

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.

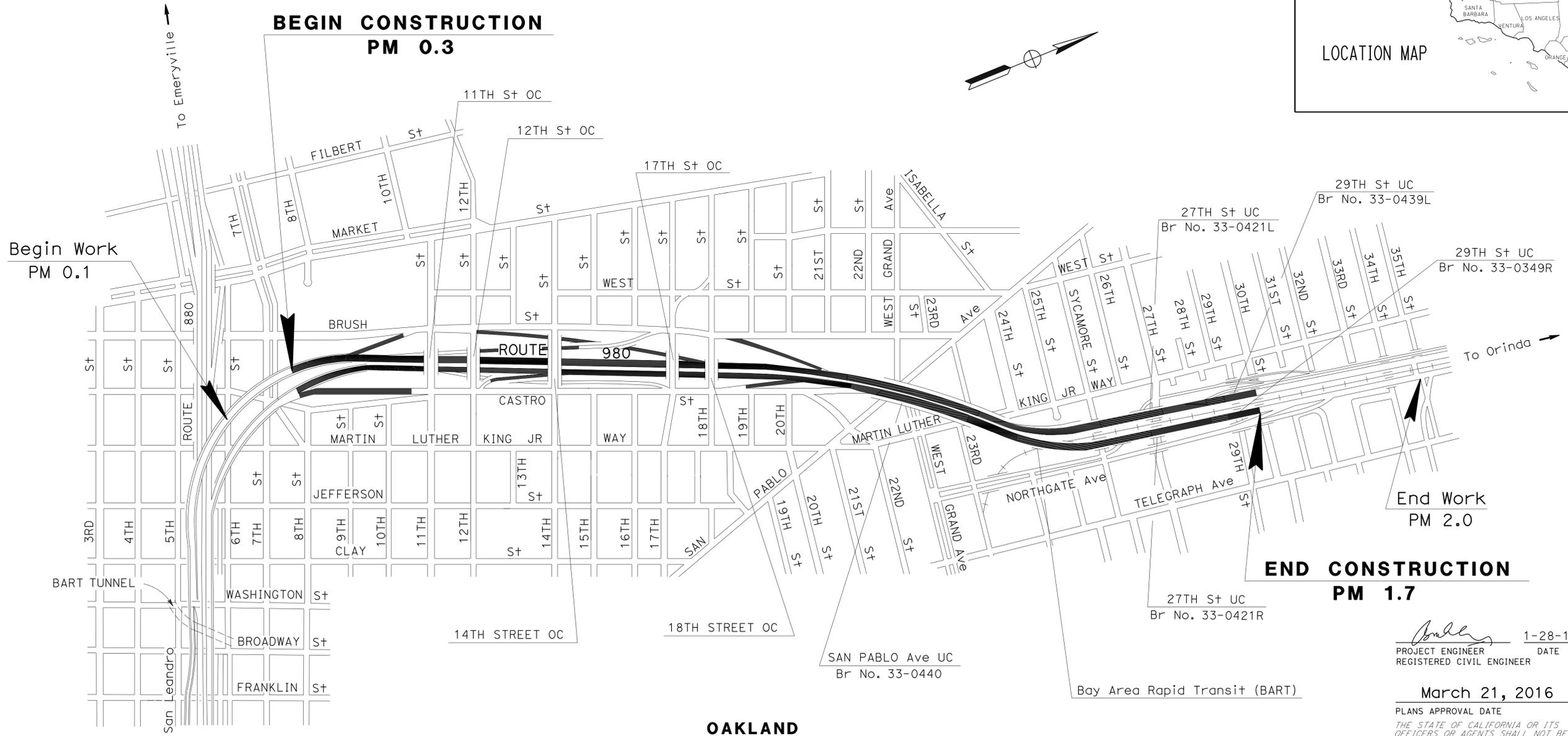
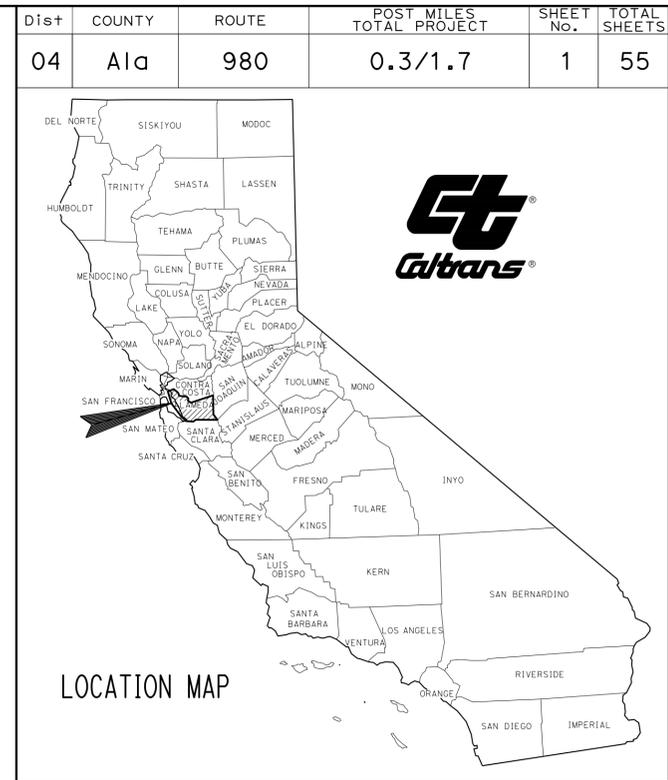
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

ACNHPI-980-1(005)E

PROJECT PLANS FOR CONSTRUCTION ON  
STATE HIGHWAY

IN ALAMEDA COUNTY  
IN OAKLAND  
FROM 0.2 MILE WEST OF 11TH STREET OVERCROSSING  
TO 30TH STREET UNDERCROSSING

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010



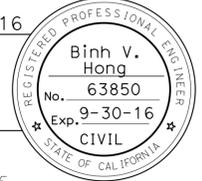
PROJECT MANAGER  
RAMSES SARGISS

DESIGN MANAGER  
VIJITH THILAKARATNE

*Binh V. Hong* 1-28-16  
PROJECT ENGINEER DATE  
REGISTERED CIVIL ENGINEER

March 21, 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.

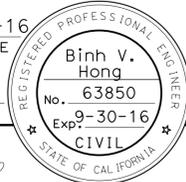


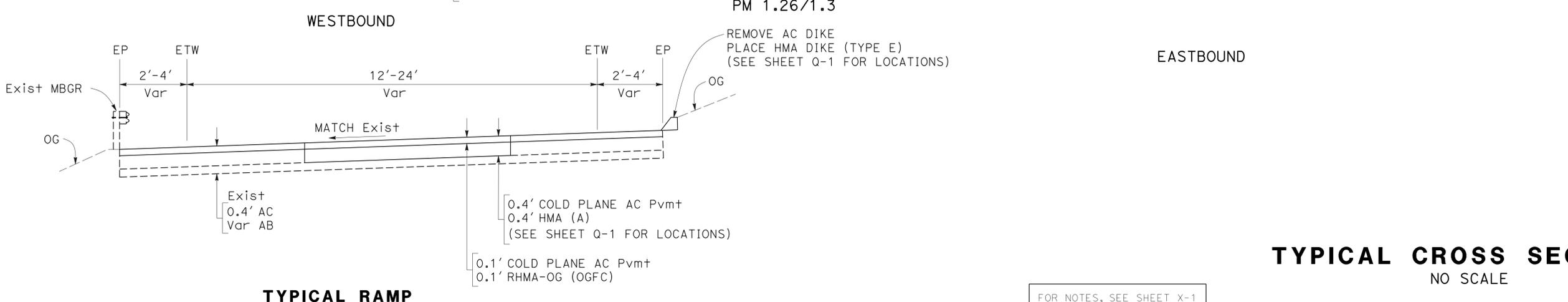
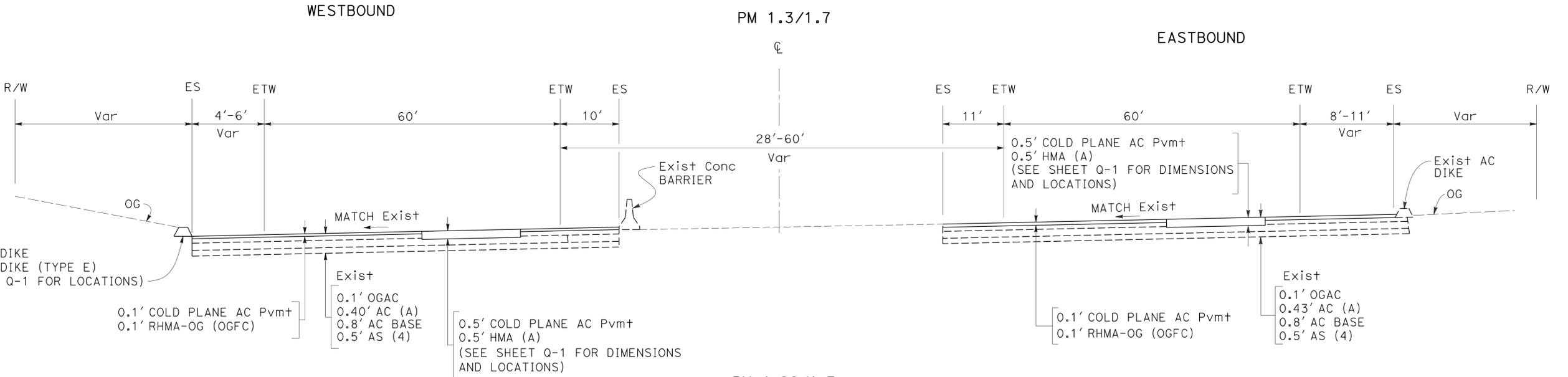
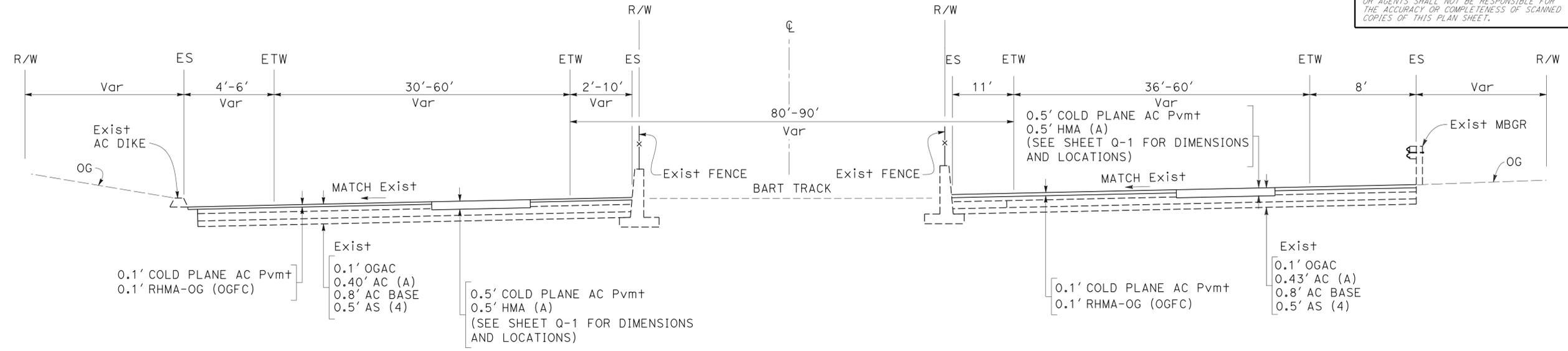
CONTRACT No. **04-4J6104**  
PROJECT ID **0415000372**

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

NO SCALE



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	3	55
 REGISTERED CIVIL ENGINEER			DATE	1-28-16	
PLANS APPROVAL DATE			3-21-16		
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.					
					



**TYPICAL RAMP**

**TYPICAL CROSS SECTIONS**  
NO SCALE

FOR NOTES, SEE SHEET X-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 DESIGN  
 FUNCTIONAL SUPERVISOR: VIJITH THILAKARATNE  
 CHECKED BY: BINH HONG  
 REVISIONS: 3-18-16  
 REVISOR: EDMOND SIU  
 DATE: 3-18-16  
 BH

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

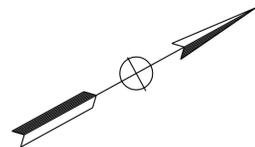
EDMOND SIU  
 BINH HONG

REVISOR  
 DATE

FUNCTIONAL SUPERVISOR  
 VIJITH THILAKARATNE

DESIGNED BY  
 CHECKED BY

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



**LEGEND:**

COLD PLANE 0.10' AC Pvm+  
 AND 0.10' RHMA-OG (OGFC)

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	4	55

<i>Binh V. Hong</i>	1-28-16
REGISTERED CIVIL ENGINEER	DATE
3-21-16	
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.



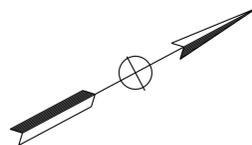
**CONSTRUCTION DETAILS**  
 NO SCALE

**C-1**

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

FUNCTIONAL SUPERVISOR: VIJITH THILAKARATNE  
 CALCULATED/DESIGNED BY: EDMOND SIU  
 CHECKED BY: BINH HONG  
 REVISIONS:  
 BH 3-18-16

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

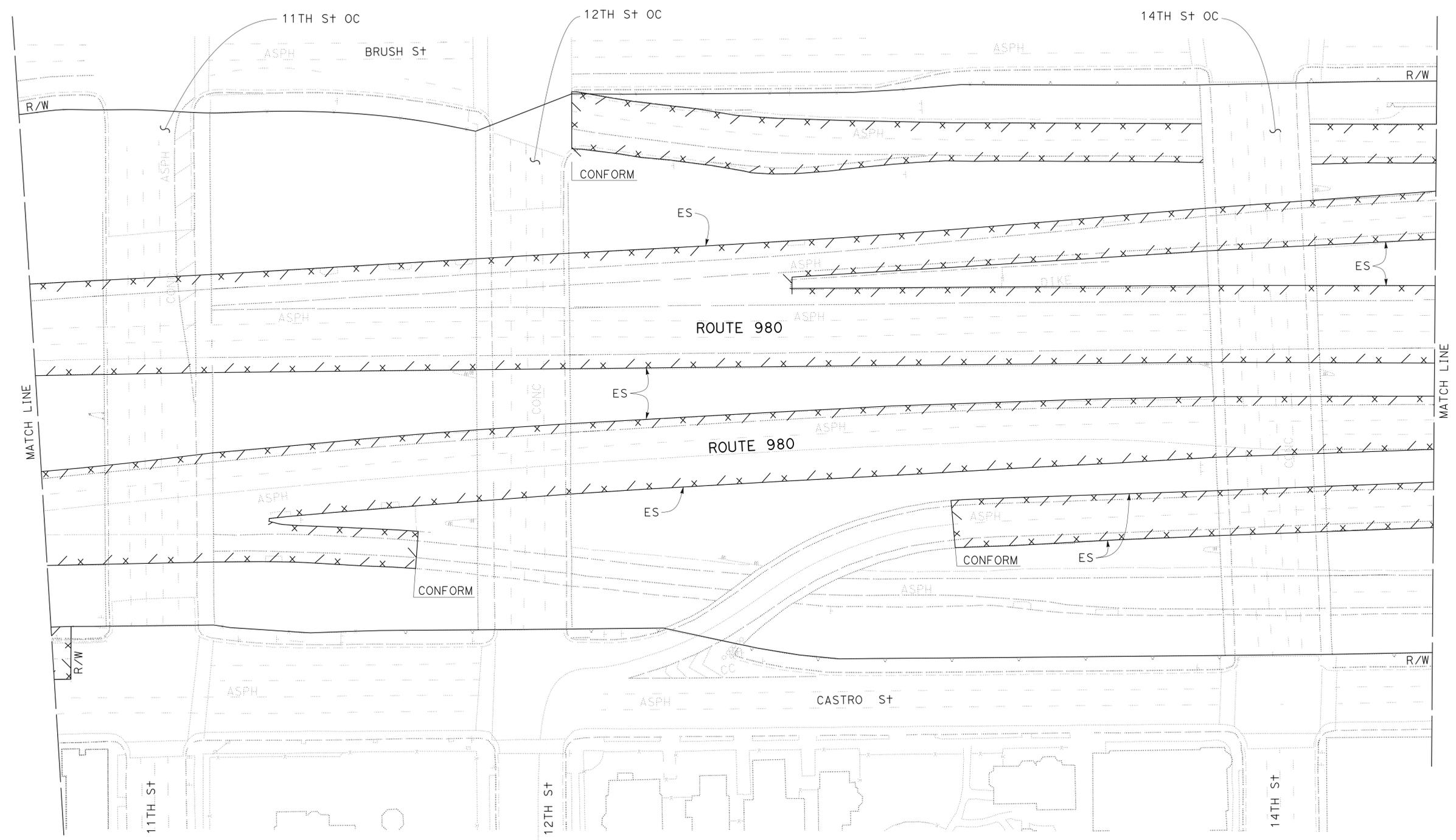


Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	5	55

REGISTERED CIVIL ENGINEER: *Binh V. Hong* DATE: 1-28-16  
 PLANS APPROVAL DATE: 3-21-16

REGISTERED PROFESSIONAL ENGINEER  
 Binh V. Hong  
 No. 63850  
 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.



**CONSTRUCTION DETAILS**  
 NO SCALE

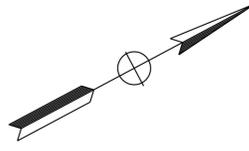
FOR LEGEND, SEE SHEET C-1

**C-2**

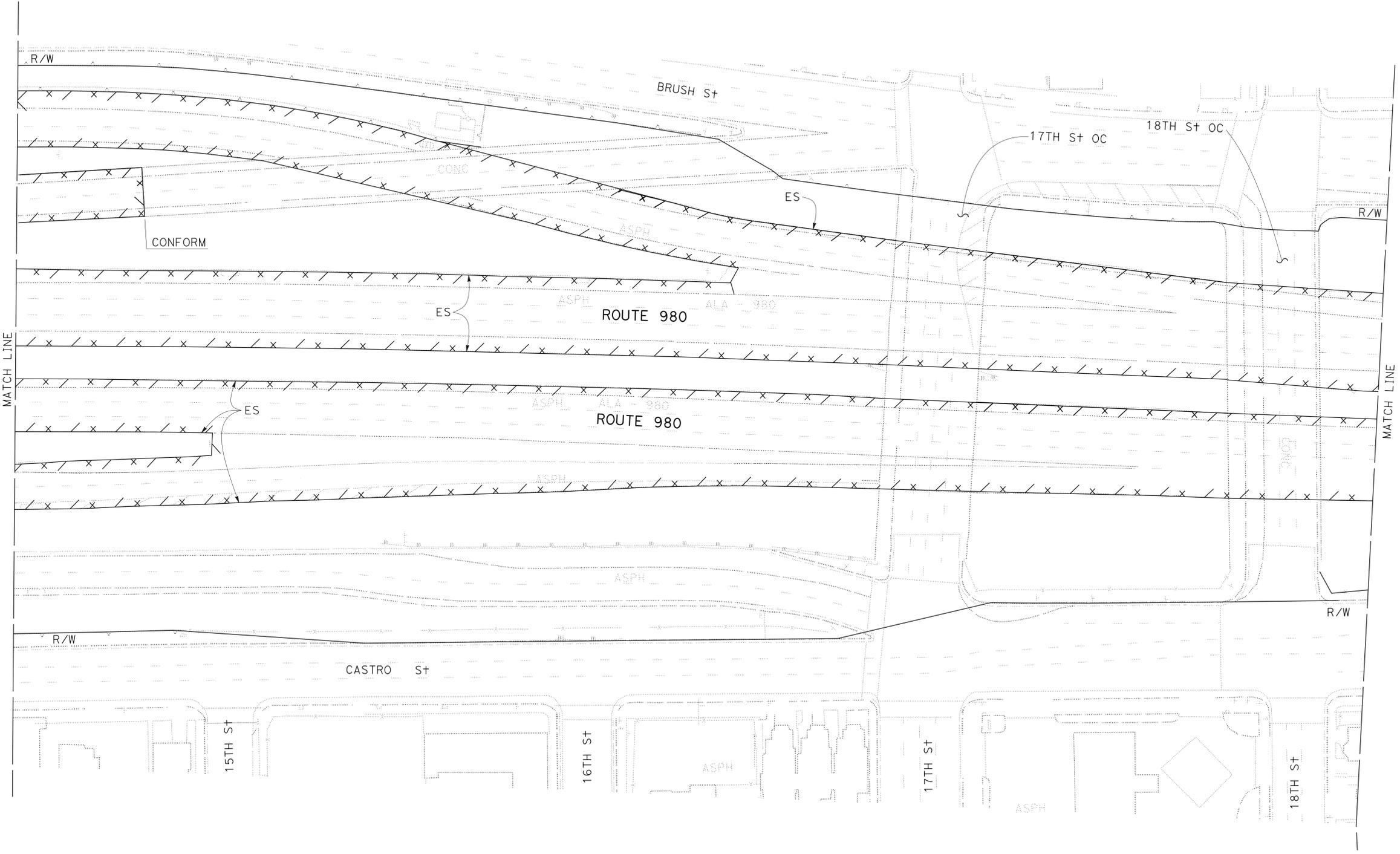
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 DESIGN

FUNCTIONAL SUPERVISOR	EDMOND SIU	REVISOR	BH
CHECKED BY	VIJITH THILAKARATNE	DATE	3-18-16
DESIGNED BY	EDMOND SIU	DATE	3-18-16
CHECKED BY	BINH HONG	DATE	3-18-16

**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	Ala	980	0.3/1.7	6	55
REGISTERED CIVIL ENGINEER			DATE	1-28-16	
PLANS APPROVAL DATE			3-21-16		
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.					

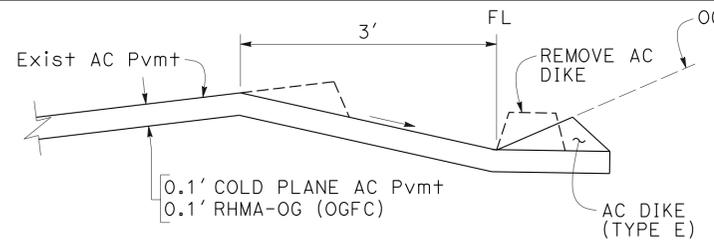
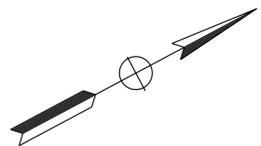


**CONSTRUCTION DETAILS**  
 NO SCALE

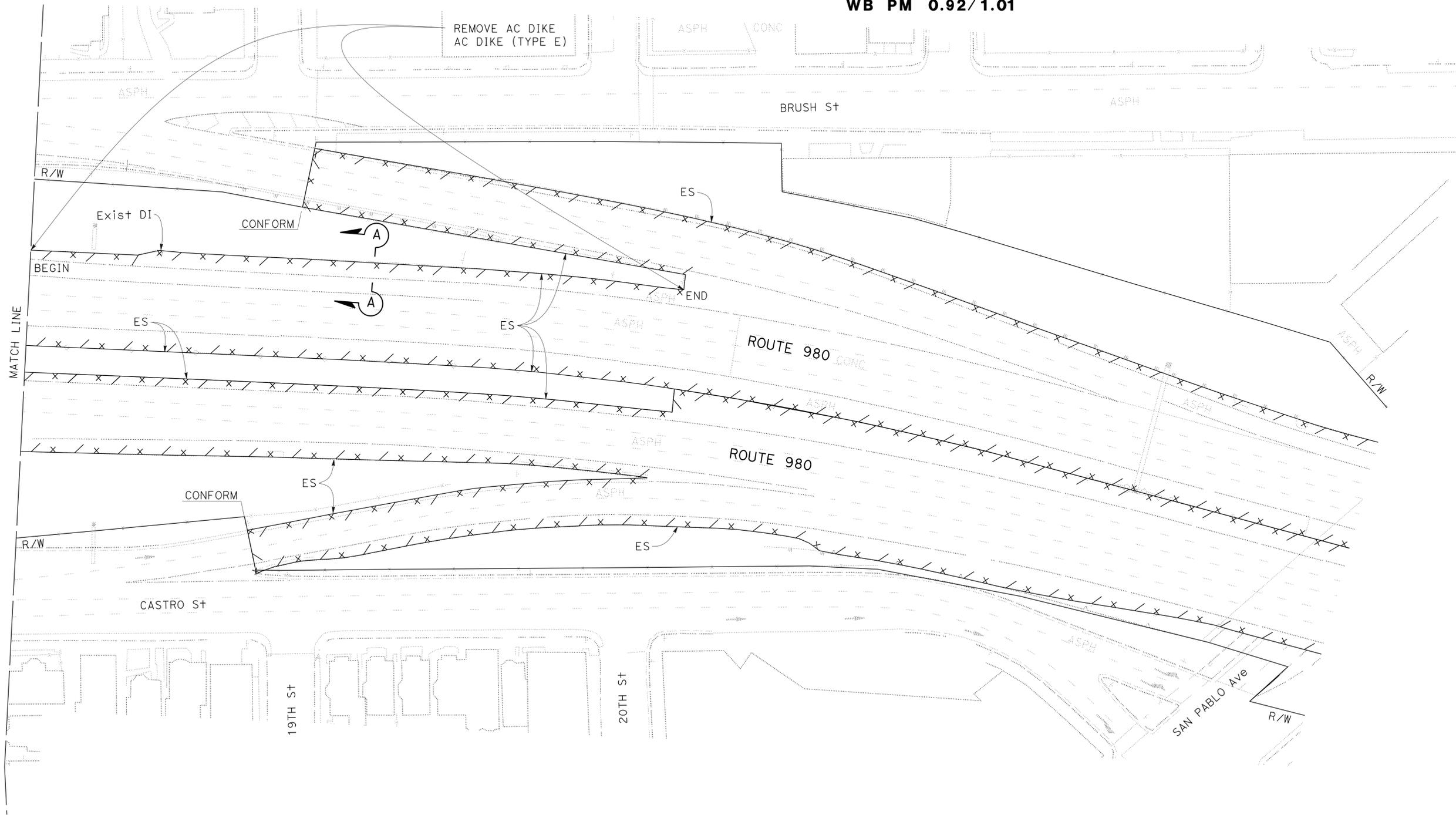
FOR LEGEND, SEE SHEET C-1

**C-3**

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



SECTION A-A  
**SIDE GUTTER  
WB PM 0.92/1.01**



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	7	55

<i>Binh V. Hong</i>	1-28-16
REGISTERED CIVIL ENGINEER	DATE
3-21-16	
PLANS APPROVAL DATE	

Binh V. Hong
No. 63850
Exp. 9-30-16
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	DESIGN
EDMOND SIU	EDMOND SIU
REVISOR	DATE
BH	3-18-16
FUNCTIONAL SUPERVISOR	DESIGNED BY
VIJITH THILAKARATNE	CHECKED BY

**CONSTRUCTION DETAILS**  
NO SCALE

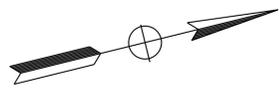
FOR LEGEND, SEE SHEET C-1

**C-4**

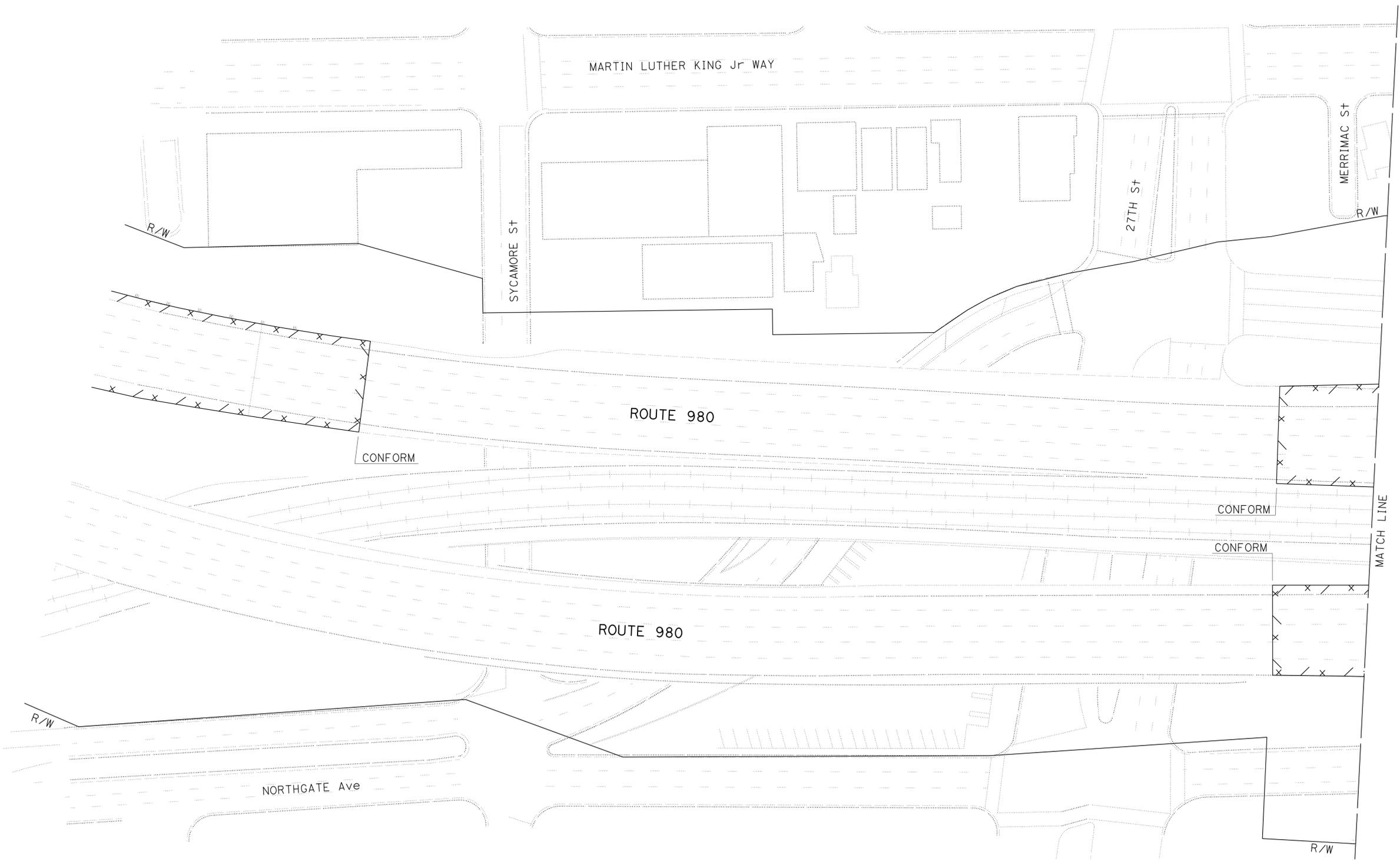
LAST REVISION DATE PLOTTED => 29-MAR-2016 03-21-16 TIME PLOTTED => 09:12

