

# STREET LIGHT POLE, BRACKET ARM, AND BREAK-AWAY BASE

POLE TYPE	MOUNTING HEIGHT (A)	BRACKET ARMS		POLE SHAFT			SHOE		ANCHOR BOLTS		
		LENGTH (B) ARM 1	ARM 2	BASE O.D.	TOP O.D.	MIN. WALL THICKNESS	SHAFT LENGTH (C)	BOLT CIRCLE (BC)	DIAMETER	LENGTH	HOOK
P14	14'	-	-	6"	3"	0.156"	14'-0"	9.5"	0.75" 10NC	25"	3"
P30S	30'	6' or 10'	-	8"	6"	0.188"	26'-6" ±2"	11.0"	1.00" 8NC	36"	4"
P30D	30'	6' or 10'	6' or 10'	8"	6"	0.219"	26'-6" ±2"	11.0"	1.00" 8NC	36"	4"
P40S	40'	6', 10' or 15'	-	8"	6"	0.219"	36'-6" ±2"	11.5"	1.00" 8NC	36"	4"
P40D	40'	6', 10' or 15'	6', 10' or 15'	10"	6"	0.219"	36'-6" ±2"	14.5"	1.00" 8NC	48"	4"

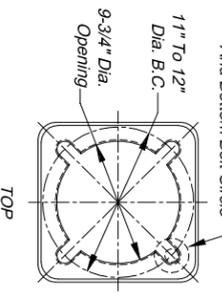
**NOTES:**

- All poles, arms, and miscellaneous equipment shall conform to these details and as specified by the latest city standard specifications.
- Pole shaft shall have a satin ground finish.
- All hardware (bolts, nuts, washers but not including anchor bolts) not otherwise specifically designated in the specifications or details shall be 300-series stainless steel conforming to ASTM A193 or A194.
- Anchor bolts shall be used with concrete bases. Anchor bolts shall be steel with 50,000 PSI minimum yield; top 10" min. galvanized; including 8 nuts and 8 flat washers galvanized to ASTM A153 standards. Galvanized hex head bolts (see pole foundation sheet) shall be used with screw-in anchor bases. 4 bolts, 4 nuts and 8 flat washers to be provided with each anchor.
- All welding is to be done with 4043 weld wire. All arms and shafts are to be heat-treated to T6 temper after welding.
- Anchor bolts shall project above the concrete base as per manufacturer's recommended practices, 2 1/2" to 3".
- The aluminum street light pole assembly, including anchorage and luminaire, shall comply with the latest city standard specifications and the American Association of State Highway and Transportation Officials (AASHTO) load wind loading.
- All poles and arms shall be clearly identified by the manufacturer's name, abbreviation, or symbol engraved on the shaft, shoe base, hand hole, or other means such as to be readily visible after installation.

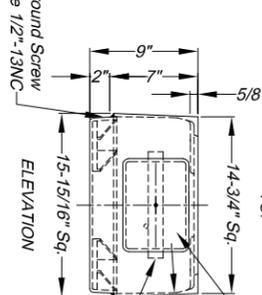
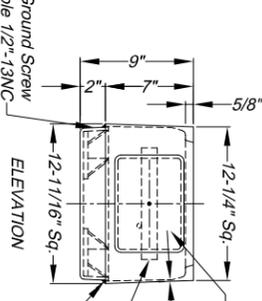
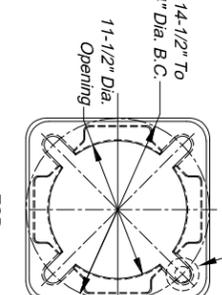
## MATERIAL DATA

COMPONENT	ALUMINUM ALLOY DESIGNATION	SPECIFICATION
Shoe Base	356-T6 Cast	ASTM B26 or B108
Breakaway Base	356-T6 Cast	ASTM B108
Bolt Covers	356 or 360 Cast	ASTM B26 or B108
Pole Shaft	6063-T6, Extruded	ASTM B221 or B241
Ground Lug	6061-T6 or 6063-T6, Plate	ASTM B221
Reinforced Handhole Frame	356-T6 or 6061-T6	ASTM B26, B108 or B221
Handhole Cover	6063-T6	ASTM B209, B221 or B241
Bracket Arm & Tubing Pipes	6063-T6	ASTM B221, B241 or B249
Bracket Arm Mounting Plates	6061-T6 or 6063-T6 Extruded	ASTM B221, B241 or B249
Bracket Arm Strut & Arm Connector	6061-T6 or 6063-T6 Extruded	ASTM B221, B241 or B108
Pole Cap	356 Cast	ASTM B26 or B108
Anchor Bolts	N/A	Galvanized per ASTM A153

Use 2-3/4" O.D. x 1-1/16" I.D. x 1/2" Thick Washer For 1" Dia. Anchorage On Top And Bottom Bolt Circle



