Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	19, 60, 91 164, 605	Var	1	43

STATE OF CALIFORNIA

DEPARTMENT OF TRANSPORTATION

PROJECT PLANS FOR CONSTRUCTION ON

STATE HIGHWAY

IN LOS ANGELES COUNTY AT VARIOUS LOCATIONS

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010

INDEX OF PLANS

SHEET No.	DESCRIPTION
1	TITLE AND LOCATION MAP
2-4	CONSTRUCTION AREA SIGNS
5-13	TRAFFIC HANDLING DETAILS
14	PAVEMENT DELINEATION DETAILS
15-16	PAVEMENT DELINEATION QUANTITIES
17-26	REVISED STANDARD PLANS

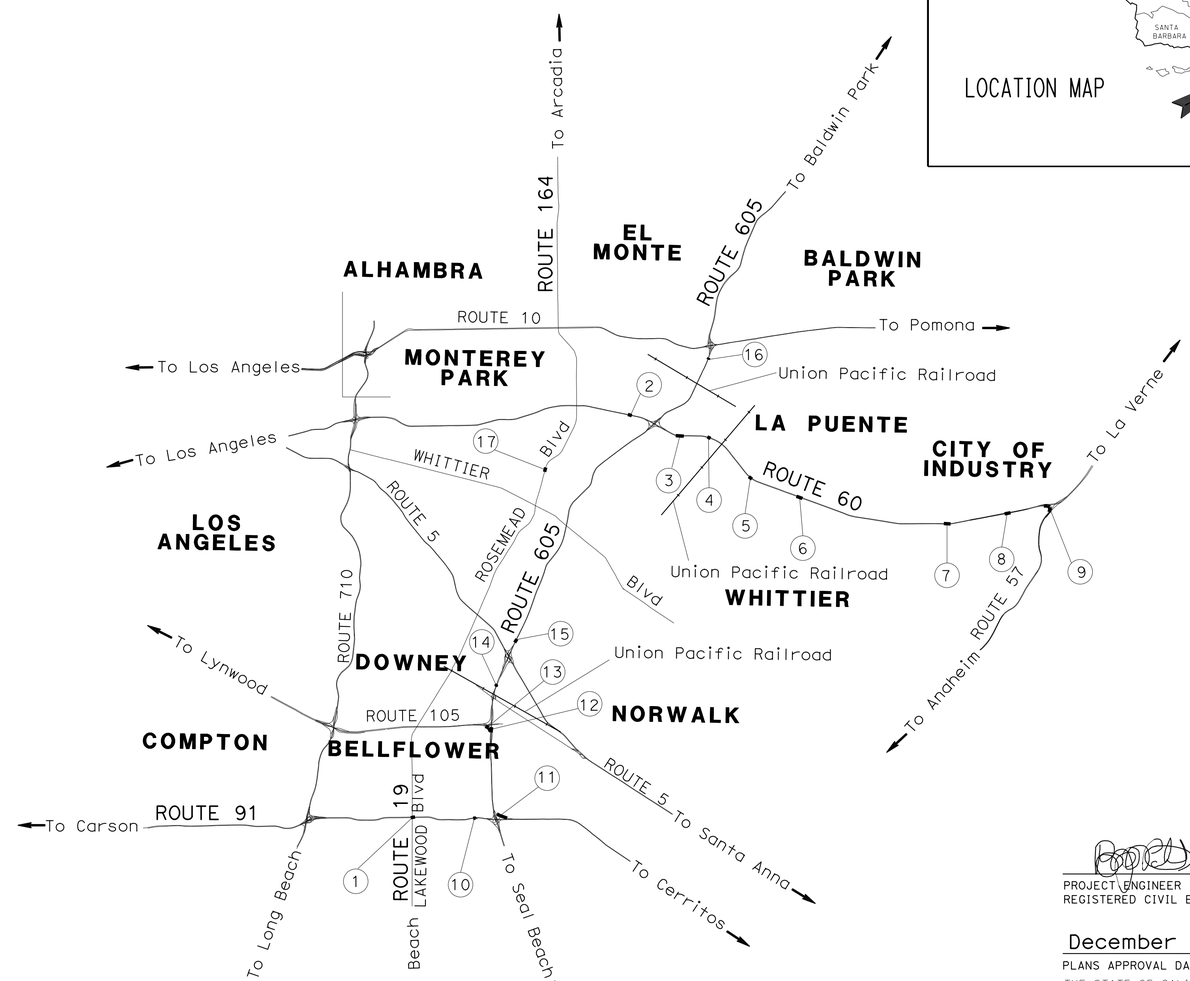
STRUCTURE PLANS

27-43	ROUTES 19, 60, 91, 164, AND 605 BRIDGES

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

LOCATIONS OF CONSTRUCTION

Loc No. (X)	PM	ROUTE	NAME OF BRIDGE	BRIDGE NUMBER
1	6.07	19	N19-W91 CONNECTOR OC	53-1760G
2	11.30	60	SAN GABRIEL RIVER	53-1767
3	11.98	60	WORKMAN MILL ROAD UC	53-1768
4	12.18	60	CLAYTON OH	53-1755
5	14.26	60	SEVENTH AVENUE UC	53-1771
6	15.09	60	TURNBULL CANYON ROAD UC	53-1772
7	R21.48	60	FAIRWAY DRIVE UC	53-1788
8	R22.97	60	BREA CANYON ROAD UC ON RAMP	53-2917
9	R23.31	60	E60-S57 CONNECTOR OC	53-1846G
10	R16.07	91	WOODRUFF AVENUE UC	53-1720
11	R17.09	91	W91-N&S605 CONNECTOR OC	53-1707F
12	R7.50	605	N605-W105 CONNECTOR OC	53-2700G
13	R7.84	605	N605- FIRESTONE/IMPERIAL UC	53-1651T
14	R8.23	605	HOXIE OH	53-1652K
15	R9.94	605	DAVENRICH STREET UC	53-1661
16	R19.85	605	WALNUT CREEK	53-1343
17	2.06	164	FLOOD FLOW CHANNEL	53-0534



NO SCALE

PROJECT MANAGER CHRISTIAN SAM

DESIGN MANAGER LARRY WIERING

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

PROJECT ENGINEER REGISTERED CIVIL ENGINEER — DATE 8-31-15

REGISTERED PROFESSIONAL ENGINEER BIPIN PATEL No. C60082 Exp. 6-30-16 CIVIL STATE OF CALIFORNIA

December 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.

CONTRACT No.	07-2W9604
PROJECT ID	0715000028

LAST REVISION 12-14-15 DATE PLOTTED => 29-DEC-2015 TIME PLOTTED => 23:44

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	19, 60, 91 164, 605	Var	2	43

REGISTERED CIVIL ENGINEER 8-31-15 DATE

12-14-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER BIPIN PATEL No. C60082 Exp. 06-30-16 CIVIL STATE OF CALIFORNIA

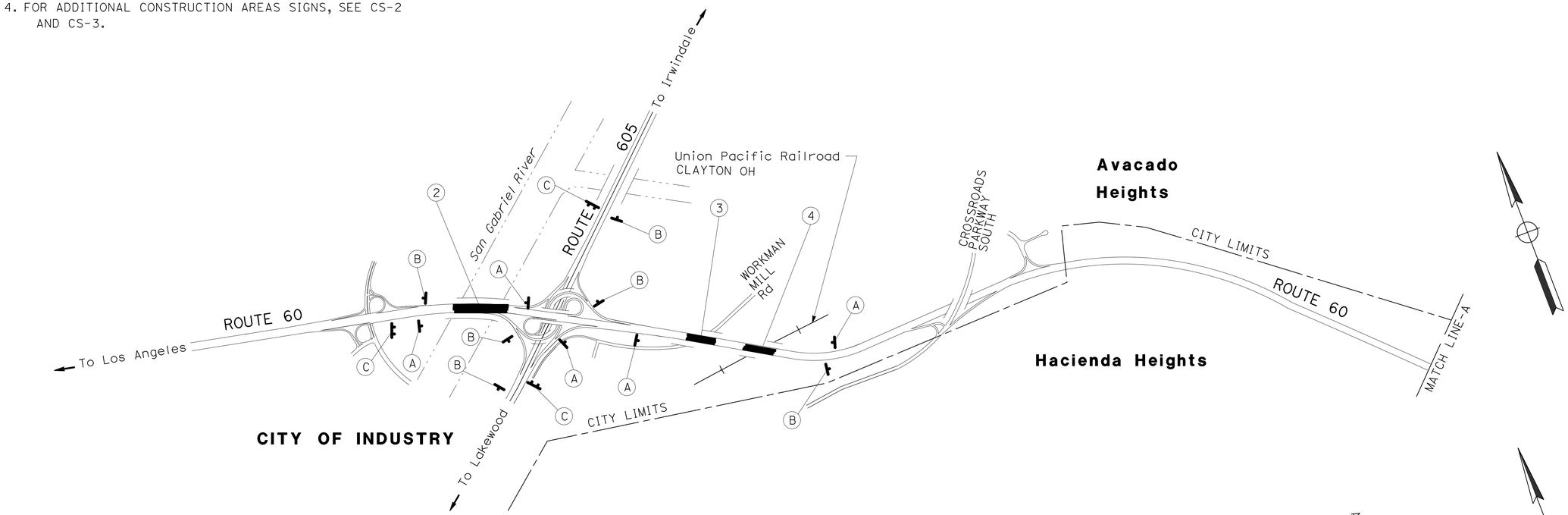
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:

1. EXACT LOCATION AND POSITION OF SIGNS WILL BE DETERMINE BY THE ENGINEER.
2. "TRAFFIC FINES DOUBLED IN COSTRUCTION AREA ZONES" SIGNS SHALL BE PLACED APPROXIMATELY 500 FEET IN ADVANCE OF "ROAD WORK AHEAD" SIGNS OR AS DETERMINED BY THE ENGINEER.
3. EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.
4. FOR ADDITIONAL CONSTRUCTION AREAS SIGNS, SEE CS-2 AND CS-3.

STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN No. (X)	FEDERAL	CALIFORNIA	PANEL SIZE	SIGN MESSAGE	NUMBER OF POSTS AND SIZE	NUMBER OF SIGNS		
						CS-1	CS-2	CS-3
A	W20-1		48" x 48"	ROAD WORK AHEAD	1 - 6" x 6"	8	12	12
B	G20-2		48" X 24"	END ROAD WORK	1 - 4" x 6"	10	11	12
C		C40(CA)	144" x 60"	TRAFFIC FINES DOUBLED IN CONSTRUCTION ZONES	2 - 6" x 8"	3	2	6



CONSTRUCTION AREA SIGNS

NO SCALE

CS-1

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR: LARRY WIERING
CALCULATED-DESIGNED BY: BIPIN PATEL
CHECKED BY: LARRY WIERING
REVISED BY
DATE REVISED

LAST REVISION 12-14-15
DATE PLOTTED => 29-DEC-2015
TIME PLOTTED => 23:44

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	19, 60, 91 164, 605	Var	3	43

REGISTERED CIVIL ENGINEER 8-31-15 DATE

12-14-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER BIPIN PATEL No. C60082 Exp. 06-30-16 CIVIL STATE OF CALIFORNIA

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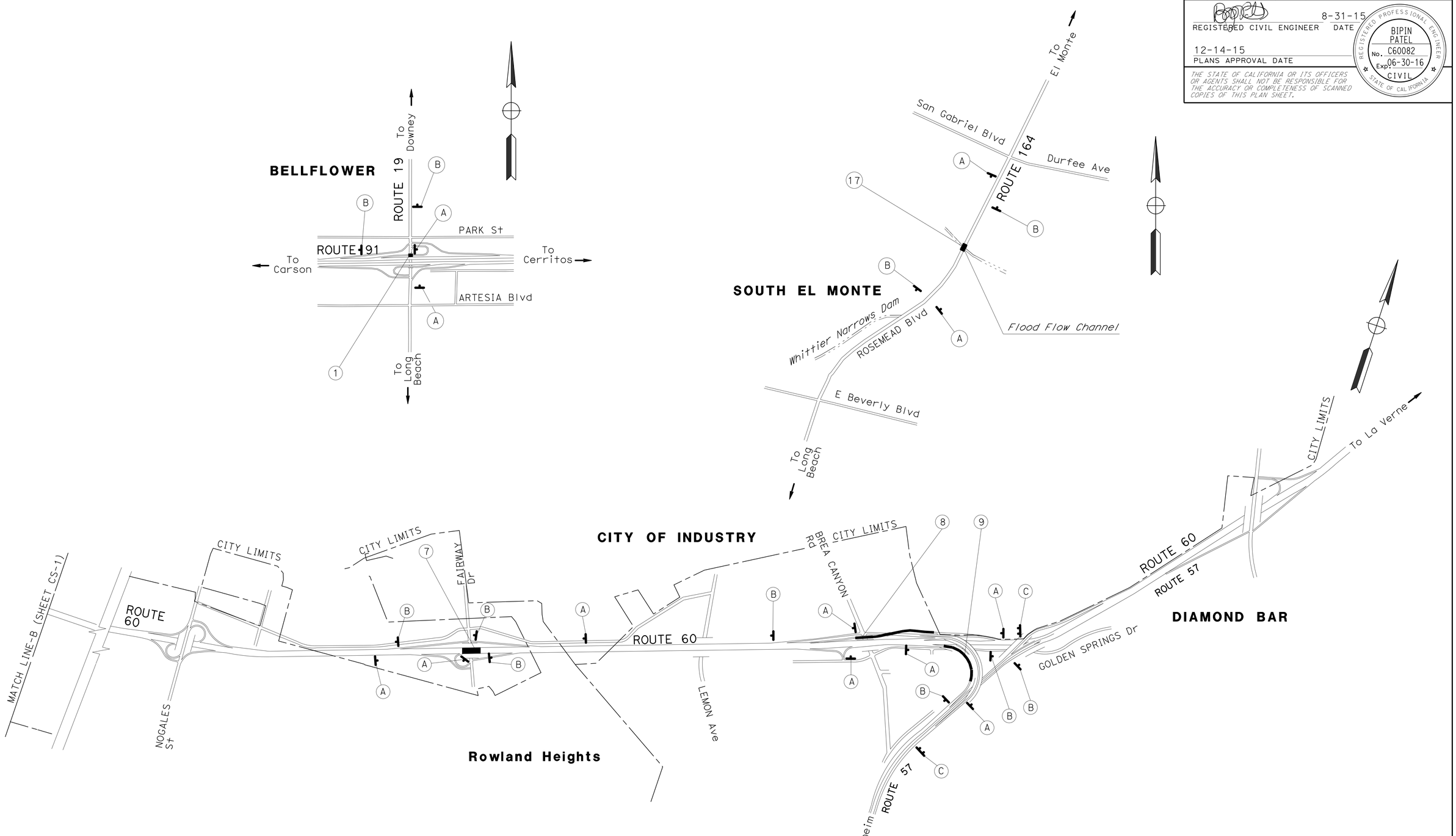


CONSTRUCTION AREA SIGNS

NO SCALE

CS-2

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR: LARRY WIERING
CALCULATED-DESIGNED BY: BIPIN PATEL
CHECKED BY: LARRY WIERING
REVISED BY
DATE REVISED

LAST REVISION 12-14-15
DATE PLOTTED => 29-DEC-2015
TIME PLOTTED => 23:44

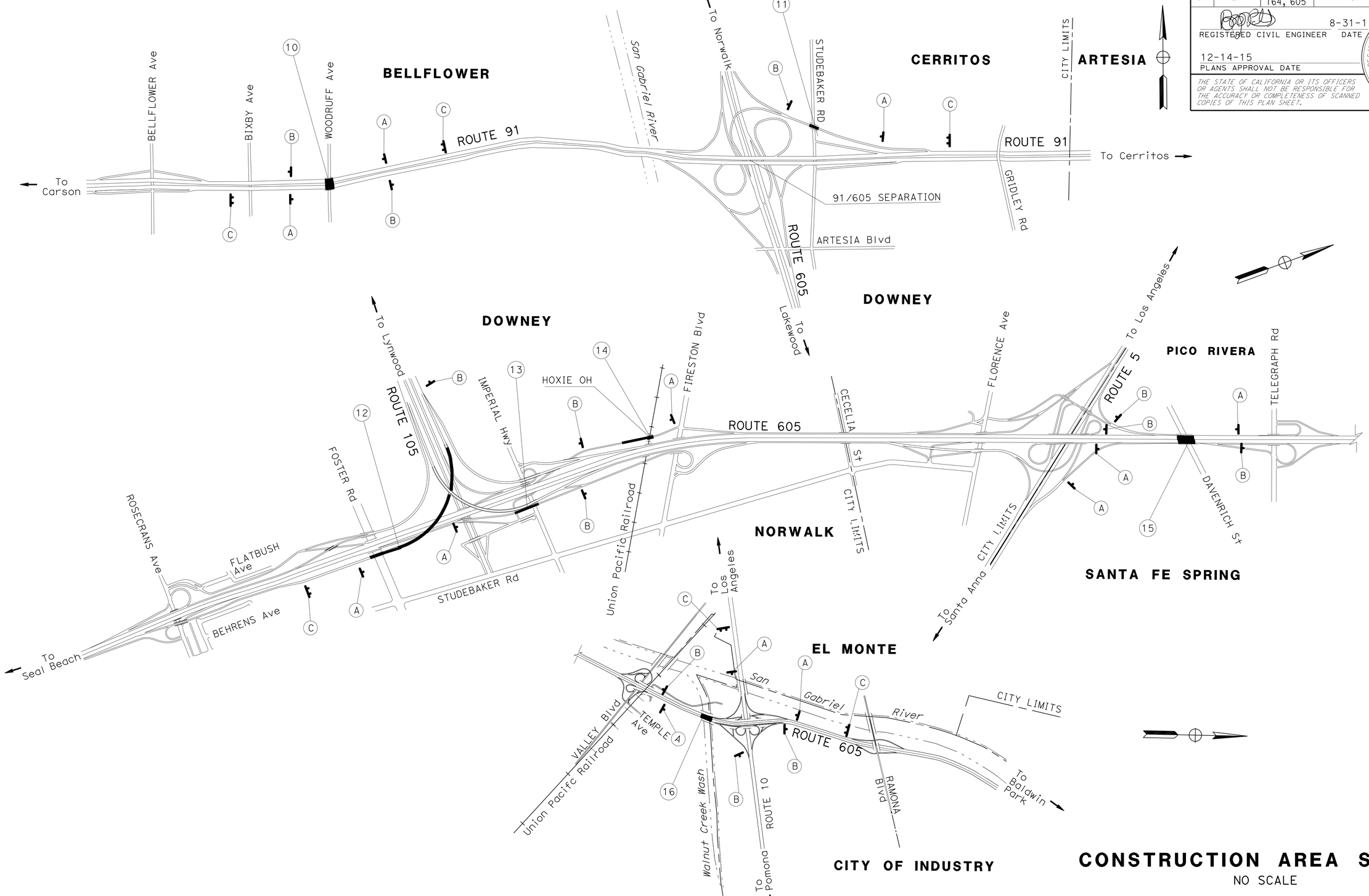
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	19, 60, 91 164, 605	Var	4	43

REGISTERED CIVIL ENGINEER DATE 8-31-15

12-14-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER BIPIN PATEL No. C60082 Exp. 06-30-16 CIVIL STATE OF CALIFORNIA

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



CONSTRUCTION AREA SIGNS

NO SCALE

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

CS-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR: LARRY WIERING
CALCULATED-DESIGNED BY: BIPIN PATEL
CHECKED BY: LARRY WIERING
REVISED BY
DATE REVISED

LAST REVISION 12-14-15 | DATE PLOTTED => 29-DEC-2015 | TIME PLOTTED => 23:44

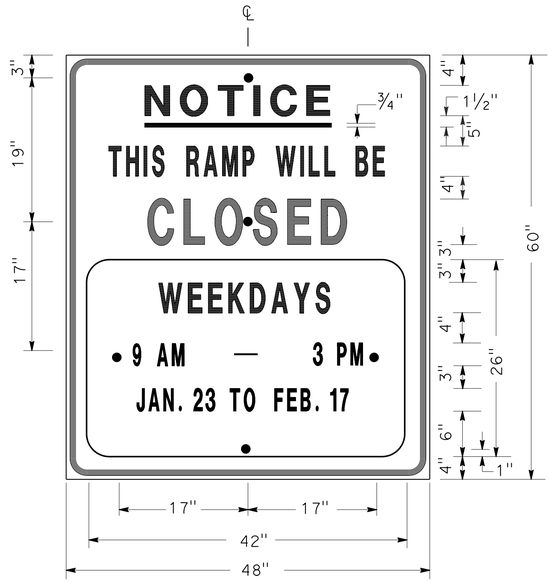
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	19,60,91 164,605	Var	5	43

R.M. Mishreki 9-4-15
REGISTERED CIVIL ENGINEER DATE

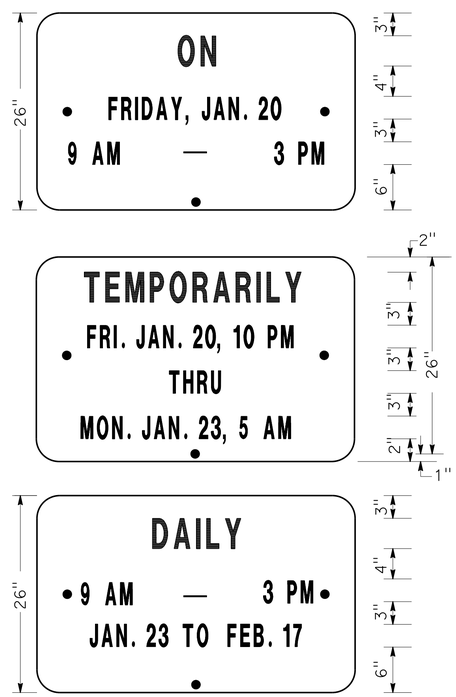
12-14-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER R.M. MISHREKI No. C68484 Exp. 9-30-17 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.



SIGN SP-1



ALTERNATE OVERLAY PANELS (TYPICAL)

SPECIAL ADVANCE NOTICE PUBLICITY SIGN

NOTES: SIGN SP-1

1. LETTERS AND BORDER MUST BE BLACK ON REFLECTORIZED ORANGE BACKGROUND.
2. BOLT HOLES MUST BE 3/8" DIAMETER.
3. BASE MATERIAL MUST BE ALUMINUM (MINIMUM 0.06").
4. SIGNS MUST BE MOUNTED WITH BOTTOMS OF SIGNS A MINIMUM OF 7' ABOVE GROUND.

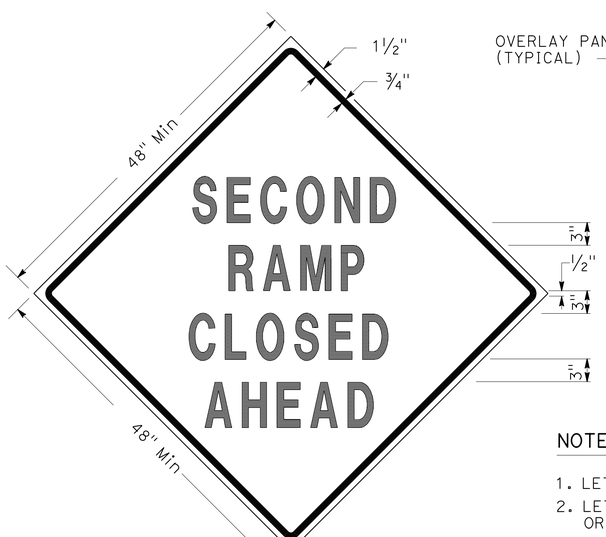
SIZE	BORDER WIDTH	MARGIN WIDTH	LETTER SIZE					CORNER RADIUS
			LINE 1	LINE 2*	LINE 3	LINE 4	LINE 5, 6, & 7*	
48"x60"	1 1/4"	3/4"	4E	4D	6E	4D		3"
42"x26"	OVERLAY						3D	1 1/2"
* CONDENSED SPACING IF NECESSARY								

SIGN SP-4

NOTES: SIGN SP-4

1. LETTERS - 6" SERIES C.
2. LETTERS AND BORDER MUST BE BLACK ON REFLECTORIZED WHITE BACKGROUND.
3. BOLT HOLES MUST BE 3/8" DIAMETER.
4. BASE MATERIAL MUST BE ALUMINUM (MINIMUM 0.06").
5. SIGNS MUST BE PLACED AT RAMP ENTRANCES IN ADDITION TO SIGNS POSTED IN ACCORDANCE WITH REVISED STANDARD PLAN RSP T14.

SPECIAL SIGN FOR ENTRANCE RAMP CLOSURES



SIGN SP-3

SIGN SP-5

NOTES: SIGNS SP-3 & SP-5

1. LETTERS - 6" SERIES D.
2. LETTERS AND BORDER MUST BE BLACK ON REFLECTORIZED ORANGE BACKGROUND.
3. BOLT HOLES MUST BE 3/8" DIAMETER.
4. BASE MATERIAL MUST BE ALUMINUM (MINIMUM 0.06").
5. SIGNS MUST BE MOUNTED WITH BOTTOMS OF SIGNS A MINIMUM OF 7' ABOVE GROUND.
6. SIGN SP-5 MUST BE USED IF THE OFF-RAMP TO BE CLOSED FOLLOWS A FREEWAY OFF-CONNECTOR.

SPECIAL SIGNS FOR EXIT RAMP CLOSURES

TRAFFIC HANDLING DETAILS
TRAFFIC CONTROL SYSTEM FOR RAMP CLOSURES, DETOUR SIGNS, AND MISCELLANEOUS DETAILS
SHEET 1 OF 2

NO SCALE

THD-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DTM

FUNCTIONAL SUPERVISOR: DENIS KATAYAMA
CALCULATED-DESIGNED BY: ALBERT K YU
CHECKED BY: JOCELYN C CHIANG
REVISED BY: JC
DATE REVISED: 2/14

LAST REVISION 12-14-15 | DATE PLOTTED => 29-DEC-2015 | TIME PLOTTED => 23:44

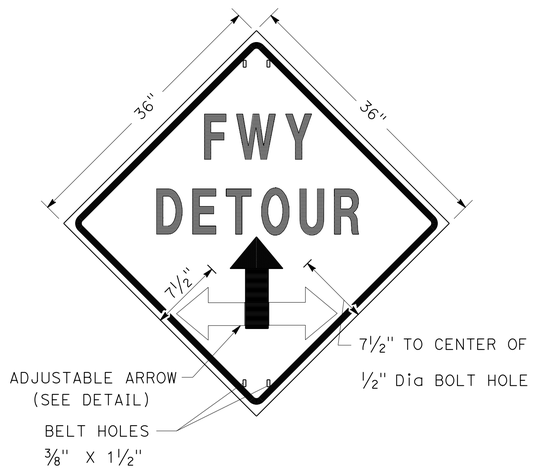
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	19,60,91 164,605	Var	6	43

R.M. Mishreki 9-4-15
REGISTERED CIVIL ENGINEER DATE

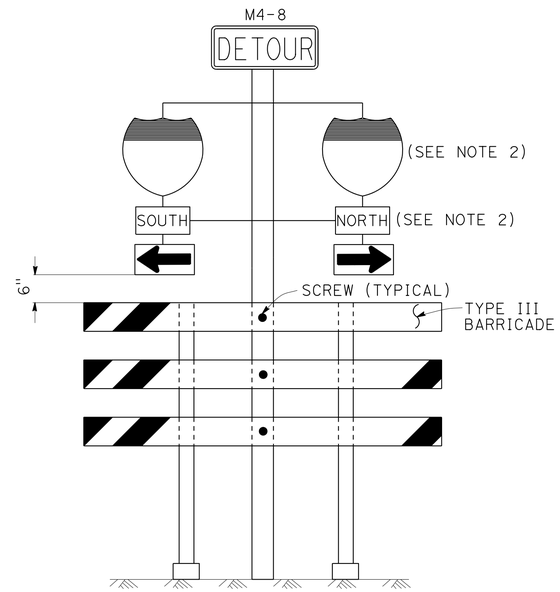
12-14-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER R.M. MISHREKI No. C68484 Exp. 9-30-17 CIVIL STATE OF CALIFORNIA

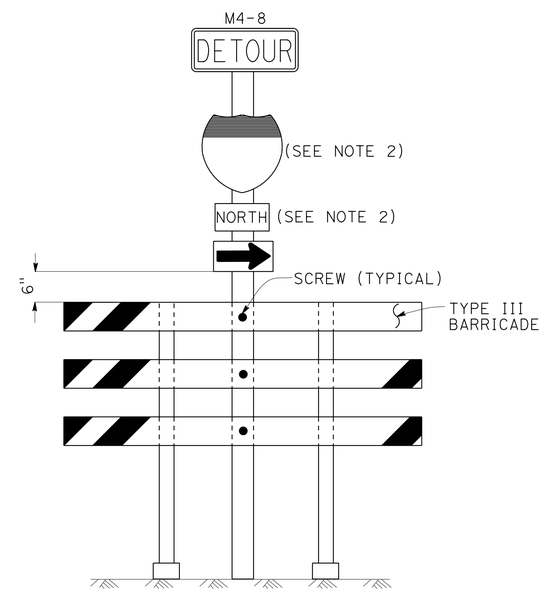
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



SIGN SP-2



SIGN SP-6 (SEE NOTE 1)



SIGN SP-7 (SEE NOTE 1)

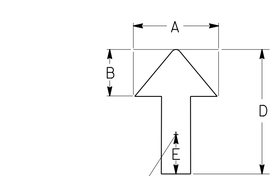
NOTES: SIGN SP-2

1. LETTERS - 6" SERIES E.
2. LETTERS, BORDER AND ARROW - BLACK ON RETROREFLECTORIZED ORANGE BACKGROUND.
3. BASE MATERIAL FOR SIGNS AND ARROWS MUST BE ALUMINUM (MINIMUM 0.06").
4. BELTS (LUGGAGE STRAPS) MUST BE 1" WIDE BY 48" LONG, MADE OF COTTON OR POLYPROPYLENE WEB MATERIAL.
5. SIGNS MUST BE MOUNTED WITH BOTTOMS OF SIGNS A MINIMUM OF 7' ABOVE GROUND EXCEPT AS OTHERWISE SHOWN ON OTHER TRAFFIC HANDLING DETAILS PLANS.

