

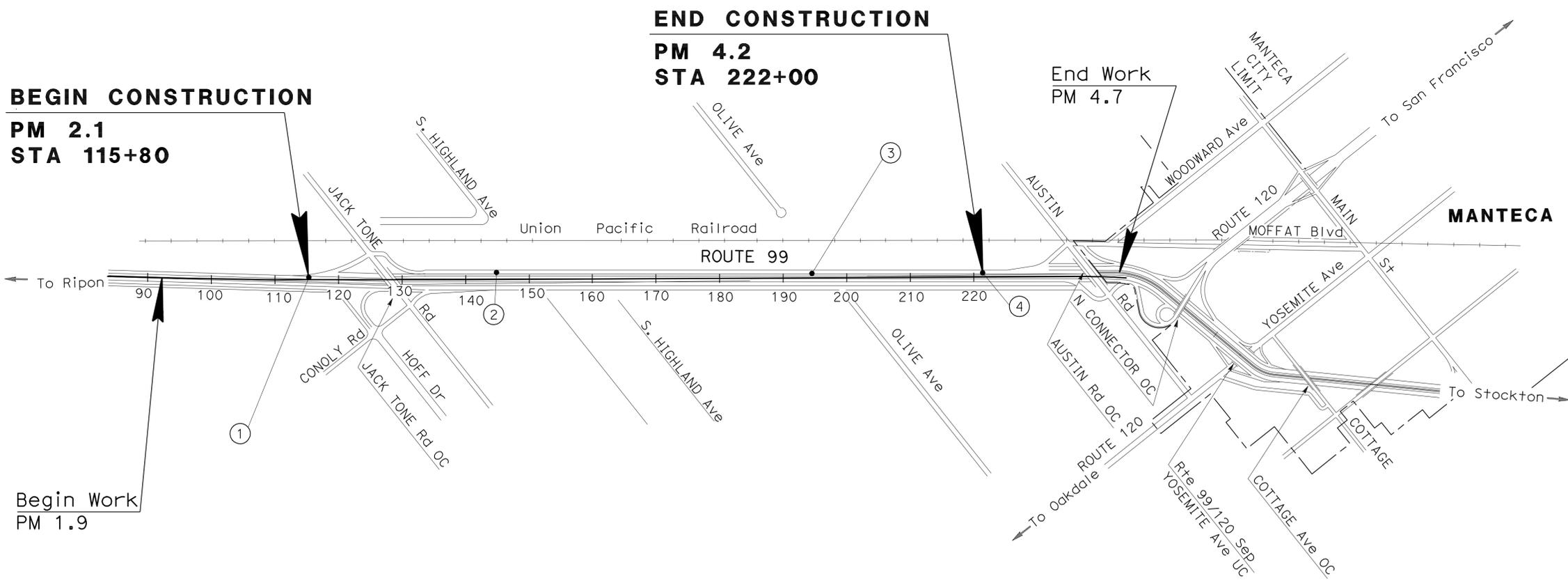
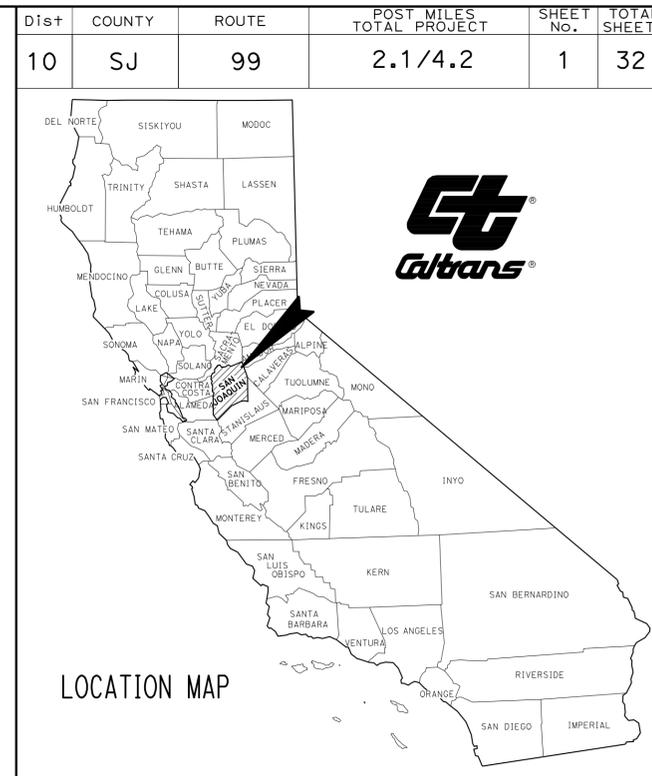
INDEX OF PLANS

| SHEET No. | DESCRIPTION |
|-----------|--------------------------------|
| 1 | TITLE AND LOCATION MAP |
| 2 | LAYOUTS |
| 3-5 | CONSTRUCTION DETAILS |
| 6-8 | UTILITY PLANS |
| 9 | CONSTRUCTION AREA SIGNS |
| 10 | SUMMARY OF QUANTITIES |
| 11-15 | ELECTRICAL PLANS |
| 16-32 | REVISED AND NEW 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 JOAQUIN COUNTY NEAR MANTECA
AT VARIOUS LOCATIONS
FROM 0.2 MILE SOUTH OF
JACK TONE ROAD TO 0.6 MILE SOUTH OF
AUSTIN ROAD

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006

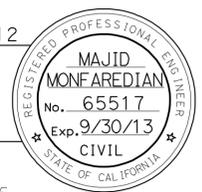


LOCATIONS OF CONSTRUCTION

| No. | COUNTY | ROUTE | POST MILE | DIRECTION |
|-----|--------|-------|-----------|------------|
| ① | SJ | 99 | 2.15 | SOUTHBOUND |
| ② | SJ | 99 | 2.64 | SOUTHBOUND |
| ③ | SJ | 99 | 3.64 | SOUTHBOUND |
| ④ | SJ | 99 | 4.14 | SOUTHBOUND |

PROJECT MANAGER
TONY SINGH
 DESIGN ENGINEER
MAJID MONFAREDIAN

PROJECT ENGINEER
 REGISTERED CIVIL ENGINEER
 DATE: 1/20/12
March 12, 2012
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



| | |
|--------------|-------------------|
| CONTRACT No. | 10-0S7604 |
| PROJECT ID | 1000020516 |

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

DATE PLOTTED => 16-MAR-2012 TIME PLOTTED => 14:41

| Dist | COUNTY | LOCATION CODE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|------|--------|---------------|--------------------------|-----------|--------------|
| 10 | SJ | 99 | 2.1/4.2 | 2 | 32 |

| | | |
|---------------------------|------|---------|
| REGISTERED CIVIL ENGINEER | DATE | 1/20/12 |
| PLANS APPROVAL DATE | | 3-12-12 |

| | | |
|----------------------------------|------|---------|
| REGISTERED PROFESSIONAL ENGINEER | No. | 65517 |
| | Exp. | 9/30/13 |
| 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.

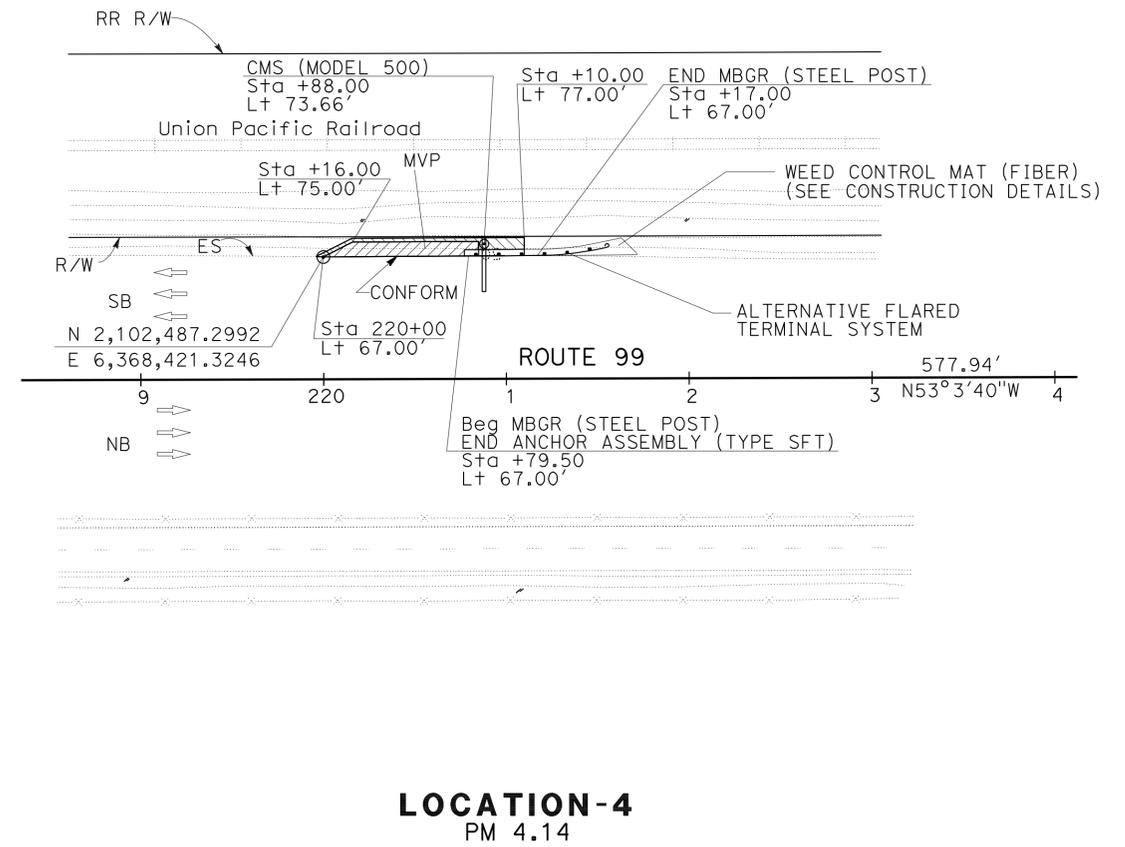
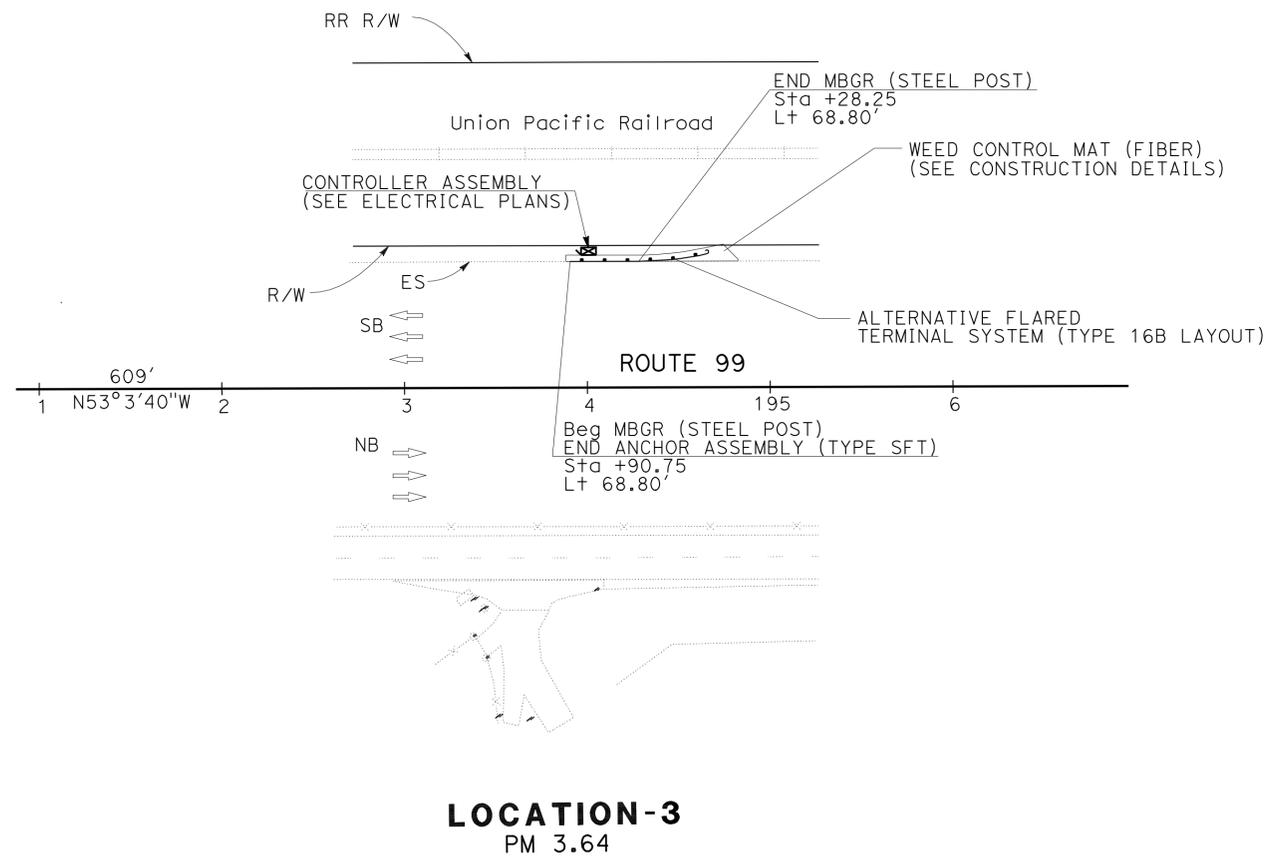
NOTES:

- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- LAYOUT LINES AND STATIONS ARE FOR CONSTRUCTION PURPOSES ONLY.

LEGEND:

-  PLACE HMA (Misc AREA)
-  CLASS 2 AGGREGATE BASE
-  DIRECTION OF TRAFFIC

| | |
|--|-------------------|
| MAJID MONFAREDIAN | MAJID MONFAREDIAN |
| MICHAEL K. LIM | MICHAEL K. LIM |
| CALCULATED/DESIGNED BY | CHECKED BY |
| FUNCTIONAL SUPERVISOR | |
| STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION | 06 - DESIGN |



LAYOUT
SCALE: 1" = 50'

L-1

| DIST | COUNTY | LOCATION CODE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|------|--------|---------------|--------------------------|-----------|--------------|
| 10 | SJ | 99 | 2.1/4.2 | 3 | 32 |

| | | |
|---------------------------|------|---------|
| REGISTERED CIVIL ENGINEER | DATE | 1/20/12 |
| MAJID MONFAREDIAN | | |
| No. 65517 | | |
| Exp. 9/30/13 | | |
| CIVIL | | |

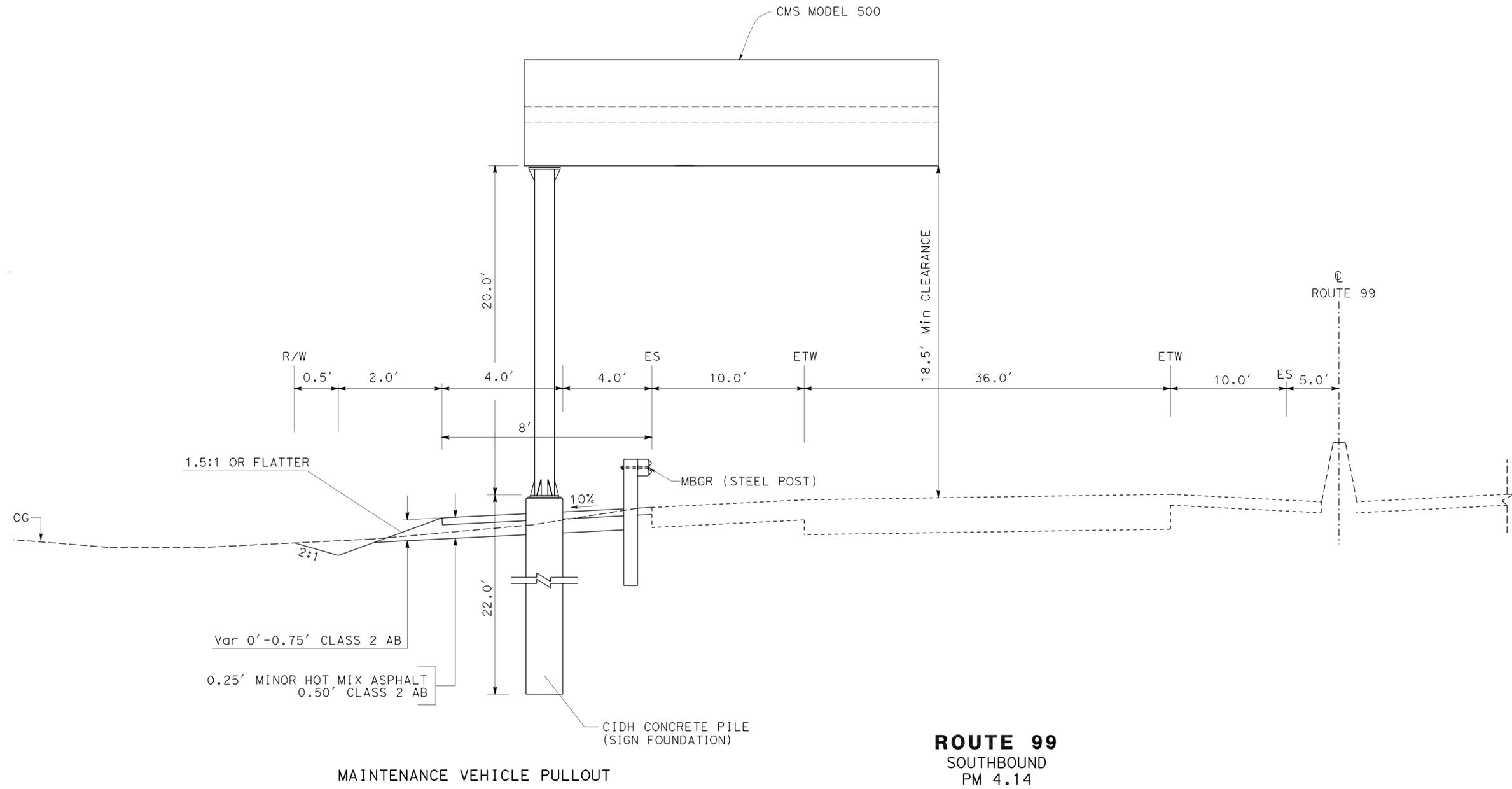
3-12-12
PLANS APPROVAL DATE

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:

- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

| | | |
|-------------------|------------------------------|------|
| MAJID MONFAREDIAN | REVISOR | DATE |
| MICHAEL K. LIM | DESIGNED BY | |
| MICHAEL K. LIM | CHECKED BY | |
| MICHAEL K. LIM | FUNCTIONAL SUPERVISOR | |
| 06-DESIGN | DEPARTMENT OF TRANSPORTATION | |



ROUTE 99
SOUTHBOUND
PM 4.14

MAINTENANCE VEHICLE PULLOUT

CONSTRUCTION DETAILS

NO SCALE

C-1

| | | | | | |
|------|--------|---------------|--------------------------|-----------|--------------|
| Dist | COUNTY | LOCATION CODE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
| 10 | SJ | 99 | 2.1/4.2 | 5 | 32 |

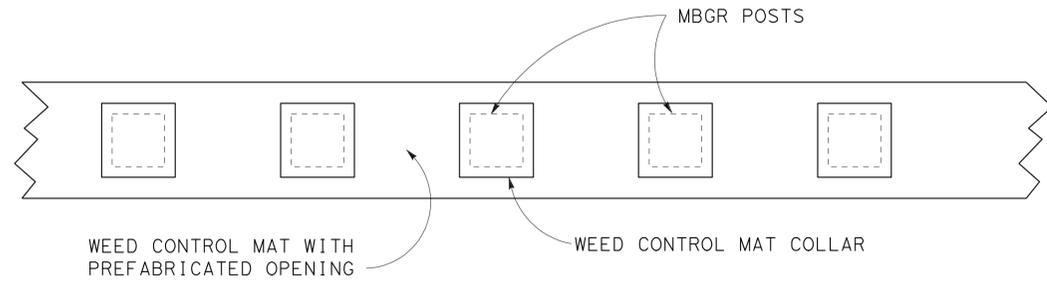
| | |
|---------------------------|---------|
| REGISTERED CIVIL ENGINEER | DATE |
| MAJID MONFAREDIAN | 1/20/12 |
| PLANS APPROVAL DATE | |
| 3-12-12 | |

| |
|----------------------------------|
| REGISTERED PROFESSIONAL ENGINEER |
| MAJID MONFAREDIAN |
| No. 65517 |
| Exp. 9/30/13 |
| 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.

NOTE:

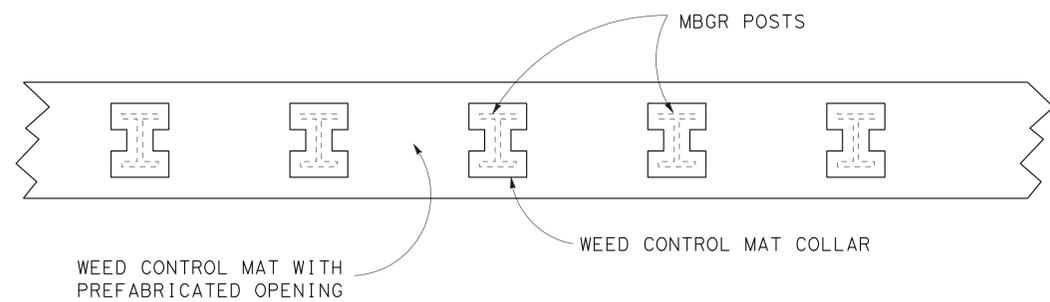
POST SPACING AND OTHER DIMENSIONS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR.



