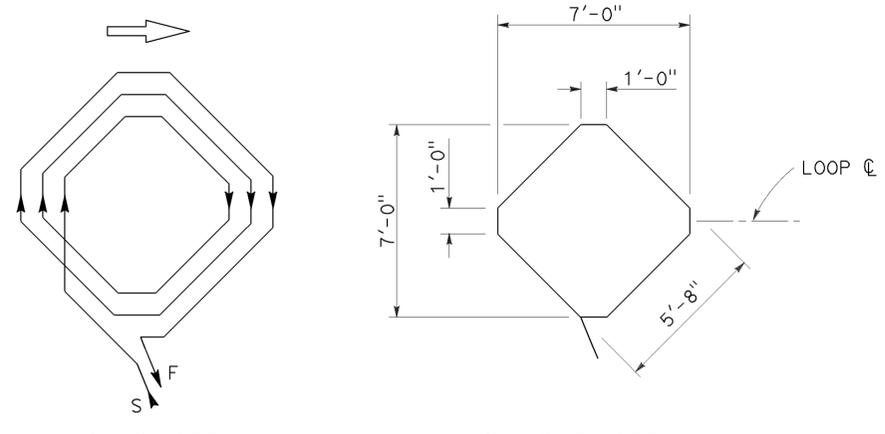
*Theresa Gabriel*  
 REGISTERED ELECTRICAL ENGINEER  
 October 30, 2015  
 PLANS APPROVAL DATE  
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER  
 Theresa Aziz Gabriel  
 No. E15129  
 Exp. 6-30-16  
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 STATE OF CALIFORNIA

