INDEX OF PLANS

| SHEET No. | DESCRIPTION |
|---|---|
| 1 | TITLE AND LOCATION MAP |
| 2 | CONSTRUCTION AREA SIGNS |
| 3-9 | TRAFFIC HANDLING DETAILS |
| 10-11 | PAVEMENT DELINEATION QUANTITIES |
| 12-21 | REVISED STANDARD PLANS |

STRUCTURE PLANS

| | |
|---|---|
| 22-36 | ROUTES 110 BRIDGES |

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

STATE OF CALIFORNIA

# DEPARTMENT OF TRANSPORTATION

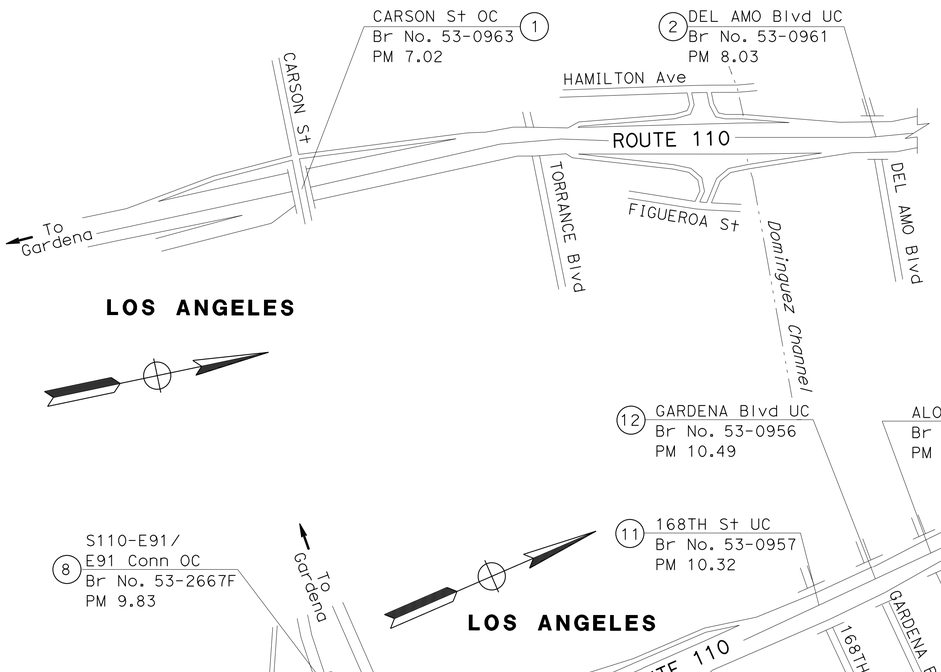
ACNHPI-110-1(825)E

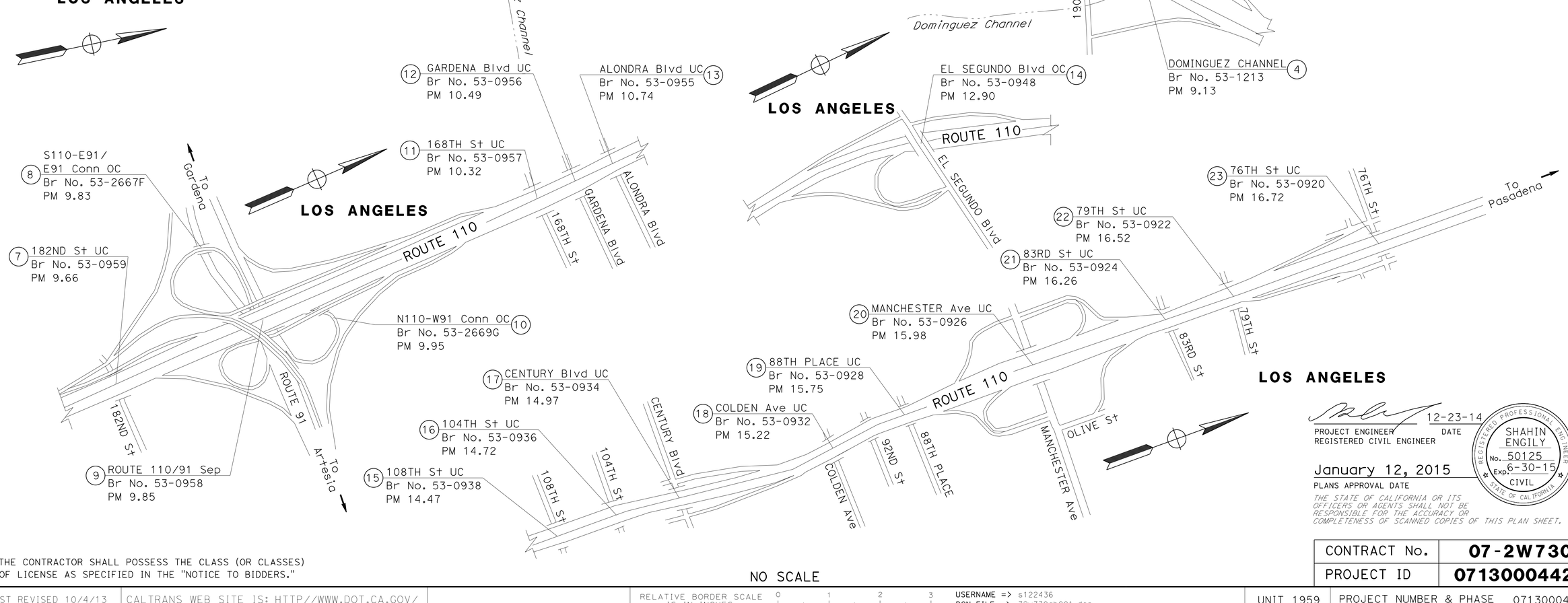
| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 07 | LA | 110 | Var | 1 | 36 |

# PROJECT PLANS FOR CONSTRUCTION ON STATE HIGHWAY

## IN LOS ANGELES COUNTY IN LOS ANGELES AT VARIOUS LOCATIONS

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010






PROJECT MANAGER: DAREK CHMIELEWSKI

DESIGN MANAGER: PAUL CRISPI

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

NO SCALE

12-23-14
PROJECT ENGINEER / REGISTERED CIVIL ENGINEER — DATE

REGISTERED PROFESSIONAL ENGINEER — SHAHIN ENGILY — No. 50125 — Exp. 6-30-15 — CIVIL — STATE OF CALIFORNIA

January 12, 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. | 07-2W7304 |
| PROJECT ID | 0713000442 |

LAST REVISION 01-12-15 — DATE PLOTTED => 13-APR-2015 — TIME PLOTTED => 13:20

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 07 | LA | 110 | Var | 2 | 36 |

12-23-14
REGISTERED CIVIL ENGINEER DATE

1-12-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
SHAHIN ENGILY
No. 50125
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

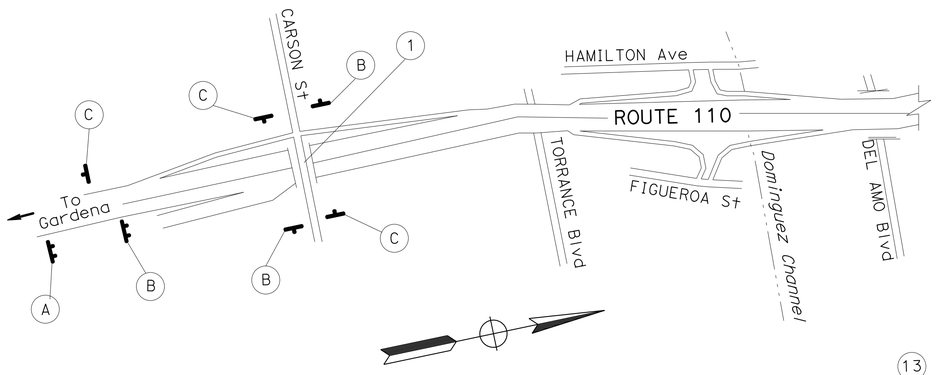
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTE:

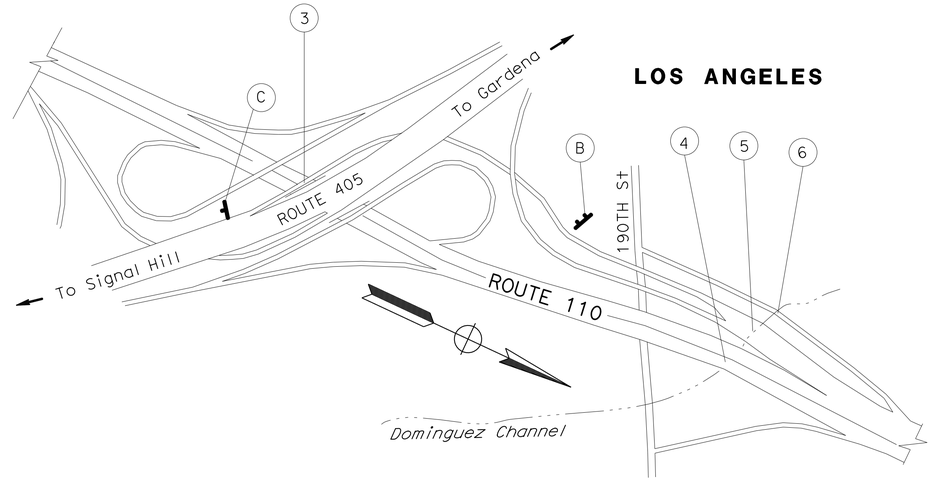
EXACT LOCATION AND POSITION OF SIGNS WILL BE DETERMINED BY THE ENGINEER.

## STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

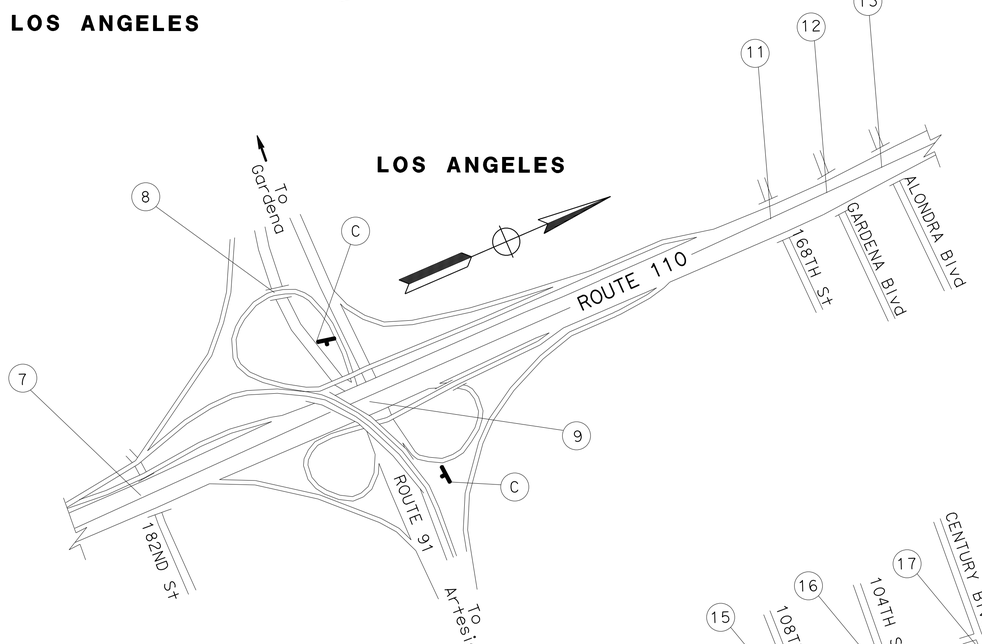
| SIGN | SIGN CODE | | PANEL SIZE | SIGN MESSAGE | NUMBER OF POSTS AND SIZE | NUMBER OF SIGNS |
|---|---|---|---|---|---|---|
| | FEDERAL | CALIFORNIA | | | | |
| (A) | | C40(CA) | 144" x 60" | TRAFFIC FINES DOUBLED IN CONSTRUCTION ZONES | 2 - 6" x 6" | 2 |
| (B) | W20-1 | | 48" x 48" | ROAD WORK AHEAD | 2 - 4" x 6" | 6 |
| (C) | G20-2 | | 48" x 24" | END ROAD WORK | 1 - 4" x 6" | 9 |



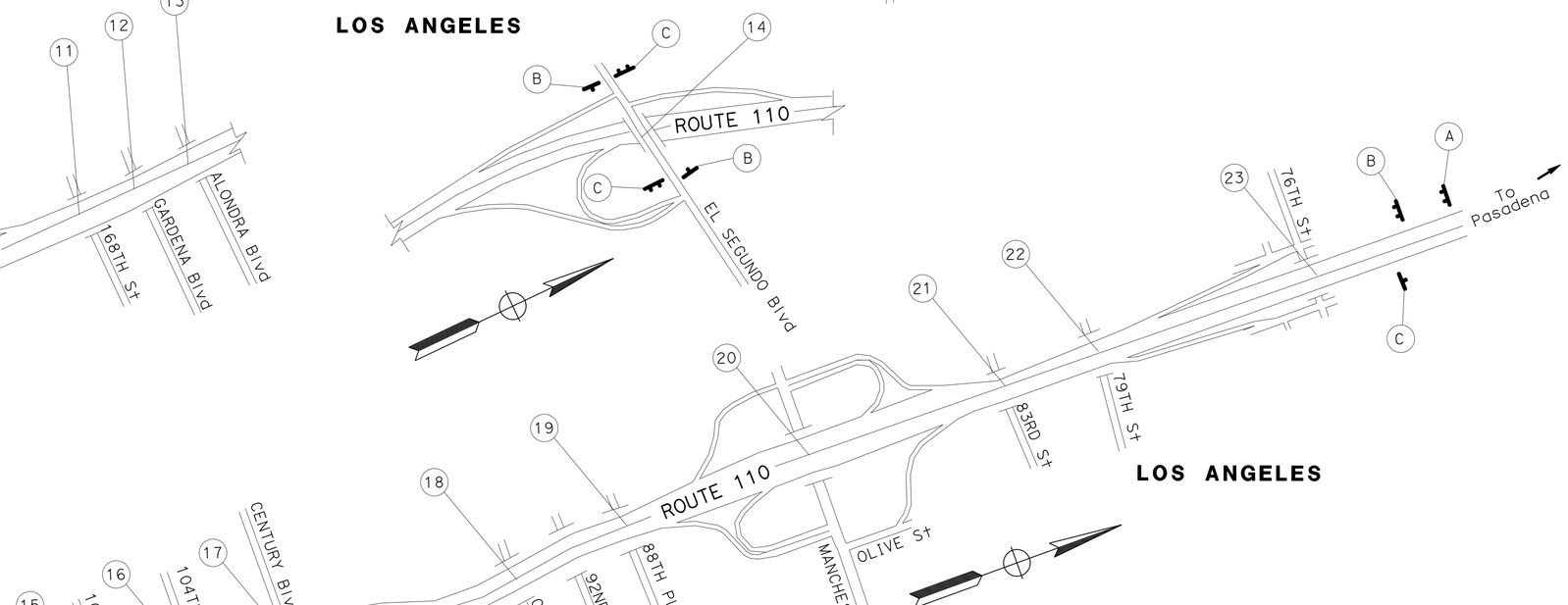

LOS ANGELES




LOS ANGELES




LOS ANGELES




LOS ANGELES

## CONSTRUCTION AREA SIGNS

NO SCALE

CS-1

*APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY*

REVISED BY | DATE REVISED
MARLON SARMIENTO | SHAWN ENGILY
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR | PAUL CRISPI

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® MAINTENANCE ENGINEERING

LAST REVISION | DATE PLOTTED => 13-APR-2015
01-12-15 | TIME PLOTTED => 13:20

BORDER LAST REVISED 7/2/2010 | USERNAME => s122436 | DGN FILE => 72w7301a001.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 1959 | PROJECT NUMBER & PHASE 07130004421

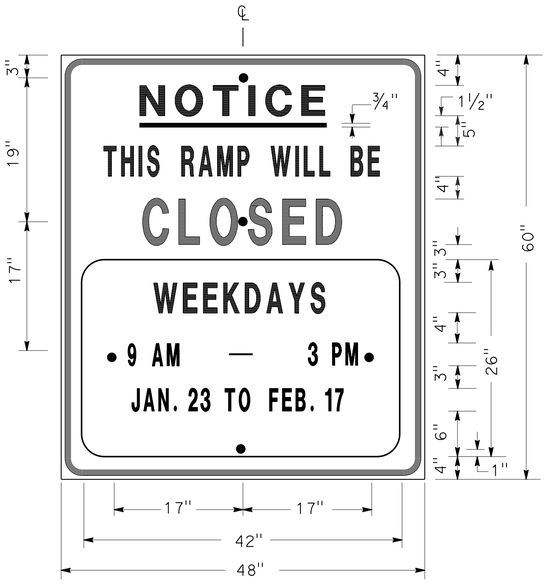
| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 07 | LA | 110 | Var | 3 | 36 |

REGISTERED CIVIL ENGINEER — DATE 1-6-15

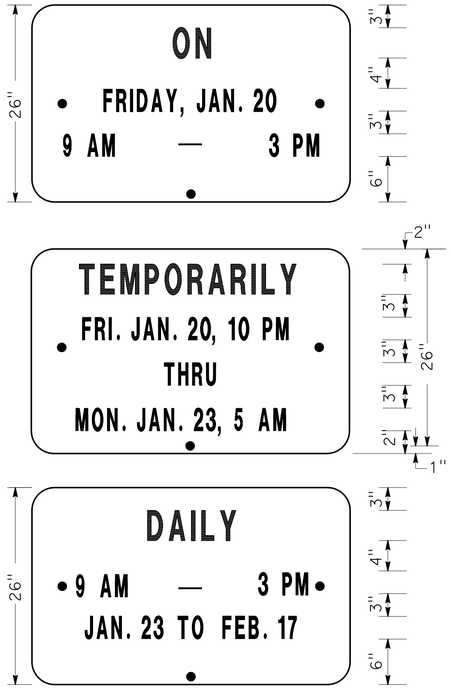
1-12-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — SHANGJIA HORN — No. 51846 — Exp 6/30/16 — 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.




SIGN SP-1



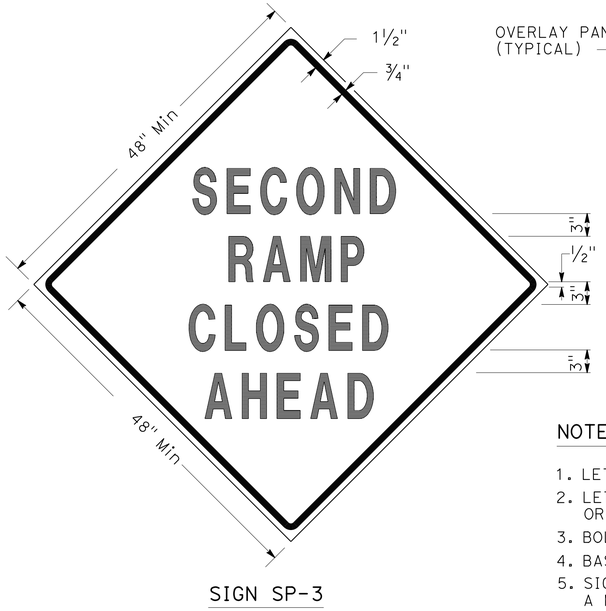

ALTERNATE OVERLAY PANELS (TYPICAL)

NOTES: SIGN SP-1

1. LETTERS AND BORDER MUST BE BLACK ON REFLECTORIZED ORANGE BACKGROUND.
2. BOLT HOLES MUST BE ⅜" 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" | 1¼" | ¾" | 4E | 4D | 6E | 4D | | 3" |
| 42"x26" | OVERLAY | | | | | | 3D | 1½" |
| * CONDENSED SPACING IF NECESSARY | | | | | | | | |

## SPECIAL ADVANCE NOTICE PUBLICITY SIGN




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 ⅜" 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

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 ⅜" 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

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

NO SCALE

**THD-1**

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

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION — DTM — Caltrans®

LAST REVISION DATE PLOTTED => 13-APR-2015
TIME PLOTTED => 13:20
01-12-15

BORDER LAST REVISED 7/2/2010

USERNAME => s122436
DGN FILE => 72w730me001.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1863 | PROJECT NUMBER & PHASE | 07130004421

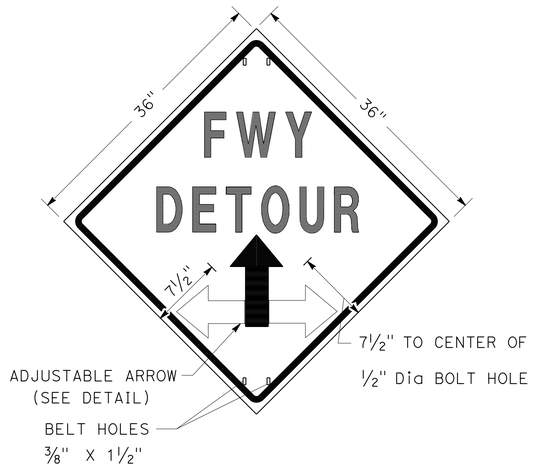
| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 07 | LA | 110 | Var | 4 | 36 |

REGISTERED CIVIL ENGINEER — 1-6-15 DATE

1-12-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
SHANGJIA HORN
No. 51846
Exp 6/30/16
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.



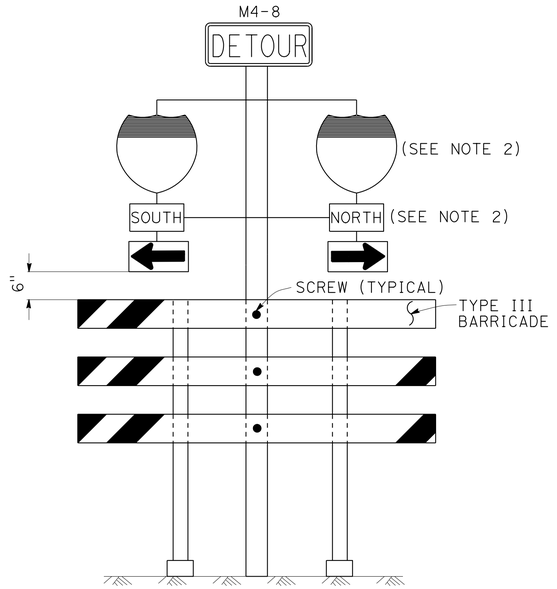

SIGN SP-2

NOTES: SIGN SP-2

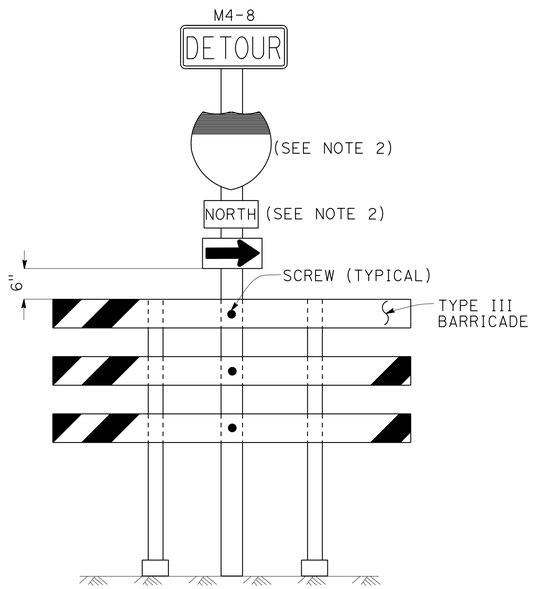
1. LETTERS - 6" SERIES E.
2. LETTERS, BORDER AND ARROW - BLACK ON RETROREFLECTORIZED ORANGE BACKGROUND.
3. BASE MATERIAL FOR SIGNS AND ARROWS MUST BE ALUMINUM (MINIMUM 0.06").
4. BELTS (LUGGAGE STRAPS) MUST BE 1" WIDE BY 48" LONG, MADE OF COTTON OR POLYPROPYLENE WEB MATERIAL.
5. SIGNS MUST BE MOUNTED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

ABBREVIATION

(CA) CALIFORNIA CODE




SIGN SP-6 (SEE NOTE 1)

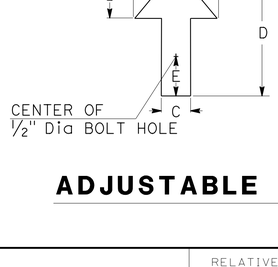



SIGN SP-7 (SEE NOTE 1)

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

# 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 | CALCULATED-DESIGNED BY | CHECKED BY | REVISED BY | DATE REVISED |
|---|---|---|---|---|
| SAM ESQUENAZI | ALBERT K YU | JOCELYN C CHIANG | JC | 2/14 |

LAST REVISION: DATE PLOTTED => 13-APR-2015
01-12-15 TIME PLOTTED => 13:20

BORDER LAST REVISED 7/2/2010 | USERNAME => s122436 | DGN FILE => 72w730me002.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 1863 | PROJECT NUMBER & PHASE 07130004421

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 07 | LA | 110 | Var | 5 | 36 |

REGISTERED CIVIL ENGINEER — DATE: 1-6-15

SHANGJIA HORN No. 51846 Exp 6/30/16 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

1-12-15
PLANS APPROVAL DATE

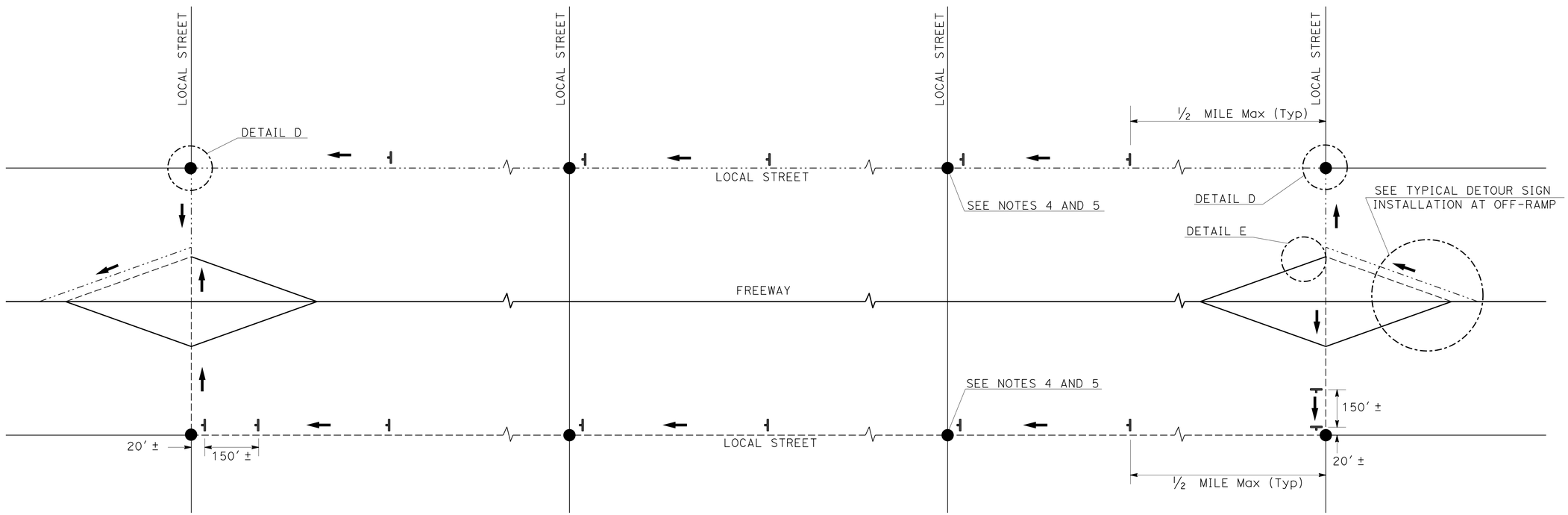
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

## 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. SP-2 SIGNS MUST NOT BE INSTALLED 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. EXCEPT AS OTHERWISE SHOWN ON OTHER PLANS OR SPECIFIED IN THE SPECIAL PROVISIONS, SP-2 SIGNS MUST BE PLACED AS SHOWN ON THIS PLAN.




