

INDEX OF PLANS

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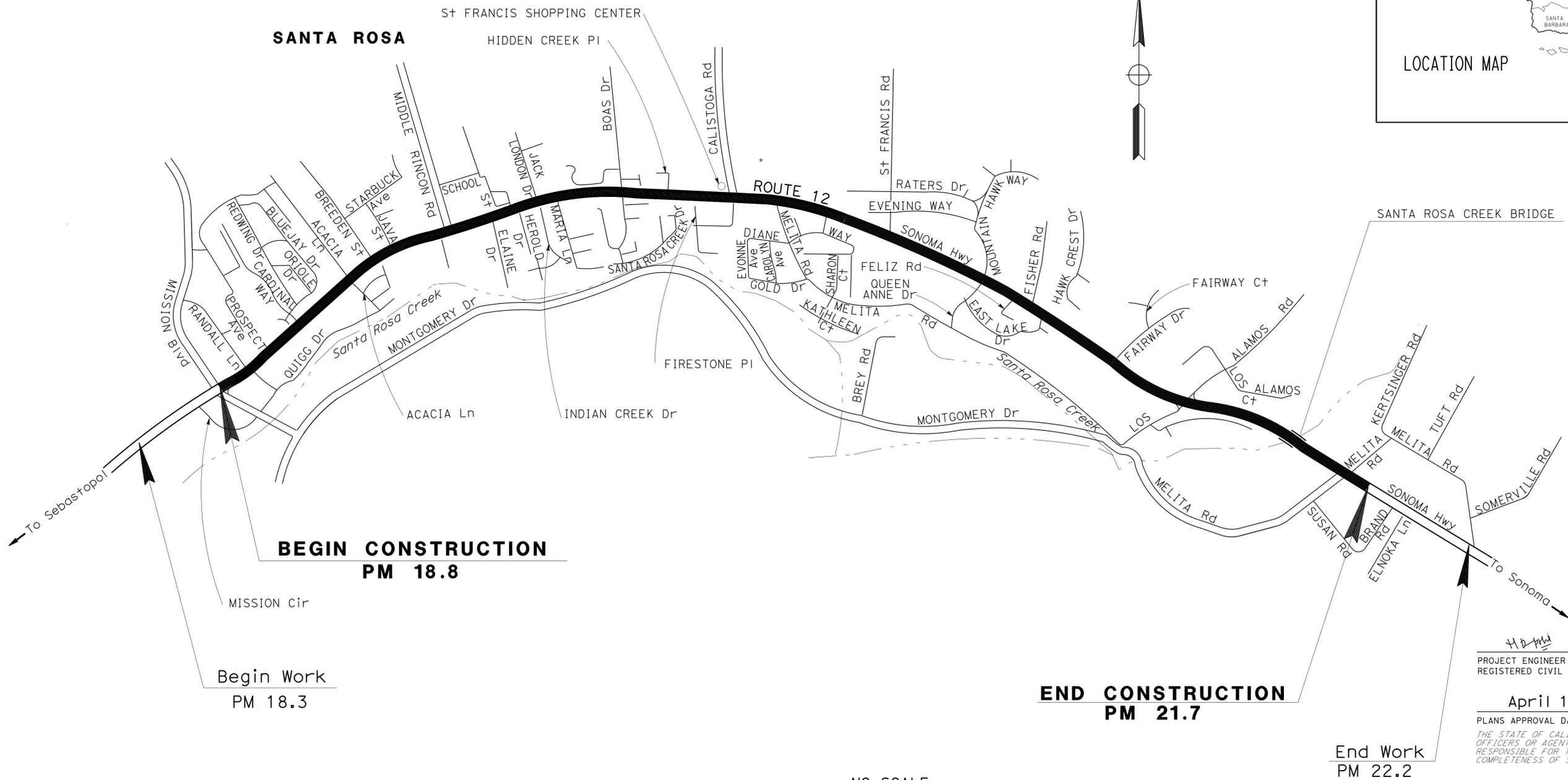
THE STANDARD PLANS LIST APPLICABLE TO THIS CONTRACT IS INCLUDED IN THE NOTICE TO BIDDERS AND SPECIAL PROVISIONS BOOK.

STATE OF CALIFORNIA ACNHP-P012(117)E
DEPARTMENT OF TRANSPORTATION
PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY
IN SONOMA COUNTY
IN SANTA ROSA
FROM MISSION BOULEVARD TO
0.3 MILE EAST OF SANTA ROSA CREEK BRIDGE

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	12	18.8/21.7	1	38

LOCATION MAP



PROJECT MANAGER
RAMSES SARGISS
 DESIGN MANAGER
VIJITH THILAKARATNE

PROJECT ENGINEER
 REGISTERED CIVIL ENGINEER
 DATE: 3/4/14
 April 1, 2014
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Deepthi Maddabushi
 No. 75987
 Exp. 6-30-14
 CIVIL
 STATE OF CALIFORNIA

CONTRACT No.	04-4H5704
PROJECT ID	0413000159

DATE PLOTTED => 04-APR-2014
 TIME PLOTTED => 12:45
 03-27-14

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	12	18.8/21.7	2	38
			REGISTERED CIVIL ENGINEER	DATE	
			4-1-14	3/4/14	
			PLANS APPROVAL DATE		
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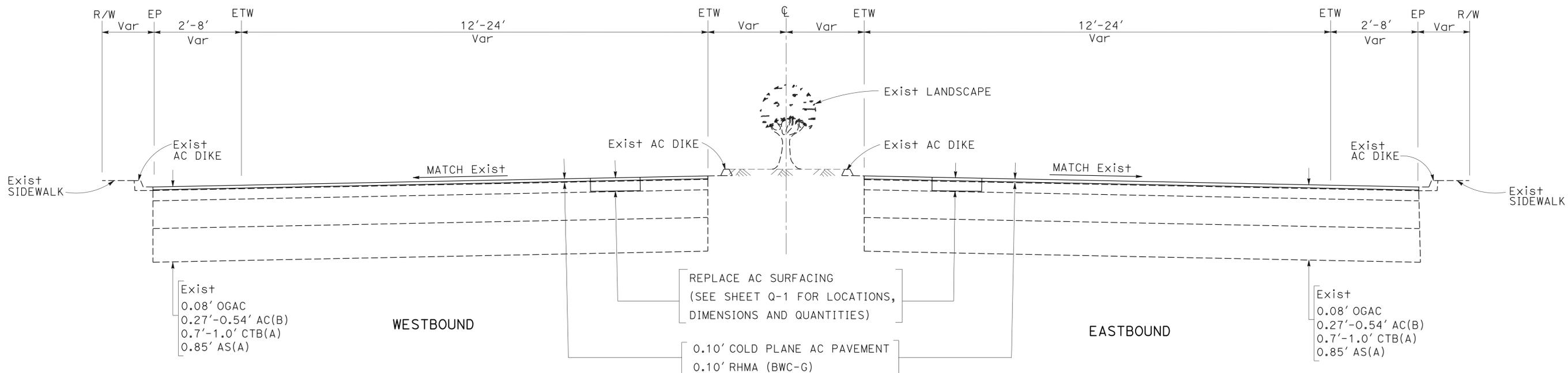


NOTES:

- DIMENSIONS OF PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
- EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.
- FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT THE DISTRICT OFFICE.
- FOR SHOULDER BACKING, SEE SHEET Q-1 FOR LOCATIONS.

ABBREVIATION:

RHMA(BWC-G) RUBBERIZED HOT MIX ASPHALT
(BONDED WEARING COURSE-GAP GRADED)



ROUTE 12
PM 18.8 - 21.7

TYPICAL CROSS SECTIONS
NO SCALE

X-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN
FUNCTIONAL SUPERVISOR	VIJITH THILAKARATNE
CALCULATED/DESIGNED BY	CHECKED BY
DEEPTHI MADABUSHI	BINH HONG
REVISOR BY	DATE REVISED
DM	10/16/13



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	12	18.8/21.7	3	38

<i>Jeryl L. Struven</i>	3/4/14
REGISTERED CIVIL ENGINEER	DATE
4-1-14	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
Jerilyn L. Struven
No. 49964
Exp. 2-31-14
CIVIL

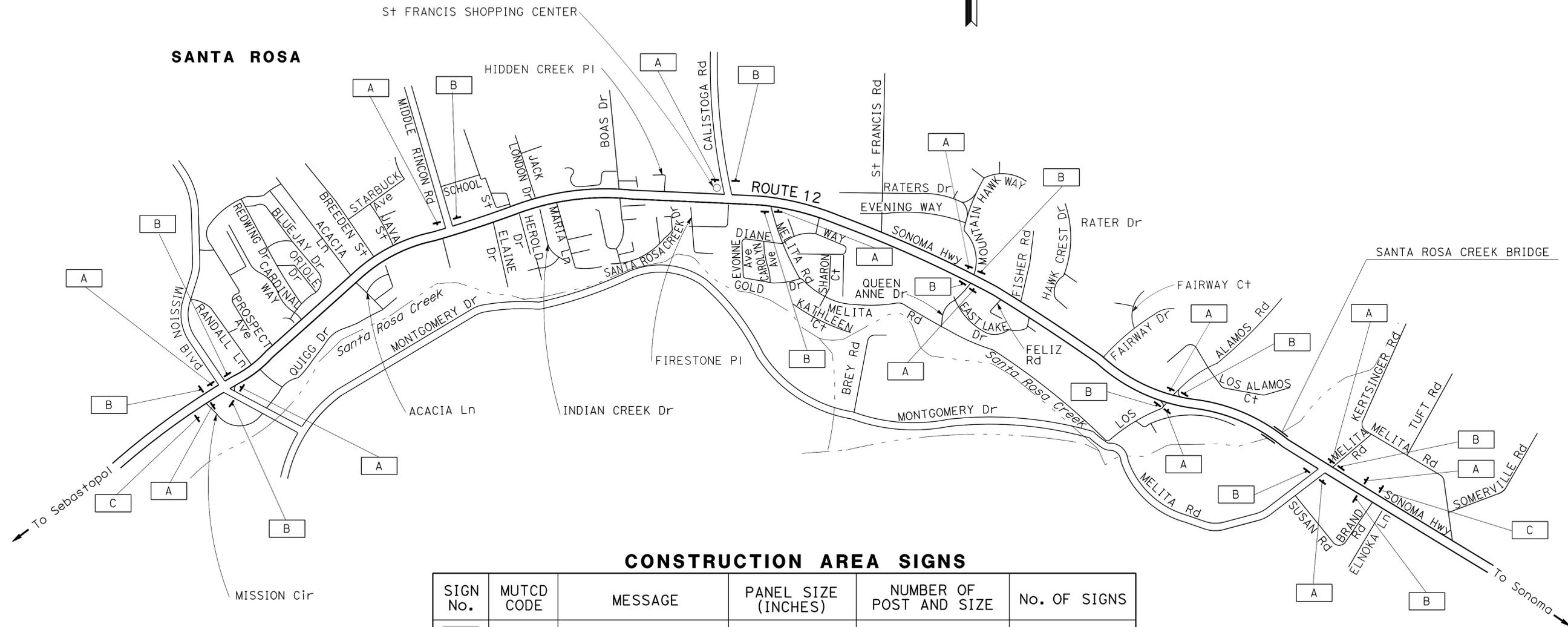
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NOTES:

1. EXACT LOCATION AND POSITION OF CONSTRUCTION AREA SIGNS TO BE DETERMINED BY THE ENGINEER.
2. CONSTRUCTION AREA SIGNS TO BE STATIONARY MOUNTED.
3. SIGNS POST LENGTH ARE APPROXIMATE, EXACT SIZE AND LENGTH TO BE DETERMINED BY THE ENGINEER.

LEGEND:

No. CONSTRUCTION AREA SIGN DESIGNATION



CONSTRUCTION AREA SIGNS

SIGN No.	MUTCD CODE	MESSAGE	PANEL SIZE (INCHES)	NUMBER OF POST AND SIZE	No. OF SIGNS
A	W20-1	ROAD WORK AHEAD	36" x 36"	(ONE) 4" x 6"	13
B	G20-2	END ROAD WORK	36" x 18"	(ONE) 4" x 4"	13
C	C40A(CA)	TRAFFIC FINES DOUBLED IN WORK ZONE	48" x 48"	(ONE) 4" x 6"	2
TOTAL					28

CONSTRUCTION AREA SIGNS
NO SCALE

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

CS-1



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
TRAFFIC
Caltrans

FUNCTIONAL SUPERVISOR
ROLAND AU-YEUNG

CALCULATED/DESIGNED BY
CHECKED BY

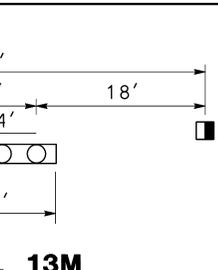
HENRY TAM
JERILYN L. STRUVEN

REVISOR BY
DATE REVISED

HT
10/16/13

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN

FUNCTIONAL SUPERVISOR: VIJITH THILAKARATNE
 CALCULATED/DESIGNED BY: DEEPTHI MADABUSHI
 CHECKED BY: BINH HONG
 REVISED BY: DATE: 12/9/13
 DM: 12/9/13



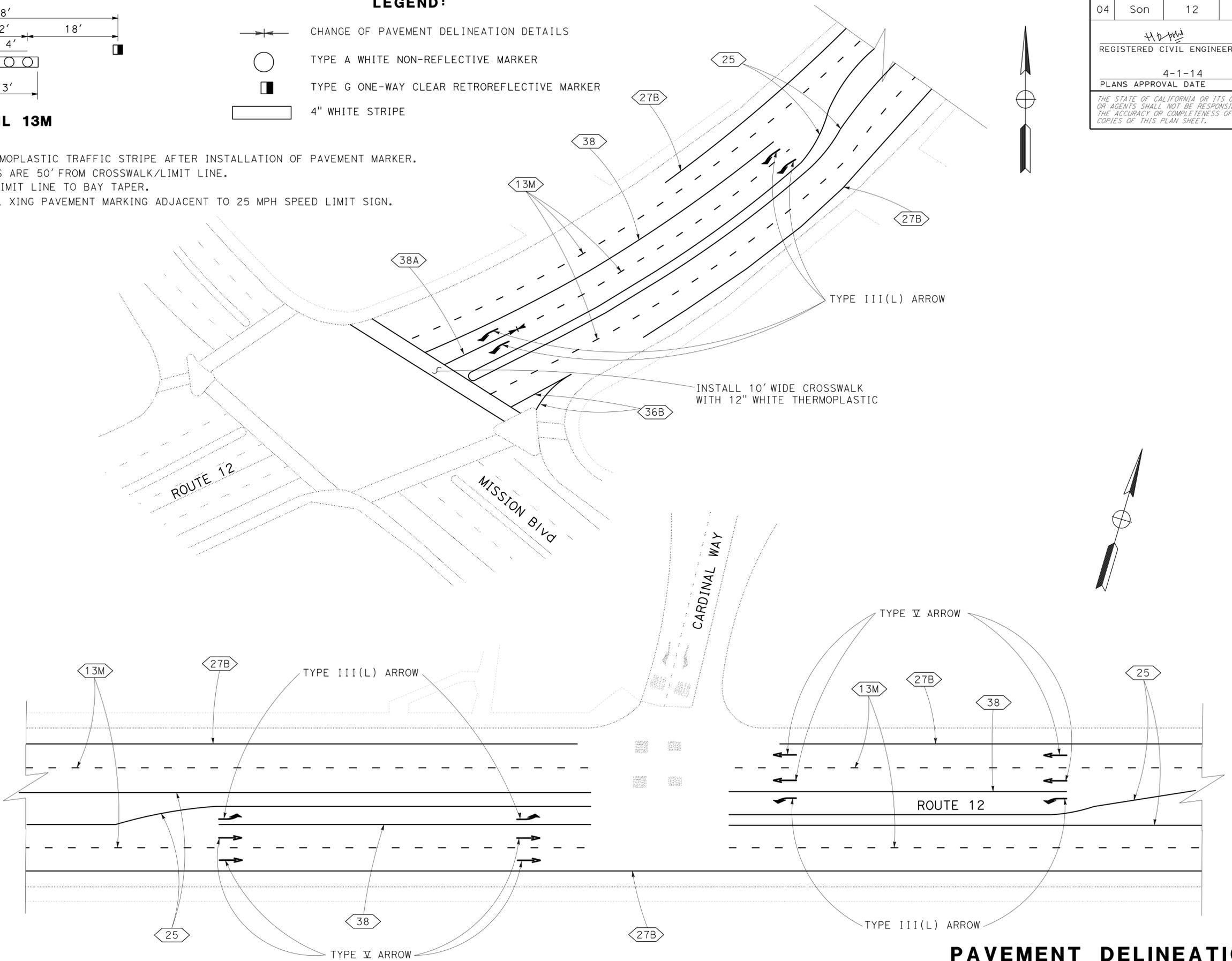
DETAIL 13M

LEGEND:

- CHANGE OF PAVEMENT DELINEATION DETAILS
- TYPE A WHITE NON-REFLECTIVE MARKER
- TYPE G ONE-WAY CLEAR RETROREFLECTIVE MARKER
- 4" WHITE STRIPE

NOTES:

1. APPLY 4" WHITE THERMOPLASTIC TRAFFIC STRIPE AFTER INSTALLATION OF PAVEMENT MARKER.
2. FIRST SET OF ARROWS ARE 50' FROM CROSSWALK/LIMIT LINE.
3. DETAIL 38 IS FROM LIMIT LINE TO BAY TAPER.
4. INSTALL SLOW SCHOOL XING PAVEMENT MARKING ADJACENT TO 25 MPH SPEED LIMIT SIGN.



PAVEMENT DELINEATION PLAN
NO SCALE

APPROVED FOR PAVEMENT DELINEATION WORK ONLY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	12	18.8/21.7	4	38

REGISTERED CIVIL ENGINEER: *H.D. P...* 3/4/14 DATE

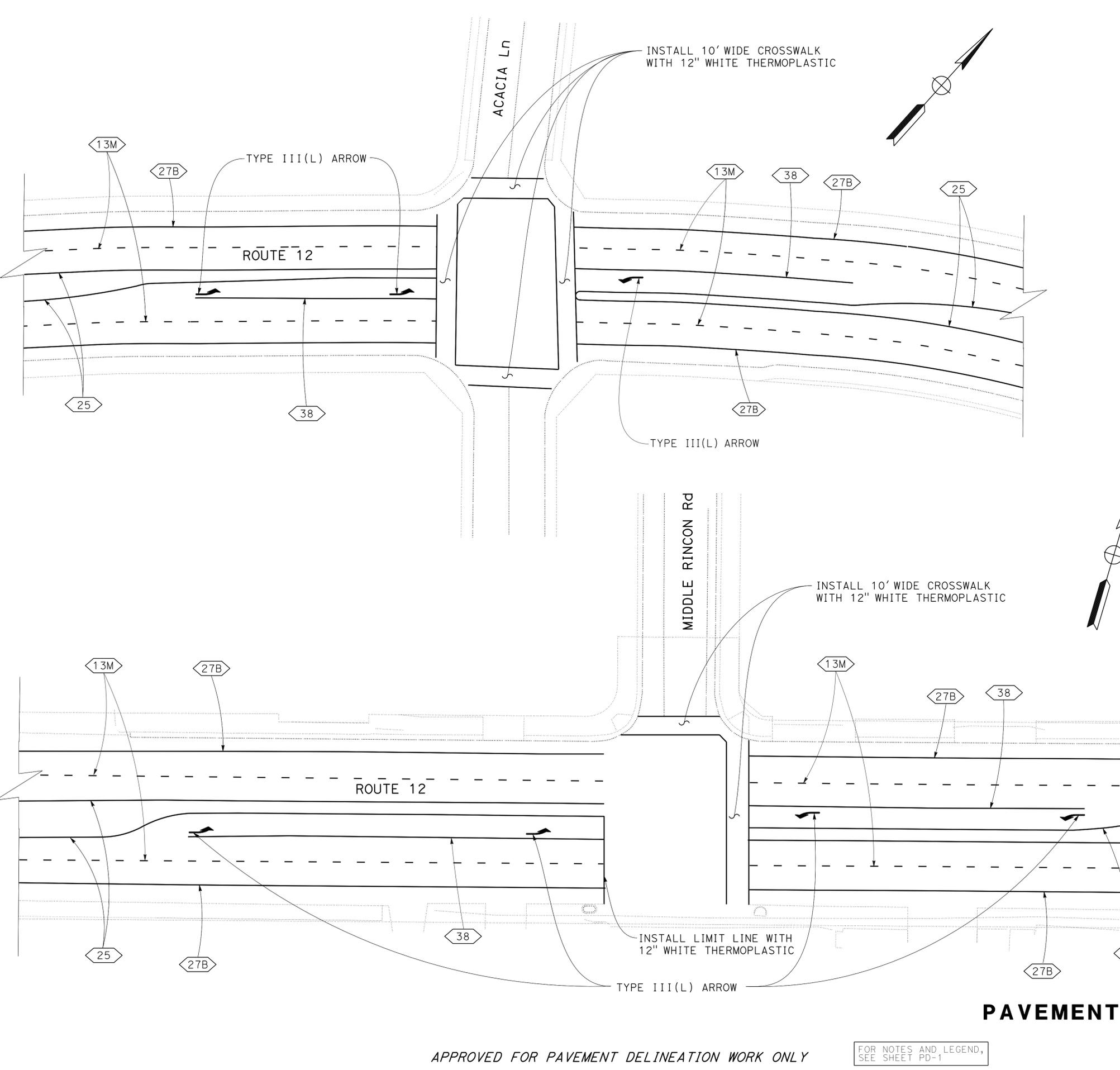
PLANS APPROVAL DATE: 4-1-14

REGISTERED PROFESSIONAL ENGINEER: Deepthi Madabushi No. 75987 Exp. 6-30-14 CIVIL

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

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN

FUNCTIONAL SUPERVISOR VIJITH THILAKARATNE	CALCULATED-DESIGNED BY	DEPT. MADABUSHI	REVISOR BY	DATE
	CHECKED BY	BINH HONG	DM	12/9/13



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	12	18.8/21.7	5	38

H. B. P. 3/4/14
 REGISTERED CIVIL ENGINEER DATE
 4-1-14
 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
 Deepthi Madabushi
 No. 75987
 Exp. 6-30-14
 CIVIL
 STATE OF CALIFORNIA