NOTES: SIGNS SP-6 & SP-7

1. IN LIEU OF PLACING SIGNS ON TYPE III BARRICADES, SIGNS, INCLUDING POSTS, MAY BE PLACED INTO THE GROUND OR FASTENED ONTO ELECTROLIERS.
2. USE APPROPRIATE ROUTE MARKER [G26-2(CA), G27-2(CA), G28-2(CA)] AND CARDINAL DIRECTION [NORTH (M3-1), SOUTH (M3-3), EAST (M3-2), WEST (M3-4)].

SPECIAL PORTABLE FREEWAY DETOUR SIGNS



DIMENSIONS				
A	B	C	D	E
6"	3"	2"	8"	1"

ADJUSTABLE ARROW DETAIL

ABBREVIATION

(CA) CALIFORNIA CODE

TRAFFIC HANDLING DETAILS

TRAFFIC CONTROL SYSTEM FOR RAMP CLOSURES, DETOUR SIGNS, AND MISCELLANEOUS DETAILS

SHEET 2 OF 2

NO SCALE

THD-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® DTM

FUNCTIONAL SUPERVISOR: DENIS KATAYAMA
CALCULATED-DESIGNED BY: ALBERT K YU
CHECKED BY: JOCELYN C CHIANG
REVISED BY: JC
DATE REVISED: 2/14

LAST REVISION DATE PLOTTED => 29-DEC-2015
TIME PLOTTED => 23:44
12-14-15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	19,60,91 164,605	Var	7	43

R.M. Mishreki 9-4-15
REGISTERED CIVIL ENGINEER DATE

12-14-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER R.M. MISHREKI No. C68484 Exp. 9-30-17 CIVIL STATE OF CALIFORNIA

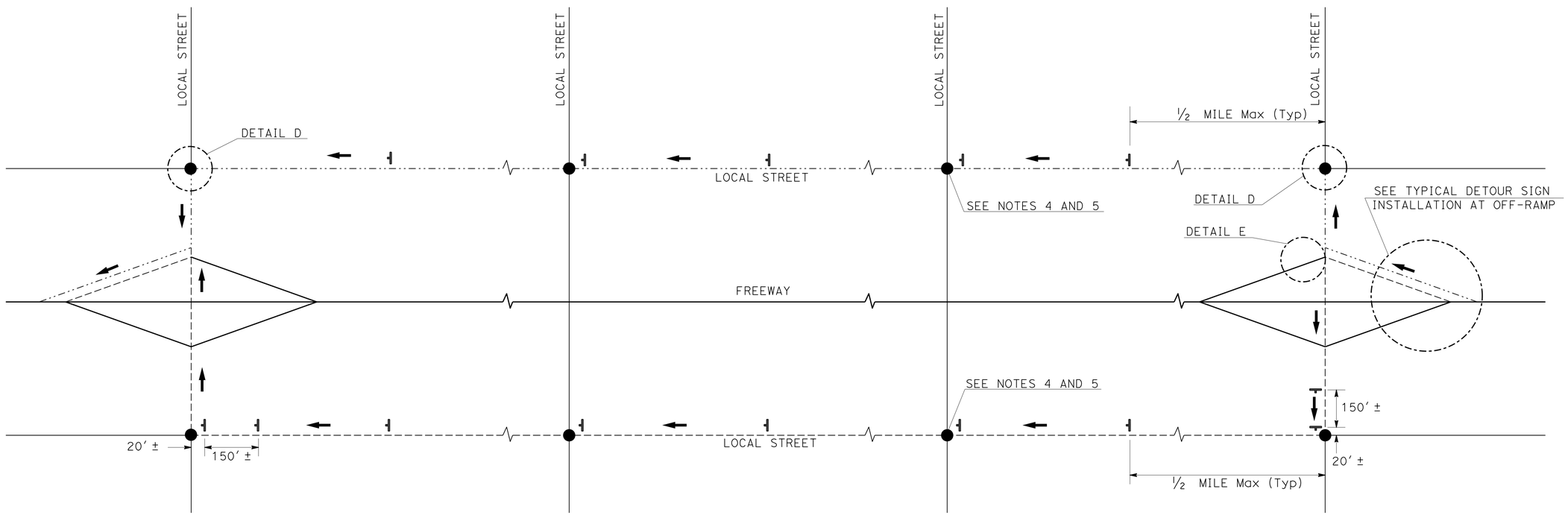
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

LEGEND

- SIGN SP-2
- AND/OR — DESIGNATED DETOUR ROUTE
- DETOUR DIRECTION
- CONTROLLED INTERSECTION

NOTES:

1. SP-2 SIGNS MAY BE STRAPPED ON EXISTING ELECTROLIER, SIGNAL POST OR SIGN POST.
2. DO NOT INSTALL SP-2 SIGNS ON BARRICADES EXCEPT AS OTHERWISE SHOWN.
3. SIGN LOCATIONS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER.
4. SP-2 SIGNS MUST BE POSTED AT EACH CONTROLLED INTERSECTION (EXCEPT AT COMMERCIAL PROPERTY, RESIDENTIAL COMPLEX OR T-INTERSECTION FROM ONE-WAY STREET) ALONG THE DESIGNATED DETOUR ROUTE.
5. UNLESS OTHERWISE SHOWN ON OTHER THD PLANS, WHEN CONTROLLED INTERSECTIONS ALONG THE DESIGNATED DETOUR ROUTE ARE CLOSELY SPACED, PLACE SP-2 SIGNS AT CONTROLLED INTERSECTIONS AT A DISTANCE NOT TO EXCEED 1/4 MILE FROM THE PRECEDING DETOUR SIGN.
6. SEE SHEET THD-4 FOR DETAILS D, E, AND TYPICAL DETOUR SIGN INSTALLATION AT OFF-RAMP.



TYPICAL DETOUR SIGN INSTALLATION ALONG DESIGNATED DETOUR ROUTE

TRAFFIC HANDLING DETAILS

TRAFFIC CONTROL SYSTEM FOR DETOUR SIGN INSTALLATION ALONG DESIGNATED DETOUR ROUTE SHEET 1 OF 2

NO SCALE

THD-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® DTM

FUNCTIONAL SUPERVISOR: DENIS KATAYAMA
CALCULATED-DESIGNED BY: ALBERT K YU
CHECKED BY: JOCELYN C CHIANG
REVISED BY: JC
DATE REVISED: 2/14

LAST REVISION 12-14-15
DATE PLOTTED => 29-DEC-2015
TIME PLOTTED => 23:44

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	19,60,91 164,605	Var	8	43

R.M. Mishreki 9-4-15
REGISTERED CIVIL ENGINEER DATE

12-14-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER R.M. MISHREKI No. C68484 Exp. 9-30-17 CIVIL STATE OF CALIFORNIA

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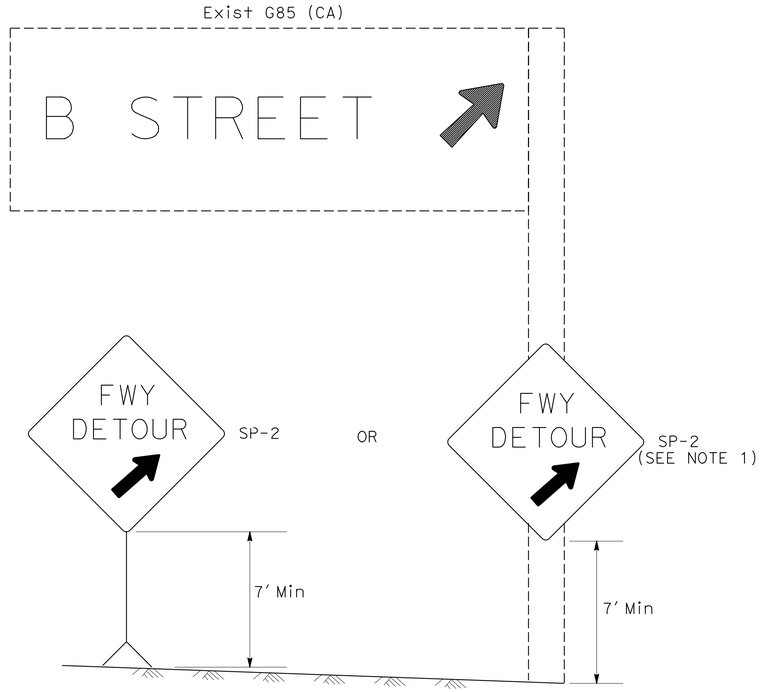
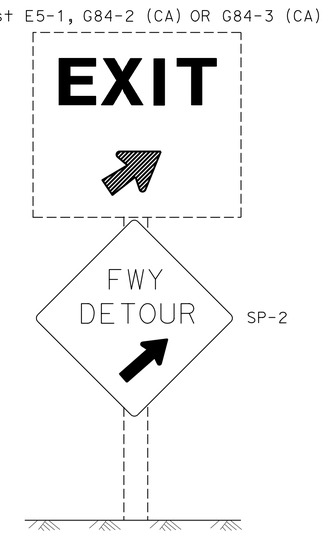
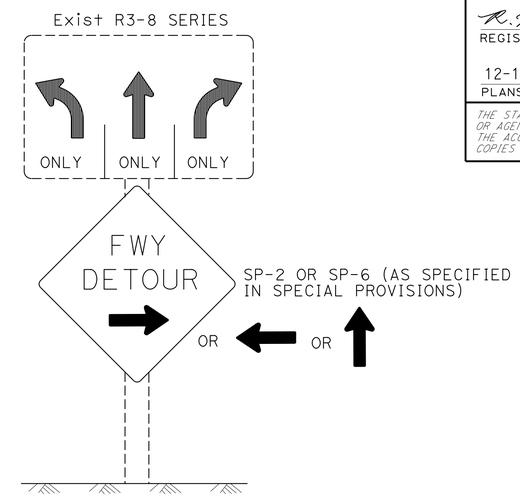


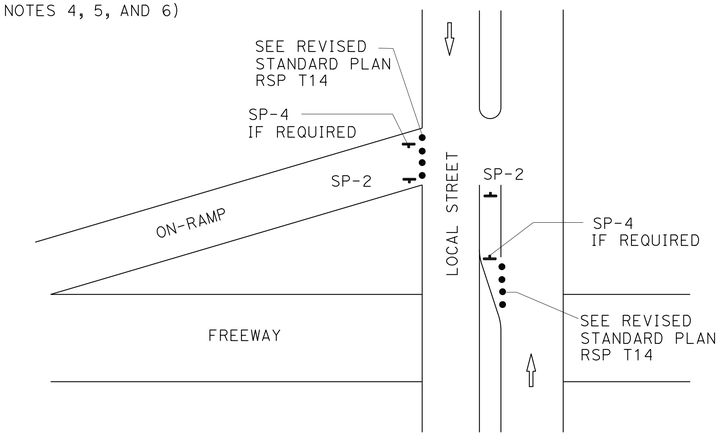
DETAIL A (SEE NOTE 3)



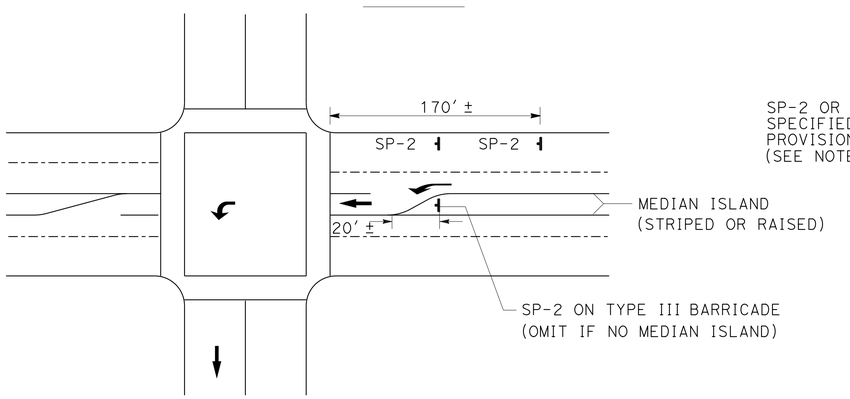
DETAIL B (SEE NOTE 3)



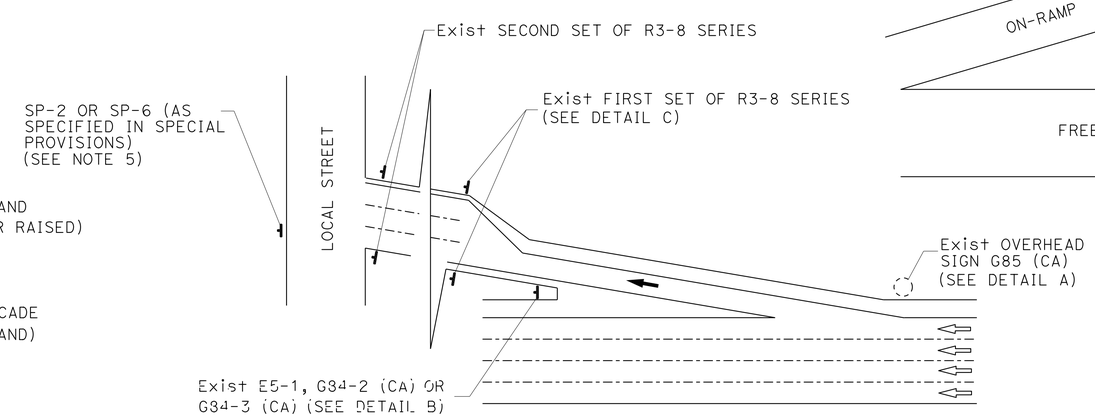
DETAIL C (SEE NOTES 4, 5, AND 6)



DETAIL E



DETAIL D



TYPICAL DETOUR SIGN INSTALLATION AT OFF-RAMP

LEGEND

- • TRAFFIC CONE
- TEMPORARY TRAFFIC CONTROL SIGN
- → DETOUR DIRECTION
- ◌ EXISTING OVERHEAD SIGN

NOTES: SIGN SP-2

1. SP-2 SIGNS MAY BE STRAPPED ON EXISTING ELECTROLIER, SIGNAL POST OR SIGN POST.
2. DO NOT INSTALL SP-2 SIGNS ON BARRICADES EXCEPT AS OTHERWISE SHOWN.
3. OMIT DETAILS A AND B FOR FULL FREEWAY CLOSURES.
4. SEE TRAFFIC HANDLING DETAILS-TRAFFIC CONTROL SYSTEM FOR RAMP CLOSURES, DETOUR SIGNS, AND MISCELLANEOUS DETAILS PLAN SHEET 2 OF 2 FOR SP-6 SIGN DETAILS.
5. IF R3-8 SERIES SIGNS ARE NOT PRESENT AT THE OFF-RAMP, SP-2 OR SP-6 SIGNS MUST BE FASTENED ONTO EXISTING ELECTROLIER, SIGNAL POST OR SIGN POST.
6. EXCEPT FOR DETAILS A & B, OMIT SP-2 SIGNS IF RAMP HAS MANDATORY SINGLE MOVE.

SIGN CODE LEGEND

XXYY-Y: FEDERAL SIGN CODE PER MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)

XXYY-Y (CA): CALIFORNIA SIGN CODE PER CALIFORNIA MUTCD

TRAFFIC HANDLING DETAILS
TRAFFIC CONTROL SYSTEM FOR DETOUR SIGN INSTALLATION ALONG DESIGNATED DETOUR ROUTE
SHEET 2 OF 2
NO SCALE

THD-4

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DTM

FUNCTIONAL SUPERVISOR: DENIS KATAYAMA
CALCULATED-DESIGNED BY: ALBERT K YU
CHECKED BY: JOCELYN C CHIANG
REVISED BY: JC
DATE REVISED: 2/14

LAST REVISION 12-14-15 | DATE PLOTTED => 29-DEC-2015 | TIME PLOTTED => 23:44

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	19,60,91 164,605	Var	9	43

R.M. Mishreki 9-4-15
REGISTERED CIVIL ENGINEER DATE

12-14-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER R.M. MISHREKI No. C68484 Exp. 9-30-17 CIVIL STATE OF CALIFORNIA

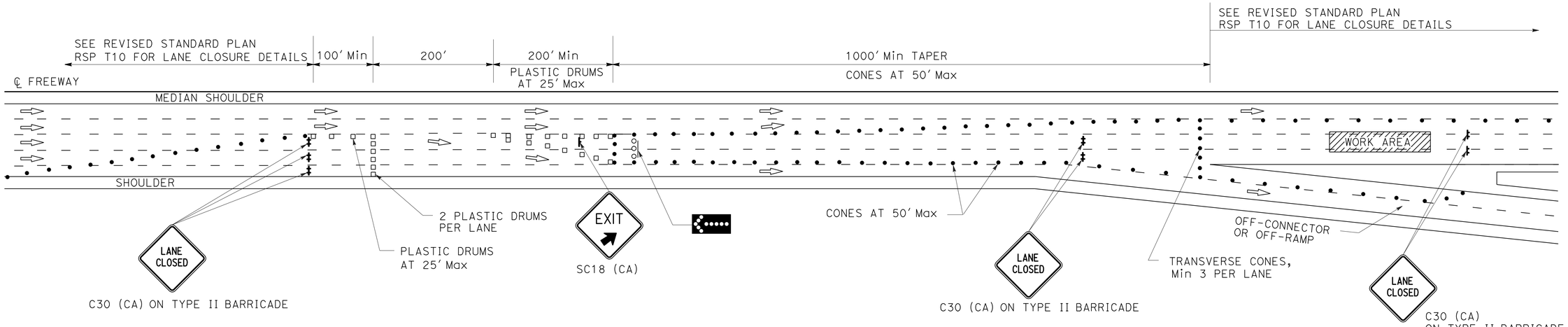
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

LEGEND

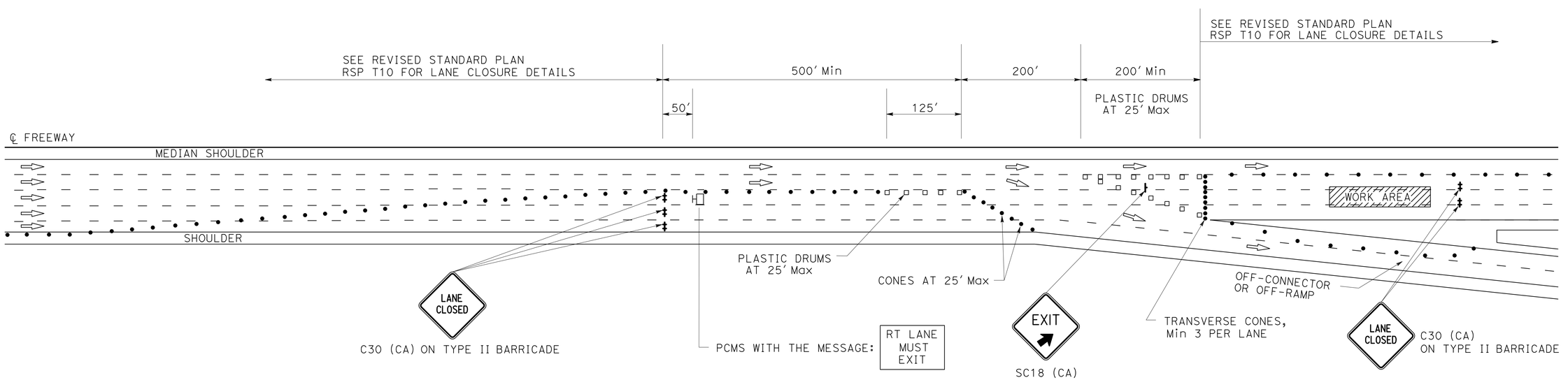
- TRAFFIC CONE
- TRAFFIC PLASTIC DRUM
- TEMPORARY TRAFFIC CONTROL SIGN
- BARRICADES
- PCMS
- FLASHING ARROW SIGN (FAS)
- FAS SUPPORT OR TRAILER

ABBREVIATIONS

(CA) CALIFORNIA CODE



OPTION 1



OPTION 2

TRAFFIC HANDLING DETAILS

TRAFFIC CONTROL SYSTEM FOR SLIP-RAMP AT OFF-CONNECTOR OR OFF-RAMP

NO SCALE

THD-5

REVISED BY	DATE REVISED
JC	2/14

CALCULATED-DESIGNED BY	CHECKED BY
ALBERT K YU	JOCELYN C CHIANG

FUNCTIONAL SUPERVISOR: DENIS KATAYAMA

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans® DTM

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	19,60,91 164,605	Var	10	43

R.M. Mishreki 9-4-15
REGISTERED CIVIL ENGINEER DATE

12-14-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER R.M. MISHREKI No. C68484 Exp. 9-30-17 CIVIL STATE OF CALIFORNIA

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

NOTES:

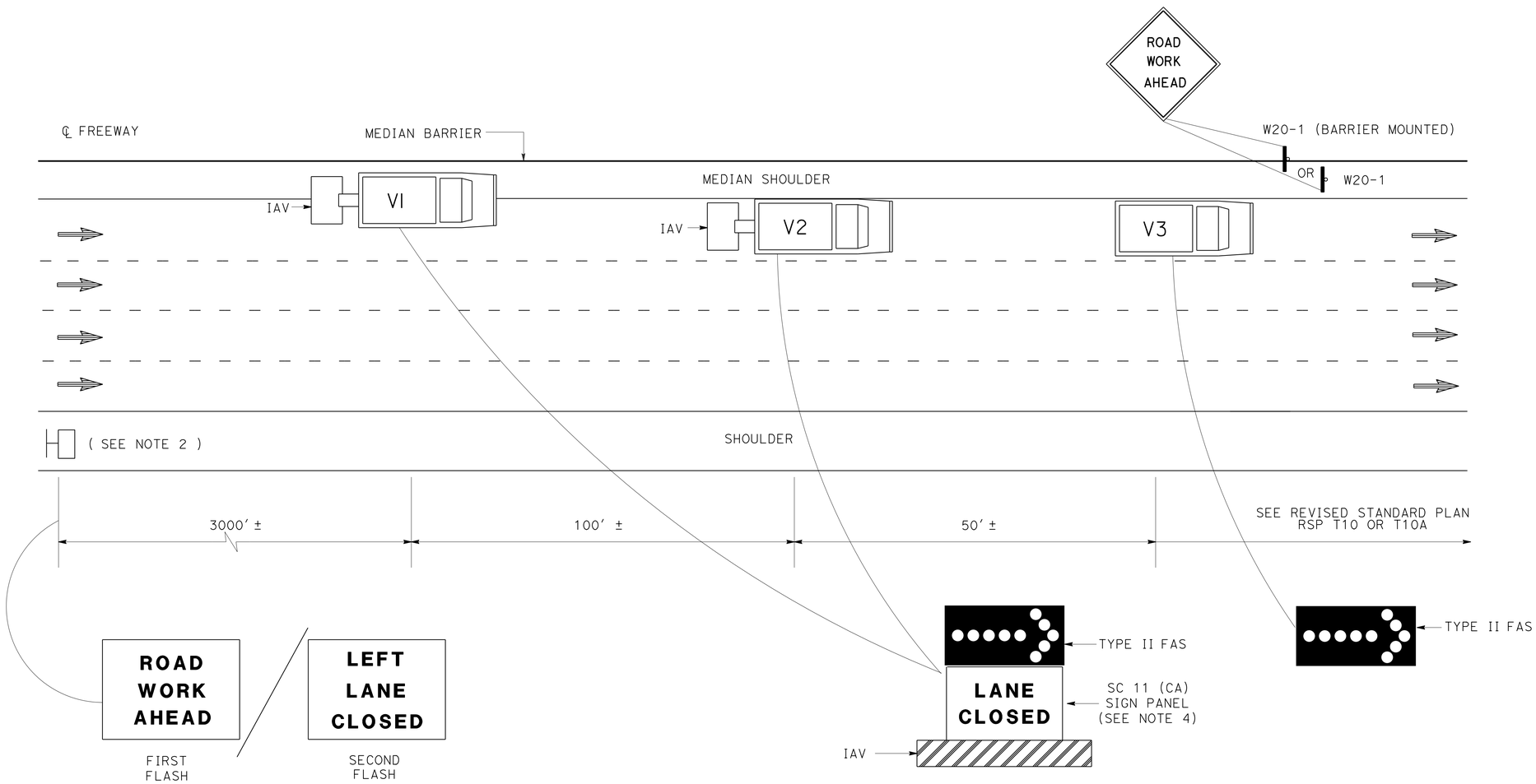
1. LANE CLOSURES MUST NOT BE PLACED ON CREST VERTICAL CURVES OR ON HORIZONTAL CURVES.
2. ACTIVATE PCMS PRIOR TO TRAFFIC CONTROL ACTIVITIES ON THE LANE.
3. PROVIDE A MINIMUM SIGHT DISTANCE OF 1500′ IN IN ADVANCE OF PCMS.
4. VEHICLE-MOUNTED SIGN PANELS SHALL BE TYPE III OR IV RETROREFLECTORIZED SHEETING, BLACK ON WHITE OR BLACK ON ORANGE WITH 8" MINIMUM SERIES D LETTERS PER CALTRANS SIGN SPECIFICATIONS.

LEGEND

V1, V2	SHADOW VEHICLES
V3	WORK/APPLICATION VEHICLE
	PCMS
	CONSTRUCTION AREA SIGN
	FLASHING ARROW SIGN (FAS)

ABBREVIATIONS

IAV	IMPACT ATTENUATOR VEHICLE
(CA)	CALIFORNIA CODE



PCMS OR TRUCK MOUNTED CMS MESSAGE

TRAFFIC HANDLING DETAILS
TRAFFIC CONTROL SYSTEM
FOR MEDIAN SHOULDERS LESS THAN 8 FEET

NO SCALE

THD-6

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
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FUNCTIONAL SUPERVISOR: DENIS KATAYAMA
CALCULATED-DESIGNED BY: ALBERT K YU
CHECKED BY: JOCELYN C CHIANG
REVISED BY: JC
DATE REVISED: 2/14

LAST REVISION 12-14-15
DATE PLOTTED => 29-DEC-2015
TIME PLOTTED => 23:44

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	19,60,91 164,605	Var	11	43

R.M. Mishreki 9-4-15
REGISTERED CIVIL ENGINEER DATE

12-14-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER R.M. MISHREKI No. C68484 Exp. 9-30-17 CIVIL STATE OF CALIFORNIA

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NOTES:

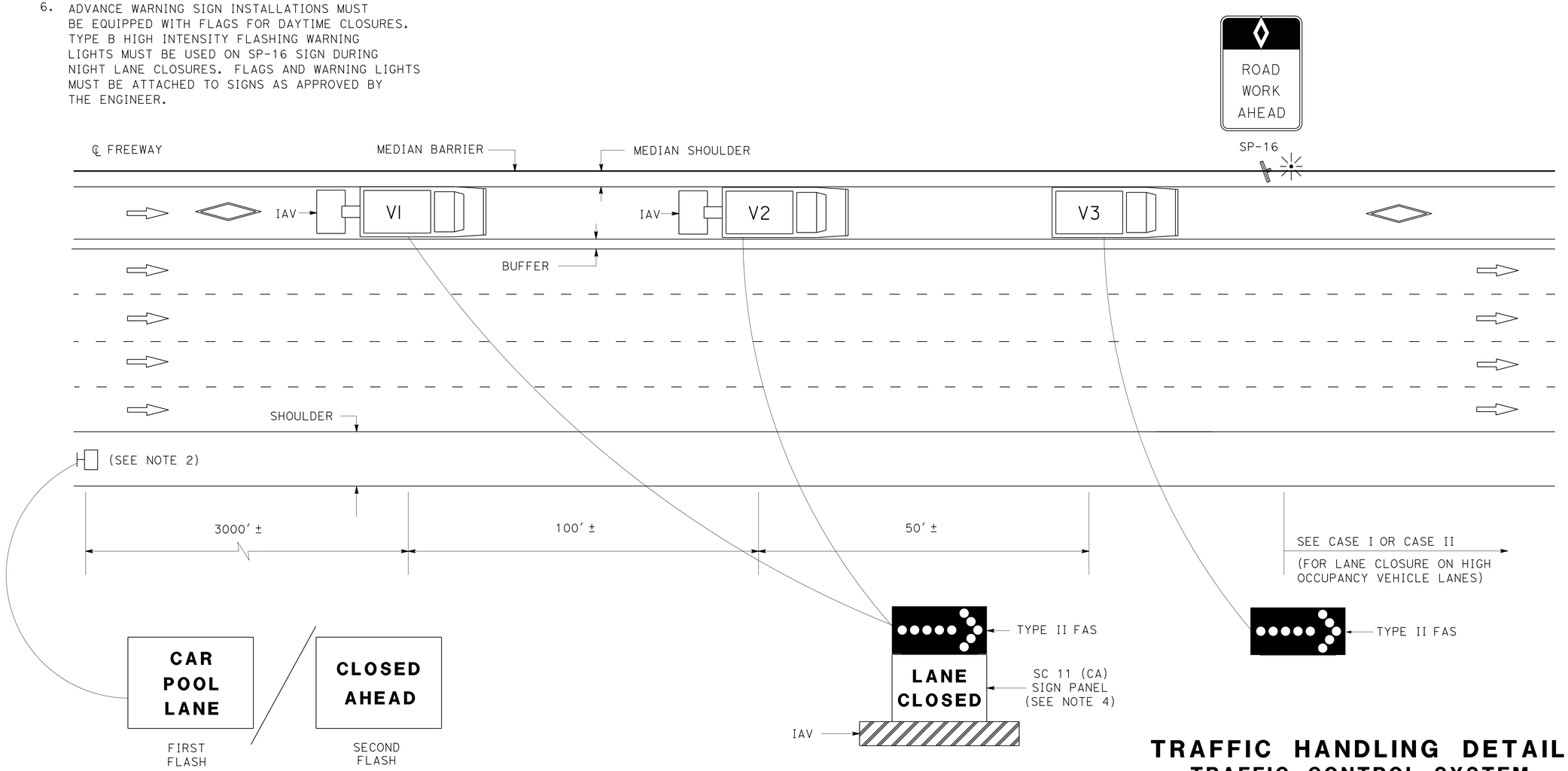
1. LANE CLOSURES MUST NOT BE PLACED ON CREST VERTICAL CURVES OR ON HORIZONTAL CURVES.
2. ACTIVATE PCMS PRIOR TO TRAFFIC CONTROL ACTIVITIES ON THE HOV LANE.
3. PROVIDE A MINIMUM SIGHT DISTANCE OF 1500′ IN ADVANCE OF PCMS.
4. VEHICLE-MOUNTED SIGN PANELS MUST BE TYPE III OR IV RETROREFLECTORIZED SHEETING, BLACK ON WHITE OR BLACK ON ORANGE WITH 8" MINIMUM SERIES D LETTERS PER CALTRANS SIGN SPECIFICATIONS.
5. PLACE PCMS ON THE MEDIAN SHOULDER WHERE SUFFICIENT ROOM (SUCH AS CHP ENFORCEMENT AREAS) EXISTS.
6. ADVANCE WARNING SIGN INSTALLATIONS MUST BE EQUIPPED WITH FLAGS FOR DAYTIME CLOSURES. TYPE B HIGH INTENSITY FLASHING WARNING LIGHTS MUST BE USED ON SP-16 SIGN DURING NIGHT LANE CLOSURES. FLAGS AND WARNING LIGHTS MUST BE ATTACHED TO SIGNS AS APPROVED BY THE ENGINEER.

