

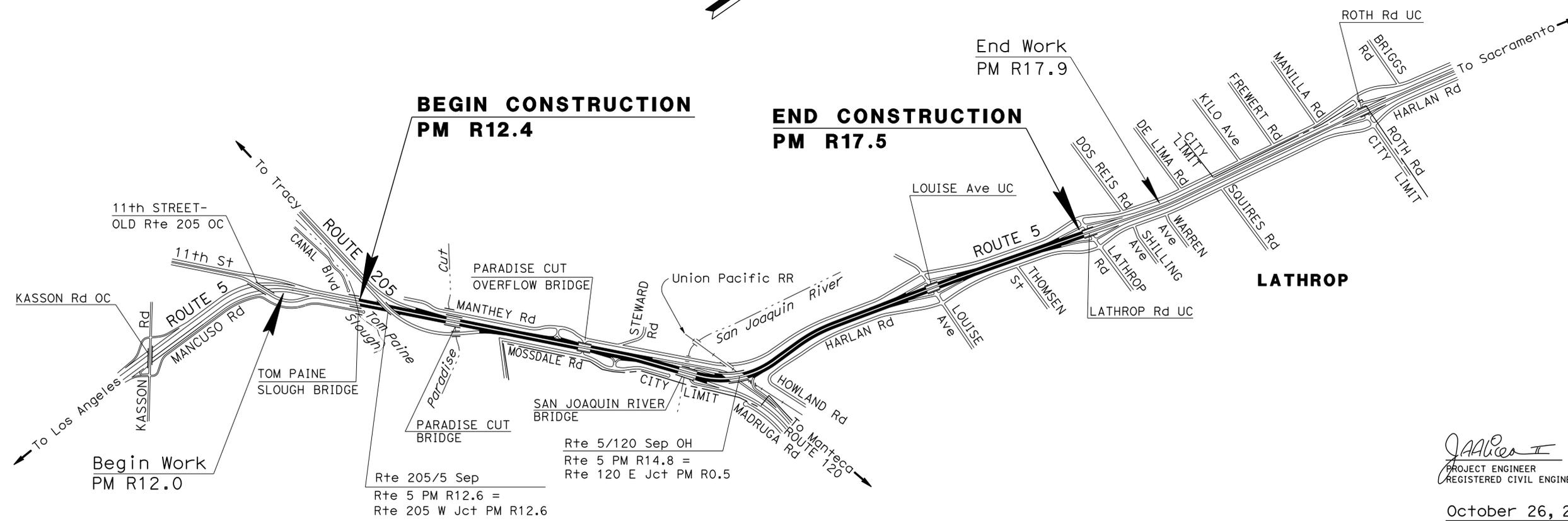
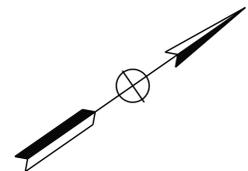
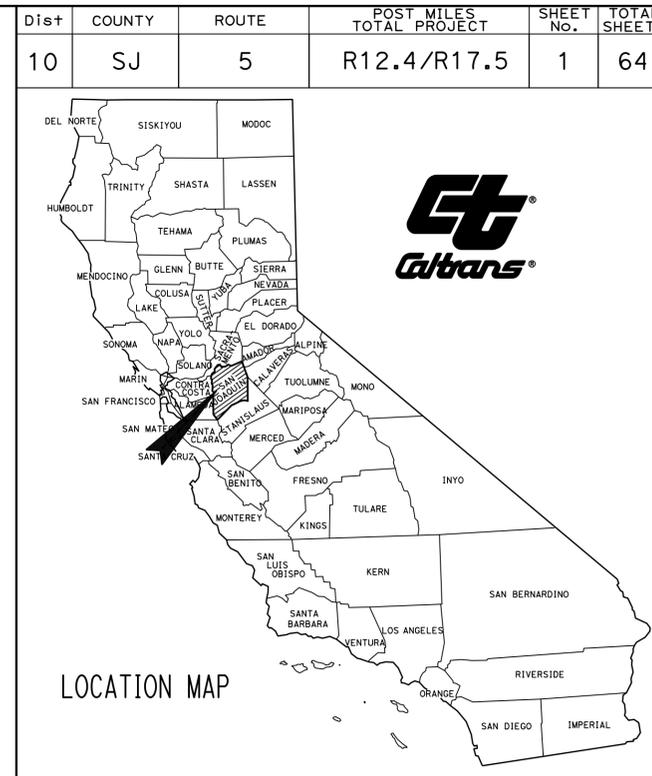
INDEX OF PLANS

SHEET No.	DESCRIPTION
1	TITLE AND LOCATION MAP
2	TYPICAL CROSS SECTIONS
3-7	CONSTRUCTION DETAILS
8	CONSTRUCTION AREA SIGNS
9-14	MOTORIST INFORMATION PLAN
15	PAVEMENT DELINEATION AND SIGN DETAILS
16	PAVEMENT DELINEATION AND SIGN QUANTITIES
17-21	SUMMARY OF QUANTITIES
22-29	ELECTRICAL PLANS
30-64	REVISED STANDARD PLANS

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

STATE OF CALIFORNIA **ACNHPI-005-6(345)457E**
DEPARTMENT OF TRANSPORTATION
PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY
IN SAN JOAQUIN COUNTY
IN AND NEAR LATHROP
FROM TOM PAINE SLOUGH BRIDGE
TO LATHROP ROAD UNDERCROSSING

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010



PROJECT MANAGER
ALVIN MANGINDIN

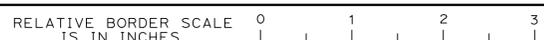
DESIGN MANAGER
ALVIN MANGINDIN

PROJECT ENGINEER
 REGISTERED CIVIL ENGINEER
 DATE: 6/2/15
 Exp. 6/30/17
 CIVIL
 STATE OF CALIFORNIA

October 26, 2015
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

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

NO SCALE



USERNAME => s120300
DGN FILE => a1c990ab001.dgn

CONTRACT No.	10-1C9904
PROJECT ID	1014000190

DATE PLOTTED => 08-FEB-2016
TIME PLOTTED => 10:40

NOTES:

1. DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
2. THE LOCATIONS OF WORK ARE FLEXIBLE AND MAY BE ADJUSTED TO MITIGATE ANY CONFLICTS WITH EXISTING UTILITY FACILITIES. EXISTING UTILITY FACILITIES HAVE NOT BEEN INCLUDED ON THESE PLANS.
3. SEE SUMMARY OF QUANTITIES SHEETS FOR REPAIR FAILED AREA DIMENSIONS AND LOCATIONS.
4. SEE SUMMARY OF QUANTITIES SHEETS FOR LOCATIONS OF PLACE HMA DIKE, CAP AC DIKE, AND MGS.

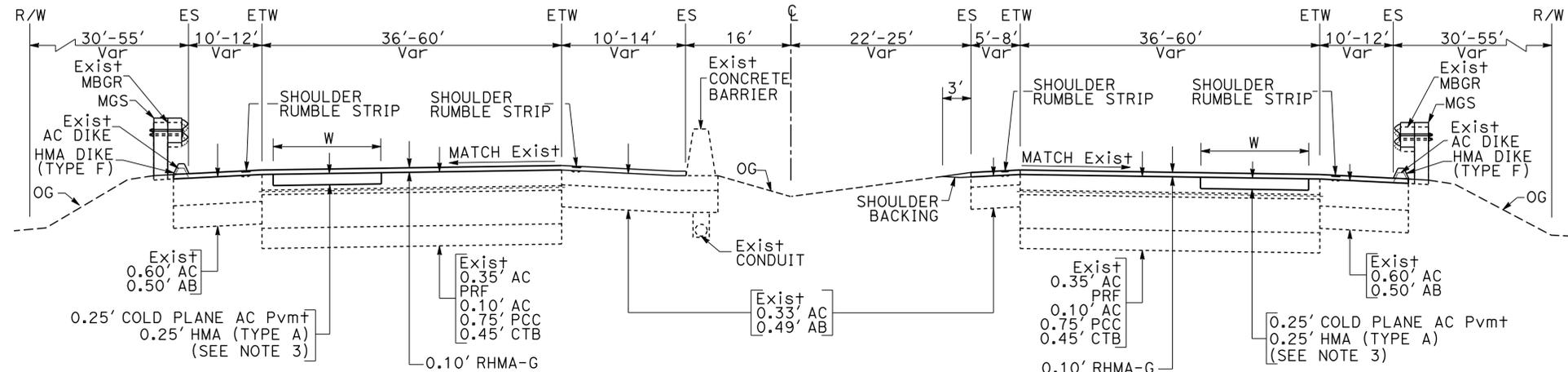
ABBREVIATIONS:

RHMA-G - RUBBERIZED HOT MIX ASPHALT (GAP GRADED)

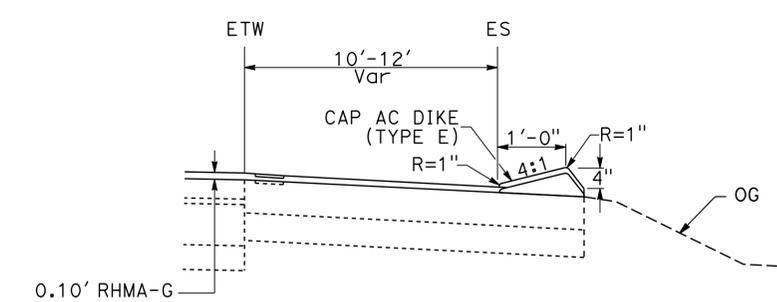
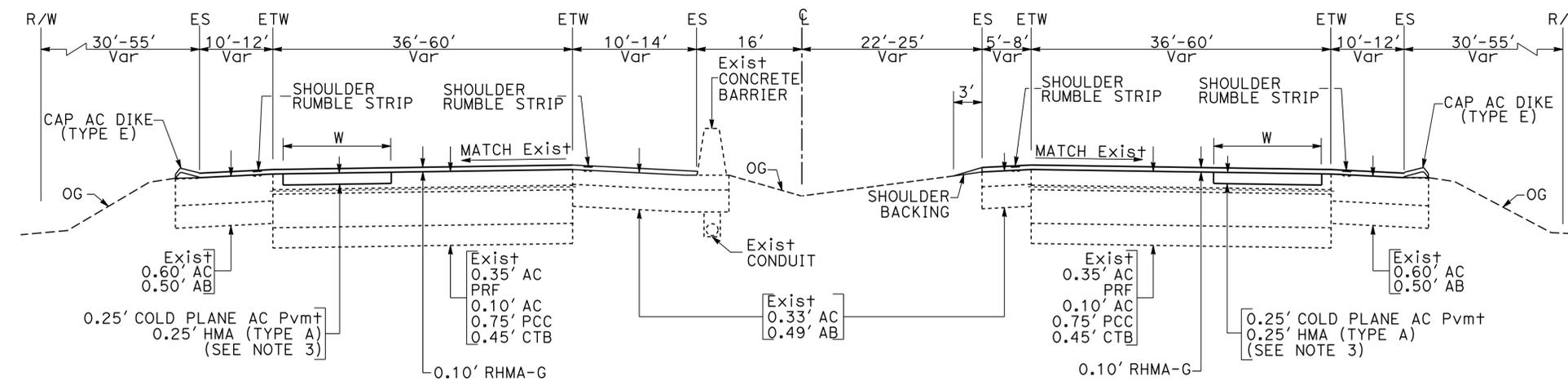
PAVEMENT CLIMATE REGION
INLAND VALLEY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	2	64

REGISTERED CIVIL ENGINEER DATE 6/2/15
 JOSE A. ALICEA II
 No. 64817
 Exp. 6/30/17
 CIVIL
 STATE OF CALIFORNIA
 PLANS APPROVAL DATE 10-26-15
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



MGS LOCATIONS



CAP AC DIKE

SOUTHBOUND

PM R12.4/R17.5
ROUTE 5

NORTHBOUND

TYPICAL CROSS SECTIONS

NO SCALE

X-1



JOHANNA OAMILDA
 JOSE A. ALICEA II
 ALVIN MANGINDIN
 REVISIONS: 10-20-15 TIME PLOTTED => 09:40

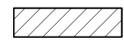
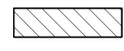
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE

FUNCTIONAL SUPERVISOR: ALVIN MANGINDIN
 DESIGNED BY: JOHANNA OAMILDA
 CHECKED BY: JOSE A. ALICEA II
 REVISIONS:
 JO: 07/15/15
 REVISED BY: DATE REVISED

NOTE:

THE LOCATIONS OF WORK ARE FLEXIBLE AND MAY BE ADJUSTED TO MITIGATE ANY CONFLICTS WITH EXISTING UTILITY FACILITIES. EXISTING UTILITY FACILITIES HAVE NOT BEEN INCLUDED ON THESE PLANS.

LEGEND:

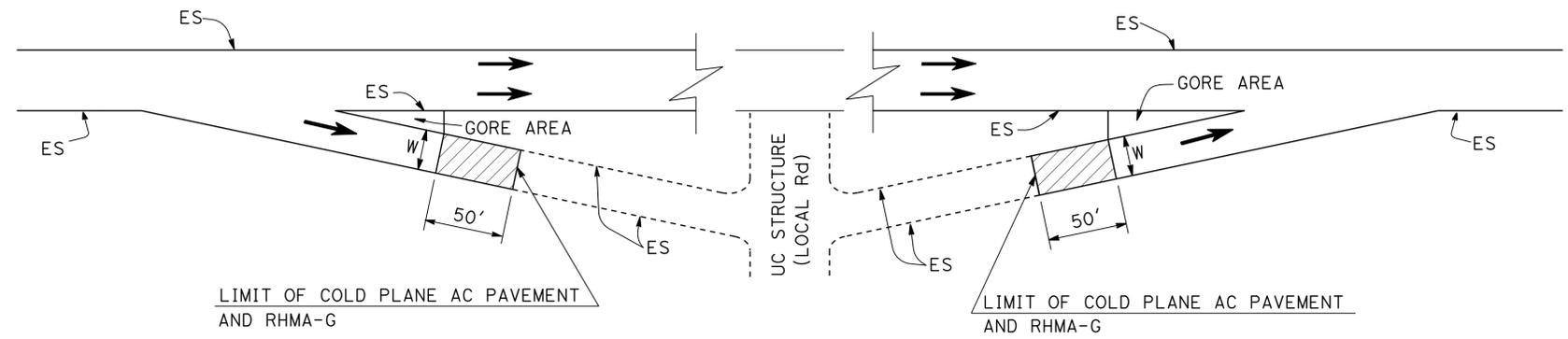
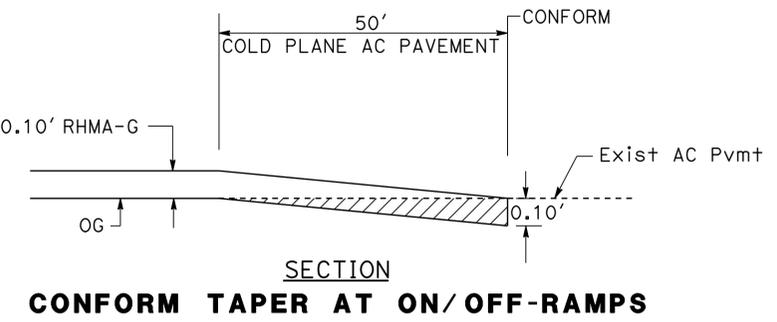
-  - COLD PLANE AC PAVEMENT RHMA-G
-  - COLD PLANE AC PAVEMENT HMA (TYPE A)

ABBREVIATION:

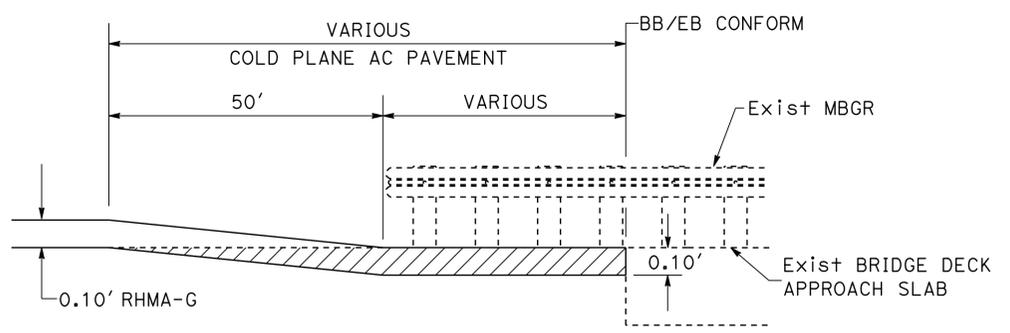
RHMA-G - RUBBERIZED HOT MIX ASPHALT (GAP GRADED)

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	3	64

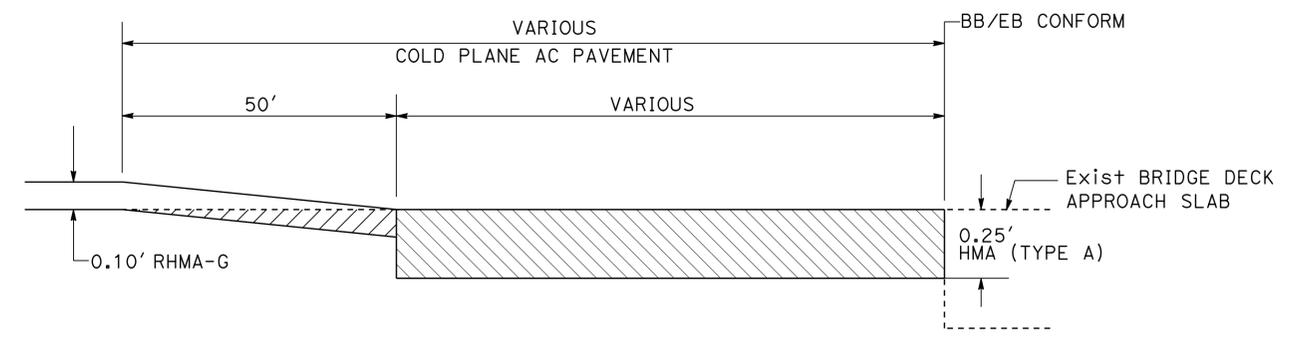
REGISTERED CIVIL ENGINEER: *JAALICEA II* DATE: 6/2/15
 PLANS APPROVAL DATE: 10-26-15
 REGISTERED PROFESSIONAL ENGINEER: JOSE A. ALICEA II No. 64817 Exp. 6/30/17 CIVIL
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



SEE SUMMARY OF QUANTITIES (CONFORM TAPER QUANTITIES TABLE)
CONFORM TAPER AT ON/OFF-RAMPS



SEE SUMMARY OF QUANTITIES (CONFORM TAPER QUANTITIES TABLE)
CONFORM TAPER AT BRIDGE DECK APPROACH SLAB



SEE SUMMARY OF QUANTITIES (CONFORM TAPER QUANTITIES TABLE AND REPAIR FAILED AREAS TABLE)
CONFORM TAPER AT BRIDGE DECK APPROACH SLAB WITH REPAIR FAILED AREA

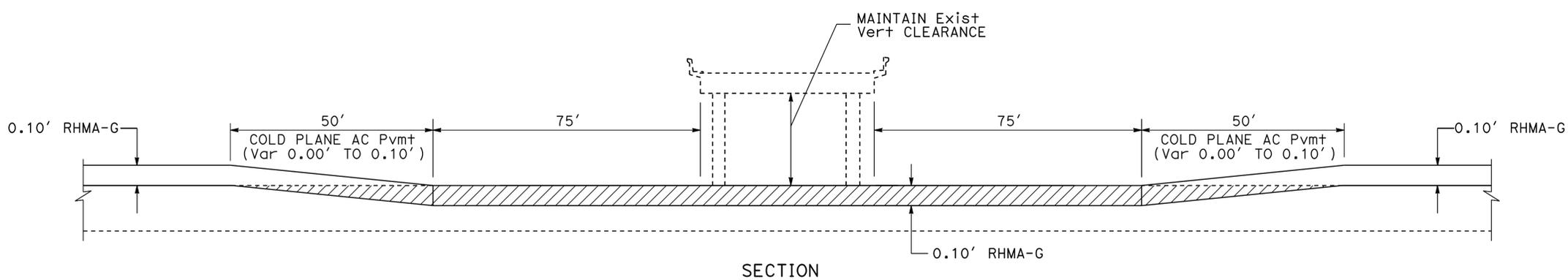
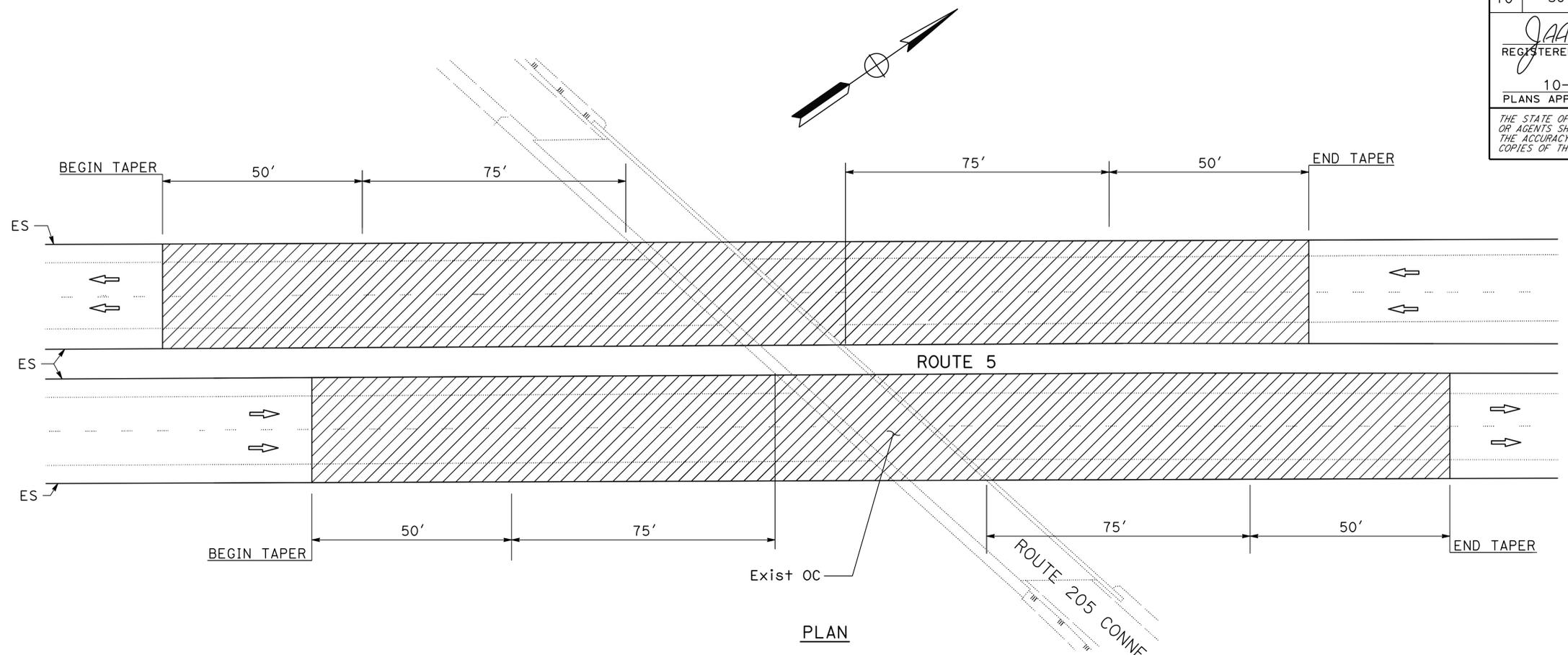
CONSTRUCTION DETAILS

NO SCALE

C-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	4	64

REGISTERED CIVIL ENGINEER DATE 6/2/15
 JOSE A. ALICEA II
 No. 64817
 Exp. 6/30/17
 CIVIL
 STATE OF CALIFORNIA
 PLANS APPROVAL DATE 10-26-15
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



OVERCROSSING PAVEMENT TRANSITION TAPER
 ROUTE 5/205 CONNECTOR SEPARATION PM R12.62

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 MAINTENANCE

FUNCTIONAL SUPERVISOR	ALVIN MANGINDIN
CALCULATED-DESIGNED BY	CHECKED BY
JHOANNA OAMILDA	JOSE A. ALICEA II
REVISED BY	DATE REVISED
JO	07/15/15

USERNAME => s120300
 DGN FILE => a1c990ga002.dgn

RELATIVE BORDER SCALE IS IN INCHES

UNIT 2593

PROJECT NUMBER & PHASE

10140001901

CONSTRUCTION DETAILS
 NO SCALE
C-2

LAST REVISION DATE PLOTTED => 29-JAN-2016
 TIME PLOTTED => 09:40

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	5	64

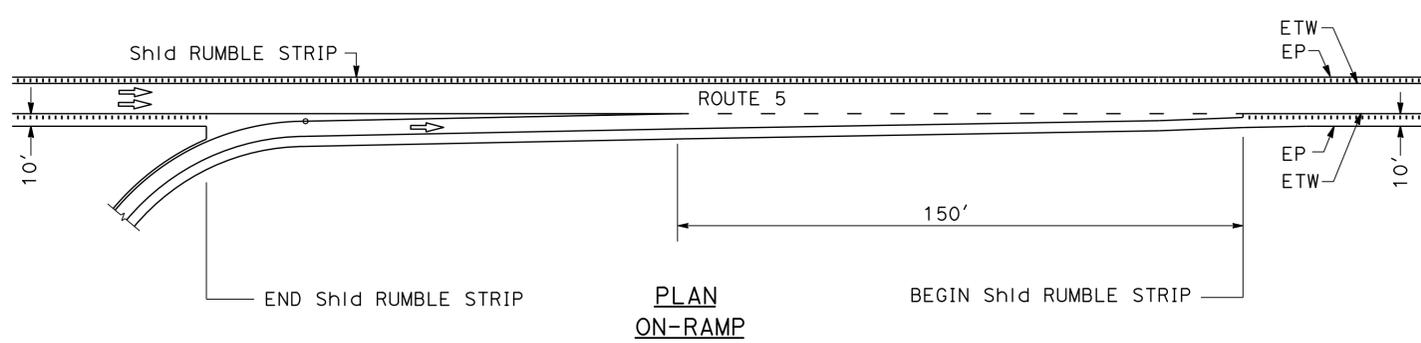
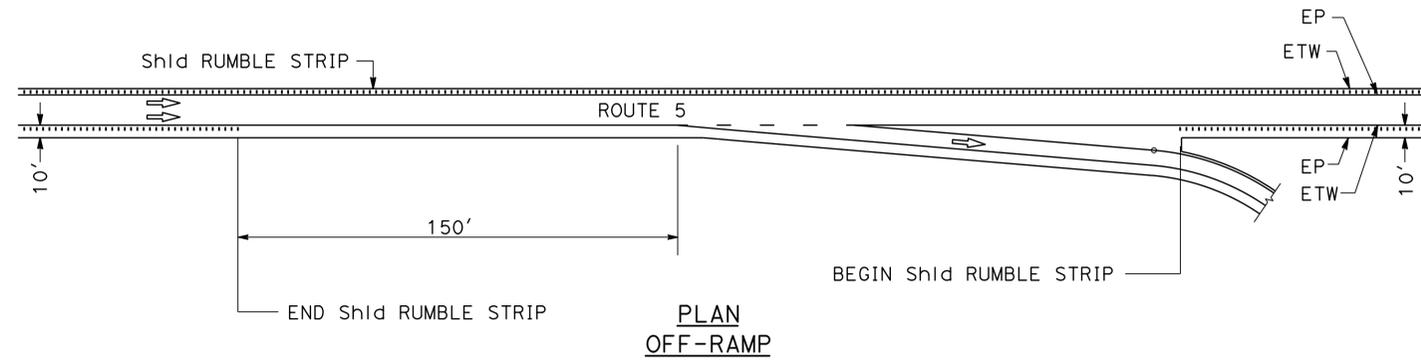
REGISTERED CIVIL ENGINEER	DATE
JOSE A. ALICEA II	6/2/15
No. 64817	
Exp. 6/30/17	
CIVIL	

10-26-15
PLANS APPROVAL DATE

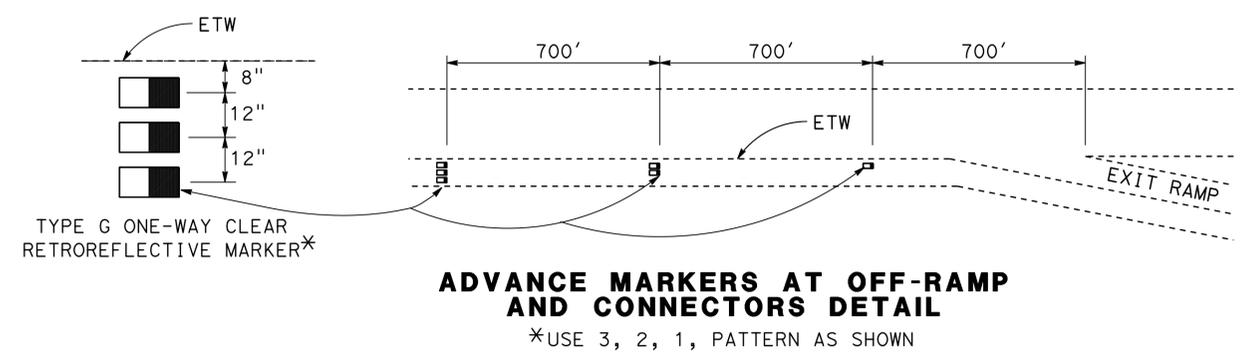
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES (THIS SHEET ONLY):

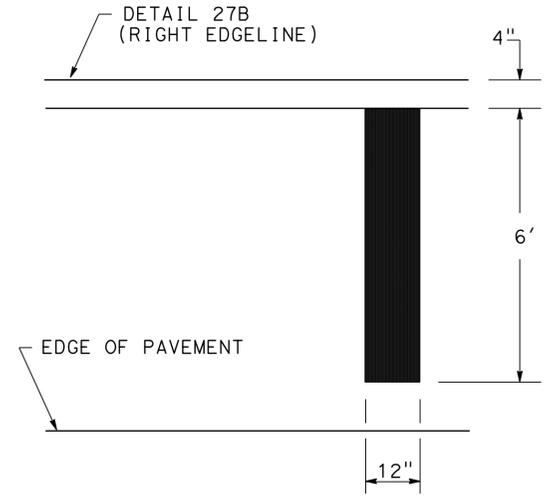
- AIRCRAFT PATROL PAVEMENT MARKING SHALL BE PLACED ON THE SHOULDER PERPENDICULAR TO RIGHT EDGELINE.
- ALL MARKINGS FOR AIRCRAFT PATROL DETAIL SHALL BE WHITE.



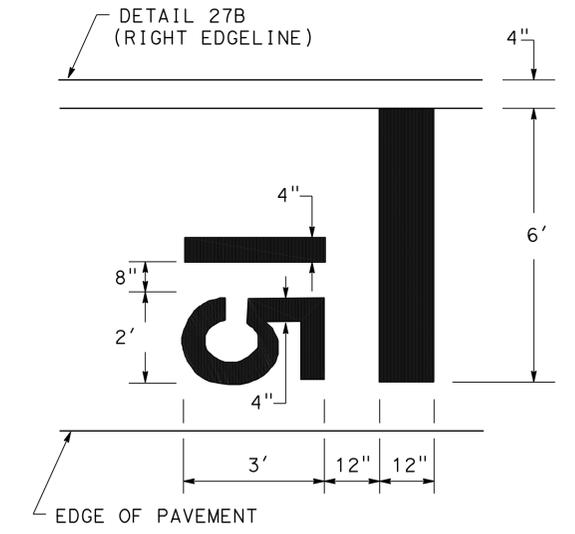
RUMBLE STRIP DETAILS AT ON/OFF-RAMPS



ADVANCE MARKERS AT OFF-RAMP AND CONNECTORS DETAIL
*USE 3, 2, 1, PATTERN AS SHOWN



AREA = 6 SQFT
AIRCRAFT PATROL PAVEMENT MARKING AT POST MILE MARKERS 13,14,16 AND 17 ON Rte 5 NB OUTSIDE SHOULDER



MARK LINE AREA = 6 SQFT
NUMBERING AREA = 3.75 SQFT
Rte 5 NB-PM 15.0

AIRCRAFT PATROL PAVEMENT MARKING DETAILS

CONSTRUCTION DETAILS

NO SCALE

C-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - MAINTENANCE

FUNCTIONAL SUPERVISOR: ALVIN MANGINDIN

CHECKED BY: JOSE A. ALICEA II

REVISOR: JO

DATE REVISED: 07/15/15

LAST REVISION DATE PLOTTED => 29-JAN-2016
10-20-15 TIME PLOTTED => 09:40

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	6	64

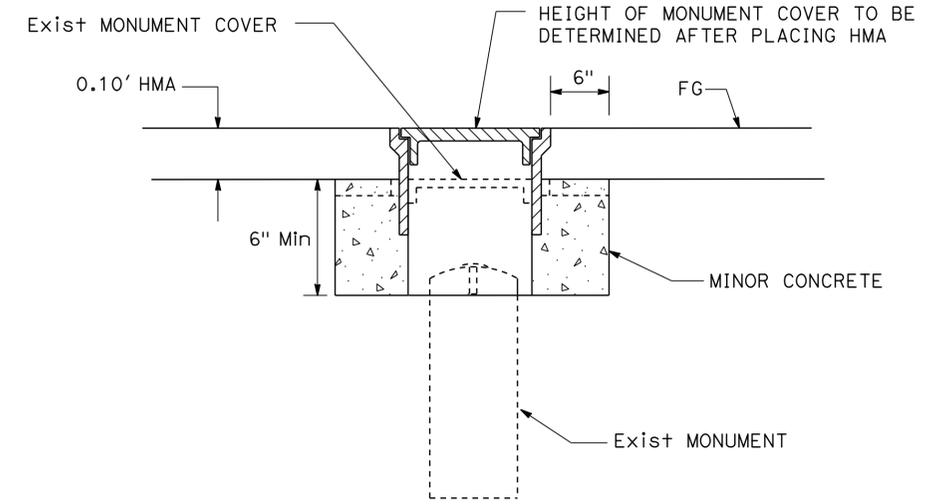
<i>JAALICEA II</i>	6/2/15
REGISTERED CIVIL ENGINEER	DATE
10-26-15	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER	JOSE A. ALICEA II
No.	64817
Exp.	6/30/17
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.

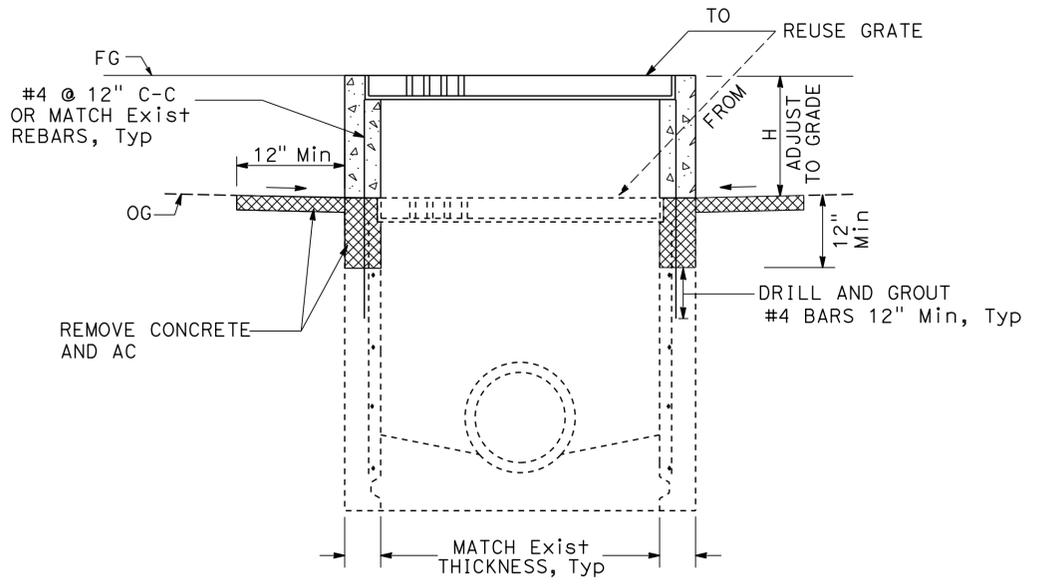
LEGEND (THIS SHEET ONLY):

 - SCUPPER

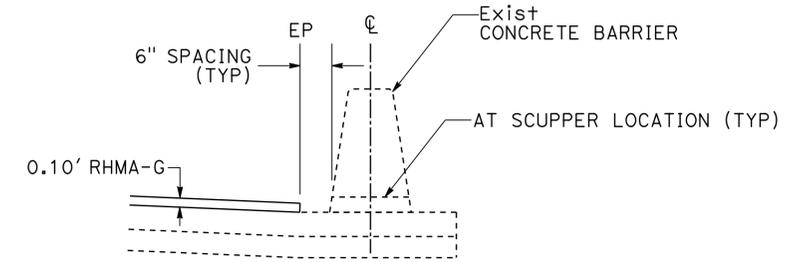


SEE SUMMARY OF QUANTITIES (ADJUST MONUMENT COVER)
SURVEY MONUMENT

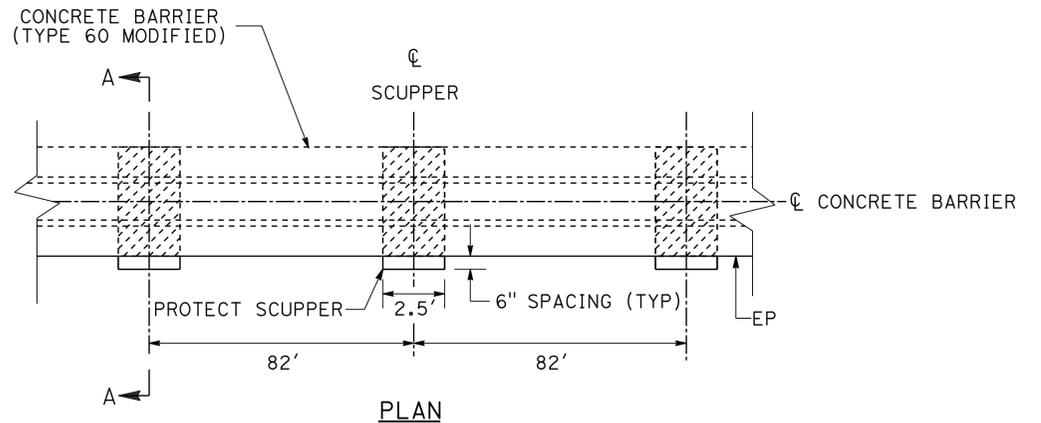
ADJUST MONUMENT COVER TO GRADE



SEE SUMMARY OF QUANTITIES (ADJUST FRAME AND GRATE TO GRADE)
ADJUST FRAME AND GRATE TO GRADE



SECTION A-A



PLAN

**CONCRETE BARRIER (TYPE 60 MODIFIED)
PAVING AT SCUPPER**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
MAINTENANCE

JO
07/15/15

REVISOR
DATE

JHOANNA OAMILDA
JOSE A. ALICEA II

CALCULATED-
DESIGNED BY
CHECKED BY

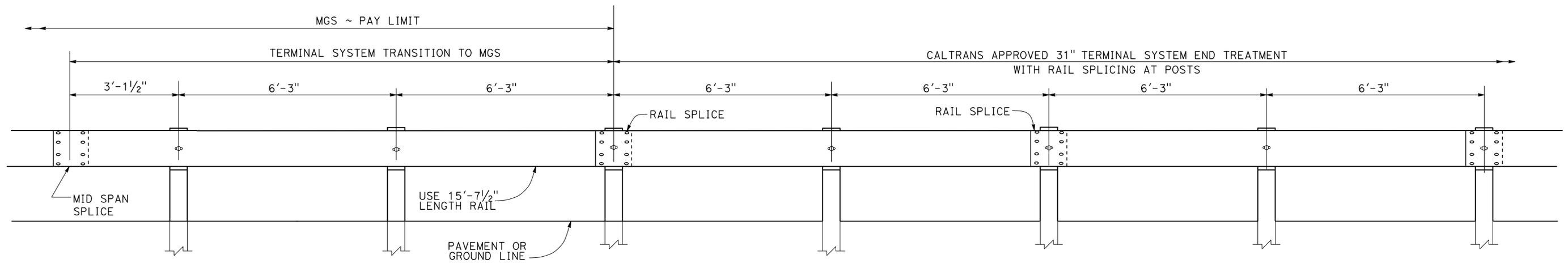
FUNCTIONAL SUPERVISOR
ALVIN MANGINDIN

10-20-15
DATE PLOTTED => 29-JAN-2016
TIME PLOTTED => 09:40

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	7	64

REGISTERED CIVIL ENGINEER **JOSE A. ALICEA II** DATE 6/2/15
 No. 64817 Exp. 6/30/17
 PLANS APPROVAL DATE 10-26-15
 REGISTERED PROFESSIONAL ENGINEER
 STATE OF CALIFORNIA
 CIVIL
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE
 FUNCTIONAL SUPERVISOR ALVIN MANGINDIN
 CALCULATED/DESIGNED BY
 CHECKED BY
 JHOANNA OAMILDA
 JOSE A. ALICEA II
 REVISED BY
 DATE REVISED
 JO
 07/15/15



**TRANSITION DETAIL FOR 31" TERMINAL SYSTEM END TREATMENT
 WITH RAIL SPLICING AT POSTS TO MIDWEST GUARDRAIL SYSTEM**

CONSTRUCTION DETAILS
 NO SCALE
C-5

LAST REVISION | DATE PLOTTED => 29-JAN-2016
 10-20-15 | TIME PLOTTED => 09:40

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	8	64

REGISTERED CIVIL ENGINEER DATE 6/2/15
 JOSE A. ALICEA II
 No. 64817
 Exp. 6/30/17
 CIVIL
 STATE OF CALIFORNIA

10-26-15
 PLANS APPROVAL DATE

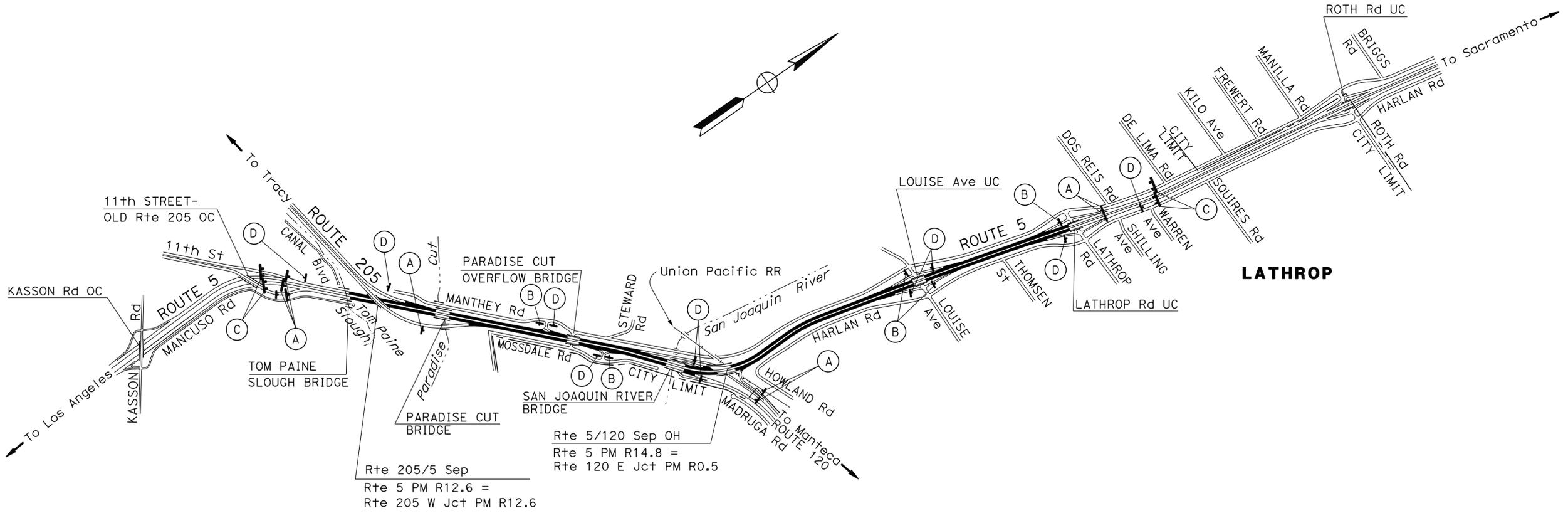
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:

1. EXACT SIGN LOCATIONS TO BE DETERMINED BY THE ENGINEER.
2. FOR ADDITIONAL CONSTRUCTION AREA SIGNS, SEE MOTORIST INFORMATION PLAN SHEETS.

STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN (X)	SIGN CODE	PANEL SIZE	SIGN MESSAGE	NUMBER OF POSTS AND SIZE	NUMBER OF SIGNS
A	W20-1	48" x 48"	ROAD WORK AHEAD	1 - 6" x 6"	8
B	W20-1	36" x 36"	ROAD WORK AHEAD	1 - 4" x 6"	5
C	G20-1	90" x 48"	ROAD WORK NEXT 5 MILES	2 - 6" x 6"	4
D	G20-2	48" x 24"	END ROAD WORK	1 - 4" x 6"	10



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 MAINTENANCE
 FUNCTIONAL SUPERVISOR ALVIN MANGINDIN
 CHECKED BY JOSE A. ALICEA II
 DESIGNED BY JHOANNA OAMILDA
 REVISIONS: 07/15/15
 REVISED BY JO

CONSTRUCTION AREA SIGNS

NO SCALE

CS-1

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	9	64

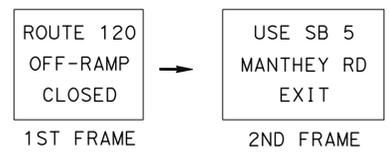
REGISTERED CIVIL ENGINEER DATE 6/2/15
 JOSE A. ALICEA II
 No. 64817
 Exp. 6/30/17
 CIVIL
 STATE OF CALIFORNIA

10-26-15
 PLANS APPROVAL DATE

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

NOTES:

1. EXACT SIGN LOCATIONS TO BE DETERMINED BY THE ENGINEER.
2. * ADVANCED SPECIAL MESSAGE ADVISORY SIGN AT RAMP.
3. WHEN DETOUR IS NOT IN USE, COVER ALL CONFLICTING ROADSIDE SIGNS EXCEPT SC6-4.
4. FOR ADDITIONAL CONSTRUCTION AREA SIGNS, SEE CONSTRUCTION AREA SIGNS SHEET AND MI SHEETS.
5. CALIFORNIA SIGN CODES ARE DESIGNATED BY (CA), OTHERWISE FEDERAL (MUTCD) CODES ARE SHOWN.
6. DURING THE CONNECTOR CLOSURE, THE PCMS SHOULD READ:



LEGEND:

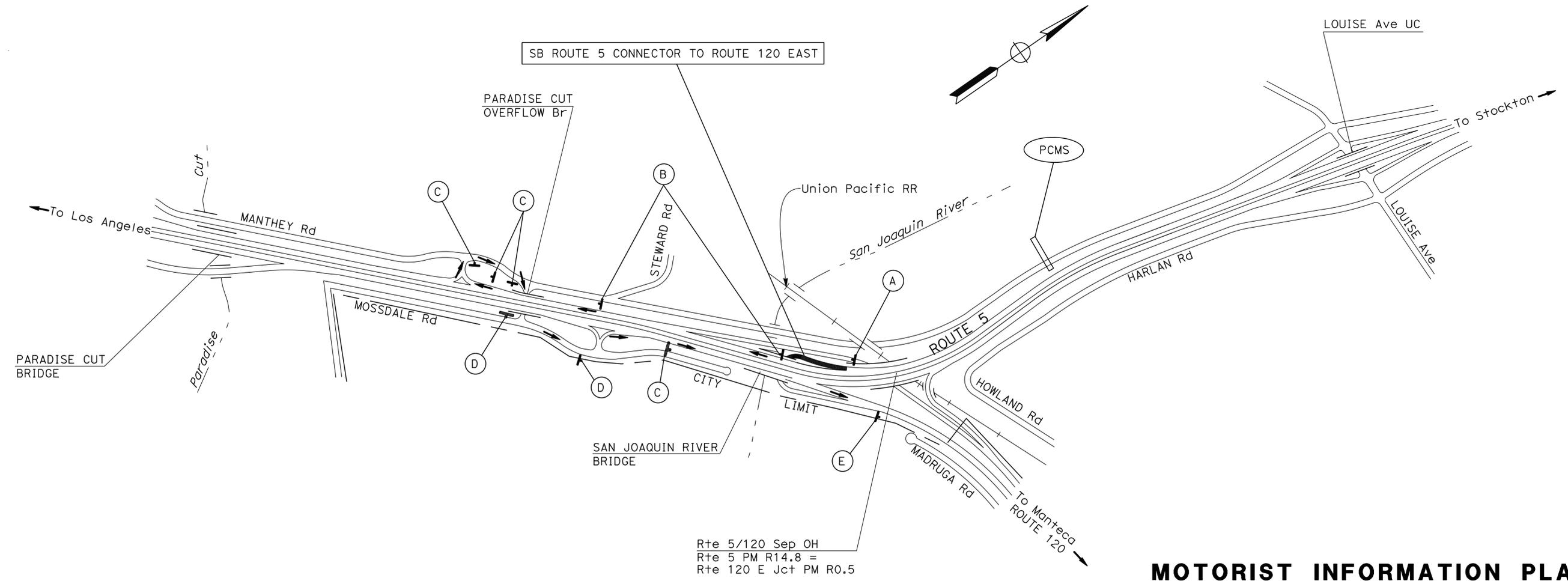
- Construction Area Sign (Portable)
- Portable Changeable Message Sign (PCMS)
- Detour Route Traffic Flow

TRAFFIC HANDLING CONSTRUCTION AREA SIGNS

SIGN (X)	SIGN CODE	PANEL SIZE	SIGN MESSAGE	No. OF POSTS AND SIZE	No. OF SIGNS
(A)*	SC6-4(CA)	48" x 60"	"RAMP CLOSED INFO"	1 - 6" x 6"	1
(B)	M4-8	24" x 12"	DETOUR	1 - 4" x 4"	2
	M4-5	24" x 12"	TO		
	M3-3	24" x 12"	EB		
(C)	G27-1(5)(CA)	24" x 24"	"120" SHIELD	1 - 4" x 4"	4
	M4-10(R+)	48" x 18"	DETOUR (ARROW)		
(D)	M4-10(L+)	48" x 18"	DETOUR (ARROW)	1 - 4" x 4"	2
	M4-5	24" x 12"	TO		
	M3-3	24" x 12"	EB		
(E)	G27-1(5)(CA)	24" x 24"	"120" SHIELD	1 - 4" x 4"	1
	M4-8a	24" x 18"	END DETOUR		

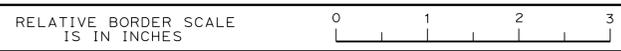
TRAFFIC DETOUR PLAN

1. SB ROUTE 5 OFF-RAMP TO ROUTE 120 EAST CLOSED
2. CONTINUE ON SB ROUTE 5
3. TAKE SB ROUTE 5 MANTHEY ROAD OFF-RAMP
4. TAKE RIGHT ONTO MANTHEY ROAD
5. TAKE RIGHT ONTO MOSSDALE ROAD
6. TAKE LEFT ONTO MOSSDALE ROAD
7. TAKE LEFT ONTO NB ROUTE 5 ON-RAMP FROM MOSSDALE ROAD
8. CONTINUE ON NB ROUTE 5
9. TAKE RIGHT ONTO EB ROUTE 120 FROM NB ROUTE 5



MOTORIST INFORMATION PLAN
(SB ROUTE 5 CONNECTOR TO ROUTE 120 EAST CLOSED)
 NO SCALE
MI-1

APPROVED FOR MOTORIST INFORMATION WORK ONLY



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 MAINTENANCE
 FUNCTIONAL SUPERVISOR: ALVIN MANGINDIN
 CALCULATED/DESIGNED BY: JOSE A. ALICEA II
 CHECKED BY: JOSE A. ALICEA II
 REVISED BY: JOSE A. ALICEA II
 DATE REVISED: 07/15/15
 JOSE A. ALICEA II
 07/15/15

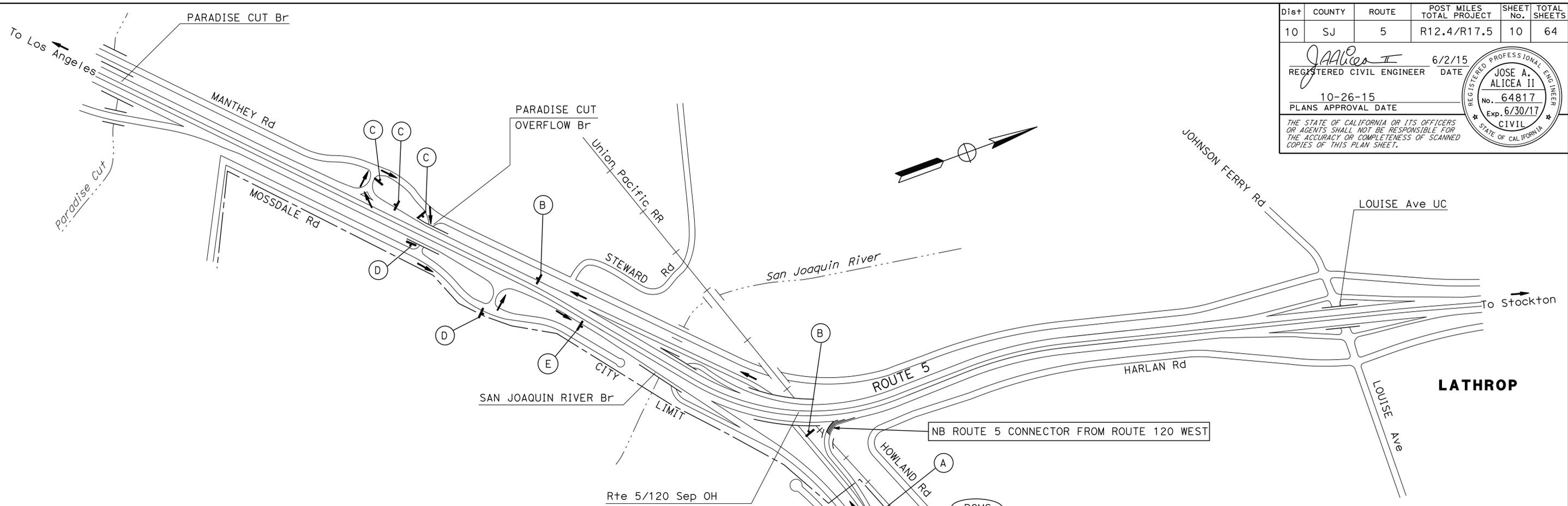
LAST REVISION DATE PLOTTED => 29-JAN-2016
 10-20-15 TIME PLOTTED => 09:40

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	10	64

REGISTERED CIVIL ENGINEER DATE 6/2/15
 JOSE A. ALICEA II
 No. 64817
 Exp. 6/30/17
 CIVIL
 STATE OF CALIFORNIA

10-26-15
 PLANS APPROVAL DATE

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



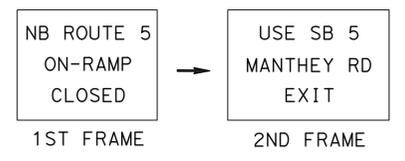
Rte 5/120 Sep OH
 Rte 5 PM R14.8 =
 Rte 120 E Jct PM R0.5

TRAFFIC HANDLING CONSTRUCTION AREA SIGNS

SIGN (X)	SIGN CODE	PANEL SIZE	SIGN MESSAGE	No. OF POSTS AND SIZE	No. OF SIGNS
(A)*	SC6-4(CA)	48" x 60"	"RAMP CLOSED INFO"	1 - 6" x 6"	1
(B)	M4-8	24" x 12"	DETOUR	1 - 4" x 4"	2
	M4-5	24" x 12"	TO		
	M3-3	24" x 12"	NORTH		
(C)	G27-1(5)(CA)	24" x 24"	"5" SHIELD	1 - 4" x 4"	3
	M4-10(R+)	48" x 18"	DETOUR (ARROW)		
	M4-10(L+)	48" x 18"	DETOUR (ARROW)		
(D)	M4-5	24" x 12"	TO	1 - 4" x 4"	2
	M3-3	24" x 12"	NORTH		
	G27-1(5)(CA)	24" x 24"	"5" SHIELD		
(E)	M4-8a	24" x 18"	END DETOUR	1 - 4" x 4"	1

NOTES (THIS SHEET ONLY):

- FOR ADDITIONAL CONSTRUCTION AREA SIGNS, SEE CONSTRUCTION AREA SIGNS SHEET AND MI SHEETS.
- DURING THE CONNECTOR CLOSURE, THE PCMS SHOULD READ:



TRAFFIC DETOUR PLAN

- NB ROUTE 5 ON-RAMP FROM ROUTE 120 CLOSED
- TAKE SB ROUTE 5
- TAKE MANTHEY ROAD OFF-RAMP
- TURN RIGHT ONTO MANTHEY ROAD
- TURN RIGHT TO MOSSDALE ROAD
- TURN LEFT ONTO MOSSDALE ROAD
- TAKE NB ON-RAMP FROM MOSSDALE ROAD TO NB ROUTE 5

MOTORIST INFORMATION PLAN
(NB ROUTE 5 CONNECTOR FROM ROUTE 120 WEST CLOSED)
MI-2

APPROVED FOR MOTORIST INFORMATION WORK ONLY

NO SCALE

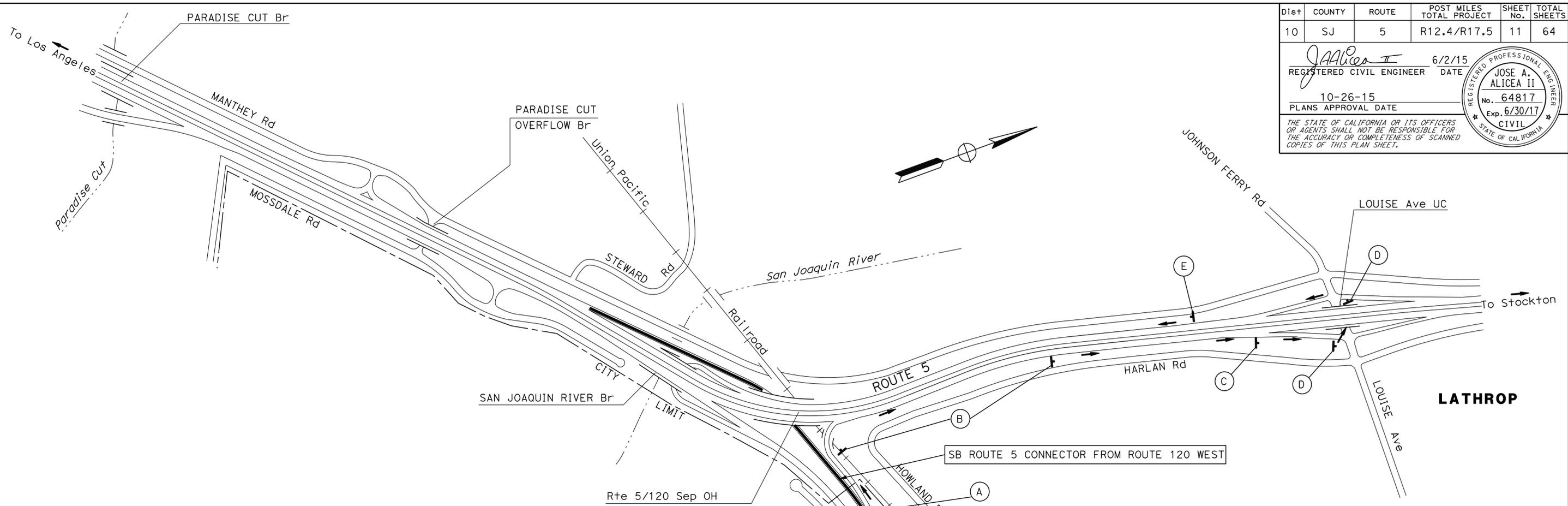
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 MAINTENANCE
 FUNCTIONAL SUPERVISOR: ALVIN MANGINDIN
 CALCULATED/DESIGNED BY: JOSE A. ALICEA II
 CHECKED BY: JOSE A. ALICEA II
 REVISED BY: JOSE A. ALICEA II
 DATE REVISED: 07/15/15
 DESIGNED BY: JOSE A. ALICEA II
 CHECKED BY: JOSE A. ALICEA II

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	11	64

REGISTERED CIVIL ENGINEER
 JOSE A. ALICEA II
 No. 64817
 Exp. 6/30/17
 CIVIL
 STATE OF CALIFORNIA

6/2/15
 DATE
 10-26-15
 PLANS APPROVAL DATE

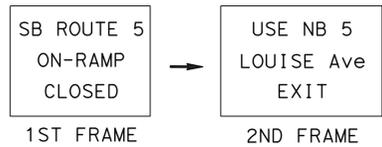
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TRAFFIC HANDLING CONSTRUCTION AREA SIGNS

SIGN (X)	SIGN CODE	PANEL SIZE	SIGN MESSAGE	No. OF POSTS AND SIZE	No. OF SIGNS
(A)*	SC6-4(CA)	48" x 60"	"RAMP CLOSED INFO"	1 - 6" x 6"	1
(B)	M4-8	24" x 12"	DETOUR	1 - 4" x 4"	2
	M4-5	24" x 12"	TO		
	M3-3	24" x 12"	SOUTH		
(C)	G27-1(5)(CA)	24" x 24"	"5" SHIELD	1 - 4" x 4"	1
	M4-10(R+)	48" x 18"	DETOUR (ARROW)		
	M4-10(L+)	48" x 18"	DETOUR (ARROW)		
(D)	M4-5	24" x 12"	TO	1 - 4" x 4"	2
	M3-3	24" x 12"	SOUTH		
	G27-1(5)(CA)	24" x 24"	"5" SHIELD		
(E)	M4-8a	24" x 18"	END DETOUR	1 - 4" x 4"	1

- NOTES (THIS SHEET ONLY):**
- FOR ADDITIONAL CONSTRUCTION AREA SIGNS, SEE CONSTRUCTION AREA SIGNS SHEET AND MI SHEETS.
 - DURING THE CONNECTOR CLOSURE, THE PCMS SHOULD READ:



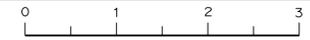
TRAFFIC DETOUR PLAN

- SB ROUTE 5 ON-RAMP FROM ROUTE 120 CLOSED
- TAKE NB ROUTE 5 ON-RAMP FROM ROUTE 120
- TAKE LOUISE AVENUE OFF-RAMP
- TURN LEFT ONTO LOUISE AVENUE
- TAKE SB ON-RAMP FROM LOUISE AVENUE TO SB ROUTE 5

MOTORIST INFORMATION PLAN
(SB ROUTE 5 CONNECTOR FROM ROUTE 120 WEST CLOSED)
MI-3

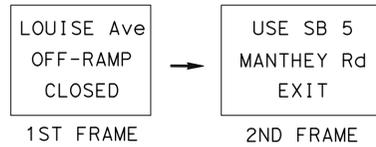
APPROVED FOR MOTORIST INFORMATION WORK ONLY

NO SCALE



NOTES (THIS SHEET ONLY):

- FOR ADDITIONAL CONSTRUCTION AREA SIGNS, SEE CONSTRUCTION AREA SIGNS SHEET AND MI SHEETS.
- DURING THE ROUTE 5 CLOSURE, THE PCMS SHOULD READ:

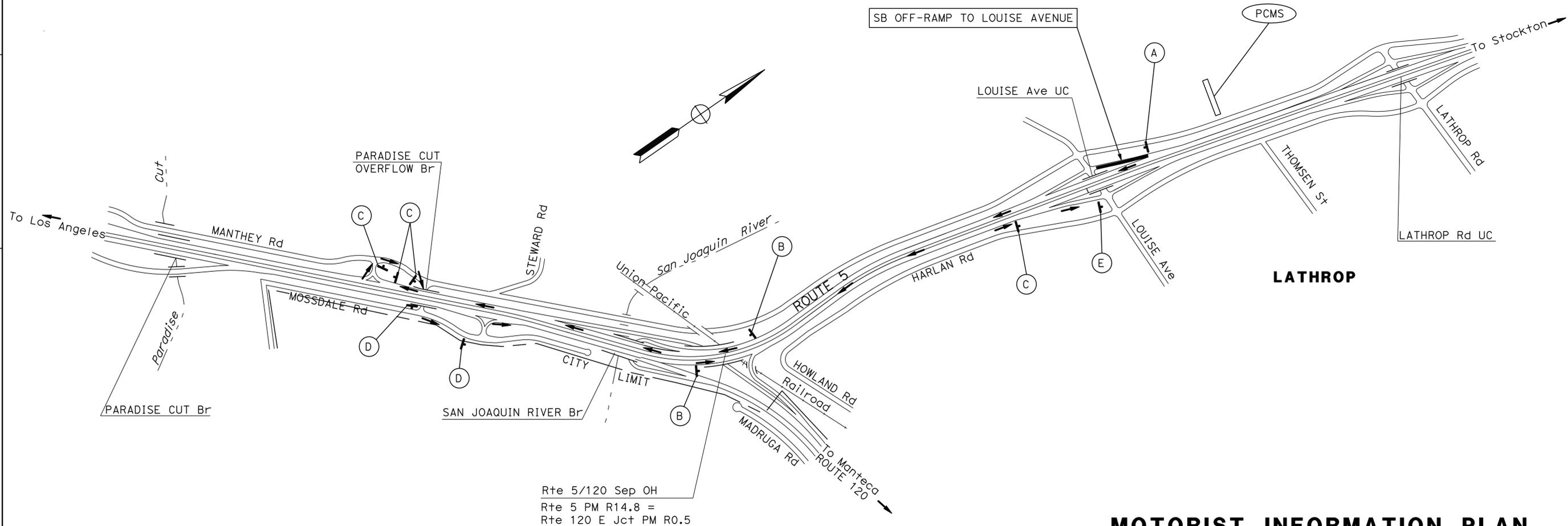


TRAFFIC HANDLING CONSTRUCTION AREA SIGNS

SIGN (X)	SIGN CODE	PANEL SIZE	SIGN MESSAGE	No. OF POSTS AND SIZE	No. OF SIGNS
(A)*	SC6-4(CA)	48" x 60"	"RAMP CLOSED INFO"	1 - 6" x 6"	1
(B)	M4-8	24" x 12"	DETOUR	1 - 4" x 4"	2
(C)	M4-10(R+)	48" x 18"	DETOUR (ARROW)	1 - 4" x 4"	4
(D)	M4-10(L+)	48" x 18"	DETOUR (ARROW)	1 - 4" x 4"	2
(E)	M4-8a	24" x 18"	END DETOUR	1 - 4" x 4"	1

TRAFFIC DETOUR PLAN

- SB ROUTE 5 OFF-RAMP TO LOUISE AVENUE CLOSED
- CONTINUE ON SB ROUTE 5
- TAKE SB ROUTE 5 MANTHEY ROAD OFF-RAMP
- TURN RIGHT ONTO MANTHEY ROAD
- TURN RIGHT TO MOSSDALE ROAD
- TURN LEFT ONTO MOSSDALE ROAD
- TAKE NB ON-RAMP FROM MOSSDALE ROAD TO NB ROUTE 5
- CONTINUE ON NB ROUTE 5
- TAKE NB ROUTE 5 TO LOUISE AVENUE OFF-RAMP



Rte 5/120 Sep 0H
 Rte 5 PM R14.8 =
 Rte 120 E Jct PM R0.5

MOTORIST INFORMATION PLAN
(SB OFF-RAMP TO LOUISE AVENUE CLOSED)

NO SCALE

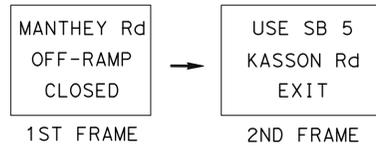
MI-4

APPROVED FOR MOTORIST INFORMATION WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 MAINTENANCE
 FUNCTIONAL SUPERVISOR: ALVIN MANGINDIN
 CALCULATED/DESIGNED BY: JOHANNA OAMILDA
 CHECKED BY: JOSE A. ALICEA II
 REVISED BY: JO
 DATE REVISED: 07/15/15

NOTES (THIS SHEET ONLY):

- FOR ADDITIONAL CONSTRUCTION AREA SIGNS, SEE CONSTRUCTION AREA SIGNS SHEET AND MI SHEETS.
- DURING THE ROUTE 5 CLOSURE, THE PCMS SHOULD READ:

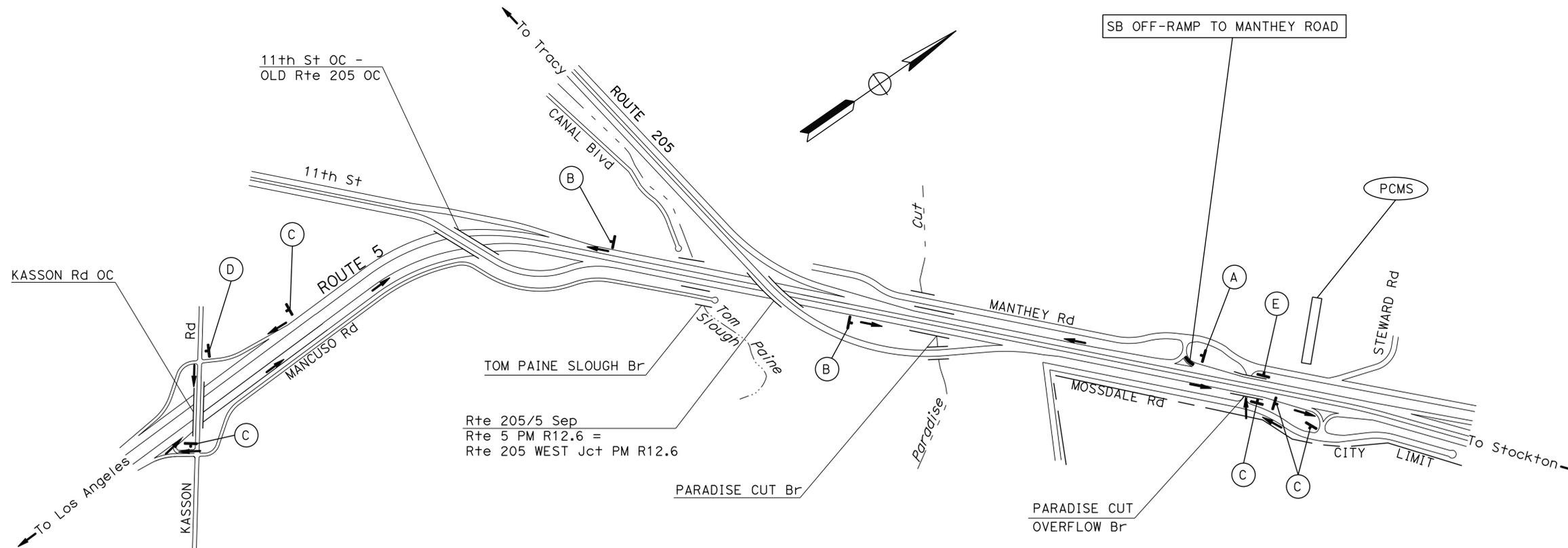


TRAFFIC HANDLING CONSTRUCTION AREA SIGNS

SIGN (X)	SIGN CODE	PANEL SIZE	SIGN MESSAGE	No. OF POSTS AND SIZE	No. OF SIGNS
(A)*	SC6-4(CA)	48" x 60"	"RAMP CLOSED INFO"	1 - 6" x 6"	1
(B)	M4-8	24" x 12"	DETOUR	1 - 4" x 4"	2
(C)	M4-10(R+)	48" x 18"	DETOUR (ARROW)	1 - 4" x 4"	5
(D)	M4-10(L+)	48" x 18"	DETOUR (ARROW)	1 - 4" x 4"	1
(E)	M4-8a	24" x 18"	END DETOUR	1 - 4" x 4"	1

TRAFFIC DETOUR PLAN

- SB ROUTE 5 OFF-RAMP TO MANTHEY ROAD CLOSED
- CONTINUE ON SB ROUTE 5
- TAKE SB ROUTE 5 KASSON ROAD OFF-RAMP
- TURN LEFT ONTO KASSON ROAD
- TAKE RIGHT ONTO NB ROUTE 5 ON-RAMP FROM KASSON ROAD
- CONTINUE ON NB ROUTE 5
- TAKE NB ROUTE 5 MOSSDALE ROAD OFF-RAMP
- TURN RIGHT ONTO MOSSDALE ROAD
- TURN RIGHT TO MANTHEY ROAD



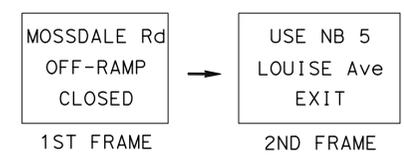
**MOTORIST INFORMATION PLAN
(SB OFF-RAMP TO MANTHEY ROAD CLOSED)**

APPROVED FOR MOTORIST INFORMATION WORK ONLY

NO SCALE

MI-5

NOTES (THIS SHEET ONLY):
 1. FOR ADDITIONAL CONSTRUCTION AREA SIGNS, SEE CONSTRUCTION AREA SIGNS SHEET AND MI SHEETS.
 2. DURING THE ROUTE 5 CLOSURE, THE PCMS SHOULD READ:

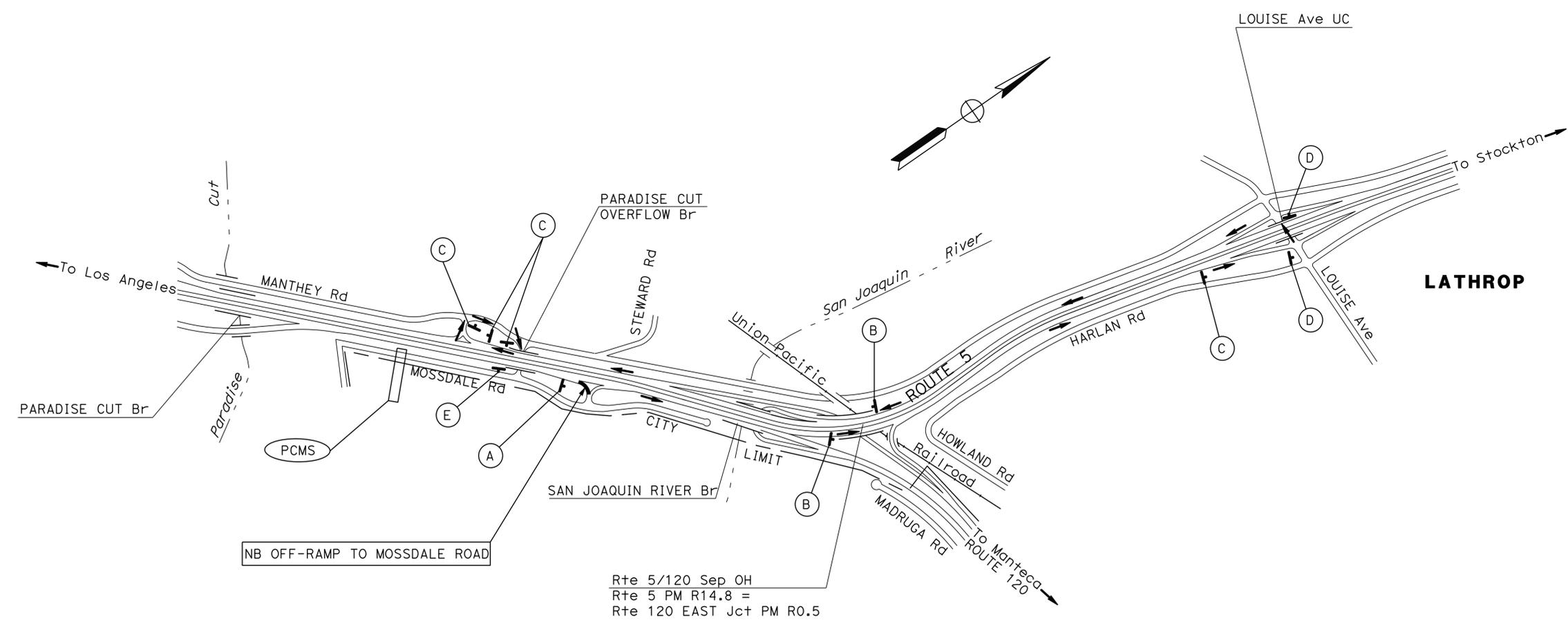


TRAFFIC HANDLING CONSTRUCTION AREA SIGNS

SIGN (X)	SIGN CODE	PANEL SIZE	SIGN MESSAGE	No. OF POSTS AND SIZE	No. OF SIGNS
(A)*	SC6-4(CA)	48" x 60"	"RAMP CLOSED INFO"	1 - 6" x 6"	1
(B)	M4-8	24" x 12"	DETOUR	1 - 4" x 4"	2
(C)	M4-10(R+)	48" x 18"	DETOUR (ARROW)	1 - 4" x 4"	4
(D)	M4-10(L+)	48" x 18"	DETOUR (ARROW)	1 - 4" x 4"	2
(E)	M4-8a	24" x 18"	END DETOUR	1 - 4" x 4"	1

TRAFFIC DETOUR PLAN

- NB ROUTE 5 OFF-RAMP TO MOSSDALE ROAD CLOSED
- CONTINUE ON NB ROUTE 5
- TAKE NB ROUTE 5 LOUISE AVENUE OFF-RAMP
- TURN LEFT ONTO LOUISE AVENUE
- TAKE LEFT ONTO SB ROUTE 5 ON-RAMP FROM LOUISE AVENUE
- CONTINUE ON SB ROUTE 5
- TAKE SB ROUTE 5 TO MANTHEY ROAD OFF-RAMP
- TURN RIGHT ONTO MANTHEY ROAD
- TURN RIGHT TO MOSSDALE ROAD



Rte 5/120 Sep OH
 Rte 5 PM R14.8 =
 Rte 120 EAST Jct PM R0.5

**MOTORIST INFORMATION PLAN
 (NB OFF-RAMP TO MOSSDALE ROAD CLOSED)**

NO SCALE

MI-6

APPROVED FOR MOTORIST INFORMATION WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - MAINTENANCE

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	15	64

<i>JAALICEA II</i>	6/2/15
REGISTERED CIVIL ENGINEER	DATE
10-26-15	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER	JOSE A. ALICEA II
No. 64817	
Exp. 6/30/17	
CIVIL	STATE OF CALIFORNIA

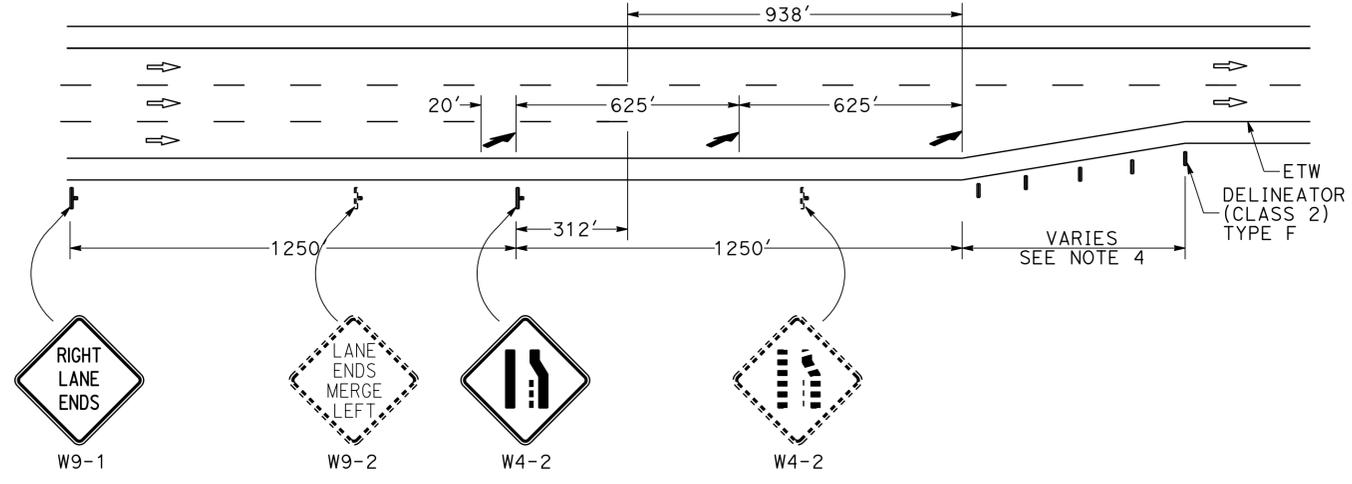
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:

1. THE LOCATIONS OF WORK ARE FLEXIBLE AND MAY BE ADJUSTED TO MITIGATE ANY CONFLICTS WITH EXISTING UTILITY FACILITIES. EXISTING UTILITY FACILITIES HAVE NOT BEEN INCLUDED ON THESE PLANS.
2. A W9-1 SIGN SHOULD BE USED IN CONJUNCTION WITH THE W4-2 SIGN.
3. LANE REDUCTION ARROWS ARE PLACED IN GROUPS OF THREE.
4. EXACT SIGN LOCATIONS TO BE DETERMINED BY THE ENGINEER.
5. DELINEATORS SHOULD BE SPACED APPROXIMATELY 200 FEET APART. THERE SHOULD BE A MINIMUM OF 3 DELINEATORS THROUGH THE LENGTH OF A LANE REDUCTION TRANSITION.

LEGEND:

- ⌵ - REMOVE ROADSIDE SIGN (WOOD POST)
- ▬ - DELINEATORS (CLASS 2) - TYPE F



PM R12.94/R13.13 (NB)
 PM R14.90/R14.97 (NB)
 PM R15.18/R15.38 (NB)

LANE-REDUCTION TRANSITION DETAIL

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE
 FUNCTIONAL SUPERVISOR: ALVIN MANGINDIN
 CALCULATED/DESIGNED BY: JOHANNA OAMILDA
 CHECKED BY: JOSE A. ALICEA II
 REVISED BY: JO
 DATE REVISED: 07/15/15

PAVEMENT DELINEATION AND SIGN DETAILS

NO SCALE

PDD-1

APPROVED FOR PAVEMENT DELINEATION AND SIGN WORK ONLY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	16	64

REGISTERED CIVIL ENGINEER DATE 6/2/15
 JOSE A. ALICEA II
 No. 64817
 Exp. 6/30/17
 CIVIL
 STATE OF CALIFORNIA
 10-26-15
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:

- EXACT LOCATION AND POSITION OF ROADSIDE SIGNS TO BE DETERMINED BY THE ENGINEER.
- * - INCLUDED ON MIDWEST GUARDRAIL SYSTEM QUANTITIES.

REMOVE PAVEMENT DELINEATION QUANTITIES

LOCATION	REMOVE THERMOPLASTIC TRAFFIC STRIPE					REMOVE THERMOPLASTIC PAVEMENT MARKING		REMOVE PAVEMENT MARKER
	DETAIL					TYPE VI ARROW	AIRCRAFT PATROL	
	8" WHITE							
	36	36A	37	38	38B	LF	SQFT	
PM R12.4/R17.5			12,524		1,932	336	37	5625
ON/OFF-RAMPS	7,616	10,244		2,460				1756
SUBTOTAL	7,616	10,244	12,524	2,460	1,932	336	37	7381
TOTAL	34,776					373		7381

PAVEMENT DELINEATION QUANTITIES

LOCATION	4" THERMOPLASTIC TRAFFIC STRIPE					8" THERMOPLASTIC TRAFFIC STRIPE					PAVEMENT MARKER (RETROREFLECTIVE)										THERMOPLASTIC PAVEMENT MARKING					
	YELLOW		WHITE			WHITE					TYPE C		TYPE G						TYPE H		TYPE VI ARROW	AIRCRAFT PATROL				
	DETAIL 25	DETAIL 25A	DETAIL 27B	BROKEN 17-7	BROKEN 36-12		DETAIL 36	DETAIL 36A	DETAIL 38	DETAIL 38B	BROKEN 12-3	DETAIL 37	DETAIL 14A	DETAIL 12	DETAIL 36	DETAIL 36A	DETAIL 37	DETAIL 38	DETAIL 38B	ADVANCE EXIT RAMP			DETAIL 25	DETAIL 25A		
				DETAIL 8	DETAIL 12	DETAIL 14A															DETAIL 37	EA			SQFT	
LF		LF	LF	LF	LF					EA										SQFT						
PM R12.4/R17.5	53,692		53,692		121,372	2,736					6262		76	2603									1136		378	37
ON/OFF-RAMPS		2,030	2,080	2253	8,849		3,808	5,122	1,230	966		420		189	324	109	4	52	82	48			97			
SUBTOTAL	53,692	2,030	55,772	2253	130,221	2,736	3,808	5,122	1,230	966	6262	420	76	2792	324	109	4	52	82	48		1136	97	378	37	
TOTAL	111,494			2253	132,957		11,126					6262	5140										415			

ROADSIDE SIGN QUANTITIES

LOCATION	SIGN CODE	SIGN PANEL SIZE	SINGLE FACED	No. OF POST AND SIZE	BACKGROUND		LEGEND		PROTECTIVE FILM	FURNISH SINGLE SHEET ALUMINUM SIGN (0.080" UNFRAMED) FOR RETRO-REFLECTIVE SHEETING (TYPE XI)	RETRO-REFLECTIVE SHEETING (TYPE XI)	ROADSIDE SIGN - ONE POST	DELINEATORS (CLASS 2)	REMOVE ROADSIDE SIGN (WOOD POST)	TREATED WOOD WASTE	DESCRIPTION	
					SHEETING COLOR	RETRO-REFLECTIVE ASTM TYPE	SHEETING COLOR	RETRO-REFLECTIVE ASTM TYPE									SQFT
PM/PM	Dir	FEDERAL															
R12.94/R13.13	NB	W9-1R	48" x 48"	X	1 - 6" x 6"	YELLOW	XI	BLACK	NONE	X	16	16	1		77	RIGHT LANE ENDS	
R12.94/R13.13	NB	W4-2	48" x 48"	X	1 - 6" x 6"	YELLOW	XI	BLACK	NONE	X	16	16	1	5	77	LANE ENDS SYMBOL	
R14.89/R14.97	NB	W9-1R	48" x 48"	X	1 - 6" x 6"	YELLOW	XI	BLACK	NONE	X	16	16	1		77	RIGHT LANE ENDS	
R14.89/R14.97	NB	W4-2	48" x 48"	X	1 - 6" x 6"	YELLOW	XI	BLACK	NONE	X	16	16	1	5	77	LANE ENDS SYMBOL	
R15.18/R15.38	NB	W9-1R	48" x 48"	X	1 - 6" x 6"	YELLOW	XI	BLACK	NONE	X	16	16	1		77	RIGHT LANE ENDS	
R15.18/R15.38	NB	W4-2	48" x 48"	X	1 - 6" x 6"	YELLOW	XI	BLACK	NONE	X	16	16	1	5	77	LANE ENDS SYMBOL	
R15.18/R15.30	NB	W9-2	48" x 48"	X										1	77	LANE ENDS MERGE LEFT	
TOTAL											96	96	6	15	6	462*	

PAVEMENT DELINEATION AND SIGN QUANTITIES PDQ-1

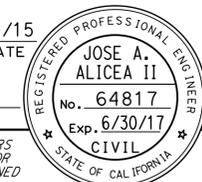
NOTES:

- * - TOTAL INCLUDED IN ROADWAY QUANTITIES TABLE.
- (N) - NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.
- TRAFFIC MANAGEMENT SYSTEM ELEMENTS LOCATIONS ARE APPROXIMATE.

ABBREVIATION:

RHMA-G - RUBBERIZED HOT MIX ASPHALT (GAP GRADED)

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	17	64


 REGISTERED CIVIL ENGINEER DATE 6/2/15
 PLANS APPROVAL DATE 10-26-15
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

CONFORM TAPER QUANTITIES

LOCATION			LENGTH (N)	WIDTH (N)	COLD PLANE AC Pvm†	RHMA-G
Dir	PM	DESCRIPTION				
NORTHBOUND	R12.42	TOM PAINE SLOUGH (DEPARTURE) (Beg Const)	50'	52'	289	20
	R12.62	Rte 205/5 CONNECTOR	310'	54'	1,860	124
	R12.99	PARADISE CUT (APPROACH)	50'	52'	289	20
	R12.99	PARADISE CUT (DEPARTURE)	50'	53'	294	20
	R13.26	NB ON-RAMP FROM Rte 205	50'	46'	256	18
	R13.87	PARADISE CUT OVERFLOW (APPROACH)	105'	54'	630	42
	R13.87	PARADISE CUT OVERFLOW (DEPARTURE)	184'	55'	1,124	75
	R13.99	MOSSDALE Rd OFF-RAMP	50'	20'	111	8
	R14.18	MOSSDALE Rd ON-RAMP	50'	24'	133	9
	R14.46	SAN JOAQUIN RIVER (APPROACH)	50'	72'	400	27
	R14.46	SAN JOAQUIN RIVER (DEPARTURE)	50'	57'	317	22
	R14.59	NB OFF-RAMP TO EB Rte 120	50'	38'	211	15
	R14.82	Rte 5/120 SEPARATION (APPROACH)	100'	72'	800	54
	R14.82	Rte 5/120 SEPARATION (DEPARTURE)	50'	68'	378	26
	R15.04	NB ON-RAMP FROM WB Rte 120	50'	32'	178	12
	R16.26	LOUISE Ave OFF-RAMP	50'	20'	111	8
	R16.47	LOUISE Ave (APPROACH)	100'	52'	578	39
	R16.47	LOUISE Ave (DEPARTURE)	50'	52'	289	20
	R16.74	LOUISE Ave ON-RAMP	50'	22'	122	9
	R17.29	LATHROP Rd OFF-RAMP	50'	22'	122	9
R17.52	LATHROP Rd (APPROACH) (End Const)	100'	52'	578	39	
SOUTHBOUND	R12.42	TOM PAINE SLOUGH (APPROACH) (Beg Const)	165'	52'	953	64
	R12.62	Rte 205/5 CONNECTOR	310'	62'	2,136	143
	R12.99	PARADISE CUT (APPROACH)	50'	78'	433	29
	R12.99	PARADISE CUT (DEPARTURE)	50'	78'	433	29
	R13.26	SB OFF-RAMP TO Rte 205	50'	55'	306	21
	R13.87	MANTHEY Rd ON-RAMP	50'	22'	122	9
	R13.87	MANTHEY Rd OFF-RAMP	50'	22'	122	9
	R13.99	PARADISE CUT OVERFLOW (APPROACH)	100'	54'	600	40
	R14.18	PARADISE CUT OVERFLOW (DEPARTURE)	50'	55'	306	21
	R14.46	SB ON-RAMP FROM WB Rte 120	50'	40'	222	15
	R14.46	SAN JOAQUIN RIVER (APPROACH)	100'	56'	622	42
	R14.59	SAN JOAQUIN RIVER (DEPARTURE)	50'	57'	317	22
	R14.82	SB OFF-RAMP TO EB Rte 120	50'	24'	133	9
	R14.82	Rte 5/120 SEPARATION (APPROACH)	80'	54'	480	32
	R15.04	Rte 5/120 SEPARATION (DEPARTURE)	50'	68'	378	26
	R16.26	LOUISE Ave ON-RAMP	50'	20'	111	8
	R16.47	LOUISE AVENUE (APPROACH)	120'	55'	733	49
R16.47	LOUISE AVENUE (DEPARTURE)	50'	52'	289	20	
R16.74	LOUISE Ave OFF-RAMP	50'	20'	111	8	
R17.29	LATHROP Rd ON-RAMP	50'	20'	111	8	
R17.52	LATHROP Rd (DEPARTURE) (End Const)	50'	62'	344	23	
TOTAL					18,332*	1,243*

ROADWAY QUANTITIES

LOCATION	COLD PLANE AC PAVEMENT	RHMA-G	HMA (TYPE A)	TACK COAT	SHOULDER BACKING
PM R12.4/R17.5		23,078		46	4941
REPAIR FAILED AREAS	12,465		2105	2	
CONFORM TAPERS QUANTITIES	18,332	1,243		2	
DIKE QUANTITIES			627	2	
TOTAL	30,797	24,321	2732	52	4941

REPAIR FAILED AREAS

LOCATION		LENGTH (N)	WIDTH (N)	COLD PLANE AC Pvm†	HMA (TYPE A)
Dir	PM/PM				
NB	R14.42/R14.46	200'	60'	1,333	225
	R14.92/R14.95	150'	12'	200	34
SB	R12.98/R13.02	200'	60'	1,333	225
	R13.09/R13.13	200'	60'	1,333	225
	R13.62/R13.71	500'	12'	667	113
	R14.61/R14.65	200'	24'	533	90
	R14.91/R14.93	150'	24'	400	68
	R15.20/R15.48	1500'	24'	4,000	675
	R16.37/R16.46	500'	24'	1,333	225
R16.50/R16.60	500'	24'	1,333	225	
TOTAL				12,465*	2105*

NOTE: ACTUAL WIDTHS AND LOCATIONS MAY VARY IN THE FIELD AND WILL BE DETERMINED BY THE ENGINEER.

