

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13, 24, 80, 84, 880	Var	1	136

STATE OF CALIFORNIA **ACHSNHG-X001(615)E**
DEPARTMENT OF TRANSPORTATION
PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY
IN ALAMEDA COUNTY
AT VARIOUS LOCATIONS

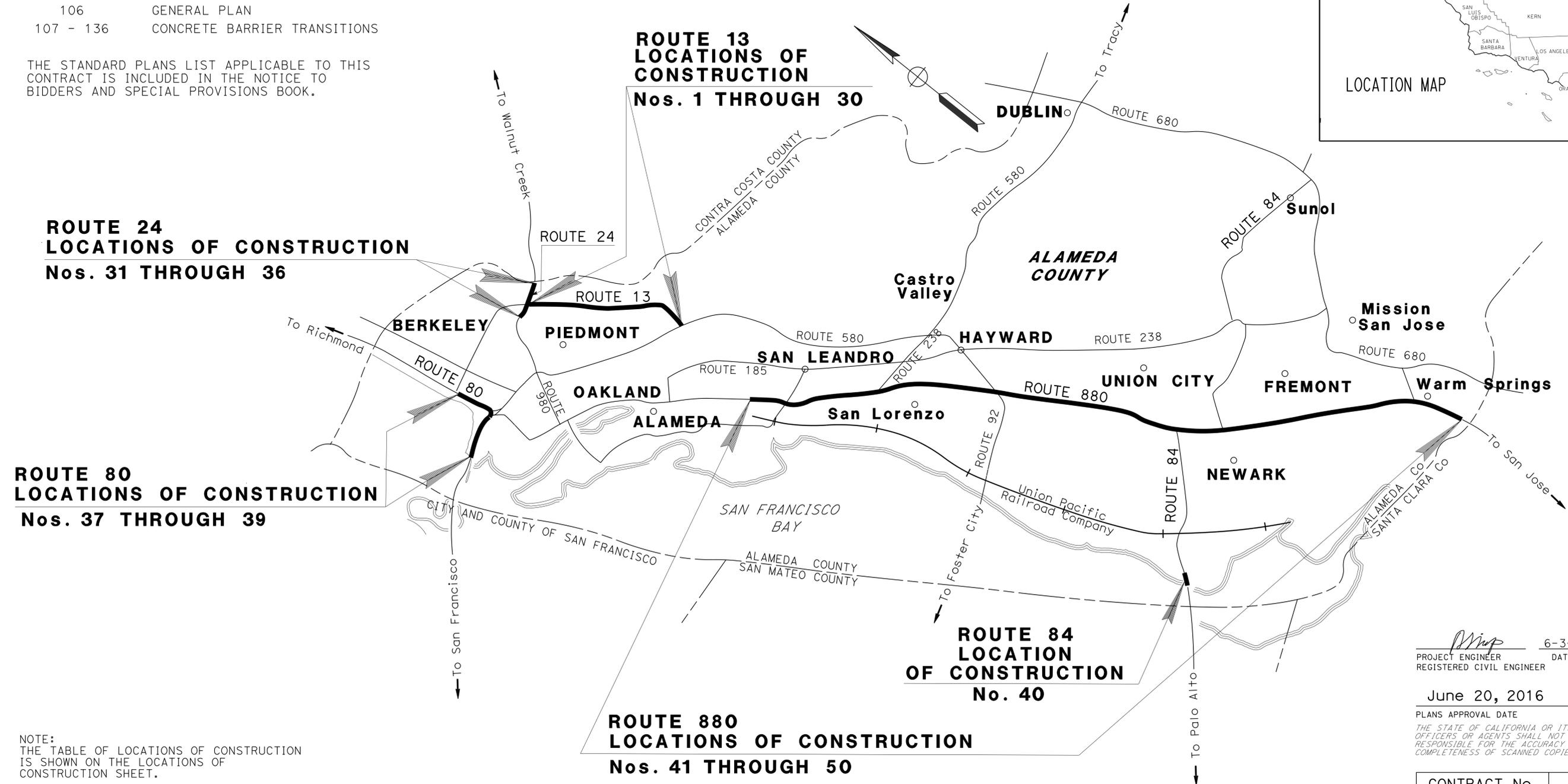
TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010



INDEX OF PLANS

SHEET No.	DESCRIPTION
1	TITLE SHEET AND LOCATION MAP
2	LOCATIONS OF CONSTRUCTION
3 - 24	CONSTRUCTION DETAILS
25 - 26	TEMPORARY WATER POLLUTION CONTROL QUANTITIES
27 - 44	CONSTRUCTION AREA SIGNS
45	TRAFFIC HANDLING PLAN
46 - 48	SUMMARY OF QUANTITIES
49 - 55	IRRIGATION REMOVAL PLAN, IRRIGATION PLAN AND QUANTITIES
56 - 58	EROSION CONTROL LEGEND, DETAILS AND QUANTITIES
59 - 69	ELECTRICAL PLANS
70 - 105	REVISED STANDARD PLANS
STRUCTURE PLANS	
106	GENERAL PLAN
107 - 136	CONCRETE BARRIER TRANSITIONS

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



PROJECT MANAGER JACK STAUW
DESIGN MANAGER GEORGE LO

ROUTE 80 LOCATIONS OF CONSTRUCTION
Nos. 37 THROUGH 39

ROUTE 24 LOCATIONS OF CONSTRUCTION
Nos. 31 THROUGH 36

ROUTE 13 LOCATIONS OF CONSTRUCTION
Nos. 1 THROUGH 30

ROUTE 84 LOCATION OF CONSTRUCTION
No. 40

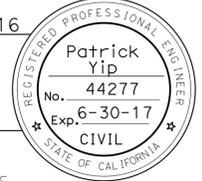
ROUTE 880 LOCATIONS OF CONSTRUCTION
Nos. 41 THROUGH 50

NO SCALE

NOTE: THE TABLE OF LOCATIONS OF CONSTRUCTION IS SHOWN ON THE LOCATIONS OF CONSTRUCTION SHEET.

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

PROJECT ENGINEER *Min* DATE 6-3-16
REGISTERED CIVIL ENGINEER
June 20, 2016
PLANS APPROVAL DATE



CONTRACT No. **04-2G5024**
PROJECT ID **0414000057**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80,84,880	Var	2	136

REGISTERED CIVIL ENGINEER DATE 6-2-16
 Thanh C. Nguyen
 No. 58137
 Exp. 6-30-18
 CIVIL

PLANS APPROVAL DATE 6-20-16

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

LOCATIONS OF CONSTRUCTION

PROJECT WORK LOCATIONS			SIDE	PM	DIRECTION	DESCRIPTION
Loc No.Ⓢ	COUNTY	ROUTE				
1	Ala	13	RIGHT	4.47	SB	OFF-RAMP TO CALAVERAS Ave
2	Ala	13	RIGHT	4.48	NB	ON-RAMP FROM MOUNTAIN Blvd
3	Ala	13	LEFT	5.01	NB	CARSON St UC (Br No. 33-0105)
4	Ala	13	RIGHT	5.39	SB	REDWOOD Rd OC (Br No. 33-0147)
5	Ala	13	RIGHT	5.48	NB	ON-RAMP FROM REDWOOD Rd (Br No. 33-0147)
6	Ala	13	RIGHT	5.58	NB	ON-RAMP FROM MOUNTAIN Blvd
7	Ala	13	RIGHT	6.20	NB	SOUTH OF LINCOLN Ave OC
8	Ala	13	RIGHT	6.47	NB	ON-RAMP FROM JOAQUIN MILLER Rd
9	Ala	13	RIGHT	6.47	SB	LINCOLN Ave OC (Br No. 33-0247)
10	Ala	13	RIGHT	6.47	NB	LINCOLN Ave OC (Br No. 33-0247)
11	Ala	13	RIGHT	7.39	NB	ON-RAMP FROM MOUNTAIN Blvd (Br No. 33-0159)
12	Ala	13	RIGHT	7.4	SB	PARK Blvd OC (Br No. 33-0159)
13	Ala	13	RIGHT	7.76	SB	LA SALLE Ave OC (Br No. 33-0160)
14	Ala	13	RIGHT	7.91	SB	BRUNS Dr POC (Br No. 33-0244)
15	Ala	13	RIGHT	8.18	NB	100' SOUTH OF MORAGA Ave UC
16	Ala	13	RIGHT	8.27	NB	ON-RAMP FROM MORAGA Ave UC (Br No. 33-0227R)
17	Ala	13	RIGHT	8.27	NB	MORAGA Ave UC (Br No. 33-0227R)
18	Ala	13	RIGHT	8.27	SB	MORAGA Ave UC (Br No. 33-0227L)
19	Ala	13	LEFT	8.27	NB	MORAGA Ave UC (Br No. 33-0227R)
20	Ala	13	RIGHT	9.07	NB	BROADWAY TERRACE UC (Br No. 33-0162)
21	Ala	13	RIGHT	9.07	SB	BROADWAY TERRACE UC (Br No. 33-0162)
22	Ala	13	RIGHT	R9.18	NB	ON-RAMP FROM BROADWAY TERRACE
23	Ala	13	RIGHT	R9.2	SB	OFF-RAMP TO BROADWAY TERRACE
24	Ala	13	RIGHT	R9.0	SB	ON-RAMP FROM BROADWAY TERRACE
25	Ala	13	RIGHT	R9.20	NB	ON-RAMP FROM BROADWAY TERRACE
26	Ala	13	LEFT	R9.52	NB	CONNECTOR FROM NB Rte 13 TO EB Rte 24 (Br No. 33-0377G)
27	Ala	13	RIGHT	R9.58	NB	500' SOUTH OF BROADWAY OC
28	Ala	13	RIGHT	R9.58	NB	BENEATH BROADWAY OC (Br No. 33-0376)
29	Ala	13	LEFT	R9.58	SB	100' SOUTH OF BROADWAY OC
29A	Ala	13	LEFT	R9.58	NB	100' SOUTH OF BROADWAY OC
30	Ala	13	LEFT	R9.62	SB	1000' NORTH OF JUNCTION Rte 24/Rte 13
31	Ala	24	LEFT	R4.98	WB	AT THE BEGIN OF CONNECTOR FROM WB Rte 24 TO SB Rte 13 Sep (Br No. 33-0607F)
32	Ala	24	RIGHT	R4.98	SB	AT THE END OF CONNECTOR FROM WB Rte 24 TO SB Rte 13 Sep (Br No. 33-0607F)
33	Ala	24	RIGHT	R4.83	EB	AT THE BEGIN OF CONNECTOR FROM EB Rte 24 TO SB Rte 13
34	Ala	24	RIGHT	R4.83	EB	AT THE BEGIN OF CONNECTOR FROM EB Rte 24 TO SB Rte 13
35	Ala	24	RIGHT	R5.12	WB	AT JUNCTION Rte 24/Rte 13 (Br No. 33-0378)
36	Ala	24	RIGHT	R5.89	EB	EB Rte 24 AT THE BEGIN OF CALDECOTT TUNNEL (BORE #1)
37	Ala	80	RIGHT	3.14	WB	UNDER BAY BRIDGE HOV Sep (Br No. 33-0601)
38	Ala	80	RIGHT	3.79	EB	POWELL St UC (Br No. 33-0020)
39	Ala	80	RIGHT	3.79	WB	ON-RAMP FROM POWELL St UC (Br No. 33-0020)
40	Ala	84	RIGHT	R0.73	WB	AT THE BEGIN OF DUMBARTON BRIDGE WB
41	Ala	880	RIGHT	3.38	NB	AT THE BEGIN OF ON-RAMP FROM WB FREMONT Blvd
42	Ala	880	RIGHT	3.67	SB	AT ARROYO DE LA LAGUNA CREEK (Br No. 33-0291)
43	Ala	880	RIGHT	3.67	NB	AT ARROYO DE LA LAGUNA CREEK (Br No. 33-0291)
45	Ala	880	RIGHT	25.61	NB	ON-RAMP FROM HEGENBERGER Rd OC
48	Ala	880	RIGHT	25.97	SB	AT ELMHURST CREEK (Br No 33-0113)
49	Ala	880	LEFT	26.53	SB	ON-RAMP OAKPORT-66TH Ave AT DAMON SLOUGH (Br No. 33-0142K)
50	Ala	880	RIGHT	26.53	NB	AT DAMON SLOUGH (Br No. 33-0142S)

**LOCATIONS OF CONSTRUCTION
 LC-1**

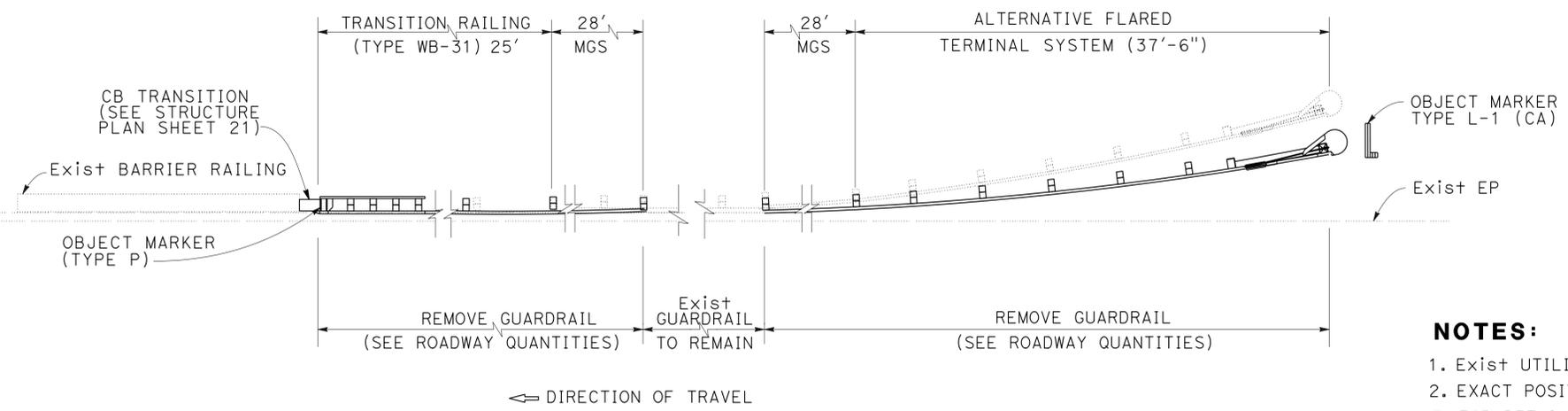
FUNCTIONAL SUPERVISOR	GEORGE LO
CALCULATED/DESIGNED BY	CHECKED BY
THANH NGUYEN	KAN YU
REVISOR	DATE
TN	3-23-16

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80, 84,880	Var	3	136

6-2-16
 REGISTERED CIVIL ENGINEER DATE
 Thanh C. Nguyen
 No. 58137
 Exp. 6-30-18
 CIVIL
 STATE OF CALIFORNIA

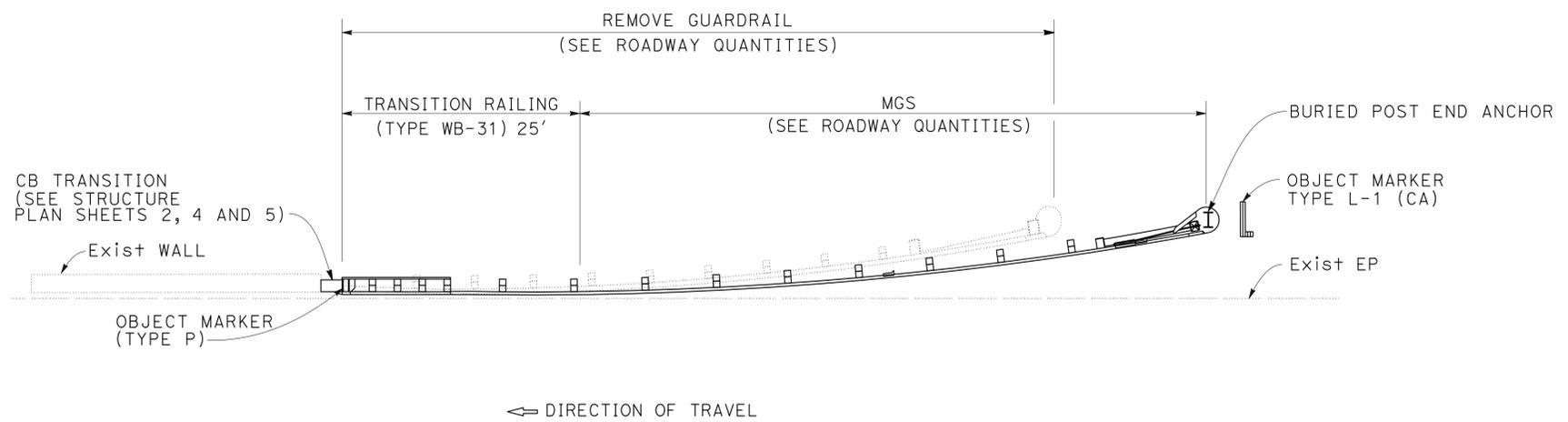
6-20-16
 PLANS APPROVAL DATE

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



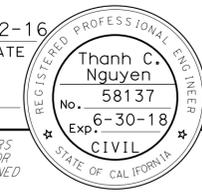
DETAIL A
 LOCATION No. 20

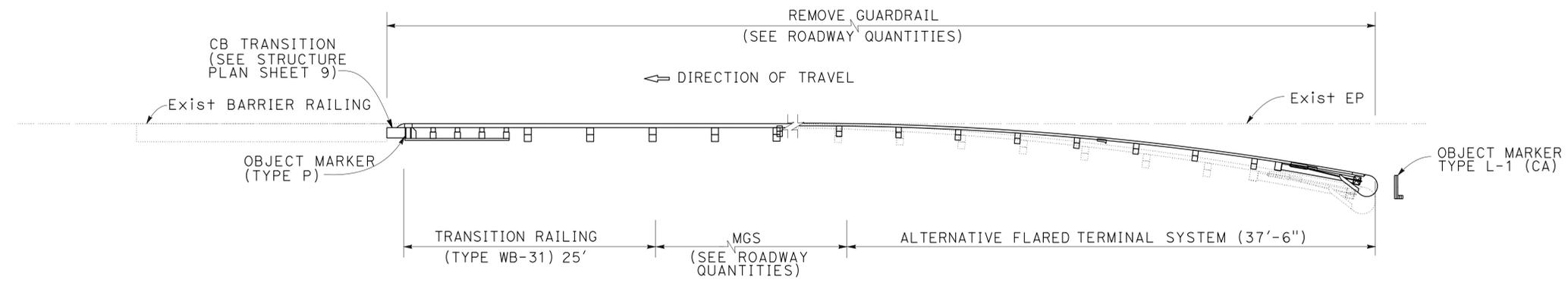
- NOTES:**
1. Exist UTILITY FACILITIES HAVE NOT BEEN POSITIVELY LOCATED.
 2. EXACT POSITION OF LUMBER ON MGS SHALL BE DETERMINED BY THE ENGINEER.
 3. FOR DETAILS NOT SHOWN, SEE Std PLANS DATED 2010.
 4. FOR LOCATIONS, SEE SHEET Q-1 TO Q-3.
 5. 28' MGS TRANSITION DETAIL, SEE RSP A77U5.
 6. 25' TRANSITION RAILING (TYPE WB-31), SEE RSP A77U4.
 7. VEGETATION CONTROL DETAIL, SEE RSP A77N5, RSP A77N6, RSP A77N8, RSP A77N10 AND SHEETS C-21 AND C-22.



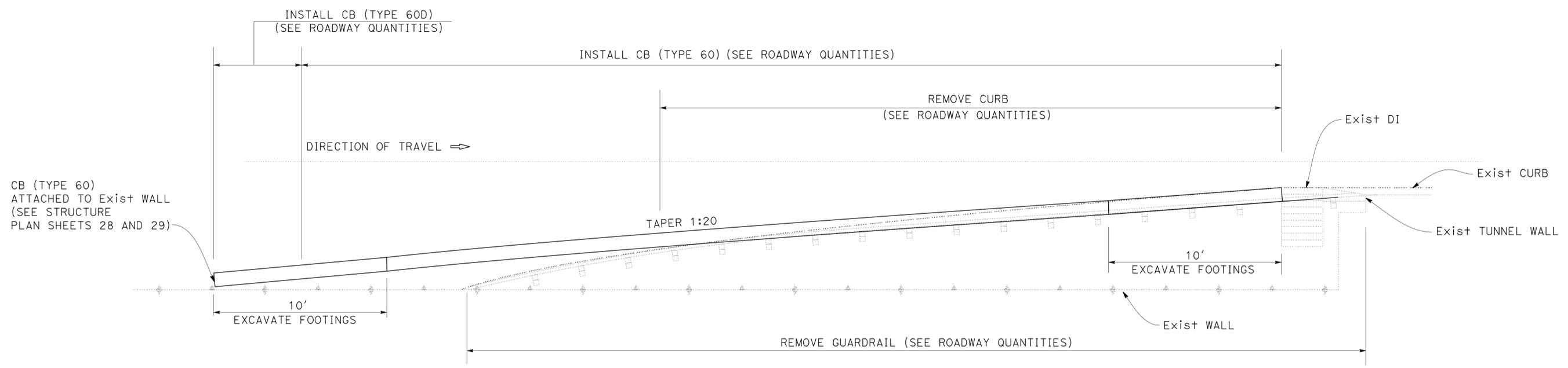
DETAIL B
 LOCATION Nos. 8, 11 AND 24

CONSTRUCTION DETAILS
 NO SCALE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80, 84,880	Var	4	136
			6-2-16	REGISTERED CIVIL ENGINEER DATE	
6-20-16 PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



DETAIL C
LOCATION No. 19



DETAIL D
LOCATION No. 36

CONSTRUCTION DETAILS
NO SCALE

FOR NOTES, SEE SHEET C-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN
FUNCTIONAL SUPERVISOR	GEORGE LO
CALCULATED/DESIGNED BY	CHECKED BY
THANH NGUYEN	KAN YU
REVISOR	DATE
TN	3-23-16

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN

FUNCTIONAL SUPERVISOR
 GEORGE LO

CALCULATED/DESIGNED BY
 CHECKED BY

THANH NGUYEN
 KAN YU

REVISOR BY
 DATE REVISED

TN
 3-23-16

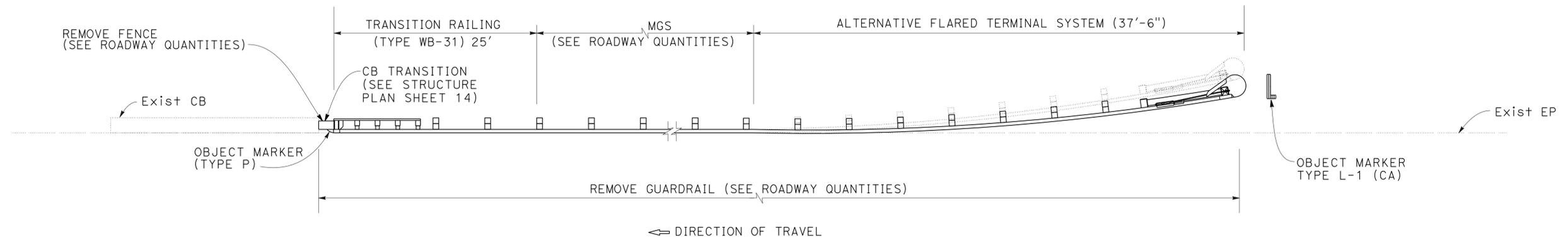
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80, 84,880	Var	5	136

6-2-16
 REGISTERED CIVIL ENGINEER DATE

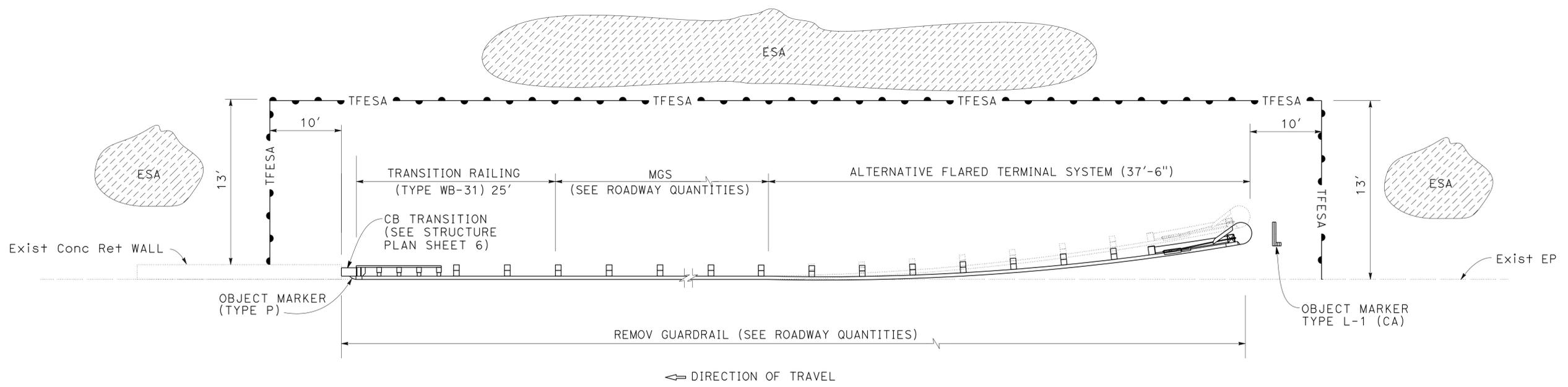
6-20-16
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Thanh C. Nguyen
 No. 58137
 Exp. 6-30-18
 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.



DETAIL EA
 LOCATION No. 34



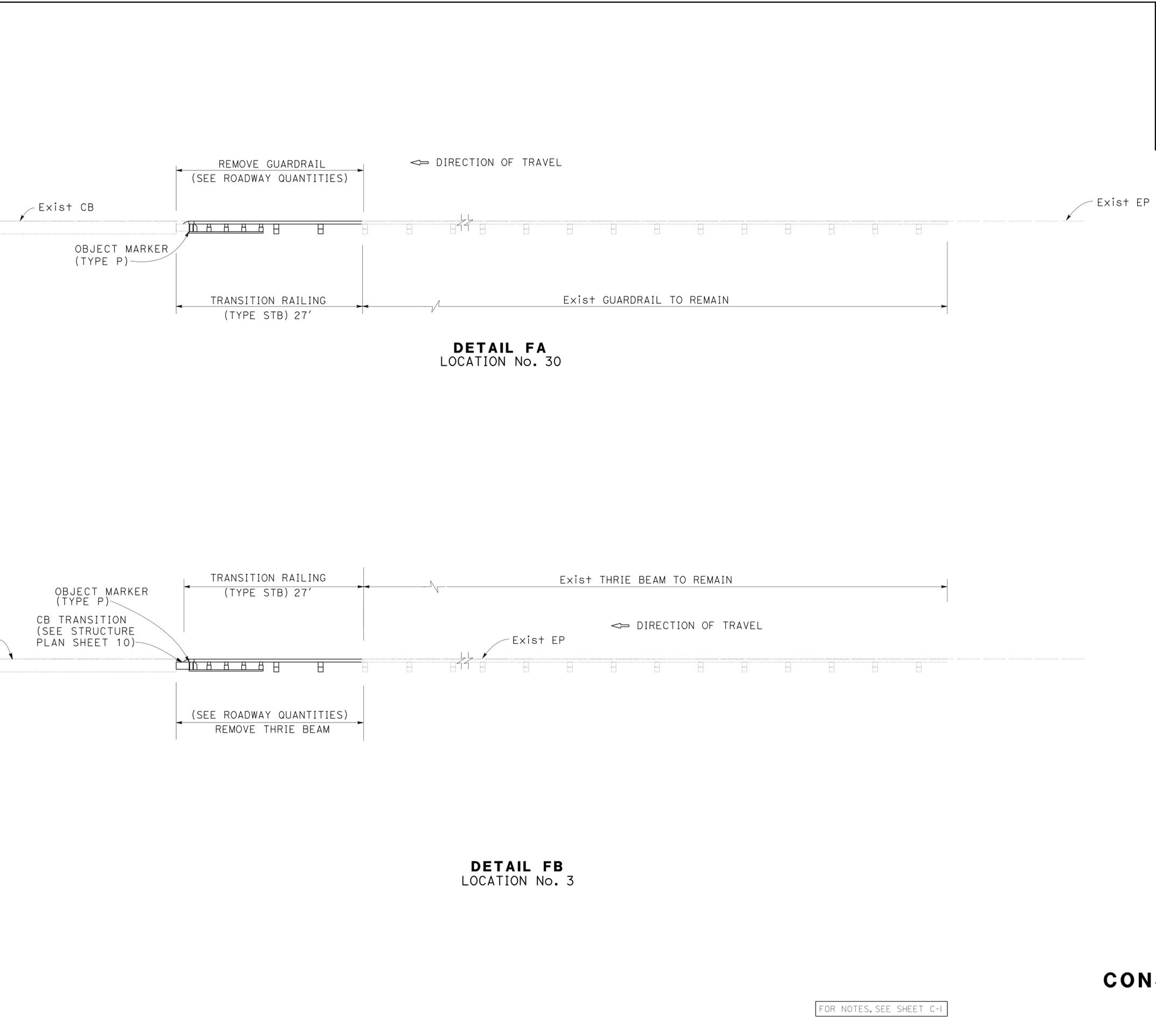
DETAIL EB
 LOCATION No. 2

CONSTRUCTION DETAILS
 NO SCALE

FOR NOTES, SEE SHEET C-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN

FUNCTIONAL SUPERVISOR: GEORGE LO
 THANH NGUYEN
 KAN YU
 REVISIONS:
 TN 3-23-16
 REVISIONS BY: DATE REVISIONS



DETAIL FA
 LOCATION No. 30

DETAIL FB
 LOCATION No. 3

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80, 84,880	Var	6	136

REGISTERED CIVIL ENGINEER DATE: 6-2-16
 PLANS APPROVAL DATE: 6-20-16

REGISTERED PROFESSIONAL ENGINEER
 Thanh C. Nguyen
 No. 58137
 Exp. 6-30-18
 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.

FOR NOTES, SEE SHEET C-1

CONSTRUCTION DETAILS
 NO SCALE

LAST REVISION DATE PLOTTED => 23-AUG-2016 10:51
 04-01-16 TIME PLOTTED => 10:51

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN

FUNCTIONAL SUPERVISOR
 GEORGE LO

CALCULATED/DESIGNED BY
 CHECKED BY

THANH NGUYEN
 KAN YU

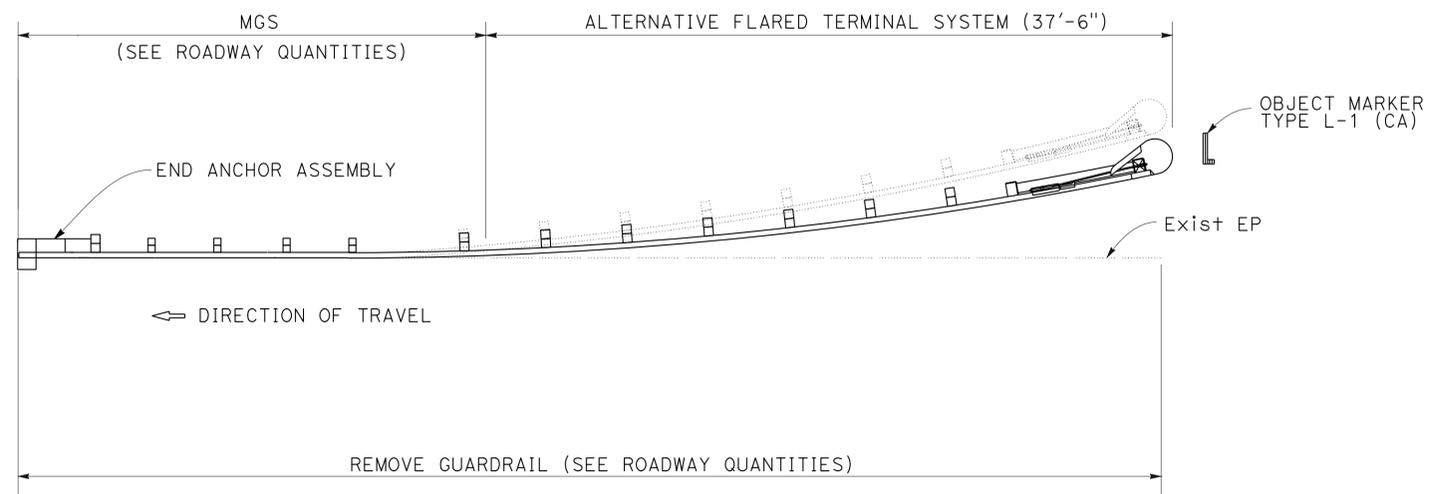
REVISOR
 DATE

TN
 3-23-16

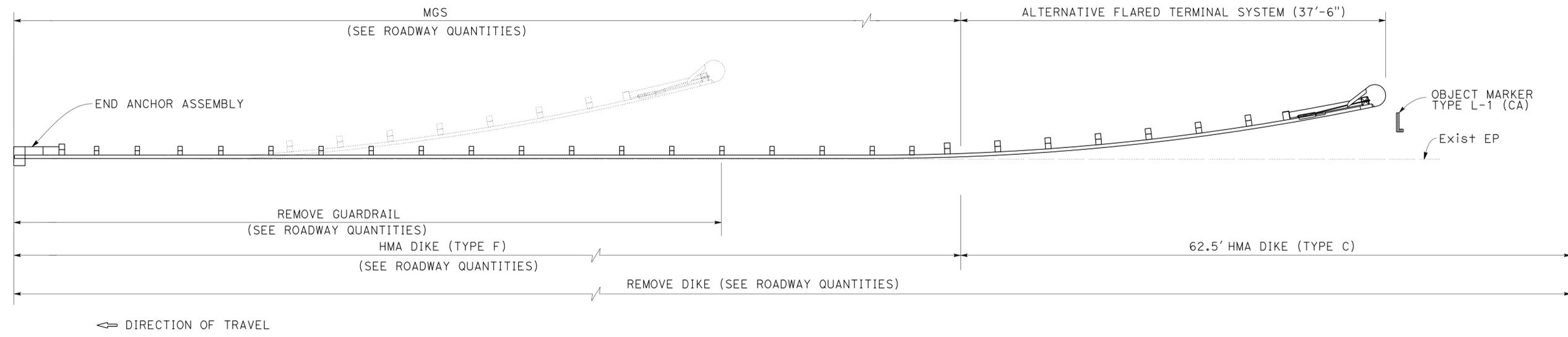
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80, 84,880	Var	7	136

REGISTERED CIVIL ENGINEER DATE 6-2-16
 Thanh C. Nguyen
 No. 58137
 Exp. 6-30-18
 CIVIL
 PLANS APPROVAL DATE 6-20-16

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



DETAIL G
 LOCATION No. 22



DETAIL HA
 LOCATION No. 15

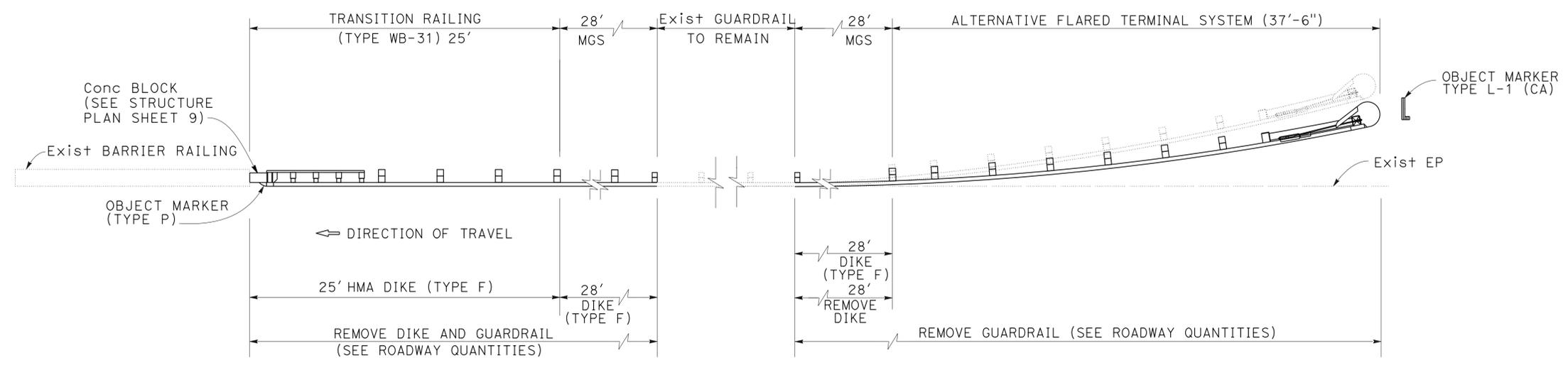
FOR NOTES, SEE SHEET C-1

CONSTRUCTION DETAILS
 NO SCALE

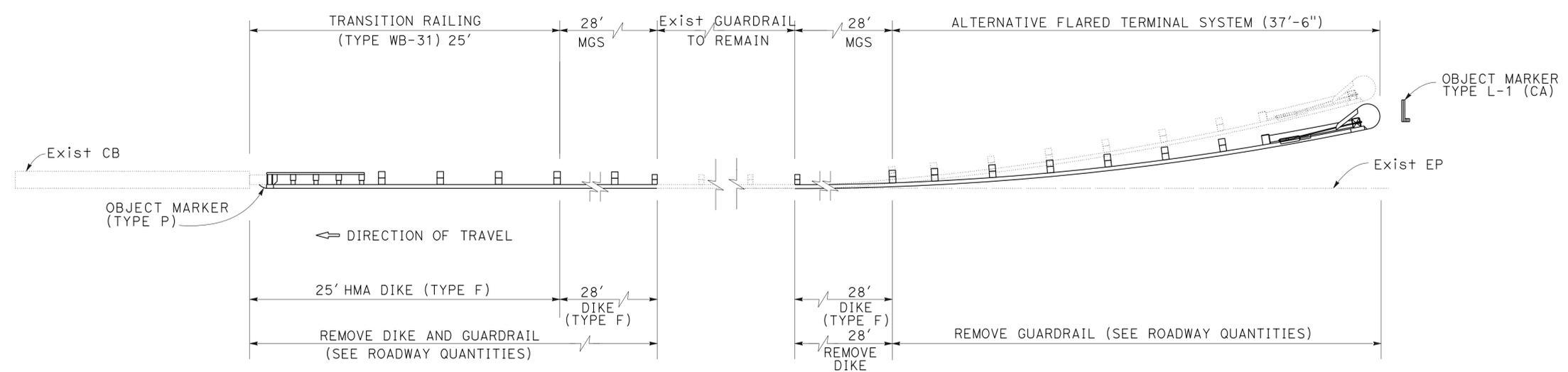
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80, 84,880	Var	8	136
REGISTERED CIVIL ENGINEER			DATE	6-2-16	
PLANS APPROVAL DATE			6-20-16		
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN
FUNCTIONAL SUPERVISOR	GEORGE LO
CALCULATED/DESIGNED BY	CHECKED BY
THANH NGUYEN	KAN YU
REVISOR	DATE
TN	3-23-16



DETAIL HB
LOCATION No. 18



DETAIL HB-2
LOCATION No. 38

CONSTRUCTION DETAILS
NO SCALE

FOR NOTES, SEE SHEET C-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN

FUNCTIONAL SUPERVISOR
 GEORGE LO

CALCULATED/DESIGNED BY
 CHECKED BY

THANH NGUYEN
 KAN YU

REVISOR
 DATE

TN
 3-23-16

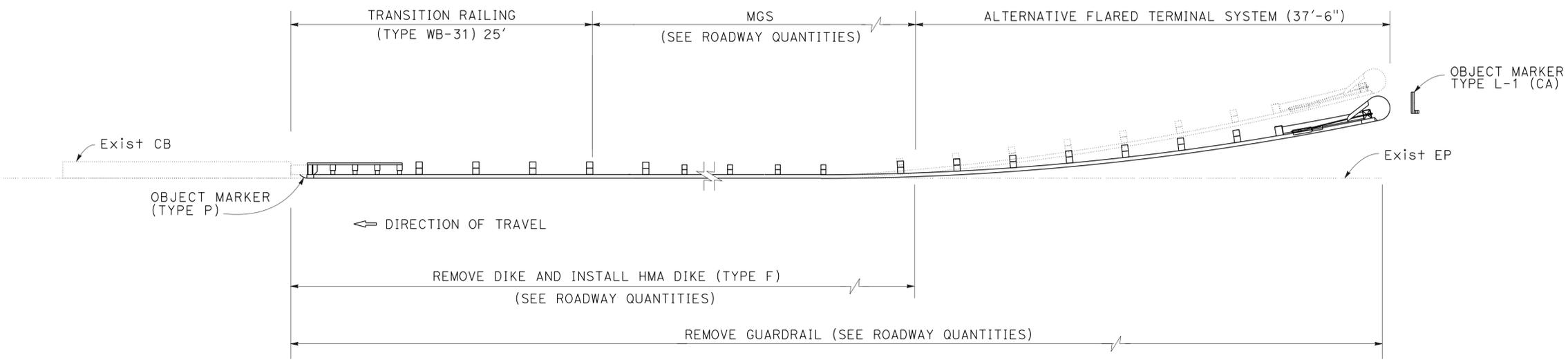
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80,84,880	Var	9	136

6-2-16
 REGISTERED CIVIL ENGINEER DATE

6-20-16
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Thanh C. Nguyen
 No. 58137
 Exp. 6-30-18
 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.



DETAIL HC
 LOCATION No. 32

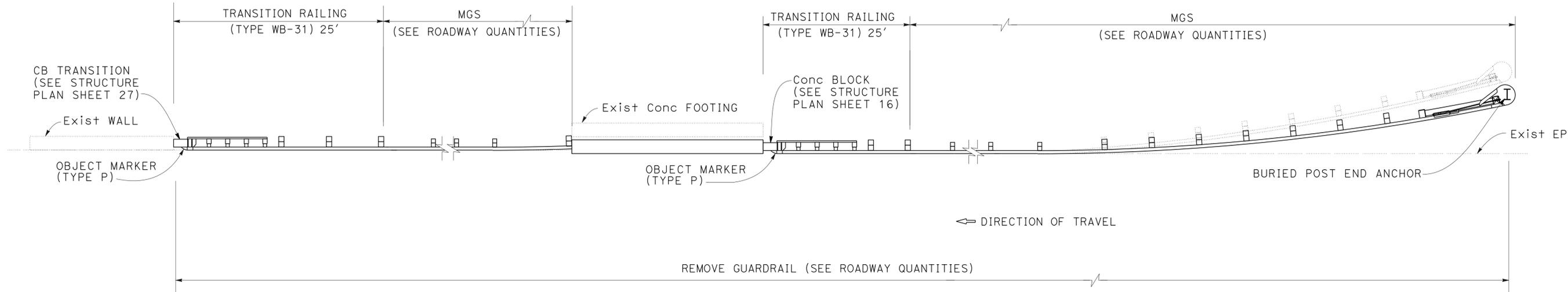
FOR NOTES, SEE SHEET C-1

CONSTRUCTION DETAILS
 NO SCALE

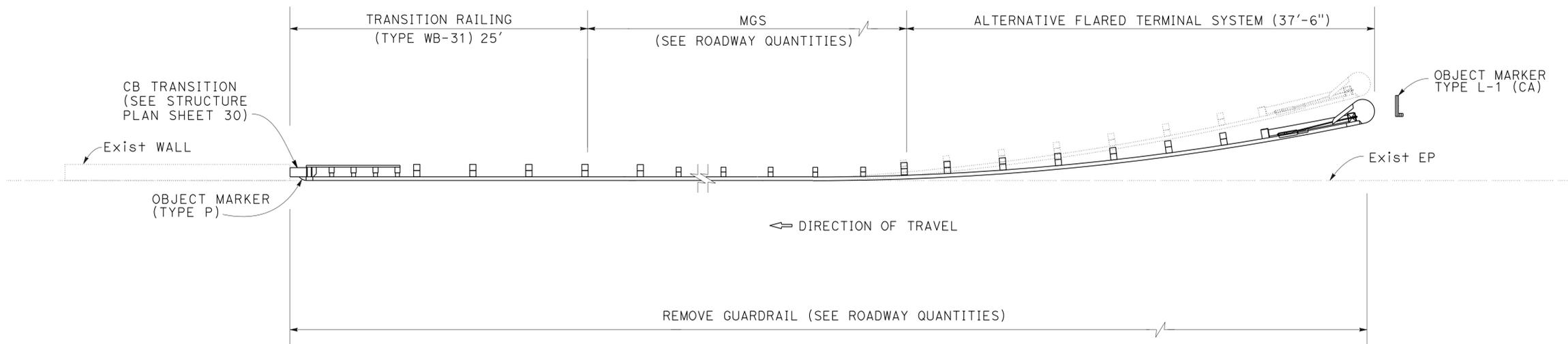
C-7

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80, 84,880	Var	10	136
			6-2-16	REGISTERED CIVIL ENGINEER DATE	
6-20-16 PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN
FUNCTIONAL SUPERVISOR	GEORGE LO
CALCULATED/DESIGNED BY	CHECKED BY
THANH NGUYEN	KAN YU
REVISOR	DATE
TN	3-23-16



DETAIL HE
LOCATION No. 14

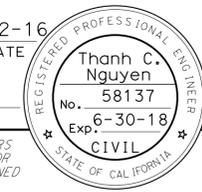


DETAIL HF
LOCATION No. 25

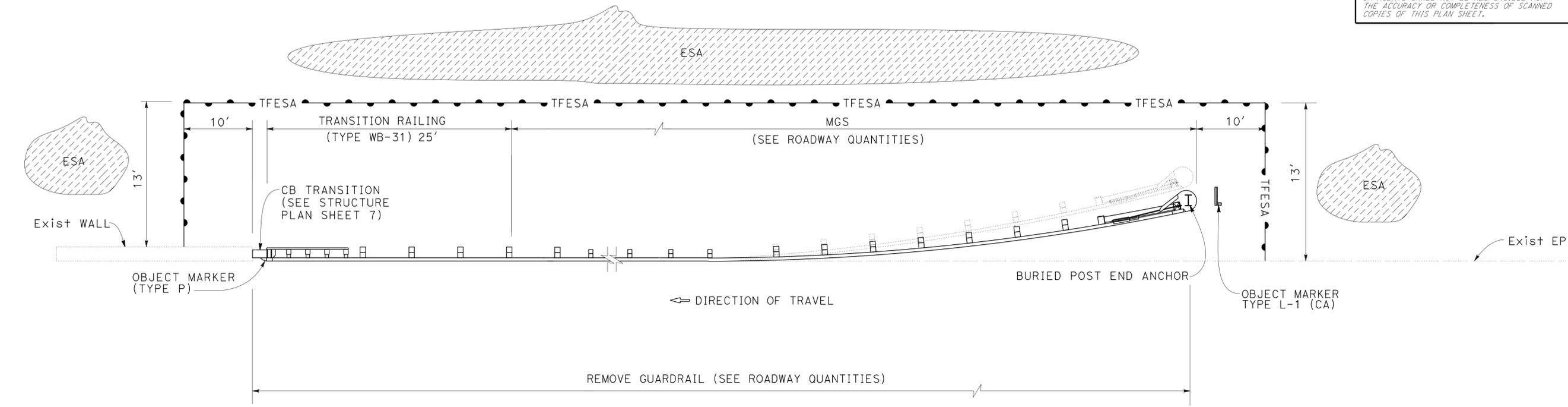
CONSTRUCTION DETAILS
NO SCALE

FOR NOTES, SEE SHEET C-1

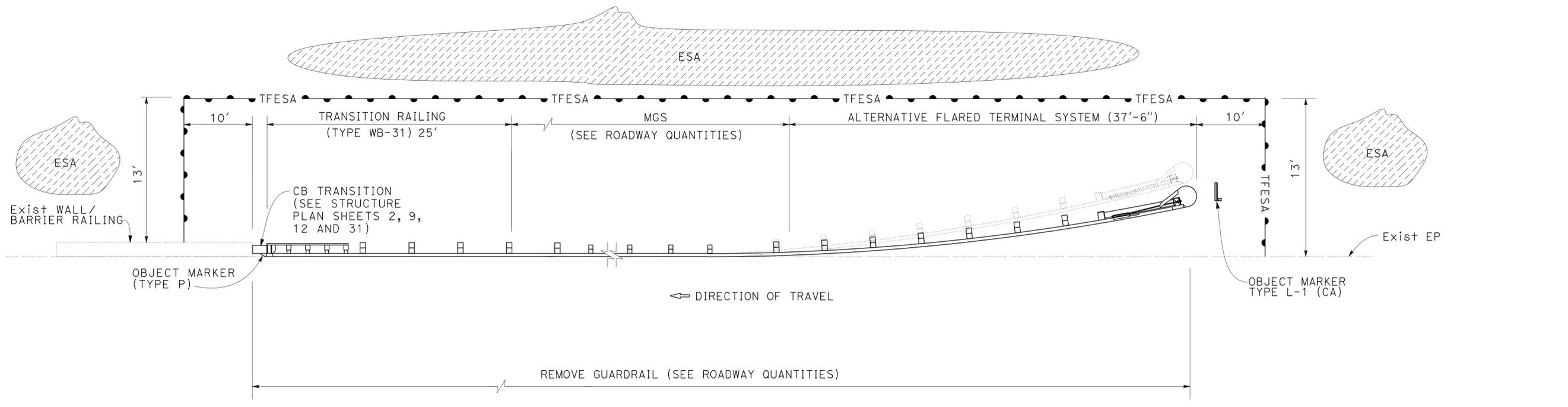
LAST REVISION DATE PLOTTED => 23-AUG-2016
 04-01-16 TIME PLOTTED => 10:51

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80, 84,880	Var	11	136
			6-2-16	REGISTERED CIVIL ENGINEER DATE	
6-20-16 PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN
FUNCTIONAL SUPERVISOR	GEORGE LO
CALCULATED/DESIGNED BY	CHECKED BY
THANH NGUYEN	KAN YU
REVISOR	DATE
TN	3-23-16



DETAIL HG
LOCATION No. 6



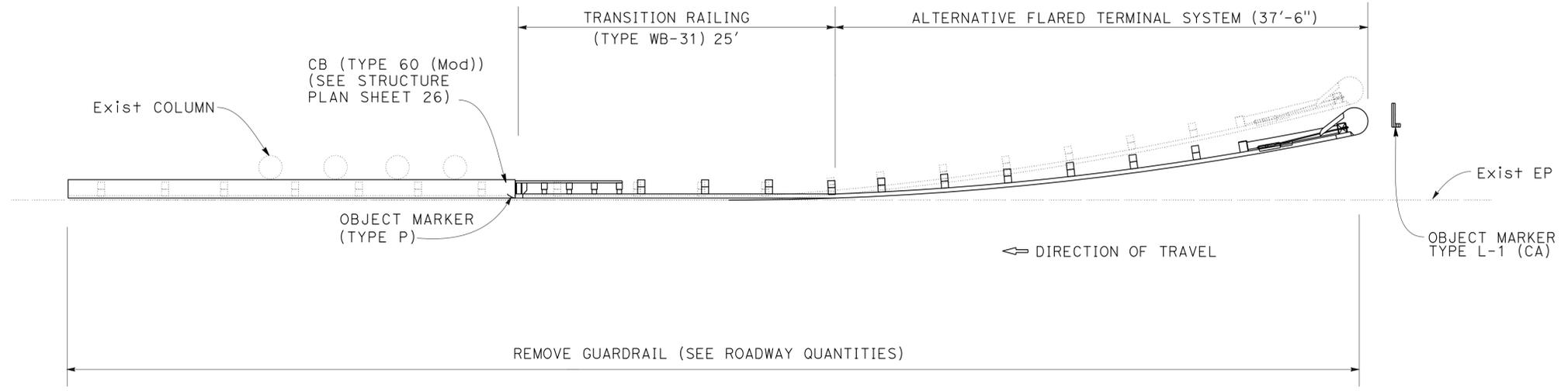
DETAIL HH
LOCATION Nos. 5, 37, 42 AND 48

CONSTRUCTION DETAILS
NO SCALE

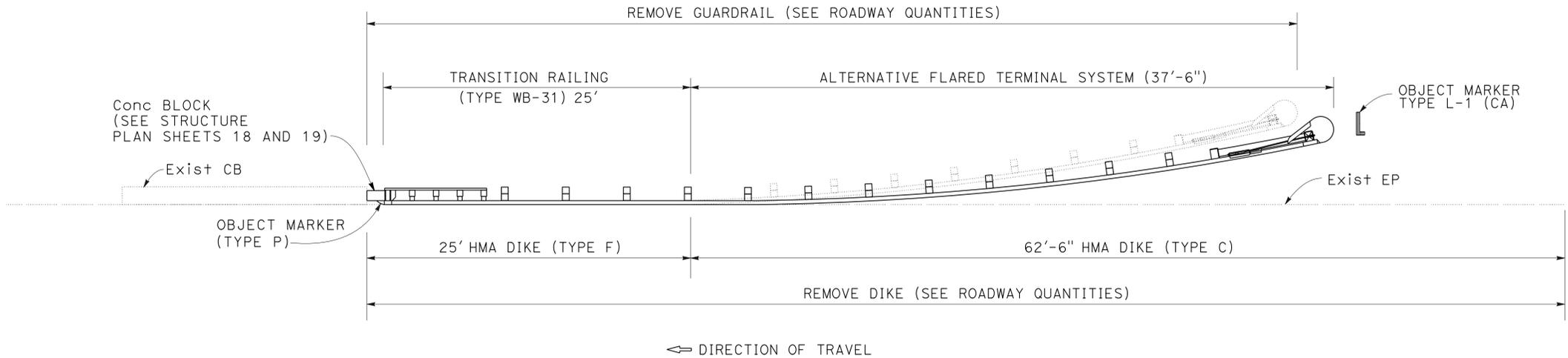
FOR NOTES, SEE SHEET C-1

LAST REVISION DATE PLOTTED => 23-AUG-2016 04-01-16 TIME PLOTTED => 10:51

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80, 84,880	Var	12	136
			6-2-16	REGISTERED CIVIL ENGINEER DATE	
6-20-16 PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



DETAIL IA
LOCATION No. 4



DETAIL IB
LOCATION No. 35

CONSTRUCTION DETAILS
NO SCALE

FOR NOTES, SEE SHEET C-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 FUNCTIONAL SUPERVISOR: GEORGE LO
 CHECKED BY: KAN YU
 THANH NGUYEN
 REVISOR: KAN YU
 DATE: 3-23-16
 TN

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN

FUNCTIONAL SUPERVISOR
 GEORGE LO

CALCULATED/DESIGNED BY
 CHECKED BY

THANH NGUYEN
 KAN YU

REVISED BY
 DATE REVISED

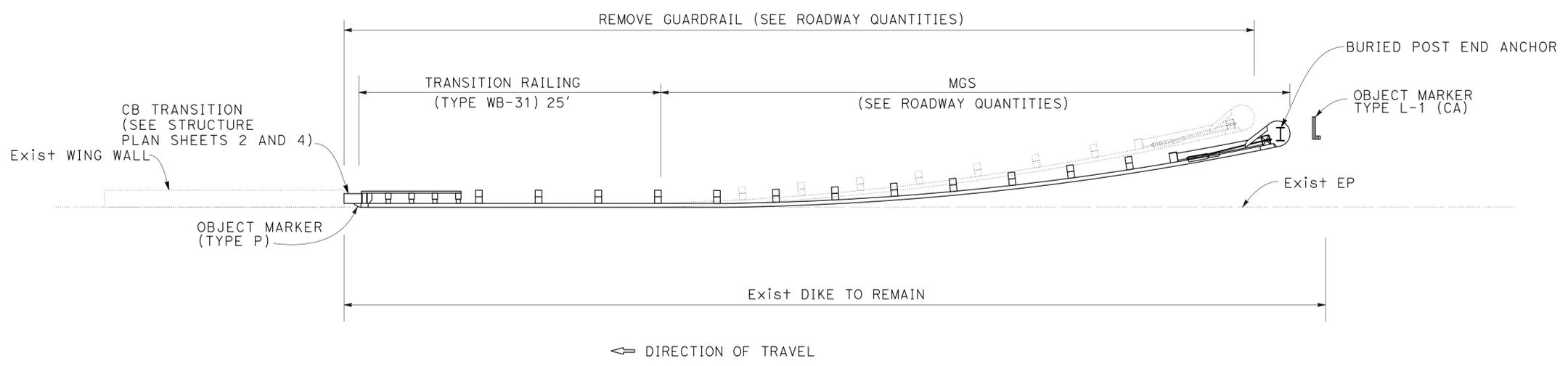
TN
 3-23-16

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80,84,880	Var	13	136

REGISTERED CIVIL ENGINEER DATE 6-2-16
 6-20-16
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Thanh C. Nguyen
 No. 58137
 Exp. 6-30-18
 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.