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	EDMOND SIU	REVISOR	BH
<b>Caltrans</b>	VIJITH THILAKARATNE	CHECKED BY	BINH HONG	DATE	3-18-16
<b>DESIGN</b>					

**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	Ala	980	0.3/1.7	8	55
			1-28-16	DATE	
			3-21-16	PLANS APPROVAL DATE	
REGISTERED CIVIL ENGINEER Binh V. Hong No. 63850 Exp. 9-30-16 CIVIL STATE OF CALIFORNIA					
<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>					



**CONSTRUCTION DETAILS**  
NO SCALE

FOR LEGEND, SEE SHEET C-1

**C-5**

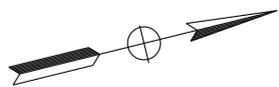
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	9	55

REGISTERED CIVIL ENGINEER *Binh V. Hong* DATE 1-28-16  
 3-21-16  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 Binh V. Hong  
 No. 63850  
 Exp. 9-30-16  
 CIVIL  
 STATE OF CALIFORNIA

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



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	EDMOND SIU	REVISOR	BH
<b>Caltrans</b>	VIJITH THILAKARATNE	CHECKED BY	BINH HONG	DATE	3-18-16
<b>DESIGN</b>					

**CONSTRUCTION DETAILS**  
 NO SCALE

FOR LEGEND, SEE SHEET C-1

**C-6**

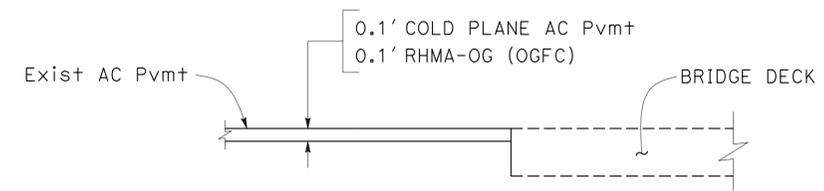
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	10	55

 1-28-16  
 REGISTERED CIVIL ENGINEER DATE  
 3-21-16  
 PLANS APPROVAL DATE

BINH V. HONG  
 No. 63850  
 Exp. 9-30-16  
 CIVIL  
 STATE OF CALIFORNIA

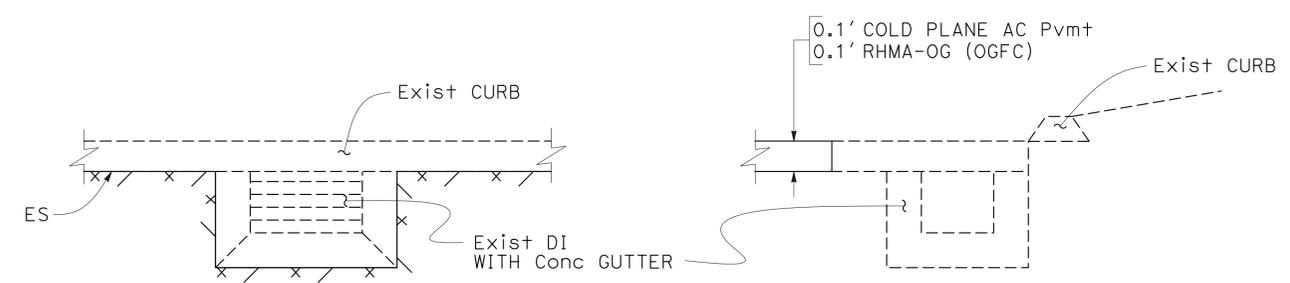
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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	EDMOND SIU	REVISOR	BH
DESIGN	VIJITH THILAKARATNE	CHECKED BY	BINH HONG	DATE REVISED	3-18-16

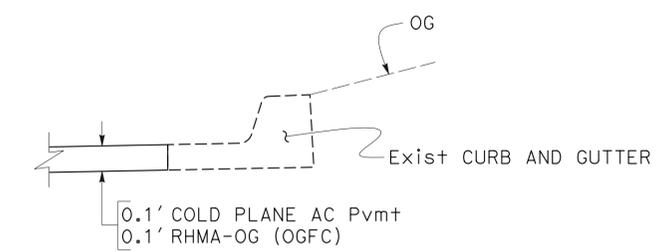


(SEE SHEET Q-1 FOR DIMENSIONS AND LOCATIONS)

**TYPICAL PAVING CONFORM AT BRIDGE DECK FOR BEGIN AND END OF PROJECT**



**TYPICAL PAVING AT DRAINAGE INLET**



**TYPICAL PAVING AT CURB AND GUTTER**

FOR LEGEND, SEE SHEET C-1

**CONSTRUCTION DETAILS**  
NO SCALE

**C-7**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	11	55

1-11-16  
 REGISTERED CIVIL ENGINEER DATE  
 3-21-16  
 PLANS APPROVAL DATE



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 COPIES OF THIS PLAN SHEET.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** WATER QUALITY  
 FUNCTIONAL SUPERVISOR  
 KAMRAN NAKHJIRI  
 CALCULATED/DESIGNED BY  
 CHECKED BY  
 KAMRAN NAKHJIRI  
 GANGA TRIPATHI  
 KAMRAN NAKHJIRI  
 REVISED BY  
 DATE REVISED  
 3-18-16  
 GT

### TEMPORARY WATER POLLUTION CONTROL QUANTITIES

ITEM	UNIT	STATION	QUANTITY
TEMPORARY DRAINAGE INLET PROTECTION	EA	WITHIN PROJECT LIMITS	22
TEMPORARY FIBER ROLL	LF	AT SHOULDER BACKING AREAS	6600

### TEMPORARY WATER POLLUTION CONTROL QUANTITIES WPCQ-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 FUNCTIONAL SUPERVISOR: LOURDES DAVID  
 CLAUDIA FANG  
 REVISOR: JERI-PAUL FABIAN  
 DATE: 3-18-16  
 CF

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

**LEGEND:**  
 No. CONSTRUCTION AREA SIGN NUMBER

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	12	55

REGISTERED CIVIL ENGINEER: *Claudia K. Fang*  
 DATE: 1-12-16  
 PLANS APPROVAL DATE: 3-21-16  
 No. 80493  
 Exp. 3-31-17  
 CIVIL  
 STATE OF CALIFORNIA  
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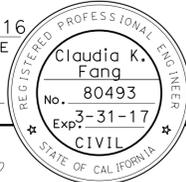
**CONSTRUCTION AREA SIGNS**  
 NO SCALE

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

**CS-1**

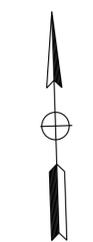
LAST REVISION DATE PLOTTED => 29-MAR-2016  
 03-21-16 TIME PLOTTED => 09:12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	13	55
		<i>Claudia K. Fang</i> 1-12-16 REGISTERED CIVIL ENGINEER DATE			
		3-21-16 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>					

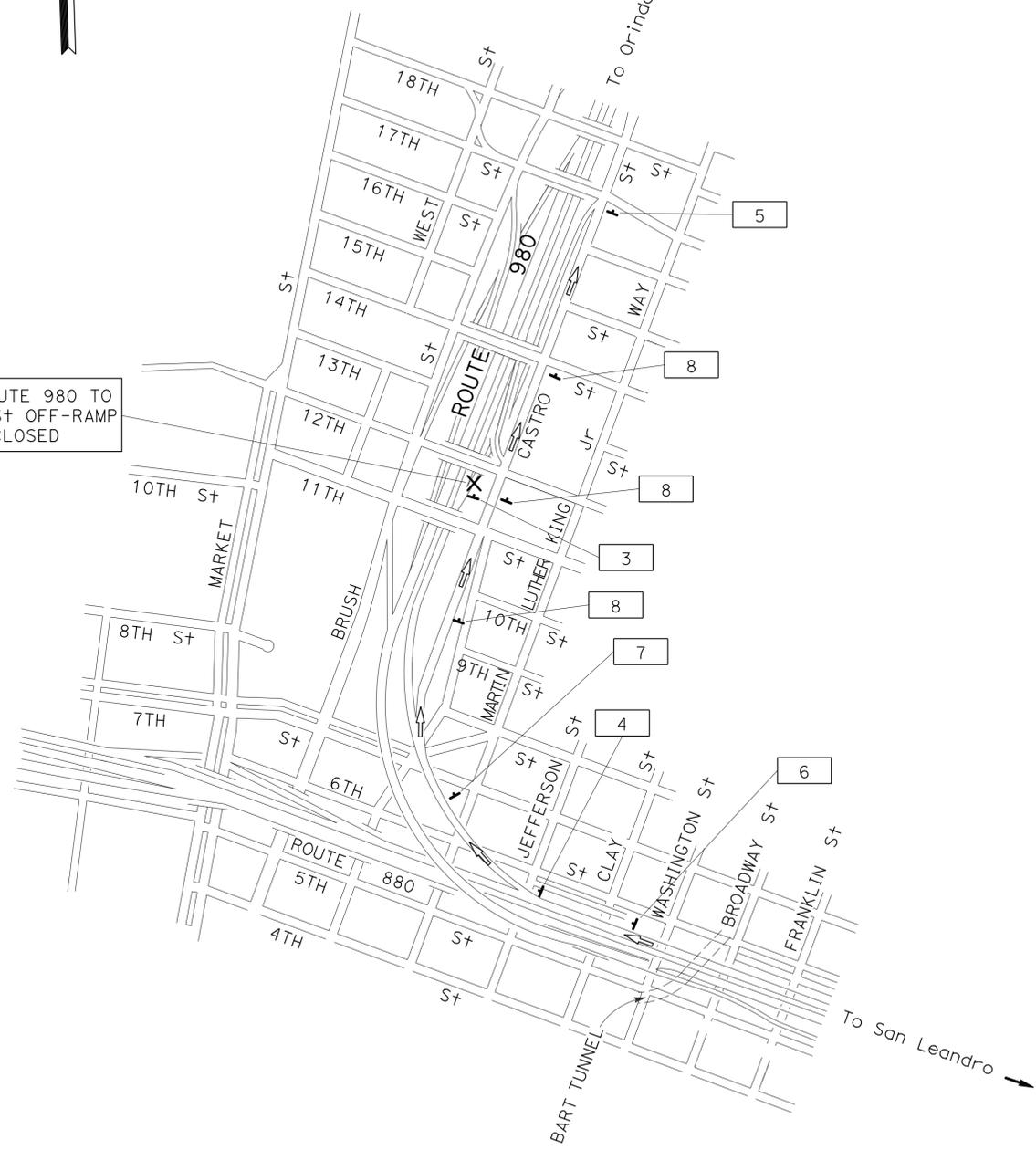


STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	DESIGNED BY	REVISOR	DATE
TRAFFIC	LOURDES DAVID	CLAUDIA FANG	CF	3-18-16
		JERI-PAUL FABIAN		
	CHECKED BY			

x  
x  
x  
x  
x  
x  
x  
x



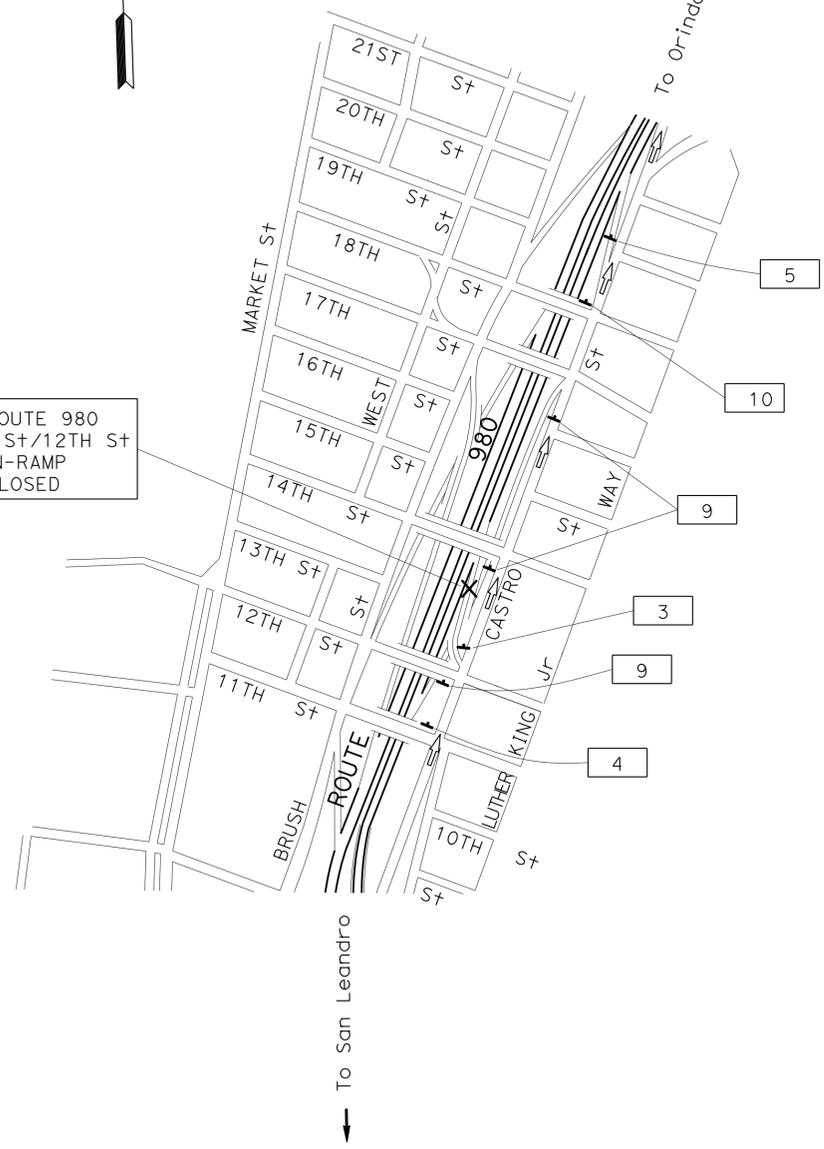
EB ROUTE 980 TO 17TH ST OFF-RAMP CLOSED



**DETOUR PLAN No. 1**  
 EB ROUTE 980;  
 EXIT 11TH ST OFF-RAMP;  
 STRAIGHT TO CASTRO ST



EB ROUTE 980 CASTRO ST/12TH ST ON-RAMP CLOSED



**DETOUR PLAN No. 2**  
 NB CASTRO ST;  
 ENTER EB ROUTE 980 CASTRO/19TH ST ON-RAMP

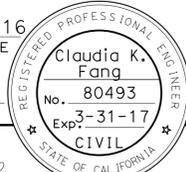
**CONSTRUCTION AREA SIGNS**  
 NO SCALE

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

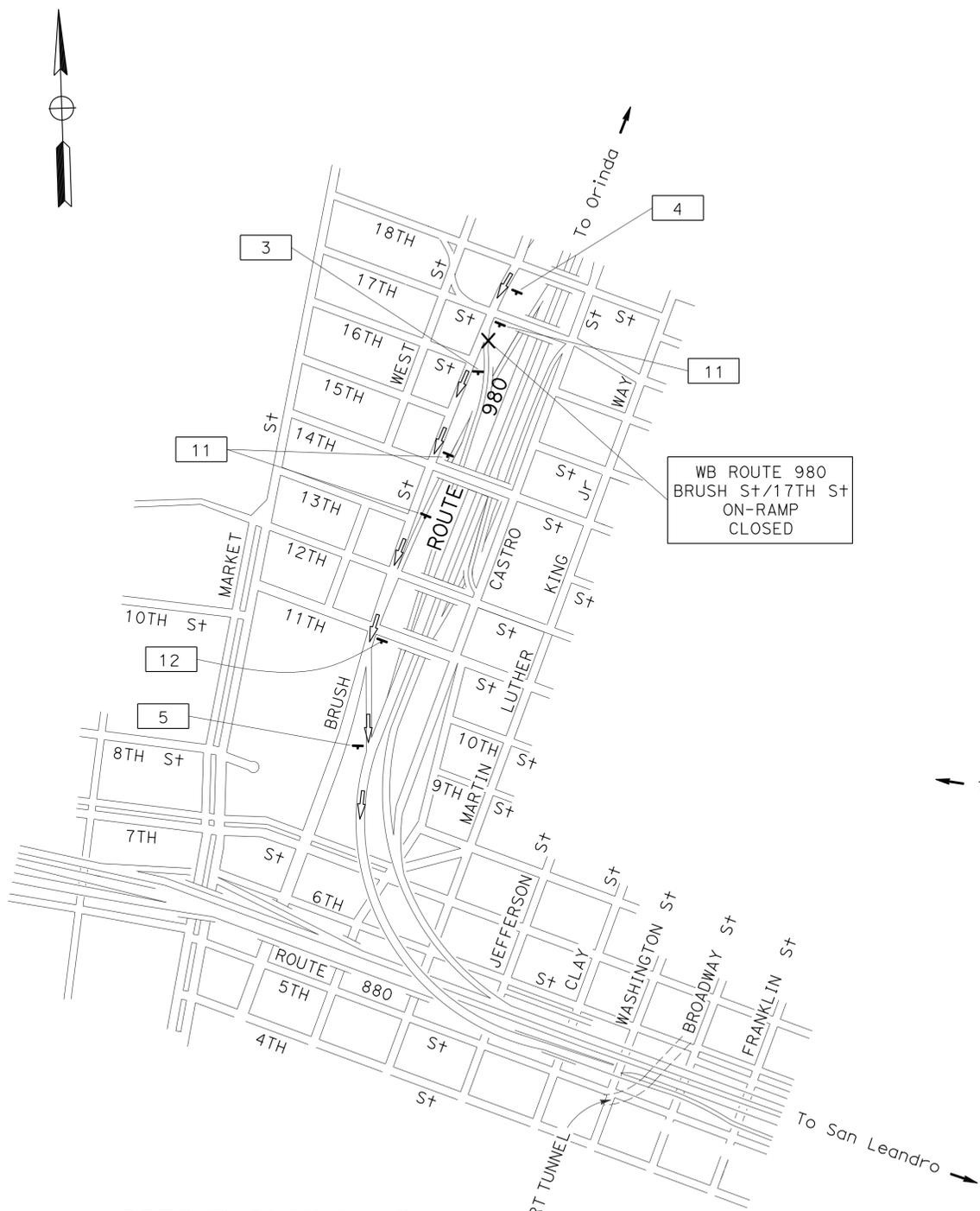
FOR NOTE AND LEGEND, SEE SHEET CS-1

**CS-2**

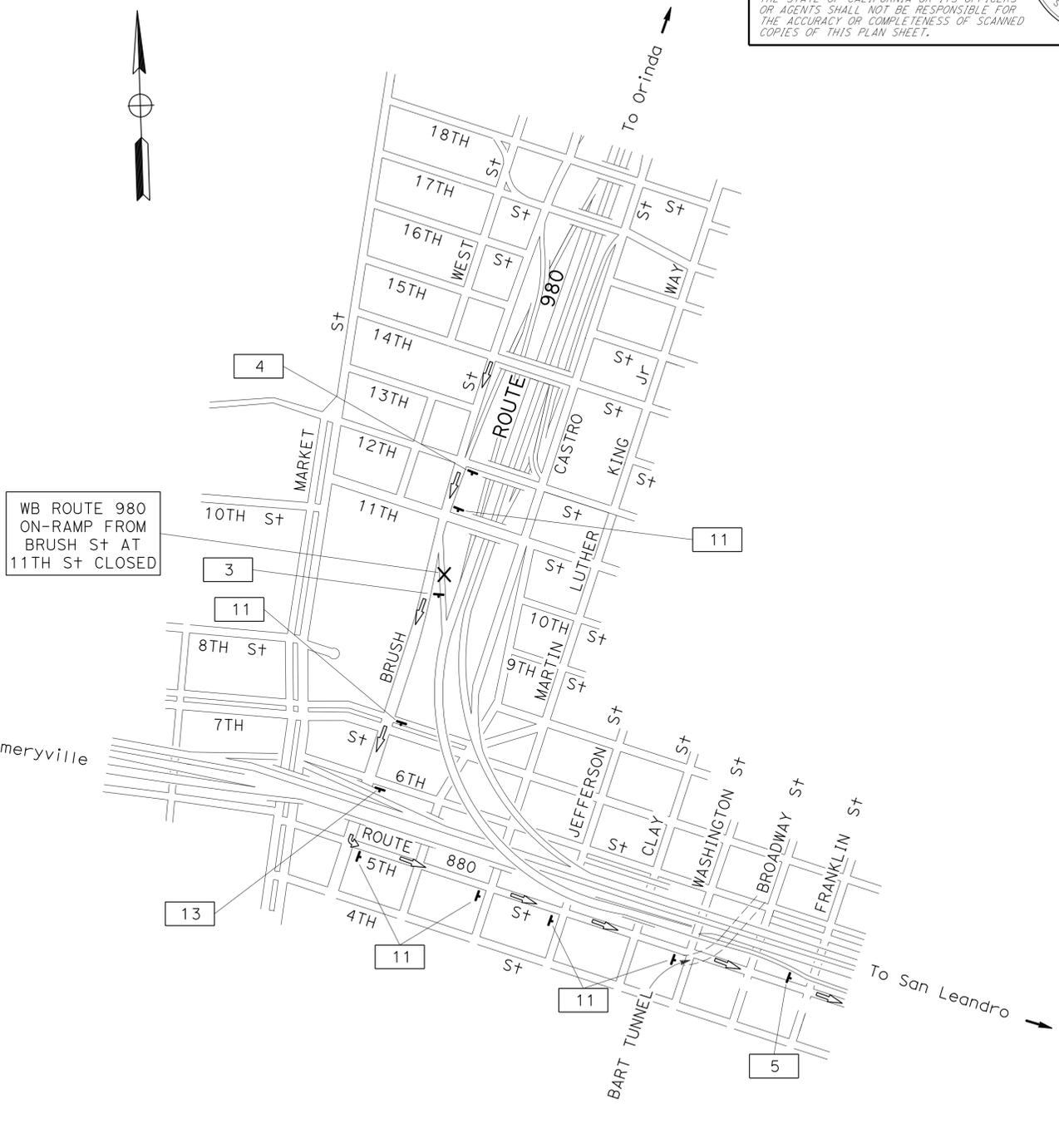
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	14	55
		REGISTERED CIVIL ENGINEER		DATE	
		3-21-16		1-12-16	
		PLANS APPROVAL DATE			
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	DESIGNED BY	REVISOR	DATE
CALTRANS	LOURDES DAVID	CHECKED BY	CF	3-18-16



**DETOUR PLAN No. 3**  
 SB BRUSH St; ENTER WB ROUTE 980 BRUSH St/11TH St ON-RAMP



**DETOUR PLAN No. 4**  
 GO TO SB BRUSH St; LEFT TURN TO 5TH St;  
 GO TO SB ROUTE 880 BROADWAY ON-RAMP

**CONSTRUCTION AREA SIGNS**

NO SCALE

**CS-3**

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

FOR NOTE AND LEGEND, SEE SHEET CS-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	15	55

*Claudia K. Fang* 1-12-16  
REGISTERED CIVIL ENGINEER DATE  
3-21-16  
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
**Claudia K. Fang**  
No. 80493  
Exp. 3-31-17  
CIVIL  
STATE OF CALIFORNIA

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

### STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN No.	SIGN CODE	SIGN MESSAGE	PANEL SIZE	No. OF POSTS AND SIZE	No. OF SIGNS
1	W20-1	ROAD WORK AHEAD	48" x 48"	1-4" x 6"	6
2	G20-2	END ROAD WORK	36" x 18"	1-4" x 4"	6
3	SC6-4(CA)	RAMP CLOSED (DATE AND TIME)	48" x 60"	1-6" x 6"	4
4	W20-2	DETOUR AHEAD	48" x 48"	1-4" x 6"	4
5	M4-8A	END DETOUR	24" x 18"	1-4" x 4"	4
6	SPEC 1	17TH St EXIT CLOSED USE 11TH St	54" x 48"	1-4" x 6"	1
7	SC3(▼)(CA)	DETOUR UP RIGHT ARROW	48" x 18"	1-4" x 6"	1
	SPEC 2	17TH St	48" x 18"		
8	SC3(▲)(CA)	DETOUR UP ARROW	48" x 18"	1-4" x 6"	3
	SPEC 2	17TH St	48" x 18"		
9	SC3(▲)(CA)	DETOUR UP ARROW	48" x 18"	1-4" x 6"	3
	G27-2(CA)	ROUTE 980 SHIELD	30" x 25"		
	M3-2	EAST	36" x 18"		
10	SC3(▼)(CA)	DETOUR UP LEFT ARROW	48" x 18"	1-4" x 6"	1
	G27-2(CA)	ROUTE 980 SHIELD	30" x 25"		
	M3-2	EAST	36" x 18"		
11	SC3(▲)(CA)	DETOUR UP ARROW	48" x 18"	1-4" x 6"	9
	G27-2(CA)	ROUTE 980 SHIELD	30" x 25"		
	M3-4	WEST	36" x 18"		
12	SC3(▼)(CA)	DETOUR UP LEFT ARROW	48" x 18"	1-4" x 6"	1
	G27-2(CA)	ROUTE 980 SHIELD	30" x 25"		
	M3-4	WEST	36" x 18"		
13	SC3(▲)(CA)	DETOUR LEFT ARROW	48" x 18"	1-4" x 6"	1
	G27-2(CA)	ROUTE 980 SHIELD	30" x 25"		
	M3-4	WEST	36" x 18"		



6" D CAPS  
BLACK /  
FLUORESCENT ORANGE



6" D CAPS  
BLACK /  
FLUORESCENT ORANGE

## CONSTRUCTION AREA SIGNS

NO SCALE

**CS-4**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
TRAFFIC  
FUNCTIONAL SUPERVISOR: LOURDES DAVID  
CALCULATED/DESIGNED BY: CLAUDIA FANG  
CHECKED BY: JERI-PAUL FABIAN  
REVISED BY: CF  
DATE REVISED: 3-18-16

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

FUNCTIONAL SUPERVISOR  
 VIJITH THILAKARATNE

REVISOR  
 EDMOND SIU

REVISOR  
 BINH HONG

REVISION  
 BH

DATE  
 3-18-16

DESIGNED BY  
 CALCULATED BY

CHECKED BY

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

- NOTES:**
1. DETAILS 13MS AND 14MS ARE TO BE USED ON CONCRETE PAVEMENT SURFACES ONLY.
  2. INSTALL 4 INCH WHITE THERMOPLASTIC STRIPING AFTER INSTALLING PAVEMENT MARKERS.

**LEGEND:**

--- CHANGE OF PAVEMENT DELINEATION DETAILS

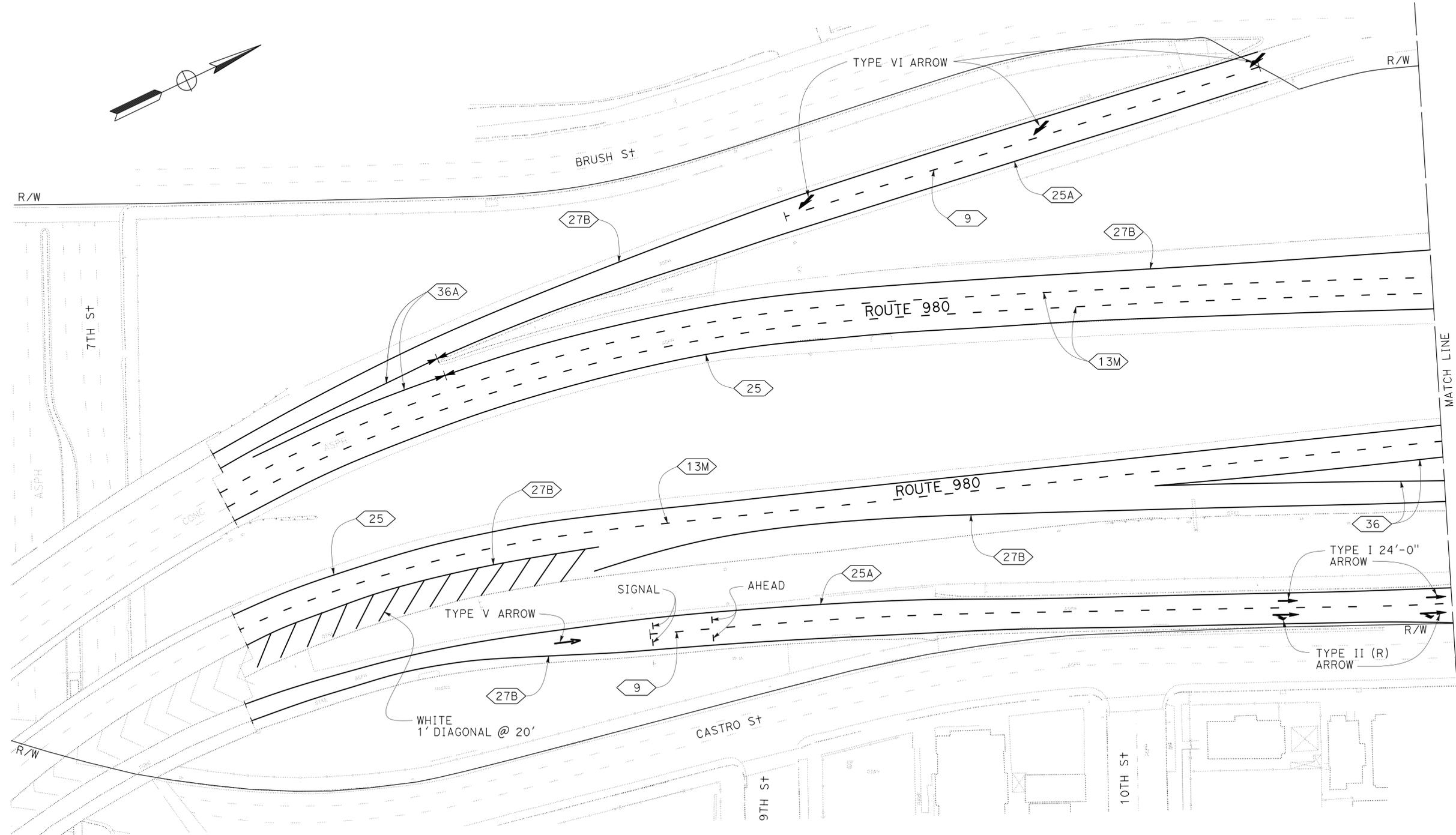
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	16	55

REGISTERED CIVIL ENGINEER DATE 1-28-16

PLANS APPROVAL DATE 3-21-16

REGISTERED PROFESSIONAL ENGINEER  
 Binh V. Hong  
 No. 63850  
 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.



