Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	1.8/R6.5	1	29

STATE OF CALIFORNIA

DEPARTMENT OF TRANSPORTATION

PROJECT PLANS FOR CONSTRUCTION ON

STATE HIGHWAY

IN SHASTA COUNTY IN AND NEAR ANDERSON AT VARIOUS LOCATIONS FROM 0.1 MILE SOUTH OF NORTH COTTONWOOD UNDERCROSSING TO 0.2 MILE SOUTH OF RIVERSIDE AVENUE OVERCROSSING

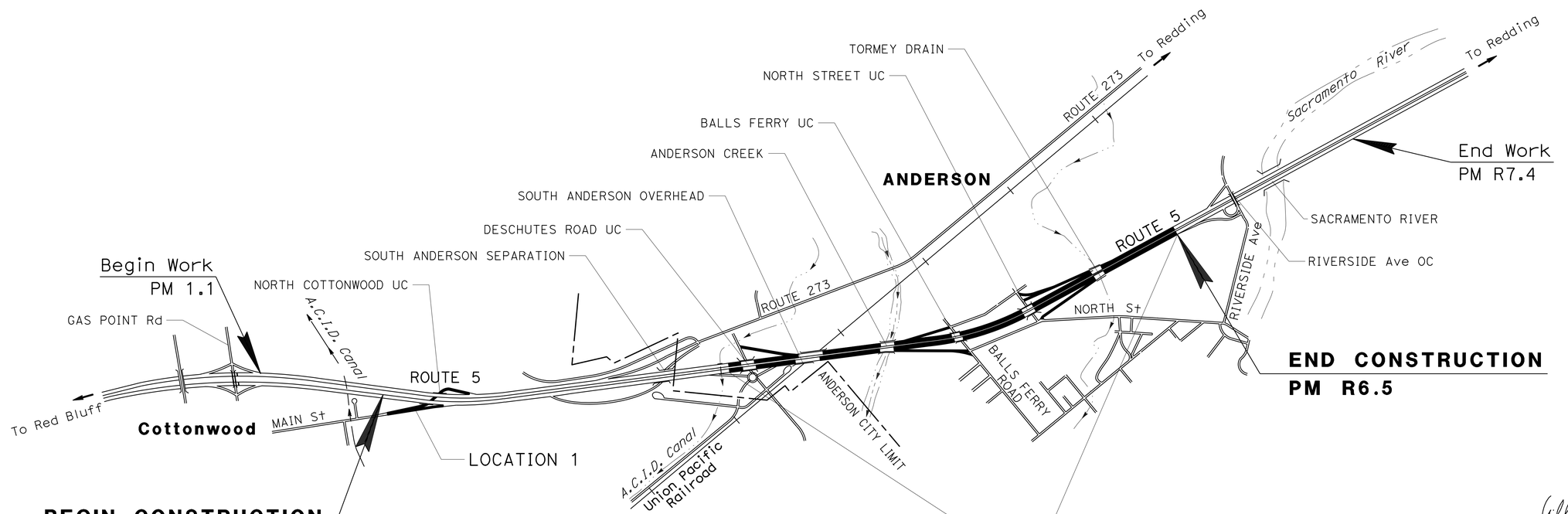
TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2015

INDEX OF PLANS

SHEET No.	DESCRIPTION
1	TITLE AND LOCATION MAP
2	TYPICAL CROSS SECTIONS
3-9	CONSTRUCTION DETAILS
10-11	CONSTRUCTION AREA SIGNS
12-18	DETOUR PLANS
19	PAVEMENT DELINEATION DETAILS
20	PAVEMENT DELINEATION QUANTITIES
21	SUMMARY OF QUANTITIES
22-24	ELECTRICAL PLANS
25-29	REVISED STANDARD PLANS

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

LOCATION MAP



NO SCALE

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

09-28-16
PROJECT ENGINEER REGISTERED CIVIL ENGINEER — DATE

September 28, 2016
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER MICHAEL A. CONNER No. C73123 Exp. 12-31-16 CIVIL STATE OF CALIFORNIA

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

CONTRACT No.	02-2H3604
PROJECT ID	0216000090

PROJECT MANAGER LANCE BROWN
DESIGN MANAGER LANCE BROWN

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LAST REVISION 09-28-16 DATE PLOTTED => 29-SEP-2016 TIME PLOTTED => 14:41

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	1.8/R6.5	2	29

REGISTERED CIVIL ENGINEER DATE 09-28-16

PLANS APPROVAL DATE 09-28-16

REGISTERED PROFESSIONAL ENGINEER MICHAEL A. CONNER No. C73123 Exp. 12-31-16 CIVIL STATE OF CALIFORNIA

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NOTES:

1. DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
2. UTILITY INVESTIGATIONS HAVE BEEN COMPLETED AND NO UTILITIES WERE FOUND AT EACH GUARDRAIL TRANSITION LOCATION. ALL OTHER LOCATIONS OF WORK ARE FLEXIBLE AND MAY BE ADJUSTED TO MITIGATE ANY CONFLICTS WITH EXISTING UTILITY FACILITIES. UTILITIES ARE NOT INCLUDED ON THESE PLANS.
3. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
4. SUPERELEVATIONS AS SHOWN OR AS DIRECTED BY THE ENGINEER.
5. SEE CONSTRUCTION DETAILS FOR RAMP PAVING LIMITS AND RAMPS TO BE PAVED.
6. EXACT LOCATIONS AND TYPES OF HMA DIKES AND GUARDRAIL ARE SHOWN ON THE SUMMARY OF QUANTITIES SHEET.
7. DO NOT PLACE AC DIKE UNDER TERMINAL GUARDRAIL.
8. GRADE TO DRAIN AWAY FROM ROADWAY.
9. NO RUMBLE STRIP TO BE INSTALLED ON CONCRETE BRIDGE, APPROACH SLABS OR RAMPS.

ABBREVIATIONS:

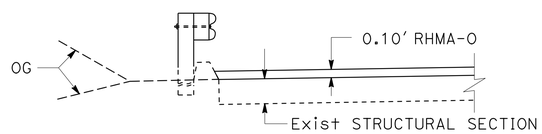
RHMA-O	RUBBERIZED HOT MIX ASPHALT-OPEN GRADED (OPEN GRADED FRICTION COURSE)
RAC-O	RUBBERIZED ASPHALT CONCRETE (TYPE O)
RUMBLE STRIP	12" RUMBLE STRIP (ASPHALT CONCRETE PAVEMENT)

LEGEND:

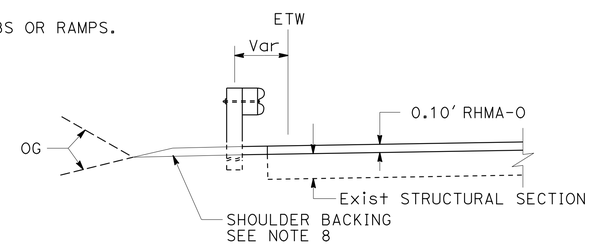
COLD PLANE ASPHALT CONCRETE PAVEMENT (0.08' ± 0.02')

PAVEMENT CLIMATE REGION:

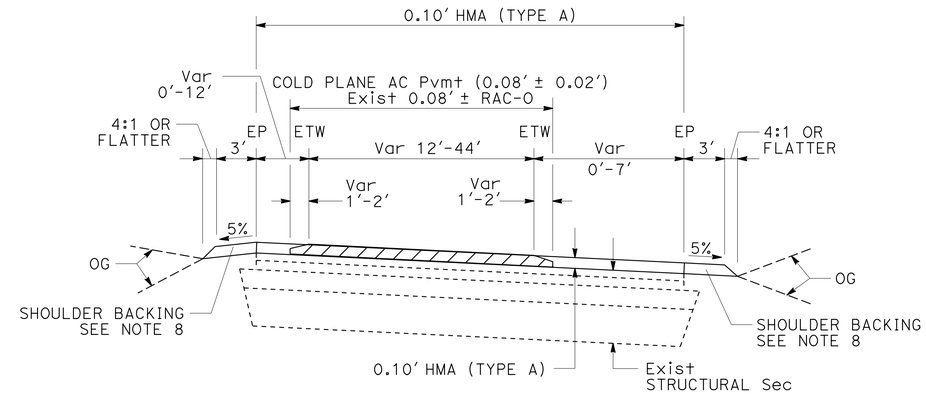
INLAND VALLEY



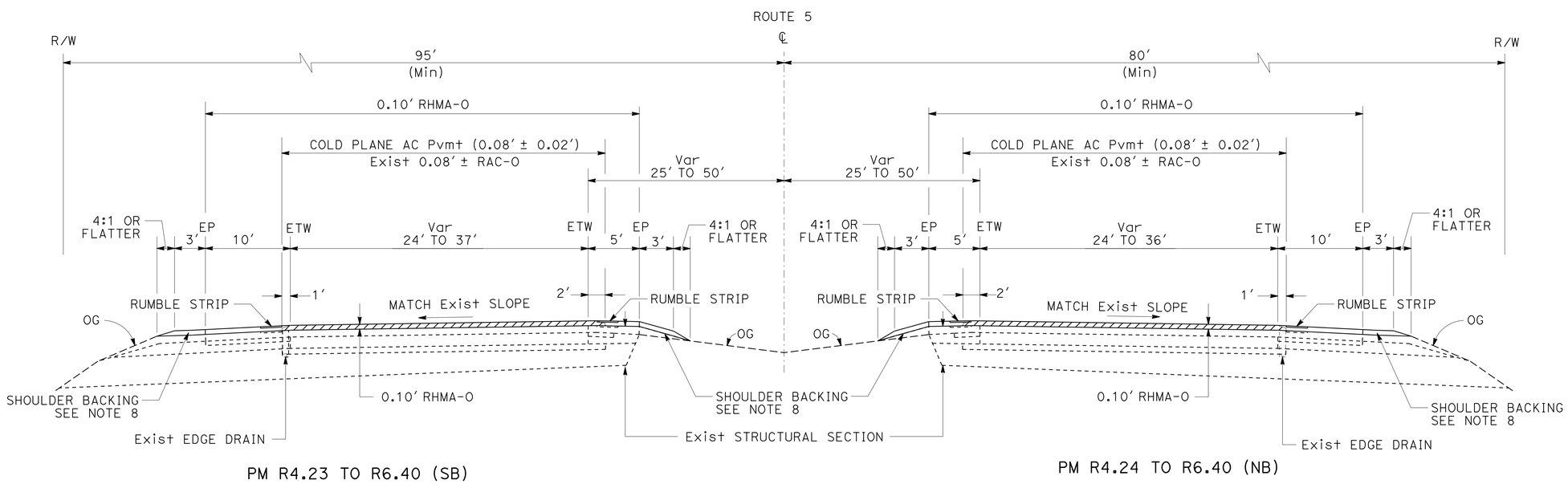
GUARDRAIL LOCATION
WITH DIKE
(TYPICAL BOTH DIRECTIONS)



GUARDRAIL LOCATION
NB R4.29 R+
SB R4.31 R+



ENTRANCE/EXIT RAMPS



PM R4.23 TO R6.40 (SB)

PM R4.24 TO R6.40 (NB)

ROUTE 5

TYPICAL CROSS SECTIONS

NO SCALE

X-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® **MAINTENANCE**

FUNCTIONAL SUPERVISOR: LANCE BROWN
CALCULATED-DESIGNED BY: MICHAEL CONNER
CHECKED BY: KARLIE SMITH
REVISED BY / DATE REVISED

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LAST REVISION 09-28-16 | DATE PLOTTED => 29-SEP-2016 | TIME PLOTTED => 14:41

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	1.8/R6.5	3	29

REGISTERED CIVIL ENGINEER DATE 09-28-16

PLANS APPROVAL DATE 09-28-16

REGISTERED PROFESSIONAL ENGINEER MICHAEL A. CONNER No. C73123 Exp. 12-31-16 CIVIL STATE OF CALIFORNIA

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NOTES:

1. SEE TYPICAL CROSS SECTIONS FOR EXISTING STRUCTURAL SECTION.
2. UTILITY INVESTIGATIONS HAVE BEEN COMPLETED AND NO UTILITIES WERE FOUND AT EACH GUARDRAIL TRANSITION LOCATION. ALL OTHER LOCATIONS OF WORK ARE FLEXIBLE AND MAY BE ADJUSTED TO MITIGATE ANY CONFLICTS WITH EXISTING UTILITY FACILITIES. UTILITIES ARE NOT INCLUDED ON THESE PLANS.
3. SHOULDER IS 0.08'± LOWER THAN TRAVELED WAY DUE TO RAC-O. COLD PLANE DEPTH TAKEN IN TRAVELED WAY. THE Exist RAC-O TRANSITIONS OUT TO EP-EP WITHIN THE 50' TAPER SHOWN.
4. COLD PLANE QUANTITY SHOWN ON Q-1.

LEGEND:

- COLD PLANE AC PAVEMENT (0.08' ± 0.02') (TYPICAL)
- COLD PLANE AC PAVEMENT (0.08' TO 0.10')
- COLD PLANE AC PAVEMENT (0.10')
- COLD PLANE AC PAVEMENT (0.00' TO 0.10')
- COLD PLANE AC PAVEMENT (0.00' TO 0.08')

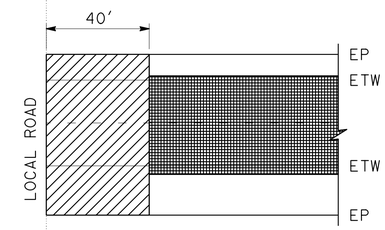
ABBREVIATIONS:

RHMA-O	RUBBERIZED HOT MIX ASPHALT-OPEN GRADED (OPEN GRADED FRICTION COURSE)
RAC-O	RUBBERIZED ASPHALT CONCRETE (TYPE O)

RAMPS

OVERCROSSING/ UNDERCROSSING	DIRECTION OF TRAVEL		ENTRANCE RAMP	EXIT RAMP	POST MILE	DIMENSIONS										
						WIDTH IN FEET							LENGTH IN FEET			
	NB	SB				W-1	W-2	W-3	W-4	W-5	W-6	W-7	L-1	L-2	L-3	L-4
N COTTONWOOD UC	X		X		2.08	*	*	*	*	*	*	*	*	*	*	*
		X		X	2.29	*	*	*	*	*	*	*	*	*	*	*
DESCHUTES Rd UC		X		X	R4.45	0	32	25	38	**			360	804	**	
BALLS FERRY UC	X			X	R5.10	10	41	23	23	53			335	527	628	
		X	X		R5.12	10	35	22	22	41			429	494	182	
NORTH STREET UC	X		X		R5.83	14	32	25	25	28	110	18	312	616	90	85
		X		X	R5.83	12	42	24	24	40	81	25	320	526	330	90

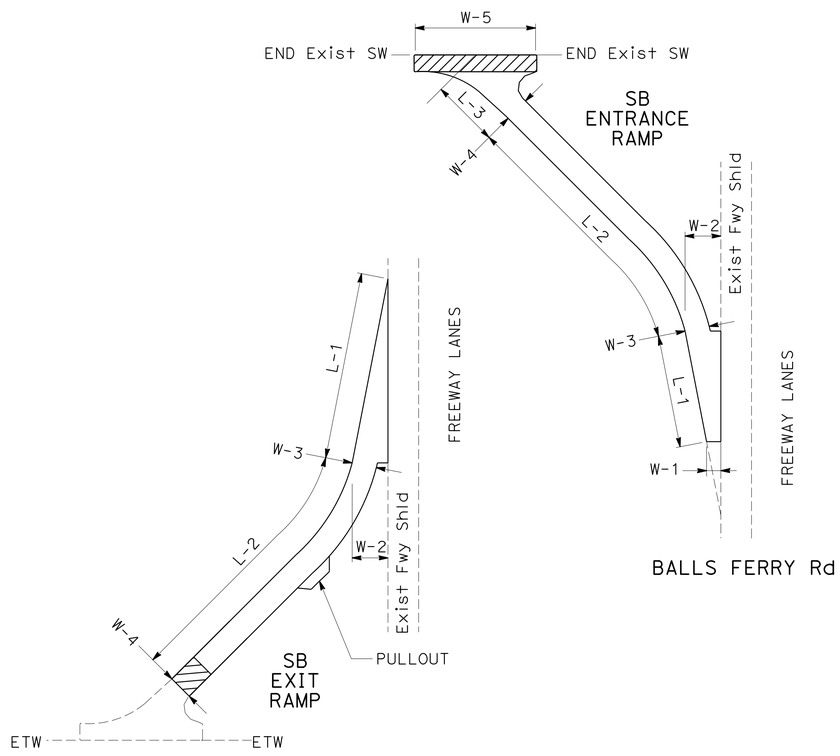
* SEE NORTH COTTONWOOD UC RAMPS DETAIL SHEET C-2
** NOT PAVING ALL THE WAY TO ETW AT BOTTOM OF RAMP DUE TO NEW PAVEMENT

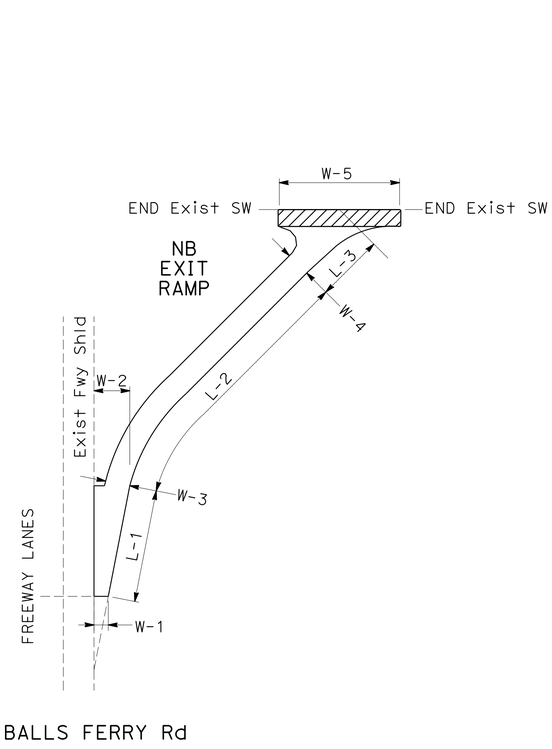


CONFORM TAPER (TYPICAL)

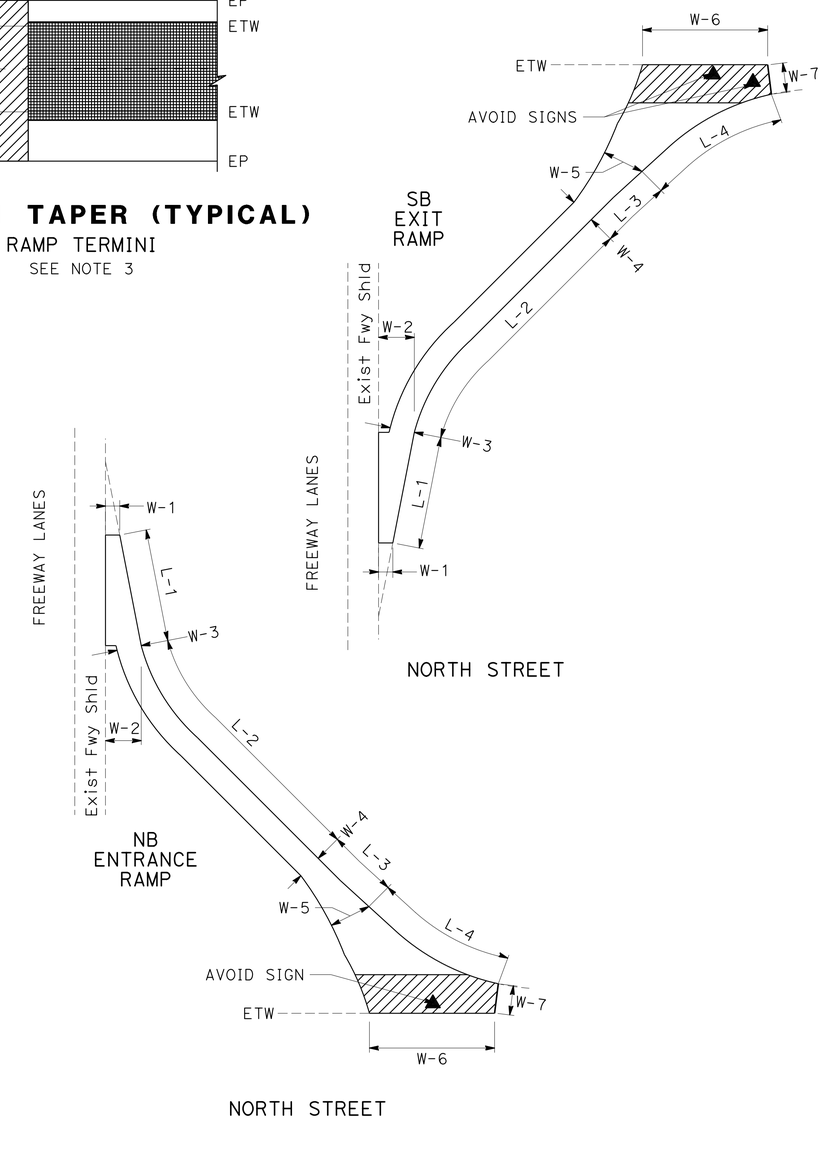
RAMP TERMINI

SEE NOTE 3





RAMP DETAIL



CONSTRUCTION DETAILS

NO SCALE

C-1

REVISED BY	DATE REVISED
MICHAEL CONNER	KARLIE SMITH
CALCULATED-DESIGNED BY	CHECKED BY
FUNCTIONAL SUPERVISOR	LANCE BROWN

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	1.8/R6.5	4	29

REGISTERED CIVIL ENGINEER 09-28-16 DATE

09-28-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER MICHAEL A. CONNER No. C73123 Exp. 12-31-16 CIVIL STATE OF CALIFORNIA