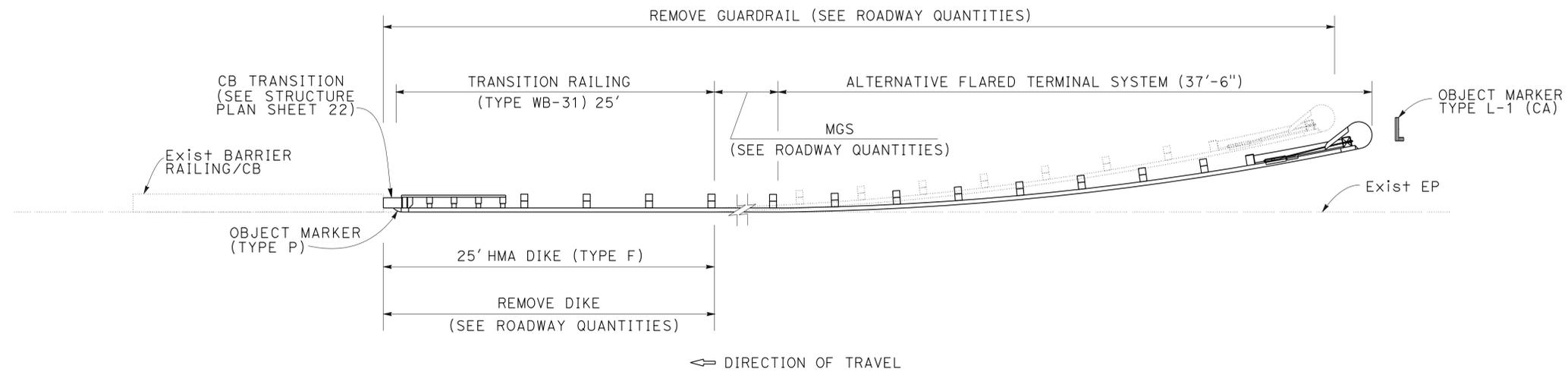


DETAIL IC
 LOCATION Nos. 7, 9, 10, 12 AND 13

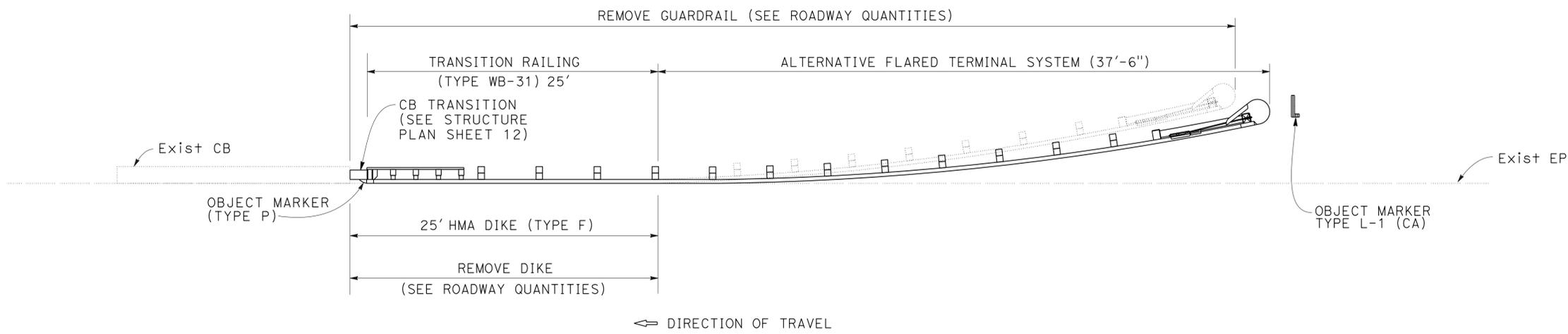
FOR NOTES, SEE SHEET C-1

CONSTRUCTION DETAILS
 NO SCALE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80, 84,880	Var	14	136
			6-2-16	REGISTERED CIVIL ENGINEER DATE	
6-20-16 PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



DETAIL ID
LOCATION No. 21



DETAIL IE
LOCATION No. 41

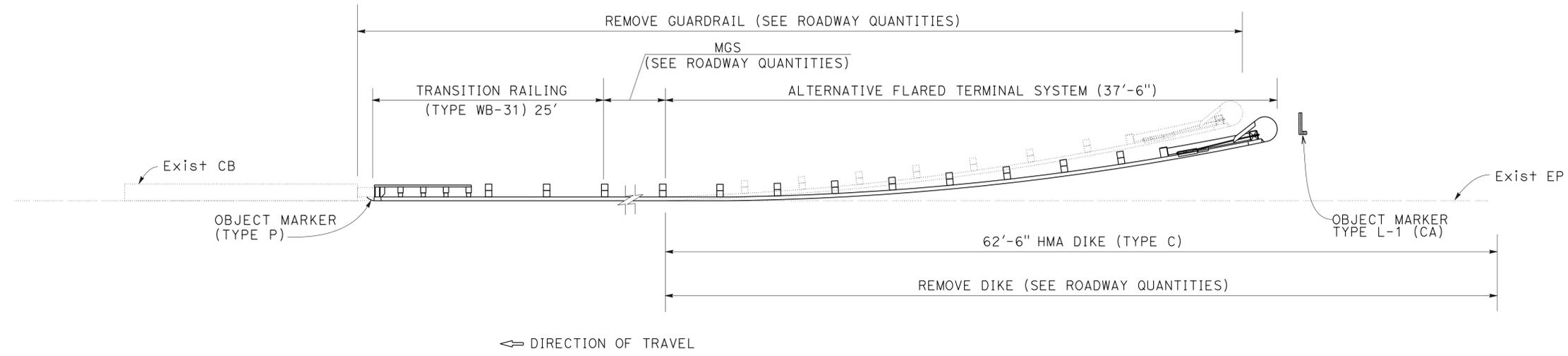
FOR NOTES, SEE SHEET C-1

CONSTRUCTION DETAILS
NO SCALE

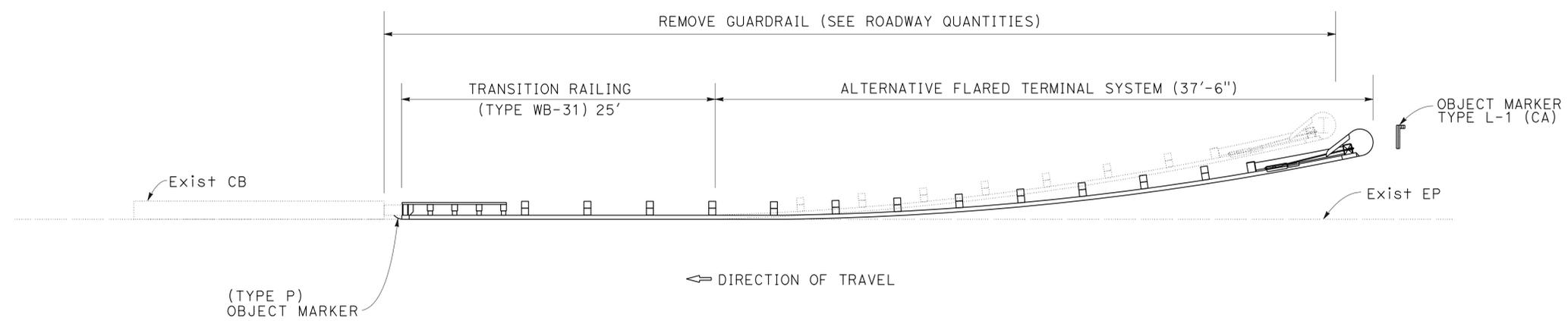
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN
FUNCTIONAL SUPERVISOR	GEORGE LO
CALCULATED/DESIGNED BY	CHECKED BY
THANH NGUYEN	KAN YU
REVISOR	DATE
TN	3-23-16

LAST REVISION DATE PLOTTED => 23-AUG-2016 04-01-16 TIME PLOTTED => 10:51

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80, 84,880	Var	15	136
REGISTERED CIVIL ENGINEER			DATE	6-2-16	
PLANS APPROVAL DATE			DATE	6-20-16	
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



DETAIL IF
LOCATION No. 39



DETAIL IG
LOCATION No. 45

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 FUNCTIONAL SUPERVISOR: GEORGE LO
 CALCULATED/DESIGNED BY: THANG NGUYEN
 CHECKED BY: KAN YU
 REVISED BY: TN
 DATE REVISED: 3-23-16
 USERNAME => s129144
 DGN FILE => 0414000057ga013.dgn

CONSTRUCTION DETAILS
NO SCALE

FOR NOTES, SEE SHEET C-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN

FUNCTIONAL SUPERVISOR
 GEORGE LO

CALCULATED/DESIGNED BY
 CHECKED BY

THANH NGUYEN
 KAN YU

REVISED BY
 DATE REVISED

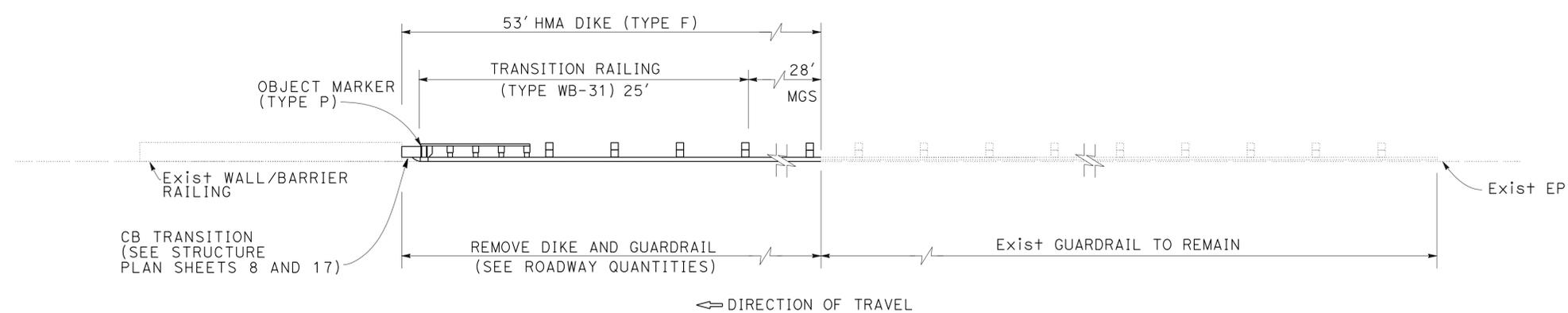
TN
 3-23-16

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80,84,880	Var	16	136

6-2-16
 REGISTERED CIVIL ENGINEER DATE
 6-20-16
 PLANS APPROVAL DATE

Thanh C. Nguyen
 No. 58137
 Exp. 6-30-18
 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.

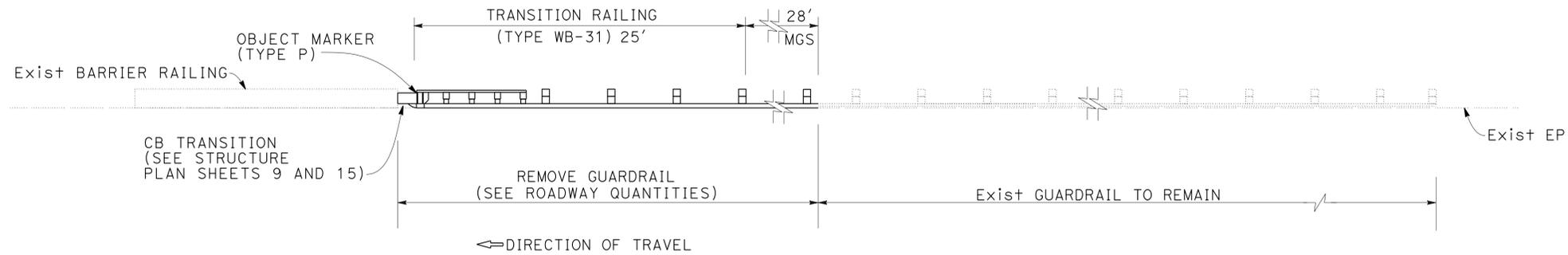


DETAIL JA
 LOCATION Nos. 28 AND 33

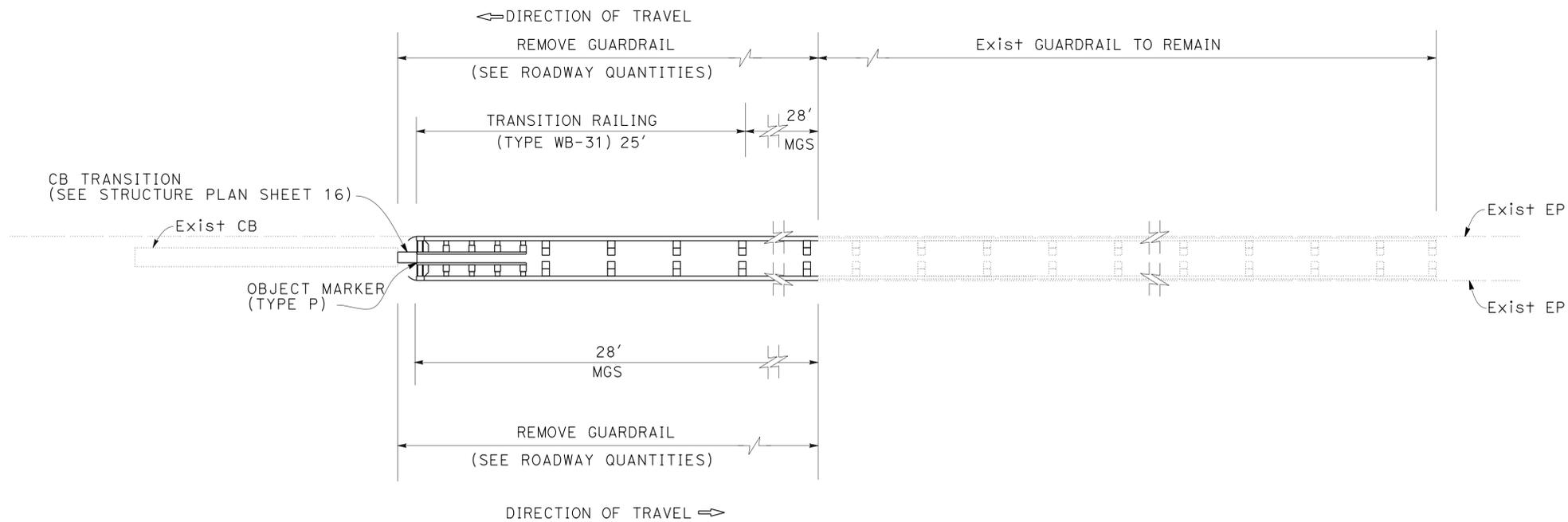
FOR NOTES, SEE SHEET C-I

CONSTRUCTION DETAILS
 NO SCALE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80, 84,880	Var	17	136
			6-2-16	REGISTERED CIVIL ENGINEER DATE	
			6-20-16	PLANS APPROVAL DATE	
					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



DETAIL JB
LOCATION Nos. 17 AND 23



DETAIL K
LOCATION Nos. 29 AND 29A

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN

TN
3-23-16

REVISOR
DATE

THANH NGUYEN
KAN YU

CALCULATED-DESIGNED BY
CHECKED BY

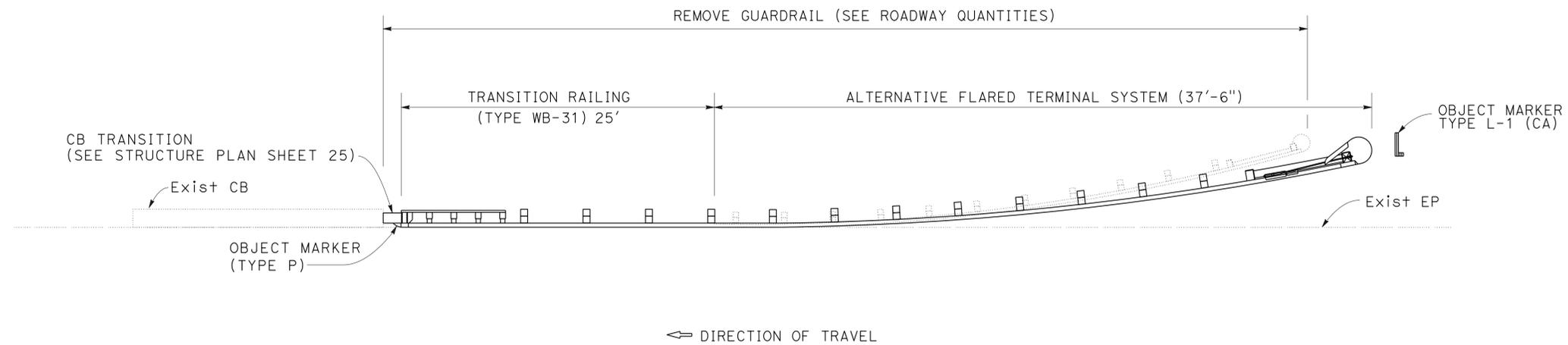
FUNCTIONAL SUPERVISOR
GEORGE LO

FOR NOTES, SEE SHEET C-1

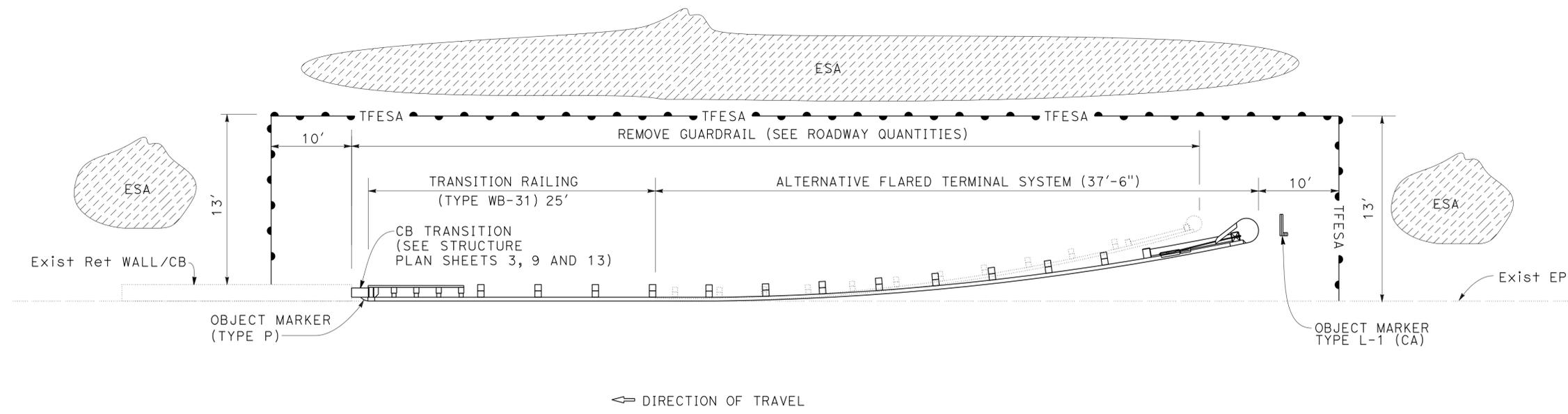
CONSTRUCTION DETAILS
NO SCALE

C-15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80, 84,880	Var	18	136
			6-2-16	REGISTERED CIVIL ENGINEER DATE	
			6-20-16	PLANS APPROVAL DATE	
					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



DETAIL LA
LOCATION No. 16



DETAIL LB
LOCATION Nos. 1, 40 AND 50

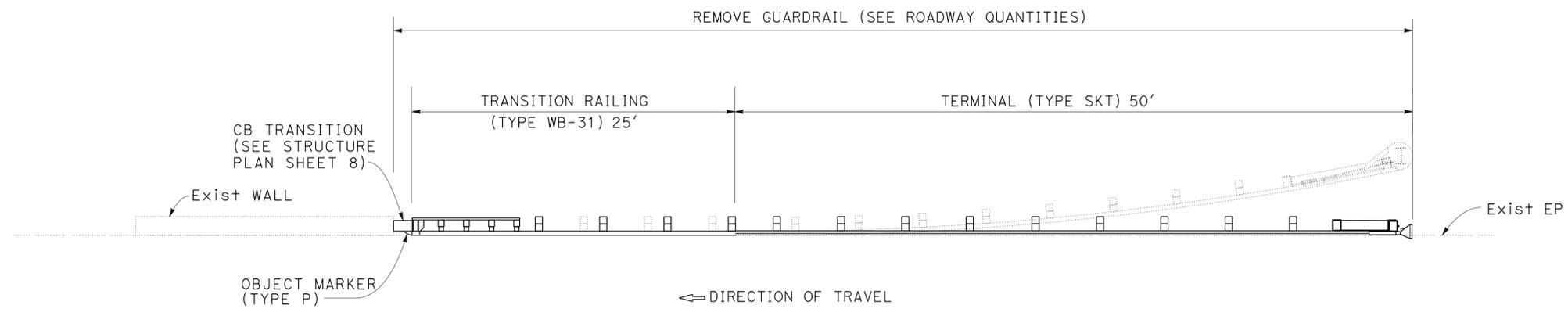
CONSTRUCTION DETAILS
NO SCALE

FOR NOTES, SEE SHEET C-1

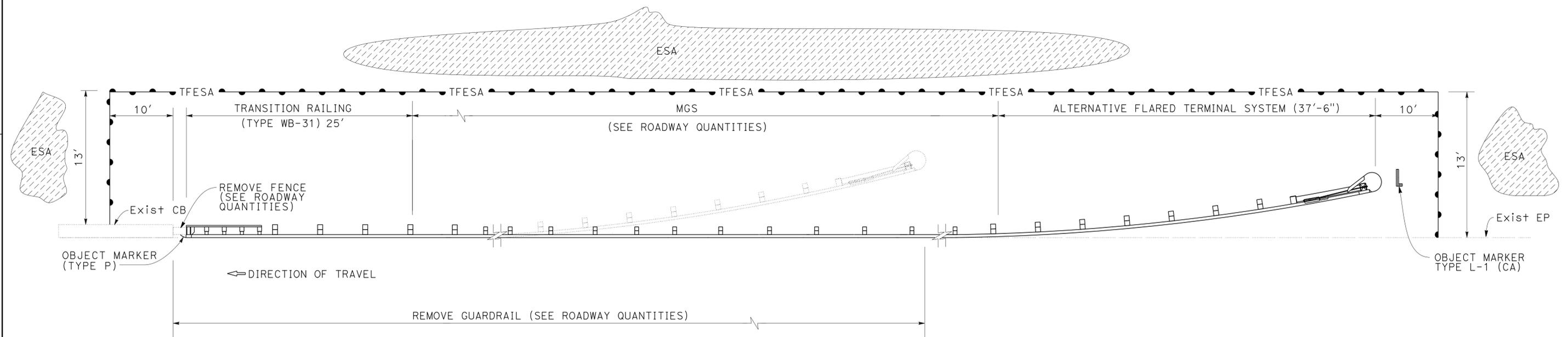
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN
FUNCTIONAL SUPERVISOR	GEORGE LO
CALCULATED/DESIGNED BY	CHECKED BY
THANH NGUYEN	KAN YU
REVISOR	DATE
TN	3-23-16

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80, 84,880	Var	19	136
			6-2-16	REGISTERED CIVIL ENGINEER DATE	
6-20-16 PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN	FUNCTIONAL SUPERVISOR	THAN NGUYEN	REVISOR	TN
Caltrans		GEORGE LO	KAN YU	DATE	3-23-16
				CHECKED BY	
				DESIGNED BY	



DETAIL M
LOCATION No. 27



DETAIL N
LOCATION No. 43

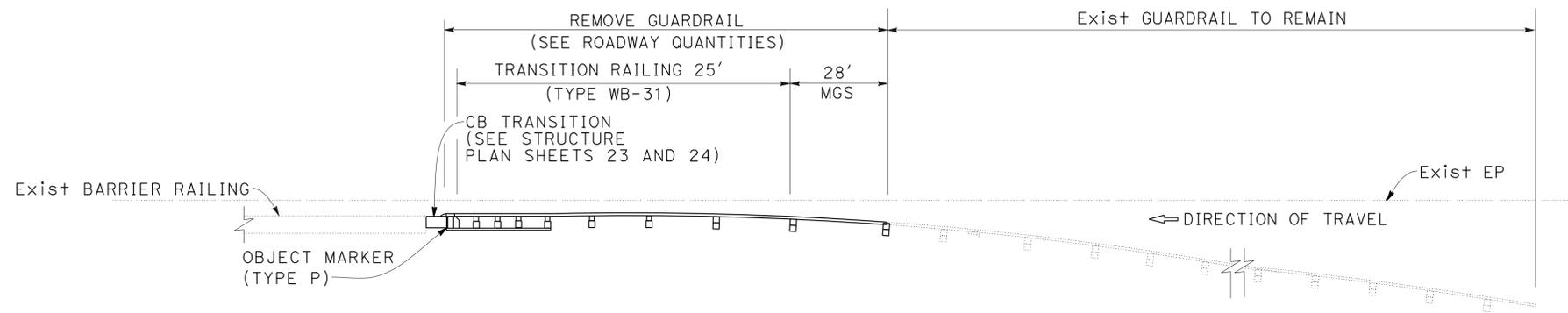
CONSTRUCTION DETAILS
NO SCALE

FOR NOTES, SEE SHEET C-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 FUNCTIONAL SUPERVISOR
 GEORGE LO
 CALCULATED/DESIGNED BY
 CHECKED BY
 THANH NGUYEN
 KAN YU
 REVISOR BY
 DATE REVISED
 TN
 3-23-16

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80,84,880	Var	20	136

REGISTERED CIVIL ENGINEER DATE 6-2-16
 Thanh C. Nguyen
 No. 58137
 Exp. 6-30-18
 CIVIL
 PLANS APPROVAL DATE 6-20-16
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



DETAIL 0
 LOCATION No. 49

FOR NOTES, SEE SHEET C-1

CONSTRUCTION DETAILS
 NO SCALE



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN

FUNCTIONAL SUPERVISOR
 GEORGE LO

CALCULATED/DESIGNED BY
 CHECKED BY

THANH NGUYEN
 KAN YU

REVISED BY
 DATE REVISED

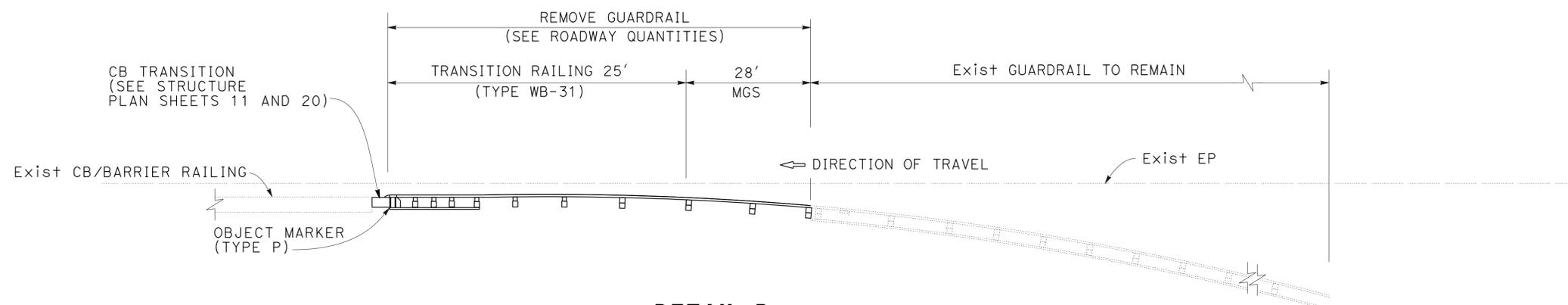
TN
 3-23-16

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80,84,880	Var	21	136

6-2-16
 REGISTERED CIVIL ENGINEER DATE
 6-20-16
 PLANS APPROVAL DATE

Thanh C. Nguyen
 No. 58137
 Exp. 6-30-18
 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.



DETAIL P
 LOCATION Nos. 26 AND 31

FOR NOTES, SEE SHEET C-1

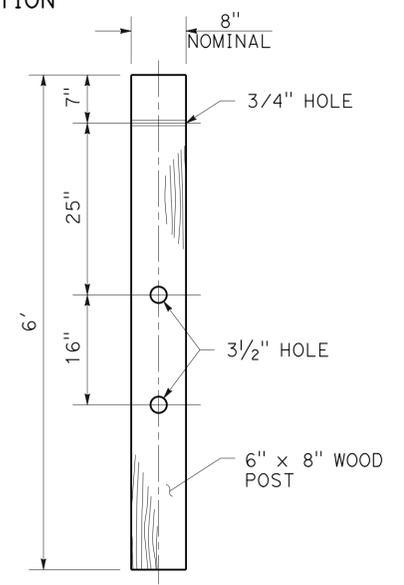
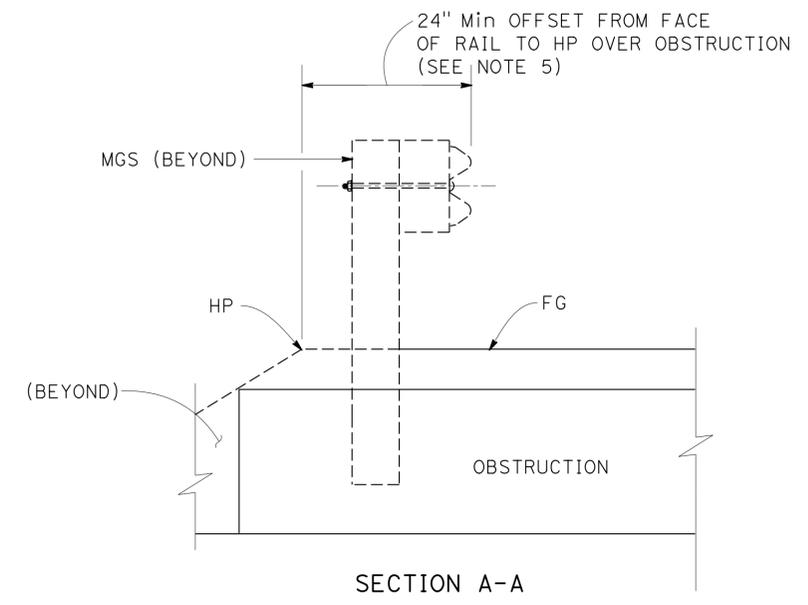
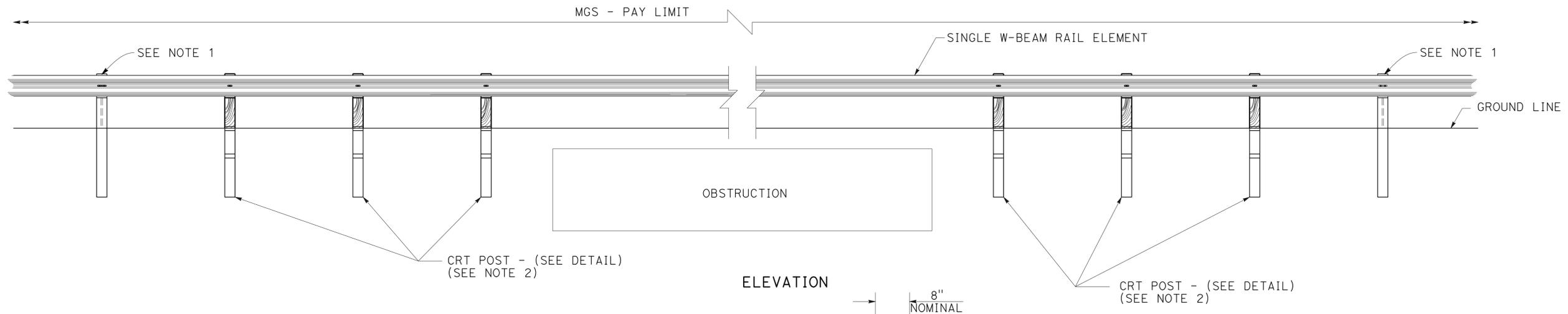
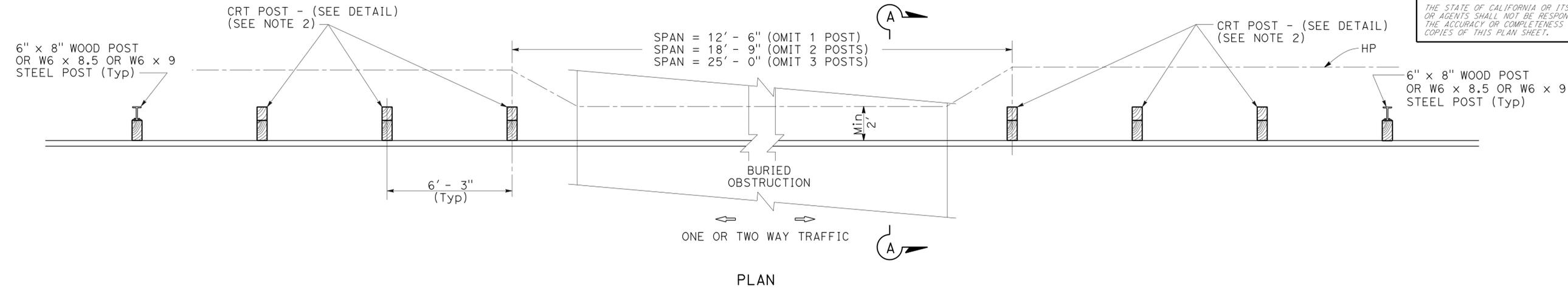
CONSTRUCTION DETAILS
 NO SCALE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80, 84,880	Var	22	136

6-2-16
 REGISTERED CIVIL ENGINEER DATE
 6-20-16
 PLANS APPROVAL DATE
 Thanh C. Nguyen
 No. 58137
 Exp. 6-30-18
 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
 DESIGN
 FUNCTIONAL SUPERVISOR: GEORGE LO
 CHECKED BY: [Blank]
 CALCULATED/DESIGNED BY: [Blank]
 THANH NGUYEN
 KAN YU
 REVISOR: THANH NGUYEN
 DATE: 3-23-16
 TN



- NOTES:**
- STANDARD 6" POST CAN BE WOOD OR STEEL. FOR ADDITIONAL DETAILS NOT SHOWN, SEE RSP A77L1 AND RSP A77L2.
 - CRT POST TO BE WOOD ONLY.
 - SPLICE LOCATION OF MGS WILL NOT AFFECT SPAN.
 - GUARDRAIL ELEMENTS TO BE STANDARD 12'-6" LENGTH BETWEEN SPLICES.
 - MINIMUM INSTALLATION LENGTH OF THE POST IS 7'.
 - APPLY AT LOCATION WHERE THERE ARE UNDERGROUND UTILITY CONTACT.

CONSTRUCTION DETAILS
MIDWEST GUARDRAIL SYSTEM
OMIT 1 TO 3 POSTS
 NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 FUNCTIONAL SUPERVISOR: GEORGE LO
 CALCULATED/DESIGNED BY: THANG NGUYEN
 CHECKED BY: KAN YU
 REVISED BY: THANG NGUYEN
 DATE: 3-23-16
 TN: 3-23-16

NOTES:

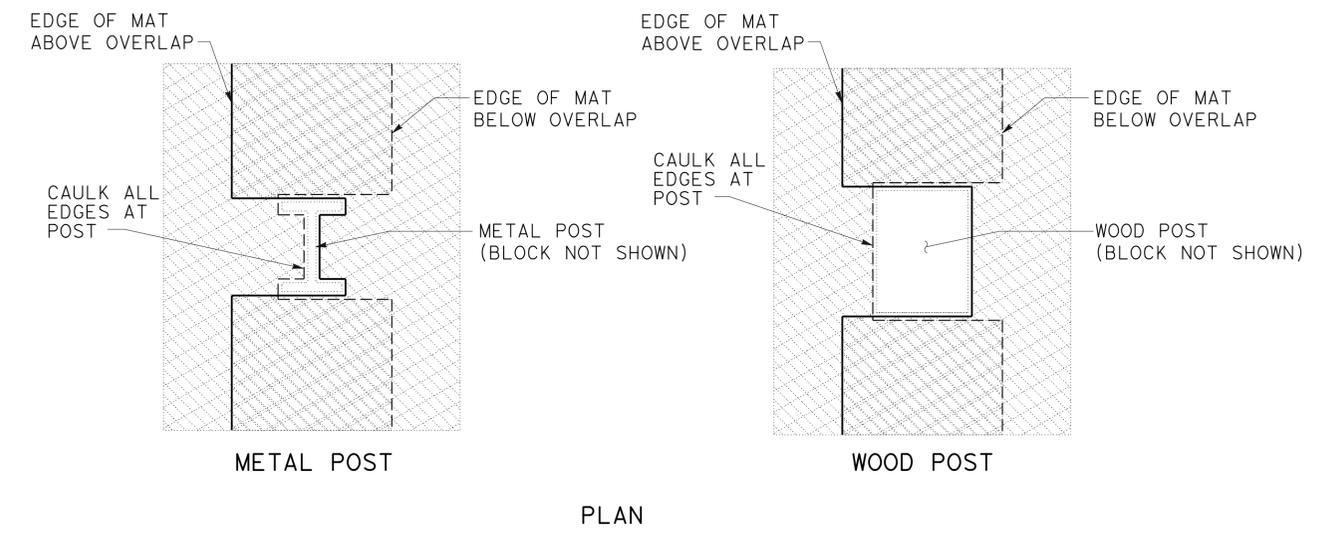
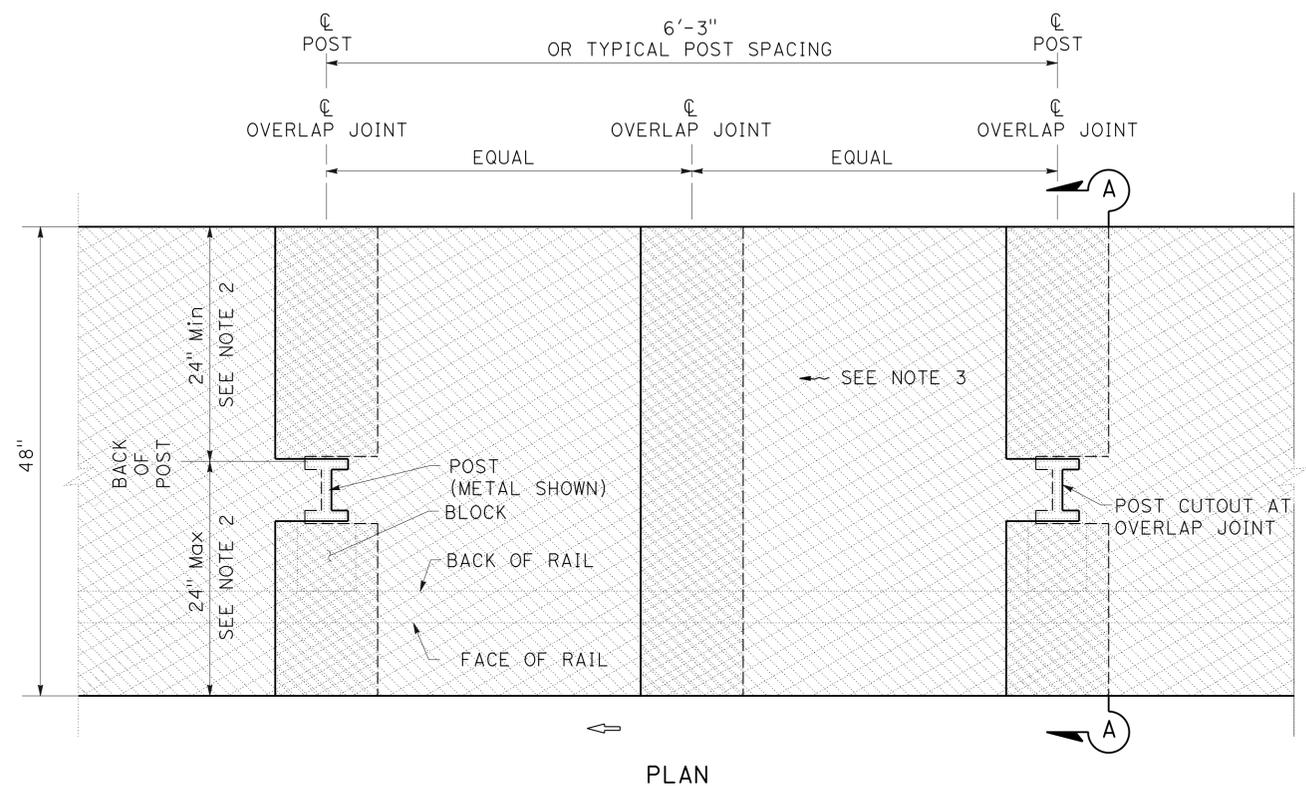
- EDGES OF MAT TO ABUT EDGES OF POST.
- WHERE EDGE OF PAVED SHOULDER IS MORE THAN 24" FROM BACK OF POST, EDGE OF RUBBER WEED MAT MUST BE 24" FROM BACK OF POST. WHERE PAVED SHOULDER IS CONSTRUCTED 24" OR LESS FROM BACK OF POST, ABUT EDGE OF RUBBER WEED MAT AGAINST EDGE OF PAVED SHOULDER. WHERE DIKE IS CONSTRUCTED UNDER RAILING, ABUT EDGE OF RUBBER WEED MAT AGAINST BACK OF DIKE.
- LAP RUBBER WEED MAT IN DIRECTION OF WATER FLOW.
- FOR CONTINUOUS ROLL PRODUCT, LOCATE OVERLAP JOINT AT OR BETWEEN POSTS AS SHOWN.
- DIRECTION OF ADJACENT TRAFFIC INDICATED BY ← .

LEGEND:



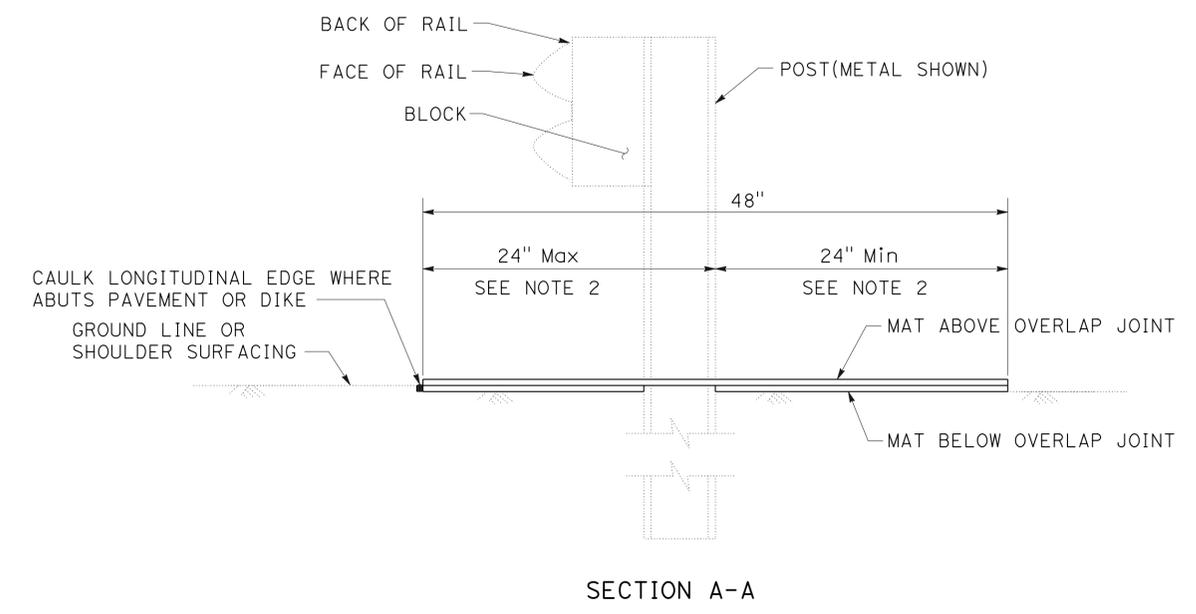
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80, 84,880	Var	23	136

6-2-16
 REGISTERED CIVIL ENGINEER DATE
 Thanh C. Nguyen
 No. 58137
 Exp. 6-30-18
 CIVIL
 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.

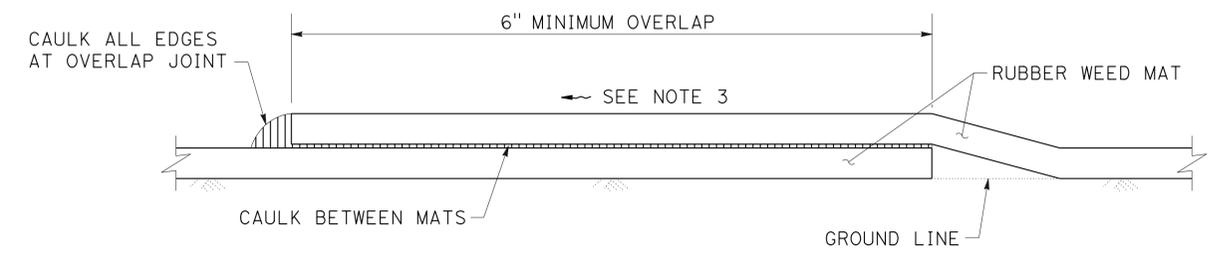


POST CUTOUT AT OVERLAP JOINT

SEE NOTE 2



RUBBER WEED MAT VEGETATION CONTROL UNDER MIDWEST GUARDRAIL SYSTEM



SECTION OVERLAP JOINT

CONSTRUCTION DETAILS

NO SCALE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80, 84,880	Var	24	136

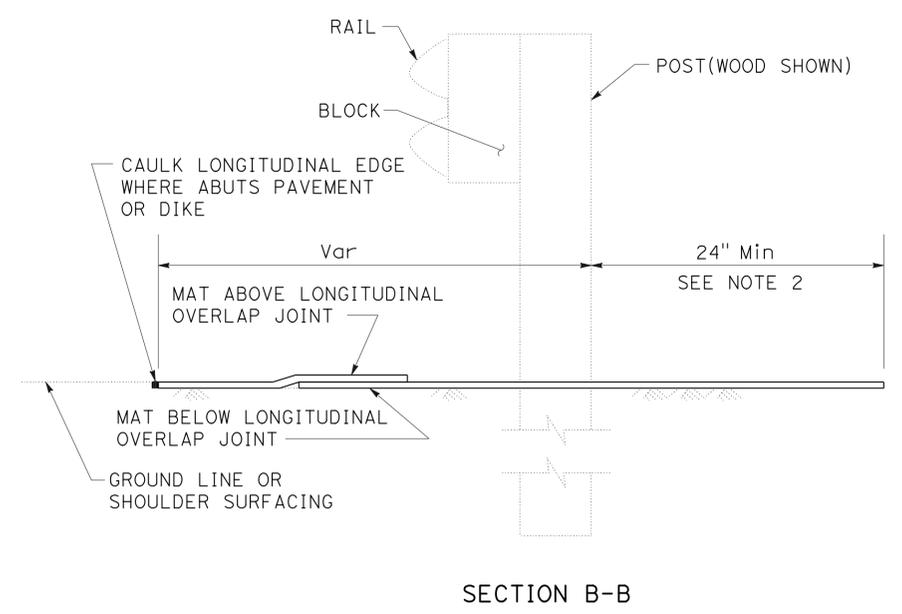
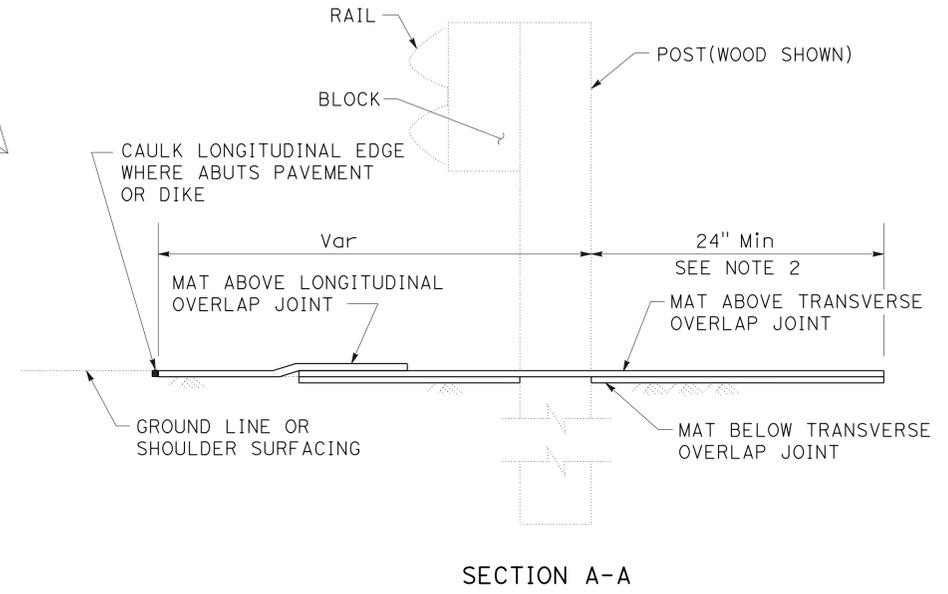
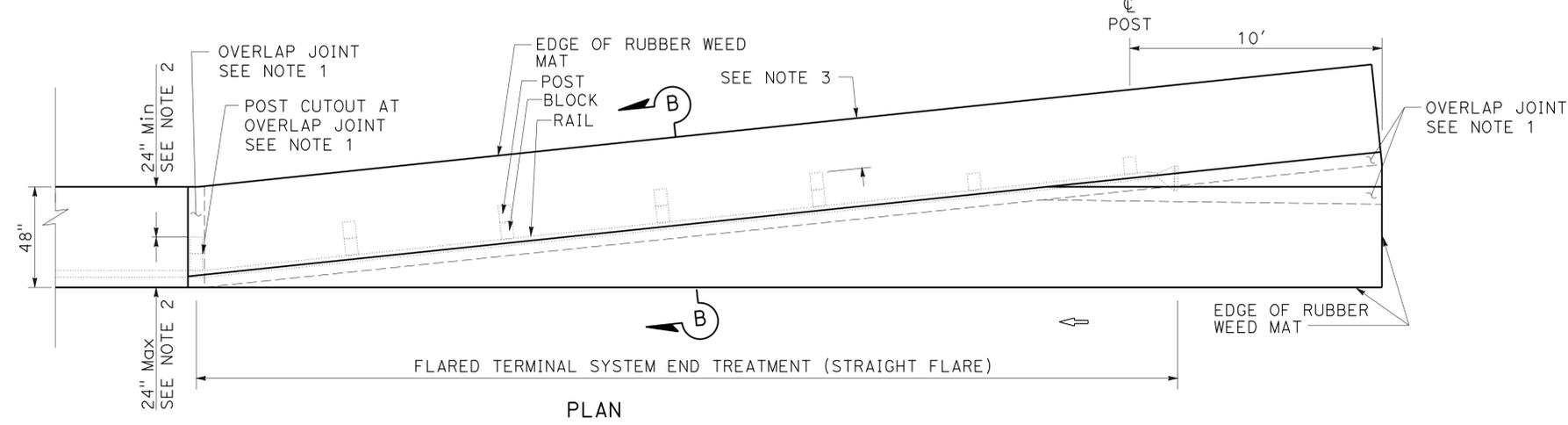
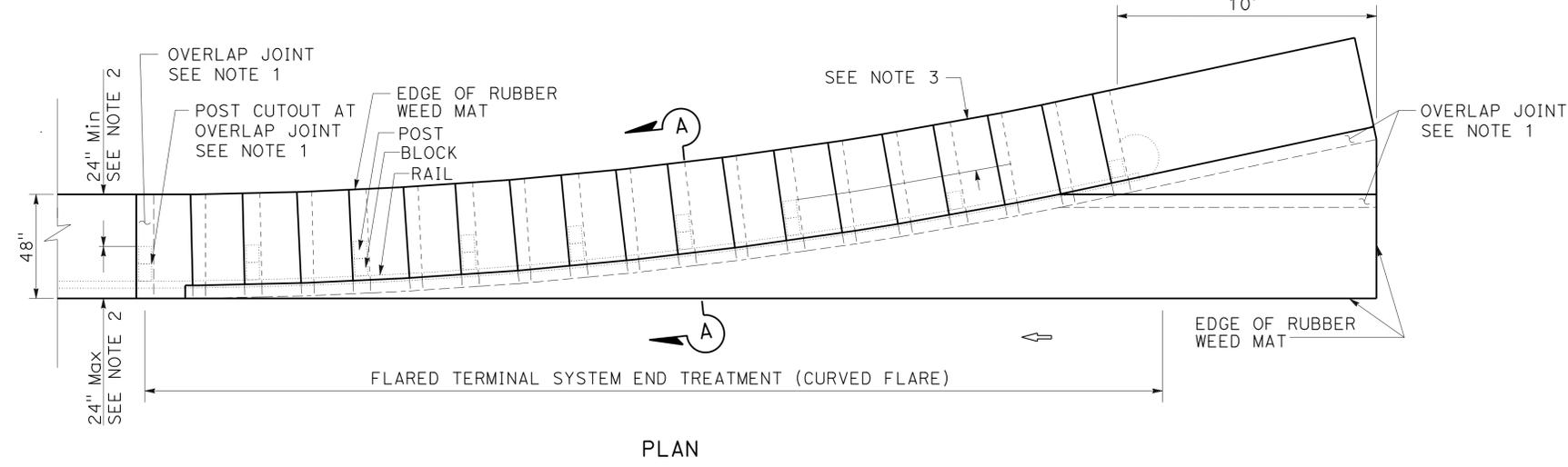
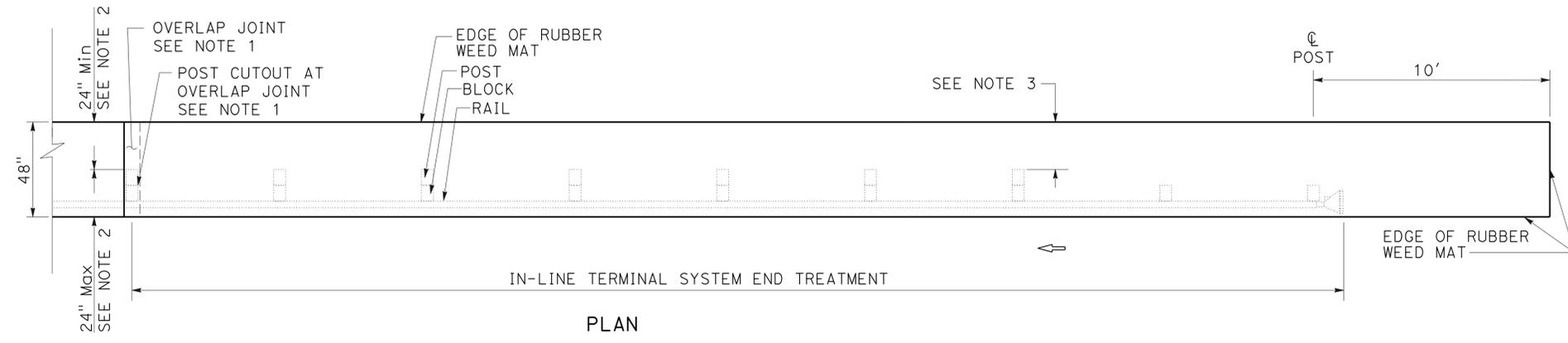
REGISTERED CIVIL ENGINEER	DATE
Thanh C. Nguyen	6-2-16
No. 58137	
Exp. 6-30-18	
CIVIL	

PLANS APPROVAL DATE 6-20-16

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

NOTES:

- SEE RUBBER WEED CONTROL MAT UNDER METAL BEAM GUARD RAILING FOR ADDITIONAL POST CUTOUT AND OVERLAP JOINT DETAILS.
- WHERE EDGE OF PAVED SHOULDER IS MORE THAN 24" FROM BACK OF POST, EDGE OF RUBBER WEED MAT MUST BE 24" FROM BACK OF POST. WHERE PAVED SHOULDER IS CONSTRUCTED 24" OR LESS FROM BACK OF POST, ABUT EDGE OF RUBBER WEED MAT AGAINST EDGE OF PAVED SHOULDER. WHERE DIKE IS CONSTRUCTED UNDER RAILING, ABUT EDGE OF RUBBER WEED MAT AGAINST BACK OF DIKE.
- CONTINUE ALIGNMENT OF MAT EDGE AT OFFSET FROM BACK OF POST.
- LAP WEED CONTROL MAT IN DIRECTION OF WATER FLOW.
- DIRECTION OF ADJACENT TRAFFIC INDICATED BY ← .



RUBBER WEED MAT VEGETATION CONTROL UNDER MIDWEST GUARDRAIL SYSTEM

CONSTRUCTION DETAILS
NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN
 FUNCTIONAL SUPERVISOR: GEORGE LO
 CHECKED BY:
 CALCULATED/DESIGNED BY:
 THANH NGUYEN
 KAN YU
 REVISOR: TN
 DATE REVISED: 3-23-16

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 WATER QUALITY

ARASHDEEP PANNU
 JIANGFAN CHEN

REVISOR BY
 DATE REVISED

AP
 6-2-16

CALCULATED/DESIGNED BY
 CHECKED BY

FUNCTIONAL SUPERVISOR
 KAMRAN NAKHJURI

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80,84,880	Var	25	136

REGISTERED CIVIL ENGINEER DATE 6-2-16

6-20-16
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Jiangfan Chen
 No. 77248
 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.

TEMPORARY WATER POLLUTION CONTROL QUANTITIES

ITEM	UNIT	LOCATION	POST MILE	QUANTITY
PREPARE WATER POLLUTION CONTROL PROGRAM	LS	LS	Var	1
TEMPORARY HYDRAULIC MULCH (BFM)	SQYD	SEE WPCQ - 2	Var	1326
TEMPORARY DRAINAGE INLET PROTECTION	EA	1,4,6,8,9,11,13,14,17,27,28,32,34,35,36,41,42,48	Var	18
TEMPORARY FIBER ROLL	LF	SEE WPCQ - 2	Var	3980
TEMPORARY SILT FENCE	LF	SEE WPCQ - 2	Var	1505
STREET SWEEPING	LS	LS	Var	1
TEMPORARY CONCRETE WASHOUT	LS	LS	Var	1

TEMPORARY WATER POLLUTION CONTROL QUANTITIES

WPCQ-1



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans WATER QUALITY
 FUNCTIONAL SUPERVISOR
 KAMRAN NAKHJIRI
 CALCULATED/DESIGNED BY
 CHECKED BY
 ARASHDEEP PANNU
 JIANGFAN CHEN
 REVISED BY
 DATE REVISED
 AP
 6-2-16

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80, 84,880	Var	26	136

6-2-16
 REGISTERED CIVIL ENGINEER DATE

6-20-16
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Jiangfan Chen
 No. 77248
 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.

