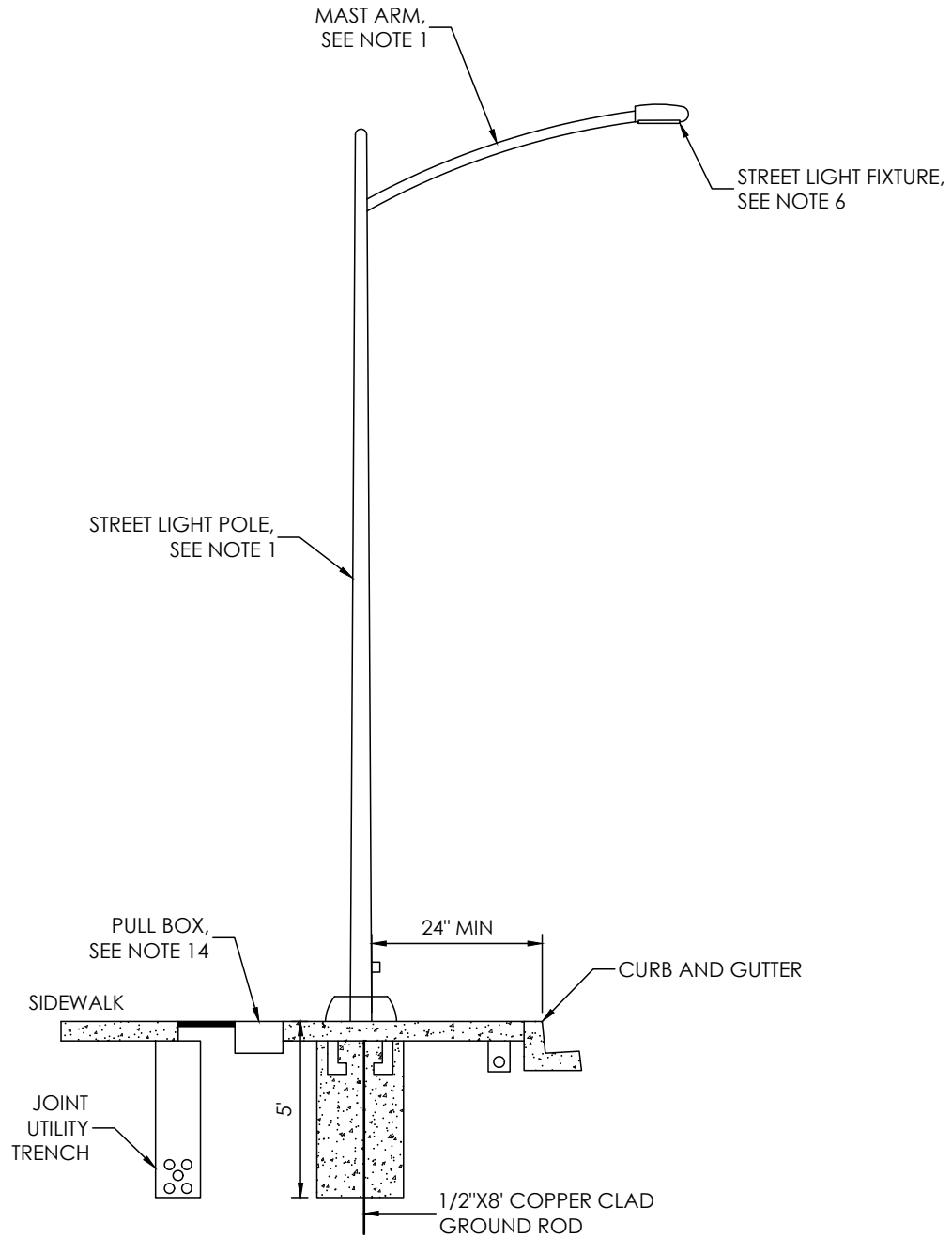


STANDARD PLANS

ELECTRICAL

INTENTIONALLY LEFT BLANK



ALL NOTES REFER TO DRAWING E-2

CITY OF NAPA

PUBLIC WORKS DEPARTMENT

STANDARD RESIDENTIAL
STREET LIGHT

DRAWN BY:	BRL
APPROVAL DATE:	06/2018
SCALE:	NONE
REVISED DATE:	08/2021

CHECKED BY:	SEC
APPROVED BY:	JBL
DRAWING NO.	E-1

NOTES

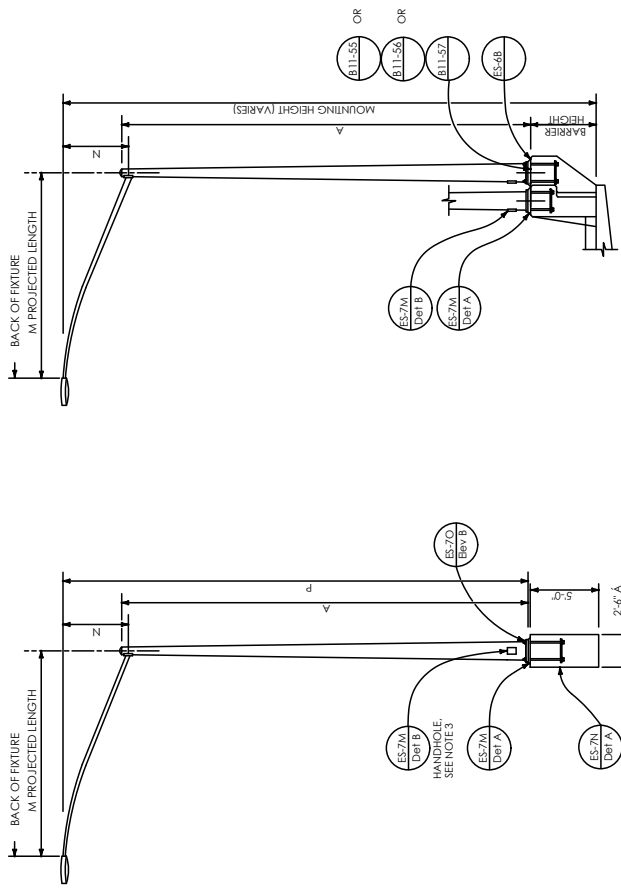
1. STREET LIGHT POLES AND MAST ARMS SHALL BE TYPE 15 PER OCT 30, 2015 CALTRANS STANDARD PLANS AND SPECIFICATIONS DRAWING ES-6A. SPLICING SHALL BE PER OCT 30, 2015 CALTRANS STANDARD PLANS AND SPECIFICATIONS DRAWING ES-13A.
2. STREET LIGHT POLE FOUNDATIONS, BOLTS, AND REINFORCEMENT CAGES SHALL BE PER OCT 30, 2015 CALTRANS STANDARD PLANS AND SPECIFICATIONS DRAWING ES-7N. CAGES DO NOT REQUIRE WELDING.
3. STREET LIGHT LOCATIONS SHALL BE SHOWN ON IMPROVEMENT PLANS, POLE SPACING SHALL BE PROVIDED BY CITY OF NAPA ELECTRICAL DIVISION.
4. DEVELOPER SHALL CONTACT PG&E TO ESTABLISH STREET LIGHT SERVICE LOCATIONS, THEN PROVIDE CITY OF NAPA PUBLIC WORKS DEPARTMENT WITH SAME LOCATIONS, IN ACCORDANCE WITH THE LS2A RATE SCHEDULE.
5. LED FIXTURE SIZE MAY BE INCREASED ON COLLECTOR AND ARTERIAL STREETS OR AS OTHERWISE DETERMINED BY THE CITY OF NAPA ELECTRICAL DIVISION.
6. STREET LIGHT FIXTURE SHALL BE 120 VOLT LED CREE COBRA HEAD WITH TWIST LOCK PHOTO ELECTRIC CONTROL RECEPTACLE ON TOP. REFER TO IMPROVEMENT PLANS FOR SIZE.
7. PHOTO ELECTRIC CONTROL SHALL BE FISHER-PIERCE ELL-124.
8. STREET LIGHT WIRE FROM PULL BOX TO FIXTURE SHALL BE #10 THHN SOLID OR #10 THW STRANDED (TS) WIRE.
9. ALL FIELD WIRING SHALL BE #8 THHN OR THW STRANDED.
10. BOND WIRE SHALL BE CONNECTED TO ALL POLES AND GROUND RODS IN THE SYSTEM.
11. INSTALL 1/2" x 8' COPPER CLAD GROUND ROD IN CENTER OF EACH FOUNDATION.
12. THERE SHALL BE NO SPLICES IN POLE BASE.
13. ALL CONDUITS SHALL BE 24" DEEP IN THE CLEAR FROM FINISH GRADE, 2" SAND BED, 12" MINIMUM SAND COVER.
14. PULL BOXES SHALL BE PLACED NEXT TO EACH STREET LIGHT AND AT PG&E SECONDARY BOX LOCATIONS THAT FEED STREET LIGHTS. ADDITIONAL PULL BOXES SHALL BE INSTALLED IN CONDUIT RUNS EXCEEDING 200' OR AS OTHERWISE DIRECTED BY THE ENGINEER. BOX LIDS SHALL BE MARKED "STREET LIGHTING" AND SHALL HAVE HOLD DOWN BOLTS.
15. IN UNDEVELOPED AREAS CONSTRUCT A 30"x30" CONC. PAD (4" THICK). IF A ROUND FOOTING IS POURED, STOP AT THE ELEVATION OF THE BOTTOM OF THE SIDEWALK.
16. DUE TO POSSIBLE CONFLICTING UTILITIES, STREET LIGHTS ARE SUBJECT TO RELOCATION WITH CITY OF NAPA ELECTRICAL DIVISION APPROVAL.
17. COBRA HEAD MODEL NUMBERS SHALL BE LISTED ON THE IMPROVEMENT PLANS.
18. IT IS THE RESPONSIBILITY OF THE DEVELOPER OR THEIR REPRESENTATIVE TO CONTACT THE MANUFACTURER FOR THE LATEST MODEL NUMBERS/TYPES.
19. THE CONTRACTOR SHALL BE RESPONSIBLE TO CALL U.S.A (811) AT LEAST 2 WORKING DAYS PRIOR TO ANY EARTHWORK.
20. CONTACT CITY OF NAPA ELECTRICAL DIVISION AT (707) 257-9588 FOR INSPECTION 24 HOURS PRIOR TO POURING CONCRETE AND/OR BACKFILLING CONDUIT. CONTACT CITY OF NAPA ELECTRICAL DIVISION FOR FINAL INSPECTION AND TURN-ON.
21. ALL CONDUIT SHALL BE SEALED WITH APPROVED DUCT SEAL. CONDUITS FOR FUTURE EXTENSIONS SHALL BE CAPPED WITH CONDUIT PLUGS.