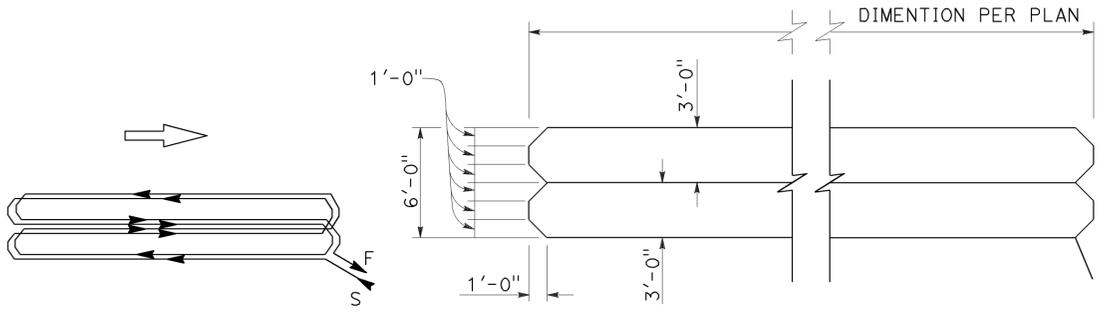
TO ACCOMPANY PLANS DATED 3-14-16



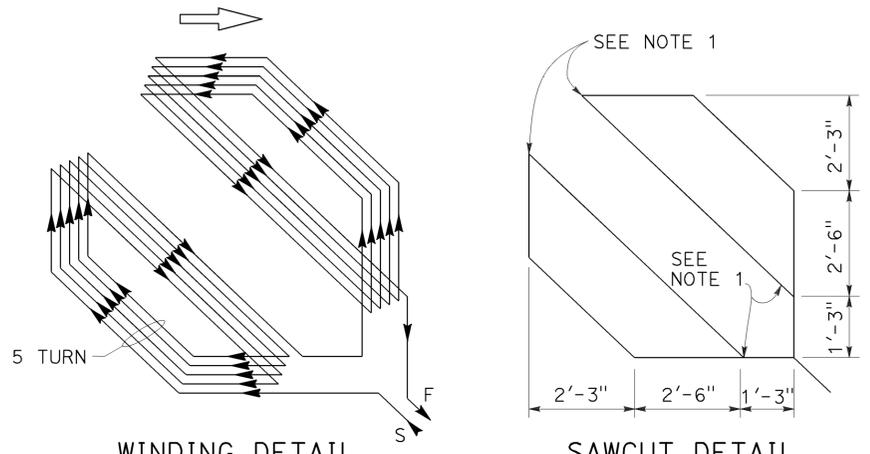
WINDING DETAIL  
SAWCUT DETAIL  
**TYPE A LOOP DETECTOR CONFIGURATION**



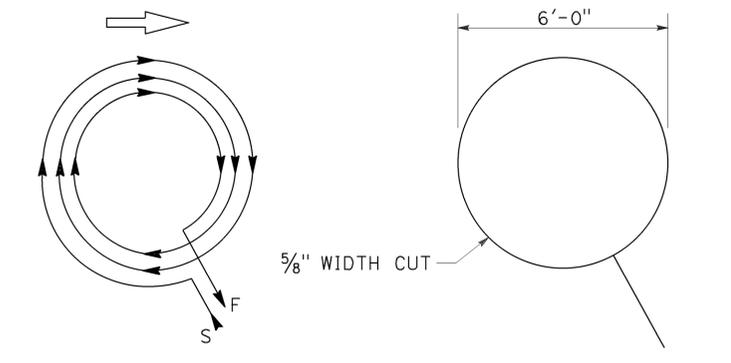
WINDING DETAIL  
SAWCUT DETAIL  
**TYPE B LOOP DETECTOR CONFIGURATION**



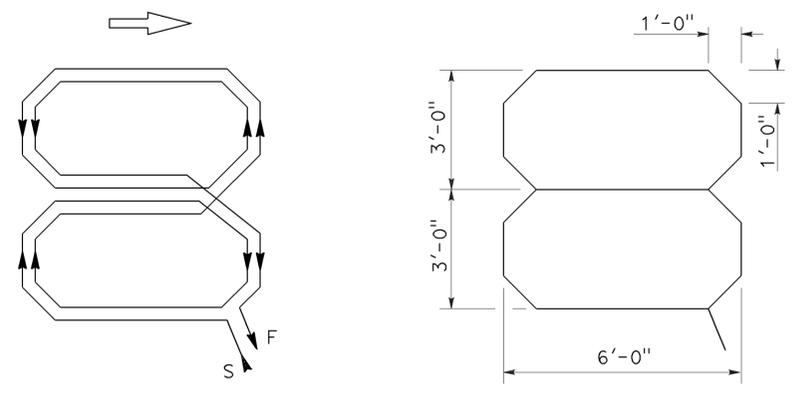
WINDING DETAIL  
SAWCUT DETAIL  
**TYPE C LOOP DETECTOR CONFIGURATION**



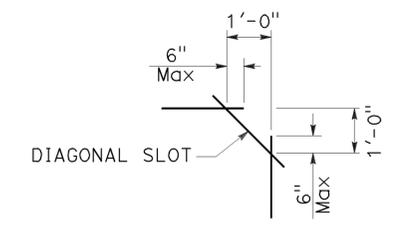
WINDING DETAIL  
SAWCUT DETAIL  
**TYPE D LOOP DETECTOR CONFIGURATION**



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.
  3. Use Type D loops for limit line detector installations in left turn and bicycle lanes.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS  
(DETECTORS)**  
NO SCALE

RSP ES-5B DATED OCTOBER 30, 2015 SUPERSEDES RSP ES-5B DATED JULY 19, 2013 AND STANDARD PLAN ES-5B DATED MAY 20, 2011 - PAGE 449 OF THE STANDARD PLANS BOOK DATED 2010.