LEGEND

V1, V2	SHADOW VEHICLES
V3	WORK/APPLICATION VEHICLE
	PCMS
	PORTABLE FLASHING BEACON
	TEMPORARY TRAFFIC CONTROL SIGN
	FLASHING ARROW SIGN (FAS)

ABBREVIATIONS

IAV	IMPACT ATTENUATOR VEHICLE
(CA)	CALIFORNIA CODE
CHP	CALIFORNIA HIGHWAY PATROL



PCMS OR TRUCK MOUNTED CMS MESSAGE

(SEE NOTE 5)

TRAFFIC HANDLING DETAILS
TRAFFIC CONTROL SYSTEM FOR HIGH OCCUPANCY VEHICLE LANES WITH MEDIAN SHOULDERS LESS THAN 8 FEET

NO SCALE

THD-7

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® DTM

FUNCTIONAL SUPERVISOR: DENIS KATAYAMA
CALCULATED-DESIGNED BY: ALBERT K YU
CHECKED BY: JOCELYN C CHIANG
REVISED BY: JC
DATE REVISED: 2/14

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	19,60,91 164,605	Var	12	43

R.M. Mishreki 9-4-15
REGISTERED CIVIL ENGINEER DATE

12-14-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER R.M. MISHREKI No. C68484 Exp. 9-30-17 CIVIL STATE OF CALIFORNIA

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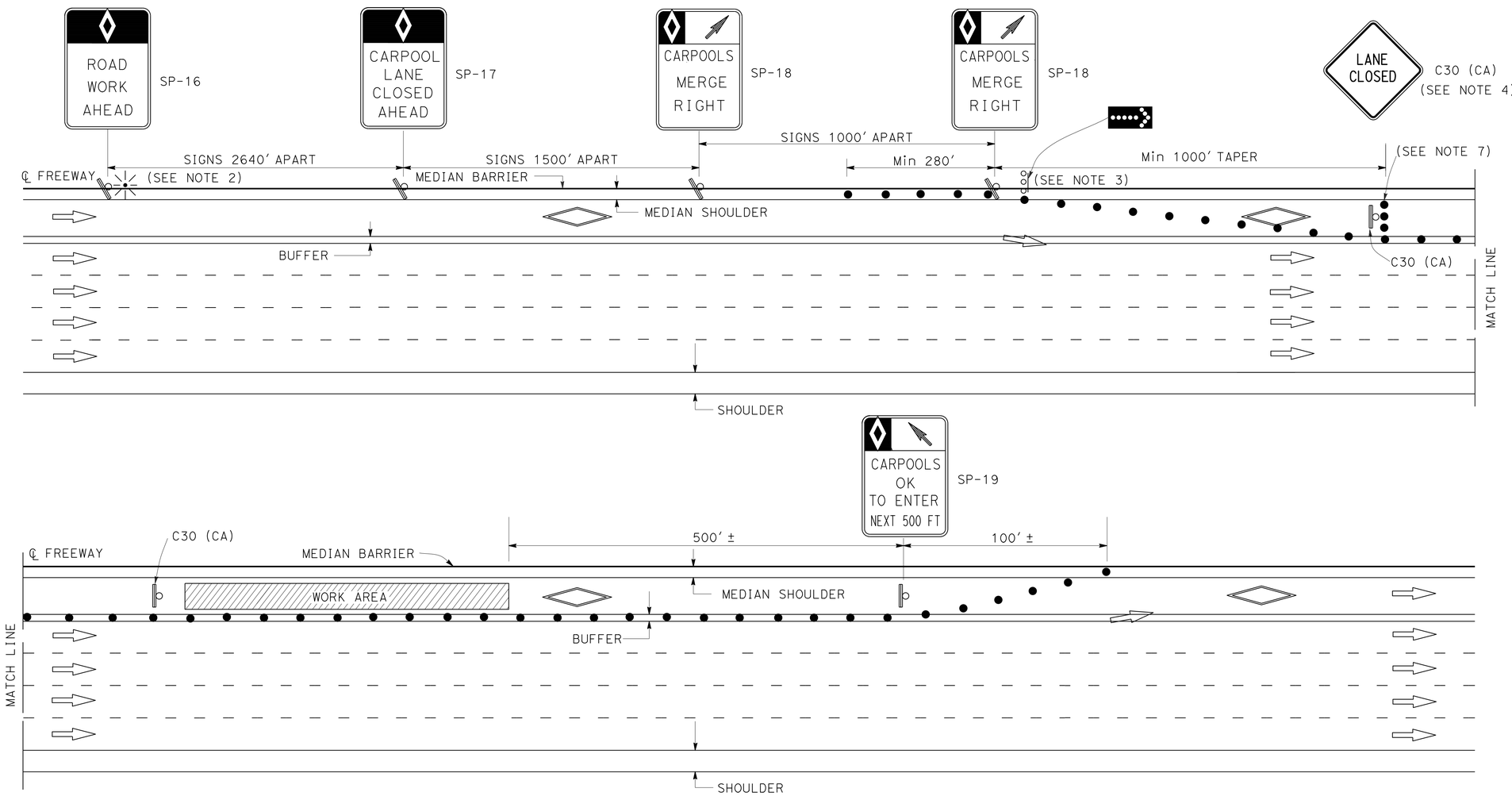

LEGEND

- TRAFFIC CONE
- PORTABLE FLASHING BEACON
- TEMPORARY TRAFFIC CONTROL SIGN
- FLASHING ARROW SIGN (FAS)
- FAS SUPPORT OR TRAILER

ABBREVIATIONS

(CA) CALIFORNIA CODE

SIGN PANEL

	SIZE (MIN)
SP-16	36" X 54"
SP-17	36" X 54"
SP-18	36" X 48"
SP-19	36" X 60"
C30 (CA)	30" X 30"
G20-2	48" X 24"

NOTES: FOR CASE I AND CASE II

1. AT LEAST ONE PERSON MUST BE ASSIGNED TO FULL TIME MAINTENANCE OF TRAFFIC CONTROL DEVICES ON NIGHT LANE CLOSURES OR DAY-TIME CLOSURES EXCEEDING 1 MILE LENGTH, INCLUDING TAPERS.
2. ADVANCE WARNING SIGN INSTALLATIONS MUST BE EQUIPPED WITH FLAGS FOR DAYTIME CLOSURES. TYPE B HIGH INTENSITY FLASHING WARNING LIGHTS MUST BE USED ON SP-16 SIGN DURING NIGHT LANE CLOSURES. FLAGS AND WARNING LIGHTS MUST BE ATTACHED TO SIGNS AS APPROVED BY THE ENGINEER.
3. THE FLASHING ARROW SIGN MUST BE TYPE I.
4. PLACE C30 (CA) SIGNS EVERY 2000' THROUGHOUT THE LENGTH OF LANE CLOSURE.
5. A MINIMUM 1500' OF SIGHT DISTANCE MUST BE PROVIDED WHERE POSSIBLE FOR VEHICLES APPROACHING THE FLASHING ARROW SIGN. LANE CLOSURES MUST NOT BE PLACED ON CREST VERTICAL CURVES OR ON HORIZONTAL CURVES.
6. PORTABLE DELINEATORS PLACED AT ONE-HALF THE SPACING INDICATED FOR TRAFFIC CONES MAY BE USED INSTEAD OF CONES FOR DAYTIME CLOSURES.
7. A MINIMUM OF 3 CONES MUST BE PLACED TRANSVERSELY ACROSS CLOSED LANES WHERE TAPERS END AND EVERY 2000'. TWO TYPE II BARRICADES MAY BE USED INSTEAD OF 3 CONES. THE ALIGNMENT OF CONES OR BARRICADES MAY BE SHIFTED FROM THE TRANSVERSE ALIGNMENT TO PROVIDE ACCESS TO WORK.
8. IF AN INGRESS/EGRESS AREA IS WITHIN 5250' UPSTREAM OR DOWNSTREAM OF THE WORK AREA, LANE CLOSURES MUST BE EXTENDED TO THAT AREA AS SHOWN IN CASE II.
9. SIGNS SP-16, 17, 18, AND 19 MAY BE OVERLAID ON EXISTING CARPOOL SIGNS IN MEDIANS AS APPROVED BY THE ENGINEER.
10. SIGNS SP-16, 17, 18, AND C30 (CA) MUST BE BLACK ON ORANGE BACKGROUND. SIGN SP-19 MUST BE BLACK ON WHITE BACKGROUND. DIAMONDS ON SIGNS MUST BE WHITE.
11. FOR CLOSURE OF LANE(S) ADJACENT TO HOV LANES, SEE CASE II.
12. THE MAXIMUM SPACING BETWEEN CONES MUST BE APPROXIMATELY 50' IN TAPERS AND 100' ON TANGENTS.

TRAFFIC HANDLING DETAILS
TRAFFIC CONTROL SYSTEM FOR HIGH OCCUPANCY VEHICLE LANES AT NON-INGRESS/EGRESS AREAS
CASE I

NO SCALE

THD-8

CALCULATED-DESIGNED BY	JC
CHECKED BY	
REVISED BY	
DATE REVISED	2/14
FUNCTIONAL SUPERVISOR	DENIS KATAYAMA
ALBERT K YU	JOCELYN C CHIANG

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	19,60,91 164,605	Var	13	43

R.M. Mishreki 9-4-15
REGISTERED CIVIL ENGINEER DATE

12-14-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER R.M. MISHREKI No. C68484 Exp. 9-30-17 CIVIL STATE OF CALIFORNIA

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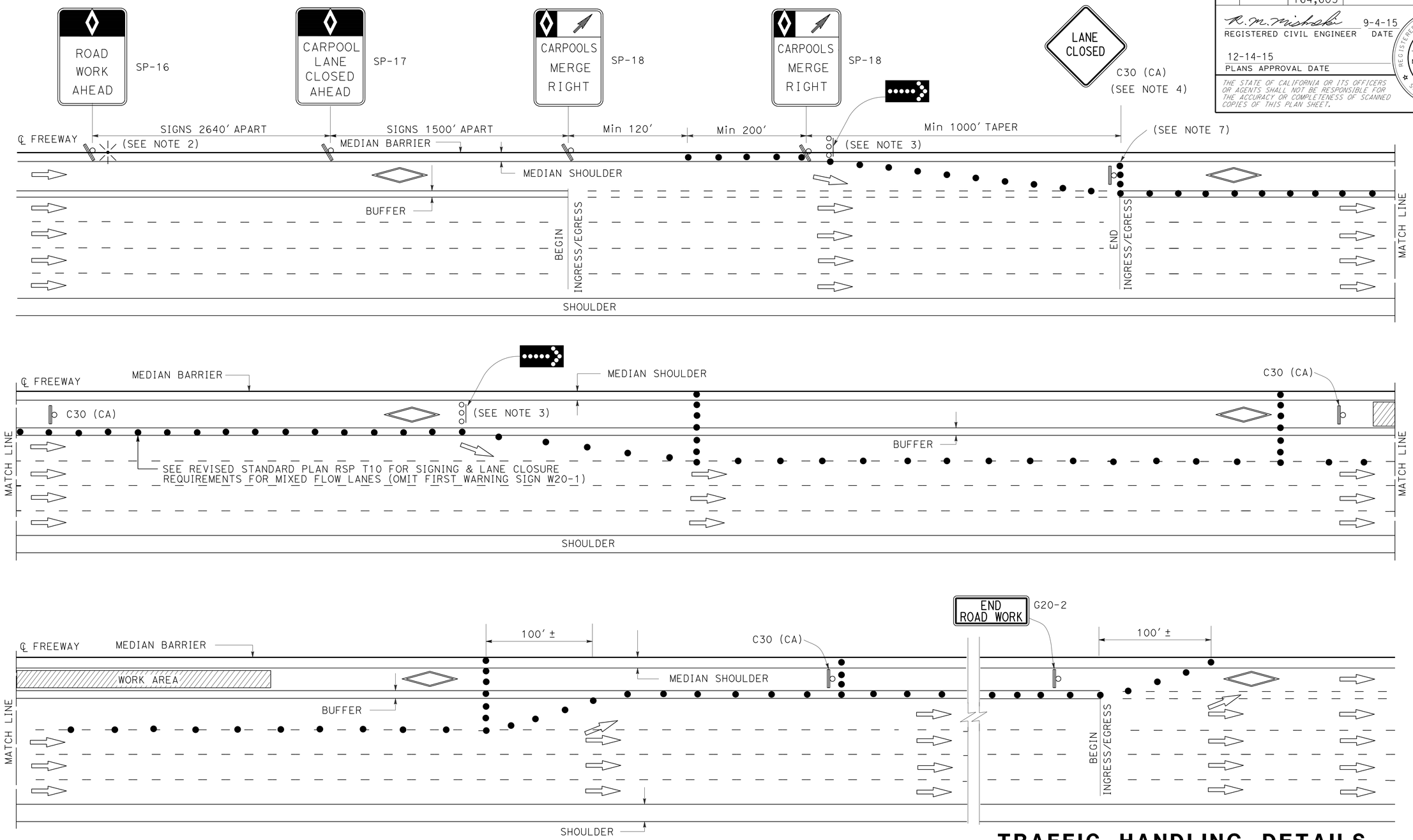

NOTES:

1. SEE CASE I FOR NOTES, LEGEND, SIGN PANEL, AND ABBREVIATIONS FOR THIS SHEET.
2. CLOSURES OF ONE MIXED FLOW TRAFFIC LANE ADJACENT TO HOV LANE SHOWN ON THIS SHEET. MULTIPLE MIXED FLOW LANE CLOSURES ARE SIMILAR.

TRAFFIC HANDLING DETAILS
TRAFFIC CONTROL SYSTEM FOR HIGH OCCUPANCY VEHICLE LANES AND ADJACENT FREEWAY LANES BETWEEN INGRESS/EGRESS AREAS
CASE II

NO SCALE

THD-9

JC	2/14
REVISED BY	DATE REVISED
ALBERT K YU	JOCELYN C CHIANG
CALCULATED-DESIGNED BY	CHECKED BY
FUNCTIONAL SUPERVISOR	DENIS KATAYAMA

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
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LAST REVISION 12-14-15 | DATE PLOTTED => 29-DEC-2015 | TIME PLOTTED => 23:44

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	19, 60, 91 164, 605	Var	14	43

REGISTERED CIVIL ENGINEER 8-31-15 DATE

12-14-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER BIPIN PATEL No. C60082 Exp. 06-30-16 CIVIL STATE OF CALIFORNIA

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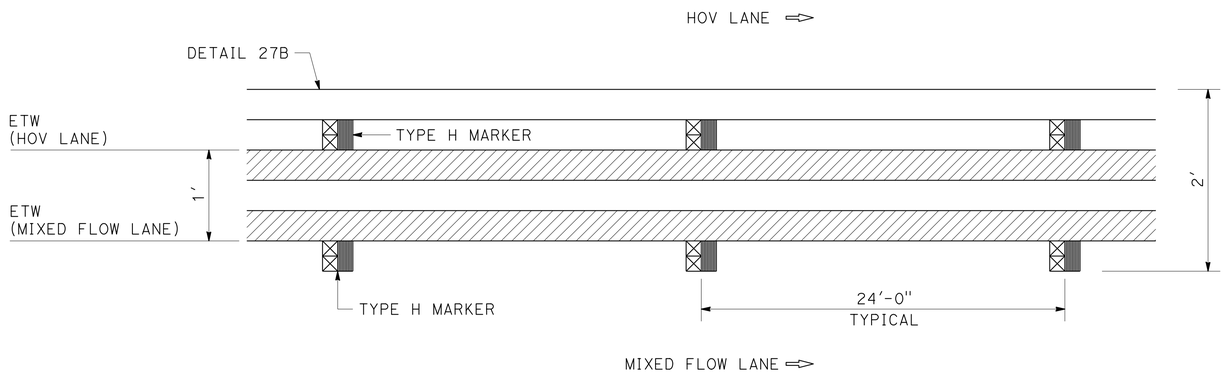
NOTE:

SEE PAVEMENT DELINEATION QUANTITIES FOR LOCATION AND TYPES OF TRAFFIC STRIPES AND PAVEMENT MARKINGS TO BE PLACED.

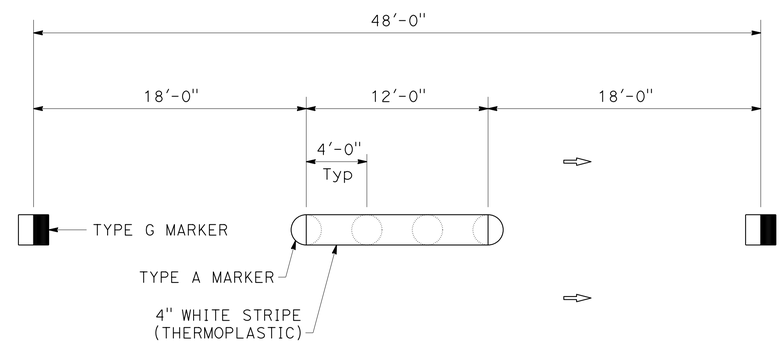
LEGEND:

- DIRECTION OF TRAFFIC
- HOV HIGH OCCUPANCY VEHICLE
- 4" WHITE THERMOPLASTIC STRIPE
- 8" WHITE THERMOPLASTIC STRIPE
- 4" YELLOW THERMOPLASTIC STRIPE
- TYPE H ONE-WAY YELLOW RETROREFLECTIVE MARKER
- 2-TYPE G ONE-WAY CLEAR RETROREFLECTIVE MARKERS



DETAIL A - HOV BUFFER STRIPING

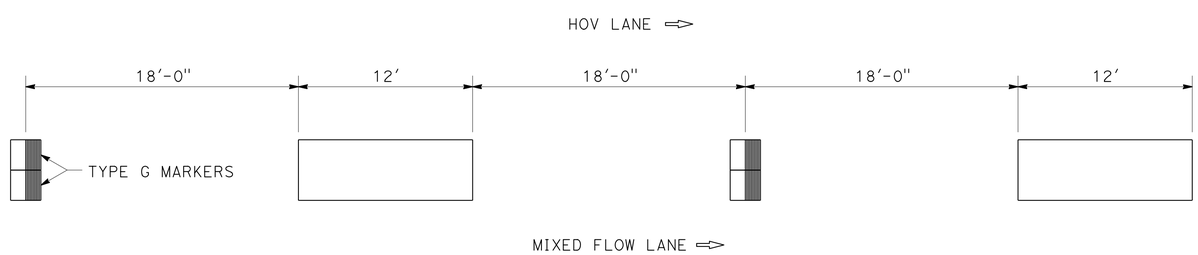
BUFFER WIDTH-1 FOOT



NOTE:

1. THE ADDITION OF A 4" WIDE THERMOPLASTIC STRIPE 12' LONG ON TOP OF TYPE A, WHITE NON-REFLECTIVE MARKERS.

DETAIL 13 (MODIFIED)



DETAIL M-10 - INGRESS/EGRESS STRIPING

PAVEMENT DELINEATION DETAILS

NO SCALE

PDD-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR: LARRY WIERING
CALCULATED-DESIGNED BY: BIPIN PATEL
CHECKED BY: LARRY WIERING
REVISED BY
DATE REVISED

LAST REVISION 12-14-15 | DATE PLOTTED => 29-DEC-2015 | TIME PLOTTED => 23:44

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	19, 60, 91 164, 605	Var	15	43

REGISTERED CIVIL ENGINEER DATE 8-31-15

12-14-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER BIPIN PATEL No. C60082 Exp. 06-30-16 CIVIL STATE OF CALIFORNIA

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PAVEMENT DELINEATION QUANTITIES

Loc No. (X)	PM	DIRECTION	NAME OF BRIDGE	BRIDGE No.	REMOVE THERMOPLASTIC TRAFFIC STRIPE	REMOVE PAVEMENT MARKER	REMOVE THERMOPLASTIC PAVEMENT MARKING	REMOVE YELLOW THERMOPLASTIC TRAFFIC STRIPE (HAZARDOUS WASTE)	THERMOPLASTIC TRAFFIC STRIPE DETAIL 8	13 (MODIFIED)	27B	25A	25	DETAIL A	36	36A	DETAIL M-10	37	THERMOPLASTIC PAVEMENT MARKING	PAVEMENT MARKER RETROREFLECTIVE TYPE G	TYPE H	NON-REFLECTIVE TYPE A
			DESCRIPTION						4" WHITE (BROKEN 17-7)	4" WHITE (BROKEN 36-12)	4" WHITE	4" YELLOW			8" WHITE		8" WHITE (BROKEN 36-12)	8" WHITE (BROKEN 12-3)	DIAGONAL SYMBOL WORDS			
					LF	EA	SQFT	LF											SQFT	EA		
1	6.07		N19-W91 CONNECTOR OC	53-1760G	178	10	32	178			178	178							32		10	
3	11.98	EB	WORKMAN MILL ROAD UC	53-1768	922	178	11	708		944	472		236	472			236	236	11	54	28	96
		WB	WORKMAN MILL ROAD UC	53-1768	1,291	117		236		708	236		236		439					39	6	72
4	12.18	EB	CLAYTON OH	53-1755	745	166		657		876	438		219	438				219		42	28	96
		WB	CLAYTON OH	53-1755	472	114		219		657	219		219					219		36	6	72
5	14.26	EB	SEVENTH AVENUE UC	53-1771	938	156		630		840	420		210	420	154					34	26	96
6	15.09	EB	TURNBULL CANYON ROAD UC	53-1772	489	110		465		465	310		155	310				155		29	21	60
7	R21.48	EB	FAIRWAY DRIVE UC	53-1788	692	95	83	191	102	561	276		191			85	191		83	30	5	60
		WB	FAIRWAY DRIVE UC	53-1788	422	90		191		561	191		191				191			25	5	60
8	R22.97		BREA CANYON ROAD UC ON RAMP	53-2917	1,872	403		1,497		1,497	1,497	1,497								45	178	180
9	R23.31		E60-S57 CONNECTOR OC	53-1846G	529	70		423		423	423	423								10	20	40
				SUBTOTAL	8,550	1,509	126	5,395	102	7,532	4,660	2,098	1,657	1,640	593	85	618	829	126	344	333	832
				TOTAL	8,550	1,509	126	5,395	102	7,532	10,055				678		618	829	126	677		832

PAVEMENT DELINEATION QUANTITIES

PDQ-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR: LARRY WIERING
CALCULATED-DESIGNED BY: BIPIN PATEL
CHECKED BY: LARRY WIERING
REVISED BY
DATE REVISED

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DATE PLOTTED => 29-DEC-2015
TIME PLOTTED => 23:44

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	19, 60, 91 164, 605	Var	16	43

REGISTERED CIVIL ENGINEER DATE 8-31-15

12-14-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER BIPIN PATEL No. C60082 Exp. 06-30-16 CIVIL STATE OF CALIFORNIA

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PAVEMENT DELINEATION QUANTITIES

DESCRIPTION					REMOVE THERMOPLASTIC TRAFFIC STRIPE	REMOVE PAVEMENT MARKER	REMOVE THERMOPLASTIC PAVEMENT MARKING	REMOVE YELLOW THERMOPLASTIC (HAZARDOUS WASTE)	THERMOPLASTIC TRAFFIC STRIPE										THERMOPLASTIC PAVEMENT MARKING	PAVEMENT MARKER		
									DETAIL											RETROREFLECTIVE		NON-REFLECTIVE
									8	13 (MODIFIED)	27B	25A	25	DETAIL A	36	36A	DETAIL M-10	37				
									4" WHITE (BROKEN 17-7)	4" WHITE (BROKEN 36-12)	4" WHITE	4" YELLOW			8" WHITE		8" WHITE (BROKEN 36-12)	8" WHITE (BROKEN 12-3)	DIAGONAL SYMBOL WORDS	TYPE G	TYPE H	TYPE A
Loc No. (X)	PM	DIRECTION	NAME OF BRIDGE	BRIDGE No.	LF	EA	SQFT	LF											SQFT	EA		
10	R16.07	EB	WOODRUFF AVENUE UC	53-1720	436	90		414		414	276		138	276				138		24	18	48
		WB	WOODRUFF AVENUE UC	53-1720	436	90		414		414	276		138	276				138		24	18	48
11	R17.09	WB	W91-N&S 605 CONNECTOR OC	53-1707F	193	35		154		154	154	154								5	10	20
12	R7.50	NB	N605-W105 CONNECTOR OC	53-2700G	2,797	362		2,237		2,237	2,237	2,237								52	102	208
13	R7.84	NB	N605-FIRESTONE/IMPERIAL UC	53-1651T	565	25		565			565	565									25	
14	R8.23	SB	HOXIE OH	53-1652K	570	75		456		456	456	456								11	20	44
17	2.06	NB	FLOOD FLOW CHANNEL	53-0534	363	54		290		290	290	290								8	14	32
		SB	FLOOD FLOW CHANNEL	53-0534	363	54		290		290	290	290								8	14	32
SUBTOTAL					5,723	785		4,820		4,255	4,544	3,992	276	552				276		132	221	432
TOTAL PDQ-2					5,723	785		4,820		4,255	9,364							276		353		432
TOTAL PDQ-1					8,550	1,509	126	5,395	102	7,532	10,055				678		618	829	126	677		832
GRAND TOTAL					14,273	2,294	126	10,215	102	11,787	19,419				678		618	1,105	126	1,030		1,264

PAVEMENT DELINEATION QUANTITIES

PDQ-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR: LARRY WIERING
CALCULATED-DESIGNED BY: BIPIN PATEL
CHECKED BY: LARRY WIERING
REVISED BY
DATE REVISED

LAST REVISION 12-14-15
DATE PLOTTED => 29-DEC-2015
TIME PLOTTED => 23:44

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
Mtl	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

Oblr	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 Mtl	PERMEABLE MATERIAL

P continued

PG	PROFILE GRADE
PI	POINT OF INTERSECTION
PJP	PARTIAL JOINT PENETRATION
Pkwy	PARKWAY
ℙ,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
℄	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
Tel	TELEPHONE
Temp	TEMPORARY
TG	TOP OF GRADE
Tot	TOTAL
TP	TELEPHONE POLE
TPB	TREATED PERMEABLE BASE
TPM	TREATED PERMEABLE MATERIAL
Trans	TRANSITION

T continued

TS	TRANSVERSE,
	TRAFFIC SIGNAL,
	TUBULAR STEEL
Typ	TYPICAL

U

UC	UNDERCROSSING
UD	UNDERDRAIN
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
UP	UNDERPASS

V

V	VALVE,
	DESIGN SPEED
Var	VARIABLE,
	VARIES
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
Vert	VERTICAL
Via	VIADUCT
Vol	VOLUME

W

W	WEST,
	WIDTH
WB	WESTBOUND
WH	WEEP HOLE
WM	WIRE MESH
WS	WATER SURFACE
WSP	WELDED STEEL PIPE
Wt	WEIGHT
WV	WATER VALVE
WW	WINGWALL
WWLOL	WINGWALL LAYOUT LINE

X

X Sec	CROSS SECTION
Xing	CROSSING

Y

Yr	YEAR
Yrs	YEARS

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	19,60,91 164,605	Var	17	43

Grace M. Tsushima
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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

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TO ACCOMPANY PLANS DATED 12-14-15

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
kip	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.