CITY OF NAPA

PUBLIC WORKS DEPARTMENT

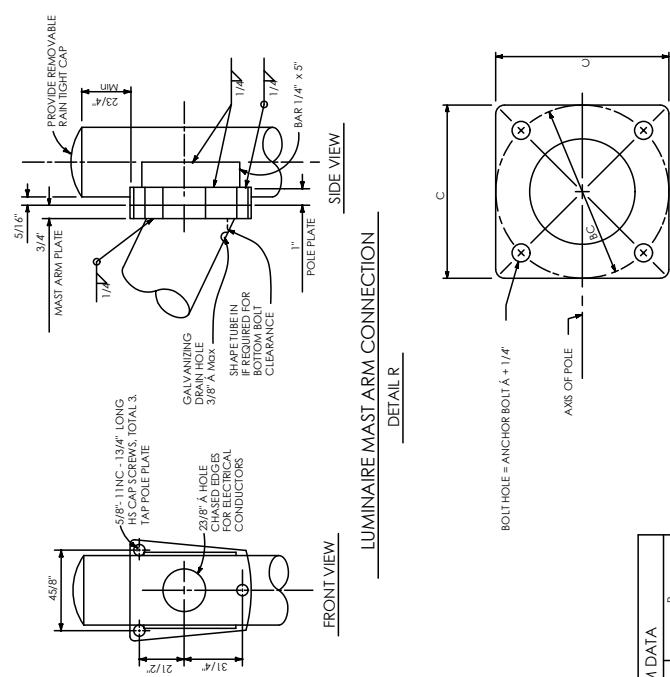
STANDARD RESIDENTIAL
STREET LIGHT - NOTES

DRAWN BY:	BRL	CHECKED BY:	SEC
APPROVAL DATE:	06/2018	APPROVED BY:	JRL
SCALE:	NONE	DRAWING NO.	E-2
REVISED DATE:	10/2020		

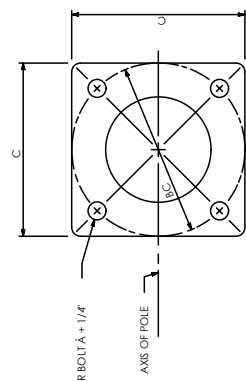


TYPE 15 AND TYPE 21 BARRIER RAIL MOUNTED
ELEVATION B

TYPE 15 AND TYPE 21
ELEVATION A



LUMINAIRE MAST ARM CONNECTION
DETAIL R



BASE PLATE
DETAIL A

MOUNTED LENGTH	N	RSE	MIN AT POLE	LUMINAIRE MAST ARM DATA	
				TYPE 15	TYPE 21
6'-0"	2'-0"	31/4"	0.1196"	31'-6"	36'-6"
8'-0"	2'-6"	31/2"	0.1196"	32'-0"	37'-0"
10'-0"	3'-3"	37/8"	0.1196"	32'-9"	37'-9"
12'-0"	4'-3"	41/4"	0.1196"	33'-9"	38'-9"
15'-0"	4'-9"	41/4"	0.1196"	34'-3"	39'-3"

POLE TYPE	POLE DATA		BASE PLATE DATA		ANCHOR BOLT SIZE
	A HEIGHT	WALL THICKNESS	BC = BOLT CIRCLE	THICKNESS	
15	30'-0"	0.1196"	1'-0"	2"	1" A x 3/4" *
21	35'-0"	0.1793"	1'-0"	2"	1 1/4" A x 3/4" *

- NOTES:
- ES-6C luminaire mast arm length to be used unless otherwise noted on the plans.
 - For Type 15-38, use Type 15 standard with Type 30-5ip base plate details, see Standard Plan ES-6f.
 - Handholes shall be located on the downstream side of traffic.
 - For additional notes and details, see Standard Plans ES-7M and ES-7N.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(LIGHTING STANDARD,
TYPES 15 AND 21)

NO SCALE

ES-6A

NOTE:
APPROVAL FROM CITY OF NAPA ENGINEER REQUIRED.
SUBMIT SHOP DRAWINGS & SPECIFICATIONS FOR REVIEW.