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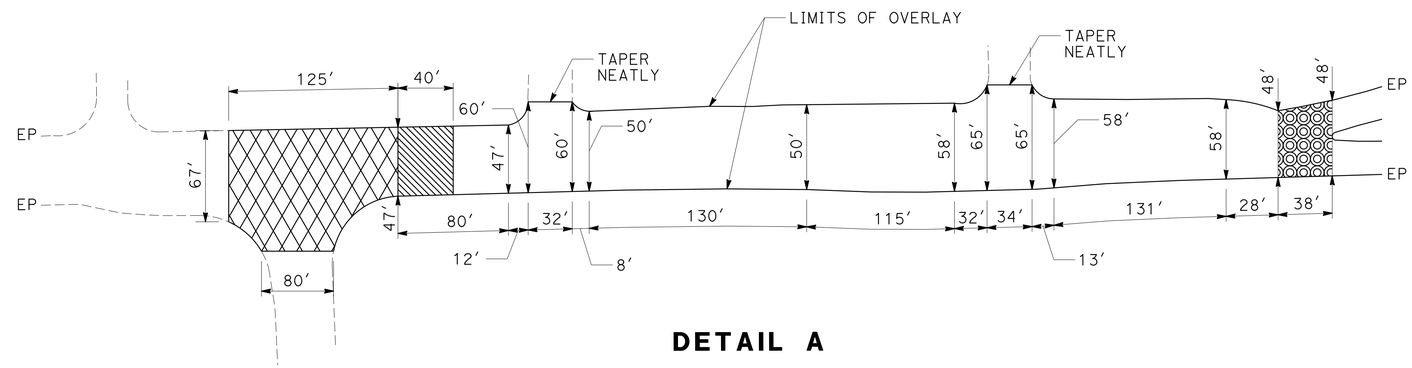
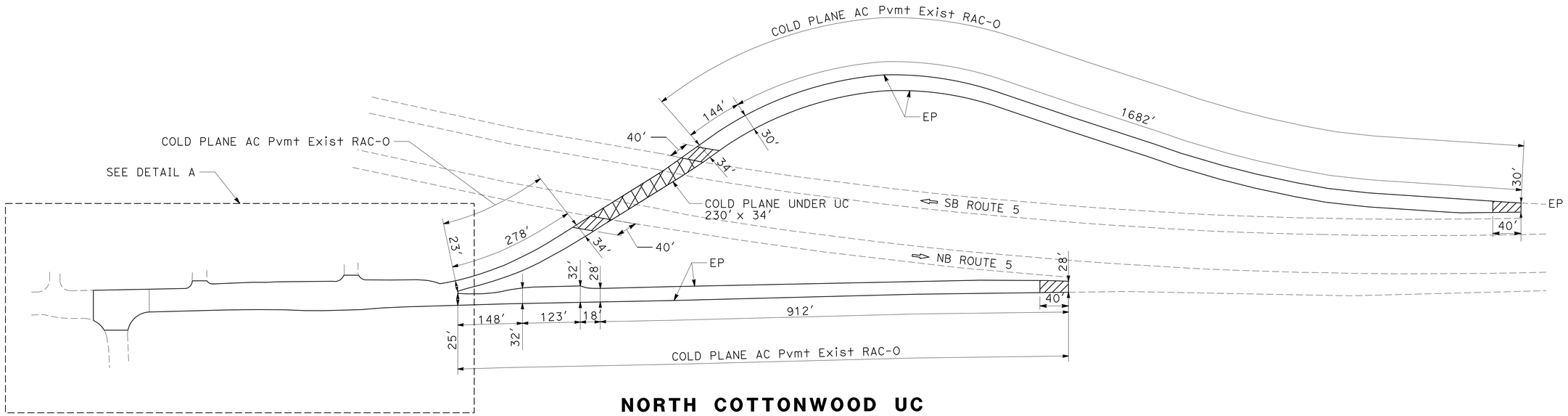
NOTES:

1. UTILITY INVESTIGATIONS HAVE BEEN COMPLETED AND NO UTILITIES WERE FOUND AT EACH GUARDRAIL TRANSITION LOCATION. ALL OTHER LOCATIONS OF WORK ARE FLEXIBLE AND MAY BE ADJUSTED TO MITIGATE ANY CONFLICTS WITH EXISTING UTILITY FACILITIES. UTILITIES ARE NOT INCLUDED ON THESE PLANS.
2. SHOULDER IS 0.08'± LOWER THAN TRAVELED WAY DUE TO RAC-O. COLD PLANE DEPTH TAKEN IN TRAVELED WAY.



DETAIL A



NORTH COTTONWOOD UC

NORTHBOUND ENTRANCE
SOUTHBOUND EXIT

CONSTRUCTION DETAILS

NO SCALE

C-2

REVISED BY | DATE REVISED

MICHAEL CONNER | KARLIE SMITH

CALCULATED-DESIGNED BY | CHECKED BY

FUNCTIONAL SUPERVISOR: LANCE BROWN

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® MAINTENANCE

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NOTES:

1. FOR TEMPORARY CONSTRUCTION TAPERS, GRIND EXISTING SURFACES TO ACCOMMODATE A MINIMUM TAPER THICKNESS OF 0.10′ WHEN EITHER:

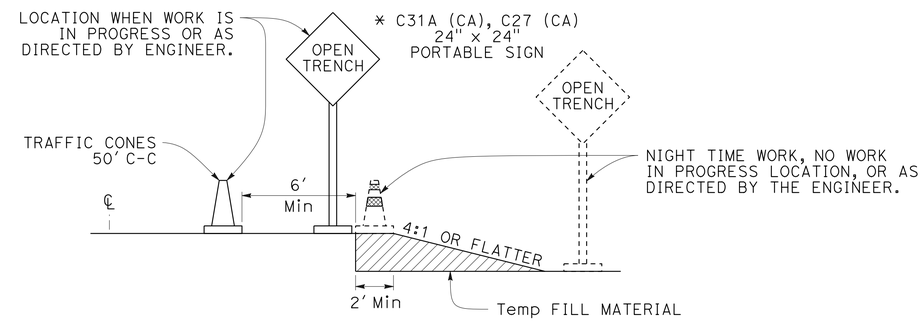
   A. HMA MATERIAL SUCH AS RUBBERIZED HMA, POLYMER-MODIFIED BONDED WEARING COURSE, OR OPEN-GRADED FRICTION COURSE IS UNSUITABLE FOR RAKING TO A MAXIMUM 0.02′ THICKNESS AT THE EDGE.

   B. TEMPORARY TAPER WILL BE IN PLACE FOR MORE THAN 14 DAYS.

2. PERMANENT SURFACE MAY BE EXISTING OR NEW PAVEMENT.
3. ROADWAY SURFACE IS THE TOP OF EXISTING SURFACE OR THE TOP OF THE PLANED SURFACE.
4. UTILITY INVESTIGATIONS HAVE BEEN COMPLETED AND NO UTILITIES WERE FOUND AT EACH GUARDRAIL TRANSITION LOCATION. ALL OTHER LOCATIONS OF WORK ARE FLEXIBLE AND MAY BE ADJUSTED TO MITIGATE ANY CONFLICTS WITH EXISTING UTILITY FACILITIES. UTILITIES ARE NOT INCLUDED ON THESE PLANS.
5. SHOULDER IS 0.08′ ± LOWER THAN TRAVELED WAY DUE TO RAC-O. COLD PLANE DEPTH TAKEN IN TRAVELED WAY. THE Exist RAC-O TRANSITIONS OUT TO EP-EP WITHIN THE TAPERS SHOWN.
6. IF AUTHORIZED, YOU MAY USE ALTERNATIVE MATERIALS OR METHODS TO PRODUCE THE REQUIRED TAPER.

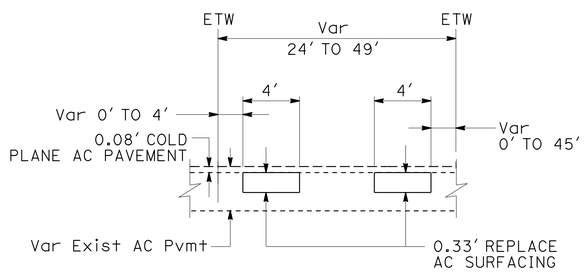
LEGEND:

- HMA MATERIAL (TEMPORARY TAPER)
- IF NECESSARY, COLD PLANE AC PAVEMENT AND PLACE HMA MATERIAL (SEE NOTE 1)

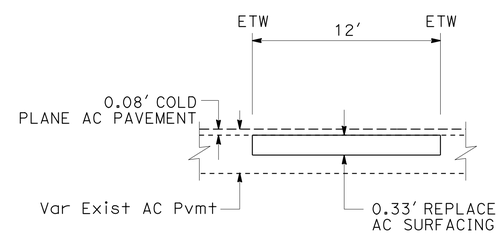


OPEN TRENCH SIGNING AND MARKING

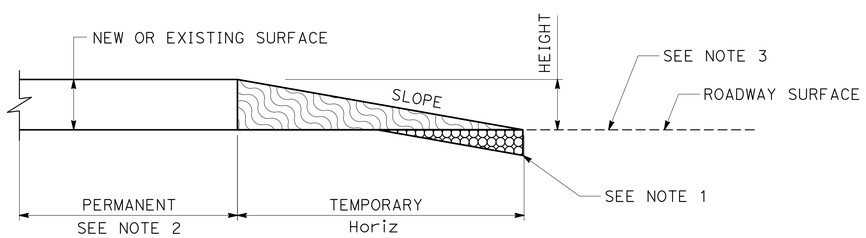
* PLACE AT 450′ INTERVALS THROUGH THE OPEN TRENCH AREA. ALTERNATE C27 (CA) (OPEN TRENCH) AND C31A (CA) (NO SHOULDER) SIGNS.



REPLACE AC SURFACING
(TYPICAL BOTH DIRECTIONS)



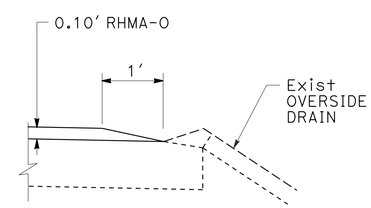
REPLACE AC SURFACING
PM R5.58 SB



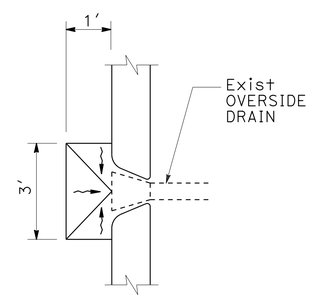
ELEVATION

TEMPORARY TAPERS

HEIGHT DIFFERENTIAL (FOOT)	SLOPE (HORIZONTAL:VERTICAL)	
	TAPER USE OF 14 DAYS OR LESS	TAPER USE OF MORE THAN 14 DAYS
GREATER THAN 0.08	100:1 OR FLATTER	200:1 OR FLATTER
0.04-0.08	70:1 OR FLATTER	70:1 OR FLATTER

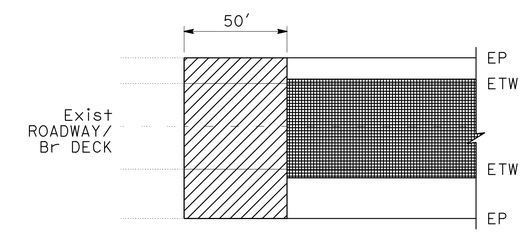


ELEVATION VIEW



PLAN VIEW

TYPICAL OVERSIDE DRAIN CONFORM



CONFORM TAPER (TYPICAL)
MAINLINE
SEE NOTE 5

CONSTRUCTION DETAILS
NO SCALE

C-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE

FUNCTIONAL SUPERVISOR: LANCE BROWN
CALCULATED-DESIGNED BY: MICHAEL CONNER
CHECKED BY: KARLIE SMITH
REVISED BY
DATE REVISED

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REGISTERED CIVIL ENGINEER DATE 09-28-16

PLANS APPROVAL DATE 09-28-16

REGISTERED PROFESSIONAL ENGINEER MICHAEL A. CONNER No. C73123 Exp. 12-31-16 CIVIL STATE OF CALIFORNIA

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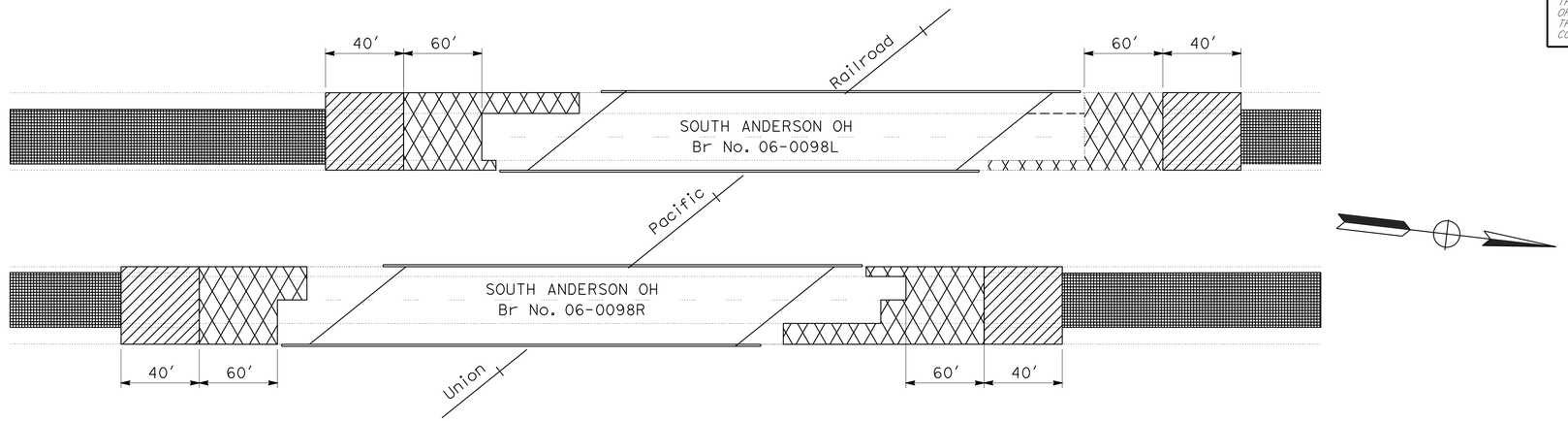
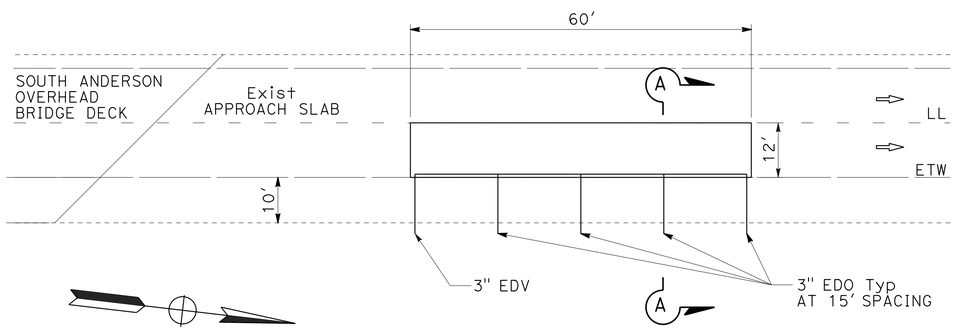
ABBREVIATIONS:

RUMBLE STIP 12" RUMBLE STRIP (ASPHALT CONCRETE PAVEMENT)



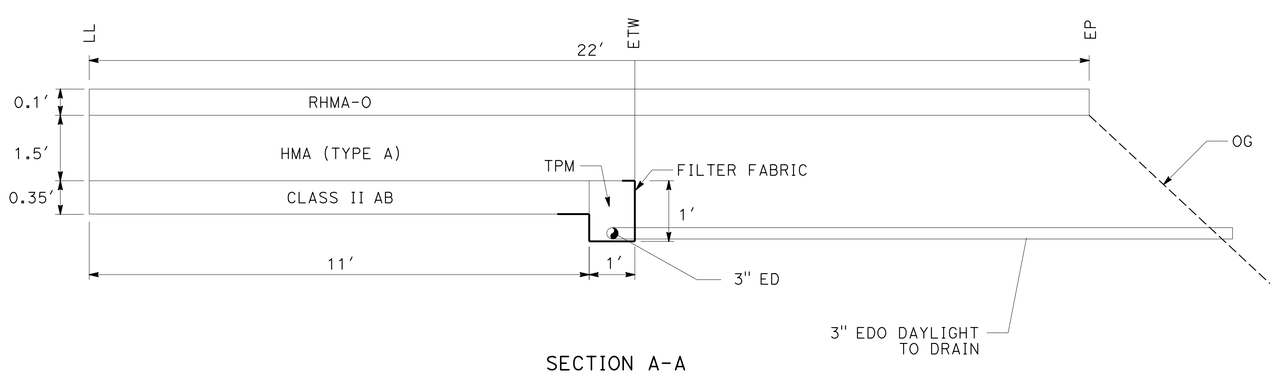
CONFORM TAPER AT SOUTH ANDERSON OH



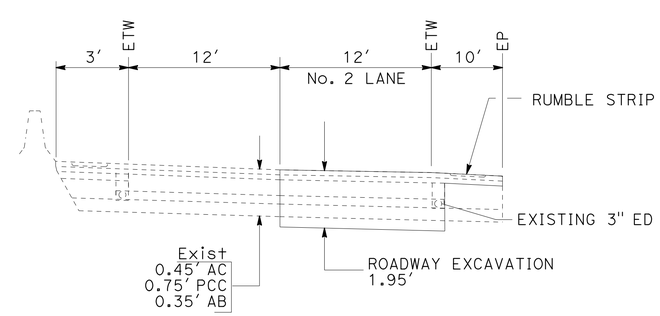
PLAN

SOUTH ANDERSON OVERHEAD NB LANE No. 2

PM R4.60 TO R4.62 NB



SECTION A-A



ELEVATION

CONSTRUCTION DETAILS

NO SCALE

C-4

REVISED BY | DATE REVISED

MICHAEL CONNER | KARLIE SMITH

CALCULATED-DESIGNED BY | CHECKED BY

FUNCTIONAL SUPERVISOR: LANCE BROWN

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans® MAINTENANCE

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09-28-16
PLANS APPROVAL DATE

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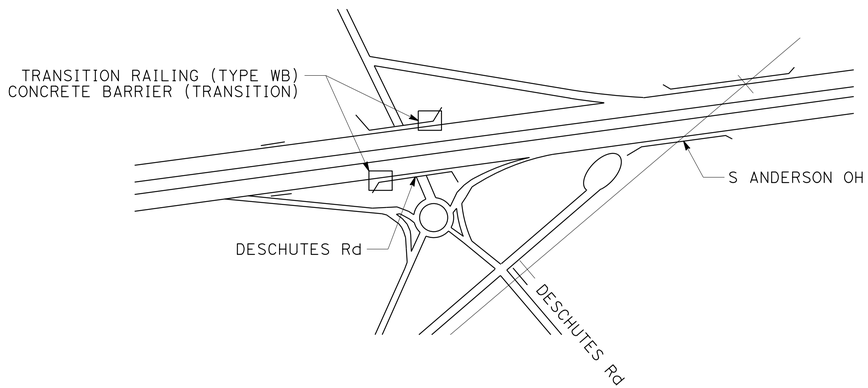
NOTES:

1. SEE TYPICAL CROSS SECTIONS FOR EXISTING STRUCTURAL SECTION.
2. UTILITY INVESTIGATIONS HAVE BEEN COMPLETED AND NO UTILITIES WERE FOUND AT EACH GUARDRAIL TRANSITION LOCATION. ALL OTHER LOCATIONS OF WORK ARE FLEXIBLE AND MAY BE ADJUSTED TO MITIGATE ANY CONFLICTS WITH EXISTING UTILITY FACILITIES. UTILITIES ARE NOT INCLUDED ON THESE PLANS.
3. THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.
4. CUT AND REMOVE PORTION OF BARRIER RAILING TYPE 1 AND BAGR AS REQUIRED.