TEMPORARY WATER POLLUTION CONTROL QUANTITIES

LOCATION No.	TEMPORARY HYDRAULIC MULCH (BFM - SQYD)	TEMPORARY FIBER ROLL (LF)	TEMPORARY SILT FENCE (LF)
1	29	63	109
2	29	87	134
3	9	27	
4	63	168	
5	46	139	185
6	29	88	134
7	17	50	
8	17	50	
9	17	50	
10	17	50	
11	17	50	
12	17	50	
13	17	50	
14	39	118	
15	21	63	
16	21	63	
17	21	63	
18	18	53	
19	39	118	
20	39	118	
21	44	132	
22	39	118	
23	39	118	
24	19	56	
25	39	118	
26	18	53	
27	16	49	
28	18	53	
29	18	53	
29A	18	53	
30	9	27	
31	18	53	
32	38	113	
33	18	53	
34	28	83	
35	21	63	
36	29	88	
37	67	200	246
38	39	118	
39	66	198	
40	21	63	109
41	21	63	
42	21	63	161
43	38	115	159
45	21	63	
48	29	88	109
49	42	125	50
50	21	63	109
TOTAL	1337	3960	1505

TEMPORARY WATER POLLUTION CONTROL QUANTITIES
WPCQ-2

LAST REVISION DATE PLOTTED => 23-AUG-2016 01-29-16 TIME PLOTTED => 10:51

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	DESIGNED BY	REVISOR	DATE
Caltrans	ROLAND AU-YEUNG	CHECKED BY	RACHEL LIU	6-2-16
TRAFFIC			CLAUDIA FANG	

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

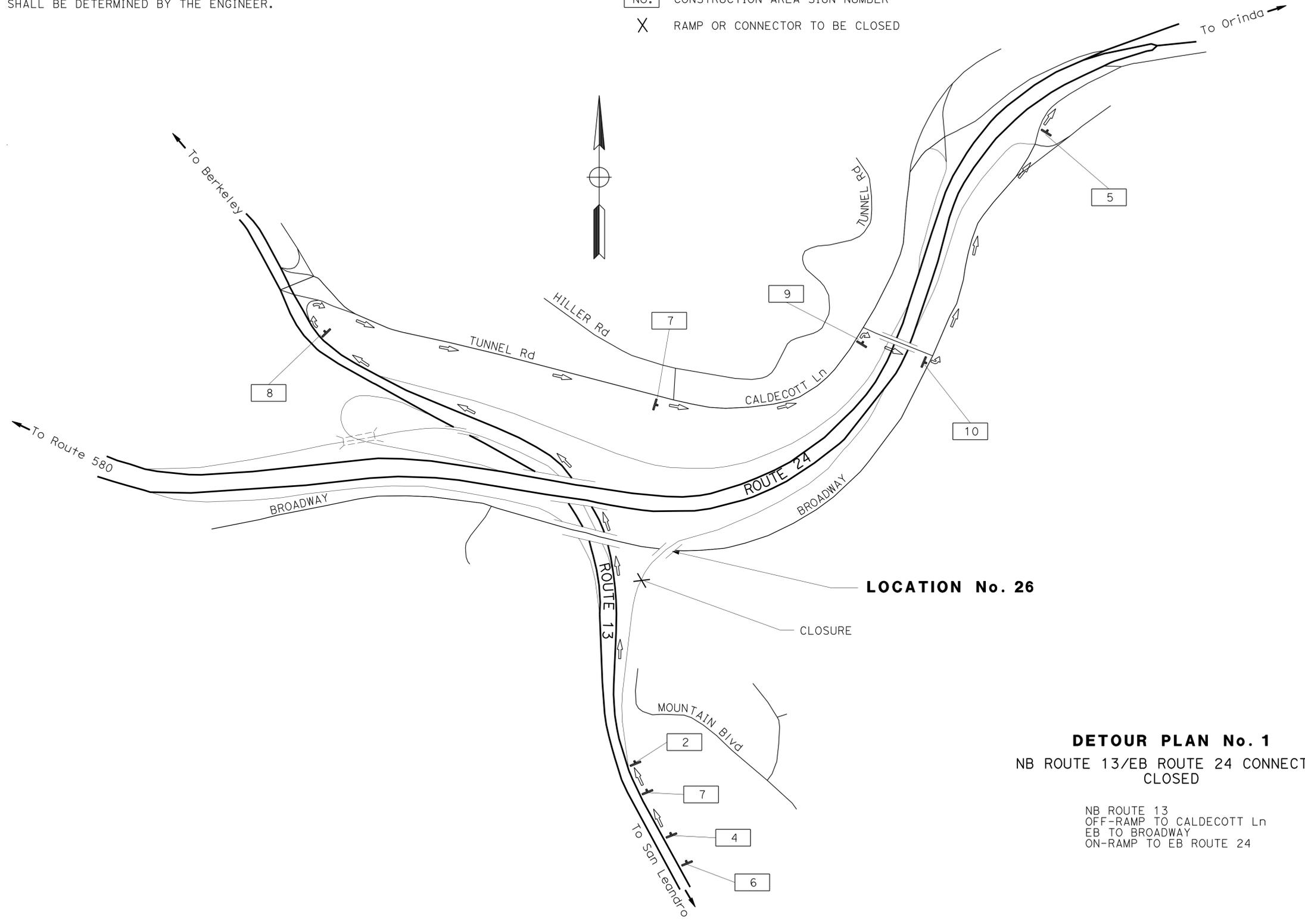
LEGEND:
 [No.] CONSTRUCTION AREA SIGN NUMBER
 X RAMP OR CONNECTOR TO BE CLOSED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80, 84,880	Var	27	136

REGISTERED CIVIL ENGINEER DATE 6-2-16
 Rachel Liu
 No. 74807
 Exp. 12-31-17
 CIVIL
 STATE OF CALIFORNIA

6-20-16
 PLANS APPROVAL DATE

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



LOCATION No. 26

CLOSURE

DETOUR PLAN No. 1
 NB ROUTE 13/EB ROUTE 24 CONNECTOR CLOSED

NB ROUTE 13
 OFF-RAMP TO CALDECOTT Ln
 EB TO BROADWAY
 ON-RAMP TO EB ROUTE 24

CONSTRUCTION AREA SIGNS
 NO SCALE

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

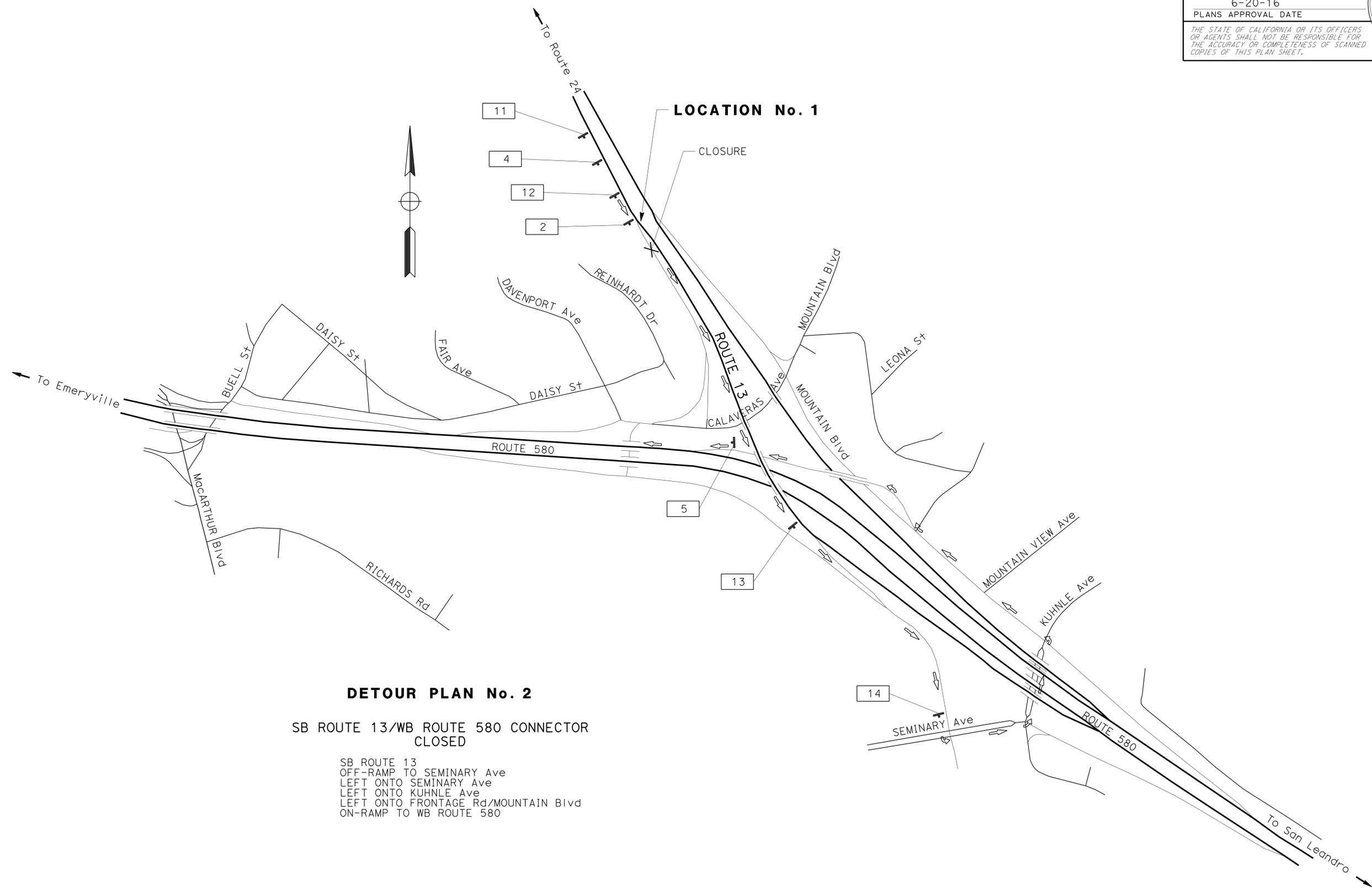
CS-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80,84,880	Var	28	136

REGISTERED CIVIL ENGINEER DATE 6-2-16
 6-20-16
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Rachel Liu
 No. 74807
 Exp. 12-31-17
 CIVIL
 STATE OF CALIFORNIA

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



DETOUR PLAN No. 2

SB ROUTE 13/WB ROUTE 580 CONNECTOR CLOSED

SB ROUTE 13
 OFF-RAMP TO SEMINARY Ave
 LEFT ONTO SEMINARY Ave
 LEFT ONTO KUHNLE Ave
 LEFT ONTO FRONTAGE Rd/MOUNTAIN Blvd
 ON-RAMP TO WB ROUTE 580

CONSTRUCTION AREA SIGNS
NO SCALE

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

FOR NOTES AND LEGEND, SEE SHEET CS-1

CS-2

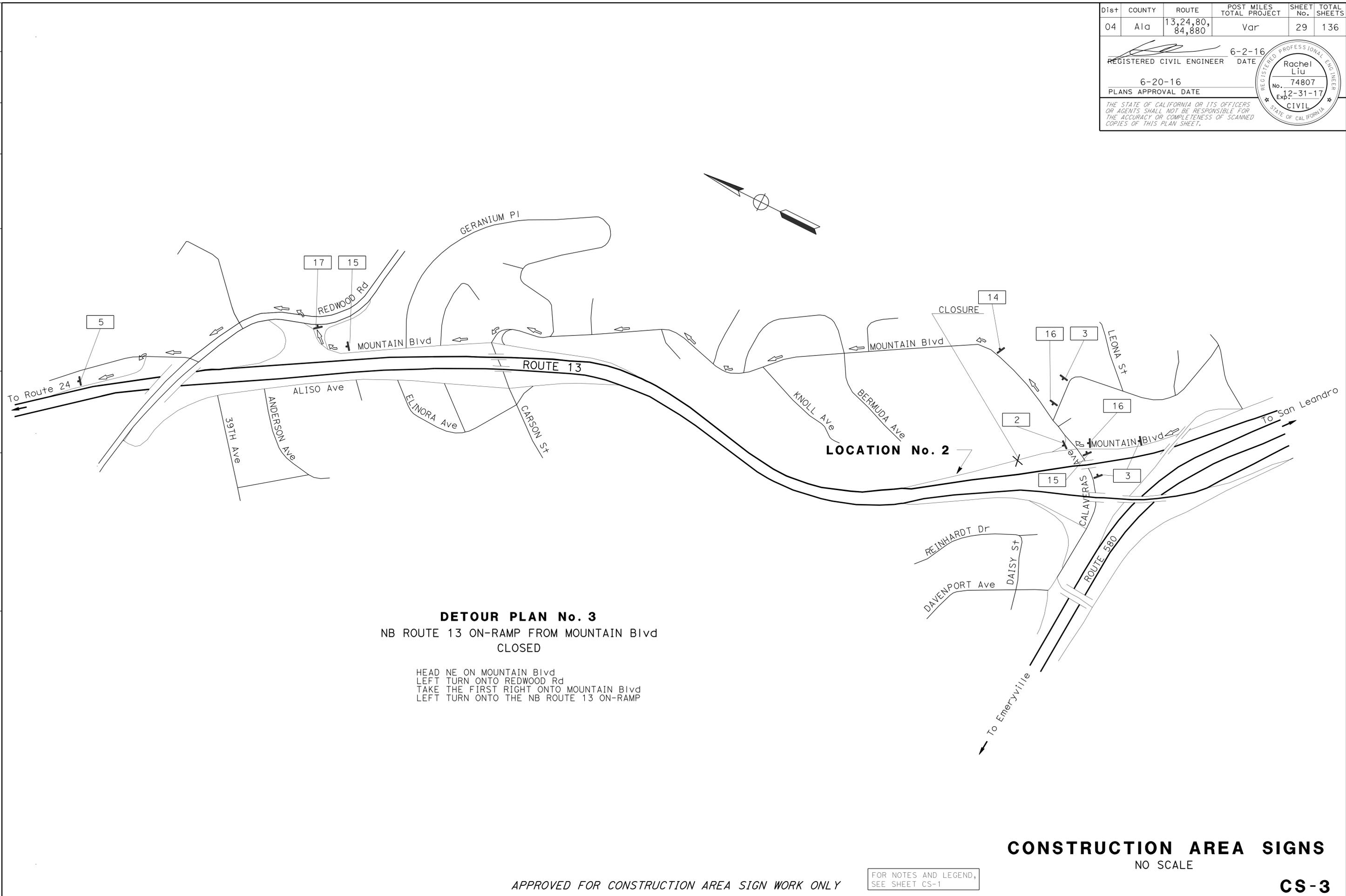
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	RACHEL LIU	REVISOR	RL
Caltrans	CLAUDIA FANG	DATE REVISED	6-2-16
FUNCTIONAL SUPERVISOR	ROLAND AU-YEUNG	CHECKED BY	
TRAFFIC		DESIGNED BY	

x
x
x
x
x

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80,84,880	Var	29	136
REGISTERED CIVIL ENGINEER			DATE	6-2-16	
PLANS APPROVAL DATE			6-20-16		
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR	RL
Caltrans	ROLAND AU-YEUNG	CHECKED BY	REVISOR	6-2-16
TRAFFIC				



DETOUR PLAN No. 3
 NB ROUTE 13 ON-RAMP FROM MOUNTAIN Blvd
 CLOSED

HEAD NE ON MOUNTAIN Blvd
 LEFT TURN ONTO REDWOOD Rd
 TAKE THE FIRST RIGHT ONTO MOUNTAIN Blvd
 LEFT TURN ONTO THE NB ROUTE 13 ON-RAMP

CONSTRUCTION AREA SIGNS
 NO SCALE

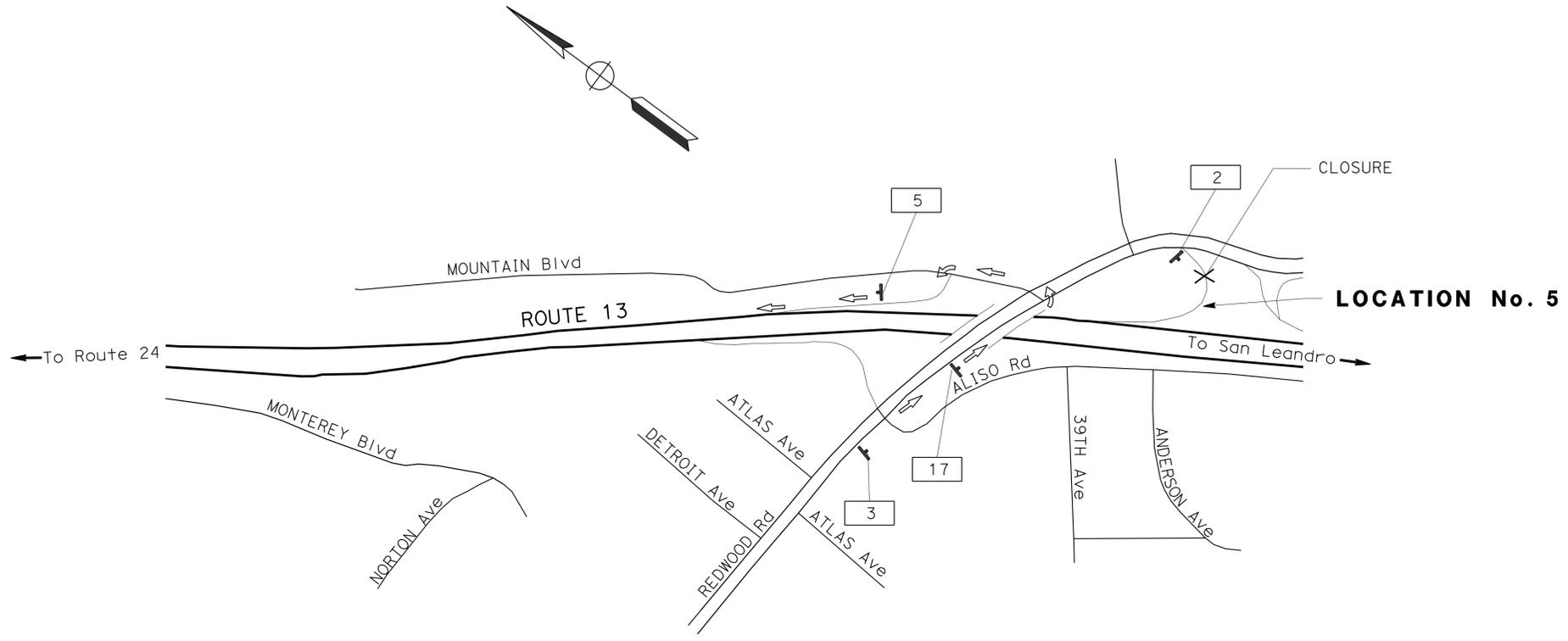
CS-3

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

FOR NOTES AND LEGEND,
 SEE SHEET CS-1



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80,84,880	Var	30	136
			6-2-16	REGISTERED CIVIL ENGINEER DATE	
			6-20-16	PLANS APPROVAL DATE	
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



DETOUR PLAN No. 4
 NB ROUTE 13 ON-RAMP FROM EB REDWOOD Rd
 CLOSED

HEAD SE REDWOOD Rd
 LEFT TURN ON MOUNTAIN Blvd
 LEFT ONTO NB ROUTE 13 ON-RAMP

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 FUNCTIONAL SUPERVISOR: ROLAND AU-YEUNG
 CALCULATED/DESIGNED BY: RACHEL LIU
 CHECKED BY: CLAUDIA FANG
 REVISED BY: RL
 DATE REVISED: 6-2-16
 TRAFFIC

CONSTRUCTION AREA SIGNS
NO SCALE

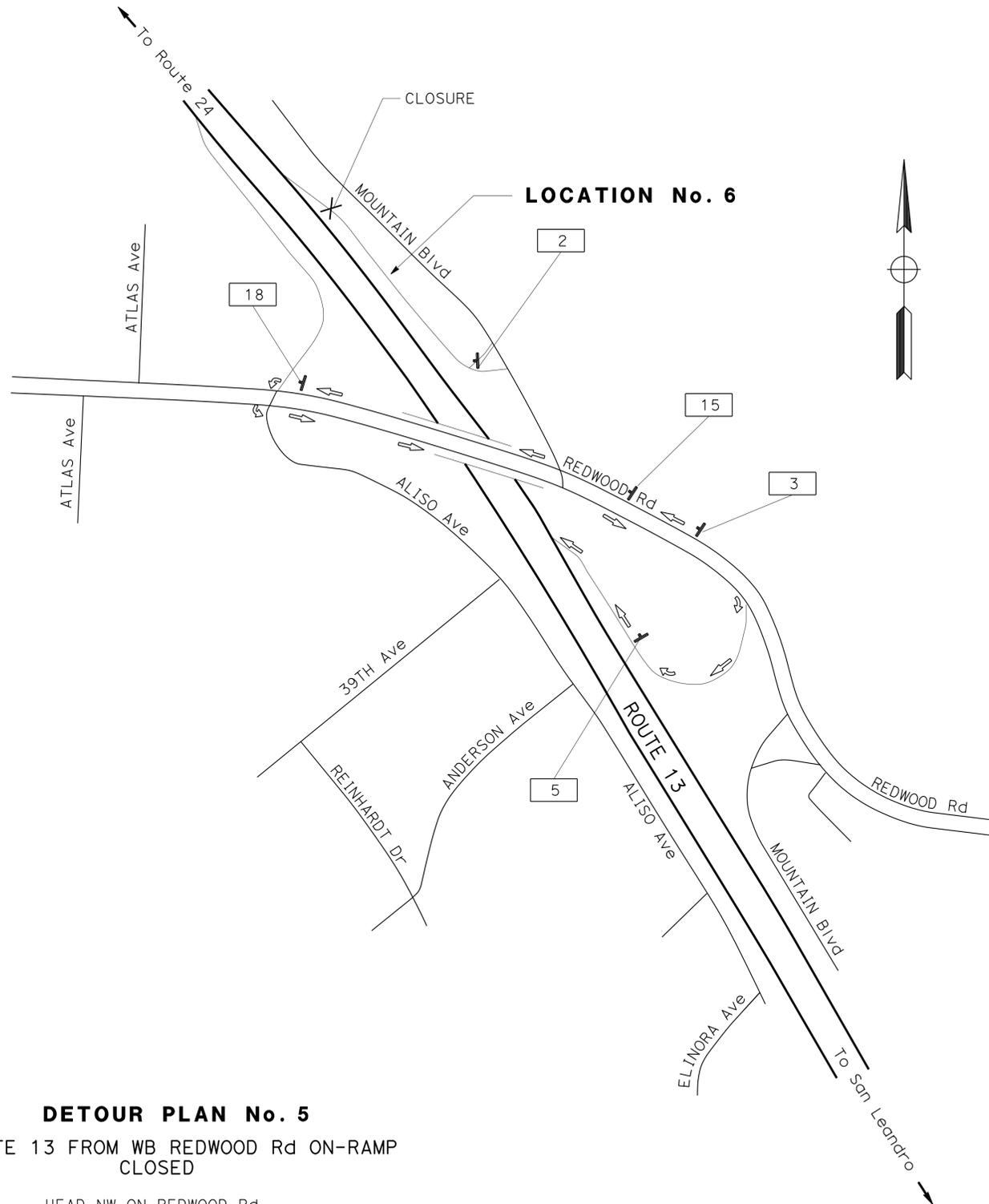
APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

FOR NOTES AND LEGEND, SEE SHEET CS-1

CS-4

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	RACHEL LIU	REVISED BY	RL
	ROLAND AU-YEUNG	CHECKED BY	CLAUDIA FANG	DATE REVISED	6-2-16
Caltrans	TRAFFIC				

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80,84,880	Var	31	136
REGISTERED CIVIL ENGINEER			DATE	6-2-16	
PLANS APPROVAL DATE			6-20-16		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



DETOUR PLAN No. 5
 NB ROUTE 13 FROM WB REDWOOD Rd ON-RAMP CLOSED
 HEAD NW ON REDWOOD Rd
 U TURN AT ALISO Ave
 SLIGHT RIGHT ONTO NB ROUTE 13 ON-RAMP

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

FOR NOTES AND LEGEND, SEE SHEET CS-1

CONSTRUCTION AREA SIGNS
 NO SCALE

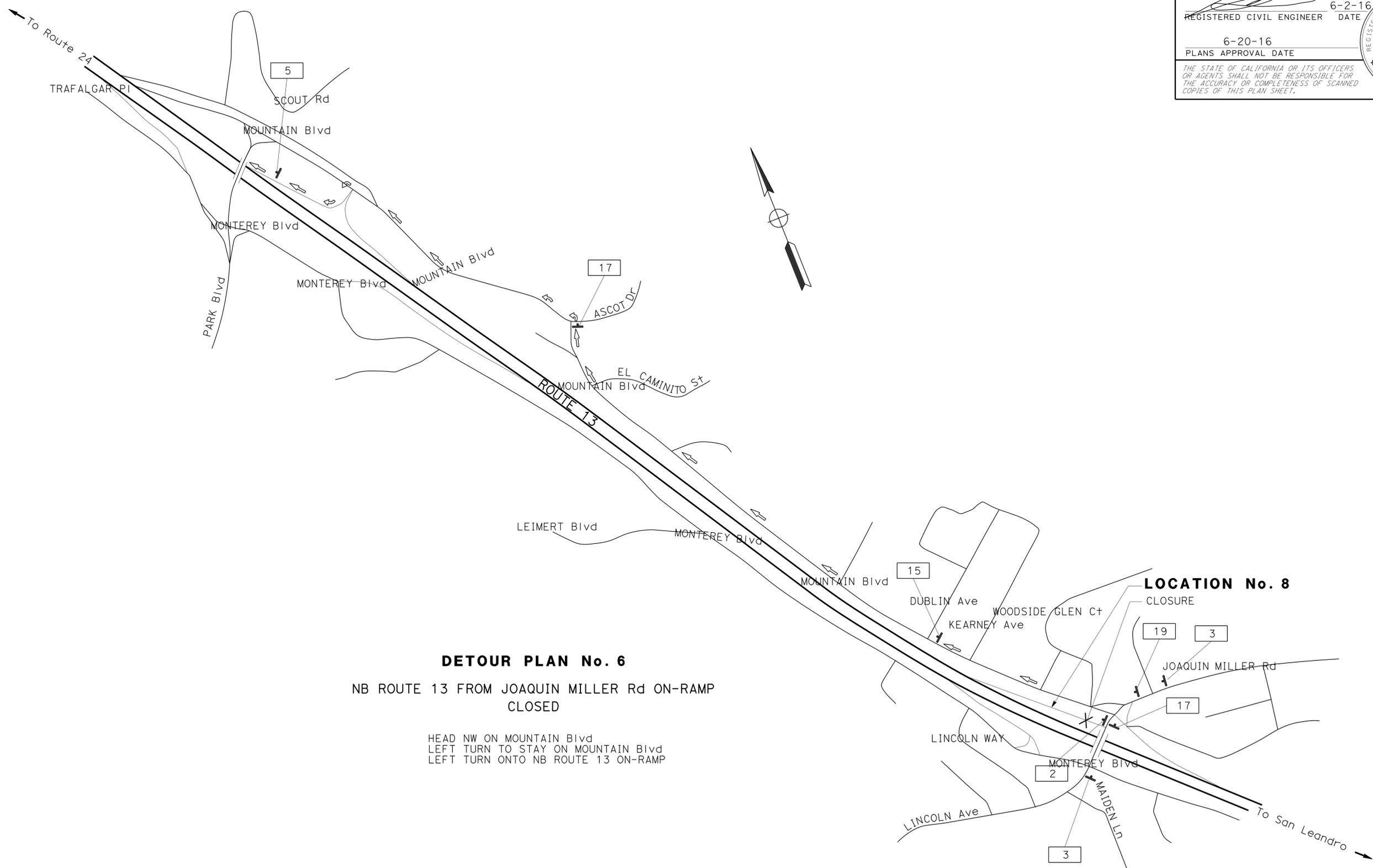
CS-5

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80,84,880	Var	32	136

REGISTERED CIVIL ENGINEER DATE 6-2-16
 6-20-16
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Rachel Liu
 No. 74807
 Exp. 12-31-17
 CIVIL
 STATE OF CALIFORNIA

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



DETOUR PLAN No. 6
 NB ROUTE 13 FROM JOAQUIN MILLER Rd ON-RAMP
 CLOSED

 HEAD NW ON MOUNTAIN Blvd
 LEFT TURN TO STAY ON MOUNTAIN Blvd
 LEFT TURN ONTO NB ROUTE 13 ON-RAMP

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	TRAFFIC
FUNCTIONAL SUPERVISOR	ROLAND AU-YEUNG
CALCULATED/DESIGNED BY	CHECKED BY
RACHEL LIU	CLAUDIA FANG
REVISED BY	DATE REVISED
RL	6-2-16

CONSTRUCTION AREA SIGNS
 NO SCALE

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

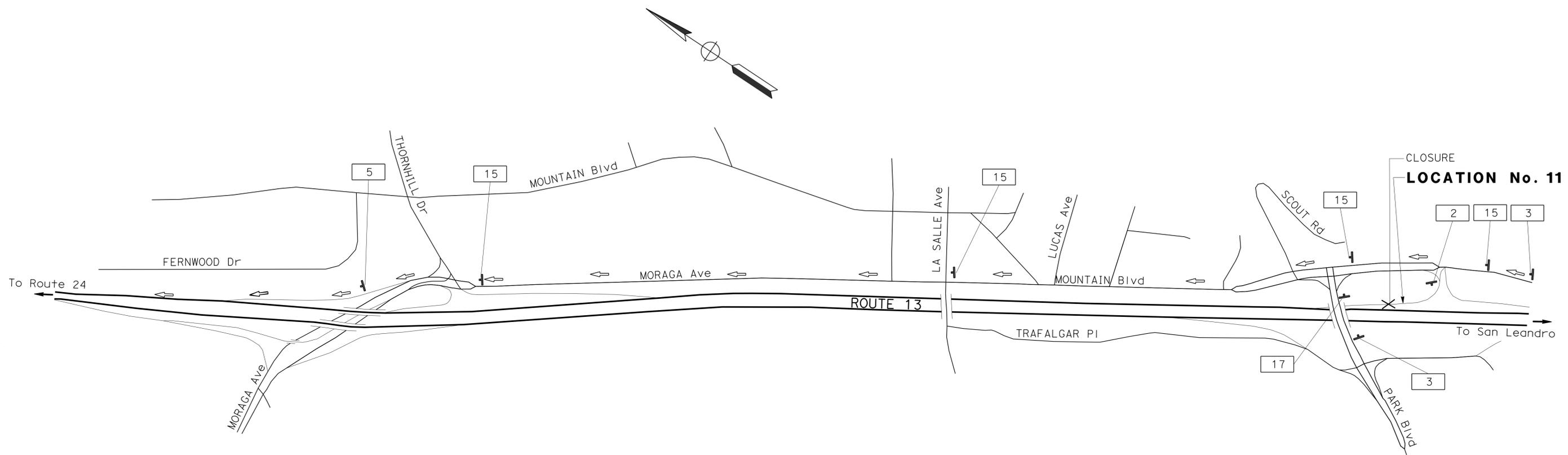
FOR NOTES AND LEGEND, SEE SHEET CS-1

CS-6

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80,84,880	Var	33	136

REGISTERED CIVIL ENGINEER DATE 6-2-16
 PLANS APPROVAL DATE 6-20-16
 REGISTERED PROFESSIONAL ENGINEER
 Rachel Liu
 No. 74807
 Exp. 12-31-17
 CIVIL
 STATE OF CALIFORNIA
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	RACHEL LIU	REVISED BY	RL
Caltrans	ROLAND AU-YEUNG	CHECKED BY	CLAUDIA FANG	DATE REVISED	6-2-16
TRAFFIC					



DETOUR PLAN No. 7

NB ROUTE 13 ON-RAMP FROM MOUNTAIN Blvd
CLOSED

HEAD NB ON MOUNTAIN Blvd
CONTINUE ONTO MORAGA Ave
NB ROUTE 13 ON-RAMP

CONSTRUCTION AREA SIGNS
NO SCALE

CS-7

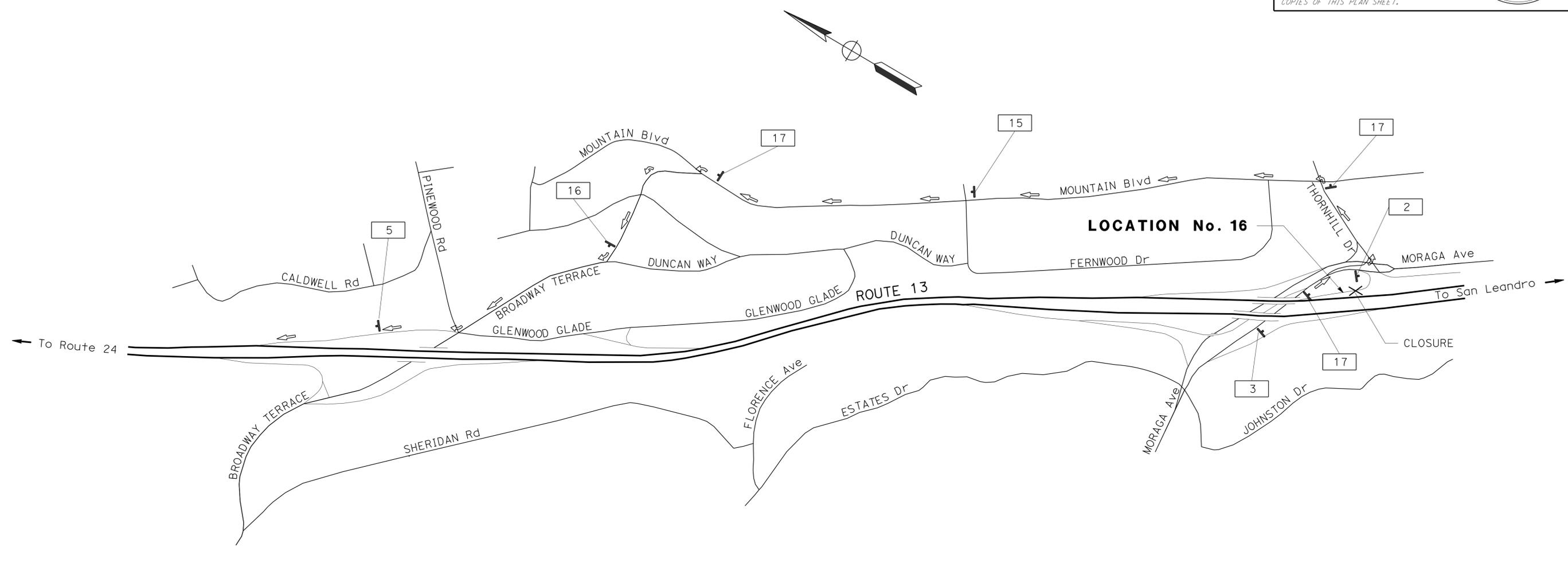
APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

FOR NOTES AND LEGEND,
SEE SHEET CS-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80,84,880	Var	34	136
REGISTERED CIVIL ENGINEER			DATE	6-2-16	
PLANS APPROVAL DATE			6-20-16		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR	DATE
Caltrans	ROLAND AU-YEUNG	RACHEL LIU	CLAUDIA FANG	6-2-16
TRAFFIC				



DETOUR PLAN No. 8
 NB ROUTE 13 ON-RAMP FROM EB MORAGA Ave
 CLOSED

HEAD N ON THORNHILL Dr TOWARDS MOUNTAIN Blvd
 LEFT ONTO MOUNTAIN Blvd
 LEFT ONTO BROADWAY TERRACE
 NB ROUTE 13 ON-RAMP

CONSTRUCTION AREA SIGNS
NO SCALE

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

FOR NOTES AND LEGEND, SEE SHEET CS-1

CS-8

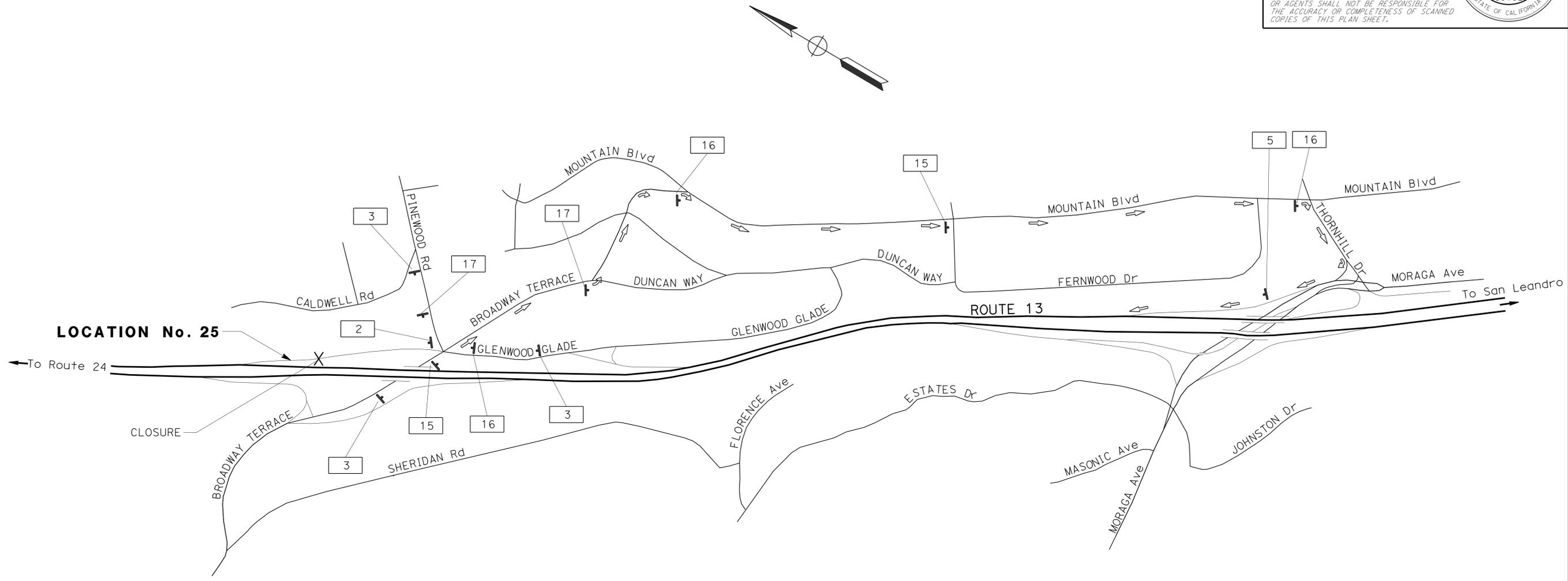
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 FUNCTIONAL SUPERVISOR: ROLAND AU-YEUNG
 CALCULATED/DESIGNED BY: RACHEL LIU
 CHECKED BY: CLAUDIA FANG
 REVISED BY: RL
 DATE REVISED: 6-2-16

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80,84,880	Var	35	136

REGISTERED CIVIL ENGINEER DATE: 6-2-16
 PLANS APPROVAL DATE: 6-20-16

REGISTERED PROFESSIONAL ENGINEER
 Rachel Liu
 No. 74807
 Exp. 12-31-17
 CIVIL
 STATE OF CALIFORNIA

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



DETOUR PLAN No. 9
 NB ROUTE 13 ON-RAMP FROM BROADWAY TERRACE
 CLOSED

- SE BROADWAY TERRACE
- LEFT TO STAY ON BROADWAY TERRACE
- RIGHT ONTO MOUNTAIN Blvd
- RIGHT ONTO THORNHILL Dr
- RIGHT ONTO MORAGA Ave
- NB ROUTE 13 ON-RAMP

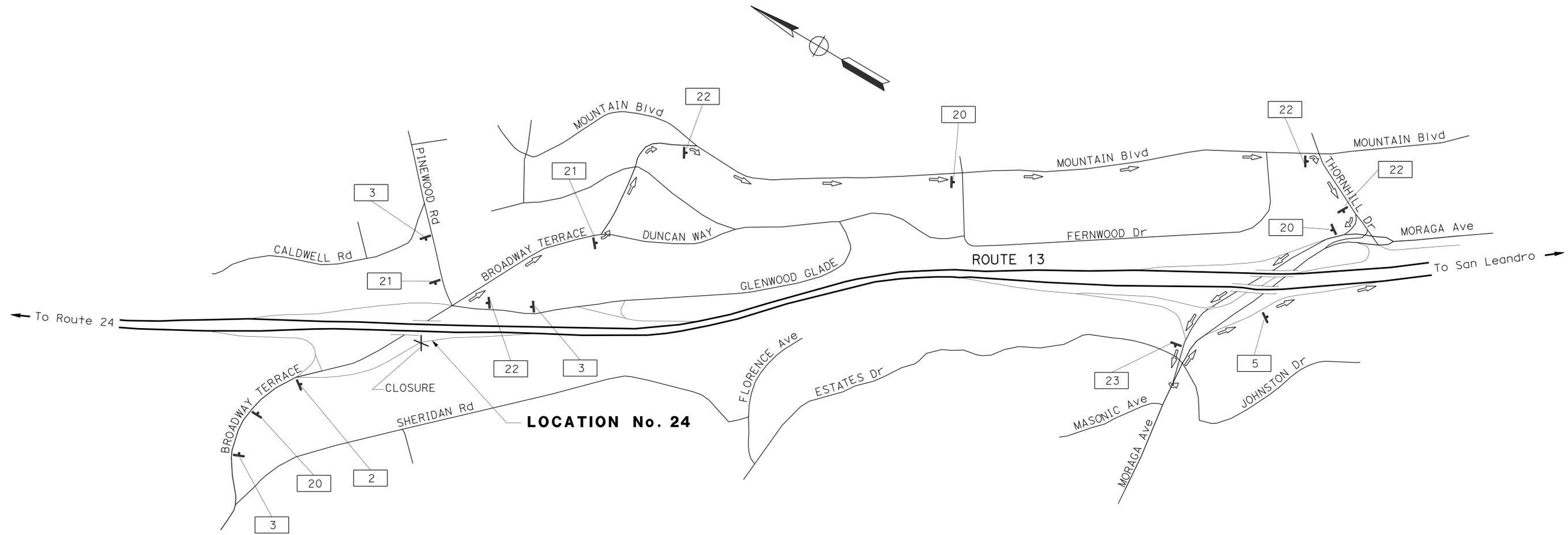
CONSTRUCTION AREA SIGNS
 NO SCALE

CS-9

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

FOR NOTES AND LEGEND, SEE SHEET CS-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80,84,880	Var	36	136
REGISTERED CIVIL ENGINEER			DATE	6-2-16	
PLANS APPROVAL DATE			6-20-16		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



DETOUR PLAN No. 10
 SB ROUTE 13 ON-RAMP FROM BROADWAY TERRACE
 CLOSED

CONTINUE ON BROADWAY TERRACE
 SB MOUNTAIN Blvd
 SW THORNHILL Dr
 NW MORAGA Ave
 U-TURN ESTATES Dr
 EB MORAGA Ave ON-RAMP

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 TRAFFIC

FUNCTIONAL SUPERVISOR
 ROLAND AU-YEUNG

CALCULATED/DESIGNED BY
 CHECKED BY

RACHEL LIU
 CLAUDIA FANG

REVISOR BY
 DATE REVISED

RL
 6-2-16

CONSTRUCTION AREA SIGNS
 NO SCALE

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

FOR NOTES AND LEGEND,
 SEE SHEET CS-1

CS-10

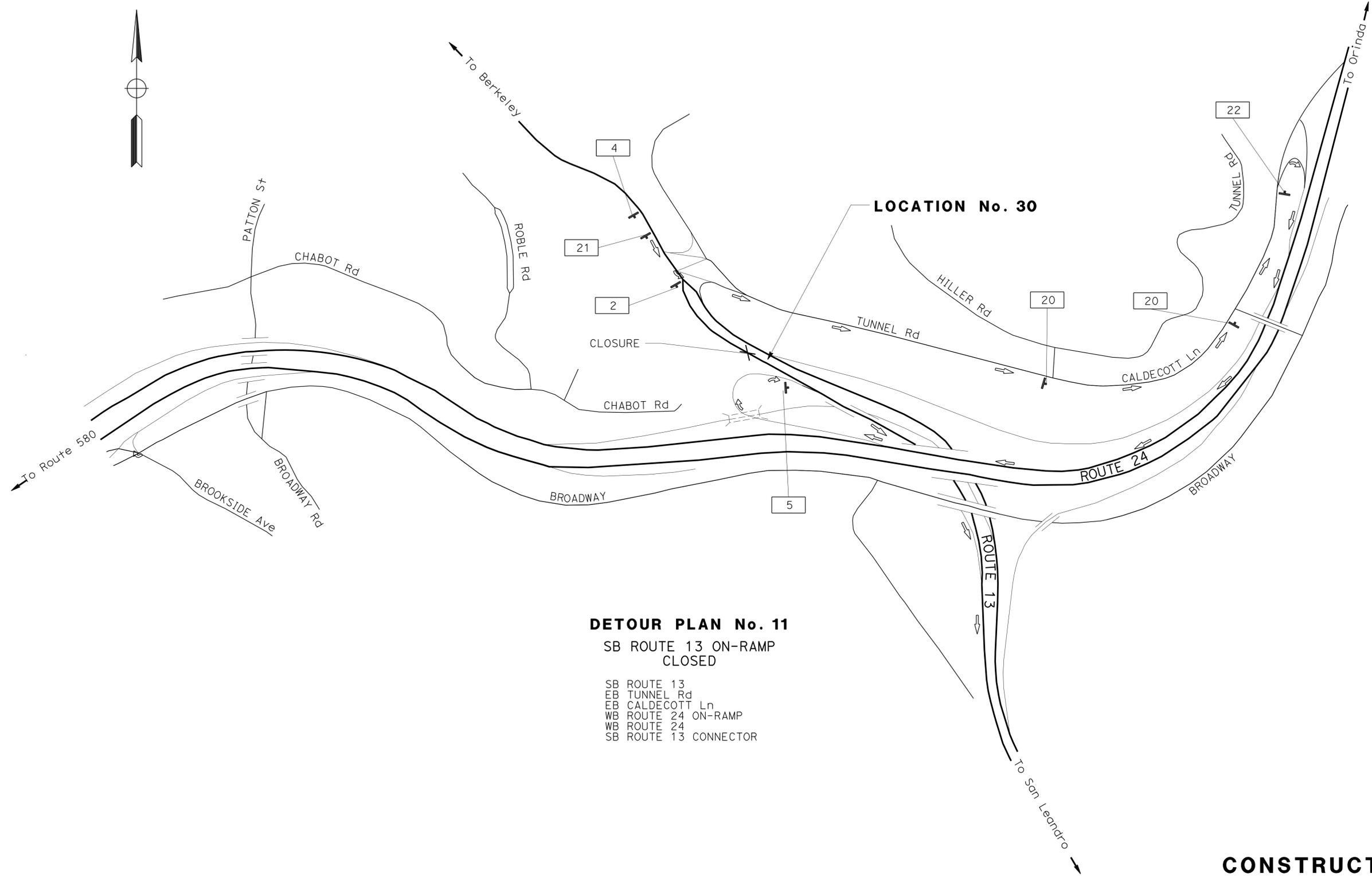
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80,84,880	Var	37	136

REGISTERED CIVIL ENGINEER: Rachel Liu
 No. 74807
 Exp. 12-31-17
 CIVIL

6-2-16
 DATE
 REGISTERED CIVIL ENGINEER

6-20-16
 PLANS APPROVAL DATE

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



DETOUR PLAN No. 11
 SB ROUTE 13 ON-RAMP CLOSED

SB ROUTE 13
 EB TUNNEL Rd
 EB CALDECOTT Ln
 WB ROUTE 24 ON-RAMP
 WB ROUTE 24
 SB ROUTE 13 CONNECTOR

CONSTRUCTION AREA SIGNS
 NO SCALE

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

FOR NOTES AND LEGEND, SEE SHEET CS-1

CS-11

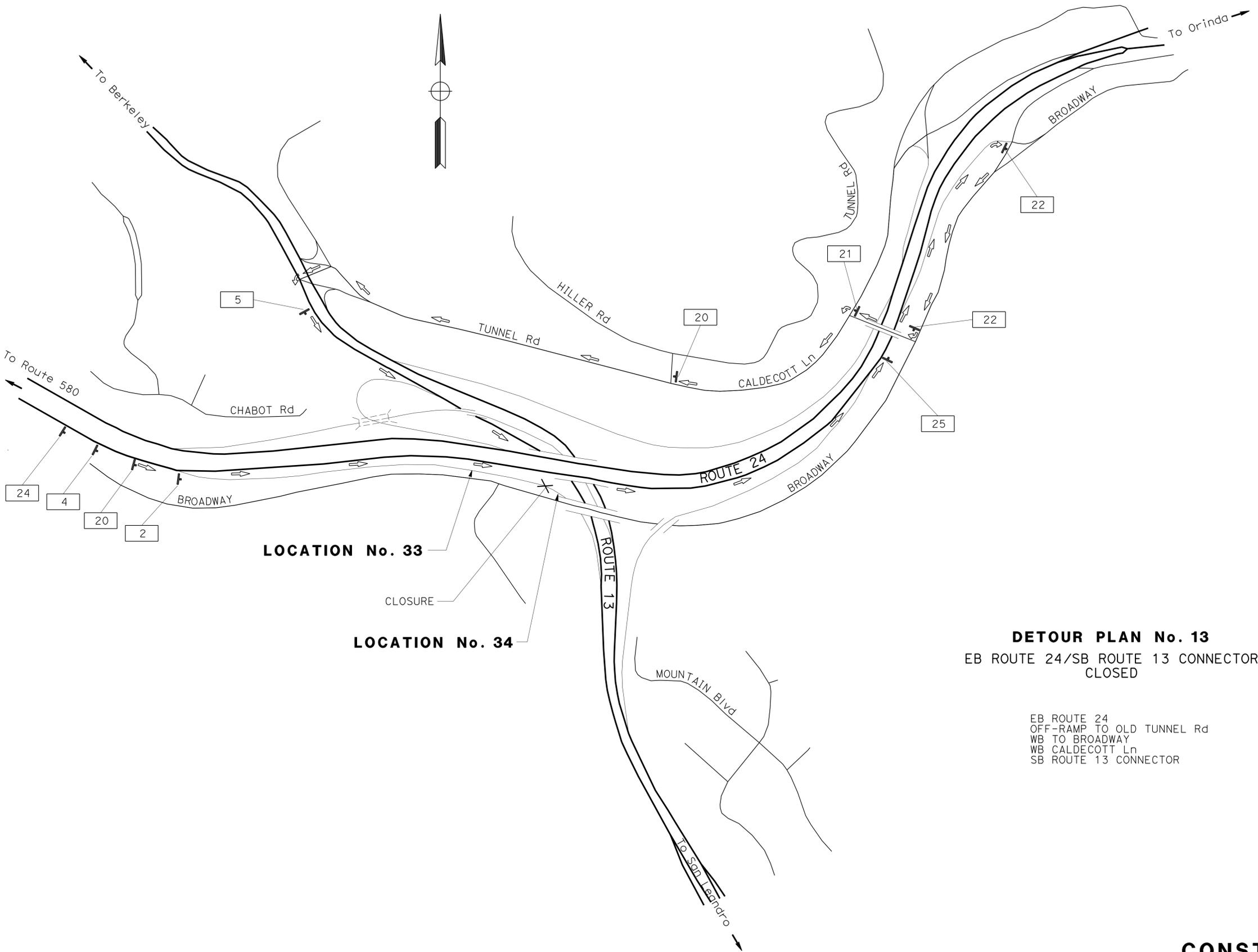
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80,84,880	Var	38	136

	6-2-16
REGISTERED CIVIL ENGINEER	DATE
6-20-16	
PLANS APPROVAL DATE	

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



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR	DATE
Caltrans	ROLAND AU-YEUNG	RACHEL LIU	CLAUDIA FANG	6-2-16
TRAFFIC				



LOCATION No. 33

LOCATION No. 34

DETOUR PLAN No. 13
 EB ROUTE 24/SB ROUTE 13 CONNECTOR
 CLOSED

EB ROUTE 24
 OFF-RAMP TO OLD TUNNEL RD
 WB TO BROADWAY
 WB CALDECOTT Ln
 SB ROUTE 13 CONNECTOR

CONSTRUCTION AREA SIGNS
 NO SCALE

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

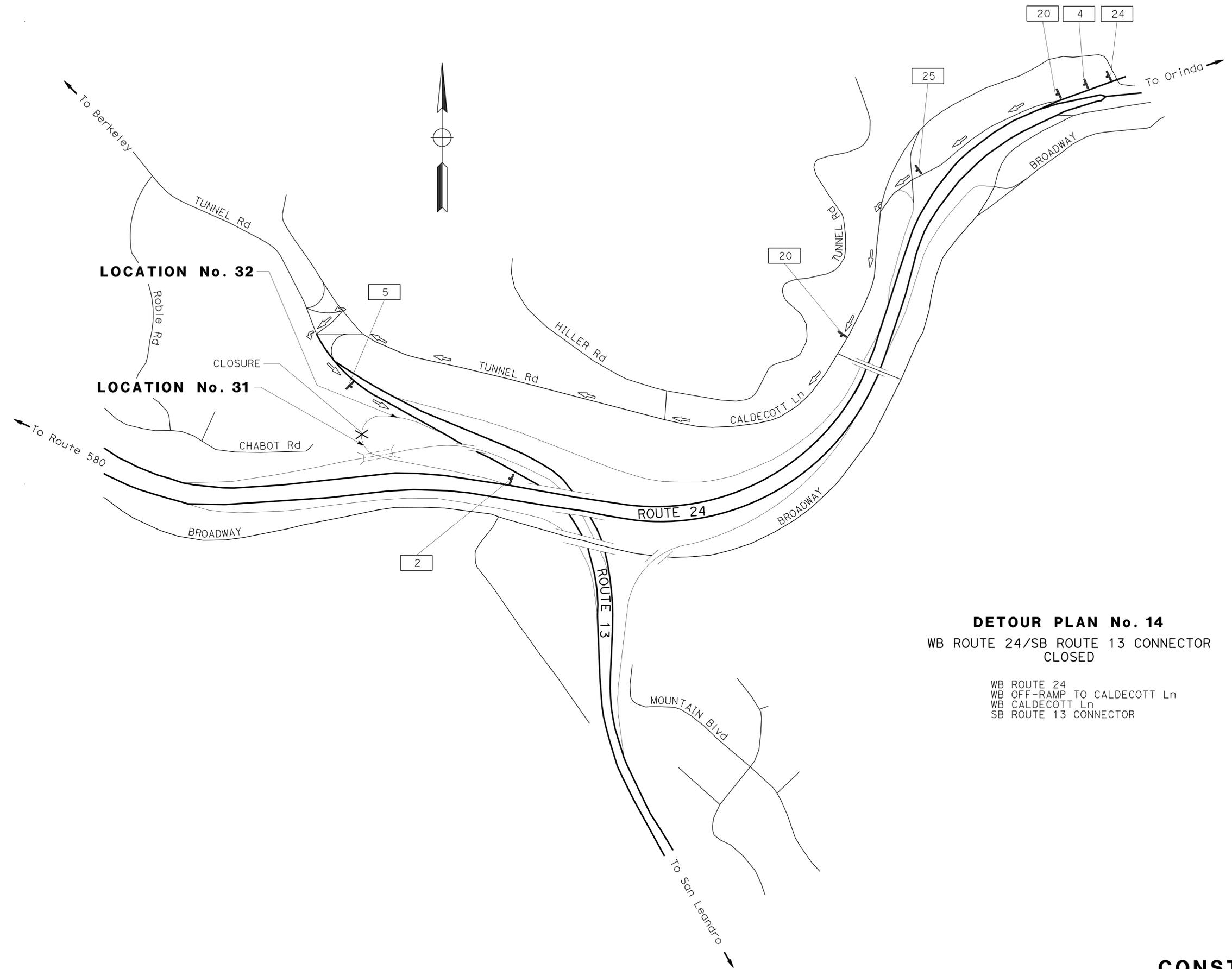
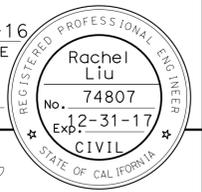
FOR NOTES AND LEGEND,
 SEE SHEET CS-1

CS-12

LAST REVISION DATE PLOTTED => 23-AUG-2016 10:27:15 TIME PLOTTED => 10:51

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION Caltrans	FUNCTIONAL SUPERVISOR ROLAND AU-YEUNG	CALCULATED/DESIGNED BY	CHECKED BY
		RACHEL LIU	CLAUDIA FANG
REVISOR	DATE	REVISOR	DATE
RL	6-2-16		

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80,84,880	Var	39	136
REGISTERED CIVIL ENGINEER			6-2-16	DATE	
PLANS APPROVAL DATE			6-20-16		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



DETOUR PLAN No. 14
WB ROUTE 24/SB ROUTE 13 CONNECTOR
CLOSED

- WB ROUTE 24
- WB OFF-RAMP TO CALDECOTT Ln
- WB CALDECOTT Ln
- SB ROUTE 13 CONNECTOR

CONSTRUCTION AREA SIGNS
NO SCALE

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

FOR NOTES AND LEGEND, SEE SHEET CS-1

CS-13

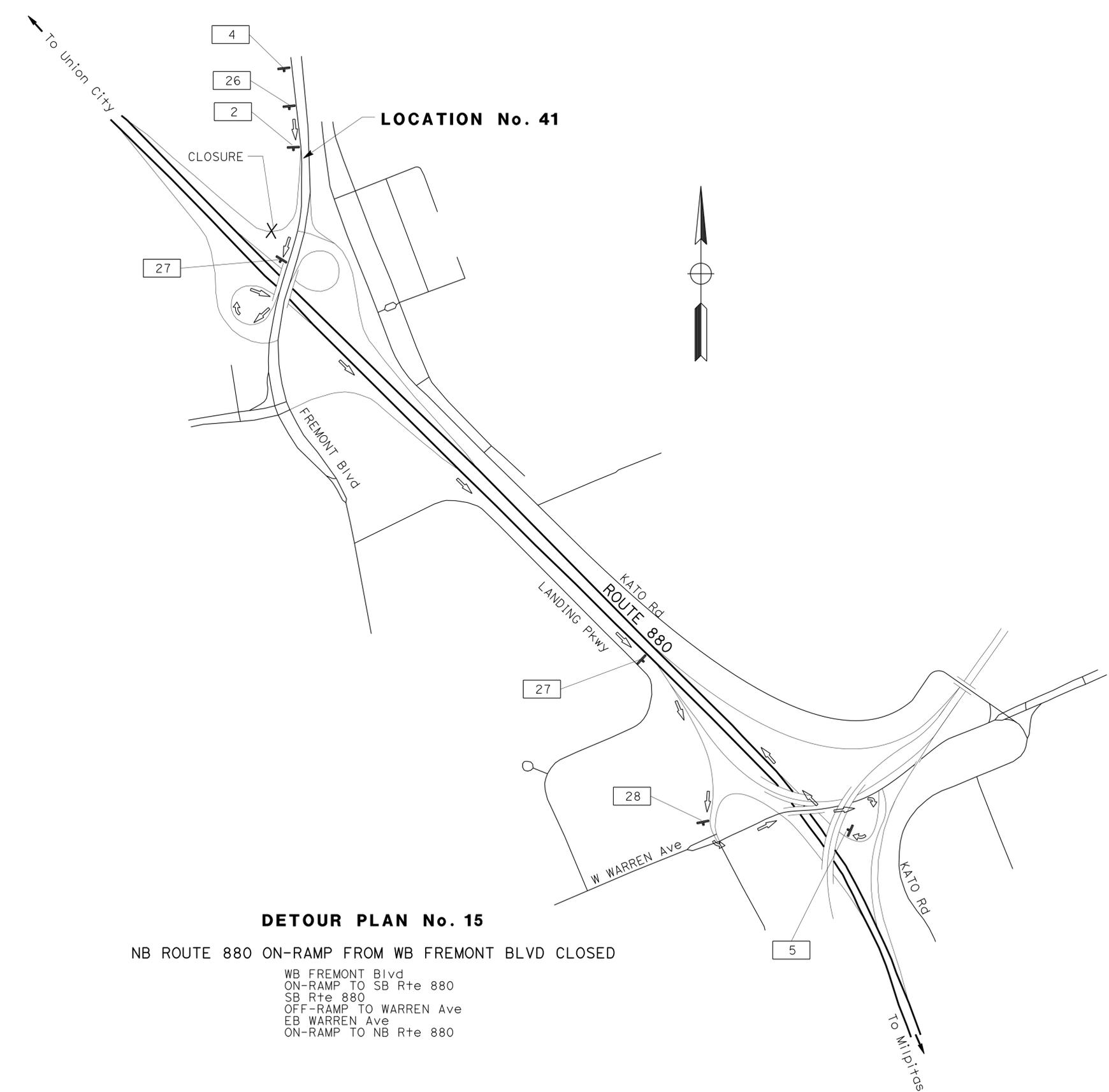
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80, 84,880	Var	40	136

REGISTERED CIVIL ENGINEER	DATE	6-2-16
PLANS APPROVAL DATE		6-20-16

REGISTERED PROFESSIONAL ENGINEER	No.	74807
Exp.	12-31-17	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.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	RACHEL LIU	REVISOR	RL
Caltrans	ROLAND AU-YEUNG	CHECKED BY	CLAUDIA FANG	DATE REVISED	6-2-16



DETOUR PLAN No. 15
 NB ROUTE 880 ON-RAMP FROM WB FREMONT BLVD CLOSED

- WB FREMONT Blvd
- ON-RAMP TO SB Rte 880
- SB Rte 880
- OFF-RAMP TO WARREN Ave
- EB WARREN Ave
- ON-RAMP TO NB Rte 880

CONSTRUCTION AREA SIGNS
 NO SCALE

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

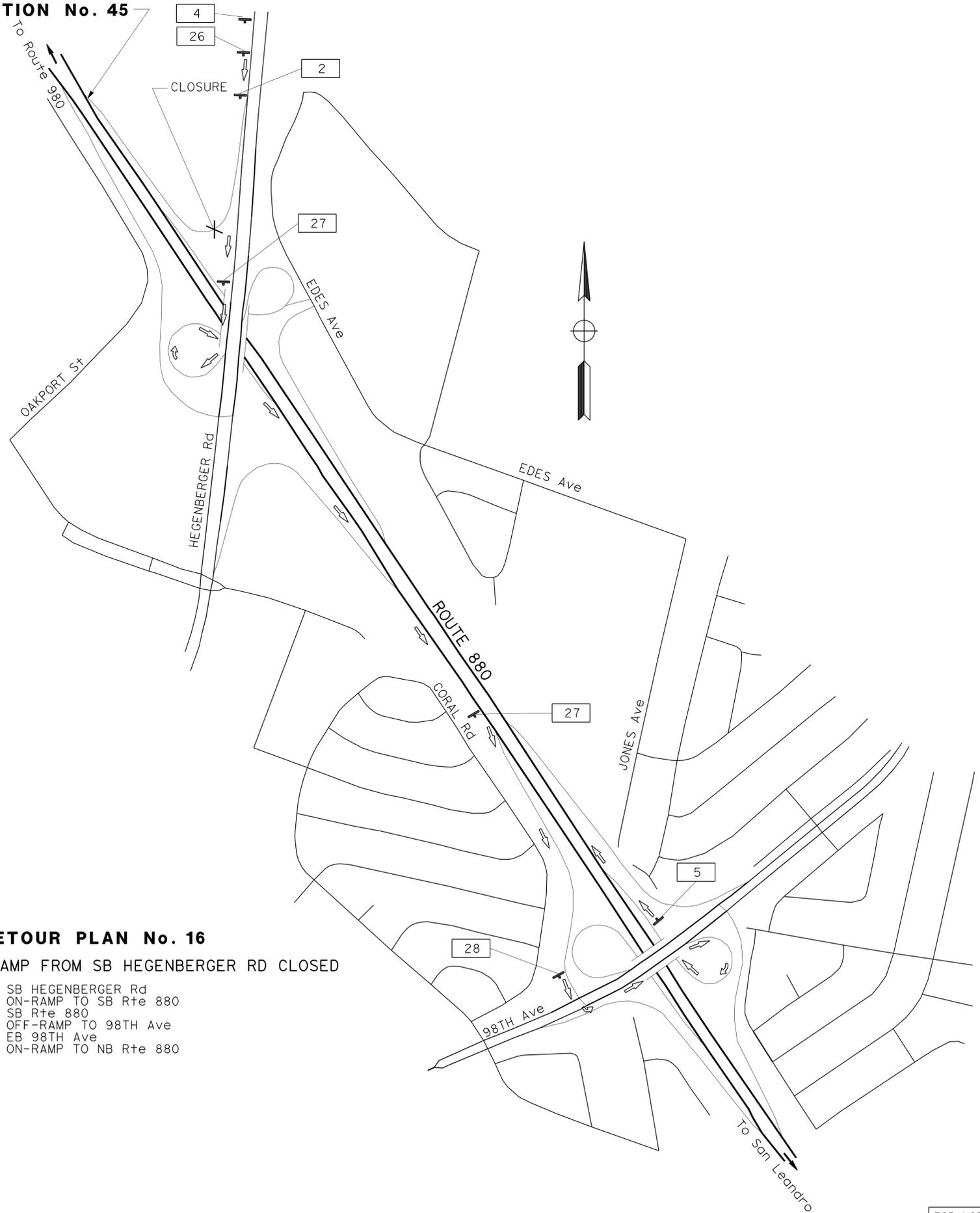
FOR NOTES AND LEGEND, SEE SHEET CS-1

CS-14

LAST REVISION | DATE PLOTTED => 23-AUG-2016
 10-27-15 | TIME PLOTTED => 10:51

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	RACHEL LIU	REVISOR	RL
				CHECKED BY	CLAUDIA FANG
TRAFFIC					

LOCATION No. 45



DETOUR PLAN No. 16

NB ROUTE 880 ON-RAMP FROM SB HEGENBERGER RD CLOSED

- SB HEGENBERGER Rd
- ON-RAMP TO SB Rte 880
- SB Rte 880
- OFF-RAMP TO 98TH Ave
- EB 98TH Ave
- ON-RAMP TO NB Rte 880

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80, 84,880	Var	41	136

REGISTERED CIVIL ENGINEER DATE 6-2-16

PLANS APPROVAL DATE 6-20-16

REGISTERED PROFESSIONAL ENGINEER
 Rachel Liu
 No. 74807
 Exp. 12-31-17
 CIVIL
 STATE OF CALIFORNIA

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

CONSTRUCTION AREA SIGNS
NO SCALE

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

FOR NOTES AND LEGEND, SEE SHEET CS-1

CS-15

LAST REVISION DATE PLOTTED => 23-AUG-2016 10-27-15 TIME PLOTTED => 10:51

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	RACHEL LIU	REVISED BY	RL
Caltrans	ROLAND AU-YEUNG	CHECKED BY	CLAUDIA FANG	DATE REVISED	6-2-16

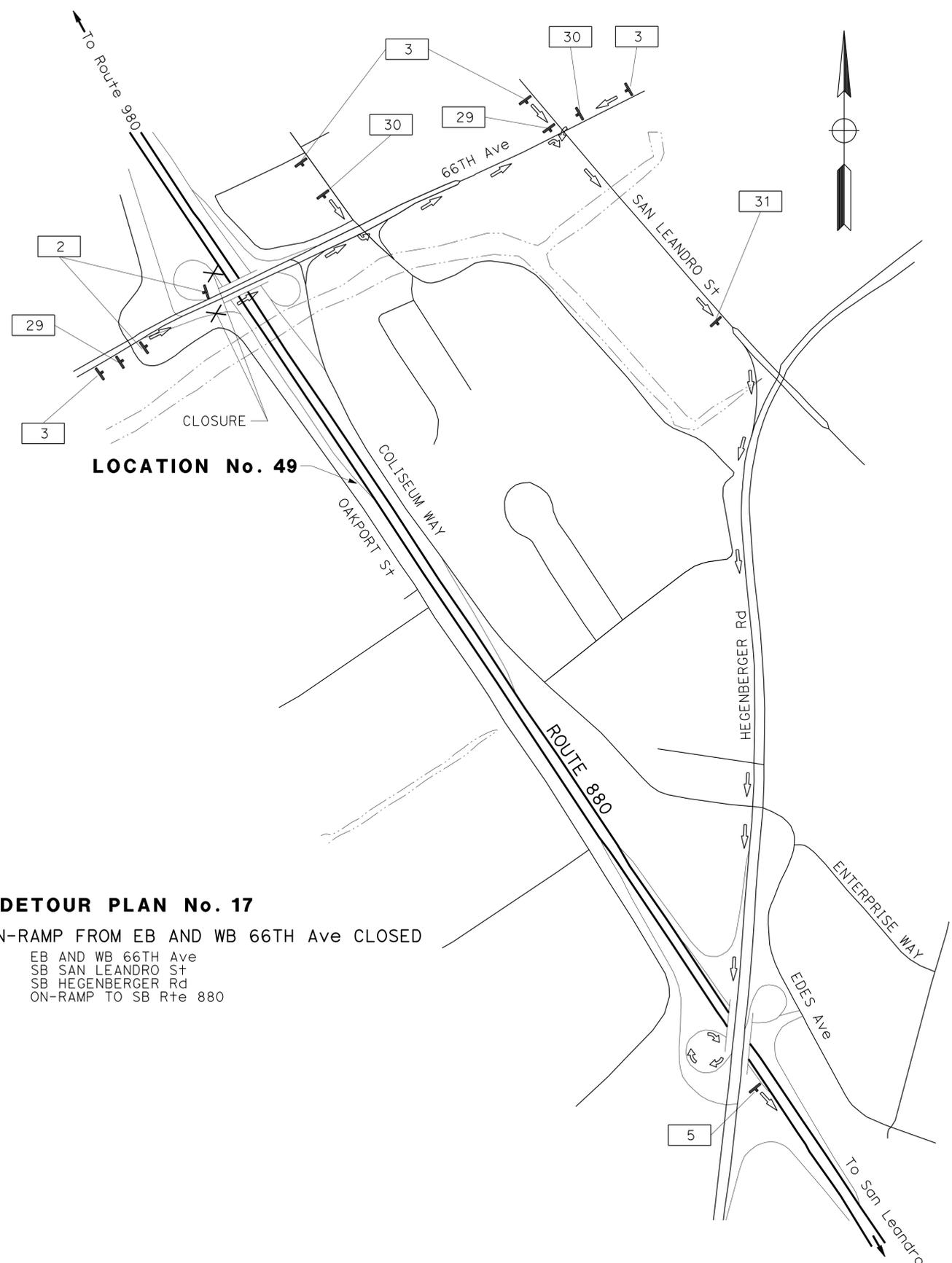
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80, 84,880	Var	42	136