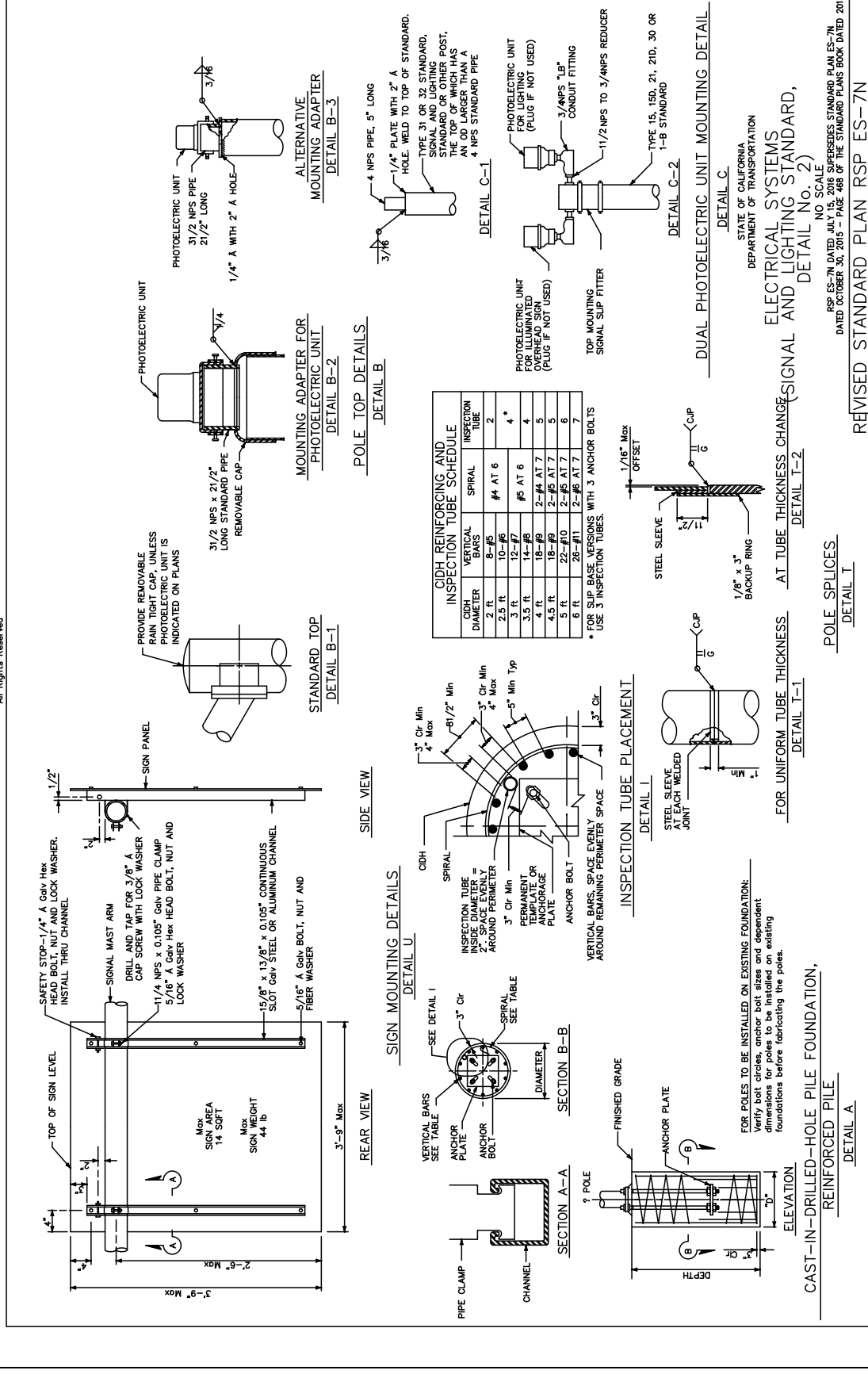
CITY OF NAPA PUBLIC WORKS DEPARTMENT

CALTRANS STANDARD PLAN ES-6A
ELECTRICAL SYSTEMS

DRAWN BY: BRL
APPROVAL DATE: 06/2018
SCALE: NONE
REVISED DATE: 08/2021

CHECKED BY: SEC
APPROVED BY: JRL
DRAWING NO. E-3

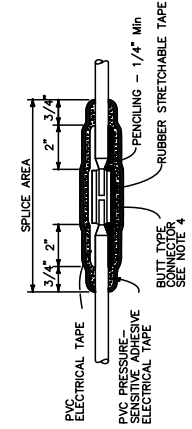
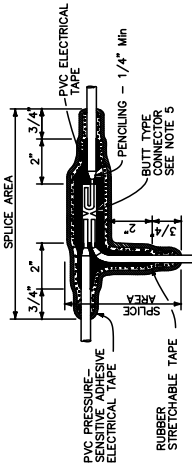
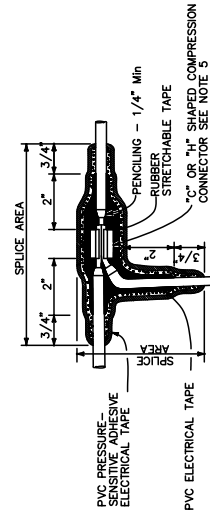
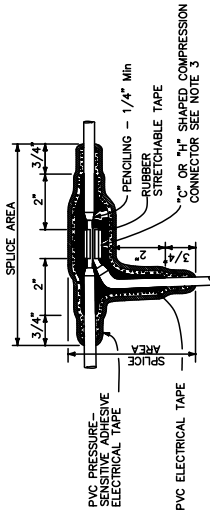
© 2015 California Department of Transportation
All Rights Reserved



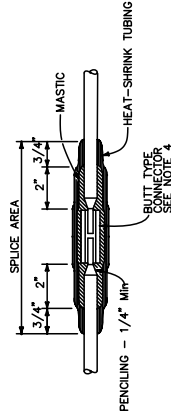
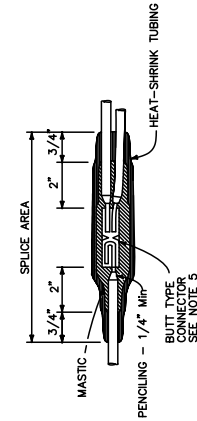
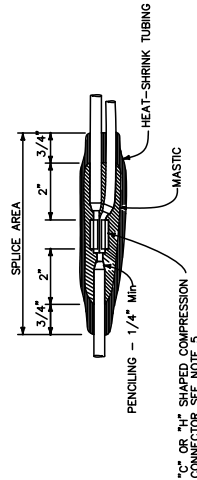
NOTE:
 APPROVAL FROM CITY OF NAPA ENGINEER REQUIRED.
 SUBMIT SHOP DRAWINGS & SPECIFICATIONS FOR REVIEW.

DRAWN BY:	BRL	CHECKED BY:	SEC
APPROVAL DATE:	06/2018	APPROVED BY:	JRL
SCALE:	NONE	DRAWING NO.	E-4
REVISED DATE:	08/2021		

© c 2017 California Department of Transportation
All Rights Reserved



TYPICAL SPlice INSULATION METHOD B



TYPICAL SPlice INSULATION HEAT-SHRINK TUBING

- 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.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS
(SPlice INSULATION METHODS DETAILS)

NO SCALE

RSP ES-13A DATED JULY 21, 2017 SUPERSEDES RSP ES-13A DATED APRIL 15, 2016 AND STANDARD PLAN ES-13A DATED OCTOBER 30, 2015 - PAGE 464 OF THE STANDARD PLANS BOOK DATED 2015.

REVISED STANDARD PLAN RSP ES-13A

45-27

NOTE:
APPROVAL FROM CITY OF NAPA ENGINEER REQUIRED.
SUBMIT SHOP DRAWINGS & SPECIFICATIONS FOR REVIEW.

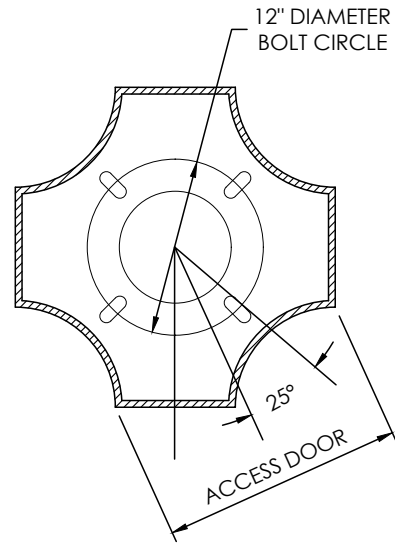
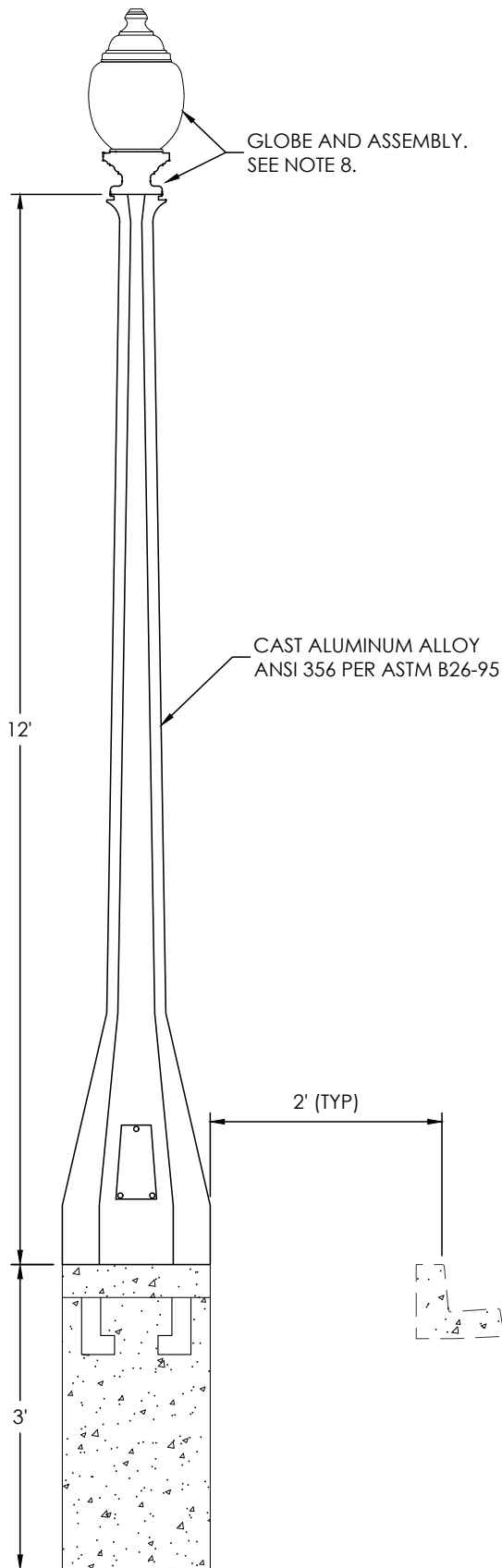
CITY OF NAPA