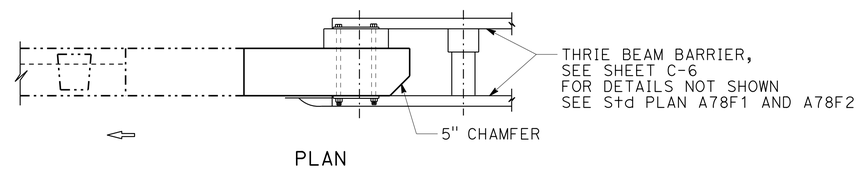
LEGEND:

-·-·- INDICATES EXISTING STRUCTURE

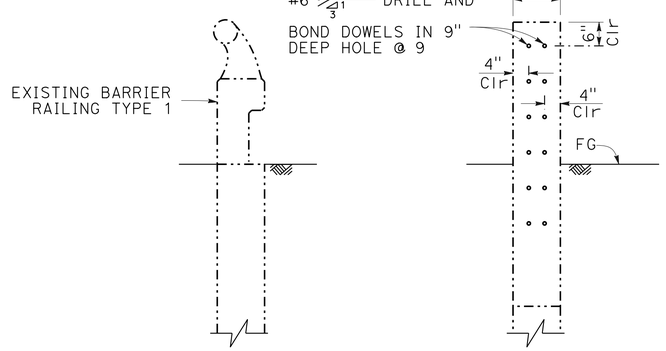
—— INDICATES NEW STRUCTURE



CONCRETE BARRIER (TRANSITION) LOCATION
DESCHUTES Rd BRIDGE

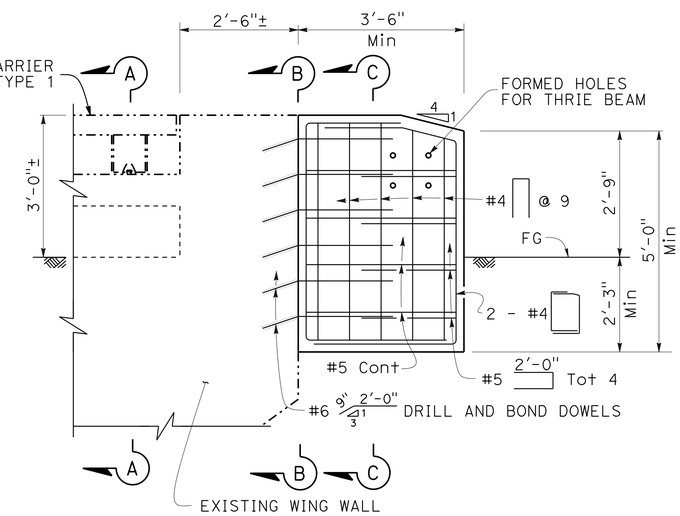


PLAN

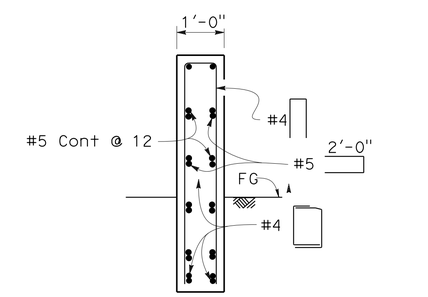


SECTION A-A

SECTION B-B



ELEVATION



NOTE:
DRILL AND BOND DOWELS NOT SHOWN

SECTION C-C

CONCRETE BARRIER (TRANSITION) DETAILS

CONSTRUCTION DETAILS
NO SCALE

C-5

REVISED BY	DATE REVISED
MICHAEL CONNER	KARLIE SMITH
CALCULATED-DESIGNED BY	CHECKED BY
FUNCTIONAL SUPERVISOR	LANCE BROWN

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LAST REVISION 09-28-16 | DATE PLOTTED => 29-SEP-2016 | TIME PLOTTED => 14:42

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	1.8/R6.5	8	29

REGISTERED CIVIL ENGINEER 09-28-16 DATE

09-28-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER MICHAEL A. CONNER No. C73123 Exp. 12-31-16 CIVIL STATE OF CALIFORNIA

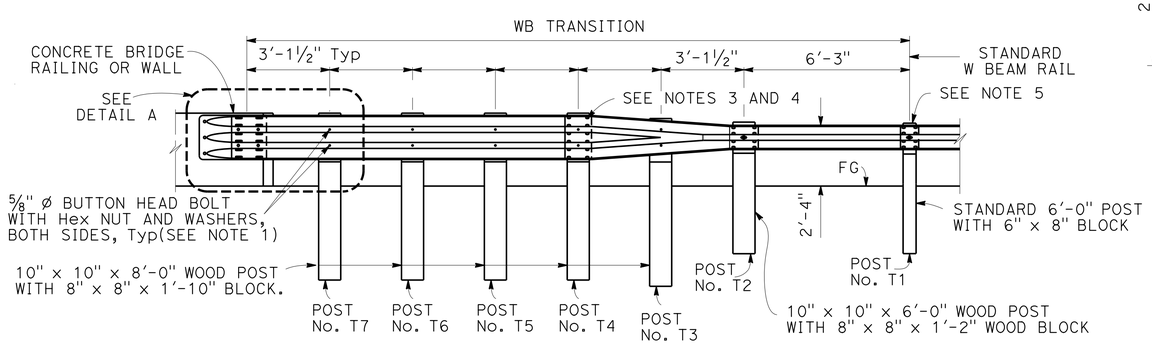
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:

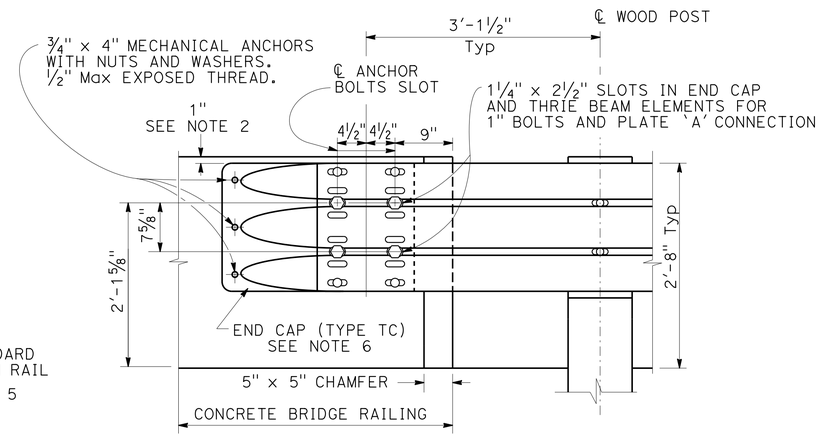
1. USE 5/8" ø BUTTON HEAD BOLTS WITH ℙ WASHERS AND HEX NUTS FOR CONNECTIONS TO 10" x 10" WOOD POSTS. PLACE ℙ WASHER UNDER BOLT AND NUT.
2. TAPER THE TOP OF THE ANCHOR BLOCK AT 4:1 TO 1" ABOVE TOP OF RAIL.
3. EXTERIOR SPLICE BOLT HOLES FOR RAIL ELEMENT SPLICES AT POST No. T4 AND THE CONNECTION TO THE CONCRETE BARRIER OR RAILING SHALL BE THE STANDARD 13/16" 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. T4 AND THE TOP 2 AND THE BOTTOM 2 SPLICE BOLTS ARE REQUIRED AT 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. THE GUARD RAILING CONNECTED TO TRANSITION RAILING (TYPE WB) WILL BE A STANDARD RAILING SECTION OF METAL BEAM GUARD RAILING WITH HEIGHT TRANSITION RATIO OF 120:1.
6. END CAP MAY BE INSTALLED OVER 12 Ga AND 10 Ga THRIE BEAM ELEMENTS WHERE TRANSITION RAILING IS INSTALLED ON THE DEPARTURE END OF BRIDGE RAILING.
7. THE DEPTH OF THE METAL BOX SPACER VARIES FROM 5 1/8" 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 SHOULD BE 17 1/8".
8. UTILITY INVESTIGATIONS HAVE BEEN COMPLETED AND NO UTILITIES WERE FOUND AT EACH GUARDRAIL TRANSITION LOCATION. ALL OTHER LOCATIONS OF WORK ARE FLEXIBLE AND MAY BE ADJUSTED TO MITIGATE ANY CONFLICTS WITH EXISTING UTILITY FACILITIES. UTILITIES ARE NOT INCLUDED ON THESE PLANS.

LEGEND:

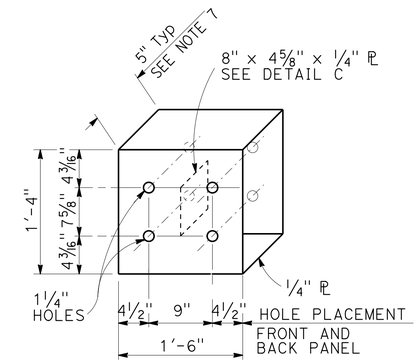
- (A) NESTED THRIE BEAM ELEMENTS (ONE 12 Ga ELEMENT NESTED OVER ONE 10 Ga ELEMENT)
- (B) ONE 10 Ga "W" BEAM TO THRIE BEAM ELEMENT
- (C) ONE 12 Ga THRIE BEAM ELEMENT
- (D) ONE 10 Ga "W" BEAM RAIL ELEMENT (7'-3 1/2" LENGTH)



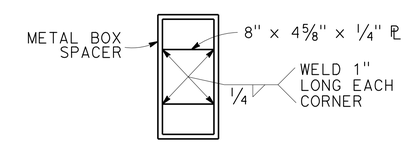
ELEVATION



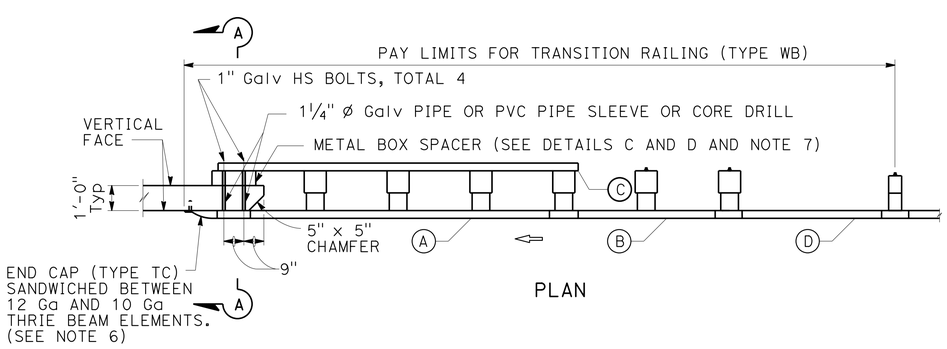
DETAIL A



DETAIL D

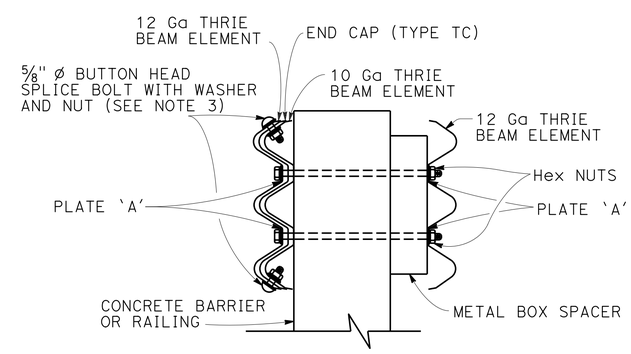


DETAIL C
METAL BOX SPACER

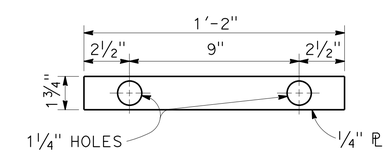


PLAN

TRANSITION RAILING (TYPE WB)



SECTION A-A



DETAIL B
PLATE 'A'

CONSTRUCTION DETAILS

NO SCALE

C-6

REVISED BY	DATE REVISED	MICHAEL CONNER	KARLIE SMITH	CALCULATED-DESIGNED BY	CHECKED BY	FUNCTIONAL SUPERVISOR	LANCE BROWN

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LAST REVISION 09-28-16 | DATE PLOTTED => 29-SEP-2016 | TIME PLOTTED => 14:42

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	1.8/R6.5	9	29

REGISTERED CIVIL ENGINEER 09-28-16 DATE

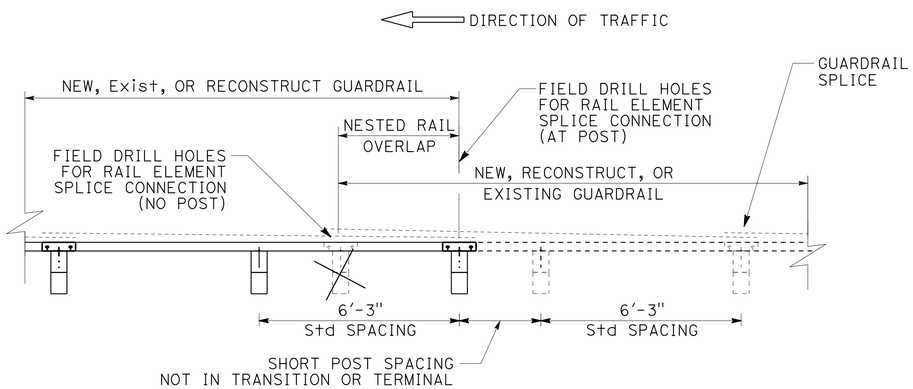
09-28-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER MICHAEL A. CONNER No. C73123 Exp. 12-31-16 CIVIL STATE OF CALIFORNIA

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

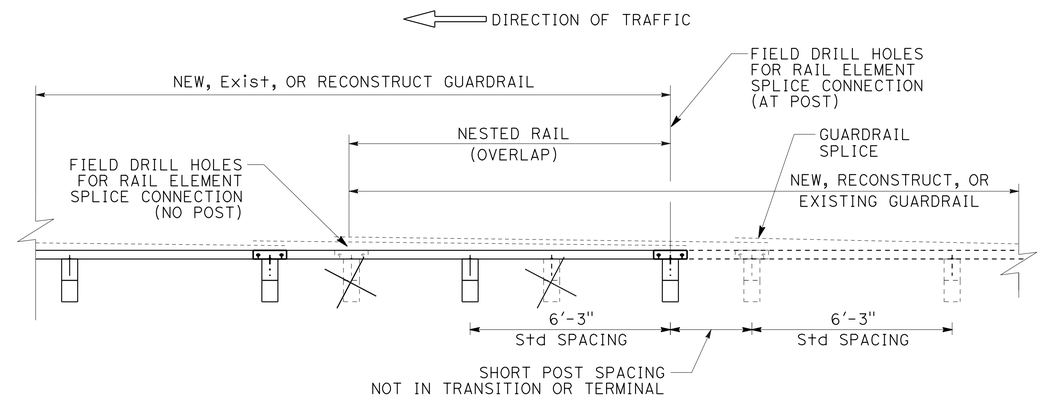
NOTES:

1. Max 2 EXISTING POSTS MAY BE REMOVED FOR TEMPORARY NESTED GUARDRAIL.
2. GUARDRAIL ELEMENT ON BACK OF POST NOT REQUIRED IF NEW TRANSITION IS COMPLETED WITHIN 20 WORKING DAYS OF REMOVED POST.
3. Max 2" OF ADDITIONAL BLOCKING MAY BE ADDED BETWEEN RAIL ELEMENT AND EXISTING POST OR ANCHOR BLOCK TO ACCOMODATE FORM WORK.
4. ATTACH END CAP FLUSH TO EXISTING ANCHOR BLOCK WITHIN CLEAR RECOVERY ZONE FOR OPPOSING TRAFFIC.
5. USE 2 EA x 1" HIGH STRENGTH THROUGH BOLTS TO ATTACH RAILING TO EXISTING ANCHOR BLOCK. USE EXISTING ℙ WASHERS FOR CONNECTION.
6. UTILITY INVESTIGATIONS HAVE BEEN COMPLETED AND NO UTILITIES WERE FOUND AT EACH GUARDRAIL TRANSITION LOCATION. ALL OTHER LOCATIONS OF WORK ARE FLEXIBLE AND MAY BE ADJUSTED TO MITIGATE ANY CONFLICTS WITH EXISTING UTILITY FACILITIES. UTILITIES ARE NOT INCLUDED ON THESE PLANS.

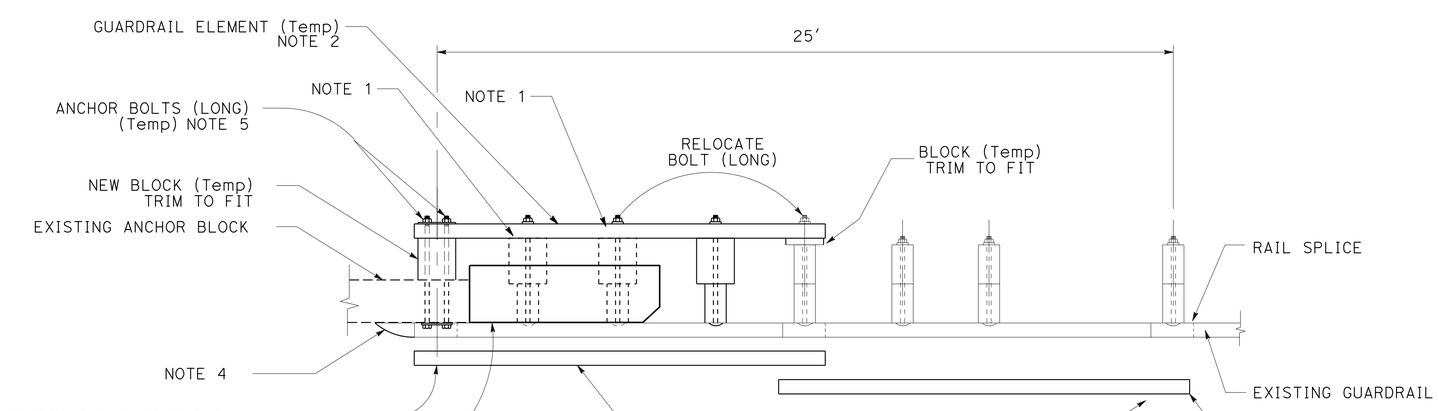


GUARDRAIL OVERLAP DETAIL (REDUCE LENGTH)

SEE STANDARD PLANS FOR RAIL ELEMENT SPLICE DETAILS



GUARDRAIL OVERLAP DETAIL (EXTEND LENGTH)



TEMPORARY NESTED GUARDRAIL AT ANCHOR BLOCK

CONSTRUCTION DETAILS

NO SCALE

C-7

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	1.8/R6.5	10	29

REGISTERED CIVIL ENGINEER 09-28-16 DATE

09-28-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER MICHAEL A. CONNER No. C73123 Exp. 12-31-16 CIVIL STATE OF CALIFORNIA

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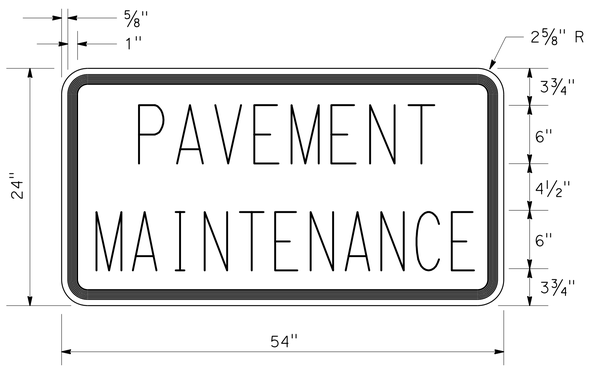
NOTES:

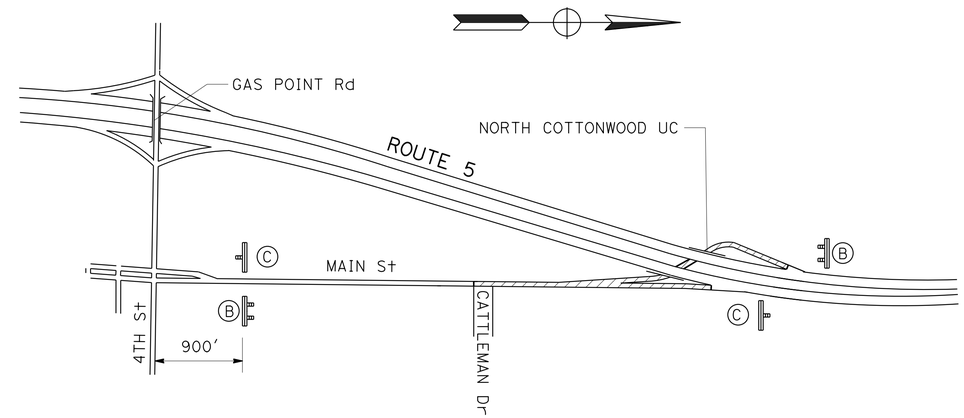
1. EXACT LOCATION OF ALL SIGNS TO BE DETERMINED BY THE ENGINEER.
2. ALL SIGNS SHALL BE BLACK ON ORANGE EXCEPT C40 (CA), WHICH IS BLACK ON WHITE.
3. CALIFORNIA CODES ARE DESIGNATED BY (CA), OTHERWISE FEDERAL CODES ARE SHOWN.
4. UTILITY INVESTIGATIONS HAVE BEEN COMPLETED AND NO UTILITIES WERE FOUND AT EACH GUARDRAIL TRANSITION LOCATION. ALL OTHER LOCATIONS OF WORK ARE FLEXIBLE AND MAY BE ADJUSTED TO MITIGATE ANY CONFLICTS WITH EXISTING UTILITY FACILITIES. UTILITIES ARE NOT INCLUDED ON THESE PLANS.

