| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 08 | SBd | 38,62, 247 | Var | 1 | 12 |

INDEX OF PLANS


| SHEET No. | DESCRIPTION |
|---|---|
| 1 | TITLE AND LOCATION MAP |
| 2 | TYPICAL CROSS SECTIONS |
| 3-4 | CONSTRUCTION DETAILS |
| 5 | CONSTRUCTION AREA SIGNS |
| 6 | PAVEMENT DELINEATION QUANTITIES |
| 7 | SUMMARY OF QUANTITIES |
| 8 | ELECTRICAL PLANS |
| 9-12 | REVISED STANDARD PLANS |


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

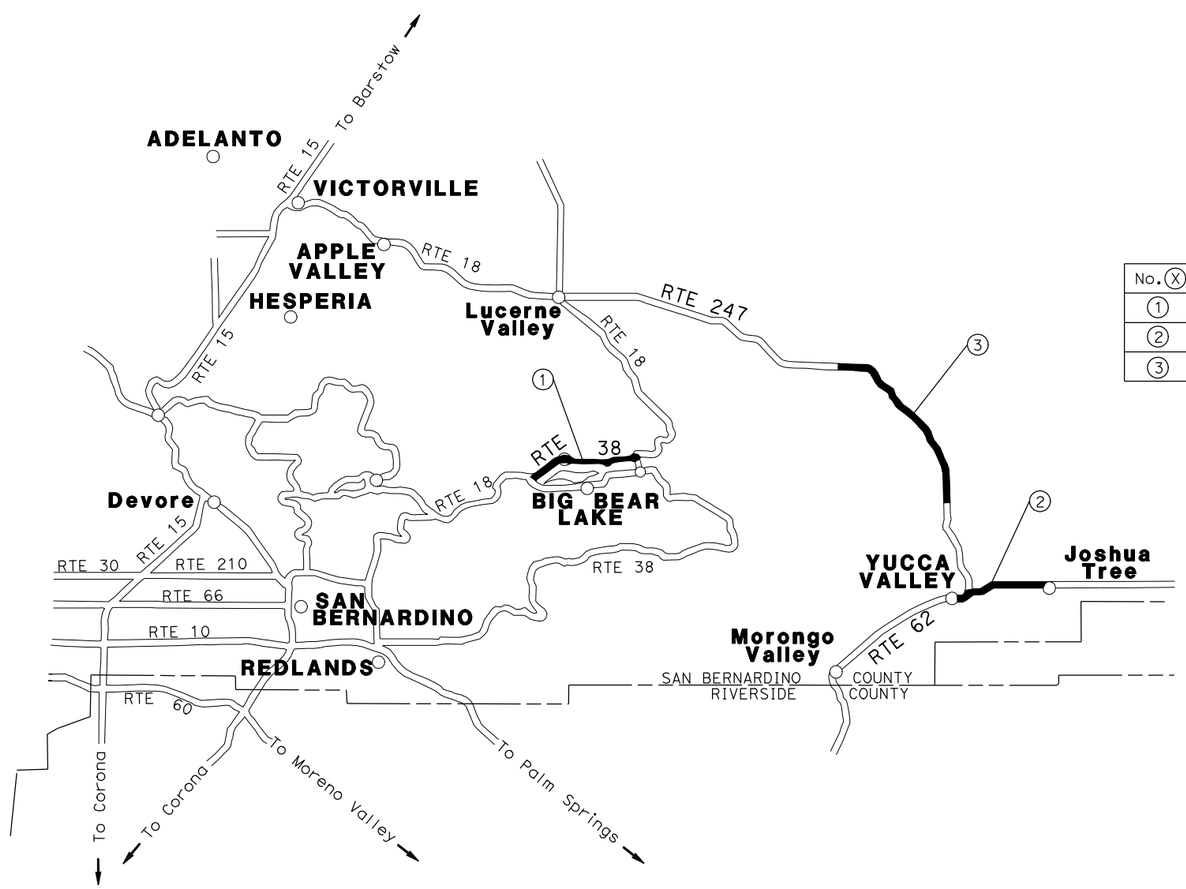
## PROJECT PLANS FOR CONSTRUCTION ON

# STATE HIGHWAY

## IN SAN BERNARDINO COUNTY

## AT VARIOUS LOCATIONS

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006




NO SCALE

| No. (X) | COUNTY | ROUTE | POST MILES | DESCRIPTION |
|---|---|---|---|---|
| 1 | SBd | 38 | 49.5 TO 59.4 | FROM NORTH JUNCTION 18 TO SOUTH JUNCTION 18 |
| 2 | SBd | 62 | 11.1 TO 18.2 | FROM 0.02 MILE EAST OF CHURCH STREET TO ELWOOD STREET |
| 3 | SBd | 247 | 8.5 TO 22.1 | FROM TRACY BOULEVARD TO VALLEY VISTA ROAD |

Kamal Mchantaf 8-23-10
PROJECT ENGINEER REGISTERED CIVIL ENGINEER — DATE

August 23, 2010
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — KAMAL MCHANTAF — No. C051050 — Exp. 9-30-11 — CIVIL — STATE OF CALIFORNIA

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

PROJECT MANAGER: CATALINO PINING

DESIGN ENGINEER: KAMAL MCHANTAF

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

CONTRACT No. **08-0N9504**

LAST REVISION 03-18-10

DATE PLOTTED => 23-AUG-2010
TIME PLOTTED => 09:39

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 08 | SBd | 38,62, 247 | Var | 2 | 12 |

REGISTERED CIVIL ENGINEER 8-23-10 DATE

8-23-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER KAMAL MCHANTAF No. C051050 Exp. 9/30/11 CIVIL STATE OF CALIFORNIA

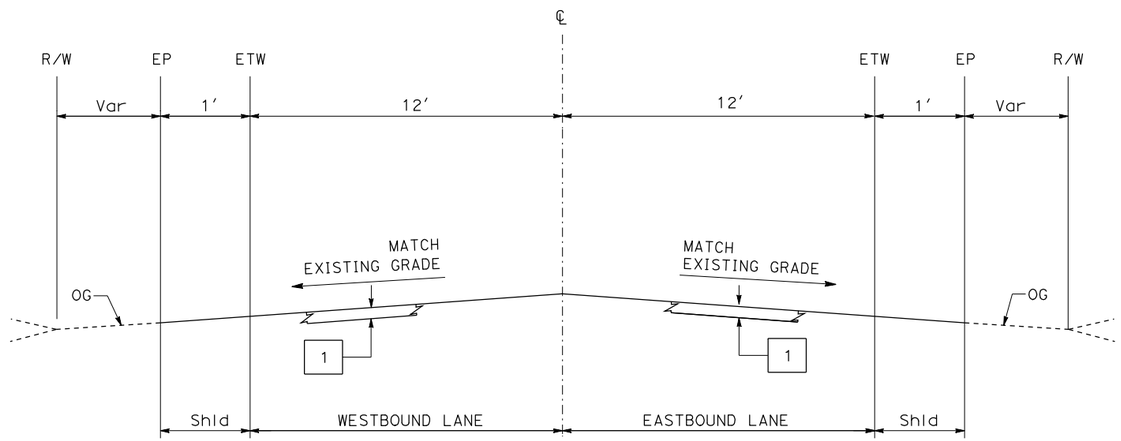
*THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.*

## NOTES:

1. DIMENSIONS OF THE STRUCTURAL SECTIONS ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
2. SUPERELEVATION AS SHOWN OR AS DIRECTED BY THE ENGINEER.
3. EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.
4. ALL WORK IS WITHIN STATE RIGHT OF WAY.