SUMMARY OF QUANTITIES Q-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	18	64

REGISTERED CIVIL ENGINEER DATE 6/2/15
 JOSE A. ALICEA II
 No. 64817
 Exp. 6/30/17
 CIVIL
 STATE OF CALIFORNIA
 10-26-15
 PLANS APPROVAL DATE
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DIKE QUANTITIES

Dir	LOCATION	REMOVE	PLACE	PLACE	CAP	HMA
		AC DIKE	HMA DIKE (TYPE C)	HMA DIKE (TYPE F)	AC DIKE	(TYPE A)
	PM/PM	LF	LF	LF	LF	TON
NORTHBOUND	R12.50/R12.59				491	8
	R12.65/R12.92				1,420	23
	R12.92/R12.92	78	78			1
	R12.92/R13.00	397		397		6
	R13.28/R13.68				2,082	33
	R13.69/R13.69	63	63			1
	R13.69/R13.70	28		28		1
	R13.70/R13.85				824	14
	R13.93/R14.45				2,740	44
	R15.01/R16.46				7,619	121
	R16.51/R16.72				1,125	18
R17.05/R17.52				2,471	40	
SOUTHBOUND	R12.60/R12.87				1,404	23
	R12.89/R12.92				149	3
	R12.93/R12.93	63	63			1
	R12.93/R12.95	100		100		2
	R13.10/R13.20				560	9
	R13.20/R13.21	63	63			1
	R13.20/R13.22	63		63		1
	R13.22/R13.50				1,475	24
	R13.50/R13.51	63	63			1
	R13.50/R13.52	38		38		1
	R13.52/R13.69				898	15
	R13.69/R13.70	63	63			1
	R13.69/R13.71	38		38		1
	R13.70/R13.87				913	15
	R13.93/R14.07				718	12
	R14.25/R14.45				1,082	18
	R14.62/R14.76				750	12
	R15.10/R15.10	63	63			1
	R15.10/R15.12	63		63		1
	R15.12/R15.27				825	14
	R15.57/R15.59				70	2
	R15.59/R15.59	63	63			1
	R15.59/R15.61	78		78		2
	R15.61/R16.46				4,509	72
R16.51/R16.79				1,443	23	
R16.79/R16.80	63	63			1	
R16.79/R16.81	38		38		1	
R16.81/R17.04				1,174	19	
R17.04/R17.05	63	63			1	
R17.04/R17.06	63		63		1	
R17.06/R17.50				2,402	38	
TOTAL		1551	645	906	37,144	627*

SHOULDER RUMBLE STRIP (HMA, GROUND-IN INDENTATIONS)

Dir	PM/PM	SIDE	STATION
NORTHBOUND	R12.47/R12.98	R+	27
	R12.47/R12.98	L+	27
	R13.12/R13.23	R+	6
	R13.12/R13.84	L+	38
	R13.51/R13.84	R+	17
	R13.95/R14.44	L+	26
	R14.00/R14.15	R+	8
	R14.39/R14.44	R+	3
	R14.62/R14.80	R+	9
	R14.62/R14.80	L+	9
	R14.94/R15.01	R+	4
	R14.94/R16.45	L+	80
	R15.18/R16.12	R+	49
	R16.26/R16.45	R+	10
	R16.52/R16.72	R+	10
	R16.52/R17.49	L+	51
	R16.94/R17.14	R+	11
R17.28/R17.49	R+	11	
SOUTHBOUND	R12.45/R12.83	R+	20
	R12.45/R12.96	L+	27
	R13.11/R13.45	R+	18
	R13.11/R13.84	L+	38
	R13.67/R13.84	R+	9
	R13.95/R14.14	R+	10
	R13.95/R14.43	L+	25
	R14.35/R14.43	R+	4
	R14.63/R14.73	R+	5
	R14.63/R14.76	L+	7
	R14.92/R16.06	R+	60
	R14.92/R16.44	L+	80
	R16.28/R16.44	R+	9
	R16.52/R16.71	R+	10
R16.52/R17.49	L+	51	
R16.85/R17.08	R+	12	
R17.30/R17.49	R+	10	
TOTAL			791

SUMMARY OF QUANTITIES Q-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE
 FUNCTIONAL SUPERVISOR: ALVIN MANGINDIN
 CALCULATED/DESIGNED BY: JOHANNA OAMILDA
 CHECKED BY: JOSE A. ALICEA II
 REVISED BY: JO
 DATE REVISED: 07/15/15

LAST REVISION DATE PLOTTED => 29-JAN-2016
 10-20-15 TIME PLOTTED => 09:40

REVISOR: JO
 DATE: 07/15/15

DESIGNED BY: JHOANNA OAMILDA
 CHECKED BY: JOSE A. ALICEA II

FUNCTIONAL SUPERVISOR: ALVIN MANGINDIN

ADJUST FRAME AND GRATE TO GRADE

LOCATION			EA
Dir	PM	DESCRIPTION	
NORTHBOUND	R12.71	RIGHT SHOULDER	1
	R12.86	RIGHT SHOULDER	1
	R13.35	RIGHT SHOULDER	1
	R13.71	RIGHT SHOULDER	1
	R13.76	RIGHT SHOULDER	1
	R14.10	RIGHT SHOULDER	1
	R14.18	RIGHT SHOULDER	1
	R14.23	RIGHT SHOULDER	1
	R14.35	RIGHT SHOULDER	1
	R15.27	RIGHT SHOULDER	1
	R15.41	RIGHT SHOULDER	1
	R15.66	RIGHT SHOULDER	1
	R15.76	RIGHT SHOULDER	1
	R15.98	RIGHT SHOULDER	1
	R16.15	RIGHT SHOULDER	1
	R16.27	RIGHT SHOULDER	1
	R16.37	RIGHT SHOULDER	1
	R16.59	RIGHT SHOULDER	1
	R16.72	GORE	1
	R16.73	GORE	1
R17.10	RIGHT SHOULDER	1	
R17.25	RIGHT SHOULDER	1	
SOUTHBOUND	R17.30	RIGHT SHOULDER	1
	R17.41	RIGHT SHOULDER	1
	R12.71	RIGHT SHOULDER	1
	R12.86	RIGHT SHOULDER	1
	R13.24	RIGHT SHOULDER	1
	R13.21	RIGHT SHOULDER	1
R13.50	RIGHT SHOULDER	1	
SUBTOTAL A			29

ADJUST FRAME AND GRATE TO GRADE

LOCATION			EA
Dir	PM	DESCRIPTION	
SOUTHBOUND	R13.65	RIGHT SHOULDER	1
	R14.02	RIGHT SHOULDER	1
	R14.06	RIGHT SHOULDER	1
	R14.31	RIGHT SHOULDER	1
	R14.35	GORE	1
	R14.36	GORE	1
	R15.03	RIGHT SHOULDER	1
	R15.15	RIGHT SHOULDER	1
	R15.25	RIGHT SHOULDER	1
	R15.68	RIGHT SHOULDER	1
	R15.79	RIGHT SHOULDER	1
	R15.89	RIGHT SHOULDER	1
	R16.08	RIGHT SHOULDER	1
	R16.20	RIGHT SHOULDER	1
	R16.27	GORE	1
	R16.28	GORE	1
	R16.37	RIGHT SHOULDER	1
	R16.57	RIGHT SHOULDER	1
	R16.70	RIGHT SHOULDER	1
	R16.78	RIGHT SHOULDER	1
	R16.93	RIGHT SHOULDER	1
	R17.13	RIGHT SHOULDER	1
	R17.25	RIGHT SHOULDER	1
	R17.30	GORE	1
	R17.31	RIGHT SHOULDER	1
R17.41	RIGHT SHOULDER	1	
SUBTOTAL B			26
SUBTOTAL A			29
TOTAL			55

ADJUST MONUMENT COVER

Dir	PM	EA
NORTHBOUND	R13.45	1
	R13.67	1
	R13.87	1
	R14.14	1
	R14.26	1
	R14.46	1
	R14.60	1
	R14.62	1
	R14.84	1
	R14.90	1
SOUTHBOUND	R15.00	1
	R15.10	1
	R15.20	1
	R15.20	1
	R15.60	1
	R15.60	1
	R16.10	1
	R16.40	1
R16.40	1	
R16.40	1	
R16.50	1	
R16.50	1	
R16.60	1	
TOTAL		23

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	19	64

REGISTERED CIVIL ENGINEER: *JAALICEA II* DATE: 6/2/15
 PLANS APPROVAL DATE: 10-26-15

REGISTERED PROFESSIONAL ENGINEER: JOSE A. ALICEA II
 No. 64817 Exp. 6/30/17
 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.

SUMMARY OF QUANTITIES
Q-3

LAST REVISION DATE PLOTTED => 29-JAN-2016 10-20-15 TIME PLOTTED => 09:40

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	20	64

REGISTERED CIVIL ENGINEER DATE 6/2/15
 10-26-15
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 JOSE A. ALICEA II
 No. 64817
 Exp. 6/30/17
 CIVIL
 STATE OF CALIFORNIA

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MIDWEST GUARDRAIL SYSTEM QUANTITIES

LOCATION	Dir	LAYOUT TYPE (N)	REMOVE GUARDRAIL	TREATED WOOD WASTE	REMOVE TERMINAL SECTION (N)	MIDWEST GUARDRAIL SYSTEM (WOOD POST)	TRANSITION RAILING (TYPE WB-31)	ALTERNATIVE FLARED TERMINAL SYSTEM	ALTERNATIVE IN-LINE TERMINAL SECTION	END ANCHOR ASSEMBLY (TYPE SFT)	VEGETATION CONTROL (MINOR CONCRETE)	GUARD RAILING DELINEATOR	OBJECT MARKER (TYPE L)	
														PM/PM
NB		R12.92/R13.01	12A	450	6,384	1	372	1	1		206	9	1	
		R13.69/R13.70	16B	65	1,064	1	28		1	1	51	3	1	
		R14.65/R14.83	12B	930	13,210	1	868	1	1		435	18	1	
		R14.93/R15.02	12DD	460	6,561		460			1	205	9	1	
SB		R12.93/R12.95	16B	140	2,217	1	100		1	1	83	3	1	
		R13.20/R13.22	16B	100	1,685	1	63		1	1	66	3	1	
		R13.50/R13.52	16B	75	1,507	1	38		1	1	55	3	1	
		R13.69/R13.71	16B	65	1,153	1	38		1	1	55	3	1	
		R15.10/R15.12	16B	100	1,685	1	63		1	1	66	3	1	
		R15.58/R15.62	16B	115	1,862	1	78		1	1	73	3	1	
		R16.79/R16.81	16B	100	1,685	1	38		1	1	55	3	1	
	R17.04/R17.06	16B	100	1,596	1	63		1	1	66	3	1		
ROADSIDE SIGN QUANTITIES					462									
TOTAL				2700	41,071		2209	2	10	1	10	1416	63	12

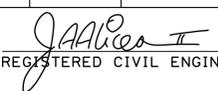
**SUMMARY OF QUANTITIES
Q-4**



TRAFFIC MANAGEMENT SYSTEM ELEMENTS (EXISTING)

PM	Dir	LOCATION	TYPE	DESCRIPTION
R12.40	NB	SOUTH OF Rte 205	CMS	CHANGEABLE MESSAGE SIGN
R12.60	SB	JUNCTION Rte 205	CCTV	CLOSED CIRCUIT TELEVISION CAMERA
R12.65	NB	SOUTH OF JUNCTION EB Rte 205	TMS	TRAFFIC MONITORING SYSTEM
R12.73	SB	SOUTH OF PARADISE CUT	TMS	TRAFFIC MONITORING SYSTEM
R12.83	NB	SOUTH OF JUNCTION EB Rte 205	TMS	TRAFFIC MONITORING SYSTEM
R12.85	NB/SB	PARADISE CUT	RWIS	ROADSIDE WEATHER INFORMATION SYSTEM
R13.13	NB	SOUTH OF JUNCTION EB Rte 205	TMS	TRAFFIC MONITORING SYSTEM
R13.23	SB	SOUTH OF MANTHEY Rd	TMS	TRAFFIC MONITORING SYSTEM
R13.33	NB	JUNCTION EB Rte 205	TMS	TRAFFIC MONITORING SYSTEM
R13.64	SB	MANTHEY Rd ON-RAMP	TMS	TRAFFIC MONITORING SYSTEM
R13.71	SB	MANTHEY Rd OFF-RAMP	TMS	TRAFFIC MONITORING SYSTEM
R13.72	SB	SOUTH OF MOSSDALE Rd	TMS	TRAFFIC MONITORING SYSTEM
R13.95	NB	MOSSDALE Rd OFF-RAMP	TMS	TRAFFIC MONITORING SYSTEM
R13.99	NB	SOUTH OF JUNCTION Rte 120	CCTV	CLOSED CIRCUIT TELEVISION CAMERA
R13.99	NB	SOUTH OF Rte 120	CMS	CHANGEABLE MESSAGE SIGN
R14.02	SB	NORTH OF MOSSDALE Rd	TMS	TRAFFIC MONITORING SYSTEM
R14.02	NB	NORTH OF MOSSDALE Rd	TMS	TRAFFIC MONITORING SYSTEM
R14.06	NB	MOSSDALE Rd ON-RAMP	TMS	TRAFFIC MONITORING SYSTEM
R14.51	SB	NORTH OF JUNCTION WB Rte 120	TMS	TRAFFIC MONITORING SYSTEM
R14.57	NB	NORTH OF JUNCTION EB Rte 120	TMS	TRAFFIC MONITORING SYSTEM
R14.80	SB	JUNCTION Rte 120	CCTV	CLOSED CIRCUIT TELEVISION CAMERA
R15.01	SB	NORTH OF JUNCTION Rte 120	TMS	TRAFFIC MONITORING SYSTEM
R15.01	NB	NORTH OF JUNCTION Rte 120	TMS	TRAFFIC MONITORING SYSTEM
R15.01	NB/SB	NORTH OF Rte 120	RWIS	ROADSIDE WEATHER INFORMATION SYSTEM
R15.43	SB	NORTH OF JUNCTION Rte 120	TMS	TRAFFIC MONITORING SYSTEM
R15.59	SB	NORTH OF Rte 120	CMS	CHANGEABLE MESSAGE SIGN
R15.71	SB	SOUTH OF LOUISE Ave	TMS	TRAFFIC MONITORING SYSTEM
R15.71	NB	SOUTH OF LOUISE Ave	TMS	TRAFFIC MONITORING SYSTEM
R15.85	SB	SOUTH OF LOUISE Ave	TMS	TRAFFIC MONITORING SYSTEM
R16.10	NB	LOUISE Ave	TMS	TRAFFIC MONITORING SYSTEM
R16.10	SB	LOUISE Ave	TMS	TRAFFIC MONITORING SYSTEM
R16.41	SB	LOUISE Ave ON-RAMP	TMS	TRAFFIC MONITORING SYSTEM
R16.46	NB/SB	SOUTH OF LOUISE Ave	RWIS	ROADSIDE WEATHER INFORMATION SYSTEM
R16.47	SB	SOUTH OF LOUISE Ave	TMS	TRAFFIC MONITORING SYSTEM
R16.53	NB	LOUISE Ave ON-RAMP	TMS	TRAFFIC MONITORING SYSTEM
R16.53	SB	LOUISE Ave	SIGNAL	TRAFFIC SIGNAL
R16.54	NB	LOUISE Ave	SIGNAL	TRAFFIC SIGNAL
R16.56	SB	LOUISE Ave OFF-RAMP	TMS	TRAFFIC MONITORING SYSTEM
R16.57	NB	LOUISE Ave OFF-RAMP	TMS	TRAFFIC MONITORING SYSTEM
R16.62	NB	NORTH OF LOUISE Ave UNDERCROSSING	TMS	TRAFFIC MONITORING SYSTEM
R16.90	SB	SOUTH OF LATHROP Rd	TMS	TRAFFIC MONITORING SYSTEM
R17.01	SB	SOUTH OF LATHROP Rd	TMS	TRAFFIC MONITORING SYSTEM
R17.02	NB	MATTHEWS Rd OFF-RAMP	TMS	TRAFFIC MONITORING SYSTEM
R17.04	SB	NORTH OF LOUISE Ave UNDERCROSSING	CMS	CHANGEABLE MESSAGE SIGN
R17.12	SB	MATTHEWS Rd ON-RAMP	TMS	TRAFFIC MONITORING SYSTEM
R17.21	NB	SOUTH OF LATHROP Rd	TMS	TRAFFIC MONITORING SYSTEM
R17.28	SB	SOUTH OF LATHROP Rd	TMS	TRAFFIC MONITORING SYSTEM
R17.32	NB	LATHROP Rd OFF-RAMP	TMS	TRAFFIC MONITORING SYSTEM
R17.35	SB	LATHROP Rd ON-RAMP	TMS	TRAFFIC MONITORING SYSTEM
R17.52	NB	LATHROP Rd	SIGNAL	TRAFFIC SIGNAL
R17.52	SB	LATHROP Rd	SIGNAL	TRAFFIC SIGNAL

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	21	64


 REGISTERED CIVIL ENGINEER DATE 6/2/15
 10-26-15
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 JOSE A. ALICEA II
 No. 64817
 Exp. 6/30/17
 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.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 MAINTENANCE
 FUNCTIONAL SUPERVISOR
 ALVIN MANGINDIN
 CALCULATED/DESIGNED BY
 CHECKED BY
 JOHANNA OAMILDA
 JOSE A. ALICEA II
 REVISED BY
 DATE REVISED
 JO
 07/15/15

**SUMMARY OF QUANTITIES
Q-5**

LAST REVISION DATE PLOTTED => 29-JAN-2016
 10-20-15 TIME PLOTTED => 09:40

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	22	64
			REGISTERED ELECTRICAL ENGINEER DATE	10/13/15	
			PLANS APPROVAL DATE	10-26-15	
<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>					

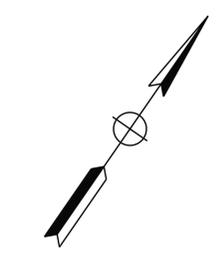
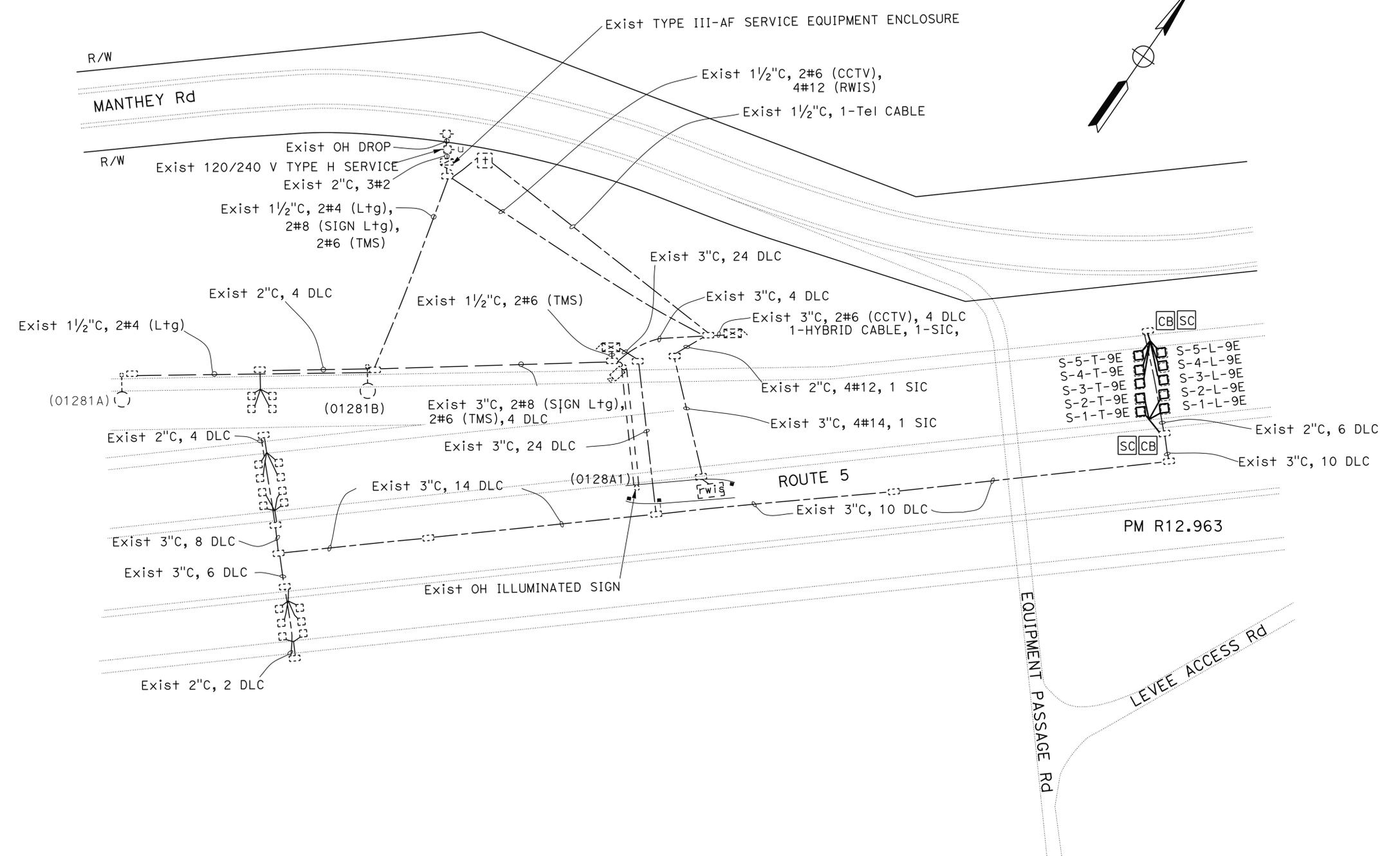
NOTES (FOR THIS SHEET ONLY):

- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- FIBER OPTIC SYSTEM NOT SHOWN.

SYMBOL:

- Exist ROADSIDE WEATHER INFORMATION SYSTEM

AA	08/04/15	REVISED BY	DATE REVISED
ALVARO ARAICA	FRED IYASERE	CALCULATED-DESIGNED BY	CHECKED BY
FUNCTIONAL SUPERVISOR	ALI BAKHOUD	STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	
ELECTRICAL DESIGN			



APPROVED FOR ELECTRICAL WORK ONLY

NO SCALE

**DETECTOR LOOP
E-1**



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	23	64

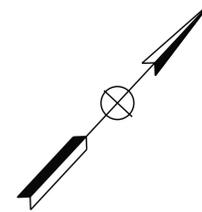
REGISTERED ELECTRICAL ENGINEER	DATE
<i>Alvaro Araica</i>	10/13/15
PLANS APPROVAL DATE	
	10-26-15

REGISTERED PROFESSIONAL ENGINEER
ALVARO ARAICA
No. E15558
Exp. 12/31/15
ELECTRICAL
STATE OF CALIFORNIA

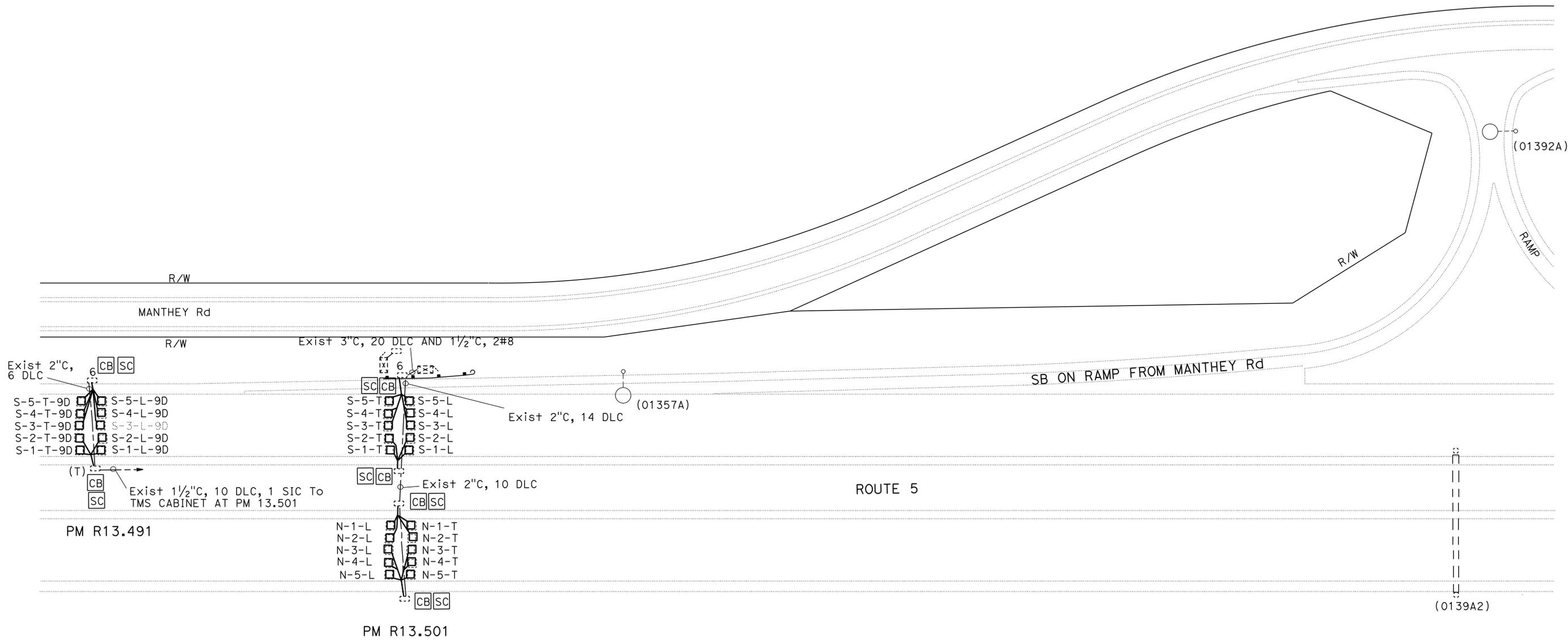
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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN
 FUNCTIONAL SUPERVISOR: ALI BAKHDOUD
 CALCULATED/DESIGNED BY: ALVARO ARAICA
 CHECKED BY: FRED IYASERE
 REVISOR: AA
 DATE REVISED: 08/04/15



APPROVED FOR ELECTRICAL WORK ONLY

NO SCALE

DETECTOR LOOP E-2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	24	64

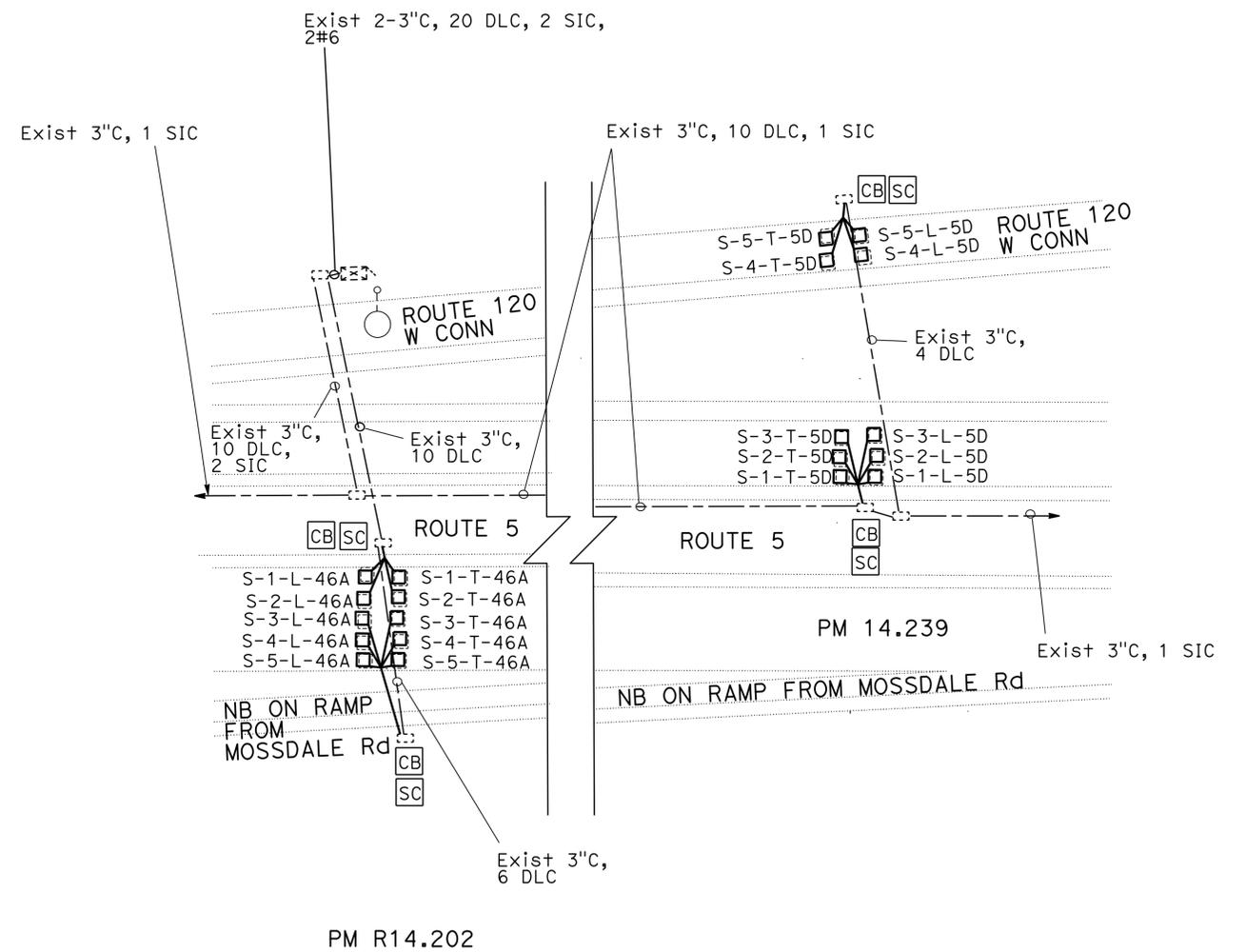
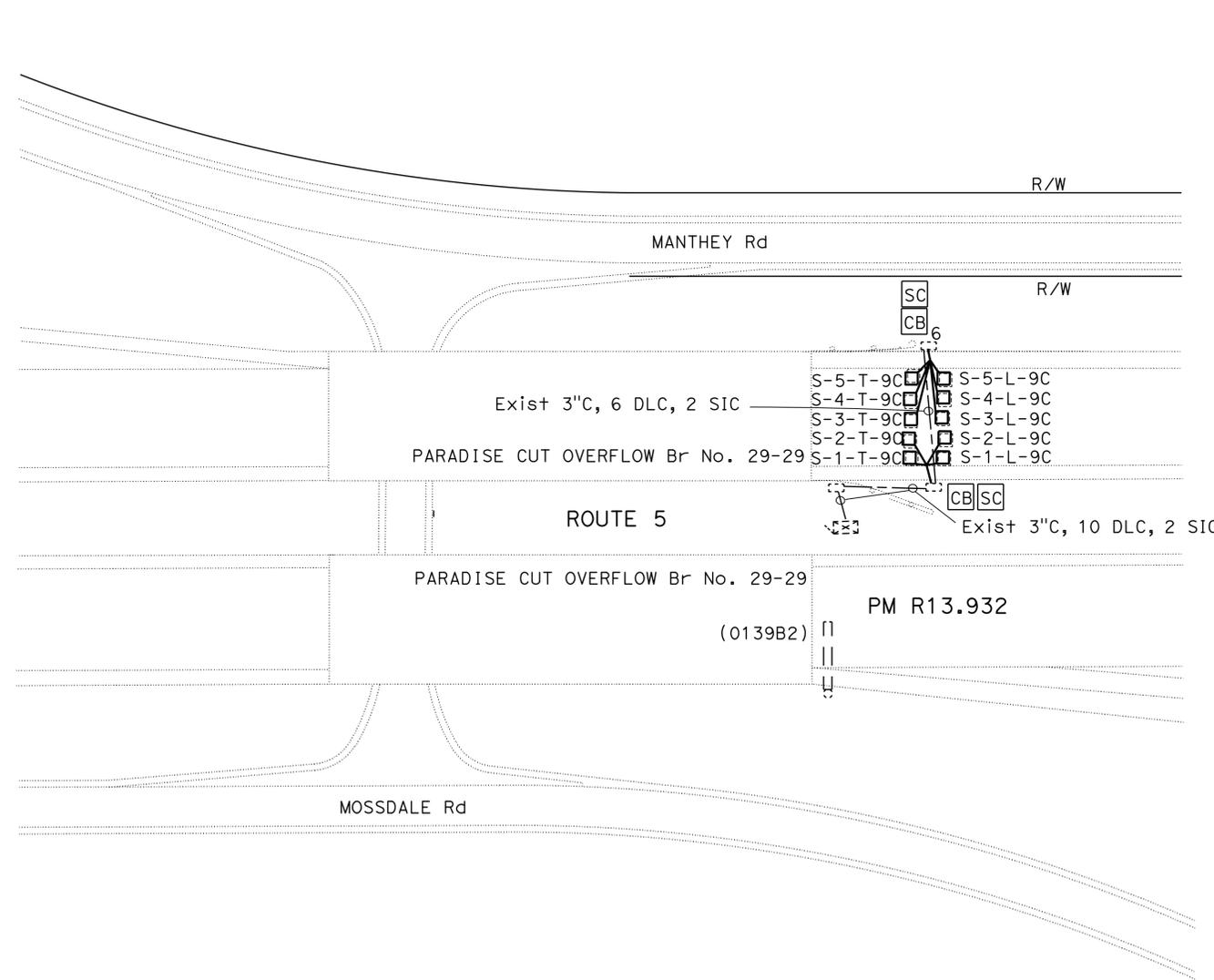
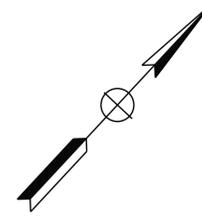
REGISTERED ELECTRICAL ENGINEER	DATE
<i>Alvaro Araica</i>	10/13/15
PLANS APPROVAL DATE	
	10-26-15

REGISTERED PROFESSIONAL ENGINEER
ALVARO ARAICA
No. E15558
Exp. 12/31/15
ELECTRICAL
STATE OF CALIFORNIA

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN

FUNCTIONAL SUPERVISOR
 ALI BAKHOUD

CALCULATED-DESIGNED BY
 CHECKED BY

ALVARO ARAICA
 FRED IYASERE

REVISED BY
 DATE REVISED

AA
 08/04/15

APPROVED FOR ELECTRICAL WORK ONLY

NO SCALE

**DETECTOR LOOP
 E-3**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	26	64

REGISTERED ELECTRICAL ENGINEER	DATE
<i>Alvaro Araica</i>	10/13/15
PLANS APPROVAL DATE	
10-26-15	

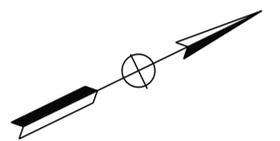
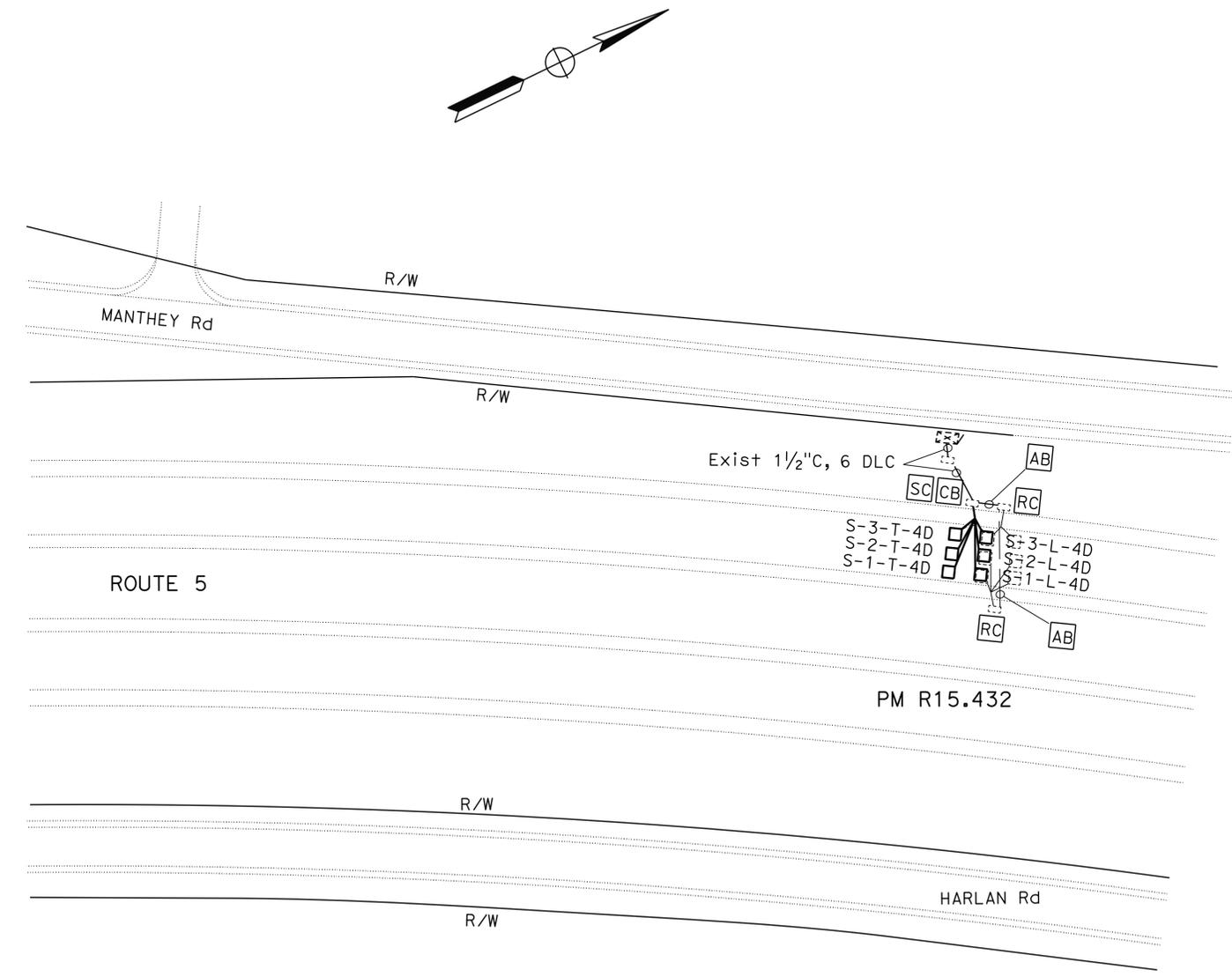
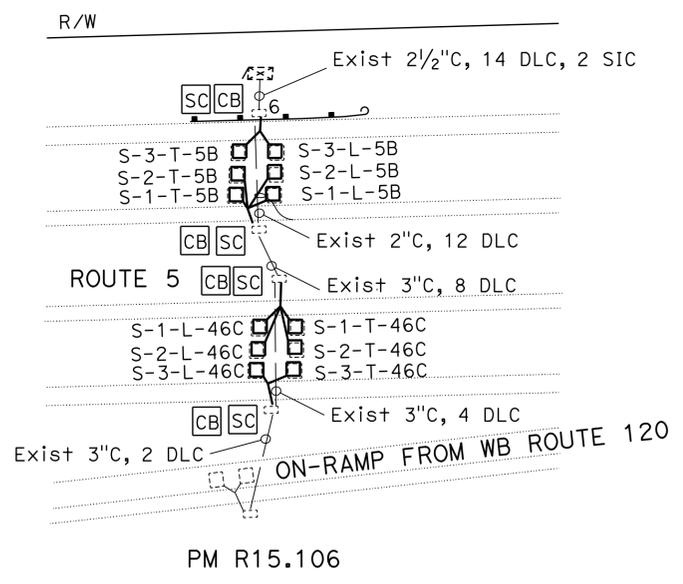
REGISTERED PROFESSIONAL ENGINEER
ALVARO ARAICA
No. E15558
Exp. 12/31/15
ELECTRICAL
STATE OF CALIFORNIA

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN
 FUNCTIONAL SUPERVISOR: ALI BAKHDOUD
 CALCULATED/DESIGNED BY: ALVARO ARAICA
 CHECKED BY: FRED IYASERE
 REVISED BY: AA
 DATE REVISED: 08/04/15



DETECTOR LOOP

E-5

APPROVED FOR ELECTRICAL WORK ONLY

NO SCALE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	27	64

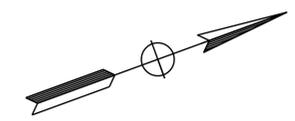
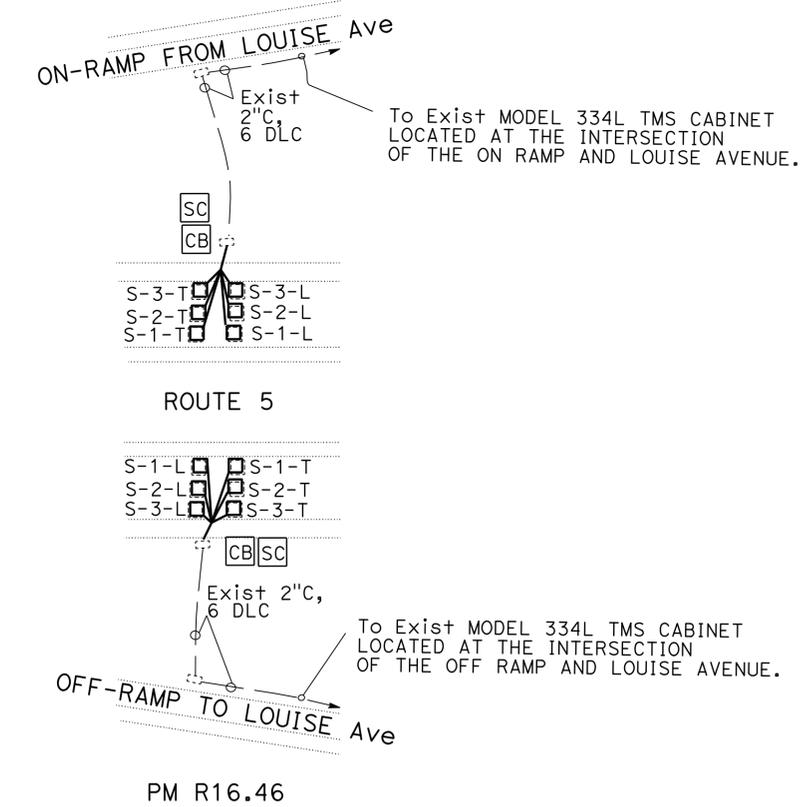
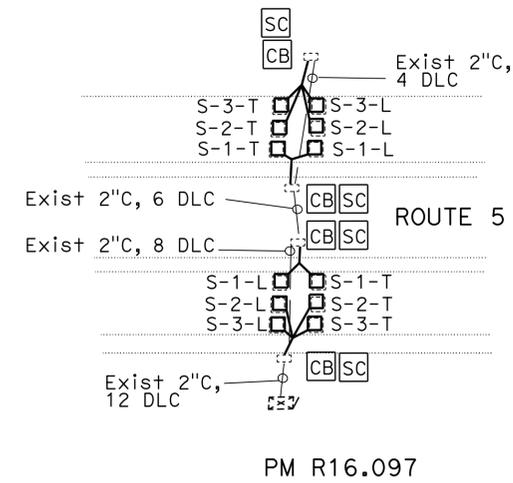
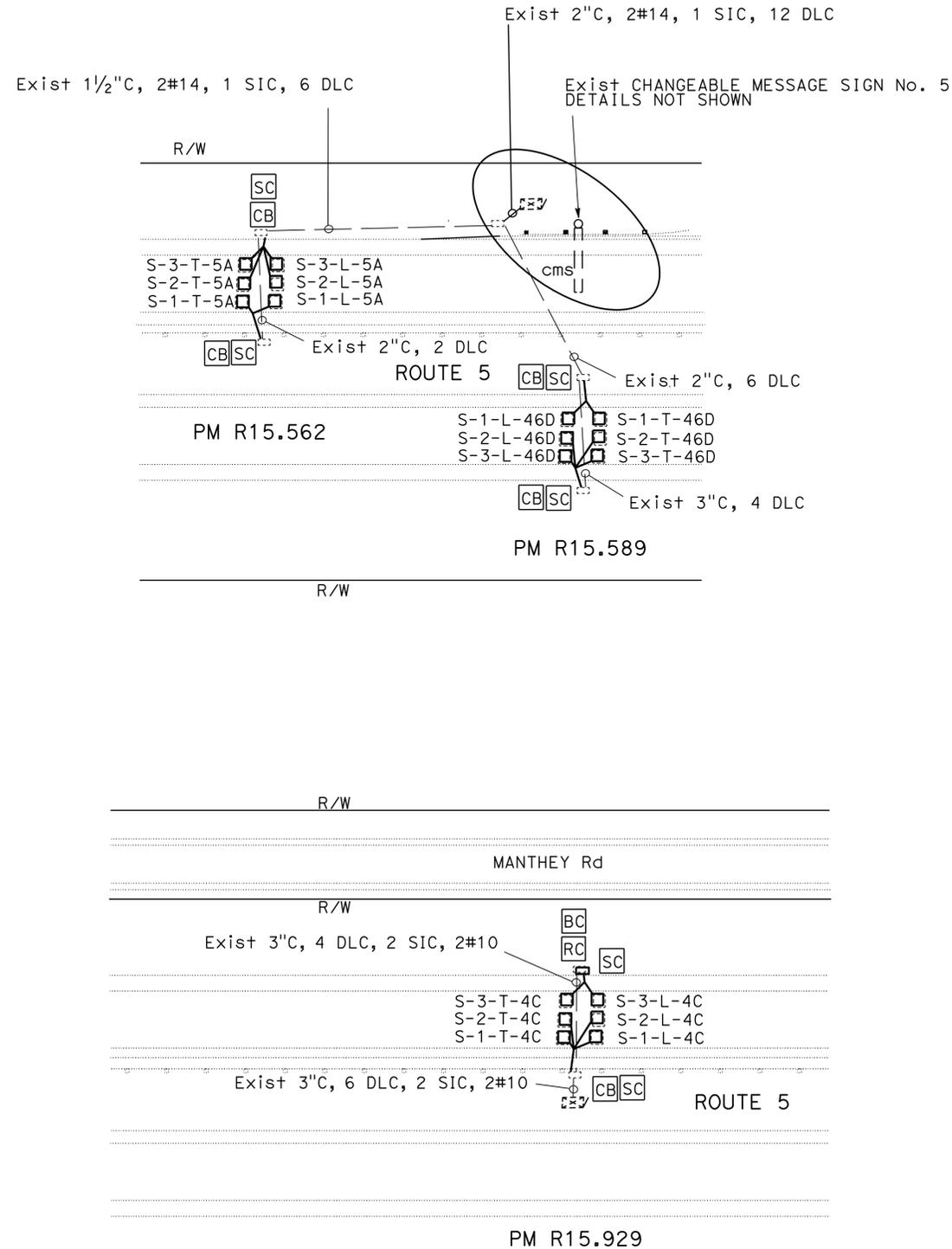
REGISTERED ELECTRICAL ENGINEER	DATE
<i>Alvaro Araica</i>	10/13/15
PLANS APPROVAL DATE	
	10-26-15

REGISTERED PROFESSIONAL ENGINEER
ALVARO ARAICA
No. E15558
Exp. 12/31/15
ELECTRICAL
STATE OF CALIFORNIA

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NOTES (FOR THIS SHEET ONLY):

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- FIBER OPTIC SYSTEM NOT SHOWN.



DETECTOR LOOP

E-6

APPROVED FOR ELECTRICAL WORK ONLY

NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN
FUNCTIONAL SUPERVISOR
ALI BAKHDOUD
CALCULATED/DESIGNED BY
CHECKED BY
ALVARO ARAICA
FRED IYASERE
REVISOR
AA
DATE
08/04/15

LAST REVISION DATE PLOTTED => 29-JAN-2016 08-04-15 TIME PLOTTED => 09:40

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	28	64

REGISTERED ELECTRICAL ENGINEER	DATE 10/13/15
PLANS APPROVAL DATE 10-26-15	

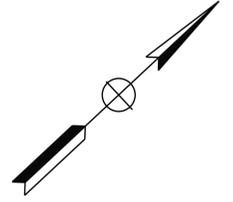
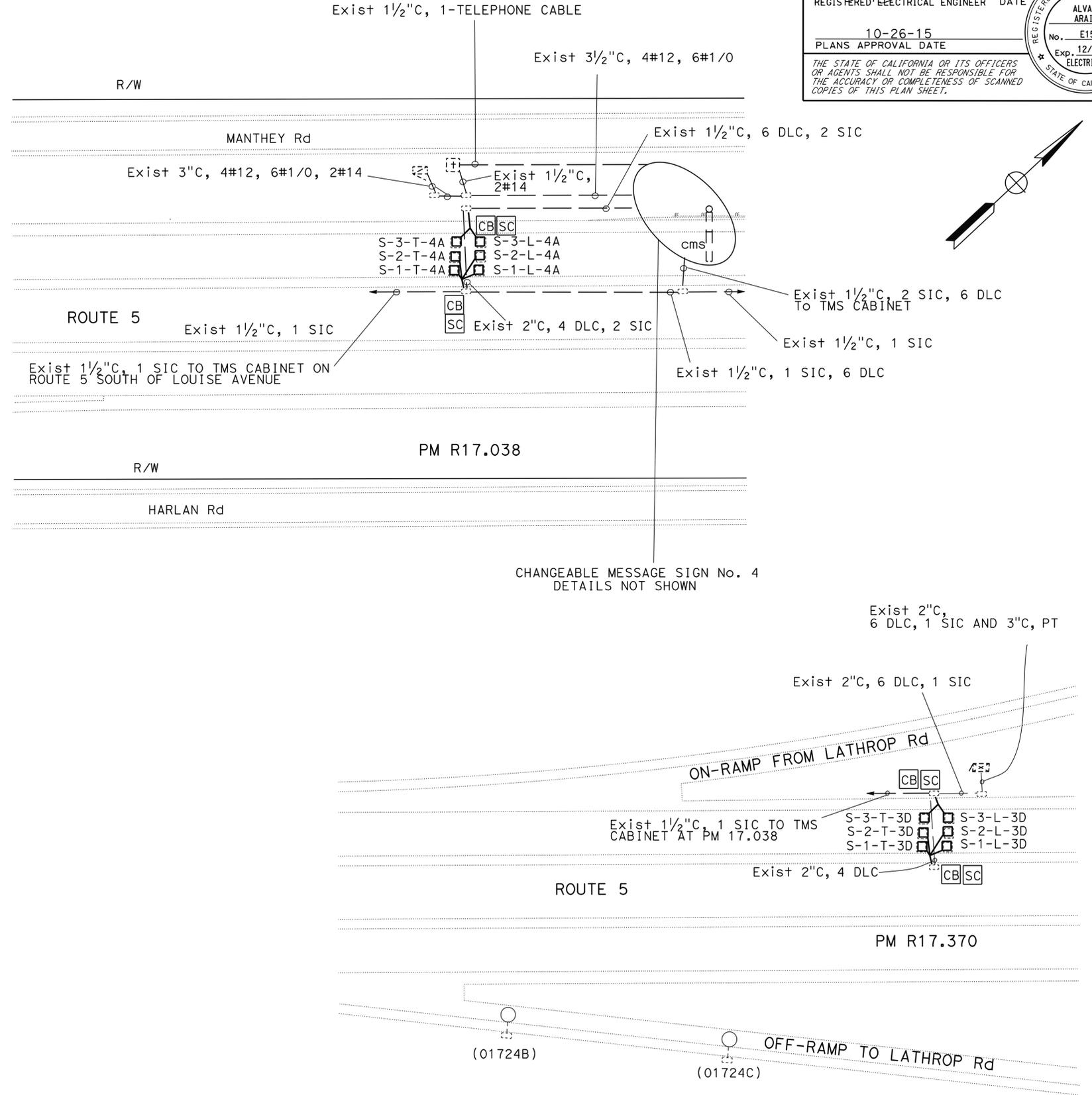
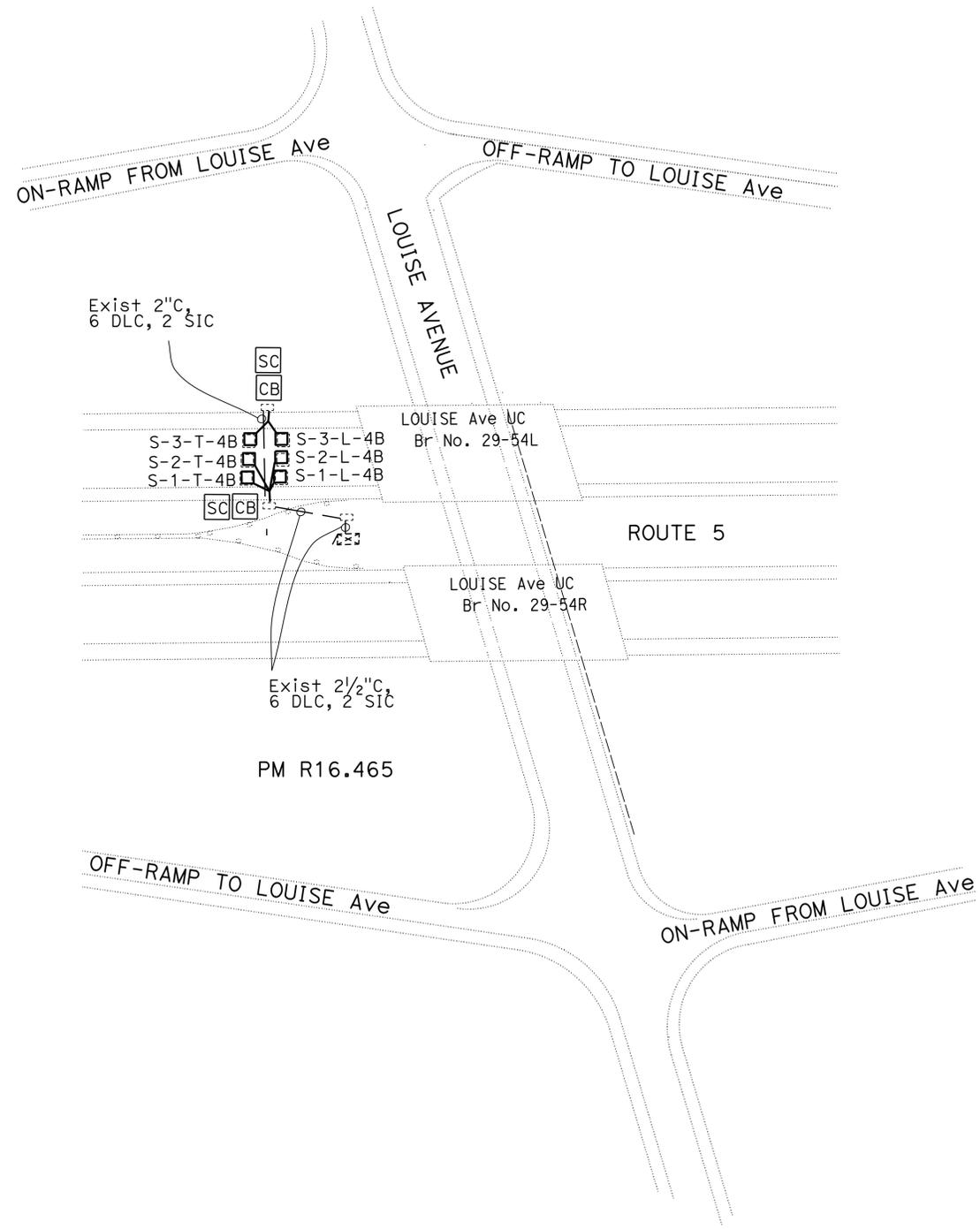
ALVARO ARAICA
No. E15558
Exp. 12/31/15
ELECTRICAL
STATE OF CALIFORNIA

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.