REGISTERED CIVIL ENGINEER DATE 6-2-16

PLANS APPROVAL DATE 6-20-16

REGISTERED PROFESSIONAL ENGINEER
 Rachel Liu
 No. 74807
 Exp. 12-31-17
 CIVIL
 STATE OF CALIFORNIA

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



DETOUR PLAN No. 17
 SB ROUTE 880 ON-RAMP FROM EB AND WB 66TH Ave CLOSED
 EB AND WB 66TH Ave
 SB SAN LEANDRO ST
 SB HEGENBERGER Rd
 ON-RAMP TO SB Rte 880

LOCATION No. 49

CONSTRUCTION AREA SIGNS
 NO SCALE

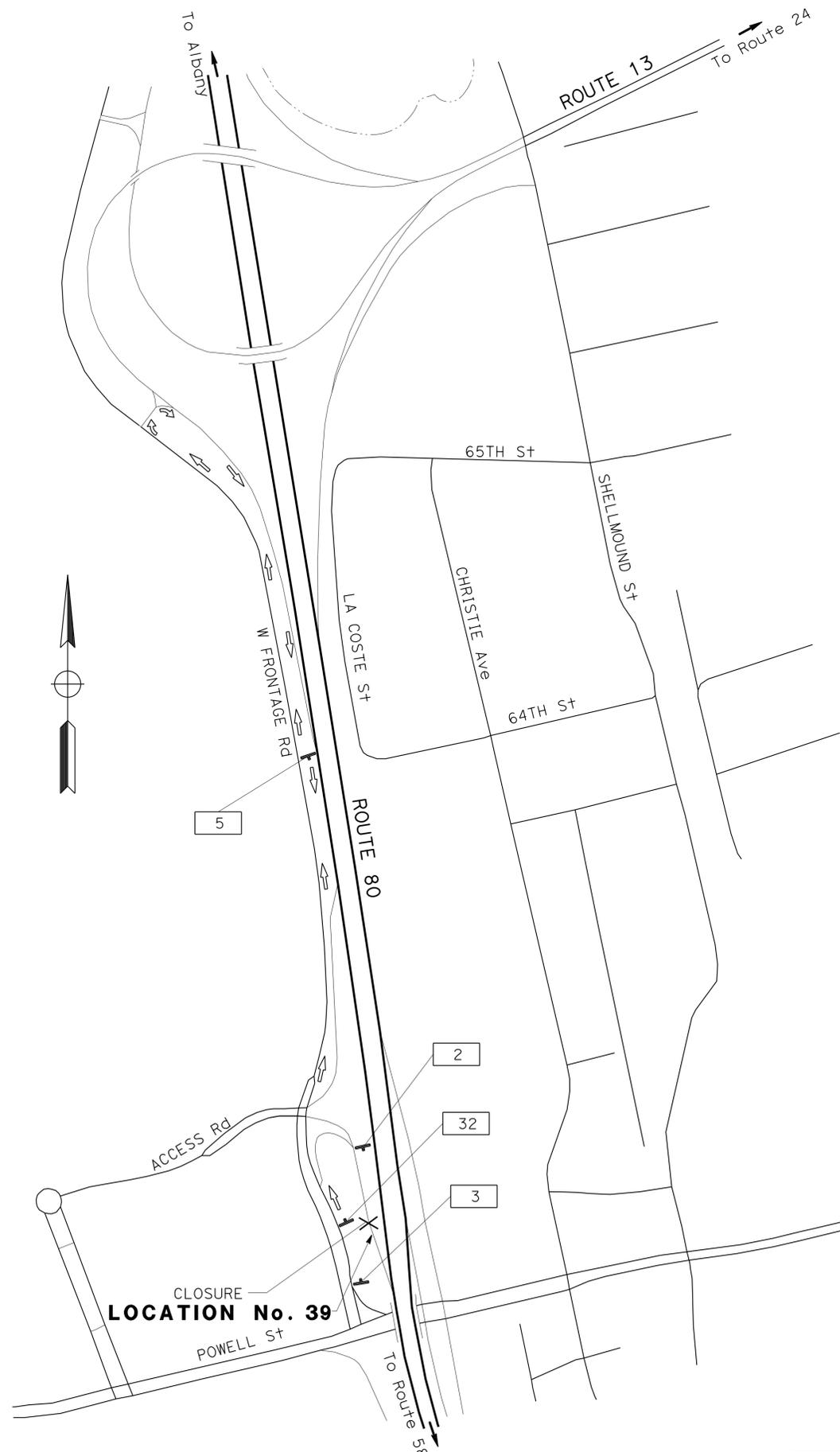
APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

FOR NOTES AND LEGEND, SEE SHEET CS-1

CS-16

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	RACHEL LIU	REVISED BY	RL
Caltrans	ROLAND AU-YEUNG	CHECKED BY	CLAUDIA FANG	DATE REVISED	6-2-16
TRAFFIC					

DETOUR PLAN No. 18
 WB ROUTE 80 POWELL LOOP ON-RAMP CLOSED
 NB W FRONTAGE Rd
 RIGHY TURN INTO WB Rte 80 ASHBY ON-RAMP



CLOSURE
LOCATION No. 39

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

FOR NOTES AND LEGEND,
 SEE SHEET CS-1

CONSTRUCTION AREA SIGNS
 NO SCALE

CS-17

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80, 84,880	Var	43	136
			6-2-16		
REGISTERED CIVIL ENGINEER			DATE		
6-20-16					
PLANS APPROVAL DATE					
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					

STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN No.	SIGN CODE		SIGN MESSAGE	PANEL SIZE	No. OF POST AND SIZE	No. OF SIGNS
	FEDERAL	CALIFORNIA				
1		C24(CA)	SHOULDER WORK AHEAD	48" x 48"	2 - 4" x 6"	40
2		SC6-4(CA)	RAMP CLOSED	48" x 60"	1 - 6" x 6"	18
3	W20-2		DETOUR AHEAD	36" x 36"	1 - 4" x 6"	20
4	W20-2		DETOUR AHEAD	48" x 48"	1 - 4" x 6"	7
5	M4-8a		END DETOUR	24" x 18"	1 - 4" x 4"	17
6	SPECIAL SIGN No. 1		EAST 24 RAMP CLOSED	42" x 54"	1 - 4" x 6"	1
		M4-8	DETOUR			
		G28-2(24)(CA)	ROUTE 24 SHIELD			
7	M3-2	M6-3(↑)	EAST	21" x 18"	1 - 4" x 6"	2
			UP ARROW			
			DETOUR			
8	M4-8	G28-2(24)(CA)	ROUTE 24 SHIELD	21" x 18"	1 - 4" x 6"	1
			EAST			
			DIAGONAL ARROW			
9	M4-8	G28-2(24)(CA)	DETOUR	21" x 18"	1 - 4" x 6"	1
			ROUTE 24 SHIELD			
			EAST			
10	M6-1(→)	M4-8	RIGHT ARROW	21" x 15"	1 - 4" x 6"	1
			DETOUR			
			ROUTE 24 SHIELD			
11	M3-2	G28-2(24)(CA)	EAST	24" x 12"	1 - 4" x 6"	1
			LEFT ARROW			
			WEST 580 RAMP CLOSED			
12	M4-8	G27-2(580)(CA)	DETOUR	24" x 12"	1 - 4" x 6"	1
			ROUTE 580 SHIELD			
			WEST			
13	M6-3(↑)	M4-8	UP ARROW	21" x 15"	1 - 4" x 6"	1
			DETOUR			
			ROUTE 580 SHIELD			
14	M3-4	M6-2(↗)	WEST	24" x 12"	1 - 4" x 6"	2
			DIAGONAL ARROW			
			DETOUR			
15	M4-8	G27-2(580)(CA)	ROUTE 580 SHIELD	21" x 18"	1 - 4" x 6"	2
			WEST			
			LEFT ARROW			
16	M6-1(←)	M4-8	DETOUR	24" x 12"	1 - 4" x 6"	12
			ROUTE 13 SHIELD			
			NORTH			
17	M6-3(↑)	M4-8	UP ARROW	21" x 15"	1 - 4" x 6"	6
			DETOUR			
			ROUTE 13 SHIELD			
18	M3-1	M6-2(↗)	NORTH	24" x 12"	1 - 4" x 6"	10
			DIAGONAL ARROW			
			DETOUR			
19	M4-8	G28-2(13)(CA)	ROUTE 13 SHIELD	21" x 18"	1 - 4" x 6"	1
			NORTH			
			U TURN			
20	M6-1(↻)	M4-8	WEST	21" x 15"	1 - 4" x 6"	1
			DETOUR			
			ROUTE 13 SHIELD			
21	M3-4	M6-2(↘)	WEST	24" x 12"	1 - 4" x 6"	1
			DIAGONAL ARROW			
			DETOUR			
22	M4-8	G28-2(13)(CA)	ROUTE 13 SHIELD	21" x 18"	1 - 4" x 6"	1
			NORTH			
			U TURN			
23	M3-1	M6-3(↑)	UP ARROW	21" x 15"	1 - 4" x 6"	2
			DETOUR			
			ROUTE 880 SHIELD			
24	M4-8	G28-1(880)(CA)	DETOUR	24" x 12"	1 - 4" x 6"	4
			ROUTE 880 SHIELD			
			NORTH			
25	M6-1(←)	M4-8	LEFT ARROW	21" x 15"	1 - 4" x 6"	2
			DETOUR			
			ROUTE 880 SHIELD			
26	M3-3	M6-2(↗)	SOUTH	24" x 12"	1 - 4" x 6"	2
			DIAGONAL ARROW			
			DETOUR			
27	M4-8	G28-1(880)(CA)	ROUTE 880 SHIELD	21" x 18"	1 - 4" x 6"	2
			NORTH			
			LEFT ARROW			
28	M6-3(↑)	M4-8	UP ARROW	21" x 15"	1 - 4" x 6"	2
			DETOUR			
			ROUTE 880 SHIELD			
29	M3-1	M6-2(↗)	NORTH	24" x 12"	1 - 4" x 6"	2
			DIAGONAL ARROW			
			DETOUR			
30	M4-8	G28-1(880)(CA)	ROUTE 880 SHIELD	21" x 18"	1 - 4" x 6"	1
			SOUTH			
			LEFT ARROW			
31	M6-1(←)	M4-8	LEFT ARROW	21" x 15"	1 - 4" x 6"	1
			DETOUR			
			ROUTE 880 SHIELD			
32	M3-3	M6-2(↗)	SOUTH	24" x 12"	1 - 4" x 6"	1
			DIAGONAL ARROW			
			DETOUR			
33	M4-8	G28-1(80)(CA)	ROUTE 80 SHIELD	21" x 18"	1 - 4" x 6"	1
			WEST			
			UP ARROW			



42" x 54"
6" D CAPS
BLACK ON ORANGE

SPECIAL SIGN No. 1



42" x 54"
6" D CAPS
BLACK ON ORANGE

SPECIAL SIGN No. 2



42" x 54"
6" D CAPS
BLACK ON ORANGE

SPECIAL SIGN No. 3

STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN No.	SIGN CODE		SIGN MESSAGE	PANEL SIZE	No. OF POST AND SIZE	No. OF SIGNS
	FEDERAL	CALIFORNIA				
20	M4-8		DETOUR	24" x 12"	1 - 4" x 6"	9
	M3-3	G28-2(13)(CA)	ROUTE 13 SHIELD	21" x 18"		
	M6-3(↑)		SOUTH	24" x 12"		
21	M4-8		DETOUR	24" x 12"	1 - 4" x 6"	4
	M3-3	G28-2(13)(CA)	ROUTE 13 SHIELD	21" x 18"		
	M6-1(←)		SOUTH	24" x 12"		
22	M4-8		DETOUR	24" x 12"	1 - 4" x 6"	7
	M3-3	G28-2(13)(CA)	ROUTE 13 SHIELD	21" x 18"		
	M6-1(→)		SOUTH	24" x 12"		
23	M4-8		DETOUR	24" x 12"	1 - 4" x 6"	1
	M3-3	G28-2(13)(CA)	ROUTE 13 SHIELD	21" x 18"		
	M6-1(↻)		SOUTH	24" x 12"		
24	M4-8		DETOUR	24" x 12"	1 - 4" x 6"	2
	M3-3	G28-2(13)(CA)	ROUTE 13 SHIELD	21" x 18"		
	M6-1(↻)		SOUTH	24" x 12"		
25	M4-8		DETOUR	24" x 12"	1 - 4" x 6"	2
	M3-3	G28-2(13)(CA)	ROUTE 13 SHIELD	21" x 18"		
	M6-2(↗)		DIAGONAL ARROW	21" x 15"		
26	M4-8		DETOUR	24" x 12"	1 - 4" x 6"	2
	M3-1	G28-1(880)(CA)	ROUTE 880 SHIELD	21" x 18"		
	M6-3(↑)		NORTH	24" x 12"		
27	M4-8		DETOUR	24" x 12"	1 - 4" x 6"	4
	M3-1	G28-1(880)(CA)	ROUTE 880 SHIELD	21" x 18"		
	M6-2(↗)		NORTH	24" x 12"		
28	M4-8		DETOUR	24" x 12"	1 - 4" x 6"	2
	M3-1	G28-1(880)(CA)	ROUTE 880 SHIELD	21" x 18"		
	M6-1(←)		NORTH	24" x 12"		
29	M4-8		DETOUR	24" x 12"	1 - 4" x 6"	2
	M3-3	G28-1(880)(CA)	ROUTE 880 SHIELD	21" x 18"		
	M6-3(↑)		SOUTH	24" x 12"		
30	M4-8		DETOUR	24" x 12"	1 - 4" x 6"	2
	M3-3	G28-1(880)(CA)	ROUTE 880 SHIELD	21" x 18"		
	M6-1(←)		SOUTH	24" x 12"		
31	M4-8		DETOUR	24" x 12"	1 - 4" x 6"	1
	M3-3	G28-1(880)(CA)	ROUTE 880 SHIELD	21" x 18"		
	M6-2(↗)		SOUTH	24" x 12"		
32	M4-8		DETOUR	24" x 12"	1 - 4" x 6"	1
	M3-4	G28-1(80)(CA)	ROUTE 80 SHIELD	21" x 18"		
	M6-3(↑)		WEST	24" x 12"		

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80, 84,880	Var	44	136

6-2-16
 REGISTERED CIVIL ENGINEER DATE
 Rachel Liu
 No. 74807
 Exp. 12-31-17
 CIVIL
 STATE OF CALIFORNIA

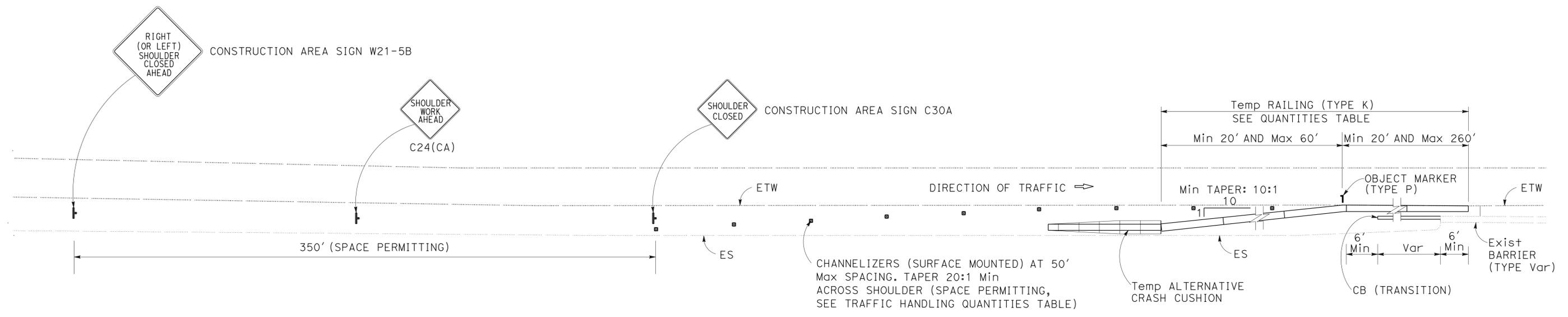
6-20-16
 PLANS APPROVAL DATE

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

CONSTRUCTION AREA SIGNS CS-18

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80, 84,880	Var	45	136
<i>Patrick Yip</i> REGISTERED CIVIL ENGINEER			6-3-16 DATE	Patrick Yip No. 44277 Exp. 6-30-17 CIVIL	
6-20-16 PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

THANH NGUYEN	REVISOR	TN
KAN YU	DATE REVISED	3-23-16
CALCULATED/DESIGNED BY	CHECKED BY	
FUNCTIONAL SUPERVISOR	GEORGE LO	
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN	



LOCATION LAYOUT

TRAFFIC HANDLING PLAN

NO SCALE

TH-1

APPROVED FOR TRAFFIC HANDLING PLAN WORK ONLY

x
x
x
x

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 FUNCTIONAL SUPERVISOR: GEORGE LO
 CALCULATED/DESIGNED BY: THANH NGUYEN
 CHECKED BY: KAN YU
 REVISIONS: TN 3-23-16
 REVISED BY: DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80,84,880	Var	47	136

6-2-16
 REGISTERED CIVIL ENGINEER DATE
 Thanh C. Nguyen
 No. 58137
 Exp. 6-30-18
 CIVIL
 6-20-16
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

ROADWAY QUANTITIES

LOCATION No.	COUNTY	ROUTE	SIDE	PM	DIRECTION	DESCRIPTION	MIDWEST GUARDRAIL SYSTEM STANDARD PLAN LAYOUT *													FIELD NOTES																
							EA	LF	LB	TON	LF		EA		LF		EA		LF	SQYD	EA	LF		EA	LF											
24	Ala	13	R+	R9.0	SB	ON-RAMP FROM BROADWAY TERRACE	12C	2	56	672							1	5.63		50	1				1	63										SEE DETAIL B, SHEET C-1 AND STRUCTURE SHEET 5
25	Ala	13	R+	R9.20	NB	ON-RAMP FROM BROADWAY TERRACE	12B	5	118	1416										56.25	1			1	112.4	2									SEE DETAIL HF, SHEET C-8 AND STRUCTURE SHEET 30	
26	Ala	13	L+	R9.52	NB	CONNECTOR FROM NB Rte 13 TO EB Rte 24 (Br No. 33-0377G)	12A	4	53	636										28.12	1					45.89									SEE DETAIL P, SHEET C-19 AND STRUCTURE SHEET 20	
27	Ala	13	R+	R9.58	NB	500' SOUTH OF BROADWAY OC	12A	2	49	588											1			1	24.11	2								SEE DETAIL M, SHEET C-17 AND STRUCTURE SHEET 8		
28	Ala	13	R+	R9.58	NB	BENEATH BROADWAY OC (Br No. 33-0376)	12D	2	53	636	0.6	53		53						28.12	1					45.89									SEE DETAIL JA, SHEET C-14 AND STRUCTURE SHEET 8	
29	Ala	13	L+	R9.58	SB	100' SOUTH OF BROADWAY OC	12B	2	53	636										28.12	1					45.89	1								SEE DETAIL K, SHEET C-15 AND STRUCTURE SHEET 16	
29A	Ala	13	L+	R9.58	NB	100' SOUTH OF BROADWAY OC	12B	2	28	318										28.12						23									SEE DETAIL K, SHEET C-15 AND STRUCTURE SHEET 16	
30	Ala	13	L+	R9.62	SB	1000' NORTH OF Jct Rte 24/Rte 13		2	27	324													1			21									SEE DETAIL FA, SHEET C-4	
						SUBTOTAL (Rte 13)		92	2210	26502	9	822		63	759	12	28	195		1768.73	27	2	2	1	12	10	2830	11		537.4	2900	28	280			
31	Ala	24	L+	R4.98	WB	AT THE BEGIN OF CONNECTOR FROM WB Rte 24 TO SB Rte 13 Sep 33-0607F	12A	2	53	636										28.12	1					45.89	3								SEE DETAIL P, SHEET C-19 AND STRUCTURE SHEET 11	
32	Ala	24	R+	R4.98	SB	AT THE END OF CONNECTOR FROM WB Rte 24 TO SB Rte 13 Sep 33-0607F	12B	4	113	1356	0.85	75		75	1	1	5			50	1			1	103.1										SEE DETAIL HC, SHEET C-7	
33	Ala	24	R+	R4.83	EB	AT THE BEGIN OF CONNECTOR FROM EB Rte 24 TO SB Rte 13	12B	3	53	636	0.6	53		53						28.12	1					45.89									SEE DETAIL JA, SHEET C-14 AND STRUCTURE SHEET 17	
34	Ala	24	R+	R4.83	EB	AT THE BEGIN OF CONNECTOR FROM EB Rte 24 TO SB Rte 13	12B	3	83	996										18.75	1			1				10	10						SEE DETAIL EA, SHEET C-3 AND STRUCTURE SHEET 14	
35	Ala	24	R+	R5.12	WB	AT Jct Rte 24/Rte 13 (Br No. 33-0378)	12B	3	63	756	0.69	88		63	25	1	1							1	73	1									SEE DETAIL IB, SHEET C-10 AND STRUCTURE SHEET 18 AND 19	
36	Ala	24	R+	R5.89	EB	EB Rte 24 AT THE BEGIN OF CALDECOTT TUNNEL (BORE #1)		4	88	1056			50								200	10														SEE DETAIL D, SHEET C-2 AND STRUCTURE SHEETS 28 AND 29
						SUBTOTAL (Rte 24)		19	453	5436	2.14	216	50	63	153	3	5	12.5	200	10	125	5			3	268	4	10	10		600	5	50			
37	Ala	80	R+	3.14	WB	UNDER BAY BRIDGE HOV Sep (Br No. 33-0601)	12B	10	200	2400											137.5	1			1	186									SEE DETAIL HH, SHEET C-9 AND STRUCTURE SHEET 31	
38	Ala	80	R+	3.79	EB	POWELL ST UC (Br No. 33-0020)	12B	6	118	1416	0.92	81		81	1	1	5.63			56.25	1			1	107.7										SEE DETAIL HB-2, SHEET C-6	
39	Ala	80	R+	3.79	WB	ON-RAMP FROM POWELL ST UC (Br No. 33-0020)	12B	8	198	2376	0.41	63		63							137.5	1			1	173.8										SEE DETAIL IF, SHEET C-13
						SUBTOTAL (Rte 80)		24	516	6192	1.32	144		63	81	3	3	33.1		337.25	3			3	467.9											
40	Ala	84	R+	R0.73	WB	AT THE BEGIN OF DUMBARTON BRIDGE WESTBOUND	12B	4	63	756														1	73	1									SEE DETAIL LB, SHEET C-16 AND STRUCTURE SHEET 13	
						SUBTOTAL (Rte 84)		4	63	756														1	73	1										

* FOR DETAIL NOT SHOWN, SEE S+d PLAN
 ** TYPE F
 (N) NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY

SUMMARY OF QUANTITIES Q-2

LAST REVISION: DATE PLOTTED => 23-AUG-2016 05-18-16 TIME PLOTTED => 10:52

THANH NGUYEN
 KAN YU

REVISOR BY
 DATE REVISED

3-23-16

FUNCTIONAL SUPERVISOR
 GEORGE LO

CALCULATED/DESIGNED BY
 CHECKED BY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80, 84,880	Var	48	136

6-2-16
 REGISTERED CIVIL ENGINEER DATE

6-20-16
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Thanh C. Nguyen
 No. 58137
 Exp. 6-30-18
 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.

ROADWAY QUANTITIES

LOCATION No.	COUNTY	ROUTE	SIDE	PM	DIRECTION	DESCRIPTION	MIDWEST GUARDRAIL SYSTEM STANDARD PLAN LAYOUT *																FIELD NOTES														
							EA	LF	LB	TON	LF		EA		LF		EA		LF	SQYD	EA	LF		EA	LF												
41	Ala	880	Rt	3.38	NB	AT BEGIN OF ON-RAMP FROM WB FREMONT Blvd	12B	3	63	756	0.28	25			25	1	1				1			68.83						100	1	10	7.66	SEE DETAIL IE, SHEET C-12 AND STRUCTURE SHEET 12			
42	Ala	880	Rt	3.67	SB	AT ARROYO DE LA LAGUNA CREEK, (Br No. 33-0291)	12B	5	115	1380						1	1	5			50	1		115				169	100	1	10	10.16	SEE DETAIL HH, SHEET C-9 AND STRUCTURE SHEET 12				
43	Ala	880	Rt	3.67	NB	AT ARROYO DE LA LAGUNA CREEK, (Br No. 33-0291)	12B	2	63	756						1	1	5			50	1		103.1		10	10	159					SEE DETAIL N, SHEET C-17				
45	Ala	880	Rt	25.61	NB	ON-RAMP FROM HEGENBERGER ROAD OC	12B	3	63	756						1	1					1		64.17									SEE DETAIL IG, SHEET C-13				
48	Ala	880	Rt	25.97	SB	AT ELMHURST CREEK, Br No. 33-0113	12B	4	88	1056						1	1	3			25	1		88.3	1			137	100	1	10	3.5	SEE DETAIL HH, SHEET C-9 AND STRUCTURE SHEET 9				
49	Ala	880	Lt	26.53	SB	ON FROM OAKPORT 66TH Ave AT DAMON SLOUGH (Br No. 33-0142k)		3	53	636								1	3		50.03	1		45.89				100	1	10	21.66	SEE DETAIL O, SHEET C-18 AND STRUCTURE SHEET 23, 24					
50	Ala	880	Rt	26.53	NB	AT DAMON SLOUGH, (Br No. 33-0142)	12B	3	63	756						1	1					1		73				115.5	100	1	10	3.5	SEE DETAIL LB, SHEET C-16 AND STRUCTURE SHEET 9				
SUBTOTAL (Rte 880)								23	508	6096	0.28	25			25	6	7	16			175.03	7			351.1	207	1	10	10	580.5	500	5	50				
SUBTOTAL (Rte 13)								92	2210	26502	9	822			63	759	12	28	195			1768.73	27	2	2	1	12	10	2830		11		537.4	2900	28	280	
SUBTOTAL (Rte 24)								19	453	5436	2.14	216	50	63	153	3	5	12.5	200	10	125	5				3	268		4	10	10		600	5	50		
SUBTOTAL (Rte 80)								24	516	6192	1.32	144		63	81	3	3	33.1						337.25	3			467.9				260	100	1	10		
SUBTOTAL (Rte 84)								4	63	756							1	1							1		73		1			115.5	100	1	10		
GRAND TOTAL								162	3750	44982	12.8	1207	50	189	1018	25	44	256.6	200	10	2406.01	43	2	2	1	25	10	3990	207	17	20	20	1494	4200	40	400	

* FOR DETAIL NOT SHOWN, SEE Std PLAN
 ** TYPE F
 (N) NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY

SUMMARY OF QUANTITIES Q-3

LAST REVISION DATE PLOTTED => 23-AUG-2016
 05-02-16 TIME PLOTTED => 10:52

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans LANDSCAPE ARCHITECTURE

SENIOR LANDSCAPE ARCHITECT
 LYDIA MAC

CALCULATED/DESIGNED BY
 CHECKED BY

OWEN WILLIAMS
 REBECCA CALDERON

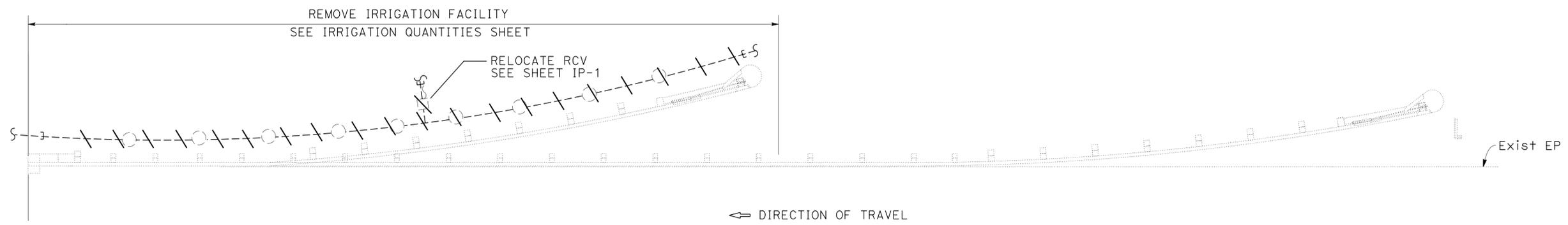
REVISED BY
 DATE REVISED

OW
 6-2-16

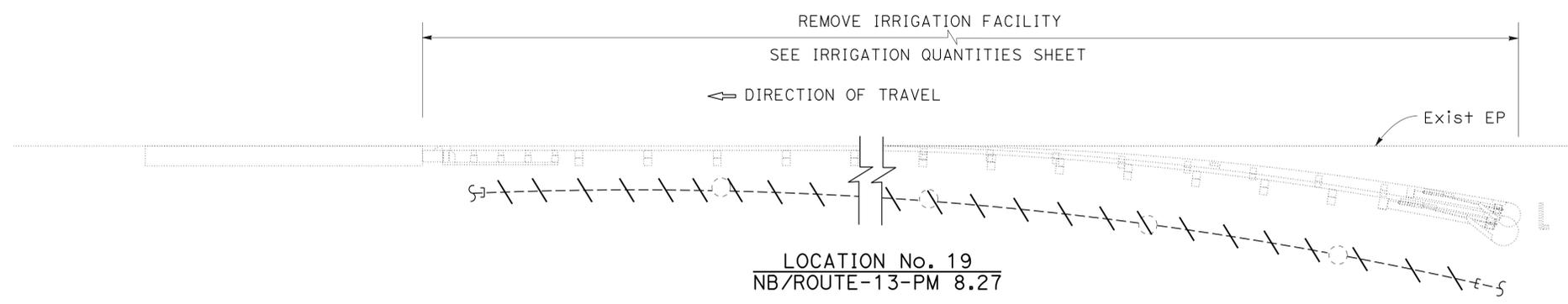
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80,84,880	Var	49	136

Owen Williams
 LICENSED LANDSCAPE ARCHITECT
 6-20-16
 PLANS APPROVAL DATE

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



LOCATION No. 15
 NB/ROUTE-13-PM 8.18



LOCATION No. 19
 NB/ROUTE-13-PM 8.27

APPROVED FOR IRRIGATION WORK ONLY

IRRIGATION REMOVAL PLAN
 NO SCALE
IR-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans LANDSCAPE ARCHITECTURE

SENIOR LANDSCAPE ARCHITECT
 LYDIA MAC

CALCULATED-DESIGNED BY
 CHECKED BY

OWEN WILLIAMS
 REBECCA CALDERON

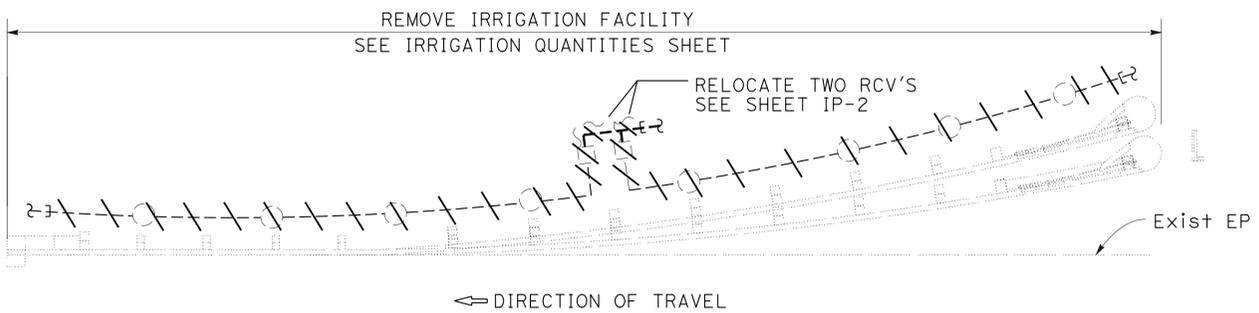
REVISED BY
 DATE REVISED

OW
 6-2-16

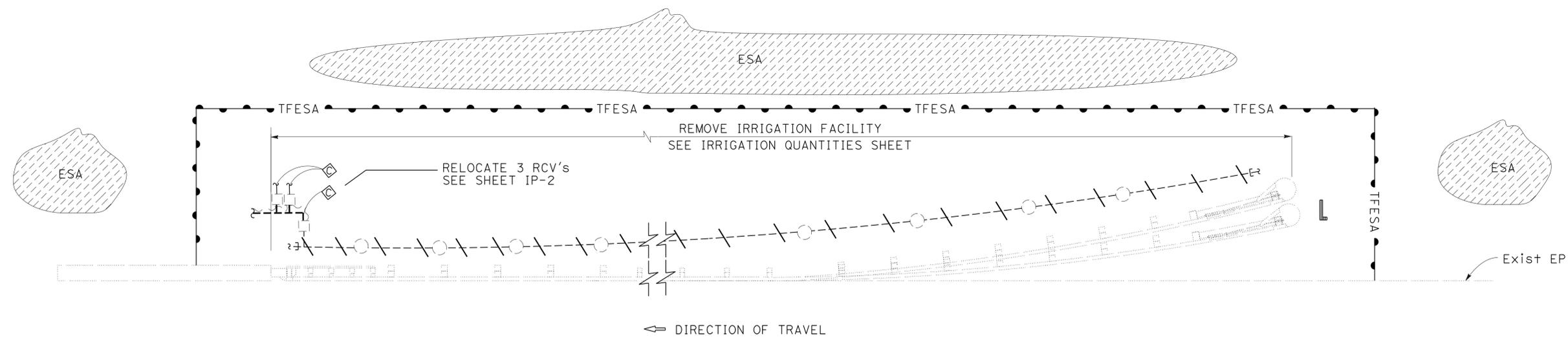
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80, 84,880	Var	50	136

Owen Williams
 LICENSED LANDSCAPE ARCHITECT
 6-20-16
 PLANS APPROVAL DATE

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



LOCATION No. 22
 NB/ROUTE-13-PM R9.18



LOCATION No. 42
 SB/ROUTE-880-PM 3.67

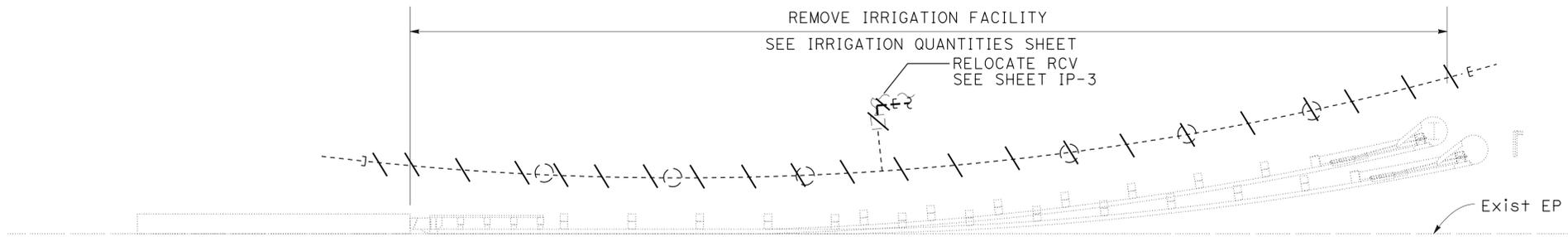
APPROVED FOR IRRIGATION WORK ONLY

IRRIGATION REMOVAL PLAN
 NO SCALE
IR-2

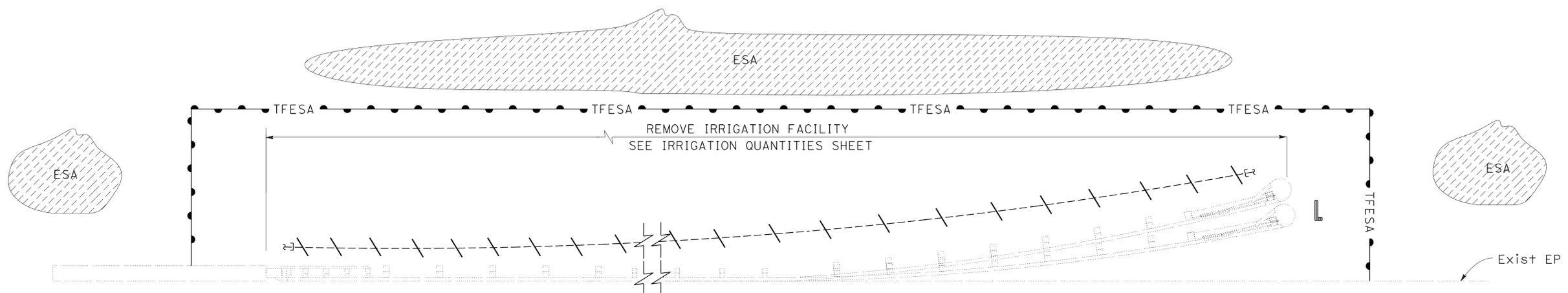
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80, 84,880	Var	51	136

Owen Williams
 LICENSED LANDSCAPE ARCHITECT
 6-20-16
 PLANS APPROVAL DATE

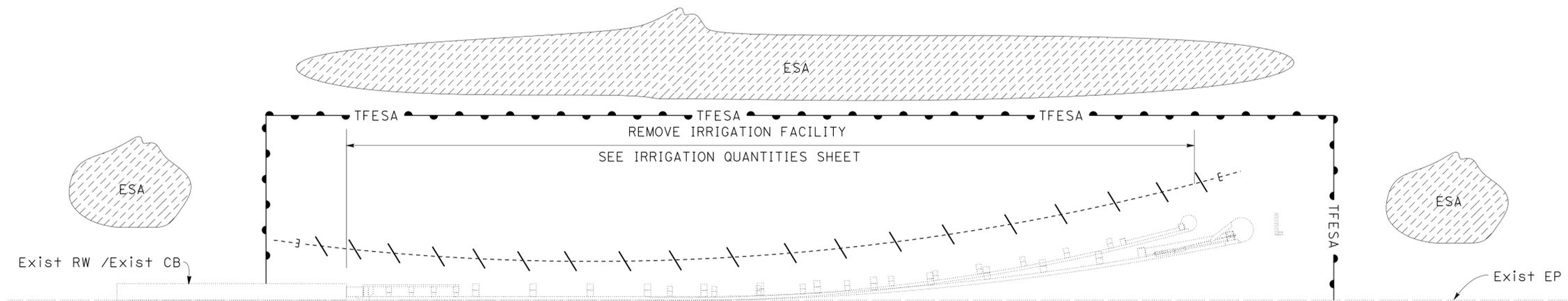
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



← DIRECTION OF TRAVEL
LOCATION No. 45
 NB/ROUTE-880-PM 25.61



← DIRECTION OF TRAVEL
LOCATION No. 48
 SB/ROUTE-880-25.97



← DIRECTION OF TRAVEL
LOCATION No. 50
 NB/ROUTE-880-PM 26.53

IRRIGATION REMOVAL PLAN
 IR-3

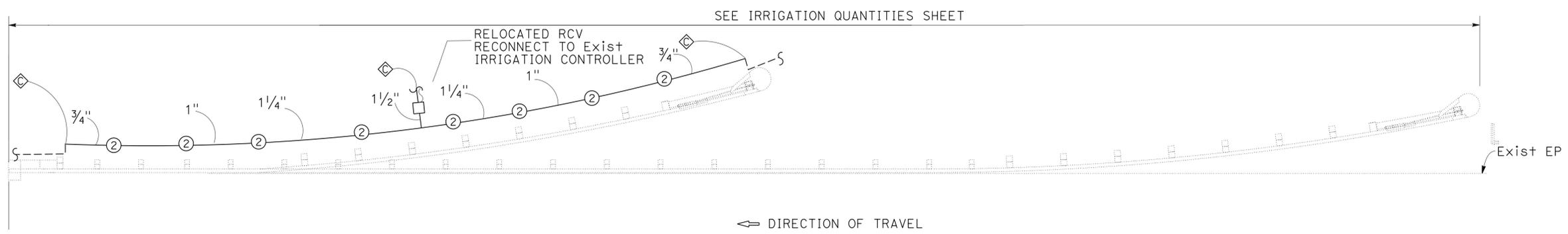
APPROVED FOR IRRIGATION WORK ONLY

NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	OWEN WILLIAMS	REVISOR	DATE
LANDSCAPE ARCHITECTURE	REBECCA CALDERON	BY	6-2-16
SENIOR LANDSCAPE ARCHITECT		REVISION	
LYDIA MAC			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80, 84,880	Var	52	136

 LICENSED LANDSCAPE ARCHITECT 6-20-16 PLANS APPROVAL DATE		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>		



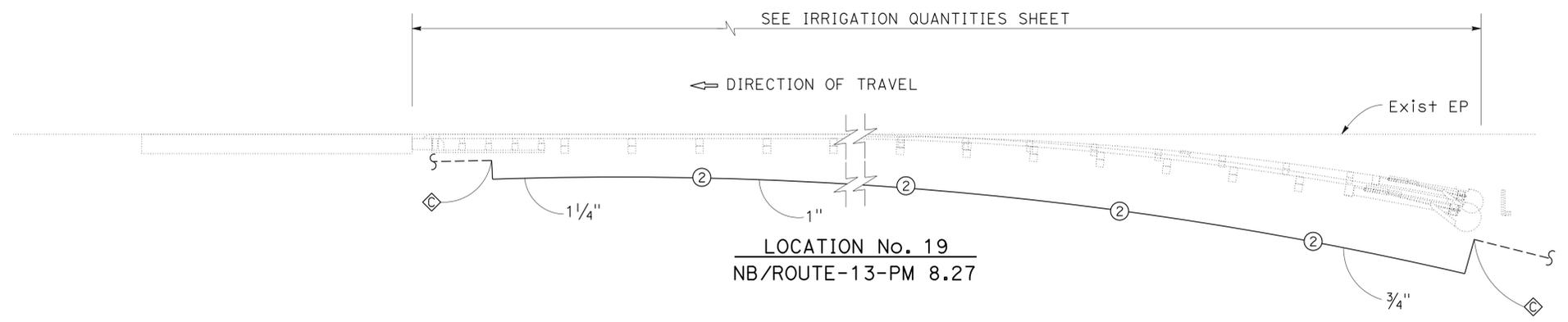
LOCATION No. 15
NB/ROUTE-13-PM 8.18

LEGEND:

- ② POP-UP SPRINKLER ASSEMBLY
- RISER SPRINKLER ASSEMBLY

NOTES:

1. VERIFY FIELD LOCATION OF VALVES AND SPRINKLERS WITH ENGINEER BEFORE INSTALLATION.
2. VERIFY SPRINKLER ASSEMBLY DISCHARGE RATE, ARC PATTERN RADIUS AND POP-UP HEIGHT WITH ENGINEER BEFORE INSTALLATION.



LOCATION No. 19
NB/ROUTE-13-PM 8.27

IRRIGATION PLAN
NO SCALE

IP-1

APPROVED FOR IRRIGATION WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	OWEN WILLIAMS	REVISOR	DATE
Caltrans LANDSCAPE ARCHITECTURE	REBECCA CALDERON	DATE	6-2-16
SENIOR LANDSCAPE ARCHITECT		CHECKED BY	
LYDIA MAC		DESIGNED BY	

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans LANDSCAPE ARCHITECTURE

SENIOR LANDSCAPE ARCHITECT
 LYDIA MAC

CALCULATED-DESIGNED BY
 CHECKED BY

OWEN WILLIAMS
 REBECCA CALDERON

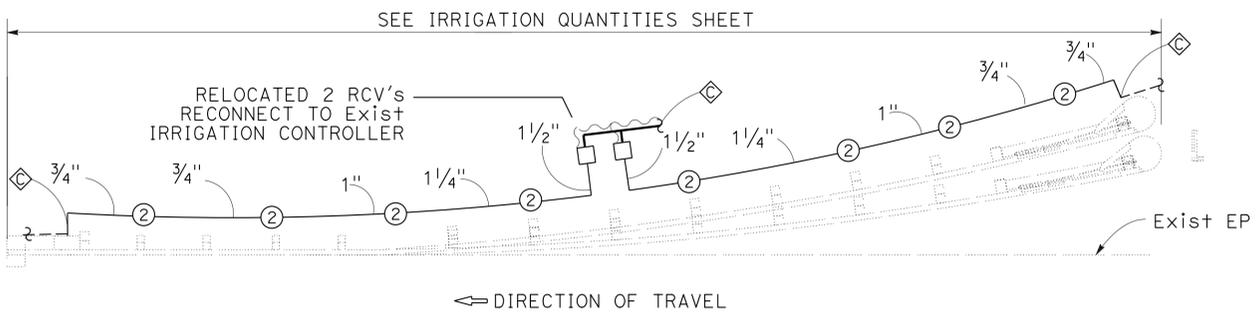
REVISED BY
 DATE REVISED

OW
 6-2-16

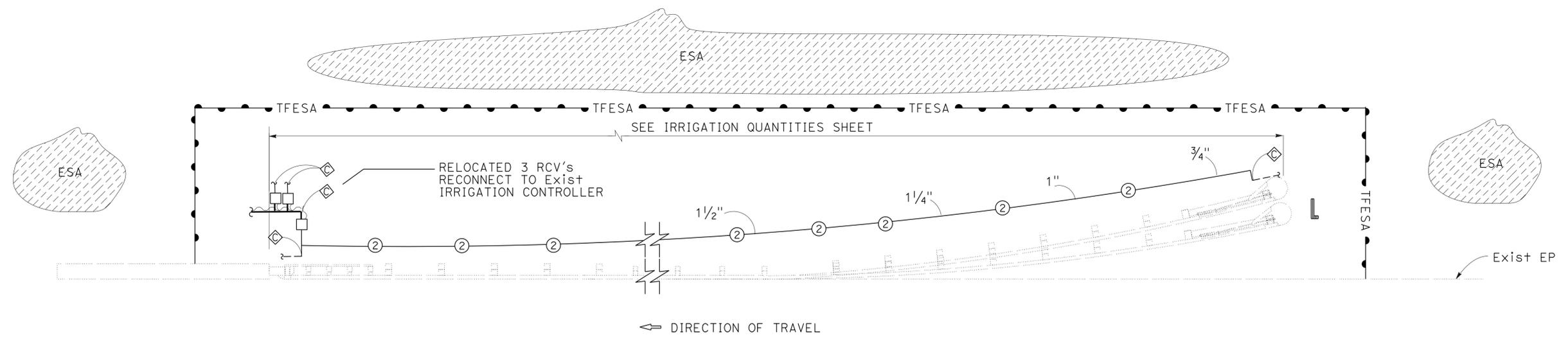
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80, 84,880	Var	53	136

Owen Williams
 LICENSED LANDSCAPE ARCHITECT
 6-20-16
 PLANS APPROVAL DATE

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



LOCATION No. 22
 NB/ROUTE-13-PM R9.18



LOCATION No. 42
 SB/ROUTE-880-PM 3.67

APPROVED FOR IRRIGATION WORK ONLY

FOR NOTES AND LEGEND, SEE SHEET IP-1

IRRIGATION PLAN
 NO SCALE
IP-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans LANDSCAPE ARCHITECTURE

SENIOR LANDSCAPE ARCHITECT
 LYDIA MAC

CALCULATED/DESIGNED BY
 CHECKED BY

OWEN WILLIAMS
 REBECCA CALDERON

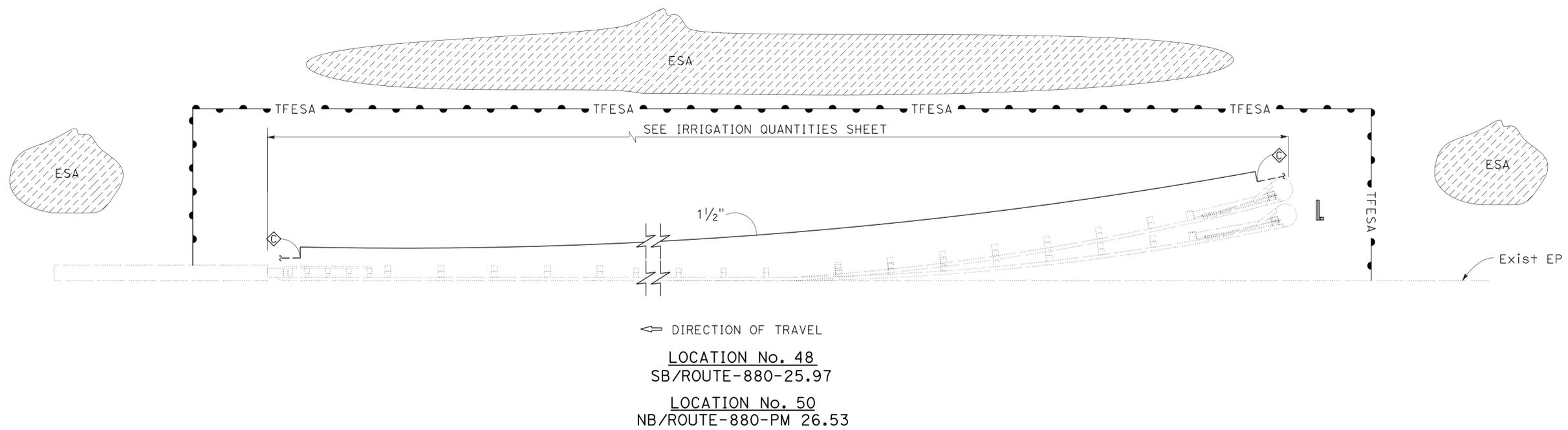
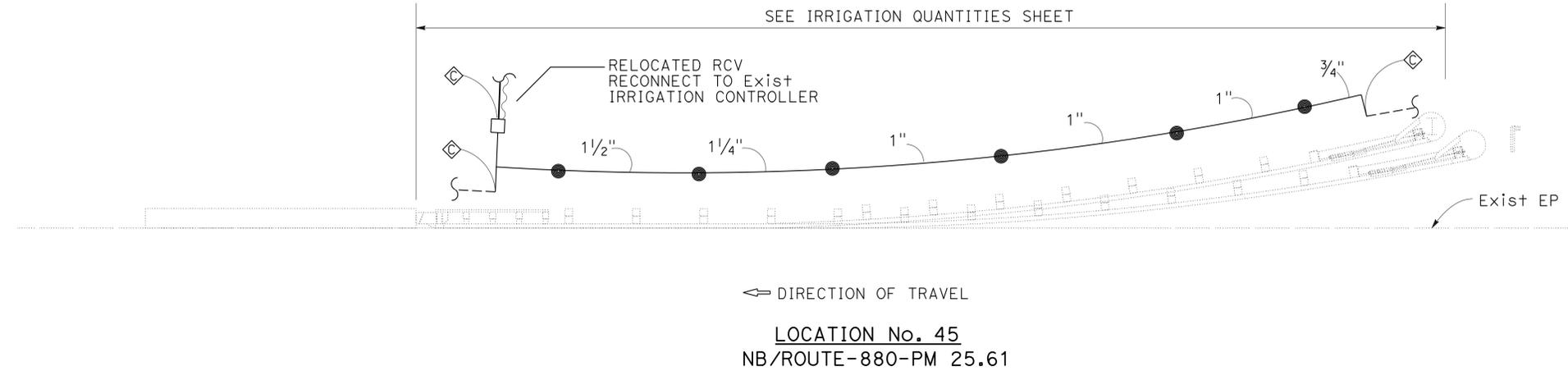
REVISED BY
 DATE REVISED

OW
 6-2-16

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80, 84,880	Var	54	136

Owen Williams
 LICENSED LANDSCAPE ARCHITECT
 6-20-16
 PLANS APPROVAL DATE

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



APPROVED FOR IRRIGATION WORK ONLY

FOR NOTES AND LEGEND, SEE SHEET IP-1

IRRIGATION PLAN
IP-3
 NO SCALE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80, 84,880	Var	55	136

Owen Williams
 LICENSED LANDSCAPE ARCHITECT
 6-20-16
 PLANS APPROVAL DATE

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

IRRIGATION QUANTITIES

LOCATION No.	DIRECTION/ ROUTE	PM	LEFT OR RIGHT SHOULDER	DESCRIPTION	RELOCATE VALVE	REMOVE IRRIGATION FACILITIES		PLASTIC PIPE (SCH 40) IRRIGATION SUPPLY LINE				SPRINKLER ASSEMBLY		
						(N) IRRIGATION SUPPLY LINE	(N) SPRINKLER ASSEMBLY	3/4"	1"	1-1/4"	1-1/2"	RISER TYPE V	POP-UP TYPE II	SPACING*
						EA	LF	EA	LF				EA	EA
15	NB/13	8.18	RIGHT	100' SOUTH OF MORAGA Ave	1	80	8	20	60	10	10	-	10	12
19	NB/13	8.27	LEFT	MORAGA Ave UC (Br No. 33-0227R)	-	40	4	20	30	10	-	-	6	30
22	NB/13	8.18	RIGHT	ON-RAMP FROM BROADWAY TERRACE	2	80	8	20	60	10	10	-	10	12
42	SB/880	3.67	RIGHT	AT ARROYO DE LA LAGUNA CREEK (Br No. 33-0291)	3	80	8	20	60	10	10	-	10	-
45	NB/880	25.61	RIGHT	ON-RAMP FROM SB HEGENBERGER Rd	1	60	6	20	60	10	10	6	-	15
48	SB/880	25.97	RIGHT	AT ELMHURST CREEK (Br No. 33-0113)	-	60	-	-	-	-	60	-	-	-
50	NB/880	26.53	RIGHT	AT DAMON SLOUGH (Br No. 33-0142S)	-	60	-	-	-	-	60	-	-	-
TOTAL					7			100	270	50	160	6	36	

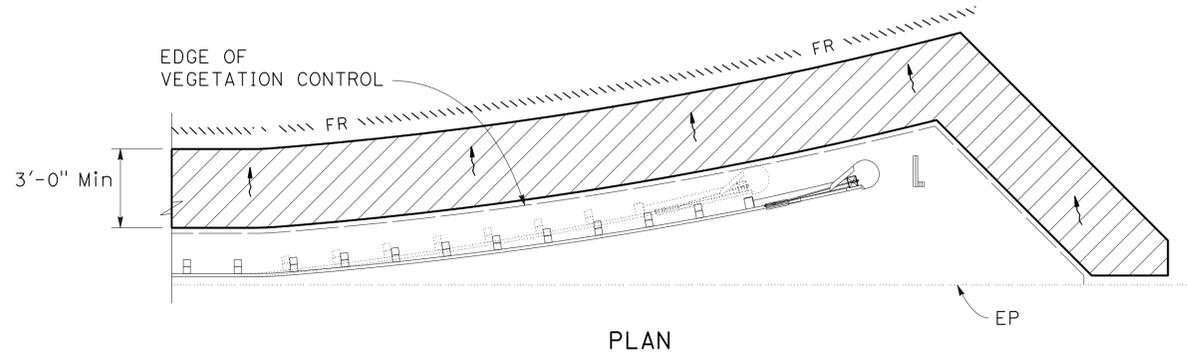
(N) NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY
 * APPROXIMATE ON CENTER SPACING

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans LANDSCAPE ARCHITECTURE
 SENIOR LANDSCAPE ARCHITECT
 LYDIA MAC
 OWEN WILLIAMS
 LYDIA MAC
 REVISOR BY
 DATE REVISED
 6-2-16
 OWEN WILLIAMS
 6-2-16

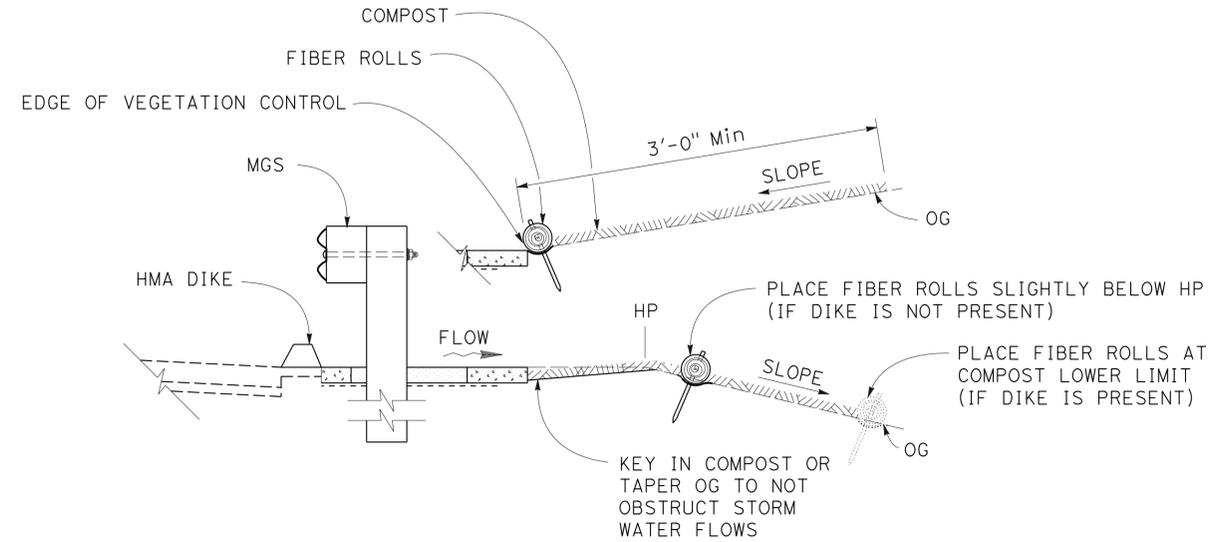
LAST REVISION DATE PLOTTED => 23-AUG-2016 10:52
 04-19-16 TIME PLOTTED => 10:52

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - WATER QUALITY
 Et Caltrans®
 SENIOR LANDSCAPE ARCHITECT: DAVID YAM
 CALCULATED/DESIGNED BY: CHECKED BY:
 SALLY BANG: ANGELA KWAN
 REVISED BY: DATE REVISED:
 SB: 6-2-16

LEGEND:



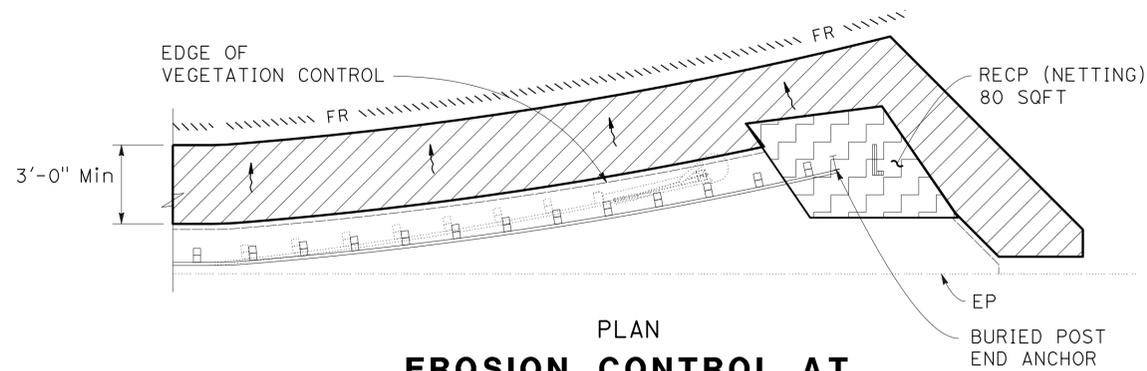
PLAN



SECTION

EROSION CONTROL AT VEGETATION CONTROL (MINOR CONCRETE)

ALTERNATIVE FLARED TERMINAL SYSTEM (EMBANKMENT CONDITION) SHOWN.
 EXTEND EROSION CONTROL PAST VEGETATION CONTROL LIMITS AS NEEDED FOR HMA DIKE WORK