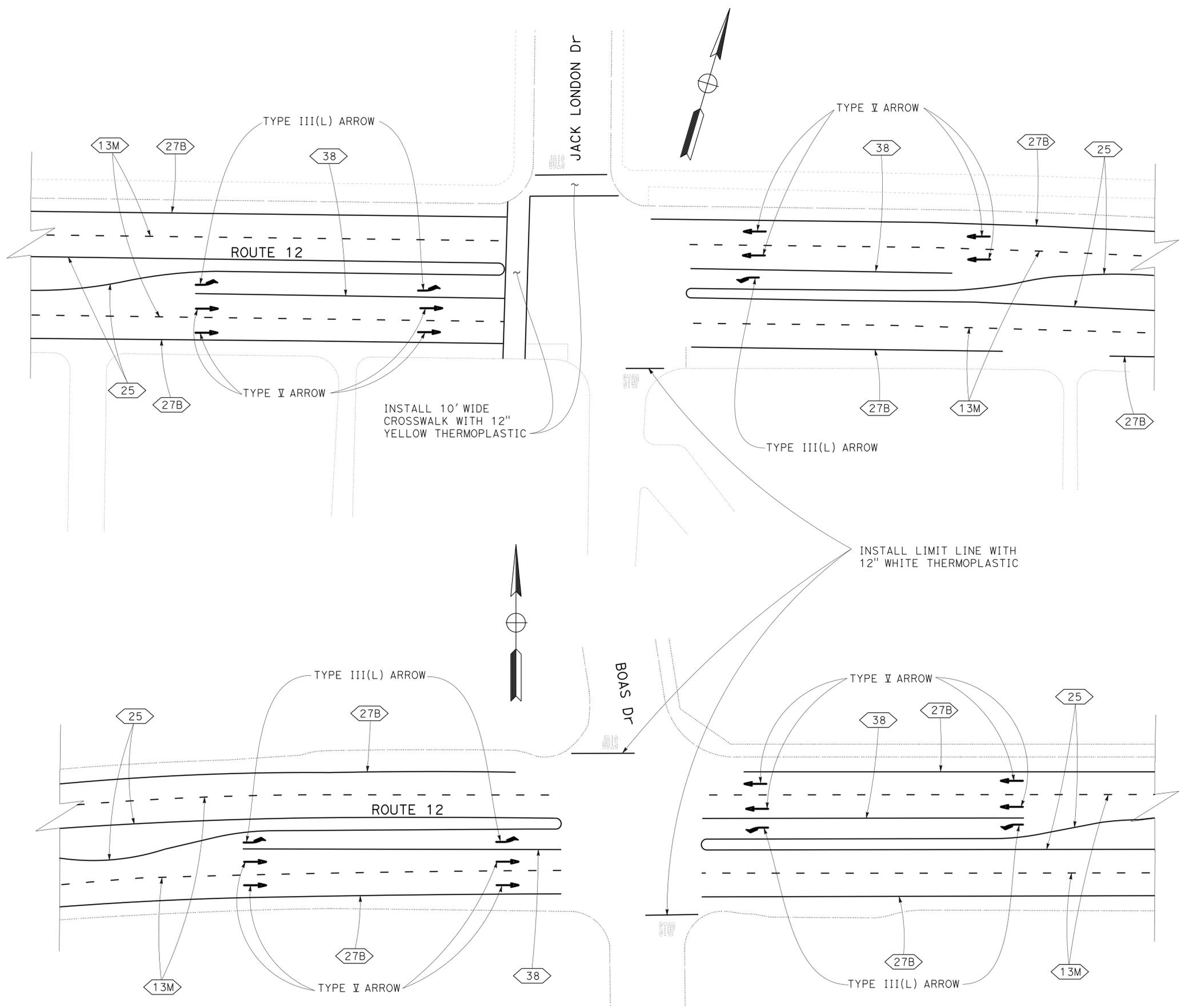
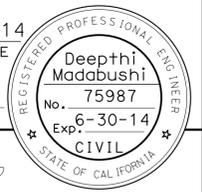
APPROVED FOR PAVEMENT DELINEATION WORK ONLY

FOR NOTES AND LEGEND, SEE SHEET PD-1

PAVEMENT DELINEATION PLAN
NO SCALE

PD-2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	12	18.8/21.7	6	38
			REGISTERED CIVIL ENGINEER	DATE	
			4-1-14	3/4/14	
			PLANS APPROVAL DATE		
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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	REVISOR	DATE
Caltrans	VIJITH THILAKARATNE	DEEPTHI MADABUSHI	12/9/13
DESIGN	CHECKED BY	DESIGNED BY	DM
		BINH HONG	

APPROVED FOR PAVEMENT DELINEATION WORK ONLY

FOR NOTES AND LEGEND, SEE SHEET PD-1

PAVEMENT DELINEATION PLAN
NO SCALE

PD-3

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	12	18.8/21.7	7	38

3/4/14
DATE

REGISTERED CIVIL ENGINEER

4-1-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER

Deepthi Madabushi

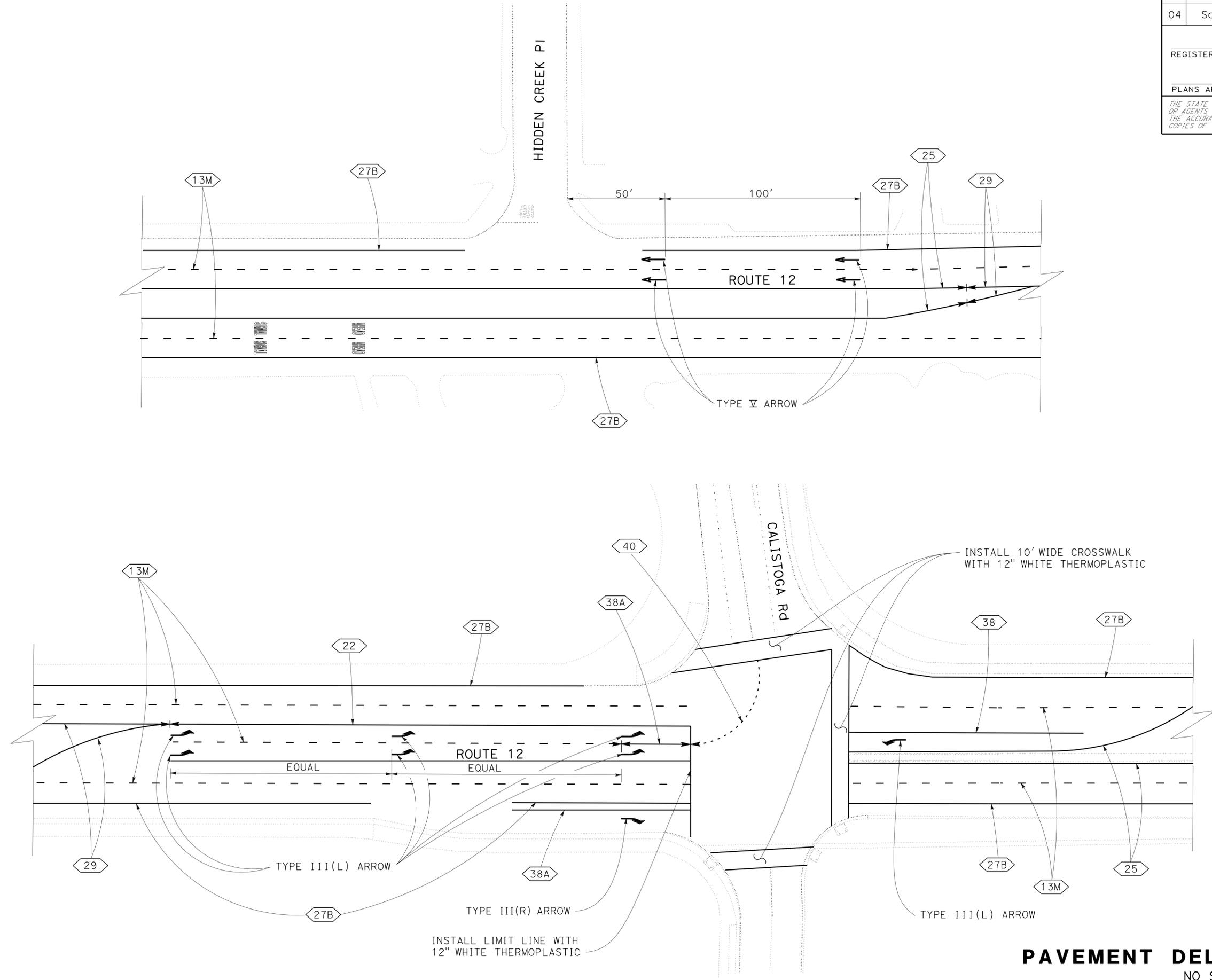
No. 75987

Exp. 6-30-14

CIVIL

STATE OF CALIFORNIA

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR	DATE
Caltrans	VIJITH THILAKARATNE	DEEPTHI MADABUSHI	BINH HONG	12/9/13
DESIGN				

APPROVED FOR PAVEMENT DELINEATION WORK ONLY

FOR NOTES AND LEGEND, SEE SHEET PD-1

PAVEMENT DELINEATION PLAN

NO SCALE

PD-4

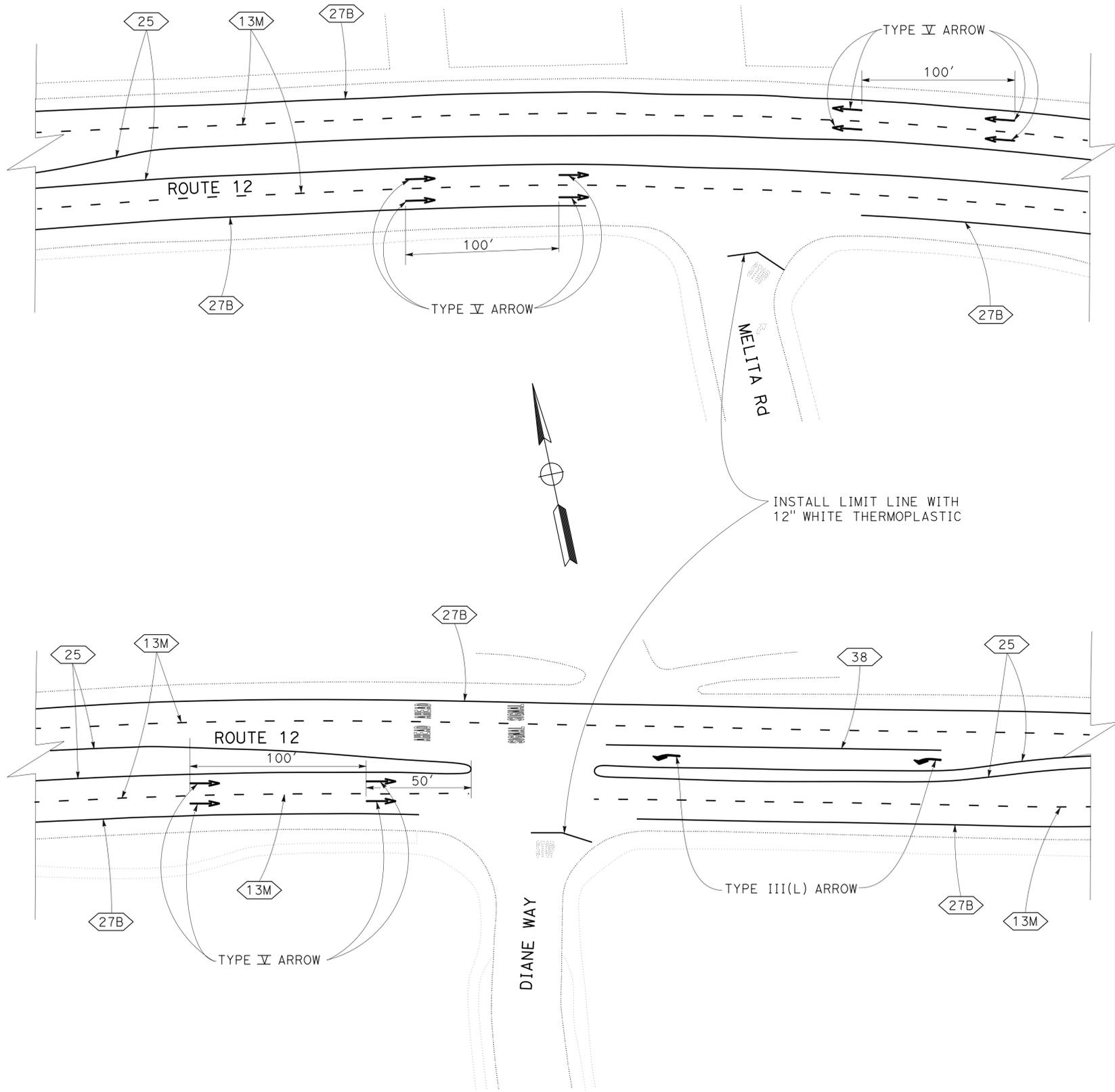


Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	12	18.8/21.7	8	38

3/4/14
 REGISTERED CIVIL ENGINEER DATE
 4-1-14
 PLANS APPROVAL DATE

Deepthi Madabushi
 No. 75987
 Exp. 6-30-14
 CIVIL
 STATE OF CALIFORNIA

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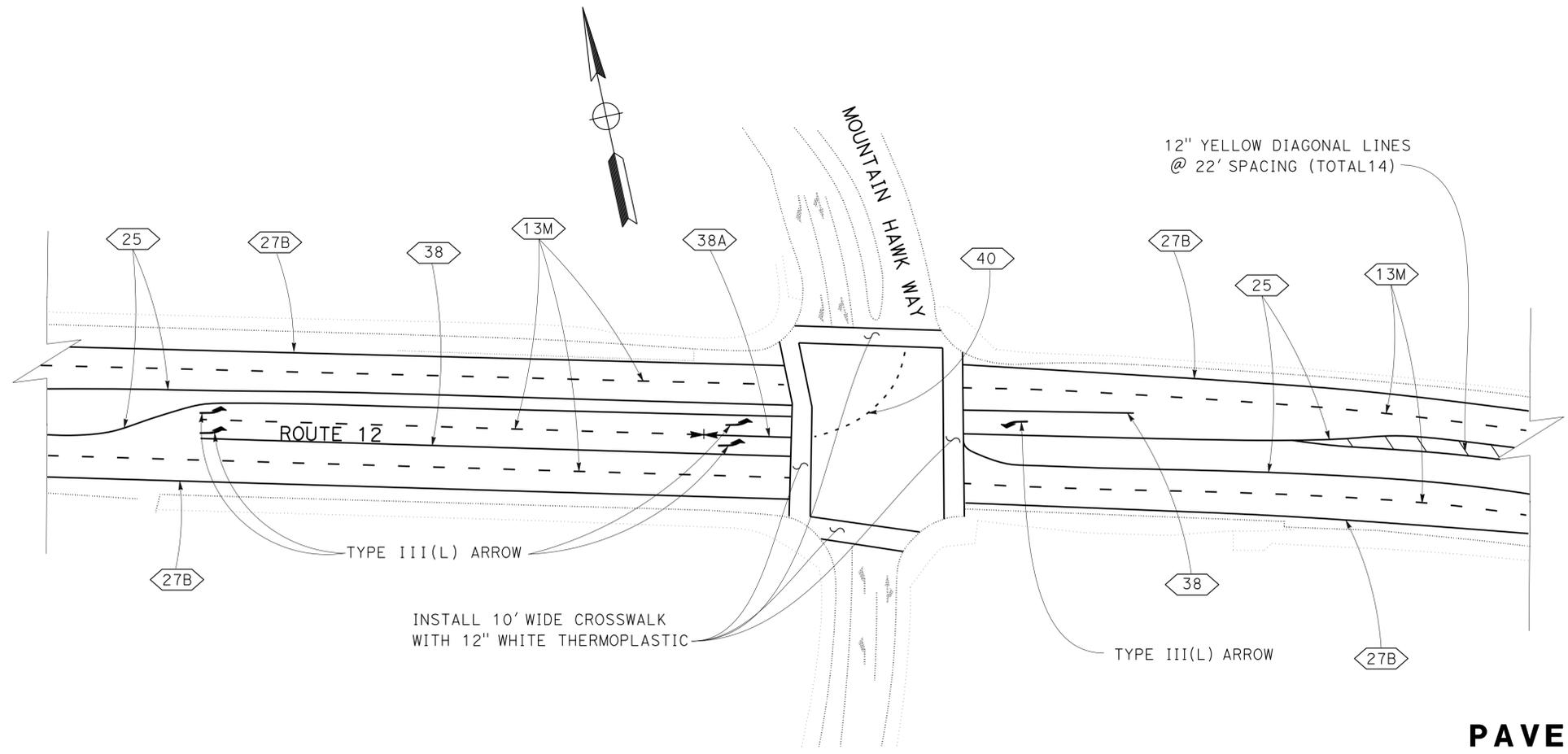
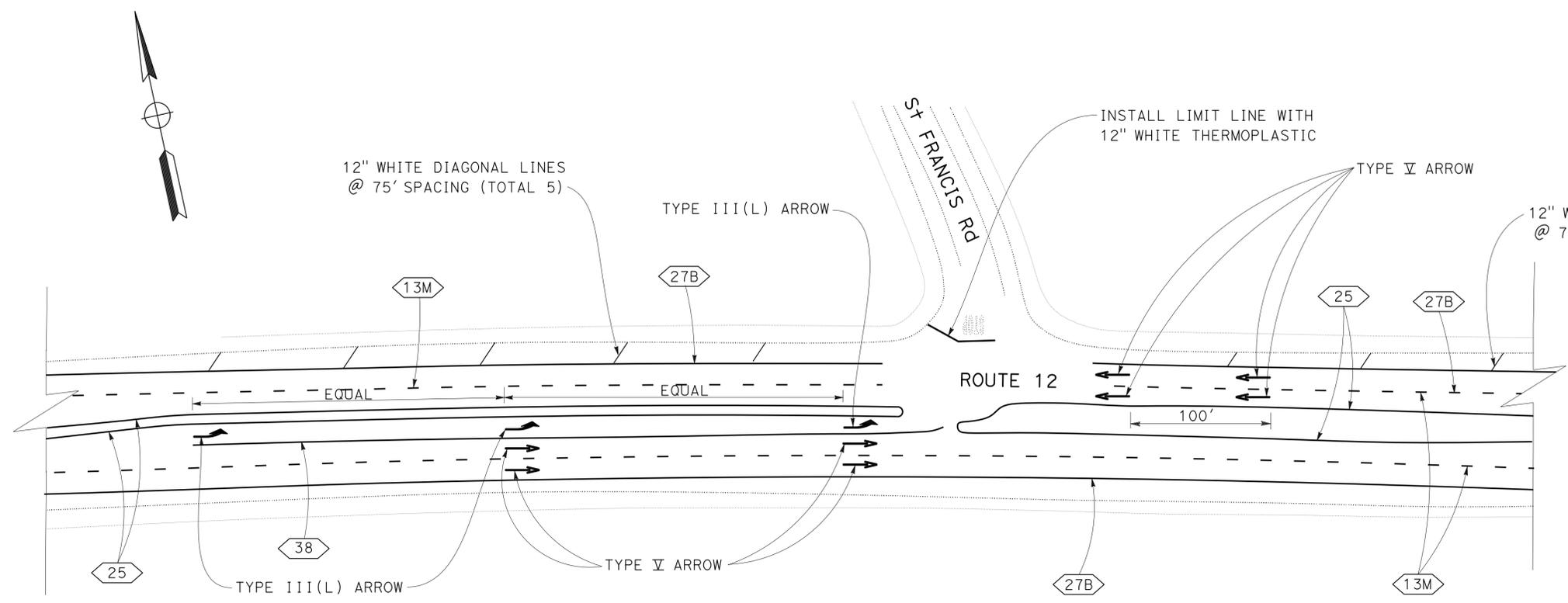
PAVEMENT DELINEATION PLAN
 NO SCALE

PD-5

APPROVED FOR PAVEMENT DELINEATION WORK ONLY

FOR NOTES AND LEGEND, SEE SHEET PD-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	12	18.8/21.7	9	38
			REGISTERED CIVIL ENGINEER	DATE	
			4-1-14	3/4/14	
			PLANS APPROVAL DATE		
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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 FUNCTIONAL SUPERVISOR: VIJITH THILAKARATNE
 CHECKED BY: BINH HONG
 DESIGNED BY: DEEPTHI MADABUSHI
 REVISIONS: DM 12/9/13