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

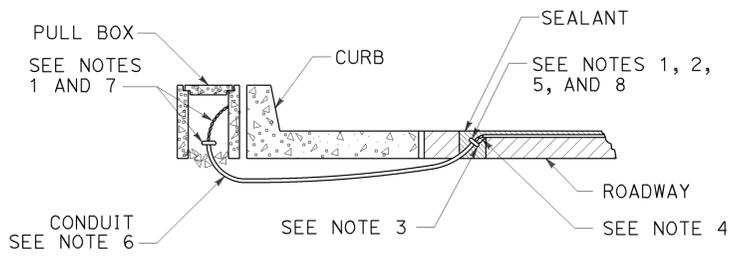
**2010 REVISED STANDARD PLAN RSP ES-5B**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Soi	113	20.4/21.2	41	42

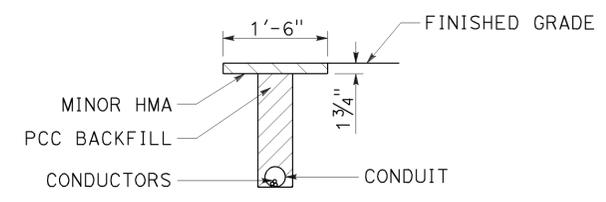
*Theresa Gabriel*  
 REGISTERED ELECTRICAL ENGINEER  
 Theresa Aziz Gabriel  
 No. E15129  
 Exp. 6-30-16  
 STATE OF CALIFORNIA  
 REGISTERED PROFESSIONAL ENGINEER  
 ELECTRICAL

October 30, 2015  
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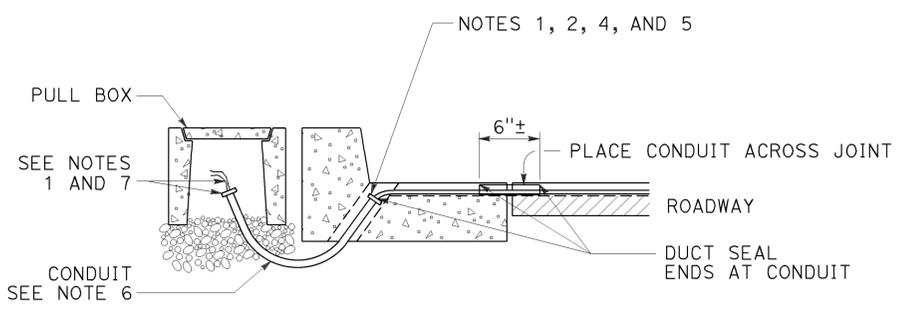
TO ACCOMPANY PLANS DATED 3-14-16



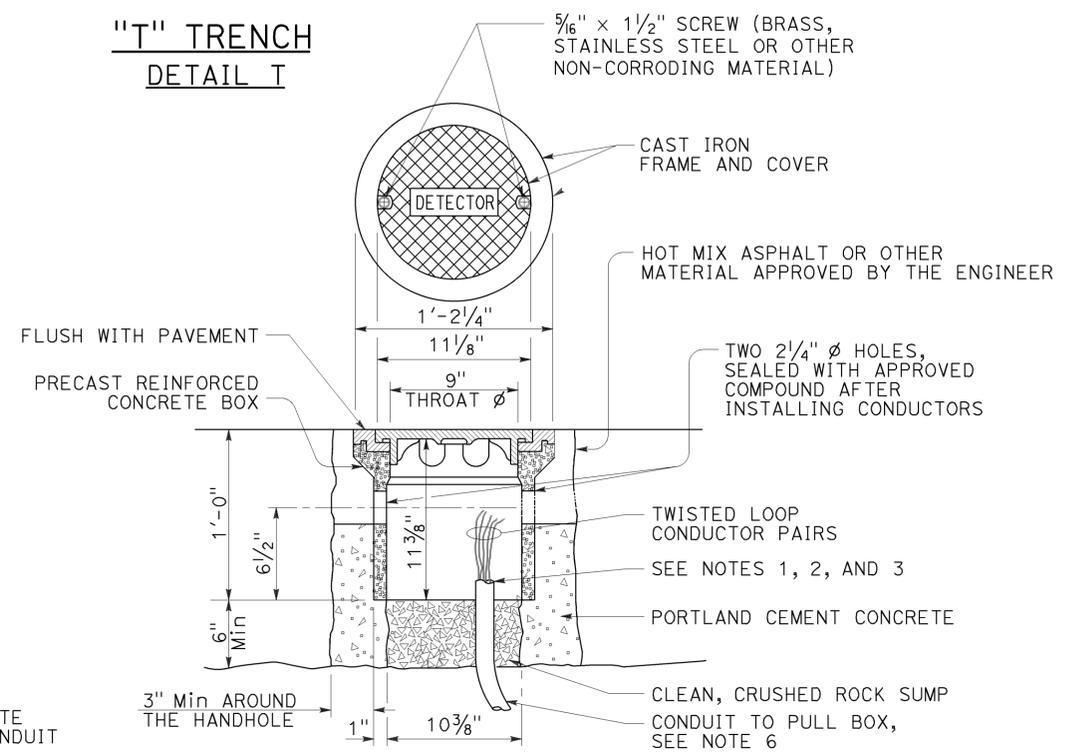
**TYPE A**  
**CURB TERMINATION DETAIL**