## 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**

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

LAST REVISION: DATE PLOTTED => 13-APR-2015, TIME PLOTTED => 13:20, 01-12-15

BORDER LAST REVISED 7/2/2010
USERNAME => s122436
DGN FILE => 72w730me003.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 1863
PROJECT NUMBER & PHASE 07130004421

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 07 | LA | 110 | Var | 6 | 36 |

REGISTERED CIVIL ENGINEER 1-6-15 DATE

1-12-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER SHANGJIA HORN No. 51846 Exp 6/30/16 CIVIL STATE OF CALIFORNIA

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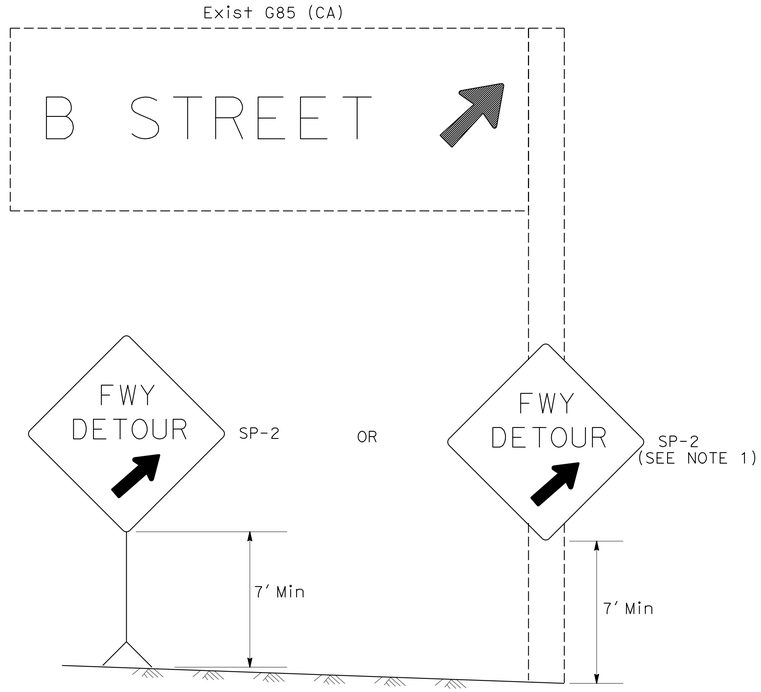
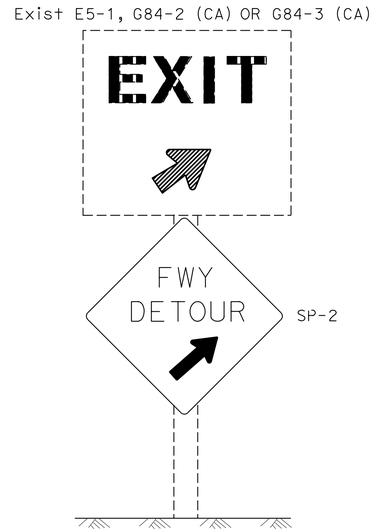
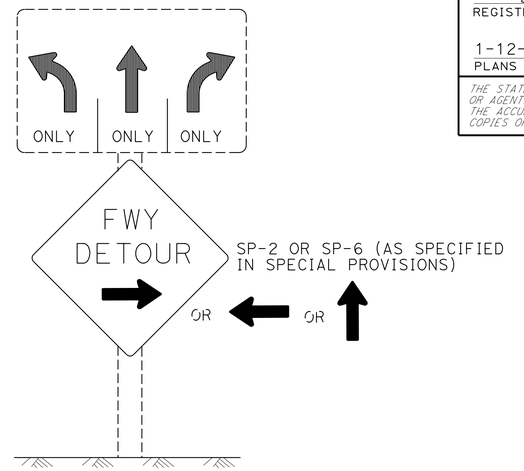


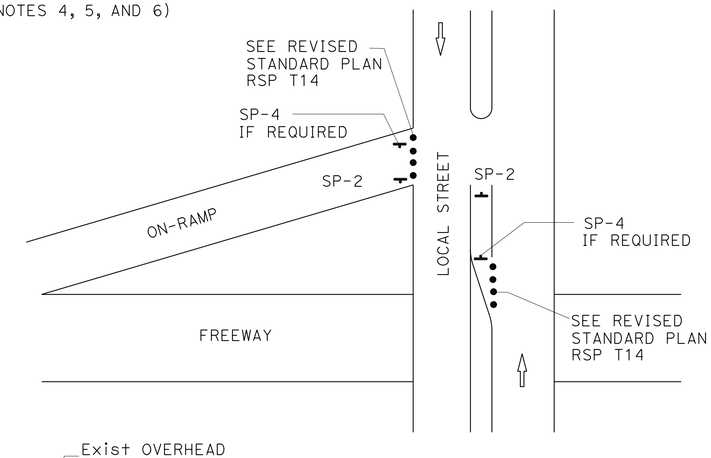

DETAIL A (SEE NOTE 3)



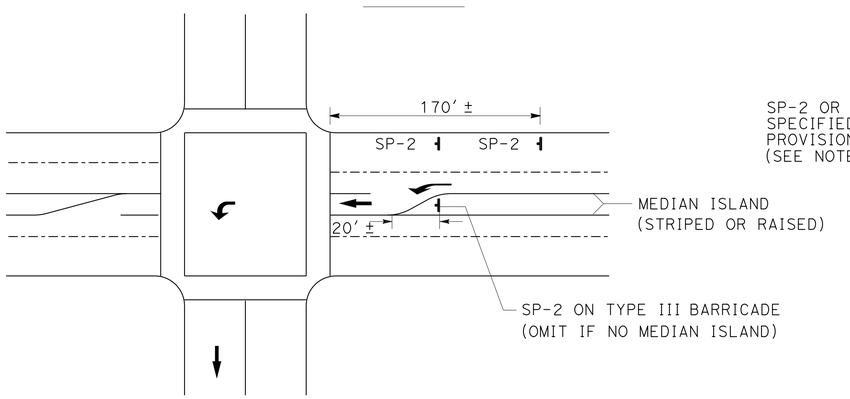

DETAIL B (SEE NOTE 3)



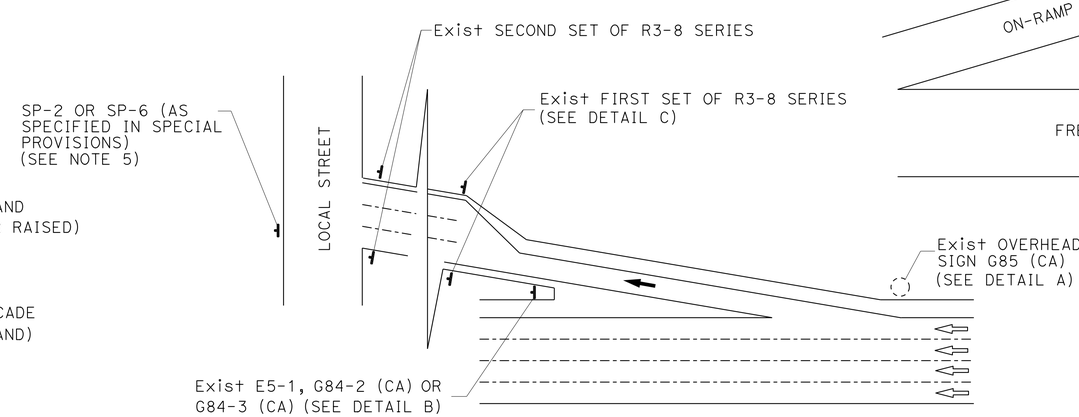

DETAIL C (SEE NOTES 4, 5, AND 6)




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. SP-2 SIGNS MUST NOT BE INSTALLED 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: SAM ESQUENAZI
CALCULATED-DESIGNED BY: ALBERT K YU
CHECKED BY: JOCELYN C CHIANG
REVISED BY: JC
DATE REVISED: 2/14

LAST REVISION 01-12-15
DATE PLOTTED => 13-APR-2015
TIME PLOTTED => 13:20

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 07 | LA | 110 | Var | 7 | 36 |

REGISTERED CIVIL ENGINEER 1-6-15 DATE

1-12-15 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER SHANGJIA HORN No. 51846 Exp. 6/30/16 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:

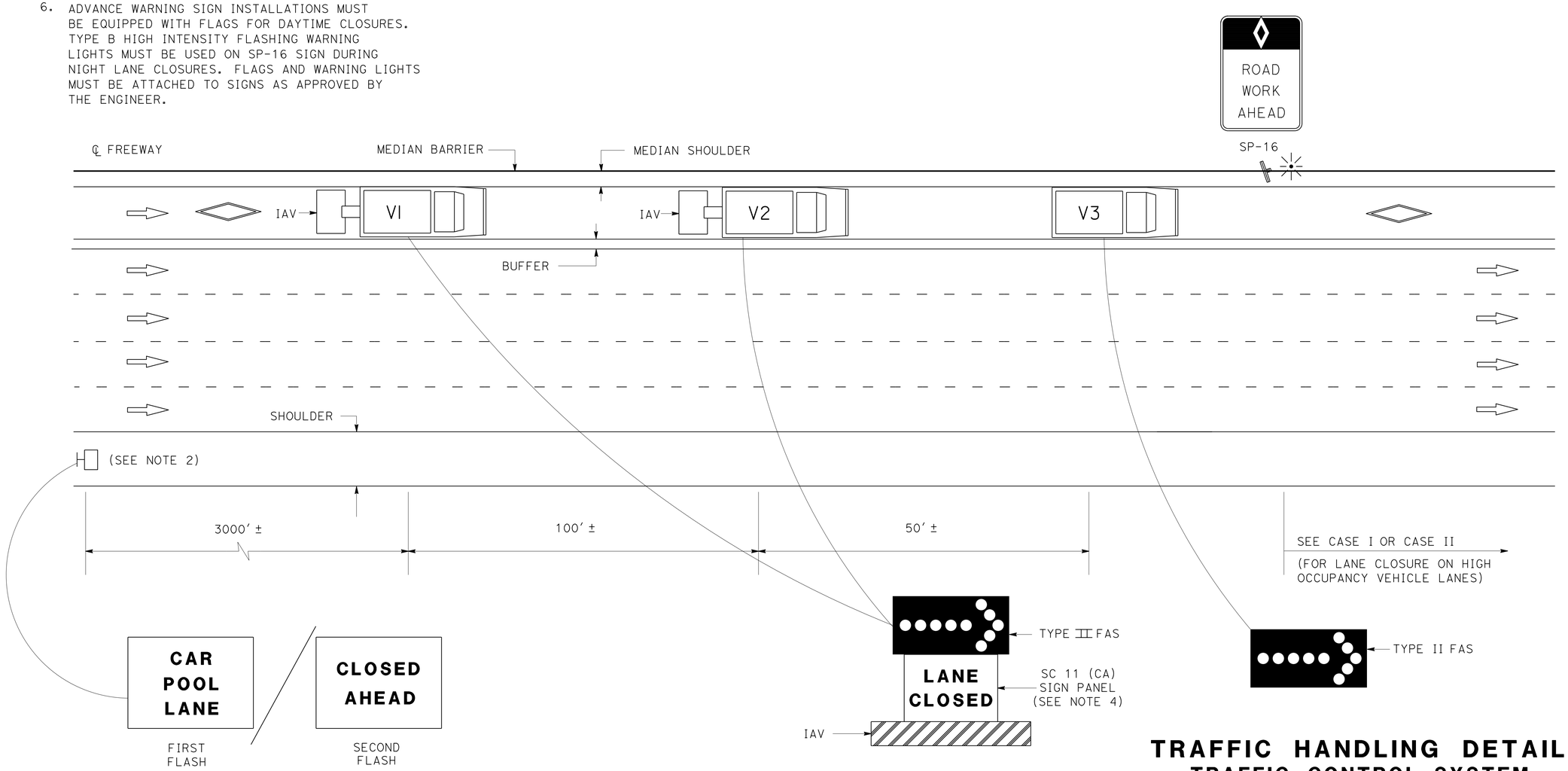
1. LANE CLOSURES MUST NOT BE PLACED ON CREST VERTICAL CURVES OR ON HORIZONTAL CURVES.
2. PCMS MUST BE ACTIVATED PRIOR TO TRAFFIC CONTROL ACTIVITIES ON THE HOV LANE.
3. A MINIMUM SIGHT DISTANCE OF 1500' MUST BE PROVIDED IN ADVANCE OF PCMS.
4. VEHICLE-MOUNTED SIGN PANELS MUST BE TYPE III OR IV RETROREFLECTORIZED 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-5**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans® DTM

FUNCTIONAL SUPERVISOR: SAM ESQUENAZI

CALCULATED-DESIGNED BY: ALBERT K YU

CHECKED BY: JOCELYN C CHIANG

REVISED BY: JC

DATE REVISED: 2/14

LAST REVISION 01-12-15

DATE PLOTTED => 13-APR-2015

TIME PLOTTED => 13:20

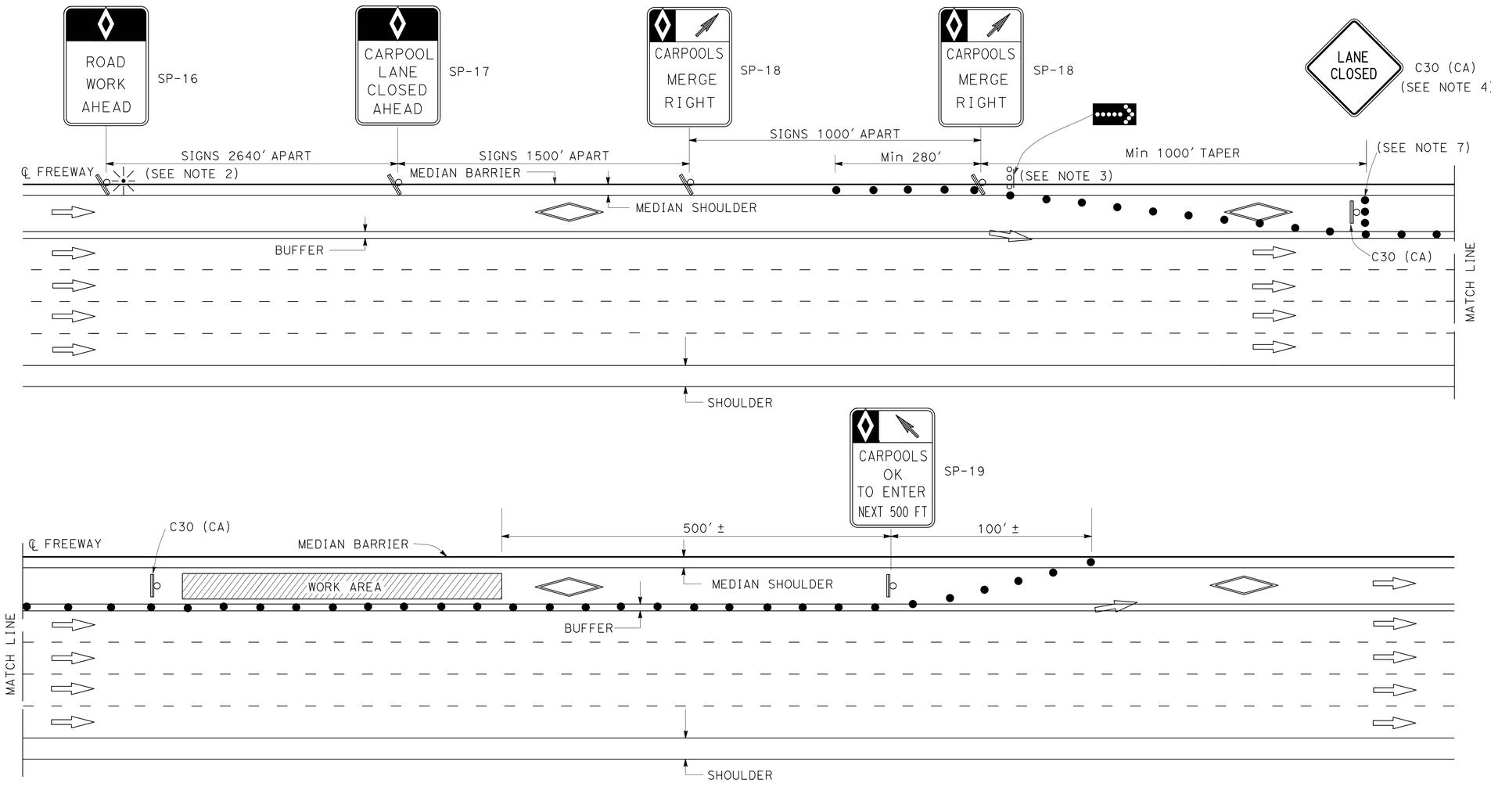
| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 07 | LA | 110 | Var | 8 | 36 |

REGISTERED CIVIL ENGINEER — DATE 1-6-15

SHANGJIA HORN No. 51846 Exp 6/30/16 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

PLANS APPROVAL DATE 1-12-15

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




## 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-6**

| | | |
|---|---|---|
| CALCULATED-DESIGNED BY | JC | 2/14 |
| CHECKED BY | ALBERT K YU | |
| | JOCELYN C CHIANG | |
| FUNCTIONAL SUPERVISOR | SAM ESQUENAZI | |

REVISED BY — DATE REVISED

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION — DTM — Caltrans®

LAST REVISION 01-12-15 — DATE PLOTTED => 13-APR-2015 — TIME PLOTTED => 13:21

BORDER LAST REVISED 7/2/2010 — USERNAME => s122436 — DGN FILE => 72w730me006.dgn — RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 — UNIT 1863 — PROJECT NUMBER & PHASE 07130004421

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 07 | LA | 110 | Var | 9 | 36 |

REGISTERED CIVIL ENGINEER — DATE 1-6-15

SHANGJIA HORN No. 51846 Exp 6/30/16 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

1-12-15
PLANS APPROVAL DATE

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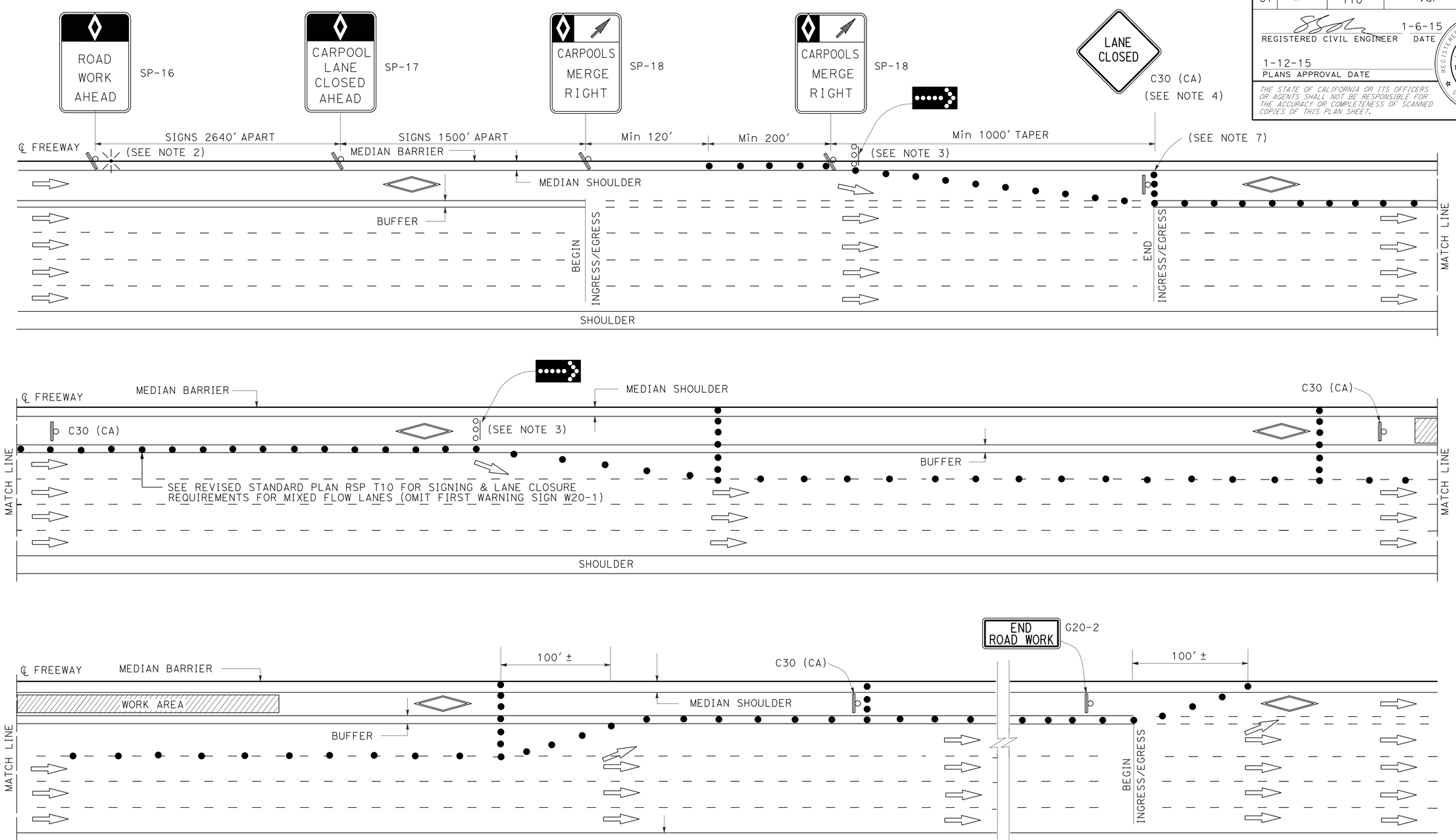



NOTES:

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-7**

CALCULATED-DESIGNED BY: JC
CHECKED BY: ALBERT K YU, JOCELYN C CHIANG
FUNCTIONAL SUPERVISOR: SAM ESQUENAZI
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION — DTM — Caltrans®

REVISED BY | DATE REVISED: 2/14

LAST REVISION: DATE PLOTTED => 13-APR-2015 | TIME PLOTTED => 13:21 | 01-12-15

BORDER LAST REVISED 7/2/2010

USERNAME => s122436
DGN FILE => 72w730me007.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 1863 | PROJECT NUMBER & PHASE 07130004421

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 07 | LA | 110 | Var | 10 | 36 |

12-23-14
REGISTERED CIVIL ENGINEER DATE

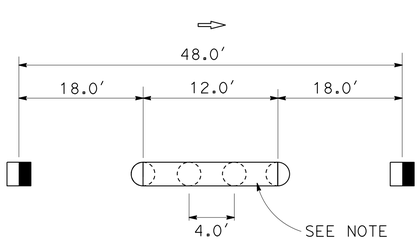
1-12-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
SHAHIN ENGILY
No. 50125
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

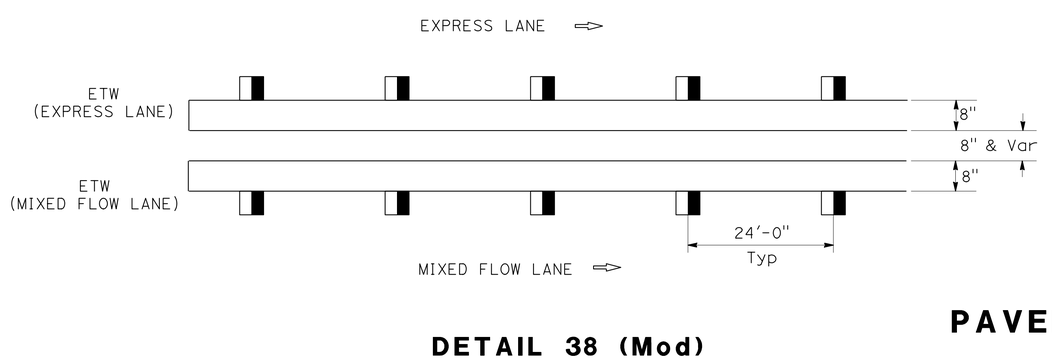
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

| Loc No. (#) | BRIDGE NAME | BRIDGE No. | PM | THERMOPLASTIC TRAFFIC STRIPE | | | | | | | | | | | PAVEMENT MARKER | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | DETAIL No. | | | | | | | | | | | DETAIL No. | | | | | | | | | | |
| | | | | 8 | 9 | 13 (Mod) | 22 | 25 | 25A | 27B | 38 | 38B | M | 38 (Mod) | 37 | 13 (Mod) | 9 | 38 | 38B | 38 (Mod) | 37 | | 25 | 25A | 22 |
| | | | | 4" YELLOW THERMOPLASTIC TRAFFIC STRIPE (BROKEN 17-7) | | 4" THERMOPLASTIC TRAFFIC STRIPE (BROKEN 36-12) | 4" THERMOPLASTIC TRAFFIC STRIPE | | | | 8" THERMOPLASTIC TRAFFIC STRIPE | | | | 8" THERMOPLASTIC TRAFFIC STRIPE (BROKEN 12-3) | TYPE A (NON-REFLECTIVE) | TYPE G (RETROREFLECTIVE) | | | | | TYPE C (RETROREFLECTIVE) | | TYPE H (RETROREFLECTIVE) | | TYPE D (RETROREFLECTIVE) |
| | | | | LF | LF | LF | LF | LF | LF | LF | LF | LF | LF | LF | LF | EA | EA | EA | EA | EA | EA | EA | EA | EA | EA | EA |
| 3 | S110 - S405 ROUTE 110 Conn Sep | 53-1137F | 8.75 | | | 60 | | 60 | | 60 | | | | | | 6 | 2 | | | | | | | 2 | | |
| 4 | DOMINGUEZ CHANNEL | 53-1213 | 9.13 | | | 2,205 | | 630 | | 630 | 630 | | | | | 185 | 47 | | 27 | | | | | 14 | | |
| 5 | DOMINGUEZ CHANNEL (S110 - S&N405) | 53-2557H | 9.13 | | | 310 | | 310 | | 310 | | | | | 310 | 27 | 7 | | | | | 5 | 28 | 7 | | |
| 6 | DOMINGUEZ CHANNEL Off-Ramp | 53-2558K | 9.15 | | | | | | 300 | 300 | | | | | | | | | | | | | | | 14 | |
| 7 | 182ND St UC | 53-0959 | 9.66 | | | 1,120 | | 420 | | 420 | 280 | | | | 140 | 94 | 24 | | 13 | | | 2 | 12 | 10 | | |
| 8 | S110 - E91 / E91 Conn OC | 53-2667F | 9.83 | | | 230 | | 230 | | 230 | | | | | | 20 | 6 | | | | | | | 6 | | |
| 9 | ROUTE 110/91 Sep | 53-0958 | 9.85 | | | 2,205 | | 735 | | 735 | | 150 | | | 250 | 185 | 47 | | | 14 | | 4 | 22 | 16 | | |
| 10 | N110 - W91 Conn OC | 53-2669G | 9.95 | | | | | 85 | | 85 | | | | | | | | | | | | | | 3 | | |
| 11 | 168TH St UC | 53-0957 | 10.32 | | 120 | 1,215 | | 240 | | 255 | | 120 | | | | 102 | 26 | 4 | | 11 | | | | 6 | | |
| 12 | GARDENA Blvd UC | 53-0956 | 10.49 | | | 1,260 | | 280 | | 280 | | | | | 140 | 106 | 27 | | | | | 2 | 12 | 7 | | |
| 13 | ALONDRA Blvd UC | 53-0955 | 10.74 | | | 1,020 | | 340 | | | 170 | | | 1,020 | 340 | 86 | 22 | | 8 | | 87 | 6 | 30 | 8 | | |
| 14 | EL SEGUNDO Blvd OC | 53-0948 | 12.90 | 595 | 210 | | 590 | | | | 150 | | 100 | | | | | 5 | 7 | | | | | | | 27 |
| 19 | 88TH PLACE UC | 53-0928 | 15.75 | | | 520 | | 130 | | 130 | 280 | | | 390 | 65 | 44 | 12 | | 12 | 6 | 35 | | 6 | 4 | | |
| 20 | MANCHESTER Ave UC | 53-0926 | 15.98 | | | 1,320 | | 660 | | 660 | | 65 | | 390 | 165 | 111 | 29 | | | | 85 | 3 | 15 | 15 | | |
| | SUB-TOTAL | | | 595 | 330 | 11,465 | 590 | 4,120 | 300 | 4,095 | 1,510 | 335 | 100 | 1,800 | 1,410 | 966 | 249 | 9 | 67 | 31 | 207 | 22 | 125 | 98 | 14 | 27 |
| | SHEET TOTAL | | | 925 | | 11,465 | | 9,105 | | | 3,745 | | | | 1,410 | 966 | 849 | | | | | | | | | |

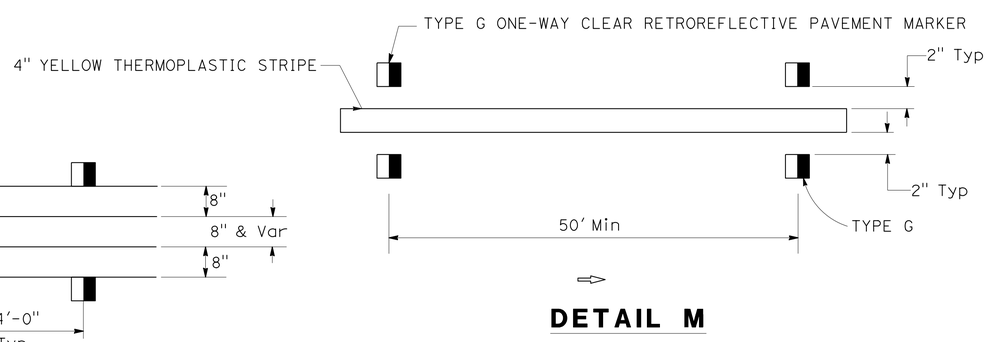
NOTE:
PLACE 4" WIDE THERMOPLASTIC STRIPE
ON TOP OF TYPE A NON REFLECTIVE MARKERS.