**PAVEMENT DELINEATION PLAN**  
 NO SCALE

APPROVED FOR PAVEMENT DELINEATION WORK ONLY

**PD-1**

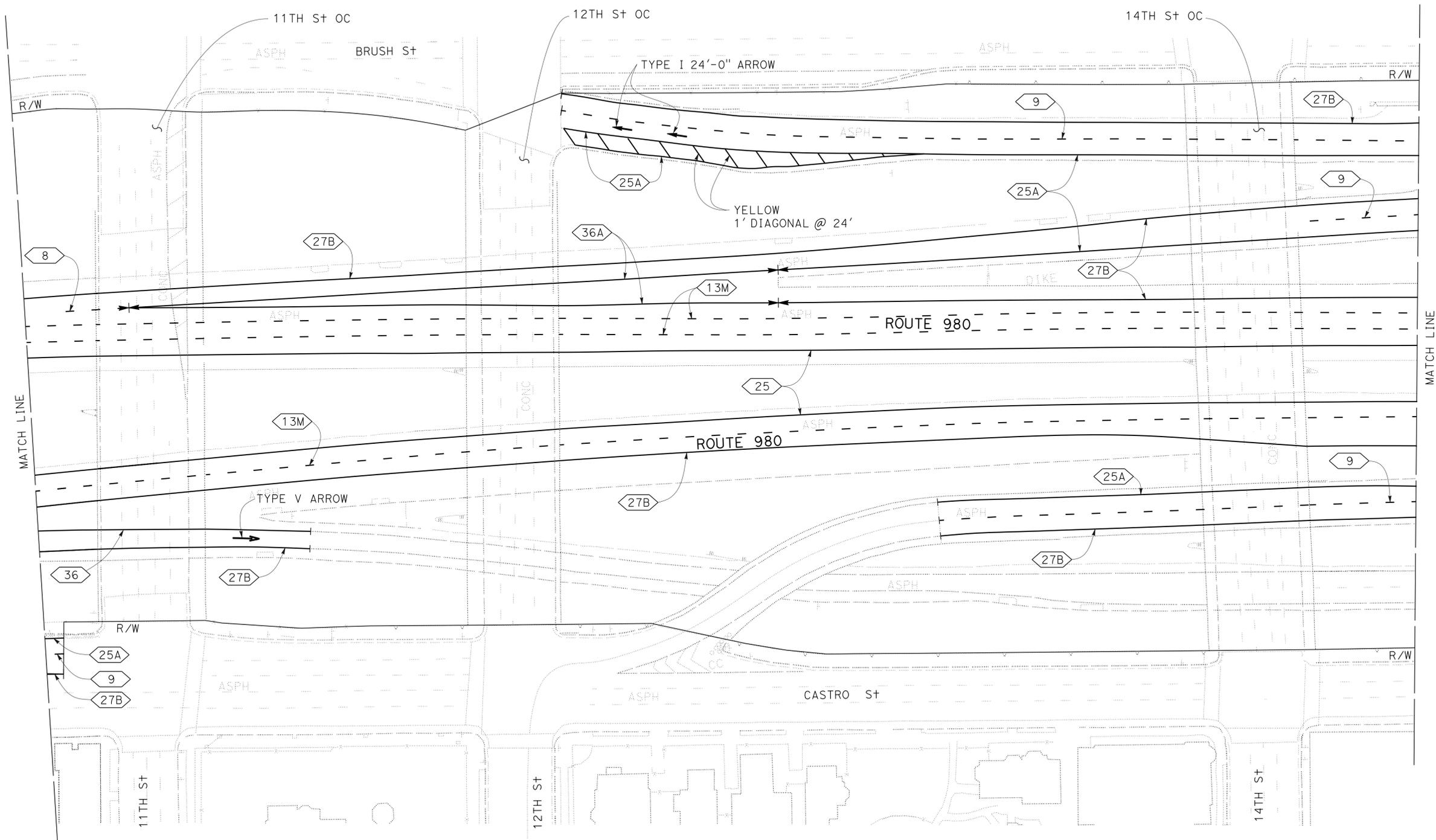
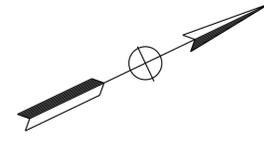
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	17	55

1-28-16  
 REGISTERED CIVIL ENGINEER DATE  
 3-21-16  
 PLANS APPROVAL DATE

Binh V. Hong  
 No. 63850  
 Exp. 9-30-16  
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NOTE:  
FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	EDMOND SIU	REVISOR BY	BH
DESIGN	EDMOND SIU	DATE REVISED	3-18-16
FUNCTIONAL SUPERVISOR	VIJITH THILAKARATNE	CHECKED BY	BINH HONG
CALCULATED/DESIGNED BY	VIJITH THILAKARATNE	DESIGNED BY	VIJITH THILAKARATNE

**PAVEMENT DELINEATION PLAN**  
NO SCALE

APPROVED FOR PAVEMENT DELINEATION WORK ONLY

FOR NOTES AND LEGEND, SEE SHEET PD-1

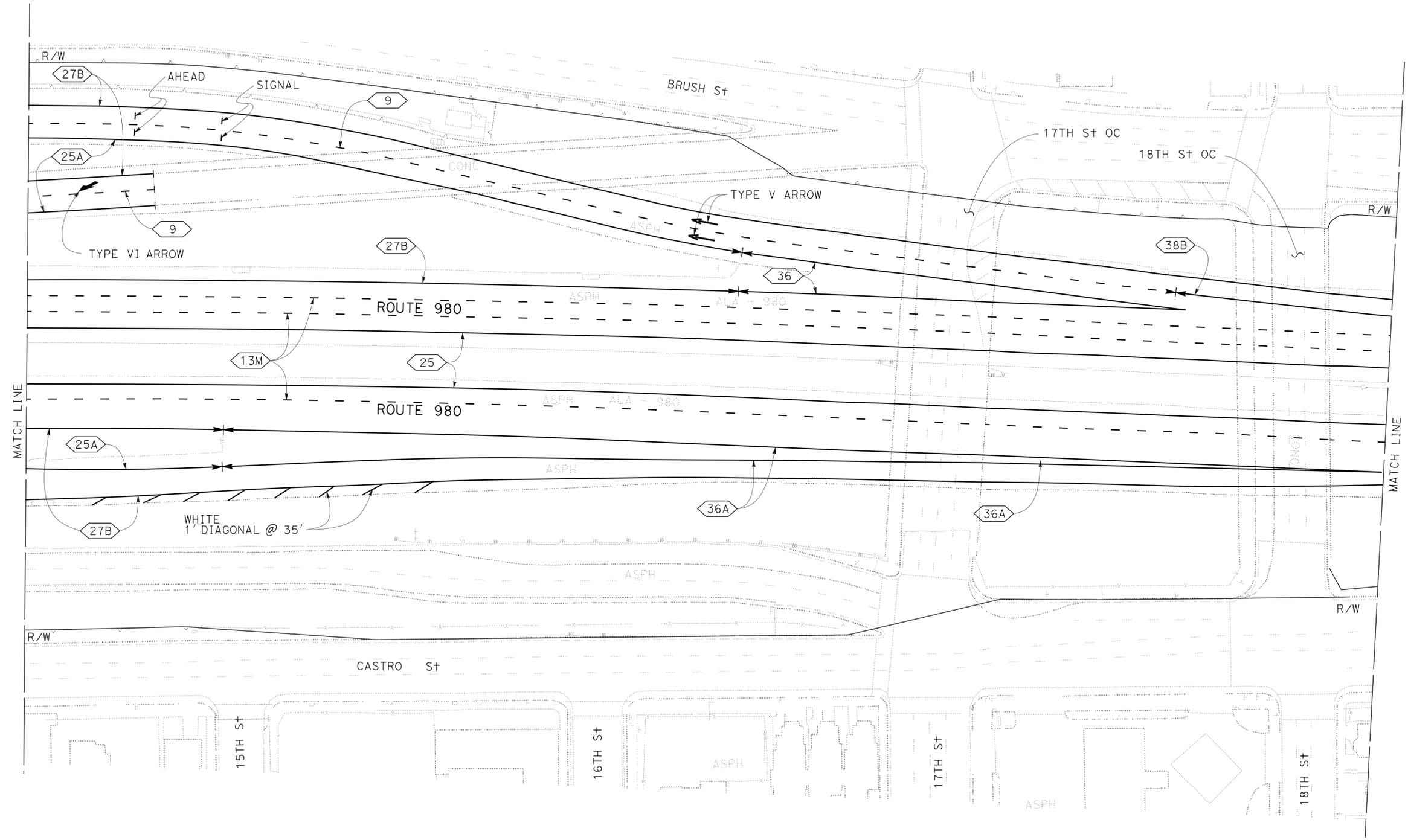
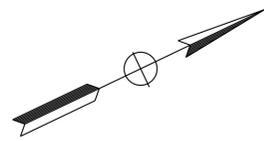
**PD-2**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	18	55

 1-28-16  
 REGISTERED CIVIL ENGINEER DATE  
 3-21-16  
 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  
**Binh V. Hong**  
 No. 63850  
 Exp. 9-30-16  
 CIVIL  
 STATE OF CALIFORNIA

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



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	EDMOND SIU	REVISOR	BH
DESIGN	BINH HONG	DATE	3-18-16
FUNCTIONAL SUPERVISOR	VIJITH THILAKARATNE	CHECKED BY	
CALCULATED/DESIGNED BY			

LAST REVISION DATE PLOTTED => 29-MAR-2016 03-21-16 TIME PLOTTED => 09:12

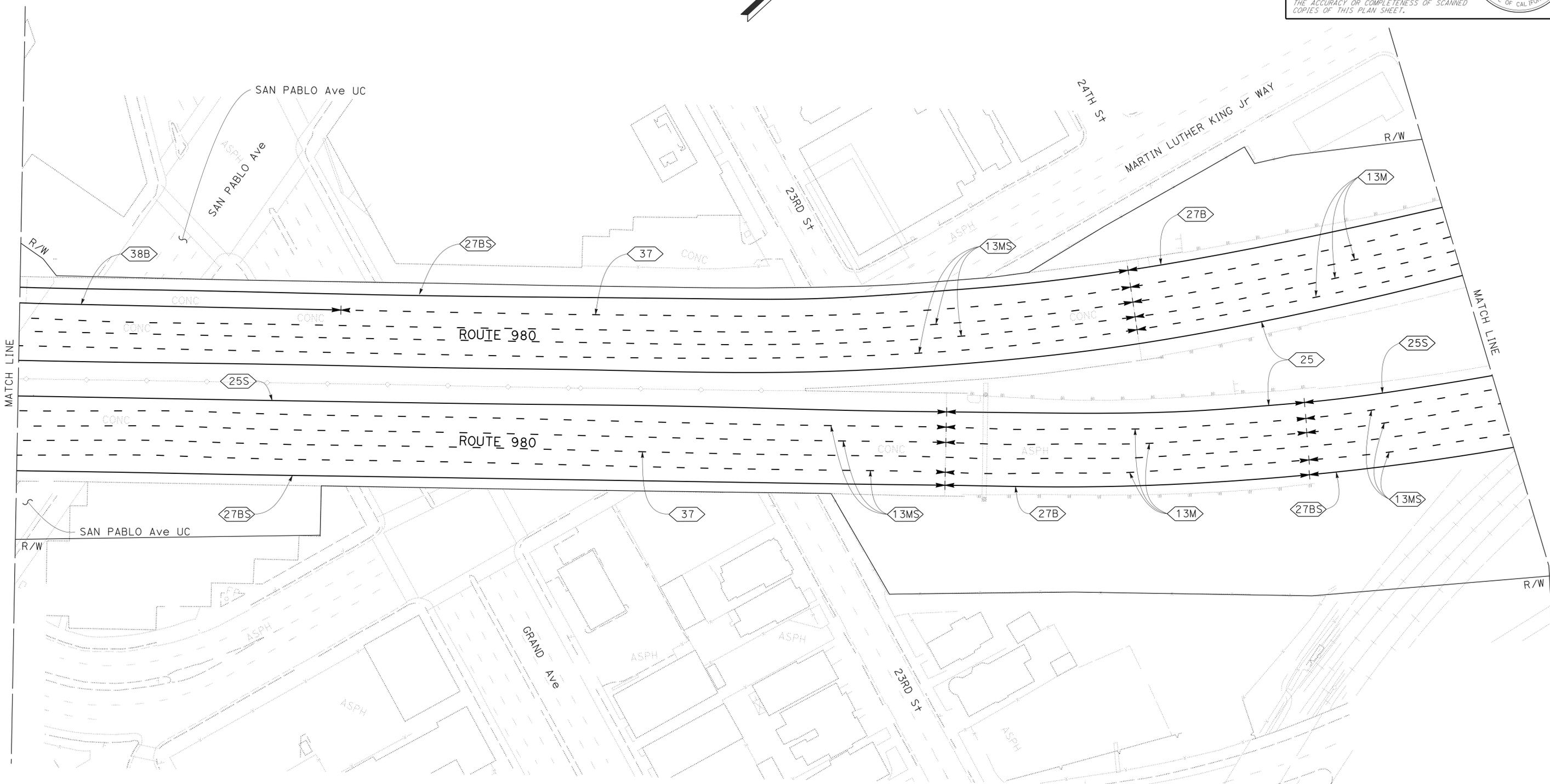
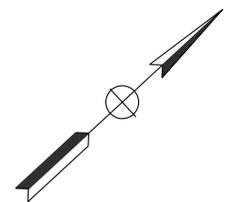


Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	20	55

1-28-16  
 REGISTERED CIVIL ENGINEER DATE  
 3-21-16  
 PLANS APPROVAL DATE  
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REGISTERED PROFESSIONAL ENGINEER  
**Binh V. Hong**  
 No. 63850  
 Exp. 9-30-16  
 CIVIL  
 STATE OF CALIFORNIA

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



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 DESIGN  
 FUNCTIONAL SUPERVISOR: VIJITH THILAKARATNE  
 CHECKED BY: EDMOND SIU  
 REVISOR: BINH HONG  
 DATE: 3-18-16  
 BH

**PAVEMENT DELINEATION PLAN**  
NO SCALE

APPROVED FOR PAVEMENT DELINEATION WORK ONLY

FOR NOTES AND LEGEND, SEE SHEET PD-1

**PD-5**

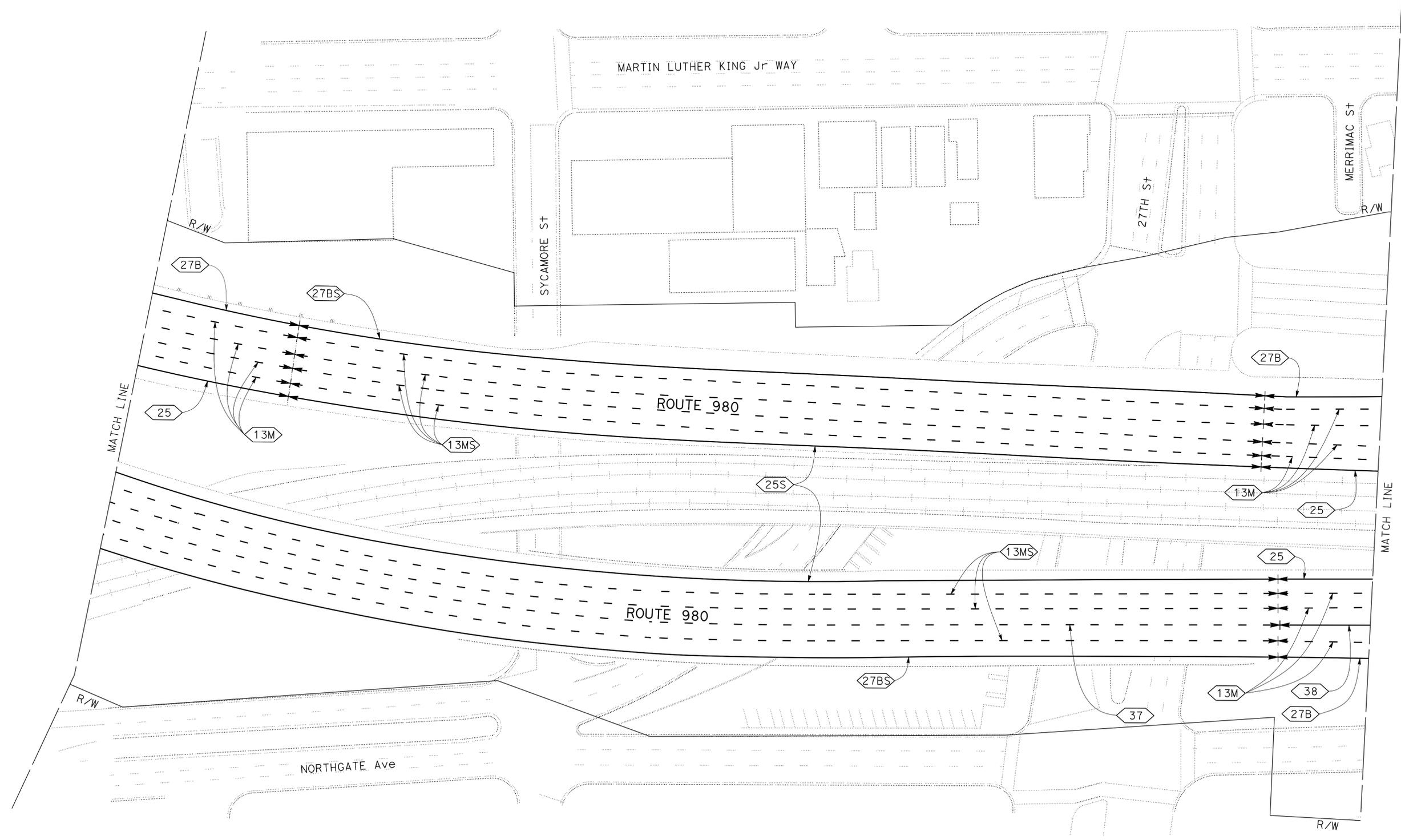
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	21	55
			1-28-16	DATE	
REGISTERED CIVIL ENGINEER			DATE		
			3-21-16	PLANS APPROVAL DATE	
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NOTE:  
FOR ACCURATE RIGHT OF WAY DATA, CONTACT  
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	EDMOND SIU	REVISOR	BH
DESIGN	EDMOND SIU	DATE	3-18-16
FUNCTIONAL SUPERVISOR	EDMOND SIU	DESIGNED BY	
VIJITH THILAKARATNE	EDMOND SIU	CHECKED BY	
	EDMOND SIU	DATE	
	EDMOND SIU	DATE	



**PAVEMENT DELINEATION PLAN**  
NO SCALE

APPROVED FOR PAVEMENT DELINEATION WORK ONLY

FOR NOTES AND LEGEND,  
SEE SHEET PD-1

**PD-6**

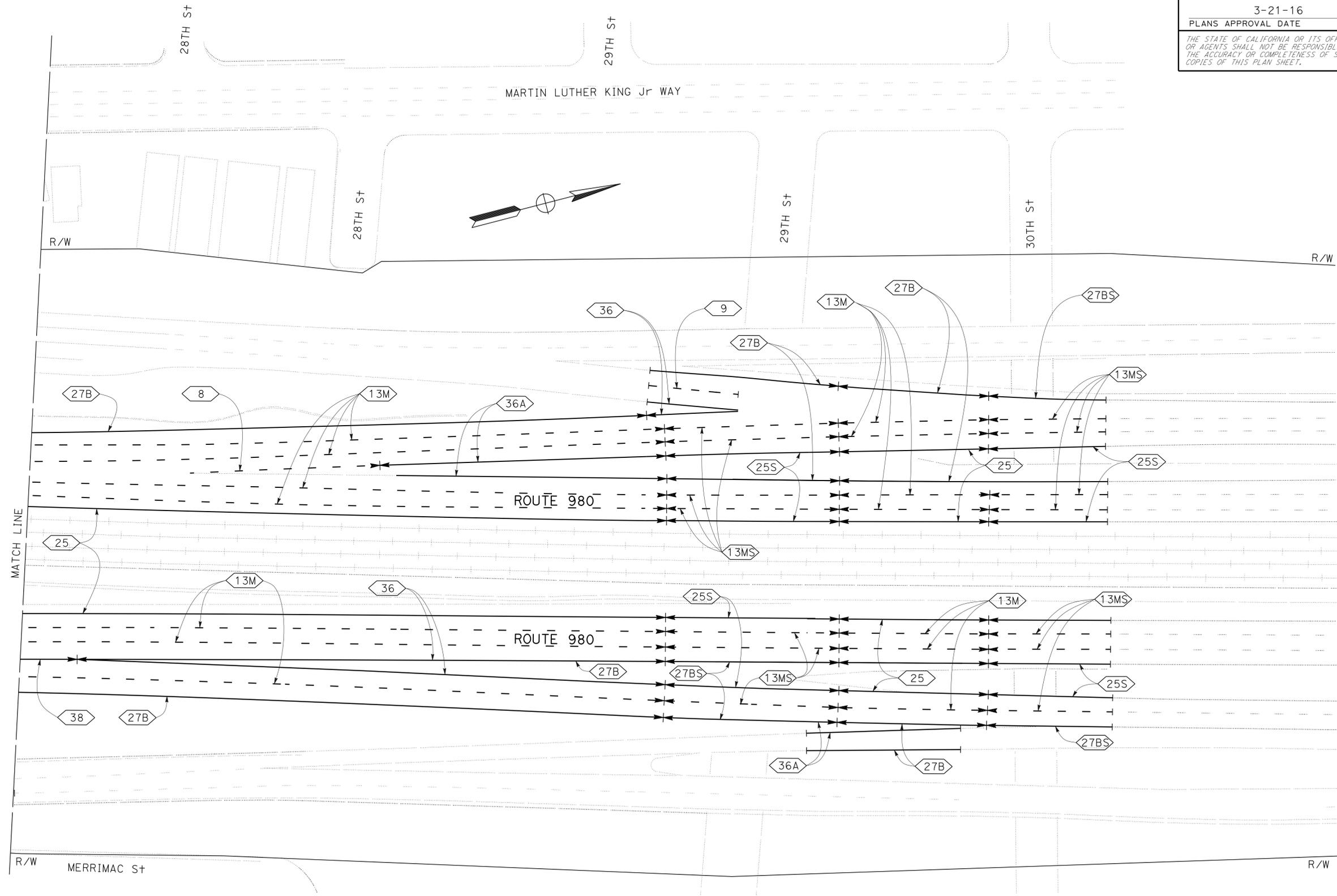
LAST REVISION DATE PLOTTED => 29-MAR-2016 03-21-16 TIME PLOTTED => 09:12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	22	55

1-28-16  
 REGISTERED CIVIL ENGINEER DATE  
 3-21-16  
 PLANS APPROVAL DATE  
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REGISTERED PROFESSIONAL ENGINEER  
**Binh V. Hong**  
 No. 63850  
 Exp. 9-30-16  
 CIVIL  
 STATE OF CALIFORNIA

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



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	EDMOND SIU	REVISOR	BH
<b>Caltrans</b>	VIJITH THILAKARATNE	EDMOND SIU	DATE	3-18-16
<b>DESIGN</b>	CHECKED BY	EDMOND SIU	DATE	3-18-16

**PAVEMENT DELINEATION PLAN**  
 NO SCALE

APPROVED FOR PAVEMENT DELINEATION WORK ONLY

FOR NOTES AND LEGEND,  
 SEE SHEET PD-1

**PD-7**

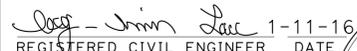
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION <b>Caltrans</b>	TRAFFIC	FUNCTIONAL SUPERVISOR	CHEUNG CHIM-LAU	REVISOR	CCL
		CHECKED BY	EMILY TANG	DATE	3-18-16

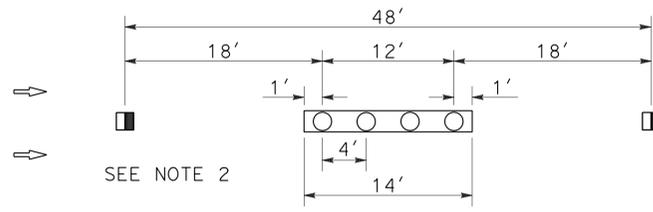
**NOTES:**

1. DETAILS 13MS AND 14MS ARE TO BE USED ON CONCRETE PAVEMENT SURFACES ONLY.
2. INSTALL 4 INCH WHITE THERMOPLASTIC STRIPING AFTER INSTALLING PAVEMENT MARKERS.

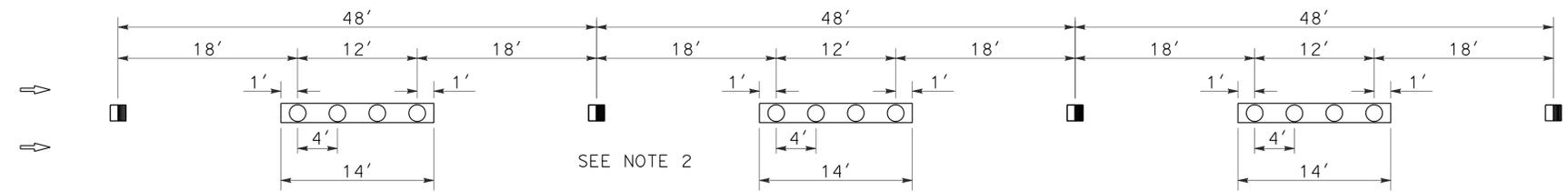
**LEGEND:**

- TYPE A WHITE NON-REFLECTIVE MARKER
- TYPE G ONE-WAY CLEAR RETROREFLECTIVE MARKER
- ▣ TYPE H ONE-WAY YELLOW RETROREFLECTIVE MARKER
- ▬ WHITE THERMOPLASTIC TRAFFIC STRIPE
- ▬ BLACK PAINT
- ▨ YELLOW THERMOPLASTIC TRAFFIC STRIPE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	23	55
			1-11-16	DATE	
REGISTERED CIVIL ENGINEER			DATE		
3-21-16			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>					



**DETAIL 13M**



**DETAIL 14M**

**PAVEMENT DELINEATION DETAILS**  
NO SCALE

**PDD-1**

LAST REVISION DATE PLOTTED => 29-MAR-2016 03-21-16 TIME PLOTTED => 09:12

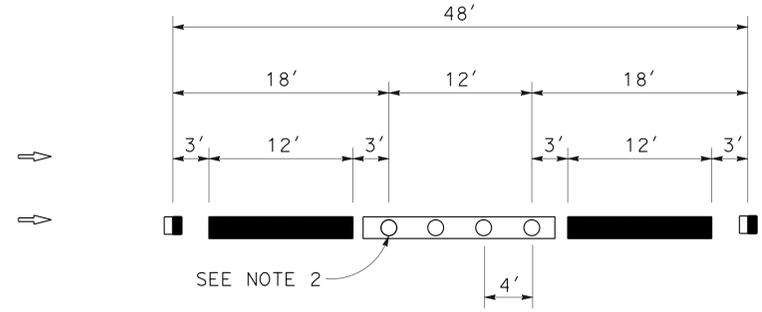
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	24	55

1-11-16  
 REGISTERED CIVIL ENGINEER DATE  
 3-21-16  
 PLANS APPROVAL DATE

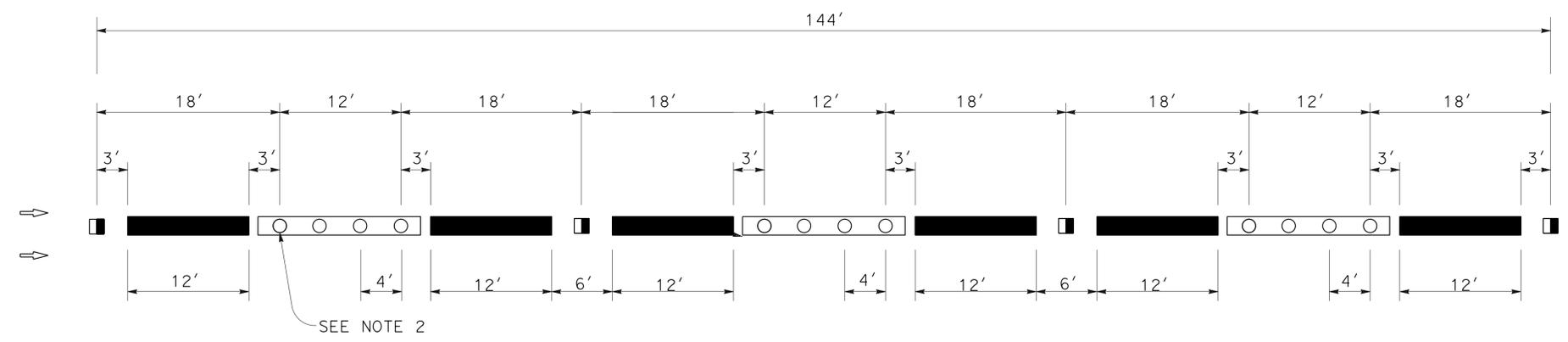
Cheung-Chim Lau  
 No. 36744  
 Exp. 6-30-16  
 CIVIL  
 STATE OF CALIFORNIA

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.