REVISED STANDARD PLAN RSP A10B

2010 REVISED STANDARD PLAN RSP A10B

6-7-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	19,60,91 164,605	Var	18	43

REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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

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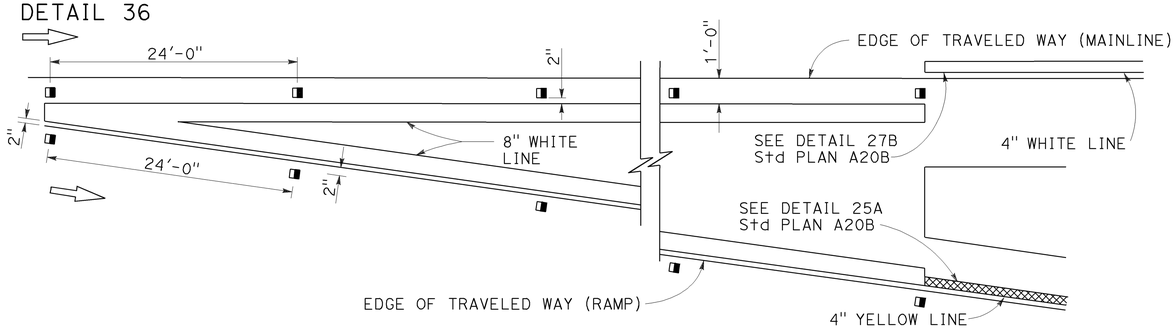
TO ACCOMPANY PLANS DATED 12-14-15

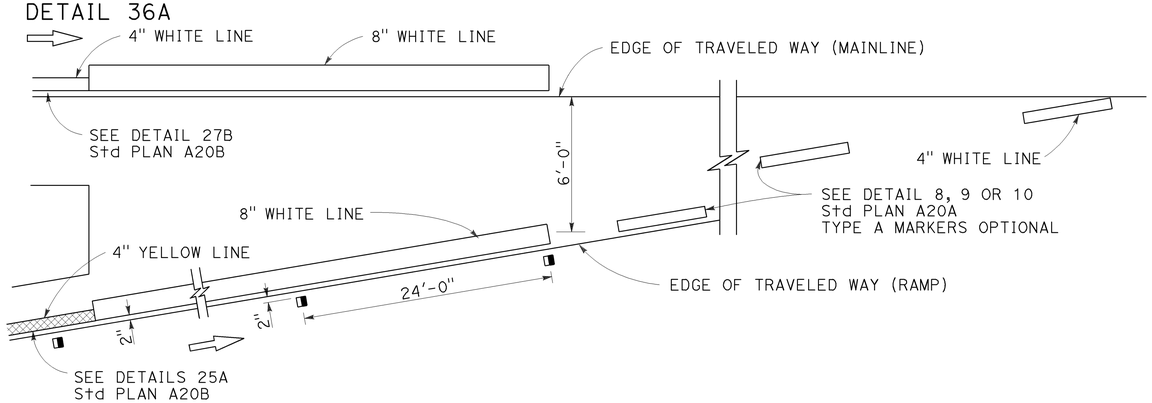
EXIT RAMP NEUTRAL AREA (GORE) TREATMENT

DETAIL 36



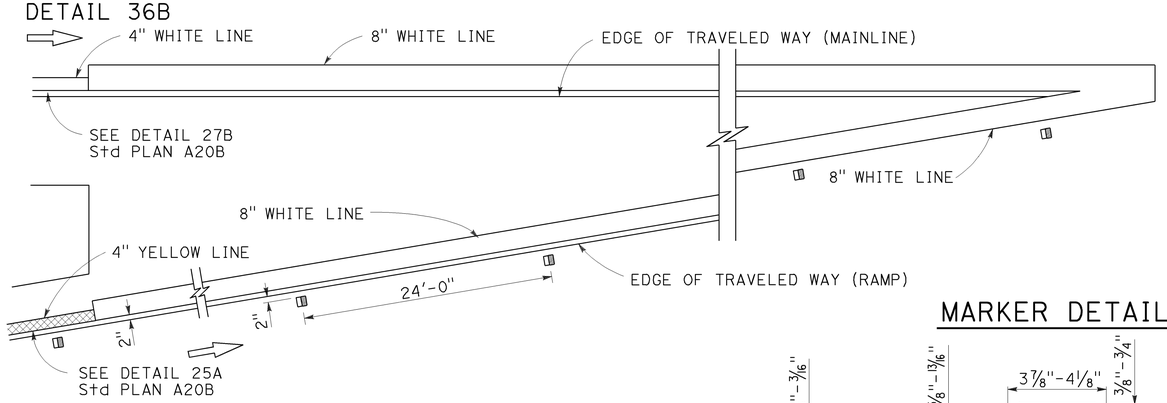
ENTRANCE RAMP NEUTRAL AREA (MERGE) TREATMENT

DETAIL 36A



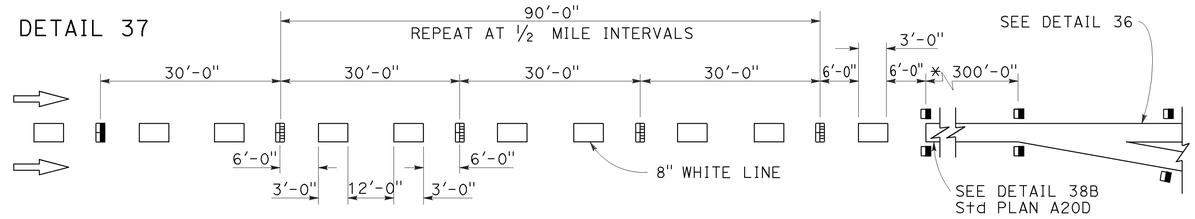
ENTRANCE RAMP NEUTRAL AREA (ACCELERATION LANE) TREATMENT

DETAIL 36B

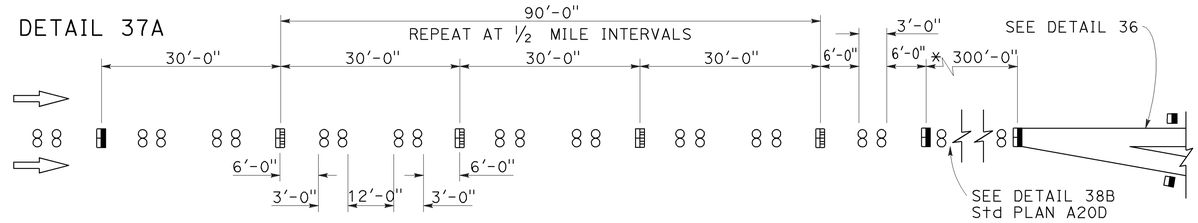


LANE DROP AT EXIT RAMPS

DETAIL 37



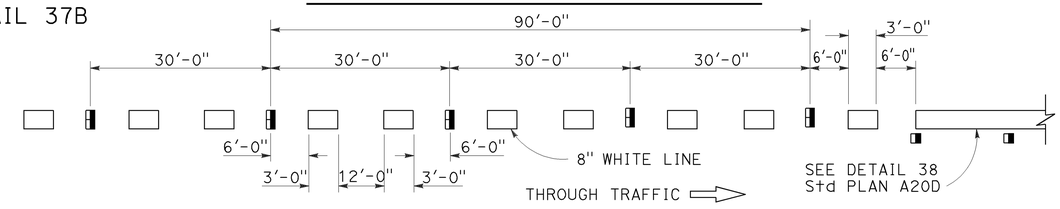
DETAIL 37A



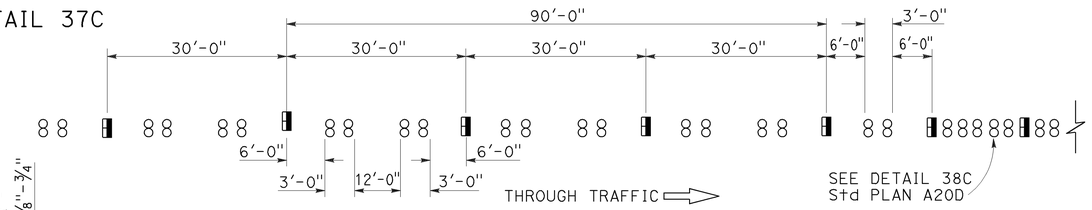
* The solid channelizing line shown may be omitted on short auxiliary lanes where weaving length is critical.

LANE DROP AT INTERSECTIONS

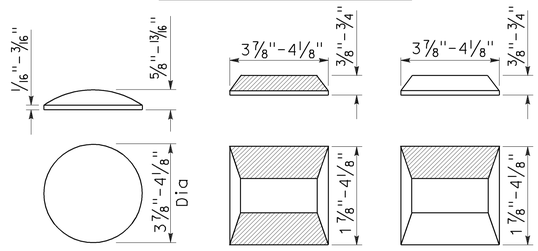
DETAIL 37B



DETAIL 37C



MARKER DETAILS



RETROREFLECTIVE FACE

LEGEND:

MARKERS

- ○ TYPE A WHITE NON-REFLECTIVE
- ⊟ TYPE C RED-CLEAR RETROREFLECTIVE
- ◨ TYPE G ONE-WAY CLEAR RETROREFLECTIVE

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKERS AND TRAFFIC LINE TYPICAL DETAILS

NO SCALE

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

REVISED STANDARD PLAN RSP A20C

2010 REVISED STANDARD PLAN RSP A20C

4-29-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	19,60,91 164,605	Var	19	43

REGISTERED CIVIL ENGINEER

October 19, 2012
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Roberta L. McLaughlin No. C40375 Exp. 3-31-13 CIVIL STATE OF CALIFORNIA

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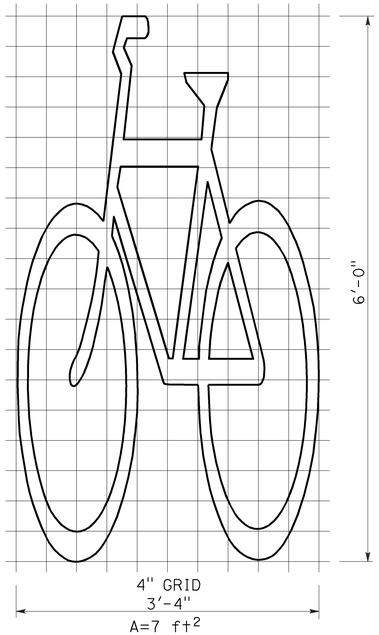
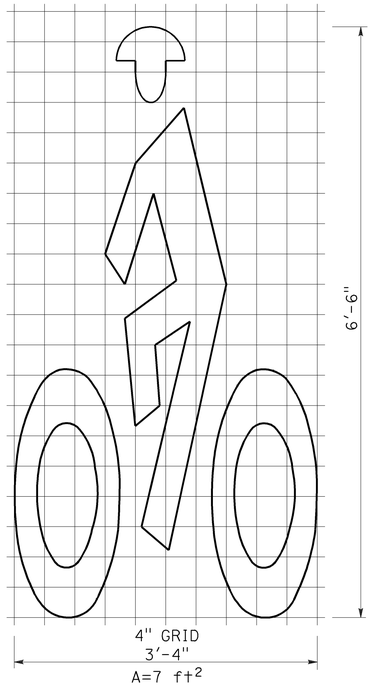
NOTE: TO ACCOMPANY PLANS DATED 12-14-15

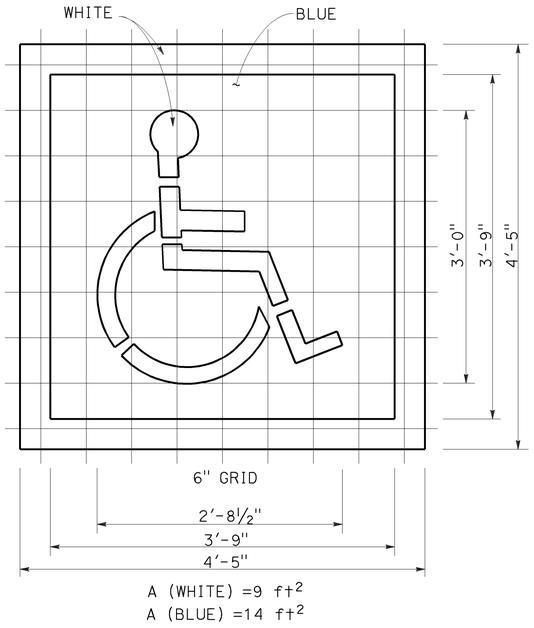
Minor variations in dimensions may be accepted by the Engineer.



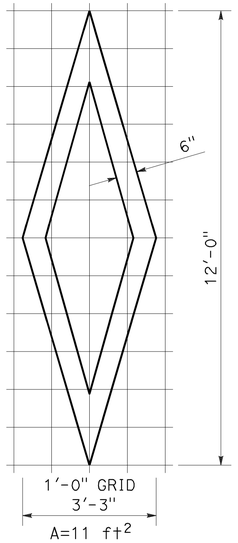
BIKE LANE SYMBOL WITHOUT PERSON



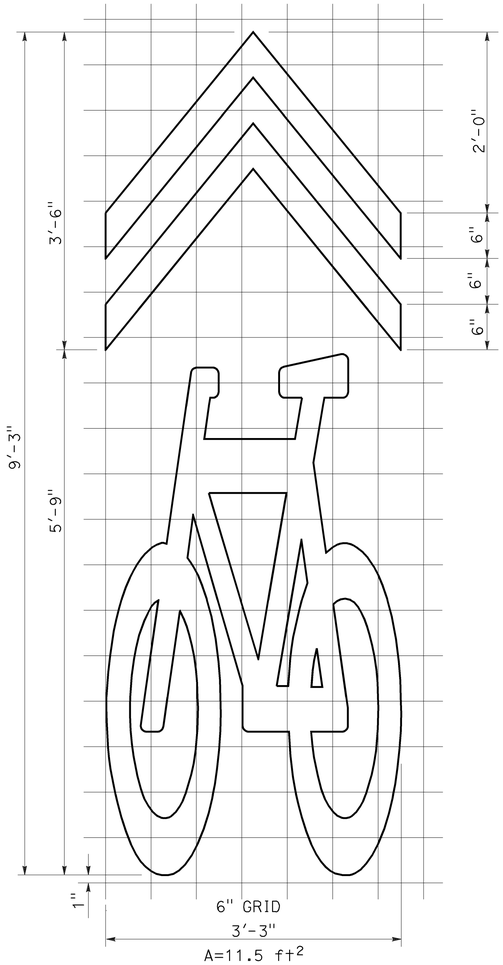
BIKE LANE SYMBOL WITH PERSON



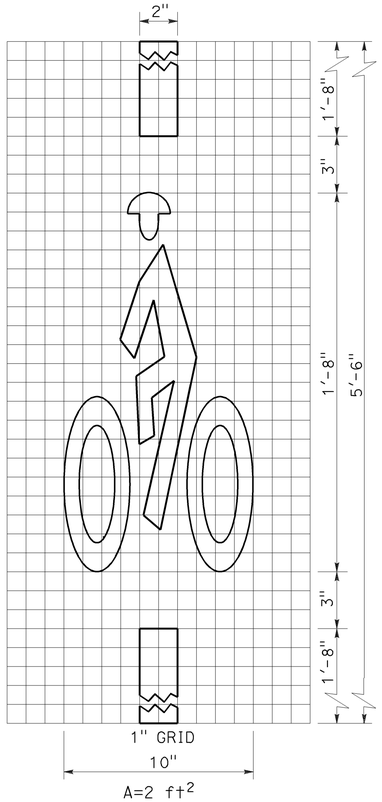
INTERNATIONAL SYMBOL OF ACCESSIBILITY (ISA) MARKING



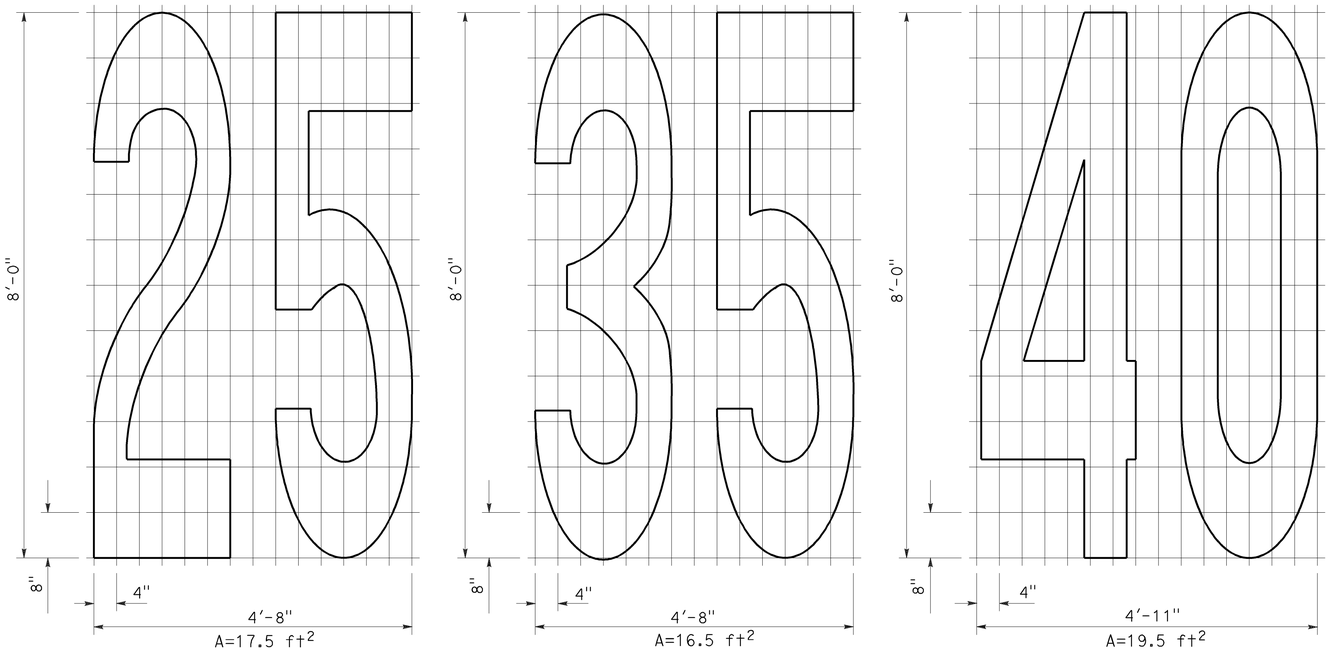
DIAMOND SYMBOL



SHARED ROADWAY BICYCLE MARKING



BICYCLE LOOP DETECTOR SYMBOL



NUMERALS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKINGS SYMBOLS AND NUMERALS

NO SCALE

RSP A24C DATED OCTOBER 19, 2012 SUPERSEDES STANDARD PLAN A24C DATED MAY 20, 2011 - PAGE 15 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A24C

2010 REVISED STANDARD PLAN RSP A24C

6-28-12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	19,60,91 164,605	Var	20	43

REGISTERED CIVIL ENGINEER

July 20, 2012
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Roberta L. McLaughlin
No. C40375
Exp. 3-31-13
CIVIL
STATE OF CALIFORNIA

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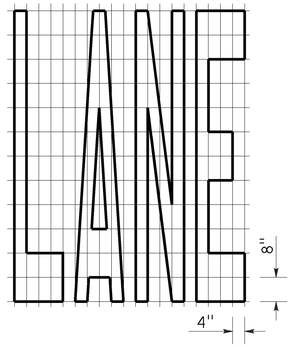
TO ACCOMPANY PLANS DATED 12-14-15



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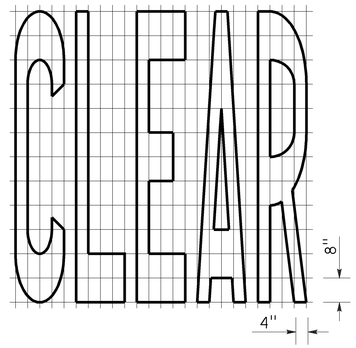

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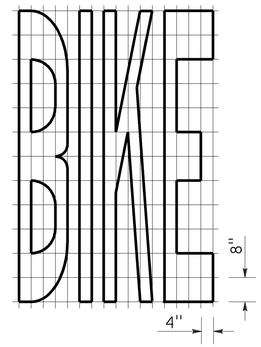
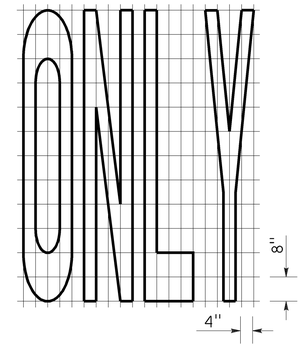


A=21 ft^2



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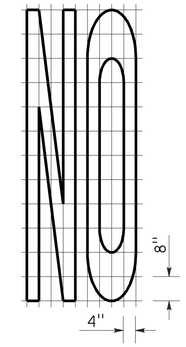
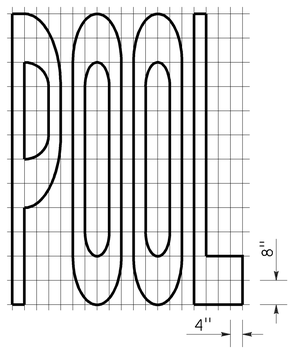


A=14 ft^2



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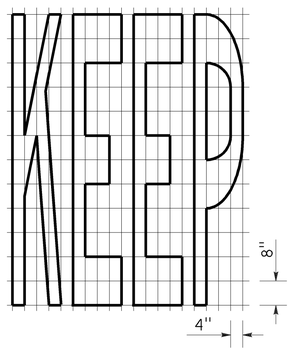

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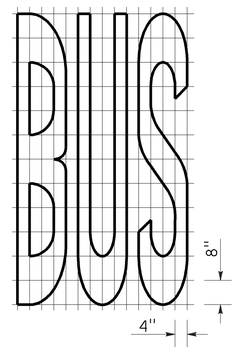

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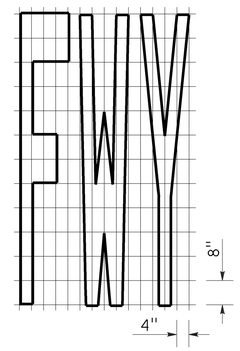
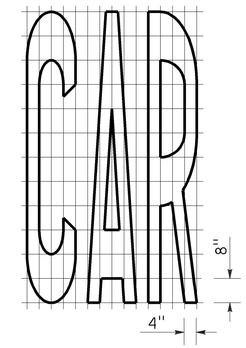
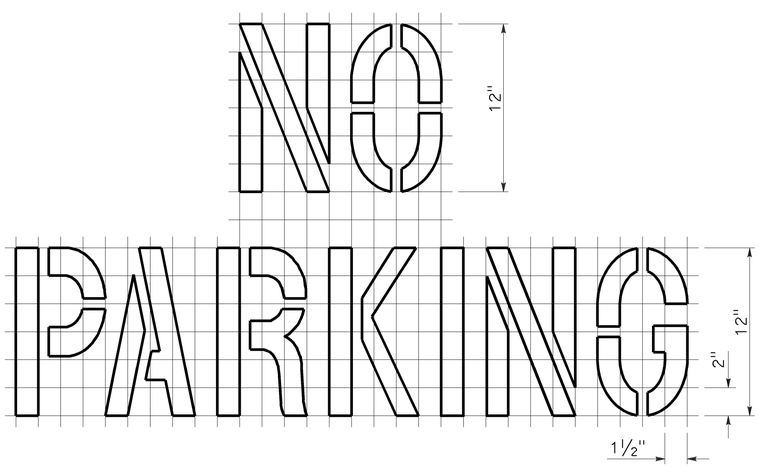


A=16 ft^2

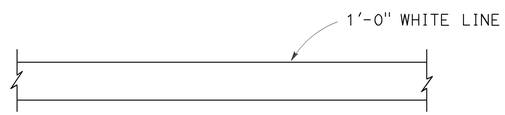


A=17 ft^2

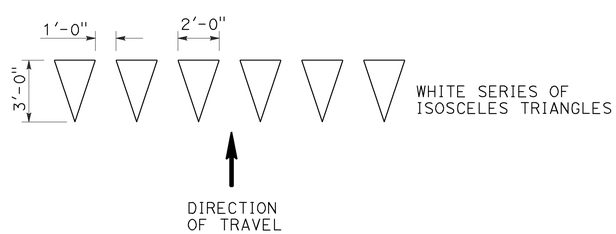
WORD MARKINGS			
ITEM	ft^2	ITEM	ft^2
LANE	24	NO	14
POOL	23	BIKE	21
CAR	17	BUS	20
CLEAR	27	ONLY	22
KEEP	24	FWY	16



A=2 ft^2
See Notes 6 and 7



LIMIT LINE (STOP LINE)



YIELD LINE

NOTES:

1. If a message consists of more than one word, it should read "UP", i.e., the first word should be nearest the driver.
2. The space between words should be at least four times the height of the characters for low speed roads, but not more than ten times the height of the characters. The space may be reduced appropriately where there is limited space because of local conditions.
3. Minor variations in dimensions may be accepted by the Engineer.
4. Portions of a letter, number or symbol may be separated by connecting segments not to exceed 2" in width.
5. The words "NO PARKING" pavement marking is to be used for parking facilities. For typical locations of markings, see Standard Plans A90A and A90B.
6. The words "NO PARKING", shall be painted in white letters no less than 1'-0" high on a contrasting background and located so that it is visible to traffic enforcement officials.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKINGS WORDS, LIMIT AND YIELD LINES

NO SCALE

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

REVISED STANDARD PLAN RSP A24E

2010 REVISED STANDARD PLAN RSP A24E

6-12-12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	19,60,91 164,605	Var	21	43

REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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

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TO ACCOMPANY PLANS DATED 12-14-15

TABLE 1

TAPER LENGTH CRITERIA AND CHANNELIZING DEVICE SPACING

SPEED (S)	MINIMUM TAPER LENGTH * FOR WIDTH OF OFFSET 12 FEET (W)				MAXIMUM CHANNELIZING DEVICE SPACING		
					X	Y	Z **
	TANGENT 2L	MERGING L	SHIFTING L/2	SHOULDER L/3	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%
mph	ft	ft	ft	ft
20	115	116	120	126
25	155	158	165	173
30	200	205	215	227
35	250	257	271	287
40	305	315	333	354
45	360	378	400	427
50	425	446	474	507
55	495	520	553	593
60	570	598	638	686
65	645	682	728	785
70	730	771	825	891

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

** - Longitudinal buffer space or flagger station spacing

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

TABLE 3

ADVANCE WARNING SIGN SPACING

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

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM TABLES FOR LANE AND RAMP CLOSURES

NO SCALE

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

REVISED STANDARD PLAN RSP T9

2010 REVISED STANDARD PLAN RSP T9

4-30-13

TO ACCOMPANY PLANS DATED 12-14-15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	19,60,91 164,605	Var	22	43

REGISTERED CIVIL ENGINEER

April 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Gurinderpal Bhullar No. C48815 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.

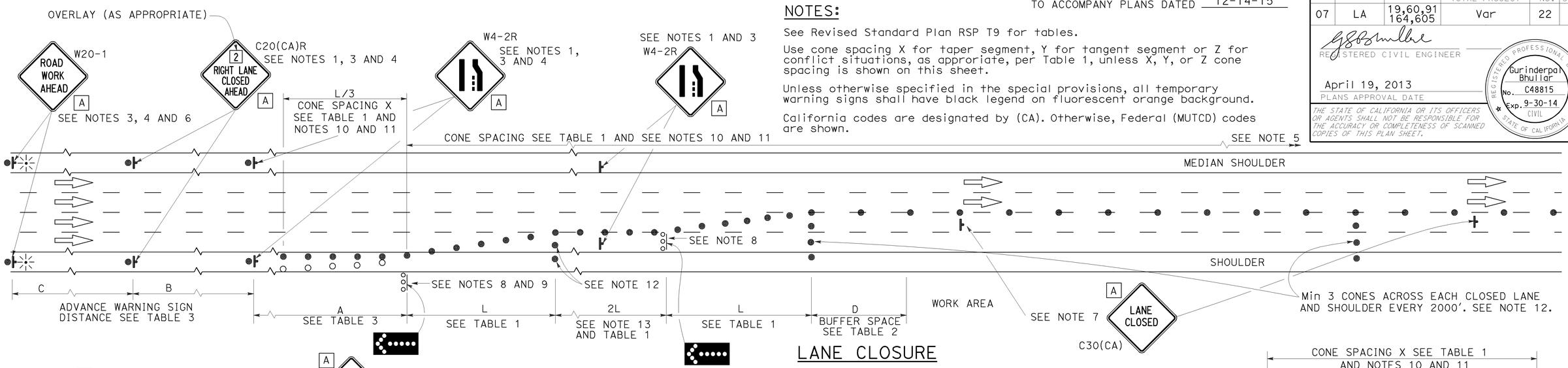
NOTES:

See Revised Standard Plan RSP T9 for tables.

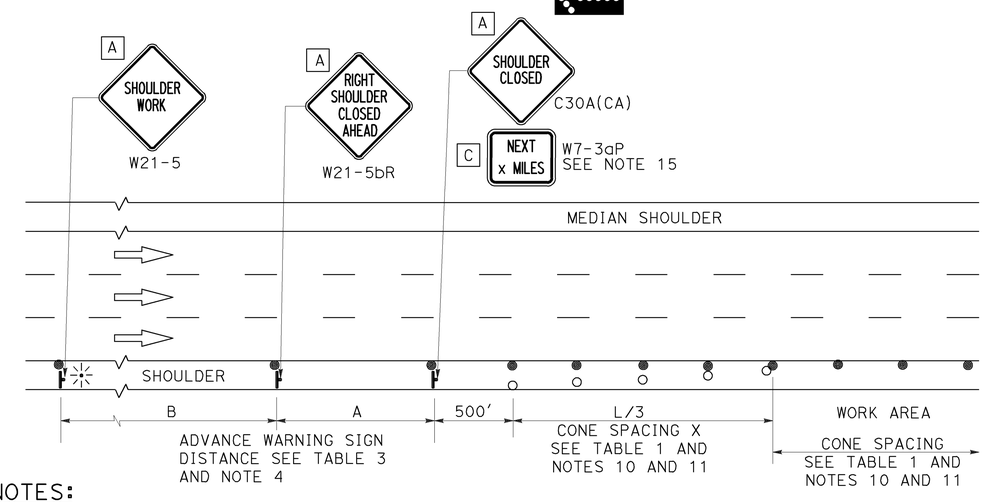
Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as approriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.

Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on fluorescent orange background.

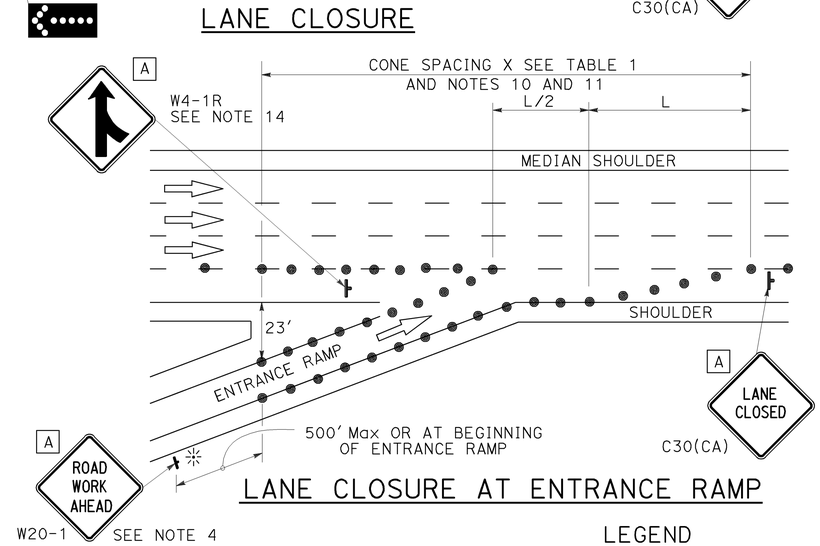
California codes are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.