**DETAIL 13 (Mod)**




**DETAIL 38 (Mod)**




**DETAIL M**

# PAVEMENT DELINEATION QUANTITIES

NO SCALE

**PDQ-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR: PAUL CRISPI
CALCULATED-DESIGNED BY: MARLON SARMIENTO
CHECKED BY: SHAWN ENGILY
REVISED BY
DATE REVISED

LAST REVISION 01-12-15
DATE PLOTTED => 13-APR-2015
TIME PLOTTED => 13:21

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 07 | LA | 110 | Var | 11 | 36 |

12-23-14
REGISTERED CIVIL ENGINEER DATE

1-12-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
SHAHIN ENGILY
No. 50125
Exp. 6-30-15
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.

| Loc No. (#) | BRIDGE NAME | BRIDGE No. | PM | REMOVAL QUANTITIES | | | | PAVEMENT MARKINGS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | REMOVE YELLOW THERMOPLASTIC TRAFFIC STRIPE (HAZARDOUS WASTE) | REMOVE THERMOPLASTIC TRAFFIC STRIPE | REMOVE THERMOPLASTIC PAVEMENT MARKING | REMOVE PAVEMENT MARKER | TYPE V (24' ARROW) | TYPE VI (18' ARROW) | LIMIT LINE | DIAGONALS |
| | | | | LF | LF | SQFT | EA | SQFT | SQFT | SQFT | SQFT |
| 4 | DOMINGUEZ CHANNEL | 53-1213 | 9.13 | 630 | 1,811 | 85 | 273 | | | | 85 |
| 5 | DOMINGUEZ CHANNEL (S110 - S&N405) | 53-2557H | 9.13 | 310 | 450 | | 74 | | | | |
| 6 | DOMINGUEZ CHANNEL Off-Ramp | 53-2558K | 9.15 | 300 | 300 | 98 | 14 | 33 | | | 65 |
| 7 | 182ND St UC | 53-0959 | 9.66 | 420 | 1,008 | 470 | 156 | | | | 470 |
| 8 | S110 - E91 / E91 Conn OC | 53-2667F | 9.83 | 230 | 288 | | 32 | | | | |
| 9 | ROUTE 110/91 Sep | 53-0958 | 9.85 | 735 | 1,486 | | 288 | | | | |
| 10 | N110 - W91 Conn OC | 53-2669G | 9.95 | 85 | 85 | | 3 | | | | |
| 11 | 168TH St UC | 53-0957 | 10.32 | 240 | 714 | 62 | 149 | | 42 | | 20 |
| 12 | GARDENA Blvd UC | 53-0956 | 10.49 | 280 | 623 | | 155 | | | | |
| 13 | ALONDRA Blvd UC | 53-0955 | 10.74 | 340 | 1,513 | | 247 | | | | |
| 14 | EL SEGUNDO Blvd OC | 53-0948 | 12.90 | 590 | 485 | 45 | 39 | | | 45 | |
| 19 | 88TH PLACE UC | 53-0928 | 15.75 | 130 | 988 | | 118 | | | | |
| 20 | MANCHESTER Ave UC | 53-0926 | 15.98 | 660 | 2,013 | | 256 | | | | |
| | | | SUB-TOTAL | 4,950 | 11,764 | 760 | 1,804 | 33 | 42 | 45 | 640 |
| | | | TOTAL | 4,950 | 11,764 | 760 | 1,804 | 760 | | | |

# PAVEMENT DELINEATION QUANTITIES

## PDQ-2

CALCULATED-DESIGNED BY: MARLON SARMIENTO
CHECKED BY: SHAWN ENGILY
REVISED BY
DATE REVISED
FUNCTIONAL SUPERVISOR: PAUL CRISPI

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® MAINTENANCE ENGINEERING

LAST REVISION | DATE PLOTTED => 13-APR-2015
01-12-15 | TIME PLOTTED => 13:21

BORDER LAST REVISED 7/2/2010
USERNAME => s122436
DGN FILE => 72w730nc002.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 1959
PROJECT NUMBER & PHASE 07130004421

## 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,<br>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,<br>PRECAST |
| PCC | POINT OF COMPOUND CURVE,<br>PORTLAND CEMENT CONCRETE |
| PCMS | PORTABLE CHANGEABLE MESSAGE SIGN |
| PCP | PERFORATED CONCRETE PIPE,<br>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 |
| ℄,PL | PLATE |
| P/L | PROPERTY LINE |
| PM | POST MILE,<br>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,<br>PLASTIC PIPE,<br>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,<br>REINFORCEMENT,<br>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,<br>REFERENCE POINT |
| RR | RAILROAD |
| RSP | ROCK SLOPE PROTECTION,<br>REVISED STANDARD PLAN |
| Rt | RIGHT |
| Rte | ROUTE |
| RW | REDWOOD,<br>RETAINING WALL |
| R/W | RIGHT OF WAY |
| Rwy | RAILWAY |

## S

| | |
|---|---|
| S | SOUTH,<br>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,<br>SECTION |
| Sep | SEPARATION |
| SG | SUBGRADE |
| Shld | SHOULDER |
| Sht | SHEET |
| Sim | SIMILAR |
| ℄ | STATION LINE |
| SM | SELECTED MATERIAL |
| Spec | SPECIAL,<br>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,<br>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,<br>TRAFFIC SIGNAL,<br>TUBULAR STEEL |
| Typ | TYPICAL |

## U

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

## V

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

## W

| | |
|---|---|
| W | WEST,<br>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 | 110 | Var | 12 | 36 |

Grace M. Tsushima
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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

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

TO ACCOMPANY PLANS DATED 1-12-15

### 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 | 110 | Var | 13 | 36 |

Roberta L. McLaughlin
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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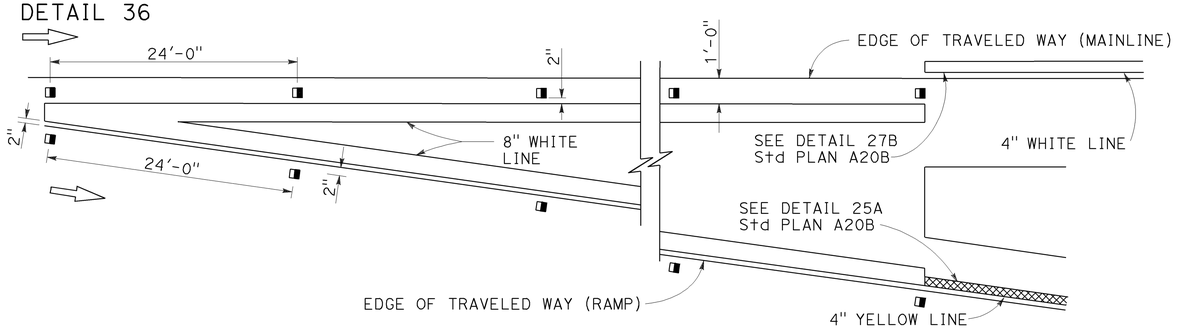
TO ACCOMPANY PLANS DATED 1-12-15

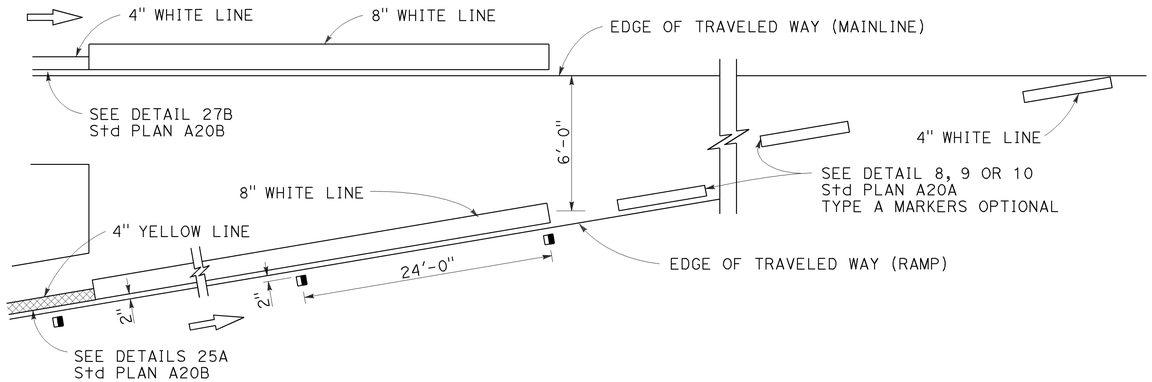
## EXIT RAMP NEUTRAL AREA (GORE) TREATMENT

DETAIL 36



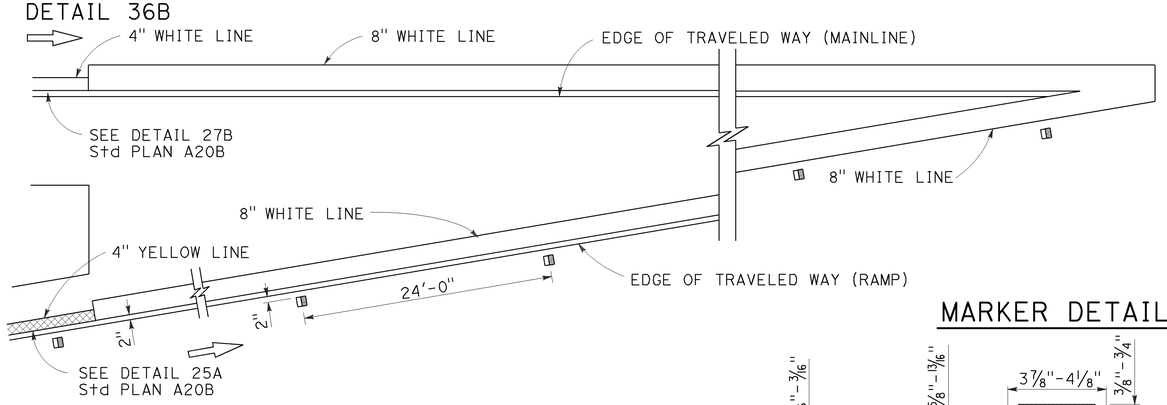

## ENTRANCE RAMP NEUTRAL AREA (MERGE) TREATMENT

DETAIL 36A



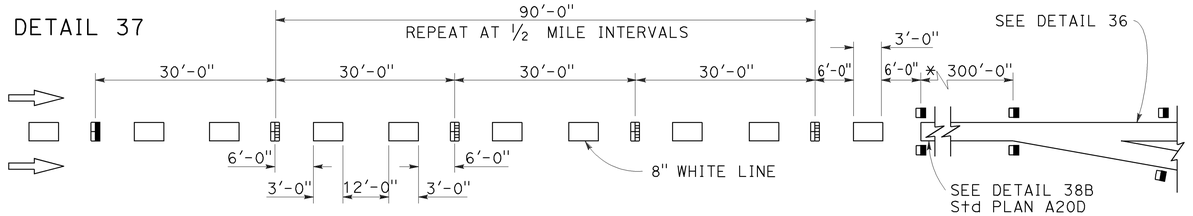

## ENTRANCE RAMP NEUTRAL AREA (ACCELERATION LANE) TREATMENT

DETAIL 36B

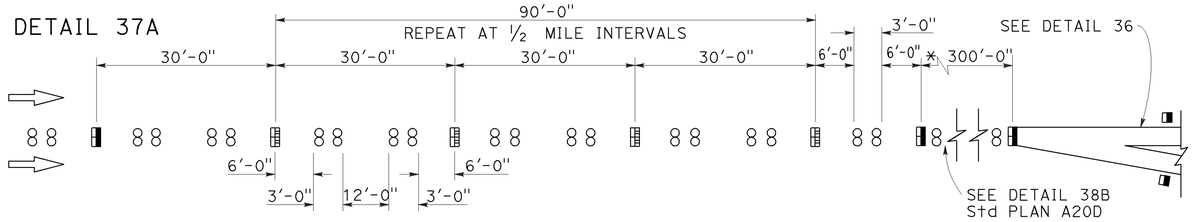



## LANE DROP AT EXIT RAMPS

DETAIL 37



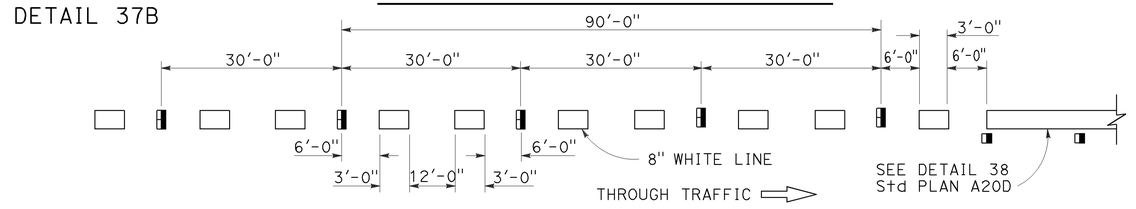

DETAIL 37A



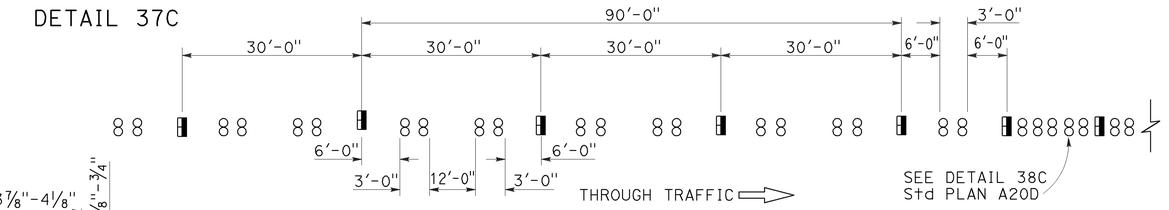

* The solid channelizing line shown may be omitted on short auxiliary lanes where weaving length is critical.

## LANE DROP AT INTERSECTIONS

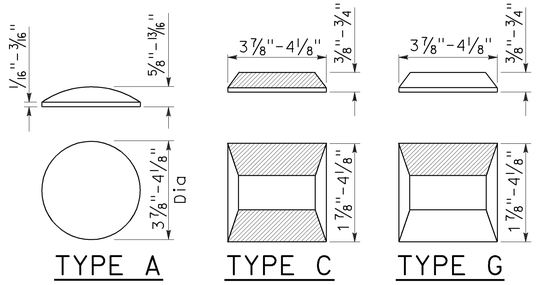
DETAIL 37B




DETAIL 37C




## MARKER DETAILS




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 | 110 | Var | 14 | 36 |

Roberta L. McLaughlin
REGISTERED CIVIL ENGINEER

April 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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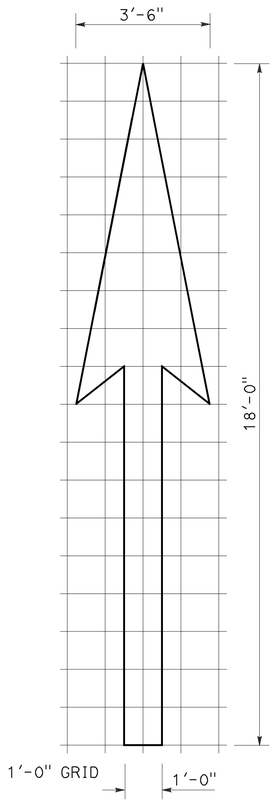
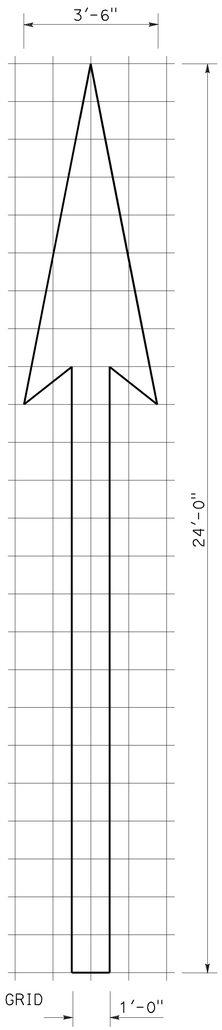
TO ACCOMPANY PLANS DATED 1-12-15

**2010 REVISED STANDARD PLAN RSP A24A**



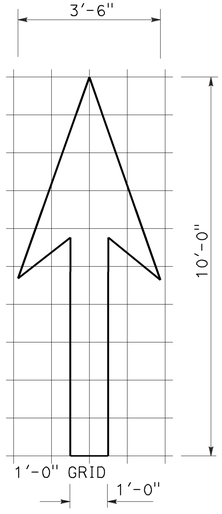

A=25 ft²

## TYPE I 18'-0" ARROW



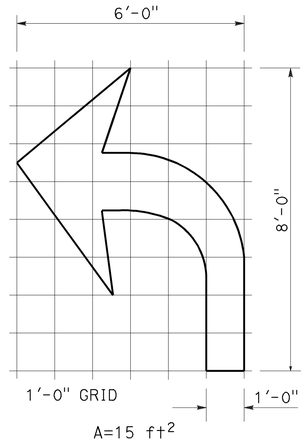

A=31 ft²

## TYPE I 24'-0" ARROW




A=14 ft²

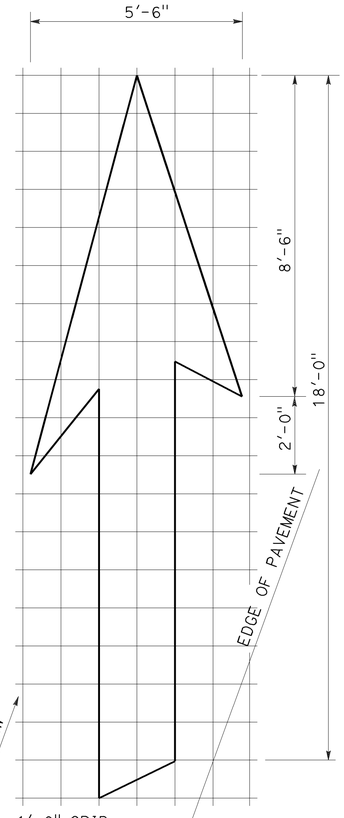
## TYPE I 10'-0" ARROW




A=15 ft²

## TYPE IV (L) ARROW

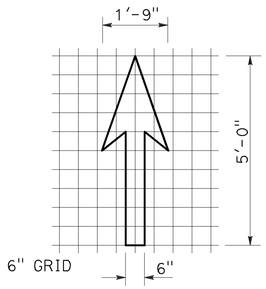
(For Type IV (R) arrow, use mirror image)




A=42 ft²

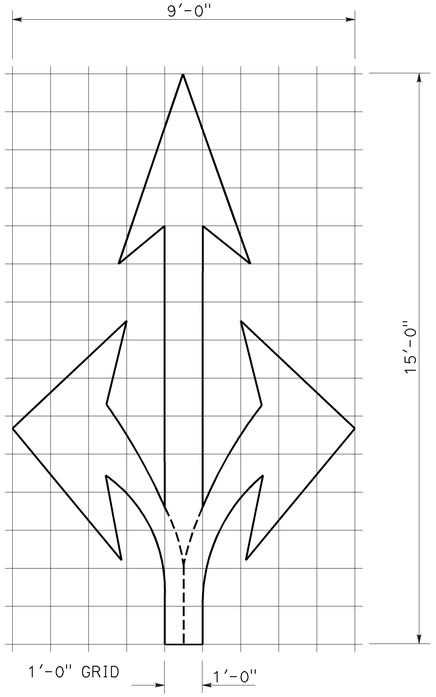
## TYPE VI ARROW

Right lane drop arrow (For left lane, use mirror image)



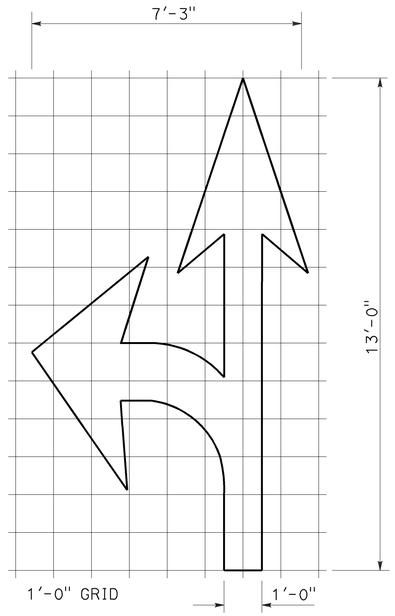

A=3.5 ft²

## BIKE LANE ARROW




A=36 ft²

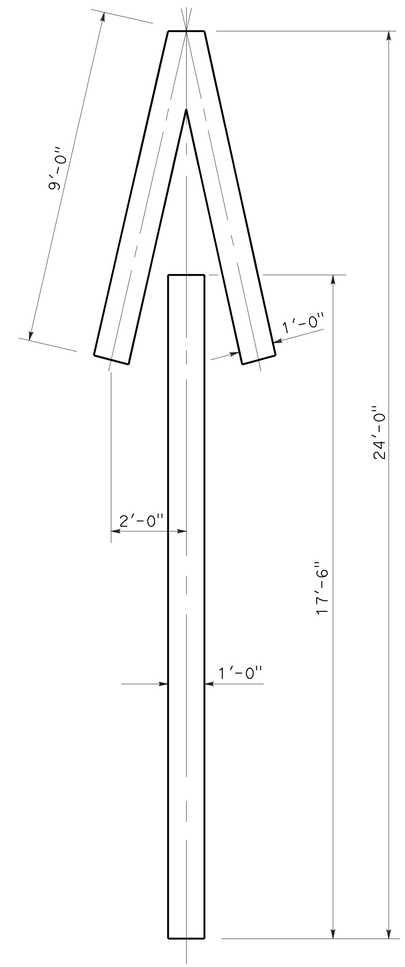
## TYPE VIII ARROW




A=27 ft²

## TYPE VII (L) ARROW

(For Type VII (R) arrow, use mirror image)




A=33 ft²

## TYPE V ARROW

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

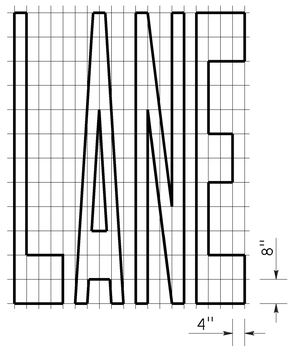
# PAVEMENT MARKINGS ARROWS

NO SCALE

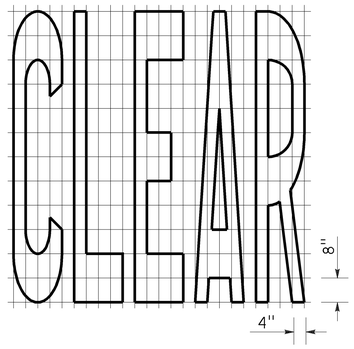
RSP A24A DATED APRIL 20, 2012 SUPERSEDES STANDARD PLAN A24A DATED MAY 20, 2011 - PAGE 13 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP A24A**

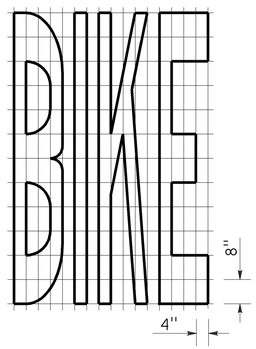
3-14-12



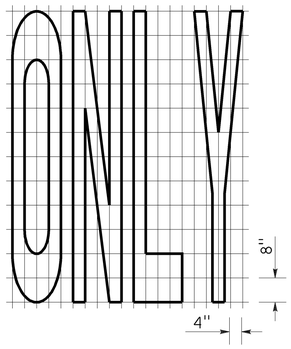

A=24 ft²



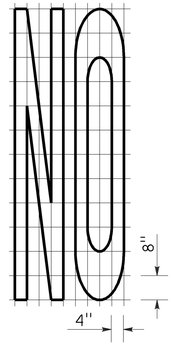

A=27 ft²



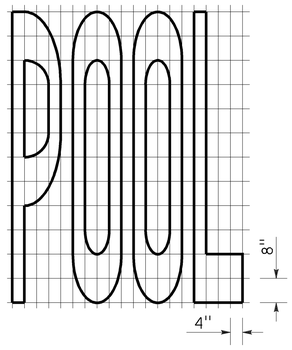

A=21 ft²



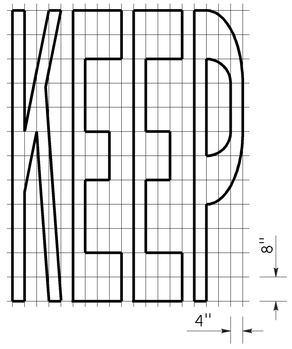

A=22 ft²



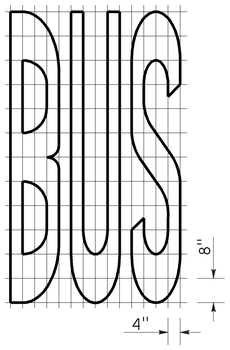

A=14 ft²



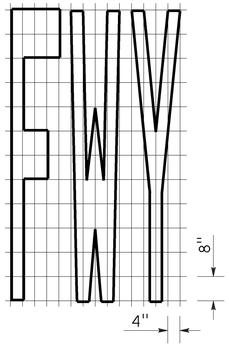

A=23 ft²



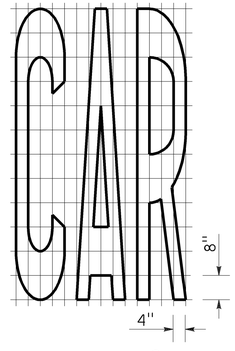

A=24 ft²




A=20 ft²




A=16 ft²




A=17 ft²

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 07 | LA | 110 | Var | 15 | 36 |

Roberta L. McLaughlin
REGISTERED CIVIL ENGINEER

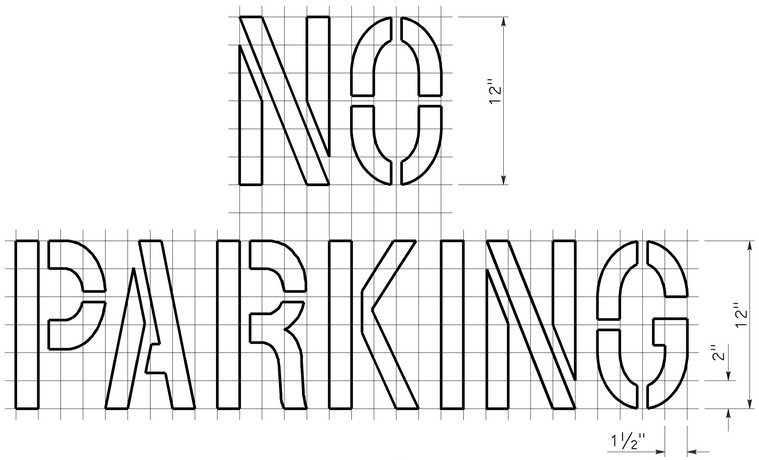
July 20, 2012
PLANS APPROVAL DATE

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

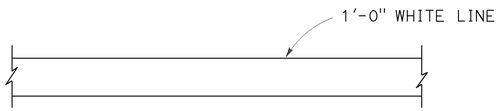
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 1-12-15

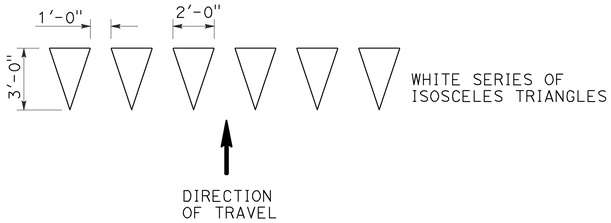
| WORD MARKINGS | | | |
|---|---|---|---|
| ITEM | ft² | ITEM | ft² |
| LANE | 24 | NO | 14 |
| POOL | 23 | BIKE | 21 |
| CAR | 17 | BUS | 20 |
| CLEAR | 27 | ONLY | 22 |
| KEEP | 24 | FWY | 16 |




A=2 ft²
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 | 110 | Var | 16 | 36 |

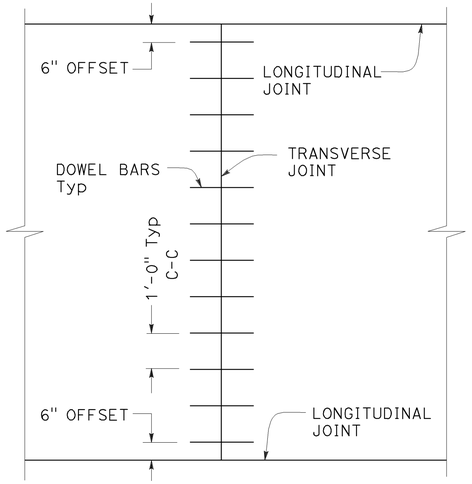
William K. Farnbach
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

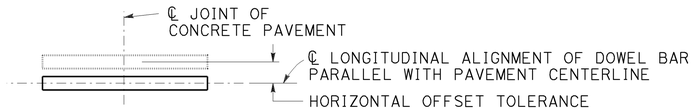
REGISTERED PROFESSIONAL ENGINEER — William K. Farnbach — No. C49042 — Exp. 9-30-14 — CIVIL — STATE OF CALIFORNIA

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 1-12-15

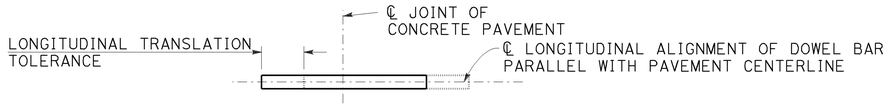



## TRANSVERSE JOINT DOWEL BAR LAYOUT



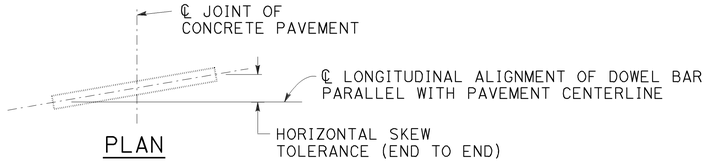

PLAN

## HORIZONTAL OFFSET TOLERANCE



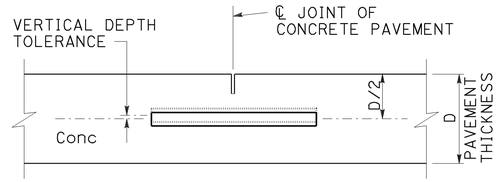

PLAN

## LONGITUDINAL TRANSLATION TOLERANCE



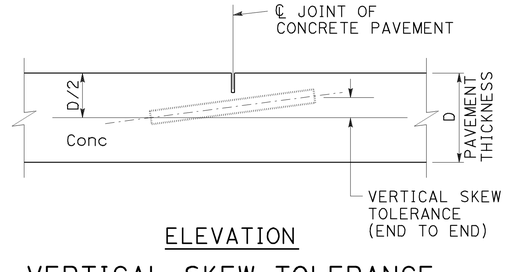

PLAN

## HORIZONTAL SKEW TOLERANCE




ELEVATION

## VERTICAL DEPTH TOLERANCE

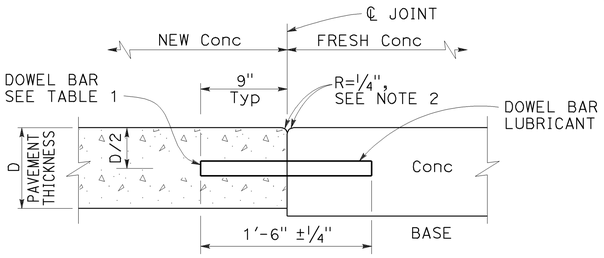



ELEVATION

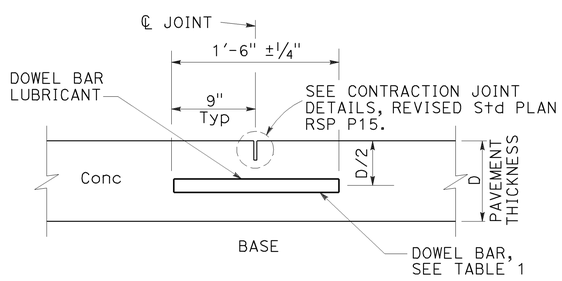
## VERTICAL SKEW TOLERANCE

### NOTES:

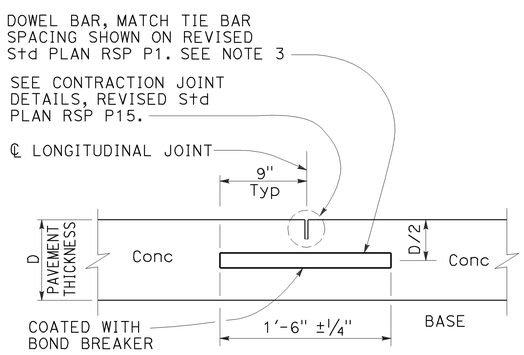
1. See Revised Standard Plan RSP P1 for typical dowel bar placement and locations.
2. Where fresh concrete pavement is placed against new concrete or existing concrete pavement, rounding the corner of the existing concrete pavement is not required.
3. May also use ¾" Dia dowel bars 2'-4" ± ¼" in length. Center the length of dowel bars at the centerline of longitudinal joint.