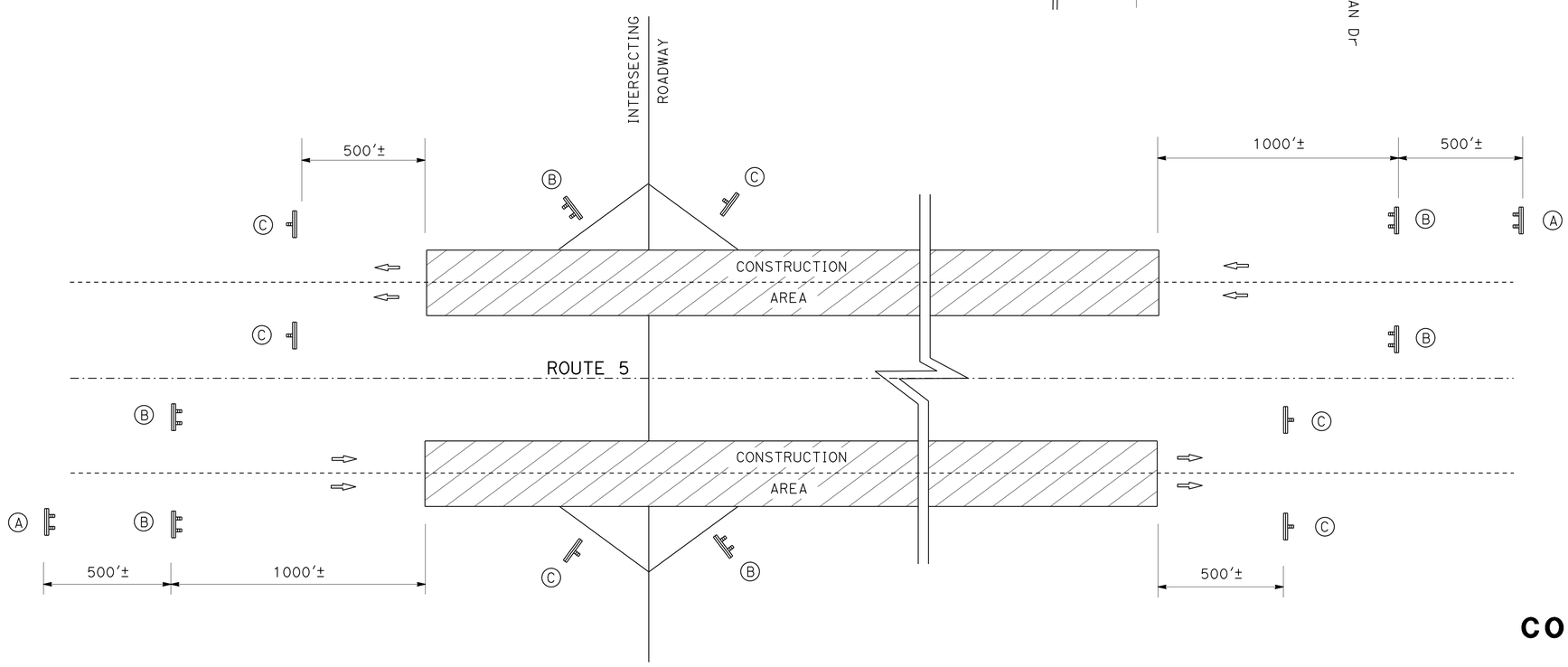


C23B(CA) SIGN PANEL DETAIL

CONSTRUCTION AREA SIGNS (STATIONARY MOUNTED)

○	TYPE	PANEL SIZE INCHES	SIGN MESSAGE	No. OF POSTS AND SIZE	No. OF SIGNS
A	C40(CA)	108" x 42"	TRAFFIC FINES DOUBLED IN CONSTRUCTION ZONES	2- 4" x 6"	2
B	W20-1 C23B(CA)	48" x 48" 54" x 24"	ROAD WORK AHEAD PAVEMENT MAINTENANCE	2- 4" x 6"	10
C	C14	48" x 24"	END ROAD WORK	1- 4" x 4"	10





ENTRANCE/EXIT RAMPS

PM	LOCATION
2.08	N COTTONWOOD NB ENTRANCE
2.29	N COTTONWOOD SB EXIT
R4.42	DESCHUTES Rd NB ENTRANCE
R4.45	DESCHUTES Rd SB EXIT
R5.10	BALLS FERRY Rd NB EXIT
R5.12	BALLS FERRY Rd SB ENTRANCE
R5.83	NORTH St NB ENTRANCE
R5.83	NORTH St SB EXIT
R6.53	RIVERSIDE Ave NB EXIT
R6.60	RIVERSIDE Ave SB ENTRANCE

CONSTRUCTION AREA SIGNS

NO SCALE

CS-1

REVISED BY | DATE REVISED
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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	1.8/R6.5	11	29

REGISTERED CIVIL ENGINEER 09-28-16 DATE

09-28-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER MICHAEL A. CONNER No. C73123 Exp. 12-31-16 CIVIL STATE OF CALIFORNIA

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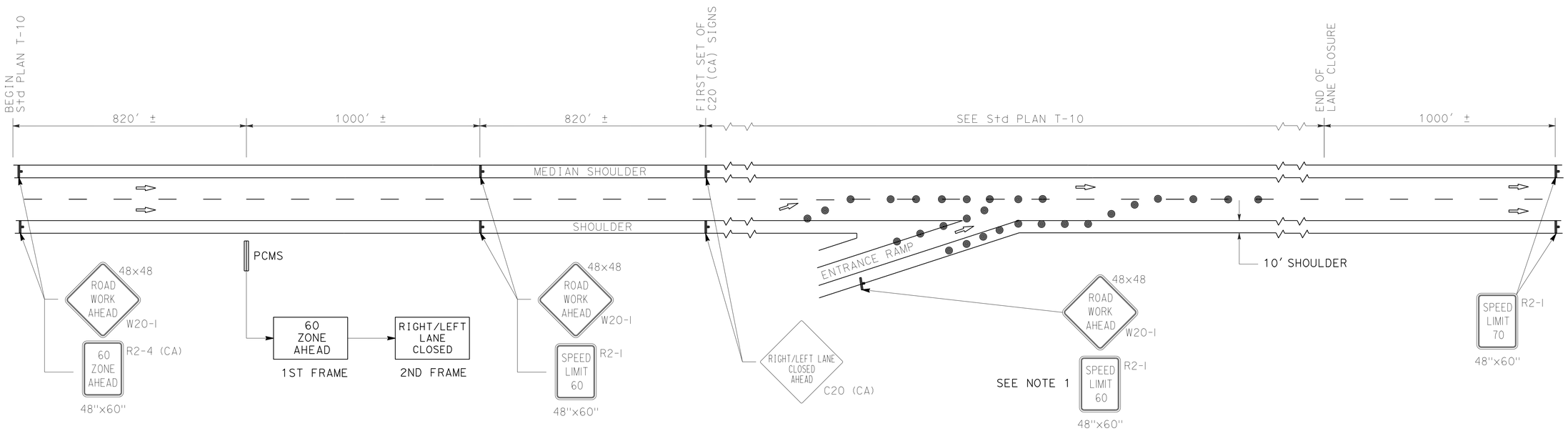
NOTES:

1. EXACT SIGN & PCMS LOCATIONS TO BE DETERMINED BY ENGINEER.
2. SEE STANDARD PLANS FOR TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE.
3. COVER EXISTING SPEED LIMIT SIGNS WITHIN THE REDUCED SPEED ZONE.
4. UTILITY INVESTIGATIONS HAVE BEEN COMPLETED AND NO UTILITIES WERE FOUND AT EACH GUARDRAIL TRANSITION LOCATION. ALL OTHER LOCATIONS OF WORK ARE FLEXIBLE AND MAY BE ADJUSTED TO MITIGATE ANY CONFLICTS WITH EXISTING UTILITY FACILITIES. UTILITIES ARE NOT INCLUDED ON THESE PLANS.

LEGEND:

- PORTABLE SIGN
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- TRAFFIC CONE



TYPICAL SIGN LAYOUT FOR TEMPORARY REDUCED SPEED ZONE

CONSTRUCTION AREA SIGNS

NO SCALE

CS-2

REVISED BY	DATE REVISED

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CHECKED BY: KARLIE SMITH
FUNCTIONAL SUPERVISOR: LANCE BROWN

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	1.8/R6.5	12	29

REGISTERED CIVIL ENGINEER DATE 09-28-16

PLANS APPROVAL DATE 09-28-16

REGISTERED PROFESSIONAL ENGINEER MICHAEL A. CONNER No. C73123 Exp. 12-31-16 CIVIL STATE OF CALIFORNIA

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NOTES:

① PRE-NOTIFICATION PCMS: PLACE NEAR RAMP AND ACTIVATE APPROXIMATELY 12 HOURS PRIOR TO RAMP CLOSURE.

EXIT WILL BE CLOSED	TODAY (or TONIGHT) XX:XXPM - XX:XXAM
FRAME 1	FRAME 2

② RAMP CLOSED PCMS: MOVE PRE-NOTIFICATION PCMS APPROXIMATELY 1000 FEET BEFORE RAMP AND ACTIVATE DURING RAMP CLOSURE.

EXIT XXX CLOSED	FOLLOW DETOUR
FRAME 1	FRAME 2

③ PLACE 7 DAYS PRIOR TO RAMP CLOSURE.

4. IF AVAILABLE, EXISTING ROUTE SHIELDS AND DIRECTIONS MAY BE USED IN PLACE OF SIGNS SHOWN.

5. EXIT NUMBER SHOWN AS FOLLOWS.

EXIT NAME	EXIT NUMBER
N COTTONWOOD	665
DESCHUTES Rd/FACTORY OUTLETS Dr	667
CENTRAL ANDERSON	668

6. EXACT LOCATION OF ALL SIGNS TO BE DETERMINED BY THE ENGINEER.

7. UTILITY INVESTIGATIONS HAVE BEEN COMPLETED AND NO UTILITIES WERE FOUND AT EACH GUARDRAIL TRANSITION LOCATION. ALL OTHER LOCATIONS OF WORK ARE FLEXIBLE AND MAY BE ADJUSTED TO MITIGATE ANY CONFLICTS WITH EXISTING UTILITY FACILITIES. UTILITIES ARE NOT INCLUDED ON THESE PLANS.

LEGEND:

PORTABLE CHANGEABLE MESSAGE SIGN

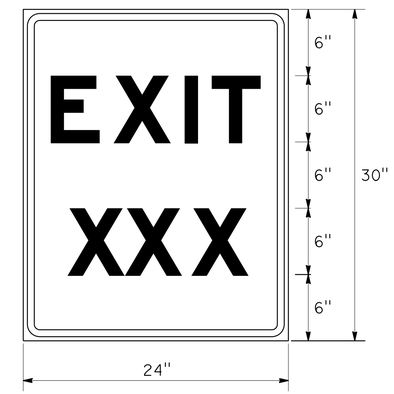
CONSTRUCTION AREA SIGN (PORTABLE)

DIRECTION OF TRAFFIC

CONSTRUCTION AREA SIGNS (PORTABLE SIGNS)

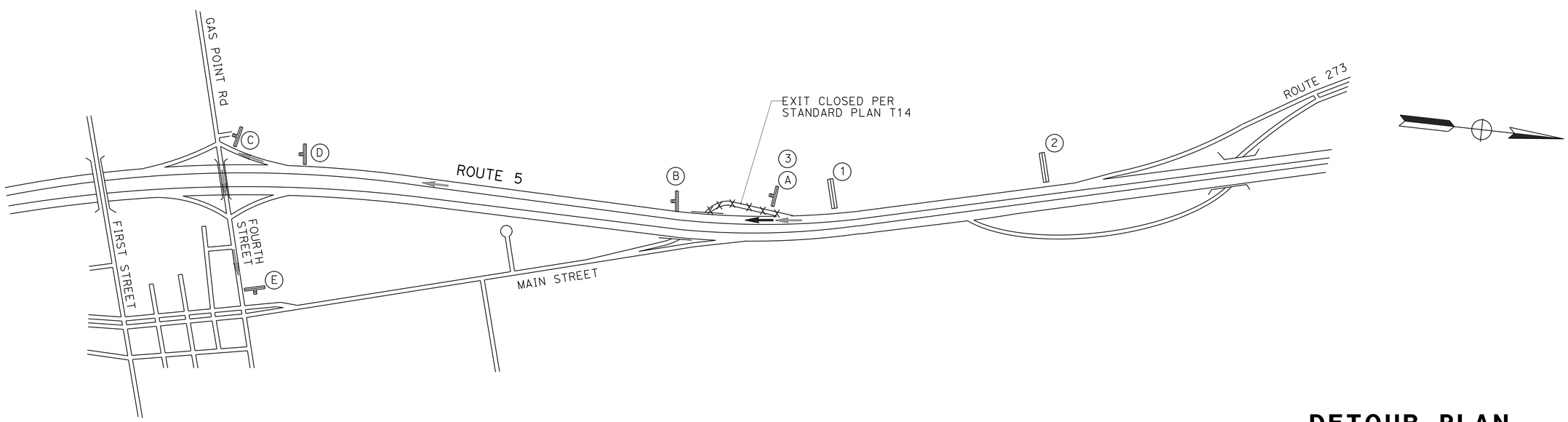
SIGN No. ◯	CODE	PANEL SIZE (INCH)	REMARKS	No. (EA)
Ⓐ *	SC6-3 (CA)	48" x 48"	"RAMP CLOSED" "DATE-TIME"	1
Ⓑ	SC3(CA) SP1	48" x 18" 24" x 30"	DETOUR (UP ARROW) EXIT XXX	1
Ⓒ	M4-10L SP1	48" x 18" 24" x 30"	DETOUR (L† ARROW) EXIT XXX	1
Ⓓ	M4-10R SP1	48" x 18" 24" x 30"	DETOUR (R† ARROW) EXIT XXX	1
Ⓔ	M4-8A	24" x 18"	END DETOUR	1
			TOTAL	5

* PLACE 7 DAYS PRIOR TO RAMP CLOSURE



1.5" Radius, 0.6" Border, 0.4" Indent, Black on Orange; [EXIT] E Mod; [XXX] E Mod;

EXIT NUMBER SIGN (SP1) DETAIL
(SEE NOTE 5)



DETOUR FOR CLOSURE OF N COTTONWOOD SB ROUTE 5 EXIT RAMP

DETOUR PLAN
NO SCALE

DE-1

REVISED BY | DATE REVISED
MICHAEL CONNER | KARLIE SMITH
CALCULATED-DESIGNED BY | CHECKED BY
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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	1.8/R6.5	13	29

REGISTERED CIVIL ENGINEER 09-28-16 DATE

09-28-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER MICHAEL A. CONNER No. C73123 Exp. 12-31-16 CIVIL STATE OF CALIFORNIA

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NOTES:

1. PRE-NOTIFICATION PCMS: PLACE NEAR RAMP AND ACTIVATE APPROXIMATELY 12 HOURS BEFORE RAMP CLOSURE.

ON-RAMP TO NB I-5 CLOSED	TONIGHT XX:XXPM - XX:XXAM
FRAME 1	FRAME 2

2. RAMP CLOSED PCMS: MOVE PRE-NOTIFICATION PCMS APPROXIMATELY 1000' BEFORE START OF DETOUR AND ACTIVATE DURING RAMP CLOSURE.

NB (OR SB) I-5 ONRAMP (OFFRAMP) CLOSED	FOLLOW DETOUR
FRAME 1	FRAME 2

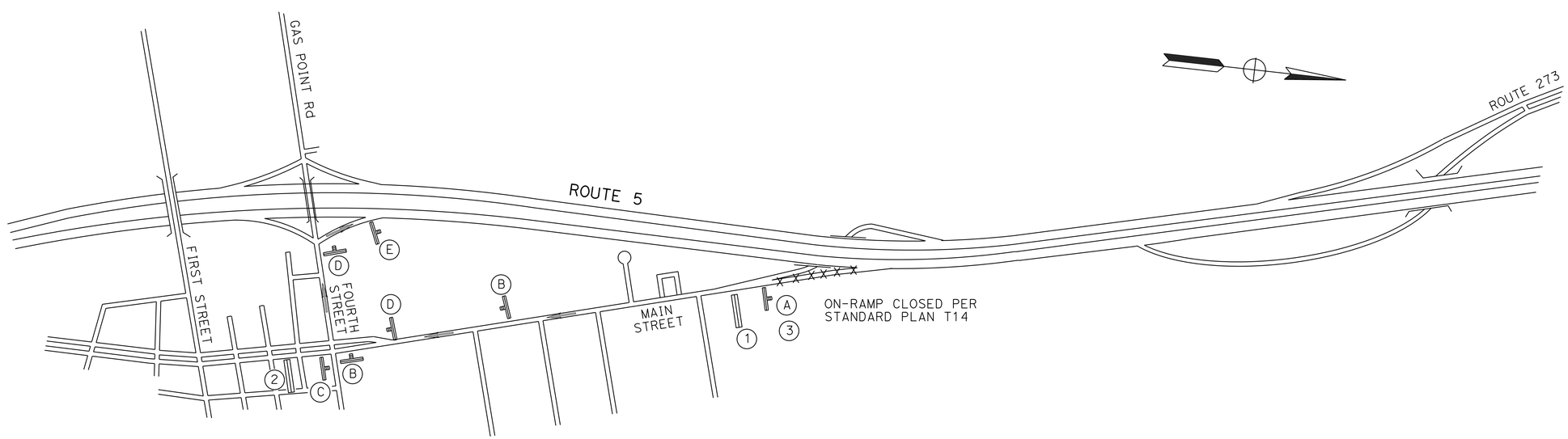
3. PLACE 7 DAYS BEFORE RAMP CLOSURE.

4. UTILITY INVESTIGATIONS HAVE BEEN COMPLETED AND NO UTILITIES WERE FOUND AT EACH GUARDRAIL TRANSITION LOCATION. ALL OTHER LOCATIONS OF WORK ARE FLEXIBLE AND MAY BE ADJUSTED TO MITIGATE ANY CONFLICTS WITH EXISTING UTILITY FACILITIES. UTILITIES ARE NOT INCLUDED ON THESE PLANS.

CONSTRUCTION AREA SIGNS (PORTABLE SIGNS)

SIGN No. ◯	CODE	PANEL SIZE (INCH)	REMARKS	No. (EA)
Ⓐ *	SC6-3 (CA)	48" x 48"	"RAMP CLOSED" "DATE-TIME"	1
Ⓑ	SC3(CA) G27-2 (5)(CA) M3-1	48" x 18" 24" x 24" 24" x 12"	DETOUR (UP ARROW) ROUTE SHIELD (5) NORTH	2
Ⓒ	M4-10L G27-2 (5)(CA) M3-1	48" x 18" 24" x 24" 24" x 12"	DETOUR (L† ARROW) ROUTE SHIELD (5) NORTH	1
Ⓓ	M4-10R G27-2 (5)(CA) M3-1	48" x 18" 24" x 24" 24" x 12"	DETOUR (R† ARROW) ROUTE SHIELD (5) NORTH	2
Ⓔ	M4-8A	24" x 18"	END DETOUR	1
			TOTAL	7

* PLACE 7 DAYS PRIOR TO RAMP CLOSURE



DETOUR FOR CLOSURE OF N COTTONWOOD NB ROUTE 5 ENTRANCE RAMP

DETOUR PLAN
NO SCALE

DE-2

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY: MICHAEL CONNER
CHECKED BY: KARLIE SMITH
FUNCTIONAL SUPERVISOR: LANCE BROWN

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	1.8/R6.5	14	29

REGISTERED CIVIL ENGINEER 09-28-16 DATE

09-28-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER MICHAEL A. CONNER No. C73123 Exp. 12-31-16 CIVIL STATE OF CALIFORNIA

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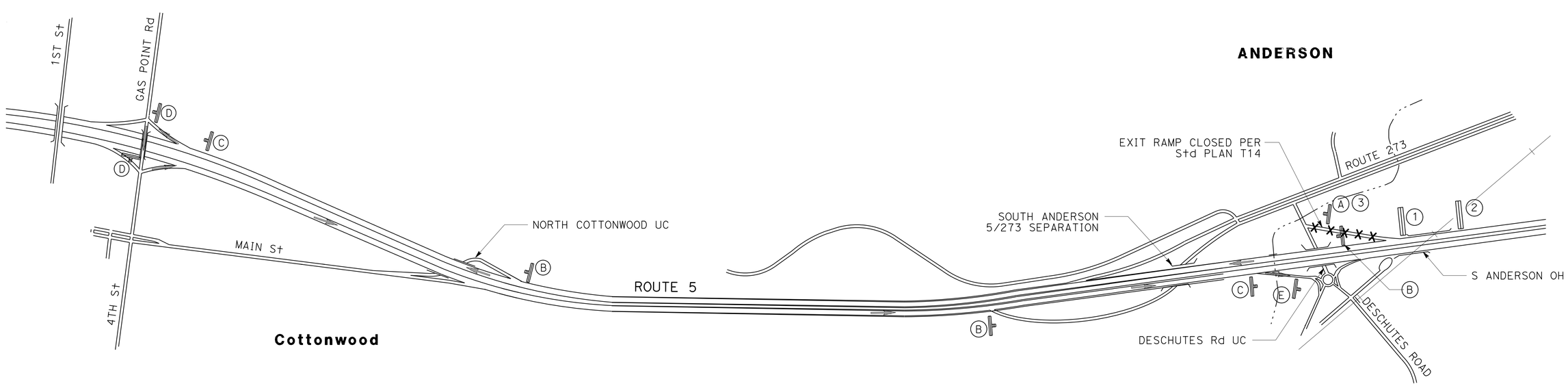
NOTES:

1. FOR LABELS ①② AND ③ SEE SHEET DE-1.
2. UTILITY INVESTIGATIONS HAVE BEEN COMPLETED AND NO UTILITIES WERE FOUND AT EACH GUARDRAIL TRANSITION LOCATION. ALL OTHER LOCATIONS OF WORK ARE FLEXIBLE AND MAY BE ADJUSTED TO MITIGATE ANY CONFLICTS WITH EXISTING UTILITY FACILITIES. UTILITIES ARE NOT INCLUDED ON THESE PLANS.

