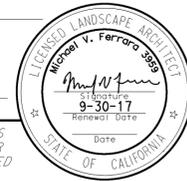
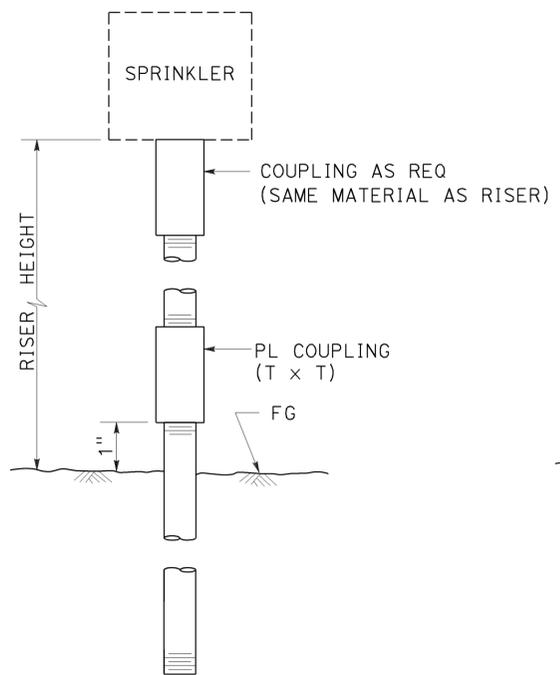


Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	601	737

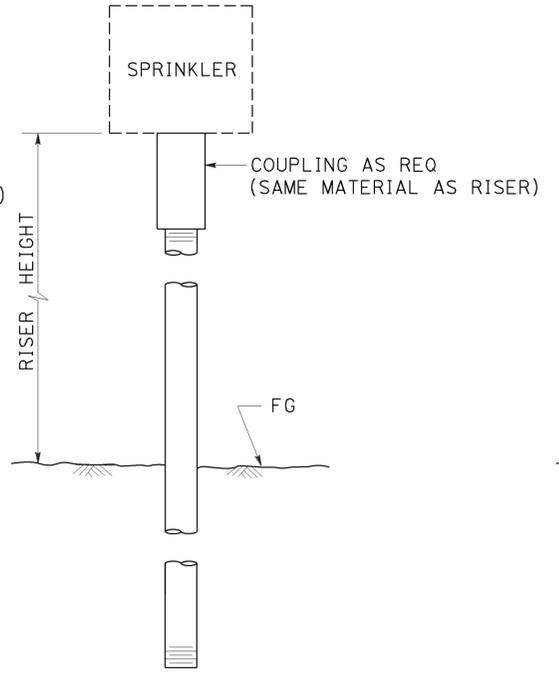

 LICENSED LANDSCAPE ARCHITECT
 July 15, 2016
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



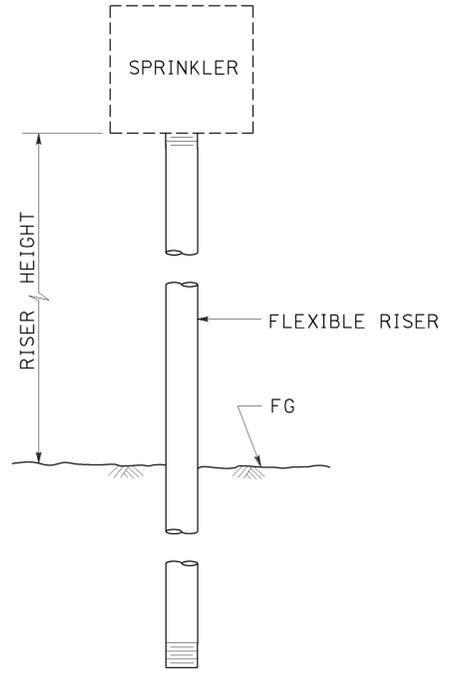
TO ACCOMPANY PLANS DATED 08-29-16



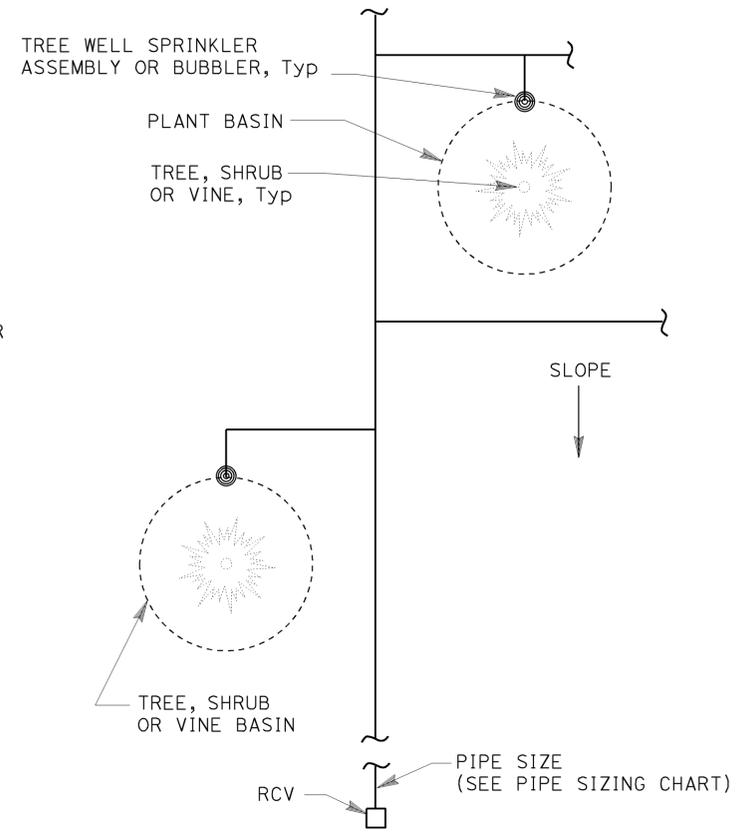
ELEVATION
RISER TYPE I



ELEVATION
RISER TYPE II



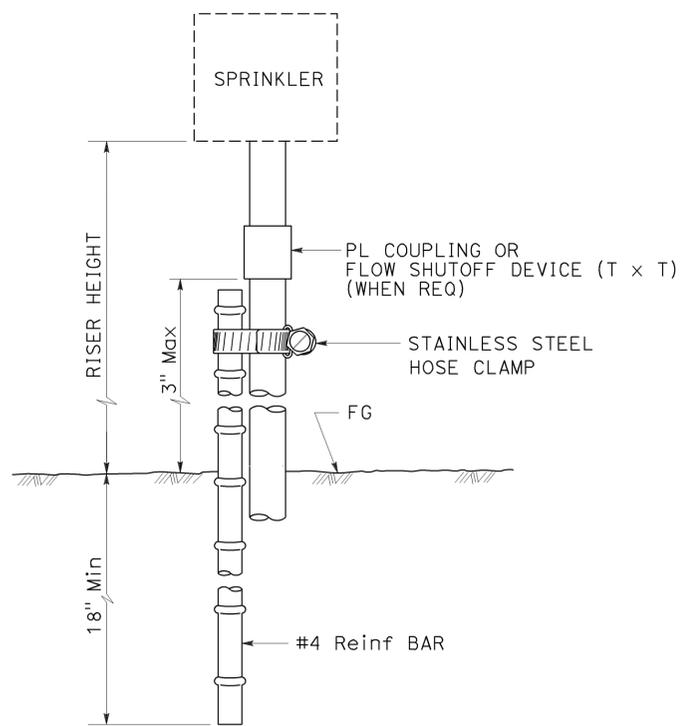
ELEVATION
RISER TYPE III



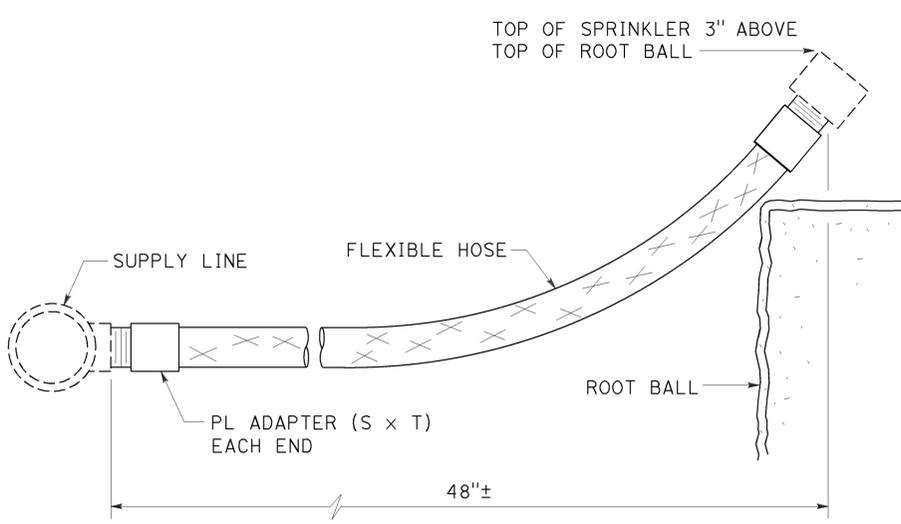
PLAN

NOTES:

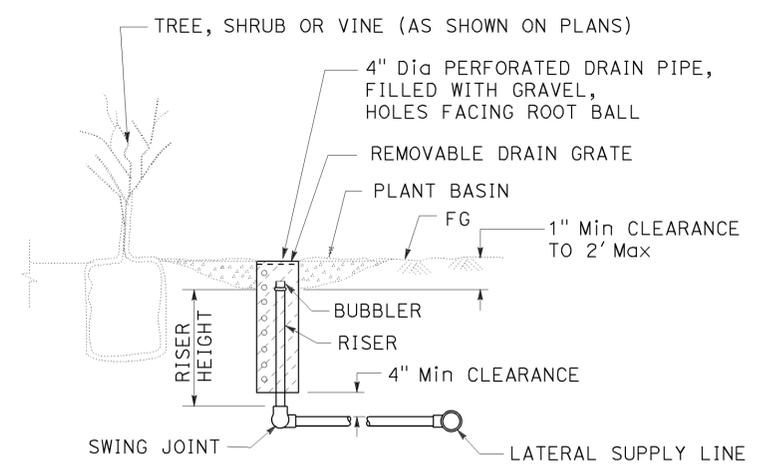
1. Install tree well sprinkler assembly on up-hill side of plant when on slope.
2. Install bubbler within basin.



ELEVATION
RISER TYPE IV



ELEVATION
RISER TYPE V



SECTION
TREE WELL SPRINKLER ASSEMBLY

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
LANDSCAPE DETAILS
(RISER SPRINKLER ASSEMBLY)
 NO SCALE

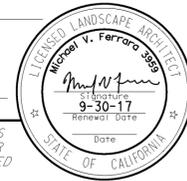
RSP H5 DATED JULY 15, 2016 SUPERSEDES RSP H5 DATED JULY 19, 2013 AND STANDARD PLAN H5 DATED MAY 20, 2011 - PAGE 222 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP H5

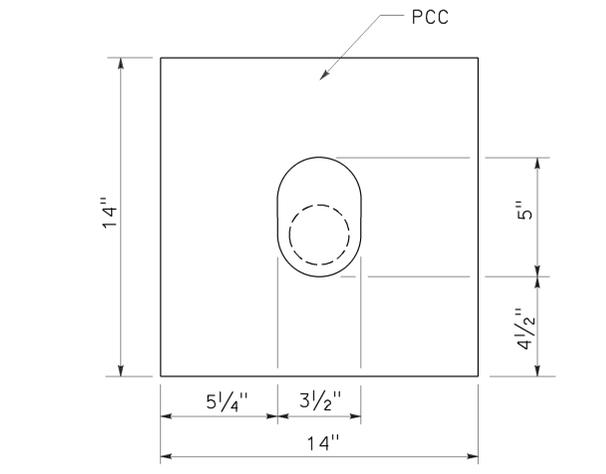
2010 REVISED STANDARD PLAN RSP H5

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	602	737

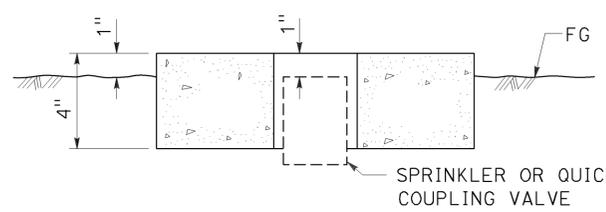
July 15, 2016
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



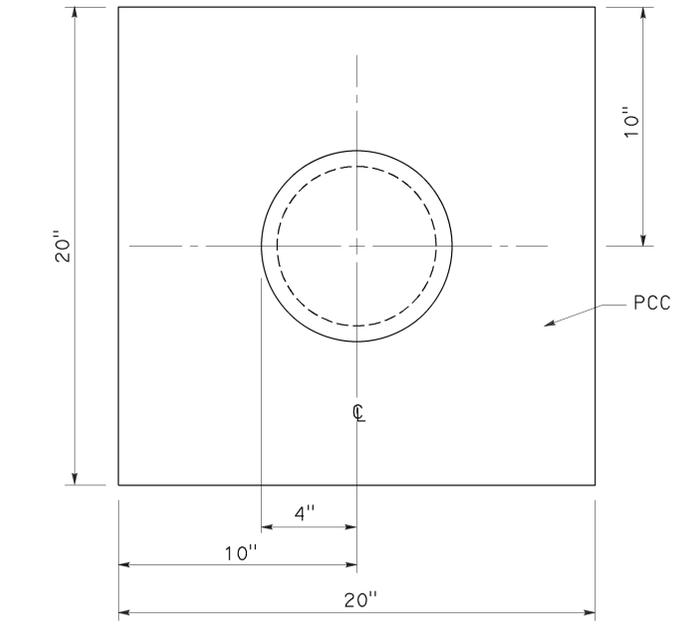
TO ACCOMPANY PLANS DATED 08-29-16



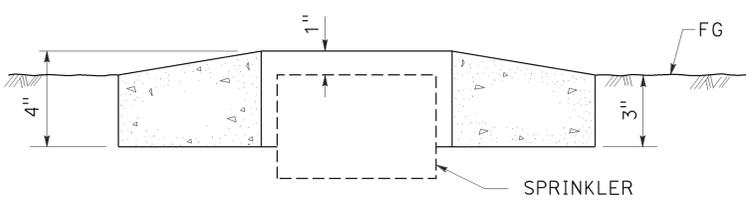
PLAN



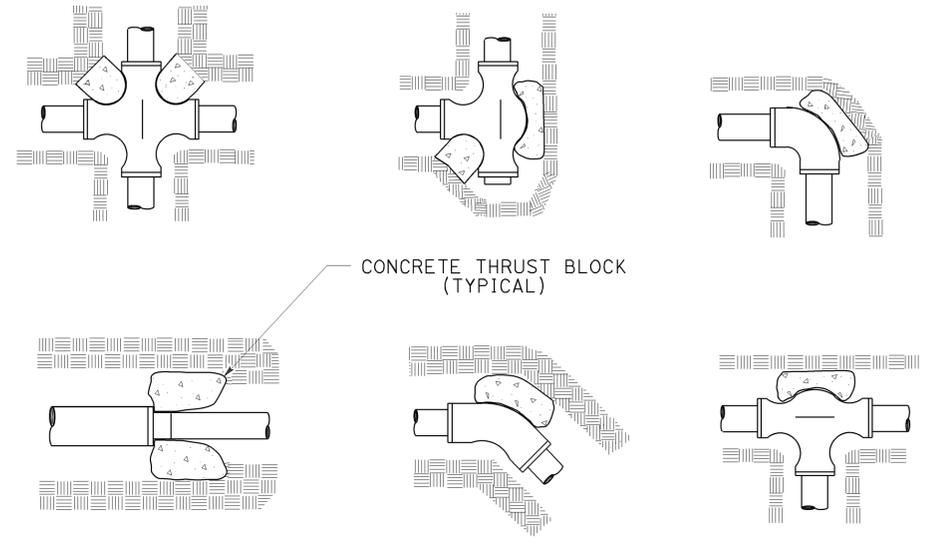
SECTION
SPRINKLER PROTECTOR TYPE I



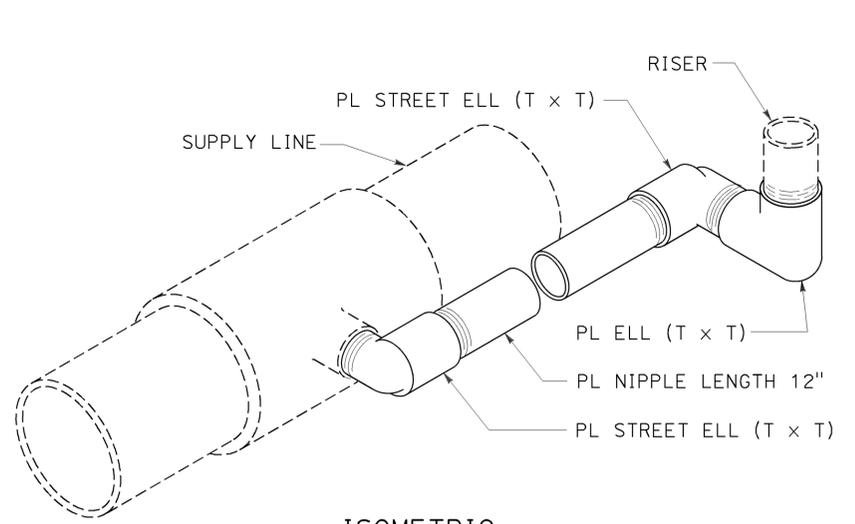
PLAN



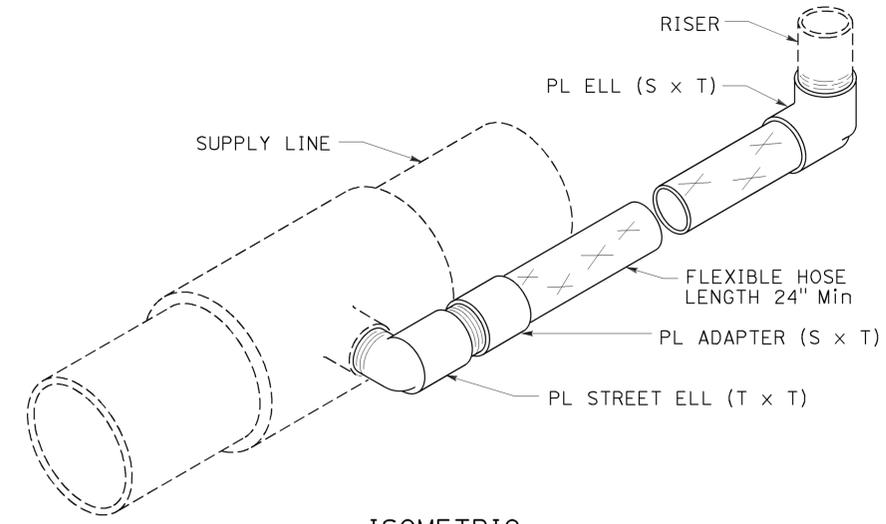
SECTION
SPRINKLER PROTECTOR TYPE II



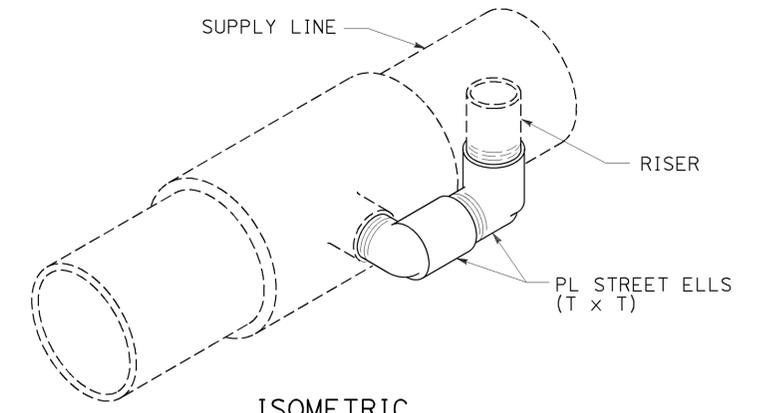
TYPICAL THRUST BLOCKS



ISOMETRIC
SWING JOINT TYPE I



ISOMETRIC
SWING JOINT TYPE II



ISOMETRIC
SWING JOINT TYPE III

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**LANDSCAPE DETAILS
(SWING JOINT AND PROTECTOR)**
NO SCALE

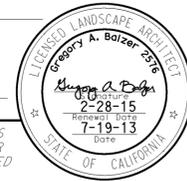
RSP H6 DATED JULY 15, 2016 SUPERSEDES RSP H6 DATED JULY 19, 2013 AND STANDARD PLAN H6 DATED MAY 20, 2011 - PAGE 223 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP H6

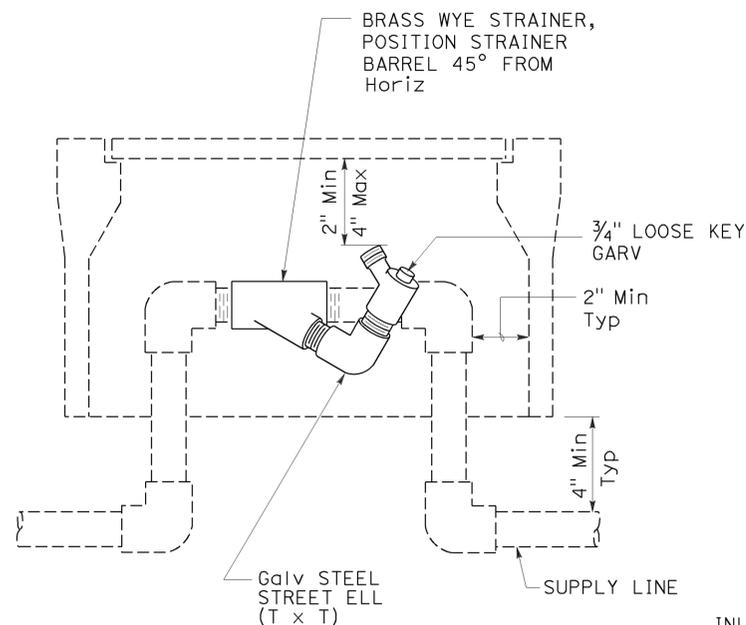
2010 REVISED STANDARD PLAN RSP H6

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	603	737

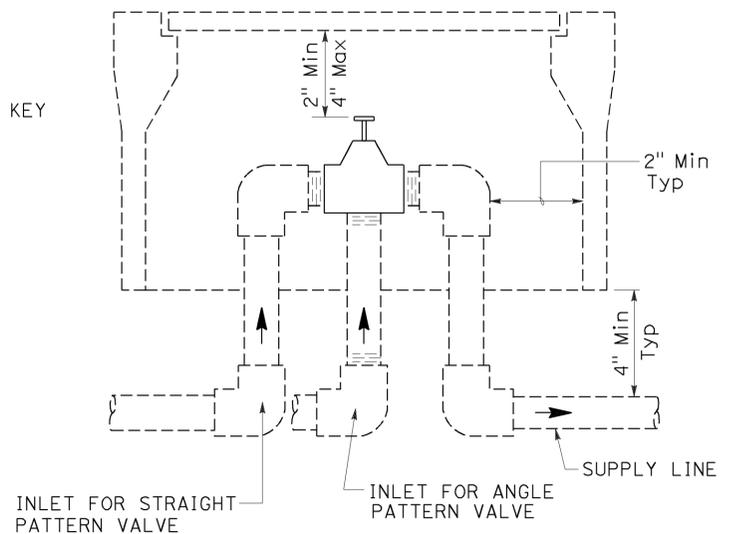
Gregory A. Balzer
 LICENSED LANDSCAPE ARCHITECT
 July 19, 2013
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



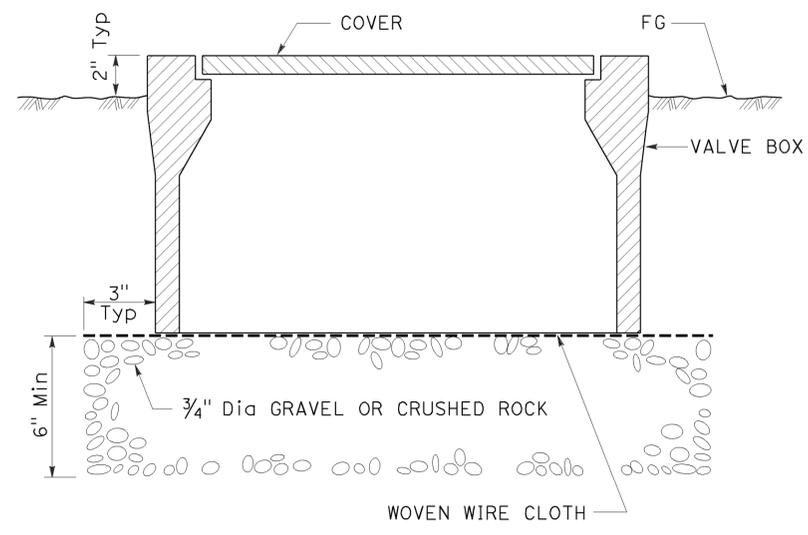
TO ACCOMPANY PLANS DATED 08-29-16



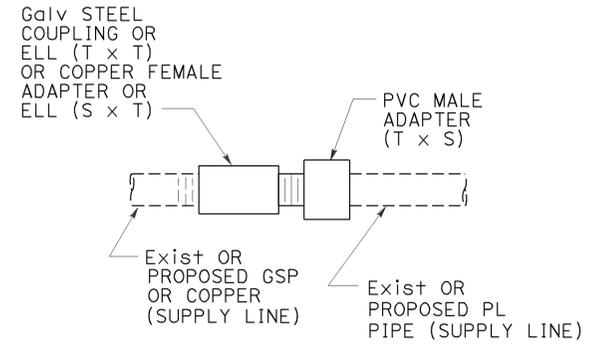
**ELEVATION
WYE STRAINER ASSEMBLY**



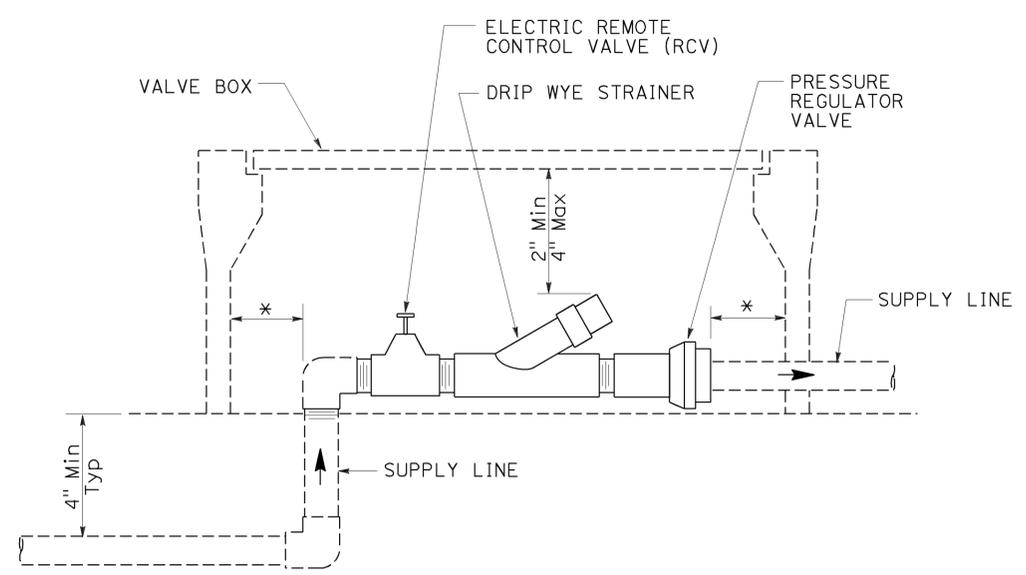
**ELEVATION
VALVE**



**SECTION
VALVE BOX**



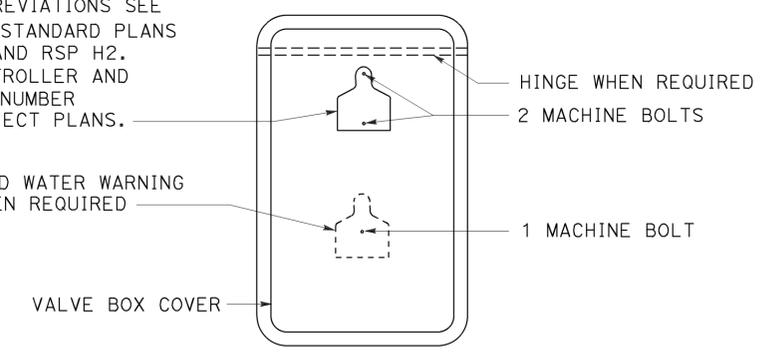
**GALVANIZED OR COPPER PIPE
CONNECTION TO PLASTIC PIPE**



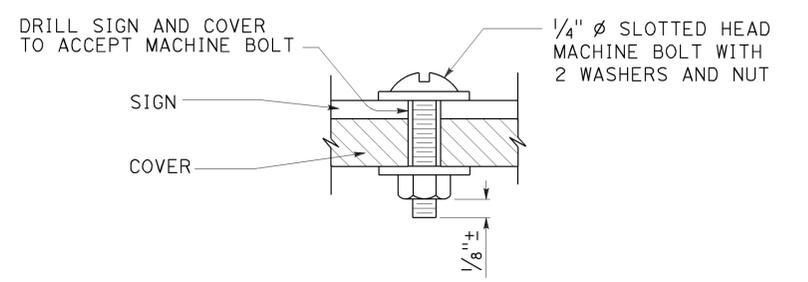
**ELEVATION
DRIP VALVE ASSEMBLY**

IDENTIFICATION LABEL:
FOR ABBREVIATIONS SEE
REVISED STANDARD PLANS
RSP H1 AND RSP H2.
FOR CONTROLLER AND
STATION NUMBER
SEE PROJECT PLANS.

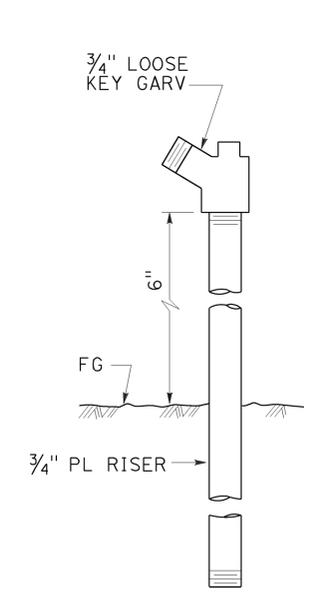
RECYCLED WATER WARNING
SIGN WHEN REQUIRED



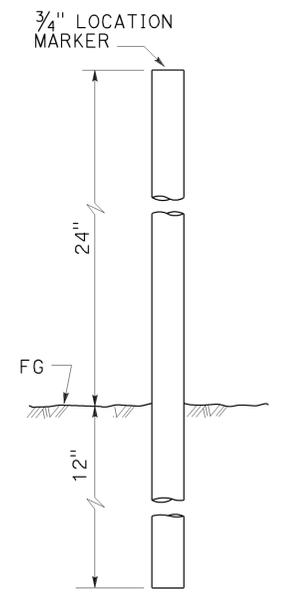
PLAN



**SECTION
VALVE BOX IDENTIFICATION**



**ELEVATION
GARDEN VALVE ASSEMBLY**



**ELEVATION
LOCATION MARKER**

GARDEN VALVE ASSEMBLY

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

LANDSCAPE DETAILS

NO SCALE

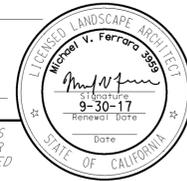
RSP H7 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN H7
DATED MAY 20, 2011 - PAGE 224 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP H7

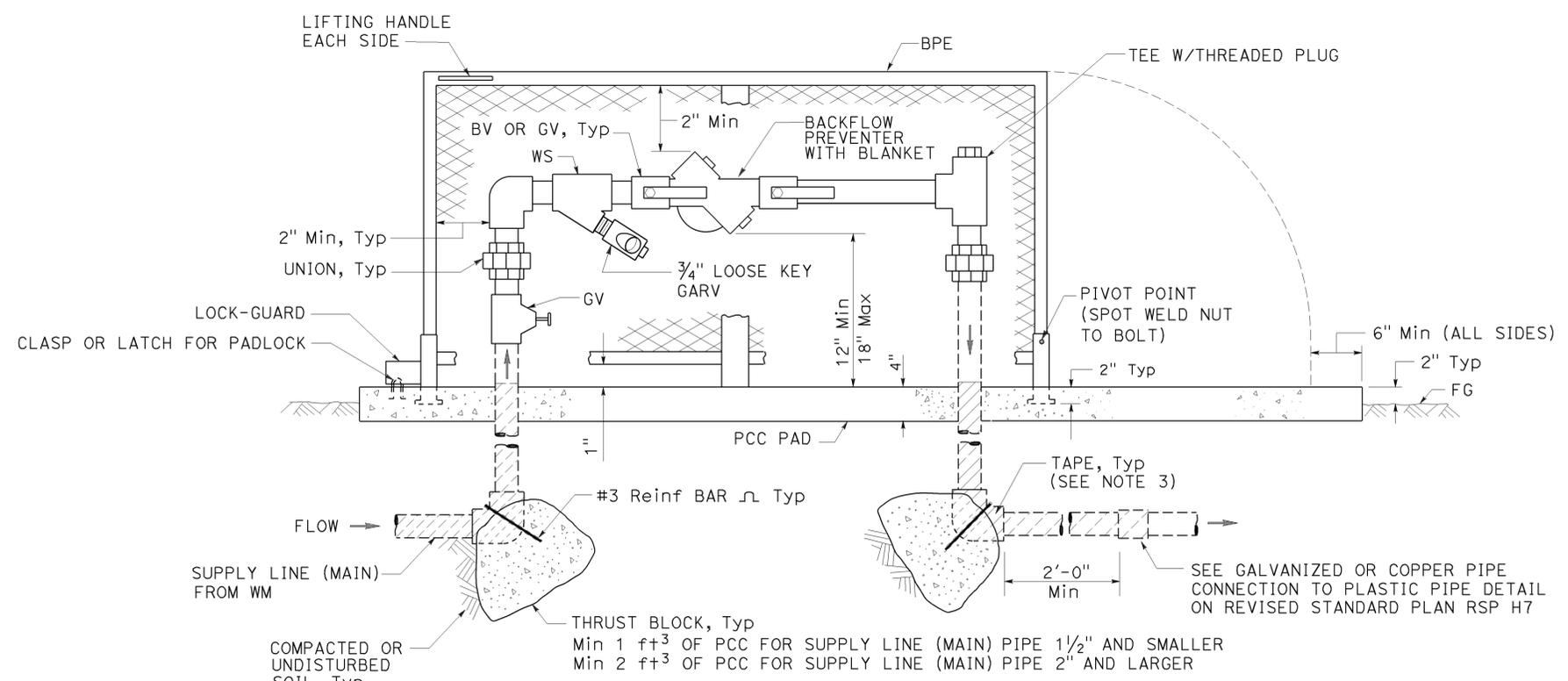
2010 REVISED STANDARD PLAN RSP H7

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	604	737

October 30, 2015
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



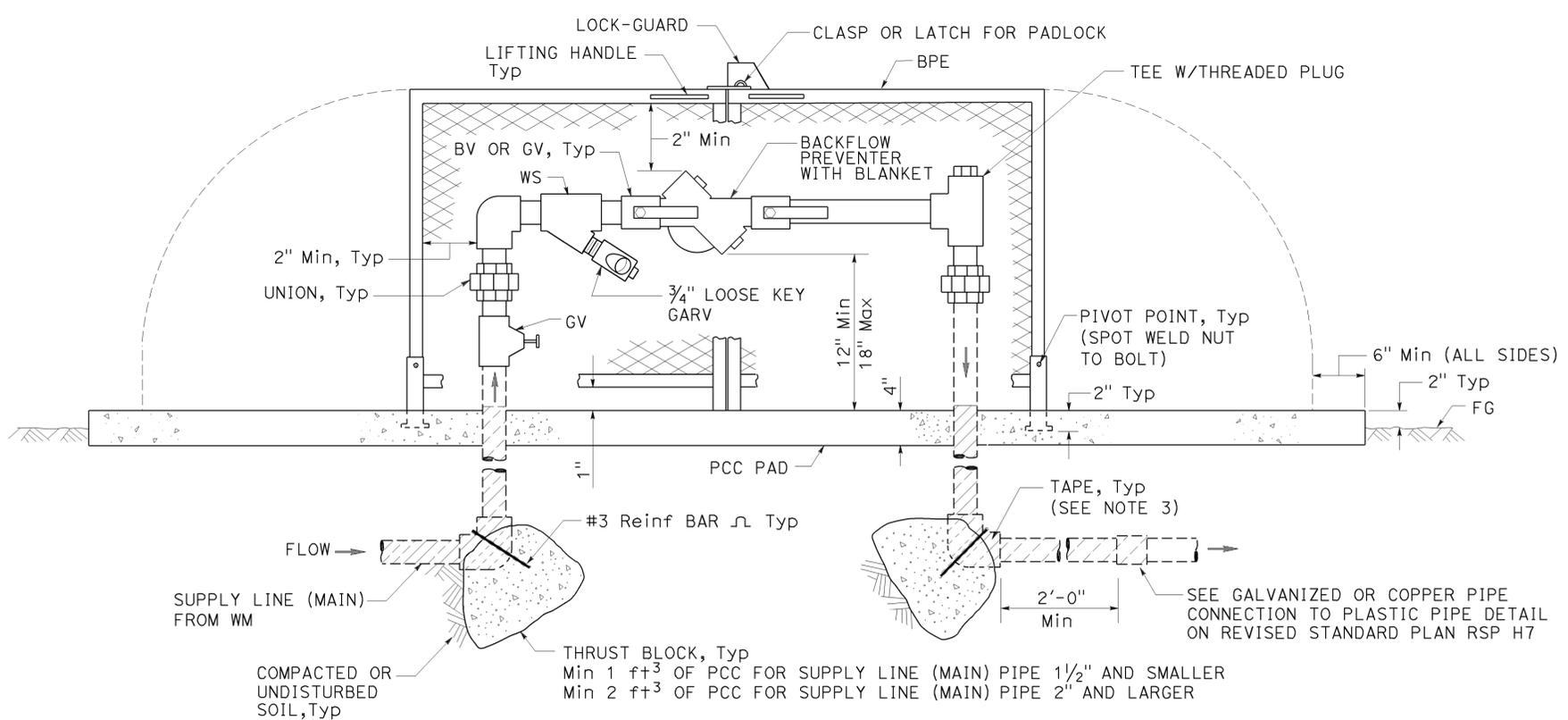
TO ACCOMPANY PLANS DATED 08-29-16



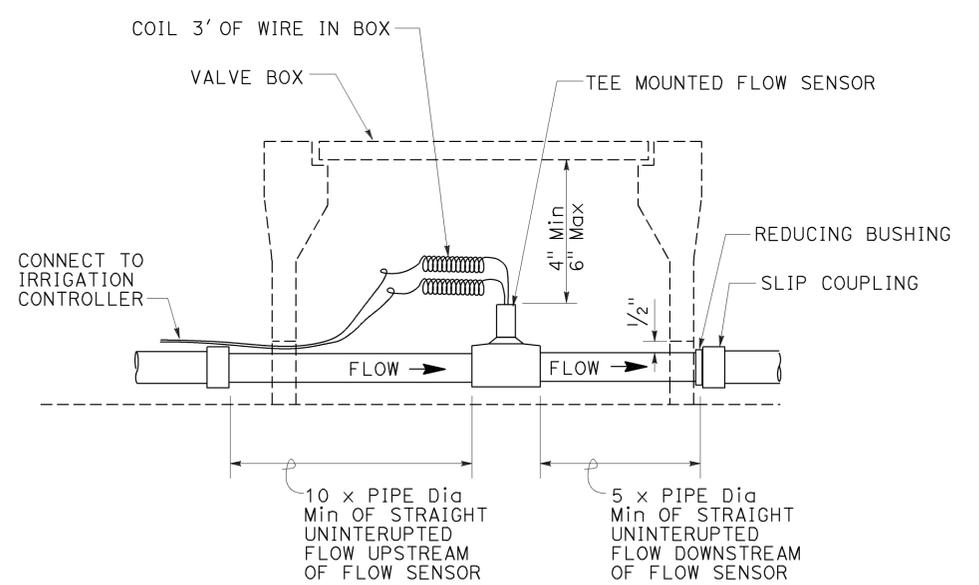
ELEVATION
BACKFLOW PREVENTER ASSEMBLY
 IN ONE PIECE ENCLOSURE

NOTES:

1. Wye strainer and fittings must be the same size as the backflow preventer shown on the plans.
2. Backflow preventer assembly manifold pipe must be the same pipe as the supply line (main) pipe to be installed from the water meter to the backflow preventer assembly.
3. All metal in contact with soil and Portland Cement Concrete must be wrapped with 2" wide plastic backed adhesive polyethylene tape 20 mil thick with 1/2" overlap.



ELEVATION
BACKFLOW PREVENTER ASSEMBLY
 IN TWO PIECE ENCLOSURE



SECTION
FLOW SENSOR

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
LANDSCAPE DETAILS
 NO SCALE

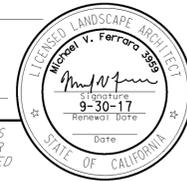
RSP H8 DATED OCTOBER 30, 2015 SUPERSEDES RSP H8 DATED JULY 19, 2013 AND STANDARD PLAN H8 DATED MAY 20, 2011 - PAGE 225 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP H8

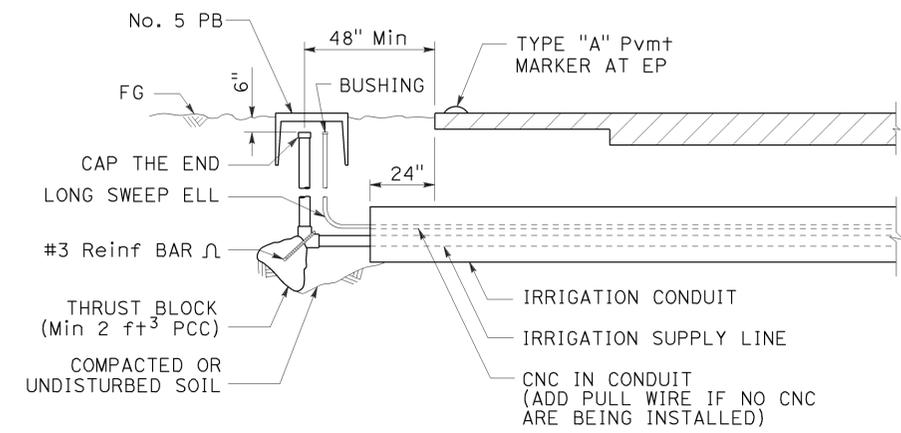
2010 REVISED STANDARD PLAN RSP H8

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	605	737

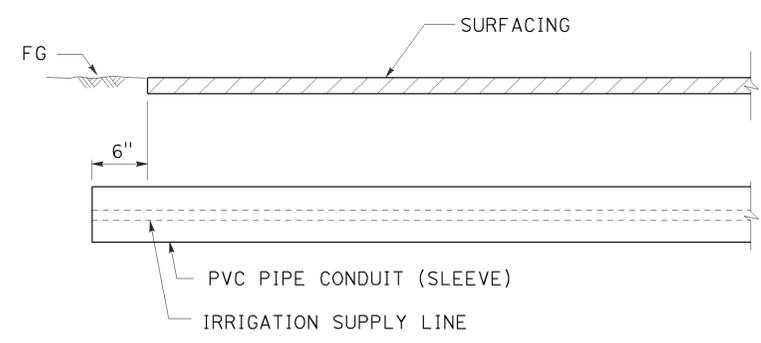
Signature: *Michael V. Ferraro*
 LICENSED LANDSCAPE ARCHITECT
 April 15, 2016
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



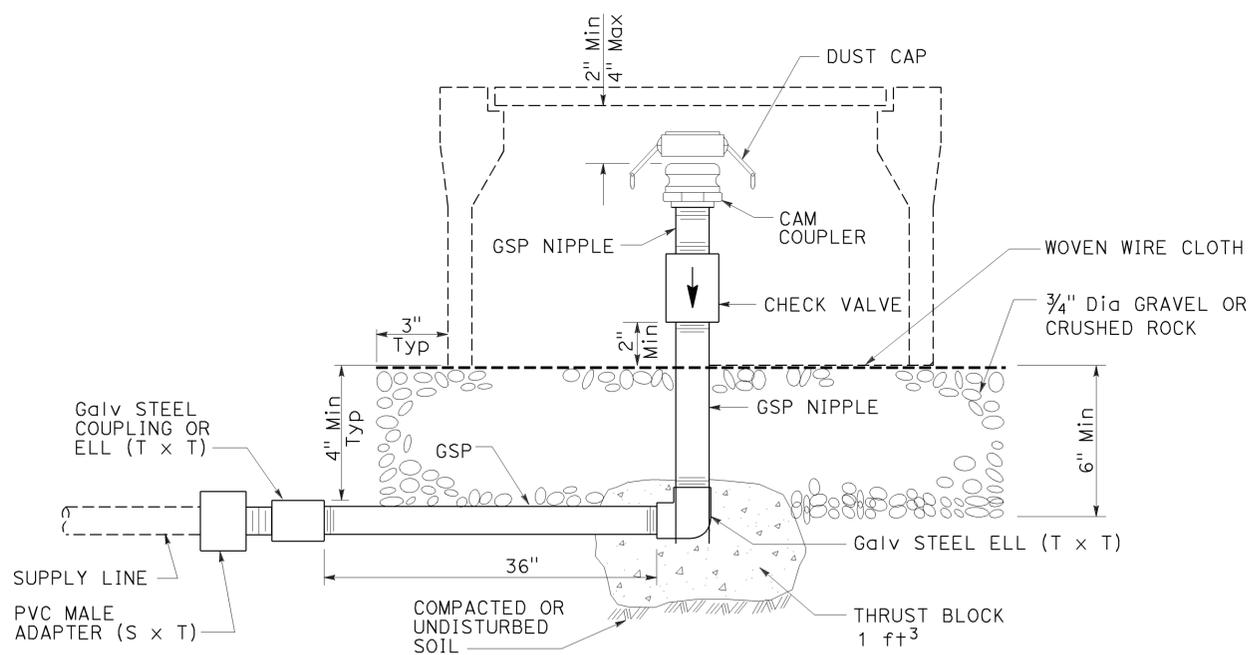
TO ACCOMPANY PLANS DATED 08-29-16



SECTION
IRRIGATION CONDUIT
UNDER TRAVELED WAY



SECTION
PVC PIPE CONDUIT (SLEEVE)
UNDER SIDEWALKS, DRIVEWAYS AND PATHS



ELEVATION
CAM COUPLER ASSEMBLY

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
LANDSCAPE DETAILS
NO SCALE

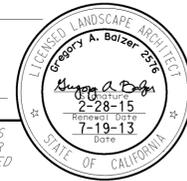
RSP H9 DATED APRIL 15, 2016 SUPERSEDES RSP H9 DATED JULY 19, 2013 AND STANDARD PLAN H9 DATED MAY 20, 2011 - PAGE 226 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP H9

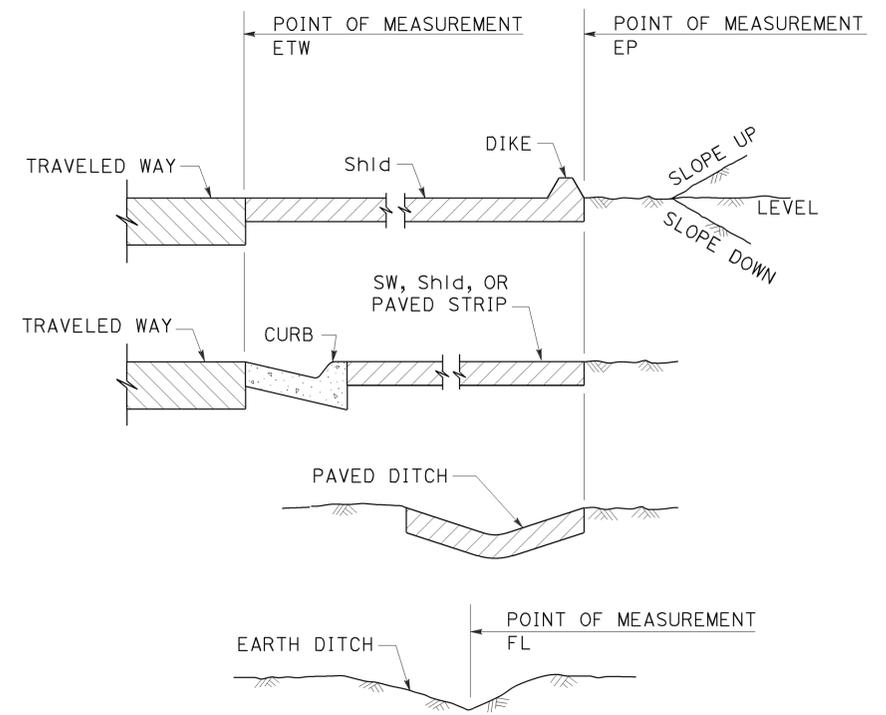
2010 REVISED STANDARD PLAN RSP H9

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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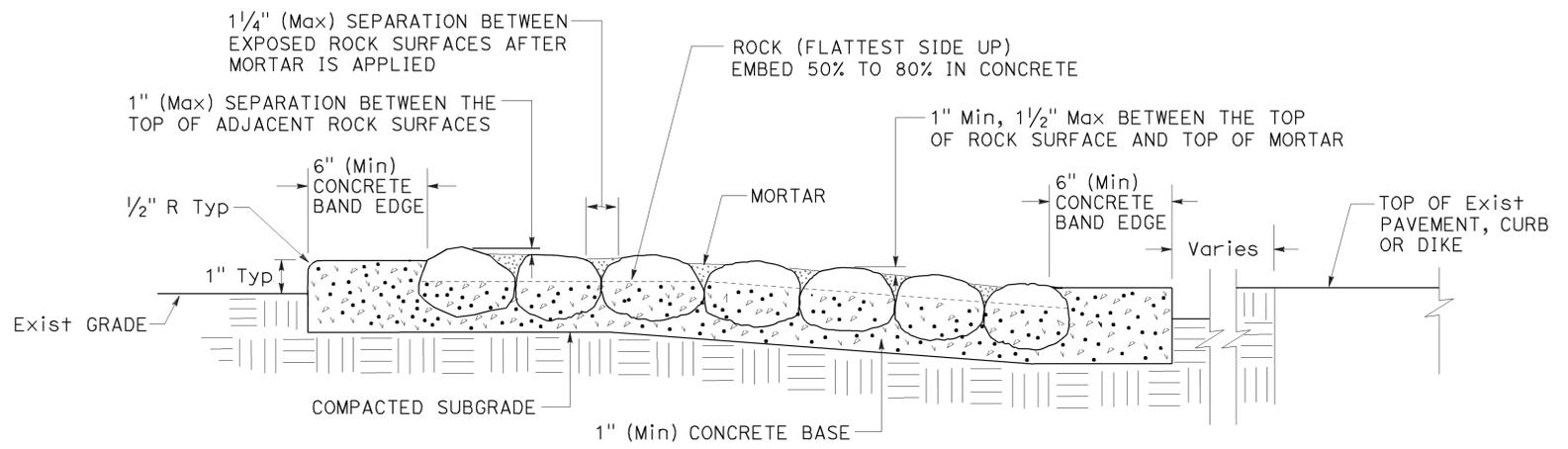
Gregory A. Balzer
 LICENSED LANDSCAPE ARCHITECT
 July 19, 2013
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



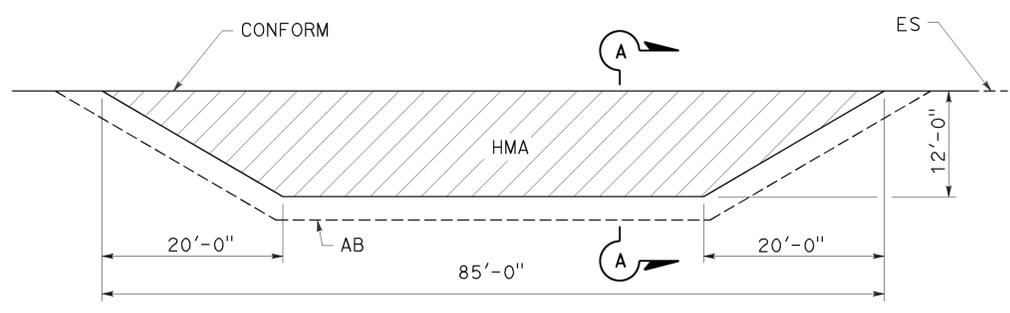
TO ACCOMPANY PLANS DATED 08-29-16



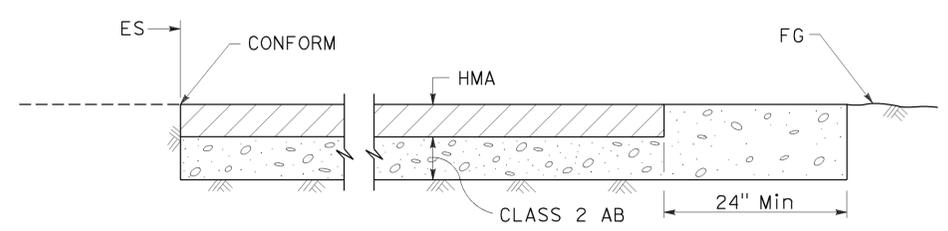
**SECTION
POINTS OF MEASUREMENT**



**SECTION
ROCK BLANKET**



PLAN



**SECTION A-A
MAINTENANCE VEHICLE PULLOUT**

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
LANDSCAPE DETAILS
NO SCALE

RSP H9A DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP H9A

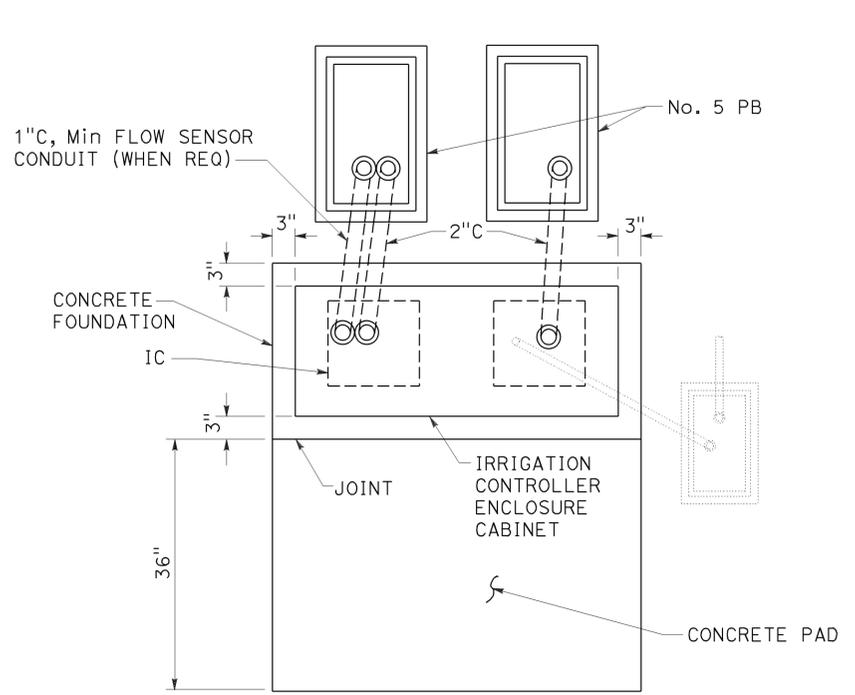
2010 REVISED STANDARD PLAN RSP H9A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	607	737

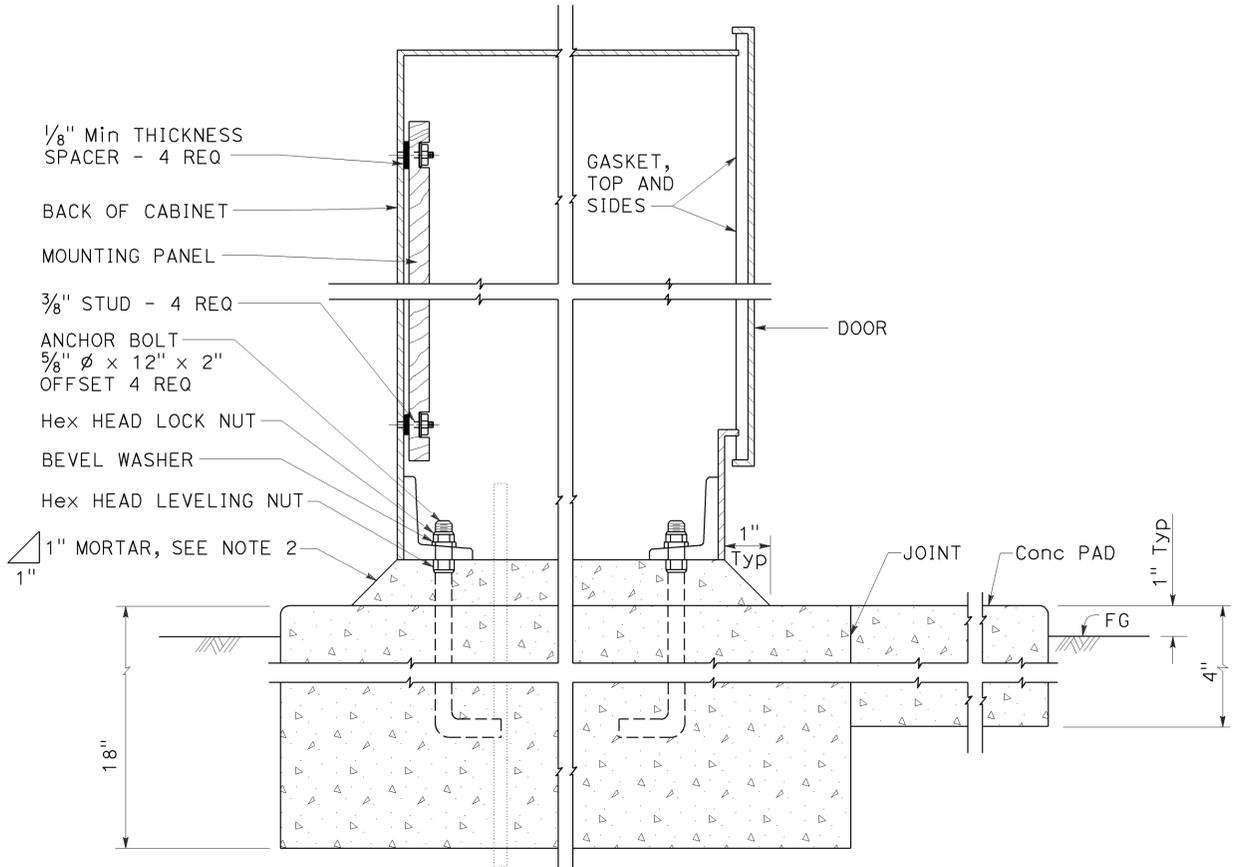
July 15, 2016
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



TO ACCOMPANY PLANS DATED 08-29-16



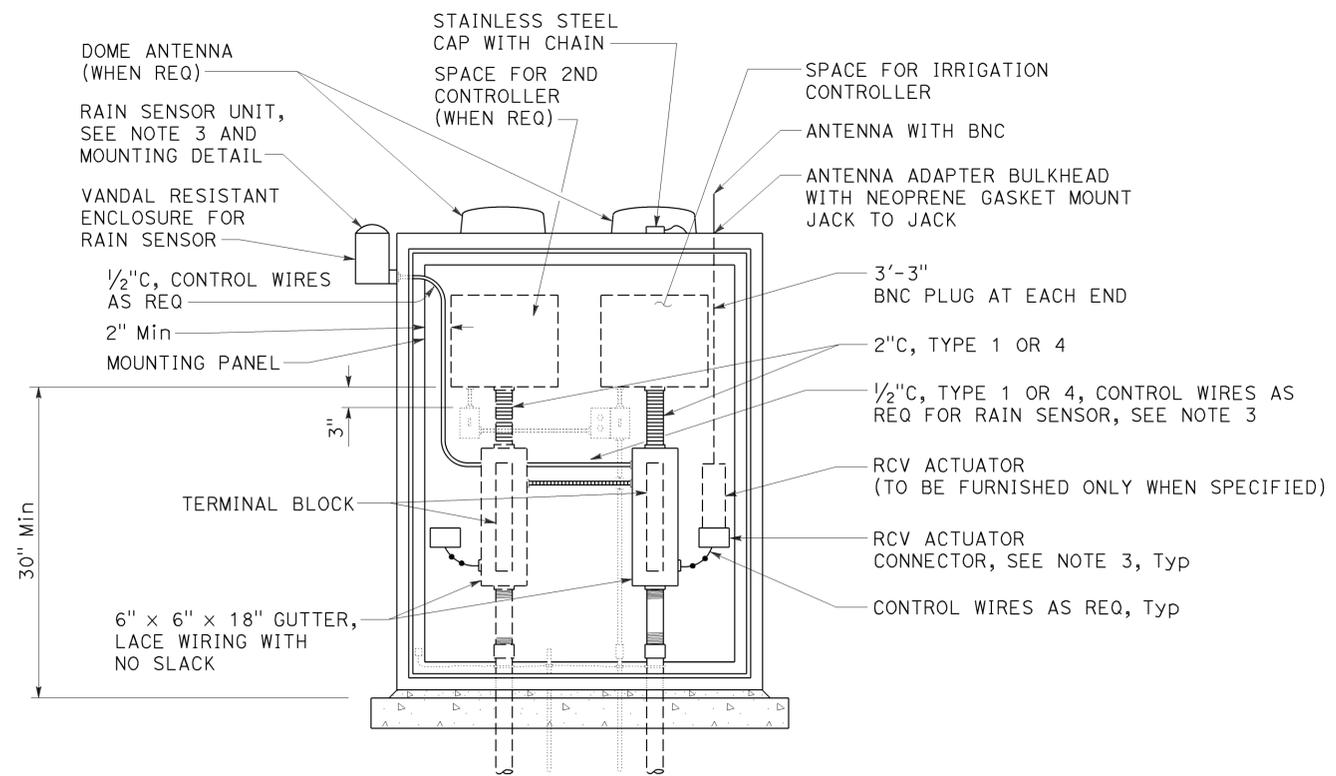
PLAN



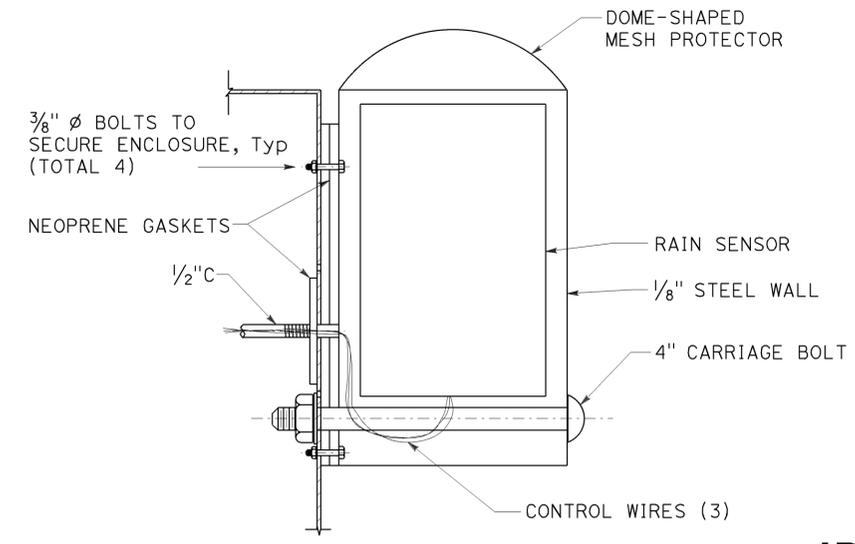
CABINET SECTION

NOTES:

1. All dimensions are nominal.
2. Mortar shall be 1-part cement, 2-parts plaster sand.
3. Rain sensor unit and remote control valve actuator connectors to be provided when specified.
4. See project plans for location and number of irrigation controllers for each cabinet. Install the cabinet with the back facing the direction of oncoming traffic in the nearest traffic lane.
5. The electrical items shown in dropout are not labeled. See Revised Standard Plan RSP ES-3H for electrical requirements.



ELEVATION



RAIN SENSOR UNIT

IRRIGATION CONTROLLER ENCLOSURE CABINET

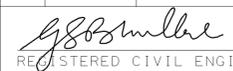
NO SCALE

RSP H10 DATED JULY 15, 2016 SUPERSEDES STANDARD PLAN H10 DATED MAY 20, 2011 - PAGE 227 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP H10

2010 REVISED STANDARD PLAN RSP H10

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	608	737


 REGISTERED CIVIL ENGINEER
 July 19, 2013
 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.

TO ACCOMPANY PLANS DATED 08-29-16

TABLE 1

TAPER LENGTH CRITERIA AND CHANNELIZING DEVICE SPACING							
SPEED (S)	MINIMUM TAPER LENGTH * FOR WIDTH OF OFFSET 12 FEET (W)				MAXIMUM CHANNELIZING DEVICE SPACING		
	TANGENT 2L	MERGING L	SHIFTING L/2	SHOULDER L/3	X	Y	Z **
					TAPER	TANGENT	CONFLICT
mph	ft	ft	ft	ft	ft	ft	ft
20	160	80	40	27	20	40	10
25	250	125	63	42	25	50	12
30	360	180	90	60	30	60	15
35	490	245	123	82	35	70	17
40	640	320	160	107	40	80	20
45	1080	540	270	180	45	90	22
50	1200	600	300	200	50	100	25
55	1320	660	330	220	55	110	27
60	1440	720	360	240	60	120	30
65	1560	780	390	260	65	130	32
70	1680	840	420	280	70	140	35

* - For other offsets, use the following merging taper length formula for L:
 For speed of 40 mph or less, $L = WS^2/60$
 For speed of 45 mph or more, $L = WS$

Where: L = Taper length in feet
 W = Width of offset in feet
 S = Posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph

** - Use for taper and tangent sections where there are no pavement markings or where there is a conflict between existing pavement markings and channelizers (CA).

TABLE 2

LONGITUDINAL BUFFER SPACE AND FLAGGER STATION SPACING				
SPEED *	Min D **	DOWNGRADE Min D ***		
		-3%	-6%	-9%
		ft	ft	ft
mph	ft	ft	ft	ft
20	115	116	120	126
25	155	158	165	173
30	200	205	215	227
35	250	257	271	287
40	305	315	333	354
45	360	378	400	427
50	425	446	474	507
55	495	520	553	593
60	570	598	638	686
65	645	682	728	785
70	730	771	825	891

* - Speed is posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph
 ** - Longitudinal buffer space or flagger station spacing
 *** - Use on sustained downgrade steeper than -3 percent and longer than 1 mile.

TABLE 3

ADVANCE WARNING SIGN SPACING			
ROAD TYPE	DISTANCE BETWEEN SIGNS *		
	A	B	C
	ft	ft	ft
URBAN - 25 mph OR LESS	100	100	100
URBAN - MORE THAN 25 mph TO 40 mph	250	250	250
URBAN - MORE THAN 40 mph	350	350	350
RURAL	500	500	500
EXPRESSWAY / FREEWAY	1000	1500	2640

* - The distances are approximate, are intended for guidance purposes only, and should be applied with engineering judgment. These distances should be adjusted by the Engineer for field conditions, if necessary, by increasing or decreasing the recommended distances.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**TRAFFIC CONTROL SYSTEM TABLES
 FOR LANE AND RAMP CLOSURES**
 NO SCALE

RSP T9 DATED JULY 19, 2013 SUPERSEDES RSP T9 DATED APRIL 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T9

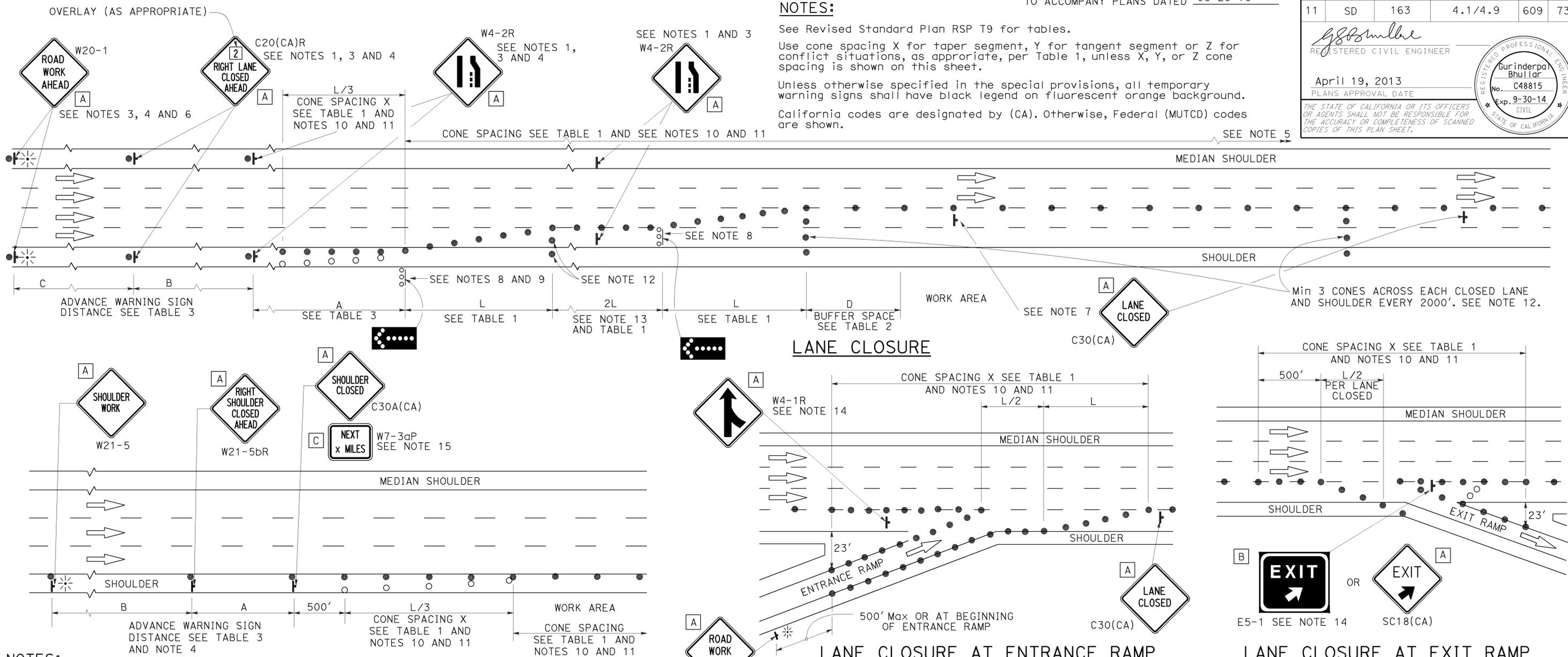
2010 REVISED STANDARD PLAN RSP T9

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	609	737

REGISTERED CIVIL ENGINEER
 April 19, 2013
 PLANS APPROVAL DATE

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

REGISTERED PROFESSIONAL ENGINEER
 Gurinderpal Bhullar
 No. C48815
 Exp. 9-30-14
 CIVIL
 STATE OF CALIFORNIA



- NOTES:**
1. Median lane closures shall conform to the details as shown except that C20(CA)L and W4-2L signs shall be used.
 2. At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closures.
 3. Duplicate sign installations are not required:
 - a) On opposite shoulder if at least one-half of the available lanes remain open to traffic.
 - b) In the median if the width of the median shoulder is less than 8' and the outside lanes are to be closed.
 4. Each advance warning sign on each side of the roadway shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
 5. A G20-2 "END ROAD WORK" sign, with minimum size of 48" x 24" as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious or ends within a larger project's limits.

- SHOULDER CLOSURE**
6. If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT _____ MILES", use a C20(CA)L and W4-2L signs shall be used.
 7. Place a C30(CA) sign every 2000' throughout length of lane closure.
 8. One flashing arrow sign for each lane closed. The flashing arrow signs shall be Type I.
 9. A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at top of crest vertical curve or on a horizontal curve.
 10. All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
 11. Portable delineators, placed at one-half the spacing indicated for traffic cones may be used instead of cones for daytime closures only.

12. Unless otherwise specified in the special provisions, a minimum of 3 cones shall be placed transversely across each closed lane and shoulder at each location where a taper across a traffic lane ends and every 2000' as shown on the "Lane Closure" detail. Two Type II barricades may be used instead of the 3 cones. The transverse alignment of the cones or barricades on the closed shoulder may be shifted from the transverse alignment to provide access to the work.
13. Unless otherwise specified in the special provisions, the 2L tangent shown along lane lines shall be used between the L tapers required for each closed traffic lane.
14. Unless otherwise specified in the special provisions, the E5-1 or SC18(CA) and W4-1 signs shall be used as shown.
15. A W7-3aP "NEXT _____ MILES" plaque must be used if the shoulder closure extends beyond the distance that can be perceived by road users.

LEGEND

- TRAFFIC CONE
- TRAFFIC CONE (OPTIONAL TAPER)
- T TEMPORARY TRAFFIC CONTROL SIGN
- FLASHING ARROW SIGN (FAS)
- FAS SUPPORT OR TRAILER
- ✨ PORTABLE FLASHING BEACON

SIGN PANEL SIZE (Min)

A	48" x 48"
B	72" x 60"
C	36" x 30"

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON FREEWAYS AND EXPRESSWAYS

NO SCALE

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

REVISED STANDARD PLAN RSP T10

2010 REVISED STANDARD PLAN RSP T10

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	163	4.1/4.9	610	737

Gurinderpal Bhullar
REGISTERED CIVIL ENGINEER

April 19, 2013
PLANS APPROVAL DATE

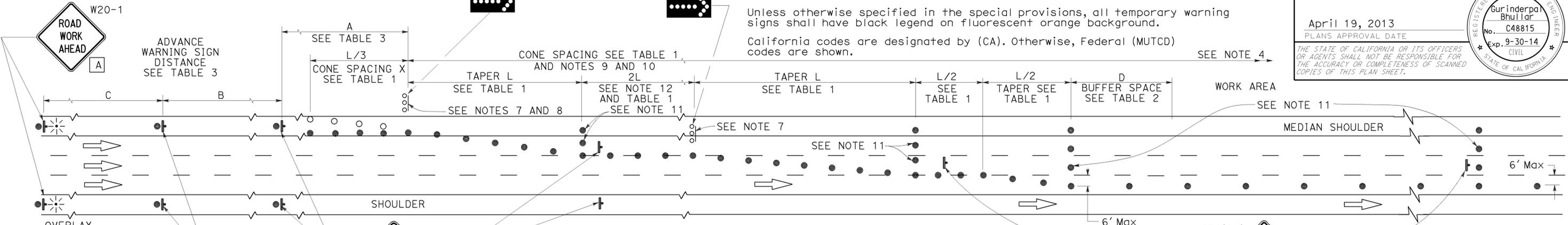
REGISTERED PROFESSIONAL ENGINEER
Gurinderpal Bhullar
No. C48815
Exp. 9-30-14
CIVIL
STATE OF CALIFORNIA

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

NOTES: See Revised Standard Plan RSP T9 for tables.
Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.

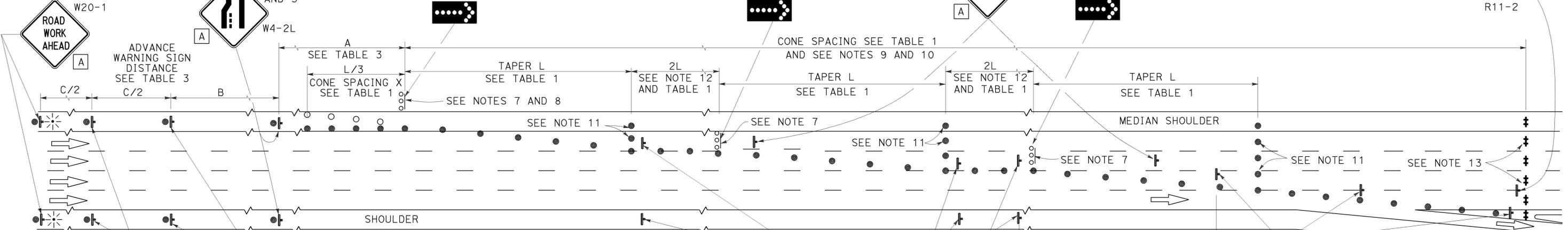
Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on fluorescent orange background.
California codes are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.

SEE NOTES 3 AND 5



LANE CLOSURE WITH PARTIAL SHOULDER USE

SEE NOTES 3 AND 5



COMPLETE CLOSURE

NOTES:

- Lane closures on the right side using partial median shoulder as a traffic lane shall conform to the details as shown except that C20(CA)R and W4-2R signs shall be used.
- At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closures.
- Each advance warning sign on each side of the roadway shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" X 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
- A G20-2 "END ROAD WORK" sign, with minimum size of 48" x 24" as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious or ends within a larger project's limits.
- If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT ___ MILES", use a C20(CA) sign for the first advance warning sign.
- Place a C30(CA) sign every 2000' throughout length of lane closure.
- One flashing arrow sign for each lane closed. The flashing arrow signs shall be Type I.
- A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at the top of crest vertical curve or on a horizontal curve.
- All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
- Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
- Unless otherwise specified in the special provisions, a minimum of 3 cones shall be placed transversely across each closed lane and shoulder at each location where a taper across a traffic lane ends and every 2000' as shown on the "Lane Closure With Partial Shoulder Use" detail. Two Type II barricades may be used instead of the 3 cones. The transverse alignment of the cones or barricades on the closed shoulder may be shifted from the transverse alignment to provide access to the work.
- Unless otherwise specified in the special provisions, the 2L tangent shown along lane lines shall be used between the L tapers required for each closed traffic lane.
- A minimum of Two Type II or III barricades shall be placed across each closed lane and shoulder at the location shown and every 2000' within the complete closure area. Within the complete closure area, the transverse alignment of the barricades on the closed shoulder may be shifted from the transverse alignment to provide access to the work.
- When specified in the special provisions, a W20-2 "DETOUR AHEAD" sign is to be used in place of the W20-3 "FREEWAY CLOSED AHEAD" sign.

SIGN PANEL SIZE (Min)

- A 48" x 48"
- B 48" x 18"
- C 48" x 30"

LEGEND

- TRAFFIC CONE
- TRAFFIC CONE (OPTIONAL TAPER)
- † TEMPORARY TRAFFIC CONTROL SIGN
- FLASHING ARROW SIGN (FAS)
- FAS SUPPORT OR TRAILER
- ⊛ PORTABLE FLASHING BEACON

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

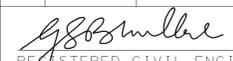
**TRAFFIC CONTROL SYSTEM
FOR LANE CLOSURES ON
FREEWAYS AND EXPRESSWAYS**

NO SCALE

RSP T10A DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T10A DATED MAY 20, 2011 - PAGE 238 OF THE STANDARD PLANS BOOK DATED 2010.

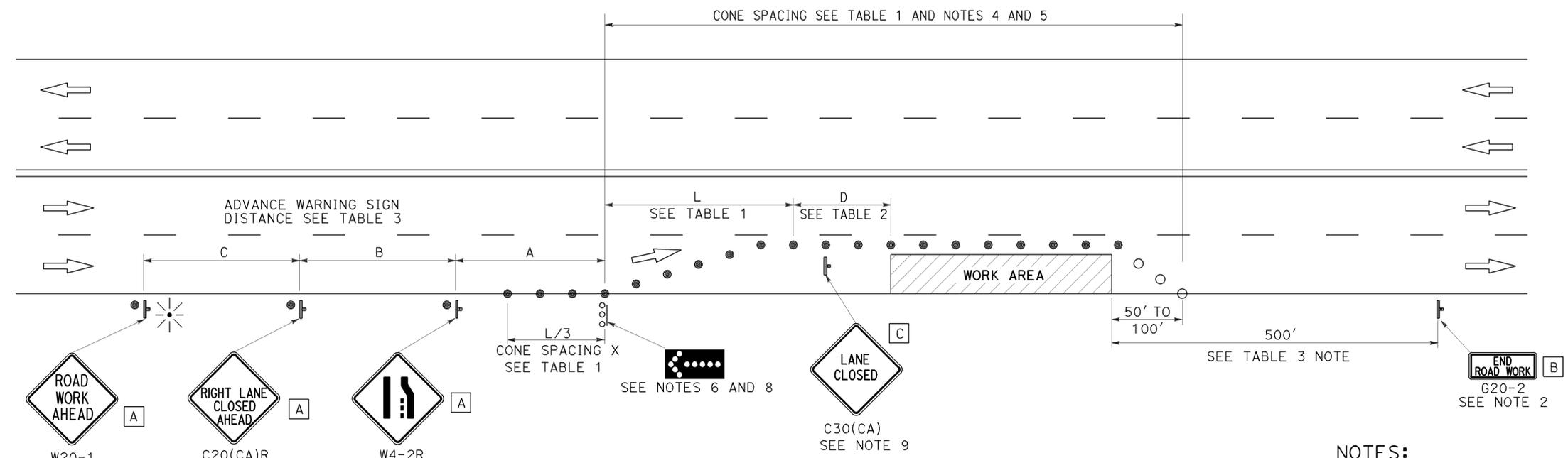
REVISED STANDARD PLAN RSP T10A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	611	737


 REGISTERED CIVIL ENGINEER
 April 19, 2013
 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.

TO ACCOMPANY PLANS DATED 08-29-16



TYPICAL LANE CLOSURE

NOTES:

See Revised Standard Plan RSP T9 for tables.

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

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

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

NOTES:

- Each advance warning sign shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
- A G20-2 "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious, or ends within a larger project's limits.
- If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT _____ MILES", use a C20(CA) sign for the first advance warning sign.
- All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
- Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
- Flashing arrow sign shall be either Type I or Type II.
- For approach speeds over 50 mph, use the "Traffic Control System for Lane Closure On Freeways And Expressways" plan for lane closure details and requirements.
- A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at the top of crest vertical curve or on a horizontal curve.
- Place a C30(CA) sign every 2000' throughout length of lane closure.
- Median lane closures shall conform to the details as shown except that C20(CA)L and W4-2L signs shall be used.
- At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closure unless, otherwise directed by the Engineer.

LEGEND

-  TRAFFIC CONE
-  TRAFFIC CONE (OPTIONAL TAPER)
-  TEMPORARY TRAFFIC CONTROL SIGN
-  FLASHING ARROW SIGN (FAS)
-  FAS SUPPORT OR TRAILER
-  PORTABLE FLASHING BEACON

SIGN PANEL SIZE (Min)

- A** 48" x 48"
- B** 36" x 18"
- C** 30" x 30"

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**TRAFFIC CONTROL SYSTEM
FOR LANE CLOSURE ON
MULTILANE CONVENTIONAL
HIGHWAYS**

NO SCALE

RSP T11 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T11
DATED MAY 20, 2011 - PAGE 239 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T11

2010 REVISED STANDARD PLAN RSP T11

TYPICAL RAMP CLOSURES

SIGN PANEL SIZE (Min)

- A 48" x 48"
- B 48" x 30"
- C 36" x 36"
- D 48" x 36"

LEGEND

- TRAFFIC CONE
- † TEMPORARY TRAFFIC CONTROL SIGN
- ‡ BARRICADES
- ⚡ PORTABLE FLASHING BEACON

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	612	737

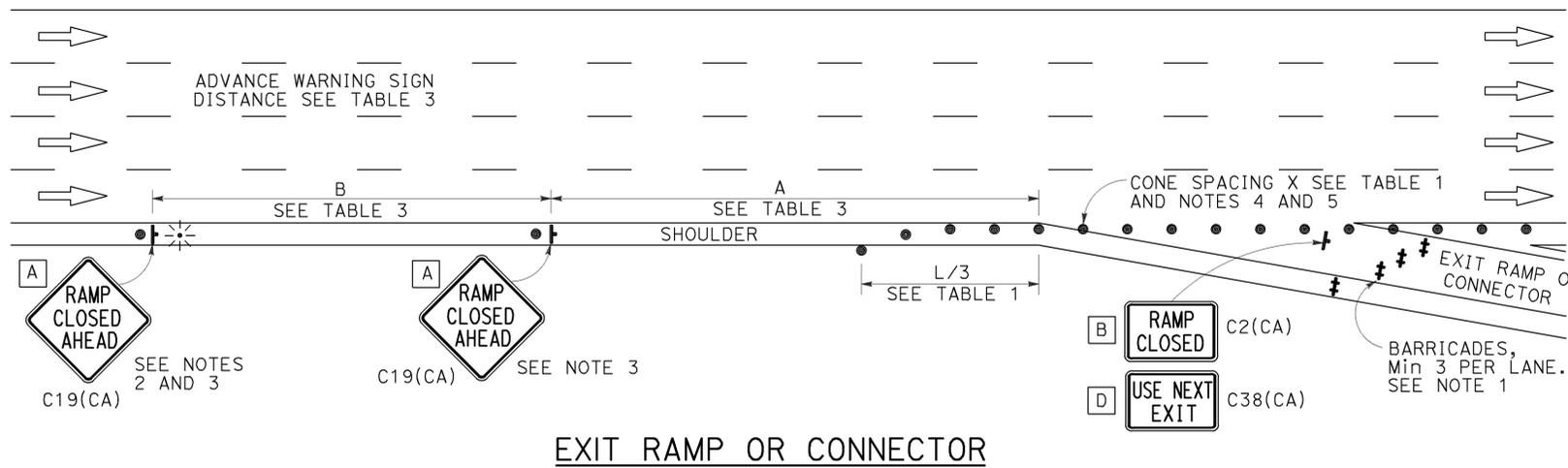
Gurinderpal Bhullar
 REGISTERED CIVIL ENGINEER
 April 19, 2013
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
Gurinderpal Bhullar
 No. C48815
 Exp. 9-30-14
 CIVIL
 STATE OF CALIFORNIA

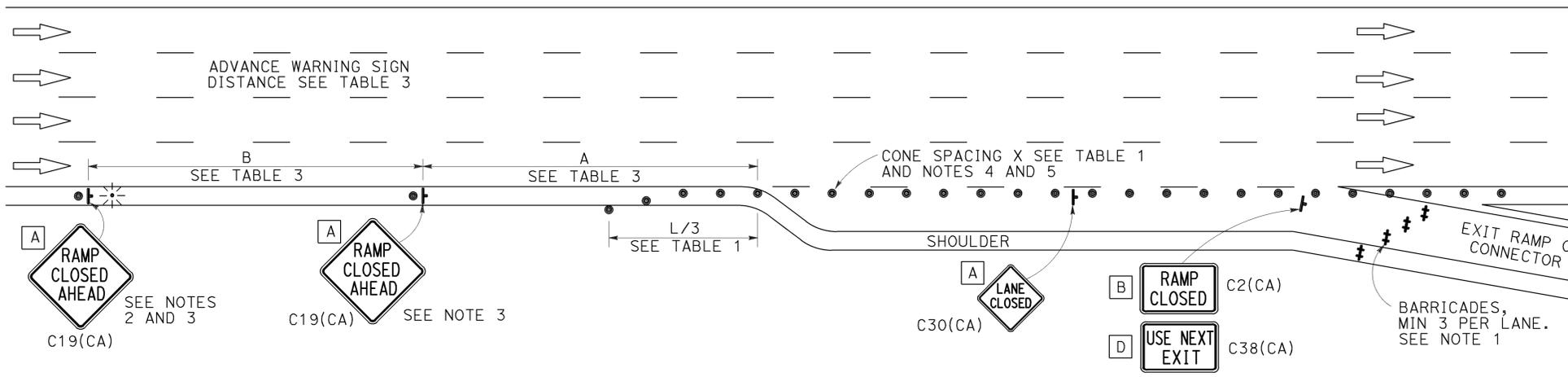
TO ACCOMPANY PLANS DATED 08-29-16

NOTES:

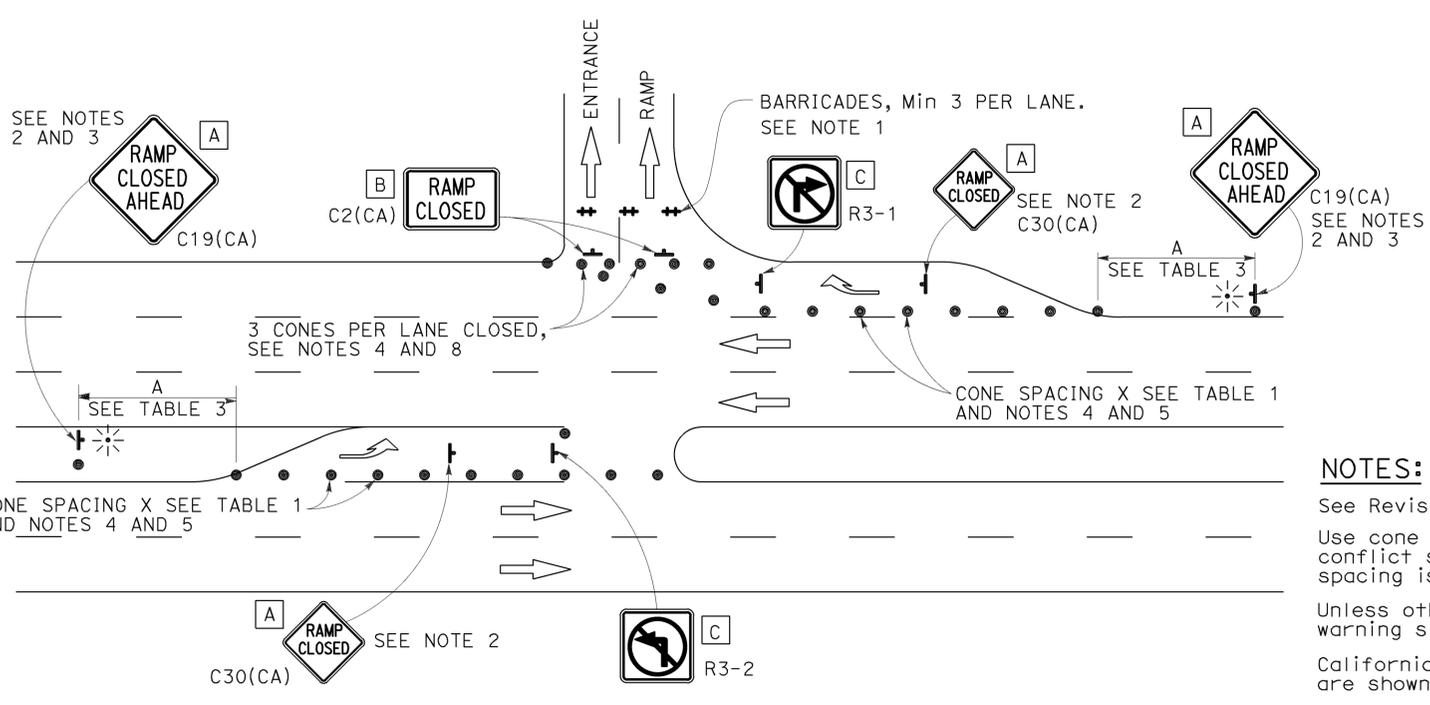
- Barricades shall be Type I, II, or III for closures lasting one week or less and Type III for closures lasting longer than one week.
- In addition to placing the C19(CA) "RAMP CLOSED AHEAD" and C30(CA) "RAMP CLOSED" signs, black on orange overlay plates with the word "CLOSED" may be mounted, as directed by the Engineer, on all guide signs that refer to the closed ramp. The letter size on the overlay shall be the same as the guide sign.
- Each advance C19(CA) "RAMP CLOSED AHEAD" sign shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. A flashing beacon shall be placed on top of the first C19(CA) sign during hours of darkness.
- All cones used for ramp closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
- Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime ramp closures only.
- At least one person shall be assigned to provide full time maintenance of traffic control devices, unless otherwise directed by the Engineer.
- The existing "EXIT" signs shall be covered during ramp closures.
- A minimum of 3 cones shall be placed transversely across each closed lane and shoulder.



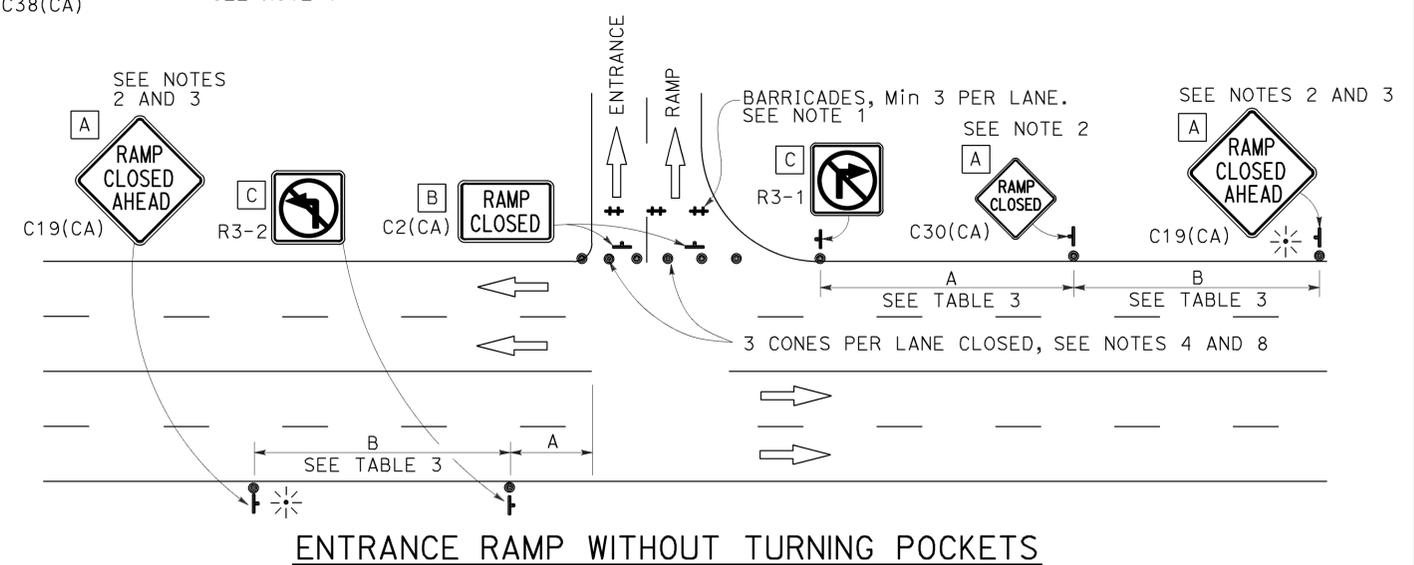
EXIT RAMP OR CONNECTOR



EXIT RAMP OR CONNECTOR WITH ADDITIONAL LANE



ENTRANCE RAMP WITH TURNING POCKETS



ENTRANCE RAMP WITHOUT TURNING POCKETS

NOTES:

- See Revised Standard Plan RSP T9 for tables.
- Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.
- Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on fluorescent orange background.
- California codes are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.

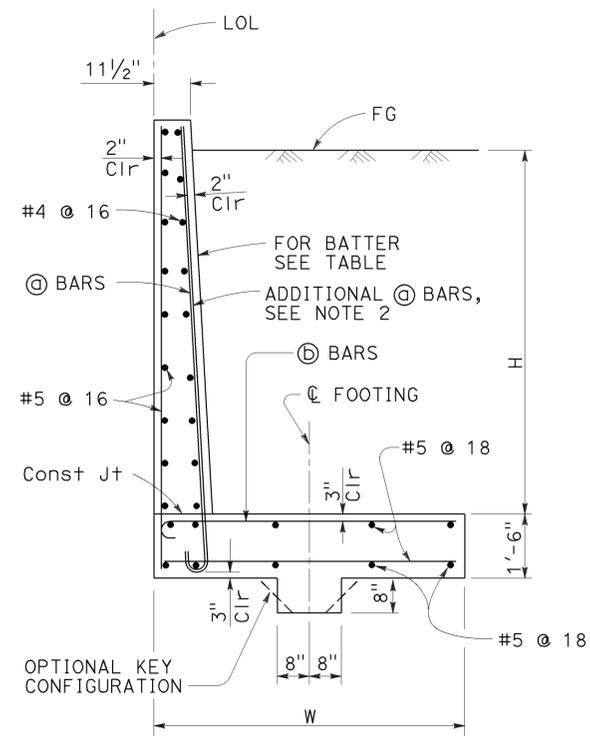
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**TRAFFIC CONTROL SYSTEM
 FOR RAMP CLOSURE**
 NO SCALE

RSP T14 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T14
 DATED MAY 20, 2011 - PAGE 242 OF THE STANDARD PLANS BOOK DATED 2010.

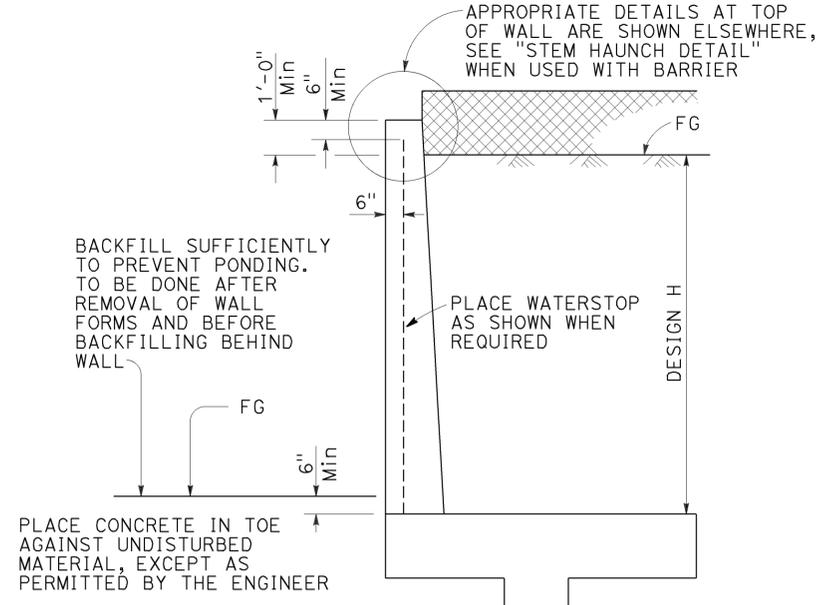
REVISED STANDARD PLAN RSP T14

2010 REVISED STANDARD PLAN RSP T14

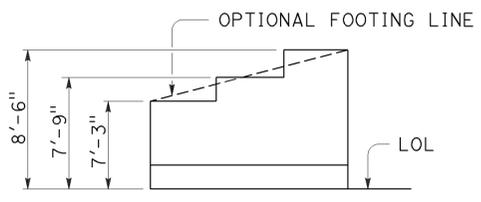
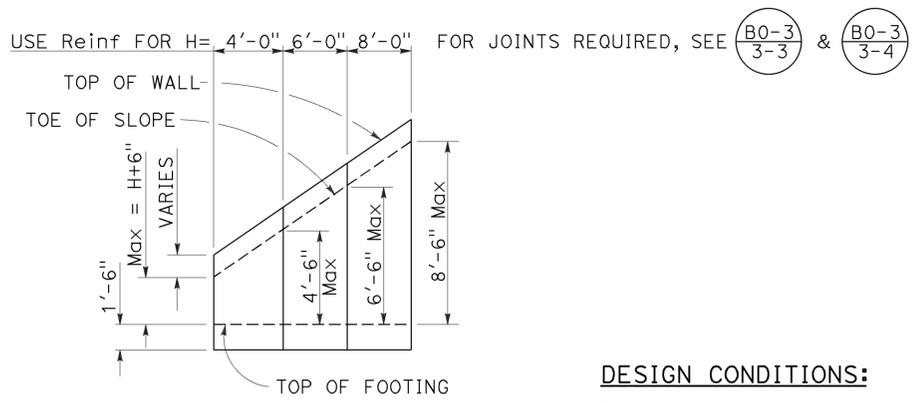
2010 REVISED STANDARD PLAN RSP B3-4A



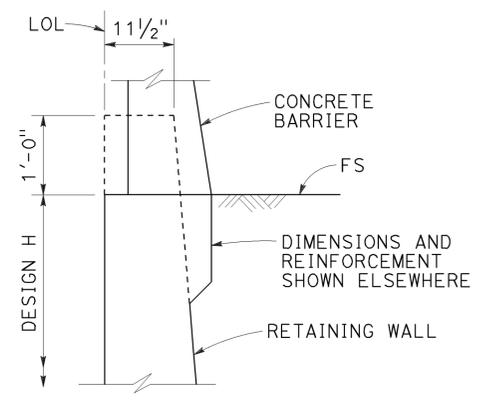
SPREAD FOOTING SECTION



DESIGN SECTION



TYPICAL LAYOUT EXAMPLE



STEM HAUNCH DETAIL

DESIGN CONDITIONS:

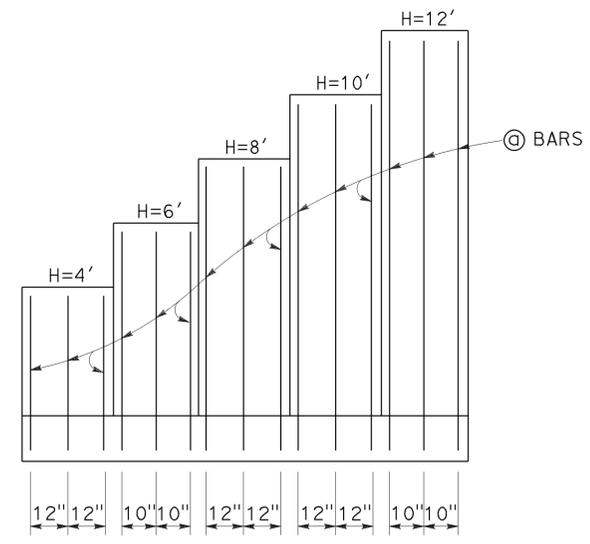
Design H may be exceeded by 6" before going to the next size. Special footing design is required where foundation material is incapable of supporting bearing stress listed in the table.

DESIGN NOTES:

- DESIGN: AASHTO LRFD Bridge Design Specifications, 4th Edition with California Amendments
- LS: Varied surcharge on level ground surface
- DC: Stem Architectural Treatment of thickness up to 6" of concrete (75 psf) considered
- CT: 54 kip transverse force applied at $H_e = 32"$, distributed over 10 feet at the top of wall and 1 : 1 distribution down and outward. Distribution below footing taken no less than 40'.
- SEISMIC: $K_h = 0.2$
 $K_v = 0.0$
- SOIL: $\phi = 34^\circ$
 $\gamma = 120$ pcf
- REINFORCED CONCRETE: $f'_c = 3,600$ psi
 $f_y = 60,000$ psi
- LOAD COMBINATIONS AND LIMIT STATES:
- | | |
|------------|--|
| Service I | $Q = 1.00DC + 1.00EV + 1.00EH + 1.00LS$ |
| Strength I | $Q = \alpha DC + \beta EV + \eta EH + 1.75LS$ |
| Extreme I | $Q = 1.00DC + 1.00EV + 1.00EH + 1.00EQD + 1.00EQE$ |
| Extreme II | $Q = 1.00DC + 1.00EV + 1.00EH + 1.00CT$ |
- Where:
- Q: Force Effects
 - α : 1.25 or 0.90, Whichever Controls Design
 - β : 1.35 or 1.00, Whichever Controls Design
 - η : 1.50 or 0.90, Whichever Controls Design
 - DC: Dead Load of Structure Components
 - EH: Horizontal Earth Fill Pressure
 - EV: Vertical Earth Pressure from Earth Fill Weight
 - LS: Live Load Surcharge
 - EQE: Seismic Earth Pressure
 - EQD: Soil and Structural and Nonstructural Components Inertia
 - CT: Vehicular Collision Force

NOTES:

- At \textcircled{A} bars:
 - $H \leq 6'$, no splices are allowed within 1'-8" above the top of footing.
 - $H > 6'$, no splices are allowed within H/4 above the top of footing.
- Provide #6 @ 8" \textcircled{A} bars in addition to tabulated \textcircled{A} bars over a distance of 8'-0" measured from all expansion joints, begin wall and end wall locations.



ELEVATION

SYMBOLS:

- Ser - service limit state I
- Str - strength limit state I
- Ext I - extreme event limit state I
- Ext II - extreme event limit state II
- B' - effective footing width (ft)
- q_0 - net bearing stress (ksf), OG assumed to be FG at toe
- q_o - gross uniform bearing stress (ksf)

TABLE OF REINFORCING STEEL, DIMENSIONS AND DATA					
DESIGN H	4'	6'	8'	10'	12'
W	7'-3"	7'-9"	8'-6"	9'-6"	10'-6"
BATTER	NONE	NONE	100 : 2	100 : 3	100 : 4
\textcircled{A} BARS	#7 @ 12	#7 @ 10	#7 @ 12	#7 @ 12	#7 @ 10
\textcircled{B} BARS	#7 @ 12	#7 @ 10	#8 @ 12	#9 @ 12	#10 @ 10
Ser: B', q_0	6.2, 1.4	6.1, 1.8	6.4, 2.1	7.0, 2.5	7.7, 2.8
Str: B', q_o	6.2, 2.4	6.1, 2.9	5.3, 3.0	6.0, 3.5	6.6, 4.0
Ext I: B', q_o	4.4, 1.5	4.1, 2.2	4.0, 3.1	4.1, 3.9	4.2, 4.8
Ext II: B', q_o	2.5, 2.7	3.1, 3.0	3.8, 3.2	4.9, 3.3	5.8, 3.5

TO ACCOMPANY PLANS DATED 08-29-16

2010 REVISED STANDARD PLAN RSP B3-5

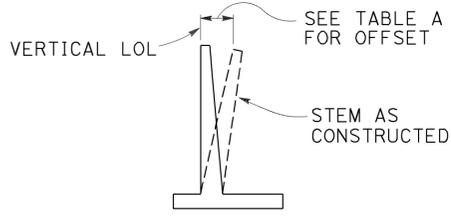
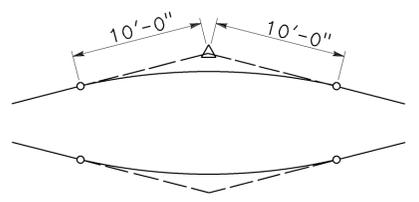


TABLE A

H	OFFSET
4'-12'	H/200
14'-16'	H/160
18'-20'	H/140
22'-24'	H/130
26'-36'	2 1/2"

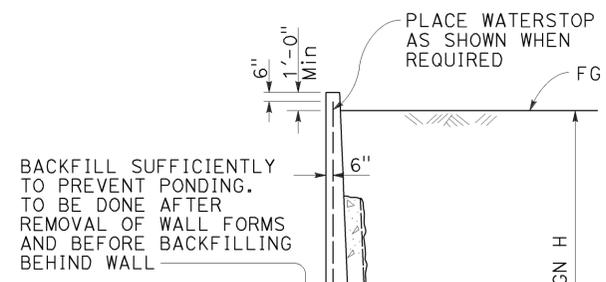
APPROXIMATE WALL OFFSET VALUES

Values for offsetting forms to be determined by the Engineer.



20'-0" VC AT TOP OF WALL SLOPE CHANGE

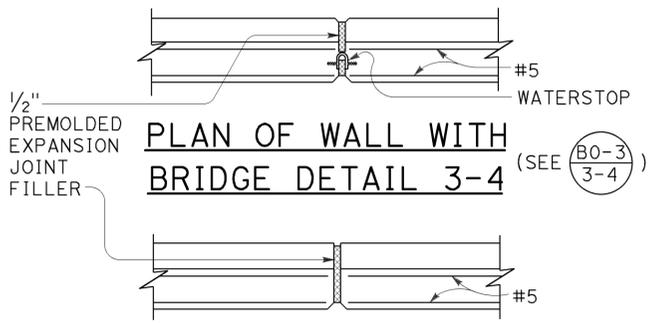
Where shown on the plans



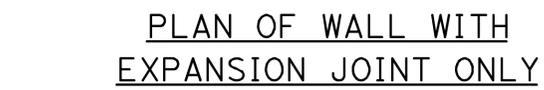
BACKFILL SUFFICIENTLY TO PREVENT PONDING. TO BE DONE AFTER REMOVAL OF WALL FORMS AND BEFORE BACKFILLING BEHIND WALL.

PLACE CONCRETE IN TOE AGAINST UNDISTURBED MATERIAL EXCEPT AS PERMITTED BY THE ENGINEER.

