Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	405, 710	7.6/8.8, 9.3	1	22

STATE OF CALIFORNIA

DEPARTMENT OF TRANSPORTATION

PROJECT PLANS FOR CONSTRUCTION ON

STATE HIGHWAY

IN LOS ANGELES COUNTY
AT VARIOUS LOCATIONS ON ROUTE 405
FROM ROUTE 405/710 SEPARATION TO DOLORES YARD OVERHEAD AND ON ROUTE 710 AT ROUTE 405/710 SEPARATION

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006

INDEX OF PLANS

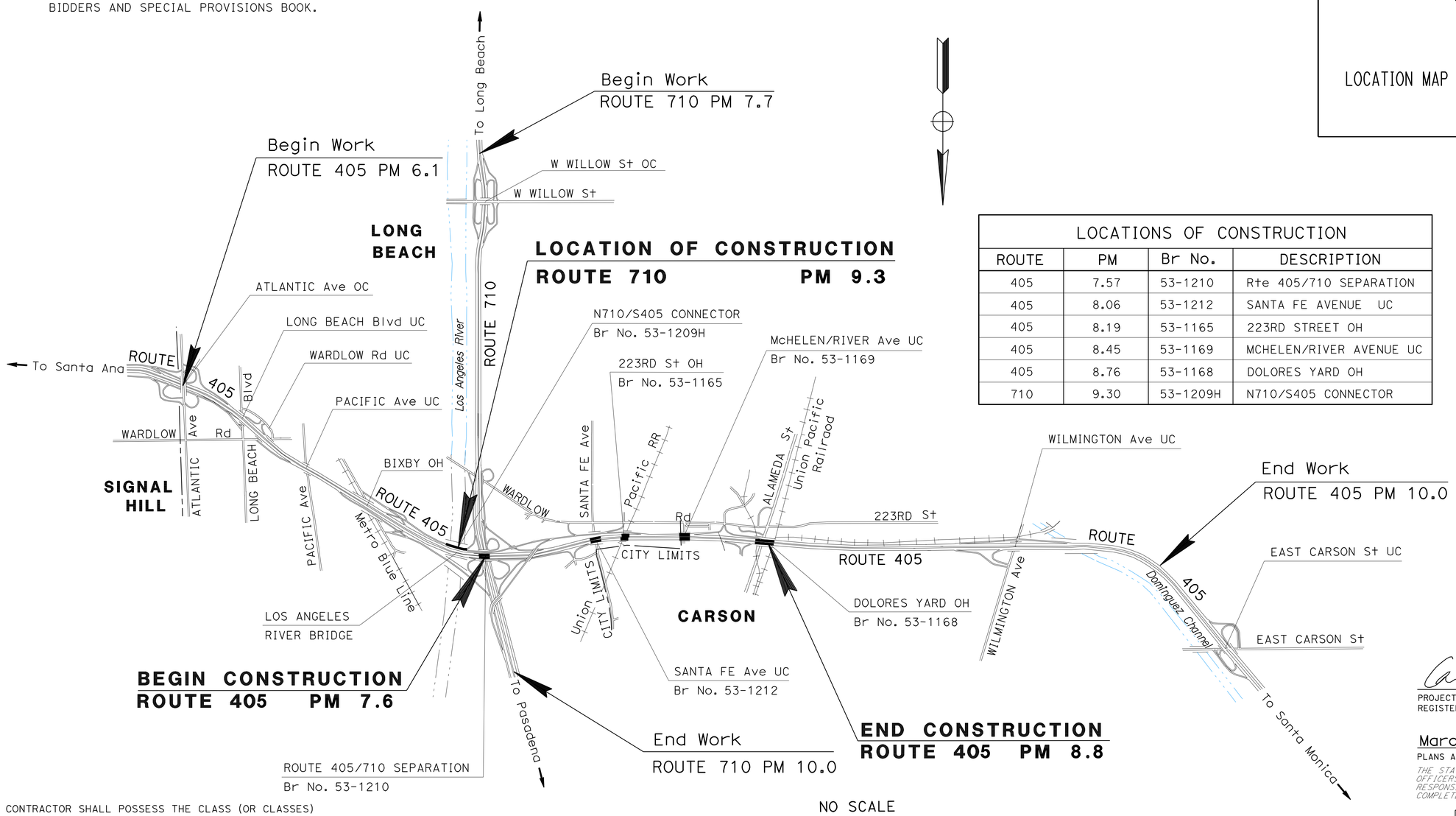
SHEET No.	DESCRIPTION
1	TITLE AND LOCATION MAP
2	CONSTRUCTION AREA SIGNS
3-9	TRAFFIC HANDLING DETAILS
10-11	PAVEMENT DELINEATION DETAILS
12-13	PAVEMENT DELINEATION QUANTITIES
14-17	REVISED STANDARD PLANS

STRUCTURE PLANS

18-22	ROUTE 405/710 BRIDGES

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

LOCATION MAP



LOCATIONS OF CONSTRUCTION

ROUTE	PM	Br No.	DESCRIPTION
405	7.57	53-1210	Rte 405/710 SEPARATION
405	8.06	53-1212	SANTA FE AVENUE UC
405	8.19	53-1165	223RD STREET OH
405	8.45	53-1169	MCHELEN/RIVER AVENUE UC
405	8.76	53-1168	DOLORES YARD OH
710	9.30	53-1209H	N710/S405 CONNECTOR

NO SCALE

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

PROJECT MANAGER: DAVID YAN

DESIGN ENGINEER: HAMID SAADATNEJADI

2-22-10
PROJECT ENGINEER REGISTERED CIVIL ENGINEER — DATE

REGISTERED PROFESSIONAL ENGINEER — CAM CHAU — No. 70305 — Exp. 9-30-10 — CIVIL — STATE OF CALIFORNIA

March 8, 2010
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.

LAST REVISION 03-08-10 — DATE PLOTTED => 28-APR-2010 — TIME PLOTTED => 10:28

CONTRACT No. 07-260904

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	405, 710	7.6/8.8, 9.3	2	22

REGISTERED CIVIL ENGINEER 2-22-10 DATE

3-8-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER CAM CHAU No. 70305 Exp. 9-30-10 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:

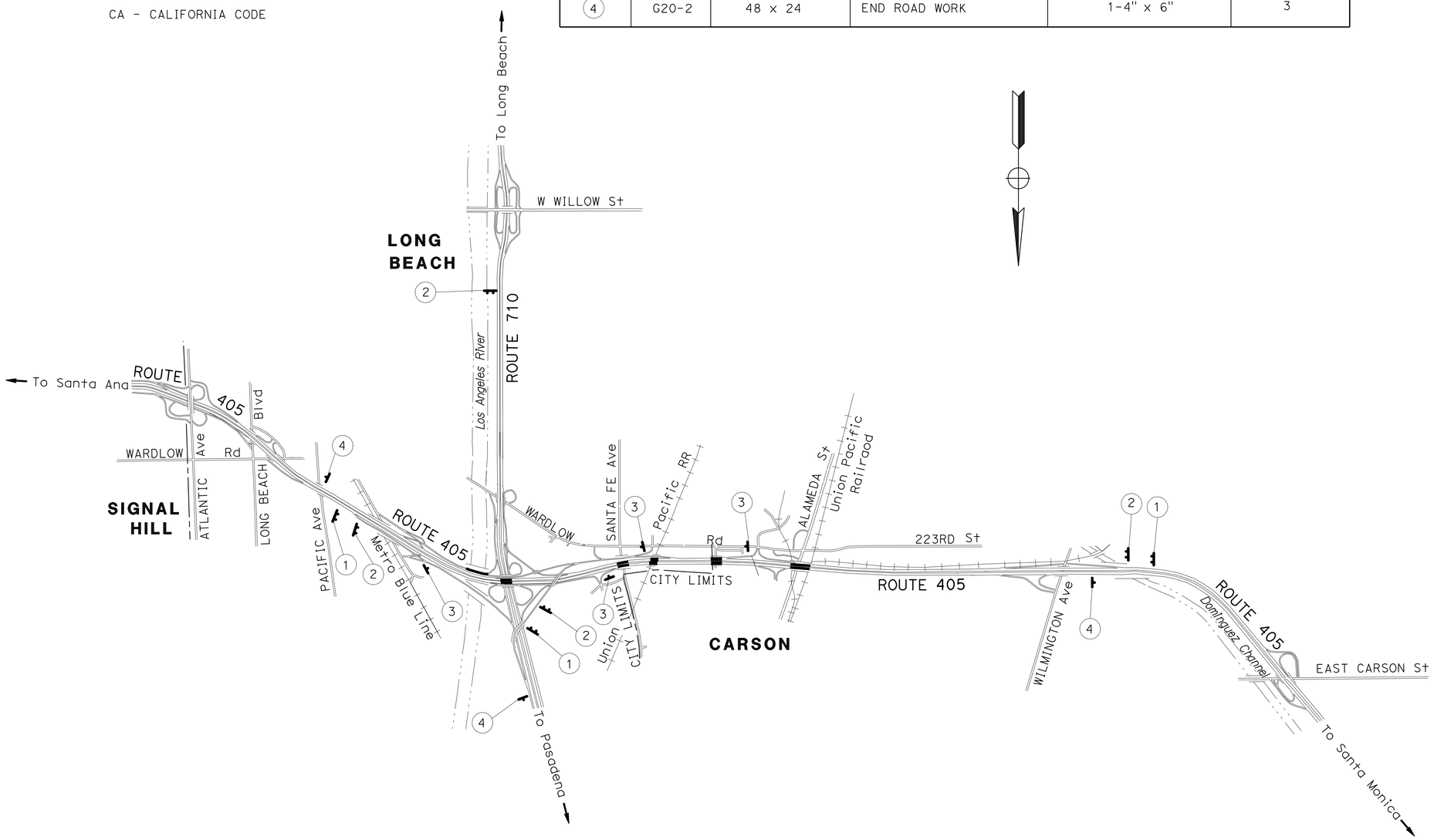
1. LOCATIONS OF CONSTRUCTION AREA SIGNS AS SHOWN ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER.
2. EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THIS PLAN.

ABBREVIATION

CA - CALIFORNIA CODE

STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN NUMBER	SIGN CODE	PANEL SIZE (inch x inch)	SIGN MESSAGE	NUMBER OF POSTS AND SIZE	NUMBER OF SIGNS
1	C40(CA)	144 x 60	TRAFFIC FINES DOUBLED IN CONSTRUCTION ZONES	2-6" x 8"	3
2	W20-1	48 x 48	ROAD WORK AHEAD	2-4" x 6"	4
3	W20-1	30 x 30	ROAD WORK AHEAD	1-4" x 6"	4
4	G20-2	48 x 24	END ROAD WORK	1-4" x 6"	3



CONSTRUCTION AREA SIGNS

NO SCALE

CS-1

THIS PLAN ACCURATE FOR CONSTRUCTION AREA SIGN WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR: HAMID SAADATNEJADI
CALCULATED-DESIGNED BY: CAM CHAU
CHECKED BY: HAMID SAADATNEJADI
REVISED BY
DATE REVISED

LAST REVISION 03-08-10 | DATE PLOTTED => 28-APR-2010 | TIME PLOTTED => 10:28

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	405, 710	7.6/8.8, 9.3	3	22

Denis Katayama 10-13-09
REGISTERED CIVIL ENGINEER DATE

3-8-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER D.S. KATAYAMA No. C50648 Exp. 9-30-11 CIVIL STATE OF CALIFORNIA

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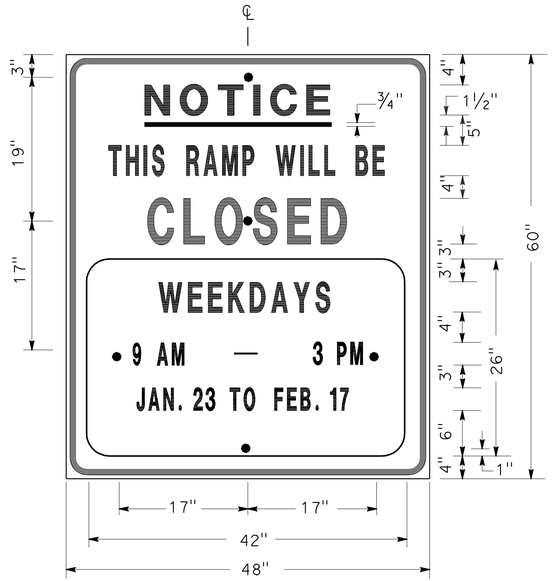
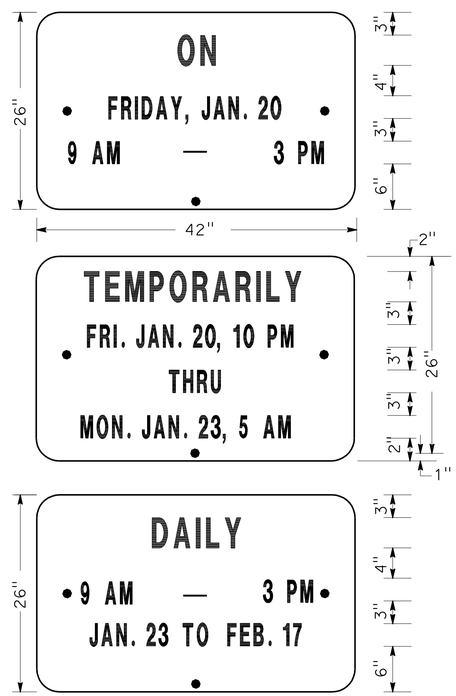


SIGN SP-1



ALTERNATE OVERLAY PANELS (TYPICAL)

SPECIAL ADVANCE NOTICE PUBLICITY SIGN

NOTES: (SIGN SP-1)

1. SIGNS SHALL HAVE ORANGE RETROREFLECTORIZED BACKGROUND WITH BLACK BORDER AND LETTERS.
2. BOLT HOLES SHALL BE 3/8" DIAMETER.
3. BASE MATERIAL SHALL BE ALUMINUM (MINIMUM 0.06").
4. SIGNS SHALL BE MOUNTED WITH BOTTOMS OF SIGNS A MINIMUM OF 6' ABOVE GROUND.

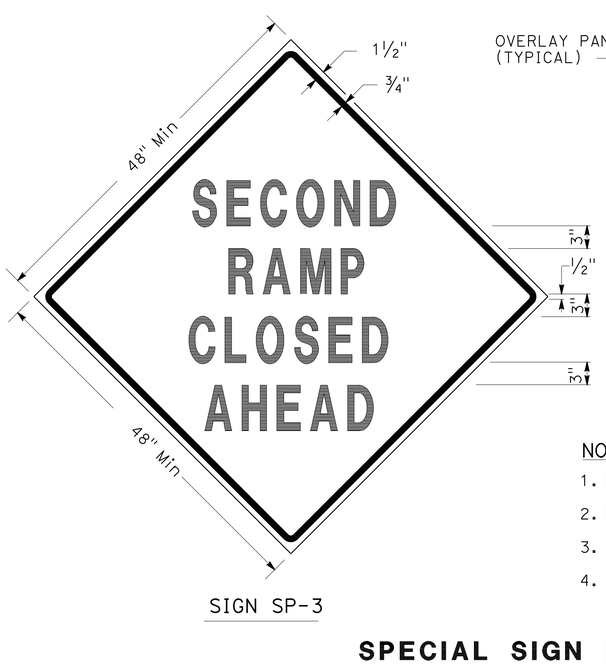
SIZE	BORDER WIDTH	MARGIN WIDTH	LETTER SIZE					CORNER RADIUS
			LINE 1	LINE 2*	LINE 3	LINE 4	LINE 5,6 & 7*	
48"x60"	1 1/4"	3/4"	4E	4D	6E	4D		3"
42"x26"	OVERLAY						3D	1 1/2"
* CONDENSED SPACING IF NECESSARY								

SIGN SP-4

NOTES: (SIGN SP-4)

1. LETTERS - 6" SERIES C.
2. LETTERS AND BORDERS - BLACK ON RETROREFLECTORIZED WHITE BACKGROUND.
3. BASE MATERIAL SHALL BE ALUMINUM (MINIMUM 0.06").
4. SIGNS SHALL BE PLACED AT RAMP ENTRANCES IN ADDITION TO SIGNS POSTED IN ACCORDANCE WITH STANDARD PLAN 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 BORDERS - BLACK ON RETROREFLECTORIZED ORANGE BACKGROUND.
3. BASE MATERIAL SHALL BE ALUMINUM (MINIMUM 0.06").
4. SIGNS SHALL BE MOUNTED WITH BOTTOMS OF SIGNS A MINIMUM OF 6' ABOVE GROUND.