PLAN

METAL BEAM GUARD RAILING WEED CONTROL MAT (FIBER)

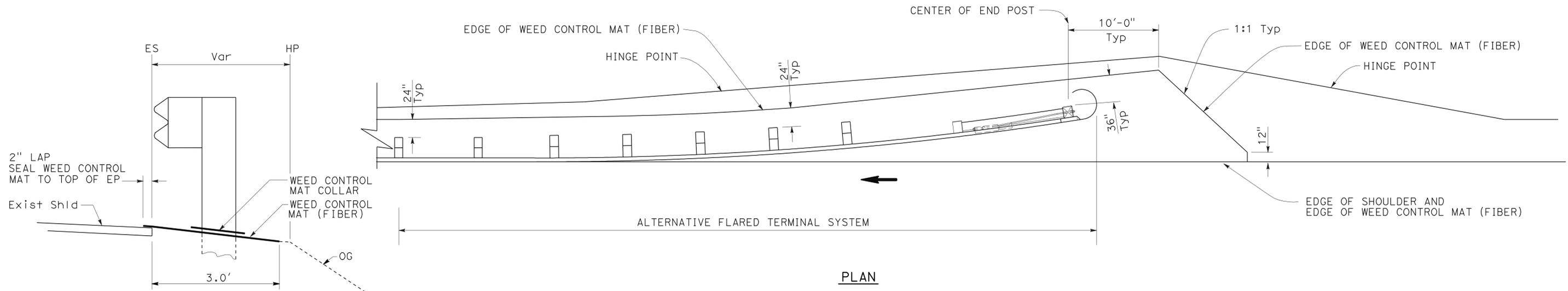
AT WOOD POST



PLAN

METAL BEAM GUARD RAILING WEED CONTROL MAT (FIBER)

AT STEEL POST



TYPICAL POST WEED CONTROL MAT (FIBER)

ELEVATION

PLAN

CONSTRUCTION DETAILS

NO SCALE

C-3

| | |
|--|----------------|
| STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION | 06-DESIGN |
| FUNCTIONAL SUPERVISOR | MICHAEL K. LIM |
| CALCULATED/DESIGNED BY | CHECKED BY |
| MAJID MONFAREDIAN | MICHAEL K. LIM |
| REVISED BY | DATE REVISED |

| Dist | COUNTY | LOCATION CODE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|------|--------|---------------|--------------------------|-----------|--------------|
| 10 | SJ | 99 | 2.1/4.2 | 6 | 32 |

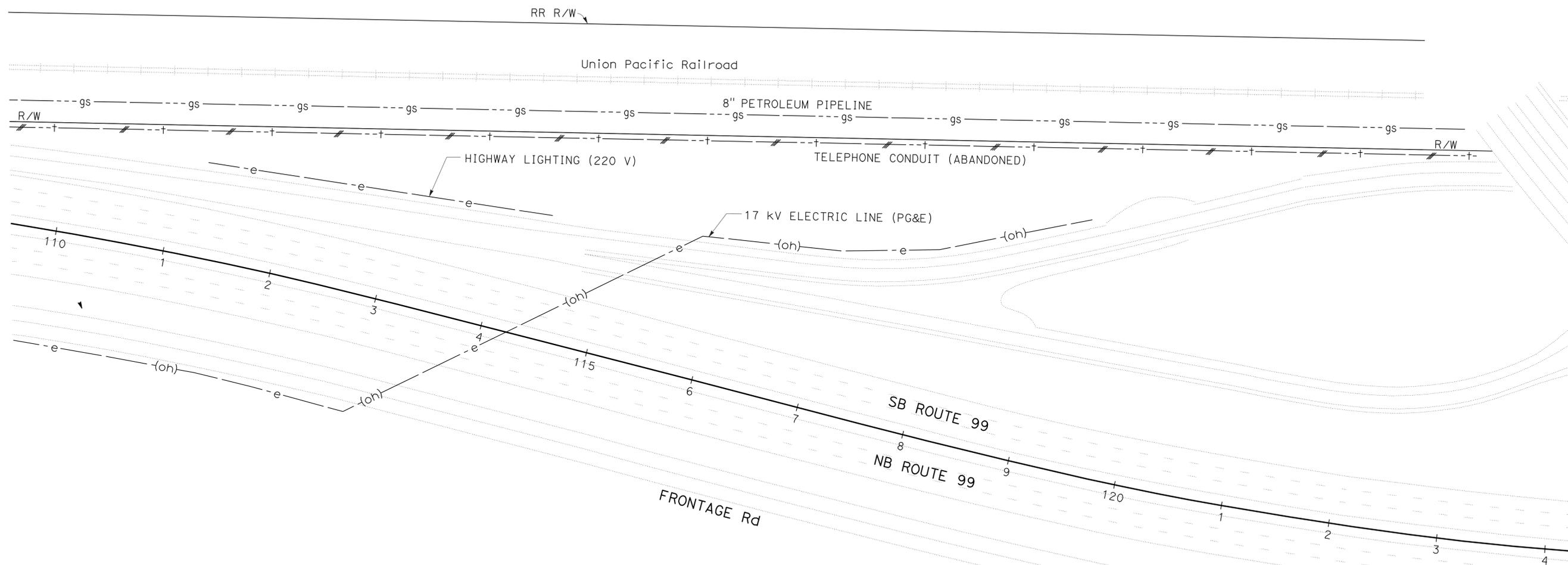
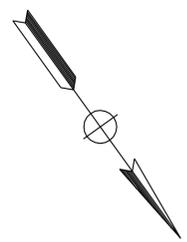
| | |
|---------------------------|---------|
| REGISTERED CIVIL ENGINEER | DATE |
| MAJID MONFAREDIAN | 1/20/12 |
| PLANS APPROVAL DATE | |
| 3-12-12 | |

| |
|----------------------------------|
| REGISTERED PROFESSIONAL ENGINEER |
| MAJID MONFAREDIAN |
| No. 65517 |
| Exp. 9/30/13 |
| 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.

NOTES:

- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- LOCATIONS OF UTILITY FACILITIES SHOWN ON THE PLANS ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
- UTILITY OWNERSHIP ON THIS PROJECT:
 PETROLEUM PIPELINE - KINDER MORGAN SFPP, L.P.
 POWER LINES - PACIFIC GAS AND ELECTRIC COMPANY (PG&E)



LOCATION-1
PM 2.15

UTILITY PLAN

SCALE: 1" = 50'

U-1

APPROVED FOR UTILITY INFORMATION ONLY

| |
|--|
| STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION |
| Caltrans 06-DESIGN |
| FUNCTIONAL SUPERVISOR |
| MICHAEL K. LIM |
| CALCULATED/DESIGNED BY |
| CHECKED BY |
| MAJID MONFAREDIAN |
| MICHAEL K. LIM |
| REVISED BY |
| DATE REVISED |



| Dist | COUNTY | LOCATION CODE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|------|--------|---------------|--------------------------|-----------|--------------|
| 10 | SJ | 99 | 2.1/4.2 | 7 | 32 |

| | | |
|---------------------------|------|---------|
| REGISTERED CIVIL ENGINEER | DATE | 1/20/12 |
| PLANS APPROVAL DATE | | 3-12-12 |

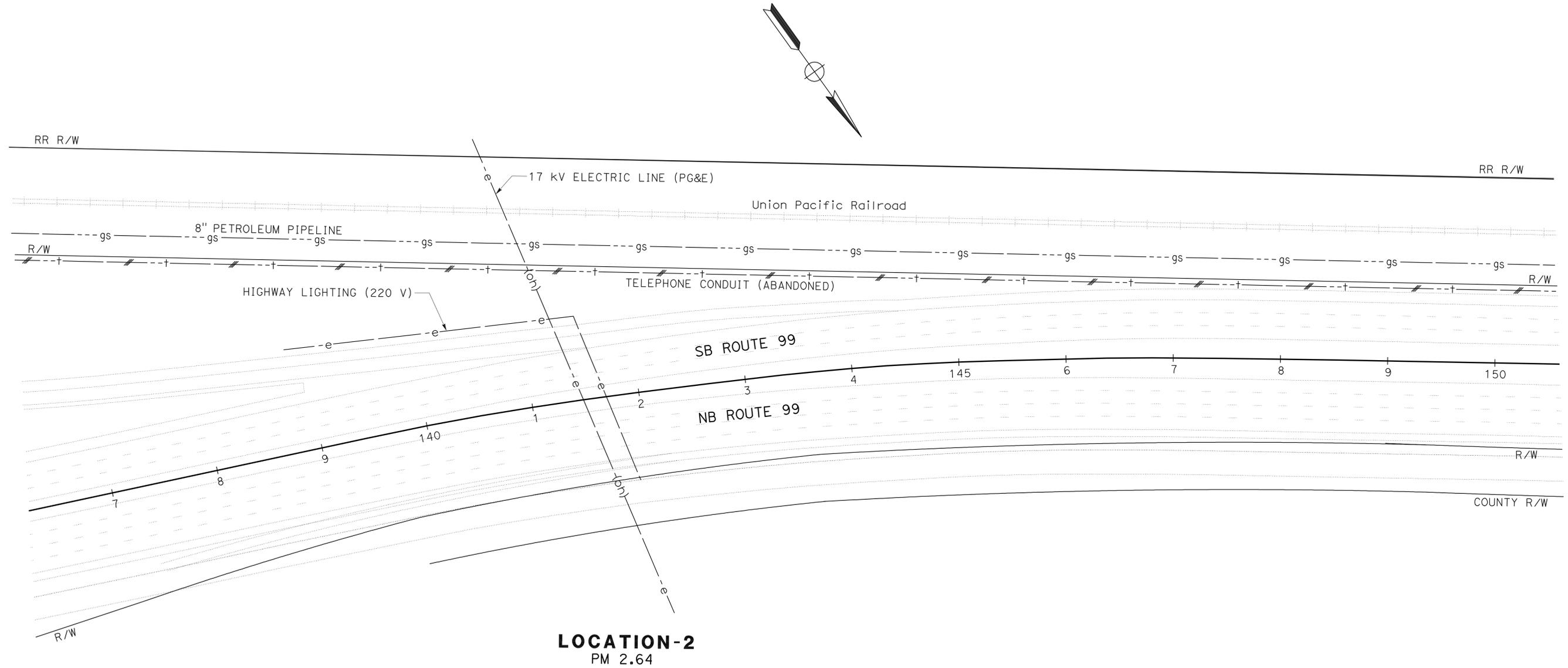
| | |
|----------------------------------|-------------------|
| REGISTERED PROFESSIONAL ENGINEER | MAJID MONFAREDIAN |
| No. | 65517 |
| Exp. | 9/30/13 |
| CIVIL | |

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.

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

| | | |
|--|-------------------|---------|
| STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION | MAJID MONFAREDIAN | REVISOR |
| Caltrans 06-DESIGN | MICHAEL K. LIM | DATE |
| FUNCTIONAL SUPERVISOR | CHECKED BY | DATE |
| MICHAEL K. LIM | | |
| CALCULATED/DESIGNED BY | | |
| | | |



LOCATION-2
PM 2.64

UTILITY PLAN
SCALE: 1" = 50'

U-2

APPROVED FOR UTILITY INFORMATION ONLY

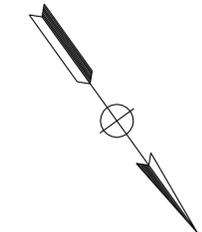


| Dist | COUNTY | LOCATION CODE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|------|--------|---------------|--------------------------|-----------|--------------|
| 10 | SJ | 99 | 2.1/4.2 | 8 | 32 |

| | | |
|---------------------------|------|---------|
| REGISTERED CIVIL ENGINEER | DATE | 1/20/12 |
| MAJID MONFAREDIAN | | |
| No. 65517 | | |
| Exp. 9/30/13 | | |
| CIVIL | | |

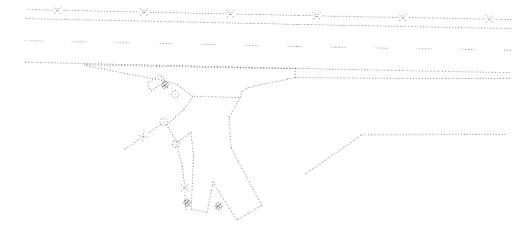
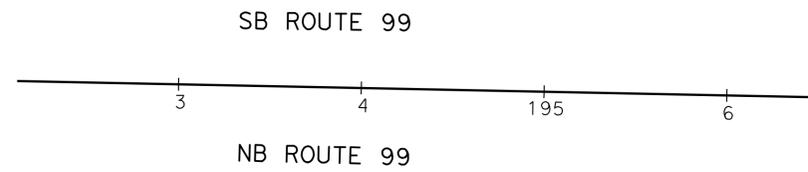
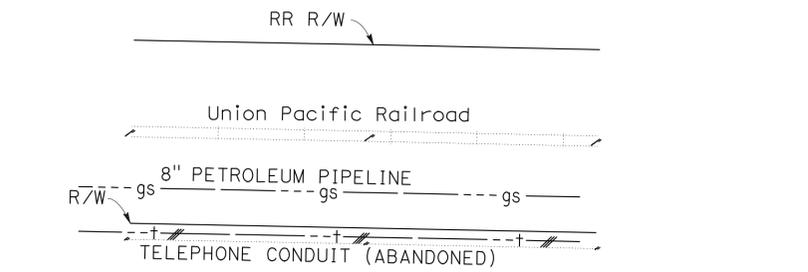
3-12-12
PLANS APPROVAL DATE

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.

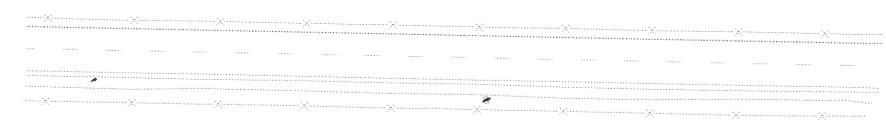
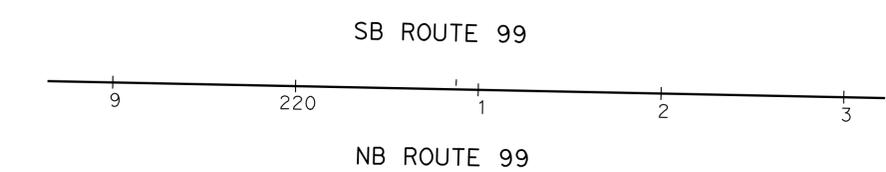
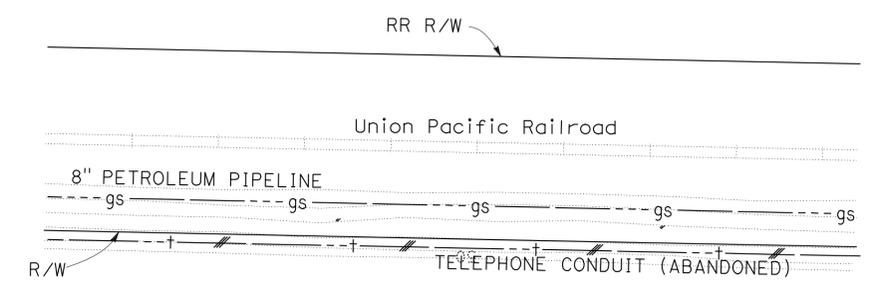


NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



LOCATION-3
PM 3.64



LOCATION-4
PM 4.14

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans 06-DESIGN

FUNCTIONAL SUPERVISOR
 MICHAEL K. LIM

CALCULATED/DESIGNED BY
 CHECKED BY

MAJID MONFAREDIAN
 MICHAEL K. LIM

REVISED BY
 DATE REVISED

APPROVED FOR UTILITY INFORMATION ONLY

UTILITY PLAN
 SCALE: 1" = 50'
U-3

STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

| SIGN No | SIGN CODE | PANEL SIZE | SIGN MESSAGE | No. OF POST AND SIZE | NUMBER OF SIGNS |
|------------|--------------|------------|------------------------|-------------------------|--------------------|
| A | G20-1 | 48" x 24" | ROAD WORK NEXT 3 MILES | 1- 4" x 6" | 2 |
| B | W20-1 | 48" x 48" | ROAD WORK AHEAD | 1- 6" x 6" | 5 |
| C | G20-2 | 48" x 24" | END ROAD WORK | 1- 4" x 6" | 2 |

NOTE: EXACT SIGN LOCATIONS WILL BE DETERMINED BY THE ENGINEER.

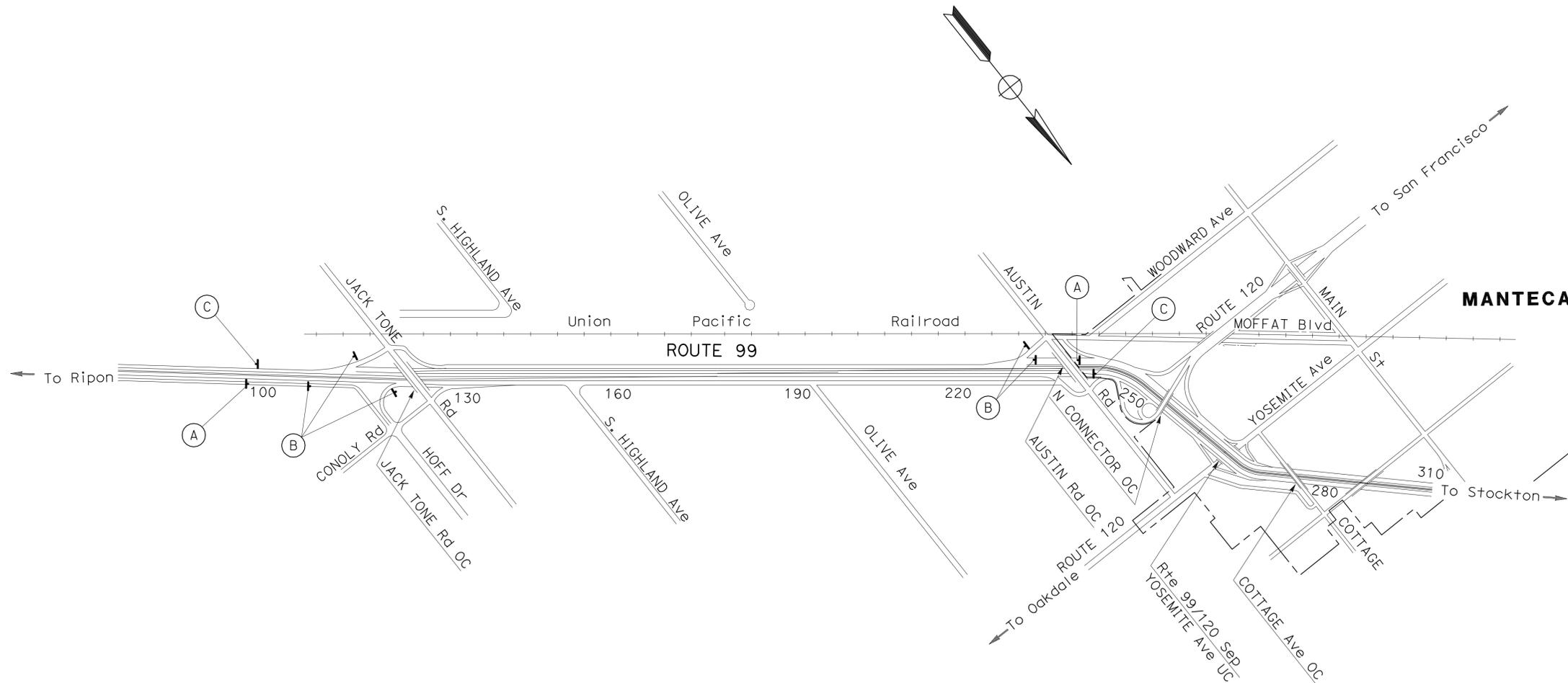
| | | | | | |
|------|--------|-------|-----------------------------|--------------|-----------------|
| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
| 10 | SJ | 99 | 2.1/4.2 | 9 | 32 |

Amarjit S. Dhillon 1/20/12
 REGISTERED CIVIL ENGINEER DATE

3-12-12
 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.



CONSTRUCTION AREA SIGN AND SIGN QUANTITY

NO SCALE

CS-1

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans 06-TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR: MOHAMMED OATAMI
 CALCULATED/DESIGNED BY: AMARJIT S. DHILLON
 CHECKED BY: HASSAN TAHA
 REVISED BY: DATE REVISOR

LAST REVISION: DATE PLOTTED => 16-MAR-2012 TIME PLOTTED => 15:01

| | | | | | |
|------|--------|---------------|--------------------------|-----------|--------------|
| Dist | COUNTY | LOCATION CODE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
| 10 | SJ | 99 | 2.1/4.2 | 10 | 32 |

1/20/12
REGISTERED CIVIL ENGINEER DATE

3-12-12
PLANS APPROVAL DATE

MAJID MONFAREDIAN
No. 65517
Exp. 9/30/13
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.

ABBREVIATION:

FSBT: FACING SOUTHBOUND TRAFFIC

METAL BEAM GUARD RAILING

| LOCATION | | METAL BEAM GUARD RAILING (STEEL POST) | END ANCHOR ASSEMBLY (TYPE SFT) | ALTERNATIVE FLARED TERMINAL SYSTEM | WEED CONTROL MAT (FIBER) | LAYOUT TYPE (N) |
|-----------|-----------|---------------------------------------|--------------------------------|------------------------------------|--------------------------|-----------------|
| STA FROM | STA TO | LF | EA | EA | SQYD | |
| 220+79.50 | 221+17.00 | 37.5 | 1 | 1 | 50 | 16B |
| 193+90.75 | 194+28.25 | 37.5 | 1 | 1 | 50 | 16B |
| TOTAL | | 75.0 | 2 | 2 | 100 | |

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

ROADWAY QUANTITIES

| LOCATION | | PLACE HMA (Misc AREA) | CLASS 2 AGGREGATE BASE | MINOR HOT MIX ASPHALT | ROADWAY EXCAVATION |
|-----------|-----------|-----------------------|------------------------|-----------------------|--------------------|
| STA FROM | STA TO | SQYD | CY | TON | CY |
| 220+00.00 | 221+10.00 | 69 | 19 | 12 | 23 |

CHANGEABLE MESSAGE SIGN

| SIGN TYPE | LOCATION | ORIENTATION | "N" (N) | FURNISH SIGN STRUCTURE (TRUSS) | INSTALL SIGN STRUCTURE (TRUSS) | 60" CIDH Conc PILE (SIGN FOUNDATION) |
|-------------------------------|----------------|-------------|---------|--------------------------------|--------------------------------|--------------------------------------|
| | STA 220+88.00 | | F+ | LBS | LBS | LF |
| FULL CANTILEVER CMS MODEL 500 | SB 99 PM 4.140 | FSBT | 20 | 13,896 | 13,896 | 22 |

NOTE: QUANTITIES BASED ON WALKWAY ON 1-SIDE.

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

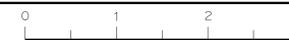
TRAFFIC MANAGEMENT SYSTEM ELEMENTS (EXISTING)

| PM | LOCATION | DESCRIPTION |
|-------|--------------------------------|-------------|
| 2.081 | SB ON RAMP FROM JACK TONE ROAD | TMS |
| 2.145 | NB OFF RAMP TO JACK TONE ROAD | TMS |
| 2.270 | SR 99 SB @ JACK TONE ROAD | SIGNAL |
| 2.400 | SR 99 NB @ JACK TONE ROAD | SIGNAL |
| 2.500 | NB ON RAMP FROM JACK TONE ROAD | TMS |
| 2.589 | SB OFF RAMP TO JACK TONE ROAD | TMS |
| 3.150 | NB 99 JACK TONE ROAD | TMS |
| 3.150 | SB 99 JACK TONE ROAD | TMS |

SUMMARY OF QUANTITIES

Q-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans 06-DESIGN
MAJID MONFAREDIAN
MICHAEL K. LIM
MICHAEL K. LIM
FUNCTIONAL SUPERVISOR
CALCULATED/DESIGNED BY
CHECKED BY
REVISED BY
DATE REVISED



| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|------|--------|-------|--------------------------|-----------|--------------|
| 10 | SJ | 99 | 2.1/4.2 | 11 | 32 |

01-25-12
 REGISTERED ELECTRICAL ENGINEER DATE
 3-12-12
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
JASPAL SINGH
 No. 16657
 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.

NOTES: (FOR SHEET E-1 THROUGH E-5)

1] RS Exist 120/240 V, 1 Ø, 3-WIRE, TYPE III-AF SERVICE EQUIPMENT ENCLOSURE.

2] 120/240 V, 1 Ø, 3-WIRE, TYPE III-AF SERVICE EQUIPMENT ENCLOSURE WITH THE FOLLOWING CIRCUIT BREAKERS:
PG&E WILL INSTALL TIME OF USE METER.

CTID No. 1029099X021500T

| AMPERES | VOLTS | POLES | NAMEPLATE | METER | PHOTOELECTRIC CONTROL TYPE |
|---------|-------|-------|------------------|-------|----------------------------|
| 100 | 240 | 2 | MAIN BREAKER | YES | - |
| 30 | 240 | 2 | LIGHTING | YES | - |
| 50 | 120 | 1 | TMS CABINET | YES | - |
| 15 | 120 | 1 | LIGHTING CONTROL | YES | V |
| 15 | 120 | 1 | MVDS | YES | - |
| 15 | 120 | 1 | SPARE | YES | - |
| - | - | 2 | SPACE | - | - |

3] 120/240 V, 1 Ø, 3-WIRE, TYPE III-AF SERVICE EQUIPMENT ENCLOSURE WITH THE FOLLOWING CIRCUIT BREAKERS:

CTID No. 1029099X004140T

| AMPERES | VOLTS | POLES | NAMEPLATE | METER | PHOTOELECTRIC CONTROL TYPE |
|---------|-------|-------|--------------|-------|----------------------------|
| 100 | 240 | 2 | MAIN BREAKER | YES | - |
| 50 | 120 | 1 | CMS CABINET | YES | - |
| 30 | 120 | 1 | CCTV | YES | - |
| 30 | 240 | 2 | CMS LAMPS | YES | - |
| 15 | 120 | 1 | TDC | YES | - |
| - | - | 2 | SPACE | - | - |

4] 120/240 V, 1 Ø, 3-WIRE, TYPE III-AF SERVICE EQUIPMENT ENCLOSURE WITH THE FOLLOWING CIRCUIT BREAKERS:

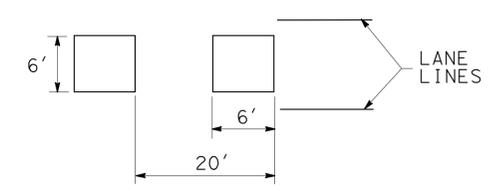
CTID No. 1029099X003640T

| AMPERES | VOLTS | POLES | NAMEPLATE | METER | PHOTOELECTRIC CONTROL TYPE |
|---------|-------|-------|--------------|-------|----------------------------|
| 100 | 240 | 2 | MAIN BREAKER | YES | - |
| 30 | 120 | 1 | TMS CABINET | YES | - |
| 30 | 120 | 1 | SPARE | YES | - |
| - | - | 2 | SPACE | - | - |

- 5] STATE-FURNISHED MODEL 170 CONTROLLER ASSEMBLY FOR CMS. INSTALL WIRELESS MODEM.
- 6] TYPE CCTV 40 POLE WITH CAMERA ASSEMBLY.
- 7] STATE-FURNISHED MODEL 500 CHANGEABLE MESSAGE SIGN.
- 8] MODEL 334 CABINET FOR CCTV.
- 9] MODEL 334 CABINET FOR TMS. INSTALL WIRELESS MODEM AND INSTALL STATE-FURNISHED 2070 CONTROLLER UNIT.
- 10] USE Exist FOUNDATION FOR INSTALLATION OF NEW SERVICE EQUIPMENT ENCLOSURE.
- 11] PULL BOX PER UTILITY REQUIREMENTS.
- 12] TYPE C TDC.
- 13. THE CONTRACTOR SHALL COORDINATE WITH UTILITIES FOR SERVICE REQUIREMENTS.