CHEUNG CHIM-LAU	REVISOR	CF
EMILY TANG	DATE	3-18-16
CHEUNG CHIM-LAU	DESIGNER	
EMILY TANG	CHECKER	
EMILY TANG	SUPERVISOR	
TRAFFIC	DEPARTMENT OF TRANSPORTATION	



**DETAIL 13MS**



**DETAIL 14MS**

**PAVEMENT DELINEATION DETAILS**  
NO SCALE

FOR NOTES AND LEGEND, SEE SHEET PDD-1

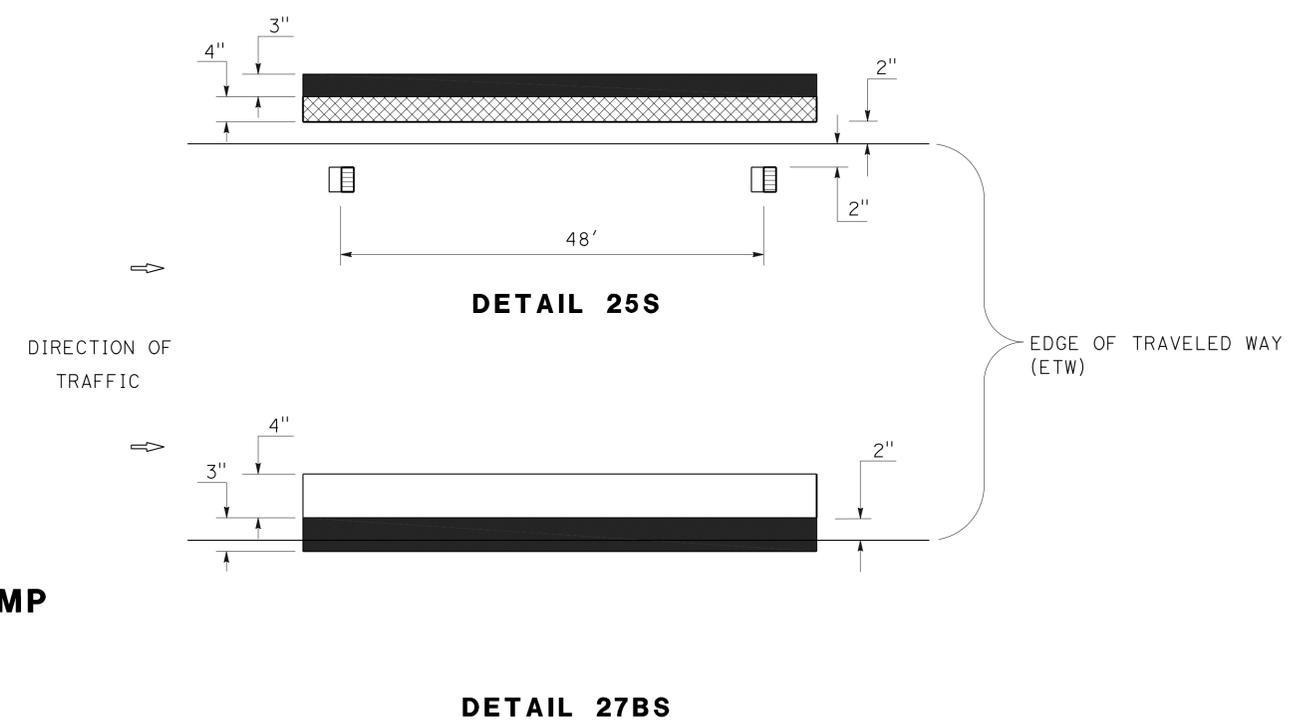
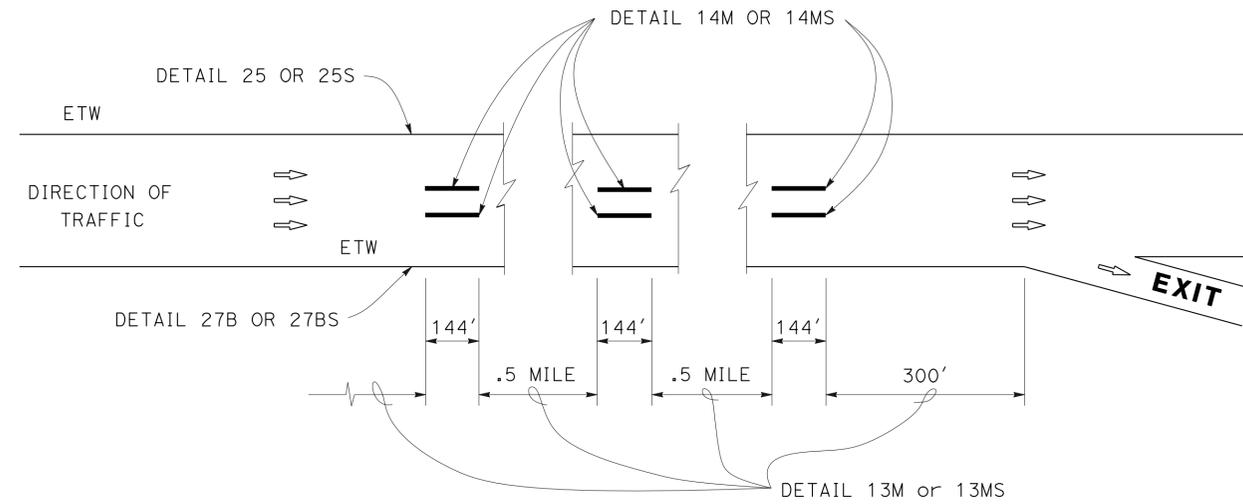
**PDD-2**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	25	55

1-11-16  
 REGISTERED CIVIL ENGINEER DATE  
 3-21-16  
 PLANS APPROVAL DATE

Cheung-Chim Lau  
 No. 36744  
 Exp. 6-30-16  
 CIVIL  
 STATE OF CALIFORNIA

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**TYPICAL LANE LINE DELINEATION IN ADVANCE OF EXIT RAMP**

**PAVEMENT DELINEATION DETAILS**  
NO SCALE

**PDD-3**

FOR NOTES AND LEGEND, SEE SHEET PDD-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
**TRAFFIC**  
 FUNCTIONAL SUPERVISOR  
 EMILY TANG  
 CALCULATED/DESIGNED BY  
 CHEUNG CHIM-LAU  
 EMILY TANG  
 REVISOR BY  
 CCL  
 DATE REVISOR  
 3-18-16

LAST REVISION DATE PLOTTED => 29-MAR-2016 03-21-16 TIME PLOTTED => 09:12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	26	55

1-28-16  
DATE

REGISTERED CIVIL ENGINEER

3-21-16  
PLANS APPROVAL DATE

Binh V. Hong  
No. 63850  
Exp. 9-30-16  
CIVIL

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### TRAFFIC STRIPES, PAVEMENT MARKINGS AND PAVEMENT MARKERS

Dir	BRIDGE NAME AND No.	DETAIL No. OR PAVEMENT MARKING	THERMOPLASTIC TRAFFIC STRIPE (ENHANCED WET NIGHT VISIBILITY)					PAVEMENT MARKERS				BLACK PAINT TRAFFIC STRIPE (2-COAT)	REMOVE PAVEMENT MARKER	REMOVE THERMOPLASTIC TRAFFIC STRIPE	REMOVE YELLOW THERMOPLASTIC TRAFFIC STRIPE (HAZARDOUS WASTE)	
			4" YELLOW	4" WHITE	4" WHITE (BROKEN 17-7)	4" WHITE (BROKEN 34-14)	8" WHITE (BROKEN 12-3)	8" WHITE	NON-REFLECTIVE		RETROREFLECTIVE					
									TYPE A	TYPE C	TYPE G					TYPE H
			LF					EA				LF	EA	LF		
EB	SAN PABLO UC 33-0440	13MS				2470			206		104		1235	310	720	
		25S	805									35	805	35		805
		27BS		845									845			
	27TH St UC 33-0421R	37					835							58	668	
		13MS				6165			514		258		3083	772	1798	
		25S	1055									23	1055	23		1055
	29TH St UC AND 30TH St UC 33-0349R, 33-0350R 33-0350G	27BS		1055									1055			
		37					1055			140				72	528	
		13MS				612			51		27		306	78	178	
		25S	490									11	490	11		490
		27BS		244									244			
		36A						122						6		
		38					124			6			6			
SUBTOTAL (EB)			2350	2144		9247	1890	246	771	255	395	75	9118	1371	3892	2350
TOTAL (EB)			4494			9247	1890		771		725		9118	1371	3892	2350
WB	SAN PABLO UC 33-0440	13MS				2660			222		56		1330	278	775	
		25S	1460									62	1460	62		1460
		27BS		930									930			
	27TH St UC 33-0421L	37					1700				230			115	1360	
		13MS				2665			222		112		1333	334	778	
		25S	665									15	665	15		665
	29TH St UC AND 30TH St UC 33-0349L, 33-0350L 33-0134J	27BS		665									665			
		9				120					4			4	49	
		13MS				880			73		38		440	111	256	
		25S	490									11	490	11		490
		27BS		488									488			
		36						114				6		6		
SUBTOTAL (WB)			2615	2083	120	6205	1700	114	517	230	210	94	7801	936	3218	2615
TOTAL (WB)			4698		120	6205	1700	114	517		534		7801	936	3218	2615
TOTAL (EB+WB)			9192		120	15452	3590	360	1288		1259		*16919	2307	*7110	*4965

\* TOTAL QUANTITIES

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 DESIGN  
 FUNCTIONAL SUPERVISOR: VIJITH THILAKARATNE  
 CALCULATED/DESIGNED BY: EDMOND SIU  
 CHECKED BY: BINH HONG  
 REVISIONS: BH 3-18-16

## PAVEMENT DELINEATION QUANTITIES

### PDQ-1

LAST REVISION DATE PLOTTED => 29-MAR-2016  
 03-21-16 TIME PLOTTED => 09:12

 1-28-16  
 REGISTERED CIVIL ENGINEER DATE  
 3-21-16  
 PLANS APPROVAL DATE

BINH V. HONG  
 No. 63850  
 Exp. 9-30-16  
 CIVIL  
 STATE OF CALIFORNIA

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### TRAFFIC STRIPES, PAVEMENT MARKINGS AND PAVEMENT MARKERS

DIRECTION	LOCATION (PM)	DETAIL No. OR PAVEMENT MARKING	THERMOPLASTIC TRAFFIC STRIPE (ENHANCED WET NIGHT VISIBILITY)					PAVEMENT MARKERS				THERMOPLASTIC PAVEMENT MARKING (ENHANCED WET NIGHT VISIBILITY)		
			4" YELLOW	4" WHITE	4" WHITE (BROKEN 17-7)	4" WHITE (BROKEN 34-14)	8" WHITE (BROKEN 12-3)	8" WHITE	NON-REFLECTIVE		RETROREFLECTIVE			
			LF					EA					SQFT	
EB	0.3/1.09	13M				5755			480		120			
		25	3963									82		
		27B		3401										
		TYPE V ARROW												33
	EB OFF-RAMP TO 11TH St	9			592						14			
		25A	902										38	
		27B		1546										
		AHEAD SIGNAL												62
		TYPE I ARROW												64
		TYPE II (R) ARROW												62
		TYPE V (R) ARROW												90
	EB ON-RAMP FROM CASTRO St AND 12TH St	9			280						7			
		25A	710										31	
		27B		1513										
		36A						812						35
	EB ON-RAMP FROM CASTRO St AND 19TH St	DIAGONAL												120
		9			230						6			
		13M				490			40		11			
		25A	442										19	
		27B		745										
		36B						96			5			
		38A						290						
	TYPE I ARROW												28	
	1.26/1.32	13M				343			29		15			
		25A	345										15	
		27B		342										
		37					195			26				
	1.49/1.68	38					145				7			
13M					2082			174		88				
25		730										16		
27B			734											
EB OFF-RAMP TO ROUTE 580	13M				730			62		16				
	25	117										3		
	27B		740											
	36						970			41				
	36A						144			3				
	38						130			6				
SUBTOTAL (EB)			7209	9021	1102	9400	195	2587	785	26	339	239	492	
TOTAL (EB)			16230		1102	9400	195	2587	785	604		239	492	

## PAVEMENT DELINEATION QUANTITIES

### PDQ-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  


FUNCTIONAL SUPERVISOR: VIJITH THILAKARATNE  
 CHECKED BY: BINH HONG  
 EDMOND SIU  
 REVISOR: BH  
 DATE: 3-18-16

LAST REVISION DATE PLOTTED => 29-MAR-2016  
 03-21-16 TIME PLOTTED => 09:12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	28	55

1-28-16  
DATE

REGISTERED CIVIL ENGINEER

3-21-16  
PLANS APPROVAL DATE

Binh V. Hong  
No. 63850  
Exp. 9-30-16  
CIVIL

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### TRAFFIC STRIPES, PAVEMENT MARKINGS AND PAVEMENT MARKERS

DIRECTION	LOCATION (PM)	DETAIL No. OR PAVEMENT MARKING	THERMOPLASTIC TRAFFIC STRIPE (ENHANCED WET NIGHT VISIBILITY)					PAVEMENT MARKERS				THERMOPLASTIC PAVEMENT MARKING (ENHANCED WET NIGHT VISIBILITY) SQFT	
			4" YELLOW	4" WHITE	4" WHITE (BROKEN 17-7)	4" WHITE (BROKEN 34-14)	8" WHITE (BROKEN 12-3)	8" WHITE	NON-REFLECTIVE		RETROREFLECTIVE		
									TYPE A	TYPE C	TYPE G		TYPE H
			LF					EA				SQFT	
WB	0.3/1.0	13M				6926			578		145		
		14M				144			12		4		
		25	3515										147
		27B		3380									
		37					460				34		
	WB ON-RAMP FROM 11TH St	9			371							9	
		25A	715										31
		27B		708									
		36B						109				6	
		38						78				4	
	WB ON-RAMP FROM BRUSH St AND 17TH St	TYPE VI ARROW											84
		8				90							
		9				286						7	
		25	578										25
		27B		1092									
	WB OFF-RAMP TO 12TH St	36B						517				23	
		9			1562							34	
		25A	1248										53
		27B		1523									
		36						211					
	WB OFF-RAMP TO BRUSH St AND 18TH St	37									7		
		38B						526				23	
		TYPE V ARROW											66
		DIAGONAL											144
		9			1109							24	
	WB OFF-RAMP TO BRUSH St AND 18TH St	25A	354										
		27B		930									16
		36						403				18	
38B							210				20		
TYPE V ARROW												66	
1.287/1.37	13M				2108			176			45		
	25	530										12	
	27B		519										
WB OFF-RAMP FROM ROUTE 580	8			100									
	13M				1212			101			26		
	25A	97										5	
	27B		477										
	36A						305					14	
1.49/1.63	13M				1420			118			31		
	25	705										16	
	27B		705										
	36A						298					13	
SUBTOTAL (WB)			7742	9334	3518	11810	639	3197	985	45	439	332	360
TOTAL (WB)			17076		3518	11810	639	3197	985	816		360	
TOTAL (EB+WB)			33306		4620	21210	834	5784	1770	1420		852	
GRAND TOTAL (SHEETS PDQ-1, PDQ-2 AND PDQ-3)			42498		4740	36662	4424	6144	3058	2679		852	

## PAVEMENT DELINEATION QUANTITIES

**PDQ-3**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

**Caltrans**

DESIGN

FUNCTIONAL SUPERVISOR

VIJITH THILAKARATNE

CALCULATED/DESIGNED BY

CHECKED BY

EDMOND SIU

BINH HONG

REVISOR BY

DATE REVISED

BH

3-18-16

LAST REVISION DATE PLOTTED => 29-MAR-2016  
 03-21-16 TIME PLOTTED => 09:12

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 DESIGN  
 FUNCTIONAL SUPERVISOR  
 VIJITH THILAKARATNE  
 CALCULATED/DESIGNED BY  
 CHECKED BY  
 EDMOND SIU  
 BINH HONG  
 REVISOR BY  
 DATE REVISED  
 BH  
 3-18-16

**ABBREVIATION:**

LNMI - LANE MILE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	29	55

1-28-16  
 REGISTERED CIVIL ENGINEER DATE  
 3-21-16  
 PLANS APPROVAL DATE

Binh V. Hong  
 No. 63850  
 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.

**SHOULDER BACKING**

DIRECTION	PM AND LOCATION	LENGTH (N)	QUANTITY
		LF	TON
EB	OFF-RAMP TO 11TH S+	510	4.3
	0.3/0.9 MAINLINE	3168	26.8
WB	OFF-RAMP TO BRUSH AND 18TH S+	243	2.1
	OFF-RAMP TO 12TH S+	500	4.2
	ON-RAMP FROM BRUSH AND 17TH S+	175	1.5
	ON-RAMP FROM 11TH S+	900	7.6
0.3/0.6 MAINLINE		1100	9.3
<b>TOTAL</b>			<b>55.8</b>

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

**COLD PLANE AC PAVEMENT**

DIRECTION	PM AND LOCATION	*COLD PLANE AC Pvm† (0.4' THICKNESS)	*COLD PLANE AC Pvm† (0.5' THICKNESS)	*HMA (TYPE A)	*TACK COAT
		SQYD		TON	
EB	OFF-RAMP TO 11TH S+	2133		576	0.89
	ON-RAMP FROM CASTRO S+ AND 17TH S+	467		126	0.20
	1.0 ON-RAMP FROM CASTRO AND 19TH S+	3111		840	1.30
	0.4/1.1		2866	967	1.20
	1.3		333	113	0.17
	1.5/1.6		933	315	0.15
<b>TOTAL EB</b>		<b>5711</b>	<b>4132</b>	<b>2937</b>	<b>3.91</b>
WB	ON-RAMP FROM 11TH S+	1289		348	0.52
	ON-RAMP FROM BRUSH AND 17TH S+	1333		360	0.54
	OFF-RAMP TO 12TH S+	2222		600	0.92
	OFF-RAMP TO BRUSH AND 18TH S+	1044		282	0.42
	0.4/1.0		4444	1500	1.83
	1.3/1.4		400	135	0.17
1.5/1.6		533	180	0.22	
<b>TOTAL WB</b>		<b>5888</b>	<b>5377</b>	<b>3405</b>	<b>4.62</b>
<b>GRAND TOTAL (EB+WB)</b>		<b>11599</b>	<b>9509</b>	<b>6342</b>	<b>8.53</b>

\* QUANTITY IS INCLUDED IN ROADWAY QUANTITIES SUMMARY

**HMA DIKE**

DIRECTION	PM AND LOCATION	REMOVE AC DIKE	PLACE HMA DIKE (TYPE E )	*HMA (A)
		LF		TON
EB	ON-RAMP FROM 18TH S+	220	220	0.6
WB	ON-RAMP FROM 17TH S+	350	350	1.0
	0.9/0.7	965	965	2.8
	0.5	200	200	0.6
	0.5		165	0.5
<b>TOTAL</b>		<b>1735</b>	<b>1900</b>	<b>5.5</b>

\* QUANTITY IS INCLUDED IN ROADWAY QUANTITIES SUMMARY

**SUMMARY OF QUANTITIES**

**Q-1**



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	30	55

 1-28-16  
 REGISTERED CIVIL ENGINEER DATE  
 3-21-16  
 PLANS APPROVAL DATE

BINH V. HONG  
 No. 63850  
 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.

**COLD PLANE AC PAVEMENT (0.1' THICKNESS) AND PLACE RHMA-OG (OGFC)**

DIRECTION	PM AND LOCATION	*AREA	*0.1' RHMA-OG (OGFC)	*TACK COAT
		SQYD	TON	
EB	0.4/0.6	6876	464	2.86
	OFF-RAMP TO 11TH S+	2828	191	1.18
	0.6/0.7	4929	333	2.05
	ON-RAMP FROM CASTRO S+ AND 17TH S+	2761	186	1.15
	0.7/1.1	13873	936	5.78
	0.7/1.1 INCLUDING ON-RAMP FROM CASTRO AND 18TH S+	1448	98	0.60
	1.3	3047	206	1.27
	1.5/1.6	5824	393	2.43
	OFF-RAMP TO ROUTE 580	1351	91	0.56
SUBTOTAL EB		42937	2898	17.88
WB	0.4/0.9	20166	1362	8.40
	ON-RAMP FROM 11TH S+	2520	170	1.05
	ON-RAMP FROM BRUSH AND 17TH S+	3765	254	1.57
	OFF-RAMP TO 12TH S+	6117	413	2.55
	0.9/1.0	5892	398	2.45
	OFF-RAMP FROM BRUSH S+ AND 18TH S+	4375	295	1.82
	1.3/1.4	4688	316	1.95
	1.5/1.6	5549	375	2.31
	1.6/1.7 INCLUDING ON-RAMP FROM ROUTE 580	1306	88	0.54
SUBTOTAL WB		54378	3671	22.64
GRAND TOTAL (EB+WB)		97315	6569	40.52

\* QUANTITY IS INCLUDED IN ROADWAY QUANTITIES SUMMARY

**ROADWAY QUANTITIES SUMMARY**

DIRECTION	PM	COLD PLANE AC Pvm+ (0.1' THICKNESS)	COLD PLANE AC Pvm+ (0.4' THICKNESS)	COLD PLANE AC Pvm+ (0.5' THICKNESS)	HMA(A) (0.4' AND 0.5' THICKNESS)	HMA DIKE	RHMA-OG (OGFC)	TACK COAT (0.4' AND 0.5' THICKNESS)	TACK COAT (PLACE RHMA-OG (OGFC))	
		SQYD				TON				
EB AND WB	0.3/1.7	97315	11599	9509	6342	5.5	6569	8.53	40.52	
TOTAL		118423				6347.5				
						6569				
						49.05				

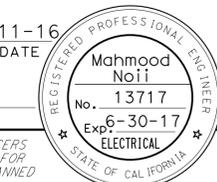
**SUMMARY OF QUANTITIES**

**Q-2**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 DESIGN  
 FUNCTIONAL SUPERVISOR VIJITH THILAKARATNE  
 CALCULATED/DESIGNED BY CHECKED BY  
 EDMOND SIU BINH HONG  
 REVISOR BY DATE REVISED  
 BH 3-18-16

LAST REVISION DATE PLOTTED => 29-MAR-2016  
 03-21-16 TIME PLOTTED => 09:13

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 FUNCTIONAL SUPERVISOR  
 BEHZAD GOLEMOHAMMADI  
 CALCULATED/DESIGNED BY  
 CHECKED BY  
 BARON G. OW YEONG  
 MAHMOOD NOII  
 MN  
 3-18-16  
 REVISED BY  
 DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	31	55
				1-11-16	
		REGISTERED ELECTRICAL ENGINEER		DATE	
		3-21-16		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>					

**ELECTRICAL INDEX**

SHEET No.	TITLE
E-1	DETECTOR LOOP (INDEX, LEGEND AND NOTES)
E-2 TO E-6	DETECTOR LOOP
E-7	ELECTRICAL DETAILS
E-8	ELECTRICAL QUANTITIES

**GENERAL NOTES:**

- ELECTRICAL PLAN SHEETS SHOW ONLY THE DETECTOR LOOPS WITH THEIR RESPECTIVE TERMINATION PULL BOX AND CONTROLLER ASSEMBLY LOCATION OF THE EXISTING ELECTRICAL SYSTEM WHERE THE EXISTING DETECTOR LOOPS ARE TO BE REPLACED.
- ALL NEW DETECTOR LOOPS SHALL BE TYPE A PER INSTALLATION DETAILS ON RSP ES-5A AND RSP ES-5B. NEW TERMINATION CONDUIT TO TERMINATION PULL BOX SHALL BE INSTALLED PER DETAILS ON RSP ES-5D.
- VERIFY THE RSP LOCATION OF THE DETECTOR LOOPS TO BE REPLACED PRIOR TO REPAVING.
- PROVIDE TWO REPORTS PER LOCATION ON THE STATUS OF EACH DETECTOR LOOP REPLACEMENT SHOWING CONTINUITY AND INSULATION RESISTANCE READINGS. THE REPORTS MUST BE SUBMITTED TO THE ENGINEER, ONE BEFORE STARTING WORK AND THE OTHER AFTER WORK HAS BEEN COMPLETED AT EACH LOCATION.
- EACH DETECTOR LOOP SHALL HAVE 4 TURNS OF LOOP CONDUCTOR.

**LEGEND:**

- ABANDON EXISTING MAINLINE DETECTOR LOOPS. INSTALL NEW MAINLINE DETECTOR LOOPS PER DETAIL "TM" ON SHEET E-7 AND GENERAL NOTE 2.
- ABANDON EXISTING OFF-RAMP DETECTOR LOOP(S). INSTALL NEW OFF-RAMP DETECTOR LOOP(S) PER GENERAL NOTE 2.
- ABANDON EXISTING PASSAGE DETECTOR LOOP(S) AT ON-RAMP. INSTALL NEW PASSAGE DETECTOR LOOP(S) PER GENERAL NOTE 2.

**DETECTOR LOOP  
 (INDEX, LEGEND AND NOTES)**

**E-1**



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

FUNCTIONAL SUPERVISOR: BEHZAD GOLEMOHAMMADI  
 CALCULATED/DESIGNED BY: BARON G. OW YEONG  
 CHECKED BY: MAHMOOD NOII  
 REVISIONS:  
 MN 3-18-16  
 REVISION BY: DATE REVISED

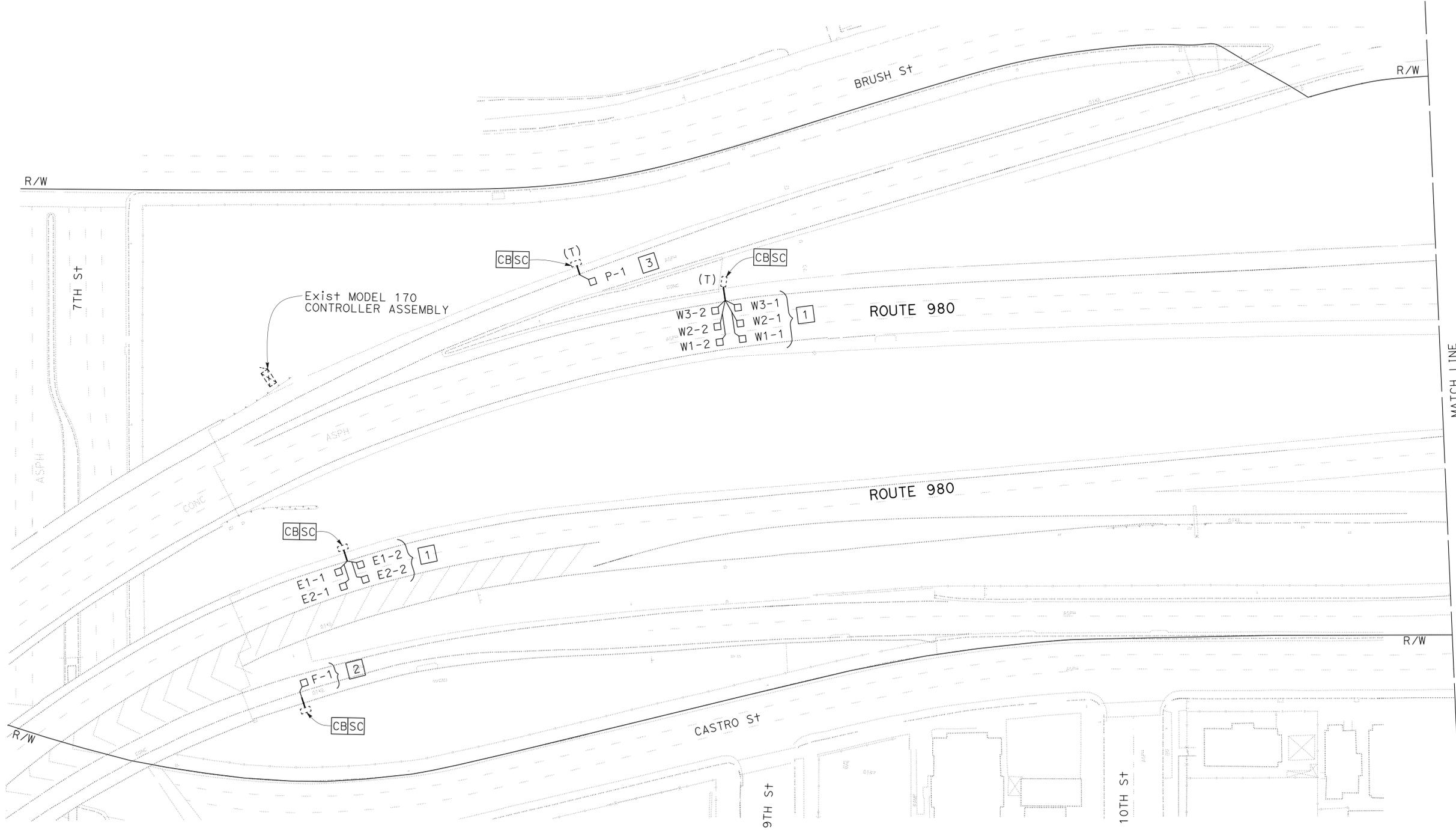
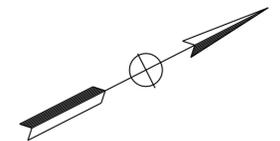
**NOTE:**  
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT  
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	32	55

REGISTERED ELECTRICAL ENGINEER: *M. Noii* 1-11-16  
 DATE: 3-21-16  
 PLANS APPROVAL DATE: 3-21-16

REGISTERED PROFESSIONAL ENGINEER  
 No. 13717  
 Exp. 6-30-17  
 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.



