Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	101	167

Roberta L. McLaughlin
REGISTERED CIVIL ENGINEER

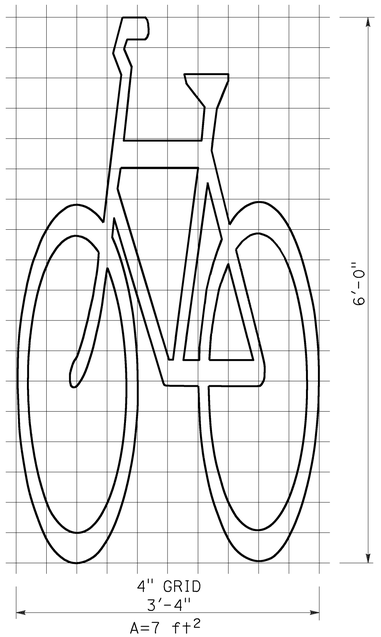
October 19, 2012
PLANS APPROVAL DATE

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

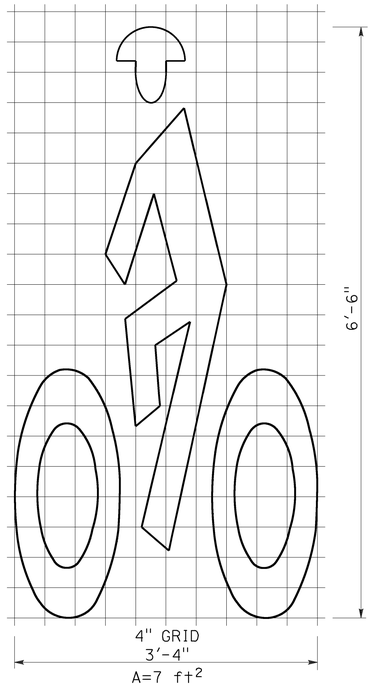
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTE: TO ACCOMPANY PLANS DATED 08-08-16

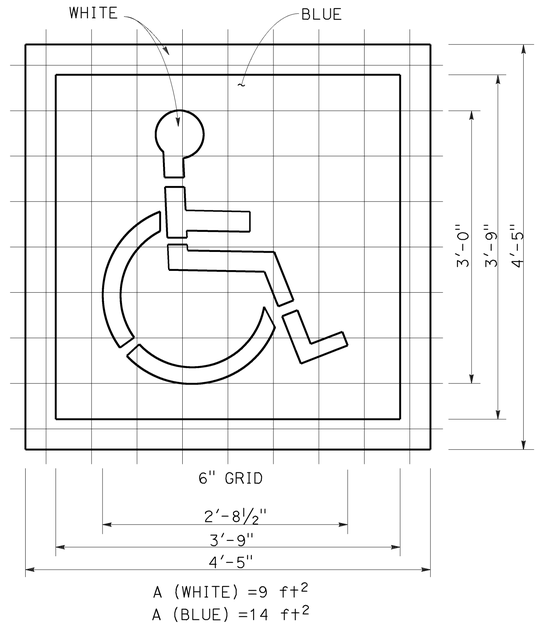
Minor variations in dimensions may be accepted by the Engineer.



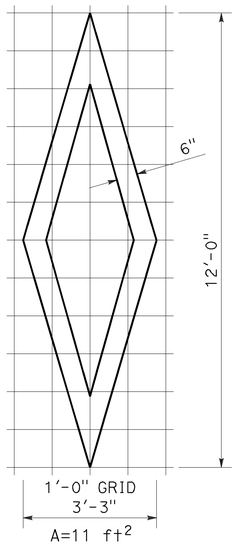
BIKE LANE SYMBOL WITHOUT PERSON



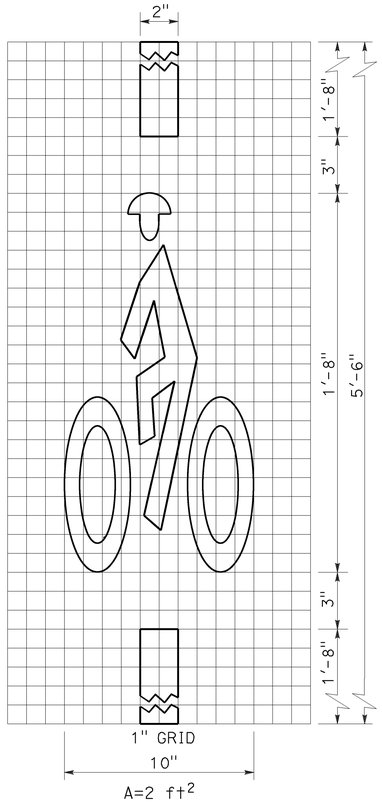
BIKE LANE SYMBOL WITH PERSON



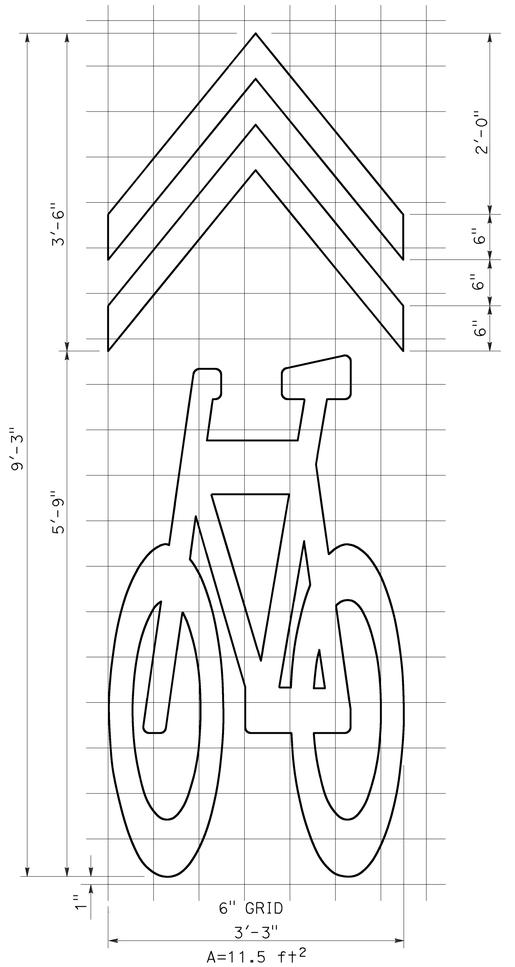
INTERNATIONAL SYMBOL OF ACCESSIBILITY (ISA) MARKING



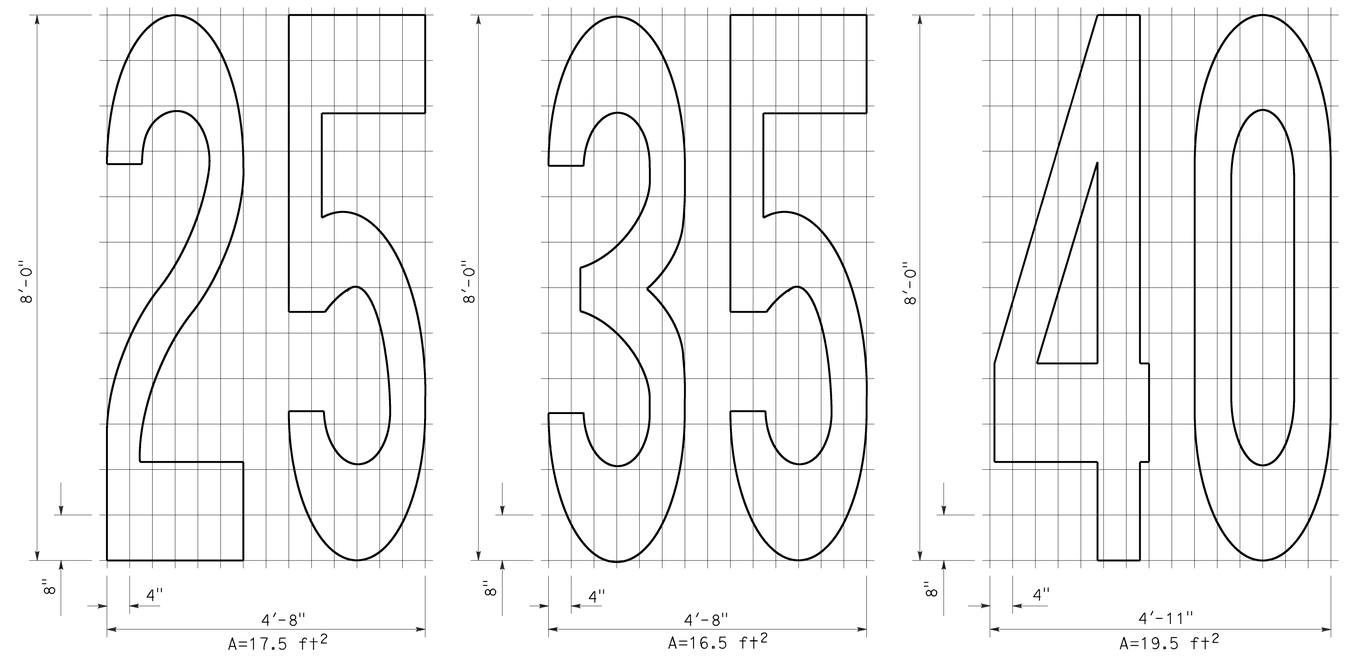
DIAMOND SYMBOL



BICYCLE LOOP DETECTOR SYMBOL



SHARED ROADWAY BICYCLE MARKING



NUMERALS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKINGS SYMBOLS AND NUMERALS

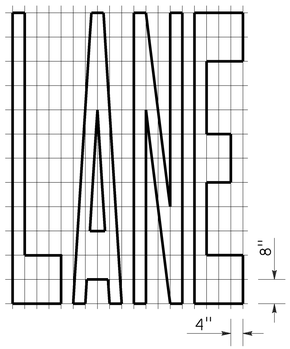
NO SCALE

RSP A24C DATED OCTOBER 19, 2012 SUPERSEDES STANDARD PLAN A24C DATED MAY 20, 2011 - PAGE 15 OF THE STANDARD PLANS BOOK DATED 2010.

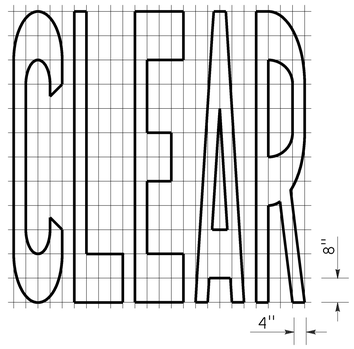
REVISED STANDARD PLAN RSP A24C

2010 REVISED STANDARD PLAN RSP A24C

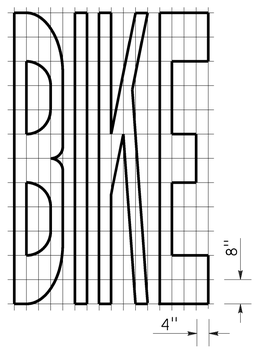
6-28-12



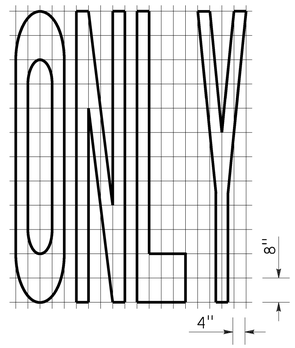
A=24 ft²



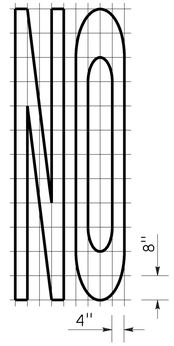
A=27 ft²



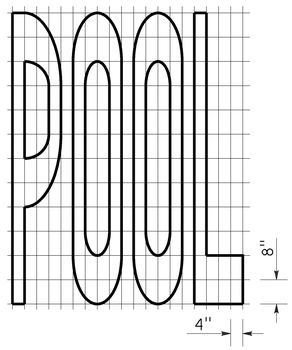
A=21 ft²



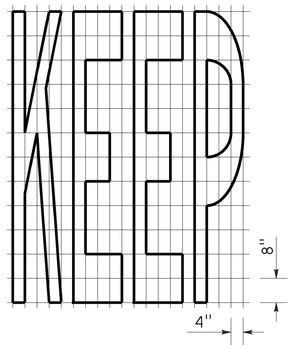
A=22 ft²



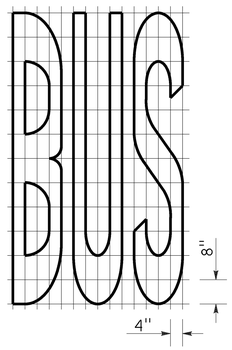
A=14 ft²



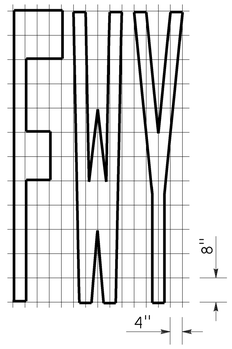
A=23 ft²



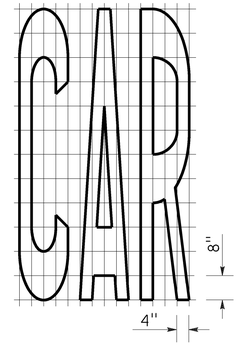
A=24 ft²



A=20 ft²



A=16 ft²



A=17 ft²

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	102	167

Roberta L. McLaughlin
REGISTERED CIVIL ENGINEER

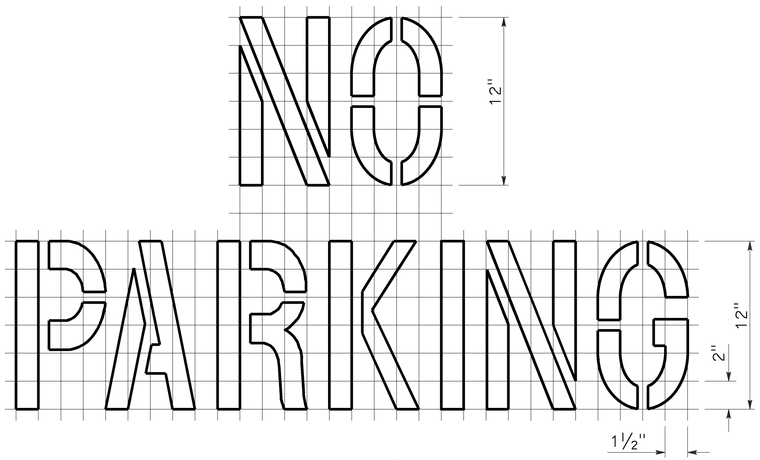
July 20, 2012
PLANS APPROVAL DATE

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

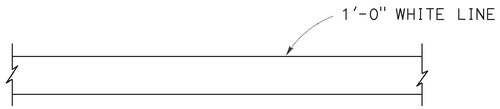
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 08-08-16

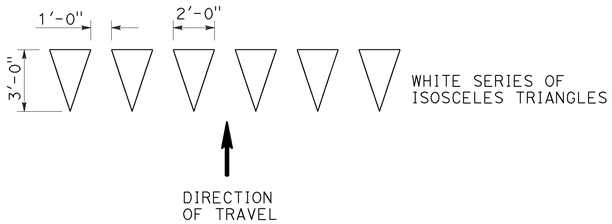
WORD MARKINGS			
ITEM	ft²	ITEM	ft²
LANE	24	NO	14
POOL	23	BIKE	21
CAR	17	BUS	20
CLEAR	27	ONLY	22
KEEP	24	FWY	16



A=2 ft²
See Notes 6 and 7



LIMIT LINE (STOP LINE)



YIELD LINE

NOTES:

1. If a message consists of more than one word, it should read "UP", i.e., the first word should be nearest the driver.
2. The space between words should be at least four times the height of the characters for low speed roads, but not more than ten times the height of the characters. The space may be reduced appropriately where there is limited space because of local conditions.
3. Minor variations in dimensions may be accepted by the Engineer.
4. Portions of a letter, number or symbol may be separated by connecting segments not to exceed 2" in width.
5. The words "NO PARKING" pavement marking is to be used for parking facilities. For typical locations of markings, see Standard Plans A90A and A90B.
6. The words "NO PARKING", shall be painted in white letters no less than 1'-0" high on a contrasting background and located so that it is visible to traffic enforcement officials.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKINGS
WORDS, LIMIT AND YIELD LINES

NO SCALE

RSP A24E DATED JULY 20, 2012 SUPERSEDES STANDARD PLAN A24E
DATED MAY 20, 2011 - PAGE 17 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A24E

2010 REVISED STANDARD PLAN RSP A24E

6-12-12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	103	167

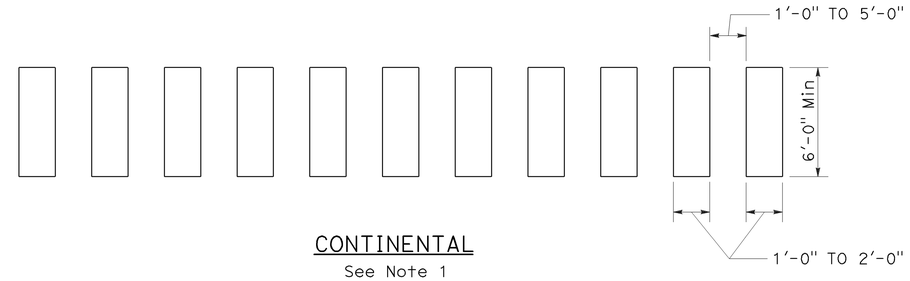
Roberta L. McLaughlin
REGISTERED CIVIL ENGINEER

July 20, 2012
PLANS APPROVAL DATE

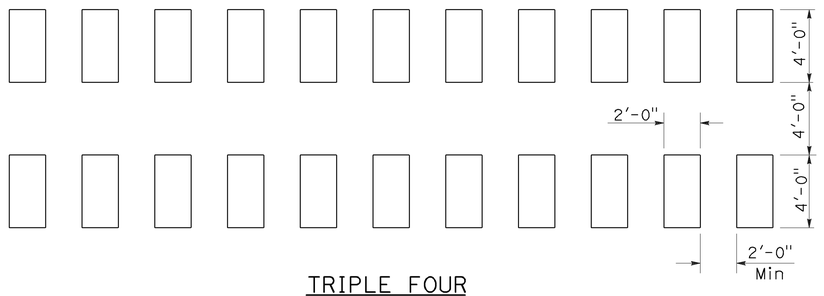
REGISTERED PROFESSIONAL ENGINEER
Roberta L. McLaughlin
No. C40375
Exp. 3-31-13
CIVIL
STATE OF CALIFORNIA

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

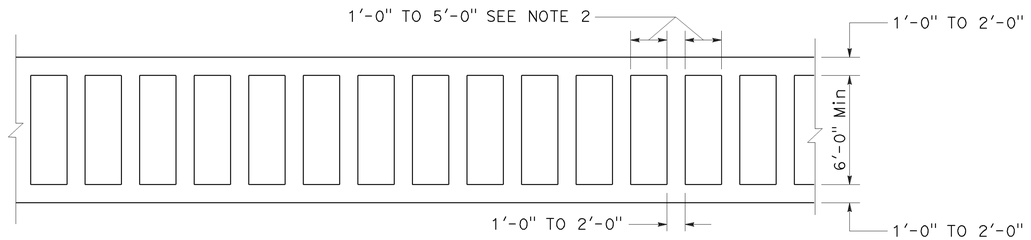
TO ACCOMPANY PLANS DATED 08-08-16



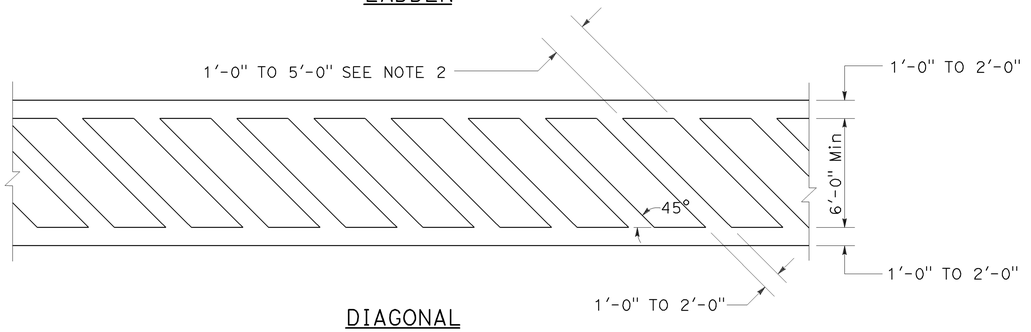
CONTINENTAL
See Note 1



TRIPLE FOUR
See Note 1



LADDER



DIAGONAL

HIGHER VISIBILITY CROSSWALKS

NOTES:

1. Spaces between markings should be placed in wheel tracks of each lane.
2. Spacings not to exceed 2.5 times width of longitudinal line.
3. All crosswalk markings must be white except for those near schools must be yellow.

BASIC

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKINGS CROSSWALKS

NO SCALE

RSP A24F DATED JULY 20, 2012 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A24F

2010 REVISED STANDARD PLAN RSP A24F

6-28-12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	104	167

REGISTERED CIVIL ENGINEER

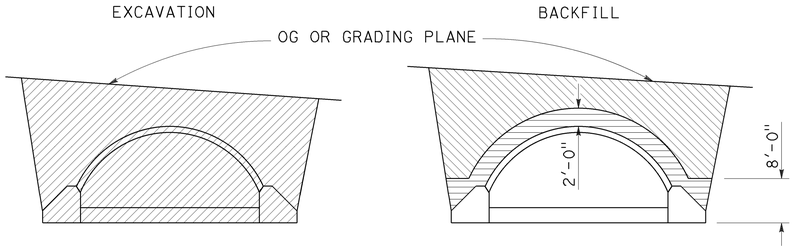
October 30, 2015
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Carl M. Duan
No. C59976
Exp. 6-30-16
CIVIL
STATE OF CALIFORNIA

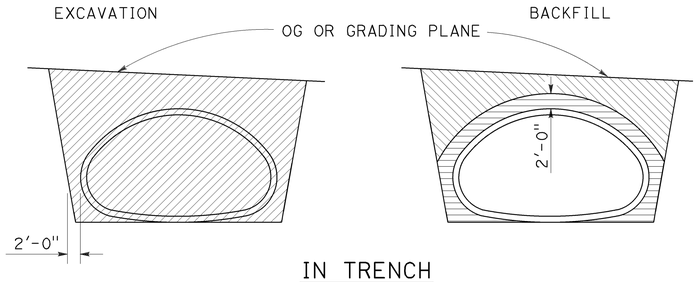
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 08-08-16

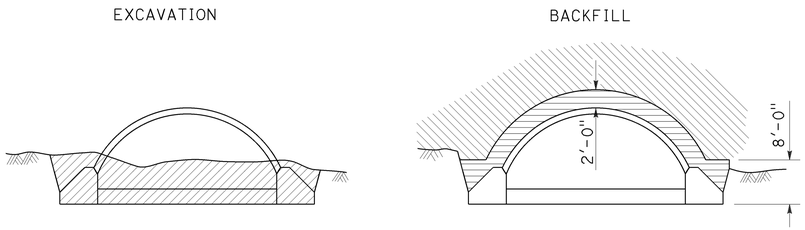
2010 REVISED STANDARD PLAN RSP A62F



IN TRENCH

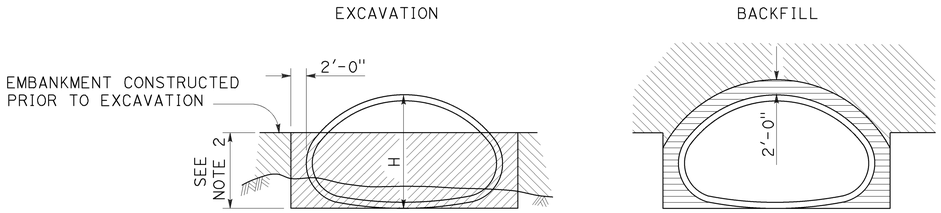


IN TRENCH



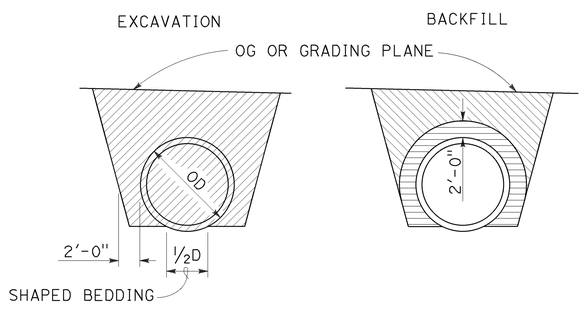
IN EMBANKMENT

STRUCTURAL STEEL PLATE ARCHES

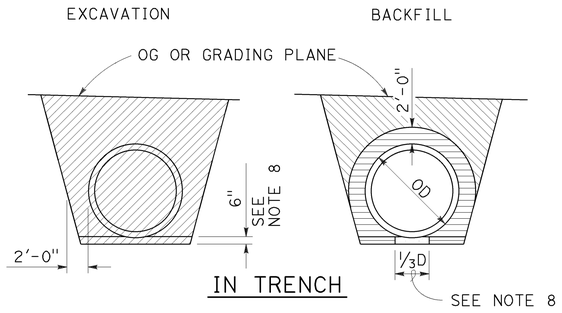


IN EMBANKMENT

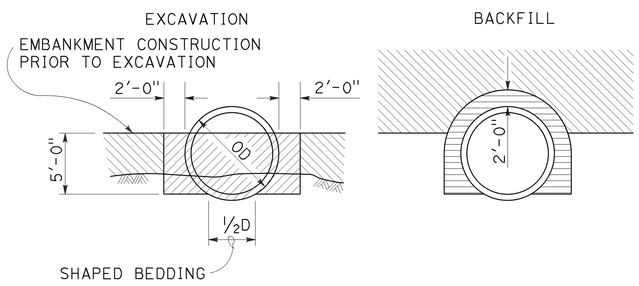
STRUCTURAL STEEL PLATE PIPE ARCHES AND VEHICULAR UNDERCROSSING



IN TRENCH



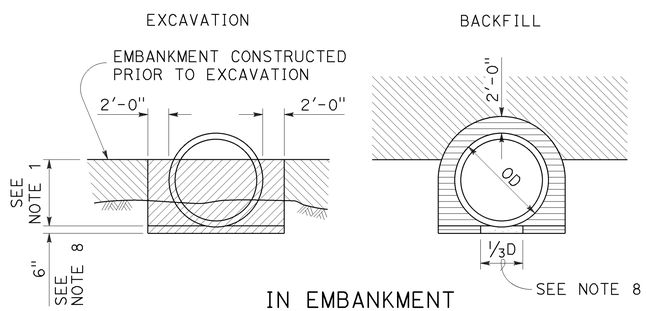
IN TRENCH



IN EMBANKMENT

PIPES

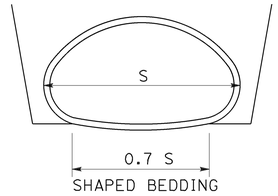
Larger than 84"



IN EMBANKMENT

METAL AND PLASTIC PIPES AND CORRUGATED METAL PIPE ARCHES

84" or Smaller



SHAPED BEDDING

S = Larger than 84"

NOTES:

1. PIPES: 30" minimum for diameters up to and including 42" then 2/3 diameter but no more than 60" required. CORRUGATED METAL PIPE ARCHES: 30" maximum.
2. 2/3 H up to 60" maximum.
3. Slope or shore excavation sides as necessary.
4. Backfill shall be placed full width of excavation except as noted.
5. Diagrams do not apply to overside drains.
6. Dimensions shown are minimum.
7. Construction strutting of structural steel plate pipe, arches and vehicular undercrossing to be used when shown on the project plans. When shown, see Standard Plan D88A for strutting requirements.
8. Excavation below pipe and 80% relative compaction requirements for plastic pipes only.
9. D is the inside diameter (ID) of the pipe.

LEGEND

- STRUCTURE EXCAVATION (CULVERT)
- ROADWAY EMBANKMENT
- STRUCTURE BACKFILL (CULVERT) 95% RELATIVE COMPACTION
- STRUCTURE BACKFILL (CULVERT) 80% RELATIVE COMPACTION

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

EXCAVATION AND BACKFILL METAL AND PLASTIC CULVERTS

NO SCALE

RSP A62F DATED OCTOBER 30, 2015 SUPERSEDES STANDARD PLAN A62F DATED MAY 20, 2011 - PAGE 26 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A62F

10-13-15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	105	167

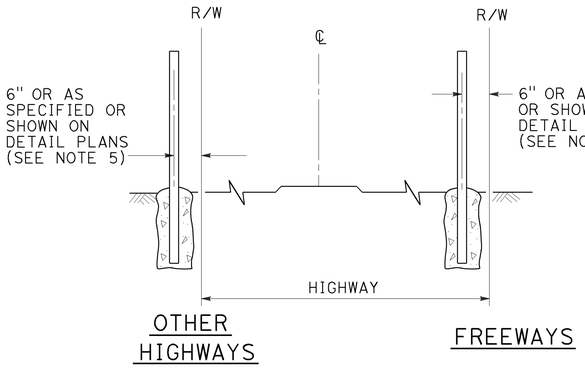
REGISTERED CIVIL ENGINEER

July 15, 2016
PLANS APPROVAL DATE

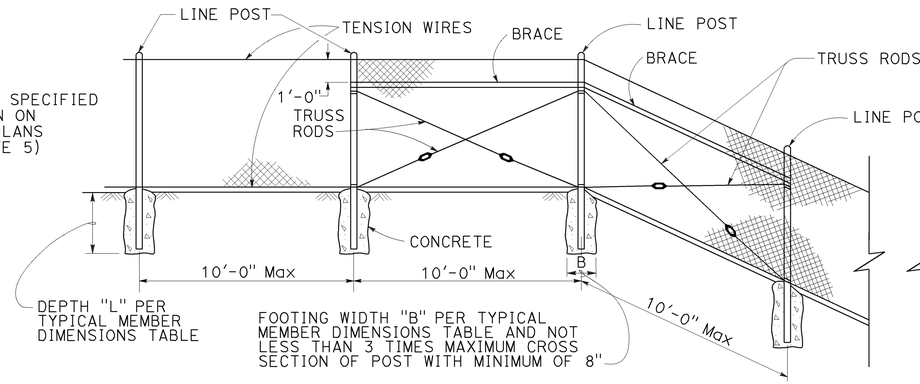
Sukhdeep Singh Sandher
No. C74893
Exp. 12-31-17
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

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.

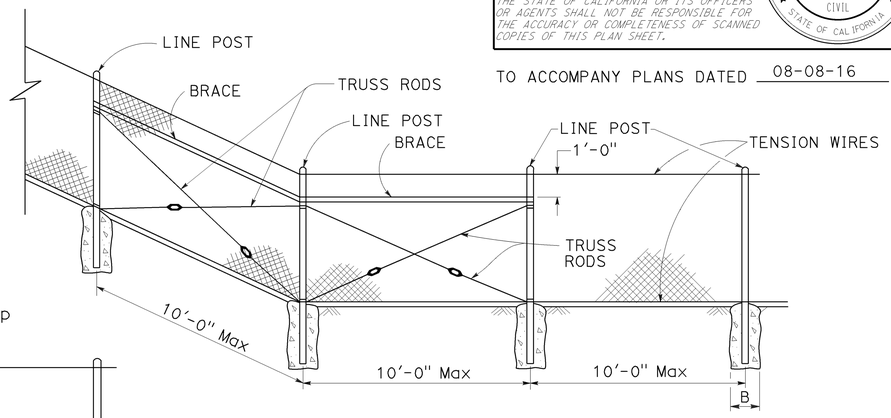
TO ACCOMPANY PLANS DATED 08-08-16

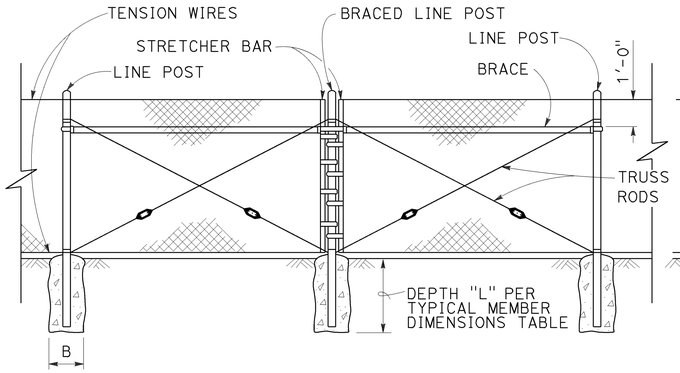


FENCE LOCATION



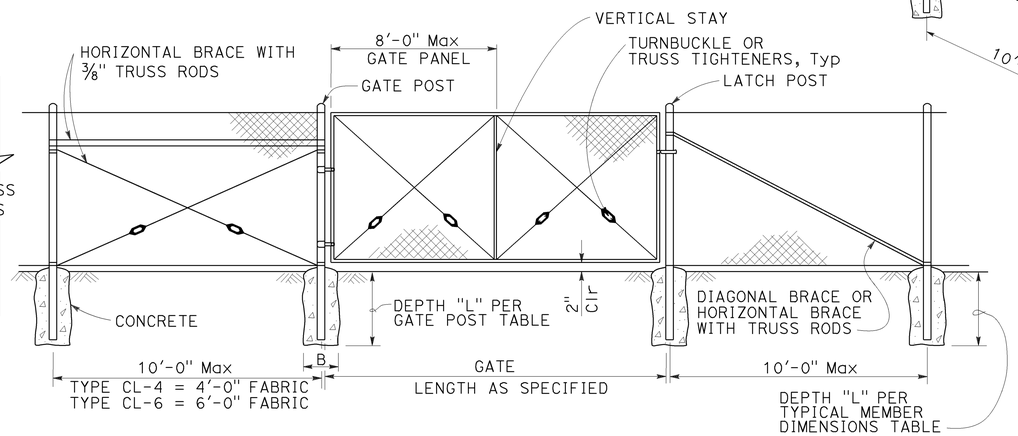
CHAIN LINK FENCE ON SHARP BREAK IN GRADE



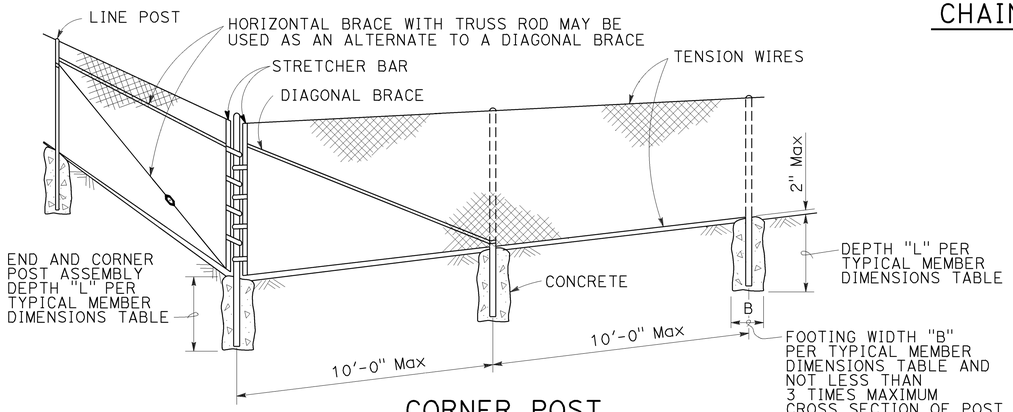


BRACED LINE POST INSTALLATION

Braced line post at intervals not exceeding 1000'



CHAIN LINK GATE INSTALLATION



CORNER POST

GATE POST

FENCE HEIGHT (Max)	SLATTED	B (in)	L (ft)	ROUND PIPE		
				SECTION	ROUND OD PIPE	WEIGHT (lb/ft)
5'-0"	NO	12"	2'-6"	3 Std	3.50"	7.58
6'-0"	NO	12"	2'-6"	3 Std	3.50"	7.58
8'-0"	NO	12"	3'-0"	3 Std	3.50"	7.58
10'-0"	NO	14"	3'-6"	3 Std	3.50"	7.58
5'-0"	YES	12"	3'-0"	3½ Std	4.00"	9.12
6'-0"	YES	14"	3'-6"	4 Std	4.50"	10.80
8'-0"	YES	18"	3'-6"	5 Std	5.56"	14.60
10'-0"	YES	20"	4'-0"	6 Std	6.63"	19.00

Above post dimensions and weights are minimums.
Larger sizes may be used upon approval.
Maximum Gate Width is 24'-0".

TYPICAL MEMBER DIMENSIONS (See Notes)

FENCE HEIGHT (Max)	SLATTED	B (in)	L (ft)	LINE POSTS					BRACES				
				ROUND PIPE			ROLL FORMED		ROUND PIPE			ROLL FORMED	
				SECTION	ROUND OD PIPE	WEIGHT (lb/ft)	SECTION	WEIGHT (lb/ft)	SECTION	ROUND OD PIPE	WEIGHT (lb/ft)	SECTION	WEIGHT (lb/ft)
5'-0"	NO	8"	2'-6"	1½ Std	1.90"	2.72	1.875" x 1.625"	1.85	2 Std	2.38"	3.66	1.625" x 1.250"	1.35
6'-0"	NO	10"	2'-6"	2 Std	2.38"	3.66	1.875" x 1.625"	2.40	2 Std	2.38"	3.66	1.625" x 1.250"	1.35
8'-0"	NO	12"	3'-0"	2½ Std	2.88"	5.80	3.250" x 2.500"	4.50	2 Std	2.38"	3.66	1.625" x 1.250"	1.35
10'-0"	NO	14"	3'-6"	3 Std	3.50"	7.58	3.250" x 2.500"	4.50	2½ Std	2.88"	5.80	1.625" x 1.250"	1.35
5'-0"	YES	12"	3'-0"	3½ Std	4.00"	9.12	N/A	-	2 Std	2.38"	3.66	N/A	-
6'-0"	YES	14"	3'-0"	4 Std	4.50"	10.80	N/A	-	2 Std	2.38"	3.66	N/A	-
8'-0"	YES	18"	3'-6"	5 Std	5.56"	14.60	N/A	-	2 Std	2.38"	3.66	N/A	-
10'-0"	YES	20"	4'-0"	6 Std	6.63"	19.00	N/A	-	2½ Std	2.88"	5.80	N/A	-

NOTES:

1. The table to the right shows minimum sized posts and braces complying with the specifications. Larger or heavier post and brace sizes may be used upon approval.
2. Sections shown in the tables must also comply with the strength requirements and other provisions of the Specifications.
3. Other sections which comply with the strength requirements and other provisions of the Specifications may be used upon approval.
4. Options exercised shall be uniform on any one project.
5. Offset to be 2'-0" at monument locations, measured at right angles to R/W lines. Taper to achieve offset to be at least 20'-0" long.
6. See Revised Standard Plan RSP A85B for Brace, Stretcher Bar, and Truss Tightener Details.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CHAIN LINK FENCE

NO SCALE

RSP A85 DATED JULY 15, 2016 SUPERSEDES RSP A85 DATED JULY 18, 2014 AND STANDARD PLAN A85 DATED MAY 20, 2011 - PAGE 112 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A85

2010 REVISED STANDARD PLAN RSP A85

6-29-16

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	106	167

REGISTERED CIVIL ENGINEER

July 15, 2016
PLANS APPROVAL DATE

Sukhdeep Singh Sandher
No. C74893
Exp. 12-31-17
CIVIL
REGISTERED PROFESSIONAL ENGINEER
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.

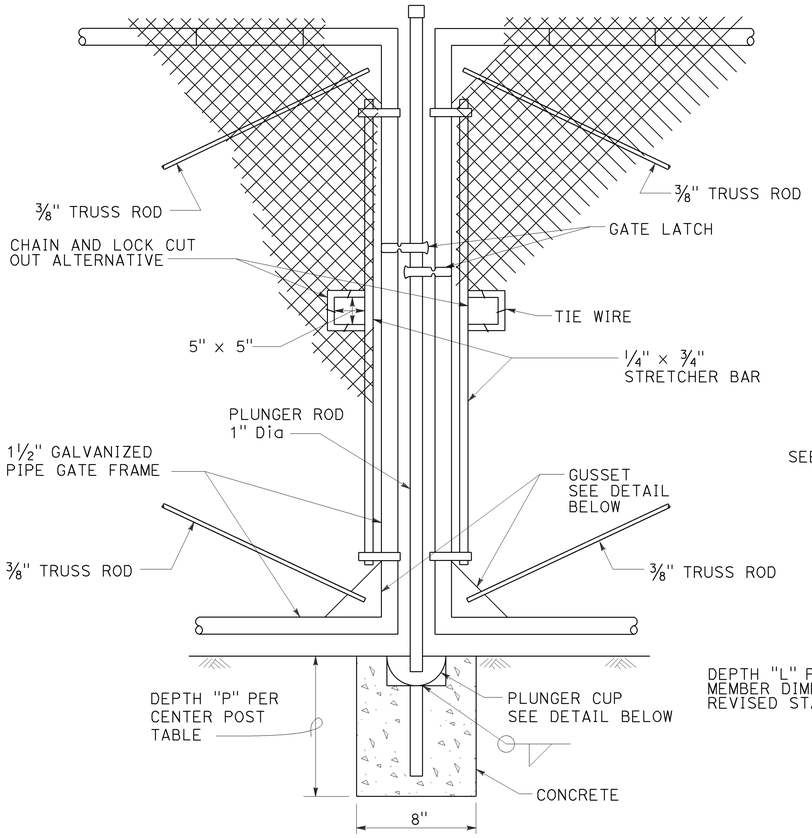
TO ACCOMPANY PLANS DATED 08-08-16

2010 REVISED STANDARD PLAN RSP A85A

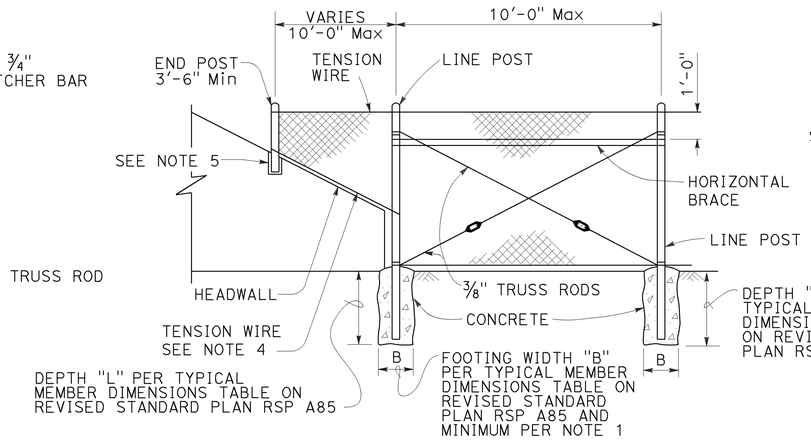
NOTES:

1. B is not less than 3 times maximum cross section of post with minimum of 8".
2. See Revised Standard Plan RSP A85 for Chain Link Fencing dimensions.
3. See Detail A on Standard Plan A86B for connection at headwall.
4. See Detail D on Standard Plan A86B for connection at headwall.

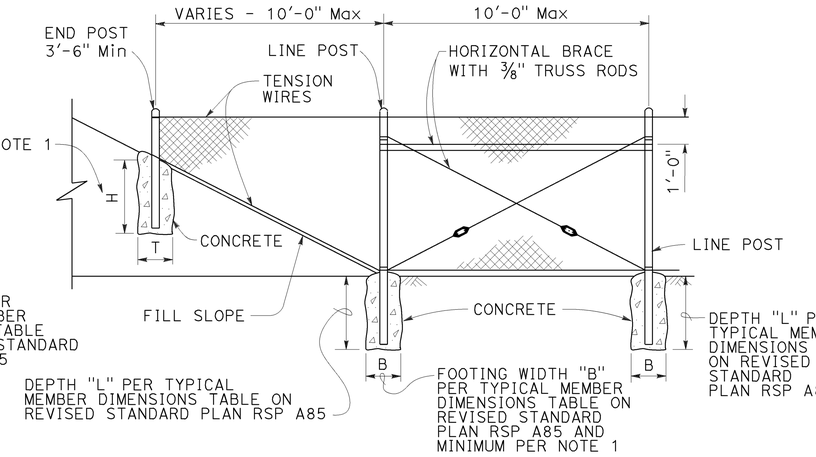
CENTER POST		
FENCE HEIGHT (Max)	SLATTED	P
ALL HEIGHTS	NO	1'-6"
5'-0"	YES	3'-0"
6'-0"	YES	3'-0"
8'-0"	YES	3'-6"
10'-0"	YES	4'-0"



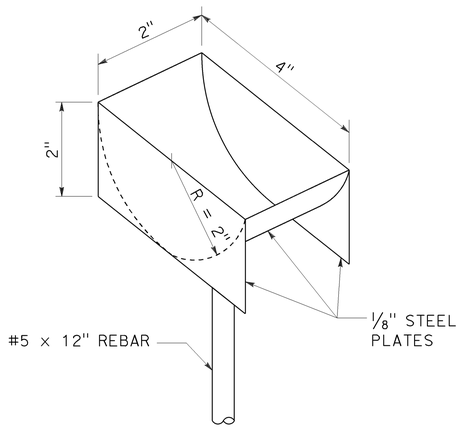
DOUBLE GATE
REMOVABLE CENTER POST



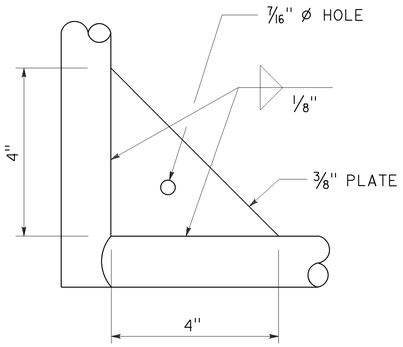
METHOD OF TYING FENCE TO HEADWALL



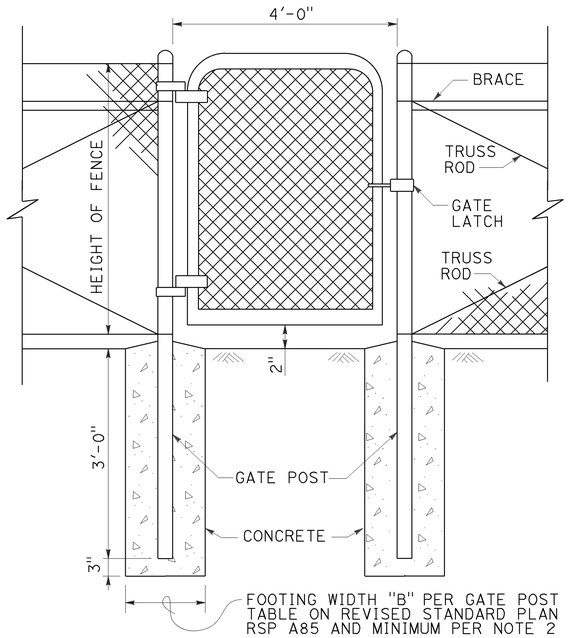
METHOD OF ERECTING FENCE FOR FILL SLOPE



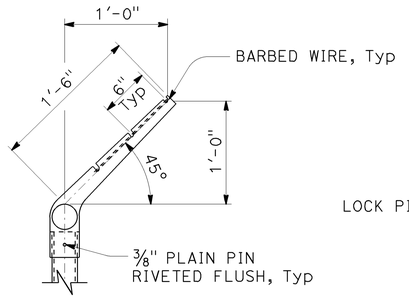
PLUNGER CUP DETAIL



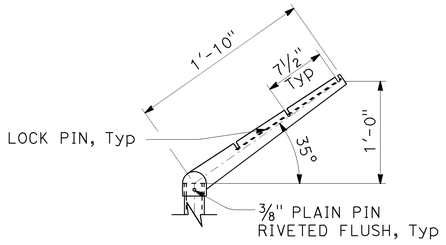
GUSSET DETAIL



WALK GATE



LINE POST



CORNER POST

BARBED WIRE POST TOP

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CHAIN LINK FENCE DETAILS

NO SCALE

RSP A85A DATED JULY 15, 2016 SUPERSEDES STANDARD PLAN A85A
DATED MAY 20, 2011 - PAGE 113 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A85A

6-16-16

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	107	167

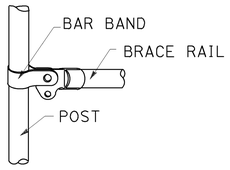
Glenn DeCou
REGISTERED CIVIL ENGINEER

October 19, 2012
PLANS APPROVAL DATE

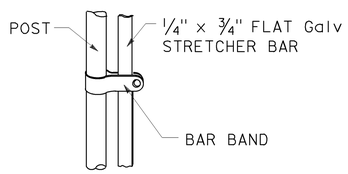
REGISTERED PROFESSIONAL ENGINEER
Glenn DeCou
No. C34547
Exp. 9-30-13
CIVIL
STATE OF CALIFORNIA

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

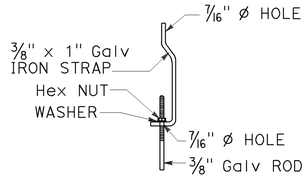
TO ACCOMPANY PLANS DATED 08-08-16



BRACE RAIL



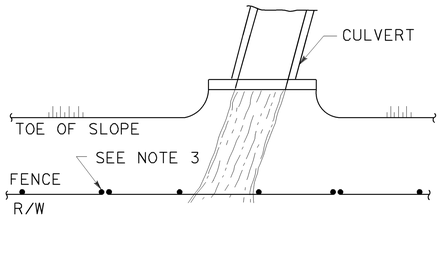
STRETCHER BAR



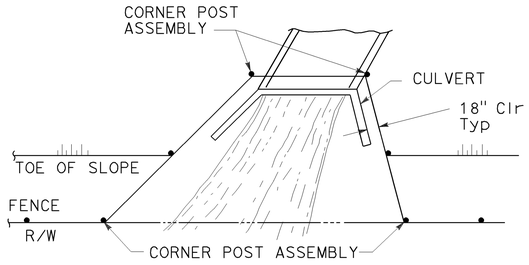
TRUSS TIGHTENER

NOTES:

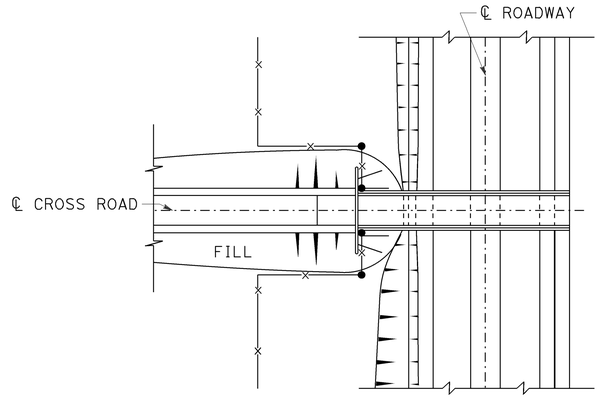
1. All material for abutment connection to be galvanized.
2. The chain link fabric shall be replaced by barbed wire strands at 12" maximum centers between the double posts.
3. When the width of the culvert makes it necessary to anchor a post to the top of the culvert, a cast iron shoe or other device approved by the Engineer shall be used.
4. Fencing over stream and around headwall may also use Barbed Wire or Wire Mesh fencing with either wood post or steel post installation.
5. See Standard Plan A85 for Chain Link fence dimensions. See Standard Plan A86 for Barbed Wire and Wire Mesh fence dimensions and for wood post and steel post installation.