APPROVED FOR PAVEMENT DELINEATION WORK ONLY

FOR NOTES AND LEGEND, SEE SHEET PD-1

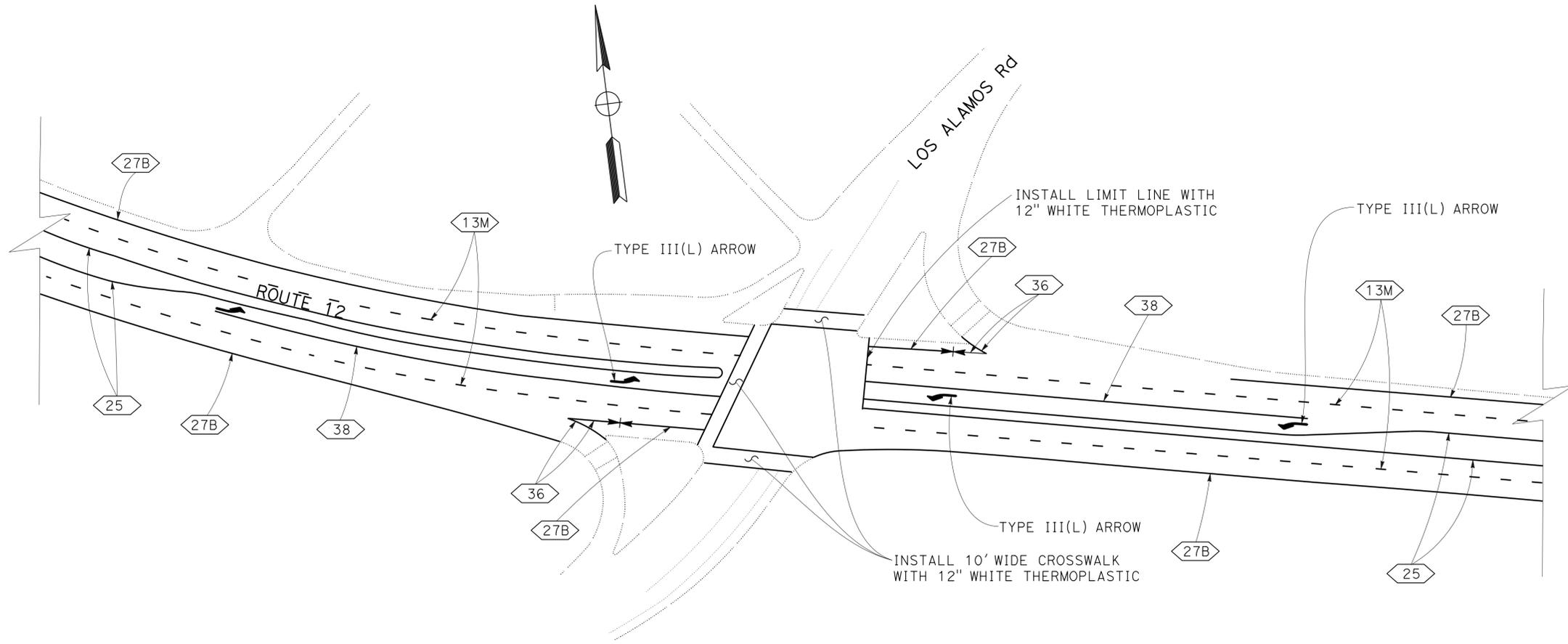
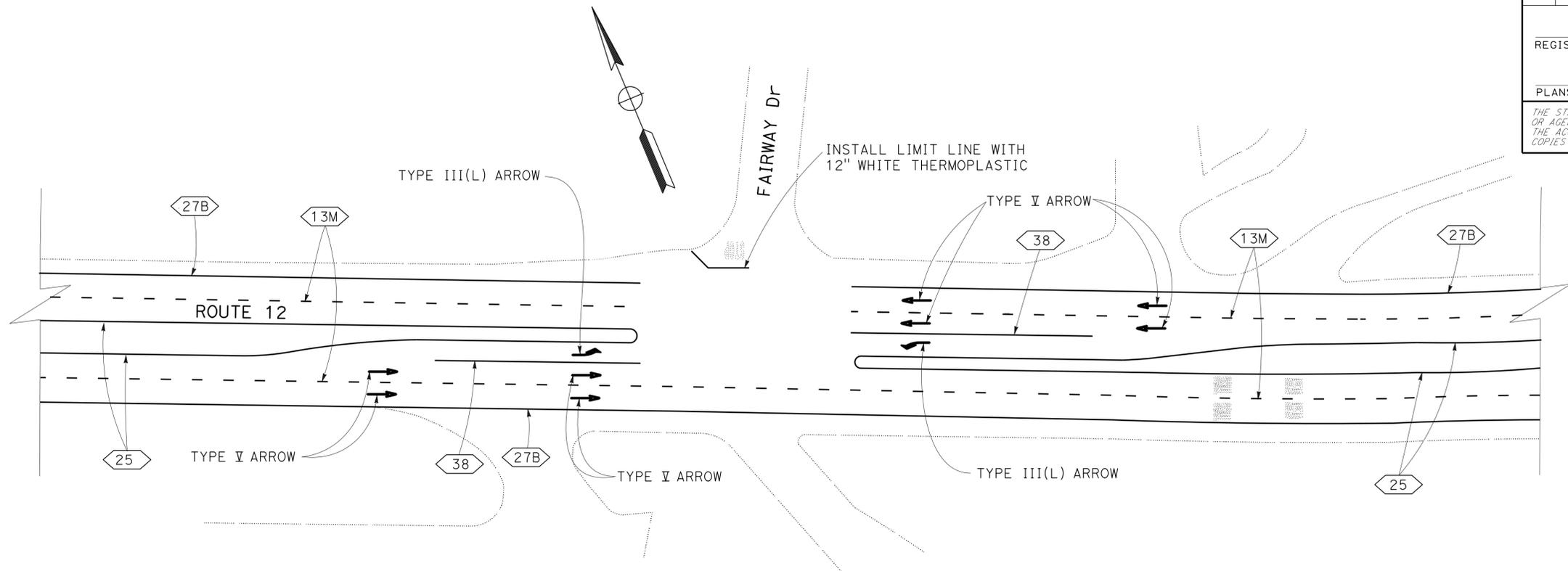
PAVEMENT DELINEATION PLAN
 NO SCALE

PD-6



LAST REVISION DATE PLOTTED => 04-APR-2014
 03-27-14 TIME PLOTTED => 12:45

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	12	18.8/21.7	10	38
			REGISTERED CIVIL ENGINEER	DATE	
			3/4/14		
			4-1-14		
			PLANS APPROVAL DATE		
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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	DESIGNED BY	REVISOR	DATE
Caltrans	VIJITH THILAKARATNE	DEEPTHI MADABUSHI	DM	12/9/13
DESIGN	CHECKED BY	BINH HONG		

PAVEMENT DELINEATION PLAN
NO SCALE

APPROVED FOR PAVEMENT DELINEATION WORK ONLY

FOR NOTES AND LEGEND,
SEE SHEET PD-1

PD-7

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN

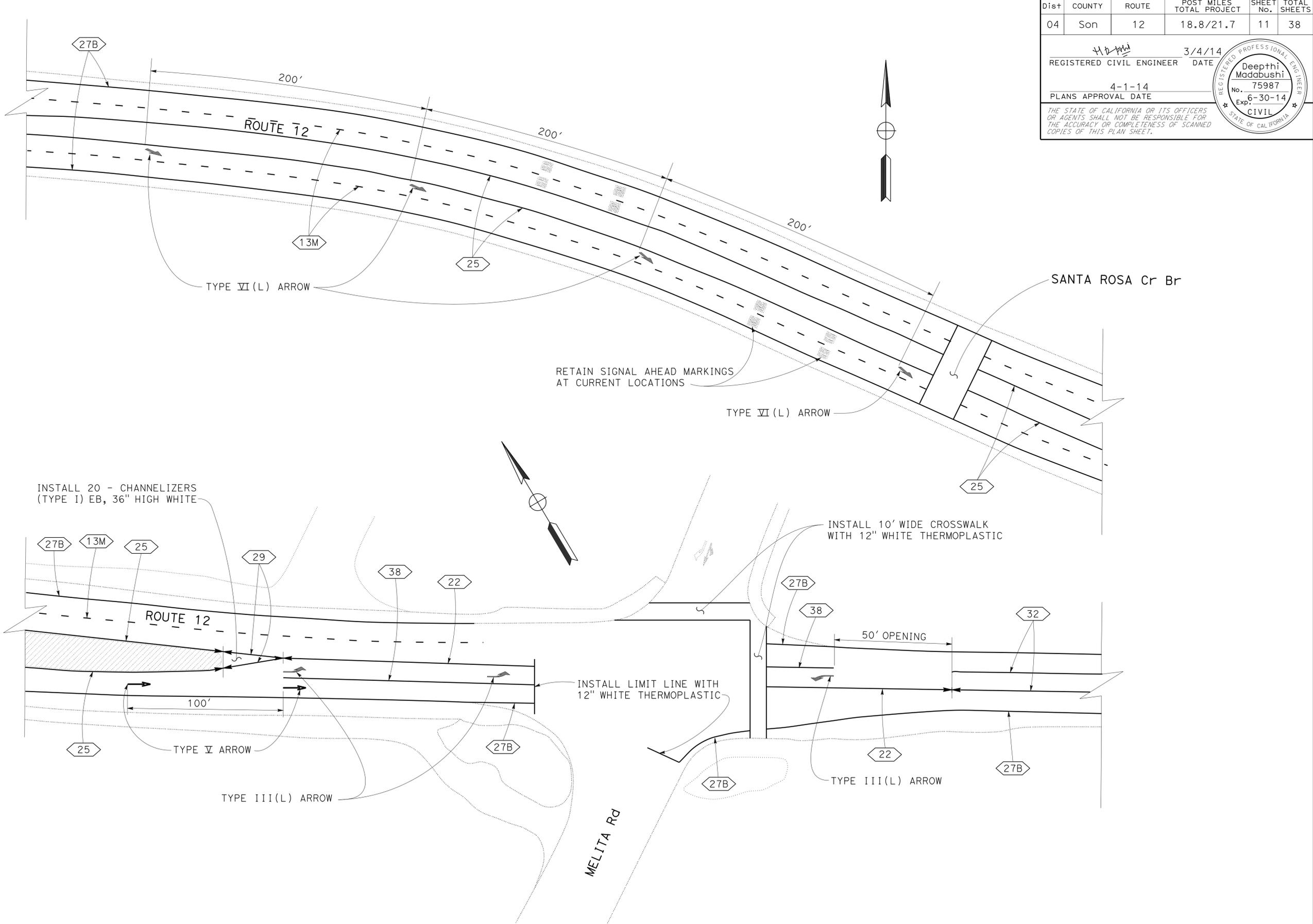
FUNCTIONAL SUPERVISOR VIJITH THILAKARATNE	DESIGNED BY DEEPTHI MADABUSHI	REVISOR BINH HONG	DATE 12/9/13
CHECKED BY	DATE REVISION	DM	12/9/13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	12	18.8/21.7	11	38

REGISTERED CIVIL ENGINEER DATE 3/4/14
 No. 75987
 Exp. 6-30-14
 CIVIL

4-1-14
 PLANS APPROVAL DATE

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APPROVED FOR PAVEMENT DELINEATION WORK ONLY

FOR NOTES AND LEGEND, SEE SHEET PD-1

PAVEMENT DELINEATION PLAN
 NO SCALE

PD-8

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	12	18.8/21.7	12	38

3/4/14
 REGISTERED CIVIL ENGINEER DATE

4-1-14
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Deepthi Madabushi
 No. 75987
 Exp. 6-30-14
 CIVIL
 STATE OF CALIFORNIA

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TRAFFIC STRIPES, PAVEMENT MARKINGS AND PAVEMENT MARKERS

DIRECTION	LOCATION	PM	DETAIL No. OR PAVEMENT MARKING	PAVEMENT MARKER				THERMOPLASTIC TRAFFIC STRIPE						THERMOPLASTIC PAVEMENT MARKING	THERMOPLASTIC PAVEMENT MARKING (YELLOW)	CHANNELIZER (SURFACE MOUNTED)			
				NON-REFLECTIVE		RETROREFLECTIVE		4" YELLOW	4" WHITE	8" WHITE	4" WHITE BROKEN (35'-13')	4" YELLOW BROKEN (36'-12')	4" WHITE BROKEN (6'-1')						
				TYPE A	TYPE D	TYPE G	TYPE H												
				EA				LF									SQFT	EA	
EB/WB	MISSION Blvd TO ACACIA Ln	18.8 - 19.1	13M	80		316													
			25				82	3865											
			27B								3865								
			36B										50						
			38										710						
			38A										50						
			TYPE V (12 EA)												396				
			TYPE III (L) (10 EA)												420				
			KEEP (2 EA)												48				
			CLEAR (2 EA)												54				
			SIGNAL (2 EA)												64				
			AHEAD (2 EA)												62				
	LIMIT LINE/CROSSWALK												600						
	ACACIA Ln TO MIDDLE RINCON Rd	19.1 - 19.4	13M	53		208							2475						
			25				53	2475											
			27B								2475								
			38									340							
			TYPE V (4 EA)											132					
			TYPE III (L) (4 EA)											126					
			SIGNAL (2 EA)											64					
			AHEAD (2 EA)											62					
			CROSSWALK											160					
			MIDDLE RINCON Rd TO JACK LONDON Dr	19.4 - 19.6	13M	49		192							2300				
	25						48	2230											
	27B										2030								
	38											300							
	TYPE V (4 EA)													132					
	TYPE III (L) (4 EA)													84					
	SIGNAL (2 EA)													64					
	AHEAD (2 EA)													62					
	CROSSWALK													160					
	SLOW (YELLOW) (2 EA)														46				
	SCHOOL (YELLOW) (2 EA)														70				
	AHEAD (YELLOW) (2 EA)														62				
	CROSSWALK (YELLOW)												170						
	JACK LONDON Dr TO CALISTOGA Rd	19.6 - 20.1	13M	89		352							4200						
			25				86	4075											
			27B								4175								
38											875								
22												700							
29												200							
38A													50						
40														80					
TYPE V (22 EA)														726					
TYPE III (L) (5 EA)														210					
SLOW (YELLOW) (2 EA)														46					
SCHOOL (YELLOW) (2 EA)														70					
AHEAD (YELLOW) (2 EA)														62					
LIMIT LINE														65					
CROSSWALK												100							
SUBTOTAL				271	40	1170	269	13545	12545	2375	12755	80	3631	526					

PAVEMENT DELINEATION QUANTITIES

PDQ-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 FUNCTIONAL SUPERVISOR: VIJITH THILAKARATNE
 CHECKED BY: BINH HONG
 DEPTH MADABUSHI
 REVISED BY: DM
 DATE REVISED: 10/16/13

LAST REVISION DATE PLOTTED => 04-APR-2014
 03-27-14 TIME PLOTTED => 12:45

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	12	18.8/21.7	13	38

H. D. P. H.
 3/4/14
 REGISTERED CIVIL ENGINEER DATE

4-1-14
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Deepthi Madabushi
 No. 75987
 Exp. 6-30-14
 CIVIL
 STATE OF CALIFORNIA

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TRAFFIC STRIPES, PAVEMENT MARKINGS AND PAVEMENT MARKERS

DIRECTION	LOCATION	PM	DETAIL No. OR PAVEMENT MARKING	PAVEMENT MARKER				THERMOPLASTIC TRAFFIC STRIPE					THERMOPLASTIC PAVEMENT MARKING	THERMOPLASTIC PAVEMENT MARKING (YELLOW)	CHANNELIZER (SURFACE MOUNTED)	
				NON-REFLECTIVE		RETROREFLECTIVE		4" YELLOW	4" WHITE	8" WHITE	4" WHITE BROKEN (35'-13')	4" YELLOW BROKEN (36'-12')				4" WHITE BROKEN (6'-1')
				TYPE A	TYPE D	TYPE G	TYPE H	EA	LF	SQFT	EA					
EB/WB	CALISTOGA Rd TO MOUNTAIN HAWK WAY	20.1 - 20.7	13M	130		516					6165					
			25				128	6050								
			27B						5940							
			12" DIAGONAL LINES											120		
			38			28					645					
			38A								50					
			40										80			
			TYPE V (20 EA)											660		
			TYPE III (L) (10 EA)											420		
			TYPE VI (2 EA)											84		
	SIGNAL (4 EA)											128				
	AHEAD (4 EA)											124				
	LIMIT LINE/CROSSWALK											400				
	MOUNTAIN HAWK WAY TO LOS ALAMOS Rd	20.7 - 21.3	13M	119		472						5645				
			25				119	5645								
			27B						5645							
			36			6					100					
			38													
			12" DIAGONAL LINES											89		
			TYPE V (8 EA)											264		
			TYPE III (L) (5 EA)											210		
			SIGNAL (4 EA)											128		
			AHEAD (4 EA)											124		
	LIMIT LINE/CROSSWALK											180				
	LOS ALAMOS Rd TO MELITA Rd	21.3 - 21.6	13M	63		248						2930				
			22		16			300								
			25				81	3820								
			27B						3820							
			29		8			200			425					
			36			6					100					
38					19											
TYPE V (2 EA)													66			
TYPE III (L) (4 EA)													168			
TYPE VI (4 EA)													168			
SIGNAL (2 EA)											64					
AHEAD (2 EA)											62					
LIMIT LINE											45					
CROSSWALK											150					
MELITA Rd TO END OF PROJECT LIMIT	21.6 - 21.7	CHANNELIZER (TYPE I) EB													20	
		32		35			300				300					
		27B						375								
		22		8			100									
		38			4					50						
TYPE III (L) (1 EA)											42					
CROSSWALK											140					
SUBTOTAL				312	67	1323	328	16415	15780	1915	14740	300	80	3747	89	20
SUBTOTAL FROM PDQ-1				271	40	1170	269	13545	12545	2375	12755	80	80	3631	526	
TOTAL				583		3197		58285	4290	27495	300	160	7993		20	

PAVEMENT DELINEATION QUANTITIES

PDQ-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN

FUNCTIONAL SUPERVISOR: VIJITH THILAKARATNE
 CHECKED BY: BINH HONG
 REVISOR: DEEPTHI MADABUSHI
 DATE REVISED: 10/16/13
 DM

LAST REVISION DATE PLOTTED => 04-APR-2014
 03-27-14 TIME PLOTTED => 12:45

REPLACE ASPHALT CONCRETE SURFACING

DIRECTION	PM	LENGTH			WIDTH (N)	DEPTH (N)	REPLACE AC SURFACING
		TURN LANE (N)	LANE 1 (N)	LANE 2 (N)			
LF							CY
EB	18.8		500	500	12	0.5	223
	18.9		50		12	0.5	12
	19		150		12	0.5	34
	19.1			100	12	0.5	23
	19.2			50	12	0.5	12
	19.2			100	12	0.5	23
	19.3			200	12	0.5	45
	19.3		100		12	0.5	23
	19.4			100	12	0.5	23
	19.5			50	12	0.5	12
	19.6		150	50	12	0.5	45
	19.7			20	12	0.5	5
	19.8		50	50	12	0.5	23
	20		25		12	0.5	6
	20.1			50	6	0.5	6
	20.2		200	300	12	0.5	112
	20.6	50			12	0.5	12
	21			200	12	0.5	45
	WB	21.1		50	12	0.5	12
		21.2		50	12	0.5	12
21.4			100	50	12	0.5	34
21.6			150	150	12	0.5	67
21.6			100		12	0.5	23
18.8		150	150	150	12	0.5	100
18.9				200	12	0.5	45
19.1				50	12	0.5	12
19.2			100	100	12	0.5	45
19.4			100	100	12	0.5	45
19.7			150	100	12	0.5	56
19.8			50	100	12	0.5	34
19.9				100	12	0.5	23
20.1				300	12	0.5	67
20.2			100	100	12	0.5	45
20.3			100	300	12	0.5	89
20.5		200		12	0.5	45	
20.6		200	200	18	0.5	134	
20.9		50	50	18	0.5	34	
21		200	200	12	0.5	89	
21.6			100	12	0.5	23	
TOTAL							1718

(N) NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.
 USE DEPTH AS EXISTING AC THICKNESS, IF EXISTING AC THICKNESS IS LESS THAN 0.5 LF, DO NOT DISTURB EXISTING CTB BASE.

ROADWAY QUANTITIES SUMMARY

DIRECTION	LOCATION	PM	RHMA (BWC-G)	ASPHALTIC EMULSION MEMBRANE (BONDED WEARING COURSE)	COLD PLANE AC PAVEMENT	CRACK TREATMENT
			TON			SQYD
EB	MAINLINES	18.8 TO 21.7	3666	46	54443	5.8
WB			3666	46	54443	5.8
TOTAL			7332	92	108886	11.6

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	12	18.8/21.7	14	38

REGISTERED CIVIL ENGINEER: *H.P.M.* 3/4/14 DATE
 No. 75987
 Exp. 6-30-14
 CIVIL
 DEEPTHI MADABUSHI
 STATE OF CALIFORNIA
 PLANS APPROVAL DATE: 4-1-14
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.