SPECIAL SIGN 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

JC	JC	JC
9/08	8/08	7/08

REVISED BY / DATE REVISED

ALBERT K YU / JOCELYN C CHIANG

CALCULATED-DESIGNED BY / CHECKED BY

FUNCTIONAL SUPERVISOR: JOHN YANG

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DTM

LAST REVISION 03-08-10 | DATE PLOTTED => 28-APR-2010 | TIME PLOTTED => 10:29

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	405, 710	7.6/8.8, 9.3	4	22

Denis Katayama 10-13-09
REGISTERED CIVIL ENGINEER DATE

3-8-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER D.S. KATAYAMA No. C50648 Exp. 9-30-11 CIVIL STATE OF CALIFORNIA

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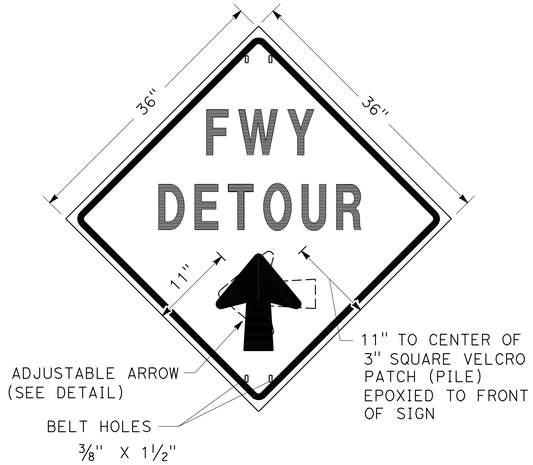
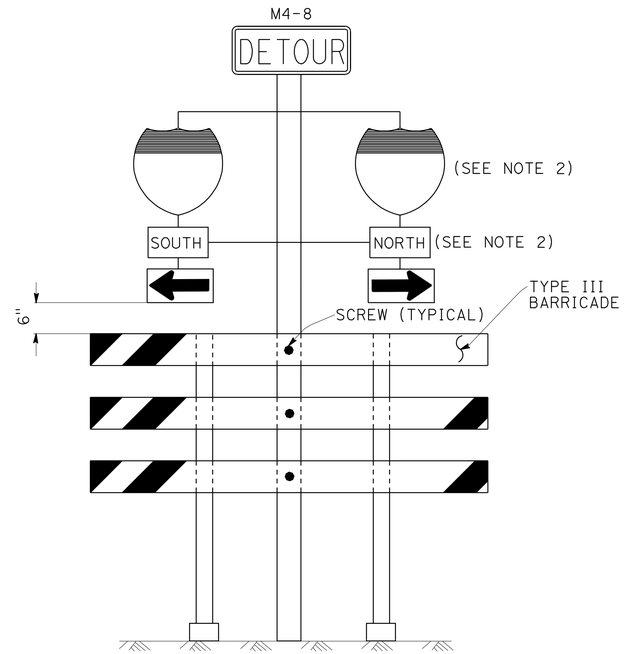
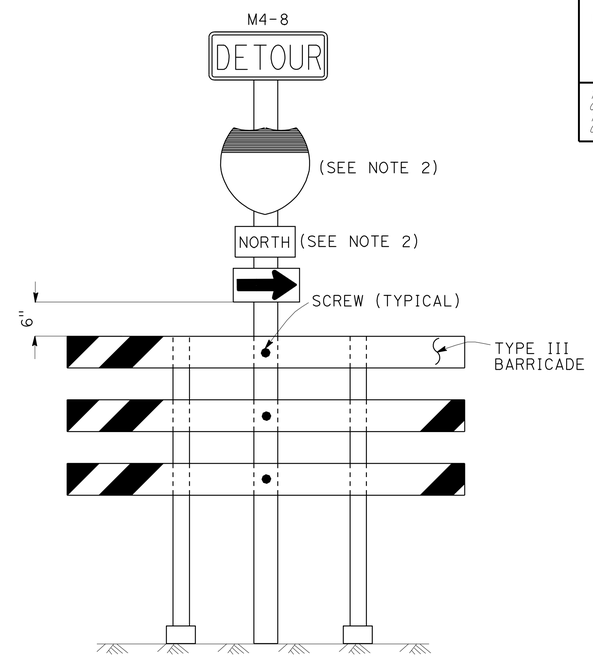


SIGN SP-2



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 SHALL BE ALUMINUM (MINIMUM 0.06").
4. BELTS (LUGGAGE STRAPS) SHALL BE 1" WIDE BY 48" LONG, MADE OF COTTON OR POLYPROPYLENE WEB MATERIAL.
5. SIGNS SHALL BE MOUNTED WITH BOTTOMS OF SIGNS A MINIMUM OF 6' ABOVE GROUND EXCEPT AS OTHERWISE SHOWN ON OTHER TRAFFIC HANDLING DETAILS PLANS.

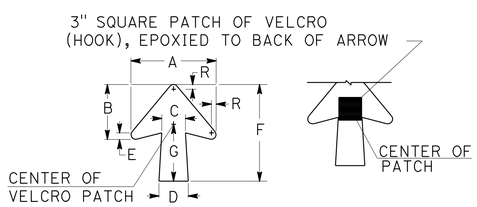
ABBREVIATION

(CA) CALIFORNIA CODE

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 SHIELD [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	F	G	R
11 1/4"	7 1/4"	3 1/8"	4"	7/8"	13"	7 1/2"	5/8"

SPECIAL PORTABLE FREEWAY DETOUR SIGN

ADJUSTABLE ARROW DETAIL

TRAFFIC HANDLING DETAILS

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

SHEET 2 OF 2

NO SCALE

THD-2

REVISED BY	DATE REVISED
JC	9/08
JC	7/08

CALCULATED-DESIGNED BY: ALBERT K YU
CHECKED BY: JOCELYN C CHIANG
FUNCTIONAL SUPERVISOR: JOHN YANG

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DTM

LAST REVISION 03-08-10 | DATE PLOTTED => 28-APR-2010 | TIME PLOTTED => 10:29

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	405, 710	7.6/8.8, 9.3	5	22

Denis Katayama 10-13-09
REGISTERED CIVIL ENGINEER DATE

3-8-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER D.S. KATAYAMA No. C50648 Exp. 9-30-11 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:

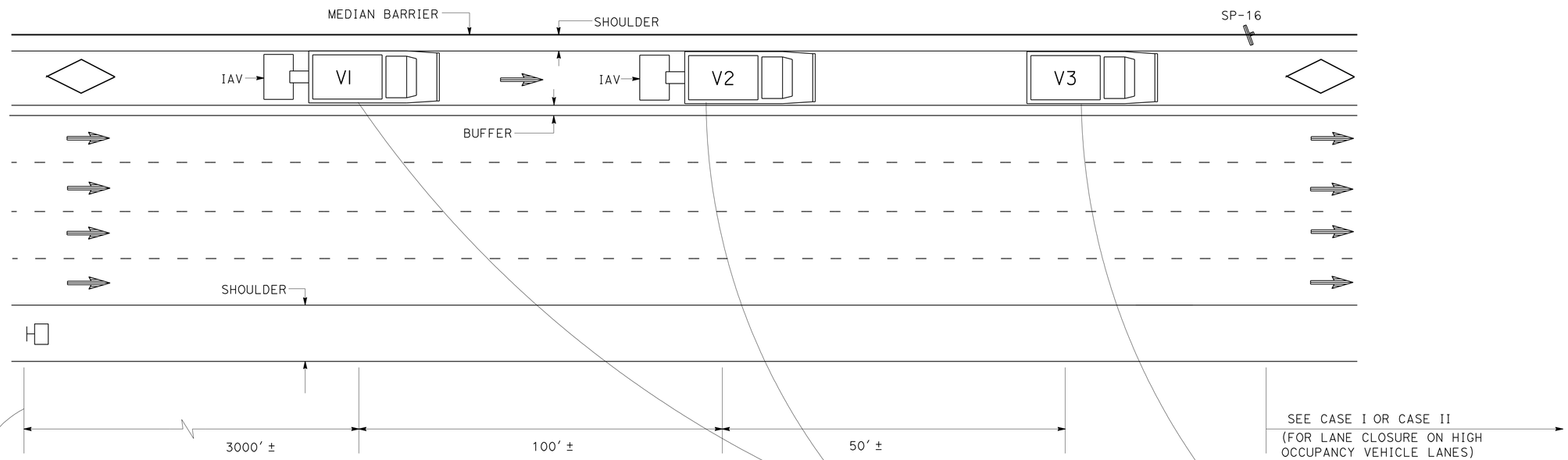
1. LANE CLOSURES SHALL NOT BE PLACED ON CREST VERTICAL CURVES OR ON HORIZONTAL CURVES.
2. PCMS SHALL BE ACTIVATED PRIOR TO TRAFFIC CONTROL ACTIVITIES ON THE HOV LANE.
3. A MINIMUM SIGHT DISTANCE OF 1500′ SHALL BE PROVIDED IN ADVANCE OF PCMS.
4. VEHICLE-MOUNTED SIGN PANELS SHALL BE TYPE III OR IV RETROREFLECTORIZED SHEETING, BLACK ON WHITE OR BLACK ON ORANGE WITH 8" MINIMUM SERIES D LETTERS PER CALTRANS SIGN SPECIFICATIONS.
5. PLACE PCMS ON THE MEDIAN SHOULDER WHERE SUFFICIENT ROOM (SUCH AS CHP ENFORCEMENT AREAS) EXISTS.

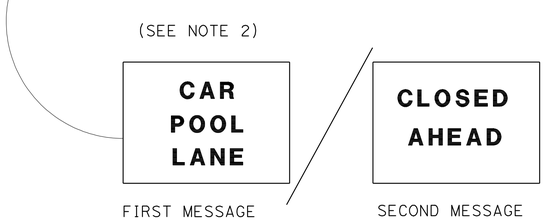
LEGEND

V1, V2	SHADOW VEHICLE
V3	WORK/APPLICATION VEHICLE
	PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
	DIRECTION OF TRAVEL
	HOV LANE

ABBREVIATIONS

FAS	FLASHING ARROW SIGN
IAV	IMPACT ATTENUATOR VEHICLE
CMS	CHANGEABLE MESSAGE SIGN
(CA)	CALIFORNIA CODE
PCMS	PORTABLE CHANGEABLE MESSAGE SIGN
HOV	HIGH OCCUPANCY VEHICLE





PCMS/TRUCK MOUNTED CMS
(SEE NOTE 5)

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

NO SCALE

THD-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DTM

FUNCTIONAL SUPERVISOR: JOHN YANG

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

REVISED BY: JC — DATE REVISED: 7/08
REVISED BY: JC — DATE REVISED: 9/08

LAST REVISION: 03-08-10
DATE PLOTTED => 28-APR-2010
TIME PLOTTED => 10:29

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	405, 710	7.6/8.8, 9.3	6	22

Denis Katayama 10-13-09
REGISTERED CIVIL ENGINEER DATE

3-8-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER D.S. KATAYAMA No. C50648 Exp. 9-30-11 CIVIL STATE OF CALIFORNIA

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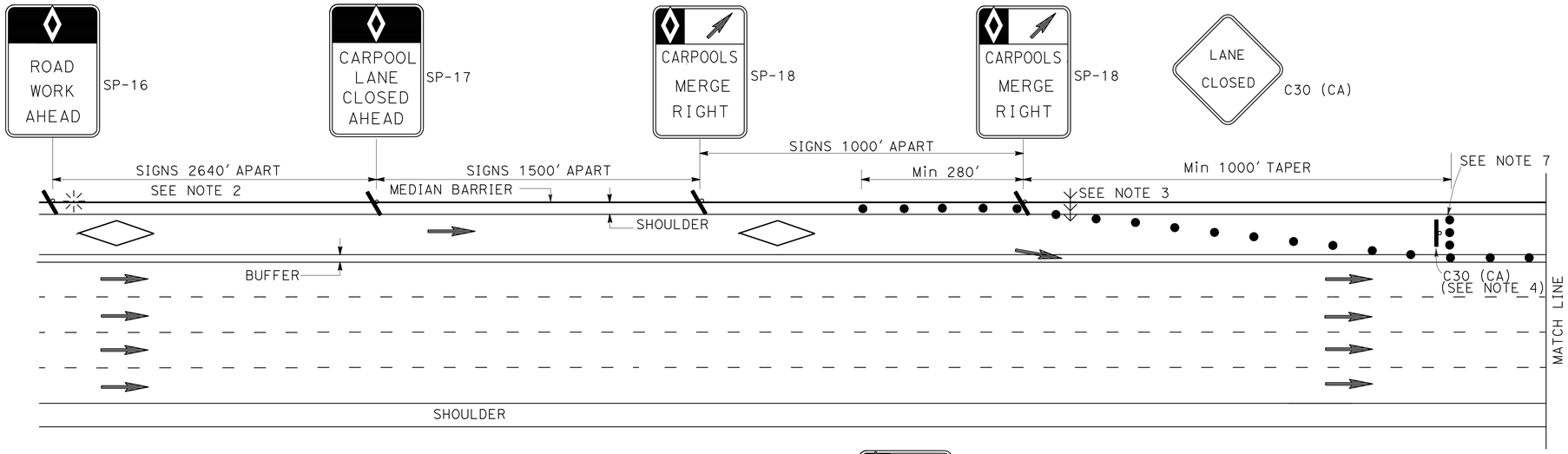

