

**CITY OF PASCO/FRANKLIN COUNTY PUD**  
**STANDARD SPECIFICATIONS**  
**FOR**  
**STREET LIGHT CONSTRUCTION**

**1.0 STREET LIGHTING SYSTEM**

1.1 General

The work covered in this section shall apply to the furnishing and installation of all materials and equipment necessary to construct the street lighting system according to the requirements of the plans and the specifications for Franklin County PUD.

1.2 Power Availability

The Contractor shall verify with the Franklin County Public Utility District No. 1, (hereinafter referred to as the PUD), the power voltage supplying the lighting system before ordering any luminaire for installation.

1.3 Electrical Regulations and Codes

All electrical work required under this specification shall be complete and according to the required standards of all state laws, rules and regulations and the National Electrical Code (NEC), hereinafter referred to as the "Code." The Contractor's attention is called to Section 8-20.1(2) of the SWSS for a listing of Electrical Industry Codes and their abbreviations that shall be used within the body of these specifications, standard procedures, materials, and testing requirements.

1.4 Electrical Permit

The Contractor shall be required to secure at his own expense, from the State of Washington Department of Labor and Industries, Electrical Division and the City of Pasco, all inspection permits required to construct the lighting system.

The Contractor shall ensure that all state required electrical inspections are coordinated with and made before covering or energizing the lighting system.

1.5 Acceptance of the Lighting System

The City will direct the PUD to energize the lighting system after the contractor has obtained from the State Electrical Inspector written approval that the lighting system components and construction have been installed according to the requirements of the Code.

## 1.6 Materials

Unless otherwise indicated on the plans or special provisions, all materials utilized in the project shall be new.

## 2.0 **STREET LIGHT STANDARDS (POLES, MAST ARMS AND ACCESSORIES)**

### 2.1 General

Street light standards (poles) shall be according to PUD Standard Drawing L-2. The pole shaft shall be of a one-section design, fabricated from U.S. Standard 11 gauge (0.1196") steel having a minimum yield strength of 55,000 psi after fabrication. The single shaft section design shall be of a one-piece construction utilizing a single, full length, longitudinal, high-frequency weld, according to applicable American Welding Society (AWS) procedures, standards and specifications. The pole shaft shall be of a uniform and cylindrical cross section having a uniform taper of 0.14 inches of diameter change per foot of length. The completed assembly, including pole, mast arm, and luminaire, shall be capable of sustaining a wind velocity of ninety (90) miles per hour.

### 2.2 Underground Wiring Access Hole

A one and five-eighth inch by nine and five-eighth inch (1-5/8" x 9-5/8") minimum, oval-shaped underground access hole with its edges deburred inside and out shall be provided in the pole shaft and located a minimum of four feet six inches (4' 6") above the base end of the pole shaft at 180 degrees from the luminaire mast arm attaching point.

### 2.3 Handhole

A seven and nine-sixteenth inch by five and one-eighth inch (7-9/16" x 5-1/8") minimum, oval shaped above ground handhole with removable access cover shall be provided in the pole shaft and located 24-inches above the ground or sidewalk at 180 degrees from the luminaire mast arm attaching point per Standard Drawing L-2.

### 2.4 Ground Sleeve

A seven (7) gauge, twelve-inch (12") long galvanized ground sleeve shall be welded to the pole shaft around the total circumference of the pole, both top and bottom of the sleeve. The location of the ground sleeve is to be attached to the pole and shall be according to the Standard Drawing L-2 for individual luminaire mounting heights.

### 2.5 Pole Top Cap

Each standard shall have a cast-iron removable pole top cap secured in place with three (3) stainless steel or galvanized plated set screws equally spaced about its perimeter. The pole cap shall meet ASTM A-48 Class 30.

## 2.6 Luminaire Mast Arm

The luminaire mast arm shall be constructed of two and three-eighths inch (2-3/8") O.D. by 0.121" wall steel tubing with a guaranteed minimum yield strength of 36,000 psi. The mast arm shall be constructed in such a fashion as to provide a uniform rise of 2.25 feet above its point of attachment to the light standard. The standard and mast arm attaching components shall be welded to their respective members as shown on Standard Drawing L-2. The mast arm shall be capable of being held in place on the standard by gravity, while being secured with a single one-half inch (1/2") – 13 UNC galvanized high-strength carbon steel hex-head hub bolt. The installed attachment of the mast arm to the light standard shall provide an internal weather resistant wiring raceway.

## 2.7 Standard Finish, Fasteners and Accessories

The luminaire standard, mast arm and accessories shall receive a hot-dipped galvanized finish after fabrication according to ASTM designation A123. All fasteners and attaching devices shall be galvanized according to ASTM designation A153.

## 2.8 Grounding Lug

Each light standard shall be provided with an internal threaded one-half inch (1/2") diameter nut holder and fastener for grounding the pole and mast arm assembly.

## 2.9 Measurement and Payment

The unit contract price for "Light Standard Type I, Type II," per each, shall be full compensation for furnishing all labor, materials, tools and equipment necessary or incidental to furnish and install the light pole, mast arm, pole top cap and other appurtenances to the pole at the locations shown on the plans or where directed by the Engineer.

# 3.0 LUMINAIRES

## 3.1 General

Luminaires shall be of the Illumination Engineering Society (IES) Type III distribution pattern, unless otherwise specified in the special provisions and shall be of the wattage, average initial lumens, and spaced to meet the requirements for street widths as required on PUD Standard Drawing L-3.2 or as shown on the contract drawing.

Luminaires shall be ballast in-head type with cobra head configuration and shall provide a cut-off distribution using a refractorless housing and a high-pressure sodium light source.

Luminaires shall have a cast aluminum housing with a slip-fitter end mounting capable of being attached to a one and one-quarter inch (1-1/4") I.D. through two inch (2") I.D. pipe tenon on mast arms.