ABBREVIATION:

LNMI LANE MILE

SHOULDER BACKING

DIRECTION	PM	SHOULDER BACKING
		TON
WB	19.0 TO 19.1	8
	19.9 TO 20.0	8
	21.5 TO 21.6	8
EB	21.6 TO 21.7	8
TOTAL		32

ADJUST UTILITY COVER TO GRADE

DIRECTION	PM	ADJUST UTILITY COVER TO GRADE
		EA
EB	18.8 TO 21.7	50
WB		35
TOTAL		85

SUMMARY OF QUANTITIES

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 ELECTRICAL

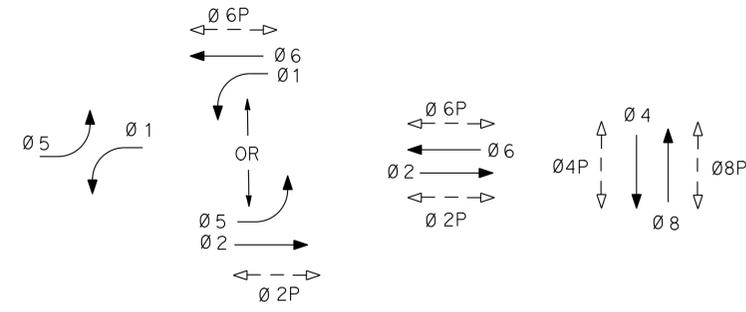
FUNCTIONAL SUPERVISOR
 BEHZAD COLEMOHAMMADI

WILLIAM Y. WONG
 ELAINE T. WONG

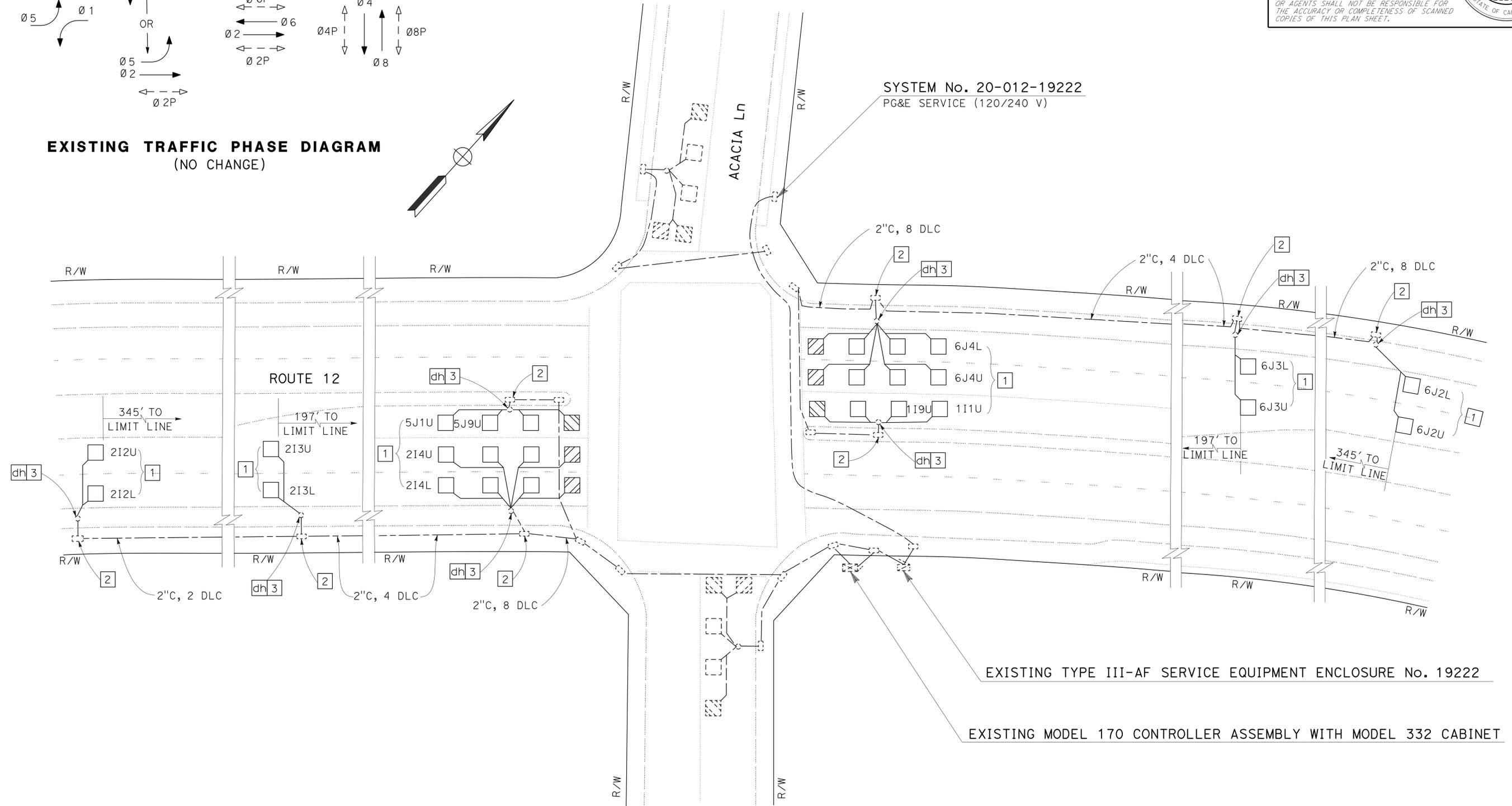
REVISOR
 DATE

10/16/13

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



EXISTING TRAFFIC PHASE DIAGRAM
 (NO CHANGE)



EXISTING TYPE III-AF SERVICE EQUIPMENT ENCLOSURE No. 19222
 EXISTING MODEL 170 CONTROLLER ASSEMBLY WITH MODEL 332 CABINET

MODIFY SIGNAL
 NO SCALE

APPROVED FOR ELECTRICAL WORK ONLY

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	12	18.8/21.7	16	38

REGISTERED ELECTRICAL ENGINEER DATE 3/4/14
 ELAINE T. WONG
 No. 13753
 Exp. 6-30-15
 ELECT
 PLANS APPROVAL DATE 4-1-14

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
 ELECTRICAL

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	Son	12	18.8/21.7	17	38

REGISTERED ELECTRICAL ENGINEER
Elaine Wong 3/4/14
 REGISTERED ELECTRICAL ENGINEER DATE
 4-1-14
 PLANS APPROVAL DATE

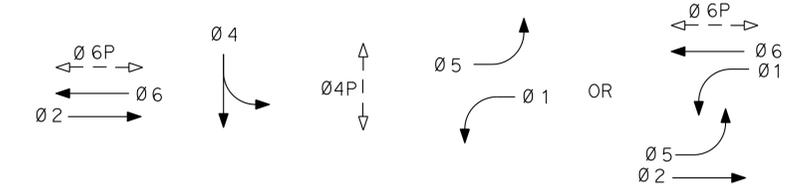
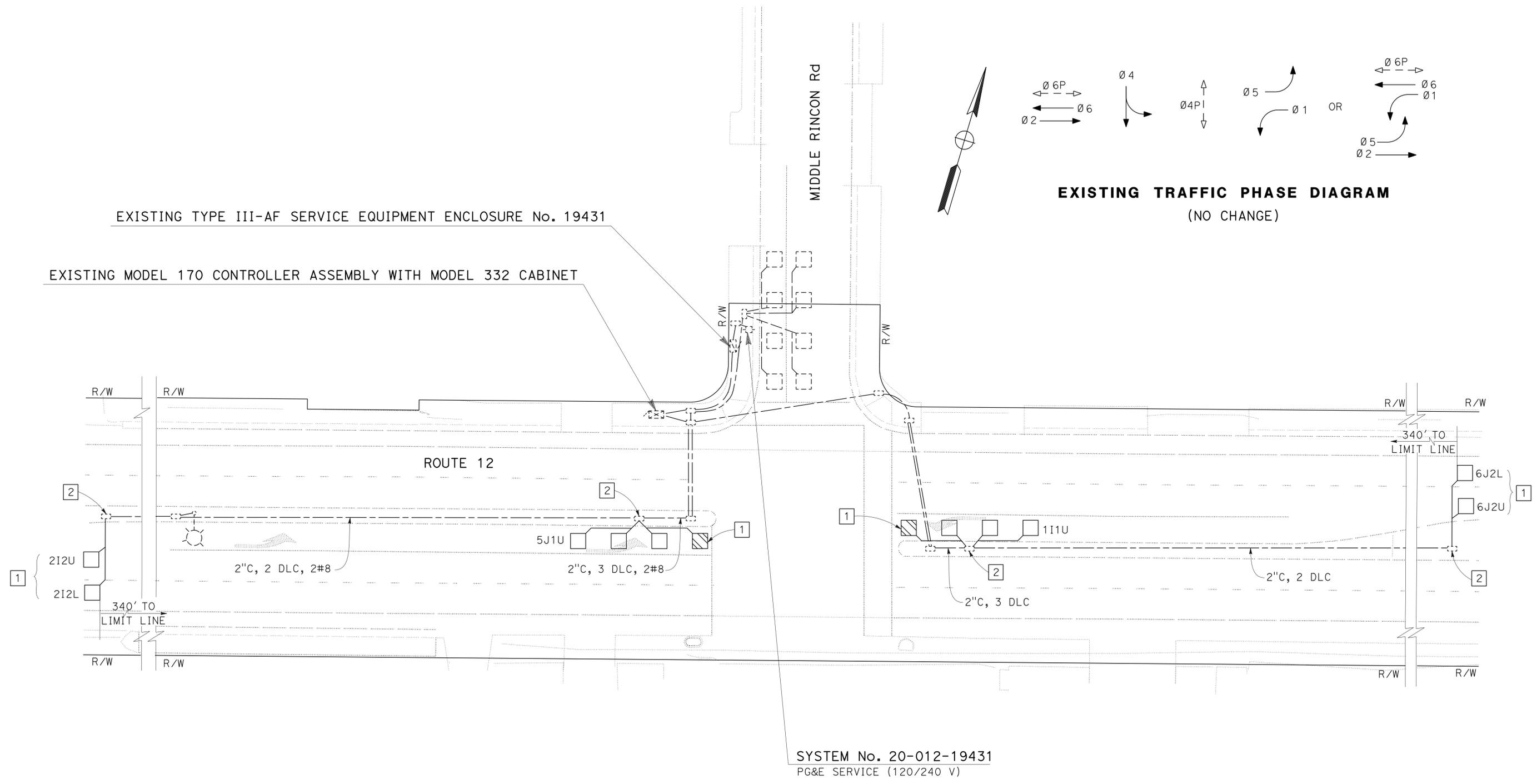
REGISTERED PROFESSIONAL ENGINEER
 Elaine T. Wong
 No. 13753
 Exp. 6-30-15
 ELECT
 STATE OF CALIFORNIA

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.

WILLIAM Y. WONG
 ELAINE T. WONG
 REVISOR
 DATE REVISOR

BEHZAD COLEMOHAMMADI
 FUNCTIONAL SUPERVISOR

REVISOR
 DATE REVISOR



APPROVED FOR ELECTRICAL WORK ONLY

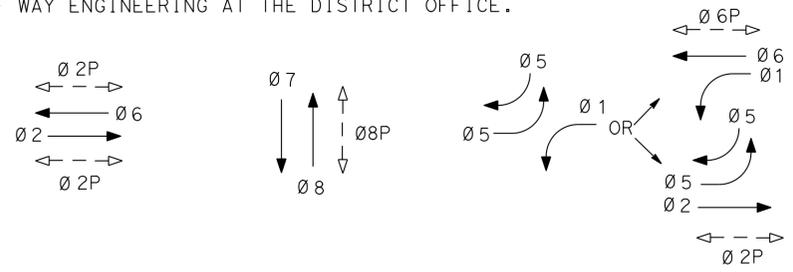
FOR NOTES, ABBREVIATIONS, AND LEGEND, SEE SHEET E-1

MODIFY SIGNAL
 NO SCALE

E-3

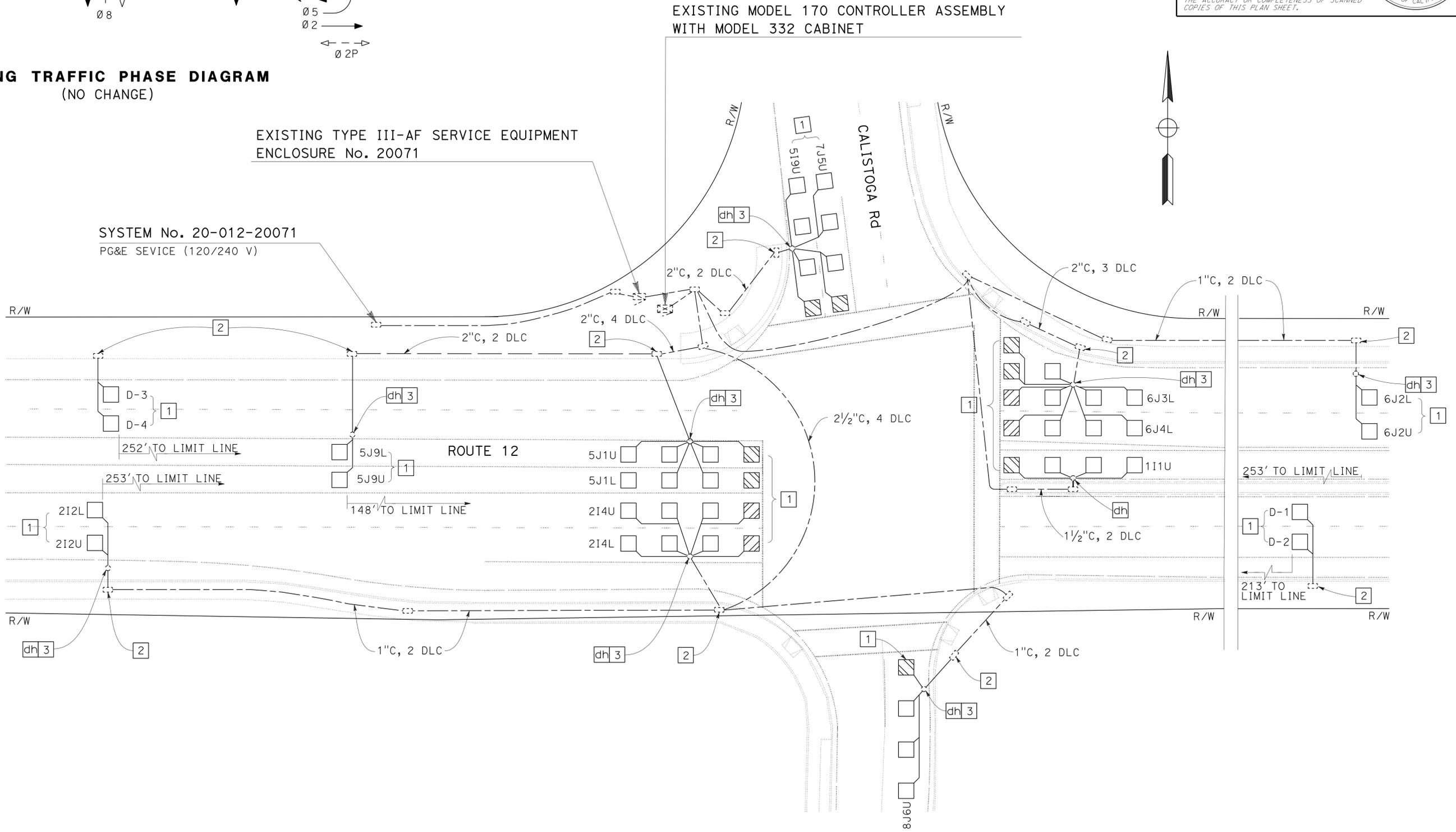
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 ELECTRICAL

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



EXISTING TRAFFIC PHASE DIAGRAM
 (NO CHANGE)

EXISTING TYPE III-AF SERVICE EQUIPMENT
 ENCLOSURE No. 20071



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	12	18.8/21.7	18	38

Elaine Wong 3/4/14
 REGISTERED ELECTRICAL ENGINEER DATE

4-1-14
 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
 Elaine T. Wong
 No. 13753
 Exp. 6-30-15
 ELECT
 STATE OF CALIFORNIA

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	12	18.8/21.7	19	38

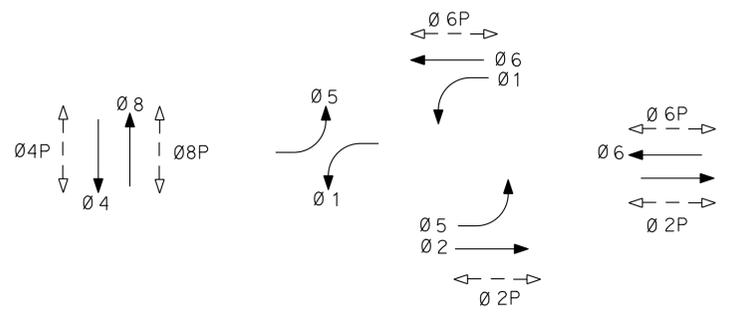
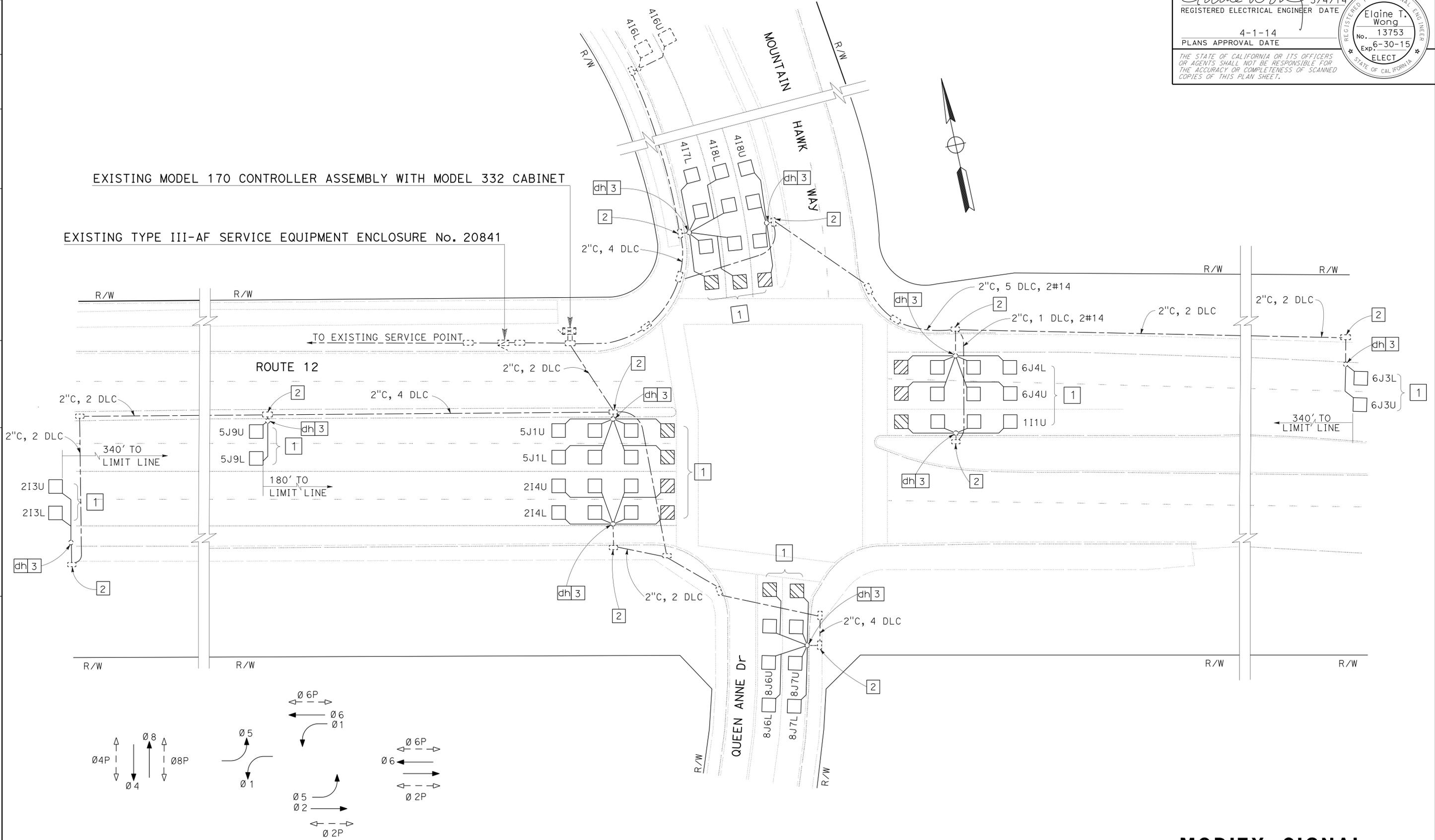
REGISTERED ELECTRICAL ENGINEER
 Elaine T. Wong
 No. 13753
 Exp. 6-30-15
 ELECT

3/4/14
 REGISTERED ELECTRICAL ENGINEER DATE
 4-1-14
 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.

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

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
ELECTRICAL
 FUNCTIONAL SUPERVISOR: BEHZAD COLEMOHAMMADI
 CALCULATED/DESIGNED BY: WILLIAM Y. WONG
 CHECKED BY: ELAINE T. WONG
 REVISED BY: WW
 DATE REVISED: 10/16/13



APPROVED FOR ELECTRICAL WORK ONLY

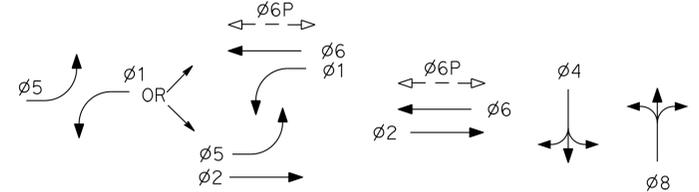
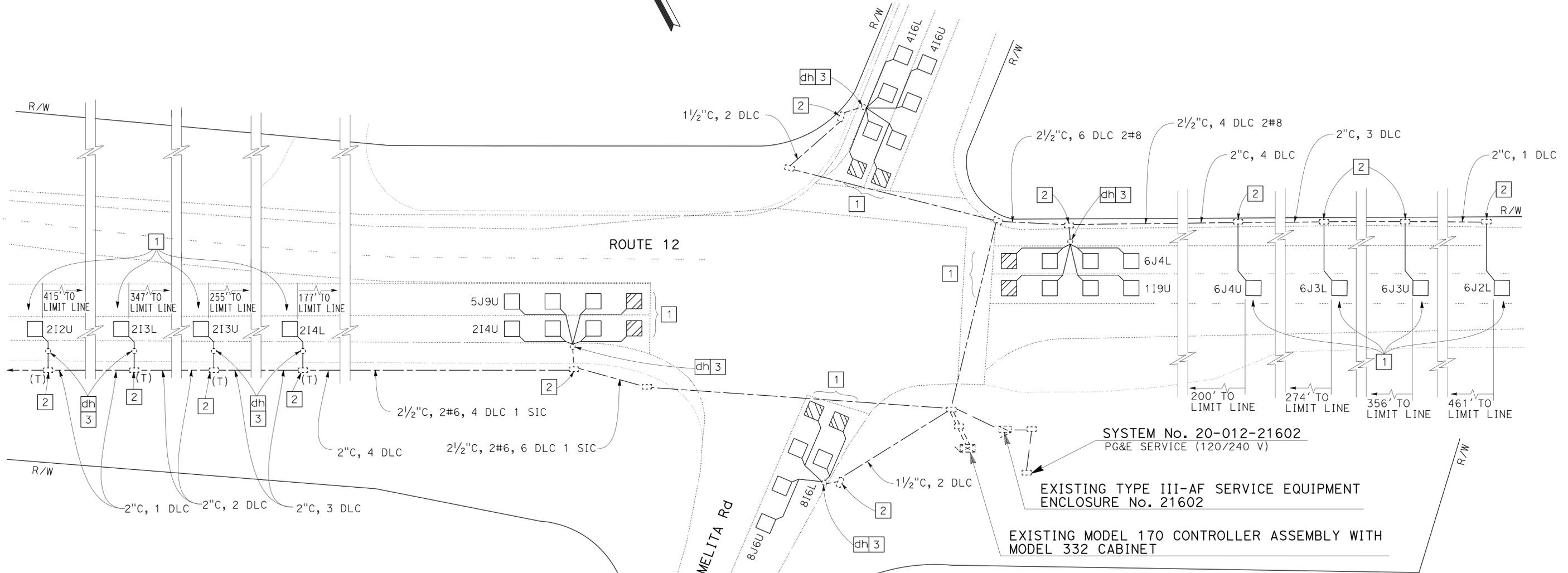
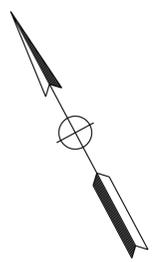
FOR NOTES, ABBREVIATIONS, AND LEGEND, SEE SHEET E-1

MODIFY SIGNAL
 NO SCALE

E-5

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	12	18.8/21.7	21	38
<i>Elaine Wong</i> 3/4/14 REGISTERED ELECTRICAL ENGINEER DATE			Elaine T. Wong No. 13753 Exp. 6-30-15 ELECT		
4-1-14			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.



