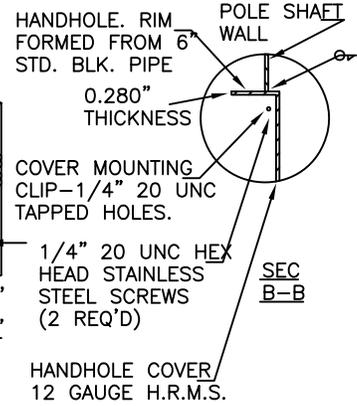
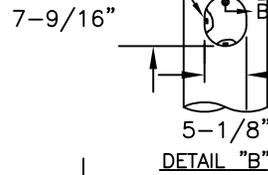


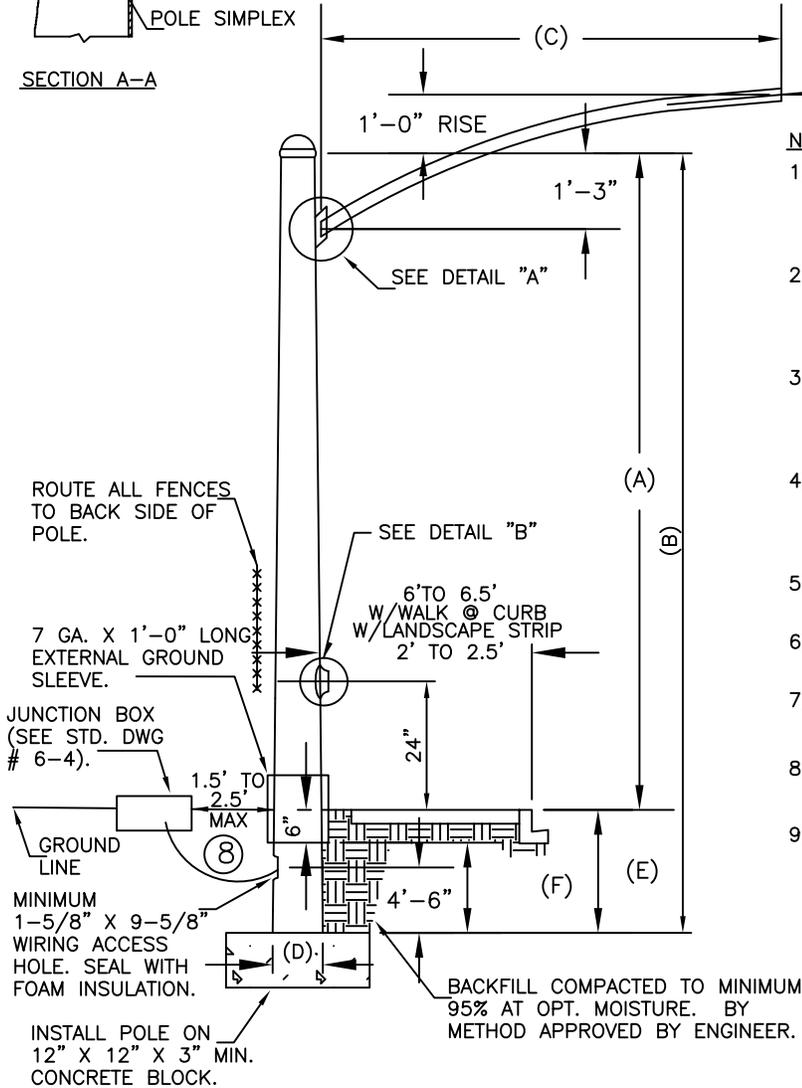
1/2" NUT HOLDER FOR GROUNDING FASTENERS PROVIDED.