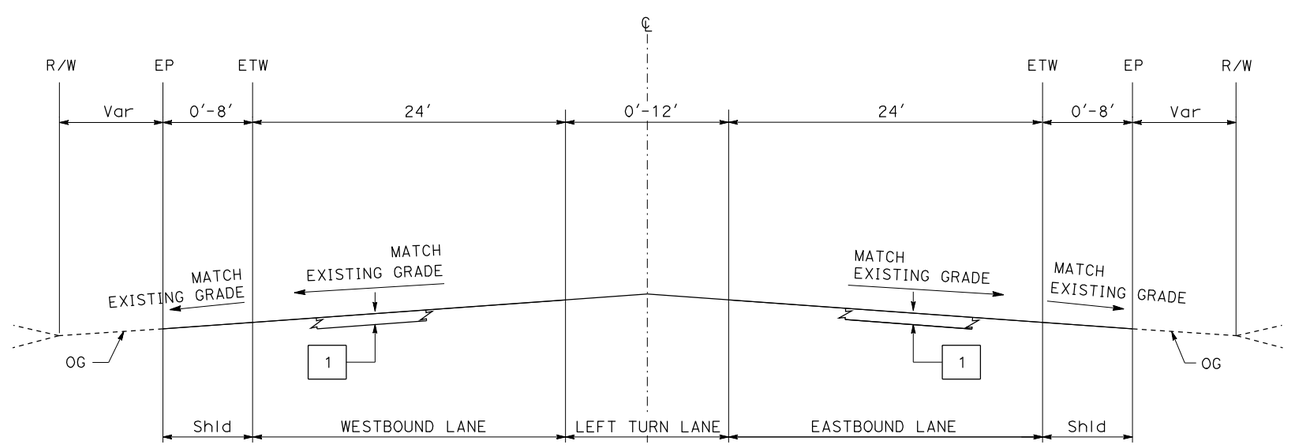
## STRUCTURAL SECTION NOTES:

1 REPLACE ASPHALT CONCRETE SURFACING 0.4' MAX (TYPE A) (SEE SHEETS C-1 AND C-2)




**ROUTE 38 AND 247**

ROUTE 38 FROM PM 49.5 TO PM 59.4
ROUTE 247 FROM PM 8.5 TO PM 22.1




**ROUTE 62**

FROM PM 11.1 TO PM 18.2

# TYPICAL CROSS SECTIONS

NO SCALE

**X-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR: MICHAEL RISTIC
CALCULATED-DESIGNED BY: KAMAL MCHANTAF
CHECKED BY: MICHAEL RISTIC
REVISED BY
DATE REVISED

LAST REVISION 07-28-10
DATE PLOTTED => 23-AUG-2010
TIME PLOTTED => 09:39

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 08 | SBd | 38,62, 247 | Var | 3 | 12 |

REGISTERED CIVIL ENGINEER 8-23-10 DATE

8-23-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER KAMAL MCHANTAF No. C051050 Exp. 9/30/11 CIVIL STATE OF CALIFORNIA

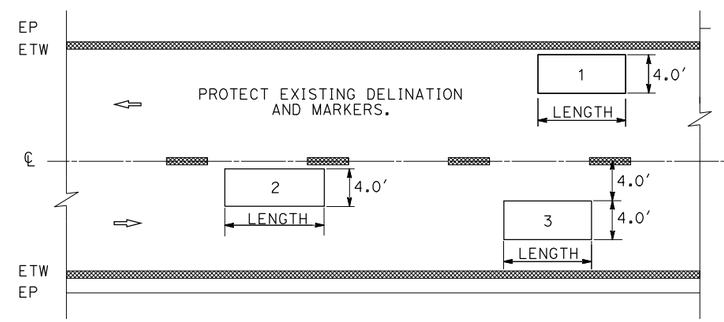
*THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.*

NOTES:

1. LENGTH OF REPLACE ASPHALT CONCRETE WILL BE DETERMINED A MINIMUM OF 50′.
2. EXACT LOCATIONS OF REPLACE ASPHALT CONCRETE SURFACING SHALL BE DETERMINED BY THE ENGINEER.

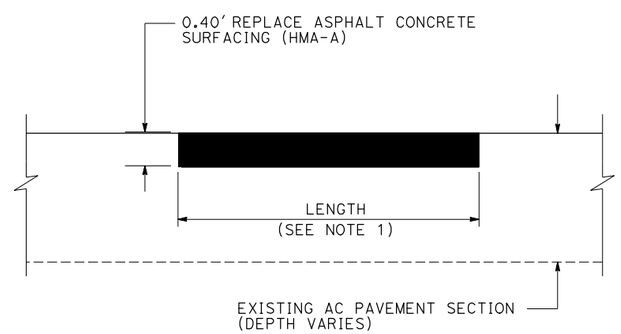
LEGEND:

0.40′ REPLACE ASPHALT CONCRETE SURFACING (HMA-A)




## REPLACE ASPHALT CONCRETE SURFACING (LAYOUT)

CASE 1: RIGHT WHEEL TRACK (R)
CASE 2: LEFT WHEEL TRACK (L)
CASE 3: CENTER OF TRAVEL WAY (C)




## REPLACE ASPHALT CONCRETE SURFACING (PROFILE)

FOR REPLACE ASPHALT CONCRETE SURFACING QUANTITIES SEE SHEET Q-1

# CONSTRUCTION DETAILS

NO SCALE

C-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR: MICHAEL RISTIC
CALCULATED-DESIGNED BY: KAMAL MCHANTAF
CHECKED BY: MICHAEL RISTIC
REVISED BY / DATE REVISED

LAST REVISION 07-28-10
DATE PLOTTED => 23-AUG-2010
TIME PLOTTED => 09:40

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 08 | SBd | 38,62, 247 | Var | 4 | 12 |