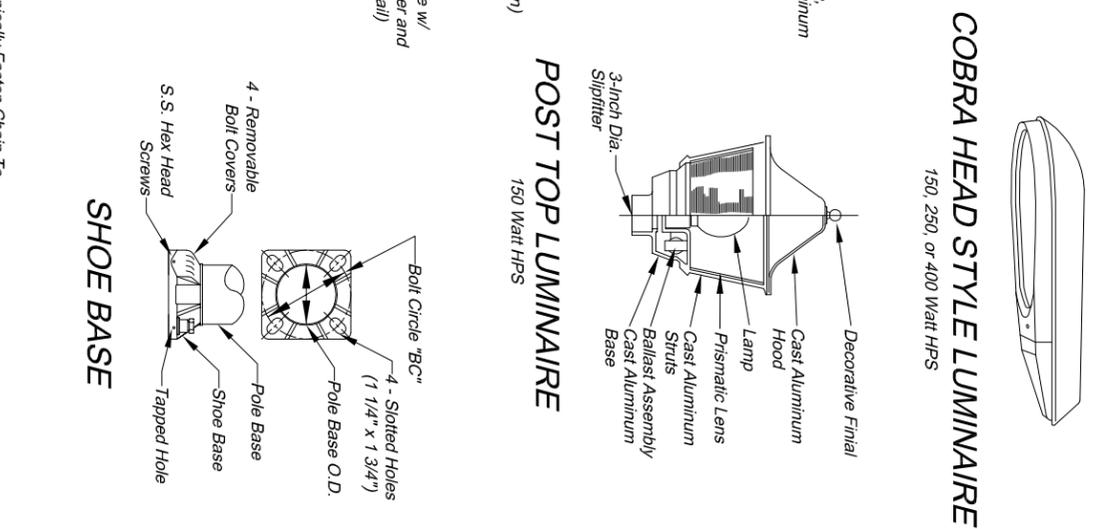
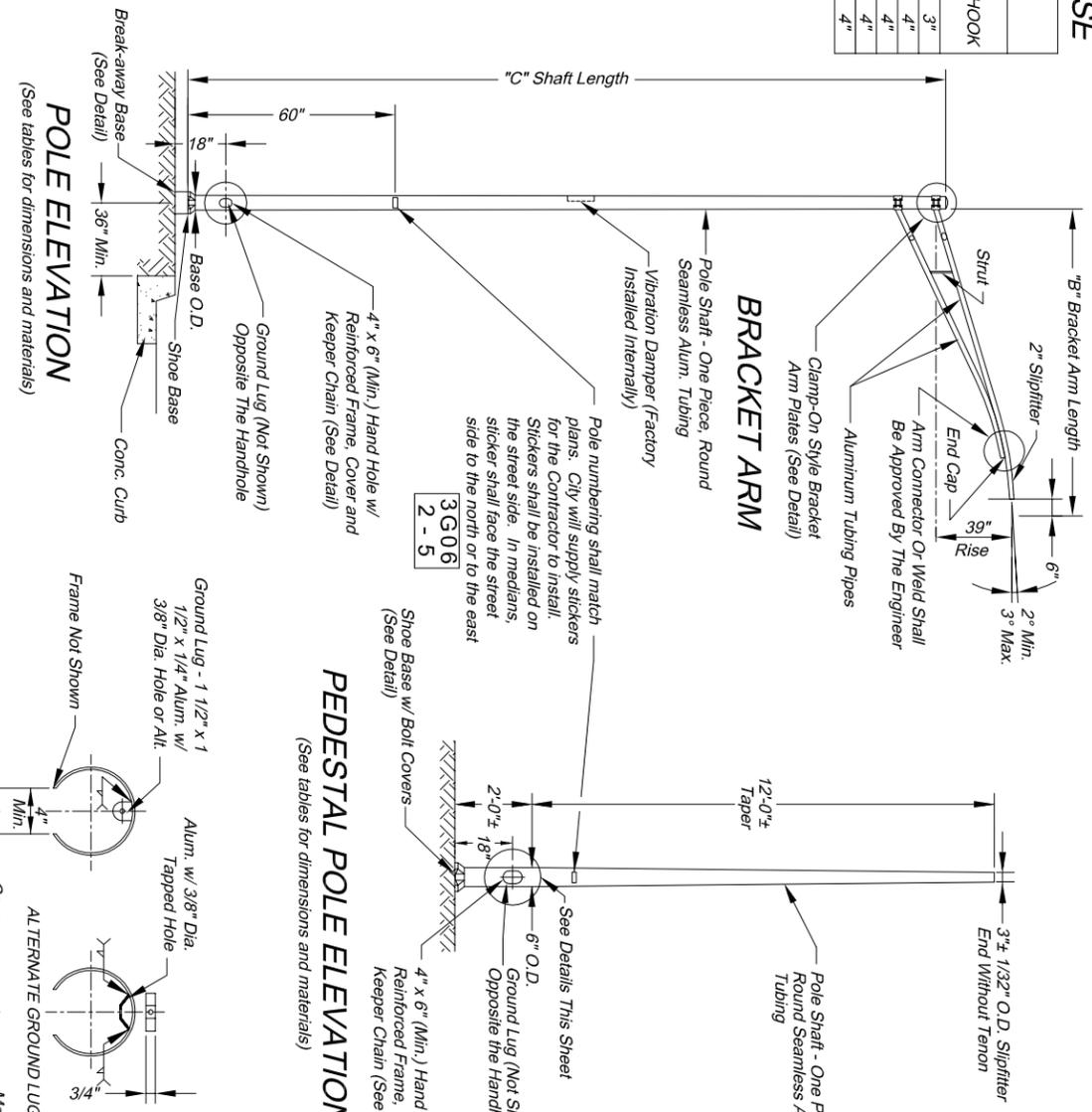
Use 2-3/4" O.D. x 1-1/16" I.D. x 1/2" Thick Washer For 1" Dia. Anchorage On Top And Bottom Bolt Circle



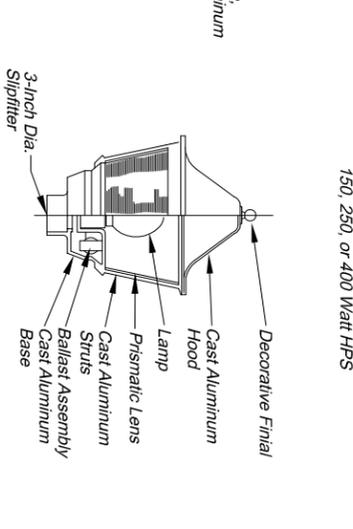
- NOTES:**
- Door shall be on the same side of the pole as the hand hole.
  - Base Conforms to Breakaway Criteria Of AASHTO Standard Specifications For Structural Supports For Highway Signs, Luminaires And Traffic Signals (1994).

## 11" BREAK-AWAY BASE

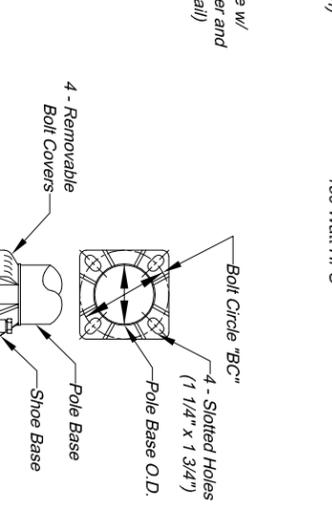
## 15" BREAK-AWAY BASE



## COBRA HEAD STYLE LUMINAIRE



## POST TOP LUMINAIRE



Project: \_\_\_\_\_

Sheet Name: POLE AND LUMINAIRE DETAILS

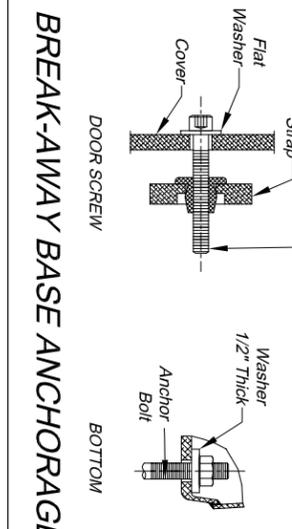
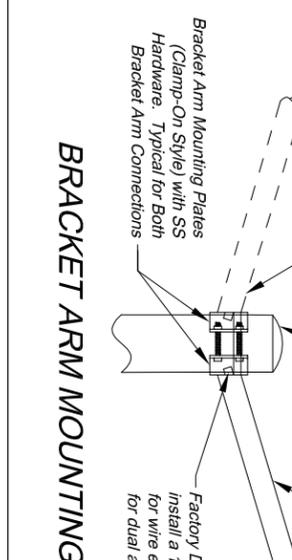
STANDARD DRAWING SL-1