The reflector of all luminaires shall be of the snap-on design manufactured of a polished aluminum. The flat lens shall be formed from heat-resistant, high-impact borosilicate or tempered glass and shall be mounted in a door frame assembly that shall be hinged to the luminaire at a point near the slip-fitter end and secured in the closed position to the luminaire by means of an automatic type latch. The flat lens and door assembly, when closed, shall exert pressure against a gasket seat. Gaskets shall be composed of materials capable of withstanding year round ambient air and lamp operating temperatures and held securely in place.

All luminaires shall have their internal components secured to the luminaire frame with corrosion-resistant type hardware (nuts, bolts, washers, hinges, etc.). The slip-fitter bolts shall be either stainless steel or hot-dipped galvanized.

The luminaire housing complete with integral ballast shall be weathertight and shall receive a painted aluminum finish.

All luminaires shall be mounted level, both traverse and longitudinally, as measured across points specified by the manufacturer. Leveling shall be accomplished after luminaire standard is plumbed.

All luminaires shall be provided with markers for positive identification of light source, wattage and voltage.

Contractor's attention is called to PUD Standard Drawing L-3.2 for luminaire minimum requirements for street widths and area uses.

### 3.2 Ballast

Ballast for high-pressure sodium lamps shall be of the magnetic regulator (constant wattage) type with a power factor of 95 percent (nominal) or higher. The power delivered to the lamp shall be limited to approximately 7.5 percent of the rated lamp power during normal operation. During warm-up of the lamp, lesser power delivery will be permitted.

### 3.3 Photoelectric Controls

Unless otherwise specified in the special provisions, the photoelectric controls shall be the primary control mechanism for each luminaire. Photoelectric controls shall be a plug-in type meeting EEI-NEMA standards for locking devices, hermetically sealed, rated to operate at the proper voltage of the lamp furnished.

Each photoelectric control shall be designed so that a failure of any component will energize the luminaire. The control unit shall be capable of energizing the luminaire at a maximum average light level of 1.8 foot candles and de-energize the luminaire at a maximum average light level of 7.5 foot candles.

Each control unit shall be protected by a lightning arrestor to provide surge protection up to a minimum average of 2,500 volts. The light-sensitive element of the control shall have a spectral response such that it is sensitive to the north sky illumination.

The light-sensitive element shall be installed and oriented on the luminaire head so that it faces the north sky.

The photoelectric control shall be a multi-voltage unit similar and equal to Model 6690B, as manufactured by the Fisher Pierce Company of Braintree, Massachusetts.

### 3.4 Measurement and Payment

The unit contract price for "40, 70, and 100 Watt Luminaire," per each, shall be full compensation for furnishing all labor, materials, tools, and equipment necessary and incidental to furnish and install the required luminaire with lamp, photoelectric control, and ballast on the light standard mast arm, installing electrical conductors, making splices, installing fusing and light standard grounding connections from the luminaire to the base of the pole, together with any other work required to complete the luminaire and pole installation ready for connection to the power supply.

## 4.0 UNDERGROUND WIRING AND CONDUIT

### 4.1 Underground Conduit

All underground electrical conductors, between the junction box or disconnect switch at the source of power and the junction boxes adjacent to the individual street lights, shall be installed within a one and one-quarter inch (1-1/4") (minimum diameter), Schedule 40, polyvinyl chloride (PVC) pipe conforming to the requirements of ASTM D1785.

The electrical conduit installation shall be installed in conformance with the appropriate articles of the Code, except that the minimum depth of bury on the conduit shall be twenty-four inches (24"). Conduits smaller than one and one-quarter inch (1-1/4") diameter shall not be used unless otherwise stated in the Special Provisions.

Conduit of the same diameter shall be used for the entire length of run between conductor inlet and outlet. Reducing couplings shall not be permitted.

Field cuts on conduits shall be made square and true and shall be well reamed inside and out to remove all burrs and rough edges.

Bends for rigid nonmetallic conduit (PVC) shall conform to the requirements of Article 347-13 of the Code.

The twenty-four inch (24") minimum cover depth on the conduit shall be measured from the top of curb, where it exists. Where no curbing exists, the depth of cover shall be measured from the existing road centerline elevation plus six inches (6") or as directed by the Engineer.

On construction projects involving conduits crossing areas to be surfaced with crushed rock or asphalt materials, the conduit shall be placed and the trench compacted before placing any roadbed materials.

Those conduits shown on the plans to receive future conductors shall be installed as described above and then blown clean with compressed air and end caps shall be used to seal the conduit ends. No pull wires shall be installed within the conduit. The Contractor shall install at each end of conduit a 4" x 4" x 4' cedar marker post as an end of conduit reference point.

Conduits shall enter all junction boxes through the bottom utilizing standard radius bends. The ends of the conduits inside the junction box shall terminate near the side walls of the box to leave a major area of the box open and clear.

Conduits shall enter or leave the junction box in the direction of the conduit run.

The conduit and wiring runs shown on the plans are for bidding purposes only and they may be changed by the Engineer to avoid existing underground obstructions that may show up during construction.

## 4.2 Junction Boxes

Underground enclosures for the splicing and termination of wiring conductors and conduits shall be installed at the locations as shown on the plans or as directed by the Engineer. The size of the box shall meet the requirements of Article 370.18 and 370.19 of the State Electrical Code.

### 4.2.1 Non-Traffic Bearing Junction Box

Junction boxes to be used in non-vehicular traffic bearing areas shall be composed of reinforced plastic materials and shall be equipped with a removal locking cover with the word "Electric" formed into its top. The junction box shall be Model PG 1324CA0017P (ELECTRICAL) or PG1324CA0041P (STREET LIGHTING) as manufactured by Quazite Company, San Jose, California, or an approved equal. Box cover shall have tamper resistant Penta head bolts, Quazite Part No. 80026.

Also acceptable is Electra-Lite Box #EPBA-132418-YSST with Cover #EPCA-132402-DHEC with penta-head bolts.

### 4.2.2 Traffic Bearing Junction Box

Junction boxes to be used in vehicular traffic bearing areas shall be according to the requirements of Washington State Department of Transportation Type I and Type II, Standard Plan J-40.10-04.

When a traffic bearing junction box is required, it shall be called out on the plans.