Kamal Mchantaf 8-23-10
REGISTERED CIVIL ENGINEER DATE

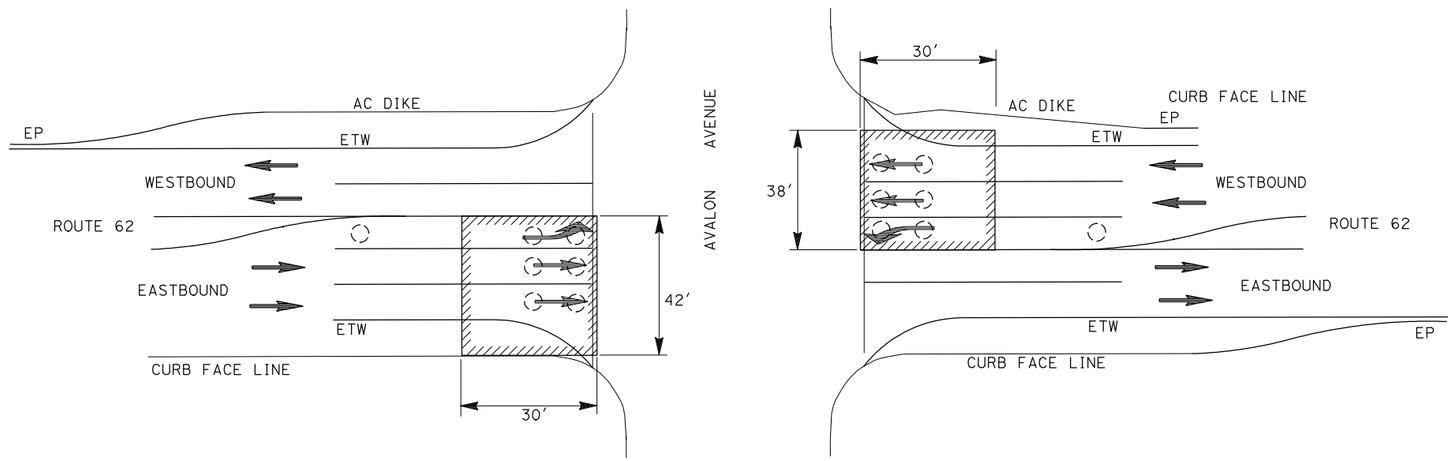
8-23-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
KAMAL MCHANTAF
No. C051050
Exp. 9/30/11
CIVIL
STATE OF CALIFORNIA

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

LEGEND:

REPLACE ASPHALT CONCRETE SURFACING




## LOCALIZED DIG-OUT DETAIL

REPLACE ASPHALT CONCRETE SURFACING
ROUTE 62 AT AVALON Ave
PM 14.13

# CONSTRUCTION DETAILS

NO SCALE

**C-2**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® MAINTENACE ENGINEERING

FUNCTIONAL SUPERVISOR: MICHAEL RISTIC
CALCULATED-DESIGNED BY: KAMAL MCHANTAF
CHECKED BY: MICHAEL RISTIC
REVISED BY
DATE REVISED

LAST REVISION 03-01-10
DATE PLOTTED => 23-AUG-2010
TIME PLOTTED => 09:40

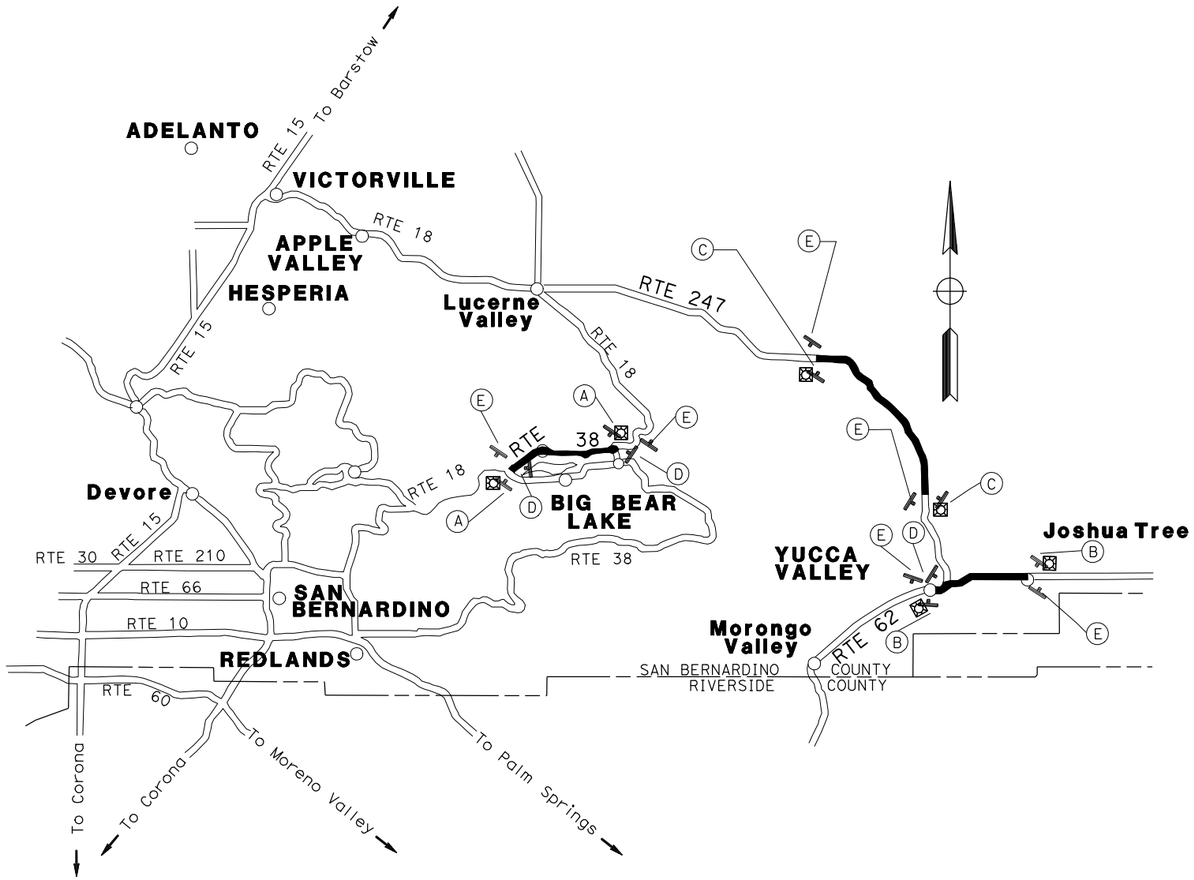
| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 08 | SBd | 38,62, 247 | Var | 5 | 12 |