SECTION A-A

**NOTES:**

- 1) POLE SHAFT - HOT ROLLED COMMERCIAL QUALITY CARBON STEEL WITH 55,000 P.S.I. MINIMUM YIELD STRENGTH. LINEAR TAPER - 0.14"/FT.
- 2) ARM CONNECTION - ARM SIMPLEX IS FORMED HOT ROLLED COMMERCIAL QUALITY CARBON STEEL AND POLE SIMPLEX IS ASTM DESIGNATION : A27 GRADE 65-35.
- 3) CAST IRON POLE TOP CAP - ASTM DESIGNATION : A48 CLASS 30 - SECURED IN PLATE WITH 3 SET SCREWS ( PLATED SCREWS ).
- 4) ARM SHAFTS - 2-3/8" O.D. X 0.121" WALL MINIMUM STEEL TUBING - 36,000 P.S.I. MINIMUM YIELD STRENGTH ( UNLESS OTHERWISE NOTED ).
- 5) POLE AND ARM GALVANIZED TO ASTM DESIGNATION : A123.
- 6) ACCESSORIES GALVANIZED TO ASTM DESIGNATION : A153.
- 7) ALL THREADED FASTENERS TO BE GALVANIZED UNLESS OTHERWISE NOTED.
- 8) "J"-BOX SHOWN FOR CLARITY, LOCATE AT 90 DEGREES FROM SHOWN POSITION.
- 9) INSTALL WIRE BETWEEN "J"-BOX AND POLE IN CARFLEX OR EQUAL LIQUID TIGHT FLEXIBLE NON-METALIC CONDUIT.



**EMBEDDED STREET LIGHT STANDARD REQUIREMENTS POLE TYPE**

| MTA. HT. | TYPE I | TYPE II |
|----------|--------|---------|
| (A)      | 35'0"  | 30'6"   |
| (B)      | 34'0"  | 29'6"   |
| (C)      | 41'0"  | 35'0"   |
| (D)      | 8'0"   | 6'0"    |
| (E)      | 9'0"   | 8.5"    |
| (F)      | 7'0"   | 6'0"    |
| (F)      | 6'6"   | 5'6"    |

# STREET LIGHT STANDARD

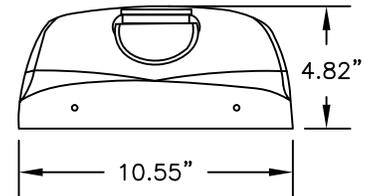
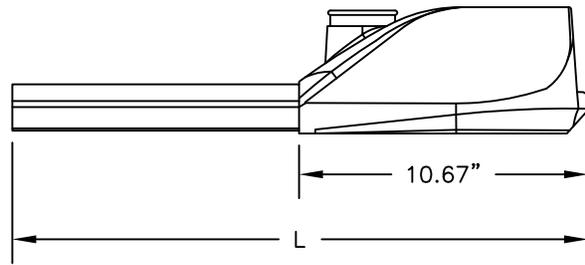
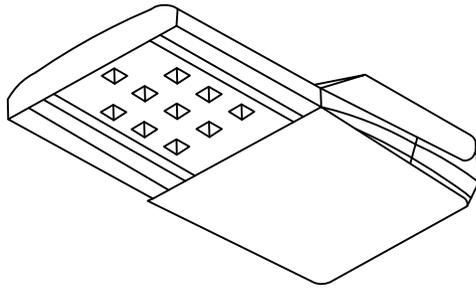
AUGUST 23, 2013

DWG #



## STREET LIGHT DETAIL

6-1



**HOUSING:** DIE CAST AND EXTRUDED ALUMINUM HOUSING WITH UNIVERSAL TWO-BOLT SLIP FITTER MOUNTS TO 1-1/4" TO 2" (1-5/8" TO 2-3/8" O.D.) DIAMETER MAST ARM. HOUSING MEETS ANSI C136.31-2001 AND CALTRANS 611 VIBRATION STANDARDS. ALL HARDWARE IS STAINLESS STEEL. LED JUNCTION TEMPERATURE IS MAINTAINED BY INTERNAL COOLING CHANNELS IN THE EXTRUDED HOUSING, NO EXTERNAL HEAT SIN OR FINS. ALL ELECTRICAL COMPONENTS ARE ACCESSED WITHOUT TOOLS AND MOUNTED ON REMOVABLE POWER DOOR. POWER DOOR FEATURES QUICK DISCONNECTS TO TERMINAL BLOCK AND DRIVER. PHOTOCONTROL RECEPTACLE IS STANDARD WITH OPTION FOR ANSI C136.41-2013, PHOTOCCELL BY OTHERS.