### 4.2.3 Junction Box Installation

Junction boxes shall be located as shown on the plans or as directed by the Engineer. The Contractor may install, with the approval of the Engineer, and at his own expense, such additional junction boxes as may be desired to facilitate his work.

The Contractor shall place four inches (4") of five-eighths inch (5/8") crushed rock in the bottom of all junction boxes after installing the conduit and wiring. When placing the crushed rock in the junction box, the Contractor shall take special care to prevent any dust, dirt, rock chips, or objectionable materials from entering into the exposed ends of the conduit.

The Contractor's attention is called to the PUD Standard Drawings L-2 and L-6 for typical junction box location and installation.

#### 4.3 Wiring

The minimum size of the lighting and grounding conductor shall be No. 6 aluminum, unless a larger conductor is required by load conditions. The conductor shall be cross-link poly USE insulation.

All wiring shall conform to appropriate articles of the Code. Wiring within pole bases, junction boxes, etc., shall be neatly arranged.

Powdered soapstone, talc, or other approved lubricant shall be used in placing conductors in conduit.

Splicing in lighting conductors will be permitted only at junction boxes, transformer leads, in pole bases or at control equipment.

Conductors in junction boxes shall be spliced by epoxy resin cast type insulation (3M Scotch Cast 82 B1 epoxy splice) or approved equal per WSDOT Standard Specifications 9-29.12(1).

The handmade Western Union splice will be permitted for aerial installation only per WSDOT Standard Specification 9-29.12(1). All tape splice insulation shall consist of thermoplastic electrical insulating tape applied to a thickness equal to the original wire insulation. It shall be well lapped over the original insulation, and there shall be a coating of moisture resistant varnish applied and allowed to dry. Two layers of friction tape will then be applied and the splice shall be finished with a second complete coating of moisture resistant varnish.

Where heat shrink splice insulation is used, the insulation of the individual conductors will be wiped clean and dry. The splice material shall be well lapped over the conductor insulation. Care shall be taken to ensure that the conductor insulation is not damaged by the application of too much heat to the splice. If the conductor insulation shows indications of heat deformation, the entire splice shall be replaced. Heat shrink splices shall conform to WSDOT Standard Specifications 9-29.12(1).

Drip loops shall be provided on all conductors where they enter poles or transformer leads.

The Contractor shall provide additional conductor length inside all junction boxes equal to a loop of conductor having a diameter of one foot (1').

When conductors are being installed, care shall be exercised to not exceed tension limitations recommended by the manufacturer. Conductors may be pulled directly by

hand. However, if conductors are pulled by any mechanical means, a dynamometer with drop-needle hand shall be used on every mechanical pull.

To limit the sidewall pressure at bends in duct and conduit runs, the pulling force in pounds shall not exceed 100 times the radius of the bend in feet. Adequate lubrication of the proper type to reduce friction in conduit and duct pulls shall be utilized as necessary.

#### 4.4. Bonding, Grounding

All metallic appurtenances containing electrical conductors (luminaires, light standards, cabinets, etc.) shall be mechanically bonded to form a continuous grounding system that shall effectively be grounded to the PUD neutral conductor at the source of power.

The equipment grounding conductor shall in all cases be sized consistent with Table 250-95 of the Code, except that the minimum ground conductor shall be of equal grounding capacity to a No. 6 aluminum conductor. Where paralleled electrical circuits exist in an electrical conduit, the equipment grounding conductor shall be sized as determined by the rating of the largest overcurrent device serving any circuit contained in the conduit.

The equipment grounding conductor shall be insulated stranded copper, or aluminum wire approved for direct burial.

Equipment grounding conductors shall employ insulation rated at 60 degrees centigrade or higher and shall be chemically compatible to other insulations contained within the system.

Identification of the equipment grounding conductor shall conform to all Code requirements.

Grounding of the neutral shall be accomplished only at the PUD's point of service. Grounding of the neutral at the service point shall be accomplished by the Contractor on a multiple fixture circuit and by the PUD on a single fixture circuit.

#### 4.5. Luminaire Fusing and Electrical Connections At Light Standard Bases And Power Supply

##### 4.5.1 Individual Luminaire Fusing

An in-line fused, watertight, electrical quick disconnect kit shall be installed inside the junction box at every light standard base for every conductor above-ground potential. The fused, watertight, electrical quick disconnect kit shall be properly sized to accommodate the various conductors and fused as required by Section 4.5.3.4 of these specifications. All connections shall be made with compression fittings. The kit shall be designed so that upon disconnection of the fuse holder the fuse shall remain in the load side of the kit.

##### 4.5.2 Fused Safety Disconnect Switch



A fused safety disconnect switch shall be required and located adjacent to the PUD's source of power, on single and multiple fixture installations. The safety disconnect switch shall be Model TG3222RH, as manufactured by General Electric or equal. The switch shall be within a NEMA 3R enclosure with a 20-amp fuse. The Contractor shall install the fused safety disconnect switch according to the requirements of the PUD Standard Drawing L-7.

#### 4.5.3 Fuse Requirements

Fuses furnished for street lights shall be capable of handling the operating voltage of the circuit involved and shall have the following characteristics:

4.5.3.1 Fuses shall be capable of indefinitely supporting 100 percent of the rated load.

4.5.3.2 Fuses shall be capable of supporting 135 percent of the rated load for approximately one (1) hour.

4.5.3.3 A load of 200 percent of the rated load will effectively cause instantaneous failure of the fuse.

4.5.3.4 Fuses shall be rated as listed below and shall be sized to fit the fuse containers furnished on this project, according to the manufacturer's recommendations therefore:

<u>Luminaire Size</u>	<u>SERVICE VOLTAGE</u>		
	<u>480V</u>	<u>240V</u>	<u>120V</u>
100W	5A	5A	5A
70W	5A	5A	5A
40W	5A	5A	5A

4.5.3.5 Fuses shall be UL listed.

#### 4.6 Field Test

Before completion of the work, the Contractor shall make the following tests on all electrical circuits whose nominal operating voltage is between 115 volts and 600 volts.

4.6.1 Test for continuity of each conductor.

4.6.2 Verify grounds in each circuit. This shall consist of the physical examination of the installation to ensure that all required ground jumpers, devices and appurtenances do exist and are mechanically firm.