## TRANSVERSE CONSTRUCTION JOINT DETAIL




## TRANSVERSE CONTRACTION JOINT



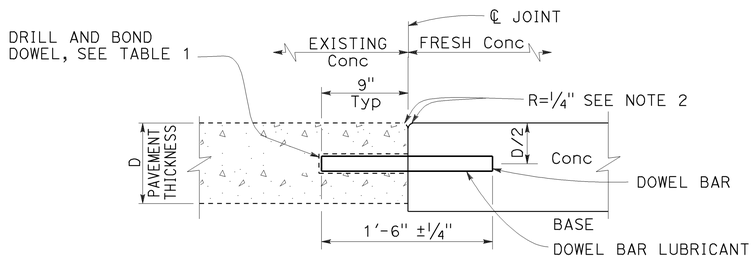

## LONGITUDINAL CONTRACTION JOINT WITH DOWEL BARS

See Revised Std Plan RSP P18

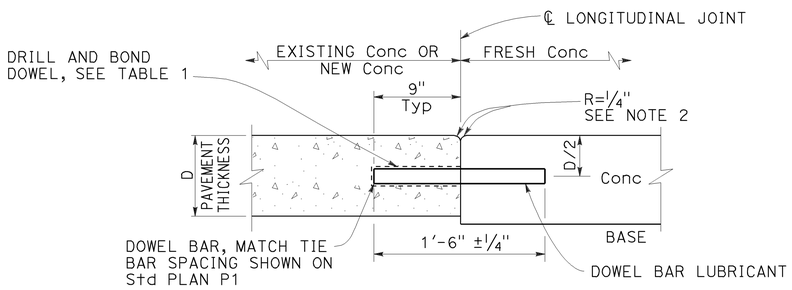
### TABLE 1

| DOWEL BAR DIAMETER TABLE | | | |
|---|---|---|---|
| PAVEMENT THICKNESS | 0.65' | > 0.65' - 0.85' | > 0.85' |
| MINIMUM DOWEL * BAR DIAMETER | 1" | 1¼" | 1½" |

* The drilled hole diameter must be ⅛" to 3/16" larger than the bar diameter.




## TRANSVERSE CONSTRUCTION JOINT FOR EXISTING CONCRETE PAVEMENT




## LONGITUDINAL CONSTRUCTION JOINT WITH DOWEL BARS

See Revised Std Plan RSP P18

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

# CONCRETE PAVEMENT DOWEL BAR DETAILS

NO SCALE

RSP P10 DATED JULY 19, 2013 SUPERSEDES RSP P10 DATED APRIL 20, 2012 AND STANDARD PLAN P10 DATED MAY 20, 2011 - PAGE 131 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP P10**

**2010 REVISED STANDARD PLAN RSP P10**

5-31-13

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 07 | LA | 110 | Var | 17 | 36 |

REGISTERED CIVIL ENGINEER

July 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 1-12-15

## 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.

2010 REVISED STANDARD PLAN RSP T9

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**

4-30-13

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 07 | LA | 110 | Var | 18 | 36 |

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 1-12-15

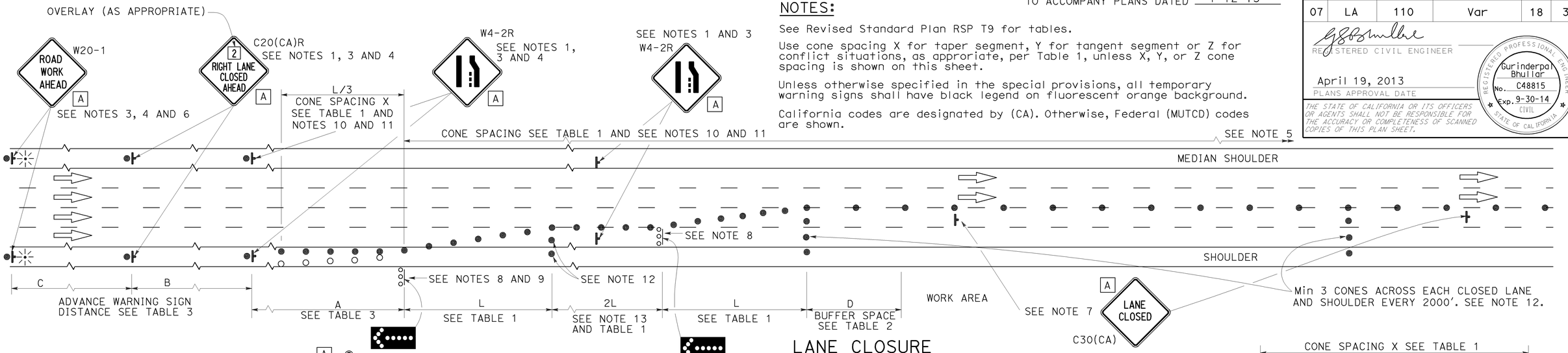
## NOTES:

See Revised Standard Plan RSP T9 for tables.

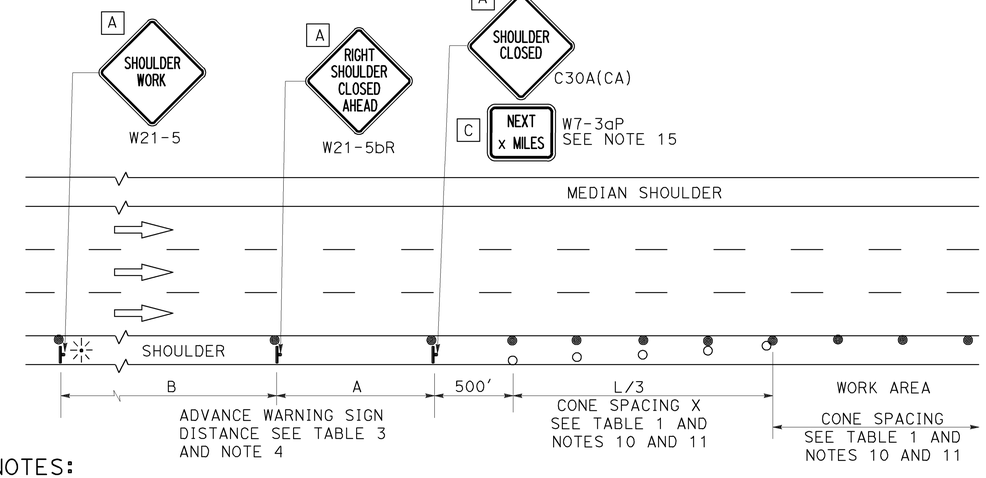
Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as approriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.

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

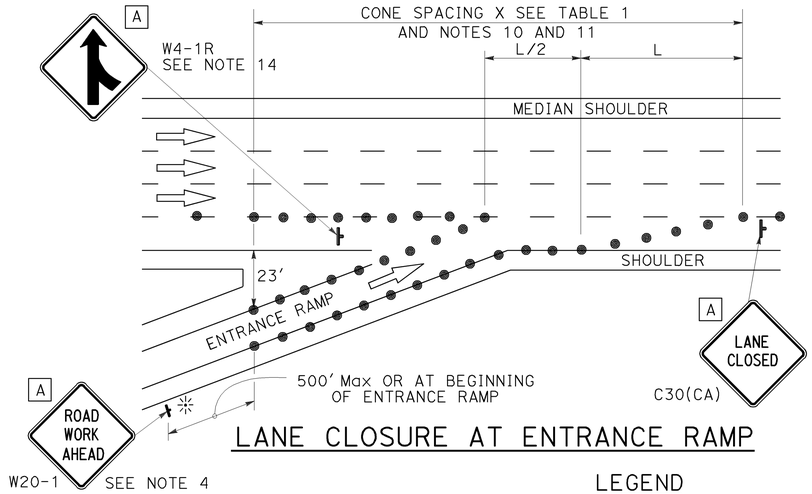
California codes are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.



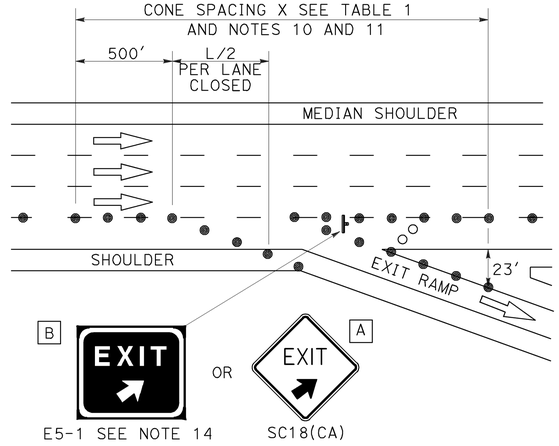

## LANE CLOSURE




## 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

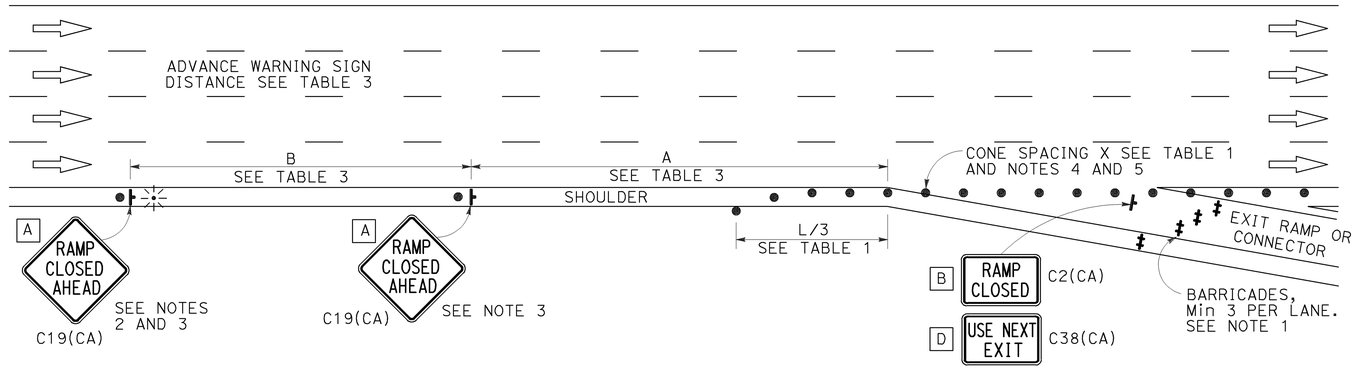
RSP T10 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T10 DATED MAY 20, 2011 - PAGE 237 OF THE STANDARD PLANS BOOK DATED 2010.

# REVISED STANDARD PLAN RSP T10

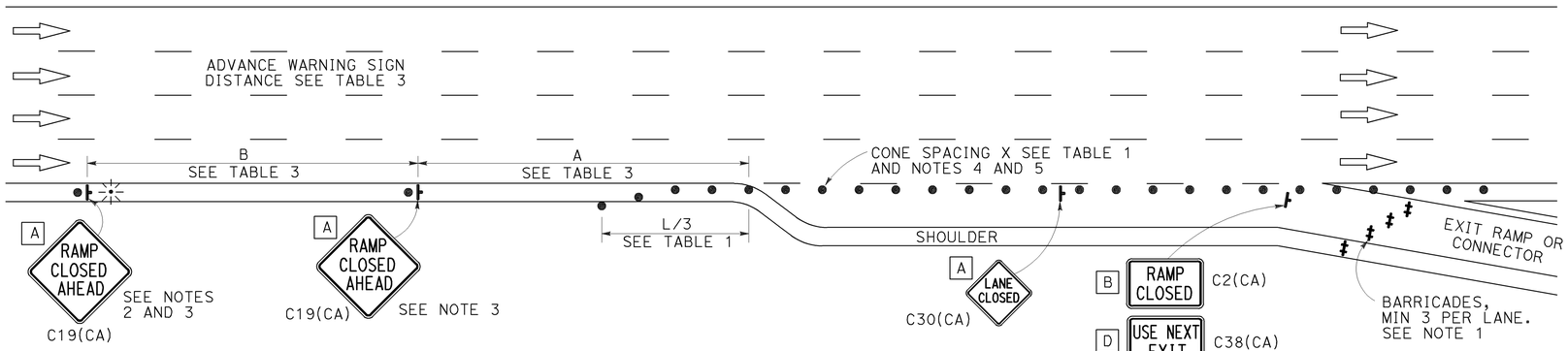
2010 REVISED STANDARD PLAN RSP T10

12-18-12

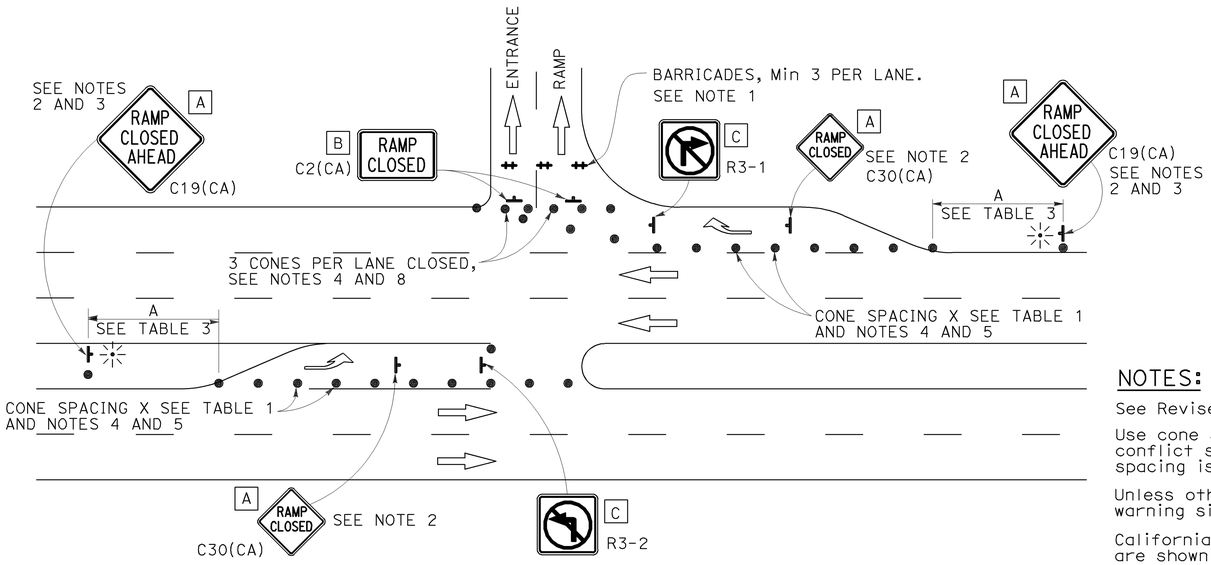
# TYPICAL RAMP CLOSURES



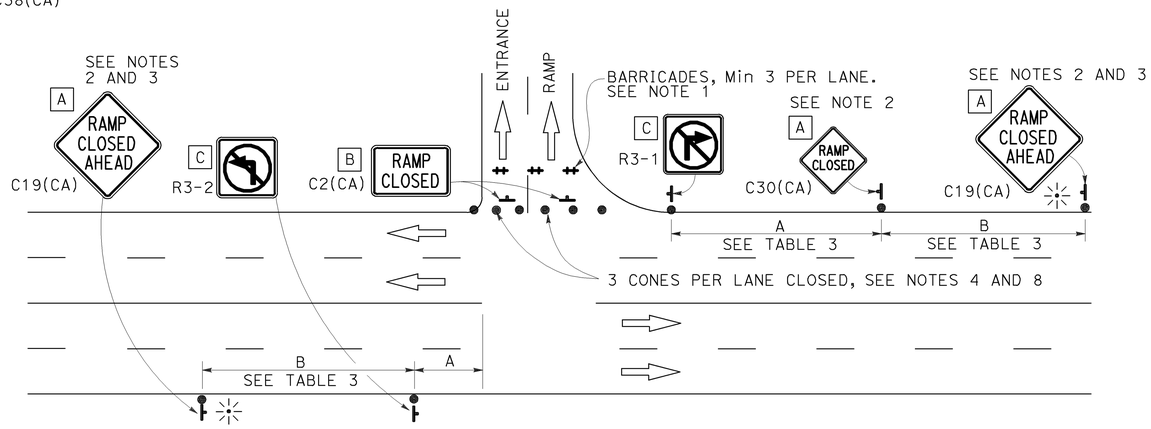

## EXIT RAMP OR CONNECTOR




## EXIT RAMP OR CONNECTOR WITH ADDITIONAL LANE




## ENTRANCE RAMP WITH TURNING POCKETS




## ENTRANCE RAMP WITHOUT 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

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 07 | LA | 110 | Var | 19 | 36 |

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 1-12-15

### 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.

### 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 | 110 | Var | 20 | 36 |

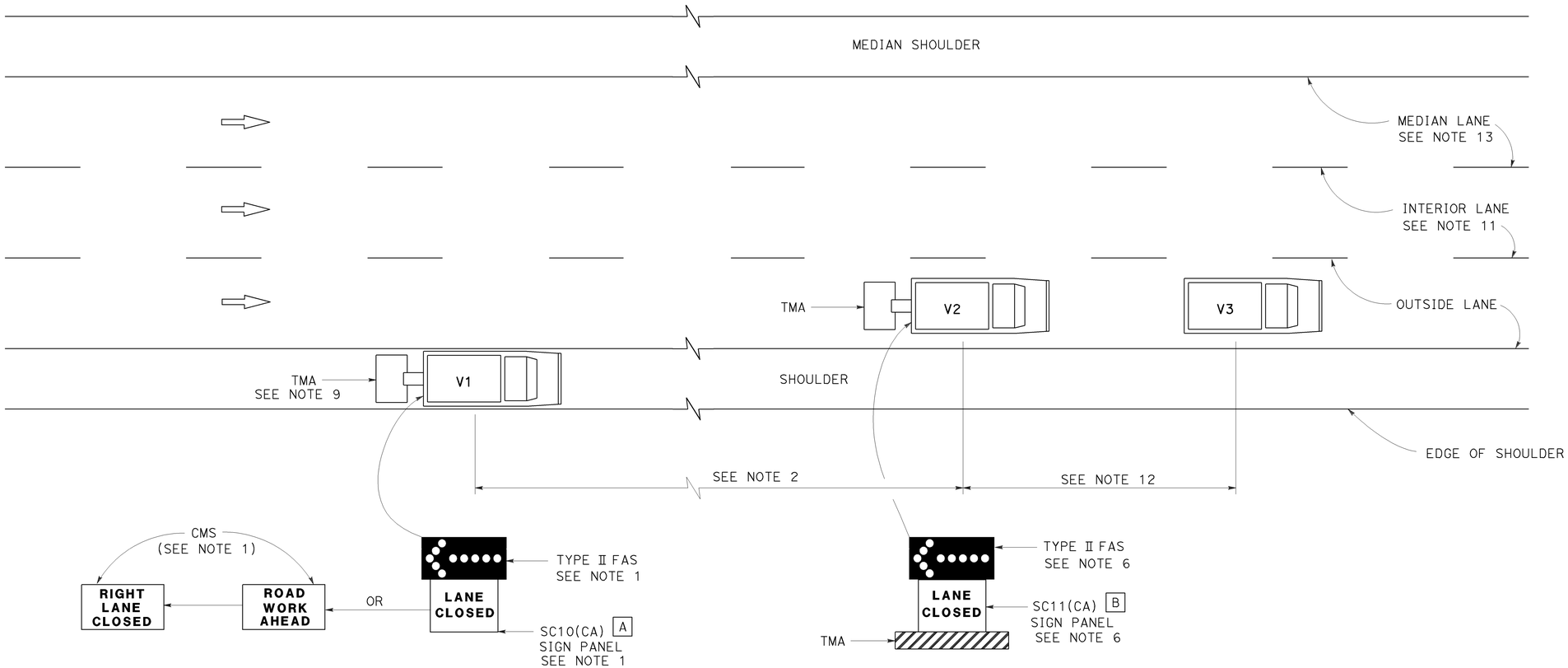
REGISTERED CIVIL ENGINEER

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 1-12-15




## SIGN PANEL SIZE (Min)

A 66" x 36"

B 54" x 42"

## LEGEND

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

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

## NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

# TRAFFIC CONTROL SYSTEM FOR MOVING LANE CLOSURE ON MULTILANE HIGHWAYS

NO SCALE

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

**REVISED STANDARD PLAN RSP T15**

**2010 REVISED STANDARD PLAN RSP T15**

12-18-12

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 07 | LA | 110 | Var | 21 | 36 |

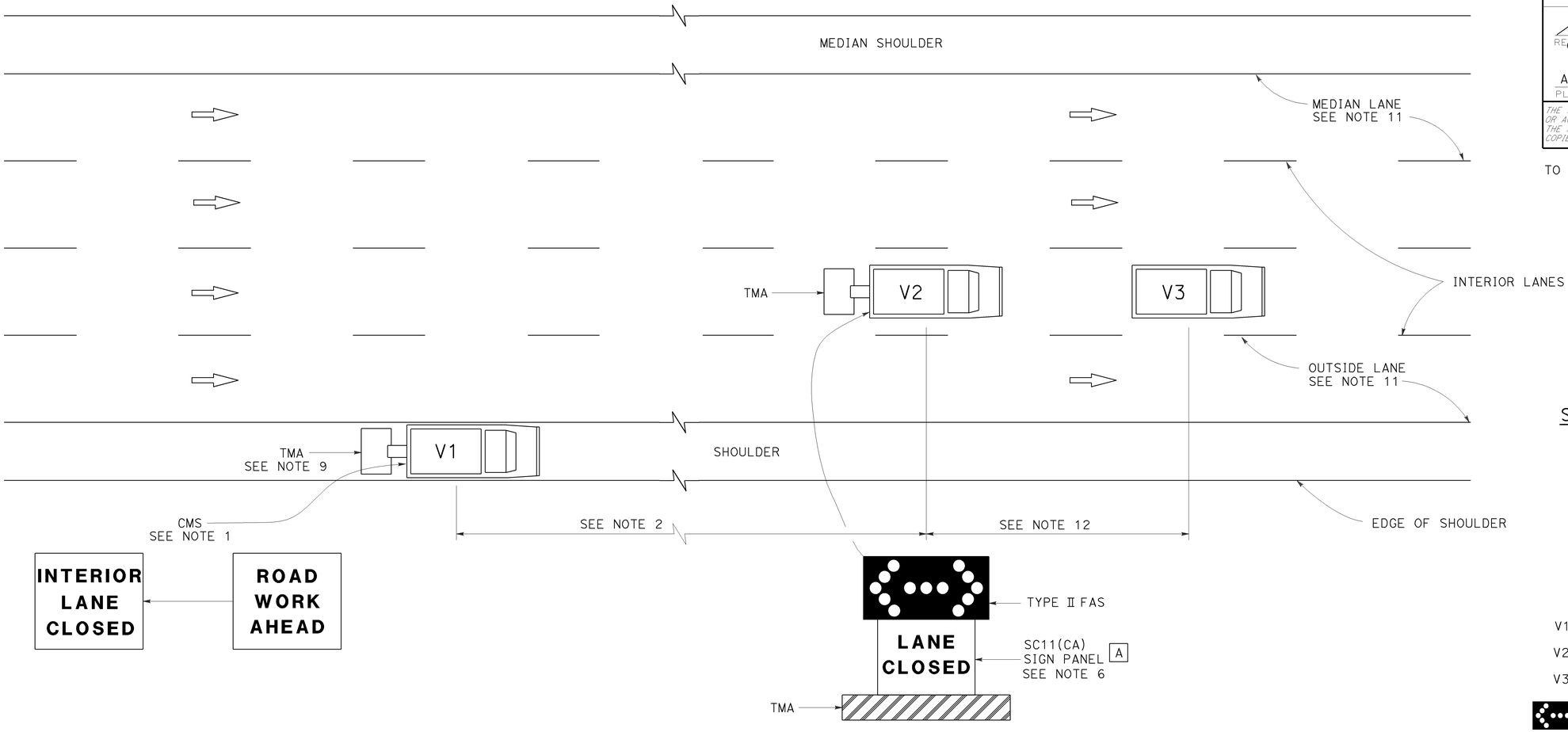
REGISTERED CIVIL ENGINEER

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 1-12-15




## MOVING LANE CLOSURE ON INTERIOR LANE OF MULTILANE HIGHWAYS

SIGN PANEL SIZE (Min)

A 54" x 42"

LEGEND

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

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

# TRAFFIC CONTROL SYSTEM FOR MOVING LANE CLOSURE ON MULTILANE HIGHWAYS

NO SCALE

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

**REVISED STANDARD PLAN RSP T16**

2010 REVISED STANDARD PLAN RSP T16

12-18-12

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 07 | LA | 110 | Var | 22 | 36 |

10/23/14
REGISTERED CIVIL ENGINEER — DATE

1-12-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Mazin 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. PRIOR TO BRIDGE DECK TREATMENT, REMOVE UNSOUND CONCRETE AND PATCH WITH RAPID SETTING CONCRETE.

INDICATES LIMITS OF REMOVE EXISTING PCC AND AC APPROACH AND PLACE NEW STRUCTURE APPROACH TYPE R(30D). FOR DETAILS SEE "STRUCTURE APPROACH TYPE R(30D)" SHEET.

INDICATES LIMITS OF PLACEMENT OF NEW JOINT SEAL.

INDICATES LIMITS OF PAVING NOTCH EXTENSION.

## 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) |
| B6-21 | JOINT SEALS (MAXIMUM MOVEMENT RATING = 2") |
| RSP P10 | CONCRETE PAVEMENT DOWEL BAR DETAILS |

STANDARD PLAN SHEET NO.

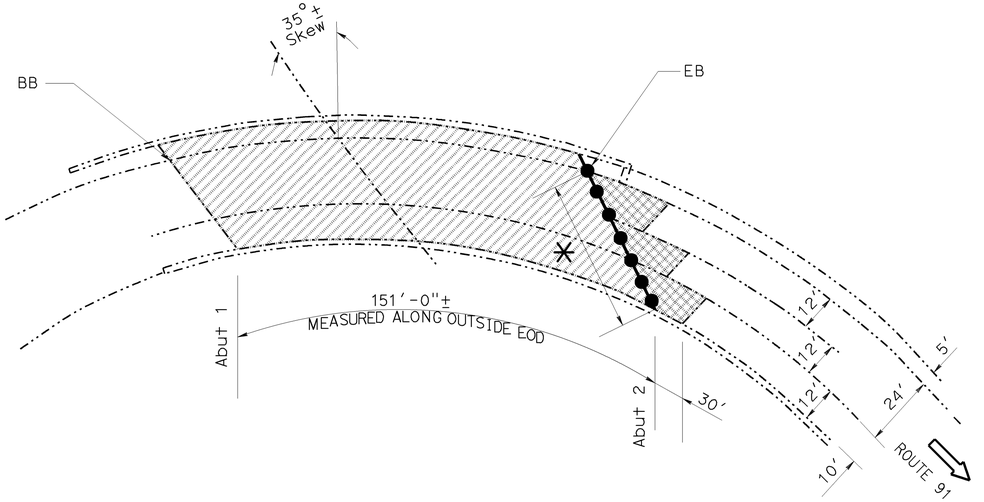
DETAIL NO.