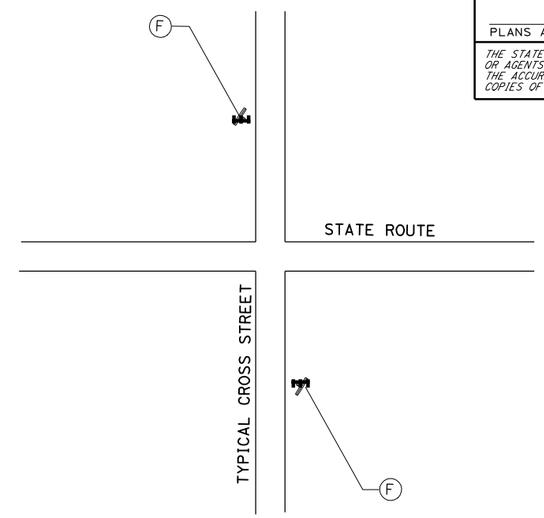
Thanh Trinh 8-23-10
REGISTERED CIVIL ENGINEER DATE

8-23-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER THANH TRINH No. C41189 Exp. 3-31-11 CIVIL STATE OF CALIFORNIA

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




TYPICAL LOCATIONS OF CONSTRUCTION AREA SIGNS W20-1 MOUNTED ON TYPE III BARRICADE

## TYPE III BARRICADE

| QUANTITY (ea) |
|---|
| 95 |

NOTE:

SIGN LOCATIONS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER.

LEGEND:

- (X) CONSTRUCTION AREA SIGN SYMBOL.
- ONE POST SIGN
- PORTABLE FLASHING BEACON
- CONSTRUCTION AREA SIGN MOUNTED ON TYPE III BARRICADE

## PORTABLE CMS

| QUANTITY (ea) |
|---|
| 6 |

## FLASHING BEACON (PORTABLE)

| QUANTITY (ea) |
|---|
| 6 |

## CONSTRUCTION AREA SIGNS

| SIGN SYMBOL | SIGN CODE | SIGN MESSAGE | PANEL SIZE (in x in) | No. OF POST AND SIZE (in x in) | STATIONARY MOUNTED SIGN (N) (ea) | MOUNTED ON TYPE III BARRICADE |
|---|---|---|---|---|---|---|
| A | G20-1 | ROAD WORK NEXT 10 MILES | 36 x 18 | 1 - 4 x 4 | 2 | |
| B | G20-1 | ROAD WORK NEXT 7 MILES | 36 x 18 | 1 - 4 x 4 | 2 | |
| C | G20-1 | ROAD WORK NEXT 14 MILES | 36 x 18 | 1 - 4 x 4 | 2 | |
| D | W20-1 | ROAD WORK AHEAD | 48 x 48 | 1 - 6 x 6 | 3 | |
| E | G20-2 | END ROAD WORK | 36 x 18 | 1 - 4 x 4 | 6 | |
| F | W20-1 | ROAD WORK AHEAD | 36 x 36 | | | SEE TYPE III BARRICADE QUANTITY |

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

THIS PLAN ACCURATE FOR CONSTRUCTION AREA SIGN WORK ONLY

# CONSTRUCTION AREA SIGN
NO SCALE

CS-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN A

FUNCTIONAL SUPERVISOR: BILL WASSER
CALCULATED-DESIGNED BY: KEVIN NGUYEN
CHECKED BY: THANH TRINH
REVISED BY
DATE REVISED

LAST REVISION 03-01-10
DATE PLOTTED => 23-AUG-2010
TIME PLOTTED => 09:40

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 08 | SBd | 38,62, 247 | Var | 6 | 12 |

Thanh Trinh 8-23-10
REGISTERED CIVIL ENGINEER DATE

8-23-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
THANH TRINH
No. C41189
Exp. 3-31-11
CIVIL
STATE OF CALIFORNIA

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

NOTE:

PAVEMENT DELINEATION QUANTITIES FOR STATE ROUTE 62 ONLY.

## PAVEMENT DELINEATION QUANTITIES

| | THERMOPLASTIC PAVEMENT MARKING (SQFT) | REMOVE PAVEMENT MARKER (EA) (N) | PAVEMENT MARKER (RETROREFLECTIVE) (EA) | THERMOPLASTIC TRAFFIC STRIPE (SPRAYABLE) (LF) | |
|---|---|---|---|---|---|
| | | | | 4" WHITE | 4" YELLOW |
| | 1110 | 4380 | 4380 | 120000 | 60000 |
| SUBTOTAL | 1110 | 4380 | 4380 | 180000 | |
| TOTAL | 1110 | 4380 | 4380 | 180000 | |

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

REVISED BY | DATE REVISED

KEVIN NGUYEN | THANH TRINH

CALCULATED-DESIGNED BY | CHECKED BY

FUNCTIONAL SUPERVISOR

BILL WASSER

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans® TRAFFIC DESIGN A

# PAVEMENT DELINEATION QUANTITIES

PDQ-1

LAST REVISION 07-28-10 | DATE PLOTTED => 23-AUG-2010 TIME PLOTTED => 09:40

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 08 | SBd | 38,62, 247 | Var | 7 | 12 |

REGISTERED CIVIL ENGINEER 8-23-10 DATE

8-23-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER KAMAL MCHANTAF No. C051050 Exp. 9/30/11 CIVIL STATE OF CALIFORNIA

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

NOTE:

1. EXACT LOCATIONS AND DIMENSIONS AS DIRECTED BY THE ENGINEER.

## REPLACE ASPHALT CONCRETE SURFACING

| ROUTE | LOCATION (PM) | REPLACE ASPHALT CONCRETE SURFACING ($YD^3$) | COMMENTS |
|---|---|---|---|
| 38 | 49.5/59.4 | 2280 | |
| 62 | 11.1/18.2 | 4494 | |
| 62 | 14.13 @ AVALON Ave | 36 | SEE SHEET C-2 |
| 247 | 8.5/22.1 | 1680 | |
| TOTAL | | 8490 | |

## REMOVE AND REPLACE SURVEY MONUMENTS

| EA |
|---|
| 20 |

## SUMMARY OF QUANTITIES
## Q-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR: MICHAEL RISTIC
CALCULATED-DESIGNED BY: KAMAL MCHANTAF
CHECKED BY: MICHAEL RISTIC
REVISED BY
DATE REVISED

LAST REVISION 07-28-10
DATE PLOTTED => 23-AUG-2010
TIME PLOTTED => 09:40

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 08 | SBd | 38,62, 247 | Var | 8 | 12 |