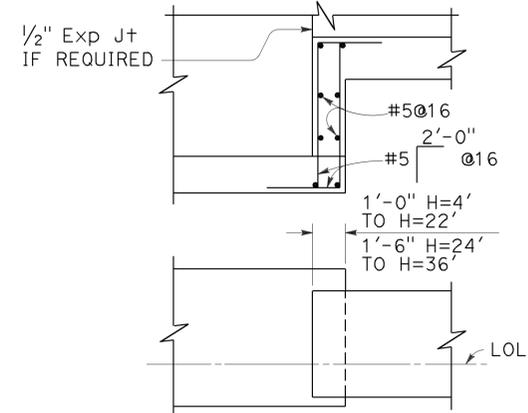
DESIGN AND DRAINAGE



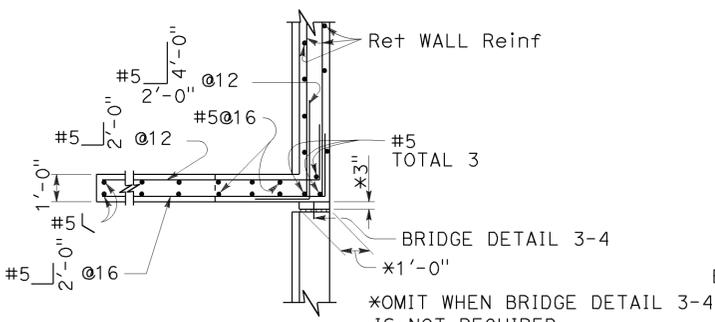
PLAN OF WALL WITH BRIDGE DETAIL 3-4



PLAN OF WALL WITH EXPANSION JOINT ONLY

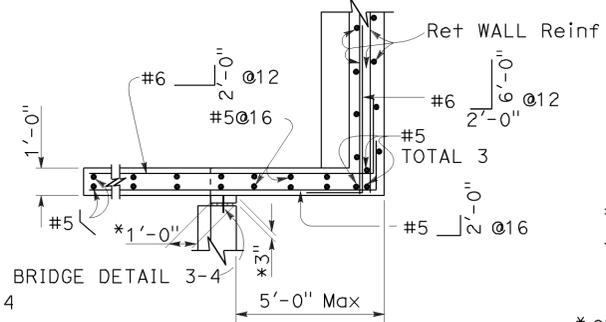


FOOTING STEP



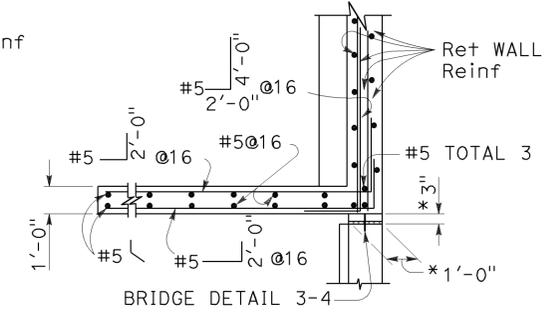
PLAN

(For return wall Type "A")



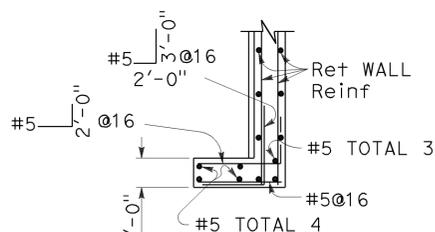
PLAN

(For return wall Type "B")



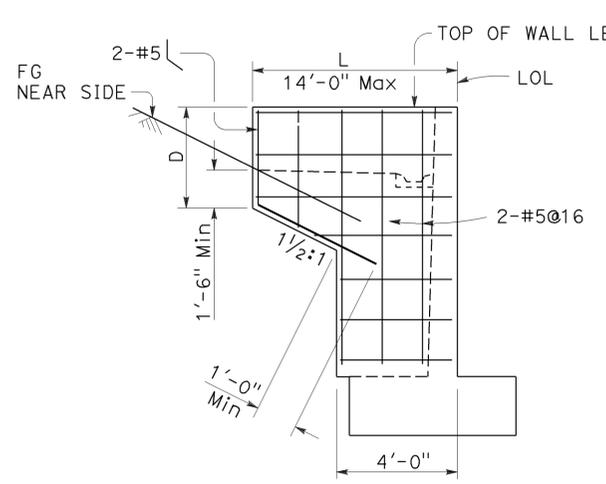
PLAN

(For return wall Type "C")



PLAN

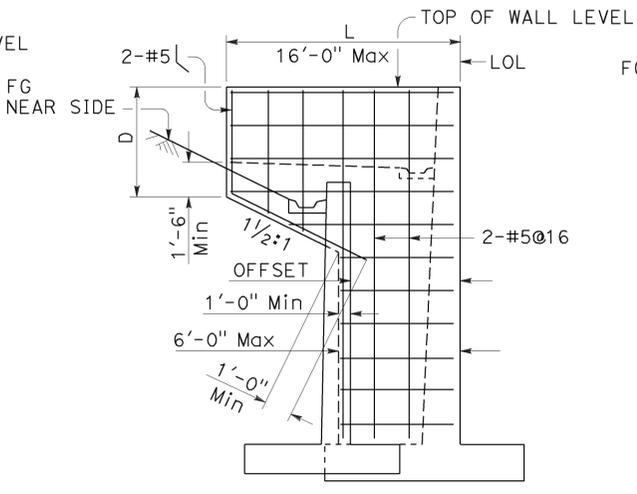
(For return wall Type "D")



ELEVATION

RETURN WALL TYPE "A"

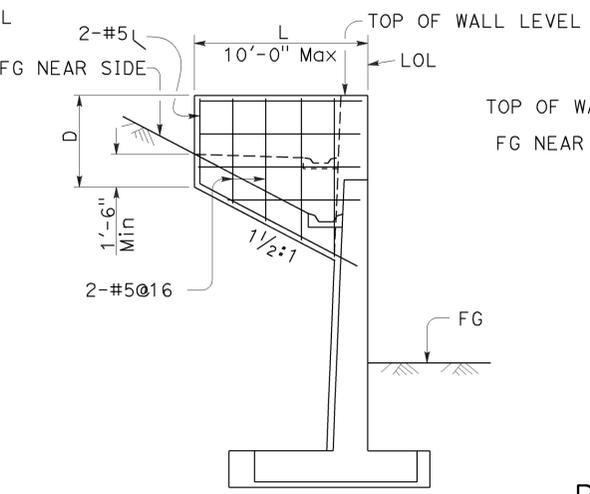
Use where H=8' or less



ELEVATION

RETURN WALL TYPE "B"

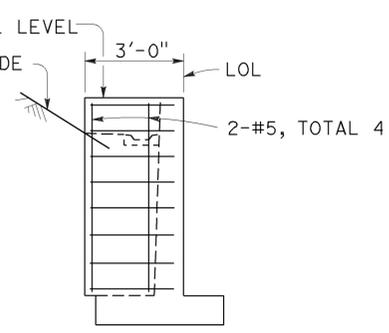
Use where H=10' or more on offset walls



ELEVATION

RETURN WALL TYPE "C"

Use where H=10' or more on straight walls



ELEVATION

RETURN WALL TYPE "D"

Use where H=6' or less

DESIGN CONDITIONS:

Design "H" may be exceeded by 6" before going to the next size. Special footing design is required where foundation material is incapable of supporting bearing stress listed in table

Return wall not required unless shown elsewhere

DESIGN NOTES:

DESIGN: AASHTO LRFD Bridge Design Specifications, 4th edition with California Amendments

LIVE LOAD: Surcharge on level ground surface

SOIL: $\phi = 34^\circ$
 $\gamma = 120$ pcf

REINFORCED CONCRETE: $f_y = 60,000$ psi
 $f_c' = 3,600$ psi

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

RETAINING WALL DETAILS No. 1

NO SCALE

RSP B3-5 DATED APRIL 20, 2012 SUPERSEDES STANDARD PLAN B3-5 DATED MAY 20, 2011 - PAGE 277 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP B3-5

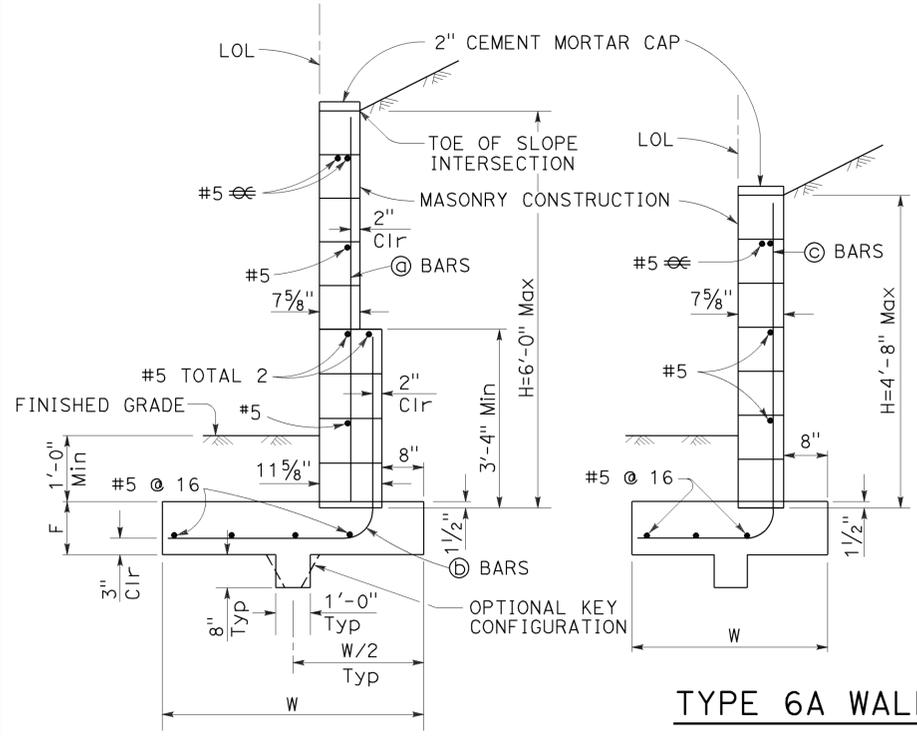
SYMBOLS:

Ser - service limit state 1
 Str - strength limit state 1
 Ext - extreme event limit state I
 B' - effective footing width (ft)
 q_o - net bearing stress (ksf), OG assumed to be FG at toe
 q_o - gross uniform bearing stress (ksf)

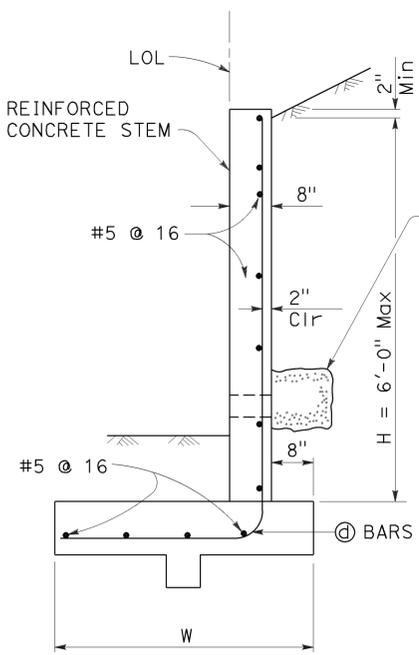
DESIGN NOTES:

TO ACCOMPANY PLANS DATED 08-29-16
 DESIGN: AASHTO LRFD Bridge Design Specifications, 4th Edition with California Amendments
 Building Code Requirements for Masonry Structures (TMS 402-08/ACI 530-08/ASCE 5-08)
 LS: 240 psf surcharge on level ground surface as limited by Guard Railing location
 SEISMIC: $k_h = 0.2$
 $k_v = 0.0$
 SOIL: $\phi = 34^\circ$
 $\gamma = 120$ pcf
 REINFORCED CONCRETE: $f'_c = 3,600$ psi
 $f_y = 60,000$ psi
 REINFORCED MASONRY: $f_m' = 1,500$ psi
 $f_y = 60,000$ psi
 LOAD COMBINATIONS AND LIMIT STATES:
 Service I $Q = 1.00DC + 1.00EV + 1.00EH + 1.00LS$
 Strength I $Q = aDC + \phi EV + \eta EH + 1.75LS$
 Extreme I $Q = 1.00DC + 1.00EV + 1.00EH + 1.00EQD + 1.00EQE$

Where:
 Q: Force Effects
 a: 1.25 or 0.90, Whichever Controls Design
 ϕ : 1.35 or 1.00, Whichever Controls Design
 η : 1.50 or 0.90, Whichever Controls Design
 DC: Dead Load of Structure Components
 EH: Horizontal Earth Fill Pressure
 EV: Vertical Earth Pressure from Earth Fill Weight
 LS: Live Load Surcharge
 EQE: Seismic Earth Pressure
 EQD: Soil and Structural and Nonstructural Components Inertia

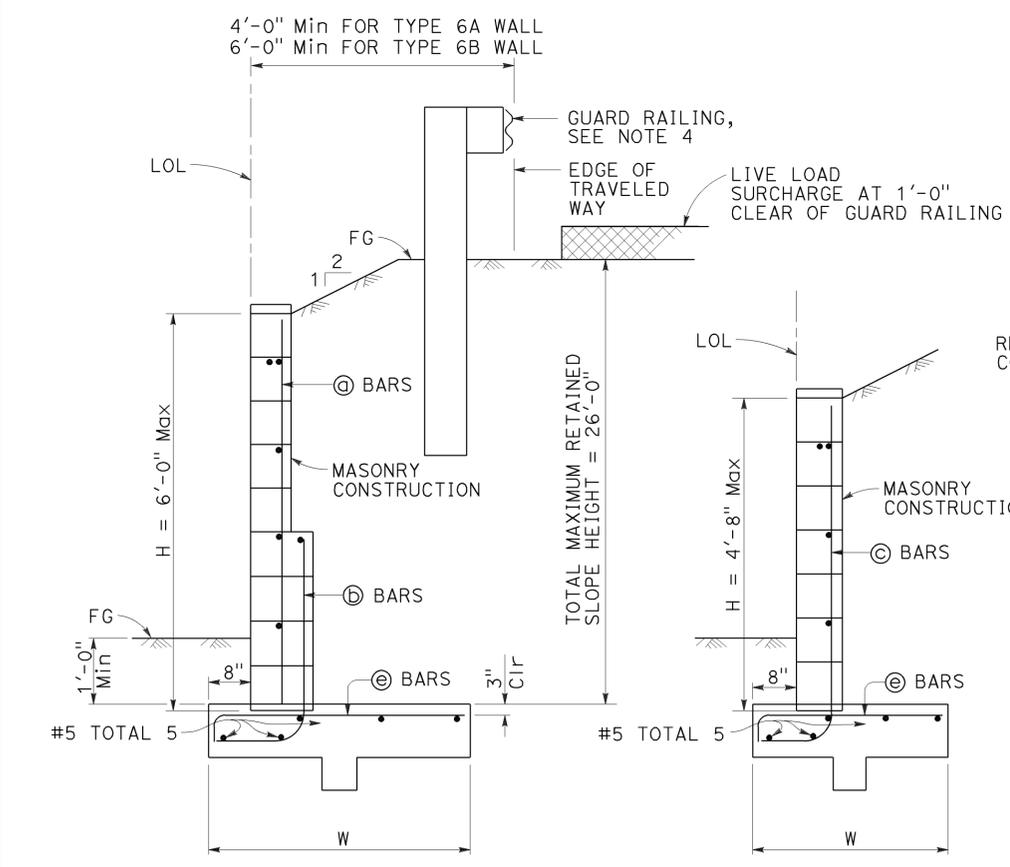


TYPE 6A WALL

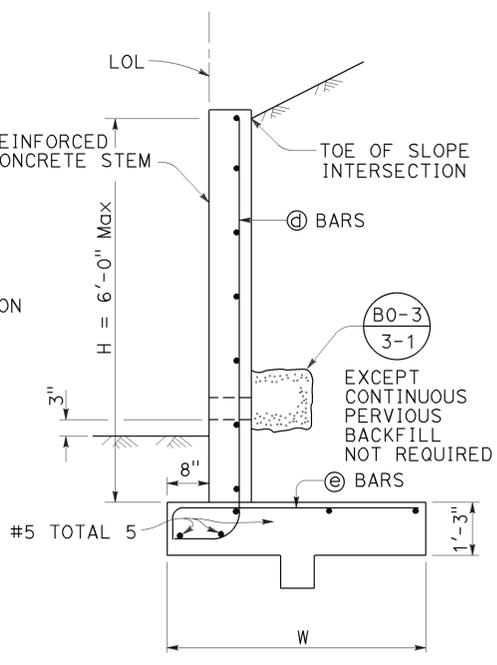


NOTES:

- For details not shown at "6B", see "6A", similarly, for details not shown at "6A", see "6B".
- Design loading for both Type "6A" and "6B" is as shown at "6B".
- Type 6 retaining wall shall be limited to use for walls of Design H of 6'-0" or less.
- Where traffic is adjacent to the top of wall, guard railing should be set back from the top front face of wall at least 4'-0" or 6'-0", dependent on wall type.
- For reinforced concrete wall stem joint details, see (B0-3/3-3) and (B0-3/3-4).
- No splices are allowed on @, @, @, and @ bars.
- See "Retaining Wall Type 6 Details" sheet for Elevation View and Footing Step Details.



TYPE 6B WALL



TYPE 6A WALL - TABLE OF REINFORCING STEEL, DIMENSIONS AND DATA

DESIGN H	3'-4"	4'-0"	4'-8"	5'-4"	6'-0"
W	3'-8"	4'-1"	4'-8"	5'-3"	6'-9"
F	1'-0"	1'-0"	1'-2"	1'-3"	1'-4"
@ BARS	NONE	NONE	NONE	#5 @ 16"	#5 @ 16"
@ BARS	NONE	NONE	NONE	#5 @ 16"	#5 @ 16"
@ BARS	#5 @ 16	#5 @ 16	#5 @ 16	NONE	NONE
@ BARS	#5 @ 16	#5 @ 16	#5 @ 16	#5 @ 16	#6 @ 16
Ser: B', q _o	3.4, 0.3	3.8, 0.3	4.3, 0.3	4.9, 0.4	6.0, 0.4
Str: B', q _o	3.3, 0.7	3.6, 0.7	4.1, 0.8	4.7, 0.8	5.7, 0.9
Ext: B', q _o	1.3, 1.9	1.4, 2.0	1.7, 2.1	1.9, 2.2	3.9, 1.4

TYPE 6B WALL - TABLE OF REINFORCING STEEL, DIMENSIONS AND DATA

DESIGN H	3'-4"	4'-0"	4'-8"	5'-4"	6'-0"
W	4'-6"	5'-1"	5'-7"	6'-2"	6'-9"
@ BARS	NONE	NONE	NONE	#5 @ 16"	#5 @ 16"
@ BARS	NONE	NONE	NONE	#5 @ 16"	#5 @ 16"
@ BARS	#5 @ 16	#5 @ 16	#5 @ 16	NONE	NONE
@ BARS	#5 @ 16	#5 @ 16	#5 @ 16	#5 @ 16	#6 @ 16
@ BARS	#5 @ 16	#5 @ 16	#6 @ 16	#6 @ 16	#7 @ 16
Ser: B', q _o	3.3, 0.6	3.7, 0.8	4.0, 0.9	4.5, 1.0	4.1, 1.4
Str: B', q _o	1.9, 1.4	2.3, 1.6	2.5, 1.8	2.8, 1.9	1.8, 3.6
Ext: B', q _o	1.5, 2.8	1.8, 3.1	1.9, 3.6	2.1, 3.8	2.4, 3.9

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
RETAINING WALL TYPE 6 (CASE 2)
 NO SCALE

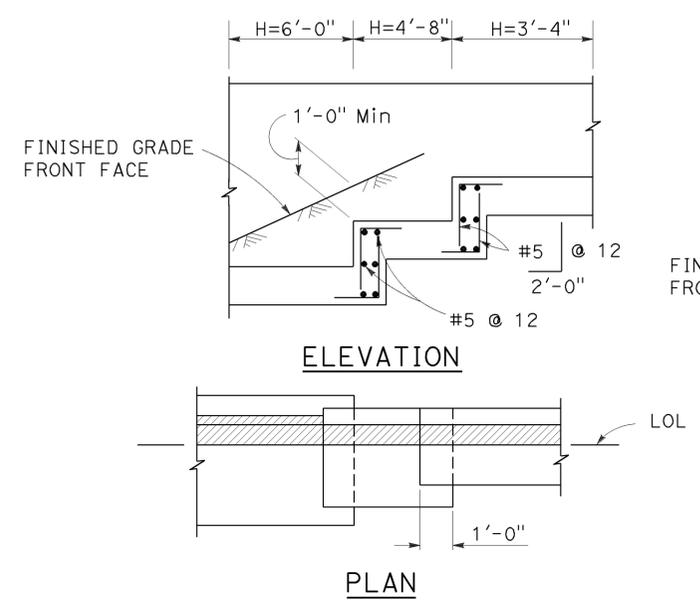
2010 REVISED STANDARD PLAN RSP B3-7B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	163	4.1/4.9	618	737

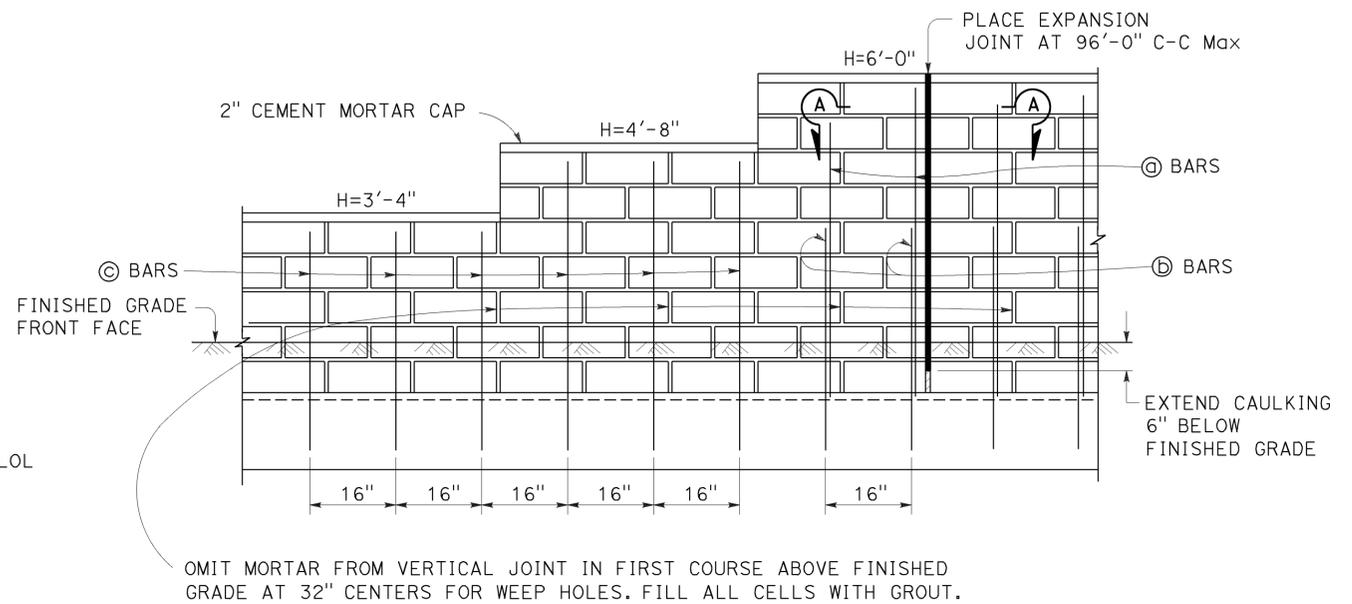
Gary Wang
 REGISTERED CIVIL ENGINEER
 April 20, 2012
 PLANS APPROVAL DATE

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

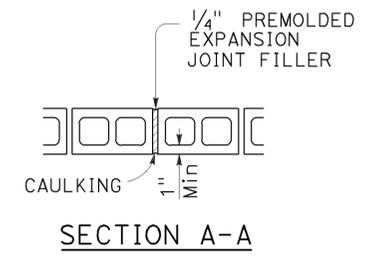
TO ACCOMPANY PLANS DATED 08-29-16



FOOTING STEP DETAILS



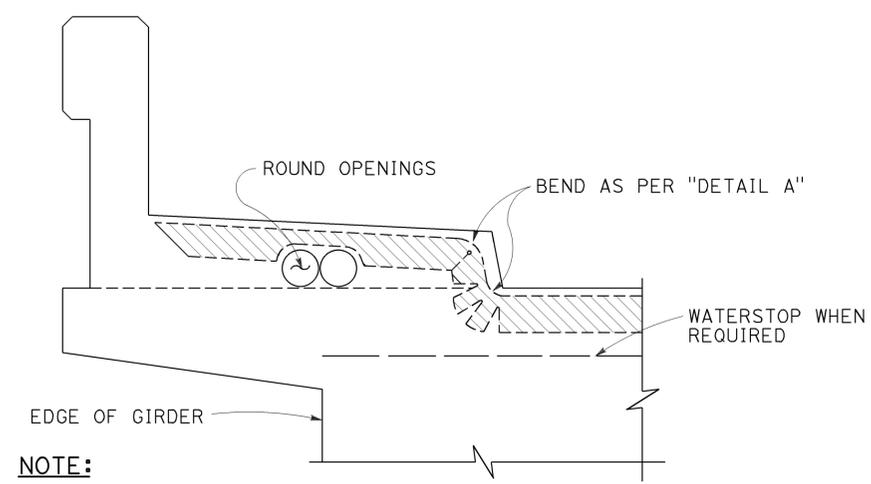
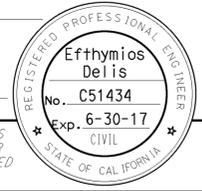
ELEVATION - MASONRY CONSTRUCTION



STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
RETAINING WALL TYPE 6 DETAILS
 NO SCALE

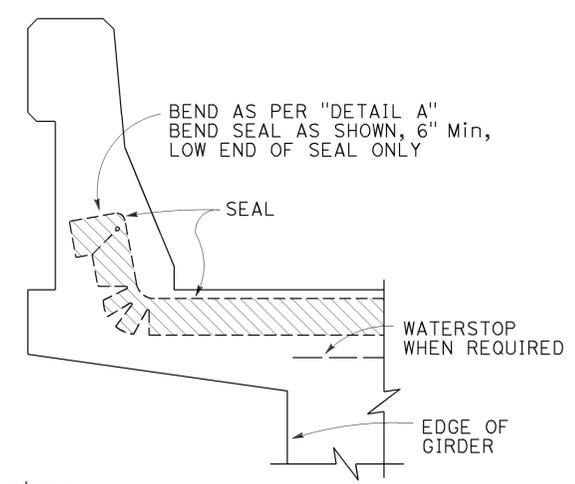
RSP B3-7C DATED APRIL 20, 2012 SUPPLEMENTS THE
 STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP B3-7C

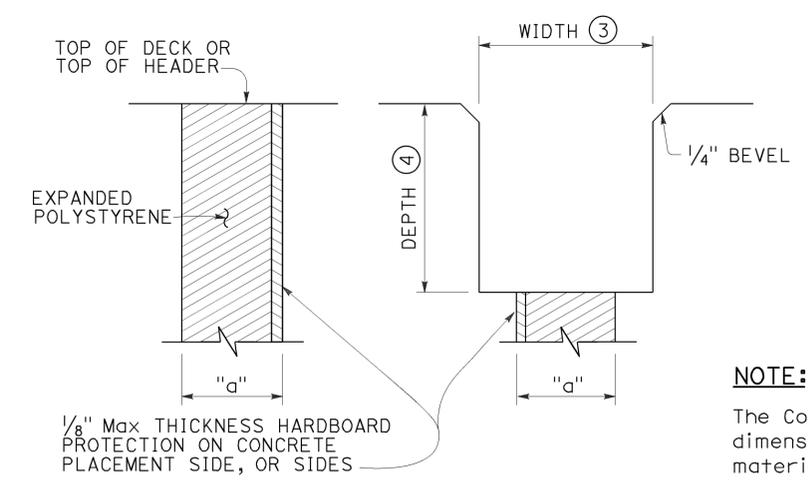


NOTE:
 Type "B" seal shown. Type "A" seals to conform to the general path of seal shown, cuts for bending not required. Bend type "A" seals 3" up into curb or barrier rail on only the low end of the seal.

CONCRETE BARRIER AND SIDEWALK



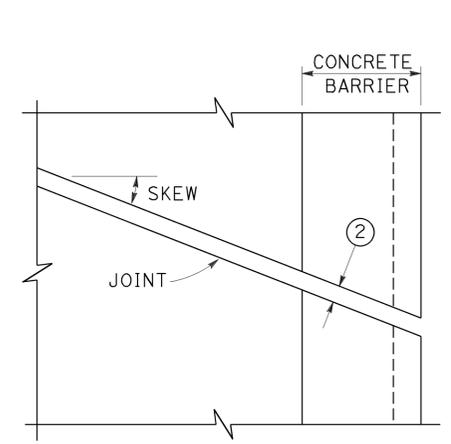
CONCRETE BARRIER



FORMING DETAIL SAWCUT DETAIL

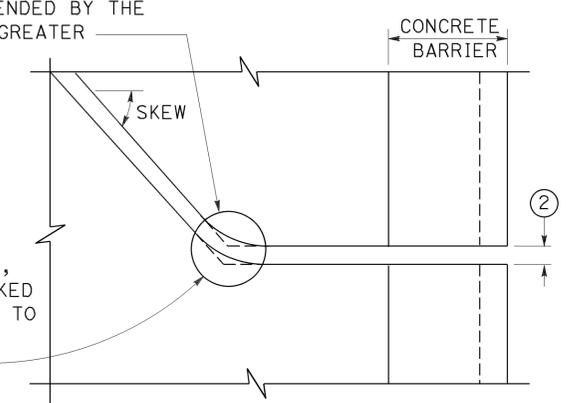
NOTE:
 The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

JOINT SEALS DETAILS



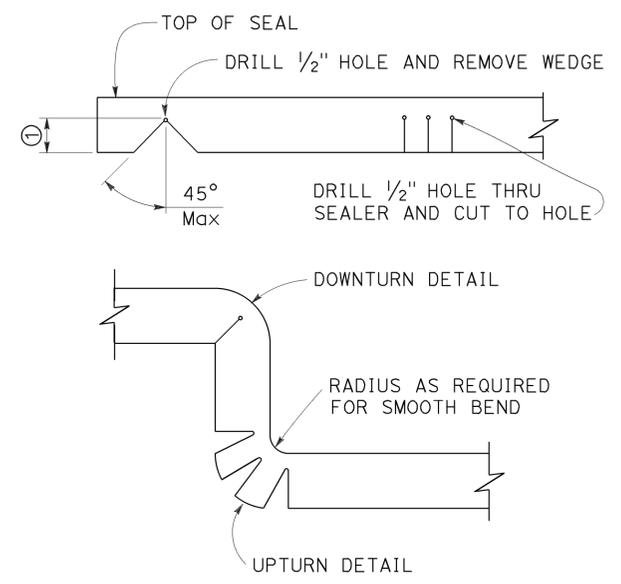
PLAN OF JOINT (SKEW ≤ 20°)

Min ϕ RADIUS TO BE 4 TIMES UNCOMPRESSED WIDTH OF SEAL OR AS RECOMMENDED BY THE MANUFACTURER, WHICHEVER IS GREATER



PLAN OF JOINT (SKEW > 20°)

IN LIEU OF SAW CUTTING, THIS AREA MAY BE BLOCKED OUT AND RECONSTRUCTED TO MATCH SAW CUTTING ON BOTH SIDES.



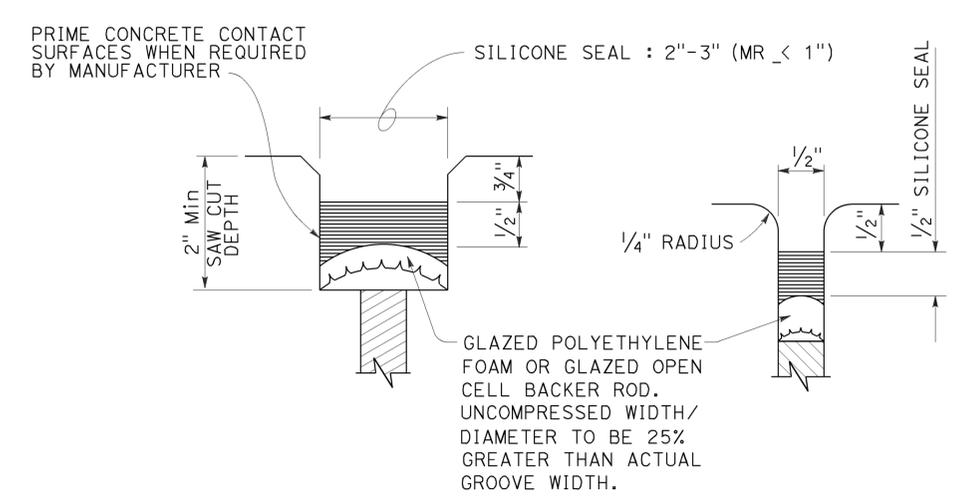
DETAIL A

NOTES:

- Make smooth cuts from the bottom of seal to 1/2" clear of top leaving at least one complete cell between the top of the cut and top of the seal. When necessary cut back of seal to clear conduit and round openings.
- Opening in barrier to match width of sawn deck joint.
- Sawcut groove widths shall be as ordered by the Engineer.
- Depth of sawcut: Type A - Depth to be 2" minimum. Type B - Depth to be equal to or greater than the depth of seal measured along the contact surface, when compressed to minimum width position (W₂) plus dimensions shown.
- MR (movement rating) as shown on other plan sheets.
- Other depths must be approved by the Engineer.
- A sidewalk joint shall be covered by an expansion joint armor.

DIMENSIONS "a" OF JOINT REQUIRED

MOVEMENT RATING (MR) (5)	BRIDGE TYPE	"a" DIMENSION		
		DECK CONCRETE PLACED		
		WINTER	FALL-SPRING	SUMMER
2"	ALL EXCEPT CIP/PS	1 1/2"	1 1/4"	3/4"
	CIP/PS	1 1/4"	1"	1/2"
1 1/2"	ALL EXCEPT CIP/PS	1 1/4"	1"	1/2"
	CIP/PS	1"	3/4"	1/2"
1"	ALL EXCEPT CIP/PS	1"	3/4"	1/2"
	CIP/PS	3/4"	1/2"	1/2"
1/2"	ALL EXCEPT CIP/PS	3/4"	3/4"	1/2"
	CIP/PS	1/2"	1/2"	1/2"

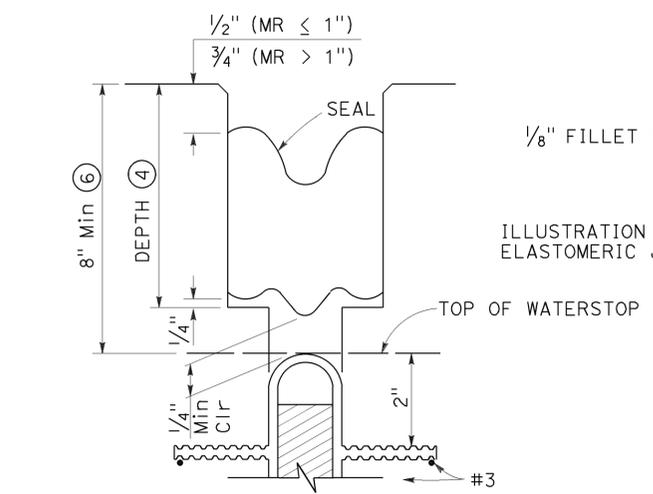


TYPE A SEAL

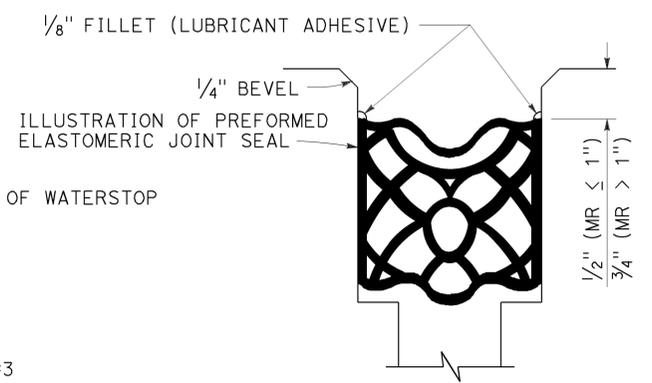
Movement rating : Silicone = 1" Max

TYPE AL SEAL

Longitudinal joints only



TYPE B JOINT SEAL IN MINIMUM WIDTH POSITION (W₂)



TYPE B SEAL

Movement Rating ≤ 2"

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
JOINT SEALS
(MAXIMUM MOVEMENT RATING = 2")

NO SCALE
 RSP B6-21 DATED OCTOBER 30, 2015 SUPERSEDES
 STANDARD PLAN B6-21 DATED MAY 20, 2011 -
 PAGE 283 OF THE STANDARD PLANS BOOK DATED 2010.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	620	737

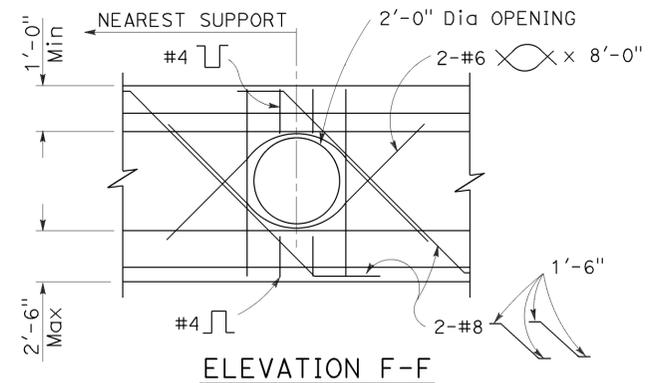
Peter W. Norboe
REGISTERED CIVIL ENGINEER

July 15, 2016
PLANS APPROVAL DATE

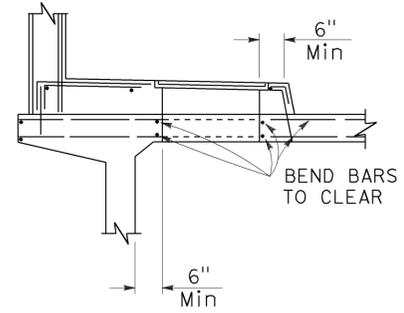
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
Peter W. Norboe
No. C57519
Exp. 12-31-17
CIVIL
STATE OF CALIFORNIA

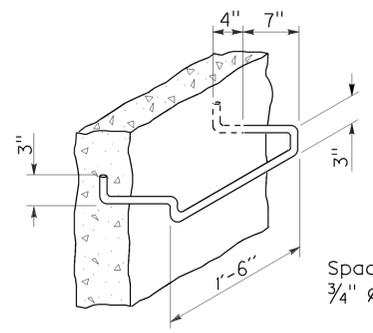
TO ACCOMPANY PLANS DATED 08-29-16



ELEVATION F-F

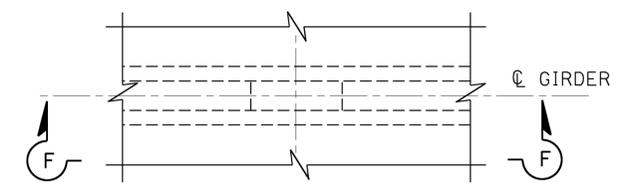


SECTION C-C

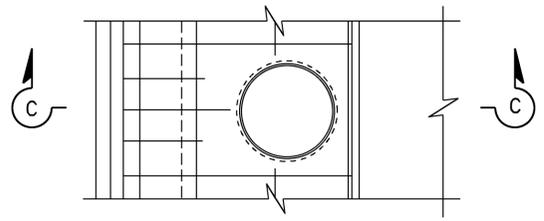


BAR STEP LADDER RUNG DETAILS
DETAIL U44

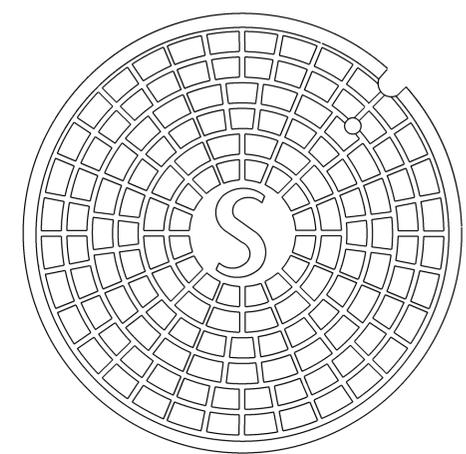
Space ladder rung @ 12
3/4" ϕ Galvanize after fabrication



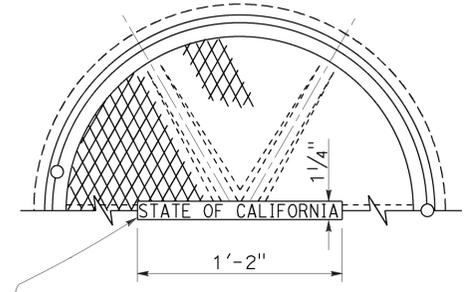
PART PLAN
GIRDER STEM ACCESS OPENING
DETAIL U41



PART PLAN
SIDEWALK ACCESS OPENING
DETAIL U42



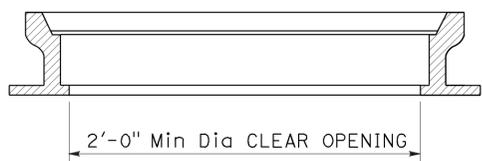
TOP OF MANHOLE COVER



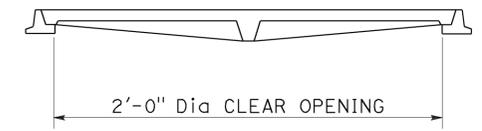
TOP OF MANHOLE FRAME & COVER

NOTES:

1. For exact location of openings see other sheets.
2. Location and size of manholes may be modified as directed by the Engineer, provided minimum dimensions are maintained.
3. All reinforcement detailed to be placed in addition to reinforcement shown on other sheets.



SECTION THROUGH FRAME
NON-ROCKING MANHOLE FRAME & COVER
FOR DECKS
DETAIL U45



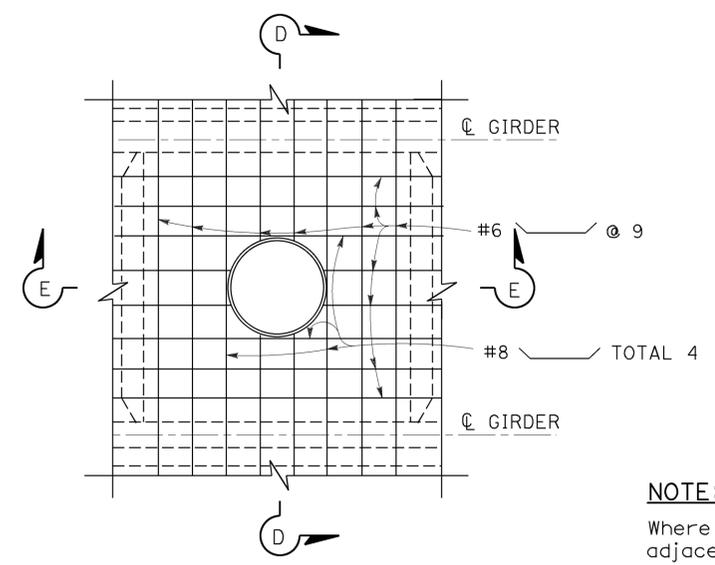
SECTION THROUGH FRAME & COVER
MANHOLE FRAME & COVER
FOR SIDEWALKS
DETAIL U46

NOTES:

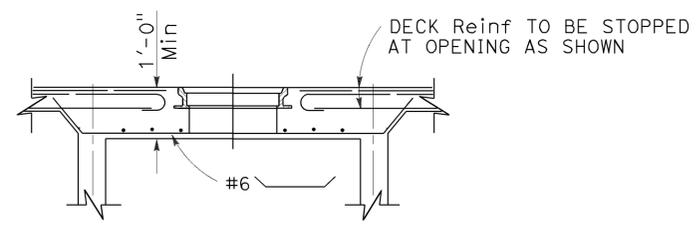
1. Frame and cover shall be cast iron.
2. Cover shall be supplied with bolt down or locking devices.

NOTES:

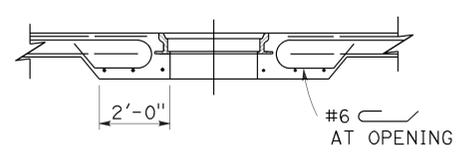
1. Step inserts may be substituted for the standard step detail. Step inserts shall comply with State Industrial Safety requirements.
2. Covers for use on sewer structures shall bear the letter "S"; on storm drain structures the letter "D"; on openings for utilities the letter "U".



PART PLAN
DECK ACCESS OPENING
DETAIL U43



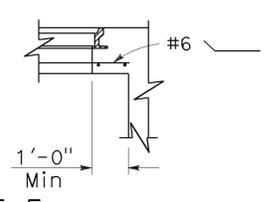
SECTION D-D



SECTION E-E

NOTE:

Where manhole is located adjacent to a diaphragm or abut, substitute half Section E-E on one side of Section E-E.



HALF SECTION E-E

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

UTILITY DETAILS

NO SCALE

RSP B7-11 DATED JULY 15, 2016 SUPERSEDES STANDARD PLAN B7-11
DATED MAY 20, 2011 - PAGE 290 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP B7-11

2010 REVISED STANDARD PLAN RSP B7-11

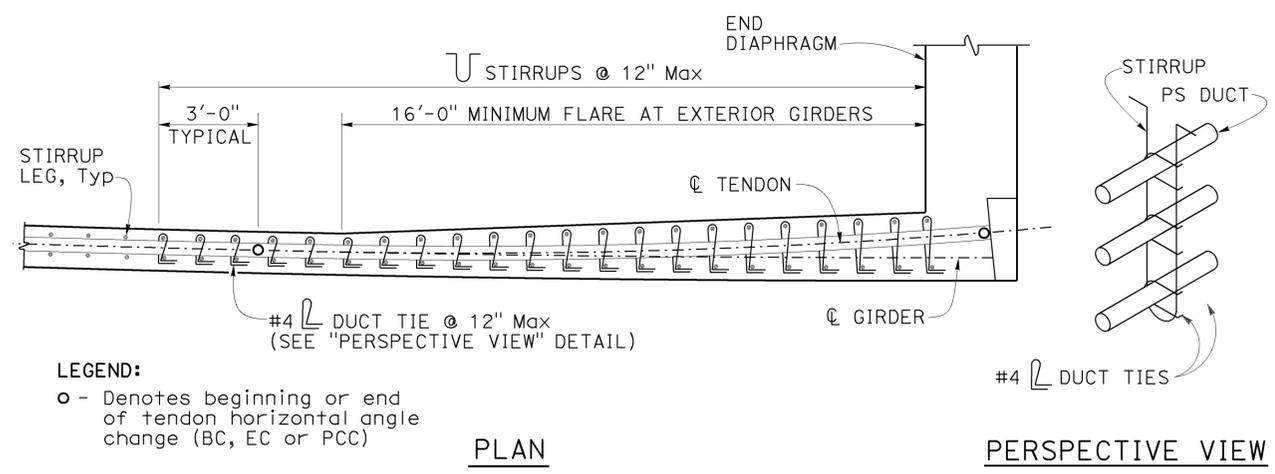
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	621	737

REGISTERED CIVIL ENGINEER

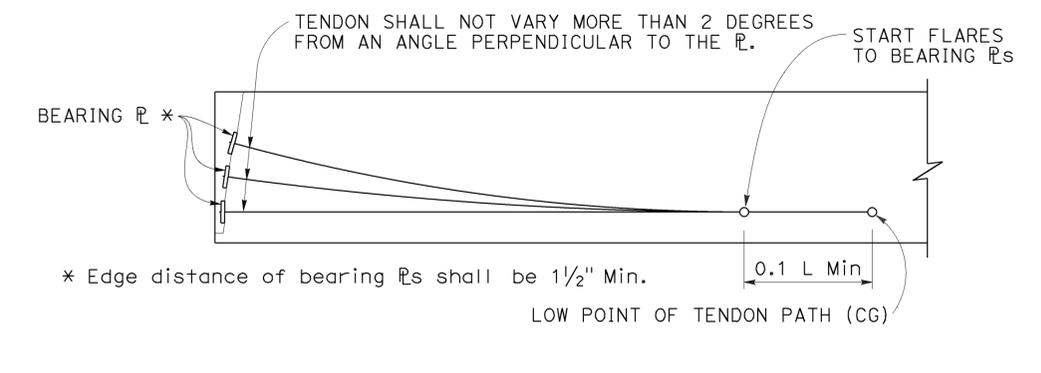
July 19, 2013
PLANS APPROVAL DATE

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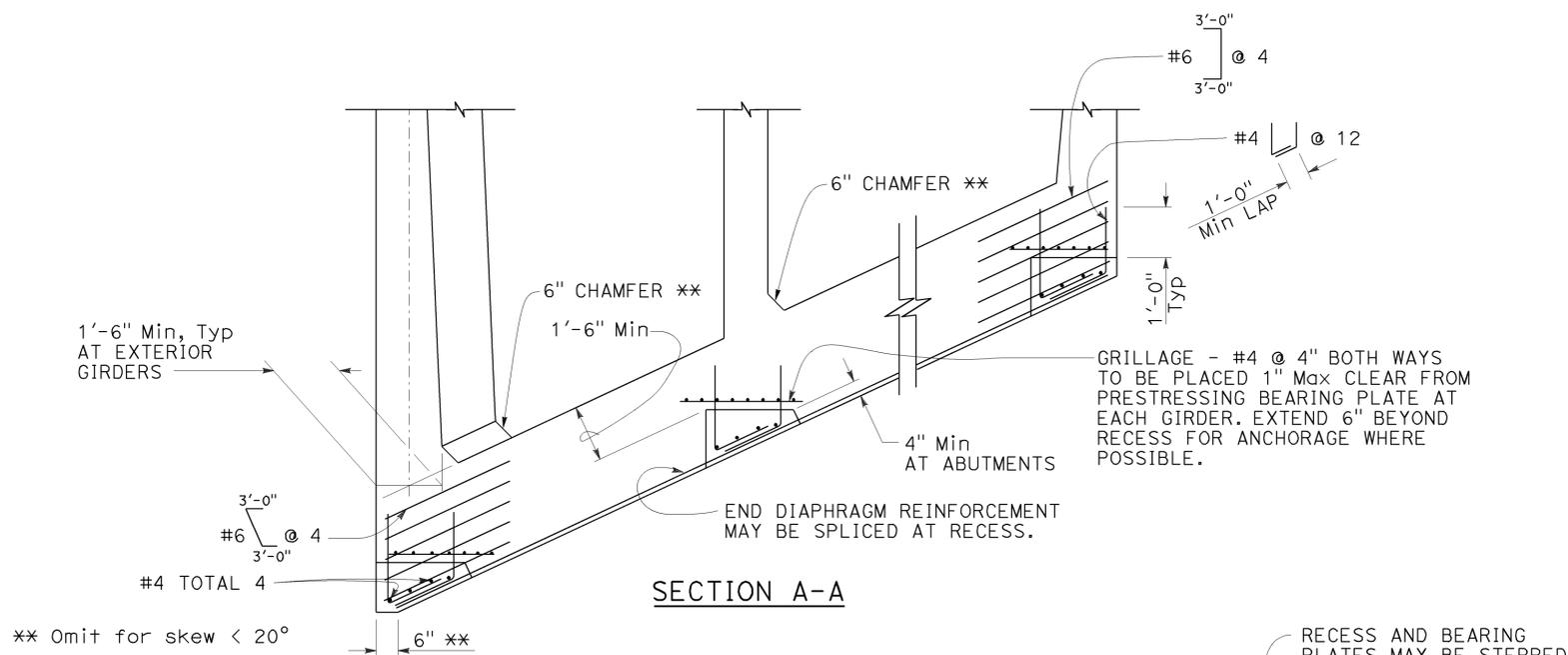
REGISTERED PROFESSIONAL ENGINEER
Marc Friedheim
No. C57968
Exp. 6-30-14
CIVIL
STATE OF CALIFORNIA



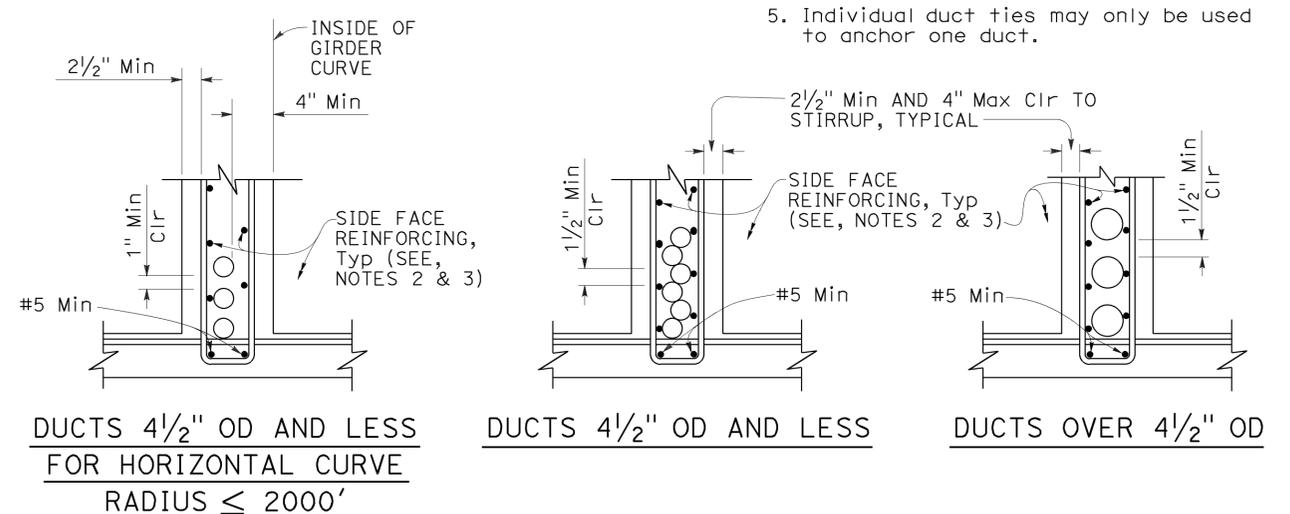
DUCT TIES AT TENDON HORIZONTAL ANGLE CHANGES
DETAIL 5-1



ELEVATION - BEARING PLATE AND PRESTRESSING PATH
DETAIL 5-2



SECTION A-A



CLEARANCE REQUIREMENTS FOR DUCTS
DETAIL 5-4

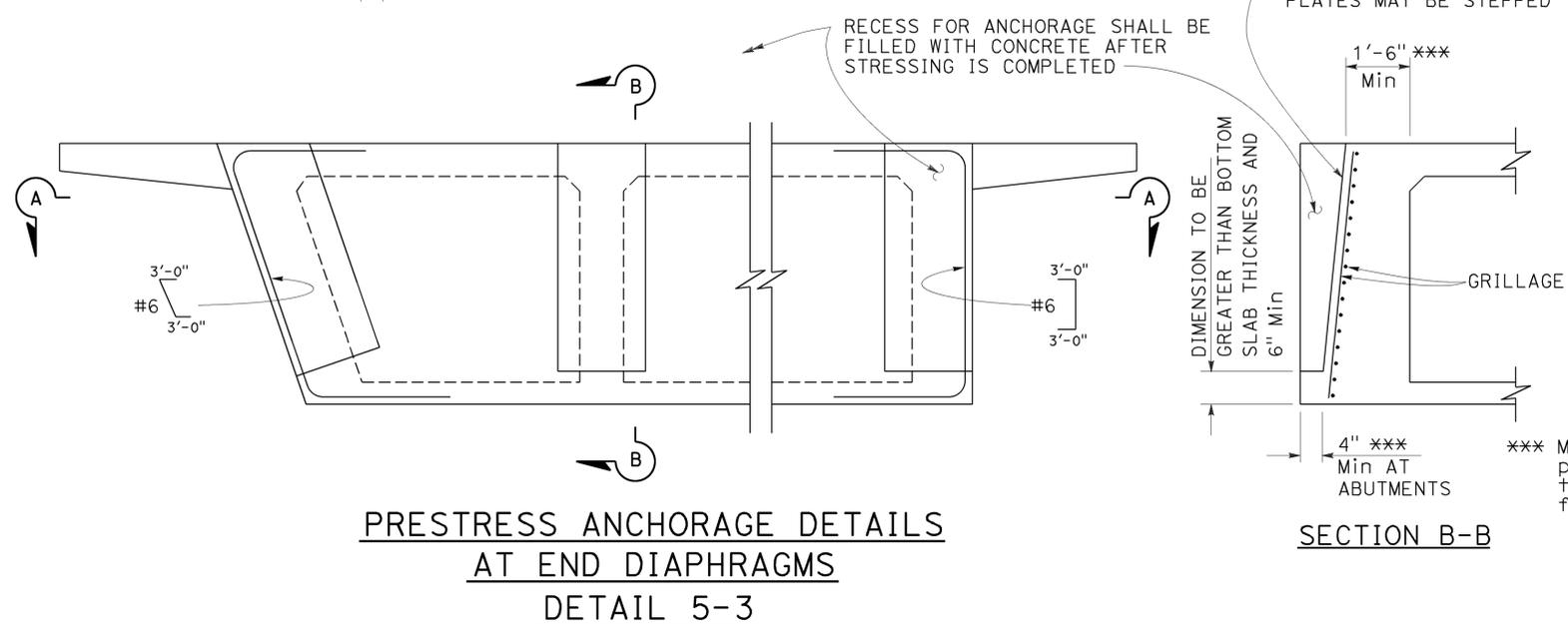
- NOTES FOR DETAIL 5-4:
- Stirrups may also be used.
 - For additional details, see Standard Plan B7-1, and Project Plans.
 - Bar reinforcing which interferes with prestressing ducts may be adjusted as approved by the Engineer.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CAST-IN-PLACE POST-TENSIONED GIRDER DETAILS
NO SCALE

RSP B8-5 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN B8-5 DATED MAY 20, 2011 - PAGE 291 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP B8-5



PRESTRESS ANCHORAGE DETAILS AT END DIAPHRAGMS
DETAIL 5-3

SECTION B-B

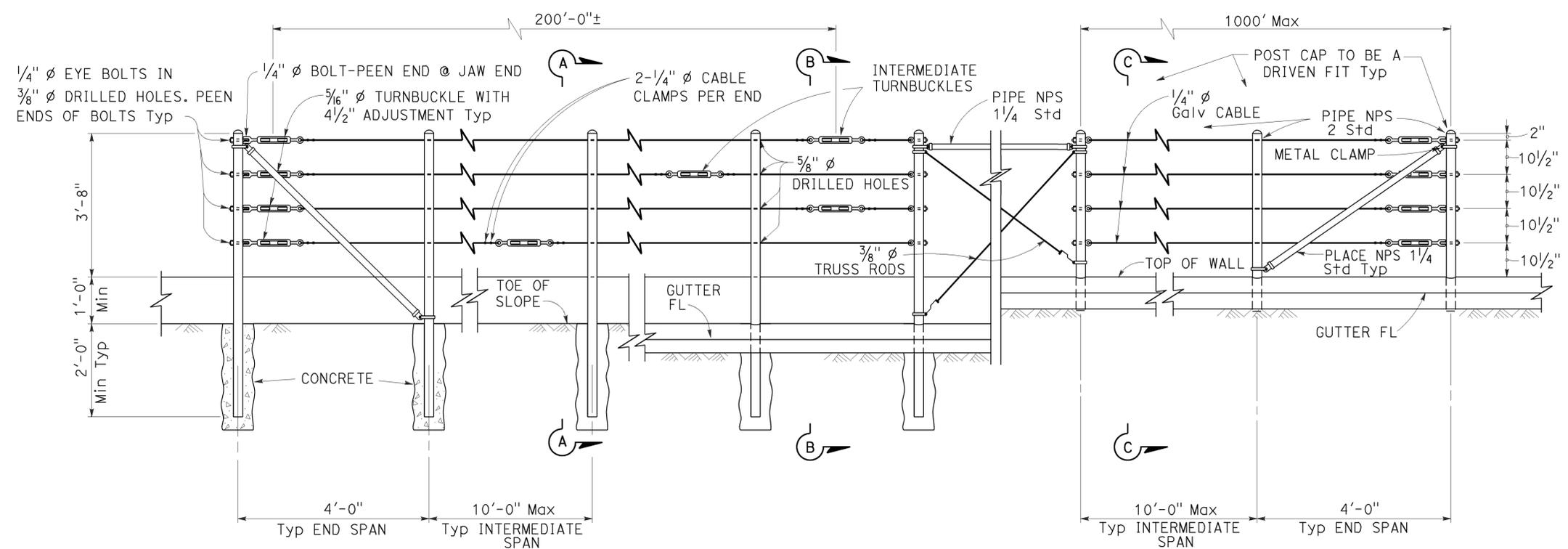
2010 REVISED STANDARD PLAN RSP B8-5

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	622	737

REGISTERED CIVIL ENGINEER
October 21, 2011
 PLANS APPROVAL DATE

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TO ACCOMPANY PLANS DATED 08-29-16

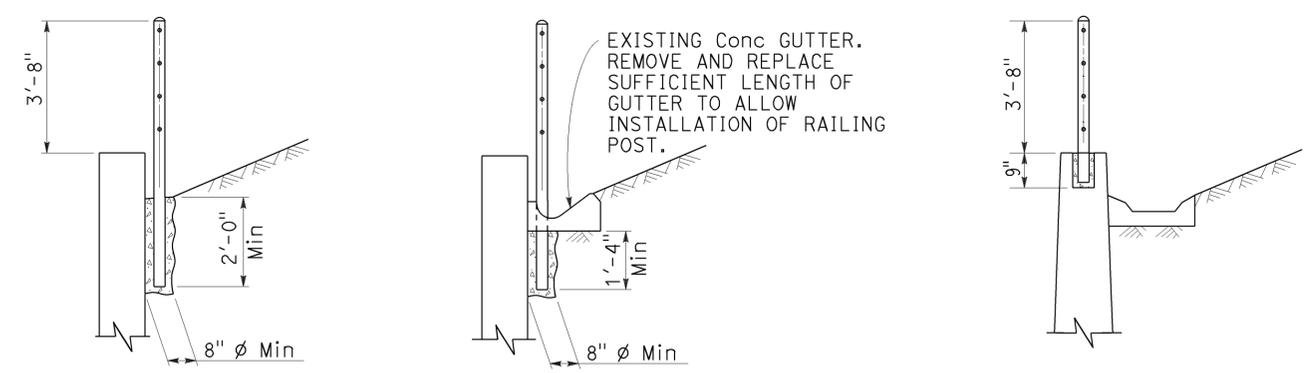


EXISTING WALL (WITHOUT GUTTER) Existing
RETAINING WALL (WITH GUTTER) Existing
RETAINING WALL (WITH GUTTER) New construction

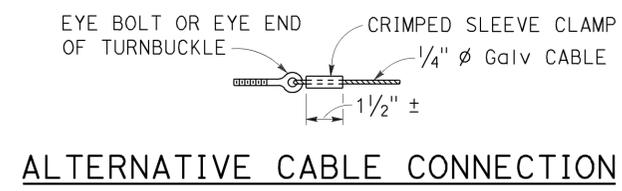
ELEVATION

NOTES:

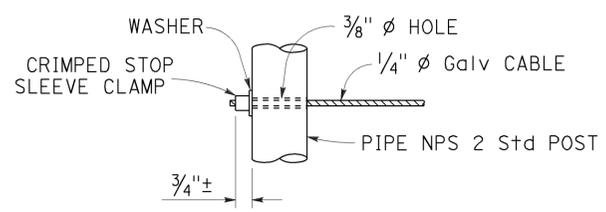
1. Maximum distance between turnbuckles shall be 200'-0"±.
2. Intermediate turnbuckles to be placed in adjacent spans.
3. Cable shall not be spliced between intermediate turnbuckles and end posts.
4. Posts to be vertical.
5. Alignment of holes in posts may vary to conform to slope of top of retaining wall.
6. The Contractor shall verify all dependent dimensions in the field before ordering or fabricating any material.
7. Line posts shall be braced horizontally and trussed diagonally in both directions at intervals not to exceed 1000'.
8. Post pockets to be centered in top of wall.
9. Typical end spans, braced in both directions, shall be constructed at changes in line where the angle of deflection is 15° or more.
10. Provide thimbles at all cable loops.



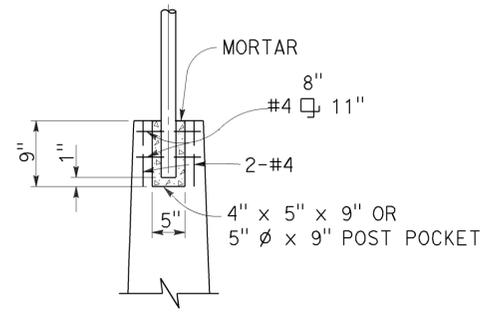
SECTION A-A Existing
SECTION B-B Existing
SECTION C-C New construction



ALTERNATIVE CABLE CONNECTION



ALTERNATIVE DEAD END ANCHORAGE



POST POCKET

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
CABLE RAILING

NO SCALE

RSP B11-47 DATED OCTOBER 21, 2011 SUPERSEDES STANDARD PLAN B11-47 DATED MAY 20, 2011 - PAGE 293 OF THE STANDARD PLANS BOOK DATED 2010.

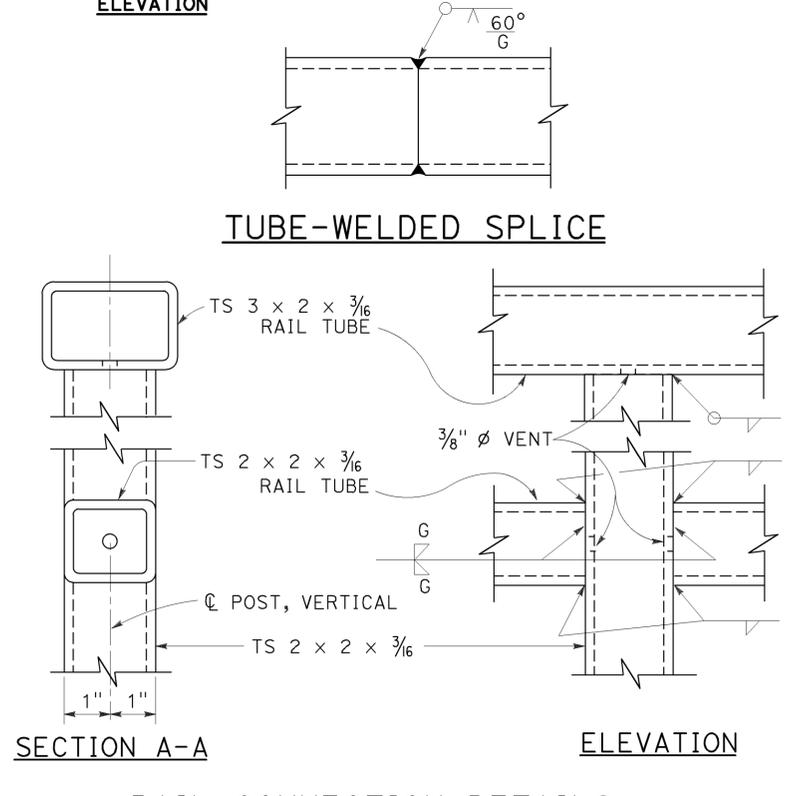
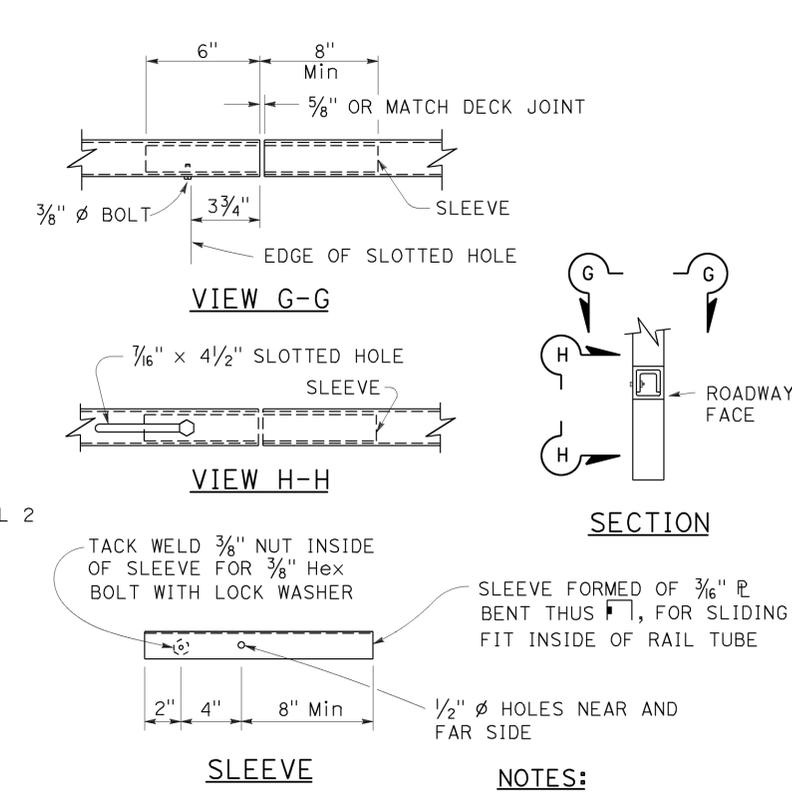
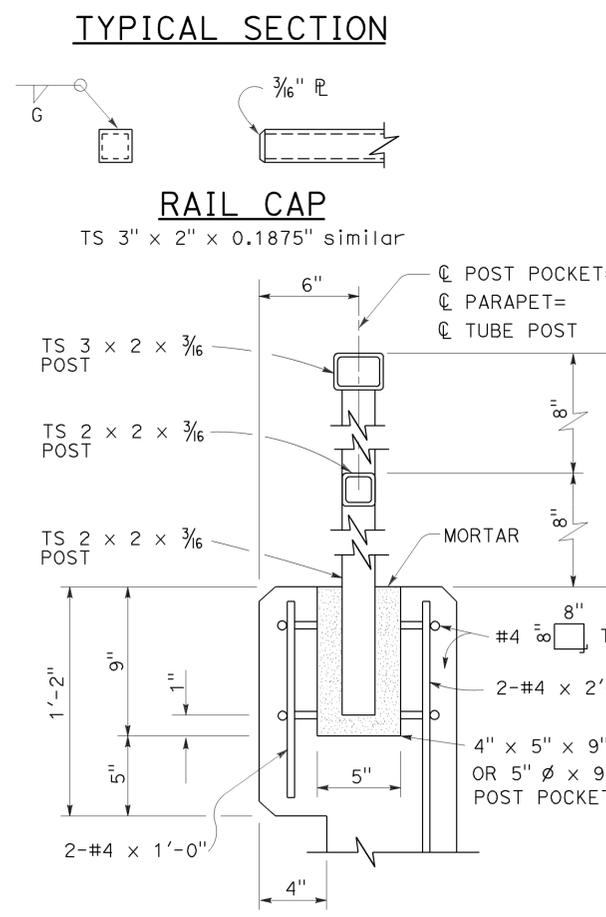
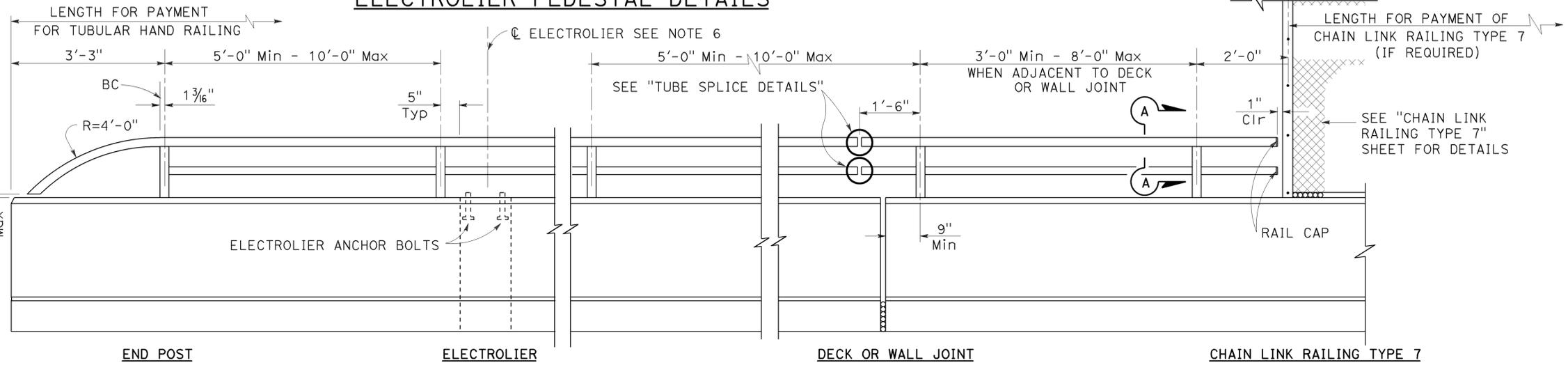
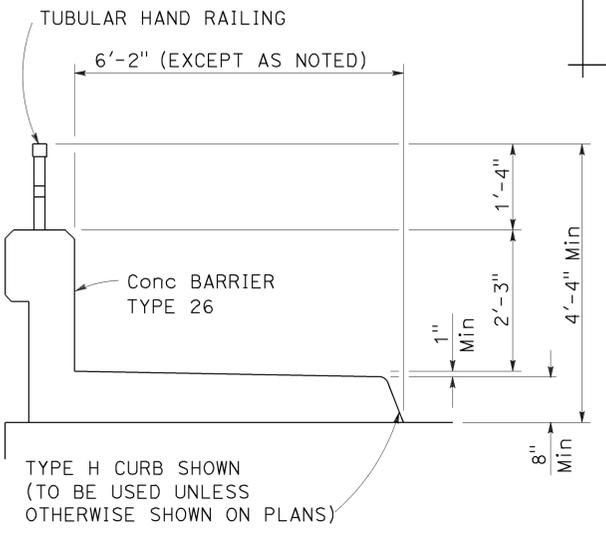
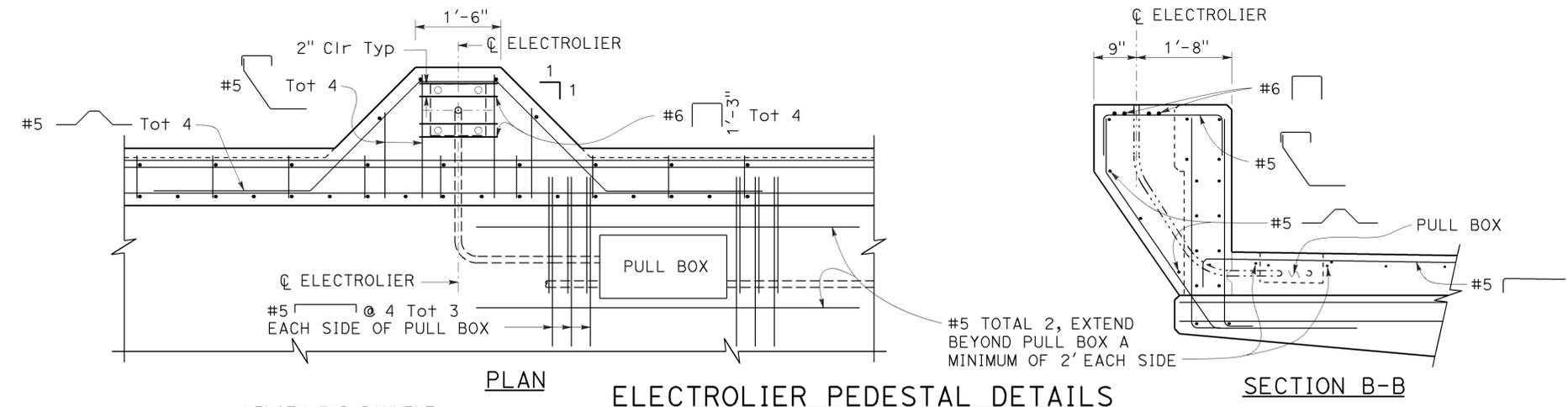
2010 REVISED STANDARD PLAN RSP B11-47

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	623	737

REGISTERED CIVIL ENGINEER
 July 15, 2016
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
 Tillet Satter
 No. C42892
 Exp. 3-31-18
 CIVIL
 STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 08-29-16



- NOTES:**
1. Post shall be normal to railing.
 2. Rail tubes shall be shop bent or fabricated to fit horizontal curve when radius is less than 950'.
 3. Tube splices shall be located in the tubes spanning deck or wall joints. Increase joint width in tubes to match expansion joint width and increase sleeve length correspondingly.
 4. Top rail tube shall be continuous over not less than two posts except a short post spacing is permitted near deck or wall joints, electroliers, or other rail discontinuities as noted.
 5. For details and reinforcement not shown see Revised Standard Plan RSP B11-54.
 6. For electrolier mounting details, see Revised Standard Plans RSP ES-6A and RSP ES-6B.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
TUBULAR HAND RAILING
 NO SCALE

RSP B11-51 DATED JULY 15, 2016 SUPERSEDES STANDARD PLAN B11-51 DATED MAY 20, 2011 - PAGE 294 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP B11-51

2010 REVISED STANDARD PLAN RSP B11-51

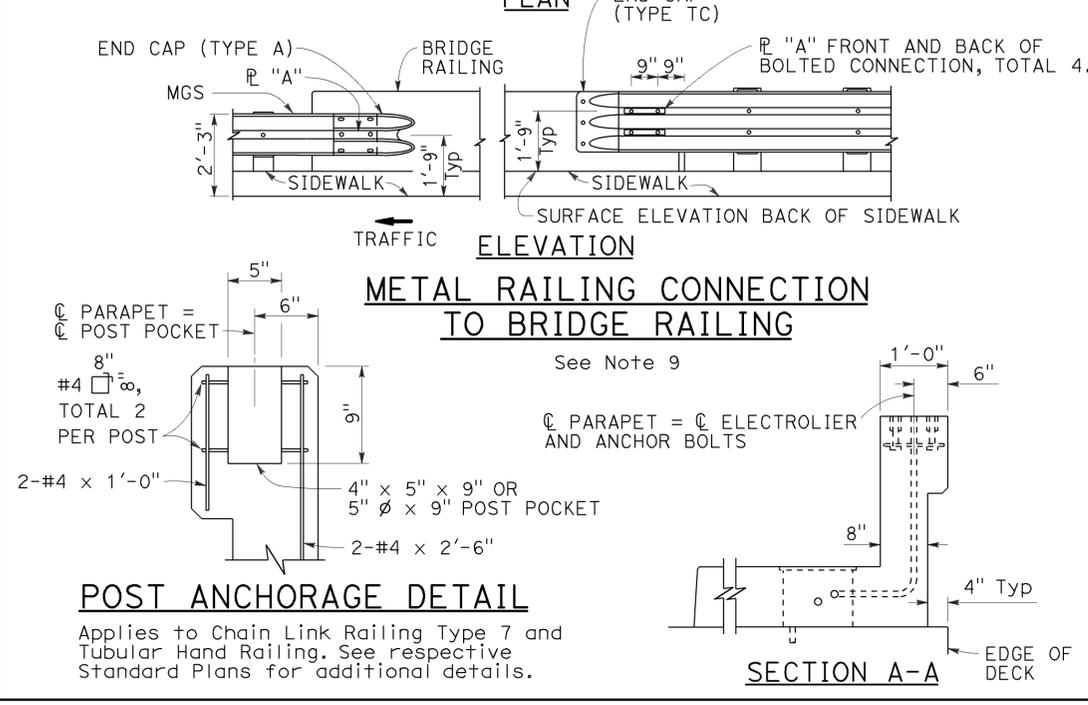
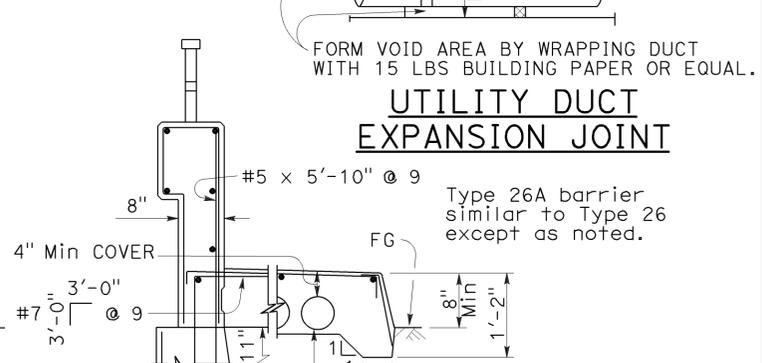
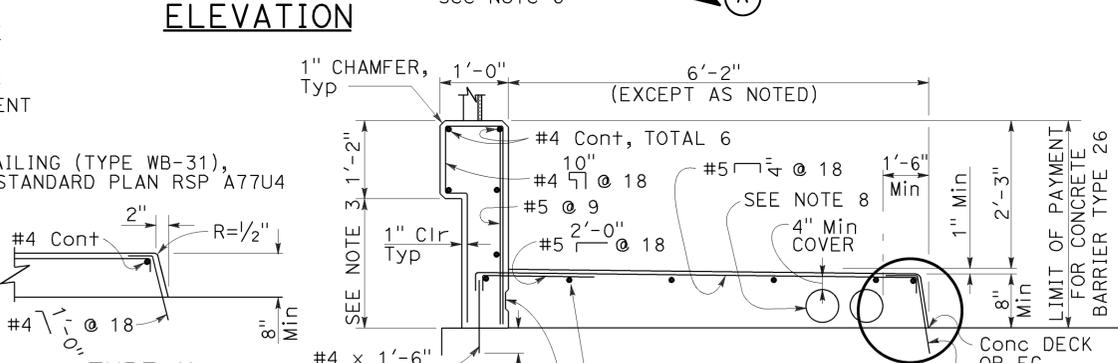
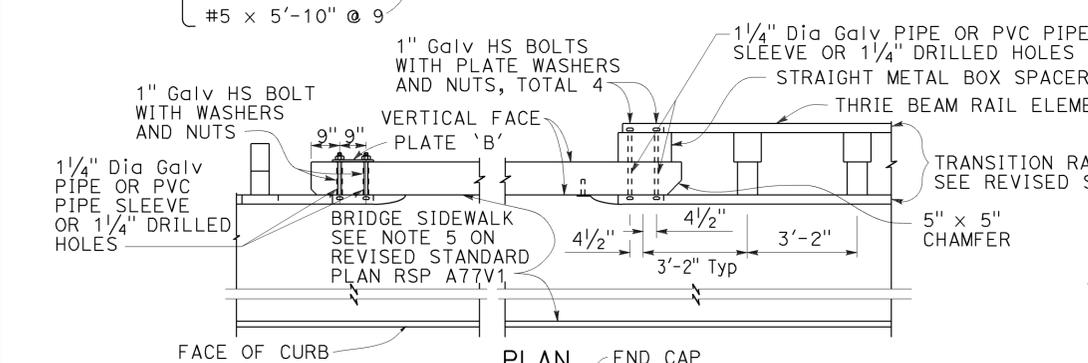
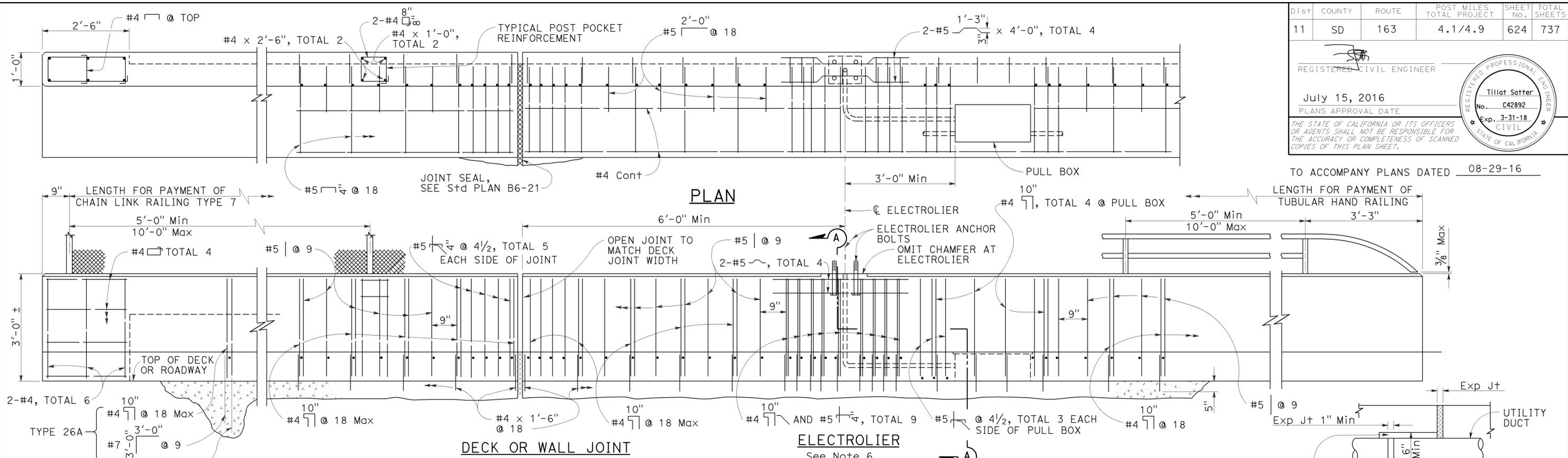
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	624	737

REGISTERED CIVIL ENGINEER

July 15, 2016
PLANS APPROVAL DATE

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

REGISTERED PROFESSIONAL ENGINEER
Tillot Satter
No. C42892
Exp. 3-31-18
CIVIL
STATE OF CALIFORNIA



NOTES:

- For Chain Link Railing notes and details not shown, see Standard Plan B11-52.
- For Hand Railing notes and details not shown, see Revised Standard Plan RSP B11-51.
- Dimensions will vary with cross slope and with certain thicknesses of surfacing. See Project Plans.
- Walls are to be backfilled before railing is placed.
- Clearance to reinforcing steel in curb and railing to be 1" except as noted. Longitudinal reinforcement to stop at all expansion joints.
- See Project Plans for electrolier locations and pull box type.
- For electrical details, see Revised Standard Plans RSP ES-9A, RSP ES-9B, RSP ES-9C, RSP ES-9D and RSP ES-9E.
- A maximum of five - 4" and a minimum of two - 4" round openings for future utilities. Openings are to be sealed at ends and extended 8" minimum past end of sidewalk if not used. Duct forms are to be tied down. Minimum of 6" from face of rail to utility opening. See Standard Plan B14-3 for minimum spacing between conduits and for details at joints.
- For typical metal railing connection details not shown, see Revised Standard Plans RSP A77V1 and RSP A77V2.
- This barrier is to be used only for speeds of 45 MPH or less. For speeds greater than 45 MPH, pedestrians should be protected by a separation traffic barrier.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONCRETE BARRIER TYPE 26
NO SCALE

RSP B11-54 DATED JULY 15, 2016 SUPERSEDES RSP B11-54 DATED NOVEMBER 15, 2013 AND RSP B11-54 DATED JULY 19, 2013 AND STANDARD PLAN B11-54 DATED MAY 20, 2011 - PAGE 296 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP B11-54

2010 REVISED STANDARD PLAN RSP B11-54

INSTRUCTIONS TO FABRICATOR

PROJECT PLANS SHOW:

1. Sign structure location.
2. Length of structure frame.
3. Panel size and locations on structure.
4. Walkway length for two post signs.
5. Post type and height to bottom of frame.
6. Base plate elevation.
7. Footing elevation or location of pile foundation.
8. Photoelectric unit location if required.

REFER TO THE FOLLOWING STANDARD PLANS FOR DETAILS NOT SHOWN ON PROJECT PLANS:

Sheet No. SHEET NAME

- S1 Overhead Signs-Truss, Instructions and Examples
- S2 Overhead Signs-Truss, Single Post Type, Post Types II to IX
- S3 Overhead Signs-Truss, Single Post Type, Base Plate and Anchorage Details
- S4 Overhead Signs-Truss, Single Post Type, Structural Frame Members Details No. 1
- S5 Overhead Signs-Truss, Single Post Type, Structural Frame Members Details No. 2
- S6 Overhead Signs-Truss, Gusset Plate Details
- S8 Overhead Signs-Truss, Single Post Type, Round Pedestal Pile Foundation
- S9 Overhead Signs-Truss, Two Post Type, Post Types I-S through VII-S
- S10 Overhead Signs-Truss, Two Post Type, Base Plate and Anchorage Details
- S11 Overhead Signs-Truss, Two Post Type, Structural Frame Members
- S12 Overhead Signs-Truss, Structural Frame Details
- S13 Overhead Signs-Truss, Frame Juncture Details
- S15 Overhead Signs-Truss, Two Post Type, Round Pedestal Pile Foundation
- S16 Overhead Signs, Walkway Details No. 1
- S17 Overhead Signs, Walkway Details No. 2
- S17A Overhead Signs, Walkway Details No. 3
- S18 Overhead Signs, Walkway Safety Railing Details
- S19 Overhead Signs-Truss, Sign Mounting Details, Laminated Panel-Type A
- S20 Overhead Signs, Steel Frames, Removable Sign Panel Frames
- S21 Overhead Signs, Removable Sign Panel Frames, Mounting Details
- S22 Overhead Signs-Truss, Removable Sign Panel Frames, 9'-2" and 10'-0" Sign Panels

WALKWAY BRACKETS:

Space all walkway brackets maintaining uniform spacing where possible. Maximum spacing shall not exceed 5'-6".

LIGHTING FIXTURE SUPPORTS:

Where distance from walkway bracket to end of sign panel exceeds 1'-4", extend lighting fixture supports to next walkway bracket. See Example No. 2.

WALKWAY AND SAFETY RAILING:

Walkway to be continuous for entire length of frame for single post signs. For two post signs, see Project Plans. Safety railing to protect entire walkway, but continuous for no more than 11'-0" in one unit.



NOTES:

1. Signs are shown and dimensioned looking in the direction of traffic. Double faced signs are shown and dimensioned looking ahead along stationing.
2. Mandatory dimension limit.

GENERAL NOTES:

LOADING:

WIND LOADING:

Normal to face of sign: 40.3 psf on 100% Truss surface area (i.e. 100% panel coverage).
 Transverse to face of sign: 20% of normal force.

WALKWAY LOADING:

Dead load +500 LB concentrated live load.

UNIT STRESSES:

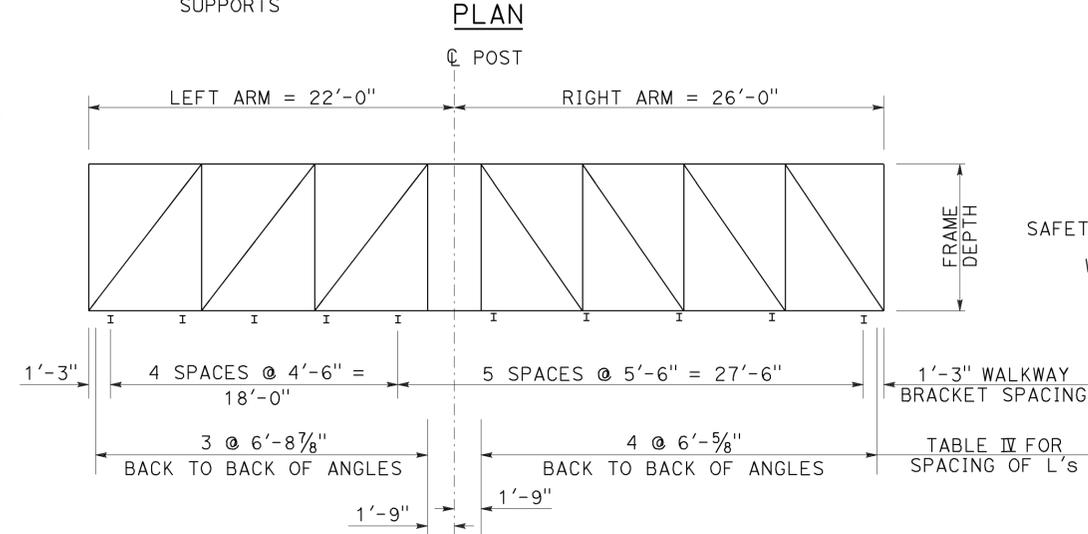
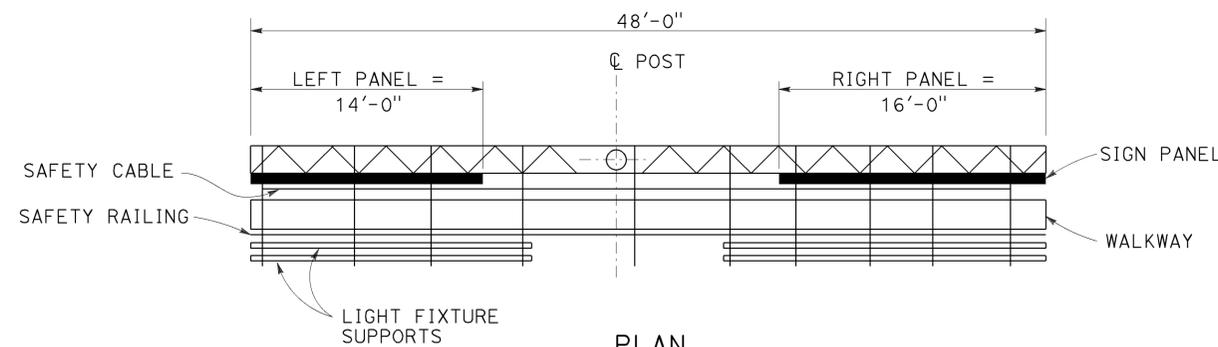
STRUCTURAL STEEL: $f_y = 36,000$ psi
 REINFORCED CONCRETE: $f_y = 60,000$ psi
 $f'_c = 3600$ psi
 FOOTING SOIL PRESSURE: 2.5 ksf (spread footing)

MINIMUM CLEARANCE

Vertical roadway clearance 18'-0" (bottom of walkway system)

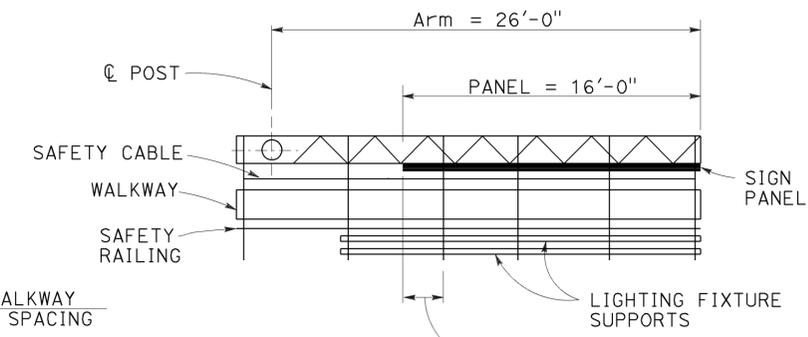
WELDING:

All welding continuous unless otherwise noted on the plans.



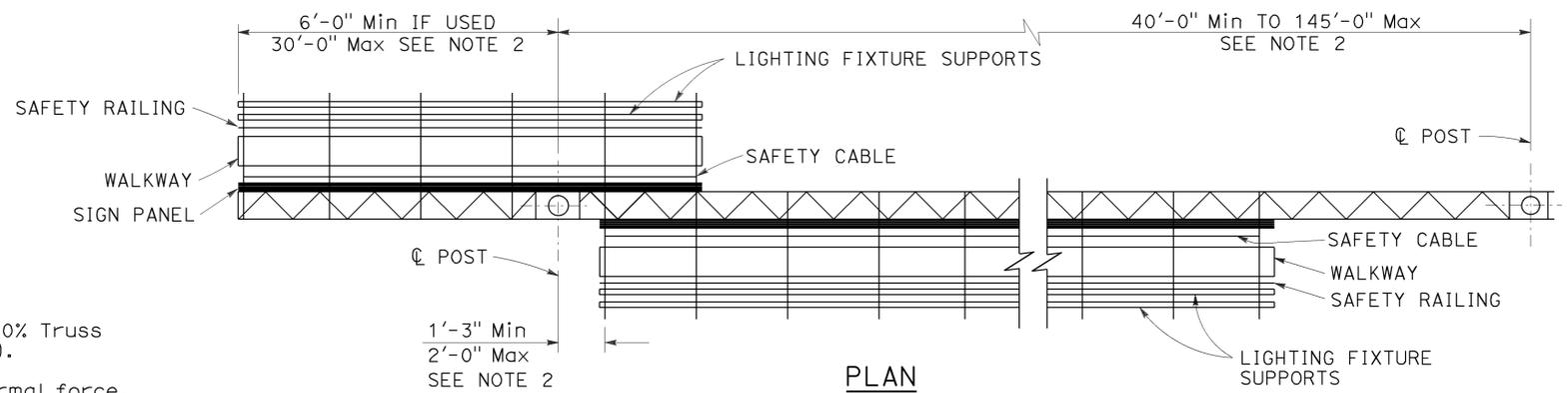
UNBALANCED SINGLE POST TYPE

Example No. 1



CANTILEVER SINGLE POST TYPE

Example No. 2



TWO POST TYPE WITH CANTILEVER (PART DOUBLE-FACED)

Example No. 3

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGNS-TRUSS INSTRUCTIONS AND EXAMPLES

NO SCALE

RSP S1 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN S1 DATED MAY 20, 2011 - PAGE 334 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP S1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	625	737

Stanley P. Johnson
 REGISTERED CIVIL ENGINEER

July 19, 2013
 PLANS APPROVAL DATE

Stanley P. Johnson
 No. C57793
 Exp. 3-31-14
 CIVIL
 STATE OF CALIFORNIA

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

TO ACCOMPANY PLANS DATED 08-29-16

2010 REVISED STANDARD PLAN RSP S1

TABLE XV

POST TYPE	PIPE		CAP PLATE SIZE FOR CHORD L's 5 x 5	CAP PLATE SIZE FOR CHORD L's 6 x 6	ROUND PEDESTAL					SQUARE PEDESTAL					SPREAD FOOTING						
	NPS	THICKNESS			PEDESTAL SIZE Dia	VERTICAL EQUALLY SPACED TOTAL	J-BARS BAR SIZE	SPIRAL BAR SIZE	PITCH	PEDESTAL SIZE SQUARE	VERTICAL EQUALLY SPACED TOTAL	J-BARS BAR SIZE	# OF BARS EA FACE	HOOP BAR SIZE	SPACING	(SEE NOTE 2)	REINFORCEMENT				
			TOP	BOTTOM													TOP	BOTTOM	FOOTING STIRRUPS		
II	14	1/2"	2'-0" x 2'-0" x 1"	2'-2" x 2'-2" x 1"	5'-3"	16	#10	#5	3 1/2"	5'-3"	16	#10	5	#5	3 1/2"	12'-0" x 14'-0" x 2'-6"	14-#6	14-#7	13-#9	13-#9	#5 @ 12
III	16		2'-2" x 2'-2" x 1"	2'-4" x 2'-4" x 1"												12'-0" x 14'-0" x 2'-6"	15-#6	15-#7			
IV	18		2'-4" x 2'-4" x 1"	2'-6" x 2'-6" x 1"												12'-0" x 14'-0" x 2'-6"	15-#6	15-#7			
V	20		2'-6" x 2'-6" x 1"	2'-8" x 2'-8" x 1"												13'-0" x 14'-0" x 2'-6"	15-#6	15-#7	14-#9	14-#9	
VI	24		2'-10" x 2'-10" x 1"	3'-0" x 3'-0" x 1"	5'-9"		#11			5'-9"		#11				13'-0" x 16'-0" x 2'-6"	17-#7	17-#7		14-#11	
VII	24	3/4"														13'-0" x 17'-0" x 2'-6"	18-#7	18-#7			
VIII	24	3/32"														13'-0" x 18'-0" x 2'-6"	19-#7	19-#7			
IX	24	3/32"														13'-0" x 18'-0" x 2'-6"	19-#7	19-#7			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	626	737

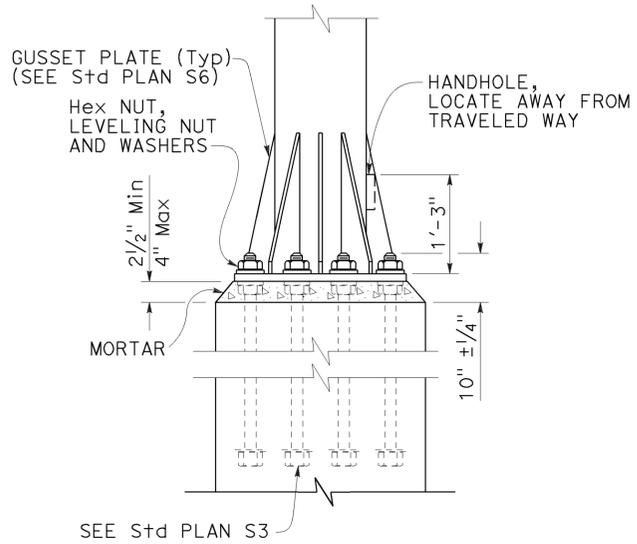
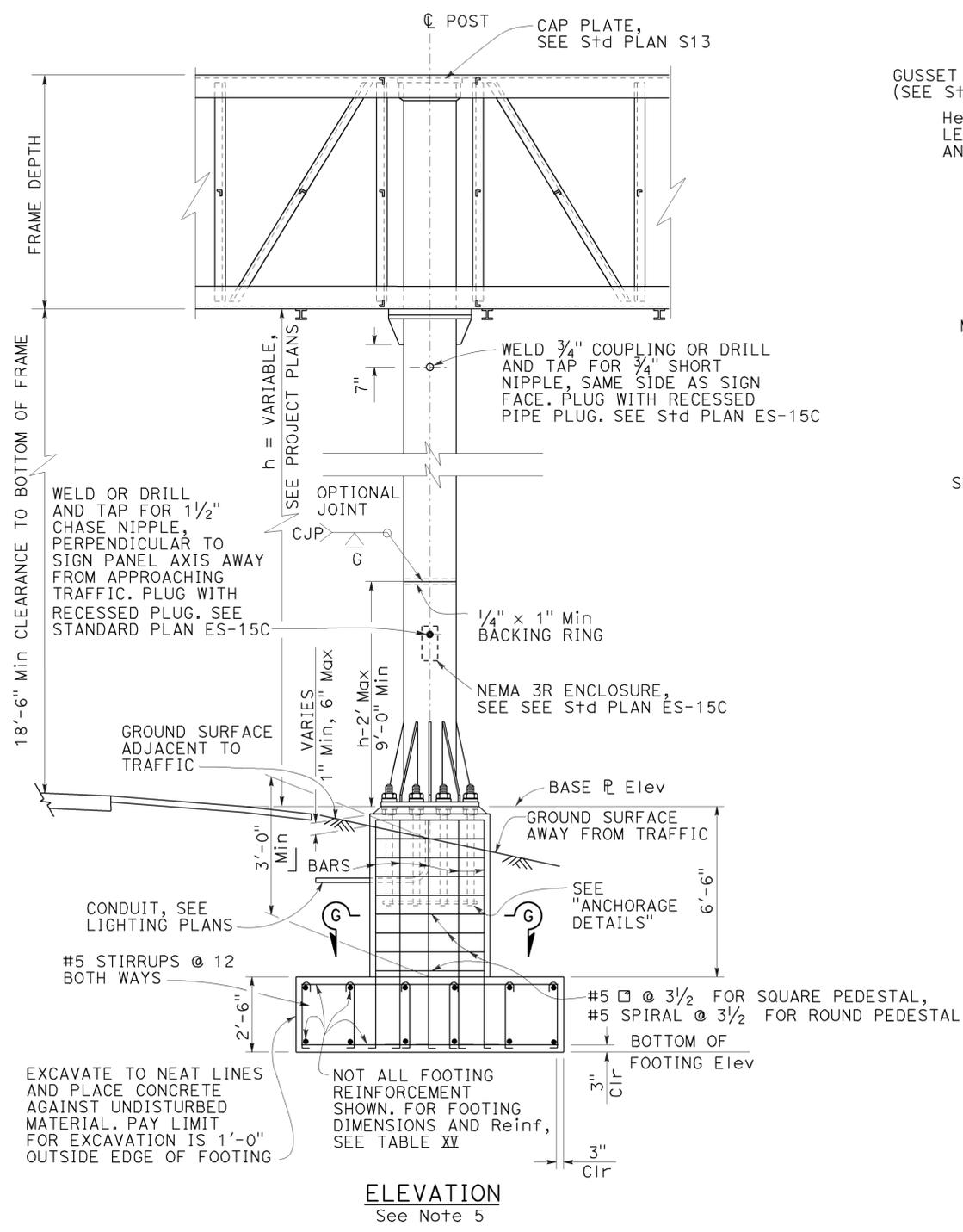
Stanley P. Johnson
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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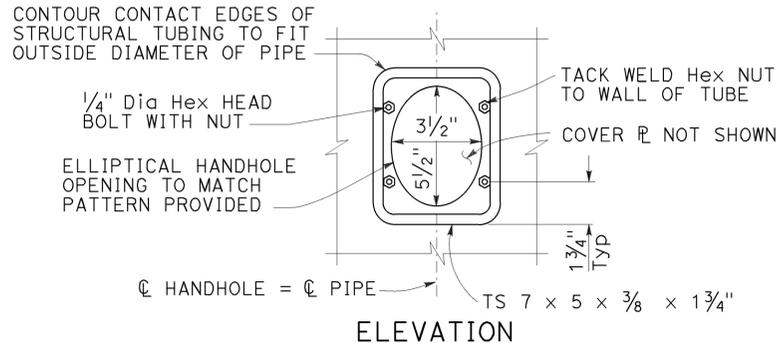
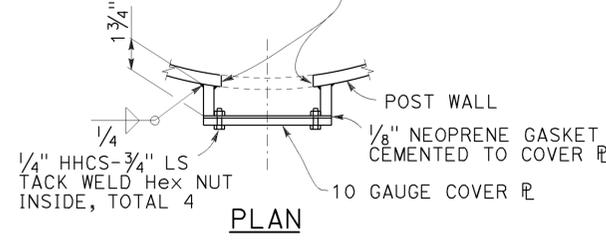
Stanley P. Johnson
REGISTERED PROFESSIONAL ENGINEER
No. C57793
Exp. 3-31-14
CIVIL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 08-29-16



ELEVATION ANCHORAGE DETAILS

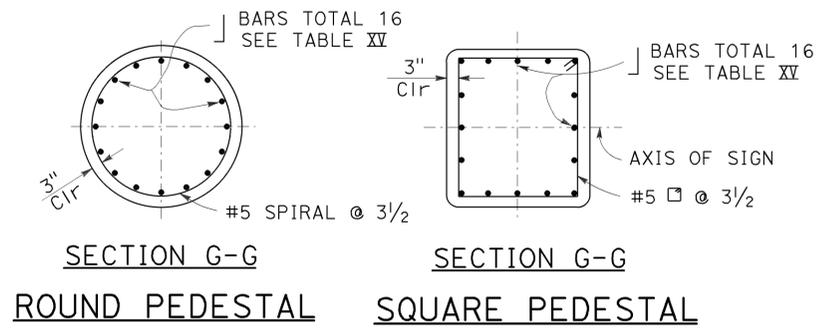
GRIND EDGES SMOOTH, ROUGHNESS OF EDGES NO GREATER THAN 1000 MICROINCHES



TYPICAL DETAILS OF HANDHOLE AND COVER

NOTES:

- For "General Notes", see Revised Standard Plan RSP S1.
- Longer side of footing (longitudinal) shall be normal to axis of sign.
- Backfill shall be in place prior to erection of post.
- Thread upper 10" of anchor bolts and galvanize upper 1'-0".
- Spread footing with square pedestal foundation shown, use Pile Foundation when shown on the Project Plans. For pile foundation details, see Standard Plan S8.
- Anchor plates may be retained with hexagon nut or formed head as alternatives to details shown.
- On single post sign structures, the post shall be plumb, with the use of the leveling nuts to make the bottom of the sign frame level.
- At final position of post all top and bottom nuts shall be tightened against base plate.
- When foundation is located on a steep slope with exposed face of concrete adjacent to traffic, see "Detail C" on Standard Plan S8, as applicable.
- Slope protection required when indicated on the Project Plans.