NOTES (FOR THIS SHEET ONLY):

- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- FIBER OPTIC SYSTEM NOT SHOWN.

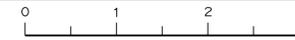
AA	08/04/15	ALVARO ARAICA	ALVARO ARAICA	ALVARO ARAICA
REVISOR	DATE	DESIGNER	CHECKER	FUNCTIONAL SUPERVISOR
FRED IYASERE		FRED IYASERE	FRED IYASERE	ALI BAKHOUD



APPROVED FOR ELECTRICAL WORK ONLY

NO SCALE

**DETECTOR LOOP
E-7**



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN

FUNCTIONAL SUPERVISOR
 ALI BAKHDOUD

CALCULATED-DESIGNED BY
 CHECKED BY

ALVARO ARAICA
 FRED IYASERE

REVISED BY
 DATE REVISED

AA
 08/04/15

NOTE:

THE QUANTITIES SHOWN IN TABLES ARE NOT SEPARATE PAY ITEMS, FOR INFORMATION ONLY. FOR COMPLETE ELECTRICAL WORK, SEE ELECTRICAL PLAN SHEETS.

DETECTOR LOOP

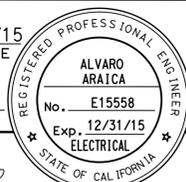
SHEET No.	TYPE A LOOP	No. 5 PB
	EA	
E-1	10	
E-2	30	
E-3	30	
E-4	14	
E-5	18	
E-6	42	1
E-7	18	

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	29	64

 10/13/15
 REGISTERED ELECTRICAL ENGINEER DATE

10-26-15
 PLANS APPROVAL DATE

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ELECTRICAL QUANTITIES
E-8

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

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

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

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	30	64

Grace M. Tsushima
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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TO ACCOMPANY PLANS DATED 10-26-15

UNIT OF MEASUREMENT SYMBOLS:

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

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:

SYMBOL USED	DEFINITIONS
ksi	KIPS PER SQUARE INCH
ksf	KIPS PER SQUARE FOOT
psi	POUNDS PER SQUARE INCH
psf	POUNDS PER SQUARE FOOT
lb/ft ³ , pcf	POUNDS PER CUBIC FOOT
tsf	TONS PER SQUARE FOOT
mph, MPH *	MILES PER HOUR
Ø	NOMINAL DIAMETER
oz	OUNCE
lb	POUND
kíp	1,000 POUNDS
cal	CALORIE
ft	FOOT OR FEET
gal	GALLON

* For use on a sign panel only

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ABBREVIATIONS
(SHEET 2 OF 2)**

NO SCALE

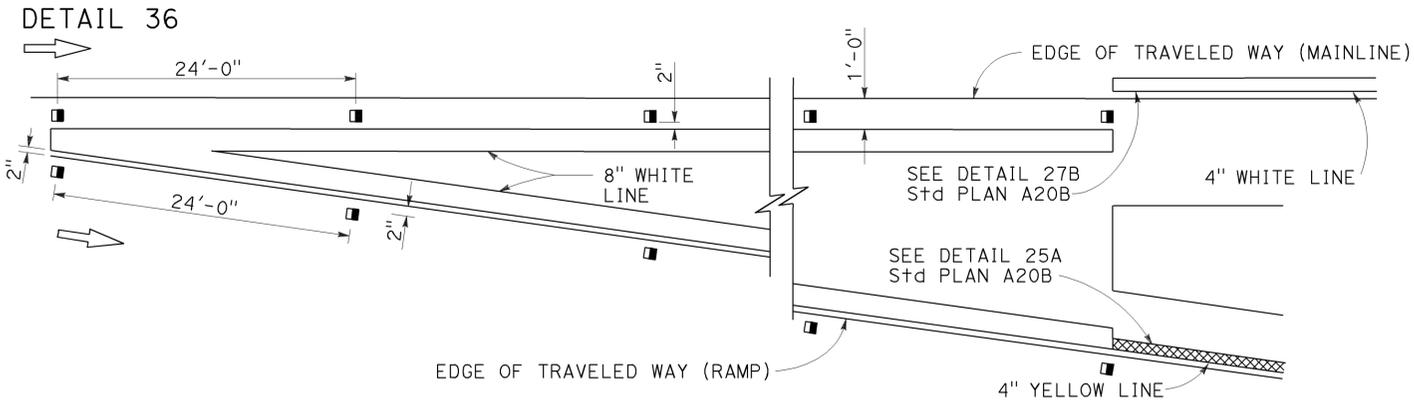
RSP A10B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A10B
DATED MAY 20, 2011 - PAGE 2 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP A10B

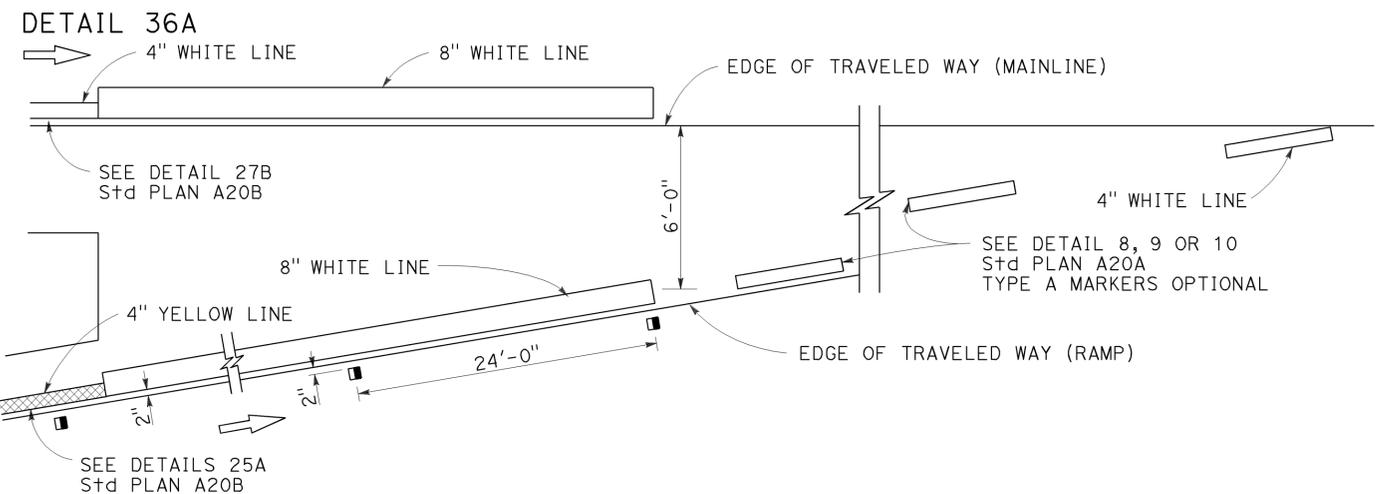
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	31	64

REGISTERED CIVIL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE
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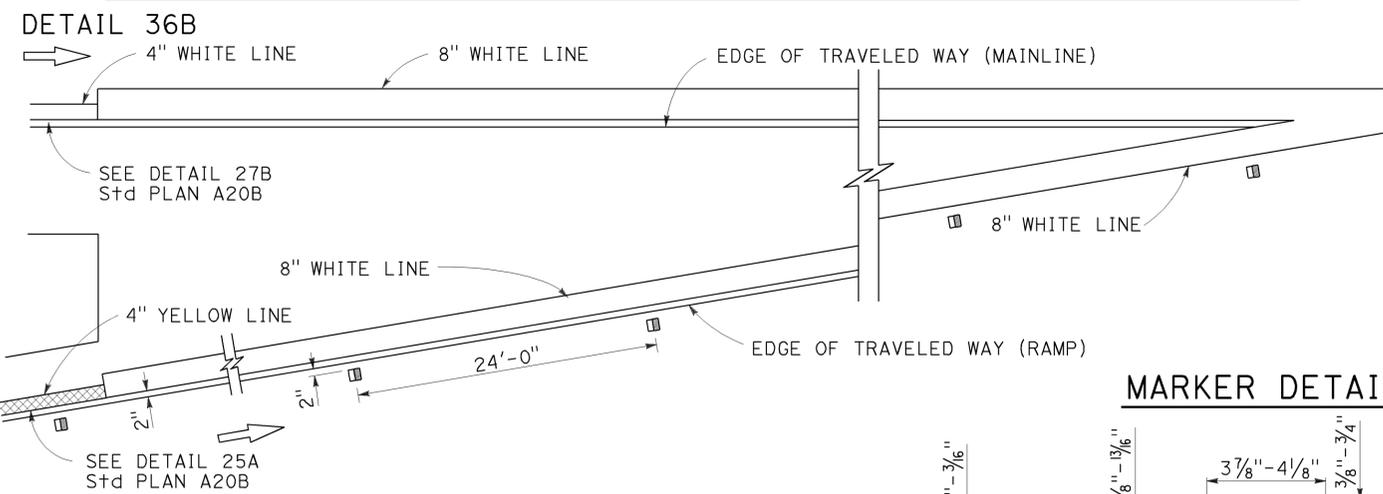
EXIT RAMP NEUTRAL AREA (GORE) TREATMENT



ENTRANCE RAMP NEUTRAL AREA (MERGE) TREATMENT

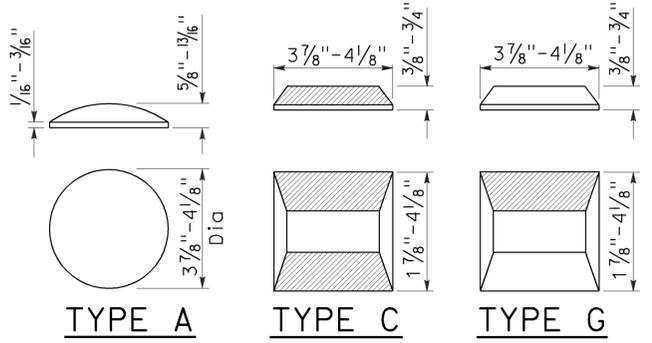


ENTRANCE RAMP NEUTRAL AREA (ACCELERATION LANE) TREATMENT

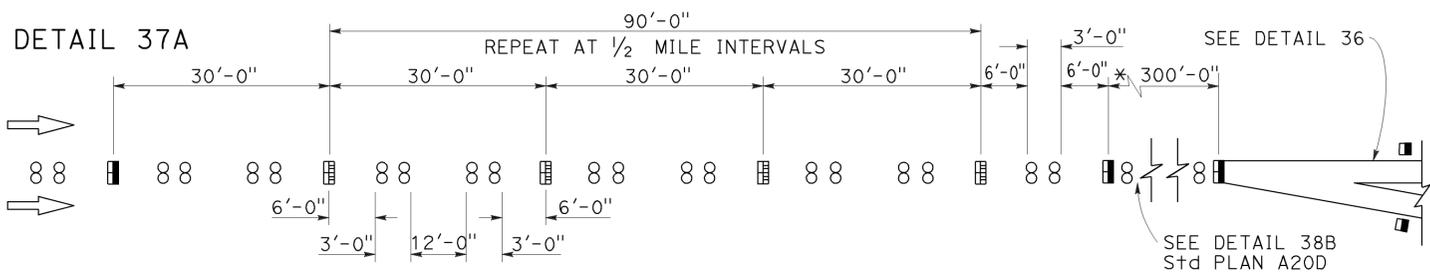
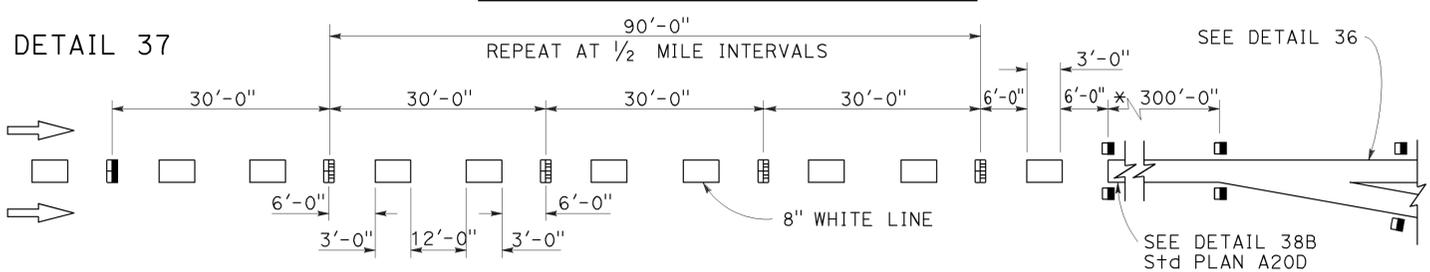


MARKER DETAILS

- LEGEND:**
- MARKERS
- TYPE A WHITE NON-REFLECTIVE
 - ◻ TYPE C RED-CLEAR RETROREFLECTIVE
 - TYPE G ONE-WAY CLEAR RETROREFLECTIVE

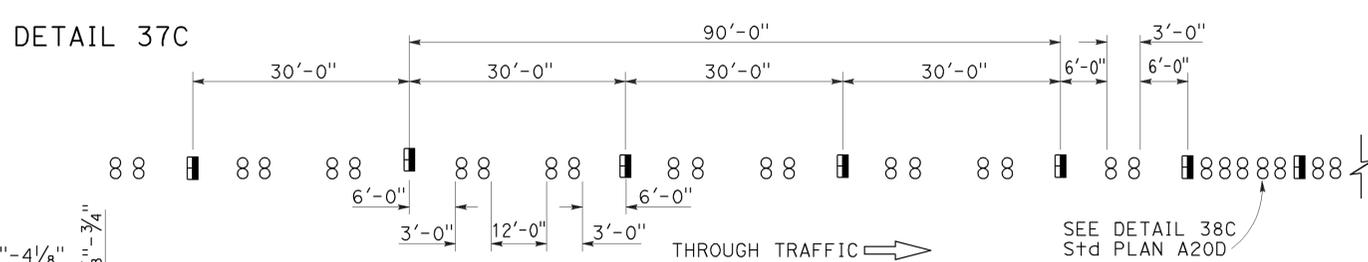
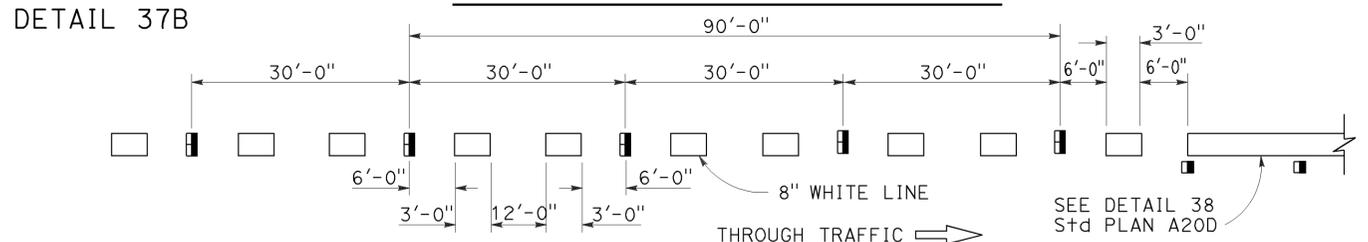


LANE DROP AT EXIT RAMP



* 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

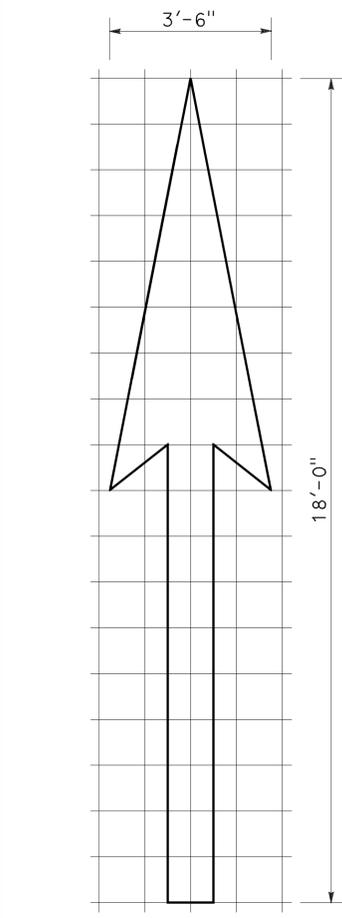
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	32	64

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

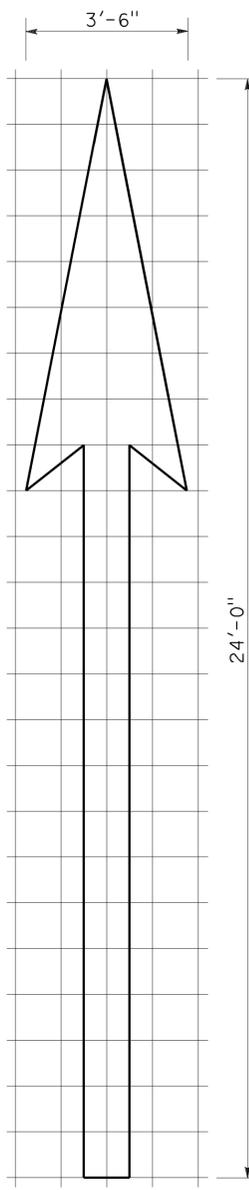
April 20, 2012
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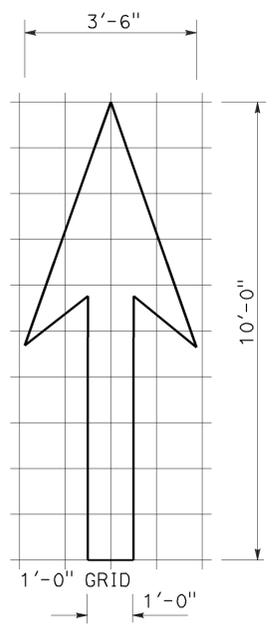
TO ACCOMPANY PLANS DATED 10-26-15



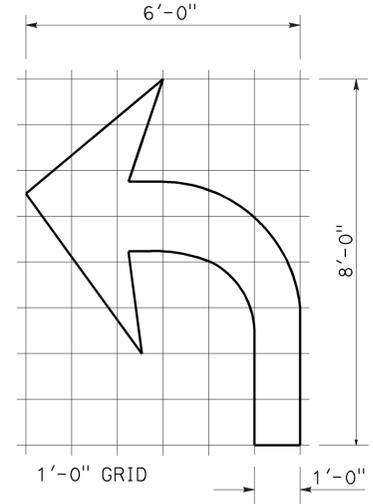
TYPE I 18'-0" ARROW
A=25 ft²



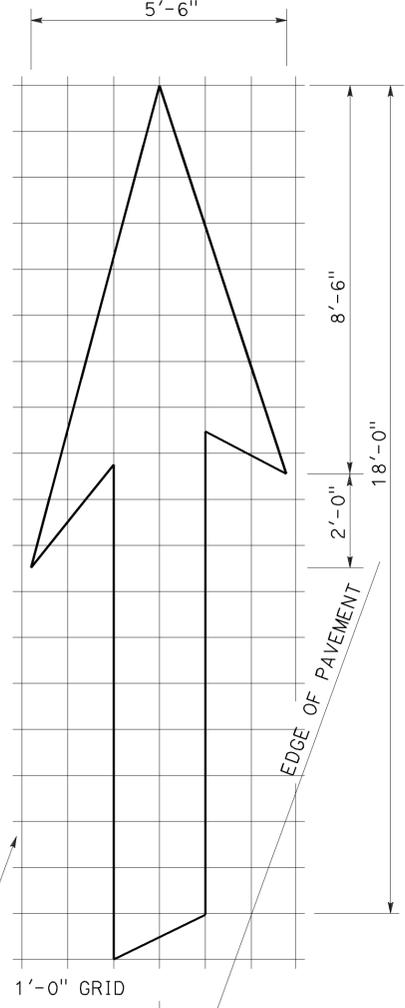
TYPE I 24'-0" ARROW
A=31 ft²



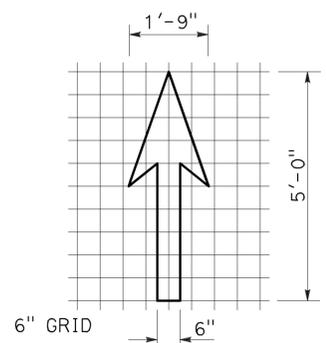
TYPE I 10'-0" ARROW
A=14 ft²



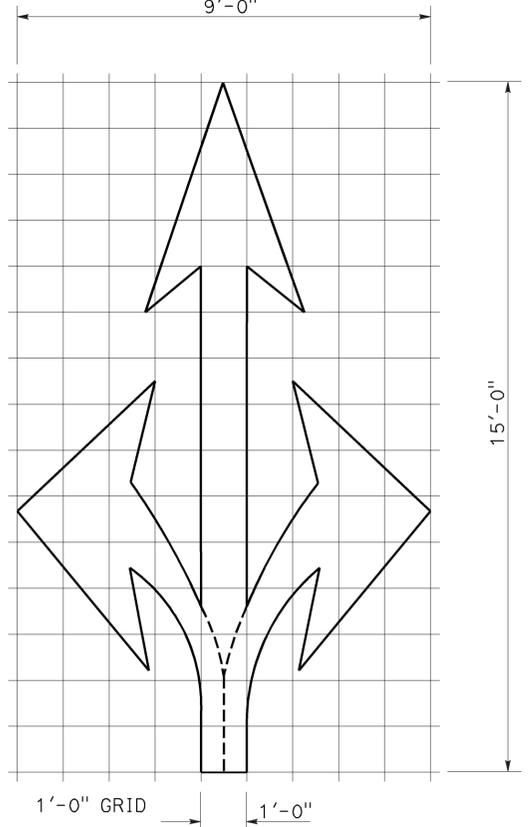
TYPE IV (L) ARROW
A=15 ft²
(For Type IV (R) arrow,
use mirror image)



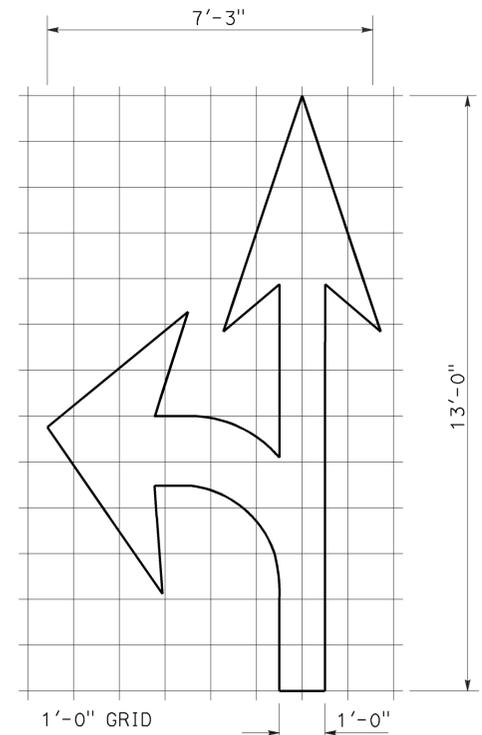
TYPE VI ARROW
A=42 ft²
Right lane drop arrow
(For left lane,
use mirror image)



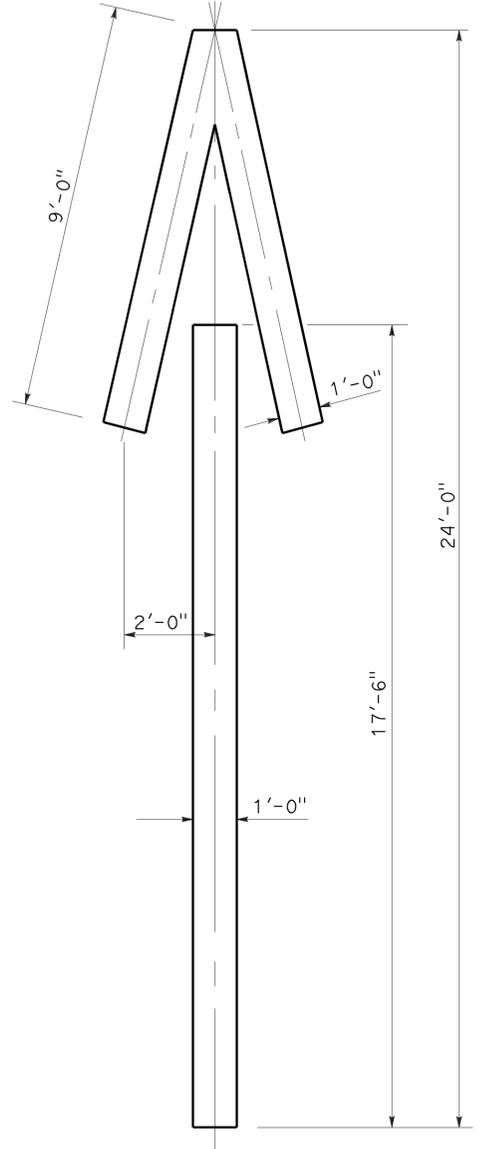
BIKE LANE ARROW
A=3.5 ft²



TYPE VIII ARROW
A=36 ft²



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



TYPE V ARROW
A=33 ft²

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

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

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

REVISED STANDARD PLAN RSP A24A

2010 REVISED STANDARD PLAN RSP A24A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	33	64

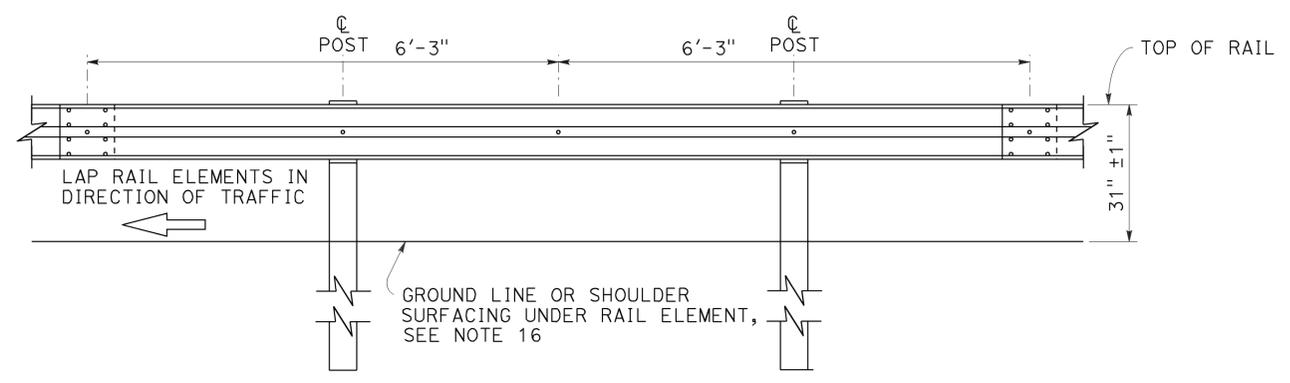
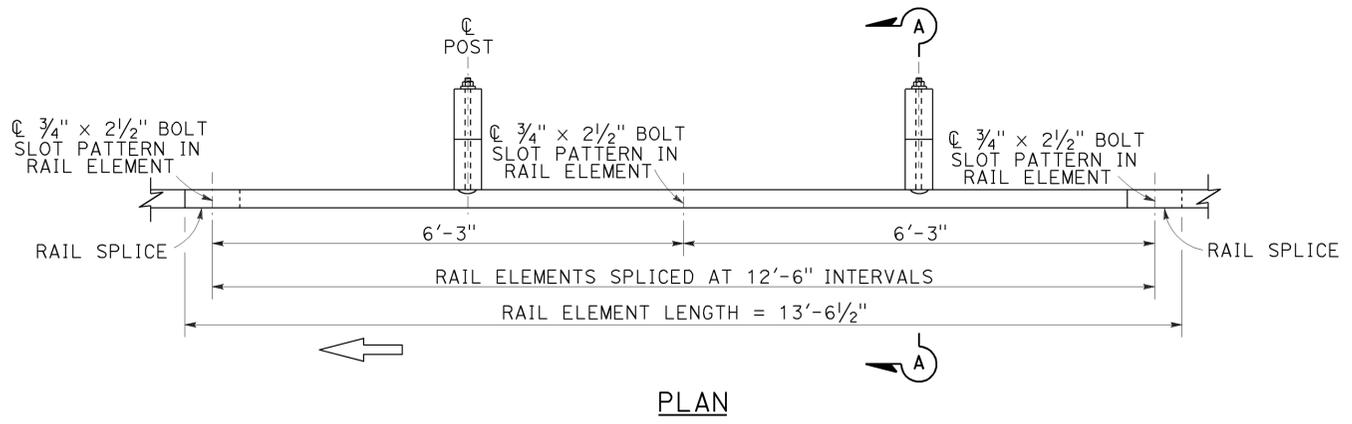
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

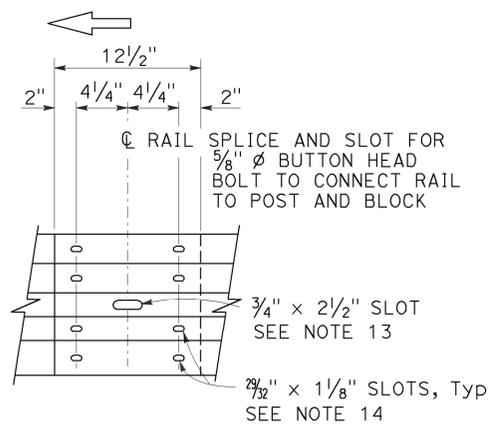
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REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

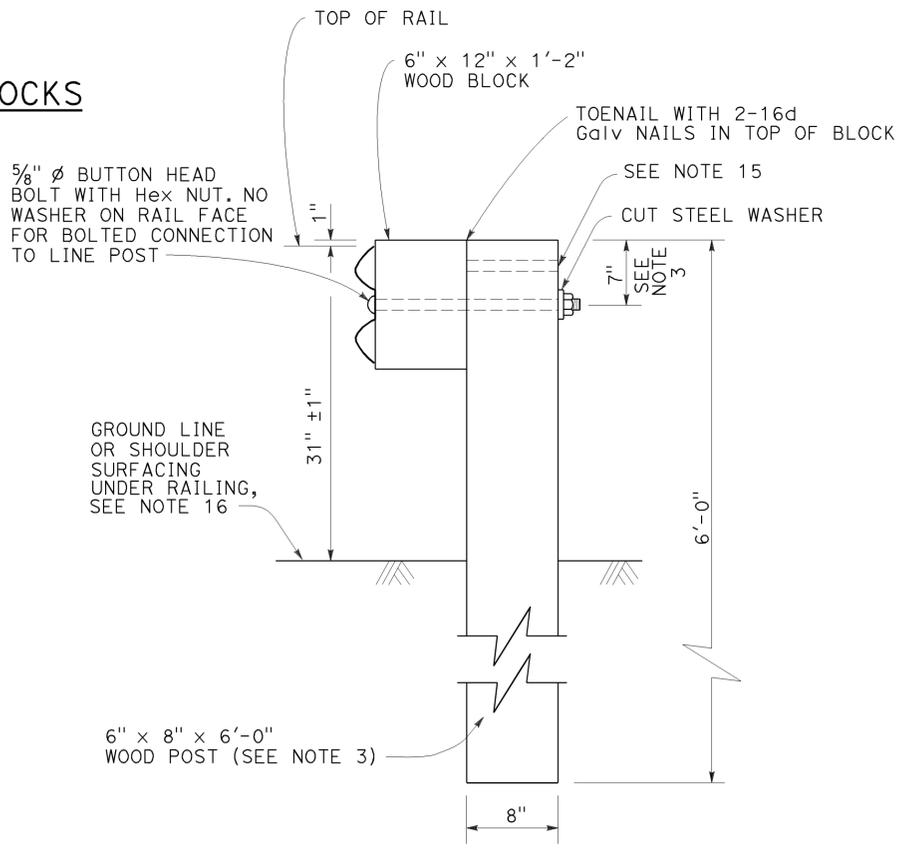
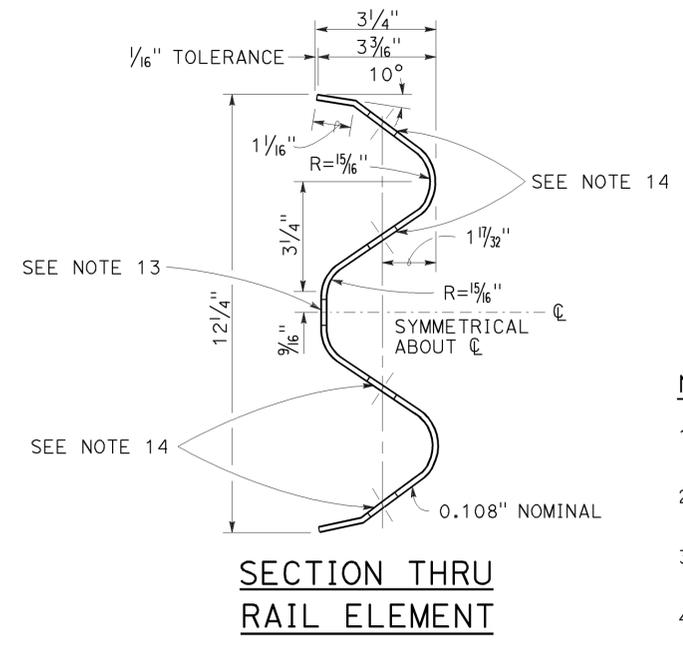
TO ACCOMPANY PLANS DATED 10-26-15



MIDWEST GUARDRAIL SYSTEM WITH WOOD POST AND BLOCKS



- Connect the over lapped end of the rail elements with $\frac{5}{8}$ " ϕ x $1\frac{3}{8}$ " button head oval shoulder splice bolts inserted into the $\frac{29}{32}$ " x $1\frac{1}{8}$ " slots and bolted together with $\frac{5}{8}$ " ϕ recessed hex nuts. Recess of hex nut points toward rail element. A total of 8 bolts and nuts are to be used at each rail splice connection.
- The ends of the rail elements are to be overlapped in the direction of traffic (see details).
- Where end cap is to be attached to the end of a rail element, a total of 4 of the above described splice bolts and nuts are to be used.



SECTION A-A
TYPICAL WOOD LINE POST INSTALLATION
See Note 4

NOTES:

- For details of steel post installations, see Revised Standard Plan RSP A77L2.
- For details of standard hardware used to construct MGS, see Revised Standard Plan RSP A77M1.
- For details of wood posts and wood blocks used to construct MGS, see Revised Standard Plan RSP A77N1.
- For additional installation details, see Revised Standard Plan RSP A77N3.
- MGS post spacing to be 6'-3" center to center, except as otherwise noted.
- For MGS typical layouts, see the A77P, A77Q and A77R Series of Standard Plans.
- If railing is connected to terminal system end treatment, use 31" height terminal system end treatment.
- For MGS end anchor details, see Revised Standard Plans RSP A77S1 and RSP A77T2.
- For details of MGS transition to bridge railing, see Revised Standard Plan RSP A77U4.
- For additional details of MGS connection to bridge railing, see Revised Standard Plans RSP A77U1, RSP A77U2 and RSP A77V1.
- For MGS connection details to abutments and walls, see Revised Standard Plan RSP A77U3.
- For typical MGS delineation and dike positioning details, see Revised Standard Plan RSP A77N4.
- Slotted hole for bolted connection of rail element to block and post. See "Section Thru Rail Element".
- Slotted holes for splice bolts to overlap ends of rail element. See "Section Thru Rail Element".
- Additional hole in uppermost portion of line post is for potential future adjustments of railing height. See Revised Standard Plan RSP A77N1.
- Install posts in soil.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
STANDARD RAILING SECTION
(WOOD POST WITH
WOOD BLOCK)**

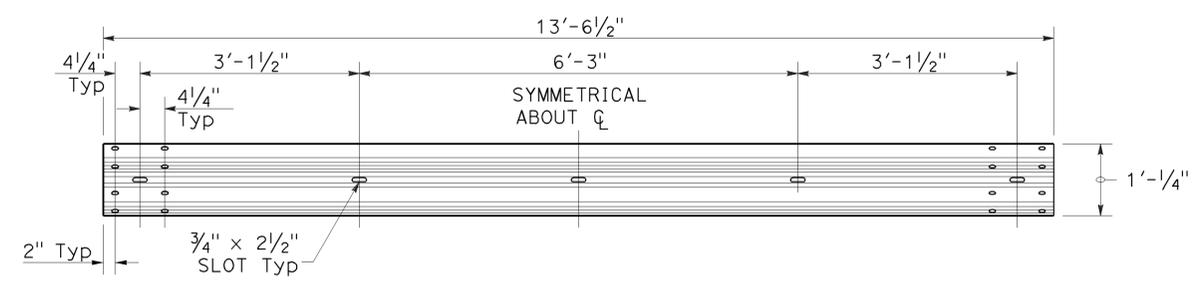
NO SCALE

RSP A77L1 DATED JULY 19, 2013 SUPPLEMENTS STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77L1

2010 REVISED STANDARD PLAN RSP A77L1

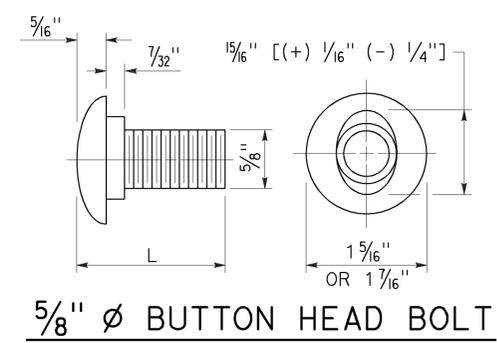
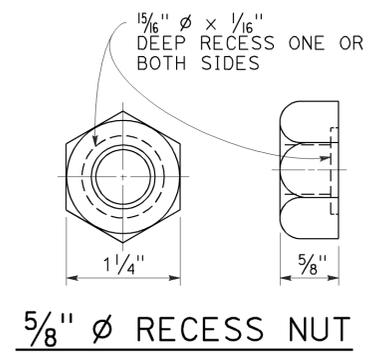
TO ACCOMPANY PLANS DATED 10-26-15



TYPICAL RAIL ELEMENT

NOTE:

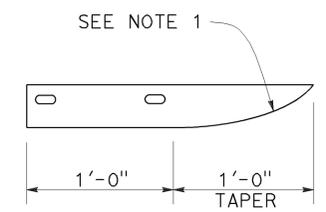
1. Slotted holes for splice bolts to overlap ends of rail element.



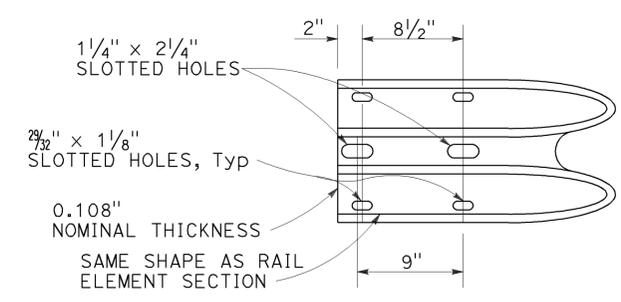
BUTTON HEAD BOLT

L	THREAD LENGTH
1 3/8"	FULL THREAD LENGTH
2"	FULL THREAD LENGTH
10"	4" Min THREAD LENGTH
18"	4" Min THREAD LENGTH
20"	4" Min THREAD LENGTH
22"	4" Min THREAD LENGTH
26"	4" Min THREAD LENGTH
36"	4" Min THREAD LENGTH
** 2 3/4"	2" Min THREAD LENGTH
** 19"	4" Min THREAD LENGTH

** For nested rail applications.



PLAN



ELEVATION
END CAP
(TYPE A)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
STANDARD HARDWARE**

NO SCALE

RSP A77M1 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77M1

2010 REVISED STANDARD PLAN RSP A77M1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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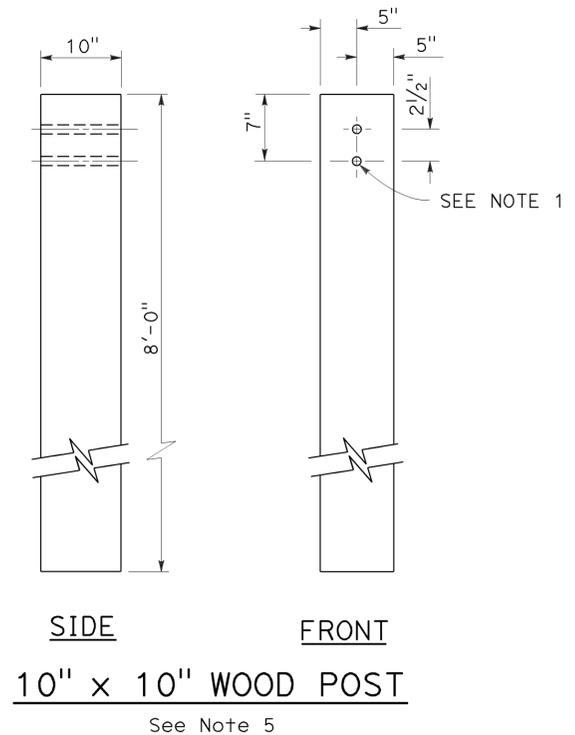
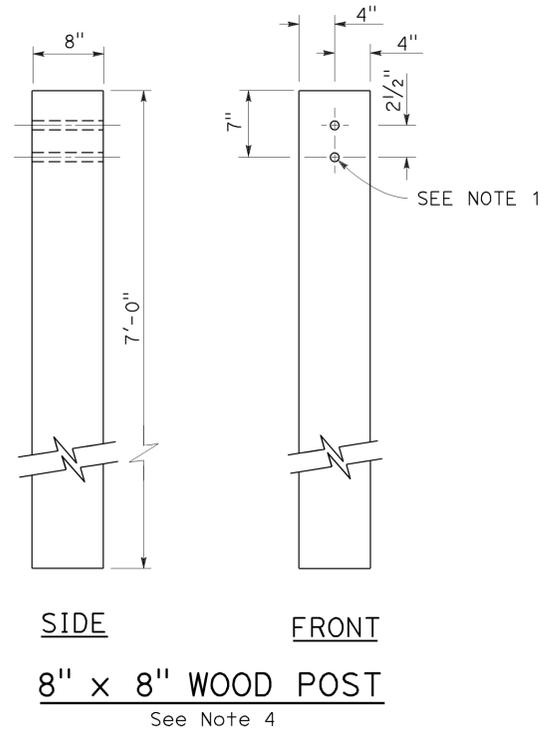
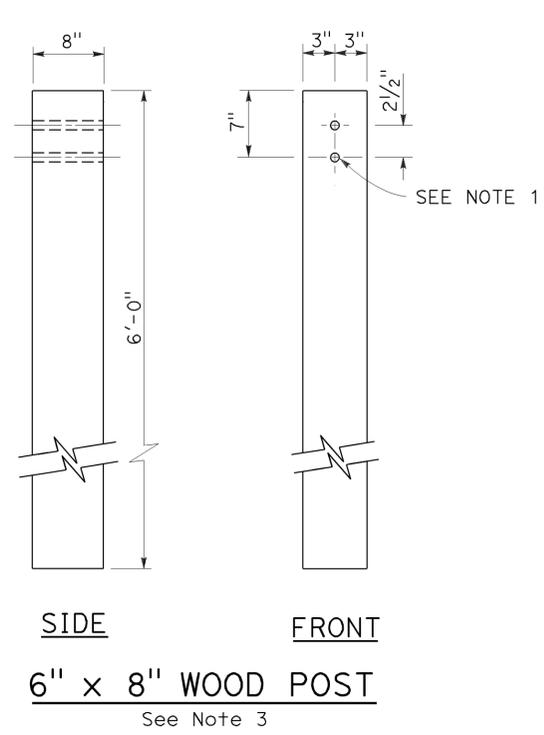
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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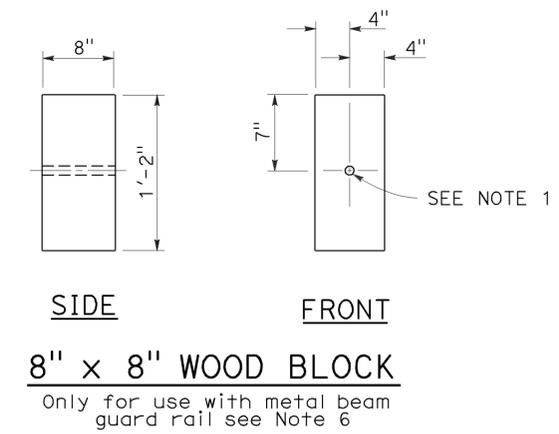
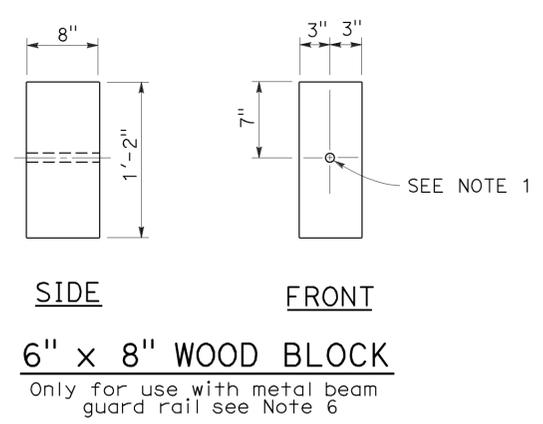
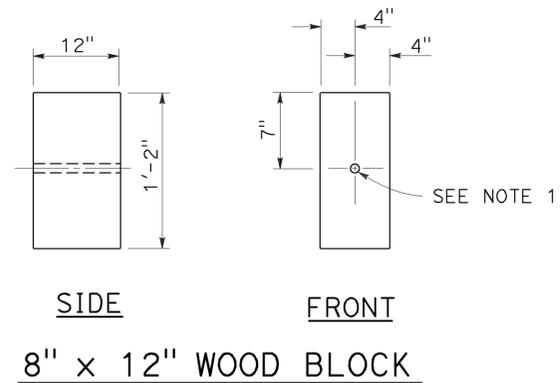
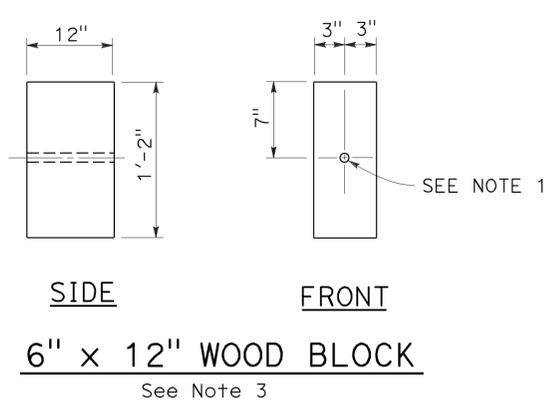
REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 10-26-15



NOTES:

1. All holes in wood posts and blocks shall be $\frac{3}{4}$ " Dia \pm $\frac{1}{16}$ ".
2. Dimensions shown for wood post are nominal.
3. This post and block combination used for standard line post sections of MGS.
4. This post and 8" x 12" block combination used for line post sections of MGS on narrow roadways.
5. This post and 8" x 12" block combination is typically used where strengthened line post sections of MGS are warranted to shield fixed objects.
6. See Revised Standard Plan RSP A77L3 for use of 6" x 8" and 8" x 8" wood blocks.