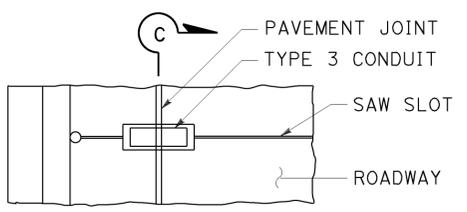
**"T" TRENCH**  
**DETAIL 1**



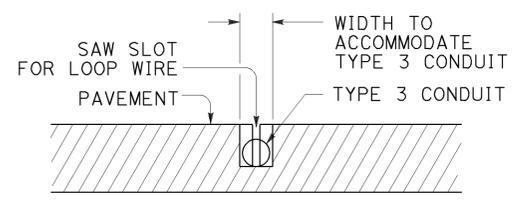
**CROSS SECTION**



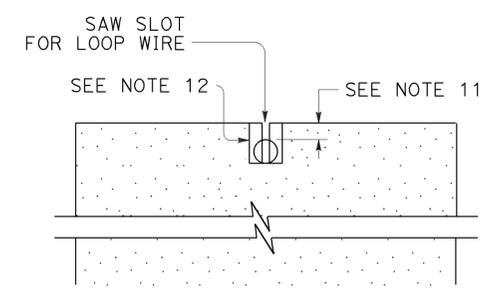
**DETECTOR HANDHOLE DETAIL**



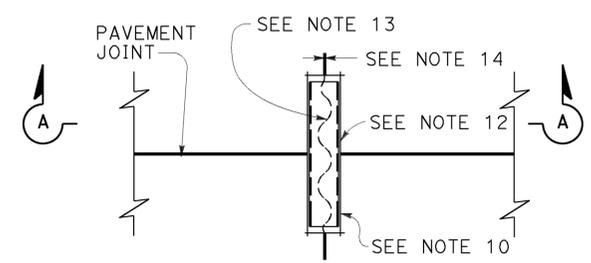
**PLAN VIEW**



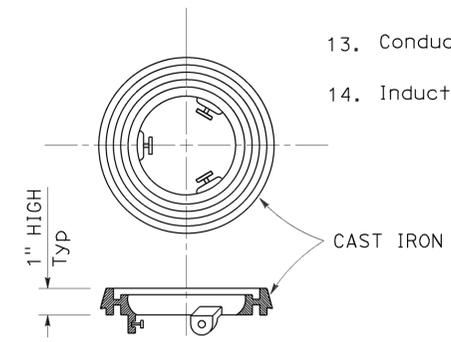
**SECTION C-C**



**SECTION A-A**



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



**LOCKING GRADE RING**

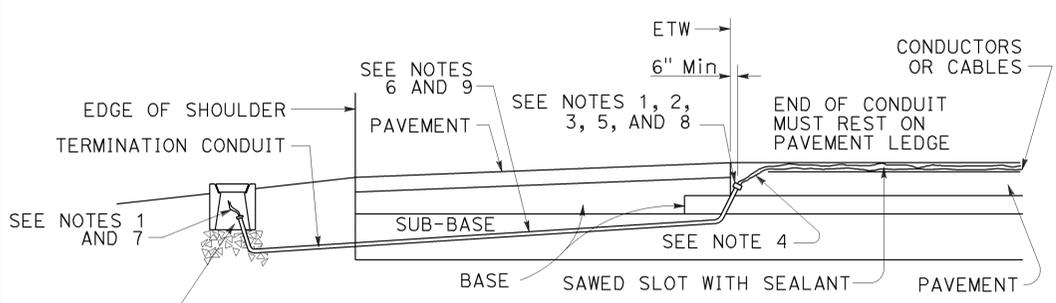
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS**  
**(CURB AND SHOULDER TERMINATION, TRENCH, AND HANDHOLE DETAILS)**

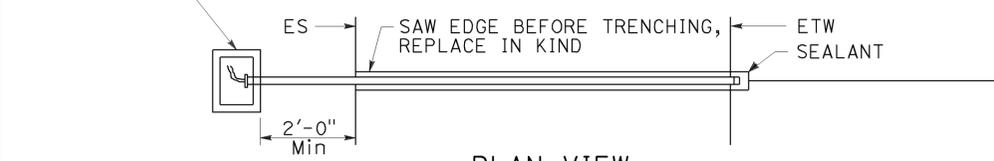
NO SCALE