SECTION G-G ROUND PEDESTAL SECTION G-G SQUARE PEDESTAL

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**OVERHEAD SIGNS-TRUSS
SINGLE POST TYPE
POST TYPES II THROUGH IX**
NO SCALE

RSP S2 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN S2 DATED MAY 20, 2011 - PAGE 335 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP S2

2010 REVISED STANDARD PLAN RSP S2

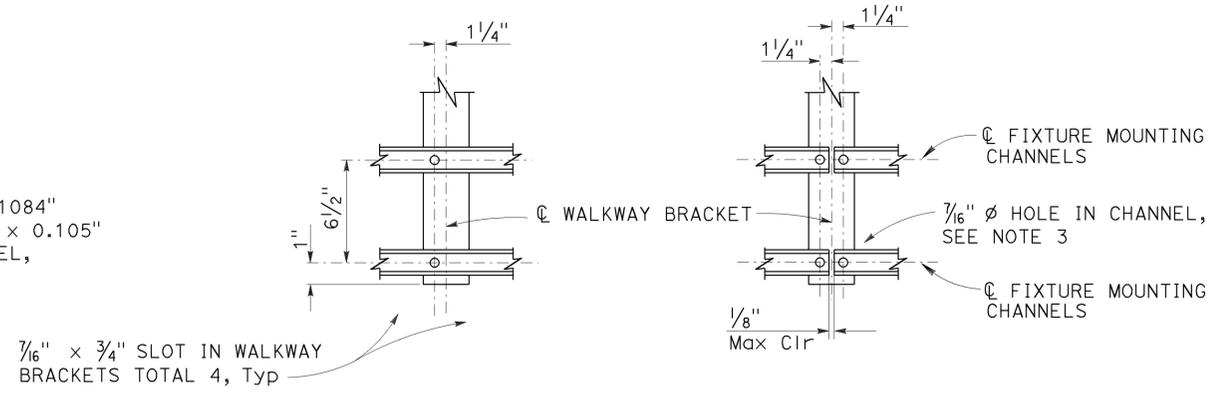
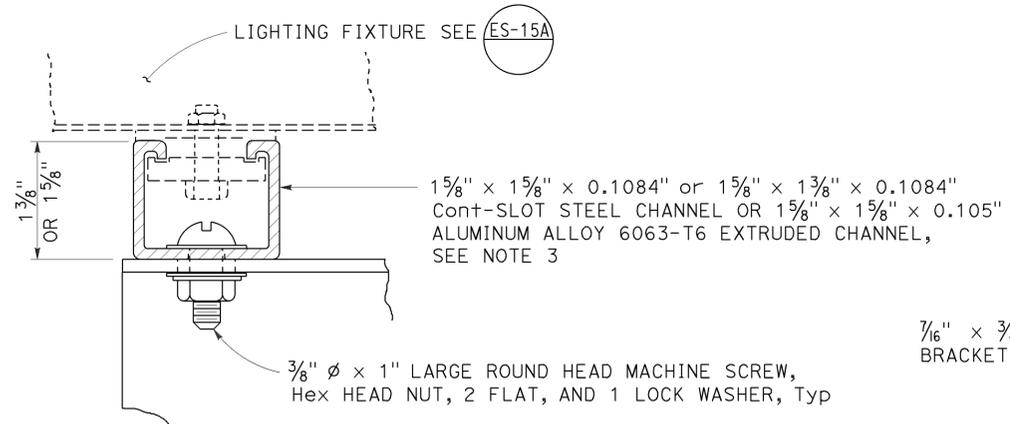
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	627	737

REGISTERED CIVIL ENGINEER
Jeffrey B. Woody
 No. C41260
 Exp. 3-31-17
 STATE OF CALIFORNIA

October 30, 2015
 PLANS APPROVAL DATE

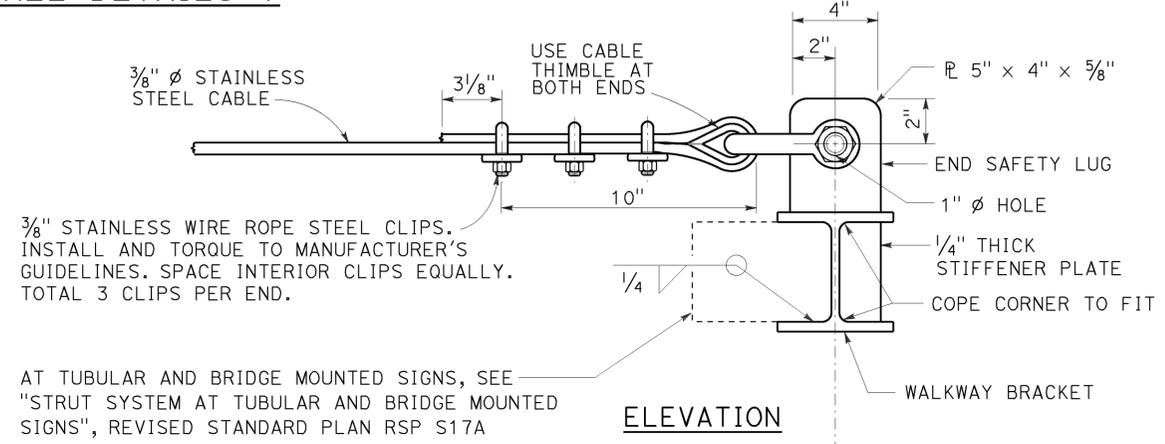
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TO ACCOMPANY PLANS DATED 08-29-16



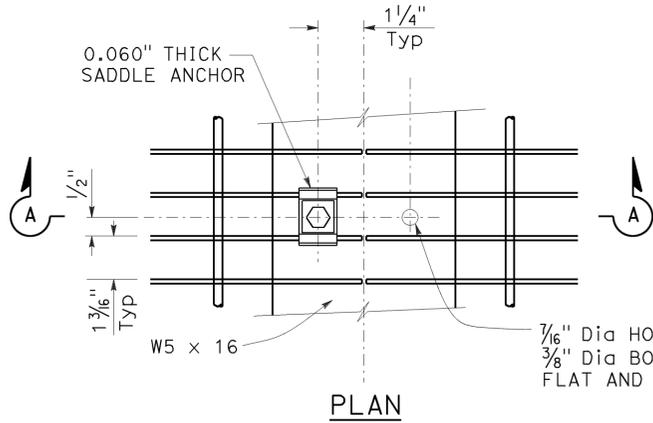
LIGHTING FIXTURE MOUNTING CHANNEL DETAILS 1

TYPICAL CONNECTION CONNECTION AT SPLICE LIGHTING FIXTURE MOUNTING CHANNEL DETAILS 2

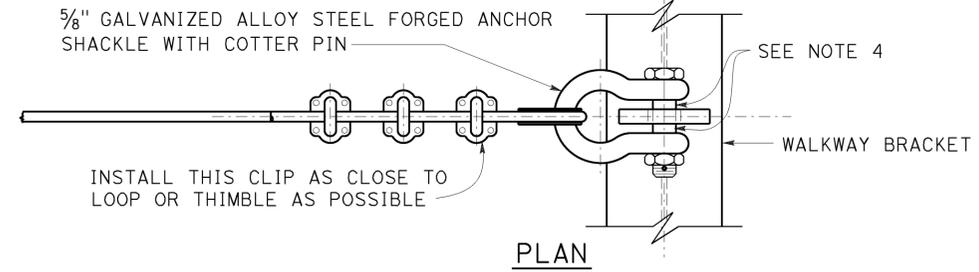


NOTES:

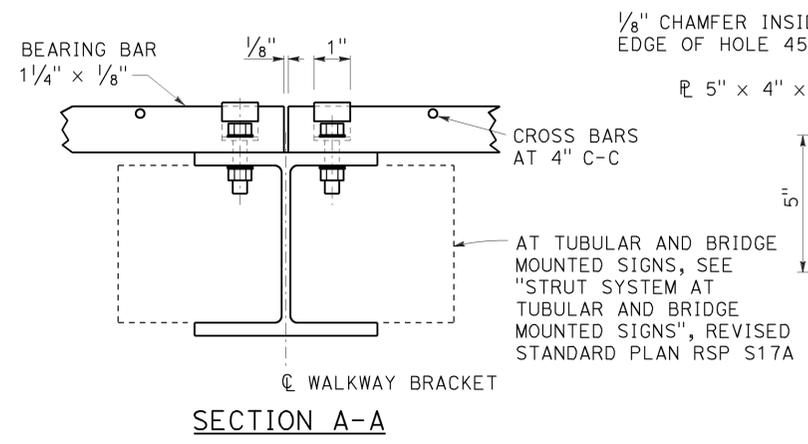
1. Welded type grating shall have 1 1/4 inch x 1/8 inch bearing bars at 1 3/8 inch centers with 1/4 inch diameter (or equal) cross bars at 4 inch centers. If mechanical lock grating is used, it shall be equal in strength to the welded type. Alternate hold-down clips may be submitted for approval.
2. Walkway grating and light fixture mounting channels to be continuous (no splices) over as many walkway brackets as practical and consistent with fabrication, ease of handling and assembly.
3. Contractor may substitute 1 5/8 inch x 1 5/8 inch x .1084 inch cont-slot steel channel with pre-punched slots not larger than 1 1/2 inch x 3 inch. Slots shall be at bottom of channel and shall be parallel to channel. Slots shall be spaced not closer than 4 inch center to center.
4. Place an equal amount of washers on each side to align cable with end lug without restricting shackle bolt rotation or contacting cable.



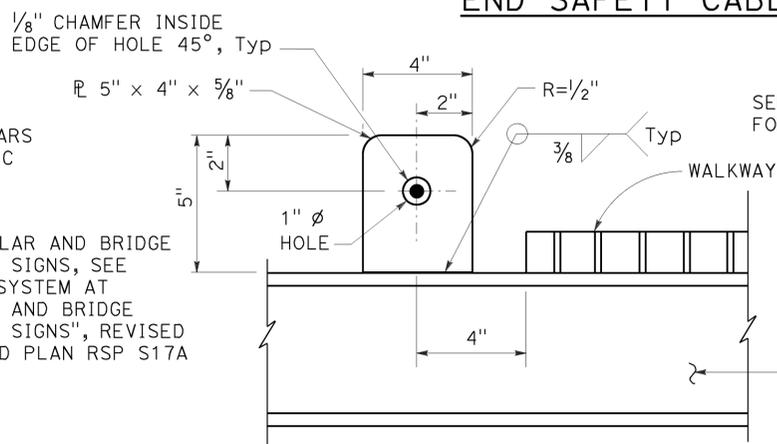
AT TUBULAR AND BRIDGE MOUNTED SIGNS, SEE "STRUT SYSTEM AT TUBULAR AND BRIDGE MOUNTED SIGNS", REVISED STANDARD PLAN RSP S17A



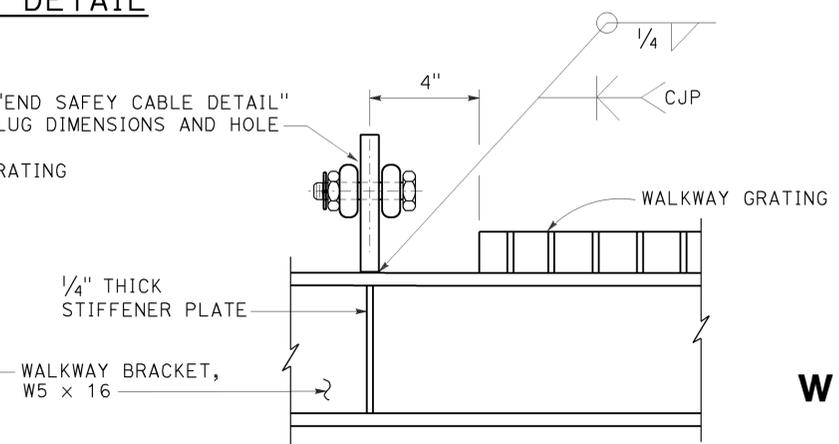
END SAFETY CABLE DETAIL



WALKWAY GRATING DETAILS
Shown at splice



INTERIOR SAFETY LUG DETAIL
(At every walkway bracket between exterior walkway brackets)



END SAFETY LUG DETAIL
(At exterior walkway brackets)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**OVERHEAD SIGNS
WALKWAY DETAILS No. 2**
NO SCALE

RSP S17 DATED OCTOBER 30, 2015 SUPERSEDES STANDARD PLAN S17 DATED MAY 20, 2011 - PAGE 350 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP S17

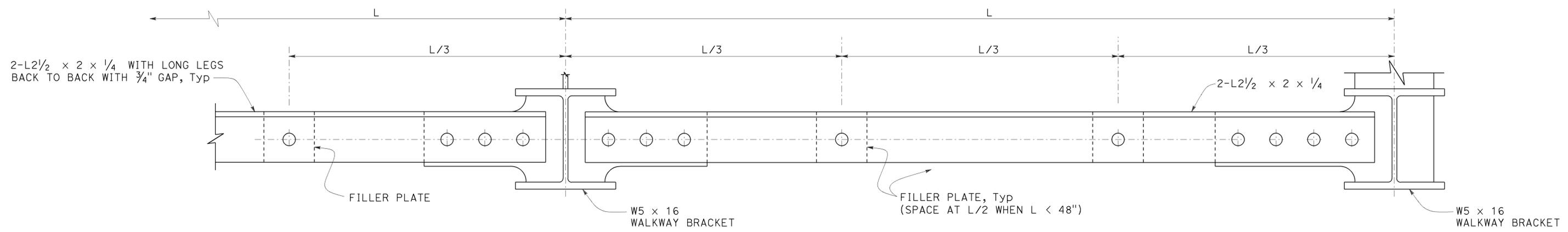
2010 REVISED STANDARD PLAN RSP S17

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	628	737

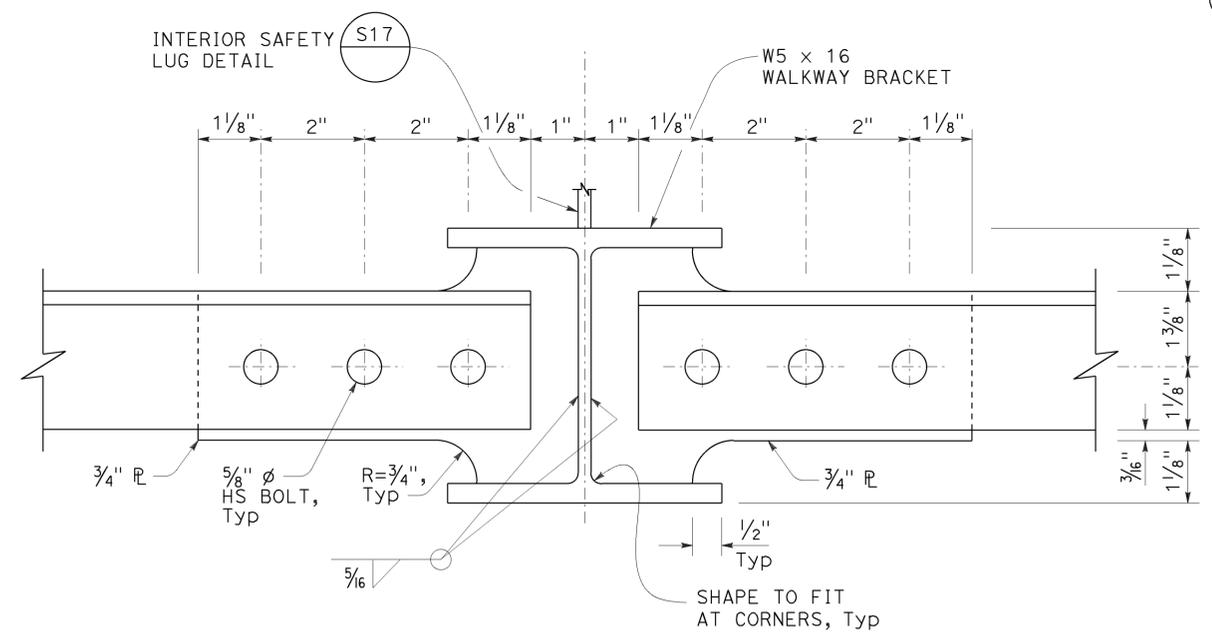
Stanley P. Johnson
 REGISTERED CIVIL ENGINEER
 October 30, 2015
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
 Stanley P. Johnson
 No. C57793
 Exp. 3-31-16
 CIVIL
 STATE OF CALIFORNIA

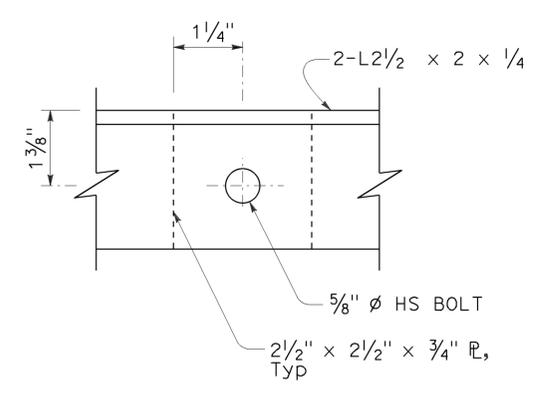
TO ACCOMPANY PLANS DATED 08-29-16



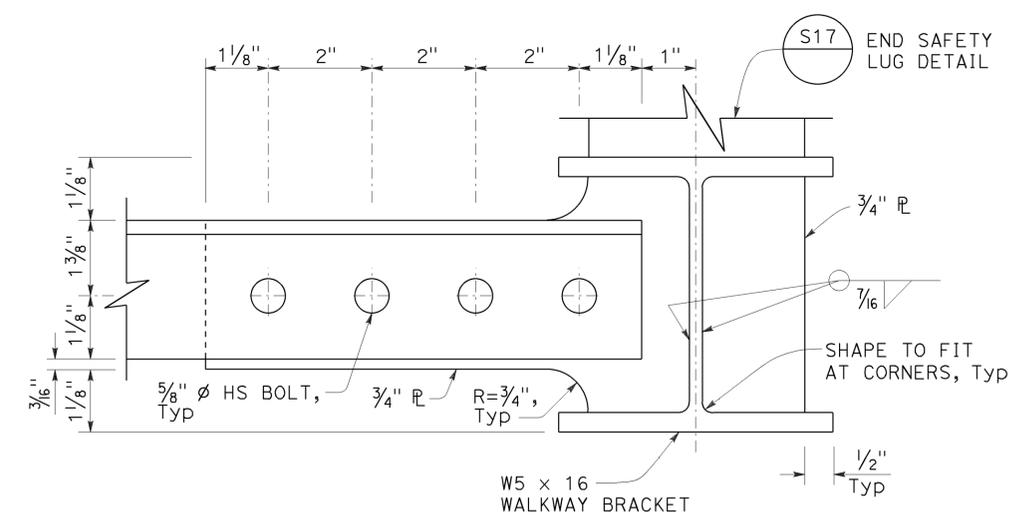
STRUT SYSTEM AT TUBULAR AND BRIDGE MOUNTED SIGNS
 (Continuous between end safety lug locations)



INTERIOR SAFETY LUG LOCATION



FILLER PLATE



END SAFETY LUG LOCATION

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**OVERHEAD SIGNS
 WALKWAY DETAILS No. 3**
 NO SCALE

RSP S17A DATED OCTOBER 30, 2015 SUPERSEDES STANDARD PLAN S17A DATED MAY 20, 2011 - PAGE 351 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP S17A

2010 REVISED STANDARD PLAN RSP S17A

LEGEND:

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 TAPE
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
TSP	TELEPHONE SERVICE POINT

ABBREVIATIONS

AC+	UNDERGROUNDED CONDUCTOR	MAT	MAST ARM MOUNTING TOP ATTACHMENT
APS	ACCESSIBLE PEDESTRIAN SIGNAL	MAS	MAST ARM MOUNTING SIDE ATTACHMENT
Batt	BATTERY	MBPS	MANUAL BYPASS SWITCH
BBS	BATTERY BACKUP SYSTEM	M/M	MULTIPLE TO MULTIPLE TRANSFORMER
BC	BOLT CIRCLE	Mtg	MOUNTING
BIK	BLACK	MV	MERCURY VAPOR LIGHTING FIXTURE
BP	BYPASS	MVDS	MICROWAVE VEHICLE DETECTION SYSTEM
BPB	BICYCLE PUSH BUTTON	N	NEUTRAL (GROUNDED CONDUCTOR)
C	CONDUIT	NB	NEUTRAL BUS
CB	CIRCUIT BREAKER	NC	NORMALLY CLOSE
CCTV	CLOSED CIRCUIT TELEVISION	NO	NORMALLY OPEN
Ckt	CIRCUIT	P	CIRCUIT BREAKER'S POLE
CMS	CHANGEABLE MESSAGE SIGN	PB	PULL BOX
Ctid	CALTRANS IDENTIFICATION	PBA	PUSH BUTTON ASSEMBLY
Comm	COMMUNICATION	PEC	PHOTOELECTRIC CONTROL
Cn+I	CONTROL	Ped	PEDESTRIAN
DF	DEPARTMENT-FURNISHED	PEU	PHOTOELECTRIC UNIT
DLC	LOOP DETECTOR LEAD-IN CABLE	PT	CONDUIT WITH PULL TAPE
EMS	EXTINGUISHABLE MESSAGE SIGN	PTR	POWER TRANSFER RELAY
EVUC	EMERGENCY VEHICLE UNIT CABLE	RE	RELOCATED EQUIPMENT
EVUD	EMERGENCY VEHICLE UNIT DETECTOR	RM	RAMP METERING
FB	FLASHING BEACON	RWIS	ROADSIDE WEATHER INFORMATION SYSTEM
FBCA	FLASHING BEACON CONTROL ASSEMBLY	SB	SLIP BASE
FBS	FLASHING BEACON WITH SLIP BASE	SIC	SIGNAL INTERCONNECT CABLE
FO	FIBER OPTIC	Sig	SIGNAL
G	EQUIPMENT GROUNDING CONDUCTOR	SMA	SIGNAL MAST ARM
GB	GROUND BUS	SNS	STREET NAME SIGN
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	SP	SERVICE POINT
Grn	GREEN	TB	TERMINAL BOARD
HAR	HIGHWAY ADVISORY RADIO	TDC	TELEPHONE DEMARCATION CABINET
Hex	HEXAGONAL	Temp	TEMPERATURE
HPS	HIGH PRESSURE SODIUM	TMS	TRAFFIC MONITORING STATION
IISNS	INTERNALLY ILLUMINATED STREET NAME SIGN	TOS	TRAFFIC OPERATIONS SYSTEM
ISL	INDUCTION SIGN LIGHTING	UPS	UNINTERRUPTABLE POWER SUPPLY
LED	LIGHT EMITTING DIODE	UPSC	UNINTERRUPTABLE POWER SUPPLY CONTROLLER
LMA	LUMINAIRE MAST ARM	Veh	VEHICLE
LPS	LOW PRESSURE SODIUM	VIVDS	VIDEO IMAGE VEHICLE DETECTION SYSTEM
Ltg	LIGHTING	Wht	WHITE
Lum	LUMINAIRE	WIM	WEIGH-IN-MOTION
M	METERED	Xfmr	TRANSFORMER

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	629	737

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

October 30, 2015
PLANS APPROVAL DATE

Theresa
Aziz Gabriel
No. E15129
Exp. 6-30-16
ELECTRICAL

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

TO ACCOMPANY PLANS DATED 08-29-16

SOFFIT AND WALL-MOUNTED LUMINAIRES

- PENDANT SOFFIT LUMINAIRE, 70 W HPS UNLESS OTHERWISE SPECIFIED
- FLUSH-MOUNTED SOFFIT LUMINAIRE, 70 W HPS UNLESS OTHERWISE SPECIFIED
- WALL-MOUNTED LUMINAIRE, 70 W HPS UNLESS OTHERWISE SPECIFIED
- EXISTING SOFFIT OR WALL-MOUNTED LUMINAIRE TO REMAIN UNMODIFIED
- EXISTING SOFFIT OR WALL-MOUNTED LUMINAIRE TO BE MODIFIED AS SPECIFIED

NOTE:
Arrow indicates "street side" of luminaire.

COMMONLY USED SYMBOLS FOR UNITED STATES CUSTOMARY UNITS OF MEASUREMENT:

SYMBOL	DEFINITIONS
Ω	OHMS
min	MINUTE
s	SECOND
bps	BITS PER SECOND
Bps	BYTES PER SECOND
A	AMPERE
V	VOLT
V(dc)	VOLT (DIRECT CURRENT)
V(ac)	VOLT (ALTERNATING CURRENT)
FC	FOOT - CANDLE
W	WATTS
VA	VOLT-AMPERE
M	MEGA
k	KILO
m	MILLI
μ	MICRO
P	PICO
Hz	HERTZ

MISCELLANEOUS ELECTROLIERS

NEW	EXISTING	
		LUMINAIRE ON WOOD POLE
		NON-STANDARD ELECTROLIER (SEE PROJECT LEGEND)
		CITY ELECTROLIER
		ELECTROLIER FOUNDATION (FUTURE INSTALLATION)

- NOTES:**
- LED luminaires shall be 235 W when installed on Type 21, 21D, 30, 31 and 32 Standards, unless otherwise specified. LED luminaires shall be 165 W when installed on other type standards or poles, unless otherwise specified.
 - Luminaires shall be the cutoff type, ANSI Type III medium cutoff lighting distribution, unless otherwise specified.

STANDARD ELECTROLIER

NEW	EXISTING	STANDARD TYPE
		15
		15D
		15 STRUCTURE
		15D STRUCTURE
		21
		21D
		21 STRUCTURE
		21D STRUCTURE
		30
		31
		32

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

NO SCALE

RSP ES-1A DATED OCTOBER 30, 2015 SUPERSEDES RSP ES-1A DATED JULY 19, 2013 AND STANDARD PLAN ES-1A DATED MAY 20, 2011 - PAGE 425 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-1A

2010 REVISED STANDARD PLAN RSP ES-1A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	630	737

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

October 30, 2015
PLANS APPROVAL DATE

Theresa Aziz Gabriel
No. E15129
Exp. 6-30-16
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.

TO ACCOMPANY PLANS DATED 08-29-16

CONDUIT

SIGNAL EQUIPMENT

NEW	EXISTING	
---	---	LIGHTING CONDUIT, UNLESS OTHERWISE INDICATED OR NOTED
---	---	TRAFFIC SIGNAL CONDUIT
---C---	---c---	COMMUNICATION CONDUIT
---T---	---t---	TELEPHONE CONDUIT
---F---	---f---	FIRE ALARM CONDUIT
---FO---	---fo---	FIBER OPTIC CONDUIT
---	---	CONDUIT TERMINATION
		CONDUIT RISER ATTACHED TO THE STRUCTURE OR SERVICE POLE

NEW	EXISTING	
		PEDESTRIAN SIGNAL HEAD
		PUSH BUTTON ASSEMBLY POST
		PEDESTRIAN BARRICADE
		VEHICLE SIGNAL HEAD (WITH BACKPLATE AND 3-SECTIONS: RED, YELLOW AND GREEN)
		VEHICLE SIGNAL HEAD WITH ANGLE VISOR
		MODIFICATIONS OF BASIC SYMBOL: "L" INDICATES ALL NON-ARROW SECTIONS LOUVERED "LG" INDICATES LOUVERED GREEN SECTION ONLY "PV" INDICATES ALL 12" SECTIONS PROGRAMMED VISIBILITY "8" INDICATES ALL 8" SECTIONS (ONLY WHEN SPECIFIED)

SIGNAL EQUIPMENT Cont

NEW	EXISTING	
		GUARD POST
		TYPE 1 STANDARD WITH RAMP METERING SIGN
		OPTICAL DETECTOR FOR THE EMERGENCY VEHICLE DETECTION

SERVICE EQUIPMENT

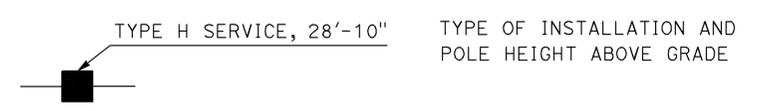
NEW	EXISTING	
---OH---	---oh---	OVERHEAD LINES
		WOOD POLE, "U" INDICATES UTILITY OWNED
		POLE GUY WITH ANCHOR
		UTILITY TRANSFORMER - GROUND MOUNTED
		SERVICE EQUIPMENT ENCLOSURE TYPE. DOOR INDICATES FRONT OF ENCLOSURE
		TELEPHONE DEMARCATION CABINET

		VEHICLE SIGNAL HEAD CONSISTING OF RED, YELLOW AND GREEN LEFT ARROW SECTIONS
		VEHICLE SIGNAL HEAD CONSISTING OF RED AND YELLOW SECTIONS WITH AN UP GREEN ARROW SECTION
		VEHICLE SIGNAL HEAD (5 SECTION) CONSISTING OF RED, YELLOW AND GREEN SECTIONS WITH YELLOW AND GREEN RIGHT ARROW SECTIONS
		TYPE 15TS STANDARD WITH VEHICLE SIGNAL HEAD AND LUMINAIRE
		TYPE 21TS STANDARD WITH VEHICLE SIGNAL HEAD AND LUMINAIRE
		STANDARD WITH LUMINAIRE AND SIGNAL MAST ARMS AND ATTACHED VEHICLE SIGNAL HEADS
		TYPE 1 STANDARD WITH ATTACHED VEHICLE SIGNAL HEADS
		STANDARD WITH A SIGNAL MAST ARM, ATTACHED VEHICLE SIGNAL HEADS AND INTERNALLY ILLUMINATED STREET NAME SIGN
		CONTROLLER ASSEMBLY. DOOR INDICATES FRONT OF CABINET

NOTES:

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

POLE-MOUNTED SERVICE DESIGNATION



FLASHING BEACON

NEW	EXISTING	
		FLASHING BEACON (ONE VEHICLE SIGNAL HEAD WITH BACKPLATE AND VISOR) "R" INDICATES RED INDICATION, "Y" INDICATES YELLOW INDICATION
		FLASHING BEACON WITH TYPE 15-FBS STANDARD AND A SIGN.
		FLASHING BEACON WITH TYPES 9, 9A OR 9B SIGN UNLESS OTHERWISE SPECIFIED OR INDICATED

ILLUMINATED OVERHEAD SIGN

NEW	EXISTING	
		SINGLE POST, SINGLE ILLUMINATED SIGN, BALANCED BUTTERFLY
		SINGLE POST, DOUBLE ILLUMINATED SIGN, BALANCED BUTTERFLY
		SINGLE POST, SINGLE ILLUMINATED SIGN, FULL CANTILEVER
		DOUBLE POST, SINGLE ILLUMINATED SIGN
		SINGLE ILLUMINATED SIGN MOUNTED ON STRUCTURE
		DOUBLE POST, SINGLE ILLUMINATED SIGN WITH ELECTROLIER

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
(LEGEND AND ABBREVIATIONS)**

NO SCALE

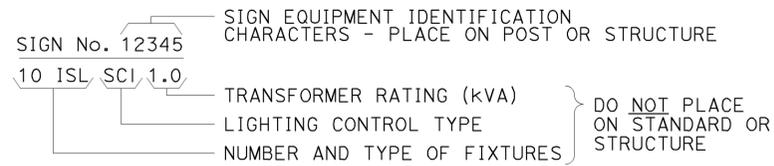
RSP ES-1B DATED OCTOBER 30, 2015 SUPERSEDES RSP ES-1B DATED JULY 19, 2013 AND STANDARD PLAN ES-1B DATED MAY 20, 2011 - PAGE 426 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-1B

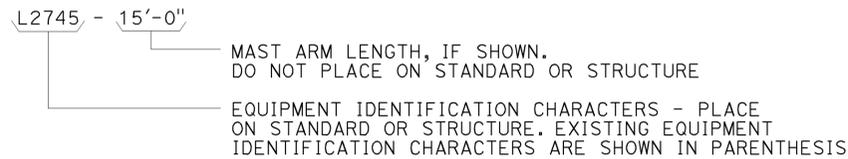
2010 REVISED STANDARD PLAN RSP ES-1B

EQUIPMENT IDENTIFICATION

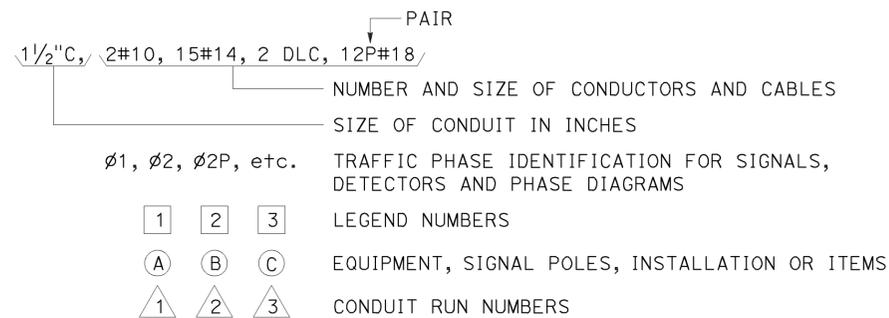
ILLUMINATED SIGN IDENTIFICATION:



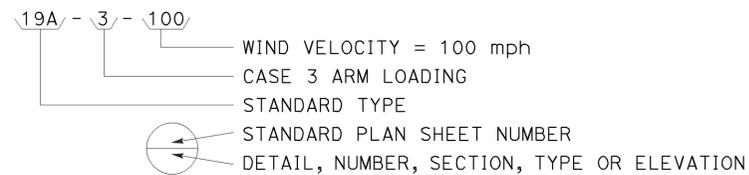
ELECTROLIER OR EQUIPMENT IDENTIFICATION:



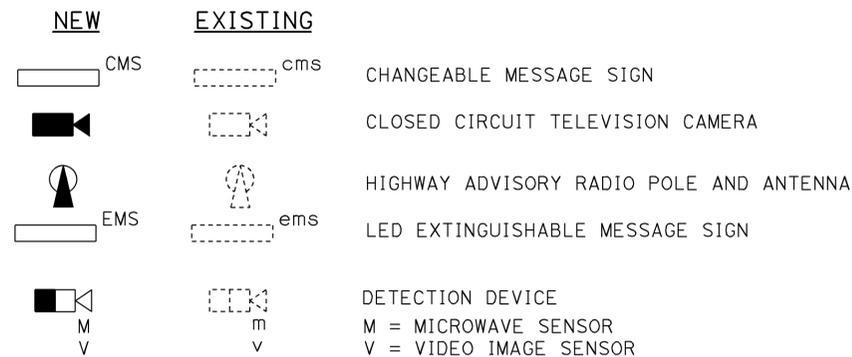
CONDUIT AND CONDUCTOR IDENTIFICATION:



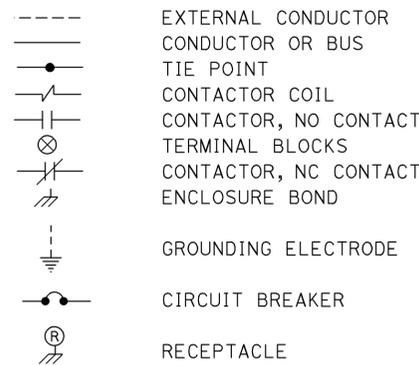
SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



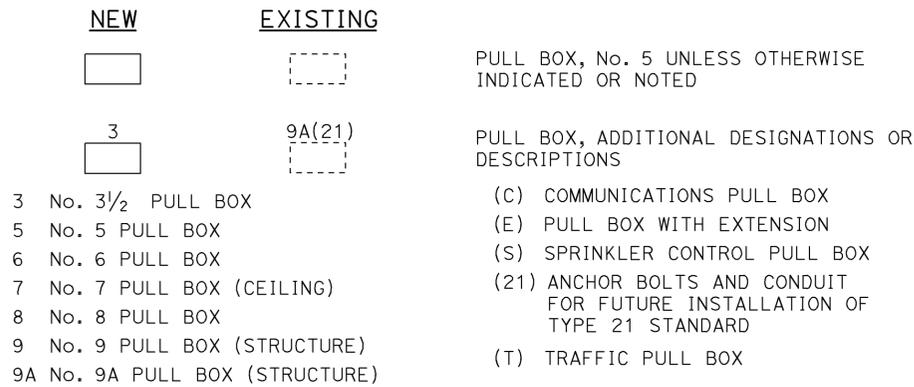
MISCELLANEOUS EQUIPMENT



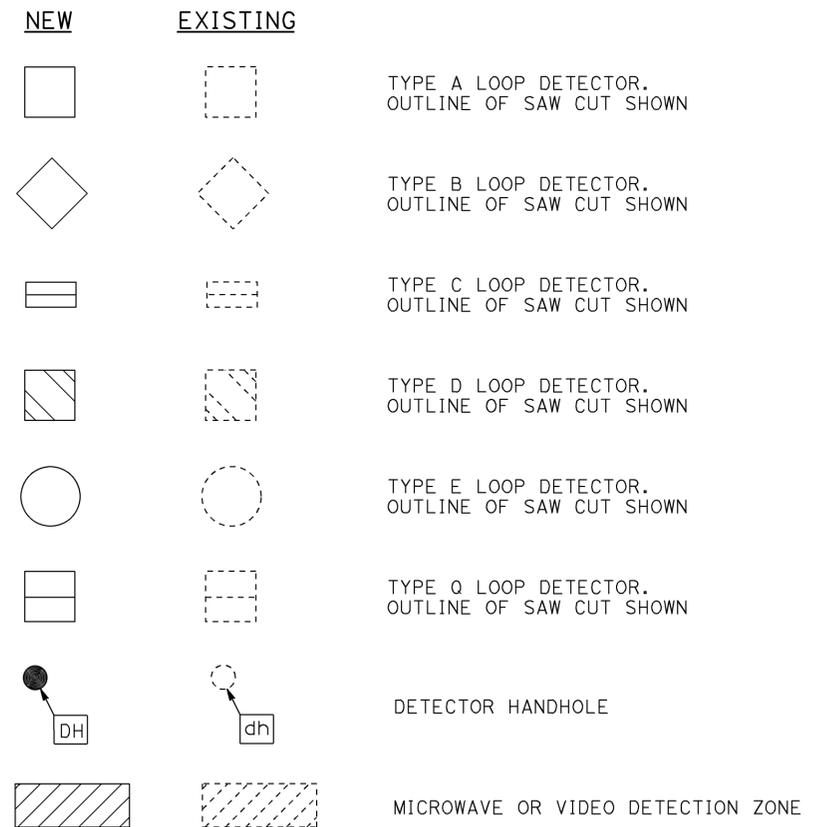
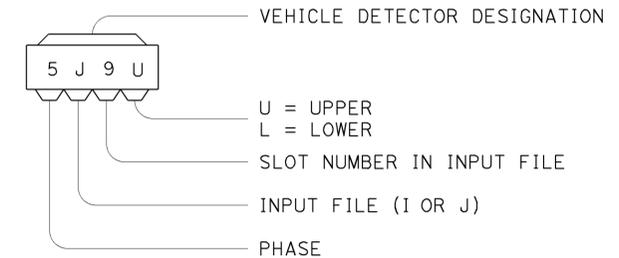
WIRING DIAGRAM LEGEND



PULL BOXES



VEHICLE DETECTORS



STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

NO SCALE

RSP ES-1C DATED APRIL 15, 2016 SUPERSEDES RSP ES-1C DATED OCTOBER 30, 2015 AND RSP ES-1C DATED JULY 19, 2013 AND STANDARD PLAN ES-1C DATED MAY 20, 2011 - PAGE 427 OF THE STANDARD PLANS BOOK DATED 2010.

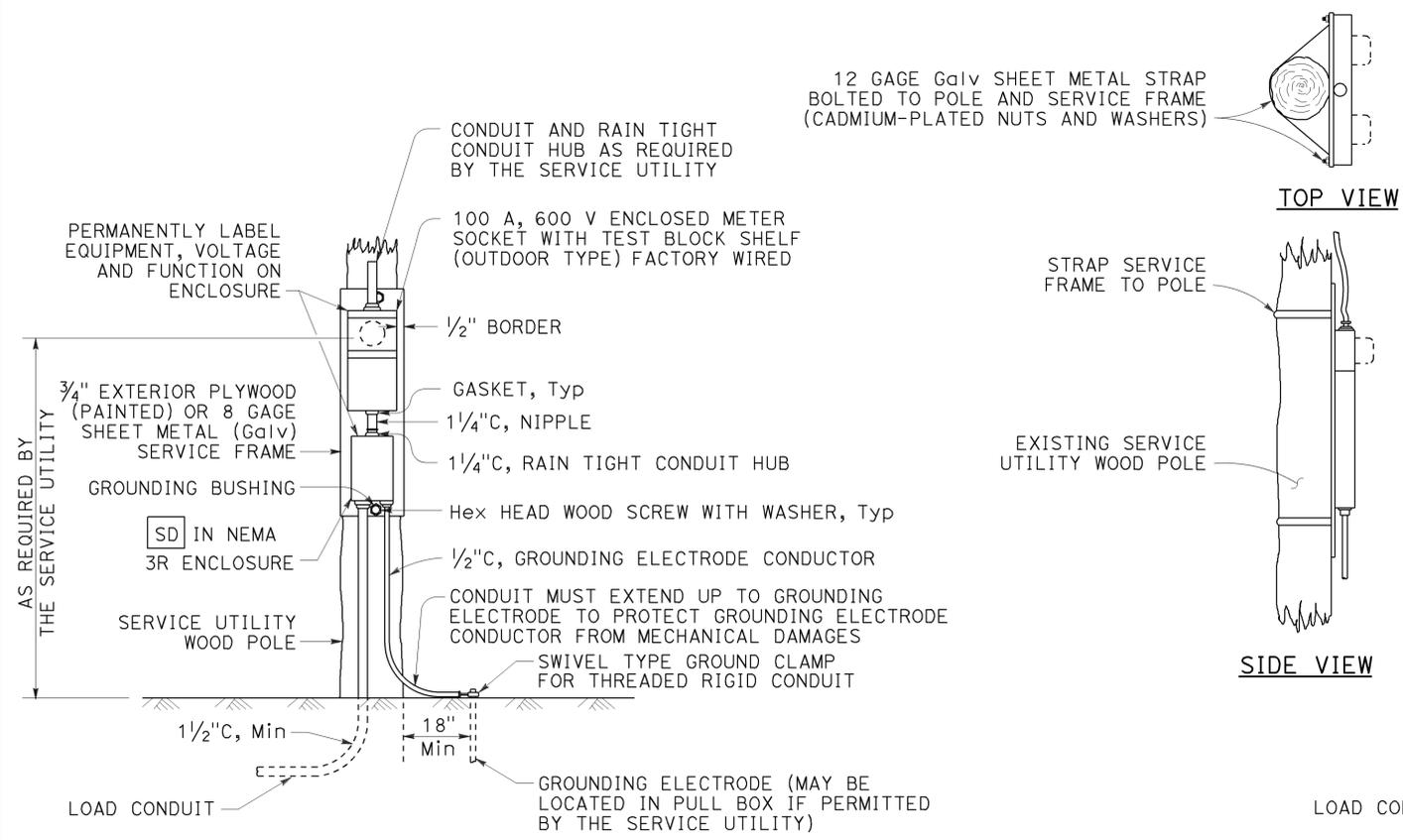
2010 REVISED STANDARD PLAN RSP ES-1C

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	632	737

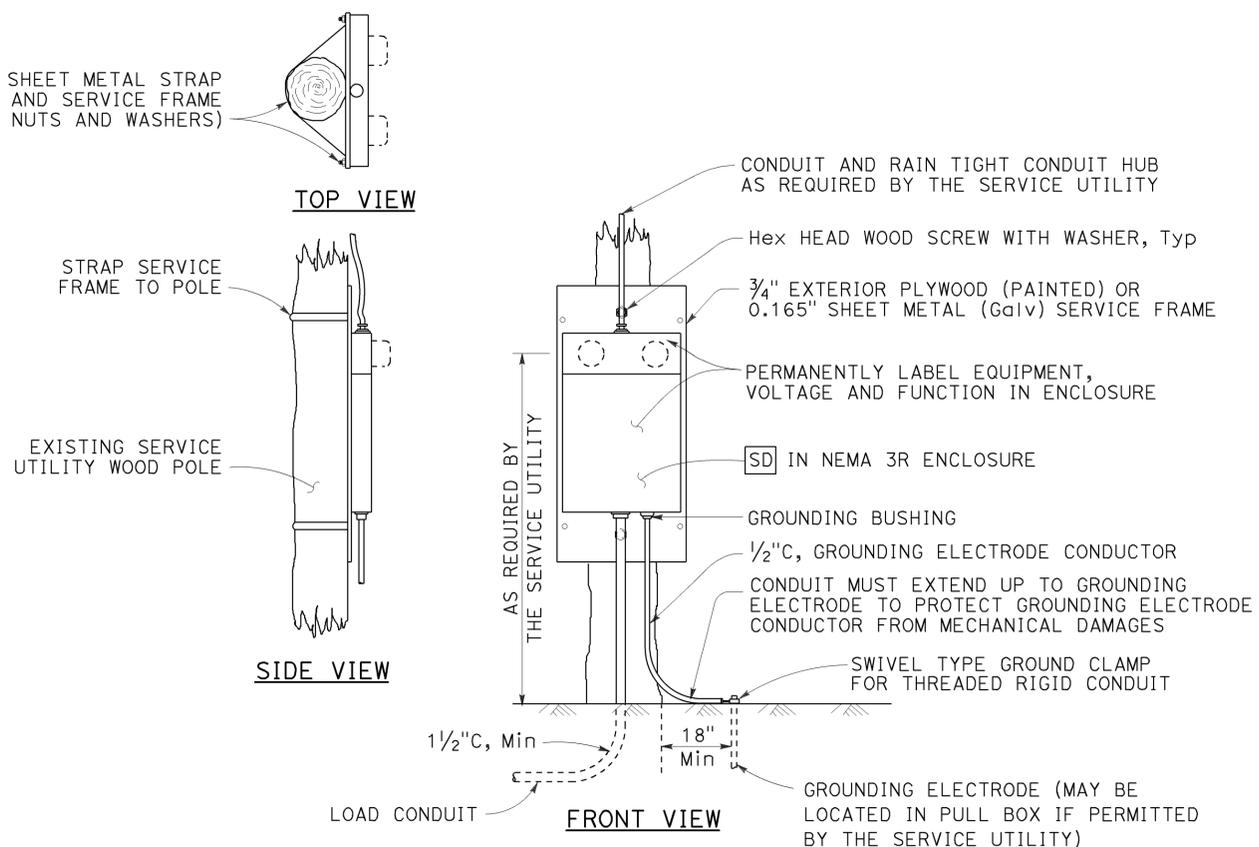
Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 October 30, 2015
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



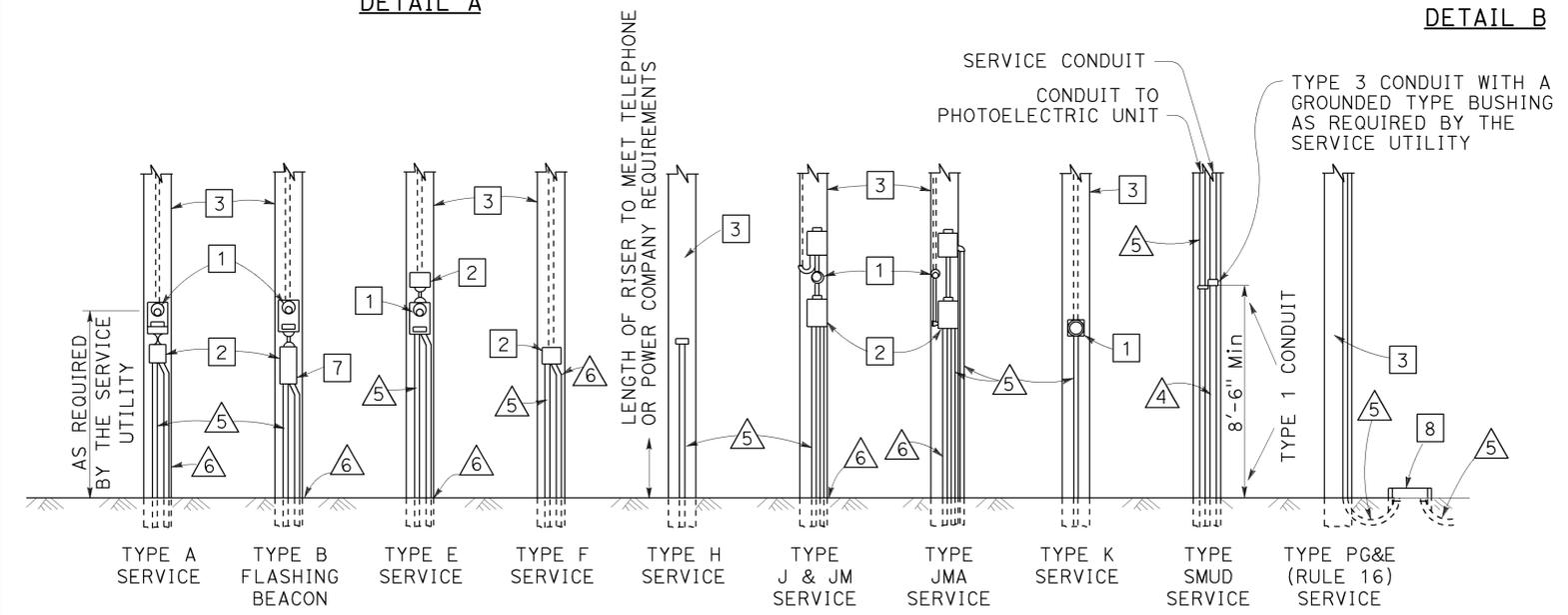
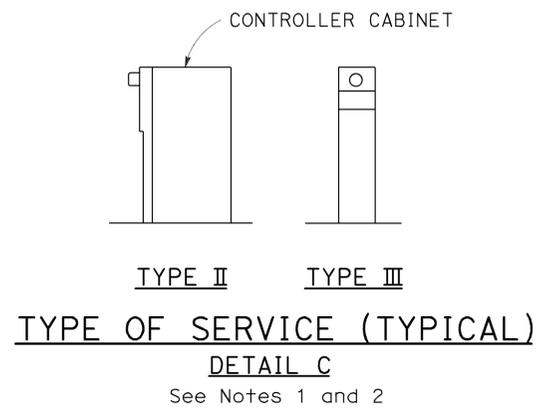
TO ACCOMPANY PLANS DATED 08-29-16



TYPE SCE-1
DETAIL A

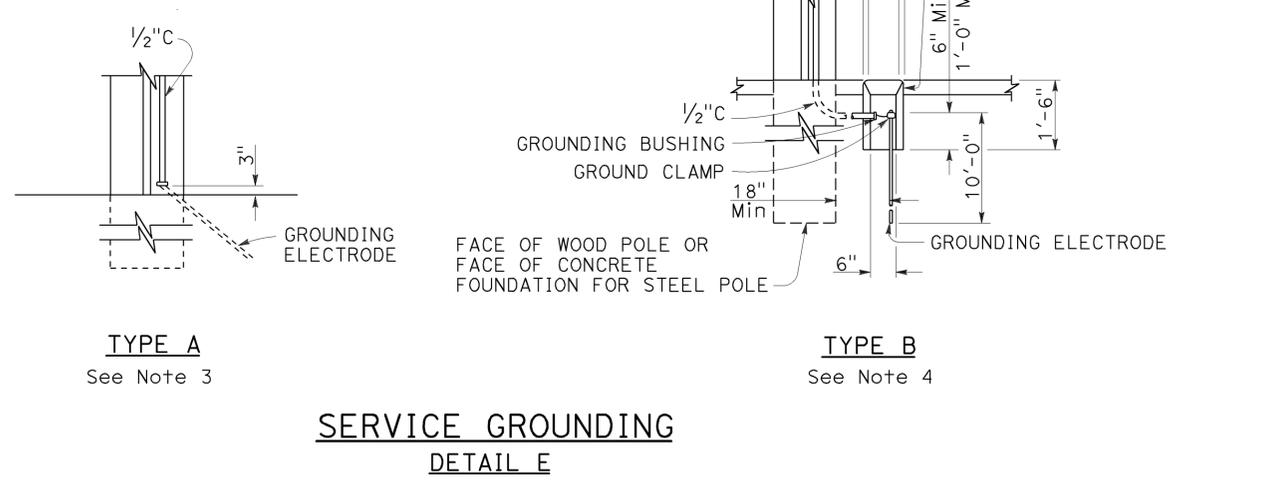


TYPE SCE-2
DETAIL B



POLE MOUNTED SERVICE INSTALLATIONS
DETAIL D

- LEGEND:**
- 1 METER SOCKET.
 - 2 SERVICE ENCLOSURE WITH A MINIMUM 60 A RATED MAIN CIRCUIT BREAKER, UNLESS OTHERWISE SHOWN.
 - 3 A. UTILITY OWNED POLE. THE SERVICE UTILITY WILL FURNISH AND INSTALL REQUIRED SERVICE RISER, PEU WITH CONDUCTORS AND OTHER EQUIPMENT AS NEEDED.
B. STATE OWNED POLE. THE CONTRACTOR SHALL FURNISH AND INSTALL REQUIRED SERVICE RISER AND EQUIPMENT.
 - 4 2" C, SERVICE CONDUIT MUST HAVE A GROUNDED TYPE BUSHING INSTALLED AT UPPER END OF THE METALLIC POLE RISER CONDUIT. A GROUNDING CONDUCTOR MUST BE ATTACHED TO THE BUSHING, CARRIED THROUGH THE CONDUIT RUN AND ATTACHED TO THE SERVICE EQUIPMENT ENCLOSURE'S GROUNDING ELECTRODE.
 - 5 CONDUIT, LENGTH AND SIZE AS REQUIRED.
 - 6 1/2" C, 1#6. SEE DETAIL E.
 - 7 FLASHING BEACON CONTROL ASSEMBLY.
 - 8 SERVICE PULL BOX, No. 5 UNLESS OTHERWISE NOTED, FURNISHED AND INSTALLED BY THE CONTRACTOR. SERVICE UTILITY SHALL DETERMINE THE EXACT LOCATION.



- NOTES:**
- Type II service equipment enclosure mounted on the side of a controller cabinet.
 - Type III complete free-standing service equipment enclosure.
 - Ground clamp and required fittings must be accessible. Conduit must extend to protect grounding electrode conductor from mechanical damage.
 - Use where service utility requires 18" clearance between grounding electrode and the pole or service equipment enclosure. Installation shown is for sidewalk or paved areas. In unpaved areas, omit special service pull box and locate ground clamp above ground or locate ground clamp in nearest pull box.

RSP ES-2A DATED OCTOBER 30, 2015 SUPERSEDES STANDARD PLAN ES-2A DATED MAY 20, 2011 - PAGE 428 OF THE STANDARD PLANS BOOK DATED 2010.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS (SERVICE EQUIPMENT)
NO SCALE

2010 REVISED STANDARD PLAN RSP ES-2A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	633	737

Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 October 30, 2015
 PLANS APPROVAL DATE



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TO ACCOMPANY PLANS DATED 08-29-16

NOTES:

1. 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.
2. 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.
3. 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.
4. 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.
5. Type III-AR and Type III-BR service equipment enclosure 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.

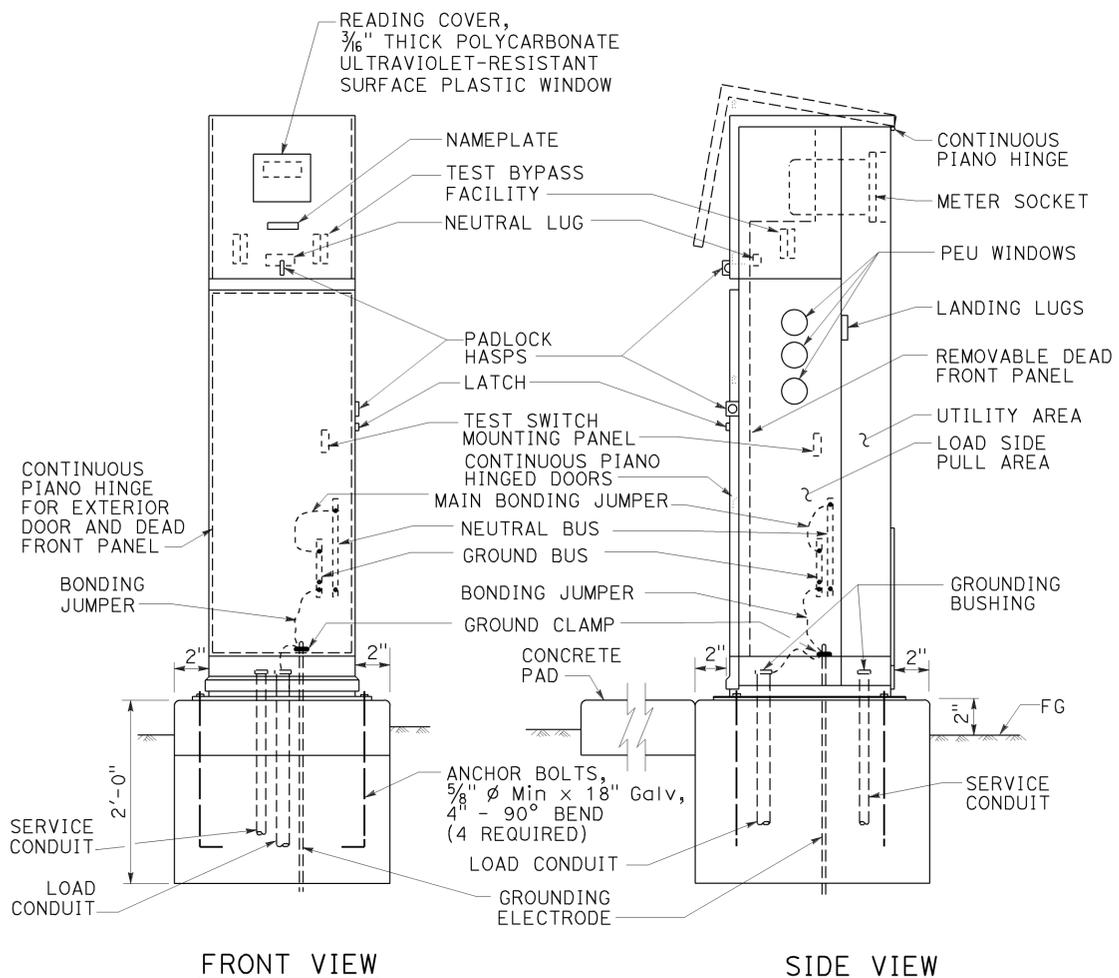
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (SERVICE EQUIPMENT ENCLOSURE
 NOTES TYPE III SERIES)**

NO SCALE

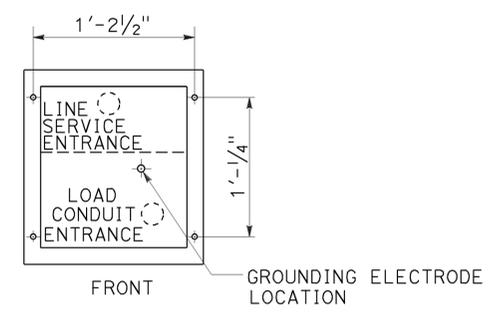
RSP ES-2C DATED OCTOBER 30, 2015 SUPERSEDES STANDARD PLAN ES-2C DATED MAY 20, 2011 - PAGE 430 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-2C

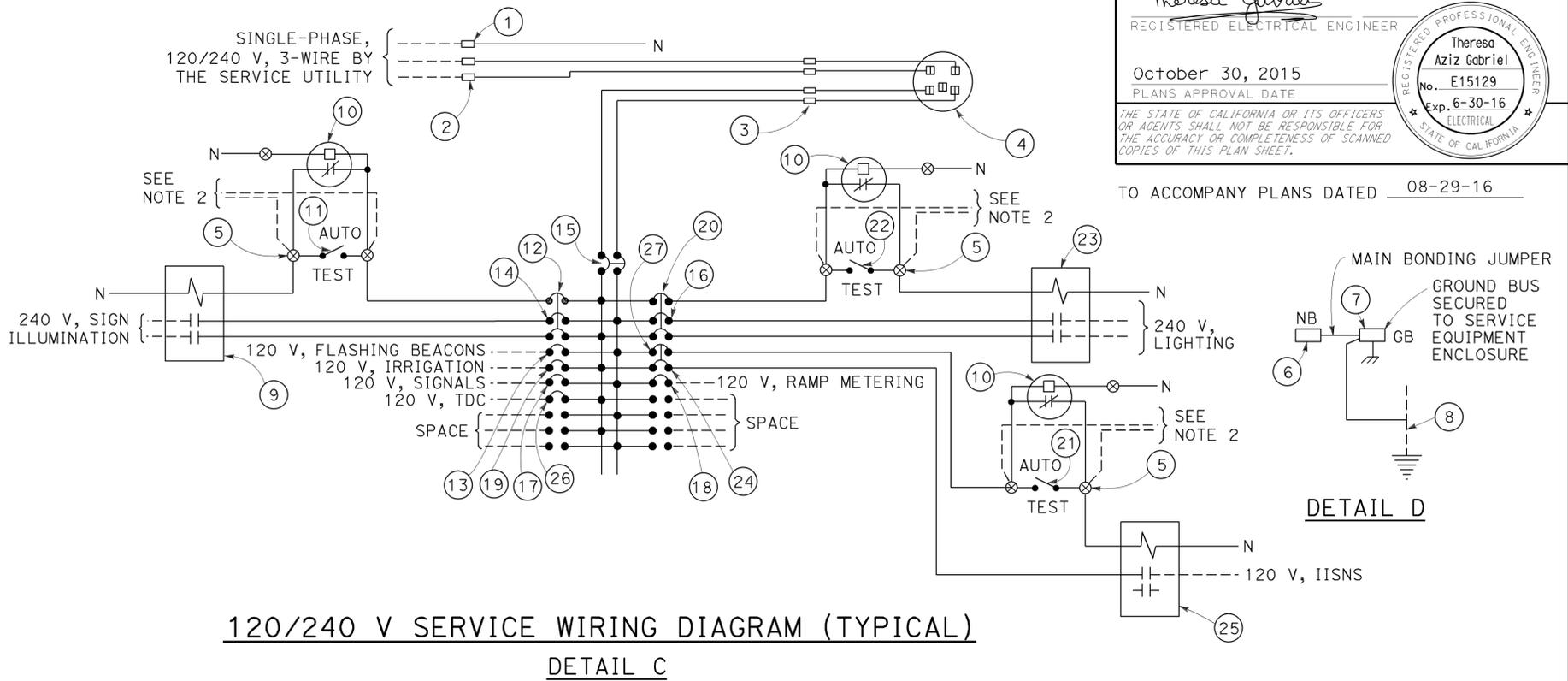
2010 REVISED STANDARD PLAN RSP ES-2C



TYPE III-BF SERVICE EQUIPMENT ENCLOSURE (TYPICAL)
 FRONT VIEW SIDE VIEW
 DETAIL A



BASE FOR TYPE III-B SERVICE EQUIPMENT ENCLOSURE
 DETAIL B



120/240 V SERVICE WIRING DIAGRAM (TYPICAL)
 DETAIL C

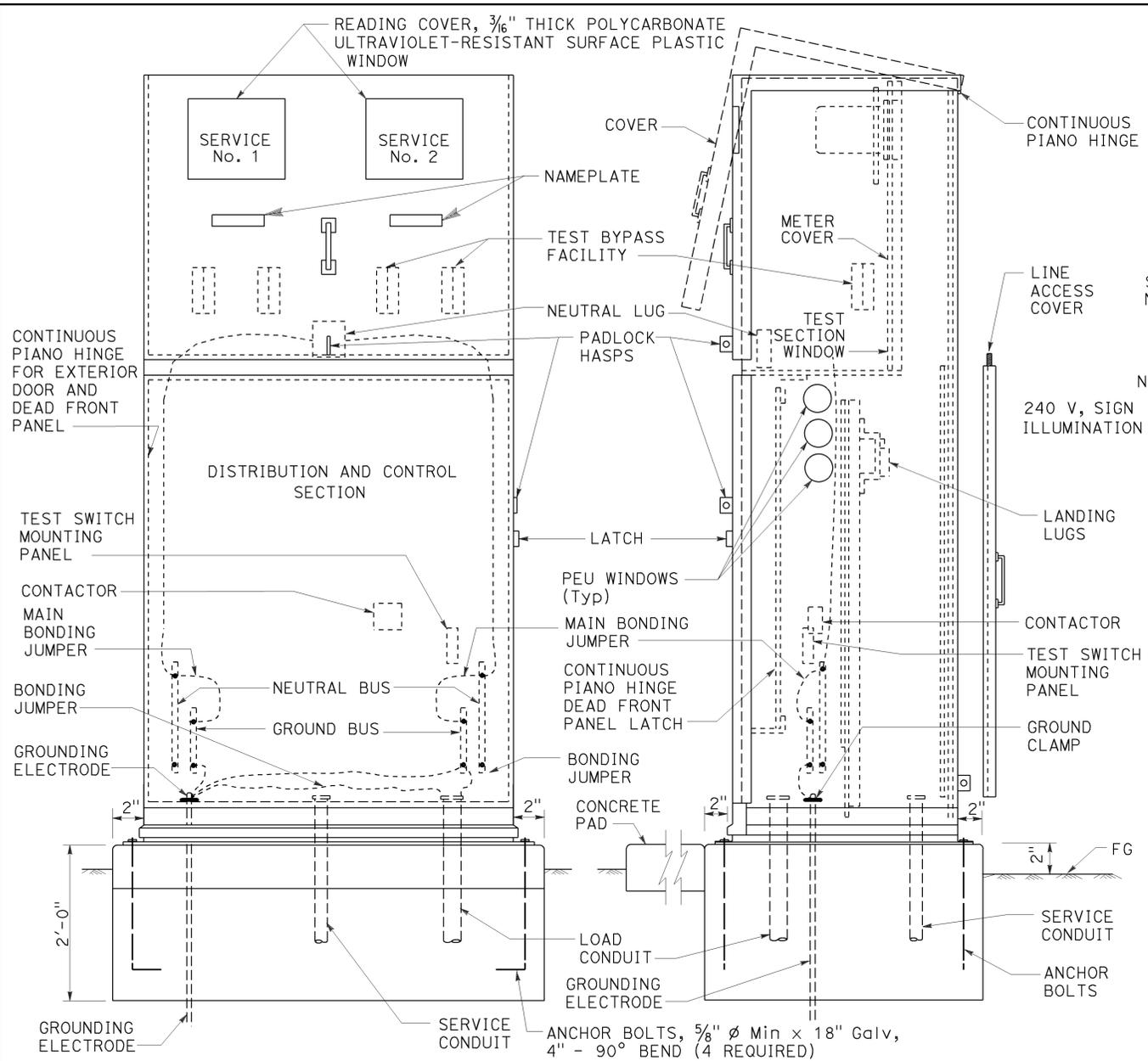
TYPE III-B SERVICE EQUIPMENT ENCLOSURE LEGEND (120/240 V)					
ITEM	COMPONENT	NAMEPLATE DESCRIPTION	ITEM	COMPONENT	NAMEPLATE DESCRIPTION
①	NEUTRAL LUG		⑭	30 A, 240 V, 2P, CB	SIGN ILLUMINATION
②	LANDING LUG		⑮	100 A, 240 V, 2P, CB	MAIN BREAKER
③	TEST BYPASS FACILITY		⑯	30 A, 240 V, 2P, CB	LIGHTING
④	METER 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	15 A, 1P, TEST SWITCH	IISNS TEST SWITCH
⑨	30 A, 2P, NO CONTACTOR	SIGN ILLUMINATION	㉒	15 A, 1P, TEST SWITCH	LIGHTING TEST SWITCH
⑩	PHOTOELECTRIC UNIT (NOTE 4)	PEU	㉓	60 A, 2P, NO 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, 2P, NO CONTACTOR	IISNS
⑬	15 A, 120 V, 1P, CB	FLASHING BEACON	㉖	20 A, 120 V, 1P, CB	TELEPHONE DEMARCATION CABINET
			㉗	15 A, 120 V, 1P, CB	IISNS CONTROL

- NOTES:**
1. Unless otherwise indicated on the plans, service equipment items shall be provided for each service equipment enclosure as shown.
 2. Connect to remote test switch mounted on lighting standards, sign post or structure when required.
 3. Items ① and ⑥ shall be isolated from the service equipment enclosure.
 4. Type I photoelectric control shall be used unless otherwise indicated on the plans.
 5. Item ⑫, ⑳ and ㉗ shall be ganged operated CB.

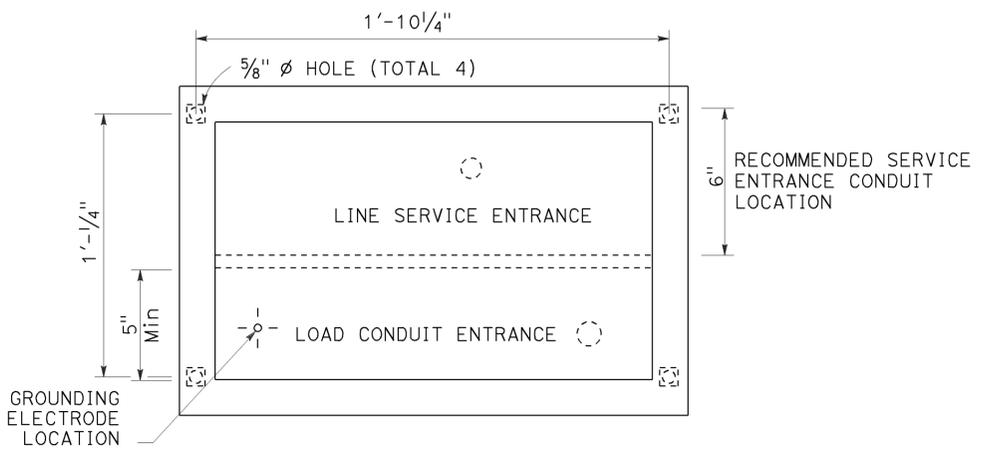
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(SERVICE EQUIPMENT ENCLOSURE AND
TYPICAL WIRING DIAGRAM,
TYPE III-B SERIES)
 NO SCALE

RSP ES-2E DATED OCTOBER 30, 2015 SUPERSEDES STANDARD PLAN ES-2E DATED MAY 20, 2011 - PAGE 432 OF THE STANDARD PLANS BOOK DATED 2010.

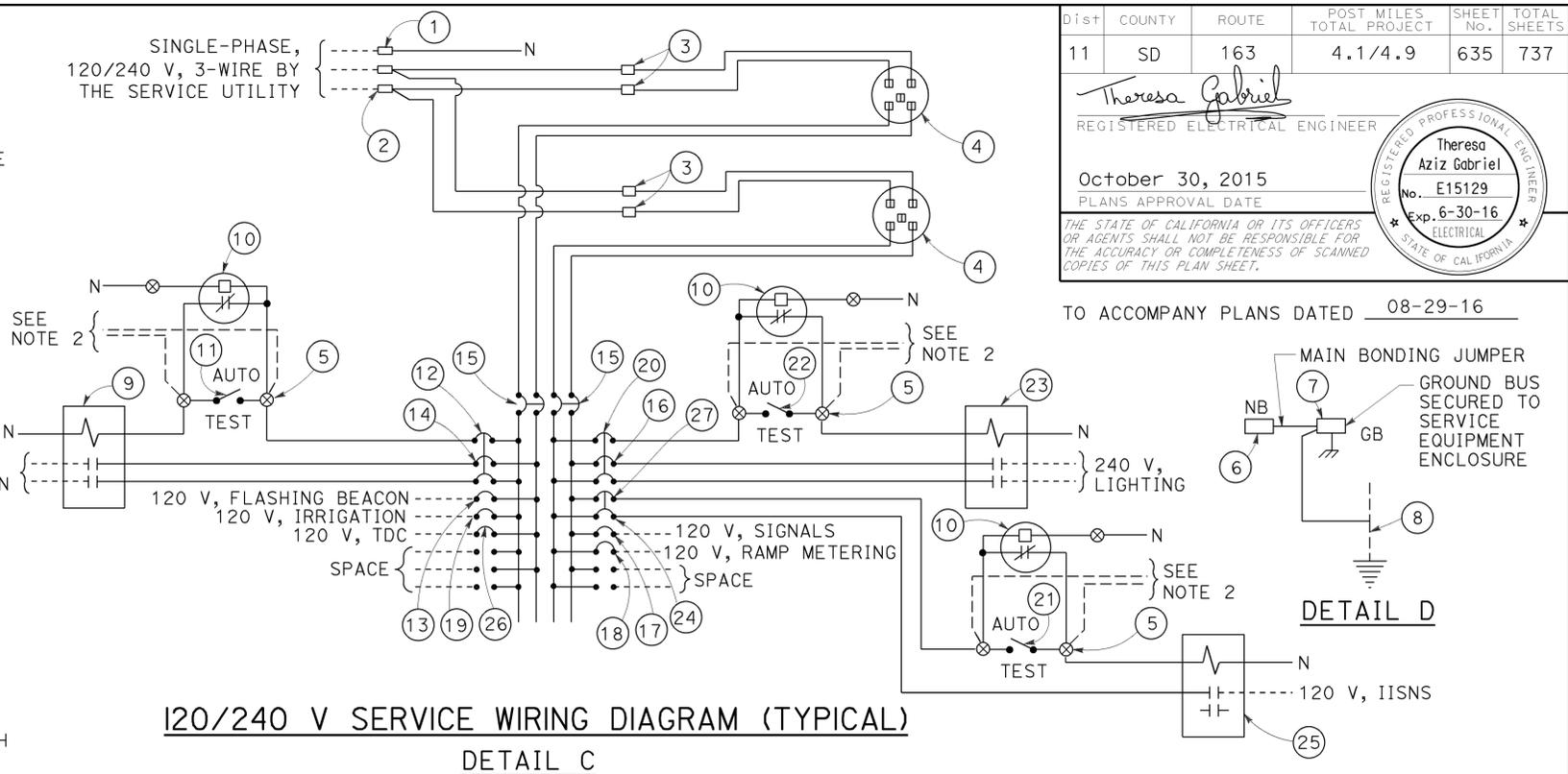
2010 REVISED STANDARD PLAN RSP ES-2E



FRONT VIEW
SIDE VIEW
TYPE III-CF SERVICE EQUIPMENT ENCLOSURE (TYPICAL)
DETAIL A



BASE FOR TYPE III-C SERVICE EQUIPMENT ENCLOSURE
DETAIL B



120/240 V SERVICE WIRING DIAGRAM (TYPICAL)
DETAIL C

TYPE III-C SERVICE EQUIPMENT ENCLOSURE LEGEND (120/240 V)

ITEM	COMPONENT	NAMEPLATE DESCRIPTION	ITEM	COMPONENT	NAMEPLATE DESCRIPTION
①	NEUTRAL LUG		⑭	30 A, 240 V, 2P, CB	SIGN ILLUMINATION
②	LANDING LUG		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	15 A, 1P, TEST SWITCH	IISNS TEST SWITCH
⑨	30 A, 2P, NO CONTACTOR	SIGN ILLUMINATION	㉒	15 A, 1P, TEST SWITCH	LIGHTING TEST SWITCH
⑩	PHOTOELECTRIC UNIT (NOTE 4)	PEU	㉓	60 A, 2P, NO 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, 2P, NO CONTACTOR	IISNS
⑬	15 A, 120 V, 1P, CB	FLASHING BEACON	㉖	20 A, 120 V, 1P, CB	TELEPHONE DEMARCATON CABINET
			㉗	15 A, 120 V, 1P, CB	IISNS CONTROL

- NOTES:**
- 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 ① and ⑥ shall be isolated from the service equipment enclosure.
 - Type I photoelectric control shall be used unless otherwise indicated on the plans.
 - Item ⑫, ⑳ and ㉗ shall be ganged operated CB.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
(SERVICE EQUIPMENT ENCLOSURE AND
TYPICAL WIRING DIAGRAM
TYPE III-C SERIES)**

NO SCALE

RSP ES-2F DATED OCTOBER 30, 2015 SUPERSEDES STANDARD PLAN ES-2F DATED MAY 20, 2011 - PAGE 433 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP ES-2F

NOTES:

1. Controller units, plug-mounted equipment, shelf-mounted equipment and wall-mounted equipment shall be located to permit safe and easy removal or replacement without removing any other piece of equipment.
2. Cabinet fan may be installed at an alternate location near the top of the cabinet when approved by the Engineer.
3. Where telephone interconnect is required, a minimum of 5" clear vertical space shall be provided inside the cabinet for the equipment.
4. Telephone interconnect conductors shall be enclosed in a 3/4" or larger conduit through the foundation. Type 4 conduit shall be used to separate telephone and power conductors in cabinets.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	636	737

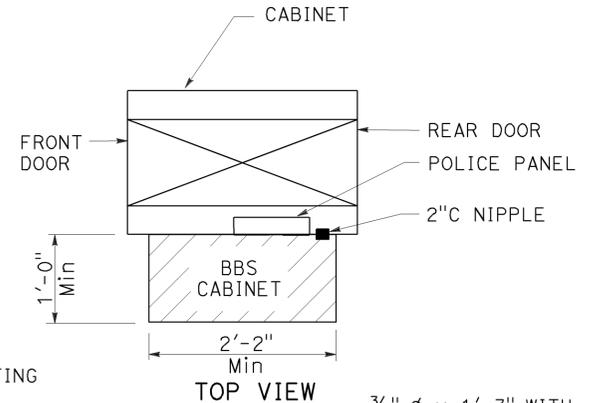
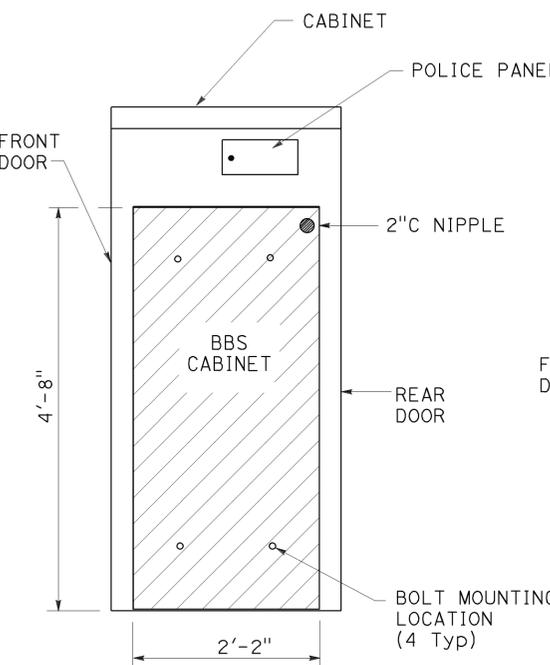
Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

April 15, 2016
PLANS APPROVAL DATE

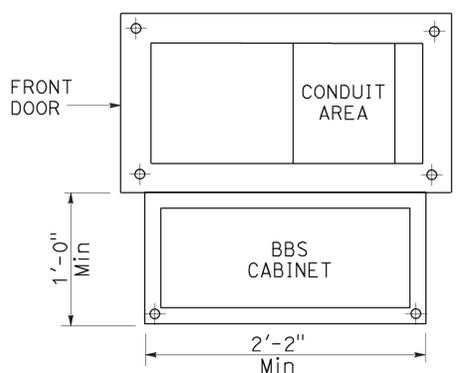
Theresa Aziz Gabriel
No. E15129
Exp. 6-30-16
ELECTRICAL
STATE OF CALIFORNIA

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.

TO ACCOMPANY PLANS DATED 08-29-16



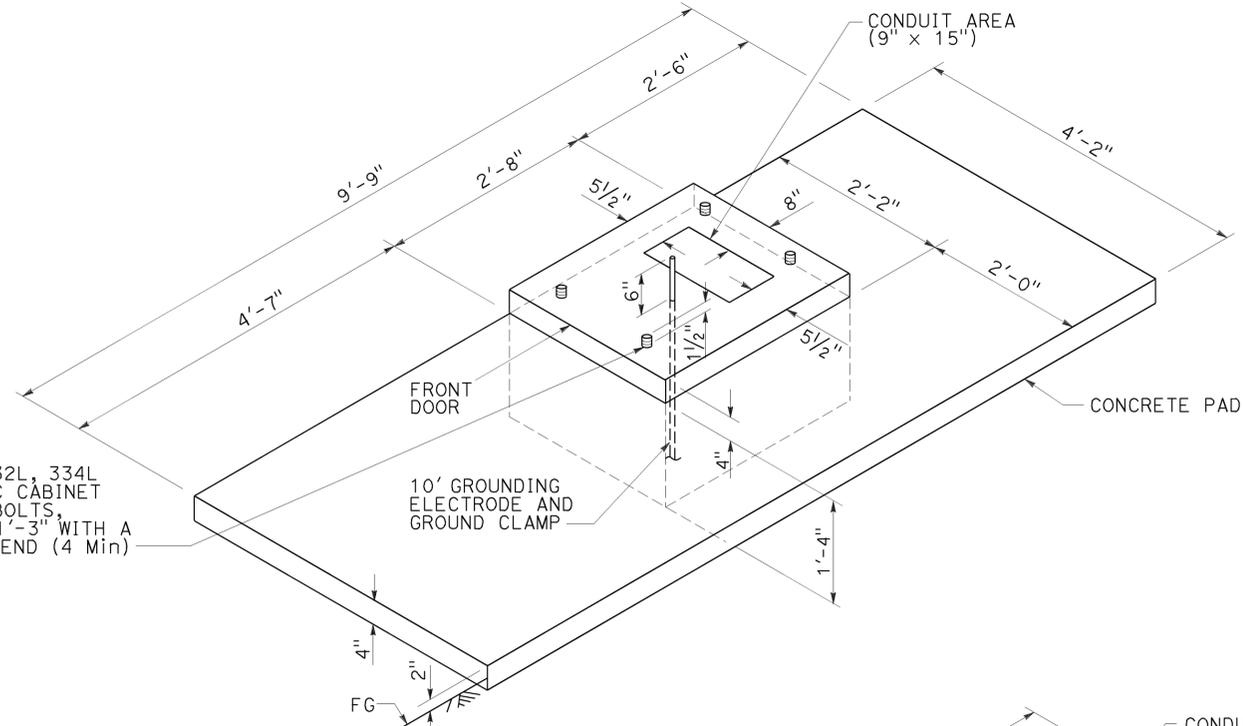
BBS CABINET MOUNTED TO THE MODEL 332L CABINET



BASE PLAN FOR BBS MOUNTED TO THE MODEL 332L CABINET

(FOR DIMENSIONS AND DETAILS NOT SHOWN, SEE CABINET HOUSING DETAILS OF THE TRANSPORTATION ELECTRICAL EQUIPMENT SPECIFICATION (TEES))

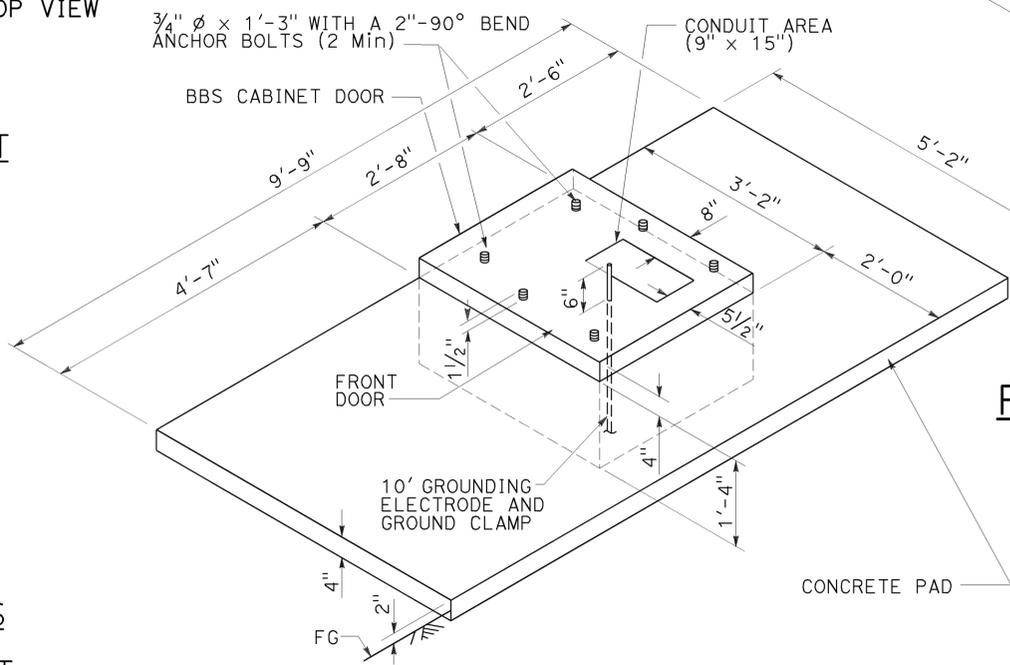
MODEL 332L, 334L OR 334LC CABINET ANCHOR BOLTS, 3/4" Ø x 1'-3" WITH A 2"-90° BEND (4 Min)



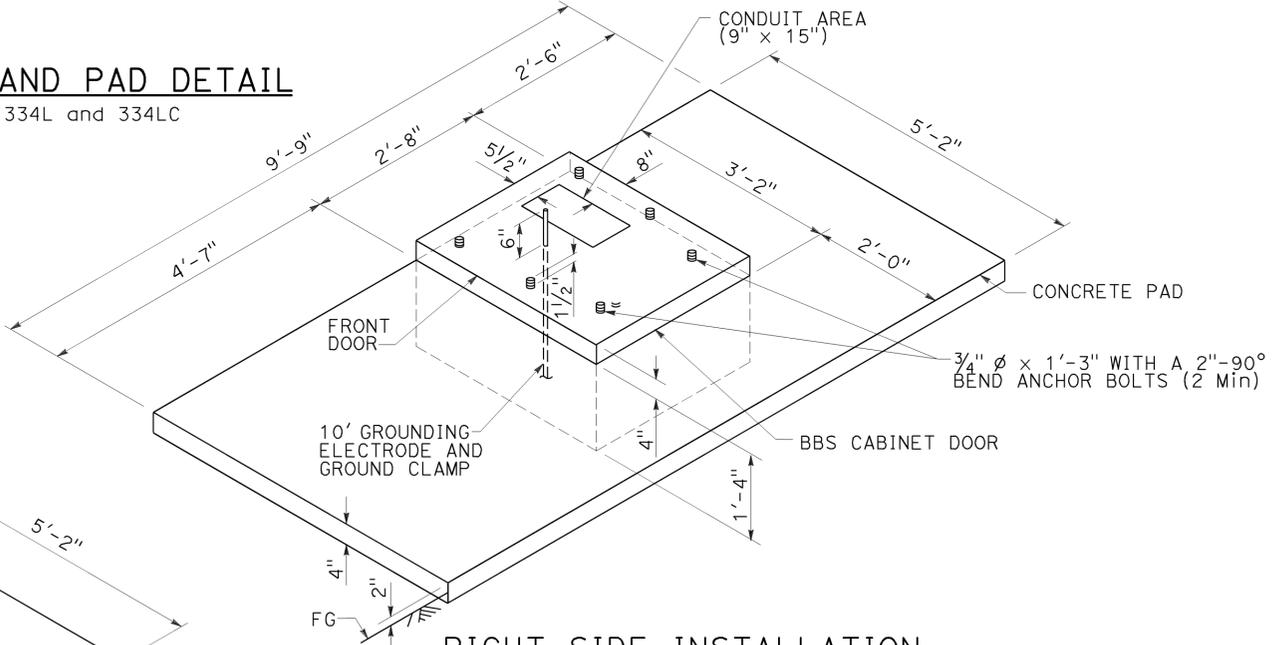
FOUNDATION AND PAD DETAIL

Model 332L, 334L and 334LC

3/4" Ø x 1'-3" WITH A 2"-90° BEND ANCHOR BOLTS (2 Min)



LEFT SIDE INSTALLATION DETAIL A



RIGHT SIDE INSTALLATION DETAIL B

MODIFIED MODEL 332L CABINET FOUNDATION DETAIL FOR BATTERY BACKUP SYSTEM

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (CONTROLLER CABINET FOUNDATION AND PAD DETAILS)

NO SCALE

RSP ES-3C DATED APRIL 15, 2016 SUPERSEDES RSP ES-3C DATED OCTOBER 30, 2015 AND STANDARD PLAN ES-3C DATED MAY 20, 2011 - PAGE 437 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-3C

2010 REVISED STANDARD PLAN RSP ES-3C

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	637	737

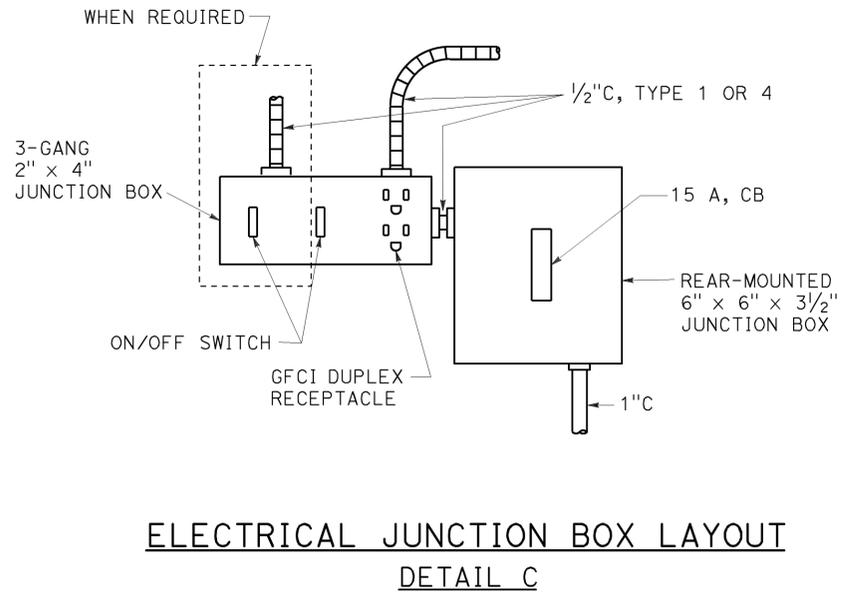
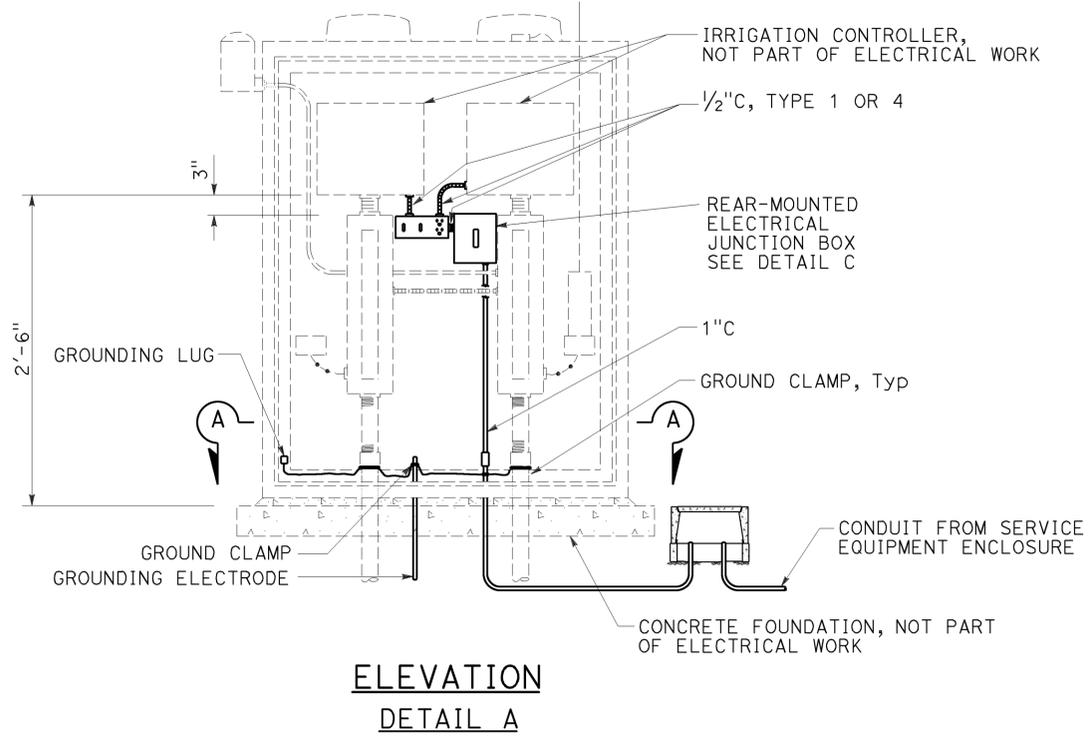
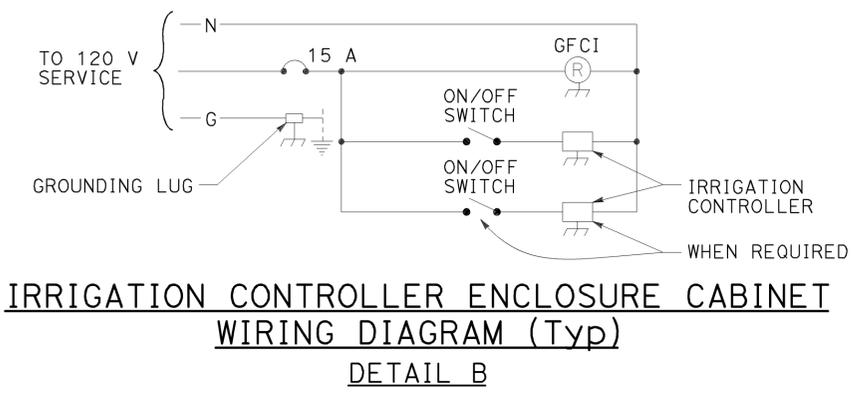
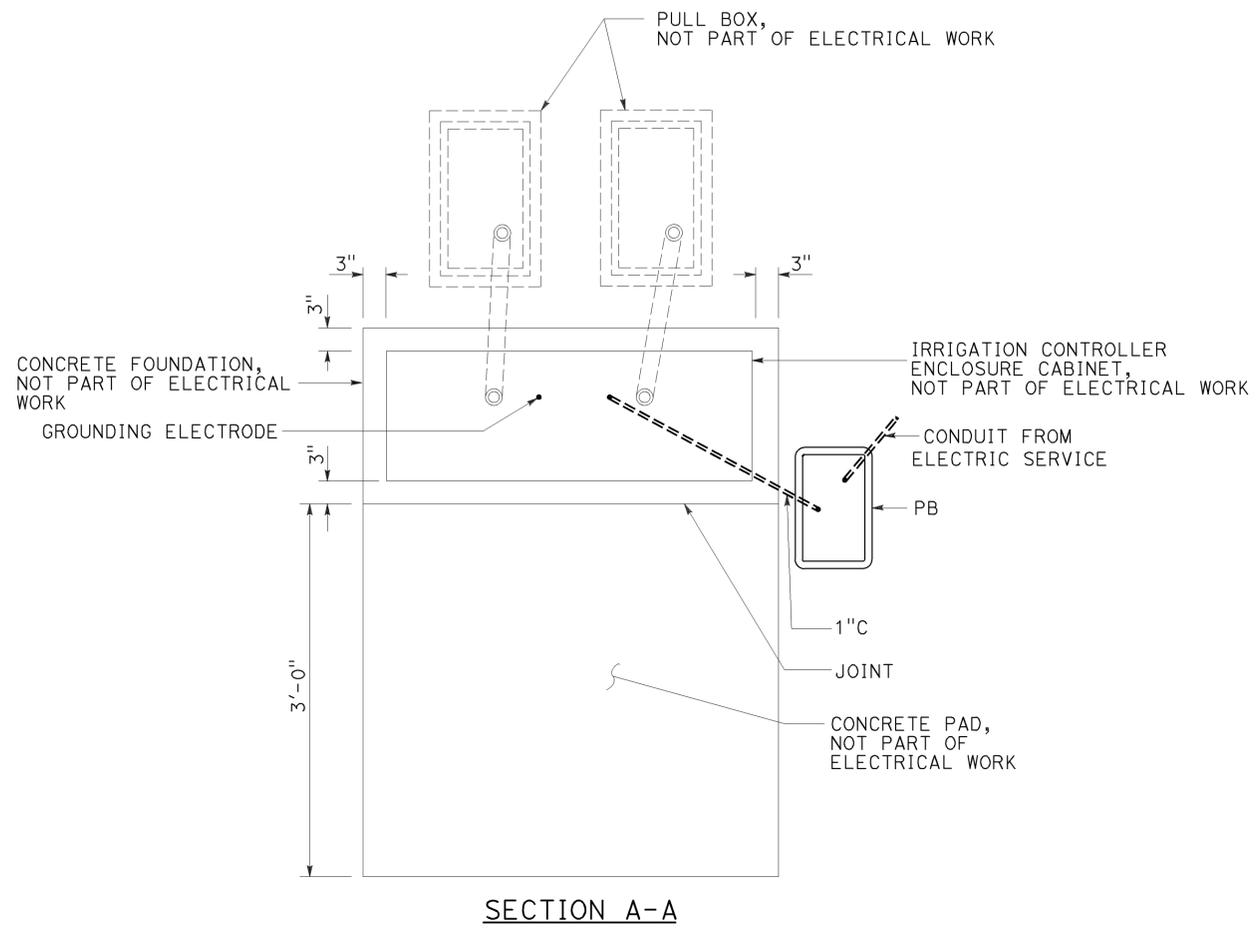
Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 October 30, 2015
 PLANS APPROVAL DATE

Theresa
 Aziz Gabriel
 No. E15129
 Exp. 6-30-16
 ELECTRICAL
 STATE OF CALIFORNIA

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TO ACCOMPANY PLANS DATED 08-29-16

- NOTES:**
- See Standard Plan H10 for other details.
 - Underground electrical work done prior to foundation installation.



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
(IRRIGATION CONTROLLER
ENCLOSURE CABINET)**

NO SCALE

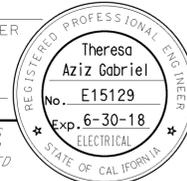
RSP ES-3H DATED OCTOBER 30, 2015 SUPERSEDES STANDARD PLAN ES-3H DATED MAY 20, 2011 - PAGE 442 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-3H

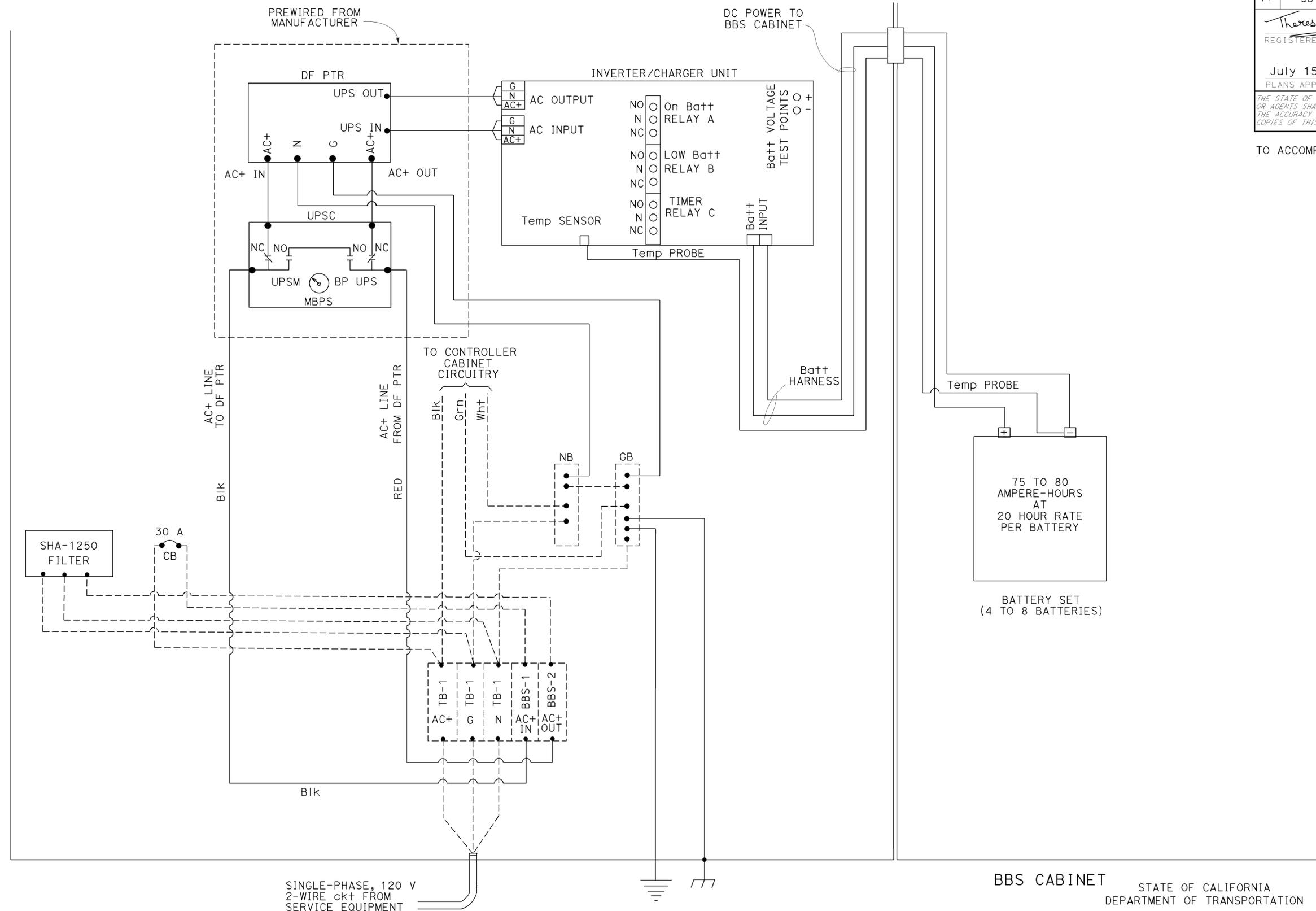
2010 REVISED STANDARD PLAN RSP ES-3H

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	638	737

Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 July 15, 2016
 PLANS APPROVAL DATE
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TO ACCOMPANY PLANS DATED 08-29-16



SINGLE-PHASE, 120 V
2-WIRE ckt FROM
SERVICE EQUIPMENT
ENCLOSURE

CONTROLLER CABINET

BBS CABINET
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
(ELECTRONICS ASSEMBLY CONNECTION DIAGRAM,
WITHOUT BYPASS CONTROL LINE)**

NO SCALE

RSP ES-3L DATED JULY 15, 2016 SUPERSEDES RSP ES-3L DATED APRIL 15, 2016 AND RSP ES-3L DATED OCTOBER 30, 2015 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-3L

2010 REVISED STANDARD PLAN RSP ES-3L

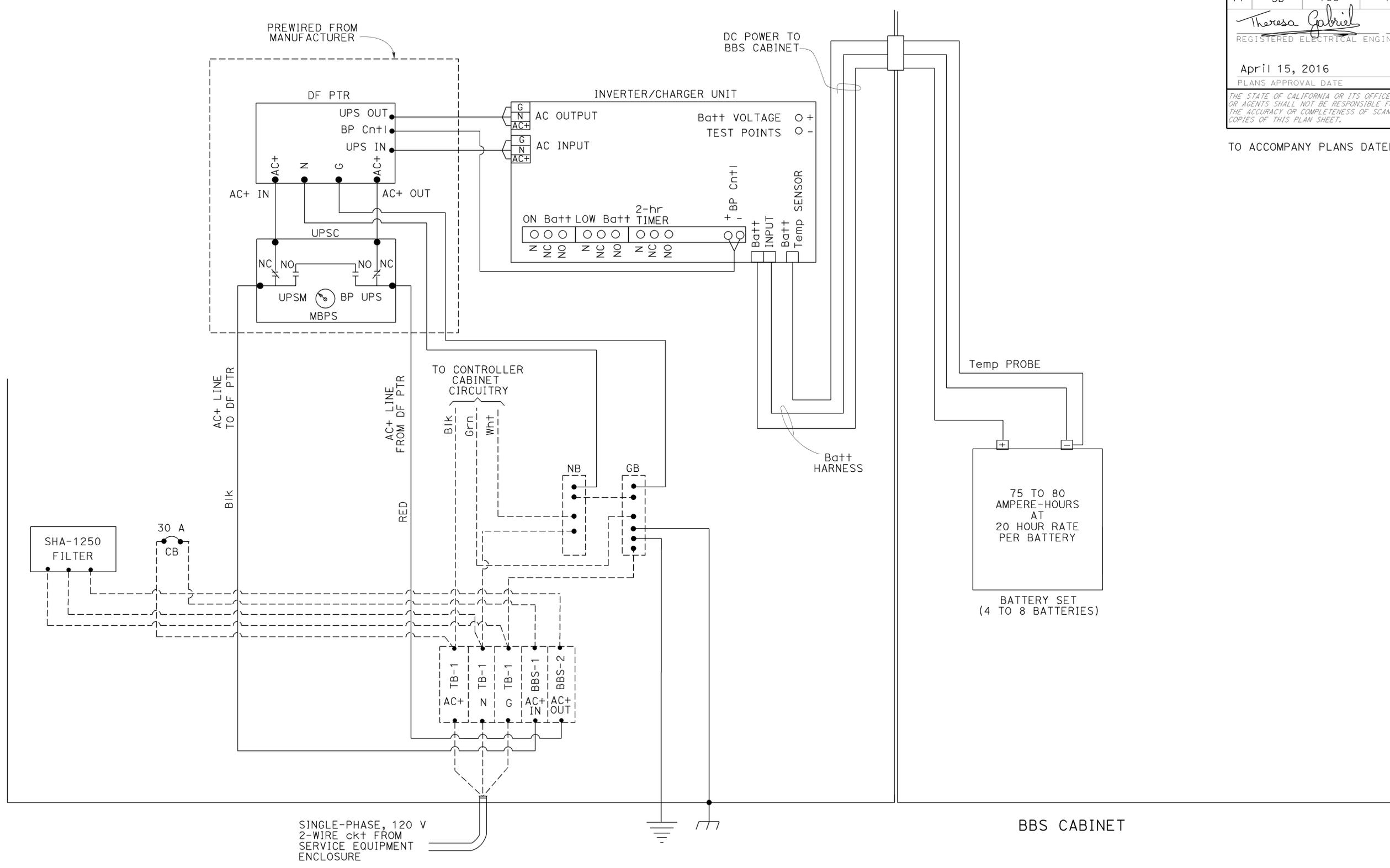
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	639	737

Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 April 15, 2016
 PLANS APPROVAL DATE

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TO ACCOMPANY PLANS DATED 08-29-16

2010 REVISED STANDARD PLAN RSP ES-3J



STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(ELECTRONICS ASSEMBLY CONNECTION DIAGRAM, WITH BYPASS CONTROL LINE)
 NO SCALE

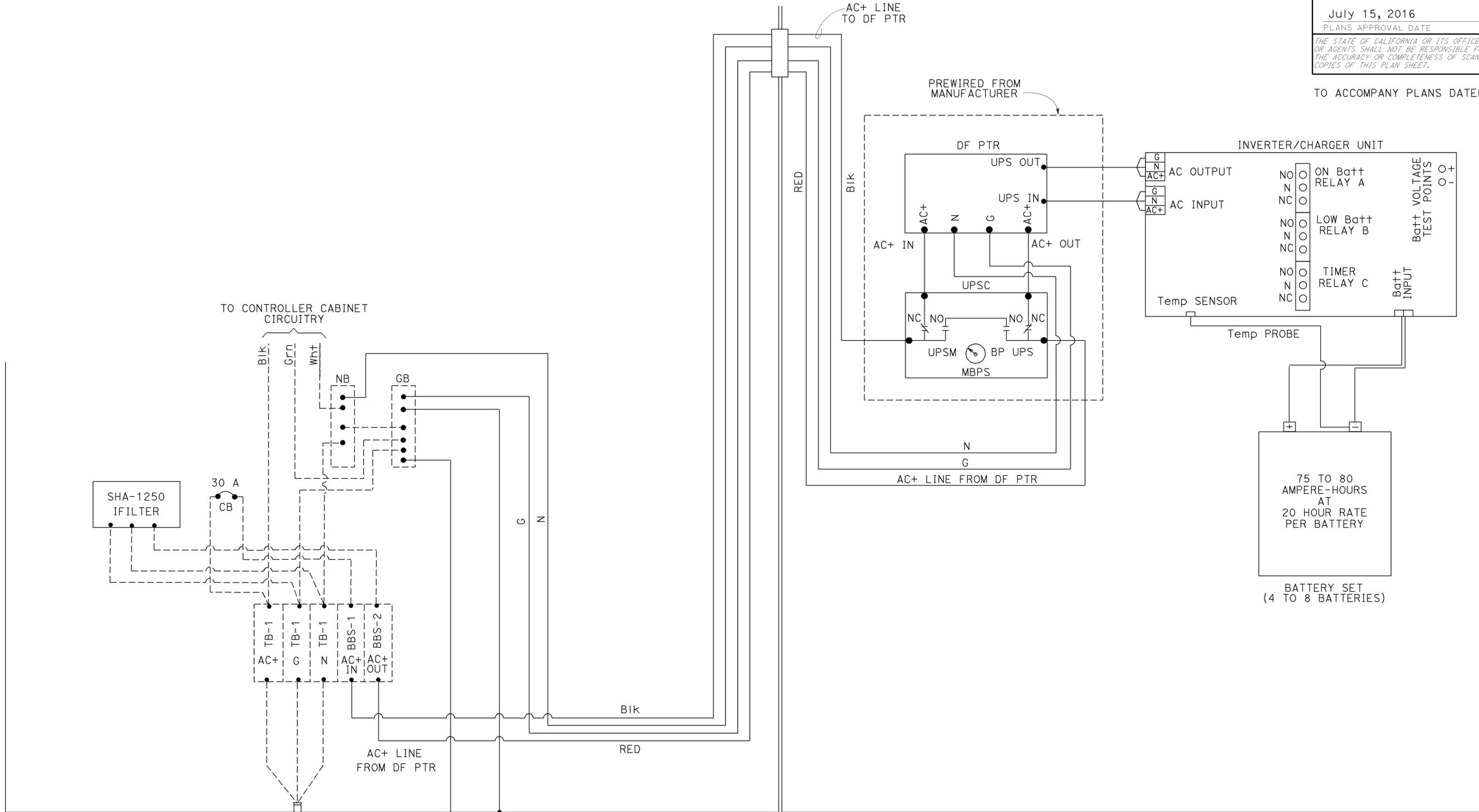
RSP ES-3J DATED APRIL 15, 2016 SUPERSEDES RSP ES-3J DATED OCTOBER 30, 2015 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.
REVISED STANDARD PLAN RSP ES-3J

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	640	737

Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 July 15, 2016
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
 Theresa Aziz Gabriel
 No. E15129
 Exp. 6-30-18
 ELECTRICAL
 STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 08-29-16



2010 REVISED STANDARD PLAN RSP ES-3K

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(ELECTRONICS ASSEMBLY CONNECTION DIAGRAM,
WITHOUT BYPASS CONTROL LINE)

NO SCALE
 RSP ES-3K DATED JULY 15, 2016 SUPERSEDES RSP ES-3K DATED APRIL 15, 2016 AND RSP ES-3K DATED OCTOBER 30, 2015 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-3K

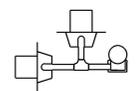
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	641	737

Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 October 30, 2015
 PLANS APPROVAL DATE

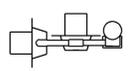
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TO ACCOMPANY PLANS DATED 08-29-16

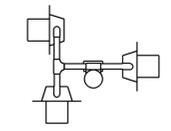
2010 REVISED STANDARD PLAN RSP ES-4A



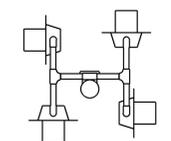
SV-2-TD



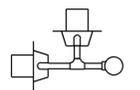
SV-2-TC



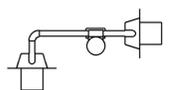
SV-3-TC



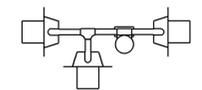
SV-4-TC



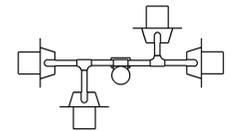
SV-2B



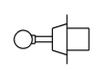
SV-2-TB



SV-3-TB



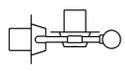
SV-4-TB



SV



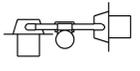
SV-1



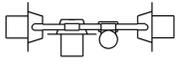
SV-2A



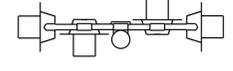
SV-1-T



SV-2-TA



SV-3-TA



SV-4-TA

PLAN VIEW OF OTHER SIDE MOUNTINGS

ABBREVIATIONS:

- SV SIDE MOUNTED SIGNAL HEADS
- T TERMINAL COMPARTMENT
- TV TOP MOUNTED SIGNAL HEADS
- 1, 2, 3, 4 NUMBER OF SIGNAL FACES (3 - SECTION, UNLESS OTHERWISE INDICATED)
- A, B, C, D CONFIGURATION OF SIGNALS

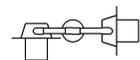
NOTES:

1. Mountings shall be oriented to provide maximum horizontal clearance to adjacent roadway.
2. Bracket arms shall be long enough to permit proper alignment of signals and backplate installation.
3. See Revised Standard Plans RSP ES-4D and RSP ES-4E for attachment fitting details.