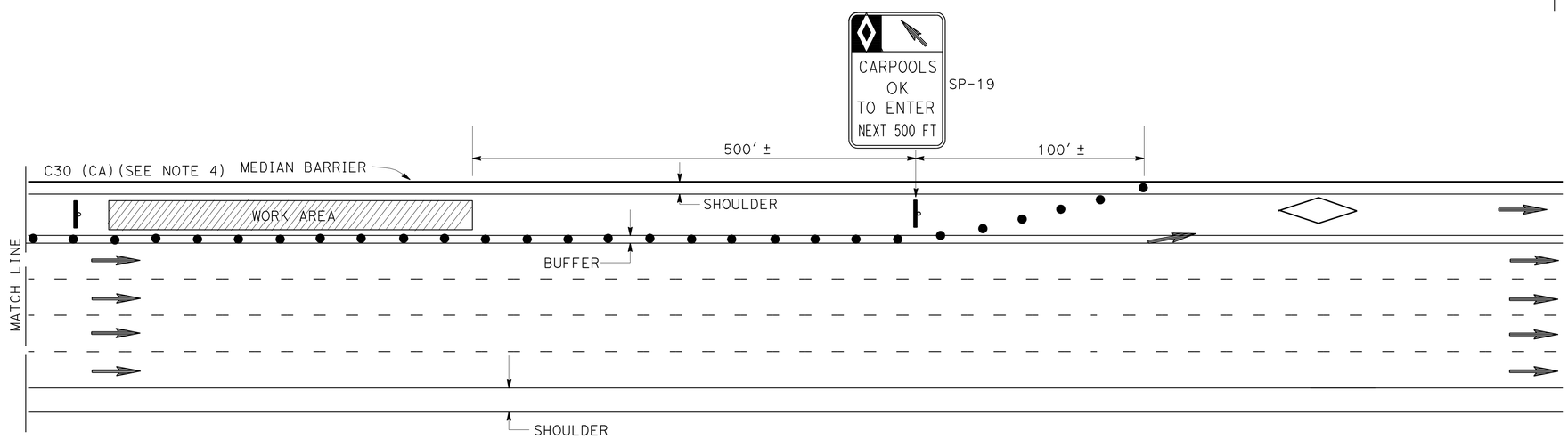

ABBREVIATIONS

(CA) CALIFORNIA CODE

HOV HIGH OCCUPANCY VEHICLE

NOTES: FOR CASE I AND CASE II

1. AT LEAST ONE PERSON SHALL 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 SHALL BE EQUIPPED WITH FLAGS FOR DAYTIME CLOSURES. TYPE B HIGH INTENSITY FLASHING WARNING LIGHTS SHALL BE USED ON SP-16 SIGNS DURING NIGHT LANE CLOSURES. FLAGS AND WARNING LIGHTS SHALL BE ATTACHED TO SIGNS AS APPROVED BY THE ENGINEER.
3. THE FLASHING ARROW SIGN SHALL BE TYPE I.
4. PLACE C30 (CA) SIGNS EVERY 2000' THROUGHOUT THE LENGTH OF LANE CLOSURE.
5. A MINIMUM 1500' OF SIGHT DISTANCE SHALL BE PROVIDED WHERE POSSIBLE FOR VEHICLES APPROACHING THE FLASHING ARROW SIGN. LANE CLOSURES SHALL 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 SHALL 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 SHALL 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) SHALL BE BLACK ON ORANGE BACKGROUND. SIGN SP-19 SHALL BE BLACK ON WHITE BACKGROUND. DIAMONDS ON SIGNS SHALL BE WHITE.
11. FOR CLOSURE OF LANE(S) ADJACENT TO HOV LANES, SEE CASE II.
12. THE MAXIMUM SPACING BETWEEN CONES SHALL BE APPROXIMATELY 50' IN TAPERS AND 100' ON TANGENTS.

LEGEND

- CONE
- FLASHING BEACON
- HOV LANE
- FLASHING ARROW SIGN
- PORTABLE SIGN
- DIRECTION OF TRAVEL

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"

TRAFFIC HANDLING DETAILS
TRAFFIC CONTROL SYSTEM FOR HIGH OCCUPANCY VEHICLE LANES AT NON-INGRESS/EGRESS AREAS
CASE I
NO SCALE

THD-4

JC	9/08	ALBERT K YU	JOHN YANG
JC	7/08	JOCELYN C CHIANG	
REVISED BY	DATE REVISED	CALCULATED-DESIGNED BY	FUNCTIONAL SUPERVISOR
		CHECKED BY	

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	405, 710	7.6/8.8, 9.3	7	22

Denis Katayama 10-13-09
REGISTERED CIVIL ENGINEER DATE

3-8-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER D.S. KATAYAMA No. C50648 Exp. 9-30-11 CIVIL STATE OF CALIFORNIA

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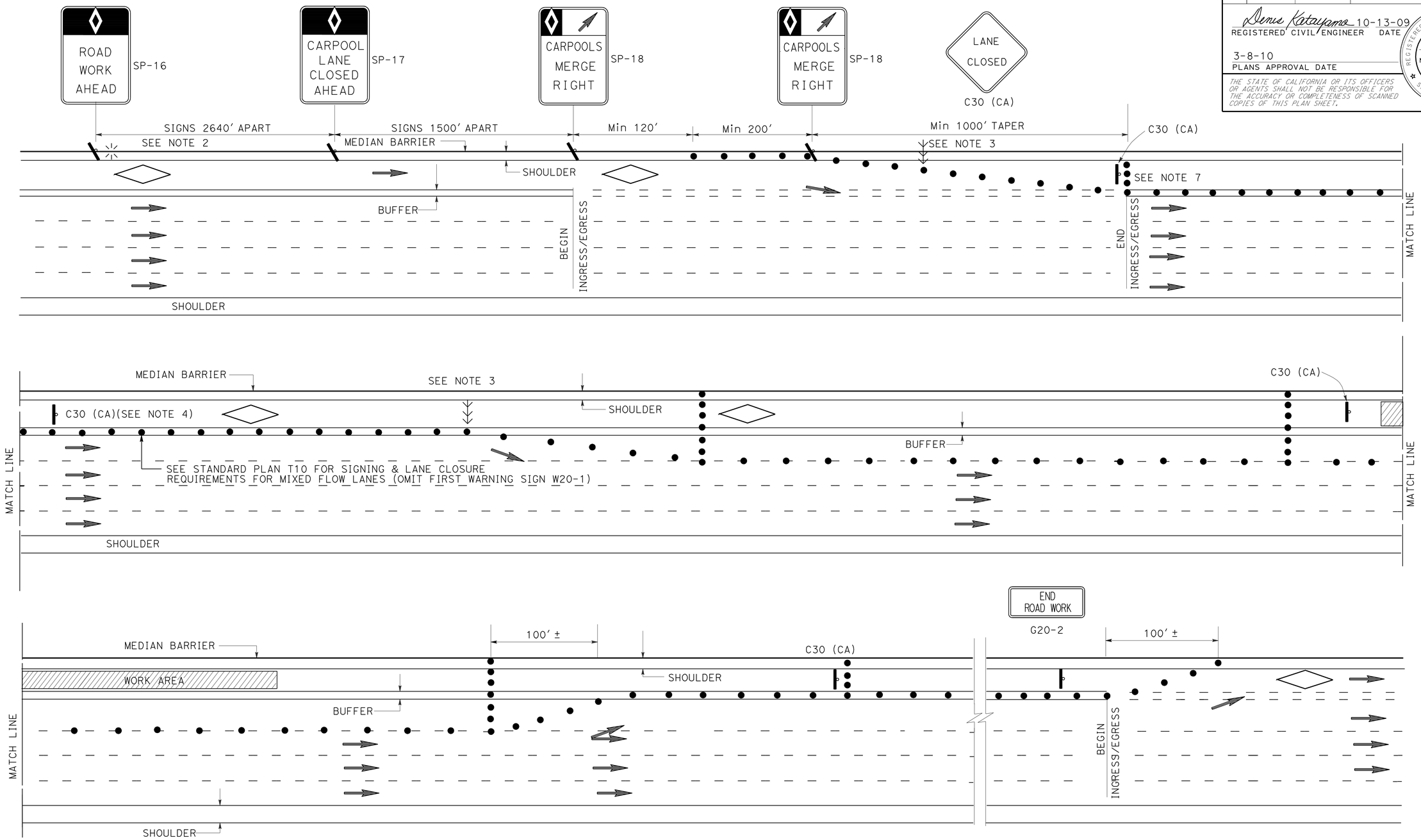

NOTES:

1. SEE CASE I FOR NOTES, LEGENDS AND ABBREVIATIONS FOR THIS SHEET.
2. CLOSURES OF ONE MIXED FLOW TRAFFIC LANE ADJACENT TO HOV LANE SHOWN. 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-5

REVISED BY	DATE REVISED
JC	9/08
JC	7/08

CALCULATED-DESIGNED BY: ALBERT K YU
CHECKED BY: JOCELYN C CHIANG
FUNCTIONAL SUPERVISOR: JOHN YANG

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® DTM

LAST REVISION 03-08-10
DATE PLOTTED => 28-APR-2010
TIME PLOTTED => 10:30

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	405, 710	7.6/8.8, 9.3	8	22

Denis Katayama 10-13-09
REGISTERED CIVIL ENGINEER DATE

3-8-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER D.S. KATAYAMA No. C50648 Exp. 9-30-11 CIVIL STATE OF CALIFORNIA

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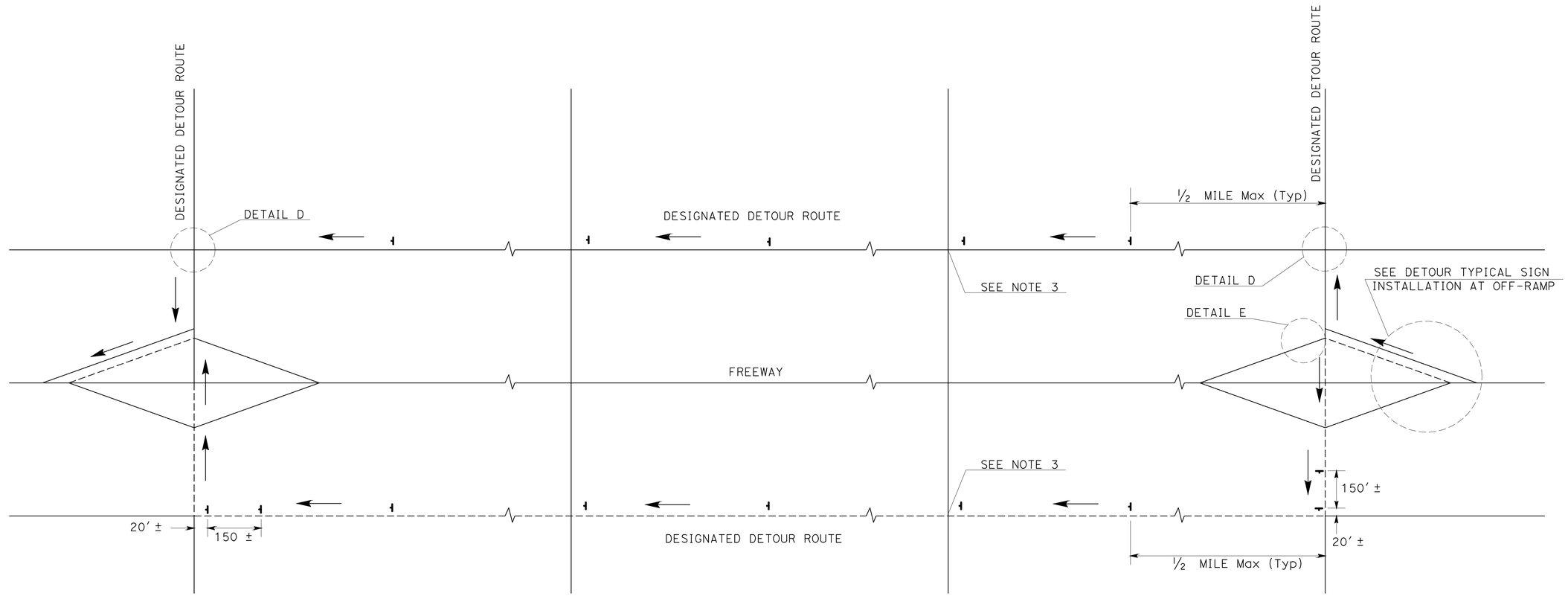

TYPICAL DETOUR SIGN INSTALLATION ALONG DESIGNATED DETOUR ROUTE

LEGEND

SIGN SP-2

AND/OR DESIGNATED DETOUR ROUTE

DIRECTION OF TRAVEL

NOTES:

1. SP-2 SIGNS SHALL NOT BE INSTALLED ON BARRICADES EXCEPT AS OTHERWISE SHOWN.
2. SIGN LOCATIONS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER.
3. SP-2 SIGNS SHALL BE POSTED AT SIGNALIZED INTERSECTIONS ALONG THE DESIGNATED DETOUR ROUTE OR ½ MILE MAXIMUM APART.

TRAFFIC HANDLING DETAILS

TRAFFIC CONTROL SYSTEM FOR DETOUR SIGN INSTALLATION ALONG DESIGNATED DETOUR ROUTE

SHEET 1 OF 2

NO SCALE

THD-6

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DTM

FUNCTIONAL SUPERVISOR: JOHN YANG

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

REVISED BY: JC JC
DATE REVISED: 9/08 7/08

LAST REVISION 03-08-10 | DATE PLOTTED => 28-APR-2010 | TIME PLOTTED => 10:30

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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Denis Katayama 10-13-09
REGISTERED CIVIL ENGINEER DATE

3-8-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER D.S. KATAYAMA No. C50648 Exp. 9-30-11 CIVIL STATE OF CALIFORNIA

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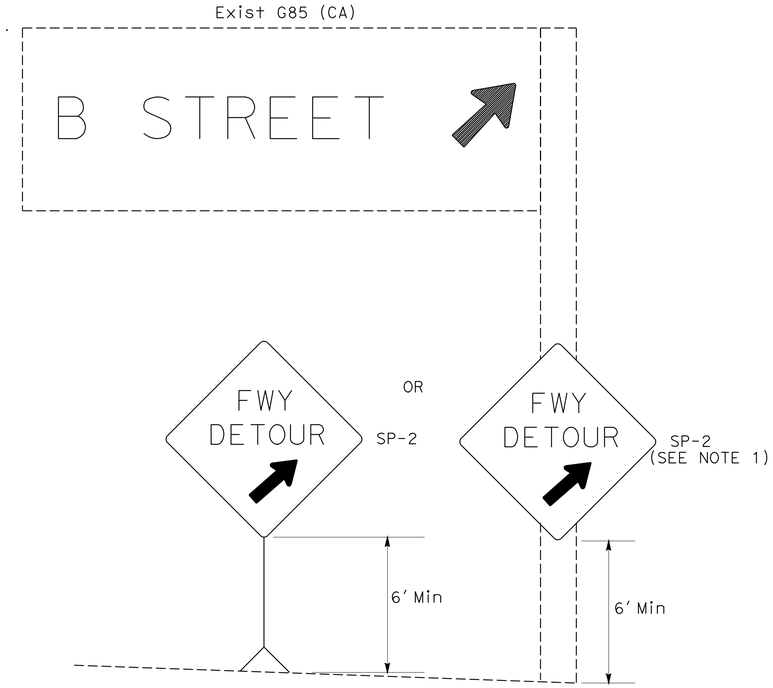
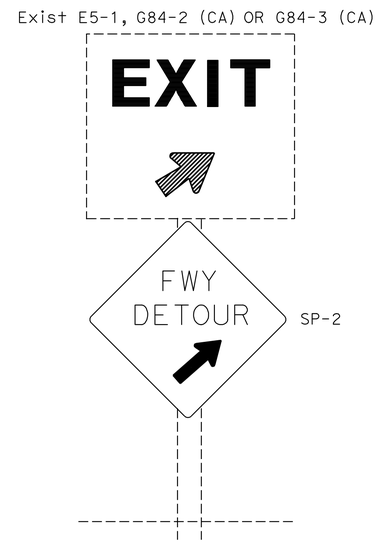
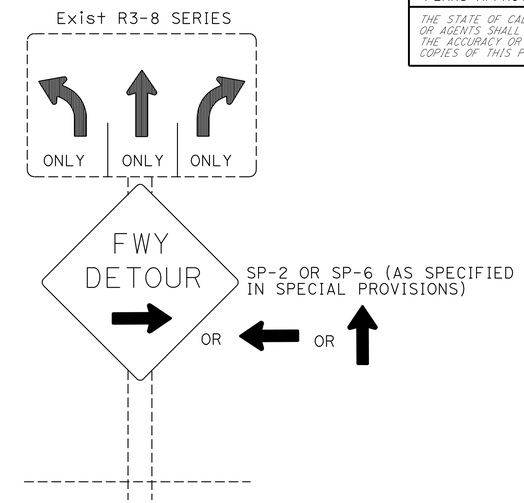