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
WOOD POST AND
WOOD BLOCK DETAILS**

NO SCALE

RSP A77N1 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N1

2010 REVISED STANDARD PLAN RSP A77N1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	36	64

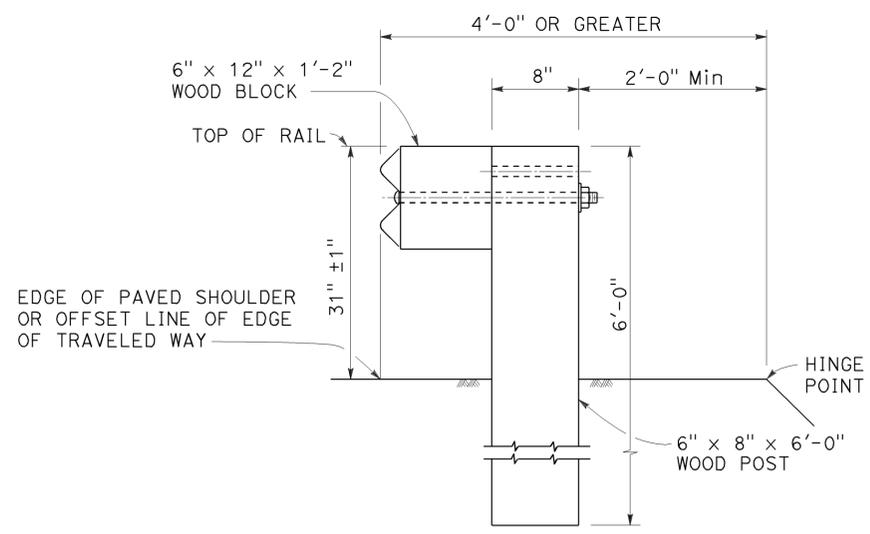
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November 15, 2013
PLANS APPROVAL DATE

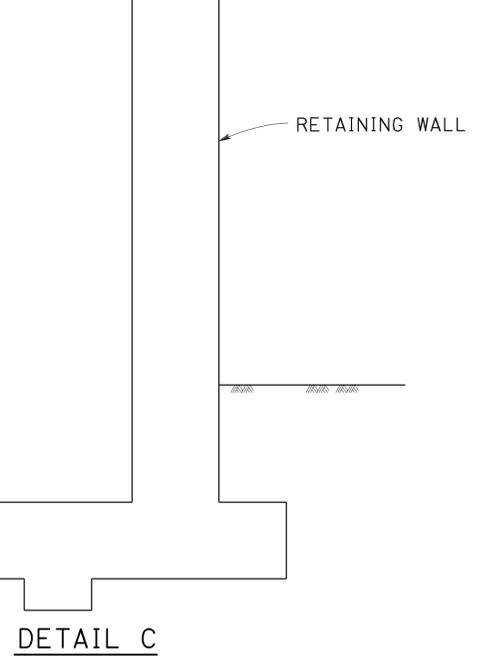
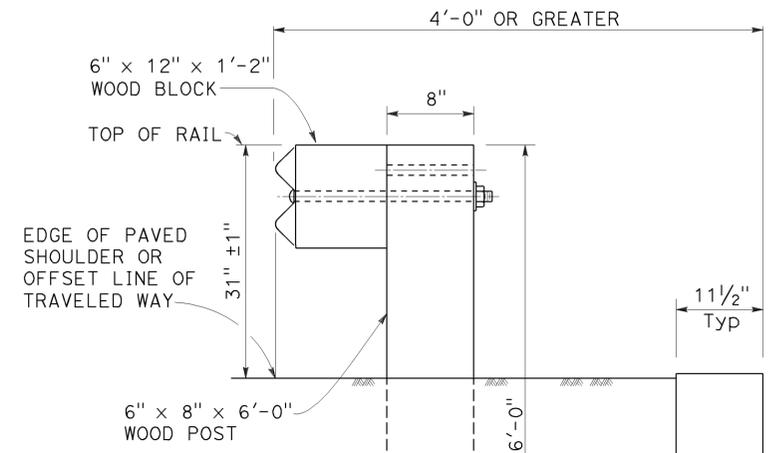
Randell D. Hiatt
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Exp. 6-30-15
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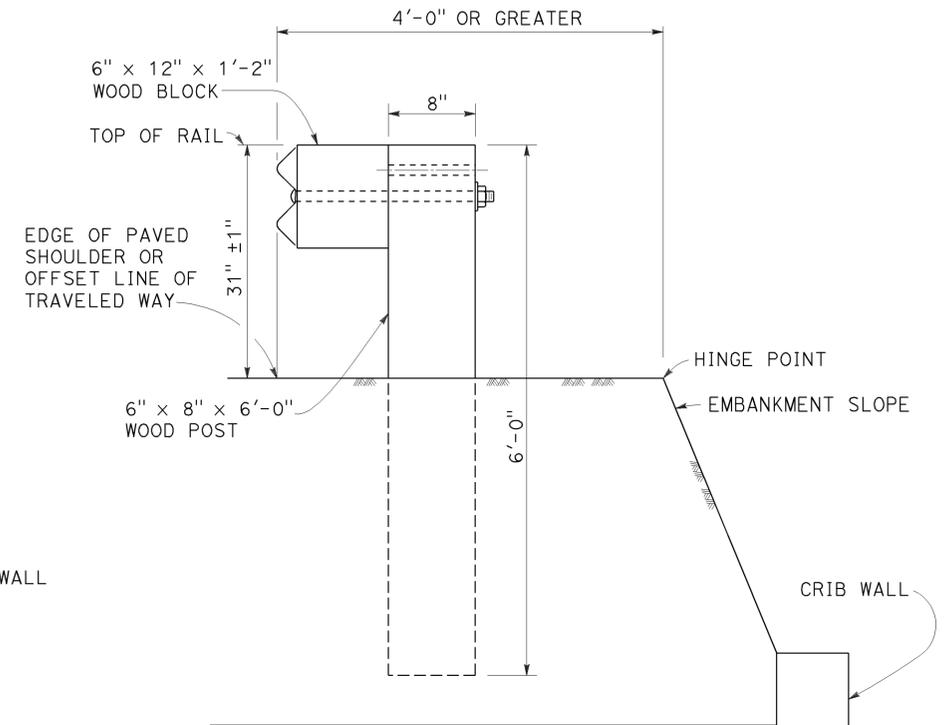
TO ACCOMPANY PLANS DATED 10-26-15



DETAIL A
TYPICAL ROADWAY
INSTALLATION
See Note 1



DETAIL B
NARROW ROADWAY
INSTALLATION
See Note 1



DETAIL D

INSTALLATION AT EARTH RETAINING WALLS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM
TYPICAL LINE POST
EMBEDMENT AND
HINGE POINT OFFSET DETAILS

NO SCALE

RSP A77N3 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77N3
DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N3

NOTES:

1. These installation details also applicable to steel line post installations. For Detail A, C, and D, where steel line post installations are constructed, W6 x 8.5 or W6 x 9 steel post, 6'-0" in length, with 6" x 12" x 1'-2" notched wood blocks or notched recycled plastic blocks are to be used in place of the size of wood post and wood block shown. For Detail B, where steel line post installations are constructed, W6 x 15 steel post, 8'-0" in length, with 8" x 12" x 1'-2" notched wood blocks or notched recycled plastic blocks are to be used in place of the size of wood post and wood block shown. For additional installation details, see Revised Standard Plan RSP A77L1 and RSP A77L2.
2. Where the distance between the face of the rail and the hinge point is less than 2'-6", see the Project Plans for special details.
3. For dike positioning with MGS installations, see Revised Standard Plan RSP A77N4.

POST EMBEDMENT

2010 REVISED STANDARD PLAN RSP A77N3

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	37	64

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July 19, 2013
PLANS APPROVAL DATE

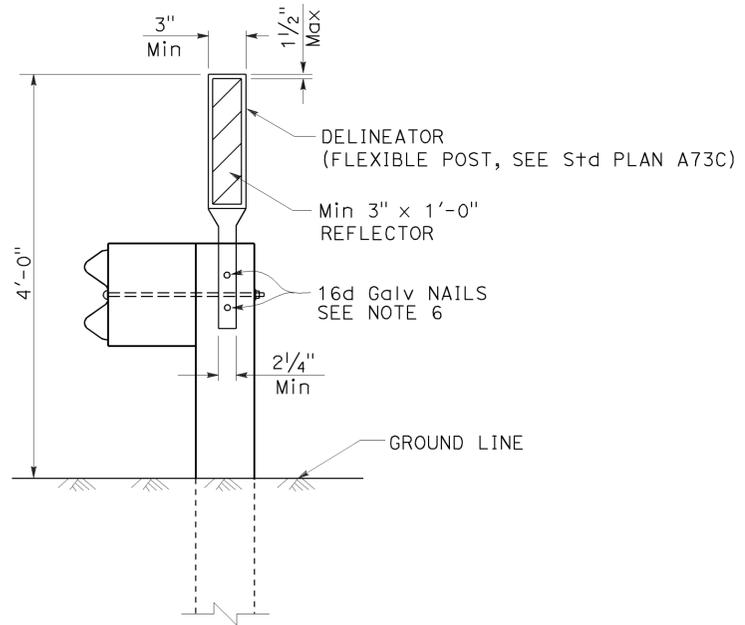
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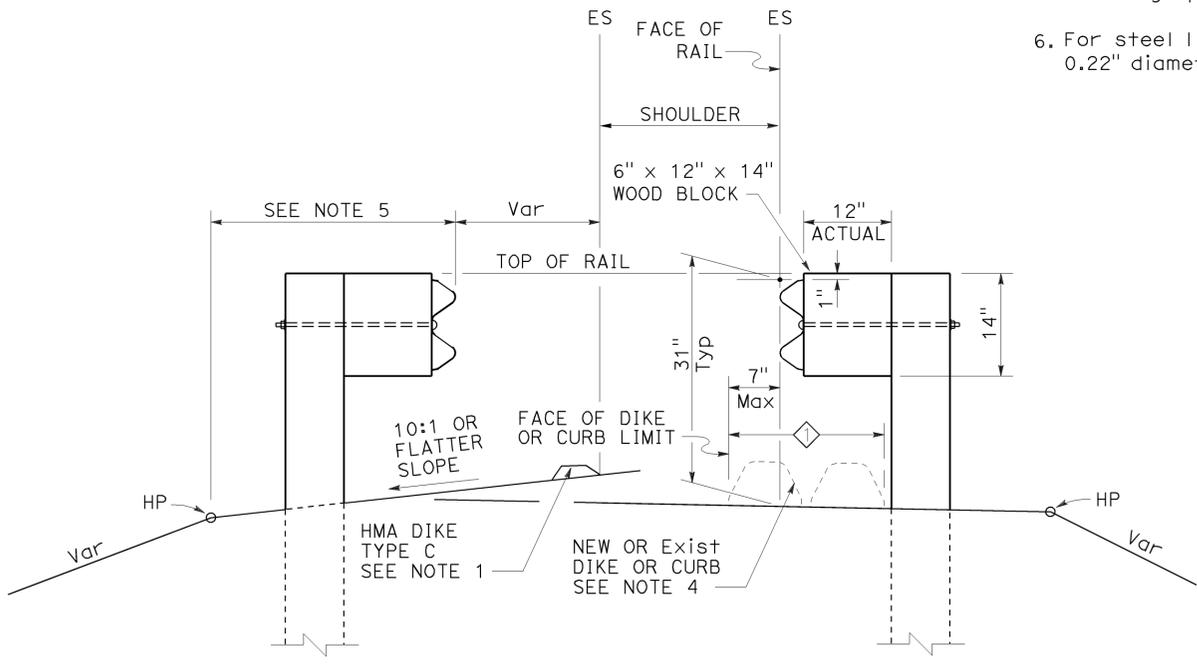
TO ACCOMPANY PLANS DATED 10-26-15

NOTES:

1. When necessary to place dike more than 7" in front of face of MGS, only Type C dike may be used. For dike details, see Revised Standard Plan RSP A87B.
2. For standard railing post embedment, see Revised Standard Plan RSP A77N3.
3. MGS delineation to be used where shown on the Project Plans.
4. When dike or curb is placed under MGS, the maximum height of the dike or curb shall be 6". Mountable dike should not be used. For dike and curb details, see Revised Standard Plans RSP A87A and RSP A87B.
5. For details of typical distance between the face of rail and hinge point, see Revised Standard Plan RSP A77N3.
6. For steel line posts, use 1/4" - 20 self-tapping screws in 0.22" diameter holes or 1/4" bolts in 3/32" diameter holes.



MGS DELINEATION
See Note 3



DIKE POSITIONING
See Note 1

◇ PERMISSIBLE DIKE OR CURB PLACEMENT AREA

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TYPICAL RAILING DELINEATION
AND DIKE POSITIONING DETAILS**

NO SCALE

RSP A77N4 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N4

2010 REVISED STANDARD PLAN RSP A77N4

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	38	64

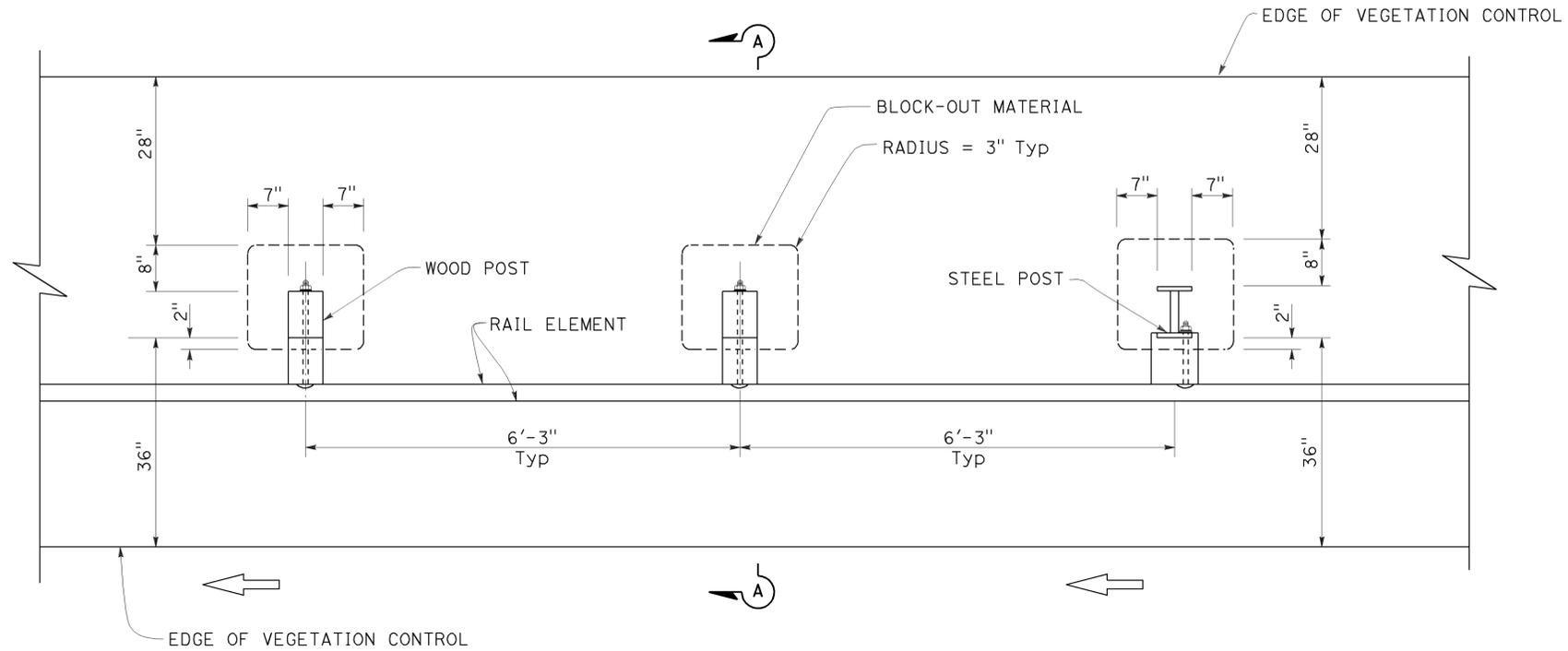
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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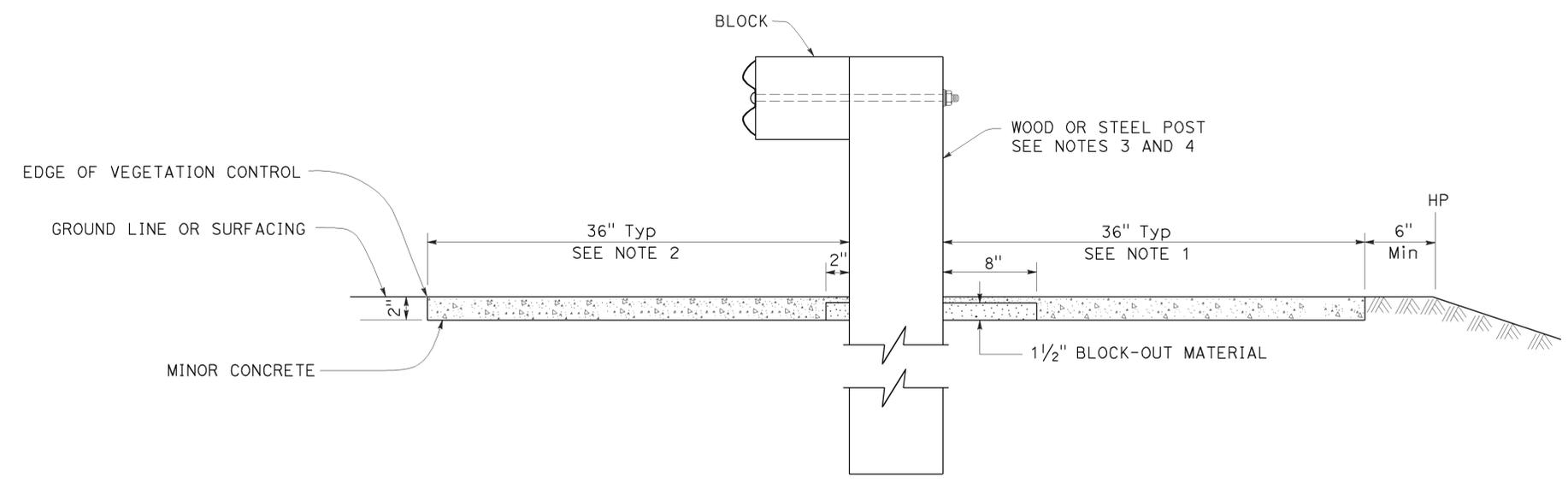
TO ACCOMPANY PLANS DATED 10-26-15



PLAN

NOTES:

1. Where the distance between back of post and hinge point is less than 42", construct vegetation control to 6" from hinge point while maintaining the 8" block-out at back of post. If the 8" block-out at back of post can not be maintained, construct vegetation control flush with the back edge of post.
2. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 36" in front of the post, construct vegetation control to the edge of paved shoulder.
3. For wood post sizes, see Revised Standard Plan RSP A77N1.
4. For steel post sizes, see Revised Standard Plan RSP A77N2.
5. For details not shown, see Revised Standard Plans RSP A77L1 and RSP A77L2.



SECTION A-A

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TYPICAL VEGETATION CONTROL
STANDARD RAILING SECTION**

NO SCALE

RSP A77N5 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N5

2010 REVISED STANDARD PLAN RSP A77N5

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	39	64

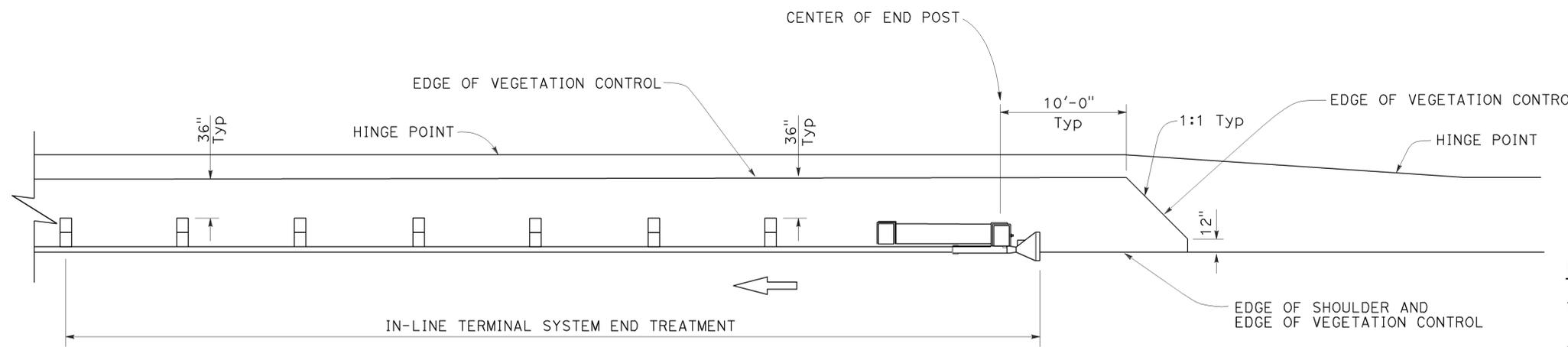
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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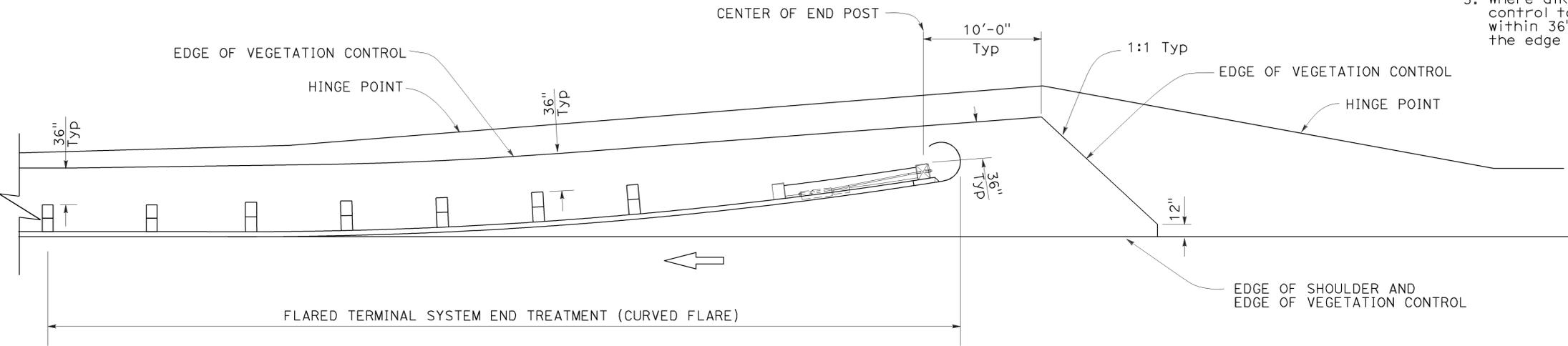
TO ACCOMPANY PLANS DATED 10-26-15



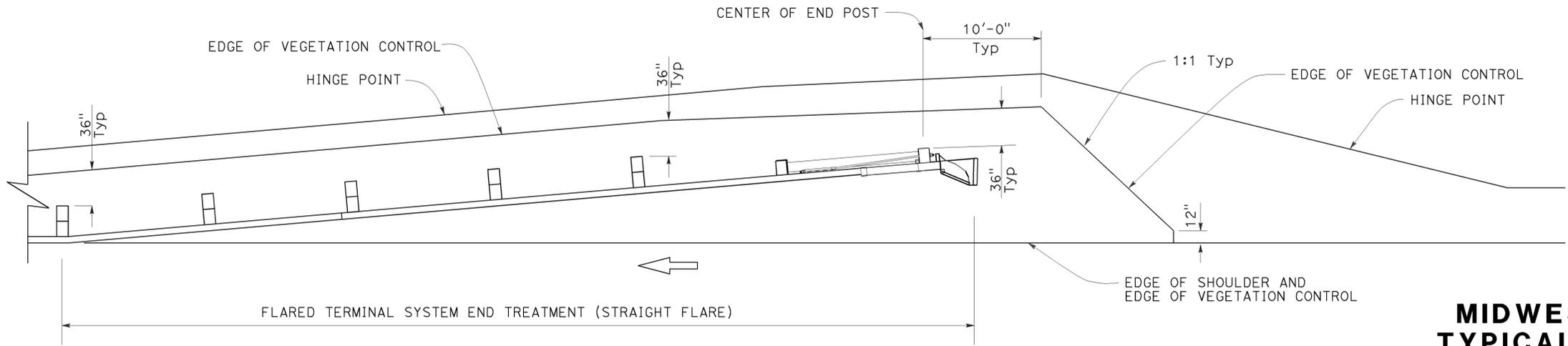
PLAN

NOTES:

1. See Revised Standard Plan RSP A77N5 for additional vegetation control details.
2. Where the distance between back of post and hinge point is less than 42", construct vegetation control to 6" from hinge point while maintaining the 8" block-out at back of post. If the 8" block-out at back of post can not be maintained, construct vegetation control flush with the back edge of post.
3. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 36" in front of the post, construct vegetation control to the edge of paved shoulder.



PLAN



PLAN

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TYPICAL VEGETATION CONTROL
FOR TERMINAL SYSTEM END TREATMENTS**

NO SCALE

RSP A77N6 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N6

2010 REVISED STANDARD PLAN RSP A77N6

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	40	64

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

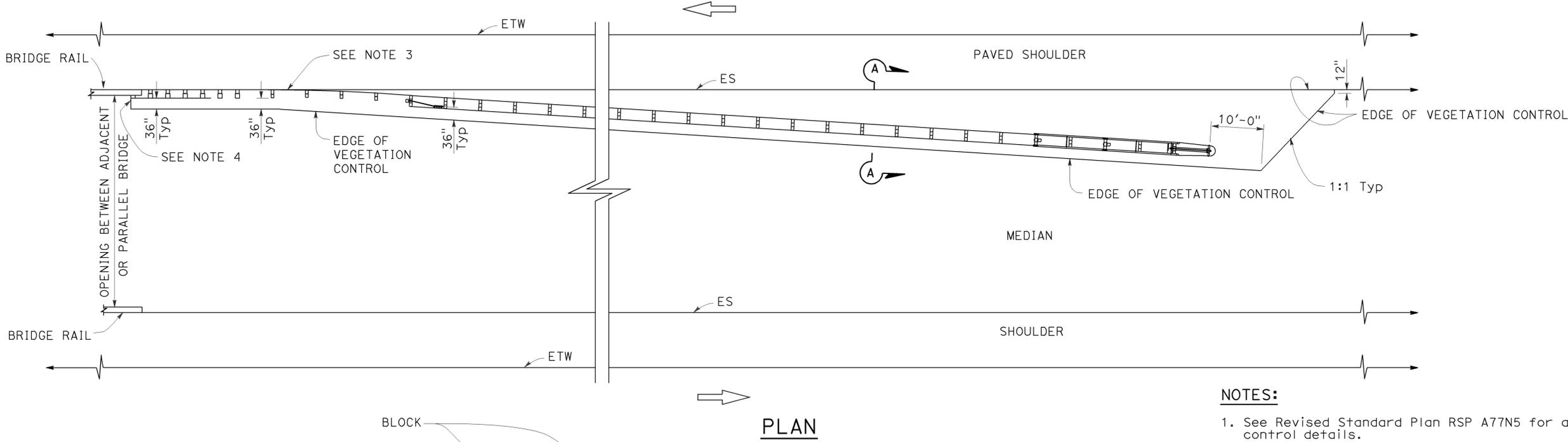
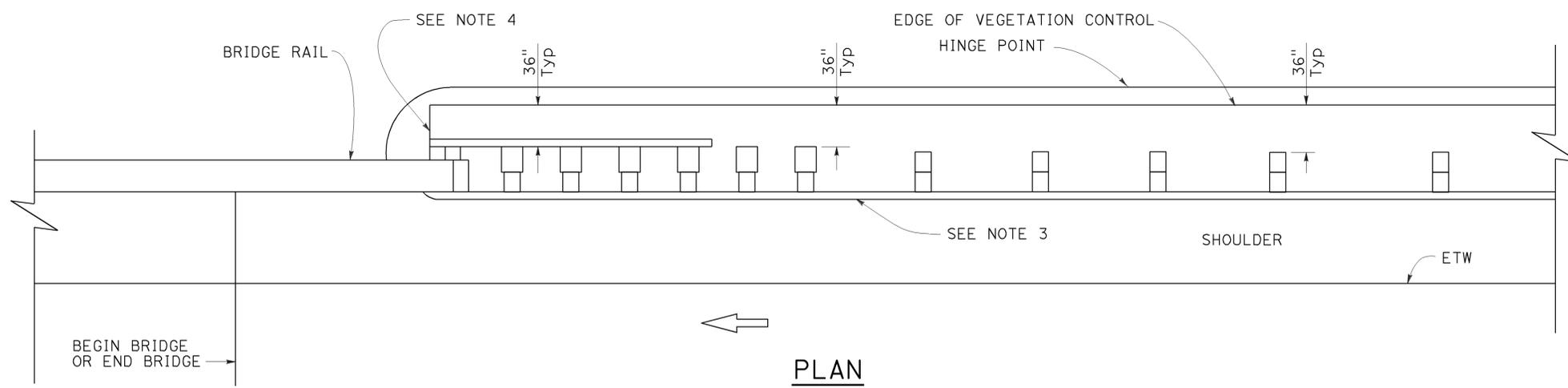
July 19, 2013
PLANS APPROVAL DATE

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TO ACCOMPANY PLANS DATED 10-26-15

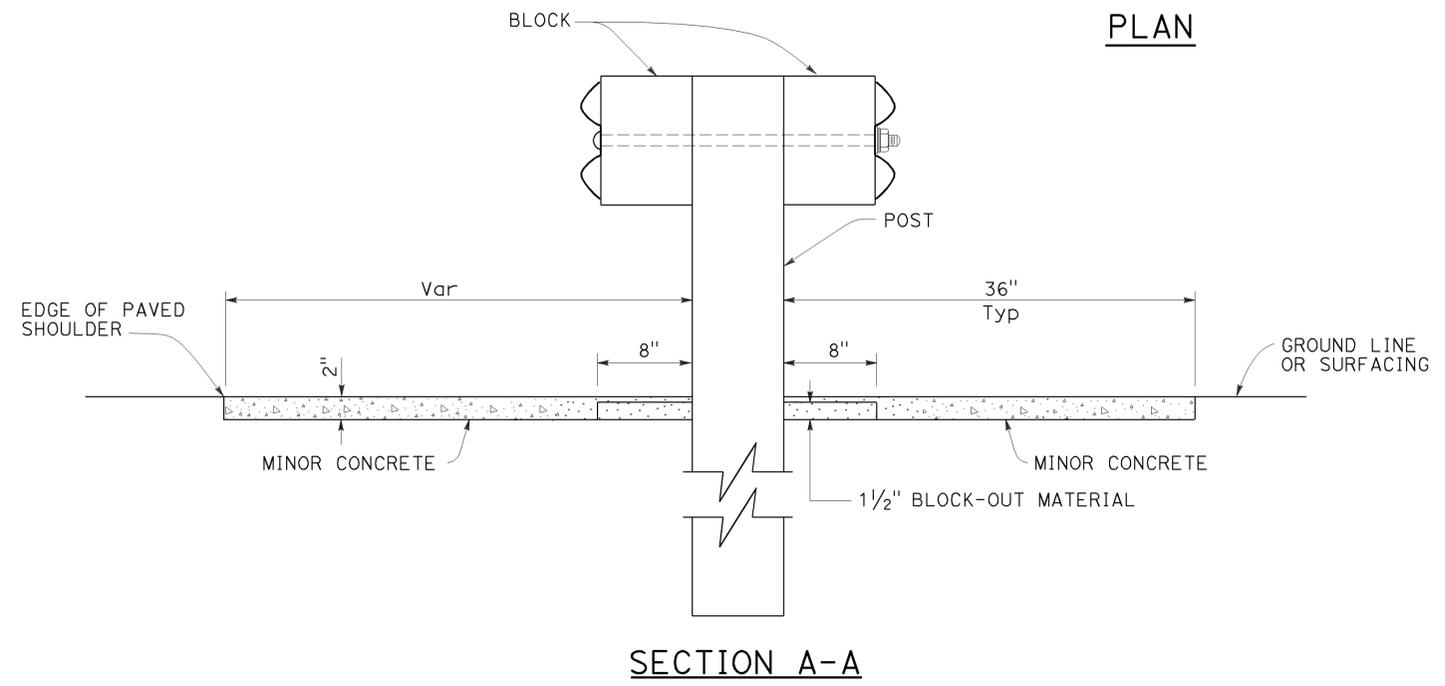


2010 REVISED STANDARD PLAN RSP A77N7



NOTES:

1. See Revised Standard Plan RSP A77N5 for additional vegetation control details.
2. Where the distance between back of post and hinge point is less than 42", construct vegetation control to 6" from hinge point while maintaining the 8" block-out at back of post. If the 8" block-out at back of post can not be maintained, construct vegetation control flush with the back edge of post.
3. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 36" in front of the post, construct vegetation control to the edge of paved shoulder.
4. End vegetation control at end of backside rail element.



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TYPICAL VEGETATION CONTROL
AT STRUCTURE APPROACH**

NO SCALE

RSP A77N7 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N7

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	41	64

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

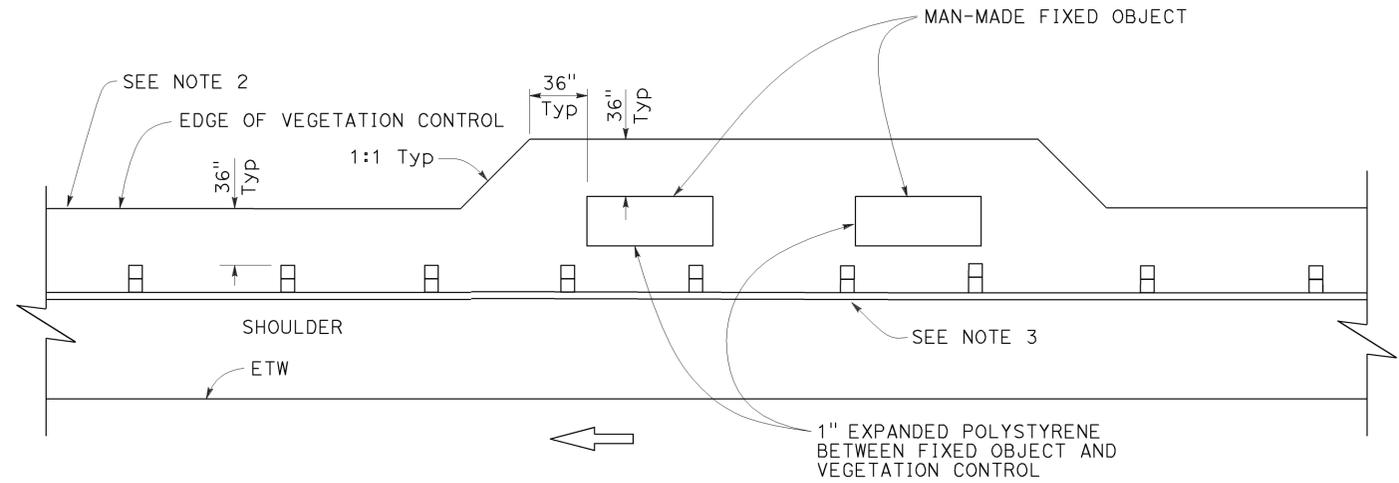
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TO ACCOMPANY PLANS DATED 10-26-15

NOTES:

1. See Revised Standard Plan RSP A77N5 for additional vegetation control details.
2. Where the distance between back of post and hinge point is less than 42", construct vegetation control to 6" from hinge point while maintaining the 8" block-out at back of post. If the 8" block-out at back of post can not be maintained, construct vegetation control flush with the back edge of post.
3. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 36" in front of the post, construct vegetation control to the edge of paved shoulder.



PLAN
Fixed object(s) on shoulder

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**MIDWEST GUARDRAIL SYSTEM
TYPICAL VEGETATION CONTROL
AT FIXED OBJECT**

NO SCALE

RSP A77N8 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N8

2010 REVISED STANDARD PLAN RSP A77N8

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	42	64

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

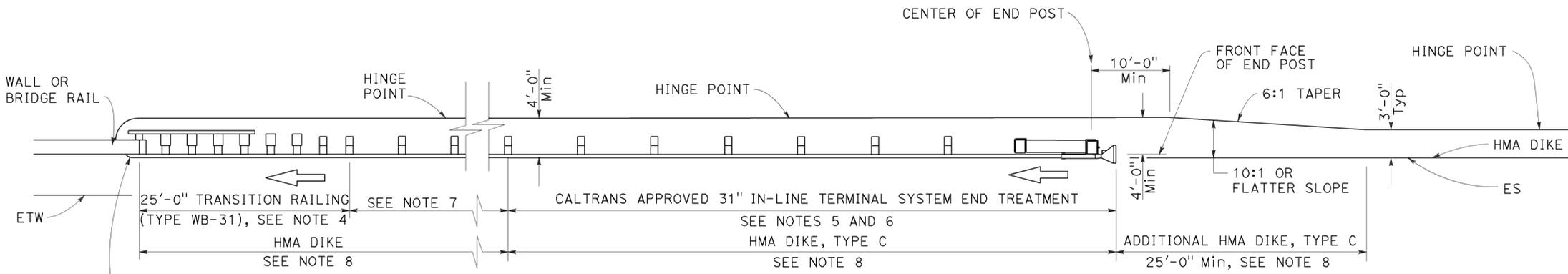
August 14, 2015
PLANS APPROVAL DATE

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TO ACCOMPANY PLANS DATED 10-26-15

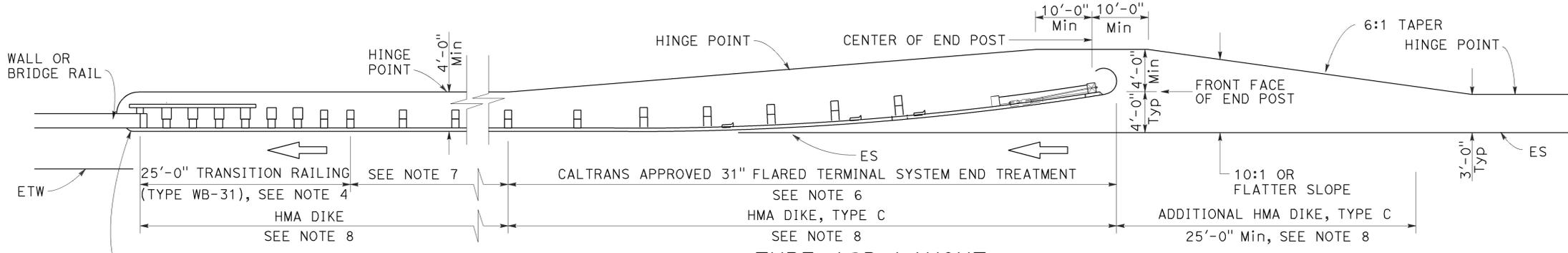


2010 REVISED STANDARD PLAN RSP A77Q1



TYPE 12A LAYOUT

(MGS installation at structure approach with 31" in-line end treatment at traffic approach end of railing)
See Note 9



TYPE 12B LAYOUT

(MGS installation at structure approach with 31" Flared end treatment at traffic approach end of railing)
See Note 9

NOTES:

- Line post, blocks and hardware to be used are shown on Revised Standard Plans RSP A77L1, RSP A77L2, RSP A77M1, RSP A77N1 and RSP A77N2.
- MGS post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 12" x 1'-2" wood blocks. W6 x 8.5 or W6 x 9 steel posts, 6'-0" in length, with 6" x 12" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood posts with 6" x 12" x 1'-2" wood blocks where applicable and when specified.
- For Transition Railing (Type WB-31) details for Types 12A and 12B Layouts, see Revised Standard Plan RSP A77U4.
- 31" in-line terminal system end treatments are used where site conditions will not accommodate a 31" flared end treatment.
- The type of 31" terminal system end treatment to be used will be shown on the Project Plans.
- Dependent on site conditions (embankment height, side slopes, or other fixed objects), it may be advisable to construct additional guard railing (a length equal to multiples of 12'-6" with 6'-3" post spacing) between the transition railing and end treatment. A 12.5 degree angle of departure can be drawn on the Project Plans from the edge of traveled way through the outer most point of the fixed object to determine the additional length of railing needed.
- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77N4 for dike positioning details.
- Type 12A or Type 12B Layouts are typically used:
 - To the right of approaching traffic, at the end of a structure, on two-lane conventional highway where the roadbed width across the structure is less than 40 feet.
 - To the left of approaching traffic, at the end of a structure, on two-lane conventional highway where the roadbed width across the structure is less than 40 feet.
 - To the right of approaching traffic at the end of each structure on multilane freeways or expressways with separate adjacent or parallel bridges.
 - To the right of approaching traffic at the end of the structure on multilane freeways or expressways with decked median on the bridge.
- See Revised Standard Plan RSP A77Q3 for typical layout used left of approaching traffic at the ends of each structure on multilane freeways or expressways with separate adjacent or parallel bridges.
- For additional details of typical connections to bridge rail, see Connection Detail AA on Revised Standard Plans RSP A77U1 and RSP A77U2 and Connection Detail FF on Revised Standard Plans RSP A77V1 and RSP A77V2.
- For additional details of a typical connection to walls or abutments, see Revised Standard Plan RSP A77U3.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TYPICAL LAYOUTS FOR
STRUCTURE APPROACH**

NO SCALE

RSP A77Q1 DATED AUGUST 14, 2015 SUPERSEDES RSP A77Q1 DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

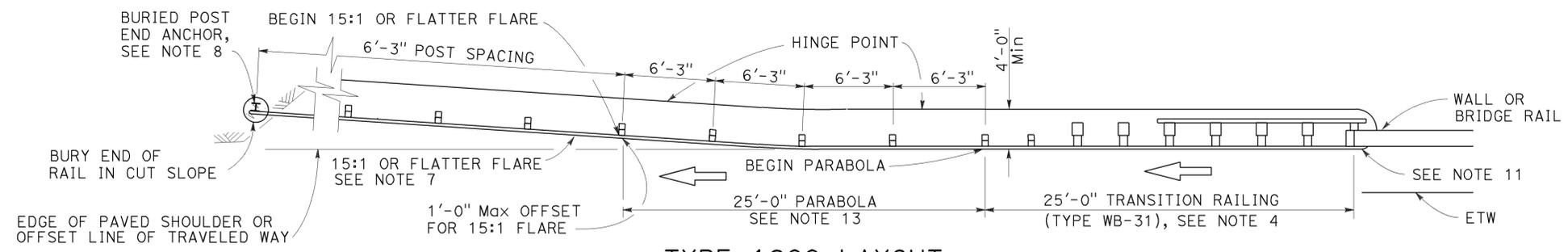
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	43	64

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

August 14, 2015
PLANS APPROVAL DATE

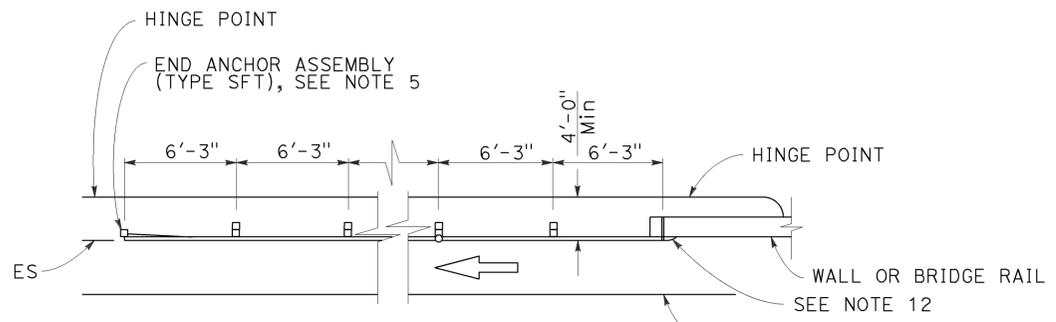
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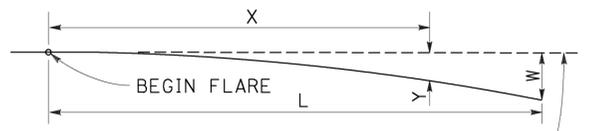
TYPE 12CC LAYOUT

(MGS installation at structure departure with a Buried end anchor treatment at trailing end of railing)
See Notes 9 and 10



TYPE 12DD LAYOUT

(MGS installation at structure departure With end anchor assembly at trailing end of railing)
See Notes 6 and 9

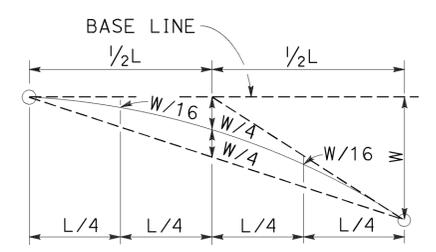


BASE LINE (EDGE OF PAVED SHOULDER OR OFFSET LINE OF EDGE OF TRAVELED WAY)

$$Y = \frac{WX^2}{L^2}$$

Y = OFFSET FROM BASE LINE
W = MAXIMUM OFFSET
X = DISTANCE ALONG BASE LINE
L = LENGTH OF FLARE

PARABOLIC FLARE OFFSETS



TYPICAL PARABOLIC LAYOUT

NOTES:

- Line post, blocks and hardware to be used are shown on Revised Standard Plans RSP A77L1, RSP A77L2, RSP A77M1, RSP A77N1 and RSP A77N2.
- MSG post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 12" x 1'-2" wood blocks. W6 x 8.5 or W6 x 9 steel posts, 6'-0" in length, with 6" x 12" x 1'-2" notched wood blocks or notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood line posts with 6" x 12" x 1'-2" wood blocks where applicable and when specified.
- For Transition Railing (Type WB-31) details for Type 12CC Layout, see Revised Standard Plan RSP A77U4.
- For details of End Anchor Assembly (Type SFT) used with Type 12DD Layout, see Revised Standard Plan RSP A77S1.
- Type 12DD layout is typically used to the right of traffic departing a structure on two-way conventional highways where the roadbed width across the structure is equal to or greater than 40 feet and MGS is recommended (embankment height, side slopes, other fixed objects). Length of railing to be equal to multiples of 12'-6". For MGS connection details to bridge rail, see Revised Standard Plans RSP A77U1 and RSP A77V1. For MGS connection details to wall, see Revised Standard Plan RSP A77U3.
- The 15:1 or flatter flare for Type 12CC Layout is based on the edge of the paved shoulder or offset line of edge of the traveled way. The length of MGS within the 15:1 or flatter flare is based on site conditions and should be a length equal to multiples of 12'-6".
- For details of the buried post end anchor used with Type 12CC Layout, see Revised Standard Plan RSP A77T2.
- Where placement of dike is required with MGS installations, see Revised Standard Plan RSP A77N4 for dike positioning details.
- Type 12CC Layout is typically used to the right of traffic departing a structure on two-way conventional highways where the roadbed width across the structure is less than 40 feet.
- For additional details of a typical connection to bridge rail for Layout Type 12CC, see Connection Detail CC on Revised Standard Plan RSP A77U2 and Connection Detail HH on Revised Standard Plan RSP A77V2.
- For additional details of a typical connection to bridge rail for Layout Type 12DD, see Connection Detail BB on Revised Standard Plan RSP A77U1 and Connection Detail GG on Revised Standard Plan RSP A77V1.
- For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77P1.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TYPICAL LAYOUTS FOR
STRUCTURE DEPARTURE**