ABBREVIATIONS:

- PG&E PACIFIC GAS AND ELECTRIC
- CTID CALTRANS IDENTIFICATION
- SF STATE-FURNISHED
- MVDS MICROWAVE VEHICLE DETECTION SYSTEM



TYPICAL LANE LAYOUT FOR LOOP DETECTOR
NO SCALE

**CHANGEABLE MESSAGE SIGN SYSTEM
CLOSED CIRCUIT TELEVISION SYSTEM
TRAFFIC MONITORING STATION
E-1**

APPROVED FOR ELECTRICAL WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN
 FUNCTIONAL SUPERVISOR: ALI BAKHOUD
 CALCULATED/DESIGNED BY: JASPAL SINGH
 CHECKED BY: FRED IYASERE
 REVISED BY: [blank]
 DATE REVISED: [blank]

LAST REVISION: 01-18-12 DATE PLOTTED => 19-MAR-2012 TIME PLOTTED => 05:53

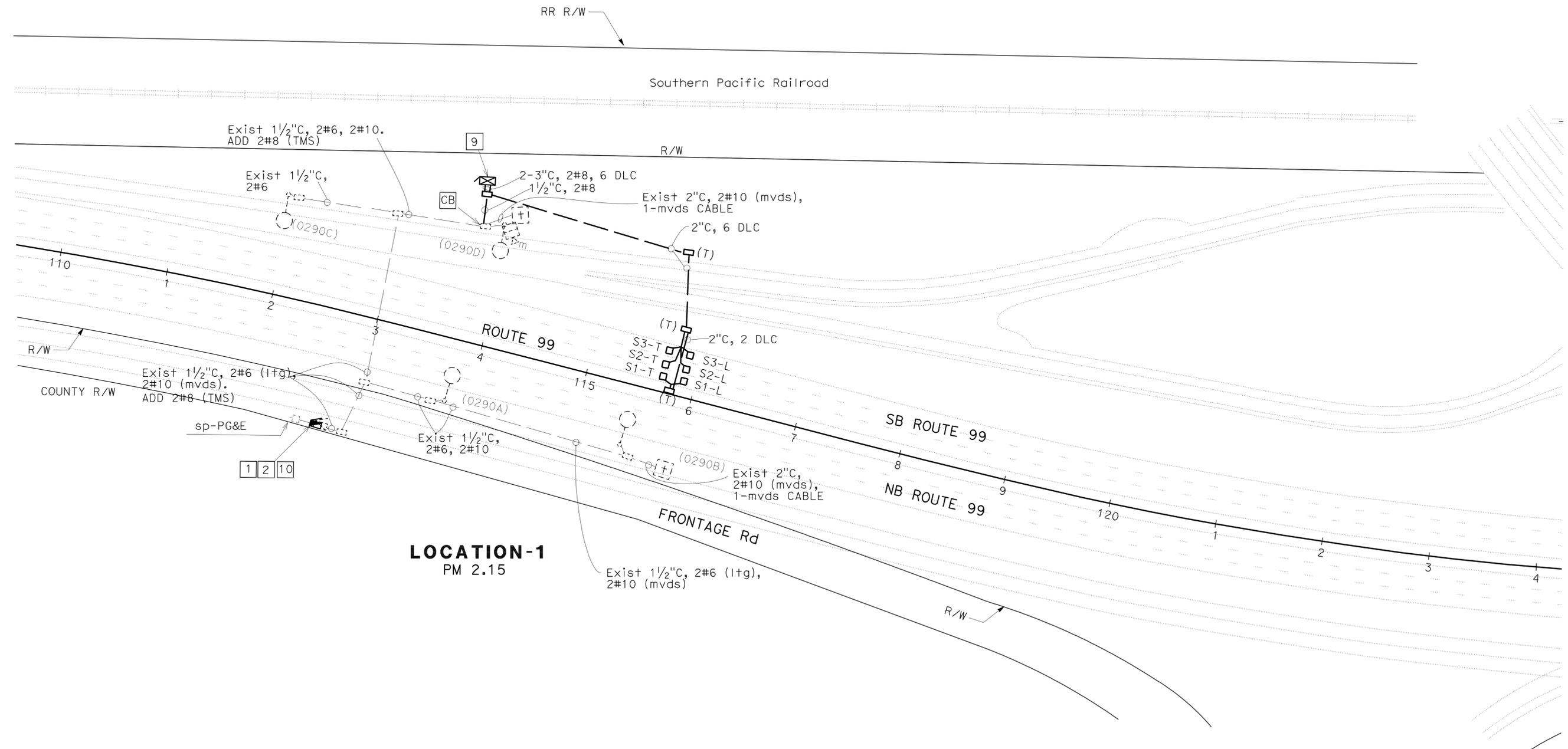
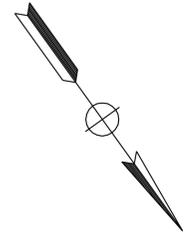
| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|------|--------|-------|--------------------------|-----------|--------------|
| 10 | SJ | 99 | 2.1/4.2 | 12 | 32 |

| | |
|--------------------------------|----------|
| <i>Jaspal Singh</i> | 01-25-12 |
| REGISTERED ELECTRICAL ENGINEER | DATE |
| 3-12-12 | |
| PLANS APPROVAL DATE | |

| | |
|----------------------------------|--------------|
| REGISTERED PROFESSIONAL ENGINEER | JASPAL SINGH |
| No. 16657 | |
| Exp. 6/30/10 | |
| ELECTRICAL | |

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- NOTES:**
- FOR NOTES AND SCHEDULES, SEE SHEET E-1.
 - FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN
 FUNCTIONAL SUPERVISOR: ALI BAKHOUD
 CALCULATED/DESIGNED BY: JASPAL SINGH
 CHECKED BY: FRED IYASERE
 REVISED BY: []
 DATE REVISED: []

LOCATION-1
PM 2.15

TRAFFIC MONITORING STATION
(LOCATION 1)

E-2

APPROVED FOR ELECTRICAL WORK ONLY

SCALE: 1" = 50'

LAST REVISION: []
 DATE PLOTTED => 19-MAR-2012
 TIME PLOTTED => 10:57

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN

REVISOR: JASPAL SINGH
 DATE: 01-25-12

DESIGNER: FRED IYASERE

CHECKED BY: ALI BAKHOUD

FUNCTIONAL SUPERVISOR: ALI BAKHOUD

DESIGNED BY: JASPAL SINGH

NOTES:

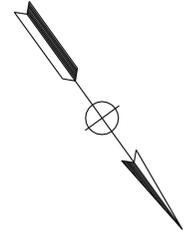
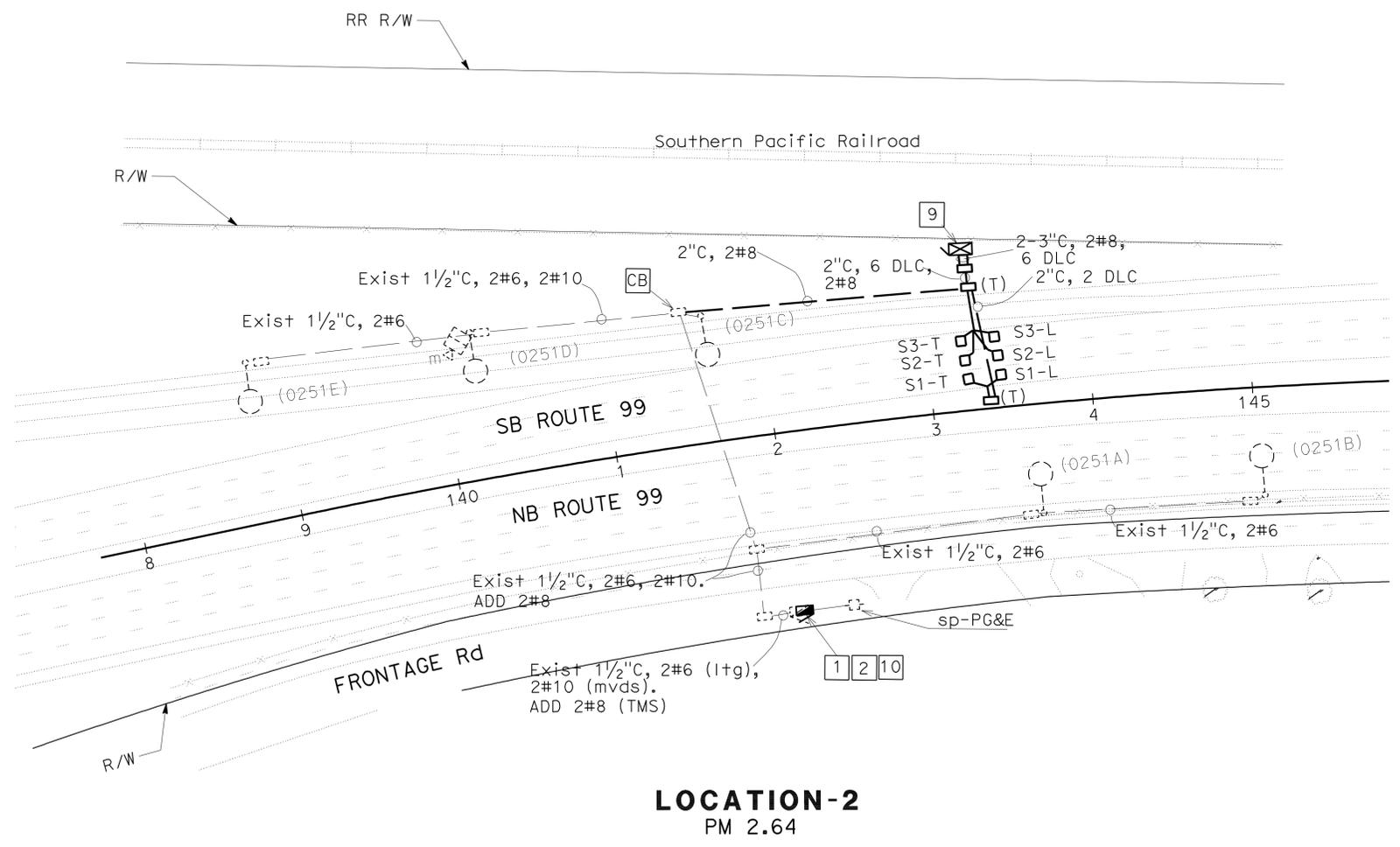
- FOR NOTES AND SCHEDULES, SEE SHEET E-1.
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|------|--------|-------|--------------------------|-----------|--------------|
| 10 | SJ | 99 | 2.1/4.2 | 13 | 32 |

JASPAL SINGH
 REGISTERED ELECTRICAL ENGINEER
 No. 16657
 Exp. 6/30/10
 STATE OF CALIFORNIA
 ELECTRICAL

01-25-12
 DATE
 3-12-12
 PLANS APPROVAL DATE

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LOCATION-2
 PM 2.64

**TRAFFIC MONITORING STATION
 (LOCATION 2)**

SCALE: 1" = 50'

E-3

APPROVED FOR ELECTRICAL WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN

NOTES:

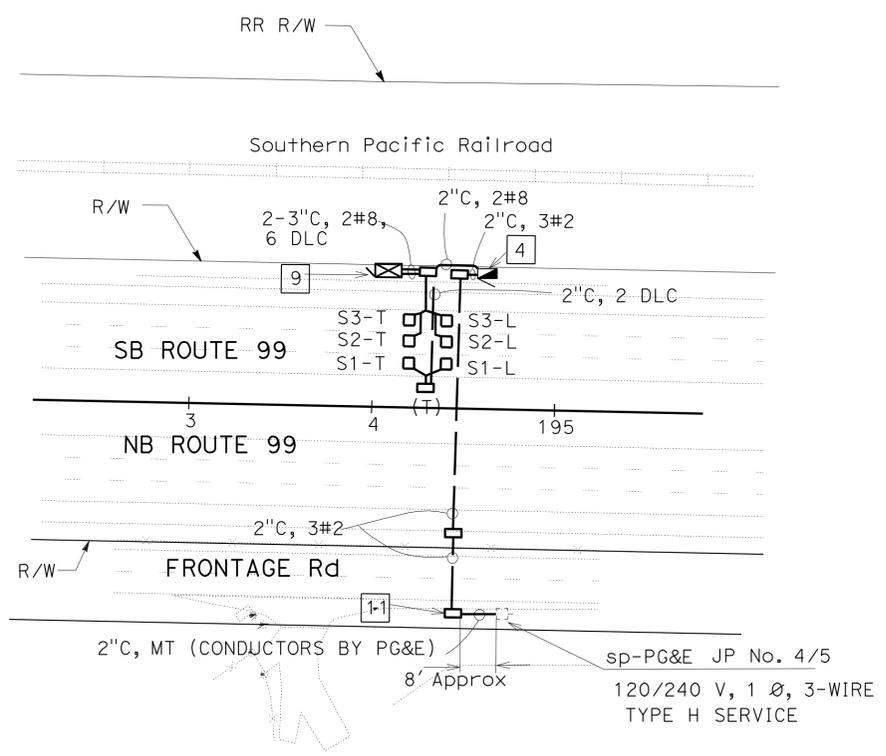
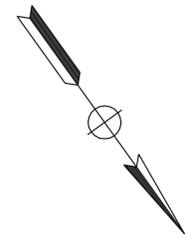
- FOR NOTES AND SCHEDULES, SEE SHEET E-1.
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|------|--------|-------|--------------------------|-----------|--------------|
| 10 | SJ | 99 | 2.1/4.2 | 14 | 32 |

Jaspal Singh 01-25-12
 REGISTERED ELECTRICAL ENGINEER DATE
 3-12-12
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
JASPAL SINGH
 No. 16657
 Exp. 6/30/10
 ELECTRICAL
 STATE OF CALIFORNIA

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LOCATION-3
PM 3.64

**TRAFFIC MONITORING STATION
(LOCATION 3)**

SCALE: 1" = 50'

E-4

APPROVED FOR ELECTRICAL WORK ONLY

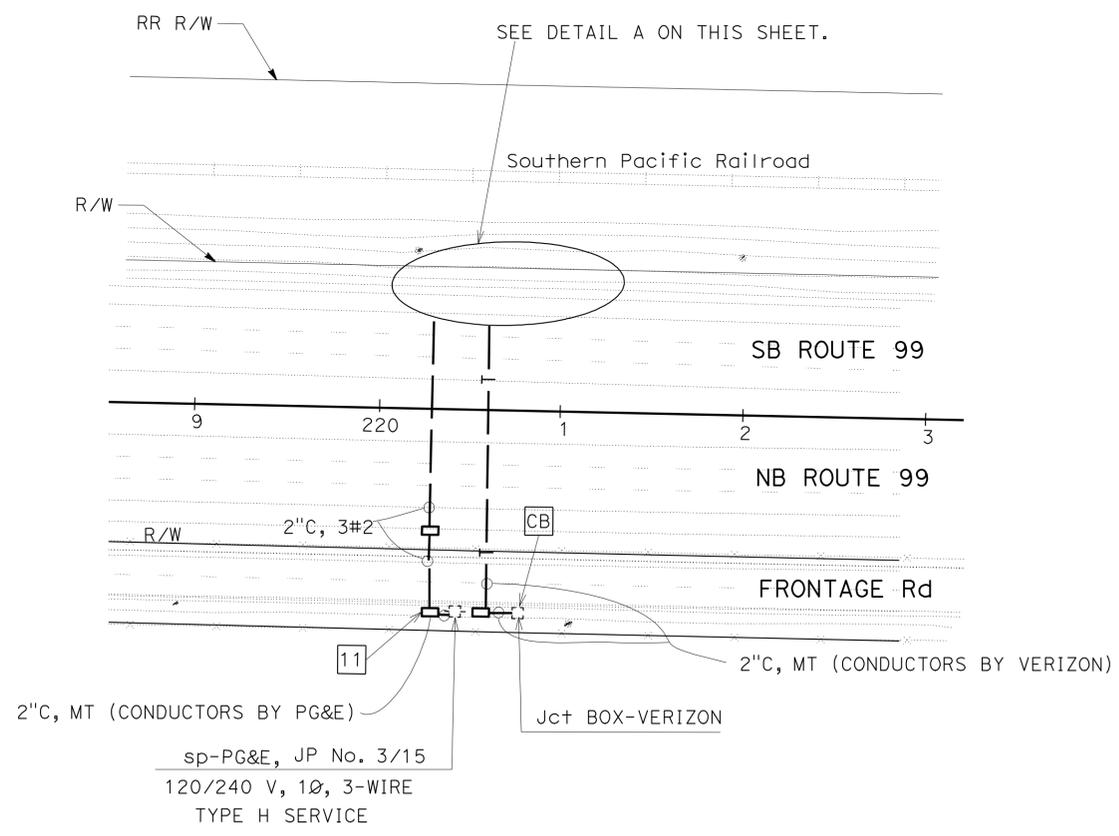
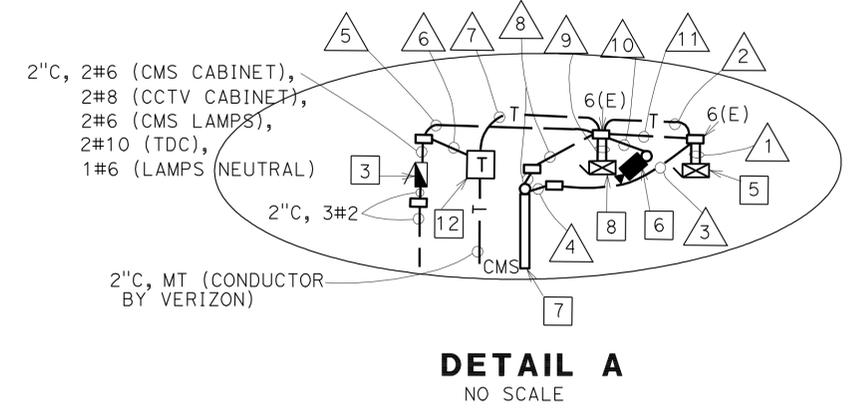
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN

NOTES:

- FOR NOTES AND SCHEDULES, SEE SHEET E-1.
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

CONDUIT AND CONDUCTOR SCHEDULE

| CONDUCTOR DESIGNATION | CIRCUIT | CONDUCTOR RUN NUMBER AND SIZE | | | | | | | | | | |
|-----------------------|-----------------|-------------------------------|------|------|------|------|------|------|------|------|--------|------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| #6 | 334 CABINET CMS | 2 | | | | 2 | | | | | | 2 |
| #6 | CMS LAMPS | | | | | 2 | | | | | 2 | |
| #6 | LAMPS NEUTRAL | | | | | 1 | | | | 1 | | |
| #8 | CCTV CABINET | | | | | 2 | | | | 2 | | |
| #10 | TDC | | | | | | 2 | | | | | |
| | COMPOSITE CABLE | | | | | | | | | 1 | 1 | |
| | SF HARNESS #4 | 1 | | 1 | 1 | | | | | | | |
| | SF HARNESS #5 | 1 | | 1 | 1 | | | | | | | |
| | TELEPHONE CABLE | 1 | 1 | | | | | 2 | | 1 | | |
| | CONDUIT SIZE | 2-3" C | 2" C | 2" C | 2" C | 2" C | 2" C | 2" C | 2" C | 2" C | 2-3" C | 2" C |



LOCATION-4
PM 4.14

**CHANGEABLE MESSAGE SIGN SYSTEM
 CLOSED CIRCUIT TELEVISION SYSTEM**

SCALE: 1" = 50"

E-5

APPROVED FOR ELECTRICAL WORK ONLY

| | | | | | |
|------|--------|-------|--------------------------|-----------|--------------|
| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
| 10 | SJ | 99 | 2.1/4.2 | 15 | 32 |

01-25-12
 REGISTERED ELECTRICAL ENGINEER DATE
 3-12-12
 PLANS APPROVAL DATE

JASPAL SINGH
 No. 16657
 Exp. 6/30/10
 ELECTRICAL
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|------|--------|-------|--------------------------|-----------|--------------|
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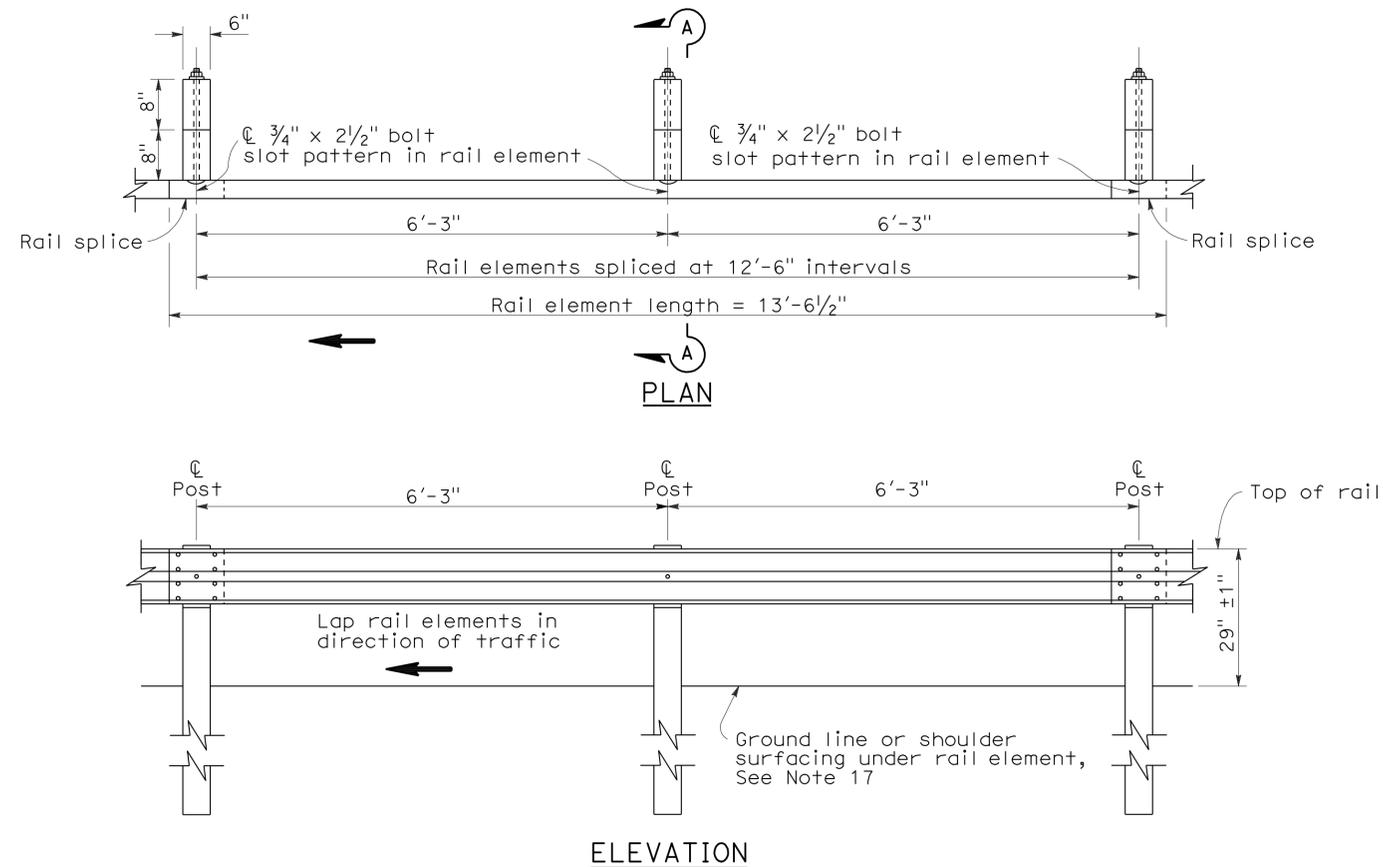
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