PUBLIC WORKS DEPARTMENT

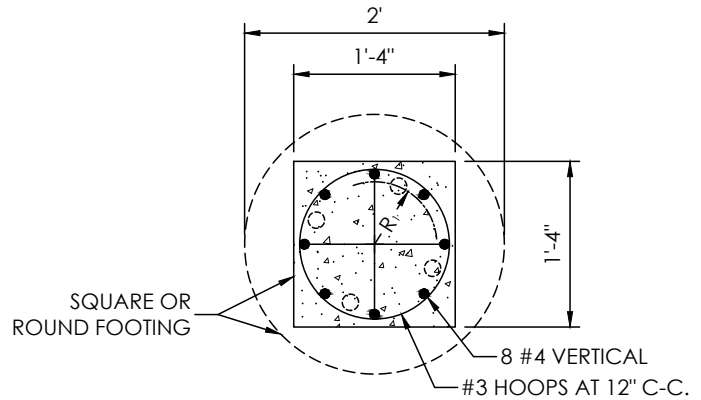
CALTRANS STANDARD PLAN ES-13A
ELECTRICAL SYSTEMS

DRAWN BY: BRL
APPROVAL DATE: 06/2018
SCALE: NONE
REVISED DATE: 08/2021

CHECKED BY: SEC
APPROVED BY: JRL
DRAWING NO. E-5



PLAN VIEW - POLE



R₁ = ANCHOR BOLT DIA. DIMENSION R AND BOLT PATTERN TO SUIT POLE BASE FURNISHED.

PLAN VIEW - FOUNDATION

NOTES

1. REFER TO THE CITY OF NAPA DOWNTOWN SPECIFIC PLAN FOR APPROVED LOCATIONS OF THIS STANDARD STREET LIGHT; THIS STANDARD STREET LIGHT TO BE PLACED DOWNTOWN OR AS APPROVED BY THE ENGINEER. ALL OTHER STREET LIGHTS TO BE USED OUTSIDE THE DOWNTOWN SPECIFIC PLAN AREA SHALL CONFORM TO CITY STANDARD DRAWING E-1.
2. FOOTING SHALL BE 24" DIAMETER BY 3' DEEP CONCRETE. TOP OF FOOTING SHALL BE FLUSH WITH SIDEWALK.
3. ACCESS DOOR SECURED TO BASE WITH TAMPER PROOF HEX SOCKET SECURITY MACHINE SCREWS.
4. ACCESS DOOR SHALL BE POSITIONED AWAY FROM STREET.
5. BOLTS SHALL BE 5/8" x 18" x 3" GALVANIZED STREET LIGHT BOLTS WITH 12' BOLT CIRCLE.
6. POLE SHALL ADHERE TO SHAKESPEARE CS - CORAL GABLES 12' FLAT BLACK SPEC ANCHOR PLACE AND TENON. SPECIFICATION NO: ACG20-12AF1103
7. LED SHALL ADHERE TO LIGHT EFFICIENT DESIGN STANDARDS FOR LED-8029
8. GLOBE AND ASSEMBLY SHALL BE ELA COMPANY INC. GLOBE AND ASSEMBLY SHALL BE AN ACORN GLOBE WITH 9" OPENING, MEDIUM BASE PORCELAIN SOCKET WITH 1.5" x 1/8-27#4066, 120V BUTTON PHOTOCELL, CAST BALLAST HOUSING FITTER INCANDESCENT, MEDIUM BASE, ACRYLIC DIFFUSER AND STIPPLED. GLOBE ASSEMBLY TO BE APPROVED BY CITY ELECTRICAL DIVISION.

