

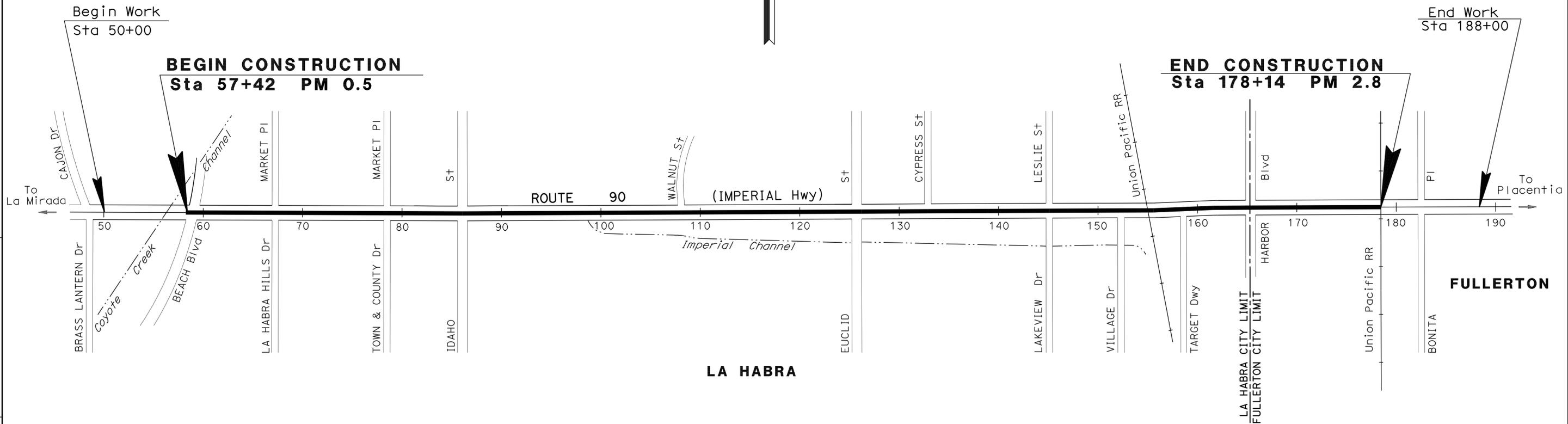
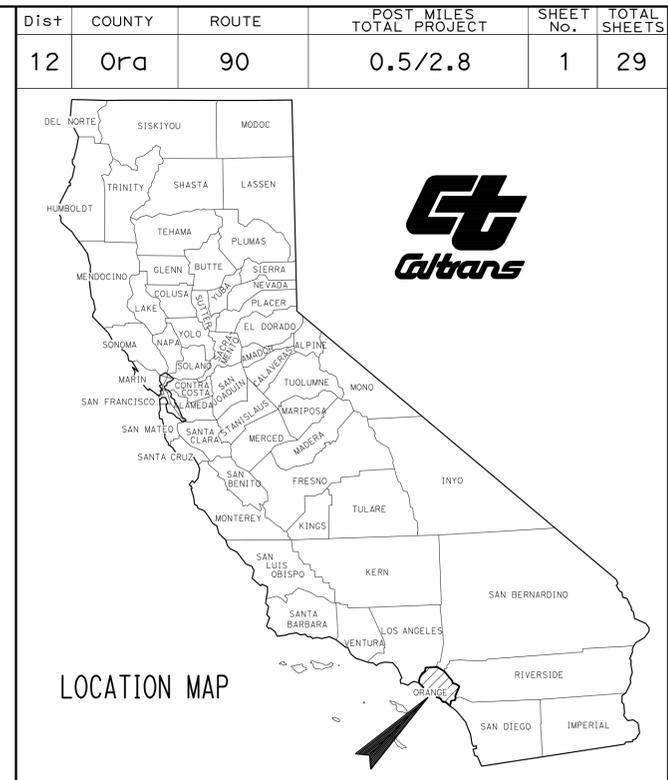
INDEX OF PLANS

| SHEET No. | DESCRIPTION                                 |
|-----------|---|
| 1         | TITLE AND LOCATION MAP                      |
| 2-4       | TYPICAL CROSS SECTIONS                      |
| 5-9       | CONSTRUCTION DETAILS                        |
| 10        | CONSTRUCTION AREA SIGNS                     |
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| 14-15     | SUMMARY OF QUANTITIES                       |
| 16-20     | ELECTRICAL PLANS                            |
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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 ORANGE COUNTY**  
**IN LA HABRA AND FULLERTON**  
**FROM BEACH BOULEVARD TO**  
**0.3 MILE EAST OF HARBOR BOULEVARD**

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006



|                 |               |
|-----------------|---------------|
| PROJECT MANAGER | MASSOUD TAJIK |
| DESIGN ENGINEER | LOANNA HUYNH  |

11-23-09  
 PROJECT ENGINEER REGISTERED CIVIL ENGINEER DATE  
**February 8, 2010**  
 PLANS APPROVAL DATE  
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER

LOANNA HUYNH

No. C52386

Exp. 12-31-10

CIVIL

STATE OF CALIFORNIA

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

NO SCALE

CONTRACT No. **12-OK2304**

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

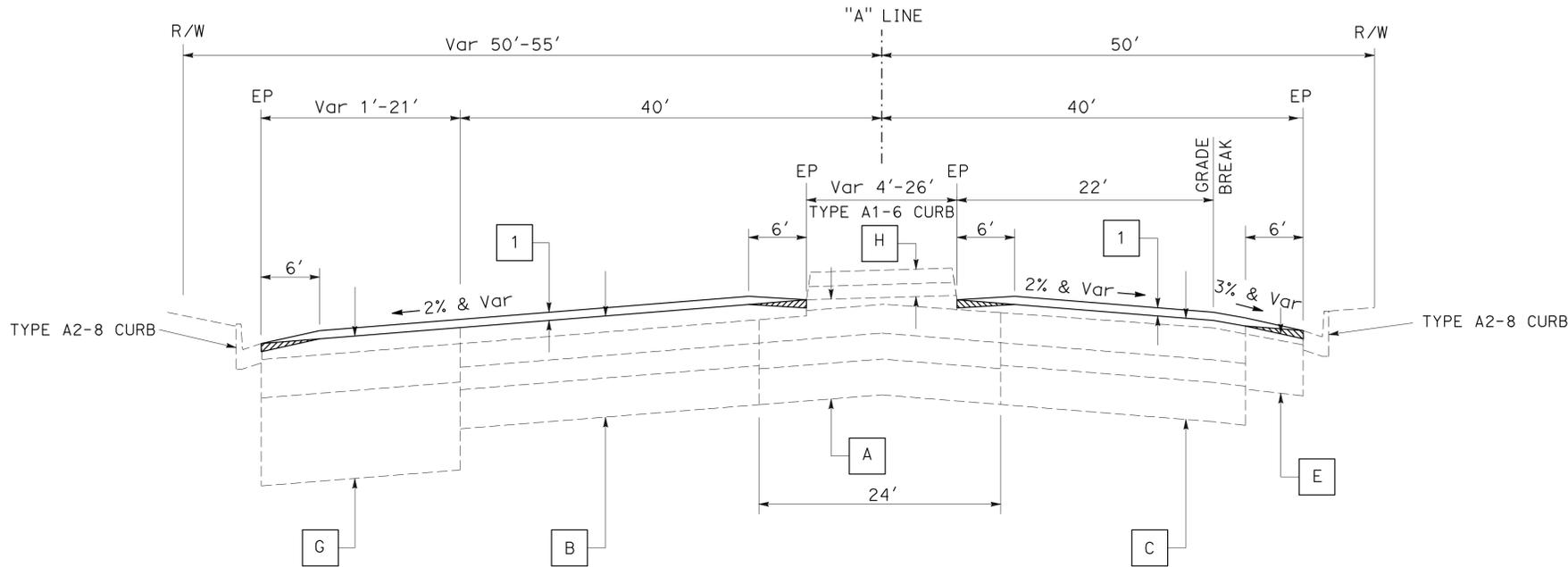
FUNCTIONAL SUPERVISOR: MASSOUD TAJIK  
 CALCULATED/DESIGNED BY: MASSOUD TAJIK  
 CHECKED BY: MASSOUD TAJIK  
 REVISIONS: L HUYNH 12/08/08

**NOTES:**

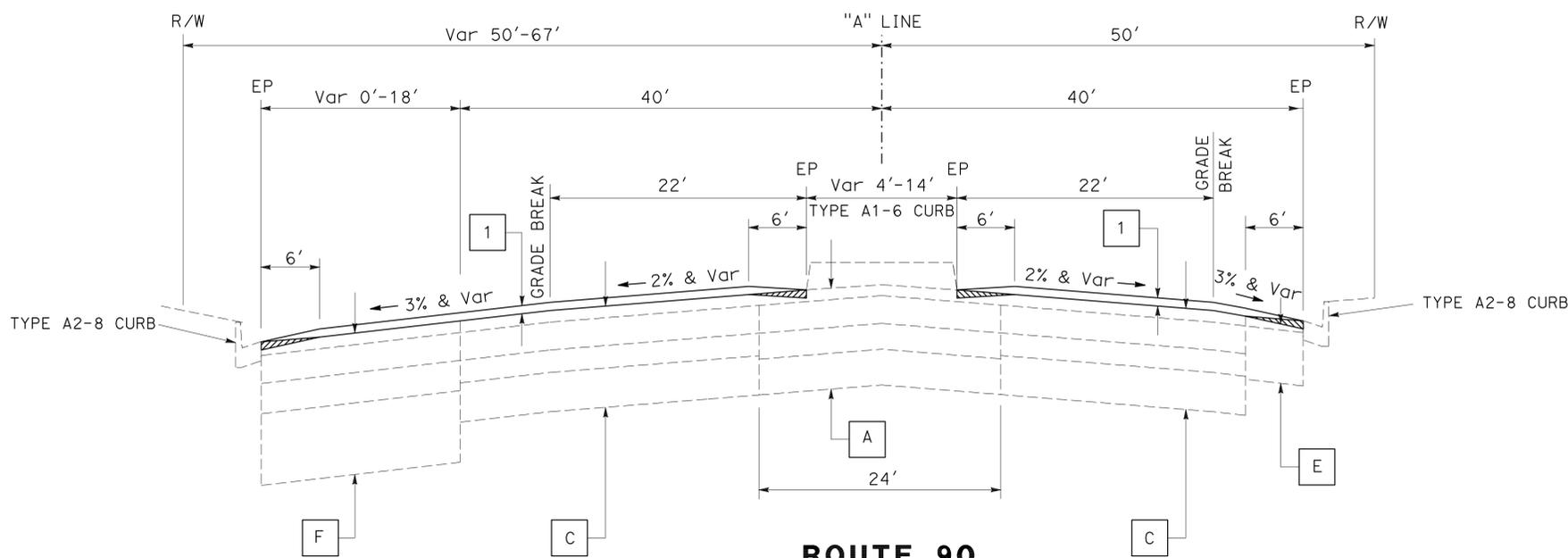
- DIMENSIONS OF THE STRUCTURAL SECTIONS ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
- SUPERELEVATION AS SHOWN OR AS DIRECTED BY THE ENGINEER.
- EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.

**TYPICAL STRUCTURAL SECTIONS:**

- 1 [ ] OVERLAY 0.10' RUBBERIZED HOT MIX ASPHALT (GAP GRADED)
- 2 [ ] 0.20' RUBBERIZED HOT MIX ASPHALT (GAP GRADED)  
COLD PLANE AC PAVEMENT (0.20')
- [ ] COLD PLANE AC PAVEMENT (0'-0.10')



**ROUTE 90**  
 AT IDAHO STREET  
 Sta 80+63 TO Sta 89+20



**ROUTE 90**  
 AT BEACH BOULEVARD  
 Sta 57+42 TO Sta 80+63

|      |        |       |                          |           |              |
|------|--------|-------|--------------------------|-----------|--------------|
| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
| 12   | Ora    | 90    | 0.5/2.8                  | 2         | 29           |

REGISTERED CIVIL ENGINEER DATE: 11-23-09  
 REGISTERED CIVIL ENGINEER: LOANNA HUYNH  
 No. C52386  
 Exp. 12-31-10  
 PLANS APPROVAL DATE: 2-8-10

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.

**EXISTING STRUCTURAL SECTIONS:**

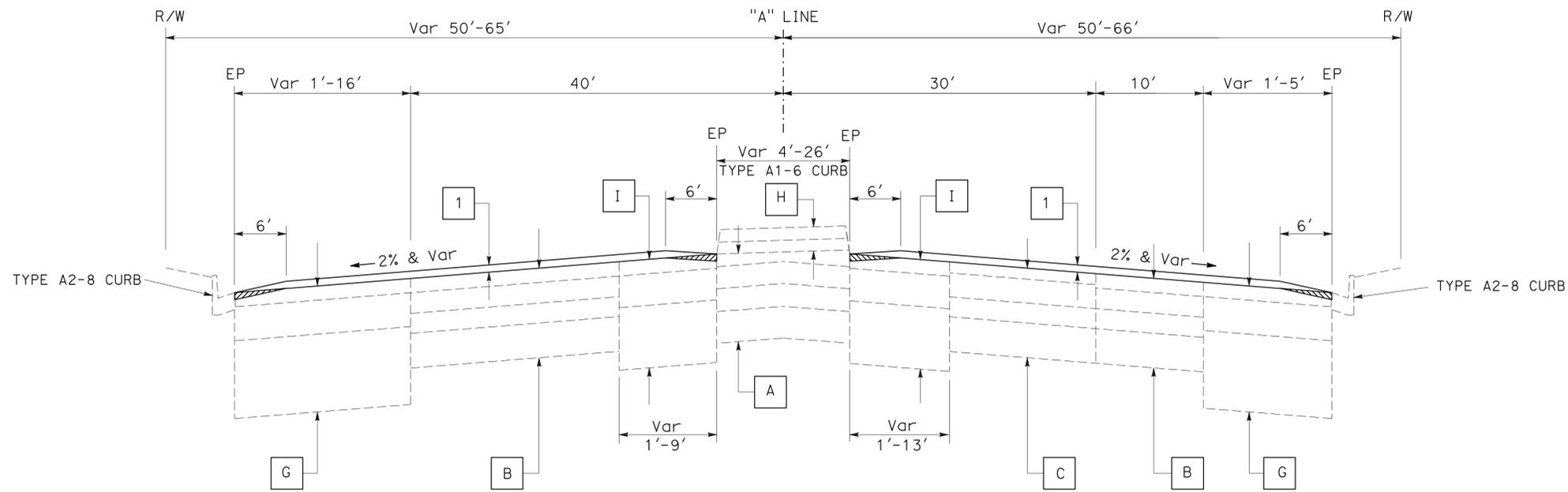
- A [ ] 0.15' RAC (TYPE G)  
0.50' AC (TYPE B)  
0.44' AB  
1.00' AS
- B [ ] 0.20' R-HMA (TYPE G)  
0.45' AC  
0.35' CTB AGGREGATE  
0.75' AS
- C [ ] 0.15' RAC (TYPE G)  
0.50' AC  
0.35' CTB AGGREGATE  
0.75' AS
- D [ ] 0.15' RAC (TYPE G)  
0.50' AC (TYPE B)  
0.48' AS
- E [ ] 0.15' RAC (TYPE G)  
1.35' AC (TYPE B)
- F [ ] 0.15' RAC (TYPE G)  
0.50' AC (TYPE B)  
0.70' AB  
1.30' AS
- G [ ] 0.20' R-HMA (TYPE G)  
0.60' AC  
1.45' AB
- H [ ] 0.33' PCC (STAMPED PATTERN)  
0.33' SAND OR CI 2 AB
- I [ ] 0.20' R-HMA (TYPE G)  
0.80' AC  
1.25' CEMENT MIX
- J [ ] 0.60' AC  
1.30' AB

**TYPICAL CROSS SECTIONS**

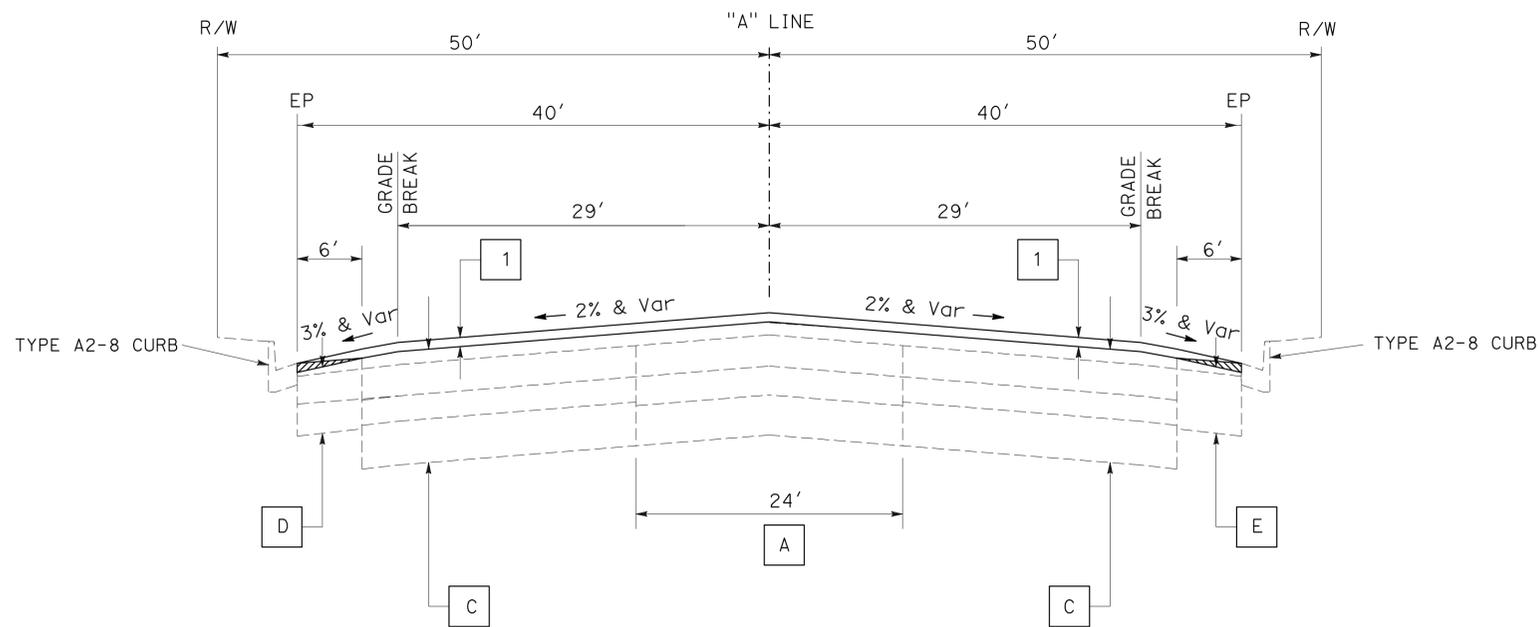
NO SCALE

**X-1**

|   |        |       |  |           |              |
|---|--------|-------|--|-----------|--------------|
| Dist  | COUNTY | ROUTE | POST MILES TOTAL PROJECT                   | SHEET No. | TOTAL SHEETS |
| 12  | Ora    | 90    | 0.5/2.8                                    | 3         | 29           |
|   |        |       | 11-23-09<br>REGISTERED CIVIL ENGINEER DATE |           |              |
|   |        |       | 2-8-10<br>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. |        |       |  |           |              |