PLAN

EROSION CONTROL AT BURIED END POST ANCHOR

(EMBANKMENT CONDITION) SHOWN.
 RECP (NETTING) KEY TRENCH REQUIRED ON ALL SIDES EXCEPT WHERE VEGETATION CONTROL OCCURS

EROSION CONTROL

SEQUENCE	ITEM	MATERIAL		APPLICATION RATE	DEPTH	REMARKS
		DESCRIPTION	TYPE			
STEP 1	RECP (NETTING)	COIR	TYPE B	-	-	
STEP 2	FIBER ROLL	RICE STRAW	8 TO 10 INCHES IN Dia	-	-	INSTALLATION TYPE 1
STEP 3	COMPOST	COMPOST	COARSE	404 CY/ACRE	3"	MAY BE SUBSTITUTED WITH TREE TRIMMING WOOD MULCH

EROSION CONTROL LEGEND AND DETAILS
 NO SCALE

ECL-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80 84,880	Var	57	136

Sally Bang
 LICENSED LANDSCAPE ARCHITECT
 6-20-16
 PLANS APPROVAL DATE

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

EROSION CONTROL QUANTITIES

Loc No.	COUNTY	ROUTE	SIDE	PM	DIRECTION	PROJECT WORK Loc	DESCRIPTION	COMPOST	RECP (NETTING)	FIBER ROLLS	COMMENTS
								SQFT			
1	Ala	13	R+	4.47	SB		OFF-RAMP TO CALAVERAS Ave	300		100	
2	Ala	13	R+	4.48	NB		ON-RAMP FROM MOUNTAIN Blvd	390		130	
3	Ala	13	L+	5.01	NB		CARSON St UC (Br No. 33-0105)	120		40	
4	Ala	13	R+	5.39	SB		REDWOOD Rd OC (Br No. 33-0147)	630		210	
5	Ala	13	R+	5.48	NB		ON-RAMP FROM REDWOOD Rd (Br No. 33-0147)	570		190	
6	Ala	13	R+	5.58	NB		ON-RAMP FROM MOUNTAIN Blvd	390	80	130	BURIED END POST
7	Ala	13	R+	6.20	NB		SOUTH OF LINCOLN Ave OC	360	80	120	BURIED END POST
8	Ala	13	R+	6.47	NB		ON-RAMP FROM JOAQUIN MILLER Rd	360	80	120	BURIED END POST
9	Ala	13	R+	6.47	SB		LINCOLN AVE OC (Br No. 33-0247)	360	80	120	BURIED END POST
10	Ala	13	R+	6.47	NB		LINCOLN AVE OC (Br No. 33-0247)	360	80	120	BURIED END POST
11	Ala	13	R+	7.39	NB		ON-RAMP FROM MOUNTAIN Blvd (Br No. 33-0159)	360	80	120	BURIED END POST
12	Ala	13	R+	7.4	SB		PARK Blvd OC (Br No. 33-0159)	360	80	120	BURIED END POST
13	Ala	13	R+	7.76	SB		LA SALLE Ave OC (Br No. 33-0160)	360	80	120	BURIED END POST
14	Ala	13	R+	7.91	SB		BRUNS Dr POC (Br No. 33-0244)	500	80	170	BURIED END POST
15	Ala	13	R+	8.18	NB		100' SOUTH OF MORAGA Ave UC	2250		750	
16	Ala	13	R+	8.27	NB		ON-RAMP FROM MORAGA Ave UC (Br No. 33-0227R)	300		100	
17	Ala	13	R+	8.27	NB		MORAGA Ave UC (Br No. 33-0227R)	200		70	
18	Ala	13	R+	8.27	SB		MORAGA Ave UC (Br No. 33-0227L)	500		170	
19	Ala	13	L+	8.27	NB		MORAGA Ave UC (Br No. 33-0227R)	500		170	
20	Ala	13	R+	9.07	NB		BROADWAY TERRACE UC (Br No. 33-0162)	500		170	
21	Ala	13	R+	9.07	SB		BROADWAY TERRACE UC (Br No. 33-0162)	500		170	
22	Ala	13	R+	R9.18	NB		ON-RAMP FROM BROADWAY TERRACE	480		160	
23	Ala	13	R+	R9.2	SB		OFF-RAMP TO BROADWAY TERRACE	200		70	
SUBTOTAL								10,850	720	3640	

EROSION CONTROL QUANTITIES

ECQ-1



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80 84,880	Var	58	136

Sally Bang
 LICENSED LANDSCAPE ARCHITECT
 6-20-16
 PLANS APPROVAL DATE

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

EROSION CONTROL QUANTITIES

PROJECT WORK Loc						DESCRIPTION	COMPOST		FIBER ROLLS	COMMENTS
Loc No.	COUNTY	ROUTE	SIDE	PM	DIRECTION		RECP	(NETTING)		
							SQFT	LF		
24	Ala	13	R+	R9.0	SB	ON-RAMP FROM BROADWAY TERRACE	285	80	95	BURIED END POST
25	Ala	13	R+	R9.40	NB	ON-RAMP FROM BROADWAY TERRACE	510		170	
26	Ala	13	L+	R9.52	NB	CONNECTOR FROM NB Rte 13 TO EB Rte 24 (Br No. 33-0377G)	210		70	
27	Ala	13	R+	R9.58	NB	500' SOUTH OF BROADWAY OC	100		35	
28	Ala	13	R+	R9.58	NB	BENEATH BROADWAY OC (Br No. 33-0376)	210		70	
29	Ala	13	L+	R9.58	SB	100' SOUTH OF BROADWAY OC	210		70	
29A	Ala	13	L+	R9.58	NB	100' SOUTH OF BROADWAY OC	210		70	
30	Ala	13	L+	R9.62	SB	1000' NORTH OF JUNCTION Rte 24/Rte 13	100		30	
31	Ala	24	L+	R4.98	WB	AT THE BEGIN OF CONNECTOR FROM WB Rte 24 TO SB Rte 13 Sep (Br No. 33-0607F)	210		70	
32	Ala	24	R+	R4.98	SB	AT THE END OF CONNECTOR FROM WB Rte 24 TO SB Rte 13 Sep (Br No. 33-0607F)	450		150	
33	Ala	24	R+	R4.83	EB	AT THE BEGIN OF CONNECTOR FROM EB Rte 24 TO SB Rte 13	210		70	
35	Ala	24	R+	R5.12	WB	AT JUNCTION Rte 24/Rte 13 (Br No. 33-0378)	300		100	
37	Ala	80	R+	3.14	WB	UNDER BAY BRIDGE HOV Sep (Br No. 33-0601)	780		260	
38	Ala	80	R+	3.79	EB	POWELL ST UC (Br No. 33-0020)	480		160	
39	Ala	80	R+	3.79	WB	ON-RAMP FROM POWELL ST UC (Br No. 33-0020)	780		260	
40	Ala	84	R+	RO.73	WB	AT THE BEGIN OF DUMBARTON BRIDGE WB	300		100	
41	Ala	880	R+	3.38	NB	AT THE BEGIN OF ON-RAMP FROM WB FREMONT Blvd	300		100	
42	Ala	880	R+	3.67	SB	AT ARROYO DE LA LAGUNA CREEK, (Br No. 33-0291)	480		160	
43	Ala	880	R+	3.67	NB	AT ARROYO DE LA LAGUNA CREEK, (Br No. 33-0291)	450		150	
45	Ala	880	R+	25.61	NB	ON-RAMP FROM HEGENBERGER Rd OC	285		95	
SUBTOTAL							6860	80	2285	
GRAND TOTAL							17,710	800	5925	

EROSION CONTROL QUANTITIES

ECQ-2



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	GIZACHEW MERID	REVISED BY	GM
Caltrans	PARVIZ BOOZARFOUR	CHECKED BY	JOHN PRESENTATION	DATE	3-8-16
ELECTRICAL					

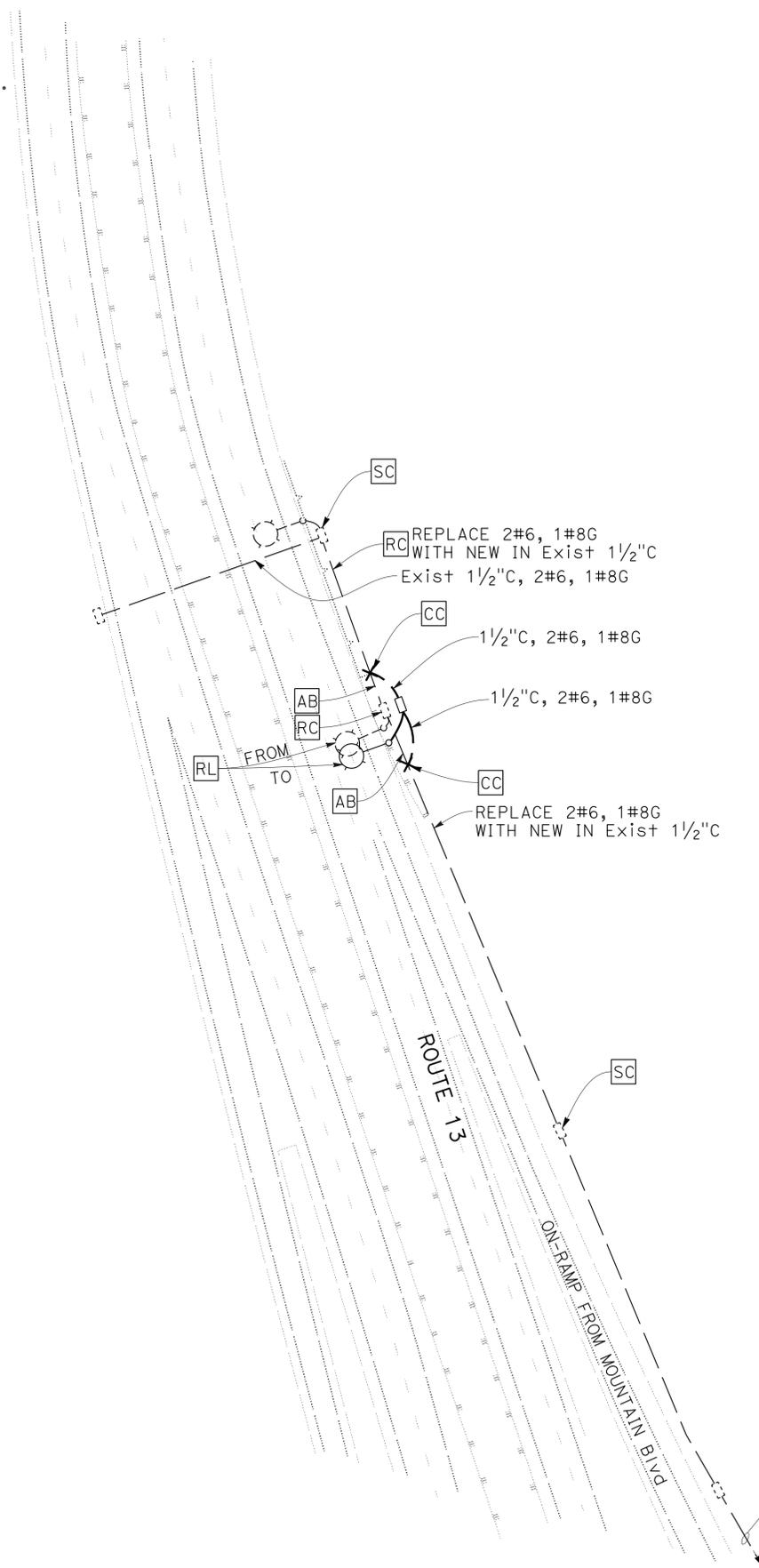
NOTE:

RIGHT OF WAY LIMITS ARE INDETERMINATE, AND ARE NOT SHOWN. THE CONTRACTOR MUST CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE FOR CONDITIONS OF USE PRIOR TO COMMENCING WORK.

NOTE: (FOR ALL ELECTRICAL SHEETS)

PULL BOXES AND LIGHT POLE FOUNDATIONS MUST BE 4' AWAY FROM THE EDGES OF MGS.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80, 84,880	Var	59	136
			5-26-16		
REGISTERED ELECTRICAL ENGINEER			DATE		
6-20-16			PLANS APPROVAL DATE		
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					



TO EXISTING TYPE III-AF SERVICE EQUIPMENT ENCLOSURE No. 0433-013-0006001 (120/240 V)
IT IS LOCATED AT THE INTERSECTION OF CALAVERAS Ave AND MOUNTAIN Blvd

LOCATION No. 2

MODIFYING LIGHTING SYSTEM
APPROVED FOR ELECTRICAL WORK ONLY

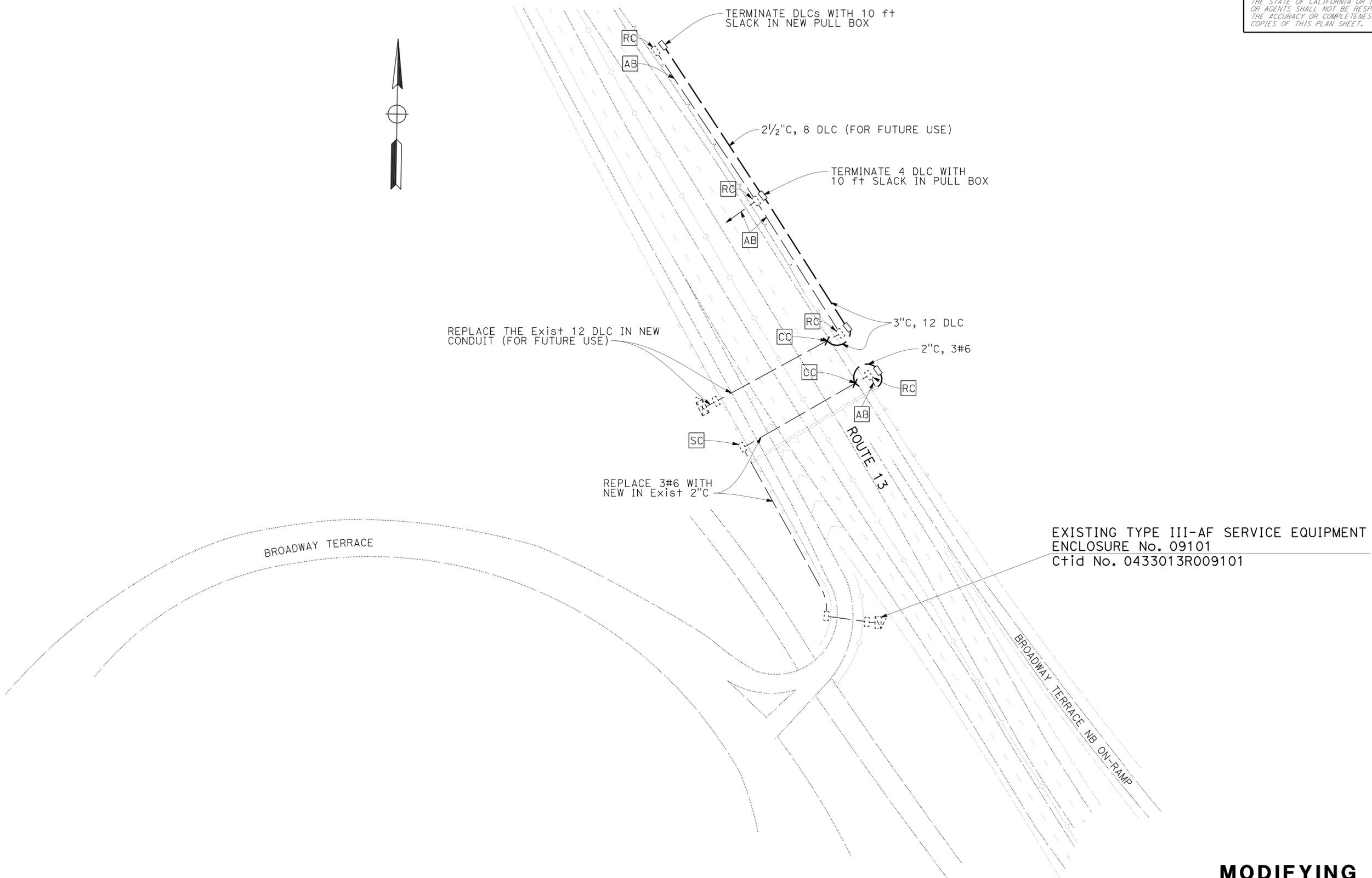
MODIFYING EXISTING ELECTRICAL SYSTEM
NO SCALE

E - 1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	ELECTRICAL	FUNCTIONAL SUPERVISOR	REVISOR	DATE
		PARVIZ BOOZARPOUR	CM	3-8-16
		CALCULATED/DESIGNED BY	REVISOR	DATE
		CHECKED BY	GIZACHEW MERID	JOHN PRESENTATION

NOTE:

RIGHT OF WAY LIMITS ARE INDETERMINATE, AND ARE NOT SHOWN. THE CONTRACTOR MUST CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE FOR CONDITIONS OF USE PRIOR TO COMMENCING WORK.



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80, 84,880	Var	60	136
			REGISTERED ELECTRICAL ENGINEER	DATE	
			Gizachew Merid	5-26-16	
			PLANS APPROVAL DATE		
				6-20-16	
<p>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.</p>					



LOCATION No. 25

MODIFYING TRAFFIC MONITORING STATION
APPROVED FOR ELECTRICAL WORK ONLY

MODIFYING EXISTING ELECTRICAL SYSTEM
NO SCALE

E-2

LAST REVISION DATE PLOTTED => 23-AUG-2016 05-20-16 TIME PLOTTED => 10:52

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION Caltrans ELECTRICAL	FUNCTIONAL SUPERVISOR PARVIZ BOOZARPOUR	CALCULATED-DESIGNED BY CHECKED BY	GIZACHEW MERID JOHN PRESENTATION	REVISED BY DATE REVISED	GM 3-8-16

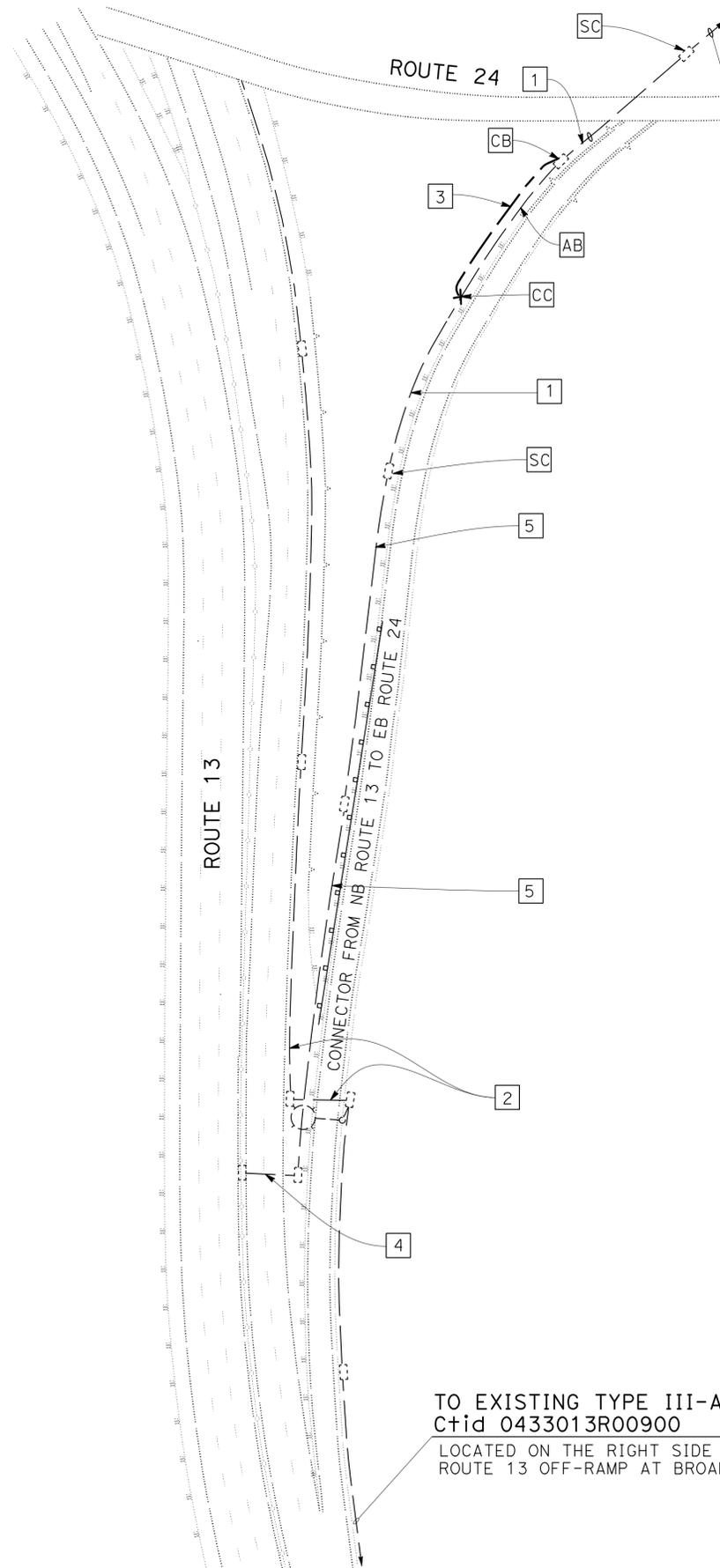
NOTE:

RIGHT OF WAY LIMITS ARE INDETERMINATE, AND ARE NOT SHOWN. THE CONTRACTOR MUST CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE FOR CONDITIONS OF USE PRIOR TO COMMENCING WORK.



LEGEND: (THIS SHEET ONLY)

- 1 REPLACE 3#8, 2#10, 1#8G WITH NEW IN EXISTING 2"C
- 2 EXISTING 2"C, 2#6, 4#10
- 3 2"C, 3#8, 2#10, 1#8G
- 4 EXISTING 1 1/2"C, 2 DLC
- 5 EXISTING 2"C, 3#8, 2#10, 1#8G



TO EXISTING TYPE III-AF SERVICE EQUIPMENT ENCLOSURE No. 05493
Ctid 0433024R005493

LOCATED BY THE SHOULDER OF EASTBOUND
ROUTE 24 BEFORE KEY Ave OVERPASS

TO EXISTING TYPE III-AF SERVICE EQUIPMENT ENCLOSURE No. 09101
Ctid 0433013R00900

LOCATED ON THE RIGHT SIDE OF
ROUTE 13 OFF-RAMP AT BROADWAY TERRACE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80, 84,880	Var	61	136
			5-26-16		
			REGISTERED ELECTRICAL ENGINEER DATE		
			6-20-16		
			PLANS APPROVAL DATE		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

LOCATION No. 26

MODIFYING TRAFFIC MONITORING STATION

APPROVED FOR ELECTRICAL WORK ONLY

FOR NOTE, SEE SHEET E-1

MODIFYING EXISTING ELECTRICAL SYSTEM

NO SCALE

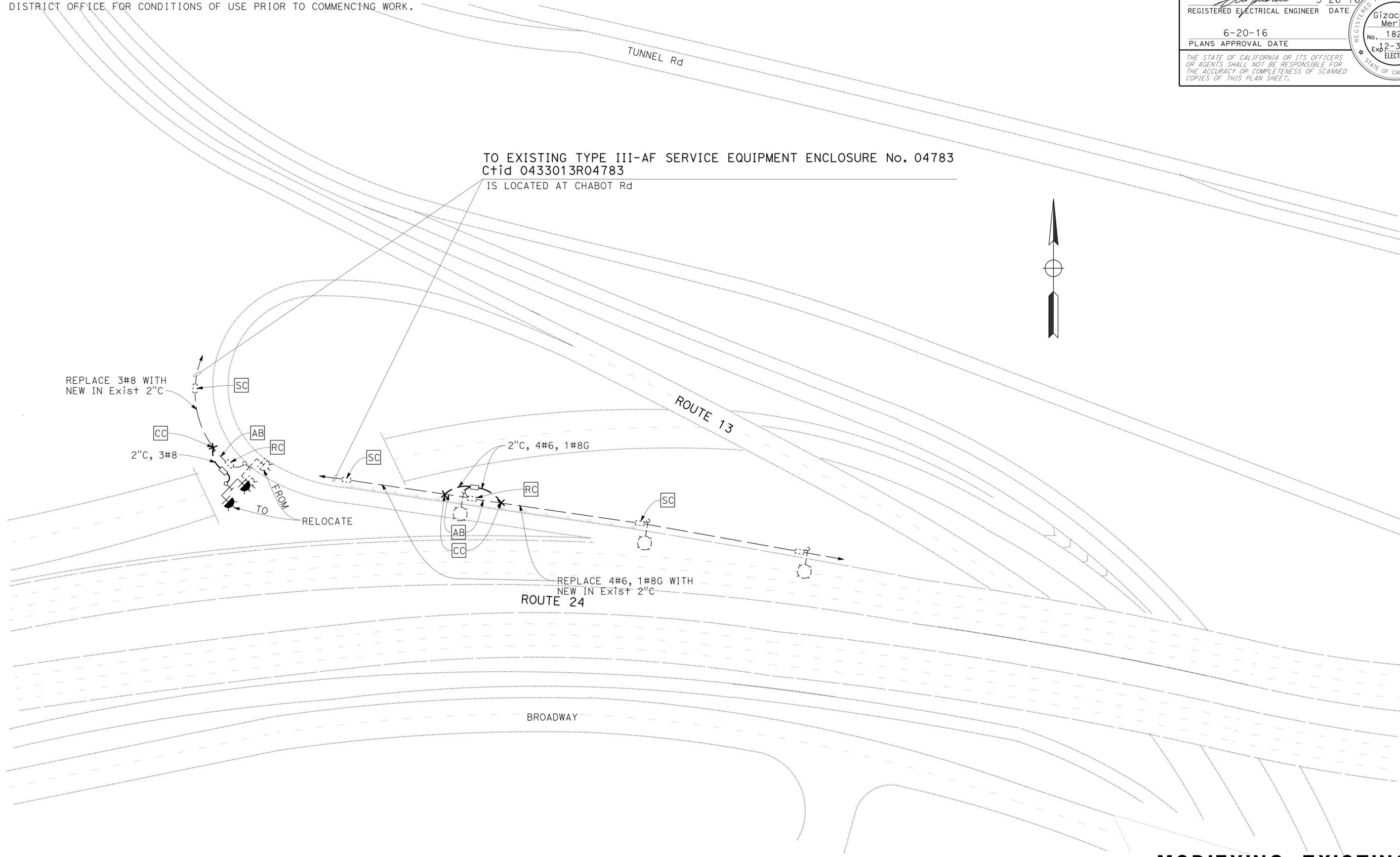
E-3



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80, 84,880	Var	62	136
 REGISTERED ELECTRICAL ENGINEER			5-26-16	DATE	
6-20-16 PLANS APPROVAL DATE					
					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

NOTE:
 RIGHT OF WAY LIMITS ARE INDETERMINATE, AND ARE NOT SHOWN.
 THE CONTRACTOR MUST CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE FOR CONDITIONS OF USE PRIOR TO COMMENCING WORK.

CM	3-8-16
REVISOR	DATE
GIZACHEW MERID	JOHN PRESENTATION
CALCULATED/DESIGNED BY	CHECKED BY
FUNCTIONAL SUPERVISOR	PARVIZ BOOZARPOUR
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	ELECTRICAL



TO EXISTING TYPE III-AF SERVICE EQUIPMENT ENCLOSURE No. 04783
 Ctid 0433013R04783
 IS LOCATED AT CHABOT Rd



LOCATION No. 31

MODIFYING FLASHING BEACON SYSTEM

APPROVED FOR ELECTRICAL WORK ONLY

FOR NOTE, SEE SHEET E-1

MODIFYING EXISTING ELECTRICAL SYSTEM

NO SCALE

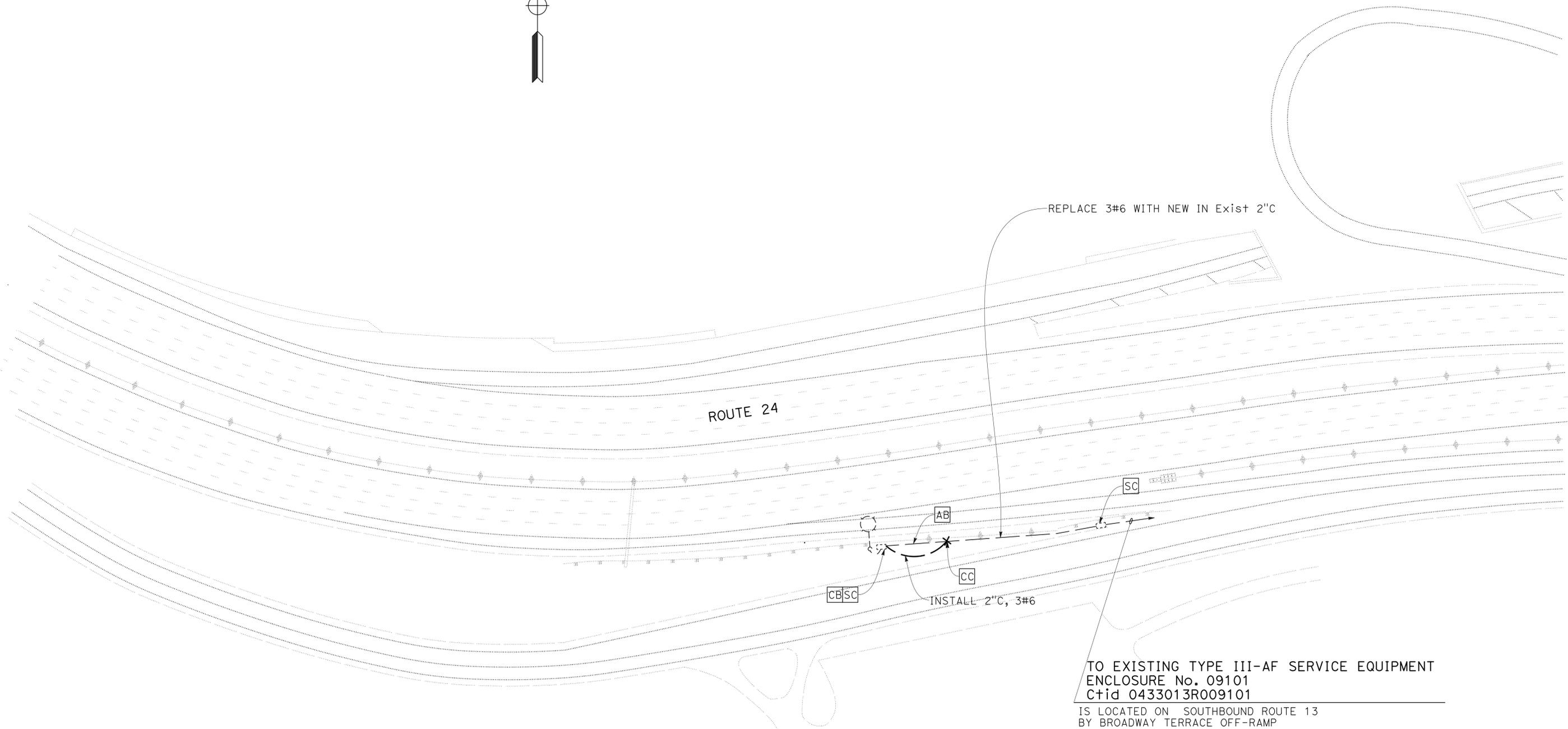
E-4

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	GIZACHEW MERID	REVISOR	DATE
				BOOZARPOUR	3-8-16
ELECTRICAL	CHECKED BY	DESIGNED BY	JOHN PRESENTATION	CM	DATE
					3-8-16

NOTE:
 RIGHT OF WAY LIMITS ARE INDETERMINATE, AND ARE NOT SHOWN.
 THE CONTRACTOR MUST CONTACT RIGHT OF WAY ENGINEERING AT THE
 DISTRICT OFFICE FOR CONDITIONS OF USE PRIOR TO COMMENCING WORK.



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80, 84,880	Var	63	136
			5-26-16		
REGISTERED ELECTRICAL ENGINEER			DATE		
6-20-16					
PLANS APPROVAL DATE					
					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



LOCATION No. 33

MODIFYING LIGHTING SYSTEM
 APPROVED FOR ELECTRICAL WORK ONLY

FOR NOTE, SEE SHEET E-1

MODIFYING EXISTING ELECTRICAL SYSTEM
 NO SCALE

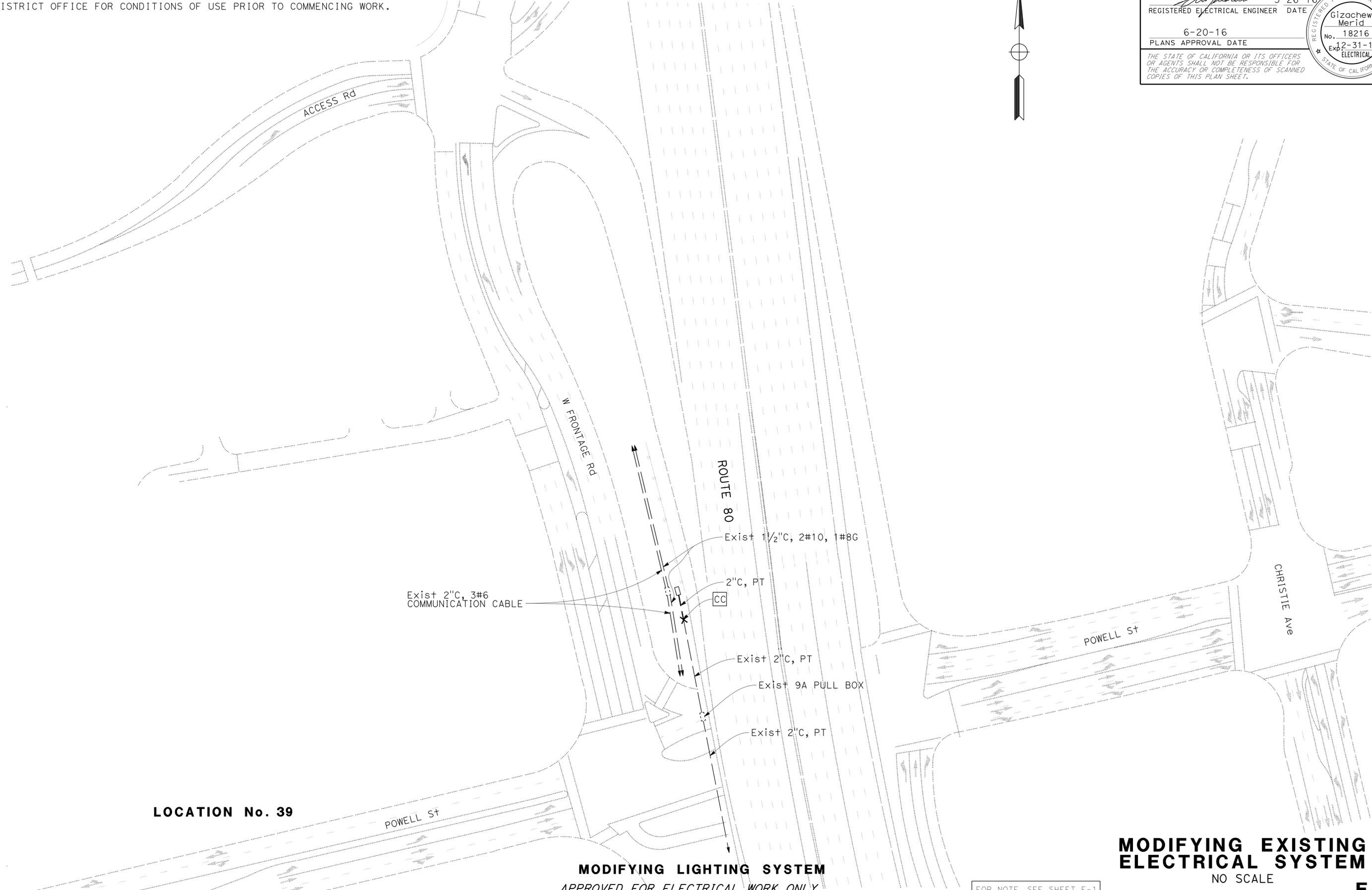
E - 5

LAST REVISION | DATE PLOTTED => 23-AUG-2016
 05-20-16 | TIME PLOTTED => 10:52

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	GIZACHEW MERID	REVISOR	DATE
				PARVIZ BOOZARPOUR	BOOZARPOUR
ELECTRICAL	CHECKED BY	GIZACHEW MERID	JOHN PRESENTATION	REVISOR	DATE
				CM	3-8-16

NOTE:
 RIGHT OF WAY LIMITS ARE INDETERMINATE, AND ARE NOT SHOWN.
 THE CONTRACTOR MUST CONTACT RIGHT OF WAY ENGINEERING AT THE
 DISTRICT OFFICE FOR CONDITIONS OF USE PRIOR TO COMMENCING WORK.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80, 84,880	Var	64	136
			5-26-16	REGISTERED ELECTRICAL ENGINEER DATE	
6-20-16 PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



LOCATION No. 39

MODIFYING LIGHTING SYSTEM
 APPROVED FOR ELECTRICAL WORK ONLY

FOR NOTE, SEE SHEET E-1

MODIFYING EXISTING ELECTRICAL SYSTEM

NO SCALE

E-6

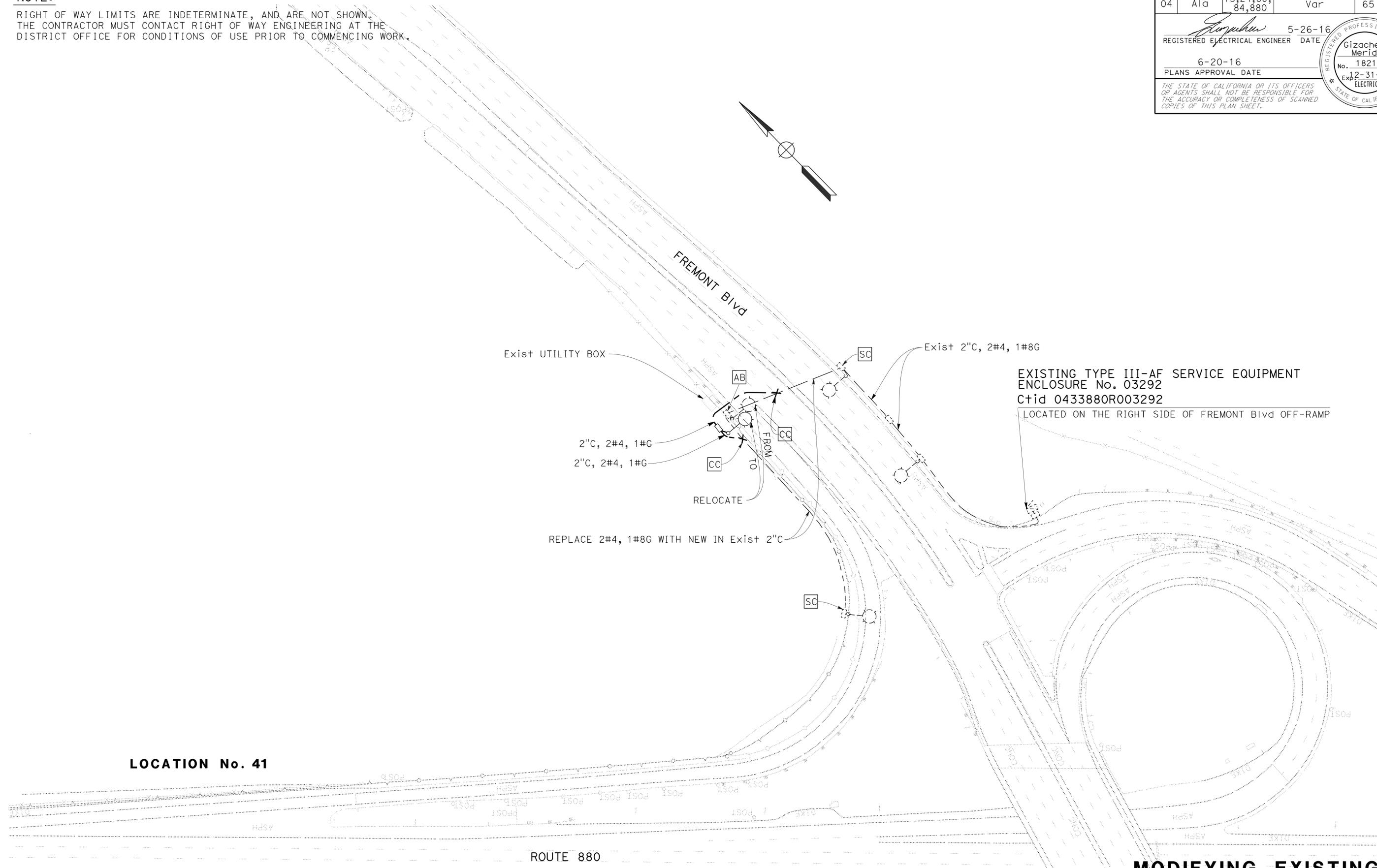
LAST REVISION DATE PLOTTED => 23-AUG-2016 10:52

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL

FUNCTIONAL SUPERVISOR: PARVIZ BOOZARPOUR
 CALCULATED/DESIGNED BY: CHECKED BY:
 GIZACHEW MERID JOHN PRESENTATION
 REVISED BY: DATE REVISED:
 CM 3-8-16

NOTE:
 RIGHT OF WAY LIMITS ARE INDETERMINATE, AND ARE NOT SHOWN.
 THE CONTRACTOR MUST CONTACT RIGHT OF WAY ENGINEERING AT THE
 DISTRICT OFFICE FOR CONDITIONS OF USE PRIOR TO COMMENCING WORK.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80, 84,880	Var	65	136
			REGISTERED ELECTRICAL ENGINEER	DATE	
			Gizachew Merid	5-26-16	
			No. 18216	PLANS APPROVAL DATE	
			Exp. 12-31-17		
<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>					



LOCATION No. 41

ROUTE 880

MODIFYING LIGHTING SYSTEM
 APPROVED FOR ELECTRICAL WORK ONLY

FOR NOTE, SEE SHEET E-1

MODIFYING EXISTING ELECTRICAL SYSTEM
 NO SCALE

E-7

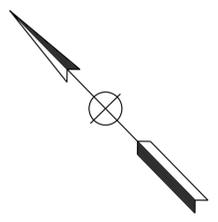
LAST REVISION DATE PLOTTED => 23-AUG-2016 05-17-16 TIME PLOTTED => 10:52

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL

FUNCTIONAL SUPERVISOR: PARVIZ BOOZARPOUR
 CALCULATED/DESIGNED BY: GIZACHEW MERID
 CHECKED BY: JOHN PRESENTATION
 REVISED BY: CM
 DATE REVISED: 3-8-16

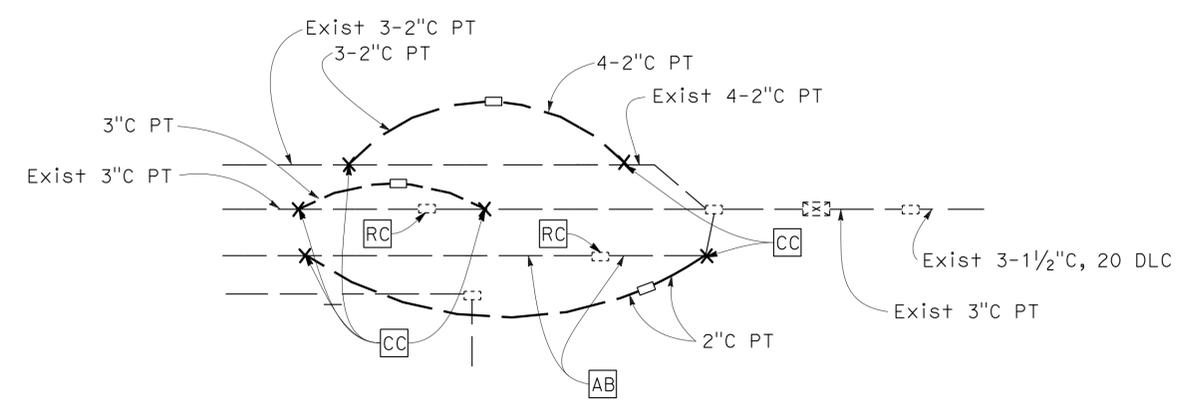
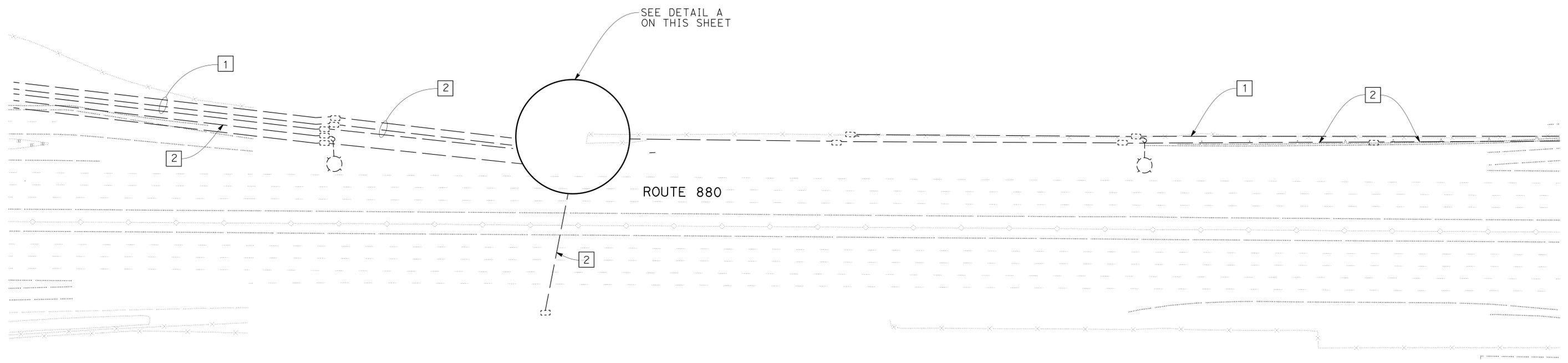
NOTE:
 RIGHT OF WAY LIMITS ARE INDETERMINATE, AND ARE NOT SHOWN.
 THE CONTRACTOR MUST CONTACT RIGHT OF WAY ENGINEERING AT THE
 DISTRICT OFFICE FOR CONDITIONS OF USE PRIOR TO COMMENCING WORK.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80, 84,880	Var	66	136
 REGISTERED ELECTRICAL ENGINEER			5-26-16	DATE	
PLANS APPROVAL DATE: 6-20-16					
					
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					



LEGEND: (THIS SHEET ONLY)

- 1 EXISTING 2"C, 3#6
- 2 EXISTING 3½"C, 20 DLC



DETAIL A

LOCATION No. 43

MODIFYING LIGHTING SYSTEM
 APPROVED FOR ELECTRICAL WORK ONLY

FOR NOTE, SEE SHEET E-1

MODIFYING EXISTING ELECTRICAL SYSTEM
 NO SCALE

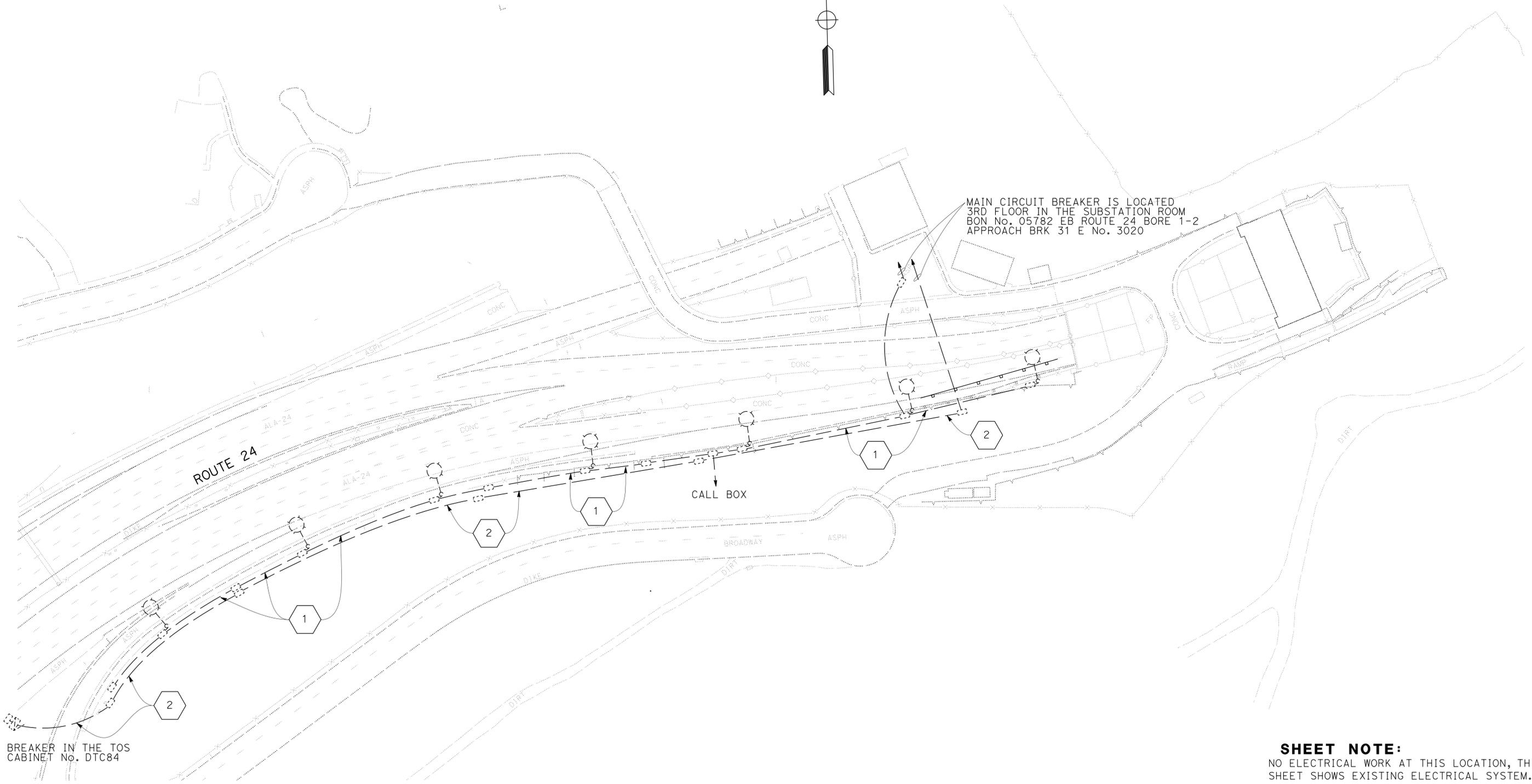
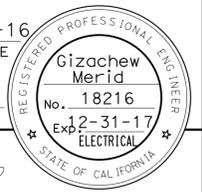
E-8

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	GIZACHEW MERID	REVISOR	DATE
				GM	03/08/16
ELECTRICAL	PARVIZ BOOZARPOUR	CHECKED BY	JOHN PRESENTATION	REVISOR	DATE

NOTE:
 RIGHT OF WAY LIMITS ARE INDETERMINATE, AND ARE NOT SHOWN.
 THE CONTRACTOR MUST CONTACT RIGHT OF WAY ENGINEERING AT THE
 DISTRICT OFFICE FOR CONDITIONS OF USE PRIOR TO COMMENCING WORK.

- SHEET NOTES: (THIS SHEET ONLY)**
- 1 EXISTING 2"C, 7#6, 1 BARE COPPER GROUNDING
 - 2 EXISTING 2"C, 6#14, 1 DLC, 1#8, 1-CMSC-12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13, 24, 80, 84, 880	Var	67	136
 REGISTERED ELECTRICAL ENGINEER			5-26-16	DATE	
6-20-16 PLANS APPROVAL DATE					
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					



MAIN CIRCUIT BREAKER IS LOCATED
 3RD FLOOR IN THE SUBSTATION ROOM
 BON No. 05782 EB ROUTE 24 BORE 1-2
 APPROACH BRK 31 E No. 3020

BREAKER IN THE TOS
 CABINET No. DTC84

SHEET NOTE:
 NO ELECTRICAL WORK AT THIS LOCATION, THIS
 SHEET SHOWS EXISTING ELECTRICAL SYSTEM.

MODIFYING EXISTING ELECTRICAL SYSTEM

NO SCALE

LOCATION No. 36

THIS PLAN TO BE USED FOR ELECTRICAL INFORMATION ONLY

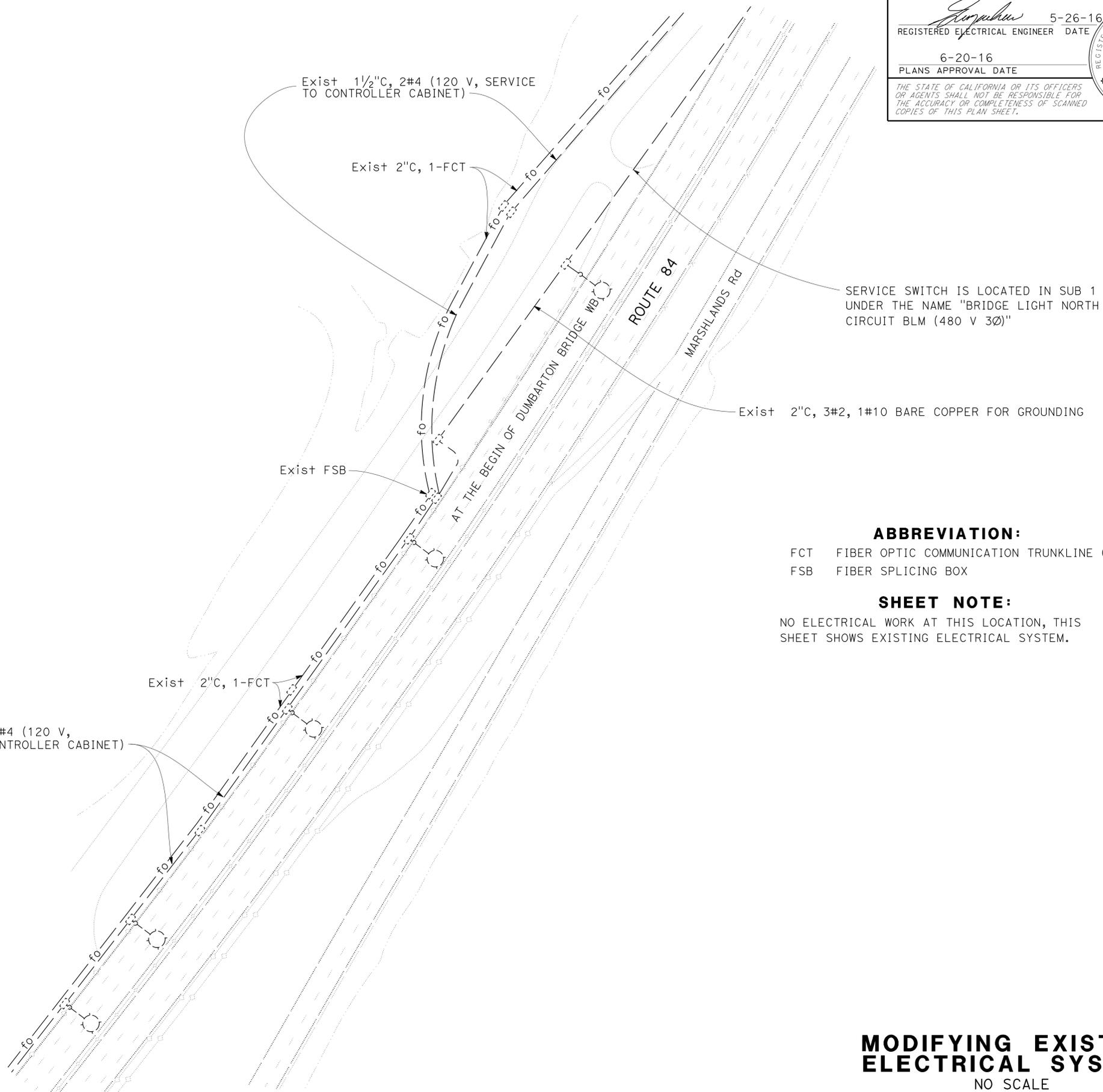
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	GIZACHEW MERID	REVISOR	DATE
				CM	3-8-16
ELECTRICAL	PARVIZ BOOZARPOUR	CHECKED BY	JOHN PRESENTATION	REVISOR	DATE

NOTE:

RIGHT OF WAY LIMITS ARE INDETERMINATE, AND ARE NOT SHOWN. THE CONTRACTOR MUST CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE FOR CONDITIONS OF USE PRIOR TO COMMENCING WORK.



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80, 84,880	Var	68	136
			5-26-16		
REGISTERED ELECTRICAL ENGINEER			DATE		
6-20-16			PLANS APPROVAL DATE		
					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



ABBREVIATION:
 FCT FIBER OPTIC COMMUNICATION TRUNKLINE CABLE
 FSB FIBER SPLICING BOX

SHEET NOTE:
 NO ELECTRICAL WORK AT THIS LOCATION, THIS SHEET SHOWS EXISTING ELECTRICAL SYSTEM.

LOCATION No. 40

THIS PLAN TO BE USED FOR ELECTRICAL INFORMATION ONLY

MODIFYING EXISTING ELECTRICAL SYSTEM
 NO SCALE

E-10

LAST REVISION DATE PLOTTED => 23-AUG-2016 05-20-16 TIME PLOTTED => 10:52

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

FUNCTIONAL SUPERVISOR
 PARVIZ BOOZARPOUR

CALCULATED/DESIGNED BY
 CHECKED BY

GIZACHEW MERID
 JOHN PRESENTATION

REVISOR BY
 DATE REVISED

GM
 3-8-16

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13,24,80,84,880	Var	69	136

 5-26-16
 REGISTERED ELECTRICAL ENGINEER DATE

6-20-16
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Gizachew Merid
 No. 18216
 Exp. 12-31-17
 ELECTRICAL
 STATE OF CALIFORNIA

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

MODIFYING EXISTING ELECTRICAL SYSTEM

SHEET No.	CONDUIT				CONDUCTOR				LOOP	PULL BOX No. 5	
	1 1/2" C	2" C	2 1/2" C	3" C	#4	#6	#8	#10	DLC		
	LF										
E-1	50					100	50				1
E-2		20	50	50		60			4400		4
E-3		50					200	100			1
E-4		150				200	250				2
E-5		50				150					
E-6		20									1
E-7		50			100		50				1
E-8		250		50							3
E-9											
E-10											
TOTAL	50	590	50	100	100	510	550	100	4400		13

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

ELECTRICAL QUANTITIES

E-11



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

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

	S	
S	SOUTH, SUPPLEMENT	
SAE	STRUCTURE APPROACH EMBANKMENT	
Salv	SALVAGE	
SAPP	STRUCTURAL ALUMINUM PLATE PIPE	
SB	SOUTHBOUND	
SC	SAND CUSHION	
SCSP	SLOTTED CORRUGATED STEEL PIPE	
SD	STORM DRAIN	
Sec	SECOND, SECTION	
Sep	SEPARATION	
SG	SUBGRADE	
Shld	SHOULDER	
Sht	SHEET	
Sim	SIMILAR	
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	W
VC	VERTICAL CURVE	
VCP	VITRIFIED CLAY PIPE	
Vert	VERTICAL	
Via	VIADUCT	
Vol	VOLUME	
W	WEST, WIDTH	
WB	WESTBOUND	
WH	WEEP HOLE	
WM	WIRE MESH	
WS	WATER SURFACE	
WSP	WELDED STEEL PIPE	
Wt	WEIGHT	
WV	WATER VALVE	
WW	WINGWALL	
WWL	WINGWALL LAYOUT LINE	X
X Sec	CROSS SECTION	
Xing	CROSSING	Y
Yr	YEAR	
Yrs	YEARS	

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13, 24, 80, 84, 880	Var	70	136

Grace M. Tsushima
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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

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

TO ACCOMPANY PLANS DATED 6-20-16

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

TABLE A

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

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

TABLE B

SYMBOL USED	DEFINITIONS
ksi	KIPS PER SQUARE INCH
ksf	KIPS PER SQUARE FOOT
psi	POUNDS PER SQUARE INCH
psf	POUNDS PER SQUARE FOOT
lb/ft 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

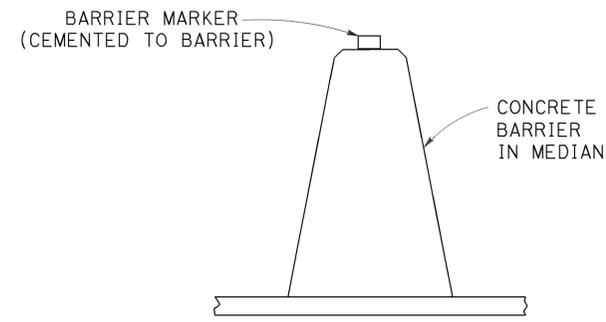
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13, 24, 80, 84, 880	Var	71	136

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

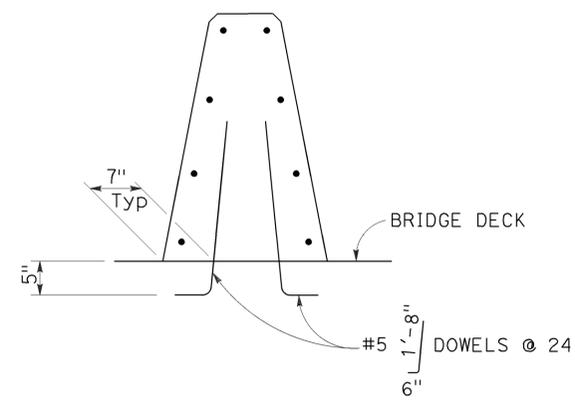
October 30, 2015
PLANS APPROVAL DATE

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

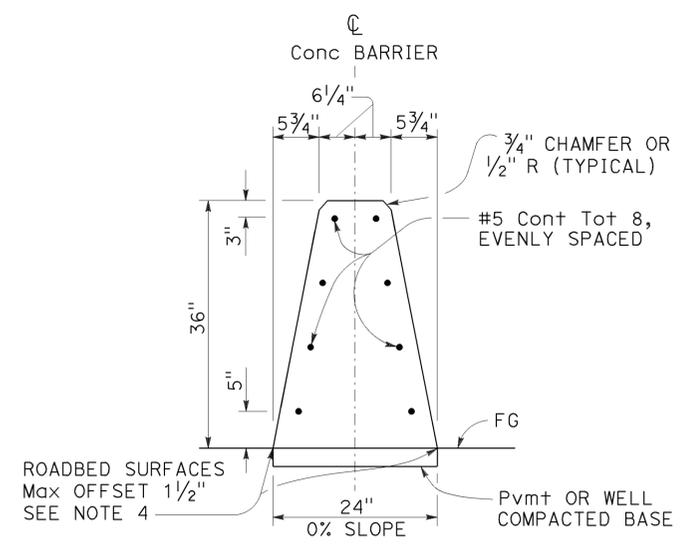
TO ACCOMPANY PLANS DATED 6-20-16



CONCRETE BARRIER TYPE 60 DELINEATION
See Note 5



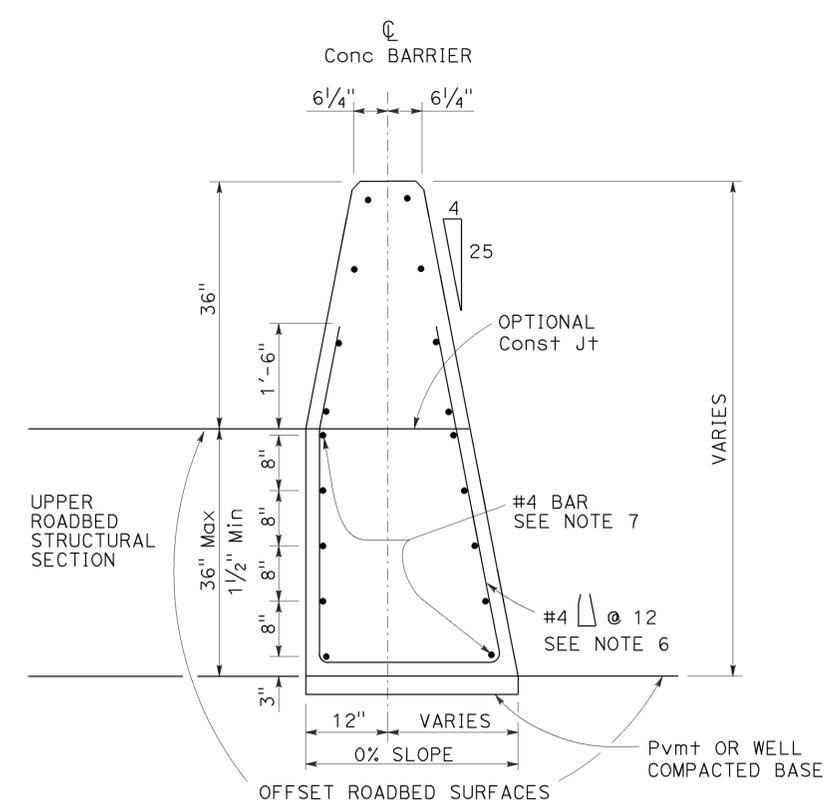
CONCRETE BARRIER TYPE 60A
Details similar to Type 60 except as noted.