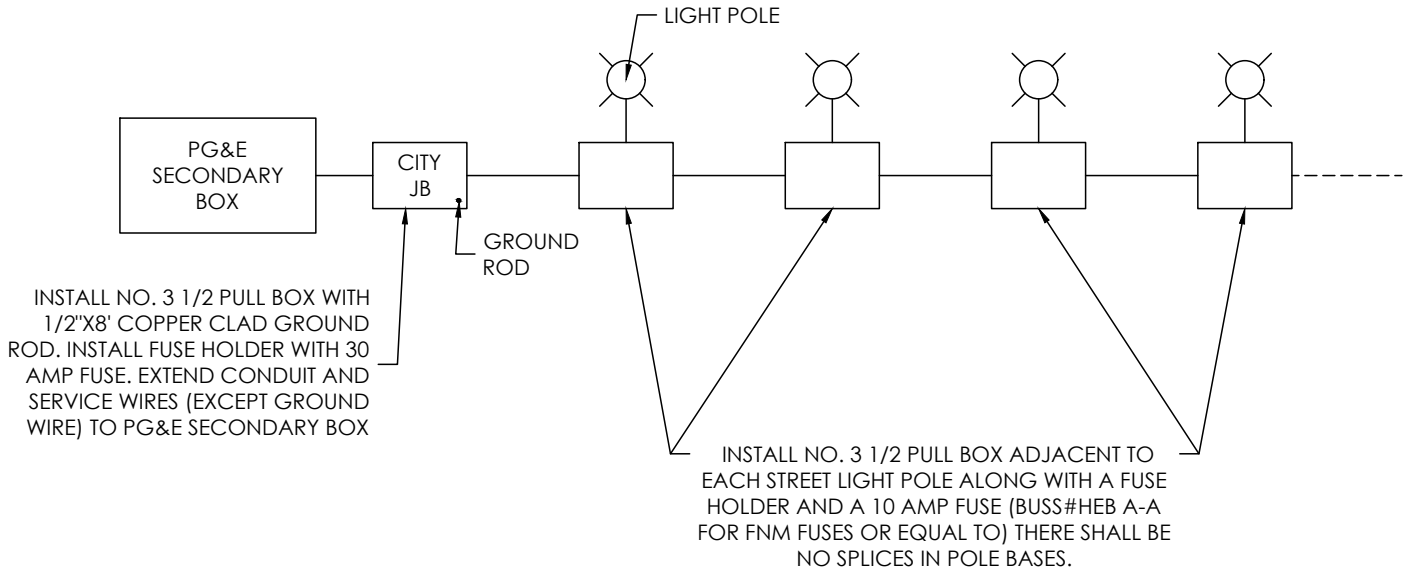
CITY OF NAPA

PUBLIC WORKS DEPARTMENT

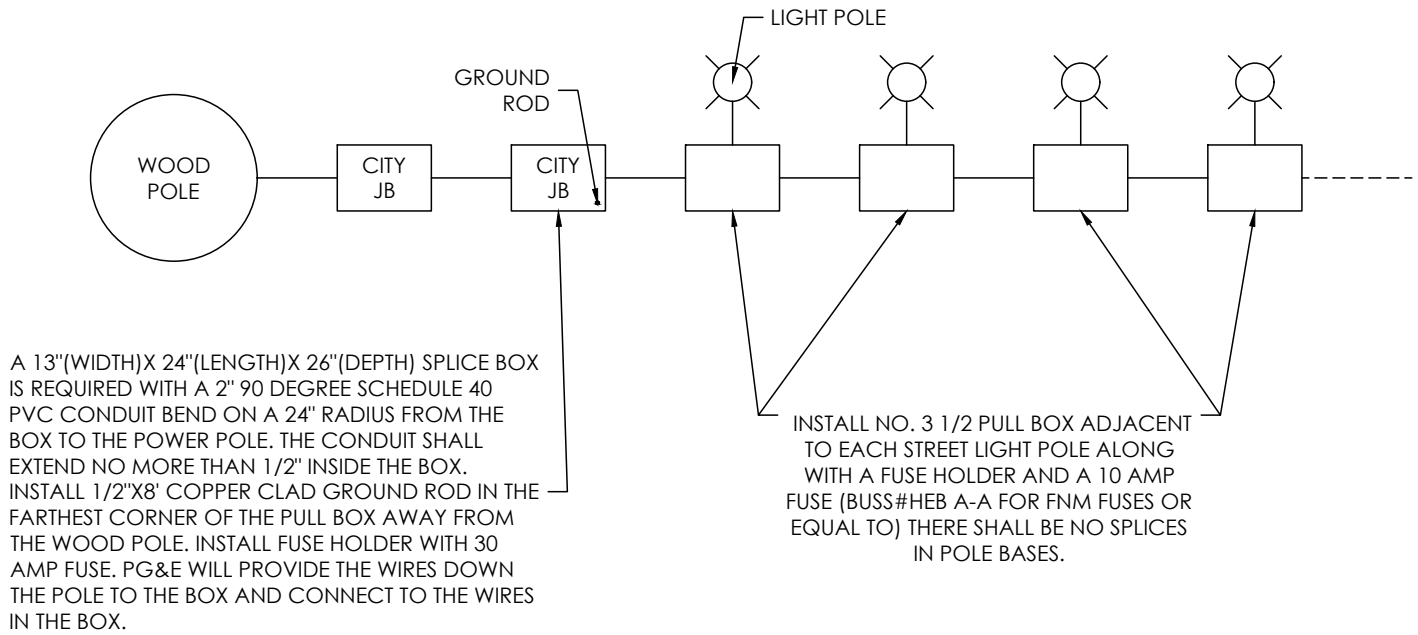
ORNAMENTAL STREET LIGHT
DOWNTOWN SPECIFIC PLAN

DRAWN BY: BRL
APPROVAL DATE: 06/2018
SCALE: NONE
REVISED DATE: 08/2021

CHECKED BY: SEC
APPROVED BY: JBL
DRAWING NO. E-6



SECONDARY BOX SERVICE INSTALLATION



WOOD POLE SERVICE INSTALLATION

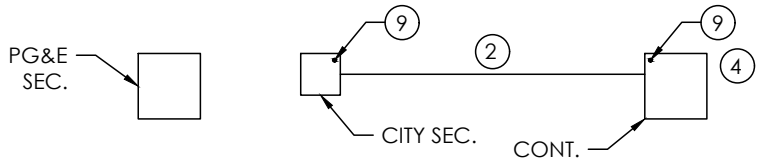
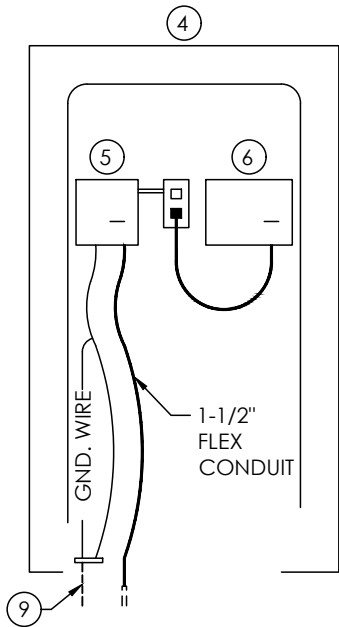
CITY OF NAPA

PUBLIC WORKS DEPARTMENT

SECONDARY BOX AND WOOD POLE SERVICE INSTALLATIONS

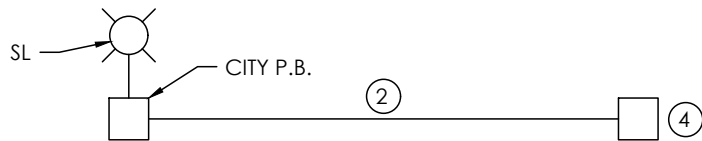
DRAWN BY: BRL
 APPROVAL DATE: 06/2018
 SCALE: NONE
 REVISED DATE:

CHECKED BY: SEC
 APPROVED BY: JRL
 DRAWING NO. E-7



INSTALL NO. 3-1/2 PULL BOX WITH 1/2" X 8' COPPER CLAD GROUND ROD. INSTALL FUSE HOLDER WITH 10 AMP FUSE. EXTEND CONDUIT AND SERVICE WIRES (EXCEPT GROUND WIRE) TO PG&E SECONDARY BOX.

TYPICAL PG&E SECONDARY SERVICE



INSTALL FUSE HOLDER WITH 10 AMP FUSE IN EXISTING STREET LIGHT PULL BOX.

TYPICAL STREET LIGHT SERVICE

NOTES

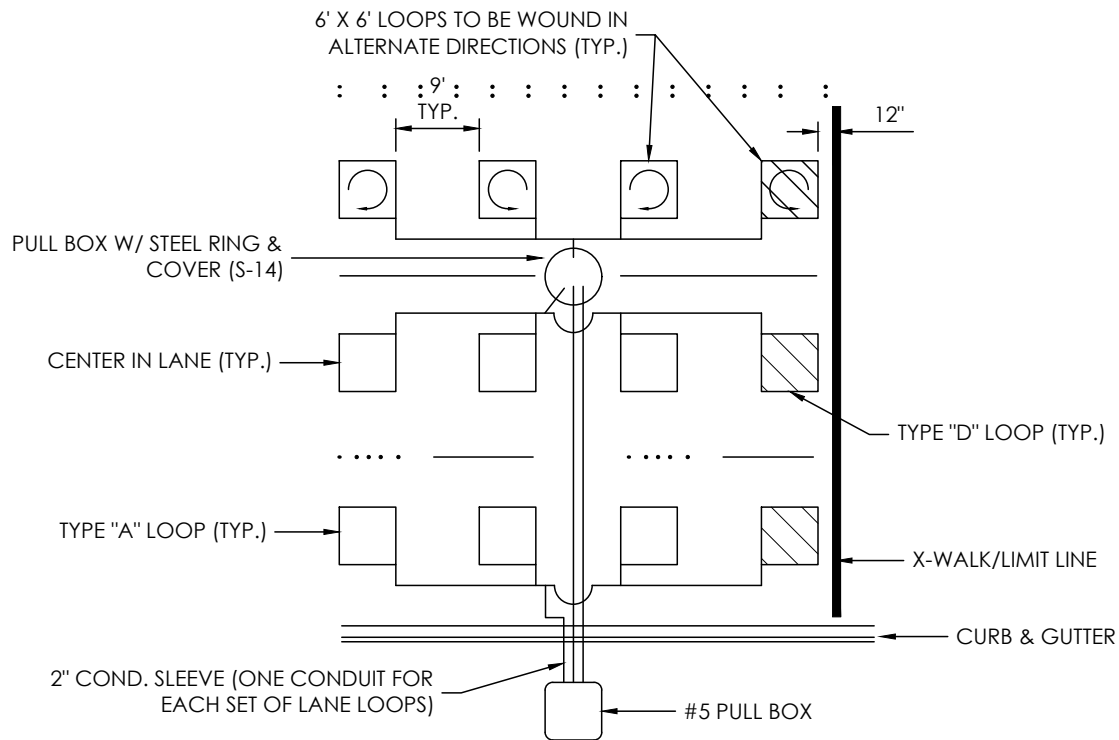
1. SPRINKLER CONTROLLER SERVICE LOCATIONS SHALL BE ESTABLISHED PRIOR TO CONSTRUCTION.
2. ELECTRICAL SERVICE CONDUIT SIZE SHALL BE 1-1/2" SCHEDULE 40 18" DEEP.
3. CONDUCTORS SHALL BE MINIMUM NO. 10 (ONE WHITE, ONE RED) PULLED WITH A NUMBER 10 BARE COPPER BOND WIRE. BOND WIRE SHALL CONNECT TO ALL CONTROLLERS AND GROUND RODS IN THE SYSTEM.
4. CONTROLLER CABINETS SHALL BE INSTALLED PER CITY OF NAPA SPECIFICATIONS.
5. INSTALL 6"X6"X4" LANDING CAN WITH GROUND BUS. INSTALL #8 ARMORED GROUND CABLE FROM GROUND BUS TO CABINET FOUNDATION BOLT. INSTALL 1/2" OFFSET NIPPLE FROM LANDING CAN TO ONE SINGLE GANG HANDY BOX. INSTALL ONE GFCI DUPLEX RECEPTACLE INTO HANDY BOX.
6. INSTALL 14/3 SJO CORD WITH STRAIN RELIEF FROM SPRINKLER CONTROLLER BOX. INSTALL 90 DEGREE CORD CAP ON OTHER END OF SJO CORD AND PLUG INTO GFCI RECEPTACLE.
7. CONTACT CITY OF NAPA ELECTRICAL DIVISION PRIOR TO BACKFILLING ANY ELECTRICAL CONDUIT TRENCHES.
8. CONTACT CITY OF NAPA ELECTRICAL DIVISION FOR ELECTRICAL SERVICE LOCATIONS AND PRIOR TO STARTING ELECTRICAL WORK (707) 257-9588.
9. INSTALL 1/2"X8' COPPER CLAD GROUND ROD.