SIDE MOUNTINGS



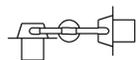
TV-1



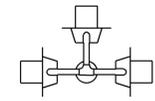
TV-2



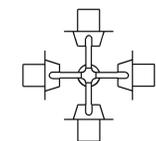
TV-1-T



TV-2-T



TV-3-T



TV-4-T

PLAN VIEW OF TOP MOUNTINGS

TOP MOUNTINGS

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (SIGNAL HEADS AND MOUNTINGS)**
 NO SCALE

RSP ES-4A DATED OCTOBER 30, 2015 SUPERSEDES RSP ES-4A DATED JULY 19, 2013 AND STANDARD PLAN ES-4A DATED MAY 20, 2011 - PAGE 443 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-4A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	163	4.1/4.9	642	737

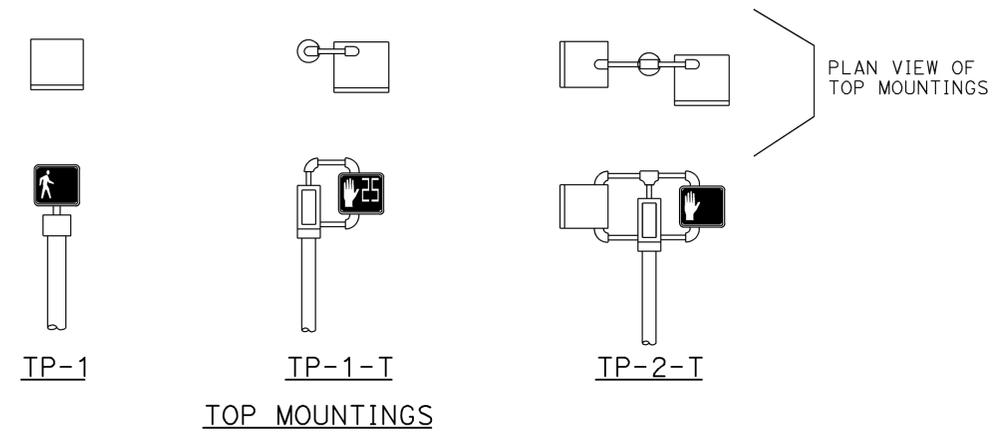
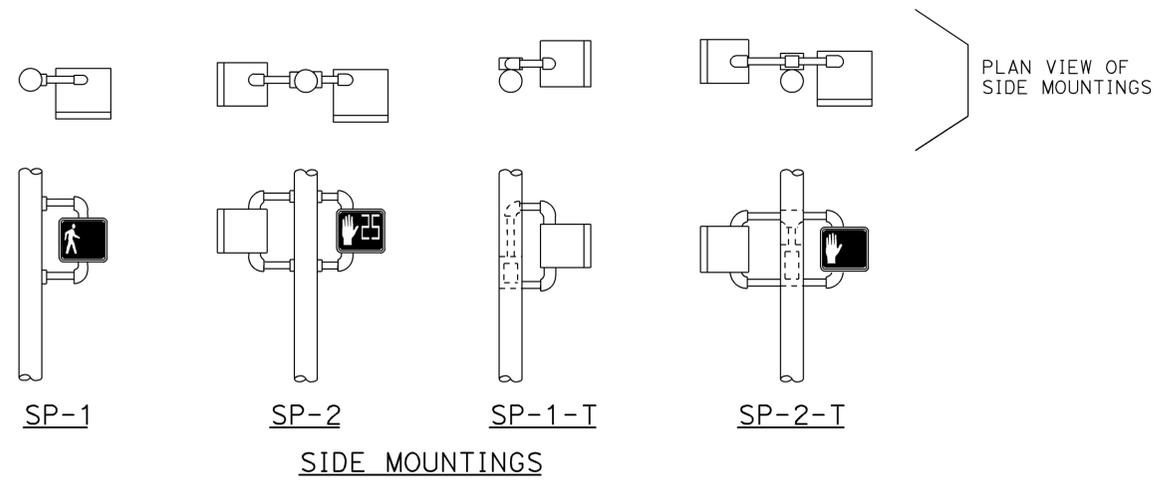
Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

October 30, 2015
PLANS APPROVAL DATE

Theresa Aziz Gabriel
No. E15129
Exp. 6-30-16
ELECTRICAL
STATE OF CALIFORNIA

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TO ACCOMPANY PLANS DATED 08-29-16



PEDESTRIAN SIGNAL HEAD MOUNTINGS
DETAIL A



PERSON WALKING INTERVAL FLASHING UPRAISED HAND INTERVAL STEADY UPRAISED HAND INTERVAL
LED COUNTDOWN PEDESTRIAN SIGNAL FACE MODULE
DETAIL B

NOTES:

1. Mounting shall be oriented to provide maximum horizontal clearance to adjacent roadway.
2. Bracket arms shall be long enough to permit proper alignment of signals.
3. See Revised Standard Plan RSP ES-4D for attachment fittings details.

ABBREVIATIONS:

- 1, 2 NUMBER OF SIGNAL FACES
- SP SIDE MOUNTED PEDESTRIAN SIGNAL
- T TERMINAL COMPARTMENT
- TP TOP MOUNTED PEDESTRIAN SIGNAL

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
(PEDESTRIAN SIGNAL HEADS)**
NO SCALE

RSP ES-4B DATED OCTOBER 30, 2015 SUPERSEDES RSP ES-4B DATED JULY 19, 2013 AND STANDARD PLAN ES-4B DATED MAY 20, 2011 - PAGE 444 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-4B

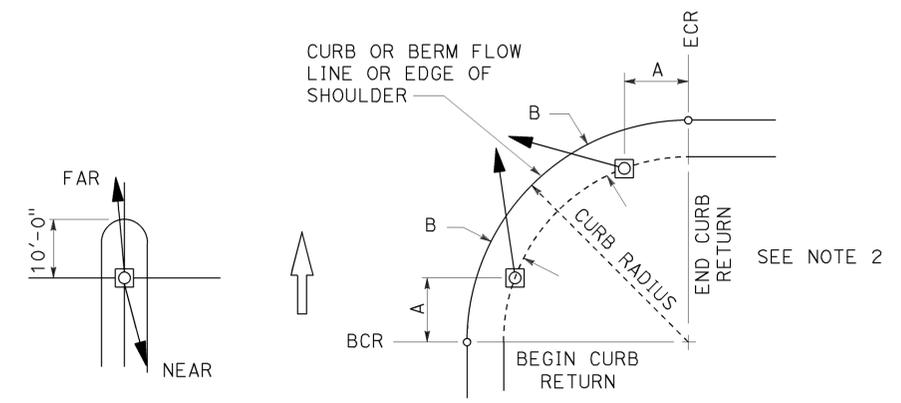
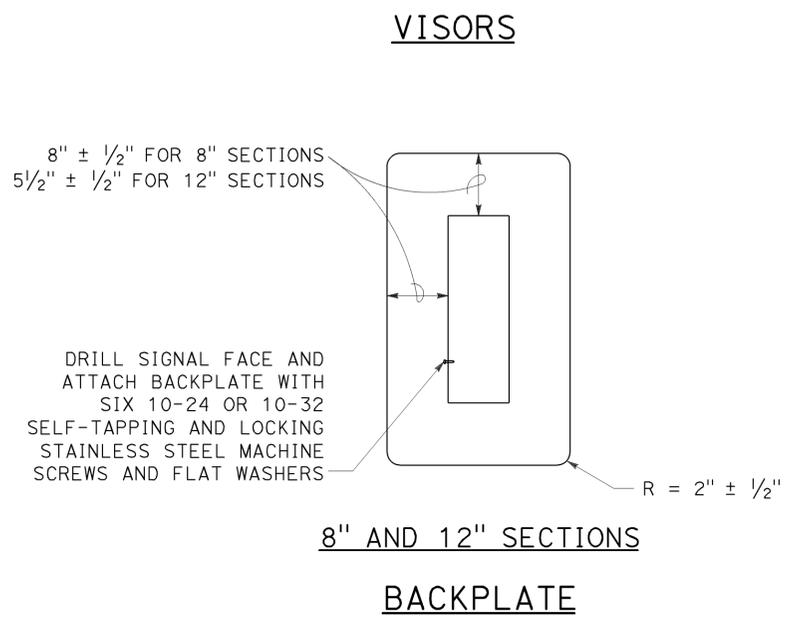
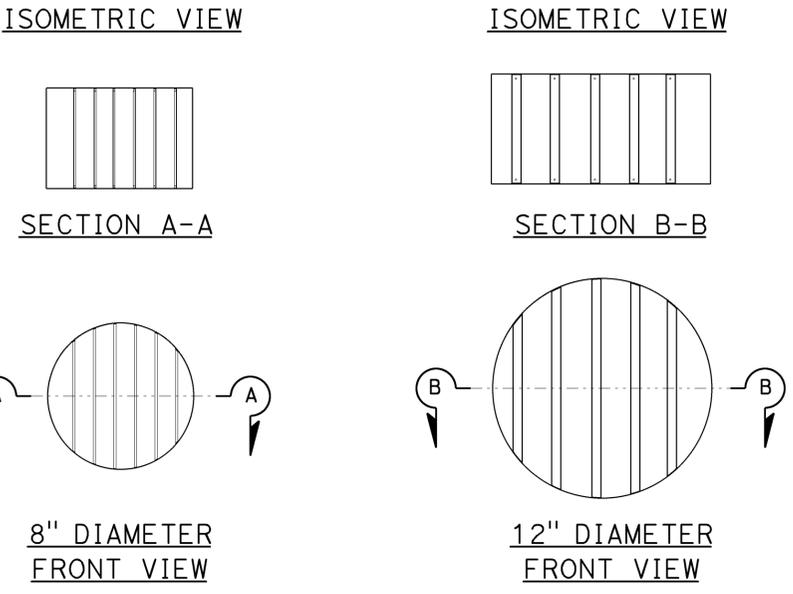
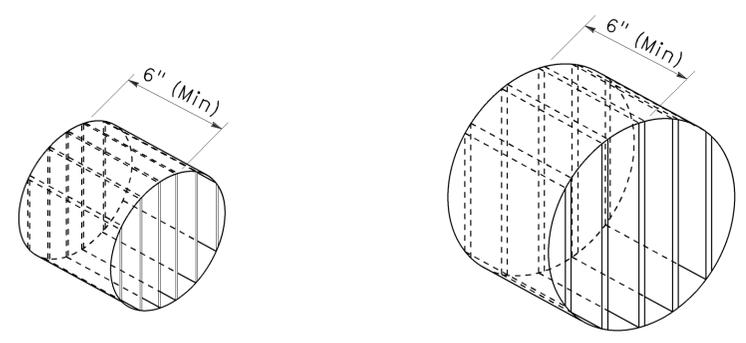
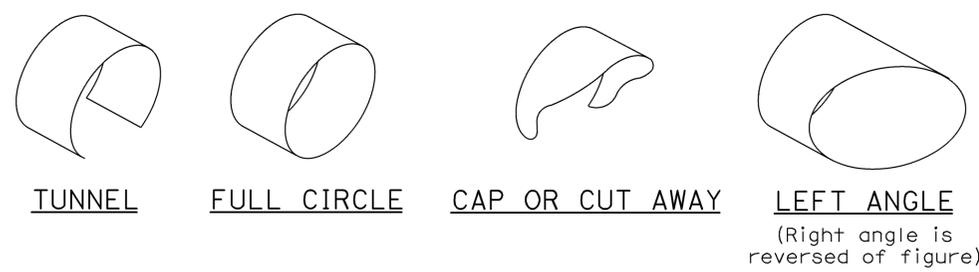
2010 REVISED STANDARD PLAN RSP ES-4B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	643	737

Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 October 30, 2015
 PLANS APPROVAL DATE
 Theresa Aziz Gabriel
 No. E15129
 Exp. 6-30-16
 ELECTRICAL
 STATE OF CALIFORNIA

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TO ACCOMPANY PLANS DATED 08-29-16

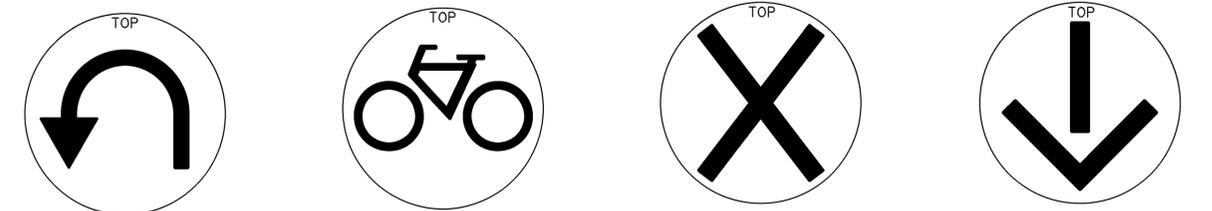
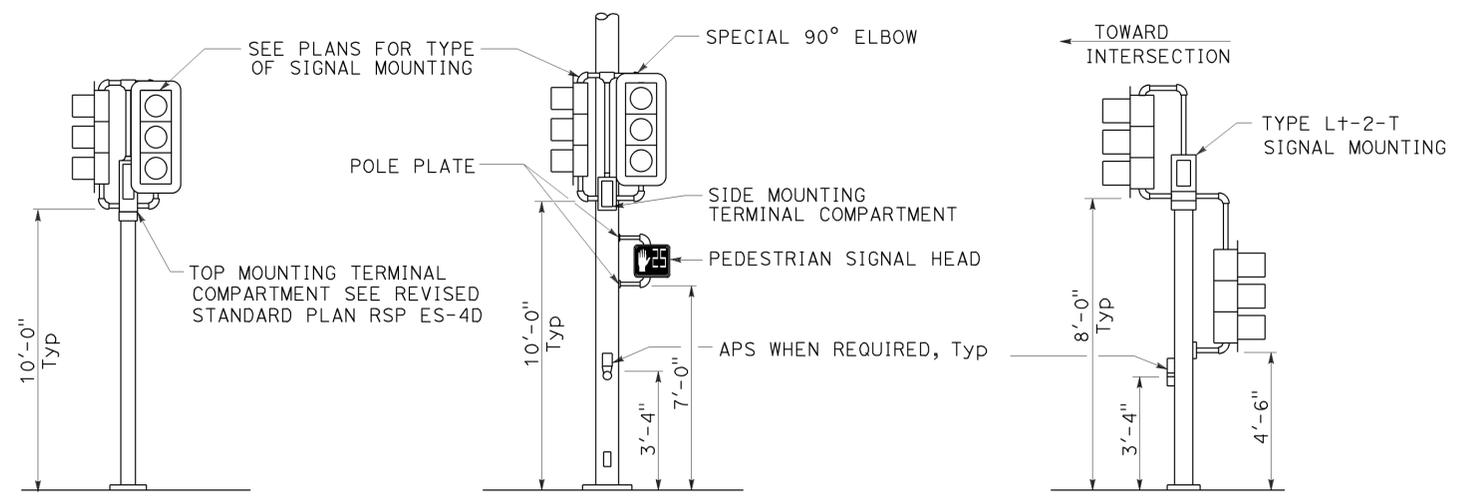


- NOTES:**
1. Typical signal pole placement unless dimensioned on plans.
 2. For A and B dimensions, see Pole Schedule.

DIRECTIONAL LOUVER

Directional louvers shall be oriented and secured in place with one plated brass machine screw and nut.

SIGNAL STANDARD PLACEMENT DIMENSIONS AND EQUIPMENT LOCATIONS



SIGNAL FACES

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SIGNAL HEADS AND MOUNTINGS)

NO SCALE

RSP ES-4C DATED OCTOBER 30, 2015 SUPERSEDES RSP ES-4C DATED JULY 19, 2013 AND STANDARD PLAN ES-4C DATED MAY 20, 2011 - PAGE 445 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-4C

2010 REVISED STANDARD PLAN RSP ES-4C

TYPICAL SIGNAL HEAD INSTALLATIONS

Type 1-A, 1-B, 1-C and 1-D standard as indicated on the plans

Normally used on standards with luminaire or signal mast arm

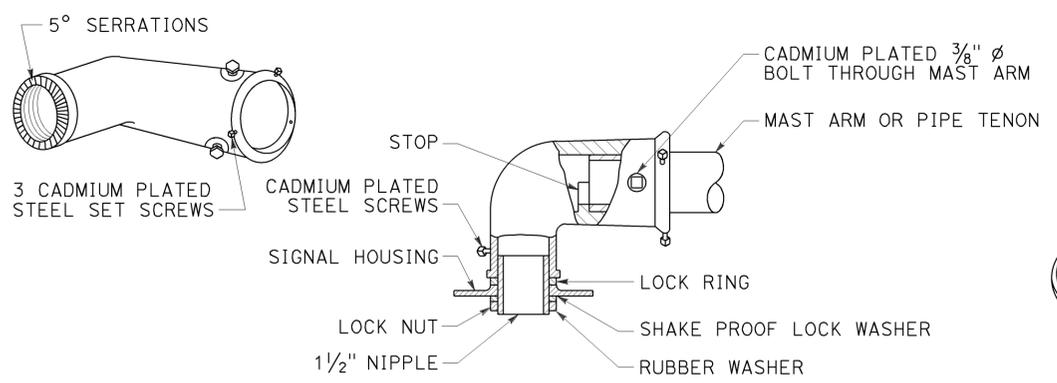
Type 1-A, 1-B, 1-C and 1-D standard as indicated on plans

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	644	737

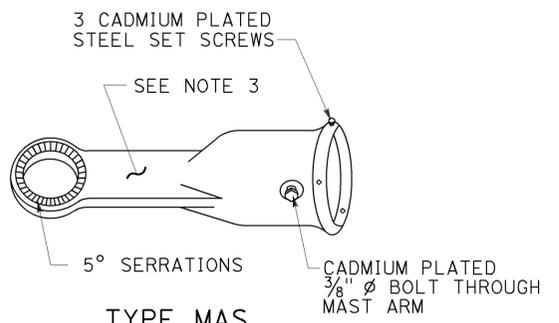
Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 October 30, 2015
 PLANS APPROVAL DATE
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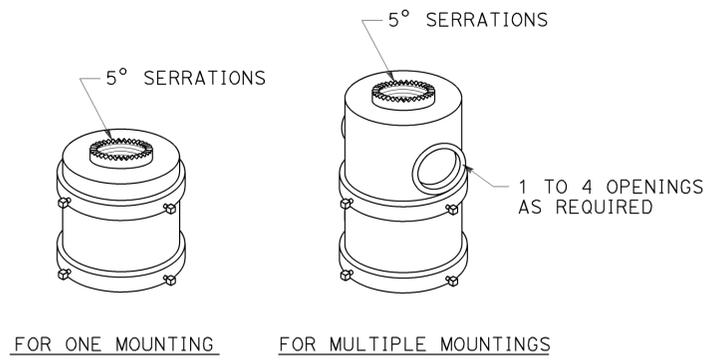
TO ACCOMPANY PLANS DATED 08-29-16



TYPE MAT
MAST ARM MOUNTING
For 2 NPS pipe, see Note 1.

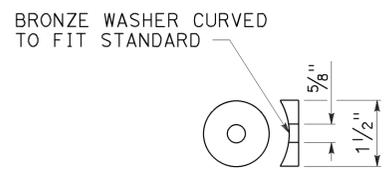


TYPE MAS
MAST ARM MOUNTING
For 2 NPS pipe, see Note 1.

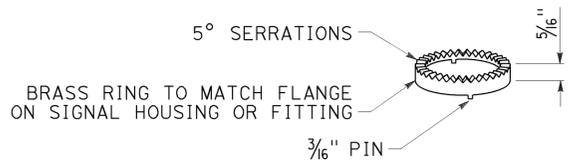


TOP MOUNTINGS
For 4 NPS pipe, see Note 2.

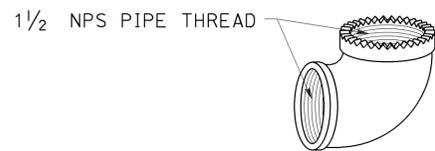
SIGNAL SLIP FITTERS



DETAIL C



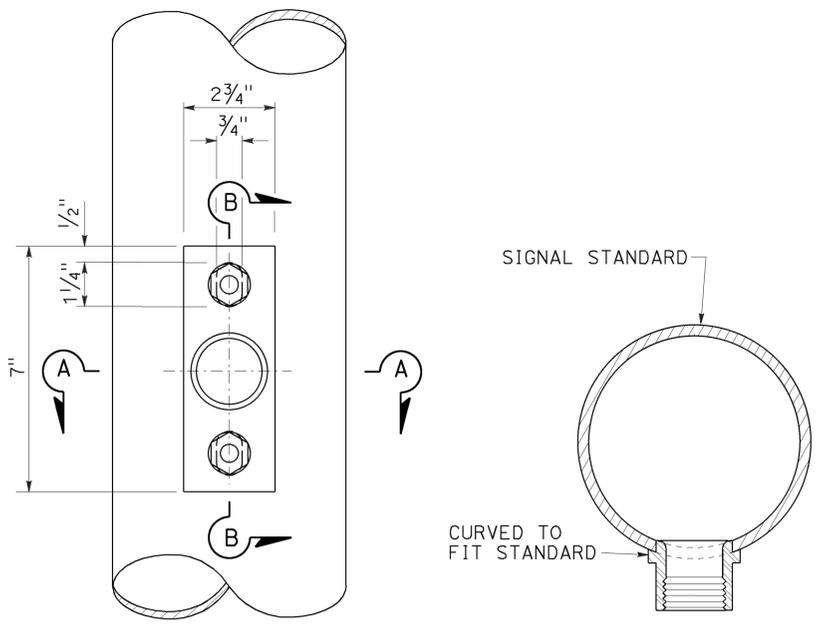
LOCK RING
Use where locking ring is not integral with signal housing or fitting.



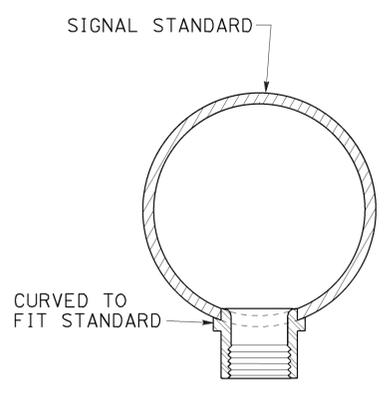
SPECIAL 90° ELBOW
One for each signal head, except those with special slip fitter mounting

- NOTES:**
- After mast arm signal has been plumbed and secured, drill 7/16" hole through mast arm tenon in line with slip fitter hole. Place a cadmium plated 3/8" galvanized bolt with washer under bolt head through hole and secure with washer, nut, and locknut. Seal openings between mast arm mountings and mast arm with mastic.
 - (A) Threaded top mounted slip fitter openings shall be 1 1/2 NPS.
(B) Serrations in fittings shall match those on bottom of signal heads or in lock ring.
(C) Top opening shall be offset when backplate is used.
 - Wireway shall have a cross section area of 0.95 square inch minimum. Minimum width of 1/2".

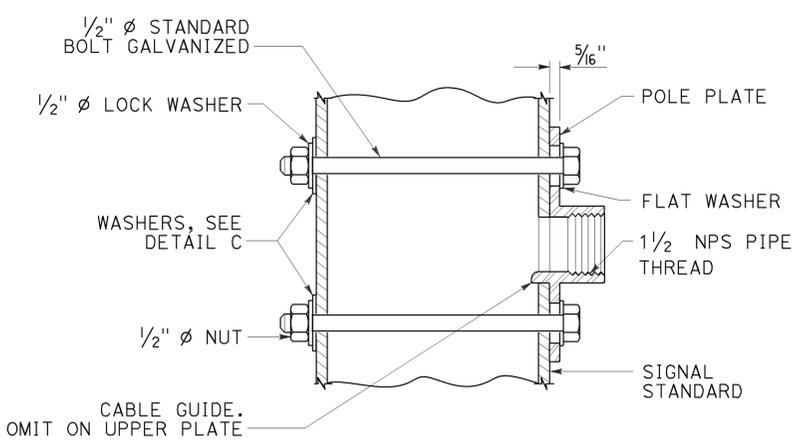
MISCELLANEOUS MOUNTING HARDWARE



TOP VIEW

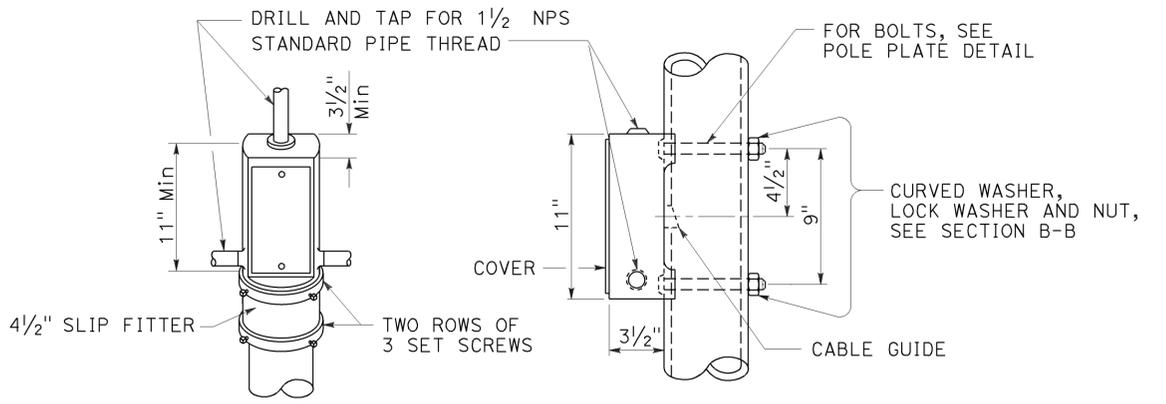


SECTION A-A



SECTION B-B

POLE PLATE FOR SIDE MOUNTED SIGNAL HEAD WITHOUT TERMINAL COMPARTMENT



TOP MOUNTING

SIDE MOUNTING

TERMINAL COMPARTMENT

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(SIGNAL HEAD MOUNTING)

NO SCALE

RSP ES-4D DATED OCTOBER 30, 2015 SUPERSEDES STANDARD PLAN ES-4D DATED MAY 20, 2011 - PAGE 446 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-4D

2010 REVISED STANDARD PLAN RSP ES-4D

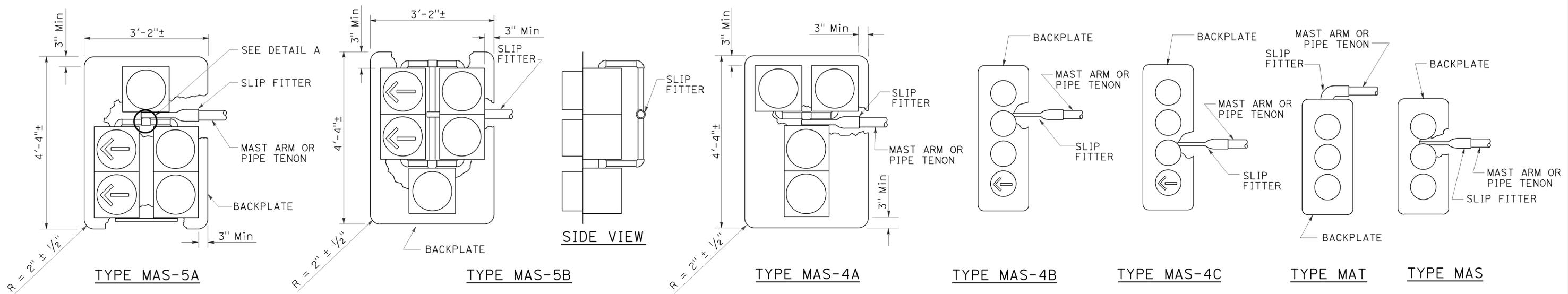
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	645	737

Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 October 30, 2015
 PLANS APPROVAL DATE

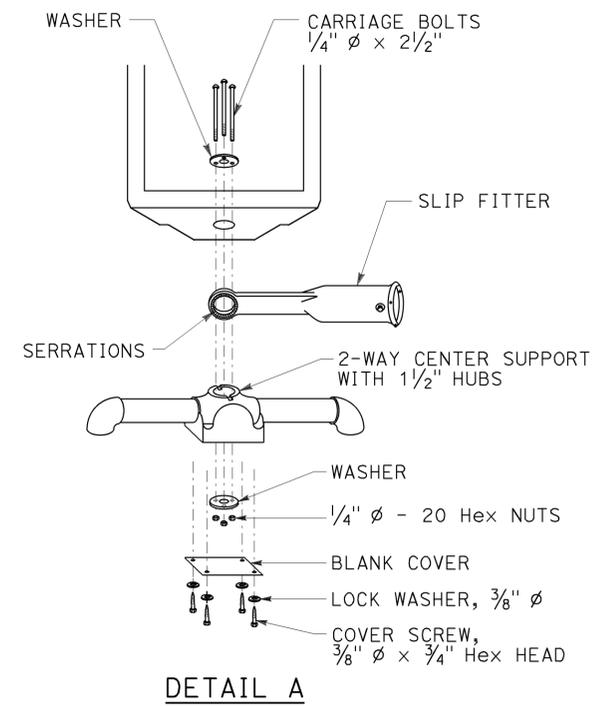
Theresa Aziz Gabriel
 No. E15129
 Exp. 6-30-16
 ELECTRICAL
 STATE OF CALIFORNIA

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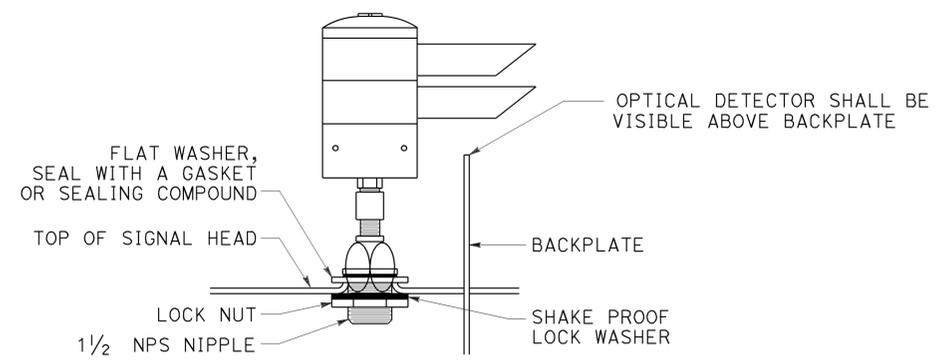
TO ACCOMPANY PLANS DATED 08-29-16



MAST ARM MOUNTINGS



DETAIL A



OPTICAL DETECTOR MOUNTING FOR EMERGENCY VEHICLE DETECTION

DETAIL B

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (SIGNAL HEADS AND
 OPTICAL DETECTOR MOUNTING)**

NO SCALE

RSP ES-4E DATED OCTOBER 30, 2015 SUPERSEDES RSP ES-4E DATED JULY 19, 2013 AND STANDARD PLAN ES-4E DATED MAY 20, 2011 - PAGE 447 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-4E

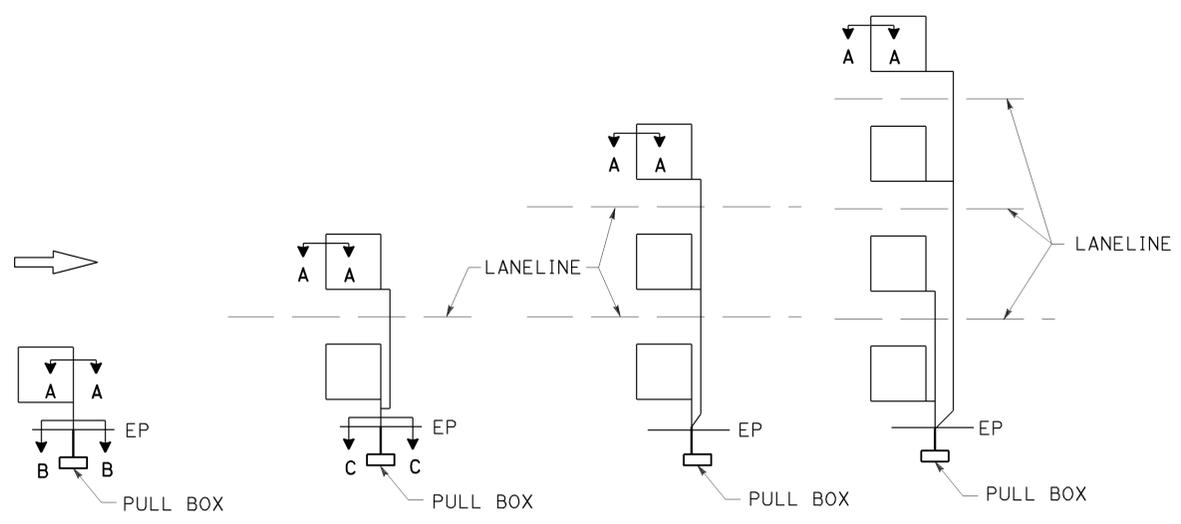
2010 REVISED STANDARD PLAN RSP ES-4E

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	646	737

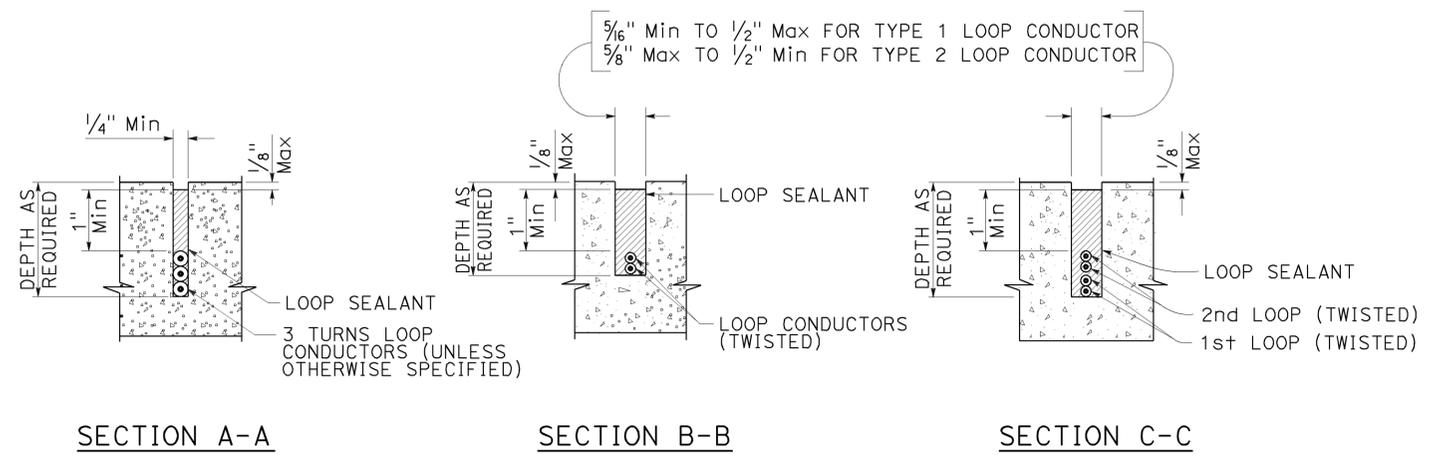
Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 April 15, 2016
 PLANS APPROVAL DATE
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TO ACCOMPANY PLANS DATED 08-29-16

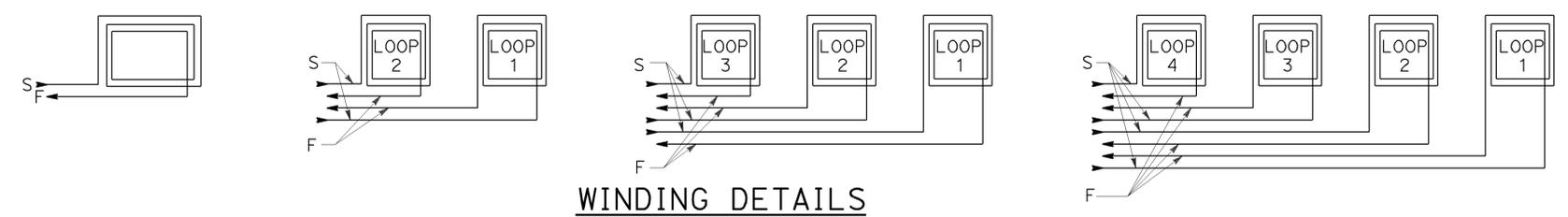


SAW CUT DETAILS
Type A loop detector configurations illustrated



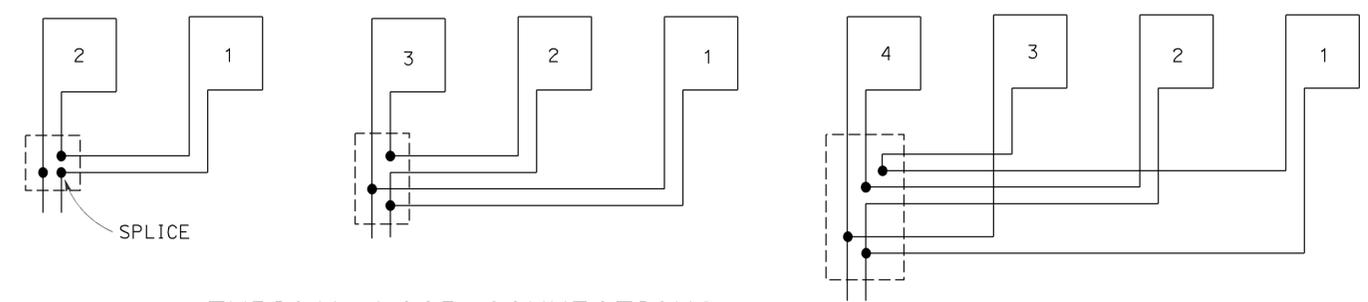
SECTION A-A SECTION B-B SECTION C-C

SLOT DETAILS - TYPE 1 AND TYPE 2 LOOP CONDUCTOR



WINDING DETAILS

ABBREVIATIONS:
 S - START
 F - FINISH



TYPICAL LOOP CONNECTIONS
Dashed lines represent the pull box

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (LOOP DETECTORS)**
 NO SCALE

RSP ES-5A DATED APRIL 15, 2016 SUPERSEDES RSP ES-5A DATED OCTOBER 30, 2015 AND STANDARD PLAN ES-5A DATED MAY 20, 2011 - PAGE 448 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP ES-5A

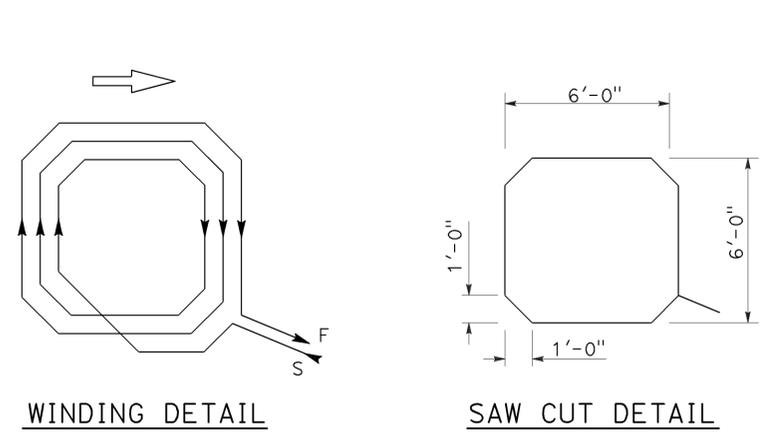
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	647	737

Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 April 15, 2016
 PLANS APPROVAL DATE

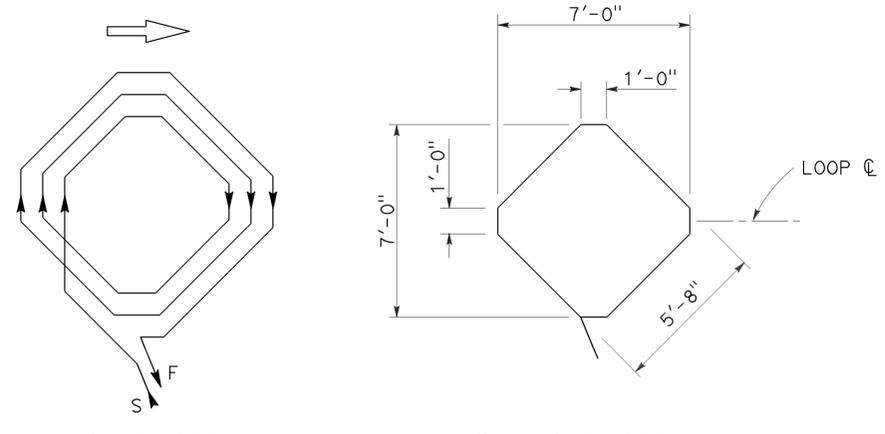
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REGISTERED PROFESSIONAL ENGINEER
 Theresa Aziz Gabriel
 No. E15129
 Exp. 6-30-16
 ELECTRICAL
 STATE OF CALIFORNIA

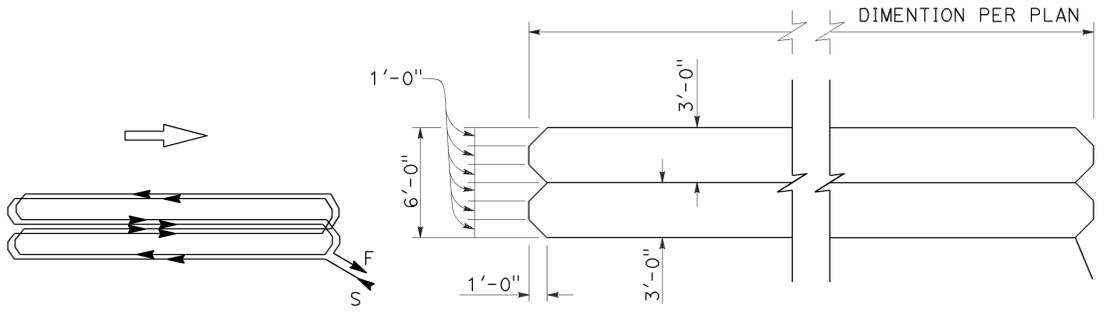
TO ACCOMPANY PLANS DATED 08-29-16



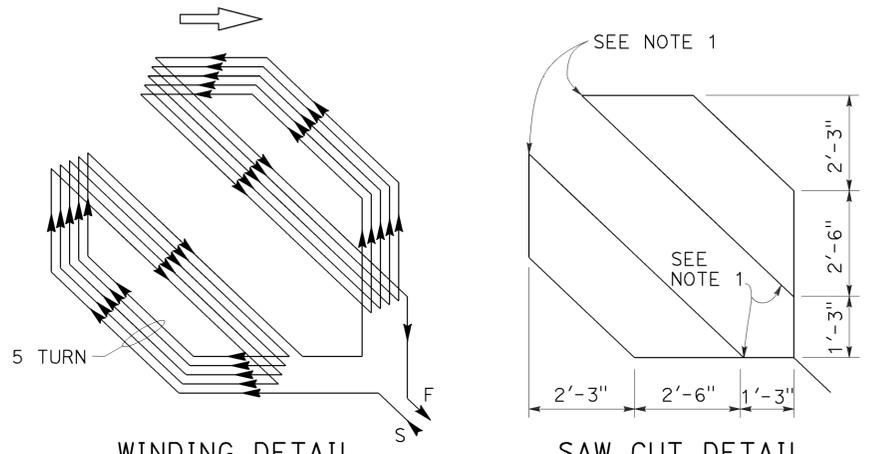
WINDING DETAIL
SAW CUT DETAIL
TYPE A LOOP DETECTOR CONFIGURATION



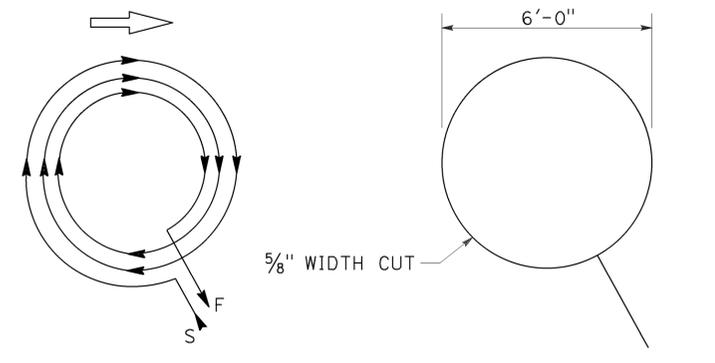
WINDING DETAIL
SAW CUT DETAIL
TYPE B LOOP DETECTOR CONFIGURATION



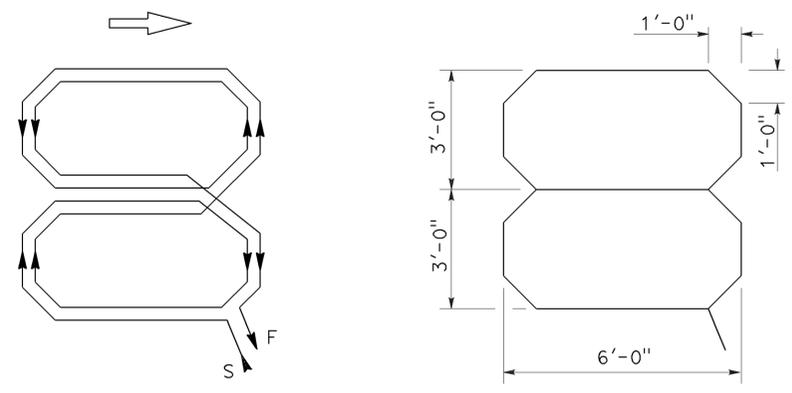
WINDING DETAIL
SAW CUT DETAIL
TYPE C LOOP DETECTOR CONFIGURATION



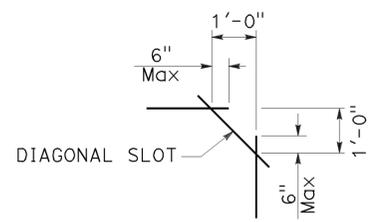
WINDING DETAIL
SAW CUT DETAIL
TYPE D LOOP DETECTOR CONFIGURATION



WINDING DETAIL
SAW CUT DETAIL
TYPE E LOOP DETECTOR CONFIGURATION



WINDING DETAIL
SAW CUT DETAIL
TYPE Q LOOP DETECTOR CONFIGURATION



PLAN VIEW OF DIAGONAL SLOT AT CORNERS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (DETECTORS)
NO SCALE

- NOTES:**
1. Round corners of acute angle saw cuts to prevent damage to conductors.
 2. Typical distance separating loops from edge to edge is 10' for Type A, B, D and E installation in single lane.
 3. Use Type D loops for limit line detection and bicycle lanes.

RSP ES-5B DATED APRIL 15, 2016 SUPERSEDES RSP ES-5B DATED OCTOBER 30, 2015 AND RSP ES-5B DATED JULY 19, 2013 AND STANDARD PLAN ES-5B DATED MAY 20, 2011 - PAGE 449 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP ES-5B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	648	737

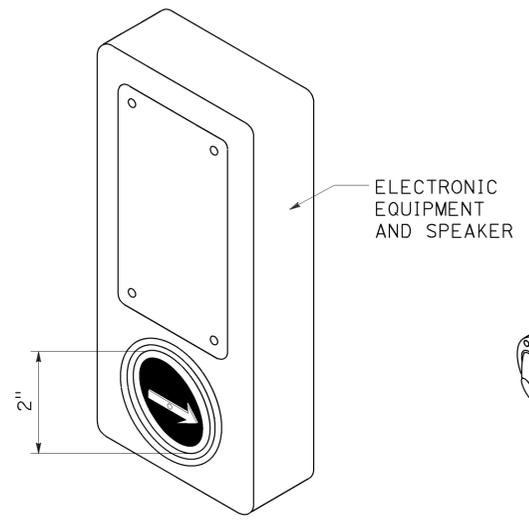
Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 October 30, 2015
 PLANS APPROVAL DATE

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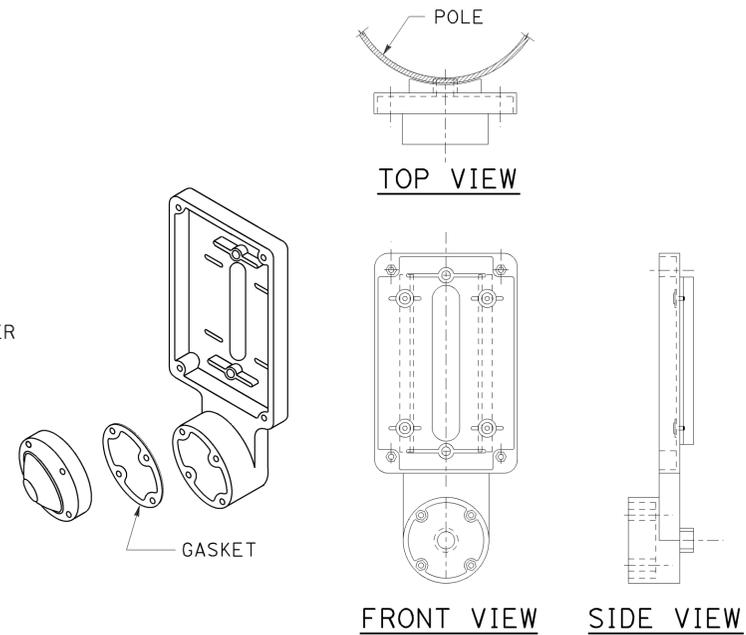
TO ACCOMPANY PLANS DATED 08-29-16

NOTES:

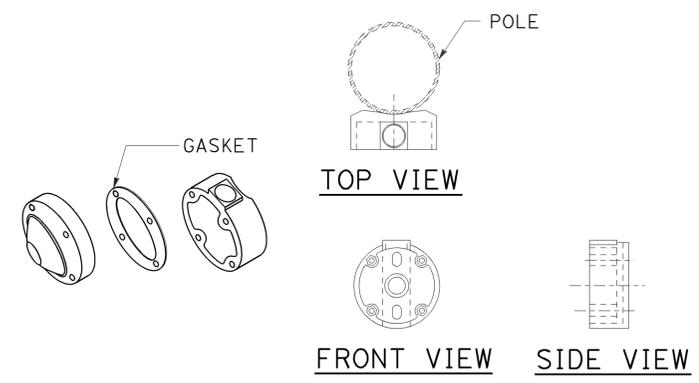
1. Back casting shape to fit curvature of pole.
2. Provide cover fitting for top of post, when PBA is mounted on push button assembly post.
3. Install push button on crosswalk side of standard.
4. Use R10 series regulatory signs and plaques for pedestrian and bicycle facilities.



ACCESSIBLE PEDESTRIAN SIGNAL
DETAIL A



TYPE B PUSH BUTTON ASSEMBLY
DETAIL B



TYPE C PUSH BUTTON ASSEMBLY
DETAIL C

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
(ACCESSIBLE PEDESTRIAN SIGNAL
AND PUSH BUTTON ASSEMBLIES)**

NO SCALE

RSP ES-5C DATED OCTOBER 30, 2015 SUPERSEDES RSP ES-5C DATED JULY 19, 2013 AND STANDARD PLAN ES-5C DATED MAY 20, 2011 - PAGE 450 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-5C

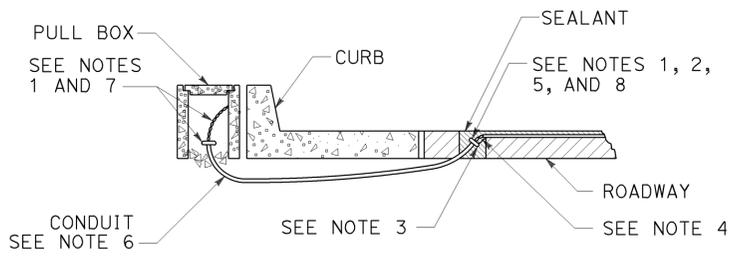
2010 REVISED STANDARD PLAN RSP ES-5C

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	649	737

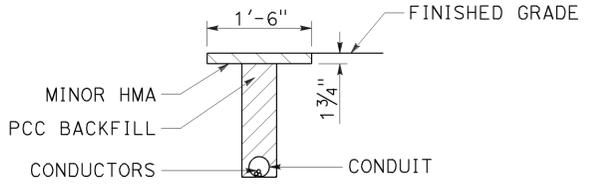
Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 October 30, 2015
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



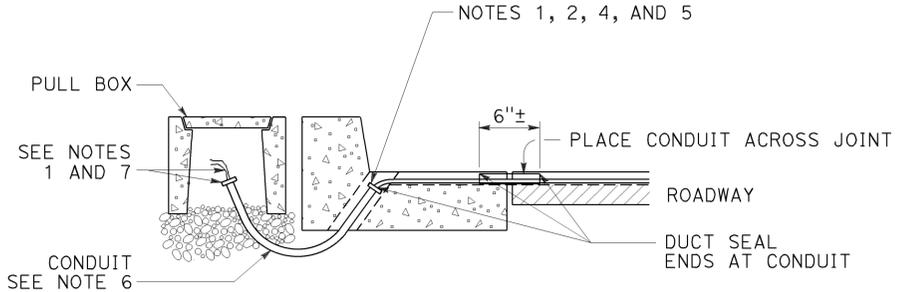
TO ACCOMPANY PLANS DATED 08-29-16



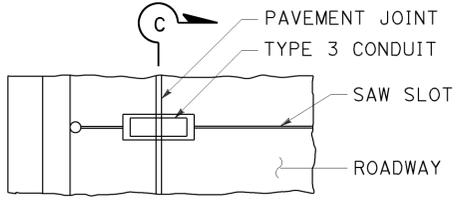
TYPE A
CURB TERMINATION DETAIL



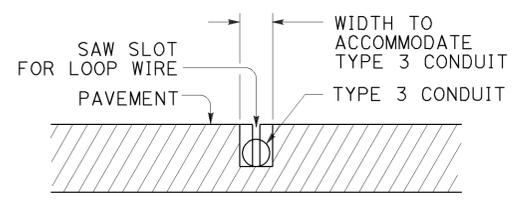
"T" TRENCH
DETAIL T



CROSS SECTION

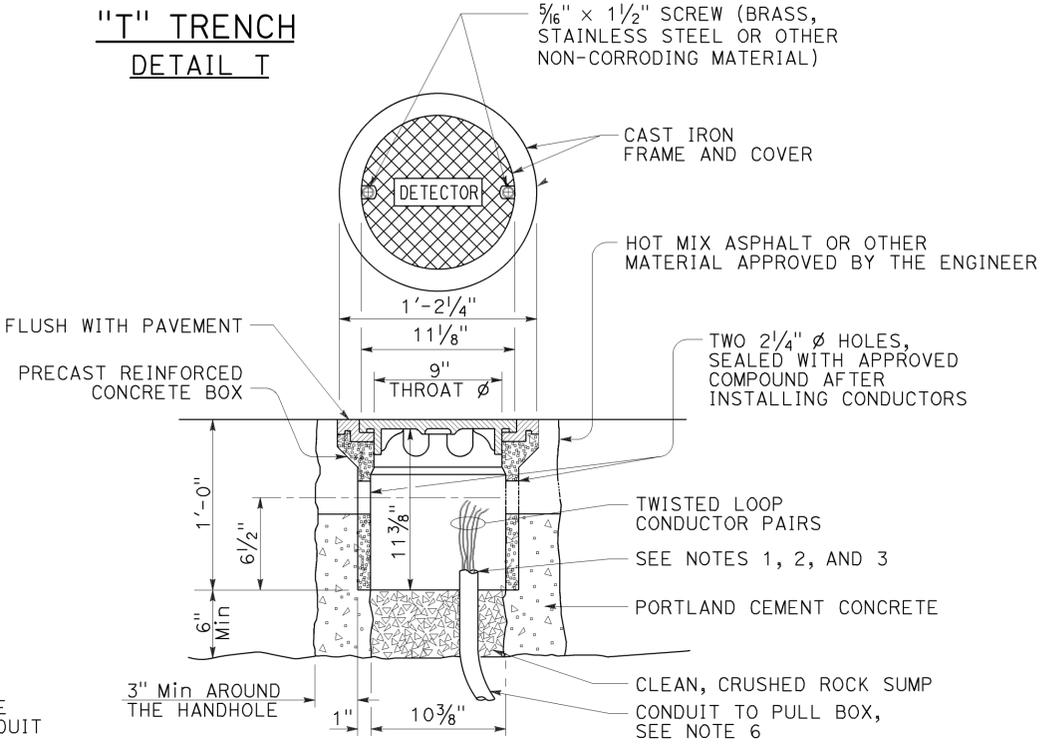


PLAN VIEW

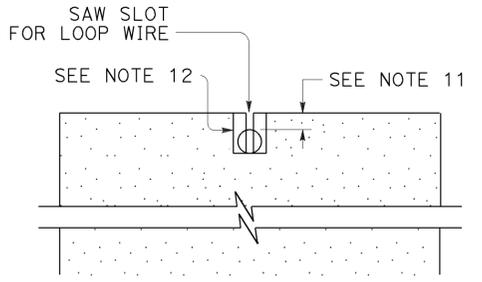


SECTION C-C

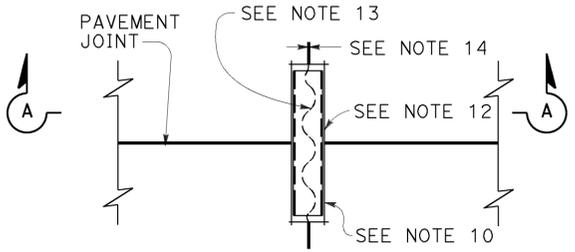
TYPE B
CURB TERMINATION DETAIL



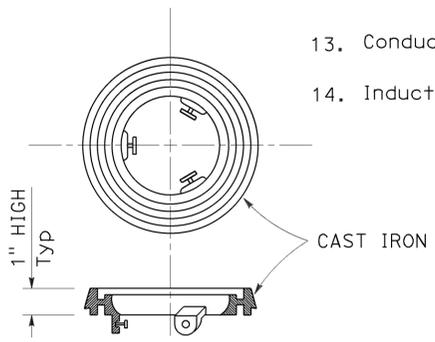
DETECTOR HANDHOLE DETAIL



SECTION A-A



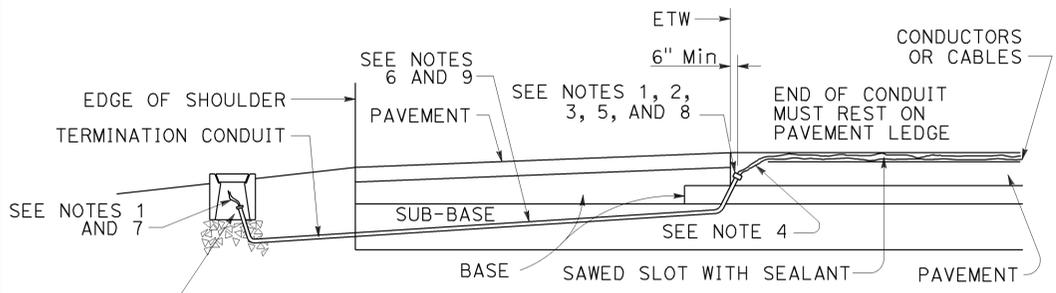
PLAN VIEW
TYPICAL LOOP LEAD-IN DETAIL
AT PAVEMENT JOINT



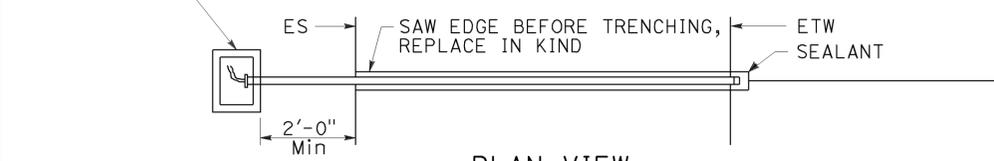
LOCKING GRADE RING

NOTES:

- Bushing shall be used at end of conduit.
- Tape detector conductors or cables 3" each side of bushings.
- Install duct seal compound to each end of termination conduit before installing sealant.
- Round all sharp edges where detector conductors or cables have to pass.
- End of conduit shall be 3/8" below roadway surface.
- Conduit size Loop conductors
 1"C minimum 1 to 2 pairs
 1 1/2"C minimum 3 to 4 pairs
 2"C minimum 5 or more pairs
- Splice detector conductors or cables to detector lead-in-cable.
- Location of detector handhole when shown on plans.
- When the shoulder and traveled way are paved with the same material and there is no joint between them, the conduit shall extend only 2'-0" into the shoulder pavement.
- 3/4"C, Type 3 conduit 6" long minimum, plug both ends with duct compound to keep out sealant.
- 1/2" Minimum between top of conduit and pavement surface.
- Sawcut shall not exceed 1" in width and 1/8" longer than conduit to be installed.
- Conductors with 1/2" minimum slack inside conduit.
- Inductive loop detector saw slot.



CROSS SECTION



PLAN VIEW
SHOULDER TERMINATION DETAILS

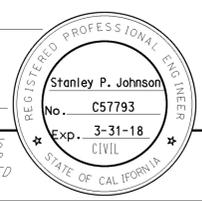
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(CURB AND SHOULDER TERMINATION, TRENCH, AND HANDHOLE DETAILS)

NO SCALE

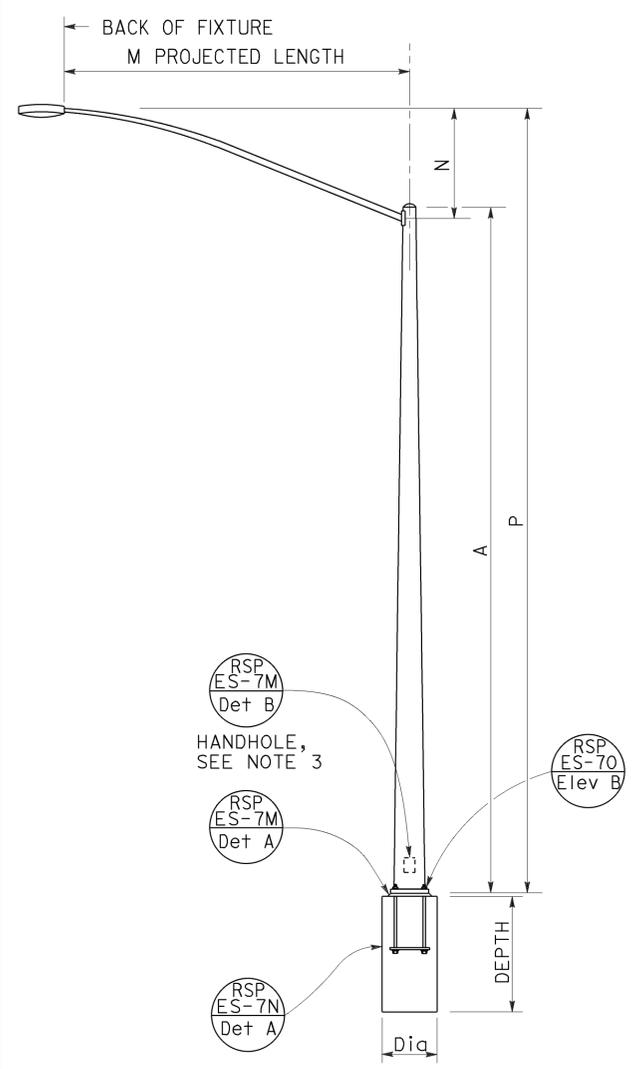
RSP ES-5D DATED OCTOBER 30, 2015 SUPERSEDES RSP ES-5D DATED JULY 19, 2013 AND STANDARD PLAN ES-5D DATED MAY 20, 2011 - PAGE 451 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-5D

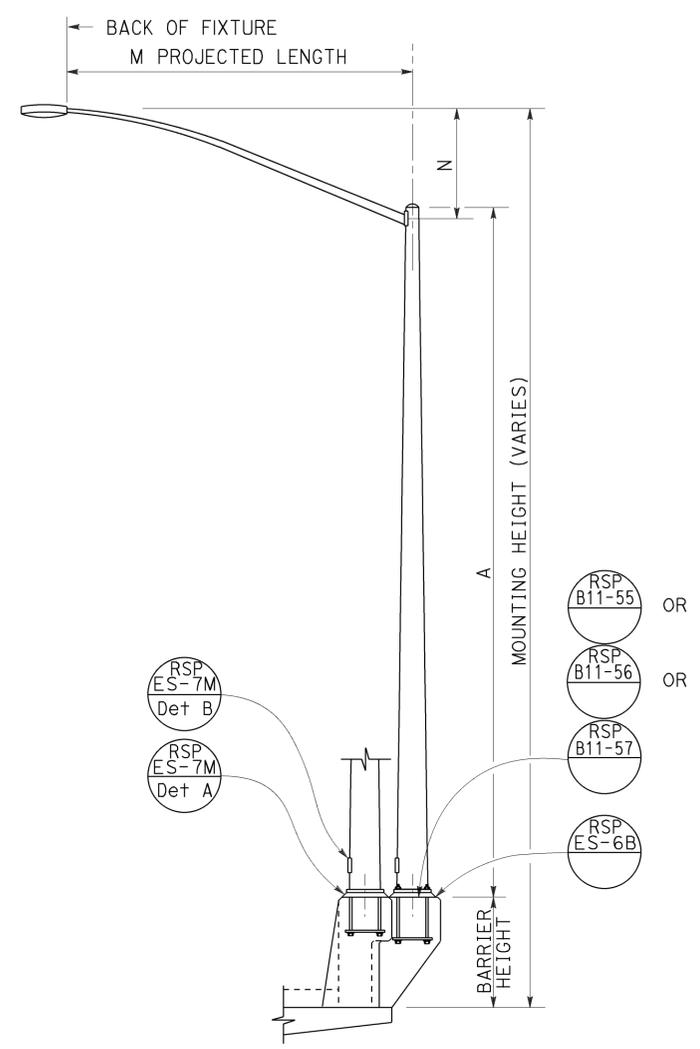
2010 REVISED STANDARD PLAN RSP ES-5D



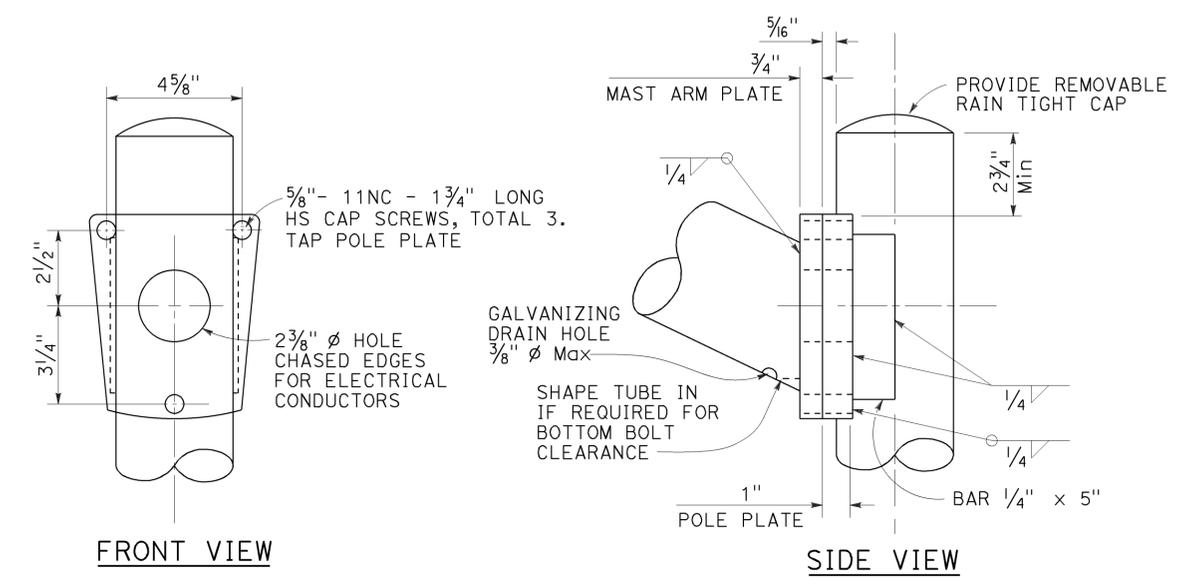
TO ACCOMPANY PLANS DATED 08-29-16



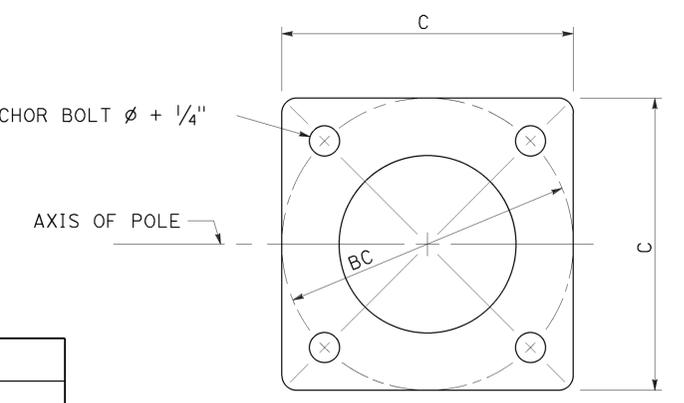
**TYPE 15 AND TYPE 21
ELEVATION A**



**TYPE 15 AND TYPE 21 BARRIER RAIL MOUNTED
ELEVATION B**



**LUMINAIRE MAST ARM CONNECTION
DETAIL R**



**BASE PLATE
DETAIL A**

POLE TYPE	POLE DATA			BASE PLATE DATA			CIDH PILE FOUNDATION		
	A HEIGHT	Min OD BASE	WALL THICKNESS TOP	C	BC = BOLT CIRCLE	THICKNESS	ANCHOR BOLT SIZE	Dia	DEPTH
15	30'-0"	8"	0.1196"	1'-0"	1'-0"	1 1/2"	1" Ø x 36" *	2'-6"	6'-0"
21	35'-0"	8 5/8"	0.1793"	1'-0"	1'-0"	2"	1 1/4" Ø x 36" *	2'-6"	7'-0"

* FOR BARRIER RAIL BOLTS, SEE REVISED STANDARD PLAN RSP ES-6B.

LUMINAIRE MAST ARM DATA					
M PROJECTED LENGTH	N RISE	Min OD AT POLE	NOMINAL THICKNESS	P	
				TYPE 15	TYPE 21
6'-0"	2'-0"±	3 1/4"	0.1196"	31'-6"±	36'-6"±
8'-0"	2'-6"±	3 1/2"		32'-0"±	37'-0"±
10'-0"	3'-3"±	3 3/8"		32'-9"±	37'-9"±
12'-0"	4'-3"±	3 7/8"		33'-9"±	38'-9"±
15'-0"	4'-9"±	4 1/4"		34'-3"±	39'-3"±

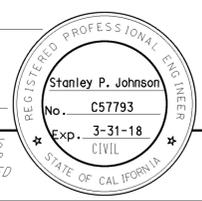
NOTES:

- Indicates mast arm length to be used unless otherwise noted on the plans.
- For Type 15-SB, use Type 15 standard with Type 30 slip base plate details, see Revised Standard Plan RSP ES-6F.
- Handhole shall be located on the downstream side of traffic.
- For additional notes and details, see Revised Standard Plans RSP ES-7M and RSP ES-7N.

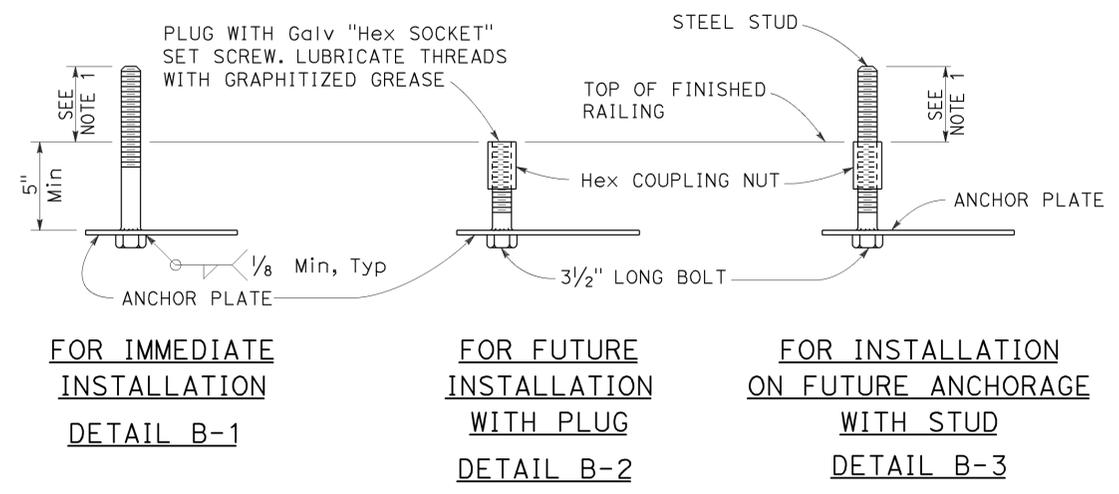
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (LIGHTING STANDARD,
 TYPES 15 AND 21)**
 NO SCALE

RSP ES-6A DATED JULY 15, 2016 SUPERSEDES RSP ES-6A
 DATED OCTOBER 30, 2015 AND STANDARD PLAN ES-6A DATED MAY 20, 2011 -
 PAGE 452 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP ES-6A



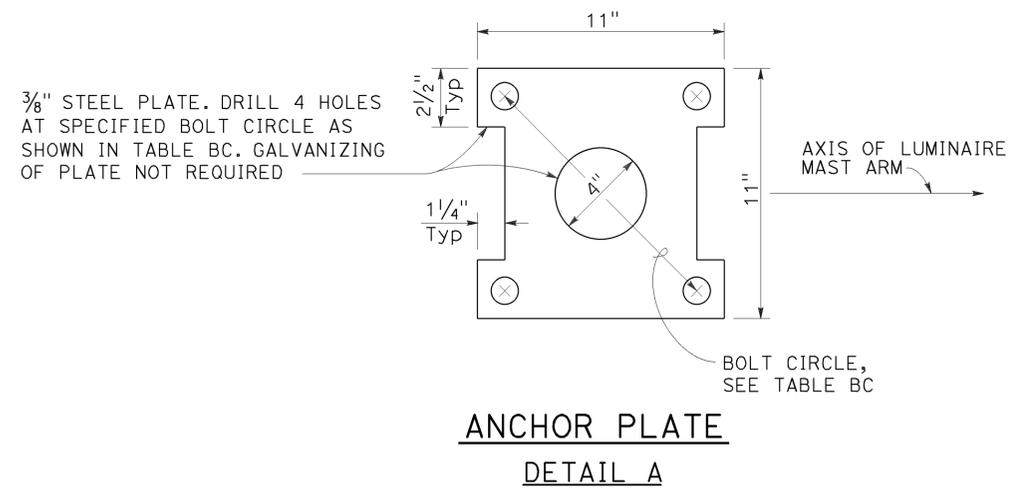
TO ACCOMPANY PLANS DATED 08-29-16



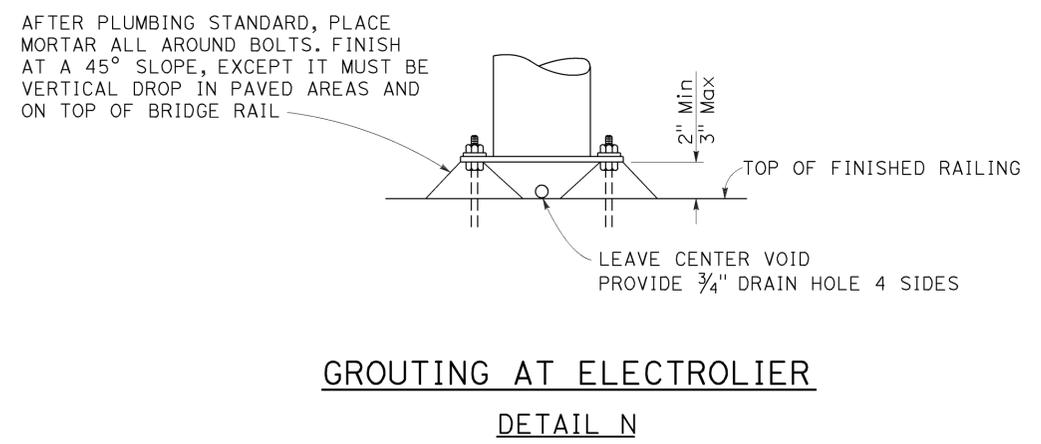
ELECTROLIER ANCHORAGES
DETAIL B

NOTES:

1. Anchor bolt or stud length shall be such that thread extends 1/2" maximum above nut on level base plate after grouting. See Detail N.
2. Electrolier anchor bolts shall be held in position for pouring by means of anchor plates and suitable templates. Deviation from the true position, vertical and height shall not exceed 1/16".
3. See railing sheets for reinforcement and structural details at electroliers and pull boxes.



TYPE	BC = BOLT CIRCLE	ANCHOR BOLT DIAMETER	COUPLING NUT BASIC LENGTH	SET SCREW LENGTH DETAIL B-2
15	1'-0"	1"	3"	1 1/2"
21	1'-0"	1 1/4"	3 3/4"	1 7/8"



STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (ELECTROLIER ANCHORAGE AND
 GROUTING FOR
 TYPE 15 AND TYPE 21
 BARRIER RAIL MOUNTED)**

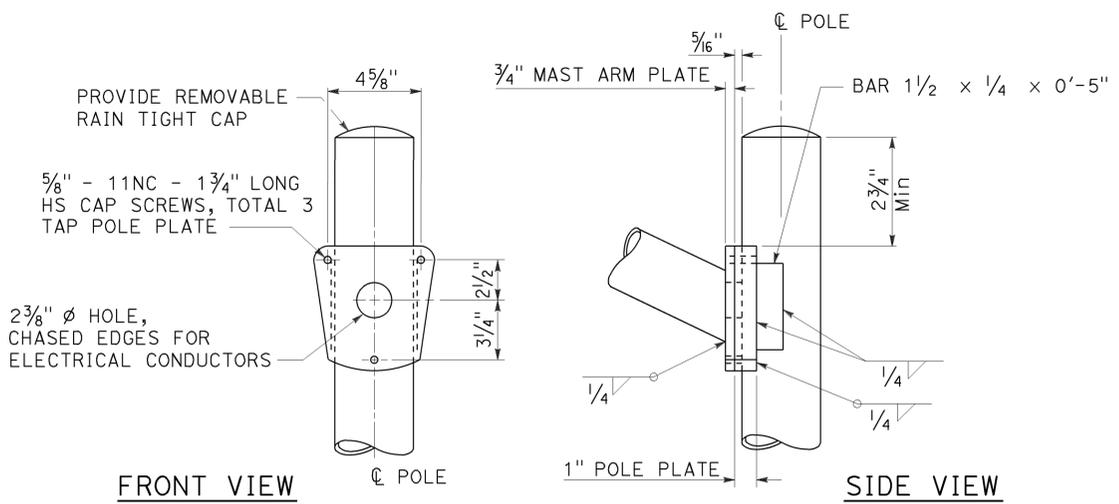
NO SCALE

RSP ES-6B DATED JULY 15, 2016 SUPERSEDES STANDARD PLAN ES-6B DATED MAY 20, 2011 - PAGE 453 OF THE STANDARD PLANS BOOK DATED 2010.

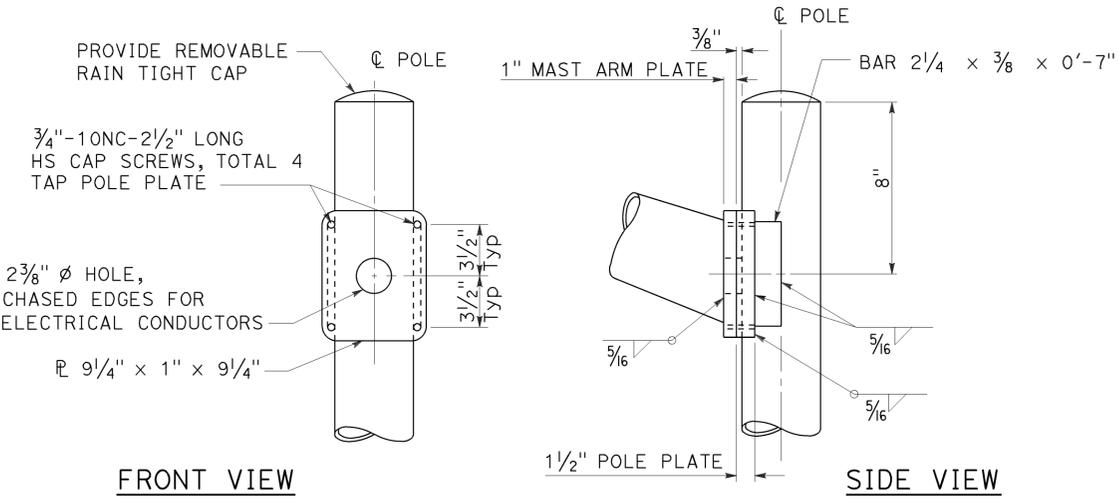
2010 REVISED STANDARD PLAN RSP ES-6B

LUMINAIRE MAST ARM DATA			
PROJECTED LENGTH	THICKNESS	MINIMUM OD AT POLE	MOUNTING HEIGHT
* 6'-0"	0.1196"	3 1/4"	36'-9"±
* 8'-0"		3 1/2"	37'-3"±
* 10'-0"		3 7/8"	38'-0"±
* 12'-0"		4 1/4"	39'-0"±
** 20'-0"	0.1793"	5"	37'-0"±

* TYPE 30
** TYPE 31



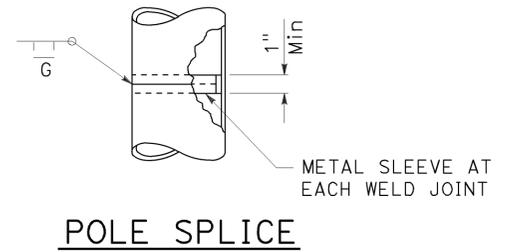
**TYPE 30
DETAIL A**



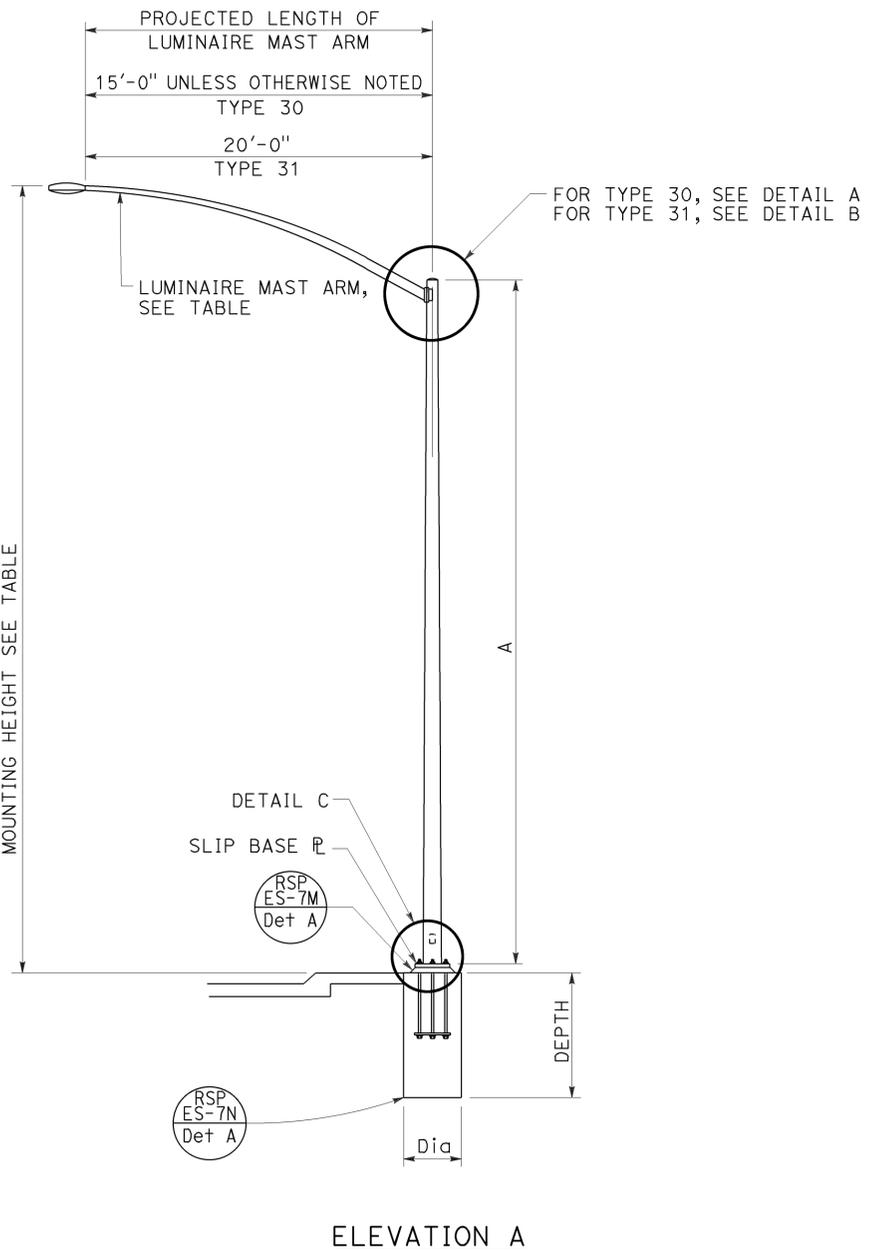
**TYPE 31
DETAIL B**

NOTES:

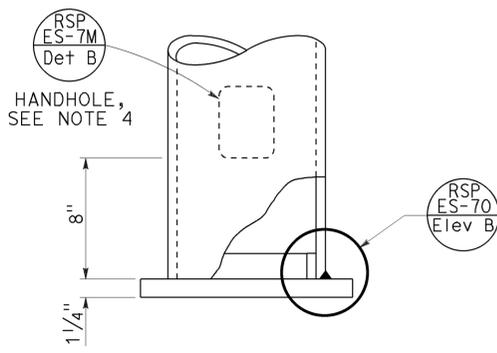
1. For slip base plate details, see Revised Standard Plan RSP ES-6F.
2. For Type 30 fixed base use Type 15 base plate and foundation shown on Revised Standard Plan RSP ES-6A. Use 1/4" Dia x 3'-6" anchor bolts.
3. For Type 31 fixed base use Type 32 base plate, anchor bolts and foundation on Revised Standard Plan RSP ES-6G.
4. Handhole shall be located on the downstream side of traffic.
5. For additional notes and details, see Revised Standard Plans RSP ES-7M and RSP ES-7N.



POLE SPLICE



ELEVATION A



DETAIL C

POLE TYPE	POLE DATA			CIDH PILE FOUNDATION	
	A HEIGHT	Min OD BASE	Min OD TOP	Min THICKNESS	Di a DEPTH
30	35'-0"	8 3/4"	3 1/8"	0.1196"	2'-6" 7'-0"
31	35'-0"	10 3/4"	5 1/8"	0.1793"	3'-0" 8'-0"

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
(LIGHTING STANDARD,
TYPES 30 AND 31)**
NO SCALE

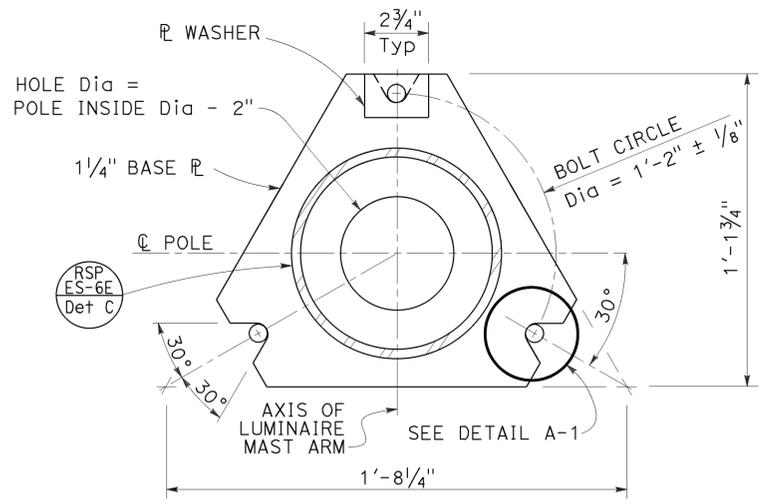
2010 REVISED STANDARD PLAN RSP ES-6E

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	653	737

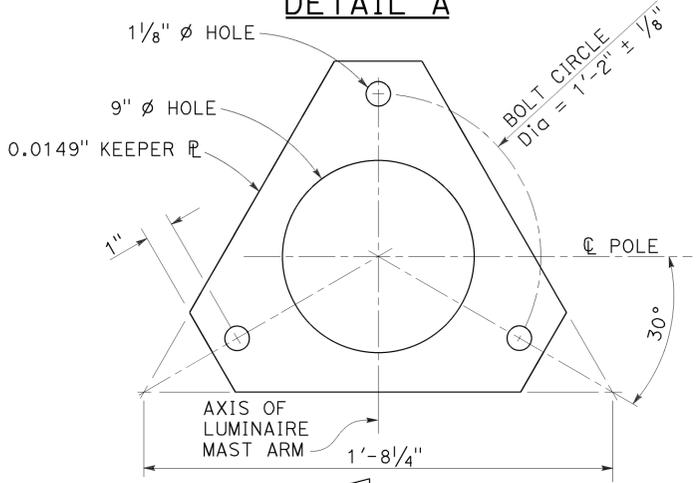
Stanley P. Johnson
 REGISTERED CIVIL ENGINEER
 October 30, 2015
 PLANS APPROVAL DATE
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REGISTERED PROFESSIONAL ENGINEER
Stanley P. Johnson
No. C57793
Exp. 3-31-16
CIVIL
STATE OF CALIFORNIA

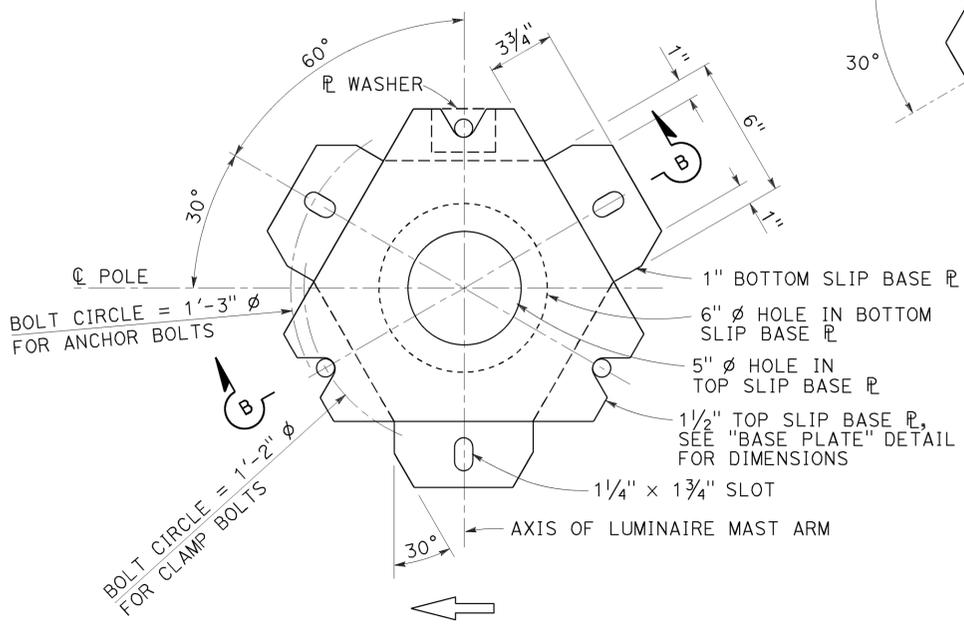
2010 REVISED STANDARD PLAN RSP ES-6F



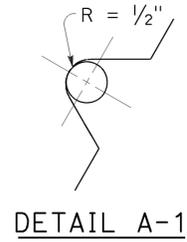
**BASE PLATE
DETAIL A**



**KEEPER PLATE
DETAIL B**

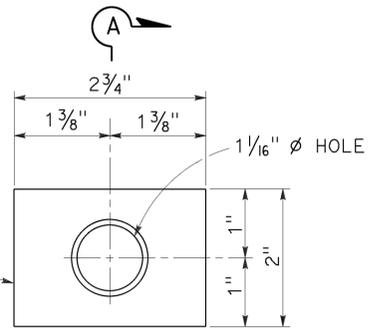


**BOTTOM PLATE
DETAIL C**

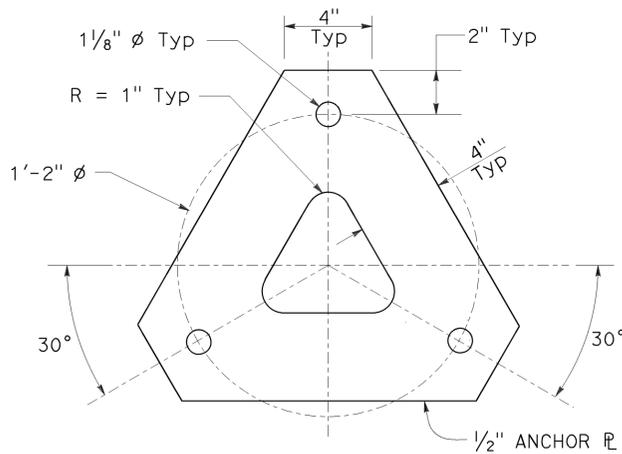


DETAIL A-1

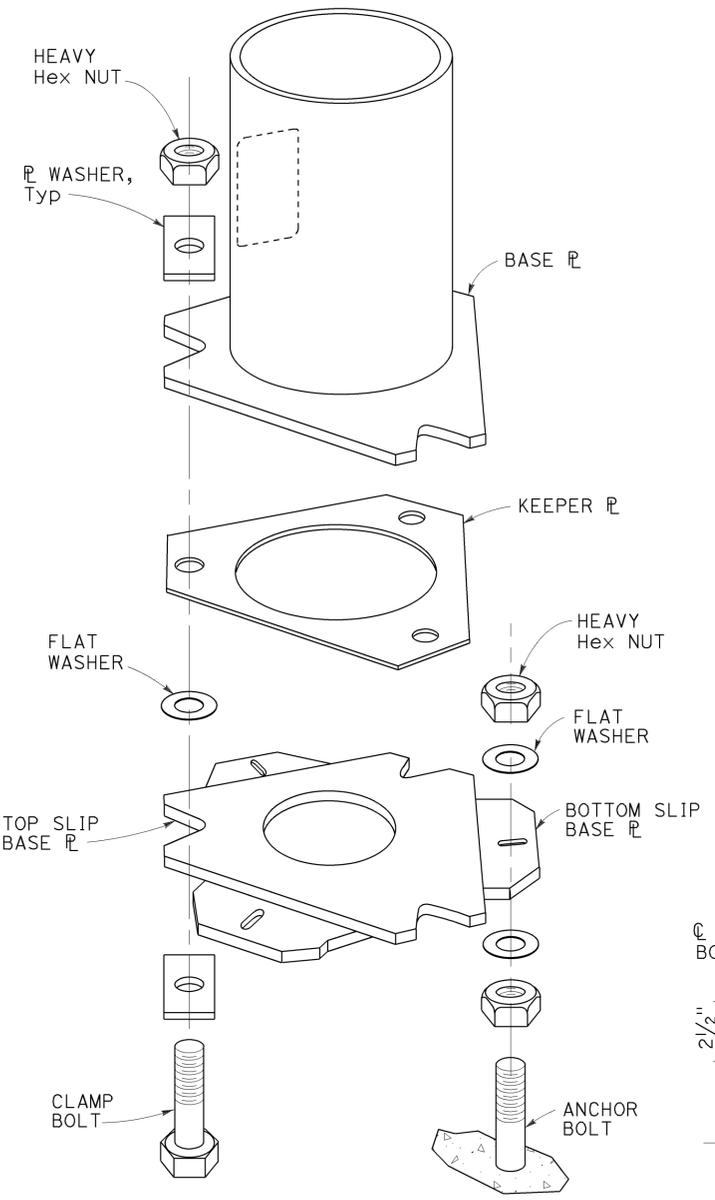
SECTION A-A



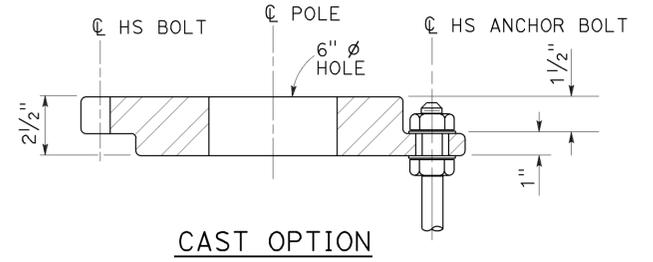
**PLATE WASHER
DETAIL D**



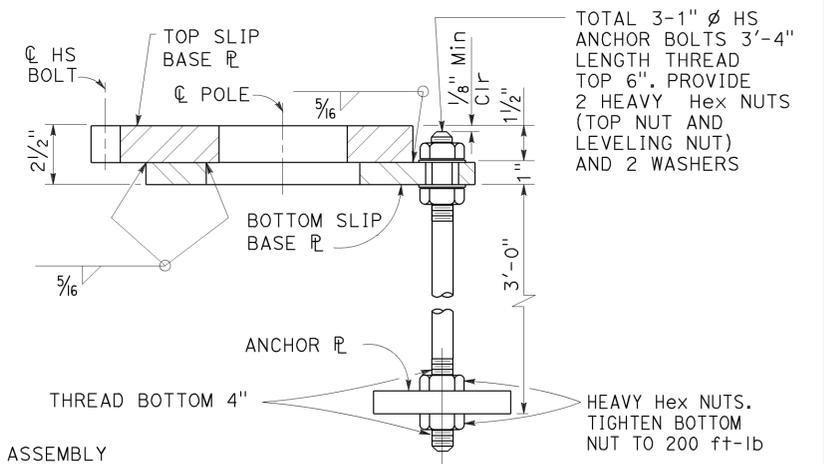
**ANCHOR PLATE
DETAIL E**



**SLIP BASE DETAIL
DETAIL F**

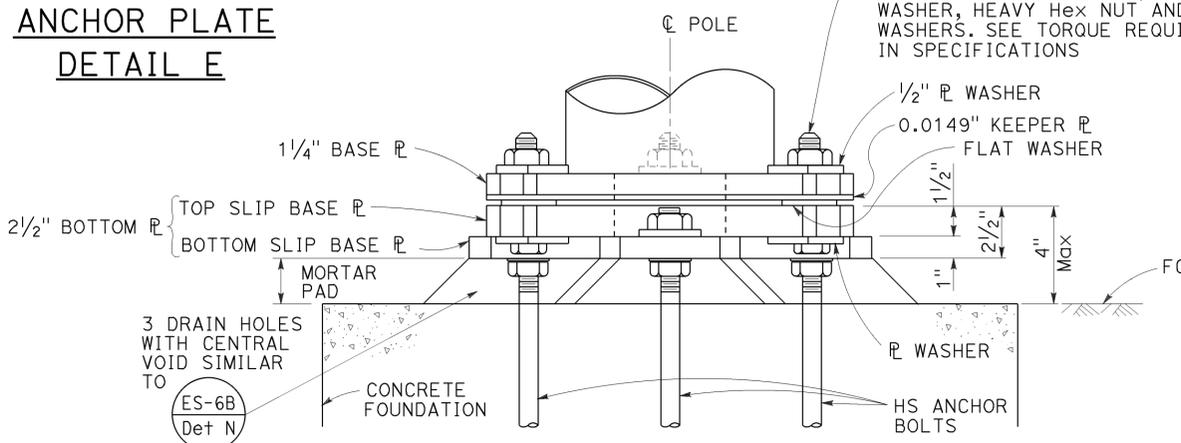


CAST OPTION



WELDED OPTION

SECTION B-B



**SLIP BASE
ELEVATION A**

NOTES:

TO ACCOMPANY PLANS DATED 08-29-16

1. 1" ϕ HS anchor bolts. For clamp bolts, see specifications.
2. Conduit shall not protrude more than 2" above top of foundation.
3. Handhole shall be located on the downstream side of traffic.
4. For Type 30 fixed base and for Type 31 fixed base, see Notes 3 and 4 on Revised Standard Plan RSP ES-6E.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
(LIGHTING STANDARD,
SLIP BASE PLATE)**

NO SCALE

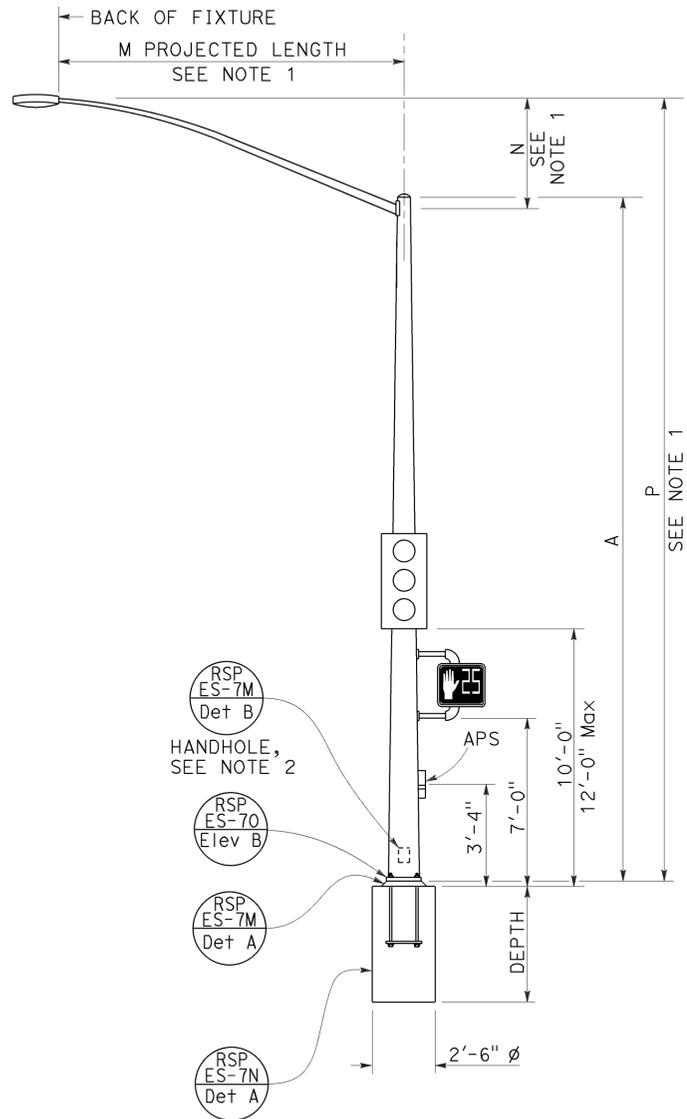
RSP ES-6F DATED OCTOBER 30, 2015 SUPERSEDES STANDARD PLAN ES-6F DATED MAY 20, 2011 - PAGE 457 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-6F

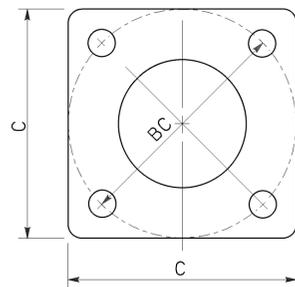
NOTES:

- For additional notes, details and data for Type 15TS and Type 21TS Standards, see Revised Standard Plan RSP ES-6A.
- Handhole shall be located on the downstream side of traffic.