APPROVED FOR ELECTRICAL WORK ONLY

FOR NOTES AND LEGEND,  
 SEE SHEET E-1

**DETECTOR LOOP**  
 NO SCALE

**E-2**

LAST REVISION DATE PLOTTED => 29-MAR-2016 03-21-16 TIME PLOTTED => 09:13

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

FUNCTIONAL SUPERVISOR BEHZAD GOLEMOHAMMADI	REVISOR BARON G. OW YEONG	DATE 3-18-16
CHECKED BY	MAHMOOD NOII	
DESIGNED BY		
DATE REVISION		
REVISION		
DATE		
BY		
NO.		
DESCRIPTION		

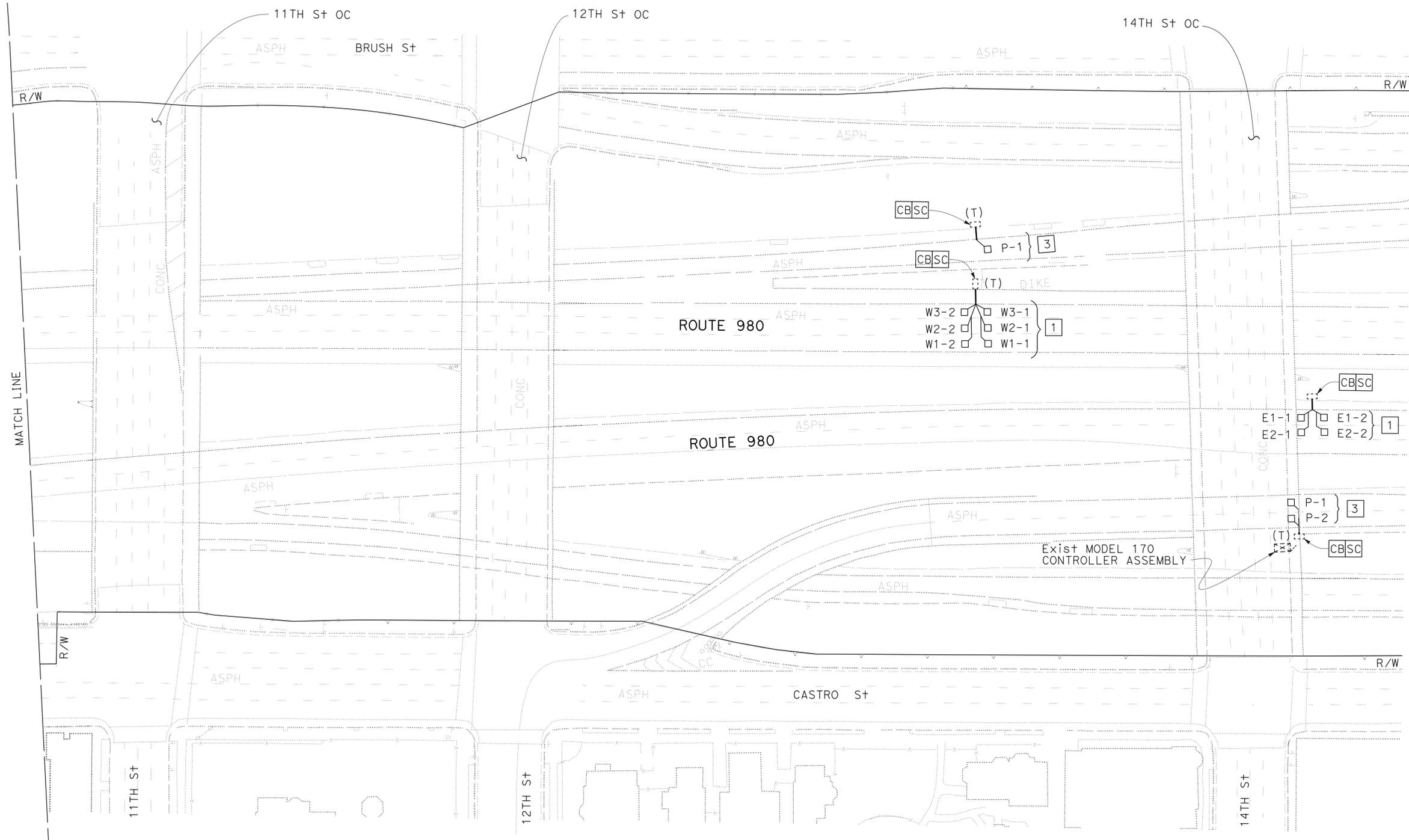
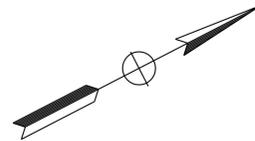
**NOTE:**  
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT  
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	33	55

REGISTERED ELECTRICAL ENGINEER *M. Noii* DATE 1-11-16  
 No. 13717  
 Exp. 6-30-17  
 ELECTRICAL

PLANS APPROVAL DATE 3-21-16

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.

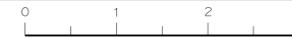


FOR NOTES AND LEGEND,  
 SEE SHEET E-1

**DETECTOR LOOP**  
 NO SCALE

APPROVED FOR ELECTRICAL WORK ONLY

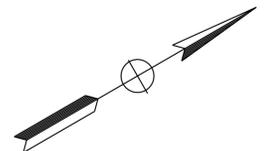
**E-3**



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

FUNCTIONAL SUPERVISOR: BEHZAD GOLEMOHAMMADI  
 CALCULATED/DESIGNED BY: BARON G. OW YEONG  
 CHECKED BY: MAHMOOD NOII  
 REVISIONS: MN 3-18-16

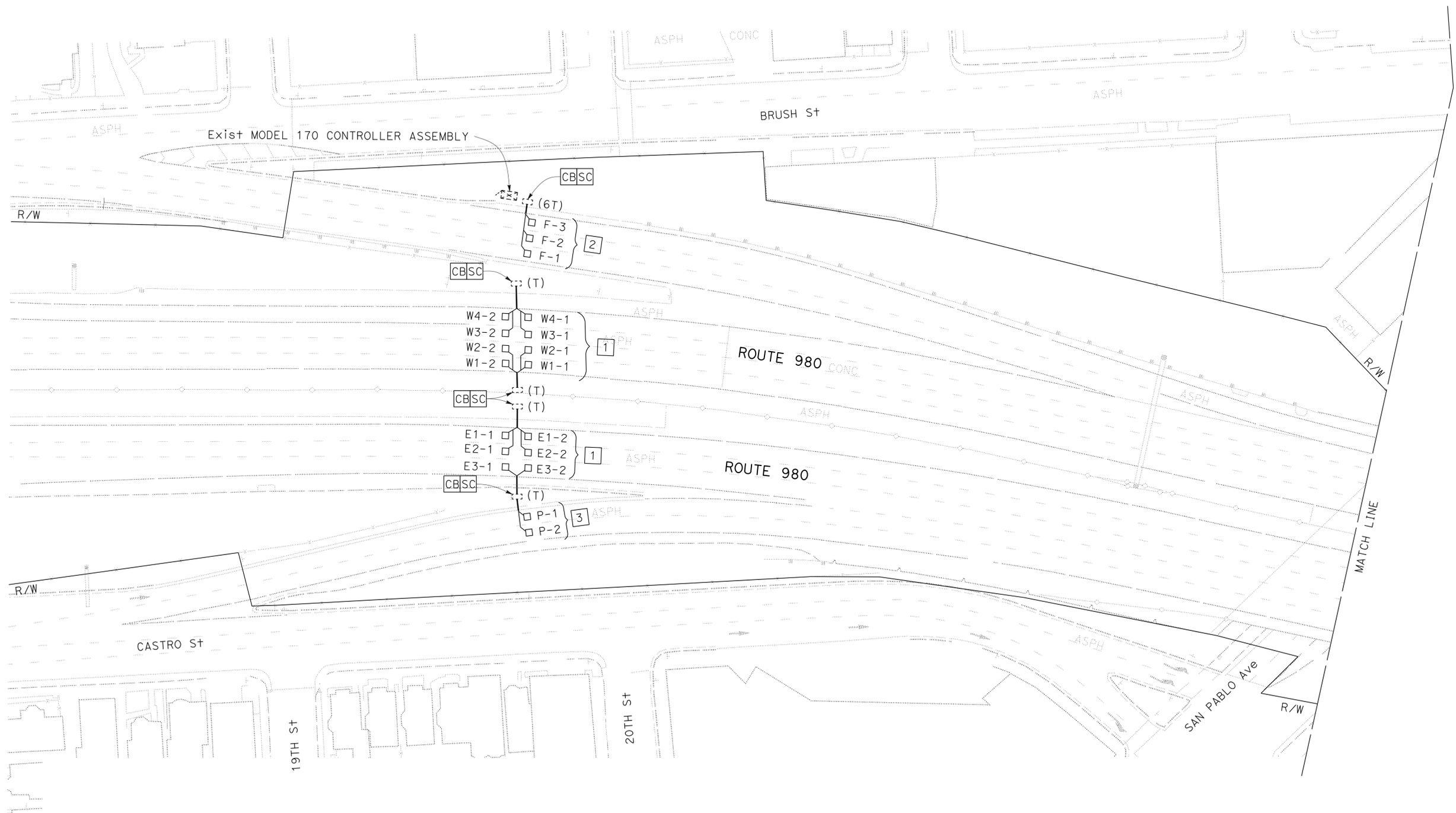
**NOTE:**  
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT  
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	34	55
			REGISTERED ELECTRICAL ENGINEER	DATE	
			M. Now	1-11-16	
			PLANS APPROVAL DATE		
			3-21-16		

REGISTERED PROFESSIONAL ENGINEER  
 Mahmood Noii  
 No. 13717  
 Exp. 6-30-17  
 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.



APPROVED FOR ELECTRICAL WORK ONLY

FOR NOTES AND LEGEND,  
 SEE SHEET E-1

**DETECTOR LOOP**  
 NO SCALE

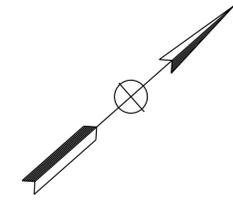
**E-4**

LAST REVISION DATE PLOTTED => 29-MAR-2016 03-21-16 TIME PLOTTED => 09:13

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

FUNCTIONAL SUPERVISOR: BEHZAD GOLEMOHAMMADI  
 CALCULATED/DESIGNED BY: MAHMOOD NOII  
 CHECKED BY: MAHMOOD NOII  
 REVISIONS: MN 3-18-16  
 REVISIONS: BARON G. OW YEONG 3-18-16

**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	Ala	980	0.3/1.7	35	55

REGISTERED ELECTRICAL ENGINEER: *M. Noii* 1-11-16  
 DATE: 1-11-16  
 No. 13717  
 Exp. 6-30-17  
 ELECTRICAL  
 STATE OF CALIFORNIA  
 REGISTERED PROFESSIONAL ENGINEER

PLANS APPROVAL DATE: 3-21-16

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**DETECTOR LOOP**  
 NO SCALE

APPROVED FOR ELECTRICAL WORK ONLY

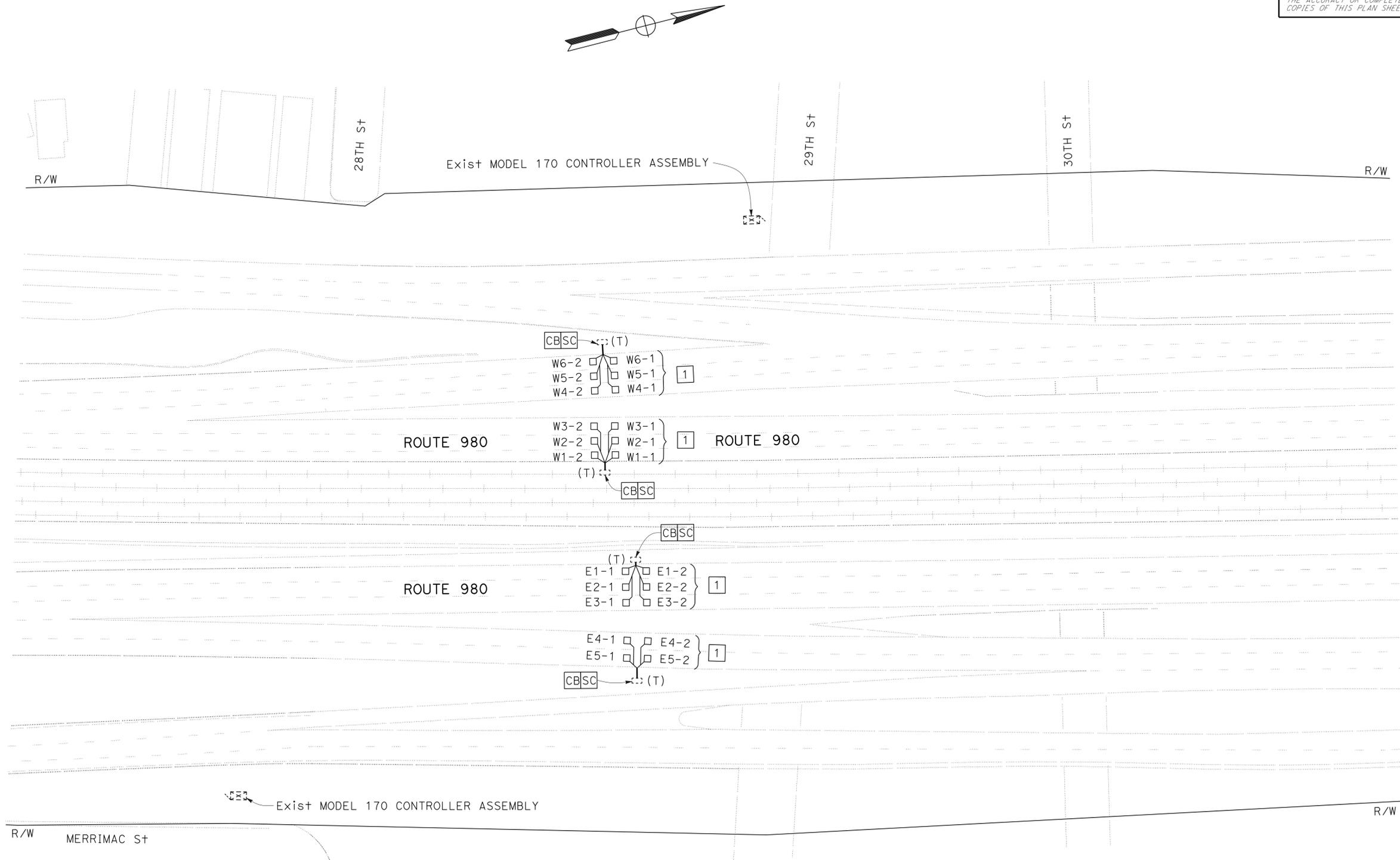
FOR NOTES AND LEGEND,  
 SEE SHEET E-1

**E-5**

LAST REVISION | DATE PLOTTED => 29-MAR-2016 03-21-16 | TIME PLOTTED => 09:13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	36	55
			REGISTERED ELECTRICAL ENGINEER	DATE	
			<i>M. Noor</i>	1-11-16	
			PLANS APPROVAL DATE		
			3-21-16		
REGISTERED PROFESSIONAL ENGINEER Mahmood Noor No. 13717 Exp. 6-30-17 ELECTRICAL STATE OF CALIFORNIA					
<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.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
**ELECTRICAL**  
 FUNCTIONAL SUPERVISOR: BEHZAD GOLEMOHAMMADI  
 CALCULATED/DESIGNED BY: BARON G. OW YEONG  
 CHECKED BY: MAHMOOD NOOR  
 REVISED BY: MN  
 DATE REVISED: 3-18-16

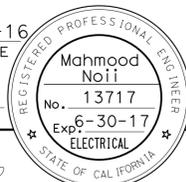
**DETECTOR LOOP**  
NO SCALE

APPROVED FOR ELECTRICAL WORK ONLY

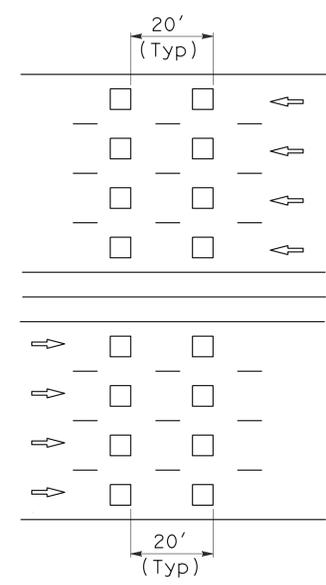
FOR NOTES AND LEGEND, SEE SHEET E-1

**E-6**

LAST REVISION | DATE PLOTTED => 29-MAR-2016  
 03-21-16 | TIME PLOTTED => 09:13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	37	55
			1-11-16		
REGISTERED ELECTRICAL ENGINEER			DATE		
PLANS APPROVAL DATE			3-21-16		
					
<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>					

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR	DATE
<b>Caltrans</b>	BEHZAD GOLEMOHAMMADI	BARON G. OW YEONG	MN	3-18-16
<b>ELECTRICAL</b>	BEHZAD GOLEMOHAMMADI	MAHMOOD NOII		



**DETAIL "TM"  
TRAFFIC MONITORING STATION**

**TRAFFIC MONITORING STATION NOTES**

**FREEWAY MAINLINE DETECTOR DESIGNATION:**

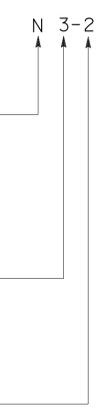
- N=NORTHBOUND LANES (NB)
- S=SOUTHBOUND LANES (SB)
- E=EASTBOUND LANES (EB)
- W=WESTBOUND LANES (WB)

**NUMBER OF LANES FROM LEFT WITH RESPECT TO DIRECTION OF TRAFFIC:**

- 1=FIRST LANE FROM LEFT
- 2=SECOND LANE FROM LEFT
- 3=THIRD LANE FROM LEFT
- 4=FOURTH LANE FROM LEFT

**NUMBER OF DETECTOR IN THE SAME LANE:**

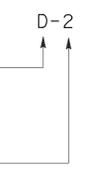
- 1=ENTERING DETECTOR
- 2=LEAVING DETECTOR



**RAMP DETECTOR DESIGNATION:**

- D=DEMAND DETECTOR
- P=PASSAGE DETECTOR
- Q=QUEUE DETECTOR
- F=OFFRAMP DETECTOR

- 1=FIRST LANE FROM LEFT
- 2=SECOND LANE FROM LEFT



**ELECTRICAL DETAILS  
(TRAFFIC MONITORING DETECTOR  
SPACING AND DESIGNATION)**

NO SCALE



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

FUNCTIONAL SUPERVISOR  
 BEHZAD GOLEMOHAMMADI

CALCULATED/DESIGNED BY  
 CHECKED BY

BARON G. OW YEONG  
 MAHMOOD NOII

REVISOR BY  
 DATE REVISED

MN  
 3-18-16

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	38	55

*M. Noii* 1-11-16  
 REGISTERED ELECTRICAL ENGINEER DATE

3-21-16  
 PLANS APPROVAL DATE

**REGISTERED PROFESSIONAL ENGINEER**  
 Mahmood Noii  
 No. 13717  
 Exp. 6-30-17  
 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.

**DETECTOR LOOP**

SHEET No.	TYPE A LOOP DETECTOR
E-2	12
E-3	13
E-4	19
E-5	20
E-6	22

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

**ELECTRICAL QUANTITIES**

**E - 8**



	<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	
SL	STATION LINE	
SM	SELECTED MATERIAL	
Spec	SPECIAL, SPECIFICATIONS	
SPP	SLOTTED PLASTIC PIPE	
SS	SLOPE STAKE	
SSBM	STRAP AND SADDLE BRACKET METHOD	
SSD	STRUCTURAL SECTION DRAIN	
SSPA	STRUCTURAL STEEL PLATE ARCH	
SSPP	STRUCTURAL STEEL PLATE PIPE	
SSPPA	STRUCTURAL STEEL PLATE PIPE ARCH	
SSRP	STEEL SPIRAL RIB PIPE	
St	STREET	
Sta	STATION	
STBB	SINGLE THRIE BEAM BARRIER	
Std	STANDARD	
Str	STRUCTURE	
Surf	SURFACING	
SW	SIDEWALK, SOUND WALL	
Swr	SEWER	
Sym	SYMMETRICAL	
S4S	SURFACE 4 SIDES	
	<b>T</b>	
T	SEMI-TANGENT	
Tan	TANGENT	
TBB	THRIE BEAM BARRIER	
Tbr	TIMBER	
TC	TOP OF CURB	
TCB	TRAFFIC CONTROL BOX	
TCE	TEMPORARY CONSTRUCTION EASEMENT	
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	
WWLOL	WINGWALL LAYOUT LINE	<b>X</b>
X Sec	CROSS SECTION	
Xing	CROSSING	<b>Y</b>
Yr	YEAR	
Yrs	YEARS	

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	39	55

*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 3-21-16

**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

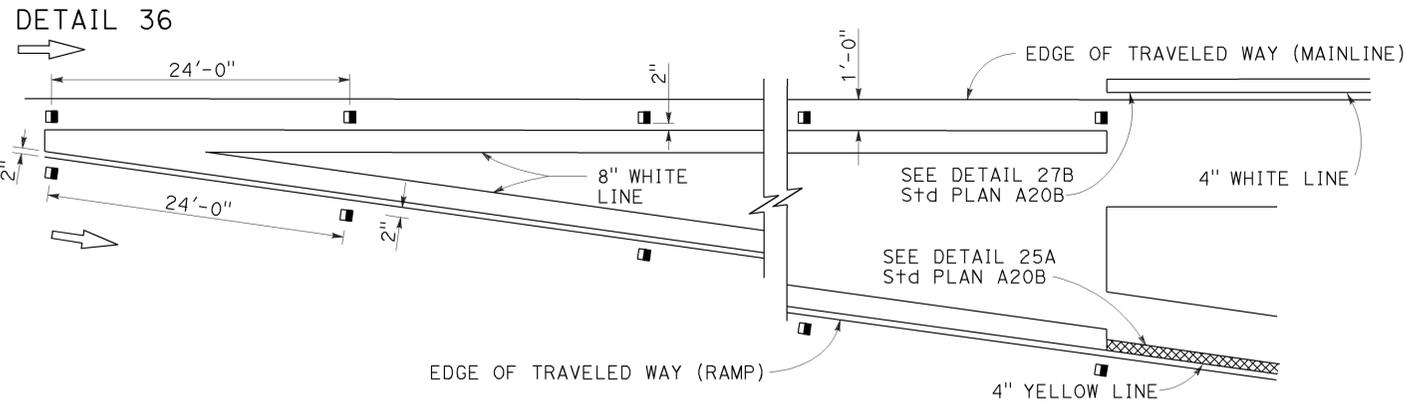
**ABBREVIATIONS  
(SHEET 2 OF 2)**

NO SCALE

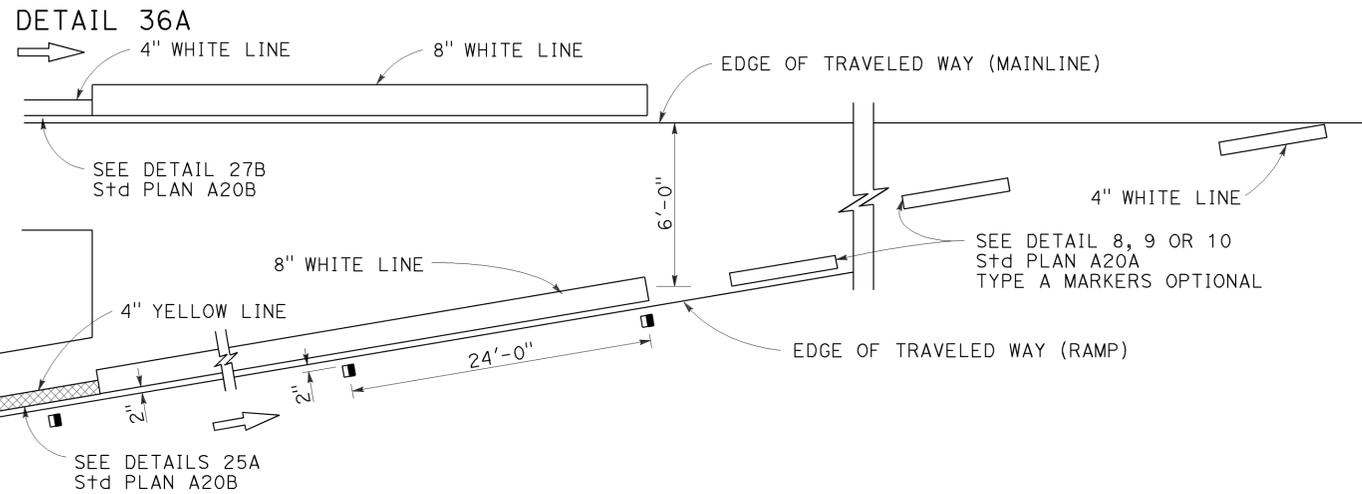
RSP A10B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A10B  
DATED MAY 20, 2011 - PAGE 2 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP A10B

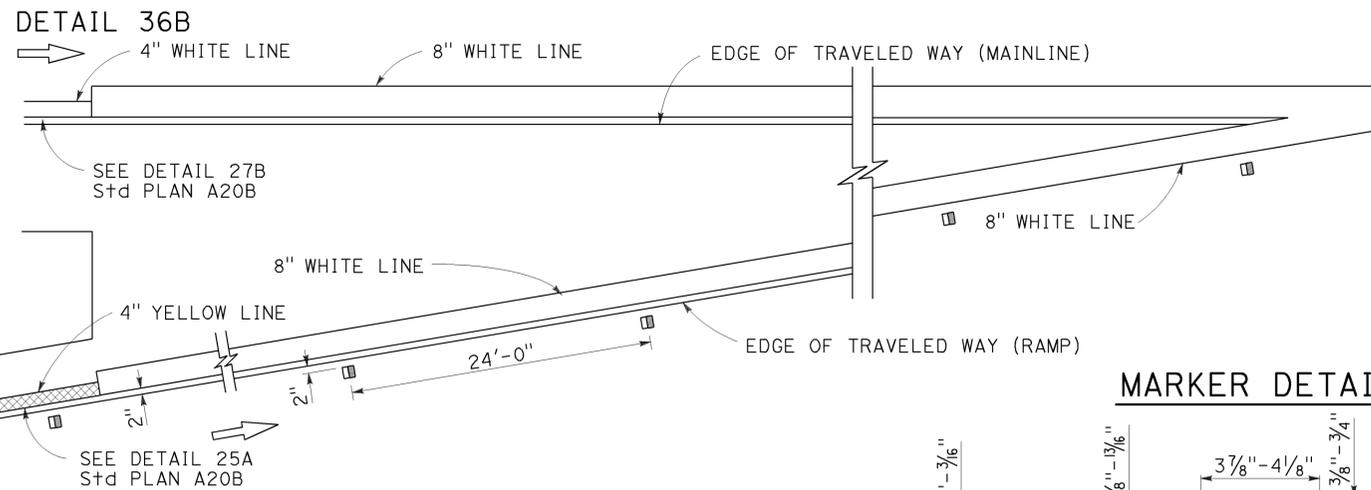
### EXIT RAMP NEUTRAL AREA (GORE) TREATMENT



### ENTRANCE RAMP NEUTRAL AREA (MERGE) TREATMENT



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

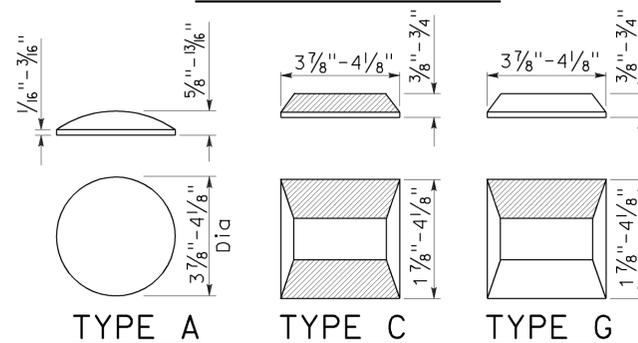


### MARKER DETAILS

#### LEGEND:

#### MARKERS

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



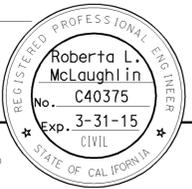
RETROREFLECTIVE FACE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	40	55

Roberta L. McLaughlin  
REGISTERED CIVIL ENGINEER

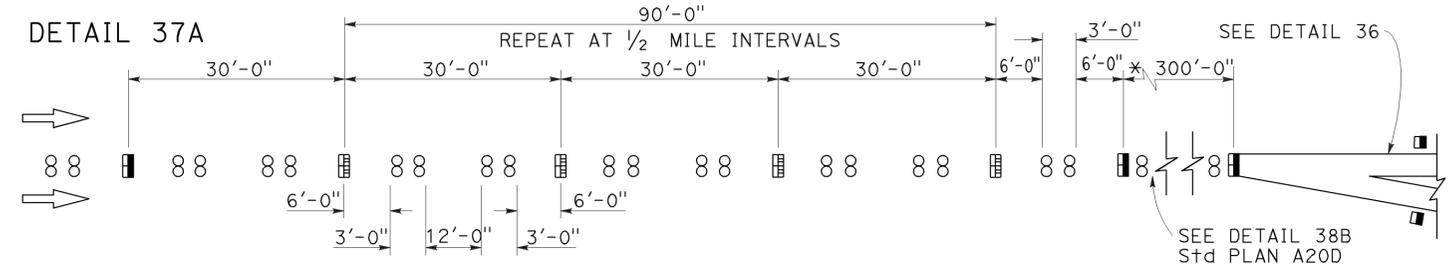
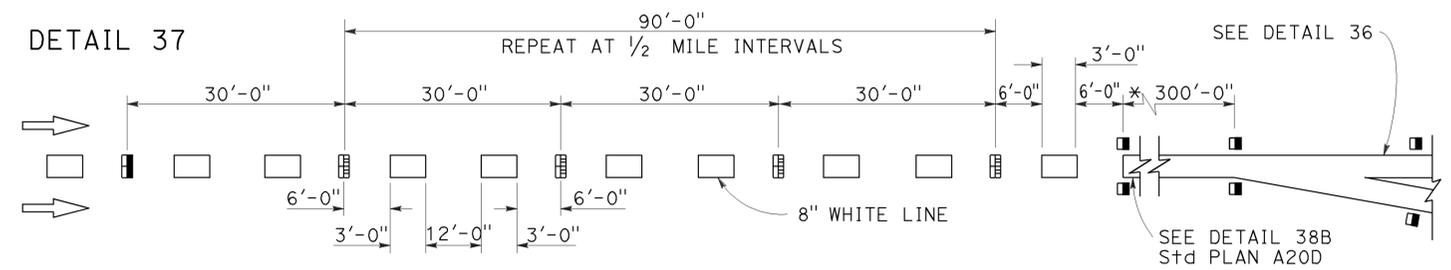
July 19, 2013  
PLANS APPROVAL DATE