CONSTRUCTION AREA SIGNS (PORTABLE SIGNS)

SIGN No. ◯	CODE	PANEL SIZE (INCH)	REMARKS	No. (EA)
Ⓐ *	SC6-3 (CA)	48" x 48"	"RAMP CLOSED" "DATE-TIME"	1
Ⓑ	SC3(CA) SP1	48" x 18" 24" x 30"	DETOUR (UP ARROW) EXIT XXX	3
Ⓒ	M4-10R SP1	48" x 18" 24" x 30"	DETOUR (R+ ARROW) EXIT XXX	2
Ⓓ	M4-10L SP1	48" x 18" 24" x 30"	DETOUR (L+ ARROW) EXIT XXX	2
Ⓔ	M4-8A	24" x 18"	END DETOUR	1
			TOTAL	9

* PLACE 7 DAYS PRIOR TO RAMP CLOSURE



DETOUR FOR CLOSURE OF DESCHUTES Rd SB ROUTE 5 EXIT RAMP

DETOUR PLAN

NO SCALE

DE-3

REVISED BY	DATE REVISED
MICHAEL CONNER	KARLIE SMITH
CALCULATED-DESIGNED BY	CHECKED BY
FUNCTIONAL SUPERVISOR	LANCE BROWN

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	1.8/R6.5	15	29

REGISTERED CIVIL ENGINEER DATE 09-28-16

PLANS APPROVAL DATE 09-28-16

REGISTERED PROFESSIONAL ENGINEER MICHAEL A. CONNER No. C73123 Exp. 12-31-16 CIVIL STATE OF CALIFORNIA

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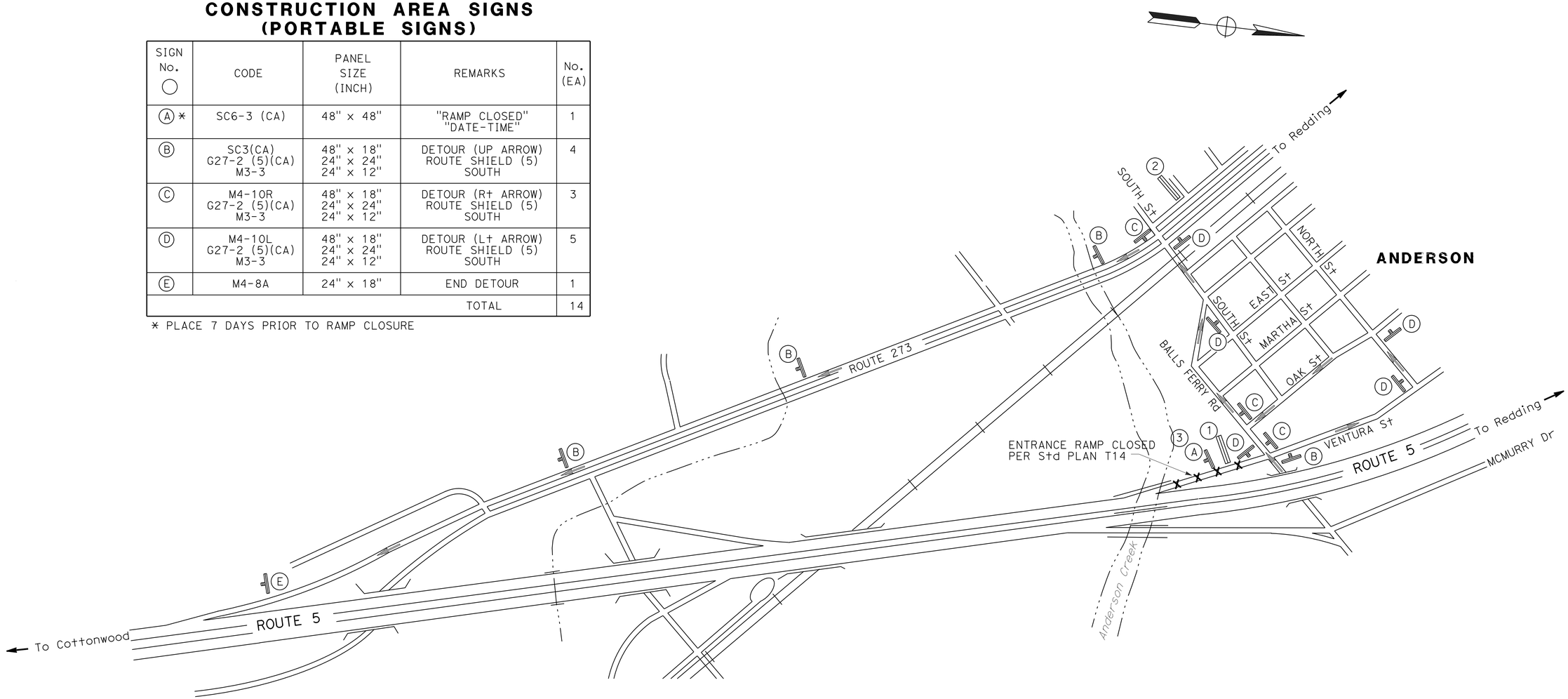
NOTES:

1. FOR LABELS ①② AND ③ SEE SHEET DE-2.
2. UTILITY INVESTIGATIONS HAVE BEEN COMPLETED AND NO UTILITIES WERE FOUND AT EACH GUARDRAIL TRANSITION LOCATION. ALL OTHER LOCATIONS OF WORK ARE FLEXIBLE AND MAY BE ADJUSTED TO MITIGATE ANY CONFLICTS WITH EXISTING UTILITY FACILITIES. UTILITIES ARE NOT INCLUDED ON THESE PLANS.

CONSTRUCTION AREA SIGNS (PORTABLE SIGNS)

SIGN No. ◯	CODE	PANEL SIZE (INCH)	REMARKS	No. (EA)
Ⓐ *	SC6-3 (CA)	48" x 48"	"RAMP CLOSED" "DATE-TIME"	1
Ⓑ	SC3(CA) G27-2 (5)(CA) M3-3	48" x 18" 24" x 24" 24" x 12"	DETOUR (UP ARROW) ROUTE SHIELD (5) SOUTH	4
Ⓒ	M4-10R G27-2 (5)(CA) M3-3	48" x 18" 24" x 24" 24" x 12"	DETOUR (R+ ARROW) ROUTE SHIELD (5) SOUTH	3
Ⓓ	M4-10L G27-2 (5)(CA) M3-3	48" x 18" 24" x 24" 24" x 12"	DETOUR (L+ ARROW) ROUTE SHIELD (5) SOUTH	5
Ⓔ	M4-8A	24" x 18"	END DETOUR	1
			TOTAL	14

* PLACE 7 DAYS PRIOR TO RAMP CLOSURE



DETOUR FOR CLOSURE OF BALLS FERRY Rd SB ROUTE 5 ENTRANCE RAMP

DETOUR PLAN

NO SCALE

DE-4

REVISED BY | DATE REVISED

MICHAEL CONNER | KARLIE SMITH

CALCULATED-DESIGNED BY | CHECKED BY

FUNCTIONAL SUPERVISOR: LANCE BROWN

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

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BORDER LAST REVISED 7/2/2010 | USERNAME => s115152 | DGN FILE => 22h360mg004.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0156 | PROJECT NUMBER & PHASE 02 1600 0090 1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	1.8/R6.5	16	29

REGISTERED CIVIL ENGINEER DATE 09-28-16

PLANS APPROVAL DATE 09-28-16

REGISTERED PROFESSIONAL ENGINEER MICHAEL A. CONNER No. C73123 Exp. 12-31-16 CIVIL STATE OF CALIFORNIA

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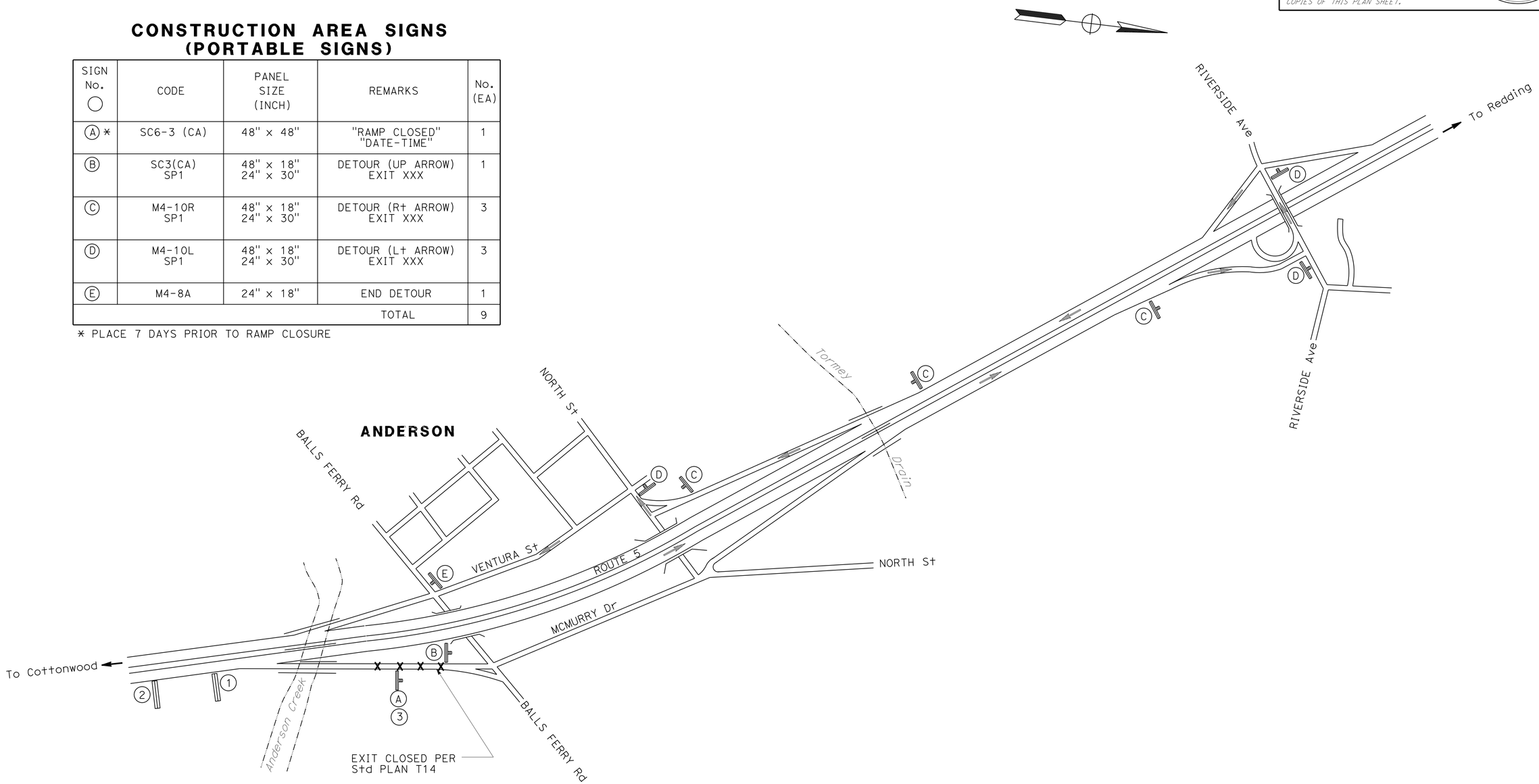
CONSTRUCTION AREA SIGNS (PORTABLE SIGNS)

SIGN No. ◯	CODE	PANEL SIZE (INCH)	REMARKS	No. (EA)
Ⓐ *	SC6-3 (CA)	48" x 48"	"RAMP CLOSED" "DATE-TIME"	1
Ⓑ	SC3(CA) SP1	48" x 18" 24" x 30"	DETOUR (UP ARROW) EXIT XXX	1
Ⓒ	M4-10R SP1	48" x 18" 24" x 30"	DETOUR (R† ARROW) EXIT XXX	3
Ⓓ	M4-10L SP1	48" x 18" 24" x 30"	DETOUR (L† ARROW) EXIT XXX	3
Ⓔ	M4-8A	24" x 18"	END DETOUR	1
			TOTAL	9

* PLACE 7 DAYS PRIOR TO RAMP CLOSURE



DETOUR FOR CLOSURE OF BALLS FERRY Rd NB ROUTE 5 EXIT RAMP

DETOUR PLAN

NO SCALE

DE-5

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
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FUNCTIONAL SUPERVISOR: LANCE BROWN
CALCULATED-DESIGNED BY: MICHAEL CONNER
CHECKED BY: KARLIE SMITH
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BORDER LAST REVISED 7/2/2010 | USERNAME => s115152 | DGN FILE => 22h360mg005.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0156 | PROJECT NUMBER & PHASE 02 1600 0090 1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	1.8/R6.5	17	29

REGISTERED CIVIL ENGINEER 09-28-16 DATE

09-28-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER MICHAEL A. CONNER No. C73123 Exp. 12-31-16 CIVIL STATE OF CALIFORNIA

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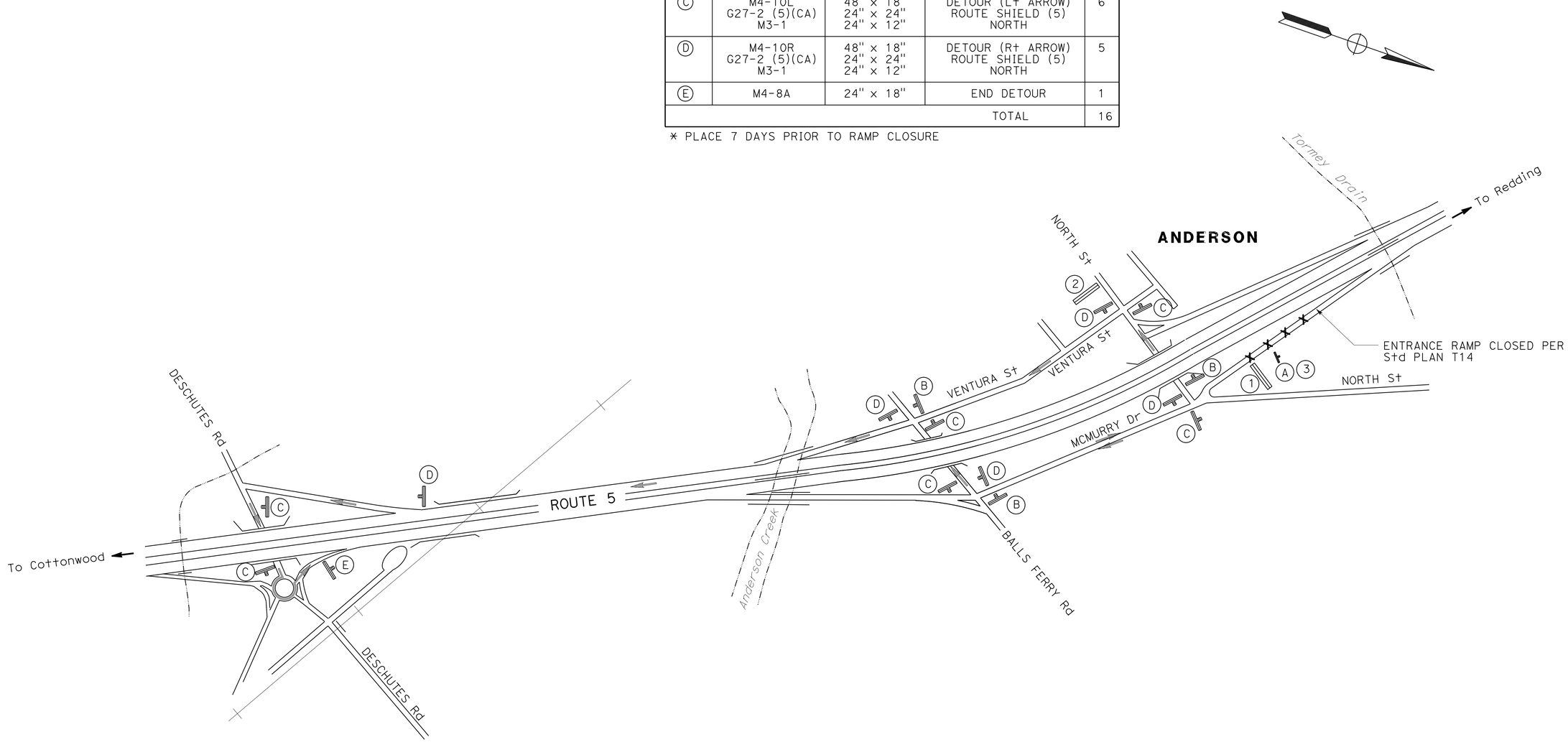
NOTES:

1. FOR LABELS 1 2 AND 3 SEE SHEET DE-2.
2. UTILITY INVESTIGATIONS HAVE BEEN COMPLETED AND NO UTILITIES WERE FOUND AT EACH GUARDRAIL TRANSITION LOCATION. ALL OTHER LOCATIONS OF WORK ARE FLEXIBLE AND MAY BE ADJUSTED TO MITIGATE ANY CONFLICTS WITH EXISTING UTILITY FACILITIES. UTILITIES ARE NOT INCLUDED ON THESE PLANS.

CONSTRUCTION AREA SIGNS (PORTABLE SIGNS)

SIGN No. ◯	CODE	PANEL SIZE (INCH)	REMARKS	No. (EA)
A *	SC6-3 (CA)	48" x 48"	"RAMP CLOSED" "DATE-TIME"	1
B	SC3(CA) G27-2 (5)(CA) M3-1	48" x 18" 24" x 24" 24" x 12"	DETOUR (UP ARROW) ROUTE SHIELD (5) NORTH	3
C	M4-10L G27-2 (5)(CA) M3-1	48" x 18" 24" x 24" 24" x 12"	DETOUR (L+ ARROW) ROUTE SHIELD (5) NORTH	6
D	M4-10R G27-2 (5)(CA) M3-1	48" x 18" 24" x 24" 24" x 12"	DETOUR (R+ ARROW) ROUTE SHIELD (5) NORTH	5
E	M4-8A	24" x 18"	END DETOUR	1
			TOTAL	16

* PLACE 7 DAYS PRIOR TO RAMP CLOSURE



DETOUR FOR CLOSURE OF NORTH St NB ROUTE 5 ENTRANCE RAMP

DETOUR PLAN

NO SCALE

DE-6

REVISED BY	DATE REVISED
MICHAEL CONNER	
KARLIE SMITH	
CALCULATED-DESIGNED BY	
CHECKED BY	
FUNCTIONAL SUPERVISOR	
LANCE BROWN	

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	1.8/R6.5	18	29

REGISTERED CIVIL ENGINEER 09-28-16 DATE

09-28-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER MICHAEL A. CONNER No. C73123 Exp. 12-31-16 CIVIL STATE OF CALIFORNIA

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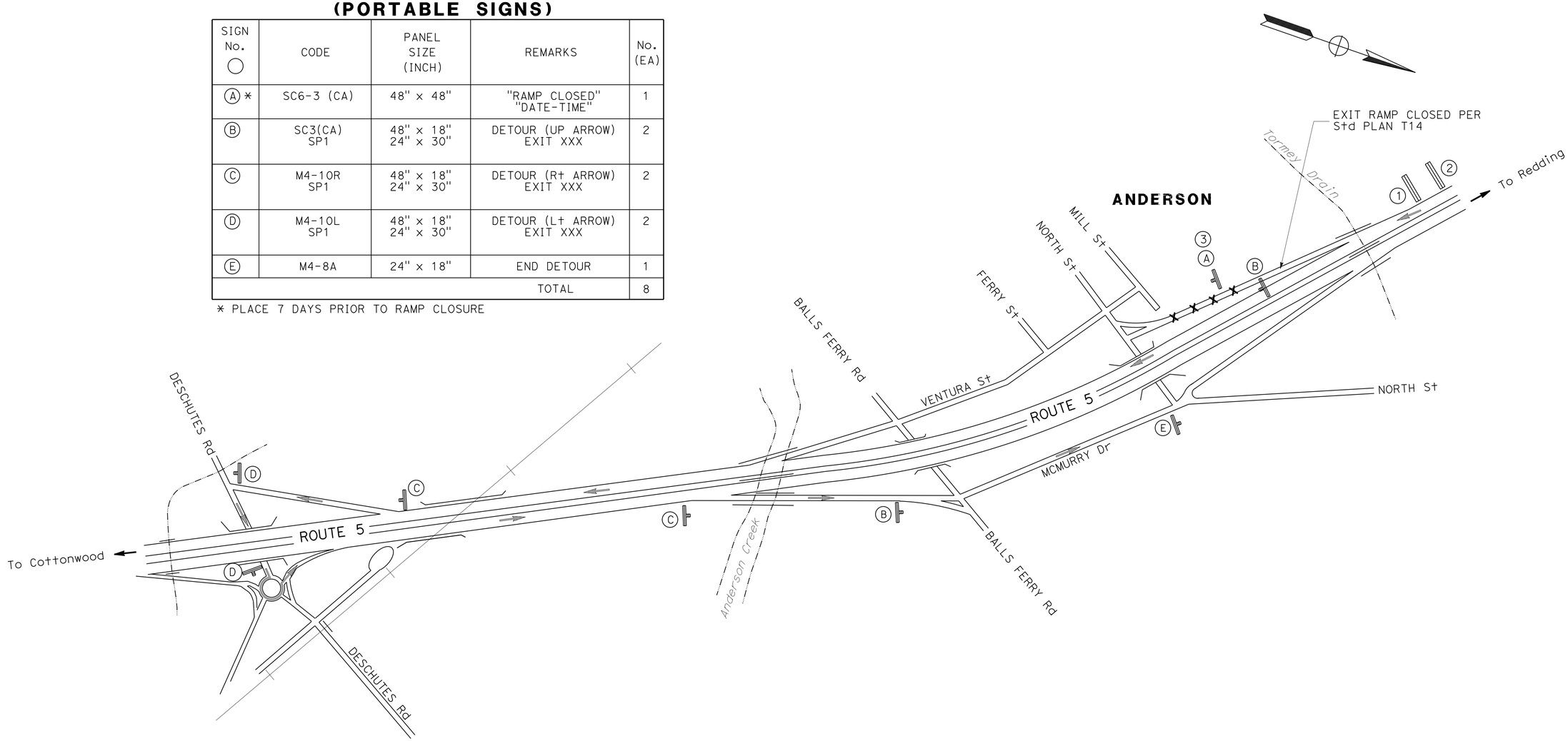
CONSTRUCTION AREA SIGNS (PORTABLE SIGNS)