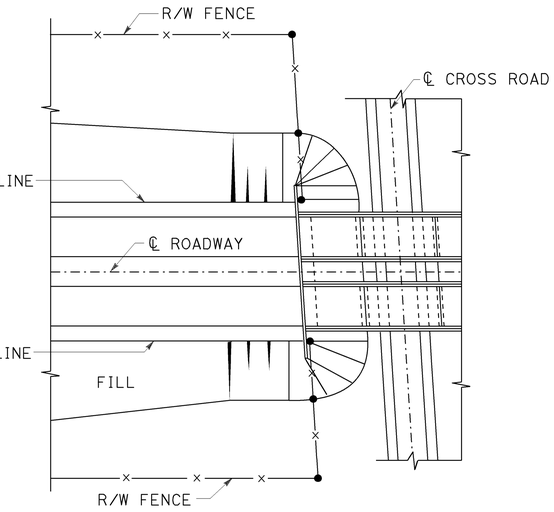
PLAN



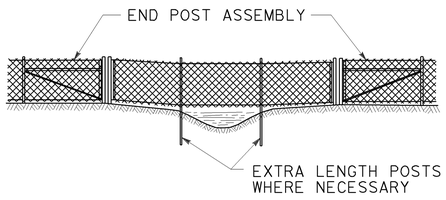
PLAN



PLAN OF ROADWAY - OVERCROSSING

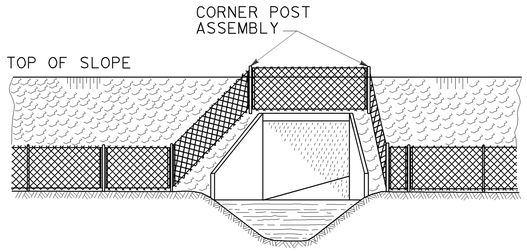


PLAN OF ROADWAY - UNDERCROSSING



ELEVATION

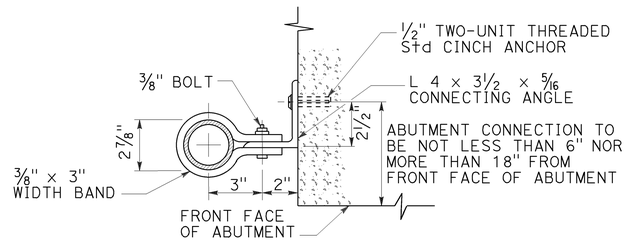
INSTALLATION OVER STREAM



ELEVATION

INSTALLATION AROUND HEADWALL

See Note 4



ABUTMENT CONNECTION

TYPICAL INSTALLATION AT BRIDGES

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CHAIN LINK FENCE DETAILS

NO SCALE

RSP A85B DATED OCTOBER 19, 2012 SUPERSEDES STANDARD PLAN A85B DATED MAY 20, 2011 - PAGE 114 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A85B

2010 REVISED STANDARD PLAN RSP A85B

7-19-12

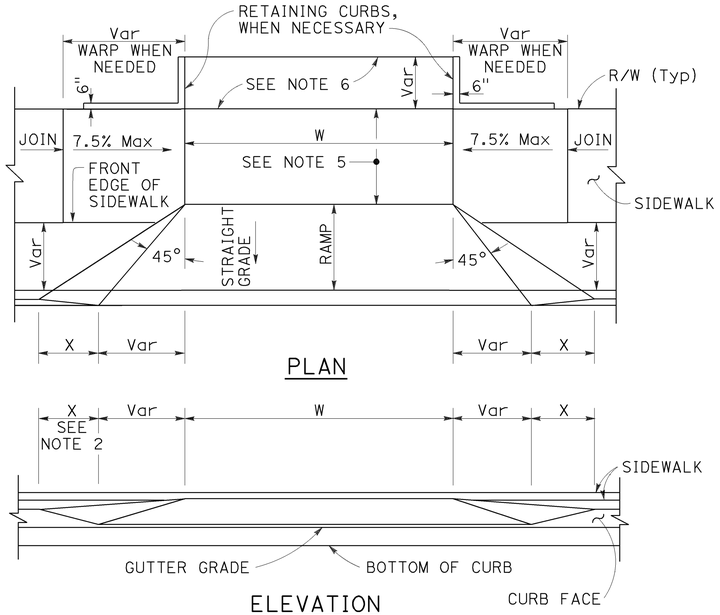
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	108	167

REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

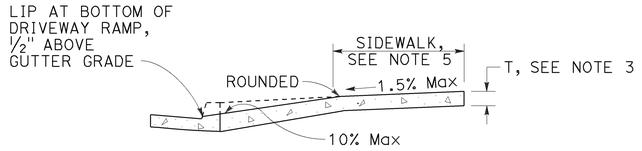
Michael Janzen No. 44788 Exp. 03-31-14 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 08-08-16



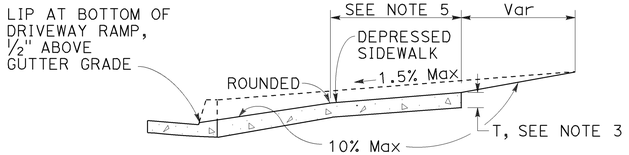
PLAN

ELEVATION



CASE A

Typical driveway, sidewalk not depressed



CASE B

Driveway with depressed sidewalk

SECTIONS

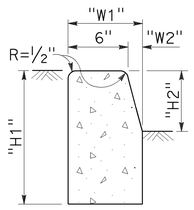
TABLE A

CURB TYPE	DIMENSIONS			
	"H1"	"H2"	"W1"	"W2"
A1-6	1'-2"	6"	7½"	1½"
A1-8	1'-4"	8"	8"	2"
A2-6	1'-0"	6"	2'-7½"	1½"
A2-8	1'-2"	8"	2'-8"	2"
A3-6	6"	5"	7¼"	1¼"
A3-8	8"	7"	7¾"	1¾"
B1-4	1'-0"	4"	7½"	2½"
B1-6	1'-2"	6"	9"	4"
B2-4	10"	4"	2'-7½"	2½"
B2-6	1'-0"	6"	2'-9"	4"
B3-4	4"	3"	7"	2"
B3-6	6"	5"	8½"	3½"
D-4	10"	4"	1'-6"	1'-1"
D-6	1'-0"	6"	2'-2"	1'-9"

CURB QUANTITIES

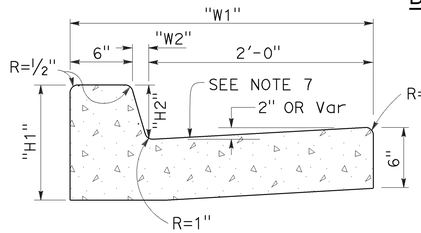
TYPE	CUBIC YARDS PER LINEAR FOOT
A1-6	0.02585
A1-8	0.03084
A2-6	0.05903
A2-8	0.06379
A3-6	0.01036
A3-8	0.01435
B1-4	0.02185
B1-6	0.02930
B2-4	0.05515
B2-6	0.06171
B3-4	0.00641
B3-6	0.01074
B4	0.05709
D-4	0.04083
D-6	0.06804
E	0.06661

DRIVEWAYS



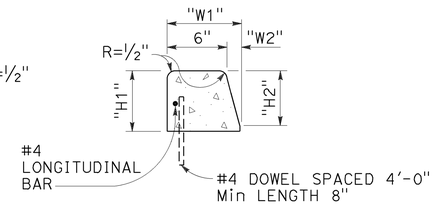
TYPE A1 CURBS

See Table A



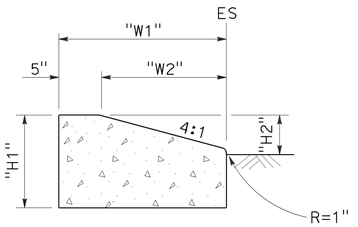
TYPE A2 CURBS

See Table A



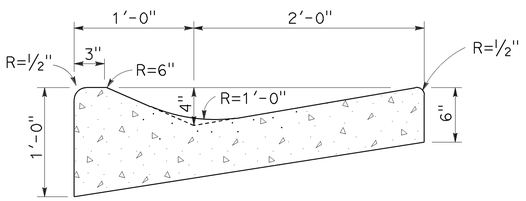
TYPE A3 CURBS

Superimposed on existing pavement
See Table A

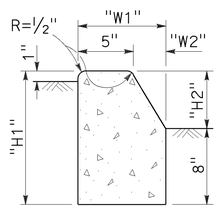


TYPE D CURBS

See Table A

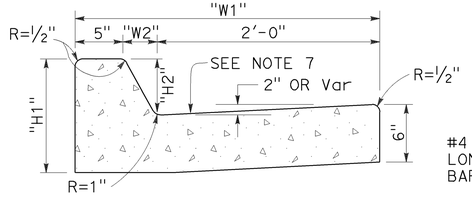


TYPE E CURB



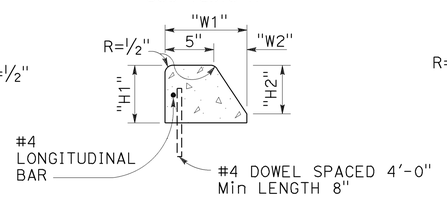
TYPE B1 CURBS

See Table A



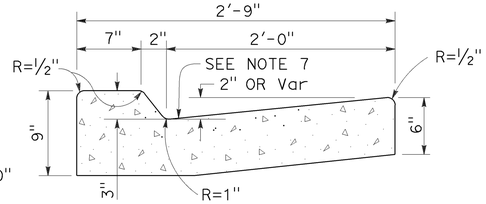
TYPE B2 CURBS

See Table A

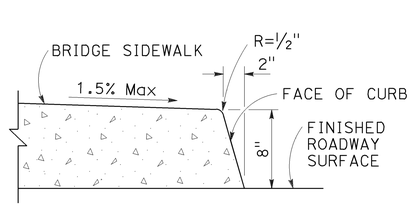


TYPE B3 CURBS

Superimposed on existing pavement
See Table A



TYPE B4 CURBS



TYPE H CURB

On Bridges

CURBS

NOTES:

1. Case A driveway section typically applies.
2. X=3'-0" except for curb heights over 10" where 4:1 slopes shall be used on curb slope.
3. Sidewalk and ramp thickness "T" at driveway shall be 4" for residental and 6" for commercial.
4. Difference in slope of the driveway ramp and the slope of a line between the gutter and a point on the roadway 5'-0" from gutter line shall not exceed 15%. Reduce driveway ramp slope, not gutter slope, where required.
5. Minimum width of clear passageway for sidewalk shall be 4'-2".
6. Retaining curbs and acquisition of construction easement may be necessary for narrow sidewalks or curb heights in excess of 6".
7. Across the pedestrian route at curb ramp locations, the gutter pan slope shall not exceed 1" of depth for each 2'-0" of width.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CURBS AND DRIVEWAYS

NO SCALE

RSP A87A DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A87A
DATED MAY 20, 2011 - PAGE 119 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A87A

2010 REVISED STANDARD PLAN RSP A87A

7-8-13

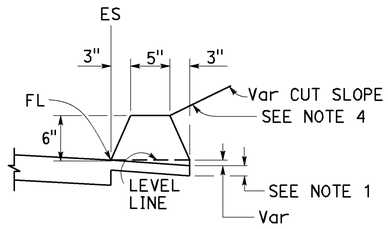
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	109	167

REGISTERED CIVIL ENGINEER

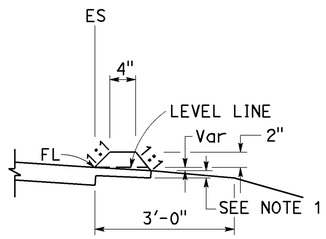
January 15, 2016
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Michael Janzen
No. 44788
Exp. 3-31-16
CIVIL
STATE OF CALIFORNIA

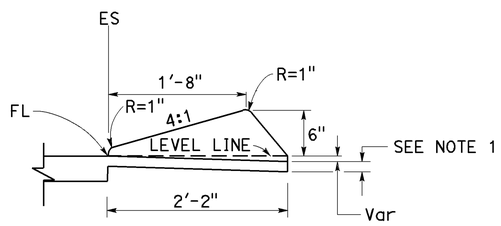
TO ACCOMPANY PLANS DATED 08-08-16



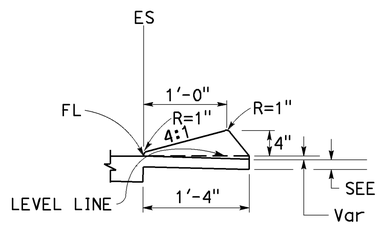
TYPE A
See Notes 3 and 5



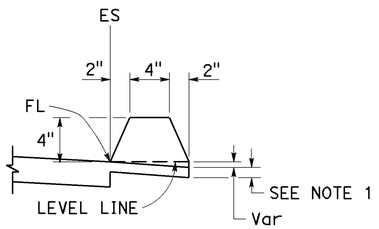
TYPE C



TYPE D

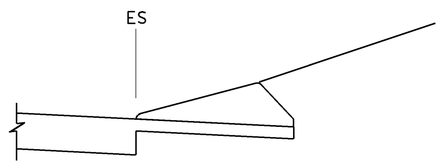


TYPE E

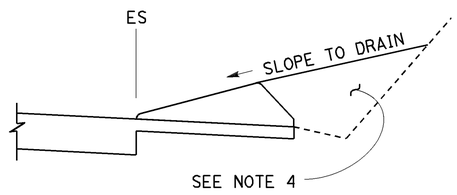


TYPE F
See Note 5

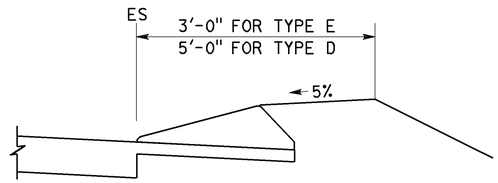
DIKES



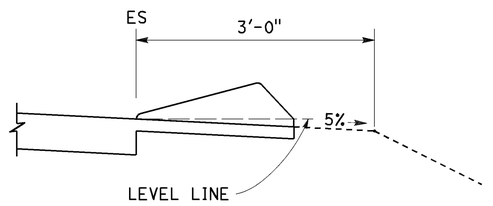
CASE C-1
Cut Slope



CASE C-2
Cut Slope



CASE F



CASE R
See Note 2

TYPE D AND E BACKFILL DETAILS

NOTES:

1. For HMA shoulders only, extend top layer of HMA placed on the shoulder under dike with no joint at the ES. For projects with OGFC shoulders, do not extend OGFC under dike. See project plans for modified dike detail.
2. Case R applies to retrofit only projects where restrictive conditions do not provide enough width for Case F backfill.
3. Type A dike only to be used where restrictive slope conditions do not provide enough width to use Type D or Type E dike.
4. Fill and compact with excavated material to top of dike.
5. Use Type A or F dike, where dike is required with guardrail installations. See Revised Standard Plan RSP A77N4 for dike positioning details. See Revised Standard Plan RSP A77N3 for hinge point offsets with guardrail.

DIKE QUANTITIES

TYPE	CUBIC YARDS PER LINEAR FOOT
A	0.0135
C	0.0038
D	0.0293
E	0.0130
F	0.0066

Quantities based on 5% cross slope.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

HOT MIX ASPHALT DIKES

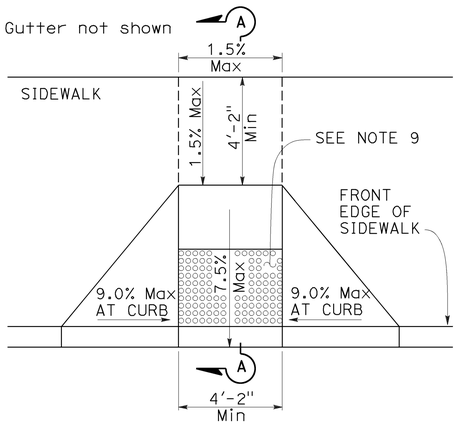
NO SCALE

RSP A87B DATED JANUARY 15, 2016 SUPERSEDES RSP A87B DATED JULY 19, 2013 AND STANDARD PLAN A87B DATED MAY 20, 2011 - PAGE 120 OF THE STANDARD PLANS BOOK DATED 2010.

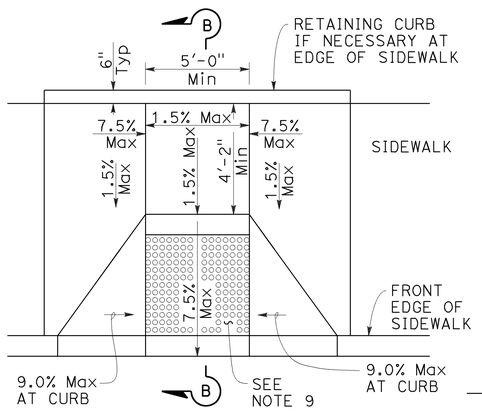
REVISED STANDARD PLAN RSP A87B

2010 REVISED STANDARD PLAN RSP A87B

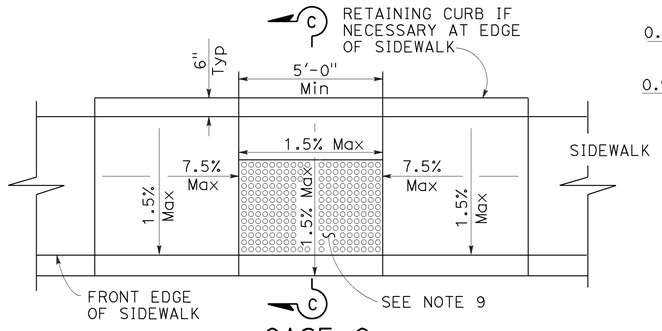
11-17-15



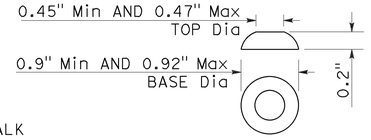
CASE A



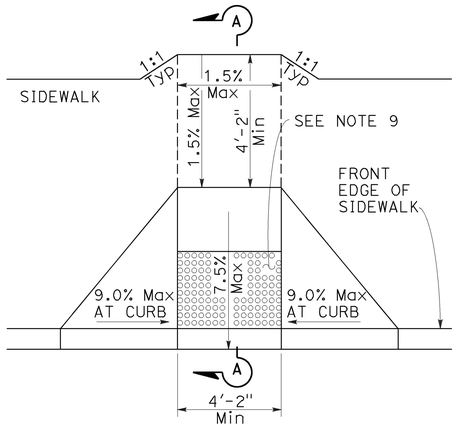
CASE B



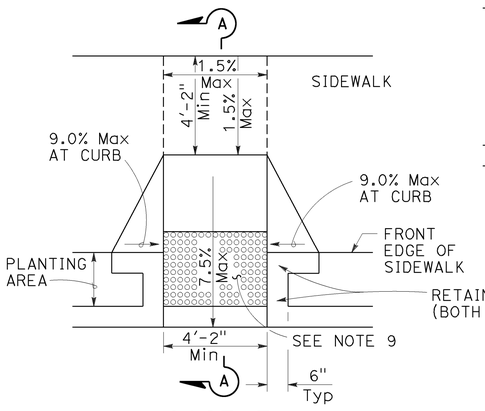
CASE C



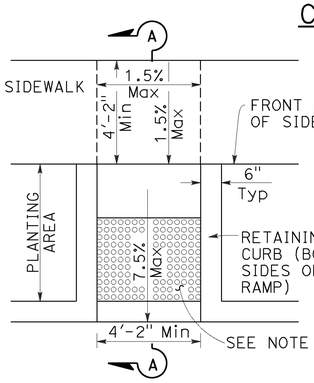
RAISED TRUNCATED DOME



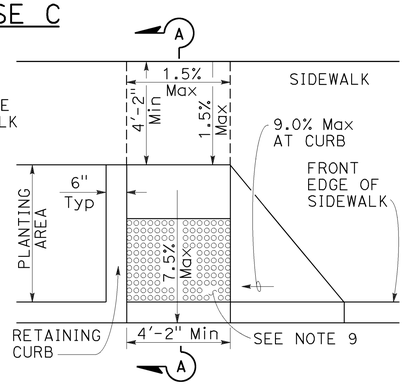
CASE D



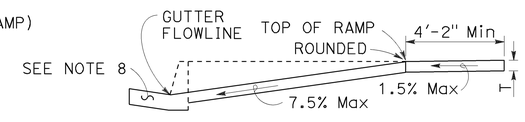
CASE E



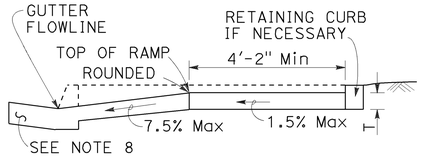
CASE F



CASE G
See Note 4

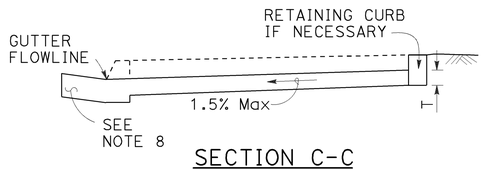


SECTION A-A

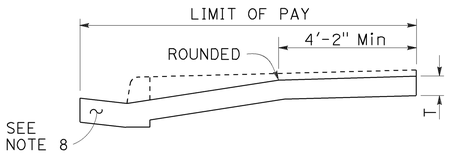


SECTION B-B

Depress entire sidewalk as required

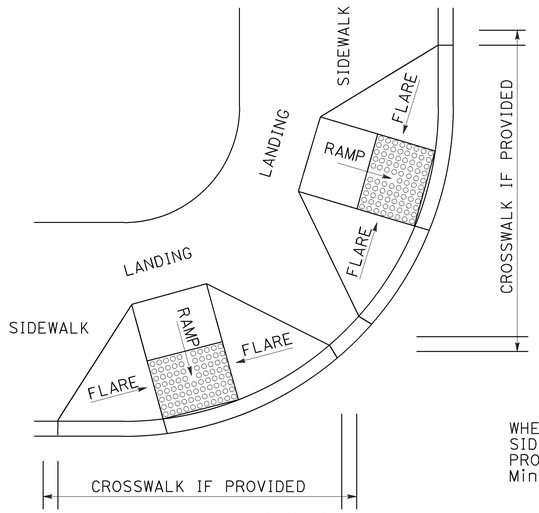


SECTION C-C



RETROFIT PAY LIMITS

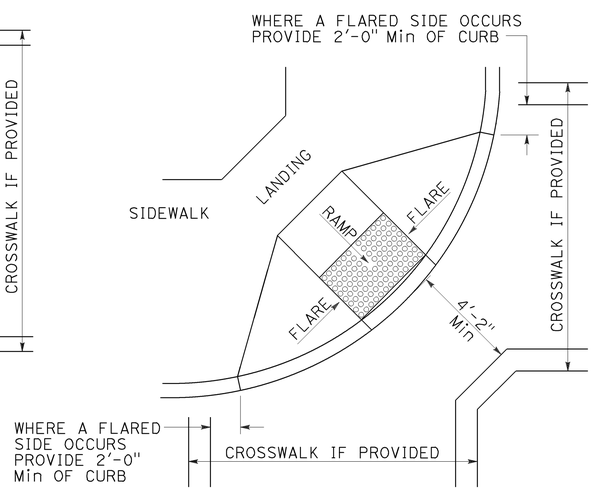
Existing curb and sidewalk



DETAIL A

TYPICAL TWO-RAMP CORNER INSTALLATION

See Note 1



DETAIL B

TYPICAL ONE-RAMP CORNER INSTALLATION

See Notes 1 and 3

NOTES:

1. As site conditions dictate, Case A through Case G curb ramps may be used for corner installations similar to those shown in Detail A and Detail B. The case of curb ramps used in Detail A do not have to be the same. Case A through Case G curb ramps also may be used at mid block locations, as site conditions dictate.
2. If distance from curb to back of sidewalk is too short to accommodate ramp and 4'-2" platform (landing) as shown in Case A, the sidewalk may be depressed longitudinally as in Case B, or C or may be widened as in Case D.
3. When ramp is located in center of curb return, crosswalk configuration must be similar to that shown for Detail B.
4. As site conditions dictate, the retaining curb side and the flared side of the Case G ramp shall be constructed in reversed position.
5. If located on a curve, the sides of the ramp need not be parallel, but the minimum width of the ramp shall be 4'-2".
6. Side slope of ramp flares vary uniformly from a maximum of 9.0% at curb to conform with longitudinal sidewalk slope adjacent to top of the ramp, except in Case C and Case F.
7. The adjacent surfaces at transitions at curb ramps to walks, gutters, and streets shall be at the same level.
8. Counter slopes of adjoining gutters and road surfaces immediately adjacent to and within 24 inches of the curb ramp shall not be steeper than 1:20 (5.0%). Gutter pan slope shall not exceed 1" of depth for each 2'-0" of width.
9. Curb ramps shall have a detectable warning surface that extends the full width and 3'-0" depth of the ramp. A 4'-0" wide detectable warning surface may be used on a 4'-2" wide curb ramp. Detectable Warning Surfaces shall conform to the requirements in the Standard Specifications.
10. Sidewalk and ramp thickness, "T", shall be 3½" minimum.
11. Utility pull boxes, manholes, vaults and all other utility facilities within the boundaries of the curb ramp will be relocated or adjusted to grade by the owner prior to, or in conjunction with, curb ramp construction.
12. Detectable warning surface may have to be cut to allow removal of utility covers while maintaining full detectable warning width and depth.

RAISED TRUNCATED DOME PATTERN (IN-LINE)

DETECTABLE WARNING SURFACE

See Note 9

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	110	167

REGISTERED CIVIL ENGINEER

July 15, 2016

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Hector David Cordova — No. C41957 — Exp. 3-31-18 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 08-08-16

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CURB RAMP DETAILS

NO SCALE

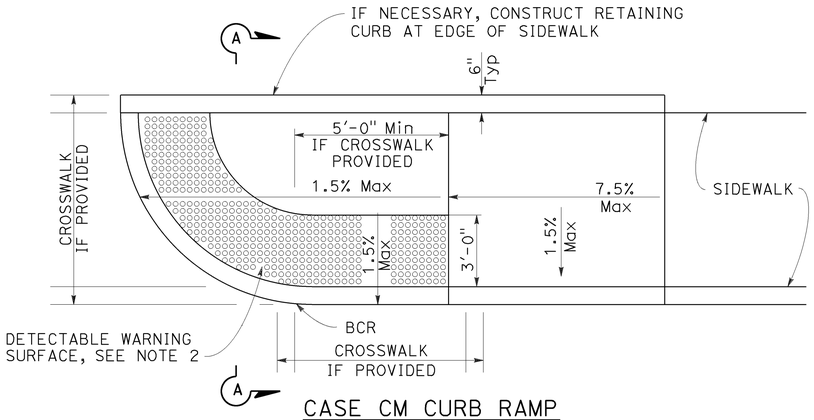
RSP A88A DATED JULY 15, 2016 SUPERSEDES RSP A88A DATED JULY 3, 2015, RSP A88A DATED MARCH 21, 2014 AND RSP A88A DATED JULY 19, 2013 AND STANDARD PLAN A88A DATED MAY 20, 2011 - PAGE 121 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A88A

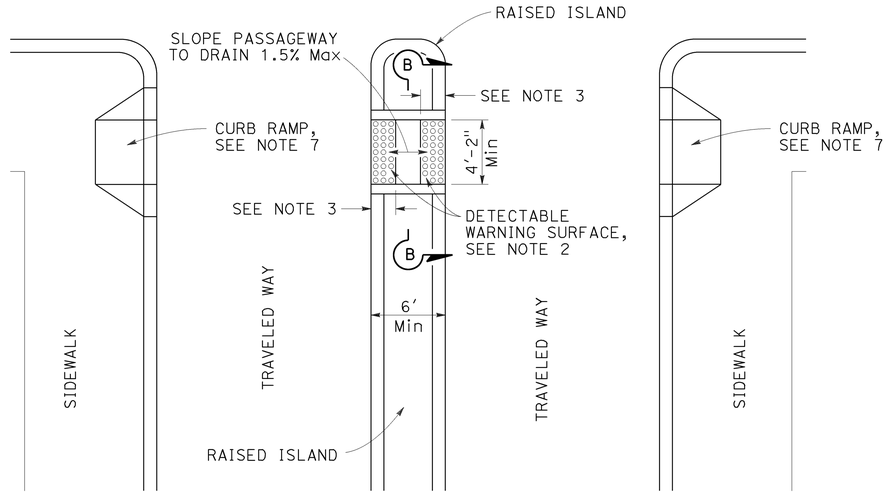
2010 REVISED STANDARD PLAN RSP A88A

3-30-16

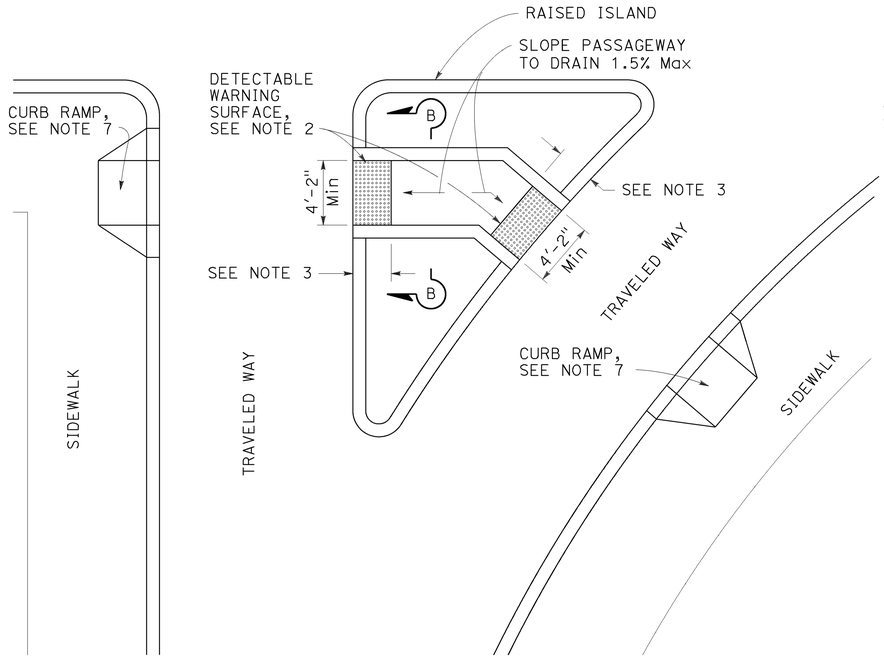
Gutter not shown



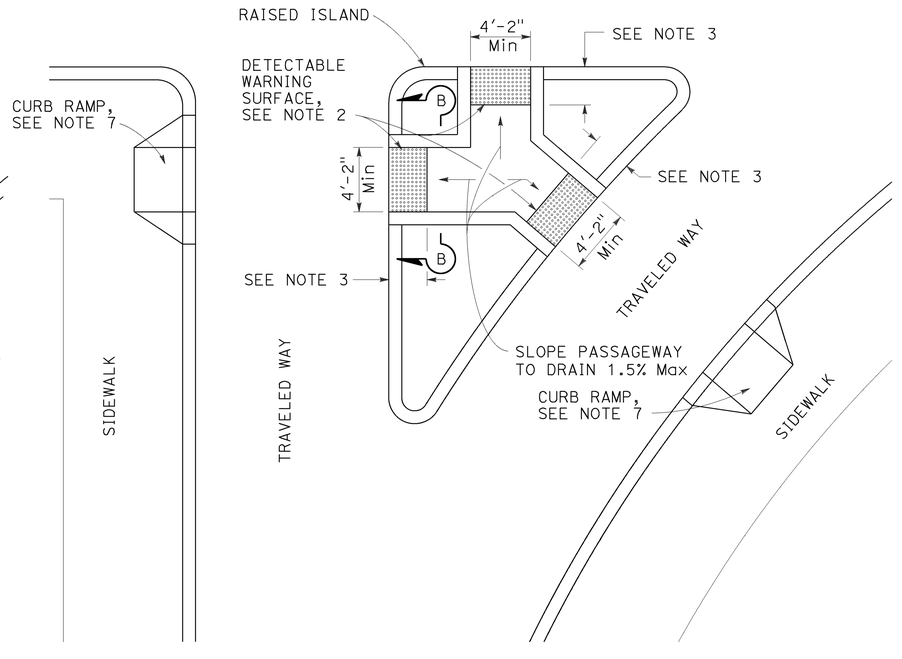
CASE CM CURB RAMP



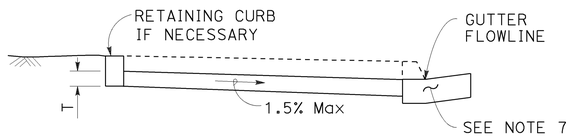
TYPE A PASSAGEWAY



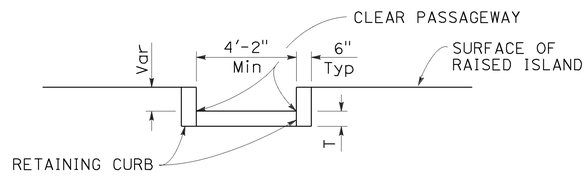
TYPE B PASSAGEWAY



TYPE C PASSAGEWAY



SECTION A-A



SECTION B-B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	111	167

H. David Cordova
REGISTERED CIVIL ENGINEER

July 15, 2016
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Hector David Cordova — No. C41957 — Exp. 3-31-18 — 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 08-08-16

NOTES:

1. Sidewalk, ramp and passageway thickness, "T", shall be 3½" minimum.
2. For details of detectable warning surfaces, see Revised Standard Plan RSP A88A.
3. Where an island passageway length is greater than or equal to 6'-0", but less than 8'-0", each detectable warning surface shall extend the full width and 2'-0" depth of the passageway length. Where an island passageway length is greater than or equal to 8'-0", each detectable warning surface shall extend the full width and 3'-0" depth of the passageway length. A 4'-0" wide detectable warning surface may be used on a 4'-2" wide island passageway.
4. The adjacent surfaces at transitions at curb ramps to walks, gutters, and streets shall be at the same level.
5. Utility pull boxes, manholes, vaults and all other utility facilities within the boundaries of the curb ramp will be relocated or adjusted to grade by the owner prior to, or in conjunction with, curb ramp construction.
6. Detectable warning surface may have to be cut to allow removal of utility covers while maintaining full detectable warning width and depth.
7. For additional curb ramp details, see Revised Standard Plan RSP A88A.

2010 REVISED STANDARD PLAN RSP A88B

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CURB RAMP AND ISLAND PASSAGEWAY DETAILS

NO SCALE

RSP A88B DATED JULY 15, 2016 SUPERSEDES RSP A88B DATED JULY 3, 2015, RSP A88B DATED MARCH 21, 2014 AND RSP A88B DATED JULY 19, 2013 AND STANDARD PLAN A88B DATED MAY 20, 2011 - PAGE 122 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A88B

3-29-16

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	112	167

Srikanth Balasubramanian
REGISTERED CIVIL ENGINEER

October 30, 2015
PLANS APPROVAL DATE

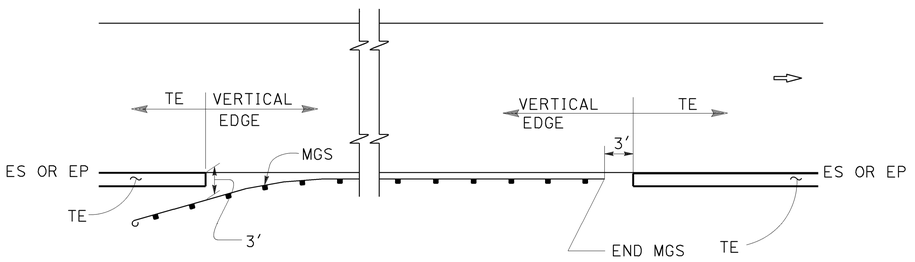
REGISTERED PROFESSIONAL ENGINEER
Srikanth N. Balasubramanian
No. C56426
Exp. 6-30-17
CIVIL
STATE OF CALIFORNIA

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.

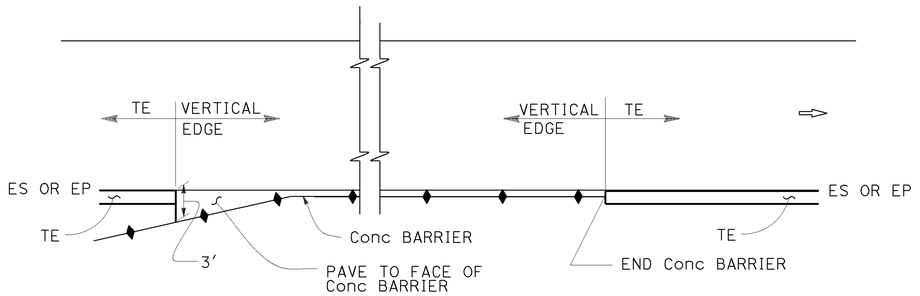
TO ACCOMPANY PLANS DATED 08-08-16

ABBREVIATIONS:

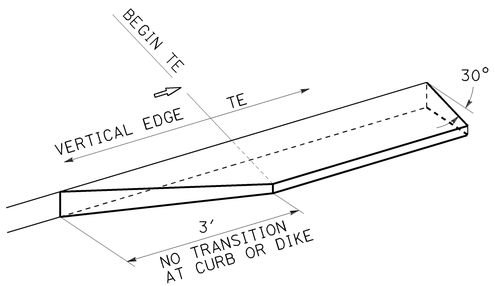
TE TAPERED EDGE



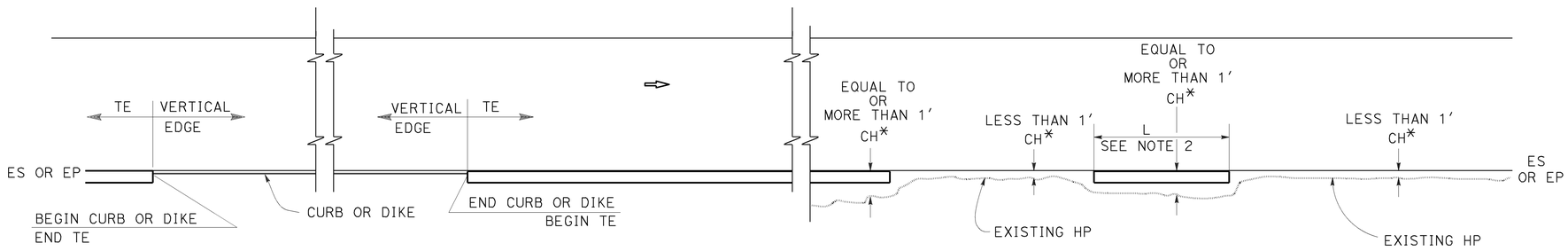
MGS



CONCRETE BARRIER



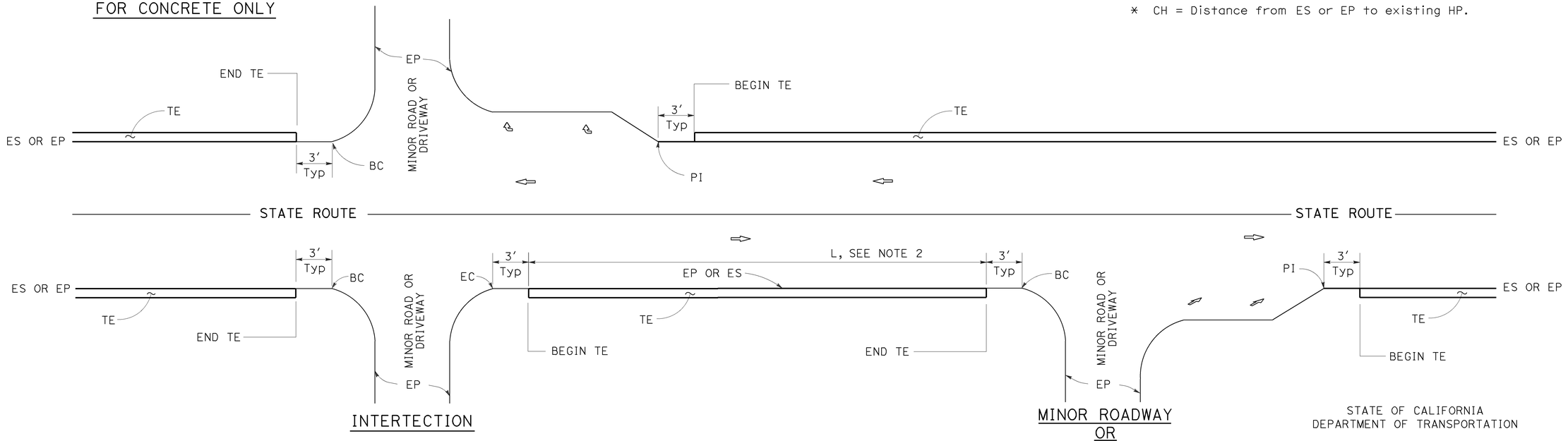
TRANSITION DETAIL FOR CONCRETE ONLY



CURB OR DIKE

NARROW SIDE SLOPE

* CH = Distance from ES or EP to existing HP.



INTERTECTION

DRIVEWAY AND INTERSECTION

MINOR ROADWAY OR DRIVEWAY

NOTES:

1. For details not shown, see Revised Standard Plans RSP P75 and RSP P76.
2. Tapered edge is optional when L is less than 30′.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT EDGE TREATMENTS

NO SCALE

RSP P74 DATED OCTOBER 30, 2015 SUPERSEDES RSP P74 DATED NOVEMBER 15, 2013 AND RSP P74 DATED JANUARY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P74

2010 REVISED STANDARD PLAN RSP P74

10-13-15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	113	167

Srikanth Balasubramanian
REGISTERED CIVIL ENGINEER

October 30, 2015
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Srikanth N. Balasubramanian
No. C56426
Exp. 6-30-17
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 08-08-16

LEGEND:

HMA PAVEMENT

HMA OR CONCRETE PAVEMENT

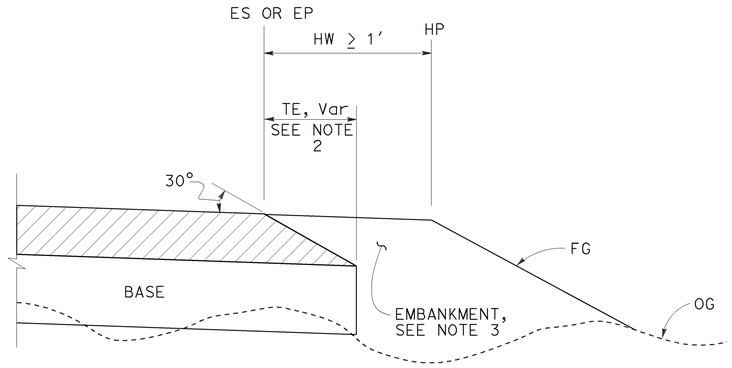
CONCRETE PAVEMENT

ABBREVIATIONS:

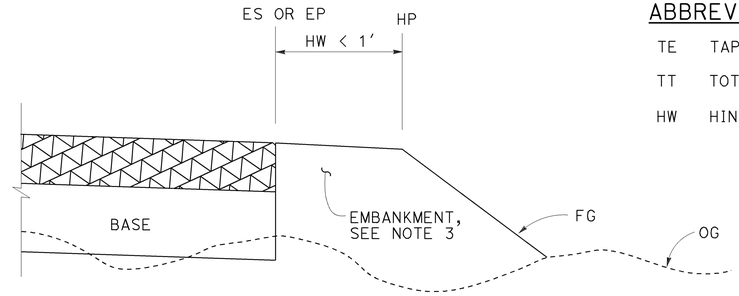
TE TAPERED EDGE

TT TOTAL THICKNESS OF TE

HW HINGE WIDTH, DISTANCE FROM ES OR EP TO HP

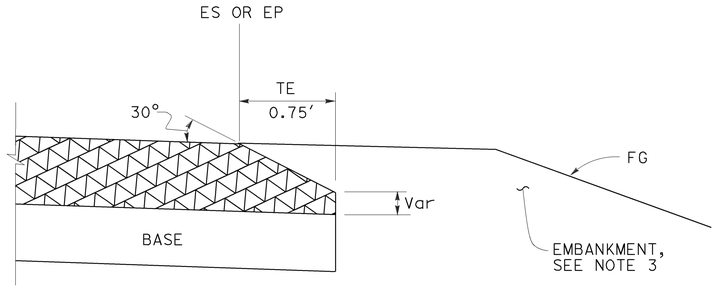


CASE K
Tapered Edge - Fill Section, HW ≥ 1′

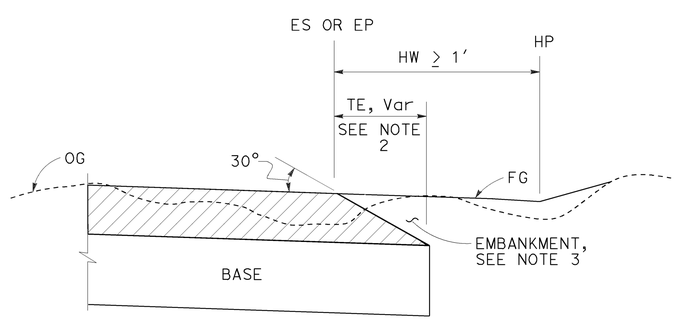


CASE L
Vertical Edge - Fill Section, HW < 1′

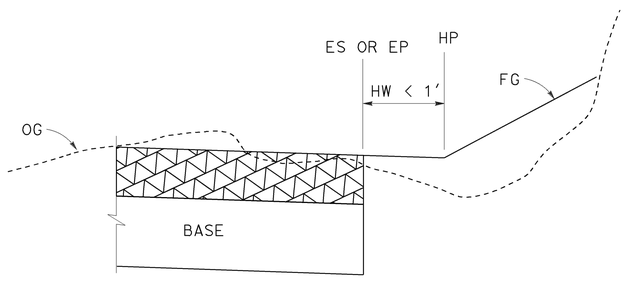
FILL SECTION



DETAIL "B"
For HMA pavement thickness
more than 0.43′ or concrete pavement

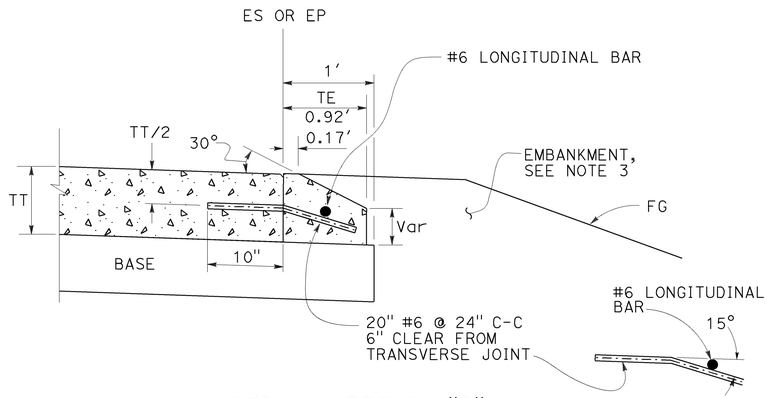


CASE M
Tapered Edge - Cut Section, HW ≥ 1′



CASE N
Vertical Edge - Cut Section, HW < 1′

CUT SECTION



OPTIONAL DETAIL "B"
For concrete pavement
See Note 4

NOTES:

1. For limits of tapered edge and vertical edge treatments, see Revised Standard Plan RSP P74
2. Details shown for HMA pavement thickness less than 0.43′. See Detail "B" for HMA pavement thickness more than 0.43′ or concrete pavement.
3. For locations and limits of embankment see project plans.
4. Tapered edge transverse joint must match pavement transverse joint. End of #6 longitudinal bar must be 2" ±½" clear from transverse joint.
5. Tapered edge is not needed in the area of MGS, barrier, right turn lane and acceleration lane. See Revised Standard Plan RSP P74.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT EDGE TREATMENTS- NEW CONSTRUCTION

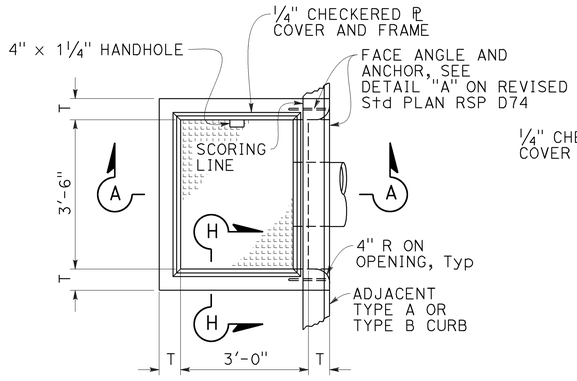
NO SCALE

RSP P76 DATED OCTOBER 30, 2015 SUPERSEDES RSP P76 DATED NOVEMBER 15, 2013 AND RSP P76 DATED JANUARY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P76

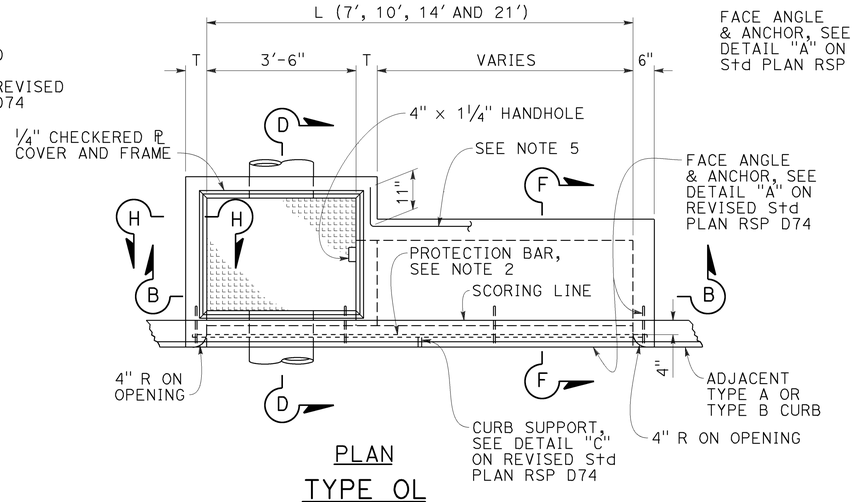
2010 REVISED STANDARD PLAN RSP P76

7-2-15



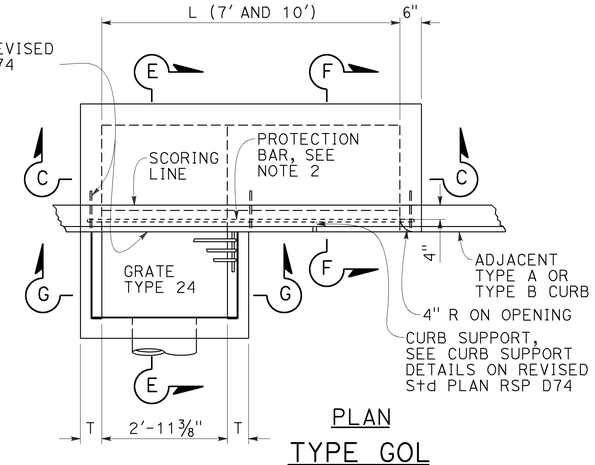
PLAN

TYPE OS



PLAN

TYPE OL



PLAN

TYPE GOL

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	114	167

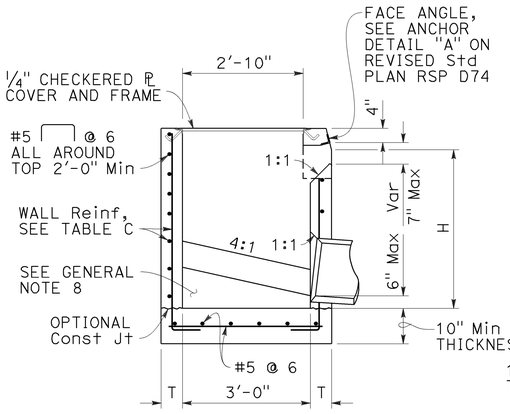
REGISTERED CIVIL ENGINEER

July 15, 2016
PLANS APPROVAL DATE

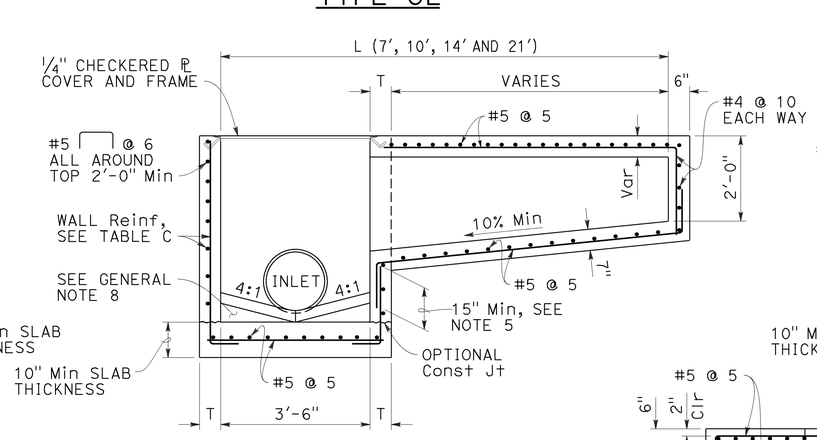
REGISTERED PROFESSIONAL ENGINEER — Carl M. Duan — No. C59976 — Exp. 6-30-18 — CIVIL — STATE OF CALIFORNIA

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.