RSP ES-5D DATED OCTOBER 30, 2015 SUPERSEDES RSP ES-5D DATED JULY 19, 2013 AND STANDARD PLAN ES-5D DATED MAY 20, 2011 - PAGE 451 OF THE STANDARD PLANS BOOK DATED 2010.

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



**CROSS SECTION**



**PLAN VIEW**  
**SHOULDER TERMINATION DETAILS**

2010 REVISED STANDARD PLAN RSP ES-5D

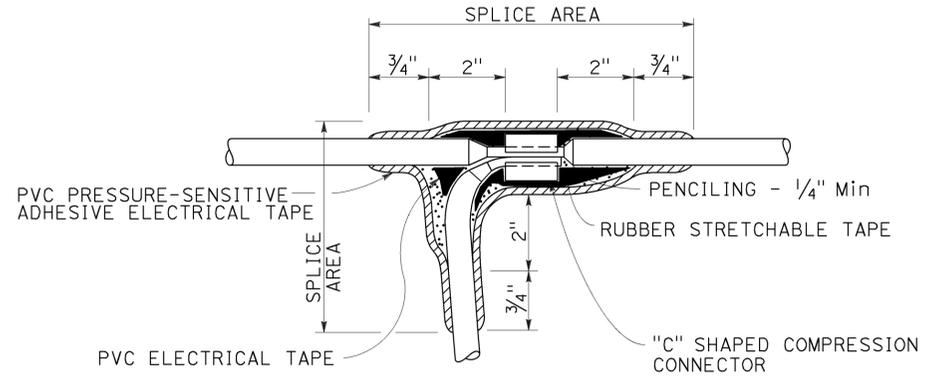
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SoI	113	20.4/21.2	42	42

*Theresa Gabriel*  
 REGISTERED ELECTRICAL ENGINEER  
 Theresa  
 Aziz Gabriel  
 No. E15129  
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 ELECTRICAL  
 STATE OF CALIFORNIA