## INDEX TO PLANS



| SHEET NO. | TITLE |
|---|---|
| 1 | GENERAL PLAN NO. 1 |
| 2 | GENERAL PLAN NO. 2 |
| 3 | GENERAL PLAN NO. 3 |
| 4 | GENERAL PLAN NO. 4 |
| 5 | GENERAL PLAN NO. 5 |
| 6 | GENERAL PLAN NO. 6 |
| 7 | GENERAL PLAN NO. 7 |
| 8 | GENERAL PLAN NO. 8 |
| 9 | GENERAL PLAN NO. 9 |
| 10 | GENERAL PLAN NO. 10 |
| 11 | GENERAL PLAN NO. 11 |
| 12 | GENERAL PLAN NO. 12 |
| 13 | MISCELLANEOUS DETAILS NO. 1 |
| 14 | MISCELLANEOUS DETAILS NO. 2 |
| 15 | STRUCTURE APPROACH TYPE R(30D) |






## S110-E91/E91 CONNECTOR OC

Br No. 53-2667F, Rte 110, PM 9.83
NO SCALE

S110-E91/E91 CONNECTOR OC #53-2667F
QUANTITIES

| | |
|---|---|
| PUBLIC SAFETY PLAN | LUMP SUM |
| RAPID SETTING CONCRETE (PATCH) | 15 CF |
| REMOVE UNSOUND CONCRETE | 15 CF |
| PREPARE CONCRETE BRIDGE DECK SURFACE | 5,900 SQFT |
| TREAT BRIDGE DECK | 5,900 SQFT |
| FURNISH BRIDGE DECK TREATMENT MATERIAL | 74 GAL |
| STRUCTURAL CONCRETE, APPROACH SLAB (TYPE R) | 46 CY |
| PAVING NOTCH EXTENSION | 31 CF |
| JOINT SEAL (MR 1/2") | 48 LF |

NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL. EXISTING UTILITY FACILITIES ARE NOT INCLUDED ON THESE PLANS.

NOTES:

1. For clean expansion joint and joint seal details, see "MISCELLANEOUS DETAILS NO. 1" sheet.
2. For joint spall repair and deck damage repair details, see "MISCELLANEOUS DETAILS NO. 2" sheet.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| TONY D. BRAKE<br>DESIGN ENGINEER | DESIGN | BY Mazin Ibrahim | CHECKED Ramesh Patel | LOAD FACTOR DESIGN | LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD | | STATE OF CALIFORNIA<br>DEPARTMENT OF TRANSPORTATION |
| | DETAILS | BY Eugene Goishi | CHECKED Ramesh Patel | LAYOUT | BY Eugene Goishi | CHECKED Ramesh Patel | |
| | QUANTITIES | BY Mazin Ibrahim | CHECKED Ramesh Patel | SPECIFICATIONS | BY Vaikunthan Renga | PLANS AND SPECS COMPARED Vaikunthan Renga | |

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. Various
POST MILE Varies

# ROUTE 110 BRIDGES
## GENERAL PLAN NO. 1

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3489
PROJECT NUMBER & PHASE: 0713000442 1
CONTRACT NO.: 07-2W7304

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES | SHEET 1 | OF 15

USERNAME => s123048 DATE PLOTTED => 20-NOV-2014 TIME PLOTTED => 15:13

FILE => 07-2w7304-a-gp01.dgn

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 07 | LA | 110 | Var | 23 | 36 |

REGISTERED CIVIL ENGINEER — DATE 10/23/14

1-12-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Mazin 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.*

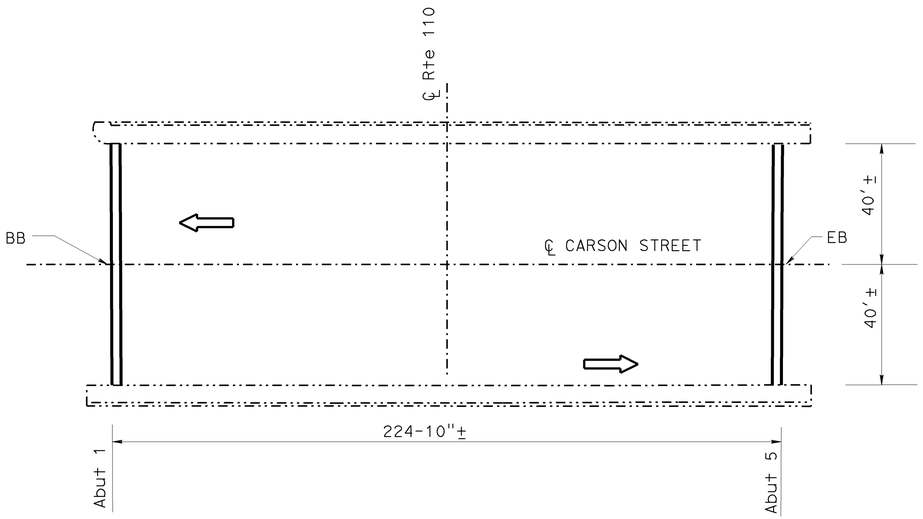
## LEGEND:

INDICATES EXISTING.

INDICATES DIRECTION OF TRAFFIC.

INDICATES LOCATION OF CLEAN EXPANSION JOINT AND PLACEMENT OF NEW JOINT SEAL. PRIOR TO PLACEMENT OF NEW JOINT SEAL, REPAIR JOINT BY REMOVING UNSOUND CONCRETE AND RAPID SETTING CONCRETE PATCH.

INDICATES REPAIR SPALLED SURFACE AREA.




## CARSON STREET OC

Br No. 53-0963, Rte 110, PM 7.02
NO SCALE

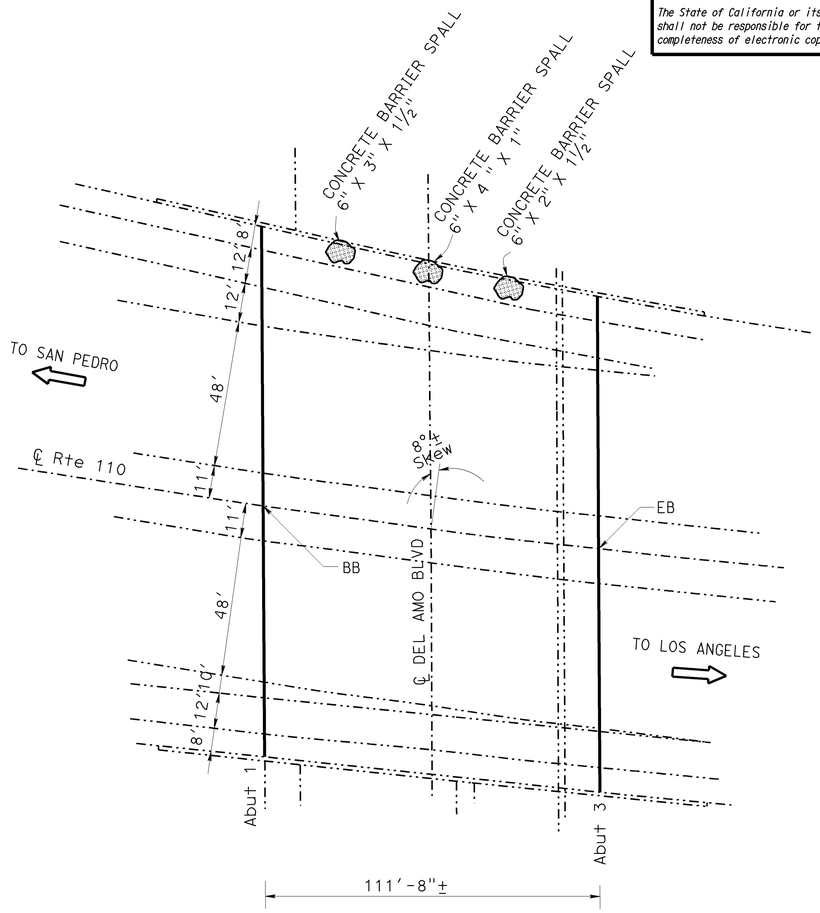
CARSON STREET OC #53-0963
QUANTITIES

| | |
|---|---|
| RAPID SETTING CONCRETE (PATCH) | 3 CF |
| REMOVE UNSOUND CONCRETE | 3 CF |
| CLEAN EXPANSION JOINT | 320 LF |
| JOINT SEAL (MR ½") | 320 LF |

NOTES:

1. For clean expansion joint and joint seal details, see "MISCELLANEOUS DETAILS NO. 1" sheet.
2. For joint spall repair and deck damage repair details, see "MISCELLANEOUS DETAILS NO. 2" sheet.
3. For concrete barrier spall repair, see "MISCELLANEOUS DETAILS NO. 2" sheet.

NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL. EXISTING UTILITY FACILITIES ARE NOT INCLUDED ON THESE PLANS.




## DEL AMO Blvd UC

Br No. 53-0961, Rte 110, PM 8.03
NO SCALE

DEL AMO BLVD UC #53-0961
QUANTITIES

| | |
|---|---|
| RAPID SETTING CONCRETE (PATCH) | 1 CF |
| REPAIR SPALLED SURFACE AREA | 1 SQFT |
| REMOVE UNSOUND CONCRETE | 1 CF |
| CLEAN EXPANSION JOINT | 350 LF |
| JOINT SEAL (MR ½") | 350 LF |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| TONY D. BRAKE<br>DESIGN ENGINEER | DESIGN | BY Mazin Ibrahim | CHECKED Ramesh Patel | LOAD FACTOR DESIGN | LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD | | STATE OF CALIFORNIA<br>DEPARTMENT OF TRANSPORTATION |
| | DETAILS | BY Eugene Goishi | CHECKED Ramesh Patel | LAYOUT | BY Eugene Goishi | CHECKED Ramesh Patel | |
| | QUANTITIES | BY Mazin Ibrahim | CHECKED Ramesh Patel | SPECIFICATIONS | BY Vaikunthan Renga | PLANS AND SPECS COMPARED Vaikunthan Renga | |

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. Various
POST MILE Varies

# ROUTE 110 BRIDGES
## GENERAL PLAN NO. 2

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3489
PROJECT NUMBER & PHASE: 0713000442 1
CONTRACT NO.: 07-2W7304

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES

SHEET 2 OF 15

FILE => 07-2w7304-a-gp02.dgn

USERNAME = s123048 DATE PLOTTED => 20-NOV-2014 TIME PLOTTED => 15:13

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 07 | LA | 110 | Var | 24 | 36 |

10/23/14
REGISTERED CIVIL ENGINEER — DATE

1-12-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Mazin Ibrahim — No. C69896 — Exp. 09/30/16 — CIVIL — STATE OF CALIFORNIA

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## LEGEND:

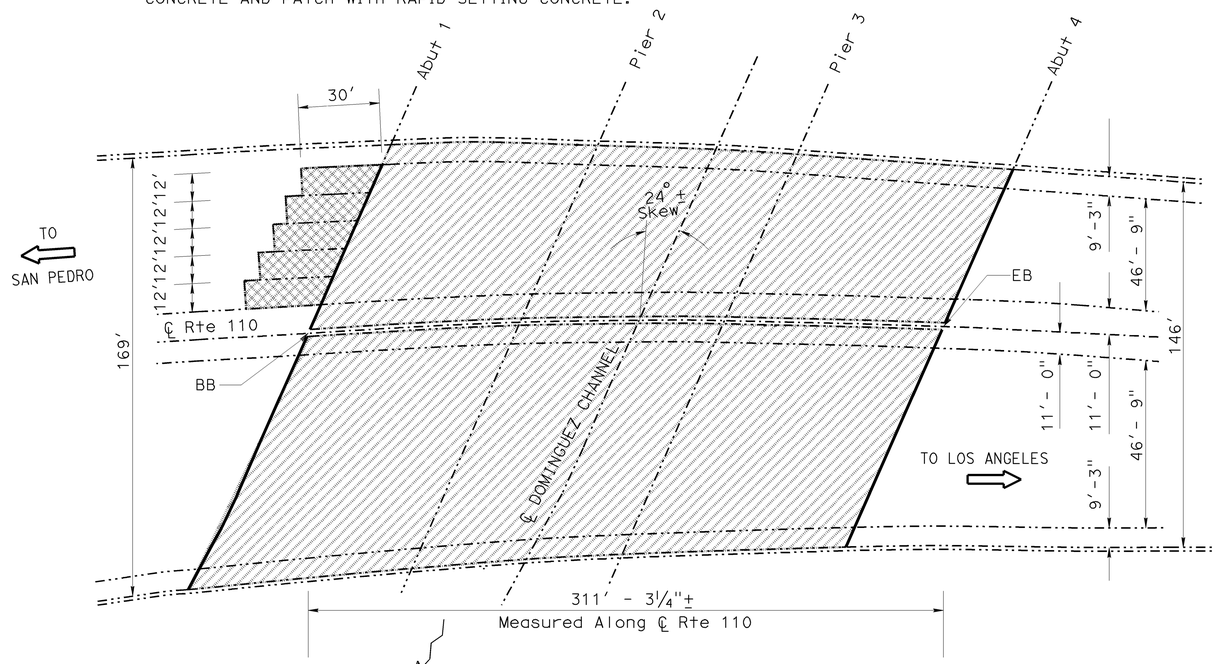
INDICATES EXISTING.

INDICATES DIRECTION OF TRAFFIC.

INDICATES LIMITS OF PREPARE CONCRETE BRIDGE DECK SURFACE AND TREAT EXISTING BRIDGE DECK WITH HIGH MOLECULAR WEIGHT METHACRYLATE. PRIOR TO BRIDGE DECK TREATMENT, REMOVE UNSOUND CONCRETE AND PATCH WITH RAPID SETTING CONCRETE.

INDICATES LOCATION OF CLEAN EXPANSION JOINT AND PLACEMENT OF NEW JOINT SEAL. PRIOR TO PLACEMENT OF NEW JOINT SEAL, REPAIR JOINT BY REMOVING UNSOUND CONCRETE AND RAPID SETTING CONCRETE PATCH.

INDICATES LIMITS OF PREPARE CONCRETE APPROACH SLAB SURFACE AND TREAT EXISTING APPROACH SLAB WITH HIGH MOLECULAR WEIGHT METHACRYLATE. PRIOR TO BRIDGE DECK TREATMENT, REMOVE UNSOUND CONCRETE AND PATCH WITH RAPID SETTING CONCRETE.



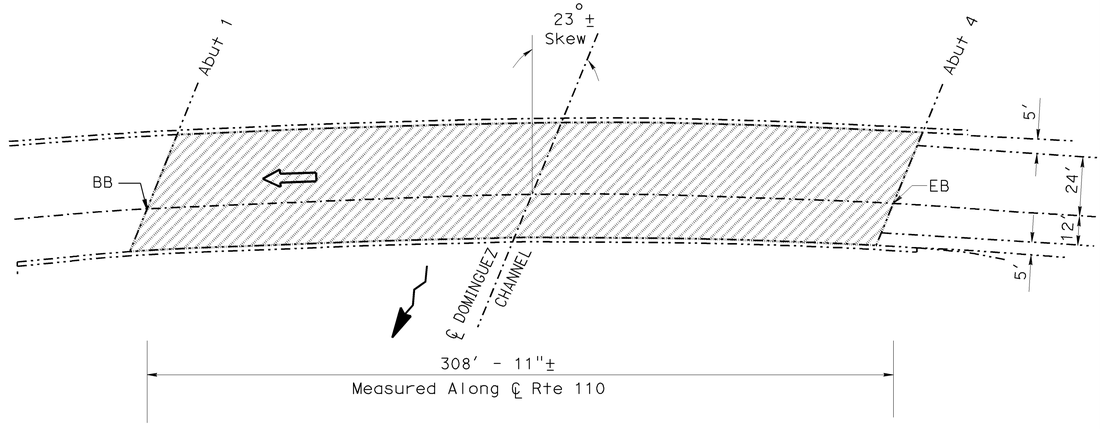

## DOMINGUEZ CHANNEL

Br No. 53-1213, Rte 110, PM 9.13
NO SCALE

DOMINGUEZ CHANNEL #53-1213
QUANTITIES

| | |
|---|---|
| PUBLIC SAFETY PLAN | LUMP SUM |
| RAPID SETTING CONCRETE (PATCH) | 130 CF |
| REMOVE UNSOUND CONCRETE | 130 CF |
| PREPARE CONCRETE BRIDGE DECK SURFACE | 50,850 SQFT |
| TREAT BRIDGE DECK | 50,850 SQFT |
| FURNISH BRIDGE DECK TREATMENT MATERIAL | 636 GAL |
| CLEAN EXPANSION JOINT | 346 LF |
| JOINT SEAL ( MR 1") | 346 LF |

NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL. EXISTING UTILITY FACILITIES ARE NOT INCLUDED ON THESE PLANS.




## DOMINGUEZ CHANNEL (S110-S&N405)

Br No. 53-2557H, Rte 110, PM 9.13
NO SCALE

DOMINGUEZ CHANNEL (S110-S&N405) #53-2557H
QUANTITIES

| | |
|---|---|
| PUBLIC SAFETY PLAN | LUMP SUM |
| RAPID SETTING CONCRETE (PATCH) | 36 CF |
| REMOVE UNSOUND CONCRETE | 36 CF |
| PREPARE CONCRETE BRIDGE DECK SURFACE | 14,210 SQFT |
| TREAT BRIDGE DECK | 14,210 SQFT |
| FURNISH BRIDGE DECK TREATMENT MATERIAL | 178 GAL |

NOTES:

1. For clean expansion joint and joint seal details, see "MISCELLANEOUS DETAILS NO. 1" sheet.
2. For joint spall repair and deck damage repair details, see "MISCELLANEOUS DETAILS NO. 2" sheet.

TONY D. BRAKE
DESIGN ENGINEER

| | | | | | |
|---|---|---|---|---|---|
| DESIGN | BY Mazin Ibrahim | CHECKED Ramesh Patel | LOAD FACTOR DESIGN | LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD | |
| DETAILS | BY Eugene Goishi | CHECKED Ramesh Patel | LAYOUT | BY Eugene Goishi | CHECKED Ramesh Patel |
| QUANTITIES | BY Mazin Ibrahim | CHECKED Ramesh Patel | SPECIFICATIONS | BY Vaikunthan Renga | PLANS AND SPECS COMPARED Vaikunthan Renga |

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. Various
POST MILE Varies

# ROUTE 110 BRIDGES
# GENERAL PLAN NO. 3

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3489
PROJECT NUMBER & PHASE: 0713000442 1
CONTRACT NO.: 07-2W7304

DISREGARD PRINTS BEARING EARLIER REVISION DATES

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| | | | | 3 | 15 |

FILE => 07-2w7304-a-gp03.dgn

USERNAME => s123048 DATE PLOTTED => 20-NOV-2014 TIME PLOTTED => 15:13

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 07 | LA | 110 | Var | 25 | 36 |

REGISTERED CIVIL ENGINEER — DATE 10/23/14

PLANS APPROVAL DATE 1-12-15

REGISTERED PROFESSIONAL ENGINEER — Mazin Ibrahim — No. C69896 — Exp. 09/30/16 — CIVIL — STATE OF CALIFORNIA

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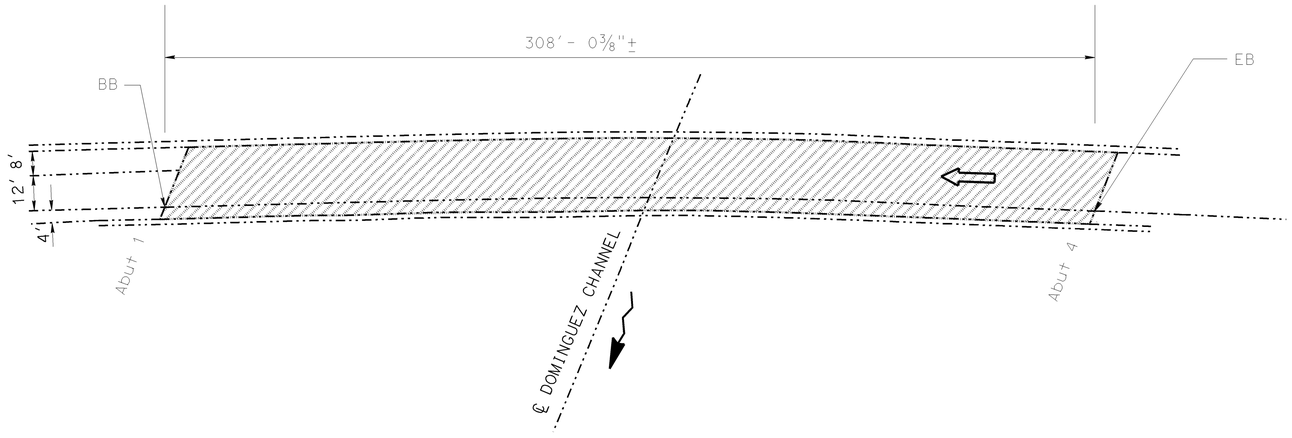
## LEGEND:

INDICATES EXISTING.

INDICATES DIRECTION OF TRAFFIC.

INDICATES LIMITS OF PREPARE CONCRETE BRIDGE DECK SURFACE AND TREAT EXISTING BRIDGE DECK WITH HIGH MOLECULAR WEIGHT METHACRYLATE. PRIOR TO BRIDGE DECK TREATMENT, REMOVE UNSOUND CONCRETE AND PATCH WITH RAPID SETTING CONCRETE.

INDICATES LOCATION OF CLEAN EXPANSION JOINT AND PLACEMENT OF NEW JOINT SEAL. PRIOR TO PLACEMENT OF NEW JOINT SEAL, REPAIR JOINT BY REMOVING UNSOUND CONCRETE AND RAPID SETTING CONCRETE PATCH.

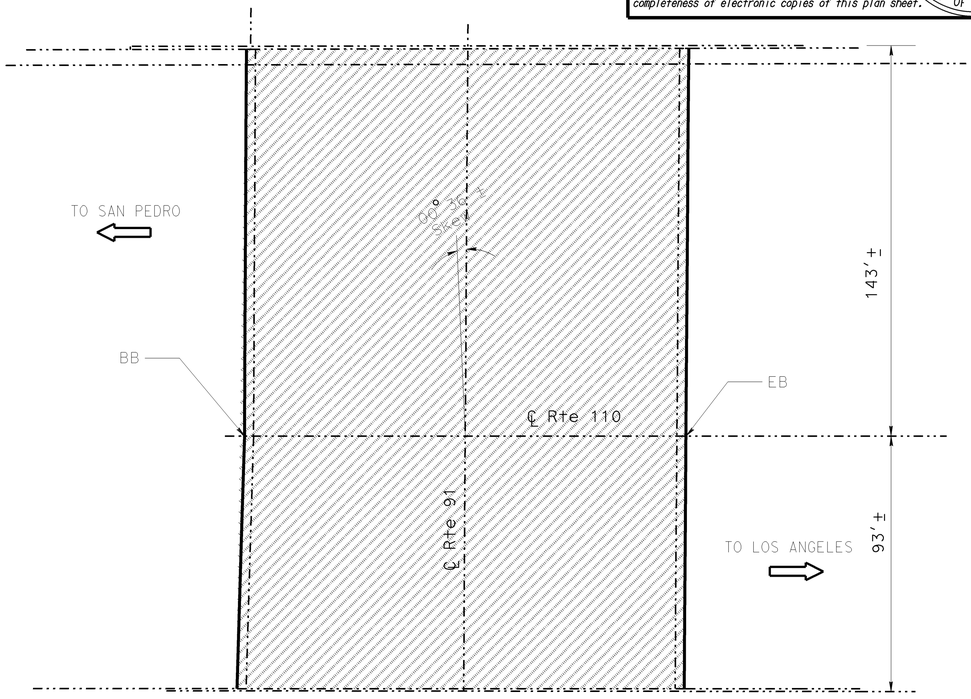



## DOMINGUEZ CHANNEL OFF RAMP

Br No. 53-2558K, Rte 110, PM 9.15
NO SCALE

DOMINGUEZ CHANNEL OFF RAMP #53-2558K
QUANTITIES

| | |
|---|---|
| PUBLIC SAFETY PLAN | LUMP SUM |
| RAPID SETTING CONCRETE (PATCH) | 19 CF |
| REMOVE UNSOUND CONCRETE | 19 CF |
| PREPARE CONCRETE BRIDGE DECK SURFACE | 7,392 SQFT |
| TREAT BRIDGE DECK | 7,392 SQFT |
| FURNISH BRIDGE DECK TREATMENT MATERIAL | 92 GAL |




## ROUTE 110/91 SEPARATION

Br No. 53-0958, Rte 110, PM 9.85
NO SCALE

ROUTE 110/91 SEPARATION #53-0958
QUANTITIES

| | |
|---|---|
| PUBLIC SAFETY PLAN | LUMP SUM |
| RAPID SETTING CONCRETE (PATCH) | 130 CF |
| REMOVE UNSOUND CONCRETE | 130 CF |
| PREPARE CONCRETE BRIDGE DECK SURFACE | 50,780 SQFT |
| TREAT BRIDGE DECK | 50,780 SQFT |
| FURNISH BRIDGE DECK TREATMENT MATERIAL | 635 GAL |
| CLEAN EXPANSION JOINT | 470 LF |
| JOINT SEAL (MR 1″) | 470 LF |

NOTES:

1. For clean expansion joint and joint seal details, see "MISCELLANEOUS DETAILS NO. 1" sheet.
2. For joint spall repair and deck damage repair details, see "MISCELLANEOUS DETAILS NO. 2" sheet.

NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL. EXISTING UTILITY FACILITIES ARE NOT INCLUDED ON THESE PLANS.

TONY D. BRAKE
DESIGN ENGINEER

| | | | | | | |
|---|---|---|---|---|---|---|
| DESIGN | BY Mazin Ibrahim | CHECKED Ramesh Patel | LOAD FACTOR DESIGN | LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD | | |
| DETAILS | BY Eugene Goishi | CHECKED Ramesh Patel | LAYOUT | BY Eugene Goishi | CHECKED Ramesh Patel | |
| QUANTITIES | BY Mazin Ibrahim | CHECKED Ramesh Patel | SPECIFICATIONS | BY Vaikunthan Renga | PLANS AND SPECS COMPARED Vaikunthan Renga | |

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. Various
POST MILE Varies

# ROUTE 110 BRIDGES
## GENERAL PLAN NO. 4

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3489
PROJECT NUMBER & PHASE: 0713000442 1
CONTRACT NO.: 07-2W7304

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| | | | | 4 | 15 |

FILE => 07-2w7304-a-gp04.dgn

USERNAME => s123048 DATE PLOTTED => 20-NOV-2014 TIME PLOTTED => 15:13

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 07 | LA | 110 | Var | 26 | 36 |

REGISTERED CIVIL ENGINEER — DATE 10/23/14

PLANS APPROVAL DATE 1-12-15

REGISTERED PROFESSIONAL ENGINEER — Mazin Ibrahim — No. C69896 — Exp. 09/30/16 — CIVIL — STATE OF CALIFORNIA

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## LEGEND:

INDICATES EXISTING.

INDICATES DIRECTION OF TRAFFIC.