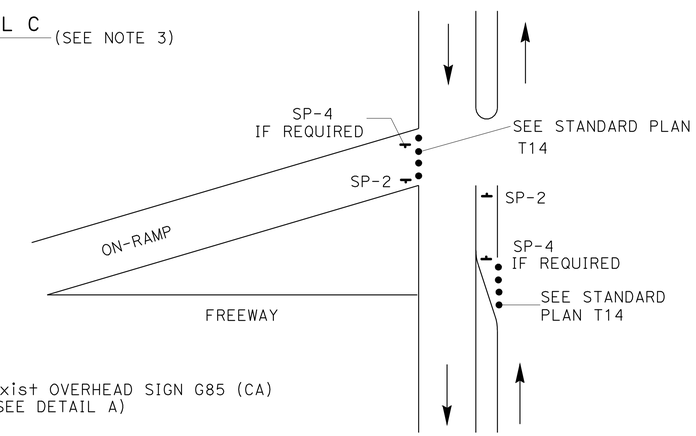
DETAIL A (SEE NOTE 2)



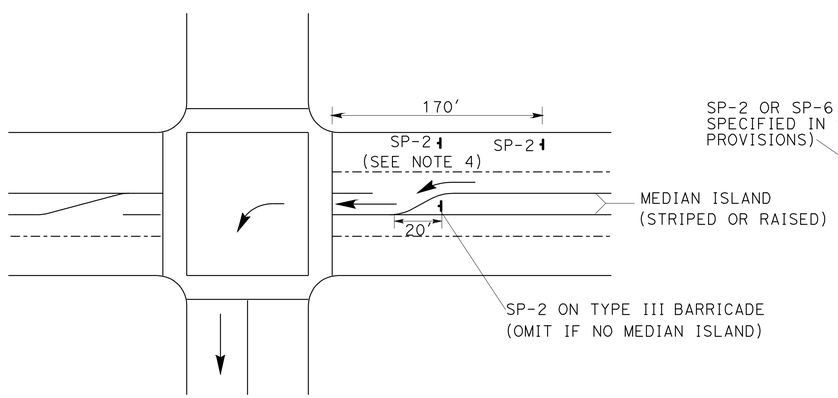
DETAIL B (SEE NOTE 2)



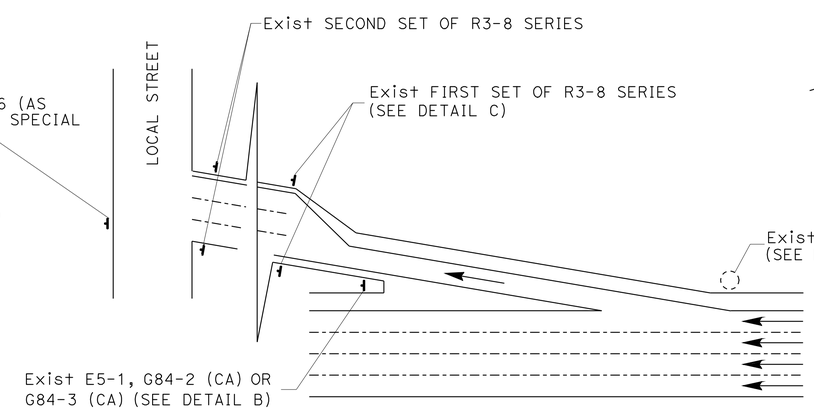
DETAIL C (SEE NOTE 3)



DETAIL E



DETAIL D



TYPICAL DETOUR SIGN INSTALLATION AT OFF-RAMP

NOTES:

1. SP-2 MAY BE STRAPPED ON EXISTING ELECTROLIER SIGNAL POSTS OR SIGN POSTS.
2. OMIT DETAIL A AND DETAIL B FOR FULL FREEWAY CLOSURES.
3. SEE TRAFFIC HANDLING DETAILS PLAN-TRAFFIC CONTROL SYSTEM FOR RAMP CLOSURES, DETOUR SIGNS AND MISCELLANEOUS DETAILS SHEET 2 OF 2 FOR SP-6.
4. OMIT IF MEDIAN ISLAND EXIST.

ABBREVIATIONS

(CA) CALIFORNIA CODE

LEGENDS

- CONE
- PORTABLE SIGN
- DIRECTION OF TRAVEL
- EXISTING OVERHEAD SIGN

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

THD-7

ALBERT K YU	JOCELYN C CHIANG	JOHN YANG
JC 9/08	JC 7/08	
REVISED BY	DATE REVISED	FUNCTIONAL SUPERVISOR
CALCULATED-DESIGNED BY	CHECKED BY	

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® DTM

LAST REVISION 03-08-10 | DATE PLOTTED => 28-APR-2010 | TIME PLOTTED => 10:30

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	405, 710	7.6/8.8, 9.3	10	22

REGISTERED CIVIL ENGINEER 2-22-10 DATE

3-8-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER CAM CHAU No. 70305 Exp. 9-30-10 CIVIL STATE OF CALIFORNIA

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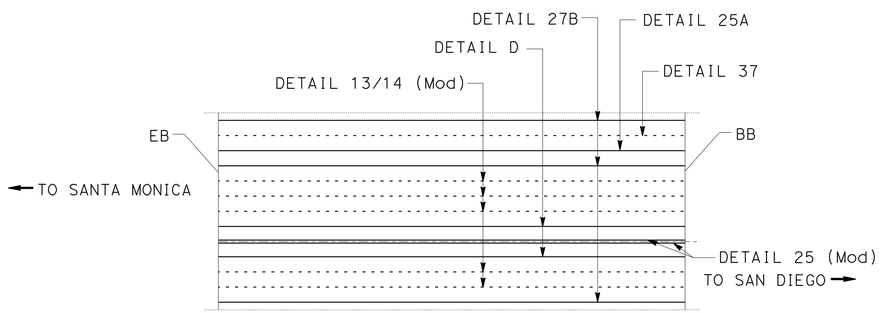
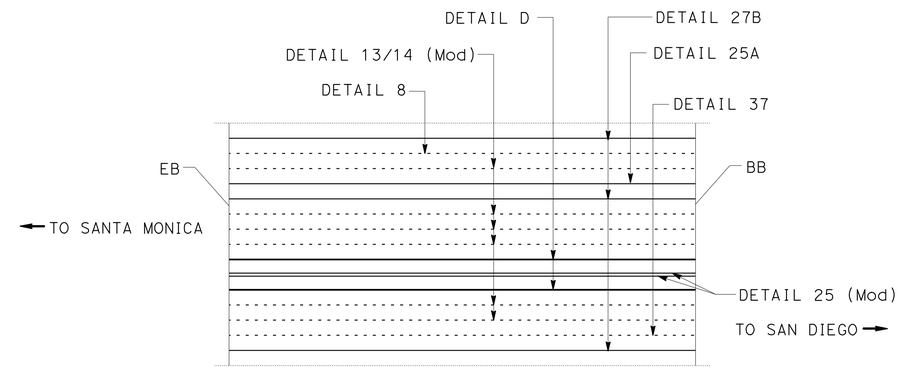
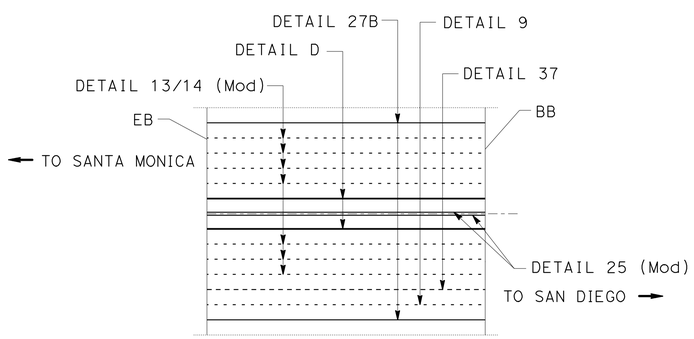


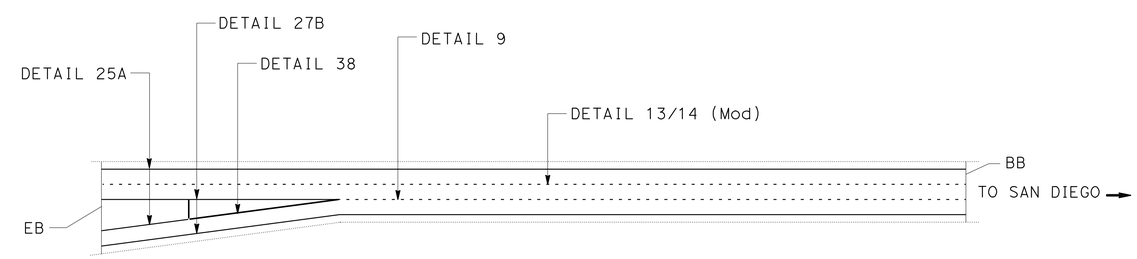
ROUTE 405/710 SEPARATION
BRIDGE No. 53-1210, PM 7.57



SANTA FE UNDERCROSSING
BRIDGE No. 53-1212, PM 8.06



McHELEN/RIVER AVENUE UNDERCROSSING
BRIDGE No. 53-1169, PM 8.45



N710/S405 CONNECTOR
BRIDGE No. 53-1209H, PM 9.30

PAVEMENT DELINEATION DETAILS
NO SCALE

PDD-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR: HAMID SAADATNEJADI

CALCULATED-DESIGNED BY: CAM CHAU
CHECKED BY: HAMID SAADATNEJADI

REVISED BY | DATE REVISED

LAST REVISION 03-08-10 | DATE PLOTTED => 28-APR-2010 | TIME PLOTTED => 10:30

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	405, 710	7.6/8.8, 9.3	11	22

REGISTERED CIVIL ENGINEER 2-22-10 DATE

3-8-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER CAM CHAU No. 70305 Exp. 9-30-10 CIVIL STATE OF CALIFORNIA

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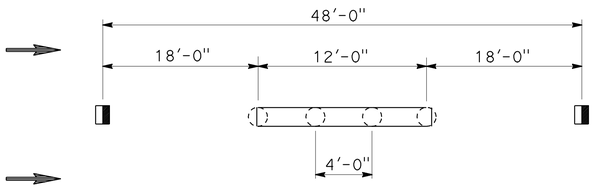
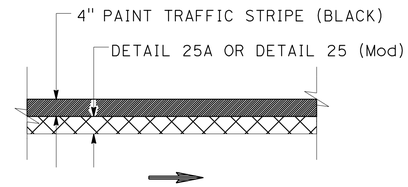


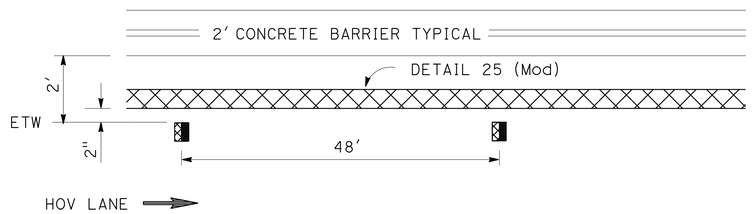
DETAIL 13/14 (Mod)



4" BLACK CONTRAST STRIPE DETAIL

NOTES:

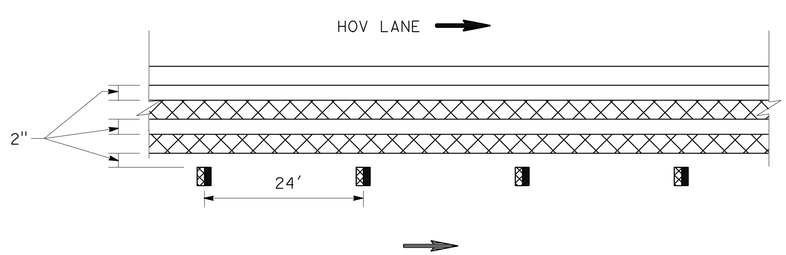
1. DETAIL 13/14 (Mod) CONSISTS OF DETAIL 13 WITH THE ADDITION OF A 4" WIDE THERMOPLASTIC STRIPE 12' LONG ON TOP OF TYPE A NON-REFLECTIVE PAVEMENT MARKERS.



DETAIL 25 (Mod)

LEGEND:

- 4" WHITE THERMOPLASTIC TRAFFIC STRIPE
- 4" YELLOW THERMOPLASTIC TRAFFIC STRIPE
- 4" PAINT TRAFFIC STRIPE (BLACK)
- TYPE A MARKER
- TYPE G MARKER
- TYPE H MARKER
- DIRECTION OF TRAVEL



DETAIL D

PAVEMENT DELINEATION DETAILS

NO SCALE

PDD-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR: HAMID SAADATNEJADI
CALCULATED-DESIGNED BY: CAM CHAU
CHECKED BY: HAMID SAADATNEJADI
REVISED BY
DATE REVISED

LAST REVISION 03-08-10 | DATE PLOTTED => 28-APR-2010 | TIME PLOTTED => 10:30

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	405, 710	7.6/8.8, 9.3	12	22

REGISTERED CIVIL ENGINEER 2-22-10 DATE

3-8-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER CAM CHAU No. 70305 Exp. 9-30-10 CIVIL STATE OF CALIFORNIA

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PAVEMENT DELINEATION QUANTITIES

LOCATION				REMOVE YELLOW THERMOPLASTIC TRAFFIC STRIPE (HAZARDOUS WASTE)	REMOVE THERMOPLASTIC TRAFFIC STRIPE	REMOVE PAVEMENT MARKER	4" PAINT TRAFFIC STRIPE (2-COAT) (BLACK)	THERMOPLASTIC TRAFFIC STRIPE										
								Det 8	Det 9	Det 13/14 (Mod)	Det 25 (Mod)	Det 25A	Det D		Det 27B	Det 36B		Det 37
								4" WHITE (BROKEN 17-7)	4" WHITE (BROKEN 17-7)	4" WHITE (BROKEN 36-12)	4" YELLOW	4" YELLOW	4" DOUBLE YELLOW	Det 27B 4" WHITE	4" WHITE	Det 27B 4" WHITE	Det 38 8" WHITE	8" WHITE (BROKEN 12-3)
Rte	PM	BRIDGE NAME	Br No.	LF	LF	EA	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF
405	7.57	ROUTE 405/710 SEPARATION	53-1210	1967	3723	218	562			1405	562	281	1124	562	843			281
405	8.06	SANTA FE AVENUE UC	53-1212	1417	2791	180	405	203		1213	405	203	809	405	607			203
405	8.45	McHELEN/RIVER AVENUE UC	53-1169	704	1531	117	235		118	820	235		469	235	235			118
710	9.30	N710/S405 CONNECTOR	53-1209H	850	1720	123	780		670	780		850			850	110	110	
			SUBTOTAL	4938	9765	638	1982	203	788	4218	1202	1334	2402	1202	2535	110	110	602
			TOTAL	4938	9765	638	1982	991		4218	8785						110	602