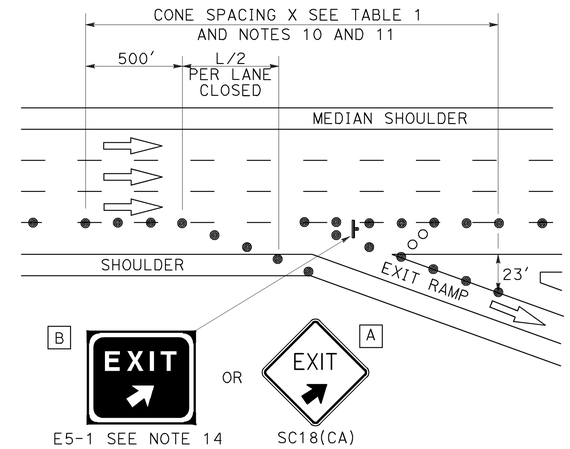
LANE CLOSURE



SHOULDER CLOSURE



LANE CLOSURE AT ENTRANCE RAMP



LANE CLOSURE AT EXIT RAMP

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.
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) sign for the first advance warning sign.
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.
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 theshoulder 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

12-18-12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	19,60,91 164,605	Var	23	43

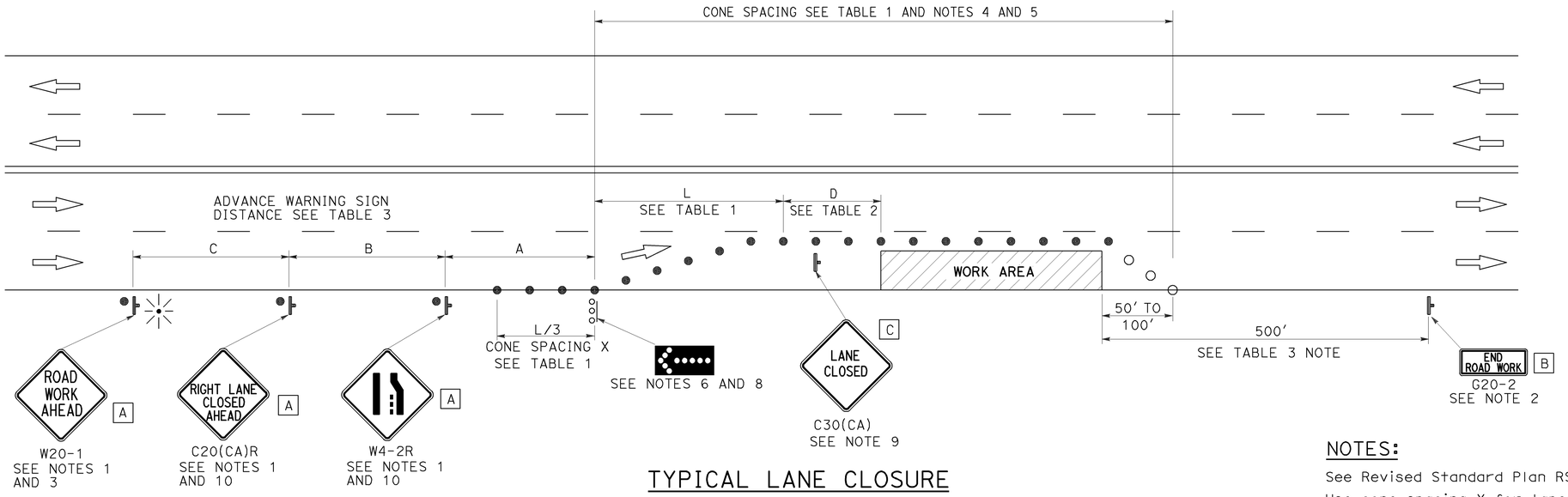
REGISTERED CIVIL ENGINEER

April 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Gurinderpal Bhullar No. C48815 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 12-14-15



TYPICAL LANE CLOSURE

NOTES:

See Revised Standard Plan RSP T9 for tables.

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

Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on fluorescent orange background.

California codes are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.

NOTES:

1. Each advance warning sign shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
2. A G20-2 "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious, or ends within a larger project's limits.
3. If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT _____ MILES", use a C20(CA) sign for the first advance warning sign.
4. All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
5. Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
6. Flashing arrow sign shall be either Type I or Type II.
7. For approach speeds over 50 mph, use the "Traffic Control System for Lane Closure On Freeways And Expressways" plan for lane closure details and requirements.
8. A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at the top of crest vertical curve or on a horizontal curve.
9. Place a C30(CA) sign every 2000' throughout length of lane closure.
10. Median lane closures shall conform to the details as shown except that C20(CA)L and W4-2L signs shall be used.
11. At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closure unless, otherwise directed by the Engineer.

LEGEND

- ● TRAFFIC CONE
- ○ TRAFFIC CONE (OPTIONAL TAPER)
- TEMPORARY TRAFFIC CONTROL SIGN
- FLASHING ARROW SIGN (FAS)
- FAS SUPPORT OR TRAILER
- PORTABLE FLASHING BEACON

SIGN PANEL SIZE (Min)

A	48" x 48"
B	36" x 18"
C	30" x 30"

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON MULTILANE CONVENTIONAL HIGHWAYS

NO SCALE

RSP T11 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T11 DATED MAY 20, 2011 - PAGE 239 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T11

2010 REVISED STANDARD PLAN RSP T11

4-2-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	19,60,91 164,605	Var	24	43

REGISTERED CIVIL ENGINEER

April 19, 2013
PLANS APPROVAL DATE

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

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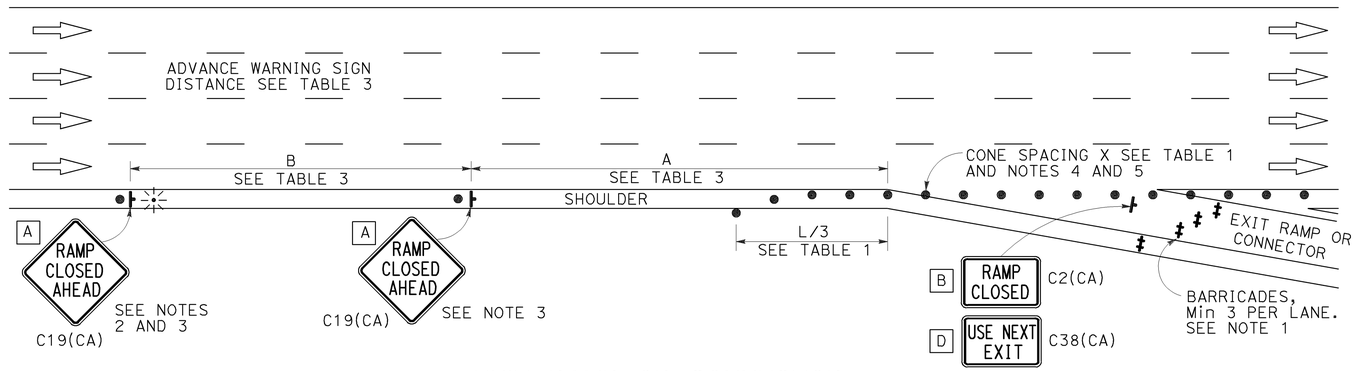
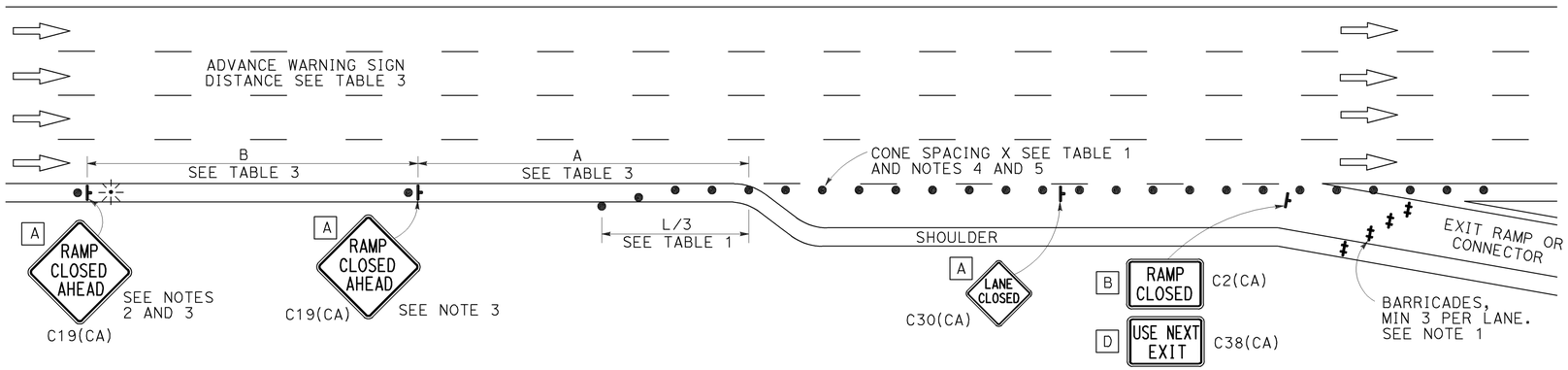
TO ACCOMPANY PLANS DATED 12-14-15

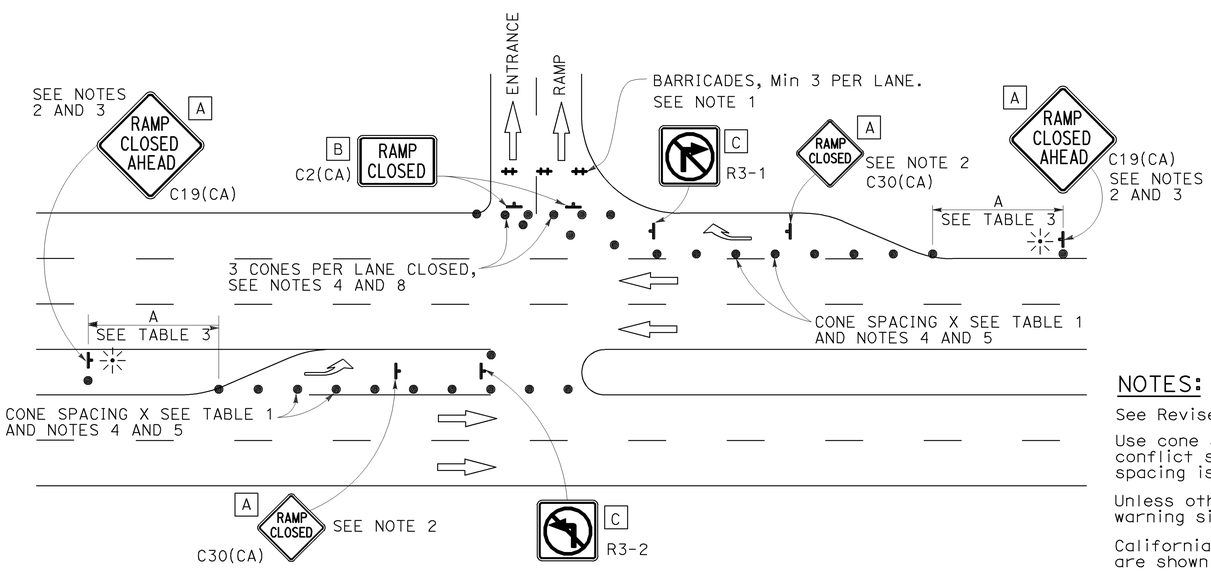
TYPICAL RAMP CLOSURES



EXIT RAMP OR CONNECTOR



EXIT RAMP OR CONNECTOR WITH ADDITIONAL LANE



ENTRANCE RAMP WITH TURNING POCKETS

SIGN PANEL SIZE (Min)

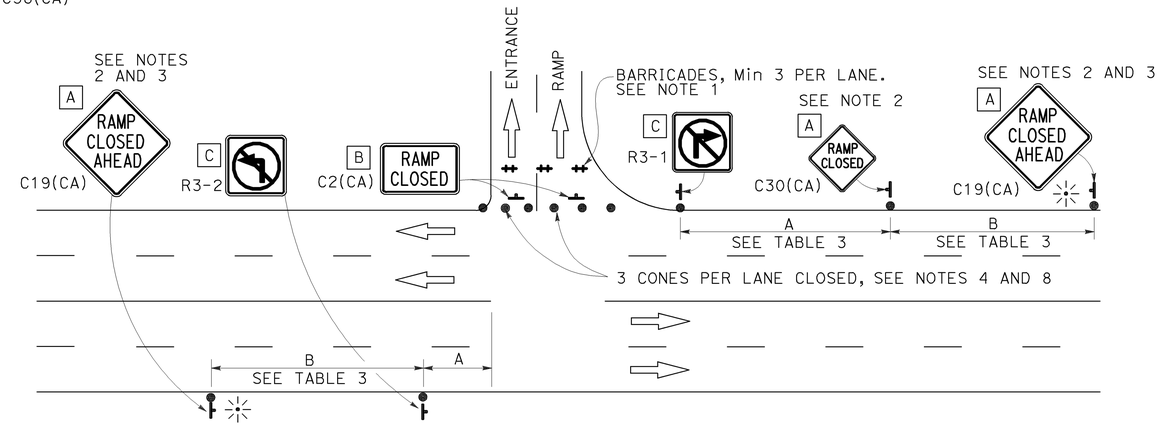
- A 48" × 48"
- B 48" × 30"
- C 36" × 36"
- D 48" × 36"

LEGEND

- TRAFFIC CONE
- TEMPORARY TRAFFIC CONTROL SIGN
- BARRICADES
- PORTABLE FLASHING BEACON

NOTES:

1. 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.
2. 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.
3. 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" × 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.
4. All cones used for ramp closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
5. Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime ramp closures only.
6. At least one person shall be assigned to provide full time maintenance of traffic control devices, unless otherwise directed by the Engineer.
7. The existing "EXIT" signs shall be covered during ramp closures.
8. A minimum of 3 cones shall be placed transversely across each closed lane and shoulder.



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 approriate, 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

12-18-12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	19,60,91 164,605	Var	25	43

REGISTERED CIVIL ENGINEER

April 19, 2013
PLANS APPROVAL DATE

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

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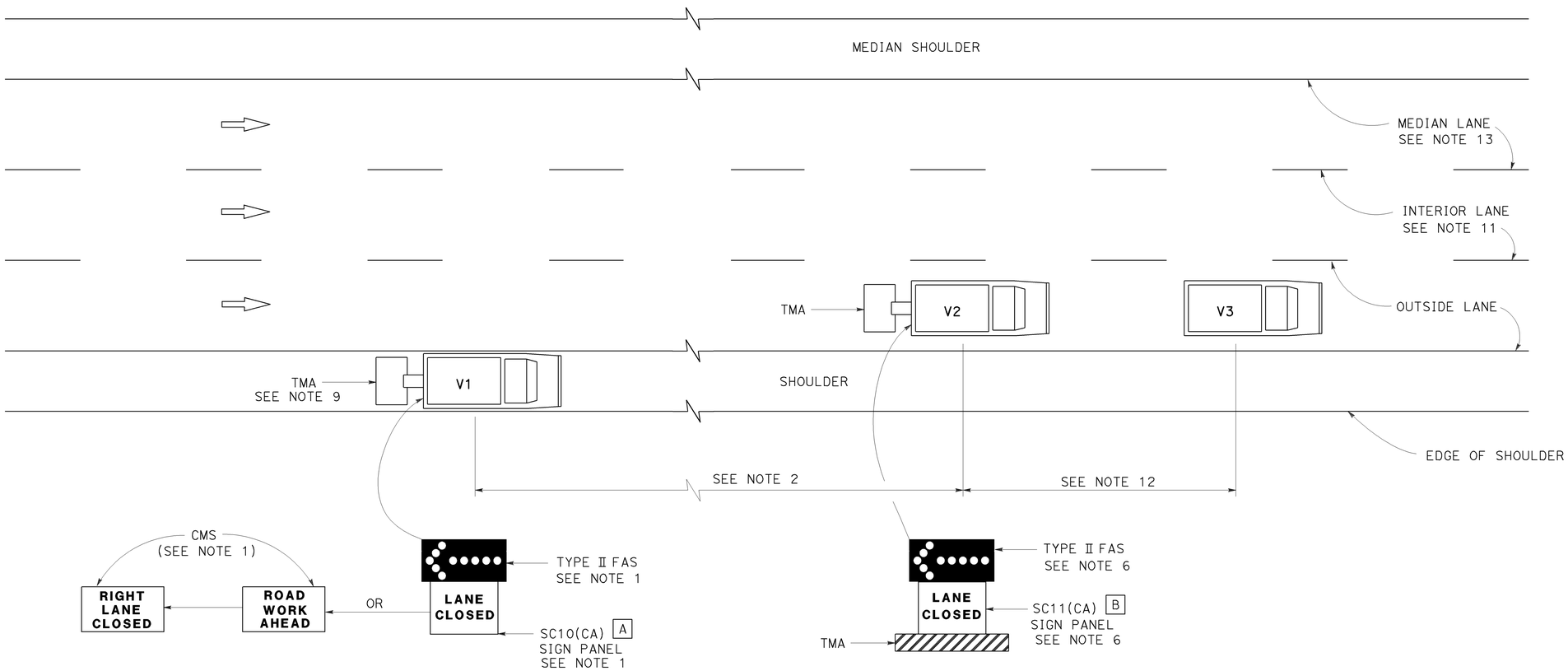
TO ACCOMPANY PLANS DATED 12-14-15



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

SIGN PANEL SIZE (Min)

A 66" x 36"

B 54" x 42"

LEGEND

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

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR MOVING LANE CLOSURE ON MULTILANE HIGHWAYS

NO SCALE

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

REVISED STANDARD PLAN RSP T15

2010 REVISED STANDARD PLAN RSP T15

12-18-12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	19,60,91 164,605	Var	26	43

REGISTERED CIVIL ENGINEER

October 30, 2015
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Efthymios Delis No. C51434 Exp. 6-30-17 CIVIL STATE OF CALIFORNIA

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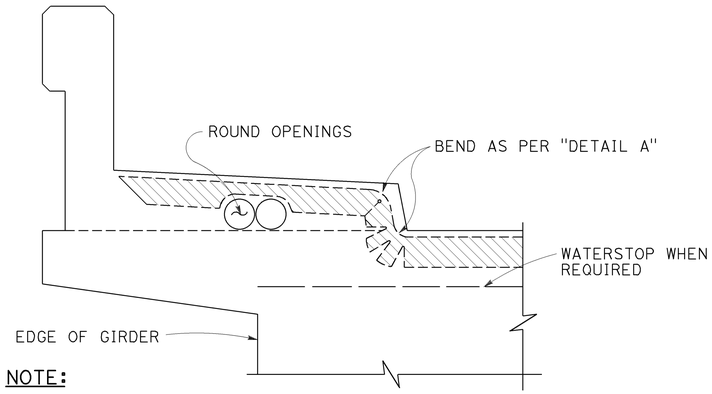
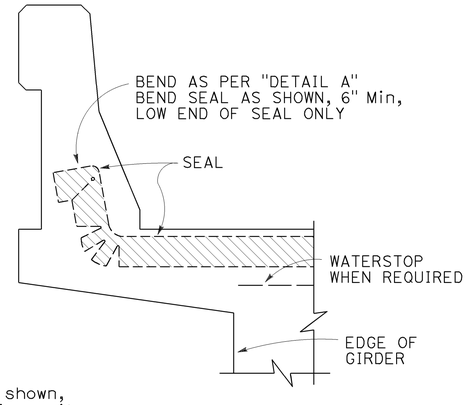
TO ACCOMPANY PLANS DATED 12-14-15



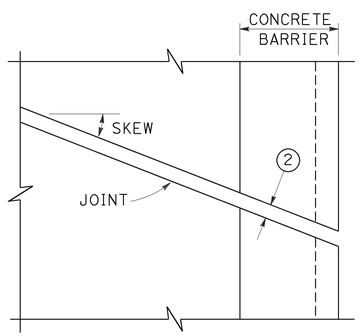
NOTE:
Type "B" seal shown. Type "A" seals to comform to the general path of seal shown, cuts for bending not required. Bend type "A" seals 3" up into curb or barrier rail on only the low end of the seal.

CONCRETE BARRIER AND SIDEWALK

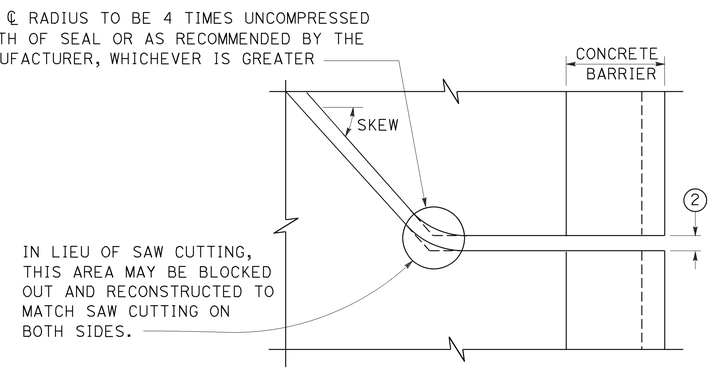


CONCRETE BARRIER

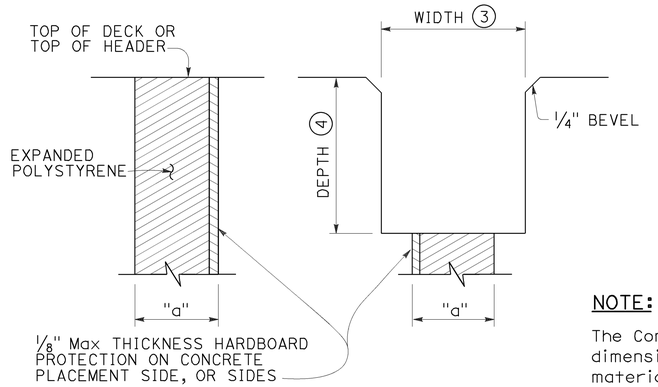
JOINT SEALS DETAILS



PLAN OF JOINT (SKEW ≤ 20°)

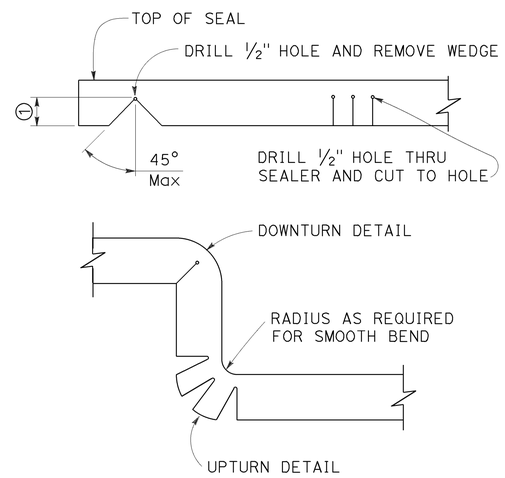


PLAN OF JOINT (SKEW > 20°)



FORMING DETAIL SAWCUT DETAIL

NOTE:
The Contractor shall verify all controlling field dimensions before ordering or fabricatiing any material.



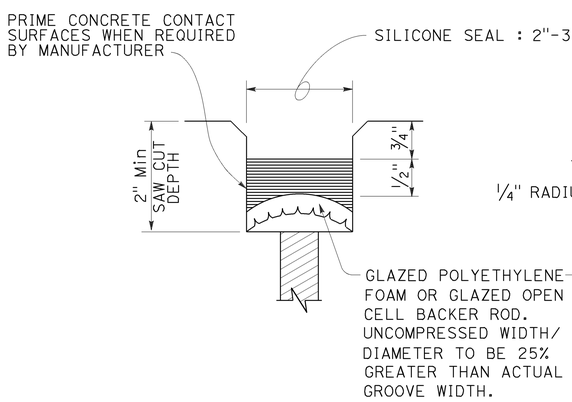
DETAIL A

NOTES:

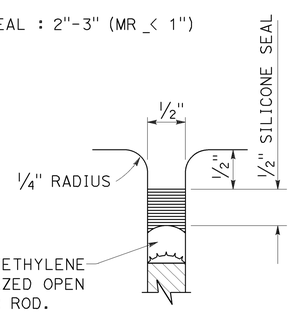
1. Make smooth cuts from the bottom of seal to 1½" clear of top leaving at least one complete cell between the top of the cut and top of the seal. When necessary cut back of seal to clear conduit and round openings.
2. Opening in barrier to match width of sawn deck joint.
3. Sawcut groove widths shall be as ordered by the Engineer.
4. Depth of sawcut: Type A - Depth to be 2" minimum.
   Type B - Depth to be equal to or greater than the depth of seal measured along the contact surface, when compressed to minimum width position (W_2) plus dimensions shown.
5. MR (movement rating) as shown on other plan sheets.
6. Other depths must be approved by the Engineer.
7. A sidewalk joint shall be covered by an expansion joint armor.

DIMENSIONS "a" OF JOINT REQUIRED

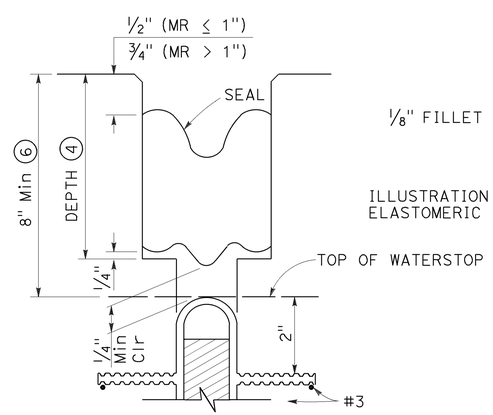
MOVEMENT RATING (MR) 5	BRIDGE TYPE	"a" DIMENSION DECK CONCRETE PLACED		
		WINTER	FALL-SPRING	SUMMER
2"	ALL EXCEPT CIP/PS	1½"	1¼"	¾"
	CIP/PS	1¼"	1"	½"
1½"	ALL EXCEPT CIP/PS	1¼"	1"	½"
	CIP/PS	1"	¾"	½"
1"	ALL EXCEPT CIP/PS	1"	¾"	½"
	CIP/PS	¾"	½"	½"
½"	ALL EXCEPT CIP/PS	¾"	¾"	½"
	CIP/PS	½"	½"	½"



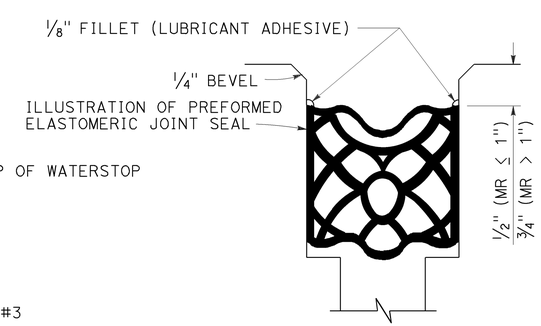
TYPE A SEAL
Movement rating : Silicone = 1" Max



TYPE AL SEAL
Longitudinal joints only



TYPE B JOINT SEAL
IN MINIMUM WIDTH POSITION (W_2)



TYPE B SEAL
Movement Rating ≤ 2"

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

JOINT SEALS (MAXIMUM MOVEMENT RATING = 2")

NO SCALE

RSP B6-21 DATED OCTOBER 30, 2015 SUPERSEDES STANDARD PLAN B6-21 DATED MAY 20, 2011 - PAGE 283 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP B6-21

2010 REVISED STANDARD PLAN RSP B6-21

8-18-15

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10,19,60, 91,164,605	Var	27	43

REGISTERED CIVIL ENGINEER — DATE 9-17-15

12-14-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — MAZIN S. IBRAHIM — No. C69896 — Exp. 09/30/16 — CIVIL — STATE OF CALIFORNIA

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

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SHEET NO.	TITLE
1	GENERAL PLAN NO. 1
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3	GENERAL PLAN NO. 3
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15	GENERAL PLAN NO. 15
16	MISCELLANEOUS DETAILS NO. 1
17	MISCELLANEOUS DETAILS NO. 2

STANDARD PLANS DATED 2010

SHEET NO.	TITLE
A10A	ABBREVIATIONS (SHEET 1 OF 2)
RSP A10B	ABBREVIATIONS (SHEET 2 OF 2)
A10C	LINES AND SYMBOLS (SHEET 1 OF 3)
A10D	LINES AND SYMBOLS (SHEET 2 OF 3)
A10E	LINES AND SYMBOLS (SHEET 3 OF 3)
RSP B6-21	JOINT SEALS (MAXIMUM MOVEMENT RATING = 2")

STANDARD PLAN SHEET NO.

DETAIL NO.

LEGEND:

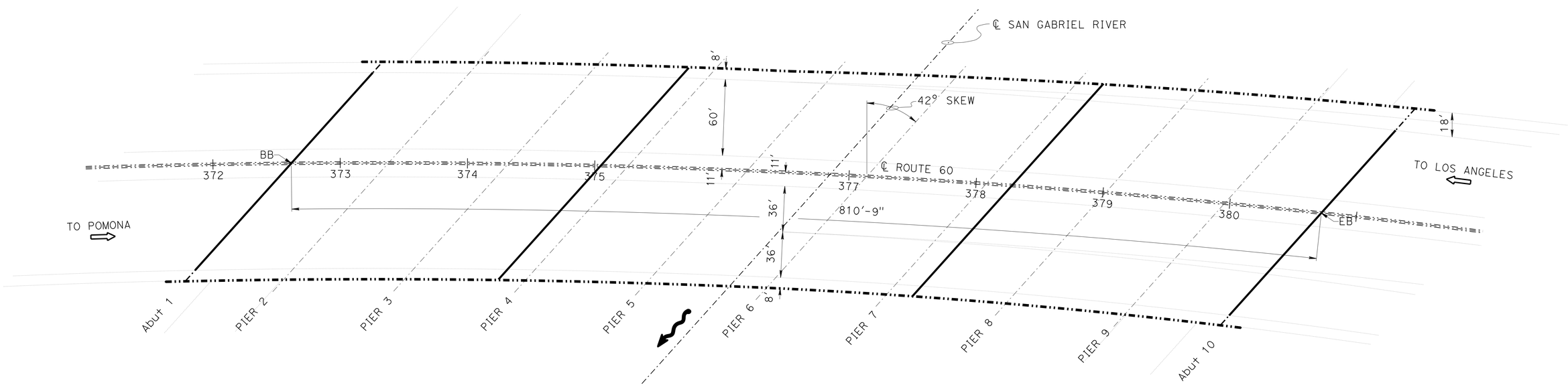
Indicates existing.

Indicates direction of traffic.

Indicates location of clean expansion joint and placement of new joint seal.

SAN GABRIEL RIVER #53-1767
QUANTITIES

CLEAN EXPANSION JOINT	865 LF
JOINT SEAL (MR 1/2")	865 LF



SAN GABRIEL RIVER

Br No. 53-1767, Rte 60, PM 11.30
Scale 1"=40'

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL. EXISTING UTILITIES FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.