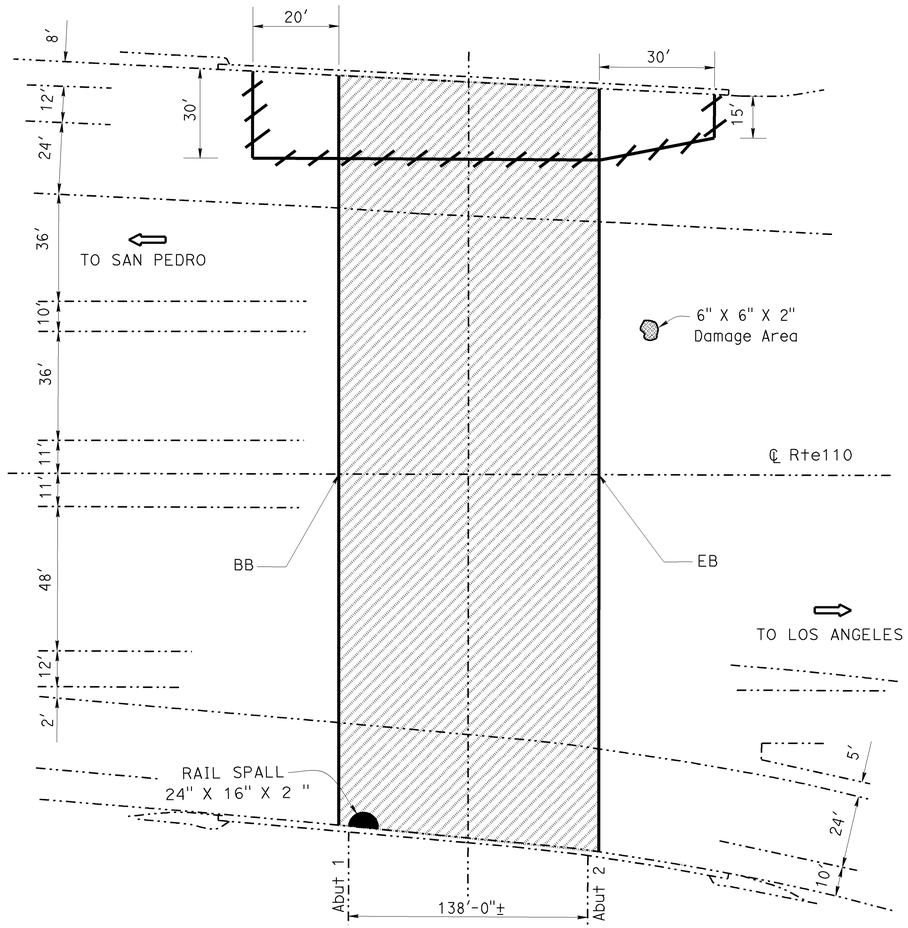
INDICATES LIMITS OF PREPARE CONCRETE BRIDGE DECK SURFACE AND TREAT EXISTING BRIDGE DECK WITH HIGH MOLECULAR WEIGHT METHACRYLATE. PRIOR TO BRIDGE DECK TREATMENT, REMOVE UNSOUND CONCRETE AND PATCH WITH RAPID SETTING CONCRETE.

INDICATES REMOVAL OF EXISTING LONGITUDINAL JOINT SEAL REMOVAL CLEAN AND PLACEMENT OF NEW LONGITUDINAL JOINT SEAL.

INDICATES REMOVAL OF UNSOUND CONCRETE AND PLACE RAPID SETTING CONCRETE PATCH.

INDICATES LOCATION OF CLEAN EXPANSION JOINT AND PLACEMENT OF NEW JOINT SEAL. PRIOR TO PLACEMENT OF NEW JOINT SEAL, REPAIR JOINT BY REMOVING UNSOUND CONCRETE AND RAPID SETTING CONCRETE PATCH.

INDICATES LOCATION OF REPAIR SPALLED SURFACE AREA.




## 182ND STREET UC

Br No. 53-0959, Rte 110, PM 9.66
No Scale

182ND STREET UC #53-0959
QUANTITIES

| | |
|---|---|
| PUBLIC SAFETY PLAN | LUMP SUM |
| RAPID SETTING CONCRETE (PATCH) | 87 CF |
| REMOVE UNSOUND CONCRETE | 87 CF |
| PREPARE CONCRETE BRIDGE DECK SURFACE | 33,686 SQFT |
| TREAT BRIDGE DECK | 33,686 SQFT |
| FURNISH BRIDGE DECK TREATMENT MATERIAL | 421 GAL |
| CLEAN EXPANSION JOINT | 736 LF |
| JOINT SEAL (MR ½") | 498 LF |
| JOINT SEAL (TYPE AL) | 238 LF |




## N110-W91 CONNECTOR OC

Br No. 53-2669G, Rte 110, PM 9.95
NO SCALE

N110-W91 CONNECTOR OC #53-2669G
QUANTITIES

| | |
|---|---|
| PUBLIC SAFETY PLAN | LUMP SUM |
| RAPID SETTING CONCRETE (PATCH) | 8 CF |
| REMOVE UNSOUND CONCRETE | 8 CF |
| PREPARE CONCRETE BRIDGE DECK SURFACE | 1,667 SQFT |
| TREAT BRIDGE DECK | 1,667 SQFT |
| FURNISH BRIDGE DECK TREATMENT MATERIAL | 21 GAL |
| CLEAN EXPANSION JOINT | 54 LF |
| JOINT SEAL (MR ½") | 54 LF |

NOTES:

1. For clean expansion joint and joint seal details, see "MISCELLANEOUS DETAILS NO. 1" sheet.
2. For joint spall repair and deck damage repair details, see "MISCELLANEOUS DETAILS NO. 2" sheet.
3. For rail spall repair, see "MISCELLANEOUS DETAILS NO. 2" sheet

NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL. EXISTING UTILITY FACILITIES ARE NOT INCLUDED ON THESE PLANS.

TONY D. BRAKE
DESIGN ENGINEER

| | | | | | |
|---|---|---|---|---|---|
| DESIGN | BY Mazin Ibrahim | CHECKED Ramesh Patel | LOAD FACTOR DESIGN | LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD | |
| DETAILS | BY Eugene Goishi | CHECKED Ramesh Patel | LAYOUT | BY Eugene Goishi | CHECKED Ramesh Patel |
| QUANTITIES | BY Mazin Ibrahim | CHECKED Ramesh Patel | SPECIFICATIONS | BY Vaikunthan Renga | PLANS AND SPECS COMPARED Vaikunthan Renga |

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. Various
POST MILE Varies

# ROUTE 110 BRIDGES
# GENERAL PLAN NO. 5

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3489
PROJECT NUMBER & PHASE: 0713000442 1
CONTRACT NO.: 07-2W7304

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES

SHEET 5 OF 15

FILE => 07-2w7304-a-gp05.dgn

USERNAME = s123048 DATE PLOTTED => 20-NOV-2014 TIME PLOTTED => 15:13

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 07 | LA | 110 | Var | 27 | 36 |

REGISTERED CIVIL ENGINEER — DATE 10/23/14

PLANS APPROVAL DATE 1-12-15

REGISTERED PROFESSIONAL ENGINEER — Mazin Ibrahim — No. C69896 — Exp. 09/30/16 — CIVIL — STATE OF CALIFORNIA

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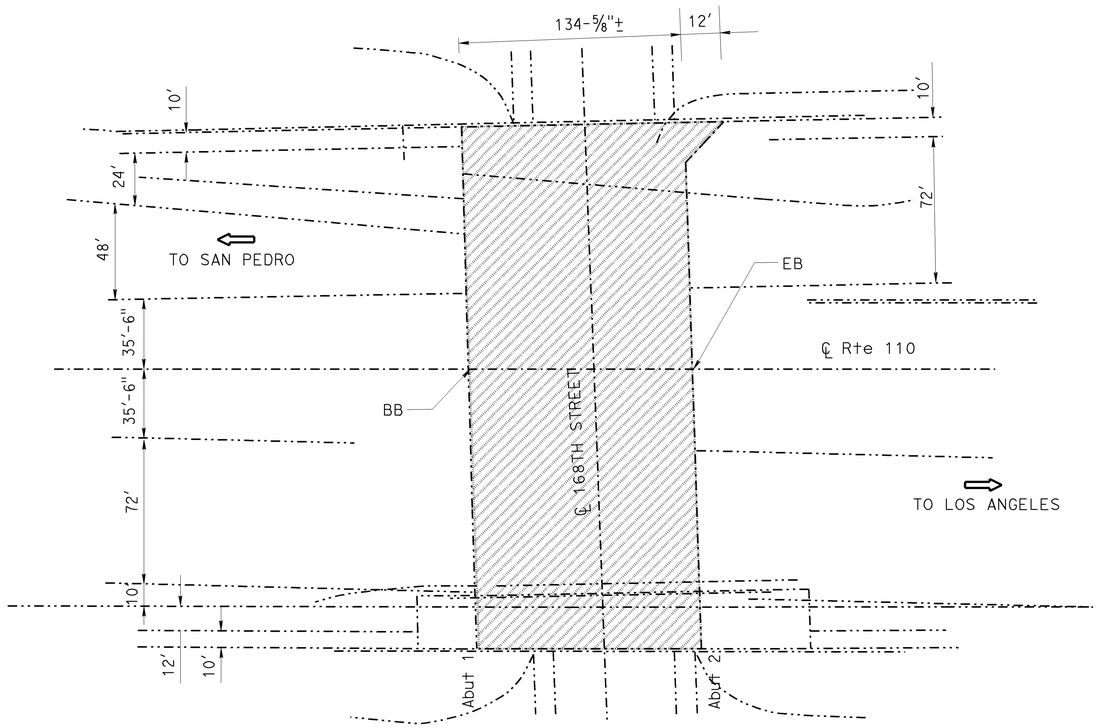
## LEGEND:

INDICATES EXISTING.

INDICATES DIRECTION OF TRAFFIC.

INDICATES LIMITS OF PREPARE CONCRETE BRIDGE DECK SURFACE AND TREAT EXISTING BRIDGE DECK WITH HIGH MOLECULAR WEIGHT METHACRYLATE. PRIOR TO BRIDGE DECK TREATMENT, REMOVE UNSOUND CONCRETE AND PATCH WITH RAPID SETTING CONCRETE.

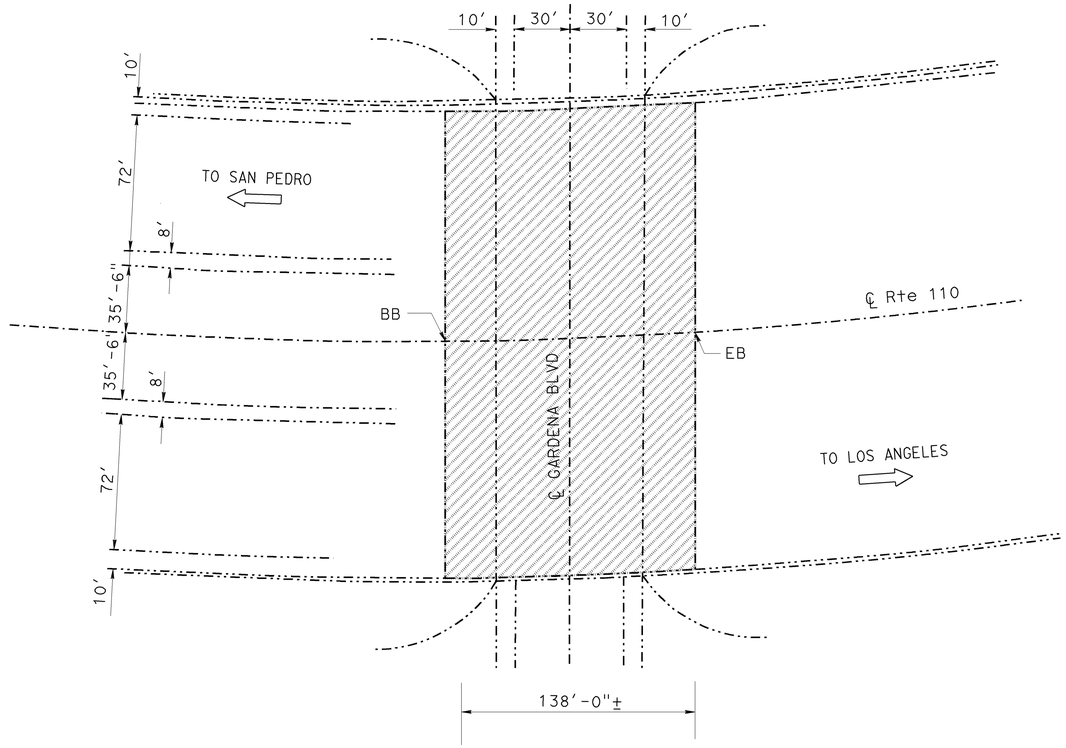



## 168TH STREET UC

Br No. 53-0957, Rte 110, PM 10.32
No Scale

168TH STREET UC #53-0957
QUANTITIES

| | |
|---|---|
| PUBLIC SAFETY PLAN | LUMP SUM |
| RAPID SETTING CONCRETE (PATCH) | 68 CF |
| REMOVE UNSOUND CONCRETE | 68 CF |
| PREPARE CONCRETE BRIDGE DECK SURFACE | 26,400 SQFT |
| TREAT BRIDGE DECK | 26,400 SQFT |
| FURNISH BRIDGE DECK TREATMENT MATERIAL | 330 GAL |




## GARDENA Blvd UC

Br No. 53-0956, Rte 110, PM 10.49
NO SCALE

GARDENA Blvd UC #53-0956
QUANTITIES

| | |
|---|---|
| PUBLIC SAFETY PLAN | LUMP SUM |
| RAPID SETTING CONCRETE (PATCH) | 87 CF |
| REMOVE UNSOUND CONCRETE | 87 CF |
| PREPARE CONCRETE BRIDGE DECK SURFACE | 3,464 SQFT |
| TREAT BRIDGE DECK | 3,464 SQFT |
| FURNISH BRIDGE DECK TREATMENT MATERIAL | 433 GAL |

NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL. EXISTING UTILITY FACILITIES ARE NOT INCLUDED ON THESE PLANS.

TONY D. BRAKE
DESIGN ENGINEER

| | | | | | |
|---|---|---|---|---|---|
| DESIGN | BY Mazin Ibrahim | CHECKED Ramesh Patel | LOAD FACTOR DESIGN | LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD | |
| DETAILS | BY Eugene Goishi | CHECKED Ramesh Patel | LAYOUT | BY Eugene Goishi | CHECKED Ramesh Patel |
| QUANTITIES | BY Mazin Ibrahim | CHECKED Ramesh Patel | SPECIFICATIONS | BY Vaikunthan Renga | PLANS AND SPECS COMPARED Vaikunthan Renga |

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

| BRIDGE NO. | ROUTE 110 BRIDGES |
|---|---|
| Various | GENERAL PLAN NO. 6 |
| POST MILE | |
| Varies | |

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3489
PROJECT NUMBER & PHASE: 0713000442 1
CONTRACT NO.: 07-2W7304

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| | | | | 6 | 15 |

FILE => 07-2w7304-a-gp06.dgn

USERNAME => s1623048 DATE PLOTTED => 20-NOV-2014 TIME PLOTTED => 15:13

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 07 | LA | 110 | Var | 28 | 36 |

REGISTERED CIVIL ENGINEER — DATE 10/23/14

1-12-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Mazin 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.*

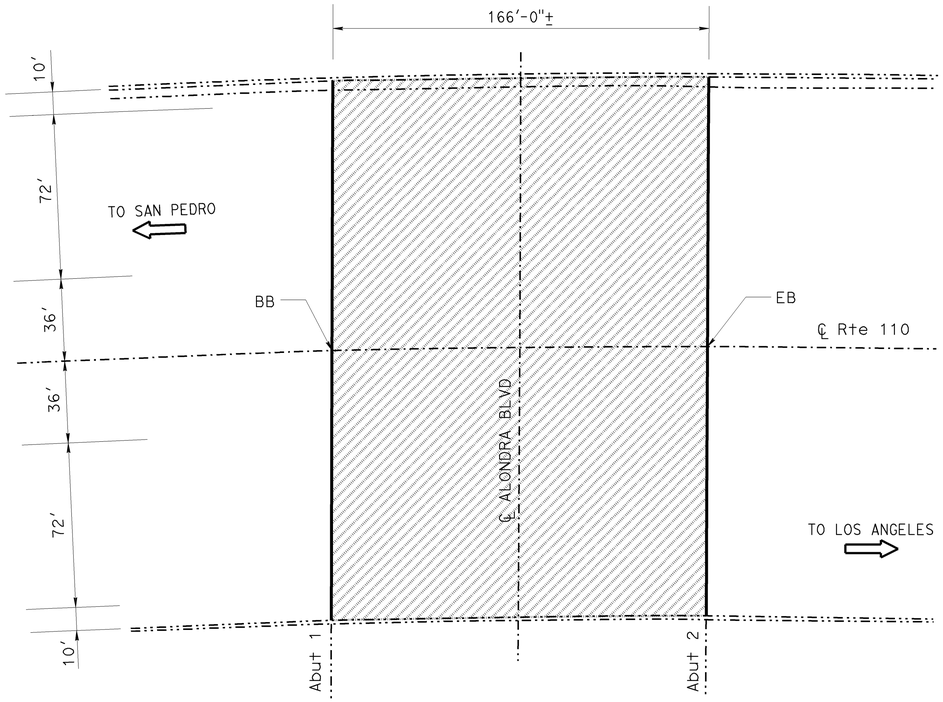
## LEGEND:

INDICATES EXISTING.

INDICATES DIRECTION OF TRAFFIC.

INDICATES LIMITS OF PREPARE CONCRETE BRIDGE DECK SURFACE AND TREAT EXISTING BRIDGE DECK WITH HIGH MOLECULAR WEIGHT METHACRYLATE. PRIOR TO BRIDGE DECK TREATMENT, REMOVE UNSOUND CONCRETE AND PATCH WITH RAPID SETTING CONCRETE.

INDICATES LOCATION OF CLEAN EXPANSION JOINT AND PLACEMENT OF NEW JOINT SEAL. PRIOR TO PLACEMENT OF NEW JOINT SEAL, REPAIR JOINT BY REMOVING UNSOUND CONCRETE AND RAPID SETTING CONCRETE PATCH.



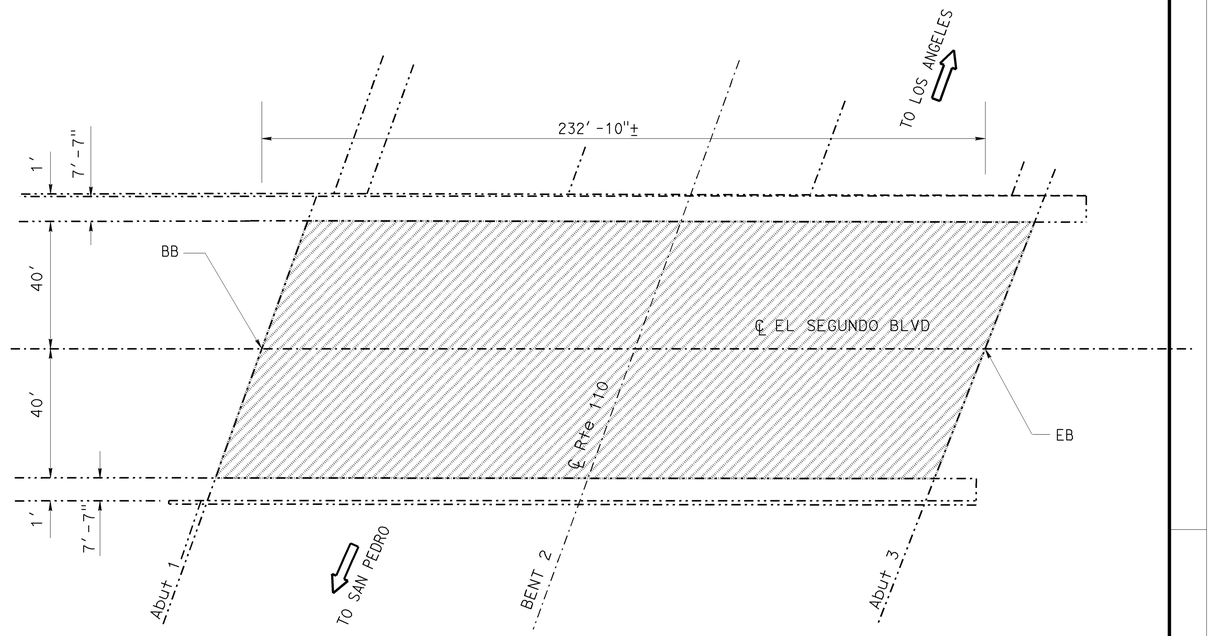

## ALONDRA Blvd UC

Br No. 53-0955, Rte 110, PM 10.74
NO SCALE

ALONDRA Blvd UC #53-0955
QUANTITIES

| | |
|---|---|
| PUBLIC SAFETY PLAN | LUMP SUM |
| RAPID SETTING CONCRETE (PATCH) | 100 CF |
| REMOVE UNSOUND CONCRETE | 100 CF |
| PREPARE CONCRETE BRIDGE DECK SURFACE | 39,190 SQFT |
| TREAT BRIDGE DECK | 39,190 SQFT |
| FURNISH BRIDGE DECK TREATMENT MATERIAL | 490 GAL |
| CLEAN EXPANSION JOINT | 472 LF |
| JOINT SEAL (MR ½") | 472 LF |

NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL. EXISTING UTILITY FACILITIES ARE NOT INCLUDED ON THESE PLANS.




## EL SEGUNDO Blvd OC

Br No. 53-0948, Rte 110, PM 12.9
NO SCALE

EL SEGUNDO Blvd OC #53-0948
QUANTITIES

| | |
|---|---|
| PUBLIC SAFETY PLAN | LUMP SUM |
| RAPID SETTING CONCRETE (PATCH) | 47 CF |
| REMOVE UNSOUND CONCRETE | 47 CF |
| PREPARE CONCRETE BRIDGE DECK SURFACE | 18,640 SQFT |
| TREAT BRIDGE DECK | 18,640 SQFT |
| FURNISH BRIDGE DECK TREATMENT MATERIAL | 233 GAL |

NOTES:

1. For clean expansion joint and joint seal details, see "MISCELLANEOUS DETAILS NO. 1" sheet.
2. For joint spall repair and deck damage repair details, see "MISCELLANEOUS DETAILS NO. 2" sheet.

TONY D. BRAKE
DESIGN ENGINEER

| | | | | | |
|---|---|---|---|---|---|
| DESIGN | BY Mazin Ibrahim | CHECKED Ramesh Patel | LOAD FACTOR DESIGN | LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD | |
| DETAILS | BY Eugene Goishi | CHECKED Ramesh Patel | LAYOUT | BY Eugene Goishi | CHECKED Ramesh Patel |
| QUANTITIES | BY Mazin Ibrahim | CHECKED Ramesh Patel | SPECIFICATIONS | BY Vaikunthan Renga | PLANS AND SPECS COMPARED Vaikunthan Renga |

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. Various
POST MILE Varies

# ROUTE 110 BRIDGES
# GENERAL PLAN NO. 7

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3489
PROJECT NUMBER & PHASE: 0713000442 1
CONTRACT NO.: 07-2W7304

DISREGARD PRINTS BEARING EARLIER REVISION DATES

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| | | | | 7 | 15 |

FILE => 07-2w7304-a-gp07.dgn

USERNAME => S123048 DATE PLOTTED => 20-NOV-2014 TIME PLOTTED => 15:13

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 07 | LA | 110 | Var | 29 | 36 |

REGISTERED CIVIL ENGINEER — DATE 10/23/14

1-12-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Mazin 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:

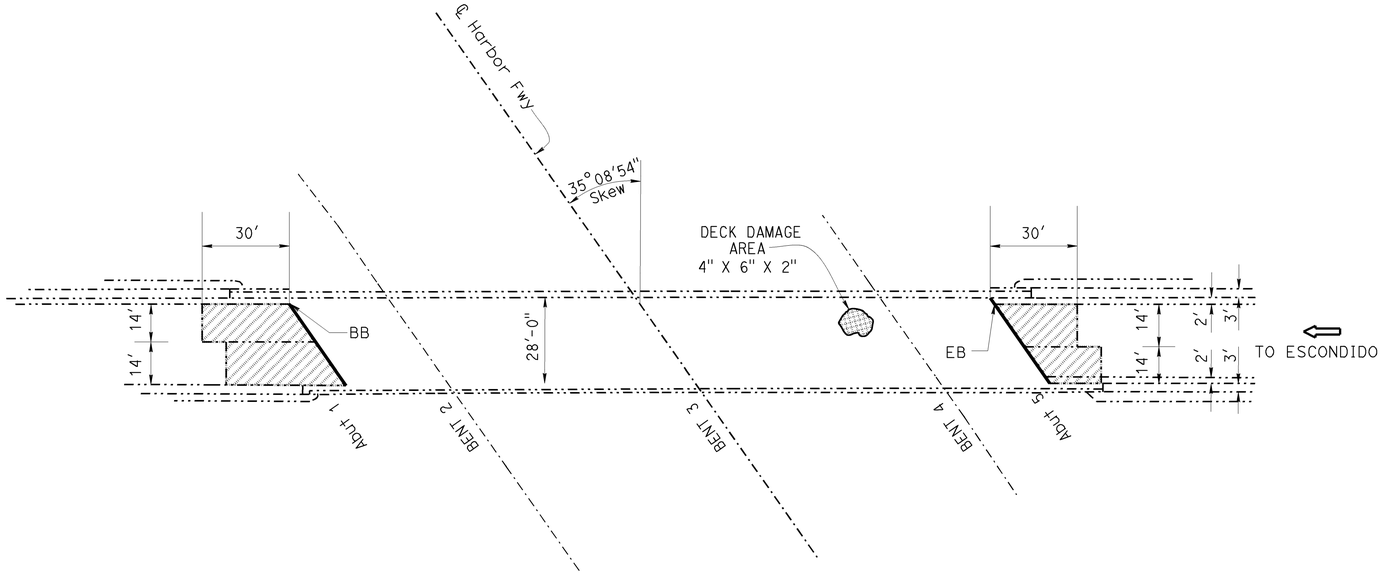
INDICATES EXISTING.

INDICATES DIRECTION OF TRAFFIC.

INDICATES LOCATION OF CLEAN EXPANSION JOINT AND PLACEMENT OF NEW JOINT SEAL. PRIOR TO PLACEMENT OF NEW JOINT SEAL, REPAIR JOINT BY REMOVING UNSOUND CONCRETE AND RAPID SETTING CONCRETE PATCH.

INDICATES LOCATION OF DECK DAMAGE AREA REMOVE UNSOUND CONCRETE AND PLACE RAPID SETTING CONCRETE PATCH.

INDICATES LIMITS OF PREPARE CONCRETE APPROACH SLAB SURFACE AND TREAT EXISTING APPROACH SLAB WITH HIGH MOLECULAR WEIGHT METHACRYLATE. PRIOR TO BRIDGE DECK TREATMENT, REMOVE UNSOUND CONCRETE AND PATCH WITH RAPID SETTING CONCRETE.



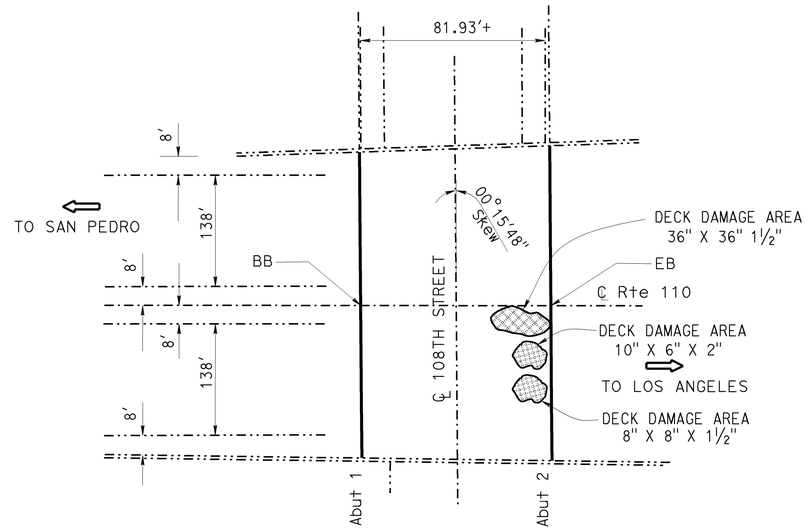

## S110-S405/ROUTE 110 CON SEPARATION

Br No. 53-1137F, Rte 110, PM 8.75
No Scale

S110-S405/ROUTE 110 CON SEP #53-1137F
QUANTITIES

| | |
|---|---|
| PUBLIC SAFETY PLAN | LUMP SUM |
| RAPID SETTING CONCRETE (PATCH) | 7 CF |
| REMOVE UNSOUND CONCRETE | 7 CF |
| PREPARE CONCRETE BRIDGE DECK SURFACE | 1,690 SQFT |
| TREAT BRIDGE DECK | 1,690 SQFT |
| FURNISH BRIDGE DECK TREATMENT MATERIAL | 22 GAL |
| CLEAN EXPANSION JOINT | 68 LF |
| JOINT SEAL (MR ½") | 68 LF |

NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL. EXISTING UTILITY FACILITIES ARE NOT INCLUDED ON THESE PLANS.




## 108TH STREET UC

Br No. 53-0938, Rte 110, PM 14.47
No Scale

108TH STREET UC #53-0938
QUANTITIES

| | |
|---|---|
| RAPID SETTING CONCRETE (PATCH) | 4 CF |
| REMOVE UNSOUND CONCRETE | 4 CF |
| CLEAN EXPANSION JOINT | 616 LF |
| JOINT SEAL (MR ½") | 616 LF |

NOTES:

1. For clean expansion joint and joint seal details, see "MISCELLANEOUS DETAILS NO. 1" sheet.
2. For joint spall repair and deck damage repair details, see "MISCELLANEOUS DETAILS NO. 2" sheet.