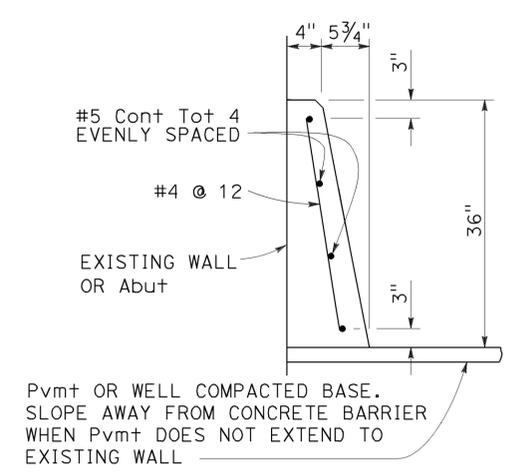
CONCRETE BARRIER TYPE 60

NOTES:

- See Standard Plan A76B for details of Concrete Barrier Type 60 end anchors, connection to structures and transitions to Concrete Barrier Type 50 and Concrete Barrier Type 60S.
- See Revised Standard Plan RSP A76C for Concrete Barrier Type 60 transitions at bridge column and sign pedestals.
- Where glare screen is required on Concrete Barrier Type 60, use Concrete Barrier Type 60G.
- Where roadbed offset is greater than 1 1/2", see Concrete Barrier Type 60C.
- See Project Plans for barrier delineation locations.
- Reinforcing stirrup not required for roadbed offsets less than 1'-0".
- For roadbed surfaces offset greater than 1 1/2" and less than or equal to 3", no reinforcement required. For roadbed surfaces offset greater than 3" and less than or equal to 8", use two #4 Reinf at 3" above the lower roadbed surface. For roadbed surfaces offset greater than 8" and less than or equal to 12", use two #4 Reinf at 3" above the lower roadbed surface and two #4 Reinf at 8" above the lower roadbed surface. For roadbed surfaces offset greater than 12" and less than or equal to 36", use two #4 Reinf at 3" above the lower roadbed surface and two #4 Reinf at every 8" increment vertical spacing above the first two #4 Reinf.



CONCRETE BARRIER TYPE 60C
Details similar to Type 60 except as noted. Use concrete barrier end anchor when necessary. 36" roadbed surfaces offset shown.



CONCRETE BARRIER TYPE 60D

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
CONCRETE BARRIER TYPE 60
NO SCALE

RSP A76A DATED OCTOBER 30, 2015 SUPERSEDES STANDARD PLAN A76A DATED MAY 20, 2011 - PAGE 34 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A76A

2010 REVISED STANDARD PLAN RSP A76A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13, 24, 80, 84, 880	Var	72	136

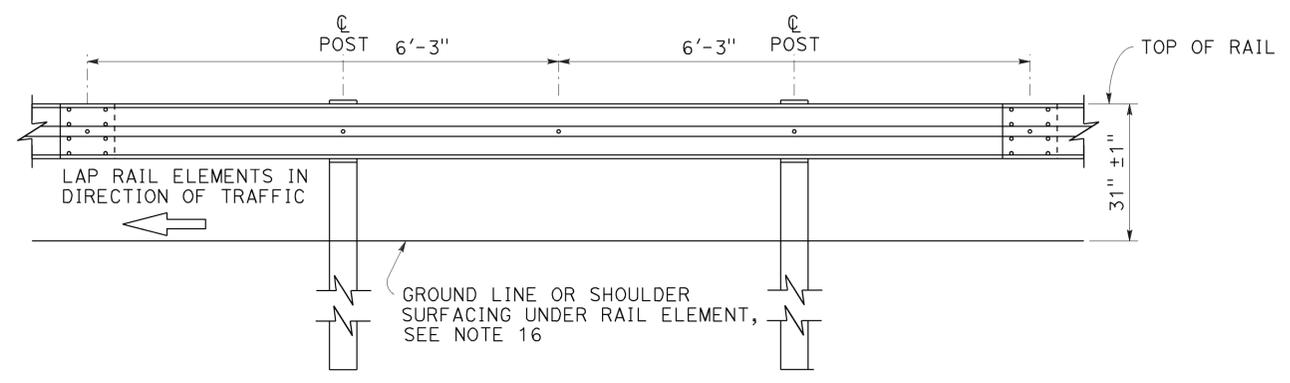
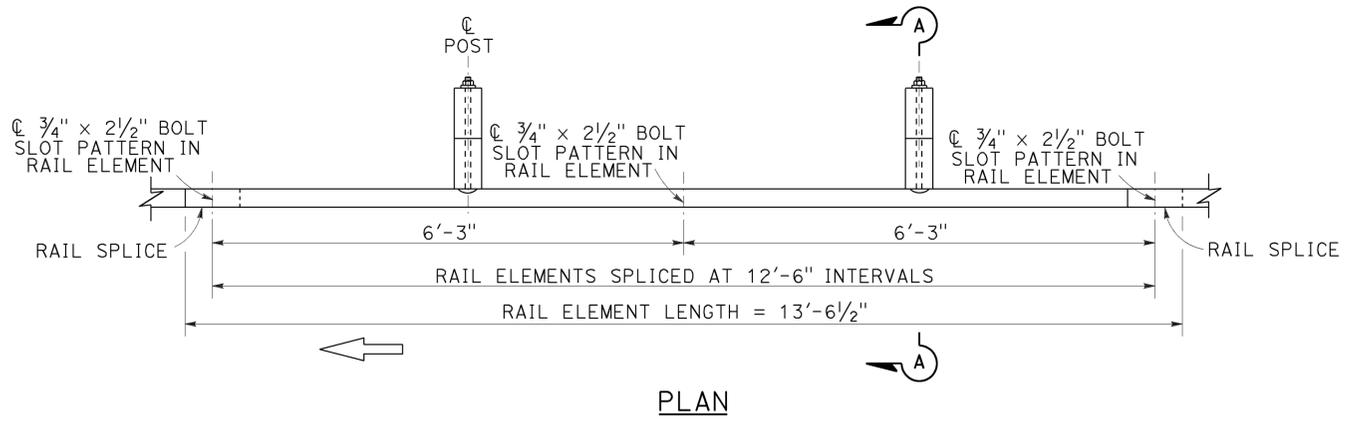
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

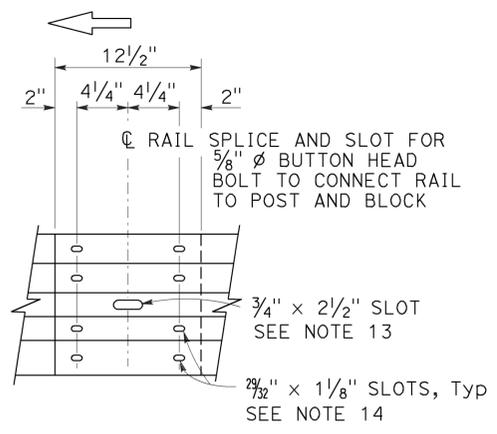
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

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

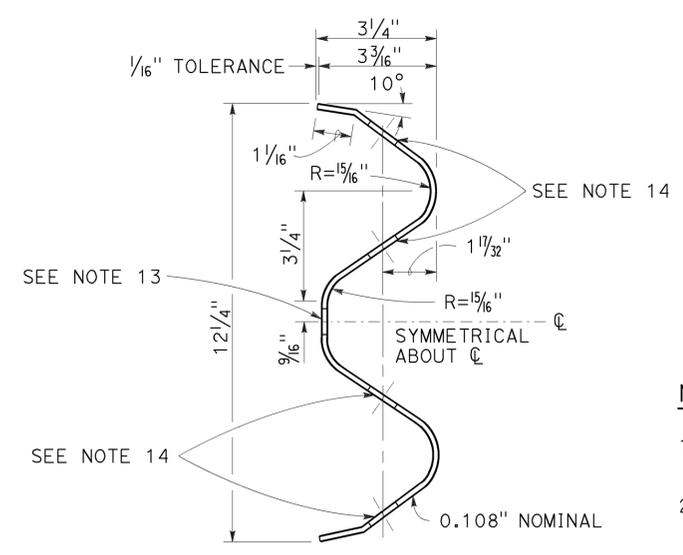
TO ACCOMPANY PLANS DATED 6-20-16



MIDWEST GUARDRAIL SYSTEM WITH WOOD POST AND BLOCKS

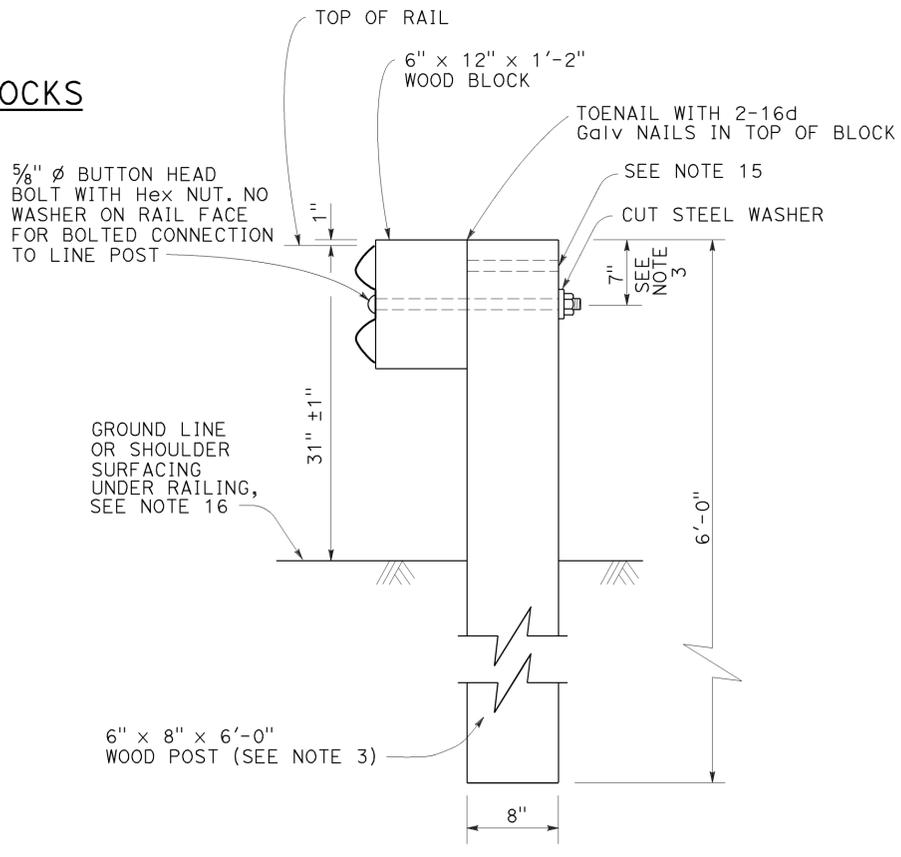


- Connect the over lapped end of the rail elements with $\frac{5}{8}$ " ϕ x $1\frac{3}{8}$ " button head oval shoulder splice bolts inserted into the $\frac{7}{32}$ " x $1\frac{1}{8}$ " slots and bolted together with $\frac{5}{8}$ " ϕ recessed hex nuts. Recess of hex nut points toward rail element. A 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.



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 MSG 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.



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

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13, 24, 80, 84, 880	Var	73	136

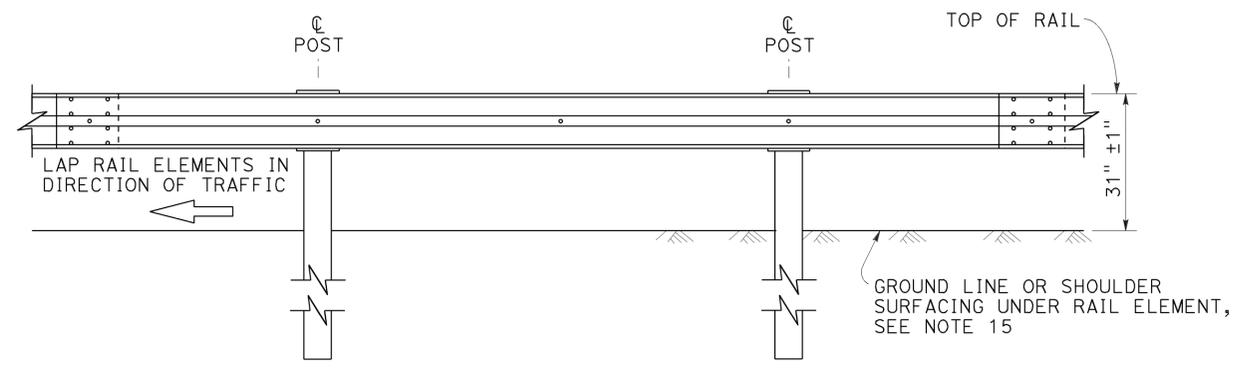
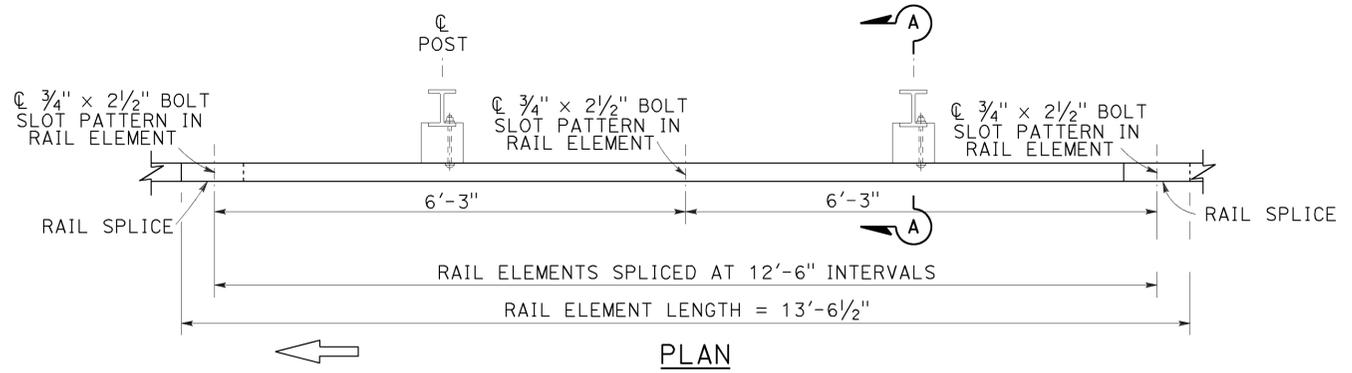
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

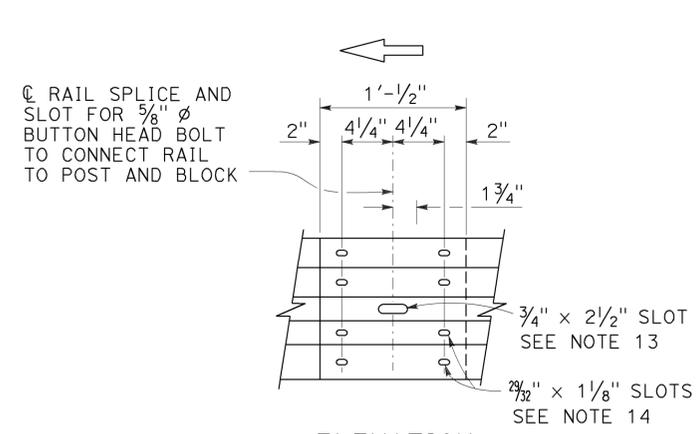
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 6-20-16

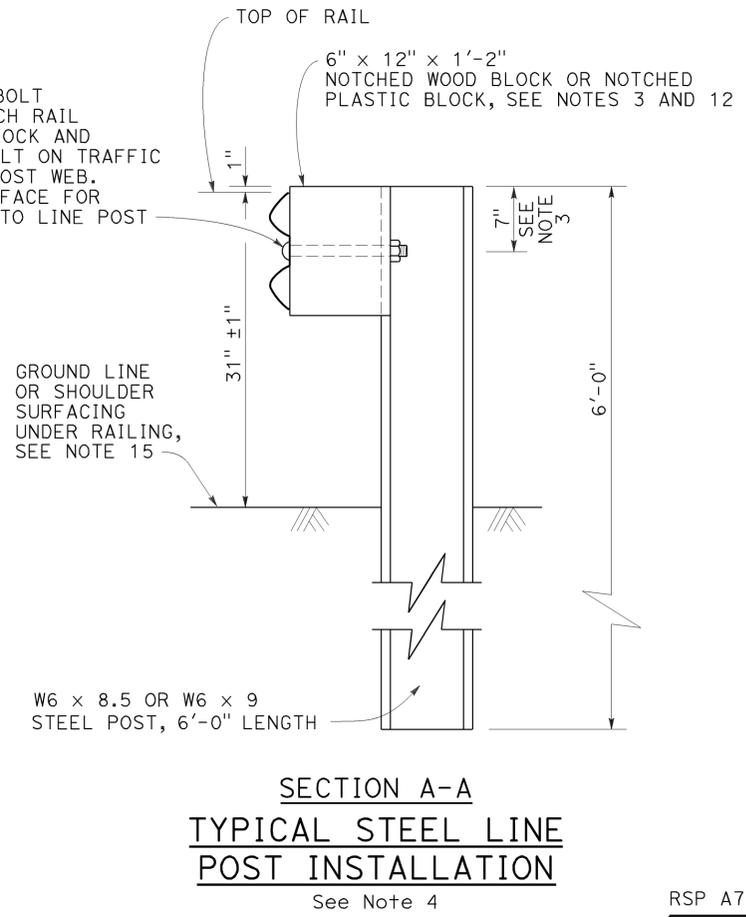
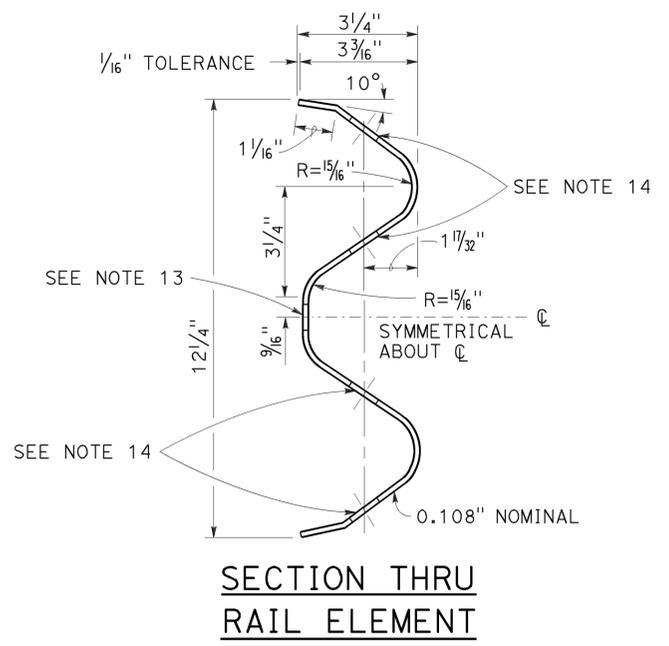
2010 REVISED STANDARD PLAN RSP A77L2



MIDWEST GUARDRAIL SYSTEM WITH STEEL POSTS AND NOTCHED WOOD OR NOTCHED RECYCLED PLASTIC BLOCKS



- Connect the overlapped end of the rail elements with 5/8" ϕ x 1 3/8" button head oval shoulder splice bolts inserted into the 7/32" x 1 1/8" slots and bolted together with 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.



NOTES:

- For details of wood post installations, see Revised Standard Plan RSP A77L1.
- For details of standard hardware used to construct MGS, see Revised Standard Plan RSP A77M1.
- For details of steel posts and notched wood blocks used to construct MGS, see Revised Standard Plan RSP A77N2.
- 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 railings, see Revised Standard Plans RSP A77U1, RSP A77U2 and RSP A77V1.
- For dike positioning and MGS delineation details, see Revised Standard Plan RSP A77N4.
- Notched face of block faces steel post.
- 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".
- Install posts in soil.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM STANDARD RAILING SECTION (STEEL POST WITH NOTCHED WOOD OR NOTCHED RECYCLED PLASTIC BLOCK)

NO SCALE

RSP A77L2 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77L2

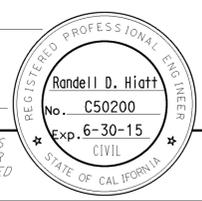
See Note 4

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13, 24, 80, 84, 880	Var	74	136

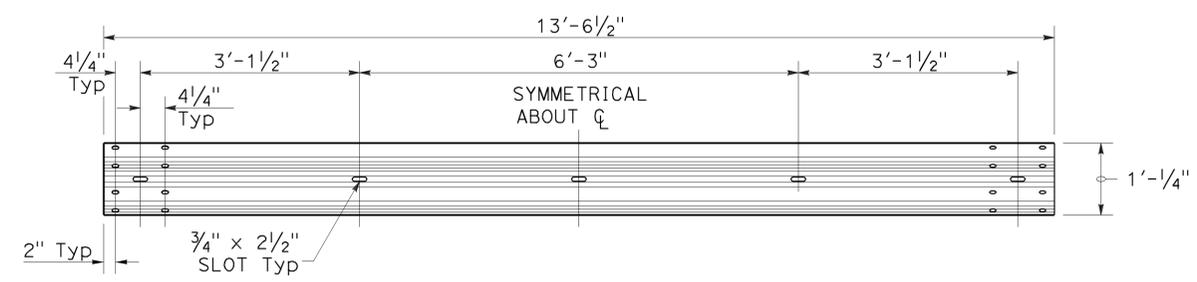
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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



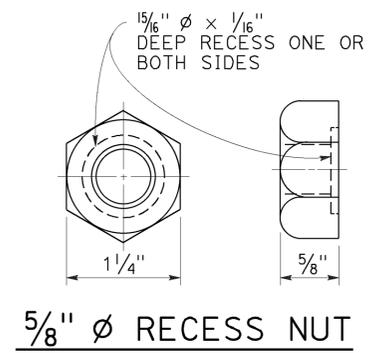
TO ACCOMPANY PLANS DATED 6-20-16



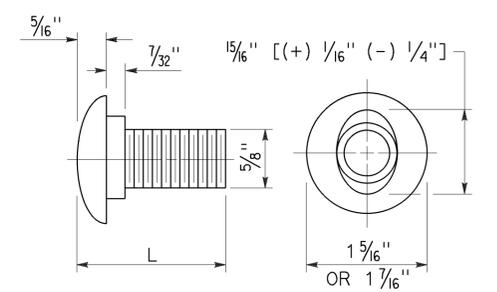
TYPICAL RAIL ELEMENT

NOTE:

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



5/8" Ø RECESS NUT

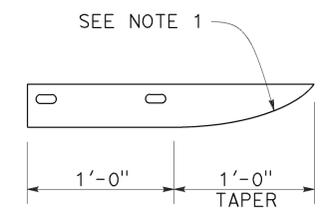


5/8" Ø BUTTON HEAD BOLT

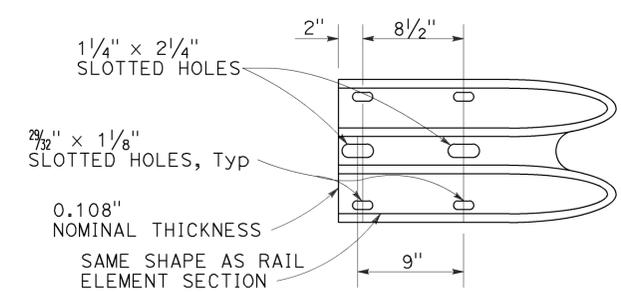
BUTTON HEAD BOLT

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

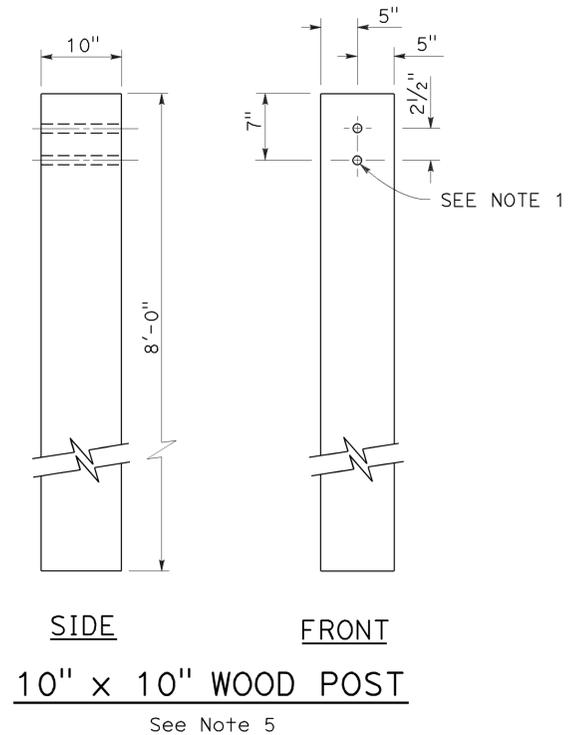
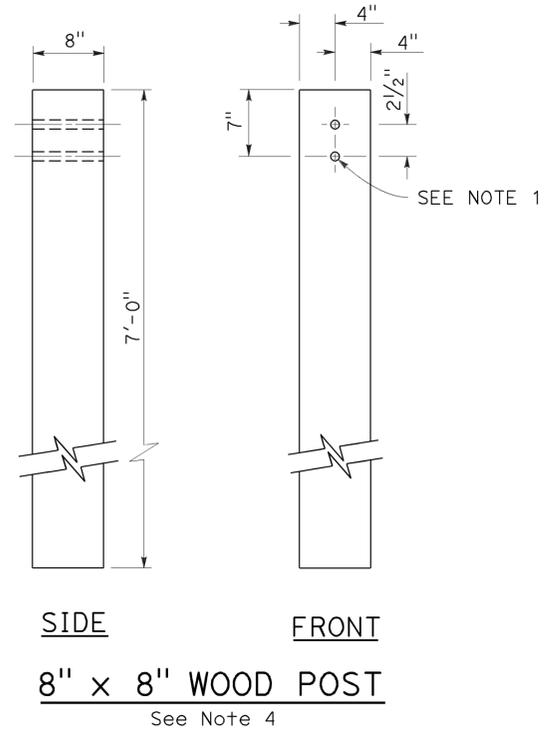
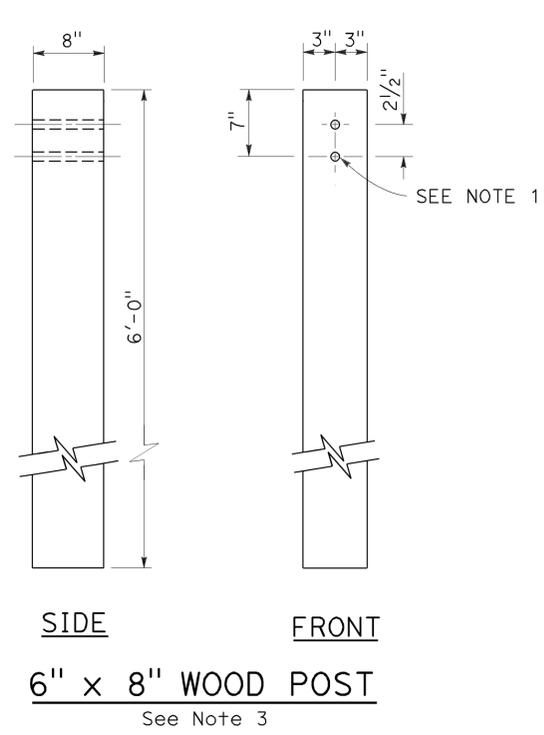
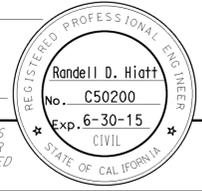
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13, 24, 80, 84, 880	Var	75	136

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

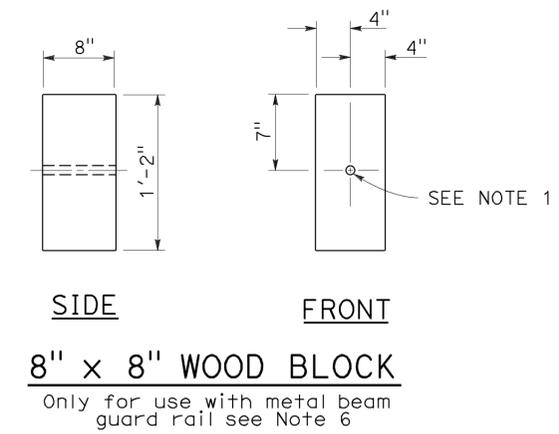
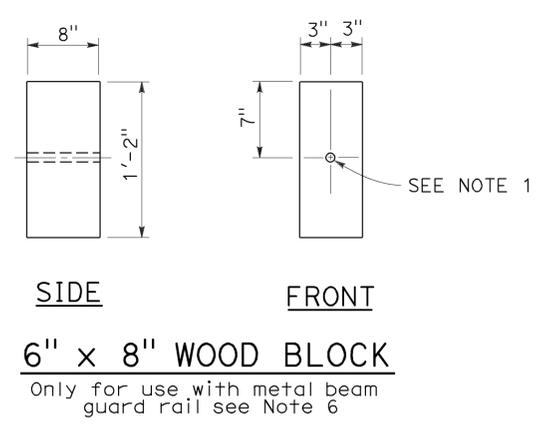
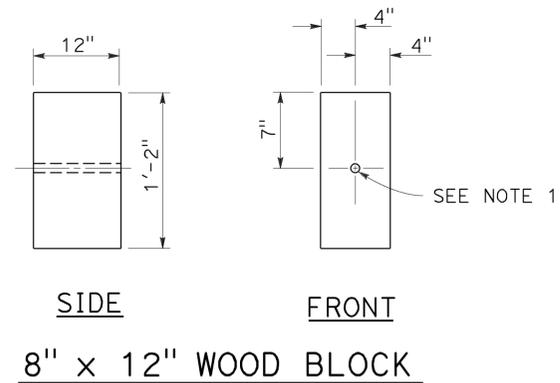
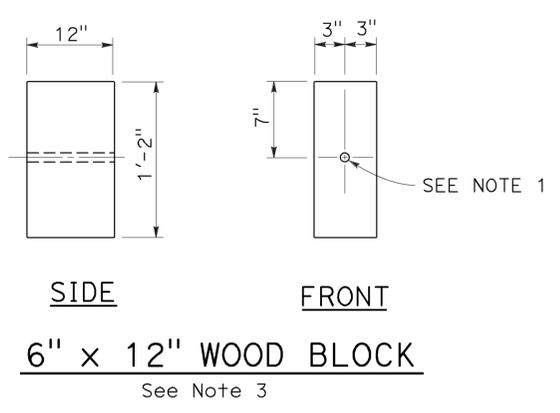
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 6-20-16



NOTES:

1. All holes in wood posts and blocks shall be 3/4" Dia ± 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

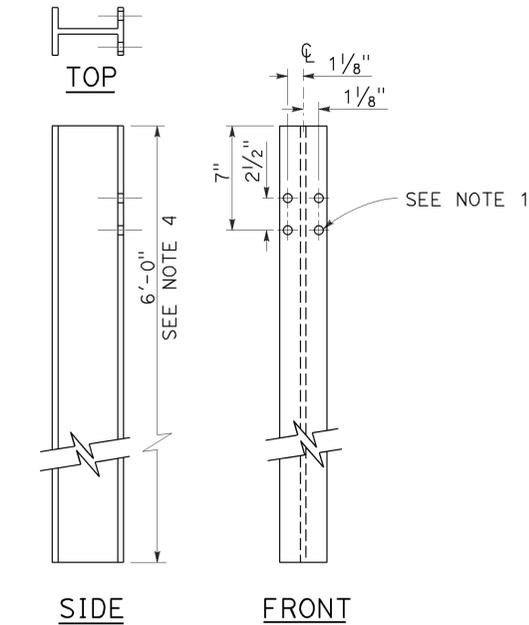
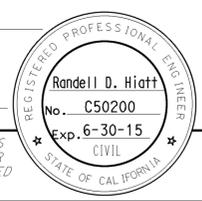
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13, 24, 80, 84, 880	Var	76	136

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

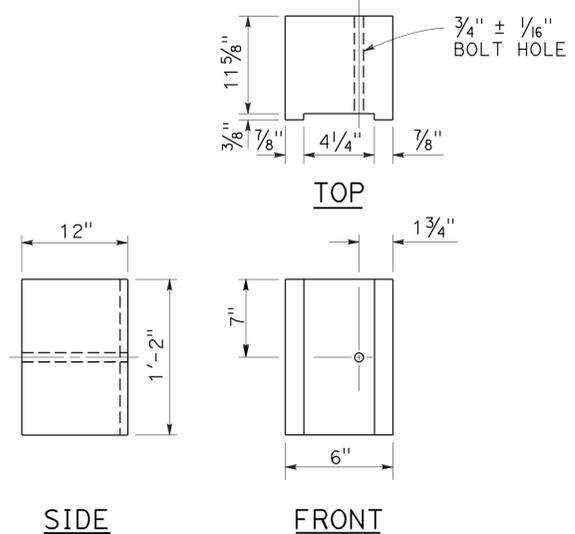
November 15, 2013
PLANS APPROVAL DATE

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

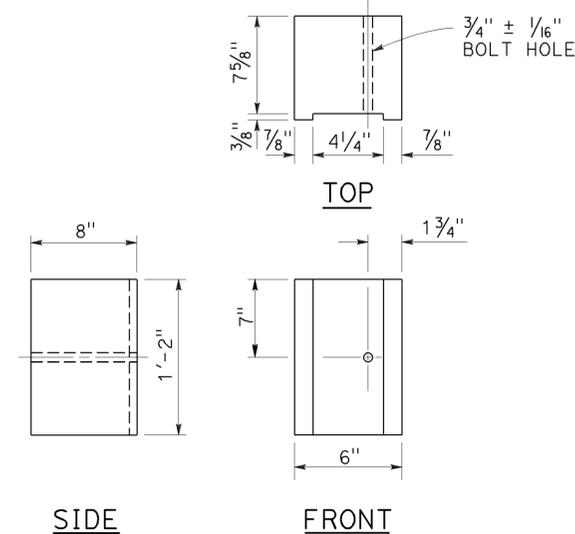
TO ACCOMPANY PLANS DATED 6-20-16



**W6 x 9 OR W6 x 8.5
STEEL POST**
See Note 4



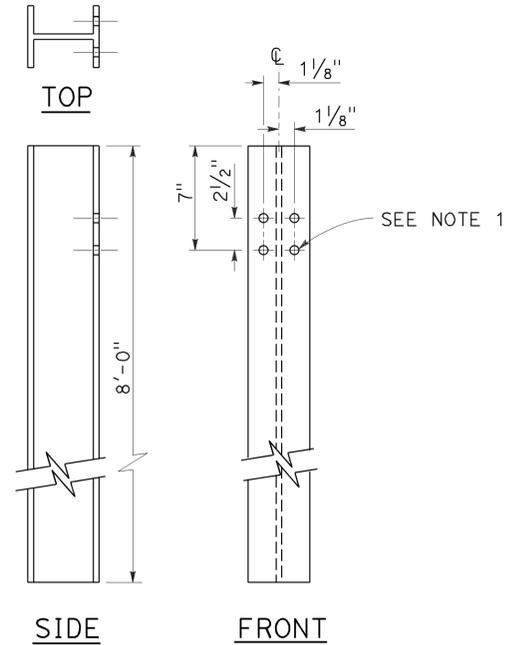
**6" x 12"
NOTCHED WOOD BLOCK**
See Notes 2 and 3



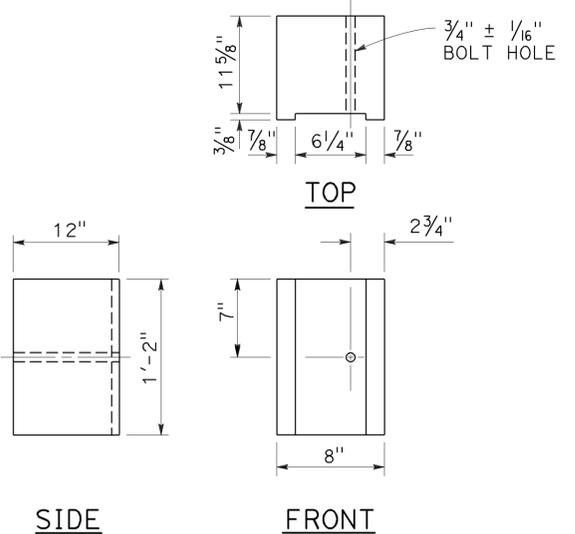
**6" x 8"
NOTCHED WOOD BLOCK**
Only for use with metal beam guard railing. See Note 5

NOTES:

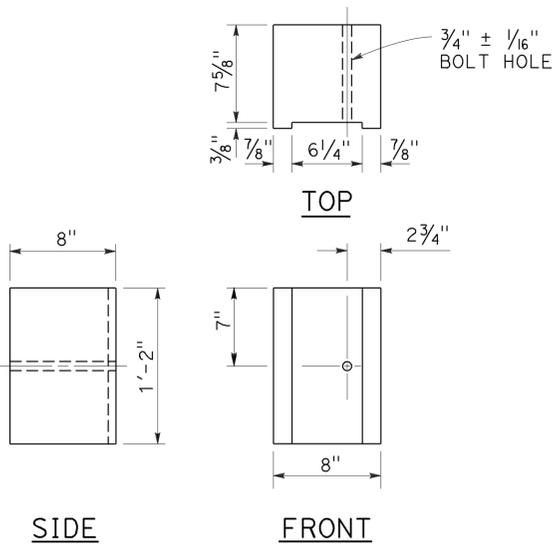
1. All holes in steel post shall be 1 3/16" Dia maximum.
2. Dimensions shown for wood block are nominal.
3. Notched face of block faces steel post.
4. 6'-0" length posts to be used for typical roadway installation. See Revised Standard Plan RSP A77N3.
5. See Revised Standard Plan RSP A77L3 for use of 6" x 8" and 8" x 8" notched wood blocks.
6. This post and 8" x 12" block combination to be used for line post sections of MGS on narrow roadways and where strengthened line post sections of MGS are warranted to shield fixed objects.



**W6 x 15
STEEL POST**
See Note 6



**8" x 12"
NOTCHED WOOD BLOCK**
See Notes 2 and 3



**8" x 8"
NOTCHED WOOD BLOCK**
Only for use with metal beam guard railing. See Note 5

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

RSP A77N2 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77N2
DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N2

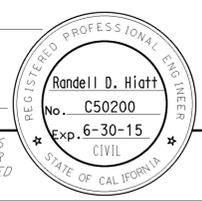
2010 REVISED STANDARD PLAN RSP A77N2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13, 24, 80, 84, 880	Var	77	136

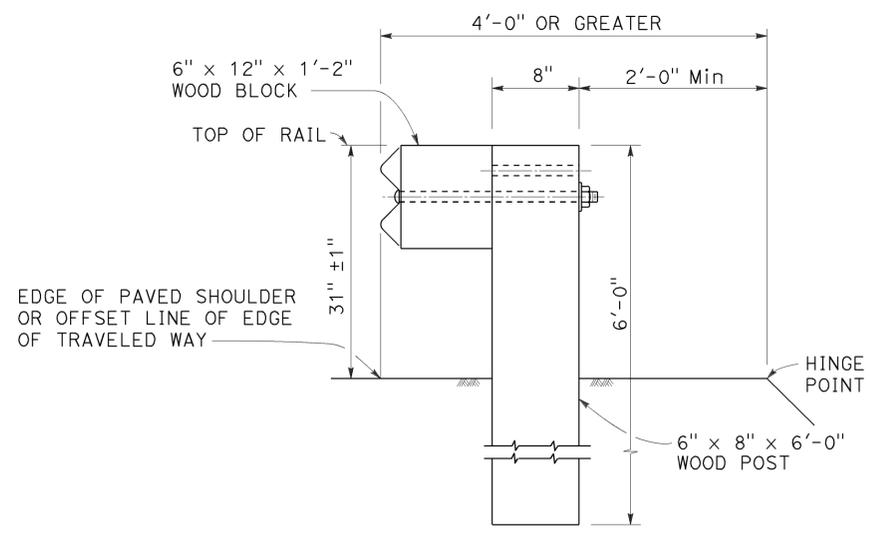
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

November 15, 2013
PLANS APPROVAL DATE

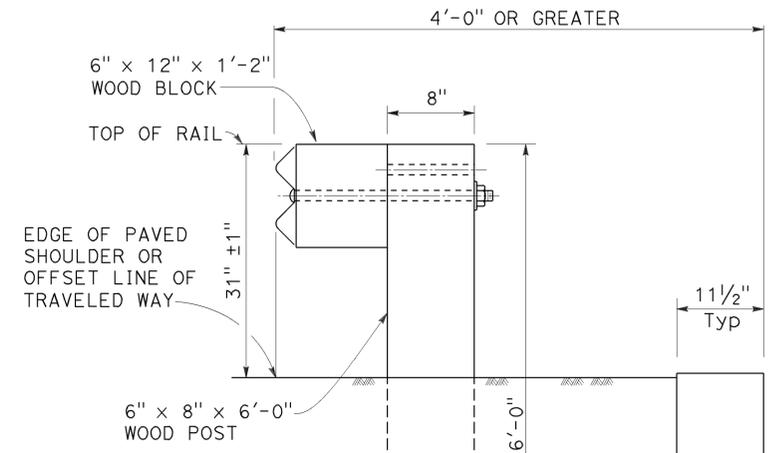
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



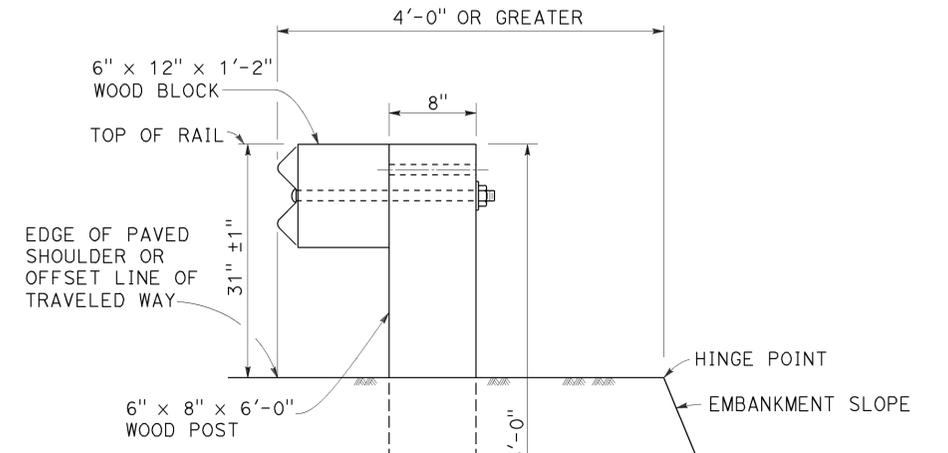
TO ACCOMPANY PLANS DATED 6-20-16



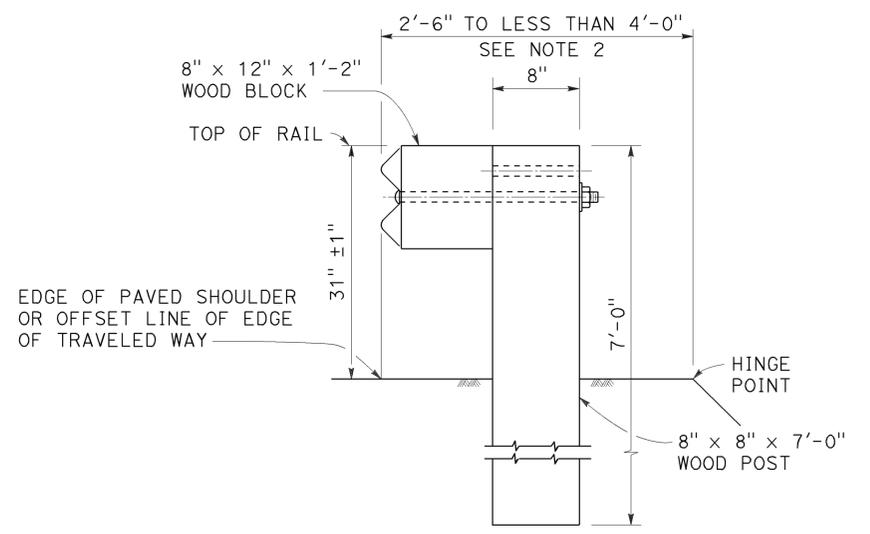
DETAIL A
TYPICAL ROADWAY
INSTALLATION
See Note 1



DETAIL C



DETAIL D



DETAIL B
NARROW ROADWAY
INSTALLATION
See Note 1

POST EMBEDMENT

INSTALLATION AT EARTH RETAINING WALLS

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.

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

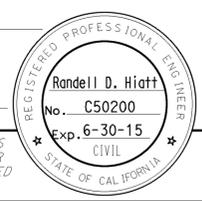
2010 REVISED STANDARD PLAN RSP A77N3

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13, 24, 80, 84, 880	Var	78	136

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

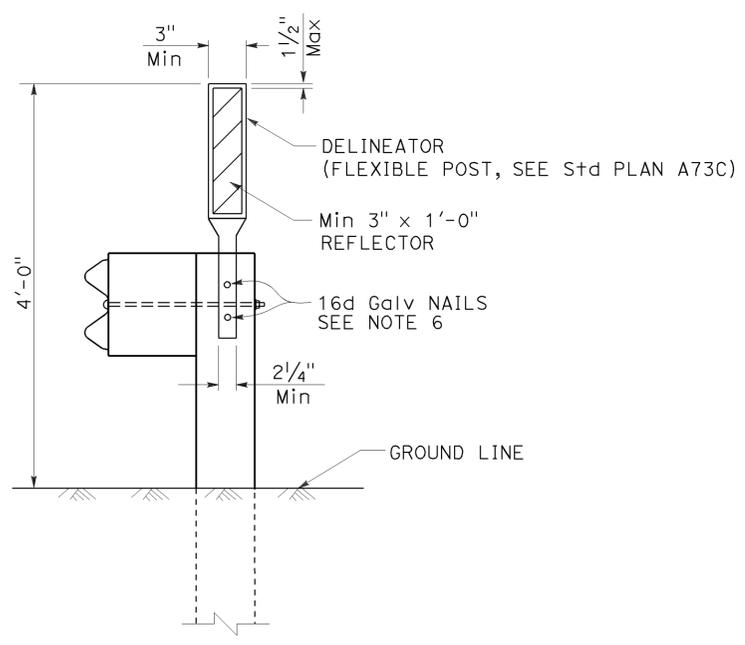
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



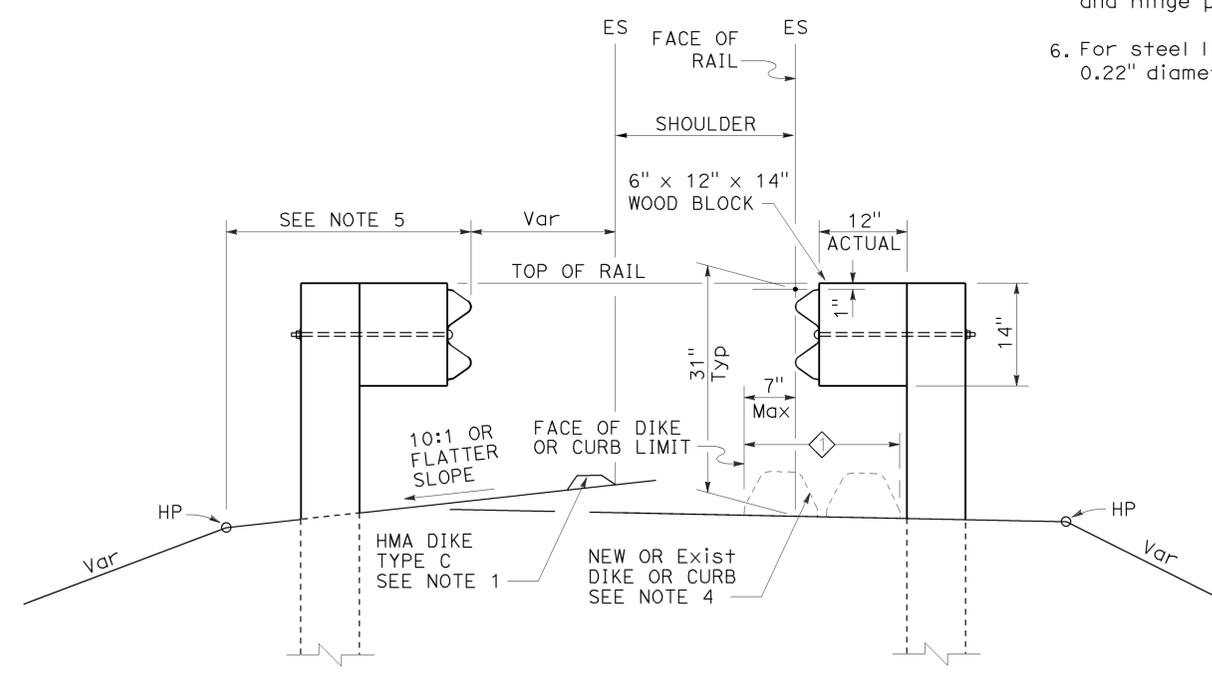
TO ACCOMPANY PLANS DATED 6-20-16

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

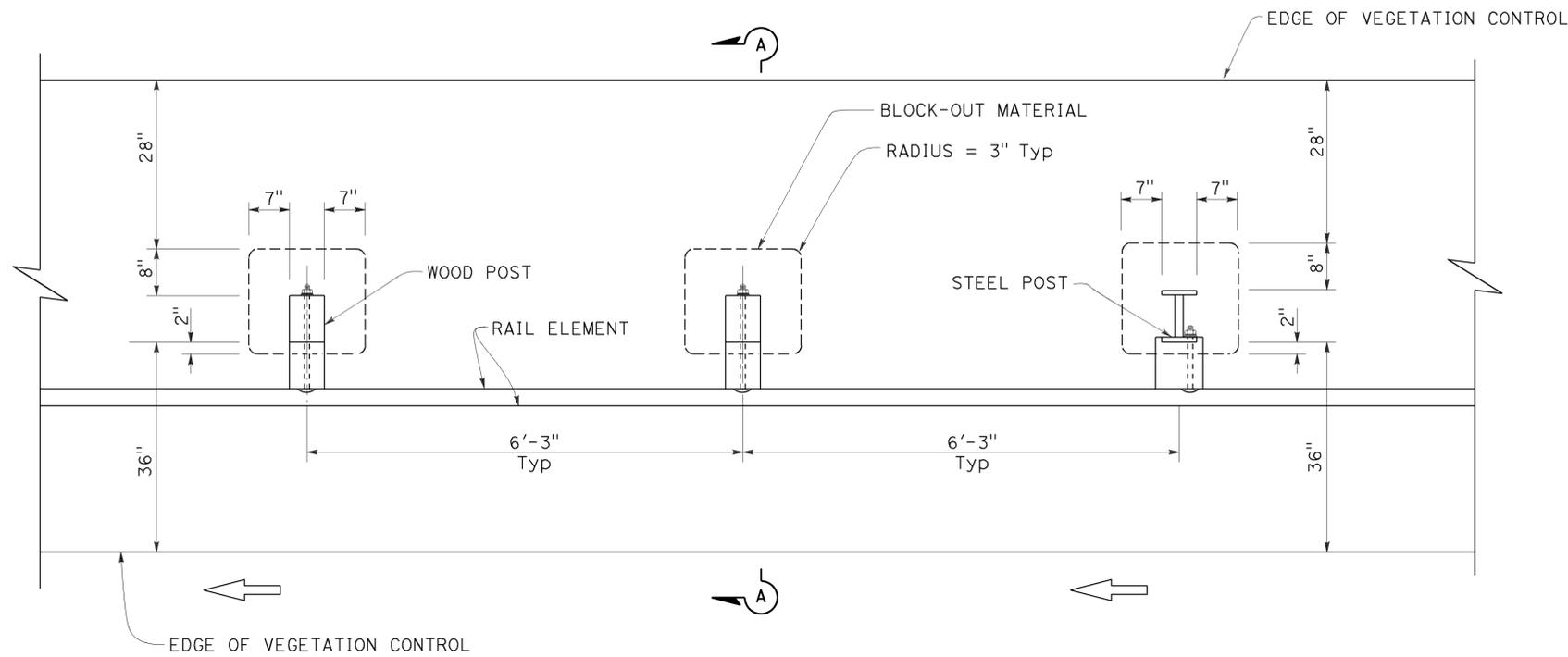
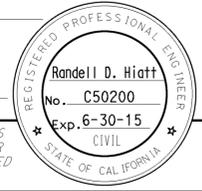
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13, 24, 80, 84, 880	Var	79	136

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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

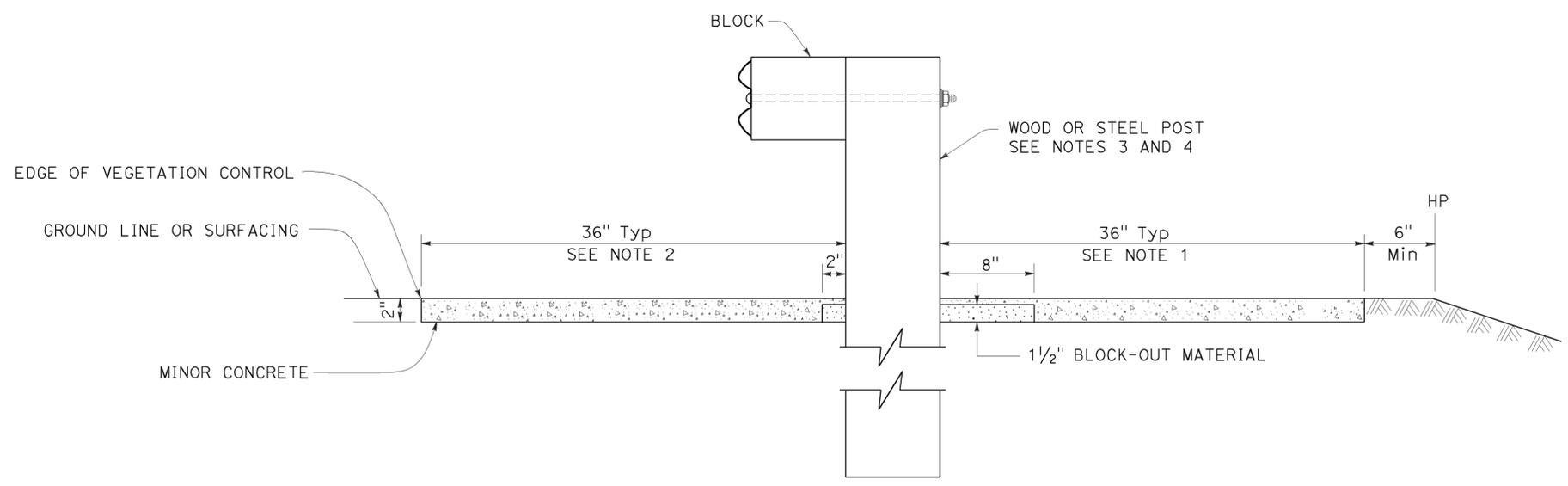
TO ACCOMPANY PLANS DATED 6-20-16



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
04	Ala	13, 24, 80, 84, 880	Var	80	136

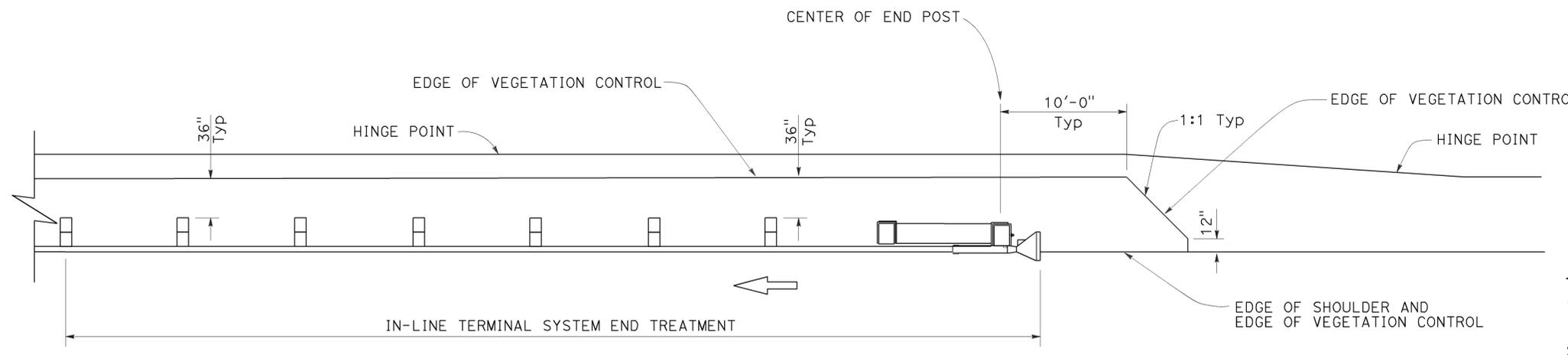
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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

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

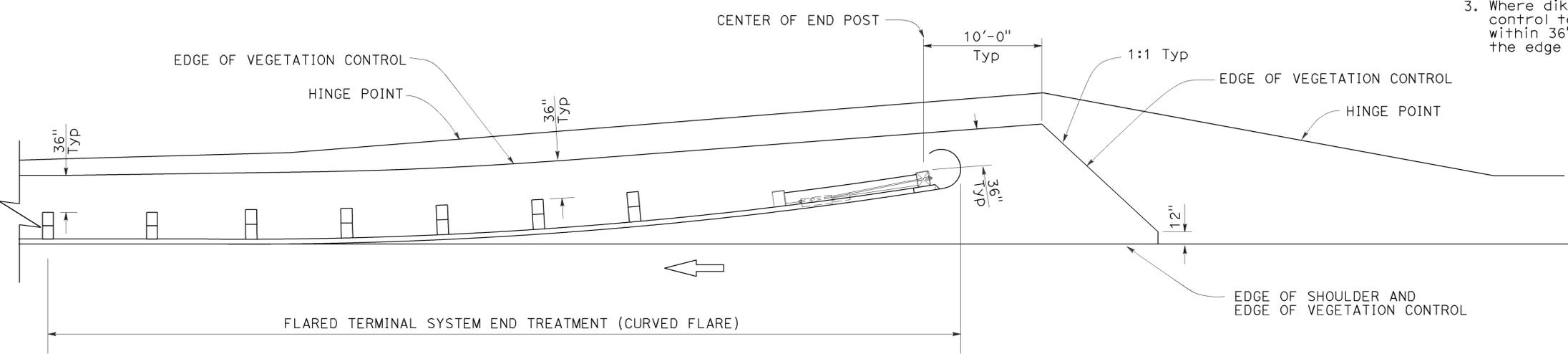
TO ACCOMPANY PLANS DATED 6-20-16



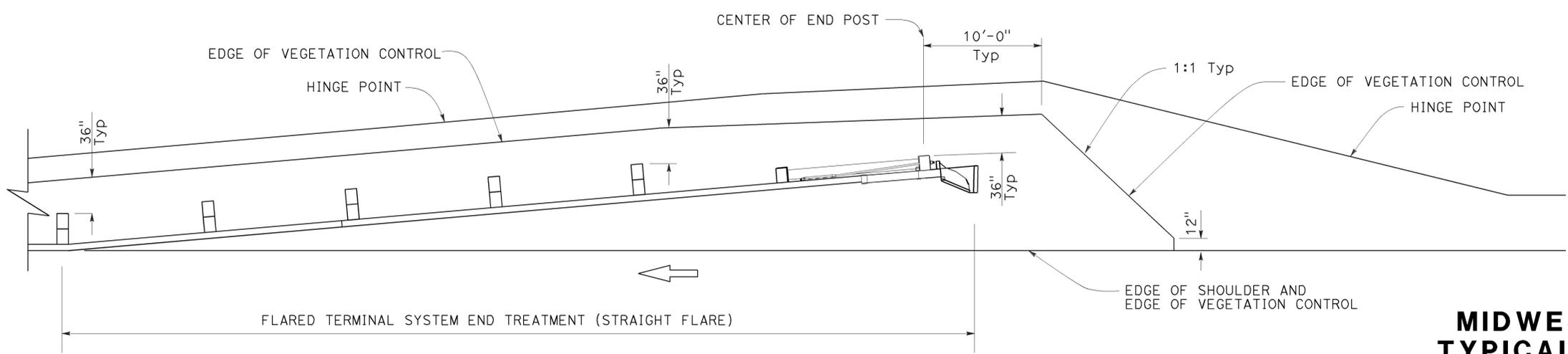
PLAN

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

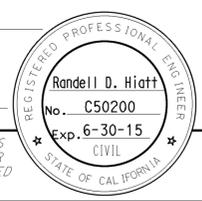
2010 REVISED STANDARD PLAN RSP A77N6

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13, 24, 80, 84, 880	Var	81	136

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

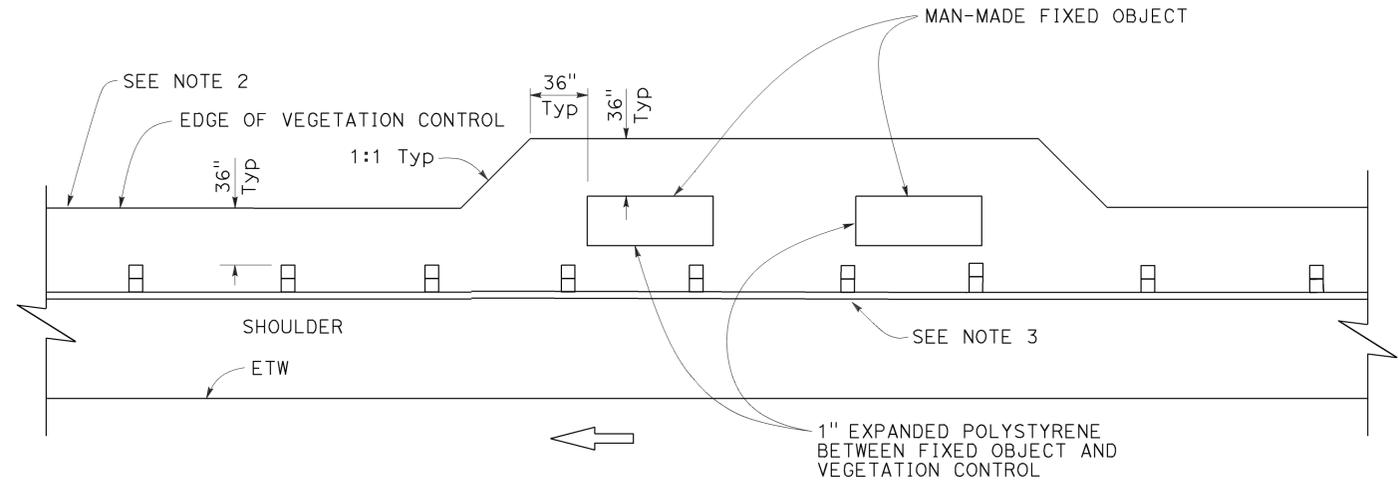
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



TO ACCOMPANY PLANS DATED 6-20-16

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
04	Ala	13, 24, 80, 84, 880	Var	82	136

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

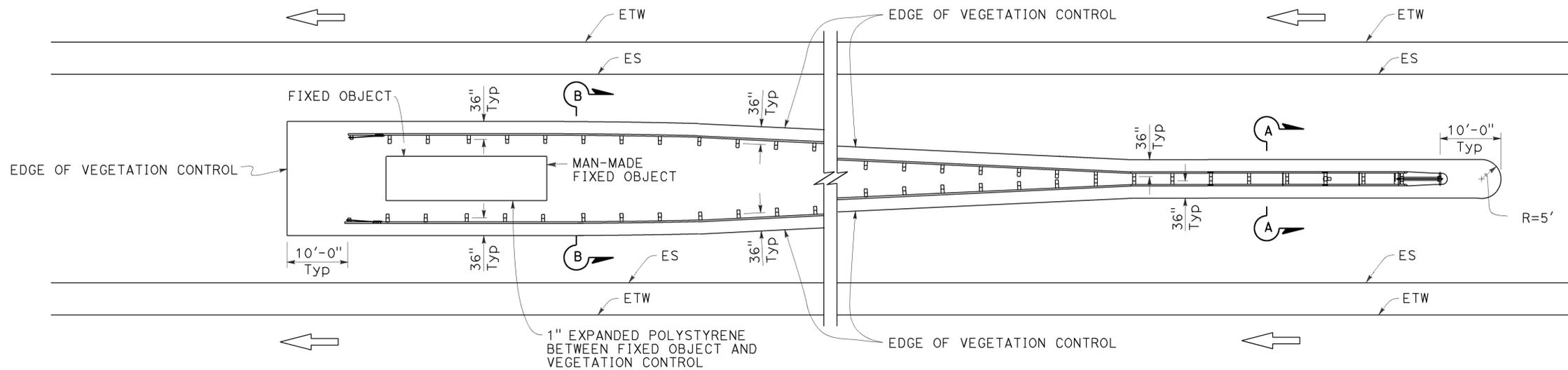
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

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

NOTES:

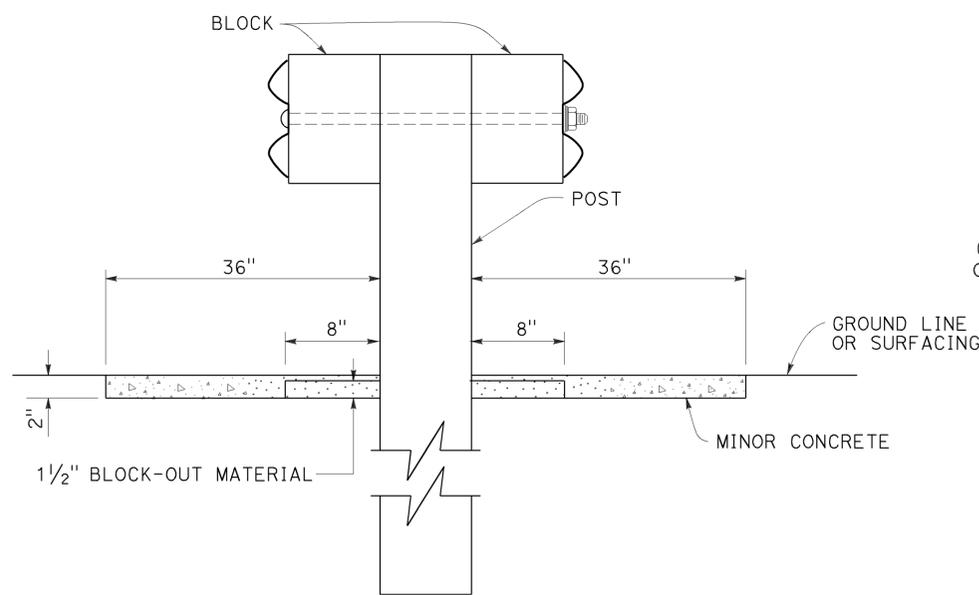
1. See Revised Standard Plan RSP A77N5 for additional vegetation control details.
2. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 36" in front of the post, construct vegetation control to the edge of paved shoulder.