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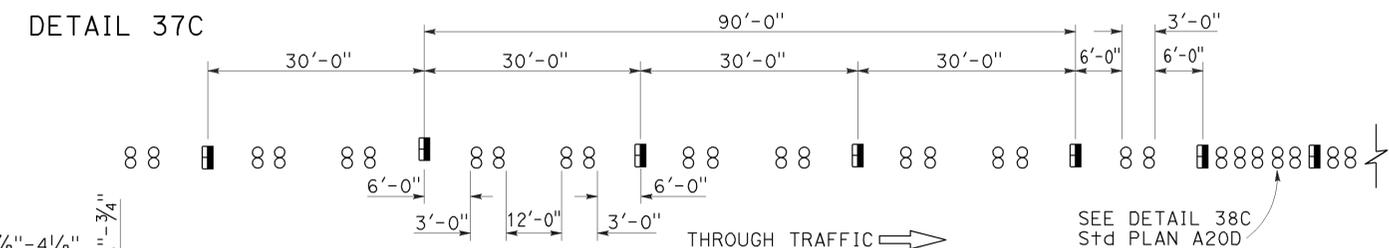
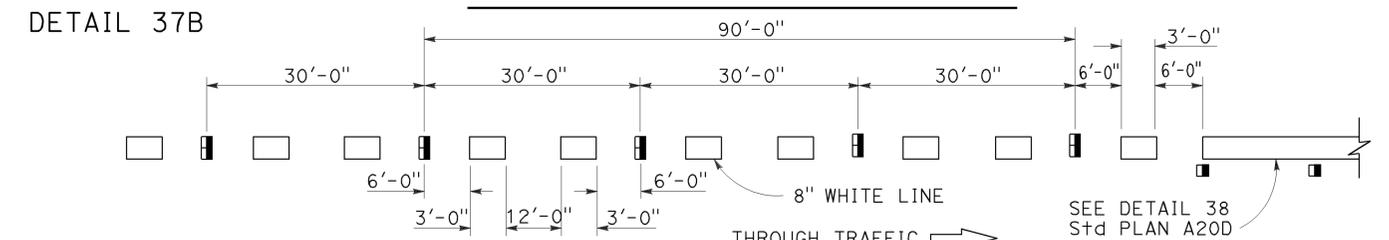
TO ACCOMPANY PLANS DATED 3-21-16

### 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

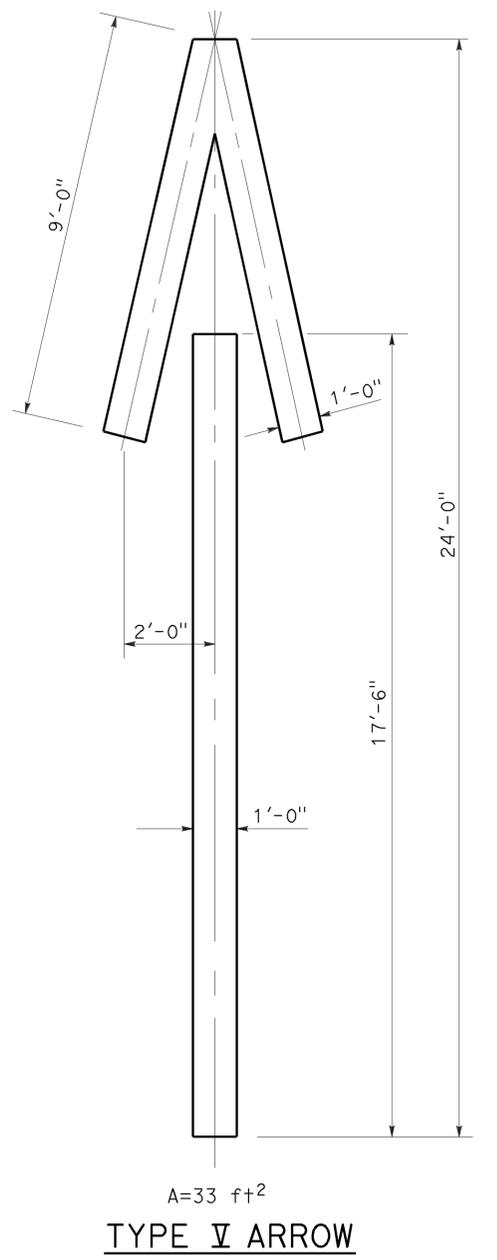
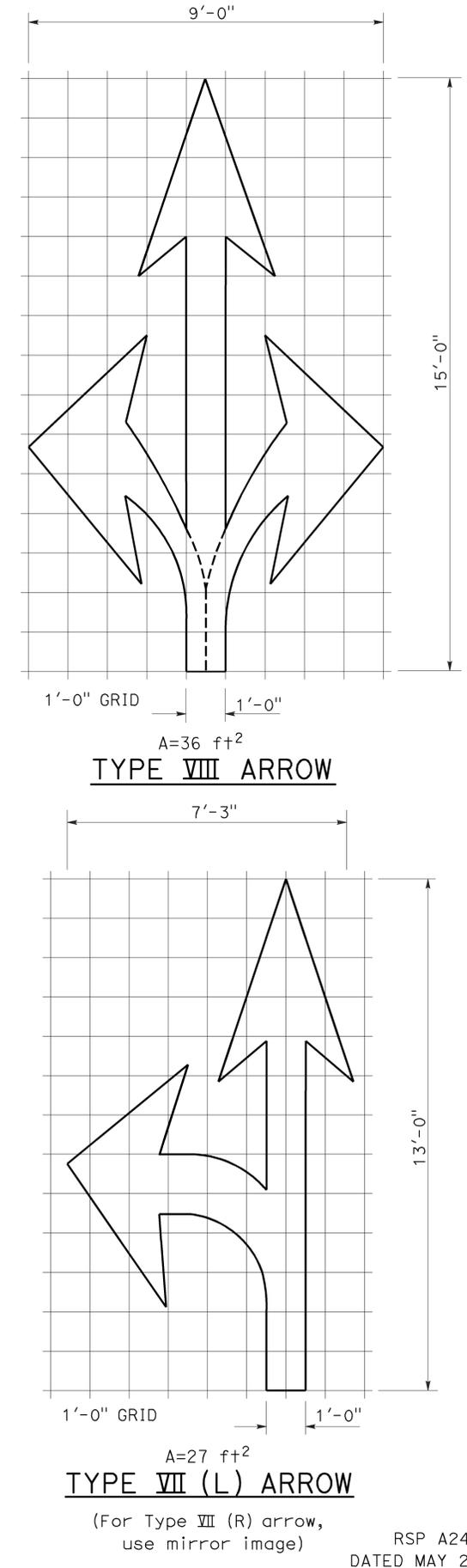
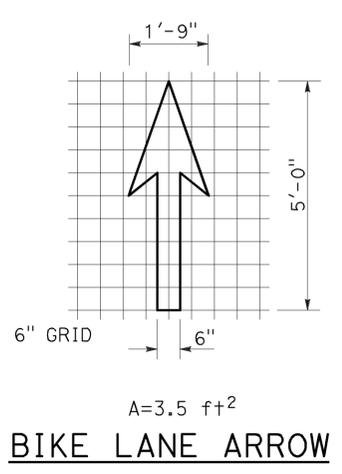
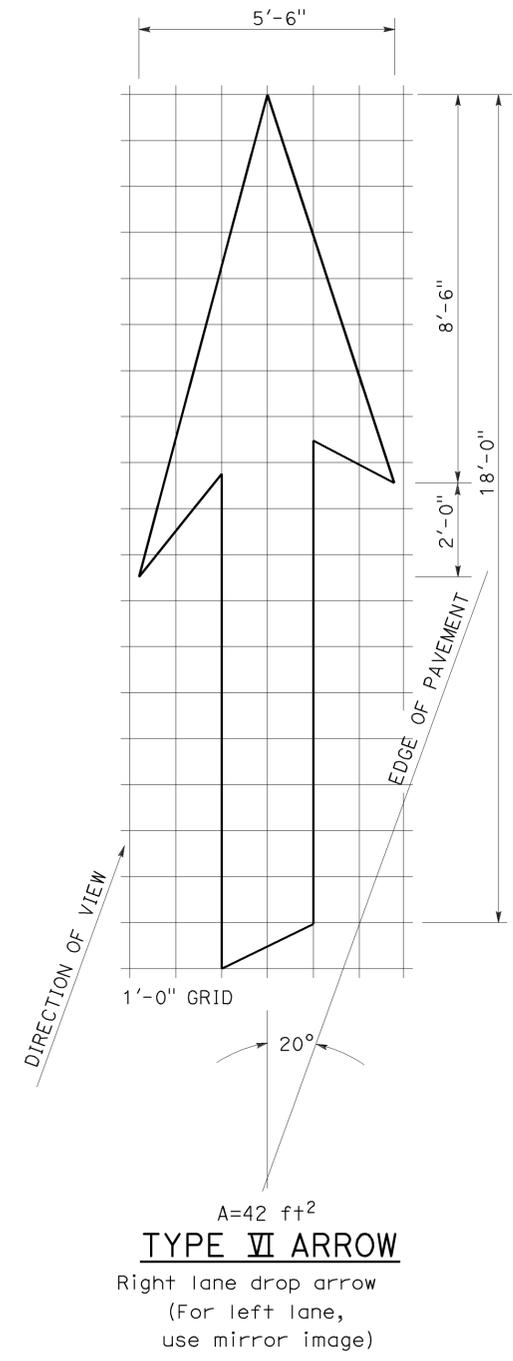
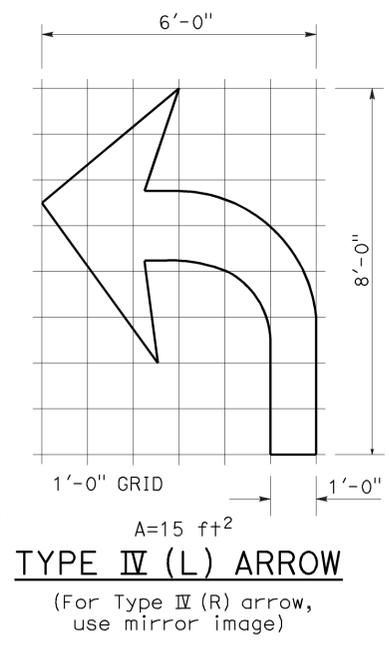
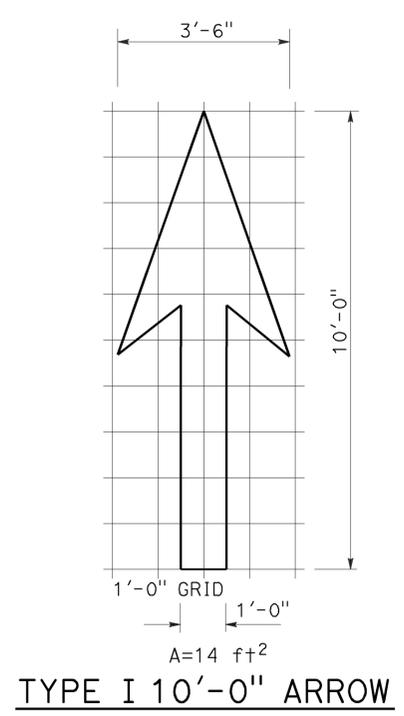
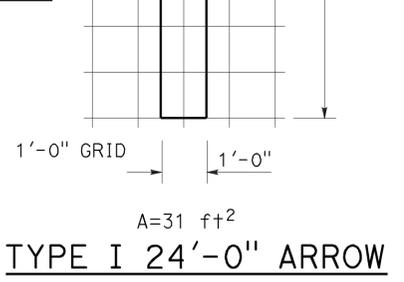
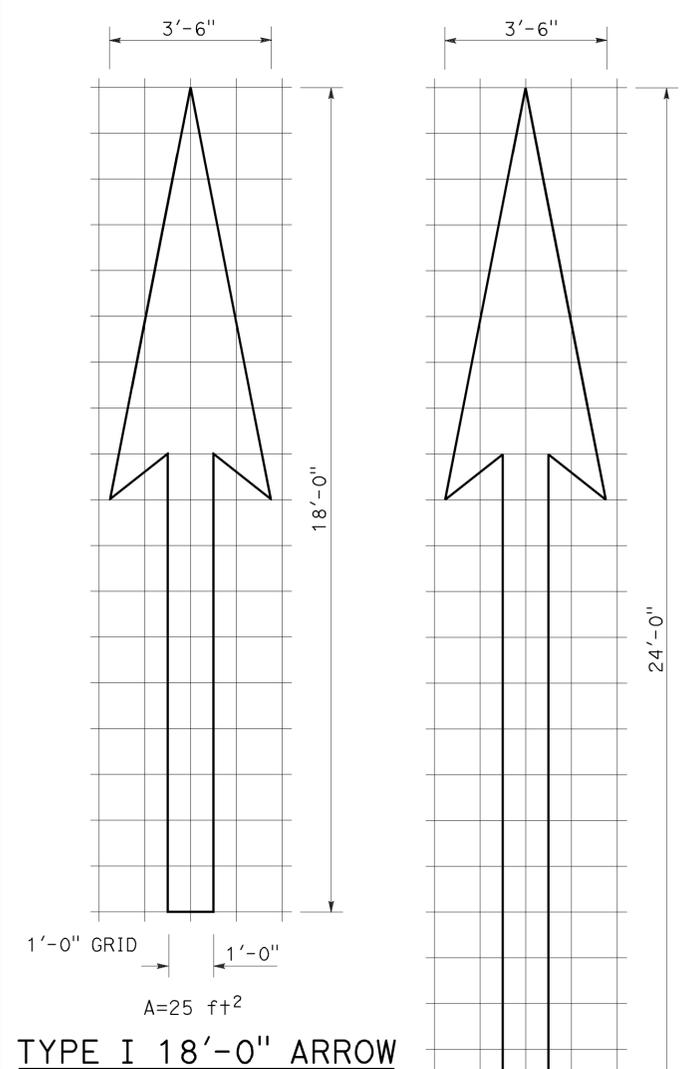
2010 REVISED STANDARD PLAN RSP A20C

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	41	55

*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

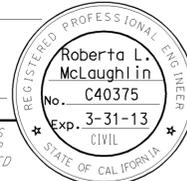
TO ACCOMPANY PLANS DATED 3-21-16



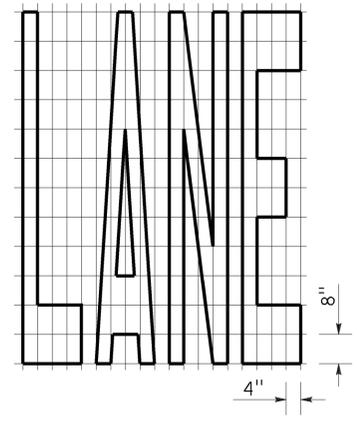
**NOTE:**  
Minor variations in dimensions may be accepted by the Engineer.

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

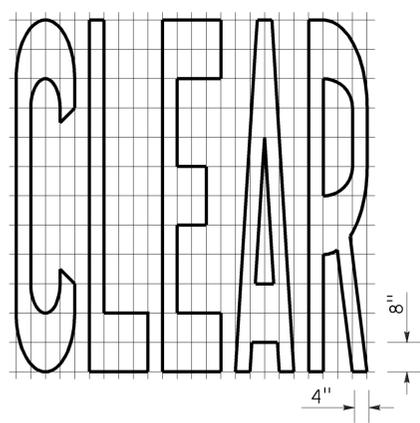
RSP A24A DATED APRIL 20, 2012 SUPERSEDES STANDARD PLAN A24A DATED MAY 20, 2011 - PAGE 13 OF THE STANDARD PLANS BOOK DATED 2010.



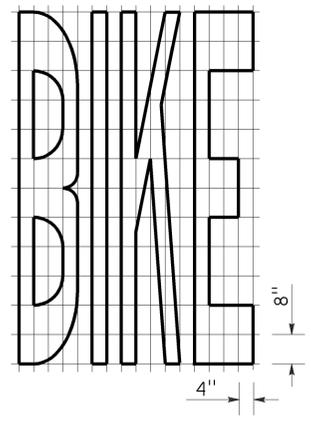
TO ACCOMPANY PLANS DATED 3-21-16



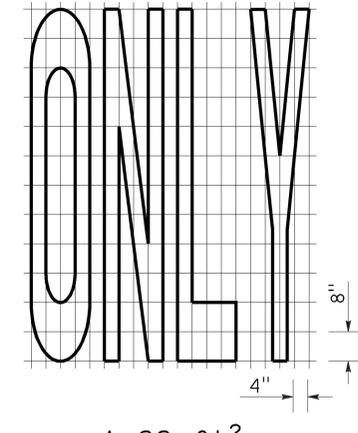
A=24 ft<sup>2</sup>



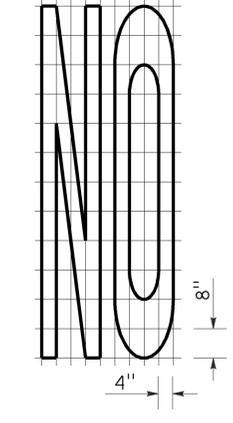
A=27 ft<sup>2</sup>



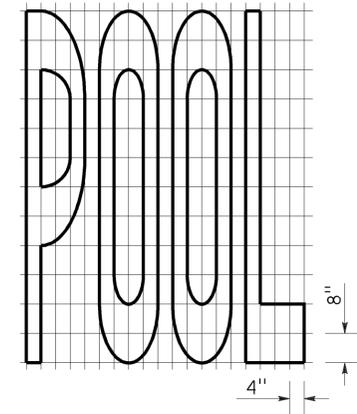
A=21 ft<sup>2</sup>



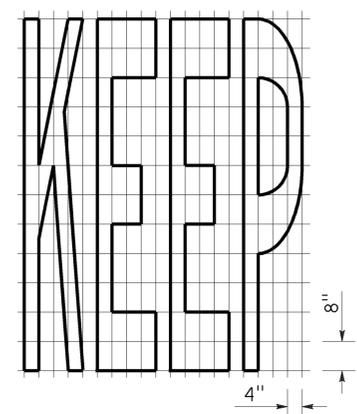
A=22 ft<sup>2</sup>



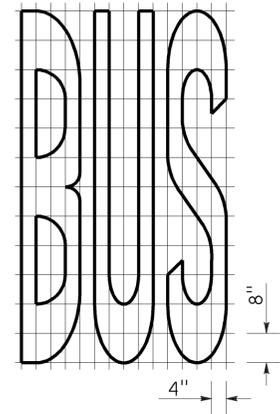
A=14 ft<sup>2</sup>



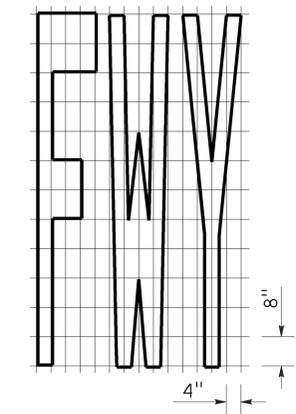
A=23 ft<sup>2</sup>



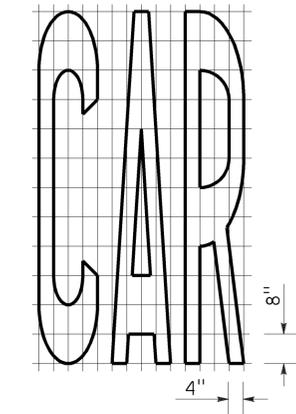
A=24 ft<sup>2</sup>



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

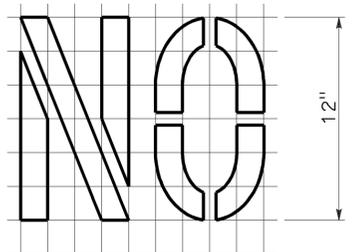


A=16 ft<sup>2</sup>



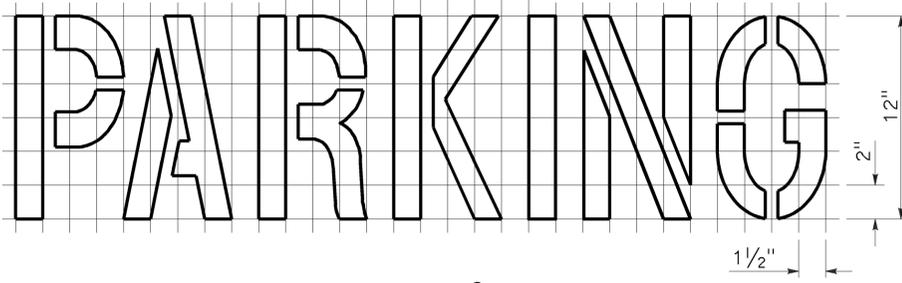
A=17 ft<sup>2</sup>

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



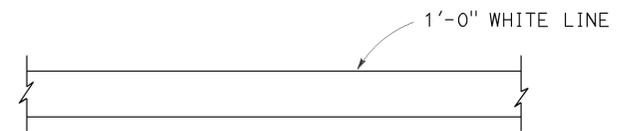
A=2 ft<sup>2</sup>

See Notes 6 and 7

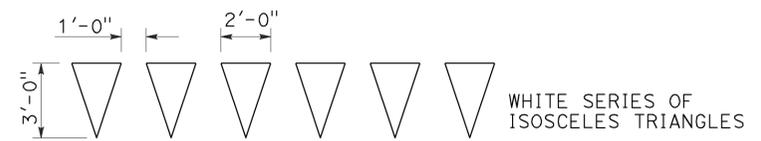


A=2 ft<sup>2</sup>

See Notes 6 and 7



LIMIT LINE (STOP LINE)



YIELD LINE

**NOTES:**

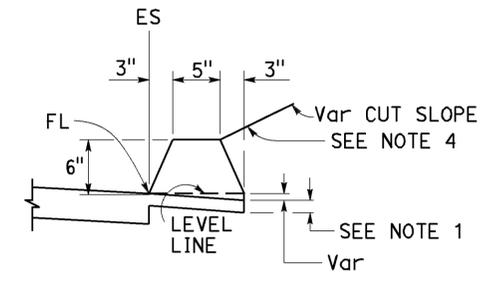
1. If a message consists of more than one word, it should read "UP", i.e., the first word should be nearest the driver.
2. The space between words should be at least four times the height of the characters for low speed roads, but not more than ten times the height of the characters. The space may be 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**

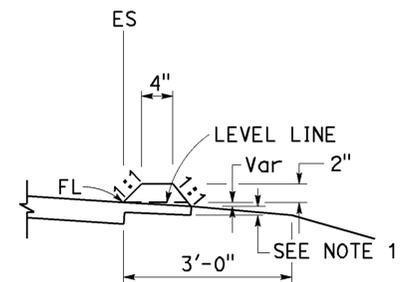
NO SCALE

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

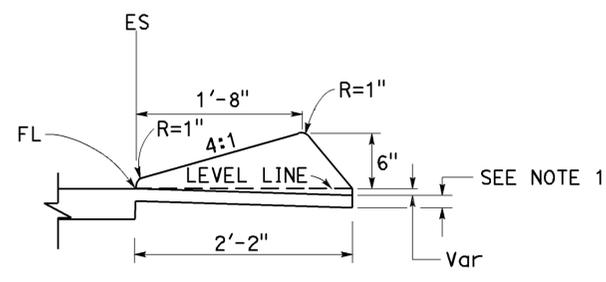
TO ACCOMPANY PLANS DATED 3-21-16



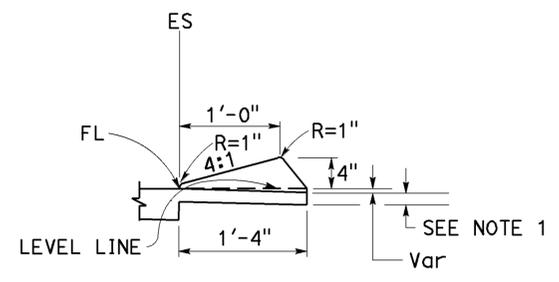
**TYPE A**  
See Notes 3 and 5



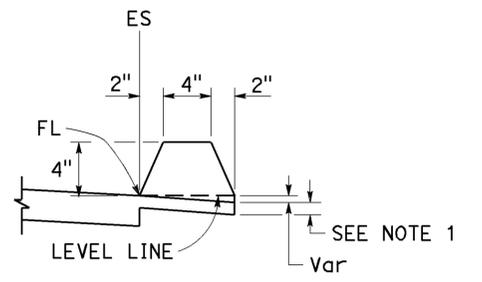
**TYPE C**



**TYPE D**

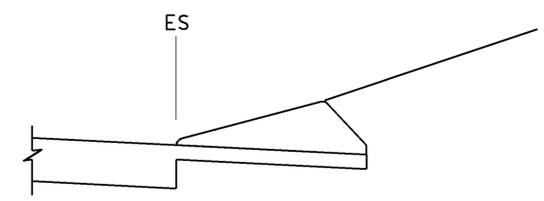


**TYPE E**

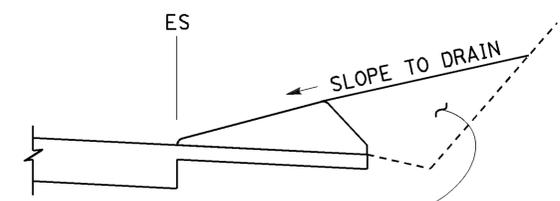


**TYPE F**  
See Note 5

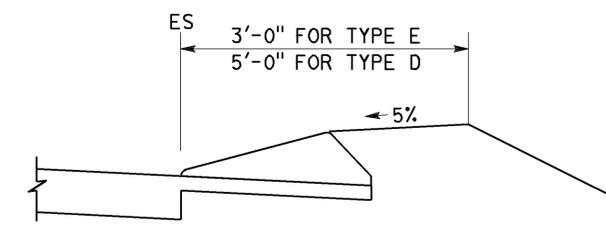
**DIKES**



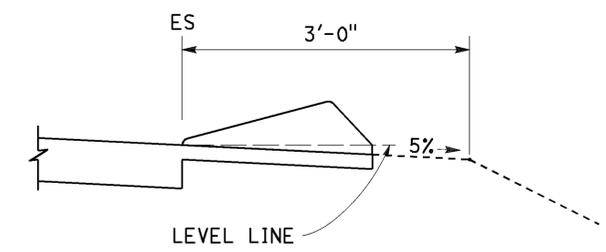
**CASE C-1**  
Cut Slope



**CASE C-2**  
Cut Slope



**CASE F**



**CASE R**  
See Note 2

**TYPE D AND E BACKFILL DETAILS**

**NOTES:**

1. For HMA shoulders only, extend top layer of HMA placed on the shoulder under dike with no joint at the ES. For projects with OGFC shoulders, do not extend OGFC under dike. See project plans for modified dike detail.
2. Case R applies to retrofit only projects where restrictive conditions do not provide enough width for Case F backfill.
3. Type A dike only to be used where restrictive slope conditions do not provide enough width to use Type D or Type E dike.
4. Fill and compact with excavated material to top of dike.
5. Use Type A or F dike, where dike is required with guardrail installations. See Revised Standard Plan RSP A77N4 for dike positioning details. See Revised Standard Plan RSP A77N3 for hinge point offsets with guardrail.

**DIKE QUANTITIES**

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

Quantities based on 5% cross slope.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**HOT MIX ASPHALT DIKES**

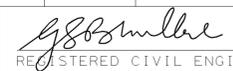
NO SCALE

RSP A87B DATED JANUARY 15, 2016 SUPERSEDES RSP A87B DATED JULY 19, 2013 AND STANDARD PLAN A87B DATED MAY 20, 2011 - PAGE 120 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP A87B**

2010 REVISED STANDARD PLAN RSP A87B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	44	55

  
 REGISTERED CIVIL ENGINEER  
 July 19, 2013  
 PLANS APPROVAL DATE



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TO ACCOMPANY PLANS DATED 3-21-16

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.