PAVEMENT DELINEATION QUANTITIES

PDQ-1

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY: CAM CHAU
CHECKED BY: HAMID SAADATNEJADI
FUNCTIONAL SUPERVISOR: HAMID SAADATNEJADI

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

LAST REVISION 03-08-10
DATE PLOTTED => 28-APR-2010
TIME PLOTTED => 10:31

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	405, 710	7.6/8.8, 9.3	13	22

REGISTERED CIVIL ENGINEER 2-22-10 DATE

3-8-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER CAM CHAU No. 70305 Exp. 9-30-10 CIVIL STATE OF CALIFORNIA

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PAVEMENT DELINEATION QUANTITIES

				PAVEMENT MARKER							
				Det 13/14 (Mod)	Det 13/14 (Mod)	Det 9	Det D	Det 25 (Mod)	Det 25A	Det 36B	Det 37
		LOCATION		(NON-REFLECTIVE) TYPE A	(RETROREFLECTIVE) TYPE G	(RETROREFLECTIVE) TYPE G	(RETROREFLECTIVE) TYPE H	(RETROREFLECTIVE) TYPE H	(RETROREFLECTIVE) TYPE H	Det 38 (RETROREFLECTIVE) TYPE G	(RETROREFLECTIVE) TYPE G
ROUTE	PM	BRIDGE NAME	Br No.	EA	EA	EA	EA	EA	EA	EA	EA
405	7.57	ROUTE 405/710 SEPARATION	53-1210	117	30		24	13	13		21
405	8.06	SANTA FE AVENUE UC	53-1212	101	26		18	9	9		16
405	8.45	McHELEN/RIVER AVENUE UC	53-1169	68	18	3	11	6			10
710	9.30	N710/S405 CONNECTOR	53-1209H	65	17	15				6	20
			SUBTOTAL	351	91	18	53	28	22	6	67
			TOTAL	351	285						

PAVEMENT DELINEATION QUANTITIES

PDQ-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR: HAMID SAADATNEJADI
CALCULATED-DESIGNED BY: CAM CHAU
CHECKED BY: HAMID SAADATNEJADI
REVISED BY
DATE REVISED

LAST REVISION 03-08-10
DATE PLOTTED => 28-APR-2010
TIME PLOTTED => 10:31

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	405, 710	7.6/8.8, 9.3	14	22

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

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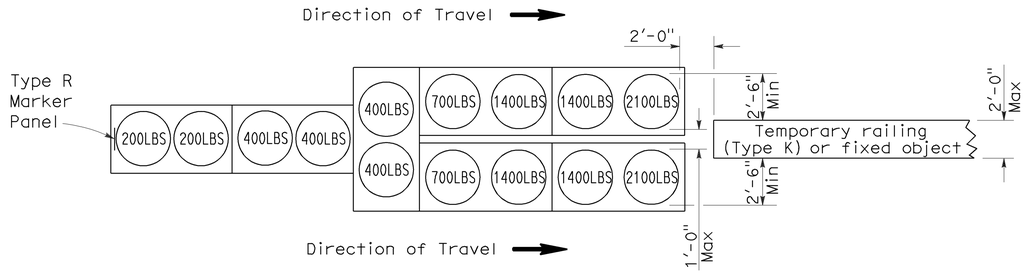
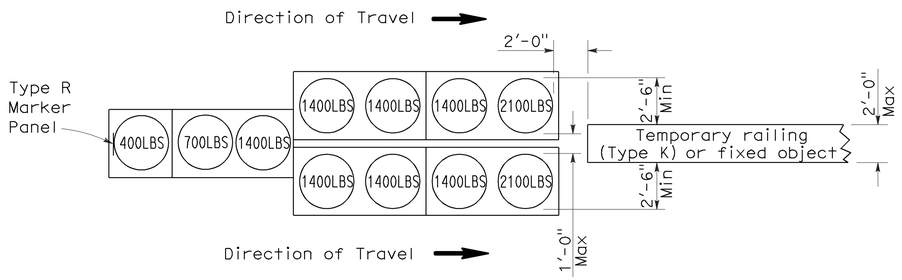
To accompany plans dated 3-8-10



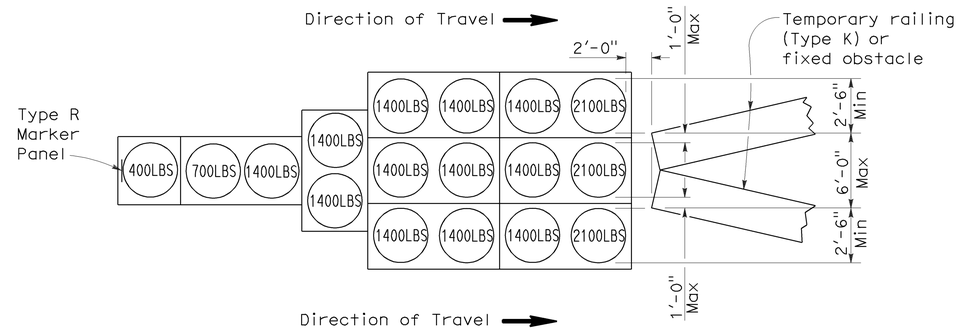
ARRAY 'TU14'

Approach speed 45 mph or more



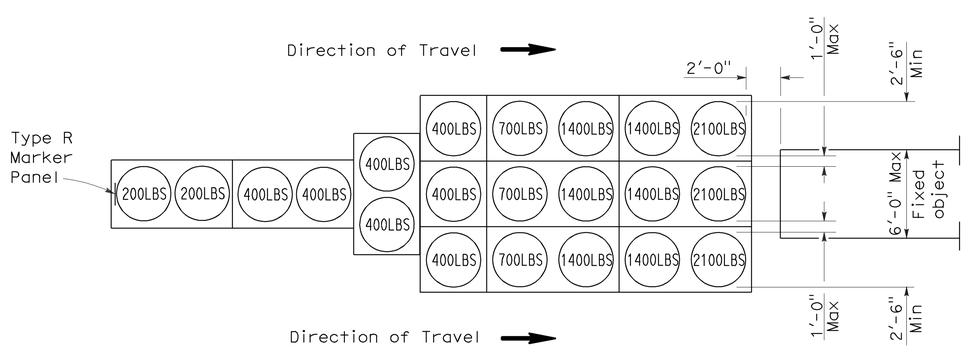
ARRAY 'TU11'

Approach speed less than 45 mph



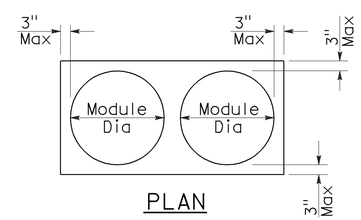
ARRAY 'TU17'

Approach speed less than 45 mph

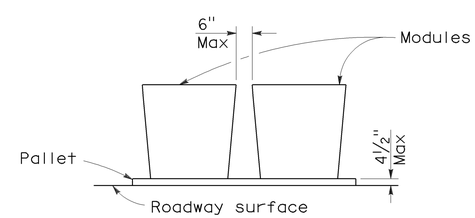


ARRAY 'TU21'

Approach speed 45 mph or more



PLAN



ELEVATION

CRASH CUSHION PALLET DETAIL

See Note 7

NOTES:

1. (XXX) Indicates sand filled module location and weight of sand in pounds for each module. Module spacing is based on the greater diameter of the module.
2. All sand weights are nominal.
3. Temporary crash cushion arrays shall not encroach on the traveled way.
4. Place the top of Type R marker panel 1" below the module lid.
5. Refer to Standard Plan A73B for marker details.
6. Approach speeds indicated conform to NCHRP 350 Report criteria.
7. Use of pallets is optional.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY CRASH CUSHION, SAND FILLED (UNIDIRECTIONAL)

NO SCALE

RSP T1A DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T1A
DATED MAY 1, 2006 - PAGE 211 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP T1A

2006 REVISED STANDARD PLAN RSP T1A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	405, 710	7.6/8.8, 9.3	15	22

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

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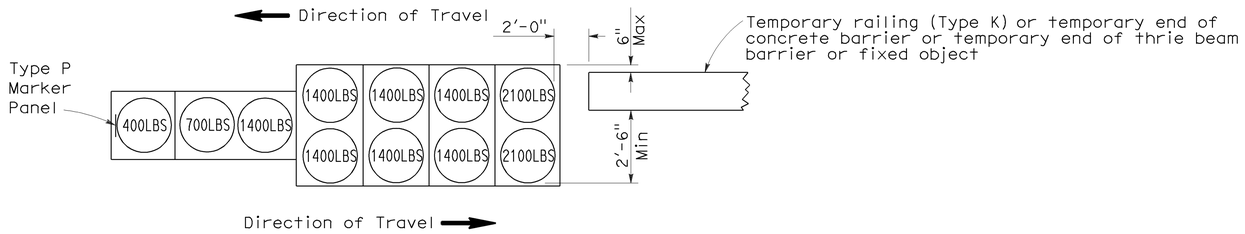
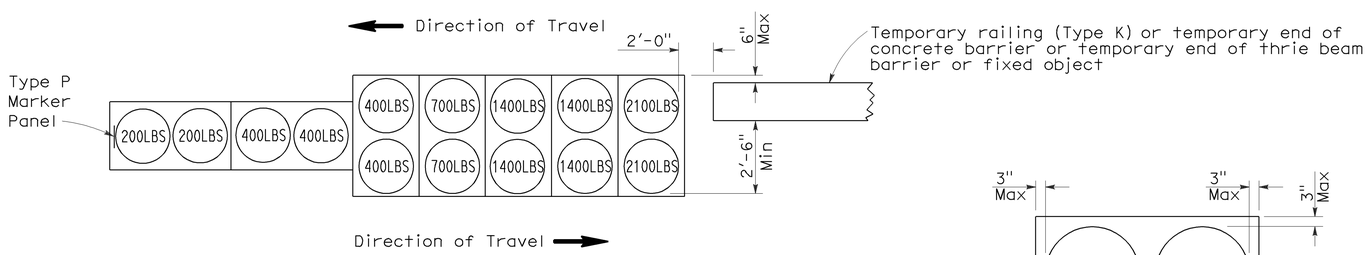
To accompany plans dated 3-8-10



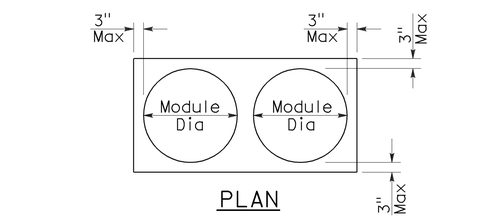
ARRAY 'TB11'

Approach speed less than 45 mph

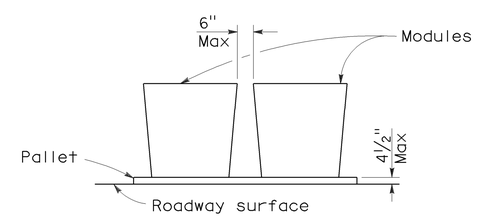


ARRAY 'TB14'

Approach speed 45 mph or more



PLAN



ELEVATION

CRASH CUSHION PALLET DETAIL

See Note 7

NOTES:

1. (XXX) Indicates sand filled module location and weight of sand in pounds for each module. Module spacing is based on the greater diameter of the module.
2. All sand weights are nominal.
3. Temporary crash cushion arrays shall not encroach on the traveled way.
4. Place the Type P marker panel so that the bottom of the panel rests upon the pallet.
5. Refer to Standard Plan A73B for marker details.
6. Approach speeds indicated conform to NCHRP 350 Report criteria.
7. Use of pallets is optional.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY CRASH CUSHION, SAND FILLED (BIDIRECTIONAL)

NO SCALE

RSP T1B DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T1B
DATED MAY 1, 2006 - PAGE 212 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP T1B

2006 REVISED STANDARD PLAN RSP T1B

5-15-08

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	405, 710	7.6/8.8, 9.3	16	22

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

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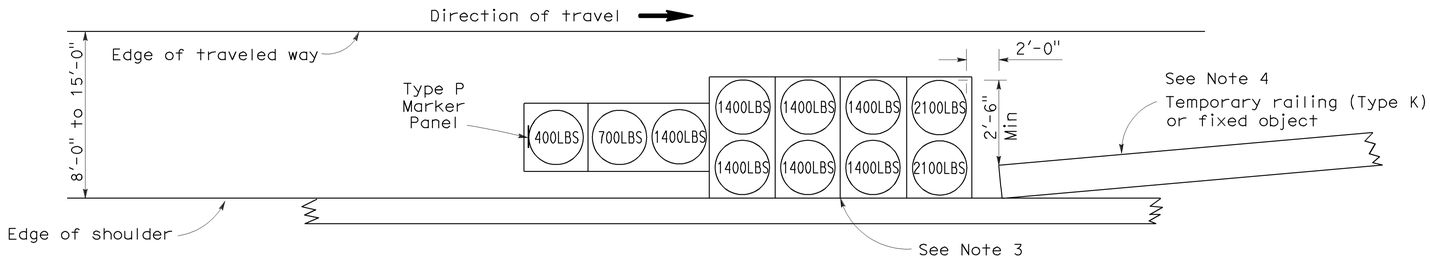
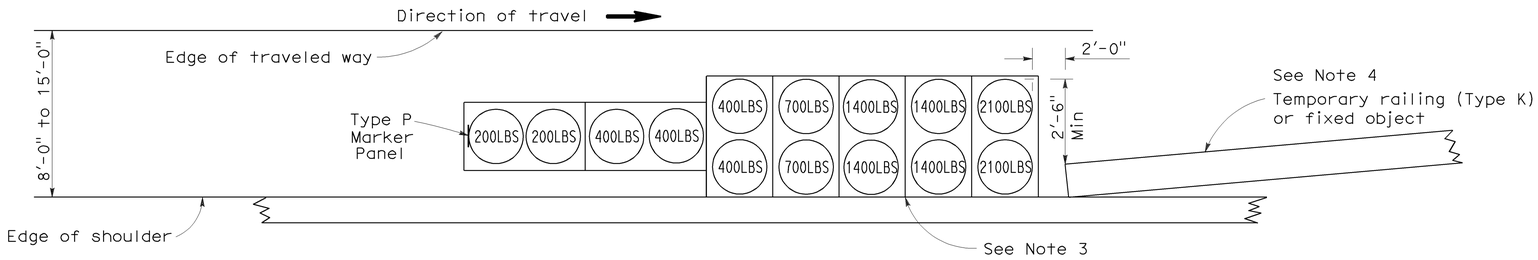
To accompany plans dated 3-8-10



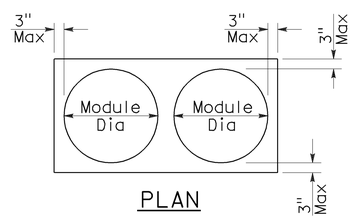
ARRAY 'TS11'

Approach speed less than 45 mph
See Note 9

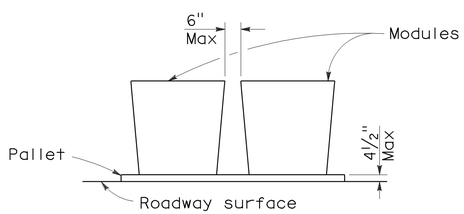


ARRAY 'TS14'