**LIGHT EMITTING DIODES:** HI-FLUX/HI-POWER WHITE LEDS SHALL PRODUCE A MINIMUM OF 95% OF INITIAL INTENSITY AT 100,000 HOURS OF LIFE. LEDS SHALL BE TESTED IN ACCORDANCE WITH IESNA LM-80 TESTING PROCEDURES. THEY SHALL HAVE A MEAN CORRELATED COLOR TEMPERATURE OF 4000K (STANDARD) ±300K AND A MINIMUM CRI>75.

**OPTICAL SYSTEMS:** MICRO-LENS OPTICAL SYSTEMS SHALL PRODUCE IESNA TYPE 2, 3, 4 AND 5 DISTRIBUTIONS. FIXTURE SHALL NOT USE ACRYLIC OR PLASTIC SECONDARY EXTERIOR LENS OVER THE LEDS. LUMINAIRE SHALL BE CLASSIFIED AS "FULL-CUTOFF" AND PRODUCE 0% TOTAL LUMENS ABOVE 90°.

**ELECTRICAL:** POWER SUPPLY SHALL HAVE A MINIMUM POWER FACTOR OF .90 AND <20% TOTAL HARMONIC DISTORTION (THD). EMC SHALL MEET OR EXCEED FCC CFR PART 15. TRANSIENT VOLTAGE SHALL COMPLY WITH ANSI C62.41 CAT. A. POWER SUPPLY SHALL BE DIMMABLE STANDARD BUT FIELD ADJUSTABLE WITHOUT TOOLS TO 350mA, 530mA OR 700mA DRIVE CURRENT. SURGE PROTECTION SHALL BE 10KV.

**FINISH:** HOUSING SHALL RECEIVE A FADE AND ABRASION RESISTANT, EPOXY POLYESTER POWDER COAT, RAL 39/70010, ASA 70 LIGHT GRAY FINISH STANDARD. EXTRUDED COMPONENTS SHALL BE ANODIZED.

**ACCESSORIES:** OPTIONAL BRACKETS SHALL BE AVAILABLE FOR MOUNTING LUMINAIRES TO SQUARE POLES, ROUND POLES, AND POST TOP TENONS. OPTIONAL FLUSH MOUNTED HOUSE SIDE SHIELD SHALL CUT OFF LIGHT AT 1/2 MOUNTING HEIGHT BEHIND THE LUMINAIRE AND BE FACTORY OR FIELD INSTALLABLE. HOUSE SIDE SHIELD SHALL BE INSTALLED WITHOUT THE USE OF TOOLS OR GLUE. HOUSE SIDE SHIELD SHALL ALSO BE AVAILABLE FOR CUL-DE-SAC INSTALLATIONS. HOUSING SHALL BE ABLE TO ACCEPT THREE ATTACHMENT MOUNTED BIRD SPIDER.

**LISTINGS/RATINGS/WARRANTIES:** LUMINAIRES SHALL BE UL LISTED FOR USE IN WET LOCATIONS IN THE UNITED STATES AND CANADA. OPTICAL SYSTEMS SHALL MAINTAIN AN IP66 RATING. TEN-YEAR LIMITED WARRANTY IS REQUIRED FOR ALL COMPONENTS. ALL UNITS ARE LISTED BY DESIGN LIGHTS CONSORTIUM (DLC),

**PHOTOMETRY:** ALL LUMINAIRES SHALL BE PHOTOMETRICALLY TESTED BY CERTIFIED INDEPENDENT TESTING LABORATORIES IN ACCORDANCE WITH IESNA LM-79 TESTING PROCEDURES.