REGISTERED ELECTRICAL ENGINEER 8-23-10 DATE

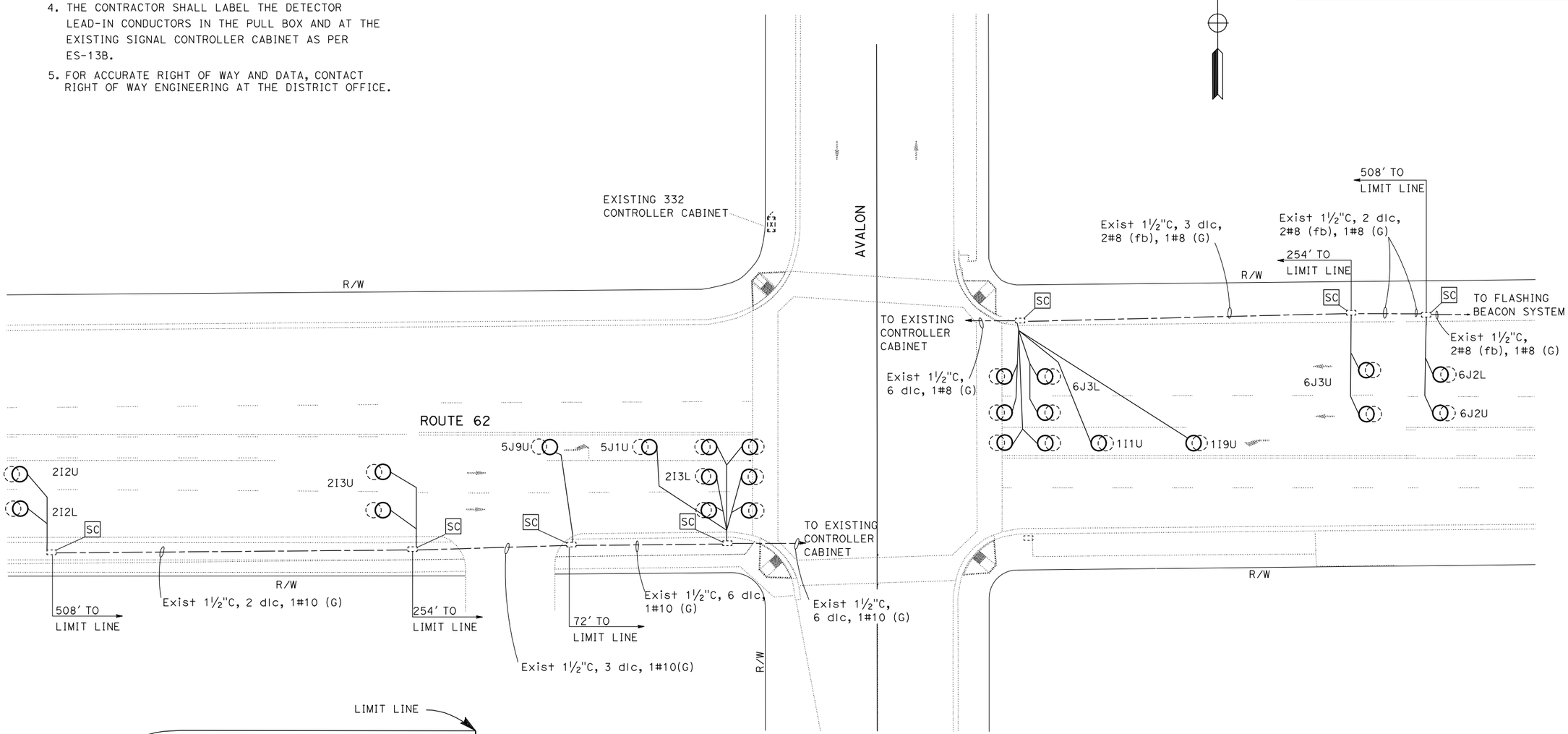
8-23-10
PLANS APPROVAL DATE

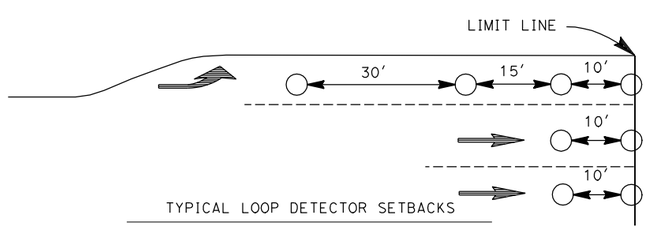
REGISTERED PROFESSIONAL ENGINEER FERDINAND DE LA CRUZ No. E 17215 Exp. 6-30-10 ELECTRICAL STATE OF CALIFORNIA

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

## PROJECT NOTES:

1. THE CONTRACTOR SHALL CONTACT THE ENGINEER THREE WORKING DAYS PRIOR TO INSTALLING LOOP DETECTORS.
2. THE CONTRACTOR SHALL CONTACT THE ENGINEER FIVE WORKING DAYS PRIOR TO ANY CONSTRUCTION WORK IS TO BEGIN.
3. EXISTING LOOP DETECTORS SHOWN TO BE REPLACED SHALL BE AB.
4. THE CONTRACTOR SHALL LABEL THE DETECTOR LEAD-IN CONDUCTORS IN THE PULL BOX AND AT THE EXISTING SIGNAL CONTROLLER CABINET AS PER ES-13B.
5. FOR ACCURATE RIGHT OF WAY AND DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.




TYPICAL LOOP DETECTOR SETBACKS

# INDUCTIVE LOOP DETECTORS

NO SCALE

**E-1**

THIS IS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

| | | | |
|---|---|---|---|
| CALCULATED-DESIGNED BY | LUIS PENALOZA, JR. | REVISED BY | LPJ |
| CHECKED BY | FERDINAND DE LA CRUZ | DATE REVISED | 02-18-10 |
| FUNCTIONAL SUPERVISOR | FERDINAND DE LA CRUZ | | |

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN B

LAST REVISION DATE PLOTTED => 23-AUG-2010
TIME PLOTTED => 09:41

BORDER LAST REVISED 4/11/2008 | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | USERNAME => ecano DGN FILE => 80n950ua001.dgn | CU 08396 | EA 0n9501

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 08 | SBd | 38,62, 247 | Var | 9 | 12 |