4.6.3 A functional test demonstrating that each part of the system functions as specified or intended herein.

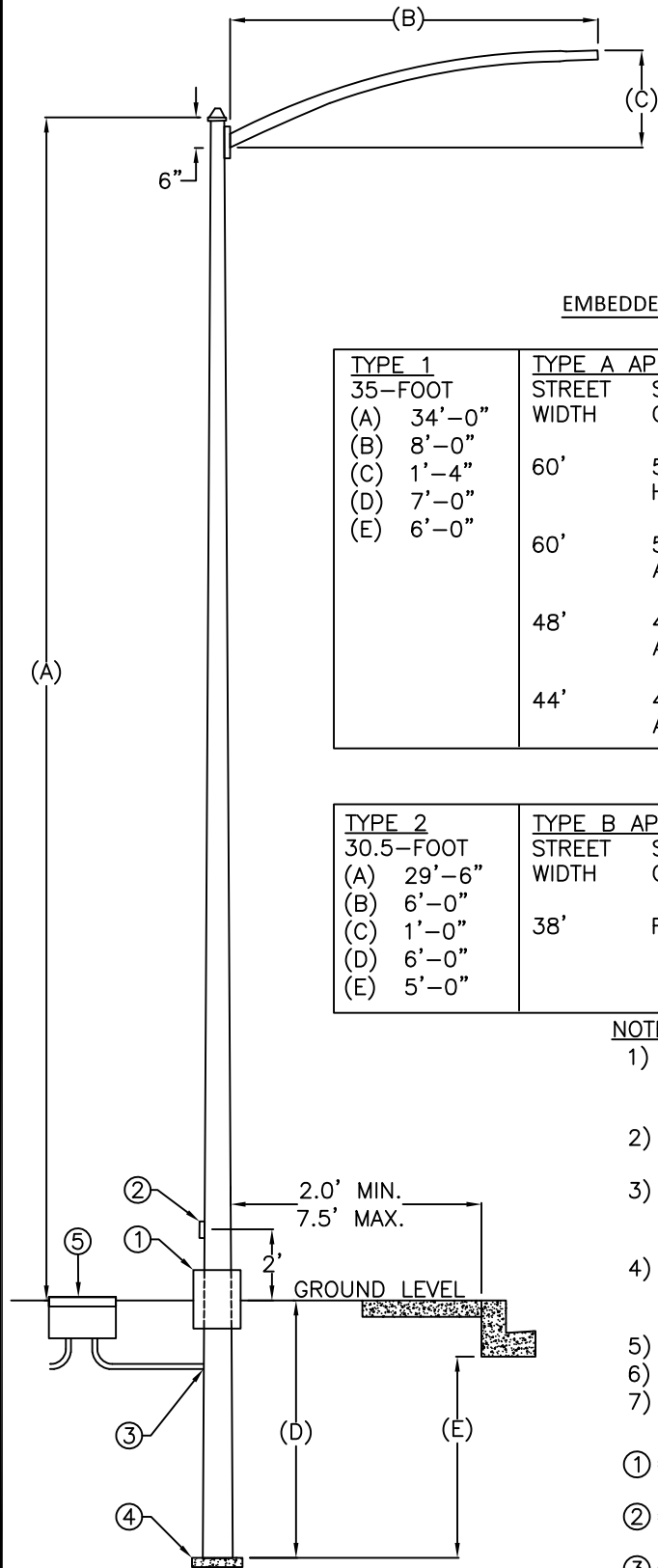
#### 4.7 Retesting

Any fault in any material or in any part of the installation revealed by these tests shall be replaced or repaired by the Contractor at no expense to the PUD in a manner approved by the Engineer and the tests shall be repeated.

#### 4.8 Measurement and Payment

The unit contract price for “Wiring and Conduit,” per linear foot, junction box to junction box, shall be full compensation for furnishing all labor, materials, tools and equipment, trench excavation and backfill, installing conduit, conduit fittings, conductors, junction boxes, installing fused safety disconnect switches and electrical disconnect kits, making splices, grounding equipment, connecting power conductors to luminaire conductors, making all required field tests of the lighting system, adjusting junction boxes to finished grade, and all other incidental work necessary to install the lighting system, complete or as directed by the Engineer.

NOT TO SCALE



EMBEDDED STREET LIGHT STANDARD REQUIREMENTS

TYPE 1 35-FOOT	TYPE A APPLICATIONS:			LED WATTAGE	INITIAL LUMENS	MAX POLE SPACING
(A) 34'-0" (B) 8'-0" (C) 1'-4" (D) 7'-0" (E) 6'-0"	STREET WIDTH	STREET CLASSIFICATION				
	60'	5 LANE ARTERIAL HIGH DENSITY COMM.		100	13,583	125'
	60'	5 LANE MAJOR ARTERIAL		100	13,583	150'
	48'	4 LANE MAJOR ARTERIAL		70	9,612	150'
	44'	4 LANE MINOR ARTERIAL		70	9,612	150'

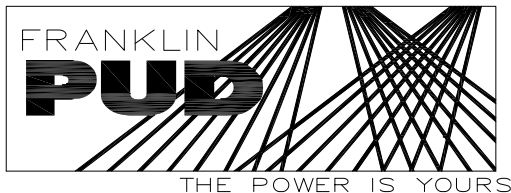
TYPE 2 30.5-FOOT	TYPE B APPLICATIONS:			LED WATTAGE	INITIAL LUMENS	MAX POLE SPACING
(A) 29'-6" (B) 6'-0" (C) 1'-0" (D) 6'-0" (E) 5'-0"	STREET WIDTH	STREET CLASSIFICATION				
	38'	RESIDENTIAL		40	4,979	300'

NOTES:

- 1) POLE SHAFT - HOT ROLLED COMMERCIAL GRADE CARBON STEEL WITH 55,000 P.S.I. MINIMUM YIELD STRENGTH. LINEAR TAPER - 0.14" PER FOOT.
- 2) THE LUMINAIRE ARM AND POLE CONNECTION PLATES SHALL CONFORM TO ASTM A36.
- 3) CAST IRON POLE TOP CAP - ASTM DESIGNATION: A48 CLASS 30 - SECURED IN PLACE WITH MINIMUM 3 SET PLATED SCREWS.
- 4) ARM SHAFTS - 2-3/8" OUTSIDE DIAMETER AND 0.121" MINIMUM WALL THICKNESS AND 36,000 P.S.I. MINIMUM YIELD STRENGTH.
- 5) POLE AND ARM GALVANIZED TO ASTM A153.
- 6) ACCESSORIES GALVANIZED TO ASTM A153.
- 7) ALL THREADED FASTENERS TO BE GALVANIZED UNLESS OTHERWISE NOTED.