TONY D. DRAKE
DESIGN ENGINEER

| | | | | | | |
|---|---|---|---|---|---|---|
| DESIGN | BY Mazin Ibrahim | CHECKED Ramesh Patel | LOAD FACTOR DESIGN | LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD | | |
| DETAILS | BY Eugene Goishi | CHECKED Ramesh Patel | LAYOUT | BY Eugene Goishi | CHECKED Ramesh Patel | |
| QUANTITIES | BY Mazin Ibrahim | CHECKED Ramesh Patel | SPECIFICATIONS | BY Vaikunthan Renga | PLANS AND SPECS COMPARED Vaikunthan Renga | |

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. Various
POST MILE Varies

# ROUTE 110 BRIDGES
# GENERAL PLAN NO. 8

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3489
PROJECT NUMBER & PHASE: 0713000442 1
CONTRACT NO.: 07-2W7304

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES

SHEET 8 OF 15

FILE => 07-2w7304-a-gp08.dgn

USERNAME => s123048 DATE PLOTTED => 20-NOV-2014 TIME PLOTTED => 15:13

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 07 | LA | 110 | Var | 30 | 36 |

10/23/14
REGISTERED CIVIL ENGINEER — DATE

1-12-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Mazin Ibrahim — No. C69896 — Exp. 09/30/16 — CIVIL — STATE OF CALIFORNIA

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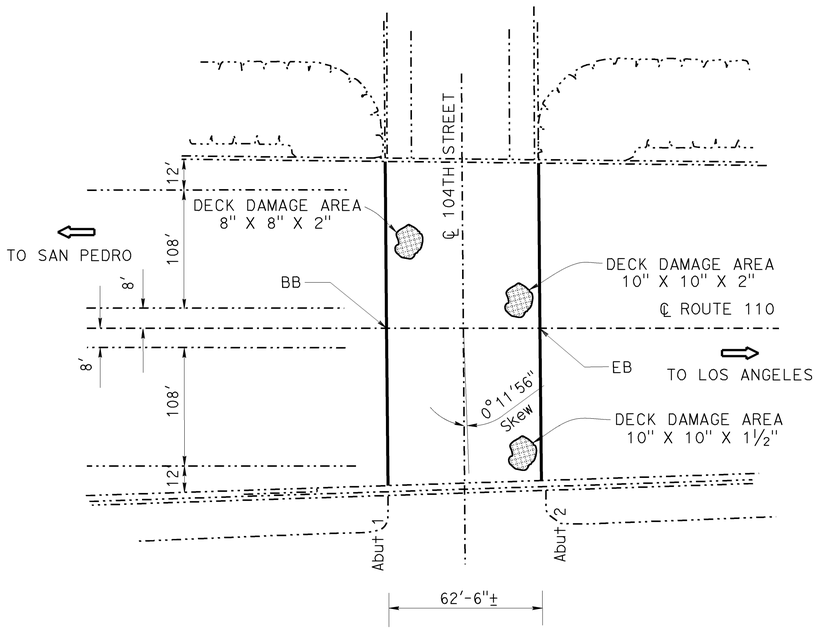
## LEGEND:

INDICATES EXISTING.

INDICATES DIRECTION OF TRAFFIC.

INDICATES LOCATION OF CLEAN EXPANSION JOINT AND PLACEMENT OF NEW JOINT SEAL. PRIOR TO PLACEMENT OF NEW JOINT SEAL, REPAIR JOINT BY REMOVING UNSOUND CONCRETE AND RAPID SETTING CONCRETE PATCH.

INDICATES REMOVAL OF UNSOUND CONCRETE AND PLACE RAPID SETTING CONCRETE PATCH.

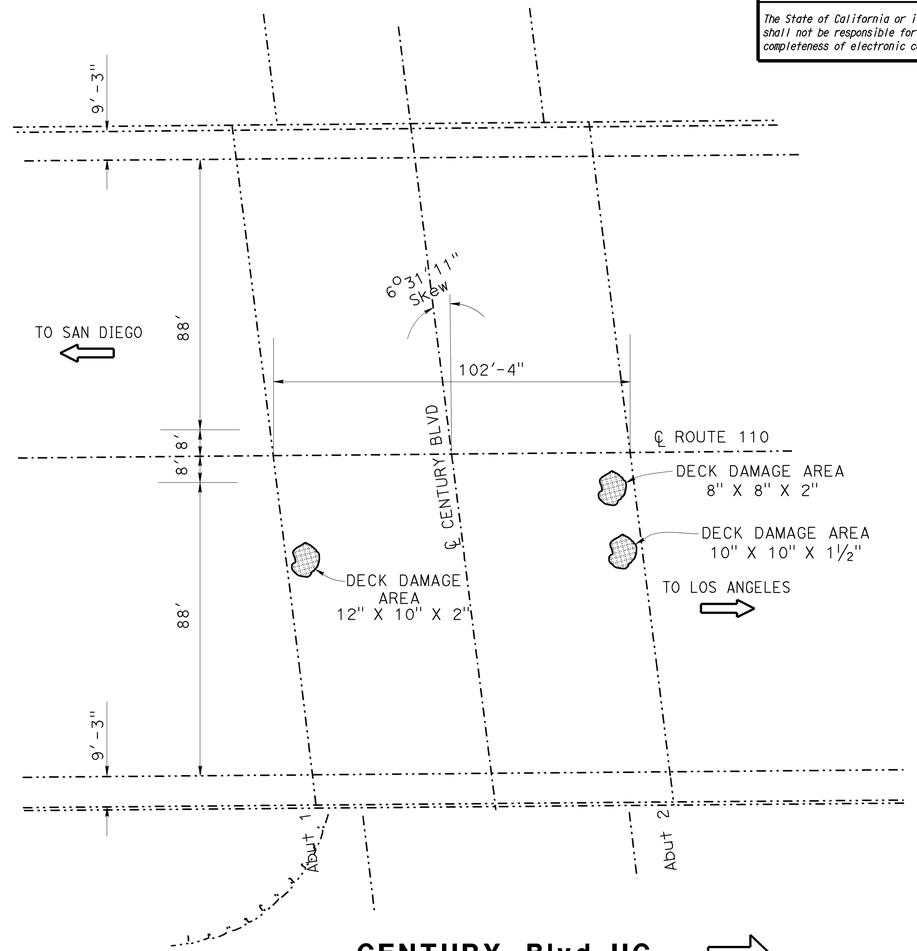



### 104TH STREET UC

Br No. 53-0936, Rte 110, PM 14.72
NO SCALE

104TH STREET UC #53-0936
QUANTITIES

| | |
|---|---|
| RAPID SETTING CONCRETE (PATCH) | 3 CF |
| REMOVE UNSOUND CONCRETE | 3 CF |
| CLEAN EXPANSION JOINT | 512 LF |
| JOINT SEAL (MR ½") | 512 LF |




### CENTURY Blvd UC

Br No. 56-0934, Rte 110, PM 14.97
NO SCALE

CENTURY Blvd UC #53-0934
QUANTITIES

| | |
|---|---|
| RAPID SETTING CONCRETE (PATCH) | 1 CF |
| REMOVE UNSOUND CONCRETE | 1 CF |

NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL. EXISTING UTILITY FACILITIES ARE NOT INCLUDED ON THESE PLANS.

NOTES:

1. For clean expansion joint and joint seal details, see "MISCELLANEOUS DETAILS NO. 1" sheet.
2. For joint spall repair and deck damage repair details, see "MISCELLANEOUS DETAILS NO. 2" sheet.

| | | | | | | |
|---|---|---|---|---|---|---|
| DESIGN | BY Mazin Ibrahim | CHECKED Ramesh Patel | LOAD FACTOR DESIGN | LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD | | |
| DETAILS | BY Eugene Goishi | CHECKED Ramesh Patel | LAYOUT | BY Eugene Goishi | CHECKED Ramesh Patel | |
| QUANTITIES | BY Mazin Ibrahim | CHECKED Ramesh Patel | SPECIFICATIONS | BY Vaikunthan Renga | PLANS AND SPECS COMPARED Vaikunthan Renga | |

TONY D. BRAKE
DESIGN ENGINEER

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. Various
POST MILE Varies

# ROUTE 110 BRIDGES
## GENERAL PLAN NO. 9

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3489
PROJECT NUMBER & PHASE: 0713000442 1
CONTRACT NO.: 07-2W7304

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES

SHEET 9 OF 15

FILE => 07-2w7304-a-gp09.dgn

USERNAME => s123648 DATE PLOTTED => 20-NOV-2014 TIME PLOTTED => 15:13

## 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. PRIOR TO BRIDGE DECK TREATMENT, REMOVE UNSOUND CONCRETE AND PATCH WITH RAPID SETTING CONCRETE.

INDICATES LOCATION OF CLEAN EXPANSION JOINT AND PLACEMENT OF NEW JOINT SEAL. PRIOR TO PLACEMENT OF NEW JOINT SEAL, REPAIR JOINT BY REMOVING UNSOUND CONCRETE AND RAPID SETTING CONCRETE PATCH.

INDICATES REMOVAL OF UNSOUND CONCRETE AND PLACE RAPID SETTING CONCRETE PATCH.

INDICATES LOCATION OF INJECT CRACK (EPOXY).

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 07 | LA | 110 | Var | 31 | 36 |

10/23/14
REGISTERED CIVIL ENGINEER — DATE

1-12-15
PLANS APPROVAL DATE

PROFESSIONAL ENGINEER — REGISTERED — Mazin Ibrahim — No. C69896 — Exp. 09/30/16 — CIVIL — STATE OF CALIFORNIA

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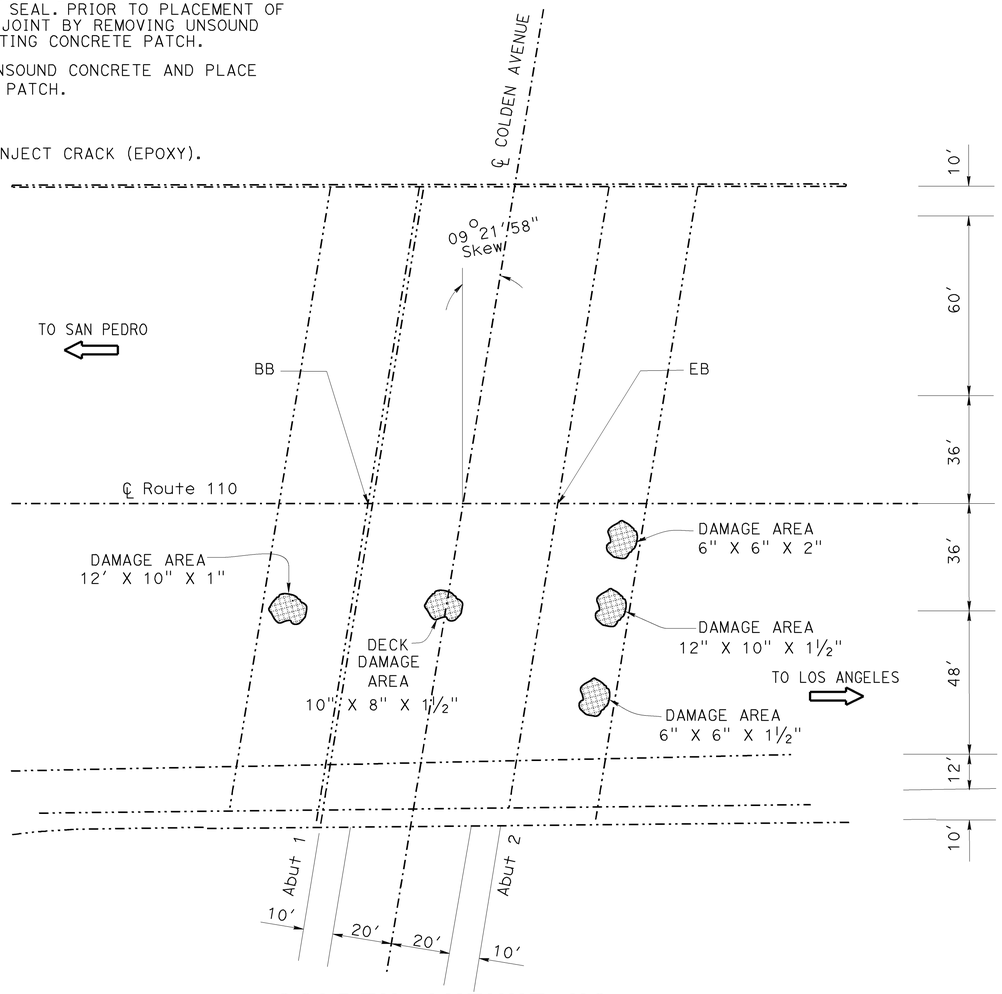
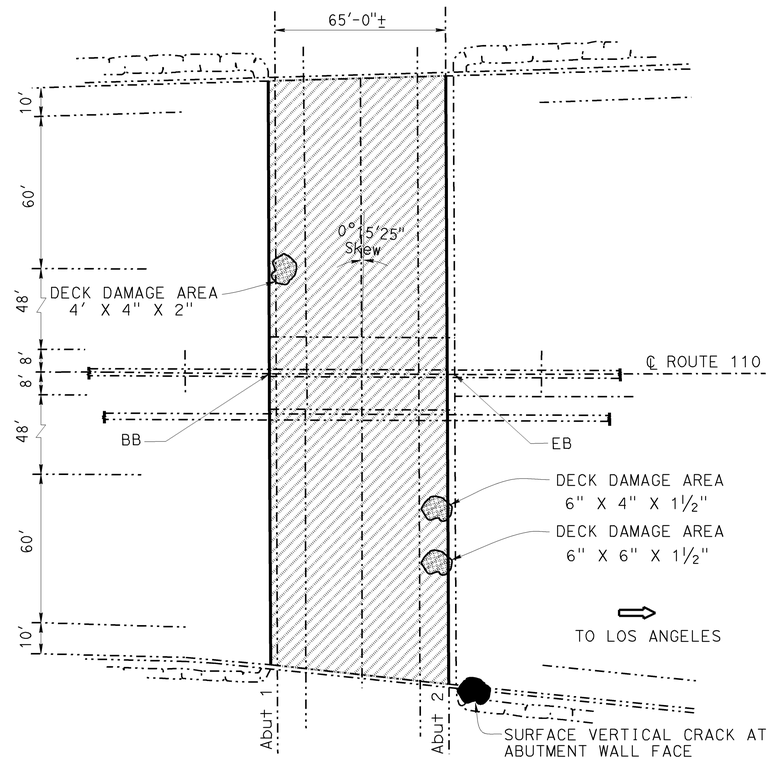



## COLDEN AVENUE UC

Br No. 53-0932, Rte 110, PM 15.22
NO SCALE

COLDEN AVENUE UC #53-0932
QUANTITIES

| | |
|---|---|
| RAPID SETTING CONCRETE (PATCH) | 4 CF |
| REMOVE UNSOUND CONCRETE | 4 CF |




## 88TH PLACE UC

Br No. 53-0928 , Rte 110, PM 15.75
NO SCALE

88TH PLACE UC #53-0928
QUANTITIES

| | |
|---|---|
| PUBLIC SAFETY PLAN | LUMP SUM |
| INJECT CRACK (EPOXY) | 6 LF |
| RAPID SETTING CONCRETE (PATCH) | 44 CF |
| REMOVE UNSOUND CONCRETE | 44 CF |
| PREPARE CONCRETE BRIDGE DECK SURFACE | 16,700 SQFT |
| TREAT BRIDGE DECK | 16,700 SQFT |
| FURNISH BRIDGE DECK TREATMENT MATERIAL | 209 GAL |
| CLEAN EXPANSION JOINT | 514 LF |
| JOINT SEAL (MR ½") | 514 LF |

NOTES:

1. For clean expansion joint and joint seal details, see "MISCELLANEOUS DETAILS NO. 1" sheet.
2. For joint spall repair and deck damage repair details, see "MISCELLANEOUS DETAILS NO. 2" sheet.

NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL. EXISTING UTILITY FACILITIES ARE NOT INCLUDED ON THESE PLANS.

TONY D. BRAKE
DESIGN ENGINEER

| | | | | | | |
|---|---|---|---|---|---|---|
| DESIGN | BY Mazin Ibrahim | CHECKED Ramesh Patel | LOAD FACTOR DESIGN | LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD | | |
| DETAILS | BY Eugene Goishi | CHECKED Ramesh Patel | LAYOUT | BY Eugene Goishi | CHECKED Ramesh Patel | |
| QUANTITIES | BY Mazin Ibrahim | CHECKED Ramesh Patel | SPECIFICATIONS | BY Vaikunthan Renga | PLANS AND SPECS COMPARED Vaikunthan Renga | |

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. Various
POST MILE Varies

# ROUTE 110 BRIDGES
# GENERAL PLAN NO. 10

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3489
PROJECT NUMBER & PHASE: 0713000442 1
CONTRACT NO.: 07-2W7304

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES

SHEET 10 OF 15

FILE => 07-2w7304-a-gp10.dgn

USERNAME => s123048 DATE PLOTTED => 20-NOV-2014 TIME PLOTTED => 15:13

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 07 | LA | 110 | Var | 32 | 36 |

10/23/14
REGISTERED CIVIL ENGINEER — DATE

1-12-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Mazin Ibrahim — No. C69896 — Exp. 09/30/16 — CIVIL — STATE OF CALIFORNIA

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## LEGEND:

INDICATES EXISTING.

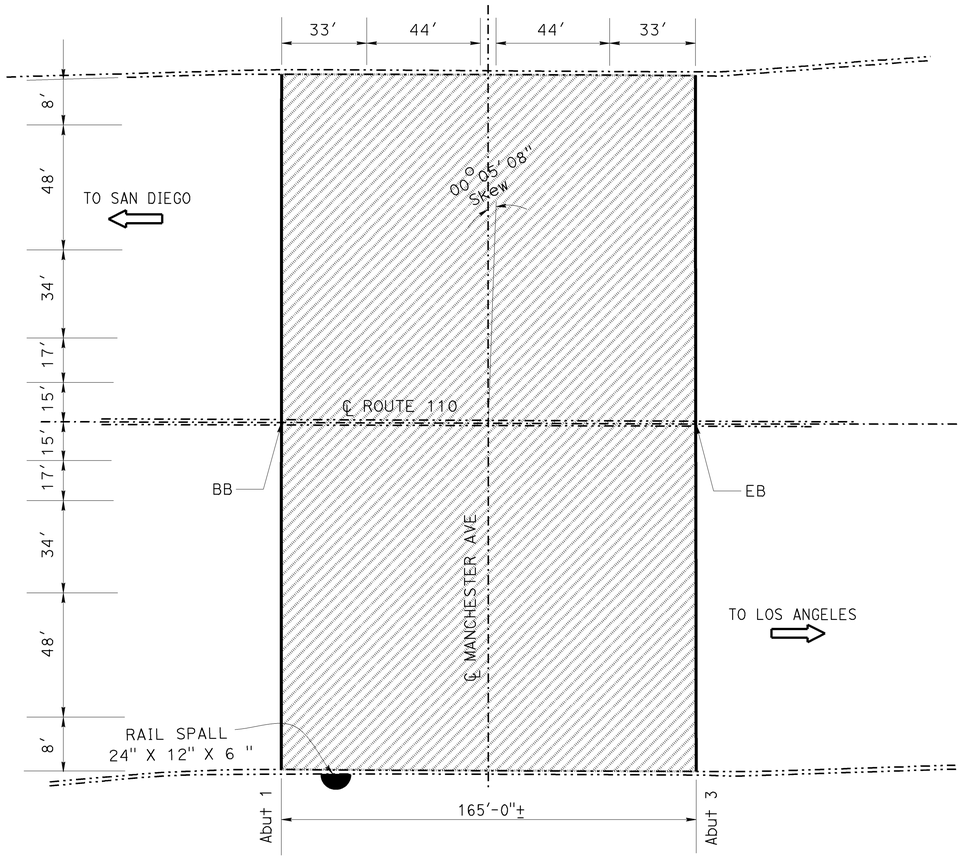
INDICATES DIRECTION OF TRAFFIC.

INDICATES LIMITS OF PREPARE CONCRETE BRIDGE DECK SURFACE AND TREAT EXISTING BRIDGE DECK WITH HIGH MOLECULAR WEIGHT METHACRYLATE. PRIOR TO BRIDGE DECK TREATMENT, REMOVE UNSOUND CONCRETE AND PATCH WITH RAPID SETTING CONCRETE.

INDICATES LOCATION OF CLEAN EXPANSION JOINT AND PLACEMENT OF NEW JOINT SEAL. PRIOR TO PLACEMENT OF NEW JOINT SEAL, REPAIR JOINT BY REMOVING UNSOUND CONCRETE AND RAPID SETTING CONCRETE PATCH.

INDICATES REMOVAL OF UNSOUND CONCRETE AND PLACE RAPID SETTING CONCRETE PATCH.

INDICATES LOCATION OF REPAIR SPALLED SURFACE AREA.



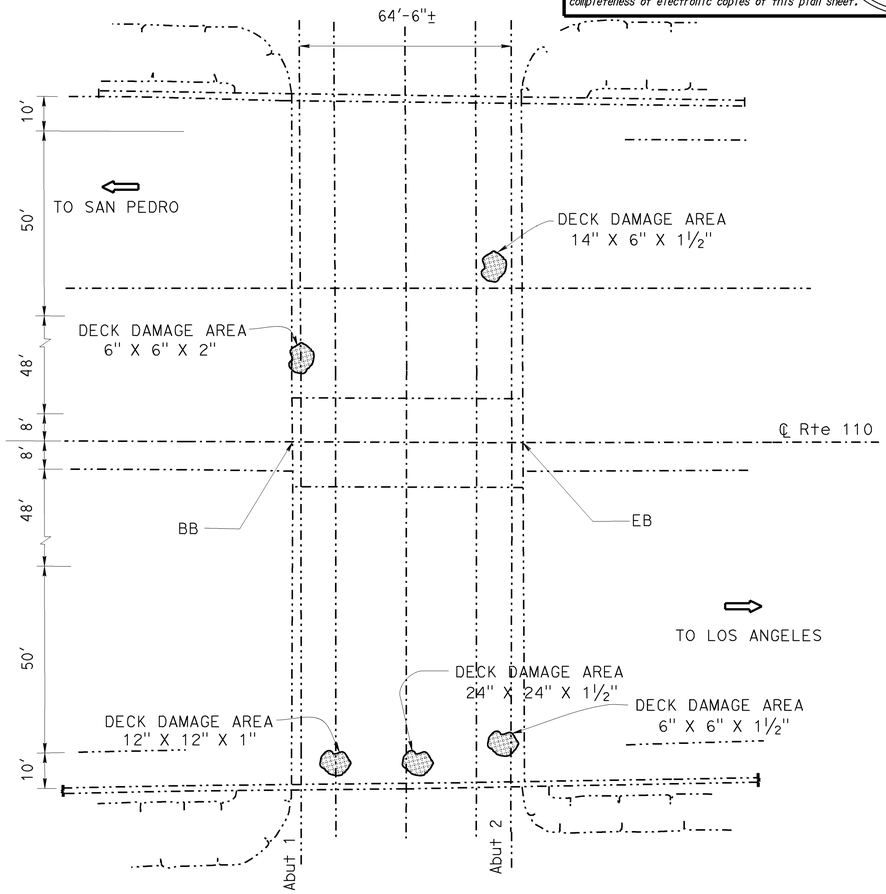

## MANCHESTER Ave UC

Br No. 53-0926, Rte 110, PM 15.98
NO SCALE

MANCHESTER Ave UC #53-0926
QUANTITIES

| | |
|---|---|
| PUBLIC SAFETY PLAN | LUMP SUM |
| RAPID SETTING CONCRETE (PATCH) | 103 CF |
| REMOVE UNSOUND CONCRETE | 103 CF |
| PREPARE CONCRETE BRIDGE DECK SURFACE | 40,280 SQFT |
| TREAT BRIDGE DECK | 40,280 SQFT |
| FURNISH BRIDGE DECK TREATMENT MATERIAL | 503 GAL |
| CLEAN EXPANSION JOINT | 488 LF |
| JOINT SEAL (MR 1/2") | 488 LF |

NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL. EXISTING UTILITY FACILITIES ARE NOT INCLUDED ON THESE PLANS.




## 83RD STREET UC

Br No. 53-0924, Rte 110, PM 16.26
No Scale

83RD STREET UC #53-0924
QUANTITIES

| | |
|---|---|
| RAPID SETTING CONCRETE (PATCH) | 1 CF |
| REMOVE UNSOUND CONCRETE | 1 CF |

NOTES:

1. For clean expansion joint and joint seal details, see "MISCELLANEOUS DETAILS NO. 1" sheet.
2. For joint spall repair and deck damage repair details, see "MISCELLANEOUS DETAILS NO. 2" sheet.
3. For rail spall repair, see "MISCELLANEOUS DETAILS NO. 2" sheet.

TONY D. BRAKE
DESIGN ENGINEER

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| DESIGN | BY Mazin Ibrahim | CHECKED Ramesh Patel | LOAD FACTOR DESIGN | LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD | | | |
| DETAILS | BY Eugene Goishi | CHECKED Ramesh Patel | LAYOUT | BY Eugene Goishi | CHECKED Ramesh Patel | | |
| QUANTITIES | BY Mazin Ibrahim | CHECKED Ramesh Patel | SPECIFICATIONS | BY Vaikunthan Renga | PLANS AND SPECS COMPARED Vaikunthan Renga | | |

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. Various
POST MILE Varies

# ROUTE 110 BRIDGES
# GENERAL PLAN NO. 11

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3489
PROJECT NUMBER & PHASE: 0713000442 1
CONTRACT NO.: 07-2W7304

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES

SHEET 11 OF 15

FILE => 07-2w7304-a-gp11.dgn

USERNAME => s123048 DATE PLOTTED => 20-NOV-2014 TIME PLOTTED => 15:13

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 07 | LA | 110 | Var | 33 | 36 |

REGISTERED CIVIL ENGINEER — DATE 10/23/14

1-12-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Mazin Ibrahim — No. C69896 — Exp. 09/30/16 — CIVIL — STATE OF CALIFORNIA

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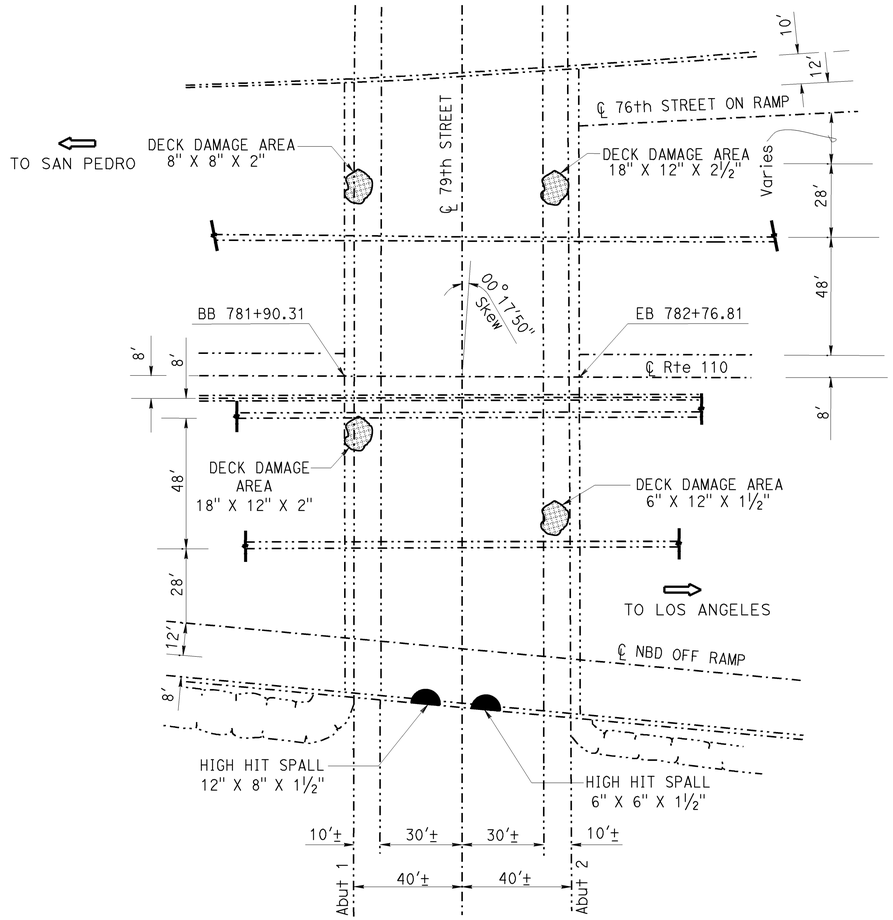
## LEGEND:

INDICATES EXISTING.

INDICATES DIRECTION OF TRAFFIC.

INDICATES REMOVAL OF UNSOUND CONCRETE AND PLACE RAPID SETTING CONCRETE PATCH.

INDICATES LOCATION OF REPAIR SPALLED SURFACE AREA.