May 20, 2011
PLANS APPROVAL DATE

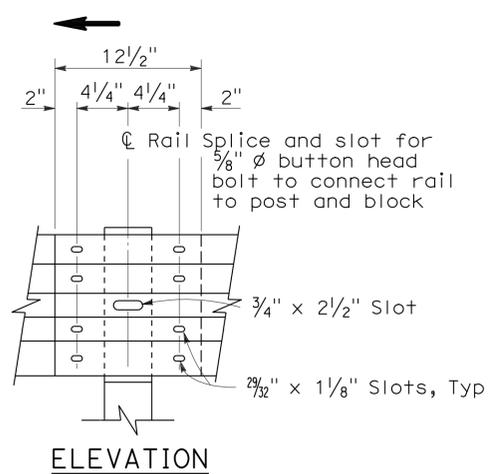
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REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-11
STATE OF CALIFORNIA
CIVIL

To accompany plans dated 3-12-12

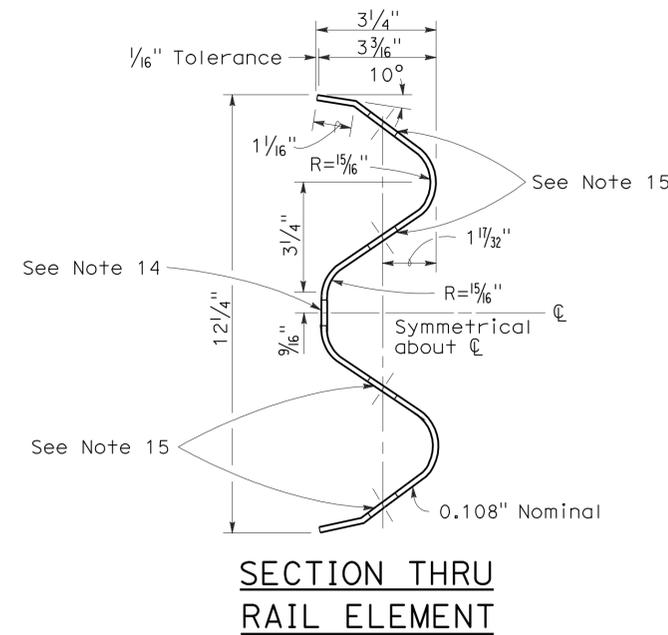


METAL BEAM GUARD RAILING WITH WOOD POST AND BLOCKS

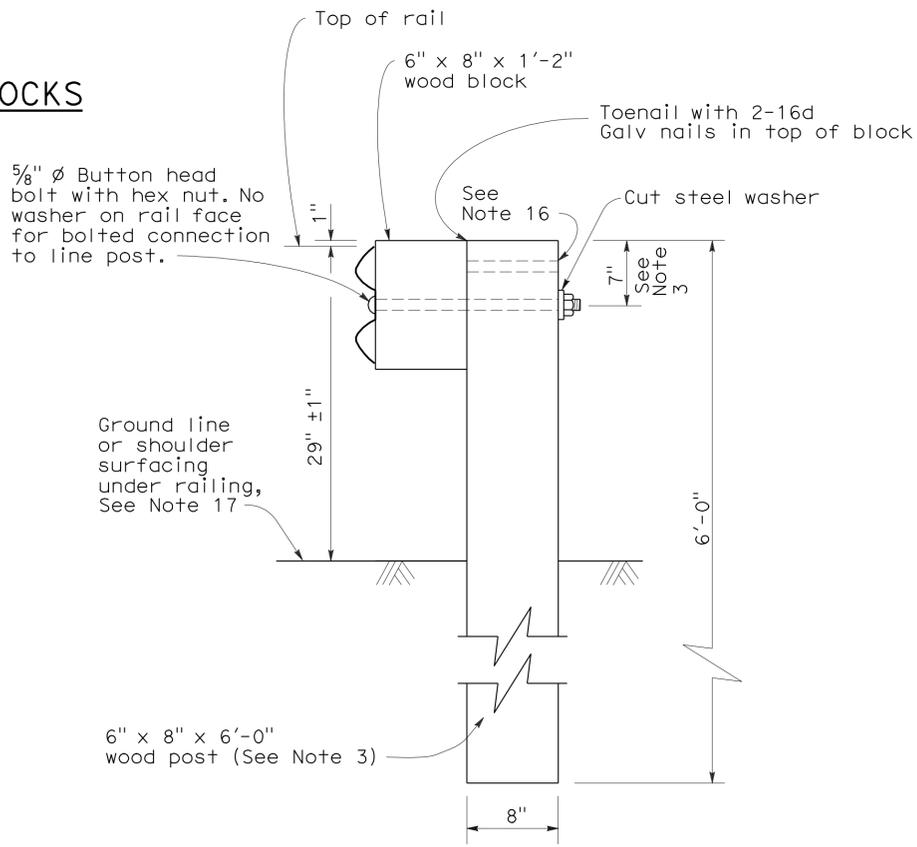


RAIL ELEMENT SPLICE DETAIL

- Connect the over lapped end of the rail elements with 5/8" ϕ x 1 3/8" button head oval shoulder splice bolts inserted into the 29/32" x 1 1/8" slots and bolted together with 5/8" ϕ recessed hex nuts. Recess of hex nut points toward rail element. A total of 8 bolts and nuts are to be used at each rail splice connection.
- The ends of the rail elements are to be overlapped in the direction of traffic (see details).
- Where end cap is to be attached to the end of a rail element, a total of 4 of the above described splice bolts and nuts are to be used.



SECTION THRU RAIL ELEMENT



**SECTION A-A
TYPICAL WOOD LINE
POST INSTALLATION**

See Note 4

NOTES:

- For details of steel post installations, see Standard Plan A77A2.
- For details of standard hardware used to construct guard railing, see Standard Plan A77B1.
- For details of wood posts and wood blocks used to construct guard railing, see Standard Plan A77C1.
- For additional installation details, see Standard Plan A77C3.
- Guard railing post spacing to be 6'-3" center to center, except as otherwise noted.
- For guard railing typical layouts, see the A77E, A77F and A77G Series of Standard Plans.
- For terminal system end treatment details, see the A77L Series of Standard Plans. To connect railing to terminal system end treatment, transition the top of railing height at a ratio of 120:1 to terminal system end treatment height plus one 12'-6" standard railing section at the transitioned height for a horizontal connection to the end treatment.
- For guard railing end anchor details, see Standard Plans A77H1 and A77I2.
- For details of guard railing transition to bridge railing, see Standard Plan A77J4.
- For additional details of guard railing connection to bridge railings, see Standard Plans A77J1, A77J2 and A77K1.
- For guard railing connection details to abutments and walls, see Standard Plan A77J3.
- Direction of adjacent traffic indicated by \rightarrow .
- For typical guard railing delineation and dike positioning details, see Standard Plan A77C4.
- Slotted hole for bolted connection of rail element to block and post. See "Section Thru Rail Element".
- Slotted holes for splice bolts to overlap ends of rail element. See "Section Thru Rail Element".
- Additional hole in uppermost portion of line post is for potential future adjustments of railing height. See Standard Plan A77C1.
- Install posts in soil.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
STANDARD RAILING SECTION
(WOOD POST WITH
WOOD BLOCK)**

NO SCALE

RSP A77A1 DATED MAY 20, 2011 SUPERSEDES STANDARD PLAN A77A1
DATED MAY 1, 2006 - PAGE 41 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77A1

2006 REVISED STANDARD PLAN RSP A77A1

| | | | | | |
|------|--------|-------|--------------------------|-----------|--------------|
| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
| 10 | SJ | 99 | 2.1/4.2 | 17 | 32 |

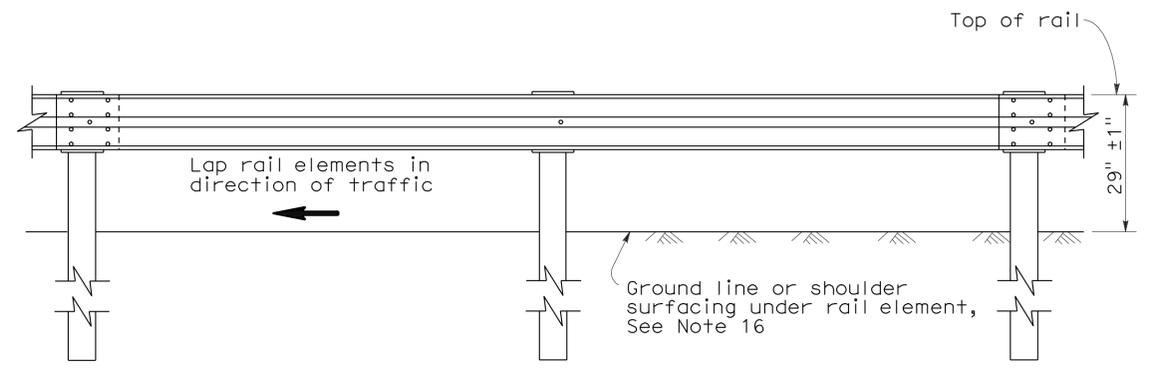
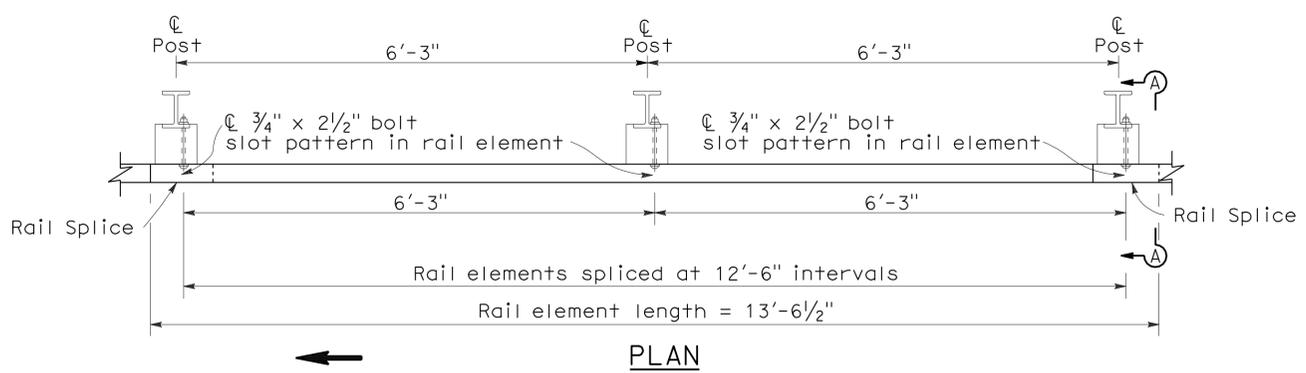
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

May 20, 2011
PLANS APPROVAL DATE

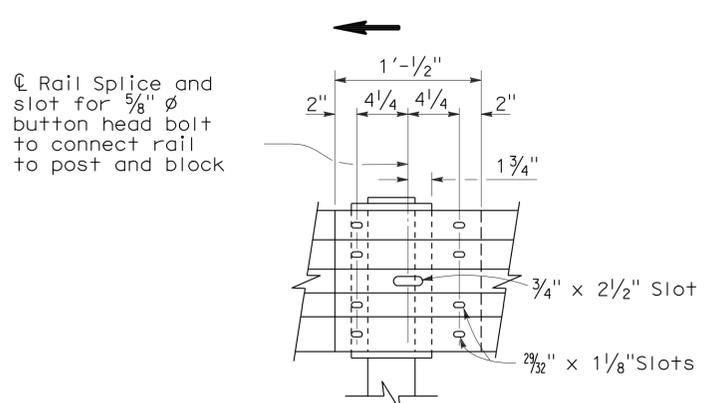
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To accompany plans dated 3-12-12

2006 REVISED STANDARD PLAN RSP A77A2



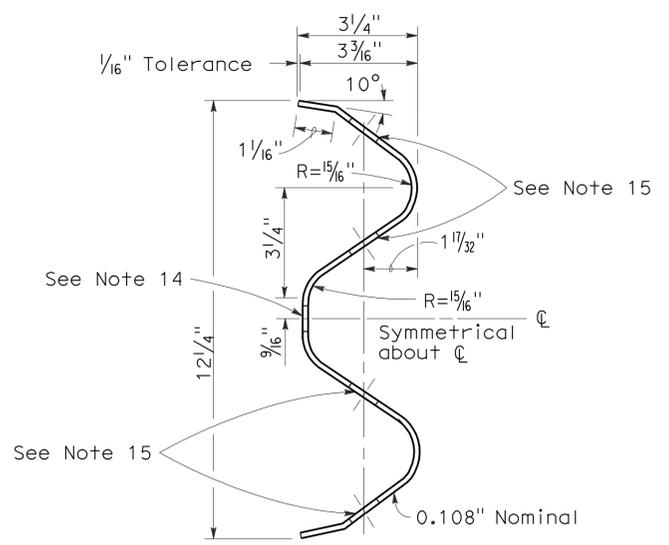
METAL BEAM GUARD RAILING WITH STEEL POSTS AND NOTCHED WOOD OR NOTCHED RECYCLED PLASTIC BLOCKS



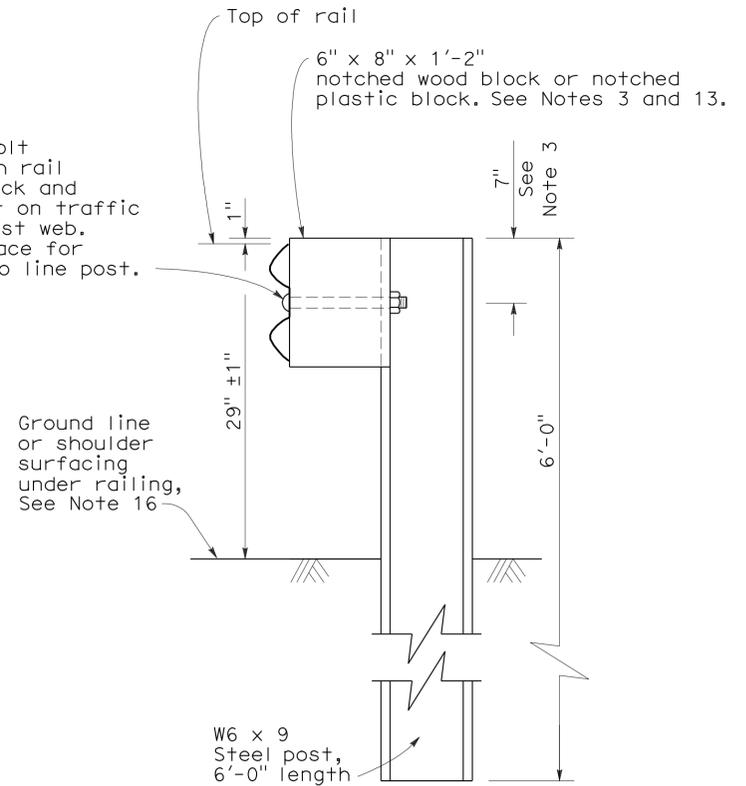
**ELEVATION
RAIL ELEMENT SPLICE DETAIL**

- Connect the overlapped end of the rail elements with 5/8" ϕ x 1 3/8" button head oval shoulder splice bolts inserted into the 2 3/32" x 1 1/8" slots and bolted together with 5/8" ϕ recessed hex nuts. Recess of hex nut points toward rail element. A total of 8 bolts and nuts are to be used at each rail splice connection.
- The ends of the rail elements are to be overlapped in the direction of traffic (see details).
- Where end cap is to be attached to the end of a rail element, a total of 4 of the above described splice bolts and nuts are to be used.

5/8" ϕ Button head bolt with hex nut. Attach rail element to wood block and steel post with bolt on traffic approach side of post web. No washer on rail face for bolted connection to line post.



SECTION THRU RAIL ELEMENT



**SECTION A-A
TYPICAL STEEL LINE POST INSTALLATION**

See Note 4

NOTES:

- For details of wood post installations, see Standard Plan A77A1.
- For details of standard hardware used to construct guard railing, see Standard Plan A77B1.
- For details of steel posts and notched wood blocks used to construct guard railing, see Standard Plan A77C2.
- For additional installation details, see Standard Plan A77C3.
- Guard railing post spacing to be 6'-3" center to center, except as otherwise noted.
- For guard railing typical layouts, see the A77E, A77F and A77G Series of Standard Plans.
- For terminal system end treatment details, see the A77L Series of Standard Plans. To connect railing to terminal system end treatment, transition the top of railing height at a ratio of 120:1 to terminal system end treatment height plus one 12'-6" standard railing section at the transitioned height for a horizontal connection to the end treatment.
- For guard railing end anchor details, see Standard Plans A77H1 and A77I2.
- For details of guard railing transition to bridge railing, see Standard Plan A77J4.
- For additional details of guard railing connection to bridge railings, see Standard Plans A77J1, A77J2 and A77K1.
- For dike positioning and guard railing delineation details, see Standard Plan A77C4.
- Direction of adjacent traffic indicated by \rightarrow .
- Notched face of block faces steel post.
- Slotted hole for bolted connection of rail element to block and post. See "Section Thru Rail Element".
- Slotted holes for splice bolts to overlap ends of rail element. See "Section Thru Rail Element".
- Install posts in soil.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
STANDARD RAILING SECTION
(STEEL POST WITH NOTCHED
WOOD OR NOTCHED
RECYCLED PLASTIC BLOCK)**

NO SCALE

RSP A77A2 DATED MAY 20, 2011 SUPERSEDES STANDARD PLAN A77A2
DATED MAY 1, 2006 - PAGE 42 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77A2

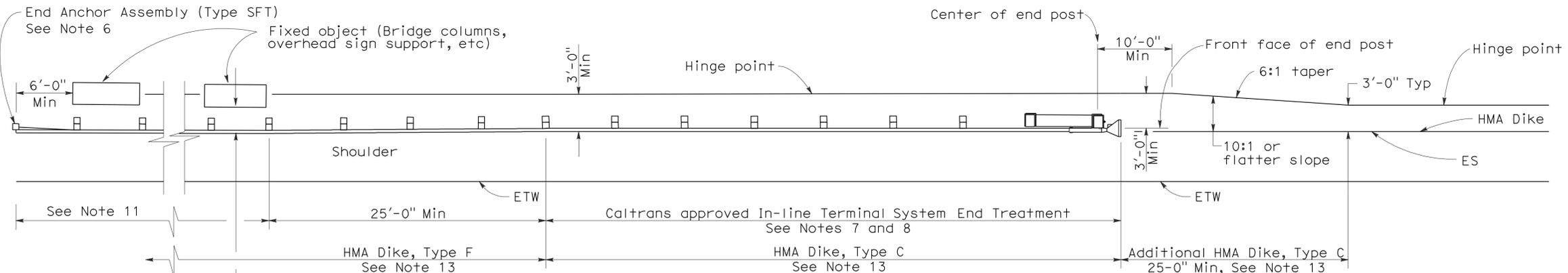
| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
|------|--------|-------|--------------------------|-----------|--------------|
| 10 | SJ | 99 | 2.1/4.2 | 18 | 32 |

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

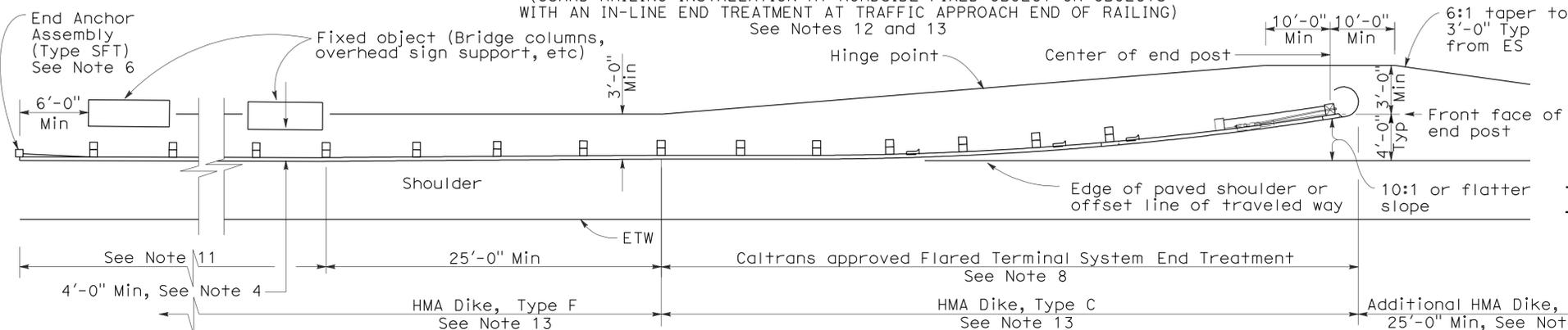
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REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA



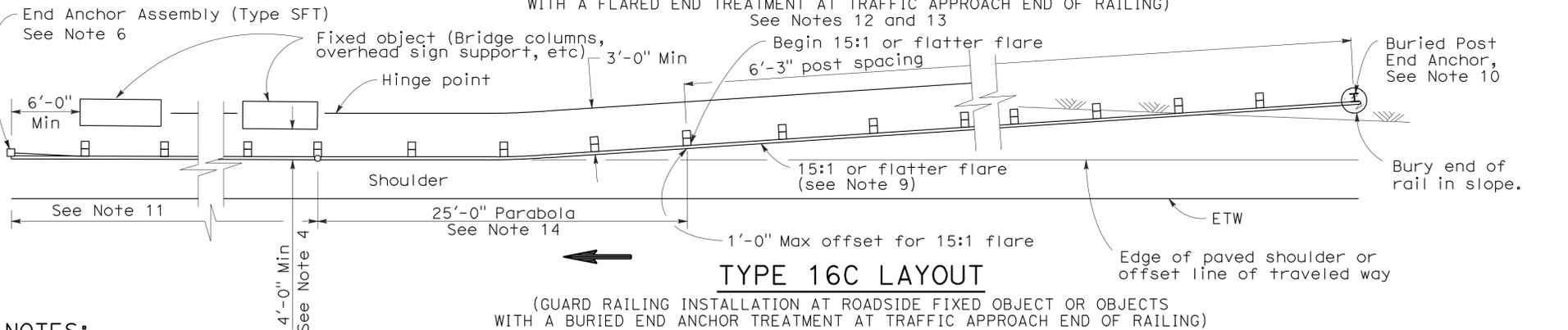
TYPE 16A LAYOUT

(GUARD RAILING INSTALLATION AT ROADSIDE FIXED OBJECT OR OBJECTS WITH AN IN-LINE END TREATMENT AT TRAFFIC APPROACH END OF RAILING)
See Notes 12 and 13



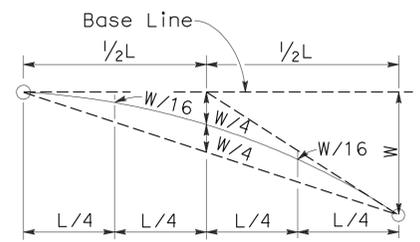
TYPE 16B LAYOUT

(GUARD RAILING INSTALLATION AT ROADSIDE FIXED OBJECT OR OBJECTS WITH A FLARED END TREATMENT AT TRAFFIC APPROACH END OF RAILING)
See Notes 12 and 13

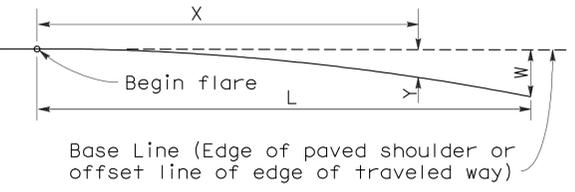


TYPE 16C LAYOUT

(GUARD RAILING INSTALLATION AT ROADSIDE FIXED OBJECT OR OBJECTS WITH A BURIED END ANCHOR TREATMENT AT TRAFFIC APPROACH END OF RAILING)
See Notes 12 and 13



TYPICAL PARABOLIC LAYOUT

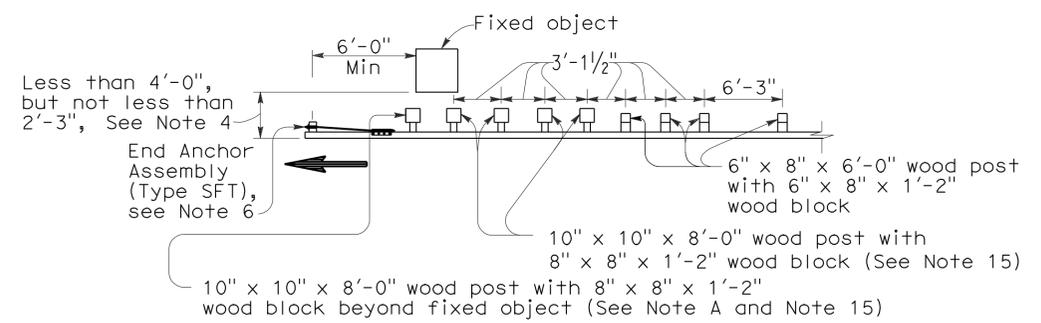


Base Line (Edge of paved shoulder or offset line of edge of traveled way)
Y = Offset from base line
W = Maximum offset
X = Distance along base line
L = Length of flare

PARABOLIC FLARE OFFSETS

NOTES:

- Line post, blocks and hardware to be used are shown on Revised Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard railing post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood line posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- A 4'-0" minimum clearance is required between the face of the railing and the face of a fixed object located directly behind standard guard railing sections with post spacing of 6'-3". Construct guard railing as shown in the detail "Strengthened Railing Sections for Fixed Objects" on this plan, where the clearance between the face of the railing and the face of a fixed object is less than 4'-0", but not less than 2'-3". Where the clearance is less than 2'-3", a concrete wall or barrier should be constructed to shield the fixed object(s).
- Direction of adjacent traffic indicated by \rightarrow .
- For End Anchor Assembly (Type SFT) details, see Standard Plan A77H1.
- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of terminal system to be used will be shown on the Project Plans.
- The 15:1 or flatter flare used with Type 16C Layout is based on the edge of the paved shoulder or offset line of edge of the traveled way. The length of guard railing within the 15:1 or flatter flare is based on site conditions and should be a length equal to multiples of 12'-6".
- For details of the Buried Post End Anchor used with Type 16C Layout, see Standard Plan A77I2.
- As site conditions dictate, construct additional guard railing to shield fixed object(s). Additional guard railing length equal to multiples of 12'-6". Post spacing at 6'-3" except as specified in Note 4.
- Layout Types 16A, 16B or 16C are typically used where guard railing is recommended to shield roadside fixed object(s) and a crashworthy end treatment is required for only one direction of traffic.
- Where placement of dike is required with guard railing, see Revised Standard Plan RSP A77C4 for dike positioning details.
- For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77E1.
- W6 x 15 steel post, 8'-0" in length, with 8" x 8" x 1'-2" notched wood block or notched recycled plastic blocks may be used in place of the 10" x 10" x 8'-0" wood post with 8" x 8" x 1'-2" wood block shown in the "Strengthened Railing Sections Detail".