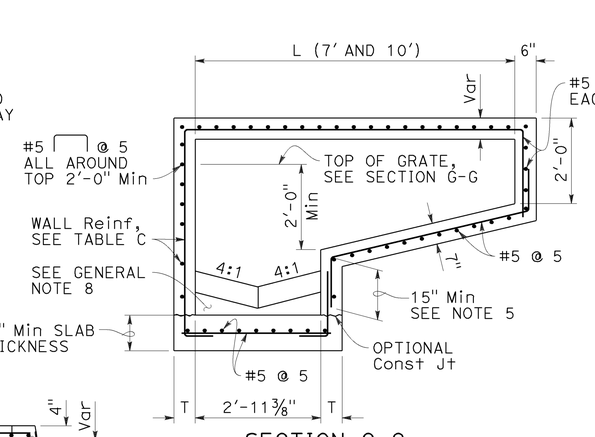
TO ACCOMPANY PLANS DATED 08-08-16



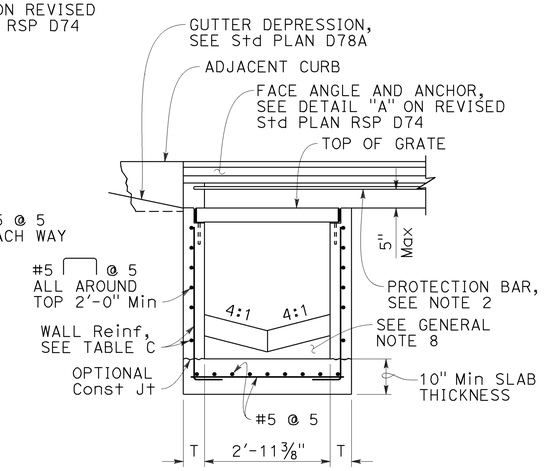
SECTION A-A



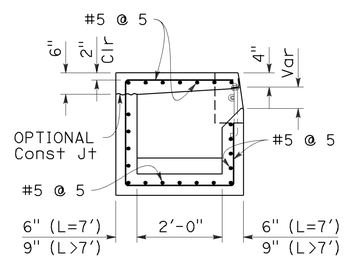
SECTION B-B



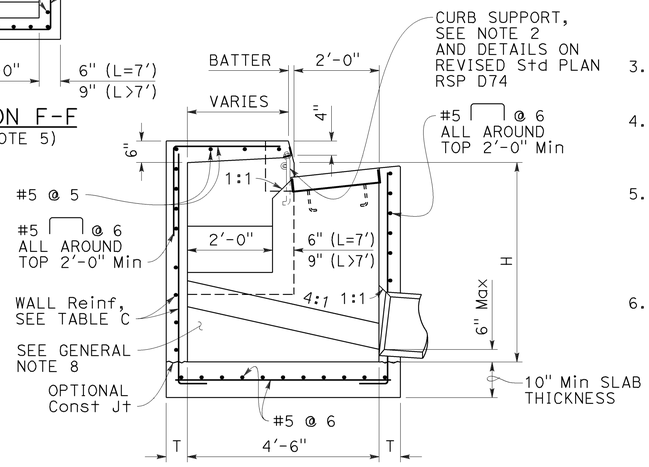
SECTION C-C



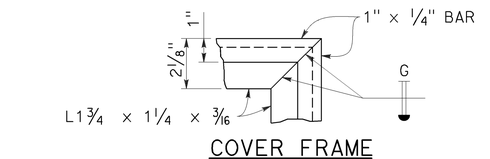
SECTION G-G



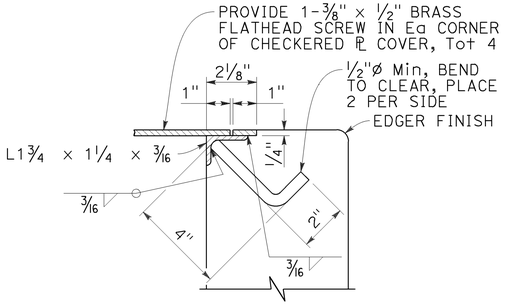
SECTION F-F
(SEE NOTE 5)



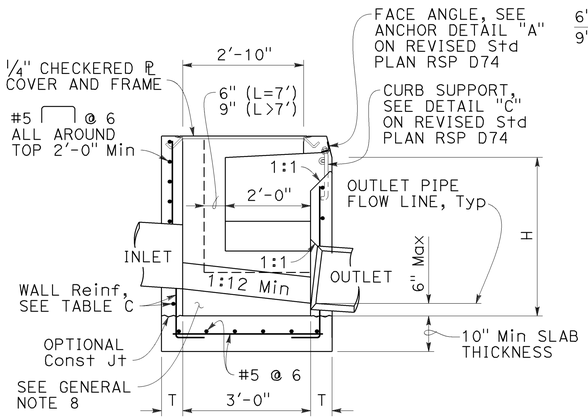
SECTION E-E



COVER FRAME
TYPICAL EACH CORNER
(CHECKERED PL COVER NOT SHOWN)



SECTION H-H



SECTION D-D

NOTES:

1. See Revised Standard Plan RSP D72F for General Notes and additional details. See Revised Standard Plan RSP D72G for tables, wall thickness "T" and quantities.
2. Where shown on the project plans, place a ¾"ø plain round protection bar horizontally across the length of the opening and bend back 4" into the inlet wall on each side.
3. Complete joint penetration butt welds may be substituted for the fillet welds on all anchors.
4. Standard square, hexagon, round or equivalent headed anchors may be substituted for the right angle hooks on the anchors shown on this plan.
5. Extend all horizontal bars from inlet extensions into adjacent concrete elements of main inlet box a minimum of 15". Where shown, bend horizontal bars into box. If necessary rotate bars to maintain 2" clear coverage.
6. Height of curb opening will vary with the type of curb and the depth of the local depression.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CIP DRAINAGE INLETS TYPES OS, OL AND GOL

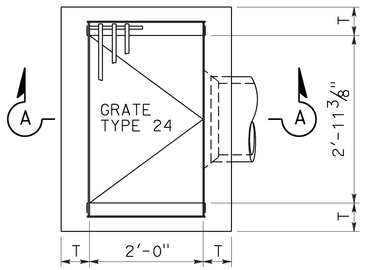
NO SCALE

RSP D72A DATED JULY 15, 2016 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP D72A

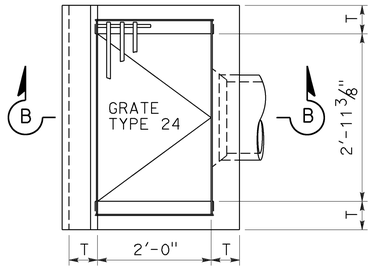
2010 REVISED STANDARD PLAN RSP D72A

6-28-16



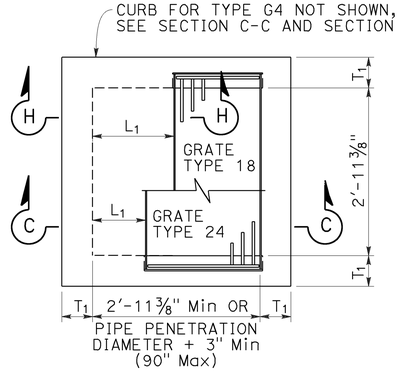
PLAN

TYPE G1



PLAN

TYPE G3

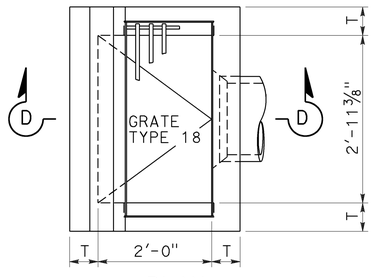


PLAN

STANDARD

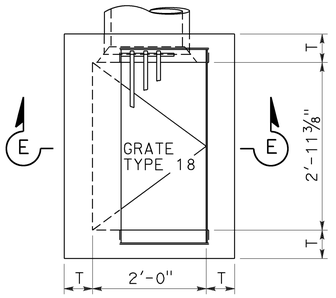
TYPE G2 OR G4

FOR "L_1", "L_2" AND "T_1" VALUES,
SEE "TABLE 1"



PLAN

TYPE G5



PLAN

TYPE G6

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	115	167

REGISTERED CIVIL ENGINEER

July 15, 2016

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Carl M. Duan
No. C59976
Exp. 6-30-18
CIVIL
STATE OF CALIFORNIA

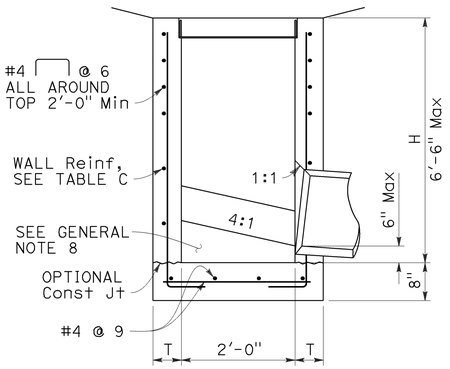
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 08-08-16

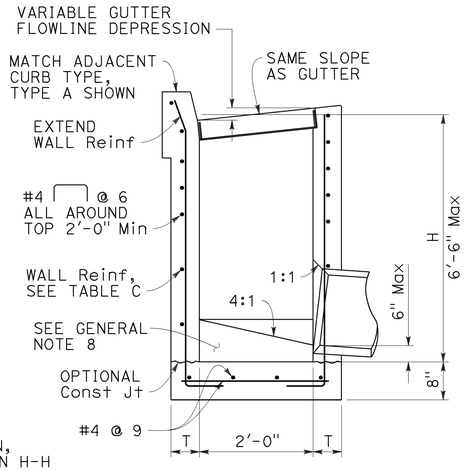
NOTE:

1. For notes and Table 2, See Revised Standard Plan RSP D72C.

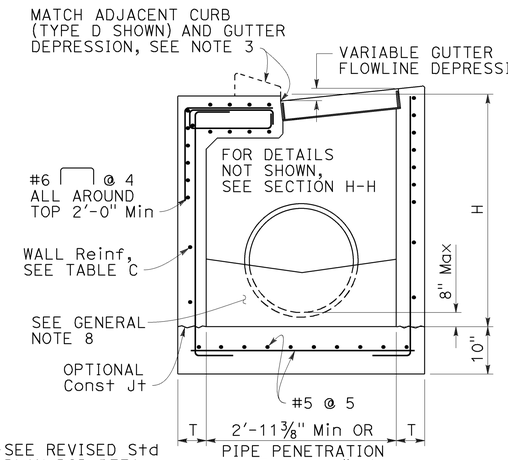
TABLE 1		
	T_1	Vert BARS
L_1 AND L_2 < 2'-10"	9"	#4 @ 12
L_1 OR L_2 > 2'-10"	12"	#5 @ 12



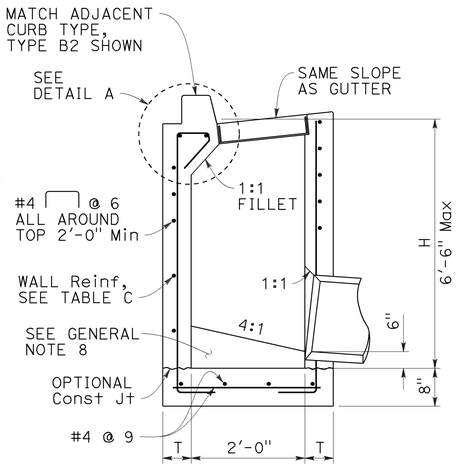
SECTION A-A



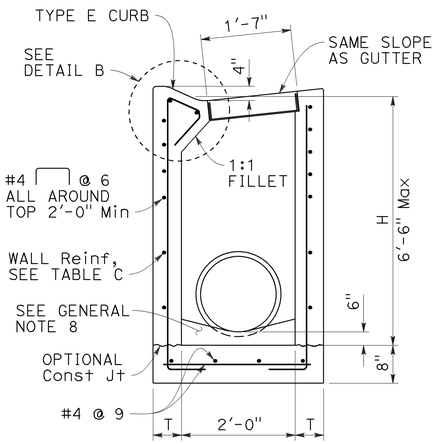
SECTION B-B



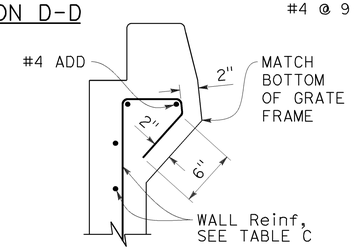
SECTION C-C



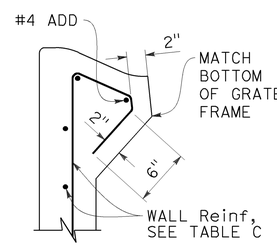
SECTION D-D



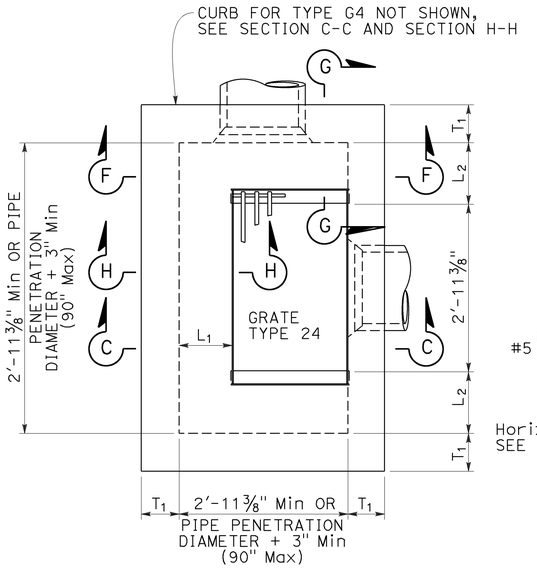
SECTION E-E



DETAIL A



DETAIL B

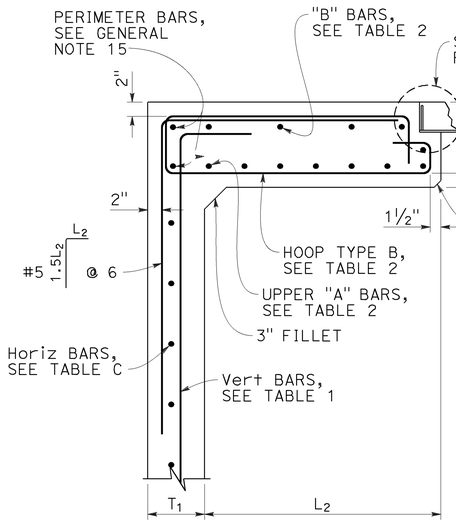


PLAN

EXPANDED

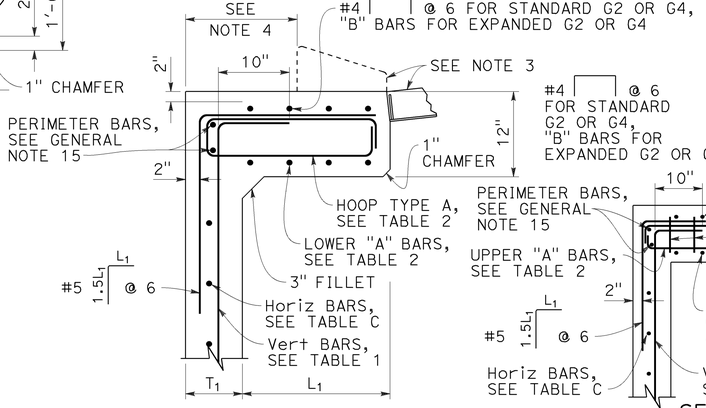
TYPE G2 OR G4

(INTEGRAL TOP ALTERNATIVE)
FOR "L" AND "T" VALUES, SEE TABLE 1



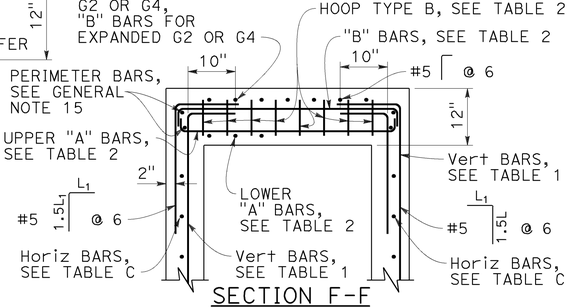
SECTION G-G

FOR "L_1", "L_2" AND "T_1" VALUES,
SEE "TABLE 1"



SECTION H-H

FOR "L_1", "L_2" AND "T_1" VALUES,
SEE "TABLE 1"



SECTION F-F

FOR "L_1", "L_2" AND "T_1" VALUES, SEE "TABLE 1"

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CIP DRAINAGE INLETS TYPES G1, G2, G3, G4, G5 AND G6

NO SCALE

RSP D72A DATED JULY 15, 2016 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP D72B

2010 REVISED STANDARD PLAN RSP D72B

6-20-16

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	116	167

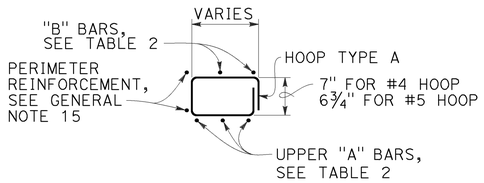
REGISTERED CIVIL ENGINEER

July 15, 2016
PLANS APPROVAL DATE

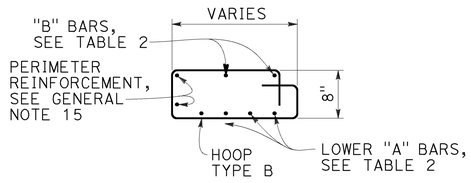
Carl M. Duan
No. C59976
Exp. 6-30-18
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

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 08-08-16



HOOP TYPE A

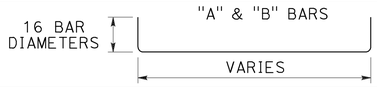


HOOP TYPE B

NOTES:

1. See Revised Standard Plan RSP D72F for General Notes and additional details. See Revised Standard Plan RSP D72G for tables and quantities.
2. Type G4 inlet can use Grate Type 18 or 24. Type G2 inlet uses Grate Type 24.
3. Type G4 inlet details are similar to Type G2 inlet details, except for the addition of a curb and sloped grate to match the adjacent curb and gutter depression.
4. Dimension will vary with different grates, curb types, box width and wall thickness.

TABLE 2 - TOP SLAB REINFORCEMENT



	W/ CURB	W/O CURB
"A" BARS	#4 @ 5 (2 BARS Min)	#5 @ 5 (3 BARS Min)
"B" BARS	#4 @ 10 (2 BARS Min)	#4 @ 12 (2 BARS Min)
HOOPS ("A" & "B")	#4 @ 5	#5 @ 5

ROTATE "A" AND "B" BARS SO HOOKED ENDS WILL MAINTAIN 2" CLEAR COVERAGE.

2010 REVISED STANDARD PLAN RSP D72C

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

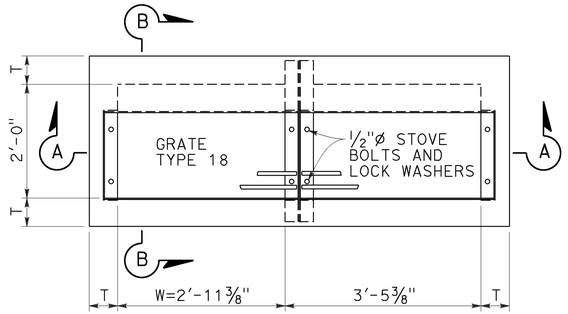
CIP DRAINAGE INLETS TYPES G1, G2, G3, G4, G5 AND G6

NO SCALE

RSP D72C DATED JULY 15, 2016 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

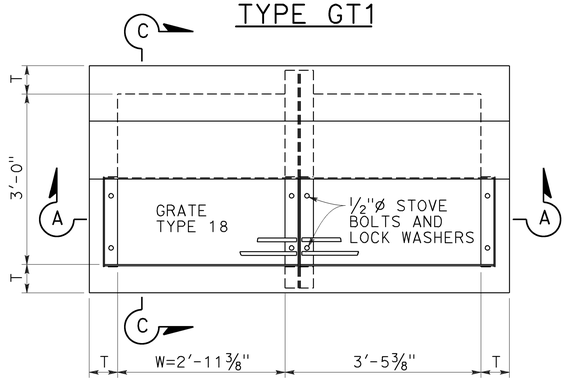
REVISED STANDARD PLAN RSP D72C

6-20-16



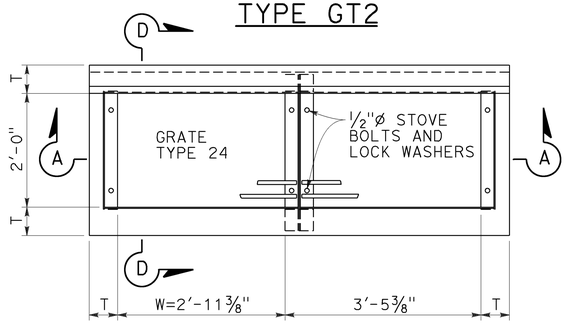
PLAN

TYPE GT1



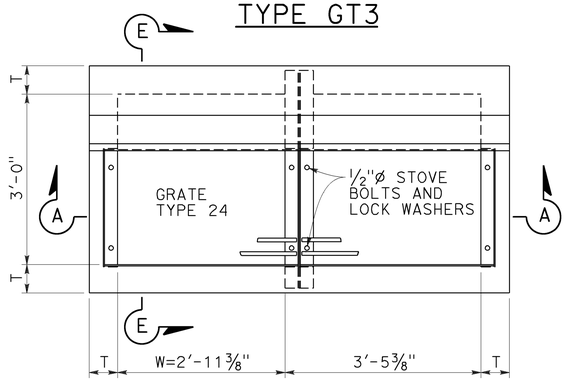
PLAN

TYPE GT2



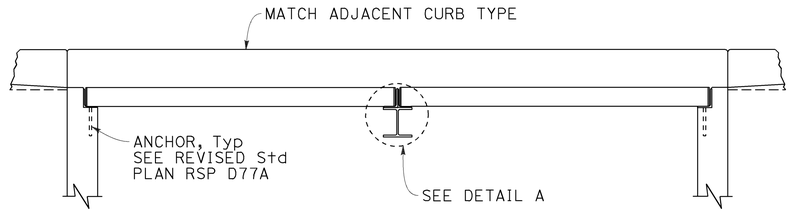
PLAN

TYPE GT3

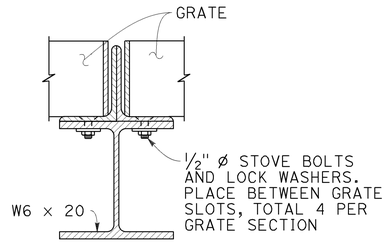


PLAN

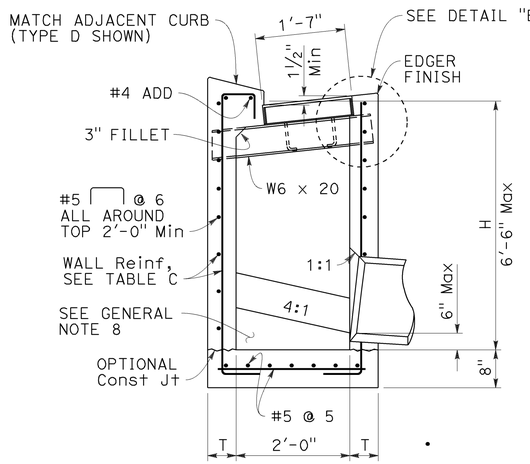
TYPE GT4



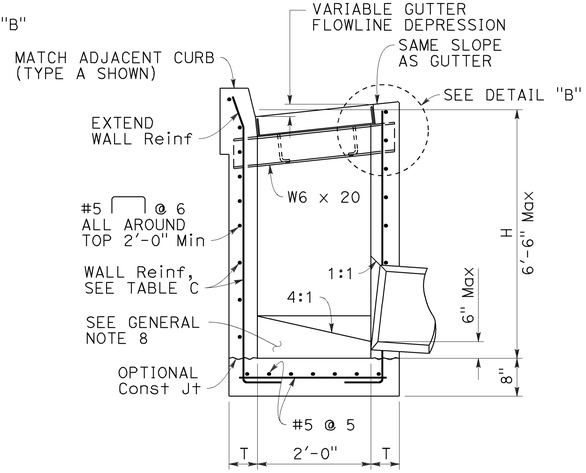
SECTION A-A



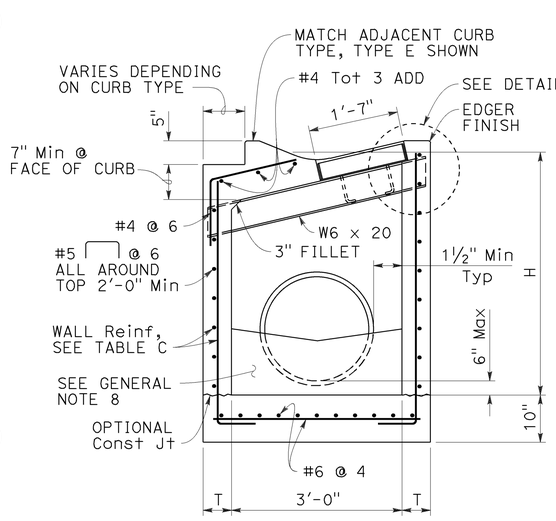
DETAIL A



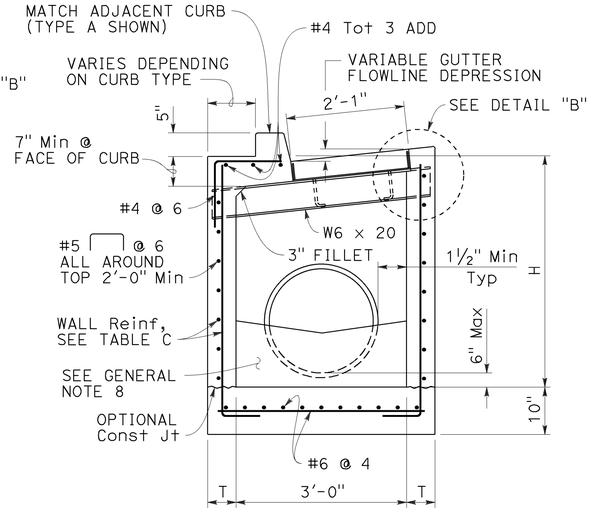
SECTION B-B



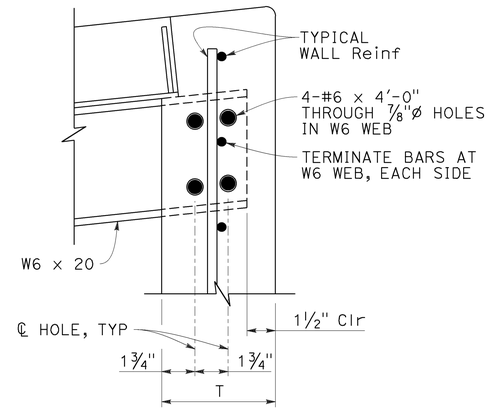
SECTION D-D



SECTION C-C



SECTION E-E



DETAIL "B"

(SIMILAR OPPOSITE END OF W6)

NOTES:

1. See Revised Standard Plan RSP D72F for General Notes and additional details. See Revised Standard Plan RSP D72G for tables, wall thickness "T" and quantities.
2. W=2'-11⅜" for one grate. Add 3'-5⅜" for additional grates in tandem.
3. Complete joint penetration butt welds may be substituted for the fillet welds on all anchors.
4. Standard square, hexagon, round or equivalent headed anchors may be substituted for the right angle hooks on the anchors shown on this plan.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	117	167

REGISTERED CIVIL ENGINEER

July 15, 2016

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Carl M. Duan
No. C59976
Exp. 6-30-18
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 08-08-16

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CIP DRAINAGE INLETS TYPES GT1, GT2, GT3 AND GT4

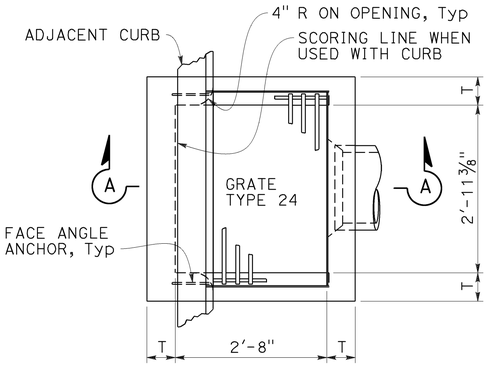
NO SCALE

RSP D72D DATED JULY 15, 2016 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

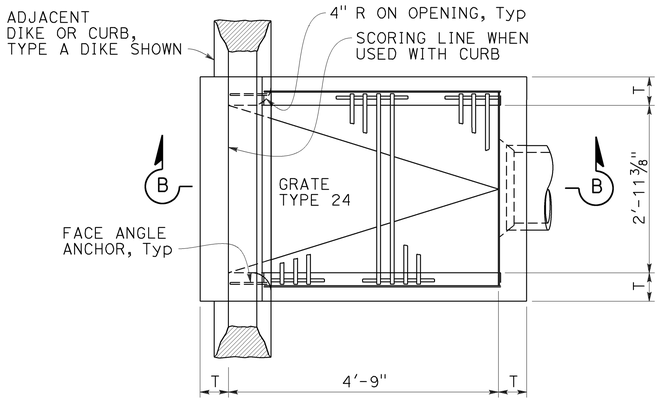
REVISED STANDARD PLAN RSP D72D

2010 REVISED STANDARD PLAN RSP D72D

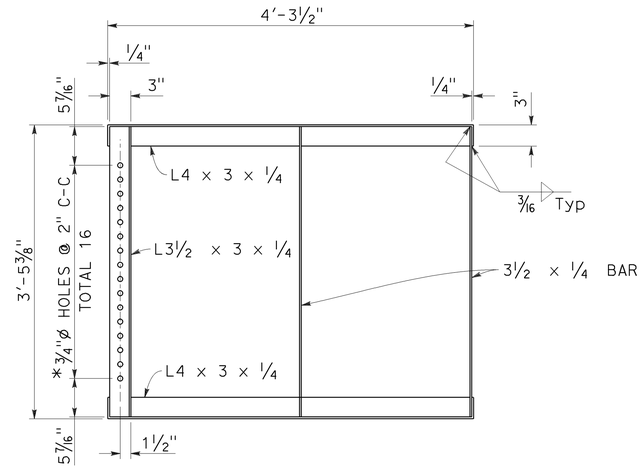
6-20-16



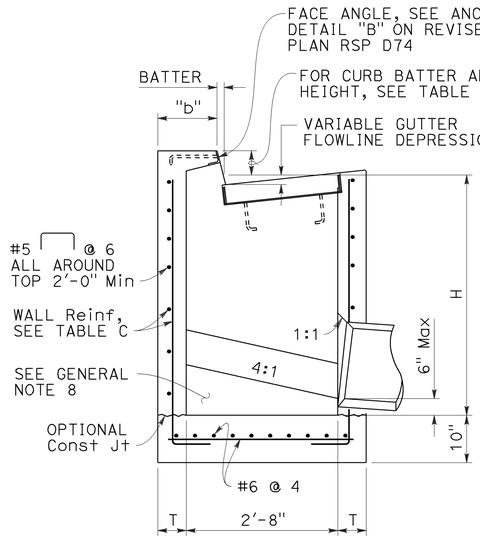
PLAN
TYPE GO



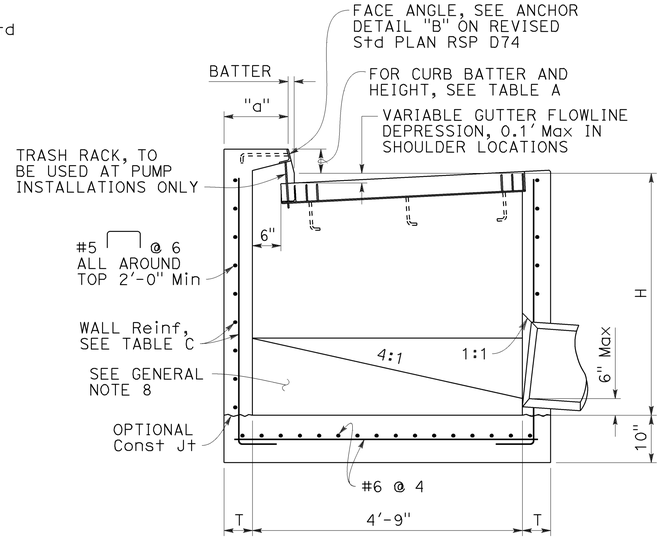
PLAN
TYPE GDO



GRATE FRAME FOR TYPE GDO INLET
* HOLES REQUIRED ONLY WITH TRASH RACK



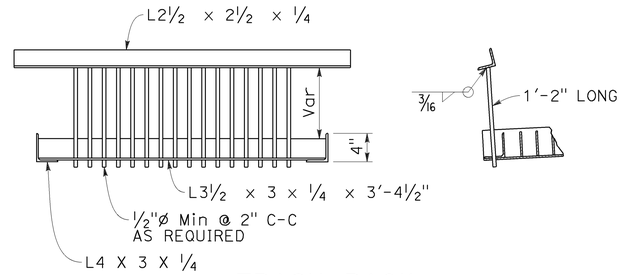
SECTION A-A



SECTION B-B

TABLE A				
CURB TYPE	NORMAL CURB HEIGHT	CURB BATTER	"a" DIMENSION	"b" DIMENSION
A1-6	6"	1½"	T+7½"	T+6½"
A1-8	8"	2"	T+7"	T+6"
B1-6	6"	4"	T+5"	T+4"
TYPE A DIKE	6"	3"	T+6"	T+5"

Height of curb opening will vary with the type of curb and the depth of the local depression.



TRASH RACK
(FOR USE WITH PUMP INSTALLATION)

NOTES:

1. See Revised Standard Plan RSP D72F for General Notes and additional details. See Revised Standard Plan RSP D72G for tables, wall thickness "T" and quantities.
2. Where shown on the project plans, place a ¾"ø plain round protection bar horizontally across the length of the opening and bend back 4" into the inlet wall on each side.
3. Complete joint penetration butt welds may be substituted for the fillet welds on all anchors.
4. Standard square, hexagon, round or equivalent headed anchors may be substituted for the right angle hooks on the anchors shown on this plan.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	118	167

REGISTERED CIVIL ENGINEER

July 15, 2016
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Carl M. Duan
No. C59976
Exp. 6-30-18
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 08-08-16

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CIP DRAINAGE INLETS TYPES GO AND GDO

NO SCALE

RSP D72E DATED JULY 15, 2016 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP D72E

2010 REVISED STANDARD PLAN RSP D72E

6-20-16

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	119	167

REGISTERED CIVIL ENGINEER

July 15, 2016
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Carl M. Duan — No. C59976 — Exp. 6-30-18 — CIVIL — STATE OF CALIFORNIA

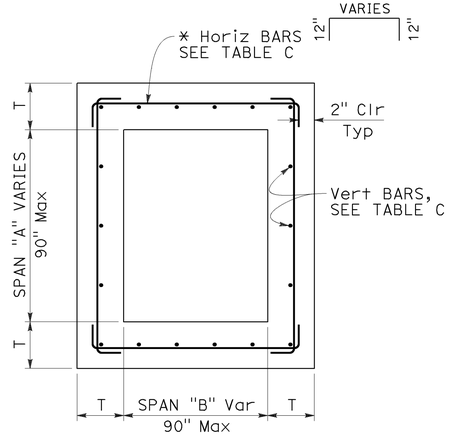
TO ACCOMPANY PLANS DATED 08-08-16

GENERAL NOTES:

1. "H" is measured from top of bottom slab to the normal gutter grade line undepressed at the curb face.
2. For "T" wall thickness and reinforcement, see Table C on Revised Standard Plan RSP D72G.
3. Wall reinforcement must be placed in the center of the wall thickness with horizontal bars placed on the exterior face. Bottom slab concrete cover must be 3" clear on the interior face unless otherwise noted. Top slab concrete cover must be 2" clear on the exterior face unless otherwise noted. Reinforcement spacing is in inches unless otherwise noted.
4. Steps - None required where "H" is less than 2'-6". Where "H" is 2'-6" or more, install steps with lowest rung 1'-0" above the floor and highest rung not more than 6" below bottom of lid. The distance between steps must not exceed 1'-0" and be uniform throughout the length of the wall. Place steps in the wall without an opening. Steps inserts may be substituted for the bar steps. Step inserts must comply with State Industrial Safety Requirements. See Revised Standard Plan RSP D74 for step details.
5. Pipe(s) can be placed in any wall. Adjacent to each side of the opening, place additional reinforcement equivalent to half the interupted main reinforcement. For larger pipes greater than or equal to 42" diameter, also add 4 diagonal bars, 1 bar each side. Bars must be the same size as the larger of the main vertical or horizontal bars. Extend bars one development length past the intersection with the adjacent diagonal bar, or where bars intersect mid thickness of adjacent wall bottom or top of non-continuous wall, bend ends as required into same plane.
6. Set inlet so that grate bars are parallel to direction of principal surface flow.
7. Curb section must match adjacent curb.
8. Except for inlets used as junction boxes, basin floors must have wood trowel finish and a minimum slope of 4:1, unless otherwise noted, from all directions toward outlet pipe by casting grout fill on top of the bottom slab. The additional volume to achieve the 4:1 slope may also be achieved by casting the bottom slab and fill as a composite concrete element.
9. See Revised Standard Plans RSP D77A and RSP D77B for grate and frame details and weights of miscellaneous iron and steel.
10. See Standard Plans D78A and D78B for gutter depression details.
11. See Revised Standard Plans RSP A87A and RSP A87B for curb and dike details.
12. Details shown apply to metal, concrete and plastic pipe(s).
13. The Contractor may use WWR instead of bar reinforcement. The ratio of bar reinforcement to WWR shall be based on the yield strength ratio.
14. Cast-in-place (CIP) inlets to be formed around all pipes/stubs intersecting the inlet, and concrete poured in one continuous operation.
15. Perimeter reinforcement must not be smaller than main bars and #4 and serves as a rigid frame to position and attach the required structural reinforcement and may be tack welded at outer corners when using ASTM A706 weldable bars.

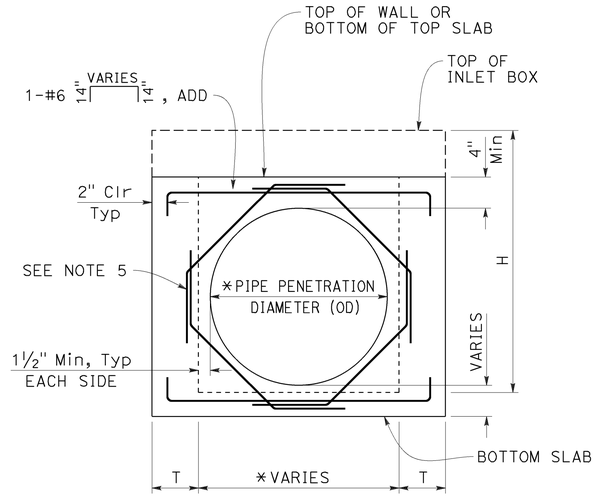
DESIGN NOTES:

1. Design Specifications: AASHTO LRFD Bridge Design Specifications, 6th edition with 2012 Interims and Errata and CA Amendments.
2. Live Load (AASHTO LRFD 3.6.1.2):
   HL-93, consists of design truck or tandem, and design lane load.
   Dynamic Load Allowance, IM = 33%
   Multiple Presence Factor, m = 1.0
   Design lane load was excluded in Top Slab design.
   A wheel load of 8 kips without impact factor was used for top slabs that are above a curb.
3. Earth Load:
   Vertical pressure = 140 pcf
   Lateral pressure:
   = 100 pcf for walls with flat embankment
   = 140 pcf For walls with slope embankment, 1.5:1 Max
4. Downdrag: ϕ = 34°and γ_E = 120 pcf.
5. Buoyancy: γ_W = 62.4 pcf to finished grade
6. Reinforced Concrete: f'c = 3.6 ksi, fy = 60.0 ksi.
7. Soil pressures shown are factored per AASHTO LRFD and include self-weight, live load and downdrag.



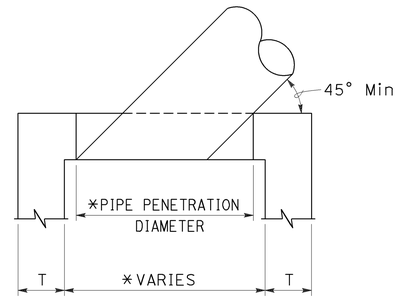
TYPICAL INLET PLAN

* ALTERNATIVE HORIZONTAL BARS



TYPICAL WALL W/ PIPE OPENING

* SEE "SKEWED PIPE PLAN"



SKEWED PIPE PLAN

* ADJUST PIPE PENETRATION AND BOX WIDTH FOR SKEWED PIPES.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CIP DRAINAGE INLET NOTES

NO SCALE

RSP D72F DATED JULY 15, 2016 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP D72F

2010 REVISED STANDARD PLAN RSP D72F

6-20-16

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	120	167

REGISTERED CIVIL ENGINEER

July 15, 2016
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Carl M. Duan
No. C59976
Exp. 6-30-18
CIVIL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 08-08-16

TABLE A - CONCRETE QUANTITIES

TYPE	H=3'-0" TO 8'-0"		H=8'-1" TO 20'-0"	
	H=3'-0" (CY)	ADDITIONAL CONCRETE PER FOOT (CY)	H=8'-1" (CY)	ADDITIONAL CONCRETE PER FOOT (CY)
G1	0.95	0.220	SEE NOTE 2	SEE NOTE 2
G2*	2.00	0.411	5.11	0.525
G3	1.03	0.220	SEE NOTE 2	SEE NOTE 2
G4 (TYPE 18)*	2.02	0.411	5.14	0.525
G4 (TYPE 24)*	1.99	0.411	5.10	0.525
G5	1.02	0.220	SEE NOTE 2	SEE NOTE 2
G6	1.04	0.220	SEE NOTE 2	SEE NOTE 2
OS	1.53	0.278	5.08	0.504
OL7	2.06	0.278	6.17	0.566
OL10	2.85	0.278	6.85	0.566
OL14	3.81	0.278	7.78	0.566
OL21	5.71	0.278	9.62	0.566
GOL7	2.48	0.313	6.89	0.630
GOL10	3.41	0.313	7.85	0.630
GT1	1.72	0.248	SEE NOTE 2	SEE NOTE 2
GT2	2.93	0.530	7.73	0.762
GT3	1.74	0.348	SEE NOTE 2	SEE NOTE 2
GT4	2.83	0.530	7.62	0.762
GO	1.26	0.245	4.90	0.506
GDO	1.74	0.322	6.33	0.647

* Quantities are based on the minimum interior dimensions.

TABLE B - REINFORCEMENT QUANTITIES

TYPE	H=3'-0" TO 8'-0"		H=8'-1" TO 20'-0"	
	H=3'-0" (LB)	ADDITIONAL REINFORCEMENT PER FOOT (LB)	H=8'-1" (LB)	ADDITIONAL REINFORCEMENT PER FOOT (LB)
G1	118	22.20	SEE NOTE 2	SEE NOTE 2
G2*	729	86.48	1794	171.79
G3	118	22.20	SEE NOTE 2	SEE NOTE 2
G4 (TYPE 18)*	647	86.48	1675	171.79
G4 (TYPE 24)*	647	86.48	1675	171.79
G5	118	22.20	SEE NOTE 2	SEE NOTE 2
G6	118	22.20	SEE NOTE 2	SEE NOTE 2
OS	245	49.88	1057	120.77
OL7	458	50.53	1324	126.75
OL10	729	50.53	1595	126.75
OL14	982	50.53	1849	126.75
OL21	1453	50.53	2320	126.75
GOL7	644	83.57	1969	148.79
GOL10	883	83.57	2208	148.79
GT1	486	96.91	SEE NOTE 2	SEE NOTE 2
GT2	1040	117.08	2543	233.37
GT3	486	96.91	SEE NOTE 2	SEE NOTE 2
GT4	1001	117.08	2556	237.88
GO	308	32.44	1013	96.56
GDO	519	57.09	1654	165.66

* Quantities are based on the minimum interior dimensions.

TABLE D

INLET	CURB USED IN QUANTITIES
G1	-
G2	-
G3	A1-6
G4 (Type 18)	A1-6
G4 (Type 24)	A1-6
G5	B1-4
G6	½E
OS	-
OL7	-
OL10	-
OL14	-
OL21	-
GOL7	-
GOL10	-
GT1	D-6
GT2	E
GT3	A2-8
GT4	A2-8
GO	-
GDO	-

TABLE C - WALL REINFORCEMENT

TYPE	H≤8 (T=6",UON)		8<H≤20 (T=11",UON)	
	HORIZ	VERTICAL	HORIZ	VERTICAL
OS	#4 @ 8	#4 @ 6	#5 @ 6	#6 @ 4.5
OL	#4 @ 6	#4 @ 6	#5 @ 6	#6 @ 4.5
GOL	#5 @ 6	#5 @ 8	#6 @ 5	#6 @ 4.5
G1 (H≤6-6")	#3 @ 6	#3 @ 6	-	-
G2	T=9" #5 @ 5	#5 @ 5	T=11" #6 @ 4	#6 @ 4.5
G3 (H≤6-6")	#3 @ 6	#3 @ 6	-	-
G4	T=9" #5 @ 5	#5 @ 5	T=11" #6 @ 4	#6 @ 4.5
G5 (H≤6-6")	#3 @ 6	#3 @ 6	-	-
G6 (H≤6-6")	#3 @ 6	#3 @ 6	-	-
GT1 (H≤6-6")	#5 @ 6	#5 @ 6	-	-
GT2	T=8" #5 @ 6	#5 @ 6	#6 @ 4	#6 @ 4.5
GT3 (H≤6-6")	#5 @ 6	#5 @ 6	-	-
GT4	T=8" #5 @ 6	#5 @ 6	#6 @ 4	#6 @ 4.5
GO	#4 @ 9	#4 @ 6	#4 @ 6	#6 @ 4.5
GDO	#4 @ 6	#4 @ 6	#5 @ 4	#6 @ 4.5

TABLE E

SOIL PRESSURE BELOW BASE SLAB (ksf)		
TYPE	H=8'-0"	8'-0"< H ≤20'-0"
OS	2.93	5.56
OL*	2.93	5.56
GOL*	2.50	5.06
G1	3.67	-
G2	2.99	5.91
G3	3.67	-
G4	2.99	5.91
G5	3.67	-
G6	3.67	-
GT1	3.66	-
GT2	3.91	6.07
GT3	3.86	-
GT4	3.91	6.07
GO	3.42	6.11
GDO	2.52	6.95

* Main Box

NOTES:

1. No deduction or adjustment was made to the quantities of concrete and reinforcement for pipe openings, floor alternatives or curb type.
2. Maximum allowable height is 6'-6".
3. Quantities are approximate and for design purposes only.
4. Design is based on envelope of level and sloped ground.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CIP DRAINAGE INLET TABLES

NO SCALE

RSP D72G DATED JULY 15, 2016 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP D72G

2010 REVISED STANDARD PLAN RSP D72G

6-20-16

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	121	167

REGISTERED CIVIL ENGINEER

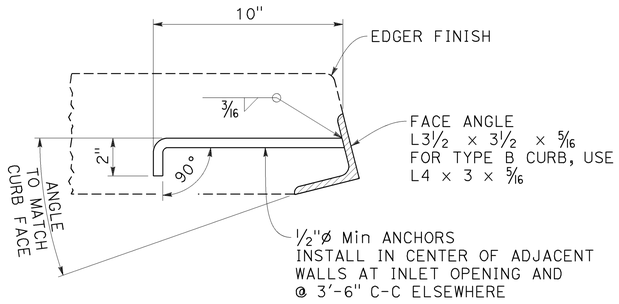
July 15, 2016
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Carl M. Duan
No. C59976
Exp. 6-30-18
CIVIL
STATE OF CALIFORNIA

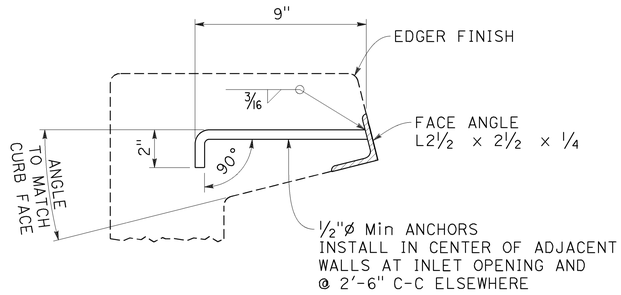
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 08-08-16

FACE ANGLE DETAIL "A"	
LENGTH OF CURB OPENING	No. OF ANCHORS
3'-6" OR LESS	2
7'-0"	3
10'-0"	4
14'-0"	5
21'-0"	7



DETAIL "A"

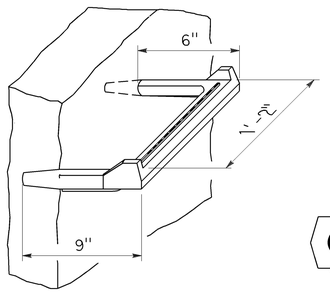


DETAIL "B"

FACE ANGLE AND ANCHOR

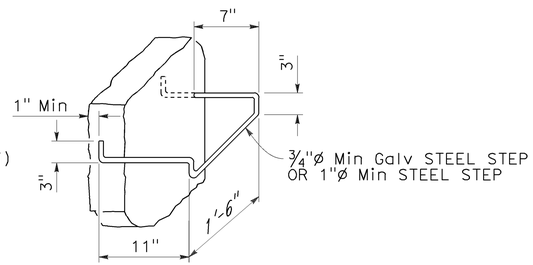
NOTE:

1. When shown on the project plans, place a ¾"ø plain round protection bar horizontally across the length of the opening and bend back 4" into the inlet wall on each side.



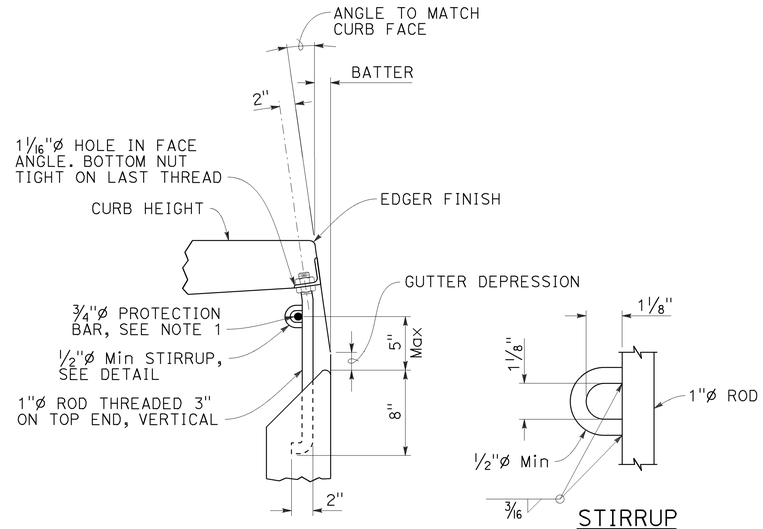
STEP INSERT

TYPICAL SECTION
(STEP INSERT)



BAR STEP

STEP DETAILS

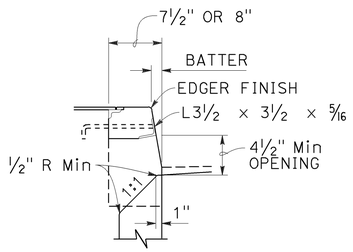


DETAIL "C"

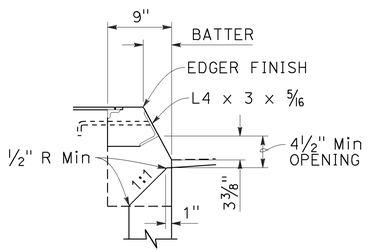
STIRRUP

CURB SUPPORT

CURB SUPPORTS SHALL BE EVENLY SPACED AND MINIMAL IN NUMBER SUCH THAT MAXIMUM SPAN OF UNSUPPORTED CURB IS 7'-0".



TYPE A CURBS



TYPE B CURBS

CURB OPENING DETAILS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DRAINAGE INLET DETAILS

NO SCALE

RSP D74 DATED JULY 15, 2016 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP D74

2010 REVISED STANDARD PLAN RSP D74

6-20-16

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	122	167

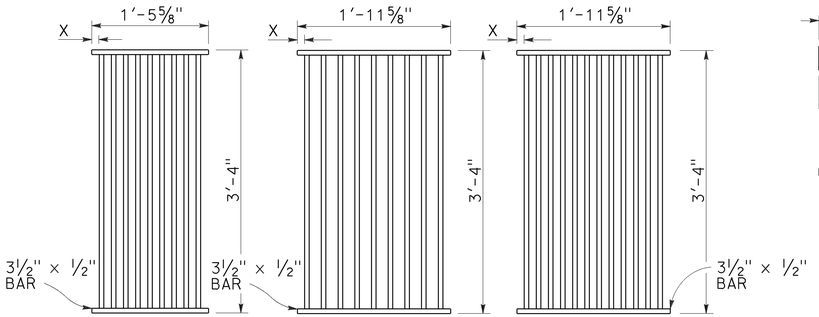
Raymond Don Tsztoo
REGISTERED CIVIL ENGINEER

April 19, 2013
PLANS APPROVAL DATE

Raymond Don Tsztoo No. C37332 Exp. 6-30-14 CIVIL — REGISTERED PROFESSIONAL ENGINEER — 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 08-08-16

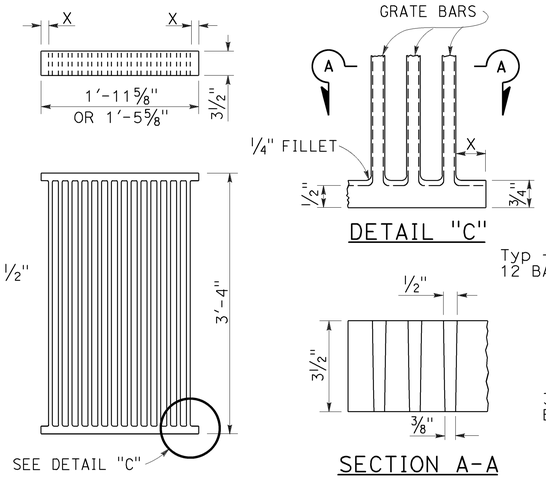


TYPE 18-9
1⅜" Clear spacing. Use within the roadbed on highways where bicycles and pedestrians are excluded.

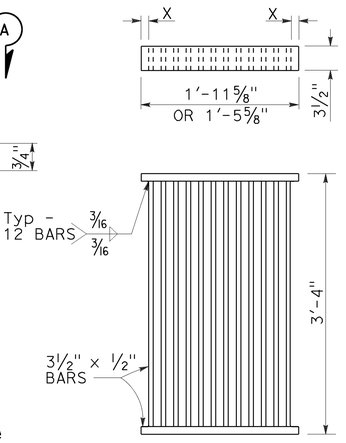
TYPE 24-9
2" Clear spacing. Use in locations off the roadbed on all types of highways.

TYPE 24-12
1⅜" Clear spacing. Use within the roadbed on highways where bicycles and pedestrians are excluded.