FIXTURES SUBMITTED AS AN EQUAL MUST BE SUBMITTED FOR REVIEW NO LATER THAN 10 DAYS BEFORE THE BID DATE. SAMPLES REQUIRED AT MANUFACTURER COST.

| SERIES | L (IN) |
|--------|--------|
| EC1    | 16.1   |
| EC2    | 20.8   |
| EC3    | 23.5   |
| EC7    | 30.6   |
| EC9    | 35.4   |

| SERIES | WEIGHT (LBS) | EPA (FT <sup>2</sup> ) |
|--------|--------------|------------------------|
| EC1    | 10.8         | .40                    |
| EC2    | 12.7         | .45                    |
| EC3    | 14.0         | .48                    |
| EC7    | 19.3         | .57                    |
| EC9    | 21.3         | .63                    |

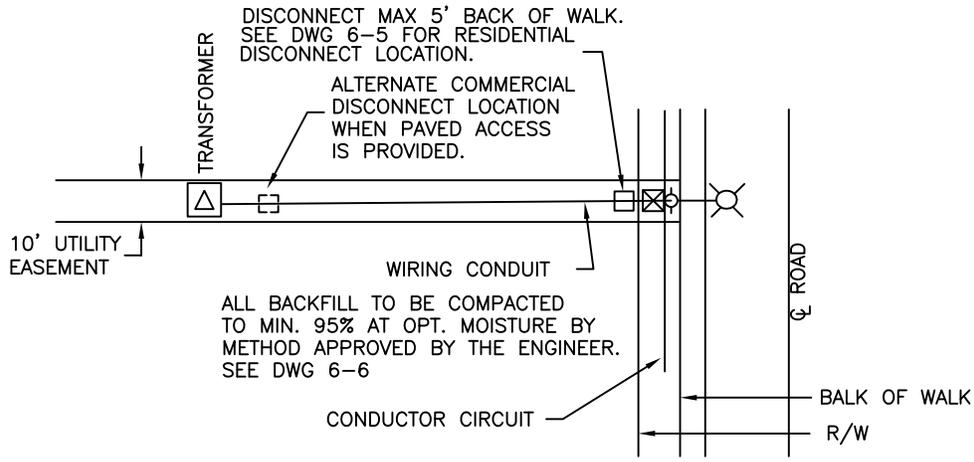
APRIL 11, 2014

DWG #

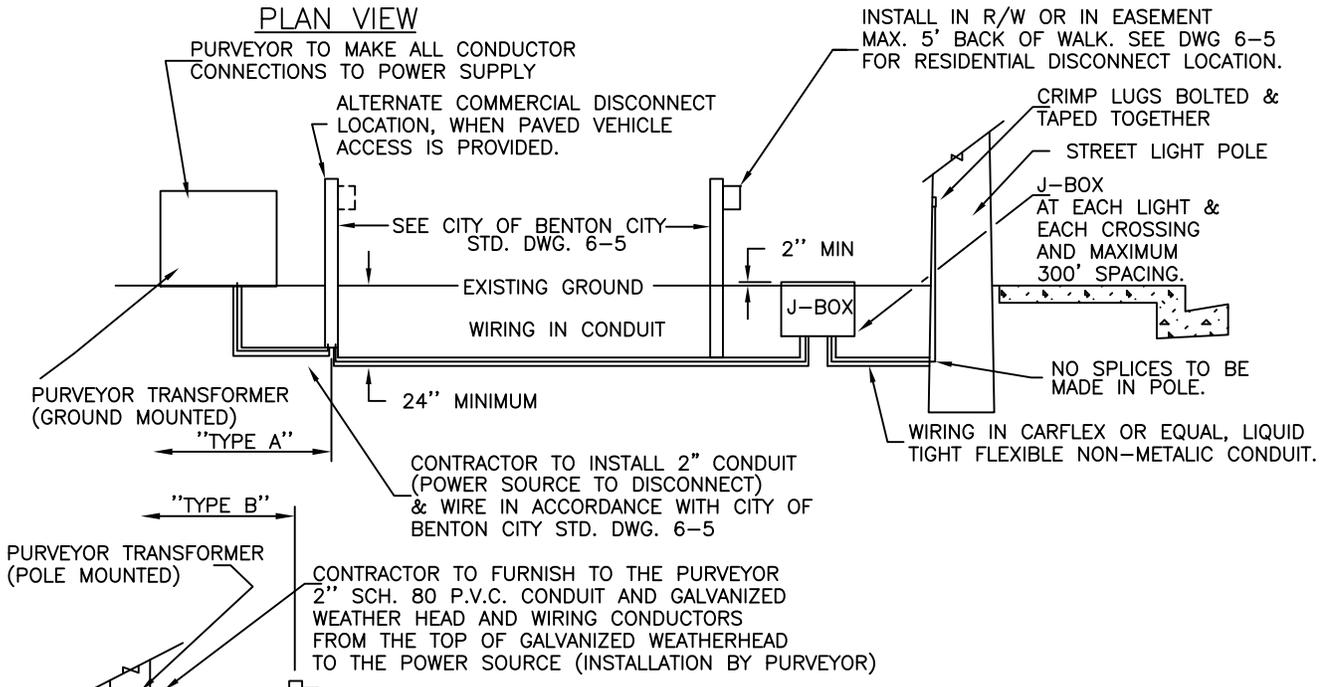
6-2



## TYPICAL LED LUMINAIRE



**PLAN VIEW**



**NOTES**

- 1) ALL MATERIALS AND CONSTRUCTION TO CONFORM TO SECTION 6 OF THESE SPECIFICATIONS