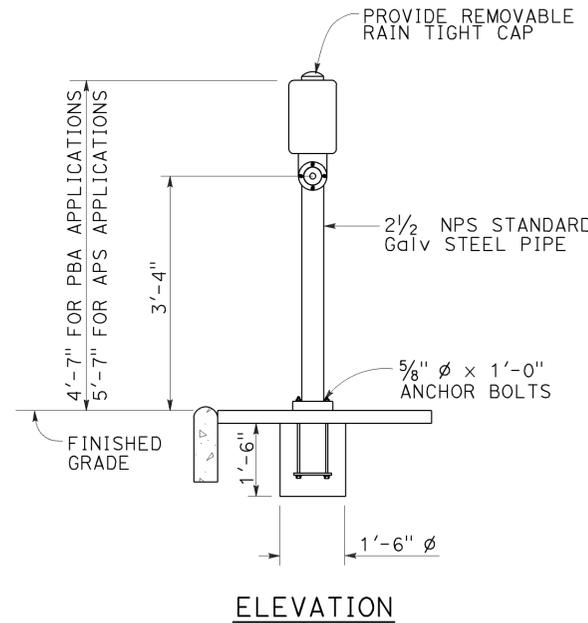
TO ACCOMPANY PLANS DATED 08-29-16



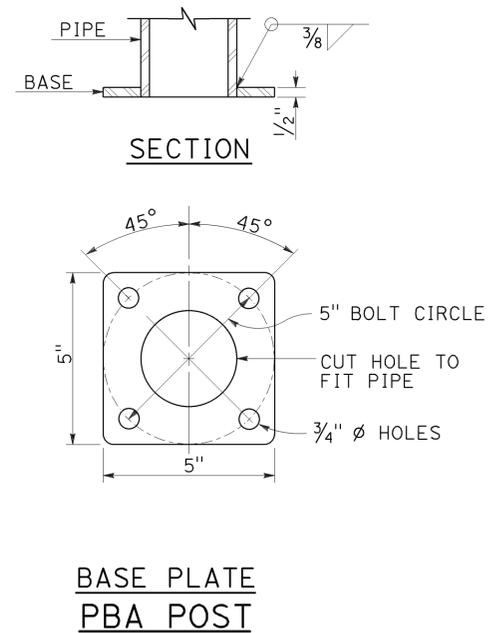
TYPE 15TS AND 21TS STANDARD
ELEVATION A
 (See Note 1)



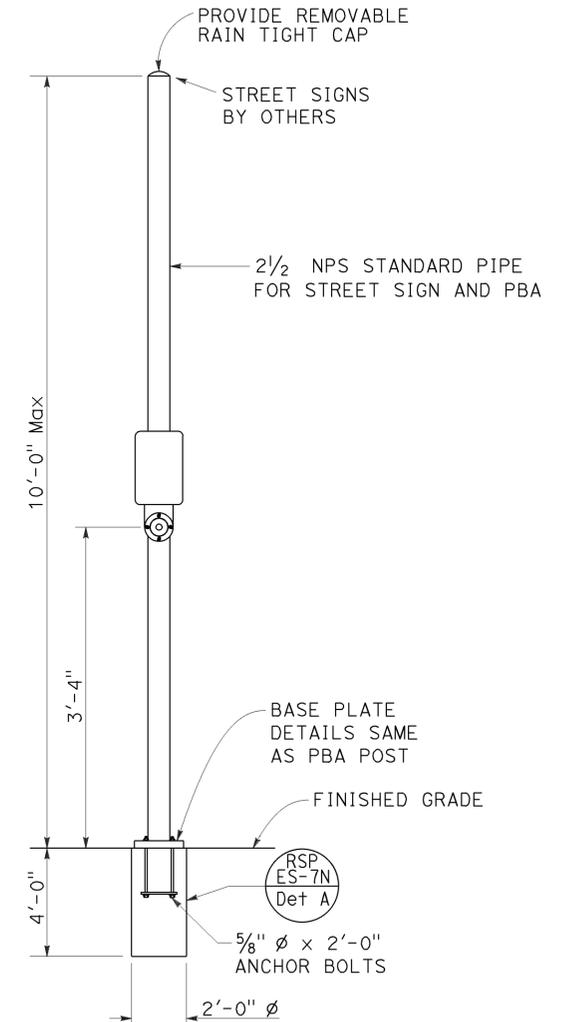
BASE PLATE
TYPE 15TS AND 21TS
DETAIL A



PUSH BUTTON ASSEMBLY POST
DETAIL B



BASE PLATE
PBA POST



COMBINED STREET SIGN
PUSH BUTTON ASSEMBLY POST
DETAIL C

POLE TYPE	POLE DATA			WALL THICKNESS	BASE PLATE DATA			CIDH DEPTH
	A HEIGHT	Min OD			C	BC = BOLT CIRCLE	THICKNESS	
15TS	30'-0"	8"	3 1/16"	0.1793"	1'-1 1/2"	1'-0"	1 1/2" ϕ x 42"	7'-6"
21TS	35'-0"	9 3/8"	3 3/16"		1'-3"	1'-2"		8'-6"

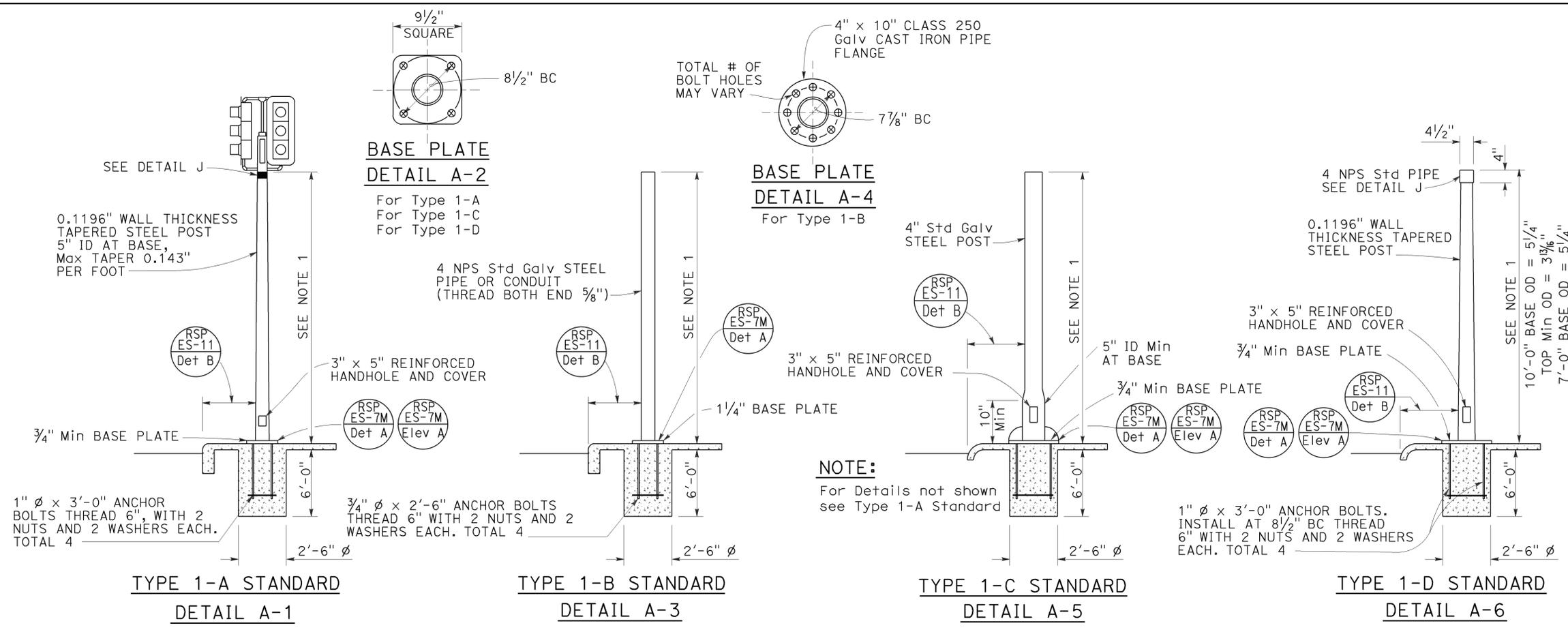
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(SIGNAL AND LIGHTING STANDARD, TYPE TS, AND PUSH BUTTON ASSEMBLY POST)
 NO SCALE

RSP ES-7A DATED JULY 15, 2016 SUPERSEDES RSP ES-7A
 DATED OCTOBER 30, 2015 AND RSP ES-7A DATED JULY 19, 2013 AND
 STANDARD PLAN ES-7A DATED MAY 20, 2011 - PAGE 462 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-7A

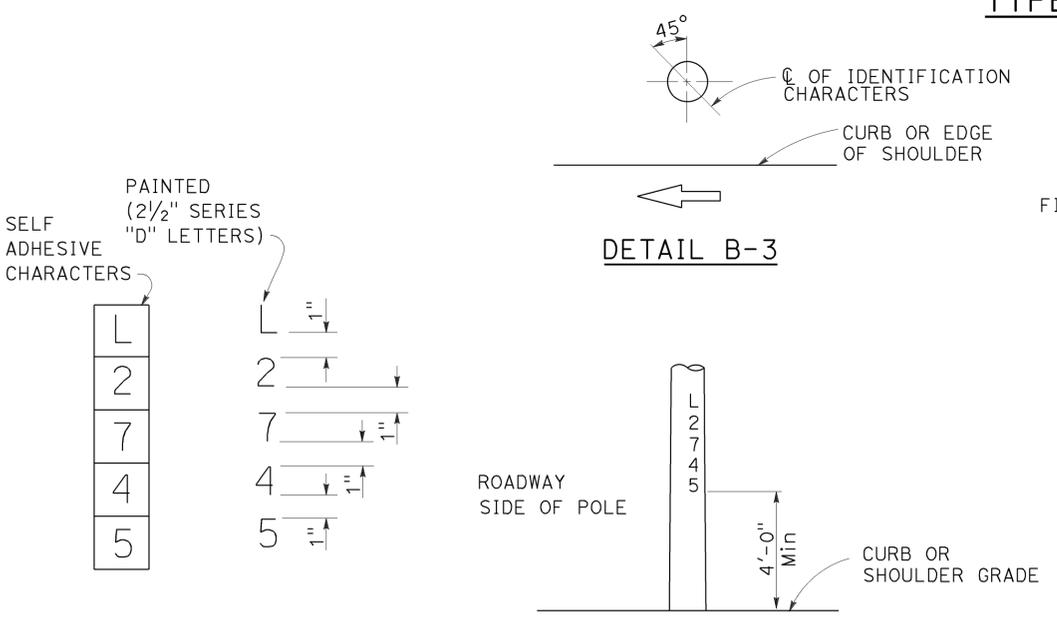
2010 REVISED STANDARD PLAN RSP ES-7A

2010 REVISED STANDARD PLAN RSP ES-7B



- NOTES:**
- Standards shall be 10'-0" ± 2" for vehicle signals and 7'-0" ± 2" for pedestrian signals unless shorter pole is noted on project plans.
 - Top of standards shall be 4 1/2" OD.
 - Conduits shall extend 2" maximum above finished surface of foundation and for Types 1-A, 1-C and 1-D shall be sloped toward handhole.
 - Anchor bolts shall be bonded to conduit or grounding conductor.
 - For additional notes and details, see Revised Standard Plans RSP ES-7M and RSP ES-7N.
 - Pour foundation concrete against undisturbed soil.
 - For standards with handhole, locate in the downstream side of traffic.
 - Coupling nuts to be used only when shown or specified on project plans.

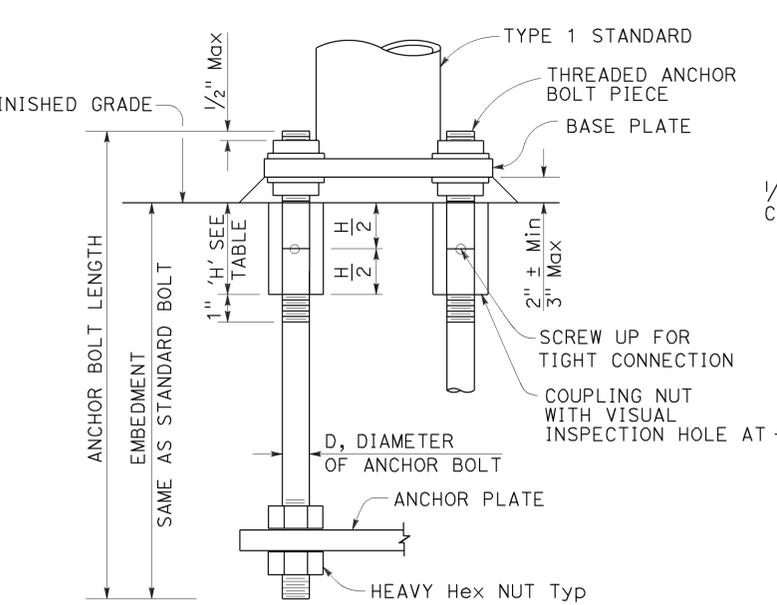
BOLT DIAMETER	NUT TABLE THICKNESS 'H'
3/4"	2 1/4"
1"	3"



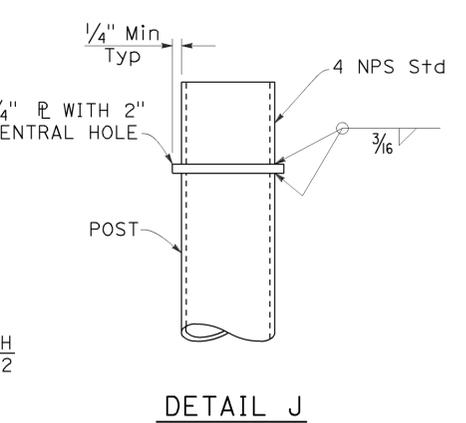
IDENTIFICATION CHARACTER DETAIL
DETAIL B-1

TYPICAL IDENTIFICATION CHARACTER FORMAT
DETAIL B-2

LOCATION OF EQUIPMENT IDENTIFICATION CHARACTERS ON STANDARDS AND POSTS
DETAIL B-3



ANCHOR BOLTS WITH SLEEVE NUTS
DETAIL C
(See Note 8)



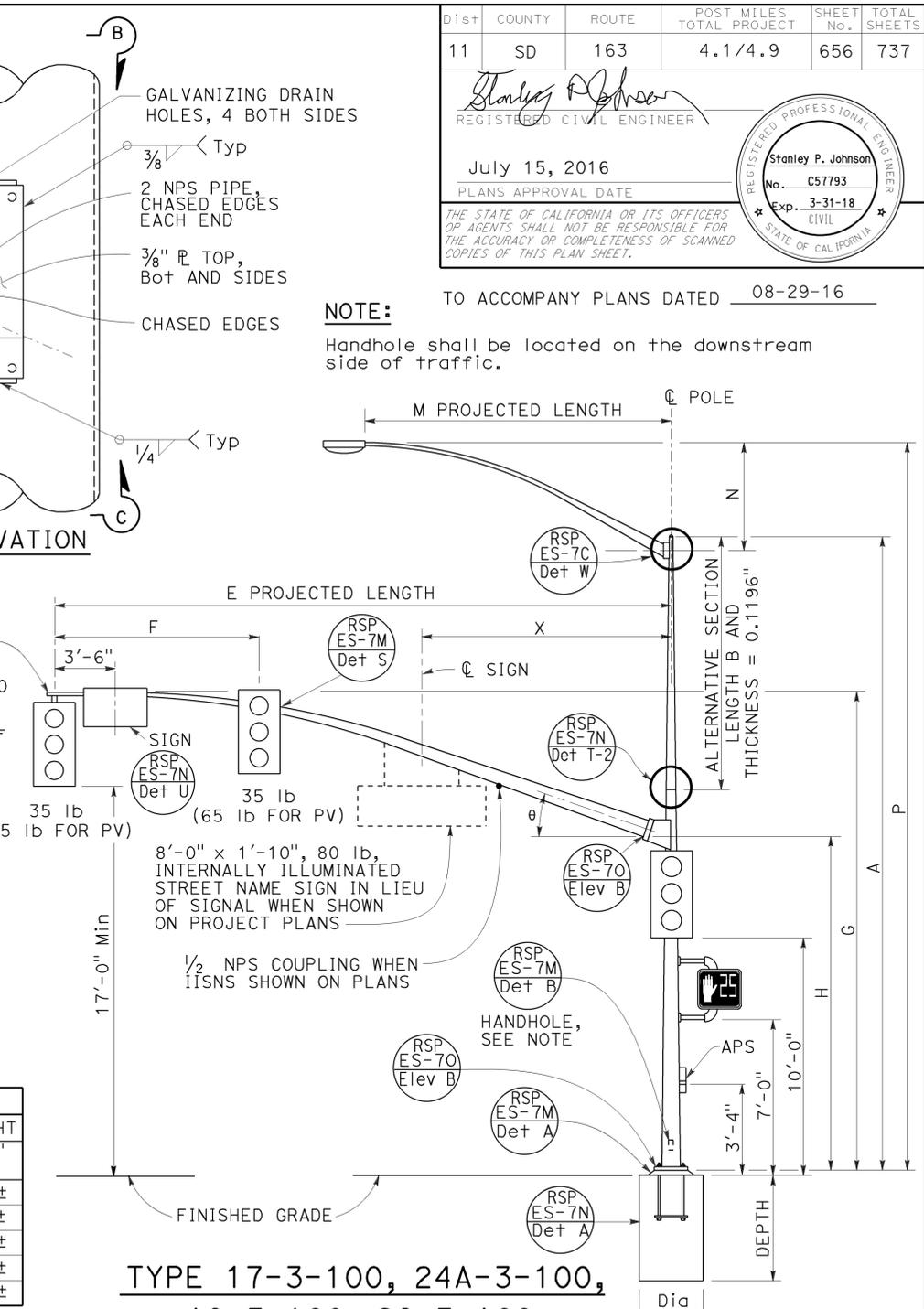
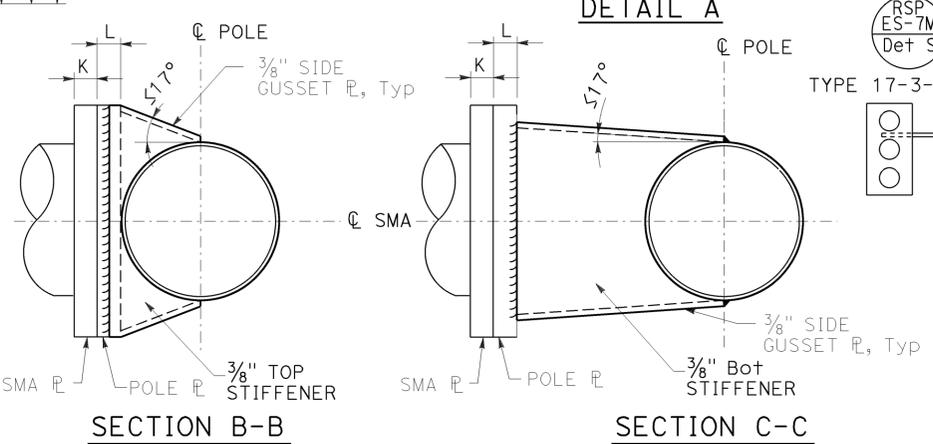
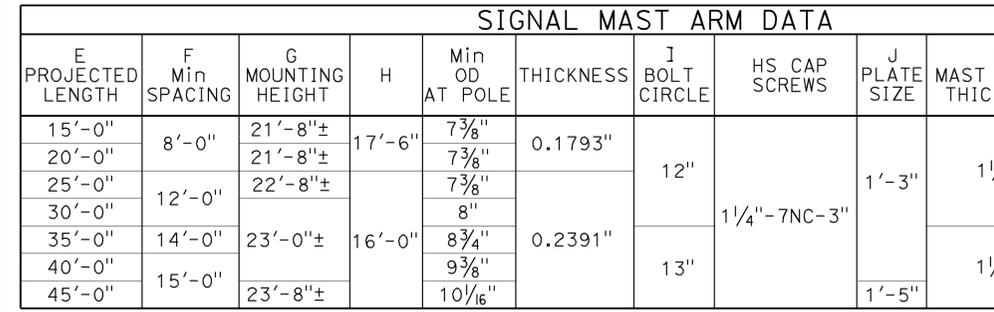
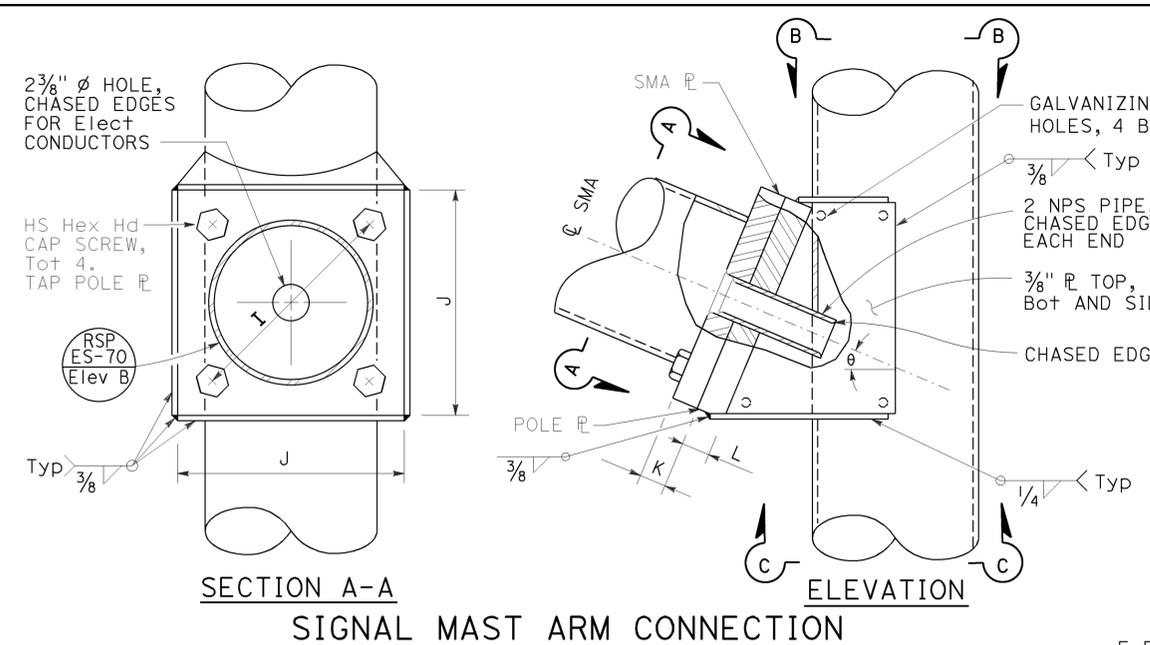
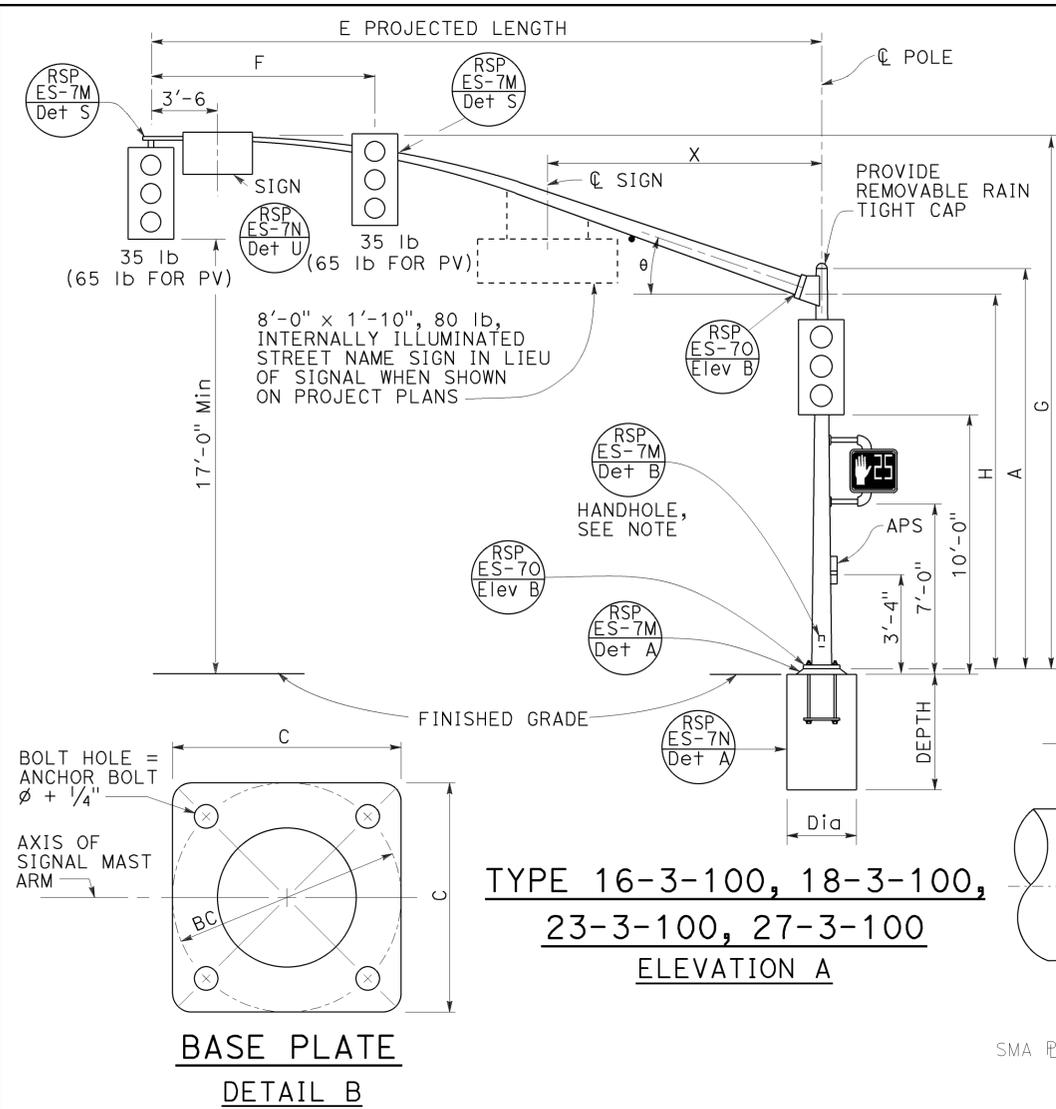
DETAIL J

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
(SIGNAL AND LIGHTING STANDARD, TYPE 1
AND EQUIPMENT IDENTIFICATION CHARACTERS)**

NO SCALE

RSP ES-7B DATED JULY 15, 2016 SUPERSEDES RSP ES-7B DATED OCTOBER 30, 2015 AND STANDARD PLAN ES-7B DATED MAY 20, 2011 - PAGE 463 OF THE STANDARD PLANS BOOK DATED 2010.



E PROJECTED LENGTH	F Min SPACING	G MOUNTING HEIGHT	H	Min OD AT POLE	THICKNESS	I BOLT CIRCLE	HS CAP SCREWS	J PLATE SIZE	K MAST ARM PLATE THICKNESS	L POLE PLATE THICKNESS	θ	X Max	
													15'-0"
20'-0"		21'-8"±		7 3/8"									
25'-0"	12'-0"	22'-8"±		7 3/8"									
30'-0"		22'-8"±		8"			1 1/4"-7NC-3"					10'-6"	
35'-0"	14'-0"	23'-0"±	16'-0"	8 3/4"	0.2391"				1 1/2"	1 3/4"	21°		
40'-0"		23'-0"±		9 3/8"									
45'-0"	15'-0"	23'-8"±		10 1/16"				1'-5"			15°	13'-0"	

M PROJECTED LENGTH	N RISE	Min OD AT POLE	THICKNESS	P MOUNTING HEIGHT	
				30'-0" POLE	35'-0" POLE
6'-0"	2'-0"±	3 1/4"	0.1196"	31'-6"±	36'-6"±
8'-0"	2'-6"±	3 1/2"		32'-0"±	37'-0"±
10'-0"	3'-3"±	3 3/8"		32'-9"±	37'-9"±
12'-0"	4'-3"±	3 7/8"		33'-9"±	38'-9"±
15'-0"	4'-9"±	4 1/4"		34'-3"±	39'-3"±

POLE TYPE	LOAD CASE	WIND VELOCITY (mph)	POLE DATA			BASE PLATE DATA			LUMINAIRE MAST ARM	SIGNAL MAST ARM	CIDH PILE FOUNDATION				
			A HEIGHT	Min OD	THICKNESS	C	BC = BOLT CIRCLE	THICKNESS			ANCHOR BOLT SIZE	Dia	DEPTH		
16-3-100	3	100	18'-6"	13 3/8"	0.2391" OR 0.25"	1'-11"	1'-9"	3"	2 1/4" ø x 42"	NONE	15'-0"	12'-0"			
17-3-100			30'-0"	11 3/4"						10'-0"	13 1/8"		11 3/4"	6'-15' 12'-0"	20'-0"
18-3-100			17'-0"	13 5/8"						10'-0"	13 1/8"		11 3/4"	NONE	
19-3-100			30'-0"	11 3/4"						10'-0"	13 1/8"		11 3/4"	6'-15' 12'-0"	25'-0"
19A-3-100			35'-0"	11"						15'-0"	13 1/8"		11"	6'-15' 15'-0"	30'-0"
23-3-100			17'-0"	13 5/8"										NONE	
24-3-100			30'-0"	11 3/4"						10'-0"	13 1/8"		11 3/4"	6'-15' 12'-0"	35'-0"
24A-3-100			35'-0"	11"						15'-0"	13 1/8"		11"	6'-15' 15'-0"	
26-3-100			30'-0"	13 3/4"						10'-0"	15 1/8"		13 3/4"	6'-15' 12'-0"	40'-0"
26A-3-100			35'-0"	13"						15'-0"	15 1/8"		13"	6'-15' 15'-0"	45'-0"
27-3-100	17'-0"	15 5/8"				NONE									

[] INDICATES MAST ARM LENGTH TO BE USED UNLESS OTHERWISE NOTED ON PLANS.

TYPE 17-3-100, 24A-3-100, 19-3-100, 26-3-100, 19A-3-100, 26A-3-100, 24-3-100
 ELEVATION B
 STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(SIGNAL AND LIGHTING STANDARD, CASE 3 SIGNAL MAST ARM LOADING, WIND VELOCITY=100 MPH AND SIGNAL MAST ARM LENGTHS 15' TO 45')
 NO SCALE
 RSP ES-7E DATED JULY 15, 2016 SUPERSEDES RSP ES-7E DATED OCTOBER 30, 2015 AND RSP ES-7E DATED JULY 19, 2013 AND STANDARD PLAN ES-7E DATED MAY 20, 2011 - PAGE 466 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-7E

2010 REVISED STANDARD PLAN RSP ES-7E

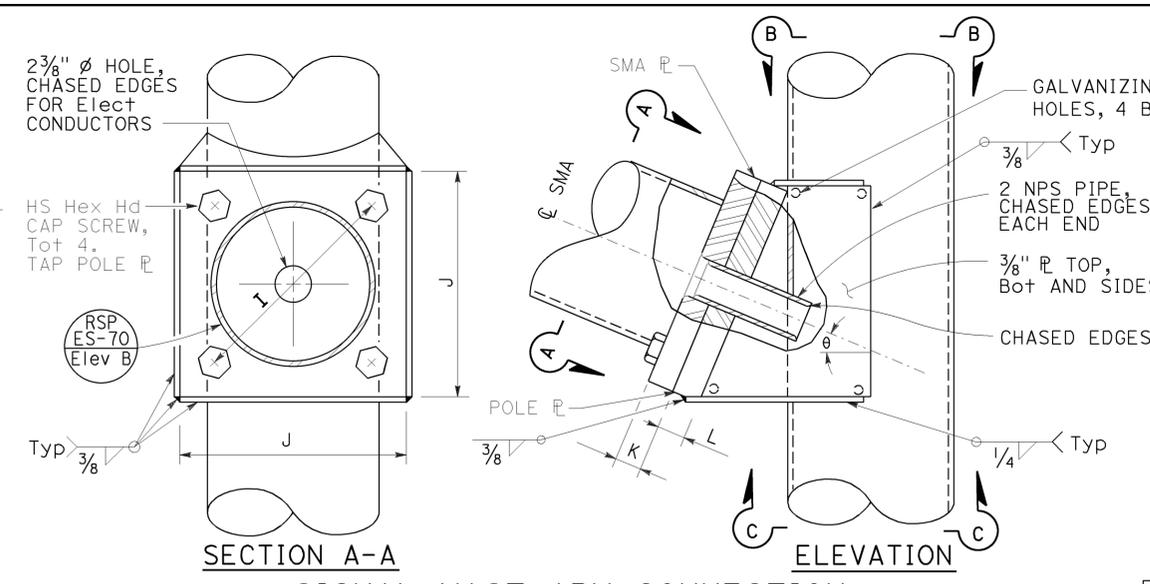
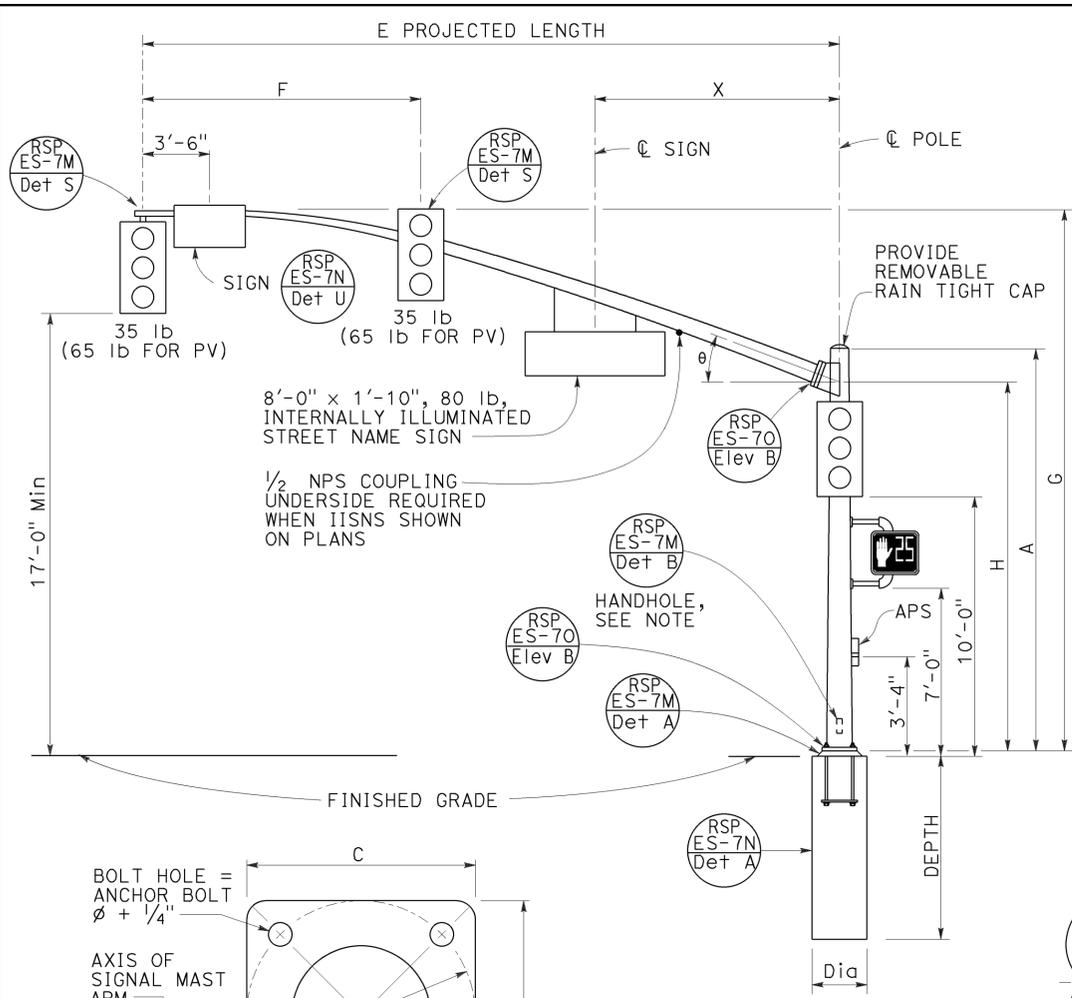
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	657	737

Stanley P. Johnson
REGISTERED CIVIL ENGINEER

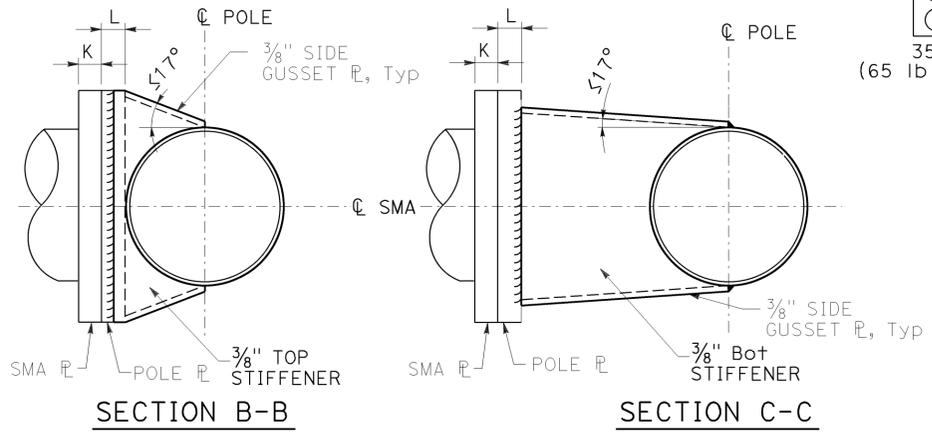
July 15, 2016
PLANS APPROVAL DATE

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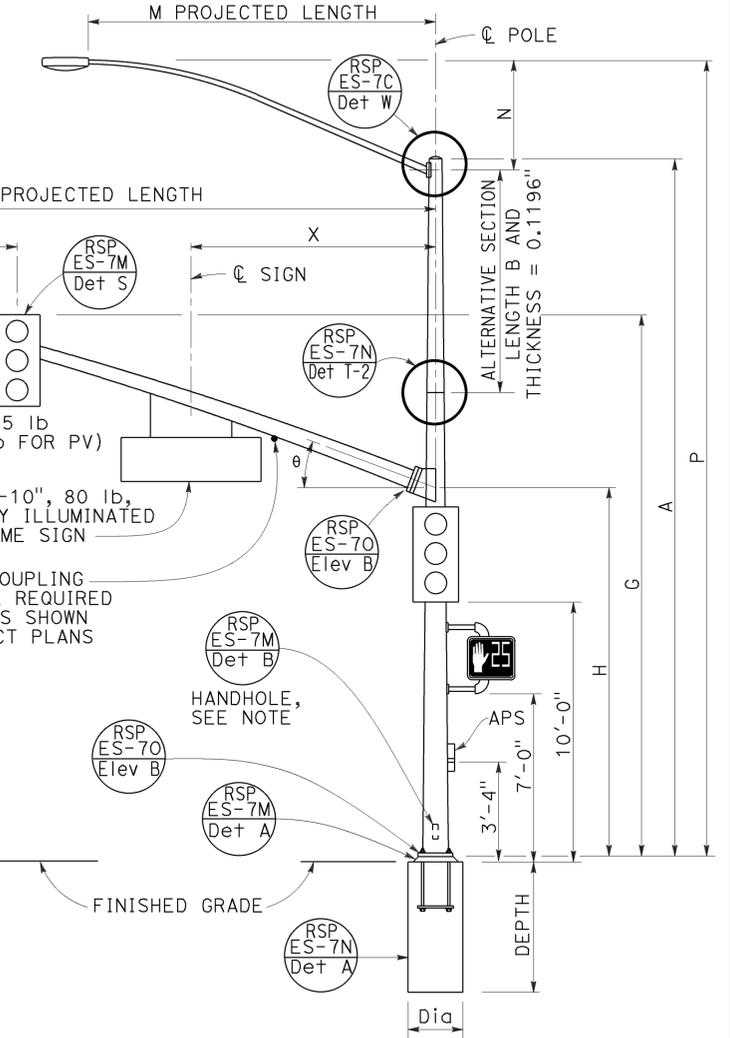
REGISTERED PROFESSIONAL ENGINEER
Stanley P. Johnson
No. C57793
Exp. 3-31-18
STATE OF CALIFORNIA



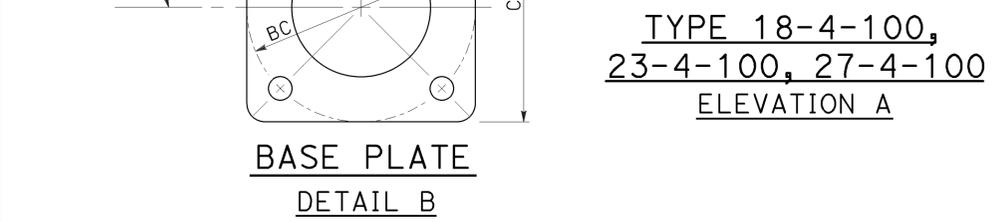
SIGNAL MAST ARM CONNECTION
DETAIL A



NOTE: TO ACCOMPANY PLANS DATED 08-29-16
Handhole shall be located on the downstream side of traffic.



TYPE 19-4-100, 19A-4-100, 24-4-100, 24A-4-100, 26-4-100, 26A-4-100
ELEVATION B



TYPE 18-4-100, 23-4-100, 27-4-100
ELEVATION A

E PROJECTED LENGTH	F Min SPACING	G MOUNTING HEIGHT	H	Min OD AT POLE	THICKNESS	I BOLT CIRCLE	HS CAP SCREWS	J PLATE SIZE	K MAST ARM PL THICKNESS	L PL THICKNESS	θ	X Max
25'-0"	10'-0"	22'-8"±	16'-0"	7 3/8"	0.2391"	12"	1 1/4"-7NC-3"	1'-3"	1 1/4"	1 1/2"	23°	10'-6"
30'-0"	12'-0"	23'-0"±		8"								
35'-0"	14'-0"	23'-0"±		8 1/16"								
40'-0"	15'-0"	23'-8"±		9 3/8"								
45'-0"		10 1/4"										

M PROJECTED LENGTH	N RISE	Min OD AT POLE	THICKNESS	P MOUNTING HEIGHT	
				30'-0" POLE	35'-0" POLE
6'-0"	2'-0"±	3 1/4"	0.1196"	31'-6"±	36'-6"±
8'-0"	2'-6"±	3 1/2"		32'-0"±	37'-0"±
10'-0"	3'-3"±	3 3/8"		32'-9"±	37'-9"±
12'-0"	4'-3"±	4"		33'-9"±	38'-9"±
14'-0"	4'-9"±	4 1/4"		34'-3"±	39'-3"±
15'-0"	4'-9"±	4 1/4"			

POLE TYPE	LOAD CASE	WIND VELOCITY (mph)	POLE DATA				BASE PLATE DATA				LUMINAIRE MAST ARM	SIGNAL MAST ARM	CIDH PILE FOUNDATION											
			A HEIGHT	Min OD BASE	Min OD TOP	THICKNESS	ALTERNATIVE SECTION B LENGTH	ALTERNATIVE SECTION BOTTOM	ALTERNATIVE SECTION TOP	C			BC = BOLT CIRCLE	THICKNESS	ANCHOR BOLT SIZE	DiA	DEPTH							
18-4-100	4	100	17'-0"	16"	13 5/8"	0.2391" OR 0.25"	10'-0"	13 3/8"	11 3/4"	1'-11"	1'-9"	3"	2 1/4"Ø x 42"	NONE	25'-0", 30'-0"	3'-6"	12'-0"							
19-4-100			30'-0"		11 3/4"													15'-0"	13 3/8"	11"				
19A-4-100			35'-0"		11"													15'-0"	13 3/8"	11"				
23-4-100			17'-0"	18"	13 5/8"		0.3125"	10'-0"	15 1/8"									13 3/4"	2'-1"	1'-11"	NONE	35'-0"	3'-6"	13'-0"
24-4-100			30'-0"		11 3/4"			10'-0"	15 1/8"									13 3/4"						
24A-4-100			35'-0"		11"			15'-0"	13 3/8"									11"						
26-4-100			30'-0"		13 3/4"			10'-0"	15 1/8"									13 3/4"						
26A-4-100			35'-0"	13"	15'-0"		15 1/8"	13"																
27-4-100			17'-0"	15 5/8"	15'-0"		15 1/8"	13"																

INDICATES MAST ARM LENGTH TO BE USED UNLESS OTHERWISE NOTED ON PLANS.

REVISED STANDARD PLAN RSP ES-7F

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(SIGNAL AND LIGHTING STANDARD, CASE 4 SIGNAL MAST ARM LOADING, WIND VELOCITY=100 MPH AND SIGNAL MAST ARM LENGTHS 25' TO 45')
NO SCALE
RSP ES-7F DATED JULY 15, 2016 SUPERSEDES RSP ES-7F DATED OCTOBER 30, 2015 AND RSP ES-7F DATED JULY 19, 2013 AND STANDARD PLAN ES-7F DATED MAY 20, 2011 - PAGE 467 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP ES-7F

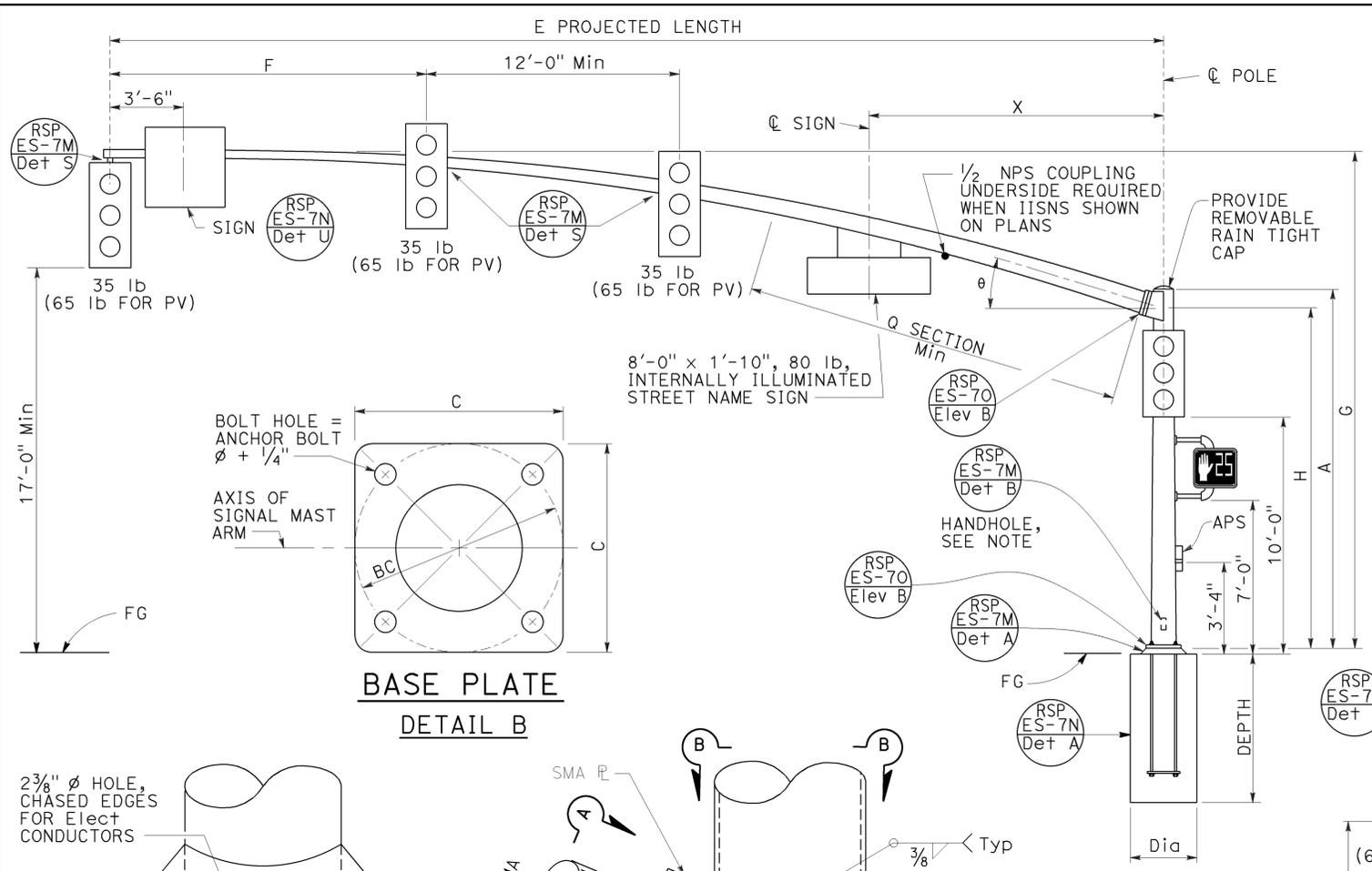
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	658	737

Stanley P. Johnson
 REGISTERED CIVIL ENGINEER
 July 15, 2016
 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.

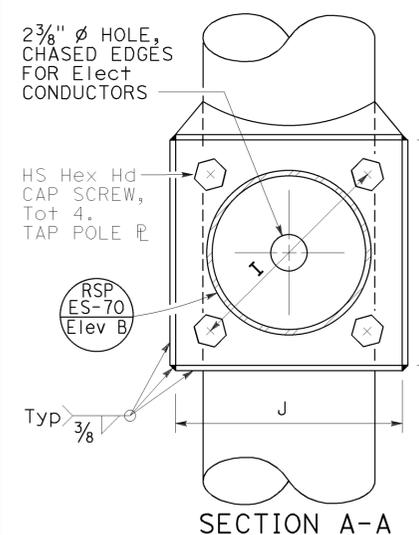
Stanley P. Johnson
 REGISTERED PROFESSIONAL ENGINEER
 No. C57793
 Exp. 3-31-18
 CIVIL
 STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 08-29-16

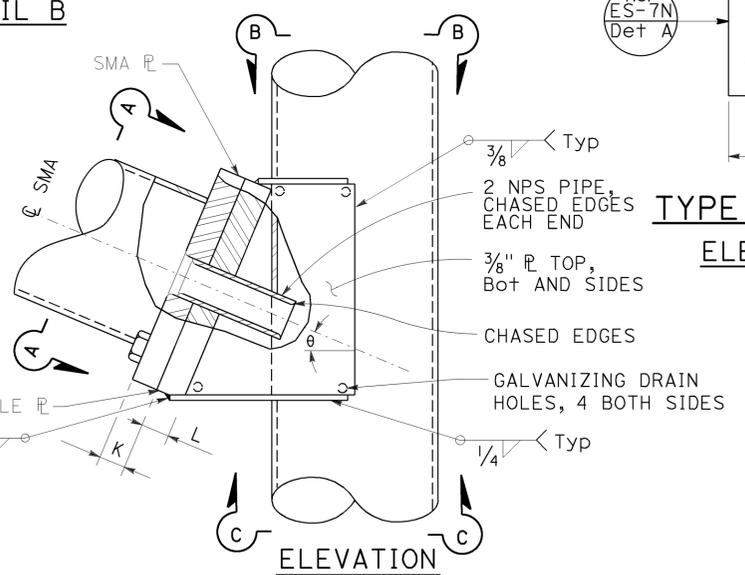
NOTE:
Handhole shall be located on the downstream side of traffic.



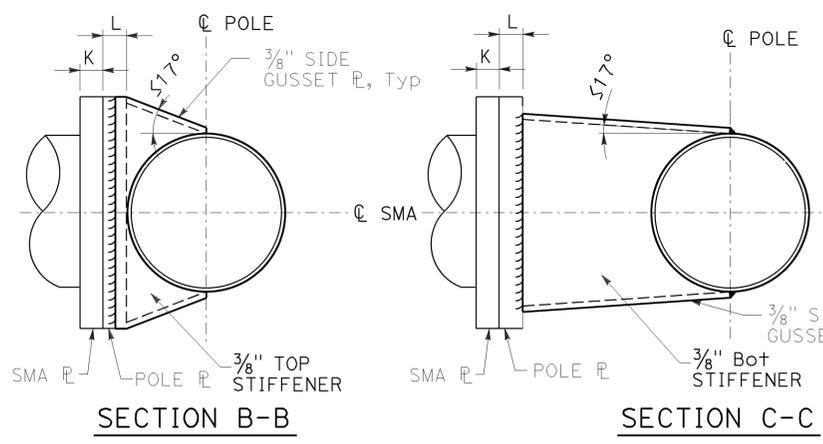
**BASE PLATE
DETAIL B**



**SIGNAL MAST ARM CONNECTION
DETAIL A**

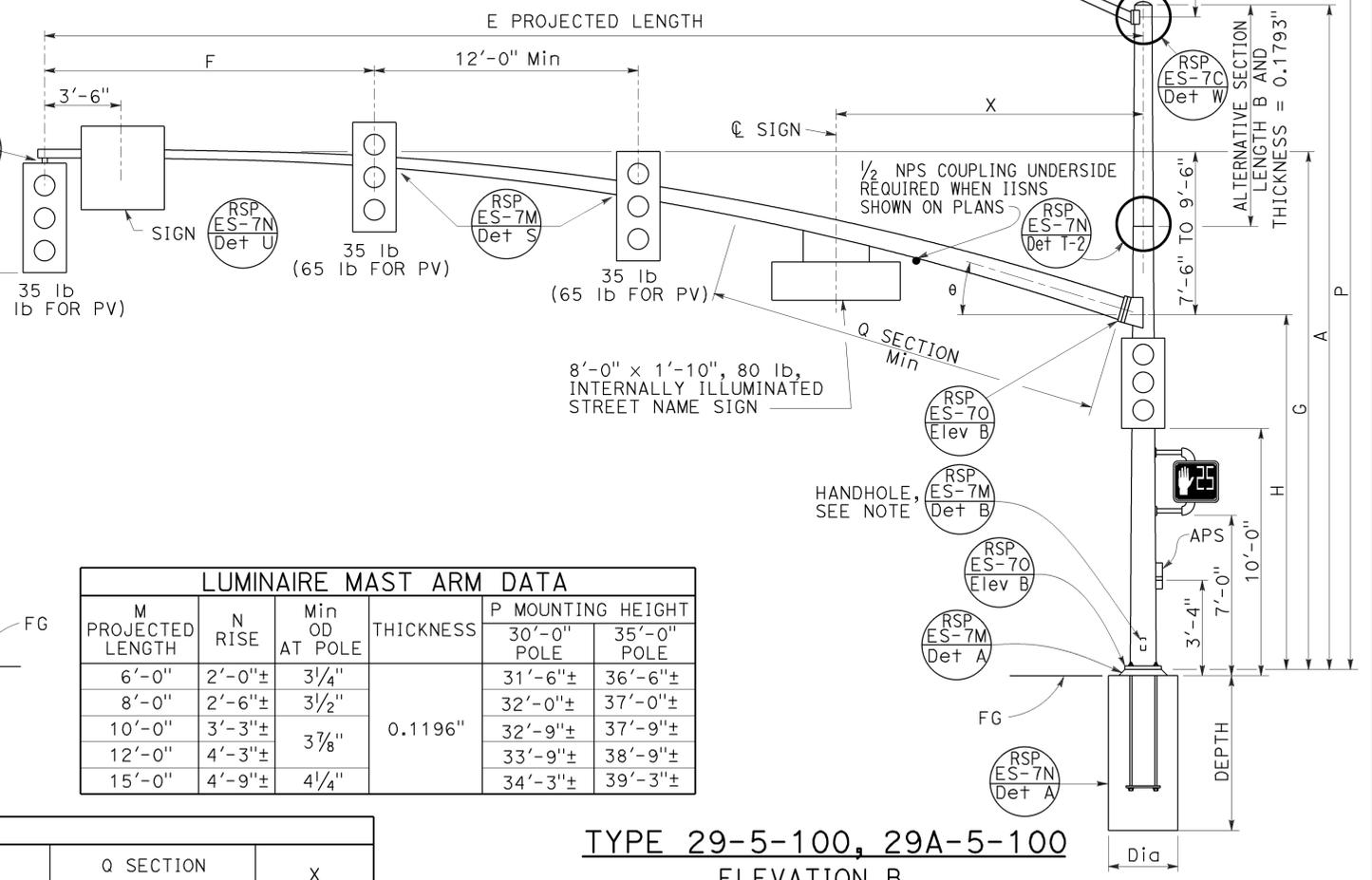


**TYPE 28-5-100
ELEVATION A**



SECTION B-B

SECTION C-C



**TYPE 29-5-100, 29A-5-100
ELEVATION B**

M PROJECTED LENGTH	N RISE	Min OD AT POLE	THICKNESS	P MOUNTING HEIGHT	
				30'-0" POLE	35'-0" POLE
6'-0"	2'-0"±	3/4"	0.1196"	31'-6"±	36'-6"±
8'-0"	2'-6"±	3/2"		32'-0"±	37'-0"±
10'-0"	3'-3"±	3 7/8"		32'-9"±	37'-9"±
12'-0"	4'-3"±			33'-9"±	38'-9"±
15'-0"	4'-9"±	4 1/4"		34'-3"±	39'-3"±

E PROJECTED LENGTH	F Min SPACING	G MOUNTING HEIGHT	H	Min OD AT POLE	THICKNESS	I BOLT CIRCLE	HS CAP SCREWS	J PLATE SIZE	K MAST ARM P THICKNESS	L POLE P THICKNESS	θ	Q SECTION		X Max
												LENGTH	THICKNESS	
50'-0"	15'-0"	23'-7"± TO 25'-7"±	16'-0"	11 7/16"	0.1793"	16"	1 1/2"-6NC-3 1/4"	1'-9"	1 3/4"	1 3/4"	15°	18'-0"	0.2391"	14'-0"
55'-0"				23'-0"										

POLE TYPE	LOAD CASE	WIND VELOCITY (mph)	POLE DATA			BASE PLATE DATA				LUMINAIRE MAST ARM	SIGNAL MAST ARM	CIDH PILE FOUNDATION					
			A HEIGHT	Min OD		THICKNESS	ALTERNATIVE SECTION					C	BC = BOLT CIRCLE	THICKNESS	ANCHOR BOLT SIZE	Dia	DEPTH
				BASE	TOP		B LENGTH	BOTTOM	TOP								
28-5-100	5	100	17'-0"	22"	19 5/8"												
29-5-100			30'-0"	17 3/4"	10'-0"	19 1/8"	17 3/4"	2'-6"	2'-4"	3"	2 1/4"φ × 42"	NONE	50'-0", 55'-0"	4'-0"	14'-0"		
29A-5-100			35'-0"	17"	15'-0"	17"											

INDICATES MAST ARM LENGTH TO BE USED UNLESS OTHERWISE NOTED ON PLANS.

**ELECTRICAL SYSTEMS
(SIGNAL AND LIGHTING STANDARD,
CASE 5 SIGNAL MAST ARM LOADING,
WIND VELOCITY=100 MPH AND SIGNAL
MAST ARM LENGTHS 50' TO 55')**
NO SCALE

RSP ES-7G DATED JULY 15, 2016 SUPERSEDES RSP ES-7G DATED OCTOBER 30, 2015 AND RSP ES-7G DATED JULY 19, 2013 AND STANDARD PLAN ES-7G DATED MAY 20, 2011 - PAGE 468 OF THE STANDARD PLANS BOOK DATED 2010.

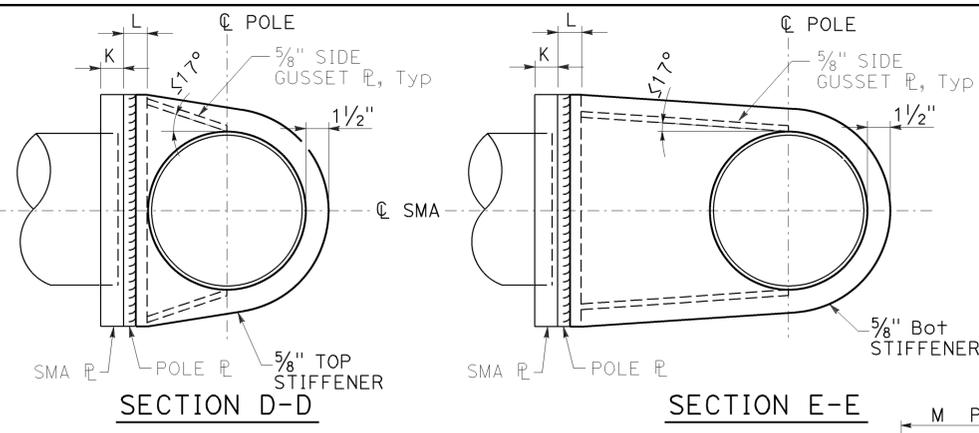
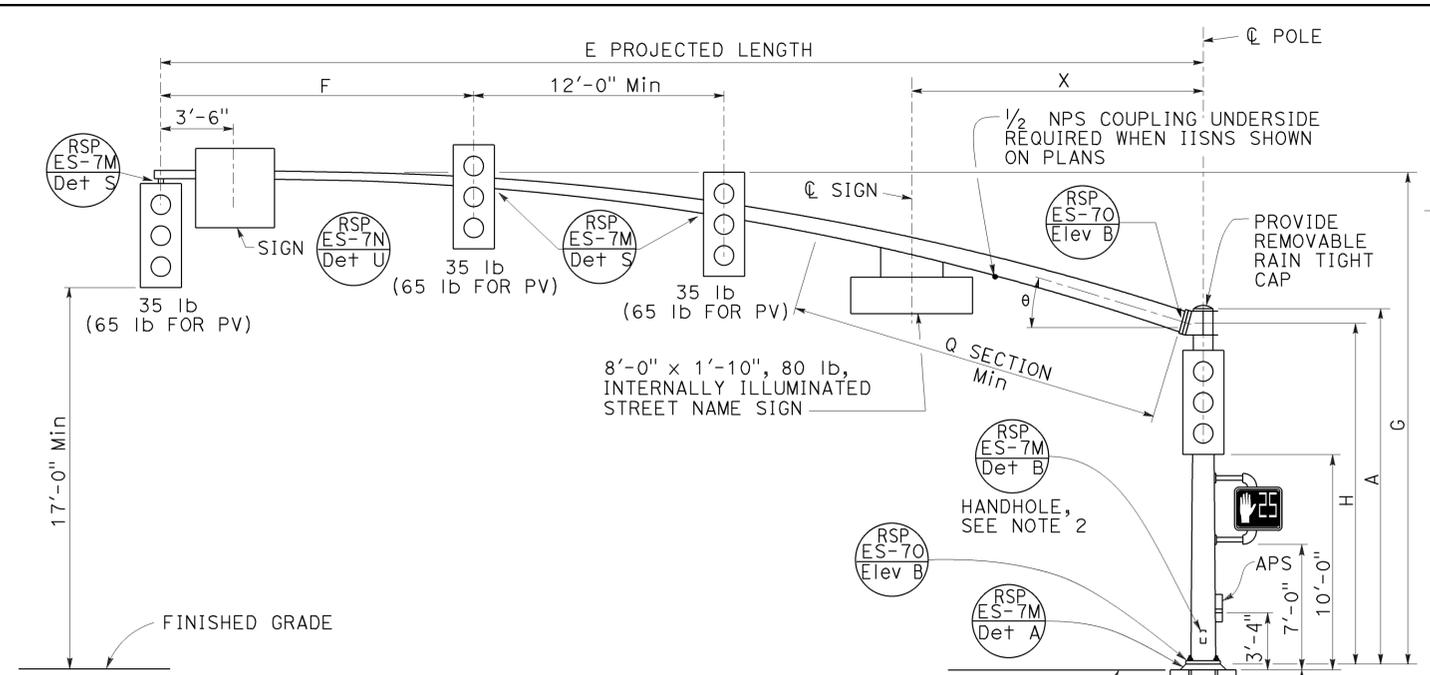
REVISED STANDARD PLAN RSP ES-7G

2010 REVISED STANDARD PLAN RSP ES-7G

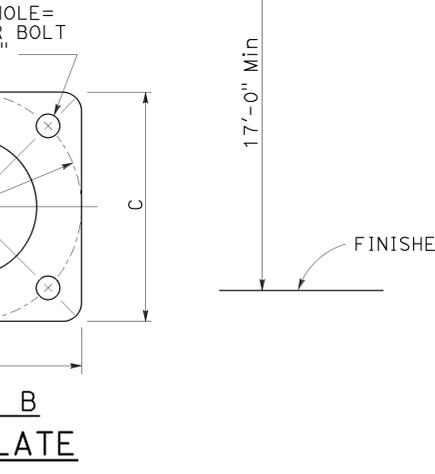
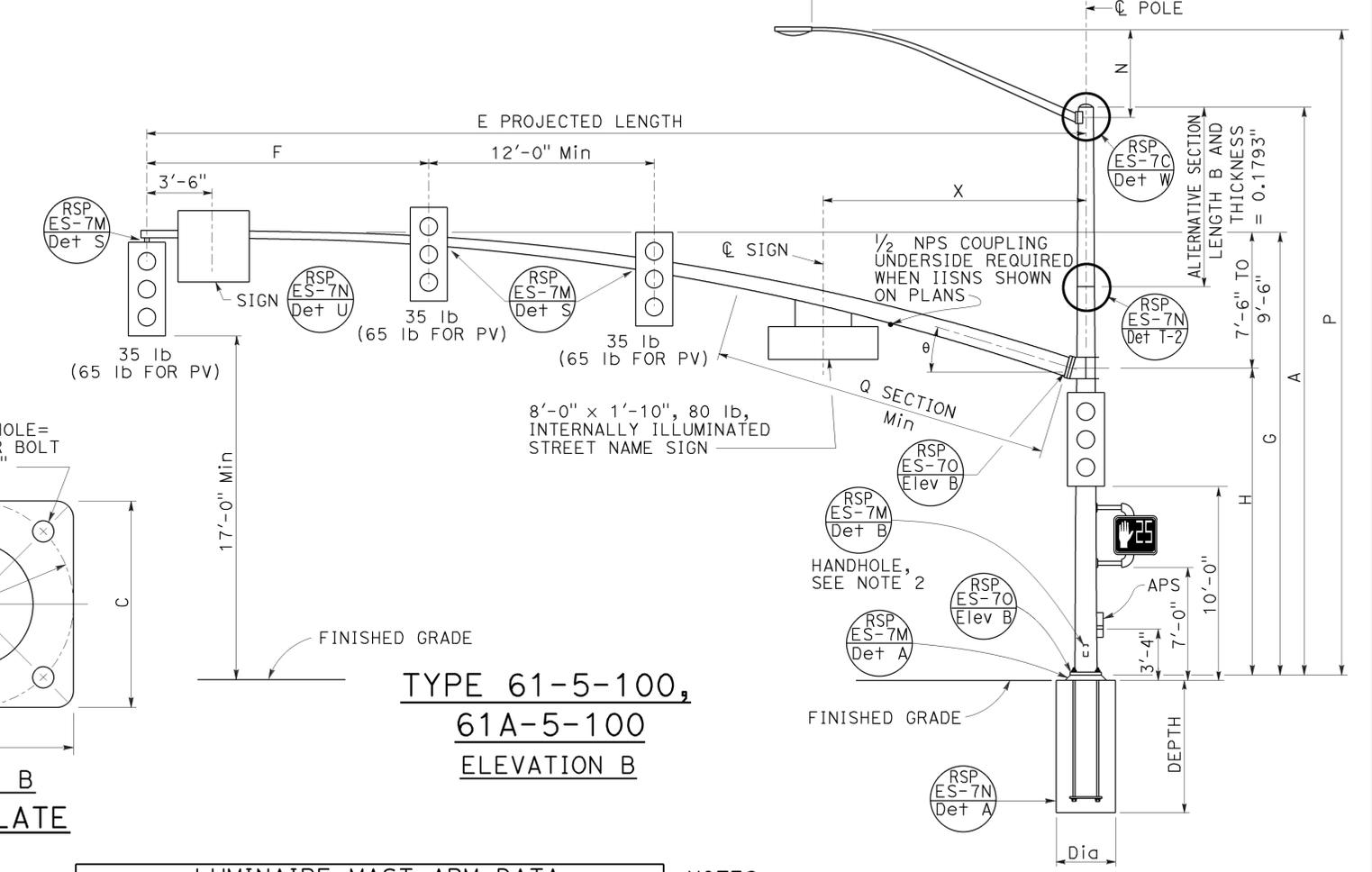
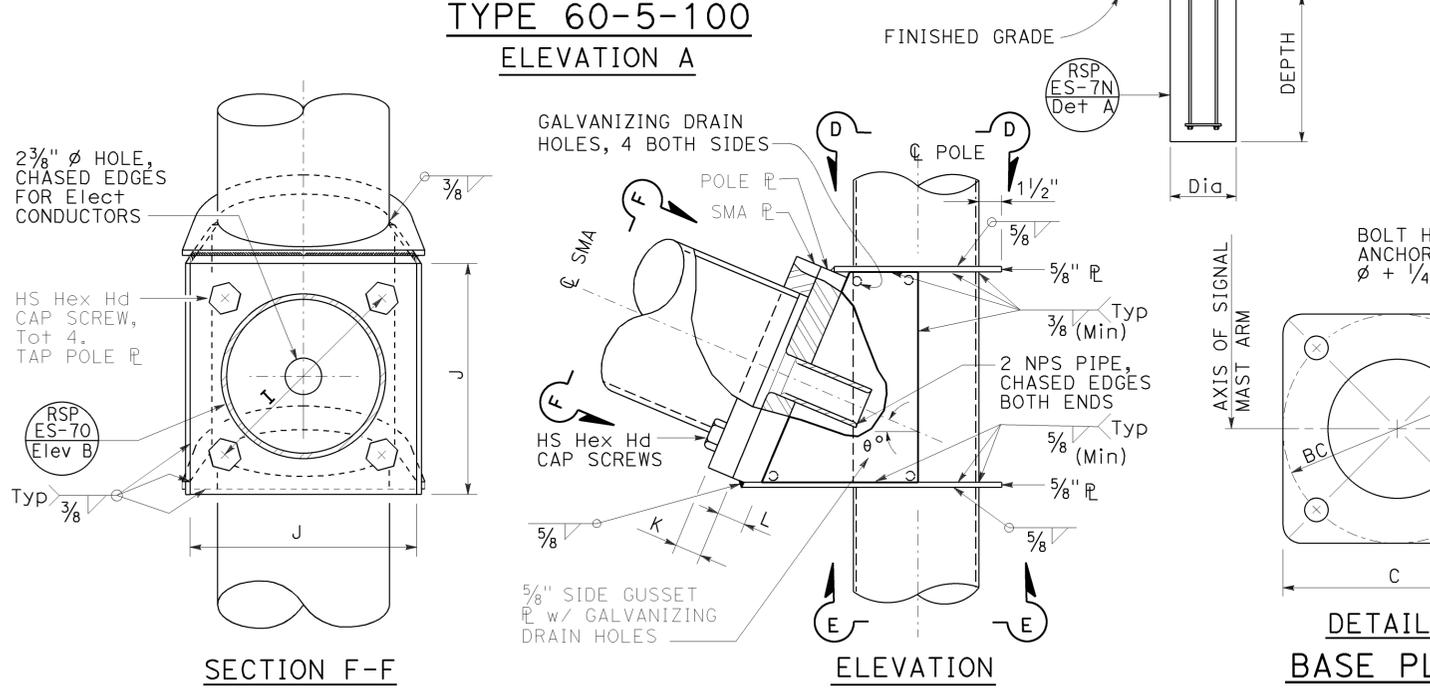
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	659	737

Stanley P. Johnson
 REGISTERED CIVIL ENGINEER
 No. C57793
 Exp. 3-31-18
 CIVIL
 STATE OF CALIFORNIA

July 15, 2016
 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.



TO ACCOMPANY PLANS DATED 08-29-16



E PROJECTED LENGTH	F Min SPACING	G MOUNTING HEIGHT	H	Min OD AT POLE	THICKNESS	I BOLT CIRCLE	HS CAP SCREWS	J PLATE SIZE	K MAST ARM THICKNESS	L POLE THICKNESS	θ	Q SECTION		X Max
												LENGTH	THICKNESS	
60'-0"	15'-0"	23'-7" TO 25'-7"	16'-0"	1'-1 1/2"	0.1793"	20"	1 1/2"-6NC-4"	2'-0"	2"	2"	15°	24'-0"	0.2391"	14'-0"
65'-0"	15'-0"	23'-7" TO 25'-7"	16'-0"	1'-1 1/2"	0.2391"	20"	1 1/2"-6NC-4"	2'-0"	2"	2"	15°	29'-0"	0.3125"	14'-0"

M PROJECTED LENGTH	N RISE	Min OD AT POLE	THICKNESS	P MOUNTING HEIGHT	
				POLE	POLE
6'-0"	2'-0"±	3 1/4"	0.1196"	31'-6"±	36'-6"±
8'-0"	2'-6"±	3 1/2"		32'-0"±	37'-0"±
10'-0"	3'-3"±	3 3/8"		32'-9"±	37'-9"±
12'-0"	4'-3"±	3 7/8"		33'-9"±	38'-9"±
15'-0"	4'-9"±	4 1/4"		34'-3"±	39'-3"±

- NOTES:
- The radial separation between the face of the pole and the adjacent insides of the top and bottom gusset plates shall not exceed 3/16". Fillet weld size to be increased by amount of gap.
 - Handhole shall be located on the downstream side of traffic.

POLE TYPE	LOAD CASE	WIND VELOCITY (mph)	POLE DATA				BASE PLATE DATA				LUMINAIRE MAST ARM	SIGNAL MAST ARM	CIDH PILE FOUNDATION							
			A HEIGHT	Min OD		THICKNESS	ALTERNATIVE SECTION			C			BC = BOLT CIRCLE	THICKNESS	ANCHOR BOLT SIZE	Dia	DEPTH			
				BASE	TOP		B LENGTH	BOTTOM	TOP											
60-5-100	5	100	17'-0"	22"	19 5/8"	0.375"	10'-0"	22 1/8"	20 3/4"	2'-6"	2'-4"	3"	2 1/4"φ x 42"	NONE	4'-0"	14'-0"				
61-5-100			30'-0"	25"	20 3/4"					2'-11"	2'-9"						6'-15" [15'-0"]	[55'-0"]	4'-6"	15'-0"
61A-5-100			35'-0"	20"	20"															

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(SIGNAL AND LIGHTING STANDARD,
CASE 5 SIGNAL MAST ARM LOADING,
WIND VELOCITY=100 MPH AND SIGNAL
MAST ARM LENGTHS 60' TO 65')
 NO SCALE

RSP ES-7H DATED JULY 15, 2016 SUPERSEDES RSP ES-7H DATED OCTOBER 30, 2015 AND RSP ES-7H DATED JULY 19, 2013 AND STANDARD PLAN ES-7H DATED MAY 20, 2011 - PAGE 469 OF THE STANDARD PLANS BOOK DATED 2010.

INDICATES MAST ARM LENGTH TO BE USED UNLESS OTHERWISE NOTED ON PLANS.

REVISED STANDARD PLAN RSP ES-7H

2010 REVISED STANDARD PLAN RSP ES-7H

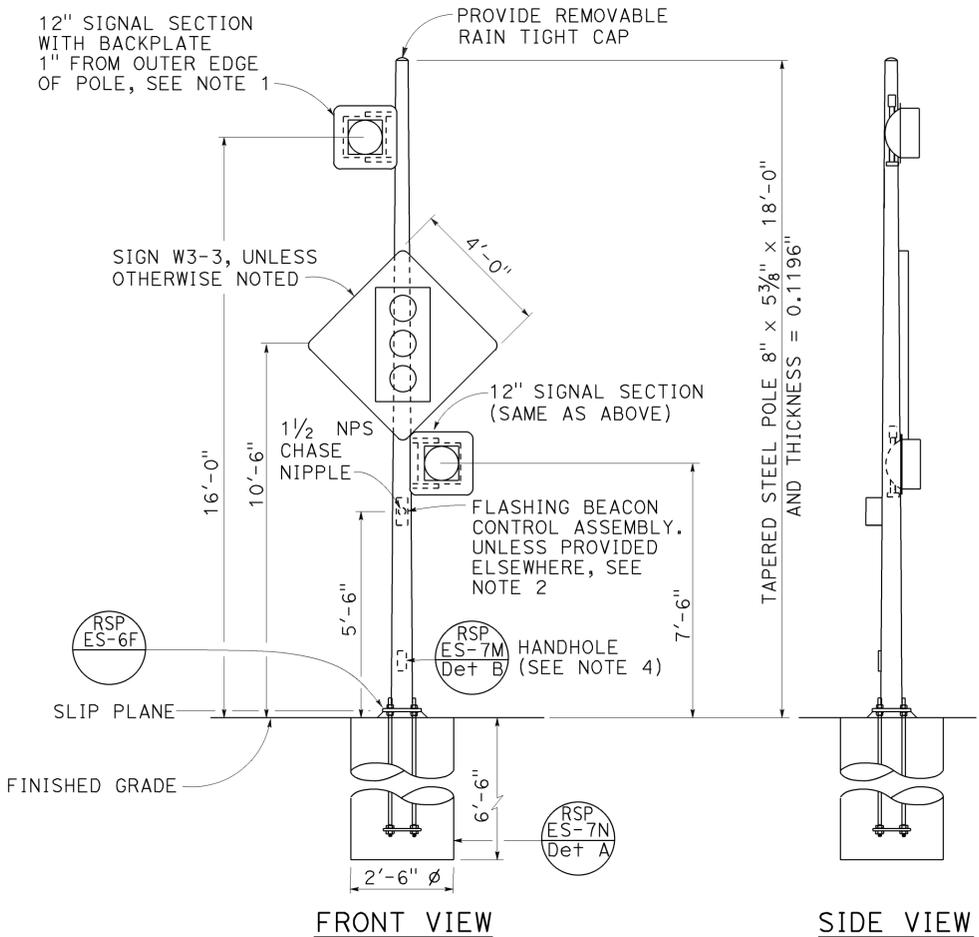
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	660	737

Stanley P. Johnson
 REGISTERED CIVIL ENGINEER
 No. C57793
 Exp. 3-31-18
 STATE OF CALIFORNIA
 CIVIL

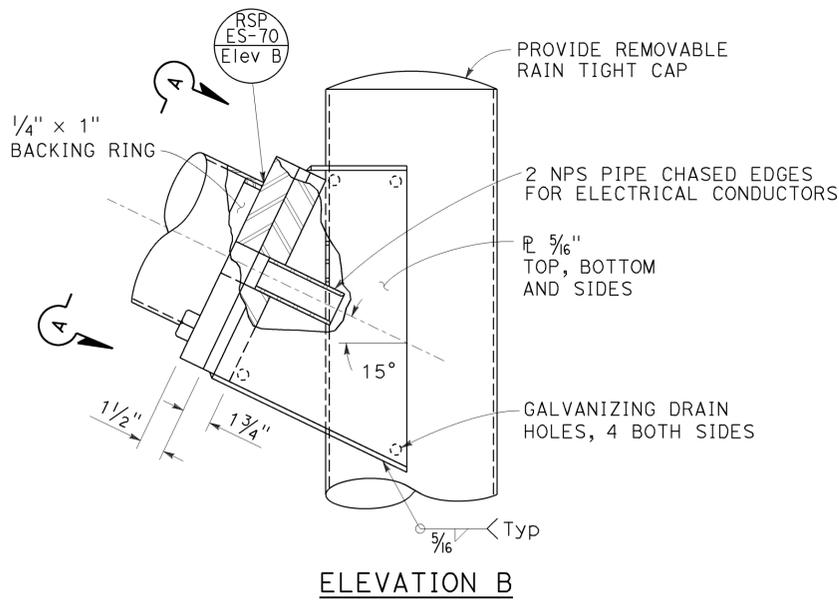
July 15, 2016
 PLANS APPROVAL DATE

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.

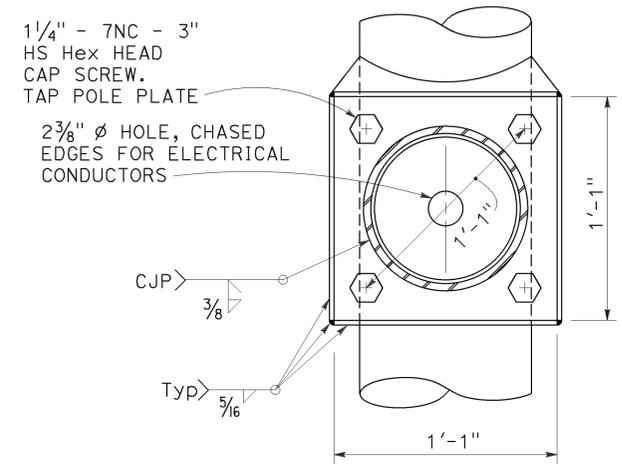
TO ACCOMPANY PLANS DATED 08-29-16



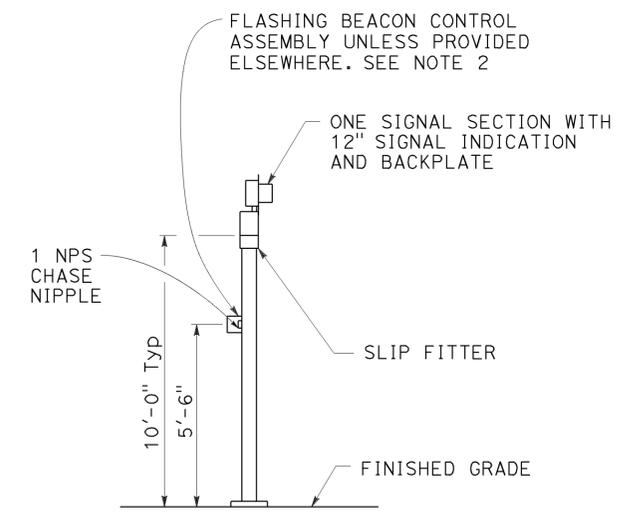
TYPE 15-FBS
FLASHING BEACON WITH SLIP BASE INSTALLATION
DETAIL A



ELEVATION B

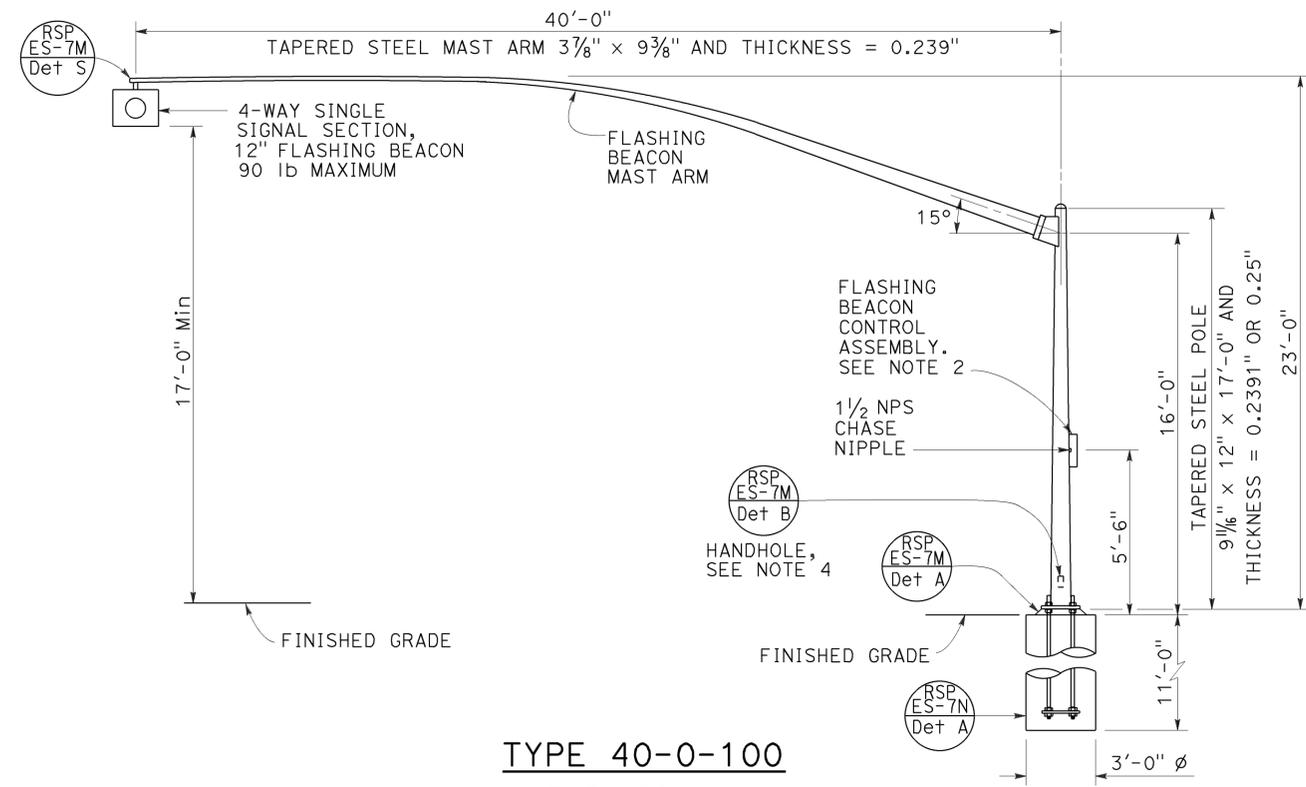


VIEW A-A
FLASHING BEACON MAST ARM
CONNECTION DETAIL
DETAIL B

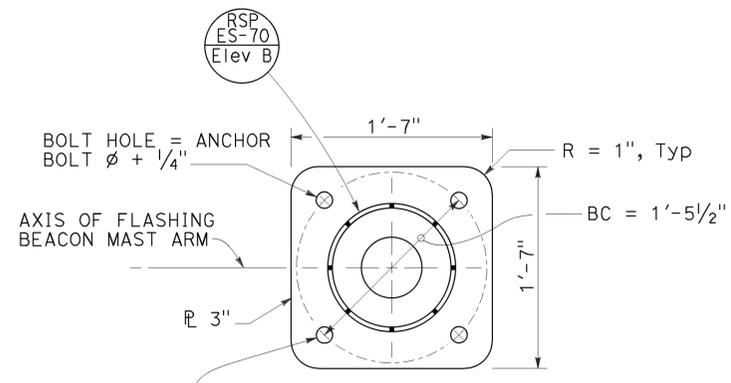


TYPE 1-A, 1-B, 1-C, AND 1-D
FLASHING BEACON INSTALLATION
DETAIL D

See Note 5



TYPE 40-0-100
ELEVATION A



BASE PLATE
DETAIL C

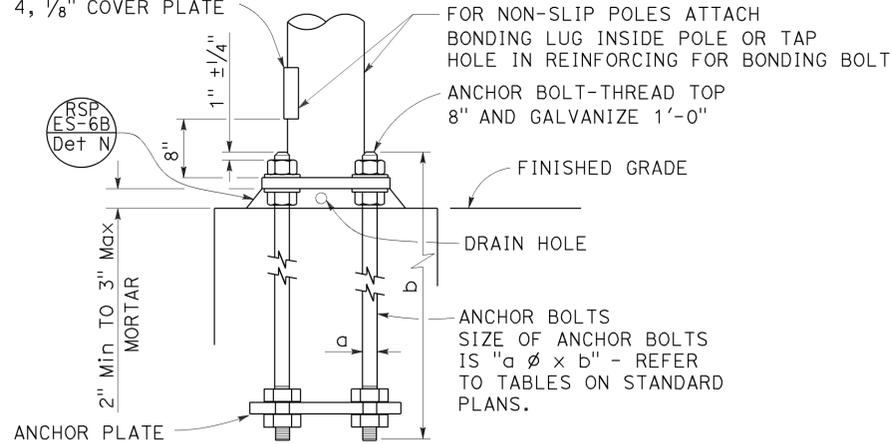
ELECTRICAL SYSTEMS
(FLASHING BEACON ON A TYPE 1, TYPE 15-FBS, AND TYPE 40 STANDARD)

NO SCALE

RSP ES-7J DATED JULY 15, 2016 SUPERSEDES RSP ES-7J DATED APRIL 15, 2016 AND RSP ES-7J DATED OCTOBER 30, 2015 AND RSP ES-7J DATED JULY 19, 2013 AND STANDARD PLAN ES-7J DATED MAY 20, 2011 - PAGE 471 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP ES-7J

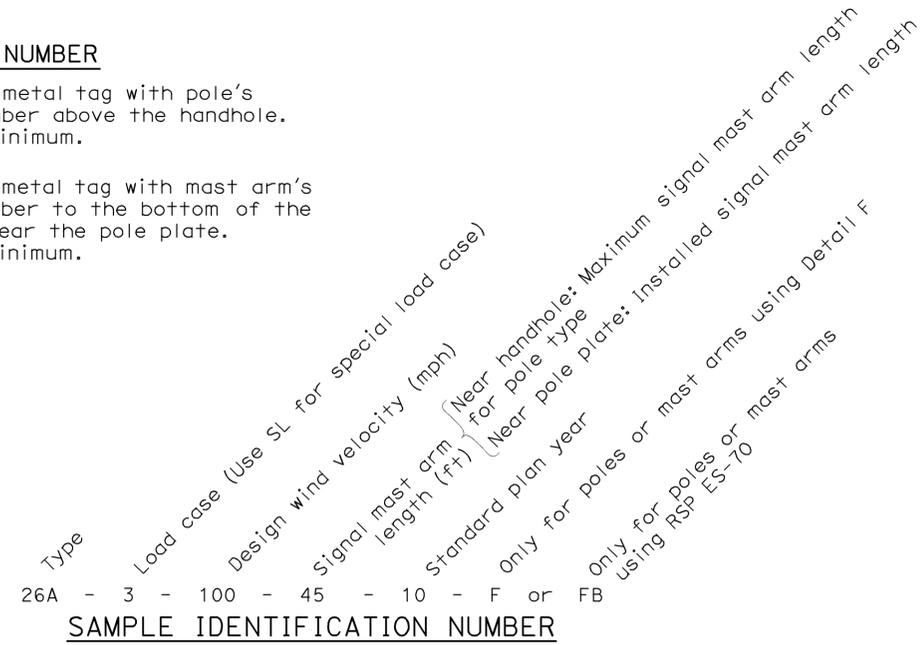
4" x 6 1/2" ROUNDED RECTANGLE HANDHOLE REINFORCED WITH RING WELDED TO OUTSIDE OF POLE. SEE NOTE 4, 1/8" COVER PLATE



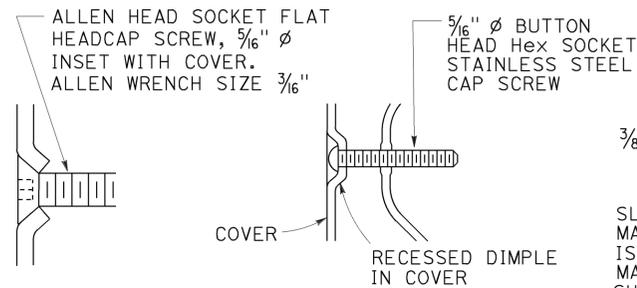
**HANDHOLE AND ANCHORAGE
DETAIL A**

IDENTIFICATION NUMBER

1. Attach a stamped metal tag with pole's identification number above the handhole. 1/4" high number, minimum.
2. Attach a stamped metal tag with mast arm's identification number to the bottom of the signal mast arm near the pole plate. 1/4" high number, minimum.

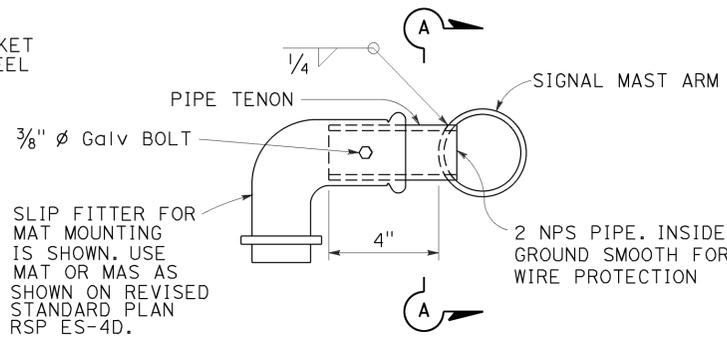


SAMPLE IDENTIFICATION NUMBER

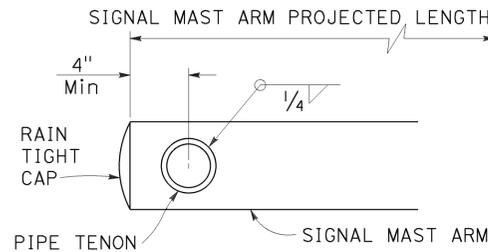


**TYPICAL DETAIL
DETAIL B-1**

**ALTERNATIVE DETAIL
DETAIL B-2**



**SIDE TENON
DETAIL S-1**



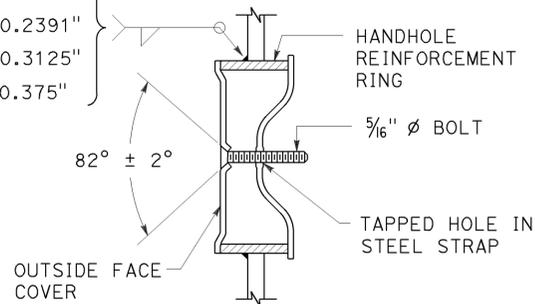
SECTION A-A

NOTES:

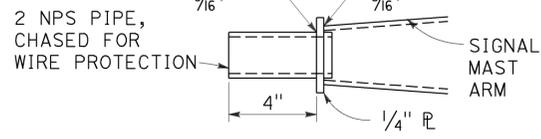
1. Provide a Hex nut, leveling nut and 2 washers for each bolt.
2. Luminaire mast arms shall be round, tapered steel tubes, taper of 0.1375" to 0.143-inch per foot with an end section 2 3/8" OD for mounting hardware. Extensions of 2 NPS Standard pipe and 7" long may be used at the option of the manufacturer. When low pressure sodium luminaires are required, the extension shall be 1'-3".
3. Signal mast arms shall be round, tapered steel tubes, maximum taper 0.143-inch per foot.
4. Handhole reinforcement ring shall be 1/4" x 2" for 0.1196" to 0.2391" thick poles, 3/8" x 2" for 0.3125" to 0.375" thick poles.
5. Handholes shall be located on the downstream side of traffic.
6. Detail F, fatigue resistant weld, is required at socket welded signal mast arm plate and pole base plate.
7. Cap screws shall be tightened by the turn-of-nut method 1/3 turn from a snug tight condition. No washer will be required.
8. Outside diameter, wall thickness, and corresponding section properties of poles and mast arms as shown in the Standard Plans are minimums. Unless otherwise specified, alternative sections shall require approval by the Engineer.
9. Design: AASHTO Standard Specifications for Structural Support for Highway Signs, Luminaires, and Traffic Signals, 6th Edition. Basic Wind Speed = 100 mph (3 seconds gust). Yearly Mean Wind Velocity = 15.6 mph.
10. Materials (Structural steel):
fy = 55,000 psi (tapered steel tube and anchor bolts)
fy = 50,000 psi (unless otherwise noted)
11. Materials (Reinforced concrete):
f'c = 3,625 psi
fy = 60,000 psi

WELD SIZE WALL THICKNESS

3/16"	0.1196"
1/4"	0.1793"
5/16"	0.2391"
3/8"	0.3125"
1/2"	0.375"



**TAMPER RESISTANT HANDHOLE COVER
DETAIL B**



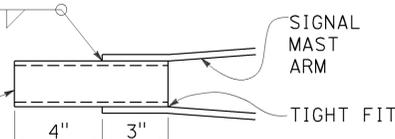
**TIP TENON
DETAIL TL**

This detail supersedes Detail S when so designated

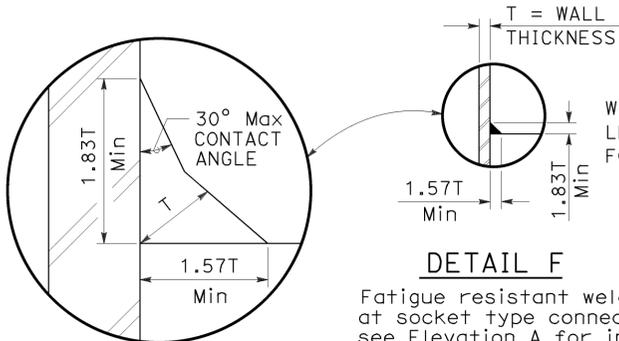
**PIPE TENONS
DETAIL S**

WELD SIZE	WALL THICKNESS
1/8"	0.1196"
3/16"	0.1793"
1/4"	0.2391"

2 NPS PIPE, CHASED FOR WIRE PROTECTION SEE NOTE 2

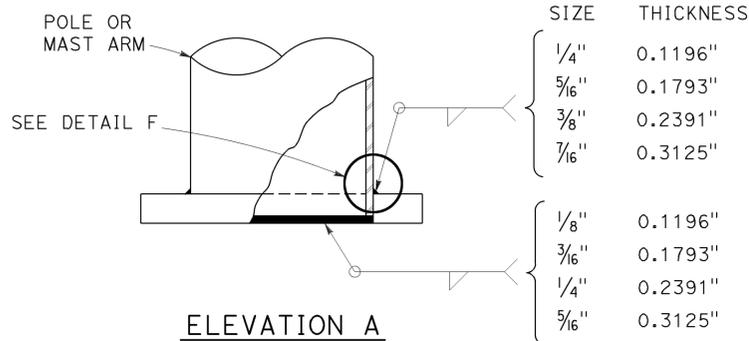


**TIP TENON
DETAIL TS**



DETAIL F

Fatigue resistant weld at socket type connection see Elevation A for inner weld



ELEVATION A

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
(SIGNAL AND LIGHTING STANDARD,
DETAIL No. 1)**
NO SCALE

RSP ES-7M DATED JULY 15, 2016 SUPERSEDES RSP ES-7M DATED OCTOBER 30, 2015 AND STANDARD PLAN ES-7M DATED MAY 20, 2011 - PAGE 474 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-7M

TO ACCOMPANY PLANS DATED 08-29-16

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	661	737

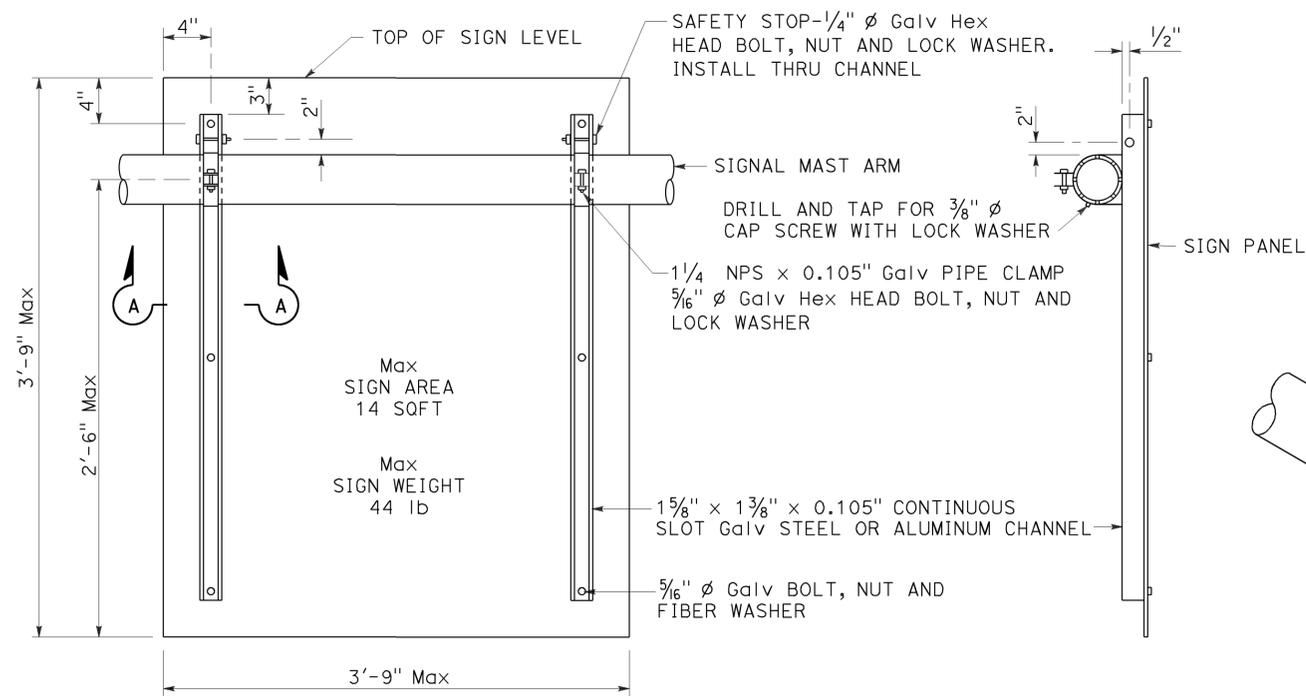
Stanley P. Johnson
REGISTERED CIVIL ENGINEER

July 15, 2016
PLANS APPROVAL DATE

Stanley P. Johnson
No. C57793
Exp. 3-31-18
CIVIL
STATE OF CALIFORNIA

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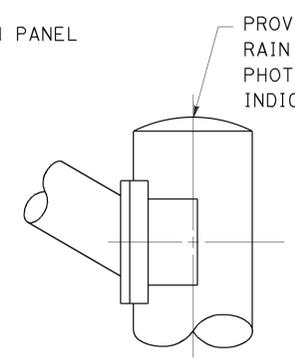
2010 REVISED STANDARD PLAN RSP ES-7N



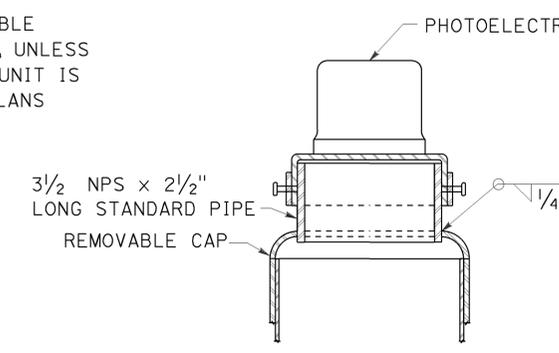
REAR VIEW

SIDE VIEW

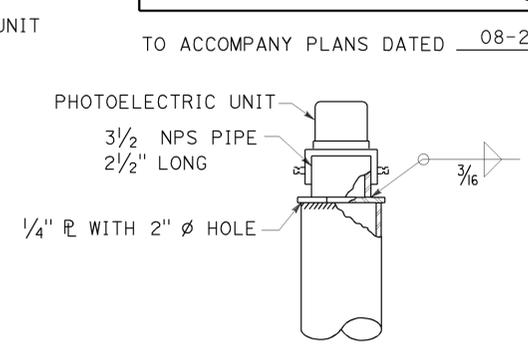
SIGN MOUNTING DETAILS
DETAIL U



STANDARD TOP
DETAIL B-1

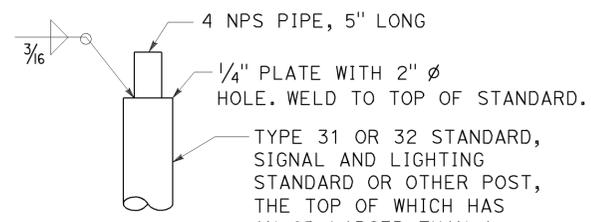


MOUNTING ADAPTER FOR
PHOTOELECTRIC UNIT
DETAIL B-2

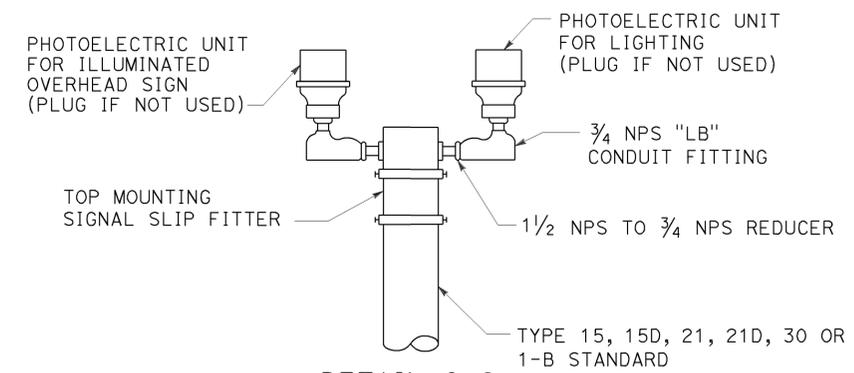


ALTERNATIVE
MOUNTING ADAPTER
DETAIL B-3

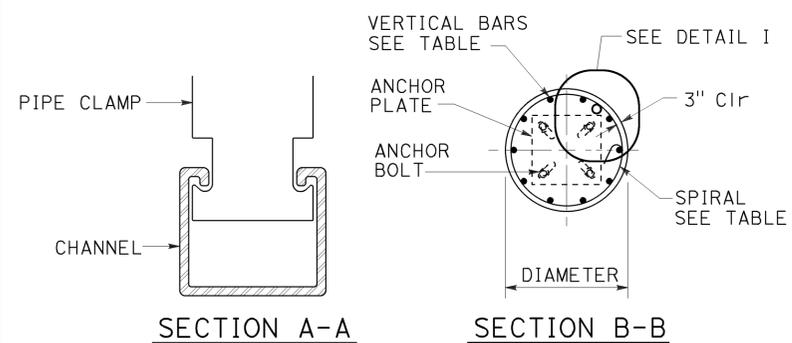
POLE TOP DETAILS
DETAIL B



DETAIL C-1

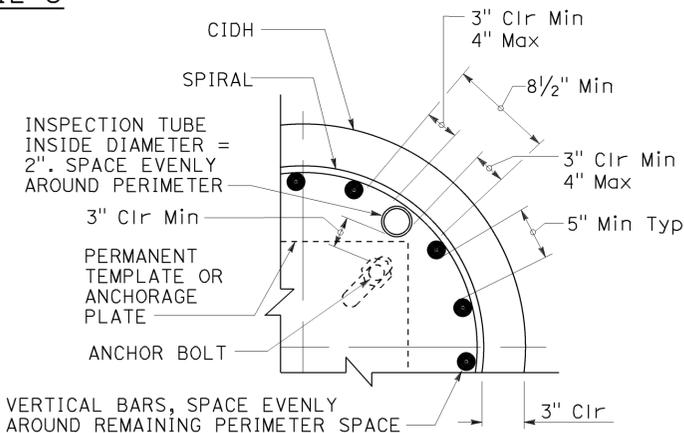


DUAL PHOTOELECTRIC UNIT MOUNTING DETAIL
DETAIL C



SECTION A-A

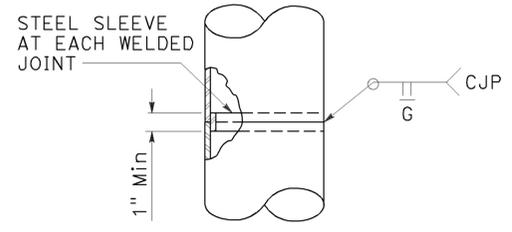
SECTION B-B



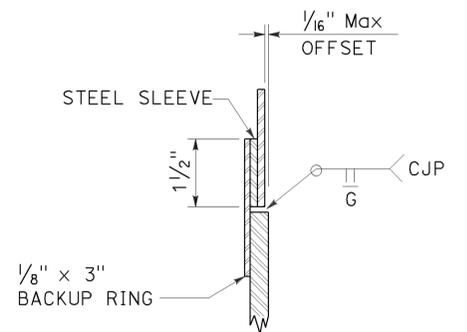
INSPECTION TUBE PLACEMENT
DETAIL I

CIDH DIAMETER	VERTICAL BARS	SPIRAL	INSPECTION TUBE
2 ft	8-#5	#4 AT 6	2
2.5 ft	10-#6		4*
3 ft	12-#7	#5 AT 6	4
3.5 ft	14-#8		5
4 ft	18-#9	2-#4 AT 7	5
4.5 ft	18-#9	2-#5 AT 7	6
5 ft	22-#10	2-#5 AT 7	6
6 ft	26-#11	2-#6 AT 7	7

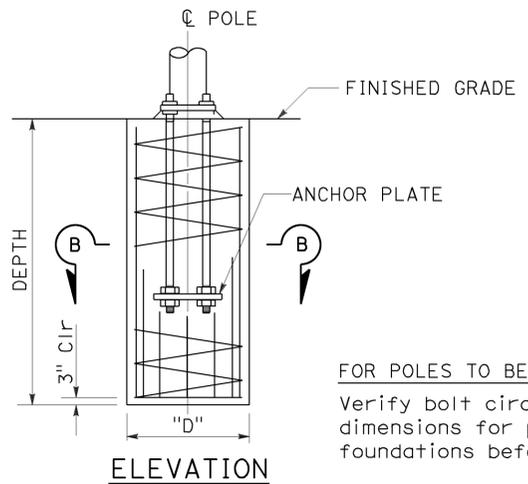
* FOR SLIP BASE VERSIONS WITH 3 ANCHOR BOLTS USE 3 INSPECTION TUBES.



FOR UNIFORM TUBE THICKNESS
DETAIL T-1



AT TUBE THICKNESS CHANGE
DETAIL T-2



ELEVATION

FOR POLES TO BE INSTALLED ON EXISTING FOUNDATION:
Verify bolt circles, anchor bolt sizes and dependent dimensions for poles to be installed on existing foundations before fabricating the poles.