SIGN No. ◯	CODE	PANEL SIZE (INCH)	REMARKS	No. (EA)
Ⓐ *	SC6-3 (CA)	48" x 48"	"RAMP CLOSED" "DATE-TIME"	1
Ⓑ	SC3(CA) SP1	48" x 18" 24" x 30"	DETOUR (UP ARROW) EXIT XXX	2
Ⓒ	M4-10R SP1	48" x 18" 24" x 30"	DETOUR (Rt ARROW) EXIT XXX	2
Ⓓ	M4-10L SP1	48" x 18" 24" x 30"	DETOUR (Lt ARROW) EXIT XXX	2
Ⓔ	M4-8A	24" x 18"	END DETOUR	1
			TOTAL	8

* PLACE 7 DAYS PRIOR TO RAMP CLOSURE



DETOUR FOR CLOSURE OF NORTH St SB ROUTE 5 EXIT RAMP

DETOUR PLAN

NO SCALE

DE-7

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
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FUNCTIONAL SUPERVISOR: LANCE BROWN
CALCULATED-DESIGNED BY: MICHAEL CONNER
CHECKED BY: KARLIE SMITH
REVISED BY / DATE REVISED

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LAST REVISION 09-28-16 | DATE PLOTTED => 29-SEP-2016 | TIME PLOTTED => 14:42

BORDER LAST REVISED 7/2/2010 | USERNAME => s115152 | DGN FILE => 22h360mg007.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0156 | PROJECT NUMBER & PHASE 02 1600 0090 1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	1.8/R6.5	19	29

REGISTERED CIVIL ENGINEER 09-28-16 DATE

09-28-16
PLANS APPROVAL DATE

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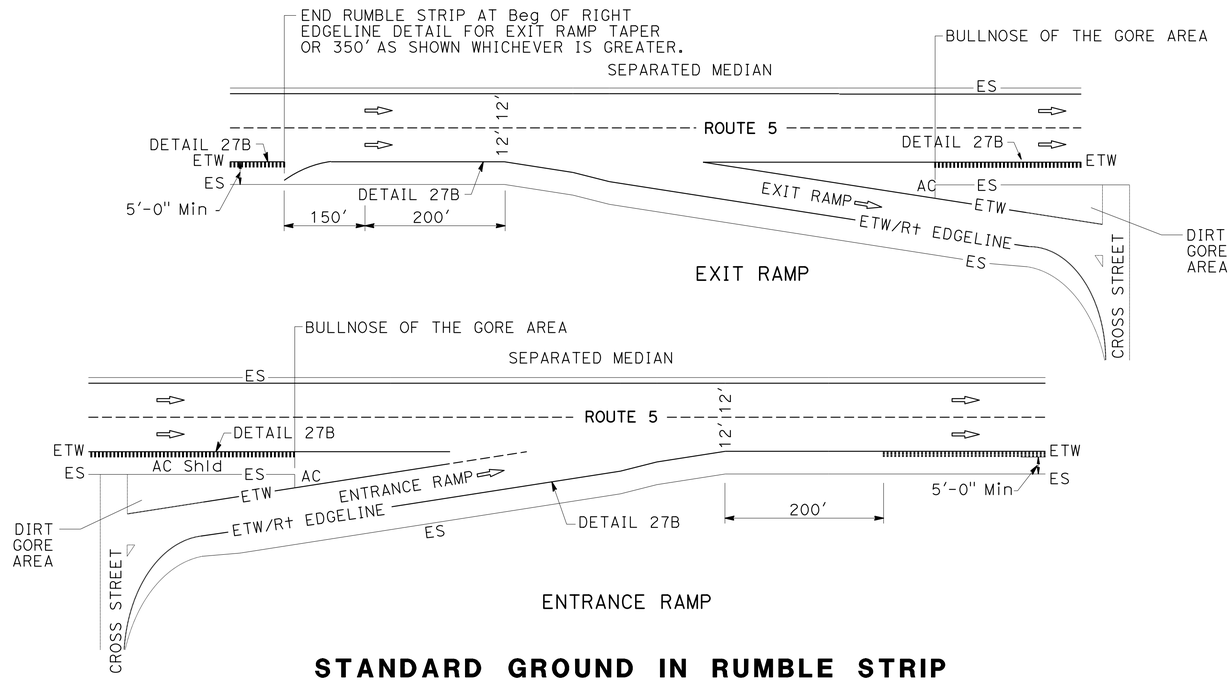
2. NO RUMBLE STRIP TO BE INSTALLED ON CONCRETE BRIDGE, APPROACH SLABS OR RAMPS.

ABBREVIATIONS:

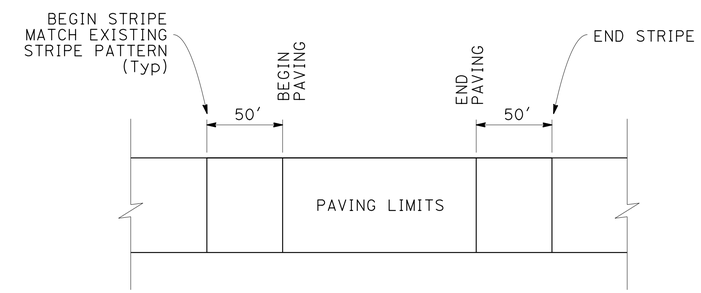
RUMBLE STRIP 12" RUMBLE STRIP (ASPHALT CONCRETE PAVEMENT)

LEGEND:

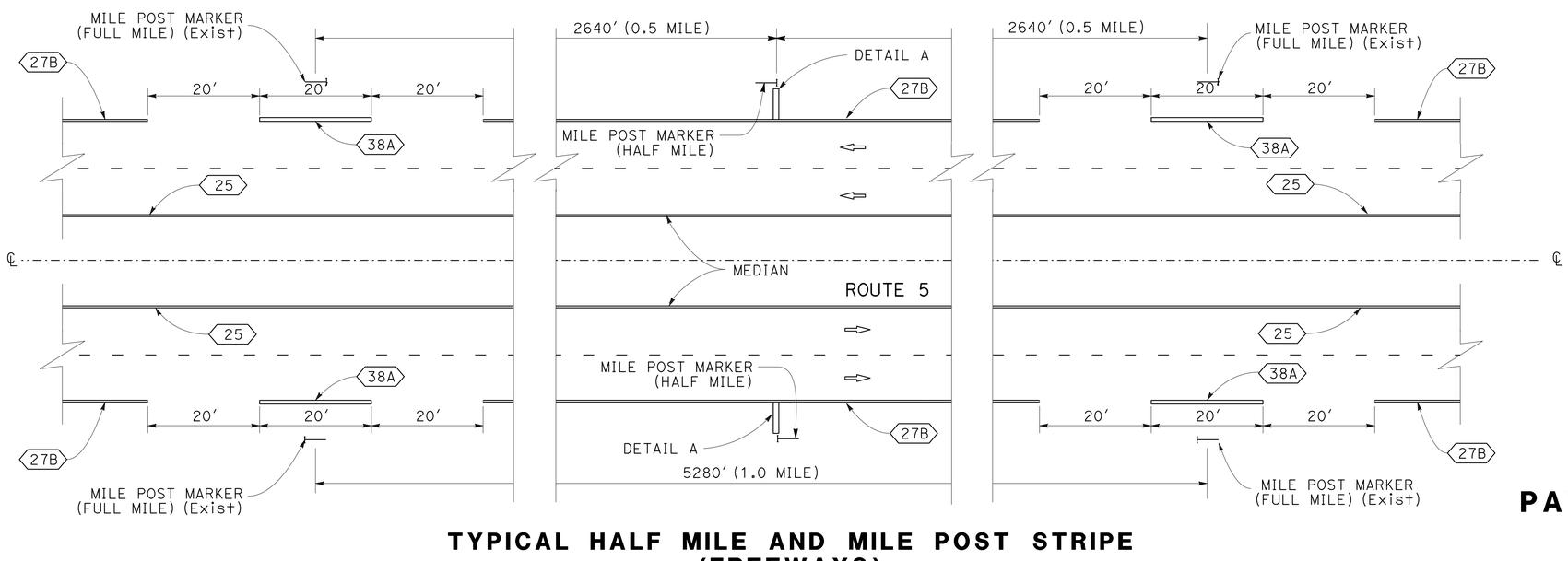
RUMBLE STRIP



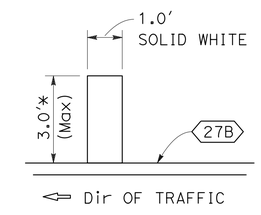
STANDARD GROUND IN RUMBLE STRIP



TRAFFIC STRIPE MATCH DETAIL



TYPICAL HALF MILE AND MILE POST STRIPE (FREEWAYS)



DETAIL A

* ACTUAL LENGTH MAY VARY DUE TO PAVEMENT WIDTH

PAVEMENT DELINEATION DETAILS

NO SCALE

PDD-1

REVISED BY	DATE REVISED
MICHAEL CONNER	KARLIE SMITH
CALCULATED-DESIGNED BY	CHECKED BY
FUNCTIONAL SUPERVISOR	LANCE BROWN

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	1.8/R6.5	20	29

REGISTERED CIVIL ENGINEER DATE 09-28-16

PLANS APPROVAL DATE 09-28-16

REGISTERED PROFESSIONAL ENGINEER MICHAEL A. CONNER No. C73123 Exp. 12-31-16 CIVIL STATE OF CALIFORNIA

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ABBREVIATIONS:

Mid MIDDLE

THERMOPLASTIC PAVEMENT MARKING

Loc	DESCRIPTION	PM	L†	Mid	R†	EA	SQFT	REMARKS
1	NORTH COTTONWOOD NB ENTRANCE RAMP	2.08		X		1	33	TYPE V ARROW
		2.08		X		1	33	TYPE V ARROW
		2.08		X		2	30	TYPE IV (L) ARROW
		2.08			X	1	40	LIMIT LINE
		2.08			X	1	22	STOP
	NORTH COTTONWOOD SB EXIT RAMP	2.29		X		1	33	TYPE V ARROW
2	NB MAINLINE	R4.50-R6.50			X	3	9	DETAIL A
	SB MAINLINE	R4.50-R6.50			X	3	9	DETAIL A
	DESCHUTES Rd SB EXIT RAMP	R4.45		X		2	84	TYPE III (L) ARROW
		R4.45		X		2	84	TYPE III (R) ARROW
		R4.45		X		2	66	TYPE V ARROW
		R4.45		X		1	93	YELLOW CROSSHATCH ISLAND
		R4.45		X		1	65	LIMIT LINE
	BALLS FERRY Rd NB EXIT RAMP	R5.10		X		2	84	TYPE III (L) ARROW
		R5.10		X		2	84	TYPE III (R) ARROW
		R5.10		X		2	66	TYPE V ARROW
		R5.10		X		1	110	CROSSWALK
	BALLS FERRY Rd SB ENTRANCE RAMP	R5.12		X		1	83	CROSSWALK
		R5.12		X		1	31	TYPE I 24'-0" ARROW
	NORTH S† NB ENTRANCE RAMP	R5.83		X		1	22	STOP
		R5.83		X		2	50	TYPE I 18'-0" ARROW
		R5.83		X		1	25	LIMIT LINE
	NORTH S† SB EXIT RAMP	R5.83		X		1	905	SOLID DELINEATED ISLAND
		R5.83		X		2	66	TYPE V ARROW
		R5.83		X		2	84	TYPE III (L) ARROW
		R5.83		X		2	84	TYPE III (R) ARROW
		R5.83		X		2	44	STOP
		R5.83		X		2	34	LIMIT LINE
		R5.83		X		2	407	WHITE CROSSHATCH ISLAND
TOTAL							2780	

TEMPORARY PAVEMENT MARKING (TAPE)

Loc	DESCRIPTION	PM	L†	Mid	R†	EA	SQFT	REMARKS
1	NORTH COTTONWOOD NB ENTRANCE RAMP	2.08		X		1	33	TYPE V ARROW
		2.08		X		1	33	TYPE V ARROW
		2.08		X		2	30	TYPE IV (L) ARROW
		2.08			X	1	40	LIMIT LINE
	NORTH COTTONWOOD SB EXIT RAMP	2.29		X		1	33	TYPE V ARROW
2	DESCHUTES Rd SB EXIT RAMP	R4.45		X		2	84	TYPE III (L) ARROW
		R4.45		X		2	84	TYPE III (R) ARROW
		R4.45		X		2	66	TYPE V ARROW
		R4.45		X		1	65	LIMIT LINE
	BALLS FERRY Rd NB EXIT RAMP	R5.10		X		2	84	TYPE III (L) ARROW
		R5.10		X		2	84	TYPE III (R) ARROW
		R5.10		X		2	66	TYPE V ARROW
		R5.10		X		1	110	CROSSWALK
	BALLS FERRY Rd SB ENTRANCE RAMP	R5.12		X		1	83	CROSSWALK
		R5.12		X		1	31	TYPE I 24'-0" ARROW
	NORTH S† NB ENTRANCE RAMP	R5.83		X		2	50	TYPE I 18'-0" ARROW
		R5.83		X		1	25	LIMIT LINE
		R5.83		X		2	66	TYPE V ARROW
	NORTH S† SB EXIT RAMP	R5.83		X		2	84	TYPE III (L) ARROW
		R5.83		X		2	84	TYPE III (R) ARROW
		R5.83		X		2	34	LIMIT LINE
TOTAL							1269	

THERMOPLASTIC TRAFFIC STRIPE (SPRAYABLE)

Loc	POST MILE LIMITS	DETAIL 8	DETAIL 12	DETAIL 14A	DETAIL 25	DETAIL 25A	DETAIL 27B	DETAIL 36	DETAIL 36A	DETAIL 38	DETAIL 38A	DETAIL 38B
	PM-PM	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF
1	2.08-2.29		2138			3617	3617					
2	R4.23-R6.50	371	24,710	1296	23,919	4408	31,054	862	546	361	80	504
SUBTOTAL		371	26,848	1296	23,919	8025	34,671	862	546	361	80	504
TOTAL		97,483										

PAVEMENT MARKER (RETROREFLECTIVE)

Loc	POST MILE LIMITS	TYPE C	TYPE G	TYPE H
		EA	EA	EA
1	2.08-2.29		46	152
2	R4.23-R6.50	36	674	684
SUBTOTAL		36	720	836
TOTAL		1592		

PAVEMENT DELINEATION QUANTITIES

PDQ-1

REVISED BY | DATE REVISED

MICHAEL CONNER | KARLIE SMITH

CALCULATED-DESIGNED BY | CHECKED BY

FUNCTIONAL SUPERVISOR: LANCE BROWN

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	1.8/R6.5	21	29

REGISTERED CIVIL ENGINEER 09-28-16 DATE

09-28-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER MICHAEL A. CONNER No. C73123 Exp. 12-31-16 CIVIL STATE OF CALIFORNIA

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NOTES:

1. (N) - NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.
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ABBREVIATIONS:

RHMA-O	RUBBERIZED HOT MIX ASPHALT-OPEN GRADED (OPEN GRADED FRICTION COURSE)
RAC-O	RUBBERIZED ASPHALT CONCRETE (TYPE O)
Dir	DIRECTION

ASPHALT CONCRETE DIKE

Loc	Dir	POST MILE	Lt	Rt	PLACE HMA DIKE (TYPE A)	PLACE HMA DIKE (TYPE E)	REMOVE AC DIKE
					LF	LF	LF
1	NB	2.08		X		445	445
	SB	2.29	X		425		425
TOTAL					425	445	870

COLD PLANE ASPHALT CONCRETE PAVEMENT

Loc	Dir	POST MILE	DESCRIPTION	AREA
				SQYD
1	NB	2.08	NORTH COTTONWOOD ENTRANCE RAMP	2157
	SB	2.29	NORTH COTTONWOOD EXIT RAMP	7747
2	NB	R4.24-R6.40	MAINLINE	32,947
		R5.10	BALLS FERRY Rd EXIT RAMP	4225
		R5.83	NORTH St ENTRANCE RAMP	2378
	SB	R4.23-R6.40	MAINLINE	33,100
		R4.45	DESCHUTES EXIT RAMP	2479
		R5.12	BALLS FERRY Rd ENTRANCE RAMP	1880
		R5.83	NORTH St EXIT RAMP	3146
TOTAL				90,059

FULL DEPTH PCC SLAB REPLACEMENT

Loc	Dir	POST MILE LIMITS	ROADWAY EXCAVATION	HMA (TYPE A) *	CLASS 2 AGGREGATE BASE (CY)	3" PLASTIC PIPE (ED)	3" PLASTIC PIPE (EDO)	(N) FILTER FABRIC	(N) TPM
			CY	TON	CY	LF	LF	SQYD	CY
2	NB	R4.60-R4.62	52	81	9	60	75	24	2.2

* ADDITIONAL QUANTITIES SHOWN ELSEWHERE. SEE ROADWAY QUANTITIES SUMMARY TABLE FOR TOTAL QUANTITIES.

METAL BEAM GUARD RAILING

Loc	Dir	POST MILE	Rt/Lt	REMOVE GUARDRAIL	RECONSTRUCT GUARDRAIL	ADJUST GUARDRAIL	ALTERNATIVE IN-LINE TERMINAL SYSTEM	TRANSITION RAILING (TYPE WB)	CONCRETE BARRIER (TRANSITION)	OBJECT MARKER (TYPE L-1)	TREATED WOOD WASTE
				LF	LF	LF	EA	EA	LF	EA	LB
2	NB	R4.29	Rt	25	75		1	1	3.5	1	1656
	SB	R4.31	Rt	25	25	38		1	3.5		948
TOTAL				50	100	38	1	2	7.0	1	2604

ROADWAY QUANTITIES SUMMARY

Loc	Dir	POST MILE	DESCRIPTION	RHMA-O	HMA (TYPE A)	SHOULDER BACKING	TACK COAT
				TON	TON	TON	TON
1	NB	2.08	NORTH COTTONWOOD ENTRANCE RAMP		587	84	3.7
	SB	2.29	NORTH COTTONWOOD EXIT RAMP		552	133	3.5
			DIKE		12		
2	NB	R4.24-R6.40	MAINLINE	2633		448	18.1
		R4.60-R4.62	FULL DEPTH PCC SLAB REPLACEMENT		81		
		R5.10	BALLS FERRY Rd EXIT RAMP		334	53	2.1
		R5.83	NORTH St ENTRANCE RAMP		227	51	1.4
	SB	R4.23-R6.40	MAINLINE	2674		440	18.4
		R4.45	DESCHUTES EXIT RAMP		234	32	1.5
		R5.12	BALLS FERRY Rd ENTRANCE RAMP		197	33	1.3
		R5.83	NORTH St EXIT RAMP		276	65	1.7
TOTAL				5307	2500	1339	51.7

REPLACE ASPHALT CONCRETE SURFACING

Loc	Dir	POST MILE LIMITS	(N) No. OF DIGOUTS	(N) Avg LENGTH	(N) WIDTH	(N) DEPTH	REPLACE AC SURFACING
		PM - PM		LF	LF	LF	CY
2	NB	R4.24-R5.00	7	100	4	0.33	35
		R5.00-R6.00	10	100	4	0.33	49
		R6.00-R6.50	5	100	4	0.33	25
	SB	R4.23-R5.00	7	100	4	0.33	35
		R5.00-R6.00	10	100	4	0.33	49
		R5.58	1	50	12	0.33	8
		R6.00-R6.50	5	100	4	0.33	25
TOTAL							226

12" RUMBLE STRIP (ASPHALT CONCRETE PAVEMENT)

Loc	Dir	POST MILE LIMITS	Sta	REMARKS
2	NB	R4.24-R6.40	230	MAINLINE
	SB	R4.23-R6.40	230	MAINLINE
TOTAL			460	

SUMMARY OF QUANTITIES

Q-1

REVISED BY | DATE REVISED
MICHAEL CONNER | KARLIE SMITH
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR | LANCE BROWN
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE

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LAST REVISION 09-28-16 | DATE PLOTTED => 29-SEP-2016 | TIME PLOTTED => 14:42

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	1.8/R6.5	22	29

J. Hannigan 09-28-16
REGISTERED ELECTRICAL ENGINEER DATE

09-28-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER J.M. HANNIGAN No. E13665 Exp. 6-30-17 ELECTRICAL STATE OF CALIFORNIA