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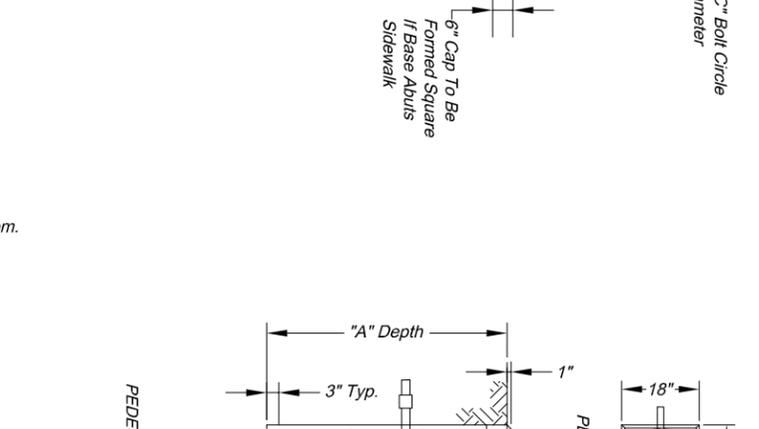
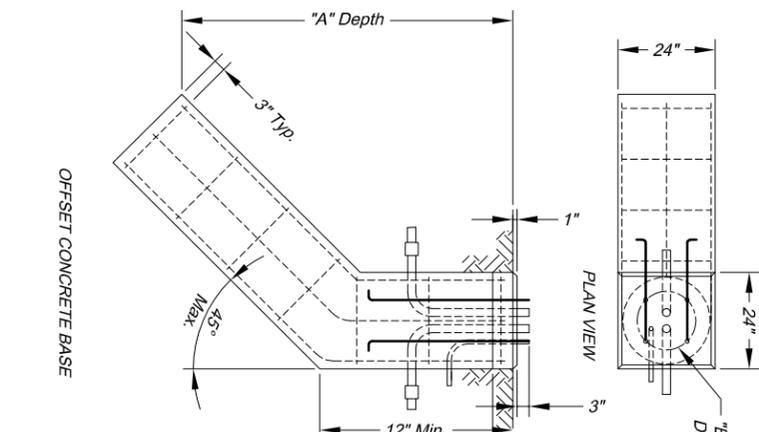
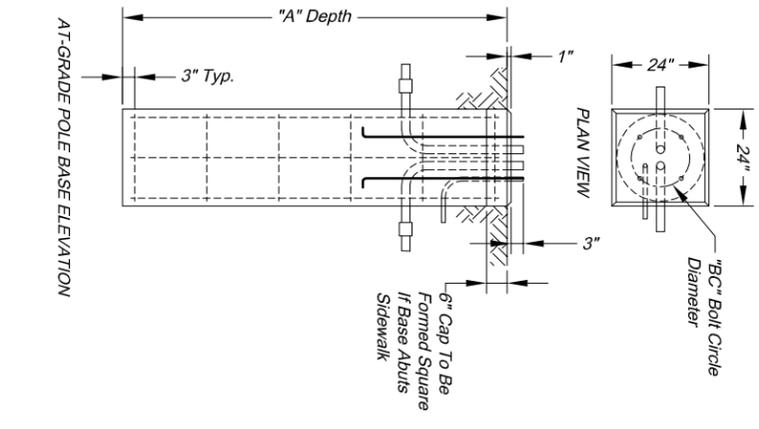
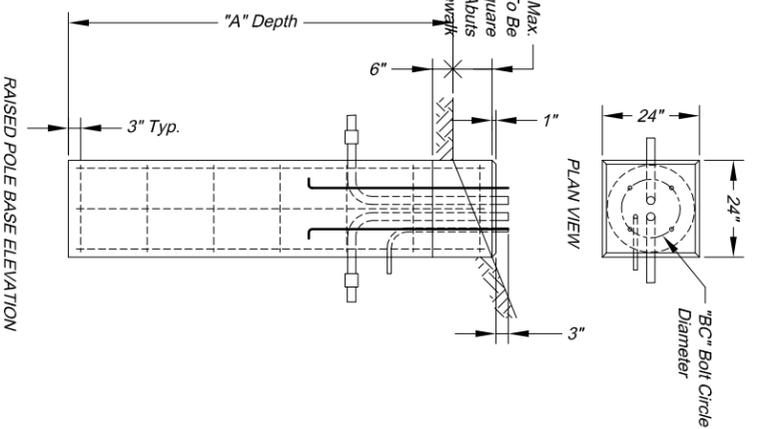
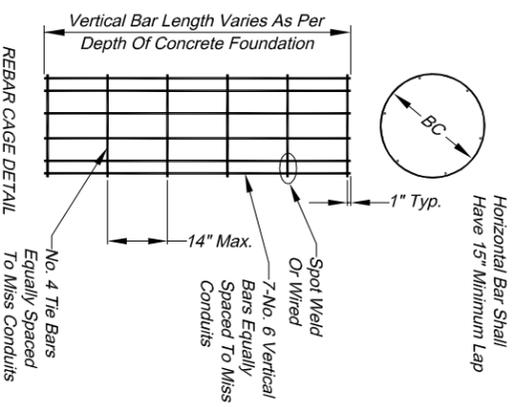
## BRACKET ARM MOUNTING

## BREAK-AWAY BASE ANCHORAGE



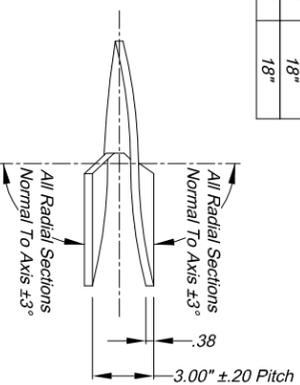
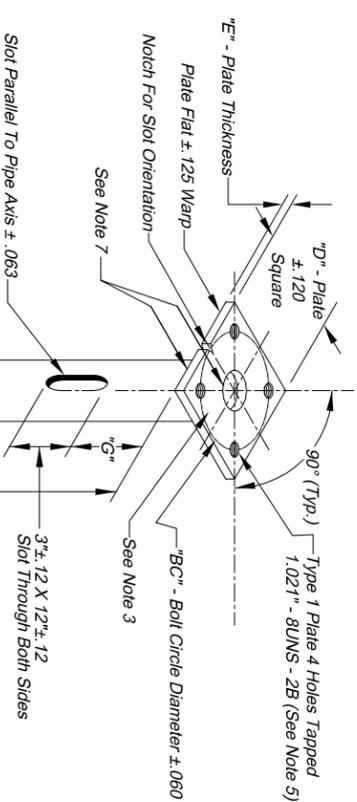
Drawn By: JH  
Checked By: JW  
Date: 08/21/2009

POLE TYPE	BRACKET ARM	DEPTH (A)	BOLT CIRCLE (BC)
P14	---	48"	9.5"
P30S or P30D	Single or Dual	72"	11.0"
P40S	Single	94"	11.5"
P40D	Dual	94"	14.5"