REGISTERED ELECTRICAL ENGINEER

October 5, 2007
PLANS APPROVAL DATE

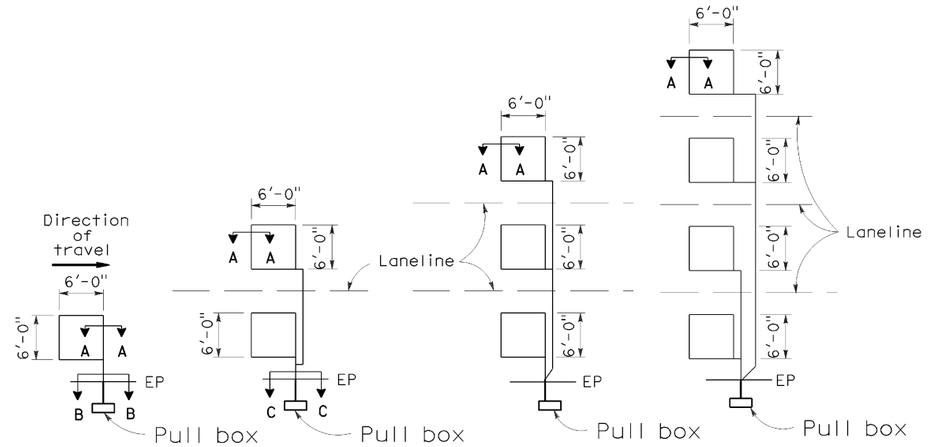
REGISTERED PROFESSIONAL ENGINEER Jeffery G. McRae No. E14512 Exp. 6-30-08 ELECTRICAL STATE OF CALIFORNIA

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

*To accompany plans dated* August 23, 2010

## LOOP INSTALLATION PROCEDURE

1. Loops shall be centered in lanes.
2. Saw slots in pavement for loop conductors as shown in details.
3. Distance between side of loop and a lead-in saw cut from adjacent detectors shall be 2'-0" minimum. Distance between lead-in saw cuts shall be 6" minimum.
4. Bottom of saw slot shall be smooth with no sharp edges.
5. Slots shall be washed until clean, blown out and thoroughly dried before installing loop conductors.
6. Adjacent loops on the same sensor unit channel shall be wound in opposite directions.
7. Identify and tag loop circuit pairs in the pull box with loop number, start (S) and finish (F) of conductor. Identify and tag lead-in-cable with sensor number and phase.
8. Install loop conductor in slot using a 3/16" to 1/4" thick wood paddle. Hold loop conductors with wood paddles (at the bottom of the sawed slot) during sealant placement.
9. No more than 2 twisted pairs shall be installed in one sawed slot.
10. Allow additional 5'-0" of slack length of conductor for the lead-in run to pull box.
11. The additional length of each conductor for each loop shall be twisted together into a pair (6 turns per 3'-4" minimum) before being placed in the slot and conduit leading to pull box.
12. Test each loop circuit for continuity, circuit resistance and insulation resistance at the pull box before filling slots.
13. Fill slots as shown in details.
14. Splice loop conductors to lead-in-cable. Splices shall be soldered.
15. End of lead-in-cable and Type 2 loop conductor shall be waterproofed prior to installing in conduit to prevent moisture from entering the cable.
16. Lead-in-cable shall not be spliced between the pull box and the controller cabinet terminals.
17. Test each loop circuit for continuity, circuit resistance and insulation resistance at the controller cabinet location.
18. Where loop conductors are not to be spliced to a lead-in-cable, the ends of the conductors shall be taped and waterproofed with electrical insulating coating.

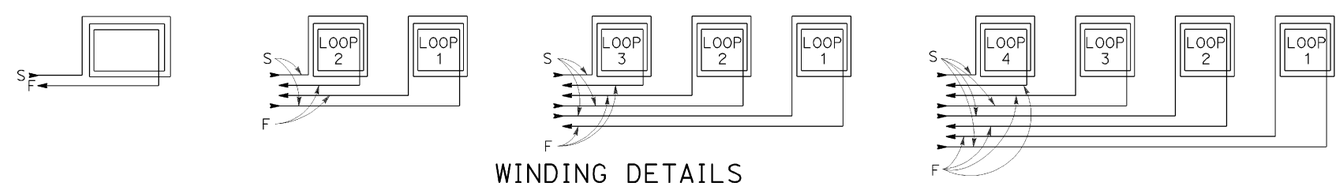



TYPE 1A INSTALLATION | TYPE 2A INSTALLATION | TYPE 3A INSTALLATION | TYPE 4A INSTALLATION

## SAWCUT DETAILS

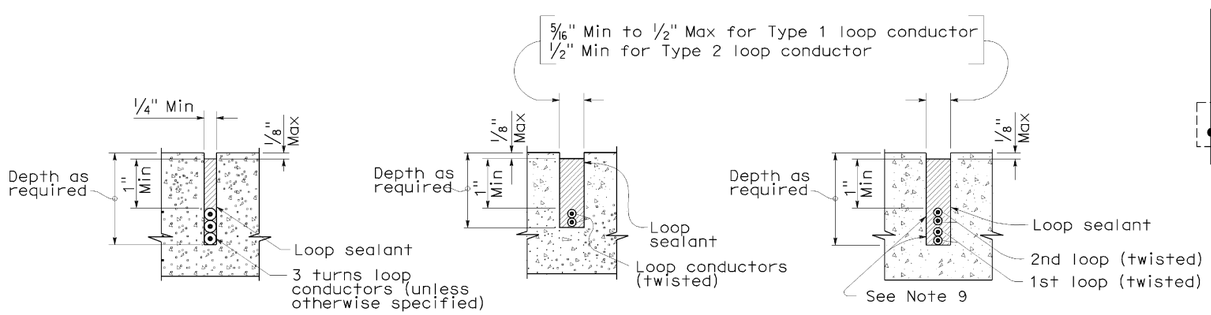
(Type A loop detector configurations illustrated)

1. 1A thru 4A = 1 Type A loop configuration in each lane.
2. 1B thru 4B = 1 Type B loop configuration in each lane.
3. 1C = 1 Type C loop configuration entering lanes as required.
4. 1D thru 4D = 1 Type D loop configuration in each lane.
5. 1E thru 4E = 1 Type E loop configuration in each lane.
6. 1Q thru 4Q = 1 Type Q loop configuration in each lane. (Use Type A, B, C, D, E or Q loop detector configurations only when specified or shown on plans)



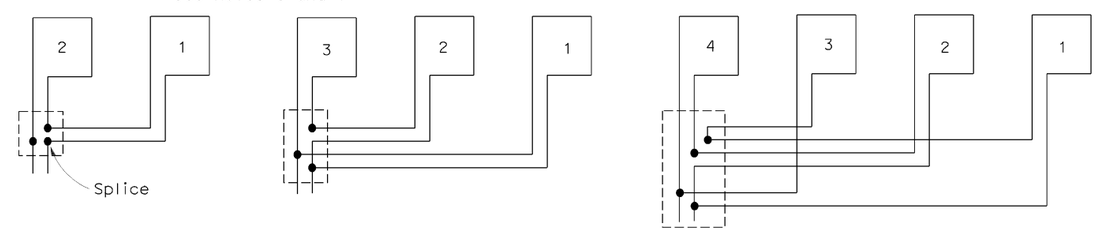

## WINDING DETAILS

See Notes 6 and 7




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

## SLOT DETAILS - TYPE 1 AND TYPE 2 LOOP CONDUCTOR




## TYPICAL LOOP CONNECTIONS

(Dashed lines represent the pull box)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