- ① = 7 GAUGE, 1'-0" LENGTH, EXTERNAL GROUND SLEEVE.
- ② = HANHOLE WITH 1/2" NUT HOLDER FOR GROUNDING
- ③ = 1-5/8" x 9-5/8" OVAL WIRING ACCESS HOLE.
- ④ = INSTALL POLE ON 12" x 12" x 3" CONCRETE BLOCK, OR BEARING PLATE WELDED TO BOTTOM OF POLE.
- ⑤ = QUAZITE 1324CA0017P JUNCTION BOX.

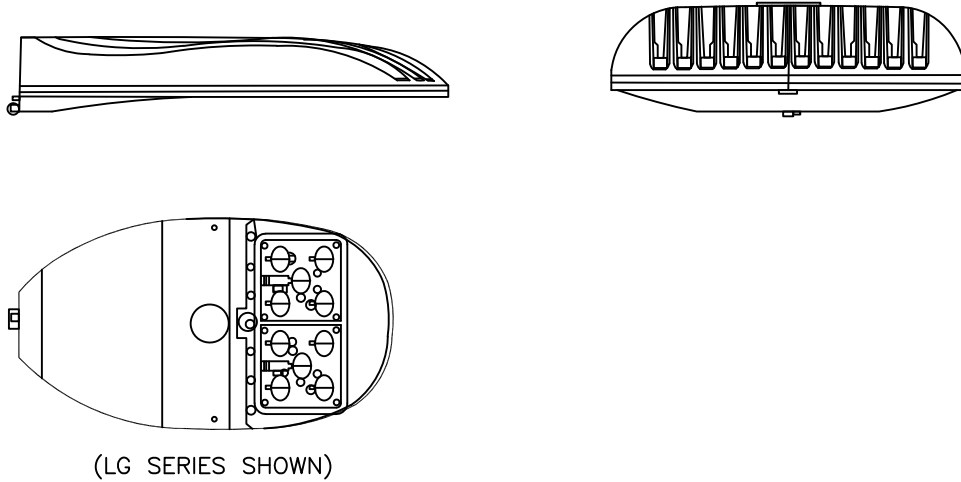
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STREET LIGHT POLE  
AND MAST ARM

DWN. N. RUMMEL	DATE: 7/5/00 UPDATED: 01/20	DWG. NO.
APP.		L-2

CREE LIGHTING, - LIGHT EMITTING DIODE (LED)



NOTES:

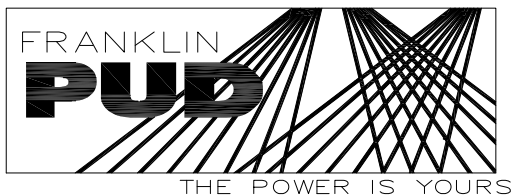
1. LUMINAIRE SHALL BE COBRA-HEAD CONFIGURATION MEETING I.E.S. TYPE II (LONG) LIGHT DISTRIBUTION PATTERN.
2. LUMINAIRE SHALL BE CAPABLE OF USING 120 - 277 VOLT, 60 HZ POWER SOURCE.
3. POWER VOLTAGE TO LUMINAIRE SHALL BE VERIFIED WITH FRANKLIN COUNTY PUD NO.1 PRIOR TO ORDERING LUMINAIRE.
4. PHOTOELECTRIC CONTROL FOR LUMINAIRES SHALL BE LONG LIFE, PLUG-IN TYPE HERMETICALLY SEALED UNIT CAPABLE OF OPERATING BETWEEN A MAXIMUM OF 1.8 AND 7.5 FOOT CANDLES. THE PHOTOELECTRIC CONTROL SHALL BE A MULTI-VOLTAGE UNIT COMPERABLE TO RIPLEY #6390L - BIC OR SUN TECH #TRS-2-FO. THE LIGHT SENSING ELEMENT SHALL BE ORIENTED TO THE NORTH SKY.
5. SEE FRANKLIN COUNTY PUD DRAWING L-2 FOR POLE AND MAST ARM REQUIREMENTS.
6. LUMINAIRE SHALL BE MANUFACTURED BY CREE.

<u>SIZE</u>	<u>MANUFACTURER</u>	<u>MODEL/TYPE</u>	
100W	CREE	XSPLG-D-HT-2LG-18L-40K7-UL-SV-N-Q4	
70W	CREE	XSPMD-D-HT-2LG-12L-40K7-UL-SV-N-Q5	
40W	CREE	XSPSM-D-HT-2LG-5L-40K7-UL-SV-N-Q8	