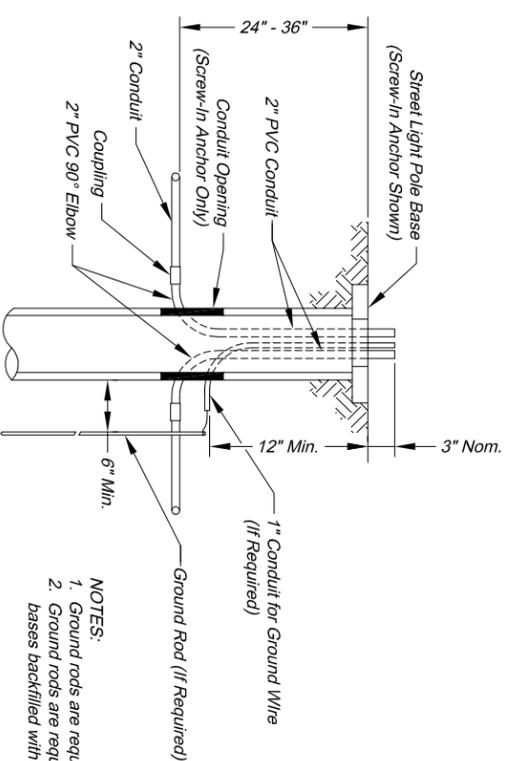


BASE TYPE	POLE TYPE	MINIMUM TORQUE RATING (lbs. ft.)	MAXIMUM TORQUE RATING (lbs. ft.)	SHAFT DIA. (A)	SHAFT LENGTH (B)	HELIX DIA. (C)	PLATE SIZE (D)	PLATE THICKNESS (E)	BOLT CIRCLE (BC)	SLOT LOCATION (G)
B14	P14	2,000	15,000	6"	48"	12"	10"	0.75"	9.5"	12"
B30	P30S & P30D	2,000	15,000	6"	60"	12"	12"	1.0"	11.0"	18"
B40S	P40S	2,000	20,000	8"	60"	14"	12"	1.0"	11.5"	18"
B40D	P40D	2,000	20,000	8"	60"	14"	15"	1.25"	14.5"	18"

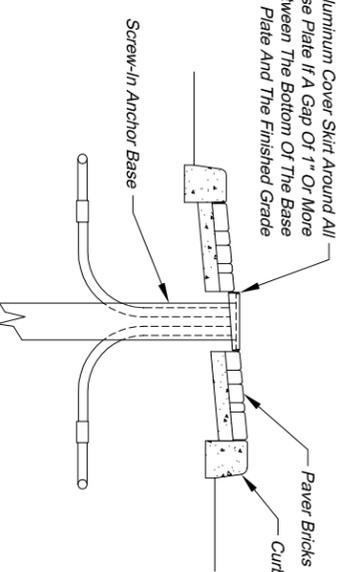
### CONCRETE BASE DETAILS



### CONDUIT ENTRANCE AND GROUNDING



Install An Aluminum Cover Skirt Around All Sides Of The Base Plate If A Gap Of 1" Or More Is Visible Between The Bottom Of The Base Plate And The Finished Grade



### COVERSKIRT REQUIREMENTS

### SCREW-IN ANCHOR BASE DETAILS

1.25"±.030 Dia. X 12.18"±.25 Long

- NOTES:
1. Finish: Hot dip galvanize per ASTM-A153 (latest revision).
  2. Baseplate to be perpendicular to shaft axis (±1°) and hole and concentric (±.188 I.D. Fin) to shaft axis.
  3. All bases shall be identified by the manufacturer's initials and the anchor type (1 or 2) permanently stamped into the top plate with 1/2" letters; the Julian date of manufacturer shall be permanently stamped in 1/4" numerals.
  4. Pilot point and shaft axes to be concentric (±.125 Fin) and in line (±2°).
  5. Tap 1" holes on the specified bolt circle perpendicular to the baseplate. Clean and chase the threads after hot-dip galvanizing so that a bolt may be installed.
  6. Preheat (room temperature 70°F), tumbleblast, handgrind, and clean baseplate, helix, and core on all weld areas.
  7. Flame cut irregularities permissible:
    - (1) Valleys not to exceed 3/32 in. below nominal surface level.
    - (2) Peaks or positive irregularities not to exceed 1/32 in. above nominal surface level or intersections of nominal surfaces.
  8. Manufacturer to have in effect industry recognized written quality control for all materials and manufacturing processes.
  9. All material is to be new, unused and mill traceable meeting the following specifications:
    - Baseplate: ASTM A36-(latest revision) hot rolled steel plate (conform to AASHTO technical bul. #270).
    - Steel pipe piles, seamless or straight welded, grade 2 per ASTM A252. Alternate material: pipe type E or S, grade B per ASTM A53.
    - Helix: ASTM A635-(latest revision) hot rolled steel plate
    - Pilot Point: ASTM A575-(latest revision) hot rolled steel
    - Bolt: ASTM A325 or Grade 5 SAE J429 - 1" diameter hot dip galvanized hex head bolt. Bolt shall include one each lock and flat washer.
  10. The design and performance integrity of the foundation shall be verified by full-scale tests by qualified engineers independent of the manufacturer. Certified test reports shall be provided upon request.
  11. Flame cut notch or projection will be on the base plate to indicate slot orientation.

Project:

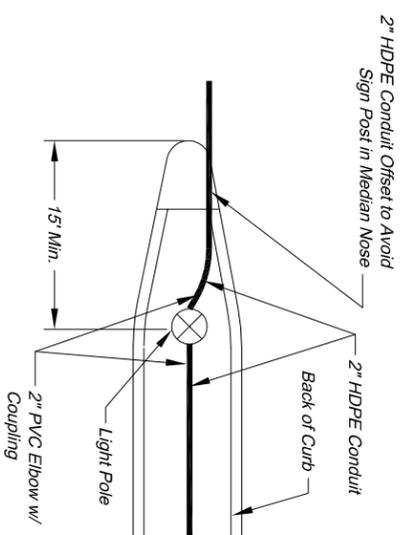
## POLE BASE DETAILS

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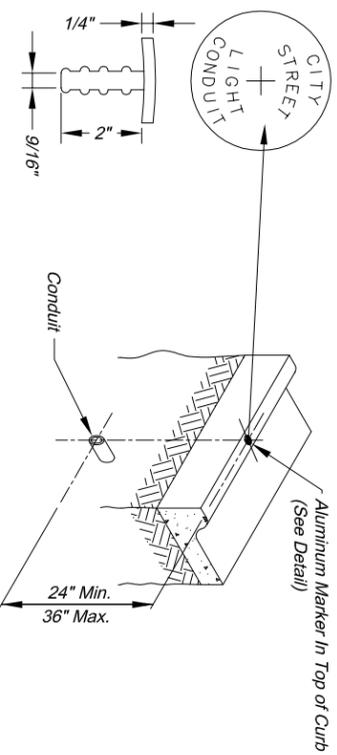
STANDARD DRAWING SL-2



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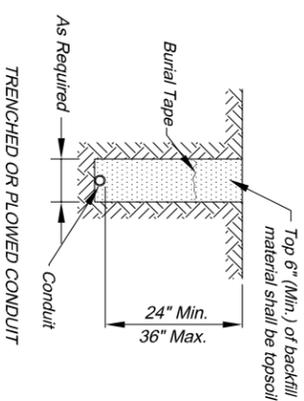
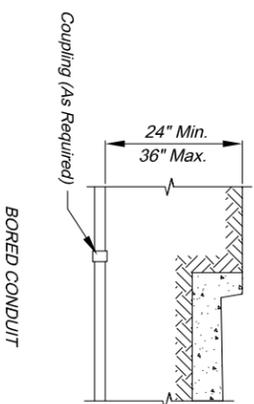


### STREET LIGHT POLE IN MEDIAN



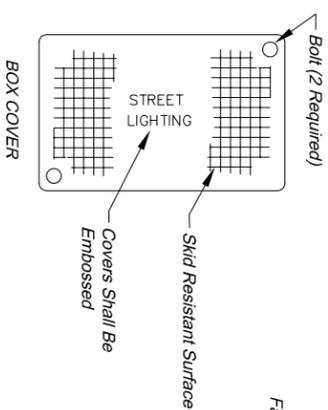
### CONDUIT MARKING DETAIL

- NOTES:**
1. An aluminum marker shall be placed in the top of the curb directly over the conduit.
  2. Markers shall be installed by drilling the curb and exposing the marker in place. If installed in a sidewalk or curb ramp, the top of the marker shall be flush with the concrete surface.
  3. No direct payment shall be made for conduit markers; they are subsidiary to the installation of conduit.