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

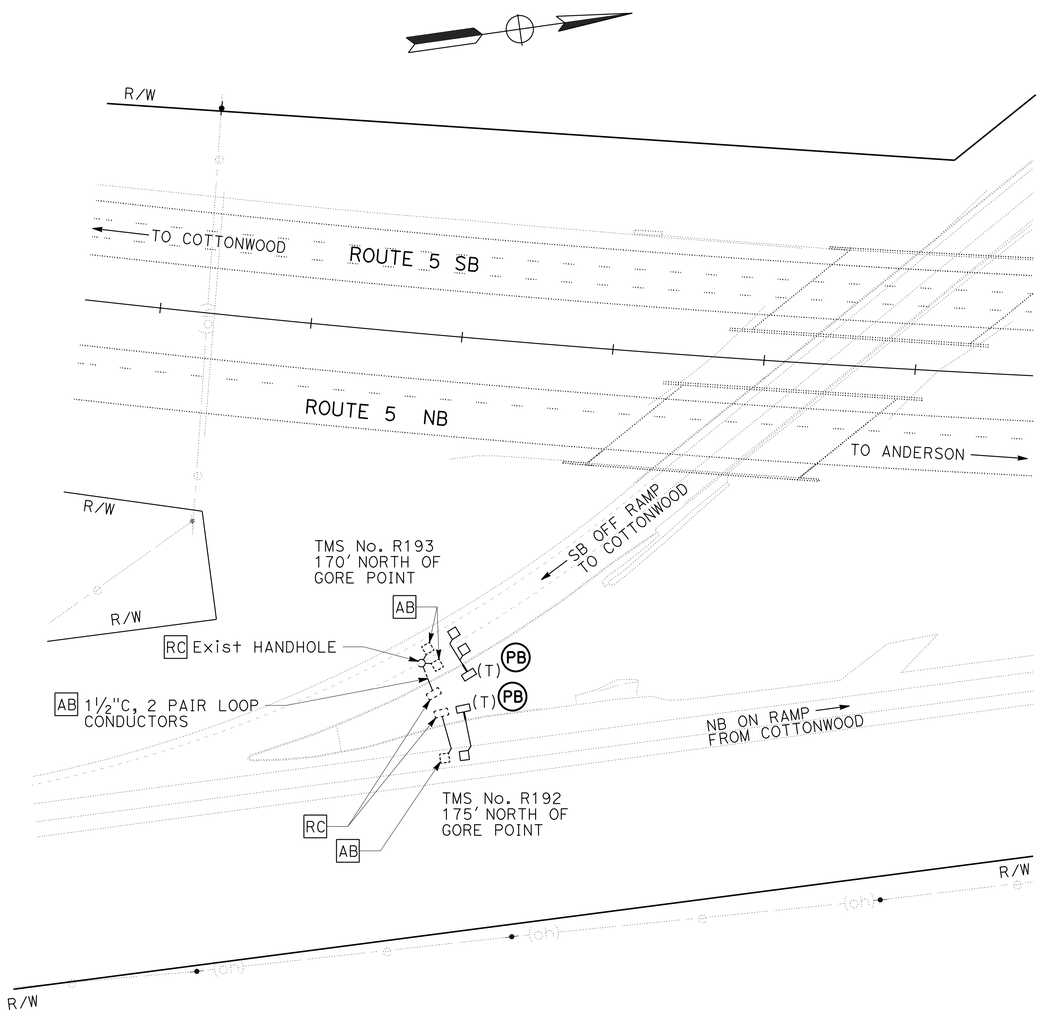
NOTE:

1. FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

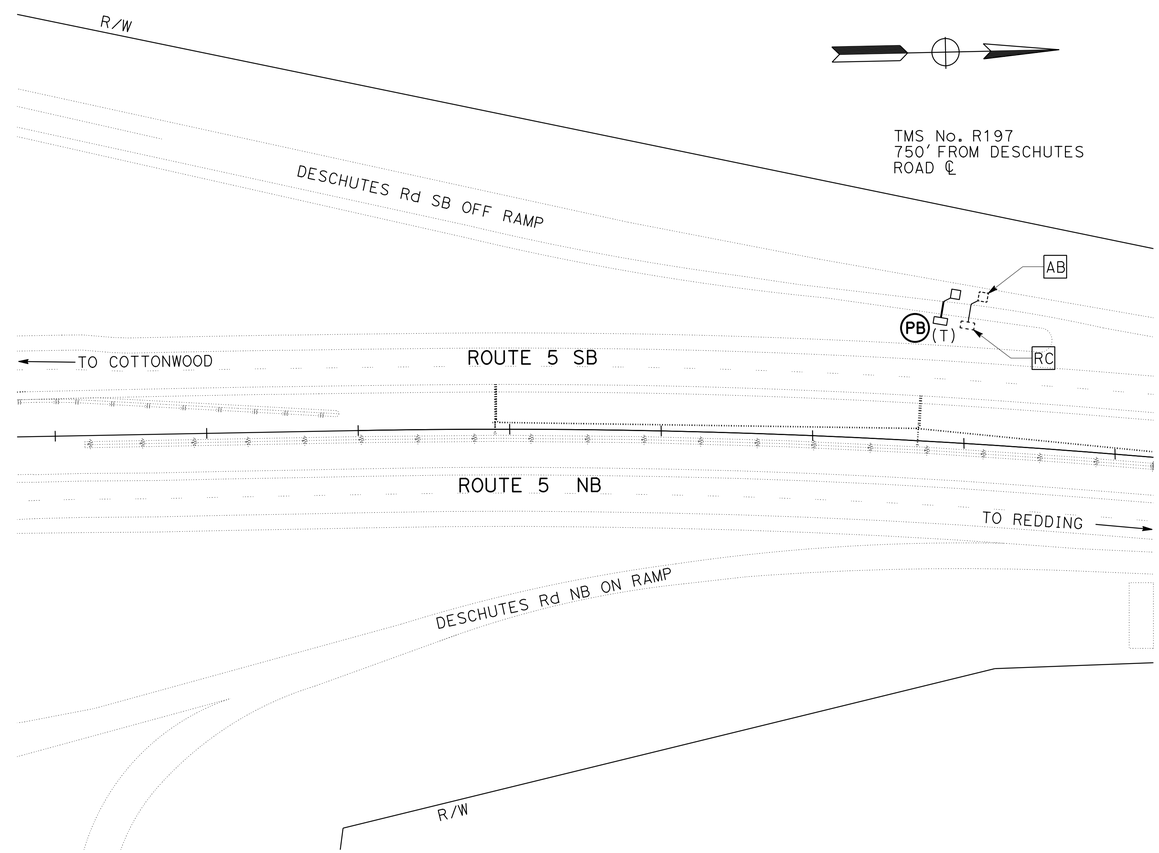
LEGEND:

(pb) Exist OBJECT MARKER (TYPE PB)

(PB) OBJECT MARKER (TYPE PB) AND PULL BOX PAVING



MODIFY TRAFFIC MONITORING STATION



MODIFY TRAFFIC MONITORING STATION

MODIFYING EXISTING ELECTRICAL SYSTEM

SCALE: 1" = 50'

E-1

APPROVED FOR ELECTRICAL WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN

FUNCTIONAL SUPERVISOR: ROB STINGER
CALCULATED-DESIGNED BY: J.M. HANNIGAN
CHECKED BY: ARTURO ROBLES
REVISED BY / DATE REVISED

P:\proj3\02\2h360_plans\pse\22h360ua001.dgn

LAST REVISION / DATE PLOTTED => 29-SEP-2016 / TIME PLOTTED => 14:42

BORDER LAST REVISED 7/2/2010 | USERNAME => s115152 | DGN FILE => 22h360ua001.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0147 | PROJECT NUMBER & PHASE 02 1600 0090 1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	1.8/R6.5	23	29

J. Hannigan 09-28-16
REGISTERED ELECTRICAL ENGINEER DATE

09-28-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
J.M. HANNIGAN
No. E13665
Exp. 6-30-17
ELECTRICAL
STATE OF CALIFORNIA

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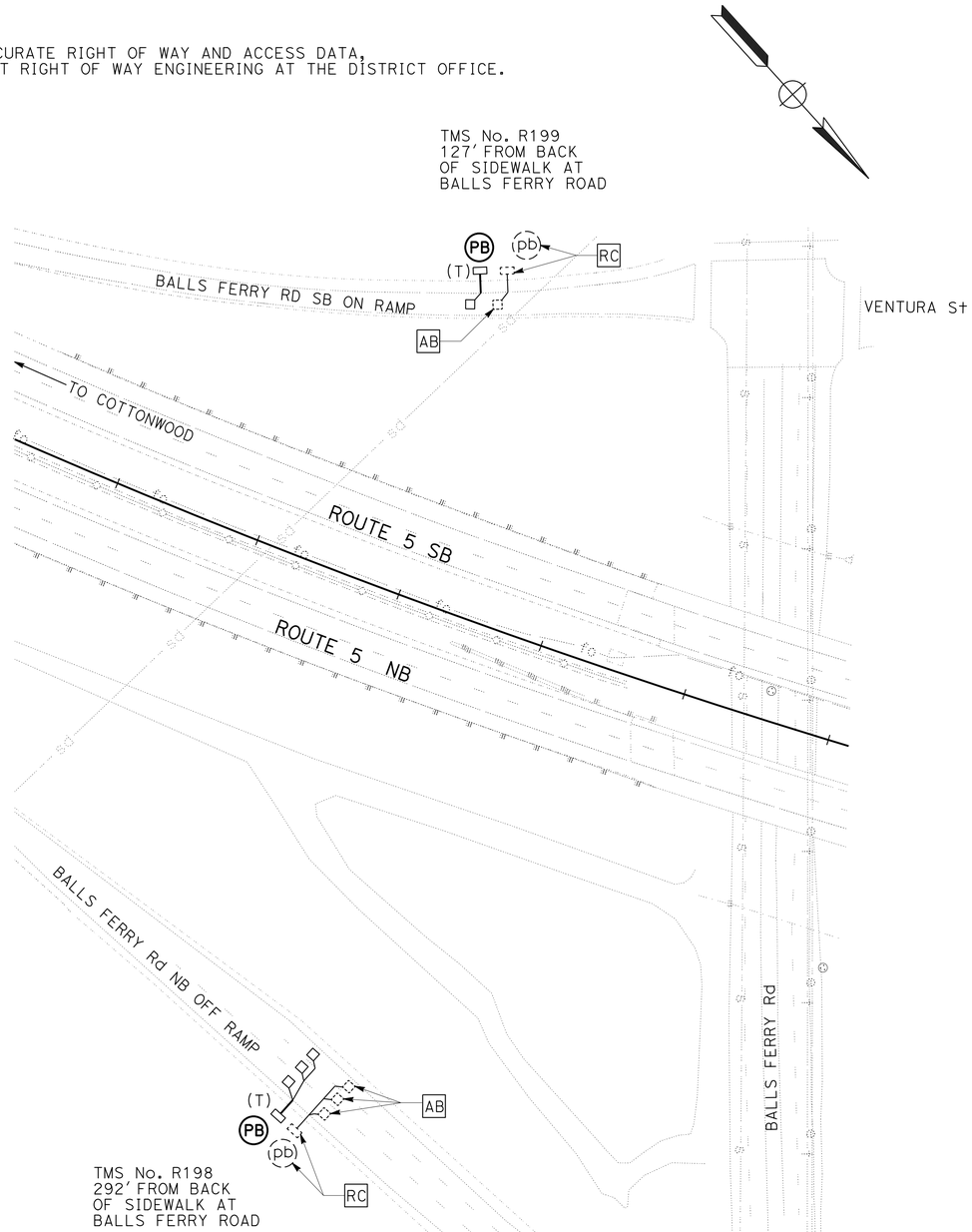
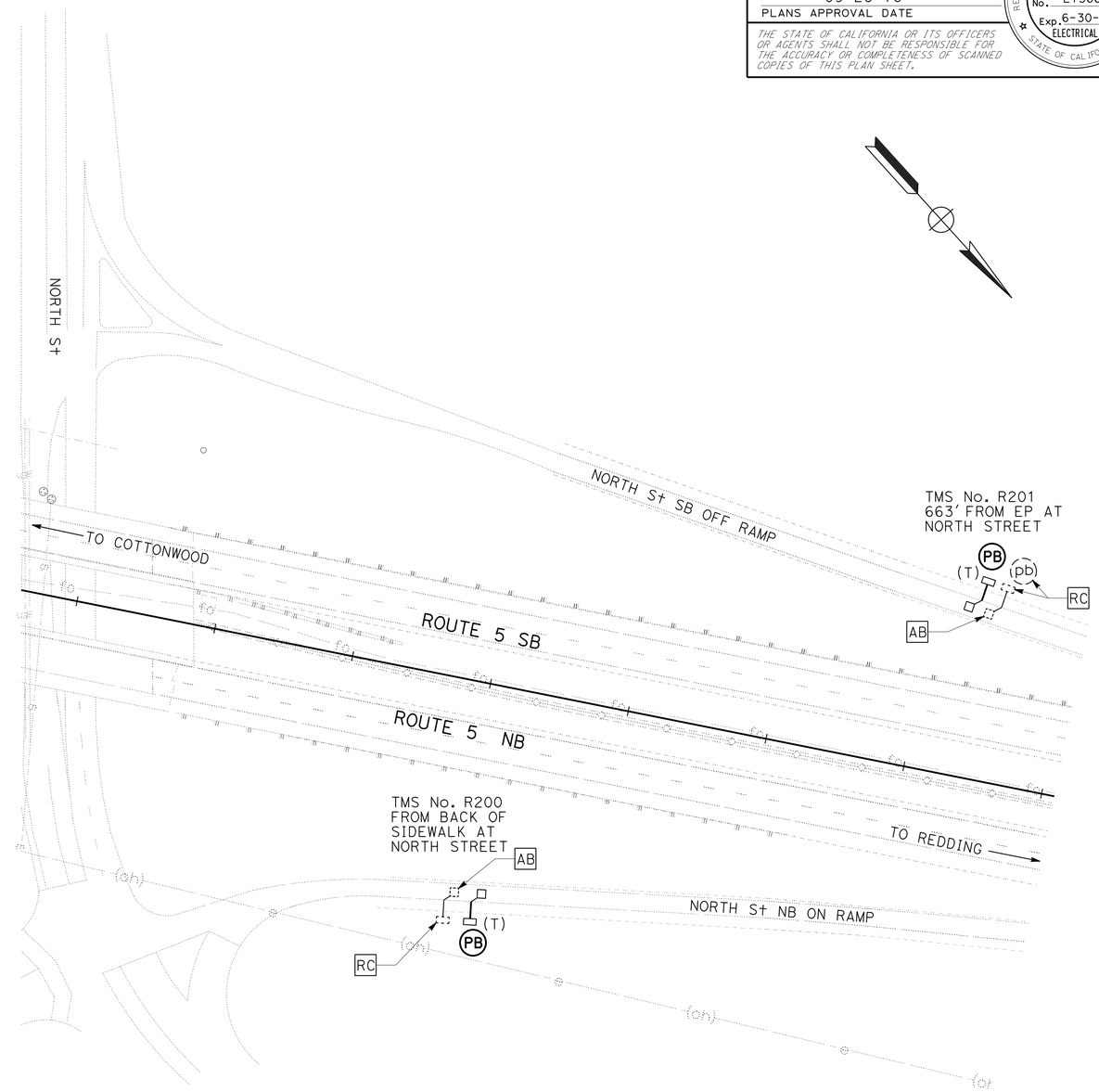


MODIFY TRAFFIC MONITORING STATION



MODIFY TRAFFIC MONITORING STATION

MODIFYING EXISTING ELECTRICAL SYSTEM

SCALE: 1" = 50'

E-2

APPROVED FOR ELECTRICAL WORK ONLY

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY	CHECKED BY
J.M. HANNIGAN	ARTURO ROBLES

FUNCTIONAL SUPERVISOR: ROB STINGER

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ELECTRICAL DESIGN

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LAST REVISION | DATE PLOTTED => 29-SEP-2016 | TIME PLOTTED => 14:42

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	1.8/R6.5	24	29

J. Hannigan 09-28-16
REGISTERED ELECTRICAL ENGINEER DATE

09-28-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER J.M. HANNIGAN No. E13665 Exp. 6-30-17 ELECTRICAL STATE OF CALIFORNIA

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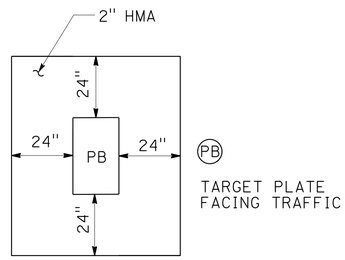
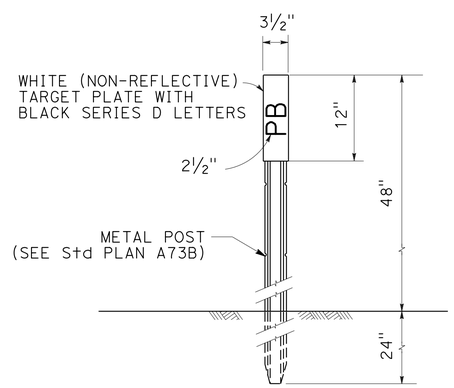
NOTE:

1. (N) - NOT A SEPARATE PAY ITEM. FOR INFORMATION ONLY.



NOTE: APPLIES TO ALL INSTALLATIONS IN UNPAVED AREAS

PULL BOX PAVING



NOTE: PLACE MARKER 2" OUTSIDE PULL BOX PAVING ON SIDE FACING TRAFFIC. SEE PULL BOX PAVING DETAIL.

OBJECT MARKER (TYPE PB)

EXISTING TRAFFIC MANAGEMENT SYSTEM ELEMENTS TO BE MAINTAINED

TYPE	CO-RTE-PM	DESCRIPTION
CCTV	Sha-5-R4.35	DESCHUTES ROAD UC
CCTV	Sha-5-R6.72	RIVERSIDE AVE OC
CMS	Sha-5-R6.72	RIVERSIDE AVE OC

QUANTITIES

SHEET No.	(N) TYPE A LOOP	(N) 1½"C, TYPE 1	(N) No. 5 TRAFFIC PULL BOX	(N) OBJECT MARKER (TYPE PB)	(N) PULL BOX PAVING
	EACH	LF	EACH	EACH	EACH
E-1	4	45	3	3	3
E-2	6	60	4	4	4

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

ELECTRICAL DETAILS AND QUANTITIES

NO SCALE

E-3

REVISED BY | DATE REVISED
J.M. HANNIGAN | ARTURO ROBLES
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR: ROB STINGER

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN

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LAST REVISION | DATE PLOTTED => 29-SEP-2016 | TIME PLOTTED => 14:42

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	1.8/R6.5	25	29

REGISTERED CIVIL ENGINEER

January 15, 2016
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Michael Janzen
No. 44788
Exp. 3-31-16
CIVIL
STATE OF CALIFORNIA

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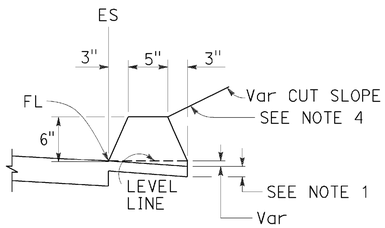
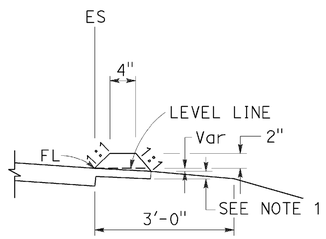
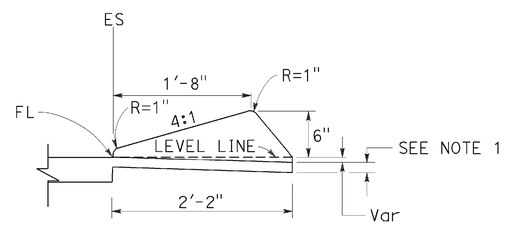
TO ACCOMPANY PLANS DATED 09-28-16



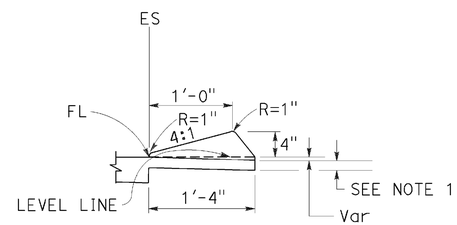
TYPE A
See Notes 3 and 5



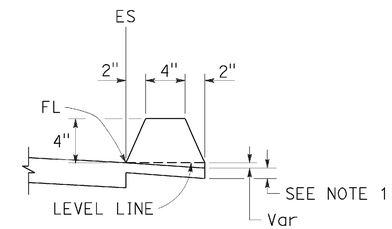
TYPE C



TYPE D

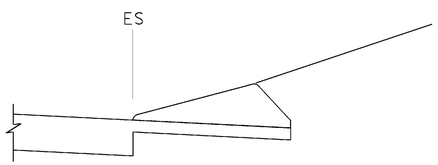


TYPE E

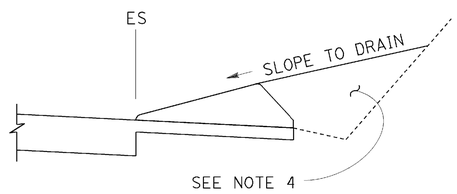


TYPE F
See Note 5

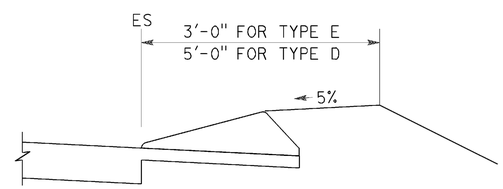
DIKES



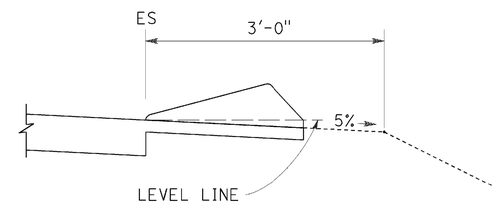
CASE C-1
Cut Slope



CASE C-2
Cut Slope



CASE F



CASE R
See Note 2

TYPE D AND E BACKFILL DETAILS

NOTES:

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

DIKE QUANTITIES

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

Quantities based on 5% cross slope.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

HOT MIX ASPHALT DIKES

NO SCALE

RSP A87B DATED JANUARY 15, 2016 SUPERSEDES STANDARD PLAN A87B DATED OCTOBER 30, 2015 - PAGE 126 OF THE STANDARD PLANS BOOK DATED 2015.