**ROUTE 90**  
 AT EUCLID STREET  
 Sta 120+42 TO Sta 130+12



**ROUTE 90**  
 Sta 89+20 TO Sta 120+42  
 Sta 130+12 TO Sta 158+40

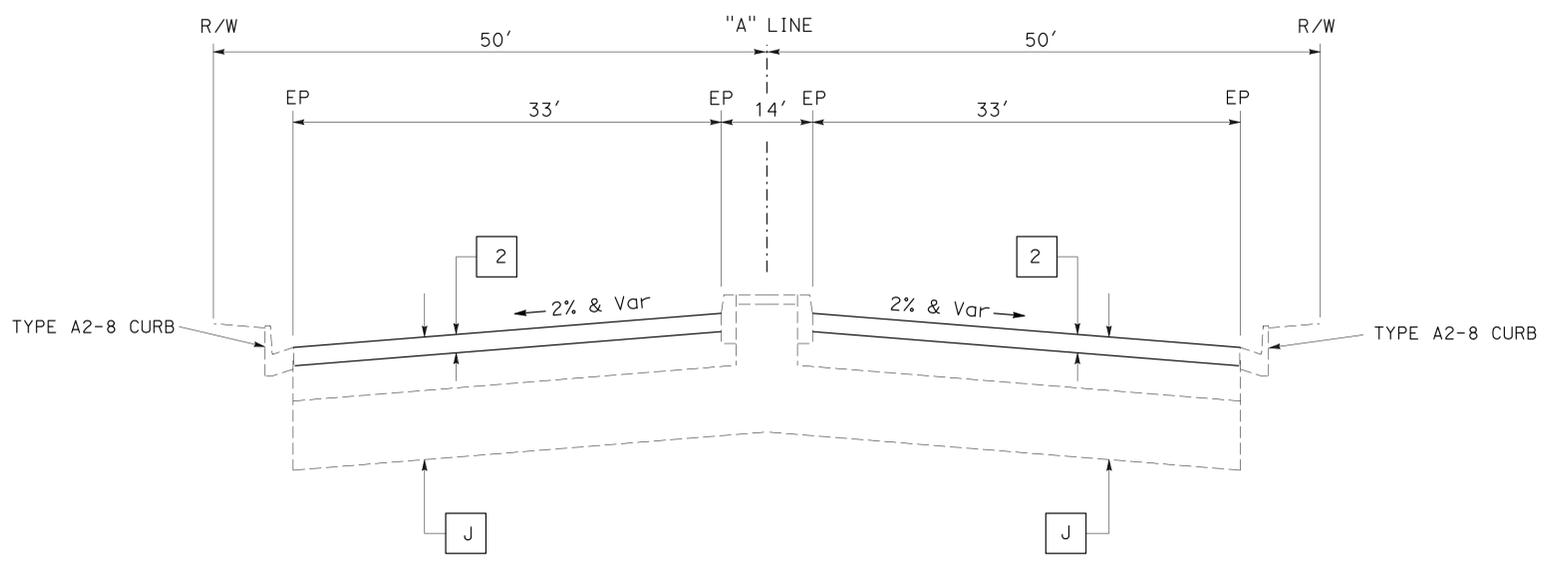
**TYPICAL CROSS SECTIONS**

NO SCALE **X-2**

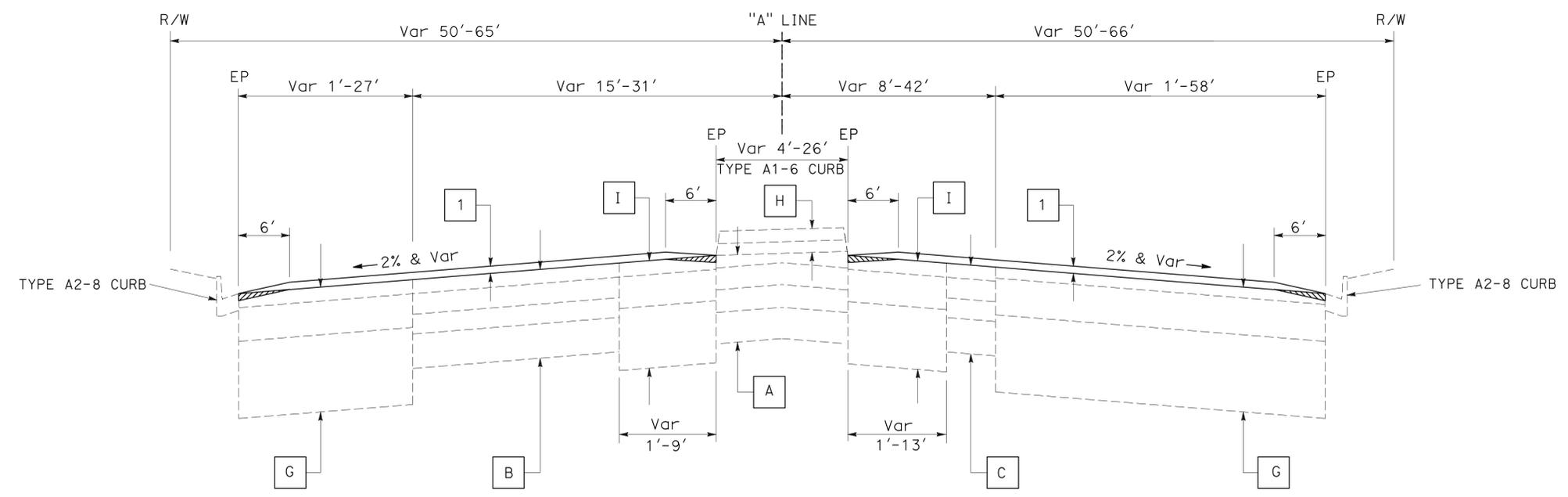
|  |                       |              |               |
|--|-----------------------|--------------|---------------|
| STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION | FUNCTIONAL SUPERVISOR | REVISOR      | DATE          |
| <b>Caltrans</b>                                    | MASSOUD TAJIK         | L HUYNH      | 12/08/08      |
| MAINTENANCE  | MASSOUD TAJIK         | LOANNA HUYNH | MASSOUD TAJIK |
|  | CHECKED BY            | DESIGNED BY  |               |
|  |                       |              |               |

|   |        |       |                             |                                |                 |
|---|--------|-------|-----------------------------|--------------------------------|-----------------|
| Dist  | COUNTY | ROUTE | POST MILES<br>TOTAL PROJECT | SHEET<br>No.                   | TOTAL<br>SHEETS |
| 12  | Ora    | 90    | 0.5/2.8                     | 4                              | 29              |
|   |        |       | 11-23-09                    | REGISTERED CIVIL ENGINEER DATE |                 |
|   |        |       | 2-8-10                      | 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. |        |       |                             |                                |                 |

|  |                       |              |               |
|--|-----------------------|--------------|---------------|
| STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION | FUNCTIONAL SUPERVISOR | REVISOR      | DATE          |
| <b>Caltrans</b>                                    | MASSOUD TAJIK         | L HUYNH      | 12/08/08      |
| MAINTENANCE  | MASSOUD TAJIK         | LOANNA HUYNH | MASSOUD TAJIK |
|  | CHECKED BY            | DESIGNED BY  |               |



**ROUTE 90**  
EAST OF HARBOR BOULEVARD AT UNION PACIFIC RAILROAD  
Sta 177+49 TO Sta 178+14



**ROUTE 90**  
AT HARBOR BOULEVARD  
Sta 158+40 TO Sta 168+00

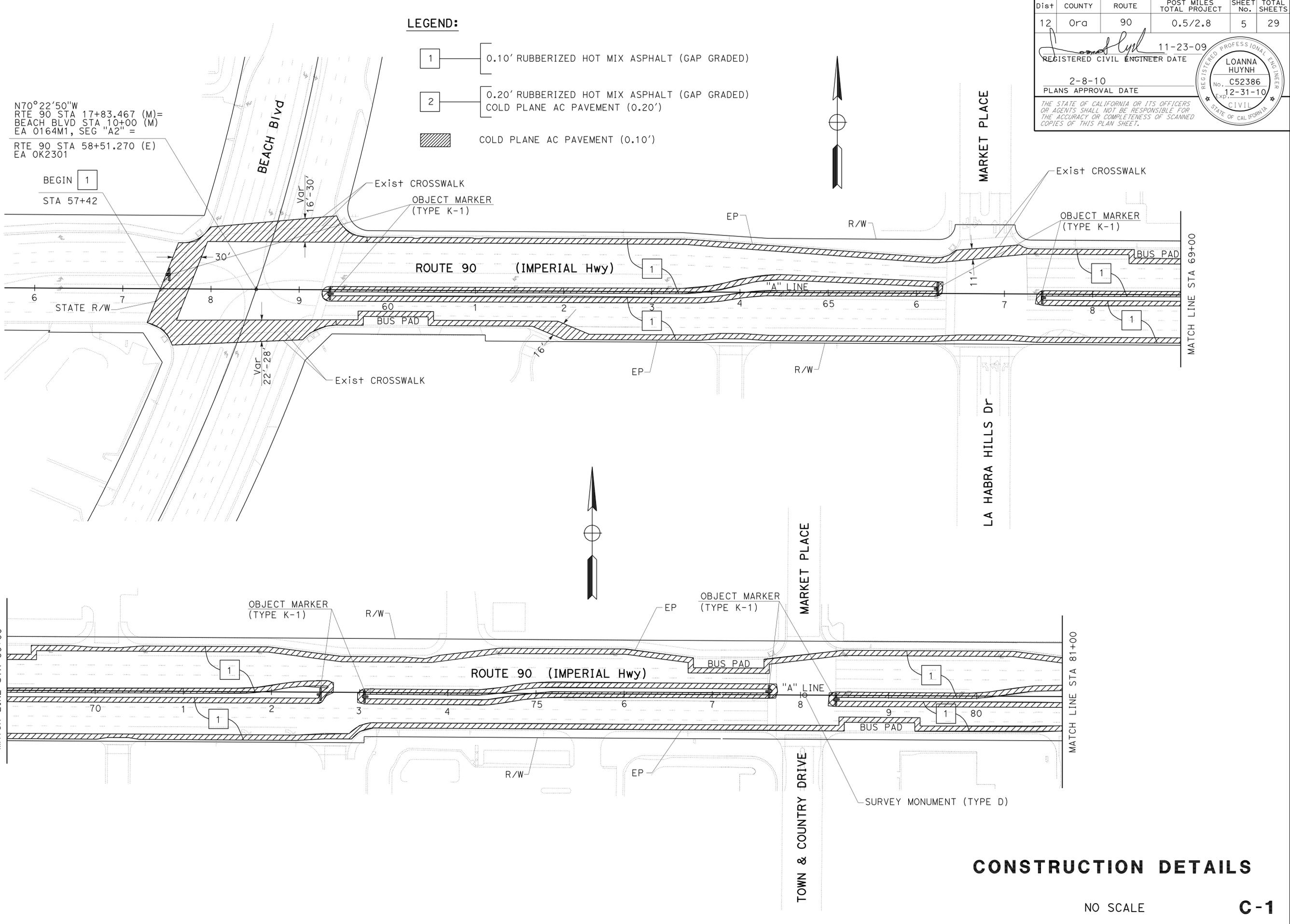
**TYPICAL CROSS SECTIONS**

NO SCALE

**X-3**

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

FUNCTIONAL SUPERVISOR: MASSOUD TAJIK  
 CALCULATED/DESIGNED BY: MASSOUD TAJIK  
 CHECKED BY:  
 LOANNA HUYNH  
 MASSOUD TAJIK  
 REVISED BY: L HUYNH  
 DATE REVISED: 08/03/09



**LEGEND:**

- 1 — 0.10' RUBBERIZED HOT MIX ASPHALT (GAP GRADED)
- 2 — 0.20' RUBBERIZED HOT MIX ASPHALT (GAP GRADED)  
COLD PLANE AC PAVEMENT (0.20')
- COLD PLANE AC PAVEMENT (0.10')

|      |        |       |                          |           |              |
|------|--------|-------|--------------------------|-----------|--------------|
| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
| 12   | Ora    | 90    | 0.5/2.8                  | 5         | 29           |

REGISTERED CIVIL ENGINEER DATE: 11-23-09  
 REGISTERED CIVIL ENGINEER: LOANNA HUYNH  
 No. C52386  
 Exp. 12-31-10  
 CIVIL  
 STATE OF CALIFORNIA

PLANS APPROVAL DATE: 2-8-10

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.

N70°22'50"W  
 RTE 90 STA 17+83.467 (M) =  
 BEACH BLVD STA 10+00 (M)  
 EA 0164M1, SEG "A2" =  
 RTE 90 STA 58+51.270 (E)  
 EA 0K2301

BEGIN 1  
 STA 57+42

MATCH LINE STA 69+00

MATCH LINE STA 81+00

MATCH LINE STA 69+00

RELATIVE BORDER SCALE IS IN INCHES

USERNAME => trmikes1  
 DGN FILE => c0k230ga0001.dgn

CU 12601

EA 0K2301

**CONSTRUCTION DETAILS**

NO SCALE

**C-1**

LAST REVISION DATE PLOTTED => 09-FEB-2010  
 10-30-09 TIME PLOTTED => 07:27

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

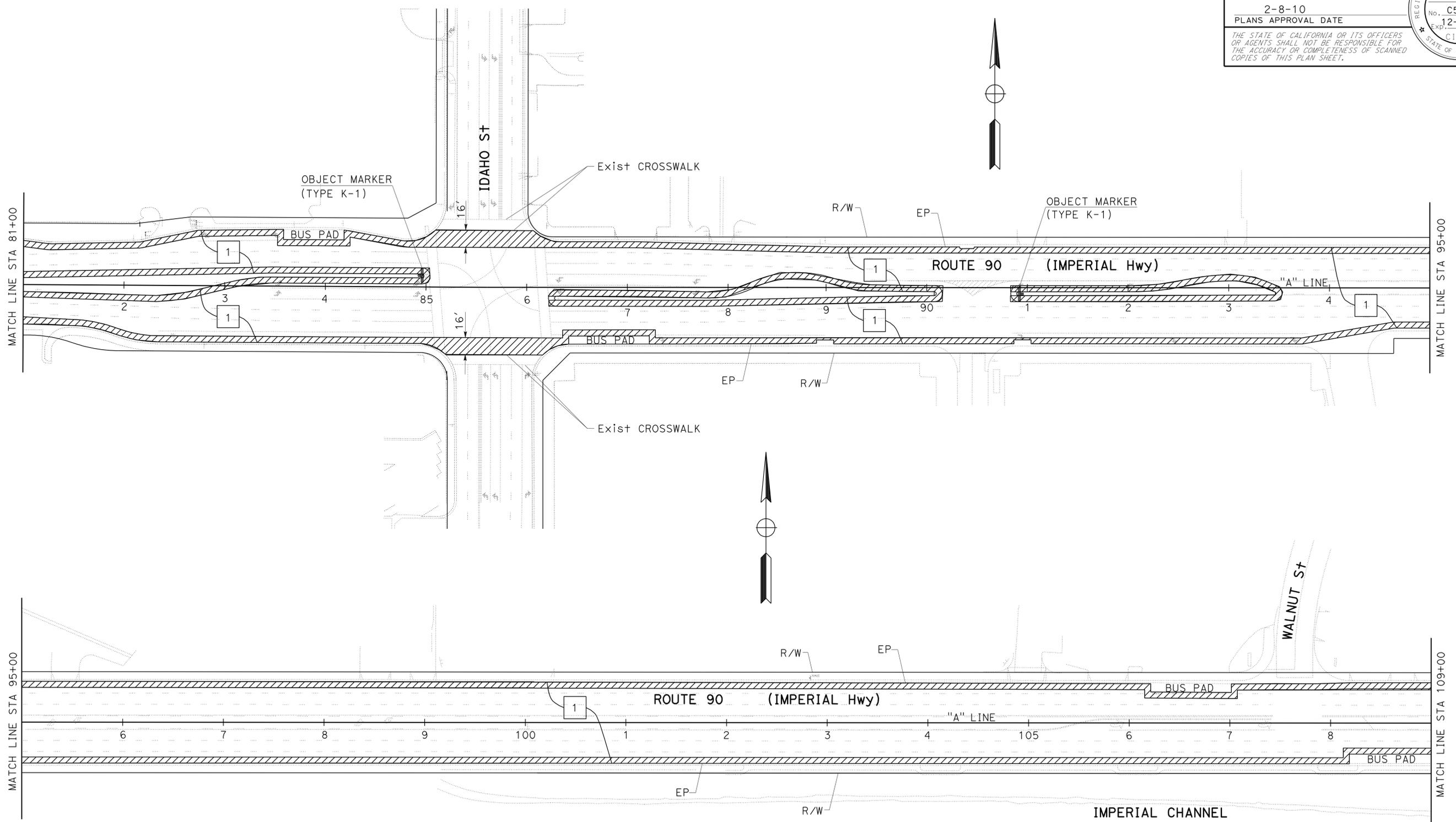
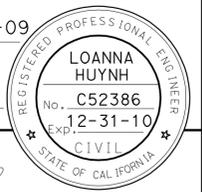
FUNCTIONAL SUPERVISOR  
 MASSOUD TAJIK

CALCULATED-DESIGNED BY  
 CHECKED BY

LOANNA HUYNH  
 MASSOUD TAJIK

REVISOR  
 L HUYNH  
 DATE  
 08/03/09

|  |        |       |                          |                                |              |
|--|--------|-------|--------------------------|--------------------------------|--------------|
| Dist   | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No.                      | TOTAL SHEETS |
| 12   | Ora    | 90    | 0.5/2.8                  | 6                              | 29           |
|   |        |       | 11-23-09                 | REGISTERED CIVIL ENGINEER DATE |              |
| 2-8-10<br>PLANS APPROVAL DATE  |        |       |                          |                                |              |
| <small>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.</small> |        |       |                          |                                |              |



**CONSTRUCTION DETAILS**

NO SCALE

**C-2**

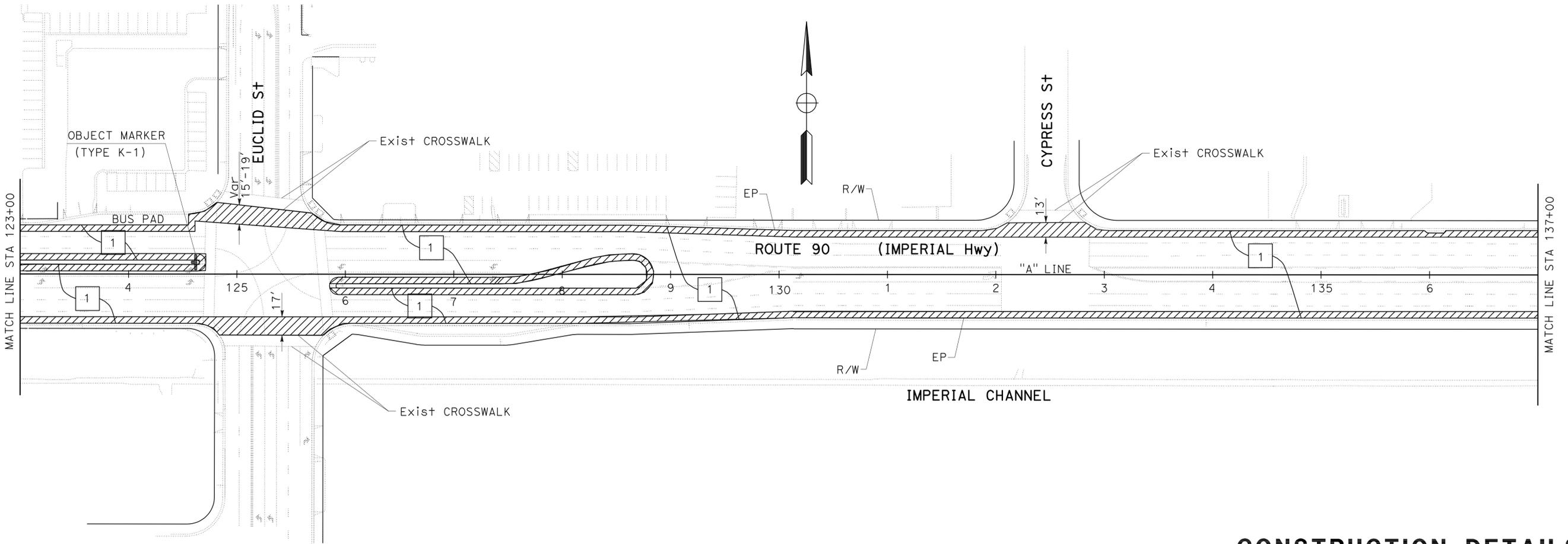
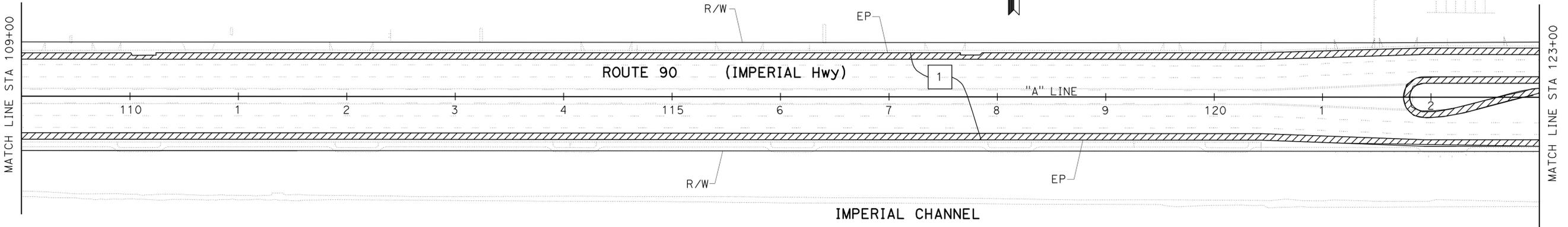
|      |        |       |                          |           |              |
|------|--------|-------|--------------------------|-----------|--------------|
| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
| 12   | Ora    | 90    | 0.5/2.8                  | 7         | 29           |