Approach speed 45 mph or more
See Note 9



PLAN



ELEVATION

CRASH CUSHION PALLET DETAIL

See Note 11

NOTES:

1. (XXX) Indicates sand filled module location and weight of sand in pounds for each module. Module spacing is based on the greater diameter of the module.
2. All sand weights are nominal.
3. The temporary crash cushion arrays shown on this plan shall be used only in locations where there will be traffic on one side of the temporary crash cushion array.
4. If the fixed object or approach end of the temporary railing is less than 15'-0" from the edge of traveled way, a temporary crash cushion is required in a construction or work zone.
5. Temporary crash cushion arrays shall not encroach on the traveled way.
6. Arrays for median shoulders shall conform to details shown on this plan for outside shoulders.
7. Place the Type P marker panel so that the bottom of the panel rests upon the pallet and faces traffic.
8. Refer to Standard Plan A73B for marker details.
9. For shoulder widths less than 8'-0", appropriate approved crash cushion protection, other than sand filled modules, shall be provided at fixed objects and at approach ends of temporary railing. The specific type of crash cushion shall be as shown on the project plans or as specified in the Special Provisions, or if not shown on the project plans or specified in the Special Provisions, shall be as approved by the Engineer.
10. Approach speeds indicated conform to NCHRP 350 Report criteria.
11. Use of pallets is optional.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY CRASH CUSHION, SAND FILLED (SHOULDER INSTALLATIONS)

NO SCALE

RSP T2 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T2
DATED MAY 1, 2006 - PAGE 213 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP T2

2006 REVISED STANDARD PLAN RSP T2

5-15-08

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	405, 710	7.6/8.8, 9.3	17	22

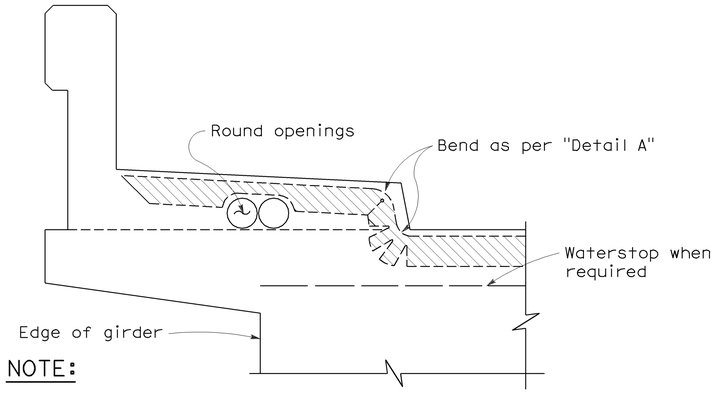
REGISTERED CIVIL ENGINEER

October 5, 2007
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Efthymios Delis No. C51434 Exp. 6-30-08 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.

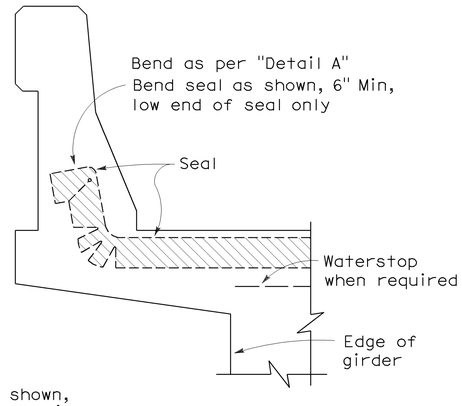
To accompany plans dated 3-8-10



NOTE:

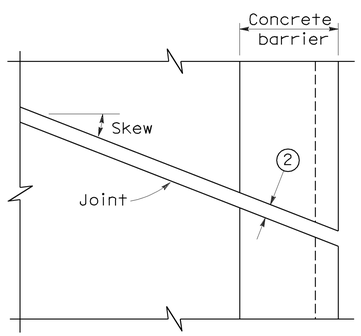
Type "B" seal shown. Type "A" seals to comform to the general path of seal shown, cuts for bending not required. Bend Type "A" seals 3" up into curb or barrier rail on only the low end of the seal.

CONCRETE BARRIER AND SIDEWALK

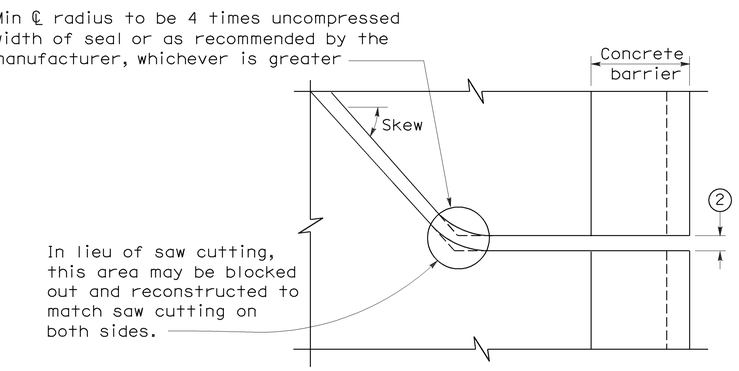


CONCRETE BARRIER

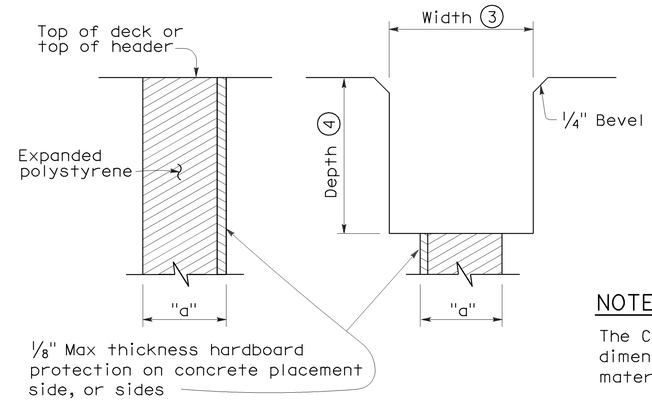
JOINT SEALS DETAILS



PLAN OF JOINT (SKEW ≤ 20°)



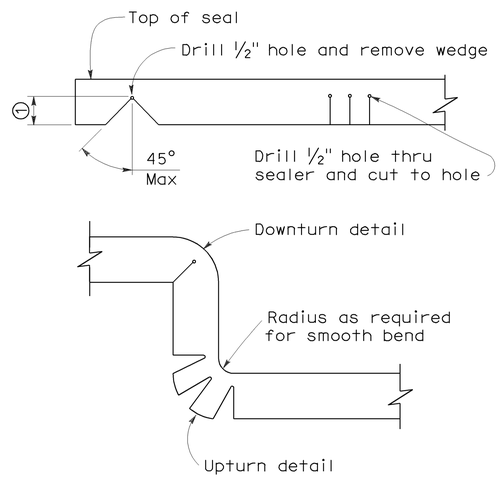
PLAN OF JOINT (SKEW > 20°)



FORMING DETAIL SAWCUT DETAIL

NOTE:

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



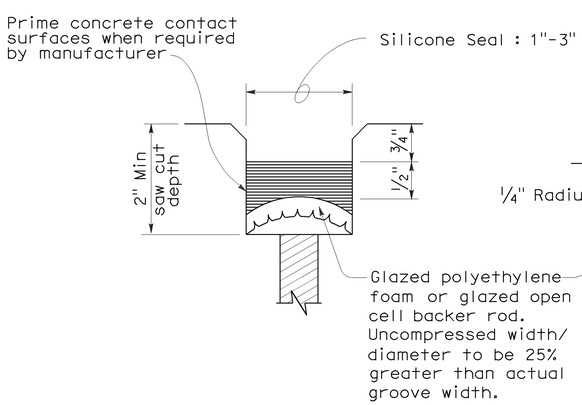
DETAIL A

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.

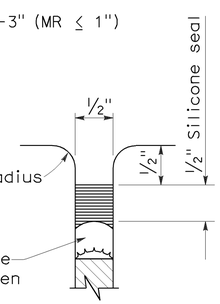
DIMENSIONS "a" OF JOINT REQUIRED

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"



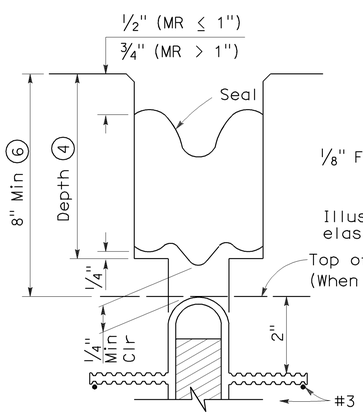
TYPE A SEAL

Movement rating : Silicone = 1" Max

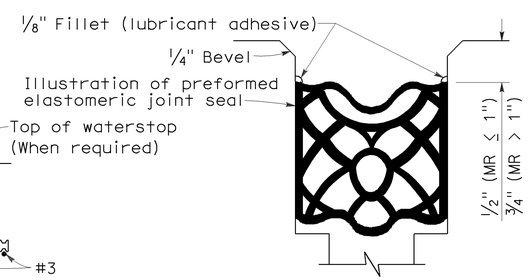


TYPE AL SEAL

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 5, 2007 SUPERSEDES STANDARD PLAN B6-21 DATED MAY 1, 2006 - PAGE 258 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP B6-21

2006 REVISED STANDARD PLAN RSP B6-21

5-8-07

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	405,710	7.6/8.8, 9.3	18	22

REGISTERED CIVIL ENGINEER 11/24/09 DATE

3-8-10
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER GERALD D. JOO No. C65380 Exp. 09/30/11 CIVIL STATE OF CALIFORNIA

To get to the Caltrans web site, go to: http://www.dot.ca.gov

INDEX TO PLANS

SHEET NO.	TITLE
1	GENERAL PLAN NO. 1
2	GENERAL PLAN NO. 2
3	GENERAL PLAN NO. 3
4	MISCELLANEOUS DETAILS NO. 1
5	MISCELLANEOUS DETAILS NO. 2

STANDARD PLANS DATED MAY 2006

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

STANDARD PLAN SHEET NO.

DETAIL NO.

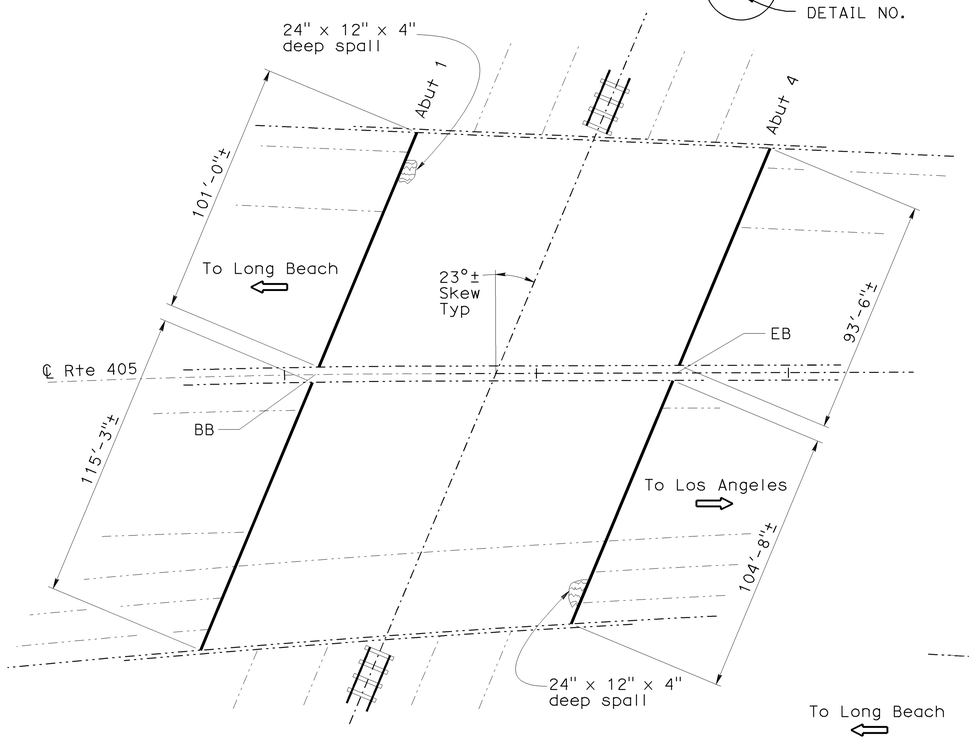
LEGEND:

Indicates existing.

Indicates direction of traffic.

Indicates location of existing joint seal removal and placement of new joint seal. Prior to placement of new joint seal repair joint spalls.

Indicates removal of unsound concrete and place rapid setting concrete patch. Actual area may vary and will be determined by the Engineer.



223RD STREET OH

Br No. 53-1165, Rte 405, PM 8.2
1" = 30'

223RD STREET OH — BRIDGE NO. 53-1165

QUANTITIES

REMOVE UNSOUND CONCRETE	75	CF
CLEAN EXPANSION JOINT	414	LF
RAPID SETTING CONCRETE (PATCH)	75	CF
JOINT SEAL (MR 1")	414	LF

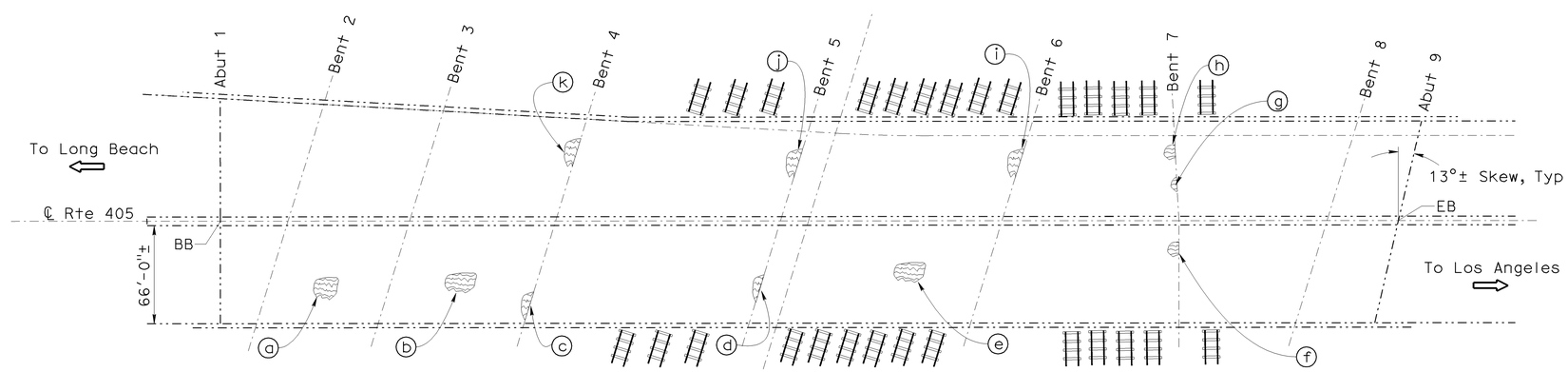
NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL. EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.