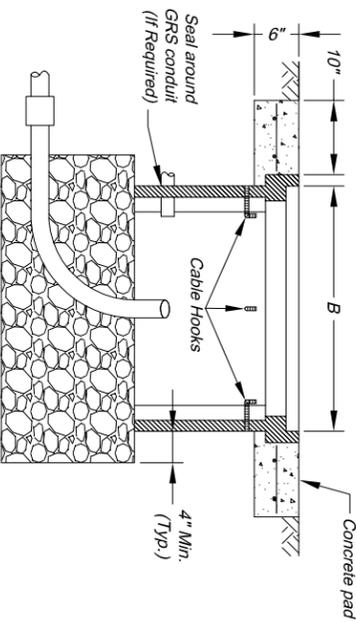
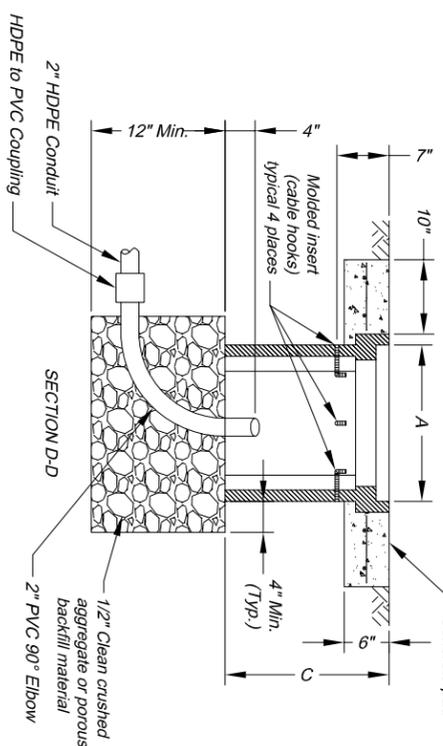
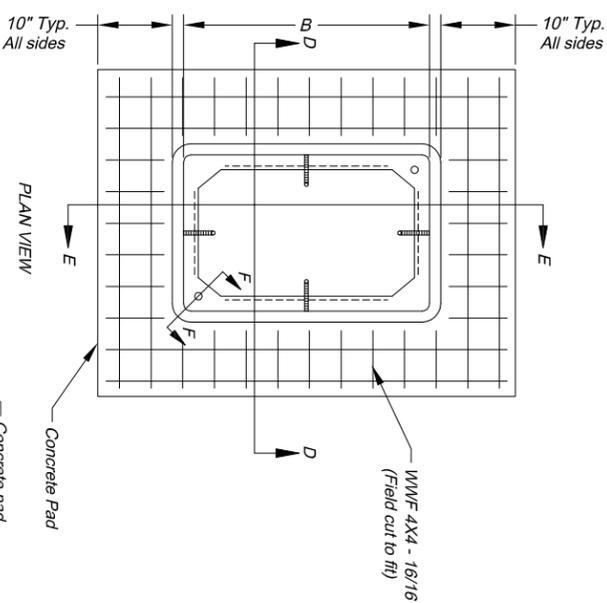


### CONDUIT LOCATIONS

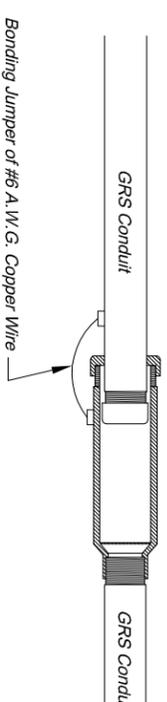
- NOTES:**
1. Backfill under paved surfaces shall be flowable fill.
  2. The conduit shall not be covered unless inspected and approved by the City Engineer, so as to ensure proper depth, correct conduit material, and proper conduit end treatment.



Fasten to Bridge As Recommended by the Manufacturer

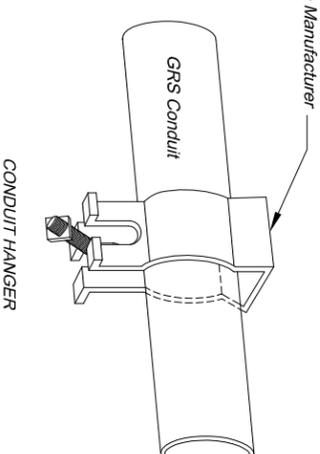


SECTION E-E



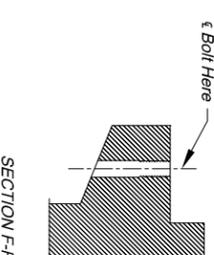
### GRS CONDUIT DETAILS

- NOTES:**
1. All conduits installed above ground shall be GRS.
  2. Conduit attached to bridges shall have expansion fittings installed at each end of the bridge and at each expansion joint on the bridge.
  3. All GRS conduits shall be electrically bonded by a grounding bushing and ground wire as detailed.
  4. Install the conduit and connector assembly to permit a 1/2 inch minimum longitudinal travel in either direction.



Number of Entering/Exiting Conduits	Box Type	Minimum Box Dimensions		
		A	B	C
1 - 2	Type 1 Junction Box	12"	12"	12"
3 - 4	Type 2 Junction Box	12"	18"	12"
> 4	Class 1 Pull Box	17"	30"	22"