NO SCALE

RSP A77Q5 DATED AUGUST 14, 2015 SUPERSEDES RSP A77Q5 DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77Q5

2010 REVISED STANDARD PLAN RSP A77Q5

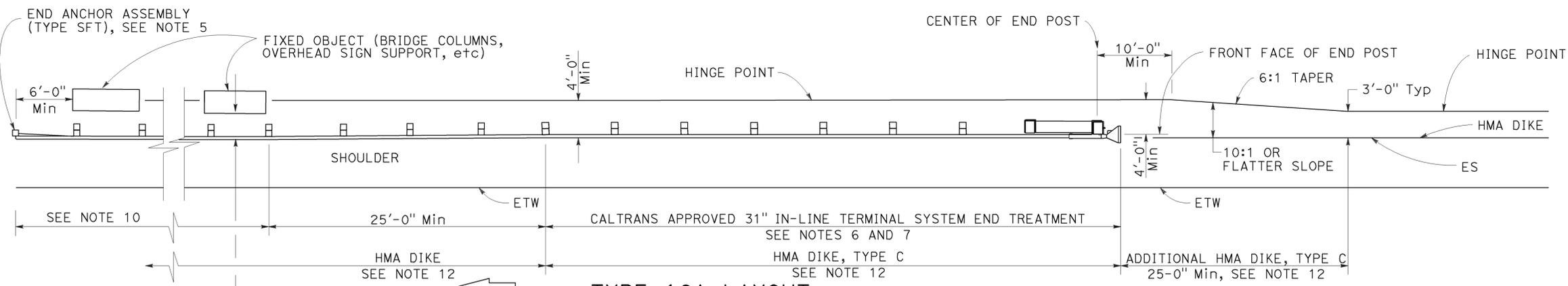
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	44	64

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

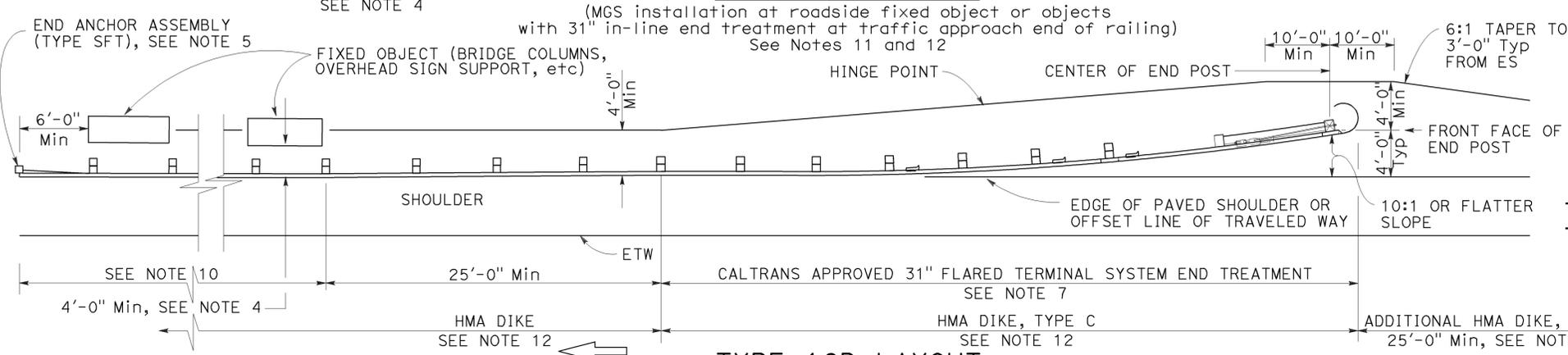
July 19, 2013
PLANS APPROVAL DATE

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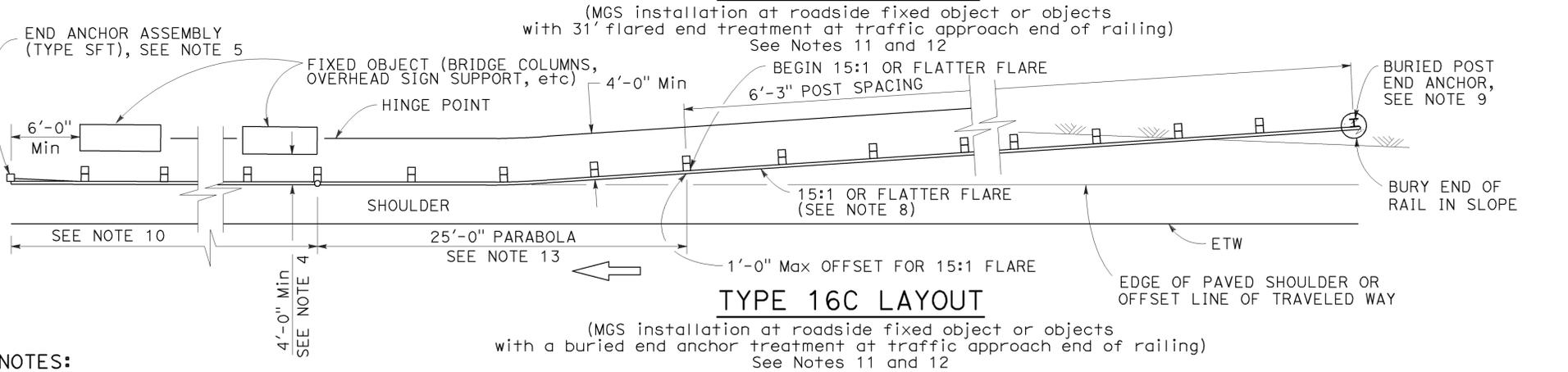
NO. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA



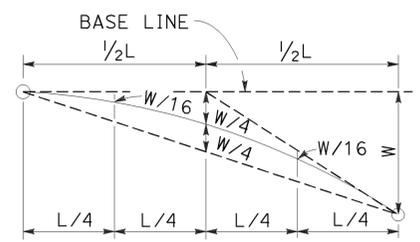
TYPE 16A LAYOUT



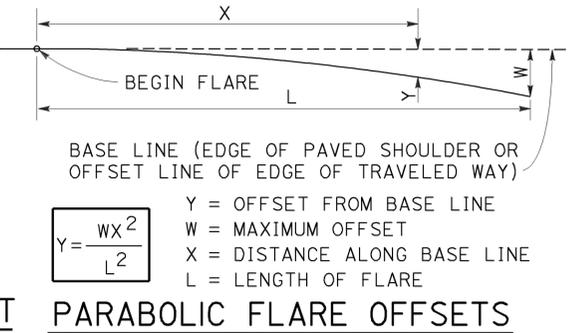
TYPE 16B LAYOUT



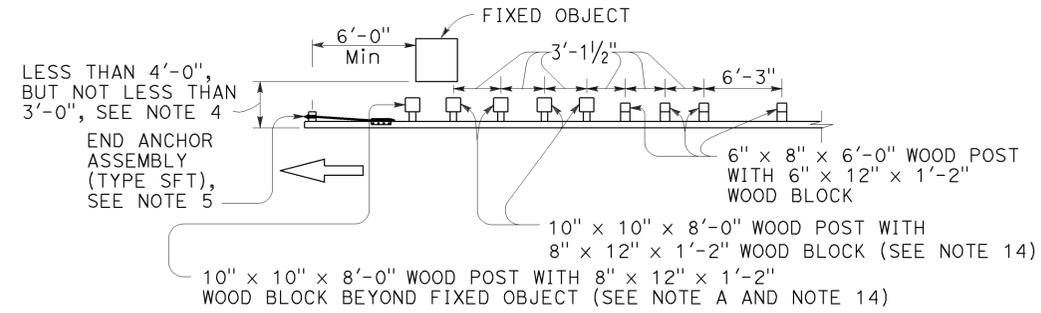
TYPE 16C LAYOUT



TYPICAL PARABOLIC LAYOUT



PARABOLIC FLARE OFFSETS



NOTE A: For a series of fixed objects (bridge columns, overhead sign supports, etc.) additional 10" x 10" x 8'-0" wood post with 8" x 12" x 1'-2" wood blocks at 3'-1/2" center to center spacing are to be used between fixed objects.

STRENGTHENED MIDWEST GUARDRAIL SYSTEM SECTIONS FOR FIXED OBJECT

NOTES:

- Line post, blocks and hardware to be used are shown on Revised Standard Plans RSP A77L1, RSP A77L2, RSP A77M1, RSP A77N1 and RSP A77N2.
- MGS post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 12" x 1'-2" wood blocks. W6 x 8.5 or W6 x 9 steel posts, 6'-0" in length, with 6" x 12" x 1'-2" notched wood blocks or notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood line posts with 6" x 12" x 1'-2" wood blocks where applicable and when specified.
- A 4'-0" minimum clearance is required between the face of the railing and the face of a fixed object located directly behind MGS sections with post spacing of 6'-3". Construct MGS as shown in the detail "Strengthened Midwest Guardrail System Sections for Fixed Object" on this plan, where the clearance between the face of the railing and the face of a fixed object is less than 4'-0", but not less than 3'-0". Where the clearance is less than 3'-0", a concrete wall or barrier should be constructed to shield the fixed object(s).
- For End Anchor Assembly (Type SFT) details, see Revised Standard Plan RSP A77S1.
- 31" in-line terminal system end treatments are used where site conditions will not accommodate a 31" flared end treatment.
- The type of 31" terminal system to be used will be shown on the Project Plans.
- The 15:1 or flatter flare used with Type 16C Layout is based on the edge of the paved shoulder or offset line of edge of the traveled way. The length of MGS within the 15:1 or flatter flare is based on site conditions and should be a length equal to multiples of 12'-6".
- For details of the Buried Post End Anchor used with Type 16C Layout, see Revised Standard Plan RSP A77T2.
- As site conditions dictate, construct additional MGS to shield fixed object(s). Additional MGS length equal to multiples of 12'-6". Post spacing at 6'-3" except as specified in Note 4.
- Layout Types 16A, 16B or 16C are typically used where MGS is recommended to shield roadside fixed object(s) and a crashworthy 31" end treatment is required for only one direction of traffic.
- Where placement of dike is required with MGS, see Revised Standard Plan RSP A77N4 for dike positioning details.
- For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77P1.
- W6 x 15 steel post, 8'-0" in length, with 8" x 12" x 1'-2" notched wood block or notched recycled plastic blocks may be used in place of the 10" x 10" x 8'-0" wood post with 8" x 12" x 1'-2" wood block shown in the detail "Strengthened Midwest Guardrail System Sections for Fixed Object".

Use strengthened MGS sections with Types 16A, 16B or 16C layouts where minimum clearance between the face of the railing and fixed object(s) is less than 4'-0", but not less than 3'-0". See Note 4

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**MIDWEST GUARDRAIL SYSTEM
TYPICAL LAYOUTS FOR
ROADSIDE FIXED OBJECTS**

NO SCALE

RSP A77R3 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77R3

2010 REVISED STANDARD PLAN RSP A77R3

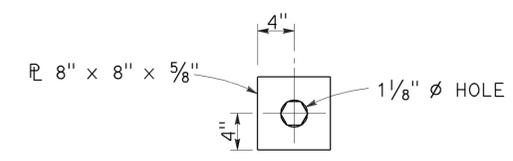
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	45	64

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

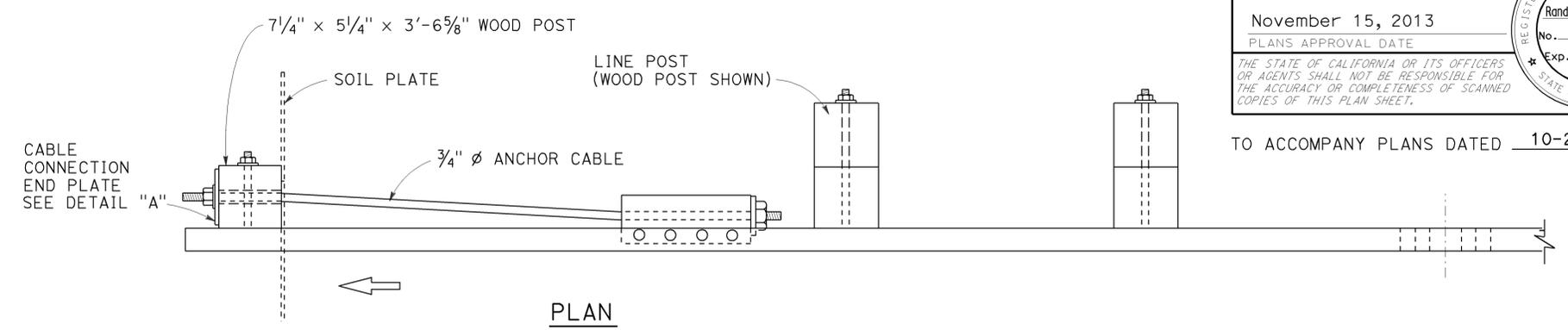
November 15, 2013
PLANS APPROVAL DATE

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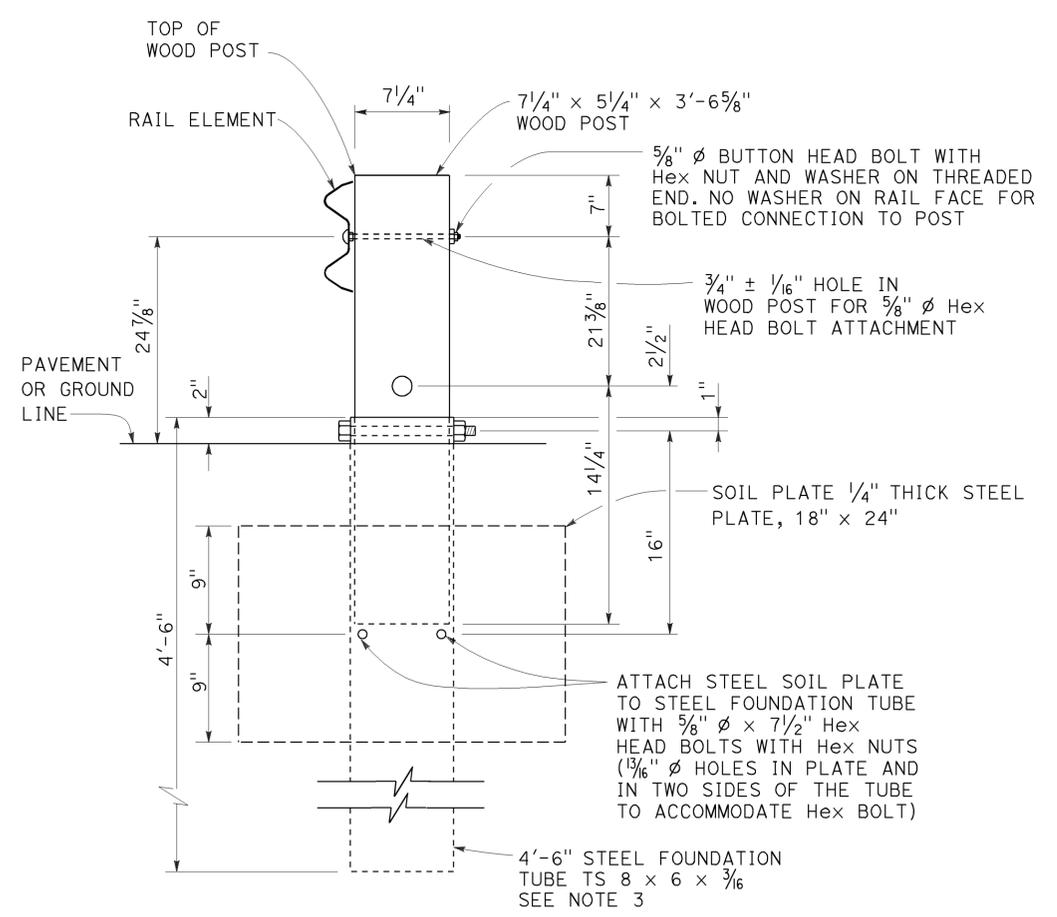
TO ACCOMPANY PLANS DATED 10-26-15



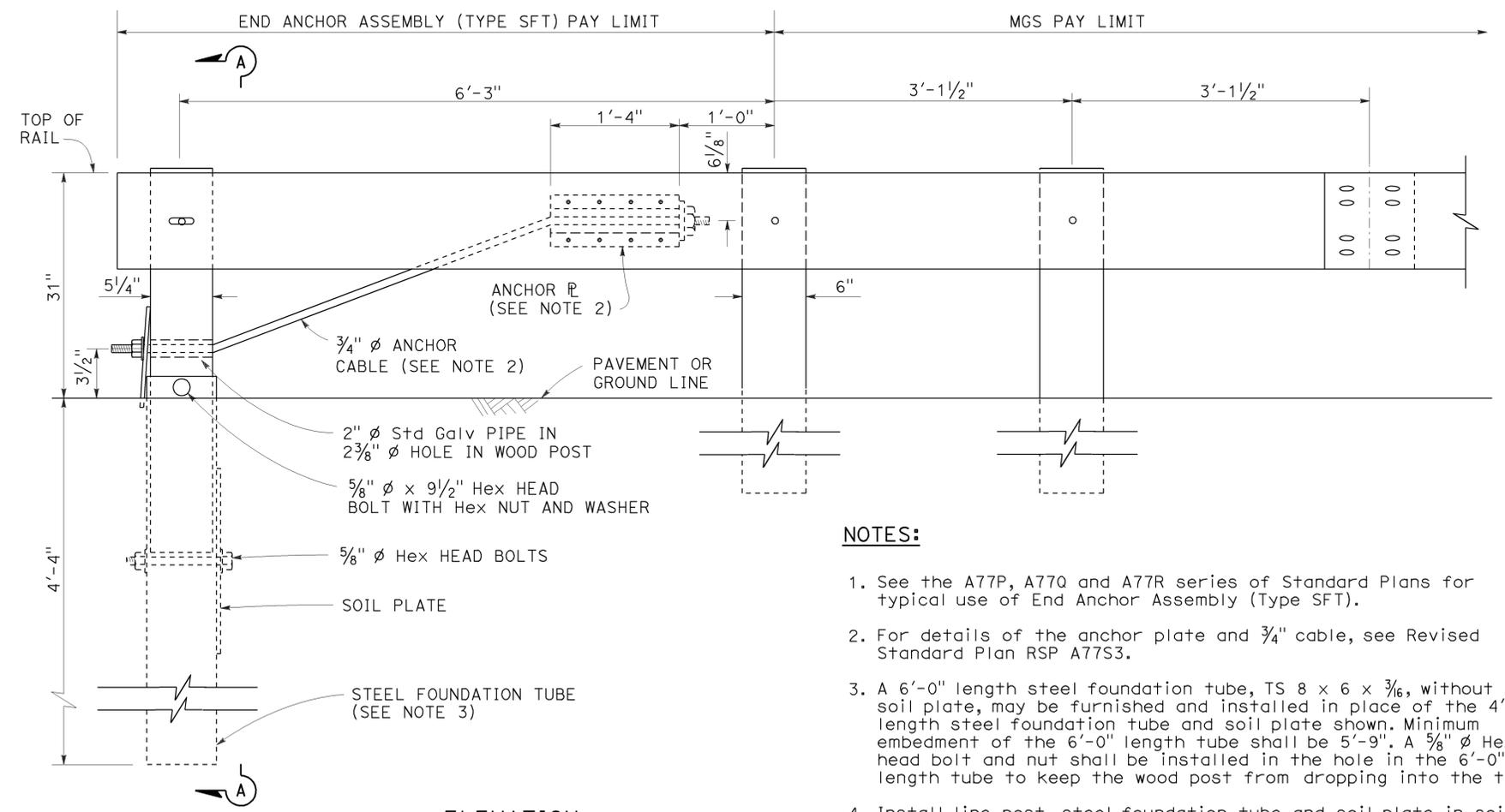
DETAIL "A"
CABLE CONNECTION
END PLATE



PLAN



SECTION A-A



ELEVATION

END ANCHOR
ASSEMBLY (TYPE SFT)
See Note 1

NOTES:

1. See the A77P, A77Q and A77R series of Standard Plans for typical use of End Anchor Assembly (Type SFT).
2. For details of the anchor plate and 3/4" cable, see Revised Standard Plan RSP A77S3.
3. A 6'-0" length steel foundation tube, TS 8 x 6 x 3/16, without a soil plate, may be furnished and installed in place of the 4'-6" length steel foundation tube and soil plate shown. Minimum embedment of the 6'-0" length tube shall be 5'-9". A 5/8" diameter hex head bolt and nut shall be installed in the hole in the 6'-0" length tube to keep the wood post from dropping into the tube.
4. Install line post, steel foundation tube and soil plate in soil.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
MIDWEST GUARDRAIL SYSTEM
END ANCHOR ASSEMBLY
(TYPE SFT)

NO SCALE

RSP A77S1 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77S1 DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77S1

2010 REVISED STANDARD PLAN RSP A77S1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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Randell D. Hiatt
REGISTERED CIVIL ENGINEER

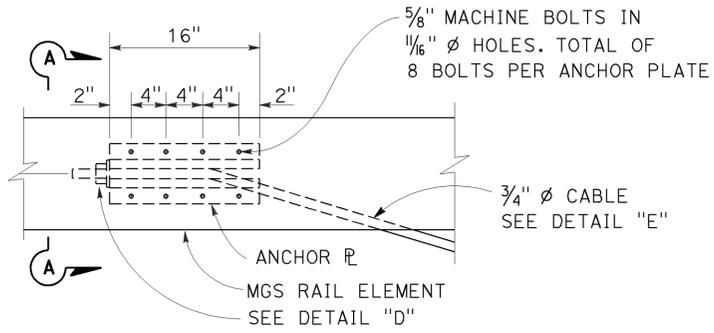
November 15, 2013
PLANS APPROVAL DATE

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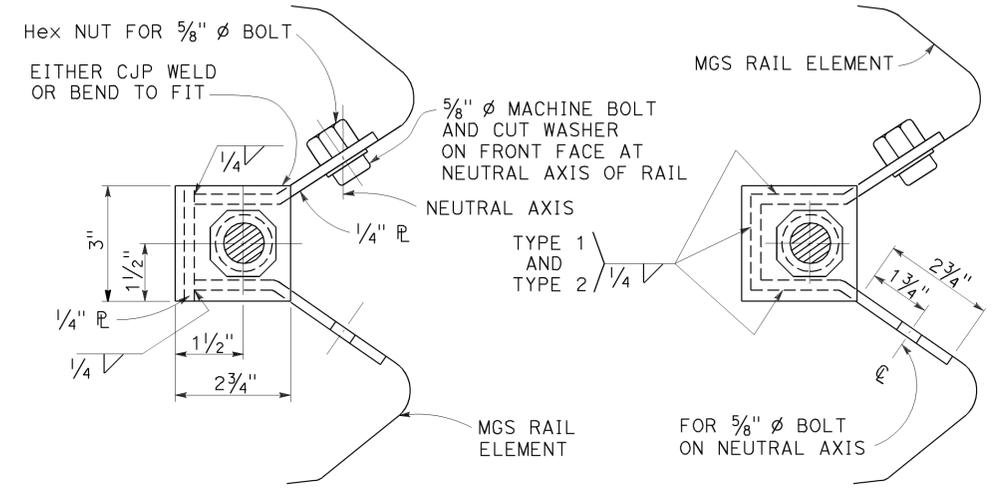
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TO ACCOMPANY PLANS DATED 10-26-15

NOTE:
See Revised Standard Plans RSP A77S1, RSP A77S2 and RSP A77T1 for typical use of anchor cable and anchor plate.

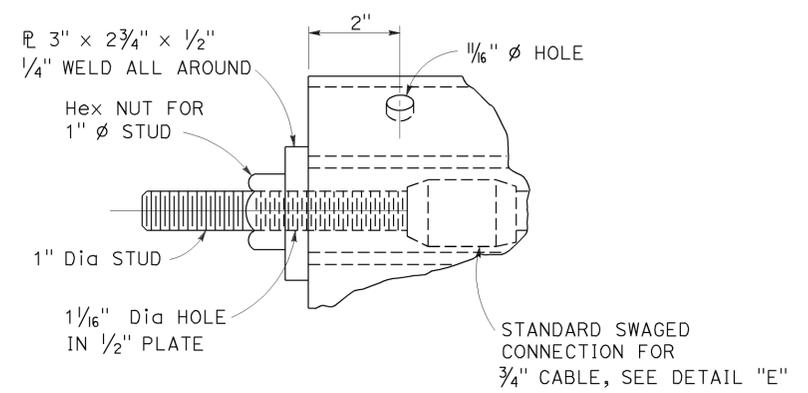


ANCHOR PLATE DETAIL
(MGS shown, TBB similar)

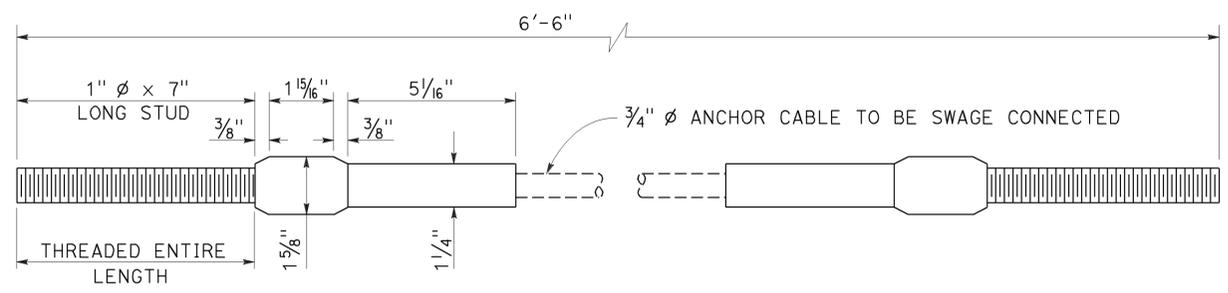


NOTE:
Dimensioning applies to both types.

SECTION A-A (ALTERNATIVE TYPE 1) **SECTION A-A (ALTERNATIVE TYPE 2)**



DETAIL "D"



ANCHOR CABLE WITH SWAGED FITTING AND STUD
DETAIL "E"

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL RAILING
ANCHOR CABLE AND
ANCHOR PLATE DETAILS**

NO SCALE
RSP A77S3 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77S3
DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP A77S3

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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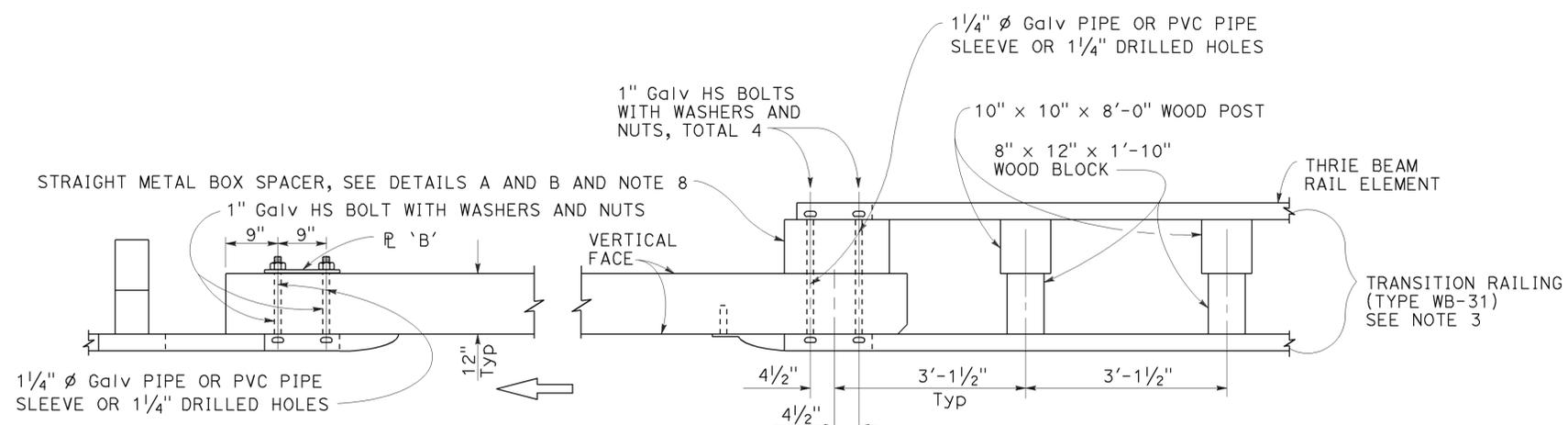
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

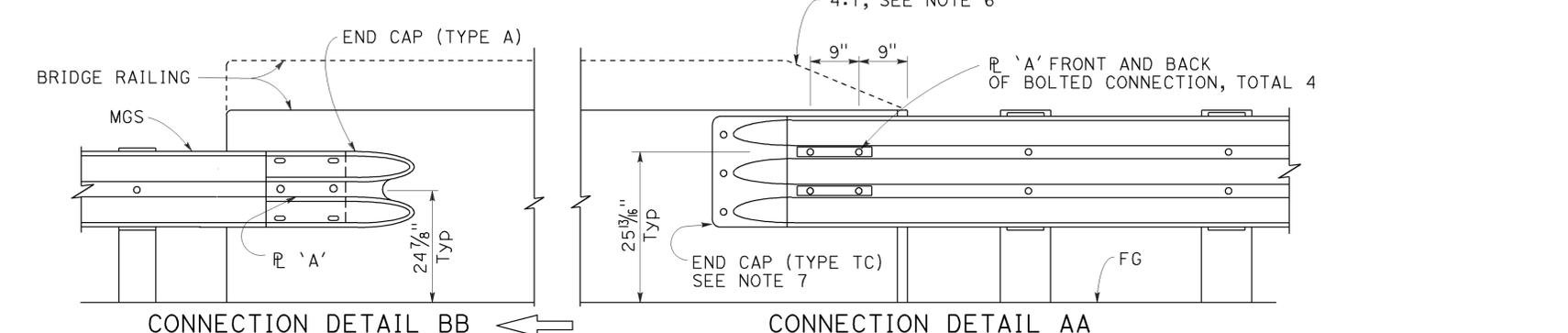
Randell D. Hiatt
REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

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TO ACCOMPANY PLANS DATED 10-26-15



PLAN

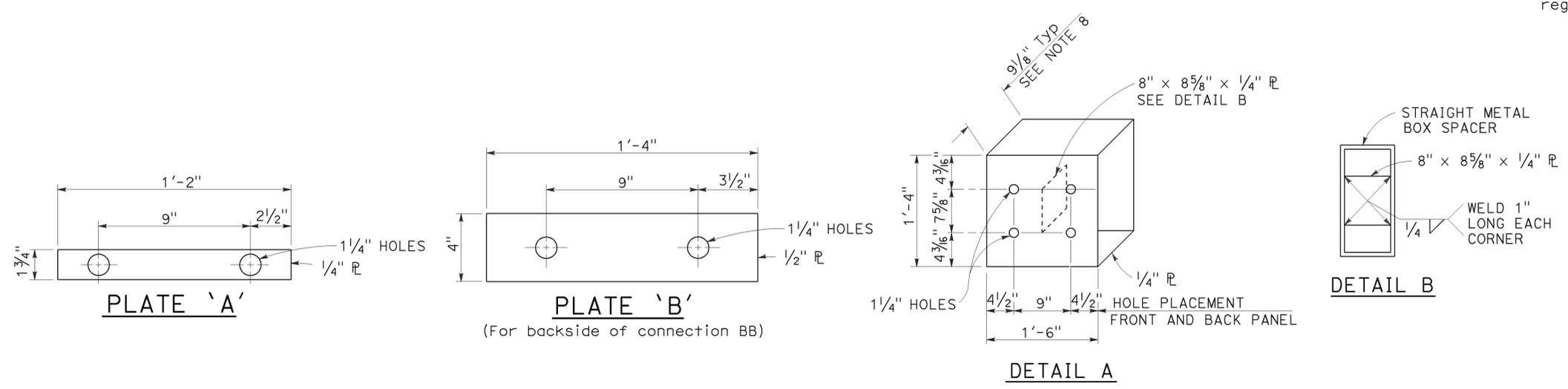


ELEVATION

MIDWEST GUARDRAIL SYSTEM CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK

NOTES:

1. See Revised Standard Plan RSP A77U2 for additional connection details to bridges without sidewalks.
2. Additional details of posts, blocks and hardware are shown on Revised Standard Plans RSP A77M1, RSP A77N1 and RSP A77N2.
3. For additional details of Transition Railing (Type WB-31), see Revised Standard Plan RSP A77U4. Transition Railing (Type WB-31) transitions the 12 gauge MGS railing section to a heavier gage nested three beam railing section which is connected to the concrete bridge railing.
4. For typical use of Connection Detail AA, see Layout Types 12A and 12B on Revised Standard Plan RSP A77Q1, Layout Types 12C and 12D on Revised Standard Plan RSP A77Q2, and Layout Type 12E on Revised Standard Plan RSP A77Q3.
5. For typical use of Connection Detail BB, see Layout Type 12D (structure departure railing connection) on Revised Standard Plan RSP A77Q2 and Layout Type 12DD on Revised Standard Plan RSP A77Q5.
6. Where the height of the bridge railing exceeds the height of the three beam railing by more than 1 inch at Connection Detail AA, taper the top of the end of the bridge railing at 4:1 to match the top elevation of the three beam rail.
7. For details of End Cap (Type TC), see Revised Standard Plan RSP A77U4.
8. See Revised Standard Plan RSP A77U4 for additional details regarding depth dimension for straight metal box spacer.



STRAIGHT METAL BOX SPACER

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
MIDWEST GUARDRAIL SYSTEM CONNECTIONS TO BRIDGE RAILINGS WITHOUT SIDEWALKS DETAILS No. 1

NO SCALE

RSP A77U1 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77U1

2010 REVISED STANDARD PLAN RSP A77U1

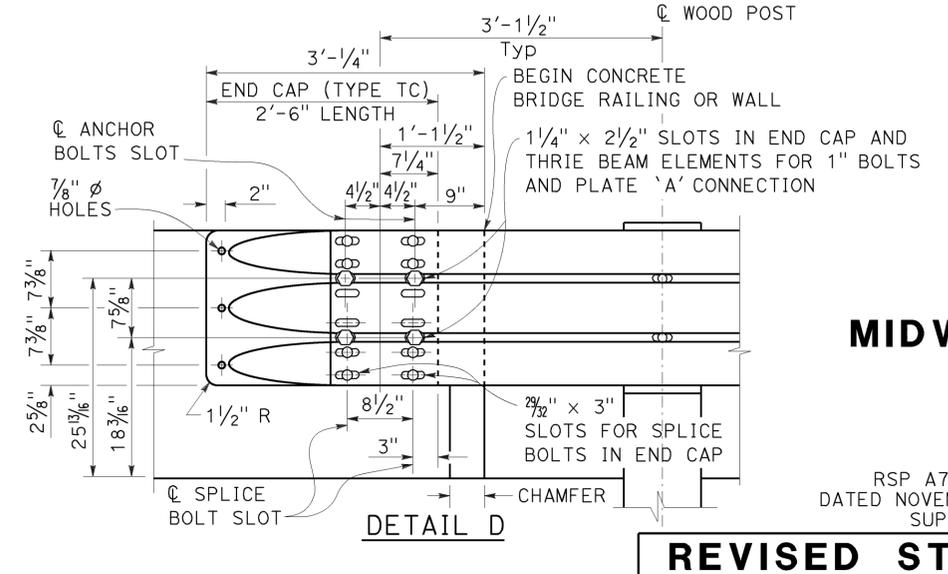
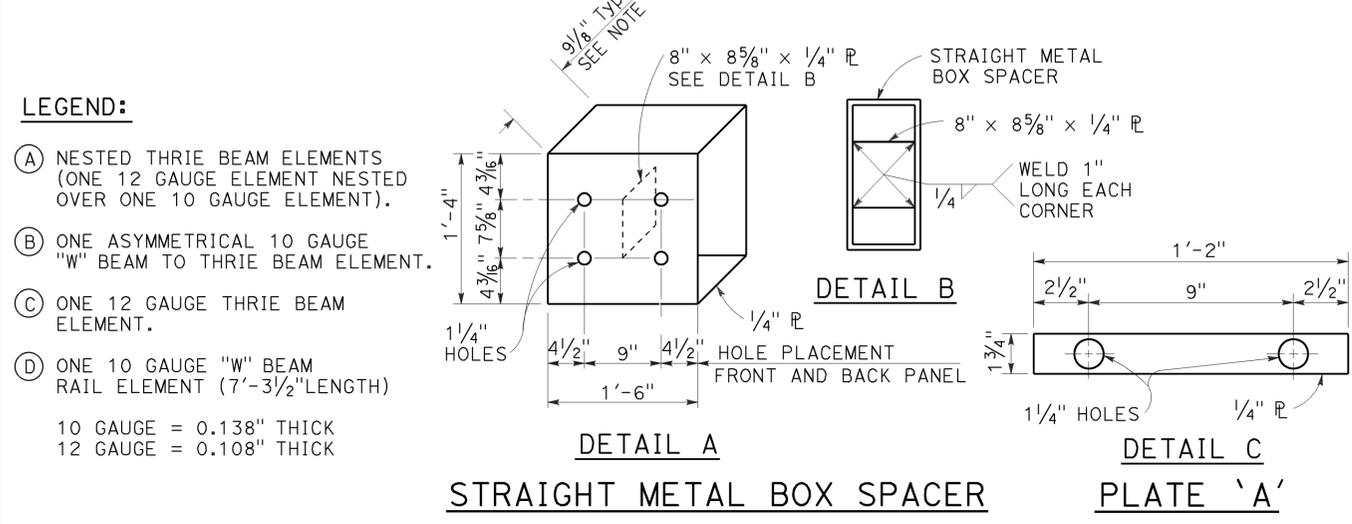
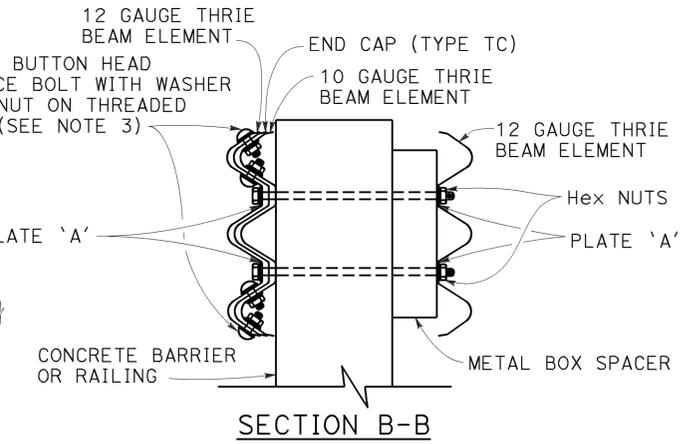
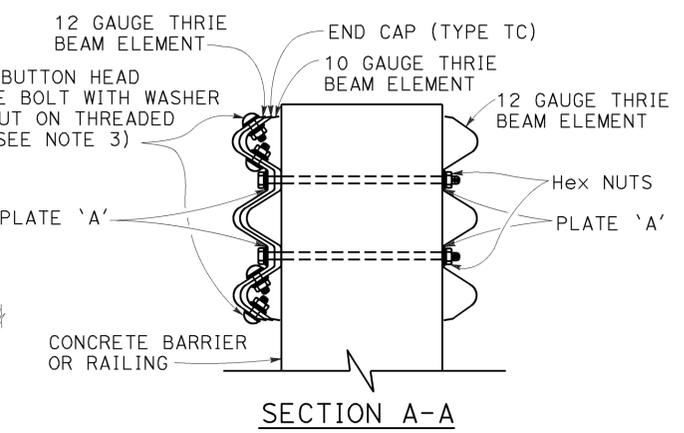
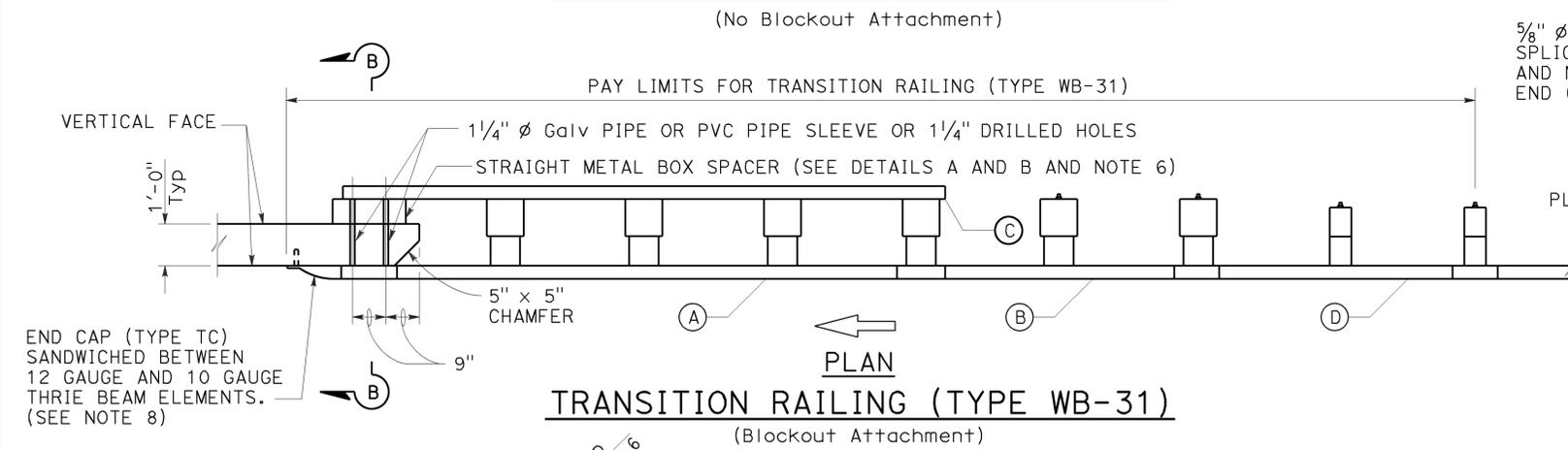
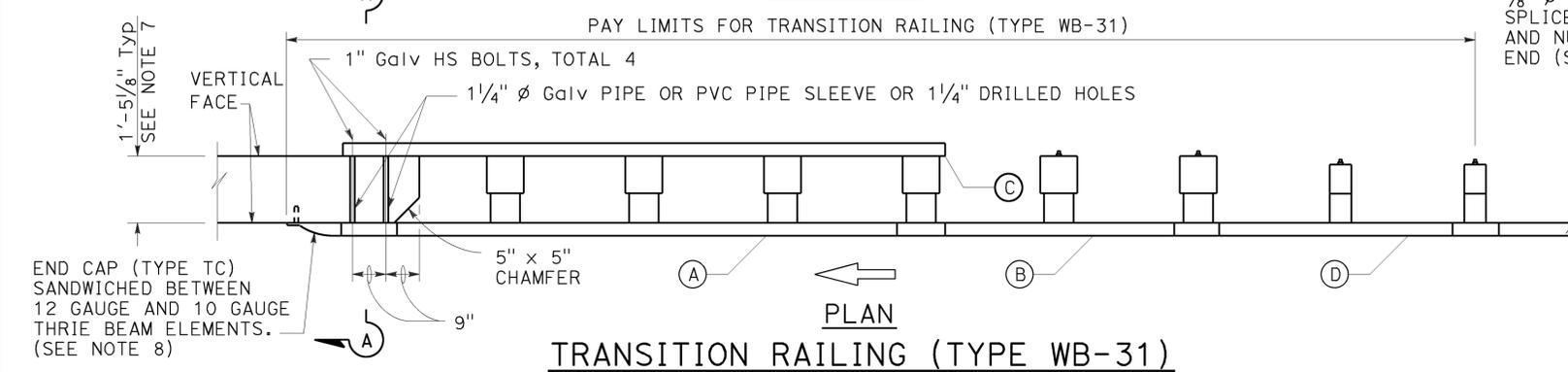
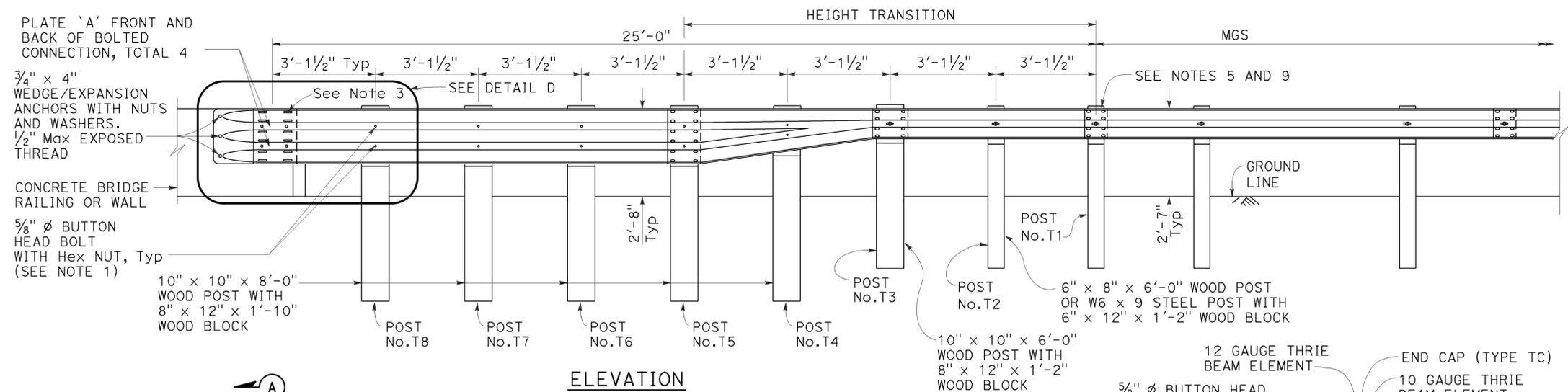
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	48	64

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

January 23, 2015
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-15
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STATE OF CALIFORNIA



NOTES: TO ACCOMPANY PLANS DATED 10-26-15

- Use 5/8" ϕ Button head bolts and hex nuts for connections to posts. No washer on rail face for bolted connections to post.
- The nested rail elements, end cap, and 'W' beam to thrie beam element may be spliced together prior to bolting the elements to the wood post and concrete barrier or railing.
- Exterior splice bolt holes for rail element splices at Post No. T5 and the connection to the concrete barrier or railing shall be the standard 7/32" x 1/8" slot size. Interior splice bolt holes at these locations may be increased up to 1/4" ϕ . Only the top 4 and the bottom 4 splice bolts with washers and nuts are required for rail splices at Post No. T5 and the connection to the concrete barrier or railing.
- The top elevation of Posts No. T2 through No. T7 shall not project more than 1" above the top elevation of the rail element.
- Typically, the railing connected to Transition Railing (Type WB-31) will be either standard railing section of MGS with height transition ratio of 150:1 or a Caltrans approved 31" end treatment attached to Post No. T1.
- The depth of the metal box spacer varies from the 9/8" to 1/2" and is dependent on the width of the concrete railing or wall. The combined dimension for the depth of the metal box spacer plus the width of railing or wall is typically 21 1/8". Where the space between the backside of the concrete railing or wall and the rear thrie beam element is less than 1 1/2", metal plates similar to Plate 'A' are to be used as spacers.
- Where the width of the concrete railing or wall is greater than 17 1/8", wood blocks are to be used to fill the space created between the backside of Posts No. T5 through No. T8 and the rear thrie beam element. These wood blocks shall be 8" in width and 1'-2" in length. The dimension between the front thrie beam element and the rear thrie beam element is to match the width of the concrete railing or wall.
- End cap may be installed over 12 gauge and 10 gauge thrie beam elements where transition railing is installed on the departure end of bridge railing.
- Conform standard railing section height to 31" at Post No. T1 using height transition ratio of 150:1.