CAST-IN-DRILLED-HOLE PILE FOUNDATION,
REINFORCED PILE
DETAIL A

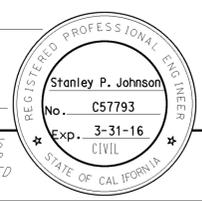
POLE SPLICES
DETAIL T

**ELECTRICAL SYSTEMS
(SIGNAL AND LIGHTING STANDARD,
DETAIL No. 2)**

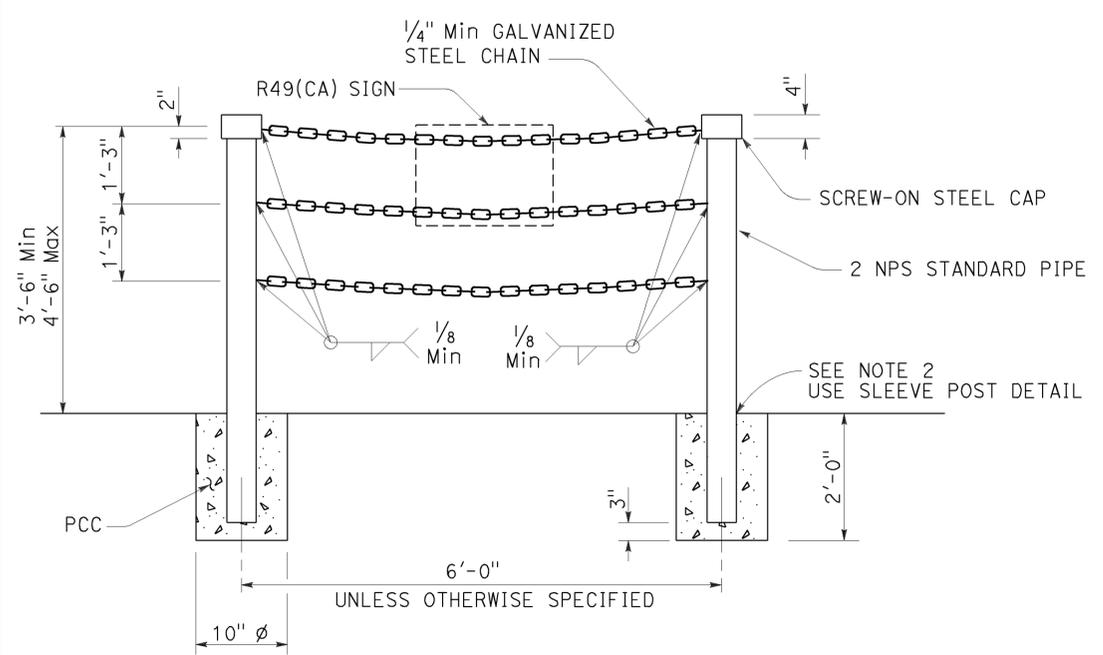
NO SCALE
RSP ES-7N DATED JULY 15, 2016 SUPERSEDES RSP ES-7N DATED OCTOBER 30, 2015 AND
STANDARD PLAN ES-7N DATED MAY 20, 2011 - PAGE 475 OF THE STANDARD PLANS BOOK DATED 2010.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	663	737

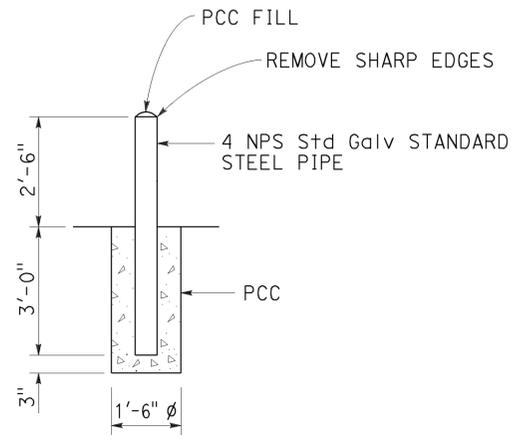
Stanley P. Johnson
 REGISTERED CIVIL ENGINEER
 October 30, 2015
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



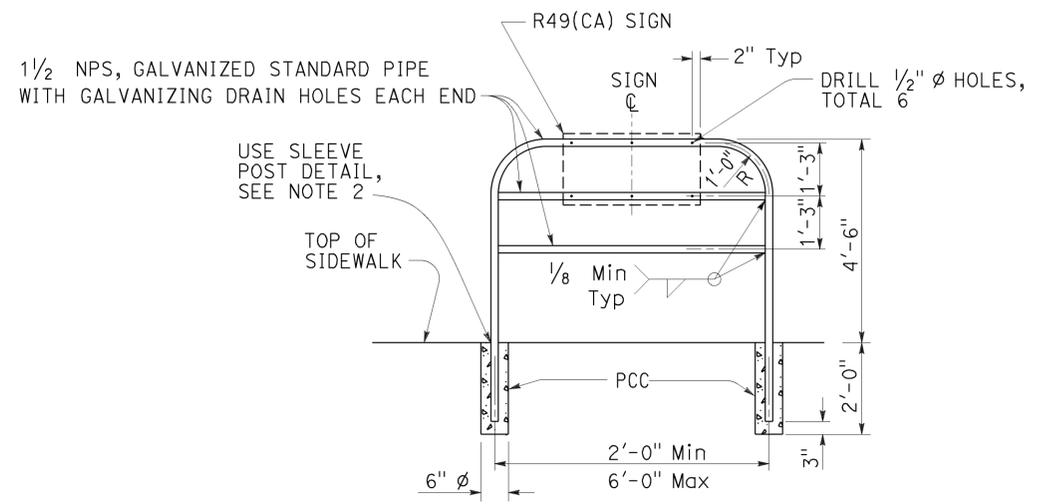
TO ACCOMPANY PLANS DATED 08-29-16



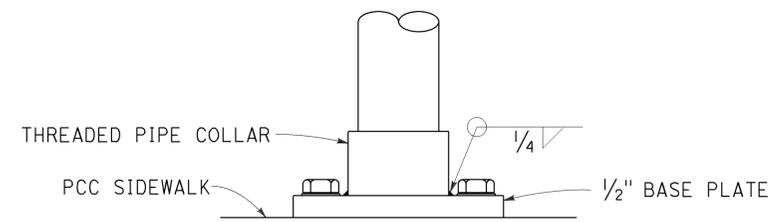
**TYPE II
DETAIL A**



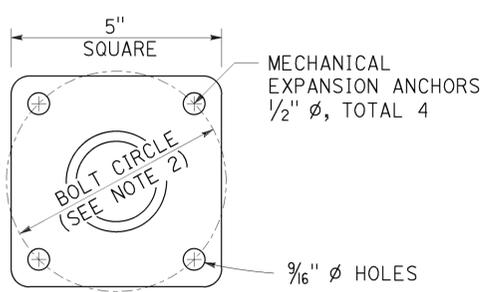
**GUARD POST
DETAIL B**



**TYPE I
DETAIL C**



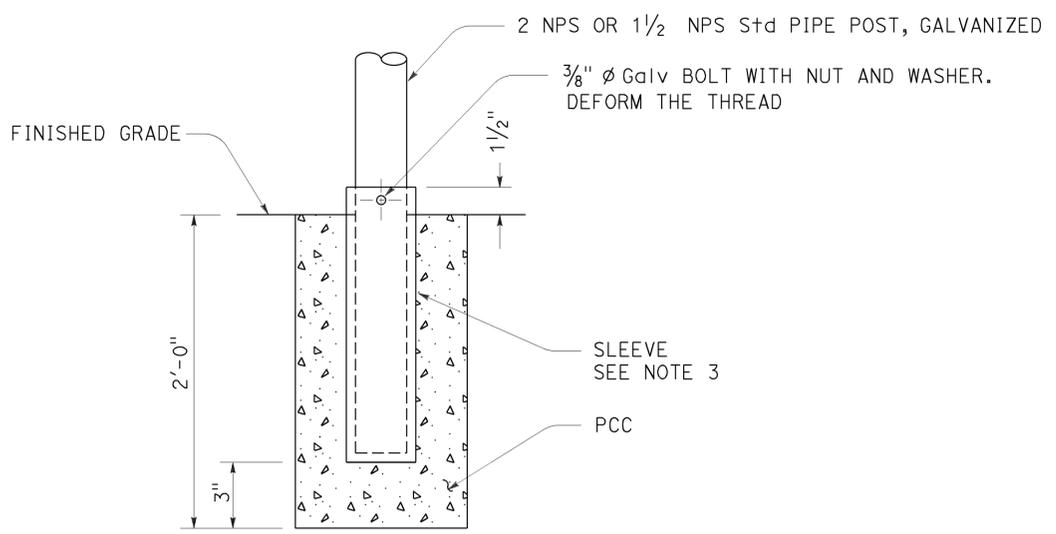
ELEVATION



PLAN

POST ANCHORAGE DETAIL

DETAIL D



SLEEVE POST DETAIL

Use unless otherwise specified or shown on plans

DETAIL E

NOTES:

1. Pipe post to be set 1'-6" back from face of curb unless otherwise specified.
2. Where barricade posts are installed in existing concrete sidewalk, the post may be anchored to the sidewalk as shown in the "Post Anchorage Detail". Bolt circle diameter shall be 4" minimum for Type I barricade and 5" minimum for Type II barricade.
3. Steel sleeve shall be constructed with an inside diameter 1/10" larger than the post's outside diameter. Wall thickness of sleeve shall be same as post or larger.
4. Alternative details may be submitted for approval by the Engineer.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
(PEDESTRIAN BARRICADES)**

NO SCALE

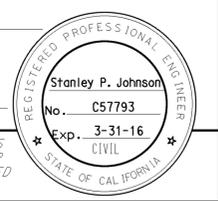
RSP ES-7Q DATED OCTOBER 30, 2015 SUPERSEDES STANDARD PLAN ES-7Q DATED MAY 20, 2011 - PAGE 478 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-7Q

2010 REVISED STANDARD PLAN RSP ES-7Q

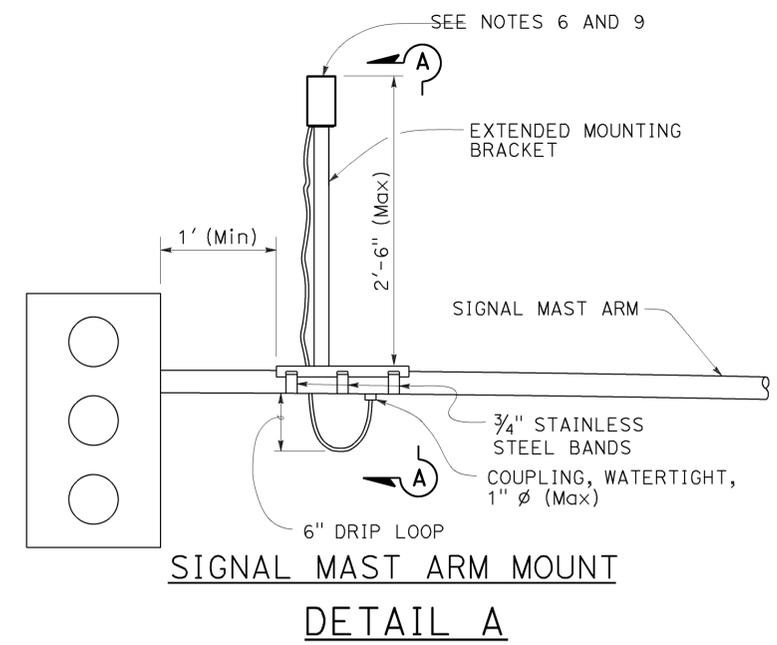
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	664	737

Stanley P. Johnson
 REGISTERED CIVIL ENGINEER
 October 30, 2015
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

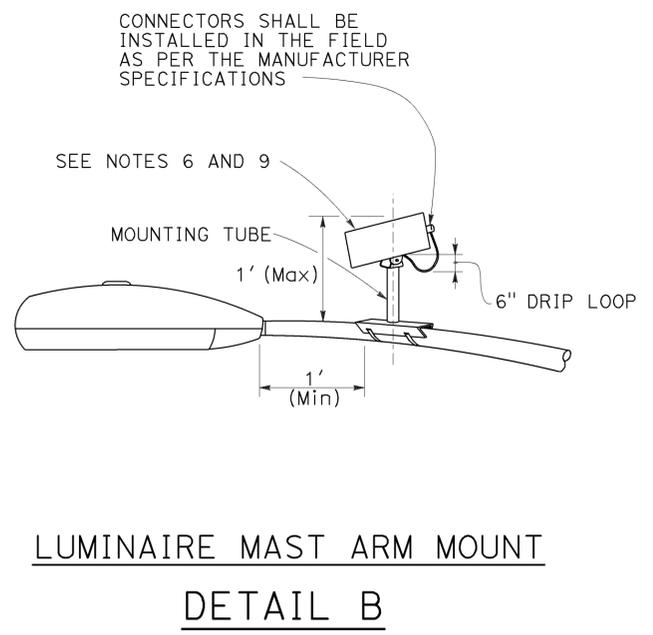


TO ACCOMPANY PLANS DATED 08-29-16

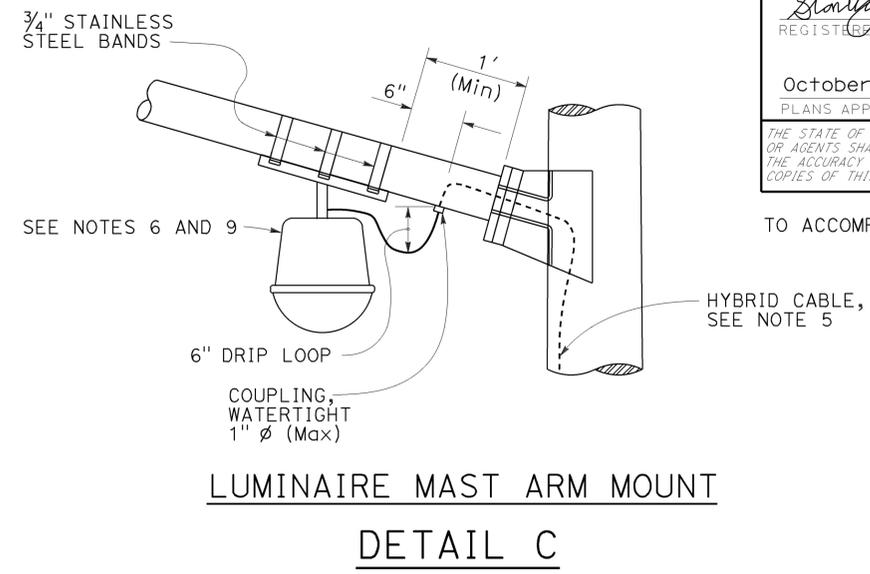
2010 REVISED STANDARD PLAN RSP ES-7R



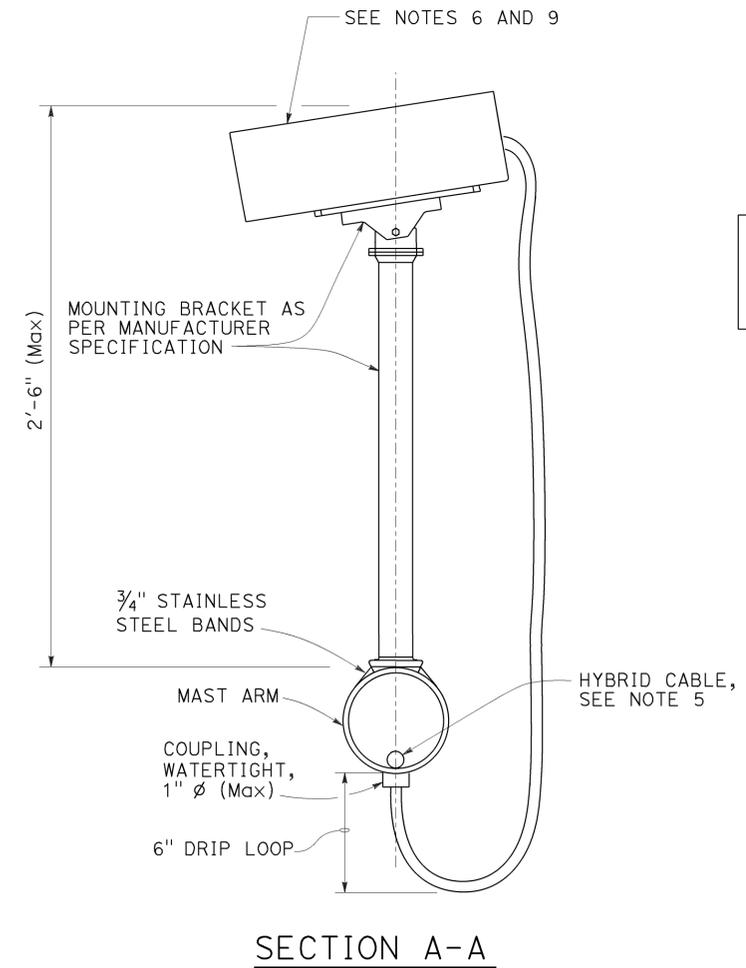
**SIGNAL MAST ARM MOUNT
DETAIL A**



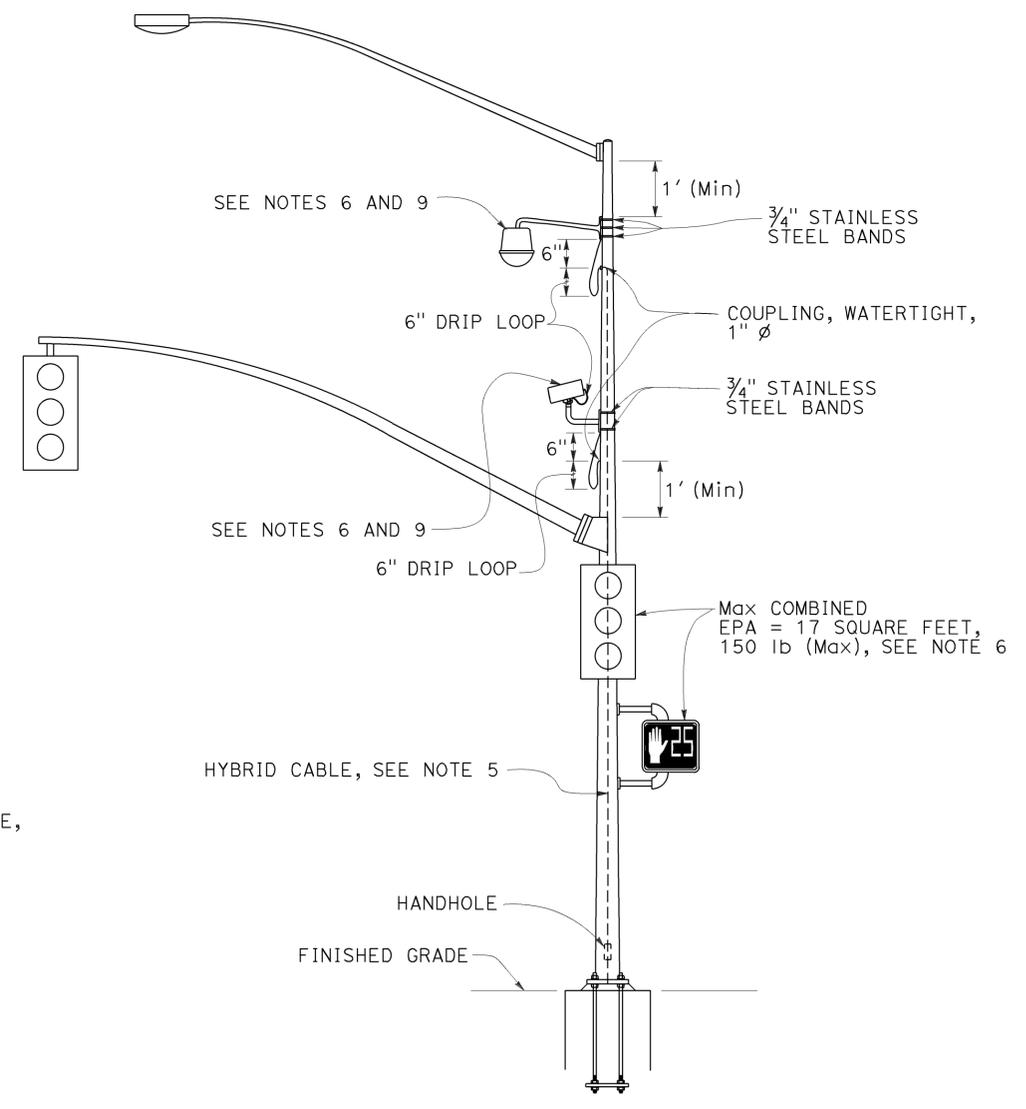
**LUMINAIRE MAST ARM MOUNT
DETAIL B**



**LUMINAIRE MAST ARM MOUNT
DETAIL C**



SECTION A-A



**SIGNAL POLE MOUNT
DETAIL D**

NOTES:

- Exact mounting location of miscellaneous attachment and bracket shall be approved by the Engineer per manufacturer's recommendation.
- Location of cable entrances on signal pole shall be a minimum of 1' from any flange or base plate.
- Hybrid cable entrances on signal pole shall be drilled for weathertight coupling as required.
- Hybrid cable shall have a drip loop at the entrance into signal pole, luminaire mast arm and signal mast arm.
- A single hybrid cable shall run continuous and shall not be twisted from the miscellaneous attachment to the controller cabinet. No splices shall be allowed.
- Use the manufacturer's Effective Projected Area (EPA) for miscellaneous attachment. The maximum EPA for each miscellaneous attachment shall be 1.6 square feet with 10 lb Max.
- Maximum of two miscellaneous attachments per traffic signal standard.
- Maximum of one miscellaneous attachment per mast arm.
- Miscellaneous attachment shall be mounted using clamping devices.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
(SIGNAL AND LIGHTING,
MISCELLANEOUS ATTACHMENT)**

NO SCALE

RSP ES-7R DATED OCTOBER 30, 2015 SUPERSEDES RSP ES-7R DATED JULY 19, 2013 AND STANDARD PLAN ES-7R DATED MAY 20, 2011 - PAGE 479 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-7R

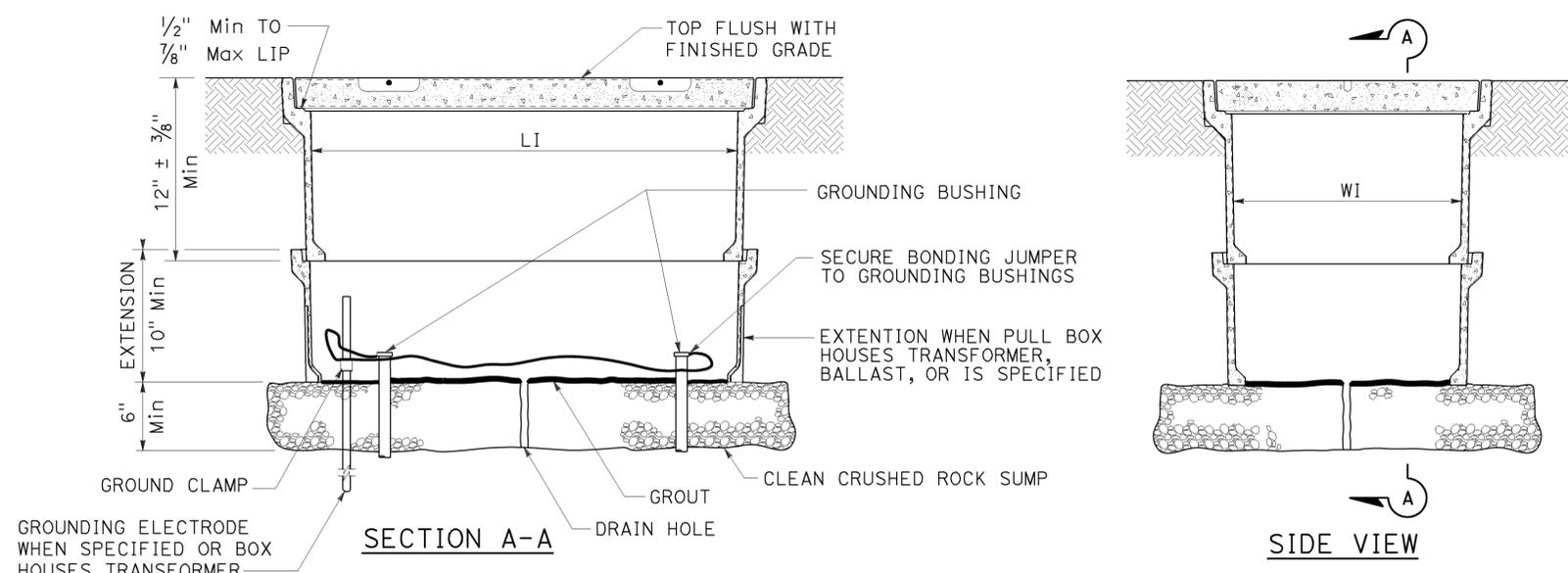
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	163	4.1/4.9	665	737

Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 April 15, 2016
 PLANS APPROVAL DATE

Theresa Aziz Gabriel
 No. E15129
 Exp. 6-30-16
 ELECTRICAL
 STATE OF CALIFORNIA

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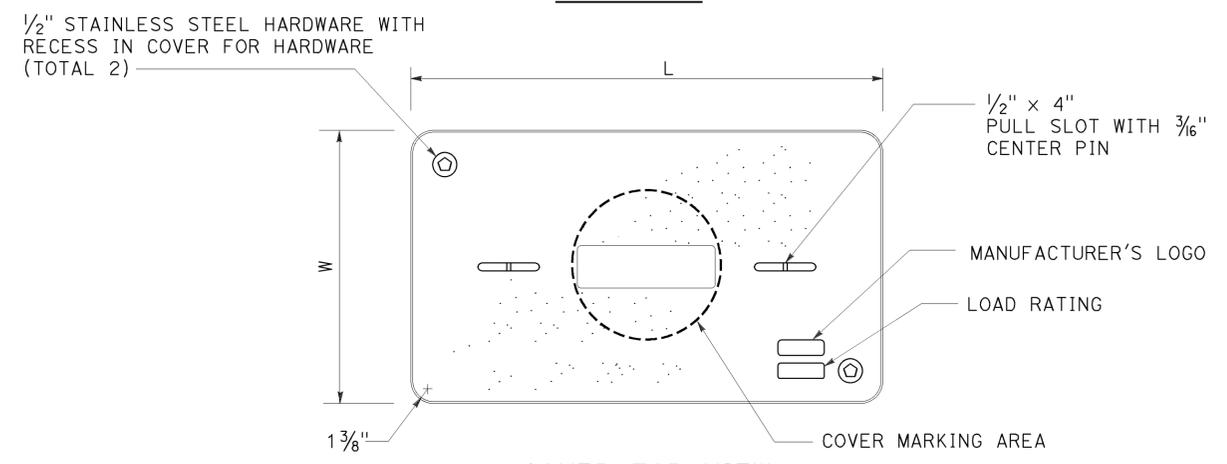
TO ACCOMPANY PLANS DATED 08-29-16



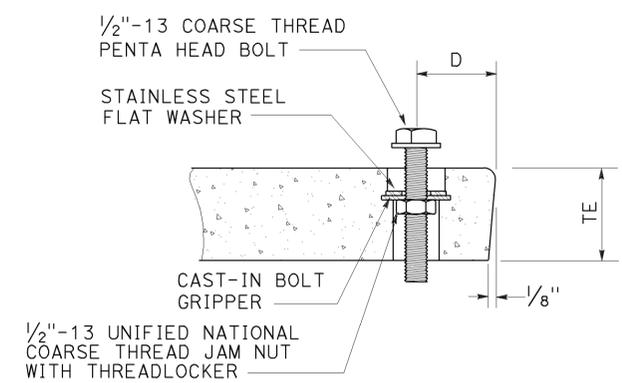
INSTALLATION DETAILS
DETAIL A

NOTES:

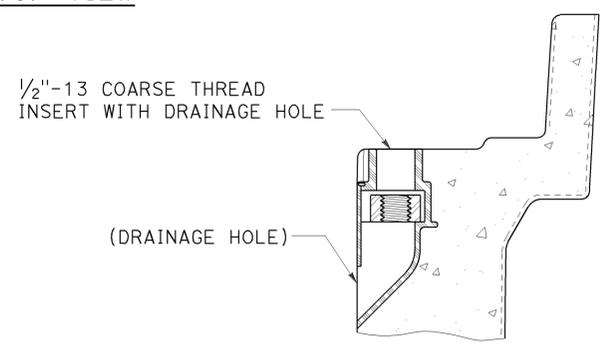
1. The nominal dimensions of the opening in which the cover sets shall be the same as the cover dimensions except the length and width dimensions shall be 1/8" greater.
2. Covers and boxes shall be interchangeable with California standard male and female gages. When interchanged with a standard male or female gage, the top surfaces shall be flush within 1/8". Top outside radius of covers and pull boxes shall have a 1/8" radius.
3. Dimensions for the cover for non-traffic pull box are nominal values.



COVER TOP VIEW



TYPICAL COVER CAPTIVE BOLT
OR SIMILAR



TYPICAL THREADED INSERT
OR SIMILAR

DIMENSION TABLE										
PULL BOX	PULL BOX			COVER						
	MINIMUM DEPTH BOX	MINIMUM DEPTH EXTENSION	MINIMUM WEIGHT	LI Min	WI Min	TE	D	L	W	MINIMUM WEIGHT
No. 3 1/2	12"	N/A	40 lb	1' - 3"	9"	1 3/4"	1 3/4"	1'-3 1/4" - 1'-3 3/8"	10" - 10 1/8"	30 lb
No. 5	12"	10"	55 lb	1' - 8"	11"	2"	1 3/4"	1'-11 1/4"	1'-1 3/4"	60 lb
No. 6	12"	10"	70 lb	2' - 4 1/4"	1' - 3 1/4"	2"	2"	2'-6 1/2"	1'-5 1/2"	85 lb

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

RSP ES-8A DATED APRIL 15, 2016 SUPERSEDES RSP ES-8A
DATED OCTOBER 30, 2015 AND RSP ES-8A DATED JULY 19, 2013 AND RSP ES-8A
DATED JANUARY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-8A

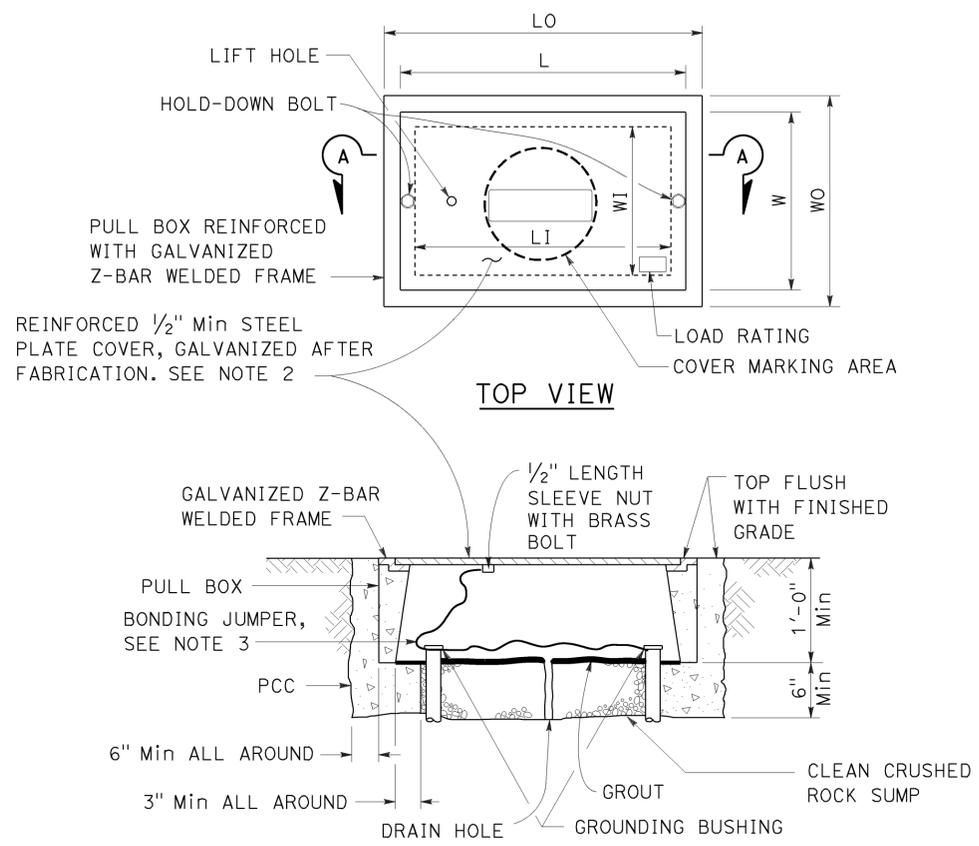
2010 REVISED STANDARD PLAN RSP ES-8A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	SD	163	4.1/4.9	666	737

Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 April 15, 2016
 PLANS APPROVAL DATE

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TO ACCOMPANY PLANS DATED 08-29-16



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

NOTES:

- 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.
- Bonding jumper for metal covers shall be 3' long, minimum.
- The nominal dimensions of the opening in which the cover sets shall be the same as the cover dimensions except the length and width dimensions shall be 1/8" greater.
- Covers and boxes shall be interchangeable with California standard male and female gages. When interchanged with a standard male or female gage, the top surfaces shall be flush within 1/8".

PULL BOX	PULL BOX				COVER			
	MINIMUM * THICKNESS	MINIMUM DEPTH BOX AND EXTENSION	LO	LI	WO	WI	L **	W **
No. 3 1/2(T)	1 1/2"	1'-0"	1'-10" - 1'-11"	1'-5" - 1'-6 1/2"	1'-3" - 1'-4"	10" - 1'-0"	1'-8" - 1'-8 1/2"	1'-1" - 1'-2"
No. 5(T)	1 3/4"	1'-0"	2'-5" - 2'-6"	2'-0" - 2'-1"	1'-6" - 1'-7"	1'-1" - 1'-2"	2'-3" - 2'-3 1/2"	1'-4" - 1'-4 1/2"
No. 6(T)	2"	1'-0"	2'-11" - 3'-1"	2'-6" - 2'-7"	1'-10" - 2'-0"	1'-5" - 1'-6"	2'-9" - 2'-9 1/2"	1'-8" - 1'-8 1/2"

* EXCLUDING CONDUIT WEB ** TOP DIMENSION

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

RSP ES-8B DATED APRIL 15, 2016 SUPERSEDES RSP ES-8B
 DATED OCTOBER 30, 2015 AND RSP ES-8B DATED JULY 19, 2013 AND RSP ES-8B
 DATED JANUARY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-8B

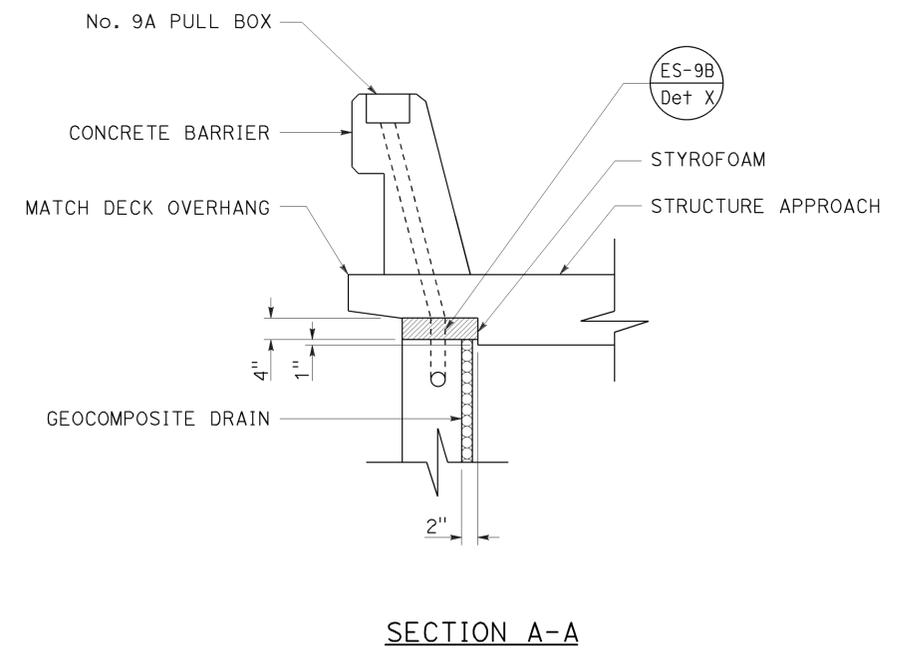
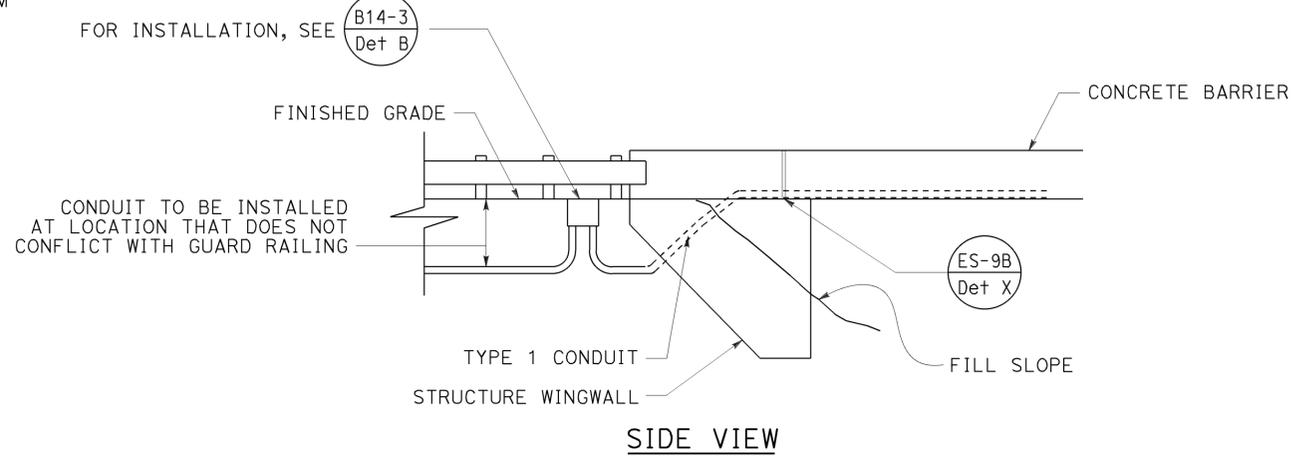
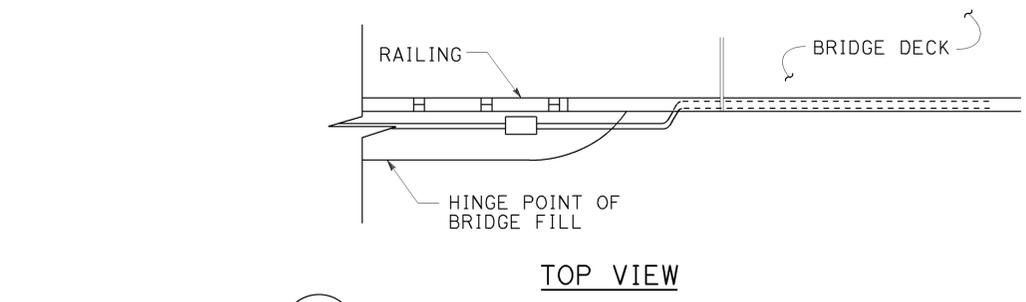
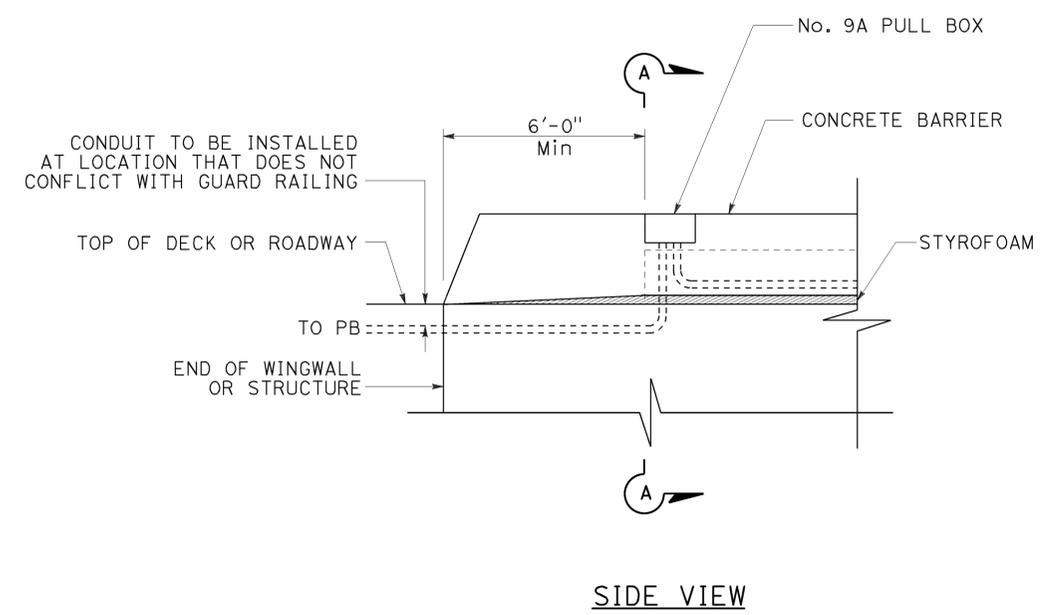
2010 REVISED STANDARD PLAN RSP ES-8B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	667	737

Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 Theresa Aziz Gabriel
 No. E15129
 Exp. 6-30-16
 ELECTRICAL
 STATE OF CALIFORNIA

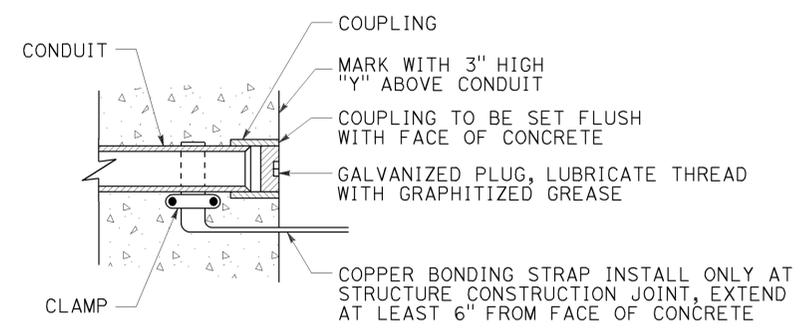
October 30, 2015
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 08-29-16



**CONDUIT TERMINATION
DETAIL A**

**CONDUIT TERMINATION
DETAIL I**



**CONDUIT TERMINATION
DETAIL C**

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (STRUCTURE PULL BOX
 INSTALLATIONS)**

NO SCALE

RSP ES-9A DATED OCTOBER 30, 2015 SUPERSEDES STANDARD PLAN ES-9A DATED MAY 20, 2011 - PAGE 481 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-9A

2010 REVISED STANDARD PLAN RSP ES-9A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	668	737

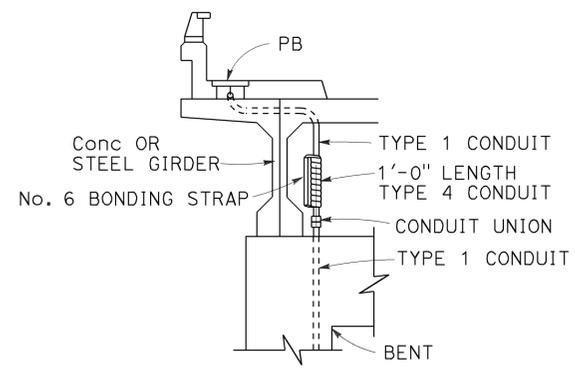
Jagwinder & Co
REGISTERED ELECTRICAL ENGINEER

October 30, 2015
PLANS APPROVAL DATE

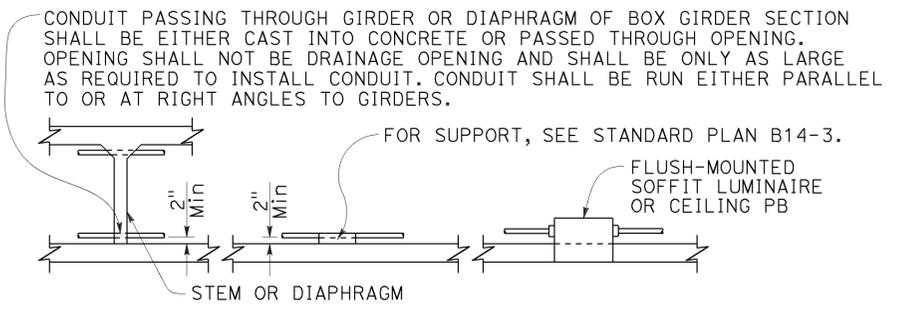
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
No. E18551
Exp. 12-31-16
ELECTRICAL
STATE OF CALIFORNIA

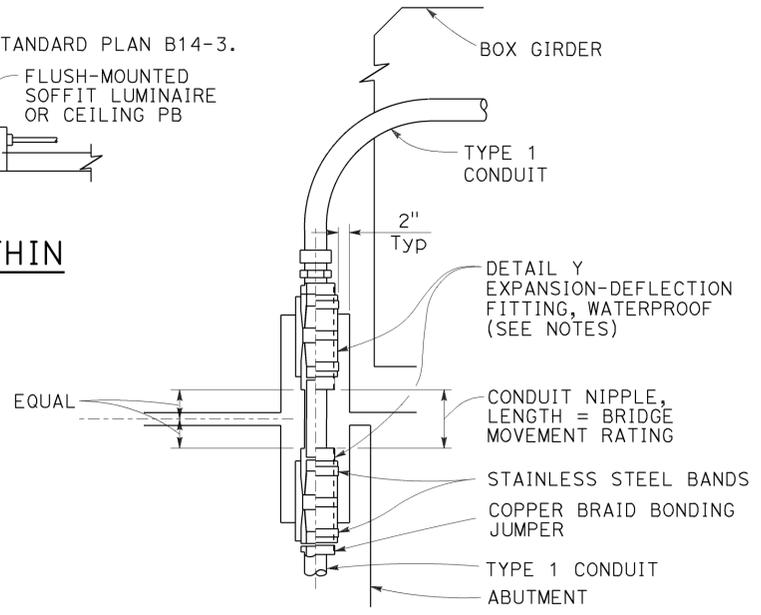
TO ACCOMPANY PLANS DATED 08-29-16



CONDUIT RISER CONNECTION
DETAIL R

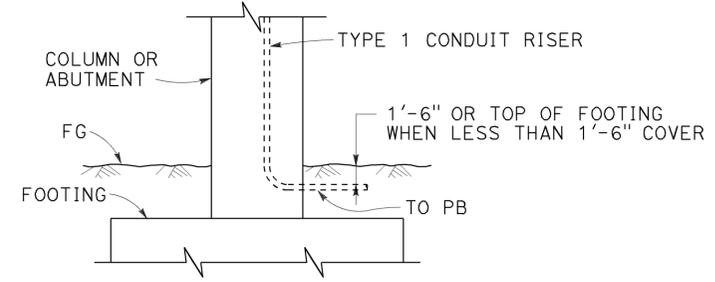


CONDUIT INSTALLATION WITHIN BOX GIRDER SECTIONS
DETAIL S

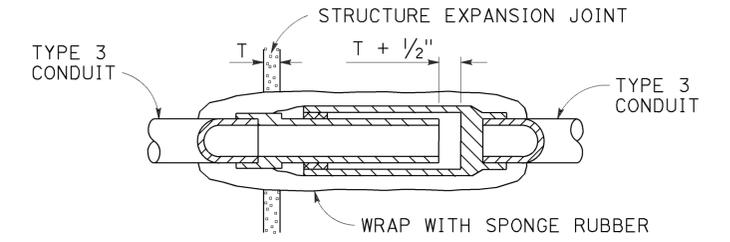


- NOTES:**
1. Fitting and pocket required only where movement can occur between girder and abutment.
 2. Fill pocket around fitting with resilient waterproof compound.

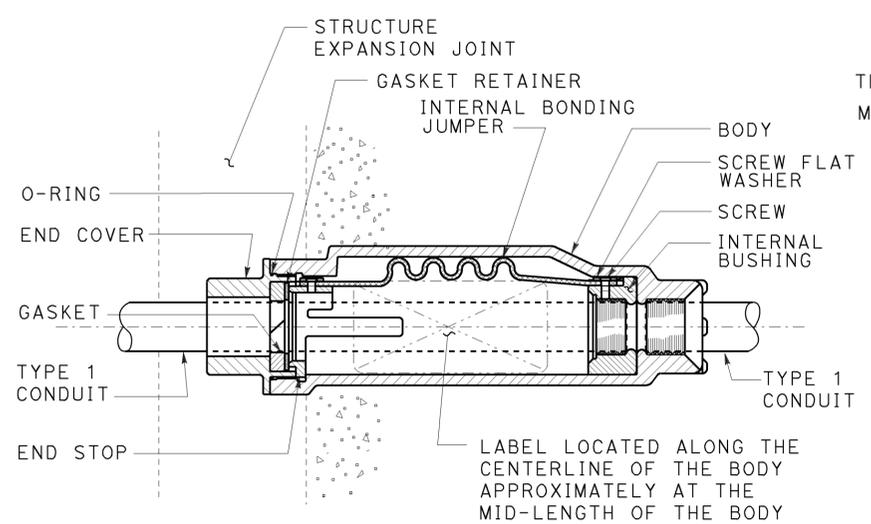
CONDUIT RISER CONNECTION AT COLUMN, ABUTMENT OR STRUCTURE WING WALL
DETAIL U



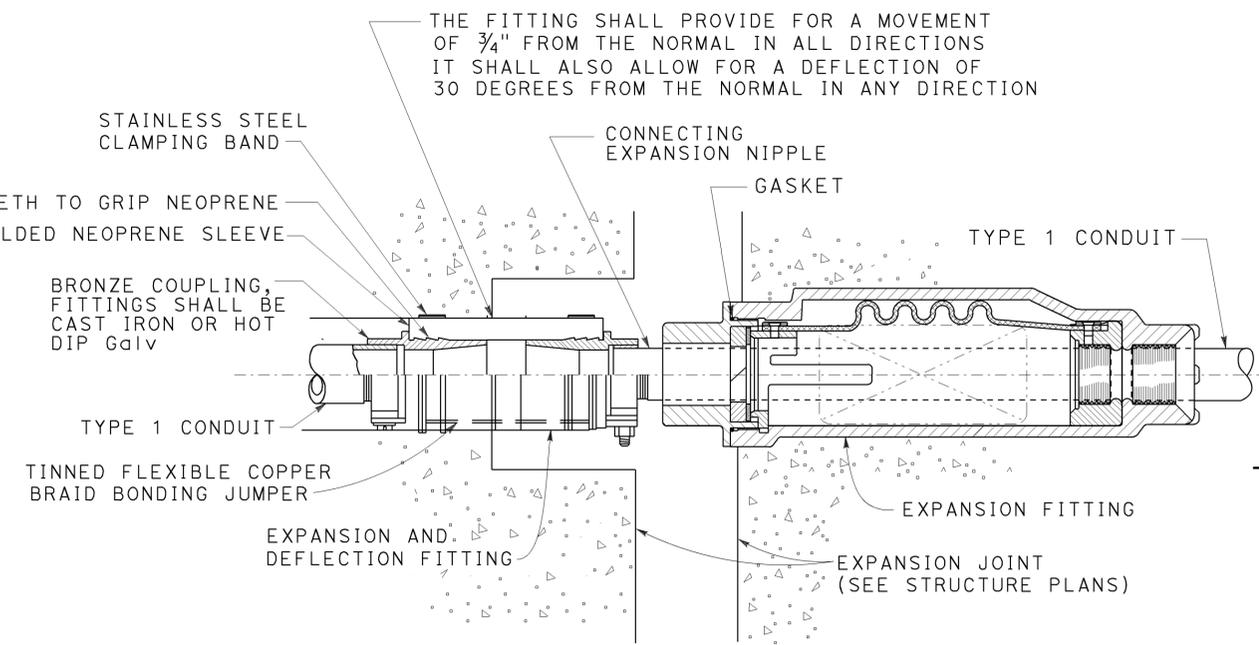
LOWER END OF CONDUIT RISER AT COLUMN OR ABUTMENT
DETAIL T



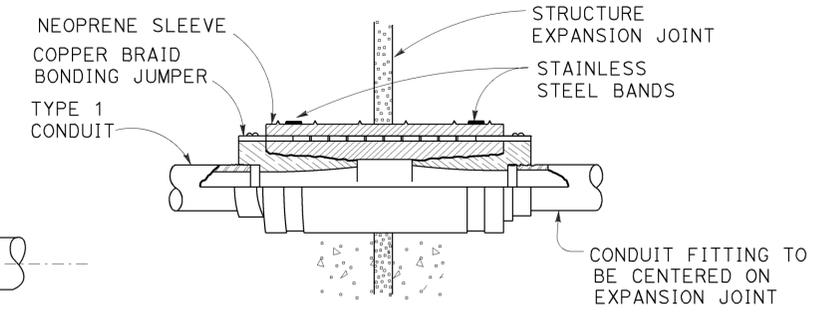
NON-METALLIC CONDUIT EXPANSION FITTING INSTALLATION DETAIL
DETAIL V



CONDUIT EXPANSION FITTING
DETAIL X



COMBINATION EXPANSION-DEFLECTION FITTINGS METALLIC CONDUIT INSTALLATION
DETAIL XY



CONDUIT EXPANSION-DEFLECTION FITTING
DETAIL Y

NOTES:

1. Except for sidewalk joints, a conduit expansion fitting or expansion-deflection fitting shall be installed at each 1/2" or greater structure joint, hinge or abutment.
2. Fittings or combination of fittings shall be installed to accommodate the movement rating as shown on the structure plans.
3. Fittings shall be installed parallel to superstructure girders.
4. Where lateral movement greater than 1/4" may occur, a neoprene sleeve expansion-deflection fitting shall be installed straddling the joint.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS (CONDUIT RISER AND EXPANSION FITTING, STRUCTURE INSTALLATIONS)
NO SCALE

RSP ES-9B DATED OCTOBER 30, 2015 SUPERSEDES STANDARD PLAN ES-9B DATED MAY 20, 2011 - PAGE 482 OF THE STANDARD PLANS BOOK DATED 2010.

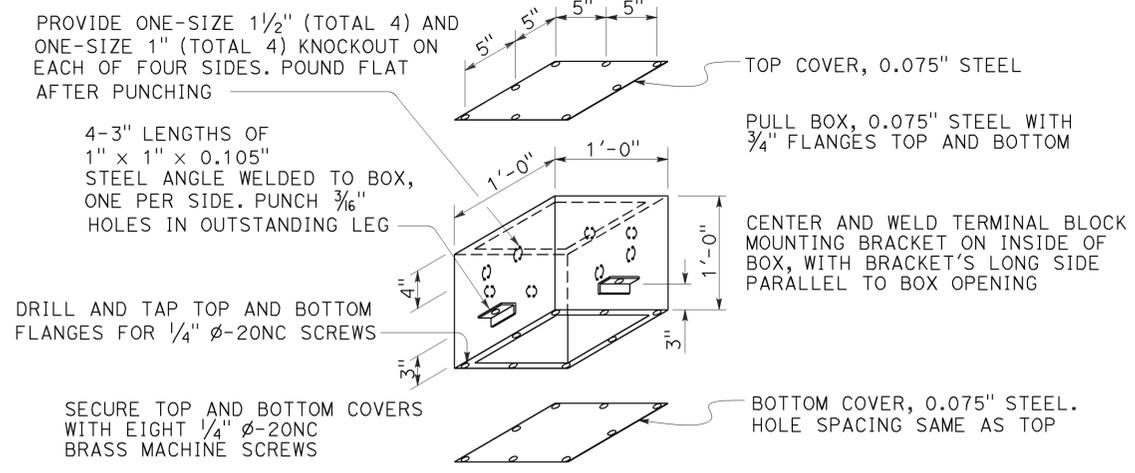
2010 REVISED STANDARD PLAN RSP ES-9B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	669	737

Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 No. E15129
 Exp. 6-30-16
 ELECTRICAL
 STATE OF CALIFORNIA

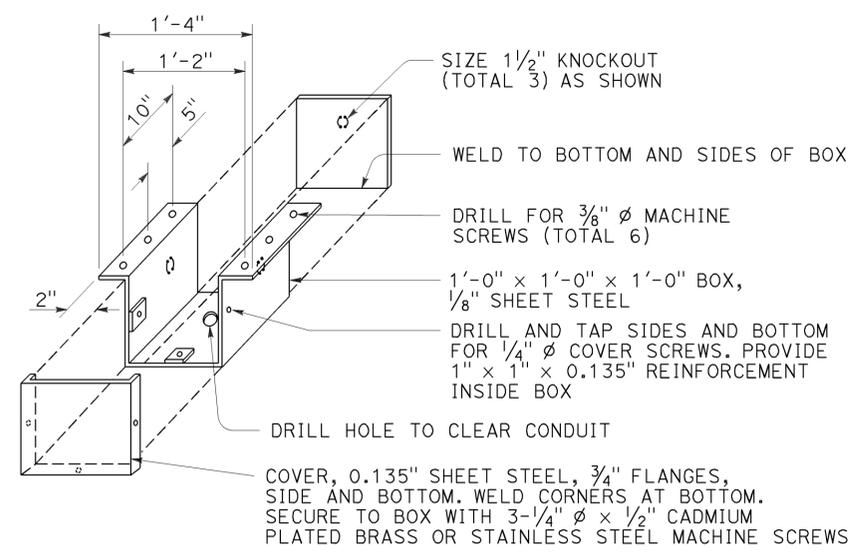
April 15, 2016
 PLANS APPROVAL DATE

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.



No. 7 PULL BOX (CEILING)

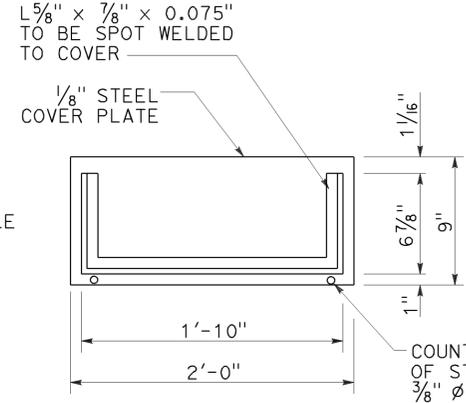
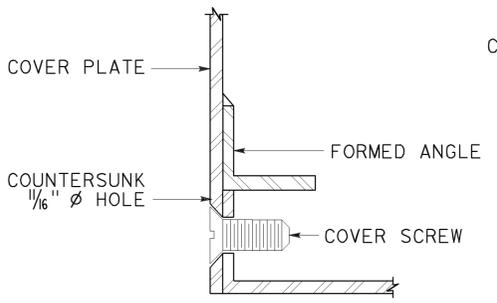
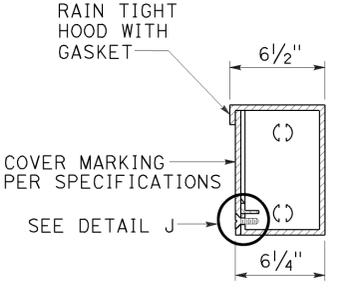
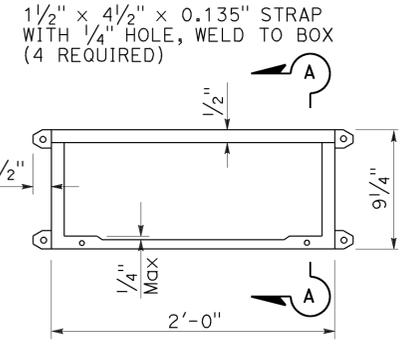
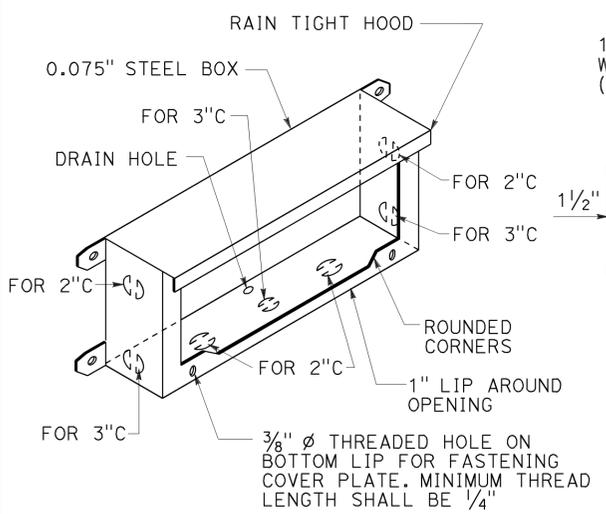
See Note 6



No. 8 PULL BOX

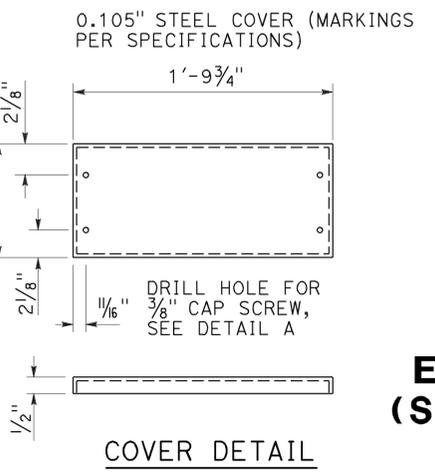
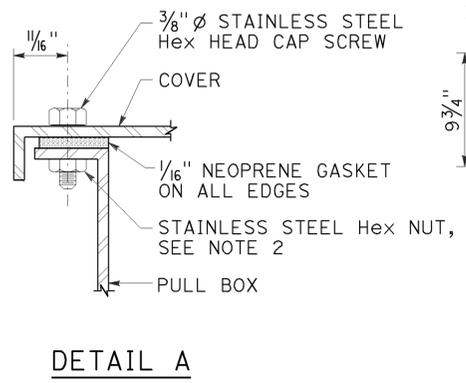
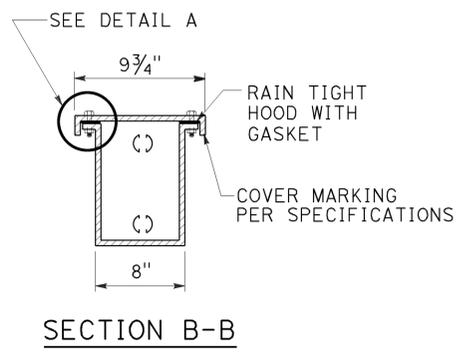
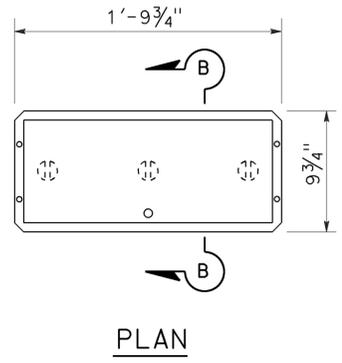
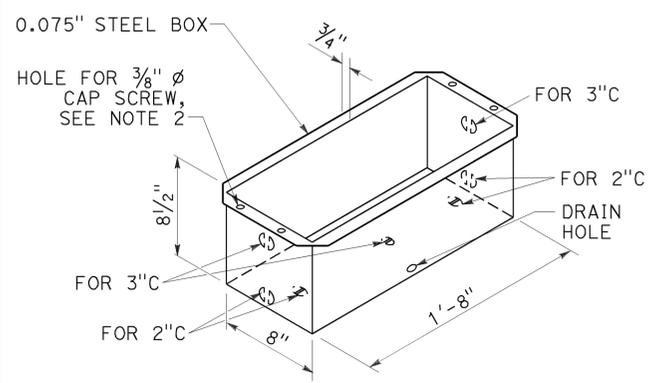
NOTES:

- Corner joints shall be lapped and secured by spot welding or riveting.
- Where cap screws are used to attach cover to box, either of the following methods of providing adequate threading may be used:
 - Tack weld stainless steel Hex nut to bottom of flange (total 4)
 - Tack weld a 1/4" x 5/8" x 8" bar beneath flange (total 2)
- Pound knockouts flat after punching.
- Multiple size knockouts (concentric) shall not be permitted.
- Pull box covers shall be marked as specified.
- Installation of No. 7 pull box:
 - Install with bottom flange flush with concrete.
 - Both covers shall be on a box during pouring.
- Install box parallel to top of railing. Cover box during pouring with 1/4" plywood of sufficient size to provide 1:1 chamfer on 3 sides of cover. Upper edge of plywood shall fit against lower edge of rain tight hood.



No. 9 PULL BOX (STRUCTURE)

See Note 7



No. 9A PULL BOX (STRUCTURE)

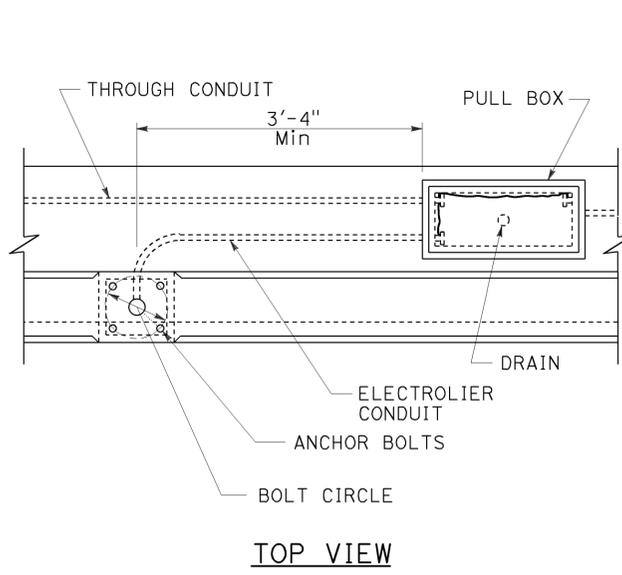
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS (STRUCTURE PULL BOX)
 NO SCALE

RSP ES-9C DATED APRIL 15, 2016 SUPERSEDES RSP ES-9C DATED OCTOBER 30, 2015 AND STANDARD PLAN ES-9C DATED MAY 20, 2011 - PAGE 483 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP ES-9C

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	670	737

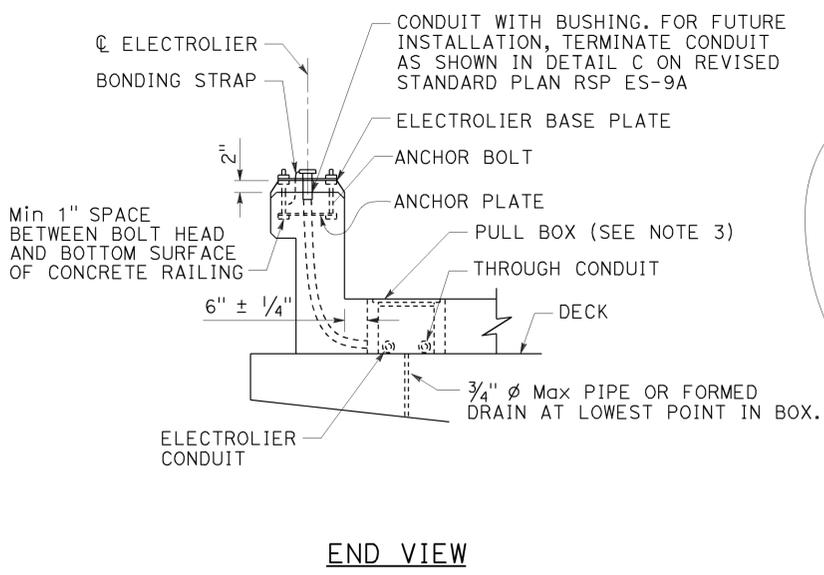
Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 April 15, 2016
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



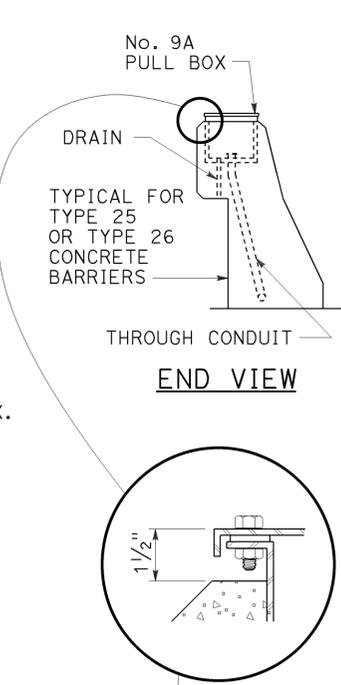
TOP VIEW

No. 3 1/2, 5, OR 6 PULL BOX INSTALLATION

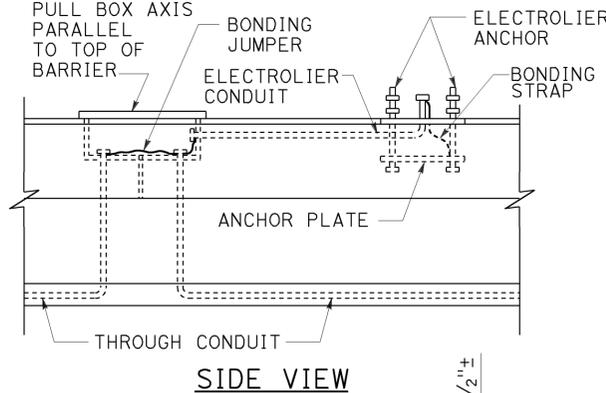
DETAIL A



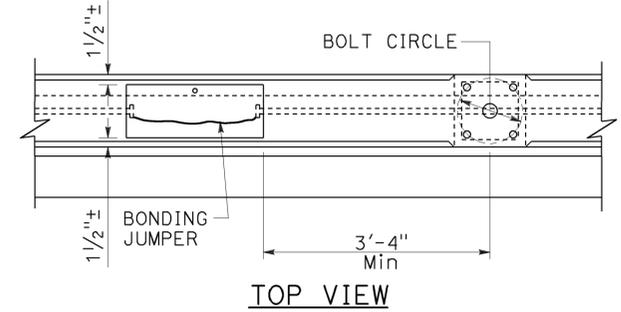
END VIEW



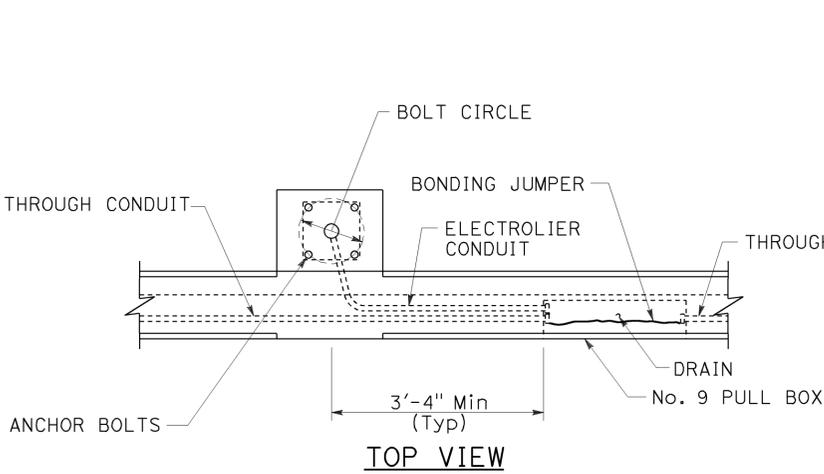
END VIEW



SIDE VIEW



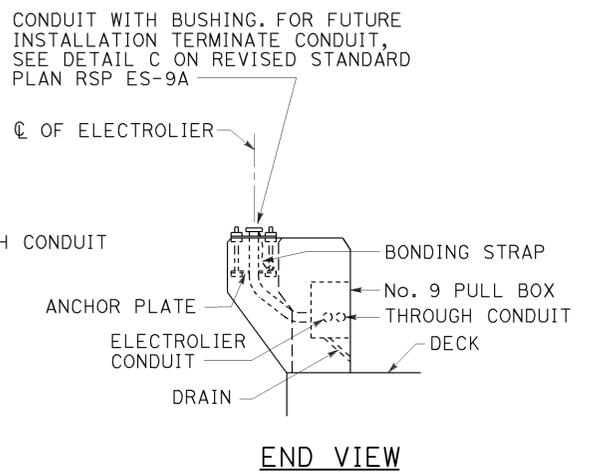
TOP VIEW



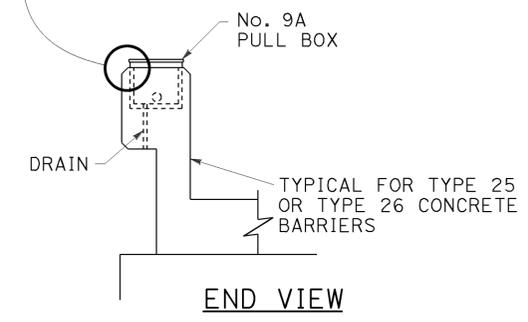
TOP VIEW

No. 9 PULL BOX INSTALLATION

DETAIL B



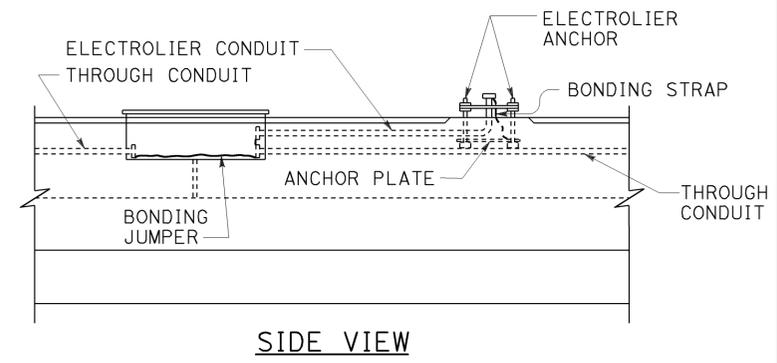
END VIEW



END VIEW

No. 9A PULL BOX INSTALLATION

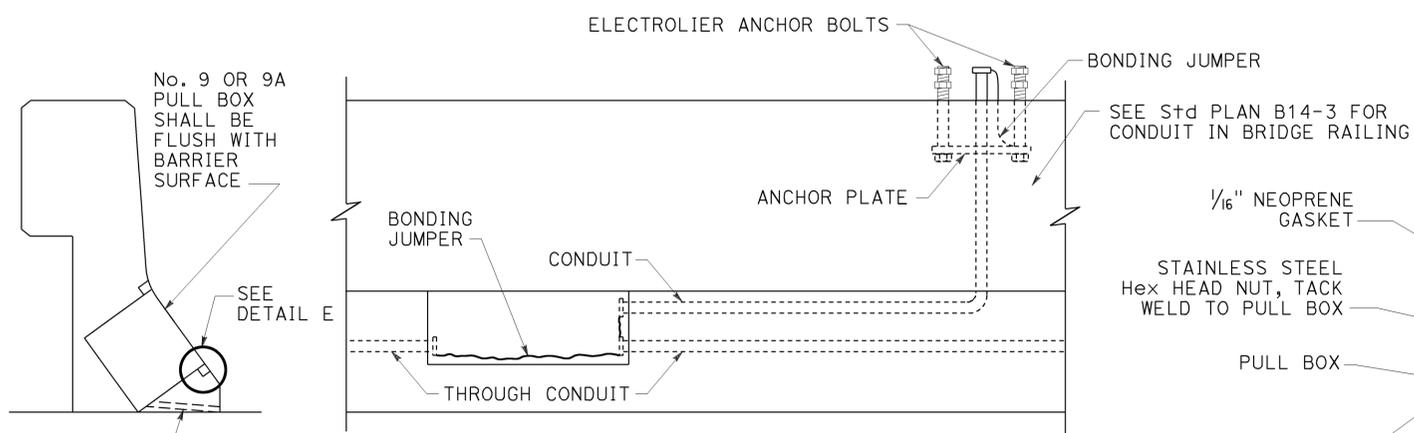
DETAIL C



SIDE VIEW

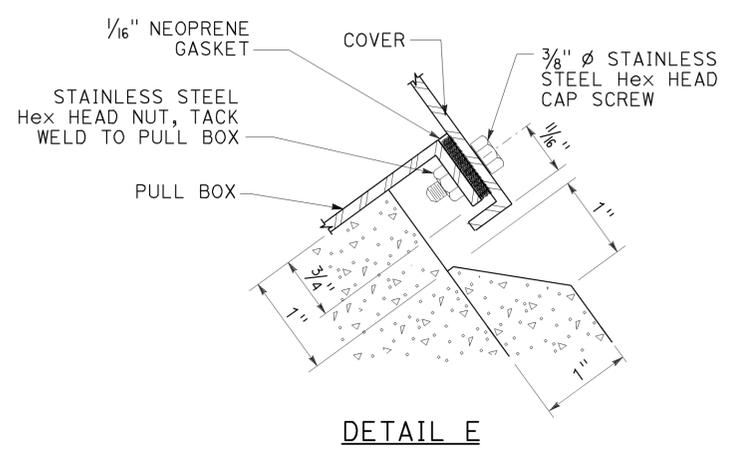
NOTES:

1. Axis of pull box shall be parallel to top of barrier, sidewalk or railing.
2. See railing sheet for reinforcement and structural details at electroliers and pull boxes.
3. Top of pull boxes in sidewalk areas shall be flush with sidewalk. Modify base of pull box as required.
4. Boxes inside of vertical barrier or railing shall be closed during pouring of PCC with 1/4" plywood of sufficient size to provide 1:1 chamfer on 3 sides of cover. Upper edge of plywood shall fit against lower edge of raintight hood.
5. Use drain in center if box is horizontal, or at low end if box is inclined. When box is mounted in sloping parapet 1/2" elongated drain hole inside at center or near end as required for drainage.
6. For electrolier anchorage bolts and grouting details, see Revised Standard Plan RSP ES-6B.
7. See Standard Plan B14-3 for conduit in concrete barrier.



INSTALLATION IN SLOPING PARAPETS

DETAIL D



DETAIL E

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

RSP ES-9D DATED APRIL 15, 2016 SUPERSEDES RSP ES-9D
 DATED OCTOBER 30, 2015 AND STANDARD PLAN ES-9D DATED
 MAY 20, 2011 - PAGE 484 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-9D

2010 REVISED STANDARD PLAN RSP ES-9D

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	671	737

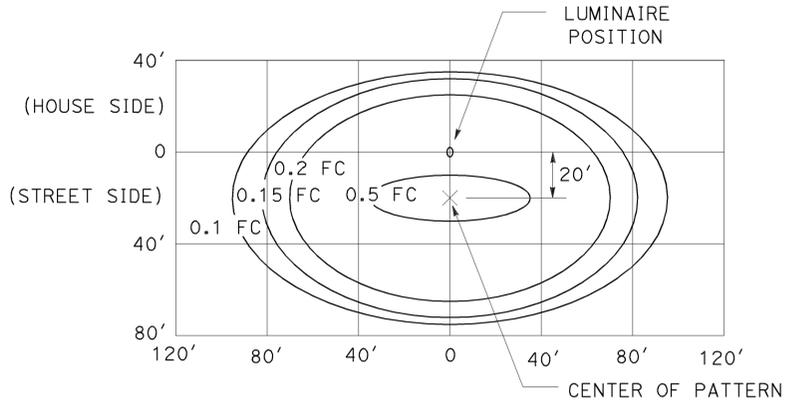
Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 Theresa Aziz Gabriel
 No. E15129
 Exp. 6-30-16
 ELECTRICAL
 STATE OF CALIFORNIA

October 30, 2015
 PLANS APPROVAL DATE

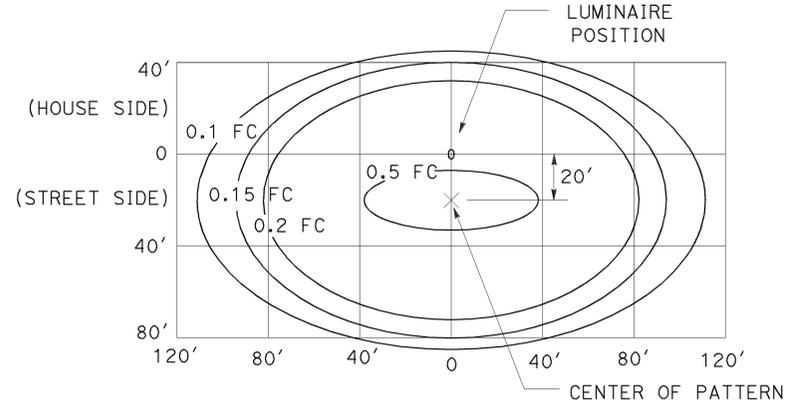
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TO ACCOMPANY PLANS DATED 08-29-16

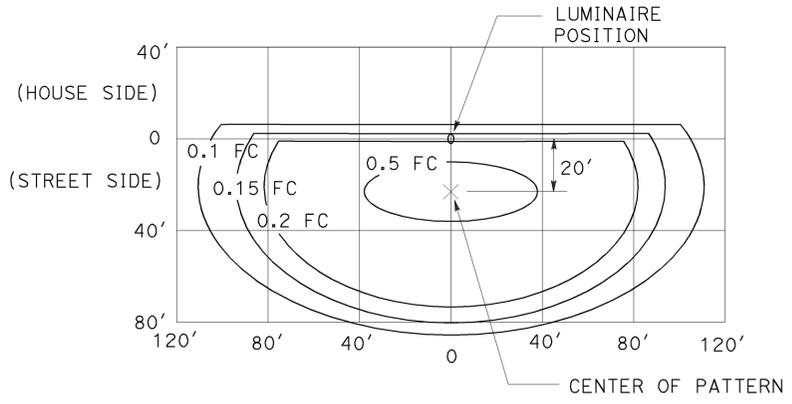
NOTE:
Curves represent the minimum footcandle (FC).



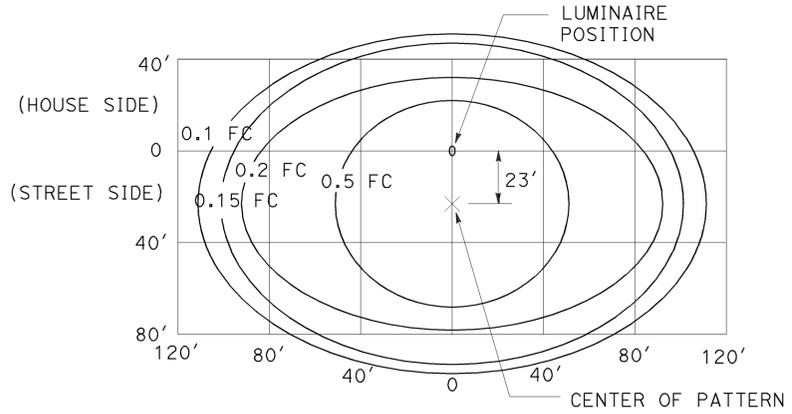
LED LUMINAIRE 165 W
34' Mounting Height



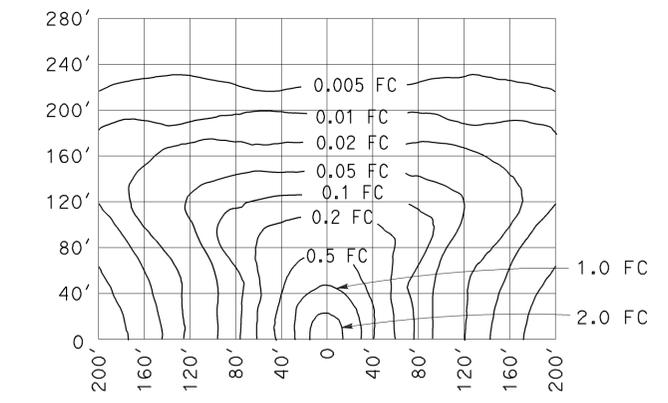
LED LUMINAIRE 235 W
40' Mounting Height



LED LUMINAIRE 235 W
40' Mounting Height
with back side control



LED LUMINAIRE 300 W
40' Mounting Height



LOW-PRESSURE SODIUM LUMINAIRE 180 W
40' Mounting Height
Lamp operated at 33,000 lm

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
(ISOFOOTCANDLE CURVES)**

NO SCALE

RSP ES-10A DATED OCTOBER 30, 2015 SUPERSEDES RSP ES-10A DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-10A

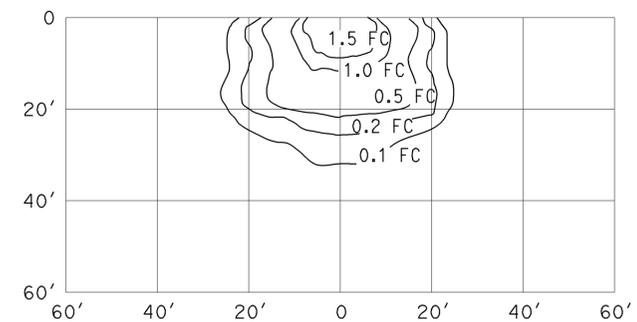
2010 REVISED STANDARD PLAN RSP ES-10A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	672	737

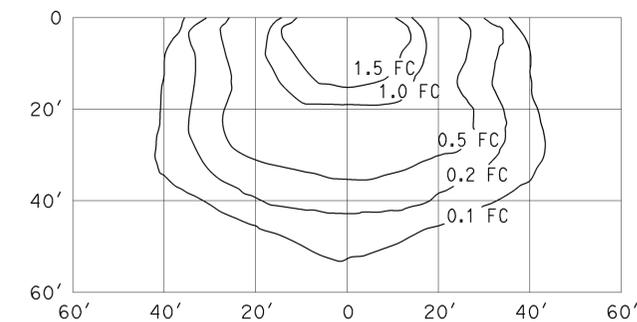
Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 October 30, 2015
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 08-29-16

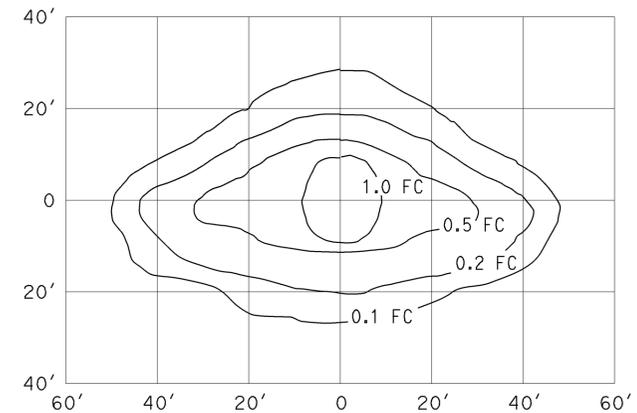
NOTE:
Curves represent the minimum footcandle (FC).



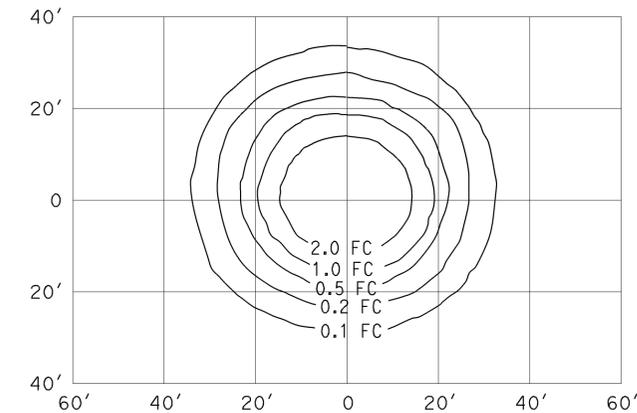
**HIGH-PRESSURE SODIUM
WALL-MOUNTED LUMINAIRE 70 W**
15' Mounting Height
ANSI Designation S62
Lamp operated at 5,800 lm



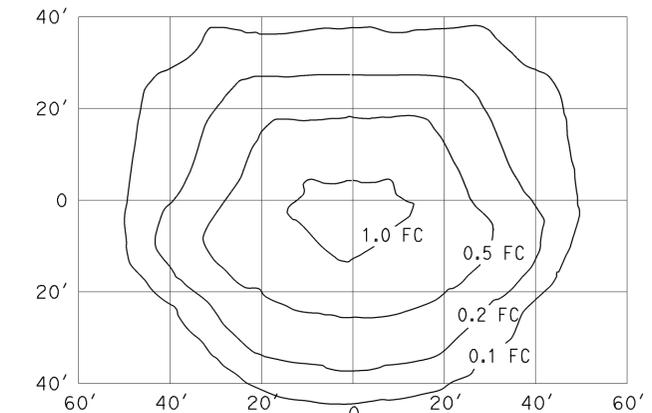
**HIGH-PRESSURE SODIUM
WALL-MOUNTED LUMINAIRE 100 W**
15' Mounting Height
ANSI Designation S54
Lamp operated at 9,500 lm



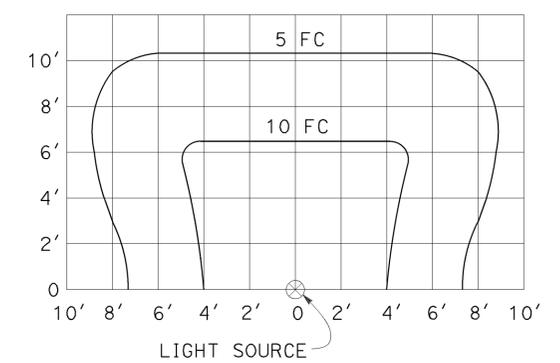
**HIGH-PRESSURE SODIUM
PENDANT SOFFIT LUMINAIRE 70 W
TYPE III SHORT**
17' Mounting Height
ANSI Designation S62
Lamp operated at 5,800 lm



**HIGH-PRESSURE SODIUM
PENDANT SOFFIT LUMINAIRE 70 W**
17' Mounting Height
ANSI Designation S62
Lamp operated at 5,800 lm



**HIGH-PRESSURE SODIUM
FLUSH-MOUNTED SOFFIT LUMINAIRE 70 W**
17' Mounting Height
ANSI Designation S62
Lamp operated at 5,800 lm



**INDUCTION SIGN
LIGHTING FIXTURE 85 W**

2010 REVISED STANDARD PLAN RSP ES-10B

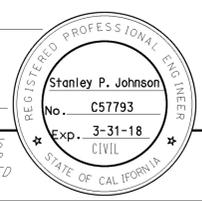
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
(ISOFOOTCANDLE CURVES)**

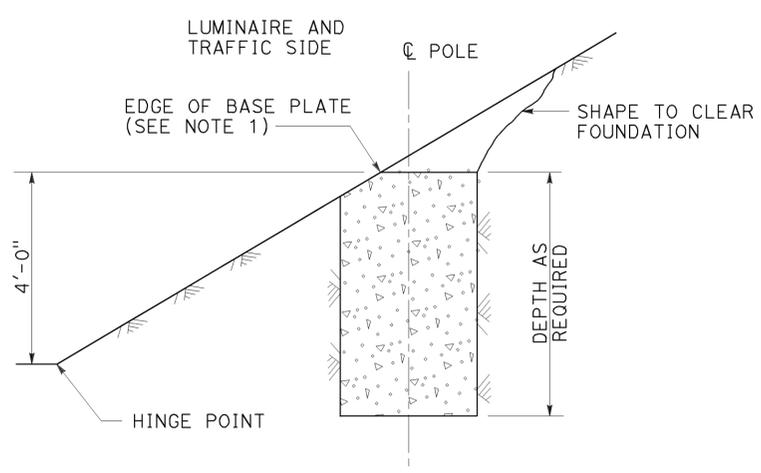
NO SCALE

RSP ES-10B DATED OCTOBER 30, 2015 SUPERSEDES RSP ES-10B DATED JULY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

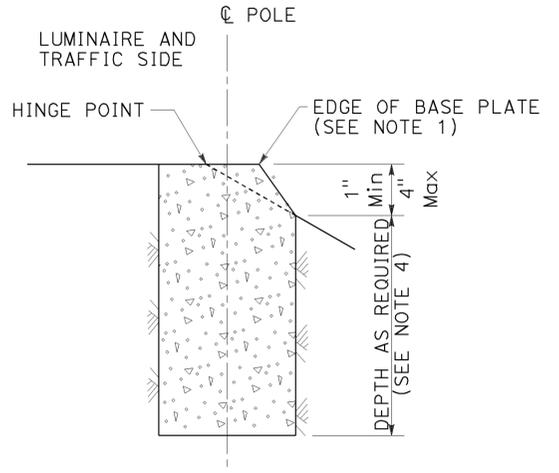
REVISED STANDARD PLAN RSP ES-10B



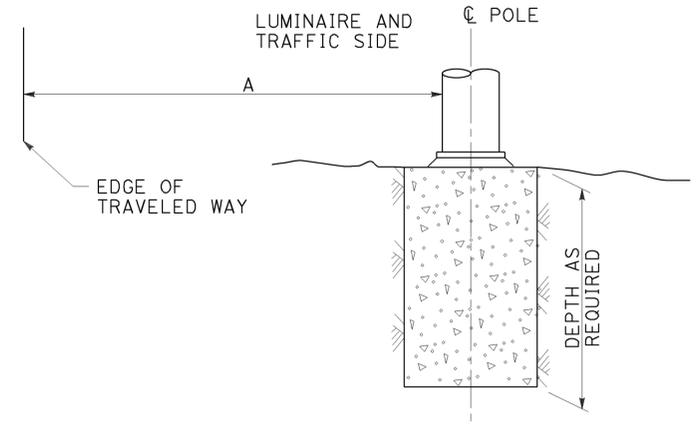
TO ACCOMPANY PLANS DATED 08-29-16



**CUT SLOPES
STEEPER THAN 4:1,
LESS THAN 2:1
DETAIL A-1**
See Note 2 and 3



**FILL SLOPES
STEEPER THAN 4:1,
LESS THAN 2:1
DETAIL A-2**
See Note 2 and 3



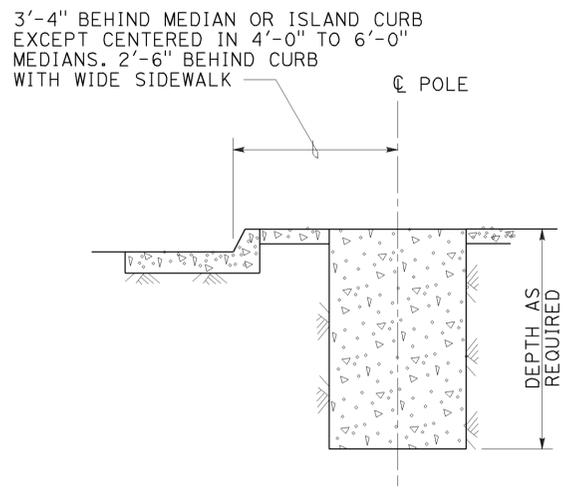
**FLAT SECTIONS, CUT OR FILL SLOPES
4:1 OR FLATTER
DETAIL A-3**
See Note 2

STANDARD TYPE	SETBACK (DIMENSION A)
32	30'-0" (Min)
31	20'-0" (Min)
15, 15D, 15-SB, 21, 21D, 30	ARM LENGTH (Min)

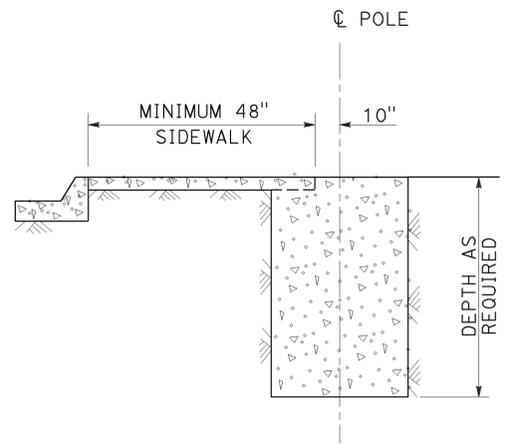
**FOUNDATIONS ADJACENT TO ALL ROADWAYS EXCEPT
IN SIDEWALK, MEDIAN AND ISLAND AREAS
DETAIL A**

NOTES:

1. Where a portion of the foundation is above grade, the top edges shall have a 1" chamfer.
2. Slopes shall be horizontal to vertical ratio (Horizontal : Vertical).
3. Horizontal setbacks on cut and fill slopes steeper than 4:1 shall not exceed the distance shown for flat sections.
4. CIDH embedment depth shall be increased beyond standard depths by the diameter of the CIDH.



**MEDIAN, ISLAND
OR WIDE SIDEWALK
DETAIL B-1**
7' Wide and wider



**NARROW SIDEWALK
DETAIL B-2**
Less than 7' wide

**FOUNDATIONS IN SIDEWALK, MEDIAN AND ISLAND AREAS
DETAIL B**

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
(FOUNDATION INSTALLATIONS)**
NO SCALE

RSP ES-11 DATED JULY 15, 2016 SUPERSEDES RSP ES-11 DATED JULY 19, 2013 AND STANDARD PLAN ES-11 DATED MAY 20, 2011 - PAGE 488 OF THE STANDARD PLANS BOOK DATED 2010.

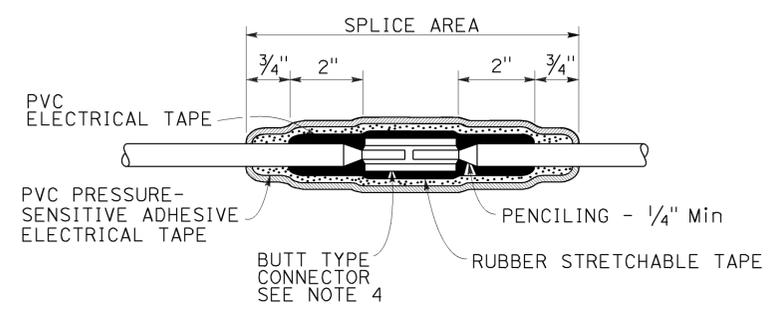
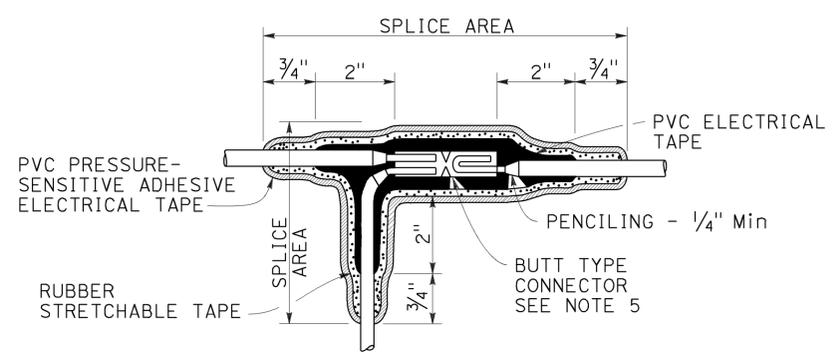
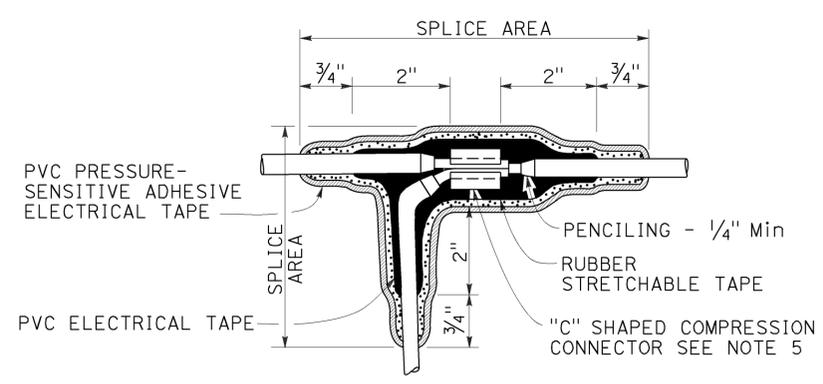
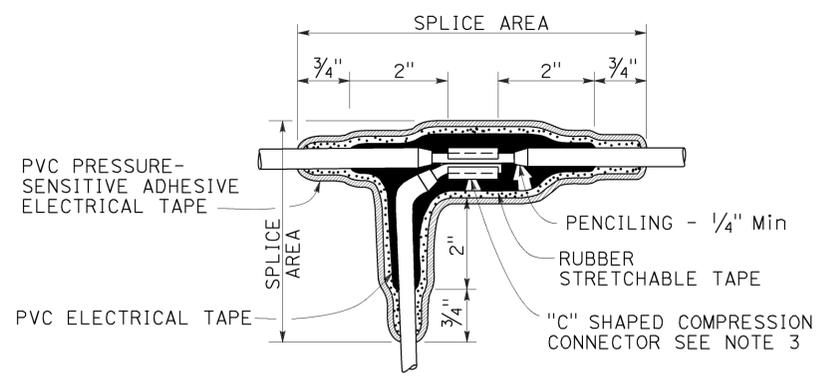
2010 REVISED STANDARD PLAN RSP ES-11

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	674	737

Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 April 15, 2016
 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.



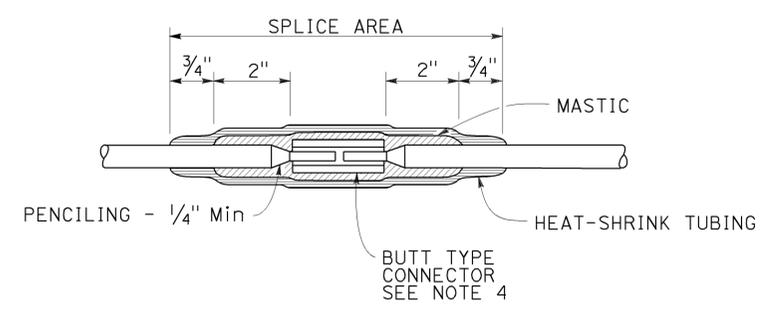
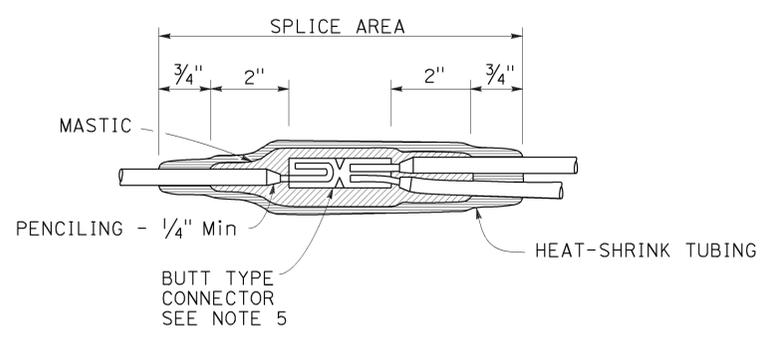
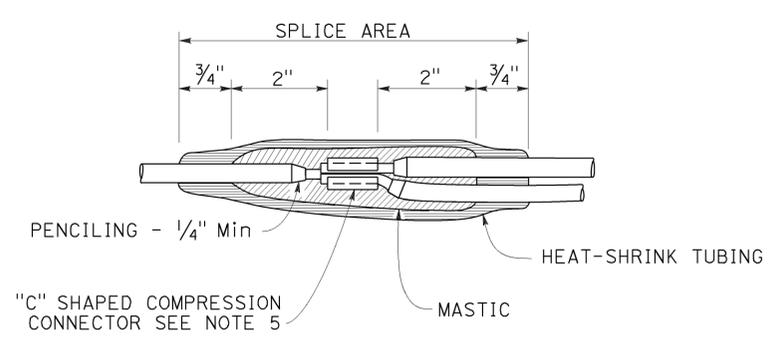
TO ACCOMPANY PLANS DATED 08-29-16



NOTES:

1. Dimensions are minimum.
2. Rubber tapes shall be rolled after application.
3. Between 1 free-end and 1 through conductor.
4. Between 2 free-end conductors.
5. Between 3 free-end conductors.

TYPICAL SPLICE INSULATION METHOD B



TYPICAL SPLICE INSULATION HEAT-SHRINK TUBING

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(SPLICE INSULATION METHODS DETAILS)

NO SCALE

RSP ES-13A DATED APRIL 15, 2016 SUPERSEDES RSP ES-13A DATED OCTOBER 30, 2015 AND STANDARD PLAN ES-13A DATED MAY 20, 2011 - PAGE 491 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-13A

2010 REVISED STANDARD PLAN RSP ES-13A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	675	737

Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 April 15, 2016
 PLANS APPROVAL DATE

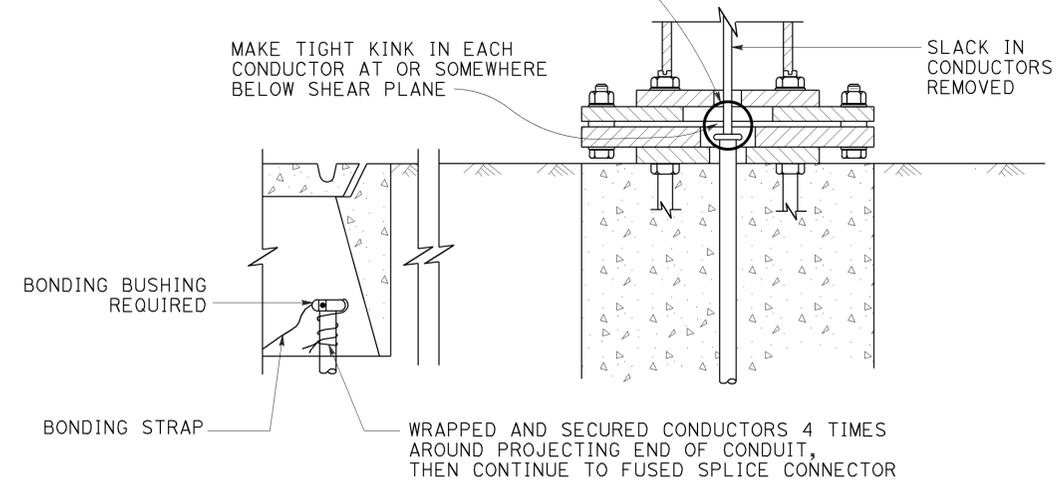
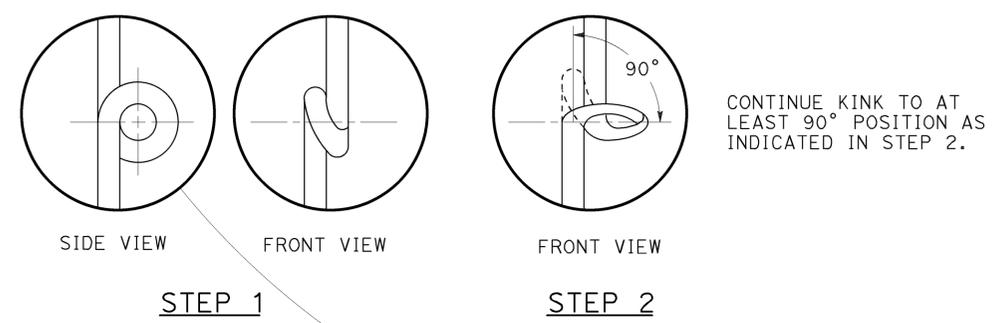
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 08-29-16

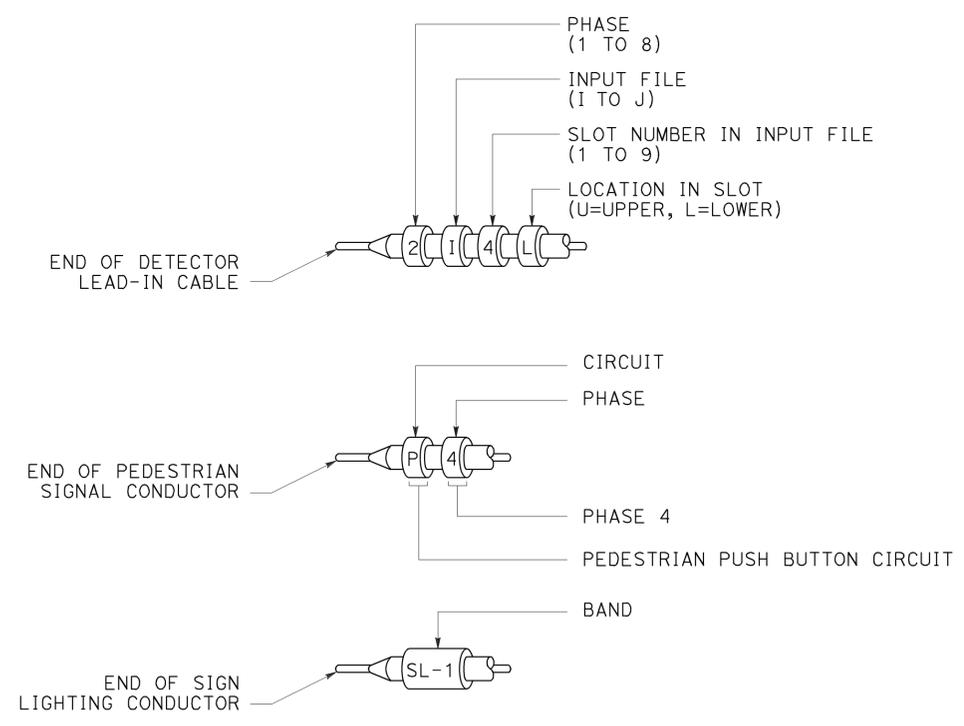
CIRCUIT VOLTAGE	FUSE VOLTAGE RATING	FUSE CURRENT RATING						
		HPS LAMP BALLAST		LOW PRESSURE SODIUM BALLAST	INDUCTION SIGN LIGHTING	SINGLE PHASE (TWO WIRE) TRANSFORMERS (PRIMARY SIDE)		
		70 W	100 W	180 W	85 W	1 KVA	2 KVA	3 KVA
120 V	250 V	5 A	5 A	5 A	5 A	10 A	20 A	30 A
240 V	250 V	5 A	5 A	5 A	5 A	6 A	10 A	20 A
480 V	500-600 V	5 A	5 A	3 A	1 A (SEE NOTE 2)	3 A	6 A	10 A

- NOTES:**
- Primary lines of multiple ballasts shall be provided with fused connectors. Fuse ratings shall be as noted above.
 - See Revised Standard Plan RSP ES-15D, Type SC3 control.

FUSE RATINGS FOR FUSED CONNECTORS



KINKING DETAIL FOR SLIP BASE STANDARDS
DETAIL A



TYPICAL BANDING DETAILS
DETAIL B

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(FUSE RATING, KINKING AND BANDING DETAIL)

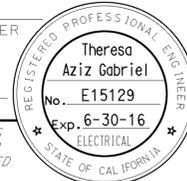
NO SCALE

RSP ES-13B DATED APRIL 15, 2016 SUPERSEDES STANDARD PLAN ES-13B DATED MAY 20, 2011 - PAGE 492 OF THE STANDARD PLANS BOOK DATED 2010.