11-23-09  
 REGISTERED CIVIL ENGINEER DATE

2-8-10  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 LOANNA HUYNH  
 No. C52386  
 Exp. 12-31-10  
 CIVIL  
 STATE OF CALIFORNIA

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



**CONSTRUCTION DETAILS**

NO SCALE **C-3**

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

|                       |               |
|-----------------------|---------------|
| FUNCTIONAL SUPERVISOR | MASSOUD TAJIK |
| DESIGNED BY           | MASSOUD TAJIK |
| CHECKED BY            | MASSOUD TAJIK |
| REVISIONS             |               |
| REVISED BY            | DATE REVISED  |
| L HUYNH               | 08/03/09      |

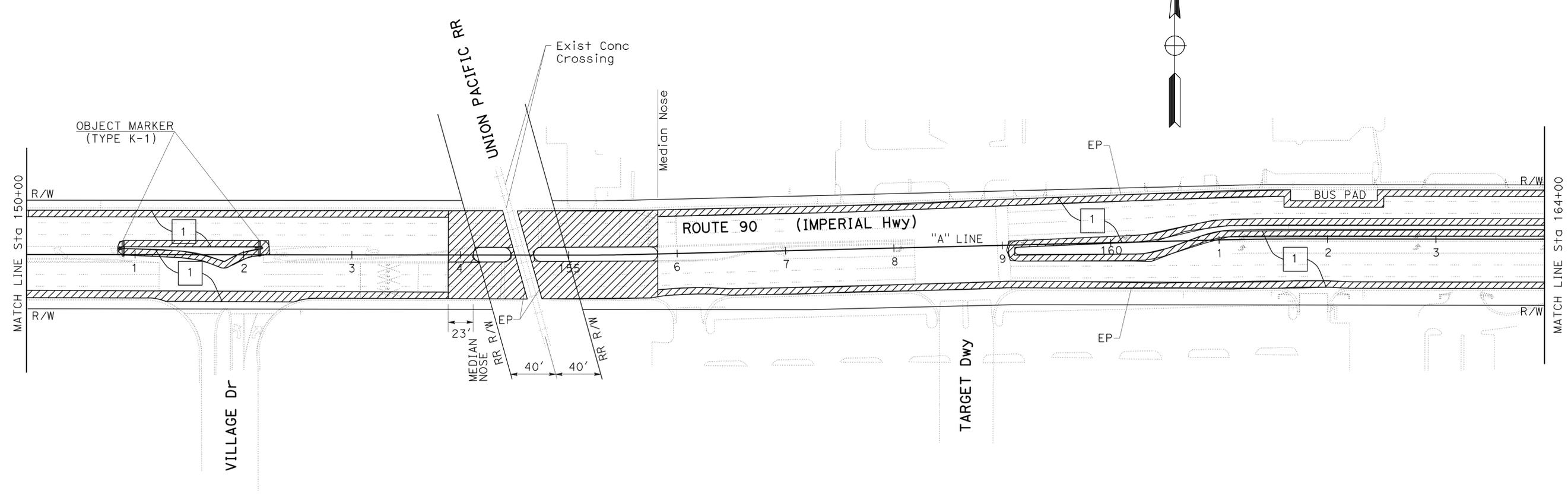
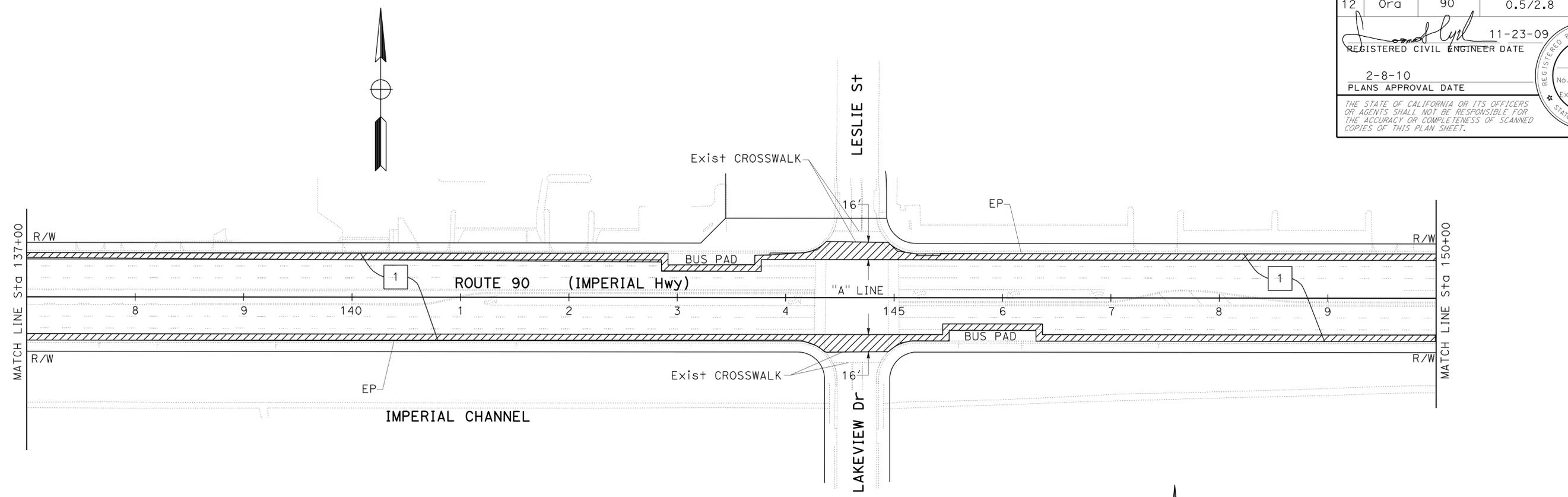
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|------|--------|-------|--------------------------|-----------|--------------|
| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
| 12   | Ora    | 90    | 0.5/2.8                  | 8         | 29           |

11-23-09  
REGISTERED CIVIL ENGINEER DATE

2-8-10  
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
**LOANNA HUYNH**  
No. C52386  
Exp. 12-31-10  
CIVIL  
STATE OF CALIFORNIA

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**CONSTRUCTION DETAILS**

NO SCALE

**C-4**

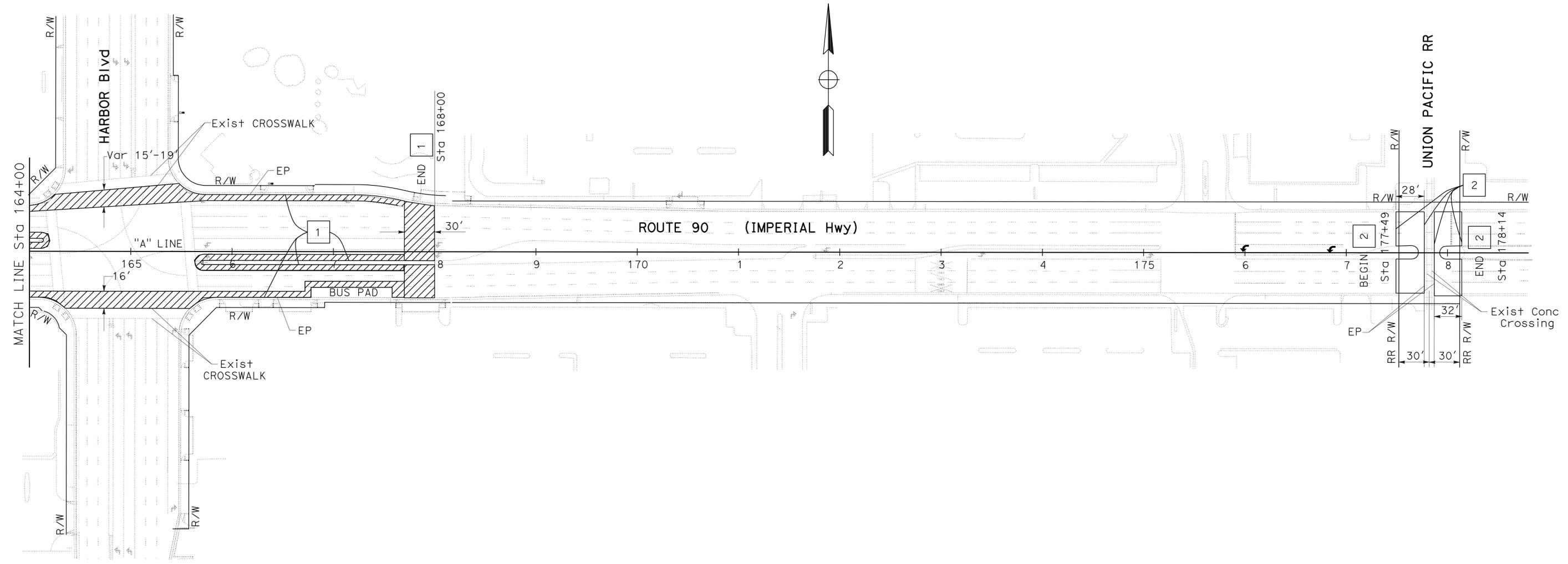
|      |        |       |                          |           |              |
|------|--------|-------|--------------------------|-----------|--------------|
| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
| 12   | Ora    | 90    | 0.5/2.8                  | 9         | 29           |

REGISTERED CIVIL ENGINEER: LOANNA HUYNH  
 No. C52386  
 Exp. 12-31-10  
 REGISTERED PROFESSIONAL ENGINEER: STATE OF CALIFORNIA

11-23-09  
 REGISTERED CIVIL ENGINEER DATE

2-8-10  
 PLANS APPROVAL DATE

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**CONSTRUCTION DETAILS**

NO SCALE

**C-5**

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

FUNCTIONAL SUPERVISOR  
 MASSOUD TAJIK

CALCULATED-DESIGNED BY  
 CHECKED BY

LOANNA HUYNH  
 MASSOUD TAJIK

REVISOR BY  
 DATE REVISED

L HUYNH  
 08/03/09

**NOTES:**

- SIGN LOCATIONS SHOWN ARE APPROXIMATE. EXACT LOCATIONS TO BE DETERMINED BY THE ENGINEER.
- PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) SHALL BE PLACED AT BOTH ENDS OF THE CONSTRUCTION AREAS FOR ADVANCE NOTIFICATION OF CLOSURES AND ALTERNATIVE ROUTES. EXACT SIGN MESSAGES TO BE DETERMINED BY THE ENGINEER.

**STATIONARY MOUNTED CONSTRUCTION AREA SIGNS**

| No. | SIGN CODE | PANEL SIZE | SIGN MESSAGE  | No. OF POST AND SIZE | No. OF SIGN (N) |
|-----|-----------|------------|---------------|----------------------|-----------------|
| (A) | W20-1     | 48" x 48"  | ROAD WORK     | 1 - 4" x 6"          | 18              |
| (B) | G20-2     | 60" x 24"  | END ROAD WORK | 1 - 4" x 6"          | 2               |

|      |        |       |                          |           |              |
|------|--------|-------|--------------------------|-----------|--------------|
| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
| 12   | Ora    | 90    | 0.5/2.8                  | 10        | 29           |

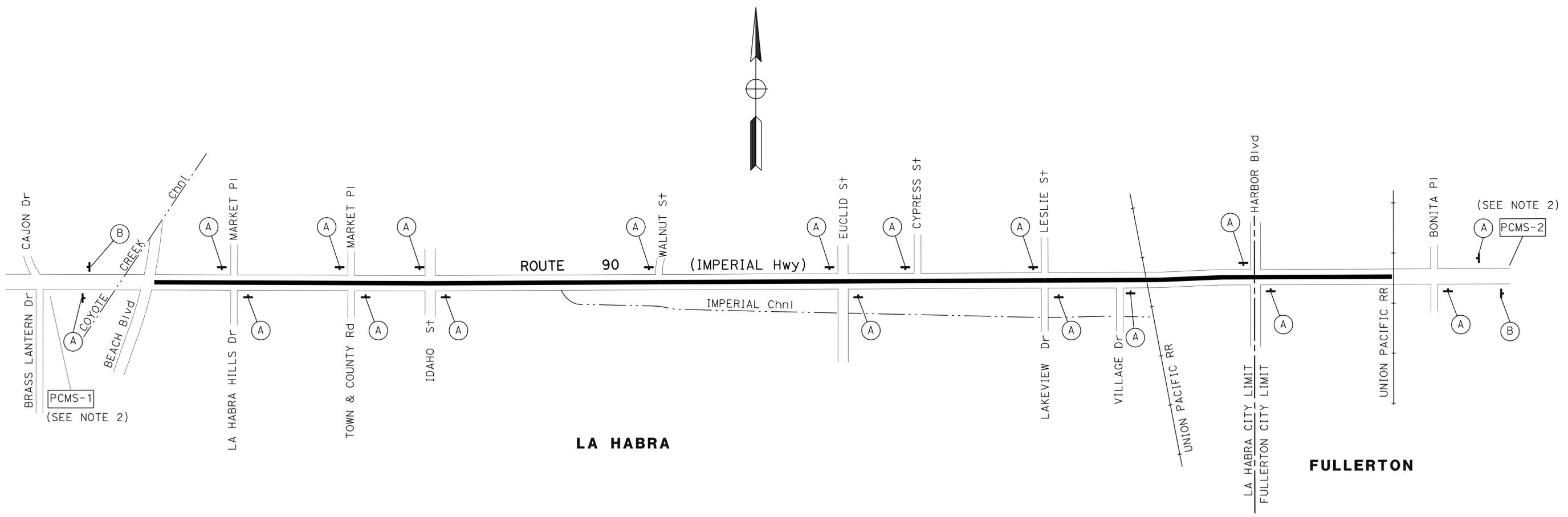
REGISTERED CIVIL ENGINEER DATE 11-23-09  
 2-8-10  
 PLANS APPROVAL DATE

LOANNA HUYNH  
 No. C52386  
 Exp. 12-31-10  
 CIVIL ENGINEER  
 STATE OF CALIFORNIA

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**LEGEND:**

- CONSTRUCTION AREA SIGN, 1-POST
- PORTABLE CHANGEABLE MESSAGE SIGN
- CONSTRUCTION AREA SIGN



**CONSTRUCTION AREA SIGNS**

NO SCALE

**CS-1**

|  |                       |               |               |
|--|-----------------------|---------------|---------------|
| STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION | FUNCTIONAL SUPERVISOR | REVISOR       | DATE          |
| <b>Caltrans</b>                                    | MAINTENANCE           | MASSOUD TAJIK | MASSOUD TAJIK |
|  |                       | LOANNA HUYNH  | 08/03/09      |
|  |                       | REVISOR       | DATE          |
|  |                       | MASSOUD TAJIK | 08/03/09      |

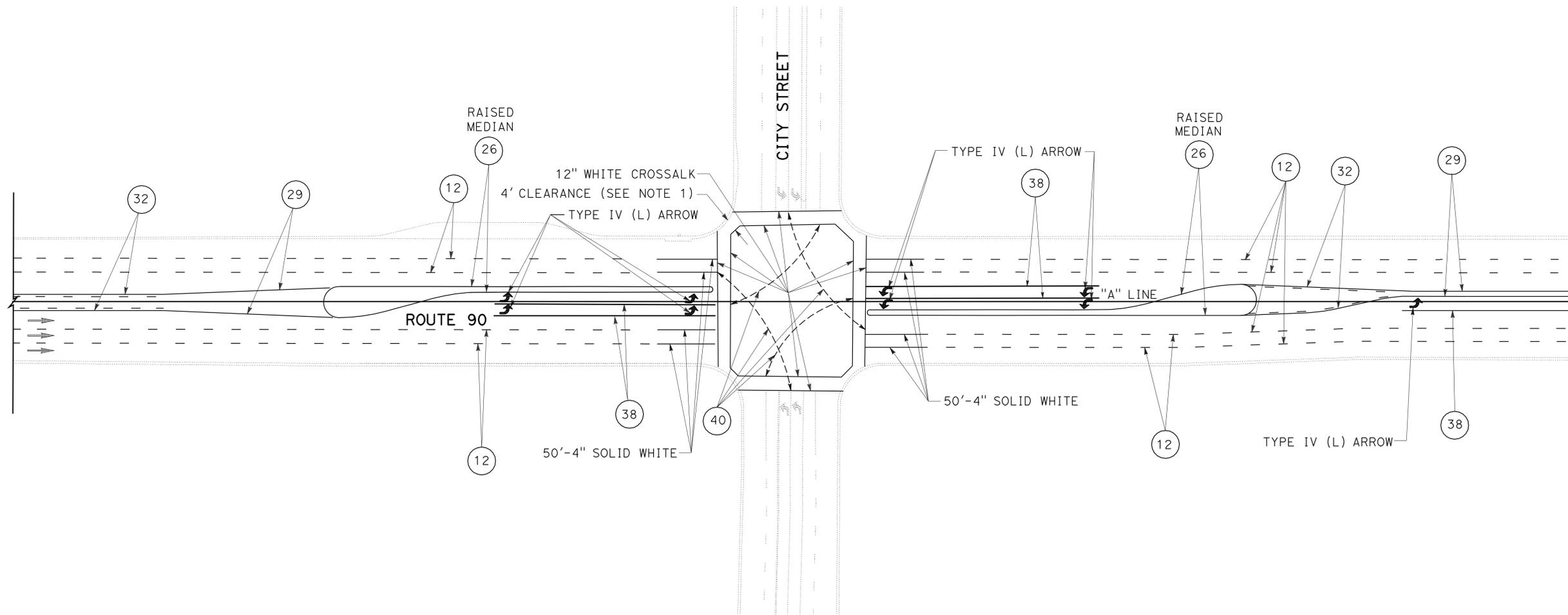
**NOTES:**

1. STRIPE CROSSWALKS TO MAINTAIN 4' CLEARANCE FROM EXISTING SINGLE CURB RAMP.
2. NEW PAVEMENT DELINEATION SHALL REPLACE OBLITERATED PAVEMENT DELINEATION AT THE SAME LOCATION.
3. EXISTING THERMOPLASTIC TRAFFIC STRIPE AND PAVEMENT MARKING SHALL BE REMOVED PRIOR TO PLACING RUBBERIZED HMA (GAP GRADED).