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**MIDWEST GUARDRAIL SYSTEM
TRANSITION RAILING
(TYPE WB-31)**

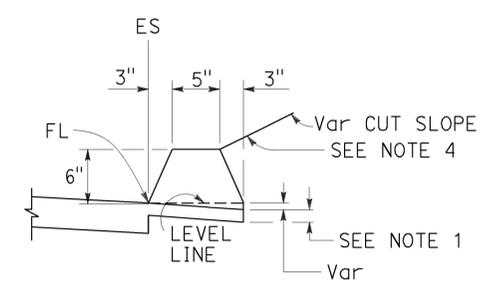
NO SCALE

RSP A77U4 DATED JANUARY 23, 2015 SUPERSEDES RSP A77U4 DATED NOVEMBER 15, 2013 AND RSP A77U4 DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

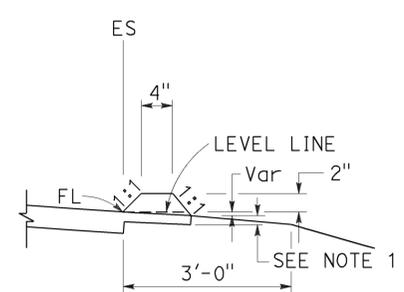
REVISED STANDARD PLAN RSP A77U4

2010 REVISED STANDARD PLAN RSP A77U4

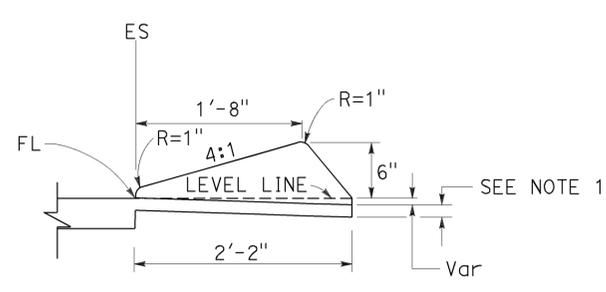
TO ACCOMPANY PLANS DATED 10-26-15



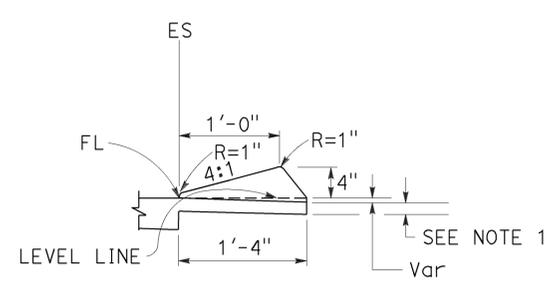
TYPE A
See Notes 3 and 5



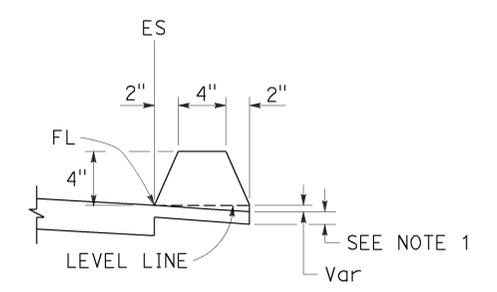
TYPE C



TYPE D

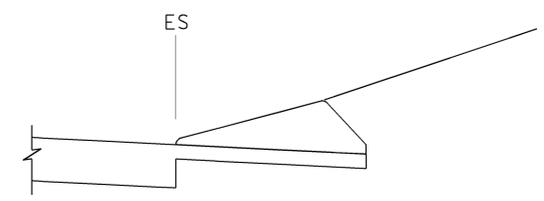


TYPE E

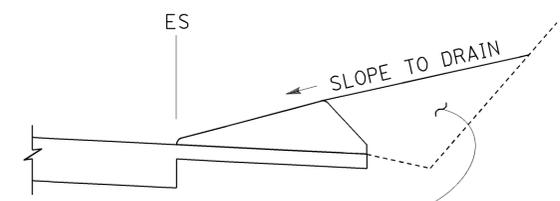


TYPE F
See Note 5

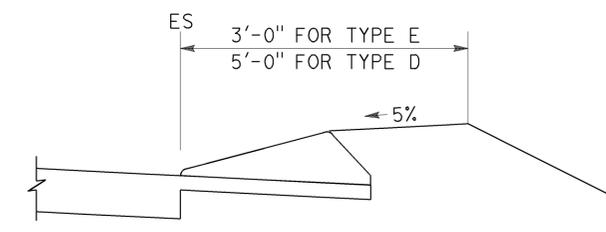
DIKES



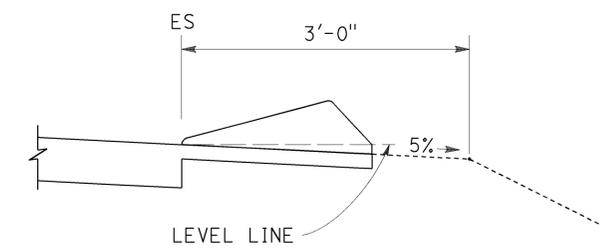
CASE C-1
Cut Slope



CASE C-2
Cut Slope



CASE F



CASE R
See Note 2

TYPE D AND E BACKFILL DETAILS

NOTES:

- 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.
- Case R applies to retrofit only projects where restrictive conditions do not provide enough width for Case F backfill.
- Type A dike only to be used where restrictive slope conditions do not provide enough width to use Type D or Type E dike.
- Fill and compact with excavated material to top of dike.
- Use Type A or F dike, where dike is required with guardrail installations. See Standard Plan A77N4 for dike positioning details. See Standard Plan 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 STANDARD PLAN A87B
DATED OCTOBER 30, 2015 - PAGE 126 OF THE STANDARD PLANS BOOK DATED 2015.

REVISED STANDARD PLAN RSP A87B

2015 REVISED STANDARD PLAN RSP A87B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	50	64

Srikanth N. Balasubramanian
REGISTERED CIVIL ENGINEER

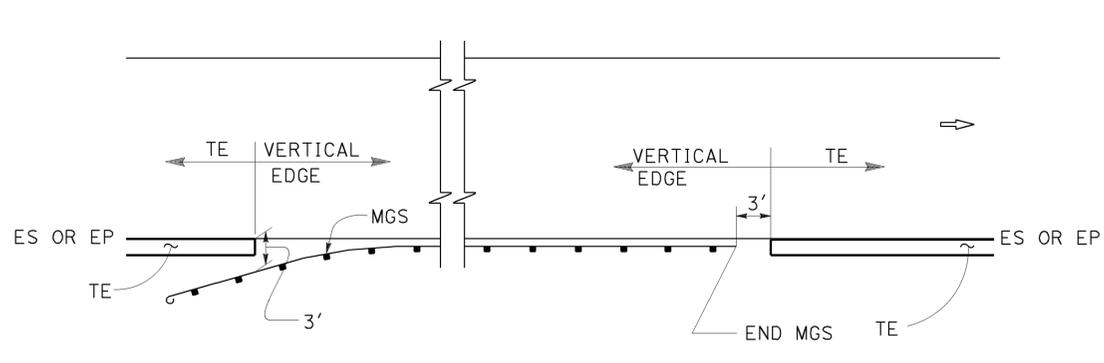
October 30, 2015
PLANS APPROVAL DATE

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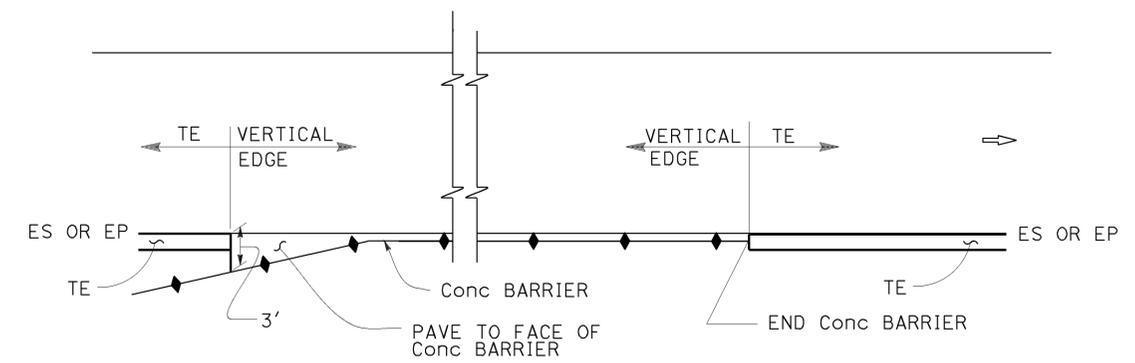
Srikanth N. Balasubramanian
REGISTERED PROFESSIONAL ENGINEER
No. C56426
Exp. 6-30-17
CIVIL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 10-26-15

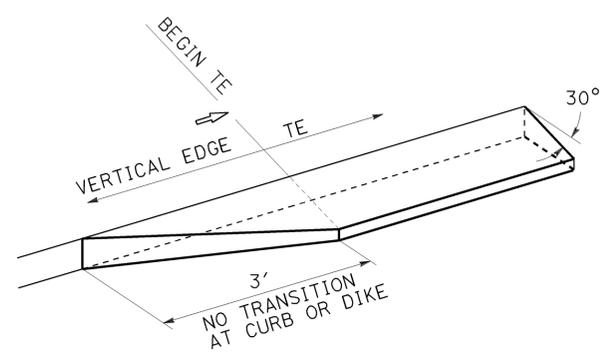
ABBREVIATIONS:
TE TAPERED EDGE



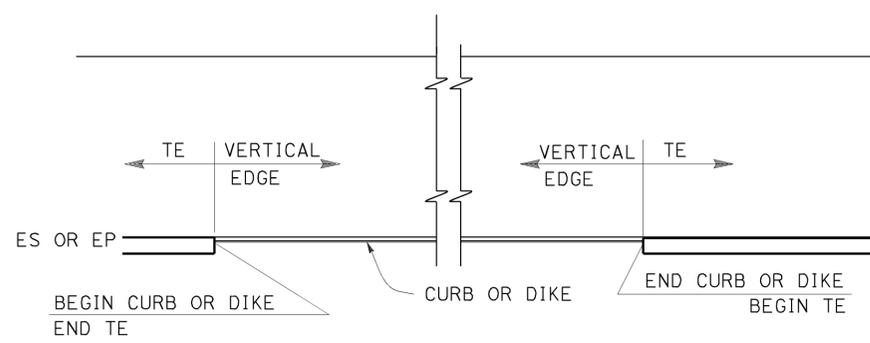
MGS



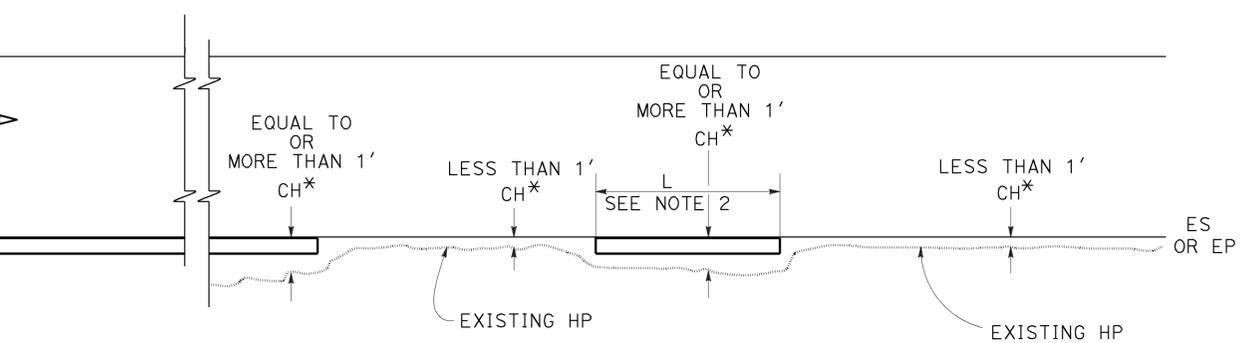
CONCRETE BARRIER



TRANSITION DETAIL FOR CONCRETE ONLY

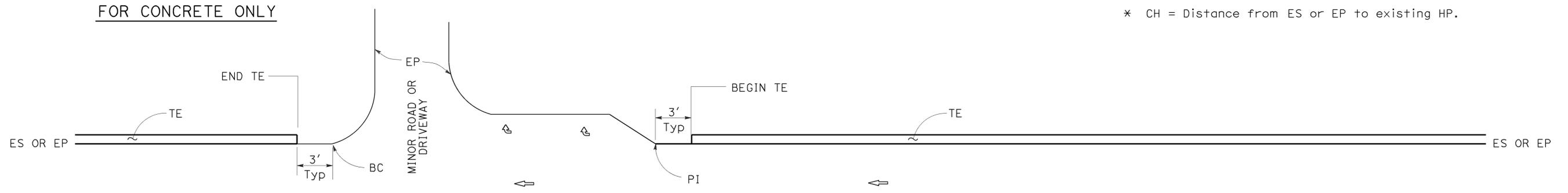


CURB OR DIKE



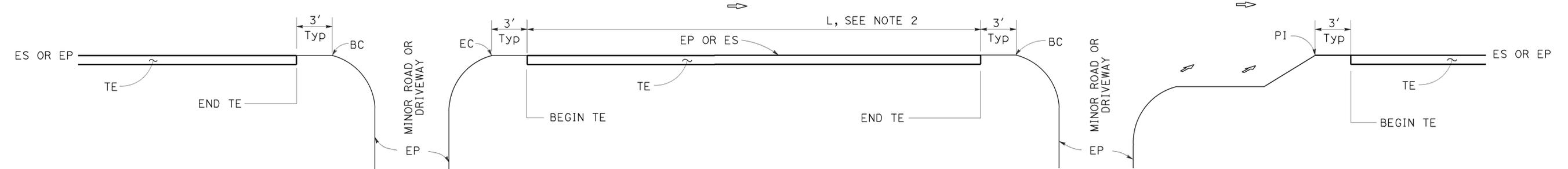
NARROW SIDE SLOPE

* CH = Distance from ES or EP to existing HP.



STATE ROUTE

STATE ROUTE



INTERSECTION

DRIVEWAY AND INTERSECTION

MINOR ROADWAY OR DRIVEWAY

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT EDGE TREATMENTS

NO SCALE

NOTES:

1. For details not shown, see Revised Standard Plans RSP P75 and RSP P76.
2. Tapered edge is optional when L is less than 30'.

RSP P74 DATED OCTOBER 30, 2015 SUPERSEDES RSP P74 DATED NOVEMBER 15, 2013 AND RSP P74 DATED JANUARY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P74

2010 REVISED STANDARD PLAN RSP P74

LEGEND:

 HMA OVERLAY

 HMA OR CONCRETE OVERLAY

 CONCRETE OVERLAY

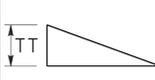
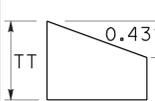
ABBREVIATIONS:

TE TAPERED EDGE

TT TOTAL THICKNESS OF TE

TO ACCOMPANY PLANS DATED 10-26-15

ADDITIONAL HMA OR CONCRETE QUANTITIES FOR TE/SIDE/MILE

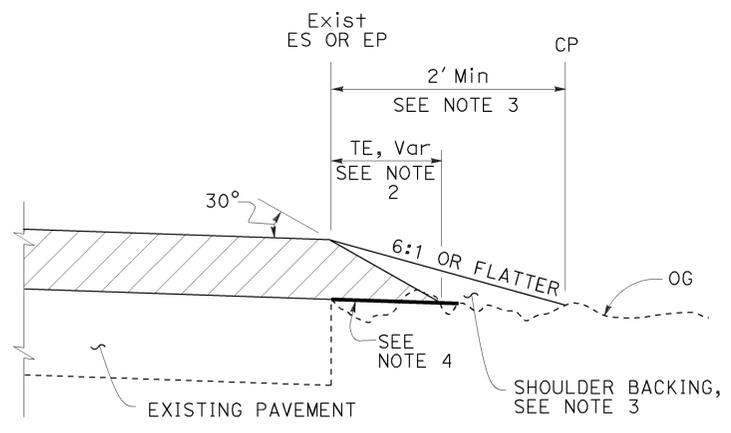
TYPICAL CROSS SECTION	TT	TOTAL ADDITIONAL MATERIAL FOR TE/SIDE/MILE		
		HMA (TON)	CONCRETE (CY)*	CONCRETE (CY)**
	0.15'	7.7	NA	NA
	0.20'	13.7	NA	NA
	0.30'	30.9	NA	NA
	0.40'	54.9	NA	NA
	0.45'	69.4	NA	NA
	0.50'	84.2	NA	NA
	0.60'	113.9	NA	NA
	0.70'	143.6	70.9	94.2
	0.80'	173.3	85.6	112.2
	0.90'	203.0	100.3	130.2
	1.00'	232.7	114.9	148.2
	1.10'	262.4	129.6	166.2
1.20'	292.1	144.3	184.2	

* For Detail "A"

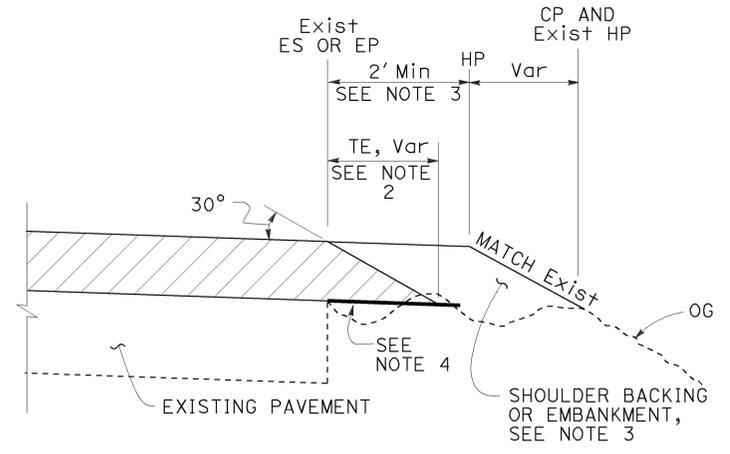
** For Optional Detail "A"

TABLE A
EDGE TREATMENT FOR VARIOUS OVERLAY THICKNESS AND CONDITIONS

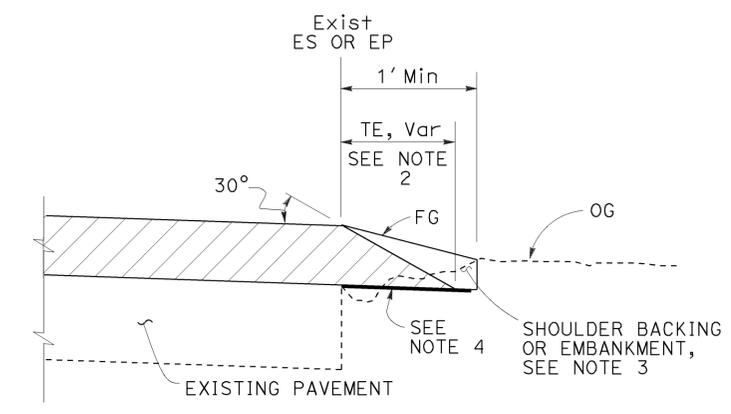
FIELD CONDITION	OVERLAY THICKNESS	
	LESS THAN 0.15'	0.15' OR MORE
Exist SLOPE 6:1 OR FLATTER	CASE E	CASE A
Exist SLOPE 3:1 TO 6:1	CASE E	CASE B
Exist SLOPE STEEPER THAN 3:1	CASE F	CASE F
CUT SECTION (REPLACE, COLD PLANE, MILL PAVEMENT)	CASE D	CASE C



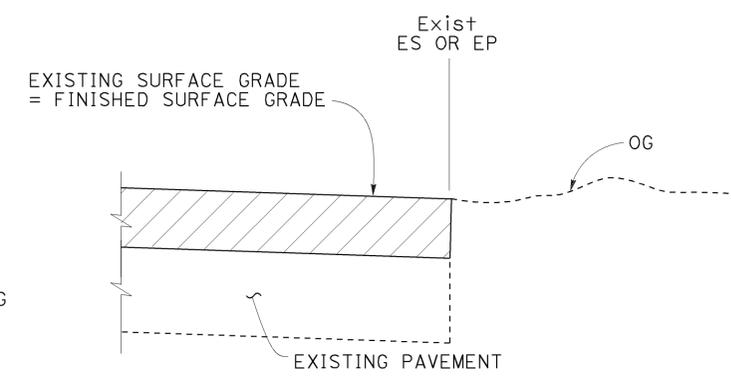
CASE A
Tapered Edge



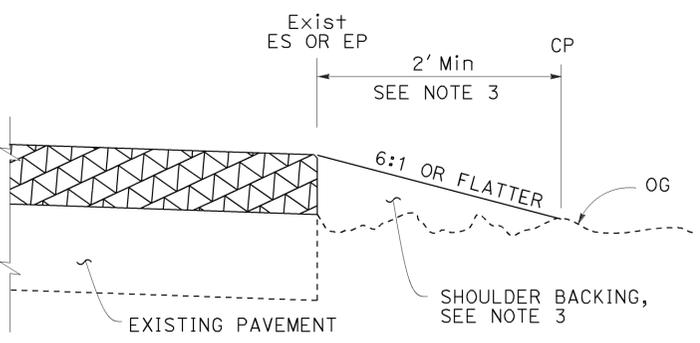
CASE B
Tapered Edge



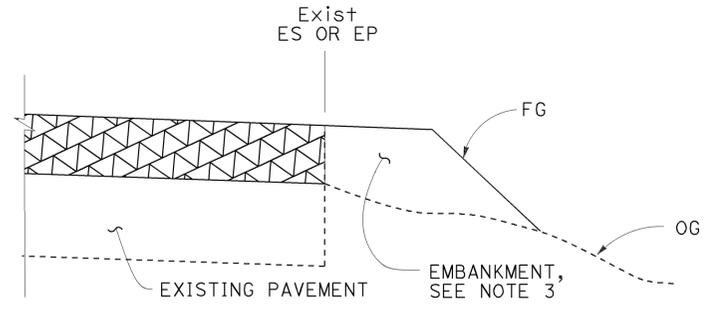
CASE C
Tapered Edge



CASE D
Vertical Edge

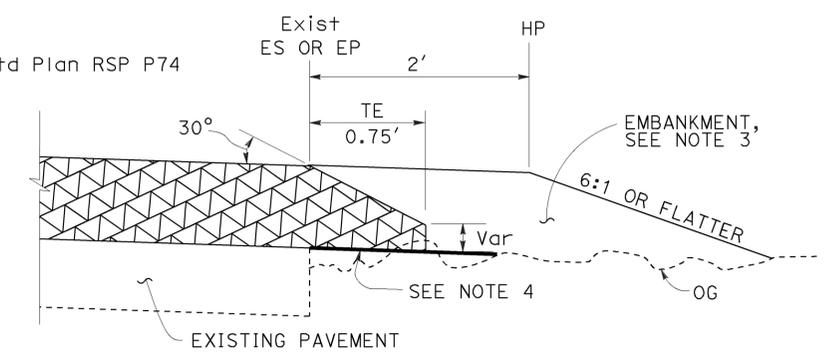


CASE E
Vertical Edge



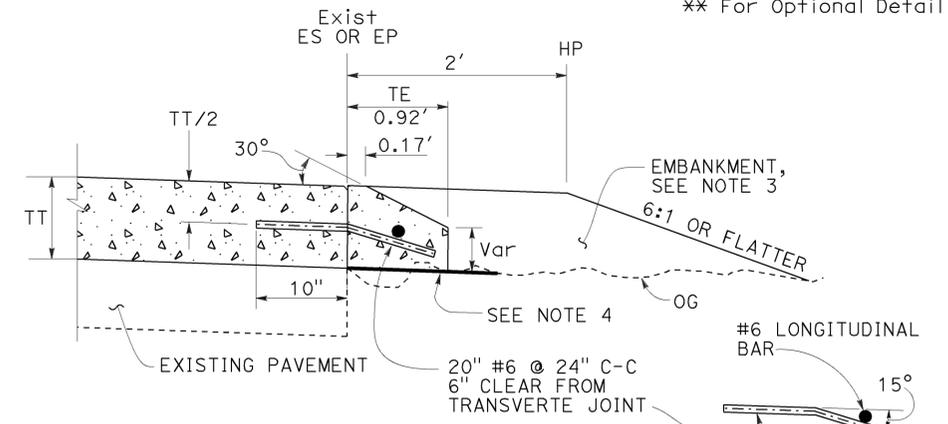
CASE F
Vertical Edge
* See Table A and Revised Std Plan RSP P74

- NOTES:**
- For limits of tapered edge and vertical edge treatments, see Revised Standard Plan RSP P74.
 - Details shown for HMA overlay thickness less than 0.43'. See Detail "A" for HMA overlay thickness more than 0.43' or concrete overlay.
 - For locations and limits of shoulder backing or embankment see project plans.
 - Grade existing ground to place tapered edge. 1' minimum width
 - Tapered edge transverse joint must match overlay transverse joint. End of #6 longitudinal bar must be 2" ± 1/2" clear from transverse joint.
 - Tapered edge is not needed in the area of MGS, barrier, right turn lane and acceleration lane. See Revised Standard Plan RSP P74.



DETAIL "A"

For HMA overlay thickness more than 0.43' or concrete overlay



OPTIONAL DETAIL "A"
For concrete overlay
See Note 5

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT EDGE TREATMENTS- OVERLAYS

NO SCALE

RSP P75 DATED OCTOBER 30, 2015 SUPERSEDES RSP P75 DATED NOVEMBER 15, 2013 AND RSP P75 DATED JANUARY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP P75

TO ACCOMPANY PLANS DATED 10-26-15

TABLE 1

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

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

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

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

TABLE 2

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

* - Speed is posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph

** - Longitudinal buffer space or flagger station spacing

*** - Use on sustained downgrade steeper than -3 percent and longer than 1 mile.

TABLE 3

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

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

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	53	64

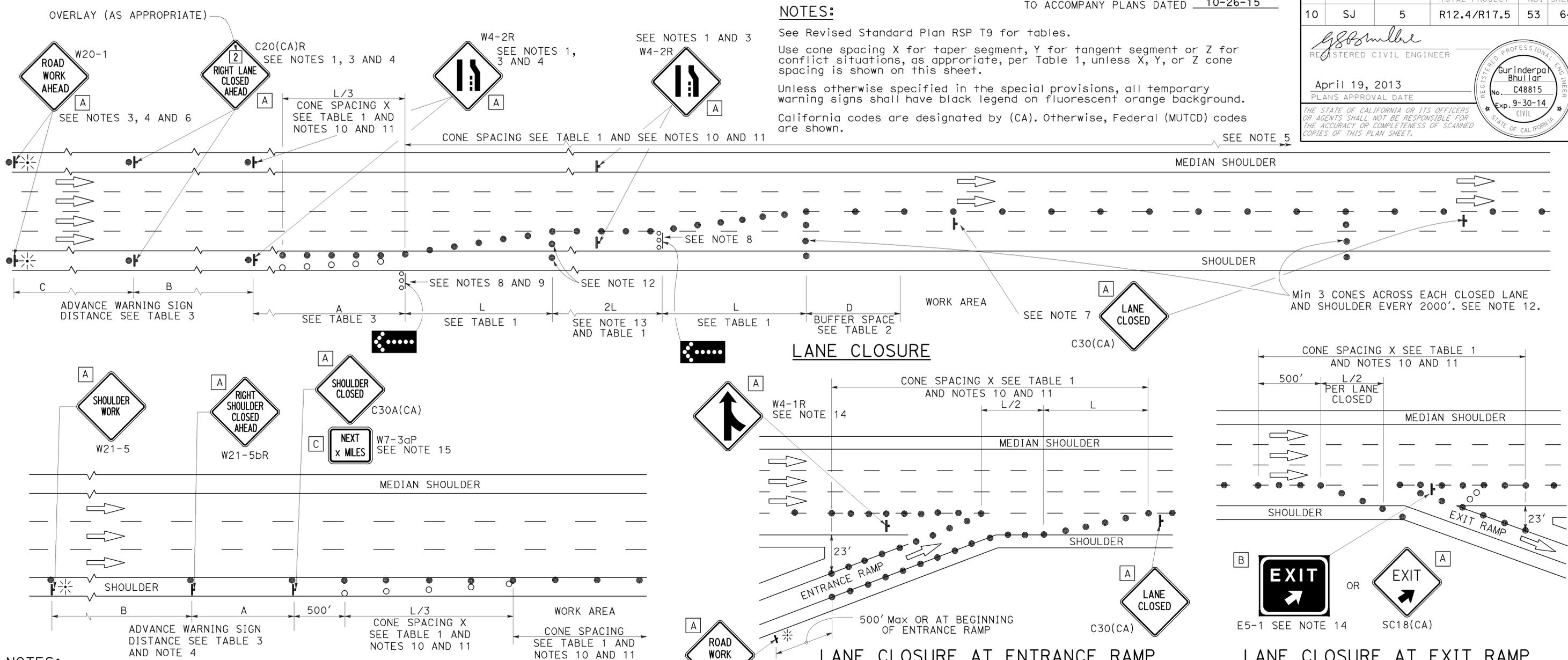
REGISTERED CIVIL ENGINEER
 Gurinderpal Bhullar
 No. C48815
 Exp. 9-30-14
 CIVIL
 STATE OF CALIFORNIA

April 19, 2013
 PLANS APPROVAL DATE
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TO ACCOMPANY PLANS DATED 10-26-15

NOTES:

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



NOTES:

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

SHOULDER CLOSURE

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

LANE CLOSURE AT ENTRANCE RAMP

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

LEGEND

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

SIGN PANEL SIZE (Min)

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

TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON FREEWAYS AND EXPRESSWAYS

NO SCALE

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

REVISED STANDARD PLAN RSP T10

2010 REVISED STANDARD PLAN RSP T10

TYPICAL RAMP CLOSURES

SIGN PANEL SIZE (Min)

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

LEGEND

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	54	64

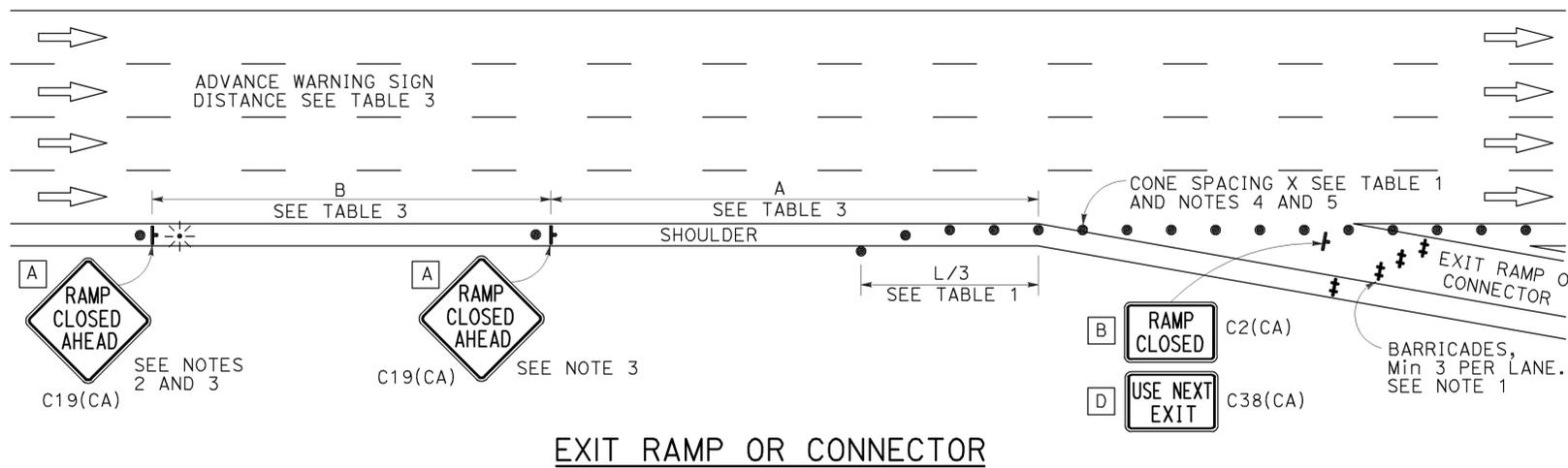
Gurinderpal Bhullar
 REGISTERED CIVIL ENGINEER
 April 19, 2013
 PLANS APPROVAL DATE
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REGISTERED PROFESSIONAL ENGINEER
Gurinderpal Bhullar
 No. C48815
 Exp. 9-30-14
 CIVIL
 STATE OF CALIFORNIA

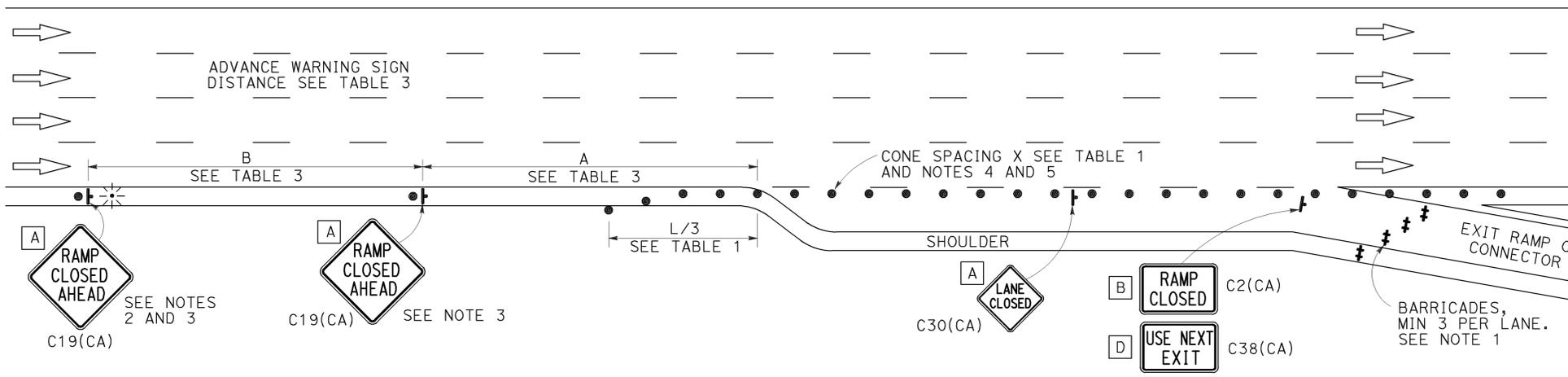
TO ACCOMPANY PLANS DATED 10-26-15

NOTES:

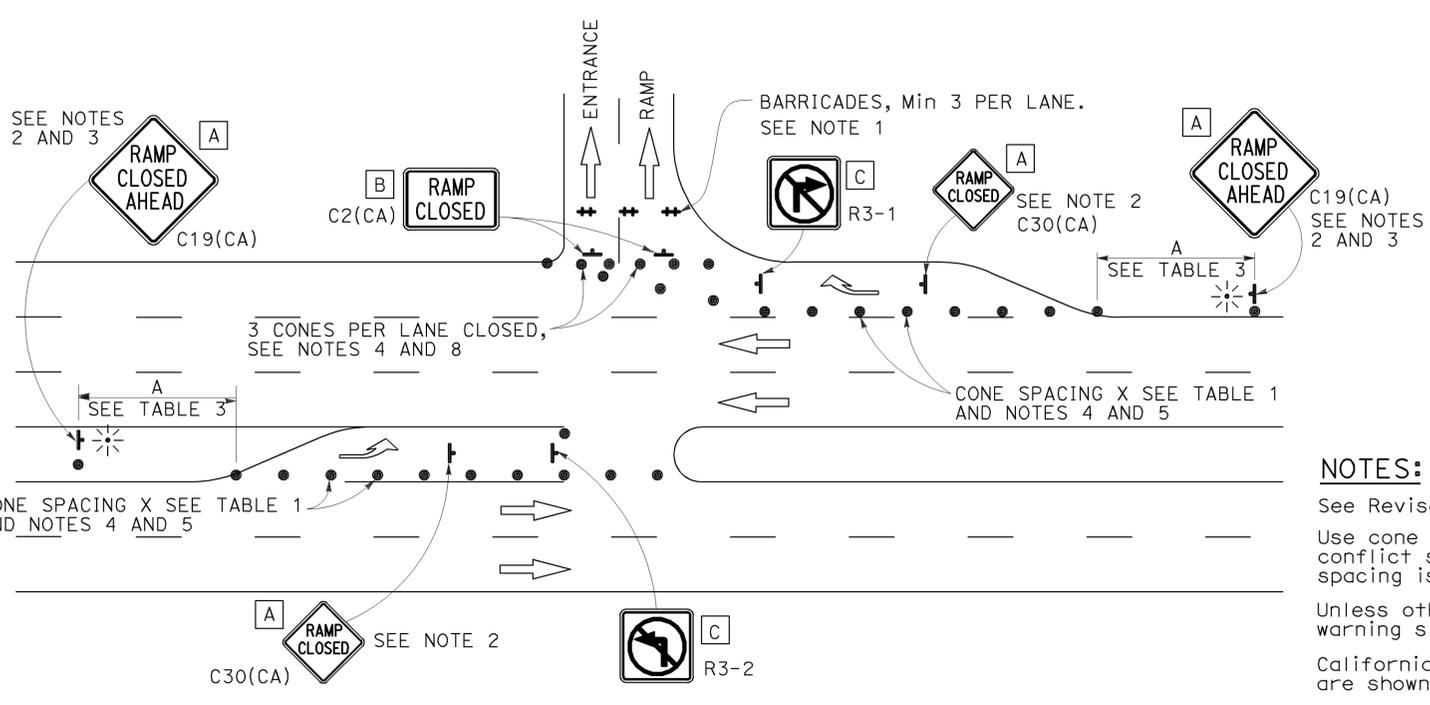
- Barricades shall be Type I, II, or III for closures lasting one week or less and Type III for closures lasting longer than one week.
- In addition to placing the C19(CA) "RAMP CLOSED AHEAD" and C30(CA) "RAMP CLOSED" signs, black on orange overlay plates with the word "CLOSED" may be mounted, as directed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



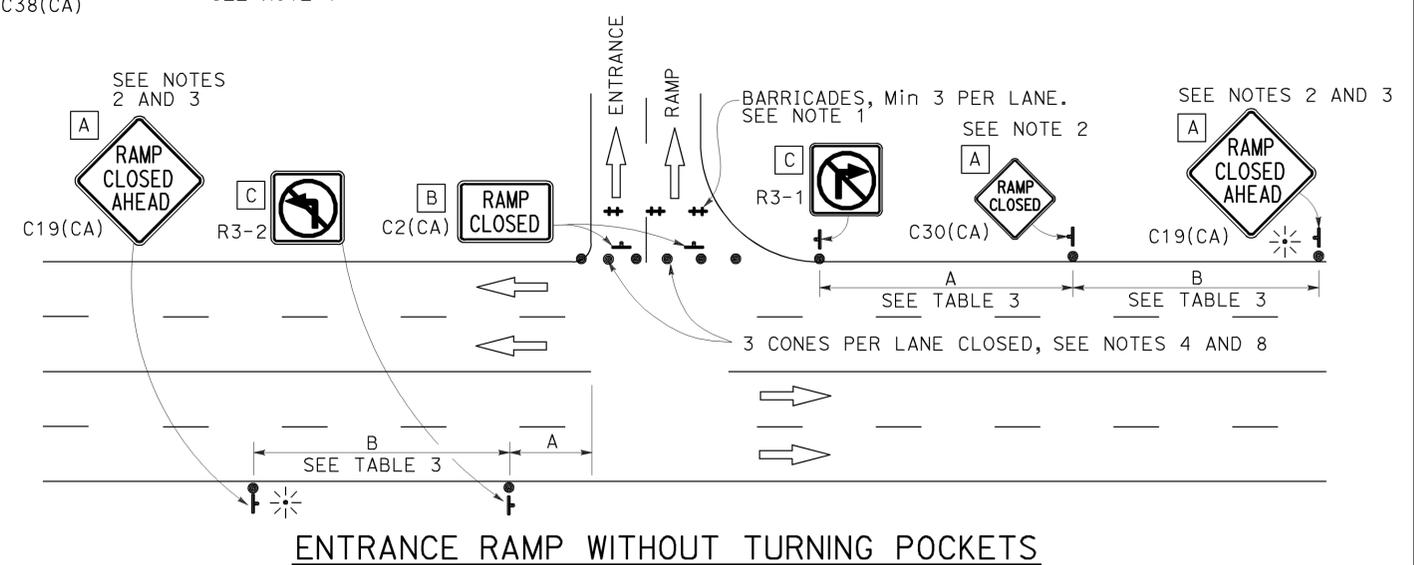
EXIT RAMP OR CONNECTOR



EXIT RAMP OR CONNECTOR WITH ADDITIONAL LANE



ENTRANCE RAMP WITH TURNING POCKETS



ENTRANCE RAMP WITHOUT TURNING POCKETS

NOTES:

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

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

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

REVISED STANDARD PLAN RSP T14

2010 REVISED STANDARD PLAN RSP T14

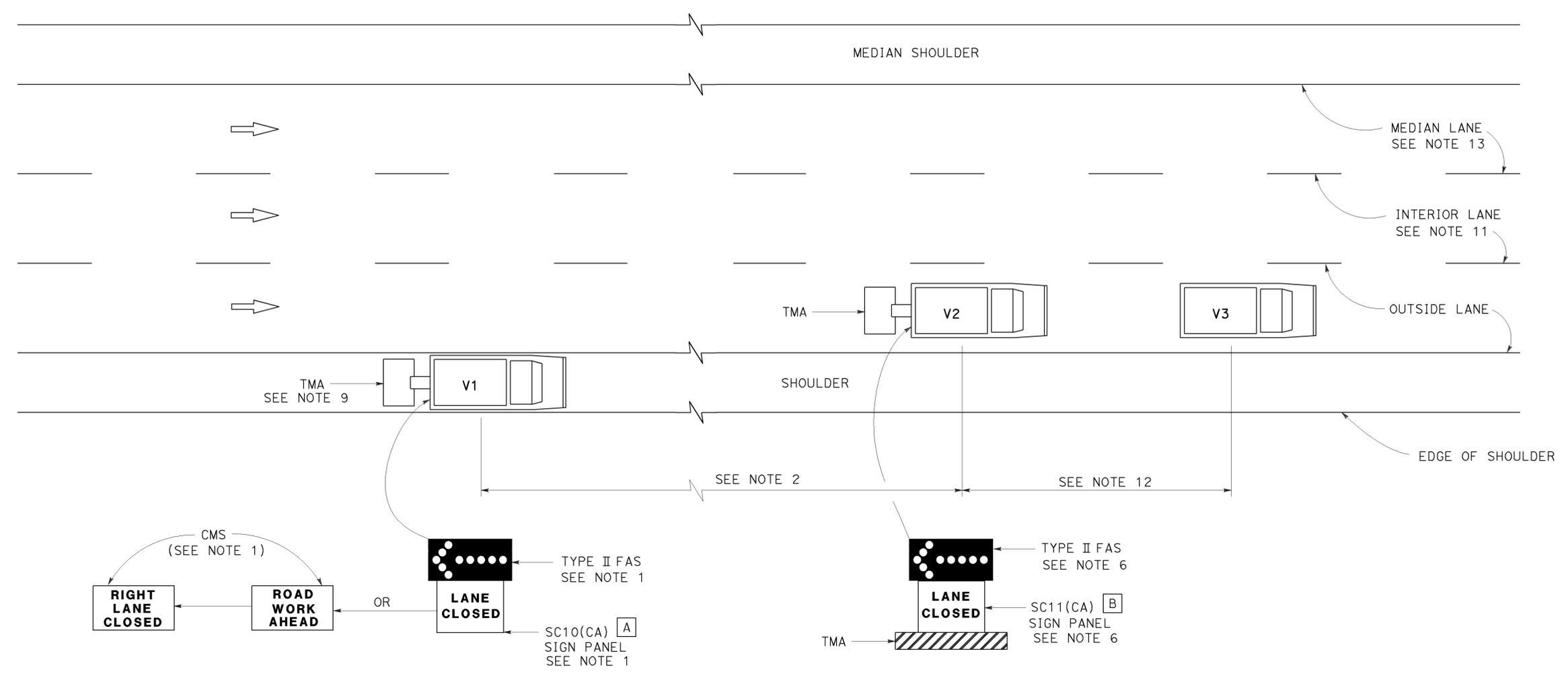
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	55	64

Registered Civil Engineer
 Gurinderpal Bhullar
 No. C48815
 Exp. 9-30-14
 CIVIL
 STATE OF CALIFORNIA

April 19, 2013
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TO ACCOMPANY PLANS DATED 10-26-15



SIGN PANEL SIZE (Min)

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

LEGEND

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

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

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR MOVING LANE CLOSURE ON MULTILANE HIGHWAYS
NO SCALE

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

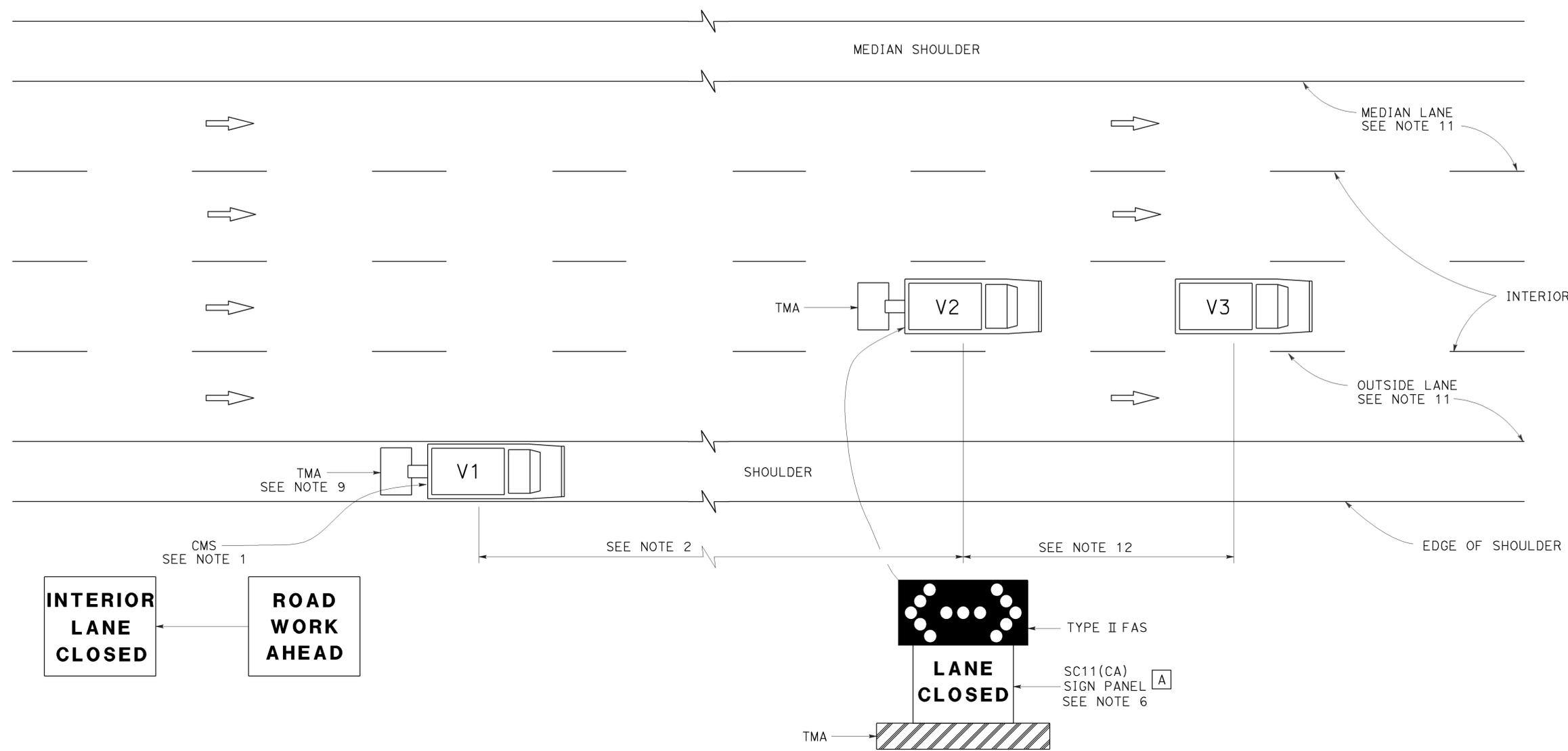
REVISED STANDARD PLAN RSP T15

2010 REVISED STANDARD PLAN RSP T15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	56	64

Gurinderpal Bhullar
 REGISTERED CIVIL ENGINEER
 April 19, 2013
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TO ACCOMPANY PLANS DATED 10-26-15



SIGN PANEL SIZE (Min)

A 54" x 42"

LEGEND

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

MOVING LANE CLOSURE ON INTERIOR LANE OF MULTILANE HIGHWAYS

NOTES:

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

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

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

REVISED STANDARD PLAN RSP T16

2010 REVISED STANDARD PLAN RSP T16

LEGEND:

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

ABBREVIATIONS

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	57	64

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

October 30, 2015
PLANS APPROVAL DATE

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

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

TO ACCOMPANY PLANS DATED 10-26-15

SOFFIT AND WALL-MOUNTED LUMINAIRES

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

NOTE:
Arrow indicates "street side" of luminaire.