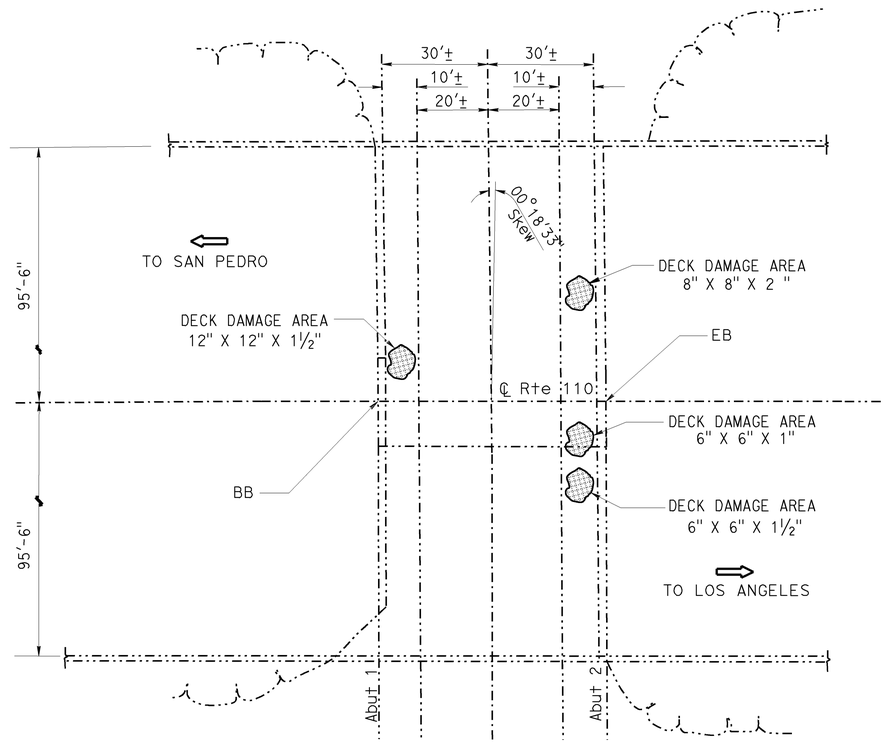



### 79TH STREET UC

Br No. 53-0922, Rte 110, PM 16.52
No Scale

79TH STREET UC #53-0922
QUANTITIES

| | |
|---|---|
| RAPID SETTING CONCRETE (PATCH) | 1 CF |
| REPAIR SPALLED SURFACE AREA | 1 SQFT |
| REMOVE UNSOUND CONCRETE | 1 CF |




### 76TH STREET UC

Br No. 53-0920, Rte 110, PM 16.72
No Scale

76TH STREET UC #53-0920
QUANTITIES

| | |
|---|---|
| RAPID SETTING CONCRETE (PATCH) | 1 CF |
| REMOVE UNSOUND CONCRETE | 1 CF |

NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL. EXISTING UTILITY FACILITIES ARE NOT INCLUDED ON THESE PLANS.

NOTES:

1. For deck damage repair details, see "MISCELLANEOUS DETAILS NO. 2" sheet.
2. For high hit spall repair detail, see "MISCELLANEOUS DETAILS NO. 2" sheet.

TONY D. BRAKE
DESIGN ENGINEER

| | | | | | | |
|---|---|---|---|---|---|---|
| DESIGN | BY Mazin Ibrahim | CHECKED Ramesh Patel | LOAD FACTOR DESIGN | LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD | | |
| DETAILS | BY Eugene Goishi | CHECKED Ramesh Patel | LAYOUT | BY Eugene Goishi | CHECKED Ramesh Patel | |
| QUANTITIES | BY Mazin Ibrahim | CHECKED Ramesh Patel | SPECIFICATIONS | BY Vaikunthan Renga | PLANS AND SPECS COMPARED Vaikunthan Renga | |

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF MAINTENANCE
STRUCTURE MAINTENANCE DESIGN

BRIDGE NO. Various
POST MILE Varies

# ROUTE 110 BRIDGES
## GENERAL PLAN NO. 12

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3489
PROJECT NUMBER & PHASE: 0713000442 1
CONTRACT NO.: 07-2W7304

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| | | | | 12 | 15 |

FILE => 07-2w7304-a-gp12.dgn

USERNAME => s123048 DATE PLOTTED => 20-NOV-2014 TIME PLOTTED => 15:13

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
|---|---|---|---|---|---|
| 07 | LA | 110 | Var | 34 | 36 |

Mazin Ibrahim 10/23/14
REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER — Mazin Ibrahim — No. C69896 — Exp. 09/30/16 — CIVIL — STATE OF CALIFORNIA

1-12-15
PLANS APPROVAL DATE

*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 DEPTH TO CLEAN EXP JOINT (INCHES) | APPROX LENGTH OF JOINT SEALS (FEET) | APPROX LENGTH TO CLEAN EXP JOINT (FEET) | APPROX WIDTH OF JOINT SPALLS (INCHES) | APPROX LENGTH OF JOINT SPALLS (LF) |
|---|---|---|---|---|---|---|---|---|---|---|
| S110-E91/E91 CONNECTOR OC | 53-2667F | ABUT #2 | | ½ | NO | | 48 | — | 3 | 5 |
| CARSON STREET OC | 53-0963 | ABUT #1 | BW | ½ | NO | 6 | 80 | 80 | 3 | 5 |
| | | | PN | ½ | NO | 6 | 80 | 80 | 3 | 5 |
| | | ABUT #5 | BW | ½ | NO | 6 | 80 | 80 | 3 | 5 |
| | | | PN | ½ | NO | 6 | 80 | 80 | 3 | 5 |
| DEL AMO Blvd UC | 53-0961 | ABUT #1 | | ½ | NO | 6 | 180 | 180 | 3 | 5 |
| | | ABUT #3 | | ½ | NO | 6 | 170 | 170 | 3 | 5 |
| DOMINGUEZ CHANNEL | 53-1213 | ABUT #1 | | 1 | NO | 6 | 186 | 186 | 3 | 5 |
| | | ABUT #4 | | 1 | NO | 6 | 160 | 160 | 3 | 5 |
| ROUTE 110/91 SEPARATION | 53-0958 | ABUT #1 | | 1 | YES | 12 | 235 | 235 | 3 | 5 |
| | | ABUT #3 | | 1 | YES | 12 | 235 | 235 | 3 | 5 |
| 182ND STREET UC | 53-0959 | ABUT #1 | | ½ | NO | 6 | 244 | 244 | 3 | 5 |
| | | ABUT #2 | | ½ | NO | 6 | 254 | 254 | 3 | 5 |
| | | SOUTHBOUND (AL) | | | NO | 6 | 238 | 238 | 3 | 5 |
| N110-W91 CONNECTOR OC | 53-2669G | ABUT #1 | | ½ | YES | 8 | 27 | 27 | 3 | 5 |
| | | ABUT #4 | | ½ | YES | 8 | 27 | 27 | 3 | 5 |
| ALONDRA Blvd UC | 53-0955 | ABUT #1 | | ½ | NO | 6 | 236 | 236 | 3 | 5 |
| | | ABUT #2 | | ½ | NO | 6 | 236 | 236 | 3 | 5 |
| S110-S405/ROUTE 110 CON SEPARATION | 53-1137F | ABUT #1 | | ½ | YES | 12 | 34 | 34 | 3 | 5 |
| | | ABUT #5 | | ½ | YES | 12 | 34 | 34 | 3 | 5 |
| 108TH STREET UC | 53-0938 | ABUT #1 | | ½ | NO | 6 | 308 | 308 | 3 | 5 |
| | | ABUT #2 | | ½ | NO | 6 | 308 | 308 | 3 | 5 |
| 104TH STREET UC | 53-0936 | ABUT #1 | | ½ | NO | 6 | 256 | 256 | 3 | 5 |
| | | ABUT #2 | | ½ | NO | 6 | 256 | 256 | 3 | 5 |
| 88TH PLACE UC | 53-0928 | ABUT #1 | | ½ | NO | 6 | 252 | 252 | 3 | 5 |
| | | ABUT #2 | | ½ | NO | 6 | 262 | 262 | 3 | 5 |
| MANCHESTER Ave UC | 53-0926 | ABUT #1 | | ½ | NO | 6 | 244 | 244 | 3 | 5 |
| | | ABUT #3 | | ½ | NO | 6 | 244 | 244 | 3 | 5 |

BW = BACKWALL
PN = PAVING NOTCH

## 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:

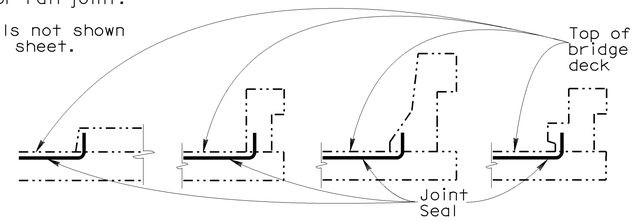
1) Seal must satisfy both minimum Movement Rating (MR) and minimum W1 requirements.

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 B6-21 sheet.

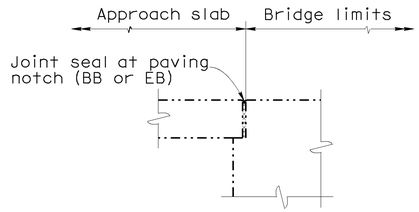



BARRIER RAIL

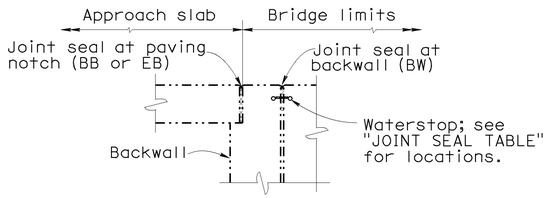
## JOINT SEAL AT LOW SIDE OF DECK

Note: Details shown for illustration purposes only.

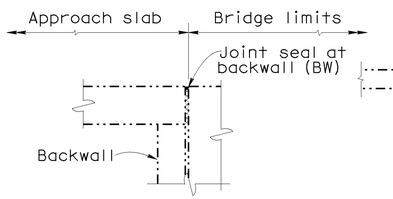
For use only where deck joint matches the sidewalk, curb or barrier rail joint.



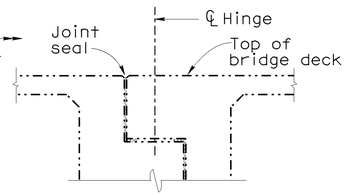

DIAPHRAGM ABUTMENT



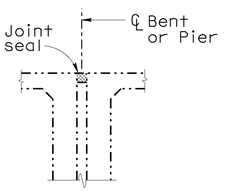

ABUTMENT WITH BACKWALL AND PAVING NOTCH




ABUTMENT WITH BACKWALL




HINGE




BENT OR PIER

## JOINT SEAL LOCATION

NO SCALE

NOTE:
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| | | | |
|---|---|---|---|
| DESIGN | BY Mazin Ibrahim | CHECKED Ramesh Patel | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION |
| DETAILS | BY Eugene Goishi | CHECKED Ramesh Patel | DIVISION OF MAINTENANCE STRUCTURE MAINTENANCE DESIGN |
| QUANTITIES | BY Mazin Ibrahim | CHECKED Ramesh Patel | CU 0713000442 EA 07-2W7301 |

BRIDGE NO. Various
POST MILE Varies

# ROUTE 110 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: 3-11-10 | 9-28-10 | 9-28-10 | 10-06-10 | 10-19-10 | 6-21-11

SHEET 13 OF 15

FILE => 07-2w7304-c-miscdtls01.dgn

USERNAME => s123048 DATE PLOTTED => 20-NOV-2014 TIME PLOTTED => 15:13

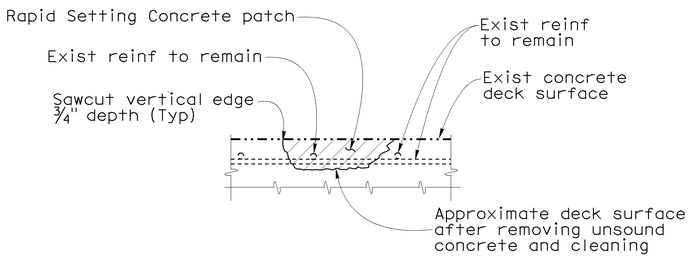
| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No | TOTAL SHEETS |
|---|---|---|---|---|---|
| 07 | LA | 110 | Var | 35 | 36 |

REGISTERED CIVIL ENGINEER — DATE 10/23/14

PLANS APPROVAL DATE 1-12-15

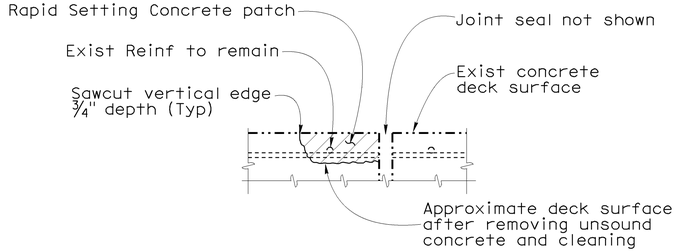
*The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.*

REGISTERED PROFESSIONAL ENGINEER — Mazin Ibrahim — No. C69896 — Exp. 09/30/16 — CIVIL — STATE OF CALIFORNIA




## DECK DAMAGE REPAIR DETAIL

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




## JOINT SPALL REPAIR DETAIL

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

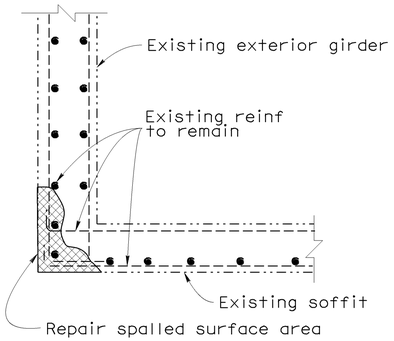
DECK REPAIR NOTES:

1. Existing reinforcement shall be located and 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.

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

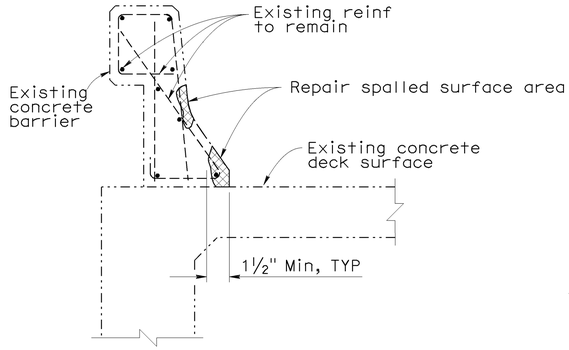
| BRIDGE NAME | BRIDGE NUMBER | APPROX AREA DAMAGED (%) | APPROX DEPTH (INCH) |
|---|---|---|---|
| S110-E91/E91 CONNECTOR OC | 53-2667F | 1 | 3 |
| DOMINGUEZ CHANNEL | 53-1213 | 1 | 3 |
| DOMINGUEZ CHANNEL (S110 - S&N405) | 53-2557H | 1 | 3 |
| DOMINGUEZ CHANNEL OFF RAMP | 53-2558K | 1 | 3 |
| ROUTE 110/91 SEPARATION | 53-0958 | 1 | 3 |
| 182ND STREET UC | 53-0959 | 1 | 3 |
| N110-W91 CONNECTOR OC | 53-2669G | 1 | 3 |
| 168TH STREET UC | 53-0957 | 1 | 3 |
| GARDENA Blvd UC | 53-0956 | 1 | 3 |
| ALONDRA Blvd UC | 53-0955 | 1 | 3 |
| EL SEGUNDO Blvd OC | 53-0948 | 1 | 3 |
| 88TH PLACE UC | 53-0928 | 1 | 3 |
| MANCHESTER Ave UC | 53-0926 | 1 | 3 |

NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL. EXISTING UTILITY FACILITIES ARE NOT INCLUDED ON THESE PLANS.



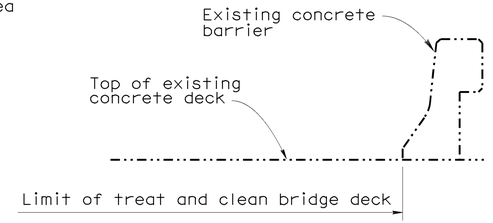

## HIGH HIT SPALL REPAIR DETAIL

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

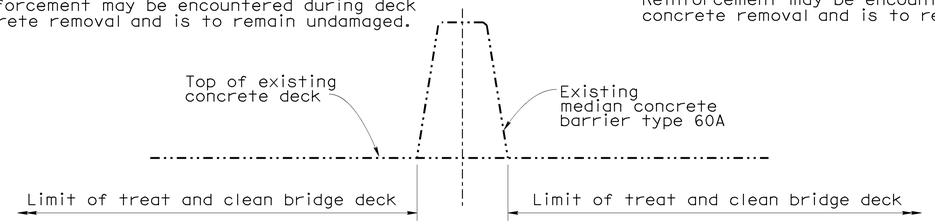



## CONCRETE BARRIER SPALL REPAIR DETAIL

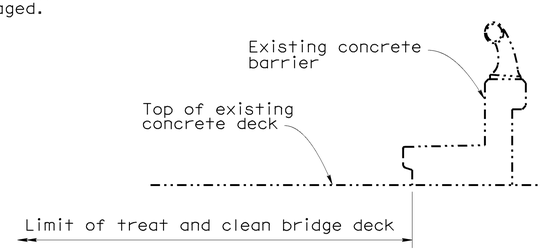
Location will be determined by the Engineer. Reinforcement may be encountered during deck concrete removal and is to remain undamaged.



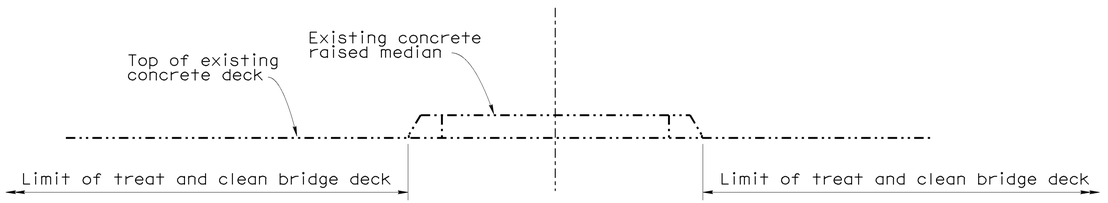

EOD BARRIER



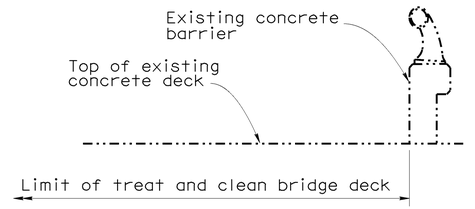

MEDIAN BARRIER




SIDEWALK BARRIER TYPE 2




RAISED MEDIAN




SIDEWALK BARRIER TYPE 1

## TYPICAL LIMITS OF DECK WORK

NO SCALE

| | | | | | |
|---|---|---|---|---|---|
| DESIGN | BY Mazin Ibrahim | CHECKED Ramesh Patel | STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF MAINTENANCE STRUCTURE MAINTENANCE DESIGN | BRIDGE NO. Various |
| DETAILS | BY Eugene Goishi | CHECKED Ramesh Patel | | | POST MILE Varies |
| QUANTITIES | BY Mazin Ibrahim | CHECKED Ramesh Patel | | | |

# ROUTE 110 BRIDGES
# MISCELLANEOUS DETAILS NO. 2

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

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 0713000442
EA 07-2W7301

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 9-19-13

SHEET 14 OF 15

FILE => 07-2w7304-c-miscdtls02.dgn

USERNAME => s123048 DATE PLOTTED => 20-NOV-2014 TIME PLOTTED => 15:13

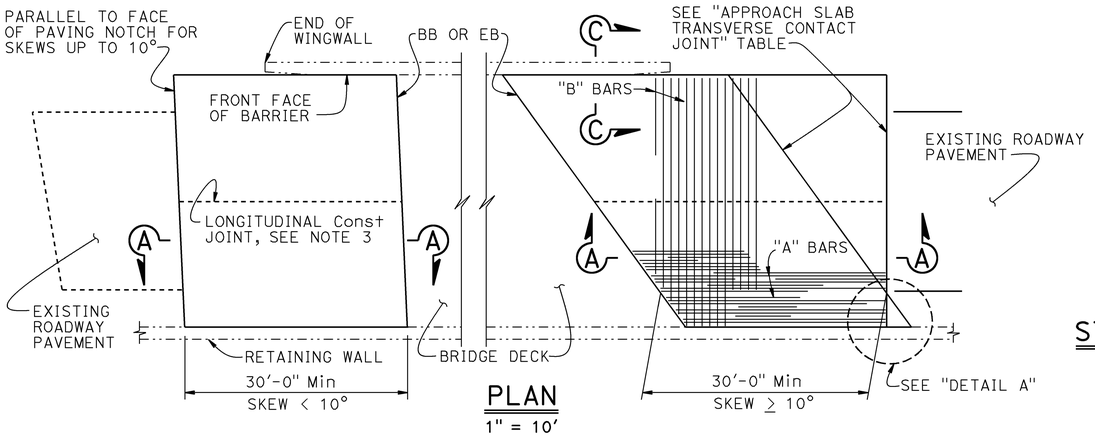
| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 07 | LA | 110 | Var | 36 | 36 |

REGISTERED CIVIL ENGINEER — DATE 10/23/14

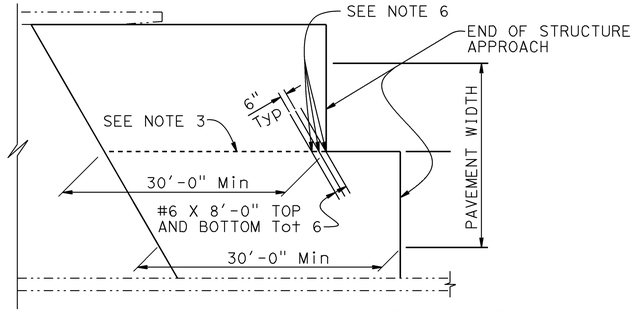
PLANS APPROVAL DATE 1-12-15

REGISTERED PROFESSIONAL ENGINEER — Mazin 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.*

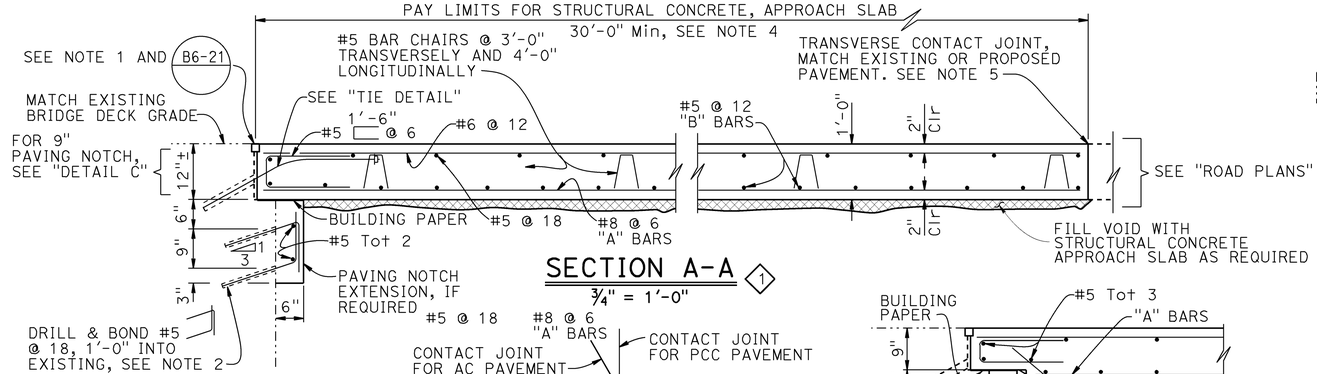



## PLAN
1" = 10'

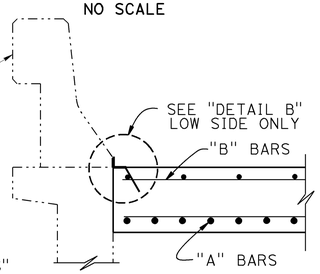



## STRUCTURE APPROACH - END STAGGER DETAIL
NO SCALE

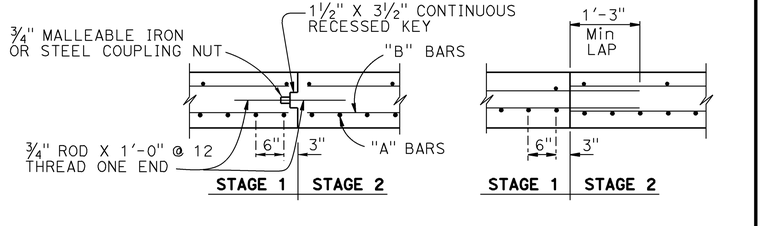
| APPROACH SLAB TRANSVERSE CONTACT JOINT | | |
|---|---|---|
| APPROACH SKEW | WITH AC ROADWAY PAVEMENT | WITH PCC ROADWAY PAVEMENT |
| < 10° | PARALLEL TO FACE OF PN | PARALLEL TO FACE OF PAVING NOTCH |
| 10° - 45° | PARALLEL TO FACE OF PN USE "DETAIL A" | STAGGER LINES 24' TO 36' APART |
| > 45° | PARALLEL TO FACE OF PN USE "DETAIL A" | STAGGER AT EACH LANE LINE |

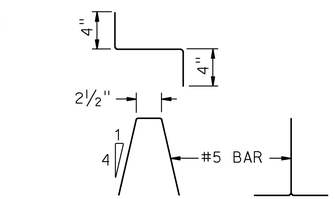



## SECTION A-A ⟨1⟩
¾" = 1'-0"

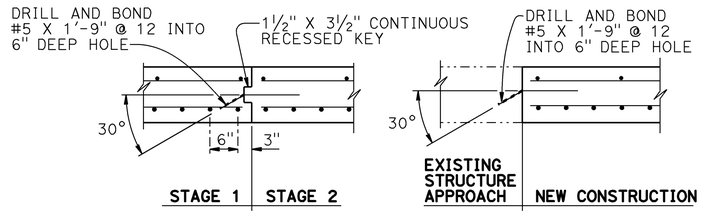



## SECTION C-C
¾" = 1'-0"

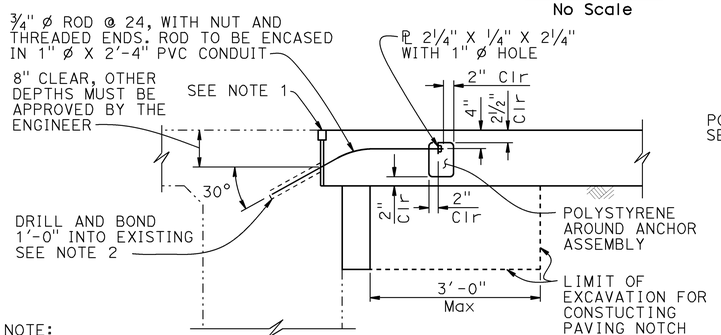



## BAR CHAIR DETAIL
1½" = 1'-0"




## LONGITUDINAL CONSTRUCTION JOINT ALTERNATIVES
¾" = 1'-0"




NOTE:
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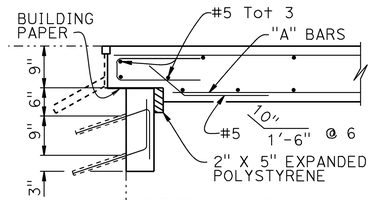
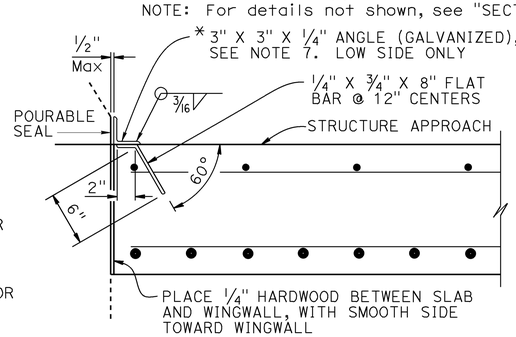
## TIE DETAIL
¾" = 1'-0"

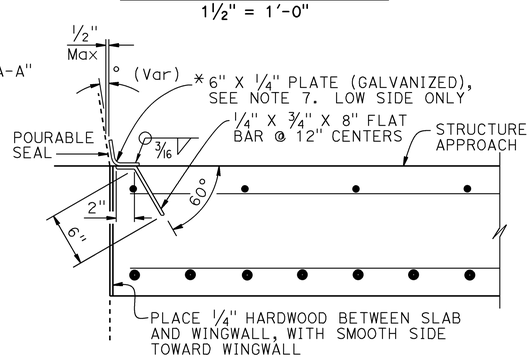



## DETAIL C
¾" = 1'-0"




*(TO BE USED WITH CONCRETE BARRIER WITH VERTICAL FACE)

## DETAIL B
1½" = 1'-0"




*(TO BE USED WITH CONCRETE BARRIER WITH SLOPING FACE)

NOTES:
1. For details not shown or noted, see Structure Plans. Adjust bar reinforcement to clear a sawcut for sealed joint, when required
2. Space to avoid existing prestress anchorages and main reinforcement
3. Longitudinal construction joints, when permitted by the Engineer, shall be located on lane lines
4. Transverse contact joint shall be a minimum of 5'-0" from an existing or constructed weakened plane joint
5. For transverse contact joint with new PCC paving. refer to Revised Standard Plan RSP P10.
6. Couplers are required for stage construction
7. End angle or plate at beginning of barrier transition, end of wingwall or end of structure approach as applicable

REVISED STANDARD DRAWING

FILE NO. xs3-150

APPROVAL DATE July 2011

⟨1⟩ REVISED

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. Various

POST MILE Varies

# SPECIAL DETAILS
# ROUTE 110 BRIDGES
# STRUCTURE APPROACH TYPE R(30D)

DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. (02-02-11)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3489
PROJECT NUMBER & PHASE: 0713000442 1
CONTRACT NO.: 07-2W7304

DISREGARD PRINTS BEARING EARLIER REVISION DATES

| REVISION DATES | | | | SHEET | OF |
|---|---|---|---|---|---|
| 04-28-13 | Revised | | | 15 | 15 |

FILE => 07-2w7304-e-strappr30.dgn

USERNAME => s123048 DATE PLOTTED => 20-NOV-2014 TIME PLOTTED => 15:13