NOTE A: For a series of fixed objects (bridge columns, overhead sign supports, etc.) additional 10" x 10" x 8'-0" wood post with 8" x 8" x 1'-2" wood blocks at 3'-1/2" center to center spacing are to be used between fixed objects.

STRENGTHENED RAILING SECTIONS FOR FIXED OBJECT

Use strengthened railing sections with Types 16A, 16B or 16C Layouts where minimum clearance between the face of the guard railing and fixed object(s) is less than 4'-0", but not less than 2'-3". See Note 4

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
METAL BEAM GUARD RAILING TYPICAL LAYOUTS FOR ROADSIDE FIXED OBJECTS

NO SCALE
RSP A77G3 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77G3
DATED MAY 1, 2006 - PAGE 61 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77G3

2006 REVISED STANDARD PLAN RSP A77G3

| | | | | | |
|------|--------|-------|--------------------------|-----------|--------------|
| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
| 10 | SJ | 99 | 2.1/4.2 | 19 | 32 |

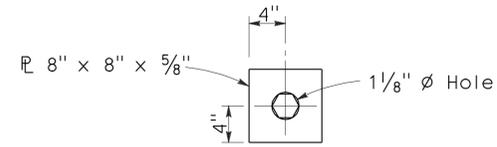
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

May 20, 2011
PLANS APPROVAL DATE

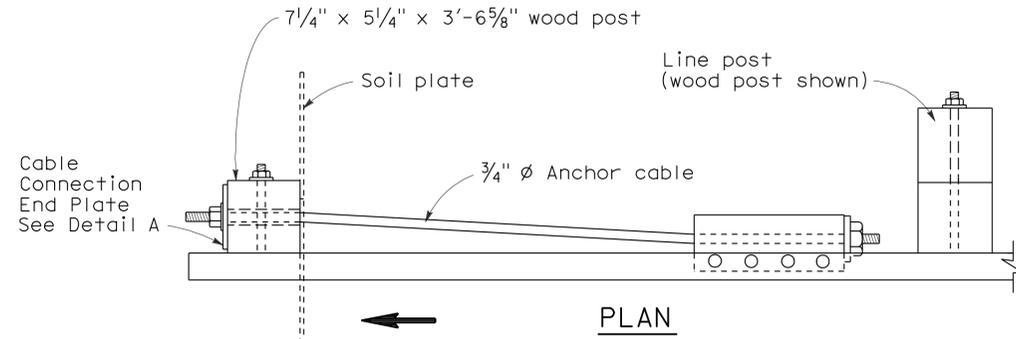
Randell D. Hiatt
No. C50200
Exp. 6-30-11
CIVIL
STATE OF CALIFORNIA

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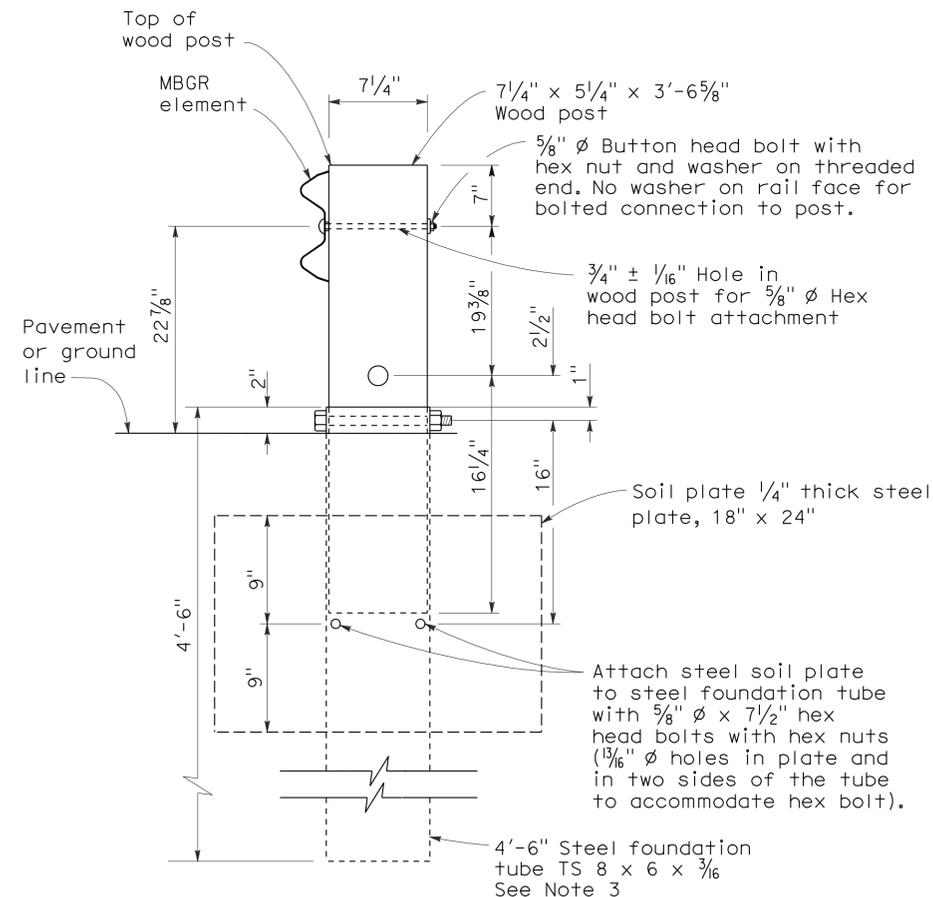
To accompany plans dated 3-12-12



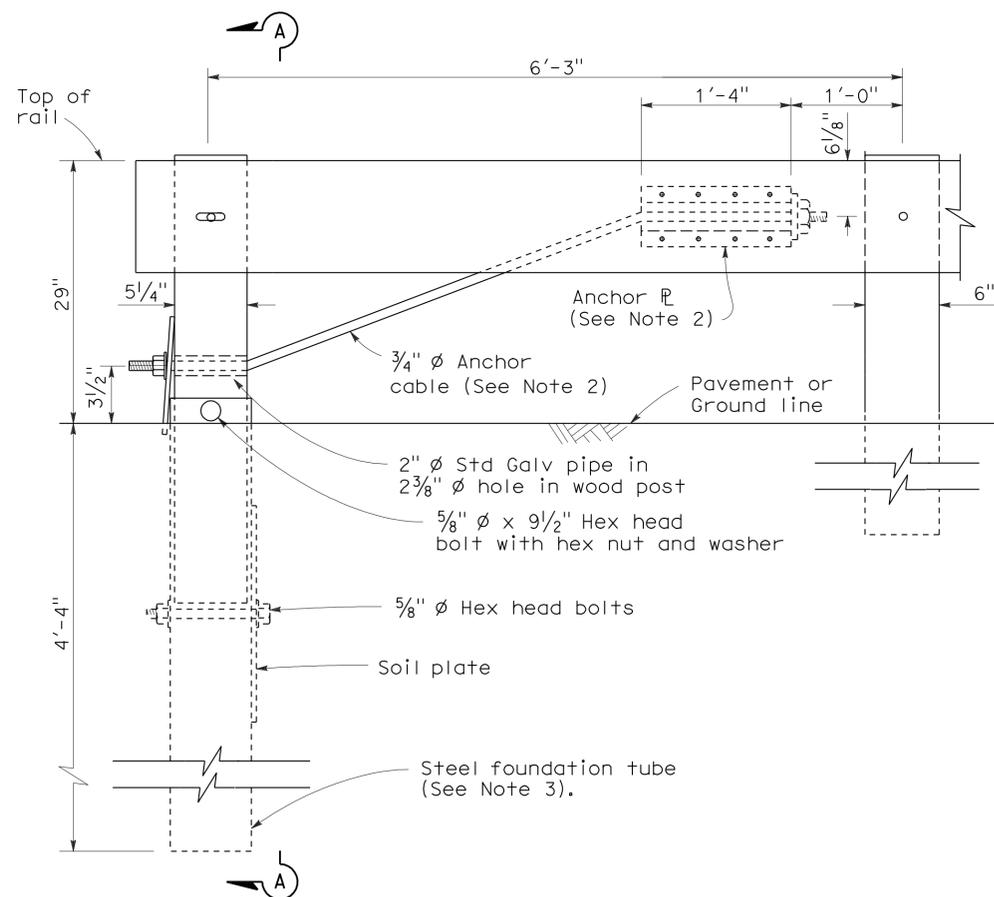
DETAIL A
CABLE CONNECTION
END PLATE



PLAN



SECTION A-A



ELEVATION
END ANCHOR
ASSEMBLY (TYPE SFT)
See Note 1

NOTES:

1. See the A77E, A77F and A77G series of Standard Plans for typical use of End Anchor Assembly (Type SFT).
2. For details of the anchor plate and 3/4" cable, see Standard Plan A77H3.
3. A 6'-0" length steel foundation tube, TS 8 x 6 x 3/16, without a soil plate, may be furnished and installed in place of the 4'-6" length steel foundation tube and soil plate shown. Minimum embedment of the 6'-0" length tube shall be 5'-9". A 5/8" diameter hex head bolt and nut shall be installed in the hole in the 6'-0" length tube to keep the wood post from dropping into the tube.
4. Direction of traffic indicated by →.
5. Install line post, steel foundation tube and soil plate in soil.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL RAILING
END ANCHOR ASSEMBLY
(TYPE SFT)

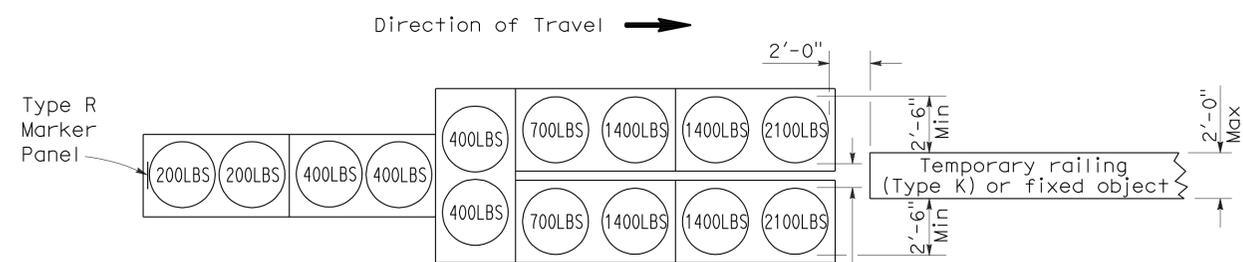
NO SCALE

RSP A77H1 DATED MAY 20, 2011 SUPERSEDES STANDARD PLAN A77H1
DATED MAY 1, 2006 - PAGE 67 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77H1

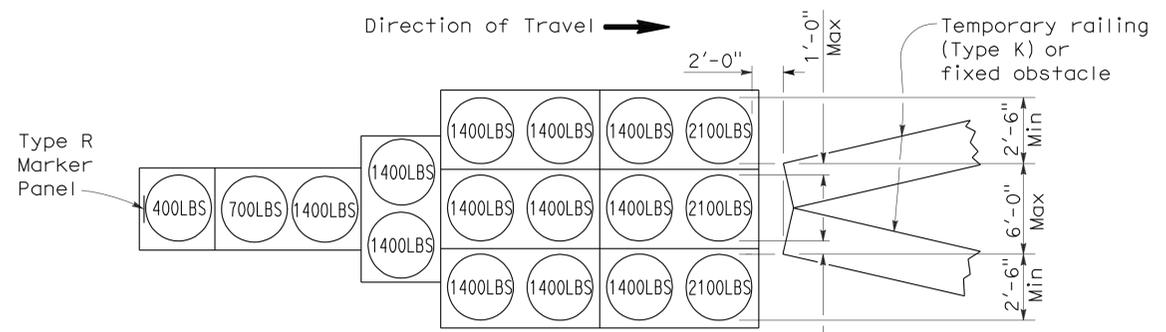
2006 REVISED STANDARD PLAN RSP A77H1

To accompany plans dated 3-12-12



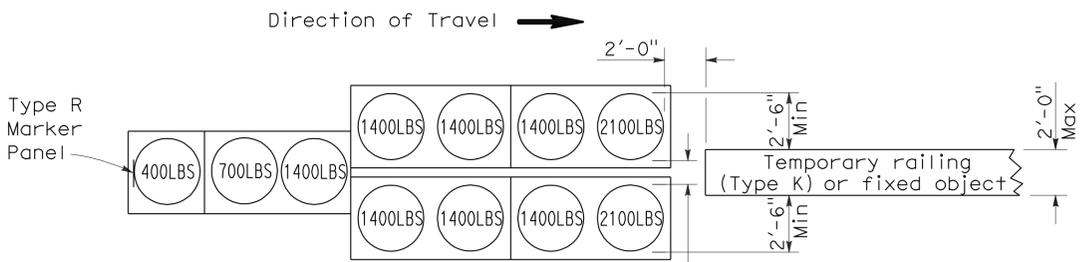
ARRAY 'TU14'

Approach speed 45 mph or more



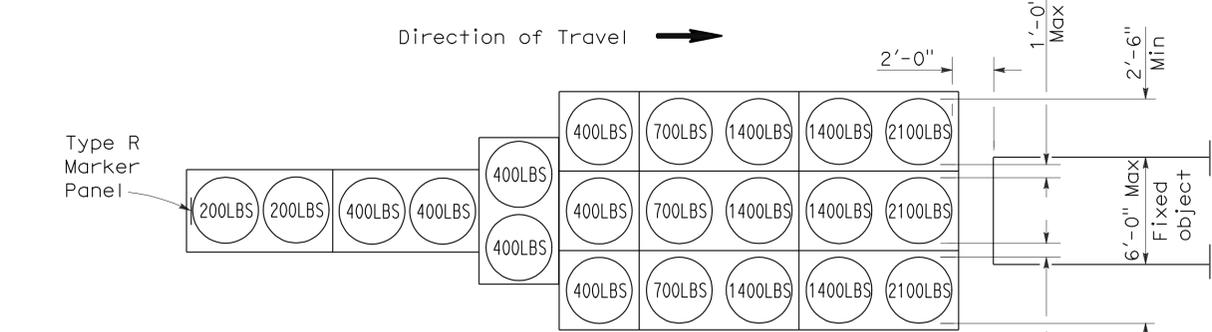
ARRAY 'TU17'

Approach speed less than 45 mph



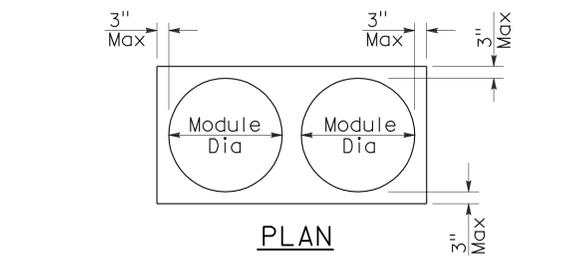
ARRAY 'TU11'

Approach speed less than 45 mph

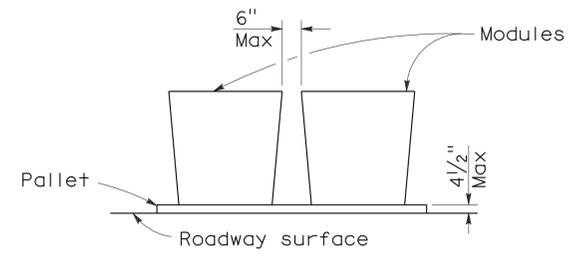


ARRAY 'TU21'

Approach speed 45 mph or more



PLAN



ELEVATION

CRASH CUSHION PALLET DETAIL

See Note 7

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

REVISED STANDARD PLAN RSP T1A

2006 REVISED STANDARD PLAN RSP T1A

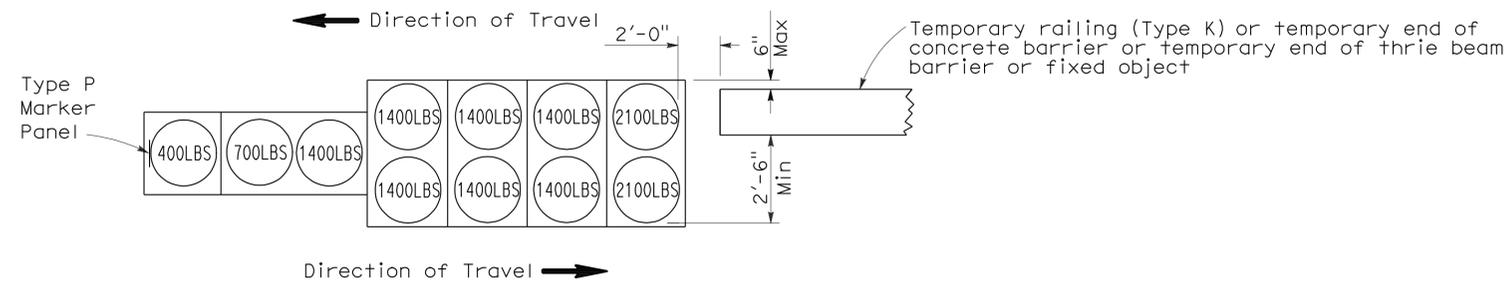
| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
|------|--------|-------|--------------------------|-----------|--------------|
| 10 | SJ | 99 | 2.1/4.2 | 21 | 32 |

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

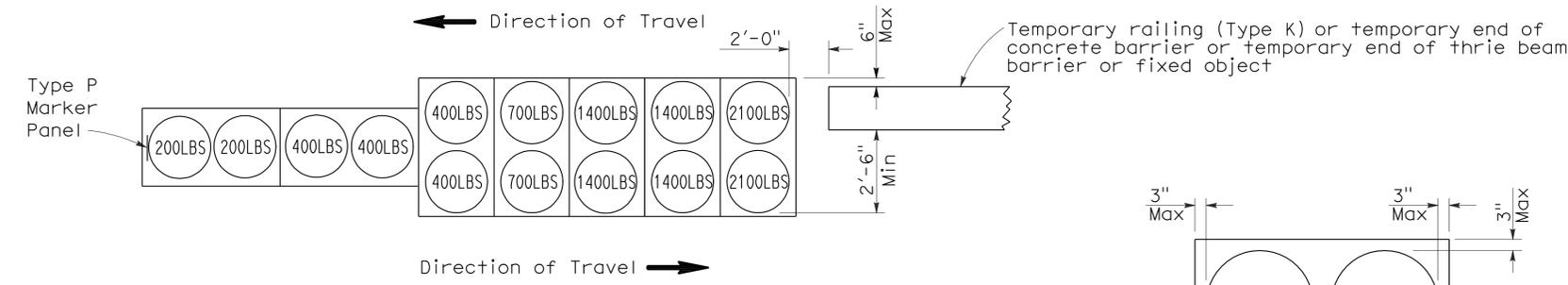
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 3-12-12



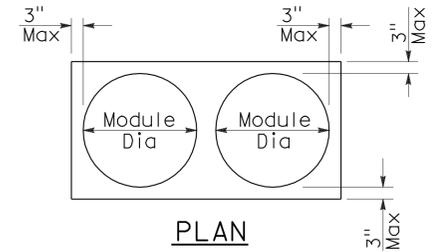
ARRAY 'TB11'

Approach speed less than 45 mph

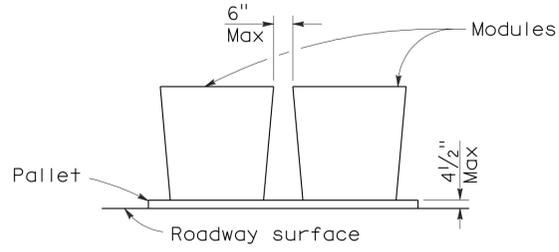


ARRAY 'TB14'

Approach speed 45 mph or more



PLAN



ELEVATION

CRASH CUSHION PALLET DETAIL

See Note 7

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

REVISED STANDARD PLAN RSP T1B

2006 REVISED STANDARD PLAN RSP T1B

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
|------|--------|-------|--------------------------|-----------|--------------|
| 10 | SJ | 99 | 2.1/4.2 | 22 | 32 |

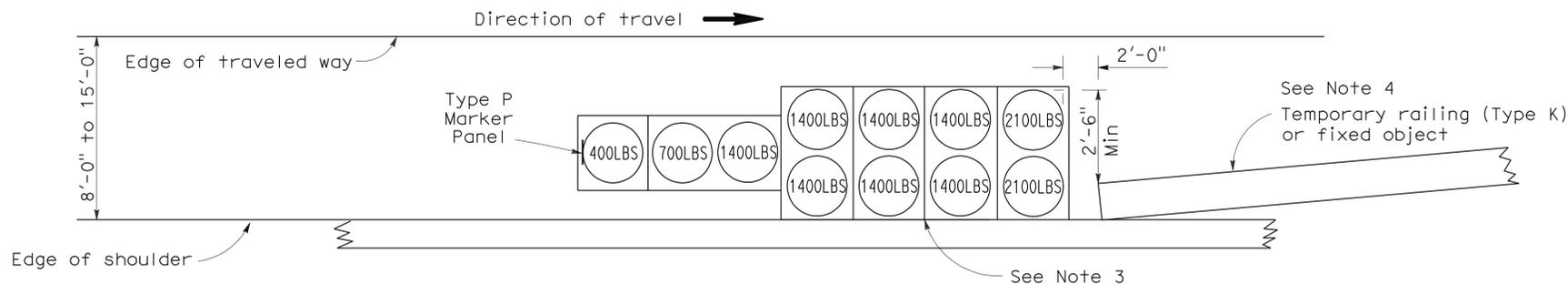
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

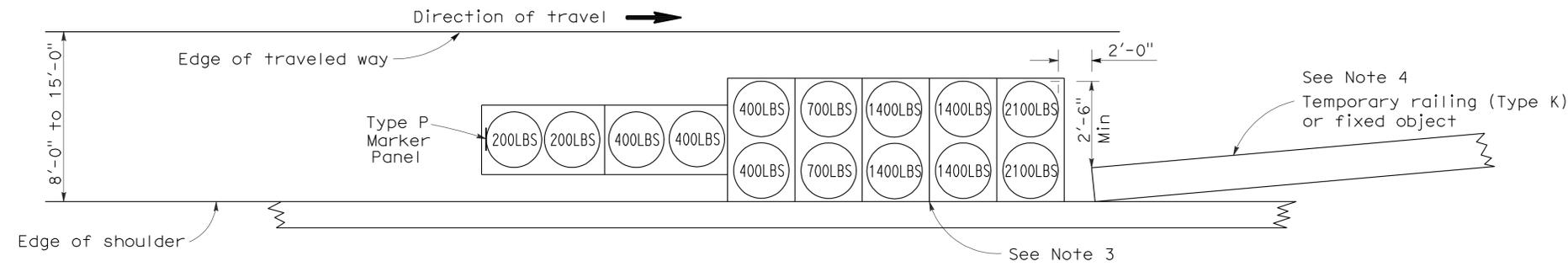
Randell D. Hiatt
REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