TONY D. BRAKE
DESIGN ENGINEER

	BY	CHECKED			
DESIGN	Mazin Ibrahim	Ramesh Patel	LOAD FACTOR DESIGN	LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD	
DETAILS	Clayton Tom	Mazin Ibrahim	LAYOUT	Clayton Tom	Mazin Ibrahim
QUANTITIES	Mazin Ibrahim	Ramesh Patel	SPECIFICATIONS	Chen Xiaodong	Chen Xiaodong

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. Various
POST MILE Varies

ROUTES 10,19,60,91,164,605 BRIDGES
GENERAL PLAN NO. 1

STRUCTURES MAINTENANCE GENERAL PLAN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3489
PROJECT NUMBER & PHASE: 0715000028 1 CONTRACT NO.: 07-2W9604

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES: 05-06-15 08-06-15 09-03-15 09-17-15

SHEET 01 OF 17

FILE => 07-2w9601-a-gp01.dgn

USERNAME => s122436 DATE PLOTTED => 30-DEC-2015 TIME PLOTTED => 09:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10,19,60, 91,164,605	Var	28	43

REGISTERED CIVIL ENGINEER 9-17-15 DATE

12-14-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER MAZIN S. IBRAHIM No. C69896 Exp. 09/30/16 CIVIL STATE OF CALIFORNIA

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

LEGEND:

Indicates existing.

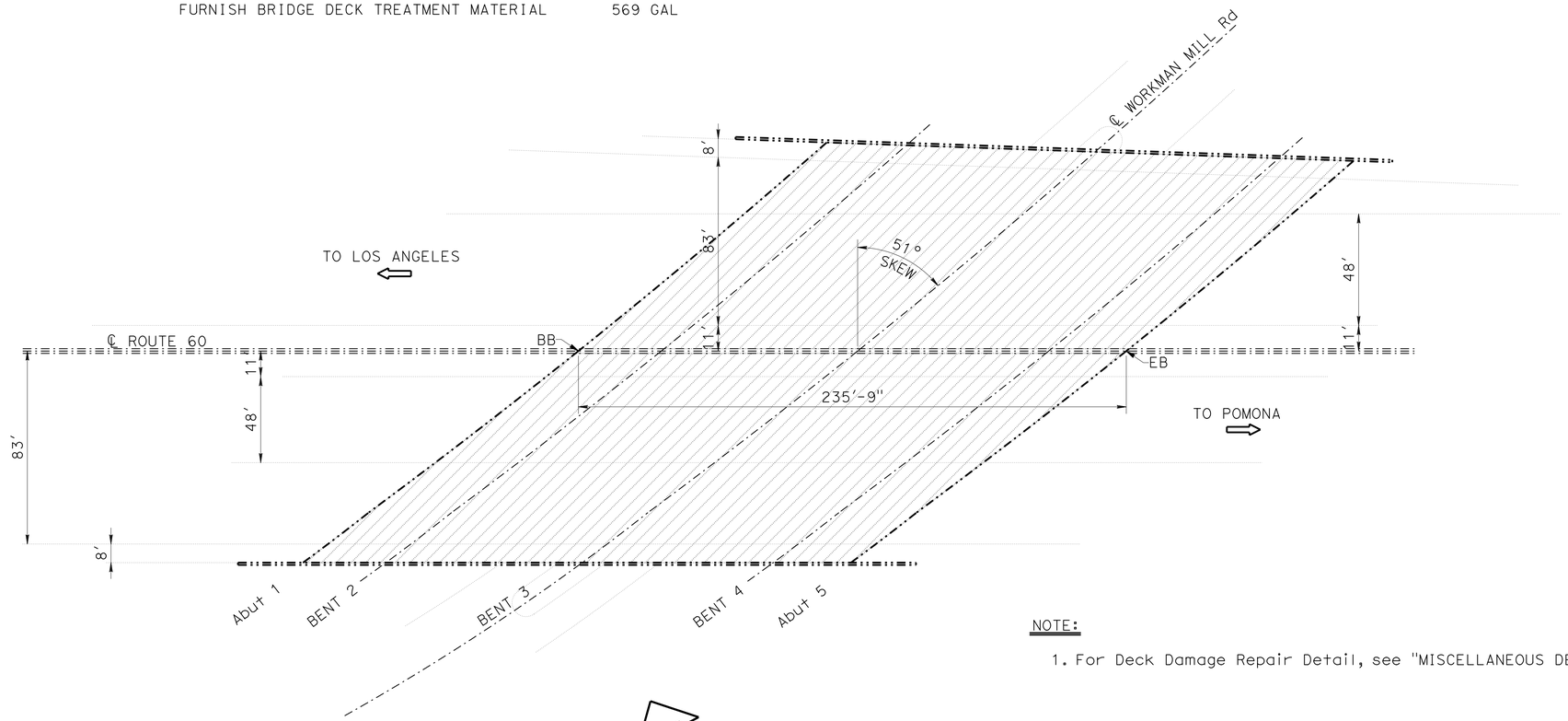
Indicates direction of traffic.

Indicates limits of prepare concrete bridge deck surface and treat existing bridge deck with high molecular weight methacrylate.

WORKMAN MILL ROAD UC #53-1768

QUANTITIES

PUBLIC SAFETY PLAN	LUMP SUM
PREPARE CONCRETE BRIDGE DECK SURFACE	45,500 SQFT
TREAT BRIDGE DECK	45,500 SQFT
FURNISH BRIDGE DECK TREATMENT MATERIAL	569 GAL



NOTE:

1. For Deck Damage Repair Detail, see "MISCELLANEOUS DETAILS NO. 2" sheet.

WORKMAN MILL ROAD UC

Br No. 53-1768, Rte 60, PM 11.98
1" = 30'

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL. EXISTING UTILITIES FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.

TONY D. BRAKE
DESIGN ENGINEER

	BY	CHECKED			
DESIGN	Mazin Ibrahim	Ramesh Patel	LOAD FACTOR DESIGN	LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD	
DETAILS	Clayton Tom	Mazin Ibrahim	LAYOUT	Clayton Tom	Mazin Ibrahim
QUANTITIES	Mazin Ibrahim	Ramesh Patel	SPECIFICATIONS	Chen Xiaodong	Chen Xiaodong

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. Various
POST MILE Varies

ROUTES 10,19,60,91,164,605 BRIDGES
GENERAL PLAN NO. 2

STRUCTURES MAINTENANCE GENERAL PLAN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3489
PROJECT NUMBER & PHASE: 0715000028 1 CONTRACT NO.: 07-2W9604

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES: 05-06-15 08-05-15 09-03-15 09-17-15

SHEET 02 OF 17

FILE => 07-2w9601-a-gp02.dgn

USERNAME => s122436 DATE PLOTTED => 30-DEC-2015 TIME PLOTTED => 09:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10,19,60, 91,164,605	Var	29	43

REGISTERED CIVIL ENGINEER 9-17-15 DATE

12-14-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER MAZIN S. IBRAHIM No. C69896 Exp. 09/30/16 CIVIL STATE OF CALIFORNIA

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

LEGEND:

Indicates existing.

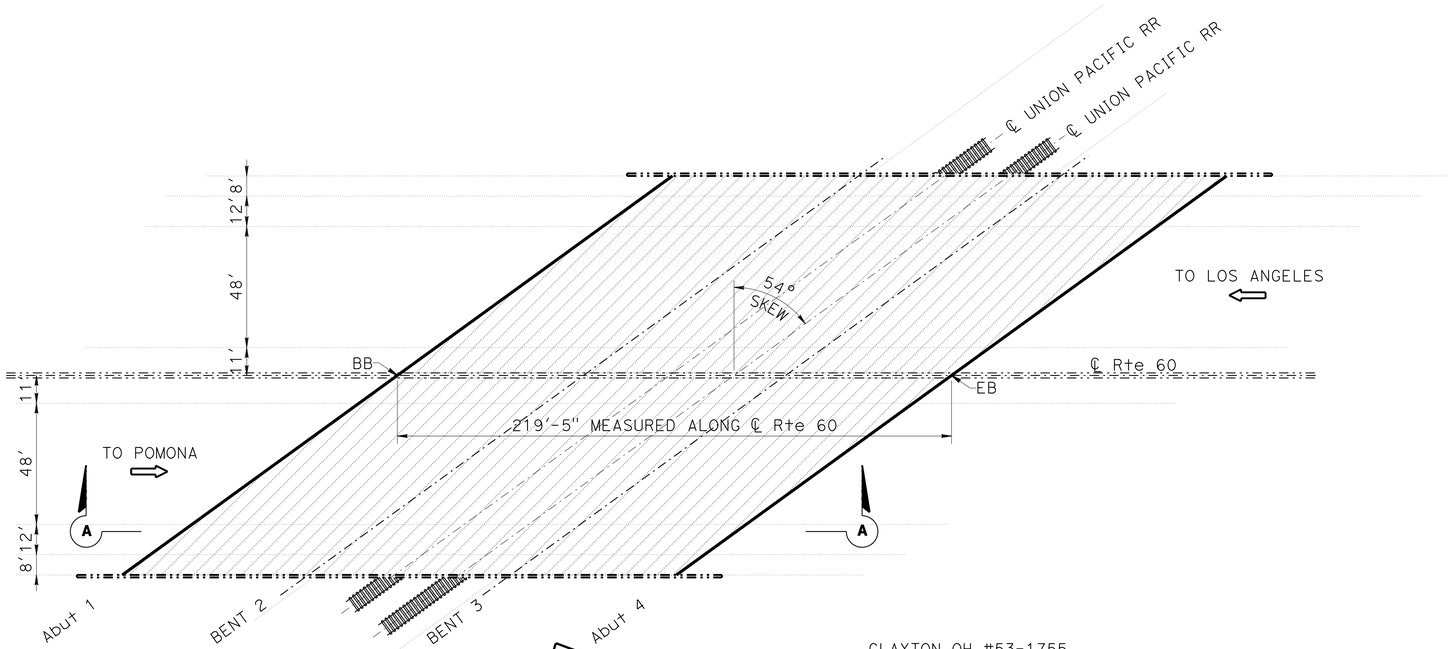
Indicates direction of traffic.

Indicates limits of prepare concrete bridge deck surface, and place ¾" min depth polyester concrete overlay. Prior to placing new polyester concrete overlay, remove unsound concrete and patch with rapid setting concrete patch. Polyester concretemust be placed in one lift.

Indicates location of clean expansion joint and placement of new joint seal.

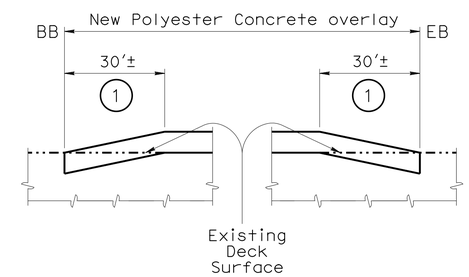
NOTE:

1. For deck repair detail-overlay, see "MISCELLANEOUS DETAILS NO. 2" sheet.



CLAYTON OH

Br No. 53-1755, Rte 60, PM 12.18
1" = 30'



SECTION A-A

No Scale

(1) Limits of remove concrete deck surface 0 inch min to ¾ inch maximum full width. Grind flush to conform with existing profile.

CLAYTON OH #53-1755
QUANTITIES

PUBLIC SAFETY PLAN	LUMP SUM
RAPID SETTING CONCRETE (PATCH)	87 CF
REMOVE UNSOUND CONCRETE	87 CF
PREPARE CONCRETE BRIDGE DECK SURFACE	34,700 SQFT
FURNISH POLYESTER CONCRETE OVERLAY	2,170 CF
PLACE POLYESTER CONCRETE OVERLAY	34,700 SQFT
GRIND EXISTING BRIDGE DECK	400 SQYD
CLEAN EXPANSION JOINT	538 LF
JOINT SEAL (MR 1")	538 LF

DECK REPAIR TABLE
REMOVE UNSOUND CONCRETE AND RAPID SETTING CONCRETE (PATCH)

BRIDGE NAME	BRIDGE NUMBER	APPROXIMATE AREA DAMAGED (%)	APPROXIMATE DEPTH (INCH)
Clayton OH	53-1755	1	3

NOTE:
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TONY D. BRAKE
DESIGN ENGINEER

	BY	CHECKED
DESIGN	Mazin Ibrahim	Ramesh Patel
DETAILS	Clayton Tom	Mazin Ibrahim
QUANTITIES	Mazin Ibrahim	Ramesh Patel

LOAD FACTOR DESIGN	LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD		
LAYOUT	Clayton Tom	Mazin Ibrahim	
SPECIFICATIONS	Chen Xiaodong	Chen Xiaodong	PLANS AND SPECS COMPARED

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. Various
POST MILE Various

ROUTES 10,19,60,91,164,605 BRIDGES
GENERAL PLAN NO. 3

STRUCTURES MAINTENANCE GENERAL PLAN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3489
PROJECT NUMBER & PHASE: 0715000028 1 CONTRACT NO.: 07-2W9604

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES: 05-06-15 08-05-15 09-03-15 09-17-15

SHEET 03 OF 17

FILE => 07-2w9601-a-gp03.dgn

USERNAME => s122436 DATE PLOTTED => 30-DEC-2015 TIME PLOTTED => 09:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10,19,60 91,164,605	Var	30	43

REGISTERED CIVIL ENGINEER 9-17-15 DATE

12-14-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER MAZIN S. IBRAHIM No. C69896 Exp. 09/30/16 CIVIL STATE OF CALIFORNIA

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

LEGEND:

Indicates existing.

Indicates direction of traffic.

Indicates limits of prepare concrete bridge deck surface and treat existing bridge deck with high molecular weight methacrylate.

Indicates removal of unsound concrete and place rapid setting concrete patch.

Indicates repair spalled surface area.

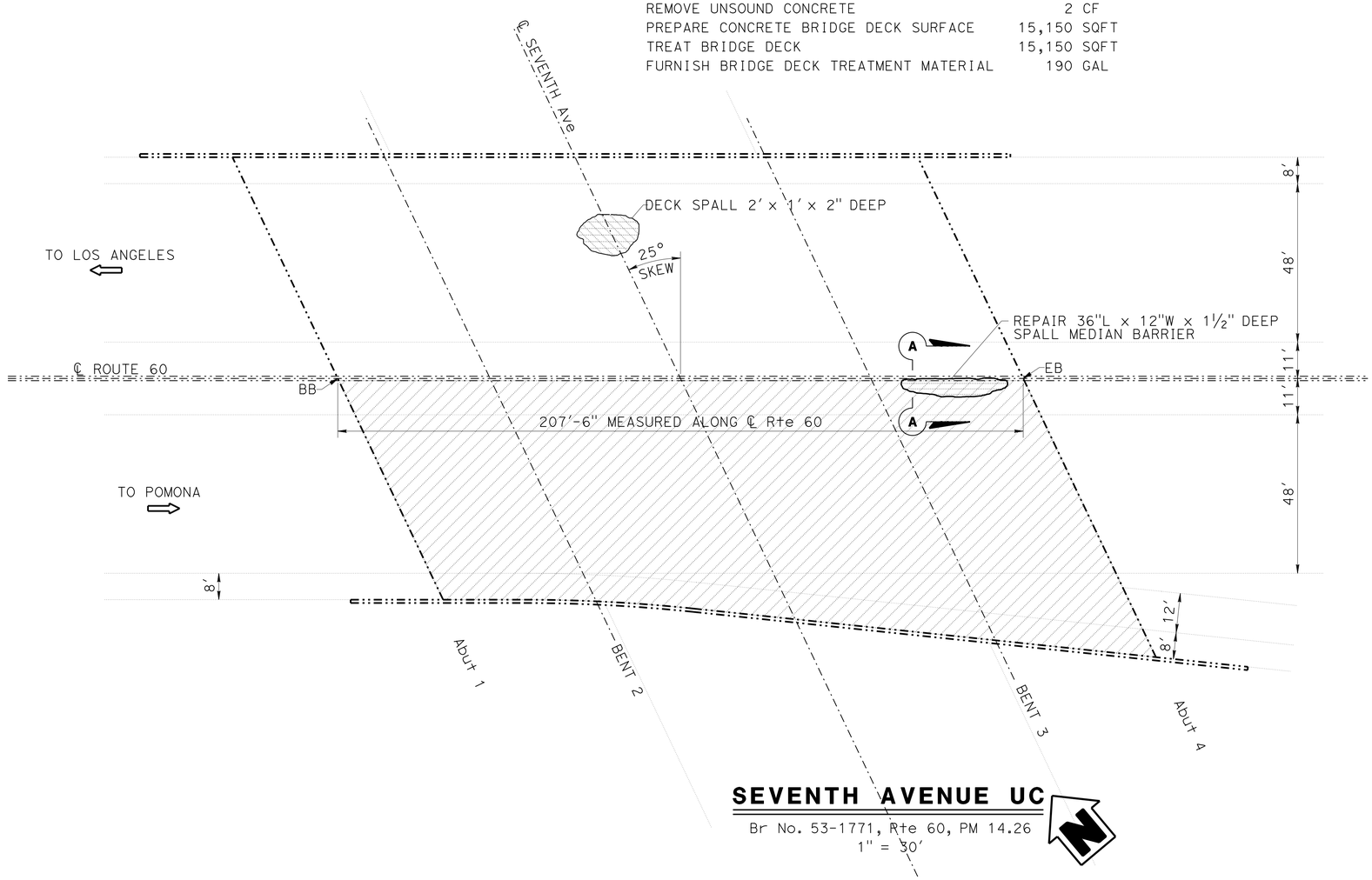
NOTE:

1. For deck damage repair detail, see "MISCELLANEOUS DETAILS NO. 2" sheet.

SEVENTH AVENUE UC #53-1771

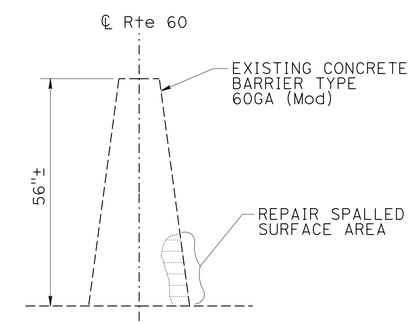
QUANTITIES

PUBLIC SAFETY PLAN	LUMP SUM
RAPID SETTING CONCRETE (PATCH)	2 CF
REPAIR SPALLED SURFACE AREA	3 SQFT
REMOVE UNSOUND CONCRETE	2 CF
PREPARE CONCRETE BRIDGE DECK SURFACE	15,150 SQFT
TREAT BRIDGE DECK	15,150 SQFT
FURNISH BRIDGE DECK TREATMENT MATERIAL	190 GAL



SEVENTH AVENUE UC

Br No. 53-1771, Rte 60, PM 14.26
1" = 30'



SECTION A-A

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL. EXISTING UTILITIES FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.

TONY D. BRAKE
DESIGN ENGINEER

	BY	CHECKED
DESIGN	Mazin Ibrahim	Ramesh Patel
DETAILS	Clayton Tom	Mazin Ibrahim
QUANTITIES	Mazin Ibrahim	Ramesh Patel

LOAD FACTOR DESIGN	LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD		
LAYOUT	BY Clayton Tom	CHECKED Mazin Ibrahim	
SPECIFICATIONS	BY Chen Xiaodong	PLANS AND SPECS COMPARED Chen Xiaodong	

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. Various
POST MILE Varies

ROUTES 10,19,60,91,164,605 BRIDGES
GENERAL PLAN NO. 4

STRUCTURES MAINTENANCE GENERAL PLAN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3489
PROJECT NUMBER & PHASE: 0715000028 1 CONTRACT NO.: 07-2W9604

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES: 05-06-15 08-05-15 09-03-15 09-17-15

SHEET 04 OF 17

FILE => 07-2w9601-a-gp04.dgn

USERNAME => s122436 DATE PLOTTED => 30-DEC-2015 TIME PLOTTED => 09:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10,19,60, 91,164,605	Var	31	43

REGISTERED CIVIL ENGINEER 9-17-15 DATE

12-14-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER MAZIN S. IBRAHIM No. C69896 Exp. 09/30/16 CIVIL STATE OF CALIFORNIA

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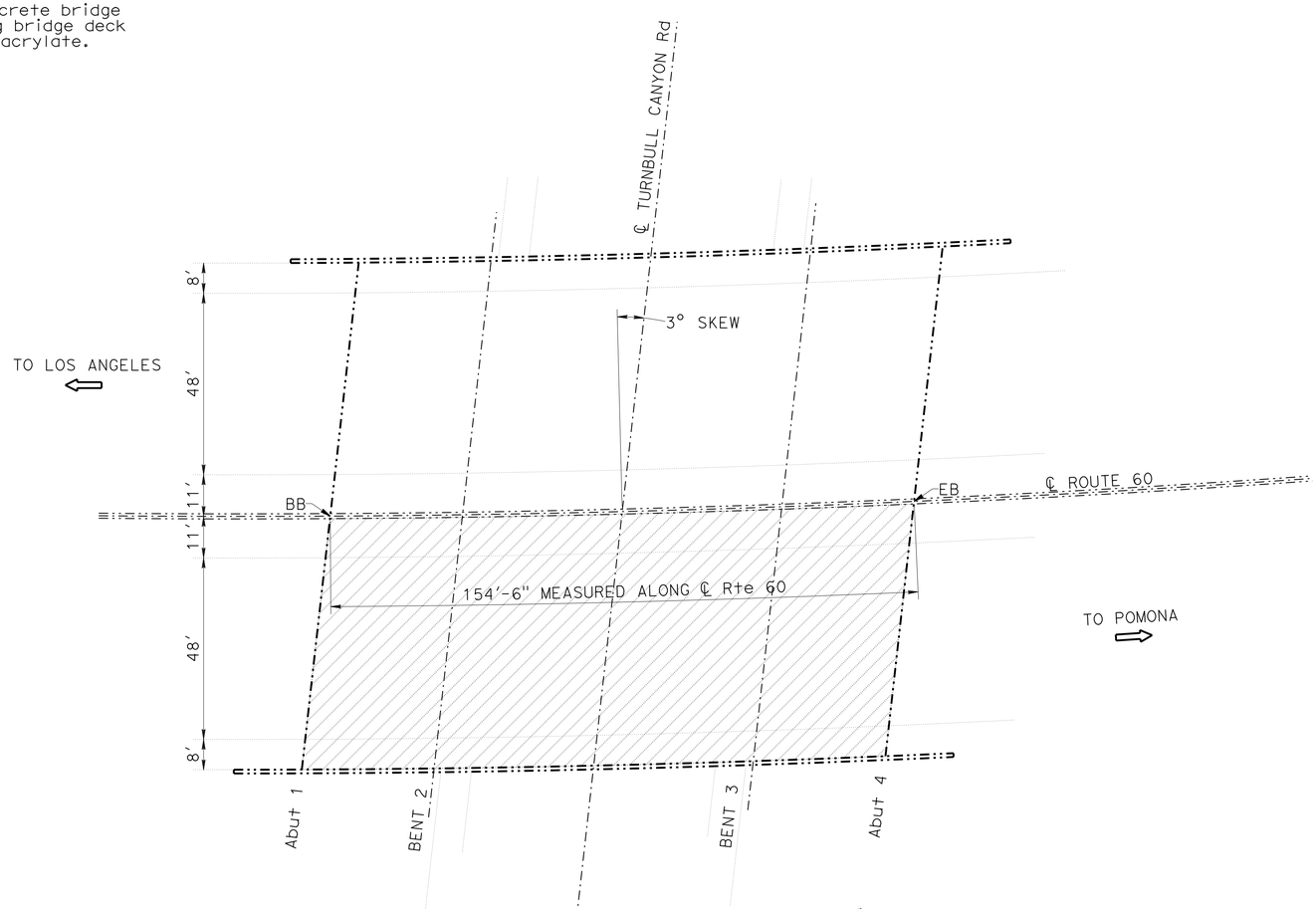
LEGEND:

Indicates existing.

Indicates direction of traffic.

Indicates limits of prepare concrete bridge deck surface and treat existing bridge deck with high molecular weight methacrylate.



TURNBULL CANYON ROAD UC

Br No. 53-1772, Rte 60, PM 15.09
1" = 30'

TURNBULL CANYON ROAD UC #53-1772
QUANTITIES

PUBLIC SAFETY PLAN	LUMP SUM
PREPARE CONCRETE BRIDGE DECK SURFACE	10,506 SQFT
TREAT BRIDGE DECK	10,506 SQFT
FURNISH BRIDGE DECK TREATMENT MATERIAL	131 GAL

NOTE:
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TONY D. BRAKE
DESIGN ENGINEER

	BY	CHECKED
DESIGN	Mazin Ibrahim	Ramesh Patel
DETAILS	Clayton Tom	Mazin Ibrahim
QUANTITIES	Mazin Ibrahim	Ramesh Patel

LOAD FACTOR DESIGN — LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD

	BY	CHECKED
LAYOUT	Clayton Tom	Mazin Ibrahim
SPECIFICATIONS	Chen Xiaodong	PLANS AND SPECS COMPARED: Chen Xiaodong

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. Various
POST MILE Varies

ROUTES 10,19,60,91,164,605 BRIDGES
GENERAL PLAN NO. 5

STRUCTURES MAINTENANCE GENERAL PLAN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3489
PROJECT NUMBER & PHASE: 0715000028 1 CONTRACT NO.: 07-2W9604

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES: 05-06-15 08-05-15 09-03-15 09-17-15

SHEET 05 OF 17

FILE => 07-2w9601-a-gp05.dgn

USERNAME => s122436 DATE PLOTTED => 30-DEC-2015 TIME PLOTTED => 03:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10,19,60, 91,164,605	Var	32	43

REGISTERED CIVIL ENGINEER 9-17-15 DATE

12-14-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER MAZIN S. IBRAHIM No. C69896 Exp. 09/30/16 CIVIL STATE OF CALIFORNIA

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LEGEND:

Indicates existing.

Indicates direction of traffic.

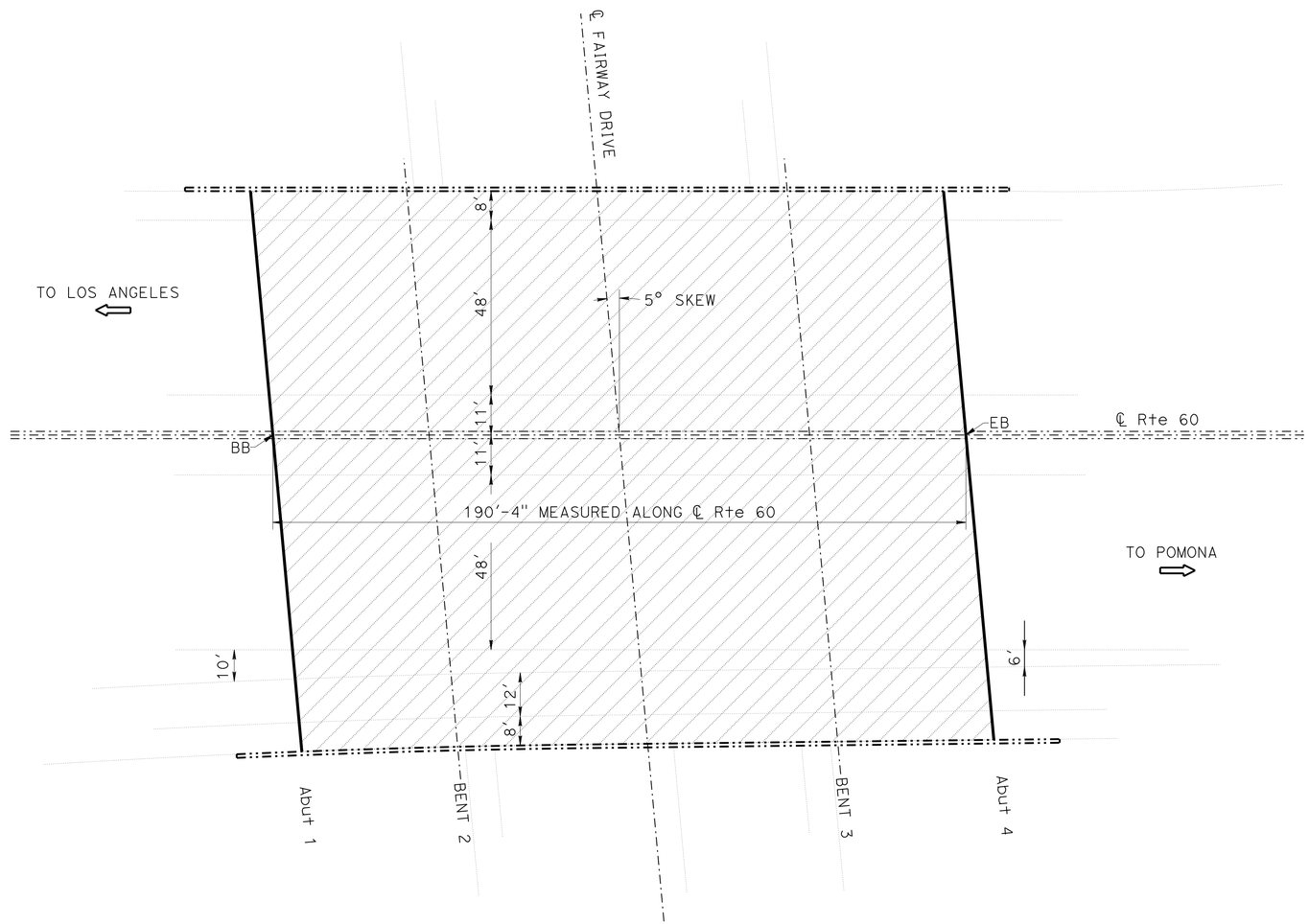
Indicates limits of prepare concrete bridge deck surface and treat existing bridge deck with high molecular weight methacrylate.

Indicates location of clean expansion joint and placement of new joint seal.