CITY OF NAPA

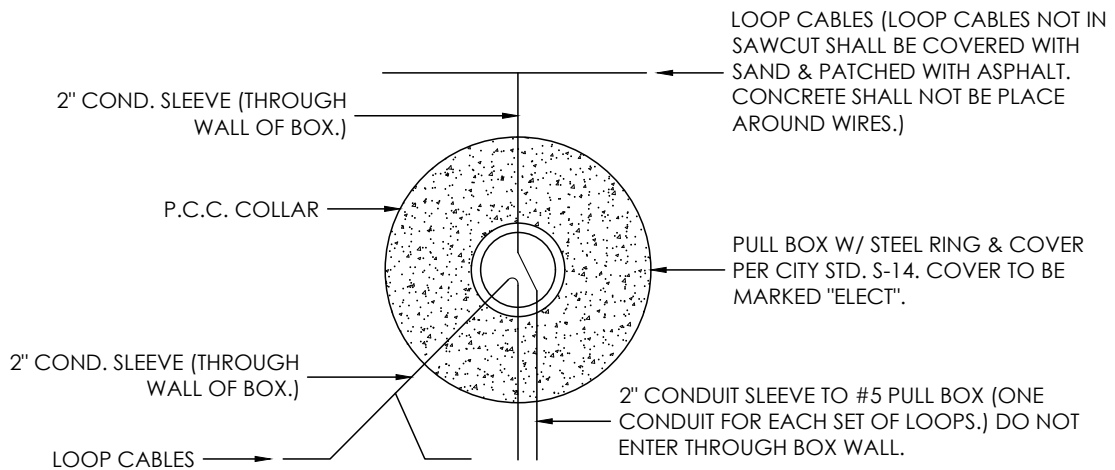
PUBLIC WORKS DEPARTMENT

ELECTRICAL SERVICE SPECIFICATIONS
FOR SPRINKLER CONTROLLERS

DRAWN BY:	BRL	CHECKED BY:	SEC
APPROVAL DATE:	06/2018	APPROVED BY:	JRL
SCALE:	NONE	DRAWING NO.	E-8
REVISED DATE:			



PULL BOX & LOOPS INSTALLATION



PULL BOX WITH STEEL RING & COVER



TYPE "A" & "D" LOOPS

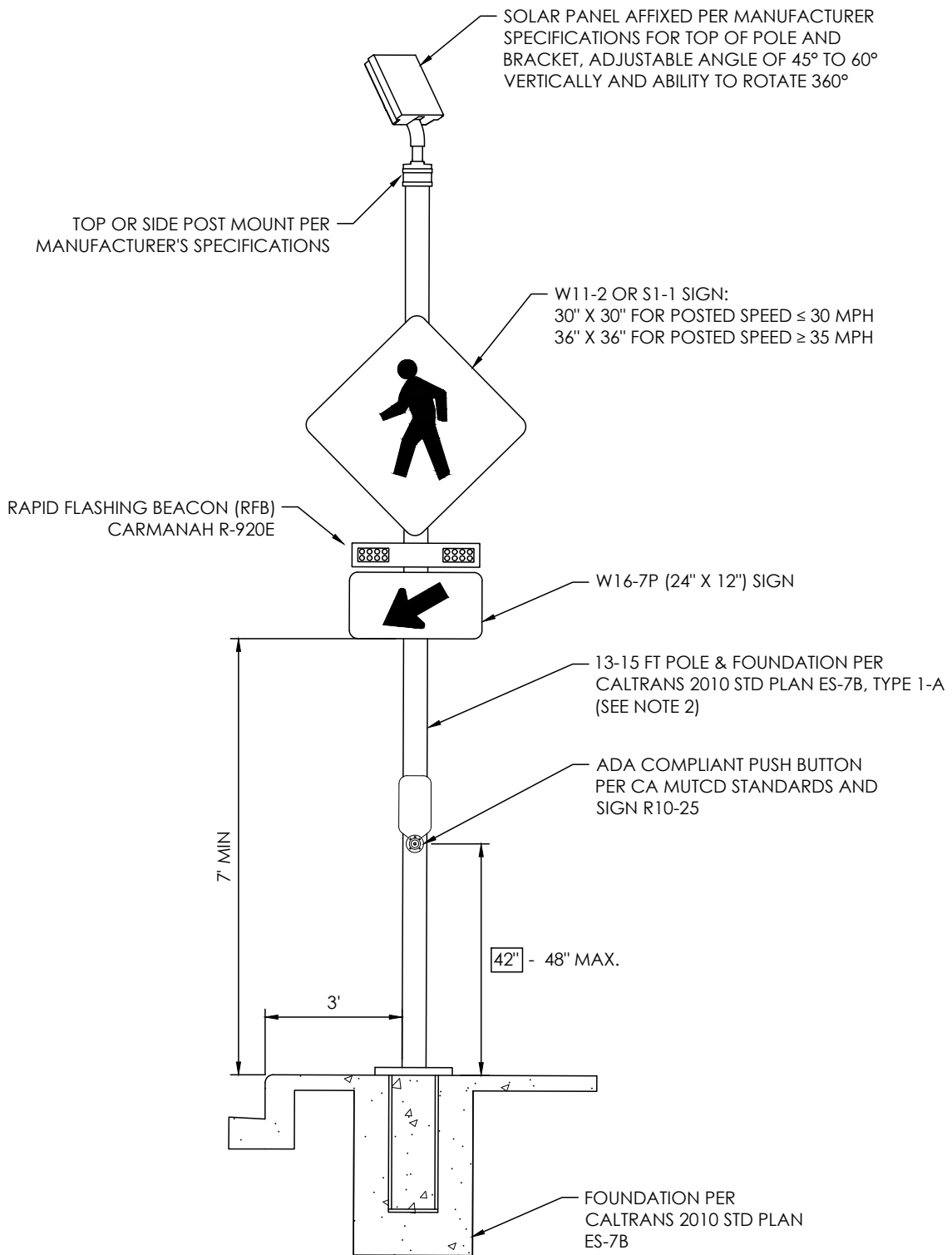
CITY OF NAPA

PUBLIC WORKS DEPARTMENT

INDUCTIVE LOOPS FOR
TRAFFIC SIGNALS

DRAWN BY: BRL
APPROVAL DATE: 06/2018
SCALE: NONE
REVISED DATE:

CHECKED BY: SEC
APPROVED BY: JRL
DRAWING NO. E-9



NOTES

1. ALL SIGNS PER CA MUTCD, LATEST EDITION.
2. 13' POLE FOR POSTED SPEEDS OF LESS THAN OR EQUAL TO 30 MPH. 15' POLE FOR POSTED SPEEDS GREATER THAN OR EQUAL TO 35 MPH.
3. INDICATES DIMENSION TO BE USED UNLESS NOTED OTHERWISE. DO NOT EXCEED MAXIMUM DIMENSION.