**LEGEND:**

- ← DIRECTION OF TRAFFIC
- (XX) TRAFFIC STRIPE DETAIL No.

|   |        |       |  |           |              |
|---|--------|-------|--|-----------|--------------|
| Dist  | COUNTY | ROUTE | POST MILES TOTAL PROJECT                   | SHEET No. | TOTAL SHEETS |
| 12  | Ora    | 90    | 0.5/2.8                                    | 11        | 29           |
|   |        |       | 11-23-09<br>REGISTERED CIVIL ENGINEER DATE |           |              |
|   |        |       | 2-8-10<br>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. |        |       |  |           |              |



**TYPICAL STRIPING DETAIL ON ROUTE 90**

**PAVEMENT DELINEATION DETAILS**

NO SCALE

**PDD-1**

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

LOANNA HUYNH  
 MASSOUD TAJIK

REVISOR BY  
 DATE REVISED

LOANNA HUYNH  
 MASSOUD TAJIK

DESIGNED BY  
 CHECKED BY

FUNCTIONAL SUPERVISOR  
 MASSOUD TAJIK

REVISOR BY  
 DATE REVISED

|      |        |       |                          |           |              |
|------|--------|-------|--------------------------|-----------|--------------|
| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
| 12   | Ora    | 90    | 0.5/2.8                  | 12        | 29           |

11-23-09  
 REGISTERED CIVIL ENGINEER DATE

2-8-10  
 PLANS APPROVAL DATE

LOANNA HUYNH  
 No. C52386  
 Exp. 12-31-10  
 REGISTERED PROFESSIONAL ENGINEER  
 STATE OF CALIFORNIA  
 CIVIL

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.

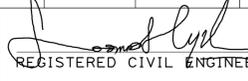
| LOCATION                                     | STATION LIMIT        | LENGTH | THERMOPLASTIC TRAFFIC STRIPE |                         |                          |                |                 |                |                 |                |                       |      |
|--|----------------------|--------|------------------------------|-------------------------|--------------------------|----------------|-----------------|----------------|-----------------|----------------|-----------------------|------|
|  |                      |        | 26                           | 12                      | 32                       | 27B            | 29              | INTER-SECTION  | 32              | 38             | 40                    |      |
|  |                      |        |                              | 4" BROKEN (36-12) WHITE | 4" BROKEN (36-12) YELLOW | 4" SOLID WHITE | 4" SOLID YELLOW | 4" SOLID WHITE | 4" SOLID YELLOW | 8" SOLID WHITE | 4" BROKEN (6-1) WHITE |      |
|  | FT                   | LF     | LF                           | LF                      | LF                       | LF             | LF              | LF             | LF              | LF             |                       |      |
| BEACH BOULEVARD TO LA HABRA HILLS DRIVE      | Sta 57+42 TO 66+45   | 903    | 1400                         | 2665                    |                          |                |                 | 600            |                 | 1460           | 584                   |      |
| LA HABRA HILLS DRIVE TO TOWN & COUNTRY       | Sta 66+40 TO 77+75   | 1130   | 1446                         | 4138                    |                          | 100            | 1252            | 400            |                 | 1289           |                       |      |
| TOWN & COUNTRY TO IDAHO STREET               | Sta 77+75 TO 85+15   | 740    | 872                          | 2452                    |                          |                |                 | 400            |                 | 1023           |                       |      |
| IDAHO STREET TO EUCLID STREET                | Sta 85+15 TO 124+80  | 3965   | 1861                         | 10932                   | 5196                     |                | 1436            | 500            | 5196            | 2126           | 430                   |      |
| EUCLID STREET TO CYPRESS STREET              | Sta 124+80 TO 132+05 | 725    | 600                          | 2380                    | 300                      |                | 200             | 400            | 300             | 370            | 411                   |      |
| CYPRESS STREET TO LAKEVIEW DRIVE             | Sta 132+05 TO 144+40 | 1235   |                              | 4140                    | 1246                     |                | 2108            | 400            | 1246            | 305            |                       |      |
| LAKEVIEW DRIVE TO TARGET Dwy                 | Sta 144+40 TO 158+20 | 1380   |                              | 5034                    |                          |                | 4236            | 400            |                 | 341            |                       |      |
| TARGET DRIVE TO HARBOR BOULEVARD             | Sta 158+20 TO 168+00 | 980    | 1495                         | 3092                    |                          |                |                 | 600            |                 | 1384           | 466                   |      |
| EAST OF HARBOR BOULEVARD AT UNION PACIFIC RR | Sta 177+49 TO 178+14 | 65     |                              | 65                      |                          |                |                 | 100            |                 |                |                       |      |
| SUB TOTAL                                    |                      |        |                              |                         | 34898                    | 6742           | 100             | 9232           | 3800            | 6742           | 8298                  | 1891 |
| TOTAL  |                      |        |                              |                         | 41640                    |                |                 | 19874          |                 |                | 8298                  | 1891 |

**PAVEMENT DELINEATION QUANTITIES**

**PDQ-1**

LAST REVISION DATE PLOTTED => 09-FEB-2010  
 11-02-09 TIME PLOTTED => 07:28

|      |        |       |                          |           |              |
|------|--------|-------|--------------------------|-----------|--------------|
| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
| 12   | Ora    | 90    | 0.5/2.8                  | 13        | 29           |

 11-23-09  
 REGISTERED CIVIL ENGINEER DATE  
 2-8-10  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 LOANNA HUYNH  
 No. C52386  
 Exp. 12-31-10  
 CIVIL  
 STATE OF CALIFORNIA

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

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** MAINTENANCE  
 FUNCTIONAL SUPERVISOR MASSOUD TAJIK  
 CALCULATED-DESIGNED BY CHECKED BY  
 LOANNA HUYNH MASSOUD TAJIK  
 REVISED BY DATE REVISED  
 L HUYNH 08/03/09

| LOCATION                                | STATION LIMIT        | LENGTH | PAVEMENT MARKER (RETROREFLECTIVE) |        |        |        | THERMOPLASTIC PAVEMENT MARKING |             |          |                 | REMOVE THERMOPLASTIC TRAFFIC STRIPE | REMOVE THERMOPLASTIC PAVEMENT MARKING | REMARK |   |
|---|----------------------|--------|-----------------------------------|--------|--------|--------|--------------------------------|-------------|----------|-----------------|-------------------------------------|---------------------------------------|--------|---|
|   |                      |        | TYPE D                            | TYPE G | TYPE H | (BLUE) | CROSSWALK, LIMIT LINE          | ARROW, WORD | DIAGONAL | RAILROAD SYMBOL |                                     |                                       |        |   |
|   |                      |        | EA                                | EA     | EA     | EA     | SQFT                           | SQFT        | SQFT     | SQFT            |                                     |                                       |        | LF  |
| BEACH BOULEVARD TO LA HABRA HILLS DRIVE | Sta 57+42 TO 66+45   | 903    |                                   | 130    | 31     | 3      |                                | 1274.1      | 180      |                 |                                     | 1333                                  | 30     | REMOVAL IS LIMITED IN THE EB DIRECTION ONLY |
| LA HABRA HILLS DRIVE TO TOWN & COUNTRY  | Sta 66+40 TO 77+75   | 1130   | 30                                | 148    | 32     | 4      |                                | 225.1       | 150      |                 |                                     | 2340                                  | 30     | REMOVAL IS LIMITED IN THE EB DIRECTION ONLY |
| TOWN & COUNTRY TO IDAHO STREET          | Sta 77+75 TO 85+15   | 740    |                                   | 107    | 20     | 2      |                                | 293.7       | 180      |                 |                                     |                                       |        |   |
| IDAHO STREET TO EUCLID STREET           | Sta 85+15 TO 124+80  | 3965   | 305                               | 328    | 41     | 7      |                                | 771.0       | 330      | 118.4           |                                     | 11264                                 | 90     | LIMIT OF REMOVAL Sta 93+50 TO 119+48        |
| EUCLID STREET TO CYPRESS STREET         | Sta 124+80 TO 132+05 | 725    | 24                                | 77     | 15     | 2      |                                | 561.5       | 90       |                 |                                     | 2510                                  | 90     | BEGIN REMOVAL FROM Sta 130+50               |
| CYPRESS STREET TO LAKEVIEW DRIVE        | Sta 132+05 TO 144+40 | 1235   | 113                               | 111    |        | 3      |                                | 350.9       | 234      | 36.0            |                                     | 5311                                  | 621    | LIMIT OF REMOVAL Sta 132+05 TO 144+40       |
| LAKEVIEW DRIVE TO TARGET Dwy            | Sta 144+40 TO 158+20 | 1380   | 92                                | 131    | 17     | 2      |                                | 785.0       | 363      | 60.0            | 692                                 | 6918                                  | 1900   | END REMOVAL AT Sta 157+50                   |
| TARGET DRIVE TO HARBOR BOULEVARD        | Sta 158+20 TO 168+00 | 980    |                                   | 134    | 33     | 2      |                                |             | 210      |                 | 482                                 |                                       |        |   |
| EAST OF HARBOR BLVD AT UNION PACIFIC RR | Sta 177+49 TO 178+14 | 65     |                                   | 13     |        |        |                                |             |          |                 |                                     |                                       |        |   |
| SUB TOTAL                               |                      |        | 564                               | 1179   | 189    | 25     |                                | 4261.3      | 1737     | 214.4           | 1174                                | 29676                                 | 2761   |   |
| TOTAL                                   |                      |        | 1957                              |        |        |        | 7386.7                         |             |          |                 | 29676                               | 2761                                  |        |   |

## PAVEMENT DELINEATION QUANTITIES

### PDQ-2

LAST REVISION DATE PLOTTED => 09-FEB-2010  
 11-02-09 TIME PLOTTED => 07:29

|      |        |       |                          |           |              |
|------|--------|-------|--------------------------|-----------|--------------|
| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
| 12   | Oran   | 90    | 0.5/2.8                  | 14        | 29           |

01-20-10  
 REGISTERED CIVIL ENGINEER DATE  
 2-8-10  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 LOANNA HUYNH  
 No. C52386  
 Exp. 12-31-10  
 CIVIL  
 STATE OF CALIFORNIA

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

**ABBREVIATIONS:**

COLH - CITY OF LA HABRA  
 COF - CITY OF FULLERTON  
 OCSD - ORANGE COUNTY SANITATION DISTRICT  
 CT - CALTRANS  
 SCD - SOUTHERN CALIFORNIA EDISON  
 SCG - SOUTHERN CALIFORNIA GAS

**UTILITY QUANTITIES**

| SIGNALIZED INTERSECTION LOCATION          | STATION LIMIT        | ADJUST FRAME AND COVER TO GRADE |            |           |                 |                 |              |          |           | ADJUST GAS VALVE COVER TO GRADE | ADJUST WATER VALVE COVER TO GRADE |           | ADJUST MONUMENT TO GRADE |    |
|---|----------------------|---------------------------------|------------|-----------|-----------------|-----------------|--------------|----------|-----------|---------------------------------|-----------------------------------|-----------|--------------------------|----|
|   |                      | CT (DRAIN)                      | OCSD SEWER | COF SEWER | COLH SEWER (N)* | COLH WATER (N)* | VERIZON (N)* | SCE (N)* | AT&T (N)* | SCG (N)*                        | COLH WATER (N)*                   | COF WATER | EA                       |    |
|   |                      | EA                              | EA         | EA        | EA              | EA              | EA           | EA       | EA        | EA                              | EA                                | EA        | EA                       |    |
| BEACH BOULEVARD TO LA HABRA HILLS DRIVE   | Sta 57+42 TO 66+45   | 6                               | 4          |           | 1               |                 |              | 1        | 3         |                                 | 1                                 | 7         |                          | 2  |
| LA HABRA HILLS DRIVE TO TOWN & COUNTRY Dr | Sta 66+45 TO 77+75   | 6                               | 4          |           | 3               |                 |              |          |           |                                 |                                   | 4         |                          | 1  |
| TOWN & COUNTRY DRIVE TO IDAHO STREET      | Sta 77+75 TO 85+15   | 2                               | 3          |           | 2               |                 |              |          |           |                                 |                                   | 3         |                          |    |
| IDAHO STREET TO EUCLID STREET             | Sta 85+15 TO 124+80  | 5                               | 19         |           | 15              |                 |              |          | 1         | 2                               |                                   | 7         |                          | 2  |
| EUCLID STREET TO CYPRESS STREET           | Sta 124+80 TO 132+05 | 1                               | 3          |           | 1               | 1               |              |          |           |                                 |                                   | 5         |                          | 1  |
| CYPRESS STREET TO LAKEVIEW DRIVE          | Sta 132+05 TO 144+40 | 1                               | 5          |           |                 |                 |              |          |           |                                 |                                   | 2         |                          | 2  |
| LAKEVIEW DRIVE TO TARGET Dwy              | Sta 144+40 TO 158+20 |                                 | 5          |           |                 |                 |              |          |           | 2                               | 1                                 | 1         |                          | 1  |
| TARGET DRIVE TO HARBOR BOULEVARD          | Sta 158+20 TO 168+00 | 3                               | 12         | 1         |                 | 1               |              |          |           |                                 |                                   | 1         | 2                        | 3  |
| EAST OF HARBOR Blvd AT UNION PACIFIC RR   | Sta 177+49 TO 178+14 |                                 | 2          |           |                 |                 |              |          |           |                                 |                                   |           |                          |    |
| SUB TOTAL                                 |                      | 24                              | 57         | 1         |                 |                 |              | 1        | 4         | 4                               | 2                                 |           | 2                        | 12 |
| TOTAL                                     |                      | 82                              |            |           |                 |                 |              |          |           |                                 |                                   |           | 2                        | 12 |

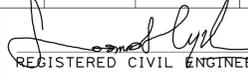
(N) NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY  
 \* ADJUST BY OTHERS

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 MAINTENANCE  
 LOANNA HUYNH  
 MASSOUD TAJIK  
 REVISOR BY  
 DATE REVISOR  
 L HUYNH  
 01/12/10

**SUMMARY OF QUANTITIES**

LAST REVISION DATE PLOTTED => 09-FEB-2010 01-20-10 TIME PLOTTED => 07:45

|      |        |       |                             |              |                 |
|------|--------|-------|-----------------------------|--------------|-----------------|
| Dist | COUNTY | ROUTE | POST MILES<br>TOTAL PROJECT | SHEET<br>No. | TOTAL<br>SHEETS |
| 12   | Ora    | 90    | 0.5/2.8                     | 15           | 29              |

 11-23-09  
 REGISTERED CIVIL ENGINEER DATE

2-8-10  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 LOANNA HUYNH  
 No. C52386  
 Exp. 12-31-10  
 CIVIL  
 STATE OF CALIFORNIA

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

### ROADWAY QUANTITIES

| SIGNALIZED INTERSECTION LOCATION             | APPROXIMATE STATION LIMIT | AVERAGE PAVEMENT WIDTH | APPROXIMATE LENGTH | RUBBERIZED HOT MIX ASPHALT (GAP GRADED) | TACK COAT | COLD PLANE AC PAVEMENT | OBJECT MARKER (TYPE K-1) | SURVEY MONUMENT (TYPE D) |
|--|---------------------------|------------------------|--------------------|---|-----------|------------------------|--------------------------|--------------------------|
|  |                           | FT                     | FT                 | TON                                     | TON       | SQYD                   | EA                       | EA                       |
| BEACH BOULEVARD TO LA HABRA HILLS DRIVE      | Sta 57+42 TO 66+45        | 105                    | 903                | 713                                     | 2.9       | 3161                   | 3                        |                          |
| LA HABRA HILLS DRIVE TO TOWN & COUNTRY DRIVE | Sta 66+45 TO 77+75        | 92                     | 1130               | 779                                     | 3.2       | 3013                   | 4                        |                          |
| TOWN & COUNTRY DRIVE TO IDAHO STREET         | Sta 77+75 TO 85+15        | 88                     | 740                | 489                                     | 2.0       | 1973                   | 2                        | 1                        |
| IDAHO STREET TO EUCLID STREET                | Sta 85+15 TO 124+80       | 84                     | 3965               | 2506                                    | 10.3      | 6980                   | 2                        |                          |
| EUCLID STREET TO CYPRESS STREET              | Sta 124+80 TO 132+05      | 90                     | 725                | 493                                     | 2.0       | 1633                   |                          |                          |
| CYPRESS STREET TO LAKEVIEW DRIVE             | Sta 132+05 TO 144+40      | 82                     | 1235               | 752                                     | 3.1       | 1773                   |                          |                          |
| LAKEVIEW DRIVE TO TARGET Dwy                 | Sta 144+40 TO 158+20      | 82                     | 1380               | 836                                     | 3.4       | 3589                   | 2                        |                          |
| TARGET DRIVE TO HARBOR BOULEVARD             | Sta 158+20 TO 168+00      | 94                     | 980                | 698                                     | 2.9       | 3280                   |                          |                          |
| EAST OF HARBOR BOULEVARD AT UNION PACIFIC RR | Sta 177+49 TO 178+14      | 62                     | 65                 | 61                                      | 0.1       | 533                    |                          |                          |
| TOTAL  |                           |                        |                    |   |           |                        |                          |                          |
|  |                           |                        |                    | 7327                                    | 29.9      | 25935                  | 13                       | 1                        |

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

### SUMMARY OF QUANTITIES

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 MAINTENANCE  
 FUNCTIONAL SUPERVISOR  
 MASSOUD TAJIK  
 CALCULATED-DESIGNED BY  
 CHECKED BY  
 LOANNA HUYNH  
 MASSOUD TAJIK  
 REVISED BY  
 DATE REVISED  
 L HUYNH  
 08/03/09

LAST REVISION DATE PLOTTED => 09-FEB-2010  
 11-02-09 TIME PLOTTED => 07:29

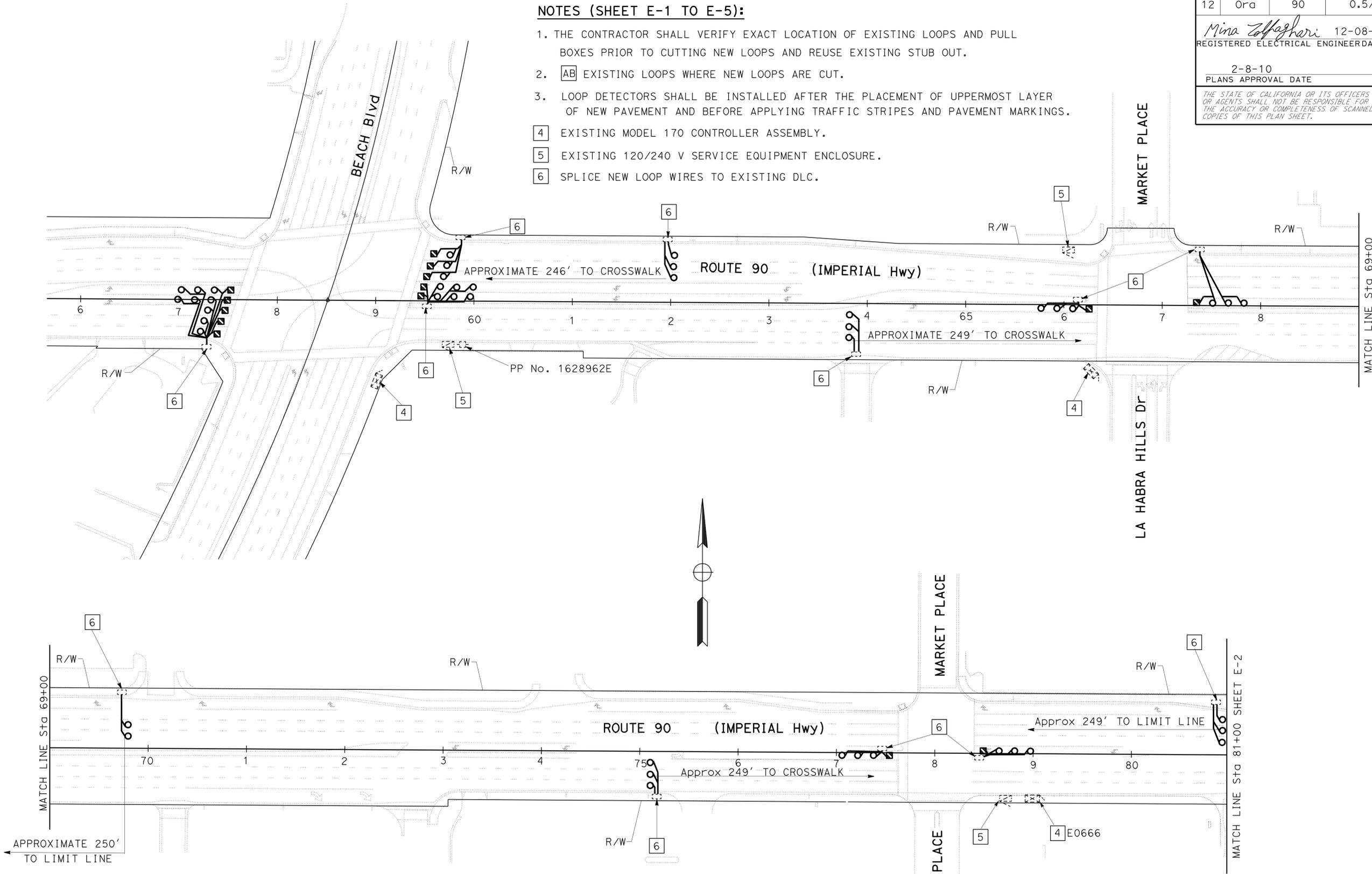
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** ELECTRICAL DESIGN  
 FUNCTIONAL SUPERVISOR: SHAHRAM SHAHRIARI  
 CALCULATED/DESIGNED BY: MZ  
 CHECKED BY: MZ  
 REVISOR: MZ  
 DATE REVISED: 10-22-09

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|------|--------|-------|--------------------------|-----------|--------------|
| 12   | Oran   | 90    | 0.5/2.8                  | 16        | 29           |

Mina Zolfaghari 12-08-09  
 REGISTERED ELECTRICAL ENGINEER DATE  
 2-8-10  
 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.