FAIRWAY DRIVE UC #53-1788

QUANTITIES

PUBLIC SAFETY PLAN	LUMP SUM
PREPARE CONCRETE BRIDGE DECK SURFACE	29,300 SQFT
TREAT BRIDGE DECK	29,300 SQFT
FURNISH BRIDGE DECK TREATMENT MATERIAL	367 GAL
CLEAN EXPANSION JOINT	312 LF
JOINT SEAL (MR ½")	312 LF



FAIRWAY DRIVE UC

Br No. 53-1788, Rte 60, PM R21.48
1" = 20'

NOTE:
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TONY D. BRAKE
DESIGN ENGINEER

	BY	CHECKED
DESIGN	Mazin Ibrahim	Ramesh Patel
DETAILS	Clayton Tom	Mazin Ibrahim
QUANTITIES	Mazin Ibrahim	Ramesh Patel

LOAD FACTOR DESIGN — LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD

	BY	CHECKED
LAYOUT	Clayton Tom	Mazin Ibrahim
SPECIFICATIONS	Chen Xiaodong	PLANS AND SPECS COMPARED Chen Xiaodong

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. Various
POST MILE Varies

ROUTES 10,19,60,91,164,605 BRIDGES
GENERAL PLAN NO. 6

STRUCTURES MAINTENANCE GENERAL PLAN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3489
PROJECT NUMBER & PHASE: 0715000028 1 CONTRACT NO.: 07-2W9604

DISREGARD PRINTS BEARING EARLIER REVISION DATES → REVISION DATES 05-06-15 08-05-15 09-03-15 09-17-15 SHEET 06 OF 17

FILE => 07-2w9601-a-gp06.dgn

USERNAME => s122436 DATE PLOTTED => 30-DEC-2015 TIME PLOTTED => 09:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10,19,60, 91,164,605	Var	33	43

REGISTERED CIVIL ENGINEER — DATE 9-17-15

12-14-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — MAZIN S. IBRAHIM — No. C69896 — Exp. 09/30/16 — CIVIL — STATE OF CALIFORNIA

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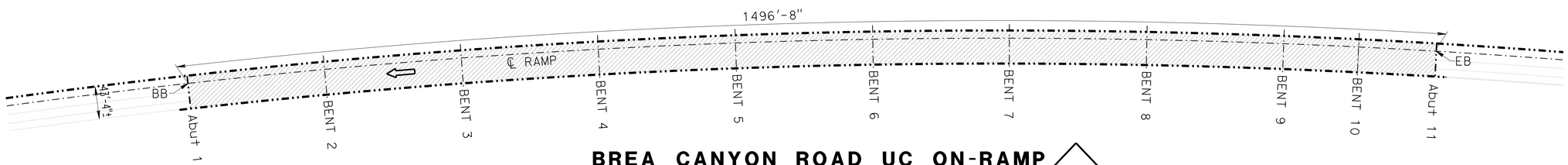
LEGEND:

Indicates existing.

Indicates direction of traffic.

Indicates limits of prepare concrete bridge deck surface and treat existing bridge deck with high molecular weight methacrylate.



BREA CANYON ROAD UC ON-RAMP

Br No. 53-2917, Rte 60, PM R22.97
No Scale

BREA CANYON ROAD UC ON-RAMP #53-2917
QUANTITIES

PUBLIC SAFETY PLAN	LUMP SUM
PREPARE CONCRETE BRIDGE DECK SURFACE	69,250 SQFT
TREAT BRIDGE DECK	69,250 SQFT
FURNISH BRIDGE DECK TREATMENT MATERIAL	866 GAL

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL. EXISTING UTILITIES FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.

TONY D. BRAKE
DESIGN ENGINEER

	BY	CHECKED
DESIGN	Mazin Ibrahim	Ramesh Patel
DETAILS	Clayton Tom	Mazin Ibrahim
QUANTITIES	Mazin Ibrahim	Ramesh Patel

LOAD FACTOR DESIGN	LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD		
LAYOUT	BY Clayton Tom	CHECKED Mazin Ibrahim	
SPECIFICATIONS	BY Chen Xiaodong	PLANS AND SPECS COMPARED Chen Xiaodong	

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. Various
POST MILE Varies

ROUTES 10,19,60,91,164,605 BRIDGES
GENERAL PLAN NO. 7

STRUCTURES MAINTENANCE GENERAL PLAN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3489
PROJECT NUMBER & PHASE: 0715000028 1 CONTRACT NO.: 07-2W9604

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES: 05-06-15 08-05-15 09-03-15 09-17-15

SHEET 07 OF 17

FILE => 07-2w9601-a-gp07.dgn

USERNAME => s122436 DATE PLOTTED => 30-DEC-2015 TIME PLOTTED => 03:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10,19,60, 91,164,605	Var	34	43

REGISTERED CIVIL ENGINEER — DATE 9-17-15

12-14-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — MAZIN S. IBRAHIM — No. C69896 — Exp. 09/30/16 — CIVIL — STATE OF CALIFORNIA

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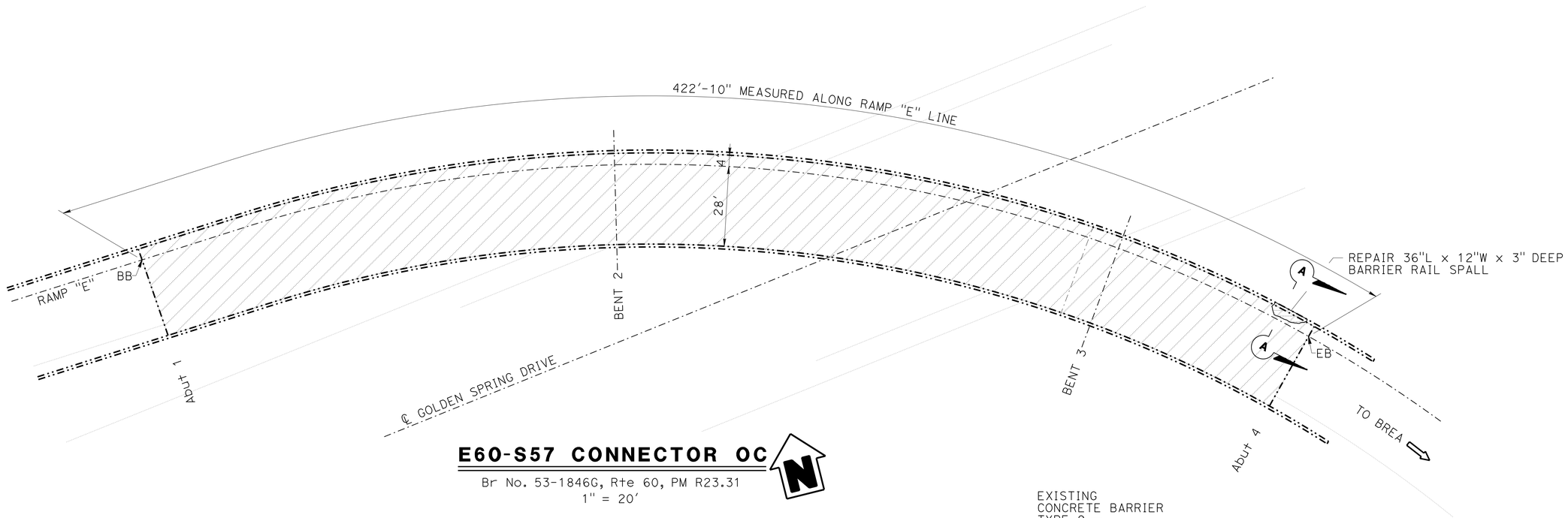
LEGEND:

Indicates existing.

Indicates direction of traffic.

Indicates limits of prepare concrete bridge deck surface and treat existing bridge deck with high molecular weight methacrylate.

Indicates repair spalled surface area.

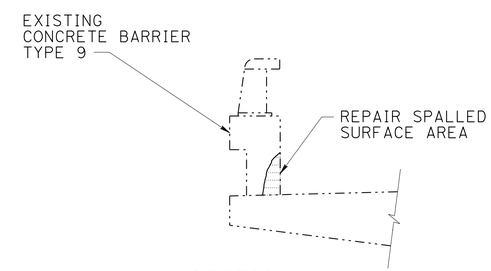


E60-S57 CONNECTOR OC

Br No. 53-1846G, Rte 60, PM R23.31
1" = 20'

E60-S57 CONNECTOR OC #53-1846G
QUANTITIES

PUBLIC SAFETY PLAN	LUMP SUM
REPAIR SPALLED SURFACE AREA	3 SQFT
PREPARE CONCRETE BRIDGE DECK SURFACE	13,550 SQFT
TREAT BRIDGE DECK	13,550 SQFT
FURNISH BRIDGE DECK TREATMENT MATERIAL	170 GAL



SECTION A-A

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL. EXISTING UTILITIES FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.

TONY D. BRAKE
DESIGN ENGINEER

	BY	CHECKED
DESIGN	Mazin Ibrahim	Ramesh Patel
DETAILS	Clayton Tom	Mazin Ibrahim
QUANTITIES	Mazin Ibrahim	Ramesh Patel

LOAD FACTOR DESIGN — LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD

	BY	CHECKED
LAYOUT	Clayton Tom	Mazin Ibrahim
SPECIFICATIONS	Chen Xiaodong	PLANS AND SPECS COMPARED: Chen Xiaodong

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. Various
POST MILE Varies

ROUTES 10,19,60,91,164,605 BRIDGES
GENERAL PLAN NO. 8

STRUCTURES MAINTENANCE GENERAL PLAN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3489
PROJECT NUMBER & PHASE: 0715000028 1 CONTRACT NO.: 07-2W9604

DISREGARD PRINTS BEARING EARLIER REVISION DATES
REVISION DATES: 05-06-15 08-05-15 09-03-15 09-17-15

SHEET 08 OF 17

FILE => 07-2w9601-a-gp08.dgn

USERNAME => s122436 DATE PLOTTED => 30-DEC-2015 TIME PLOTTED => 09:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10,19,60, 91,164,605	Var	35	43

REGISTERED CIVIL ENGINEER 9-17-15 DATE

12-14-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER MAZIN S. IBRAHIM No. C69896 Exp. 09/30/16 CIVIL STATE OF CALIFORNIA

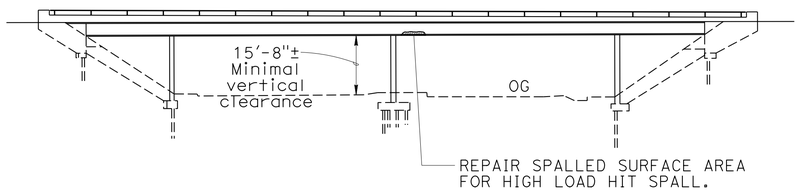
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

LEGEND:

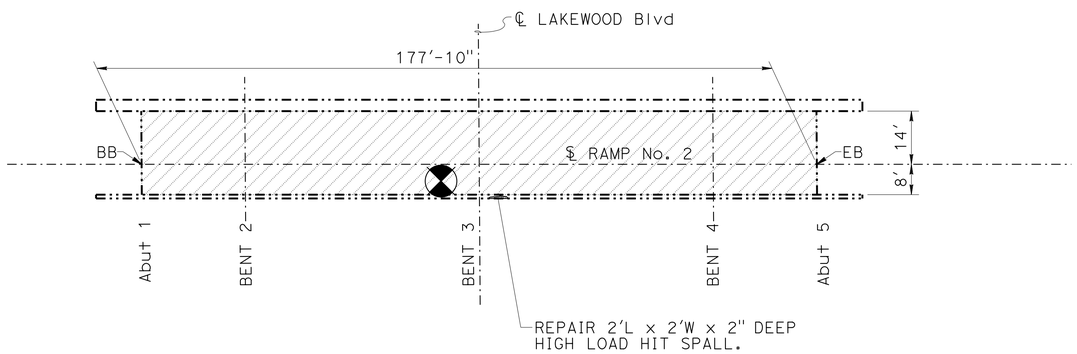
- Indicates existing.
- Indicates direction of traffic.
- Indicates limits of prepare concrete bridge deck surface and treat existing bridge deck with high molecular weight methacrylate.
- Indicates repair spalled surface area.
- Minimal vertical clearance.

NOTE:

1. For spalled surface area detail, see "MISCELLANEOUS DETAILS NO.2" sheet.



ELEVATION



PLAN

N19-W91 CONNECTOR OC

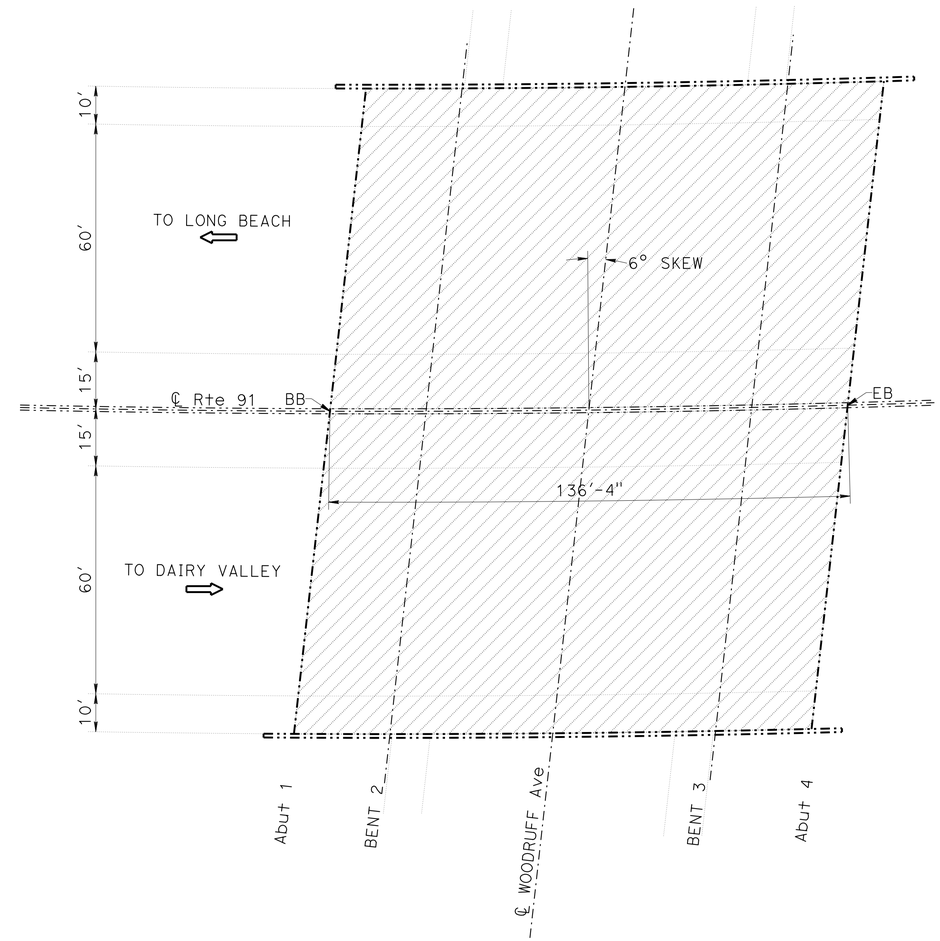
Br No. 53-1760G, Rte 19, PM 6.07
1" = 30'

N19-W91 CONNECTOR OC #53-1760G
QUANTITIES

PUBLIC SAFETY PLAN	LUMP SUM
REPAIR SPALLED SURFACE AREA	4 SQFT
PREPARE CONCRETE BRIDGE DECK SURFACE	3,920 SQFT
TREAT BRIDGE DECK	3,920 SQFT
FURNISH BRIDGE DECK TREATMENT MATERIAL	49 GAL

WOODRUFF AVENUE UC #53-1720
QUANTITIES

PUBLIC SAFETY PLAN	LUMP SUM
PREPARE CONCRETE BRIDGE DECK SURFACE	23,200 SQFT
TREAT BRIDGE DECK	23,200 SQFT
FURNISH BRIDGE DECK TREATMENT MATERIAL	290 GAL



WOODRUFF AVENUE UC

Br No. 53-1720, Rte 91, PM R16.07
1" = 30'

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL. EXISTING UTILITIES FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.

TONY D. BRAKE
DESIGN ENGINEER

	BY	CHECKED
DESIGN	Mazin Ibrahim	Ramesh Patel
DETAILS	Clayton Tom	Mazin Ibrahim
QUANTITIES	Mazin Ibrahim	Ramesh Patel

LOAD FACTOR DESIGN	LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD	
LAYOUT	BY Clayton Tom	CHECKED Mazin Ibrahim
SPECIFICATIONS	BY Chen Xiaodong	PLANS AND SPECS COMPARED Chen Xiaodong

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. Various
POST MILE Varies

ROUTES 10,19,60,91,164,605 BRIDGES
GENERAL PLAN NO. 9

STRUCTURES MAINTENANCE GENERAL PLAN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3489
PROJECT NUMBER & PHASE: 0715000028 1 CONTRACT NO.: 07-2W9604

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES: 05-06-15 08-06-15 09-03-15 09-17-15

SHEET 09 OF 17

FILE => 07-2w9601-a-gp09.dgn

USERNAME => s122236 DATE PLOTTED => 30-DEC-2015 TIME PLOTTED => 09:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10,19,60, 91,164,605	Var	36	43

REGISTERED CIVIL ENGINEER 9-17-15 DATE

12-14-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER MAZIN S. IBRAHIM No. C69896 Exp. 09/30/16 CIVIL STATE OF CALIFORNIA

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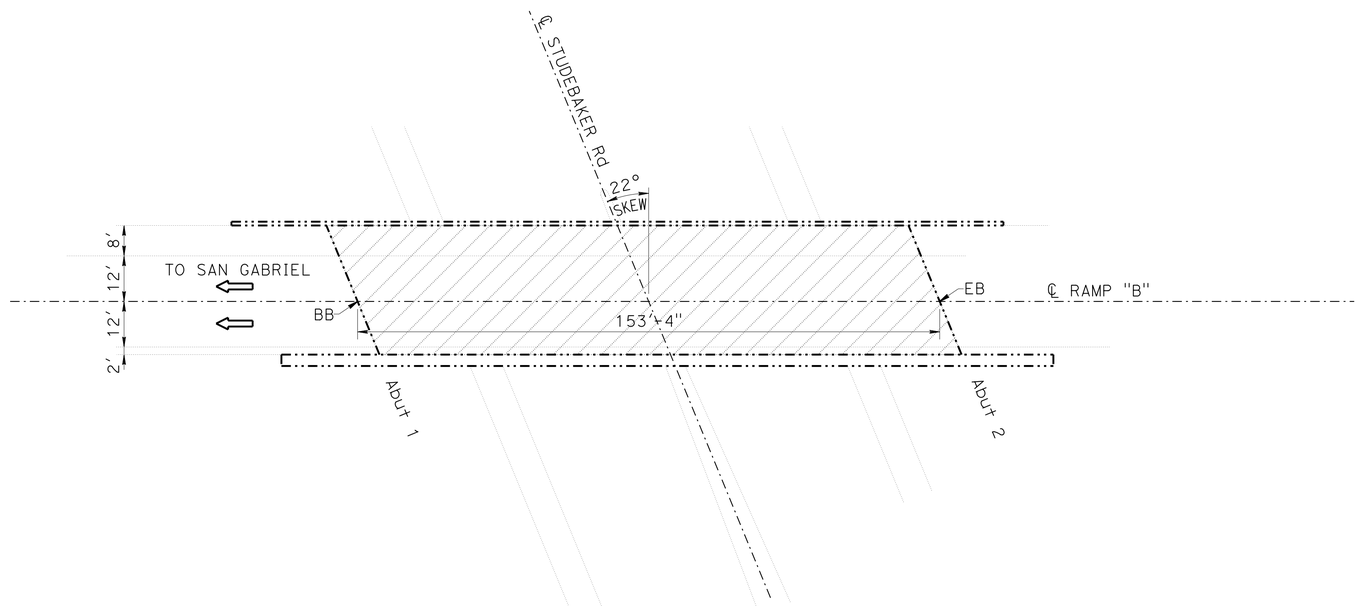
LEGEND:

Indicates existing.

Indicates direction of traffic.

Indicates limits of prepare concrete bridge deck surface and treat existing bridge deck with high molecular weight methacrylate.



W91-N&S 605 CONNECTOR OC

Br No. 53-1707F, Rte 91, PM R17.09
1" = 20'

W91-N&S 605 CONNECTOR OC #53-1707F
QUANTITIES

PUBLIC SAFETY PLAN	LUMP SUM
PREPARE CONCRETE BRIDGE DECK SURFACE	5,220 SQFT
TREAT BRIDGE DECK	5,220 SQFT
FURNISH BRIDGE DECK TREATMENT MATERIAL	65 GAL

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL. EXISTING UTILITIES FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.

TONY D. BRAKE
DESIGN ENGINEER

	BY	CHECKED
DESIGN	Mazin Ibrahim	Ramesh Patel
DETAILS	Clayton Tom	Mazin Ibrahim
QUANTITIES	Mazin Ibrahim	Ramesh Patel

LOAD FACTOR DESIGN	LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD		
LAYOUT	BY Clayton Tom	CHECKED Mazin Ibrahim	
SPECIFICATIONS	BY Chen Xiaodong	PLANS AND SPECS COMPARED Chen Xiaodong	

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. Various
POST MILE Varies

ROUTES 10,19,60,91,164,605 BRIDGES
GENERAL PLAN NO. 10

STRUCTURES MAINTENANCE GENERAL PLAN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3489
PROJECT NUMBER & PHASE: 0715000028 1 CONTRACT NO.: 07-2W9604

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES 05-06-15 08-05-15 09-03-15 09-17-15

SHEET 10 OF 17

FILE => 07-2w9601-a-gp10.dgn

USERNAME => s122436 DATE PLOTTED => 30-DEC-2015 TIME PLOTTED => 09:59

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10,19,60, 91,164,605	Var	37	43

REGISTERED CIVIL ENGINEER 9-17-15 DATE

12-14-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER MAZIN S. IBRAHIM No. C69896 Exp. 09/30/16 CIVIL STATE OF CALIFORNIA

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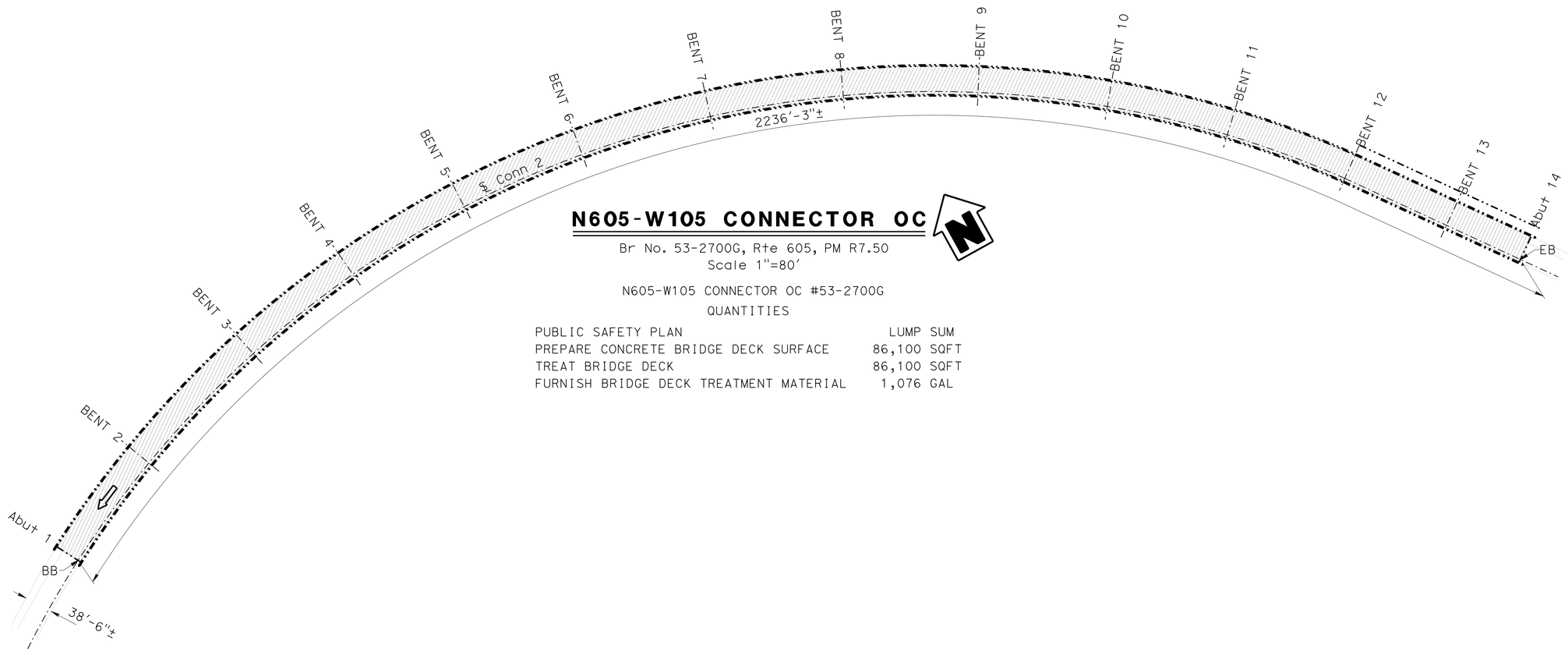
LEGEND:

Indicates existing.

Indicates direction of traffic.

Indicates limits of prepare concrete bridge deck surface and treat existing bridge deck with high molecular weight methacrylate.



N605-W105 CONNECTOR OC

Br No. 53-2700G, Rte 605, PM R7.50
Scale 1"=80'

N605-W105 CONNECTOR OC #53-2700G
QUANTITIES

PUBLIC SAFETY PLAN	LUMP SUM
PREPARE CONCRETE BRIDGE DECK SURFACE	86,100 SQFT
TREAT BRIDGE DECK	86,100 SQFT
FURNISH BRIDGE DECK TREATMENT MATERIAL	1,076 GAL

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL. EXISTING UTILITIES FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.

TONY D. BRAKE
DESIGN ENGINEER

	BY	CHECKED
DESIGN	Mazin Ibrahim	Ramesh Patel
DETAILS	Clayton Tom	Mazin Ibrahim
QUANTITIES	Mazin Ibrahim	Ramesh Patel

LOAD FACTOR DESIGN — LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD

	BY	CHECKED
LAYOUT	Clayton Tom	Mazin Ibrahim
SPECIFICATIONS	Chen Xiaodong	PLANS AND SPECS COMPARED: Chen Xiaodong

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. Various
POST MILE Varies

ROUTES 10,19,60,91,164,605 BRIDGES
GENERAL PLAN NO. 11

STRUCTURES MAINTENANCE GENERAL PLAN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3489
PROJECT NUMBER & PHASE: 0715000028 1 CONTRACT NO.: 07-2W9604

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES: 05-06-15 08-05-15 09-03-15 09-17-15

SHEET 11 OF 17

FILE => 07-2w9601-a-gp11.dgn

USERNAME => s122436 DATE PLOTTED => 30-DEC-2015 TIME PLOTTED => 09:53

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10,19,60, 91,164,605	Var	38	43

REGISTERED CIVIL ENGINEER 9-17-15 DATE

12-14-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER MAZIN S. IBRAHIM No. C69896 Exp. 09/30/16 CIVIL STATE OF CALIFORNIA

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LEGEND:

Indicates existing.

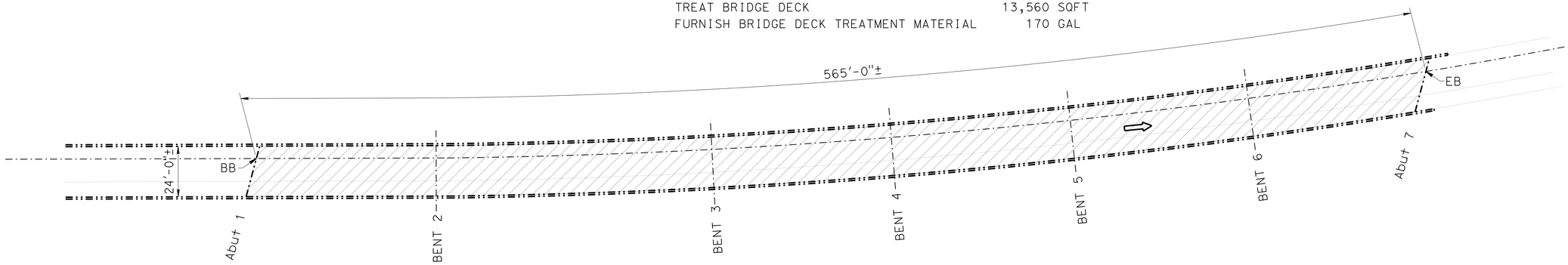
Indicates direction of traffic.

Indicates limits of prepare concrete bridge deck surface and treat existing bridge deck with high molecular weight methacrylate.

N605 FIRESTONE/IMPERIAL #53-1651T

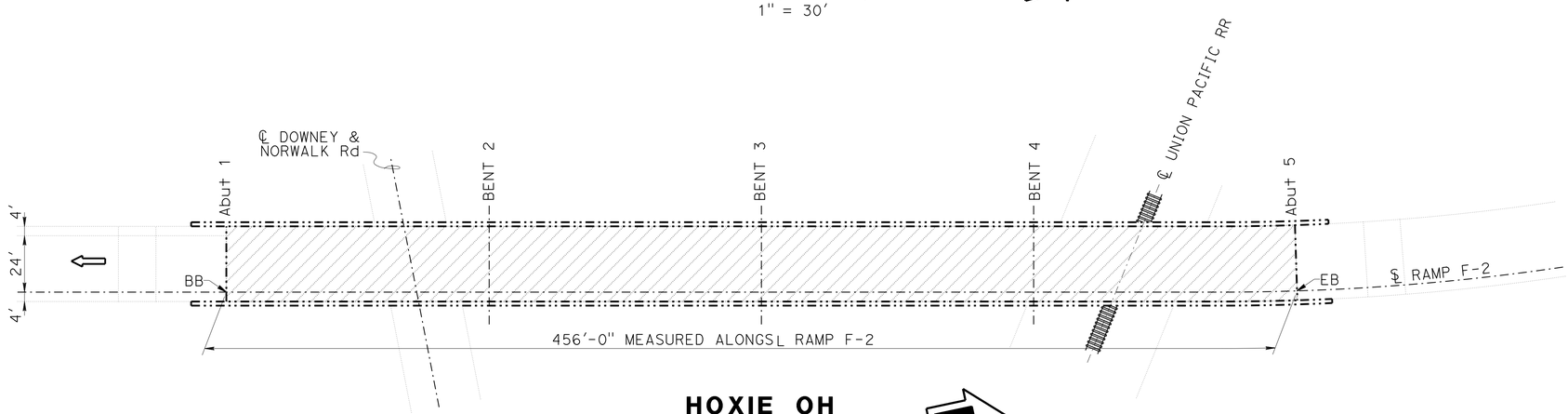
QUANTITIES

PUBLIC SAFETY PLAN	LUMP SUM
PREPARE CONCRETE BRIDGE DECK SURFACE	13,560 SQFT
TREAT BRIDGE DECK	13,560 SQFT
FURNISH BRIDGE DECK TREATMENT MATERIAL	170 GAL



N605-FIRESTONE/IMPERIAL

Br No. 53-1651T, Rte 605, PM R7.84
1" = 30'



HOXIE OH

Br No. 53-1652K, Rte 605, PM R8.23
1" = 30'

HOXIE OH #53-1652K

QUANTITIES

PUBLIC SAFETY PLAN	LUMP SUM
PREPARE CONCRETE BRIDGE DECK SURFACE	14,600 SQFT
TREAT BRIDGE DECK	14,600 SQFT
FURNISH BRIDGE DECK TREATMENT MATERIAL	183 GAL

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL. EXISTING UTILITIES FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.