DOLORES YARD OH — BRIDGE NO. 53-1168

QUANTITIES

REMOVE UNSOUND CONCRETE	6	CF
RAPID SETTING CONCRETE (PATCH)	6	CF

- (a) 3" x 3" x 3" deep spall
- (b) 18" x 12" x 3" deep spall
- (c) 6" x 24" x 3" deep spall
- (d) 6" x 12" x 3" deep spall
- (e) 6" x 12" x 3" deep spall
- (f) 12" x 18" x 3" deep spall
- (g) 6" x 18" x 3" deep spall
- (h) 18" x 24" x 3" deep spall
- (i) 18" x 24" x 3" deep spall
- (j) 18" x 24" x 3" deep spall
- (k) 18" x 24" x 3" deep spall



DOLORES YARD OH

Br No. 53-1168, Rte 405, PM 8.8
1" = 50'

TONY D. BRAKE, DESIGN ENGINEER	DESIGN	BY Gerald Joo	CHECKED Vinh Dang	LOAD FACTOR DESIGN	LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD	
	DETAILS	BY Tom Dang	CHECKED Gerald Joo	LAYOUT	BY Tom Dang	CHECKED Gerald Joo
	QUANTITIES	BY Gerald Joo	CHECKED Vinh Dang	SPECIFICATIONS	BY Binayak Sharma	PLANS AND SPECS COMPARED Binayak Sharma

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

CU 07
EA 260901

BRIDGE NO. Various
POST MILE Varies

ROUTE 405,710 BRIDGES
GENERAL PLAN NO. 1

STRUCTURES MAINTENANCE GENERAL PLAN SHEET (ENGLISH) (REV. 10/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES: 4-01-09, 9-02-09, 9-14-09, 10-19-09, 10-26-09, 11-04-09, 11-18-09, 11-19-09

SHEET 01 OF 05

FILE => 07-260901-a-gp01.dgn

USERNAME => s117283 DATE PLOTTED => 23-FEB-2010 TIME PLOTTED => 11:27

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	405,710	7.6/8.8, 9.3	19	22

REGISTERED CIVIL ENGINEER 1/24/09 DATE

3-8-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER GERALD D. JOO No. C65380 Exp. 09/30/11 CIVIL STATE OF CALIFORNIA

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To get to the Caltrans web site, go to: http://www.dot.ca.gov

LEGEND:

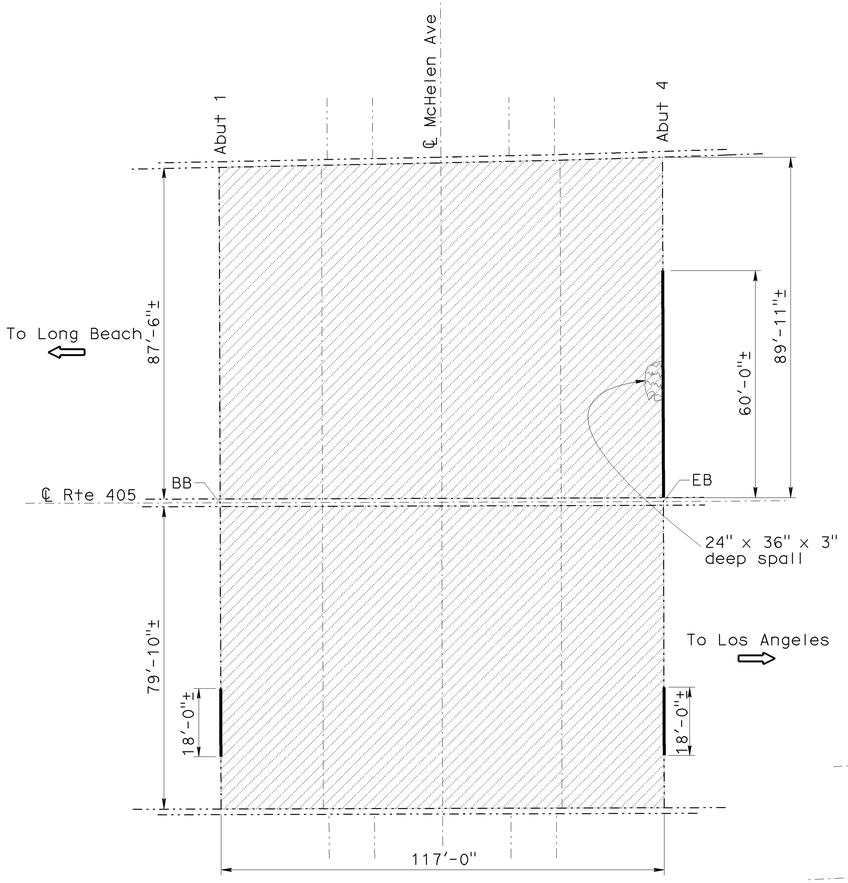
Indicates existing.

Indicates direction of traffic.

Indicates location of existing joint seal removal and placement of new joint seal. Prior to placement of new joint seal repair joint spalls.

Indicates removal of unsound concrete and place rapid setting concrete patch. Actual area may vary and will be determined by the Engineer.

Indicates limits of clean and treat existing bridge deck with high molecular weight methacrylate. Prior to bridge deck treatment, remove unsound concrete and patch with rapid setting concrete.



MC HELEN AVENUE UC

Br No. 53-1169, Rte 405, PM 8.5
1" = 20'

MC HELEN AVENUE UC BRIDGE NO. 53-1169

QUANTITIES

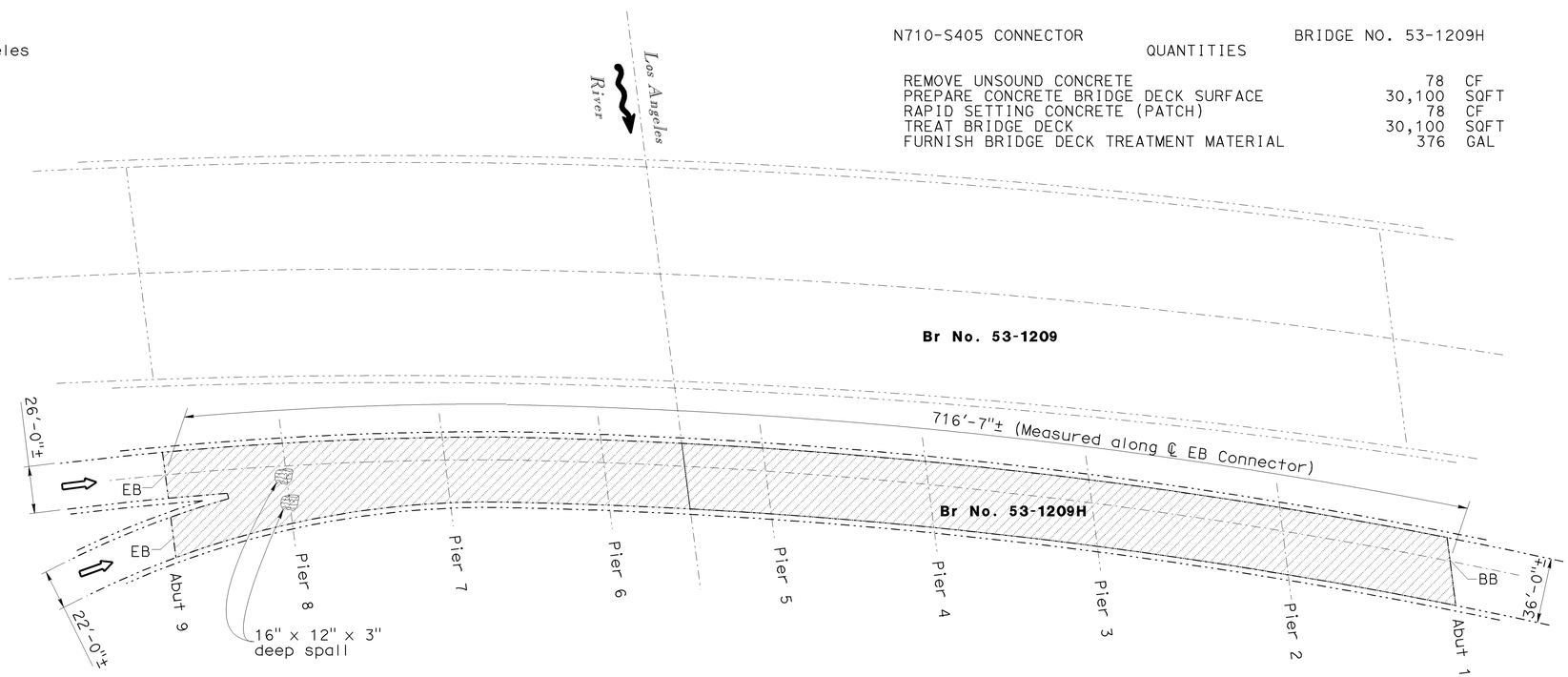
REMOVE UNSOUND CONCRETE	56	CF
PREPARE CONCRETE BRIDGE DECK SURFACE	20,000	SQFT
CLEAN EXPANSION JOINT	96	LF
RAPID SETTING CONCRETE (PATCH)	56	CF
JOINT SEAL (MR 1 1/2")	96	LF
TREAT BRIDGE DECK	20,000	SQFT
FURNISH BRIDGE DECK TREATMENT MATERIAL	251	GAL
PUBLIC SAFETY PLAN	LUMP	SUM

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

N710-S405 CONNECTOR BRIDGE NO. 53-1209H

QUANTITIES

REMOVE UNSOUND CONCRETE	78	CF
PREPARE CONCRETE BRIDGE DECK SURFACE	30,100	SQFT
RAPID SETTING CONCRETE (PATCH)	78	CF
TREAT BRIDGE DECK	30,100	SQFT
FURNISH BRIDGE DECK TREATMENT MATERIAL	376	GAL



N710-S405 CONNECTOR

Br No. 53-1209H, Rte 710, PM 9.3
1" = 40'

TONY D. BRAKE DESIGN ENGINEER	DESIGN	BY Gerald Joo	CHECKED Vinh Dang	LOAD FACTOR DESIGN	LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD		
	DETAILS	BY Tom Dang	CHECKED Gerald Joo	LAYOUT	BY Tom Dang	CHECKED Gerald Joo	
	QUANTITIES	BY Gerald Joo	CHECKED Vinh Dang	SPECIFICATIONS	BY Binayak Sharma	PLANS AND SPECS COMPARED Binayak Sharma	

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. Various
POST MILE Varies

ROUTE 405,710 BRIDGES
GENERAL PLAN NO. 2

STRUCTURES MAINTENANCE GENERAL PLAN SHEET (ENGLISH) (REV. 10/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 07
EA 260901

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES: 9-02-09 9-14-09 10-19-09 11-19-09

SHEET 02 OF 05

FILE => 07-260901-a-gp02.dgn

USERNAME = s117283 DATE PLOTTED => 23-FEB-2010 TIME PLOTTED => 11:28

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	405,710	7.6/8.8, 9.3	20	22

REGISTERED CIVIL ENGINEER 11/24/09 DATE

3-8-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER GERALD D. JOO No. C65380 Exp. 09/30/11 CIVIL STATE OF CALIFORNIA

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LEGEND:

Indicates existing.

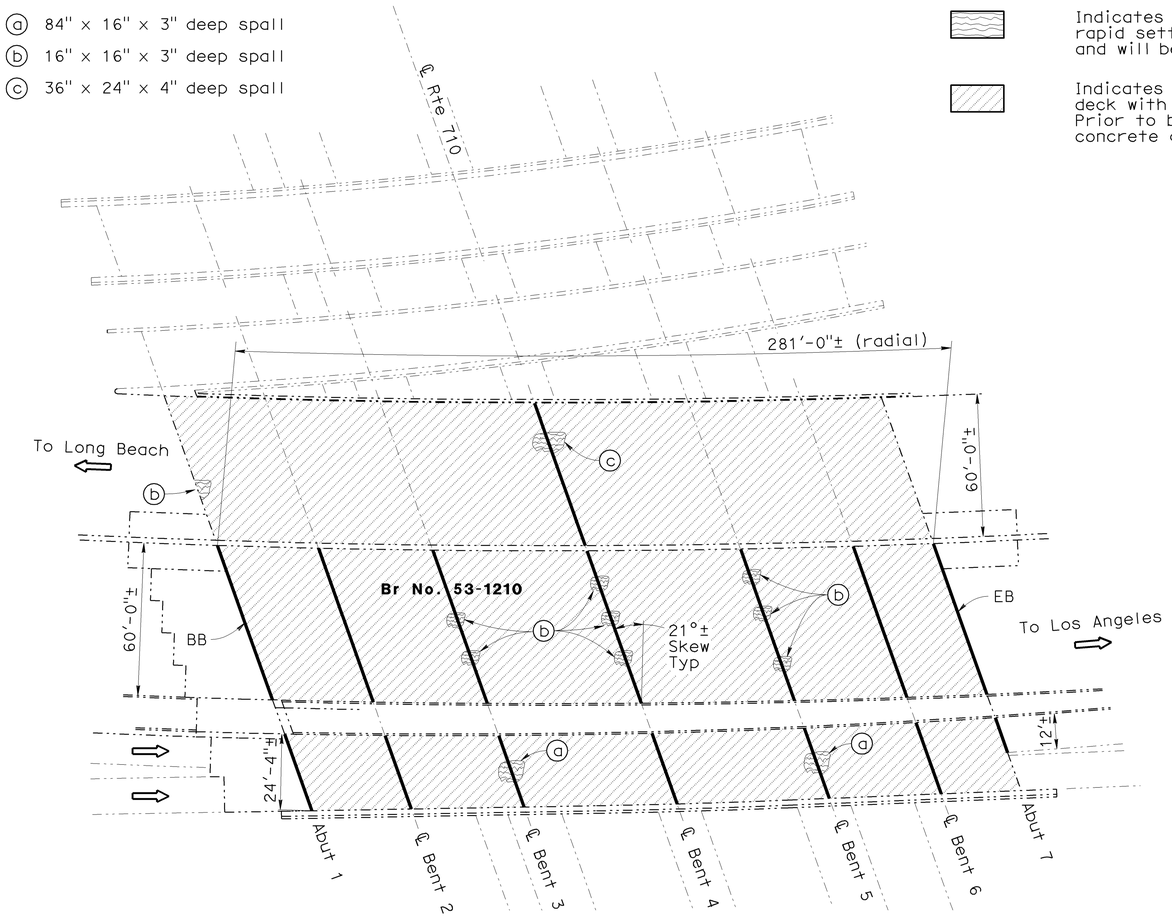
Indicates direction of traffic.

Indicates location of existing joint seal removal and placement of new joint seal. Prior to placement of new joint seal repair joint spalls.

Indicates removal of unsound concrete and place rapid setting concrete patch. Actual area may vary and will be determined by the Engineer.

Indicates limits of clean and treat existing bridge deck with high molecular weight methacrylate. Prior to bridge deck treatment, remove unsound concrete and patch with rapid setting concrete.