**NOTES (SHEET E-1 TO E-5):**

1. THE CONTRACTOR SHALL VERIFY EXACT LOCATION OF EXISTING LOOPS AND PULL BOXES PRIOR TO CUTTING NEW LOOPS AND REUSE EXISTING STUB OUT.
2. [AB] EXISTING LOOPS WHERE NEW LOOPS ARE CUT.
3. LOOP DETECTORS SHALL BE INSTALLED AFTER THE PLACEMENT OF UPPERMOST LAYER OF NEW PAVEMENT AND BEFORE APPLYING TRAFFIC STRIPES AND PAVEMENT MARKINGS.
4. EXISTING MODEL 170 CONTROLLER ASSEMBLY.
5. EXISTING 120/240 V SERVICE EQUIPMENT ENCLOSURE.
6. SPLICE NEW LOOP WIRES TO EXISTING DLC.



**NOTE:**  
 "FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORDS AT DISTRICT OFFICE."

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

**INDUCTIVE LOOP DETECTOR**

SCALE: 1" = 50'

**E-1**

SEE SHEET E-1 FOR NOTES

|      |        |       |                             |              |                 |
|------|--------|-------|-----------------------------|--------------|-----------------|
| Dist | COUNTY | ROUTE | POST MILES<br>TOTAL PROJECT | SHEET<br>No. | TOTAL<br>SHEETS |
| 12   | Ora    | 90    | 0.5/2.8                     | 17           | 29              |

Mina Zolfaghari 12-08-09  
REGISTERED ELECTRICAL ENGINEER DATE

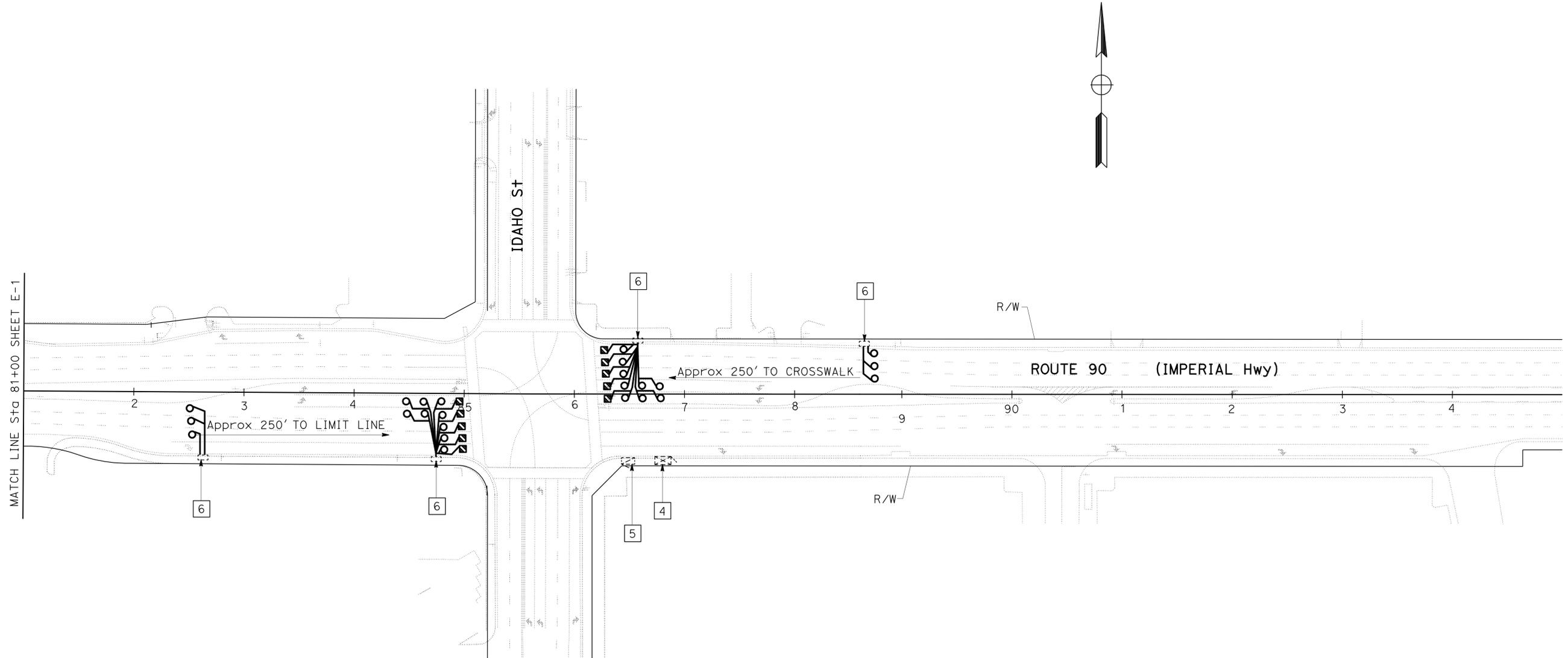
2-8-10  
PLANS APPROVAL DATE

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.

**QUANTITY ESTIMATE**

| ITEM                         | SHEET No. | SHEET No. |     |     |     |     | TOTAL |
|------------------------------|-----------|-----------|-----|-----|-----|-----|-------|
|                              |           | E-1       | E-2 | E-3 | E-4 | E-5 |       |
| INDUCTIVE LOOP DETECTOR (EA) | E-1       | 58        | 34  | 44  | 38  | 33  | 207   |

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** ELECTRICAL DESIGN  
 FUNCTIONAL SUPERVISOR: SHAHRAM SHAHRIARI  
 CALCULATED-DESIGNED BY: MINA ZOLFAGHARI  
 CHECKED BY: MZ  
 REVISED BY: MZ  
 DATE REVISED: 10-22-09  
 MZ



**NOTE:**  
 "FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORDS AT DISTRICT OFFICE."

**INDUCTIVE LOOP DETECTOR**

SCALE: 1" = 50'

**E-2**

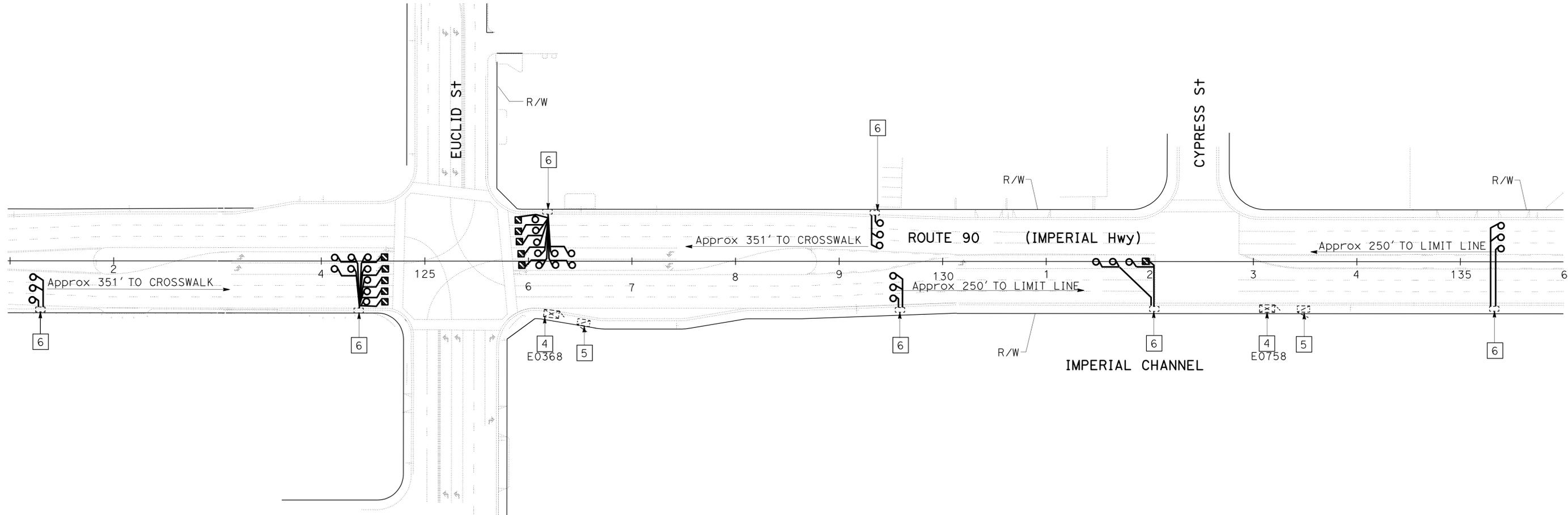
THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** ELECTRICAL DESIGN  
 FUNCTIONAL SUPERVISOR: SHAHRAM SHAHRIARI  
 CALCULATED-DESIGNED BY: CHECKED BY: MZ  
 REVISIONS: MZ 10-22-09

SEE SHEET E-1 FOR NOTES

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|------|--------|-------|--------------------------|-----------|--------------|
| 12   | Ora    | 90    | 0.5/2.8                  | 18        | 29           |

Mina Zolfaghari 12-08-09  
 REGISTERED ELECTRICAL ENGINEER DATE  
 2-8-10  
 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.

NOTE:  
 "FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORDS AT DISTRICT OFFICE."

**INDUCTIVE LOOP DETECTOR**

SCALE: 1" = 50'

**E-3**

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

SEE SHEET E-1 FOR NOTES

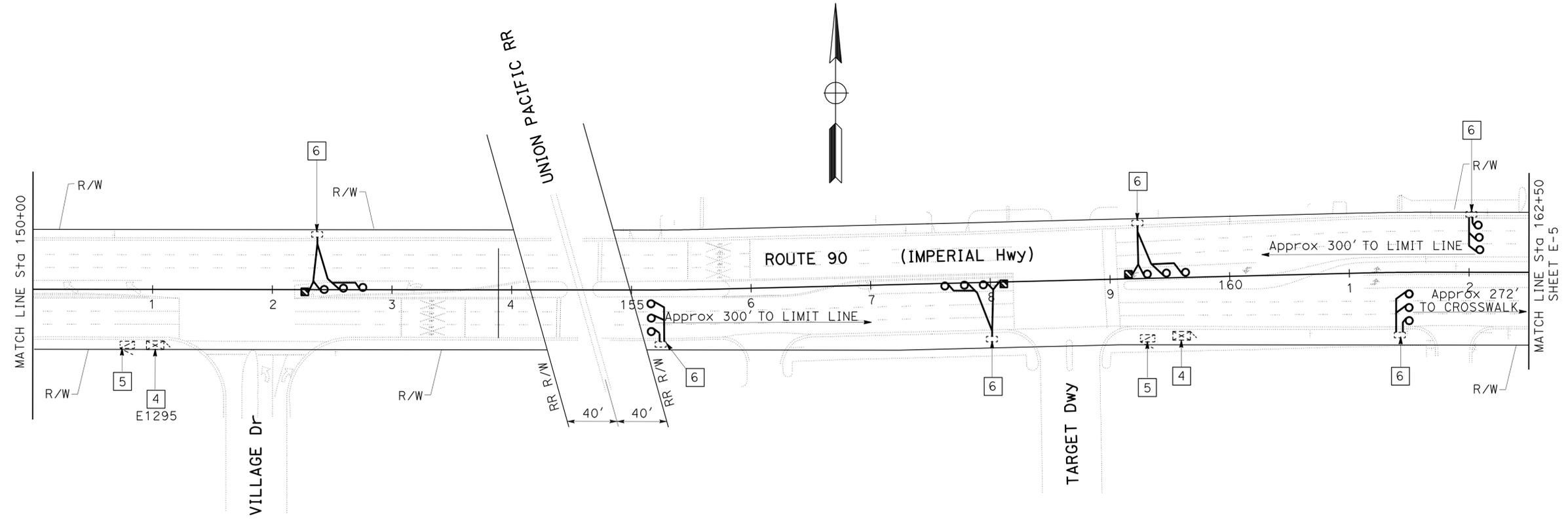
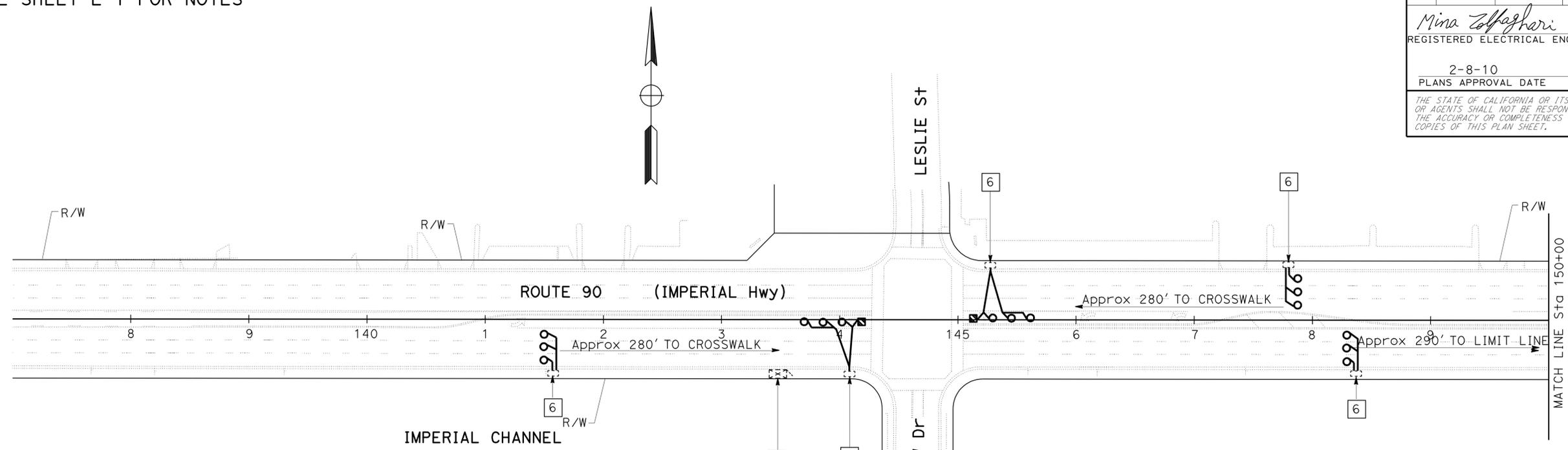
| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|------|--------|-------|--------------------------|-----------|--------------|
| 12   | Oran   | 90    | 0.5/2.8                  | 19        | 29           |

Mina Zolfaghari 12-08-09  
 REGISTERED ELECTRICAL ENGINEER DATE

2-8-10  
 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.

REGISTERED PROFESSIONAL ENGINEER  
 MINA ZOLFAGHARI  
 No. E 16816  
 Exp. 12-31-10  
 ELECTRICAL  
 STATE OF CALIFORNIA



NOTE:  
 "FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORDS AT DISTRICT OFFICE."

**INDUCTIVE LOOP DETECTOR**

SCALE: 1" = 50'

**E-4**

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** ELECTRICAL DESIGN  
 FUNCTIONAL SUPERVISOR: SHAHRAM SHAHRIARI  
 CALCULATED-DESIGNED BY: MZ  
 CHECKED BY: MZ  
 REVISOR: MZ  
 DATE REVISED: 10-22-09

SEE SHEET E-1 FOR NOTES

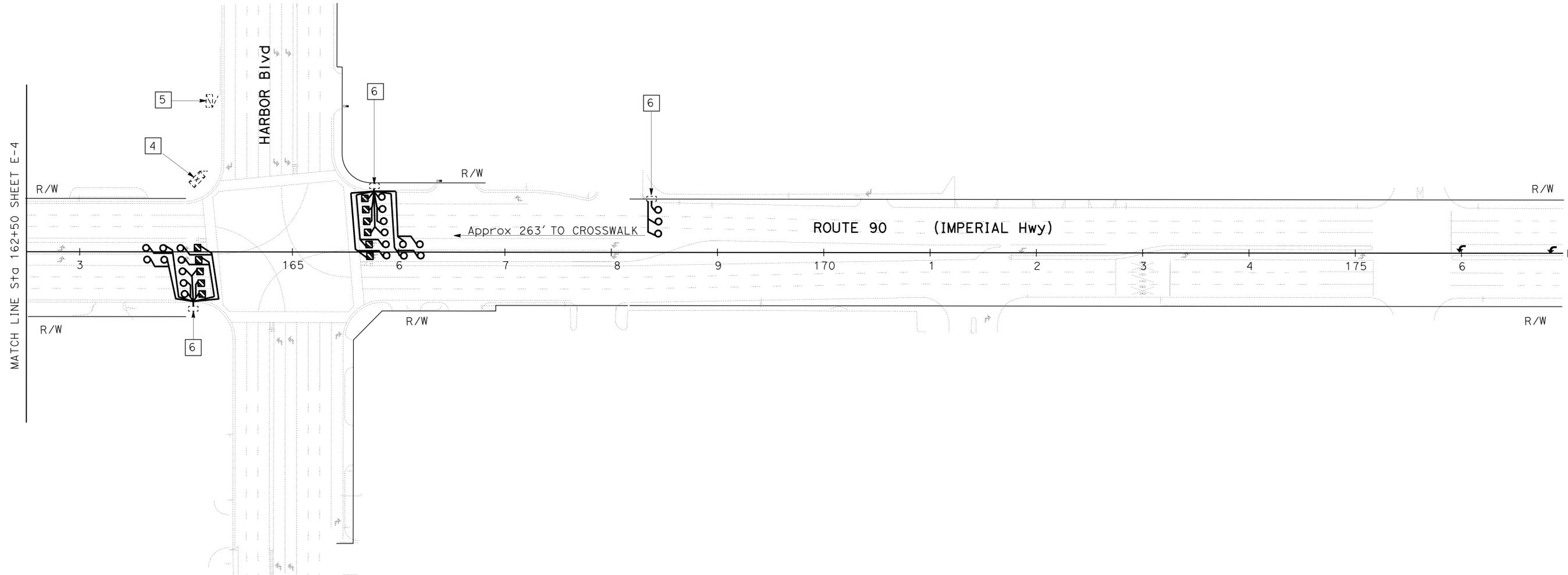
| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|------|--------|-------|--------------------------|-----------|--------------|
| 12   | Ora    | 90    | 0.5/2.8                  | 20        | 29           |

*Mina Zolfaghari* 12-08-09  
 REGISTERED ELECTRICAL ENGINEER DATE  
 2-8-10  
 PLANS APPROVAL DATE

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|  |                       |                        |              |          |
|--|-----------------------|------------------------|--------------|----------|
| STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION | FUNCTIONAL SUPERVISOR | CALCULATED-DESIGNED BY | REVISOR      | DATE     |
| <b>Caltrans</b> ELECTRICAL DESIGN                  | SHAHRAM SHAHRIARI     | MINA ZOLFAGHARI        | MZ           | 10-22-09 |
|  |                       | CHECKED BY             | DATE REVISED |          |
|  |                       | MZ                     |              |          |



**NOTE:**

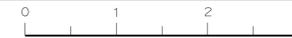
"FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORDS AT DISTRICT OFFICE."