TONY D. BRAKE
DESIGN ENGINEER

	BY	CHECKED
DESIGN	Mazin Ibrahim	Ramesh Patel
DETAILS	Clayton Tom	Mazin Ibrahim
QUANTITIES	Mazin Ibrahim	Ramesh Patel

LOAD FACTOR DESIGN	LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD		
LAYOUT	BY Clayton Tom	CHECKED Mazin Ibrahim	
SPECIFICATIONS	BY Chen Xiaodong	PLANS AND SPECS COMPARED Chen Xiaodong	

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. Various
POST MILE Varies

ROUTES 10,19,60,91,164,605 BRIDGES
GENERAL PLAN NO. 12

STRUCTURES MAINTENANCE GENERAL PLAN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3489
PROJECT NUMBER & PHASE: 0715000028 1 CONTRACT NO.: 07-2W9604

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES 05-06-15 08-05-15 09-03-15 09-17-15

SHEET 12 OF 17

FILE => 07-2w9601-a-gp12.dgn

USERNAME => s122436 DATE PLOTTED => 30-DEC-2015 TIME PLOTTED => 10:00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10,19,60, 91,164,605	Var	39	43

REGISTERED CIVIL ENGINEER 9-17-15 DATE

12-14-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER MAZIN S. IBRAHIM No. C69896 Exp. 09/30/16 CIVIL STATE OF CALIFORNIA

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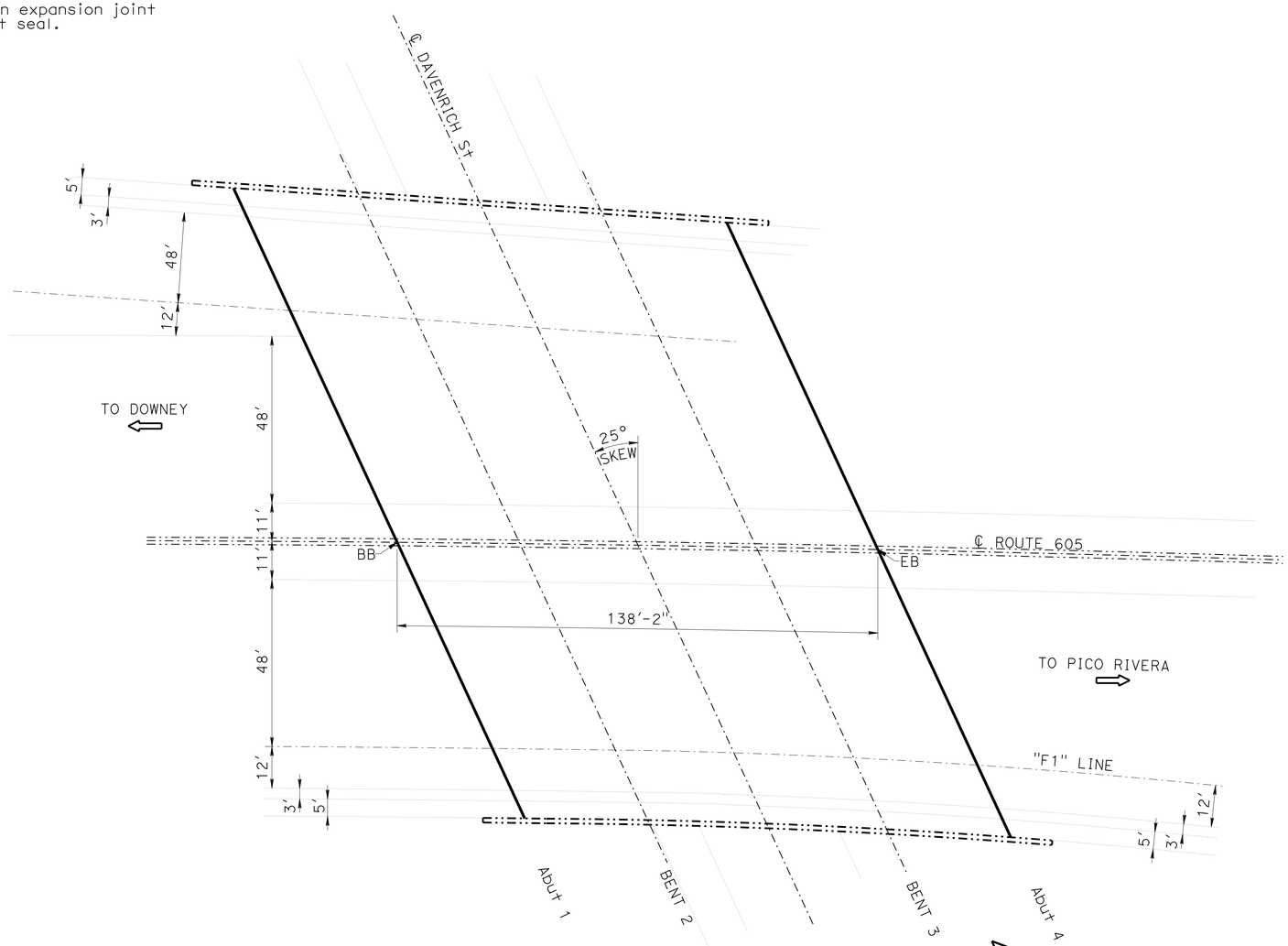
LEGEND:

Indicates existing.

Indicates direction of traffic.

Indicates location of clean expansion joint and placement of new joint seal.



DAVENRICH STREET UC

Br No. 53-1661, Rte 605, PM R9.94
1" = 20'

DAVENRICH STREET UC #53-1661

QUANTITIES

CLEAN EXPANSION JOINT	454 LF
JOINT SEAL (MR ½")	454 LF

NOTE:
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TONY D. BRAKE
DESIGN ENGINEER

	BY	CHECKED
DESIGN	Mazin Ibrahim	Ramesh Patel
DETAILS	Clayton Tom	Mazin Ibrahim
QUANTITIES	Mazin Ibrahim	Ramesh Patel

LOAD FACTOR DESIGN	LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD		
LAYOUT	BY Clayton Tom	CHECKED Mazin Ibrahim	
SPECIFICATIONS	BY Chen Xiaodong	PLANS AND SPECS COMPARED Chen Xiaodong	

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. Various
POST MILE Varies

ROUTES 10,19,60,91,164,605 BRIDGES
GENERAL PLAN NO. 13

STRUCTURES MAINTENANCE GENERAL PLAN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3489
PROJECT NUMBER & PHASE: 0715000028 1 CONTRACT NO.: 07-2W9604

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES: 05-06-15 08-06-15 09-03-15 09-17-15

SHEET 13 OF 17

FILE => 07-2w9601-a-gp13.dgn

USERNAME => s122236 DATE PLOTTED => 30-DEC-2015 TIME PLOTTED => 10:00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10,19,60, 91,164,605	Var	40	43

REGISTERED CIVIL ENGINEER — DATE 9-17-15

12-14-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — MAZIN S. IBRAHIM — No. C69896 — Exp. 09/30/16 — CIVIL — STATE OF CALIFORNIA

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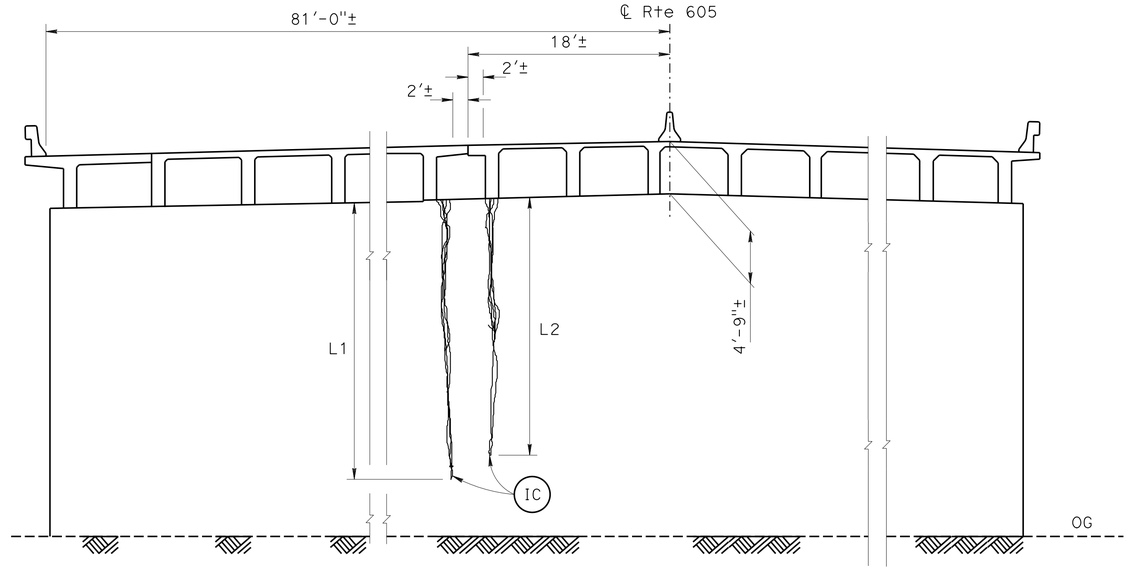
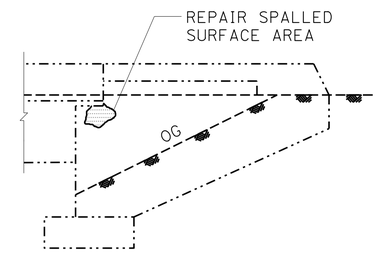
LEGEND:

- Indicates existing.
- Indicates direction of traffic.
- Indicates removal of unsound concrete and place rapid setting concrete patch.
- (IC) Indicates limits of epoxy crack injection see epoxy crack injection table.
- Indicates repair spalled surface area.



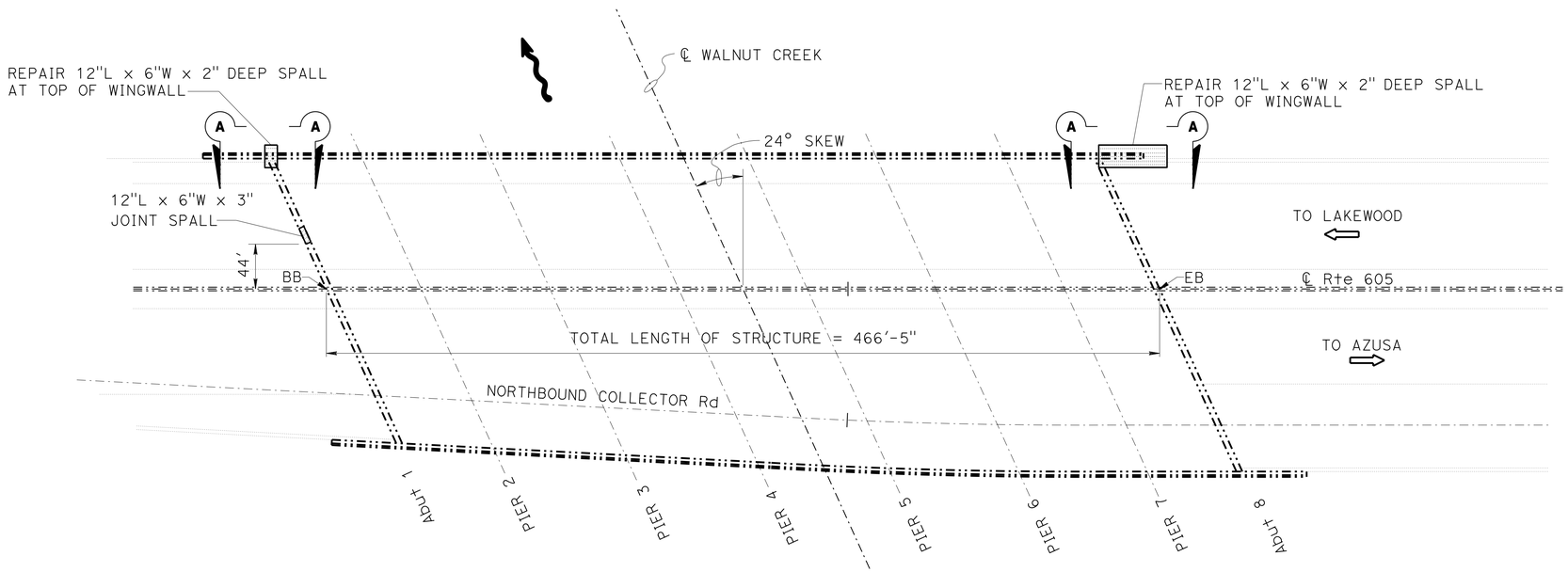
ELEVATION AT PIER



VIEW A-A
(Abut 1 shown, Abut 8 similiar)

WALNUT CREEK #53-1343
QUANTITIES

INJECT CRACK (EPOXY)	501 LF
RAPID SETTING CONCRETE (PATCH)	2 CF
REPAIR SPALLED SURFACE AREA	3 SQFT
REMOVE UNSOUND CONCRETE	2 CF



WALNUT CREEK

Br No. 53-1343, Rte 605, PM R19.85
Scale 1"=40'

EPOXY CRACK INJECTION LOCATION TABLE

LOCATION OF CRACKS	DIRECTION LOOKING	LENGTH OF CRACK (FEET) L1	LENGTH OF CRACK (FEET) L2
Pier 2	North	16	-
	South	34	-
Pier 3	North	34	-
	South	36	-
Pier 4	North	36	-
	South	36	-
Pier 5	North	30	24
	South	30	30
Pier 6	North	30	24
	South	22	-
Pier 7	North	30	28
	South	30	-
Abut 8	North	25	-
	South	-	-

NOTE:
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TONY D. BRAKE
DESIGN ENGINEER

	BY	CHECKED
DESIGN	Mazin Ibrahim	Ramesh Patel
DETAILS	Clayton Tom	Mazin Ibrahim
QUANTITIES	Mazin Ibrahim	Ramesh Patel

LOAD FACTOR DESIGN — LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD

	BY	CHECKED
LAYOUT	Clayton Tom	Mazin Ibrahim
SPECIFICATIONS	Chen Xiaodong	PLANS AND SPECS COMPARED: Chen Xiaodong

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. Various
POST MILE Varies

ROUTES 10,19,60,91,164,605 BRIDGES
GENERAL PLAN NO. 14

STRUCTURES MAINTENANCE GENERAL PLAN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3489
PROJECT NUMBER & PHASE: 0715000028 1 CONTRACT NO.: 07-2W9604

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES: 05-06-15 08-05-15 09-03-15 09-17-15

SHEET 14 OF 17

FILE => 07-2w9601-a-gp14.dgn

USERNAME => s122436 DATE PLOTTED => 30-DEC-2015 TIME PLOTTED => 10:00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10,19,60, 91,164,605	Var	41	43

REGISTERED CIVIL ENGINEER 9-17-15 DATE

12-14-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER MAZIN S. IBRAHIM No. C69896 Exp. 09/30/16 CIVIL STATE OF CALIFORNIA

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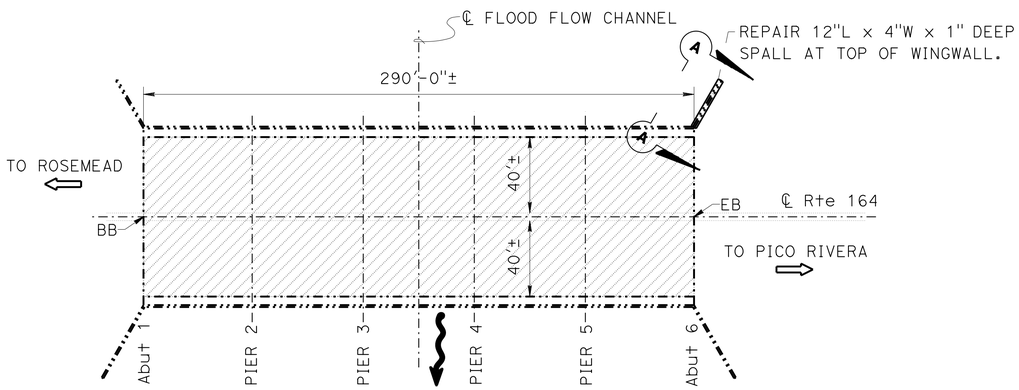
LEGEND:

Indicates existing.

Indicates direction of traffic.

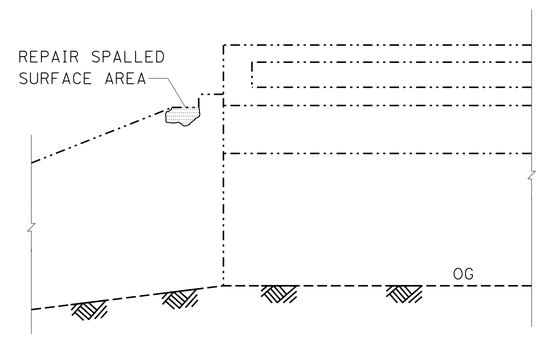
Indicates limits of prepare concrete bridge deck surface and treat existing bridge deck with high molecular weight methacrylate.

Indicates repair spalled surface area.



FLOOD FLOW CHANNEL

Br No. 53-0534, Rte 164, PM 2.06
Scale 1"=40'



VIEW A-A

FLOOD FLOW CHANNEL #53-0634
QUANTITIES

PUBLIC SAFETY PLAN	LUMP SUM
REPAIR SPALLED SURFACE AREA	2 SQFT
PREPARE CONCRETE BRIDGE DECK SURFACE	23,200 SQFT
TREAT BRIDGE DECK	23,200 SQFT
FURNISH BRIDGE DECK TREATMENT MATERIAL	290 GAL

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL. EXISTING UTILITIES FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.

TONY D. BRAKE
DESIGN ENGINEER

	BY	CHECKED			
DESIGN	Mazin Ibrahim	Ramesh Patel	LOAD FACTOR DESIGN	LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD	
DETAILS	Clayton Tom	Mazin Ibrahim	LAYOUT	Clayton Tom	Mazin Ibrahim
QUANTITIES	Mazin Ibrahim	Ramesh Patel	SPECIFICATIONS	Chen Xiaodong	PLANS AND SPECS COMPARED Chen Xiaodong

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. Various
POST MILE Varies

ROUTES 10,19,60,91,164,605 BRIDGES
GENERAL PLAN NO. 15

STRUCTURES MAINTENANCE GENERAL PLAN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3489
PROJECT NUMBER & PHASE: 0715000028 1 CONTRACT NO.: 07-2W9604

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES: 05-06-15 08-06-15 09-03-15 09-17-15

SHEET 15 OF 17

FILE => 07-2w9601-a-gp15.dgn

USERNAME => s122436 DATE PLOTTED => 30-DEC-2015 TIME PLOTTED => 10:00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10,19,60, 91,164,605	Var	42	43

REGISTERED CIVIL ENGINEER 9-17-15 DATE

12-14-15
PLANS APPROVAL DATE

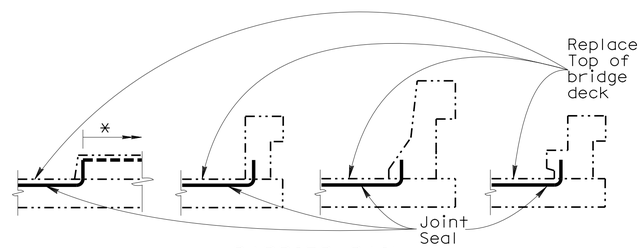
REGISTERED PROFESSIONAL ENGINEER MAZIN S. IBRAHIM No. C69896 Exp. 09/30/16 CIVIL STATE OF CALIFORNIA

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

JOINT SEAL TABLE

BRIDGE NAME	BRIDGE NUMBER	JOINT SEAL LOCATION	MINIMUM "MR" (inches)	EXISTING WATERSTOP	APPROX LENGTH (ft)	APPROX DEPTH TO CLEAN EXP JOINT (inches)	LENGHT TO CLEAN EXP JOINT (Feet)
San Gabriel River Bridge	53-1767	Abut 1	1/2	No	206	8	206
		Hinge Span 3	1/2	No	227	8	227
		Hinge Span 7	1/2	No	240	8	240
		Abut 10	1/2	No	192	8	192
Clayton OH	53-1755	Abut 1	1	No	269	8	269
		Abut 4	1	No	269	8	269
Fairway Drive UC	53-1788	Abut 1	1/2	No	156	8	156
		Abut 4	1/2	No	156	8	156
Davenrich Street UC	53-1661	Abut 1	1/2	No	227	8	227
		Abut 4	1/2	No	227	8	227

PN = Paving Notch
BW = Backwall
** = Bonded Joint Seal



BARRIER RAIL

JOINT SEAL AT LOW SIDE OF DECK

Details shown for illustration purposes only.
For use only where deck joint matches the sidewalk, curb or barrier rail joint.
* Extension of joint will be determined by the Engineer if necessary.

NOTES:

The following notes apply to JOINT SEAL TYPE A:

Install Joint Seal (MR = 1/2") or Silicone Joint Seal 3" up into curb or barrier rail on the low side of the deck where deck joint aligns with curb or barrier rail joint.

For details not shown see Standard Plan B6-21.

The following notes apply to JOINT SEAL TYPE B:

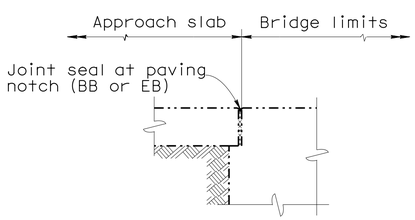
1) Seal must satisfy both minimum Movement Rating (MR) and minimum W1 requirements.

2) Minimum W1 is the calculated maximum width of the joint based on field measurements. After the joints have been cleaned, minimum W1 is to be recalculated by the Engineer.

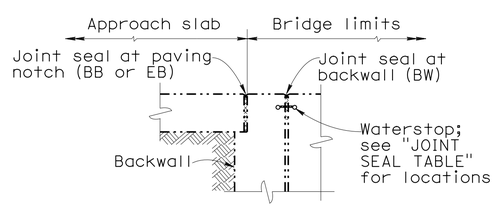
3) W1 shall be the smaller of the values determined as follows:
   A) 0.85 times the manufacturer's designed minimum uncompressed width of the seal.
   B) The width of the seal on the third successive test cycle of the pressure deflection test, when compressed to an average pressure of 3.0 PSI.

4) Bend Type B joint seal 6 inches up into curb or rail on the low side of the deck where deck joint matches curb or rail joint.

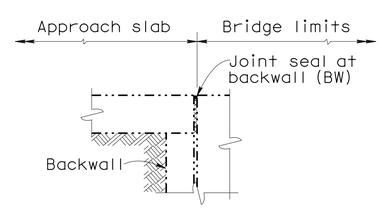
For details not shown see Standard Plan B6-21.



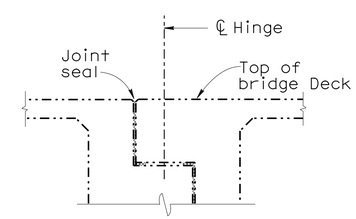
DIAPHRAGM ABUTMENT



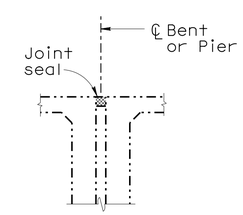
ABUTMENT WITH BACKWALL AND PAVING NOTCH



ABUTMENT WITH BACKWALL



HINGE



BENT OR PIER

NOTE:
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JOINT SEAL LOCATION

Abutment joint is not required with AC roadway pavement transverse contact joint.

	BY	CHECKED
DESIGN	Mazin Ibrahim	Ramesh Patel
DETAILS	Clayton Tom	Mazin Ibrahim
QUANTITIES	Mazin Ibrahim	Ramesh patel

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. Various
POST MILE Varies

ROUTES 10,19,60,91,164,605 BRIDGES
MISCELLANEOUS DETAILS NO. 1

STRUCTURES MAINTENANCE DETAIL SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3489
PROJECT NUMBER & PHASE: 0715000028 1 CONTRACT NO.: 07-2W9604

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES: 05-06-15 08-05-15 09-03-15 09-07-15

SHEET 16 OF 17

FILE => 07-2w9601-u-miscdt01.dgn

USERNAME => s122436 DATE PLOTTED => 30-DEC-2015 TIME PLOTTED => 10:00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	10,19,60, 91,164,605	Var	43	43

REGISTERED CIVIL ENGINEER 9-17-15 DATE

12-14-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER MAZIN S. IBRAHIM No. C69896 Exp. 09/30/16 CIVIL STATE OF CALIFORNIA

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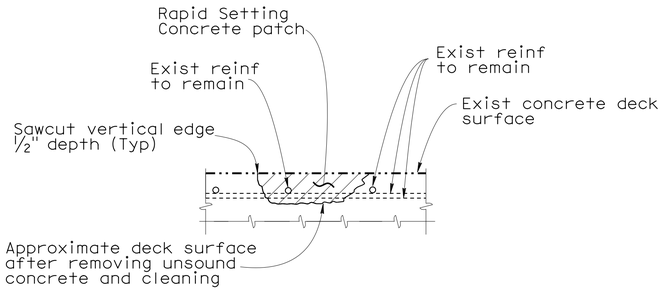
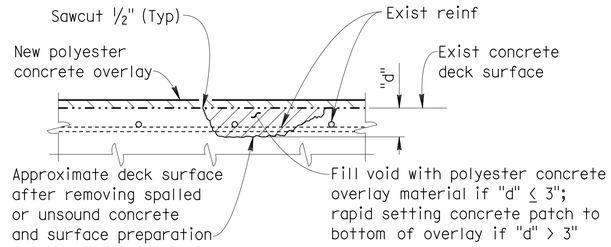


DECK DAMAGE REPAIR DETAIL

Location will be determined by the Engineer.
Reinforcement may be encountered during deck concrete removal and is to remain undamaged.

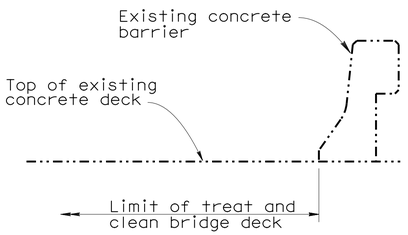


DECK REPAIR DETAIL - OVERLAY

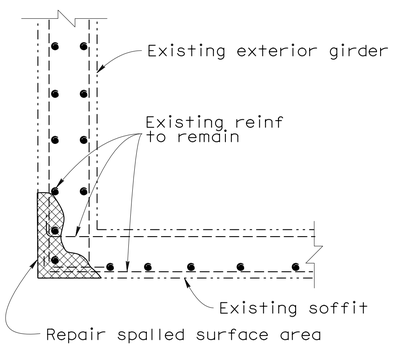
(Br No. 53-1755)
Reinforcement may be encountered during deck concrete removal.

DECK REPAIR NOTES:

1. Existing reinforcement shall be protected in place during unsound concrete removal and patching operations.
2. It is responsibility of the Contractor to repair any reinforcement that is accidently cut by saw cutting operations.
3. When existing transverse reinforcement is exposed in the deck surface, saw cutting may be waived with the approval of the Engineer.
4. The saw cut depth shall not exceed ¾ inch or the concrete cover over the top steel reinforcing bars, whichever is less.
5. Remove unsound Portland Cement concrete and unsound concrete patches to expose sound, hard concrete substrate. Replace original deck surface with rapid setting concrete patch.

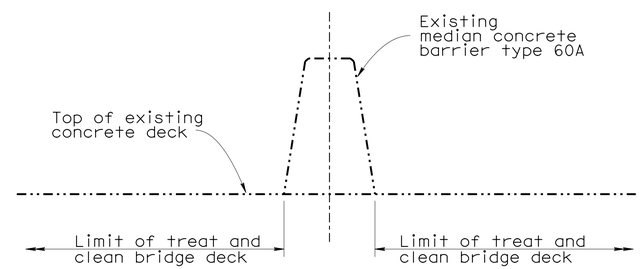


EOD BARRIER

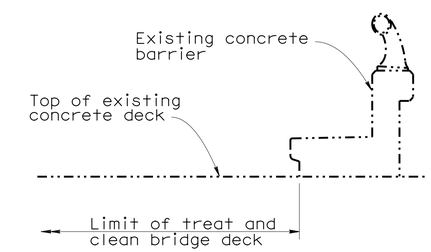


SPALLED SURFACE AREA DETAIL

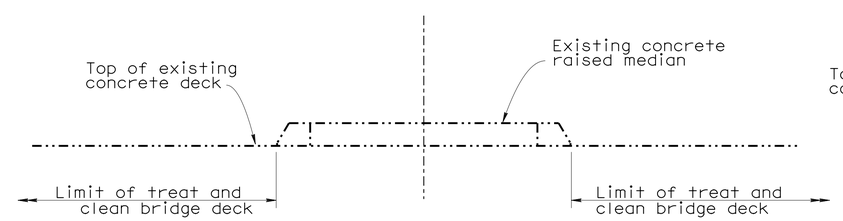
Location will be determined by the Engineer.
Reinforcement may be encountered during deck concrete removal and is to remain undamaged.



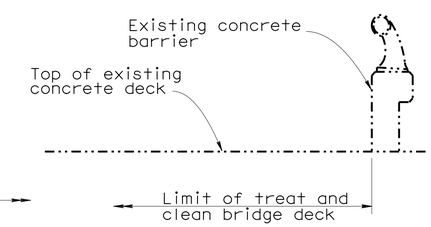
MEDIAN BARRIER



SIDEWALK BARRIER TYPE 2



RAISED MEDIAN



SIDEWALK BARRIER TYPE 1

TYPICAL LIMITS OF DECK WORK

NO SCALE

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DETAILS	Clayton Tom	Mazin Ibrahim
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