ⓐ 84" x 16" x 3" deep spall
ⓑ 16" x 16" x 3" deep spall
ⓒ 36" x 24" x 4" deep spall



ROUTE 405/710 SEPARATION

Br No. 53-1210, Rte 405, PM 7.57
NO SCALE

ROUTE 405-710 SEPARATION BRIDGE NO. 53-1210

QUANTITIES

REMOVE UNSOUND CONCRETE	125	CF
PREPARE CONCRETE BRIDGE DECK SURFACE	40,700	SQFT
CLEAN EXPANSION JOINT	688	LF
RAPID SETTING CONCRETE (PATCH)	125	CF
JOINT SEAL (MR 1 1/2")	688	LF
TREAT BRIDGE DECK	40,700	SQFT
FURNISH BRIDGE DECK TREATMENT MATERIAL	511	GAL

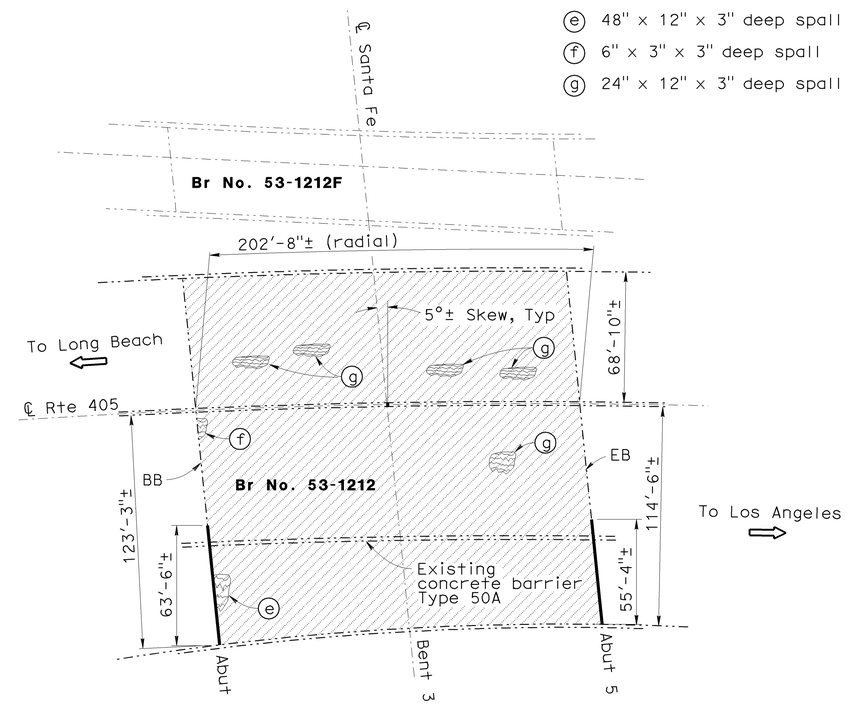
NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL. EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.

SANTA FE AVENUE UC BRIDGE NO. 53-1212

QUANTITIES

REMOVE UNSOUND CONCRETE	103	CF
PREPARE CONCRETE BRIDGE DECK SURFACE	37,500	SQFT
CLEAN EXPANSION JOINT	321	LF
RAPID SETTING CONCRETE (PATCH)	103	CF
JOINT SEAL (MR 1")	118	LF
TREAT BRIDGE DECK	37,500	SQFT
FURNISH BRIDGE DECK TREATMENT MATERIAL	470	GAL
PUBLIC SAFETY PLAN	LUMP	SUM

ⓔ 48" x 12" x 3" deep spall
ⓕ 6" x 3" x 3" deep spall
ⓖ 24" x 12" x 3" deep spall



SANTA FE AVENUE UC

Br No. 53-1212, Rte 405, PM 8.1
1'-40"

TONY D. BRAKE, DESIGN ENGINEER	DESIGN	BY Gerald Joo	CHECKED Vinh Dang	LOAD FACTOR DESIGN	LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD
	DETAILS	BY Tom Dang	CHECKED Gerald Joo	LAYOUT	BY Tom Dang / CHECKED Gerald Joo
	QUANTITIES	BY Gerald Joo	CHECKED Vinh Dang	SPECIFICATIONS	BY Binayak Sharma / PLANS AND SPECS COMPARED Binayak Sharma

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

CU 07
EA 260901

BRIDGE NO. Various
POST MILE Varies

ROUTE 405,710 BRIDGES
GENERAL PLAN NO. 3

STRUCTURES MAINTENANCE GENERAL PLAN SHEET (ENGLISH) (REV. 10/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES: 9-08-09 9-14-09 10-19-09 10-29-09 11-12-09 11-24-09 11-19-09

SHEET 03 OF 05

FILE => 07-260901-a-gp03.dgn

USERNAME => s117283 DATE PLOTTED => 23-FEB-2010 TIME PLOTTED => 11:28

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	405,710	7.6/8.8, 9.3	21	22

REGISTERED CIVIL ENGINEER 11/24/09 DATE

3-8-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER GERALD D. JOO No. C65380 Exp. 09/30/11 CIVIL STATE OF CALIFORNIA

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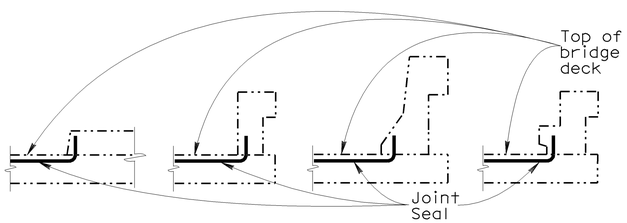
JOINT SEAL TABLE

BRIDGE NAME	BRIDGE NUMBER	LOCATION		MINIMUM "MR" (INCHES)	APPROX LENGTH (FT)	EXISTING WATERSTOP	APPROX DEPTH TO CLEAN EXP JOINT (INCHES)	APPROX DEPTH OF JOINT SPALLS (INCHES)	APPROX WIDTH OF JOINT SPALLS (INCHES)	APPROX LENGTH OF JOINT SPALLS (FEET)
223RD STREET OH	53-1165	Abut 1	BW	1	216	NO	12	3	6	5
		Abut 4	BW	1	198	NO	12	3	6	5
MC HELEN AVENUE UC	53-1169	Abut 1	BW	1½*	18	NO	12	3	6	5
		Abut 4	BW	1½*	78	NO	12	3	6	5
RTE 405/710 SEPARATION	53-1210	Abut 1	PN	1½*	91	NO	12	3	6	5
		BENT 2	DJ	1½*	91	NO	12	3	6	5
		BENT 3	DJ	1½*	91	NO	12	3	6	5
		BENT 4	DJ	1½*	155	NO	12	3	6	5
		BENT 5	DJ	1½*	91	NO	12	3	6	5
		BENT 6	DJ	1½*	91	NO	12	3	6	5
		ABUT 7	PN	1½*	78	NO	12	3	6	5
SANTA FE UC	53-1212	Abut 1	PN	1	64	NO	12	3	6	5
		Abut 5	PN	1	54	NO	12	3	6	5

NOTES: * use Type "A" Silicone Joint Seal.
BW = backwall.
DJ = deck joint.
PN = paving notch.

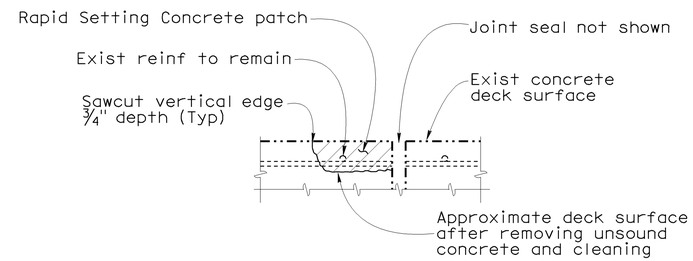


BARRIER RAIL

JOINT SEAL AT LOW SIDE OF DECK

Note: Details shown for illustration purposes only.

For use only where deck joint matches the sidewalk, curb or barrier rail joint.



JOINT SPALL REPAIR DETAIL

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

NOTES:

The following notes apply to JOINT SEAL TYPE A:

Install Joint Seal (MR = ½") 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 RSP B6-21 sheet.

The following notes apply to JOINT SEAL TYPE B:

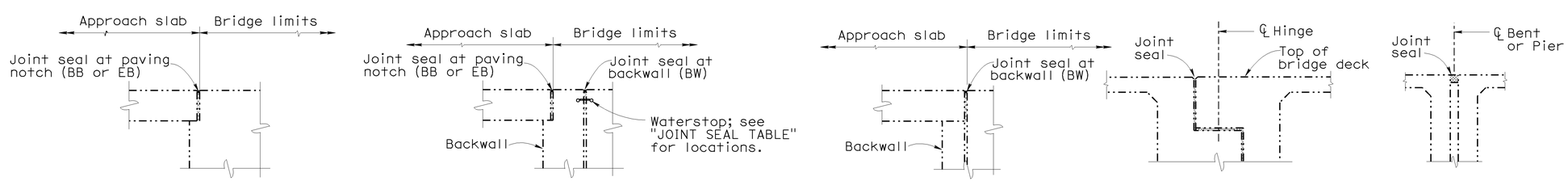
1) Seal must satisfy both minimum Movement Rating (MR) and minimum W1 requirements.

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 RSP B6-21 sheet.



DIAPHRAGM ABUTMENT | ABUTMENT WITH BACKWALL AND PAVING NOTCH | ABUTMENT WITH BACKWALL | HINGE | BENT OR PIER

JOINT SEAL LOCATION

NO SCALE

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

DESIGN	Gerald Joo		Vinh Dang
DETAILS	BY Tom Dang		CHECKED Gerald Joo
QUANTITIES	BY Gerald Joo		CHECKED Vinh Dang

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

CU 07
EA 206901

BRIDGE NO. Various
POST MILE Varies

ROUTE 405,710 BRIDGES
MISCELLANEOUS DETAILS NO. 1

STRUCTURES MAINTENANCE DETAIL SHEET (ENGLISH) (REV. 10/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES 9-08-09 10-19-09 10-29-09

SHEET 04 OF 05

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USERNAME => s117283 DATE PLOTTED => 23-FEB-2010 TIME PLOTTED => 11:26

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	LA	405,710	7.6/8.8, 9.3	22	22

REGISTERED CIVIL ENGINEER 11/24/09 DATE

3-8-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER GERALD D. JOO No. C65380 Exp. 09/30/11 CIVIL STATE OF CALIFORNIA

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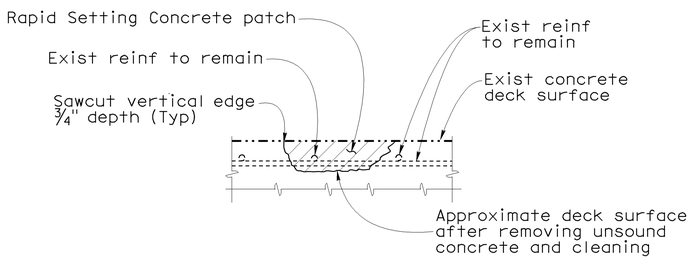
DECK REPAIR TABLE
REMOVE UNSOUND CONCRETE AND RAPID SETTING CONCRETE (PATCH)

BRIDGE NAME	BRIDGE NUMBER	APPROXIMATE AREA DAMAGED (%)	APPROXIMATE DEPTH (INCHES)
223RD STREET OH	53-1165	1	3
MC HELEN AVENUE UC	53-1169	1	3
N710-S405 CONNECTOR	53-1209H	1	3
RTE 405/710 SEPARATION	53-1210	1	3
SANTA FE AVENUE UC	53-1212	1	3

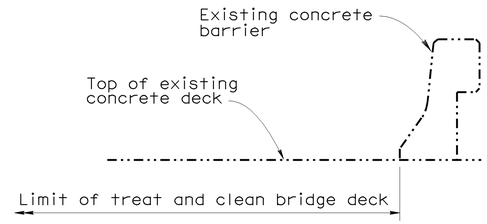
DECK REPAIR NOTES:

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 1 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.

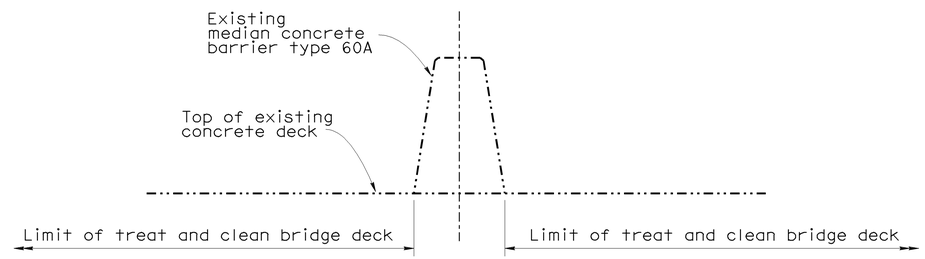


DECK DAMAGE REPAIR DETAIL

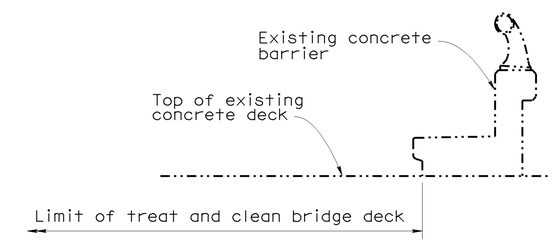
Location will be determined by the Engineer. Reinforcement may be encountered during deck concrete removal and is to remain undamaged.



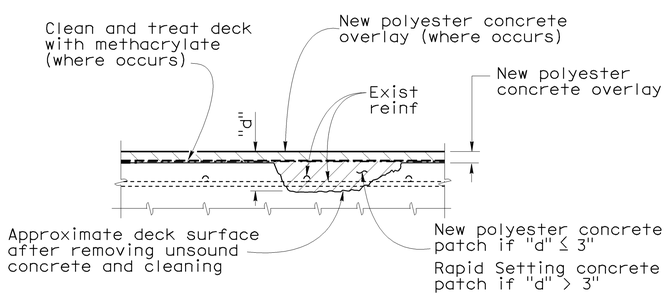
EOD BARRIER



MEDIAN BARRIER

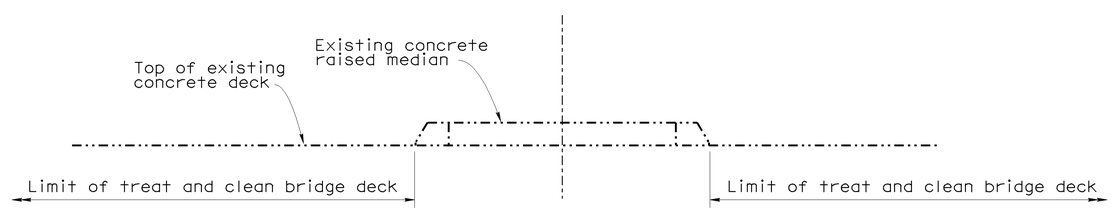


SIDEWALK BARRIER TYPE 2

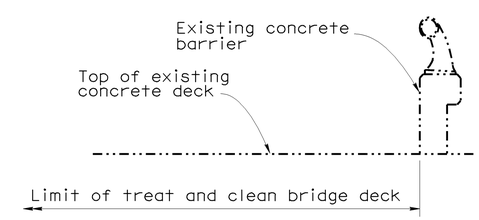


DECK OVERLAY DETAIL

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



RAISED MEDIAN



SIDEWALK BARRIER TYPE 1

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

TYPICAL LIMITS OF DECK WORK

NO SCALE

	BY	CHECKED
DESIGN	Gerald Joo	Vinh Dang
DETAILS	Tom Dang	Gerald Joo
QUANTITIES	Gerald Joo	Vinh Dang

STATE OF CALIFORNIA
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ROUTE 405,710 BRIDGES
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STRUCTURES MAINTENANCE DETAIL SHEET (ENGLISH) (REV. 10/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 07
EA 260901

DISREGARD PRINTS BEARING EARLIER REVISION DATES 9-26-09 10-19-09

REVISION DATES

SHEET 05 OF 05

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USERNAME => s117283 DATE PLOTTED => 23-FEB-2010 TIME PLOTTED => 11:27