COMMONLY USED SYMBOLS FOR UNITED STATES CUSTOMARY UNITS OF MEASUREMENT:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

NO SCALE

RSP ES-1A DATED OCTOBER 30, 2015 SUPERSEDES RSP ES-1A DATED JULY 19, 2013 AND STANDARD PLAN ES-1A DATED MAY 20, 2011 - PAGE 425 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-1A

MISCELLANEOUS ELECTROLIERS

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

NOTES:

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

STANDARD ELECTROLIER

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

2010 REVISED STANDARD PLAN RSP ES-1A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	58	64

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

October 30, 2015
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Theresa
Aziz Gabriel
No. E15129
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TO ACCOMPANY PLANS DATED 10-26-15

CONDUIT

SIGNAL EQUIPMENT

NEW	EXISTING	
		LIGHTING CONDUIT, UNLESS OTHERWISE INDICATED OR NOTED
		TRAFFIC SIGNAL CONDUIT
		COMMUNICATION CONDUIT
		TELEPHONE CONDUIT
		FIRE ALARM CONDUIT
		FIBER OPTIC CONDUIT
		CONDUIT TERMINATION
		CONDUIT RISER ATTACHED TO THE STRUCTURE OR SERVICE POLE

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

SIGNAL EQUIPMENT Cont

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

SERVICE EQUIPMENT

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

POLE-MOUNTED SERVICE DESIGNATION

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

FLASHING BEACON

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

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

NOTES:

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

ILLUMINATED OVERHEAD SIGN

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
(LEGEND AND ABBREVIATIONS)**

NO SCALE

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

REVISED STANDARD PLAN RSP ES-1B

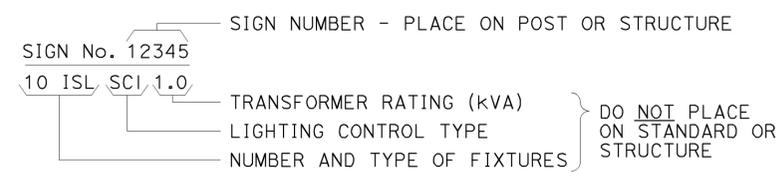
2010 REVISED STANDARD PLAN RSP ES-1B



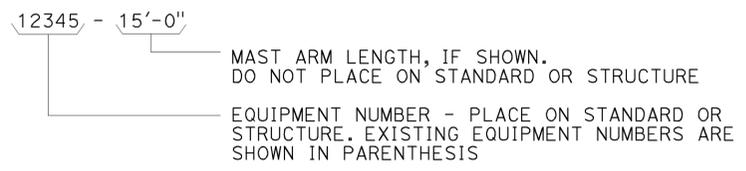
TO ACCOMPANY PLANS DATED 10-26-15

EQUIPMENT IDENTIFICATION

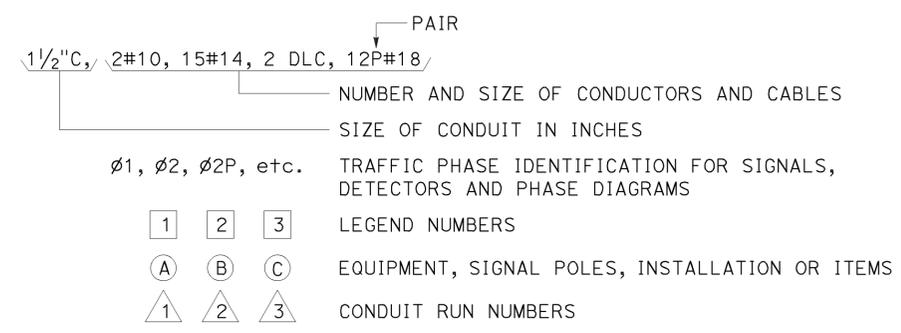
ILLUMINATED SIGN IDENTIFICATION NUMBER:



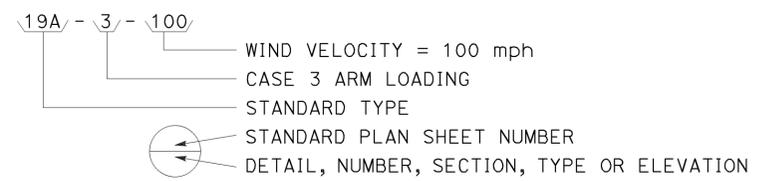
ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



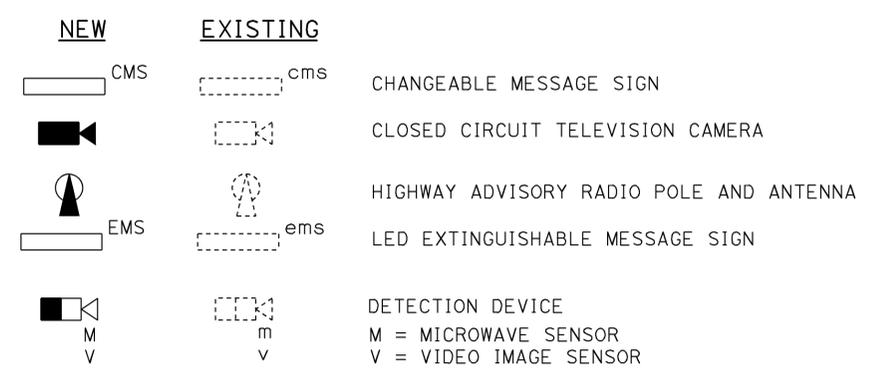
CONDUIT AND CONDUCTOR IDENTIFICATION:



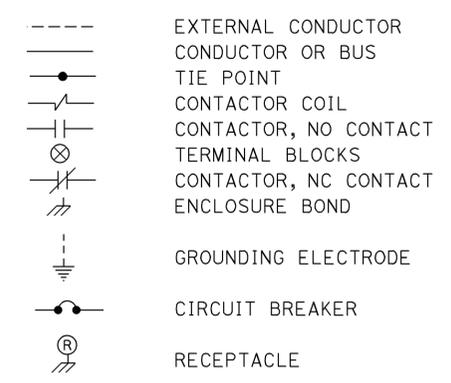
SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



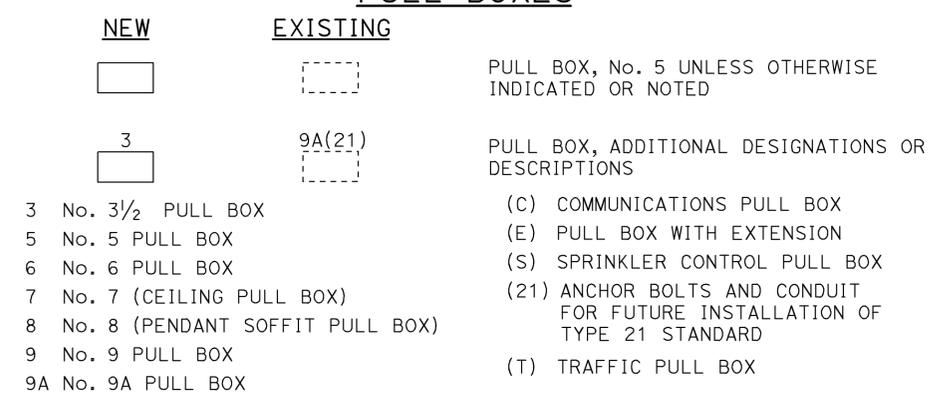
MISCELLANEOUS EQUIPMENT



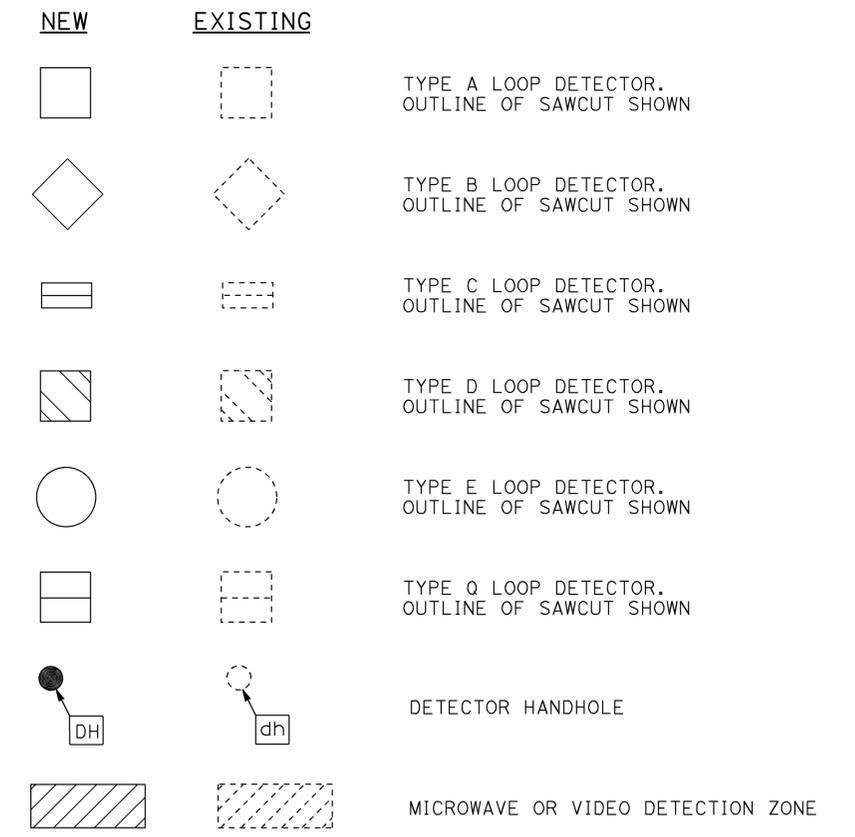
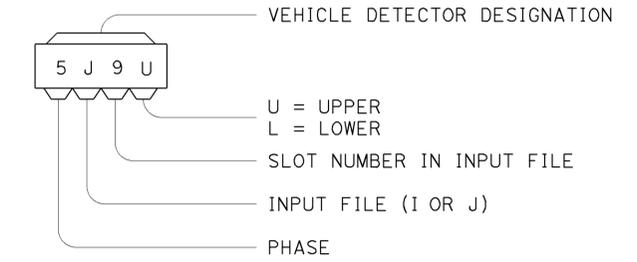
WIRING DIAGRAM LEGEND



PULL BOXES



VEHICLE DETECTORS



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

NO SCALE

RSP ES-1C DATED OCTOBER 30, 2015 SUPERSEDES RSP ES-1C DATED JULY 19, 2013 AND STANDARD PLAN ES-1C DATED MAY 20, 2011 - PAGE 427 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP ES-1C

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	60	64

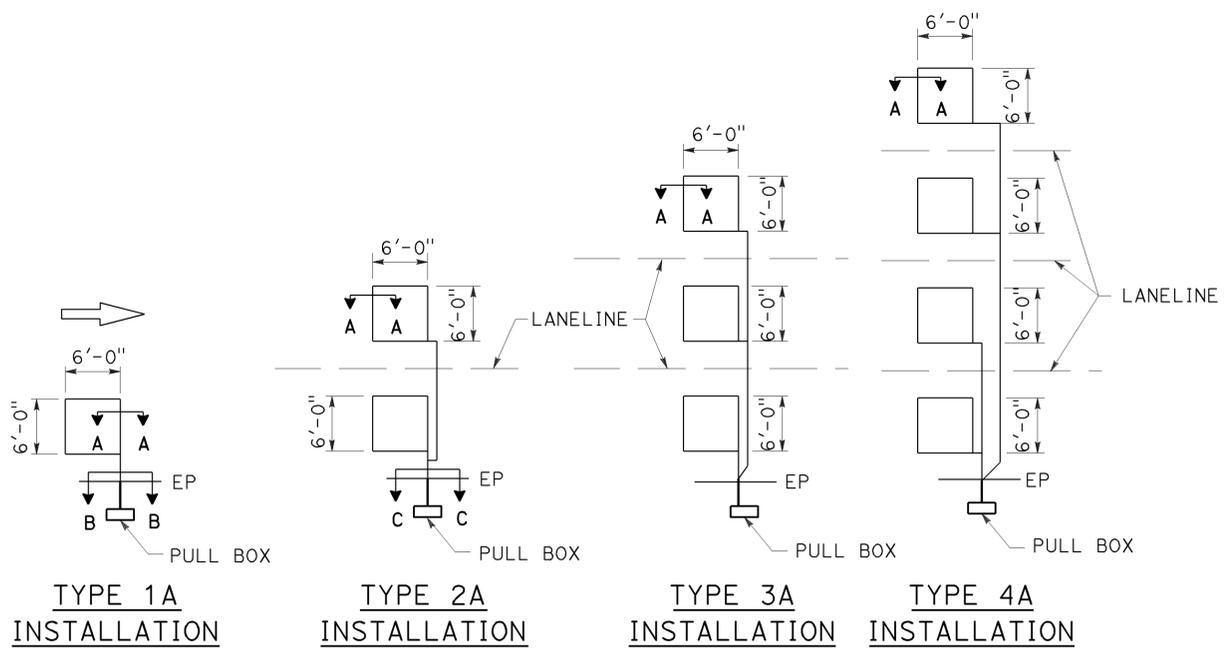
Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

October 30, 2015
PLANS APPROVAL DATE

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

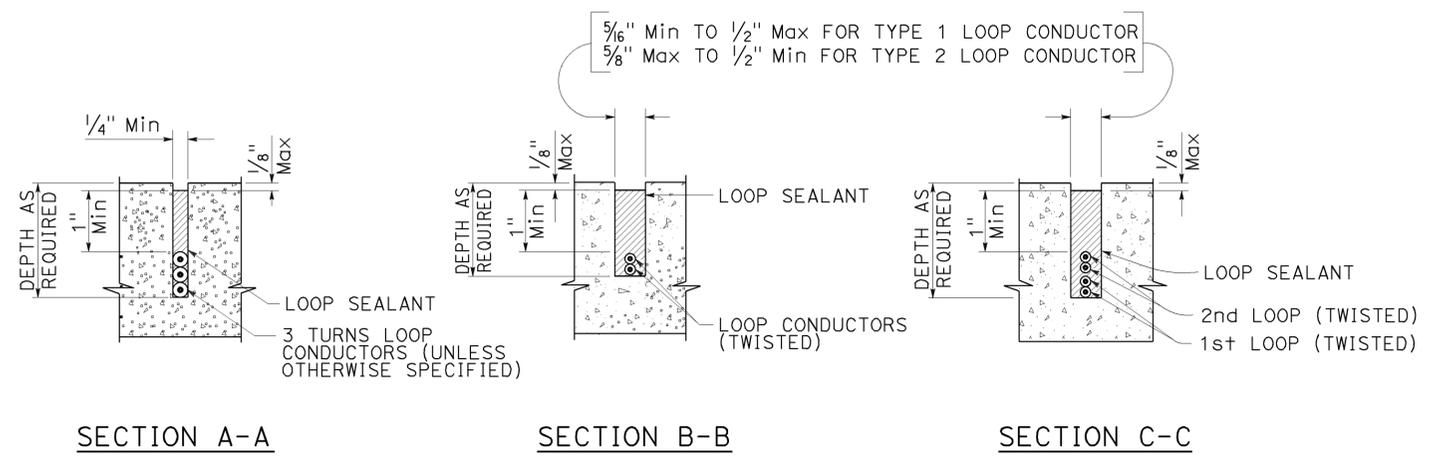
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TO ACCOMPANY PLANS DATED 10-26-15

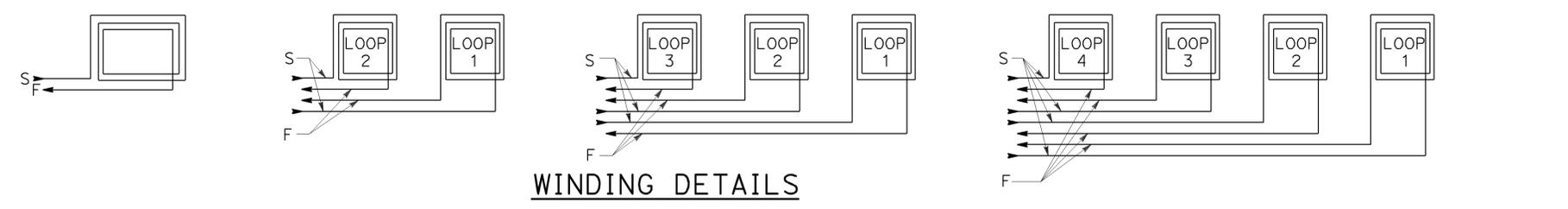


SAWCUT DETAILS

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



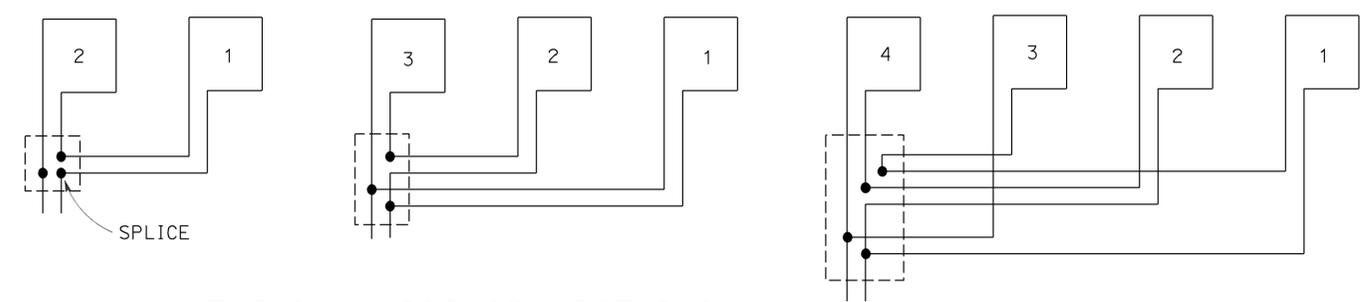
SLOT DETAILS - TYPE 1 AND TYPE 2 LOOP CONDUCTOR



ABBREVIATIONS:

S - START

F - FINISH



Dashed lines represent the pull box

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**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

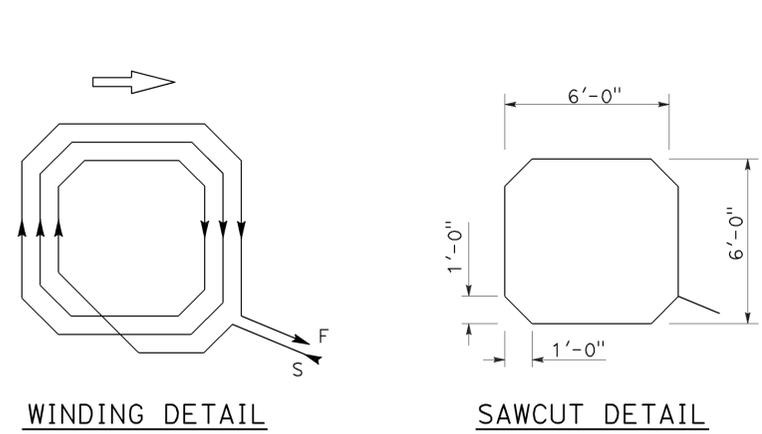
2010 REVISED STANDARD PLAN RSP ES-5A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	61	64

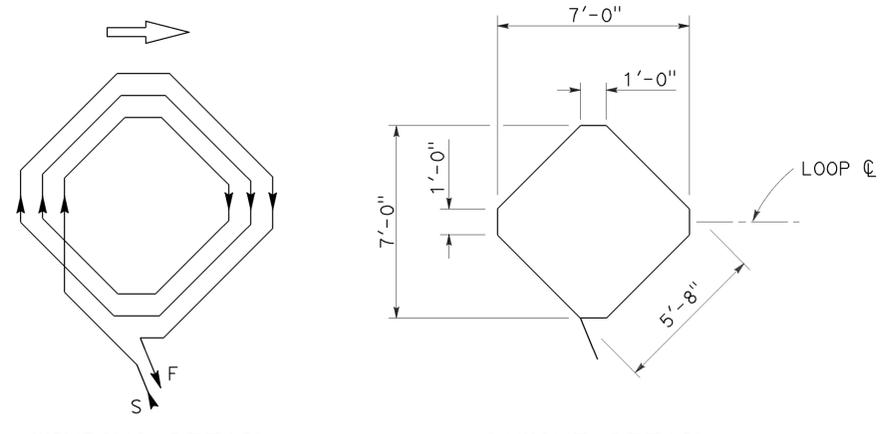
Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 October 30, 2015
 PLANS APPROVAL DATE
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REGISTERED PROFESSIONAL ENGINEER
 Theresa Aziz Gabriel
 No. E15129
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 ELECTRICAL
 STATE OF CALIFORNIA

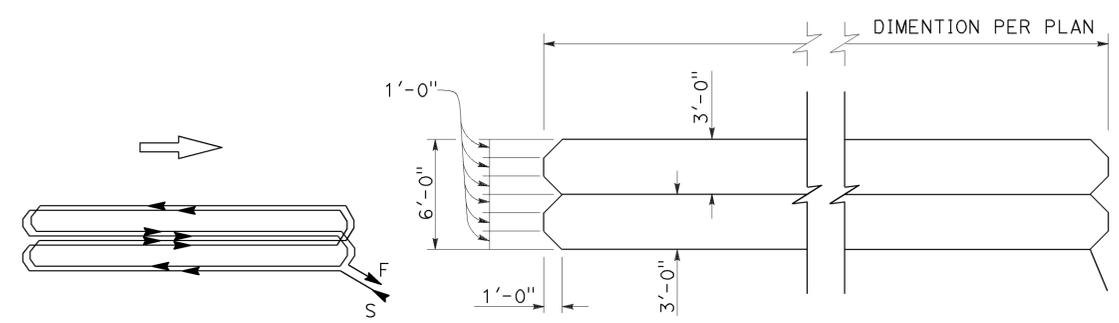
TO ACCOMPANY PLANS DATED 10-26-15



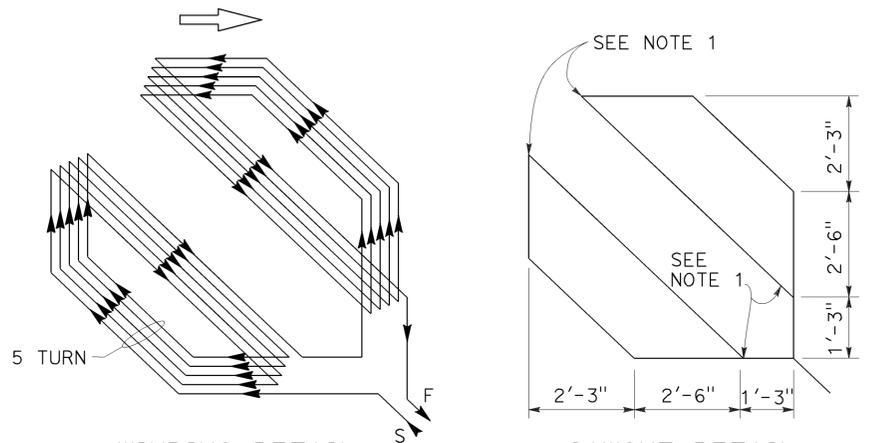
WINDING DETAIL
SAWCUT DETAIL
TYPE A LOOP DETECTOR CONFIGURATION



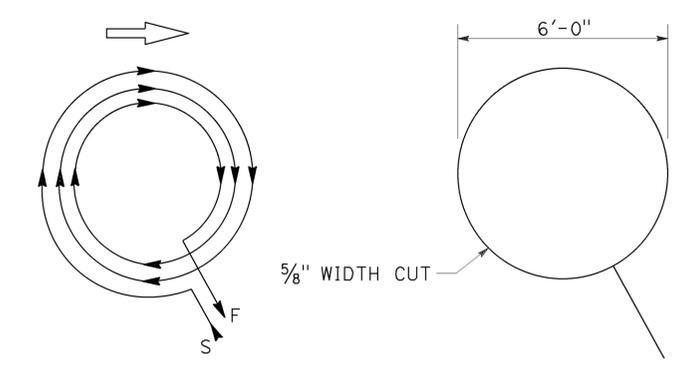
WINDING DETAIL
SAWCUT DETAIL
TYPE B LOOP DETECTOR CONFIGURATION



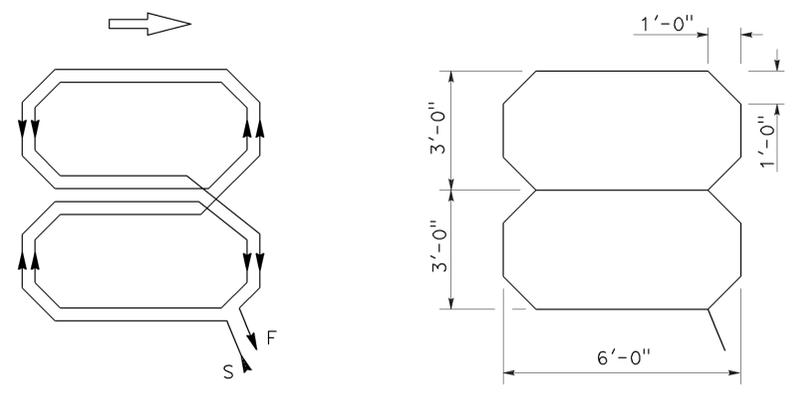
WINDING DETAIL
SAWCUT DETAIL
TYPE C LOOP DETECTOR CONFIGURATION



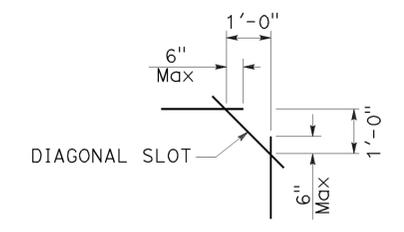
WINDING DETAIL
SAWCUT DETAIL
TYPE D LOOP DETECTOR CONFIGURATION



WINDING DETAIL
SAWCUT DETAIL
TYPE E LOOP DETECTOR CONFIGURATION



WINDING DETAIL
SAWCUT DETAIL
TYPE Q LOOP DETECTOR CONFIGURATION



**PLAN VIEW OF
DIAGONAL SLOT
AT CORNERS**

- NOTES:**
1. Round corners of acute angle sawcuts to prevent damage to conductors.
 2. Typical distance separating loops from edge to edge is 10' for Type A, B, D and E installation in single lane.
 3. Use Type D loops for limit line detector installations in left turn and bicycle lanes.

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

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

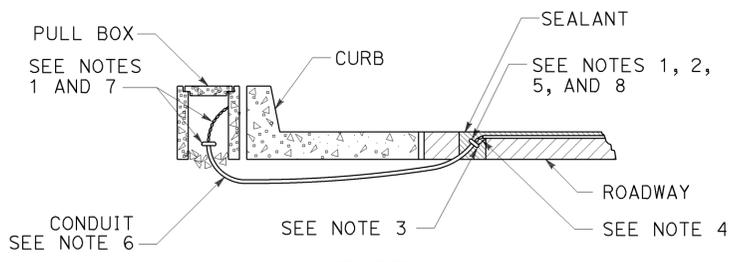
2010 REVISED STANDARD PLAN RSP ES-5B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	62	64

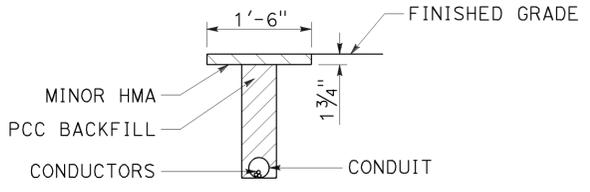
Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 October 30, 2015
 PLANS APPROVAL DATE
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REGISTERED PROFESSIONAL ENGINEER
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 No. E15129
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 STATE OF CALIFORNIA

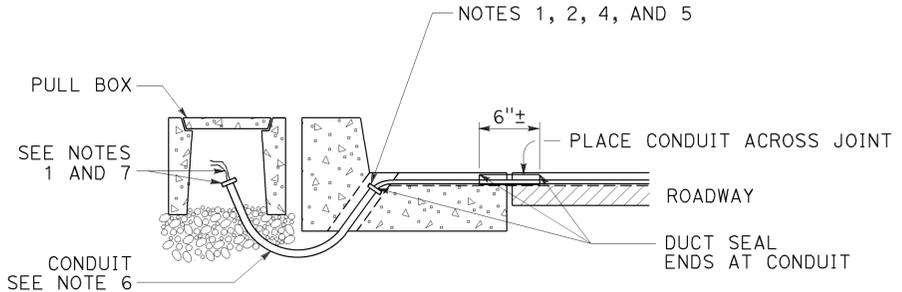
TO ACCOMPANY PLANS DATED 10-26-15



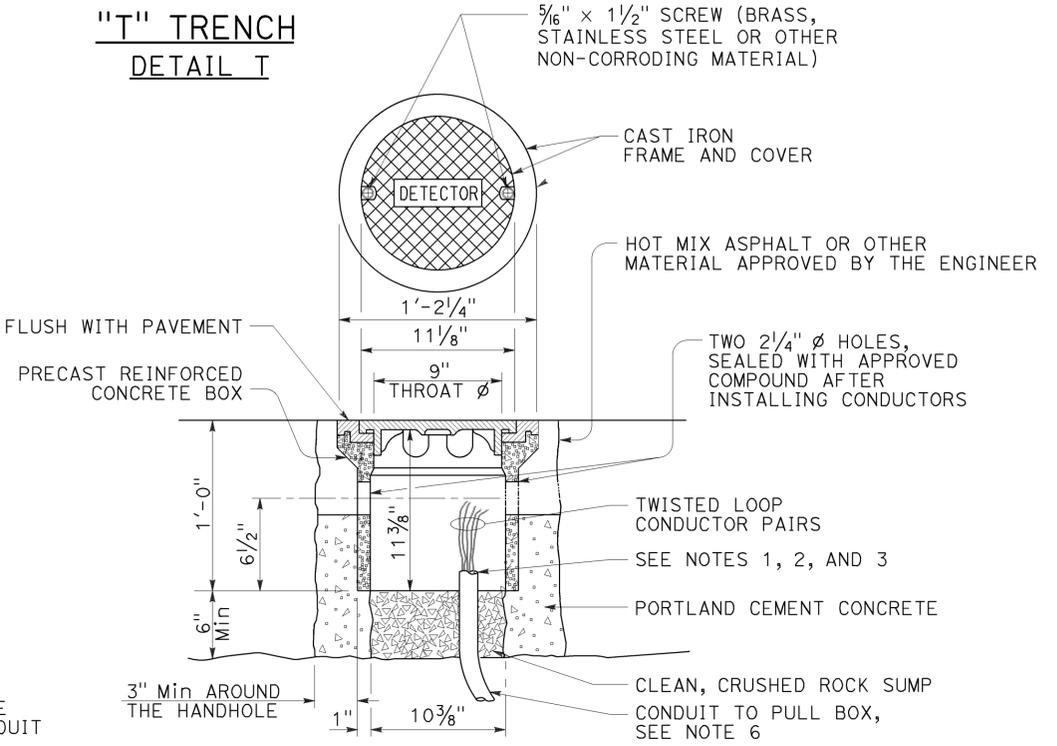
**TYPE A
CURB TERMINATION DETAIL**



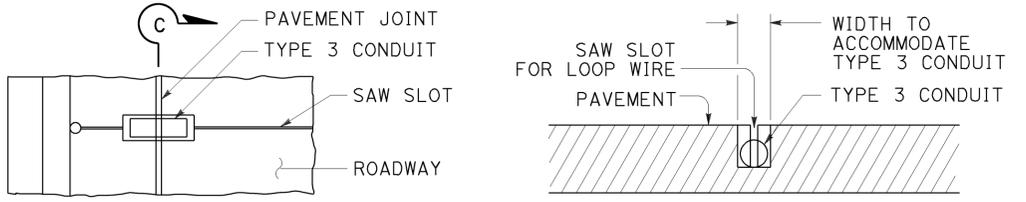
**"T" TRENCH
DETAIL 1**



CROSS SECTION



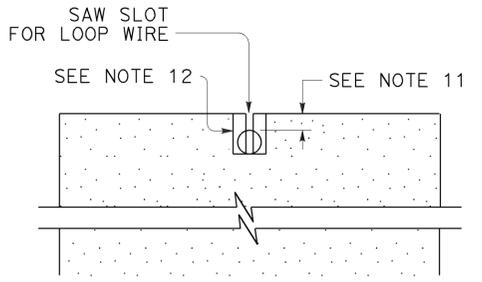
DETECTOR HANDHOLE DETAIL



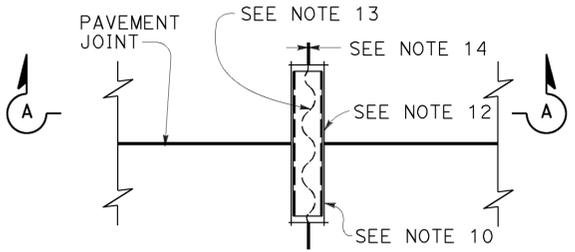
PLAN VIEW

SECTION C-C

**TYPE B
CURB TERMINATION DETAIL**

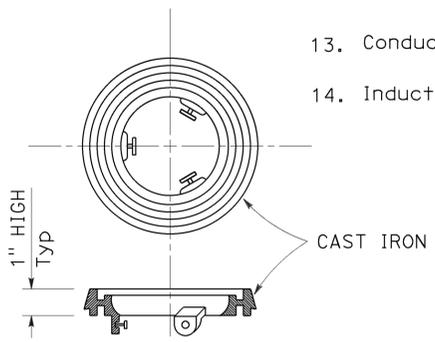


SECTION A-A



PLAN VIEW

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



LOCKING GRADE RING

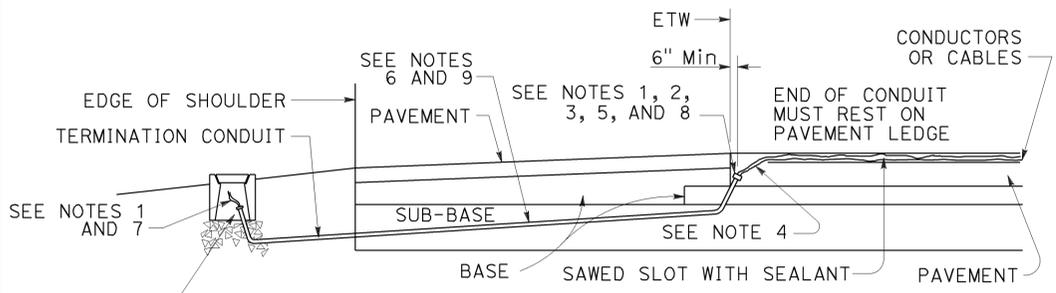
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

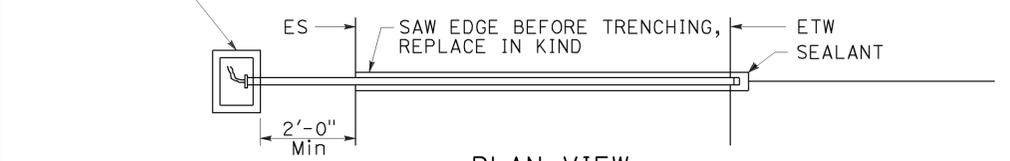
NO SCALE

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

REVISED STANDARD PLAN RSP ES-5D



CROSS SECTION



PLAN VIEW

SHOULDER TERMINATION DETAILS

2010 REVISED STANDARD PLAN RSP ES-5D

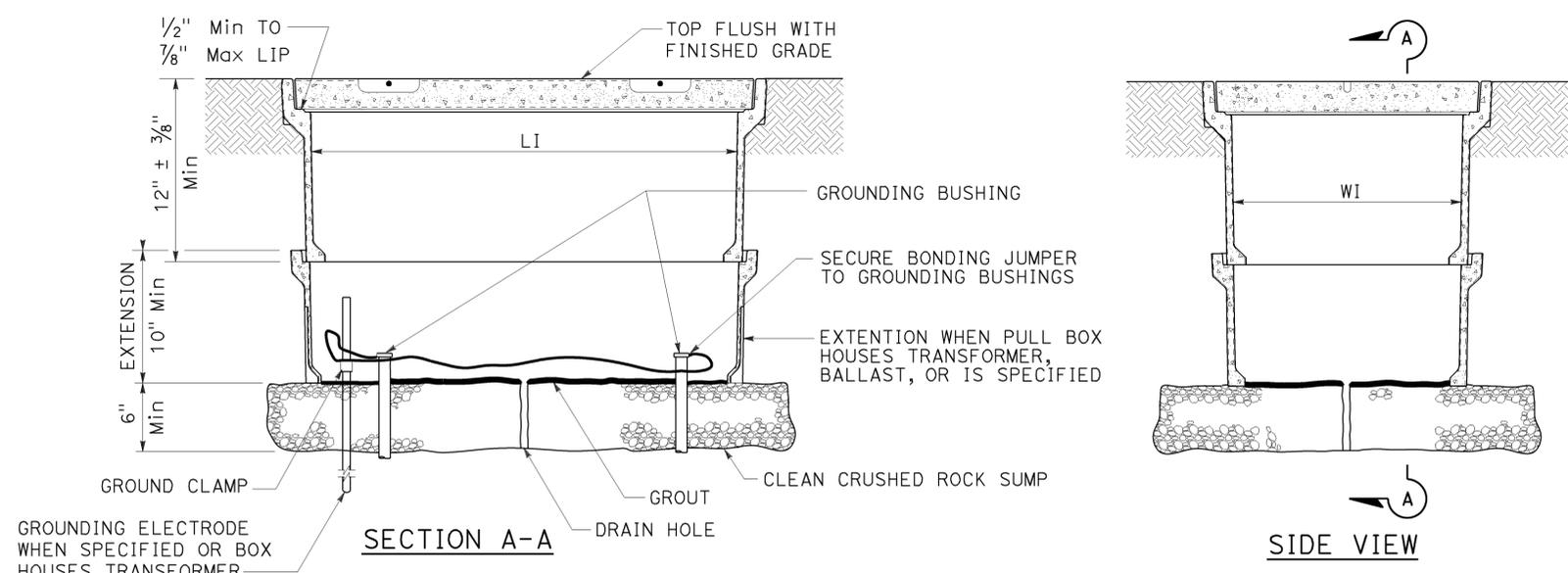
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	63	64

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

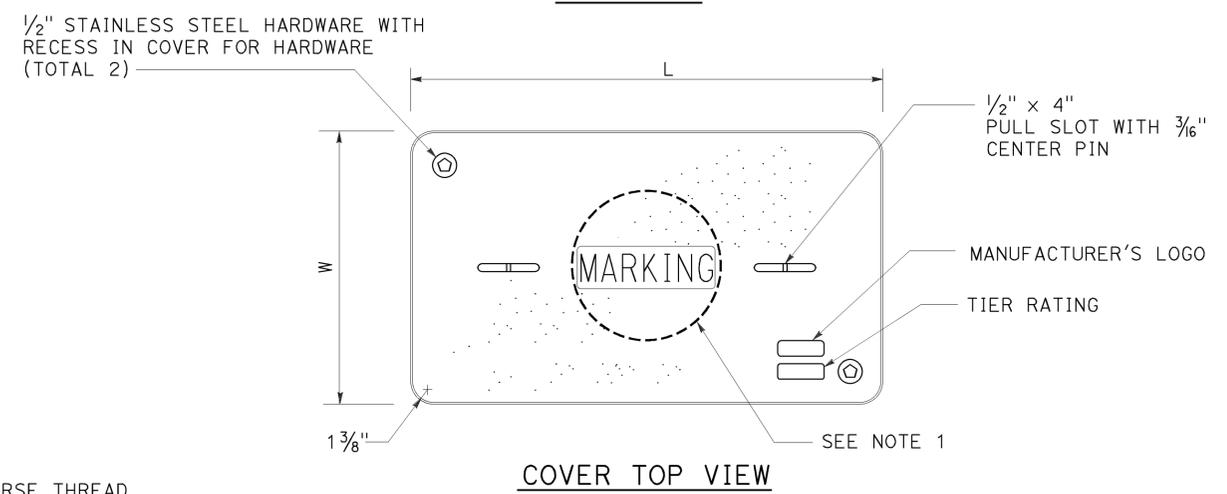
October 30, 2015
 PLANS APPROVAL DATE

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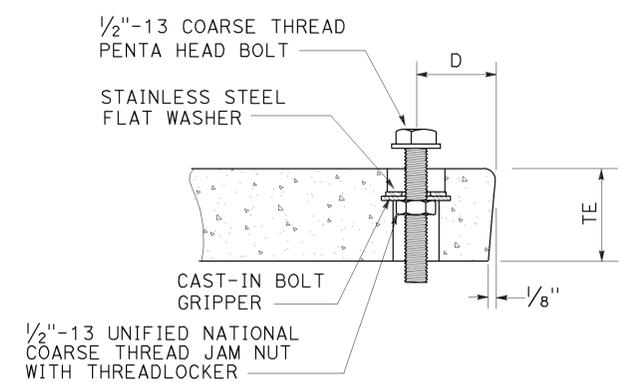
TO ACCOMPANY PLANS DATED 10-26-15



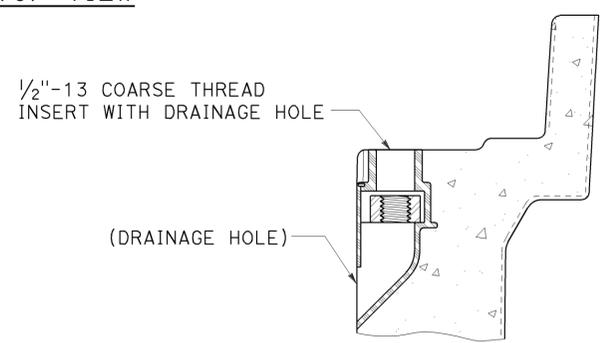
INSTALLATION DETAILS
DETAIL A



COVER TOP VIEW



TYPICAL COVER CAPTIVE BOLT
OR SIMILAR



TYPICAL THREADED INSERT
OR SIMILAR

NOTES:

- Pull box covers shall be marked as follows: "SERVICE" Service circuits between service point and service disconnect; "SPRINKLER-CONTROL" sprinkler control circuits, 50 V or less; "CALTRANS" on all pull boxes, except pull boxes marked "SPRINKLER-CONTROL"; and "TELEPHONE" Telephone service;
 - No. 3 1/2 pull box.
 - "SIGNAL" - Traffic signal circuits with or without lighting or sign lighting circuits.
 - "LIGHTING" - Lighting or sign lighting circuits where voltage is under 600 V.
 - No. 5, 6, 9 or 9A pull box.
 - "TRAFFIC SIGNAL" - Traffic signal circuits with or without lighting or sign lighting circuits.
 - "LIGHTING" - Lighting or sign lighting circuits where voltage is under 600 V.
 - "LIGHTING-HIGH VOLTAGE" - Lighting or sign lighting circuits where voltage is above 600 V.
 - "IRRIGATION" - Circuits to irrigation controller 120 V or more.
 - "RAMP METER" - Ramp meter circuits.
 - "COUNT STATION" - Count or speed monitor circuits.
 - "COMMUNICATIONS" - Communication circuits.
 - "TOS COMMUNICATIONS" - TOS communication line.
 - "TOS POWER" - TOS power.
 - "TDC POWER" - Telephone demarcation cabinet power.
 - "CCTV" - Closed circuit television circuits.
 - "TMS" - Traffic monitoring station circuits.
 - "CMS" - Changeable message sign circuits.
 - "HAR" - Highway advisory radio circuits.
 - "BOOSTER PUMP" - Booster pump circuit.
- The nominal dimensions of the opening in which the cover sets shall be the same as the cover dimensions except the length and width dimensions shall be 1/8" greater.
- Covers and boxes shall be interchangeable with California standard male and female gages. When interchanged with a standard male or female gage, the top surfaces shall be flush within 1/8". Top outside radius of covers and pull boxes shall have a 1/8" radius.
- Pull box extension may be another pull box as long as the bottom edge of the pull box can fit into the cover opening.
- Dimensions for the cover for non-traffic pull box are nominal values.

DIMENSION TABLE										
PULL BOX	PULL BOX			COVER						
	MINIMUM DEPTH BOX	MINIMUM DEPTH EXTENSION	MINIMUM WEIGHT	LI Min	WI Min	TE	D	L	W	MINIMUM WEIGHT
No. 3 1/2	12"	N/A	40 lb	1' - 3"	9"	1 3/4"	1 3/4"	1'-3 1/4" - 1'-3 3/8"	10" - 10 1/8"	30 lb
No. 5	12"	10"	55 lb	1' - 8"	11"	2"	1 3/4"	1'-11 1/4"	1'-1 3/4"	60 lb
No. 6	12"	10"	70 lb	2' - 4 1/4"	1' - 3 1/4"	2"	2"	2'-6 1/2"	1'-5 1/2"	85 lb

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

RSP ES-8A DATED OCTOBER 30, 2015 SUPERSEDES RSP ES-8A DATED JULY 19, 2013 AND RSP ES-8A DATED JANUARY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-8A

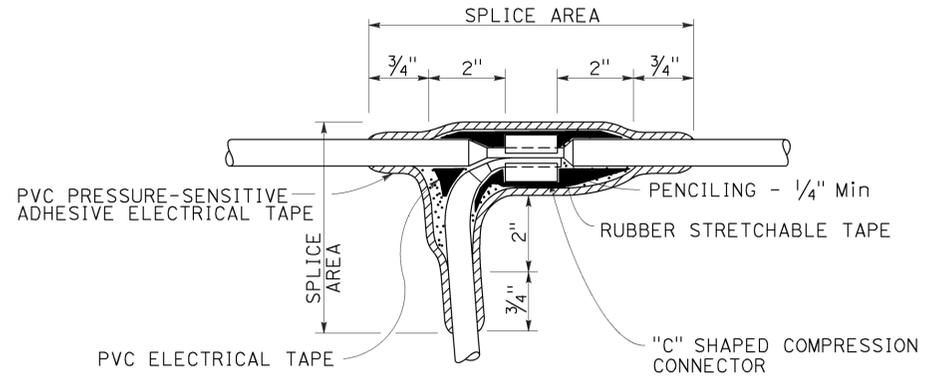
2010 REVISED STANDARD PLAN RSP ES-8A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	SJ	5	R12.4/R17.5	64	64

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

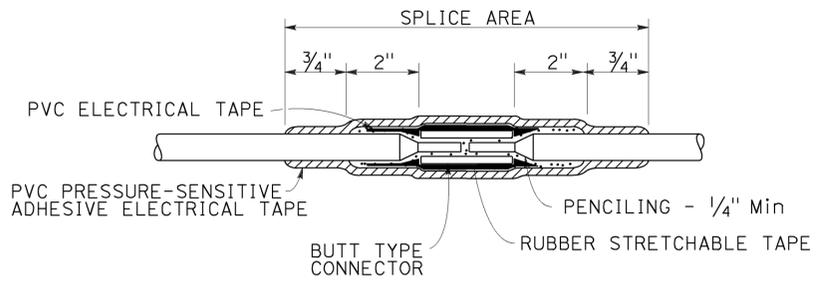
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TO ACCOMPANY PLANS DATED 10-26-15



TYPE C SPLICE

See Note 3

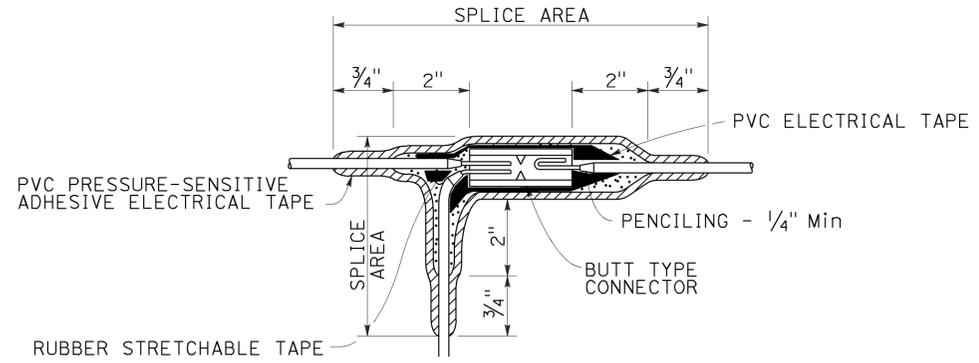


TYPE S SPLICE

See Note 4

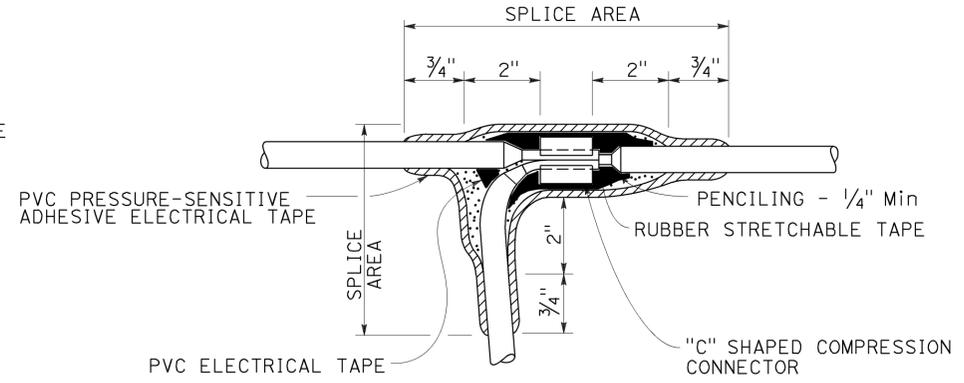
NOTES:

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



TYPE ST SPLICE

See Note 5



TYPE T SPLICE

See Note 5

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

NO SCALE

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

REVISED STANDARD PLAN RSP ES-13A

2010 REVISED STANDARD PLAN RSP ES-13A