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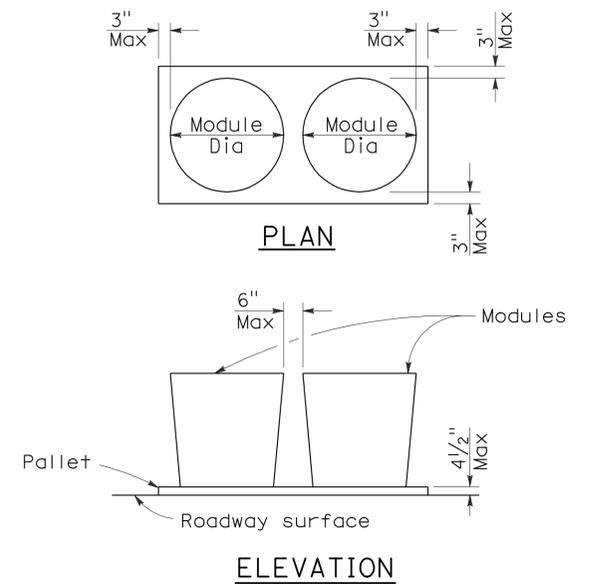
To accompany plans dated 3-12-12



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



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



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

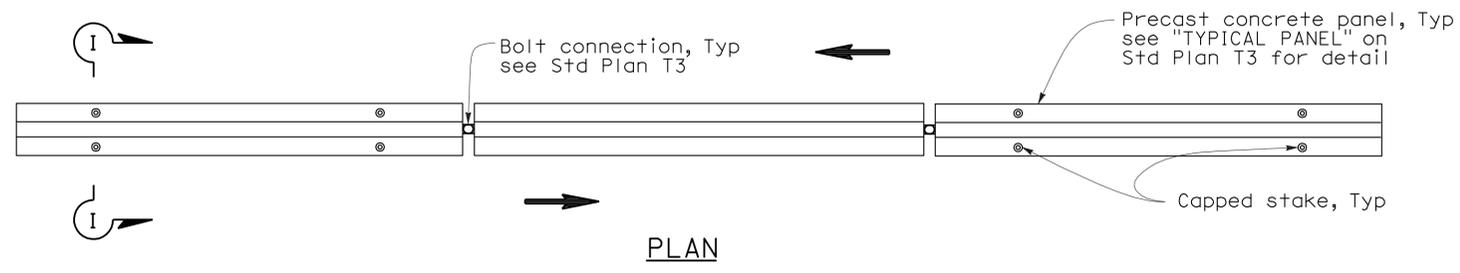
| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|------|--------|-------|--------------------------|-----------|--------------|
| 10 | SJ | 99 | 2.1/4.2 | 23 | 32 |

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

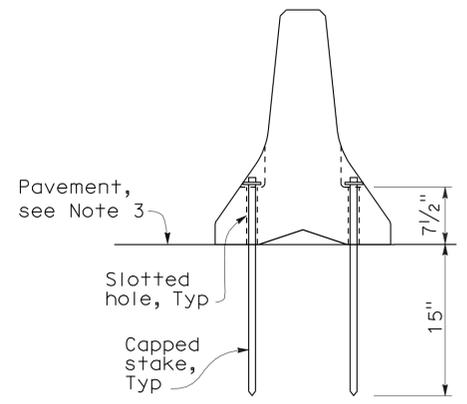
May 20, 2011
PLANS APPROVAL DATE

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To accompany plans dated 3-12-12



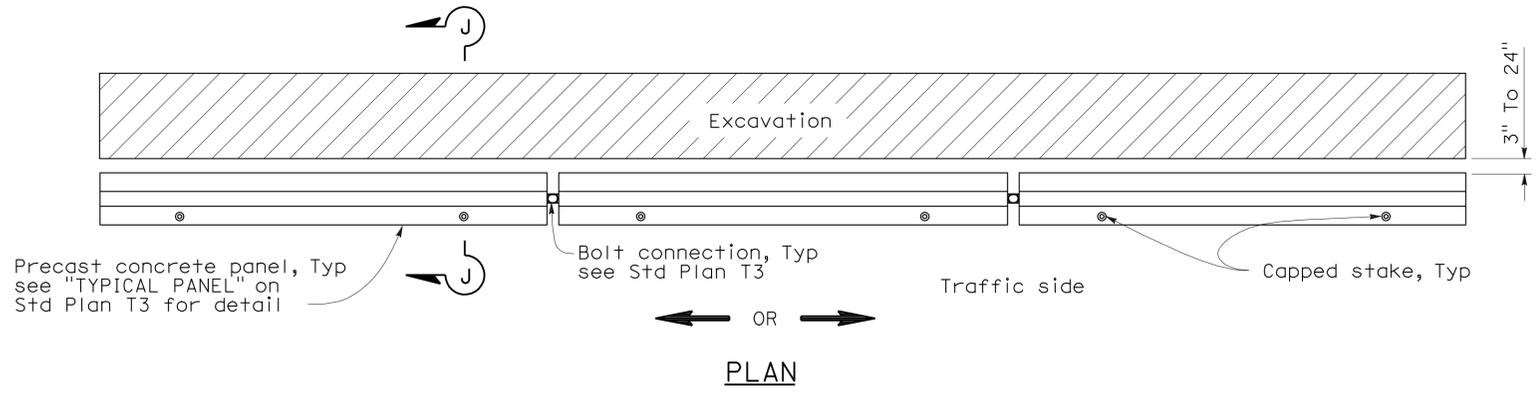
RAILING STAKING CONFIGURATION FOR TWO-WAY TRAFFIC
See Note 1



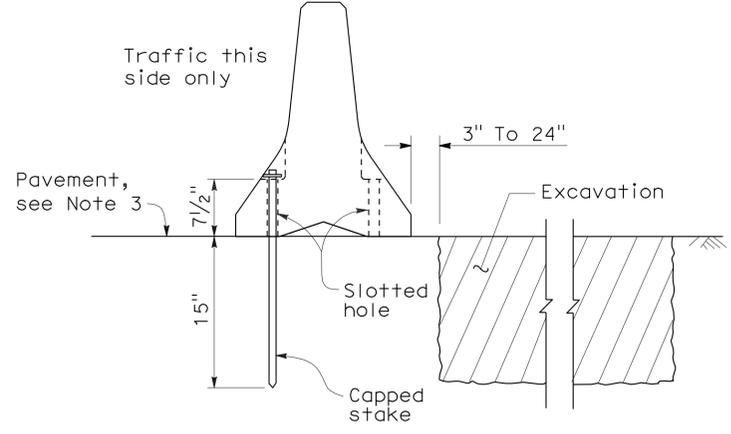
SECTION I-I

NOTES:

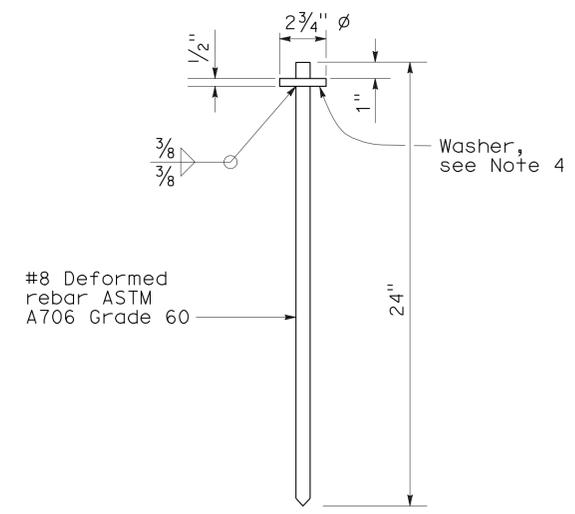
1. Where Type K Temporary Railing is placed as a temporary or long term barrier in two-way traffic on highways with less than 24" from the edge of traveled way, use four capped stakes per every other panel with end panels staked.
2. Where Type K Temporary Railing is placed 3" to 24" from the edge of an excavation on highways, use two capped stakes per panel along the traffic side.
3. Staked Type K Temporary Railing must be supported by at least 4" thick concrete, hot mix asphalt or existing asphalt concrete pavement.
4. The minimum yield strength for the washer must be 60,000 psi.
5. Direction of adjacent traffic indicated by \Rightarrow .



RAILING STAKING CONFIGURATION ADJACENT TO AN EXCAVATION
See Note 2



SECTION J-J



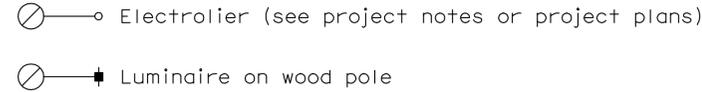
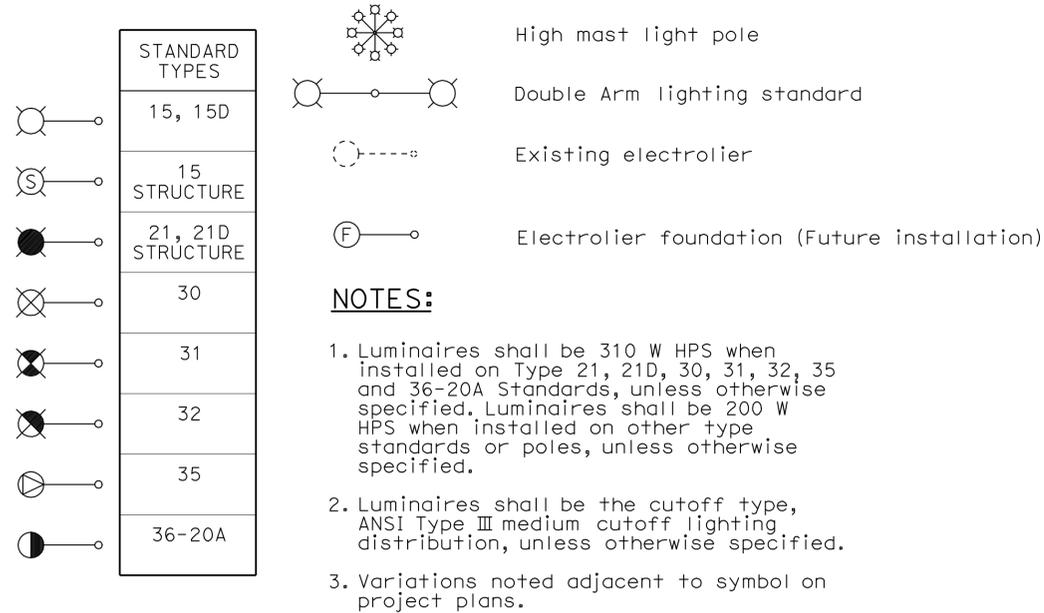
CAPPED STAKE DETAIL

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**TEMPORARY RAILING
(TYPE K)**
NO SCALE

NSP T3A DATED MAY 20, 2011 SUPPLEMENTS
THE STANDARD PLANS BOOK DATED MAY 2006.

2006 NEW STANDARD PLAN NSP T3A

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 |
|------|--------|-------|--------------------------|-----------|--------------|
| 10 | SJ | 99 | 2.1/4.2 | 24 | 32 |

Jeffery G. McRae
REGISTERED ELECTRICAL ENGINEER

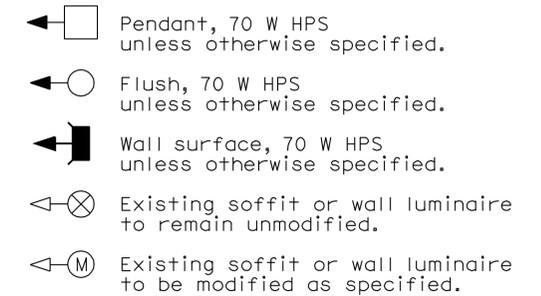
October 5, 2007
PLANS APPROVAL DATE

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

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To accompany plans dated 3-12-12

SOFFIT AND WALL MOUNTED LUMINAIRES



NOTE:

Arrow indicates "street side" of luminaire.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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 |
|------|--------|-------|--------------------------|-----------|--------------|
| 10 | SJ | 99 | 2.1/4.2 | 25 | 32 |

Jeffery G. McRae
 REGISTERED ELECTRICAL ENGINEER
 October 5, 2007
 PLANS APPROVAL DATE
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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 RSP ES-9A C |
| | | Conduit riser in/on structure or service pole |

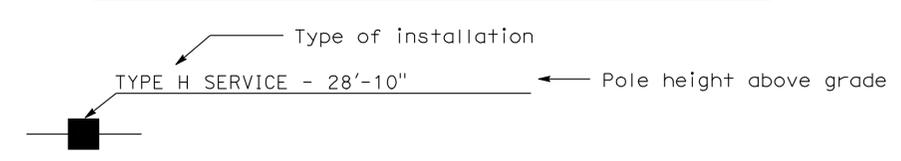
SIGNAL EQUIPMENT

| 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: "L" indicates all non-arrow sections louvered "LG" indicates louvered green section only "PV" indicates 12" programmed visibility sections "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

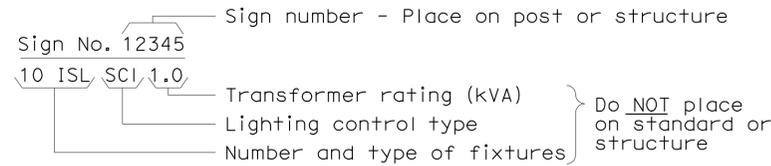
RSP ES-1B DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-1B
 DATED MAY 1, 2006 - PAGE 401 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-1B

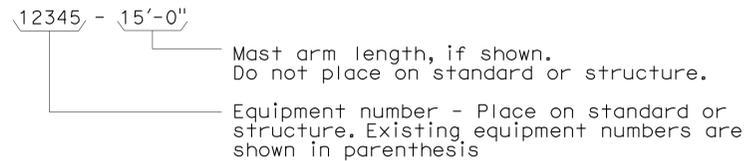
2006 REVISED STANDARD PLAN RSP ES-1B

EQUIPMENT IDENTIFICATION

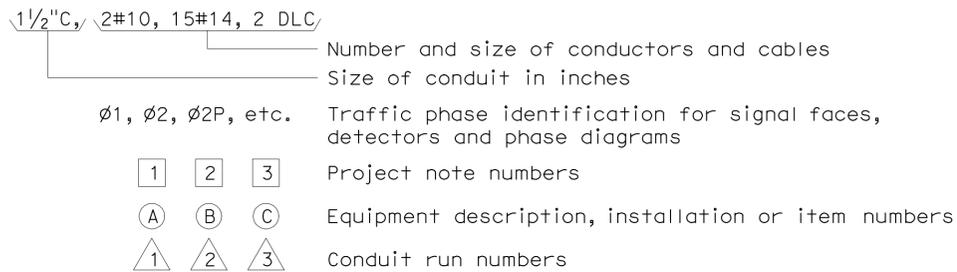
ILLUMINATED SIGN IDENTIFICATION NUMBER:



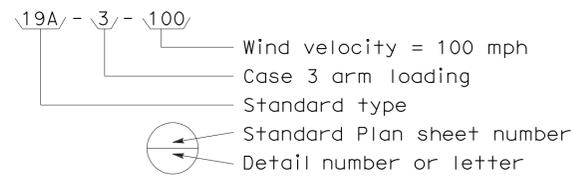
ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



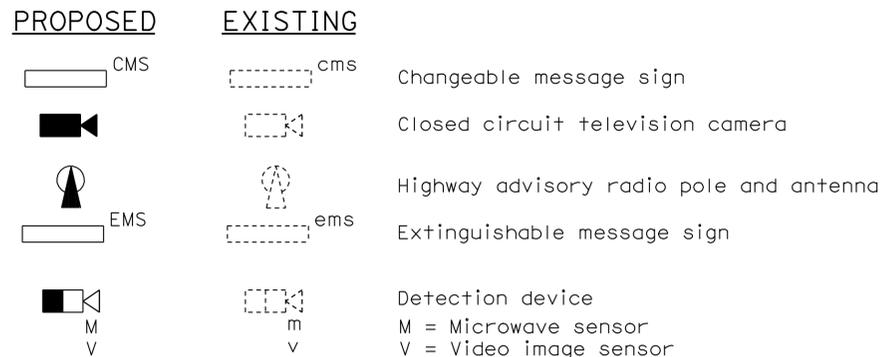
CONDUIT AND CONDUCTOR IDENTIFICATION:



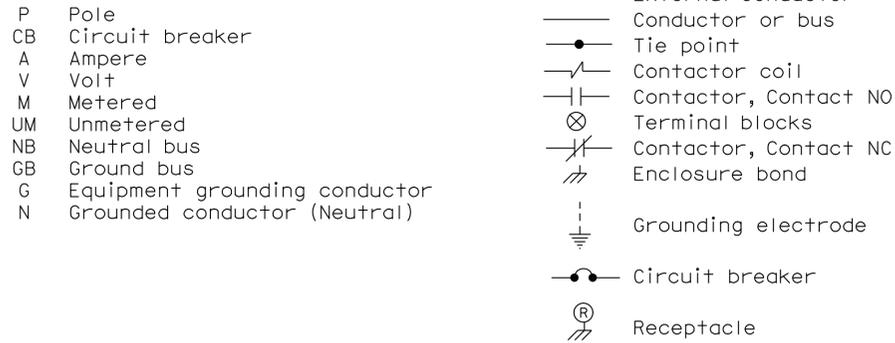
SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



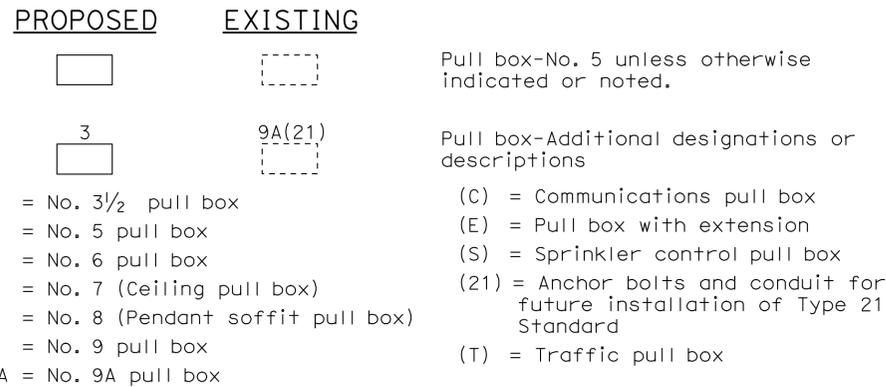
MISCELLANEOUS EQUIPMENT



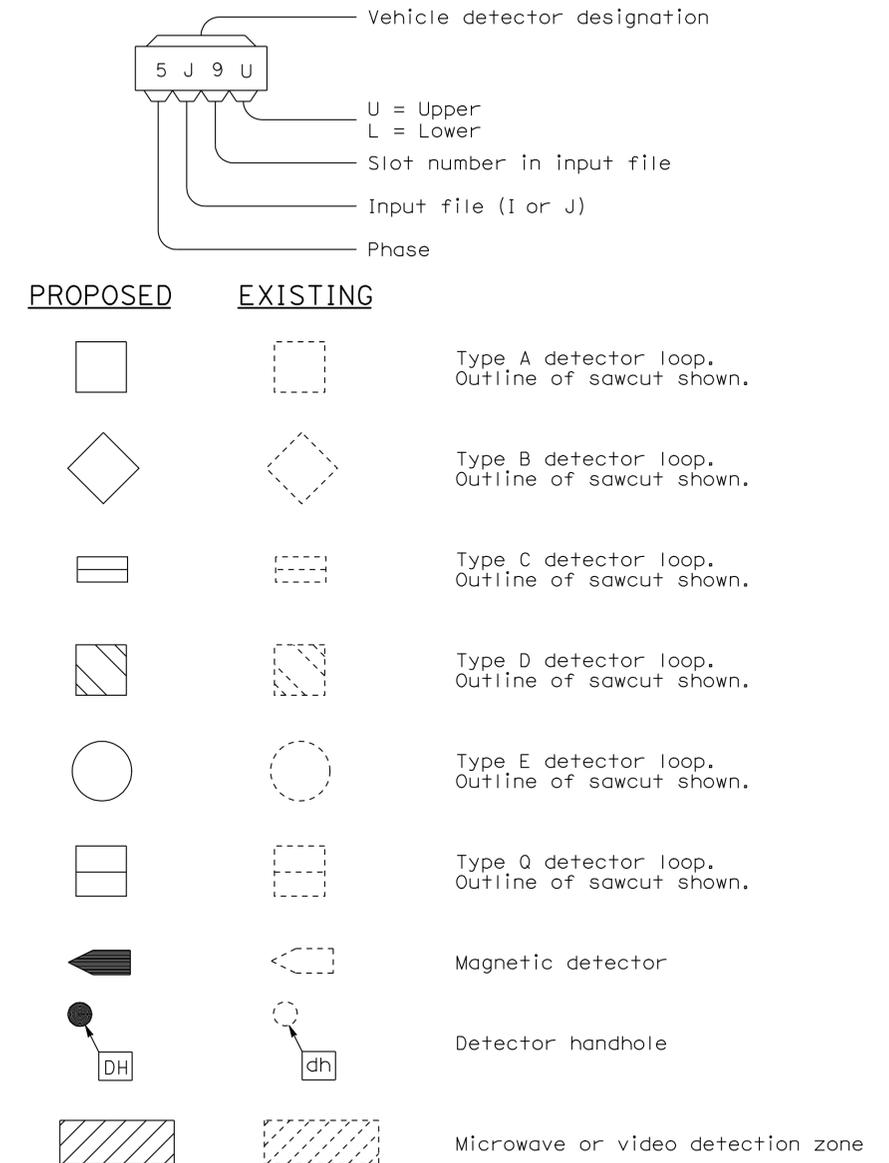
WIRING DIAGRAM LEGEND



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 |
|------|--------|-------|-----------------------------|--------------|-----------------|
| 10 | SJ | 99 | 2.1/4.2 | 27 | 32 |

Jeffery G. McRae
 REGISTERED ELECTRICAL ENGINEER

October 5, 2007
 PLANS APPROVAL DATE

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

NOTES-TYPE III SERVICE EQUIPMENT ENCLOSURES:

1. Service equipment enclosure and metering equipment shall meet the requirements of the service utility. The meter area shall have a sealable, lockable, weathertight cover that can be removed without the use of tools.
2. Service equipment enclosures shall be factory wired and conform to NEMA standards.
3. Dimensions of service equipment enclosures shall meet the requirements of the service utility.
4. The dead front panels on Type III service equipment enclosures shall have a continuous stainless steel or aluminum piano hinge. The panel in front of the breakers shall be secured with a latch or captive screws. No live parts shall be mounted on the dead front panel.
5. The exterior door shall have provisions for padlocking. The padlock hole shall be a minimum diameter of $\frac{1}{16}$ ".
6. Enclosures housing transformers of more than one kVA shall have effective screened ventilation louver of not less than 50 square inches. Screen shall be stainless steel No. 304, with a No. 10 size mesh. Framed screen shall be secured with at least four bolts.
7. Fasteners on the exterior of the enclosure shall be vandal-resistant and shall not be removable from the exterior. Exterior screws, nuts, bolts and washers shall be stainless steel.
8. Landing lugs for incoming service conductors shall be compatible with either copper or aluminum conductors sized to suit the conductors shown on the plan. Landing lugs shall be copper or tin-plated aluminum. Neutral bus shall be rated for 125 A and be suitable for copper or aluminum conductors unless otherwise specified. The terminal shall include but not be limited to:
 - a) Incoming terminals (landing lugs)
 - b) Neutral lugs
 - c) Solid neutral terminal strip
9. At least 6 standard single pole circuit breaker spaces, $\frac{3}{4}$ " nominal, shall be provided for branch circuits. Circuit breaker interiors shall be copper. Interiors of enclosure shall accept plug-in or cable-in/cable-out circuit breakers.
10. Control wiring shall be 600 V, 14 stranded machine tool wire. Where subject to flexing, 19 strand wire shall be used.
11. Main bus shall be rated for 125 A and shall be tin-plated copper.
12. A plastic laminated wiring diagram shall be provided with brass mounting eyelets and attached to the inside of the enclosure and the wiring diagram shall be affixed to the interior with a UL or ETL approved method.