**REVISED STANDARD PLAN RSP T9**

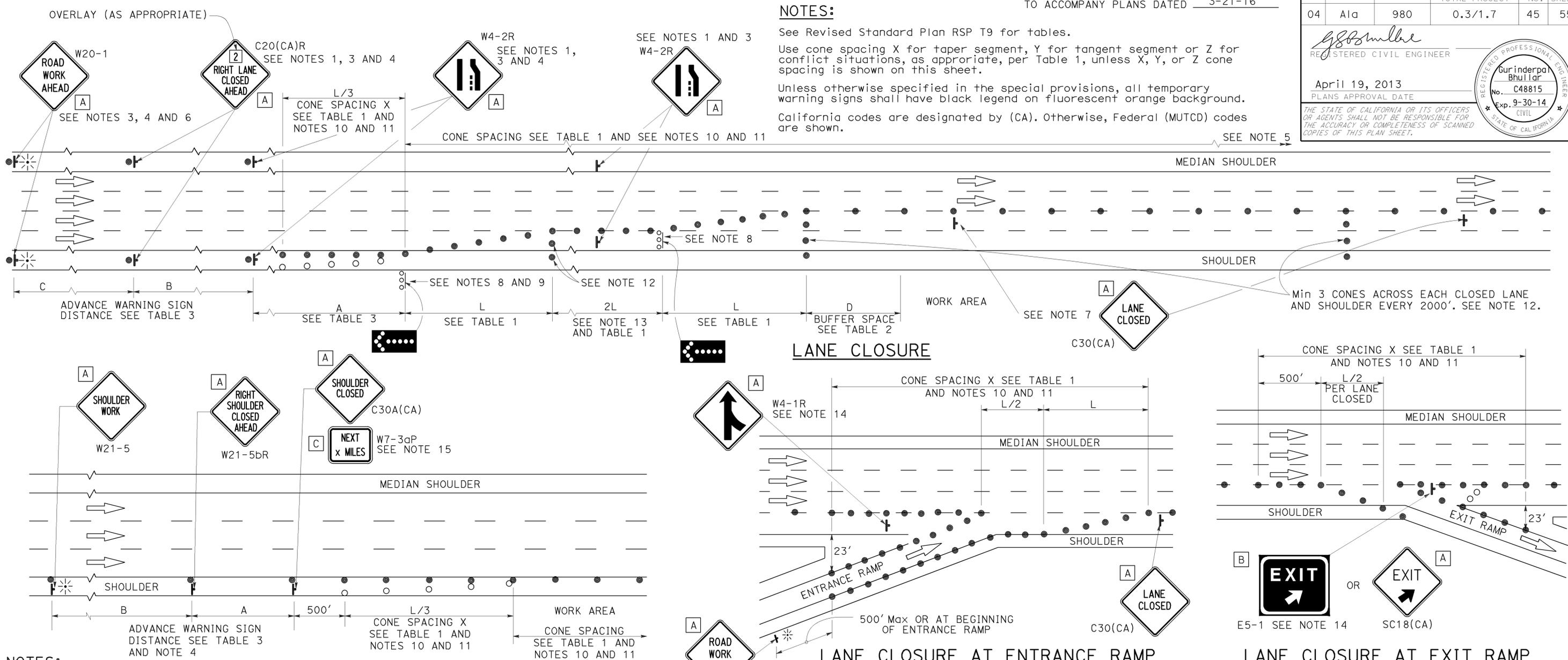
2010 REVISED STANDARD PLAN RSP T9

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	45	55

REGISTERED CIVIL ENGINEER  
 April 19, 2013  
 PLANS APPROVAL DATE

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2010 REVISED STANDARD PLAN RSP T10



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

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

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

**LEGEND**

- TRAFFIC CONE
- TRAFFIC CONE (OPTIONAL TAPER)
- ⊥ TEMPORARY TRAFFIC CONTROL SIGN
- ⬢ FLASHING ARROW SIGN (FAS)
- ⊞ FAS SUPPORT OR TRAILER
- ⚡ PORTABLE FLASHING BEACON

**SIGN PANEL SIZE (Min)**

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

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

**REVISED STANDARD PLAN RSP T10**

# TYPICAL RAMP CLOSURES

## SIGN PANEL SIZE (Min)

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

## LEGEND

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	46	55

*G. S. Miller*  
 REGISTERED CIVIL ENGINEER  
 April 19, 2013  
 PLANS APPROVAL DATE

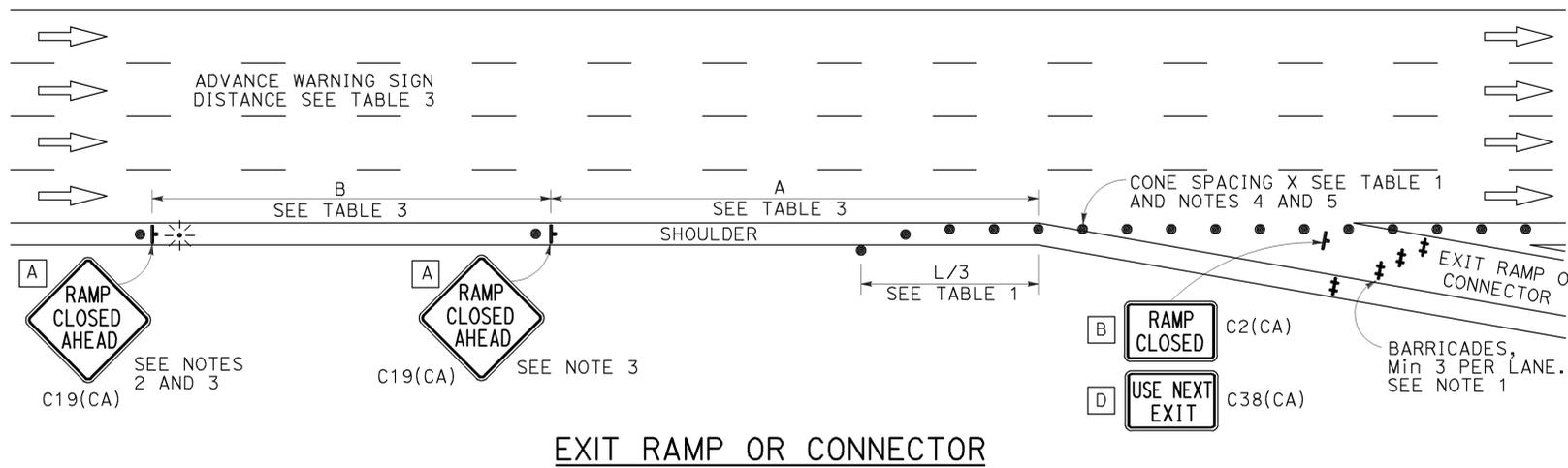
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REGISTERED PROFESSIONAL ENGINEER  
 Gurinderpal Bhullar  
 No. C48815  
 Exp. 9-30-14  
 CIVIL  
 STATE OF CALIFORNIA

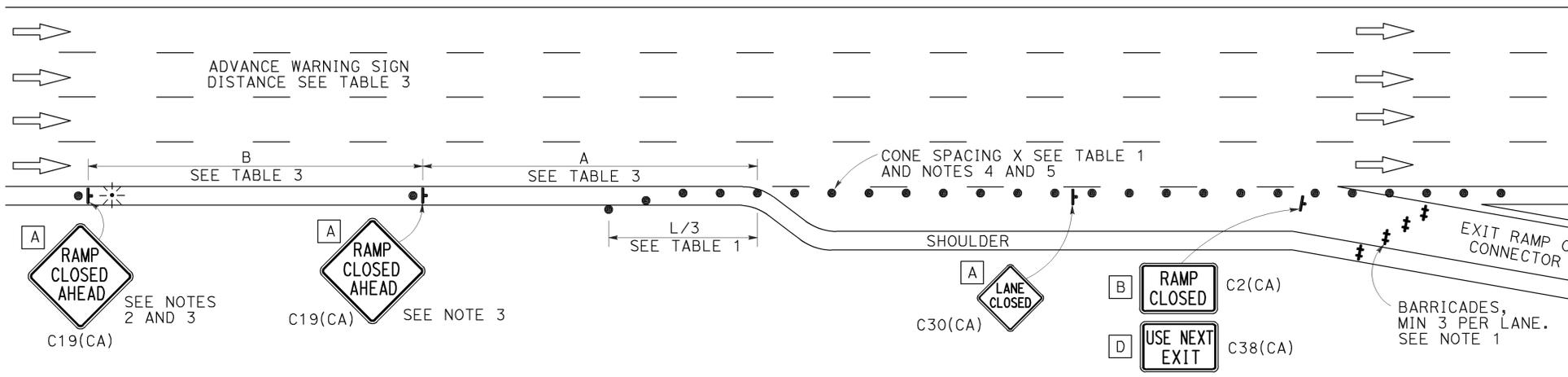
TO ACCOMPANY PLANS DATED 3-21-16

## NOTES:

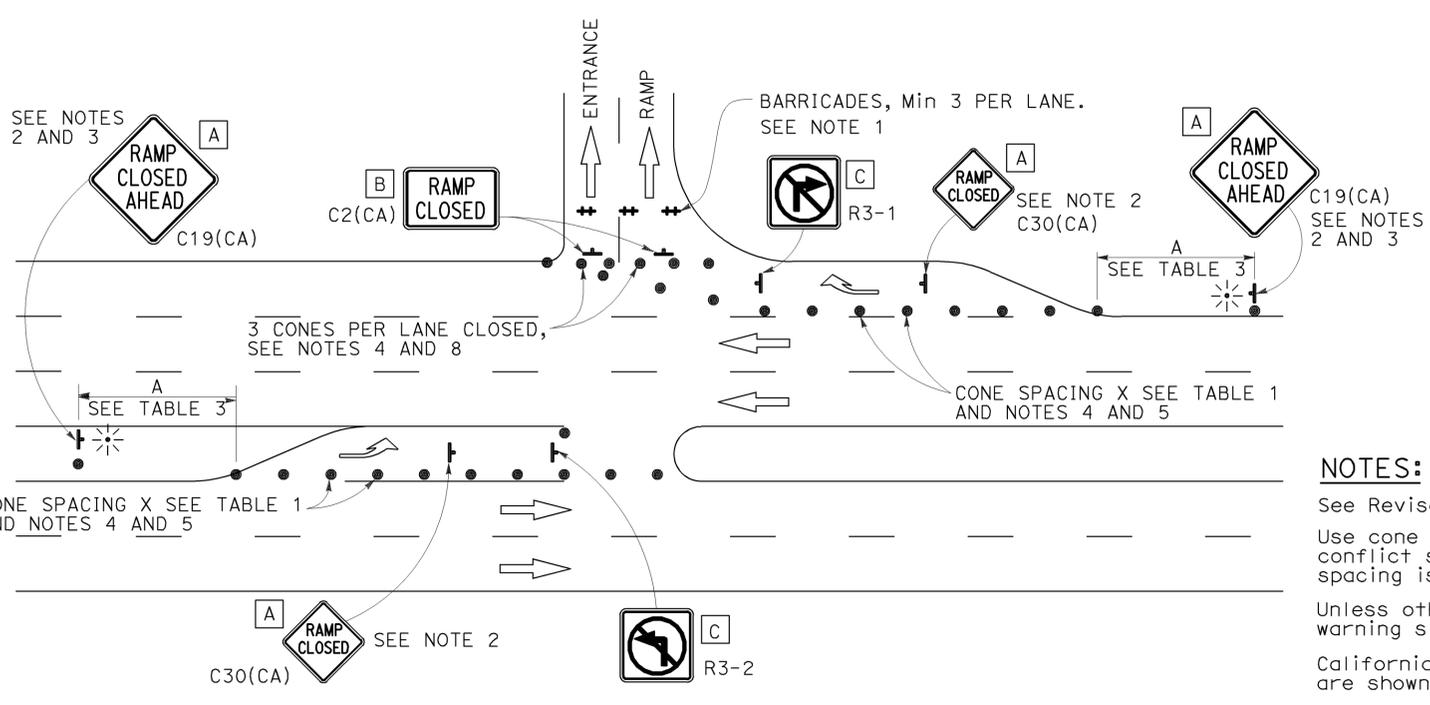
- Barricades shall be Type I, II, or III for closures lasting one week or less and Type III for closures lasting longer than one week.
- In addition to placing the C19(CA) "RAMP CLOSED AHEAD" and C30(CA) "RAMP CLOSED" signs, black on orange overlay plates with the word "CLOSED" may be mounted, as directed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



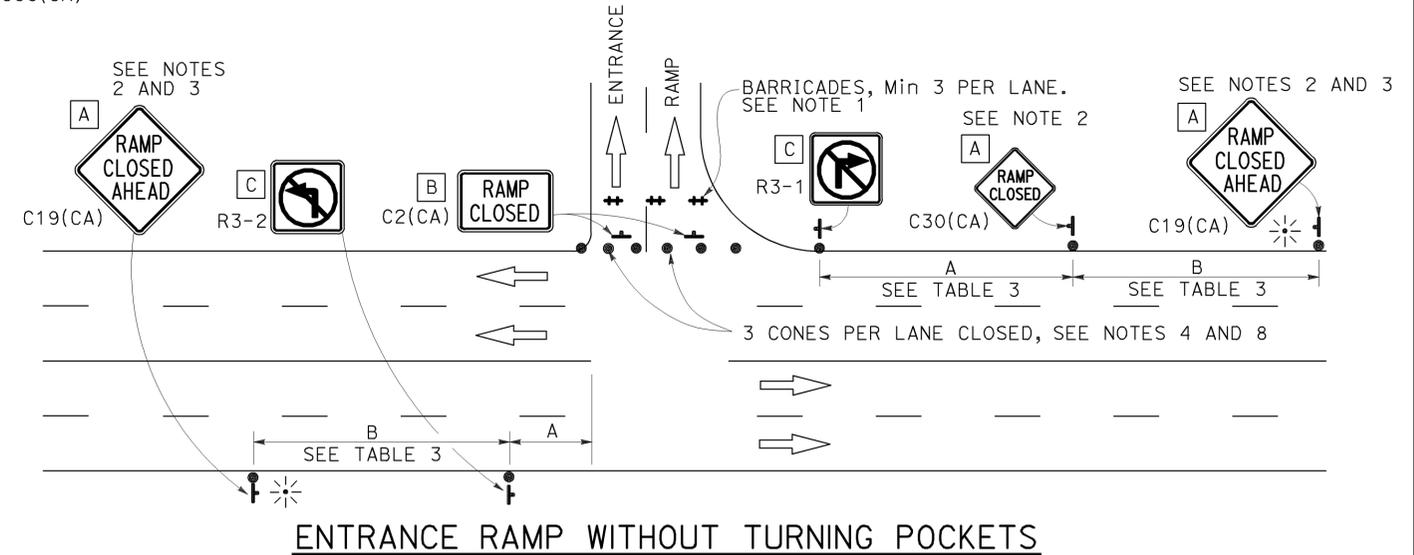
EXIT RAMP OR CONNECTOR



EXIT RAMP OR CONNECTOR WITH ADDITIONAL LANE



ENTRANCE RAMP WITH TURNING POCKETS



ENTRANCE RAMP WITHOUT TURNING POCKETS

## NOTES:

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

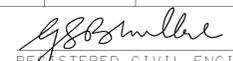
STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**TRAFFIC CONTROL SYSTEM  
 FOR RAMP CLOSURE**  
 NO SCALE

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

**REVISED STANDARD PLAN RSP T14**

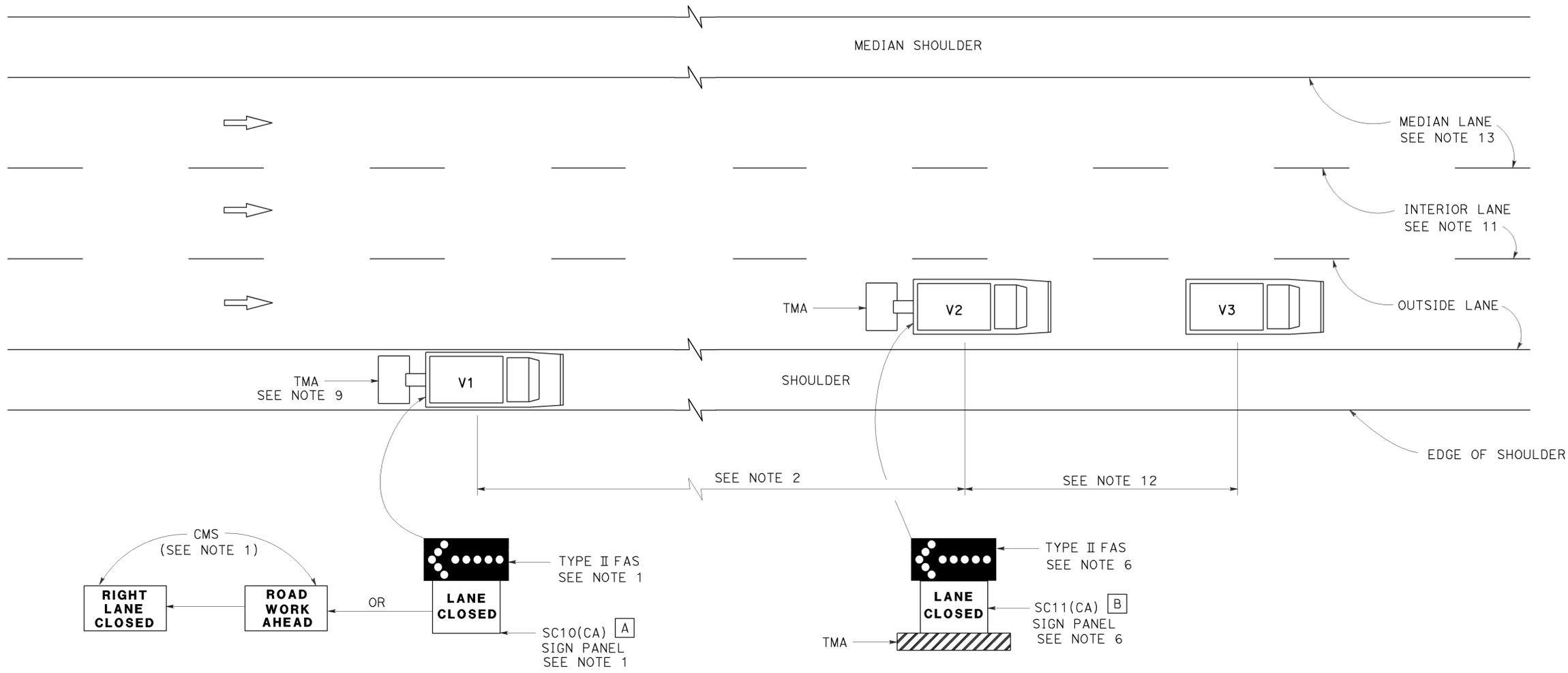
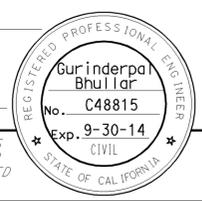
2010 REVISED STANDARD PLAN RSP T14

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	47	55

  
 REGISTERED CIVIL ENGINEER  
 April 19, 2013  
 PLANS APPROVAL DATE

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TO ACCOMPANY PLANS DATED 3-21-16



**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:**

- 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".
- 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.
- A minimum sight distance of 1500' should be provided in advance of sign vehicle V1.
- 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'.
- 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.
- 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.
- 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.
- All vehicles shall be equipped with flashing or rotating amber lights.
- 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.
- 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.
- For moving lane closure on interior lane of multilane highways, use Revised Standard Plan T16.
- 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.
- 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

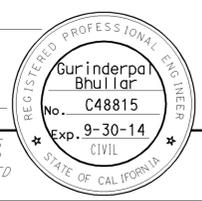
RSP T15 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T15 DATED MAY 20, 2011 - PAGE 243 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP T15**

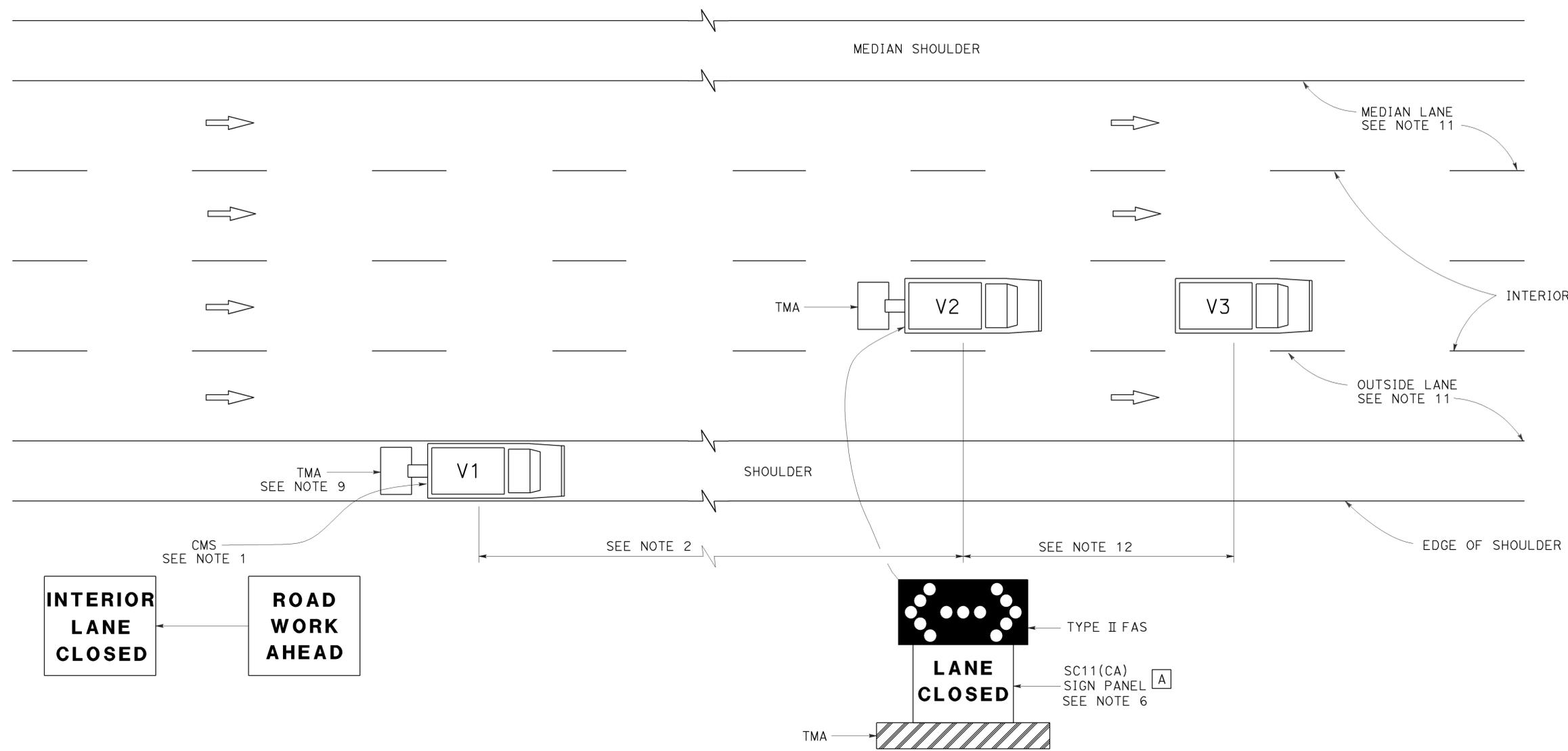
2010 REVISED STANDARD PLAN RSP T15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	48	55

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 3-21-16



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

**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**

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
C+id	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	Ala	980	0.3/1.7	49	55

*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 3-21-16

**SOFFIT AND WALL MOUNTED LUMINAIRES**

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

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

COMMONLY USED SYMBOLS FOR UNITED STATES CUSTOMARY UNITS OF MEASUREMENT:

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

**MISCELLANEOUS ELECTROLIERS**

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

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

**STANDARD ELECTROLIER**

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

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS  
(LEGEND AND ABBREVIATIONS)**

NO SCALE

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

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

2010 REVISED STANDARD PLAN RSP ES-1A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	50	55

*Theresa Gabriel*  
 REGISTERED ELECTRICAL ENGINEER  
 July 19, 2013  
 PLANS APPROVAL DATE  
 Theresa Aziz Gabriel  
 No. E15129  
 Exp. 6-30-14  
 ELECTRICAL  
 STATE OF CALIFORNIA  
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TO ACCOMPANY PLANS DATED 3-21-16

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

**SIGNAL EQUIPMENT Cont**

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

**SERVICE EQUIPMENT**

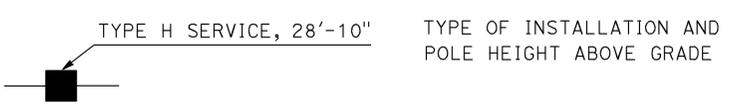
NEW	EXISTING	
---OH---	---oh---	OVERHEAD LINES
		WOOD POLE, "U" INDICATES UTILITY OWNED
		POLE GUY WITH ANCHOR
		UTILITY TRANSFORMER - GROUND MOUNTED
		SERVICE EQUIPMENT ENCLOSURE TYPE. DOOR INDICATES FRONT OF ENCLOSURE
		TELEPHONE DEMARCATION CABINET

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

**NOTES:**

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

**POLE-MOUNTED SERVICE DESIGNATION**



**FLASHING BEACON**

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

**ILLUMINATED OVERHEAD SIGN**

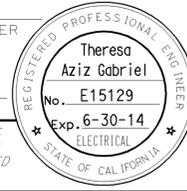
NEW	EXISTING	
		SINGLE POST, SINGLE ILLUMINATED SIGN, BALANCED BUTTERFLY
		SINGLE POST, DOUBLE ILLUMINATED SIGN, BALANCED BUTTERFLY
		SINGLE POST, SINGLE ILLUMINATED SIGN, FULL CANTILEVER
		DOUBLE POST, SINGLE ILLUMINATED SIGN
		SINGLE ILLUMINATED SIGN MOUNTED ON STRUCTURE
		DOUBLE POST, SINGLE ILLUMINATED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

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**ELECTRICAL SYSTEMS  
(LEGEND AND ABBREVIATIONS)**  
NO SCALE

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

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

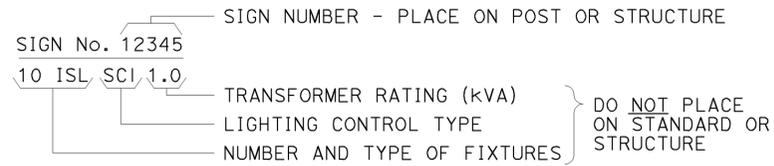
2010 REVISED STANDARD PLAN RSP ES-1B



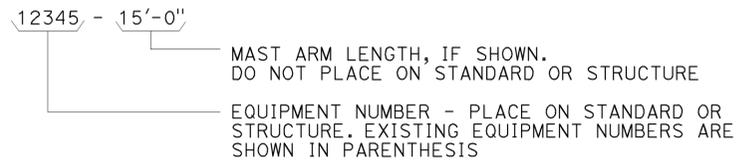
TO ACCOMPANY PLANS DATED 3-21-16

### EQUIPMENT IDENTIFICATION

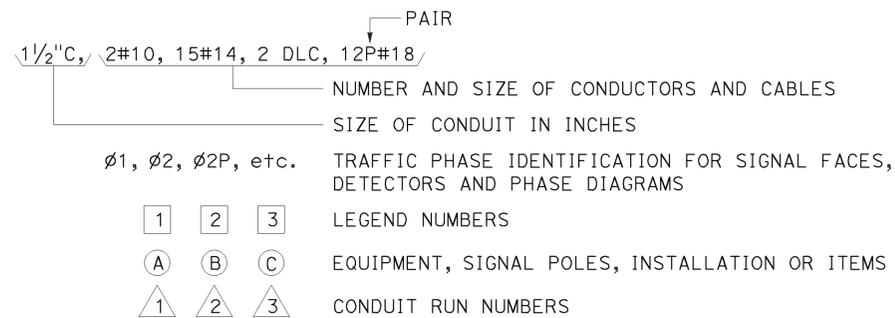
#### ILLUMINATED SIGN IDENTIFICATION NUMBER:



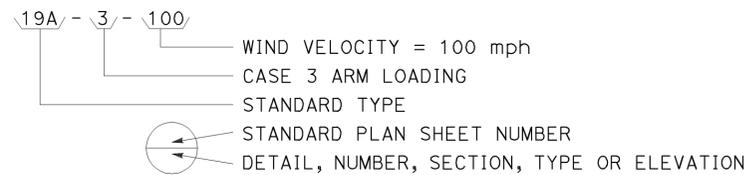
#### ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



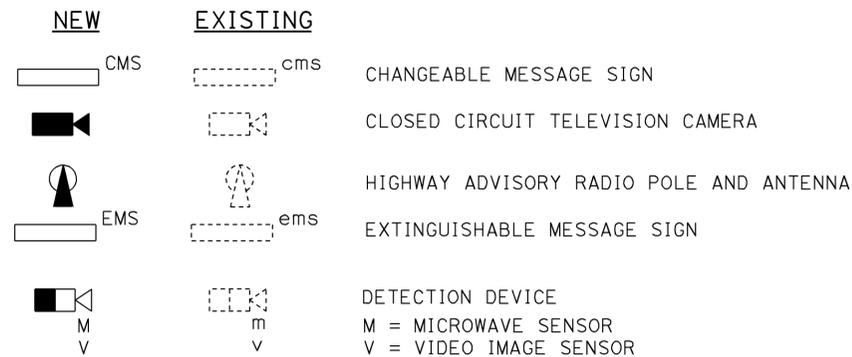
#### CONDUIT AND CONDUCTOR IDENTIFICATION:



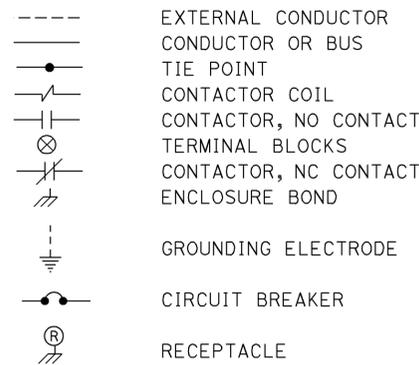
#### SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



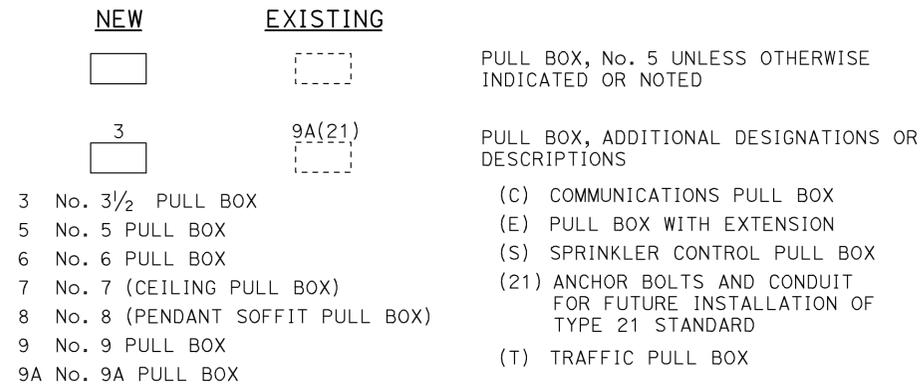
### MISCELLANEOUS EQUIPMENT



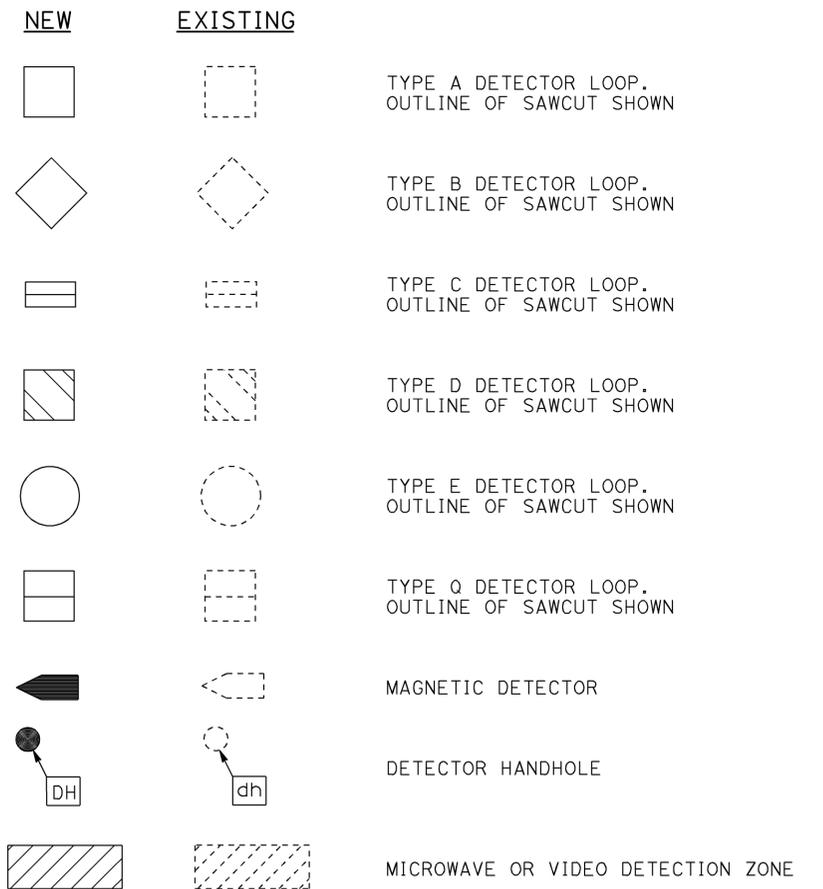
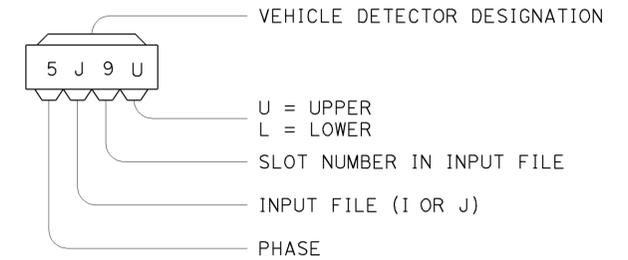
### WIRING DIAGRAM LEGEND