October 30, 2015  
 PLANS APPROVAL DATE

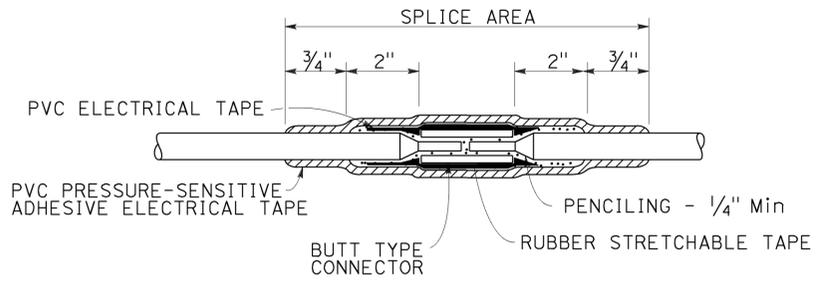
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TO ACCOMPANY PLANS DATED 3-14-16



**TYPE C SPLICE**

See Note 3

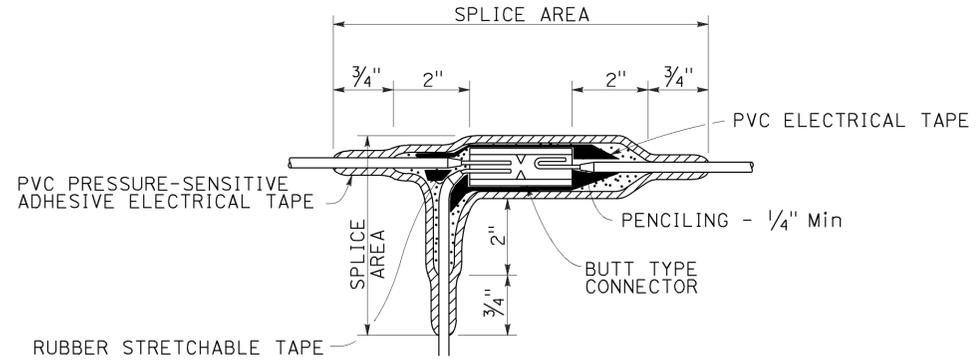


**TYPE S SPLICE**

See Note 4

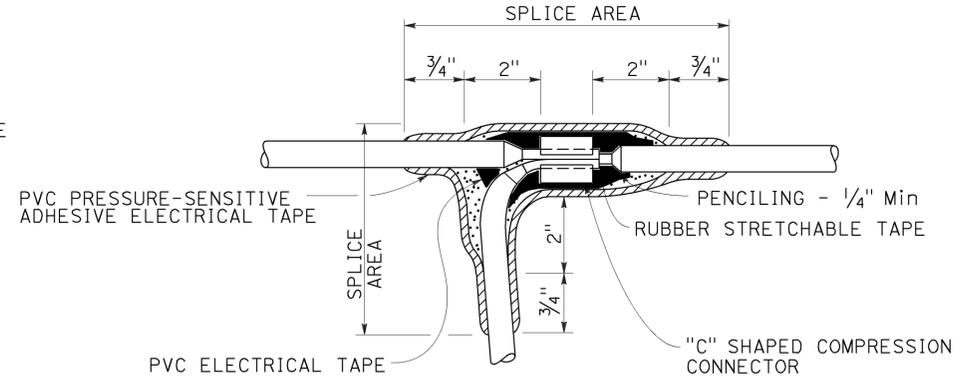
**NOTES:**

1. Dimensions are minimum.
2. Rubber tapes shall be rolled after application.
3. Between 1 free-end and 1 through conductor.
4. Between 2 free-end conductors.
5. Between 3 free-end conductors.



**TYPE ST SPLICE**

See Note 5



**TYPE T SPLICE**

See Note 5

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS  
 (SPlicing DETAILS)**

NO SCALE

RSP ES-13A DATED OCTOBER 30, 2015 SUPERSEDES STANDARD PLAN ES-13A DATED MAY 20, 2011 - PAGE 491 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP ES-13A**

2010 REVISED STANDARD PLAN RSP ES-13A