CITY OF NAPA

PUBLIC WORKS DEPARTMENT

**RAPID FLASHING BEACON SYSTEM &
ROUND POLE INSTALLATION**

DRAWN BY:	LFM
APPROVAL DATE:	10/2020
SCALE:	NONE
REVISED DATE:	

CHECKED BY:	EBM
APPROVED BY:	JBL
DRAWING NO.	E-10

SOLAR PANEL AFFIXED PER MANUFACTURER SPECIFICATIONS FOR TOP OF POLE AND BRACKET, ADJUSTABLE ANGLE OF 45° TO 60° VERTICALLY AND ABILITY TO ROTATE 360°

TOP OR SIDE POST MOUNT PER MANUFACTURER'S SPECIFICATIONS

W11-2 OR S1-1 SIGN:
30" X 30" FOR POSTED SPEED ≤ 30 MPH
36" X 36" FOR POSTED SPEED ≥ 35 MPH

RAPID FLASHING BEACON (RFB)
CARMANAH R-920E

W16-7P (24" X 12") SIGN

ADA COMPLIANT PUSH
BUTTON PER CA MUTCD
STANDARDS AND SIGN
R10-25

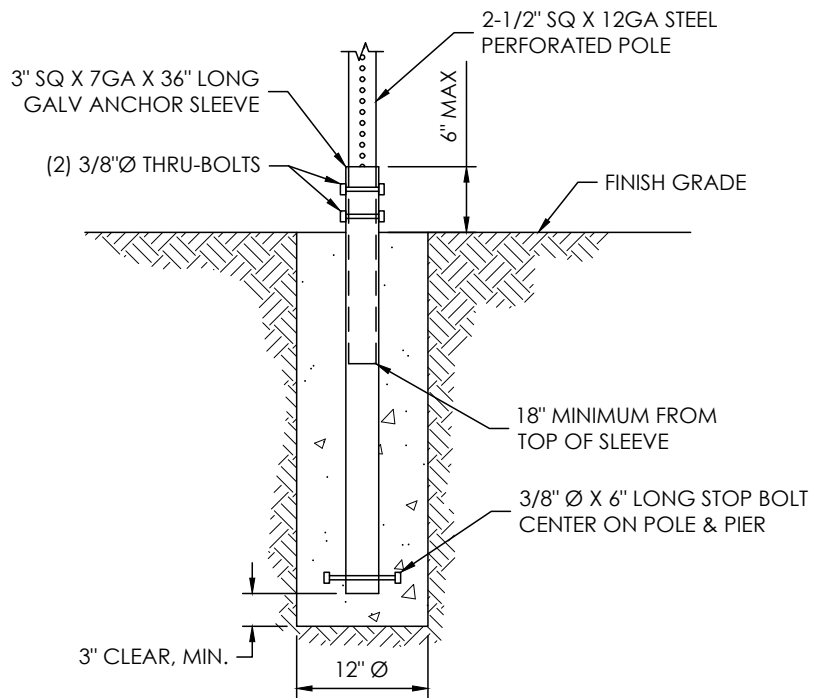
7' MIN

42"-48"

3'

36" DEEP
(SEE NOTE 3)

SIDE VIEW



DESIGN PARAMETERS (PER CBC 2019):

- ALLOW SOIL BEARING = 1500 PSF
- PASSIVE PRESSURE = 150 PCF
- $P_{wind} = 11.4 * [AREA OF SIGN] - ASD LEVEL$
- SEISMIC: $S_{DS} = 1.325 ; I_E = 1.0$

PERFORATED POLE IN CAST-IN-DRILLED-HOLE PIER

2-1/2" SQ X 12GA GALV
PERFORATED POLE (7/16" Ø)
(SEE NOTE 4)

3" SQ X 7GA X 36" LONG
GALV ANCHOR SLEEVE

NOTES

1. RAPID FLASHING BEACON SYSTEM ON GALVANIZED PERFORATED SQUARE POLE IS AN ALTERNATIVE INSTALLATION SUBJECT TO CITY APPROVAL.
2. ALL CONCRETE SHALL BE 2500 PSI MIN.
3. PIER DEPTH SHOWN IS MIN. FROM FINISH GRADE.
4. 13' POLE FOR POSTED SPEEDS OF LESS THAN OR EQUAL TO 30 MPH.
15' POLE FOR POSTED SPEEDS GREATER THAN OR EQUAL TO 35 MPH.

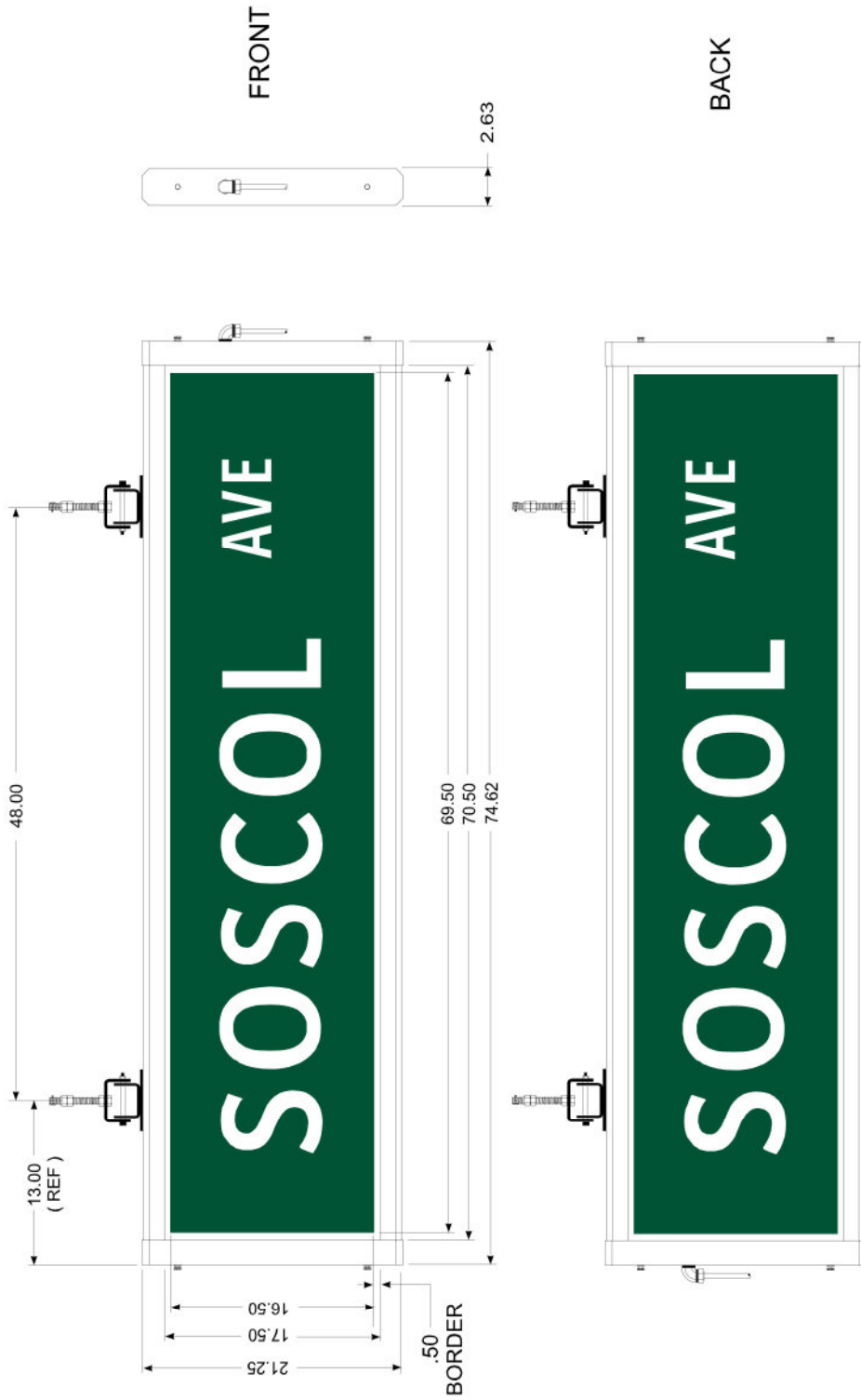
CITY OF NAPA

PUBLIC WORKS DEPARTMENT

RAPID FLASHING BEACON SYSTEM &
SQUARE POLE INSTALLATION

DRAWN BY: LFM
APPROVAL DATE: 10/2020
SCALE: NONE
REVISED DATE:

CHECKED BY: EBM
APPROVED BY: JBL
DRAWING NO. E-10A



22 X 72 EDGE LIT LED IISNS LEGEND SUBMITTAL

FONT:		SIZE:	COLOR:	PANEL	
MAIN LEGEND:	CLVW-3W	8"UC	WHITE	BACKGROUND COLOR:	3M 3630-126 EMERALD GREEN FILM
BLK #'S:	N/A	N/A	N/A	PANEL MTRL:	.093 19.75 X 73.88 WHITE POLY
SUFFIX:	CLVW-2W	4"UC	WHITE	ILLUM. SOURCE:	LED LIGHT ENGINE
LOWER LEGEND:	N/A	N/A	N/A	MAST ARM MNTG:	ADJUSTABLE MOUNTING HARDWARE
DIRECTIONAL:	N/A	N/A	N/A	FRAME FINISH:	POWDER COATED BLACK
CHANGE & RESUBMIT		<input type="checkbox"/>	CUSTOMER: JAM SERVICES		DATE: 06-21-17
APPRVL:			PO	51918-01	MOD: 07-07-17
			JOB REF: -		PAGE: 1 OF 1
					SO# IS2070-01



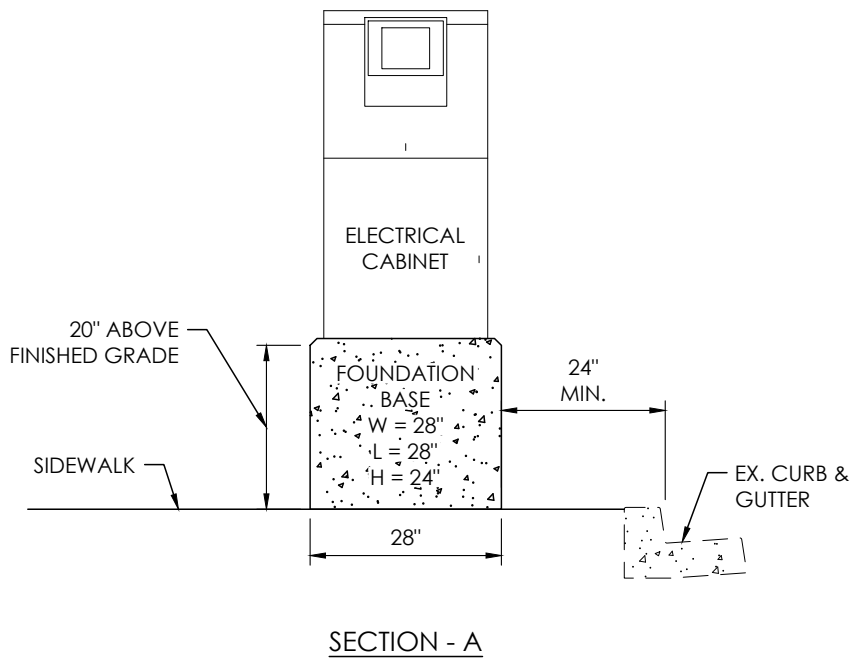
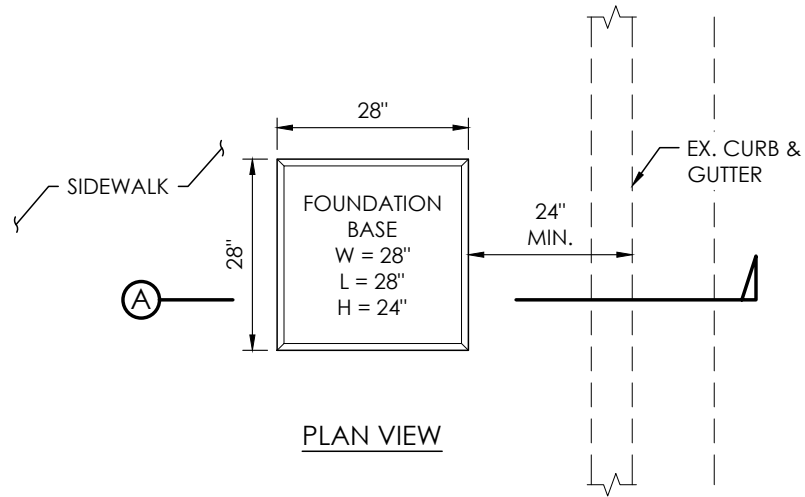
CITY OF NAPA

PUBLIC WORKS DEPARTMENT

INTERNALLY ILLUMINATED STREET NAME SIGNS

DRAWN BY:	EBM
APPROVAL DATE:	10/2020
SCALE:	NONE
REVISED DATE:	

CHECKED BY:	IHH
APPROVED BY:	JBL
DRAWING NO.	E-11



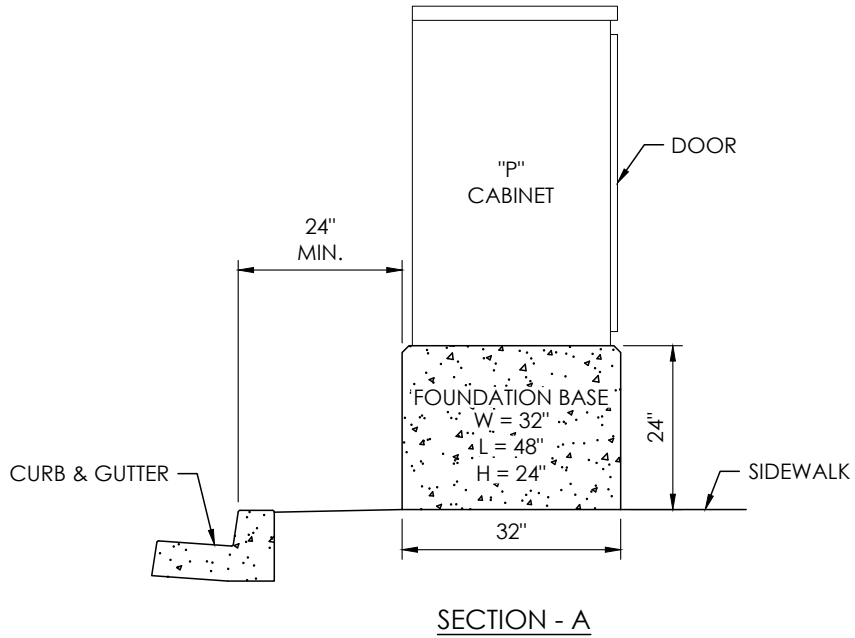
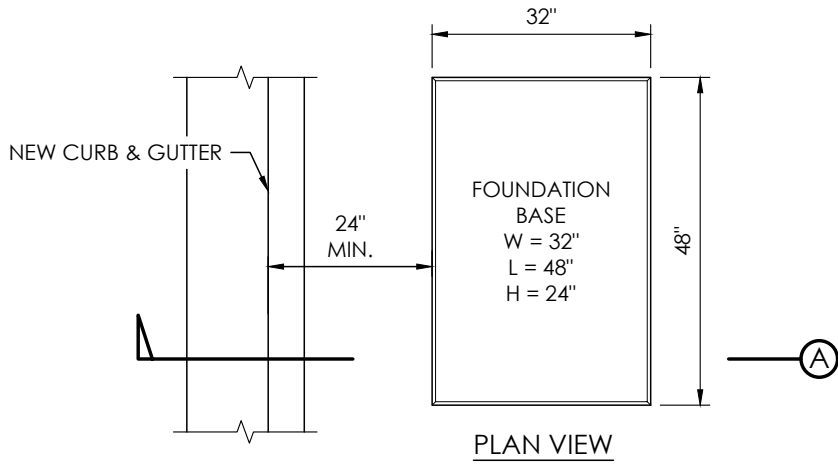
CITY OF NAPA

PUBLIC WORKS DEPARTMENT

ELECTRICAL CABINET
FOUNDATION BASE

DRAWN BY: LFM
 APPROVAL DATE: 08/2021
 SCALE: NONE
 REVISED DATE:

CHECKED BY: IHH
 APPROVED BY: JBL
 DRAWING NO. E-12



CITY OF NAPA

PUBLIC WORKS DEPARTMENT

"P" CABINET FOUNDATION BASE

DRAWN BY:	BRL
APPROVAL DATE:	08/2021
SCALE:	NONE
REVISED DATE:	

CHECKED BY:	RR
APPROVED BY:	JBL
DRAWING NO.	E-13