REVISED STANDARD PLAN RSP A87B

2015 REVISED STANDARD PLAN RSP A87B

DATE PLOTTED => 29-SEP-2016
TIME PLOTTED => 14:42

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	1.8/R6.5	26	29

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

April 15, 2016
PLANS APPROVAL DATE

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

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TO ACCOMPANY PLANS DATED 09-28-16

EQUIPMENT IDENTIFICATION

ILLUMINATED SIGN IDENTIFICATION:

SIGN No. 12345 — SIGN EQUIPMENT IDENTIFICATION CHARACTERS - PLACE ON POST OR STRUCTURE

10 ISL SCI 1.0
- 1.0 — TRANSFORMER RATING (kVA)
- SCI — LIGHTING CONTROL TYPE
- ISL — NUMBER AND TYPE OF FIXTURES

} DO NOT PLACE ON STANDARD OR STRUCTURE

ELECTROLIER OR EQUIPMENT IDENTIFICATION:

L2745 - 15'-0"
- 15'-0" — MAST ARM LENGTH, IF SHOWN. DO NOT PLACE ON STANDARD OR STRUCTURE
- L2745 — EQUIPMENT IDENTIFICATION CHARACTERS - PLACE ON STANDARD OR STRUCTURE. EXISTING EQUIPMENT IDENTIFICATION CHARACTERS ARE SHOWN IN PARENTHESIS

CONDUIT AND CONDUCTOR IDENTIFICATION:

1½"C, 2#10, 15#14, 2 DLC, 12P#18 (PAIR)
- 2#10, 15#14, 2 DLC, 12P#18 — NUMBER AND SIZE OF CONDUCTORS AND CABLES
- 1½"C — SIZE OF CONDUIT IN INCHES

ø1, ø2, ø2P, etc.	TRAFFIC PHASE IDENTIFICATION FOR SIGNALS, DETECTORS AND PHASE DIAGRAMS
1 2 3	LEGEND NUMBERS
A B C	EQUIPMENT, SIGNAL POLES, INSTALLATION OR ITEMS
1 2 3	CONDUIT RUN NUMBERS

SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):

19A - 3 - 100
- 100 — WIND VELOCITY = 100 mph
- 3 — CASE 3 ARM LOADING
- 19A — STANDARD TYPE
- STANDARD PLAN SHEET NUMBER
- DETAIL, NUMBER, SECTION, TYPE OR ELEVATION

MISCELLANEOUS EQUIPMENT

NEW	EXISTING	
CMS	cms	CHANGEABLE MESSAGE SIGN
		CLOSED CIRCUIT TELEVISION CAMERA
		HIGHWAY ADVISORY RADIO POLE AND ANTENNA
EMS	ems	LED EXTINGUISHABLE MESSAGE SIGN
M V	m v	DETECTION DEVICE M = MICROWAVE SENSOR V = VIDEO IMAGE SENSOR

WIRING DIAGRAM LEGEND

----	EXTERNAL CONDUCTOR
	CONDUCTOR OR BUS
	TIE POINT
	CONTACTOR COIL
	CONTACTOR, NO CONTACT
	TERMINAL BLOCKS
	CONTACTOR, NC CONTACT
	ENCLOSURE BOND
	GROUNDING ELECTRODE
	CIRCUIT BREAKER
R	RECEPTACLE

PULL BOXES

NEW	EXISTING	
		PULL BOX, No. 5 UNLESS OTHERWISE INDICATED OR NOTED
3	9A(21)	PULL BOX, ADDITIONAL DESIGNATIONS OR DESCRIPTIONS

3 No. 3½ PULL BOX
5 No. 5 PULL BOX
6 No. 6 PULL BOX
7 No. 7 PULL BOX (CEILING)
8 No. 8 PULL BOX
9 No. 9 PULL BOX (STRUCTURE)
9A No. 9A PULL BOX (STRUCTURE)

(C) COMMUNICATIONS PULL BOX
(E) PULL BOX WITH EXTENSION
(S) SPRINKLER CONTROL PULL BOX
(21) ANCHOR BOLTS AND CONDUIT FOR FUTURE INSTALLATION OF TYPE 21 STANDARD
(T) TRAFFIC PULL BOX

VEHICLE DETECTORS

5 J 9 U
- U = UPPER
  L = LOWER
- SLOT NUMBER IN INPUT FILE
- INPUT FILE (I OR J)
- PHASE

NEW	EXISTING	
		TYPE A LOOP DETECTOR. OUTLINE OF SAW CUT SHOWN
		TYPE B LOOP DETECTOR. OUTLINE OF SAW CUT SHOWN
		TYPE C LOOP DETECTOR. OUTLINE OF SAW CUT SHOWN
		TYPE D LOOP DETECTOR. OUTLINE OF SAW CUT SHOWN
		TYPE E LOOP DETECTOR. OUTLINE OF SAW CUT SHOWN
		TYPE Q LOOP DETECTOR. OUTLINE OF SAW CUT SHOWN
DH	dh	DETECTOR HANDHOLE
		MICROWAVE OR VIDEO DETECTION ZONE

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

NO SCALE

RSP ES-1C DATED APRIL 15, 2016 SUPERSEDES STANDARD PLAN ES-1C DATED OCTOBER 30, 2015 - PAGE 420 OF THE STANDARD PLANS BOOK DATED 2015.

REVISED STANDARD PLAN RSP ES-1C

2015 REVISED STANDARD PLAN RSP ES-1C

DATE PLOTTED => 29-SEP-2016
TIME PLOTTED => 14:43

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	1.8/R6.5	27	29

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

April 15, 2016
PLANS APPROVAL DATE

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

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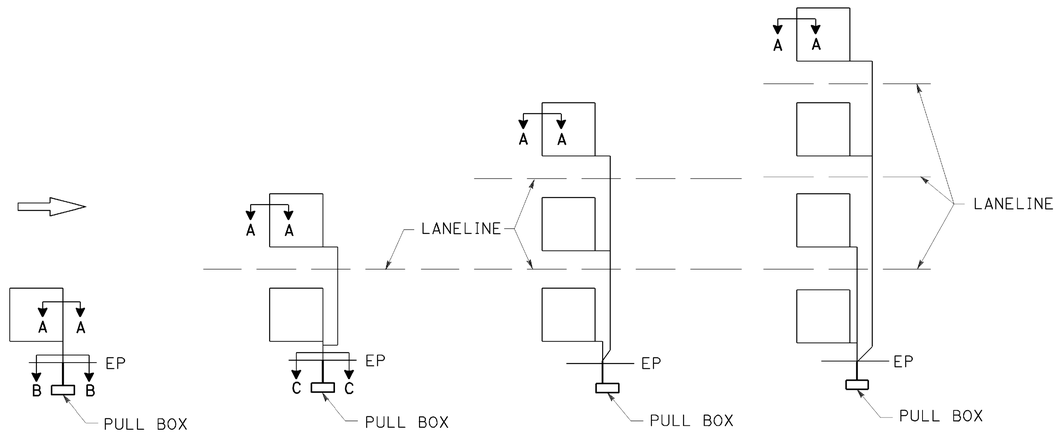
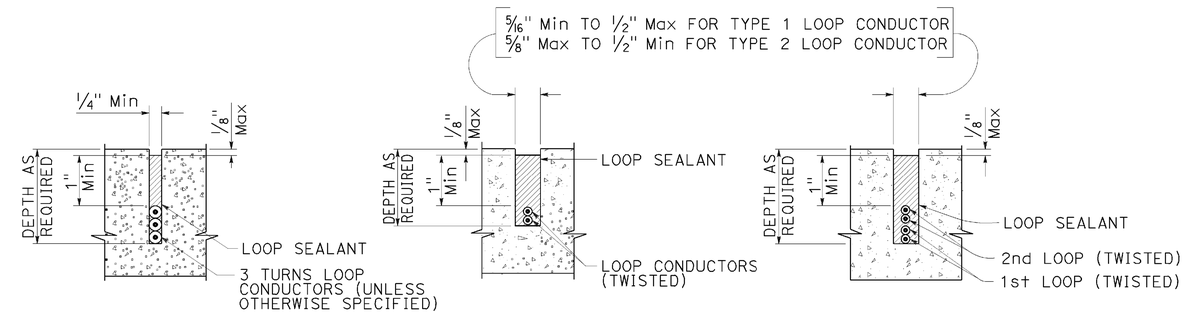


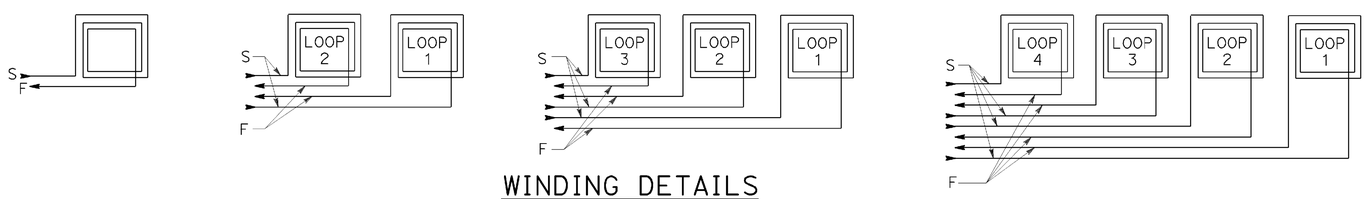
SAW CUT DETAILS

Type A loop detector configurations illustrated

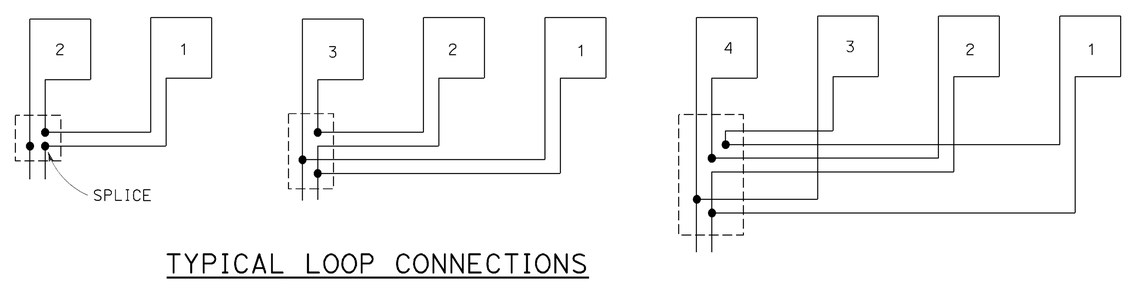


SECTION A-A SECTION B-B SECTION C-C

SLOT DETAILS - TYPE 1 AND TYPE 2 LOOP CONDUCTOR



WINDING DETAILS



TYPICAL LOOP CONNECTIONS

Dashed lines represent the pull box

ABBREVIATIONS:

S - START
F - FINISH

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (LOOP DETECTORS)

NO SCALE

RSP ES-5A DATED APRIL 15, 2016 SUPERSEDES STANDARD PLAN ES-5A
DATED OCTOBER 30, 2015 - PAGE 445 OF THE STANDARD PLANS BOOK DATED 2015.

REVISED STANDARD PLAN RSP ES-5A

2015 REVISED STANDARD PLAN RSP ES-5A

DATE PLOTTED => 29-SEP-2016
TIME PLOTTED => 14:43

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	1.8/R6.5	28	29

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

April 15, 2016
PLANS APPROVAL DATE

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

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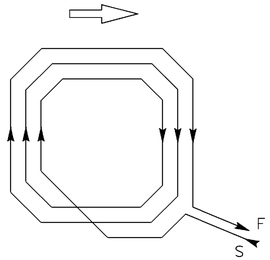
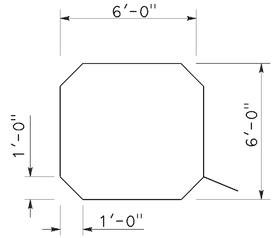
TO ACCOMPANY PLANS DATED 09-28-16

2015 REVISED STANDARD PLAN RSP ES-5B

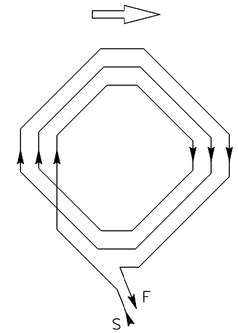


WINDING DETAIL



SAW CUT DETAIL

TYPE A LOOP DETECTOR CONFIGURATION



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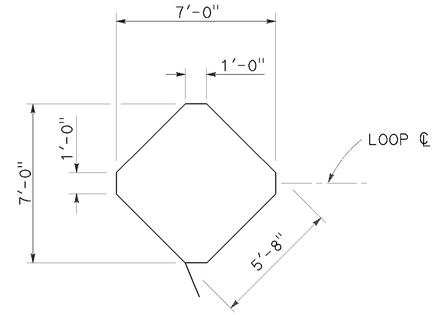

SAW CUT DETAIL

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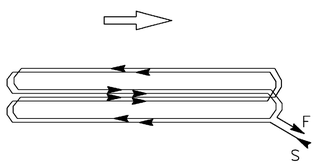

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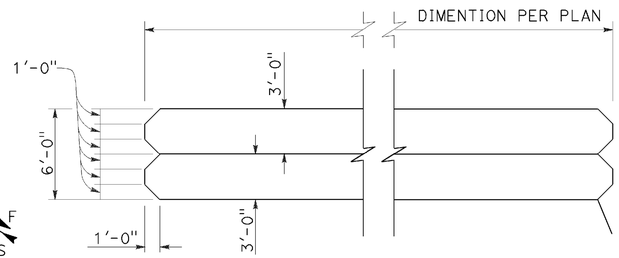
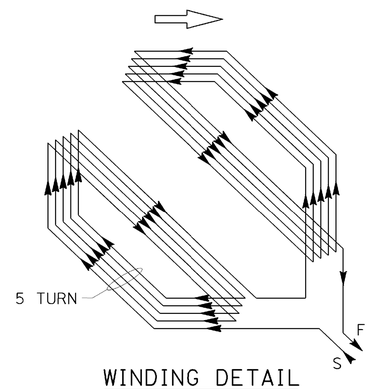


SAW CUT DETAIL

TYPE C LOOP DETECTOR CONFIGURATION



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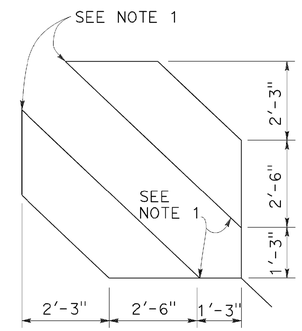
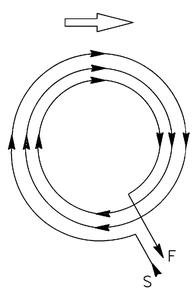


SAW CUT DETAIL

TYPE D LOOP DETECTOR CONFIGURATION



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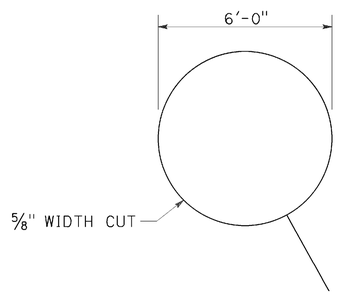
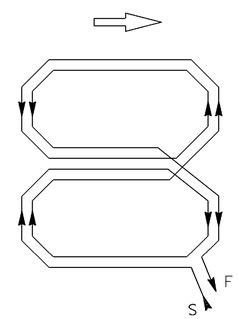


SAW CUT DETAIL

TYPE E LOOP DETECTOR CONFIGURATION



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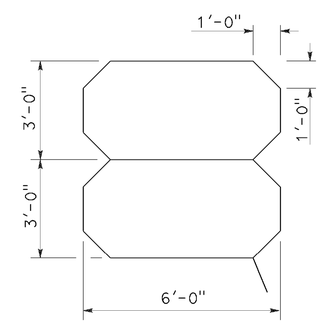
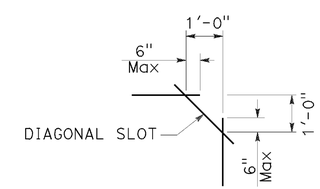


SAW CUT DETAIL

TYPE Q LOOP DETECTOR CONFIGURATION



PLAN VIEW OF DIAGONAL SLOT AT CORNERS

NOTES:

1. Round corners of acute angle saw cuts to prevent damage to conductors.
2. Typical distance separating loops from edge to edge is 10' for Type A, B, D and E installation in single lane.
3. Use Type D loops for limit line detection and bicycle lanes.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (DETECTORS)

NO SCALE

RSP ES-5B DATED APRIL 15, 2016 SUPERSEDES STANDARD PLAN ES-5B
DATED OCTOBER 30, 2015 - PAGE 446 OF THE STANDARD PLANS BOOK DATED 2015.

REVISED STANDARD PLAN RSP ES-5B

DATE PLOTTED => 29-SEP-2016
TIME PLOTTED => 14:43

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sha	5	1.8/R6.5	29	29

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

April 15, 2016
PLANS APPROVAL DATE

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

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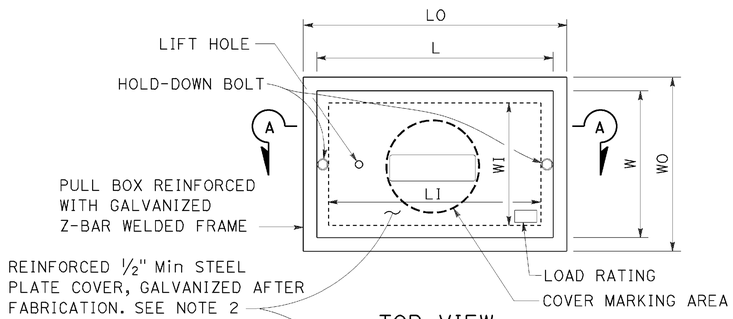
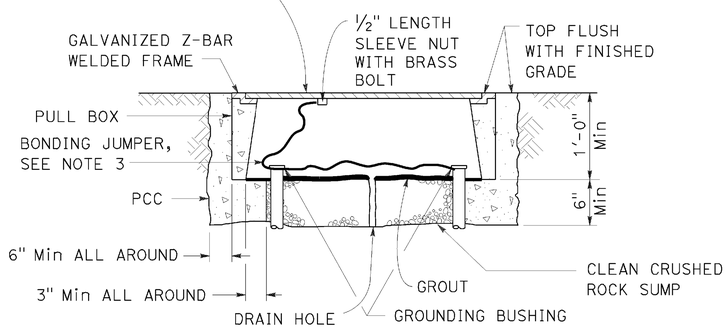
TO ACCOMPANY PLANS DATED 09-28-16



TOP VIEW



SECTION A-A

No. 3½(T), No. 5(T) AND No. 6(T) TRAFFIC PULL BOX

NOTES:

1. Traffic pull box shall be provided with steel cover and special concrete footing. Steel cover shall have embossed non-skid pattern.
2. Steel reinforcing shall be as regularly used in the standard products of the respective manufacturer.
3. Bonding jumper for metal covers shall be 3' long, minimum.
4. The nominal dimensions of the opening in which the cover sets shall be the same as the cover dimensions except the length and width dimensions shall be ⅛" greater.
5. Covers and boxes shall be interchangeable with California standard male and female gages. When interchanged with a standard male or female gage, the top surfaces shall be flush within ⅛".

DIMENSION TABLE

PULL BOX	PULL BOX						COVER	
	MINIMUM * THICKNESS	MINIMUM DEPTH BOX AND EXTENSION	LO	LI	WO	WI	L **	W **
No. 3½(T)	1½"	1'-0"	1'-10" - 1'-11"	1'-5" - 1'-6½"	1'-3" - 1'-4"	10" - 1'-0"	1'-8" - 1'-8½"	1'-1" - 1'-2"
No. 5(T)	1¾"	1'-0"	2'-5" - 2'-6"	2'-0" - 2'-1"	1'-6" - 1'-7"	1'-1" - 1'-2"	2'-3" - 2'-3½"	1'-4" - 1'-4½"
No. 6(T)	2"	1'-0"	2'-11" - 3'-1"	2'-6" - 2'-7"	1'-10" - 2'-0"	1'-5" - 1'-6"	2'-9" - 2'-9½"	1'-8" - 1'-8½"

* EXCLUDING CONDUIT WEB ** TOP DIMENSION

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (TRAFFIC PULL BOX)

NO SCALE

RSP ES-8B DATED APRIL 15, 2016 SUPERSEDES STANDARD PLAN ES-8B DATED OCTOBER 30, 2015 - PAGE 474 OF THE STANDARD PLANS BOOK DATED 2015.

REVISED STANDARD PLAN RSP ES-8B

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