# ELECTRICAL SYSTEMS (DETECTORS)

NO SCALE

RSP ES-5A DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-5A DATED MAY 1, 2006 - PAGE 423 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP ES-5A**

**2006 REVISED STANDARD PLAN RSP ES-5A**

8-17-07

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 08 | SBd | 38,62, 247 | Var | 10 | 12 |

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

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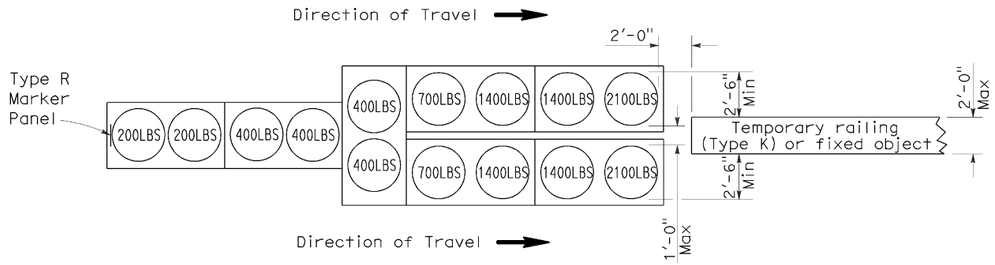
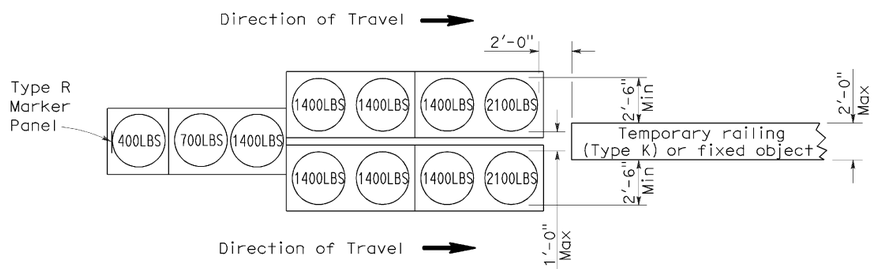
*To accompany plans dated* August 23, 2010



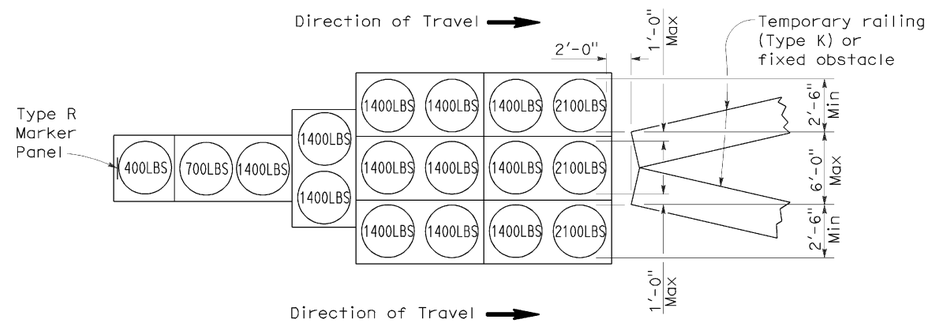

## ARRAY `TU14'

Approach speed 45 mph or more



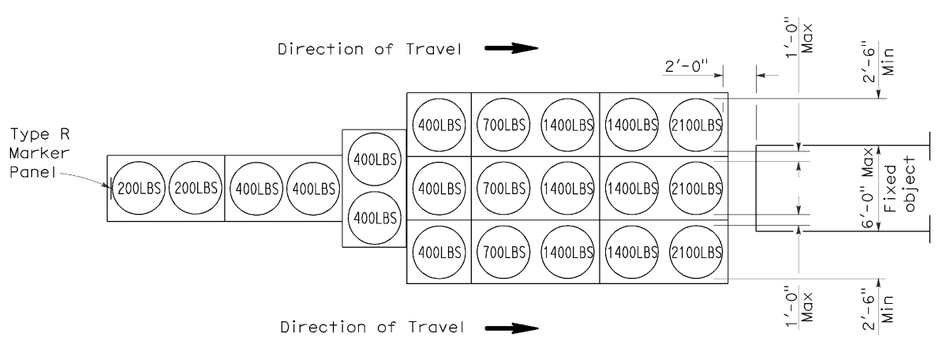

## ARRAY `TU11'

Approach speed less than 45 mph



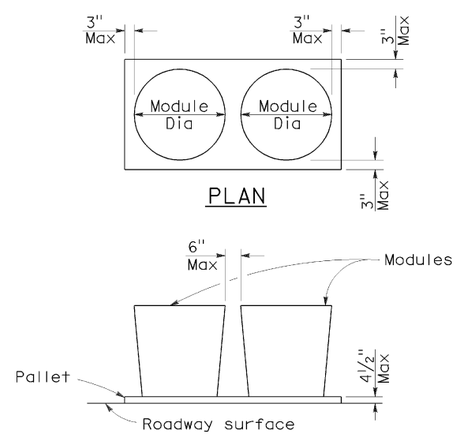

## ARRAY `TU17'

Approach speed less than 45 mph




## ARRAY `TU21'

Approach speed 45 mph or more




PLAN

ELEVATION

## CRASH CUSHION PALLET DETAIL

See Note 7

## NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

# TEMPORARY CRASH CUSHION, SAND FILLED (UNIDIRECTIONAL)

NO SCALE

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

**REVISED STANDARD PLAN RSP T1A**

**2006 REVISED STANDARD PLAN RSP T1A**

5-15-08

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 08 | SBd | 38,62, 247 | Var | 11 | 12 |

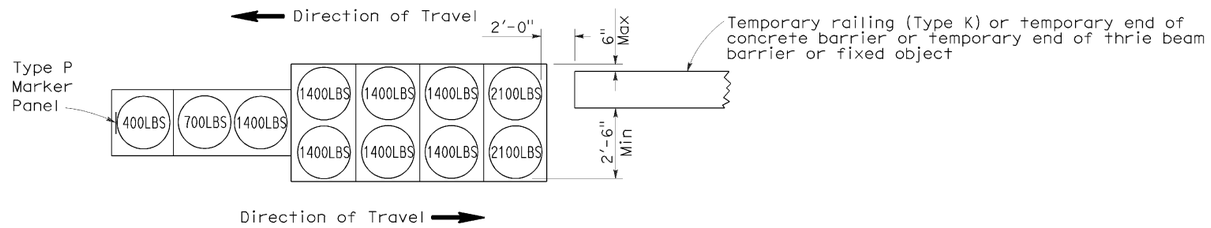
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