EXISTING TRAFFIC PHASE DIAGRAM
 (NO CHANGE)

MODIFY SIGNAL
 NO SCALE

APPROVED FOR ELECTRICAL WORK ONLY

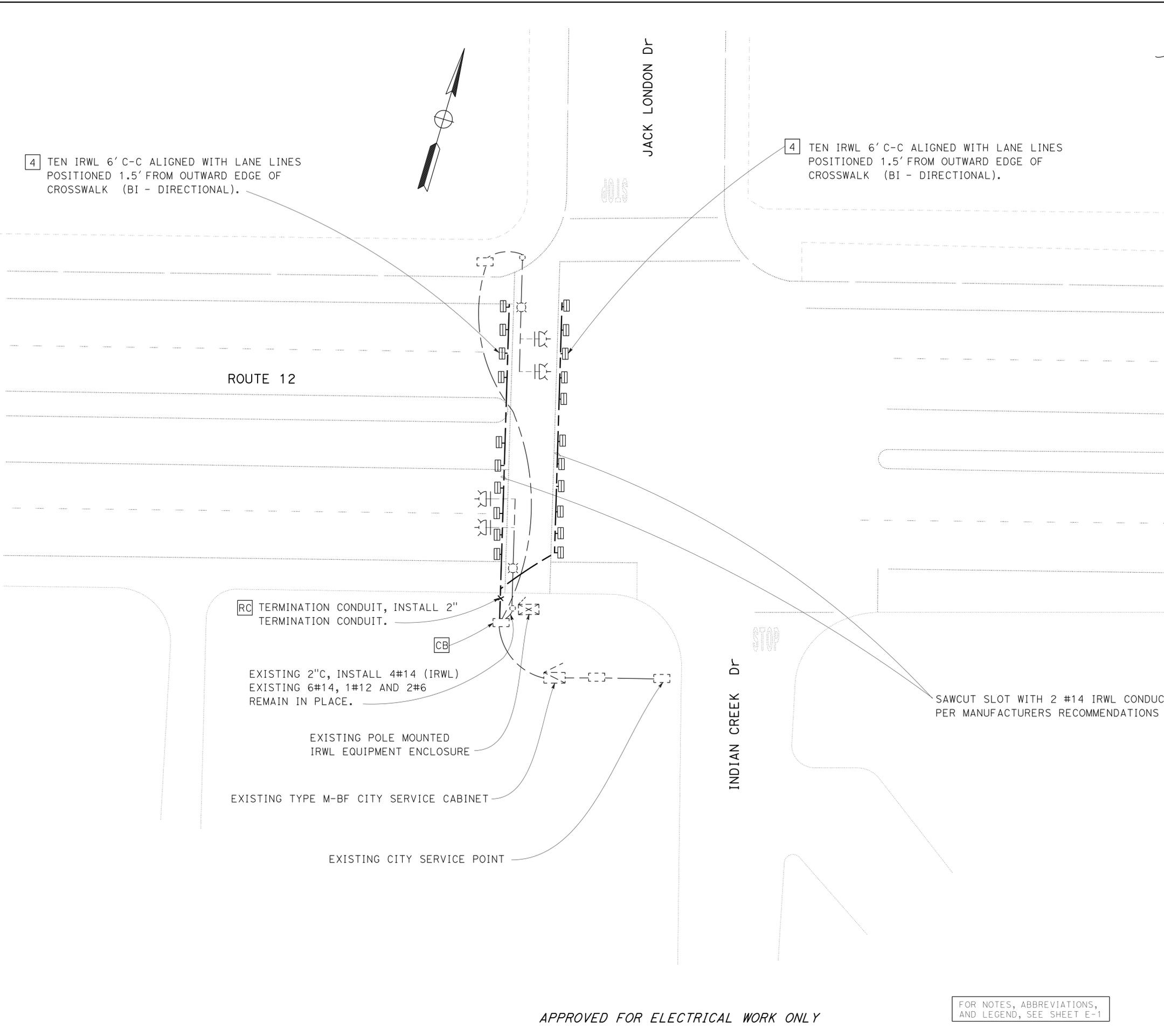
FOR NOTES, ABBREVIATIONS,
 AND LEGEND, SEE SHEET E-1

E-7

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 ELECTRICAL
 FUNCTIONAL SUPERVISOR: BEHZAD COLEMOHAMMADI
 CALCULATED/DESIGNED BY: WILLIAM Y. WONG
 CHECKED BY: ELAINE T. WONG
 REVISED BY: WW
 DATE REVISED: 10/16/13

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ELECTRICAL

FUNCTIONAL SUPERVISOR: BEHZAD COLEMOHAMMADI
 CALCULATED/DESIGNED BY: WILLIAM Y. WONG
 CHECKED BY: ELAINE T. WONG
 REVISED BY: WW
 DATE REVISED: 10/16/13



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	12	18.8/21.7	22	38

Elaine Wong 3/4/14
 REGISTERED ELECTRICAL ENGINEER DATE
 4-1-14
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Elaine T. Wong
 No. 13753
 Exp. 6-30-15
 ELECT
 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.

APPROVED FOR ELECTRICAL WORK ONLY

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

MODIFY SIGNAL
 NO SCALE

WILLIAM Y. WONG
 ELAINE T. WONG

REVISOR BY
 DATE REVISED

WW
 10/16/13

CALCULATED-DESIGNED BY
 CHECKED BY

FUNCTIONAL SUPERVISOR
 BEHZAD COLEMOHAMMADI

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	12	18.8/21.7	23	38

Elaine Wong 3/4/14
 REGISTERED ELECTRICAL ENGINEER DATE

4-1-14
 PLANS APPROVAL DATE

Elaine T. Wong
 No. 13753
 Exp. 6-30-15
 ELECT

REGISTERED PROFESSIONAL ENGINEER
 STATE OF CALIFORNIA

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MODIFY SIGNAL

SHEET No.	DETECTOR LOOPS		IRWL
	TYPE A	TYPE D	
	EA		
E-1	14	4	
E-2	26	6	
E-3	10	2	
E-4	41	12	
E-5	42	12	
E-6	40	10	
E-7	30	8	
E-8			

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

ELECTRICAL QUANTITIES

E-9

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

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

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

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	12	18.8/21.7	24	38

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

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

TO ACCOMPANY PLANS DATED 4-1-14

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

TABLE A

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

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

TABLE B

SYMBOL USED	DEFINITIONS
ksi	KIPS PER SQUARE INCH
ksf	KIPS PER SQUARE FOOT
psi	POUNDS PER SQUARE INCH
psf	POUNDS PER SQUARE FOOT
lb/ft ³ , pcf	POUNDS PER CUBIC FOOT
tsf	TONS PER SQUARE FOOT
mph, MPH *	MILES PER HOUR
∅	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

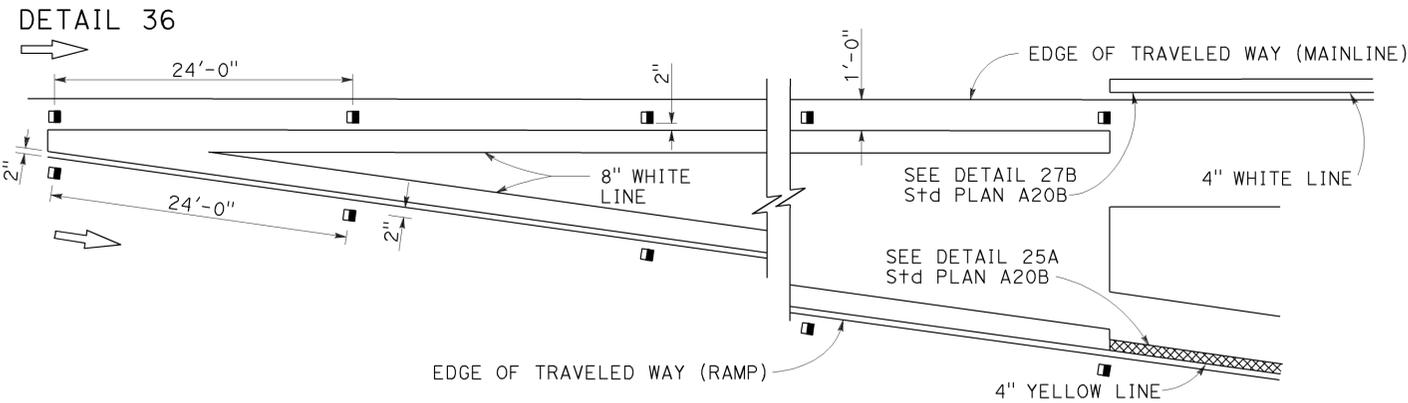
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ABBREVIATIONS
(SHEET 2 OF 2)**

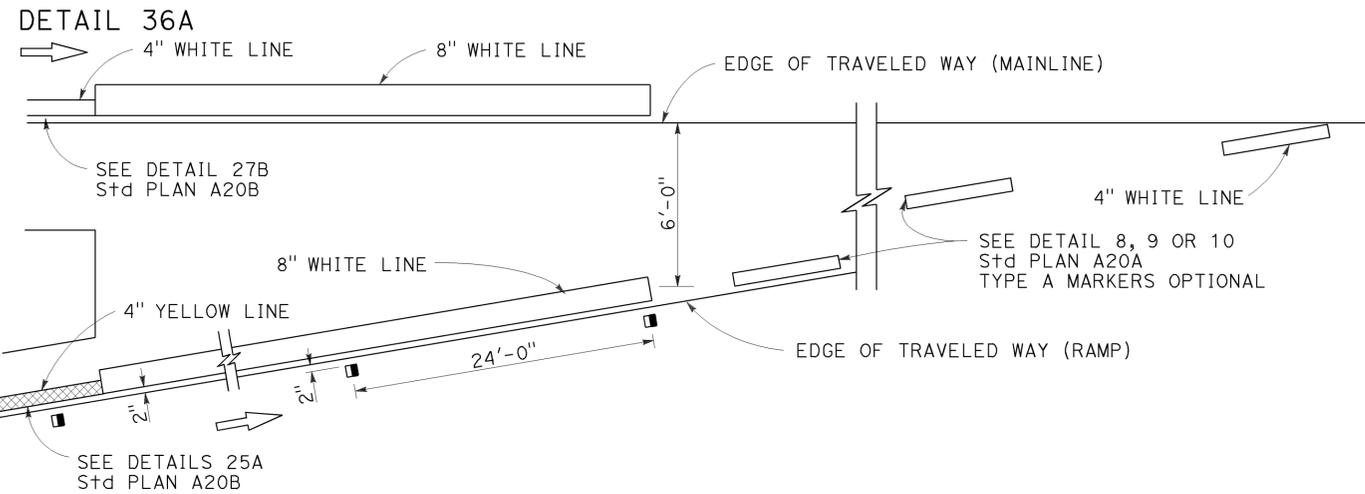
NO SCALE

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

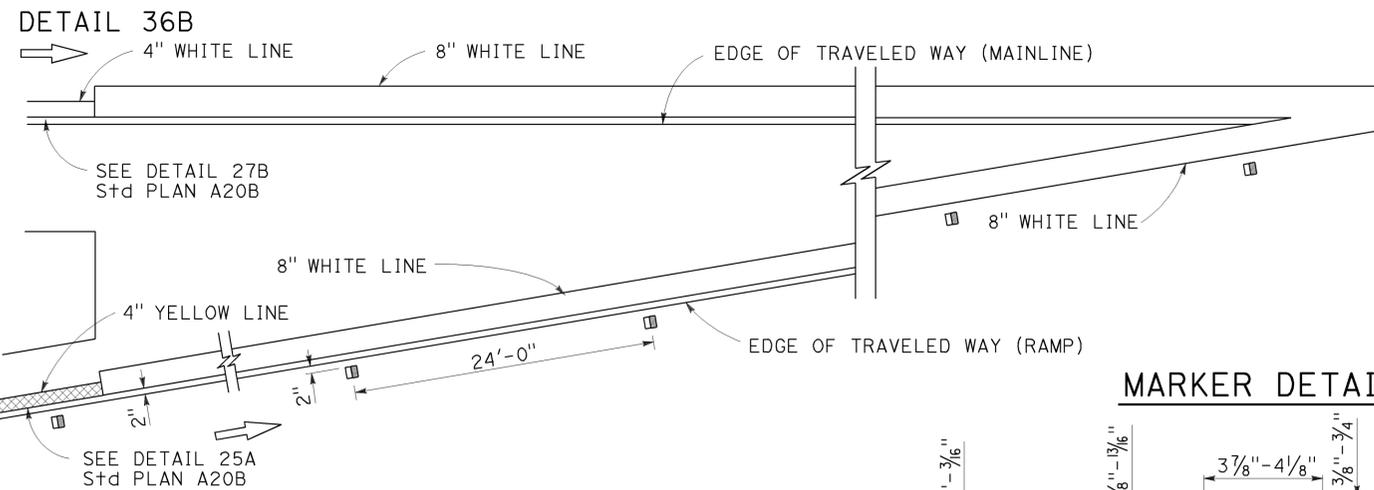
EXIT RAMP NEUTRAL AREA (GORE) TREATMENT



ENTRANCE RAMP NEUTRAL AREA (MERGE) TREATMENT



ENTRANCE RAMP NEUTRAL AREA (ACCELERATION LANE) TREATMENT

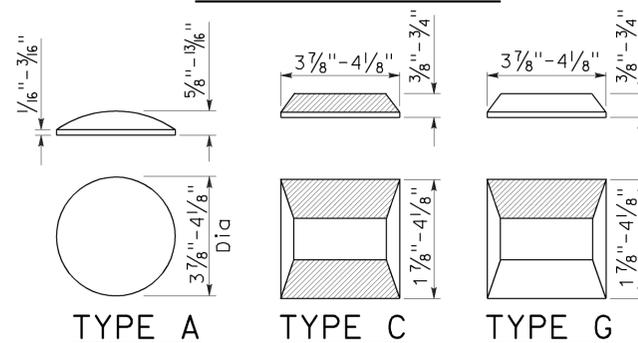


MARKER DETAILS

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	Son	12	18.8/21.7	25	38

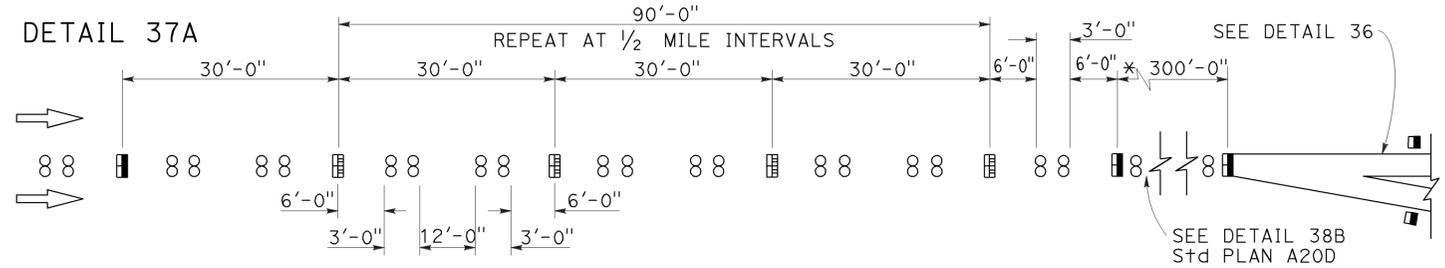
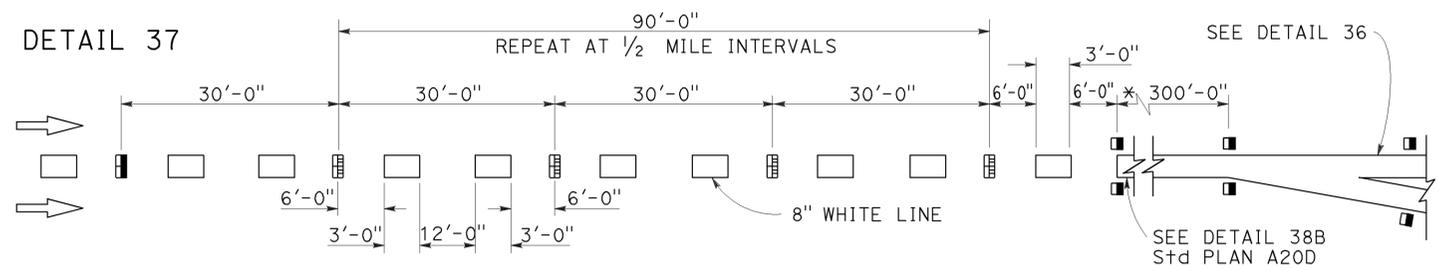
Roberta L. McLaughlin
 REGISTERED CIVIL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
 Roberta L. McLaughlin
 No. C40375
 Exp. 3-31-15
 CIVIL
 STATE OF CALIFORNIA

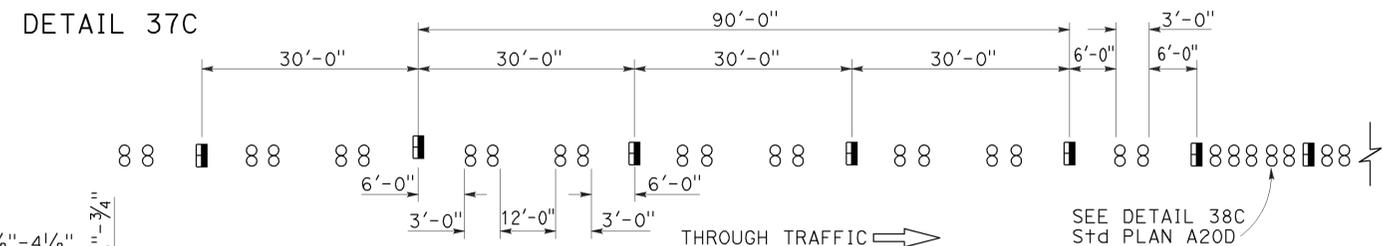
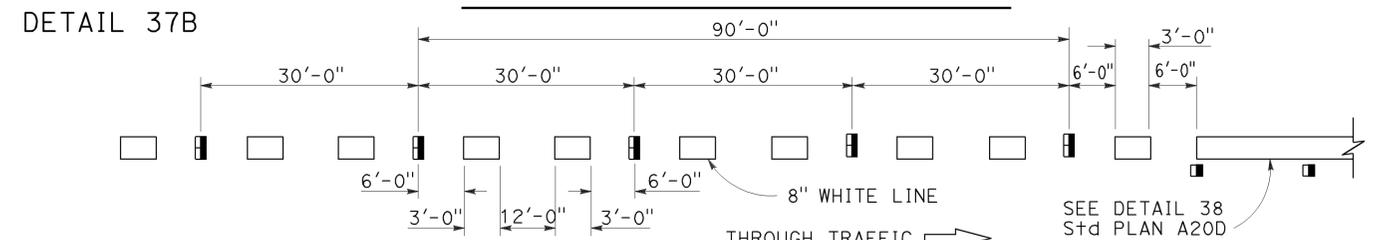
TO ACCOMPANY PLANS DATED 4-1-14

LANE DROP AT EXIT RAMPS



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

LANE DROP AT INTERSECTIONS



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKERS AND TRAFFIC LINE TYPICAL DETAILS

NO SCALE

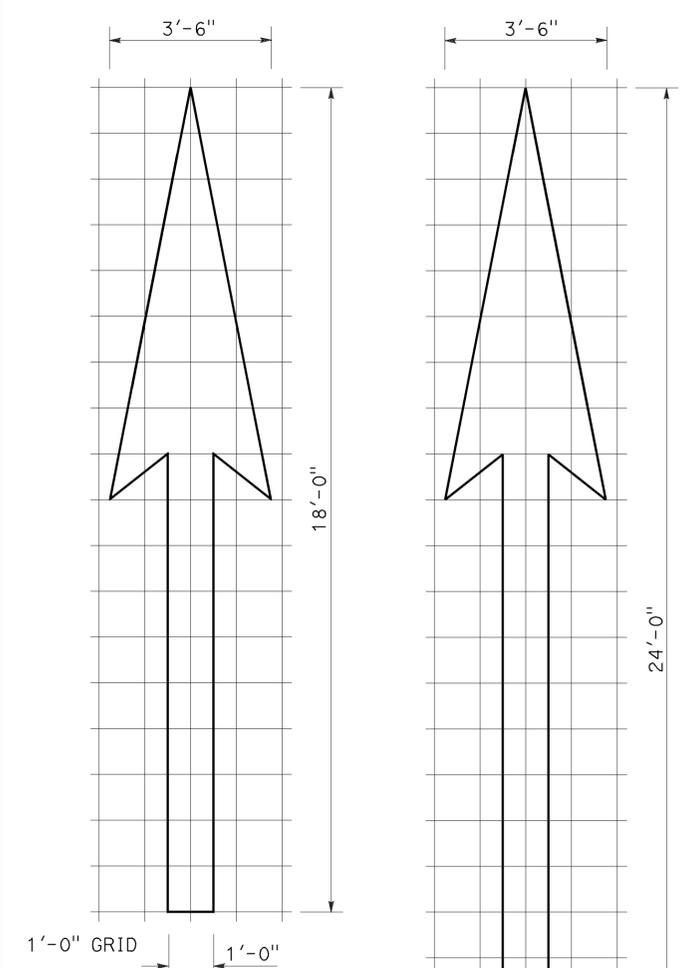
RSP A20C DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A20C DATED MAY 20, 2011 - PAGE 11 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A20C