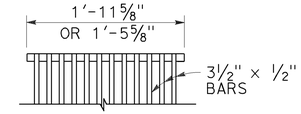
RECTANGULAR GRATE DETAILS
(See table below)



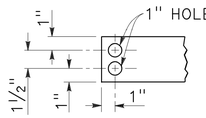
ALTERNATIVE CAST DUCTILE IRON GRATE OR CAST CARBON STEEL GRATE



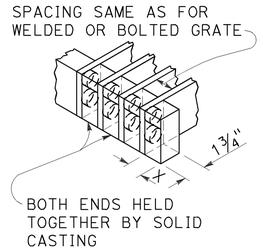
ALTERNATIVE WELDED GRATE



CAST END BLOCK



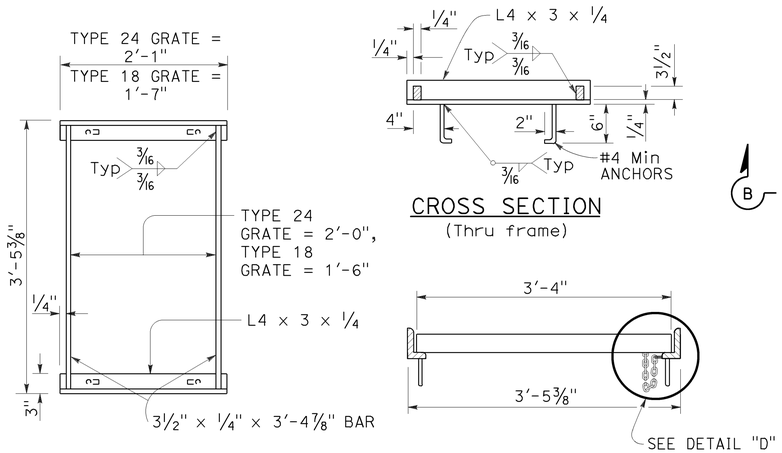
END OF BAR



ALTERNATIVE CAST DUCTILE IRON OR CAST CARBON STEEL END BLOCK GRATE

NOTES:

1. Grate type numbers refer to approximate width of grate in inches and number of bars, respectively.
2. Contractor has the option of using cast ductile iron, cast carbon steel, welded, bolted, or cast end block grate.
3. Rounded top of bars optional on all grates.
4. Pipe inlets with a grate shall be placed so that bars parallel direction of principle surface flow.
5. Complete joint penetration butt welds may be substituted for the fillet welds on all anchors.
6. Standard square, hexagon, round or equivalent headed anchors may be substituted for the right angle hooks on the anchors shown on this plan.
7. Grate and frame weights are based on welded grates (weights of face angles, steps, protection bars, etc. are not included).
8. Connect chain to grate and frame only at locations shown on the plans. When chain is required, do not use cast ductile iron grates.

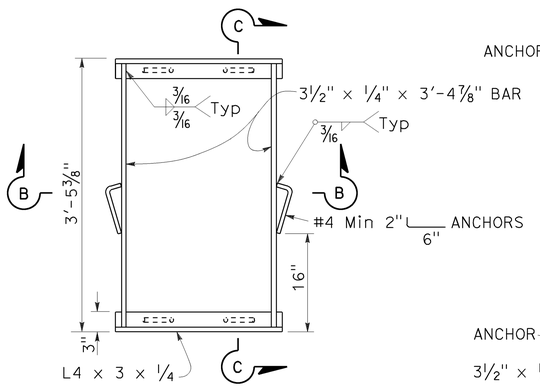


TYPICAL FRAME

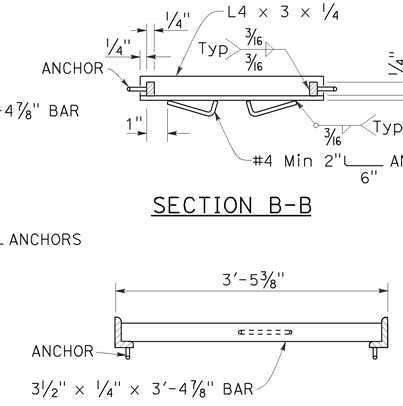
CROSS SECTION
(Thru frame)

LONGITUDINAL SECTION
(Thru frame and grate)

RECTANGULAR FRAME DETAILS
(For all rectangular grates)



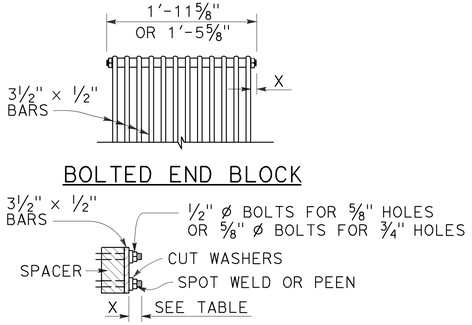
TYPICAL FRAME



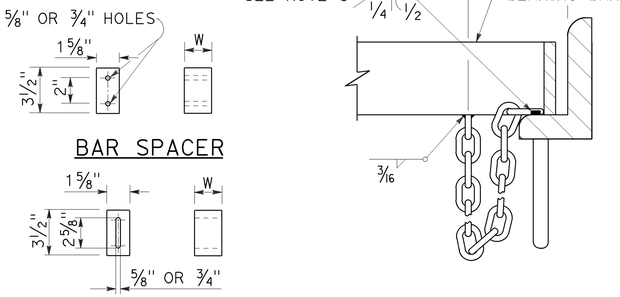
SECTION B-B

SECTION C-C

ALTERNATIVE ANCHOR FOR RECTANGULAR FRAME
(For details not shown, See Rectangular Frame Details)



ALTERNATIVE BOLTED GRATE



GRATE BAR SPACING TABLE

TYPE	No. OF BARS	CLEAR BAR SPACING	X
18-9	9	1⅜"	1 1/16"
24-9	9	2"	1 9/16"
24-12	12	1⅜"	1¼"

INLET TYPE	COVER TYPE	WEIGHT LB
OS	PLATE	174
OL-7	PLATE	170
OL-10	PLATE	170
OL-14	PLATE	170
OL-21	PLATE	170
OCP	PLATE	112
OCPI	PLATE	112
OCPI	REDWOOD	42
OMP	PLATE	177
OMPI	PLATE	177

INLET TYPE	GRATE TYPE	No. OF GRATES	WEIGHT LB
GDO	24-12	2	634
GOL-7	24-12	1	326
GOL-10	24-12	1	326
GO,G1,G2,G3,G4 (TYPE 24)	24-9	1	263
	24-12	1	326
G4 (TYPE 18),G5,G6	18-9	1	249
GT1	18-9	2	498
GT2	18-9	2	498
GT3	24-12	2	652
GT4	24-12	2	652
TRASH RACK			22
GRATE CHAIN			3

BASIS FOR Misc IRON & STEEL FINAL PAY WEIGHTS FOR DRAINAGE INLETS
(See Note 7)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

GRATE DETAILS No. 1

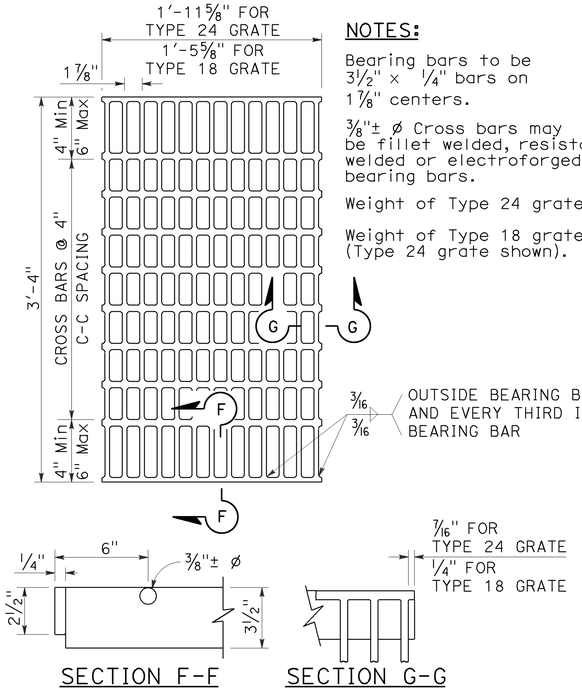
NO SCALE

RSP D77A DATED APRIL 19, 2013 SUPERSEDES RSP D77A DATED JULY 20, 2012 AND STANDARD PLAN D77A DATED MAY 20, 2011 - PAGE 164 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP D77A

2010 REVISED STANDARD RSP D77A

4-4-13



SECTION F-F SECTION G-G

TYPE 18-10 AND 24-13 GRATE

(Welded Steel)

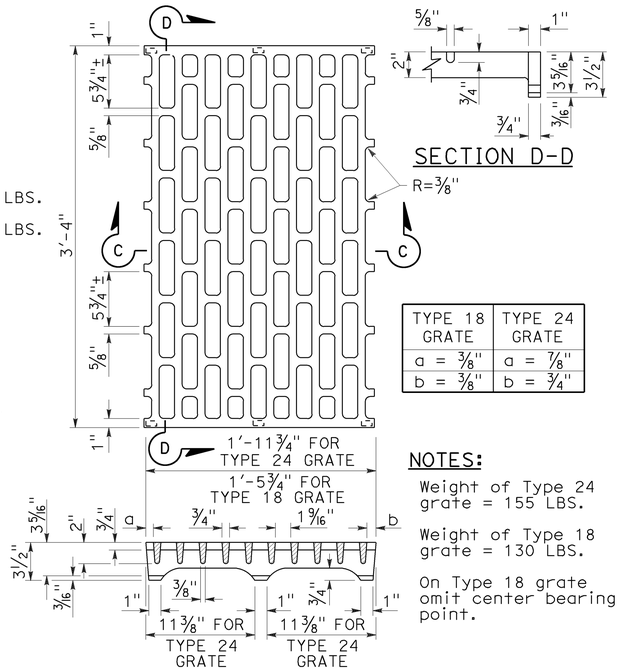
NOTES:

Bearing bars to be 3½" × ¼" bars on 1⅞" centers.

⅜"± ø Cross bars may be fillet welded, resistance welded or electroforged to bearing bars.

Weight of Type 24 grate = 141 LBS.

Weight of Type 18 grate = 107 LBS. (Type 24 grate shown).



SECTION C-C

SECTION D-D

TYPE 18 GRATE	TYPE 24 GRATE
a = ⅜"	a = ⅞"
b = ¾"	b = ¾"

NOTES:

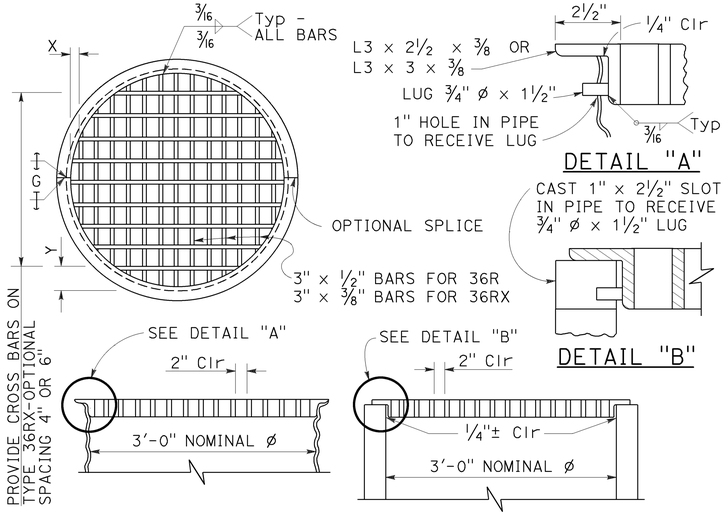
Weight of Type 24 grate = 155 LBS.

Weight of Type 18 grate = 130 LBS.

On Type 18 grate omit center bearing point.

TYPE 18-8C AND 24-10C GRATE

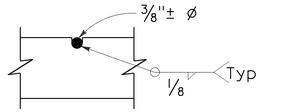
(Cast ductile iron)



DETAIL "A"

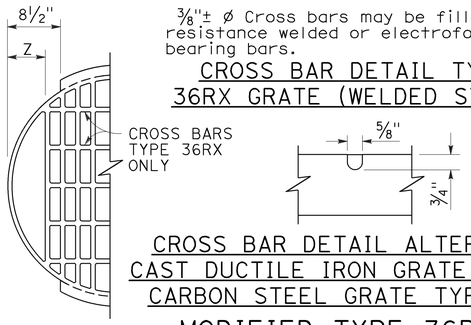
DETAIL "B"

TYPE 36R AND 36RX GRATE DETAILS



⅜"± ø Cross bars may be fillet welded, resistance welded or electroforged to bearing bars.

CROSS BAR DETAIL TYPE 36RX GRATE (WELDED STEEL)



CROSS BAR DETAIL ALTERNATIVE CAST DUCTILE IRON GRATE OR CAST CARBON STEEL GRATE TYPE 36RX

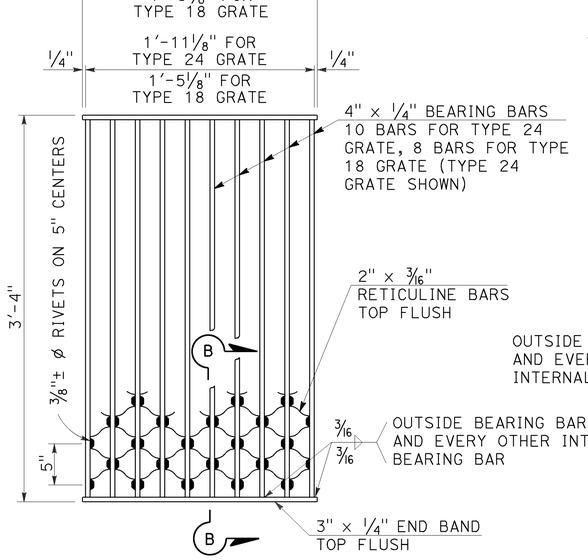
MODIFIED TYPE 36R AND 36RX GRATE FOR ODI INLET

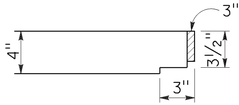
NOTES:

1. When alternative grates are allowed - Final pay based on alternative with the lesser weight.
2. Use frame shown on Standard Plan D74A, D74B or RSP D77A as appropriate.
3. When Type 24-10S, 24-12X or 24-13 grates are used with GDO Inlets, a ¼" × 3½" × 3'-4⅞" steel bar shall be welded across the center of inlet frame to separate the individual grates.
4. See Revised Standard Plan RSP D77A for connecting chain to welded grate and frame. When chain is required, do not use cast ductile iron grate.

GRATE BAR SPACING TABLE

TYPE	No. OF BARS	CLEAR BAR SPACING	X	Y		Z
				4" SPACING	6" SPACING	
36R	13	2"	2⅛"	-	-	-
36RX (STEEL)	15	2"	9/16"	3¾"	5¾"	-
36RX (CAST)	13	2"	2⅛"	3¾"	5¾"	-
36R Mod	12	2"	2⅛"	-	-	5"
36RX Mod (STEEL)	13	2"	9/16"	3¾"	5¾"	5 11/16"
36RX Mod (CAST)	12	2"	2⅛"	3¾"	5¾"	5"





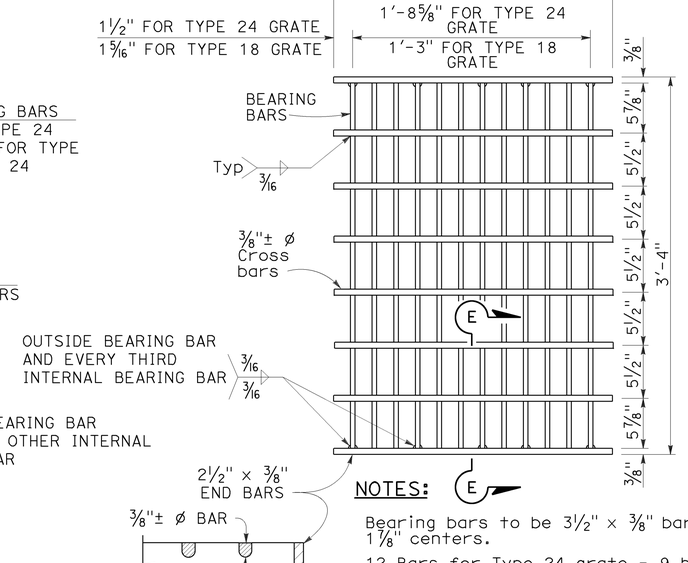
SECTION B-B

NOTES:

Weight of Type 24 grate = 182 LBS.
Weight of Type 18 grate = 145 LBS.

TYPE 18-8S AND 24-10S GRATE

(Welded Steel) Reticuline type



SECTION E-E

NOTES:

Bearing bars to be 3½" × ⅜" bars on 1⅛" centers.

12 Bars for Type 24 grate - 9 bars for Type 18 grates. (Type 24 grate shown).

Weight of Type 24 grate = 192 LBS.

Weight of Type 18 grate = 145 LBS.

⅜"± ø Cross bars may be fillet welded, resistance welded or electroforged to bearing bars.

TYPE 18-9X AND 24-12X GRATE

(Welded Steel)

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	123	167

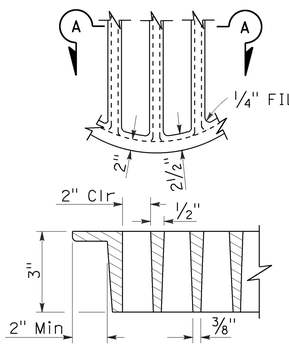
Raymond Don Tsztoo
REGISTERED CIVIL ENGINEER

April 19, 2013
PLANS APPROVAL DATE

Raymond Don Tsztoo No. C37332 Exp. 6-30-14 CIVIL — REGISTERED PROFESSIONAL ENGINEER — 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 08-08-16



SECTION A-A

ALTERNATIVE CAST DUCTILE IRON GRATE OR CAST CARBON STEEL GRATE TYPE 36R AND 36RX

BASIS FOR Misc IRON AND STEEL FINAL PAY WEIGHTS FOR DRAINAGE INLETS

INLET TYPE	GRATE TYPE	No. OF GRATES	WEIGHT LB
GDO (SEE NOTE 4)	24-10C	2	391
	24-10S	2	456
	24-12X	2	473
	24-13	2	374
GO,GOL,G1,G2, G3,G4 (TYPE 24)	24-10C	1	202
	24-10S	1	229
	24-12X	1	239
	24-13	1	188
G4 (TYPE 18) G5,G6	18-8S	1	187
	18-9X	1	187
	18-10	1	149
GT1,GT2	18-8S	2	374
	18-9X	2	374
	18-10	2	298
GT3,GT4	24-10C	2	404
	24-10S	2	458
	24-12X	2	478
	24-13	2	376
ODI	36RX (Mod)	1	196
GMP,GCP,GCPI	36RX	1	215
ODI	36R (Mod)	1	220
GMP,GCP,GCPI	36R	1	236
TRASH RACK			22
GRATE CHAIN			3

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

GRATE DETAILS No. 2

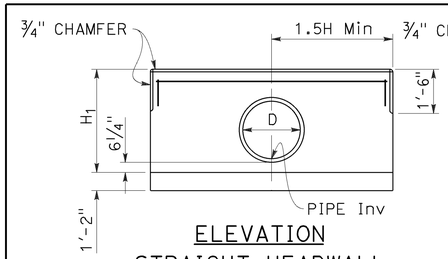
NO SCALE

RSP D77B DATED APRIL 19, 2013 SUPERSEDES RSP D77B DATED JULY 20, 2012 AND STANDARD PLAN D77B DATED MAY 20, 2011 - PAGE 165 OF THE STANDARD PLANS BOOK DATED 2010.

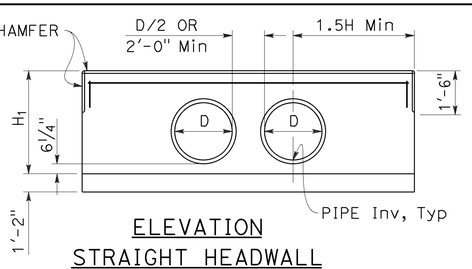
REVISED STANDARD PLAN RSP D77B

2010 REVISED STANDARD PLAN RSP D77B

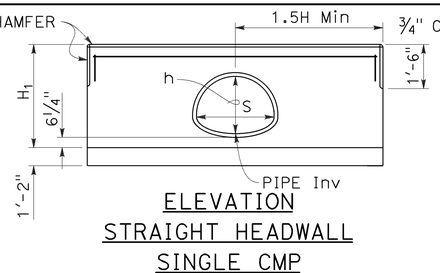
4-4-13



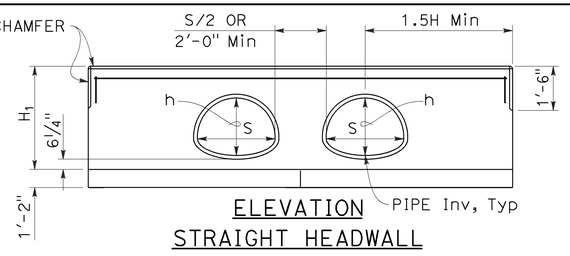
ELEVATION
STRAIGHT HEADWALL
SINGLE CIRCULAR PIPE



ELEVATION
STRAIGHT HEADWALL
DOUBLE CIRCULAR PIPE



ELEVATION
STRAIGHT HEADWALL
SINGLE CMP



ELEVATION
STRAIGHT HEADWALL
DOUBLE CMP

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	124	167

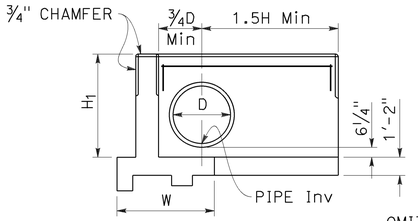
REGISTERED CIVIL ENGINEER

July 15, 2016
PLANS APPROVAL DATE

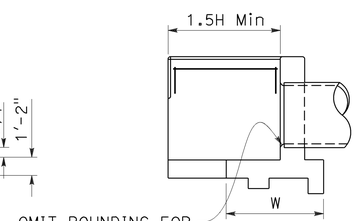
REGISTERED PROFESSIONAL ENGINEER
Carl M. Duan
No. C59976
Exp. 6-30-18
CIVIL
STATE OF CALIFORNIA

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 08-08-16



ELEVATION
"L" HEADWALL

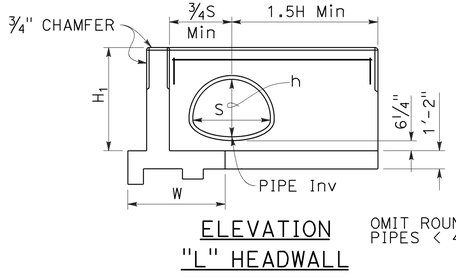


SECTION
"L" HEADWALL

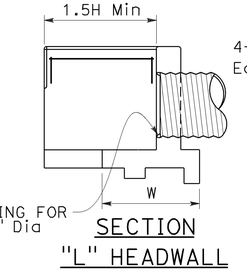
H	CIRCULAR PIPE SIZE D	CMP ARCH SIZE S x h
2'-8"	12"	-
2'-11"	15"	21" x 15"
3'-2"	18"	24" x 18"
3'-5"	21"	28" x 20"
3'-8"	24"	35" x 24"
3'-11"	27"	-
4'-2"	30"	42" x 29"
4'-5"	33"	49" x 33"
4'-8"	36"	-
4'-11"	39"	57" x 38"
5'-2"	42"	64" x 43"
5'-5"	45"	-
5'-8"	48"	71" x 47"
5'-11"	51"	-
6'-2"	54"	-

CIRCULAR PIPE CULVERT HEADWALLS

See Note 2



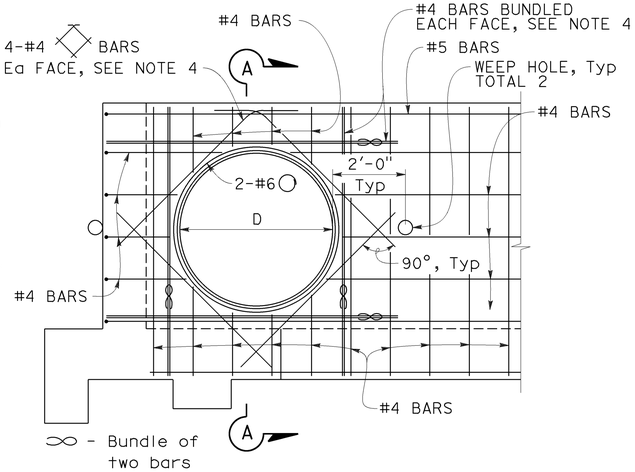
ELEVATION
"L" HEADWALL



SECTION
"L" HEADWALL

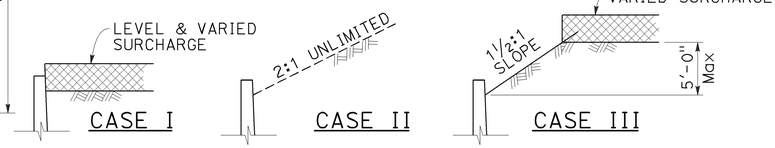
CMP ARCH CULVERT HEADWALLS

See Note 2

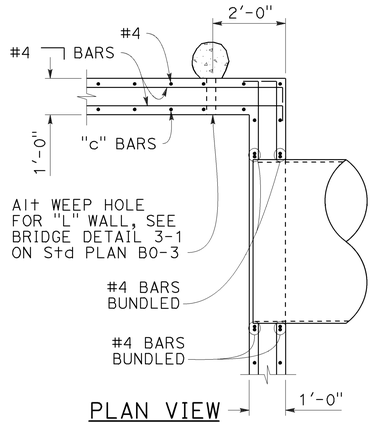


REINFORCEMENT MODIFICATION

"L" headwall shown. Straight headwall similar.
Circular pipe shown. CMP arch similar.

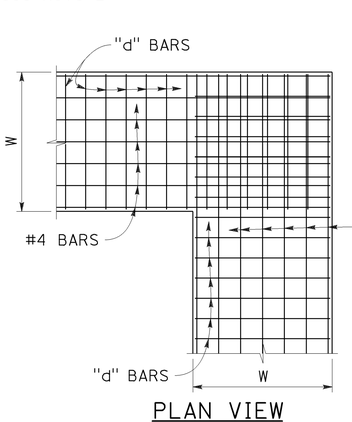


DETAIL OF DESIGN LOADING CASES



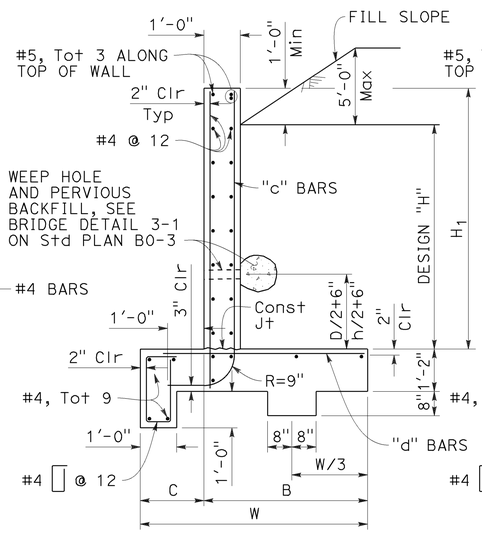
PLAN VIEW
STEM WALL

"L" headwall shown.
Straight headwall similar.

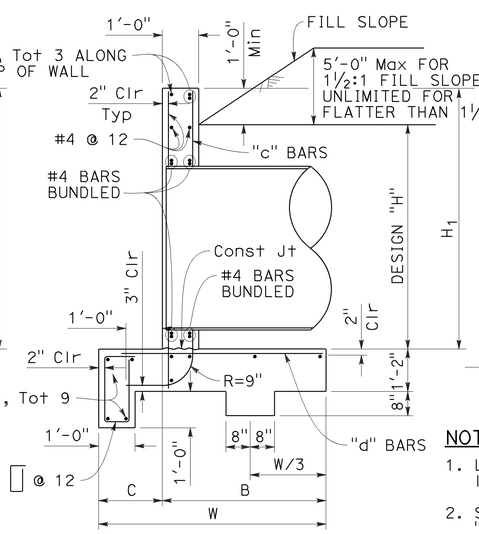


PLAN VIEW
FOOTING

"L" headwall shown.
Straight headwall similar.



TYPICAL SECTION



SECTION A-A

	H	2'-8"	2'-11"	3'-2"	3'-5"	3'-8"	3'-11"	4'-2"	4'-5"	4'-8"	4'-11"	5'-2"	5'-5"	5'-8"	5'-11"	6'-2"
	W	4'-7"	4'-9"	4'-10"	5'-0"	5'-1"	5'-2"	5'-3"	5'-5"	5'-6"	5'-7"	5'-8"	5'-9"	5'-11"	6'-0"	6'-3"
	C	1'-2"	1'-2"	1'-2"	1'-3"	1'-3"	1'-3"	1'-3"	1'-4"	1'-4"	1'-4"	1'-5"	1'-5"	1'-6"	1'-6"	1'-9"
	B	3'-5"	3'-7"	3'-8"	3'-9"	3'-10"	3'-11"	4'-0"	4'-1"	4'-2"	4'-3"	4'-3"	4'-4"	4'-5"	4'-6"	4'-6"
	"c" BARS	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#5 @ 12
	"d" BARS	#4 @ 12	#4 @ 8	#4 @ 8	#4 @ 8	#4 @ 8	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 8	#5 @ 8	#5 @ 8	#5 @ 8	#6 @ 8	#6 @ 8
	* Conc CY/LF	0.404	0.412	0.415	0.423	0.426	0.430	0.433	0.440	0.444	0.448	0.451	0.455	0.462	0.466	0.477
	* Reinf LB/LF	23	24	24	25	25	26	27	27	28	28	29	29	30	31	32
**CASE I	Ser (q'o, B')	0.79, 4.66	0.83, 4.57	0.88, 4.58	0.89, 4.73	0.93, 4.74	0.93, 4.75	1.02, 4.75	1.02, 4.92	1.07, 4.93	1.11, 4.94	1.12, 4.98	1.16, 4.99	1.17, 5.16	1.21, 5.18	1.15, 5.53
	Str (q'o, B')	1.48, 1.75	1.53, 1.80	1.65, 1.76	1.64, 1.88	1.76, 1.85	1.89, 1.83	2.02, 1.80	1.97, 1.95	2.08, 1.94	2.20, 1.93	2.28, 1.92	2.39, 1.92	2.31, 2.08	2.41, 2.09	2.17, 2.41
	Extr (q'o, B')	0.65, 4.16	0.68, 4.27	0.72, 4.29	0.74, 4.44	0.78, 4.46	0.82, 4.47	0.86, 4.47	0.87, 4.63	0.92, 4.63	0.96, 4.64	0.98, 4.69	1.03, 4.69	1.04, 4.84	1.09, 4.84	1.05, 5.18
**CASE II	Ser (q'o, B')	0.41, 4.52	0.44, 4.67	0.48, 4.73	0.51, 4.90	0.55, 4.95	0.59, 5.00	0.63, 5.04	0.65, 5.21	0.70, 5.26	0.74, 5.30	0.77, 5.37	0.81, 5.40	0.83, 5.58	0.88, 5.61	0.86, 5.96
	Str (q'o, B')	1.05, 4.49	1.10, 4.64	1.15, 4.69	1.19, 4.86	1.24, 4.90	1.30, 4.94	1.36, 4.98	1.39, 5.15	1.46, 5.18	1.52, 5.22	1.56, 5.28	1.62, 5.31	1.62, 5.48	1.72, 5.51	1.69, 5.85
	Extr (q'o, B')	0.98, 3.90	1.03, 4.00	1.10, 4.01	1.13, 4.15	1.19, 4.15	1.26, 4.15	1.33, 4.14	1.37, 4.28	1.44, 4.27	1.52, 4.26	1.57, 4.29	1.65, 4.28	1.68, 4.41	1.77, 4.40	1.72, 4.71
**CASE III	Ser (q'o, B')	0.61, 4.53	0.64, 4.73	0.68, 4.76	0.70, 4.91	0.74, 4.91	0.79, 4.94	0.83, 4.93	0.85, 5.08	1.17, 4.03	1.23, 4.03	1.27, 4.06	1.34, 4.02	1.36, 4.15	1.43, 4.11	1.36, 4.45
	Str (q'o, B')	0.99, 4.28	1.04, 4.67	1.10, 4.69	1.13, 4.83	1.19, 4.82	1.25, 4.83	1.32, 4.82	1.35, 4.95	2.02, 2.66	2.16, 2.62	2.25, 2.59	2.44, 2.48	2.49, 2.54	2.70, 2.44	2.50, 2.72
	Extr (q'o, B')	0.90, 3.88	0.95, 3.93	1.01, 3.91	1.04, 4.02	1.11, 3.97	1.18, 3.92	1.25, 3.90	1.28, 4.00	1.35, 3.94	1.43, 3.92	1.11, 5.14	1.55, 3.87	1.58, 3.97	1.67, 3.91	1.60, 4.22

* Quantities include 1'-0" extension above the design "H" limit.
** q'o = net bearing stress (ksf), B' = effective footing width (ft)
Ser - service limit
Str - strength limit
Extr - extreme event

REINFORCED CONCRETE HEADWALL

Quantities do not include added diagonals and do not consider pipe occupancy.

NOTE: Reinforced Concrete: fy = 60,000 psi
f'c = 3,600 psi
Earth Density: 120 pcf
Equivalent Fluid Pressure: 36 pcf

NOTES:

1. Length of wall from ℄ pipe to end of wall is 1.5H Min, unless a greater length is shown on project plans.
2. Single circular pipe or single CMP shown for "L" headwall. For double pipe in "L" headwall, see "ELEVATION STRAIGHT HEADWALL DOUBLE CIRCULAR PIPE" or "ELEVATION STRAIGHT HEADWALL DOUBLE CMP" detail for additional information.
3. Cable railing to be installed on top of headwall when shown on Project Plans. See Revised Standard Plan RSP B11-47 for cable railing details.
4. Adjacent to each side of the opening, place additional reinforcement equivalent to half the interupted main reinforcement. For pipes 42" diameter and greater, add 4 diagonals, 1 bar each side. Extend bars one development length past the intersection with the adjacent diagonal bar, or where bars intersect mid thickness of adjacent wall, bottom slab or at top of wall, bend ends as required into same plane.
5. Quantities are approximate and for design purposes only. No deduction is made for pipe or arch occupancy.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PIPE CULVERT HEADWALLS STRAIGHT AND "L"

NO SCALE

RSP D89 DATED JULY 15, 2016 SUPERSEDES STANDARD PLAN D89
DATED MAY 20, 2011 - PAGE 188 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP D89

2010 REVISED STANDARD PLAN RSP D89

6-20-16

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	125	167

Raymond Don Tsztoo
REGISTERED CIVIL ENGINEER

October 30, 2015
PLANS APPROVAL DATE

Raymond Don Tsztoo No. C37332 Exp. 6-30-16 CIVIL — REGISTERED PROFESSIONAL ENGINEER — 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 08-08-16

ANNULAR AND HELICAL PROFILE

COUPLING TYPE	PIPE CORRUGATION	PIPE SIZE	W OR A	PIPE WALL THICKNESS		BAND THICKNESS		BAR AND STRAP (CSP ONLY)				ANGLE						
												DIMENSIONS		BOLTS (No.- Dia)		RIVETS ANGLE TO BAND		SPOT WELDS ANGLE TO BAND
				CSP	CAP	CSP	CAP	STRAP THICKNESS	BOLTS Dia	BAR Dia	BAR YIELD STRENGTH	CSP	CAP	CSP	CAP	CSP	CAP	CSP
TWO PIECE INTEGRAL FLANGE	1½′ × ¼"	6"	7"	0.064"-0.168"		0.052"								3-⅜"				
	1½′ × ¼"	8"-10"	7"	0.064"-0.168"	0.060"-0.164"	0.064"	0.060"							3-⅜"	3-⅜"			
ANNULAR	2⅔" × ½"	THROUGH 24"	12"	0.064"-0.168"	0.060"-0.164"	0.064"	0.060"					2" × 2" × 3/16"	2" × 2" × 3/16"	3-½"	3-½"	3-⅜"	3-⅜"	3-½"
HUGGER	2⅔" × ½" REROLLED END	THROUGH 24"	10½"	0.064"-0.168"		0.064"		0.079"	½"	⅞"	32 ksi							

SPIRAL RIB PROFILE

COUPLING TYPE	PIPE CORRUGATION	PIPE SIZE	W	PIPE WALL THICKNESS		BAND THICKNESS		BAR AND STRAP (SSRP ONLY)				ANGLE						
												DIMENSIONS		BOLTS (No.- Dia)		RIVETS ANGLE TO BAND		SPOT WELDS ANGLE TO BAND
				SSRP	ASRP	SSRP	ASRP	STRAP THICKNESS	BOLTS Dia	BAR Dia	BAR YIELD STRENGTH	SSRP	ASRP	SSRP	ASRP	SSRP	ASRP	SSRP
ANNULAR	2⅔" × ½" * REROLLED END	24"	12"	0.064"-0.168"	0.060"-0.164"	0.064"	0.060"					2" × 2" × 3/16"	2" × 2" × 3/16"	3-½"	3-½"	3-⅜"	3-⅜"	3-½"
HUGGER	2⅔" × ½" * REROLLED END	24"	10½"	0.064"-0.168"		0.064"		0.079"	½"	⅞"	32 ksi							

* See Note 11.

NOTES:

1. For helically corrugated coupling bands, the connection angles may be oriented parallel to the pipe axis, provided connecting holes are slotted lengthwise sufficiently to allow adjustment for the helix angle.
2. Tension strap may be connected to band with either spot welds or fillet welds that develop minimum required strength of strap.
3. Use 1¼" gage line dimension on attached angle leg for rivets and spot welds.
4. Band thickness shall not be less than:
   a. 3 standard thicknesses lighter than the thickness of the pipe for Corrugated Steel Pipe.
   b. 2 standard thicknesses lighter than the thickness of the pipe and in no case lighter than 0.060" for Corrugated Aluminum Pipe.
5. Dimensions, thicknesses and strengths shown are minimum.
6. For pipe arches use same width band as for round pipe of equal periphery.
7. Fillet welds of equivalent strength may be substituted for spot welds or rivets.
8. Spot welds shall develop minimum required strength of strap.
9. Pipe with rerolled ends having at least two 2⅔" × ½" annular corrugations at each end with or without an upturned flange may be connected with any of the annular coupling bands shown for pipe of the same diameter and wall thickness and having 2⅔" × ½" corrugations.
10. For downdrain applications, two piece integral flange couplers shall have factory applied sleeve type rubber gaskets with a minimum length of 7" measured along the length of the pipe.
11. All profiles of Spiral Rib Pipe (¾" × ¾" ribs at 7½" pitch and ¾" × 1" ribs at 11½" pitch in both steel and aluminum and ¾" × 1" ribs at 8½" pitch in steel only) shall be manufactured with rerolled ends. Corrugation profile of the rerolled ends shall be 2⅔" × ½" annual corrugations with a minimum of two full corrugations at each end.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CORRUGATED METAL PIPE COUPLING DETAILS No. 7 DOWNDRAIN

NO SCALE

RSP D97G DATED OCTOBER 30, 2015 SUPERSEDES STANDARD PLAN D97G DATED MAY 20, 2011 - PAGE 202 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP D97G

2010 REVISED STANDARD PLAN RSP D97G

8-19-15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	126	167

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.

LICENSED LANDSCAPE ARCHITECT — Gregory A. Balzer — 2576 — Renewal Date 2-28-15 — Retired Status 7-19-13 — Date — STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 08-08-16

A

AB	AGGREGATE BASE
ABS	ACRYLONITRILE-BUTADIENE-STYRENE
AC	ASPHALT CONCRETE
ACC	ARMOR-CLAD CONDUCTORS
Adj	ADJACENT/ADJUSTABLE
AIC	AUXILIARY IRRIGATION CONTROLLER
Alt	ALTERNATIVE
AMEND	AMENDMENT
ARV	AIR RELEASE VALVE
AUTO	AUTOMATIC
AUX	AUXILIARY
AVB	ATMOSPHERIC VACUUM BREAKER

B

B&B	BALLED AND BURLAPPED
B/B	BRASS/BRONZE
B/B/PL	BRASS/BRONZE/PLASTIC
B/PL	BRASS/PLASTIC
BFM	BONDED FIBER MATRIX
Bit Ctd	BITUMINOUS COATED
BP	BOOSTER PUMP
BPA	BACKFLOW PREVENTER ASSEMBLY
BPE	BACKFLOW PREVENTER ENCLOSURE
BV	BALL VALVE

C

C	CONDUIT
CAP	CORRUGATED ALUMINUM PIPE
CARV	COMBINATION AIR RELEASE VALVE
CB	COUPLING BAND
CCA	CAM COUPLER ASSEMBLY
CEC	CONTROLLER ENCLOSURE CABINET
CHDPE	CORRUGATED HIGH DENSITY POLYETHYLENE
CL	CHAIN LINK
CNC	CONTROL AND NEUTRAL CONDUCTORS
Conc	CONCRETE
CP	COPPER PIPE
CS	COMPOST SOCK
CSP	CORRUGATED STEEL PIPE
CST	CENTER STRIP
CV	CHECK VALVE

D

Dia	DIAMETER
DIP	DUCTILE IRON PIPE
DIT	DRIP IRRIGATION TUBING
DG	DECOMPOSED GRANITE
DN	DIAMETER NOMINAL
DVA	DRIP VALVE ASSEMBLY

E

EC	EROSION CONTROL
ECTC	EROSION CONTROL TECHNOLOGY COUNCIL
Elect	ELECTRIC/ELECTRICAL
Elev	ELEVATION
ELL	ELBOW
ENCL	ENCLOSURE
EP	EDGE OF PAVEMENT
ES	EDGE OF SHOULDER
EST	END STRIP
ESTB	ESTABLISHMENT
ETW	EDGE OF TRAVELED WAY

F

F	FULL CIRCLE
F/P	FULL/PART CIRCLE
FCV	FLOW CONTROL VALVE
FERT	FERTILIZER
FG	FINISHED GRADE
FH	FLEXIBLE HOSE
FIPT	FEMALE IRON PIPE THREAD
FIS	FERTILIZER INJECTOR SYSTEM
FL	FLOW LINE
FR	FIBER ROLL
FS	FLOW SENSOR
FSC	FLOW SENSOR CABLE
FV	FLUSH VALVE

G

Galv	GALVANIZED
GARV	GARDEN VALVE
GARVA	GARDEN VALVE ASSEMBLY
GM	GRAVEL MULCH
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GSP	GALVANIZED STEEL PIPE
GV	GATE VALVE

H

H	HALF CIRCLE
HDPE	HIGH DENSITY POLYETHYLENE
HP	HORSEPOWER/HINGE POINT
HPL	HIGH PRESSURE LINE
Hwy	HIGHWAY

I

IC	IRRIGATION CONTROLLER
ICC	IRRIGATION CONTROLLER(S) IN CONTROLLER ENCLOSURE CABINET
ID	INSIDE DIAMETER
IFS	IRRIGATION FILTRATION SYSTEM
IPS	IRON PIPE SIZE
IPT	IRON PIPE THREAD
Irr	IRRIGATION

L

L	LENGTH

M

Max	MAXIMUM
MBGR	METAL BEAM GUARD RAILING
MCV	MANUAL CONTROL VALVE
MIC	MASTER IRRIGATION CONTROLLER
Min	MINIMUM
MIPT	MALE IRON PIPE THREAD
Misc	MISCELLANEOUS
Mtl	MATERIAL
MVP	MAINTENANCE VEHICLE PULLOUT

N

NCN	NO COMMON NAME
NL	NOZZLE LINE
No.	NUMBER
NPT	NATIONAL PIPE THREAD

O

O/C	ON CENTER
OD	OUTSIDE DIAMETER
OL	OVERLAP

P

P	PART CIRCLE
PB	PULL BOX
PCC	PORTLAND CEMENT CONCRETE
PE	POLYETHYLENE
Pkt	PACKET
PL	PLASTIC
PLS	PURE LIVE SEED
PLT	PLANT/PLANTING
PLT ESTB	PLANT ESTABLISHMENT
PM	POST MILE
PR	PRESSURE RATED
PRLV	PRESSURE RELIEF VALVE
PRV	PRESSURE REGULATING VALVE
PVC	POLYVINYL CHLORIDE
Pvmt	PAVEMENT

Q

Q	QUARTER CIRCLE
QCV	QUICK COUPLING VALVE

R

R	RADIUS
RCP	REINFORCED CONCRETE PIPE
RCV	REMOTE CONTROL VALVE
RCVM	REMOTE CONTROL VALVE (MASTER)
RCVMF	REMOTE CONTROL VALVE (MASTER) W/FLOW SENSOR
RCVP	REMOTE CONTROL VALVE W/PRESSURE REGULATOR
RCW	RECYCLED WATER
RECP	ROLLED EROSION CONTROL PRODUCT
REQ	REQUIRED
RICS	REMOTE IRRIGATION CONTROL SYSTEM
R/W	RIGHT OF WAY

S

S	SLIP
SCH	SCHEDULE
SF	STATE-FURNISHED
Shld	SHOULDER
Sq	SQUARE
SST	SIDE STRIP
Sta	STATION
Std	STANDARD
SW	SIDEWALK/SOUND WALL

T

T	THIRD CIRCLE/THREAD
TLS	TRUCK LOADING STANDPIPE
TQ	THREE QUARTER CIRCLE
TRM	TURF REINFORCEMENT MAT
TT	TWO-THIRDS CIRCLE
TWSA	TREE WELL SPRINKLER ASSEMBLY
Typ	TYPICAL

U

UG	UNDERGROUND

W

W	WIDTH
W/	WITH
WM	WATER METER
WS	WYE STRAINER
WSA	WYE STRAINER ASSEMBLY
WSP	WELDED STEEL PIPE
WWM	WELDED WIRE MESH

NOTE:
For additional abbreviations, see Standard Plans A10A and A10B.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

LANDSCAPE AND EROSION CONTROL ABBREVIATIONS

NO SCALE

RSP H1 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN H1
DATED MAY 20, 2011 - PAGE 218 OF THE STANDARD PLANS BOOK DATED 2010.

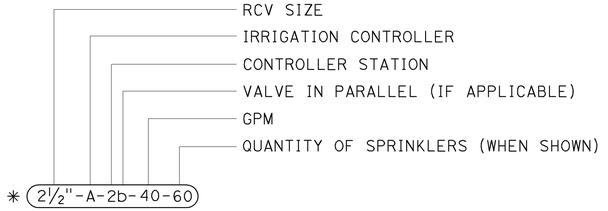
REVISED STANDARD PLAN RSP H1

2010 REVISED STANDARD PLAN RSP H1

6-28-13

EXISTING	NEW	ITEM DESCRIPTION
		WATER METER (WM)
		BACKFLOW PREVENTER ASSEMBLY (BPA)
		BACKFLOW PREVENTER ENCLOSURE (BPE)
		BOOSTER PUMP (BP)
		TRUCK LOADING STANDPIPE (TLS)
	FS	FLOW SENSOR (FS)
X	X	MASTER IRRIGATION CONTROLLER (MIC)
		AUXILIARY IRRIGATION CONTROLLER (AIC)
		IRRIGATION CONTROLLER (IC) IRRIGATION CONTROLLER (IC) (BATTERY) IRRIGATION CONTROLLER (IC) (SOLAR) IRRIGATION CONTROLLER (IC) (TWO WIRE)
		IRRIGATION CONTROLLER(S) IN CONTROLLER ENCLOSURE CABINET (ICC)
acc	ACC	ARMOR-CLAD CONDUCTORS (ACC)
		CONTROL AND NEUTRAL CONDUCTORS (CNC)
		IRRIGATION CONDUIT
		IRRIGATION SLEEVE
dip	DIP	DUCTILE IRON PIPE (SUPPLY LINE) (MAIN) (DIP)
		GALVANIZED STEEL PIPE (SUPPLY LINE) (MAIN) (GSP)
		GALVANIZED STEEL PIPE (SUPPLY LINE) (LATERAL) (GSP)
		PLASTIC PIPE (SUPPLY LINE) (MAIN)
		PLASTIC PIPE (SUPPLY LINE) (LATERAL)
cp	CP	COPPER PIPE (SUPPLY LINE)
dit	DIT	DRIP IRRIGATION TUBING
		REMOTE CONTROL VALVE (RCV) REMOTE CONTROL VALVE (MASTER) (RCVM) REMOTE CONTROL VALVE (MASTER) W/FLOW METER (RCVMF)
P	P	REMOTE CONTROL VALVE W/PRESSURE REGULATOR (RCVP)
		EXISTING MANUAL CONTROL VALVE (MCV)
V	V	DRIP VALVE ASSEMBLY (DVA)
Y	Y	WYE STRAINER ASSEMBLY (WSA)

EXISTING	NEW	ITEM DESCRIPTION
		GATE VALVE (GV)
		BALL VALVE (BV)
		QUICK COUPLING VALVE (QCV)
		CAM COUPLER ASSEMBLY (CCA)
		GARDEN VALVE ASSEMBLY (GARVA)
		PRESSURE REGULATING VALVE (PRV)
		PRESSURE RELIEF VALVE (PRLV)
		FLOW CONTROL VALVE (FCV)
		COMBINATION AIR RELEASE VALVE (CARV)
		CHECK VALVE (CV)
		FLUSH VALVE (FV)
		EXISTING NOZZLE LINE W/TURNING UNION
		EXISTING IRRIGATION SYSTEM
		EXISTING IRRIGATION SYSTEM TO BE REMOVED
		CHAIN LINK GATE
		QUICK COUPLING VALVE W/SPRINKLER PROTECTOR
3	3	SPRINKLER W/SPRINKLER PROTECTOR
	C	CONNECT TO EXISTING SYSTEM
		CAP
		CAP EXISTING
	\\\FR\\\	FIBER ROLL
	\\\CS\\\	COMPOST SOCK



VALVE CODE

* VALVE CODES FOR EXISTING VALVES ARE SHOWN IN A DASHED ENCLOSURE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	127	167

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.

LICENSED LANDSCAPE ARCHITECT
Michael V. Ferrara 3899
9-30-17
Renewal Date
Date
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 08-08-16

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

LANDSCAPE AND EROSION CONTROL SYMBOLS

NO SCALE

RSP H2 DATED JULY 15, 2016 SUPERSEDES RSP H2 DATED NOVEMBER 15, 2013 AND RSP H2 DATED JULY 19, 2013 AND STANDARD PLAN H2 DATED MAY 20, 2011 - PAGE 219 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP H2

2010 REVISED STANDARD PLAN RSP H2

5-24-16

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	128	167

REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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

TO ACCOMPANY PLANS DATED 08-08-16

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

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

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

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

TABLE 2

LONGITUDINAL BUFFER SPACE AND FLAGGER STATION SPACING

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

* - Speed is posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph

** - Longitudinal buffer space or flagger station spacing

*** - Use on sustained downgrade steeper than -3 percent and longer than 1 mile.

TABLE 3

ADVANCE WARNING SIGN SPACING

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

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

2010 REVISED STANDARD PLAN RSP T9

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM TABLES FOR LANE AND RAMP CLOSURES

NO SCALE

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

REVISED STANDARD PLAN RSP T9

4-30-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	129	167

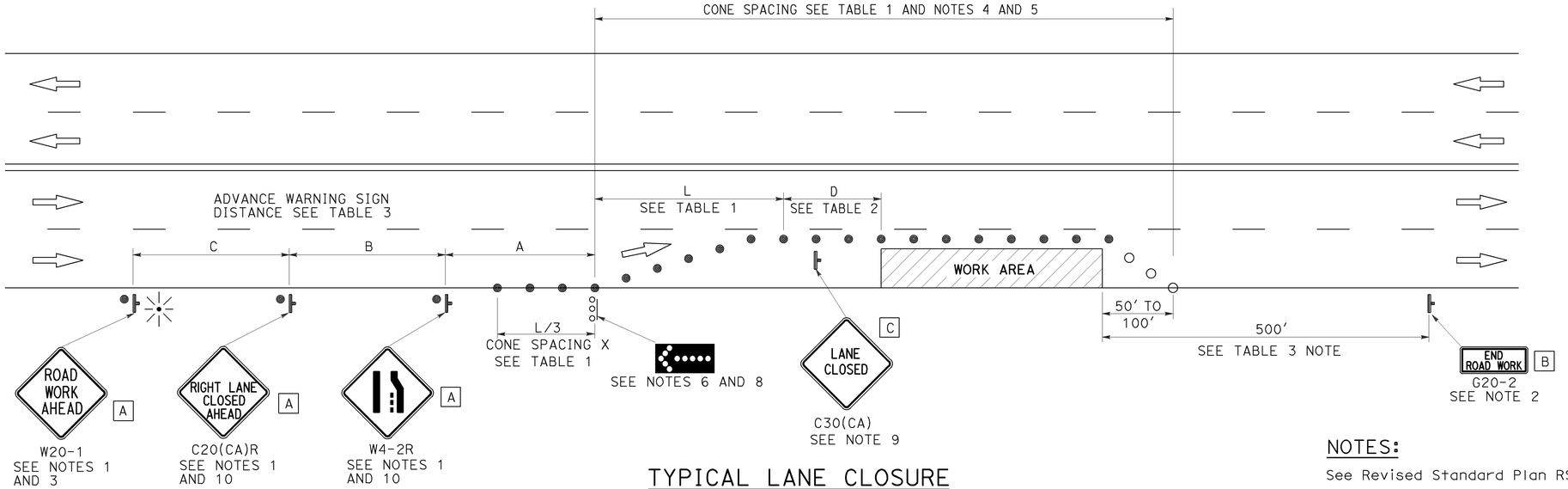
REGISTERED CIVIL ENGINEER

April 19, 2013
PLANS APPROVAL DATE

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

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

TO ACCOMPANY PLANS DATED 08-08-16



TYPICAL LANE CLOSURE

NOTES:

1. 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.
2. 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.
3. 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.
4. All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
5. Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
6. Flashing arrow sign shall be either Type I or Type II.
7. 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.
8. 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.
9. Place a C30(CA) sign every 2000' throughout length of lane closure.
10. Median lane closures shall conform to the details as shown except that C20(CA)L and W4-2L signs shall be used.
11. 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.