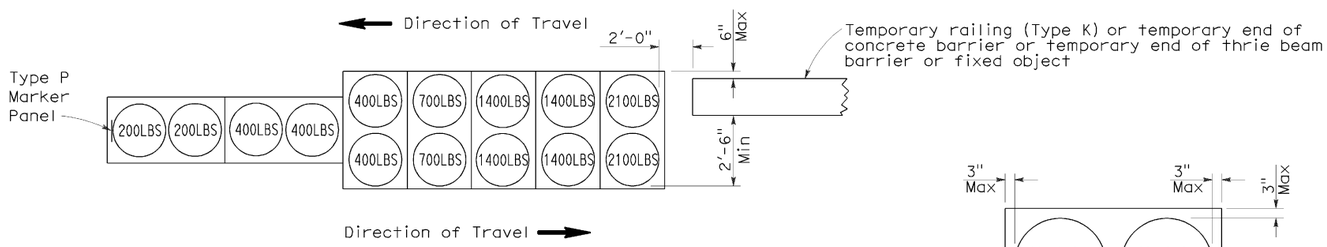
*The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.*

*To accompany plans dated* August 23, 2010



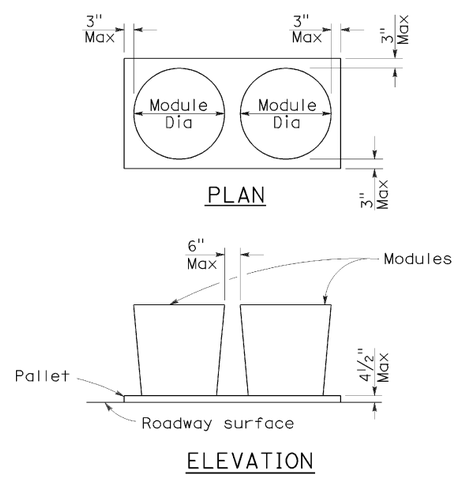

## ARRAY 'TB11'

Approach speed less than 45 mph




## ARRAY 'TB14'

Approach speed 45 mph or more




## CRASH CUSHION PALLET DETAIL

See Note 7

## NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

# TEMPORARY CRASH CUSHION, SAND FILLED (BIDIRECTIONAL)

NO SCALE

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

**REVISED STANDARD PLAN RSP T1B**

**2006 REVISED STANDARD PLAN RSP T1B**

5-15-08

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 08 | SBd | 38,62, 247 | Var | 12 | 12 |

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

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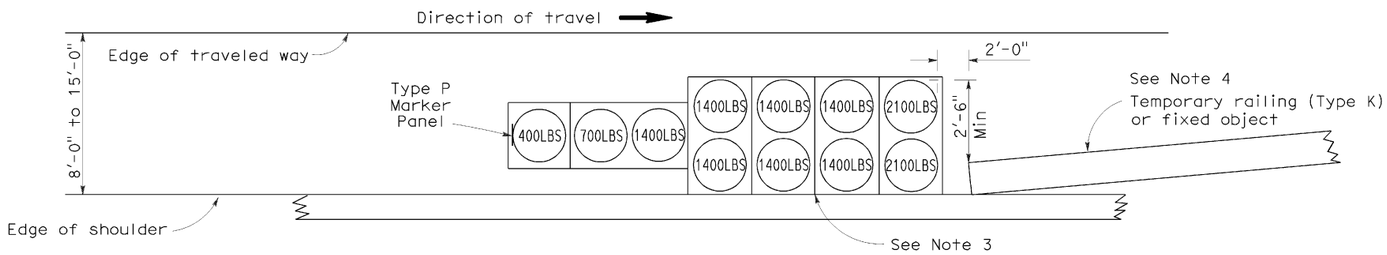
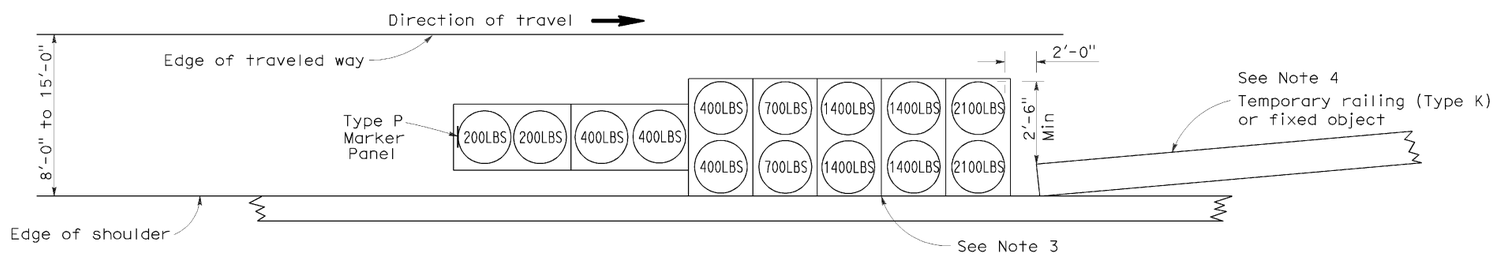
*To accompany plans dated* August 23, 2010



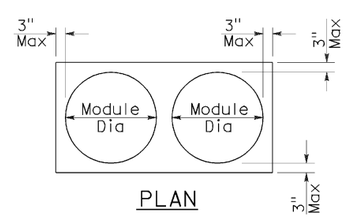

## ARRAY 'TS11'

Approach speed less than 45 mph
See Note 9

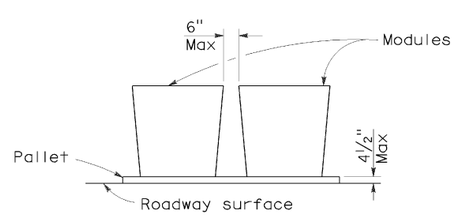



## ARRAY 'TS14'

Approach speed 45 mph or more
See Note 9




PLAN




ELEVATION

## CRASH CUSHION PALLET DETAIL

See Note 11

## NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

# TEMPORARY CRASH CUSHION, SAND FILLED (SHOULDER INSTALLATIONS)

NO SCALE

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

**REVISED STANDARD PLAN RSP T2**

**2006 REVISED STANDARD PLAN RSP T2**

5-15-08