<p>OPTION SETTING          UTILITY LABEL/RECEPTACLE          SILVER (STANDARD)          UNIVERSAL 120-277V          CCT/CRI = 4000K          LUMEN PACKAGE          OPTIC - TYPE II LONG          MOUNTING          VERSION          PRODUCT</p>	<p>→</p> <p>→</p> <p>→</p> <p>→</p> <p>→</p> <p>→</p> <p>→</p> <p>→</p> <p>→</p> <p>→</p> <p>→</p>
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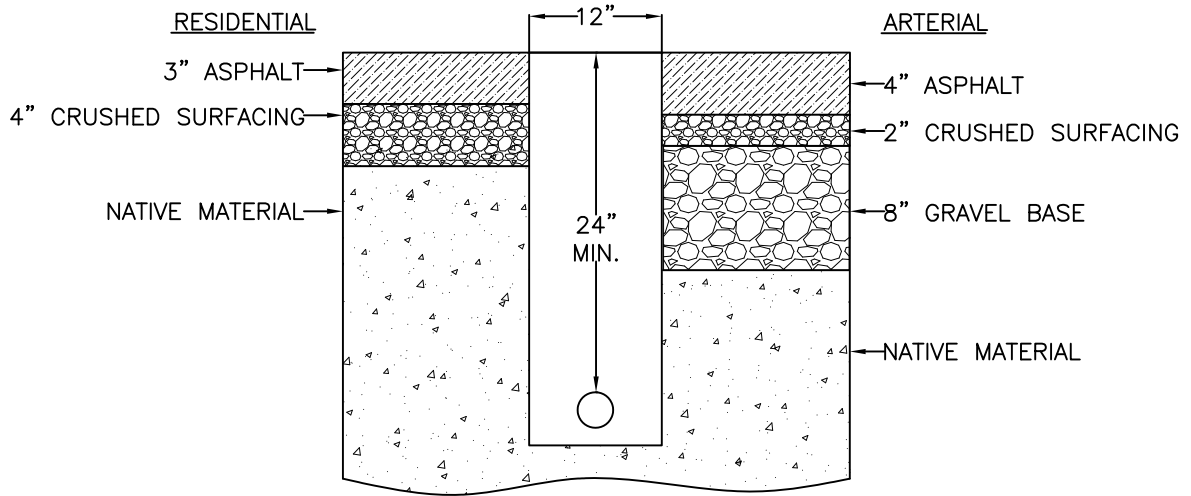
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LUMINAIRE - LIGHT EMITTING DIODE (L.E.D.)

DWN. N. RUMMEL	DATE: 6/2011 UPDATED: 02/2020	DWG. NO.  L-3.2
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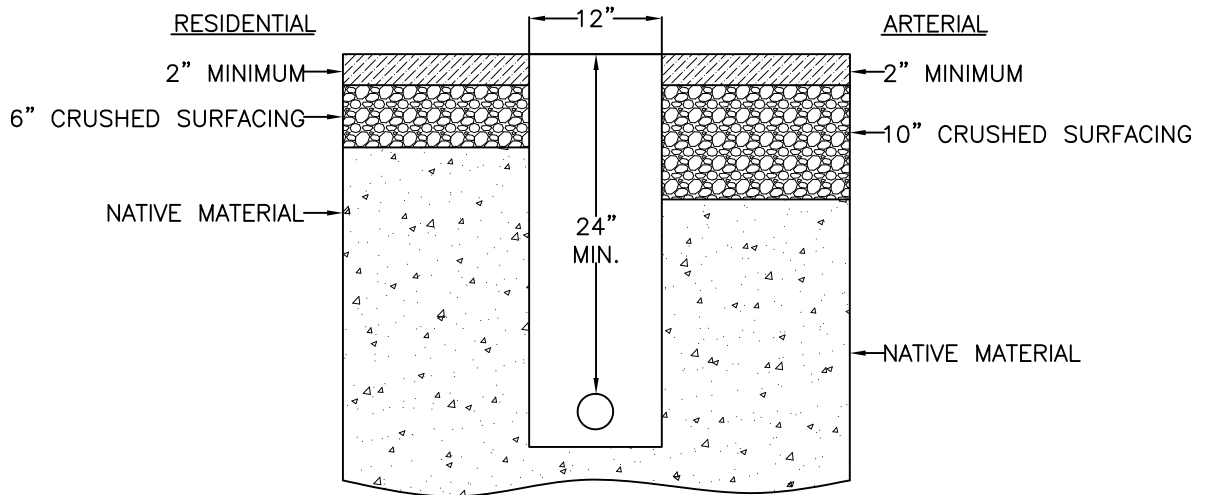
## HOT MIX ASPHALT RESTORATION



**NOTES:**

1. PRIOR TO EXCAVATION, PERMITTING AND ROAD SPECIFIC REQUIREMENTS SHALL BE OBTAINED FROM THE OWNER OF THE ROADWAY.
2. 1.25" MINIMUM, GRAY, SCHEDULE 40 CONDUIT SHALL BE USED FOR STREET LIGHTING CIRCUITS.

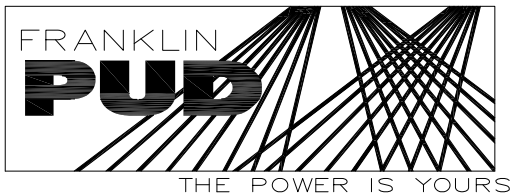
## BITUMINOUS SURFACE RESTORATION



**NOTES:**

1. PRIOR TO EXCAVATION, PERMITTING AND ROAD SPECIFIC REQUIREMENTS SHALL BE OBTAINED FROM THE OWNER OF THE ROADWAY.
2. 1.25" MINIMUM, GRAY, SCHEDULE 40 CONDUIT SHALL BE USED FOR STREET LIGHTING CIRCUITS.