NOTES:

See Revised Standard Plan RSP T9 for tables.

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

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

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

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

4-2-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	130	167

REGISTERED CIVIL ENGINEER

April 19, 2013
PLANS APPROVAL DATE

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

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

TO ACCOMPANY PLANS DATED 08-08-16

LEGEND

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

SIGN PANEL SIZE (Min)

- [A] 48" × 48"
- [B] 24" × 24"
- [C] 36" × 18"

NOTES:

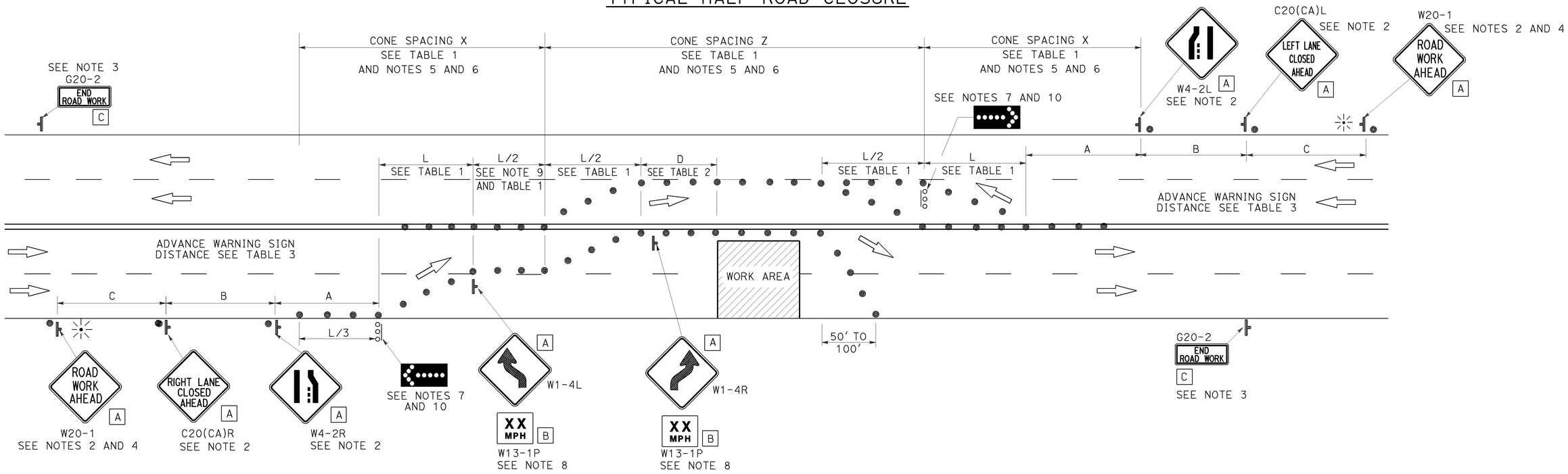
See Revised Standard Plan RSP T9 for tables.

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

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

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

TYPICAL HALF ROAD CLOSURE



NOTES:

1. 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.
2. Each advance warning sign in each direction of travel 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.
3. 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.
4. 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.
5. All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
6. Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
7. Flashing arrow signs shall be either Type I or Type II.
8. Advisory speed will be determined by the Engineer. The W13-1P Plaque will not be required when advisory speed is more than the posted or maximum speed limit.
9. Unless otherwise specified in the special provisions, the tangent (L/2) shall be used.
10. 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.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR HALF ROAD CLOSURE ON MULTILANE CONVENTIONAL HIGHWAYS AND EXPRESSWAYS

NO SCALE

RSP T12 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T12
DATED MAY 20, 2011 - PAGE 240 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T12

2010 REVISED STANDARD PLAN RSP T12

4-2-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	131	167

Devinder Singh
REGISTERED CIVIL ENGINEER

October 30, 2015
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Devinder Singh
No. C50470
Exp. 6-30-17
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 08-08-16

NOTES:

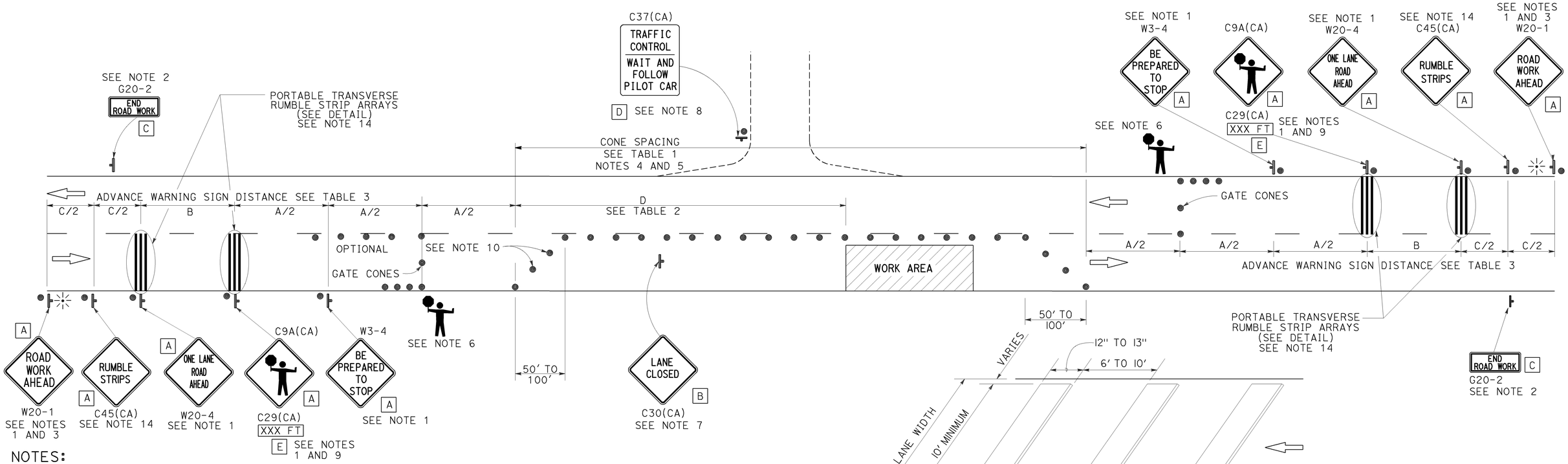
See Revised Standard Plan RSP T9 for tables.

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

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

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

TYPICAL LANE CLOSURE WITH REVERSIBLE CONTROL



NOTES:

1. Each advance warning sign in each direction of travel 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.
2. A G20-2 "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane control unless the end of work area is obvious, or ends within a larger project's limits.
3. If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT _____ MILES", use a W20-4 sign for the first advance warning sign.
4. All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
5. Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
6. Additional advance flaggers may be required. Flagger should stand in a conspicuous place, be visible to approaching traffic as well as approaching vehicles after the first vehicle has stopped. During the hours of darkness, the flagging-station and flagger shall be illuminated and clearly visible to approaching traffic. The illumination footprint of the lighting on the ground shall be at least 20' in diameter. Place a minimum of four cones at 50' intervals in advance of flagger station as shown.
7. Place C30(CA) "LANE CLOSED" sign at 500' to 1000' intervals throughout extended work areas. They are optional if the work area is visible from the flagger station.
8. When a pilot car is used, place a C37(CA) "TRAFFIC CONTROL-WAIT AND FOLLOW PILOT CAR" sign with black legend on white background at all intersections, driveways and alleys without a flagger within traffic control area. Signs shall be clean and visible at all times. Where traffic can not be effectively self-regulated, at least one flagger shall be used at each intersection within traffic control area.
9. An optional C29(CA) sign may be placed below the C9A(CA) sign.
10. Either traffic cones or barricades shall be placed on the taper. Barricades shall be Type I, II, or III.
11. The color of the portable transverse rumble strips shall be black or orange. Use 2 arrays, each array shall consist of 3 rumble strips.
12. Portable transverse rumble strips shall not be placed on sharp horizontal or vertical curves nor shall they be placed through pedestrian crossings.
13. If the portable transverse rumble strips become out of alignment (skewed) by more than 6 inches, measured from one end to the other, they shall be readjusted to bring the placement back to the original location.
14. Portable transverse rumble strips are not required if any one of the following conditions is satisfied:
    A. Work duration occupies a location for four hours or less
    B. Posted speed limit is below 45 MPH
    C. Work is of emergency nature
    D. Work zone is in snow or icy weather conditions

PORTABLE TRANSVERSE RUMBLE STRIP ARRAY DETAIL

SIGN PANEL SIZE (Min)

A	48" x 48"
B	30" x 30"
C	36" x 18"
D	36" x 42"
E	20" x 7"

LEGEND

- TRAFFIC CONE
- TEMPORARY TRAFFIC CONTROL SIGN
- PORTABLE FLASHING BEACON
- FLAGGER

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON TWO LANE CONVENTIONAL HIGHWAYS

NO SCALE

RSP T13 DATED OCTOBER 30, 2015 SUPERSEDES RSP T13 DATED OCTOBER 17, 2014, RSP T13 DATED JULY 18, 2014 AND RSP T13 DATED APRIL 19, 2013 AND STANDARD PLAN T13 DATED MAY 20, 2011 - PAGE 241 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T13

2010 REVISED STANDARD PLAN RSP T13

10-13-15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	132	167

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

October 30, 2015
PLANS APPROVAL DATE

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

TO ACCOMPANY PLANS DATED 08-08-16

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

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
- (M) EXISTING SOFFIT OR WALL-MOUNTED LUMINAIRE TO BE MODIFIED AS SPECIFIED

NOTE:
Arrow indicates "street side" of luminaire.

MISCELLANEOUS ELECTROLIERS

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

NOTES:

1. 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.
2. Luminaires shall be the cutoff type, ANSI Type III medium cutoff lighting distribution, unless otherwise specified.

STANDARD ELECTROLIER

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

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

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

9-29-15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	133	167

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

Theresa Aziz Gabriel No. E15129 Exp. 6-30-16 ELECTRICAL — REGISTERED PROFESSIONAL ENGINEER — 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 08-08-16

CONDUIT

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
R	r	CONDUIT RISER ATTACHED TO THE STRUCTURE OR SERVICE POLE

SERVICE EQUIPMENT

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

POLE-MOUNTED SERVICE DESIGNATION

TYPE H SERVICE, 28'-10" — TYPE OF INSTALLATION AND POLE HEIGHT ABOVE GRADE

FLASHING BEACON

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

SIGNAL EQUIPMENT

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
PV	PV	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)
		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

SIGNAL EQUIPMENT Cont

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

NOTES:

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

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

8-19-15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	134	167

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

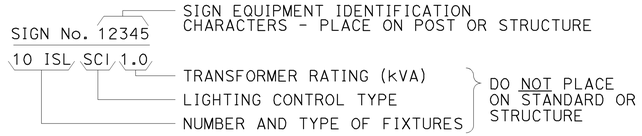
April 15, 2016
PLANS APPROVAL DATE

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

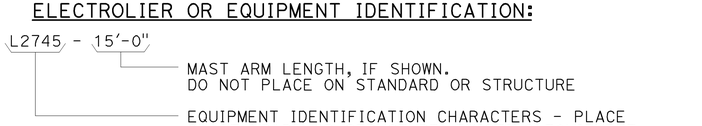
TO ACCOMPANY PLANS DATED 08-08-16

EQUIPMENT IDENTIFICATION

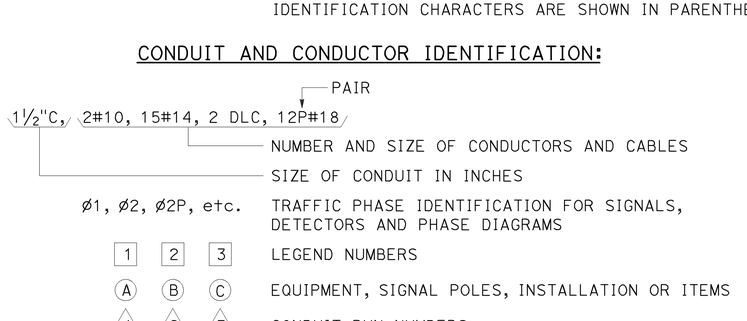
ILLUMINATED SIGN IDENTIFICATION:



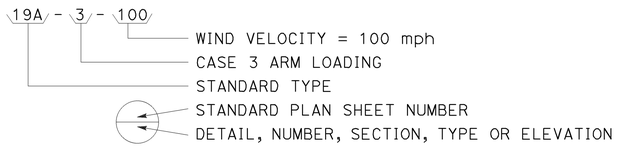
ELECTROLIER OR EQUIPMENT IDENTIFICATION:



CONDUIT AND CONDUCTOR IDENTIFICATION:



SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



MISCELLANEOUS EQUIPMENT

NEW	EXISTING	
CMS	cms	CHANGEABLE MESSAGE SIGN
		CLOSED CIRCUIT TELEVISION CAMERA
		HIGHWAY ADVISORY RADIO POLE AND ANTENNA
EMS	ems	LED EXTINGUISHABLE MESSAGE SIGN
M V	m v	DETECTION DEVICE M = MICROWAVE SENSOR V = VIDEO IMAGE SENSOR

WIRING DIAGRAM LEGEND

	EXTERNAL CONDUCTOR
	CONDUCTOR OR BUS
	TIE POINT
	CONTACTOR COIL
	CONTACTOR, NO CONTACT
	TERMINAL BLOCKS
	CONTACTOR, NC CONTACT
	ENCLOSURE BOND
	GROUNDING ELECTRODE
	CIRCUIT BREAKER
	RECEPTACLE

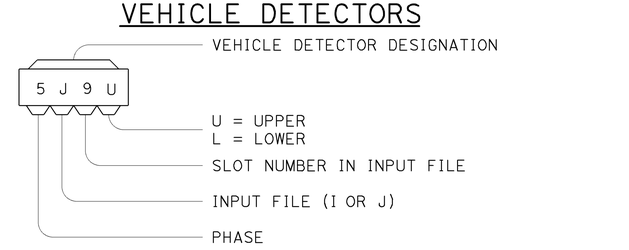
PULL BOXES

NEW	EXISTING	
		PULL BOX, No. 5 UNLESS OTHERWISE INDICATED OR NOTED
3	9A(21)	PULL BOX, ADDITIONAL DESIGNATIONS OR DESCRIPTIONS

3 No. 3½ PULL BOX
5 No. 5 PULL BOX
6 No. 6 PULL BOX
7 No. 7 PULL BOX (CEILING)
8 No. 8 PULL BOX
9 No. 9 PULL BOX (STRUCTURE)
9A No. 9A PULL BOX (STRUCTURE)

(C) COMMUNICATIONS PULL BOX
(E) PULL BOX WITH EXTENSION
(S) SPRINKLER CONTROL PULL BOX
(21) ANCHOR BOLTS AND CONDUIT FOR FUTURE INSTALLATION OF TYPE 21 STANDARD
(T) TRAFFIC PULL BOX

VEHICLE DETECTORS



NEW	EXISTING	
		TYPE A LOOP DETECTOR. OUTLINE OF SAW CUT SHOWN
		TYPE B LOOP DETECTOR. OUTLINE OF SAW CUT SHOWN
		TYPE C LOOP DETECTOR. OUTLINE OF SAW CUT SHOWN
		TYPE D LOOP DETECTOR. OUTLINE OF SAW CUT SHOWN
		TYPE E LOOP DETECTOR. OUTLINE OF SAW CUT SHOWN
		TYPE Q LOOP DETECTOR. OUTLINE OF SAW CUT SHOWN
DH	dh	DETECTOR HANDHOLE
		MICROWAVE OR VIDEO DETECTION ZONE

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.

REVISED STANDARD PLAN RSP ES-1C

2010 REVISED STANDARD PLAN RSP ES-1C

1-22-16

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	135	167

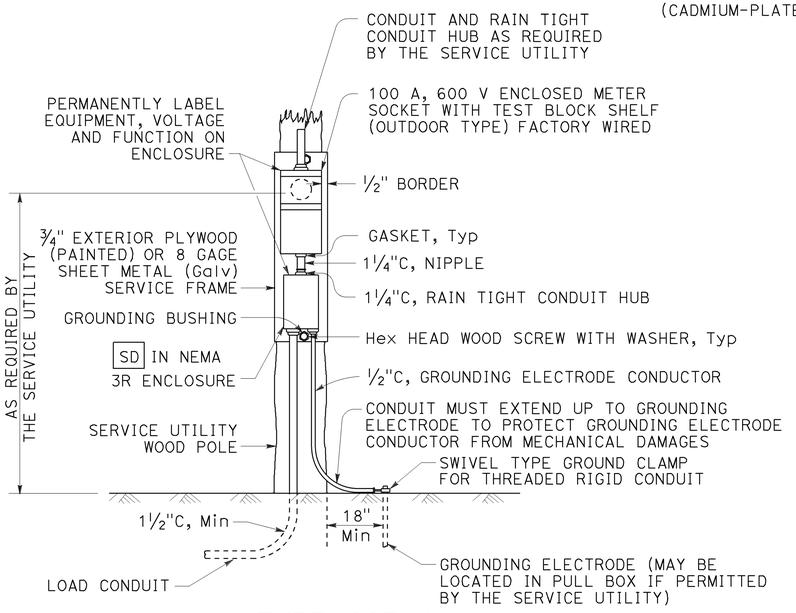
Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

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

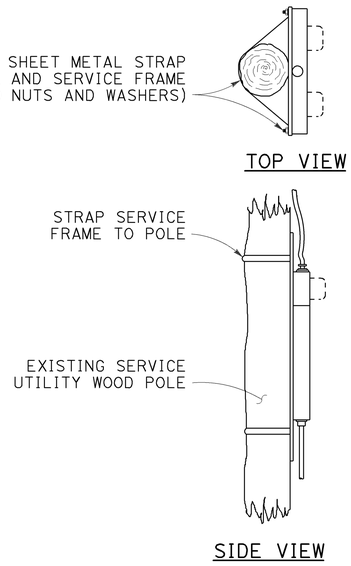
October 30, 2015
PLANS APPROVAL DATE

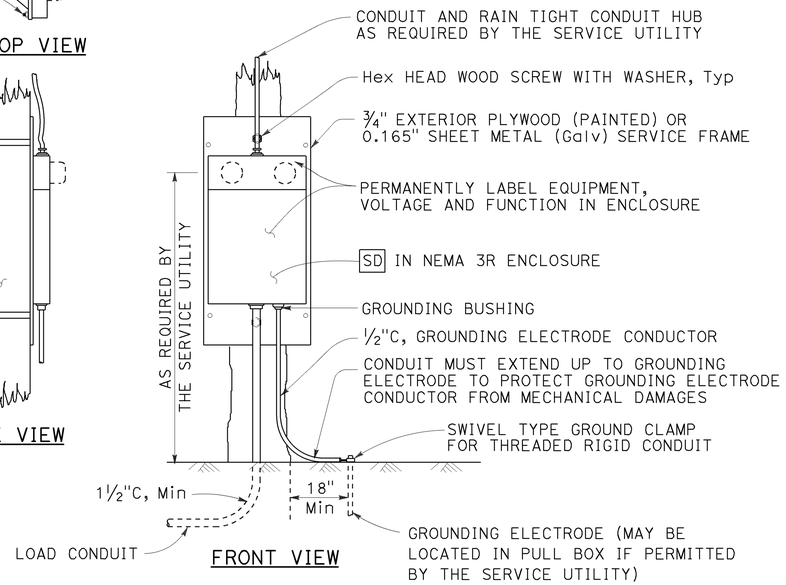
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 08-08-16



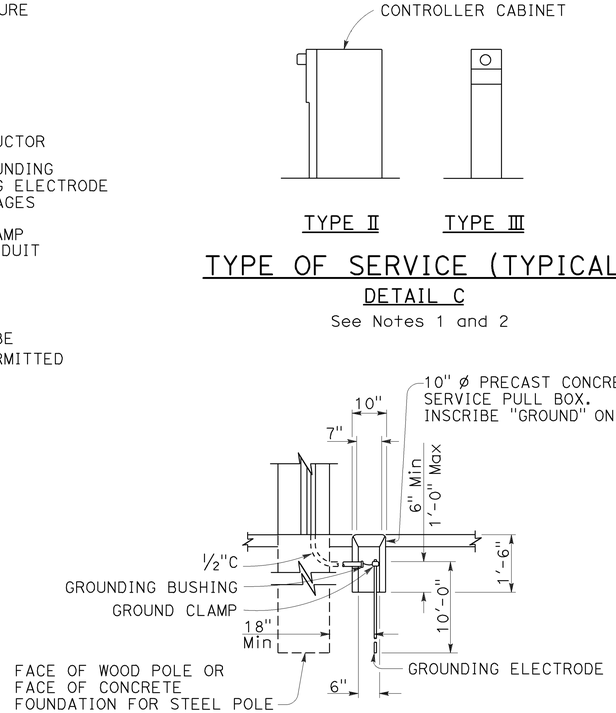
TYPE SCE-1
DETAIL A





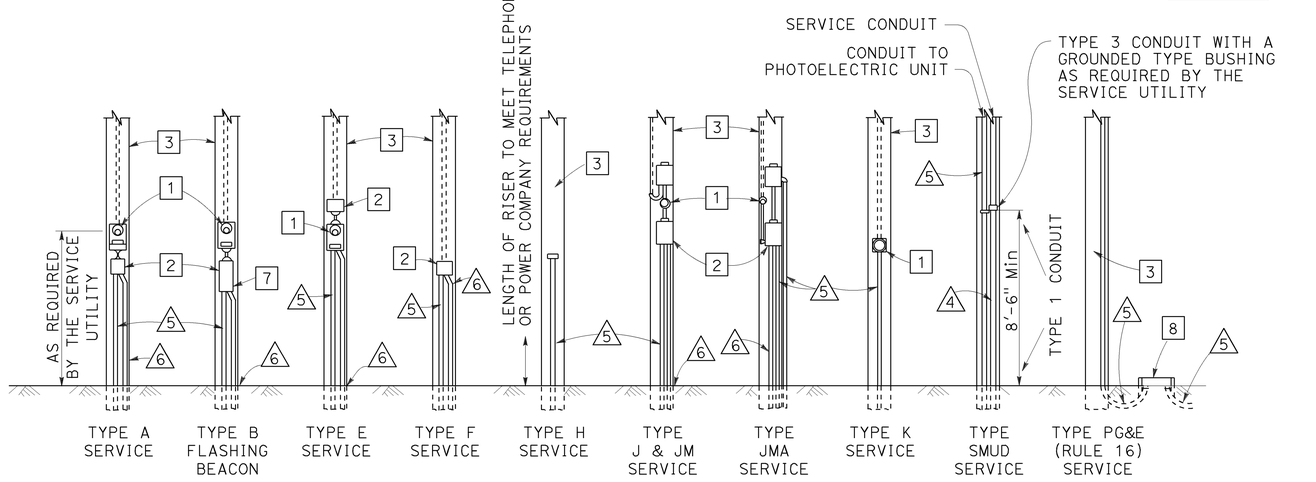
TYPE SCE-2
DETAIL B

TYPE A
See Note 3



TYPE B
See Note 4

TYPE OF SERVICE (TYPICAL)
DETAIL C
See Notes 1 and 2



POLE MOUNTED SERVICE INSTALLATIONS
DETAIL D

SERVICE GROUNDING
DETAIL E

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. ½"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:

1. Type II service equipment enclosure mounted on the side of a controller cabinet.
2. Type III complete free-standing service equipment enclosure.
3. Ground clamp and required fittings must be accessible. Conduit must extend to protect grounding electrode conductor from mechanical damage.
4. 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.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SERVICE EQUIPMENT)

NO SCALE

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.

REVISED STANDARD PLAN RSP ES-2A

2010 REVISED STANDARD PLAN RSP ES-2A

8-20-15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	136	167

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

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

October 30, 2015
PLANS APPROVAL DATE

TO ACCOMPANY PLANS DATED 08-08-16

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)

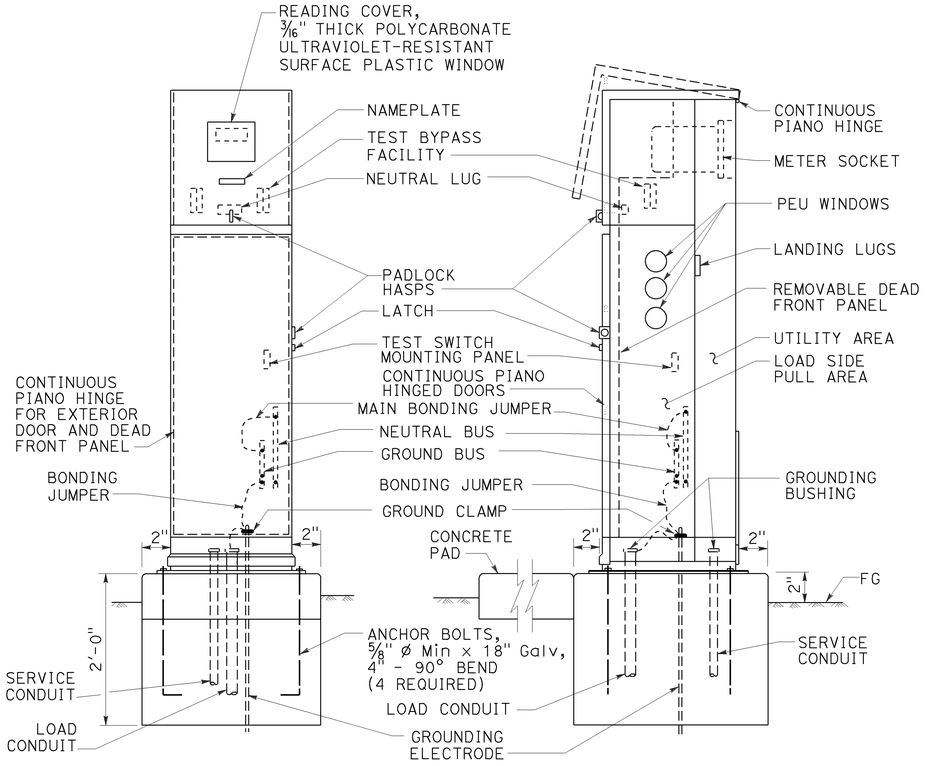
NO SCALE

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

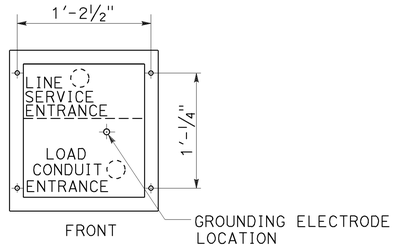
2010 REVISED STANDARD PLAN RSP ES-2C

8-19-15



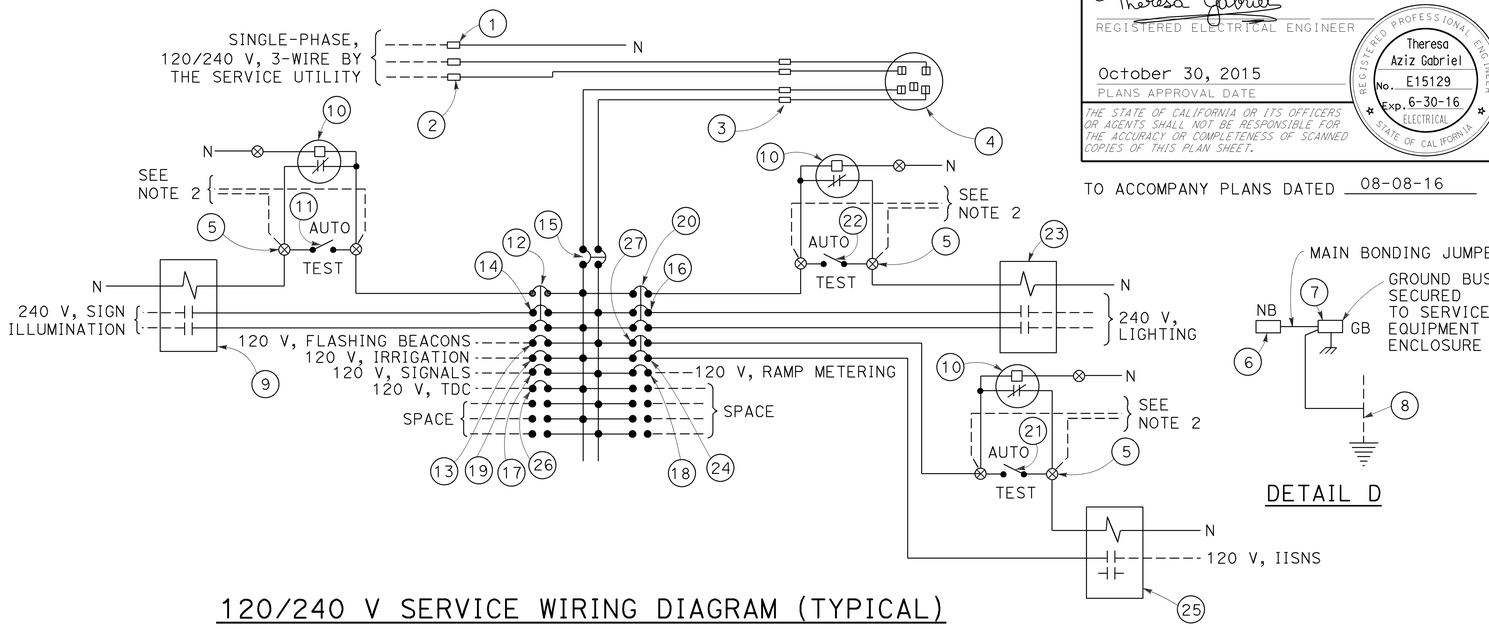
TYPE III-BF SERVICE EQUIPMENT ENCLOSURE (TYPICAL)

DETAIL A



BASE FOR TYPE III-B SERVICE EQUIPMENT ENCLOSURE

DETAIL B



120/240 V SERVICE WIRING DIAGRAM (TYPICAL)

DETAIL C

DETAIL D

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, IP, 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 V photoelectric control shall be used unless otherwise indicated on the plans.
5. Item (12), (20) and (27) shall be ganged operated CB.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	137	167

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

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

October 30, 2015
PLANS APPROVAL DATE

TO ACCOMPANY PLANS DATED 08-08-16

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.

REVISED STANDARD PLAN RSP ES-2E

2010 REVISED STANDARD PLAN RSP ES-2E

8-20-15

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 ¾"C or larger conduit through the foundation. Type 4 conduit shall be used to separate telephone and power conductors in cabinets.

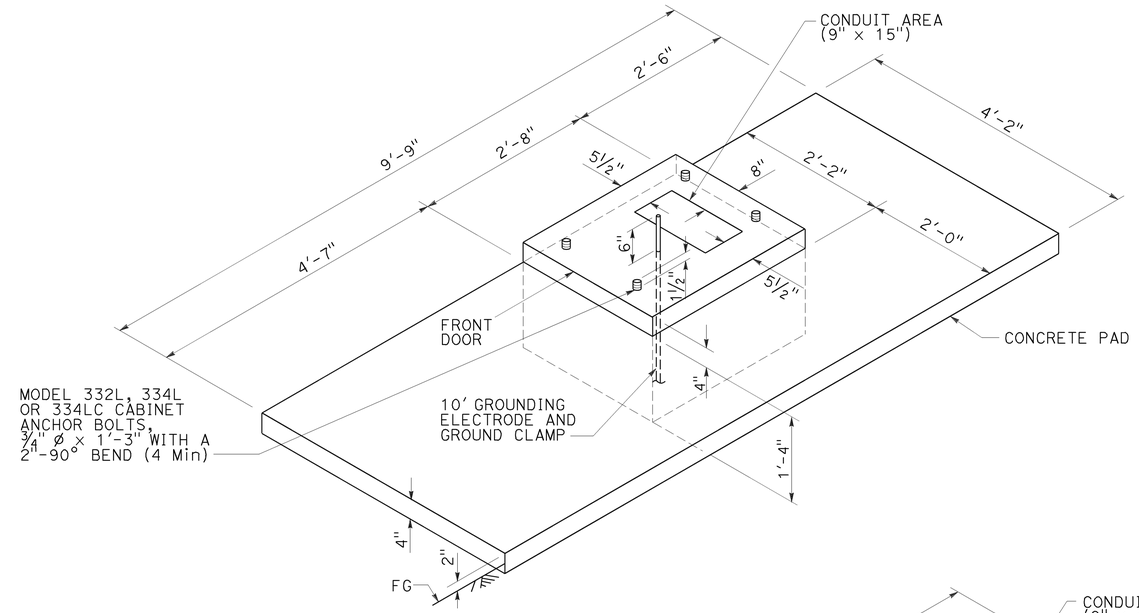
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	138	167

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

April 15, 2016
PLANS APPROVAL DATE

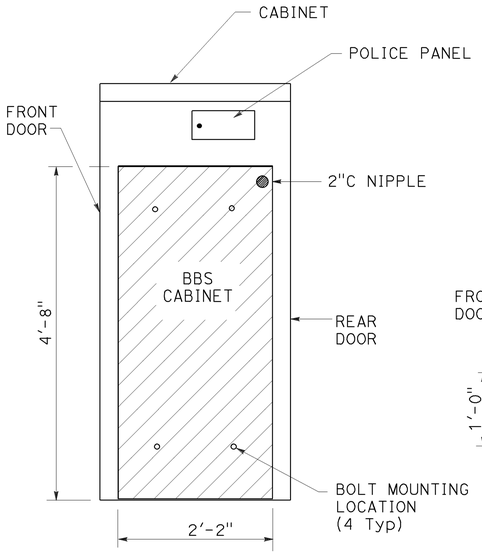
REGISTERED PROFESSIONAL ENGINEER — Theresa Aziz Gabriel — No. E15129 — Exp. 6-30-16 — ELECTRICAL — STATE OF CALIFORNIA

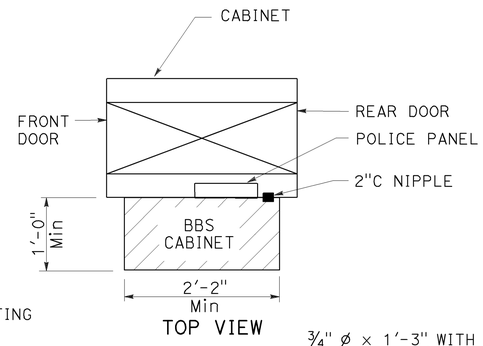
TO ACCOMPANY PLANS DATED 08-08-16



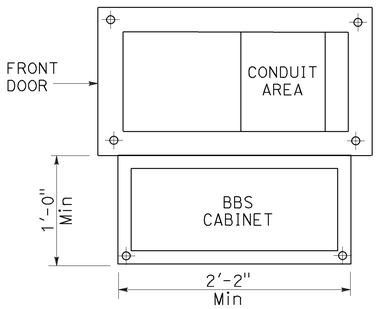
FOUNDATION AND PAD DETAIL

Model 332L, 334L and 334LC



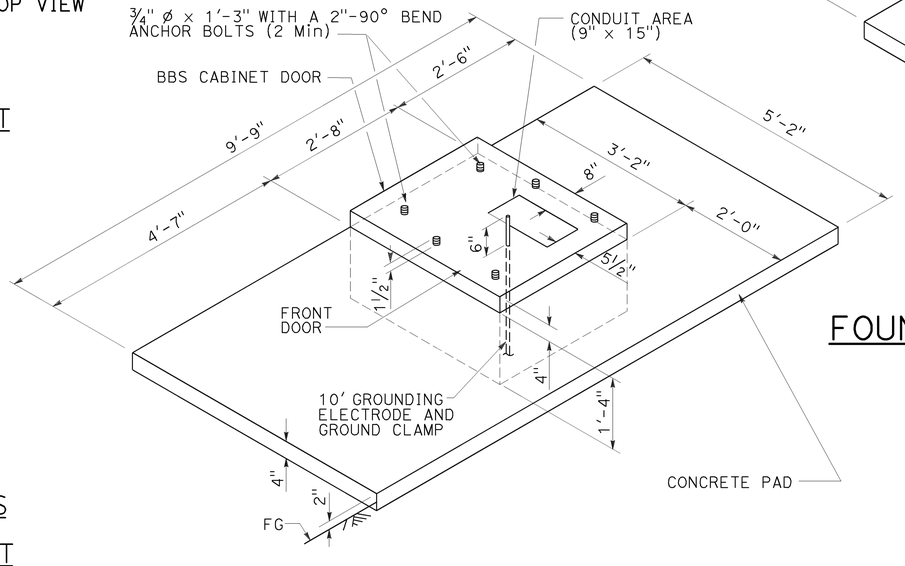


BBS CABINET MOUNTED TO THE MODEL 332L CABINET



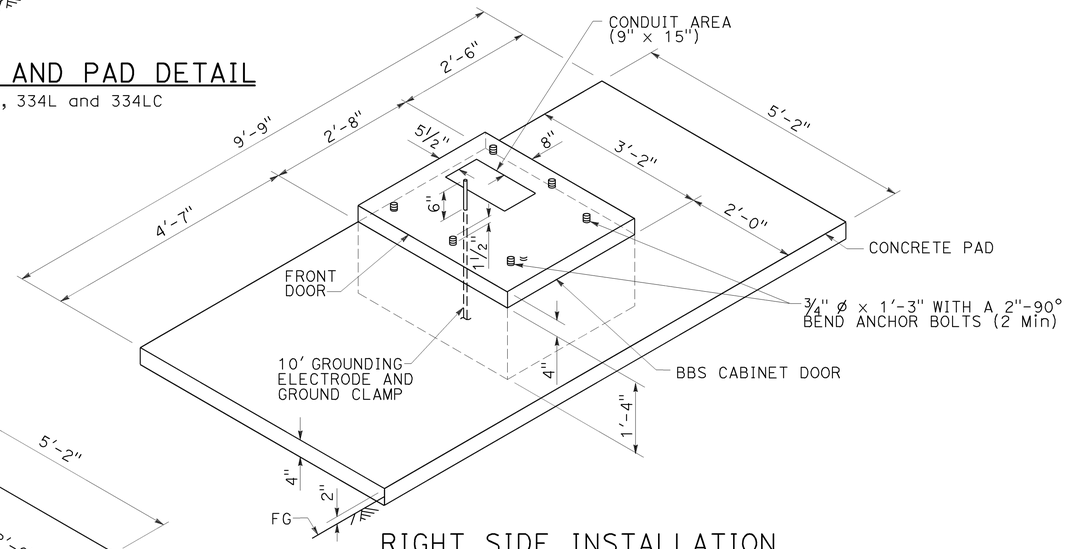
BASE PLAN FOR BBS MOUNTED TO THE MODEL 332L CABINET

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



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

1-12-16

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	139	167

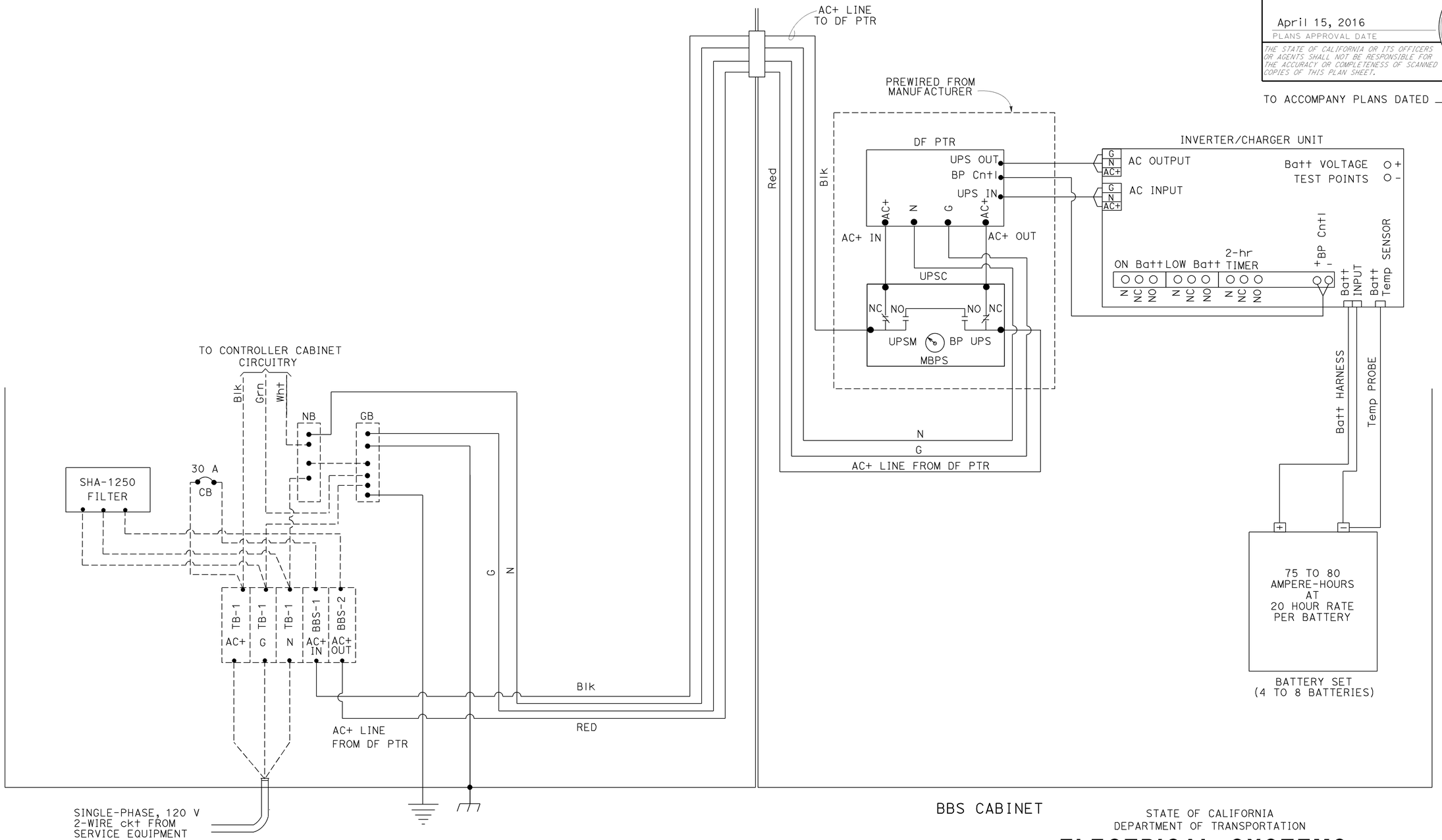
Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

April 15, 2016
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
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 08-08-16



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (ELECTRONICS ASSEMBLY CONNECTION DIAGRAM, WITH BYPASS CONTROL LINE)

NO SCALE

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

REVISED STANDARD PLAN RSP ES-3I

2010 REVISED STANDARD PLAN RSP ES-3I

1-12-16

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	140	167

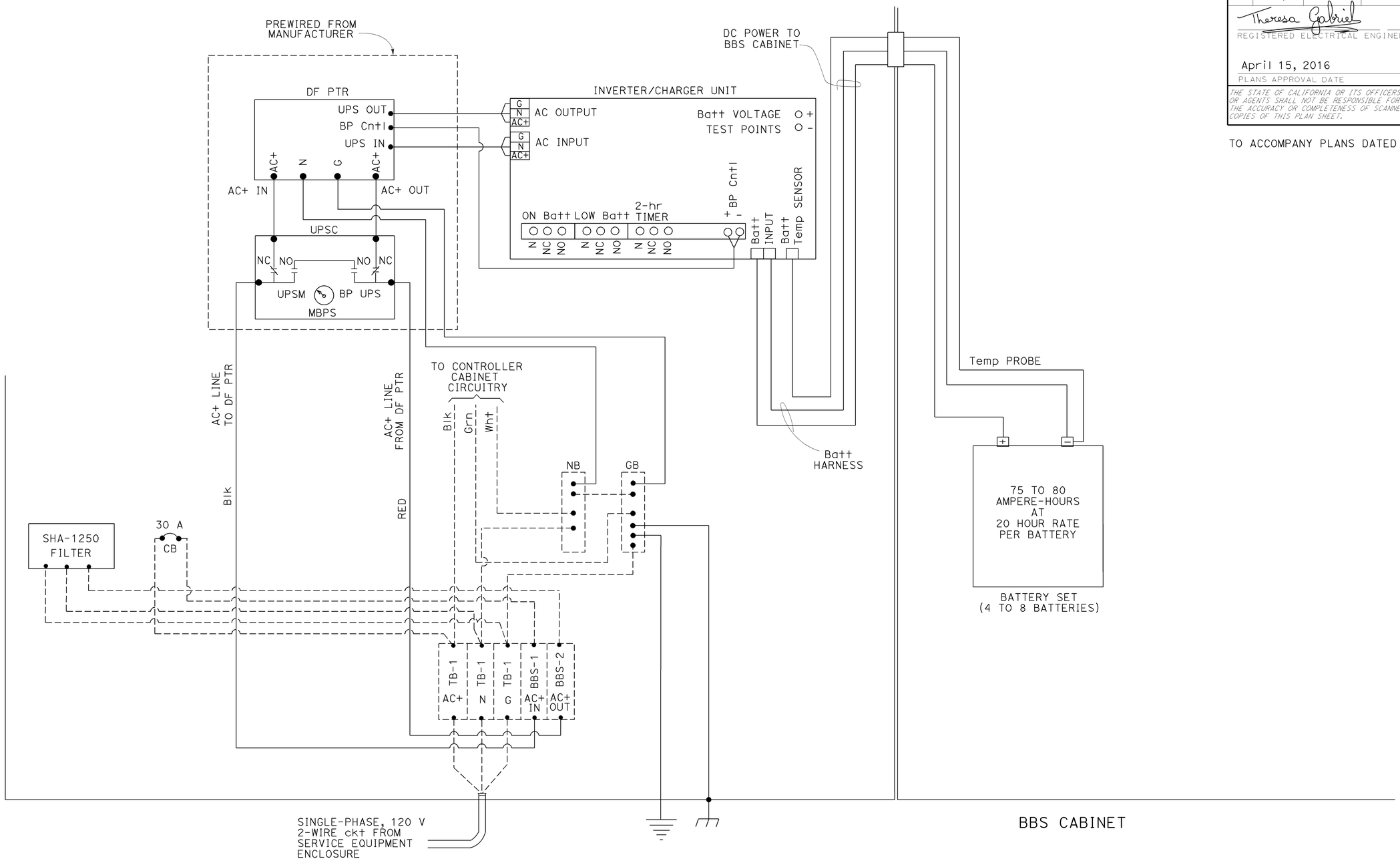
Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

April 15, 2016
PLANS APPROVAL DATE

Registered Professional Engineer — 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 08-08-16



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

2010 REVISED STANDARD PLAN RSP ES-3J

1-12-16

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	141	167

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

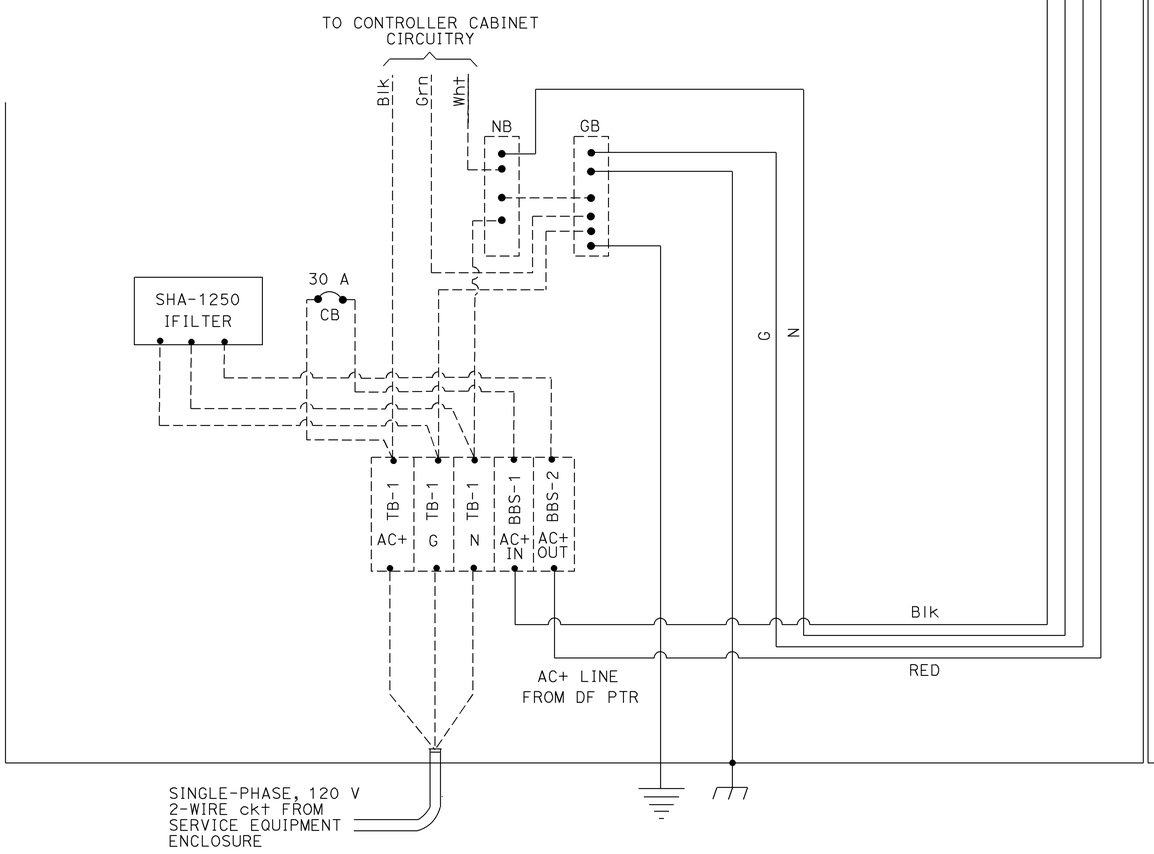
July 15, 2016
PLANS APPROVAL DATE

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

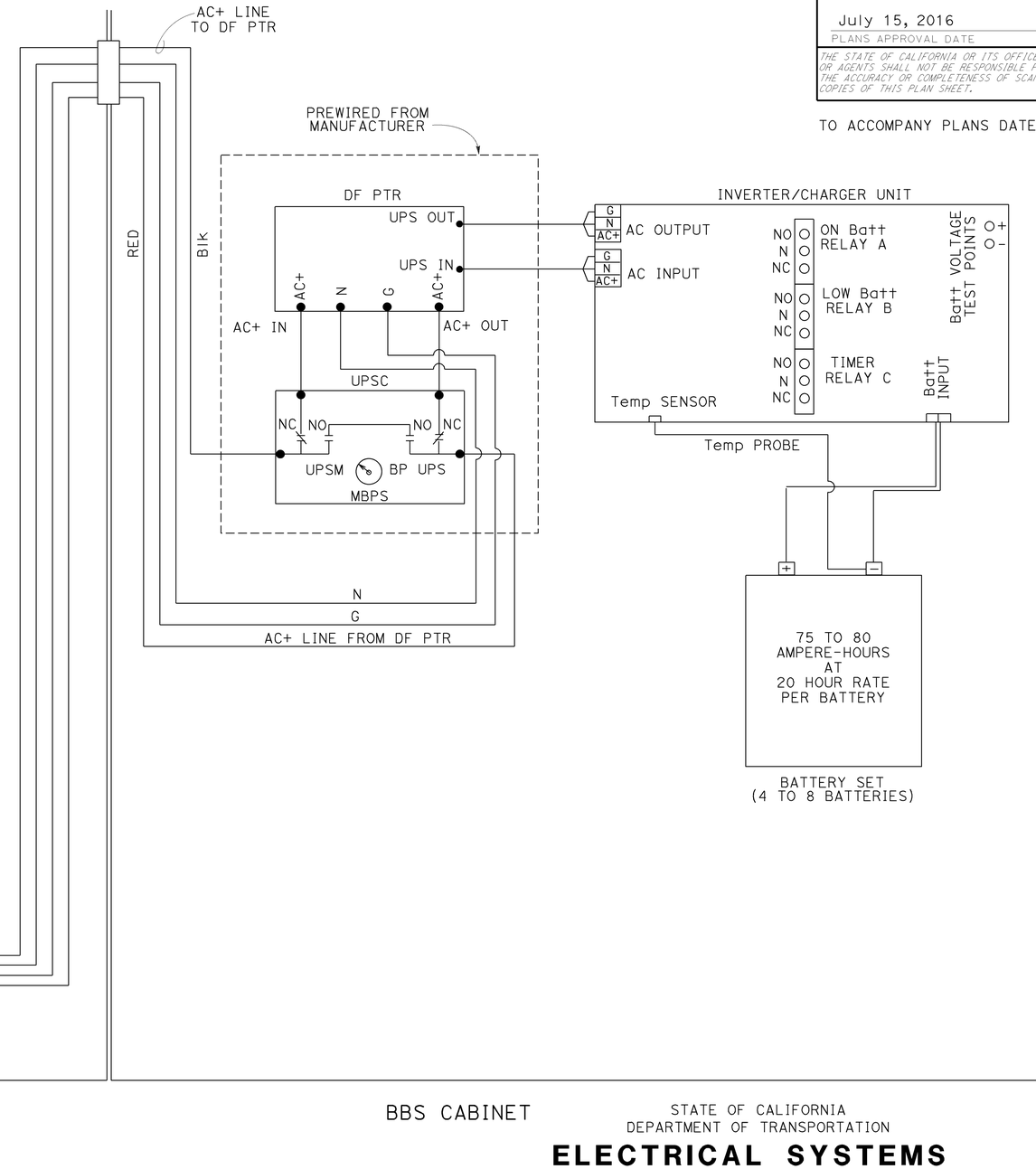
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 08-08-16