TO ACCOMPANY PLANS DATED 6-20-16

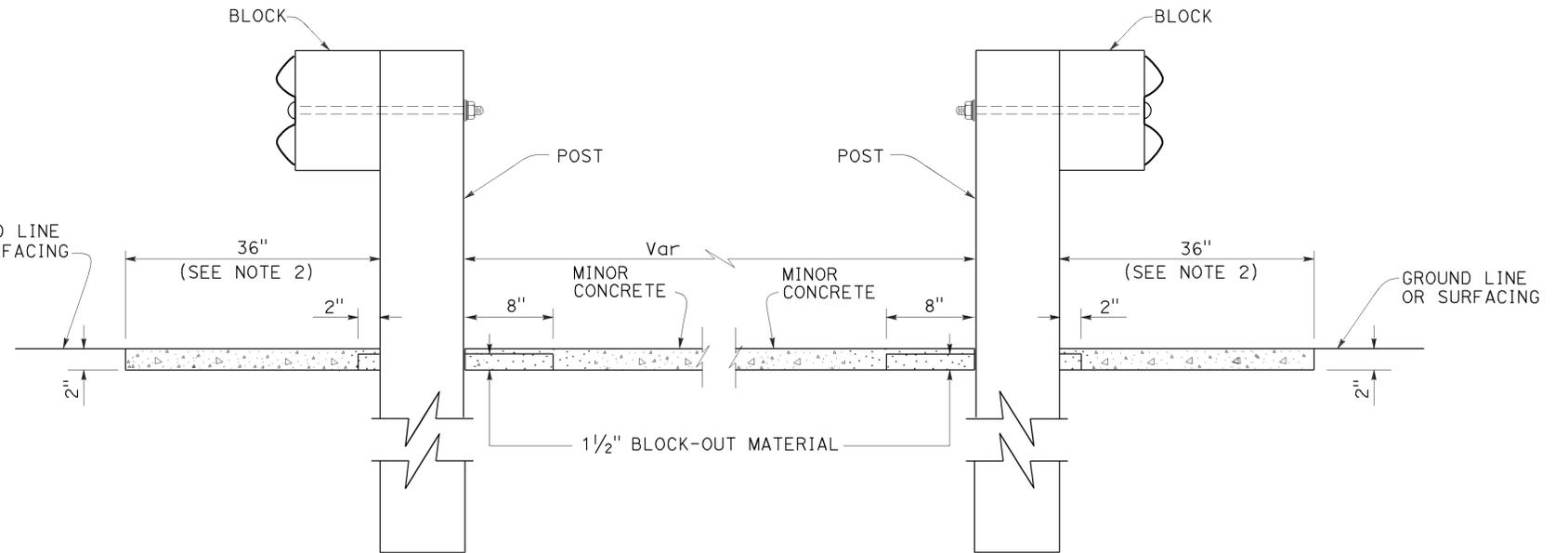


PLAN

Fixed object(s) between separate roadbeds
(One-Way Traffic)



SECTION A-A



SECTION B-B

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TYPICAL VEGETATION CONTROL
AT FIXED OBJECT**

NO SCALE

RSP A77N10 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N10

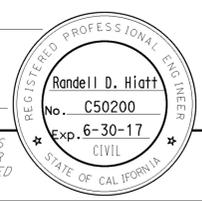
2010 REVISED STANDARD PLAN RSP A77N10

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13, 24, 80, 84, 880	Var	83	136

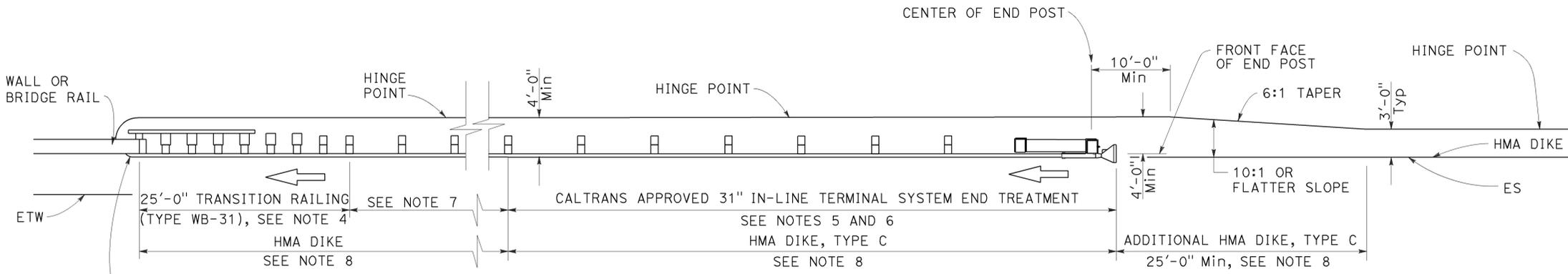
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

August 14, 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.

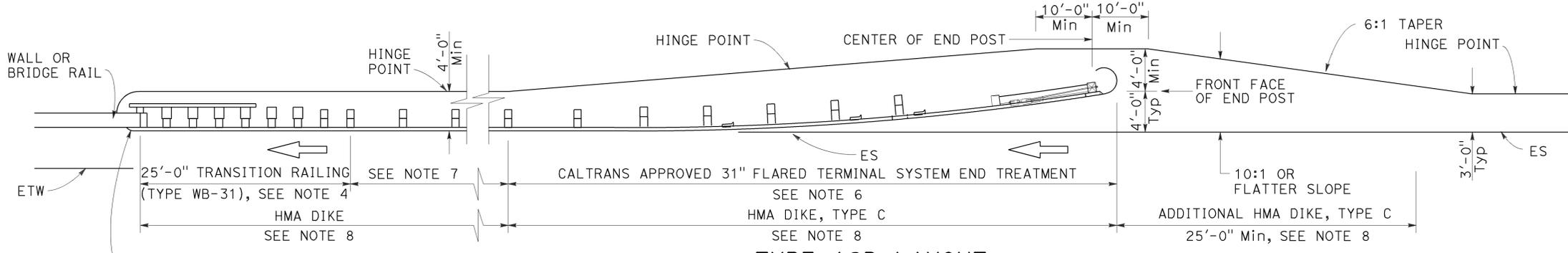


TO ACCOMPANY PLANS DATED 6-20-16



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.

2010 REVISED STANDARD PLAN RSP A77Q1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13, 24, 80, 84, 880	Var	84	136

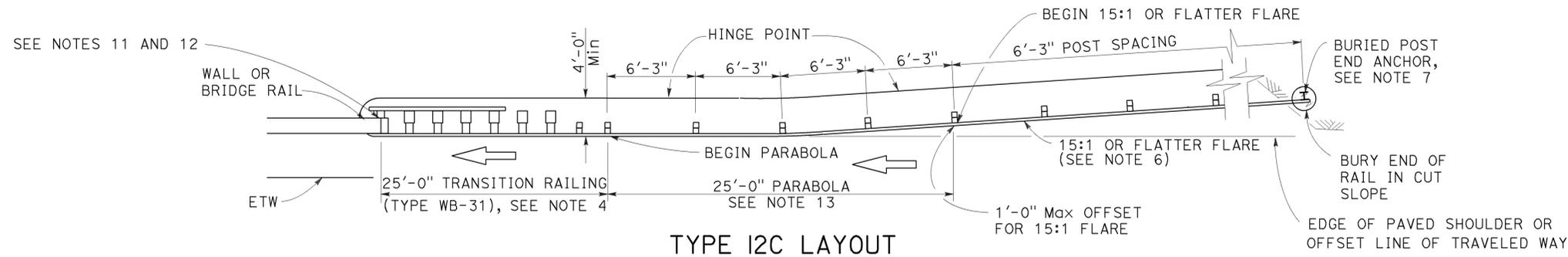
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

August 14, 2015
PLANS APPROVAL DATE

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

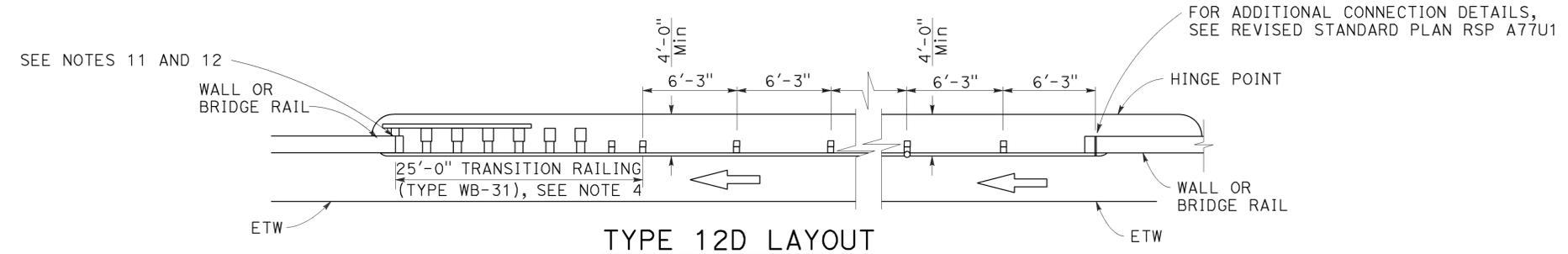
REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-17
CIVIL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 6-20-16



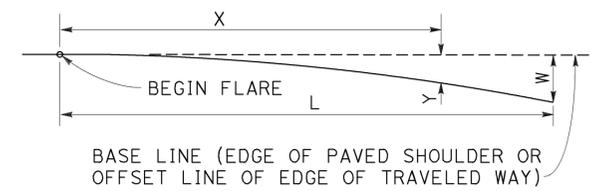
TYPE 12C LAYOUT

(MGS installation at structure approach with a Buried end anchor treatment at traffic approach end of railing)
See Notes 8 and 9



TYPE 12D LAYOUT

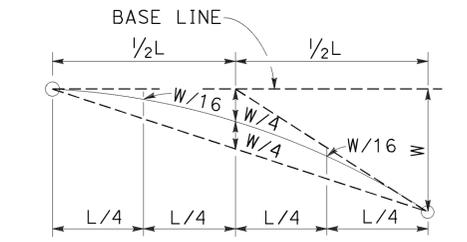
(Continuous MGS installation between structures)
See Notes 5 and 9



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

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.
- 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" m 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 12C and 12D Layouts, see Revised Standard Plan RSP A77U4.
- Type 12D layout is typically used where continuous MGS is recommended between structures.
- The 15:1 or flatter flare for Type 12C Layout is based on the edge of the paved shoulder or offset line of edge of the traveled way. The length of MGS with 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 12C 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 12C Layout is typically used:
 - To the right of approaching traffic, at the end of the 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 each 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.
- 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 APPROACH
AND BETWEEN STRUCTURES**

NO SCALE

RSP A77Q2 DATED AUGUST 14, 2015 SUPERSEDES RSP A77Q2 DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77Q2

2010 REVISED STANDARD PLAN RSP A77Q2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13, 24, 80, 84, 880	Var	85	136

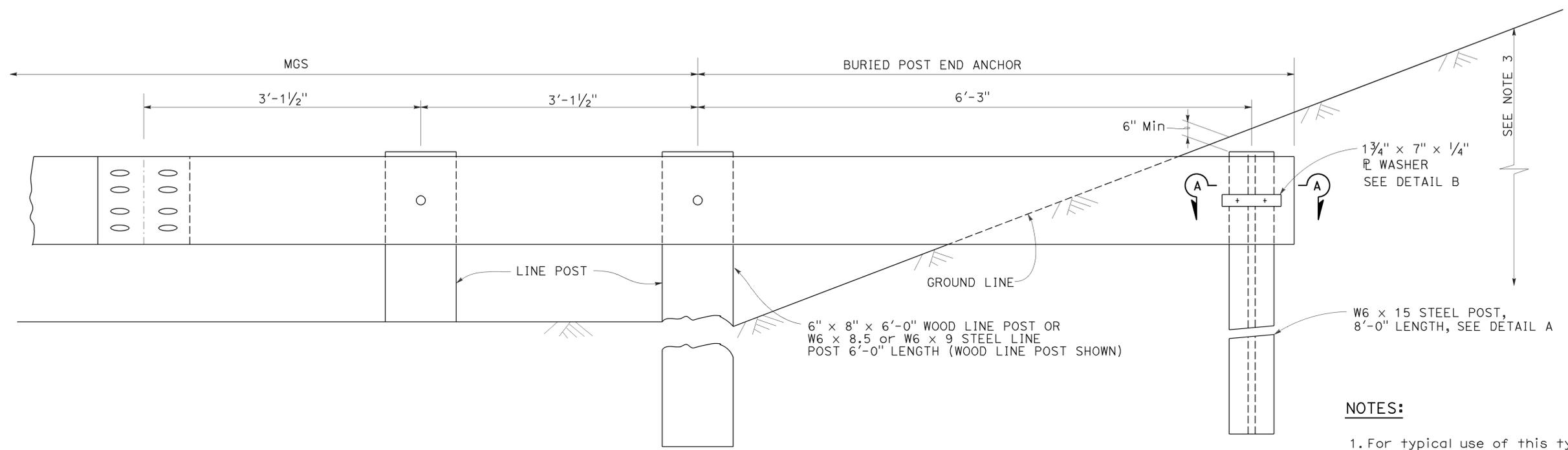
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

November 15, 2013
PLANS APPROVAL DATE

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

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

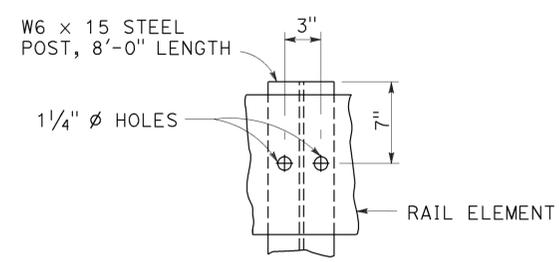
TO ACCOMPANY PLANS DATED 6-20-16



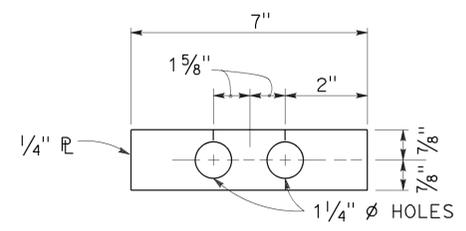
BURIED POST END ANCHOR
See Note 3

NOTES:

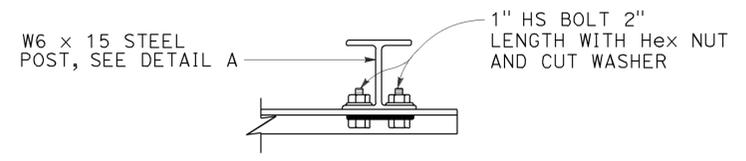
1. For typical use of this type of end anchor with MGS see the A77P, A77Q and A77R Series of the Standard Plans.
2. Holes excavation in the slope to construct the buried post end anchor shall be backfilled with selected earth, placed in layers approximately 1'-0" thick. Each layer shall be moistened and thoroughly compacted.
3. The buried post end anchor shall only be constructed at those locations where the slope perpendicular to the roadway is non-traversable.



DETAIL A



DETAIL B



SECTION A-A

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
BURIED POST END ANCHOR**

NO SCALE

RSP A77T2 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77T2 DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77T2

2010 REVISED STANDARD PLAN RSP A77T2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13, 24, 80, 84, 880	Var	86	136

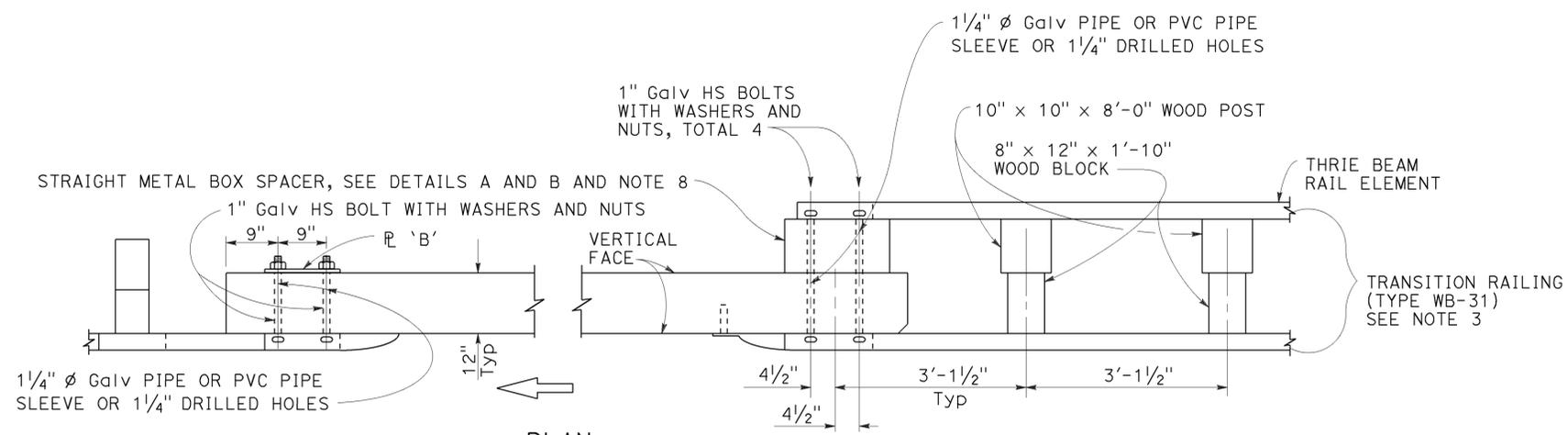
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

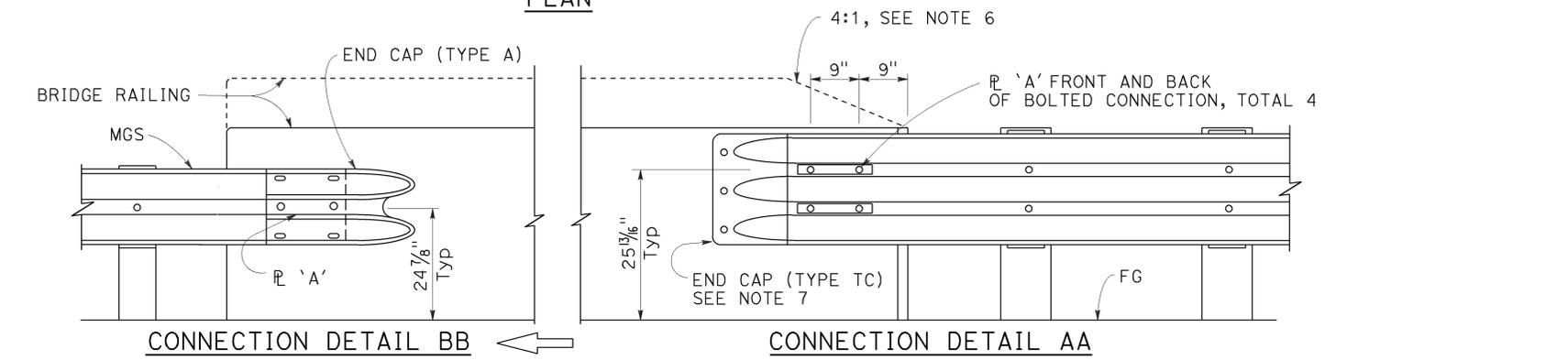
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

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

TO ACCOMPANY PLANS DATED 6-20-16



PLAN

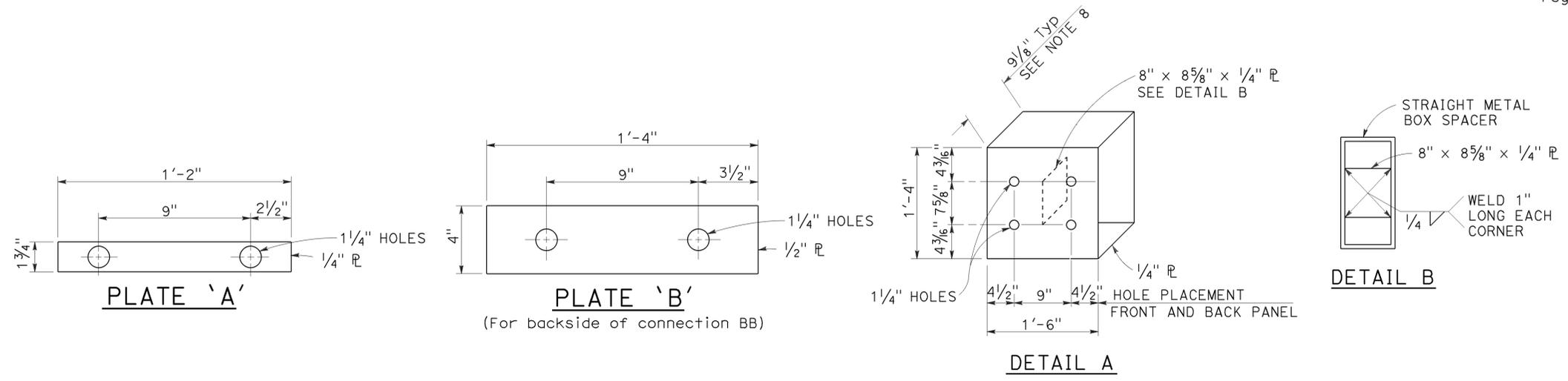


ELEVATION

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 thrie 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 thrie beam railing by more than 1" at Connection Detail AA, taper the top of the end of the bridge railing at 4:1 to match the top elevation of the thrie 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
04	Ala	13, 24, 80, 84, 880	Var	87	136

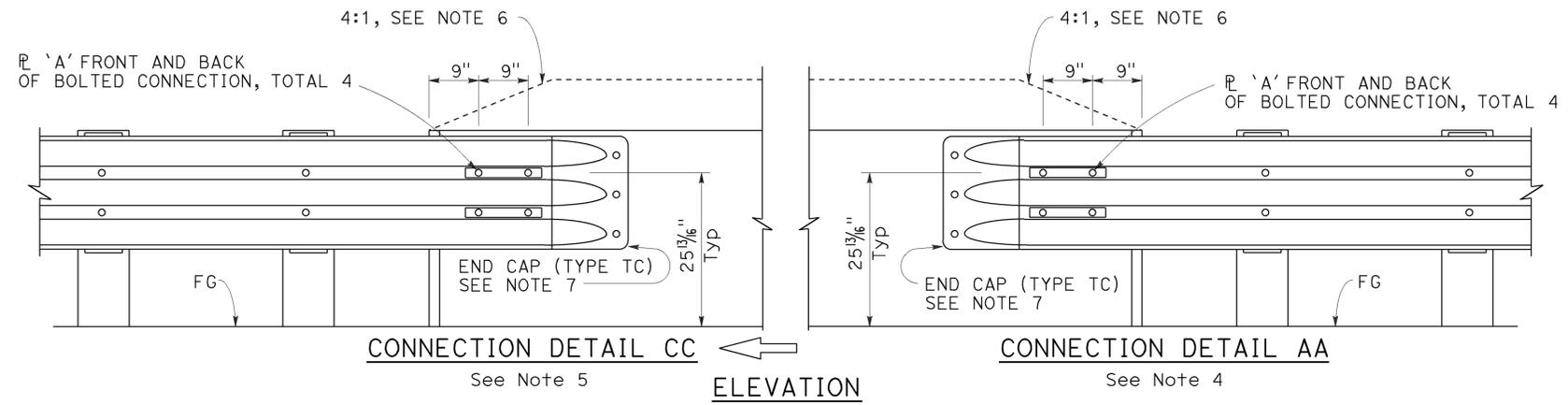
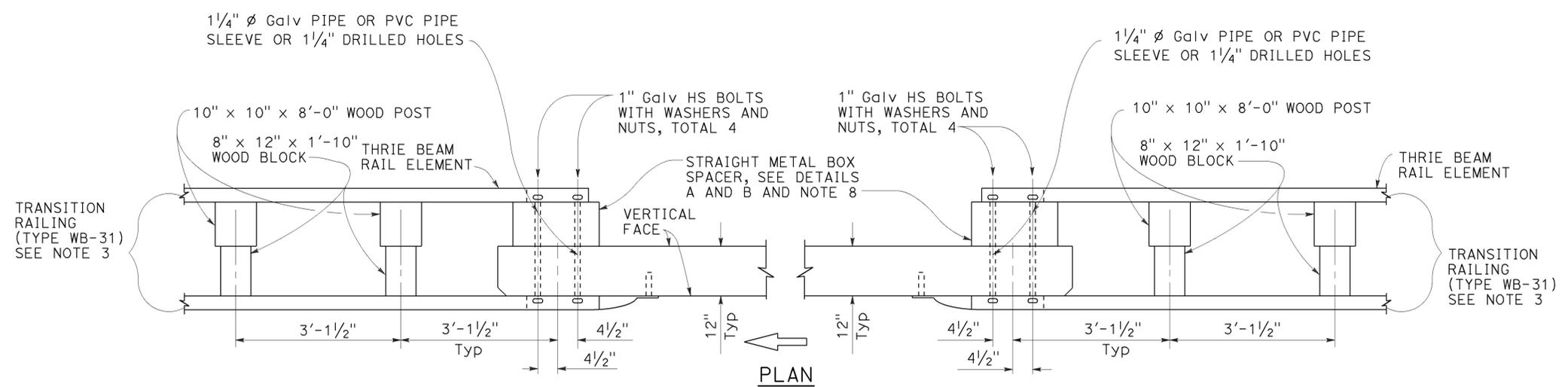
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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

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

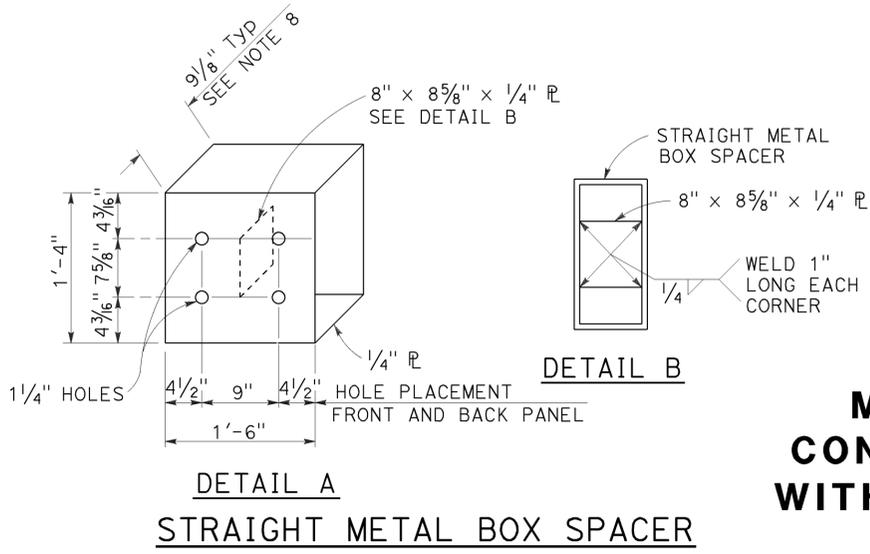
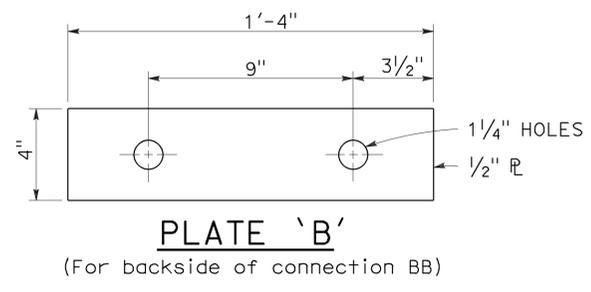
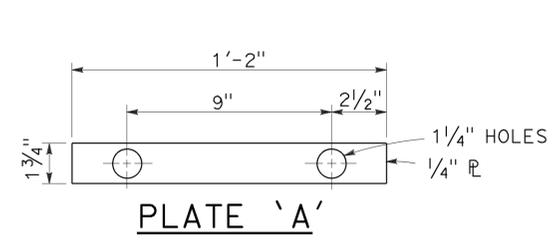
TO ACCOMPANY PLANS DATED 6-20-16



MIDWEST GUARDRAIL SYSTEM CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK

NOTES:

1. See Revised Standard Plan RSP A77U1 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 thrie 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 CC, see Layout Types 12AA and 12BB on Revised Standard Plan RSP A77Q4 and Layout Type 12CC on Revised Standard Plan RSP A77Q5.
6. Where the height of the bridge railing exceeds the height of the thrie beam railing by more than 1" at Connection Detail AA and connection Detail CC, taper the top of the end of the bridge railing at 4:1 to match the top elevation of the thrie beam railing.
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.



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
CONNECTIONS TO BRIDGE RAILINGS
WITHOUT SIDEWALKS DETAILS No. 2**

NO SCALE

RSP A77U2 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

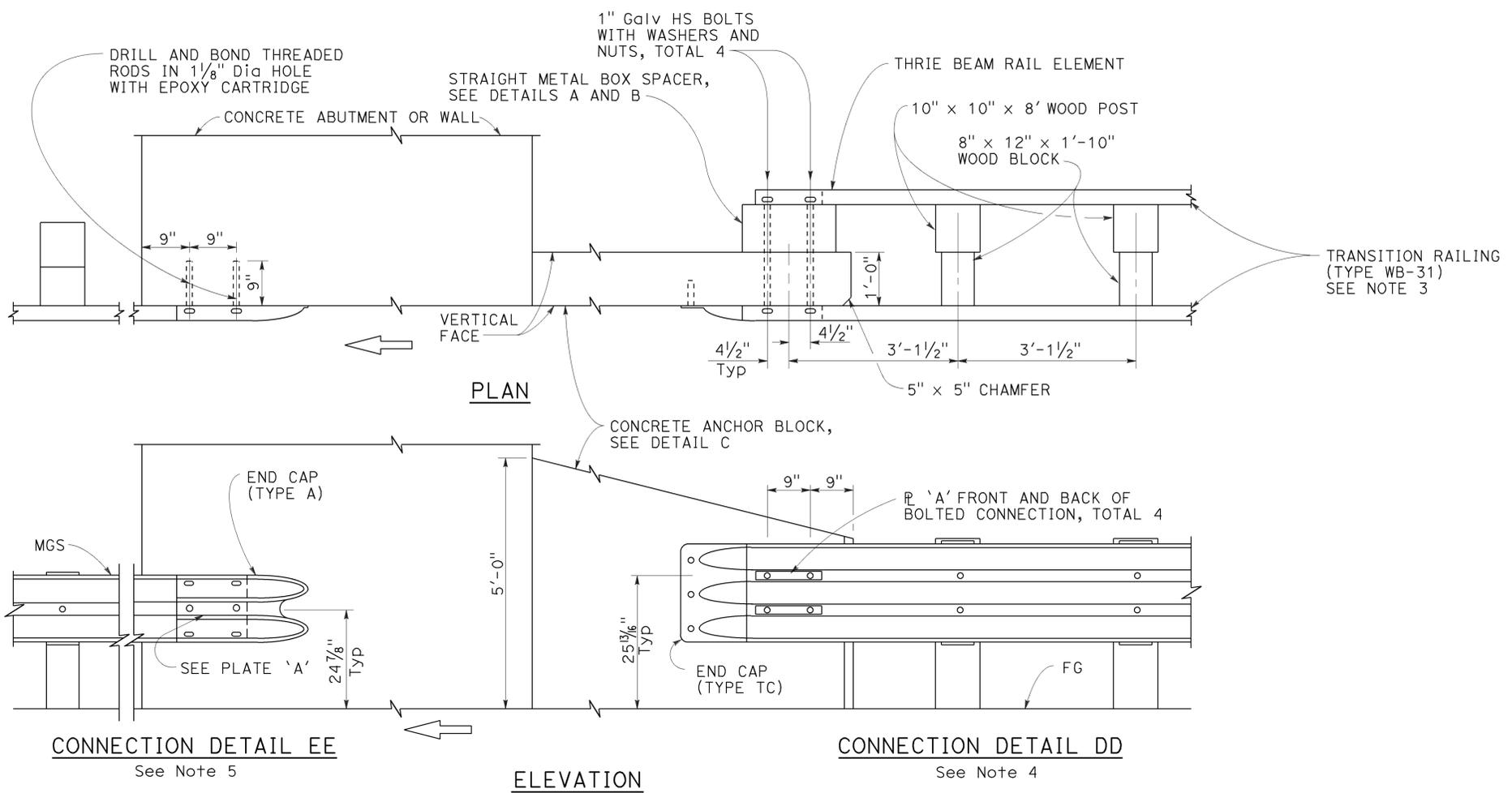
REVISED STANDARD PLAN RSP A77U2

2010 REVISED STANDARD PLAN RSP A77U2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13, 24, 80, 84, 880	Var	88	136

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

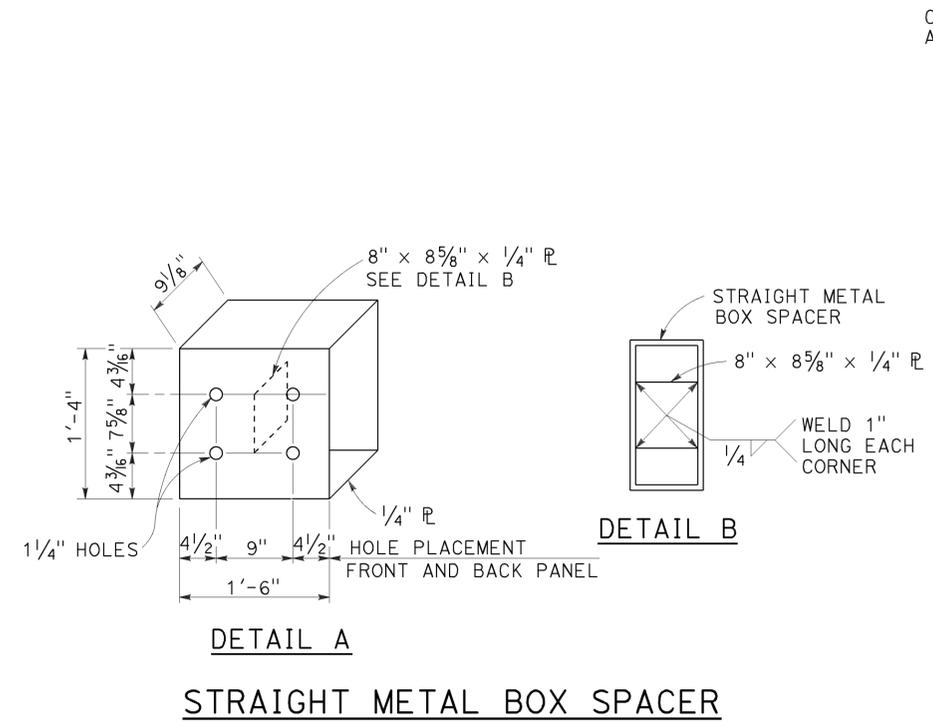
TO ACCOMPANY PLANS DATED 6-20-16



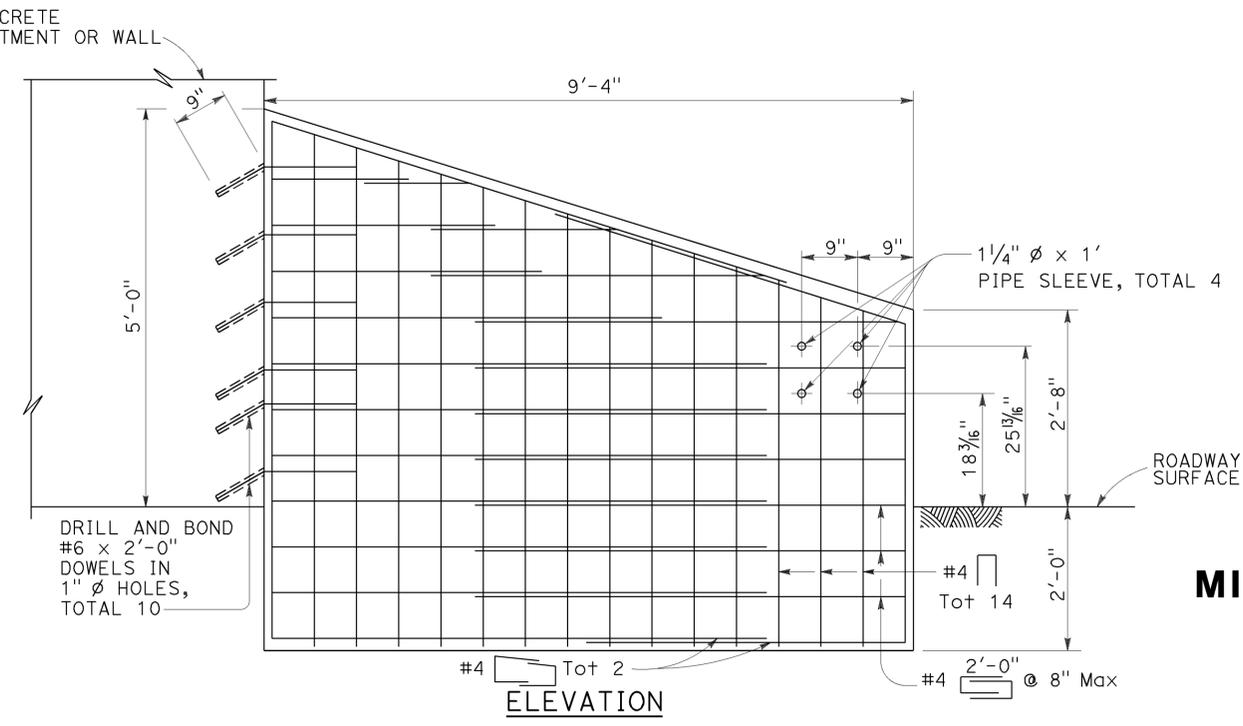
NOTES:

1. These connection details apply to abutments and walls.
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 thrie beam railing section which is connected to the concrete anchor block.
4. For typical use of Connection Details DD, see Layout Types 12A and 12B on Revised Standard Plan RSP A77Q1 and Layout Types 12C and 12D on Revised Standard Plan RSP A77Q2.
5. For typical use of Connection Detail EE, see Layout Type 12D on Revised Standard Plan RSP A77Q2 and Layout Type 12DD on Revised Standard Plan RSP A77Q5.

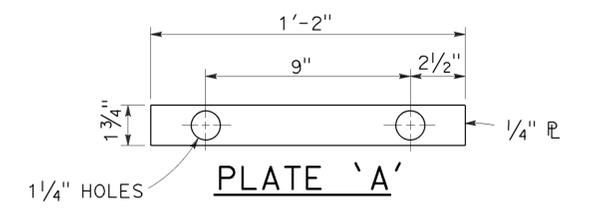
MIDWEST GUARDRAIL SYSTEM CONNECTION TO ABUTMENT OR WALL



STRAIGHT METAL BOX SPACER



ANCHOR BLOCK FOR TRANSITION RAILING CONNECTION



MIDWEST GUARDRAIL SYSTEM CONNECTIONS TO ABUTMENTS AND WALLS

NO SCALE

RSP A77U3 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77U3

2010 REVISED STANDARD PLAN RSP A77U3

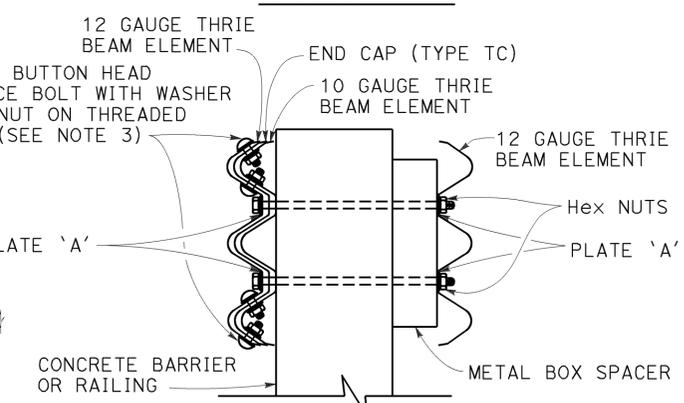
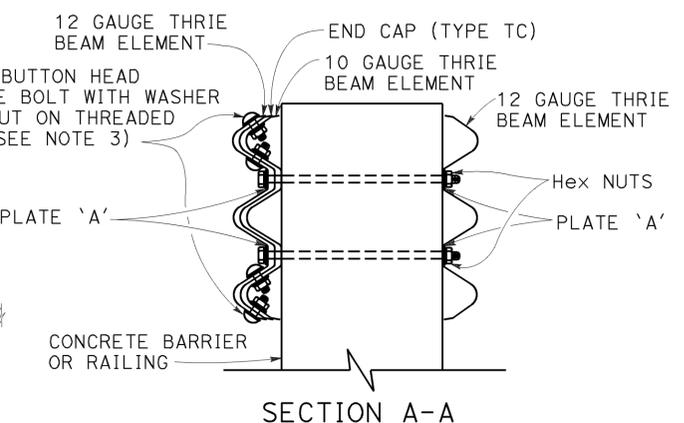
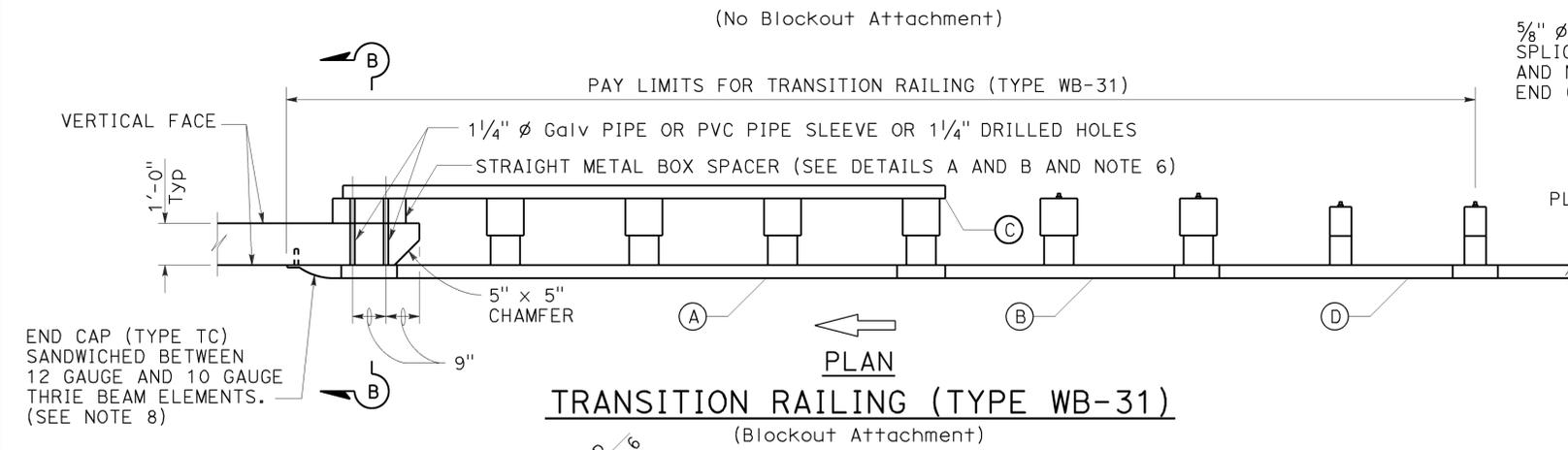
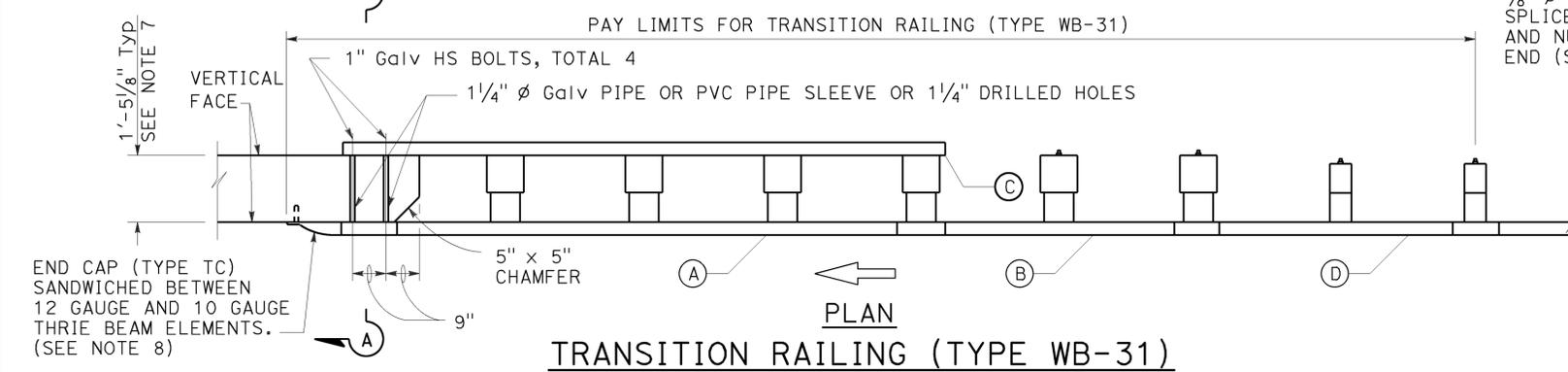
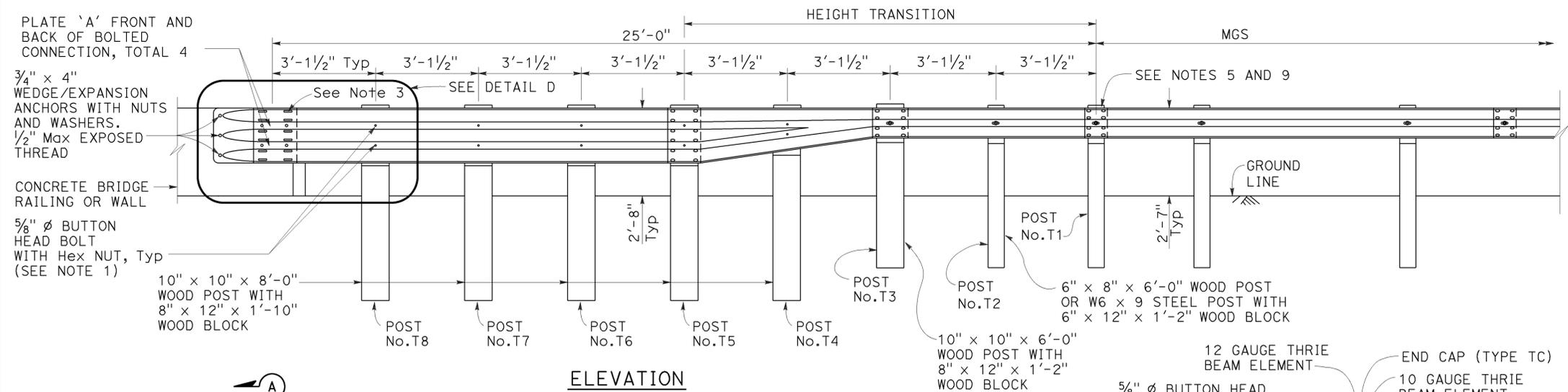
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13, 24, 80, 84, 880	Var	89	136

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

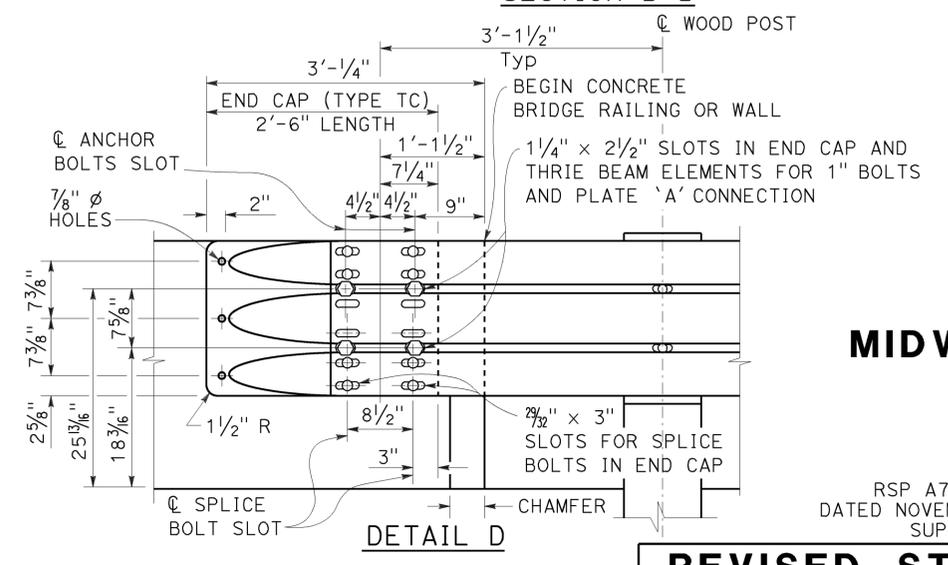
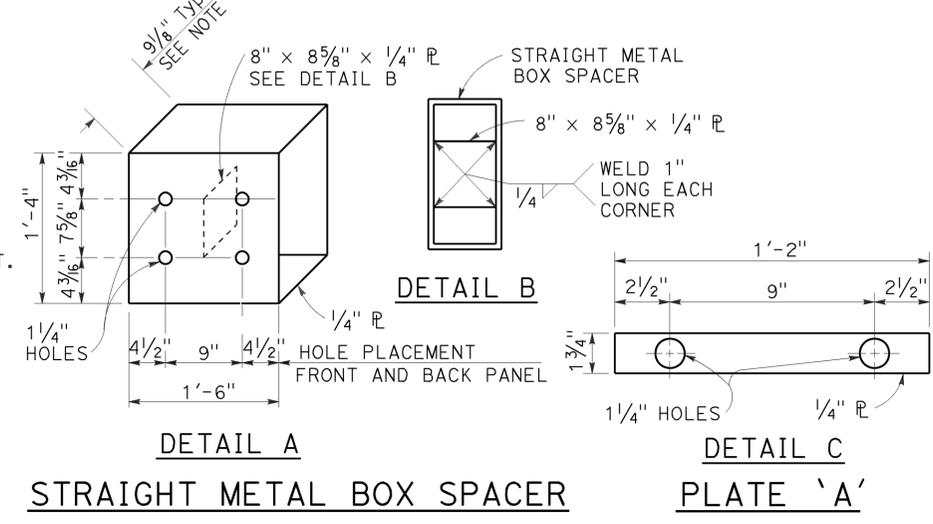
January 23, 2015
PLANS APPROVAL DATE

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.

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



- LEGEND:**
- (A) NESTED THRIE BEAM ELEMENTS (ONE 12 GAUGE ELEMENT NESTED OVER ONE 10 GAUGE ELEMENT).
 - (B) ONE ASYMMETRICAL 10 GAUGE "W" BEAM TO THRIE BEAM ELEMENT.
 - (C) ONE 12 GAUGE THRIE BEAM ELEMENT.
 - (D) ONE 10 GAUGE "W" BEAM RAIL ELEMENT (7'-3/2" LENGTH)
- 10 GAUGE = 0.138" THICK
12 GAUGE = 0.108" THICK



- NOTES:** TO ACCOMPANY PLANS DATED 6-20-16
1. Use 5/8" Ø Button head bolts and hex nuts for connections to posts. No washer on rail face for bolted connections to post.
 2. 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.
 3. 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 29/32" x 1 1/8" slot size. Interior splice bolt holes at these locations may be increased up to 1 1/4" Ø. 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.
 4. The top elevation of Posts No. T2 through No. T7 shall not project more than 1" above the top elevation of the rail element.
 5. 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.
 6. The depth of the metal box spacer varies from the 9/8" to 1 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.
 7. 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.
 8. 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.
 9. Conform standard railing section height to 31" at Post No. T1 using height transition ratio of 150:1.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**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

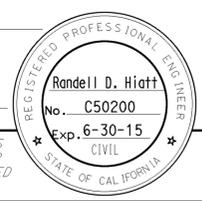
2010 REVISED STANDARD PLAN RSP A77U4

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	13, 24, 80, 84, 880	Var	90	136

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

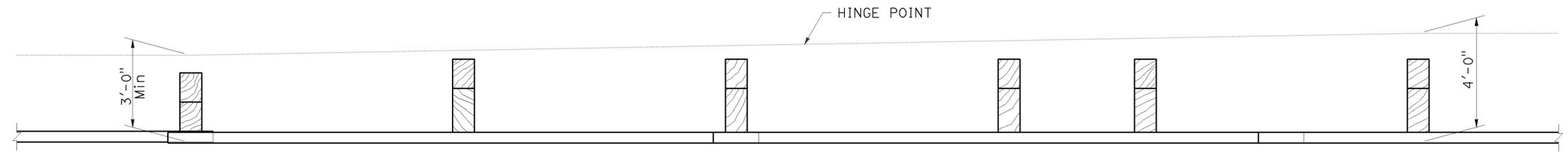
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



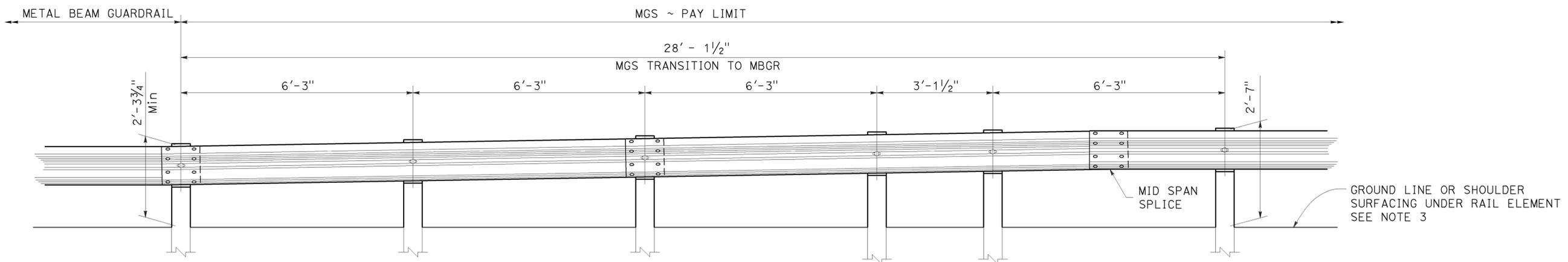
TO ACCOMPANY PLANS DATED 6-20-16

NOTES:

1. Refer to Revised Standard Plans RSP A77L1 and RSP A77L2 for component details for MGS not shown on this plan.
2. All posts for any standard barrier run shall be of the same type: Wood or Steel.
3. Install posts in soil.