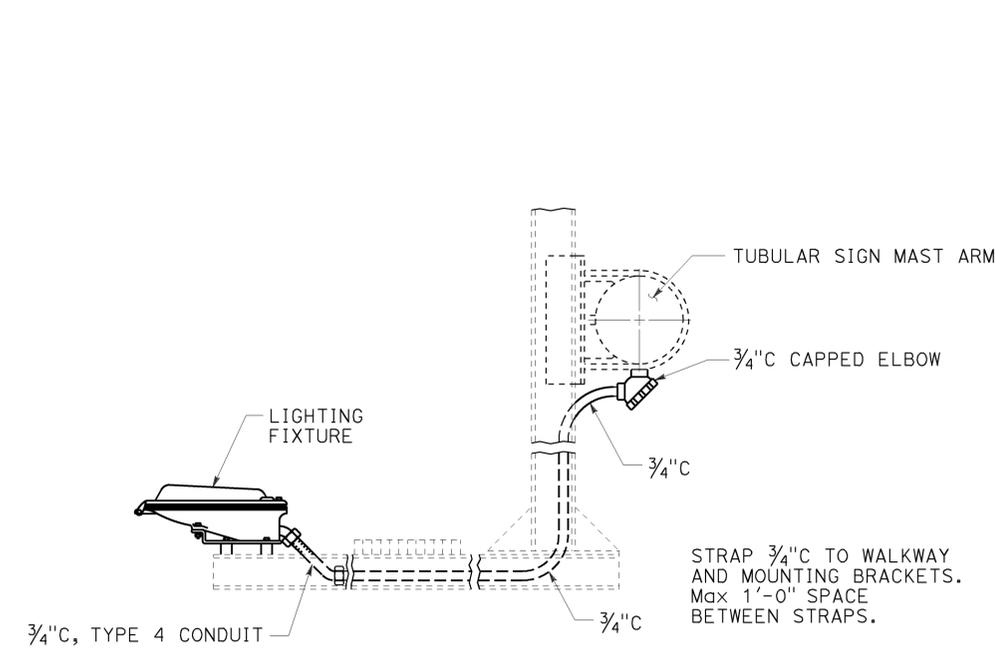
2010 REVISED STANDARD PLAN RSP ES-13B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	676	737

Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 October 30, 2015
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

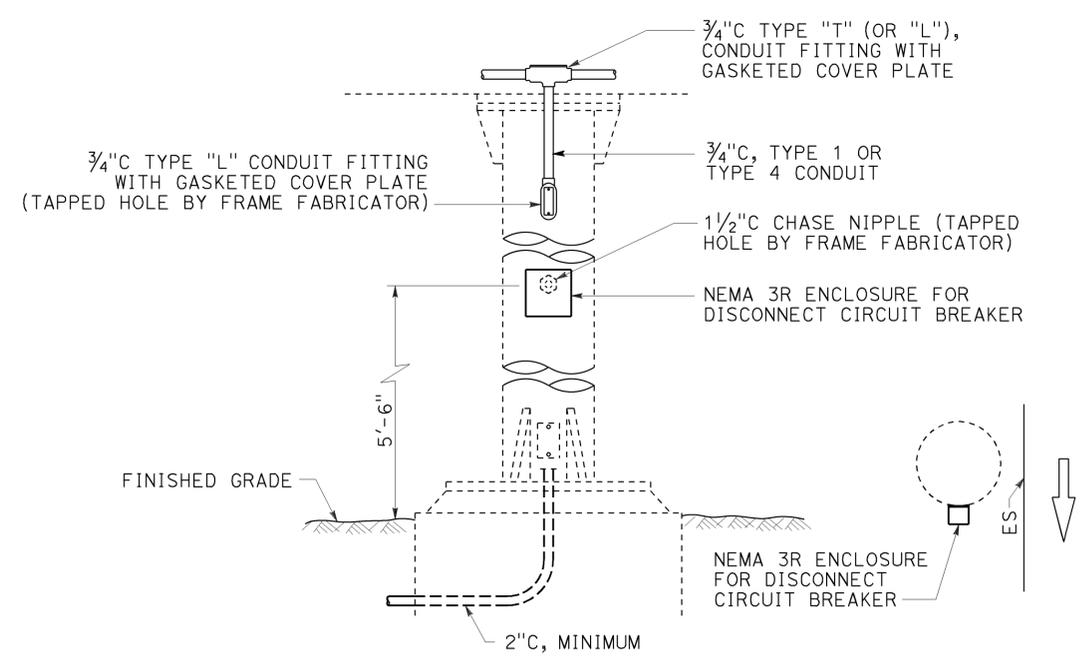


TO ACCOMPANY PLANS DATED 08-29-16



TYPICAL SIGN ILLUMINATION EQUIPMENT INSTALLATION FOR OVERHEAD SIGNS TUBULAR

DETAIL A

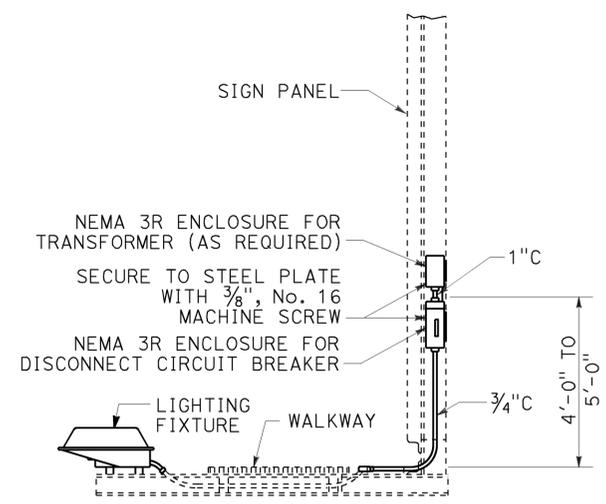


TYPICAL SIGN ILLUMINATION EQUIPMENT INSTALLATION FOR OVERHEAD SIGNS ROUND POST

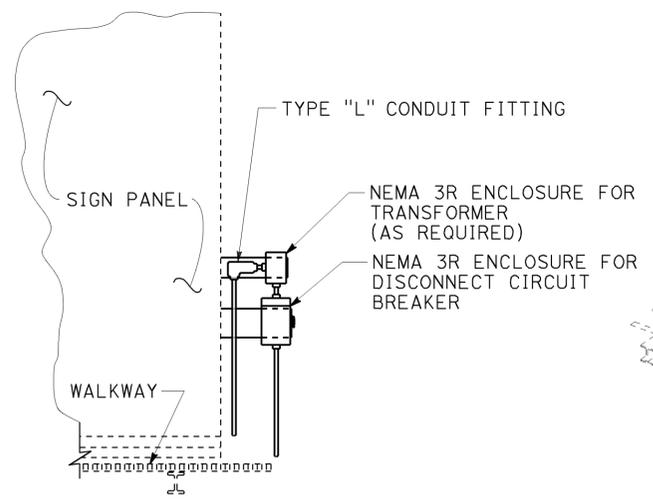
DETAIL B

NOTES:

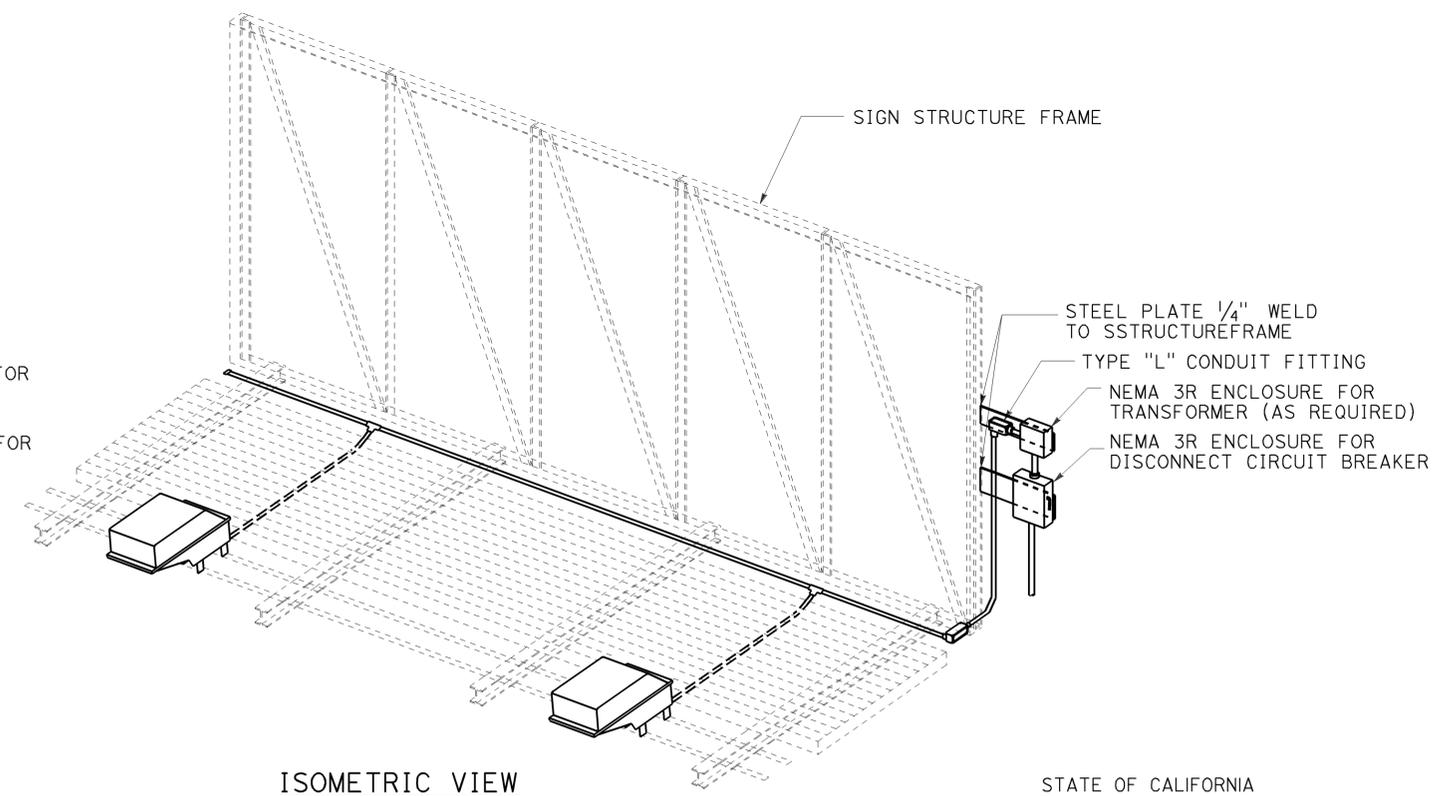
1. Type 4 conduit shall be secured to the nearest walkway bracket using one-hole galvanized malleable iron or steel straps and brass machine screws tapped into the bracket.
2. See Overhead Signs Standard Plans for overhead signs and frame juncture details for photoelectric unit installation.
3. Enclosures and straps shall be secured by 3/8" maximum size screws.
4. The Contactor and test switch enclosures shall be readily accessible from the sign walkway.



SIDE VIEW



FRONT VIEW



ISOMETRIC VIEW

TYPICAL SIGN ILLUMINATION EQUIPMENT INSTALLATION FOR OVERHEAD SIGNS BRIDGE MOUNTED

DETAIL C
See Note 4

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
(SIGN ILLUMINATION EQUIPMENT)**

NO SCALE
RSP ES-15C DATED OCTOBER 30, 2015 SUPERSEDES STANDARD PLAN ES-15C DATED MAY 20, 2011 - PAGE 498 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-15C

2010 REVISED STANDARD PLAN RSP ES-15C

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	677	737

Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 October 30, 2015
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

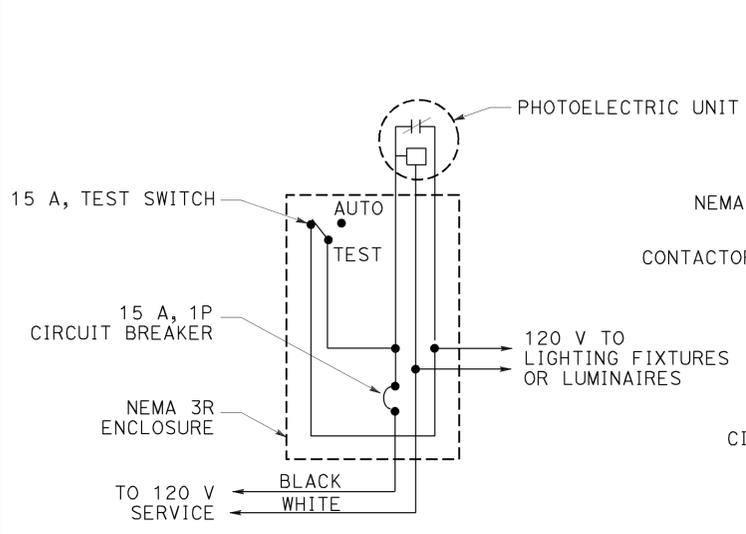


TO ACCOMPANY PLANS DATED 08-29-16

2010 REVISED STANDARD PLAN RSP ES-15D

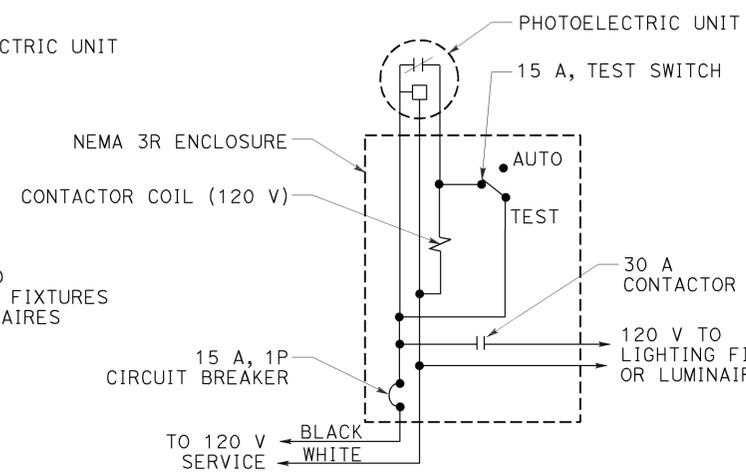
NOTE:

Type SC1A, SC2A, SC3A controls are similar to Types SC1, SC2 and SC controls respectively except test switch and wiring are not required.



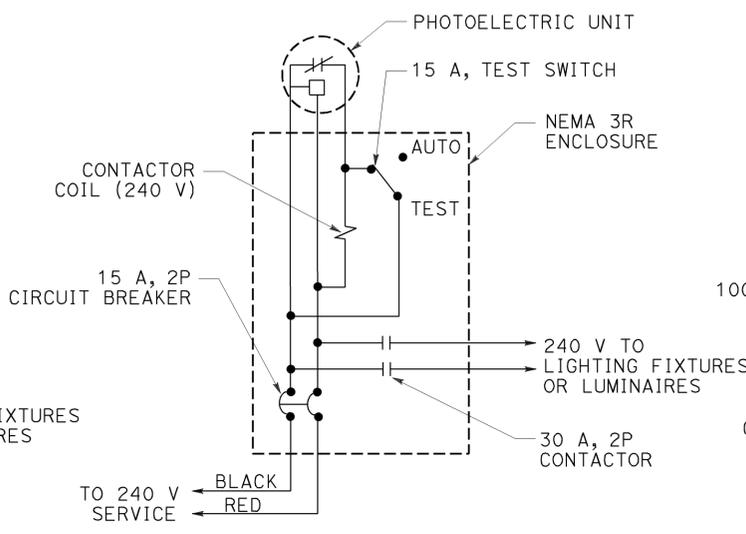
TYPE LC1 CONTROL

For 120 V unswitched circuit with no more than 1000 W load.



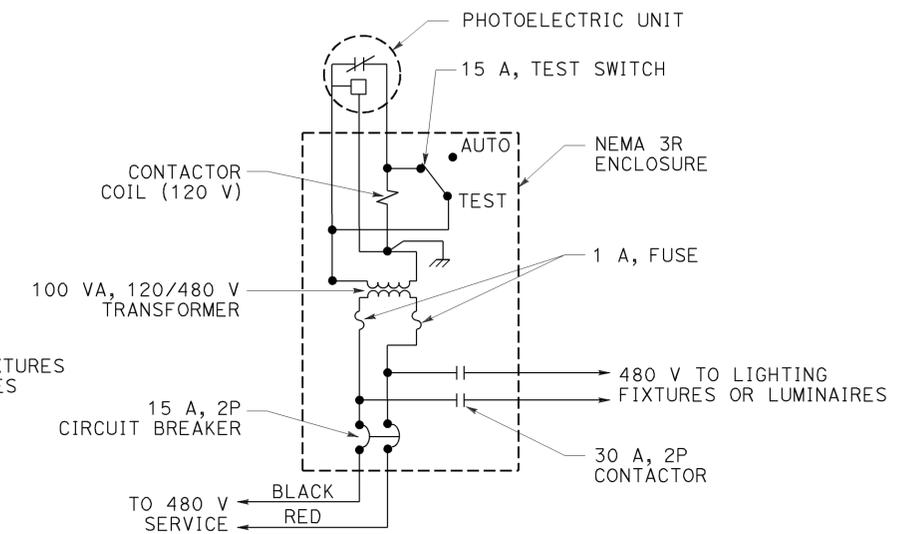
TYPE LC2 CONTROL

For 120 V unswitched circuit



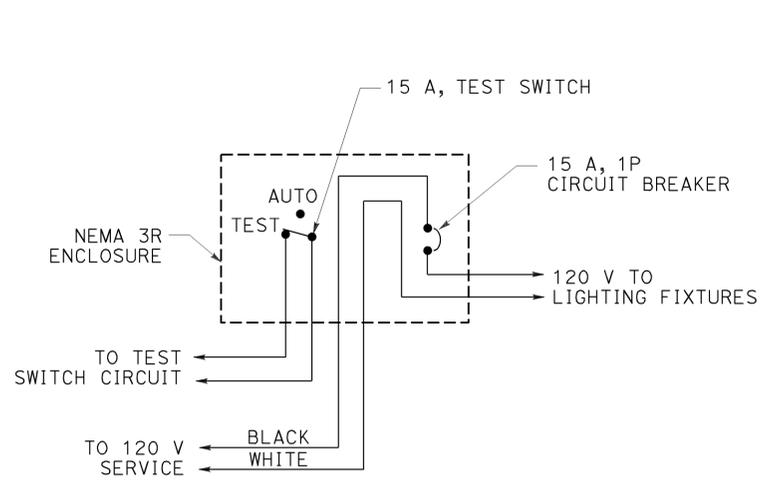
TYPE LC3 CONTROL

For 240 V unswitched circuits



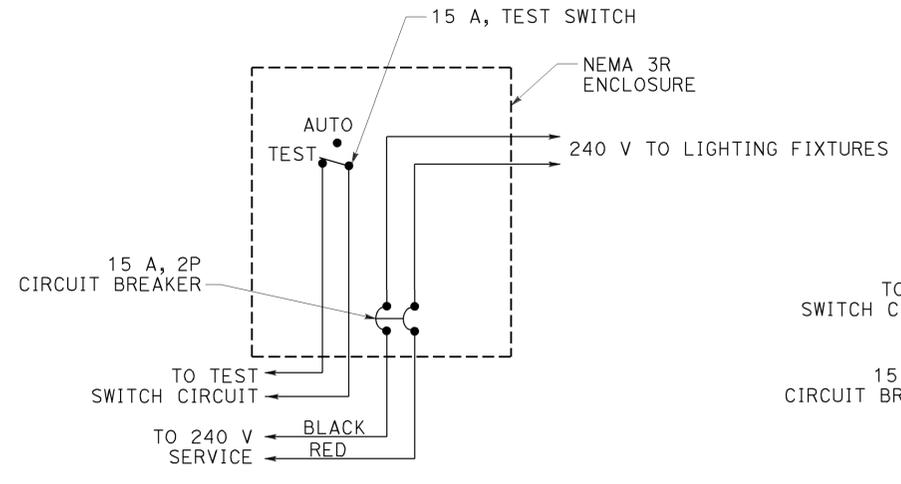
TYPE LC4 CONTROL

For 480 V unswitched circuits



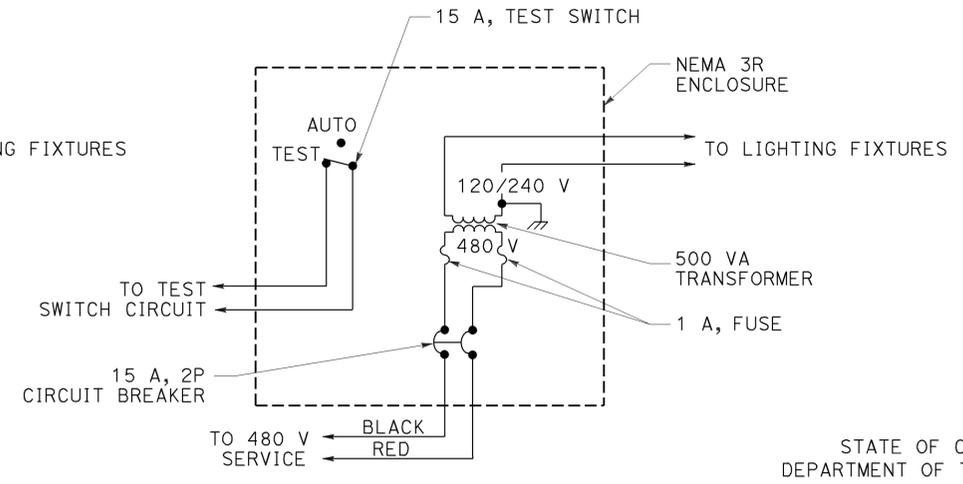
TYPE SC1 CONTROL

For 120 V switched circuit, see Note 1 for Type SC1A



TYPE SC2 CONTROL

For 240 V switched circuit, see Note 1 for Type SC2A



TYPE SC3 CONTROL

For 480 V switched sign circuit, see Note 1 for Type SC3A

ELECTRICAL SYSTEMS (LIGHTING AND SIGN ILLUMINATION CONTROL)

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

NO SCALE

RSP ES-15D DATED OCTOBER 30, 2015 SUPERSEDES STANDARD PLAN ES-15D DATED MAY 20, 2011 - PAGE 499 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-15D

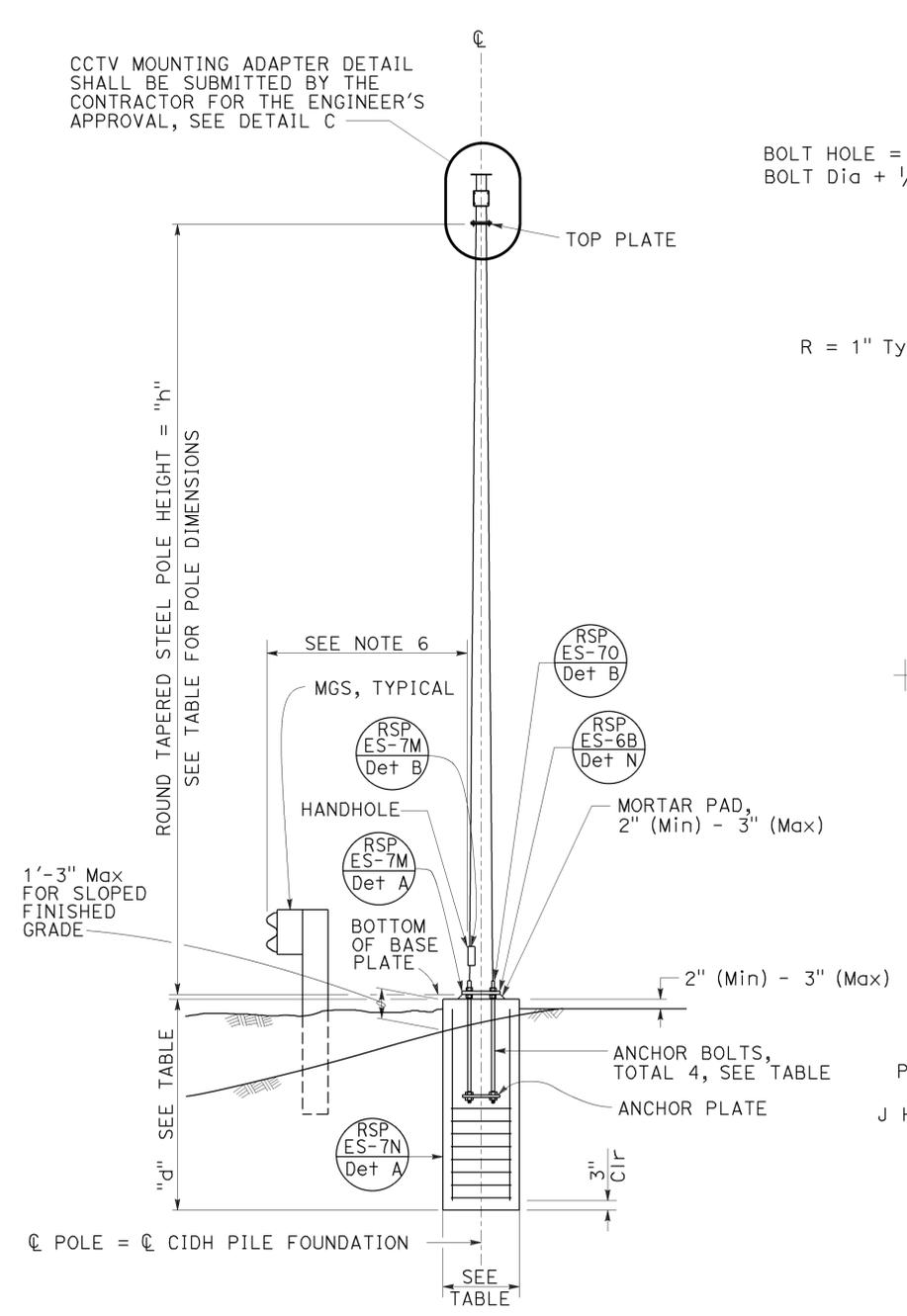
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	163	4.1/4.9	678	737

Stanley P. Johnson
 REGISTERED CIVIL ENGINEER
 July 15, 2016
 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.

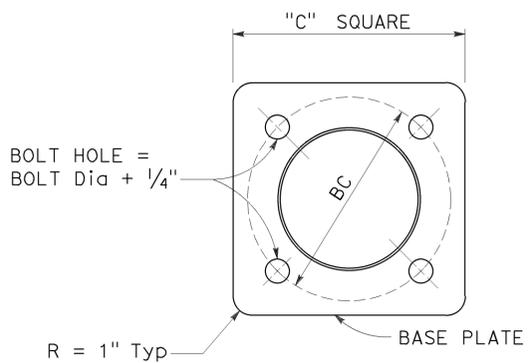
POLE TYPE	POLE DATA				BASE PLATE DATA				CIDH	
	HEIGHT "h"	Min OD		THICKNESS	"c"	THICKNESS	ANCHOR BOLT SIZE	BC = BOLT CIRCLE	Dia	"d"
		BASE	TOP							
CCTV 25	25'	7 3/8"	3 3/4"	0.1793"	1'-1"	1"	1/2" ϕ x 36"	11 1/2"	2'-6"	7'-0"
CCTV 30	30'	8"			1'-1 1/2"			1'-0"		7'-6"
CCTV 35	35'	8 5/8"			1'-2"			1'-1"		8'-0"
CCTV 40	40'	9 3/8"			1'-1 1/2"			1'-1 1/2"		8'-0"
CCTV 45	45'	10"			1'-3"			1'-2"		8'-6"

TO ACCOMPANY PLANS DATED 08-29-16

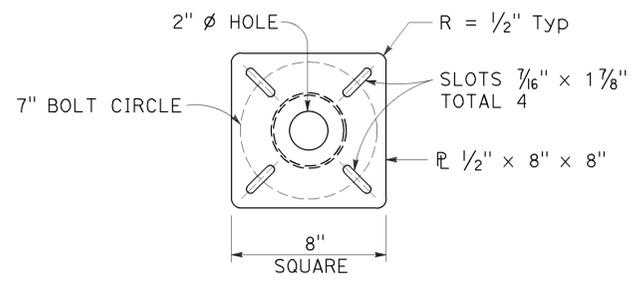
CCTV MOUNTING ADAPTER DETAIL SHALL BE SUBMITTED BY THE CONTRACTOR FOR THE ENGINEER'S APPROVAL, SEE DETAIL C



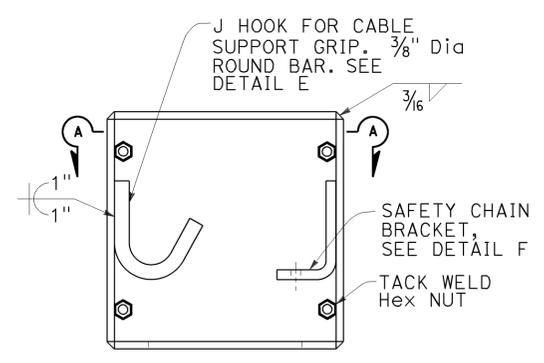
ELEVATION A



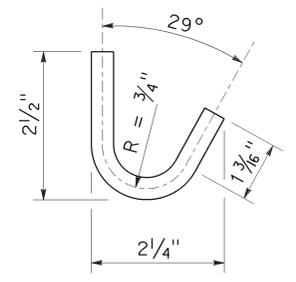
BASE PLATE
DETAIL A



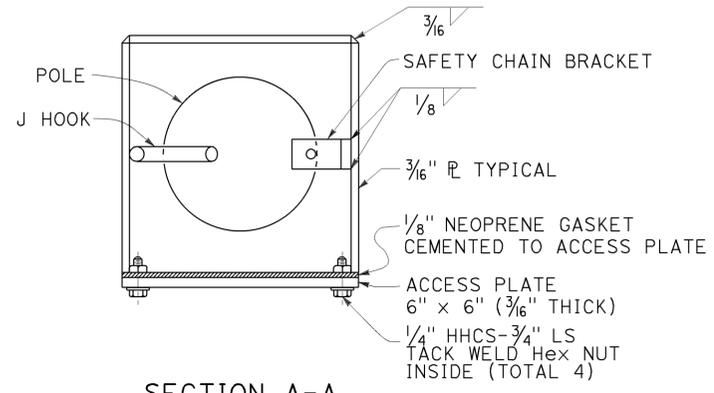
TOP PLATE
DETAIL B



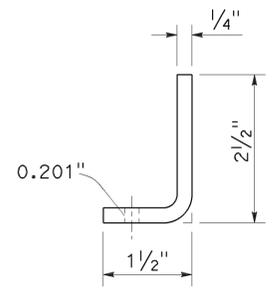
BOX ENCLOSURE
DETAIL D



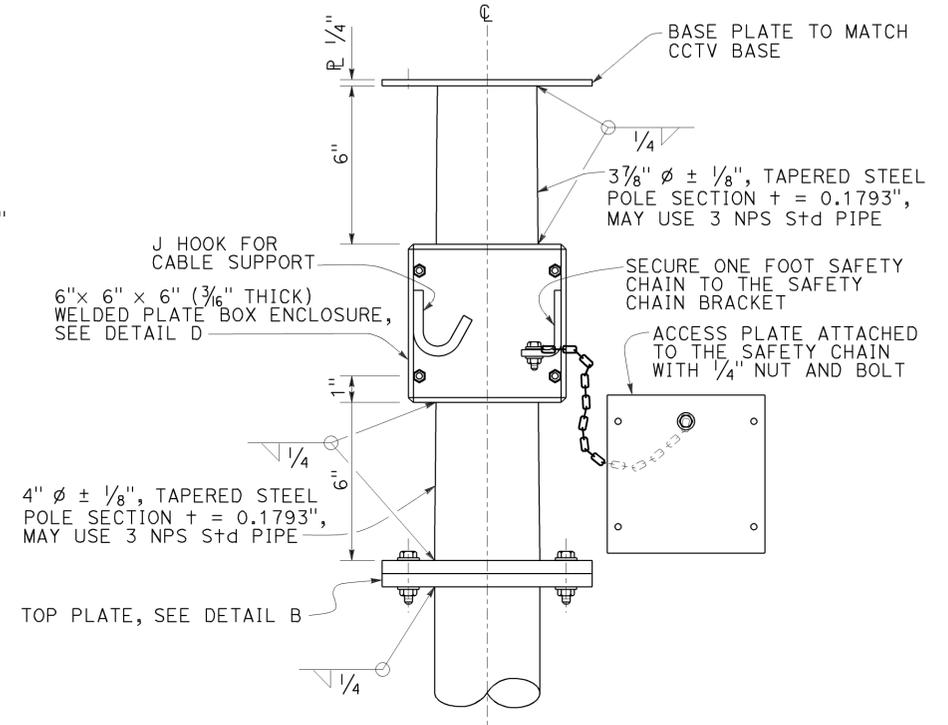
J HOOK
DETAIL E



SECTION A-A



SAFETY CHAIN BRACKET
DETAIL F



CLOSED CIRCUIT TELEVISION MOUNTING ADAPTER
DETAIL C

NOTES:

- Verify controlling field dimensions before ordering or fabricating any material.
- During pole installation, the post shall be raked as necessary with the use of leveling nuts to provide a plumb pole axis.
- For wind loading see RSP ES-7M.
- Materials (Structural Steel):
 - $f_y = 55,000$ psi (tapered steel tube and anchor bolts)
 - $f_y = 50,000$ psi (unless otherwise noted)
- Materials (Reinforced Concrete):
 - $f'_c = 3,625$ psi
 - $f_y = 60,000$ psi
- See RSP A77R1 thru RSP A77R8

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(CLOSED CIRCUIT TELEVISION,
25' TO 45' POLE)

NO SCALE

RSP ES-16B DATED JULY 15, 2016 SUPERSEDES RSP ES-16B DATED OCTOBER 30, 2015 AND STANDARD PLAN ES-16B DATED MAY 20, 2011 - PAGE 501 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP ES-16B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	163	4.1/4.9	680	737

Roya Golchoobian 1/20/2016
REGISTERED CIVIL ENGINEER DATE

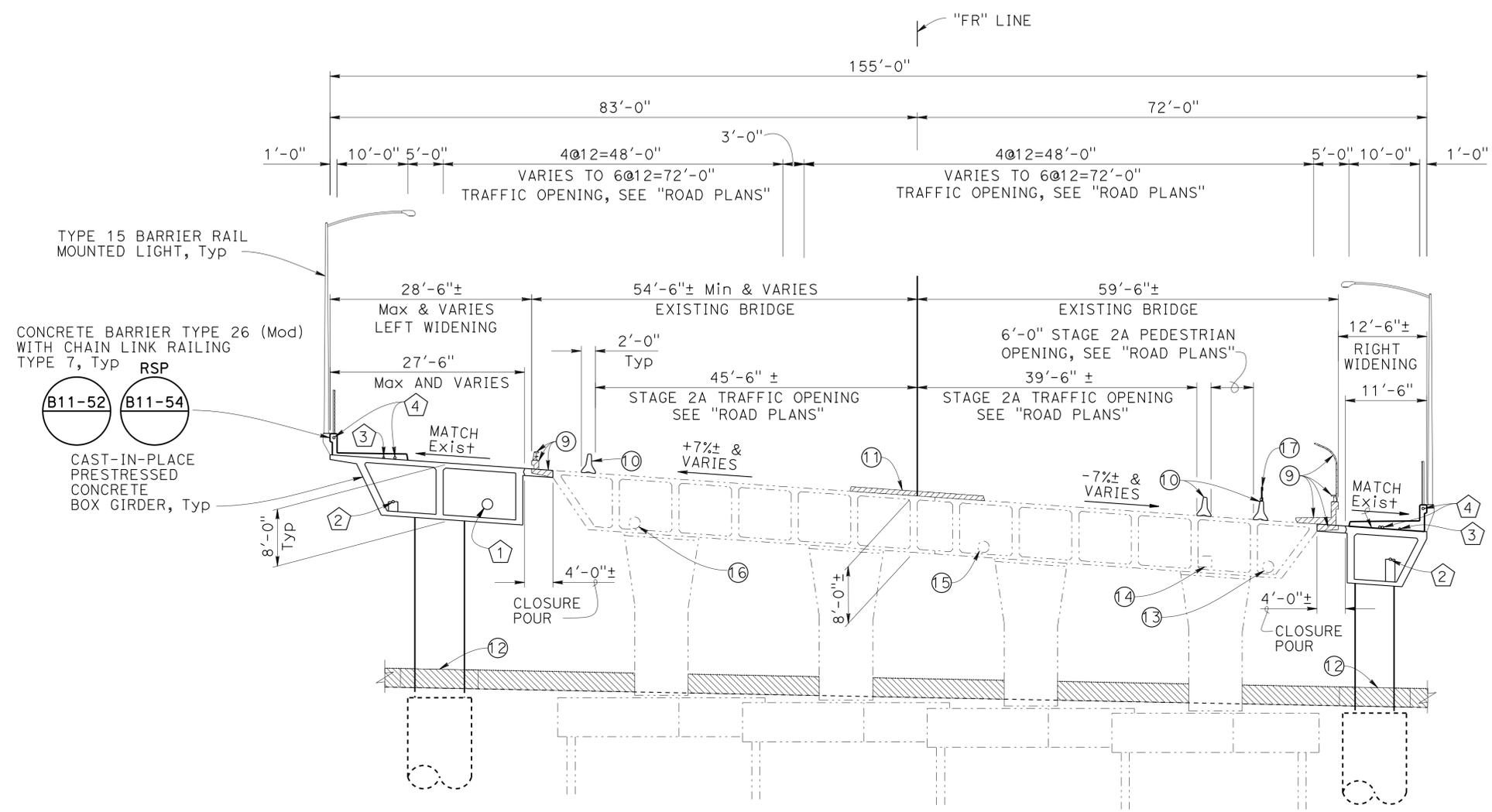
08-29-16
PLANS APPROVAL DATE

Roya Golchoobian
No. C47315
Exp. 12/31/17
CIVIL
STATE OF CALIFORNIA

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CITY OF SAN DIEGO
600 B STREET, SUITE 800
SAN DIEGO, CA. 92101

T.Y. LIN INTERNATIONAL
404 CAMINO DEL RIO SOUTH, SUITE 700
SAN DIEGO, CA. 92108



NOTES:

- ⑨ Remove existing concrete barrier, overhang, metal railing and Exist Bridge Mounted Sign
- ⑩ Temporary railing (Type K), see "ROAD PLANS"
- ⑪ Existing median to be removed, see "ROAD PLANS" for staging
- ⑫ Exist Conc Barrier to be removed, see "ROAD PLANS" for staging
- ⑬ Exist SD&E ducts
- ⑭ Exist Telephone ducts
- ⑮ Exist 16" waterline - City of San Diego
- ⑯ Exist Future utility opening
- ⑰ Temporary traffic screen, see and "ROAD PLANS"

UTILITIES:

- ① 18" Dia opening for future utility
- ② 4" Dia DIP Water Supply Line (Bridge)
- ③ 4" Dia Sprinkler Control Conduit, Caltrans conduit in left widening, City of San Diego conduit in right widening.
- ④ Conduits for signal and lighting, see "ROAD PLANS"

LEGEND:

- - - - - Indicates existing structure
- - - - - Indicates new structure
- ▨ Indicates bridge removal (portion)

TYPICAL SECTION

1"=10'

NOTE: THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

Norbert Gee
DESIGN OVERSIGHT
2/8/16
SIGN OFF DATE

DESIGN	BY Josh Nickerson	CHECKED Kumar Ghosh	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE
DETAILS	BY Andy Toledo	CHECKED Kumar Ghosh	LAYOUT	BY Andy Toledo
QUANTITIES	BY Sabina Piras	CHECKED Nardin Wasef	SPECIFICATIONS	BY Jeremy LaHaye
				CHECKED Josh Nickerson
				PLANS AND SPECS COMPARED

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Roya Golchoobian
PROJECT ENGINEER

BRIDGE NO.	57-0595
POST MILES	4.4

**FRIARS ROAD OC (WIDEN)
GENERAL PLAN-2**

DESIGN GENERAL PLAN SHEET (ENGLISH) (REV. 03/14/12)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



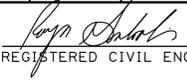
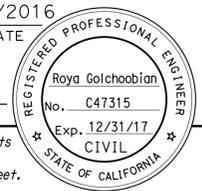
UNIT: 2783
PROJECT NUMBER & PHASE: 11000000641

CONTRACT NO.: 11-085781

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
12/08/12 2/1/14 11/19/15	2	29

USERNAME => s127400 DATE PLOTTED => 31-AUG-2016 TIME PLOTTED => 15:53

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	163	4.1/4.9	681	737
 REGISTERED CIVIL ENGINEER DATE 1/20/2016					
08-29-16 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.</small>					
CITY OF SAN DIEGO 600 B STREET, SUITE 800 SAN DIEGO, CA. 92101					
T.Y. LIN INTERNATIONAL 404 CAMINO DEL RIO SOUTH, SUITE 700 SAN DIEGO, CA. 92108					

GENERAL NOTES LOAD AND RESISTANCE FACTOR DESIGN

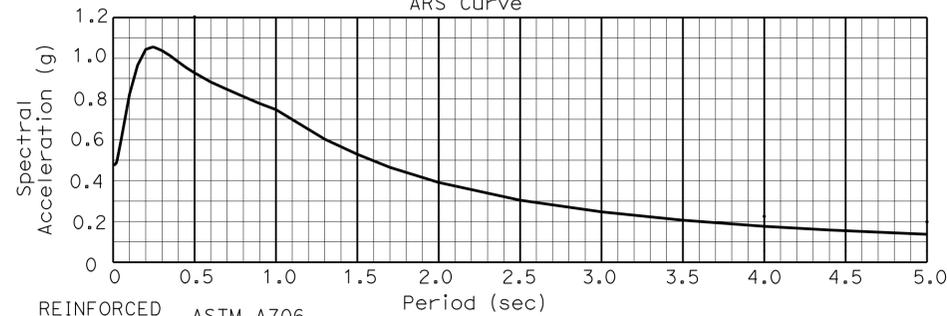
DESIGN: AASHTO LRFD Bridge Design Specifications 4th edition and the Caltrans Amendments Fourth Edition dated November 2011

SEISMIC DESIGN: Caltrans Seismic Design Criteria (SDC), Version 1.6 dated November 2010

DEAD LOAD: Includes 35 psf for future wearing surface

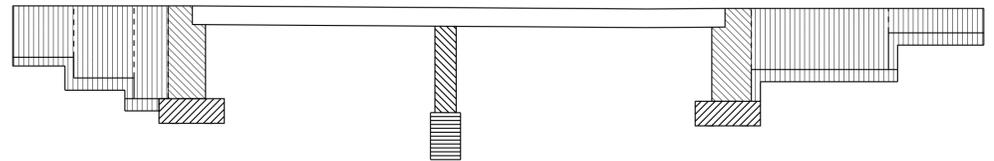
LIVE LOADING: HL93 and permit design load

SEISMIC LOADING: SDC ARS Online
Soil profile: $V_s^{30} = 1247$ ft/sec (Bent 2 and Abut 3)
 $= 1378$ ft/sec (Abut 1)
Moment Magnitude: 7.5
Peak Ground Acceleration: 0.48g
ARS Curve



REINFORCED CONCRETE: ASTM A706
 $f_y = 60$ ksi
 $f_c =$ SEE "CONCRETE STRENGTH AND TYPE LIMITS"
 $n = 8$

PRESTRESSED CONCRETE: See "PRESTRESSING NOTES" on "GIRDER LAYOUT LEFT WIDENING" and "GIRDER LAYOUT RIGHT WIDENING" sheets



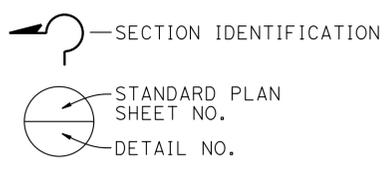
CONCRETE STRENGTH AND TYPE LIMITS

No Scale

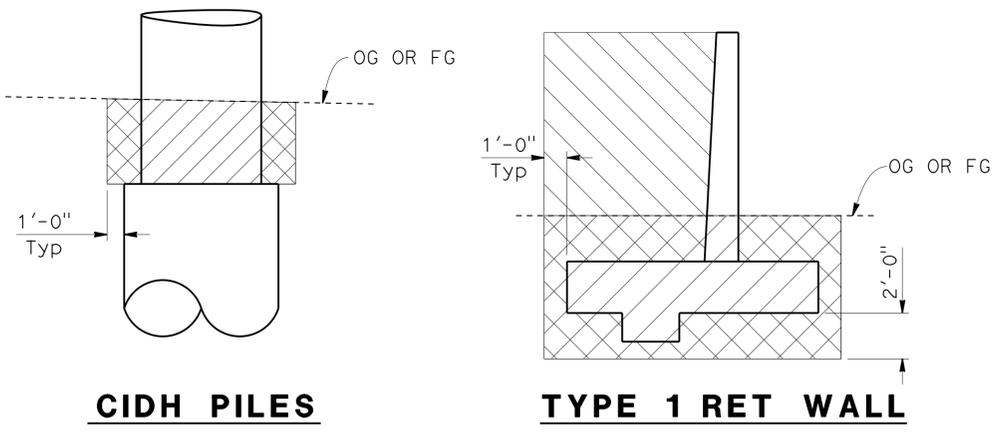
LEGEND:

	- Structural Concrete, Bridge (5000 psi @ 28 days)
	- Structural Concrete, Bridge (3600 psi @ 28 days)
	- Structural Concrete, Bridge Footing (3600 psi @ 28 days)
	- Structural Concrete, Cast-in-Drilled-Hole Pile (4000 psi @ 28 days)
	- Structural Concrete, Retaining Wall (3600 psi @ 28 days)

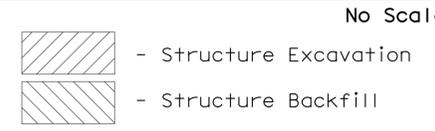
PLAN SYMBOLS



NOTE: THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.



LIMITS OF PAYMENT FOR EARTHWORK



STANDARD PLANS (DATED 2010)

RSP	A10A	ABBREVIATIONS (SHEET 1 OF 2)
	A10B	ABBREVIATIONS (SHEET 2 OF 2)
	A10C	LINES AND SYMBOLS (SHEET 1 OF 3)
	A10D	LINES AND SYMBOLS (SHEET 2 OF 3)
	A10F	LEGEND - SOIL (SHEET 1 OF 2)
	A10G	LEGEND - SOIL (SHEET 2 OF 2)
	A10H	LEGEND - ROCK
	A62C	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL BRIDGE
	T3A	TEMPORARY RAILING (TYPE K)
	T4	TEMPORARY TRAFFIC SCREEN
	B0-1	BRIDGE DETAILS
	B0-3	BRIDGE DETAILS
	B0-5	BRIDGE DETAILS
	B0-13	BRIDGE DETAILS
RSP	B3-1A	RETAINING WALL TYPE 1 (CASE 1)
RSP	B3-5	RETAINING WALL DETAILS No. 1
	B7-1	BOX GIRDER DETAILS
	B7-10	UTILITY OPENING BOX GIRDER
	B7-11	UTILITY DETAILS
RSP	B8-5	CAST-IN-PLACE PRESTRESSED GIRDER DETAILS
	B11-52	CHAIN LINK RAILING TYPE 7
RSP	B11-54	CONCRETE BARRIER TYPE 26
	B14-3	COMMUNICATION AND SPRINKLER CONTROL CONDUITS (CONDUIT LESS THAN 4")
	B14-5	WATER SUPPLY LINE (DETAILS) (PIPE SIZES LESS THAN 4")
	ES-6A	ELECTRICAL SYSTEMS (LIGHTING STANDARD, TYPE 15 AND 21)

INDEX TO BRIDGE PLANS

SHEET NO.	TITLE
1	GENERAL PLAN-1
2	GENERAL PLAN-2
3	GENERAL NOTES
4	BRIDGE REMOVAL PLAN
5	DECK RECONSTRUCTION DETAILS
6	FOUNDATION PLAN
7	ABUTMENT 1 LAYOUT
8	ABUTMENT 3 LAYOUT
9	ABUTMENT DETAILS NO. 1
10	ABUTMENT DETAILS NO. 2
11	ABUTMENT DETAILS NO. 3
12	ABUTMENT DETAILS NO. 4
13	ABUTMENT DETAILS NO. 5
14	BENT LAYOUT
15	LEFT WIDENING BENT DETAILS NO. 1
16	LEFT WIDENING BENT DETAILS NO. 2
17	RIGHT WIDENING BENT DETAILS NO. 1
18	RIGHT WIDENING BENT DETAILS NO. 2
19	BENT DETAILS
20	TYPICAL SECTION
21	GIRDER LAYOUT LEFT WIDENING
22	GIRDER LAYOUT RIGHT WIDENING
23	MISCELLANEOUS DETAILS
24	SUPPLY LINE (BRIDGE) DETAILS
25	LOG OF TEST BORINGS (1 OF 3)
26	LOG OF TEST BORINGS (2 OF 3)
27	LOG OF TEST BORINGS (3 OF 3)
28	LOG OF AS-BUILT TEST BORINGS (1 OF 2)
29	LOG OF AS-BUILT TEST BORINGS (2 OF 2)

PILE DATA TABLE

Location	Pile Type	Cut-off Elevation (ft)	Nominal Resistance (kip)		Design Tip Elevation (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance (kips)
			Compression	Tension			
Abut 1R	HP10X57	49.0	280	0	21.5 (a) 25.0 (d)	21.0	300
Abut 1L	HP10X57	59.5	280	0	28.5 (a) 35.5 (d)	29.0	300
Bent 2R	108" CIDH	41.0	4,110	0	-19.0 (a) -49.0 (d)	-49.0	NA
Bent 2L	108" CIDH	45.0	7,270	0	-51.0 (a) -52.5 (d)	-53.0	NA
Abut 3R	HP10X57	58.0	280	0	11.5 (a) 28.0 (d)	12.0	300
Abut 3L	HP10X57	64.5	280	0	13.5 (a) 34.5 (d)	13.0	300

NOTES:

- Design tip elevations are controlled by: (a) compression, and (d) lateral load.
- The specified tip elevation should not be raised above the design tip elevations for lateral load.


DESIGN OVERSIGHT
Norbert Gee
2/8/16
SIGN OFF DATE

DESIGN	BY Josh Nickerson	CHECKED Kumar Ghosh
DETAILS	BY Andy Toledo	CHECKED Kumar Ghosh
QUANTITIES	BY Sabina Piras	CHECKED Nardin Wasef

**PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION**

Roya Golchoobian
PROJECT ENGINEER
BRIDGE NO. 57-0595
POST MILES 4.4

FRIARS ROAD OC (WIDEN) GENERAL NOTES

USERNAME => s127400 DATE PLOTTED => 31-AUG-2016 TIME PLOTTED => 15:53

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	163	4.1/4.9	682	737

Roya Golchoobian 1/20/2016
 REGISTERED CIVIL ENGINEER DATE

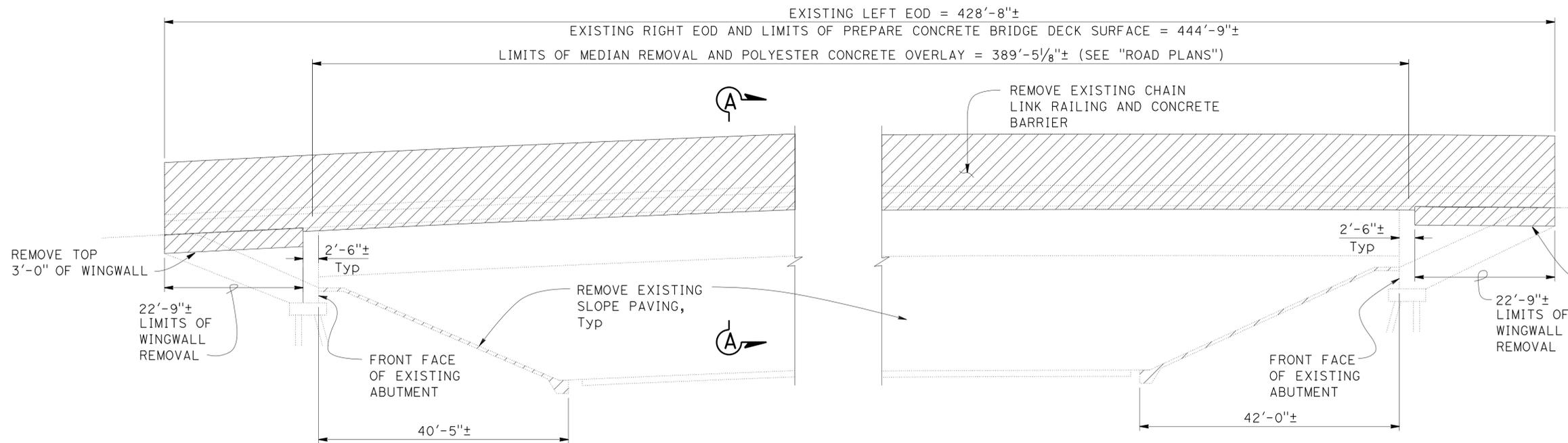
08-29-16
 PLANS APPROVAL DATE

Roya Golchoobian
 No. C47315
 Exp. 12/31/17
 CIVIL
 STATE OF CALIFORNIA

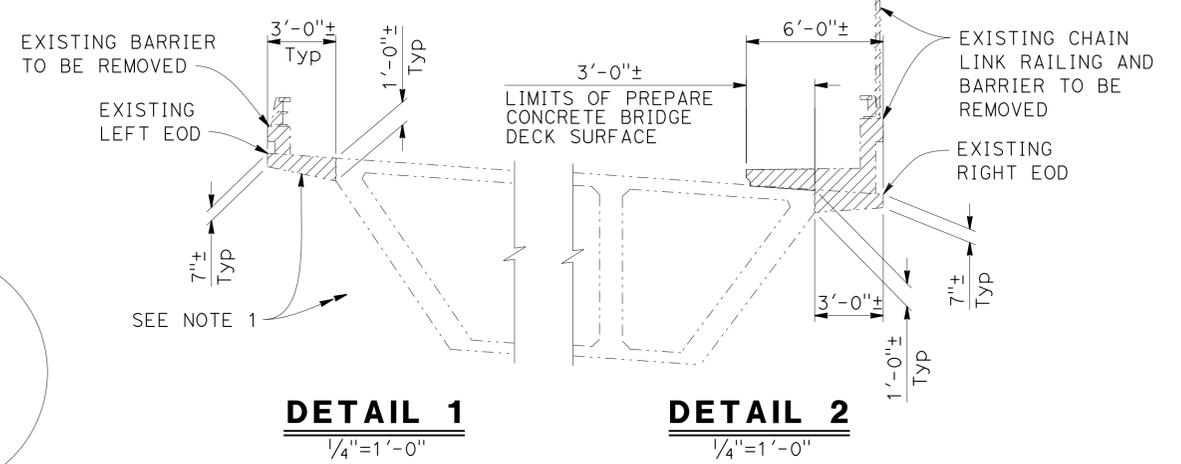
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 404 CAMINO DEL RIO SOUTH, SUITE 700
 SAN DIEGO, CA. 92108

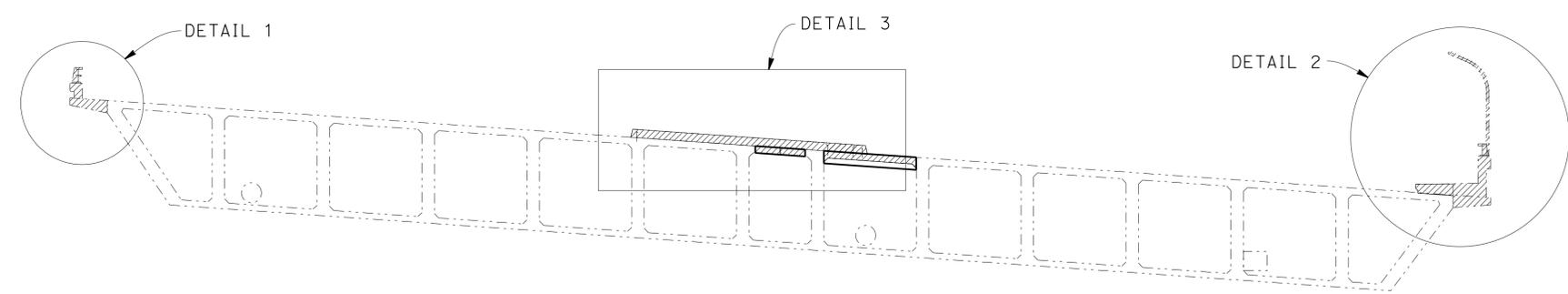


ELEVATION OF EXISTING BRIDGE
 No Scale



DETAIL 1
 1/4" = 1'-0"

DETAIL 2
 1/4" = 1'-0"

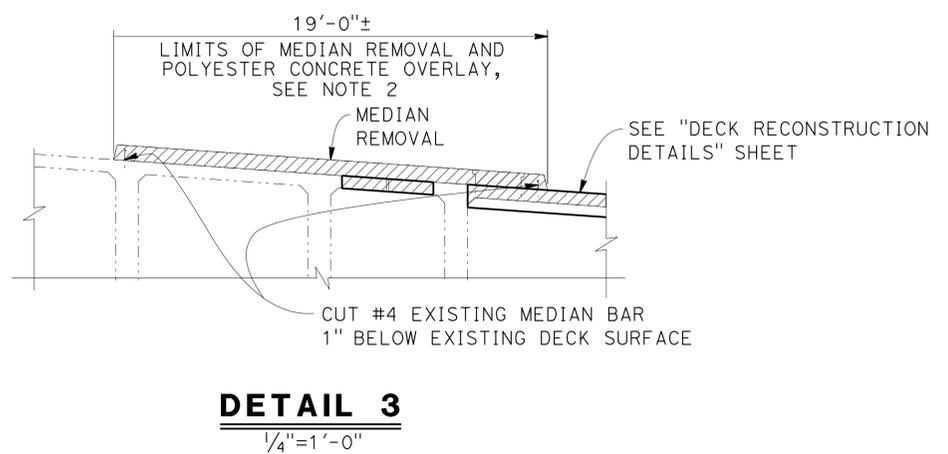


SECTION A-A
 No Scale

LEGEND:
 - - - - - Indicates existing structure
 // // // // Indicates bridge removal (portion)

- NOTES:**
1. Remove existing overhang concrete. Existing deck transverse reinforcement to remain.
 2. Remove 1" of deck surface below median and replace with 1" polyester concrete overlay.

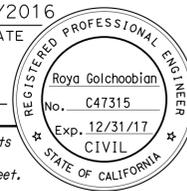
NOTE: THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

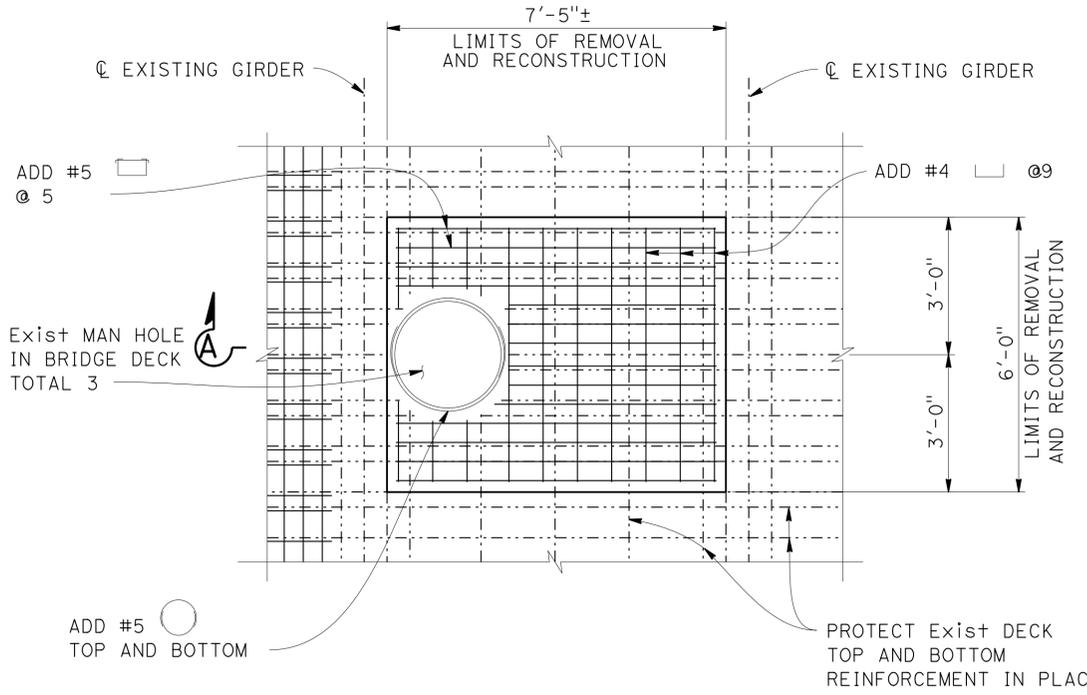


DETAIL 3
 1/4" = 1'-0"

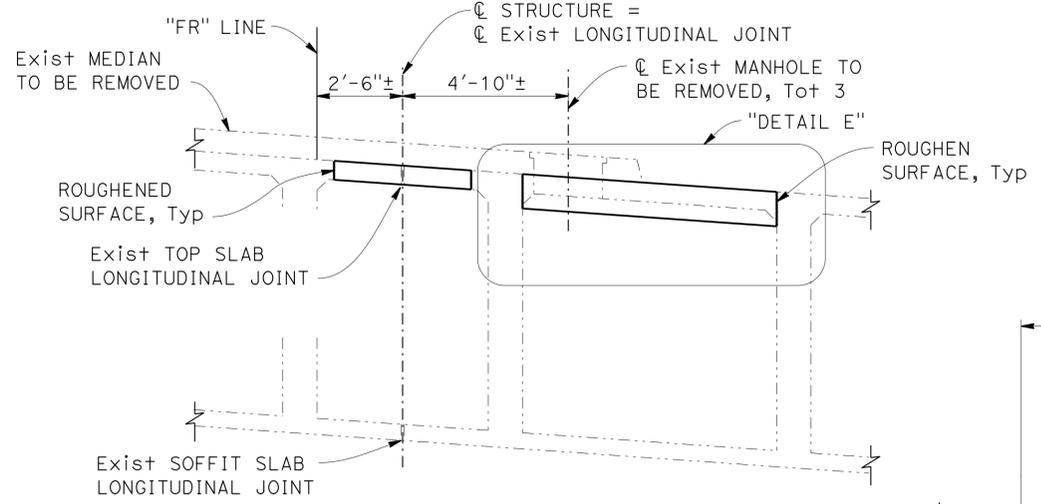
DESIGN OVERSIGHT <i>Norbert Gee</i> 2/8/16 SIGN OFF DATE	DESIGN BY Josh Nickerson	CHECKED Kumar Ghosh	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	PROJECT ENGINEER Roya Golchoobian	BRIDGE NO. 57-0595	FRIARS ROAD OC (WIDEN) BRIDGE REMOVAL PLAN	
	DETAILS BY Oscar Colcol	CHECKED Kumar Ghosh		PROJECT ENGINEER Roya Golchoobian	POST MILES 4.4		
DESIGN DETAIL SHEET (ENGLISH) (REV. 03/14/12)	QUANTITIES BY Sabina Piras	CHECKED Nardin Wasef	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3	UNIT: 2783 PROJECT NUMBER & PHASE: 11000000641	CONTRACT NO.: 11-085781	DISREGARD PRINTS BEARING EARLIER REVISION DATES REVISION DATES: 12/08/12, 11/14/14, 11/19/15	SHEET OF 4 29

USERNAME => s127400 DATE PLOTTED => 31-AUG-2016 TIME PLOTTED => 15:53

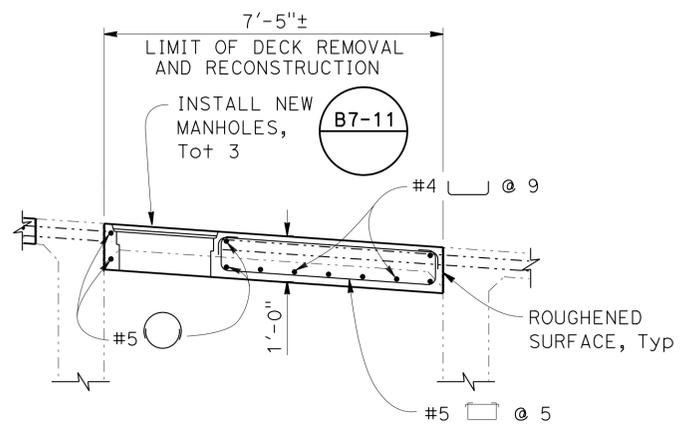
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11	SD	163	4.1/4.9	683	737
		1/20/2016 REGISTERED CIVIL ENGINEER DATE			
08-29-16 PLANS APPROVAL DATE					
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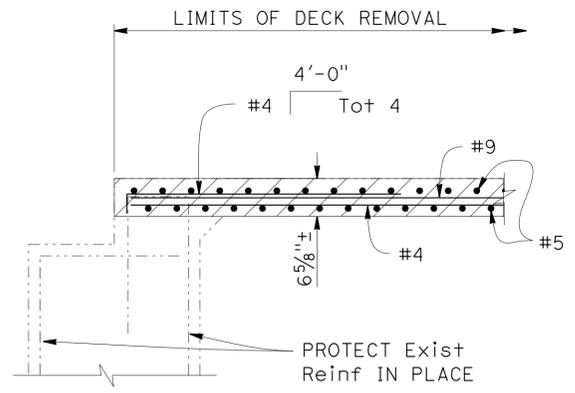
DECK REMOVAL AND RECONSTRUCTION AT EXISTING MANHOLES
 $\frac{1}{2}''=1'-0''$



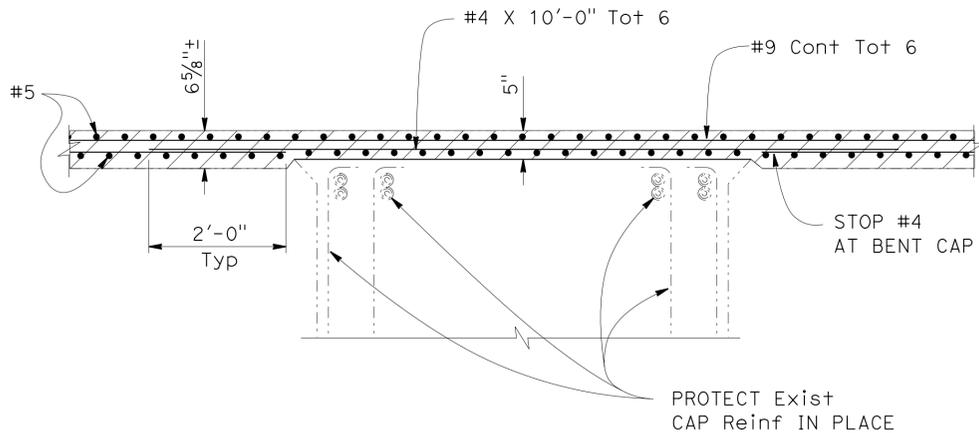
SECTION A-A
 $\frac{3}{8}''=1'-0''$



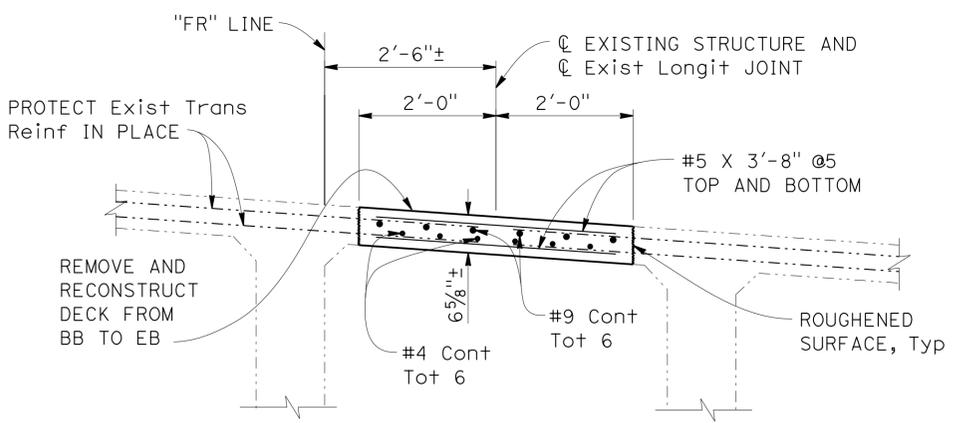
DETAIL E
 $\frac{1}{2}''=1'-0''$



DECK REMOVAL AND RECONSTRUCTION AT ABUTMENTS
 $\frac{3}{4}''=1'-0''$



DECK REMOVAL AND RECONSTRUCTION OVER BENTCAP
 $\frac{3}{4}''=1'-0''$



DECK REMOVAL AND RECONSTRUCTION AT EXISTING LONGITUDINAL JOINT
 $\frac{3}{4}''=1'-0''$

NOTE: THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

LEGEND:

	- Indicates bridge removal (portion)
	- Indicates existing structure

DESIGN OVERSIGHT
 Norbert Gee
 2/8/16
 SIGN OFF DATE

DESIGN	BY Josh Nickerson	CHECKED Kumar Ghosh
DETAILS	BY Andy Toledo	CHECKED Kumar Ghosh
QUANTITIES	BY Sabina Piras	CHECKED Nardin Wasef

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Roya Golchoobian
 PROJECT ENGINEER

BRIDGE NO.	57-0595
POST MILES	4.4

FRIARS ROAD OC (WIDEN) DECK RECONSTRUCTION DETAILS

DESIGN DETAIL SHEET (ENGLISH) (REV. 03/14/12)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



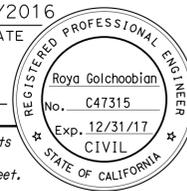
UNIT: 2783
 PROJECT NUMBER & PHASE: 11000000641

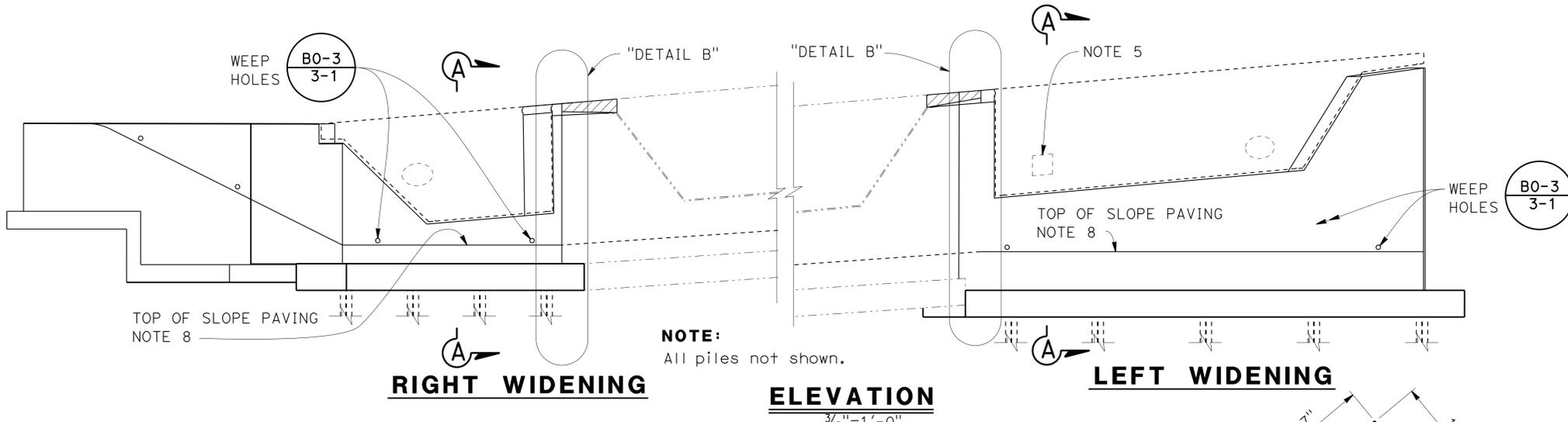
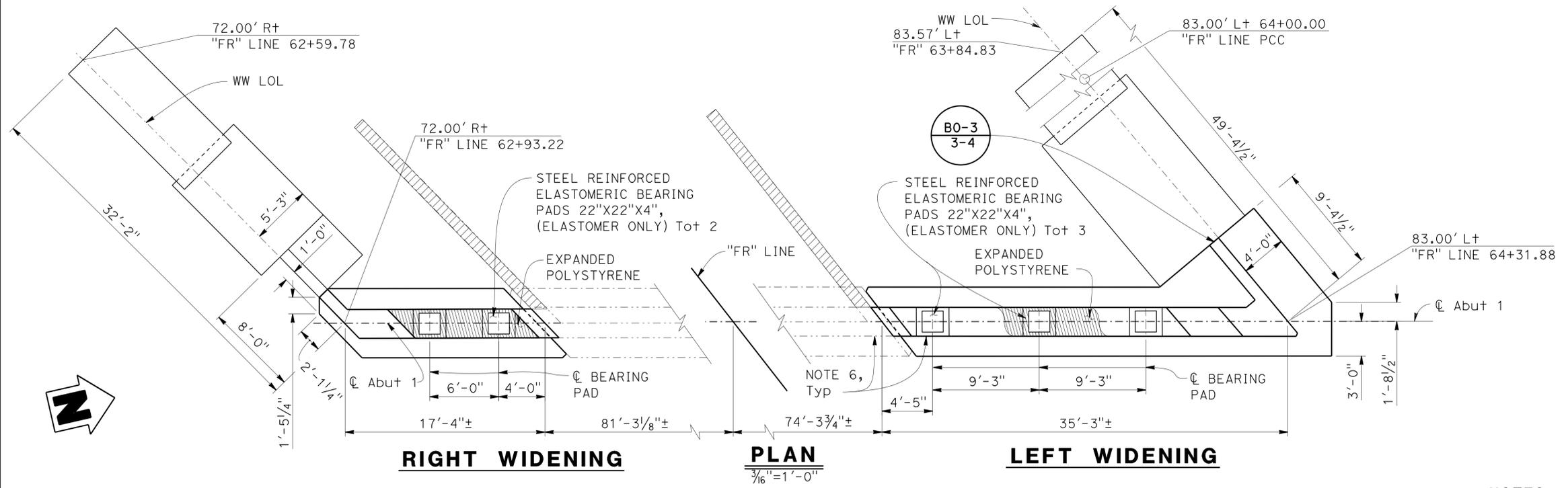
CONTRACT NO.: 11-085781

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
12/08/12	5	29

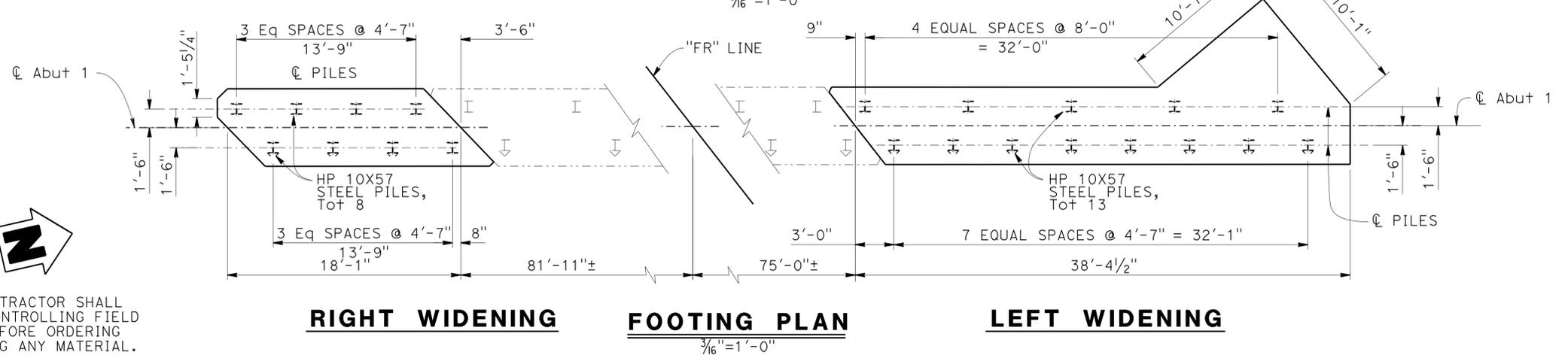
USERNAME => s127400 DATE PLOTTED => 31-AUG-2016 TIME PLOTTED => 15:53

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	163	4.1/4.9	685	737
 REGISTERED CIVIL ENGINEER			1/20/2016 DATE		
08-29-16 PLANS APPROVAL DATE					
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T.Y. LIN INTERNATIONAL 404 CAMINO DEL RIO SOUTH, SUITE 700 SAN DIEGO, CA. 92108					



- NOTES:**
1. For additional details, see "ABUTMENT DETAILS NO. 1", "ABUTMENT DETAILS NO. 2", and "ABUTMENT DETAILS NO. 3" sheets.
 2. Barrier not shown for clarity.
 3. For "SECTION A-A", see "ABUTMENT DETAILS NO. 1" sheet.
 4. For "DETAIL B", see "ABUTMENT DETAILS NO. 5" sheet.
 5. 18" square opening for future utility.
 6. Match front face of existing and widened abutments.
 7. Backfill shall be placed simultaneously on both sides of abutment stem.
 8. For slope paving details, see "SLOPE PAVING-FULL SLOPE" on "GROUND ANCHOR WALL" plans.

- LEGEND:**
- - - - - Indicates existing structure
 - ▬▬▬▬▬ Indicates new structure
 - ▨▨▨▨▨ Indicates bridge removal (portion)
 - ⊥⊥⊥⊥⊥ Indicates Vertical Steel HP Pile
 - ⊥⊥⊥⊥⊥ Indicates Battered Steel HP Pile 1H:3V



NOTE: THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN OVERSIGHT
Norbert Gee
2/8/16
SIGN OFF DATE

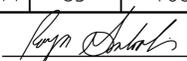
DESIGN	BY Josh Nickerson	CHECKED Kumar Ghosh
DETAILS	BY Andy Toledo	CHECKED Kumar Ghosh
QUANTITIES	BY Sabina Piras	CHECKED Nardin Wasef

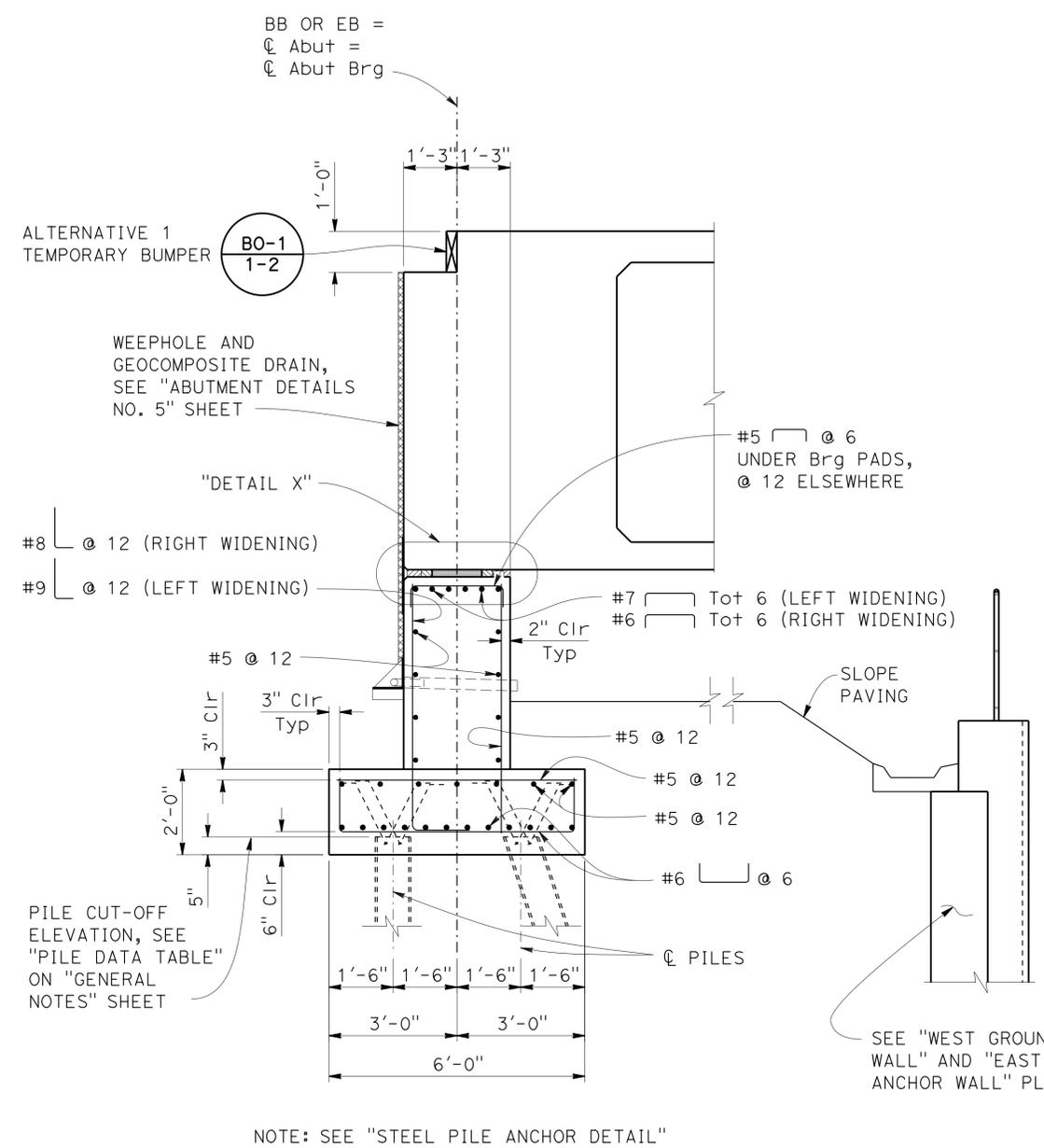
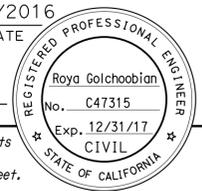
PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

Roya Golchoobian
PROJECT ENGINEER
BRIDGE NO. 57-0595
POST MILES 4.4

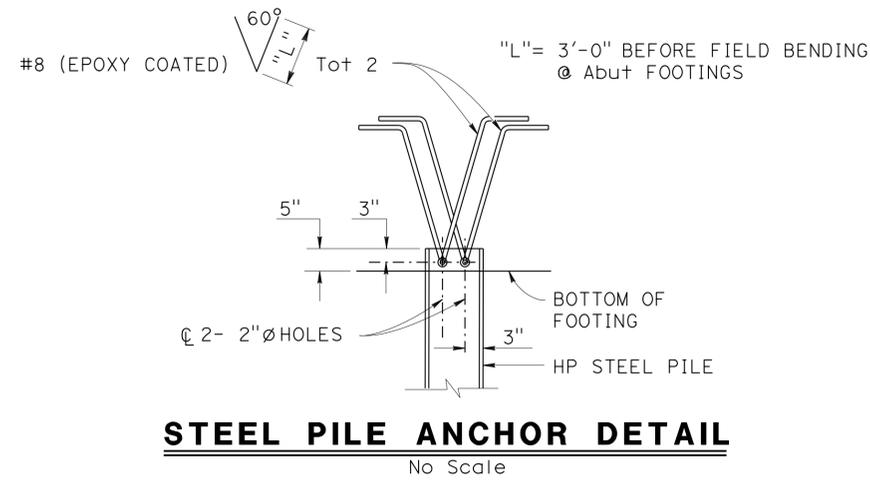
FRIARS ROAD OC (WIDEN)
ABUTMENT 1 LAYOUT

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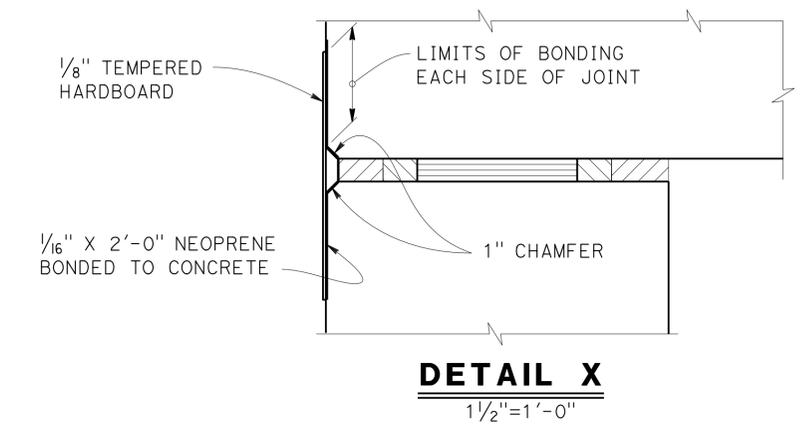
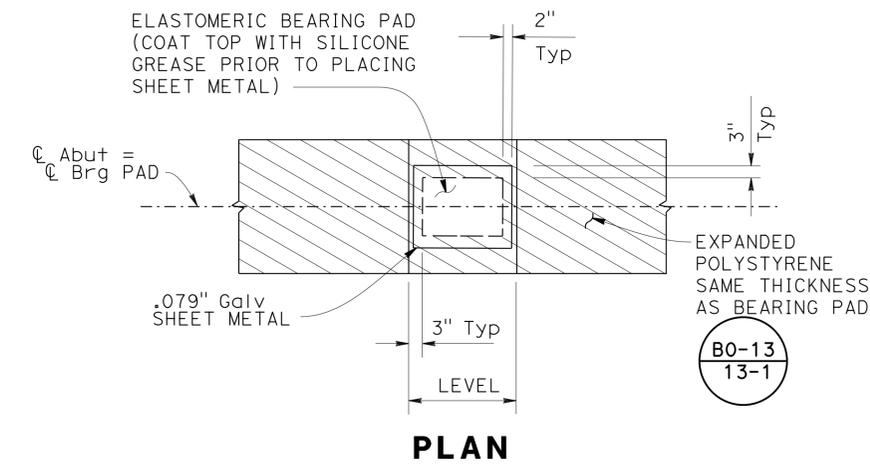
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	163	4.1/4.9	687	737
 REGISTERED CIVIL ENGINEER			1/20/2016	DATE	
08-29-16			PLANS APPROVAL DATE		
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T.Y. LIN INTERNATIONAL 404 CAMINO DEL RIO SOUTH, SUITE 700 SAN DIEGO, CA. 92108					



SECTION A-A
 1/2"=1'-0"



NOTE: Field bend tops of anchors to fit within footing



NOTE: THE CONTRACTOR SHALL
 VERIFY ALL CONTROLLING FIELD
 DIMENSIONS BEFORE ORDERING
 OR FABRICATING ANY MATERIAL.


 DESIGN OVERSIGHT
 Norbert Gee

2/8/16
 SIGN OFF DATE

DESIGN	BY Josh Nickerson	CHECKED Kumar Ghosh
DETAILS	BY Oscar Colcol	CHECKED Kumar Ghosh
QUANTITIES	BY Sabina Piras	CHECKED Nardin Wasef

**PREPARED FOR THE
 STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION**

Roya Golchoobian
 PROJECT ENGINEER

BRIDGE NO.	57-0595
POST MILES	4.4

**FRIARS ROAD OC (WIDEN)
 ABUTMENT DETAILS NO.1**

DESIGN DETAIL SHEET (ENGLISH) (REV. 03/14/12)

ORIGINAL SCALE IN INCHES
 FOR REDUCED PLANS

0 1 2 3

UNIT: 2783
 PROJECT NUMBER & PHASE: 11000000641

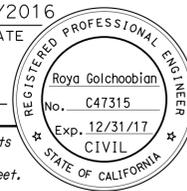
CONTRACT NO.: 11-085781

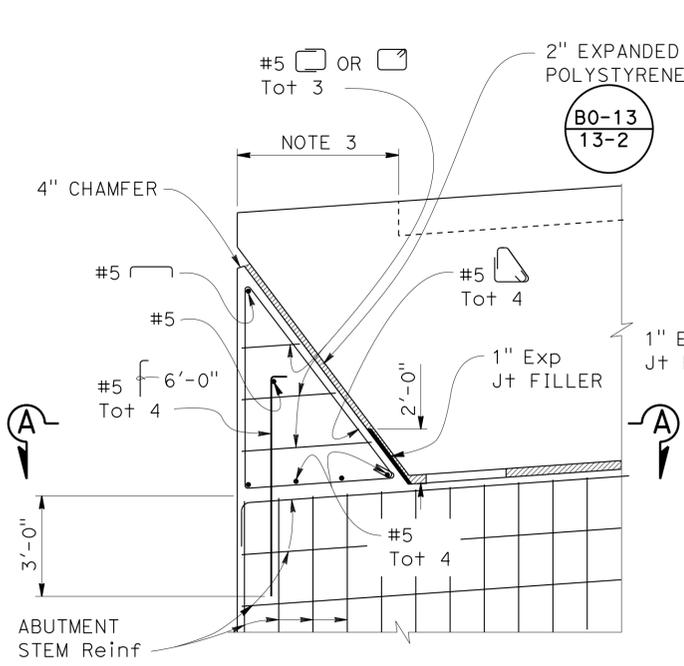
DISREGARD PRINTS BEARING
 EARLIER REVISION DATES

REVISION DATES	SHEET	OF
12/08/12 11/14/14 11/19/15	9	29

FILE => 57-0595-f-a01d101.dgn

USERNAME => s127400 DATE PLOTTED => 31-AUG-2016 TIME PLOTTED => 15:53

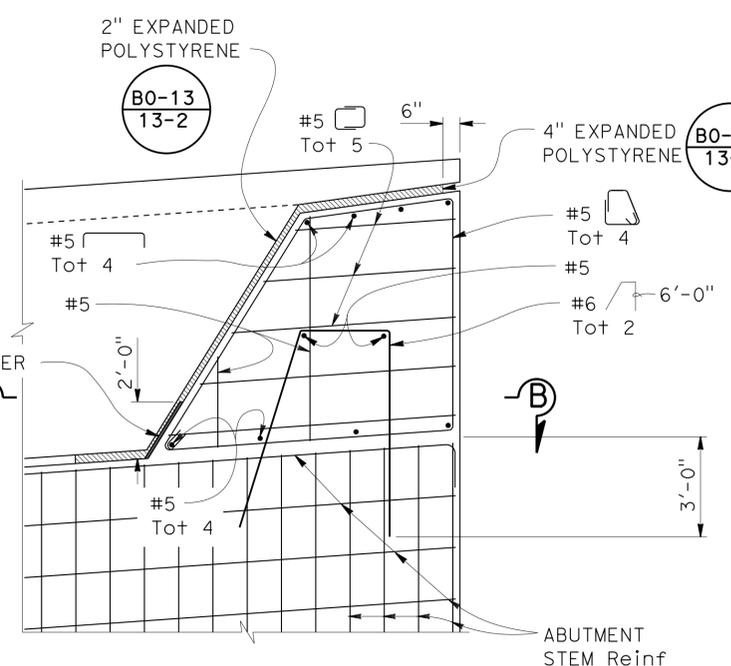
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	163	4.1/4.9	688	737
 REGISTERED CIVIL ENGINEER		1/20/2016 DATE			
08-29-16 PLANS APPROVAL DATE					
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RIGHT WIDENING

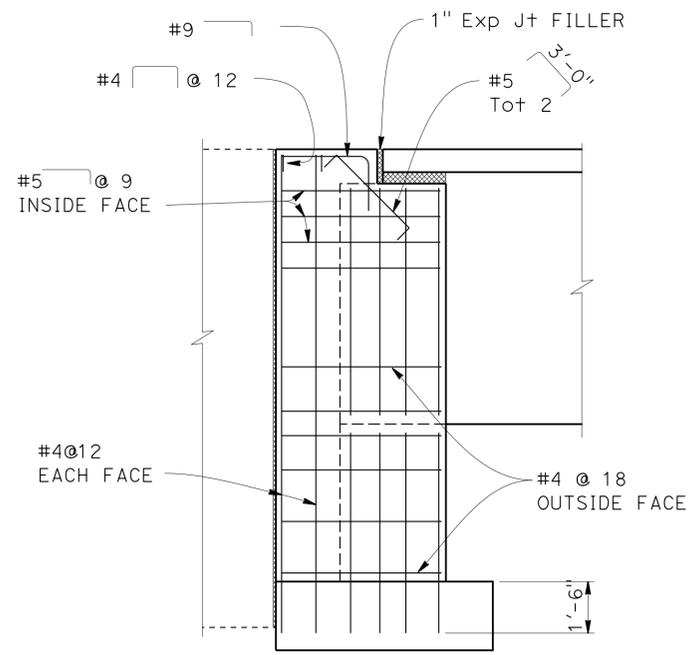
ELEVATION

3/8" = 1'-0"



LEFT WIDENING

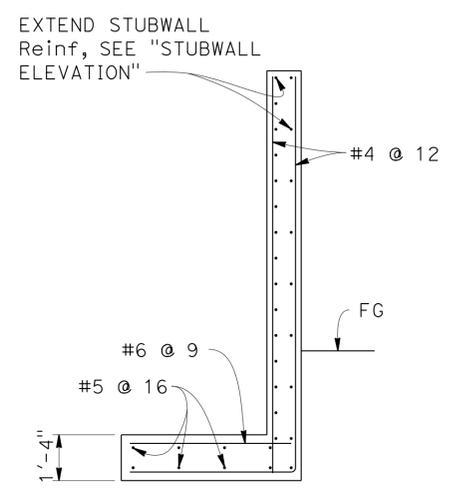
ABUTMENT STEM Reinf



NOTE: ABUTMENT 1 LEFT WIDENING STUBWALL SHOWN, ALL OTHER STUBWALLS SIMILAR.

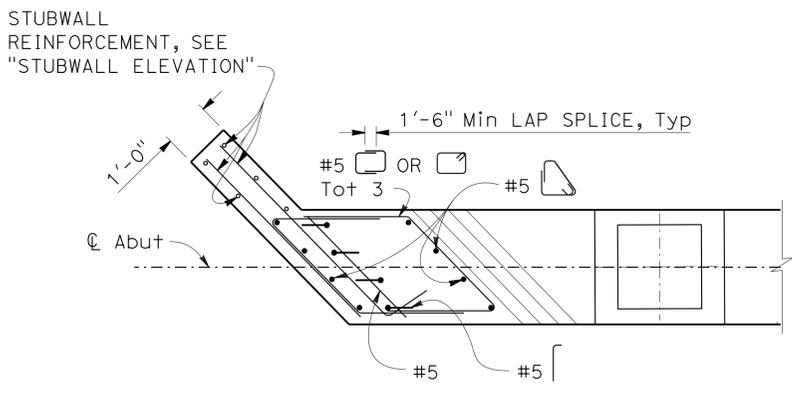
STUBWALL ELEVATION

3/8" = 1'-0"



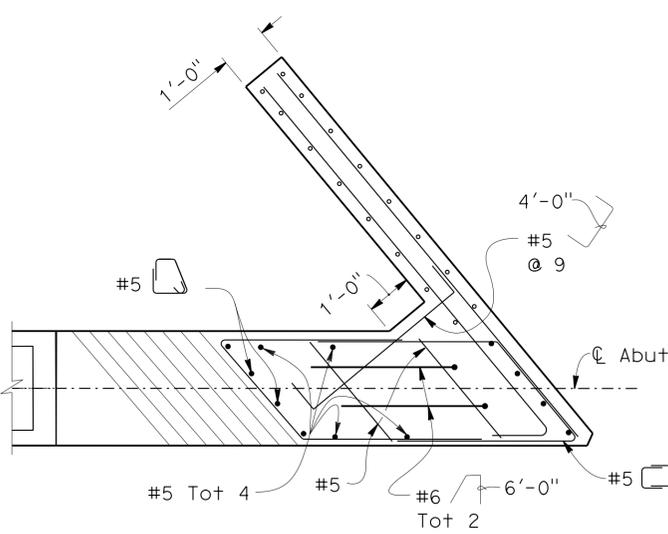
SECTION C-C

3/8" = 1'-0"



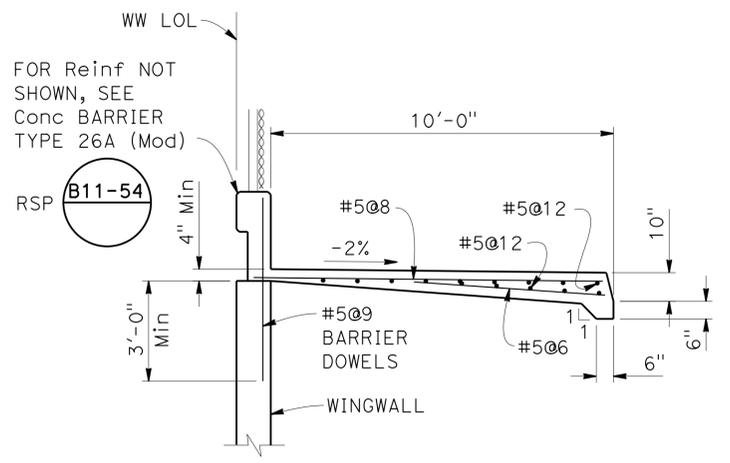
SECTION A-A

1/2" = 1'-0"

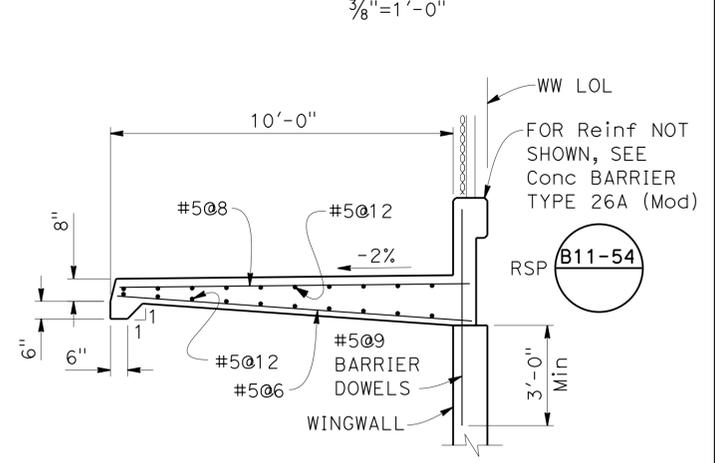


SECTION B-B

1/2" = 1'-0"



LEFT WIDENING



RIGHT WIDENING

SIDEWALK DETAIL

3/8" = 1'-0"

- NOTES:**
- Barrier not shown for clarity.
 - Abutment 1 shear key details shown, Abutment 3 similar.
 - For the Right Widening, stop the paving notch in the end diaphragm 3'-6" from EOD

NOTE: THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN OVERSIGHT
 Norbert Gee
 2/8/16
 SIGN OFF DATE

DESIGN	BY Josh Nickerson	CHECKED Kumar Ghosh
DETAILS	BY Andy Toledo	CHECKED Kumar Ghosh
QUANTITIES	BY Sabina Piras	CHECKED Nardin Wasef

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

Roya Golchoobian
 PROJECT ENGINEER

BRIDGE NO.	57-0595
POST MILES	4.4

FRIARS ROAD OC (WIDEN)
ABUTMENT DETAILS NO. 2

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	163	4.1/4.9	689	737

Roya Golchoobian 1/20/2016
 REGISTERED CIVIL ENGINEER DATE

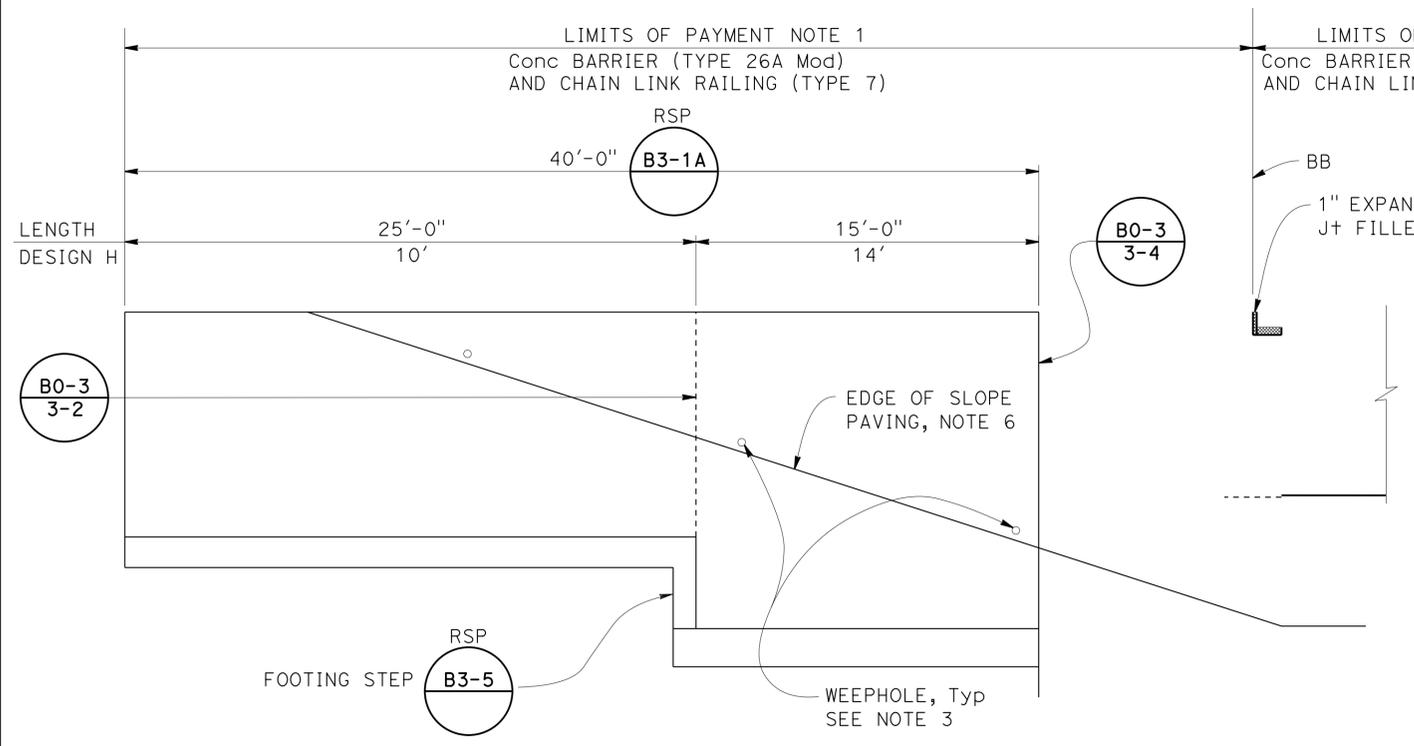
08-29-16
 PLANS APPROVAL DATE

Roya Golchoobian
 No. C47315
 Exp. 12/31/17
 CIVIL
 STATE OF CALIFORNIA

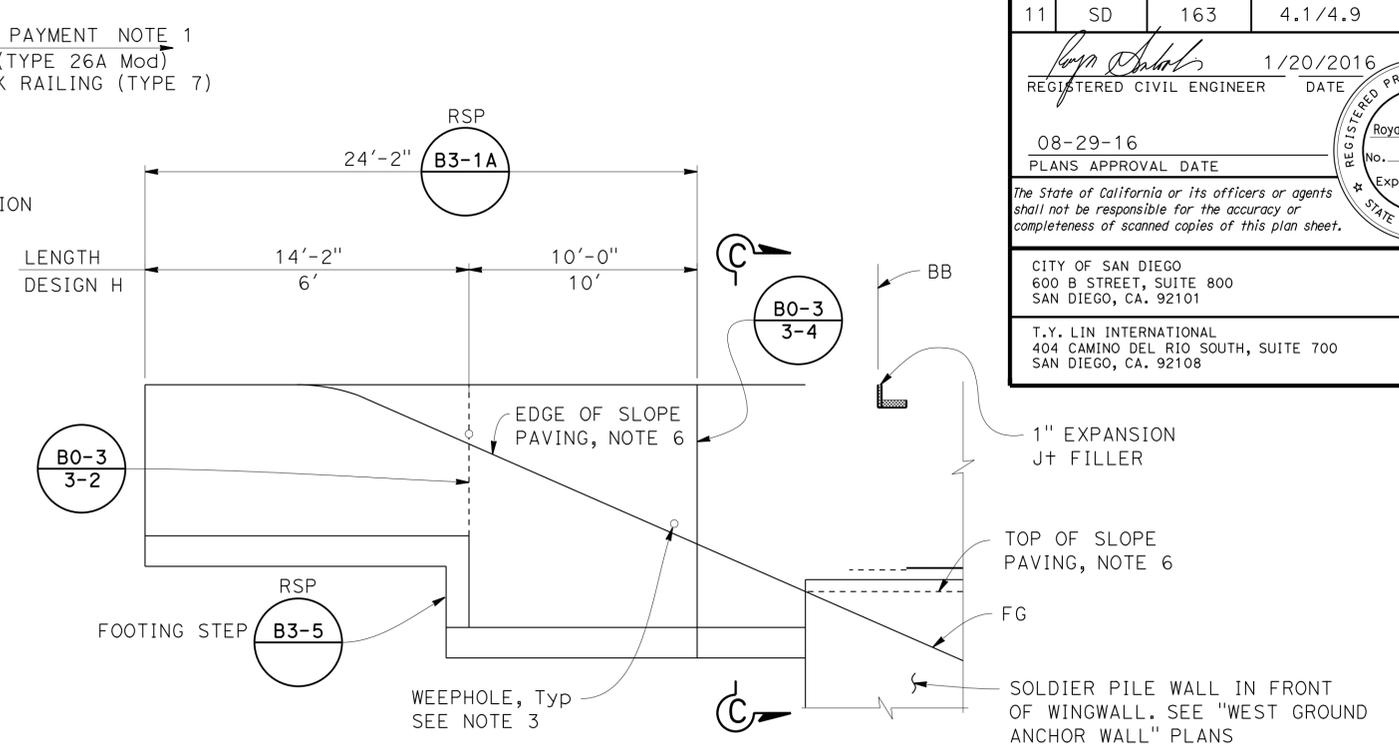
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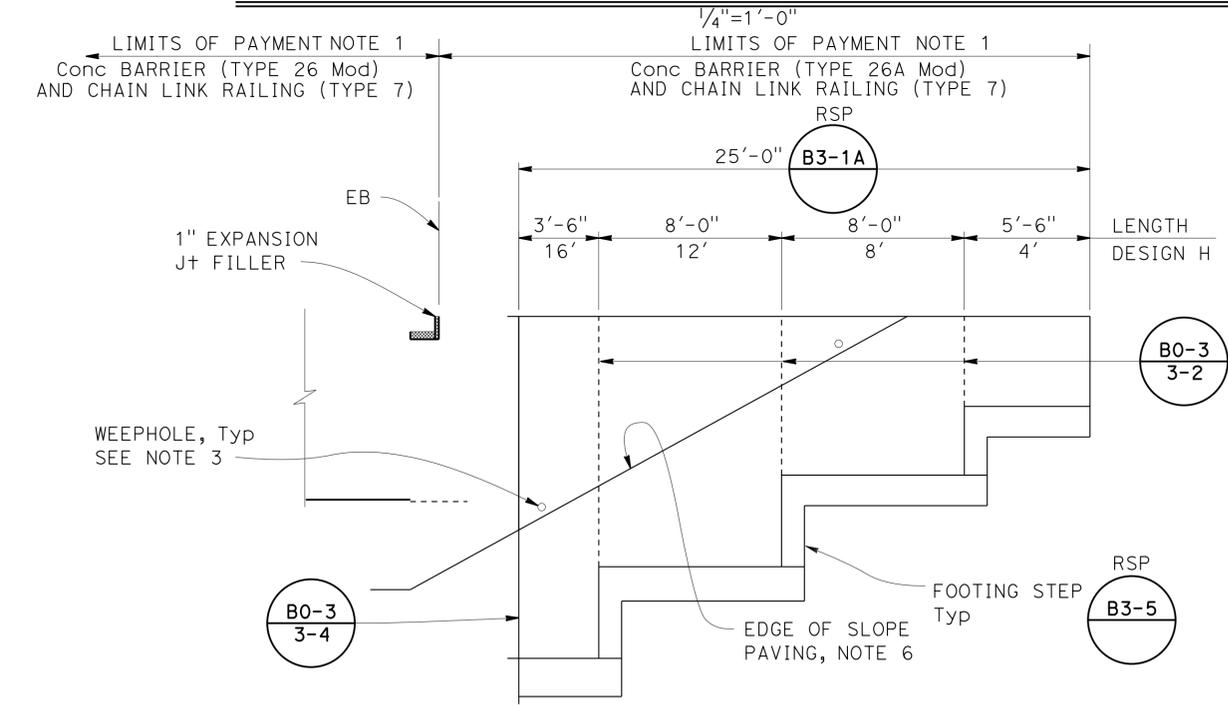
T.Y. LIN INTERNATIONAL
 404 CAMINO DEL RIO SOUTH, SUITE 700
 SAN DIEGO, CA. 92108



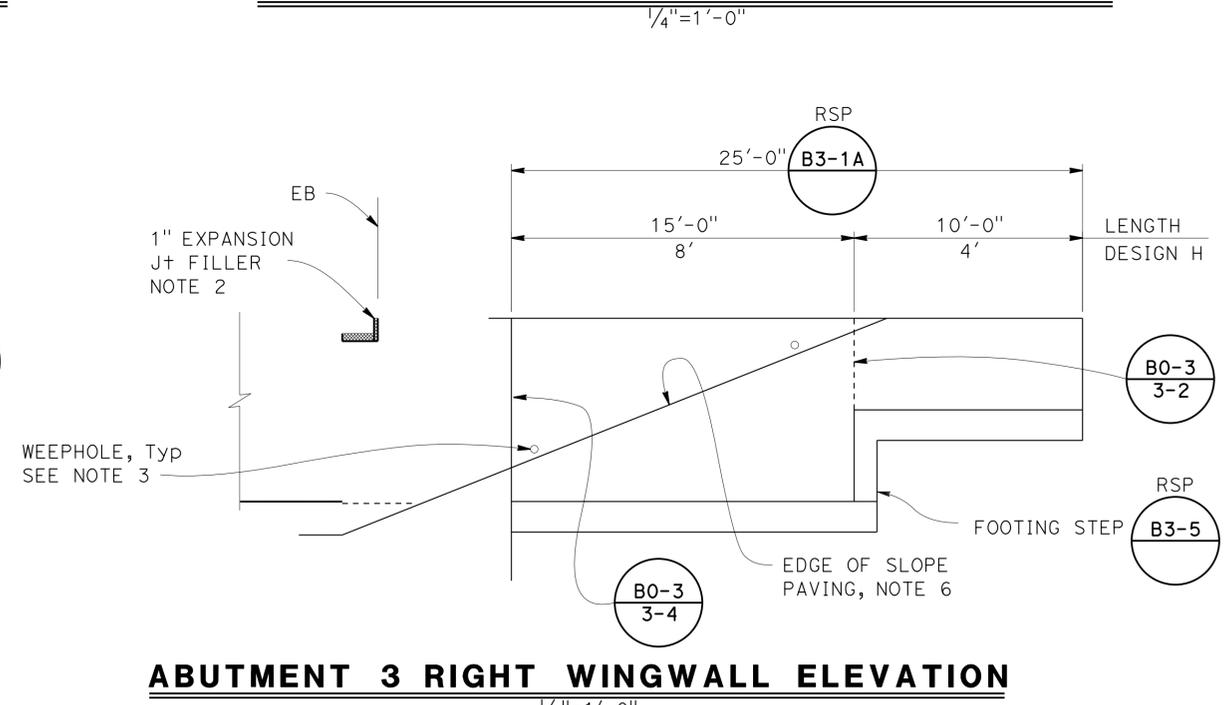
ABUTMENT 1 LEFT WINGWALL MIRROR ELEVATION



ABUTMENT 1 RIGHT WINGWALL ELEVATION



ABUTMENT 3 LEFT WINGWALL MIRROR ELEVATION



ABUTMENT 3 RIGHT WINGWALL ELEVATION

- NOTES:**
1. Right Wingwall limits of payment similar
 2. See Note 3 on "ABUTMENT DETAILS NO.2" sheet
 3. For Weep hole details, see "ABUTMENT DETAILS NO.5" sheet.
 4. For details not shown, see
 5. For "SECTION C-C" see "ABUTMENT DETAILS NO.2" sheet.
 6. For slope paving details, see "SLOPE PAVING-FULL SLOPE" on "GROUND ANCHOR WALL" plans.