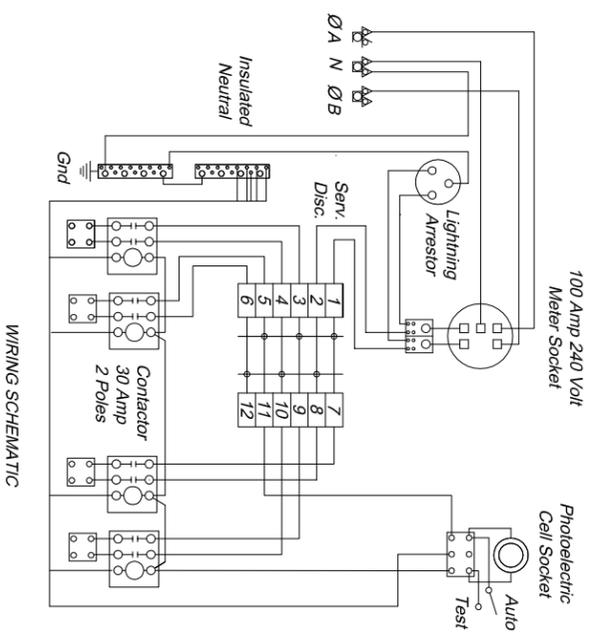
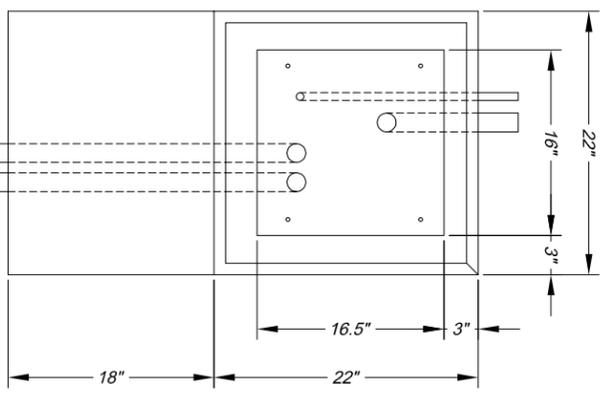
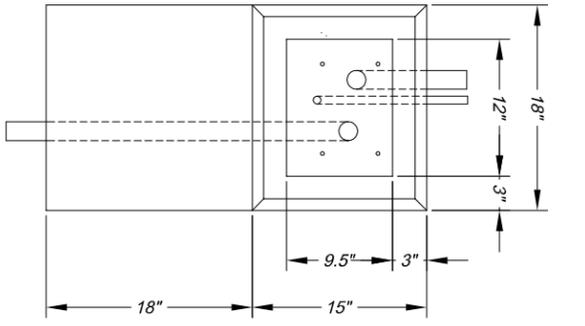
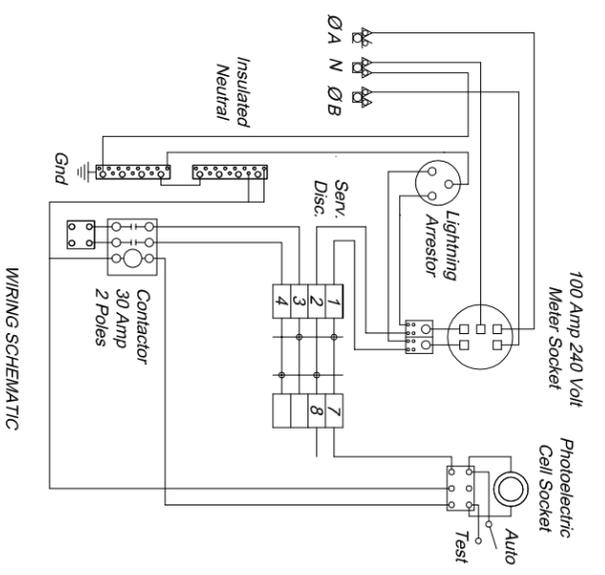
All dimensions shown are nominal



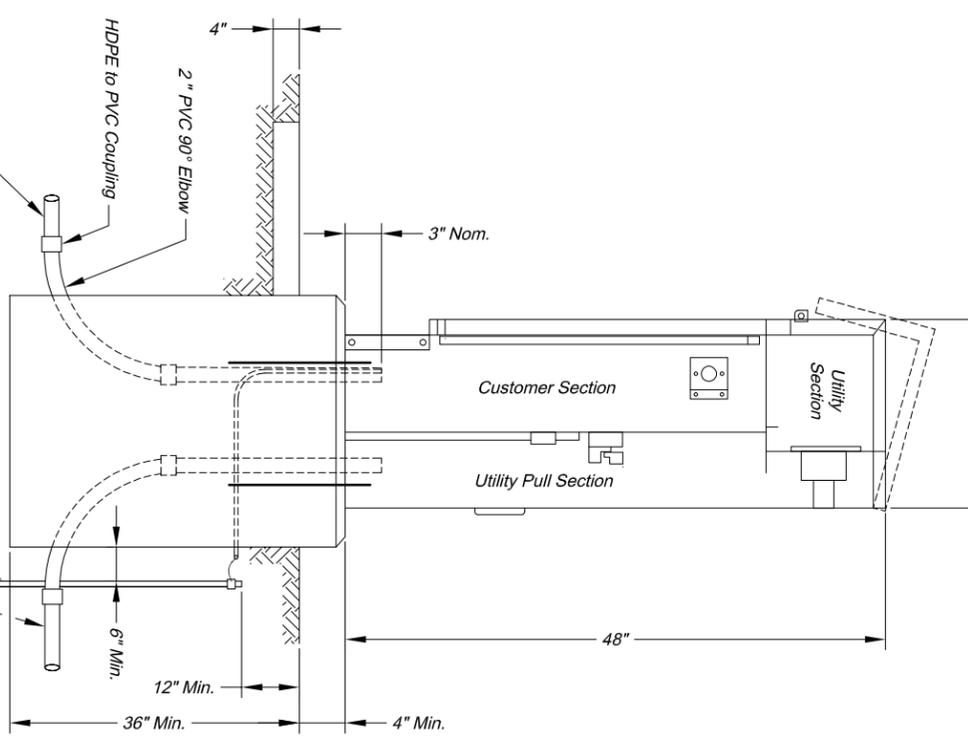
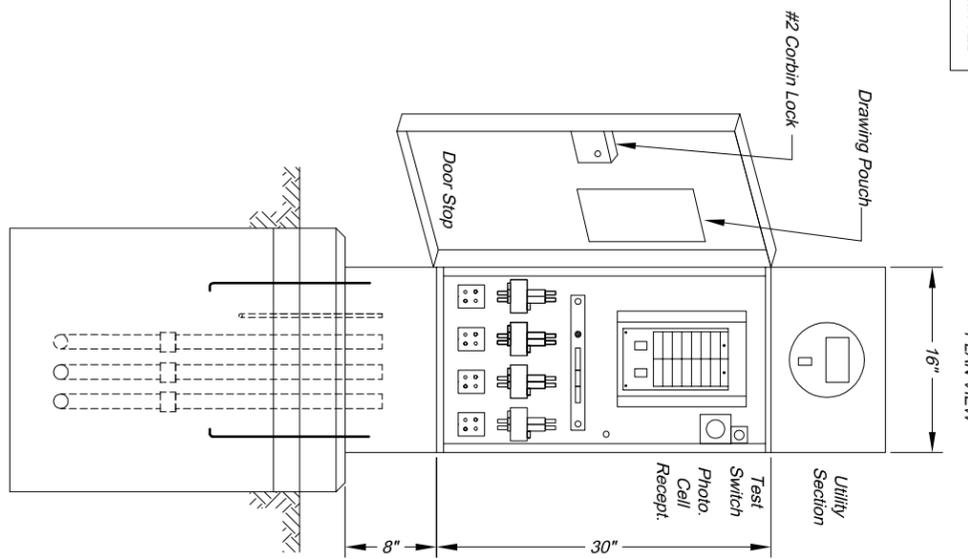
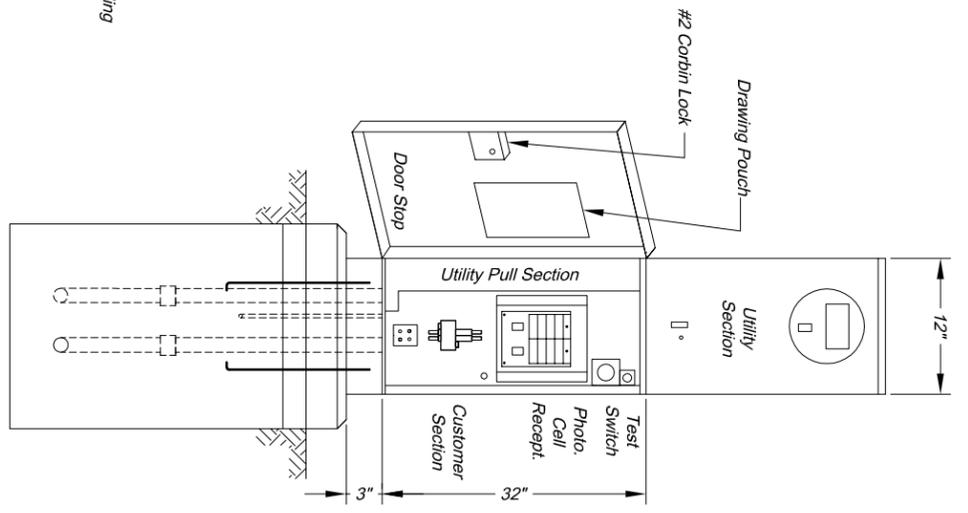
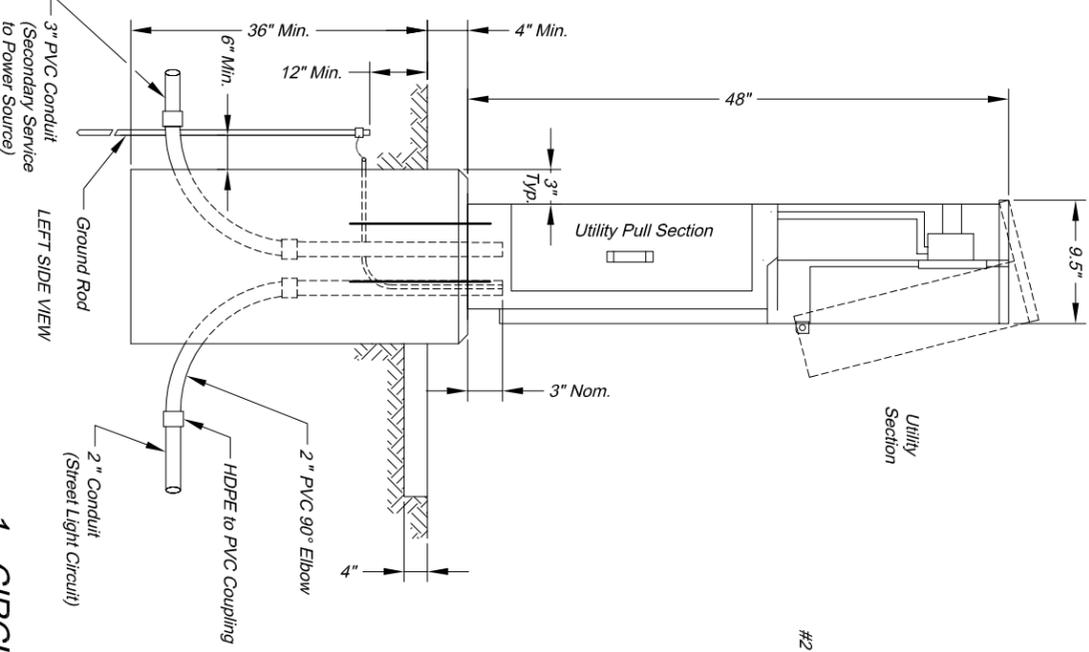
SECTION F-F