2010 REVISED STANDARD PLAN RSP ES-3K



CONTROLLER CABINET



BBS CABINET

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

5-24-16

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	142	167

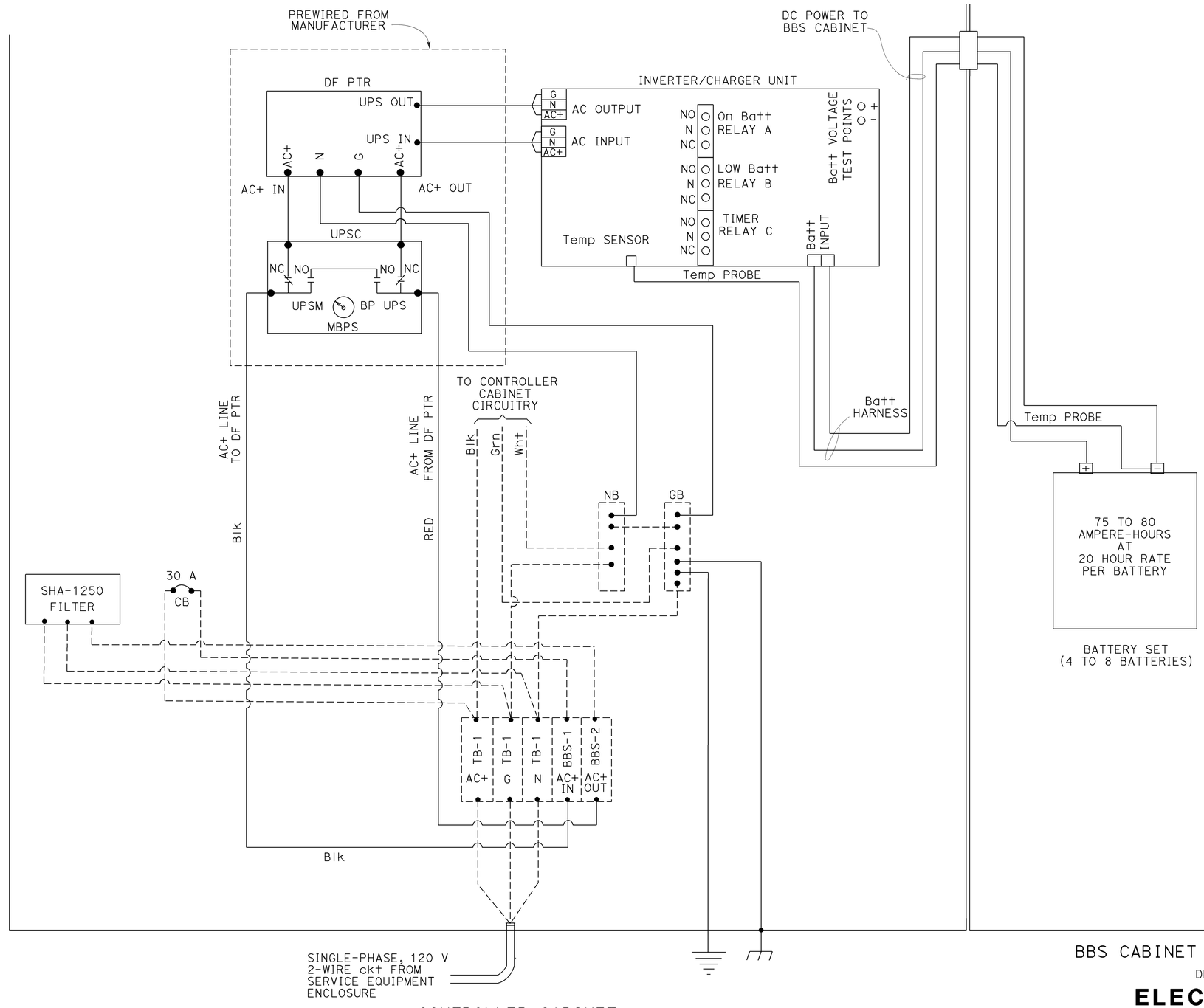
Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

July 15, 2016
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Theresa Aziz Gabriel
No. E15129
Exp. 6-30-18
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 08-08-16



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

5-24-16

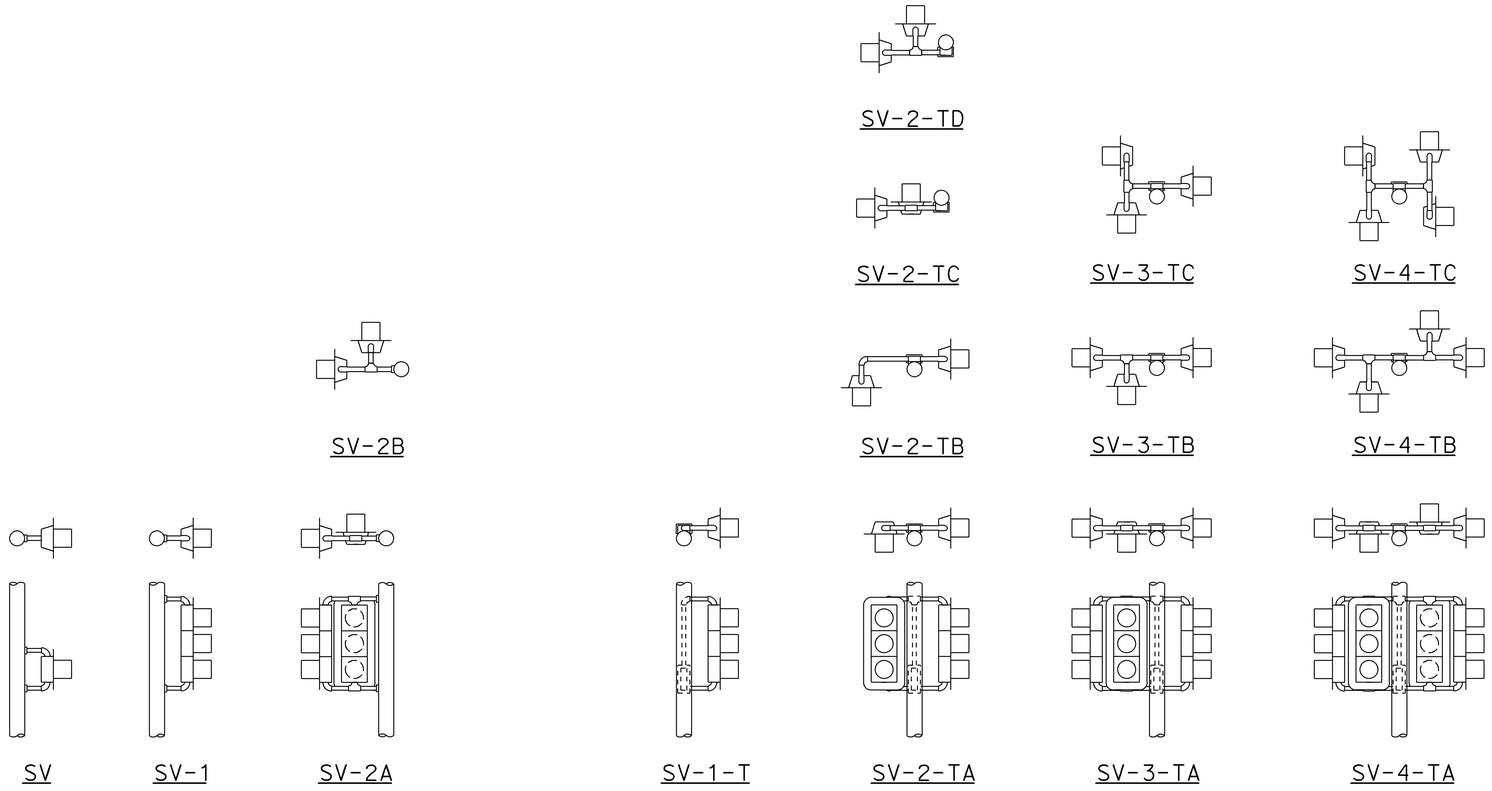
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	143	167

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

October 30, 2015
PLANS APPROVAL DATE

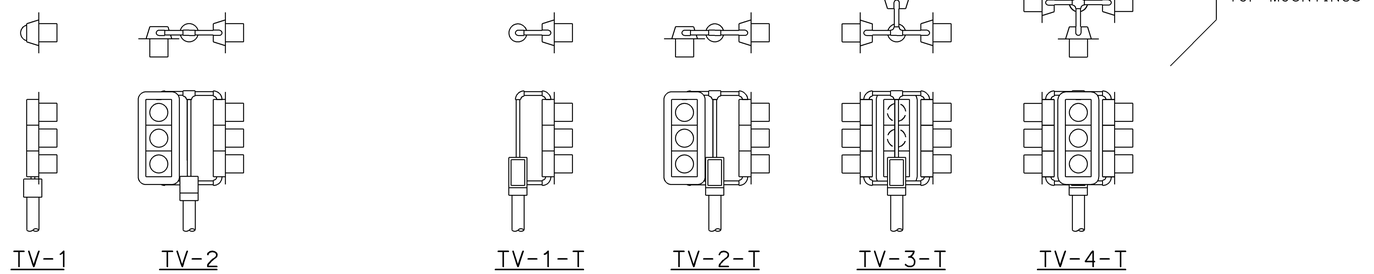
REGISTERED PROFESSIONAL ENGINEER
Theresa Aziz Gabriel
No. E15129
Exp. 6-30-16
ELECTRICAL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 08-08-16



PLAN VIEW OF OTHER SIDE MOUNTINGS

SIDE MOUNTINGS



PLAN VIEW OF TOP MOUNTINGS

TOP 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.

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

2010 REVISED STANDARD PLAN RSP ES-4A

9-28-15

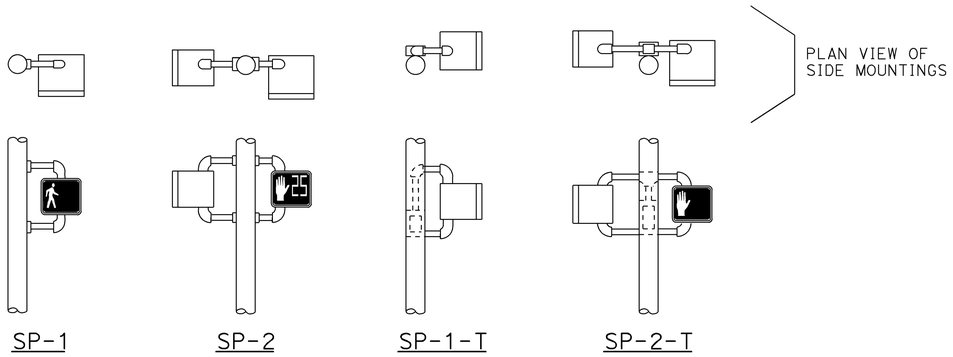
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	144	167

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

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

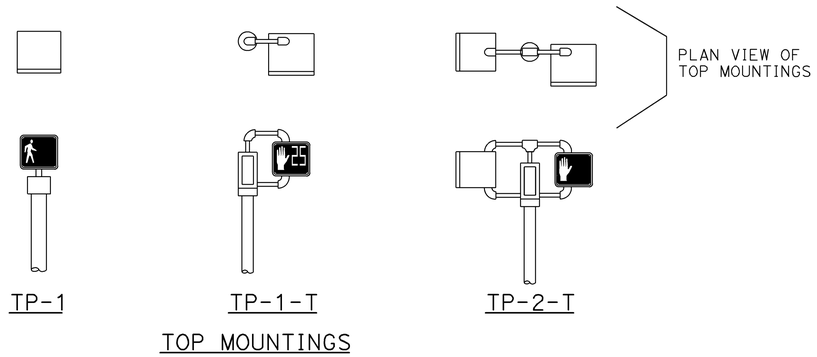
October 30, 2015
PLANS APPROVAL DATE

TO ACCOMPANY PLANS DATED 08-08-16



SP-1 SP-2 SP-1-T SP-2-T

SIDE MOUNTINGS

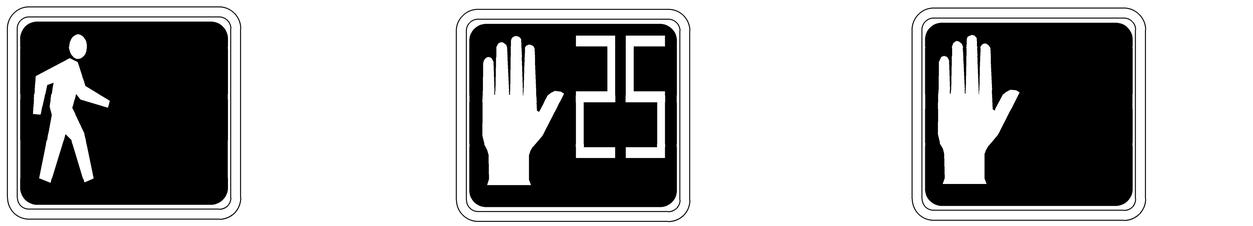


TP-1 TP-1-T TP-2-T

TOP MOUNTINGS

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

9-1-15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	145	167

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

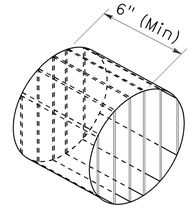
Theresa Aziz Gabriel
No. E15129
Exp. 6-30-16
ELECTRICAL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

October 30, 2015
PLANS APPROVAL DATE

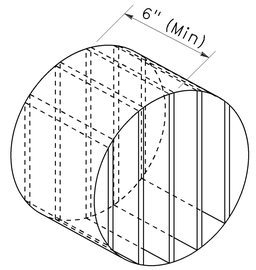
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 08-08-16

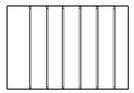
VISORS



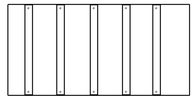
ISOMETRIC VIEW



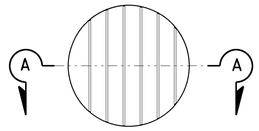
ISOMETRIC VIEW



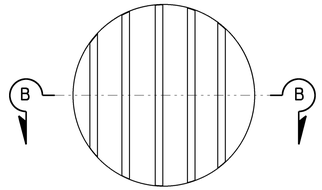
SECTION A-A



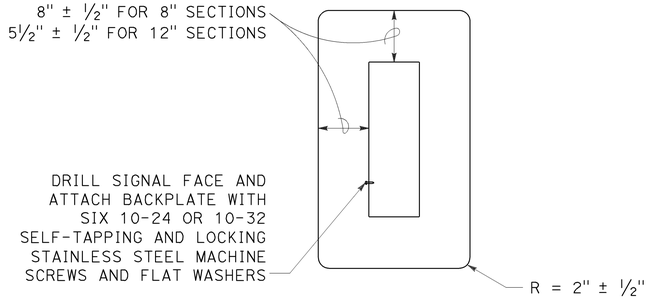
SECTION B-B



8" DIAMETER FRONT VIEW



12" DIAMETER FRONT VIEW

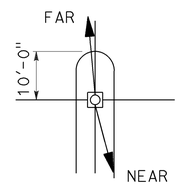


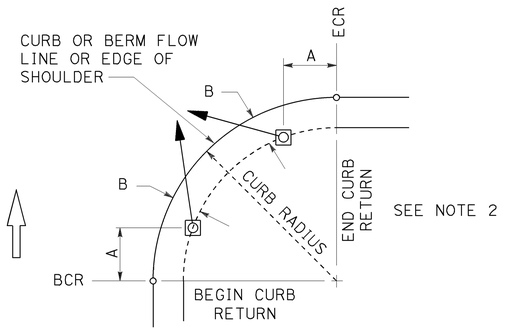
8" AND 12" SECTIONS

BACKPLATE

DIRECTIONAL LOUVER

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

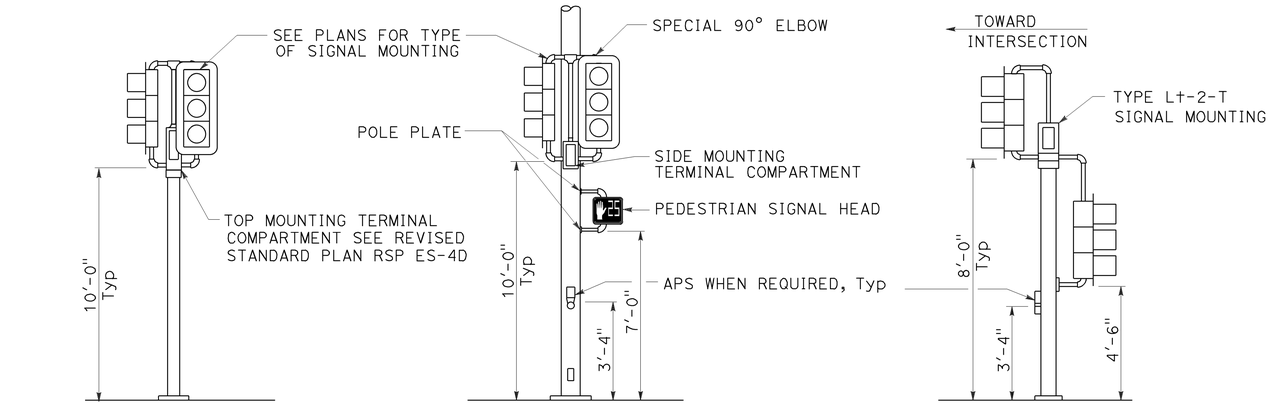




NOTES:

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

SIGNAL STANDARD PLACEMENT DIMENSIONS AND EQUIPMENT LOCATIONS



TOP MOUNTED SIGNALS (TV)

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

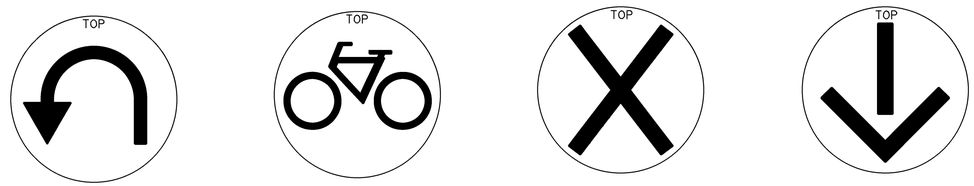
SIDE MOUNTED SIGNALS (SV AND SP)

Normally used on standards with luminaire or signal mast arm

LEFT TURN LANE SIGNAL

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

TYPICAL SIGNAL HEAD INSTALLATIONS



U-TURN | BICYCLE | LANE CONTROL | LANE CONTROL

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

9-28-15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	146	167

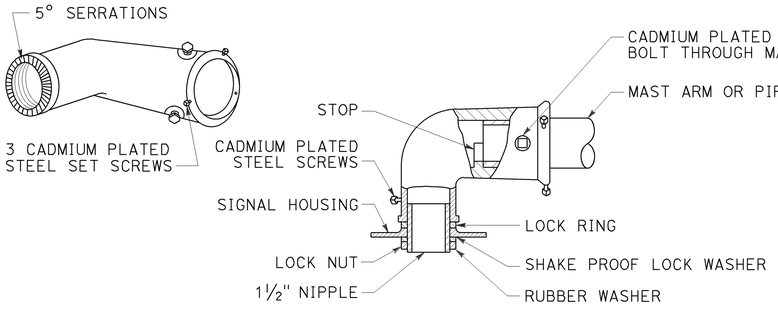
Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

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

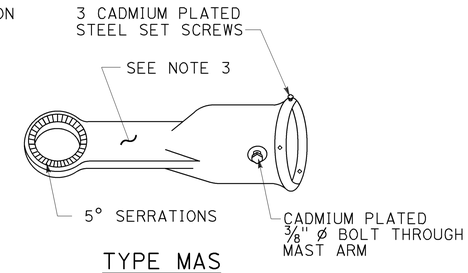
October 30, 2015
PLANS APPROVAL DATE

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.

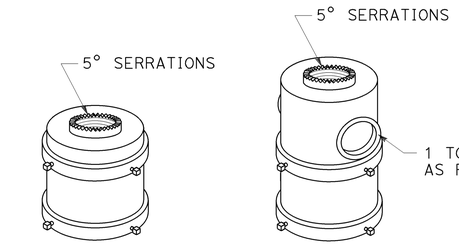
TO ACCOMPANY PLANS DATED 08-08-16



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

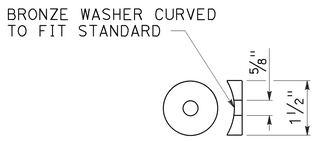


TYPE MAS
MAST ARM MOUNTING
For 2 NPS pipe, see Note 1.

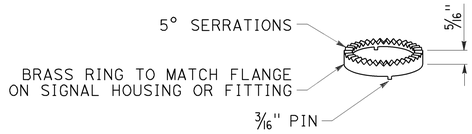


TOP MOUNTINGS
For 4 NPS pipe, see Note 2.

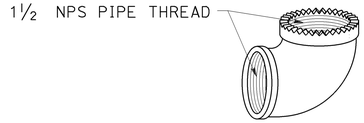
SIGNAL SLIP FITTERS



DETAIL C



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

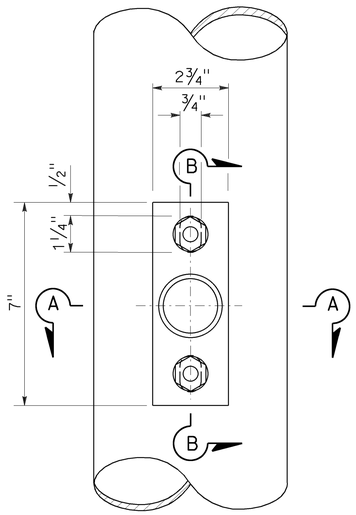


SPECIAL 90° ELBOW
One for each signal head, except those With special slip fitter mounting

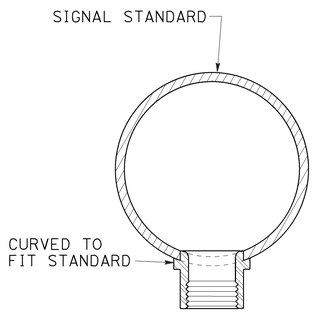
NOTES:

1. 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 ⅜" ø 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.
2. (A) Threaded top mounted slip fitter openings shall be 1½ 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.
3. Wireway shall have a cross section area of 0.95 square inch minimum. Minimum width of ½".

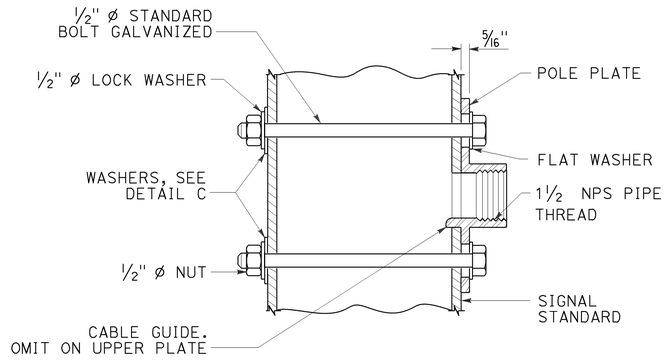
MISCELLANEOUS MOUNTING HARDWARE



TOP VIEW

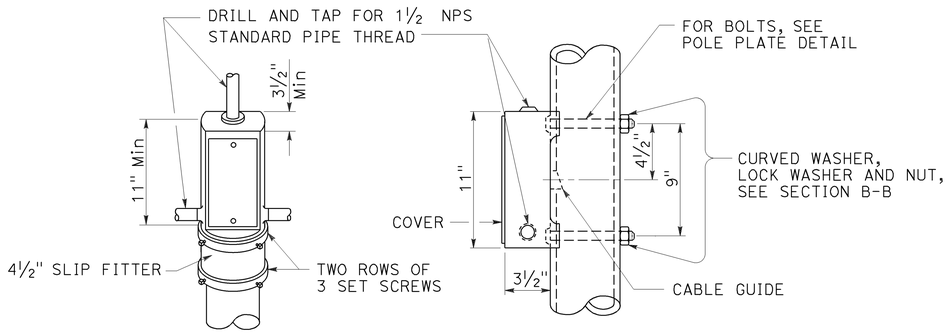


SECTION A-A



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

8-20-15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	147	167

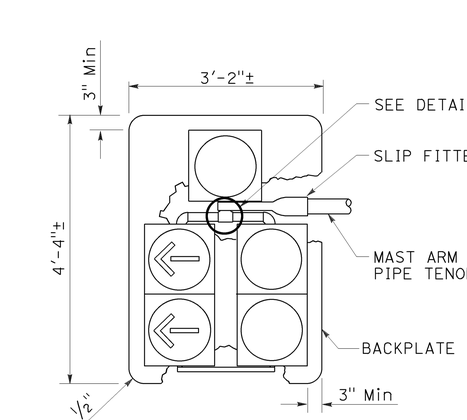
Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

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

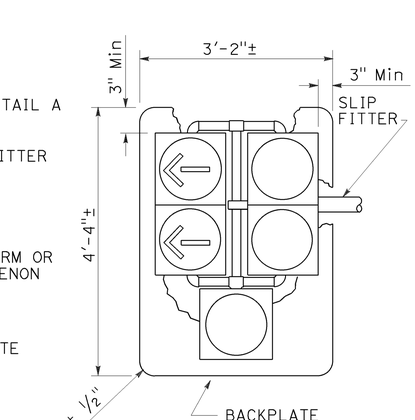
October 30, 2015
PLANS APPROVAL DATE

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.

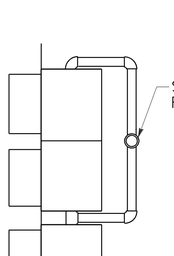
TO ACCOMPANY PLANS DATED 08-08-16



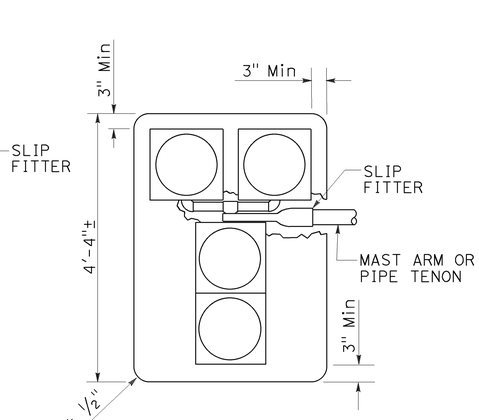
TYPE MAS-5A



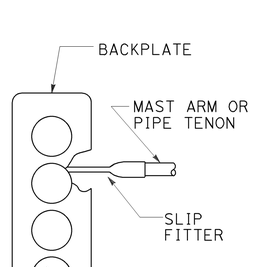
TYPE MAS-5B



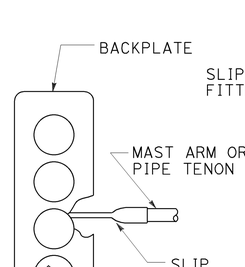
SIDE VIEW



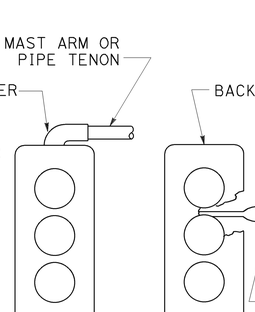
TYPE MAS-4A



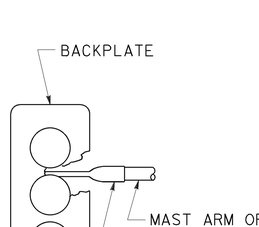
TYPE MAS-4B



TYPE MAS-4C

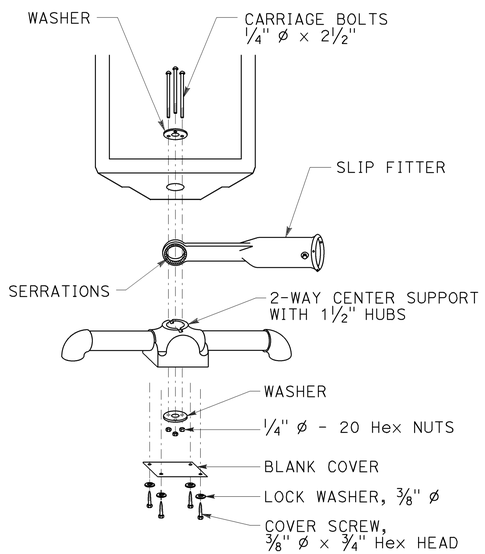


TYPE MAT

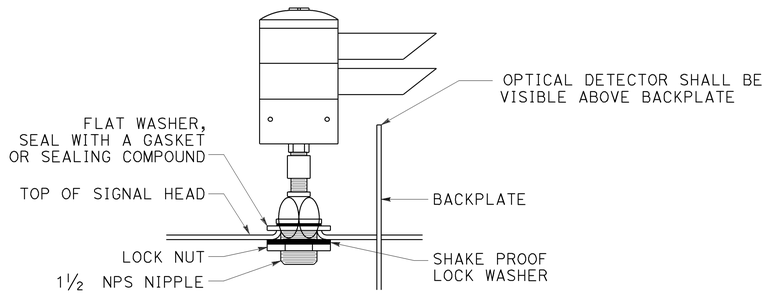


TYPE MAS

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

8-19-15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	148	167

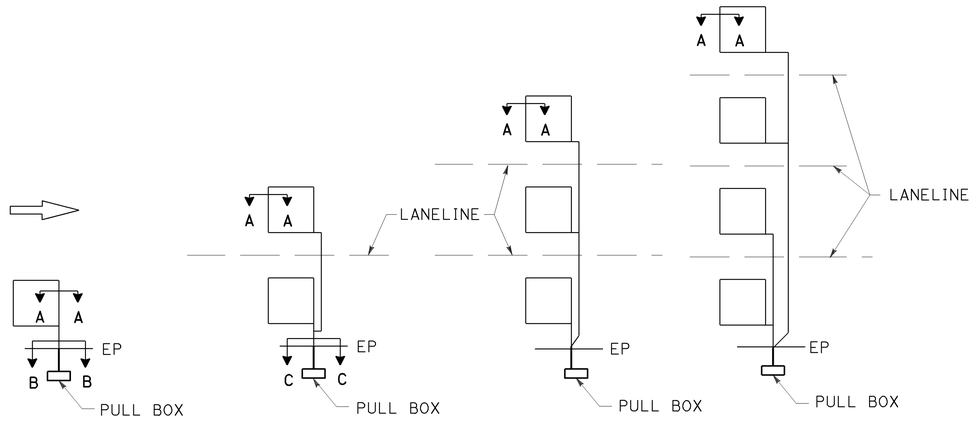
Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

April 15, 2016
PLANS APPROVAL DATE

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

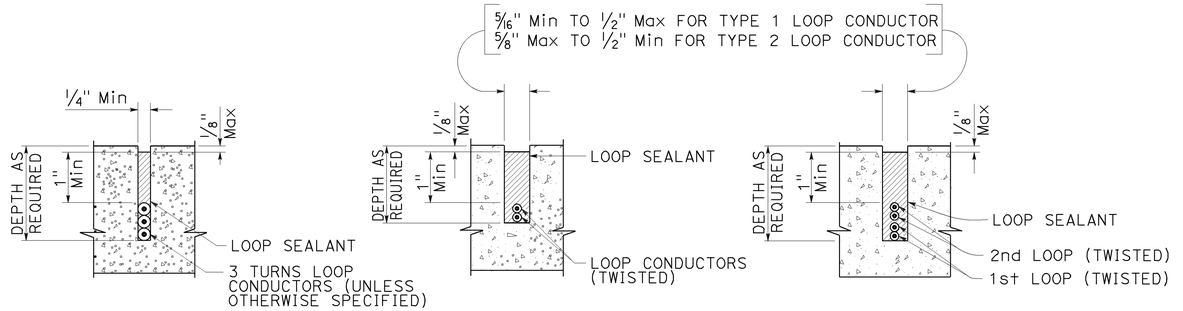
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 08-08-16



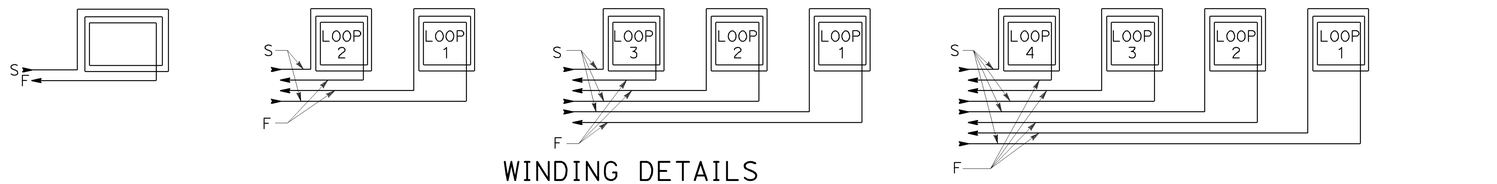
SAW CUT DETAILS

Type A loop detector configurations illustrated

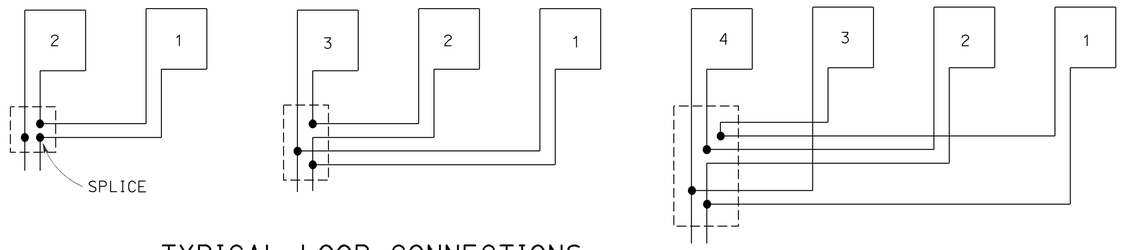


SECTION A-A SECTION B-B SECTION C-C

SLOT DETAILS - TYPE 1 AND TYPE 2 LOOP CONDUCTOR



WINDING DETAILS



TYPICAL LOOP CONNECTIONS

Dashed lines represent the pull box

ABBREVIATIONS:

S - START
F - FINISH

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.

REVISED STANDARD PLAN RSP ES-5A

2010 REVISED STANDARD PLAN RSP ES-5A

1-12-16

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	149	167

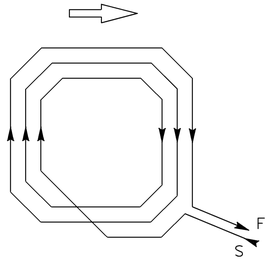
Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

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

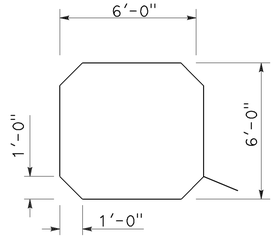
April 15, 2016
PLANS APPROVAL DATE

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.

TO ACCOMPANY PLANS DATED 08-08-16

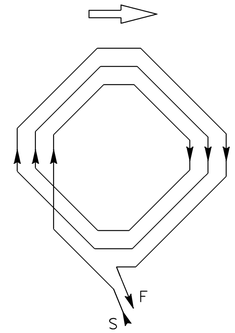


WINDING DETAIL

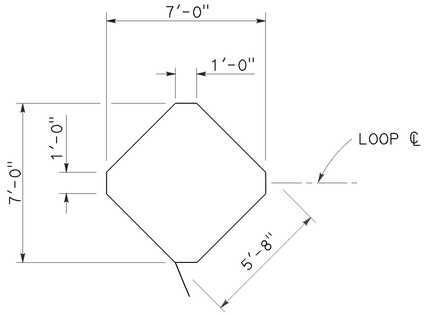


SAW CUT DETAIL

TYPE A LOOP DETECTOR CONFIGURATION

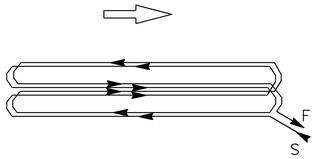


WINDING DETAIL

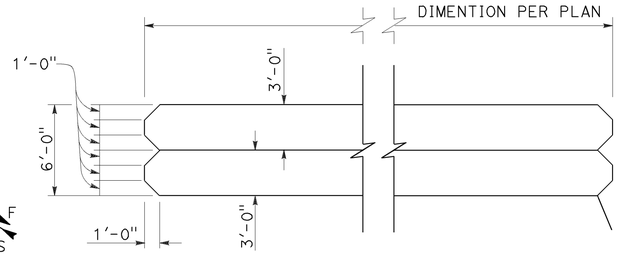


SAW CUT DETAIL

TYPE B LOOP DETECTOR CONFIGURATION

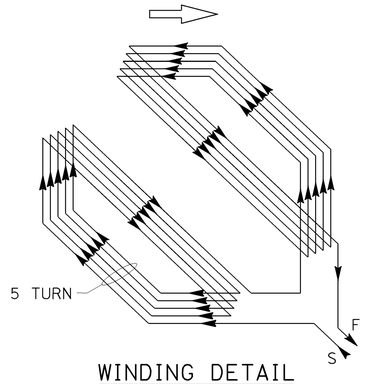


WINDING DETAIL

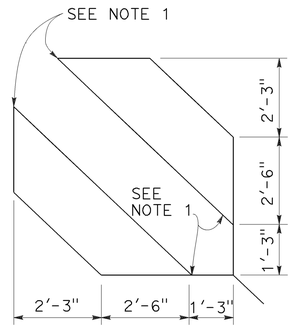


SAW CUT DETAIL

TYPE C LOOP DETECTOR CONFIGURATION

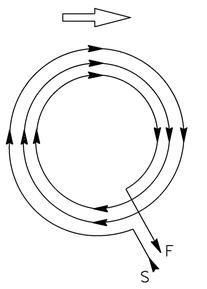


WINDING DETAIL

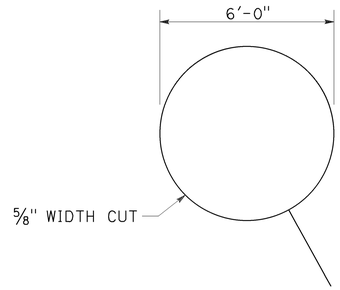


SAW CUT DETAIL

TYPE D LOOP DETECTOR CONFIGURATION

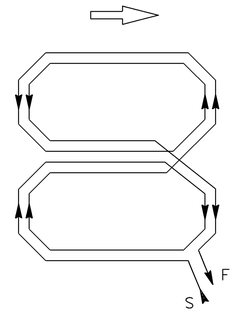


WINDING DETAIL

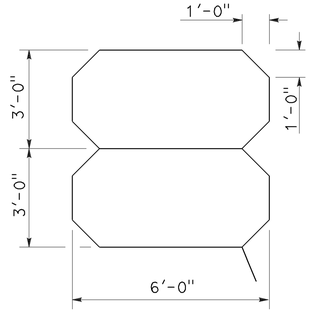


SAW CUT DETAIL

TYPE E LOOP DETECTOR CONFIGURATION

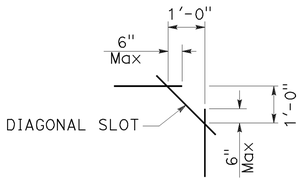


WINDING DETAIL



SAW CUT DETAIL

TYPE Q LOOP DETECTOR CONFIGURATION



PLAN VIEW OF DIAGONAL SLOT AT CORNERS

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.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (DETECTORS)

NO SCALE

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.

REVISED STANDARD PLAN RSP ES-5B

2010 REVISED STANDARD PLAN RSP ES-5B

1-22-16

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	150	167

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

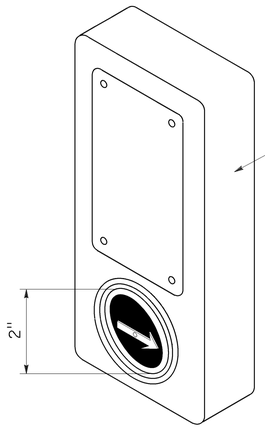
REGISTERED PROFESSIONAL ENGINEER
Theresa Aziz Gabriel
No. E15129
Exp. 6-30-16
ELECTRICAL
STATE OF CALIFORNIA

October 30, 2015
PLANS APPROVAL DATE

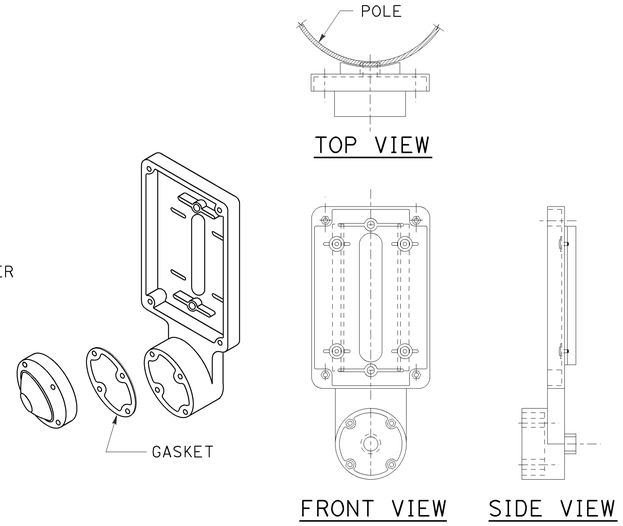
TO ACCOMPANY PLANS DATED 08-08-16

NOTES:

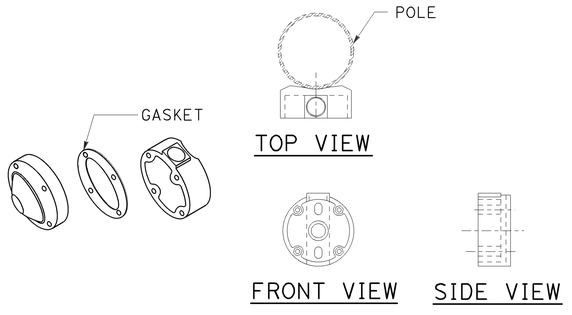
1. Back casting shape to fit curvature of pole.
2. Provide cover fitting for top of post, when PBA is mounted on push button assembly post.
3. Install push button on crosswalk side of standard.
4. Use R10 series regulatory signs and plaques for pedestrian and bicycle facilities.



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)

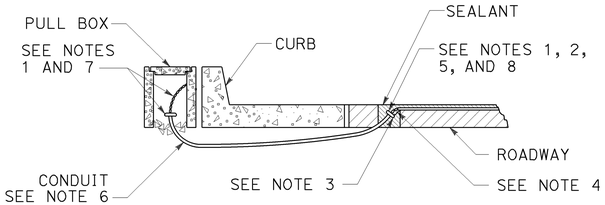
NO SCALE

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

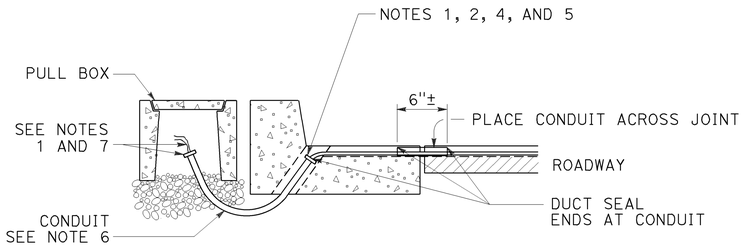
2010 REVISED STANDARD PLAN RSP ES-5C

8-24-15

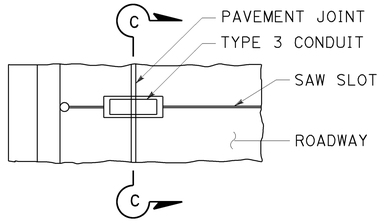


TYPE A

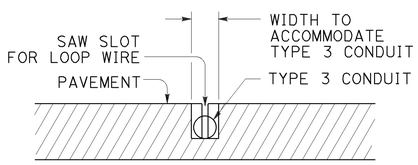
CURB TERMINATION DETAIL



CROSS SECTION



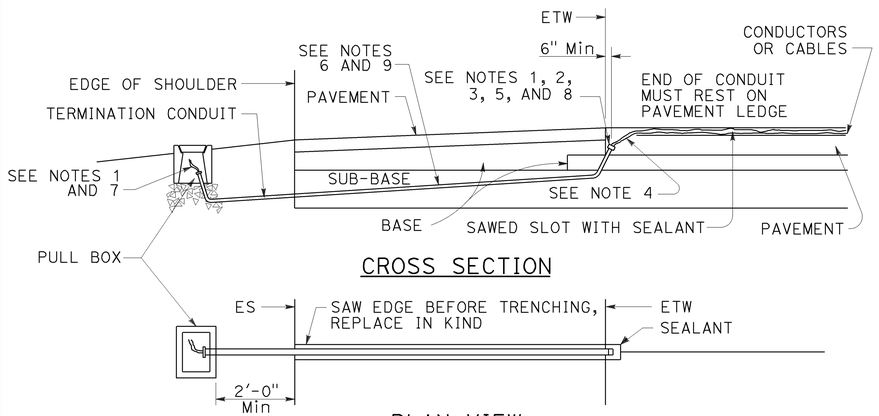
PLAN VIEW



SECTION C-C

TYPE B

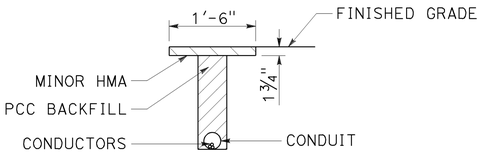
CURB TERMINATION DETAIL



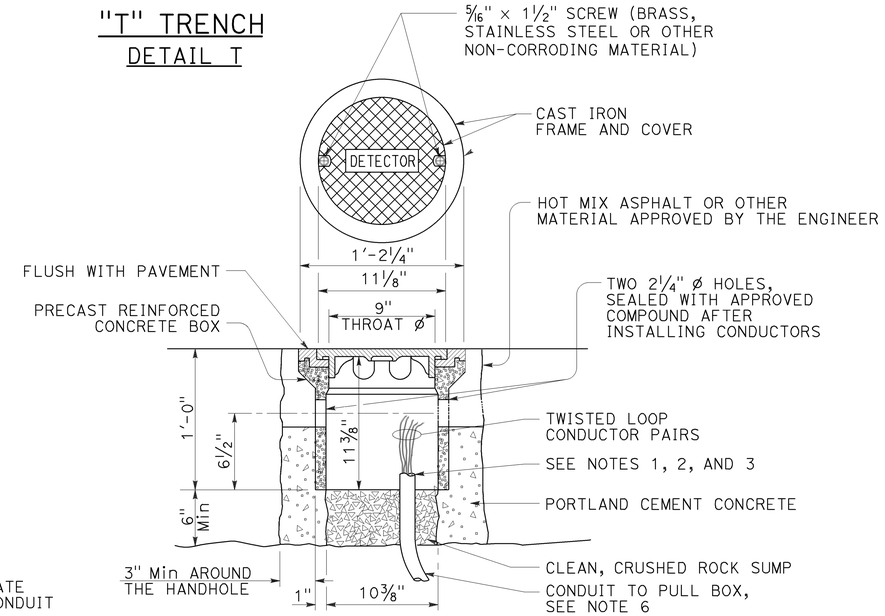
CROSS SECTION

PLAN VIEW

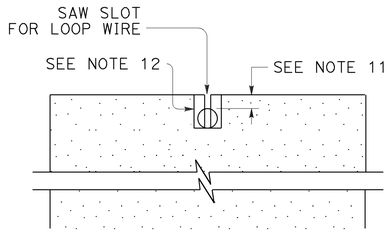
SHOULDER TERMINATION DETAILS



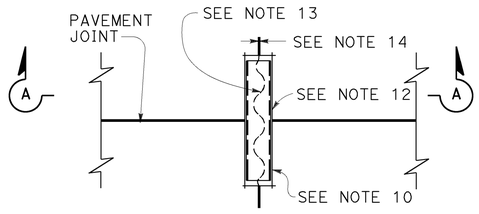
"T" TRENCH DETAIL T



DETECTOR HANDHOLE DETAIL

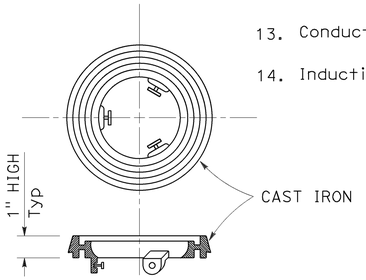


SECTION A-A



PLAN VIEW

TYPICAL LOOP LEAD-IN DETAIL AT PAVEMENT JOINT



LOCKING GRADE RING

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	151	167

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

Theresa Aziz Gabriel No. E15129 Exp. 6-30-16 ELECTRICAL — REGISTERED PROFESSIONAL ENGINEER — 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 08-08-16

NOTES:

1. Bushing shall be used at end of conduit.
2. Tape detector conductors or cables 3" each side of bushings.
3. Install duct seal compound to each end of termination conduit before installing sealant.
4. Round all sharp edges where detector conductors or cables have to pass.
5. End of conduit shall be 3⅛" below roadway surface.
6.

Conduit size	Loop conductors
1"C minimum	1 to 2 pairs
1½"C minimum	3 to 4 pairs
2"C minimum	5 or more pairs

7. Splice detector conductors or cables to detector lead-in-cable.
8. Location of detector handhole when shown on plans.
9. 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.
10. ¾"C, Type 3 conduit 6" long minimum, plug both ends with duct compound to keep out sealant.
11. ½" Minimum between top of conduit and pavement surface.
12. Sawcut shall not exceed 1" in width and ⅛" longer than conduit to be installed.
13. Conductors with ½" minimum slack inside conduit.
14. Inductive loop detector saw slot.

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

8-19-15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	152	167

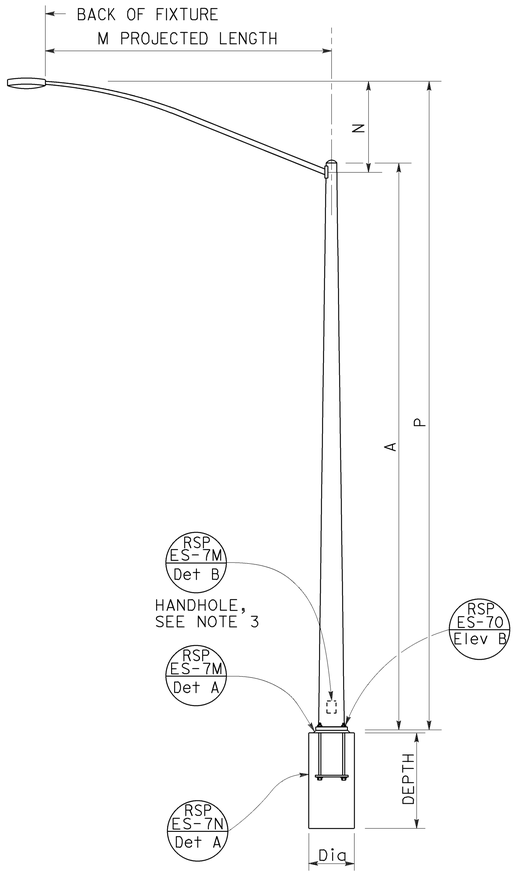
REGISTERED CIVIL ENGINEER

July 15, 2016
PLANS APPROVAL DATE

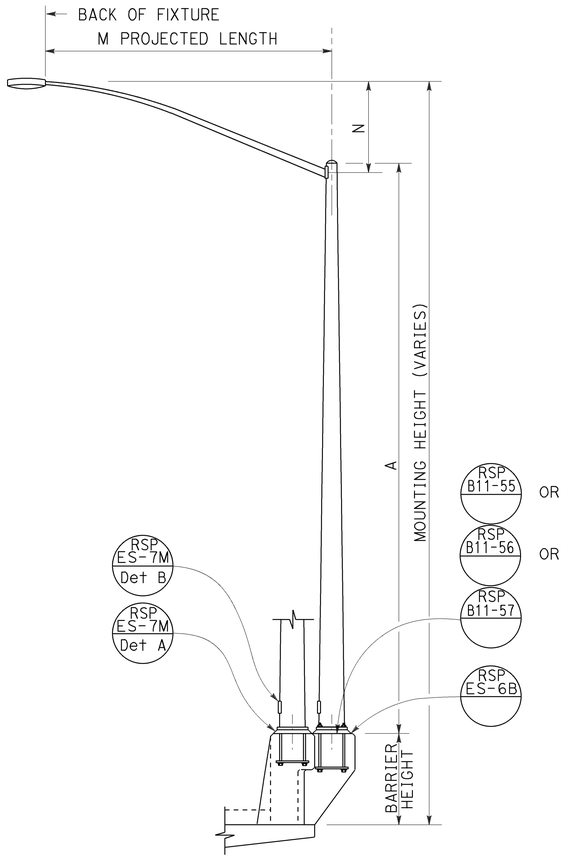
Stanley P. Johnson
No. C57793
Exp. 3-31-18
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

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.