**INDUCTIVE LOOP DETECTOR**

SCALE: 1" = 50'

**E-5**

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

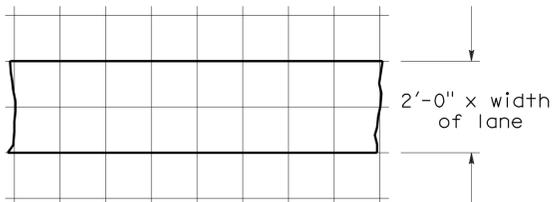


| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
|------|--------|-------|--------------------------|-----------|--------------|
| 12   | Ora    | 90    | 0.5/2.8                  | 21        | 29           |

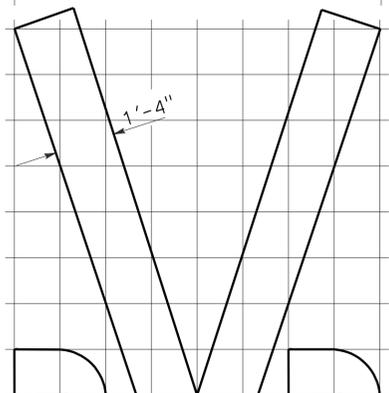
Donald E. Howe  
 REGISTERED CIVIL ENGINEER  
 June 6, 2008  
 PLANS APPROVAL DATE  
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

REGISTERED PROFESSIONAL ENGINEER  
 Donald E. Howe  
 No. C46402  
 Exp. 3-31-09  
 CIVIL  
 STATE OF CALIFORNIA

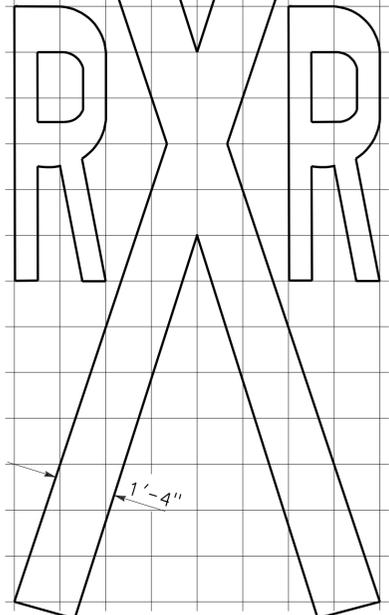
To accompany plans dated 2-8-10



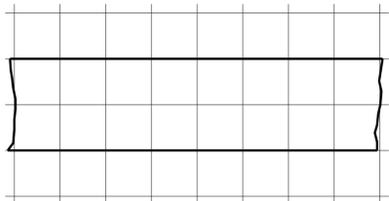
8'-0"



6'-0"  
20'-0"



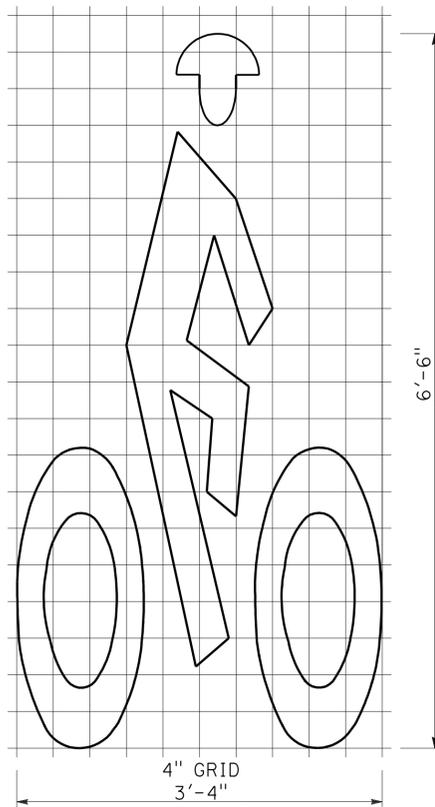
14'-0"



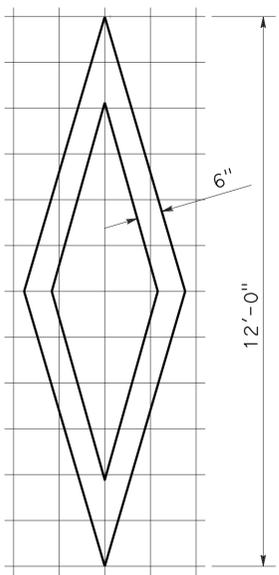
1'-0" GRID  
A=70 sq ft \*

**RAILROAD CROSSING SYMBOL**

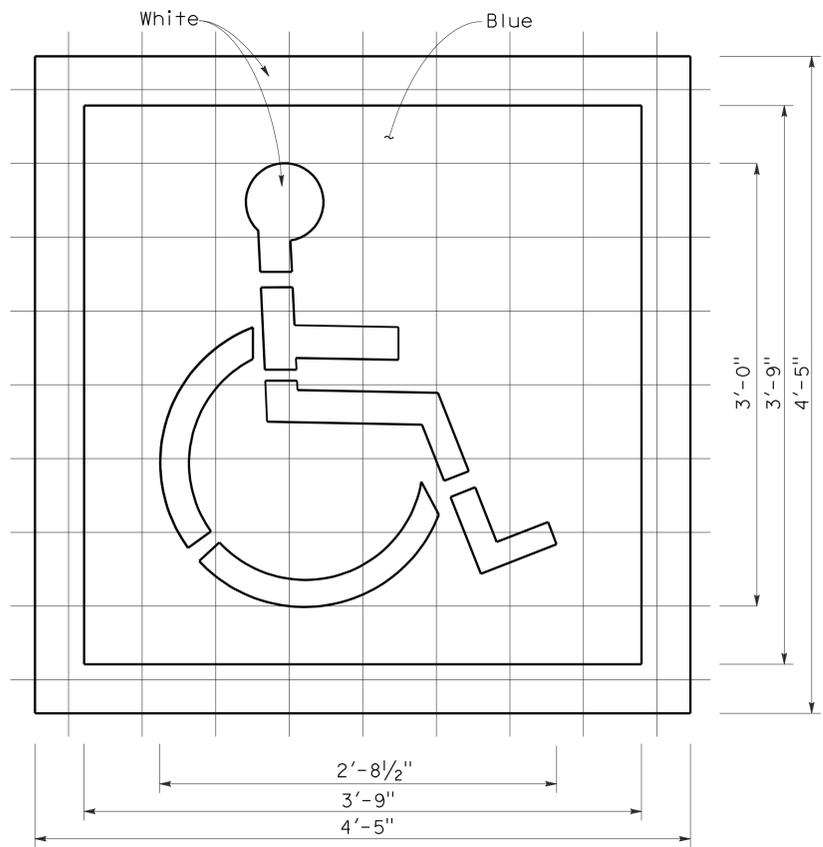
\*70 sq ft DOES NOT INCLUDE THE 2'-0" x VARIABLE WIDTH TRANSVERSE LINES.



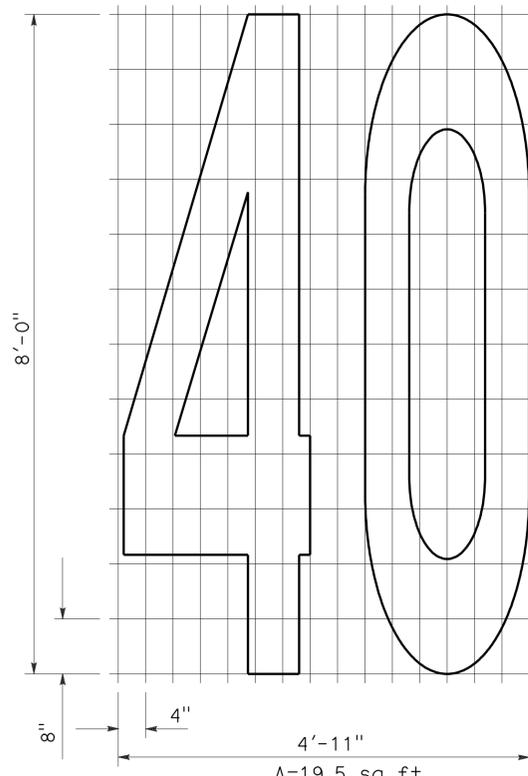
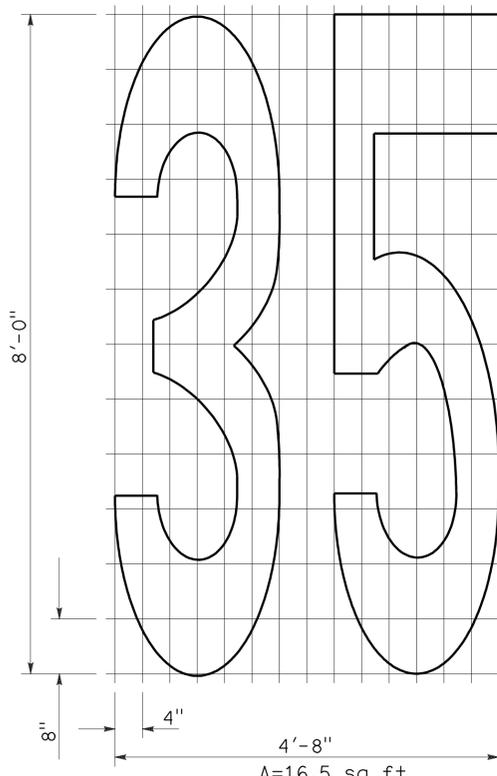
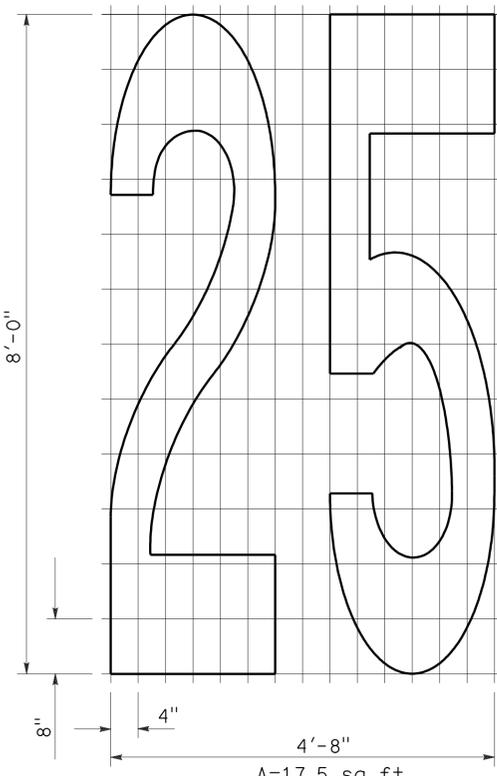
**BIKE LANE SYMBOL**



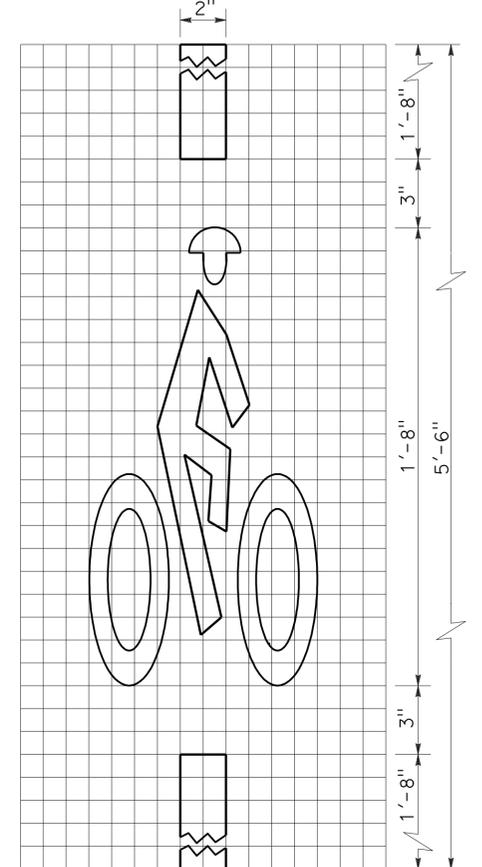
**DIAMOND SYMBOL**



**INTERNATIONAL SYMBOL OF ACCESSIBILITY MARKING**



**NUMERALS**



**BICYCLE LOOP DETECTOR SYMBOL**

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

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**PAVEMENT MARKINGS SYMBOLS AND NUMERALS**

NO SCALE

RSP A24C DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A24C DATED MAY 1, 2006 - PAGE 11 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP A24C



|      |        |       |                          |           |              |
|------|--------|-------|--------------------------|-----------|--------------|
| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
| 12   | Ora    | 90    | 0.5/2.8                  | 23        | 29           |

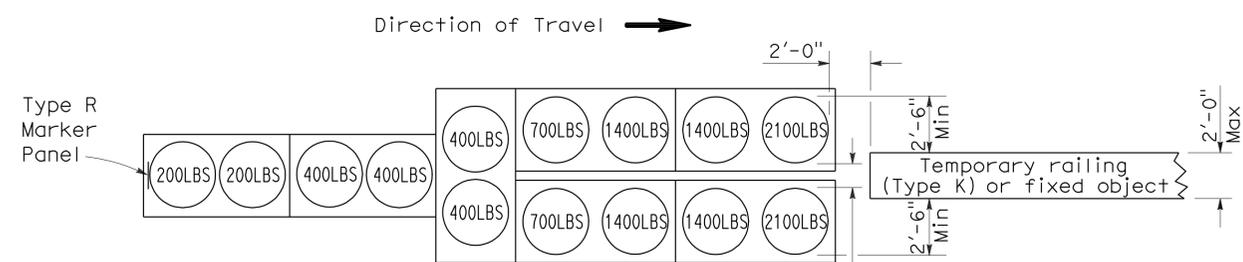
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

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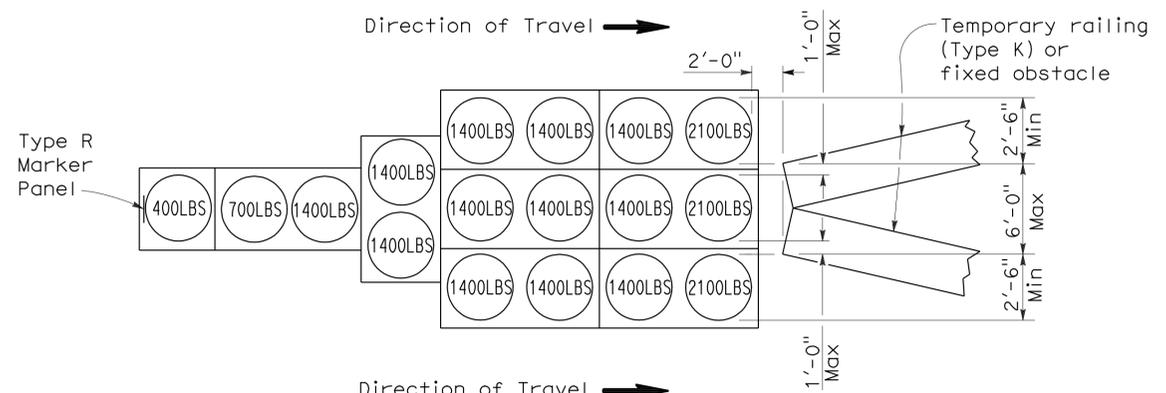
REGISTERED PROFESSIONAL ENGINEER  
Randell D. Hiatt  
No. C50200  
Exp. 6-30-09  
CIVIL  
STATE OF CALIFORNIA

To accompany plans dated 2-8-10



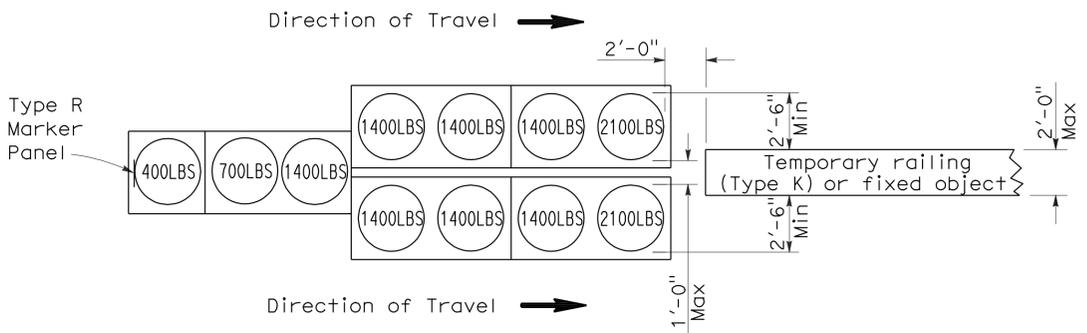
**ARRAY 'TU14'**

Approach speed 45 mph or more



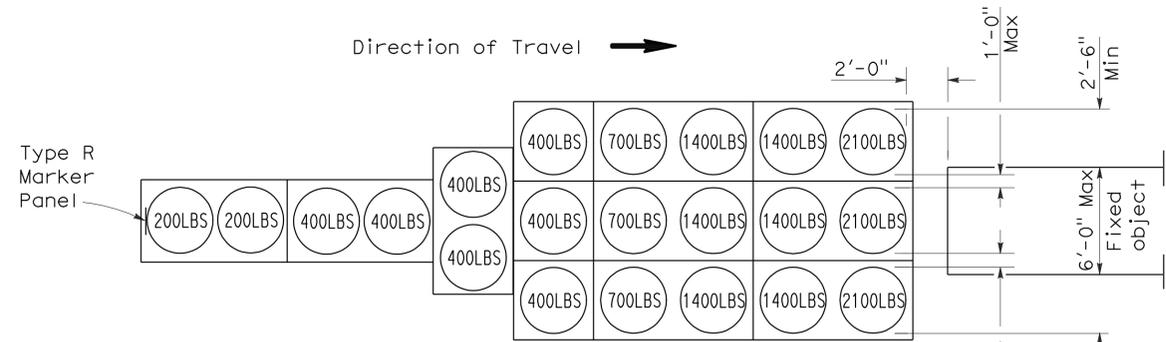
**ARRAY 'TU17'**

Approach speed less than 45 mph



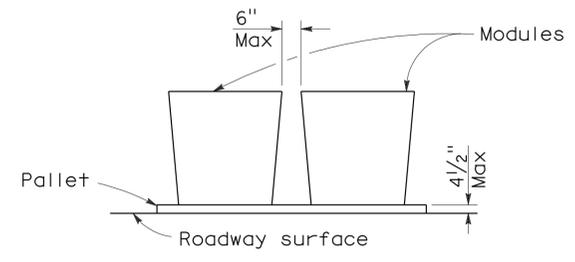
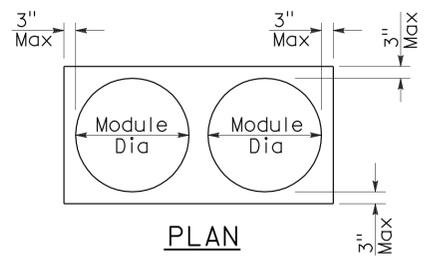
**ARRAY 'TU11'**

Approach speed less than 45 mph



**ARRAY 'TU21'**

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 top of Type R marker panel 1" below the module lid.
5. Refer to Standard Plan A73B for marker details.
6. Approach speeds indicated conform to NCHRP 350 Report criteria.
7. Use of pallets is optional.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**TEMPORARY CRASH CUSHION,  
SAND FILLED  
(UNIDIRECTIONAL)**

NO SCALE

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

**REVISED STANDARD PLAN RSP T1A**

2006 REVISED STANDARD PLAN RSP T1A

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
|------|--------|-------|--------------------------|-----------|--------------|
| 12   | Ora    | 90    | 0.5/2.8                  | 24        | 29           |