13. An engraved phenolic nameplate on the dead front panel indicating the function of each circuit or device shall be installed with stainless steel rivets or stainless steel screws:
 - a) Adjacent to the breaker or device with character size a minimum of $\frac{1}{8}$ ".
 - b) At the top of the exterior door panel indicating State system number, voltage level and number of phases with character size a minimum of $\frac{3}{16}$ ".
14. The plan shows the approximate location of devices within the enclosure. Components may be rearranged, however, the "working" clearances within the service equipment enclosure shall be maintained.
15. In unpaved areas a raised portland cement concrete pad 2'-0" x 4" x width of foundation shall be constructed in front of new service equipment enclosure installation. Pad shall be set to elevation of foundation.
16. Foundation shall extend 2" minimum beyond edge of service equipment enclosure.
17. Internal bus, where shown, is typical only. Alternative design of proposed service equipment enclosure shall be submitted to the Engineer for approval.
18. Plug-in circuit breakers may be mounted in the vertical or horizontal position. Cable-in/cable-out circuit breakers shall be mounted in the vertical position.
19. Type III-AF and Type III-BF service equipment enclosures shall have the meter viewing windows located on the front side of the service equipment enclosures.
20. Type III-AR and Type III-BR service equipment enclosures shall be similarly constructed as Type III-AF and Type III-BF respectively, except the meter viewing windows shall be located on the back side of the service equipment enclosures.
21. Minimum clearance shall be required for front and back of service equipment enclosure per National Electrical Code, Article 110.26, "Spaces About Electric Equipment (600 Volts, Nominal, or Less)."

To accompany plans dated 3-12-12

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

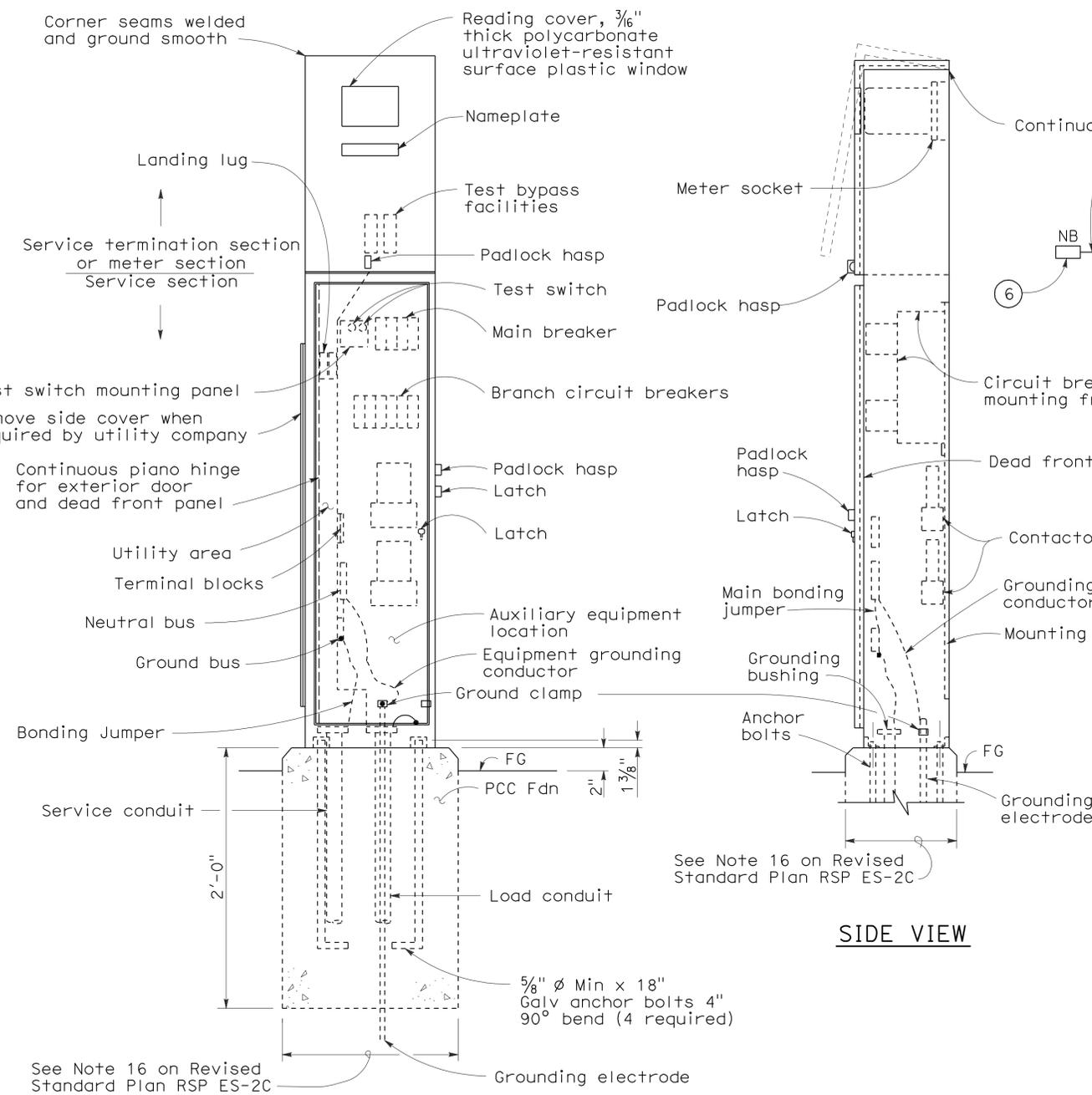
**ELECTRICAL SYSTEMS
 (SERVICE EQUIPMENT NOTES
 TYPE III SERIES)**

NO SCALE

RSP ES-2C DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-2C
 DATED MAY 1, 2006 - PAGE 405 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-2C

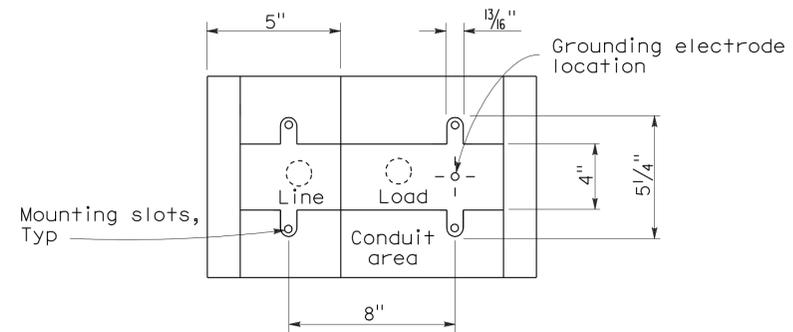
2006 REVISED STANDARD PLAN RSP ES-2C



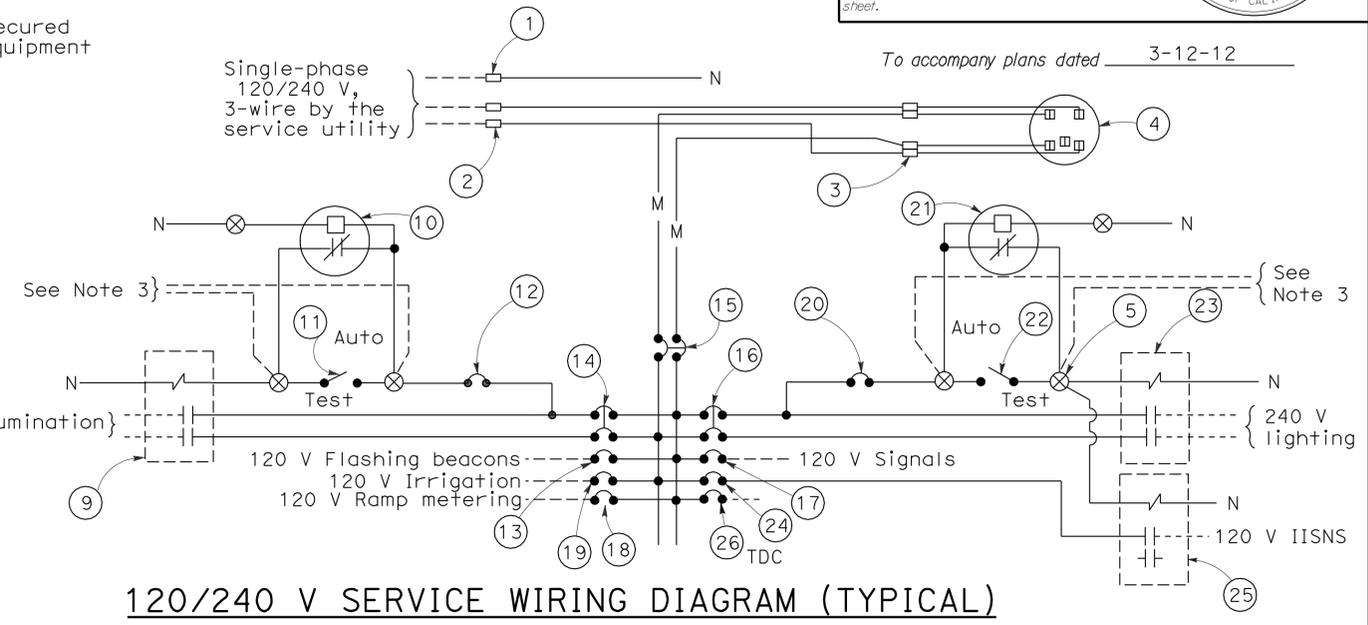
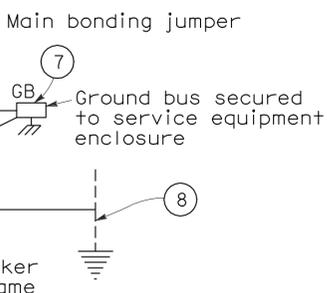
TYPE III-AF SERVICE EQUIPMENT ENCLOSURE (TYPICAL)

FRONT VIEW

SIDE VIEW



BASE FOR TYPE III-A SERVICE EQUIPMENT ENCLOSURE



120/240 V SERVICE WIRING DIAGRAM (TYPICAL)

| TYPE III-A SERVICE (120/240 V) EQUIPMENT LEGEND | | | | | |
|---|-----------------------------|-------------------------------|----------|-----------------------------|-------------------------------|
| ITEM No. | COMPONENT | NAME PLATE DESCRIPTION | ITEM No. | COMPONENT | NAME PLATE DESCRIPTION |
| 1 | Neutral lug | | 14 | 30 A, 240 V, 2P, CB | Sign Illumination |
| 2 | Landing lug (Note 6) | | 15 | 100 A, 240 V, 2P, CB | Main Breaker |
| 3 | Test bypass facility | | 16 | 30 A, 240 V, 2P, CB | Lighting |
| 4 | Meter socket and support | | 17 | 50 A, 120 V, 1P, CB | Signals |
| 5 | Terminal blocks | | 18 | 30 A, 120 V, 1P, CB | Ramp Metering |
| 6 | Neutral bus | | 19 | 20 A, 120 V, 1P, CB | Irrigation |
| 7 | Ground bus | | 20 | 15 A, 120 V, 1P, CB | Lighting Control |
| 8 | Grounding electrode | | 21 | Photoelectric unit (Note 7) | |
| 9 | 30 A, 2PNO Contactor | Sign Illumination | 22 | 15 A, 1P, Test switch | Lighting Test Switch |
| 10 | Photoelectric unit (Note 7) | | 23 | 60 A, 2PNO Contactor | Lighting |
| 11 | 15 A, 1P, Test switch | Sign Illumination Test Switch | 24 | 15 A, 120 V, 1P, CB | IISNS |
| 12 | 15 A, 120 V, 1P, CB | Sign Illumination Control | 25 | 30 A, 2PNO Contactor | IISNS |
| 13 | 15 A, 120 V, 1P, CB | Flashing Beacon | 26 | 20 A, 120 V, 1P, CB | Telephone Demarcation Cabinet |

NOTES: (FOR SERVICE EQUIPMENT ENCLOSURE)

- Voltage ratings of service equipment shall conform to the service voltages indicated on the plans.
- Unless otherwise indicated on the plans, service equipment items shall be provided for each service equipment enclosure as shown.
- Connect to remote test switch mounted on lighting standards, sign post or structure when required.
- Items No. 1 and 6 shall be isolated from the service equipment enclosure.
- Meter sockets shall be 5 clip type.
- The landing lug shall be suitable for multiple conductors.
- Type I photoelectric control shall be used unless otherwise indicated on the plans.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (SERVICE EQUIPMENT AND
 TYPICAL WIRING DIAGRAM,
 TYPE III - A SERIES)**

NO SCALE

RSP ES-2D DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-2D
 DATED MAY 1, 2006 - PAGE 406 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP ES-2D

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
|------|--------|-------|--------------------------|-----------|--------------|
| 10 | SJ | 99 | 2.1/4.2 | 29 | 32 |

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

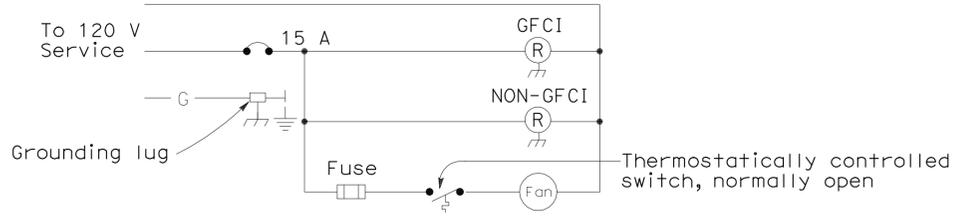
October 5, 2007
 PLANS APPROVAL DATE

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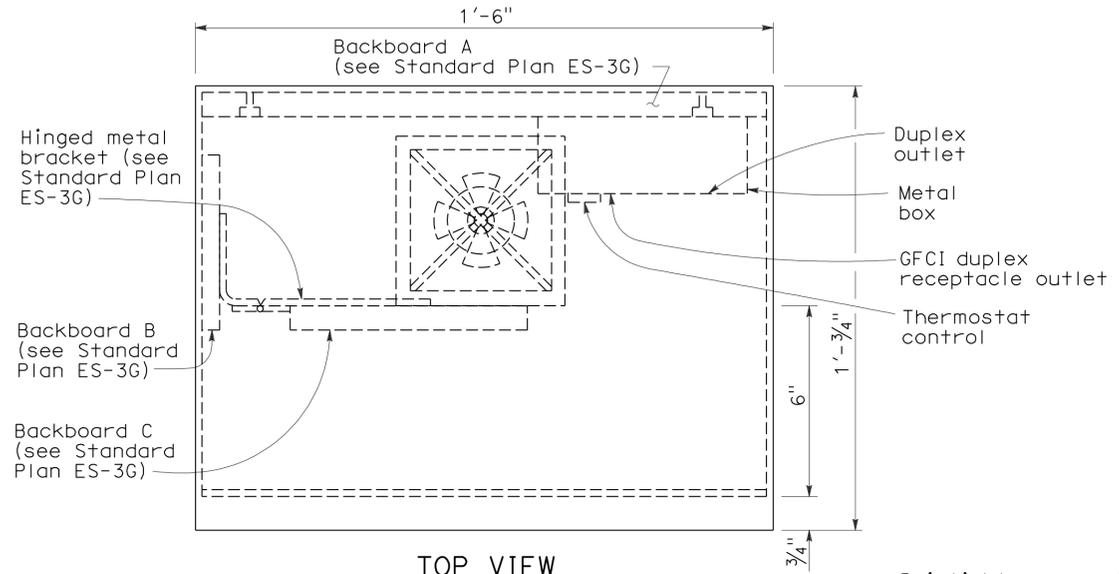
To accompany plans dated 3-12-12

NOTES:

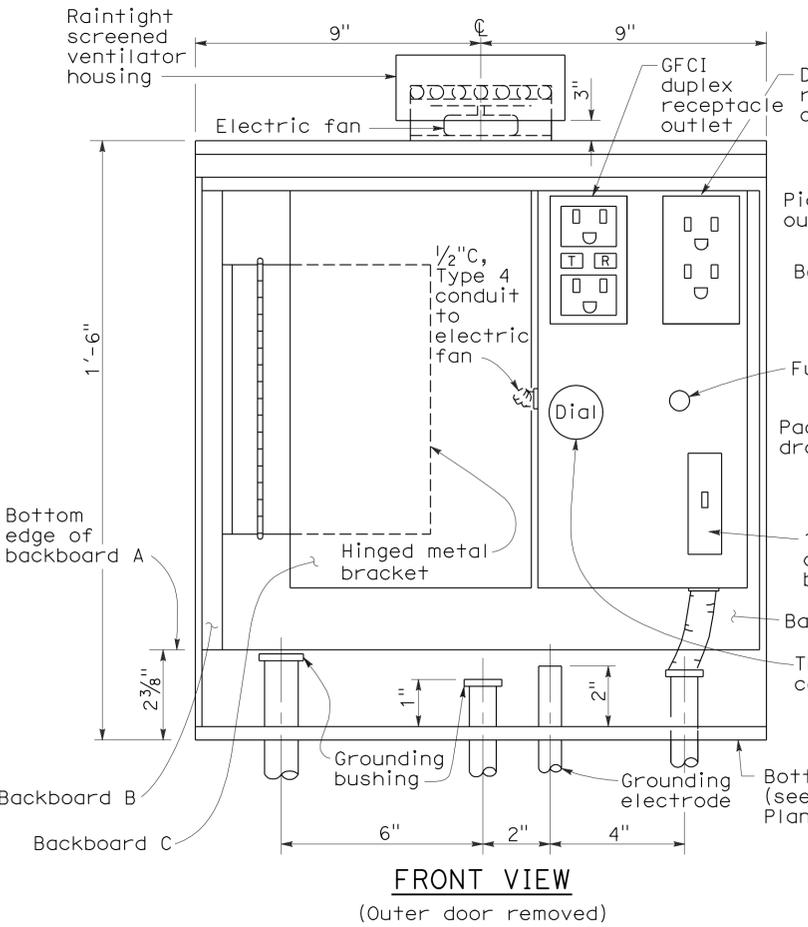
- Telephone demarcation cabinet shall be furnished with mounting boards, thermostat, fan, outlet box, circuit breaker and outlet plate. Dimensions are nominal.
- An approved mastic or caulking compound shall be placed on the foundation prior to placing the cabinet to seal openings between bottom of cabinet and foundation.
- In unpaved areas, a raised PCC pad shall be placed in front of the telephone demarcation cabinet. Pad shall be 1'-10" x 3'-0" x 4" thick, with 2" above the finished grade.
- All conduits shall be bonded to the enclosure.
- Telephone demarcation cabinet:
 - Material shall be anodized aluminum (1/8" thick).
 - Fabrication shall conform to the requirements of the Standard Specifications.
 - Ventilation louvers shall be located in door.
 - Door shall be lockable with padlock.
 - Fan shall be mounted in a ventilator housing.
 - Fan capacity shall be at least 25 cubic feet per minute.
 - Fan shall be thermostatically controlled and adjustable to turn on between 80°F and 130°F.
 - Fan circuit shall be fused at 175 percent of the fan motor capacity.
- Hardware for fastening of mounting boards:
 - Fasten backboard A and backboard B to telephone demarcation cabinet with 3/16" ϕ x 3/4" stainless steel carriage bolts (8 required).
 - Fasten hinged metal bracket to backboard B and backboard C to hinged metal bracket with number No. 10 x 3/4" wood screws (9 required).



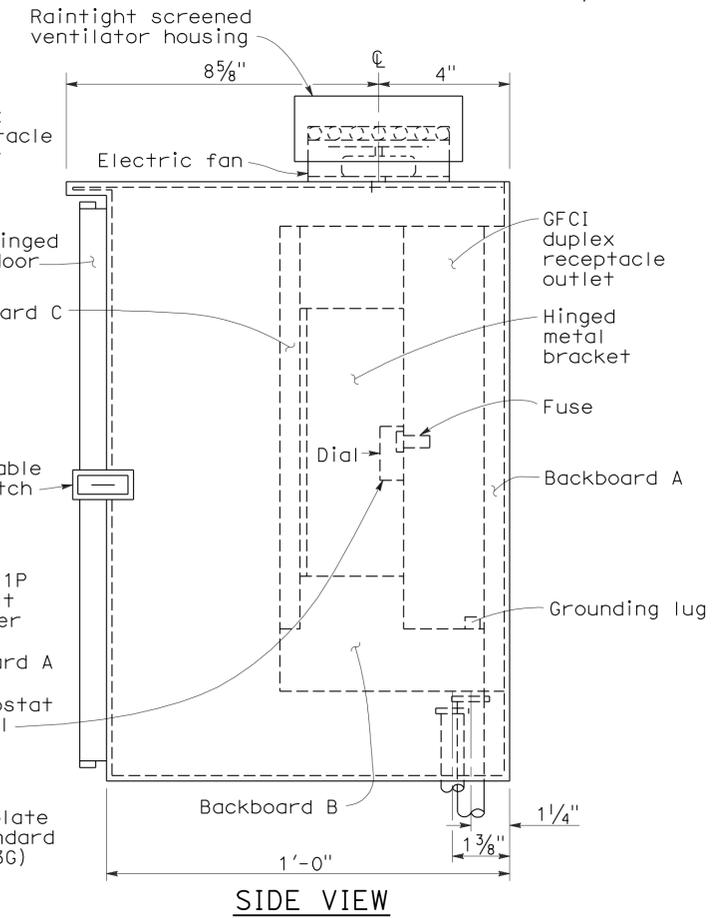
WIRING DIAGRAM



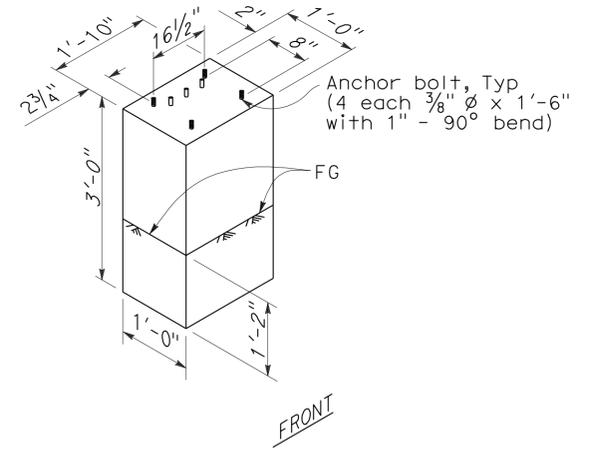
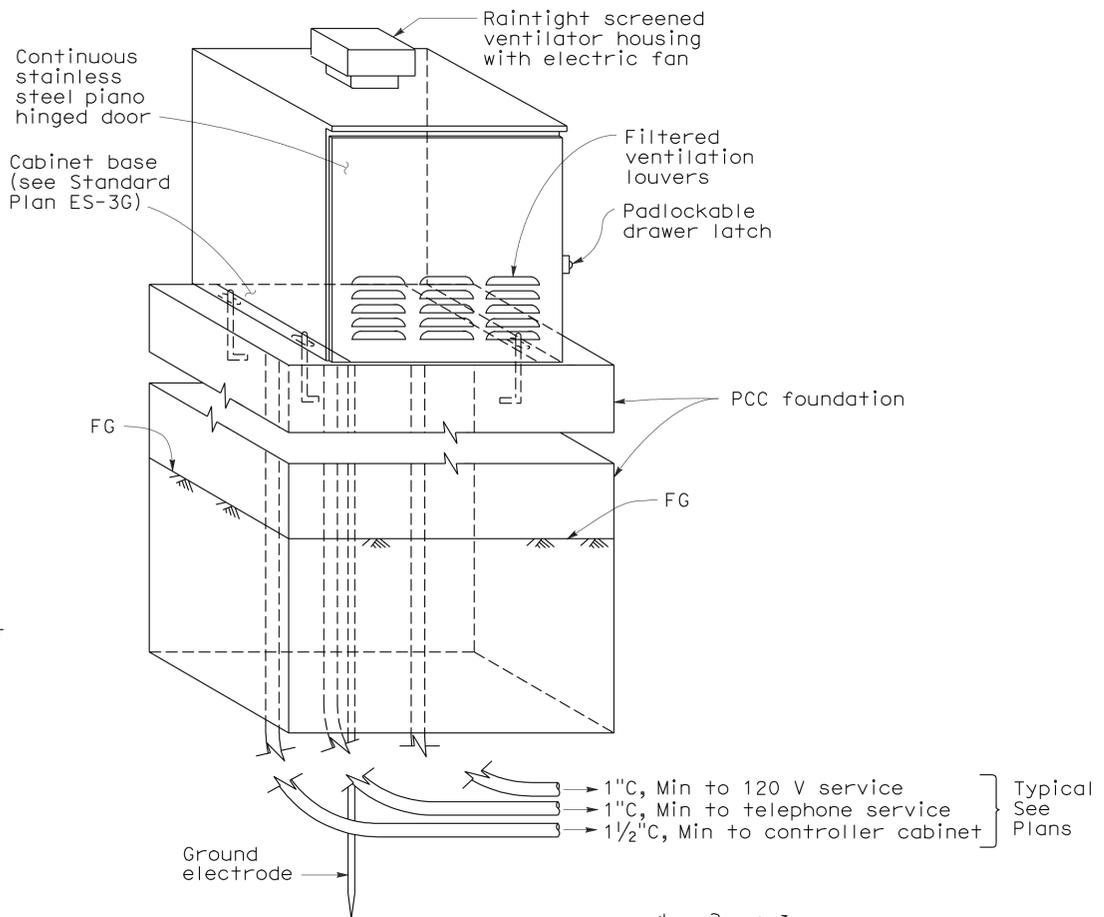
TOP VIEW



FRONT VIEW
(Outer door removed)



SIDE VIEW



FOUNDATION DETAILS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
(TELEPHONE DEMARICATION
CABINET, TYPE C)**

NO SCALE

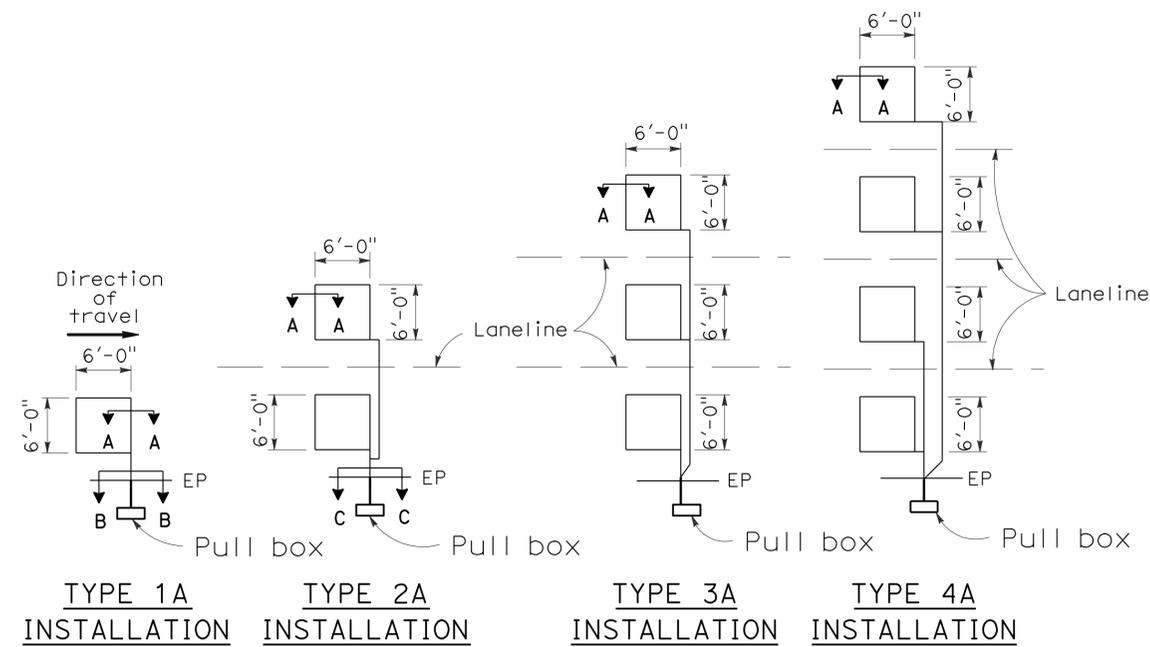
RSP ES-3F DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-3F
DATED MAY 1, 2006 - PAGE 415 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-3F

2006 REVISED STANDARD PLAN RSP ES-3F

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.