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### TRENCH REQUIREMENTS - IN STREET STREET LIGHTS

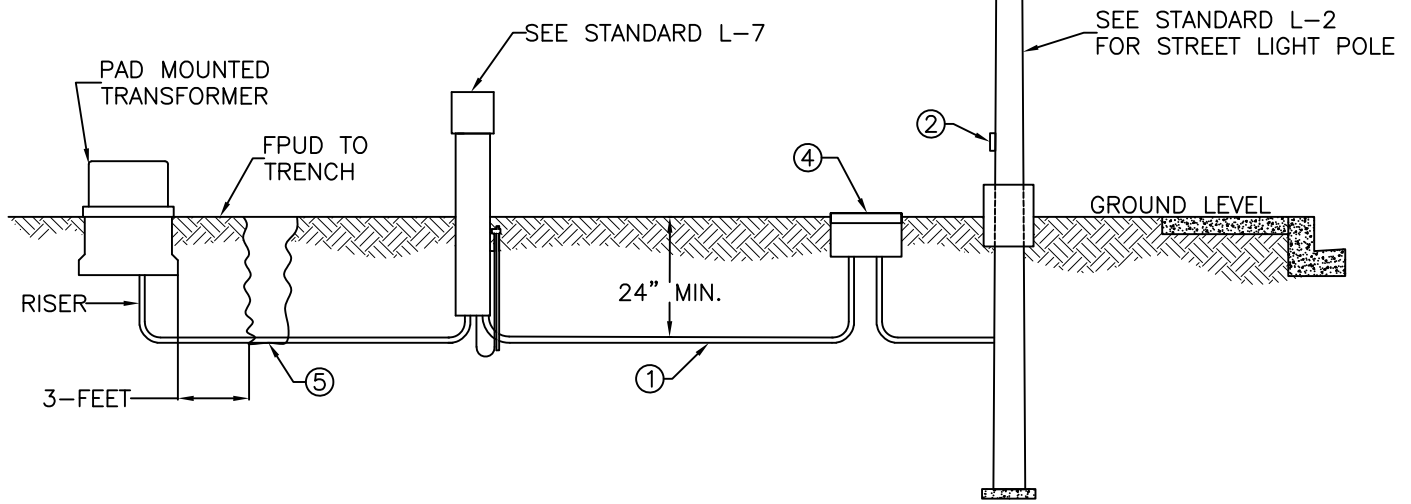
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DATE: 7/6/00  
UPDATED: 1/2020

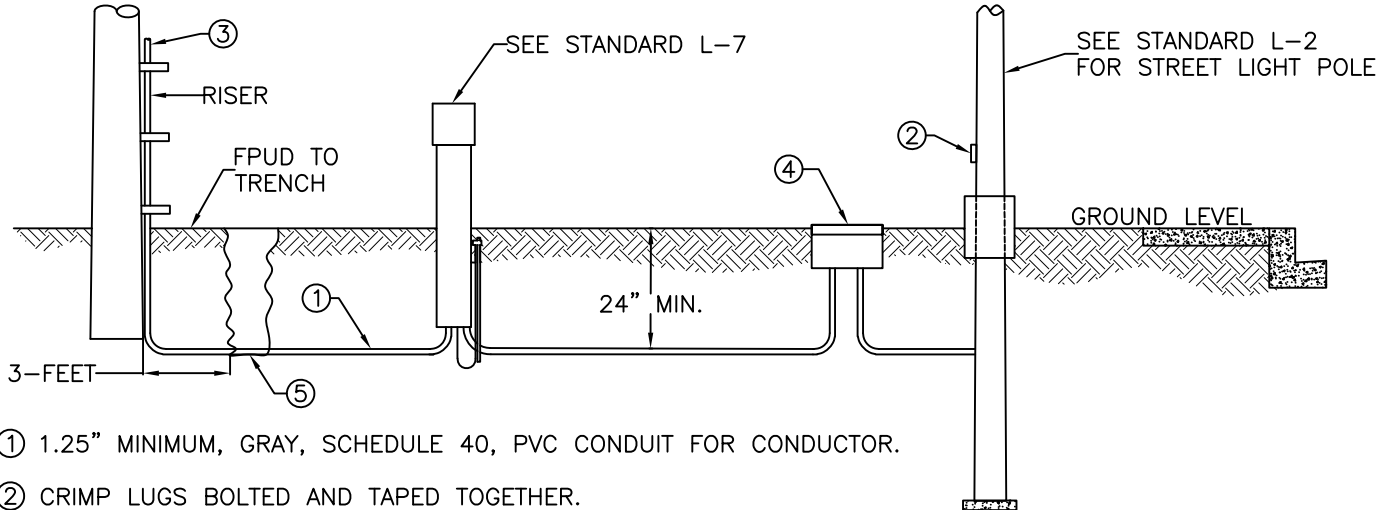
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L-5

## PAD MOUNTED TRANSFORMER



## POLE MOUNTED TRANSFORMER

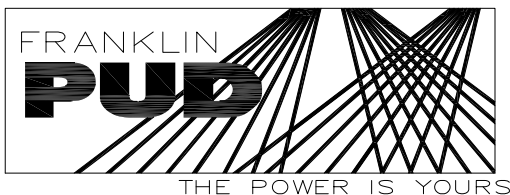


- ① 1.25" MINIMUM, GRAY, SCHEDULE 40, PVC CONDUIT FOR CONDUCTOR.
- ② CRIMP LUGS BOLTED AND TAPED TOGETHER.
- ③ CONTRACTOR TO STOP TRENCH AND CONDUIT 3-FEET FROM ELECTRICAL SOURCE STRUCTURE. CONTRACTOR TO SUPPLY ALL MATERIAL NEEDED TO STAND FIRST PIECE OF PIPE ON POLE. COORDINATE WITH FRANKLIN PUD TO INSTALL RISER.
- ④ QUAZITE 1324CA0017 IN NON-TRAFFIC APPLICATIONS, WSDOT TYPE I OR TYPE II FOR INCIDENTAL TRAFFIC AREAS, OR EQUIVALENT APPROVED BY FRANKLIN PUD ENGINEER.
- ⑤ CUSTOMER PROVIDES ALL MATERIAL TO ELECTRICAL SOURCE INCLUDING RISER. CUSTOMER TO COORDINATE WITH FRANKLIN PUD FOR TRENCHING 3-FEET TO SOURCE STRUCTURE.

**NOTES:**

- 1. AN IN-LINE, FUSED, WATERTIGHT ELECTRICAL DISCONNECT KIT SHALL BE INSTALLED IN THE JUNCTION BOX FOR EVERY CONDUCTOR ABOVE GROUND POTENTIAL.
- 2. ADDITIONAL CONDUCTOR LENGTH SHALL BE PROVIDED IN ALL JUNCTION BOXES EQUAL TO A LOOP HAVING A DIAMETER OF ONE FOOT.
- 3. CONTRACTOR SHALL PLACE 4-INCHES OF 5/8" MINUS CRUSHED ROCK IN BOTTOM OF JUNCTION BOX AFTER INSTALLING CONDUIT AND WIRING.
- 4. THE CONTRACTOR SHALL BE REQUIRED TO SECURE, AT HIS OWN EXPENSE, ALL INSPECTION PERMITS AND REQUIREMENTS FROM THE WASHINGTON STATE DEPARTMENT OF LABOR AND INDUSTRIES, CITY OF PASCO, AND FRANKLIN COUNTY ROAD DEPARTMENT PRIOR TO INSTALLING LIGHTING SYSTEM.
- 5. ALL LIGHTING SYSTEMS SHALL BE APPROVED BY THE FRANKLIN PUD PRIOR TO INSTALLATION.