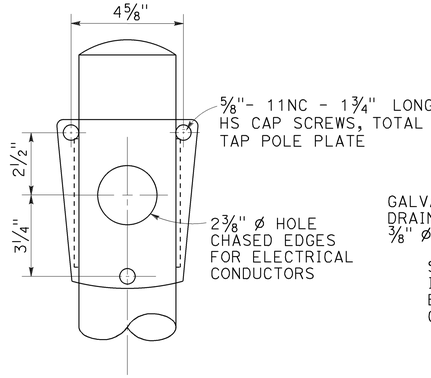
TO ACCOMPANY PLANS DATED 08-08-16



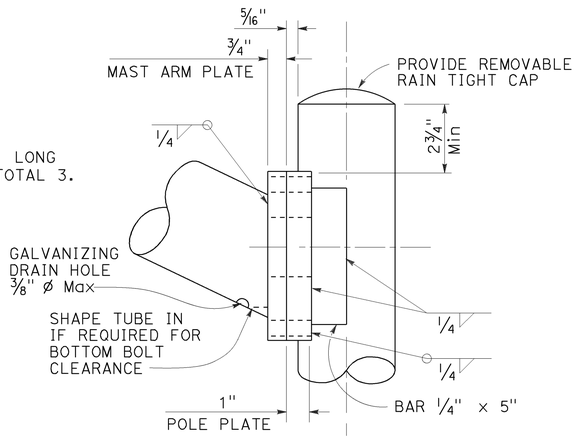
TYPE 15 AND TYPE 21
ELEVATION A



TYPE 15 AND TYPE 21 BARRIER RAIL MOUNTED
ELEVATION B

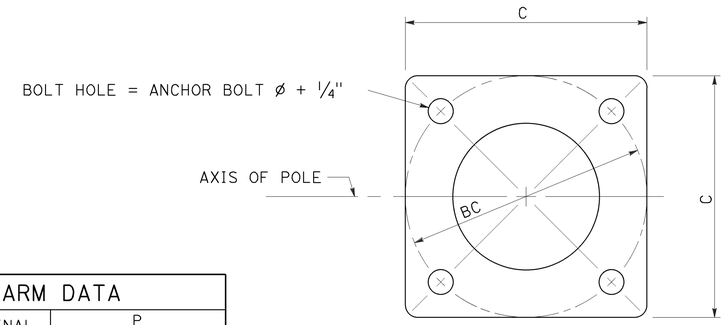


FRONT VIEW



SIDE VIEW

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	Min OD TOP	WALL THICKNESS	C	BC = BOLT CIRCLE	THICKNESS	ANCHOR BOLT SIZE	Dia	DEPTH
15	30'-0"	8"	3 11/16"	0.1196"	1'-0"	1'-0"	1 1/2"	1" ø x 36" *	2'-6"	6'-0"
21	35'-0"	8 5/8"	3 9/16"	0.1793"			2"	1 1/4" ø x 36" *		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	P 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 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"±

NOTES:

1. ☐ Indicates mast arm length to be used unless otherwise noted on the plans.
2. For Type 15-SB, use Type 15 standard with Type 30 slip base plate details, see Revised Standard Plan RSP ES-6F.
3. Handhole shall be located on the downstream side of traffic.
4. 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.

REVISED STANDARD PLAN RSP ES-6A

2010 REVISED STANDARD PLAN RSP ES-6A

6-20-16

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	153	167

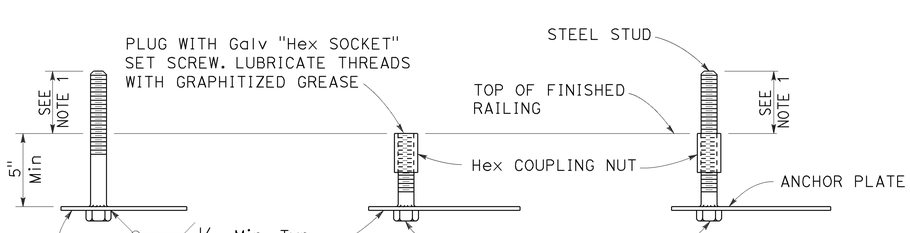
REGISTERED CIVIL ENGINEER

July 15, 2016
PLANS APPROVAL DATE

Stanley P. Johnson
No. C57793
Exp. 3-31-18
CIVIL
REGISTERED PROFESSIONAL ENGINEER
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 08-08-16



FOR IMMEDIATE INSTALLATION
DETAIL B-1

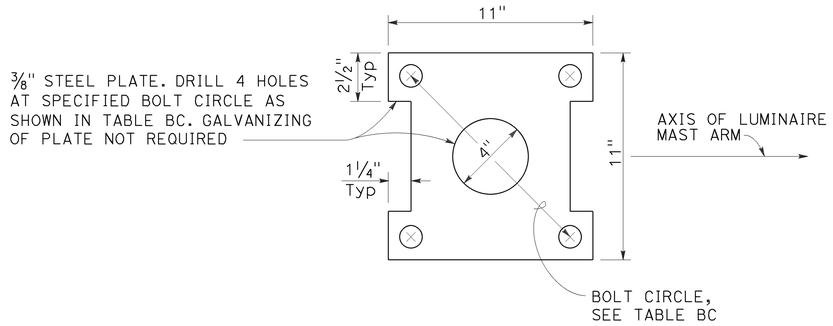
FOR FUTURE INSTALLATION WITH PLUG
DETAIL B-2

FOR INSTALLATION ON FUTURE ANCHORAGE WITH STUD
DETAIL B-3

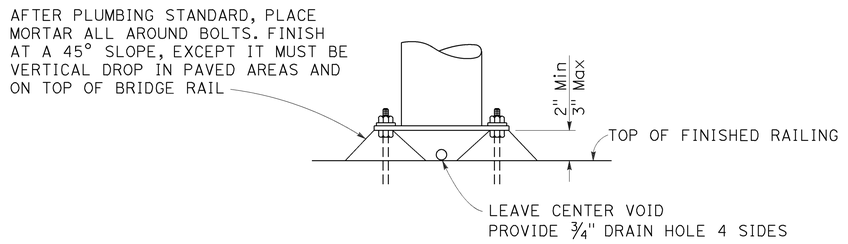
ELECTROLIER ANCHORAGES
DETAIL B

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.



ANCHOR PLATE
DETAIL A



GROUTING AT ELECTROLIER
DETAIL N

TABLE BC				
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 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.

REVISED STANDARD PLAN RSP ES-6B

2010 REVISED STANDARD PLAN RSP ES-6B

6-20-16

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	154	167

REGISTERED CIVIL ENGINEER

July 15, 2016
PLANS APPROVAL DATE

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

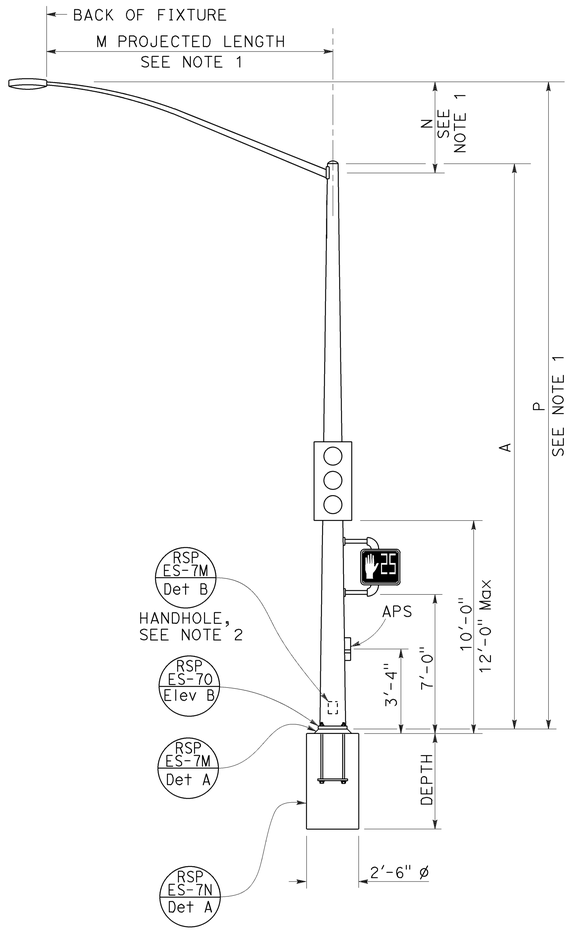
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 08-08-16

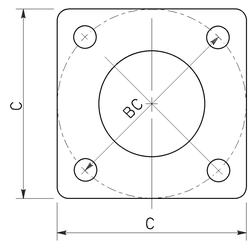
2010 REVISED STANDARD PLAN RSP ES-7A

NOTES:

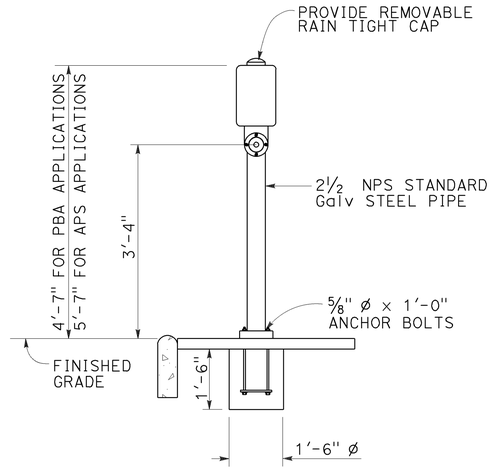
1. For additional notes, details and data for Type 15TS and Type 21TS Standards, see Revised Standard Plan RSP ES-6A.
2. Handhole shall be located on the downstream side of traffic.



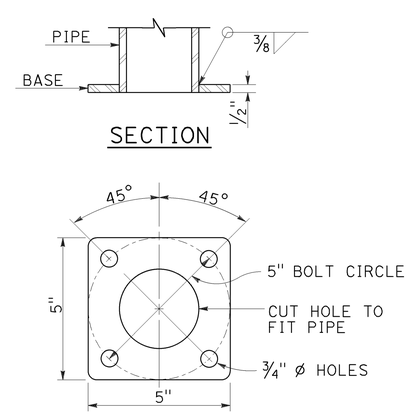
TYPE 15TS AND 21TS STANDARD
ELEVATION A
(See Note 1)



BASE PLATE
TYPE 15TS AND 21TS
DETAIL A

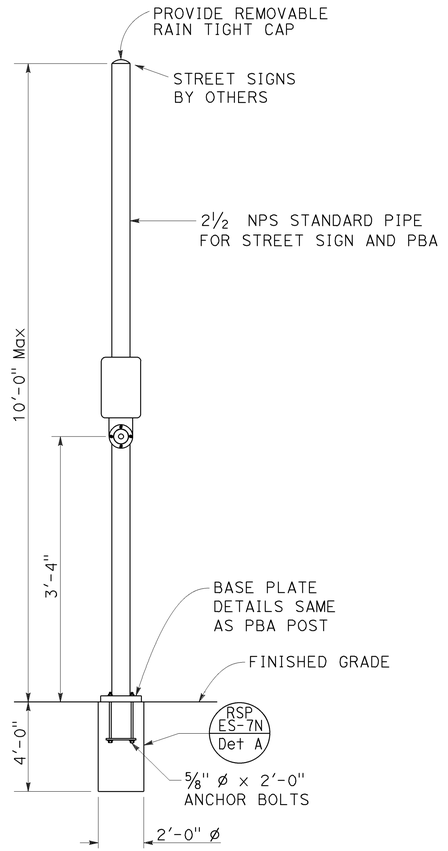


ELEVATION



BASE PLATE
PBA POST

PUSH BUTTON ASSEMBLY POST
DETAIL B



COMBINED STREET SIGN
PUSH BUTTON ASSEMBLY POST
DETAIL C

POLE TYPE	POLE DATA				BASE PLATE DATA				CIDH
	A HEIGHT	Min OD BASE	Min OD TOP	WALL THICKNESS	C	BC = BOLT CIRCLE	THICKNESS	ANCHOR BOLT SIZE	DEPTH
15TS	30'-0"	8"	3 11/16"	0.1793"	1'-1½"	1'-0"	2"	1½" ø x 42"	7'-6"
21TS	35'-0"	9 3/8"	3 9/16"		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

6-20-16

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	155	167

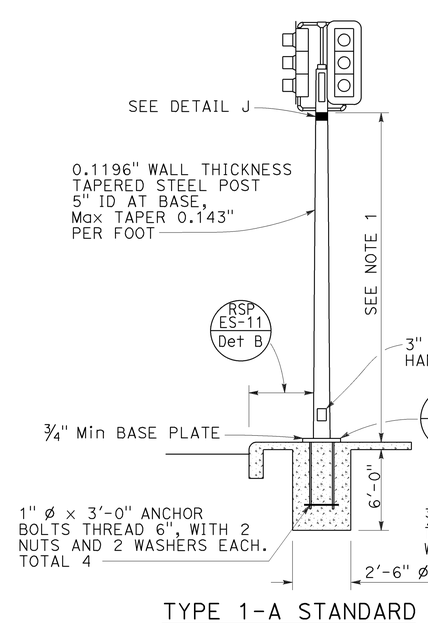
REGISTERED CIVIL ENGINEER

July 15, 2016
PLANS APPROVAL DATE

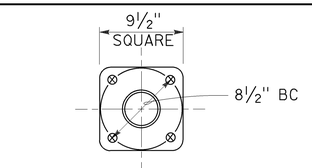
REGISTERED PROFESSIONAL ENGINEER
Stanley P. Johnson
No. C57793
Exp. 3-31-18
CIVIL
STATE OF CALIFORNIA

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.

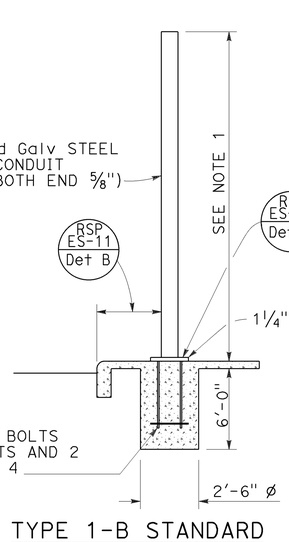
TO ACCOMPANY PLANS DATED 08-08-16



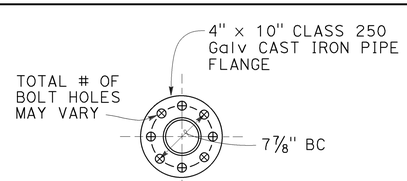
TYPE 1-A STANDARD
DETAIL A-1



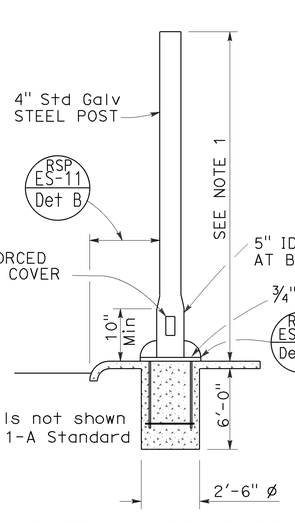
BASE PLATE
DETAIL A-2
For Type 1-A
For Type 1-C
For Type 1-D



TYPE 1-B STANDARD
DETAIL A-3

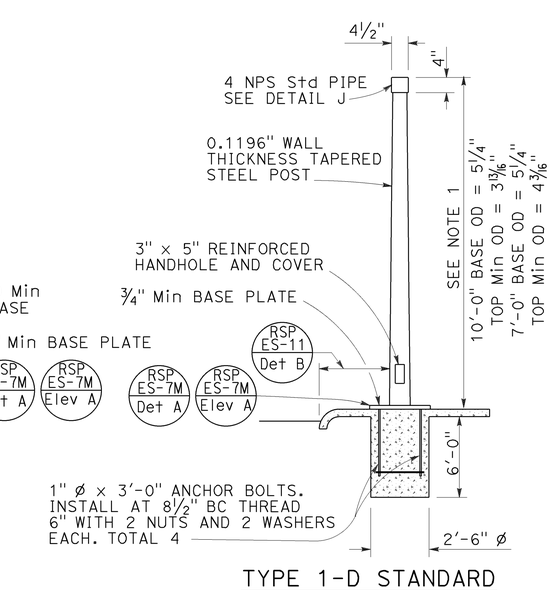


BASE PLATE
DETAIL A-4
For Type 1-B



TYPE 1-C STANDARD
DETAIL A-5

NOTE:
For Details not shown see Type 1-A Standard



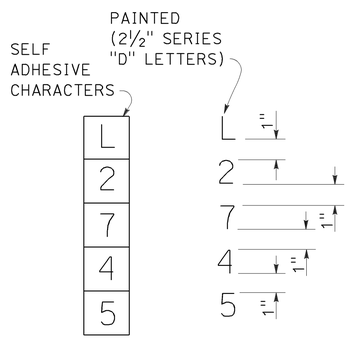
TYPE 1-D STANDARD
DETAIL A-6

NOTES:

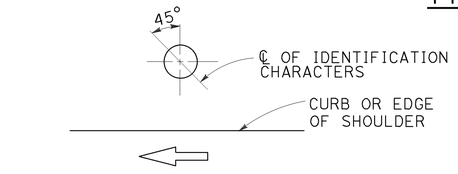
1. Standards shall be 10'-0" ± 2" for vehicle signals and 7'-0" ± 2" for pedestrian signals unless shorter pole is noted on project plans.
2. Top of standards shall be 4½" OD.
3. Conduits shall extend 2" maximum above finished surface of foundation and for Types 1-A, 1-C and 1-D shall be sloped toward handhole.
4. Anchor bolts shall be bonded to conduit or grounding conductor.
5. For additional notes and details, see Revised Standard Plans RSP ES-7M and RSP ES-7N.
6. Pour foundation concrete against undisturbed soil.
7. For standards with handhole, locate in the downstream side of traffic.
8. Coupling nuts to be used only when shown or specified on project plans.

TYPE 1 SIGNAL STANDARDS

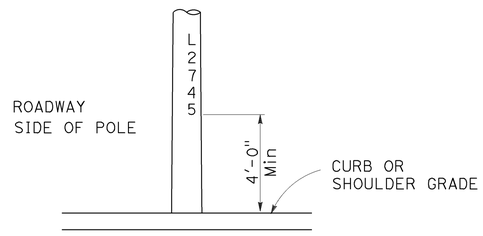
DETAIL A



IDENTIFICATION CHARACTER DETAIL
DETAIL B-1

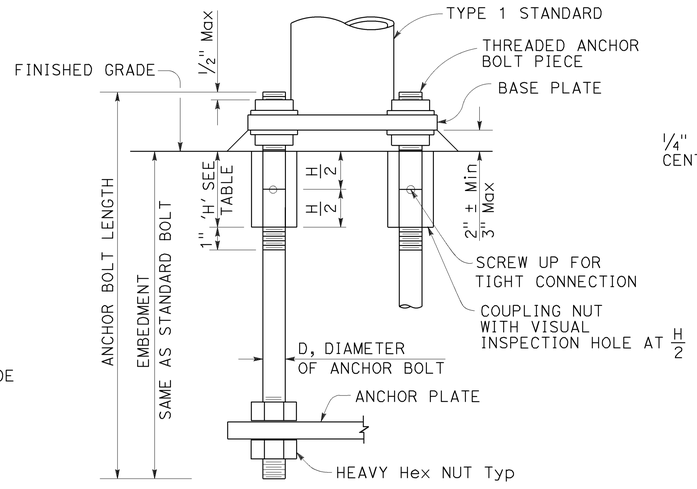


DETAIL B-3

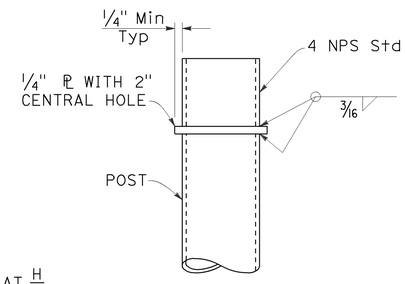


TYPICAL IDENTIFICATION CHARACTER FORMAT
DETAIL B-2

LOCATION OF EQUIPMENT IDENTIFICATION CHARACTERS ON STANDARDS AND POSTS
DETAIL B



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



DETAIL J

COUPLING NUT TABLE	
BOLT DIAMETER	NUT TABLE THICKNESS 'H'
¾"	2¼"
1"	3"

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.

REVISED STANDARD PLAN RSP ES-7B

2010 REVISED STANDARD PLAN RSP ES-7B

6-20-16

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	156	167

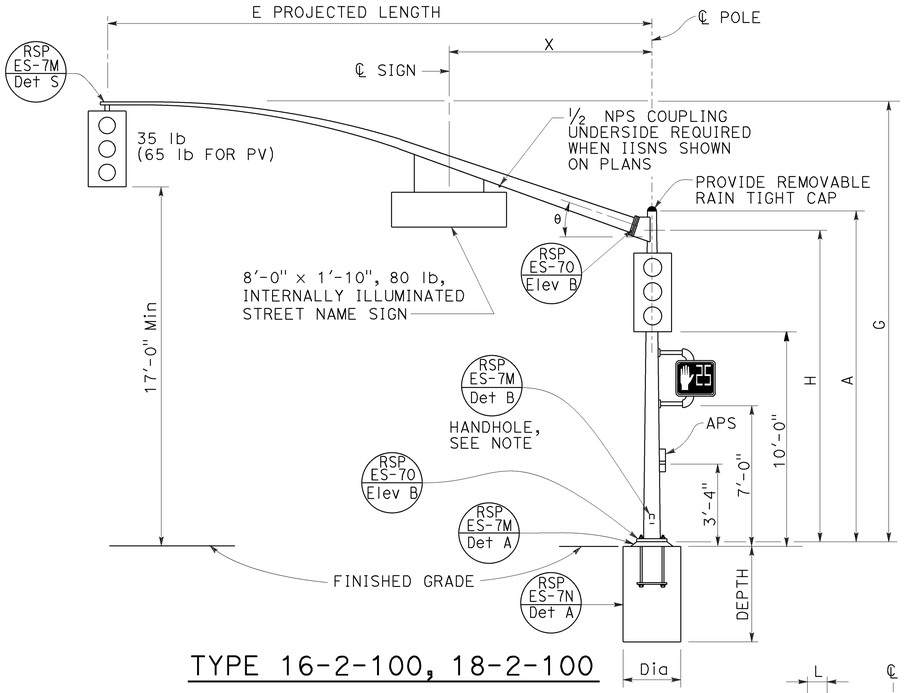
REGISTERED CIVIL ENGINEER

July 15, 2016
PLANS APPROVAL DATE

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

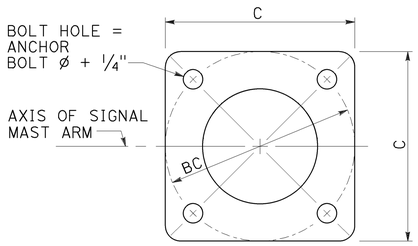
NOTE: TO ACCOMPANY PLANS DATED 08-08-16

Handhole shall be located on the downstream side of traffic.

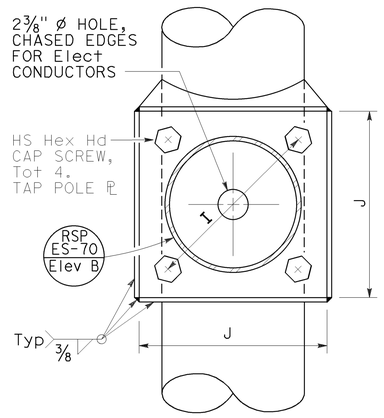


TYPE 16-2-100, 18-2-100

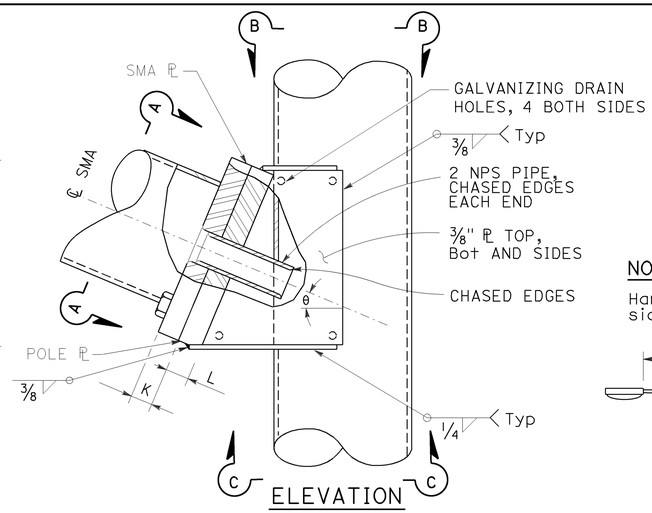
ELEVATION A



BASE PLATE
DETAIL B

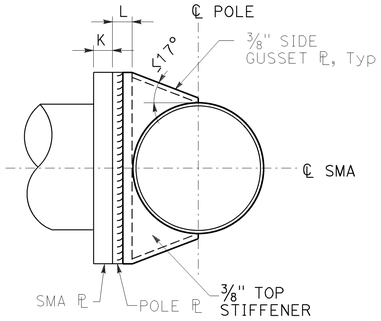


SECTION A-A

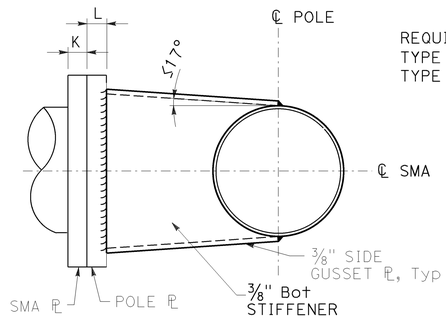


ELEVATION

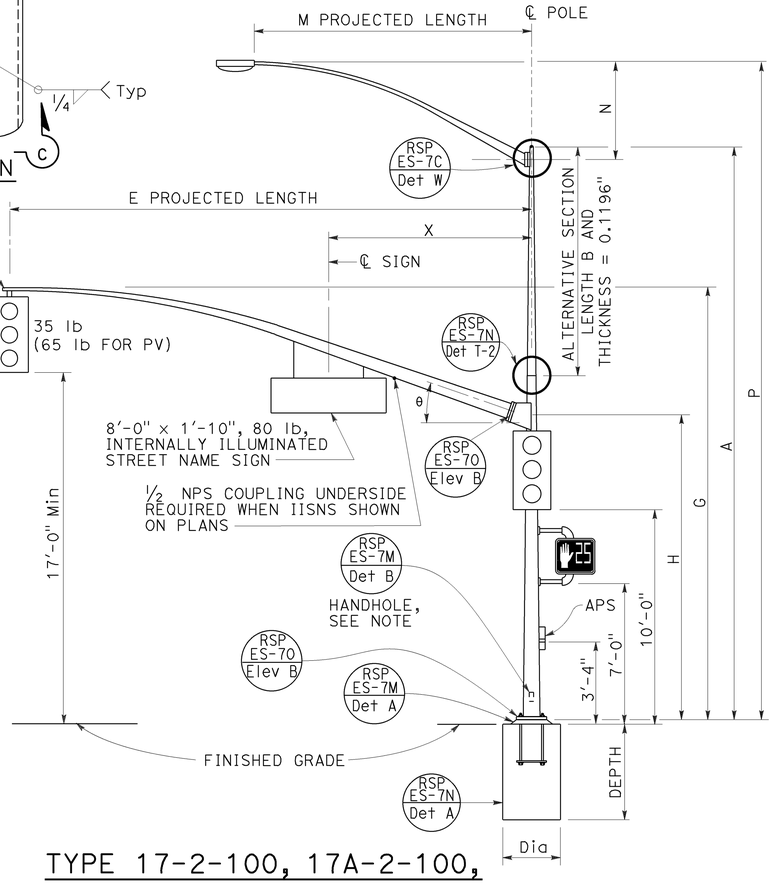
SIGNAL MAST ARM CONNECTION
DETAIL A



SECTION B-B



SECTION C-C



TYPE 17-2-100, 17A-2-100, 19-2-100, 19A-2-100

ELEVATION B

SIGNAL MAST ARM DATA											
E PROJECTED LENGTH	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	X Max
15′-0"	21′-8"±	17′-6"	7⅞"	0.1793"	12"	1¼"-7NC-3"	1′-1"	1¼"	1½"	23°	10′-6"
20′-0"	21′-8"±		8"								
25′-0"	22′-8"±	16′-0"	9"				1′-3"				
30′-0"	23′-0"±		10"	0.2391"							

LUMINAIRE MAST ARM DATA					
M PROJECTED LENGTH	N RISE	Min OD AT POLE	THICKNESS	P MOUNTING HEIGHT 30′-0" POLE	P MOUNTING HEIGHT 35′-0" POLE
6′-0"	2′-0"±	3¼"	0.1196"	31′-6"±	36′-6"±
8′-0"	2′-6"±	3½"		32′-0"±	37′-0"±
10′-0"	3′-3"±	3⅞"		32′-9"±	37′-9"±
12′-0"	4′-3"±			33′-9"±	38′-9"±
15′-0"	4′-9"±	4¼"		34′-3"±	39′-3"±

POLE TYPE	LOAD CASE	WIND VELOCITY (mph)	POLE DATA: A HEIGHT	Min OD BASE	Min OD TOP	THICKNESS	ALTERNATIVE SECTION B LENGTH	ALTERNATIVE SECTION BOTTOM	ALTERNATIVE SECTION TOP	BASE PLATE DATA: C	BC = BOLT CIRCLE	THICKNESS	ANCHOR BOLT SIZE	LUMINAIRE MAST ARM	SIGNAL MAST ARM	CIDH PILE FOUNDATION Dia	CIDH PILE FOUNDATION DEPTH
16-2-100	2	100	18′-6"	14"	11⅜"	0.2391" OR 0.25"				1′-10"	1′-8"	2½"	2"ø x 42"	NONE	15′-0", 20′-0"	3′-6"	10′-0"
17-2-100			30′-0"		9¾"		10′-0"	11⅛"	9¾"					6′-15′ 12′-0"			
17A-2-100			35′-0"		9"		15′-0"		9"					6′-15′ 15′-0"			
18-2-100			17′-0"		11⅝"									None	25′-0", 30′-0"		
19-2-100			30′-0"		9¾"		10′-0"	11⅛"	9¾"					6′-15′ 12′-0"			
19A-2-100			35′-0"	16"	11"		15′-0"	13⅛"	11"	1′-11"	1′-9"	3"	2¼"ø x 42"	6′-15′ 15′-0"			12′-0"

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SIGNAL AND LIGHTING STANDARD, CASE 2 SIGNAL MAST ARM LOADING, WIND VELOCITY=100 MPH AND SIGNAL MAST ARM LENGTHS 15' TO 30')

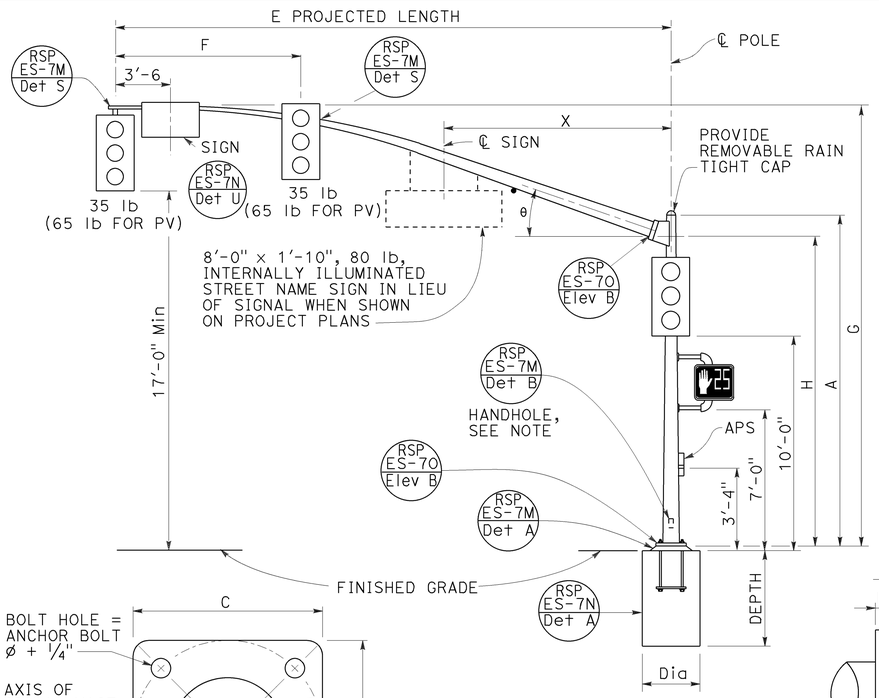
NO SCALE

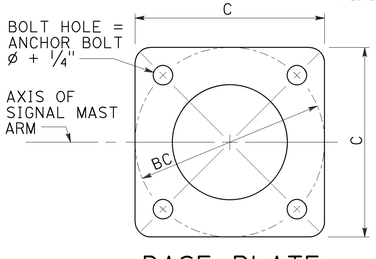
RSP ES-7D DATED JULY 15, 2016 SUPERSEDES RSP ES-7D DATED OCTOBER 30, 2015 AND RSP ES-7D DATED JULY 19, 2013 AND STANDARD PLAN ES-7D DATED MAY 20, 2011 - PAGE 465 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-7D

2010 REVISED STANDARD PLAN RSP ES-7D

6-20-16



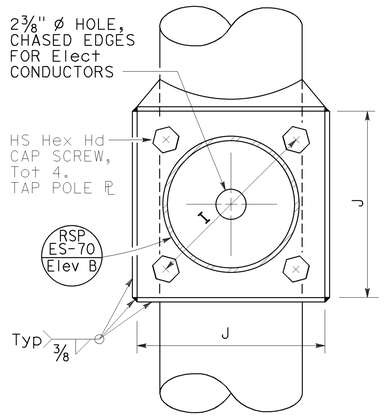


BASE PLATE

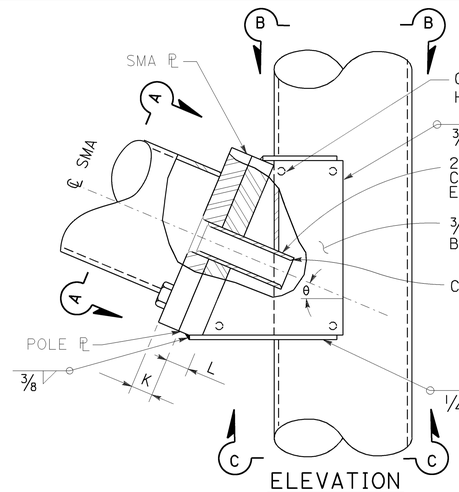
DETAIL B

TYPE 16-3-100, 18-3-100, 23-3-100, 27-3-100

ELEVATION A



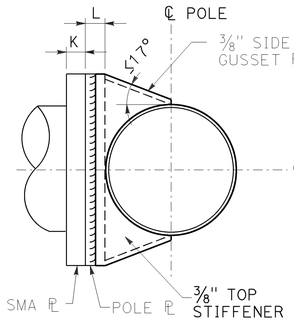
SECTION A-A



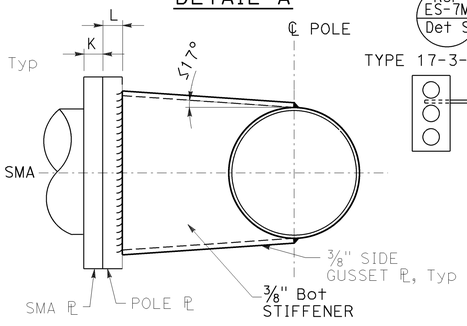
ELEVATION

SIGNAL MAST ARM CONNECTION

DETAIL A



SECTION B-B



SECTION C-C

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	157	167

REGISTERED CIVIL ENGINEER

July 15, 2016

PLANS APPROVAL DATE

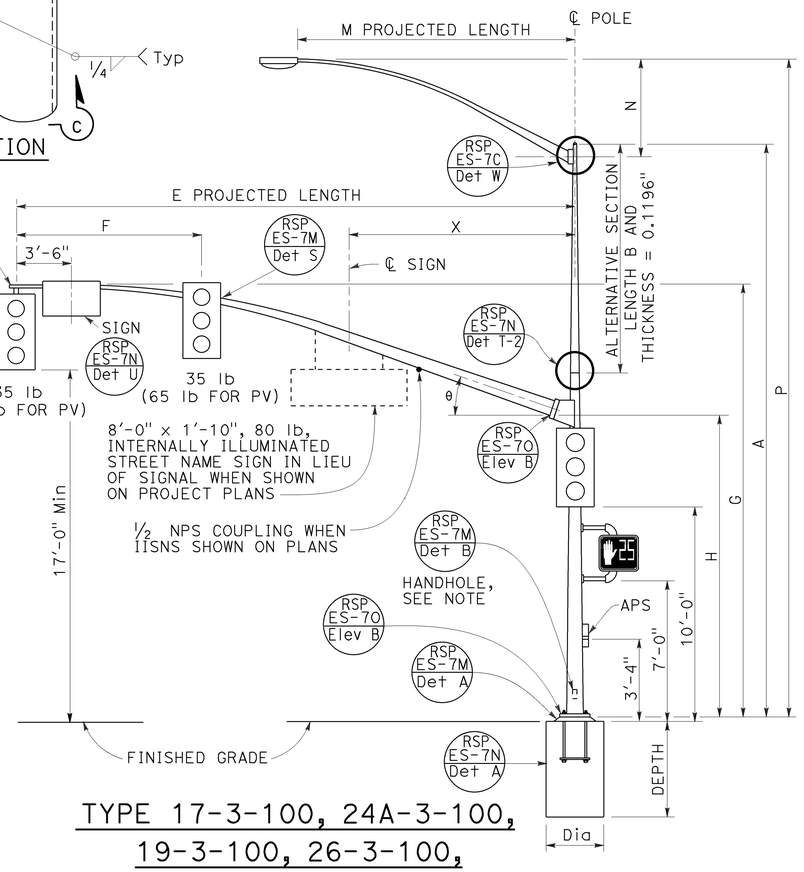
REGISTERED PROFESSIONAL ENGINEER — Stanley P. Johnson — No. C57793 — Exp. 3-31-18 — CIVIL — STATE OF CALIFORNIA

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 08-08-16

NOTE:

Handhole shall be located on the downstream side of traffic.



TYPE 17-3-100, 24A-3-100, 19-3-100, 26-3-100, 19A-3-100, 26A-3-100, 24-3-100

ELEVATION B

SIGNAL MAST ARM DATA

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	X Max
15'-0"	8'-0"	21'-8"±	17'-6"	7 3/8"	0.1793"	12"	1 1/4"-7NC-3"	1'-3"	1 1/4"	1 1/2"	23°	-
20'-0"		21'-8"±		7 3/8"								
25'-0"	12'-0"	22'-8"±		7 3/8"								10'-6"
30'-0"				8"								
35'-0"	14'-0"	23'-0"±	16'-0"	8 3/4"	0.2391"	13"			1 1/2"	1 3/4"	21°	
40'-0"	15'-0"			9 3/8"							15°	13'-0"
45'-0"		23'-8"±		10 1/16"				1'-5"				

LUMINAIRE MAST ARM DATA

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 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"±

POLE TYPE	LOAD CASE	WIND VELOCITY (mph)	POLE DATA: A HEIGHT	Min OD BASE	Min OD TOP	THICKNESS	ALTERNATIVE SECTION B LENGTH	ALTERNATIVE SECTION BOTTOM	ALTERNATIVE SECTION TOP	BASE PLATE DATA: C	BC = BOLT CIRCLE	THICKNESS	ANCHOR BOLT SIZE	LUMINAIRE MAST ARM	SIGNAL MAST ARM	CIDH PILE FOUNDATION: Dia	DEPTH
16-3-100	3	100	18'-6"	16"	13 3/8"	0.2391" OR 0.25"				1'-11"	1'-9"	3"	2 1/4" ø x 42"	NONE	15'-0", [20'-0"]	3'-6"	12'-0"
17-3-100			30'-0"		11 3/4"		10'-0"	13 1/8"	11 3/4"					6'-15' [12'-0"]			
18-3-100			17'-0"		13 3/8"									NONE	25'-0", [30'-0"]		
19-3-100			30'-0"		11 3/4"		10'-0"	13 1/8"	11 3/4"					6'-15' [12'-0"]			
19A-3-100			35'-0"		11"	0.3125"	15'-0"		11"					6'-15' [15'-0"]			
23-3-100			17'-0"		13 3/8"	0.2391" OR 0.25"								NONE	35'-0"		
24-3-100			30'-0"		11 3/4"		10'-0"	13 1/8"	11 3/4"					6'-15' [12'-0"]			
24A-3-100			35'-0"		11"		15'-0"		11"					6'-15' [15'-0"]			
26-3-100			30'-0"	18"	13 3/4"	0.3125"	10'-0"	15 1/8"	13 3/4"	2'-1"	1'-11"			6'-15' [12'-0"]	40'-0", [45'-0"]		13'-0"
26A-3-100			35'-0"		13"		15'-0"		13"					6'-15' [15'-0"]			
27-3-100			17'-0"		15 5/8"									NONE			

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

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

6-20-16

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	158	167

REGISTERED CIVIL ENGINEER

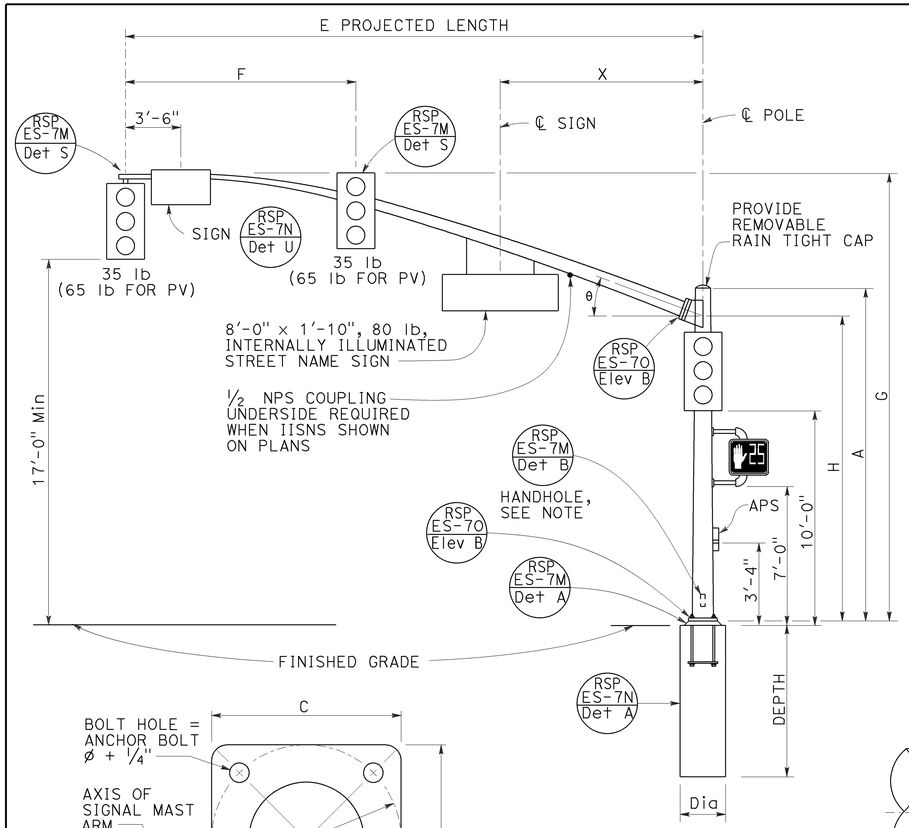
July 15, 2016

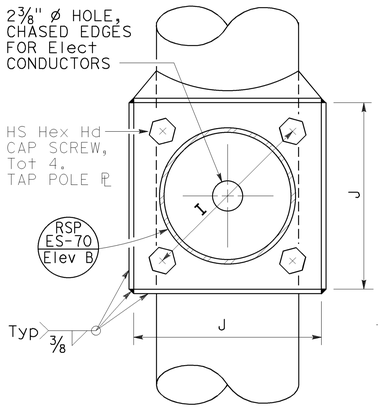
PLANS APPROVAL DATE

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

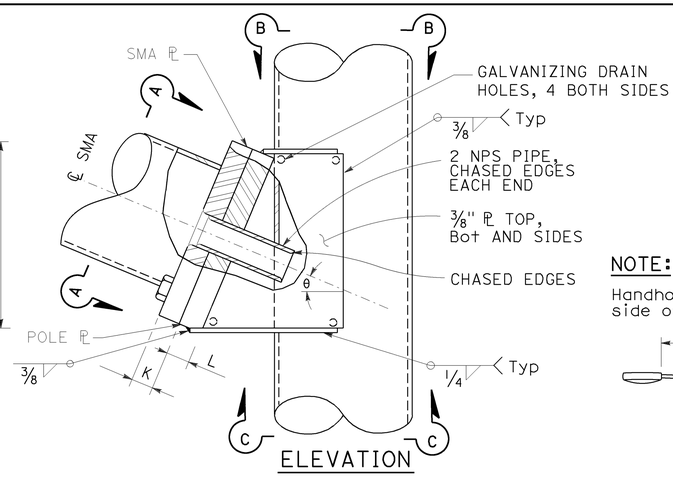
NOTE: TO ACCOMPANY PLANS DATED 08-08-16

Handhole shall be located on the downstream side of traffic.





SECTION A-A



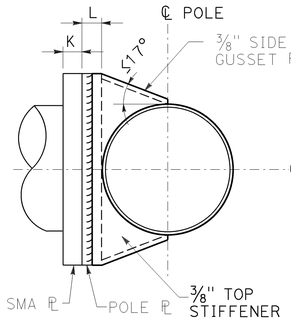
ELEVATION

SIGNAL MAST ARM CONNECTION DETAIL A

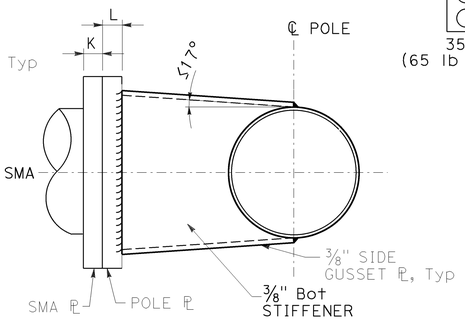
BASE PLATE

DETAIL B

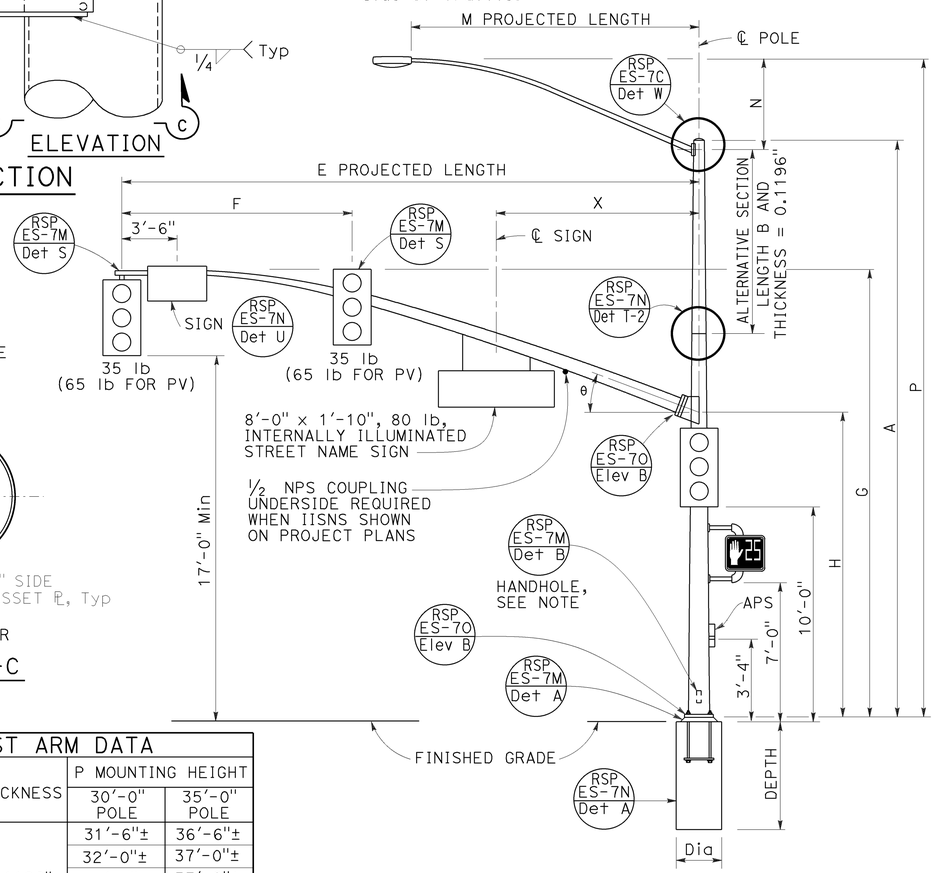
TYPE 18-4-100, 23-4-100, 27-4-100 ELEVATION A



SECTION B-B



SECTION C-C



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

SIGNAL MAST ARM DATA

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	X Max
25'-0"	10'-0"	22'-8"±	16'-0"	7⅜"	0.2391"	12"	1¼"-7NC-3"	1'-3"	1¼"	1½"	23°	10'-6"
30'-0"	12'-0"	23'-0"±		8"								
35'-0"	14'-0"			8 11/16"		13½"			1½"	1¾"	21°	
40'-0"	15'-0"			9⅜"							15°	13'-0"
45'-0"		23'-8"±		10¼"				1'-5"				

LUMINAIRE MAST ARM DATA

M PROJECTED LENGTH	N RISE	Min OD AT POLE	THICKNESS	P MOUNTING HEIGHT 30'-0" POLE	P MOUNTING HEIGHT 35'-0" POLE
6'-0"	2'-0"±	3¼"	0.1196"	31'-6"±	36'-6"±
8'-0"	2'-6"±	3½"		32'-0"±	37'-0"±
10'-0"	3'-3"±	3⅞"		32'-9"±	37'-9"±
12'-0"	4'-3"±			33'-9"±	38'-9"±
15'-0"	4'-9"±	4¼"		34'-3"±	39'-3"±

POLE TYPE	LOAD CASE	WIND VELOCITY (mph)	POLE DATA A HEIGHT	Min OD BASE	Min OD TOP	THICKNESS	ALTERNATIVE SECTION B LENGTH	ALTERNATIVE SECTION BOTTOM	ALTERNATIVE SECTION TOP	BASE PLATE DATA C	BC = BOLT CIRCLE	THICKNESS	ANCHOR BOLT SIZE	LUMINAIRE MAST ARM	SIGNAL MAST ARM	CIDH PILE FOUNDATION Dia	CIDH PILE FOUNDATION DEPTH
18-4-100	4	100	17'-0"	16"	13⅝"	0.2391" OR 0.25"				1'-11"	1'-9"	3"	2¼"ø x 42"	NONE	25'-0", [30'-0"]	3'-6"	12'-0"
19-4-100			30'-0"		11¾"		10'-0"	13⅛"	11¾"					6'-15' [12'-0"]			
19A-4-100			35'-0"		11"	0.3125"	15'-0'	13⅛"	11"					6'-15' [15'-0"]			
23-4-100			17'-0"		13⅝"									NONE	35'-0"		
24-4-100			30'-0"		11¾"		10'-0"	15⅛"	13¾"					6'-15' [12'-0"]			
24A-4-100			35'-0"		11"		15'-0"	13⅛"	11"					6'-15' [15'-0"]			
26-4-100			30'-0"	18"	13¾"		10'-0"	15⅛"	13¾"	2'-1"	1'-11"			6'-15' [12'-0"]	40'-0", [45'-0"]		13'-0"
26A-4-100			35'-0"		13"		15'-0"	15⅛"	13"					6'-15' [15'-0"]			
27-4-100			17'-0"		15⅝"									NONE			

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

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')

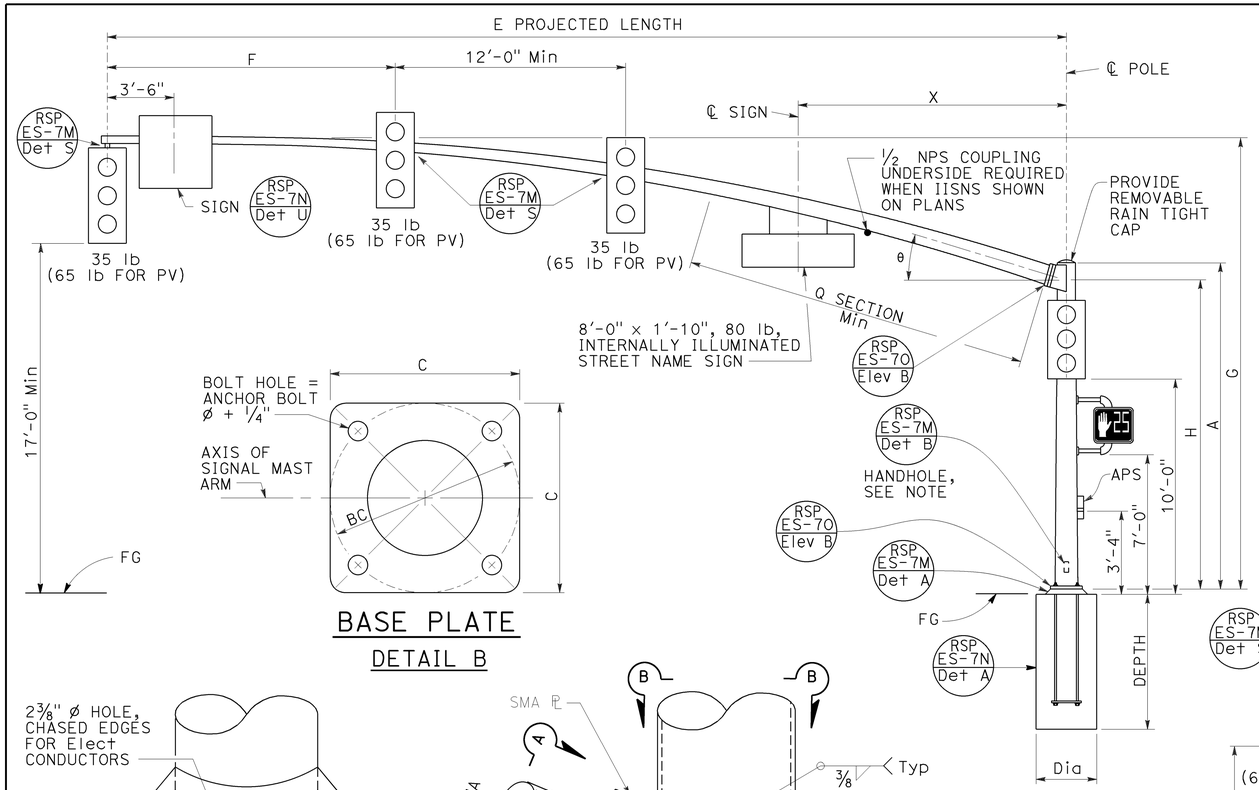
NO SCALE

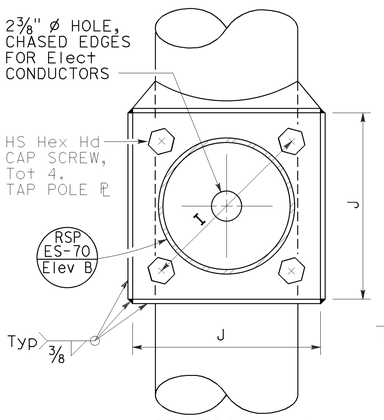
RSP ES-7F DATED JULY 15, 2016 SUPERSEDES RSP ES-7F DATED OCTOBER 30, 2015 AND RSP ES-7F DATED JULY 19, 2013 AND STANDARD PLAN ES-7F DATED MAY 20, 2011 - PAGE 467 OF THE STANDARD PLANS BOOK DATED 2010.