NOTE: THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

Norbert Gee
 DESIGN OVERSIGHT
 Norbert Gee
 2/8/16
 SIGN OFF DATE

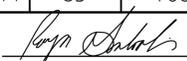
DESIGN	BY Josh Nickerson	CHECKED Kumar Ghosh
DETAILS	BY Andy Toledo	CHECKED Kumar Ghosh
QUANTITIES	BY Sabina Piras	CHECKED Nardin Wasef

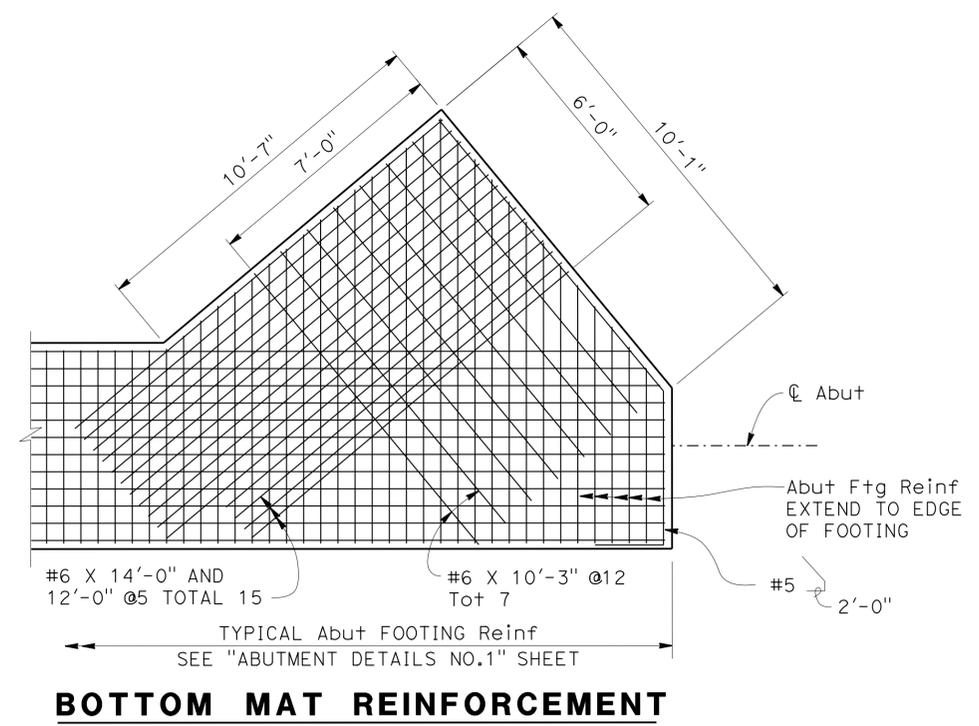
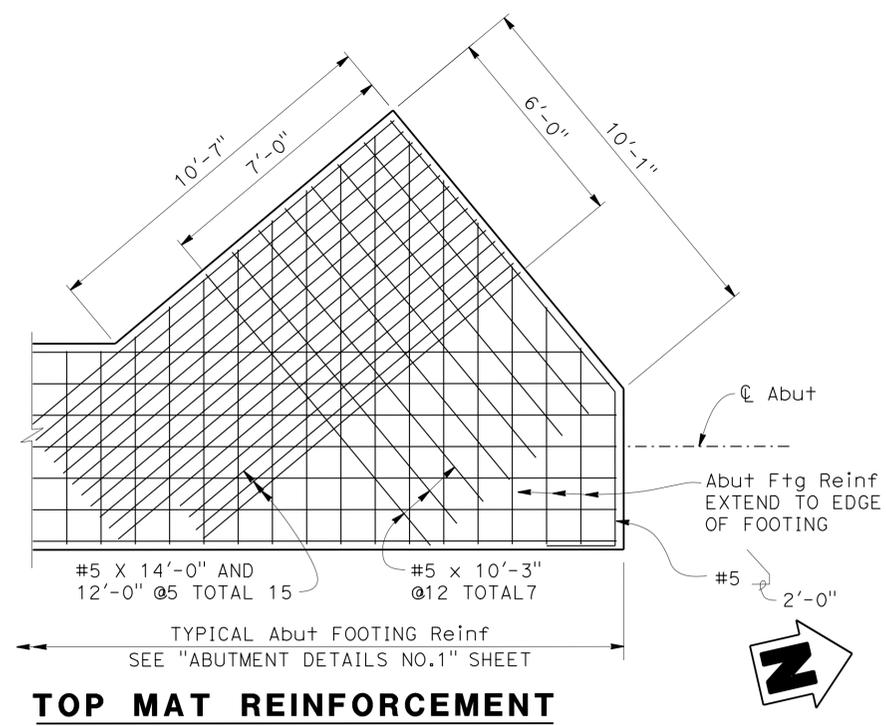
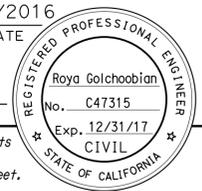
PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Roya Golchoobian
 PROJECT ENGINEER

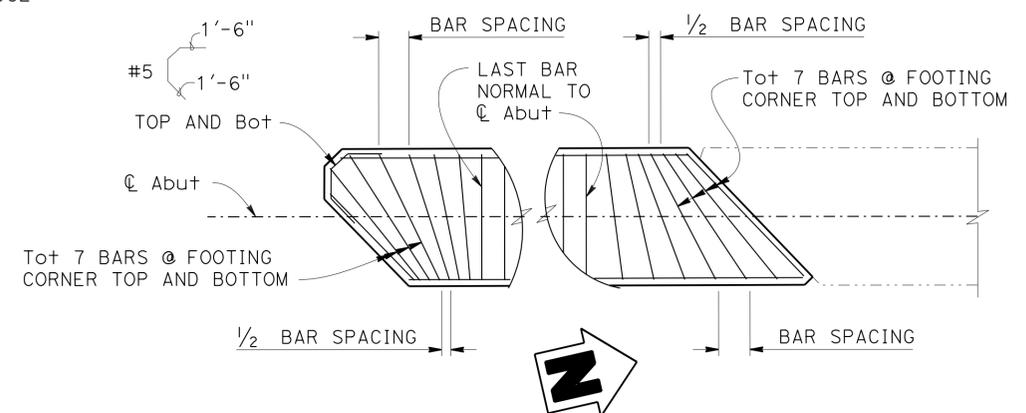
BRIDGE NO.	57-0595
POST MILES	4.4

FRIARS ROAD OC (WIDEN) ABUTMENT DETAILS NO. 3

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	163	4.1/4.9	690	737
 REGISTERED CIVIL ENGINEER			1/20/2016	DATE	
08-29-16 PLANS APPROVAL DATE					
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CITY OF SAN DIEGO 600 B STREET, SUITE 800 SAN DIEGO, CA. 92101					
T.Y. LIN INTERNATIONAL 404 CAMINO DEL RIO SOUTH, SUITE 700 SAN DIEGO, CA. 92108					

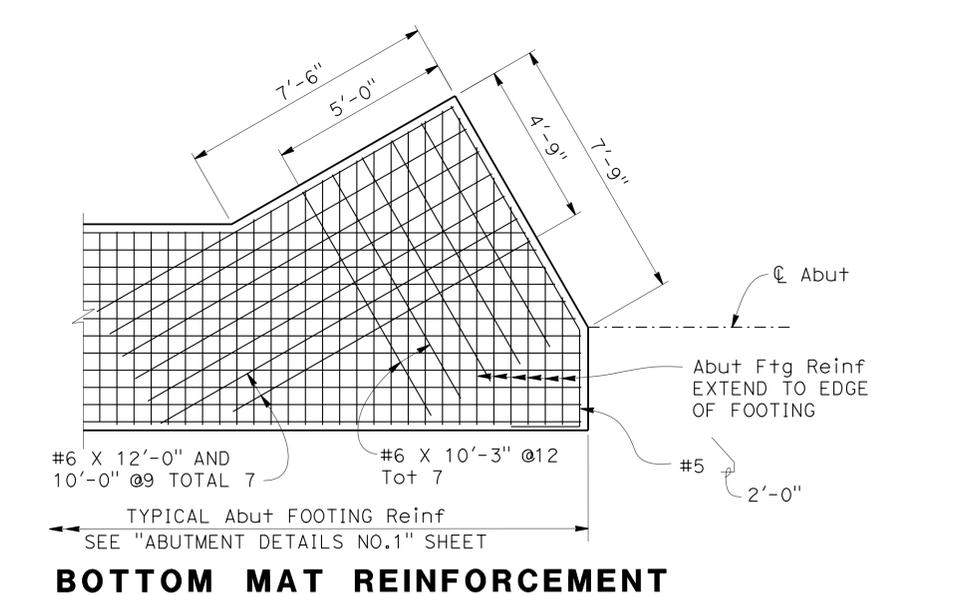
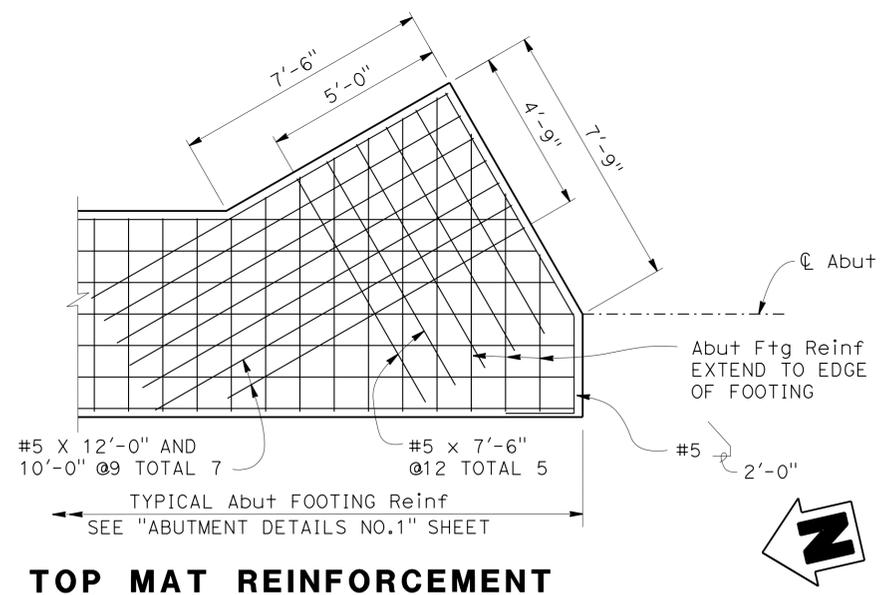


**LEFT WIDENING
ABUTMENT 1 CORNER FOOTING DETAIL**
 $\frac{3}{8}'' = 1' - 0''$



ABUTMENT FOOTING CORNER DETAIL
 No Scale

RIGHT WIDENING Abut 1 SHOWN,
 LEFT WIDENING Abut 3 SIMILAR



**RIGHT WIDENING
ABUTMENT 3 CORNER FOOTING DETAIL**
 $\frac{3}{8}'' = 1' - 0''$

NOTE: THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

Norbert Gee
 DESIGN OVERSIGHT
 2/8/16
 SIGN OFF DATE

DESIGN	BY Josh Nickerson	CHECKED Kumar Ghosh
DETAILS	BY Oscar Colcol	CHECKED Kumar Ghosh
QUANTITIES	BY Sabina Piras	CHECKED Nardin Wasef

**PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION**

Roya Golchoobian
 PROJECT ENGINEER

BRIDGE NO.	57-0595
POST MILES	4.4

**FRIARS ROAD OC (WIDEN)
ABUTMENT DETAILS NO. 4**

DESIGN DETAIL SHEET (ENGLISH) (REV. 03/14/12)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



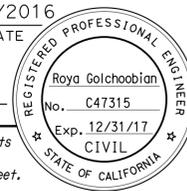
UNIT: 2783
 PROJECT NUMBER & PHASE: 11000000641

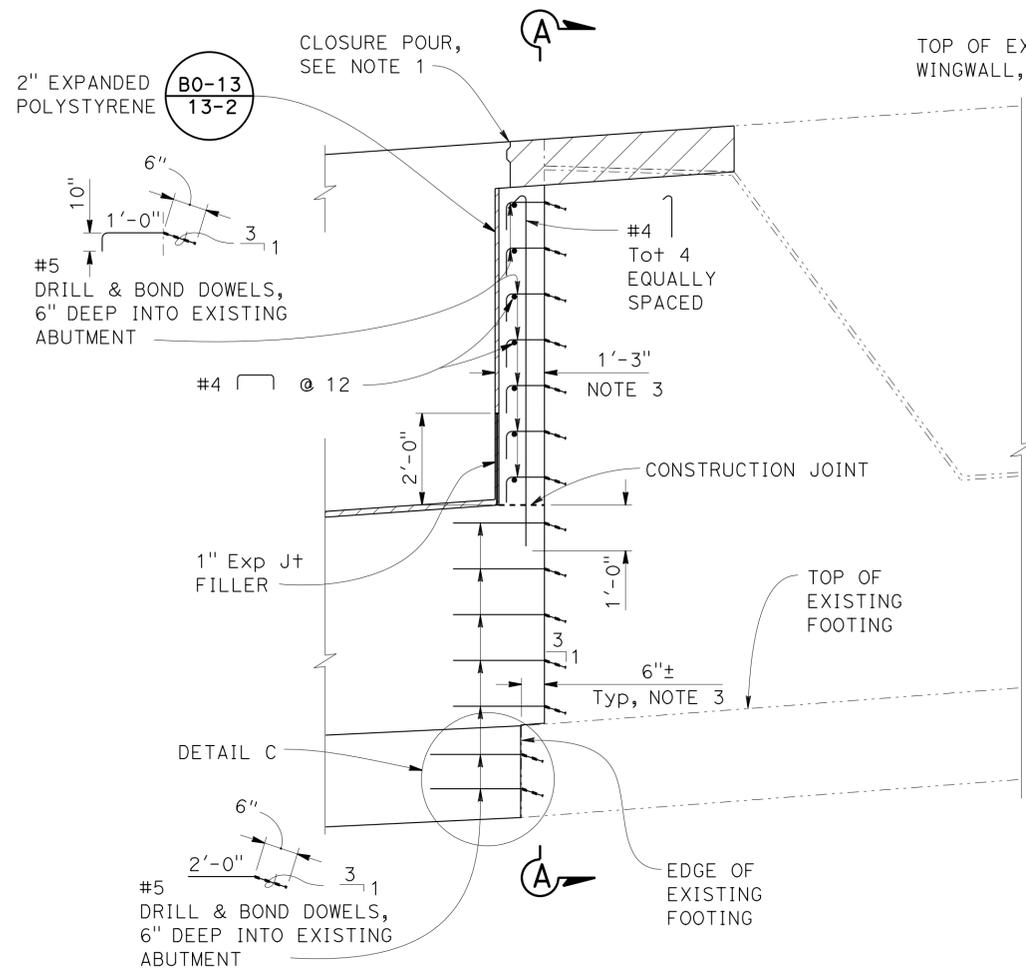
CONTRACT NO.: 11-085781

DISREGARD PRINTS BEARING EARLIER REVISION DATES

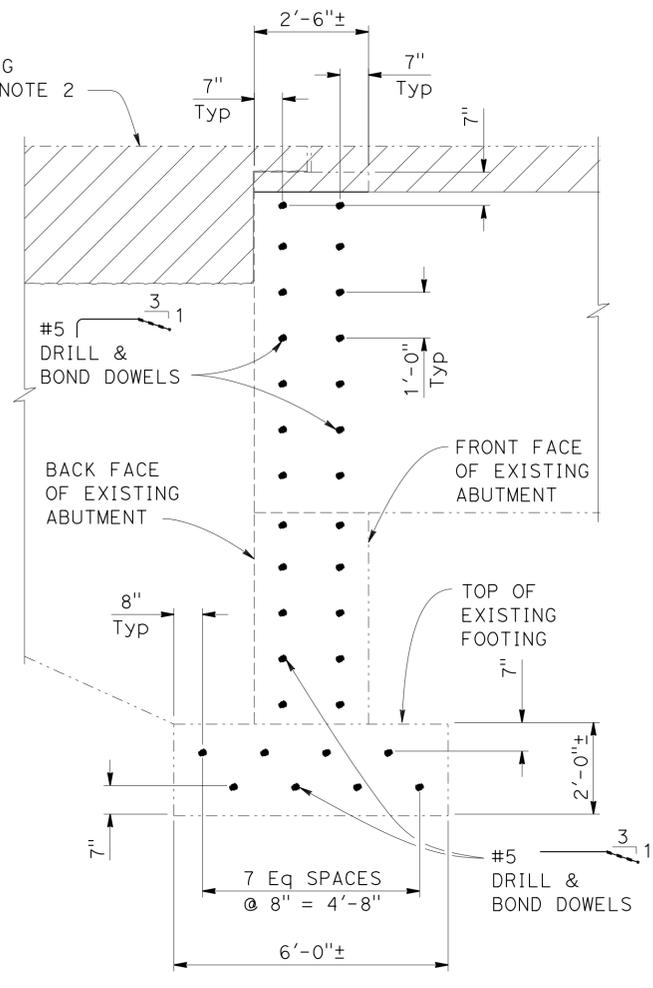
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12/08/12 1/14/14 11/19/15	12	29

USERNAME => s127400 DATE PLOTTED => 31-AUG-2016 TIME PLOTTED => 15:53

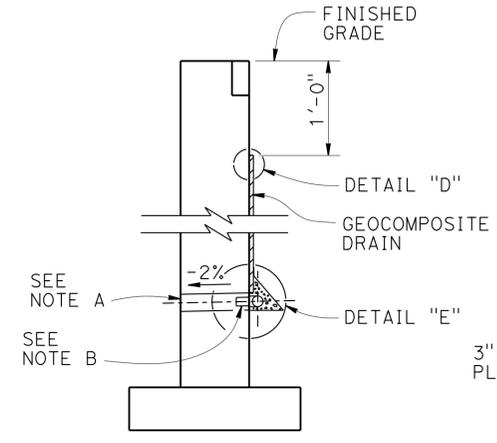
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	163	4.1/4.9	691	737
		1/20/2016 REGISTERED CIVIL ENGINEER DATE			
08-29-16		PLANS APPROVAL DATE			
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CITY OF SAN DIEGO 600 B STREET, SUITE 800 SAN DIEGO, CA. 92101					
T.Y. LIN INTERNATIONAL 404 CAMINO DEL RIO SOUTH, SUITE 700 SAN DIEGO, CA. 92108					



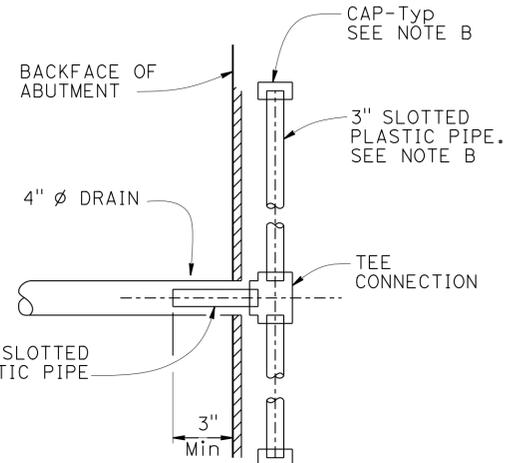
DETAIL B
1/2"=1'-0"



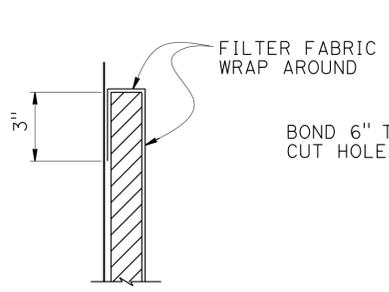
SECTION A-A
1/2"=1'-0"



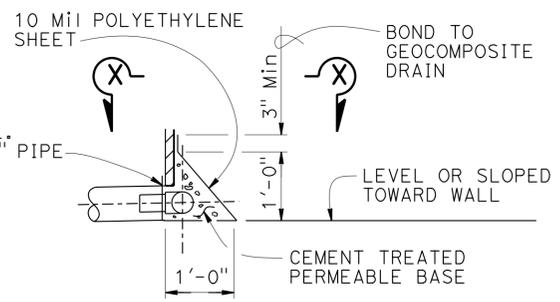
WALL SECTION



SECTION X-X



DETAIL "D"



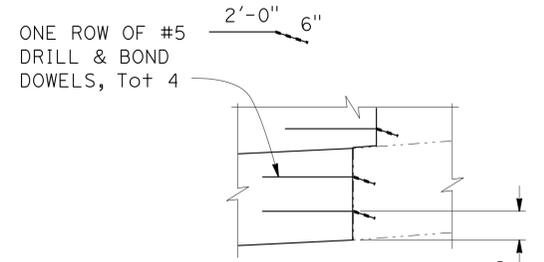
DETAIL "E"

WEEP HOLE AND GEOCOMPOSITE DRAIN
No Scale

- NOTES:
- A. 4" ϕ drains at intermediate sag points and at 25' max center to center. Exposed wall drains shall be located 3"± above finished grade.
 - B. Geocomposite drain, cement treated permeable base, and 3" ϕ slotted plastic pipe continuous behind abutment. Cap ends of pipe. Provide "Tee" connection at each 4" ϕ drain.
 - C. Connect the low end of plastic pipe to the main outlet pipe as applicable.

- LEGEND:**
- - - - - Indicates existing structure
 - Indicates new structure
 - /// Indicates bridge removal (portion)

- NOTES:**
1. For closure pour details, see "MISCELLANEOUS DETAILS" sheet.
 2. For bridge removal (portion) details, see "BRIDGE REMOVAL PLAN" sheet.
 3. Measured perpendicular to "FR" Line.



DETAIL C
1/2"=1'-0"

Abut 1 LEFT WIDENING ONLY

NOTE: THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN OVERSIGHT: Norbert Gee
 2/8/16
 SIGN OFF DATE

DESIGN	BY: Josh Nickerson	CHECKED: Kumar Ghosh
DETAILS	BY: Oscar Colcol	CHECKED: Kumar Ghosh
QUANTITIES	BY: Sabina Piras	CHECKED: Nardin Wasef

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

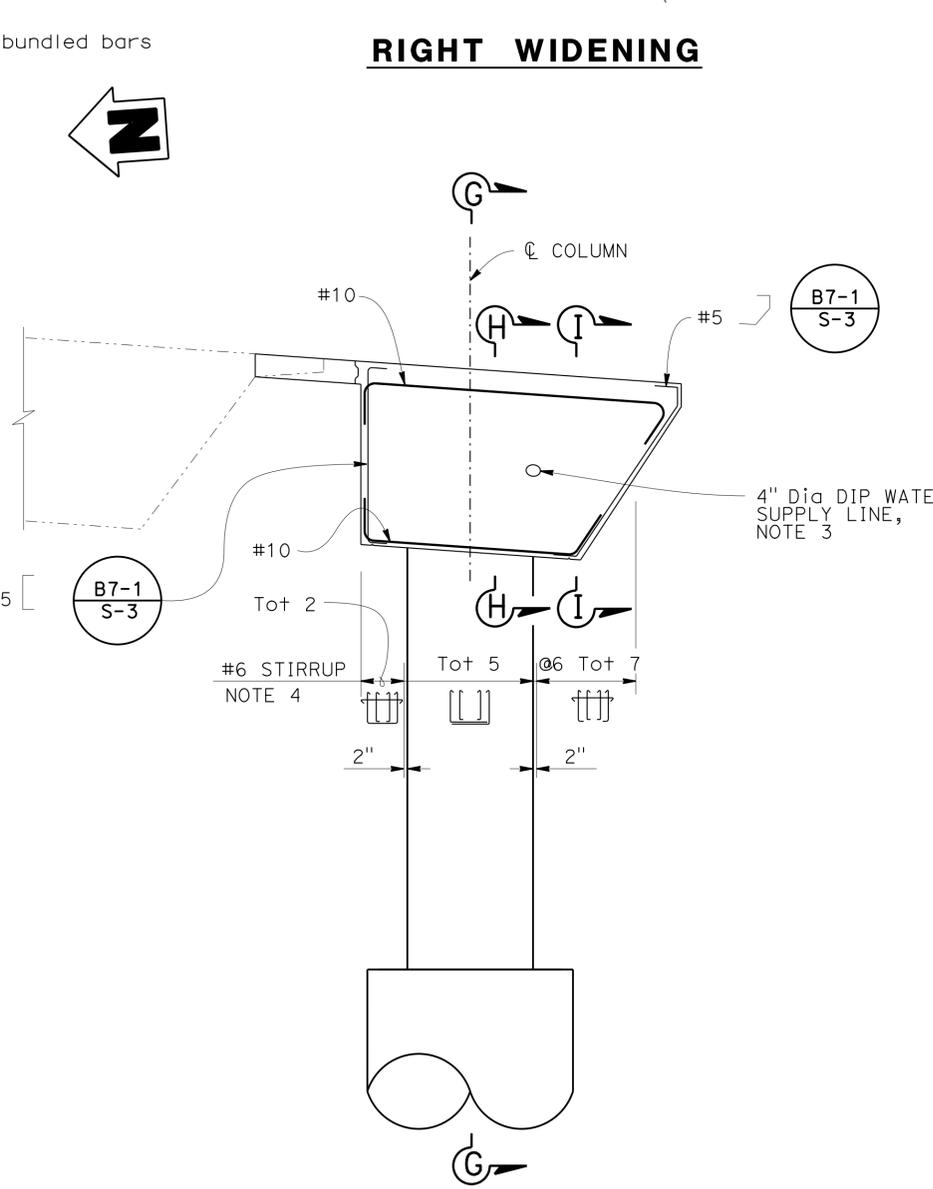
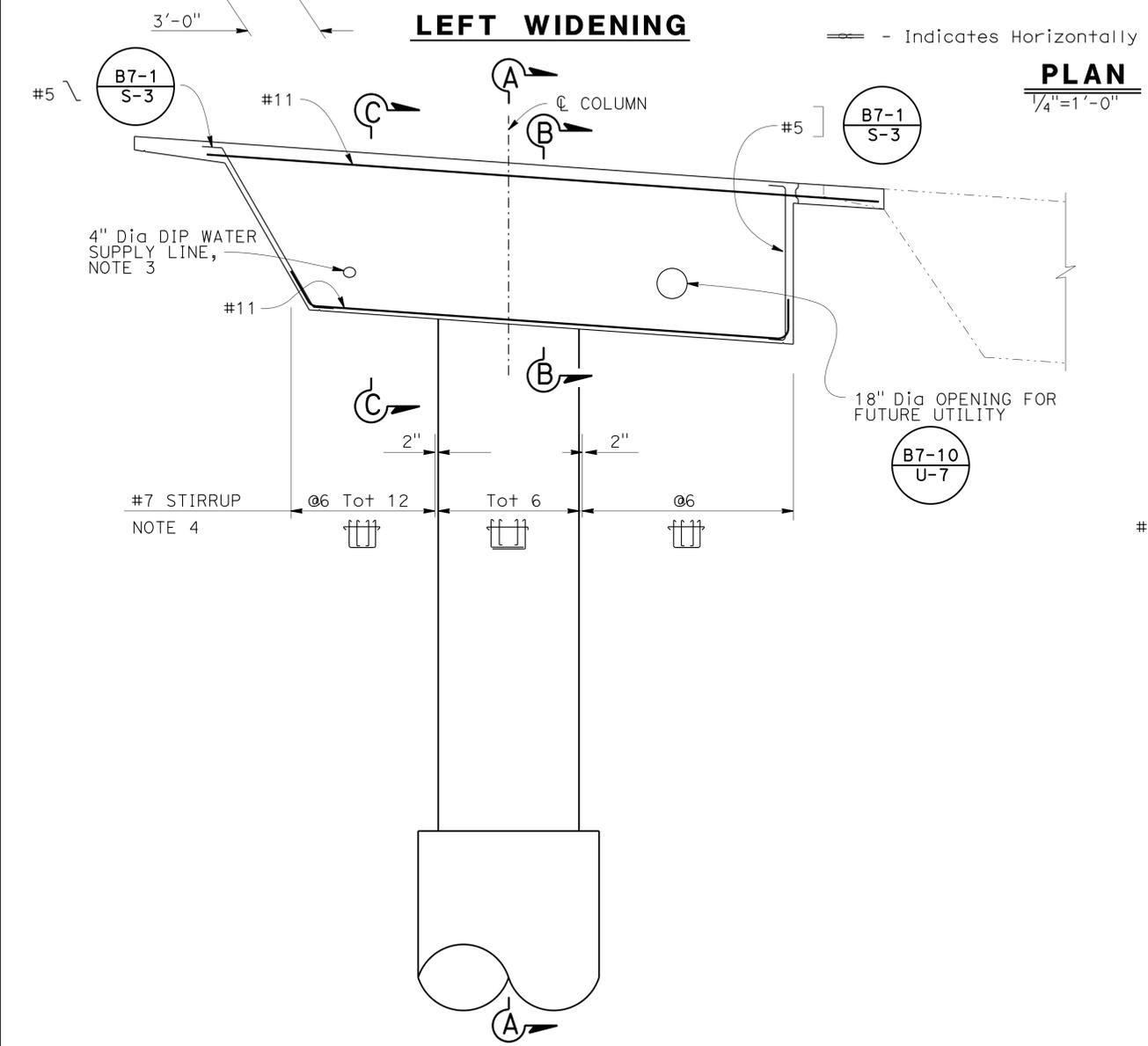
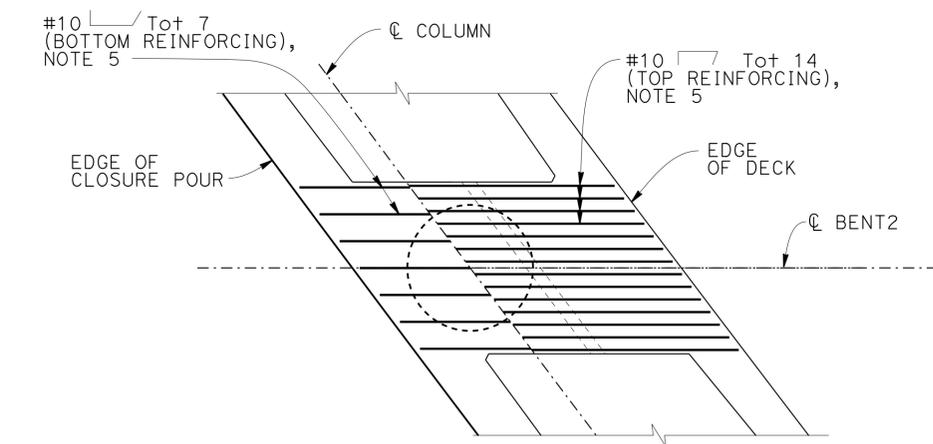
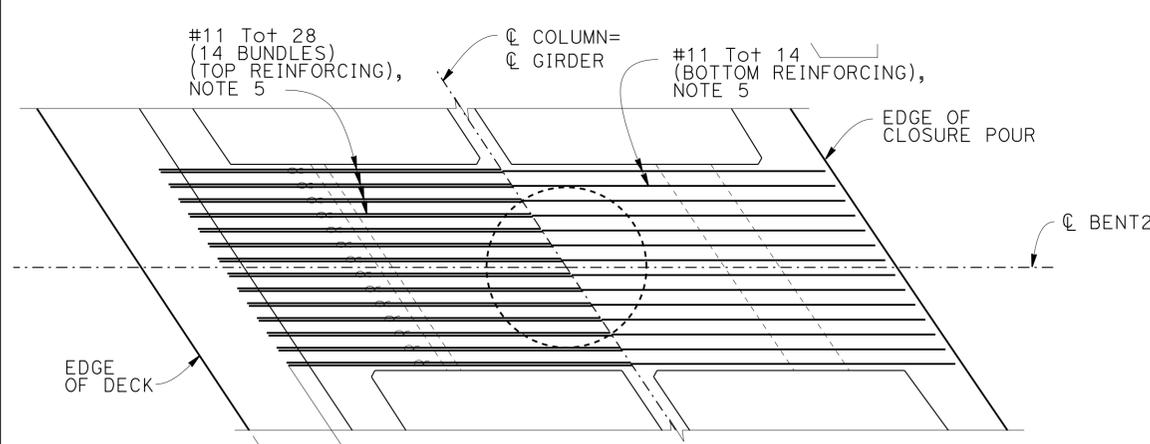
Roya Golchoobian
 PROJECT ENGINEER

BRIDGE NO. 57-0595
 POST MILES 4.4

**FRIARS ROAD OC (WIDEN)
 ABUTMENT DETAILS NO. 5**

USERNAME => s127400 DATE PLOTTED => 31-AUG-2016 TIME PLOTTED => 15:53

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	163	4.1/4.9	692	737
 REGISTERED CIVIL ENGINEER			DATE	1/20/2016 08-29-16 PLANS APPROVAL DATE	
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CITY OF SAN DIEGO 600 B STREET, SUITE 800 SAN DIEGO, CA. 92101					
T.Y. LIN INTERNATIONAL 404 CAMINO DEL RIO SOUTH, SUITE 700 SAN DIEGO, CA. 92108					



LEFT WIDENING

ELEVATION
1/4"=1'-0"

NOTE: THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

RIGHT WIDENING

- NOTES:**
1. For "SECTION A-A", "SECTION B-B", and "SECTION C-C", see "LEFT WIDENING BENT DETAILS NO.1" sheet.
 2. For "SECTION G-G", "SECTION H-H", and "SECTION I-I", see "RIGHT WIDENING BENT DETAILS NO.1" sheet.
 3. For details, see "SUPPLY LINE (BRIDGE) DETAILS" sheet.
 4. Place parallel to "FR" Line and space along centerline of Bent 2.
 5. No splice is allowed in cap top and bottom reinforcement.

DESIGN OVERSIGHT
Norbert Gee
2/8/16
SIGN OFF DATE

DESIGN	BY Josh Nickerson	CHECKED Kumar Ghosh
DETAILS	BY Andy Toledo	CHECKED Kumar Ghosh
QUANTITIES	BY Sabina Piras	CHECKED Nardin Wasef

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

Roya Golchoobian
PROJECT ENGINEER

BRIDGE NO.	57-0595
POST MILES	4.4

**FRIARS ROAD OC (WIDEN)
BENT LAYOUT**

DESIGN DETAIL SHEET (ENGLISH) (REV. 03/14/12)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: 2783
PROJECT NUMBER & PHASE: 11000000641

CONTRACT NO.: 11-085781

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
12/08/12 11/14/14 11/19/15	14	29

USERNAME => s127400 DATE PLOTTED => 31-AUG-2016 TIME PLOTTED => 15:53

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	163	4.1/4.9	693	737

Roya Golchoobian 1/20/2016
REGISTERED CIVIL ENGINEER DATE

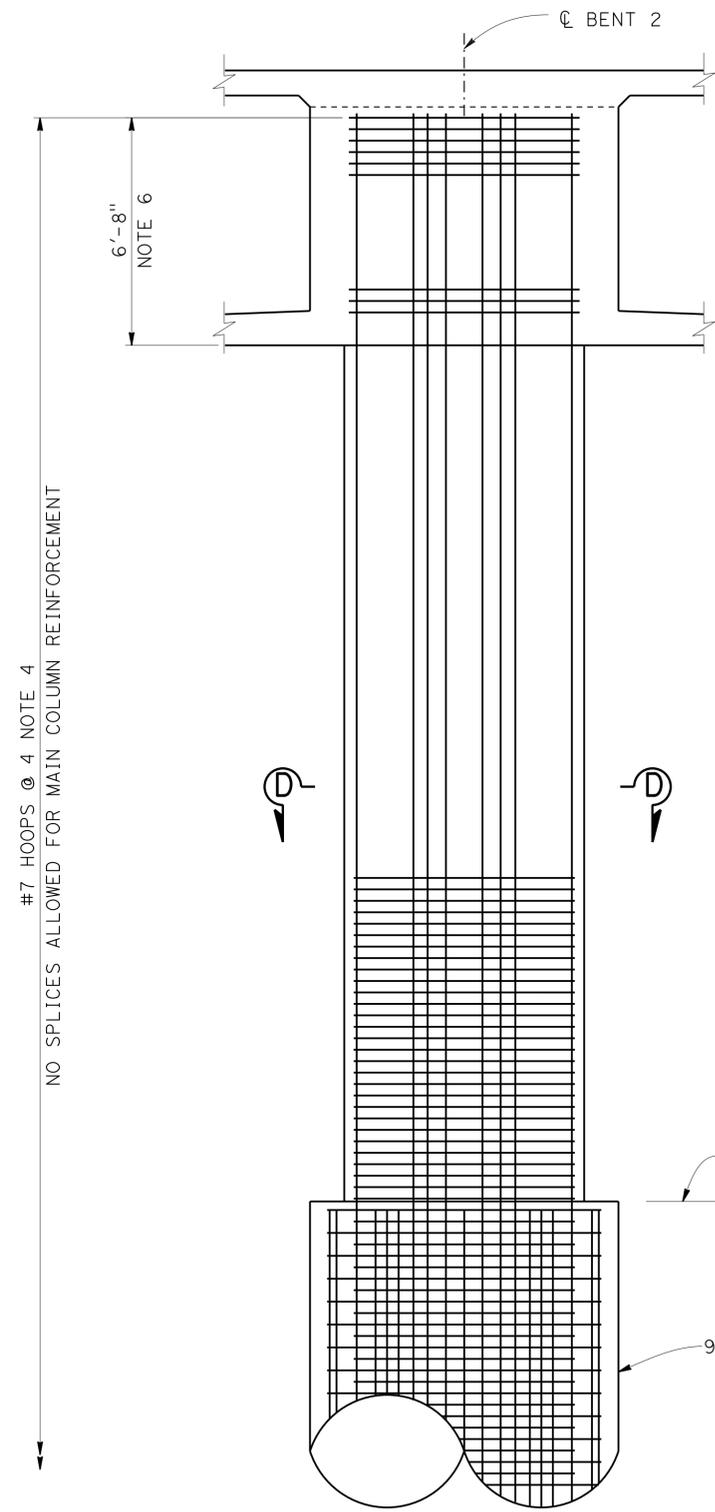
08-29-16
PLANS APPROVAL DATE

Roya Golchoobian
No. C47315
Exp. 12/31/17
CIVIL
STATE OF CALIFORNIA

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CITY OF SAN DIEGO
600 B STREET, SUITE 800
SAN DIEGO, CA. 92101

T.Y. LIN INTERNATIONAL
404 CAMINO DEL RIO SOUTH, SUITE 700
SAN DIEGO, CA. 92108

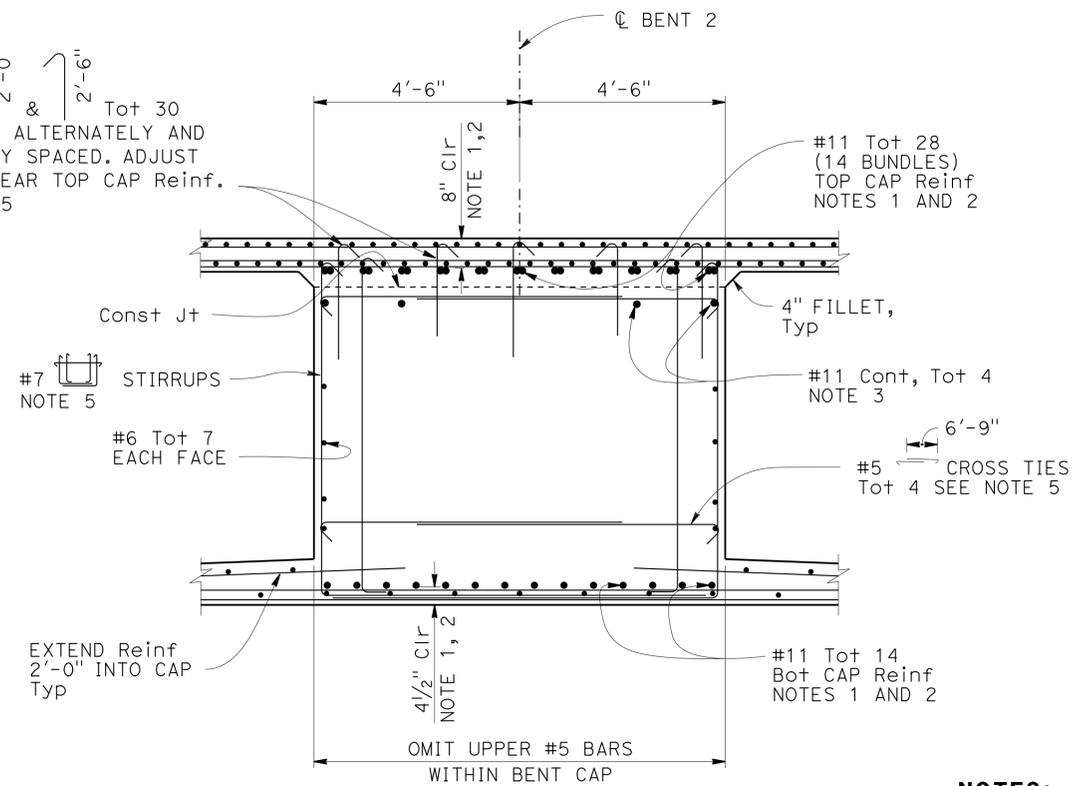


SECTION A-A
 $\frac{3}{8}'' = 1'-0''$

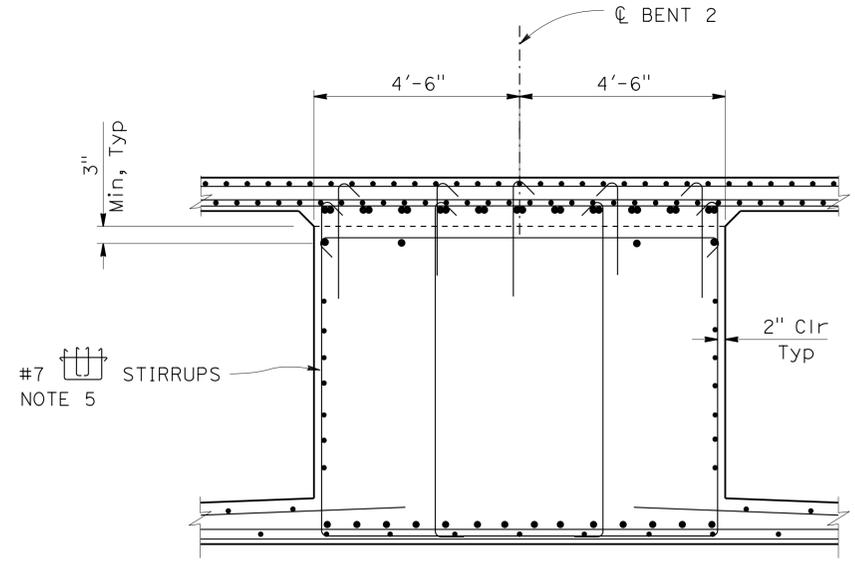
NOTE: THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

Norbert Gee
DESIGN OVERSIGHT Norbert Gee
2/8/16
SIGN OFF DATE

#5 $\frac{2'-0''}{2'-6''}$ Tot 30
PLACE ALTERNATELY AND EVENLY SPACED. ADJUST TO CLEAR TOP CAP Reinf.
NOTE 5



SECTION B-B
 $\frac{1}{2}'' = 1'-0''$



SECTION C-C
 $\frac{1}{2}'' = 1'-0''$

Note: For reinforcement see "SECTION B-B"

NOTES:

1. Clearance to top and bottom cap reinforcement.
2. No splice is allowed in top and bottom cap reinforcement.
3. Reinforcement may be lowered to clear P/S ducts.
4. Only ultimate butt splice is allowed for hoops.
5. For stirrups, cross ties, and hairpins placement details, see "BENT DETAILS" sheet.
6. A maximum of two column bars if in conflict with P/S ducts may be cut by Max 1'-0" to clear ducts. The #7 hoops within the top 1'-0" of column main reinforcement may be eliminated if they are in conflict with the P/S ducts.
7. For "SECTION D-D" AND "CIDH PILE" detail see, "LEFT WIDENING BENT DETAILS No.2" sheet.
8. For Pile cut-off elevation, see "PILE DATA TABLE" on "GENERAL NOTES" sheet.

DESIGN	BY Josh Nickerson	CHECKED Kumar Ghosh
DETAILS	BY Andy Toledo	CHECKED Kumar Ghosh
QUANTITIES	BY Sabina Piras	CHECKED Nardin Wasef

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

Roya Golchoobian
PROJECT ENGINEER

BRIDGE NO.	57-0595
POST MILES	4.4

FRIARS ROAD OC (WIDEN)
LEFT WIDENING BENT DETAILS NO. 1

USERNAME => s127400 DATE PLOTTED => 31-AUG-2016 TIME PLOTTED => 15:53

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	163	4.1/4.9	694	737

Roya Golchoobian 1/20/2016
 REGISTERED CIVIL ENGINEER DATE

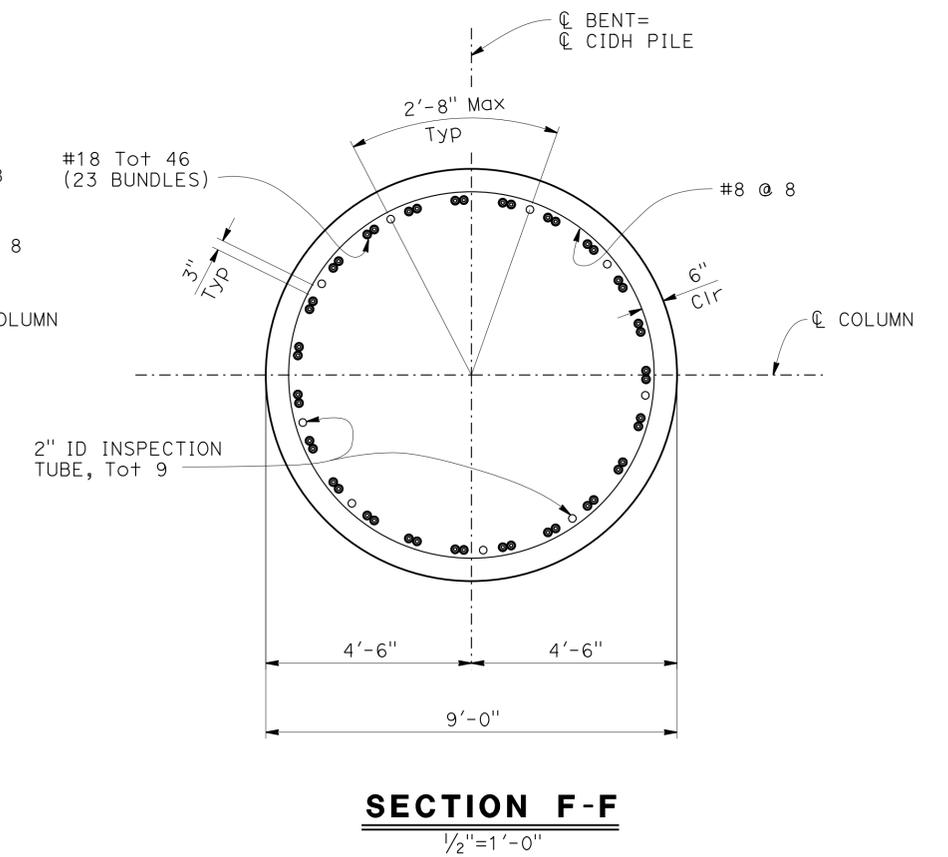
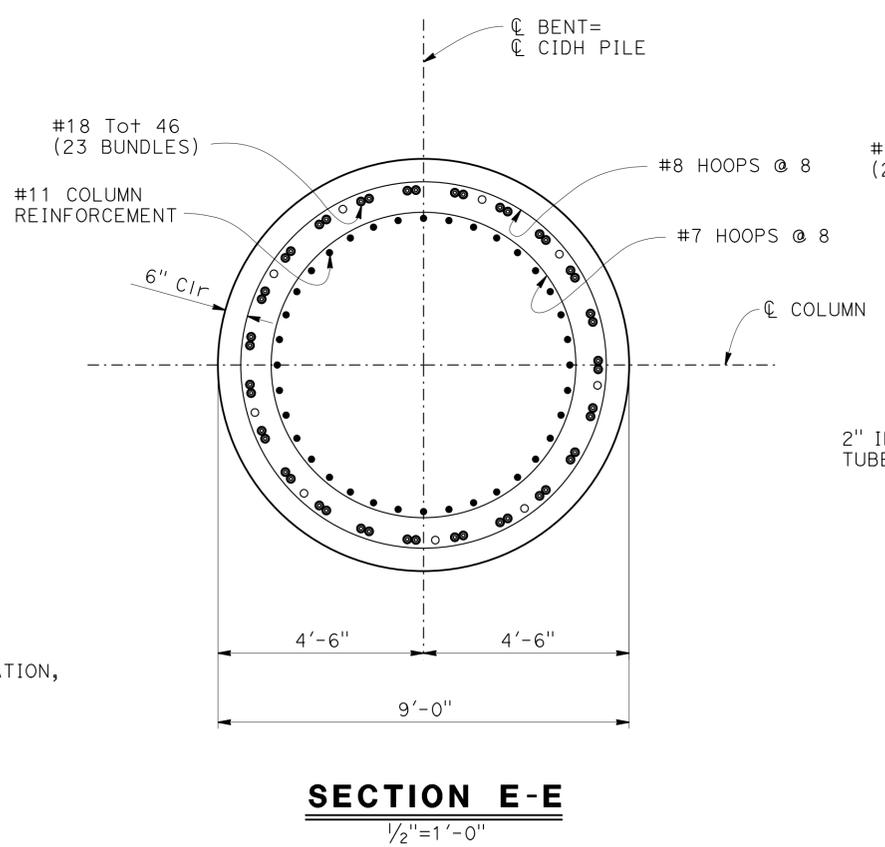
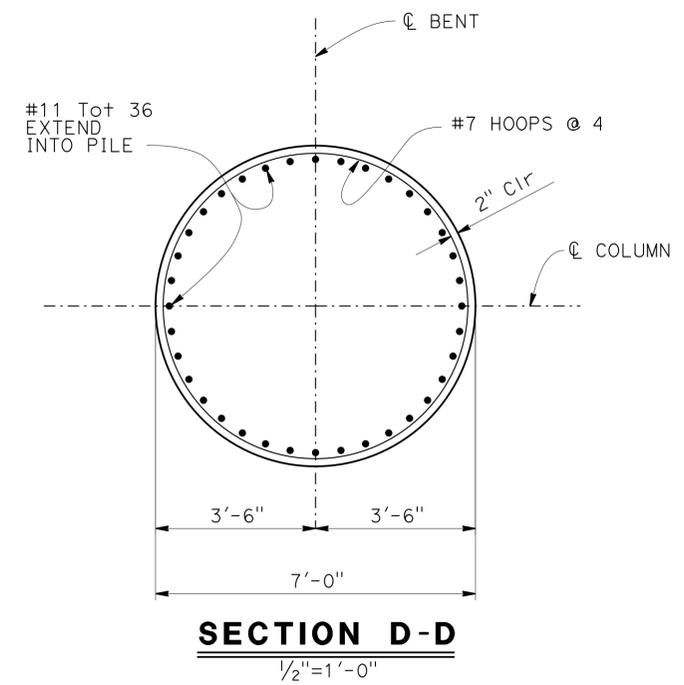
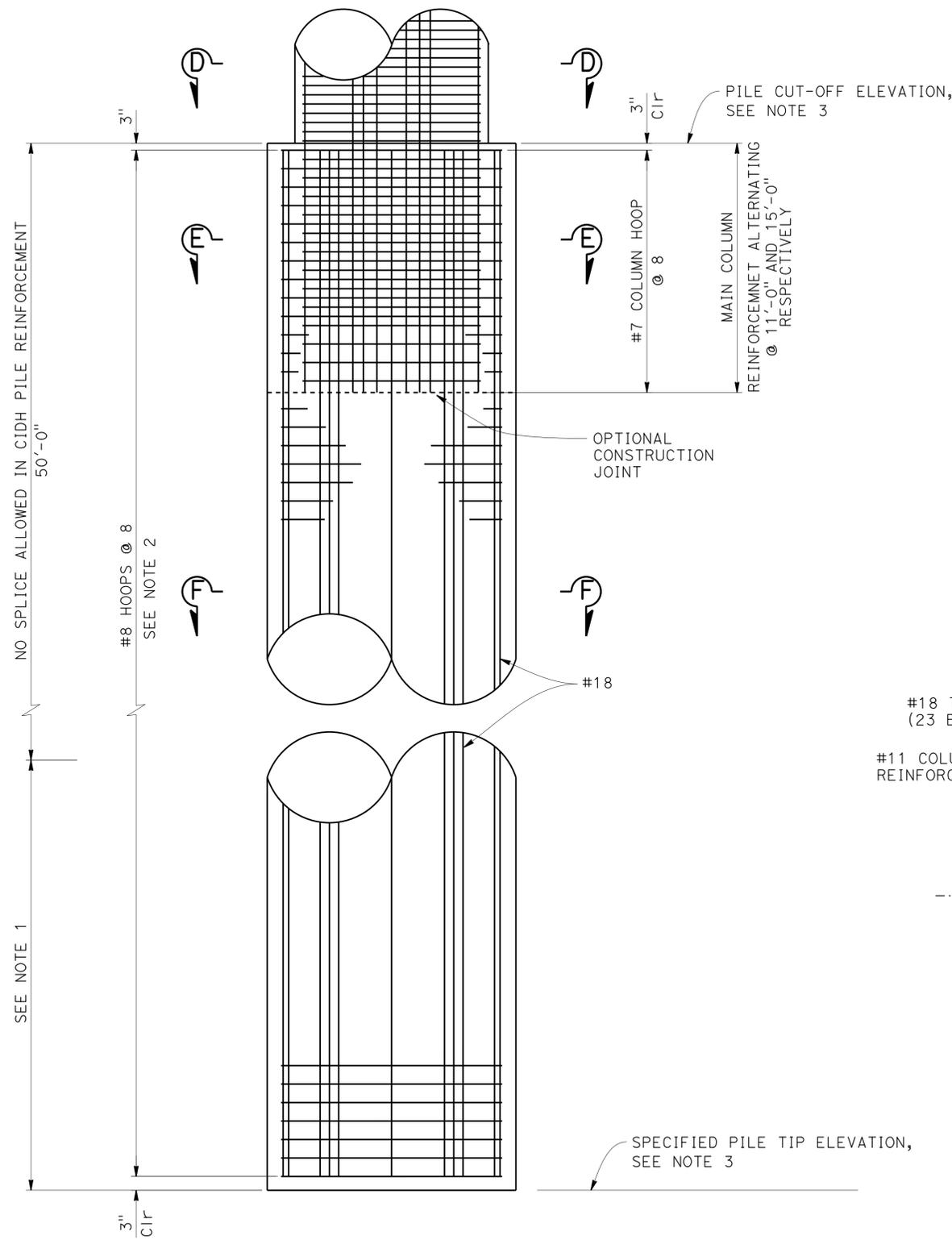
08-29-16
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 No. C47315
 Exp. 12/31/17
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 SAN DIEGO, CA. 92101

T.Y. LIN INTERNATIONAL
 404 CAMINO DEL RIO SOUTH, SUITE 700
 SAN DIEGO, CA. 92108



- NOTES:**
1. Only staggered "ULTIMATE BUTT SPLICE" is allowed for main pile reinforcement in this zone.
 2. Only "ULTIMATE BUTT SPLICE" is allowed for hoops.
 3. For pile cut-off elevation and specified pile tip elevation, see "PILE DATA TABLE" on "GENERAL NOTES" sheet.

NOTE: THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

CIDH PILE
 3/8"=1'-0"

Norbert Gee
 DESIGN OVERSIGHT Norbert Gee
 2/8/16
 SIGN OFF DATE

DESIGN	BY Josh Nickerson	CHECKED Kumar Ghosh
DETAILS	BY Andy Toledo	CHECKED Kumar Ghosh
QUANTITIES	BY Sabina Piras	CHECKED Nardin Wasef

PREPARED FOR THE
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

Roya Golchoobian
 PROJECT ENGINEER

BRIDGE NO.	57-0595
POST MILES	4.4

FRIARS ROAD OC (WIDEN)
LEFT WIDENING BENT DETAILS NO. 2

DESIGN DETAIL SHEET (ENGLISH) (REV. 03/14/12)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: 2783
 PROJECT NUMBER & PHASE: 11000000641

CONTRACT NO.: 11-085781

DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET OF
	12/08/12 2/1/14 11/19/15	16 29

FILE => 57-0595-h-b01d102.dgn

USERNAME => s127400 DATE PLOTTED => 31-AUG-2016 TIME PLOTTED => 15:53

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	163	4.1/4.9	695	737

Roya Golchoobian 1/20/2016
 REGISTERED CIVIL ENGINEER DATE

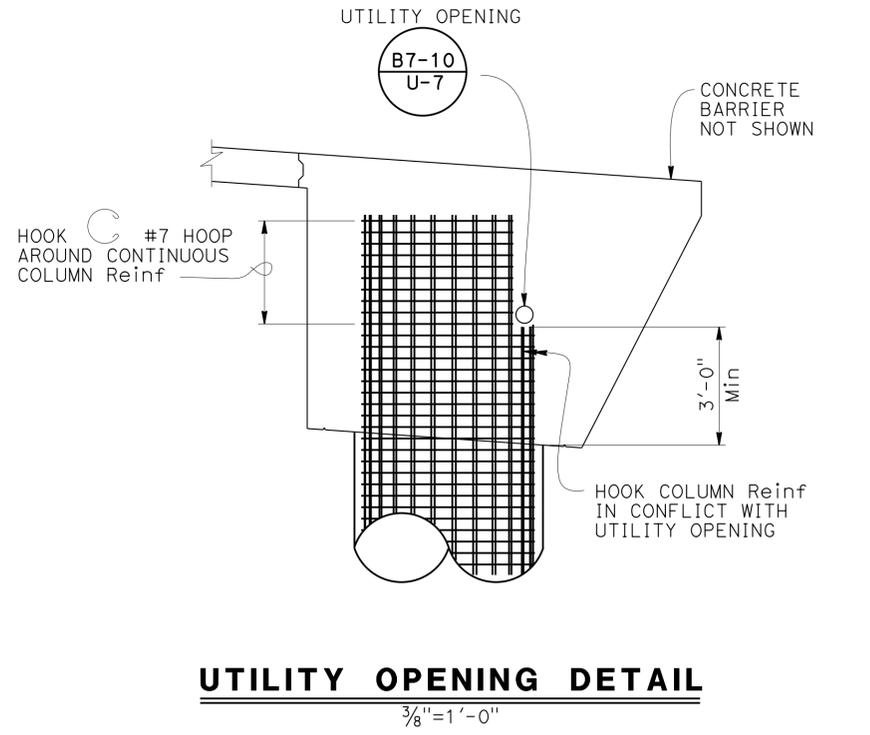
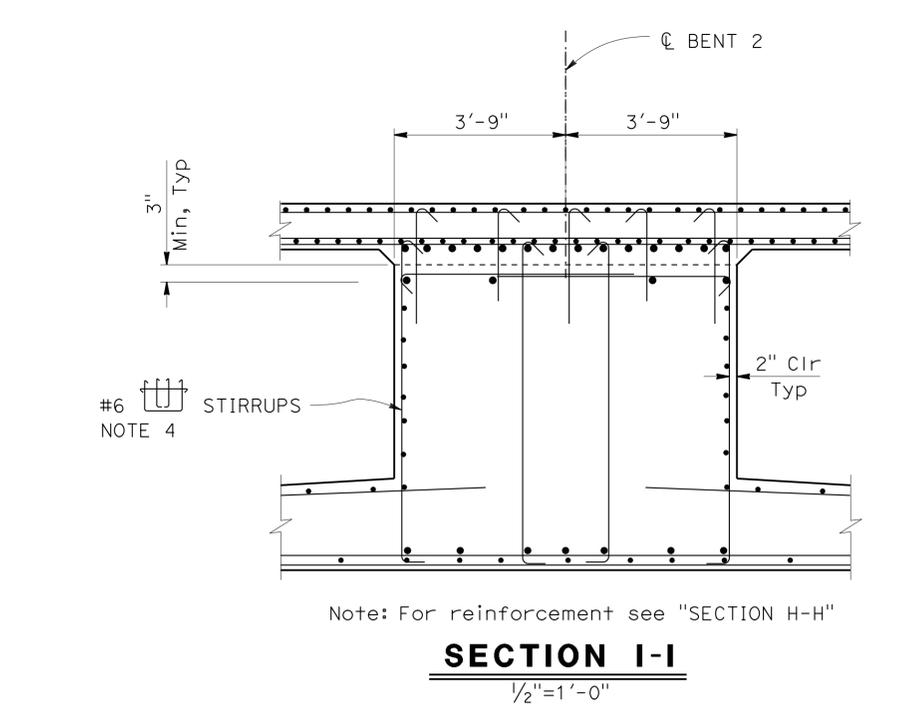
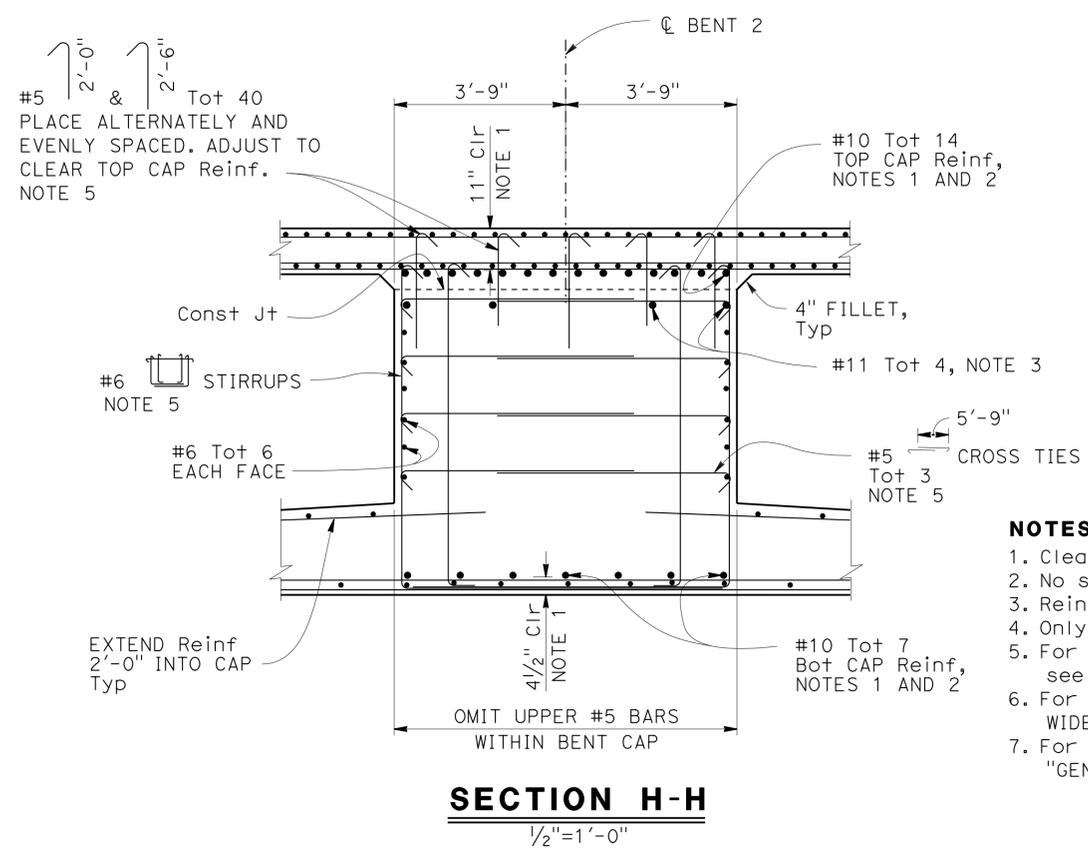
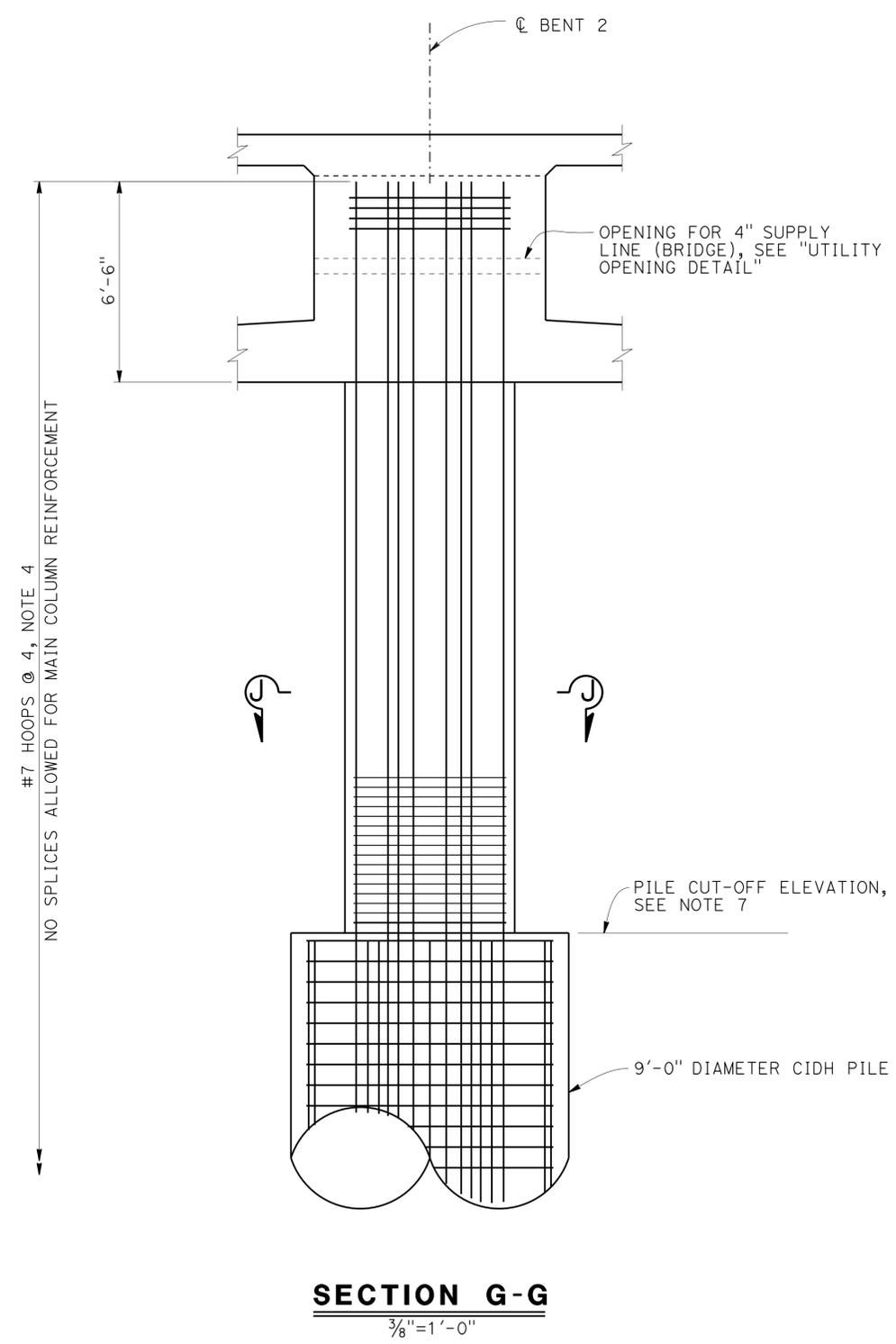
08-29-16
 PLANS APPROVAL DATE

Roya Golchoobian
 No. C47315
 Exp. 12/31/17
 CIVIL
 STATE OF CALIFORNIA

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 600 B STREET, SUITE 800
 SAN DIEGO, CA. 92101

T.Y. LIN INTERNATIONAL
 404 CAMINO DEL RIO SOUTH, SUITE 700
 SAN DIEGO, CA. 92108



- NOTES:**
1. Clearance to top and bottom cap reinforcement.
 2. No splice is allowed in top and bottom cap reinforcement.
 3. Reinforcement may be lowered to clear P/S ducts.
 4. Only ultimate butt splice is allowed for hoops.
 5. For stirrups, cross ties, and hairpins placement details, see "BENT DETAILS" sheet.
 6. For "SECTION J-J" AND "CIDH PILE" detail see, "RIGHT WIDENING BENT DETAILS No.2" sheet.
 7. For pile cut-off elevation, see "PILE DATA TABLE" on "GENERAL NOTES" sheet.

NOTE: THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

Norbert Gee
 DESIGN OVERSIGHT
 Norbert Gee
 2/8/16
 SIGN OFF DATE

DESIGN	BY Josh Nickerson	CHECKED Kumar Ghosh
DETAILS	BY Andy Toledo	CHECKED Kumar Ghosh
QUANTITIES	BY Sabina Piras	CHECKED Nardin Wasef

PREPARED FOR THE
 STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

Roya Golchoobian
 PROJECT ENGINEER

BRIDGE NO.	57-0595
POST MILES	4.4

FRIARS ROAD OC (WIDEN)
RIGHT WIDENING BENT DETAILS NO. 1

DESIGN DETAIL SHEET (ENGLISH) (REV. 03/14/12)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 2783
 PROJECT NUMBER & PHASE: 11000000641

CONTRACT NO.: 11-085781

DISREGARD PRINTS BEARING EARLIER REVISION DATES

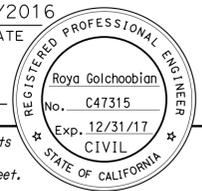
REVISION DATES	SHEET	OF
12/08/12	17	29

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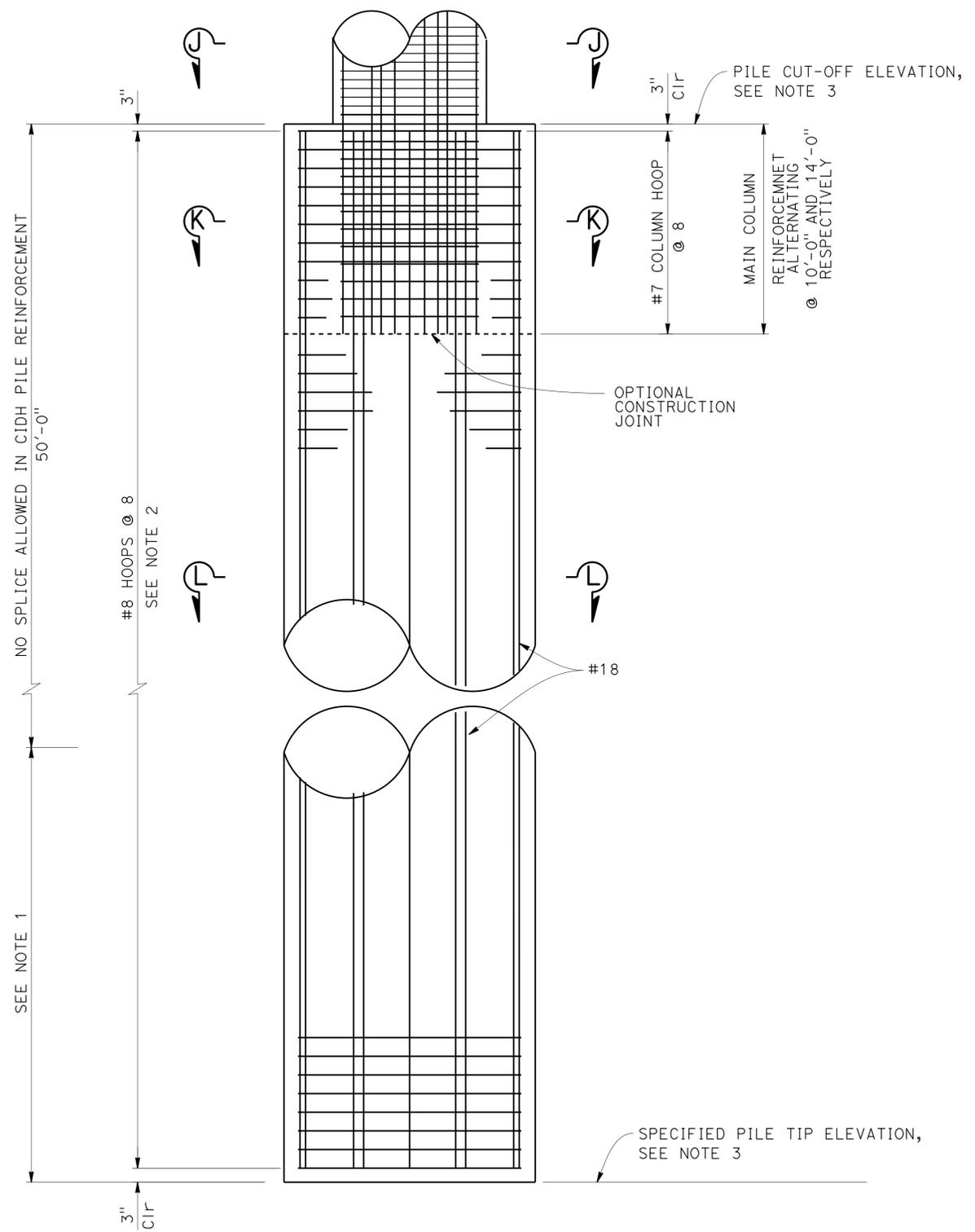
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	163	4.1/4.9	696	737

Roya Golchoobian 1/20/2016
 REGISTERED CIVIL ENGINEER DATE
 08-29-16
 PLANS APPROVAL DATE
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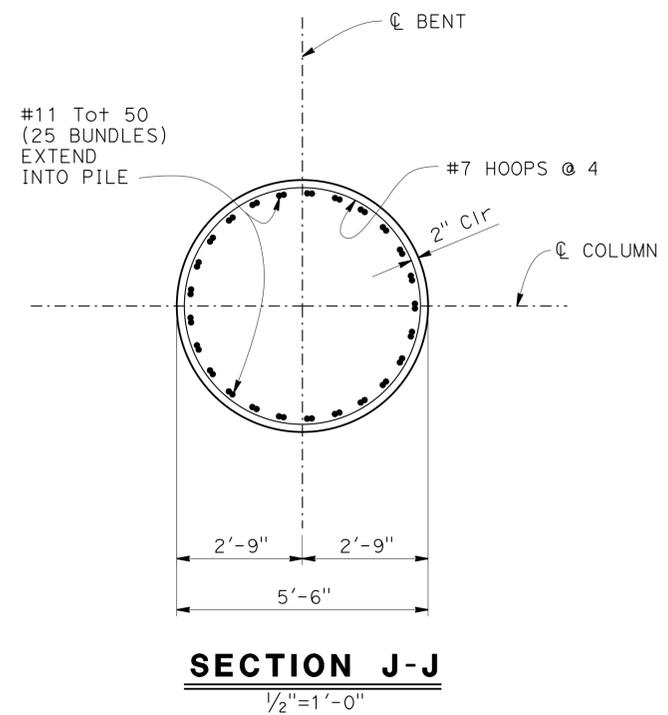


CITY OF SAN DIEGO
 600 B STREET, SUITE 800
 SAN DIEGO, CA. 92101
 T.Y. LIN INTERNATIONAL
 404 CAMINO DEL RIO SOUTH, SUITE 700
 SAN DIEGO, CA. 92108



CIDH PILE
 $\frac{3}{8}''=1'-0''$

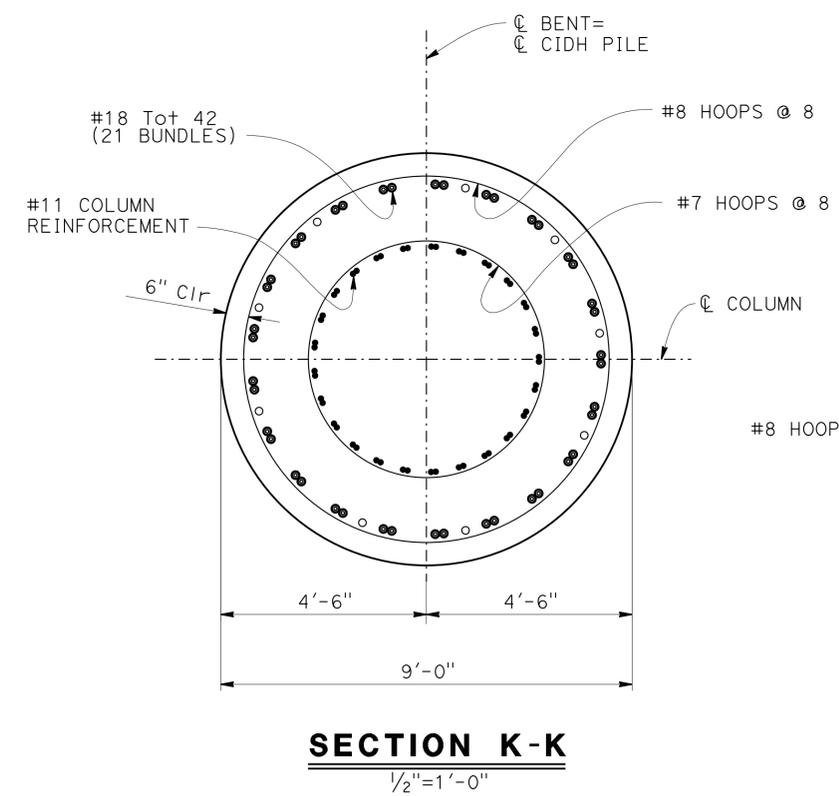
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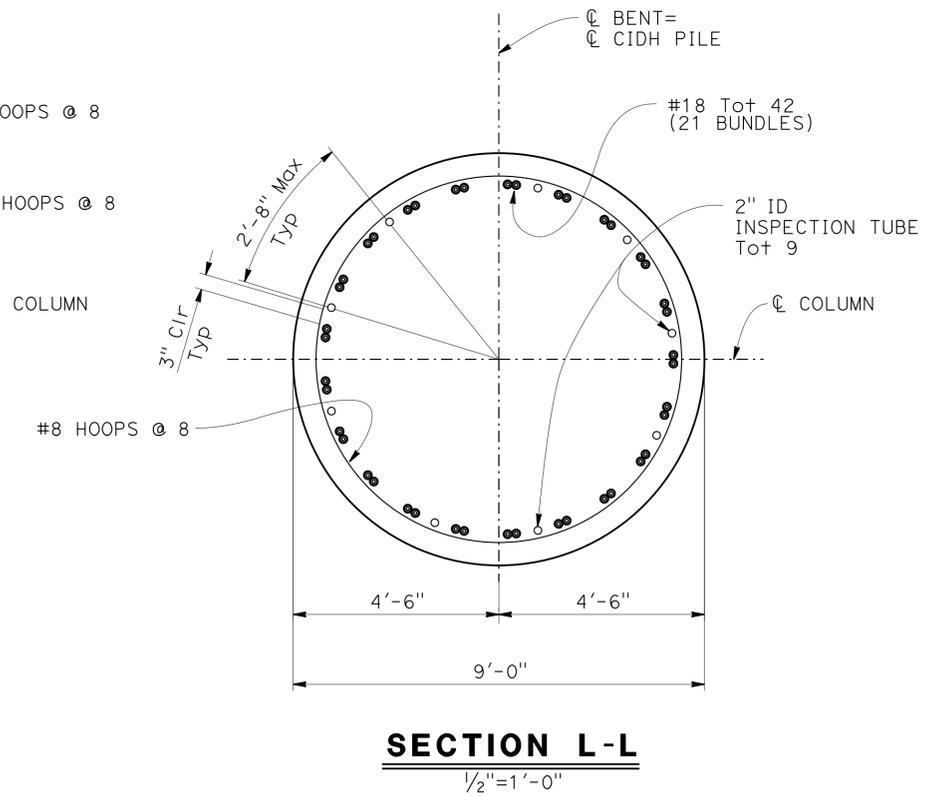
SECTION J-J
 $\frac{1}{2}''=1'-0''$

NOTES:

1. Only staggered "ULTIMATE BUTT SPLICE" is allowed for Main Pile Reinforcement in this zone.
2. Only "ULTIMATE BUTT SPLICE" is allowed for hoops.
3. For pile cut-off elevation and specified pile tip elevation, see "PILE DATA TABLE" on "GENERAL NOTES" sheet.



SECTION K-K
 $\frac{1}{2}''=1'-0''$



SECTION L-L
 $\frac{1}{2}''=1'-0''$

Norbert Gee
 DESIGN OVERSIGHT
 Norbert Gee
 2/8/16
 SIGN OFF DATE

DESIGN	BY Josh Nickerson	CHECKED Kumar Ghosh
DETAILS	BY Andy Toledo	CHECKED Kumar Ghosh
QUANTITIES	BY Sabina Piras	CHECKED Nardin Wasef

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Roya Golchoobian
 PROJECT ENGINEER

BRIDGE NO.	57-0595
POST MILES	4.4

FRIARS ROAD OC (WIDEN) RIGHT WIDENING BENT DETAILS NO. 2

DESIGN DETAIL SHEET (ENGLISH) (REV. 03/14/12)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

UNIT: 2783
 PROJECT NUMBER & PHASE: 11000000641

CONTRACT NO.: 11-085781

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
12/08/12 11/14/14 11/19/15	18	29

FILE => 57-0595-h-b02d102.dgn

USERNAME => s127400 DATE PLOTTED => 31-AUG-2016 TIME PLOTTED => 15:53

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	163	4.1/4.9	697	737

Roya Golchoobian 1/20/2016
REGISTERED CIVIL ENGINEER DATE

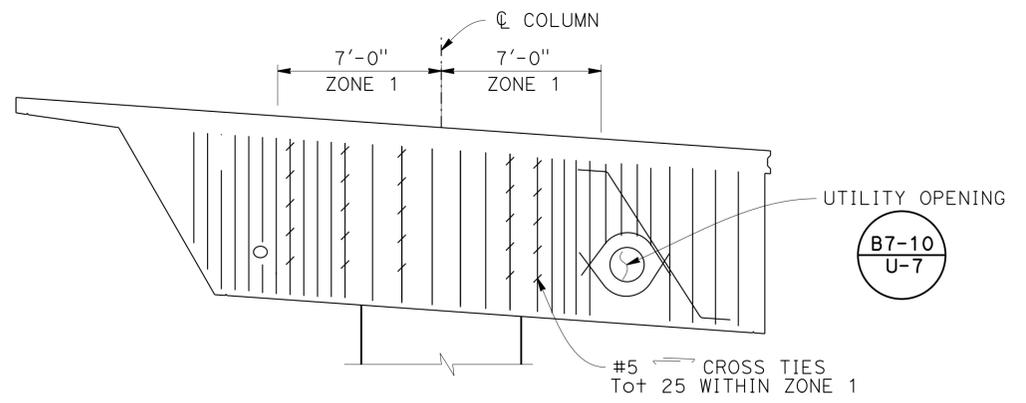
08-29-16
PLANS APPROVAL DATE

Roya Golchoobian
No. C47315
Exp. 12/31/17
CIVIL
STATE OF CALIFORNIA

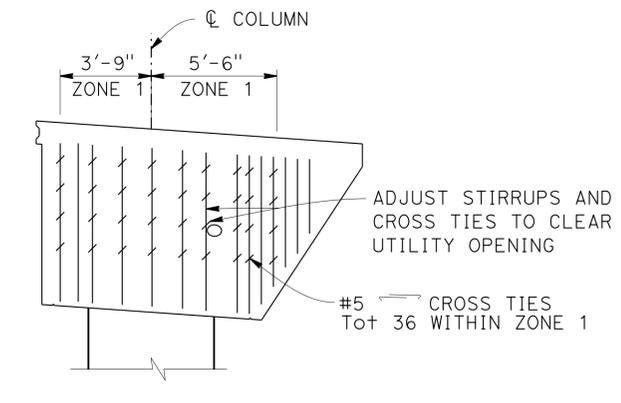
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CITY OF SAN DIEGO
600 B STREET, SUITE 800
SAN DIEGO, CA. 92101

T.Y. LIN INTERNATIONAL
404 CAMINO DEL RIO SOUTH, SUITE 700
SAN DIEGO, CA. 92108

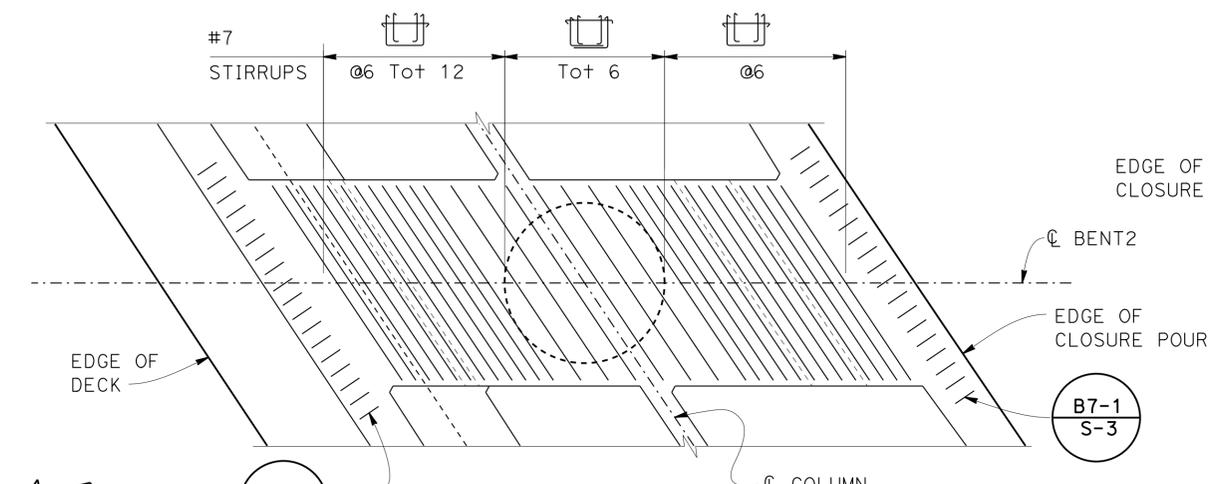


LEFT WIDENING

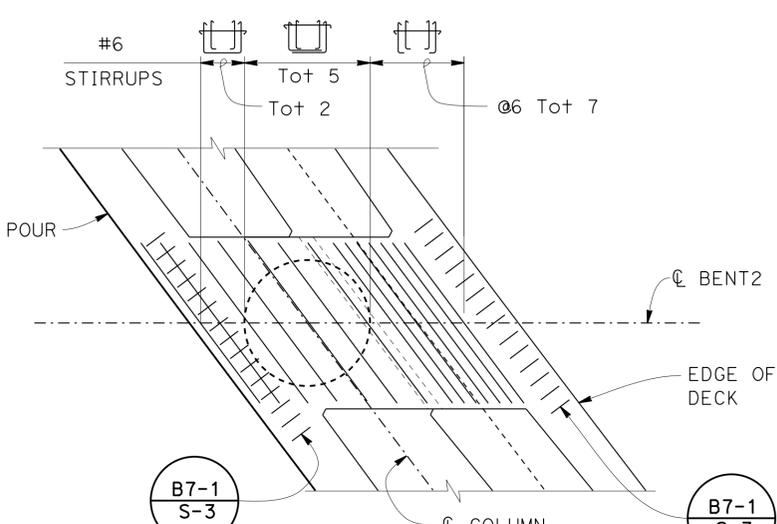


RIGHT WIDENING

ELEVATION
1/4"=1'-0"

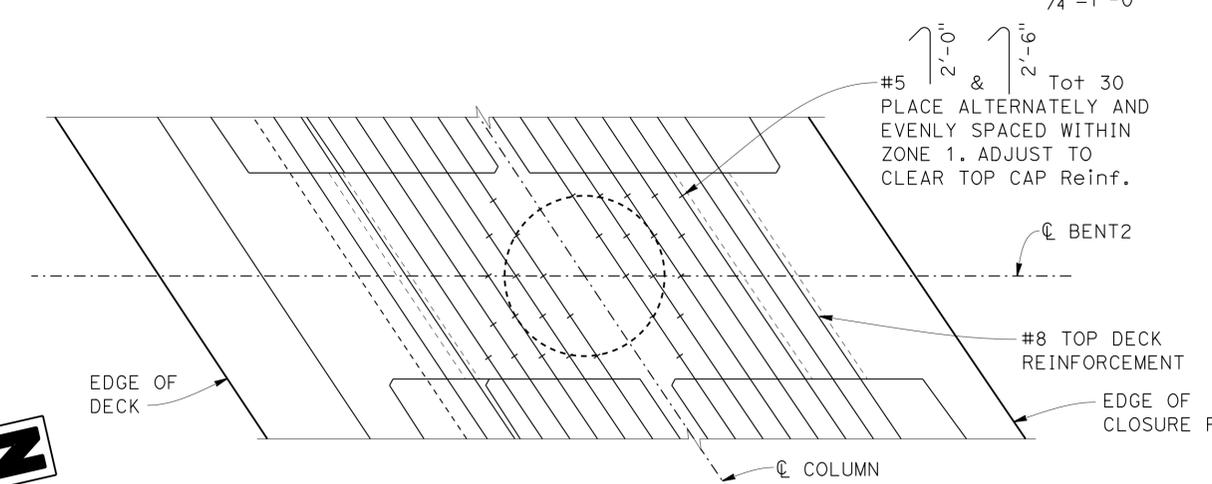


LEFT WIDENING

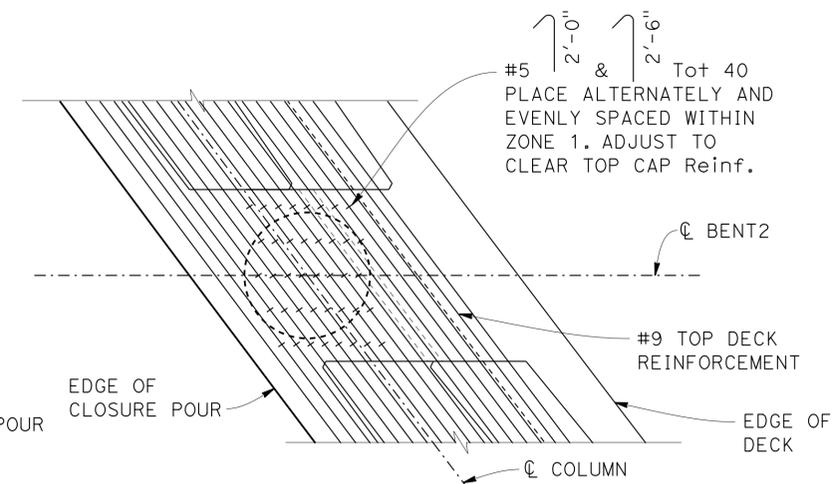


RIGHT WIDENING

STIRRUPS PLAN
1/4"=1'-0"



LEFT WIDENING



RIGHT WIDENING

HAIRPIN PLAN
1/4"=1'-0"

NOTE: THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

Norbert Gee
DESIGN OVERSIGHT Norbert Gee
2/8/16
SIGN OFF DATE

DESIGN	BY Josh Nickerson	CHECKED Kumar Ghosh
DETAILS	BY Andy Toledo	CHECKED Kumar Ghosh
QUANTITIES	BY Sabina Piras	CHECKED Nardin Wasef

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

Roya Golchoobian
PROJECT ENGINEER

BRIDGE NO.	57-0595
POST MILES	4.4

FRIARS ROAD OC (WIDEN)
BENT DETAILS

DESIGN DETAIL SHEET (ENGLISH) (REV. 03/14/12)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

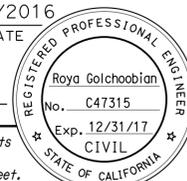
UNIT: 2783
PROJECT NUMBER & PHASE: 11000000641

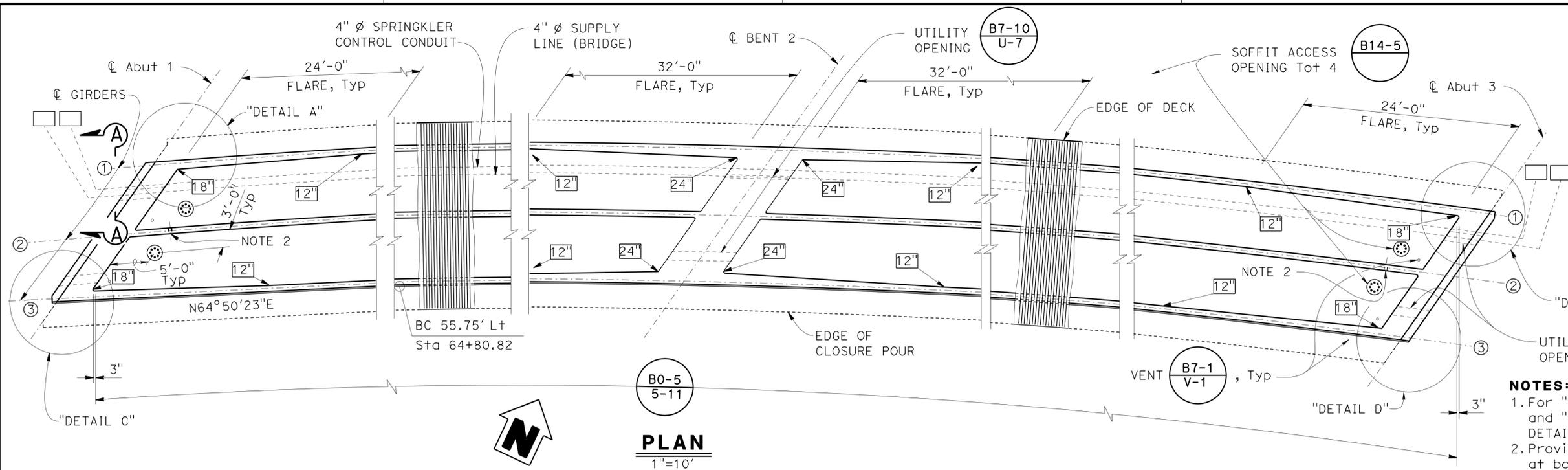
CONTRACT NO.: 11-085781

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
12/08/12 11/14/14 11/19/15	19	29

USERNAME => s127400 DATE PLOTTED => 31-AUG-2016 TIME PLOTTED => 15:53

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
11	SD	163	4.1/4.9	699	737
 REGISTERED CIVIL ENGINEER			1/20/2016 DATE		
08-29-16 PLANS APPROVAL DATE					
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CITY OF SAN DIEGO 600 B STREET, SUITE 800 SAN DIEGO, CA. 92101					
T.Y. LIN INTERNATIONAL 404 CAMINO DEL RIO SOUTH, SUITE 700 SAN DIEGO, CA. 92108					

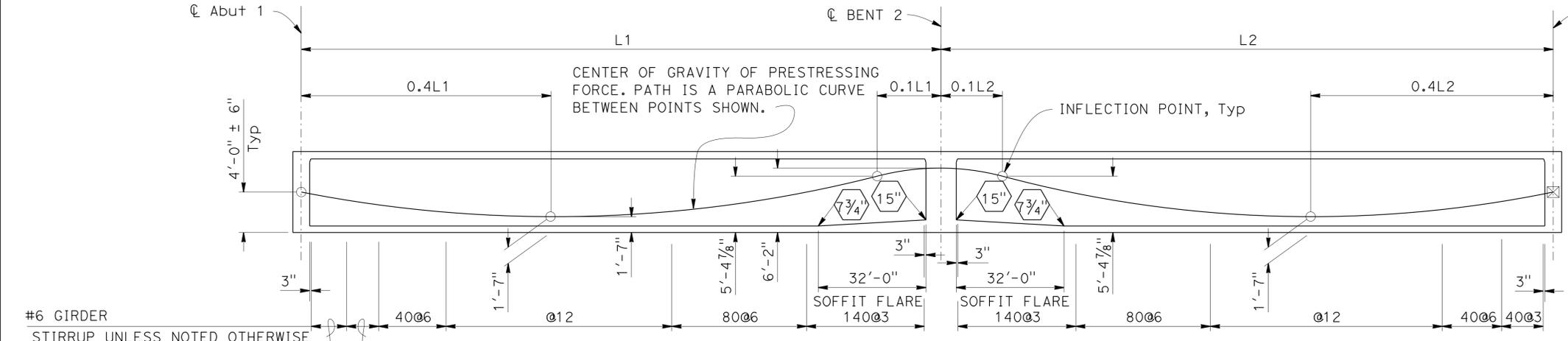


- NOTES:**
- For "DETAIL A", "DETAIL B", "DETAIL C" and "DETAIL D" see "MISCELLANEOUS DETAILS" sheet.
 - Provide 6" square drain (B7-1 D-1) at bottom of girder.
 - For "THRUST BLOCK TABLE" see "SUPPLY LINE (BRIDGE) DETAILS" sheet.
 - Supply line (Bridge) quantity is measured from beginning to end of pipe in pull boxes.

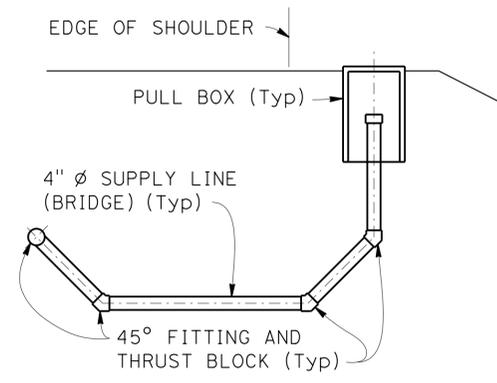
- LEGEND:**
- Indicates soffit slab thickness
 - Indicates girder stem width
 - Indicates theoretical point of no movement for one end stressing
 - Indicates girder designation
 - Indicates #5 Concrete Pull box

PRESTRESSING NOTES (LEFT WIDENING)

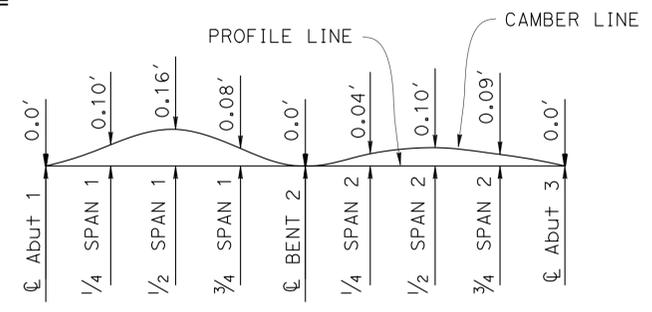
270 KSI Low Relaxation Strand:
 $P_{jack} = 11,850$ kips
 Anchor Set = $\frac{3}{8}$ in
 Friction curvature coefficient, $\mu = 0.15$ (1/rad)
 Friction wobble coefficient, $K = 0.0002$ (1/ft)
 Total Number of Girders = 3
 The final force ratio (larger divided by smaller) between any two girders shall not exceed the ratio of 10 to 9
 Concrete: $f'_c = 5000$ psi @ 28 days
 $f'_{ci} = 3500$ psi @ time of stressing
 Contractor shall submit elongation calculations based on initial stress at
 $\lambda = 0.862$ times jacking stress.
 One end stressing shall be performed from Abutment 1 end only.



LONGITUDINAL SECTION
No Scale



SECTION A-A
NO SCALE



LEFT WIDENING CAMBER DIAGRAM
No Scale

Note: Does not include allowance for falsework settlement

FALSEWORK RELEASE

Falsework shall be released as soon as permitted by the specifications. Closure pour shall not be placed sooner than 60 days after the falsework had been released.

NOTE: THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN OVERSIGHT
 Norbert Gee
 2/8/16
 SIGN OFF DATE

DESIGN	BY Josh Nickerson	CHECKED Kumar Ghosh
DETAILS	BY Andy Toledo	CHECKED Kumar Ghosh
QUANTITIES	BY Sabina Piras	CHECKED Nardin Wasef

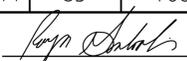
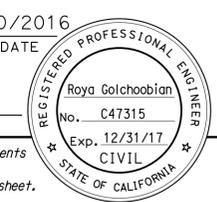
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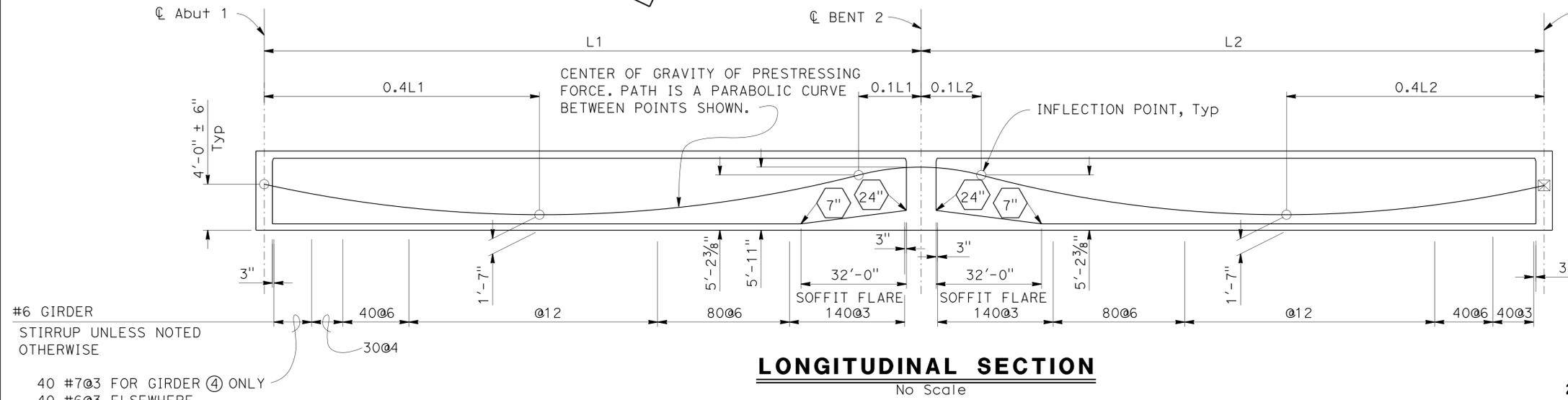
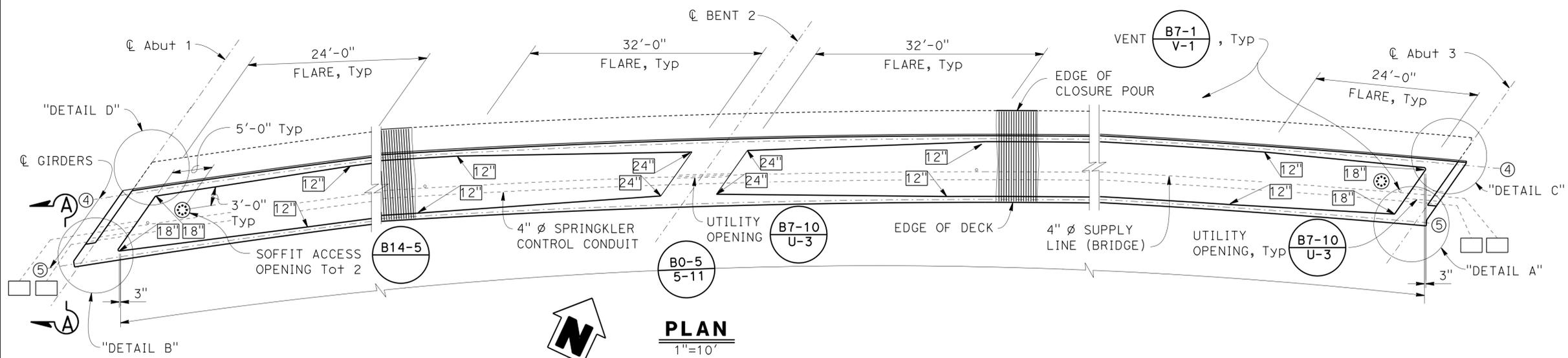
Roya Golchoobian
 PROJECT ENGINEER

BRIDGE NO.	57-0595
POST MILES	4.4

**FRIARS ROAD OC (WIDEN)
 GIRDER LAYOUT LEFT WIDENING**

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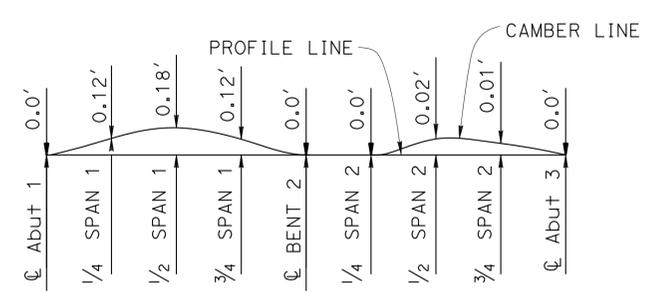
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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- NOTE:**
- For "DETAIL A", "DETAIL B", "DETAIL C" and "DETAIL D" see "MISCELLANEOUS DETAILS" sheet
 - For "THRUST BLOCK TABLE" see "SUPPLY LINE (BRIDGE) DETAILS" sheet.
 - Supply line (Bridge) quantity is measured from beginning to end of pipe in pull boxes.
 - For "SECTION A-A" see "GIRDER LAYOUT LEFT WIDENING" sheet.

PRESTRESSING NOTES (RIGHT WIDENING)

270 KSI Low Relaxation Strand:
 $P_{jack} = 7,800$ kips
 Anchor Set = $\frac{3}{8}$ in
 Friction curvature coefficient, $\mu = 0.15$ (1/rad)
 Friction wobble coefficient, $K = 0.0002$ (1/ft)
 Total Number of Girders = 2
 The final force ratio (larger divided by smaller) between any two girders shall not exceed the ratio of 10 to 9
 Concrete: $f'_c = 5000$ psi @ 28 days
 $f'_{ci} = 3500$ psi @ time of stressing
 Contractor shall submit elongation calculations based on initial stress at
 $\lambda = 0.864$ times jacking stress.
 One end stressing shall be performed from Abutment 1 end only.



RIGHT WIDENING CAMBER DIAGRAM
 No Scale

Note: Does not include allowance for falsework settlement

- LEGEND:**
- Indicates soffit slab thickness
 - Indicates girder stem width
 - Indicates theoretical point of no movement for one end stressing
 - Indicates girder designation
 - Indicates #5 Concrete Pull box

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STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

Roya Golchoobian
 PROJECT ENGINEER
 BRIDGE NO. 57-0595
 POST MILES 4.4

**FRIARS ROAD OC (WIDEN)
 GIRDER LAYOUT RIGHT WIDENING**

USERNAME => s127400 DATE PLOTTED => 31-AUG-2016 TIME PLOTTED => 15:53