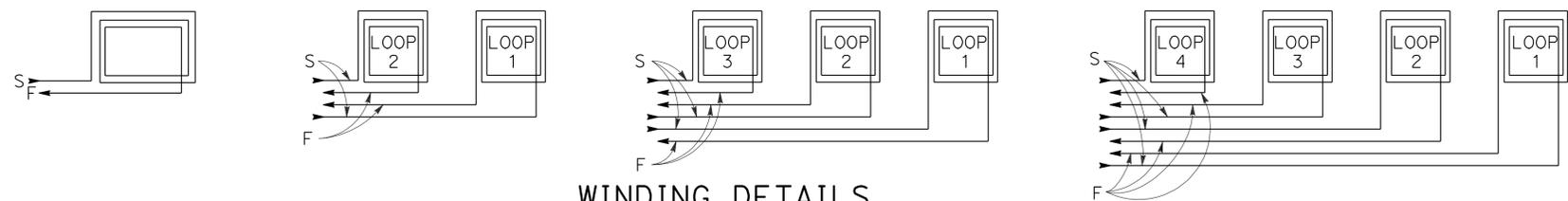


TYPE 1A INSTALLATION TYPE 2A INSTALLATION TYPE 3A INSTALLATION TYPE 4A INSTALLATION

SAWCUT DETAILS

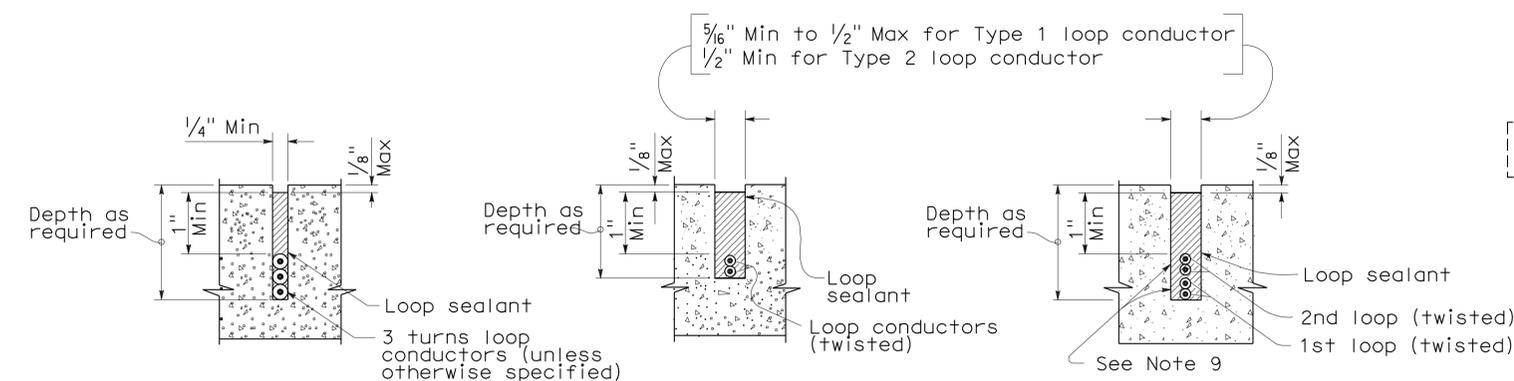
(Type A loop detector configurations illustrated)

- 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)

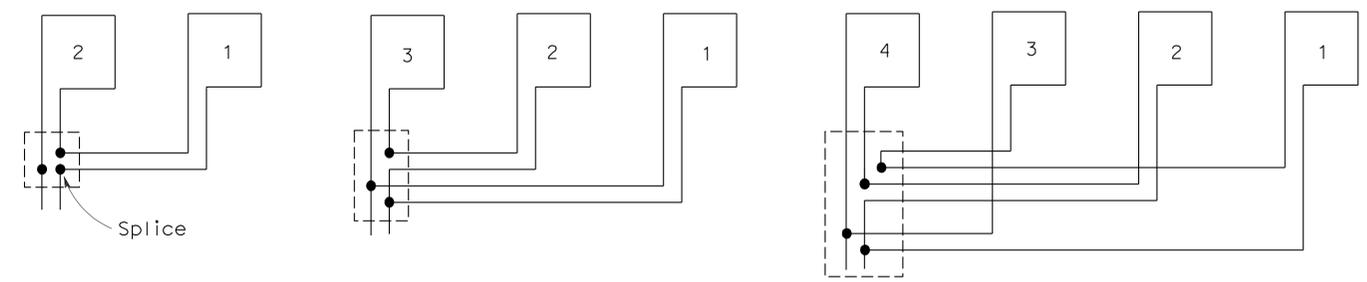


WINDING DETAILS

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

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
|------|--------|-------|--------------------------|-----------|--------------|
| 10 | SJ | 99 | 2.1/4.2 | 30 | 32 |

Jeffery G. McRae
 REGISTERED ELECTRICAL ENGINEER
 October 5, 2007
 PLANS APPROVAL DATE
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REGISTERED PROFESSIONAL ENGINEER
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 STATE OF CALIFORNIA

To accompany plans dated 3-12-12

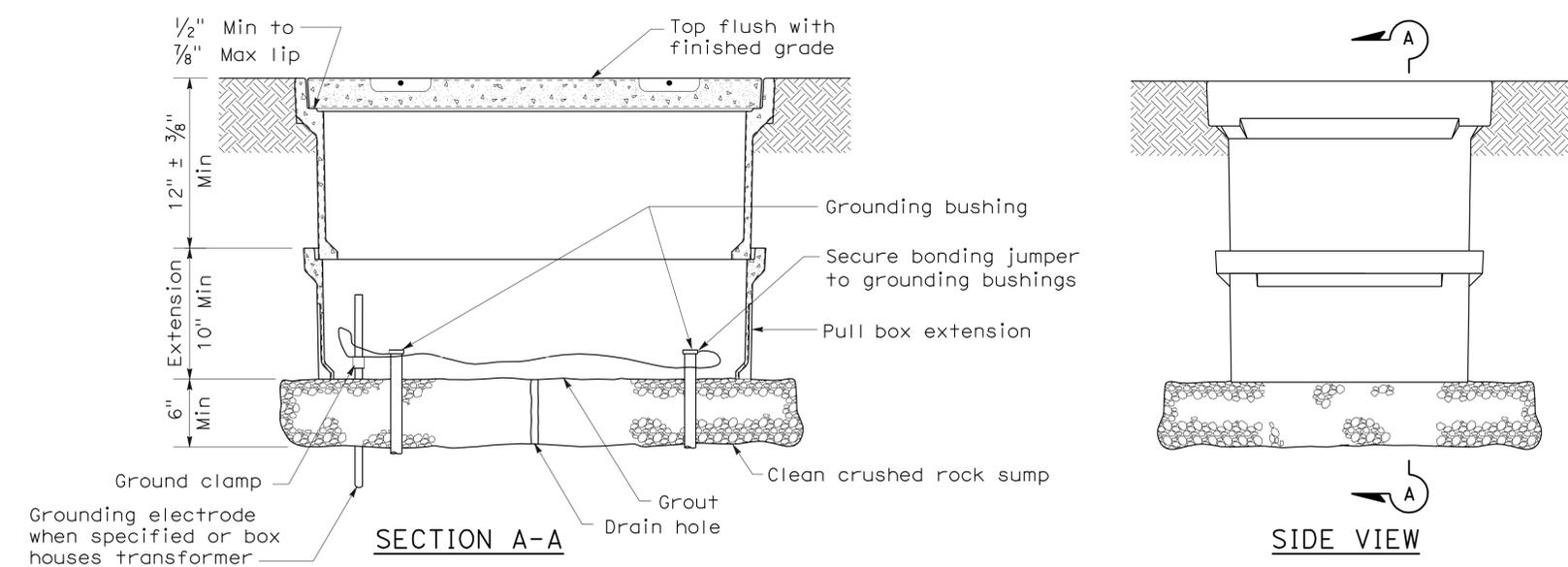
2006 REVISED STANDARD PLAN RSP ES-5A

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
|------|--------|-------|--------------------------|-----------|--------------|
| 10 | SJ | 99 | 2.1/4.2 | 31 | 32 |

Jeffrey G. McRae
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 January 20, 2012
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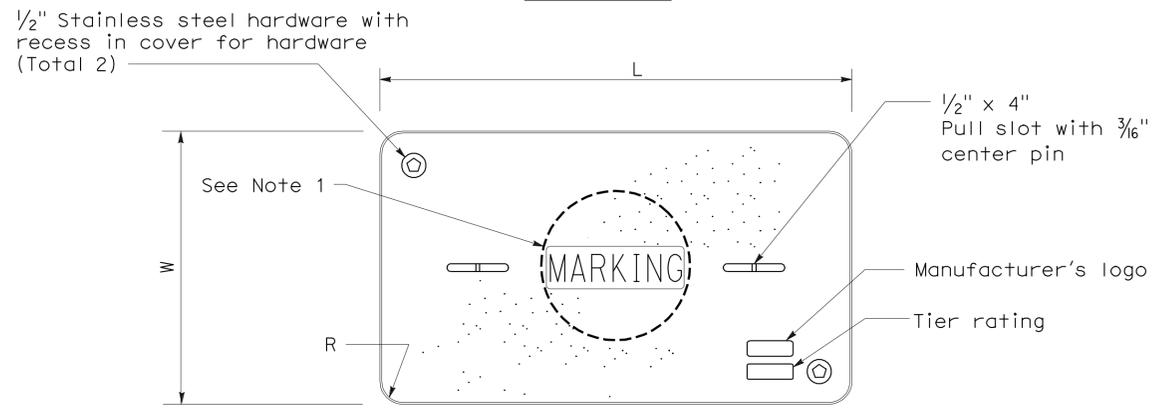
REGISTERED PROFESSIONAL ENGINEER
 Jeffrey G. McRae
 No. E14512
 Exp. 6-30-12
 ELECTRICAL
 STATE OF CALIFORNIA

To accompany plans dated 3-12-12

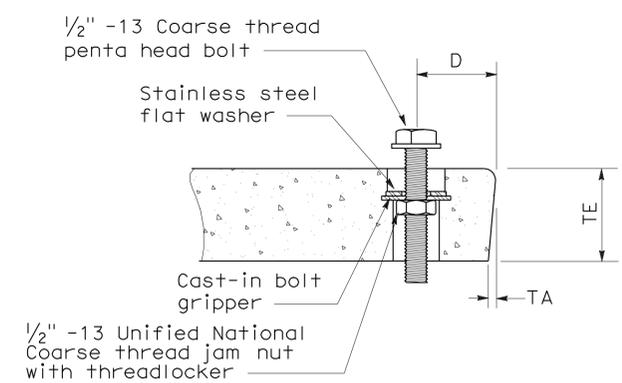


INSTALLATION DETAILS

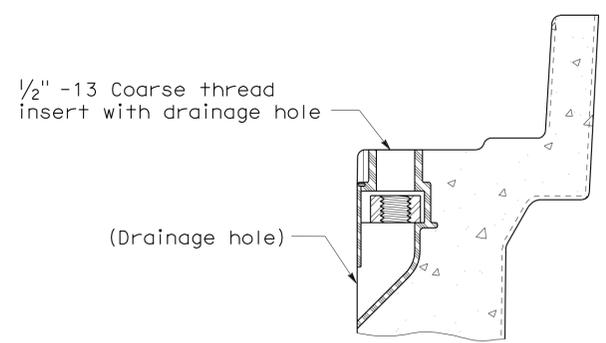
DETAIL A



COVER TOP VIEW



TYPICAL COVER CAPTIVE BOLT
(Or similar)



TYPICAL THREADED INSERT
(Or similar)

NOTES ON PULL BOXES:

- Pull box covers must be marked as follows: "SERVICE" Service circuits between service point and service disconnect; "SPRINKLER-CONTROL" sprinkler control circuits, 50 V or less; "CALTRANS" on all pull boxes, except pull boxes marked "SPRINKLER-CONTROL"; and "TELEPHONE" Telephone service;
 - No. 3/2 pull box.
 - "SIGNAL" - Traffic signal circuits with or without street or sign lighting circuits.
 - "ST LIGHTING" - Street or sign lighting circuits where voltage is under 600 V.
 - No. 5, 6, 9 or 9A pull box.
 - "TRAFFIC SIGNAL" - Traffic signal circuits with or without street or sign lighting circuits.
 - "STREET LIGHTING" - Street or sign lighting circuits where voltage is under 600 V.
 - "STREET LIGHTING-HIGH VOLTAGE" - Street or sign lighting circuits where voltage is above 600 V.
 - "IRRIGATION" - Circuits to irrigation controller 120 V or more.
 - "RAMP METER" - Ramp meter circuits.
 - "COUNT STATION" - Count or speed monitor circuits.
 - "COMMUNICATIONS" - Communication circuits.
 - "TOS COMMUNICATIONS" - TOS communication line.
 - "TOS POWER" - TOS power.
 - "TDC POWER" - Telephone demarcation cabinet power.
 - "CCTV" - Closed circuit television circuits.
 - "TMS" - Traffic monitoring station circuits.
 - "CMS" - Changeable message sign circuits.
 - "HAR" - Highway advisory radio circuits.
- The nominal dimensions of the opening in which the cover sets must be the same as the cover dimensions (L and W) plus 1/8" or greater.
- Covers and boxes must be interchangeable with California Standard. When interchanged with a standard, the top surfaces must be flush within 1/8". Top outside radius of covers and pull boxes must have a 1/8" radius.
- Pull box extension may be another pull box as long as the bottom edge of the pull box can fit into the cover opening.

DIMENSION TABLE

| PULL BOX | PULL BOX | | | COVER | | | | | | |
|----------|-------------------|-------------------------|----------------|--------------|-------------|--------|----|------|--------|----------------|
| | Minimum Depth Box | Minimum Depth Extension | Maximum Weight | L | W | R | TE | TA | D | Maximum Weight |
| No. 3/2 | 12" | N/A | 40 lb | 1' - 3 3/8" | 10 1/8" | 1 3/8" | 2" | 1/8" | 1 3/4" | 30 lb |
| No. 5 | 12" | 10" | 55 lb | 1' - 11 1/4" | 1' - 1 3/4" | 1 3/8" | 2" | 1/8" | 1 3/4" | 60 lb |
| No. 6 | 12" | 10" | 70 lb | 2' - 6 1/2" | 1' - 5 1/2" | 1 3/8" | 2" | 1/8" | 2" | 85 lb |

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(PULL BOX)
NO SCALE

NSP ES-8A DATED JANUARY 20, 2012 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

2006 NEW STANDARD PLAN NSP ES-8A

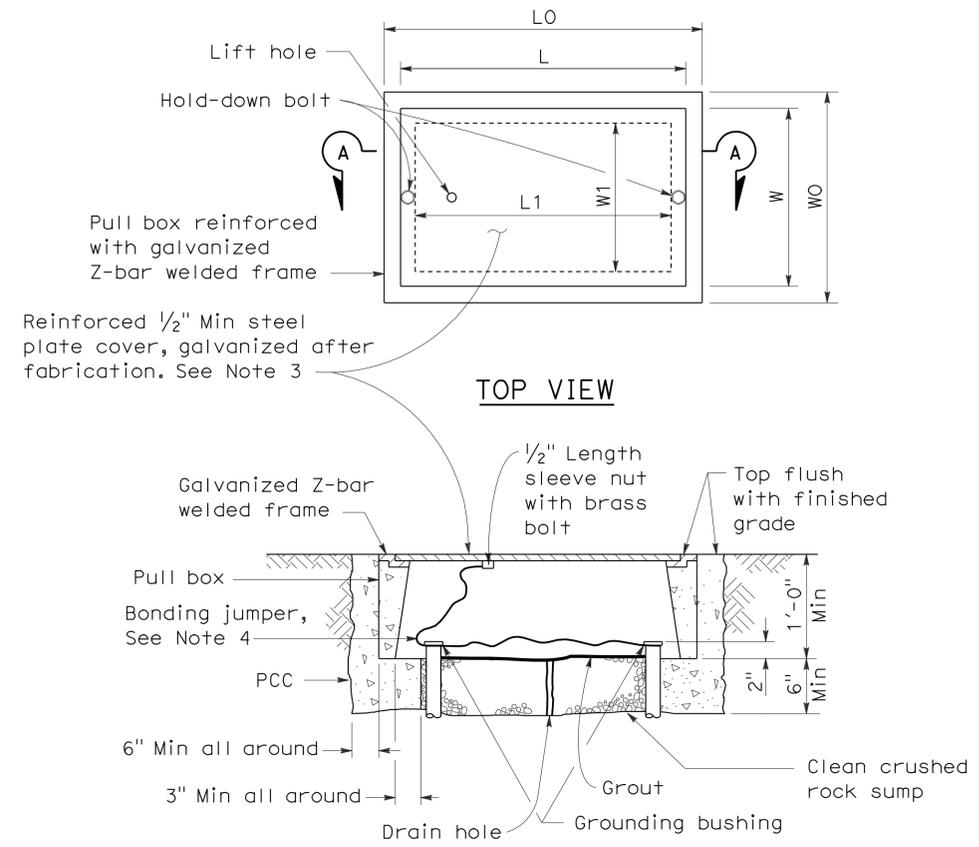
| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
|------|--------|-------|--------------------------|-----------|--------------|
| 10 | SJ | 99 | 2.1/4.2 | 32 | 32 |

Jeffery G. McRae
 REGISTERED ELECTRICAL ENGINEER
 January 20, 2012
 PLANS APPROVAL DATE

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To accompany plans dated 3-12-12

2006 NEW STANDARD PLAN NSP ES-8B



**No. 3 1/2(T), No. 5(T) AND
No. 6(T) TRAFFIC PULL BOX**

NOTES ON PULL BOXES:

- Traffic pull box shall be provided with steel cover and special concrete footing. Steel cover shall have embossed non-skid pattern.
- Steel reinforcing shall be as regularly used in the standard products of the respective manufacturer.
- Pull box covers must be marked as follows: "SERVICE" Service circuits between service point and service disconnect; "SPRINKLER-CONTROL" Sprinkler control circuits, 50 V or less; "CALTRANS" On all pull boxes, except pull boxes marked "SPRINKLER-CONTROL"; and "TELEPHONE" Telephone service.
 - No. 3 1/2(T) pull box.
 - "SIGNAL" - Traffic signal circuits with or without street or sign lighting circuits.
 - "ST LIGHTING" - Street or sign lighting circuits where voltage is under 600 V.
 - No. 5(T) or 6(T) pull box.
 - "TRAFFIC SIGNAL" - Traffic signal circuits with or without street or sign lighting circuits.
 - "STREET LIGHTING" - Street or sign lighting circuits where voltage is under 600 V.
 - "STREET LIGHTING-HIGH VOLTAGE" - Street or sign lighting circuits where voltage is above 600 V.
 - "IRRIGATION" - Circuits to irrigation controller 120 V or more.
 - "RAMP METER" - Ramp meter circuits.
 - "COUNT STATION" - Count or speed monitor circuits.
 - "COMMUNICATION" - Communication circuits.
 - "TOS COMMUNICATIONS" - TOS communications line.
 - "TOS POWER" - TOS power.
 - "TDC POWER" - Telephone demarcation cabinet power.
 - "CCTV" - Closed circuit television circuits.
 - "TMS" - Traffic monitoring station circuits.
 - "CMS" - Changeable message sign circuits.
 - "HAR" - Highway advisory radio circuits.
- Bonding jumper for metal covers shall be 3' long, minimum.
- The nominal dimensions of the opening in which the cover sets must be the same as the cover dimensions except the length and width dimensions shall be 1/8" greater.
- Covers and boxes must be interchangeable with California standard male and female gages. When interchanged with a standard male or female gage, the top surfaces must be flush within 1/8".

| PULL BOX | BOX | | | | | | COVER | | | | |
|--------------|---------------------|---------------------------------|----------------|-------------|-------------|-------------|--------|------------|----|----------------|------------|
| | Minimum * Thickness | Minimum Depth Box and Extension | W0 | L0 | L1 | W1 | L ** | W ** | R | Edge Thickness | Edge Taper |
| No. 3 1/2(T) | 1 1/2" | 1'-0" | 1'-5"± 1" | 1'-8 7/8"± | 1'-2 1/2"± | 10 5/8"± 1" | 1'-8"± | 1'-1 3/4"± | 0" | 1/2" | None |
| No. 5(T) | 1 3/4" | 1'-0" | 1'-11 1/2"± 1" | 2'-5 1/2"± | 1'-7"± | 1'-1"± 1" | 2'-3"± | 1'-4"± | 0" | 1/2" | None |
| No. 6(T) | 2" | 1'-0" | 2'-6"± 1" | 2'-11 1/2"± | 1'-11 1/2"± | 1'-5"± 1" | 2'-9"± | 1'-8"± | 0" | 1/2" | None |

* Excluding conduit web ** Top dimension

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (TRAFFIC RATED PULL BOX)**
 NO SCALE

NSP ES-8B DATED JANUARY 20, 2012 SUPPLEMENTS THE
STANDARD PLANS BOOK DATED MAY 2006.