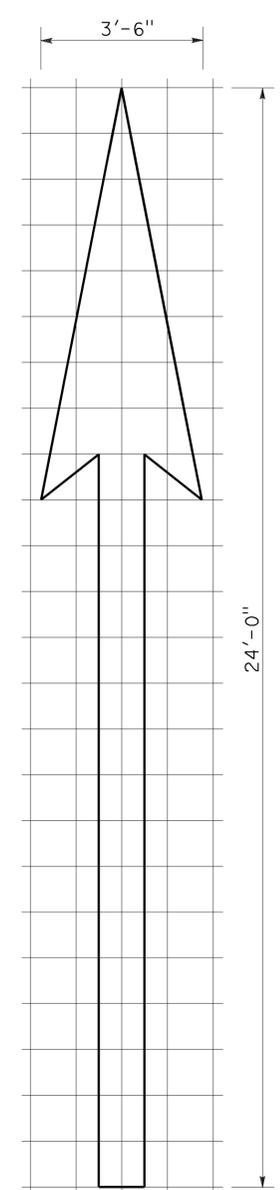
2010 REVISED STANDARD PLAN RSP A20C



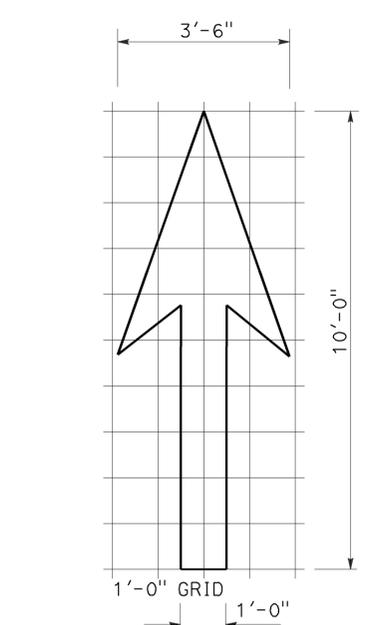
TO ACCOMPANY PLANS DATED 4-1-14



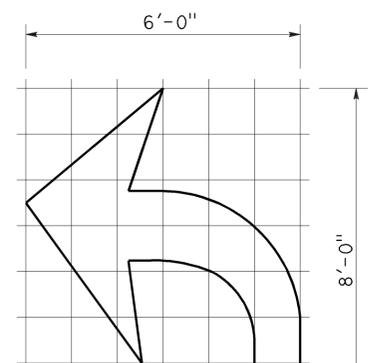
A=25 ft²
TYPE I 18'-0" ARROW



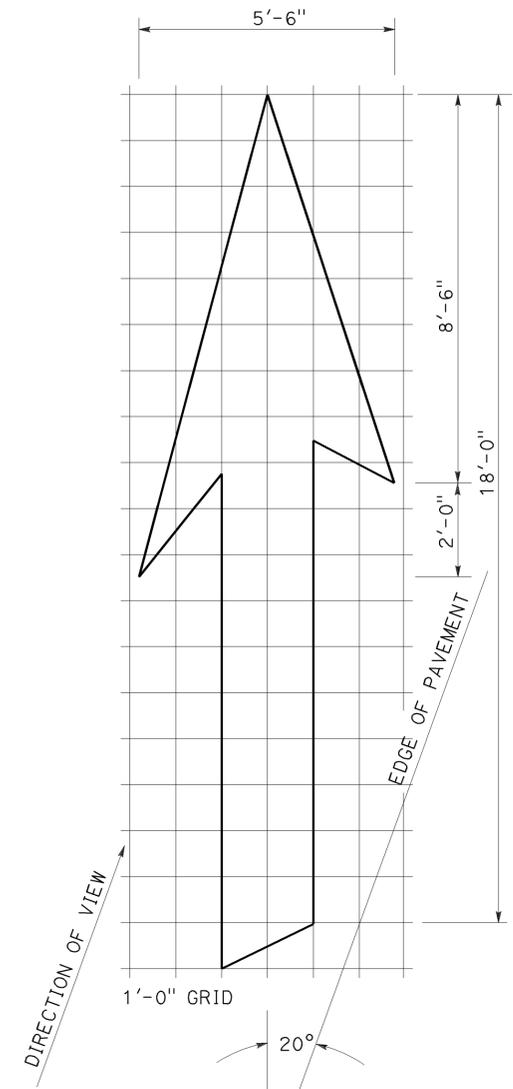
A=31 ft²
TYPE I 24'-0" ARROW



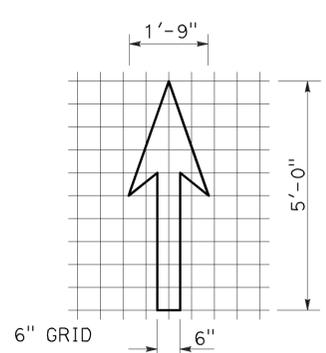
A=14 ft²
TYPE I 10'-0" ARROW



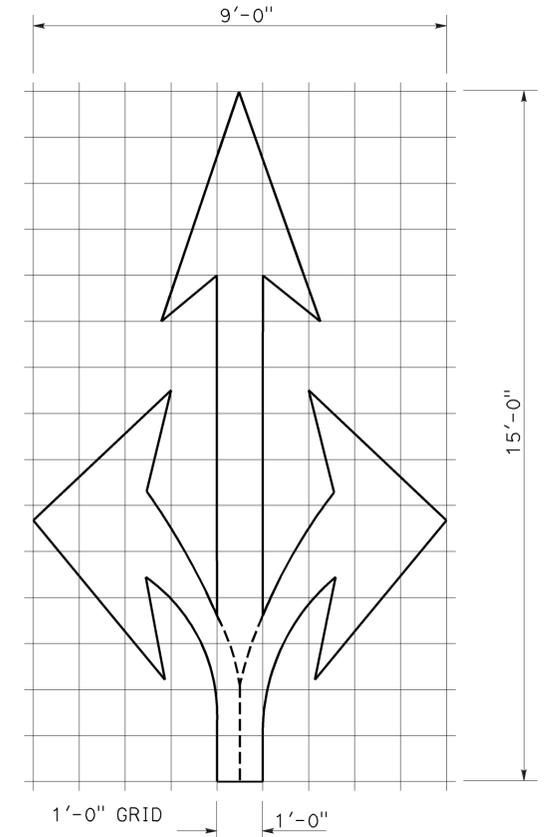
A=15 ft²
TYPE IV (L) ARROW
(For Type IV (R) arrow, use mirror image)



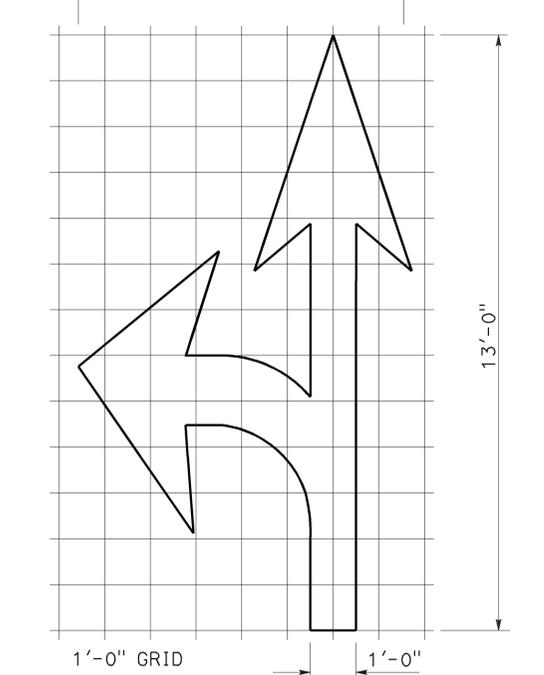
A=42 ft²
TYPE VI ARROW
Right lane drop arrow
(For left lane, use mirror image)



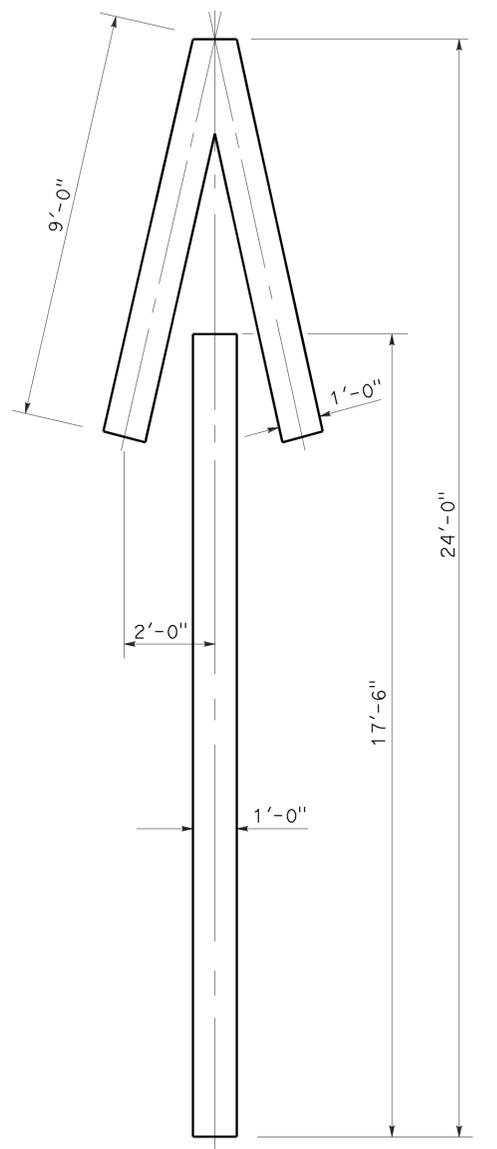
A=3.5 ft²
BIKE LANE ARROW



A=36 ft²
TYPE VIII ARROW



A=27 ft²
TYPE VII (L) ARROW
(For Type VII (R) arrow, use mirror image)



A=33 ft²
TYPE V ARROW

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

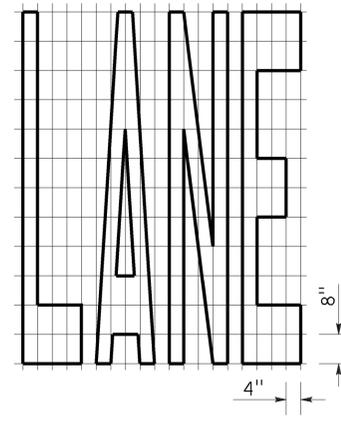
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**PAVEMENT MARKINGS
ARROWS**
NO SCALE

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

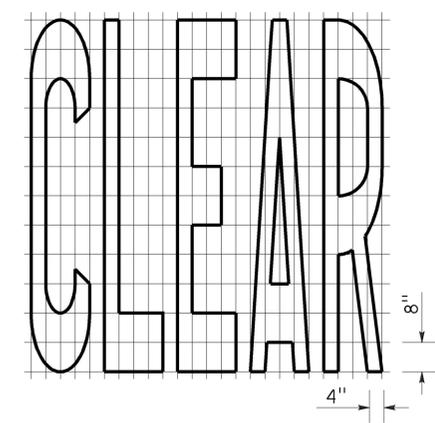
2010 REVISED STANDARD PLAN RSP A24A

TO ACCOMPANY PLANS DATED 4-1-14

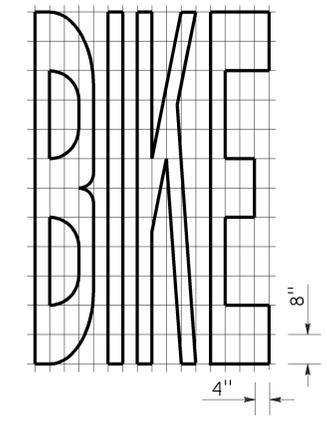
2010 REVISED STANDARD PLAN RSP A24E



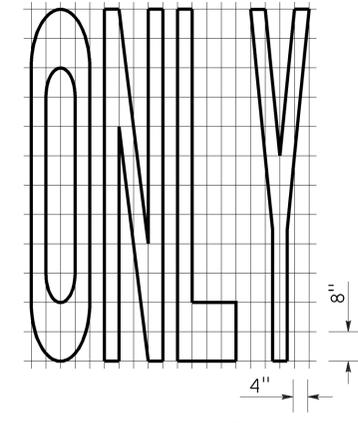
A=24 ft²



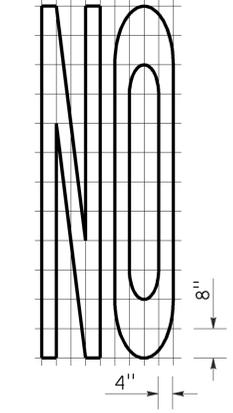
A=27 ft²



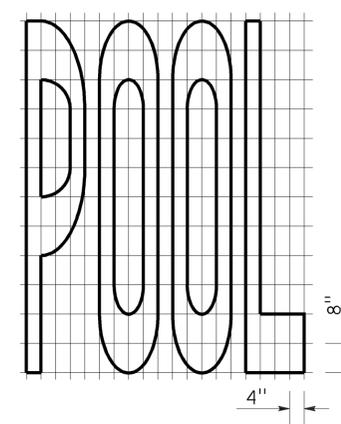
A=21 ft²



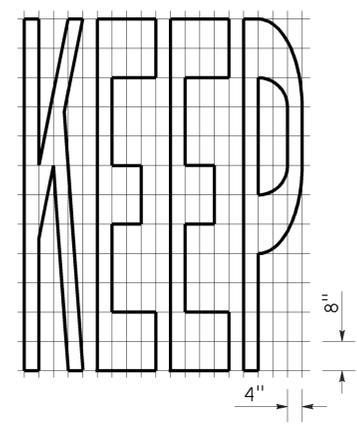
A=22 ft²



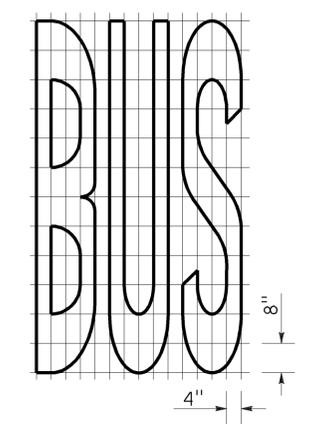
A=14 ft²



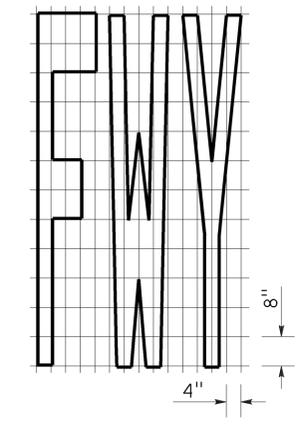
A=23 ft²



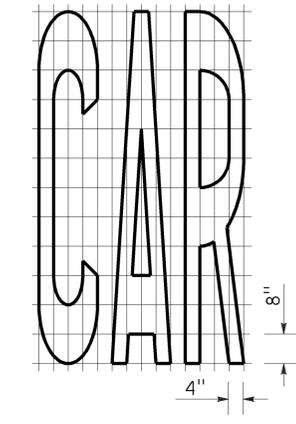
A=24 ft²



A=20 ft²

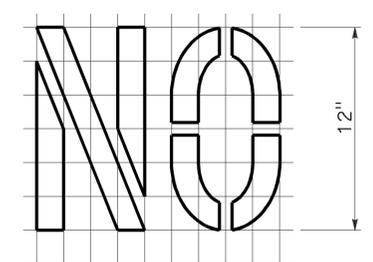


A=16 ft²



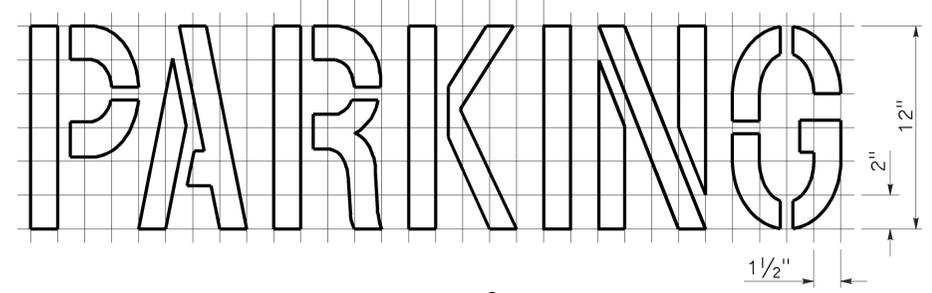
A=17 ft²

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



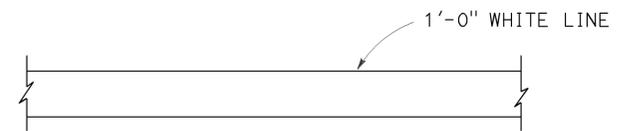
A=2 ft²

See Notes 6 and 7

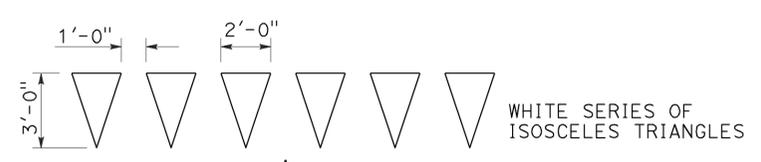


A=2 ft²

See Notes 6 and 7



LIMIT LINE (STOP LINE)



YIELD LINE

NOTES:

- If a message consists of more than one word, it should read "UP", i.e., the first word should be nearest the driver.
- 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.
- Minor variations in dimensions may be accepted by the Engineer.
- Portions of a letter, number or symbol may be separated by connecting segments not to exceed 2" in width.
- The words "NO PARKING" pavement marking is to be used for parking facilities. For typical locations of markings, see Standard Plans A90A and A90B.
- 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.

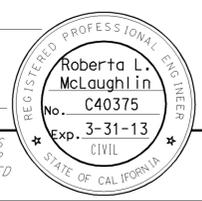
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**PAVEMENT MARKINGS
WORDS, LIMIT AND YIELD LINES**

NO SCALE

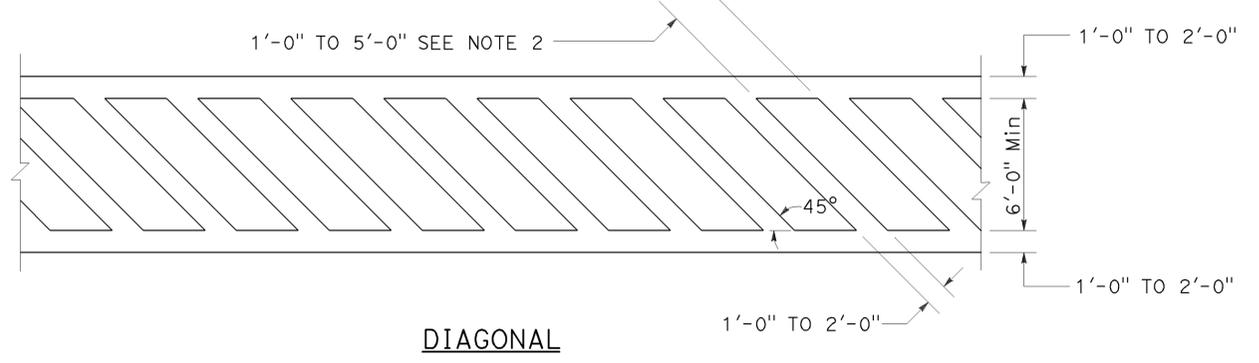
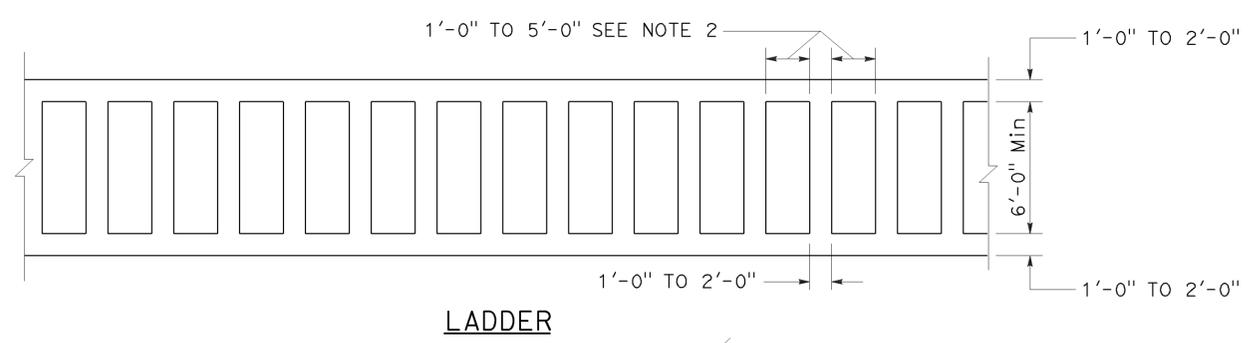
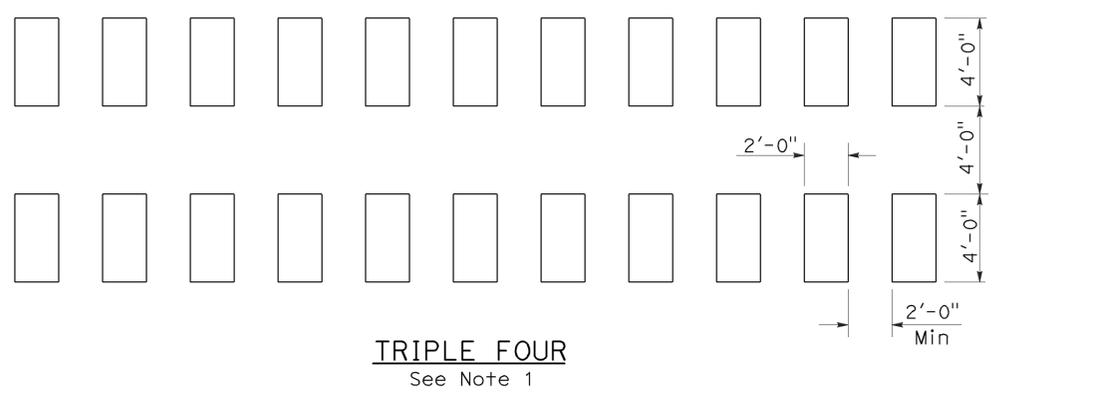
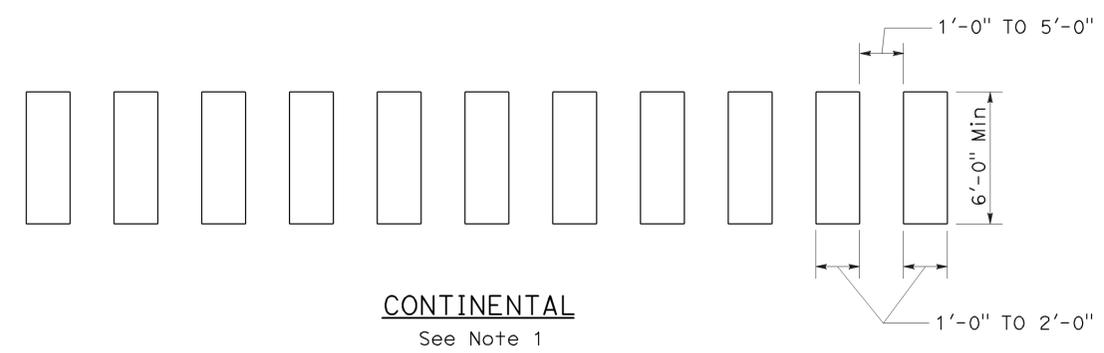
RSP A24E DATED JULY 20, 2012 SUPERSEDES STANDARD PLAN A24E
DATED MAY 20, 2011 - PAGE 17 OF THE STANDARD PLANS BOOK DATED 2010.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	12	18.8/21.7	28	38

Roberta L. McLaughlin
 REGISTERED CIVIL ENGINEER
 July 20, 2012
 PLANS APPROVAL DATE
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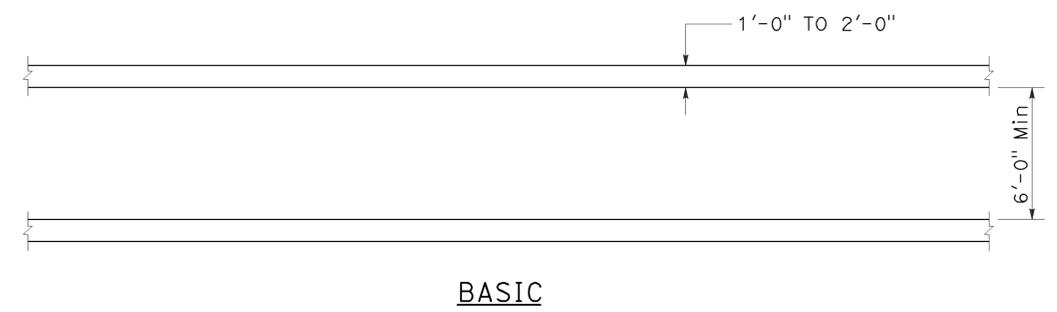
TO ACCOMPANY PLANS DATED 4-1-14



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.