PLAN



ELEVATION

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

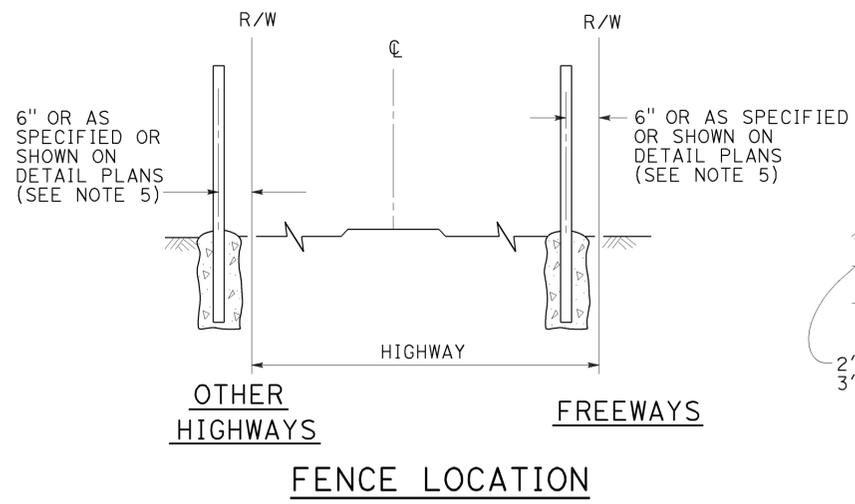
**MIDWEST GUARDRAIL SYSTEM
TRANSITION TO METAL BEAM GUARDRAIL**

NO SCALE

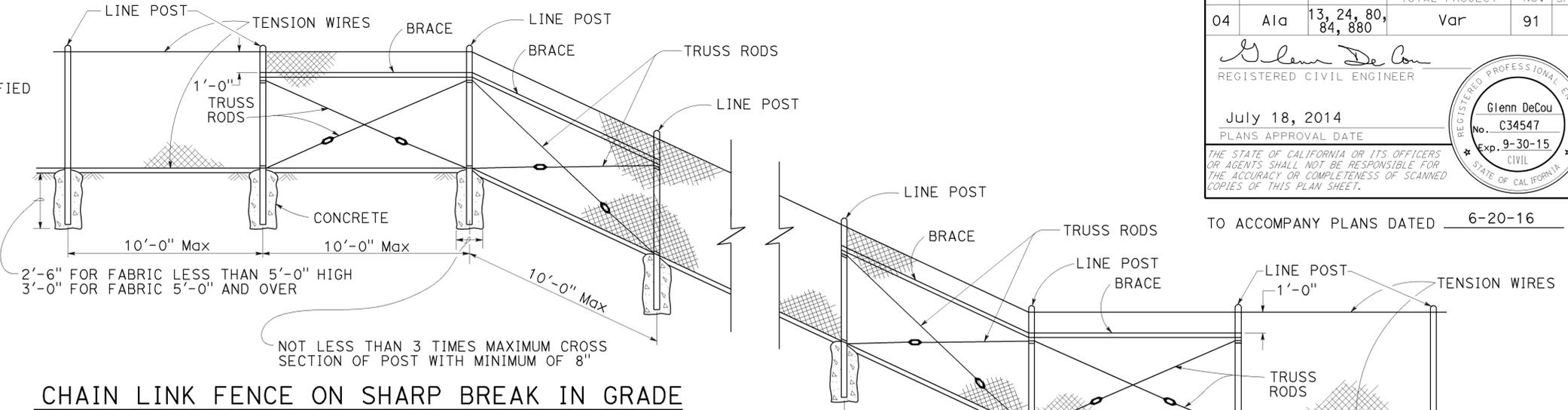
RSP A77U5 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77U5

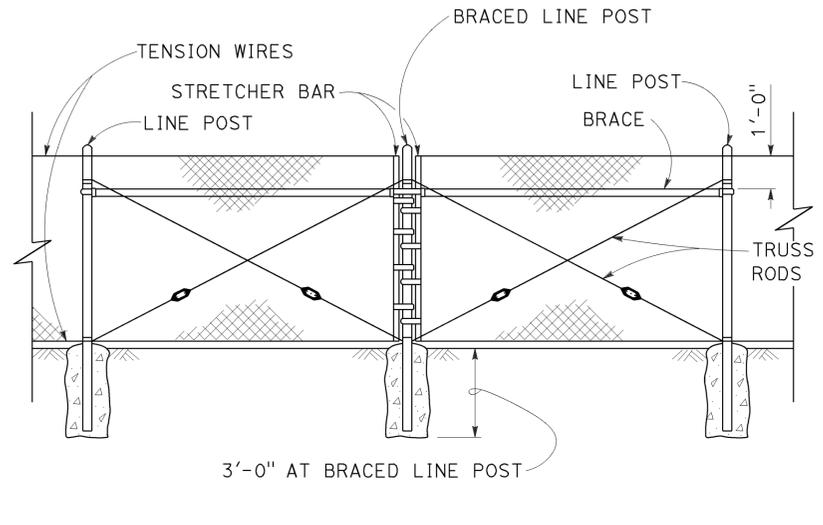
2010 REVISED STANDARD PLAN RSP A77U5



FENCE LOCATION

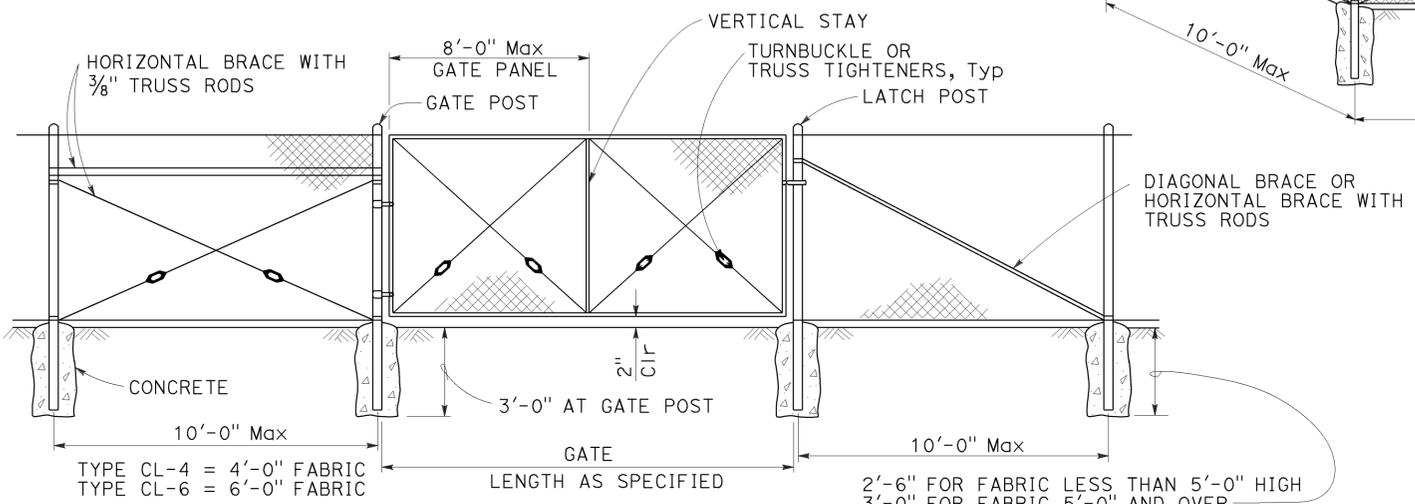


CHAIN LINK FENCE ON SHARP BREAK IN GRADE



BRACED LINE POST INSTALLATION

Braced line post at intervals not exceeding 1000'



CHAIN LINK GATE INSTALLATION

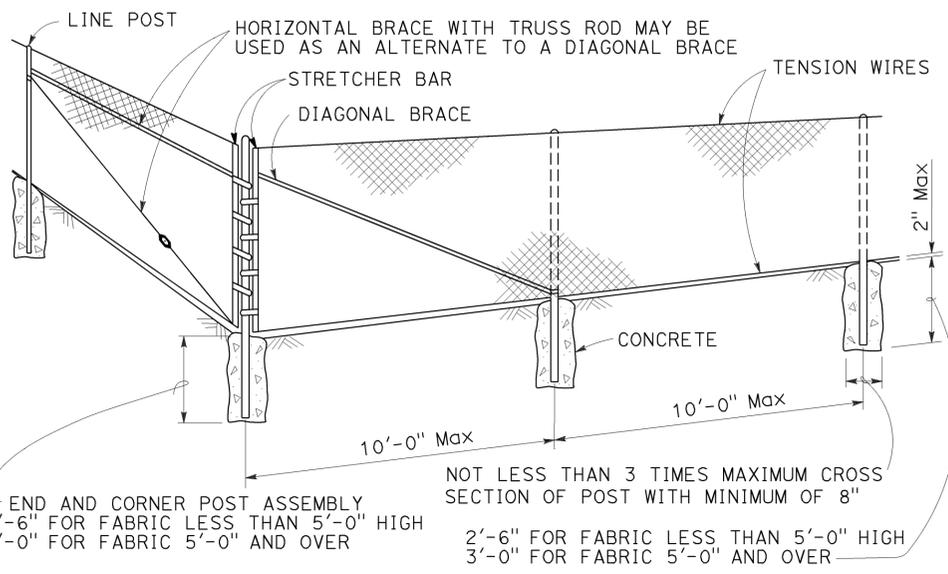
GATE POST			
FENCE HEIGHT	GATE WIDTHS	ROUND OD PIPE	WEIGHT (lb/ft)
6'-0" AND LESS	UP THRU 6'-0"	2.875"	5.80
	OVER 6'-0" THRU 12'-0"	4.500"	10.80
	OVER 12'-0" THRU 18'-0"	5.563"	14.63
OVER 6'-0" TO 8'-0" Max	OVER 18'-0" TO 24'-0" Max	6.625"	18.99
	UP THRU 6'-0"	3.500"	7.58
	OVER 6'-0" THRU 12'-0"	5.563"	14.63
	OVER 12'-0" THRU 18'-0"	6.625"	18.99
	OVER 18'-0" TO 24'-0" Max	8.625"	28.58

Above post dimensions and weights are minimums. Larger sizes may be used upon approval.

NOTES:

- The table below shows minimum sized posts and braces complying with the specifications. Larger or heavier post and brace sizes may be used upon approval.
- Sections shown in the tables must also comply with the strength requirements and other provisions of the Specifications.
- Other sections which comply with the strength requirements and other provisions of the Specifications may be used upon approval.
- Options exercised shall be uniform on any one project.
- Offset to be 2'-0" at monument locations, measured at right angles to R/W lines. Taper to achieve offset to be at least 20'-0" long.
- See Revised Standard Plan RSP A85B for Brace, Stretcher Bar, and Truss Tightener Details.

FENCE HEIGHT	TYPICAL MEMBER DIMENSIONS (See Notes)									
	LINE POSTS				END, LATCH AND CORNER POSTS		BRACES			
	ROUND OD PIPE	WEIGHT (lb/ft)	ROLL FORMED		ROUND OD PIPE	WEIGHT (lb/ft)	ROUND OD PIPE	WEIGHT (lb/ft)	ROLL FORMED	
			SECTION	WEIGHT (lb/ft)					SECTION	WEIGHT (lb/ft)
6'-0" AND LESS	1.900"	2.72	1.875" x 1.625"	1.85	2.375"	3.65	1.66"	2.27	1.625" x 1.25"	1.35
OVER 6'-0" TO 8'-0" Max	2.375"	3.65	2.25" x 1.70"	2.78	2.875"	5.80	1.66"	2.27	1.625" x 1.25"	1.35



CORNER POST

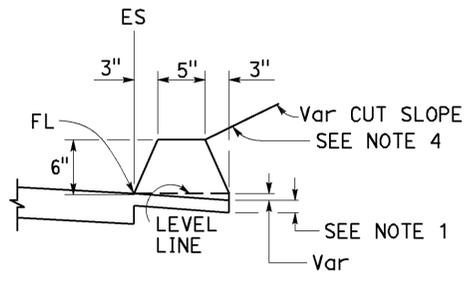
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
CHAIN LINK FENCE
NO SCALE

RSP A85 DATED JULY 18, 2014 SUPERSEDES STANDARD PLAN A85
DATED MAY 20, 2011 - PAGE 112 OF THE STANDARD PLANS BOOK DATED 2010.

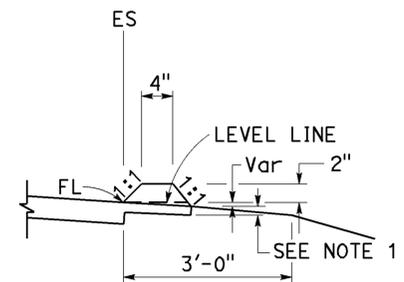
REVISED STANDARD PLAN RSP A85

2010 REVISED STANDARD PLAN RSP A85

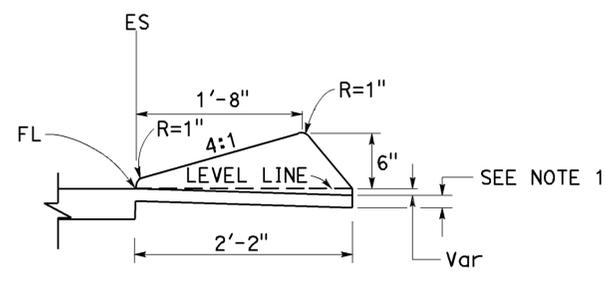
TO ACCOMPANY PLANS DATED 6-20-16



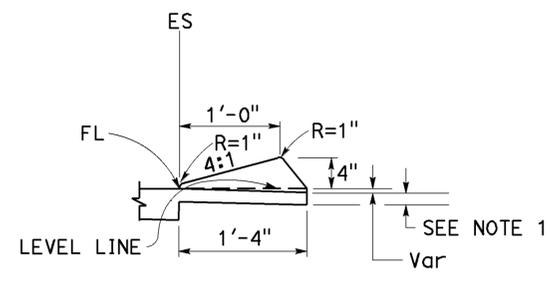
TYPE A
See Notes 3 and 5



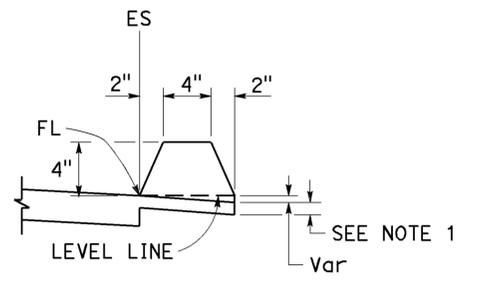
TYPE C



TYPE D

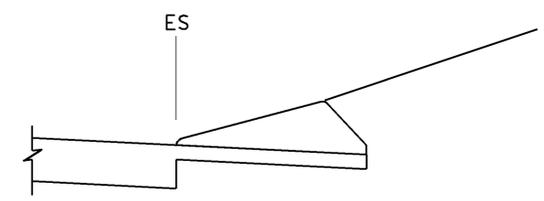


TYPE E

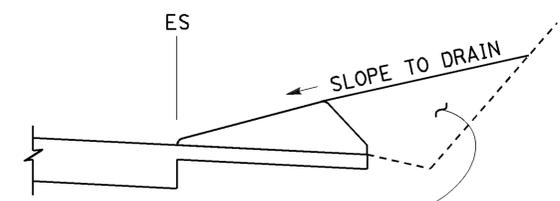


TYPE F
See Note 5

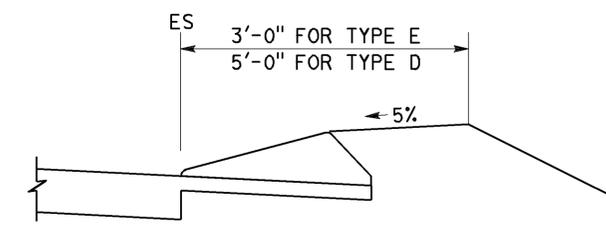
DIKES



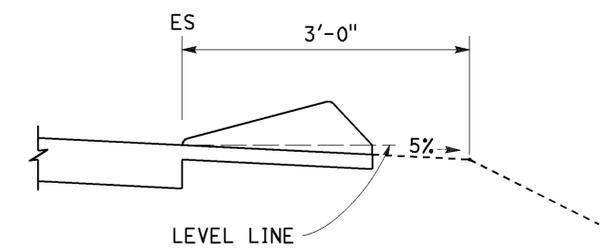
CASE C-1
Cut Slope



CASE C-2
Cut Slope



CASE F



CASE R
See Note 2

TYPE D AND E BACKFILL DETAILS

NOTES:

- 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 Revised Standard Plan RSP A77N4 for dike positioning details. See Revised Standard Plan RSP A77N3 for hinge point offsets with guardrail.

DIKE QUANTITIES

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

Quantities based on 5% cross slope.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

HOT MIX ASPHALT DIKES

NO SCALE

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

REVISED STANDARD PLAN RSP A87B

2010 REVISED STANDARD PLAN RSP A87B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13, 24, 80, 84, 880	Var	93	136

Gregory A. Balzer
LICENSED LANDSCAPE ARCHITECT

July 19, 2013
PLANS APPROVAL DATE

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

TO ACCOMPANY PLANS DATED 6-20-16

A

AB AGGREGATE BASE
 ABS ACRYLONITRILE-BUTADIENE-STYRENE
 AC ASPHALT CONCRETE
 ACC ARMOR-CLAD CONDUCTORS
 Adj ADJACENT/ADJUSTABLE
 AIC AUXILIARY IRRIGATION CONTROLLER
 Alt ALTERNATIVE
 AMEND AMENDMENT
 ARV AIR RELEASE VALVE
 AUTO AUTOMATIC
 AUX AUXILIARY
 AVB ATMOSPHERIC VACUUM BREAKER

B

B&B BALLED AND BURLAPPED
 B/B BRASS/BRONZE
 B/B/PL BRASS/BRONZE/PLASTIC
 B/PL BRASS/PLASTIC
 BFM BONDED FIBER MATRIX
 Bit Ctd BITUMINOUS COATED
 BP BOOSTER PUMP
 BPA BACKFLOW PREVENTER ASSEMBLY
 BPE BACKFLOW PREVENTER ENCLOSURE
 BV BALL VALVE

C

C CONDUIT
 CAP CORRUGATED ALUMINUM PIPE
 CARV COMBINATION AIR RELEASE VALVE
 CB COUPLING BAND
 CCA CAM COUPLER ASSEMBLY
 CEC CONTROLLER ENCLOSURE CABINET
 CHDPE CORRUGATED HIGH DENSITY POLYETHYLENE
 CL CHAIN LINK
 CNC CONTROL AND NEUTRAL CONDUCTORS
 Conc CONCRETE
 CP COPPER PIPE
 CS COMPOST SOCK
 CSP CORRUGATED STEEL PIPE
 CST CENTER STRIP
 CV CHECK VALVE

D

Dia DIAMETER
 DIP DUCTILE IRON PIPE
 DIT DRIP IRRIGATION TUBING
 DG DECOMPOSED GRANITE
 DN DIAMETER NOMINAL
 DVA DRIP VALVE ASSEMBLY

E

EC EROSION CONTROL
 ECTC EROSION CONTROL TECHNOLOGY COUNCIL
 Elec+ ELECTRIC/ELECTRICAL
 Elev ELEVATION
 ELL ELBOW
 ENCL ENCLOSURE
 EP EDGE OF PAVEMENT
 ES EDGE OF SHOULDER
 EST END STRIP
 ESTB ESTABLISHMENT
 ETW EDGE OF TRAVELED WAY

F

F FULL CIRCLE
 F/P FULL/PART CIRCLE
 FCV FLOW CONTROL VALVE
 FERT FERTILIZER
 FG FINISHED GRADE
 FH FLEXIBLE HOSE
 FIPT FEMALE IRON PIPE THREAD
 FIS FERTILIZER INJECTOR SYSTEM
 FL FLOW LINE
 FR FIBER ROLL
 FS FLOW SENSOR
 FSC FLOW SENSOR CABLE
 FV FLUSH VALVE

G

Galv GALVANIZED
 GARV GARDEN VALVE
 GARVA GARDEN VALVE ASSEMBLY
 GM GRAVEL MULCH
 GPH GALLONS PER HOUR
 GPM GALLONS PER MINUTE
 GSP GALVANIZED STEEL PIPE
 GV GATE VALVE

H

H HALF CIRCLE
 HDPE HIGH DENSITY POLYETHYLENE
 HP HORSEPOWER/HINGE POINT
 HPL HIGH PRESSURE LINE
 Hwy HIGHWAY

I

IC IRRIGATION CONTROLLER
 ICC IRRIGATION CONTROLLER(S) IN CONTROLLER ENCLOSURE CABINET
 ID INSIDE DIAMETER
 IFS IRRIGATION FILTRATION SYSTEM
 IPS IRON PIPE SIZE
 IPT IRON PIPE THREAD
 Irr IRRIGATION

L

L LENGTH

M

Max MAXIMUM
 MBGR METAL BEAM GUARD RAILING
 MCV MANUAL CONTROL VALVE
 MIC MASTER IRRIGATION CONTROLLER
 Min MINIMUM
 MIPT MALE IRON PIPE THREAD
 Misc MISCELLANEOUS
 MtI MATERIAL
 MVP MAINTENANCE VEHICLE PULLOUT

N

NCN NO COMMON NAME
 NL NOZZLE LINE
 No. NUMBER
 NPT NATIONAL PIPE THREAD

O

O/C ON CENTER
 OD OUTSIDE DIAMETER
 OL OVERLAP

P

P PART CIRCLE
 PB PULL BOX
 PCC PORTLAND CEMENT CONCRETE
 PE POLYETHYLENE
 Pkt+ PACKET
 PL PLASTIC
 PLS PURE LIVE SEED
 PLT PLANT/PLANTING
 PLT ESTB PLANT ESTABLISHMENT
 PM POST MILE
 PR PRESSURE RATED
 PRLV PRESSURE RELIEF VALVE
 PRV PRESSURE REGULATING VALVE
 PVC POLYVINYL CHLORIDE
 Pvm+ PAVEMENT

Q

Q QUARTER CIRCLE
 QCV QUICK COUPLING VALVE

NOTE:
 For additional abbreviations, see Standard Plans A10A and A10B.

R

R RADIUS
 RCP REINFORCED CONCRETE PIPE
 RCV REMOTE CONTROL VALVE
 RCVM REMOTE CONTROL VALVE (MASTER)
 RCVMF REMOTE CONTROL VALVE (MASTER) W/FLOW SENSOR
 RCVP REMOTE CONTROL VALVE W/PRESSURE REGULATOR
 RCW RECYCLED WATER
 RECP ROLLED EROSION CONTROL PRODUCT
 REQ REQUIRED
 RICS REMOTE IRRIGATION CONTROL SYSTEM
 R/W RIGHT OF WAY

S

S SLIP
 SCH SCHEDULE
 SF STATE-FURNISHED
 Shld SHOULDER
 Sq SQUARE
 SST SIDE STRIP
 Sta STATION
 Std STANDARD
 SW SIDEWALK/SOUND WALL

T

T THIRD CIRCLE/THREAD
 TLS TRUCK LOADING STANDPIPE
 TQ THREE QUARTER CIRCLE
 TRM TURF REINFORCEMENT MAT
 TT TWO-THIRDS CIRCLE
 TWSA TREE WELL SPRINKLER ASSEMBLY
 Typ TYPICAL

U

UG UNDERGROUND

W

W WIDTH
 W/ WITH
 WM WATER METER
 WS WYE STRAINER
 WSA WYE STRAINER ASSEMBLY
 WSP WELDED STEEL PIPE
 WWM WELDED WIRE MESH

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
LANDSCAPE AND EROSION CONTROL ABBREVIATIONS
 NO SCALE

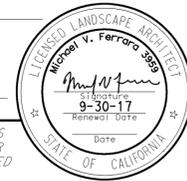
RSP H1 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN H1 DATED MAY 20, 2011 - PAGE 218 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP H1

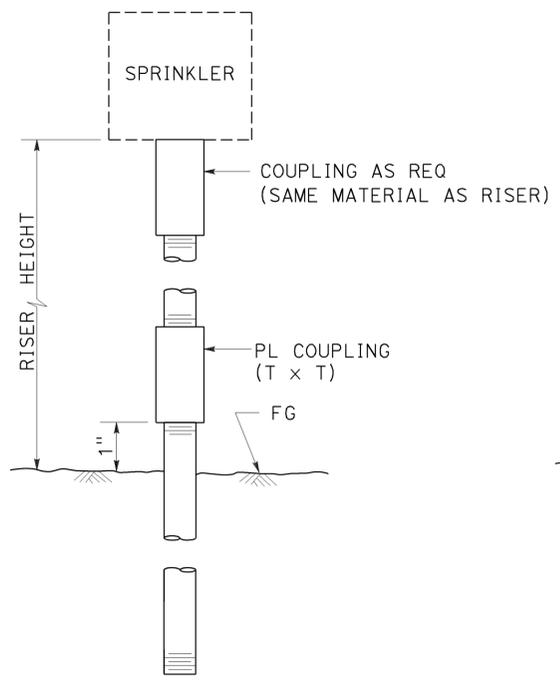
2010 REVISED STANDARD PLAN RSP H1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13, 24, 80, 84, 880	Var	94	136

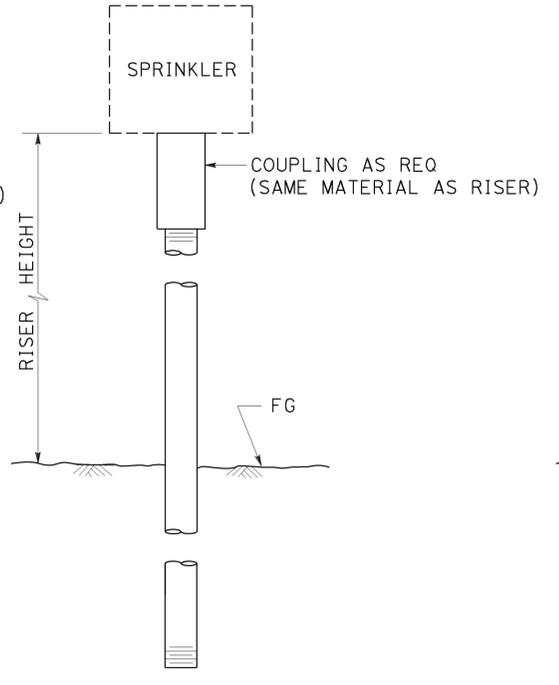
July 15, 2016
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



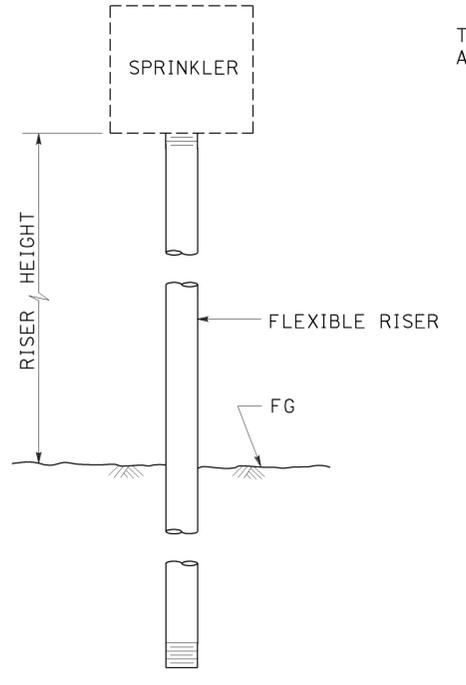
TO ACCOMPANY PLANS DATED 6-20-16



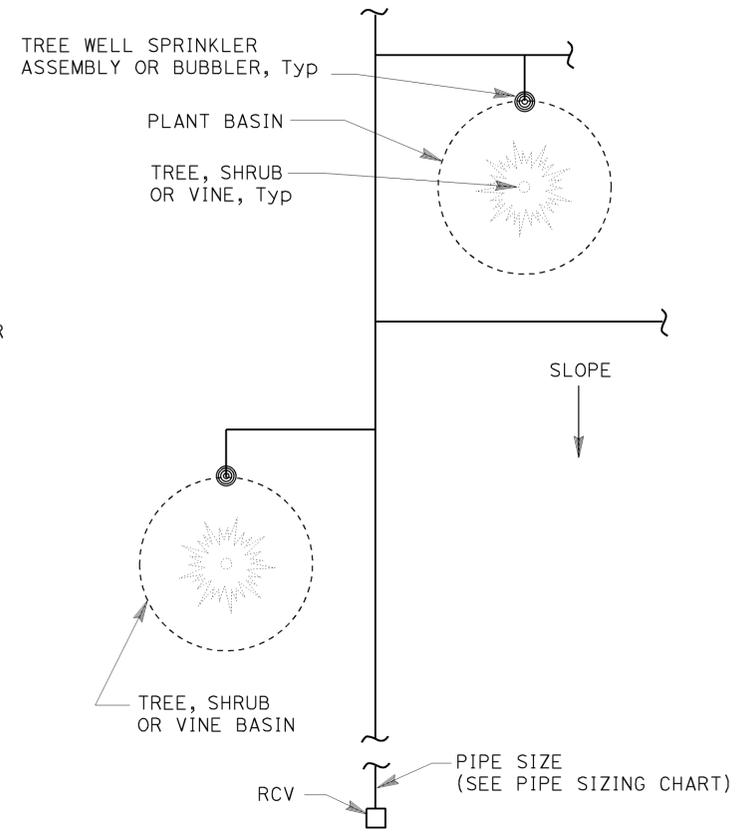
ELEVATION
RISER TYPE I



ELEVATION
RISER TYPE II



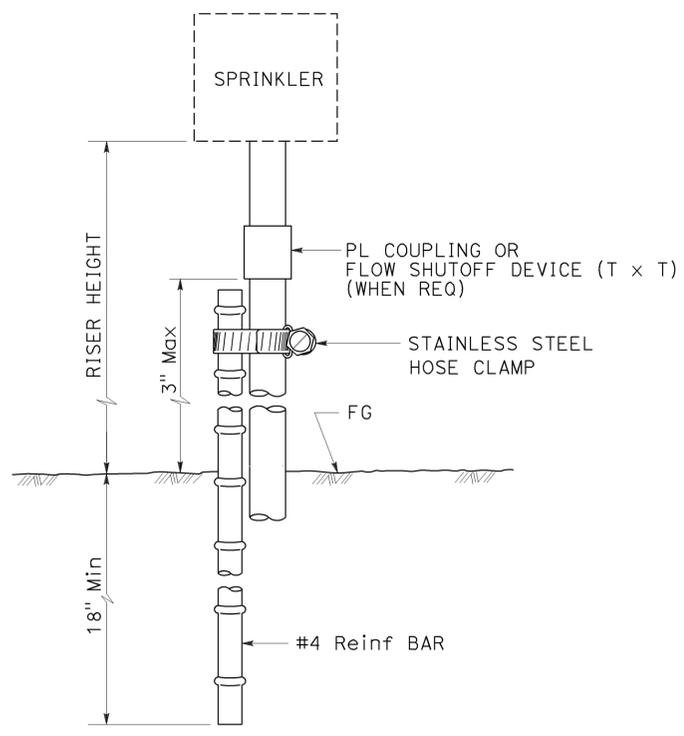
ELEVATION
RISER TYPE III



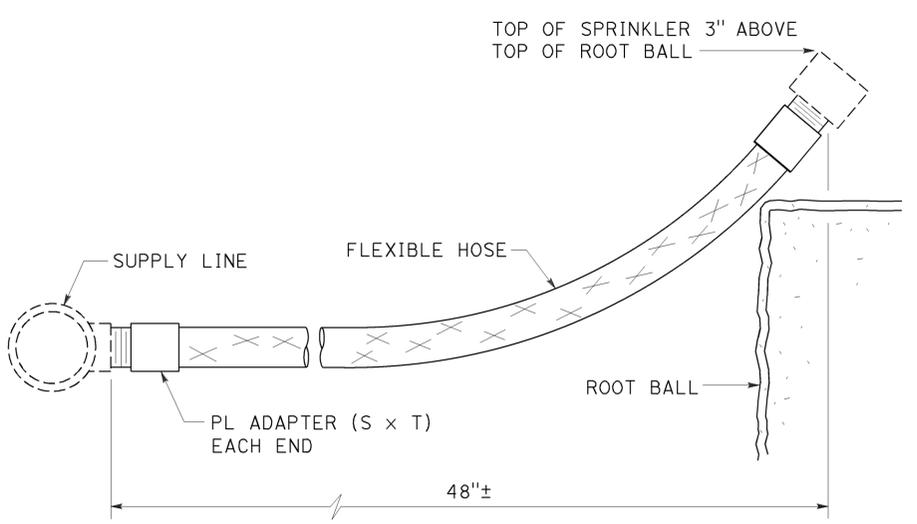
PLAN

NOTES:

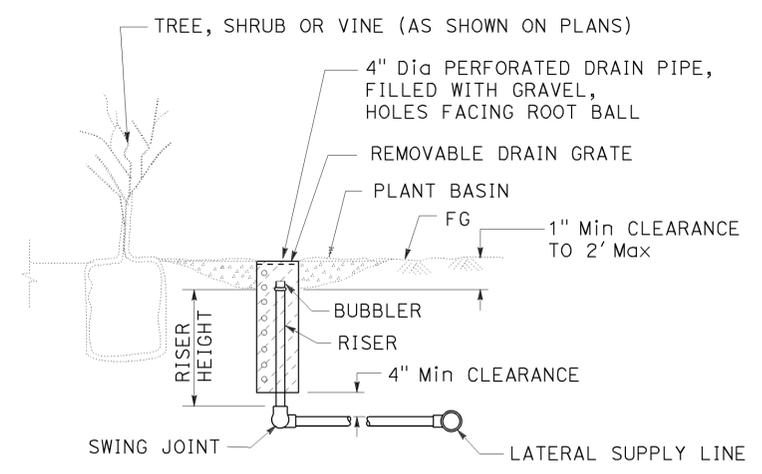
1. Install tree well sprinkler assembly on up-hill side of plant when on slope.
2. Install bubbler within basin.



ELEVATION
RISER TYPE IV



ELEVATION
RISER TYPE V



SECTION
TREE WELL SPRINKLER ASSEMBLY

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**LANDSCAPE DETAILS
(RISER SPRINKLER ASSEMBLY)**
NO SCALE

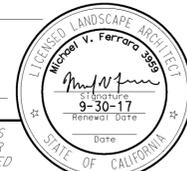
RSP H5 DATED JULY 15, 2016 SUPERSEDES RSP H5 DATED JULY 19, 2013 AND STANDARD PLAN H5 DATED MAY 20, 2011 - PAGE 222 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP H5

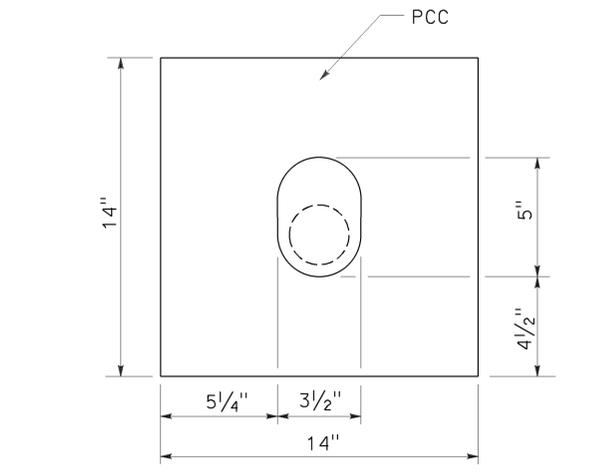
2010 REVISED STANDARD PLAN RSP H5

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13, 24, 80, 84, 880	Var	95	136

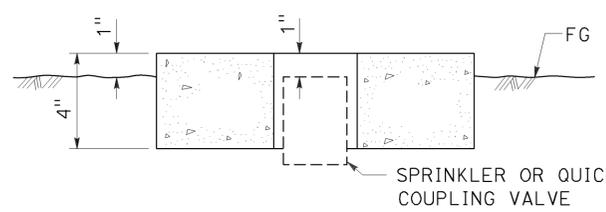
July 15, 2016
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



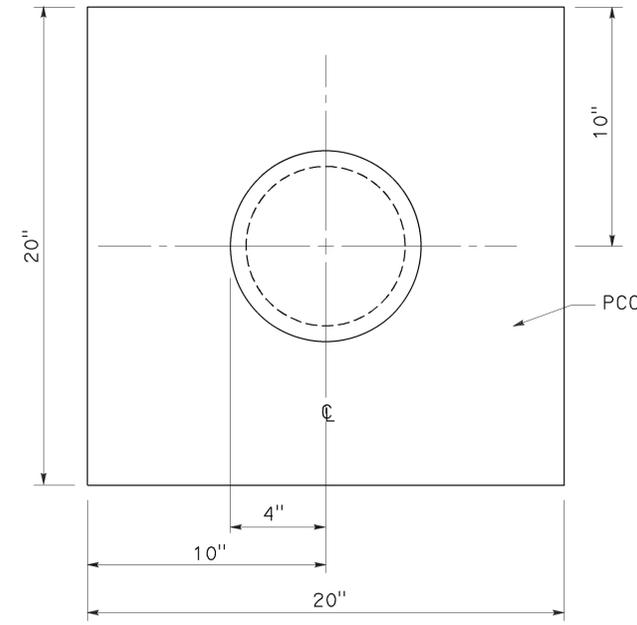
TO ACCOMPANY PLANS DATED 6-20-16



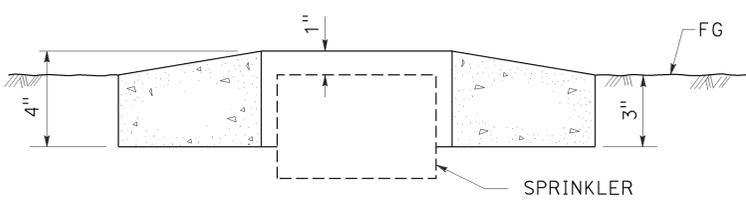
PLAN



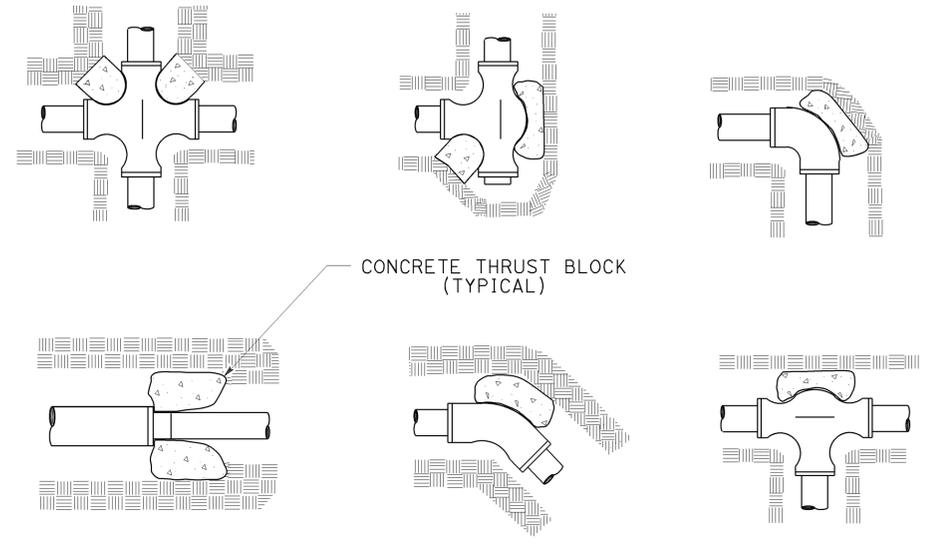
SECTION
SPRINKLER PROTECTOR TYPE I



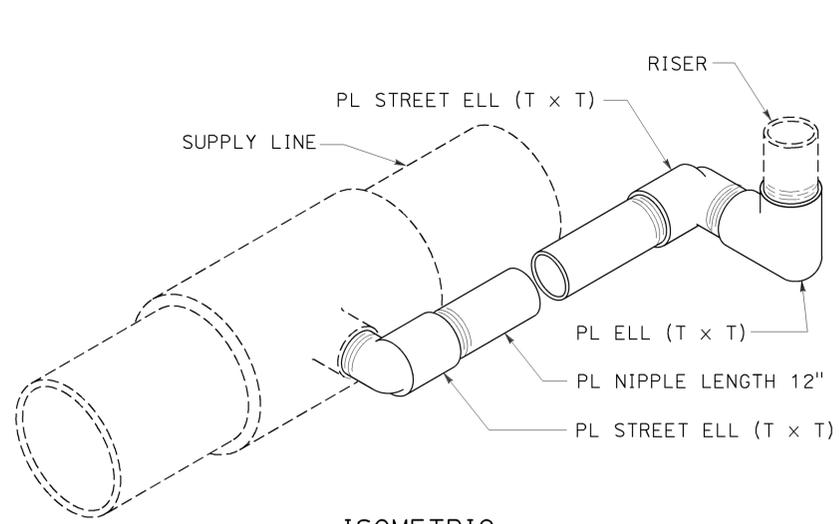
PLAN



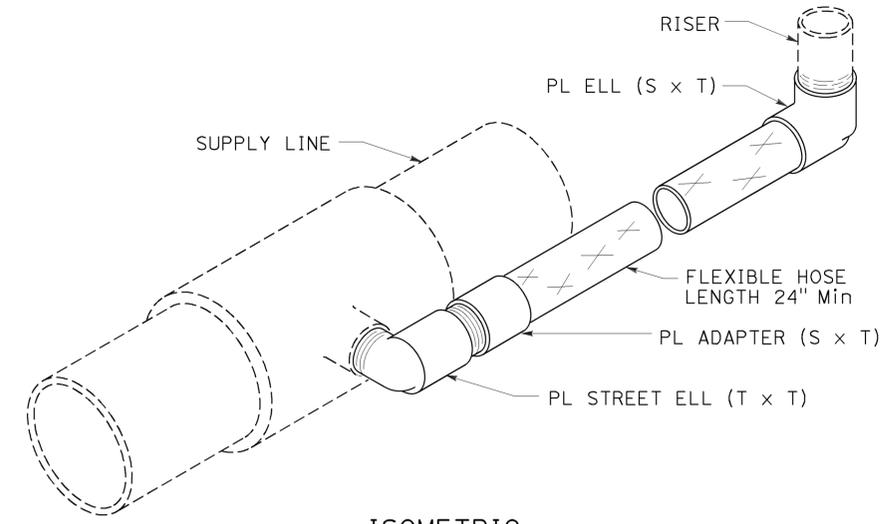
SECTION
SPRINKLER PROTECTOR TYPE II



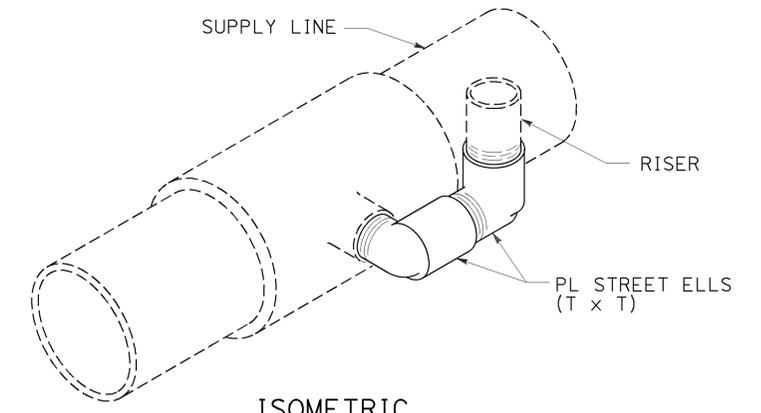
TYPICAL THRUST BLOCKS



ISOMETRIC
SWING JOINT TYPE I



ISOMETRIC
SWING JOINT TYPE II



ISOMETRIC
SWING JOINT TYPE III

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**LANDSCAPE DETAILS
(SWING JOINT AND PROTECTOR)**
NO SCALE

RSP H6 DATED JULY 15, 2016 SUPERSEDES RSP H6 DATED JULY 19, 2013 AND STANDARD PLAN H6 DATED MAY 20, 2011 - PAGE 223 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP H6

2010 REVISED STANDARD PLAN RSP H6

TO ACCOMPANY PLANS DATED 6-20-16

TABLE 1

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

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

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

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

TABLE 2

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

* - Speed is posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph
 ** - Longitudinal buffer space or flagger station spacing
 *** - Use on sustained downgrade steeper than -3 percent and longer than 1 mile.

TABLE 3

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

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

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM TABLES FOR LANE AND RAMP CLOSURES

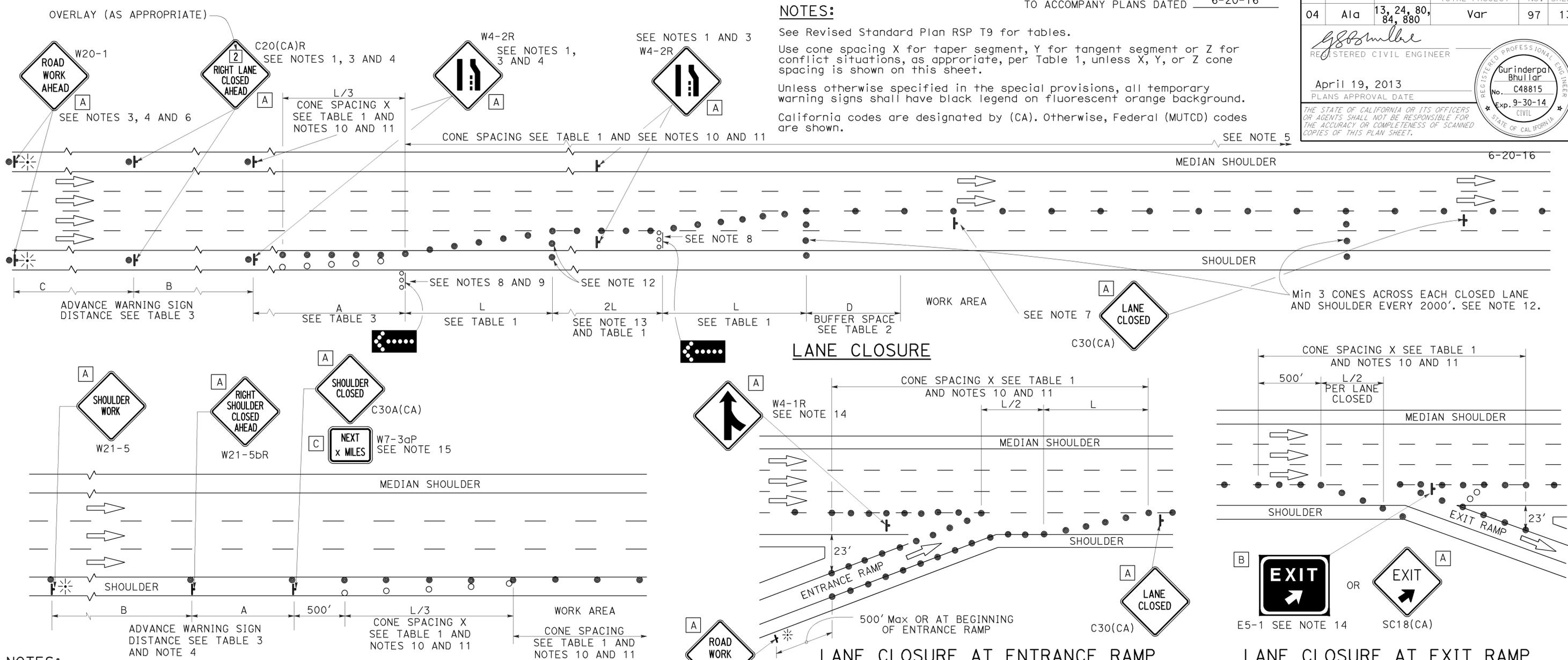
NO SCALE

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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13, 24, 80, 84, 880	Var	97	136

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

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



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

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

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

LEGEND

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

SIGN PANEL SIZE (Min)

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

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON FREEWAYS AND EXPRESSWAYS

NO SCALE

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

REVISED STANDARD PLAN RSP T10

2010 REVISED STANDARD PLAN RSP T10

TYPICAL RAMP CLOSURES

SIGN PANEL SIZE (Min)

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

LEGEND

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13, 24, 80, 84, 880	Var	98	136

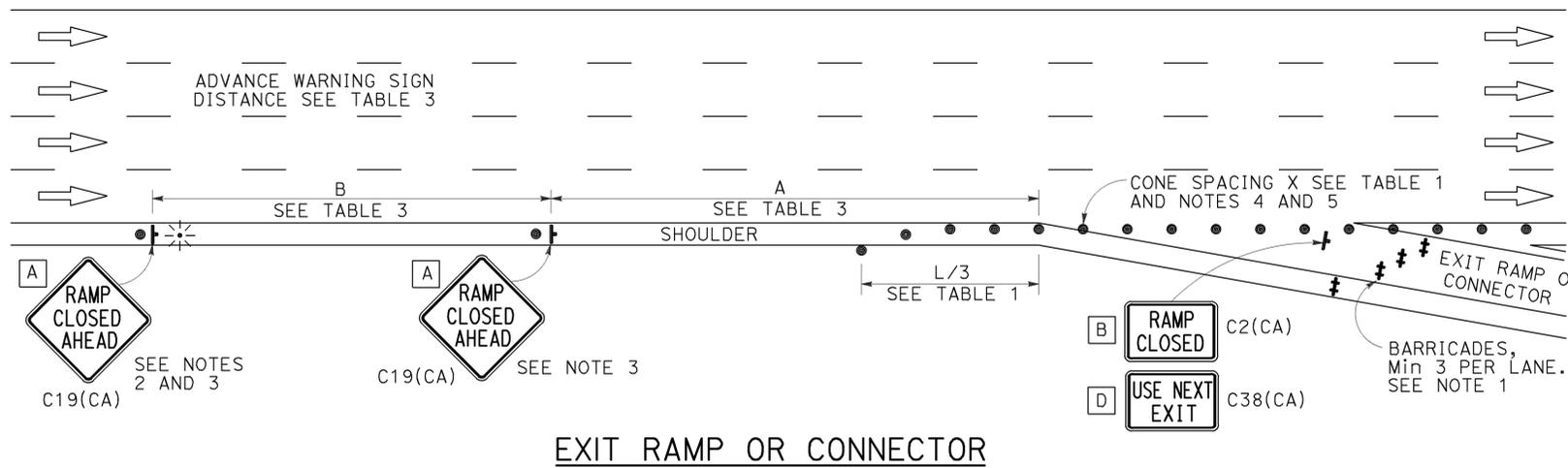
Gurinderpal Bhullar
 REGISTERED CIVIL ENGINEER
 April 19, 2013
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

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

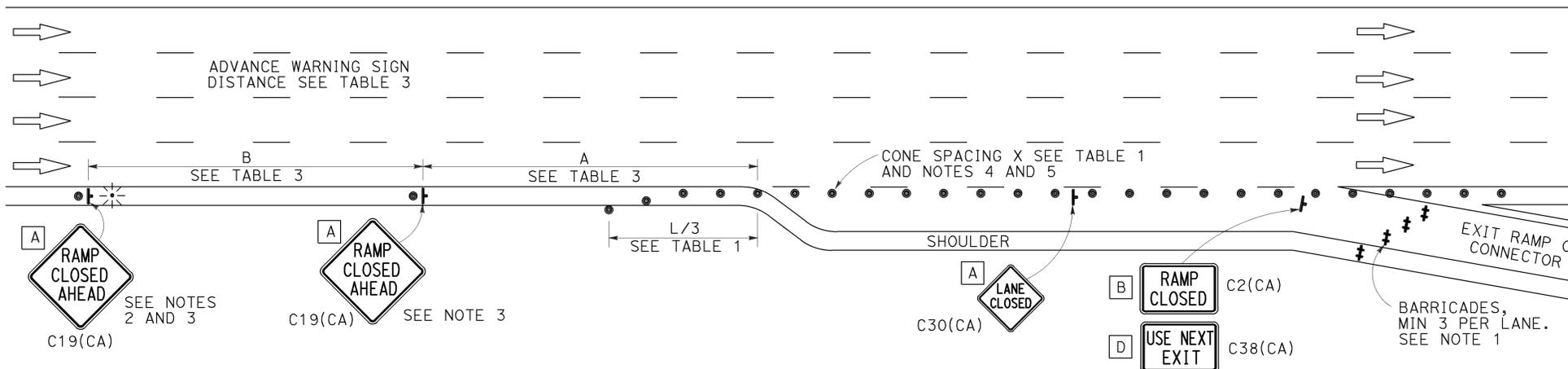
TO ACCOMPANY PLANS DATED 6-20-16

NOTES:

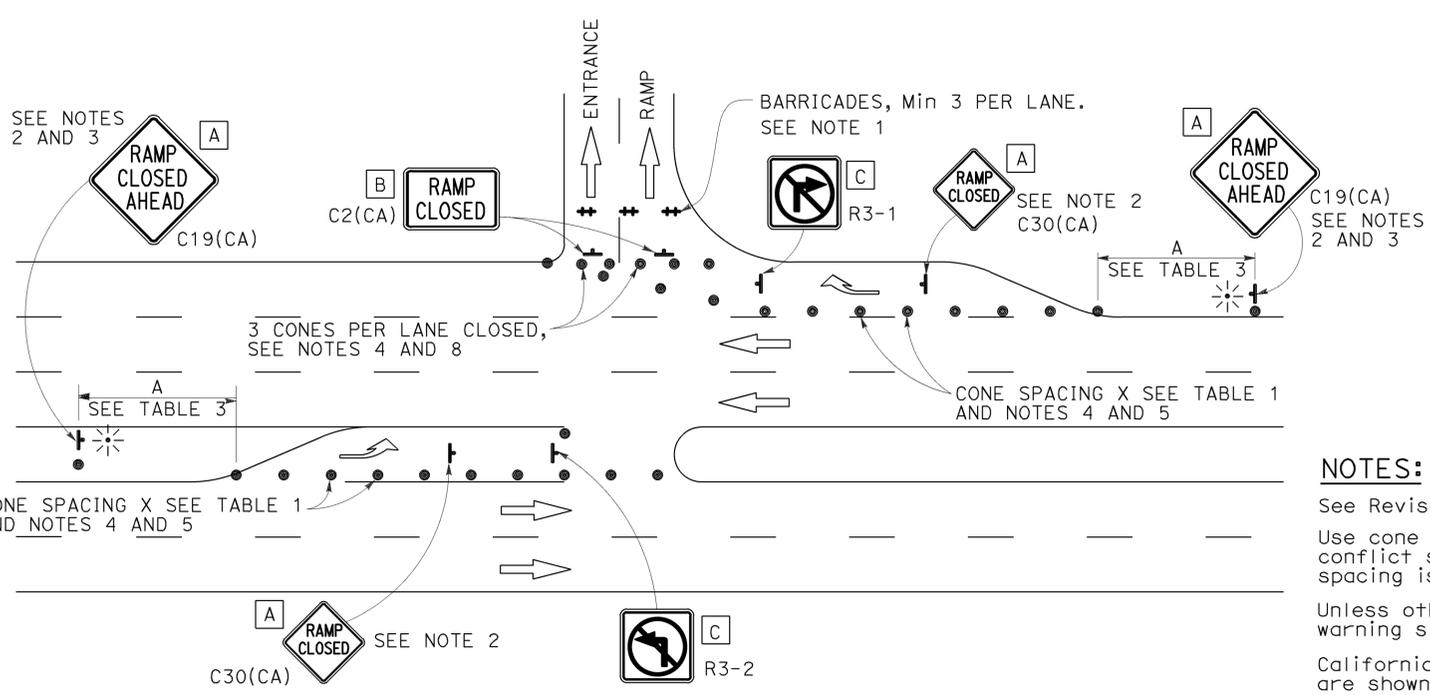
- Barricades shall be Type I, II, or III for closures lasting one week or less and Type III for closures lasting longer than one week.
- In addition to placing the C19(CA) "RAMP CLOSED AHEAD" and C30(CA) "RAMP CLOSED" signs, black on orange overlay plates with the word "CLOSED" may be mounted, as directed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



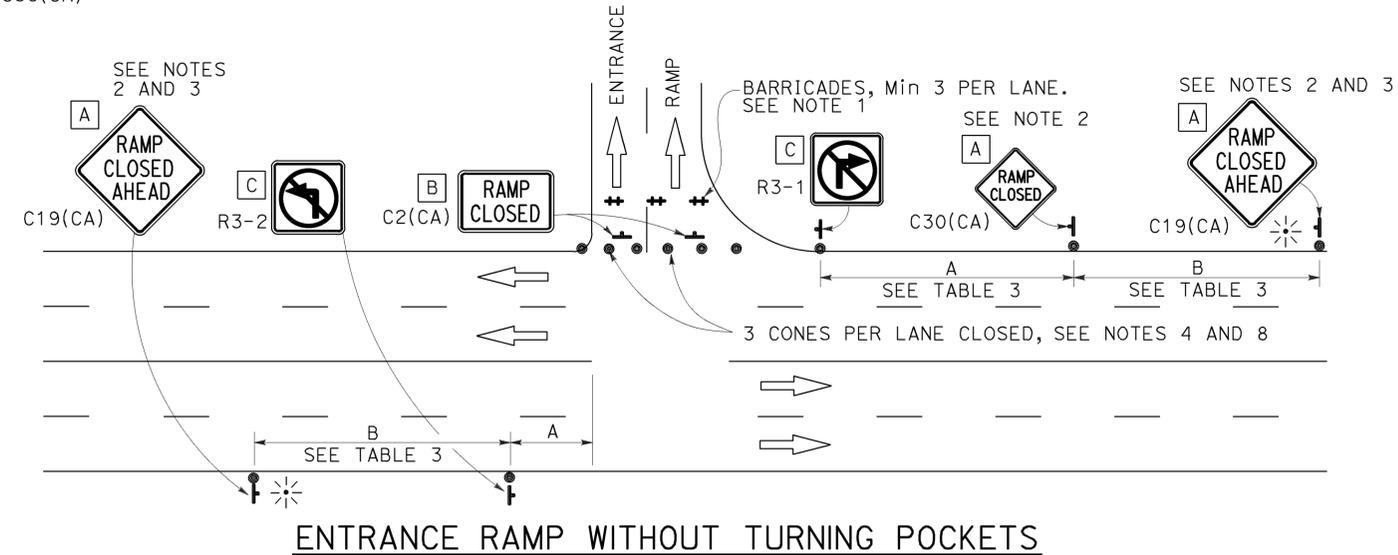
EXIT RAMP OR CONNECTOR



EXIT RAMP OR CONNECTOR WITH ADDITIONAL LANE



ENTRANCE RAMP WITH TURNING POCKETS



ENTRANCE RAMP WITHOUT TURNING POCKETS

NOTES:

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

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

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

2010 REVISED STANDARD PLAN RSP T14

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
Cn+l	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

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13, 24, 80, 84, 880	Var	99	136

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

October 30, 2015
PLANS APPROVAL DATE

Theresa Gabriel
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 6-20-16

SOFFIT AND WALL-MOUNTED LUMINAIRES

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

NOTE:
Arrow indicates "street side" of luminaire.

COMMONLY USED SYMBOLS FOR UNITED STATES CUSTOMARY UNITS OF MEASUREMENT:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

NO SCALE

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

REVISED STANDARD PLAN RSP ES-1A

2010 REVISED STANDARD PLAN RSP ES-1A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Ala	13, 24, 80, 84, 880	Var	100	136

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

TO ACCOMPANY PLANS DATED 6-20-16

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

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

NOTES:

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

POLE-MOUNTED SERVICE DESIGNATION

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

FLASHING BEACON

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

ILLUMINATED OVERHEAD SIGN

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

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

NO SCALE

RSP ES-1B DATED 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