- NOTES:**
1. Lift opening required on all covers.
  2. Preformed box walls may be either flared or vertical. The bottom of boxes shall be open to below.
  3. If an extension is used with a preformed box, the lip of the extension may be interior or exterior. The extension shall be compatible and from the same manufacturer.
  4. Cable hooks are to be included with Class 1 Pull Boxes only.
  5. A Class 1 Pull Box shall be installed adjacent to each 4-Circuit Power Supply.





FUSED CONTACTORS ARE NOT PERMITTED



**1 - CIRCUIT  
POWER SUPPLY**

**4 - CIRCUIT  
POWER SUPPLY**

- NOTES:
1. Photoelectric cell should be oriented to the north or east.
  2. Seal around joint between cabinet and base with lifetime silicone caulk.
  3. All exposed edges of the base should have a 1" chamfer.
  4. If base is adjacent to a traffic signal controller, raised portion of base (above finished grade) should be constructed to the same height as the signal controller base.
  5. The street address with the power supply number below it should be labeled on the upper portion of the cabinet facing the street. The City will supply stickers for the Contractor to install.

Project: **POWER SUPPLY DETAILS**

Sheet Name: **STANDARD DRAWING SL-4**

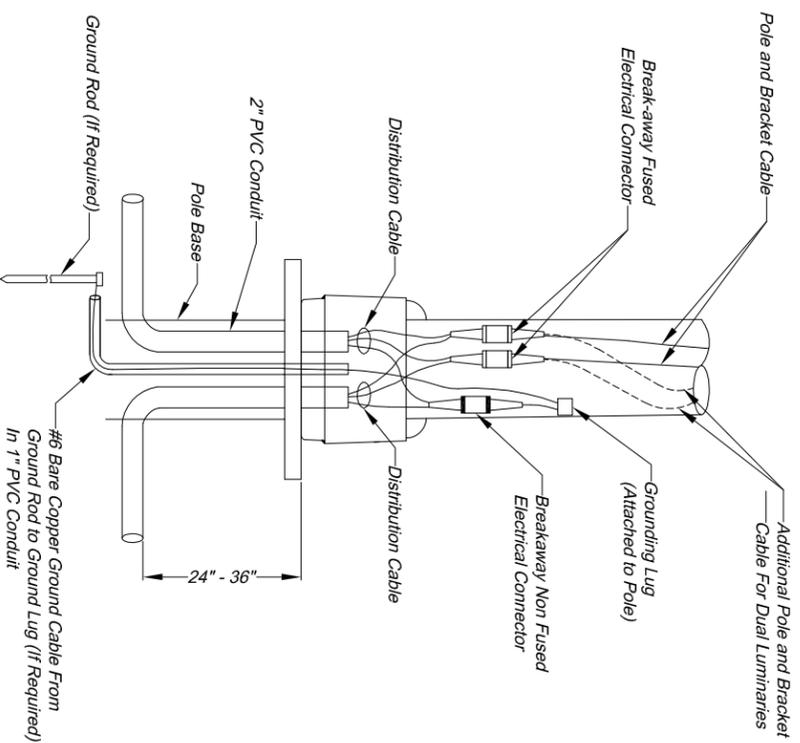


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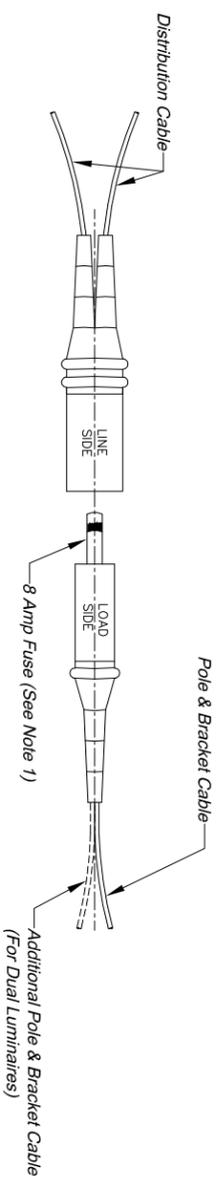
Drawn By: JH  
Checked By: JW  
Date: 08/21/2009