### PULL BOXES



### VEHICLE DETECTORS



STATE OF CALIFORNIA  
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## ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

NO SCALE

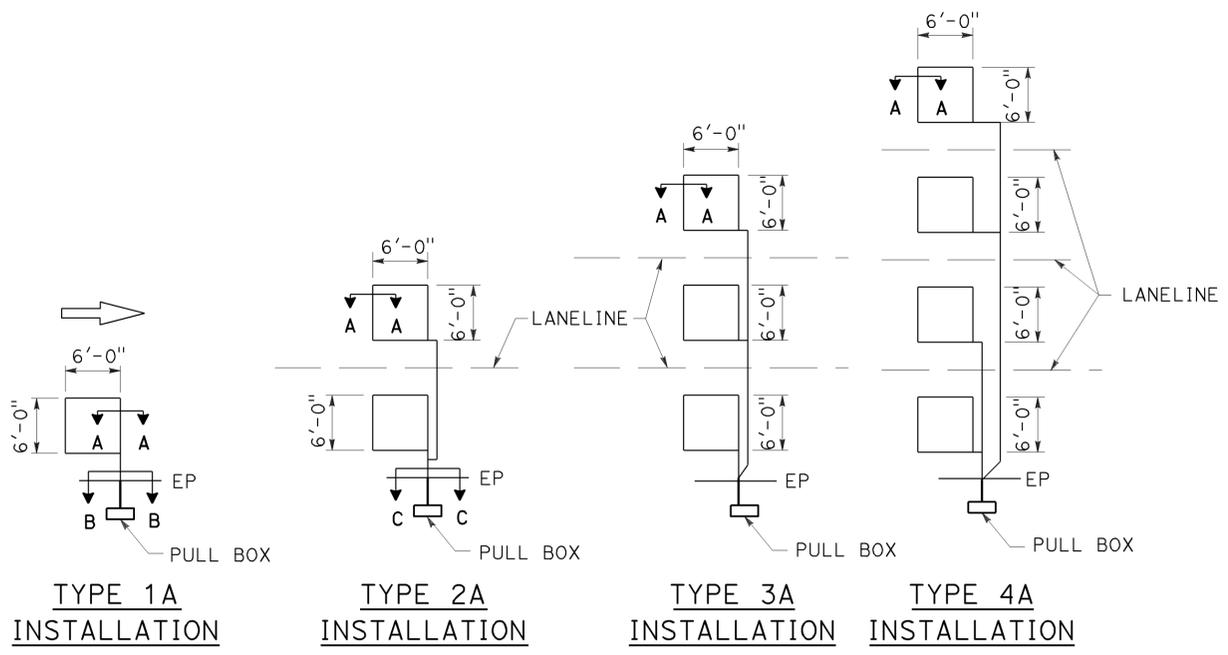
RSP ES-1C DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-1C DATED MAY 20, 2011 - PAGE 427 OF THE STANDARD PLANS BOOK DATED 2010.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	52	55

Theresa Gabriel  
 REGISTERED ELECTRICAL ENGINEER  
 October 30, 2015  
 PLANS APPROVAL DATE  
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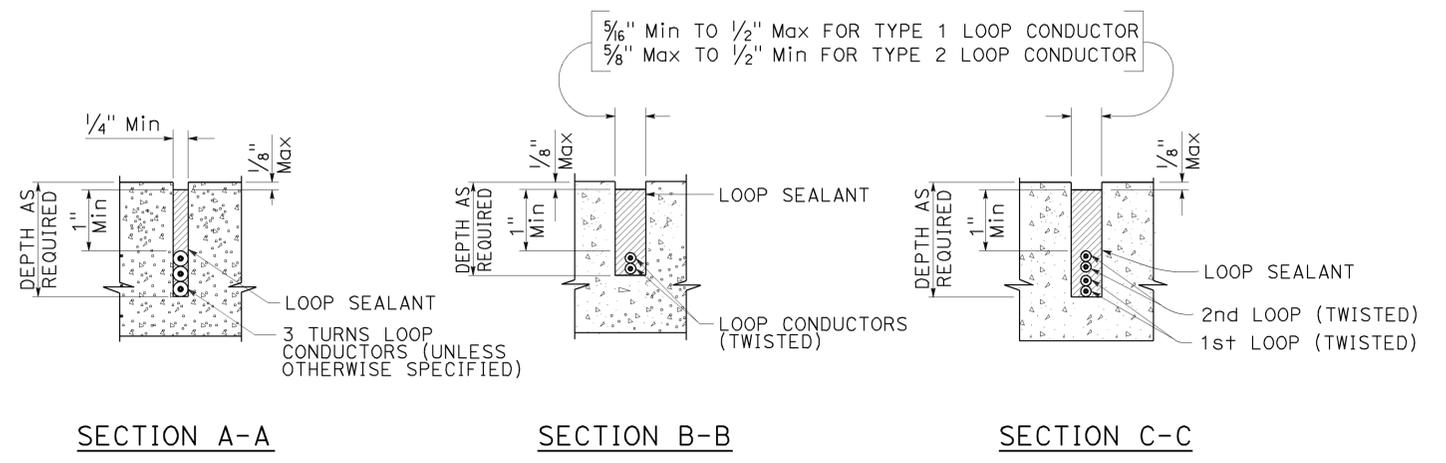


TO ACCOMPANY PLANS DATED 3-21-16

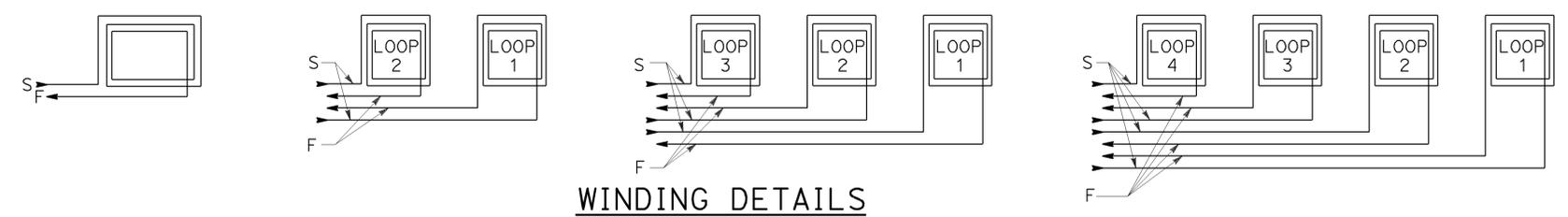


**SAWCUT DETAILS**

- 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.

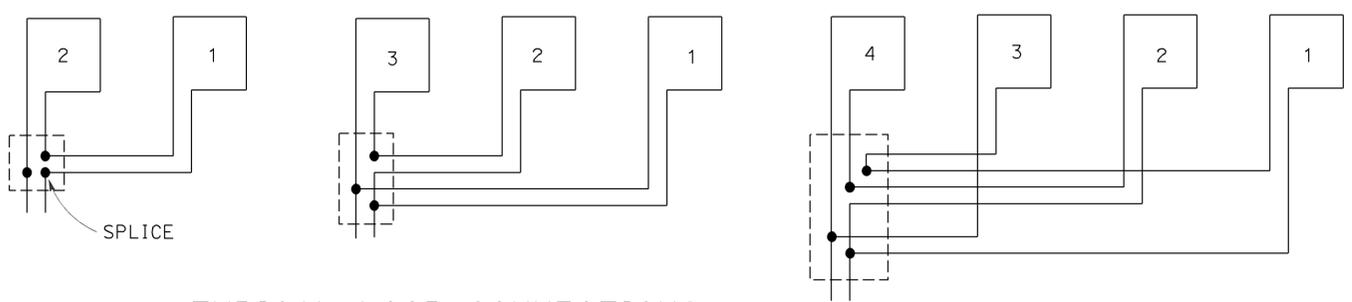


**SLOT DETAILS - TYPE 1 AND TYPE 2 LOOP CONDUCTOR**



**WINDING DETAILS**

**ABBREVIATIONS:**  
 S - START  
 F - FINISH



**TYPICAL LOOP CONNECTIONS**

Dashed lines represent the pull box

STATE OF CALIFORNIA  
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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.

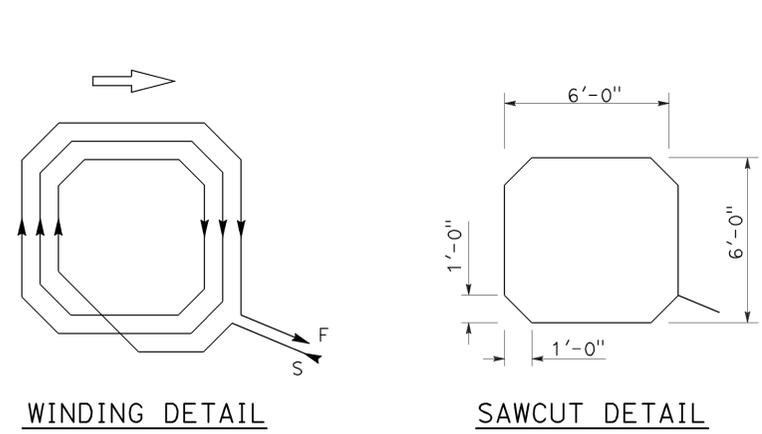
**REVISED STANDARD PLAN RSP ES-5A**

2010 REVISED STANDARD PLAN RSP ES-5A

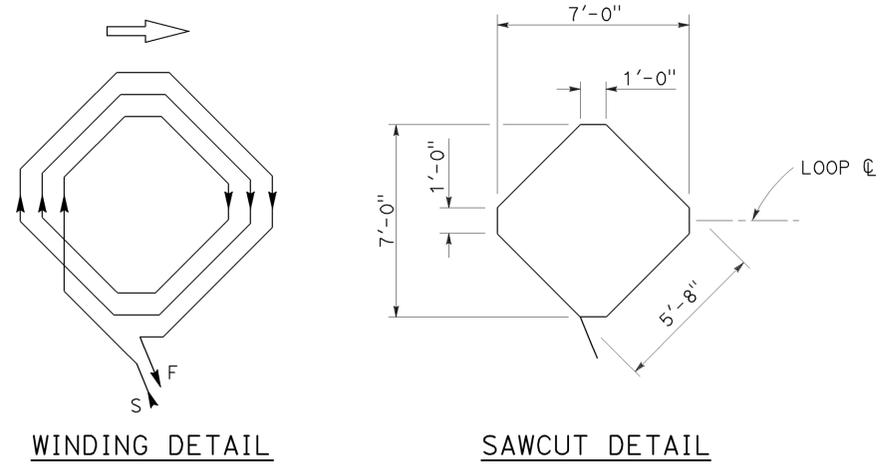
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	53	55
<i>Theresa Gabriel</i> REGISTERED ELECTRICAL ENGINEER July 19, 2013 PLANS APPROVAL DATE <small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

TO ACCOMPANY PLANS DATED 3-21-16

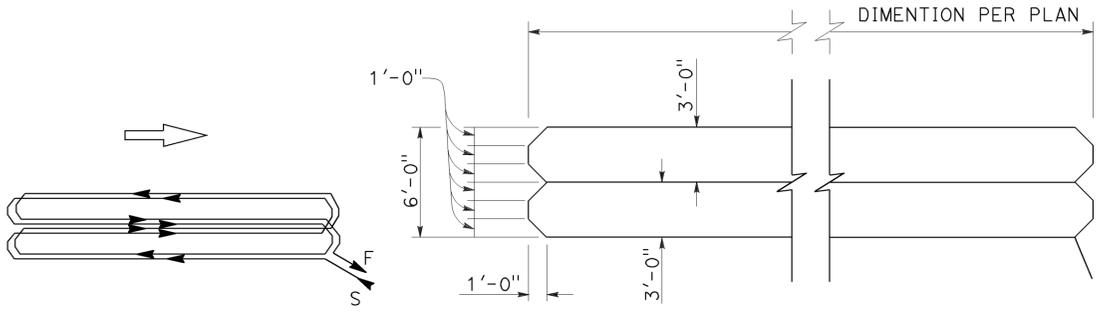
2010 REVISED STANDARD PLAN RSP ES-5B



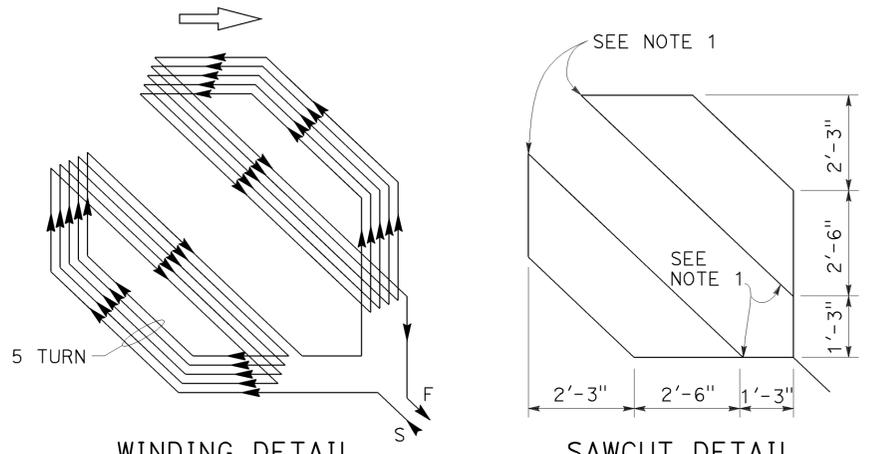
WINDING DETAIL  
SAWCUT DETAIL  
**TYPE A LOOP DETECTOR CONFIGURATION**



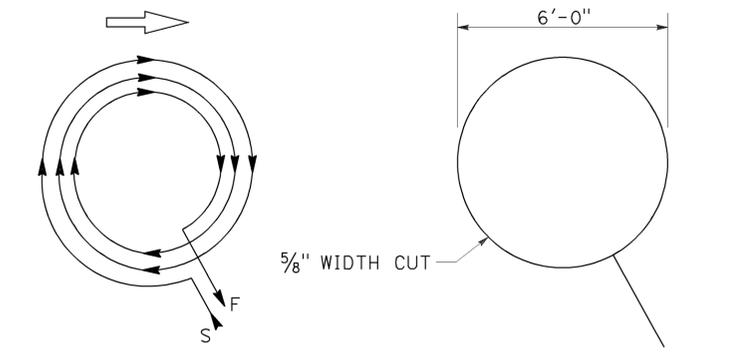
WINDING DETAIL  
SAWCUT DETAIL  
**TYPE B LOOP DETECTOR CONFIGURATION**



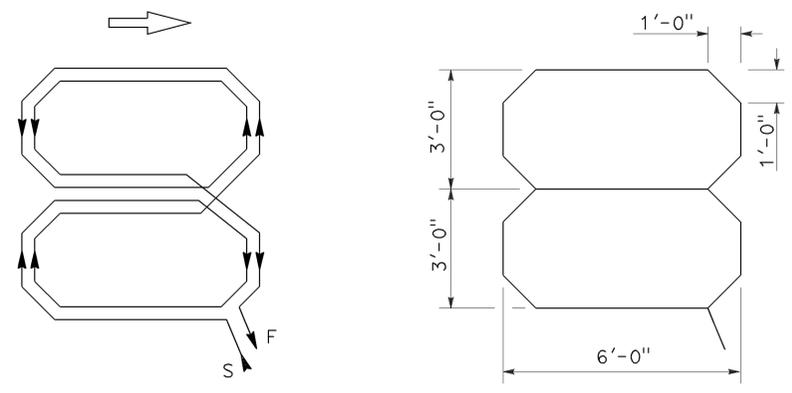
WINDING DETAIL  
SAWCUT DETAIL  
**TYPE C LOOP DETECTOR CONFIGURATION**



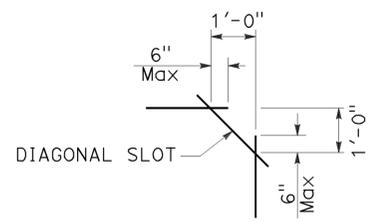
WINDING DETAIL  
SAWCUT DETAIL  
**TYPE D LOOP DETECTOR CONFIGURATION**



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



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



**PLAN VIEW OF DIAGONAL SLOT AT CORNERS**

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

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

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

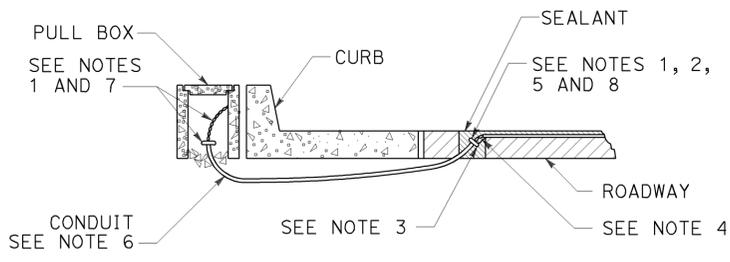
**REVISED STANDARD PLAN RSP ES-5B**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	54	55

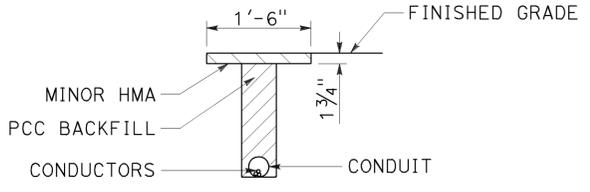
Theresa Gabriel  
 REGISTERED ELECTRICAL ENGINEER  
 July 19, 2013  
 PLANS APPROVAL DATE  
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



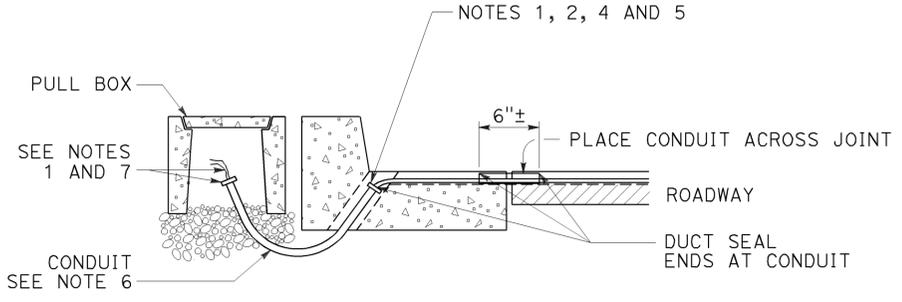
TO ACCOMPANY PLANS DATED 3-21-16



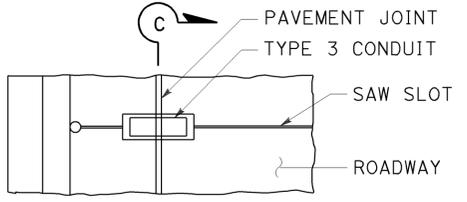
**TYPE A**  
**CURB TERMINATION DETAIL**



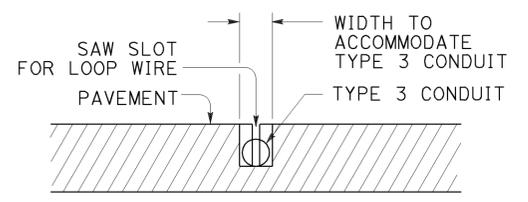
**"T" TRENCH**  
**DETAIL T**



**CROSS SECTION**

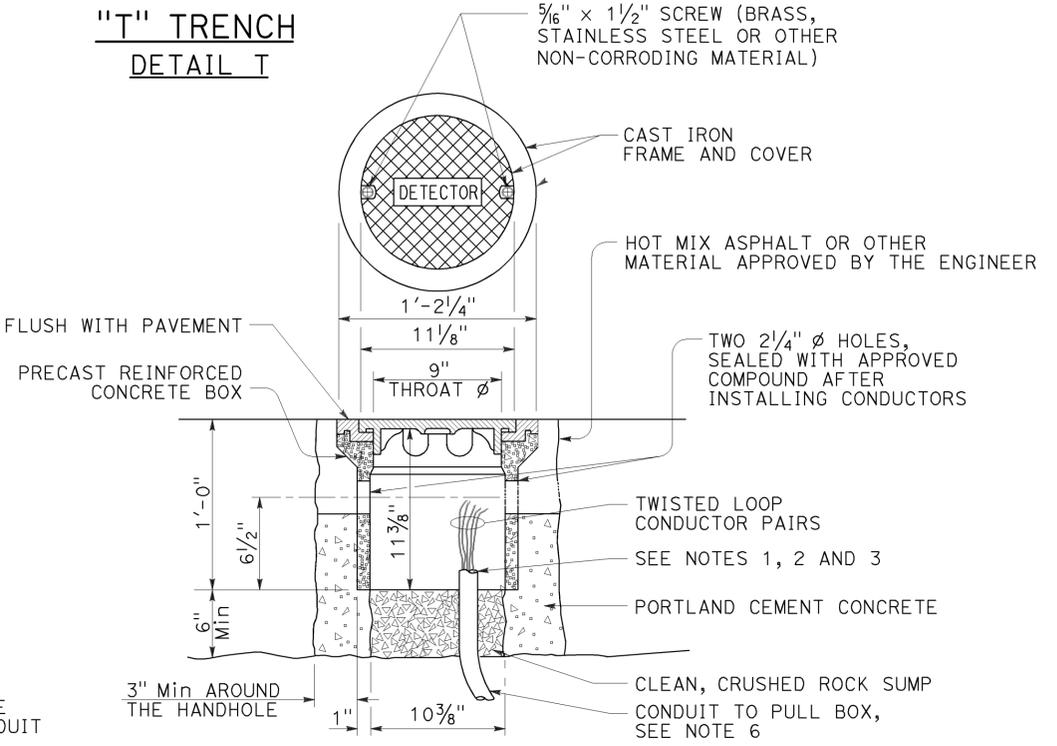


**PLAN VIEW**

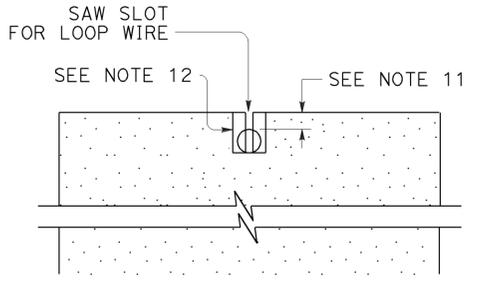


**SECTION C-C**

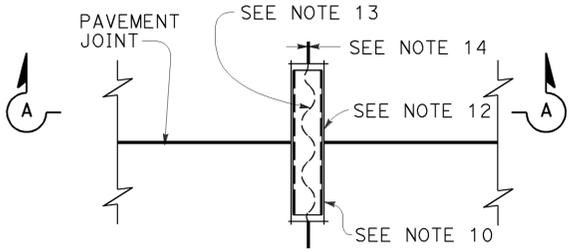
**TYPE B**  
**CURB TERMINATION DETAIL**



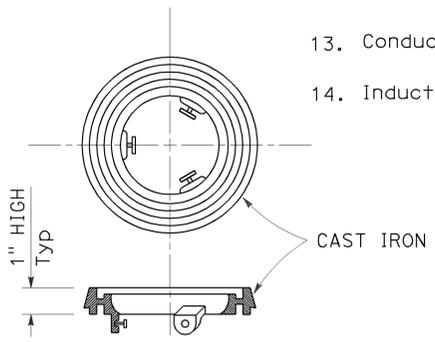
**DETECTOR HANDHOLE DETAIL**



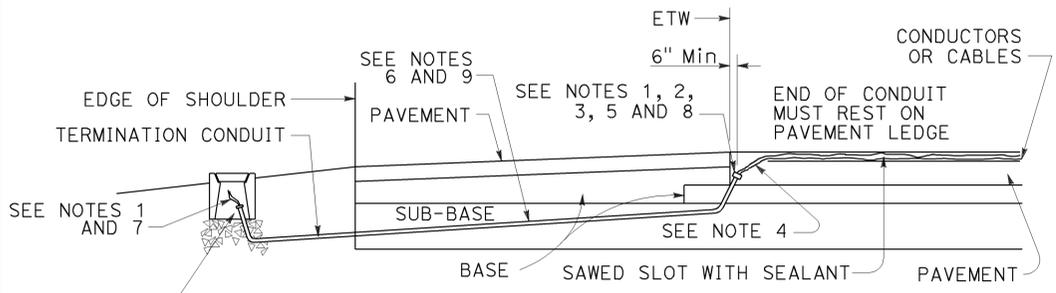
**SECTION A-A**



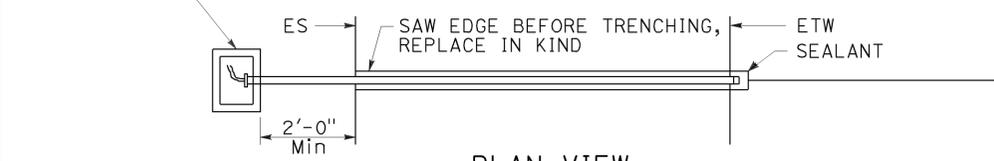
**PLAN VIEW**  
**TYPICAL LOOP LEAD-IN DETAIL**  
**AT PAVEMENT JOINT**



**LOCKING GRADE RING**



**CROSS SECTION**



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

**NOTES:**

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

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

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

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

2010 REVISED STANDARD PLAN RSP ES-5D

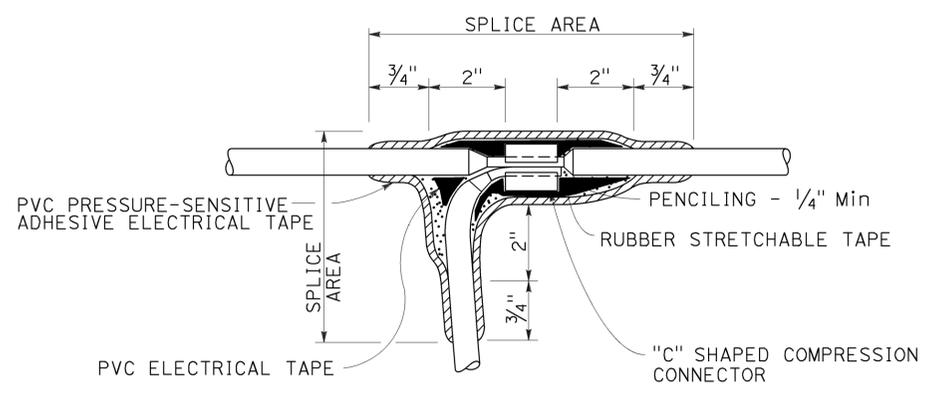
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	980	0.3/1.7	55	55

*Theresa Gabriel*  
 REGISTERED ELECTRICAL ENGINEER  
 October 30, 2015  
 PLANS APPROVAL DATE

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

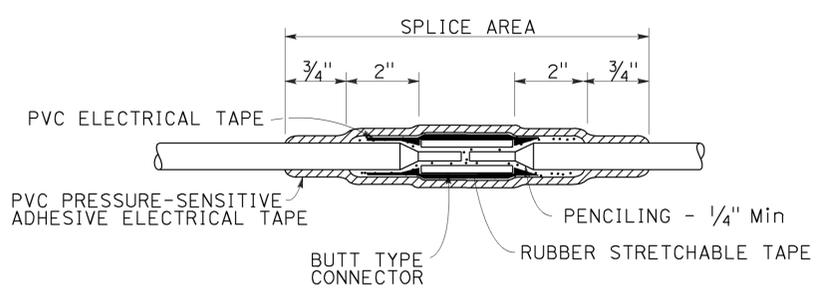
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TO ACCOMPANY PLANS DATED 3-21-16



**TYPE C SPLICE**

See Note 3

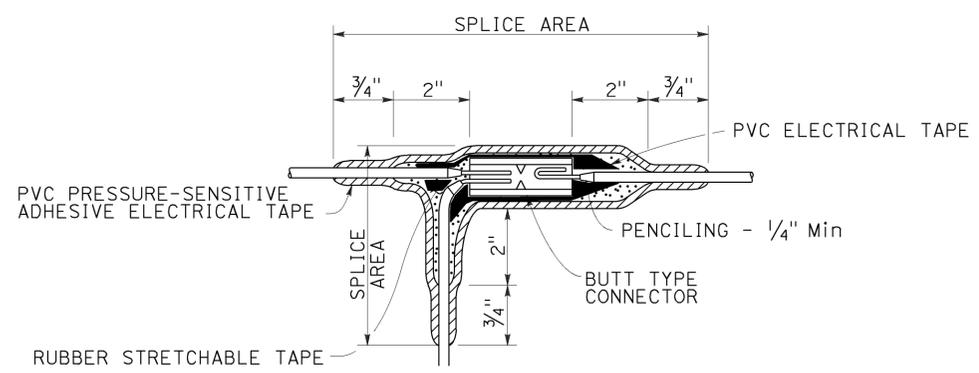


**TYPE S SPLICE**

See Note 4

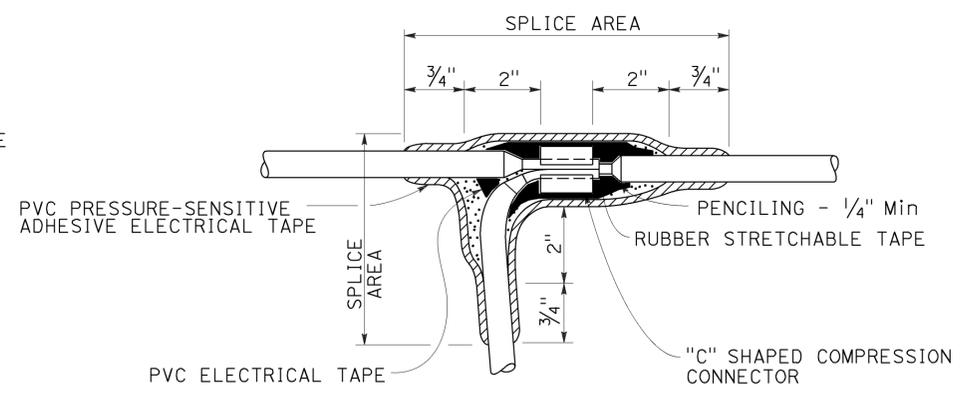
**NOTES:**

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  
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**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