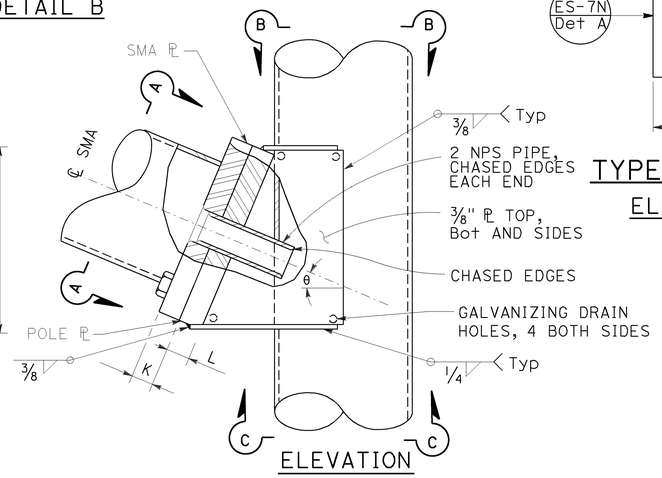
REVISED STANDARD PLAN RSP ES-7F

2010 REVISED STANDARD PLAN RSP ES-7F

6-20-16





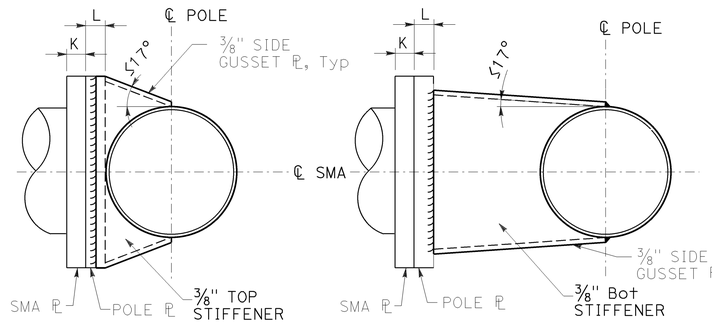


SIGNAL MAST ARM CONNECTION

DETAIL A

BASE PLATE

DETAIL B

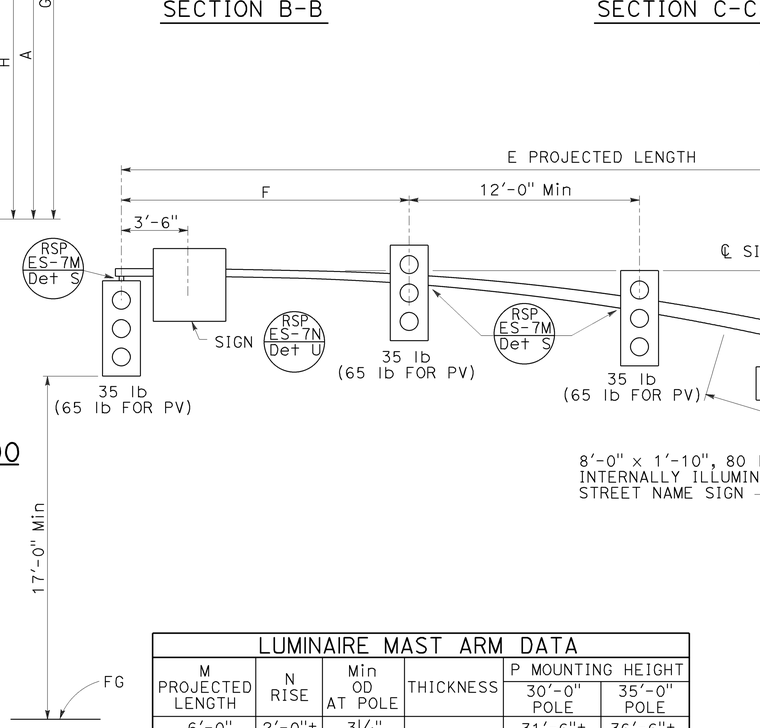


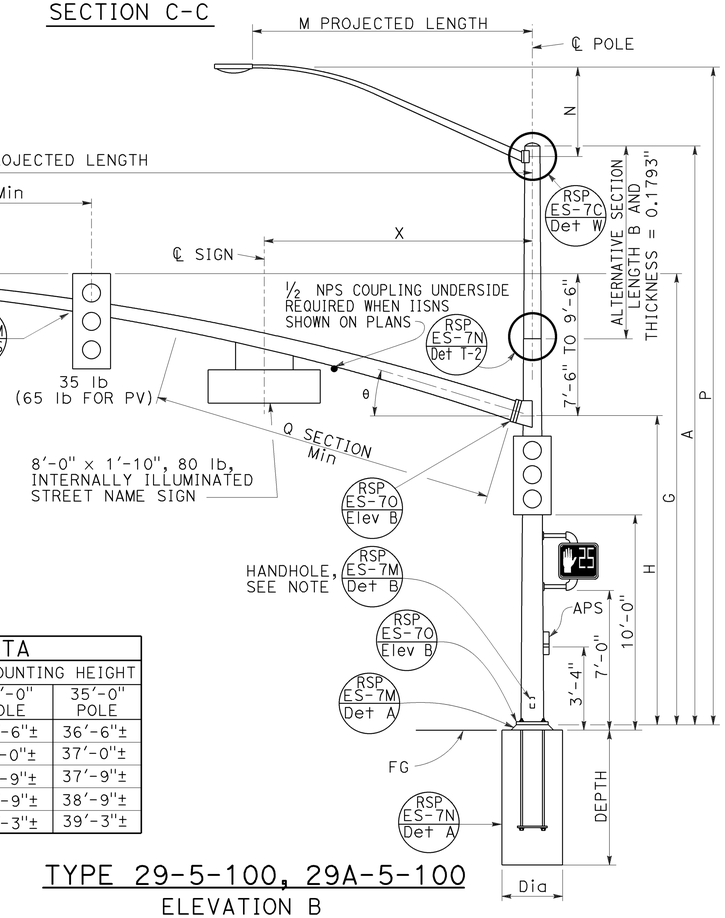
SECTION B-B

SECTION C-C

TYPE 28-5-100

ELEVATION A





TYPE 29-5-100, 29A-5-100

ELEVATION B

LUMINAIRE MAST ARM DATA					
M PROJECTED LENGTH	N RISE	Min OD AT POLE	THICKNESS	P MOUNTING HEIGHT 30'-0" POLE	P MOUNTING HEIGHT 35'-0" POLE
6'-0"	2'-0"±	3¼"	0.1196"	31'-6"±	36'-6"±
8'-0"	2'-6"±	3½"		32'-0"±	37'-0"±
10'-0"	3'-3"±	3⅞"		32'-9"±	37'-9"±
12'-0"	4'-3"±			33'-9"±	38'-9"±
15'-0"	4'-9"±	4¼"		34'-3"±	39'-3"±

SIGNAL MAST ARM DATA														
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 LENGTH	Q SECTION THICKNESS	X Max
50'-0"	15'-0"	23'-7"± TO 25'-7"±	16'-0"	11 7/16"	0.1793"	16"	1½"-6NC-3¼"	1'-9"	1¾"	1¾"	15°	18'-0"	0.2391"	14'-0"
55'-0"				1'-1¼"								23'-0"		

POLE TYPE	LOAD CASE	WIND VELOCITY (mph)	POLE DATA A HEIGHT	POLE DATA Min OD BASE	POLE DATA Min OD TOP	POLE DATA THICKNESS	POLE DATA ALTERNATIVE SECTION B LENGTH	POLE DATA ALTERNATIVE SECTION BOTTOM	POLE DATA ALTERNATIVE SECTION TOP	BASE PLATE DATA C	BASE PLATE DATA BC = BOLT CIRCLE	BASE PLATE DATA THICKNESS	BASE PLATE DATA ANCHOR BOLT SIZE	LUMINAIRE MAST ARM	SIGNAL MAST ARM	CIDH PILE FOUNDATION Dia	CIDH PILE FOUNDATION DEPTH
28-5-100	5	100	17'-0"	22"	19 5/8"	0.375"				2'-6"	2'-4"	3"	2¼"ø x 42"	NONE	50'-0", 55'-0"	4'-0"	14'-0"
29-5-100			30'-0"		17¾"		10'-0"	19⅛"	17¾"					6'-15' 15'-0"			
29A-5-100			35'-0"		17"		15'-0"		17"								

15'-0" INDICATES MAST ARM LENGTH TO BE USED UNLESS OTHERWISE NOTED ON PLANS.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	159	167

REGISTERED CIVIL ENGINEER

July 15, 2016

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Stanley P. Johnson — No. C57793 — Exp. 3-31-18 — 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 08-08-16

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

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 50' TO 55')

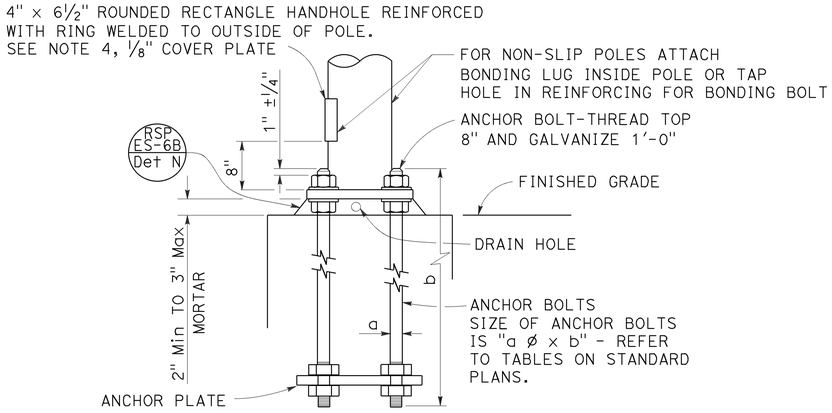
NO SCALE

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.

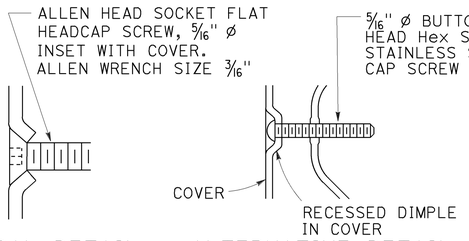
REVISED STANDARD PLAN RSP ES-7G

2010 REVISED STANDARD PLAN RSP ES-7G

6-20-16

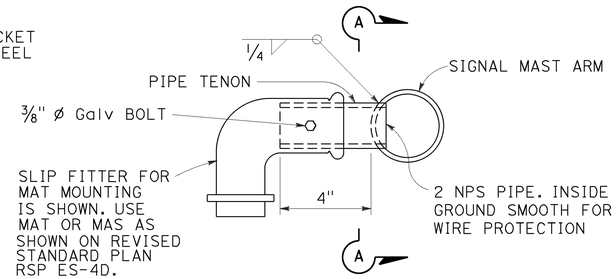


HANDHOLE AND ANCHORAGE
DETAIL A



TYPICAL DETAIL
DETAIL B-1

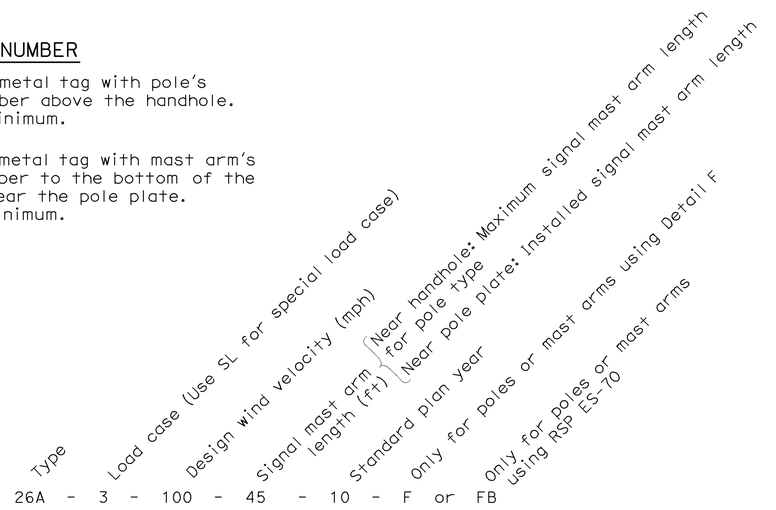
ALTERNATIVE DETAIL
DETAIL B-2



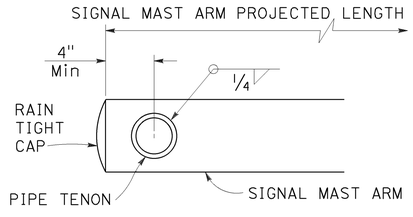
SIDE TENON
DETAIL S-1

IDENTIFICATION NUMBER

1. Attach a stamped metal tag with pole's identification number above the handhole. ¼" 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. ¼" high number, minimum.

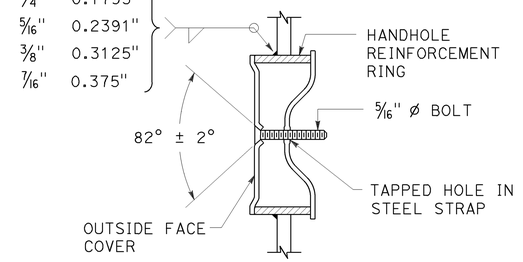


SAMPLE IDENTIFICATION NUMBER

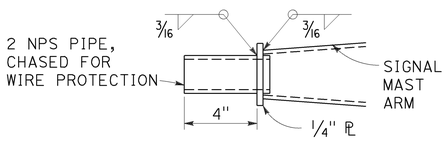


SECTION A-A

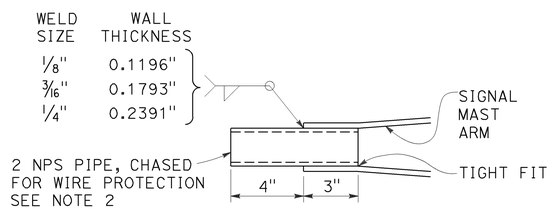
PIPE TENONS
DETAIL S



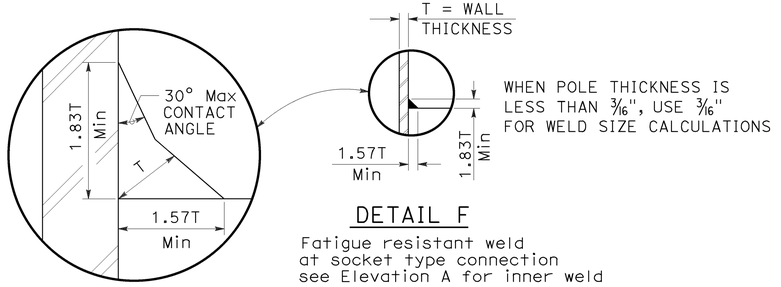
TAMPER RESISTANT HANDHOLE COVER
DETAIL B



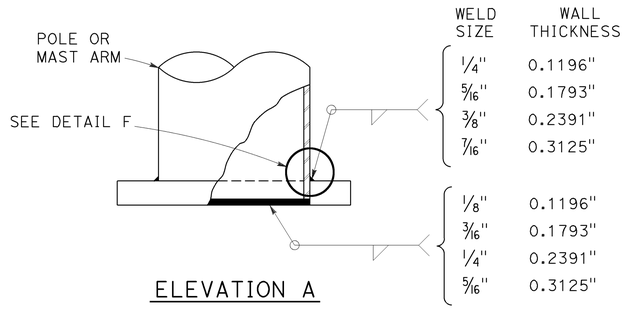
TIP TENON
DETAIL TL
This detail supersedes Detail S when so designated



TIP TENON
DETAIL TS



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



ELEVATION 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 2⅜" 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 ¼" x 2" for 0.1196" to 0.2391" thick poles, ⅜" 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 ⅓ 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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	160	167

REGISTERED CIVIL ENGINEER

July 15, 2016
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Stanley P. Johnson
No. C57793
Exp. 3-31-18
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 08-08-16

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

2010 REVISED STANDARD PLAN RSP ES-7M

6-20-16

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	161	167

REGISTERED CIVIL ENGINEER

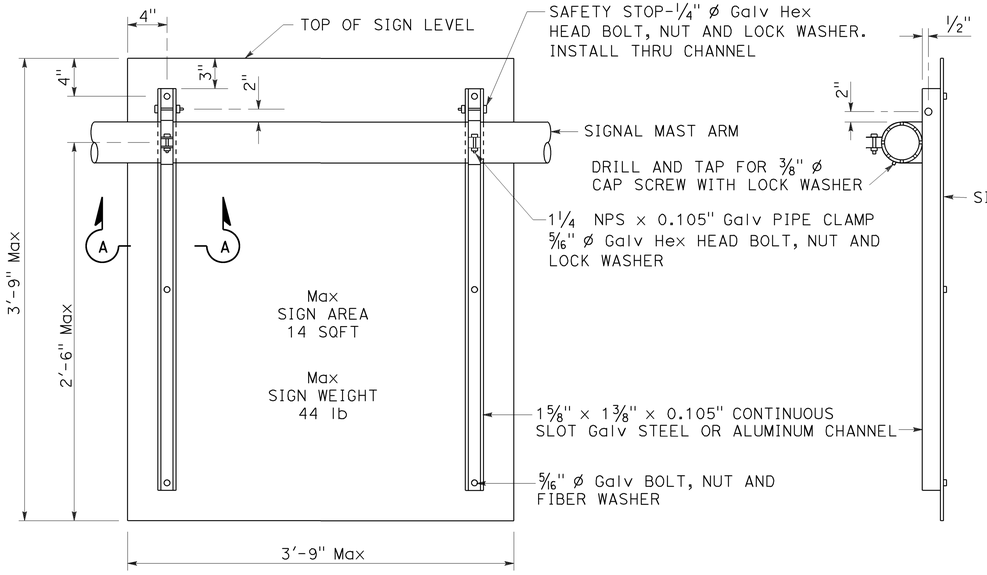
July 15, 2016
PLANS APPROVAL DATE

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

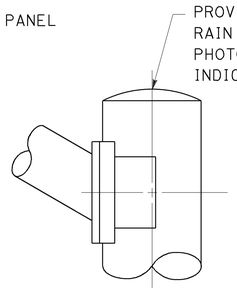
TO ACCOMPANY PLANS DATED 08-08-16

2010 REVISED STANDARD PLAN RSP ES-7N

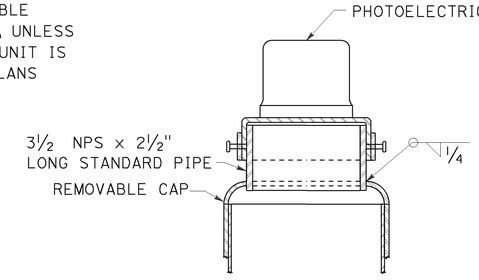


REAR VIEW

SIDE VIEW

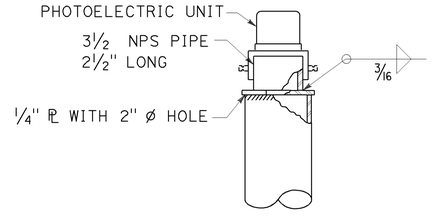


STANDARD TOP
DETAIL B-1



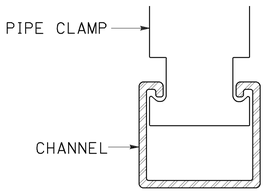
MOUNTING ADADPTER FOR
PHOTOELECTRIC UNIT
DETAIL B-2

POLE TOP DETAILS
DETAIL B

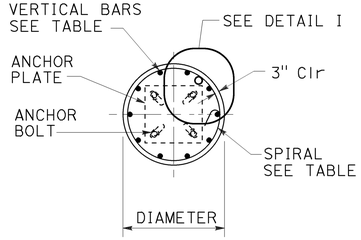


ALTERNATIVE
MOUNTING ADAPTER
DETAIL B-3

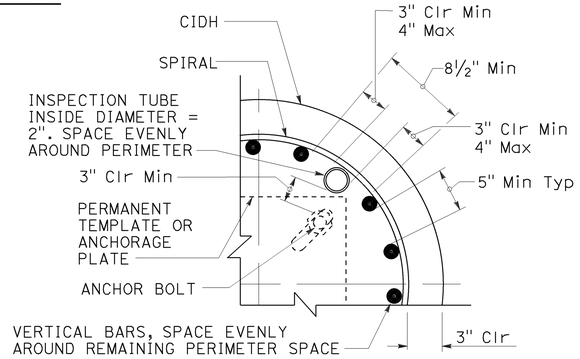
SIGN MOUNTING DETAILS
DETAIL U



SECTION A-A



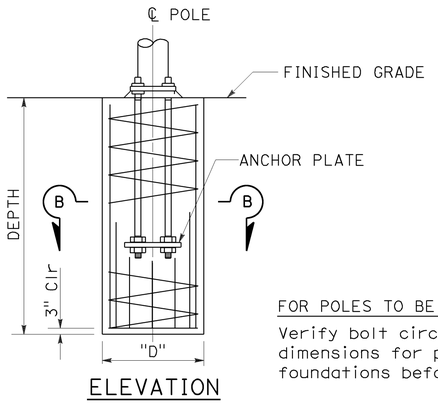
SECTION B-B



INSPECTION TUBE PLACEMENT
DETAIL I

CIDH REINFORCING AND INSPECTION TUBE SCHEDULE			
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	
3.5 ft	14-#8		4
4 ft	18-#9	2-#4 AT 7	5
4.5 ft	18-#9	2-#5 AT 7	5
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.

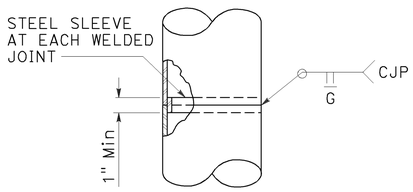


ELEVATION

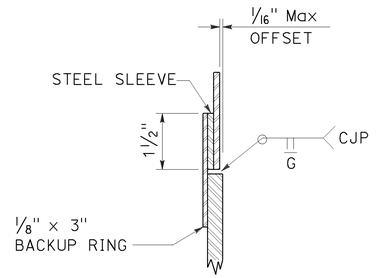
FOR POLES TO BE INSTALLED ON EXISTING FOUNDATION:

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

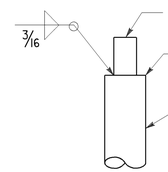


FOR UNIFORM TUBE THICKNESS
DETAIL T-1

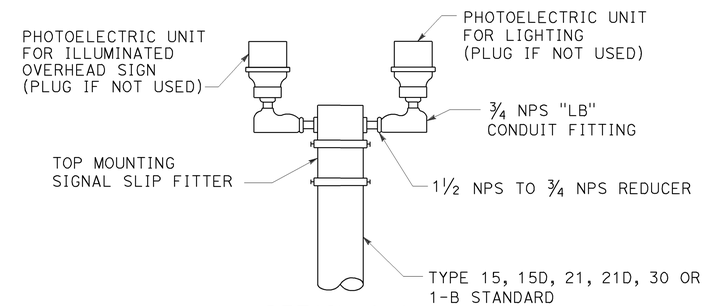


AT TUBE THICKNESS CHANGE
DETAIL T-2

POLE SPLICES
DETAIL T



DETAIL C-1



DETAIL C-2

DUAL PHOTOELECTRIC UNIT MOUNTING DETAIL
DETAIL C

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

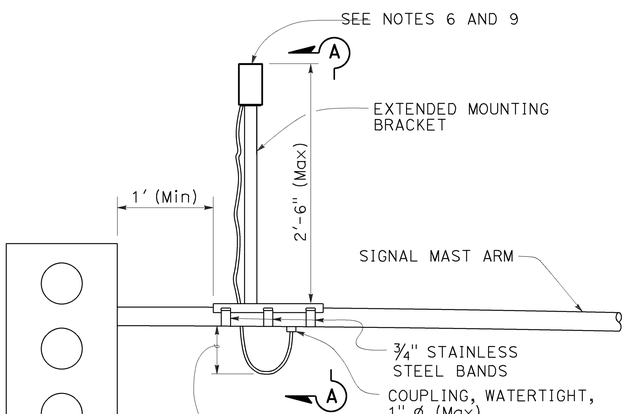
ELECTRICAL SYSTEMS (SIGNAL AND LIGHTING STANDARD, DETAIL No. 2)

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.

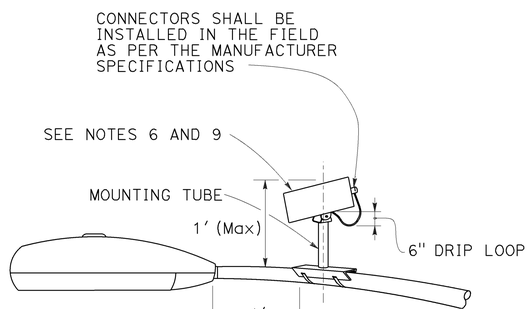
REVISED STANDARD PLAN RSP ES-7N

6-20-16



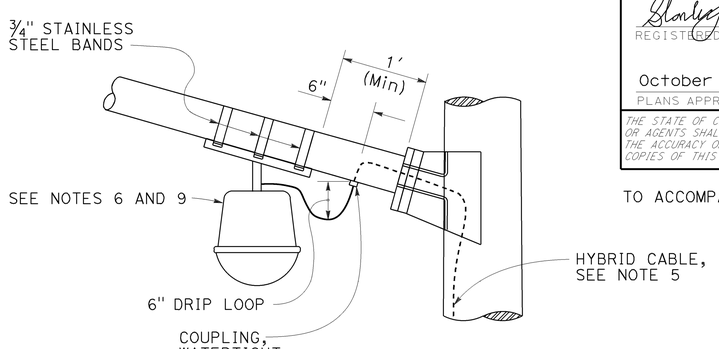
SIGNAL MAST ARM MOUNT

DETAIL A



LUMINAIRE MAST ARM MOUNT

DETAIL B



LUMINAIRE MAST ARM MOUNT

DETAIL C

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	162	167

REGISTERED CIVIL ENGINEER

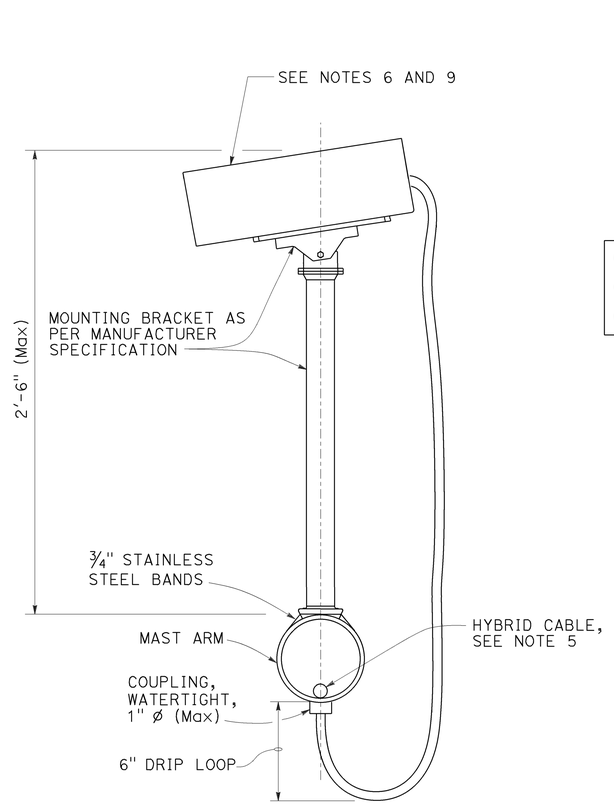
October 30, 2015

PLANS APPROVAL DATE

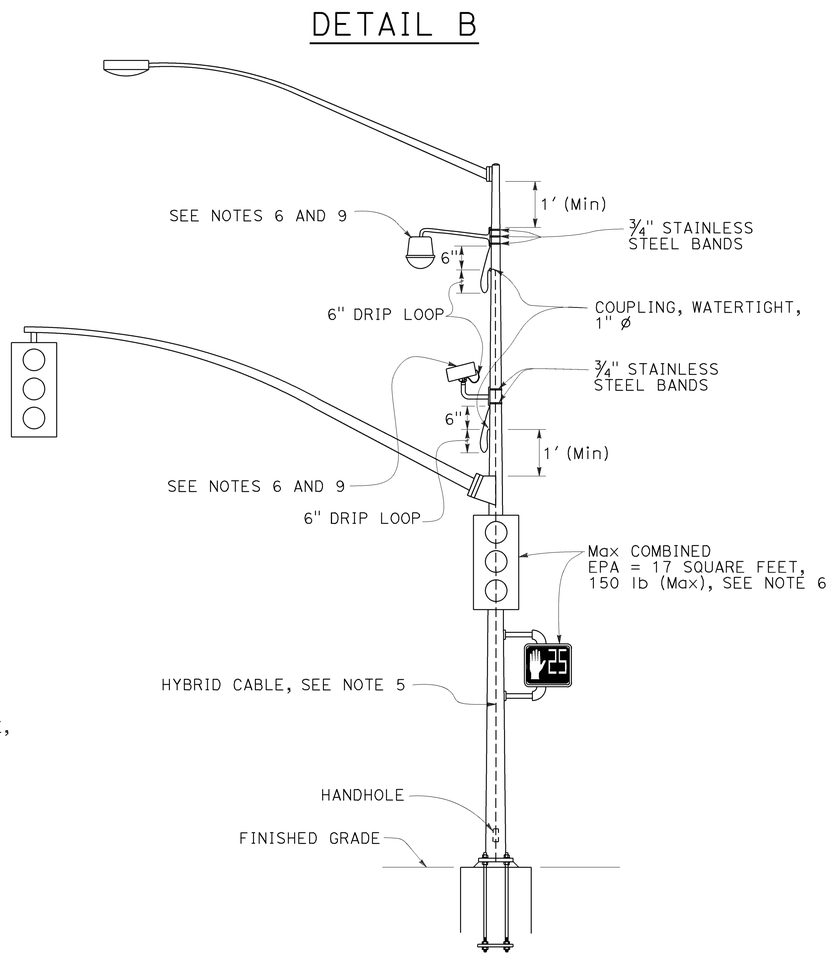
REGISTERED PROFESSIONAL ENGINEER — Stanley P. Johnson — No. C57793 — Exp. 3-31-16 — CIVIL — STATE OF CALIFORNIA

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

TO ACCOMPANY PLANS DATED 08-08-16



SECTION A-A



SIGNAL POLE MOUNT

DETAIL D

NOTES:

1. Exact mounting location of miscellaneous attachment and bracket shall be approved by the Engineer per manufacturer's recommendation.
2. Location of cable entrances on signal pole shall be a minimum of 1′ from any flange or base plate.
3. Hybrid cable entrances on signal pole shall be drilled for weathertight coupling as required.
4. Hybrid cable shall have a drip loop at the entrance into signal pole, luminaire mast arm and signal mast arm.
5. 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.
6. 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.
7. Maximum of two miscellaneous attachments per traffic signal standard.
8. Maximum of one miscellaneous attachment per mast arm.
9. 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

2010 REVISED STANDARD PLAN RSP ES-7R

8-21-15

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
11	Imp	98	31.6/32.1	163	167

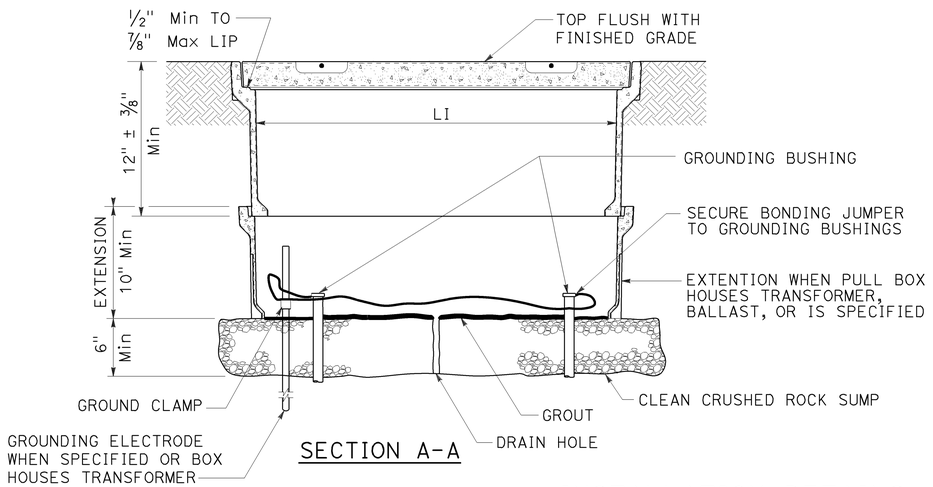
Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

April 15, 2016
PLANS APPROVAL DATE

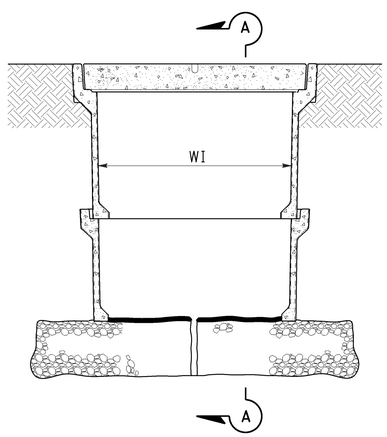
REGISTERED PROFESSIONAL ENGINEER — Theresa Aziz Gabriel — No. E15129 — Exp. 6-30-16 — ELECTRICAL — STATE OF CALIFORNIA

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 08-08-16



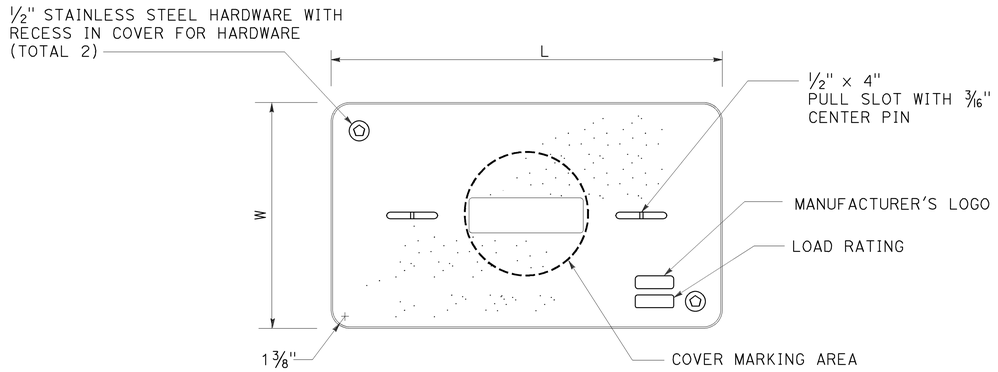
SECTION A-A



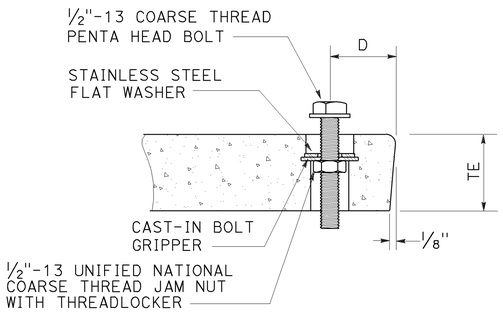
SIDE VIEW

INSTALLATION DETAILS

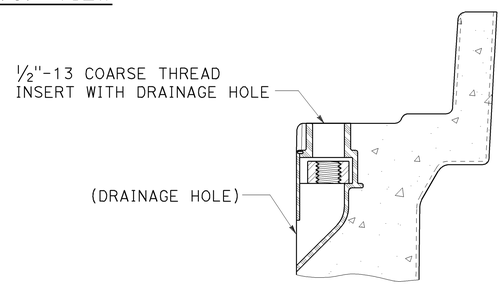
DETAIL A



COVER TOP VIEW



TYPICAL COVER CAPTIVE BOLT
OR SIMILAR



TYPICAL THREADED INSERT
OR SIMILAR

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 ⅛" 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 ⅛". Top outside radius of covers and pull boxes shall have a ⅛" radius.
3. Dimensions for the cover for non-traffic pull box are nominal values.

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. 3½	12"	N/A	40 lb	1'- 3"	9"	1¾"	1¾"	1'-3¼" - 1'-3⅜"	10" - 10⅛"	30 lb
No. 5	12"	10"	55 lb	1'- 8"	11"	2"	1¾"	1'-11¼"	1'-1¾"	60 lb
No. 6	12"	10"	70 lb	2'- 4¼"	1'- 3¼"	2"	2"	2'-6½"	1'-5½"	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

1-22-16

NOTE:

Curves represent the minimum footcandle (FC).

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	164	167

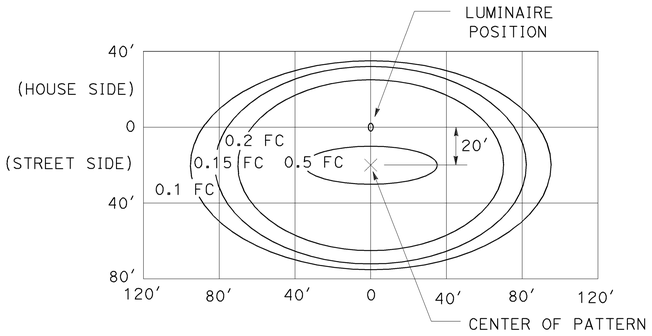
Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

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

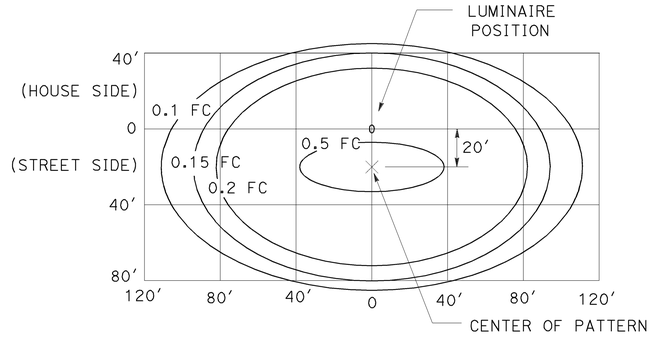
October 30, 2015
PLANS APPROVAL DATE

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.

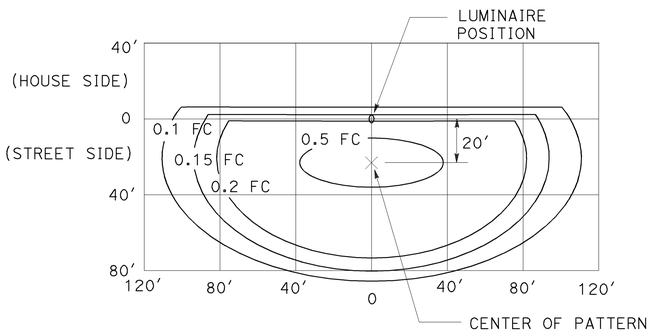
TO ACCOMPANY PLANS DATED 08-08-16



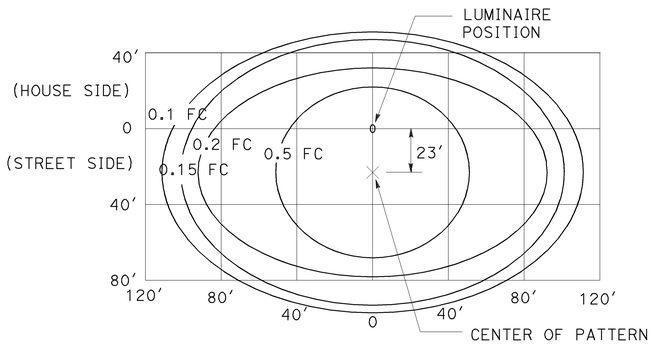
LED LUMINAIRE 165 W
34′ Mounting Height



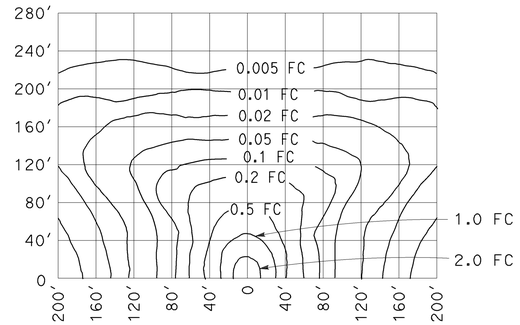
LED LUMINAIRE 235 W
40′ Mounting Height



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

9-29-15

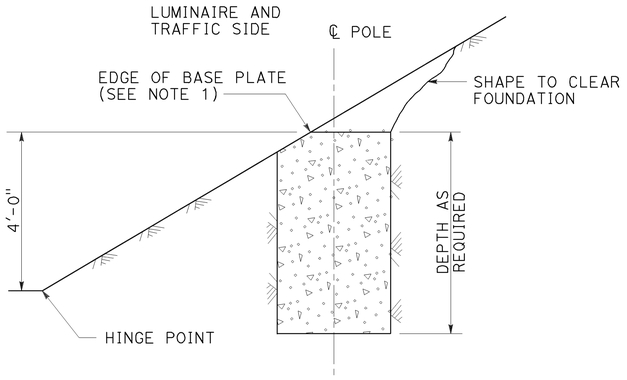
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	165	167

REGISTERED CIVIL ENGINEER

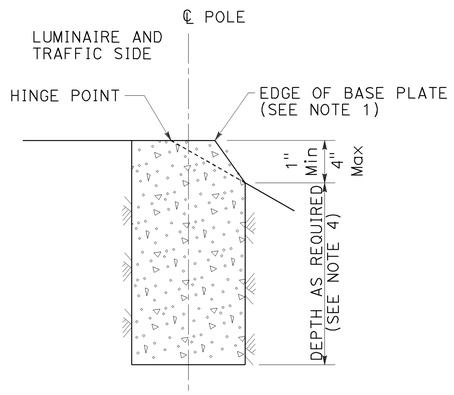
July 15, 2016
PLANS APPROVAL DATE

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

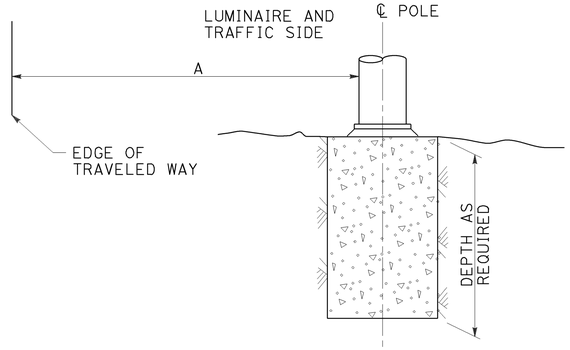
TO ACCOMPANY PLANS DATED 08-08-16



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



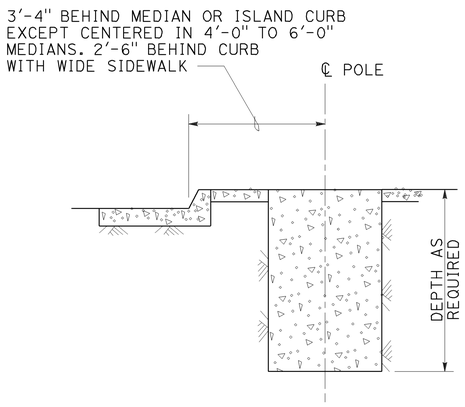
FILL SLOPES
STEEPER THAN 4:1,
LESS THAN 2:1
DETAIL A-2
See Note 2 and 3



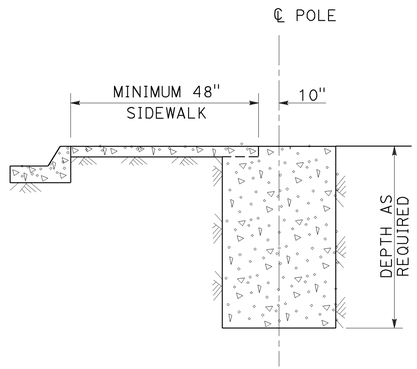
FLAT SECTIONS, CUT OR FILL SLOPES
4:1 OR FLATTER
DETAIL A-3
See Note 2

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



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

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.

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.

REVISED STANDARD PLAN RSP ES-11

2010 REVISED STANDARD PLAN RSP ES-11

6-20-16

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	166	167

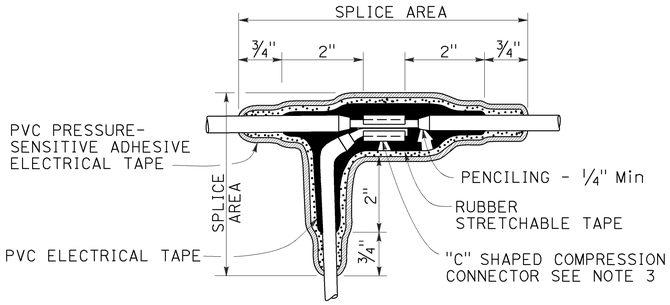
Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

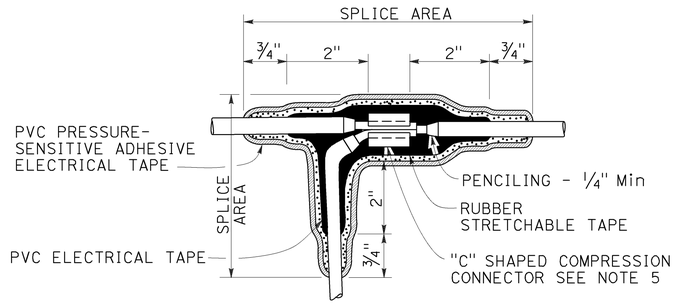
REGISTERED PROFESSIONAL ENGINEER
Theresa Aziz Gabriel
No. E15129
Exp. 6-30-16
ELECTRICAL
STATE OF CALIFORNIA

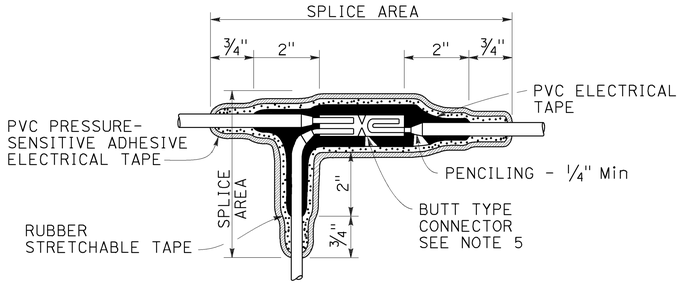
April 15, 2016
PLANS APPROVAL DATE

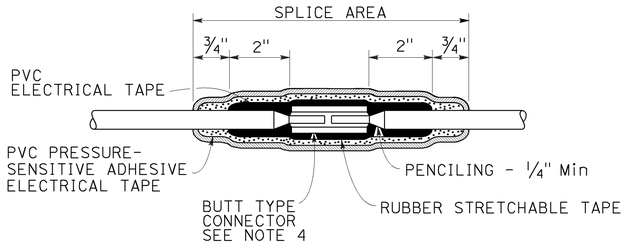
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 08-08-16





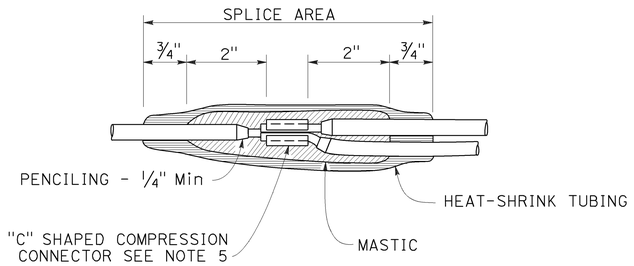


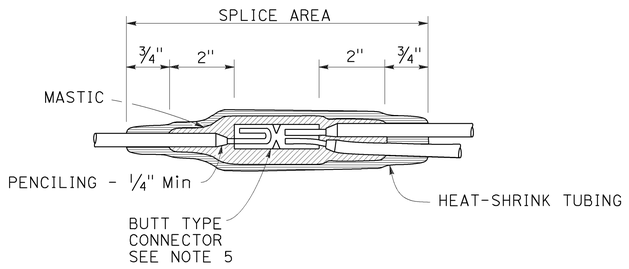


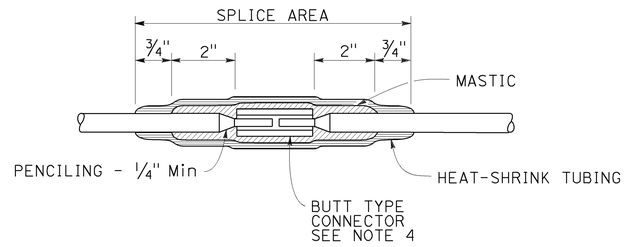
NOTES:

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

1-22-16

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	Imp	98	31.6/32.1	167	167

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

April 15, 2016
PLANS APPROVAL DATE

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

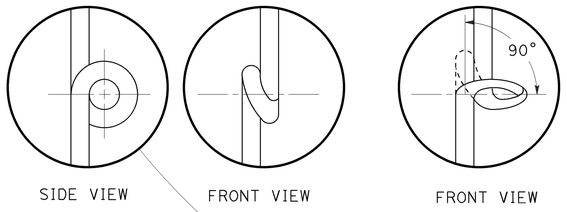
TO ACCOMPANY PLANS DATED 08-08-16

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

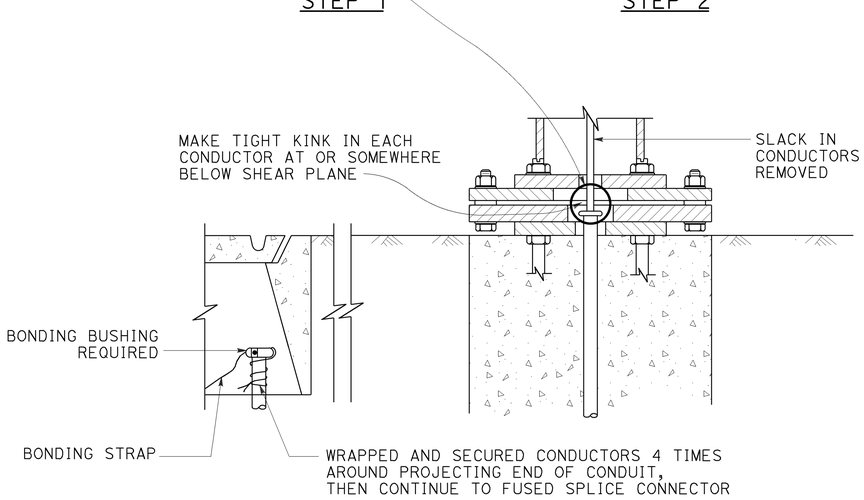
NOTES:

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

FUSE RATINGS FOR FUSED CONNECTORS

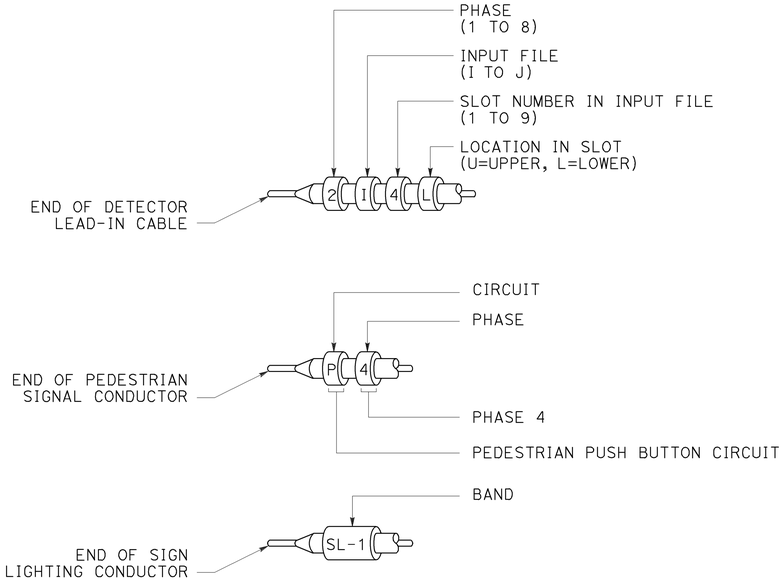


CONTINUE KINK TO AT LEAST 90° POSITION AS INDICATED IN STEP 2.



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.

REVISED STANDARD PLAN RSP ES-13B

2010 REVISED STANDARD PLAN RSP ES-13B

1-12-16