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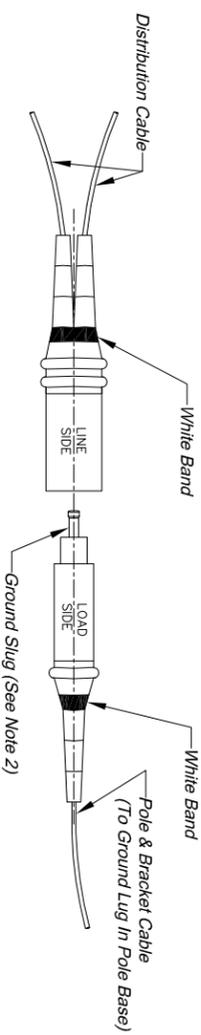
**4**



**POLE WIRING DETAILS**

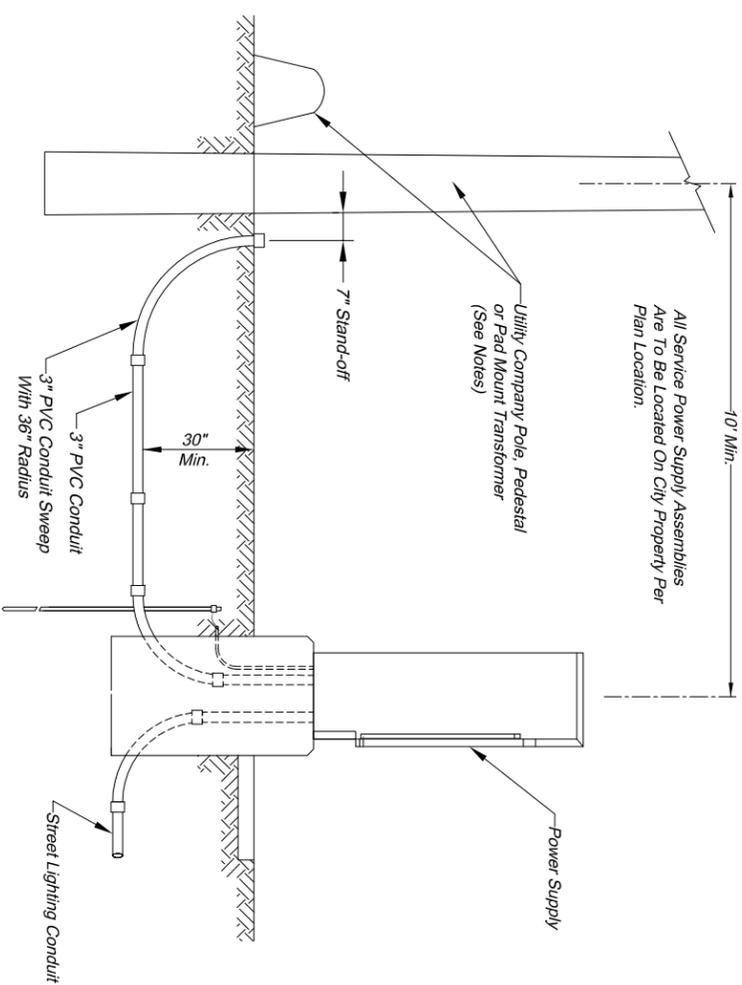


**BREAK-AWAY FUSED ELECTRICAL CONNECTORS**



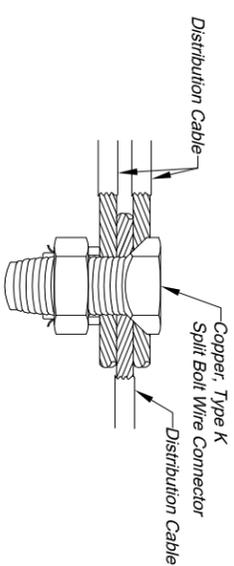
**BREAK-AWAY NON FUSED ELECTRICAL CONNECTOR**

- NOTES:
1. Fuse remains in "Load Side" after break-away.
  2. Ground "Slug" remains in "Load Side" after break-away.
  3. Connectors shall have set screw type terminals to attach cables.



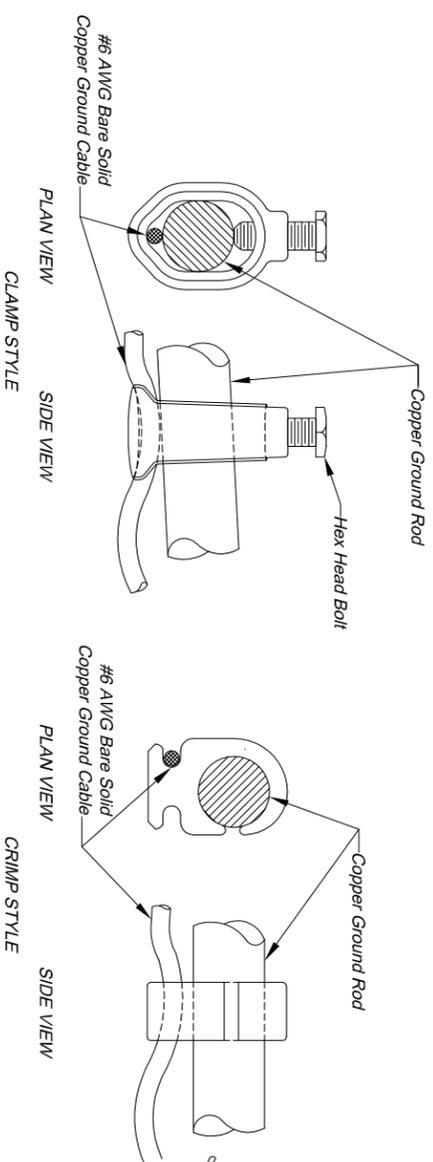
**SECONDARY SERVICE CONNECTION DETAILS**

- NOTES:
1. Contractor shall install a conduit stub 24" to 6" above ground at utility poles. Conduit shall be stubbed to the side of the pole that will allow a direct run up the pole to the transformer without crossing other utility lines or cables. The end of the conduit shall be capped.
  2. Contractor shall install conduit in a trench to within 24" of pedestals or pad mount transformers and leave a 36" x 36" access hole in the ground. Contractor shall keep open trench covered and promptly backfill access hole when service is completed.



**SPLICE KIT DETAILS**

- NOTES:
1. To be used only in junction or pull boxes where circuits branch or "tee".
  2. All splices shall be protected with a resin splice kit (not shown) installed in accordance with the manufacturer's recommendations.



**GROUND ROD CONNECTION DETAILS**

Project:	
Sheet Name:	ELECTRICAL DETAILS STANDARD DRAWING SL-5



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