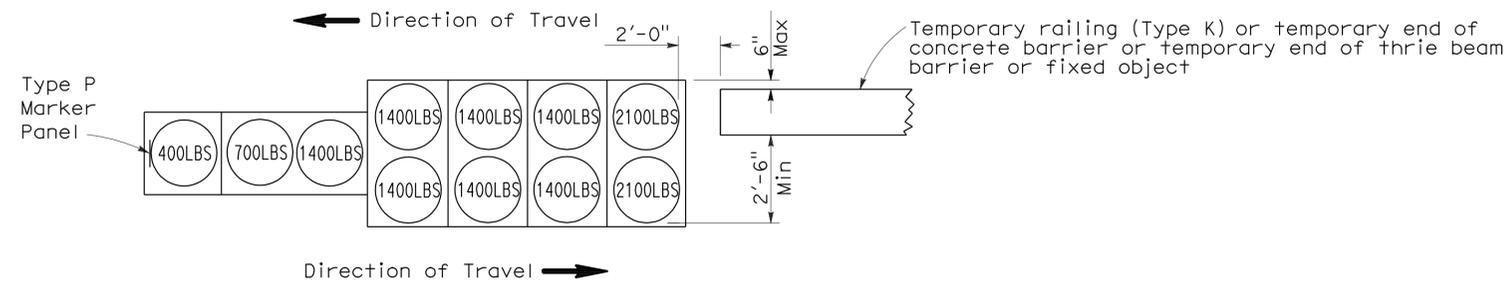
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

June 6, 2008  
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.*

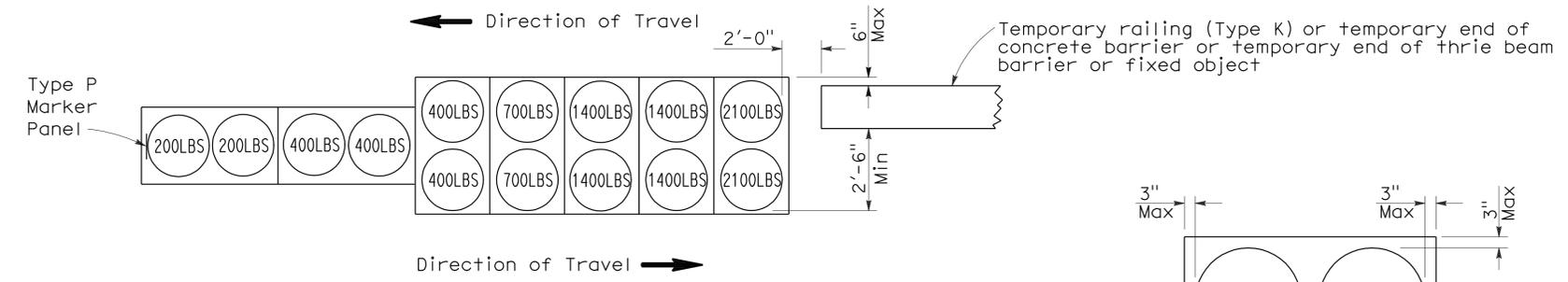
REGISTERED PROFESSIONAL ENGINEER  
No. C50200  
Exp. 6-30-09  
CIVIL  
STATE OF CALIFORNIA

To accompany plans dated 2-8-10



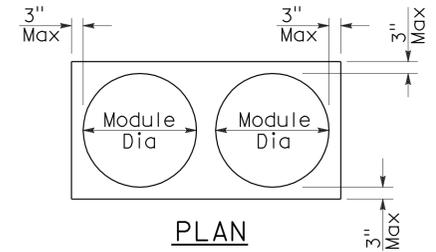
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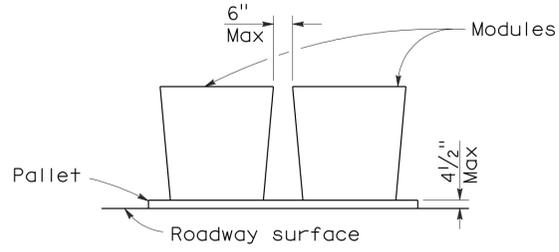


**ARRAY 'TB14'**

Approach speed 45 mph or more



PLAN



ELEVATION

**CRASH CUSHION PALLET DETAIL**

See Note 7

**NOTES:**

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

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**TEMPORARY CRASH CUSHION,  
SAND FILLED  
(BIDIRECTIONAL)**

NO SCALE

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

**REVISED STANDARD PLAN RSP T1B**

2006 REVISED STANDARD PLAN RSP T1B

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
|------|--------|-------|--------------------------|-----------|--------------|
| 12   | Ora    | 90    | 0.5/2.8                  | 25        | 29           |

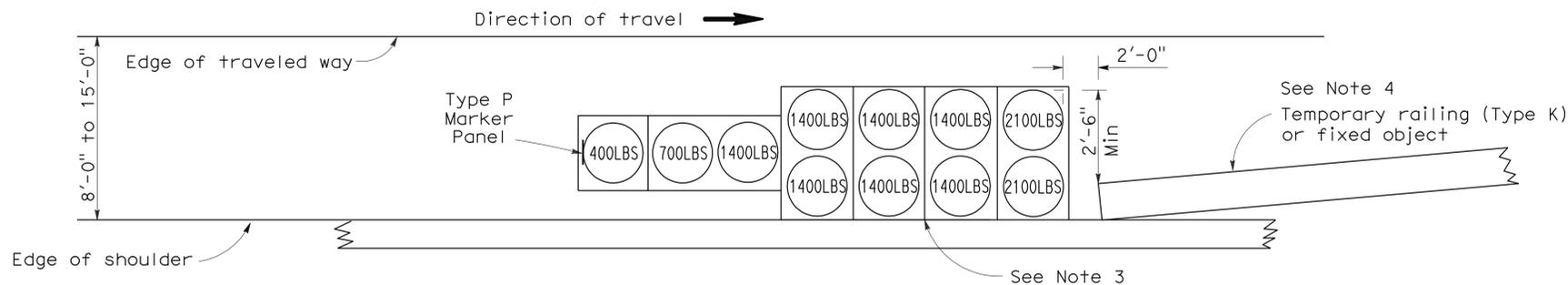
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

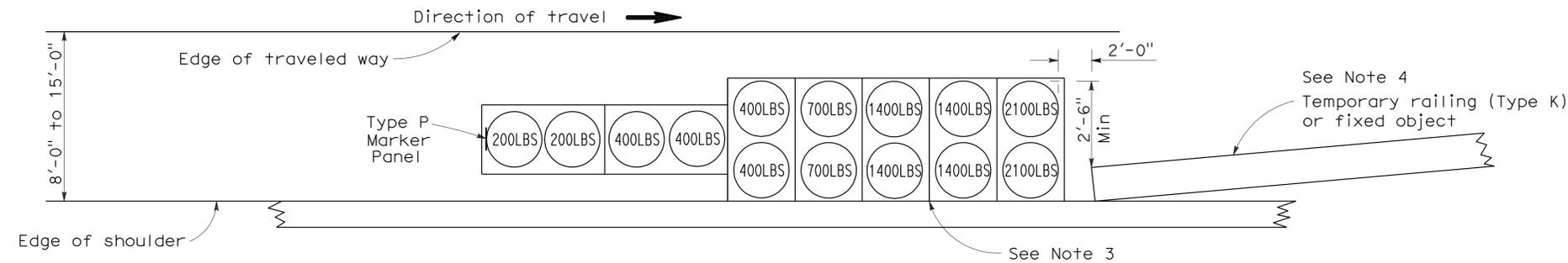
*Randell D. Hiatt*  
REGISTERED PROFESSIONAL ENGINEER  
No. C50200  
Exp. 6-30-09  
CIVIL  
STATE OF CALIFORNIA

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To accompany plans dated 2-8-10



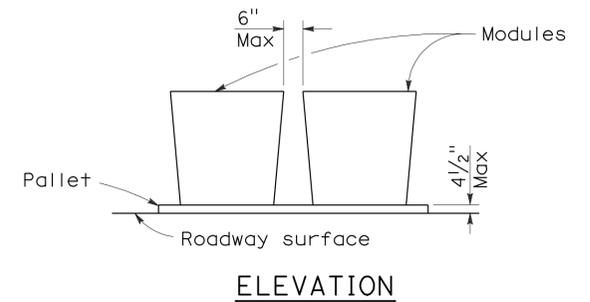
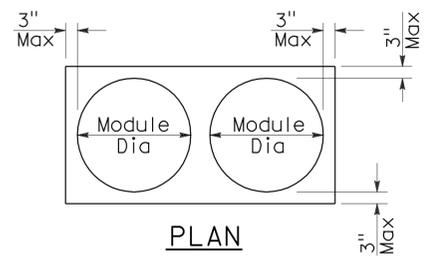
**ARRAY 'TS11'**  
Approach speed less than 45 mph  
See Note 9



**ARRAY 'TS14'**  
Approach speed 45 mph or more  
See Note 9

**NOTES:**

- (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.
- All sand weights are nominal.
- 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.
- 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.
- Temporary crash cushion arrays shall not encroach on the traveled way.
- Arrays for median shoulders shall conform to details shown on this plan for outside shoulders.
- Place the Type P marker panel so that the bottom of the panel rests upon the pallet and faces traffic.
- Refer to Standard Plan A73B for marker details.
- 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.
- Approach speeds indicated conform to NCHRP 350 Report criteria.
- Use of pallets is optional.



**CRASH CUSHION PALLET DETAIL**  
See Note 11

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**TEMPORARY CRASH CUSHION,  
SAND FILLED  
(SHOULDER INSTALLATIONS)**

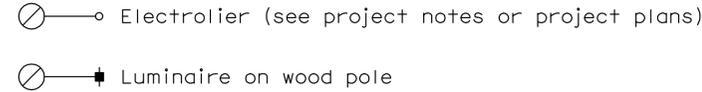
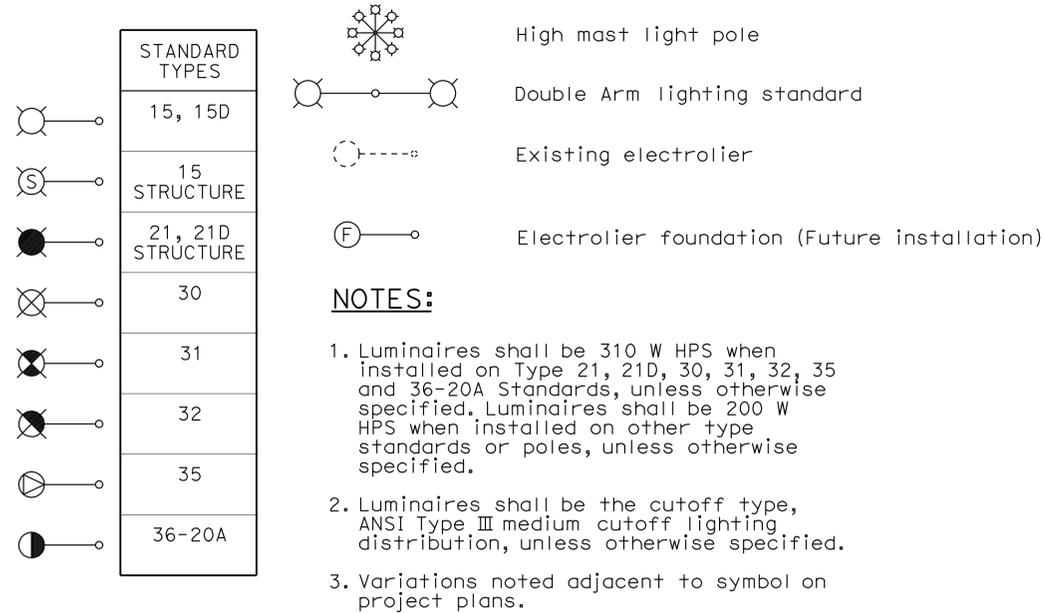
NO SCALE

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

# ELECTROLIERS



## STANDARD NOTES:

- AB** Abandon. If applied to conduit, remove conductors.
- BC** Install pull box in existing conduit run.
- BP** Pedestrian barricade, type as indicated on plan.
- CB** Install conduit into existing pull box.
- CC** Connect new and existing conduit. Remove existing conductors and install conductors as indicated.
- CF** Conduit to remain for future use. Remove conductors. Install pull wire or rope.
- DH** Detector handhole.
- FA** Foundation to be abandoned.
- IS** Install sign on signal mast arm.
- NS** No slip base on standard.
- PEC** Photoelectric control.
- PEU** Photoelectric unit.
- RC** Equipment or material to be removed and become the property of the Contractor.
- RE** Remove electrolier, fuses and ballast. Tape ends of conductors.
- RL** Relocate equipment.
- RR** Remove and reuse equipment.
- RS** Remove and salvage equipment.
- SC** Splice new to existing conductors.
- SD** Service disconnect.
- SF** Standard to remain for future use. Remove luminaire, pole conductors, fuses and ballast.
- TSP** Telephone service point.

# ABBREVIATIONS AND EQUIPMENT DESIGNATIONS

## PROPOSED EXISTING

|        |        |  |
|--------|--------|--|
| BBS    | bbs    | Battery backup system  |
| BC     | bc     | Bolt circle  |
| C      | C      | Conduit  |
| CCTV   | cctv   | Closed circuit television  |
| CKT    | ckt    | Circuit  |
| CMS    | cms    | Changeable message sign  |
| DLC    | dlc    | Loop detector lead-in cable  |
| EMS    | ems    | Extinguishable message sign  |
| EVC    | evc    | Emergency vehicle cable  |
| EVD    | evd    | Emergency vehicle detector   |
| FB     | fb     | Flashing beacon  |
| FBCA   | fbca   | Flashing beacon control assembly   |
| FBS    | fbs    | Flashing beacon with slip base   |
| FO     | fo     | Fiber optic  |
| G      | G      | Ground (Equipment Grounding Conductor)                                     |
| GFCI   | GFCI   | Ground fault circuit interrupt   |
| HAR    | har    | Highway advisory radio   |
| HEX    | hex    | Hexagonal  |
| HPS    | hps    | High pressure sodium   |
| IISNS  | iisns  | Internally illuminated street name sign                                    |
| ISL    | isl    | Induction sign lighting  |
| LED    | led    | Light emitting diode   |
| LMA    | lma    | Luminaire mast arm   |
| LPS    | lps    | Low pressure sodium  |
| LTG    | ltg    | Lighting   |
| LUM    | lum    | Luminaire  |
| MAT    | mat    | Mast arm mounting vehicle signal faces, top attachment                     |
| MAS    | mas    | Mast arm mounting vehicle signal faces, side attachment                    |
| MAS-4A | mas-4A | Mast arm mounting vehicle signal faces, side attachment - 4 signal section |
| MAS-4B | mas-4B |  |
| MAS-4C | mas-4C |  |
| MAS-5A | mas-5A | Mast arm mounting vehicle signal faces, side attachment - 5 signal section |
| MAS-5B | mas-5B |  |
| MC     | mc     | Mercury contactor  |
| M/M    | m/m    | Multiple to multiple transformer   |
| MT     | mt     | Conduit with pull wire or rope only  |
| MTG    | mtg    | Mounting   |
|        | mv     | Mercury vapor lighting fixture   |
| N      | N      | Neutral (Grounded Conductor)   |
| NC     | NC     | Normally closed  |
| NO     | NO     | Normally open  |
| PB     | pb     | Pull box   |
| PEC    | pec    | Photoelectric control (Type I, II, III, IV or V as shown)                  |
| PED    | ped    | Pedestrian   |
| PEU    | peu    | Photoelectric unit   |
| PPB    | ppb    | Pedestrian push button   |
| RL     |        | Relocated equipment  |
| RM     | rm     | Ramp metering  |
| SB     | sb     | Slip base  |
| SIC    | sic    | Signal interconnect cable  |
| SIG    | sig    | Signal   |
| SMA    | sma    | Signal mast arm  |
| SNS    | sns    | Street name sign   |
| SP     | sp     | Service point  |
| TDC    | tdc    | Telephone demarcation cabinet  |
| TMS    | tms    | Traffic monitoring station   |
| TOS    | tos    | Traffic Operations System  |
| VEH    | veh    | Vehicle  |
| XFMR   | xfmr   | Transformer  |
| COMM   | comm   | Communication  |
| RWIS   | rwis   | Roadway weather information system   |

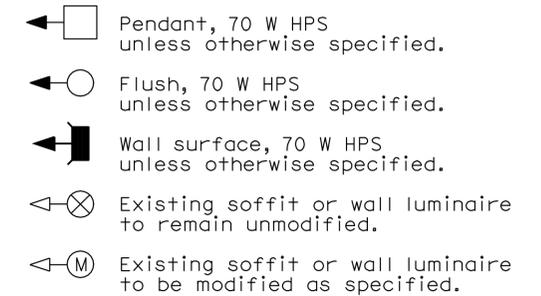
| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
|------|--------|-------|--------------------------|-----------|--------------|
| 12   | Ora    | 90    | 0.5/2.8                  | 26        | 29           |

*Jeffery G. McRae*  
 REGISTERED ELECTRICAL ENGINEER  
 October 5, 2007  
 PLANS APPROVAL DATE

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To accompany plans dated 2-8-10

## SOFFIT AND WALL MOUNTED LUMINAIRES



### NOTE:

Arrow indicates "street side" of luminaire.

# ELECTRICAL SYSTEMS (SYMBOLS AND ABBREVIATIONS)

NO SCALE

RSP ES-1A DATED OCTOBER 5, 2007 SUPERSEDES STANDARD PLAN ES-1A DATED MAY 1, 2006 - PAGE 400 OF THE STANDARD PLANS BOOK DATED MAY 2006.

## REVISED STANDARD PLAN RSP ES-1A

2006 REVISED STANDARD PLAN RSP ES-1A

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
|------|--------|-------|--------------------------|-----------|--------------|
| 12   | Ora    | 90    | 0.5/2.8                  | 27        | 29           |

*Jeffery G. McRae*  
 REGISTERED ELECTRICAL ENGINEER  
 October 5, 2007  
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REGISTERED PROFESSIONAL ENGINEER  
 Jeffrey G. McRae  
 No. E14512  
 Exp. 6-30-08  
 ELECTRICAL  
 STATE OF CALIFORNIA

### CONDUIT

| PROPOSED | EXISTING |   |
|----------|----------|---|
| ---      | ---      | Lighting Conduit, unless otherwise indicated or noted |
| ---      | ---      | Traffic signal conduit                                |
| -C-      | -c-      | Communication conduit                                 |
| -T-      | -t-      | Telephone conduit                                     |
| -F-      | -f-      | Fire alarm conduit                                    |
| -FO-     | -fo-     | Fiber optic conduit                                   |
| ---      | ---      | Conduit termination                                   |
|          |          | Conduit riser in/on structure or service pole         |

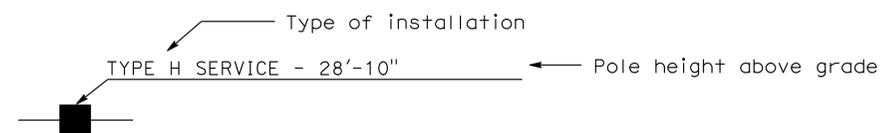
### SIGNAL EQUIPMENT

| PROPOSED | EXISTING |  |
|----------|----------|--|
|          |          | Pedestrian signal face   |
|          |          | Pedestrian push button post  |
|          |          | Pedestrian barricade   |
|          |          | Vehicle signal face (with backplate, 3-Section: red, yellow and green)   |
|          |          | Vehicle signal face with angle visors  |
|          |          | Modifications of basic symbols:<br>"L" indicates all non-arrow sections louvered<br>"LG" indicates louvered green section only<br>"PV" indicates 12" programmed visibility sections<br>"8" indicates all 8" sections (only when specified) |
|          |          | Type 15TS and Vehicle signal face  |
|          |          | Vehicle signal face with red, yellow and green left arrow sections   |
|          |          | Vehicle signal face with red and yellow sections and up green arrow  |
|          |          | Vehicle signal face (5 Section) with red, yellow and green sections and yellow and green right arrows  |
|          |          | Type 1 Standard and attached vehicle signal faces  |
|          |          | Standard with signal mast arm only and attached vehicle signal faces and internally illuminated street name sign   |
|          |          | Type 33 Standard, Left-turn vehicle signal face and sign   |
|          |          | Standard with luminaire and signal mast arms and attached vehicle signal faces   |
|          |          | Cantilever flashing beacon Type 9 Frame, with a sign unless otherwise specified or indicated   |
|          |          | Type 15-FBS Standard with two vehicle signal face sections with lens, backplate and visor with a sign  |
|          |          | Flashing beacon. One vehicle signal face section with lens, backplate and visor. "R" indicates red indication, "Y" indicates yellow indication   |
|          |          | Controller assembly. Door indicates front of cabinet   |

### SERVICE EQUIPMENT

| PROPOSED | EXISTING |   |
|----------|----------|---|
| ---OH    | ---oh    | Overhead lines  |
|          |          | Wood pole "U" indicates utility owned                         |
|          |          | Pole guy with anchor  |
|          |          | Utility transformer - ground mounted                          |
|          |          | Service equipment enclosure type                              |
|          |          | Service equipment enclosure door indicates front of enclosure |
|          |          | Telephone demarcation cabinet                                 |

### POLE-MOUNTED SERVICE DESIGNATION



### ILLUMINATED OVERHEAD SIGN

| PROPOSED | EXISTING |                                      |
|----------|----------|--------------------------------------|
|          |          | Overhead sign - Single post          |
|          |          | Overhead sign - Two post             |
|          |          | Overhead sign - Mounted on structure |
|          |          | Overhead sign with electrolier       |

### SIGNAL EQUIPMENT Cont

| PROPOSED | EXISTING |                                      |
|----------|----------|--------------------------------------|
|          |          | Guard post                           |
|          |          | Type 1 Standard with "Meter On" sign |
|          |          | Emergency Vehicle detector           |

### NOTES:

- All signal sections shall be 12" unless shown otherwise.
- Signal heads shall be provided with backplates unless shown otherwise.
- Signal indication shall be LED.