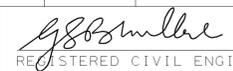
BASIC

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**PAVEMENT MARKINGS
CROSSWALKS**

NO SCALE
RSP A24F DATED JULY 20, 2012 SUPPLEMENTS THE
STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP A24F

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	12	18.8/21.7	29	38


 REGISTERED CIVIL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE



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TO ACCOMPANY PLANS DATED 4-1-14

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	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

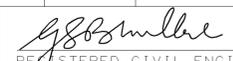
**TRAFFIC CONTROL SYSTEM TABLES
 FOR LANE AND RAMP CLOSURES**

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

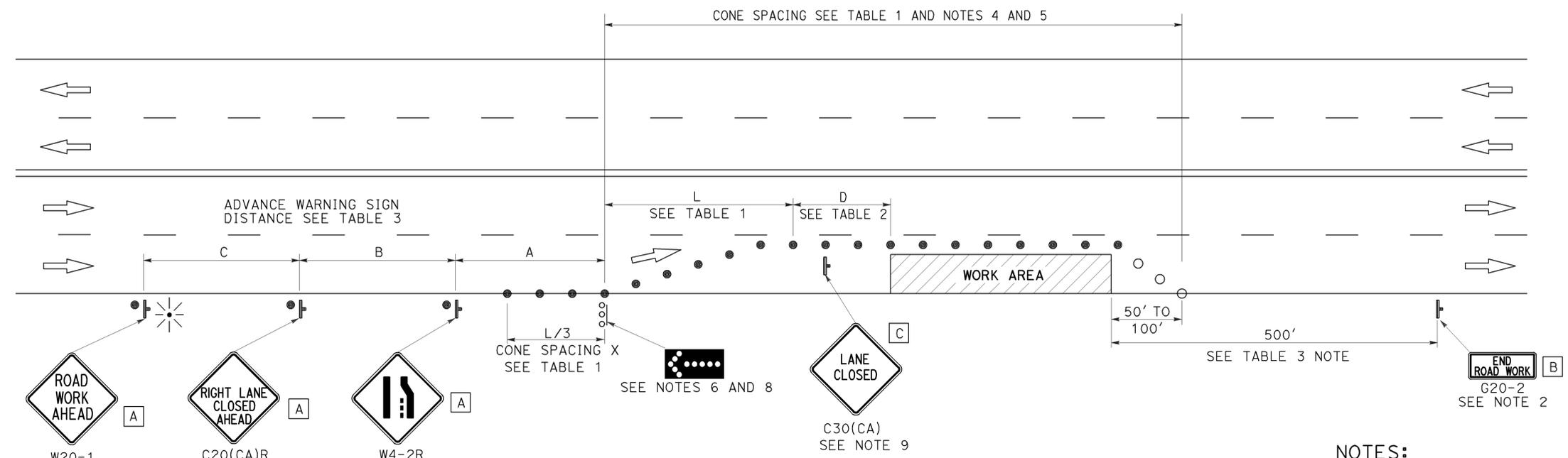
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	12	18.8/21.7	30	38


 REGISTERED CIVIL ENGINEER
 April 19, 2013
 PLANS APPROVAL DATE



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TO ACCOMPANY PLANS DATED 4-1-14



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.

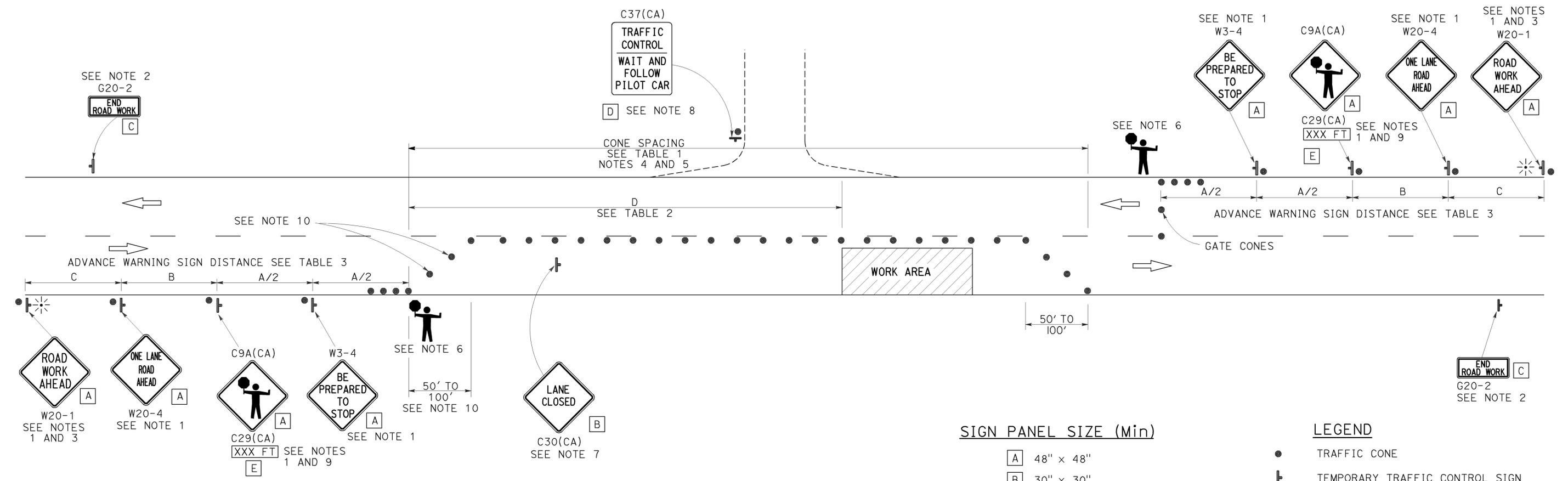
Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.

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.

TYPICAL LANE CLOSURE WITH REVERSIBLE CONTROL

TO ACCOMPANY PLANS DATED 4-1-14



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.

SIGN PANEL SIZE (Min)

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

LEGEND

- TRAFFIC CONE
- † TEMPORARY TRAFFIC CONTROL SIGN
- ☼ PORTABLE FLASHING BEACON
- 👤 FLAGGER

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

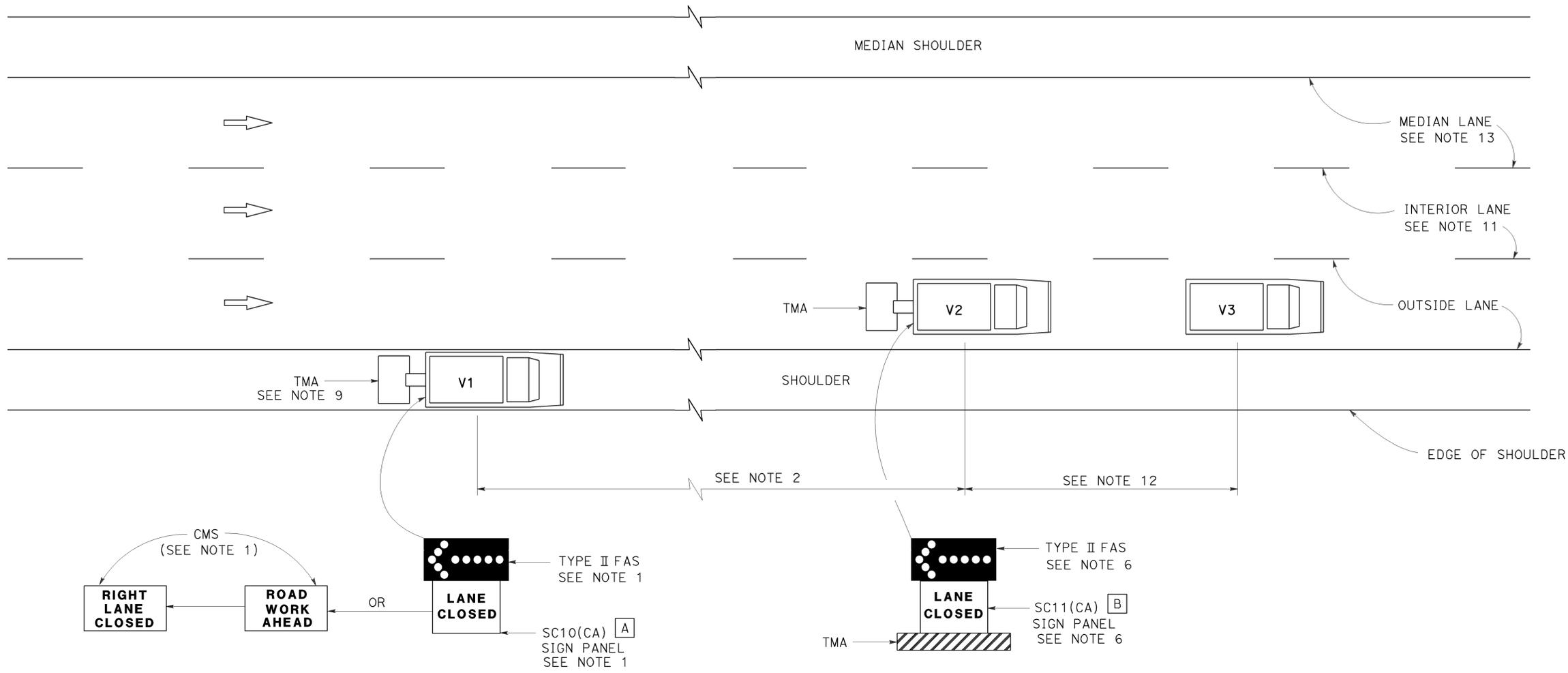
RSP T13 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T13
DATED MAY 20, 2011 - PAGE 241 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T13

2010 REVISED STANDARD PLAN RSP T13



TO ACCOMPANY PLANS DATED 4-1-14



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**

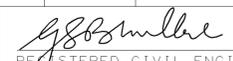
NO SCALE

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

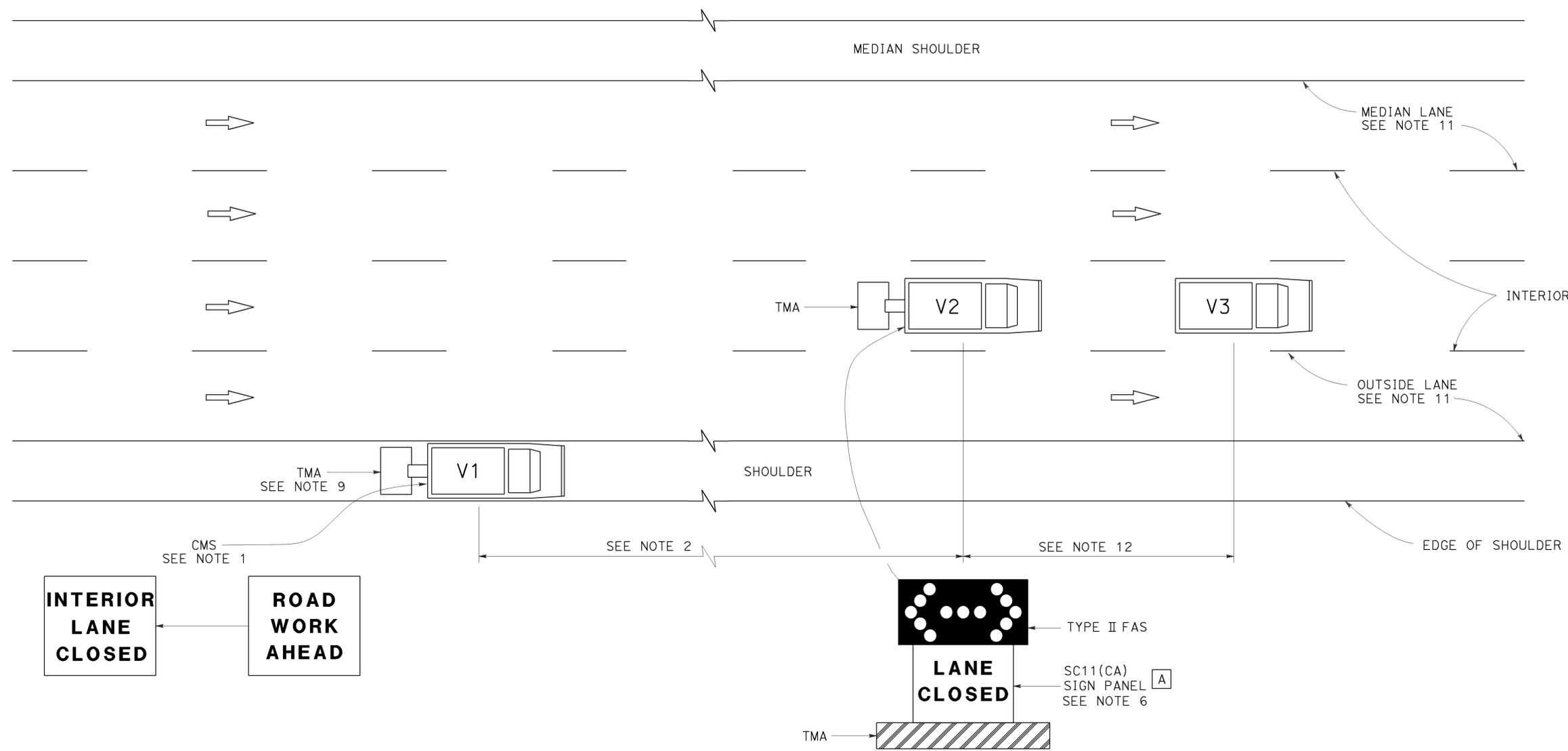
2010 REVISED STANDARD PLAN RSP T15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	12	18.8/21.7	33	38


 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 4-1-14



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

LEGEND:

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

ABBREVIATIONS

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	12	18.8/21.7	34	38

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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

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

TO ACCOMPANY PLANS DATED 4-1-14

SOFFIT AND WALL MOUNTED LUMINAIRES

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

NOTE:
Arrow indicates "street side" of luminaire.

COMMONLY USED SYMBOLS FOR UNITED STATES CUSTOMARY UNITS OF MEASUREMENT:

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

MISCELLANEOUS ELECTROLIERS

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

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

STANDARD ELECTROLIER

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
(LEGEND AND ABBREVIATIONS)**

NO SCALE

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

REVISED STANDARD PLAN RSP ES-1A

2010 REVISED STANDARD PLAN RSP ES-1A

TO ACCOMPANY PLANS DATED 4-1-14

CONDUIT

SIGNAL EQUIPMENT

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

NEW	EXISTING	
		PEDESTRIAN SIGNAL HEAD "C" INDICATES COUNTDOWN PEDESTRIAN HEAD
		PUSH BUTTON ASSEMBLY POST
		PEDESTRIAN BARRICADE
		VEHICLE SIGNAL HEAD (WITH BACKPLATE AND 3-SECTIONS: RED, YELLOW AND GREEN)
		VEHICLE SIGNAL HEAD WITH ANGLE VISOR
		MODIFICATIONS OF BASIC SYMBOL: "L" INDICATES ALL NON-ARROW SECTIONS LOUVERED "LG" INDICATES LOUVERED GREEN SECTION ONLY "PV" INDICATES ALL 12" SECTIONS PROGRAMMED VISIBILITY "8" INDICATES ALL 8" SECTIONS (ONLY WHEN SPECIFIED)

SIGNAL EQUIPMENT Cont

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

SERVICE EQUIPMENT

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

		VEHICLE SIGNAL HEAD CONSISTING OF RED, YELLOW AND GREEN LEFT ARROW SECTIONS
		VEHICLE SIGNAL HEAD CONSISTING OF RED AND YELLOW SECTIONS WITH AN UP GREEN ARROW SECTION
		VEHICLE SIGNAL HEAD (5 SECTION) CONSISTING OF RED, YELLOW AND GREEN SECTIONS WITH YELLOW AND GREEN RIGHT ARROW SECTIONS
		TYPE 15TS STANDARD WITH VEHICLE SIGNAL HEAD AND LUMINAIRE
		TYPE 21TS STANDARD WITH VEHICLE SIGNAL HEAD AND LUMINAIRE
		STANDARD WITH LUMINAIRE AND SIGNAL MAST ARMS AND ATTACHED VEHICLE SIGNAL HEADS
		TYPE 1 STANDARD WITH ATTACHED VEHICLE SIGNAL HEADS
		STANDARD WITH A SIGNAL MAST ARM, ATTACHED VEHICLE SIGNAL HEADS AND INTERNALLY ILLUMINATED STREET NAME SIGN
		CONTROLLER ASSEMBLY. DOOR INDICATES FRONT OF CABINET

NOTES:

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

POLE-MOUNTED SERVICE DESIGNATION

	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

ILLUMINATED OVERHEAD SIGN

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

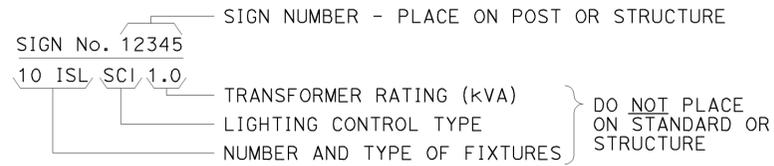
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
(LEGEND AND ABBREVIATIONS)**
NO SCALE

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

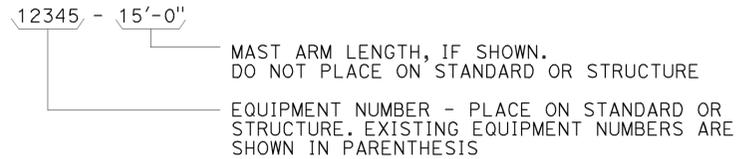
2010 REVISED STANDARD PLAN RSP ES-1B

EQUIPMENT IDENTIFICATION

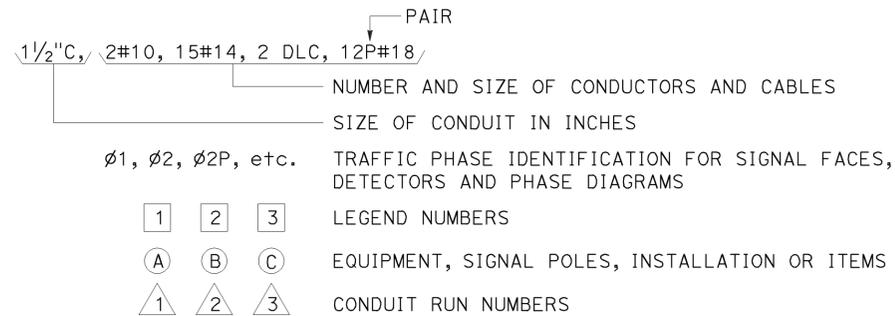
ILLUMINATED SIGN IDENTIFICATION NUMBER:



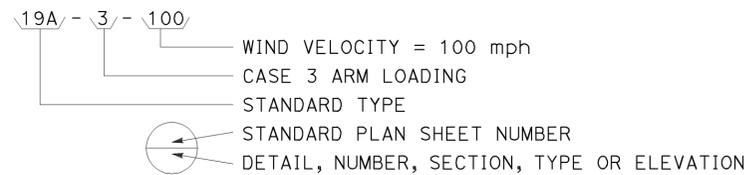
ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



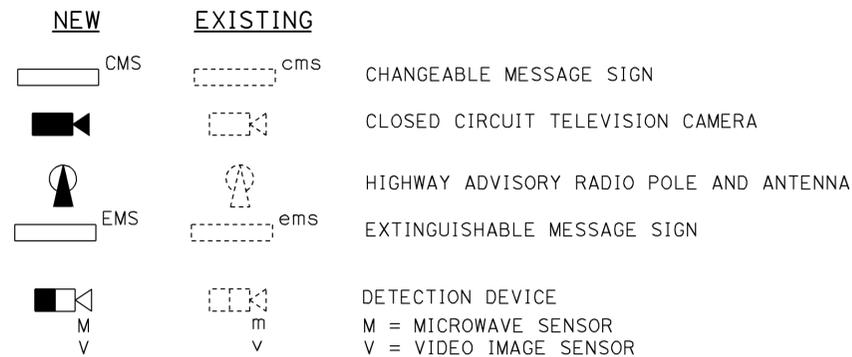
CONDUIT AND CONDUCTOR IDENTIFICATION:



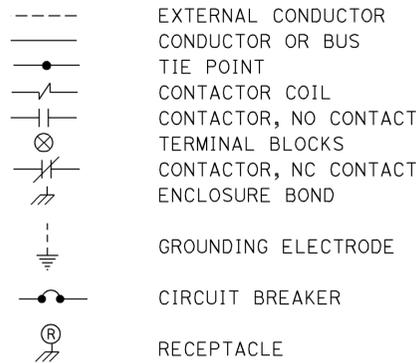
SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



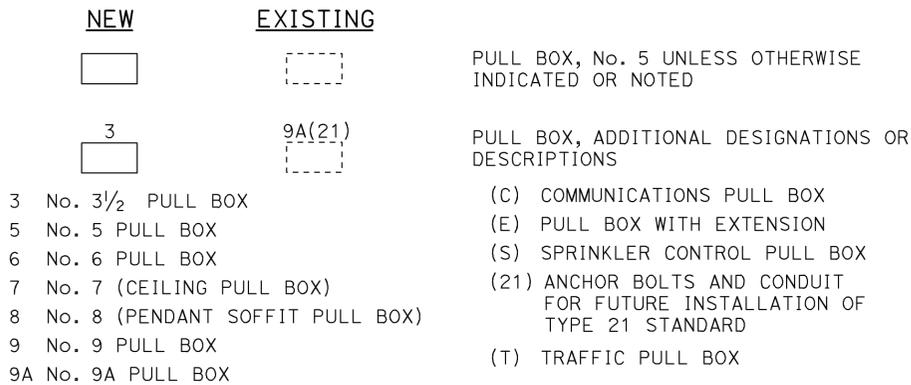
MISCELLANEOUS EQUIPMENT



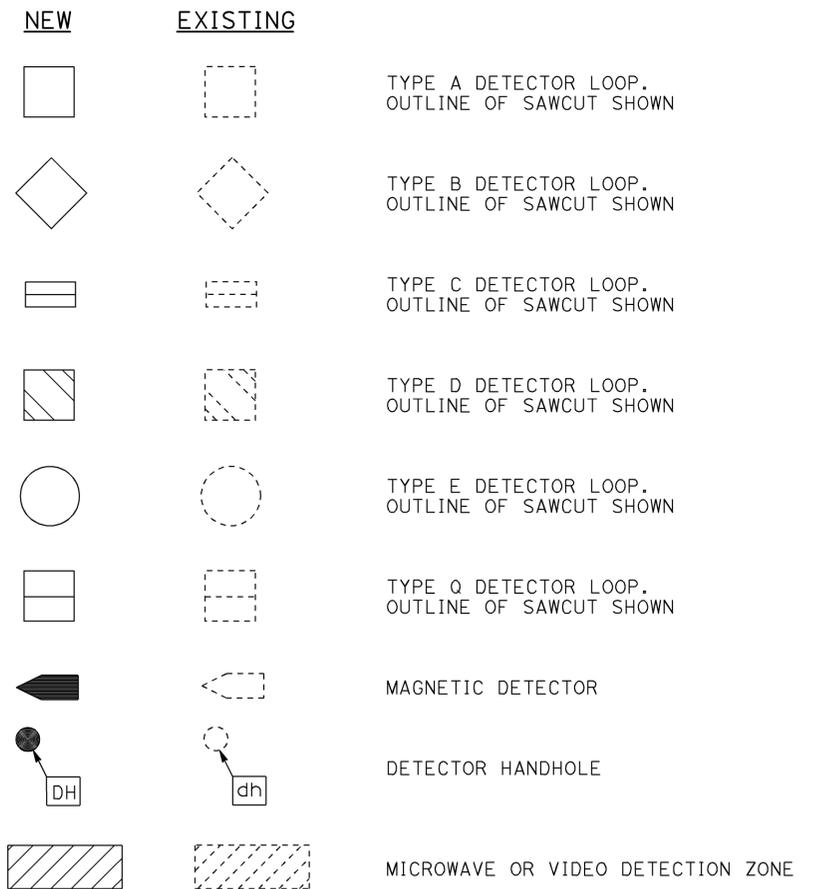
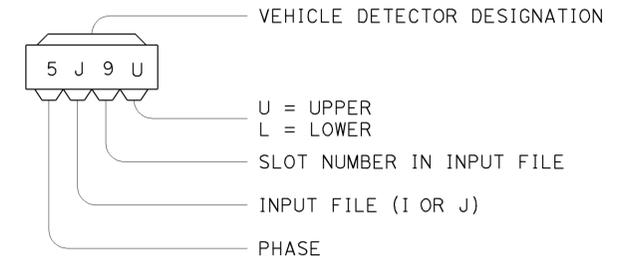
WIRING DIAGRAM LEGEND



PULL BOXES



VEHICLE DETECTORS



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

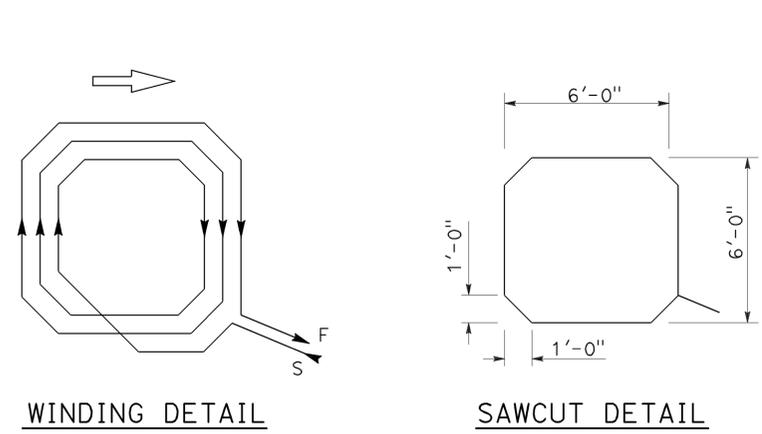
NO SCALE

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

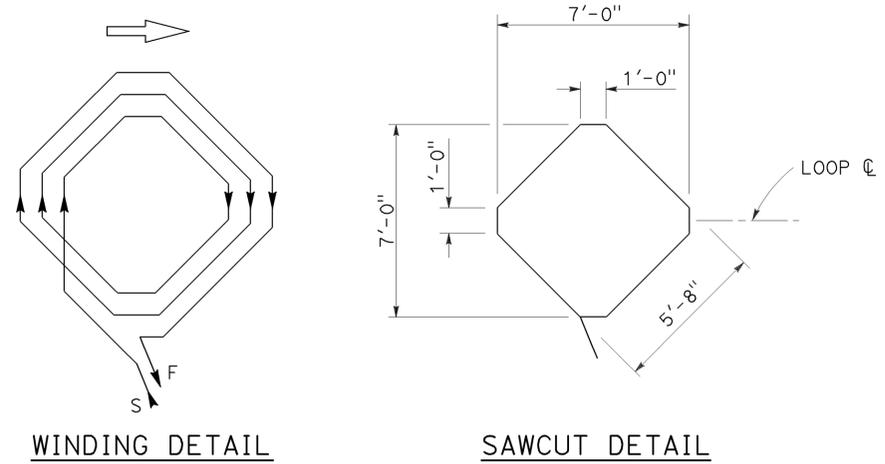
REVISED STANDARD PLAN RSP ES-1C

2010 REVISED STANDARD PLAN RSP ES-1C

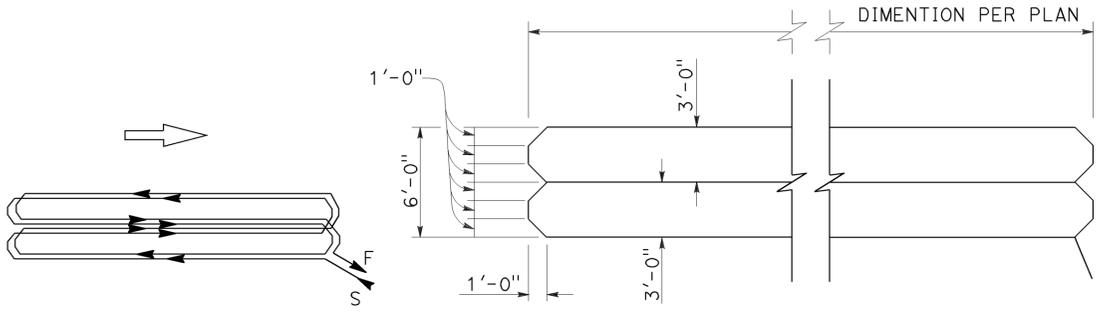
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	12	18.8/21.7	37	38
<i>Theresa Gabriel</i> REGISTERED ELECTRICAL ENGINEER July 19, 2013 PLANS APPROVAL DATE <small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					
TO ACCOMPANY PLANS DATED <u>4-1-14</u>					



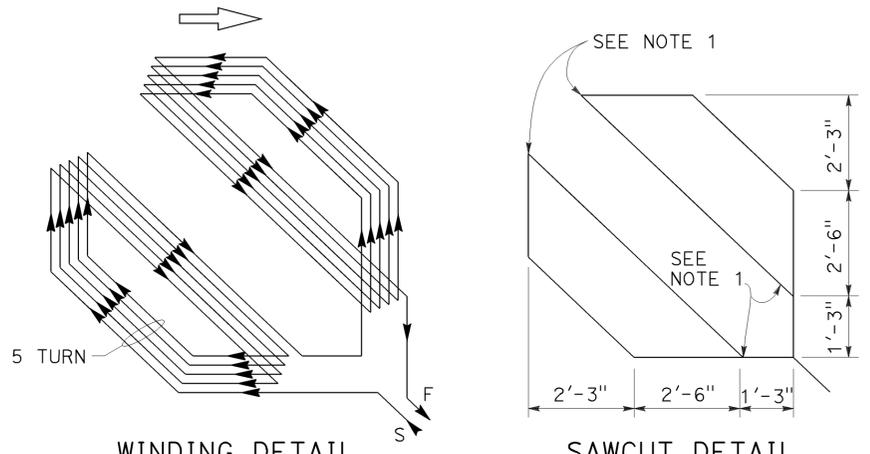
WINDING DETAIL
SAWCUT DETAIL
TYPE A LOOP DETECTOR CONFIGURATION



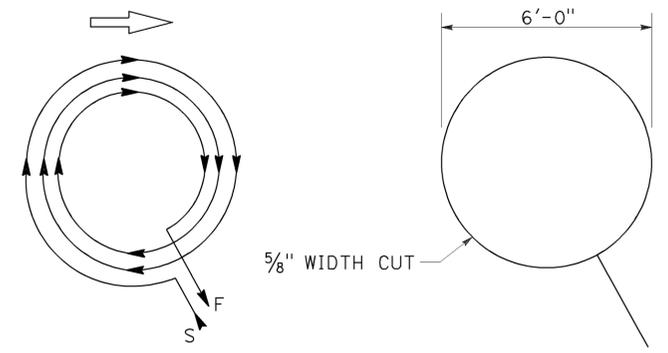
WINDING DETAIL
SAWCUT DETAIL
TYPE B LOOP DETECTOR CONFIGURATION



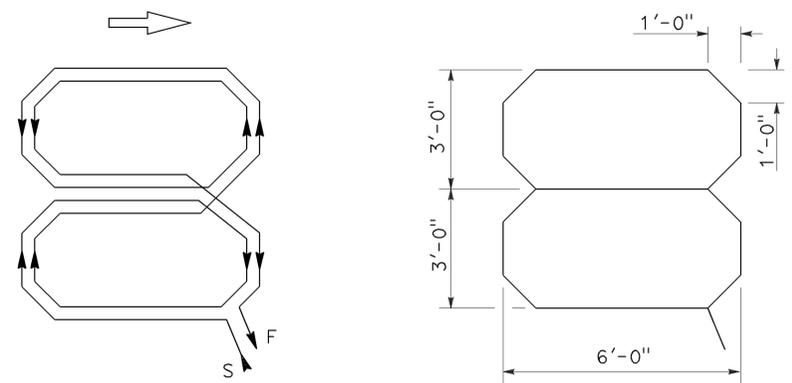
WINDING DETAIL
SAWCUT DETAIL
TYPE C LOOP DETECTOR CONFIGURATION



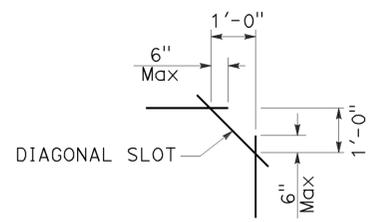
WINDING DETAIL
SAWCUT DETAIL
TYPE D LOOP DETECTOR CONFIGURATION



WINDING DETAIL
SAWCUT DETAIL
TYPE E LOOP DETECTOR CONFIGURATION



WINDING DETAIL
SAWCUT DETAIL
TYPE Q LOOP DETECTOR CONFIGURATION



**PLAN VIEW OF
DIAGONAL SLOT
AT CORNERS**

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

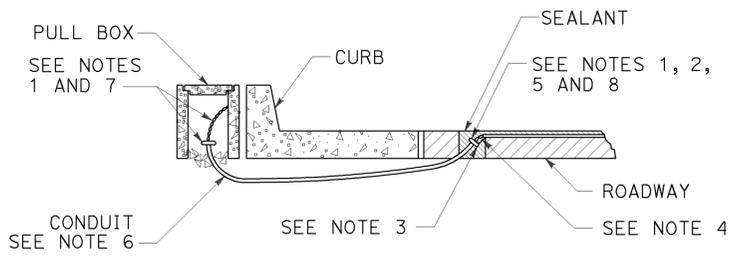
**ELECTRICAL SYSTEMS
(DETECTORS)**

NO SCALE

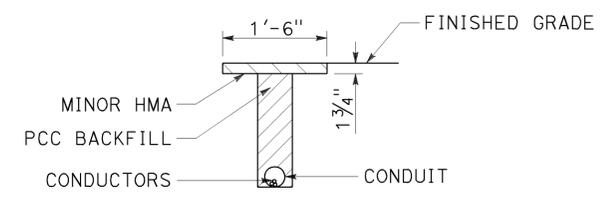
RSP ES-5B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-5B
DATED MAY 20, 2011 - PAGE 449 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP ES-5B

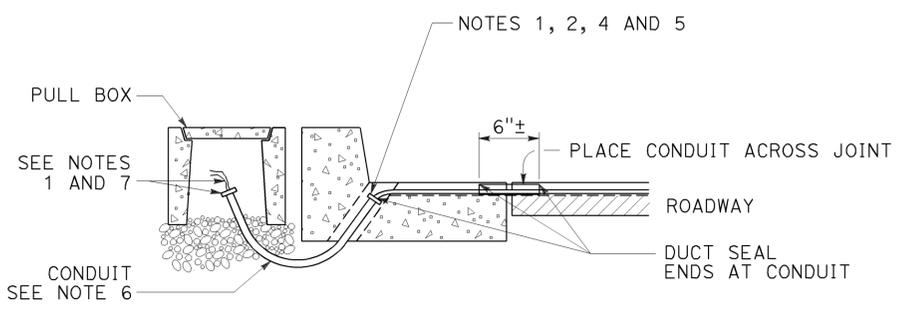
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	12	18.8/21.7	38	38
<i>Theresa Gabriel</i> REGISTERED ELECTRICAL ENGINEER July 19, 2013 PLANS APPROVAL DATE <small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					
TO ACCOMPANY PLANS DATED <u>4-1-14</u>					



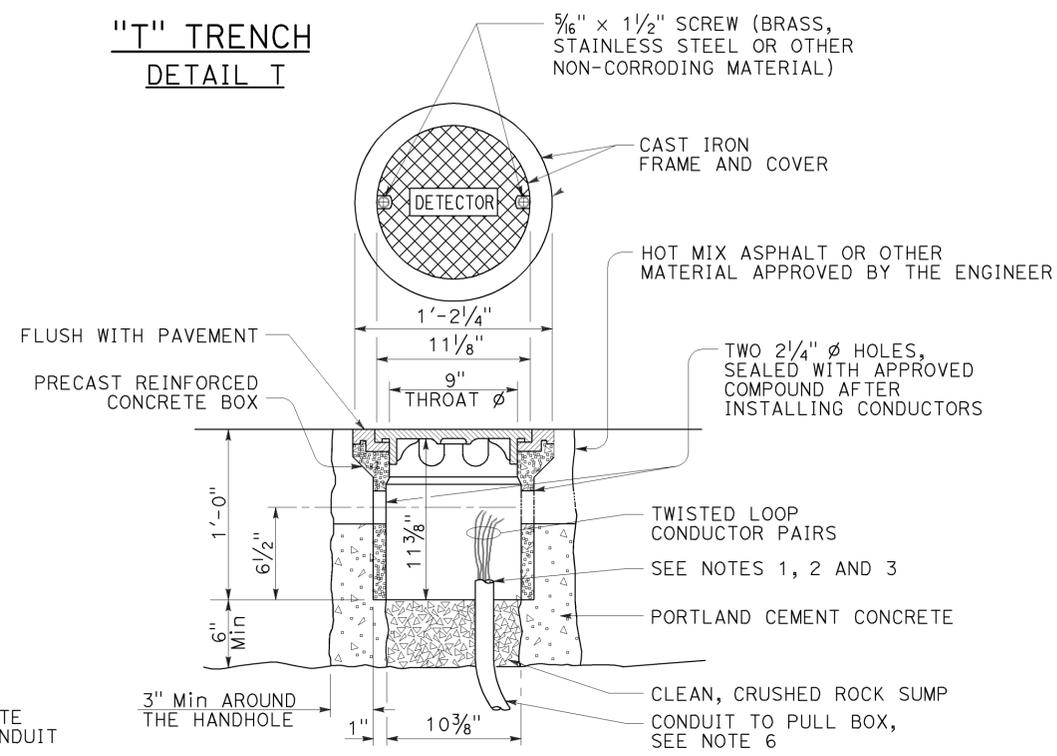
TYPE A
CURB TERMINATION DETAIL



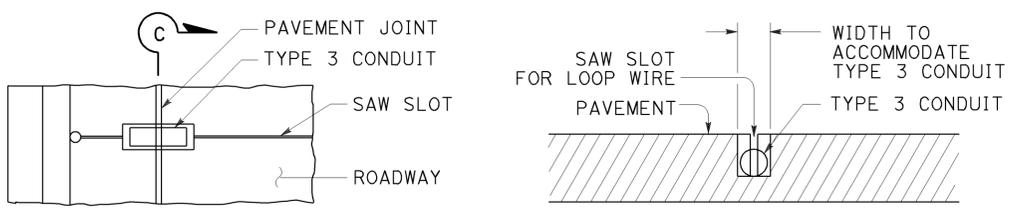
"T" TRENCH
DETAIL T



CROSS SECTION



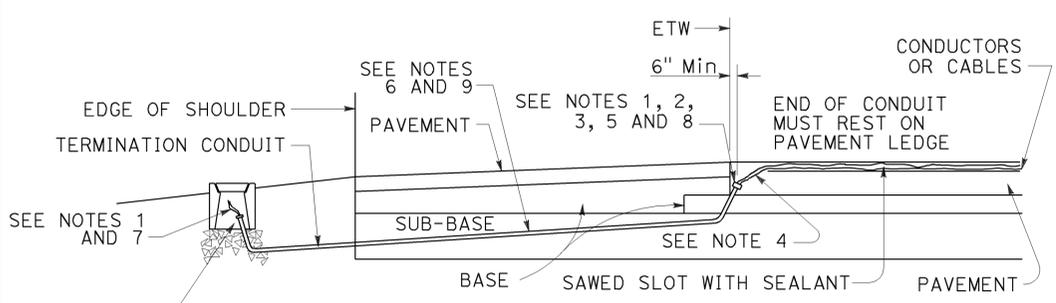
DETECTOR HANDHOLE DETAIL



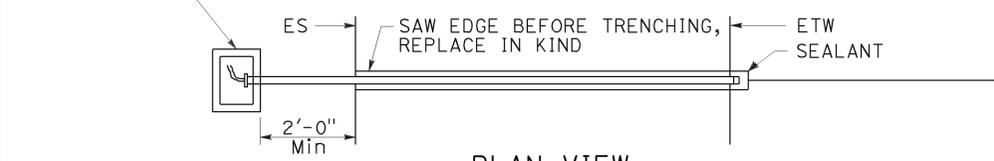
PLAN VIEW

SECTION C-C

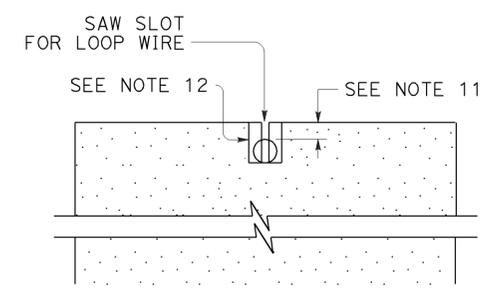
TYPE B
CURB TERMINATION DETAIL



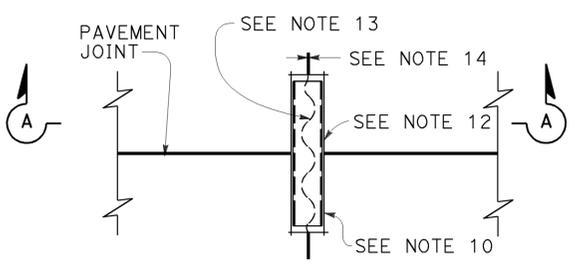
CROSS SECTION



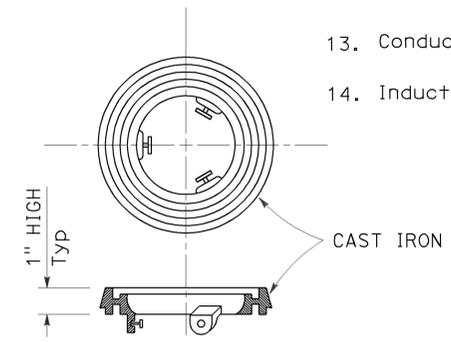
PLAN VIEW
SHOULDER TERMINATION DETAILS



SECTION A-A



PLAN VIEW
TYPICAL LOOP LEAD-IN DETAIL
AT PAVEMENT JOINT



LOCKING GRADE RING

NOTES:

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

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

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

REVISED STANDARD PLAN RSP ES-5D

2010 REVISED STANDARD PLAN RSP ES-5D