L-6.DWG

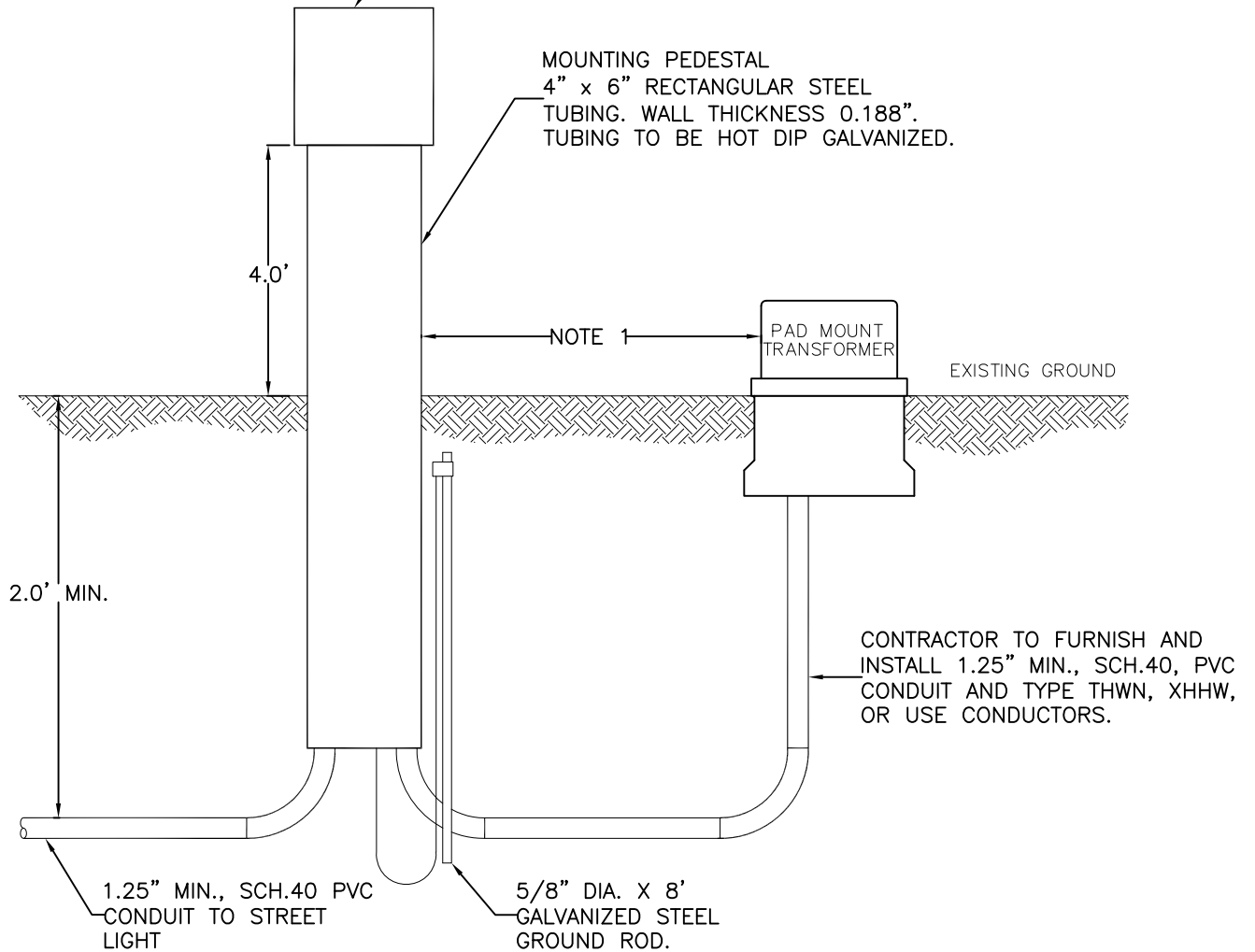


### STREET LIGHT SERVICE GENERAL ARRANGEMENT

DWN. N. RUMMEL APP.	DATE: 7/21/00 UPDATED: 1/2020	DWG. NO.  <div style="text-align: center; font-size: 1.5em; font-weight: bold;">L-6</div>
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FUSED SERVICE SAFETY DISCONNECT SWITCH  
 8.86"W x 8.75"D x 12.75"L GENERAL ELECTRIC MODEL  
 TG3222RH OR EQUIVALENT IN A NEMA 3R  
 ENCLOSURE WITH A 20 AMP FUSE.  
 LOCK AS PER P.U.D. SPECIFICATIONS.

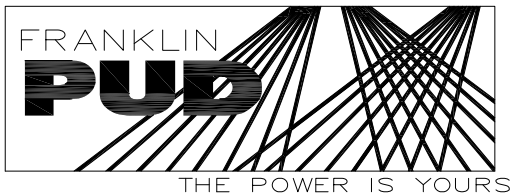
MOUNTING PEDESTAL  
 4" x 6" RECTANGULAR STEEL  
 TUBING. WALL THICKNESS 0.188".  
 TUBING TO BE HOT DIP GALVANIZED.



**NOTES:**

1. 8' MIN. FROM FRONT OF TRANSFORMER.  
 5' MIN. FROM SIDE OF TRANSFORMER.  
 2' MIN FROM BACK OF TRANSFORMER.  
 10' MIN. FROM POWER POLE.

L-7.DWG



**STREET LIGHT SERVICE  
 DISCONNECT**

DWN.  
 N. RUMMEL  
 APP.

DATE: 7/21/00  
 UPDATED: 1/2020

DWG. NO.

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