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS  
 (SYMBOLS AND ABBREVIATIONS)**  
 NO SCALE

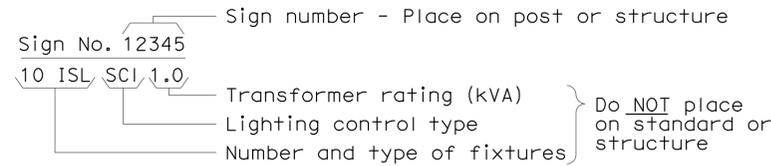
RSP ES-1B DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-1B  
 DATED MAY 1, 2006 - PAGE 401 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP ES-1B**

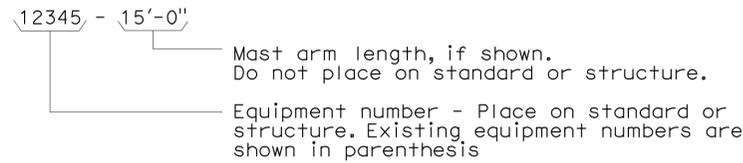
2006 REVISED STANDARD PLAN RSP ES-1B

### EQUIPMENT IDENTIFICATION

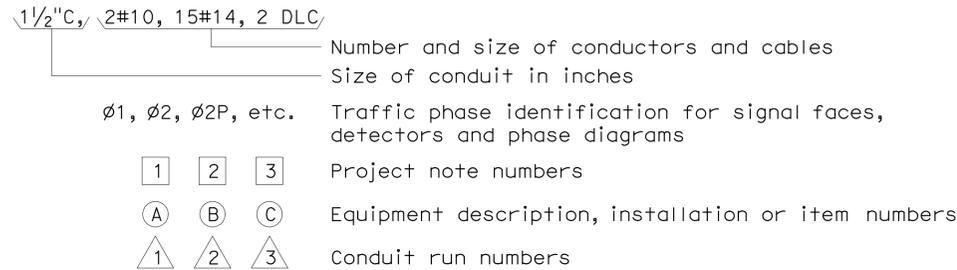
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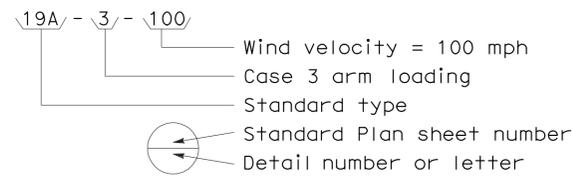
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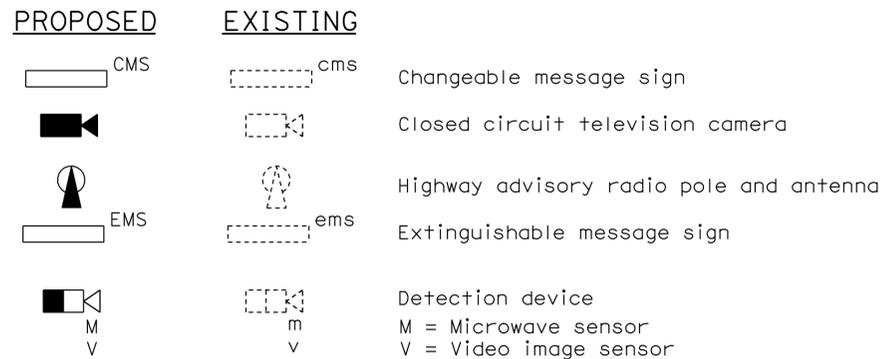
#### CONDUIT AND CONDUCTOR IDENTIFICATION:



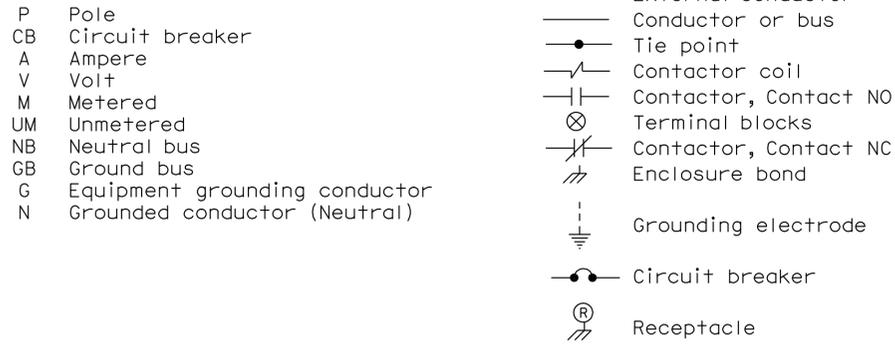
#### SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



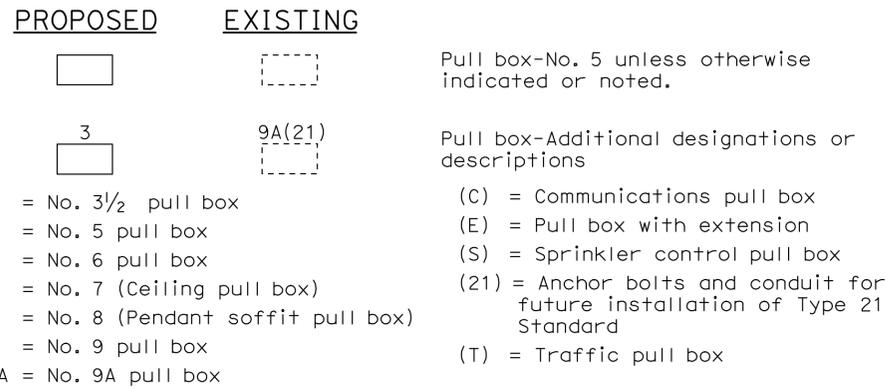
### MISCELLANEOUS EQUIPMENT



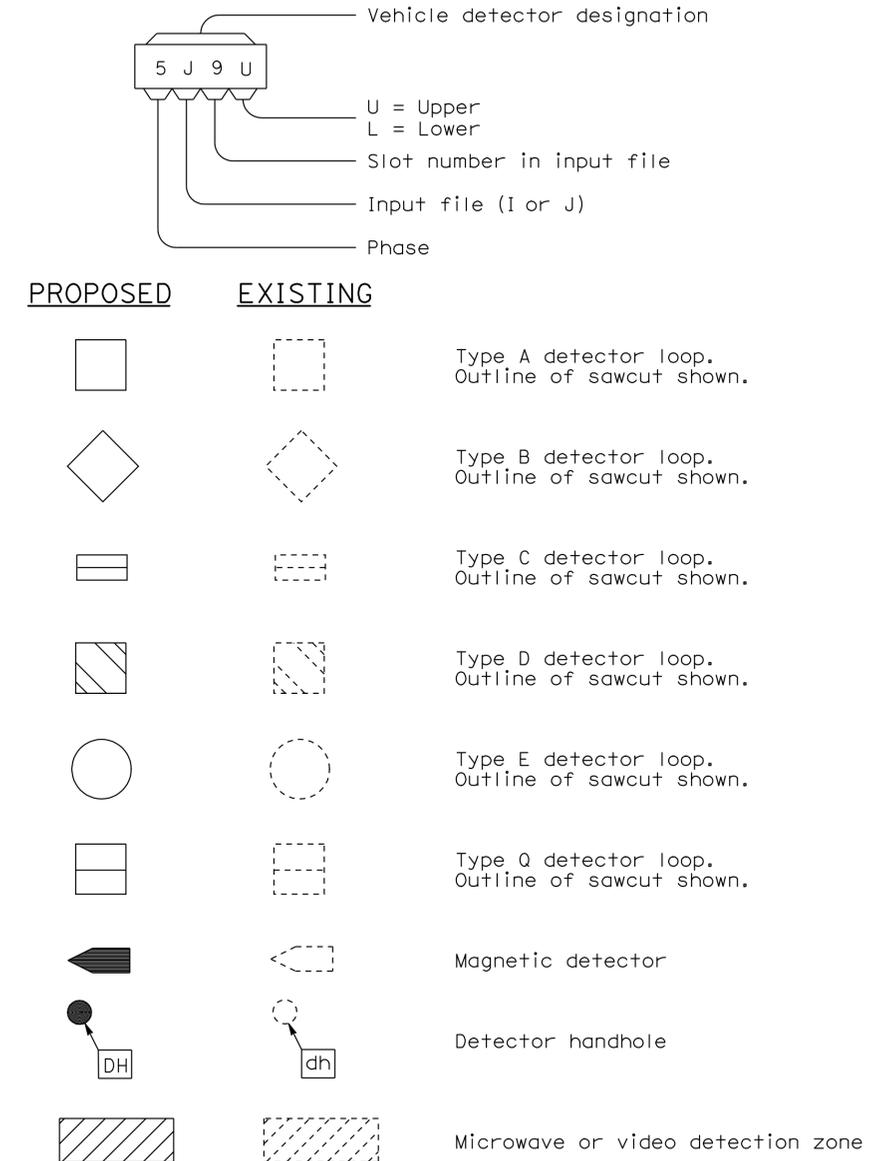
### WIRING DIAGRAM LEGEND



### PULL BOXES



### VEHICLE DETECTORS



STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

## ELECTRICAL SYSTEMS (SYMBOLS AND ABBREVIATIONS)

NO SCALE

RSP ES-1C DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-1C  
DATED MAY 1, 2006 - PAGE 402 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP ES-1C**

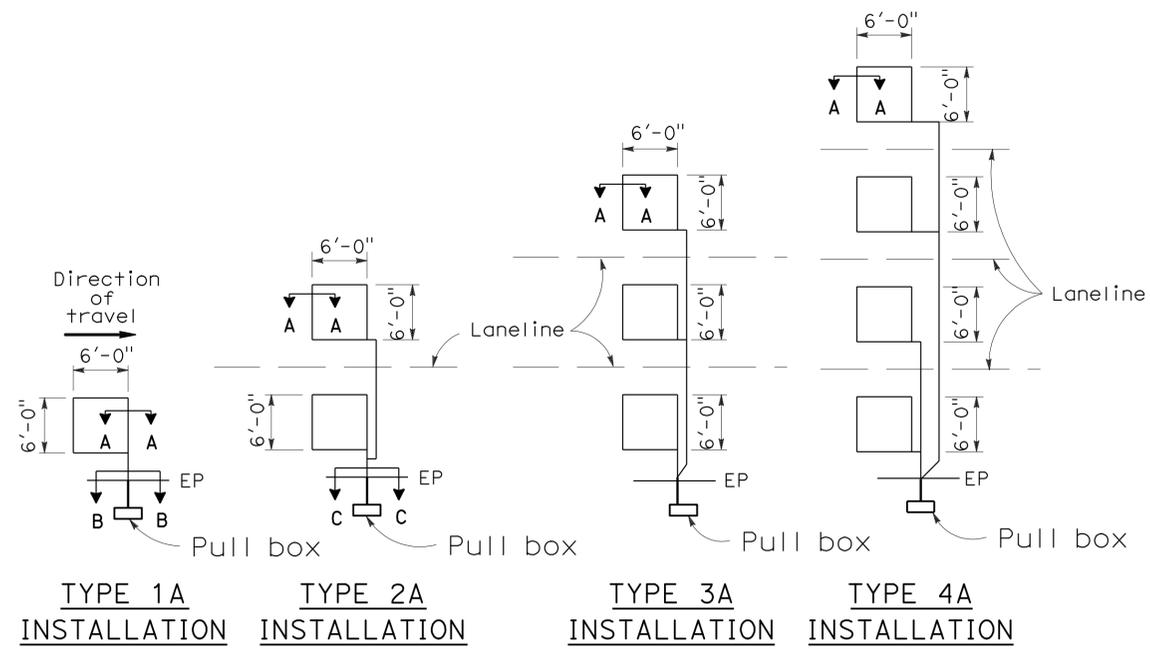
2006 REVISED STANDARD PLAN RSP ES-1C

|      |        |       |                          |           |              |
|------|--------|-------|--------------------------|-----------|--------------|
| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
| 12   | Ora    | 90    | 0.5/2.8                  | 29        | 29           |

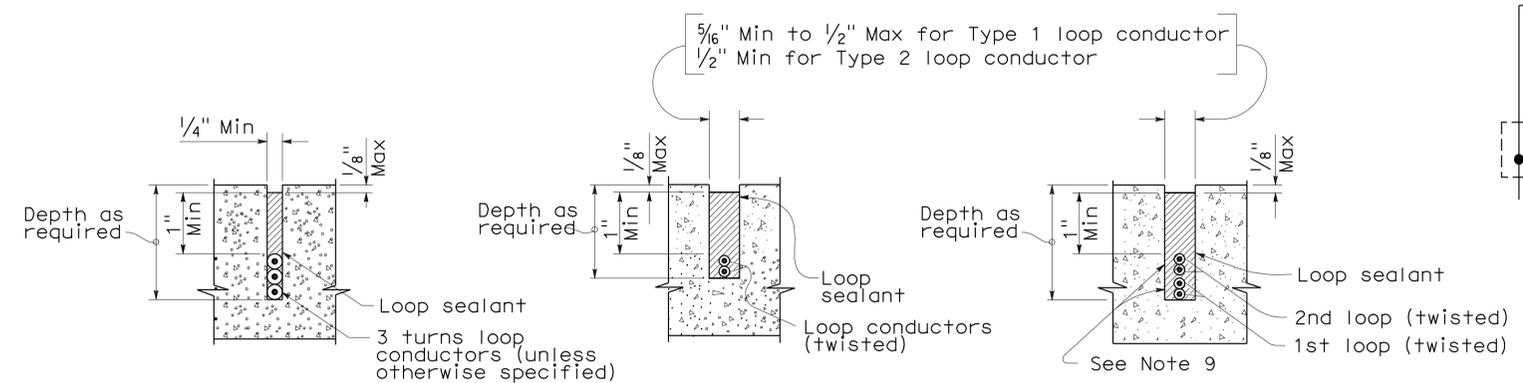
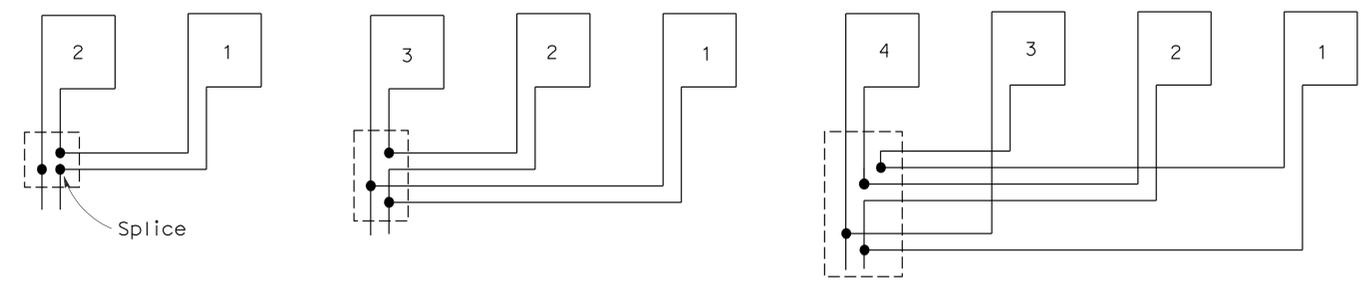
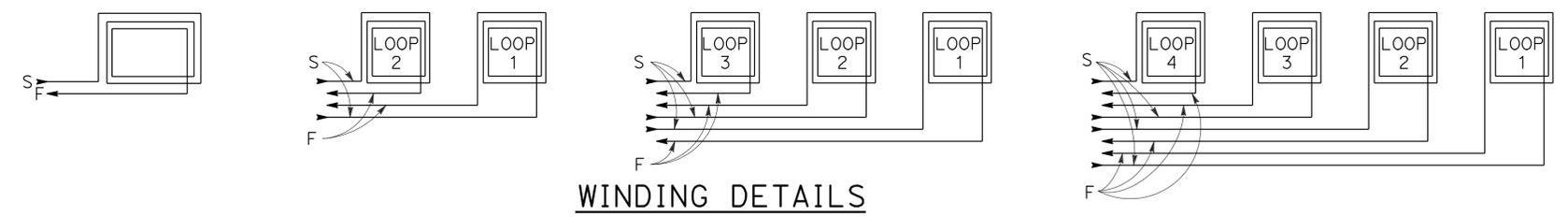
Jeffrey G. McRae  
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 October 5, 2007  
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 REGISTERED PROFESSIONAL ENGINEER  
 Jeffrey G. McRae  
 No. E14512  
 Exp. 6-30-08  
 ELECTRICAL  
 STATE OF CALIFORNIA

# LOOP INSTALLATION PROCEDURE

- Loops shall be centered in lanes.
- Saw slots in pavement for loop conductors as shown in details.
- 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.
- Bottom of saw slot shall be smooth with no sharp edges.
- Slots shall be washed until clean, blown out and thoroughly dried before installing loop conductors.
- Adjacent loops on the same sensor unit channel shall be wound in opposite directions.
- 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.
- 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.
- No more than 2 twisted pairs shall be installed in one sawed slot.
- Allow additional 5'-0" of slack length of conductor for the lead-in run to pull box.
- 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.
- Test each loop circuit for continuity, circuit resistance and insulation resistance at the pull box before filling slots.
- Fill slots as shown in details.
- Splice loop conductors to lead-in-cable. Splices shall be soldered.
- 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.
- Lead-in-cable shall not be spliced between the pull box and the controller cabinet terminals.
- Test each loop circuit for continuity, circuit resistance and insulation resistance at the controller cabinet location.
- 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.



- 1A thru 4A = 1 Type A loop configuration in each lane.
- 1B thru 4B = 1 Type B loop configuration in each lane.
- 1C = 1 Type C loop configuration entering lanes as required.
- 1D thru 4D = 1 Type D loop configuration in each lane.
- 1E thru 4E = 1 Type E loop configuration in each lane.
- 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)



STATE OF CALIFORNIA  
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**ELECTRICAL SYSTEMS  
 (DETECTORS)**  
 NO SCALE

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