- 2) AN IN-LINE, FUSED, WATERTIGHT ELECTRICAL DISCONNECT KIT SHALL BE INSTALLED IN THE JUNCTION BOX FOR EVERY CONDUCTOR ABOVE GROUND POTENTIAL.
- 3) PROVIDE ADDITIONAL CONDUCTOR LENGTH IN ALL JUNCTION BOXES EQUAL TO A LOOP HAVING A DIAMETER OF ONE (1) FOOT.
- 4) CONTRACTOR SHALL PLACE 4" OF 5/8" MINUS CRUSHED ROCK IN BOTTOM OF JUNCTION BOX AFTER INSTALLING CONDUIT AND WIRING.
- 5) THE CONTRACTOR SHALL BE REQUIRED TO SECURE, AT HIS OWN EXPENSE, FROM THE CITY AND FROM THE STATE OF WASHINGTON ELECTRICAL INSPECTION DEPT., ALL INSPECTION PERMITS REQUIRED TO CONSTRUCT THE LIGHTING SYSTEM.

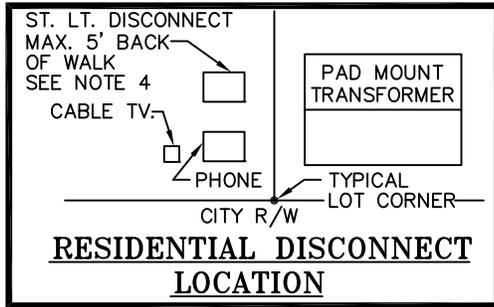


**TYPICAL LIGHT CIRCUIT**

AUGUST 23, 2013

DWG #

**6-4**



FUSED SERVICE SINGLE CIRCUIT SAFETY DISCONNECT SWITCH  
8-7/8"W X 8-3/4"D X 12-3/4"L GENERAL ELECTRIC  
MODEL TG 3222 RH OR EQUAL IN A NEMA 3R  
ENCLOSURE W/ A 60 AMP FUSE.

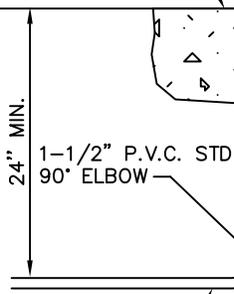
FOR TWO TO FOUR CIRCUIT USE SQUARE D 100 AMP  
8 CIRCUIT ENCLOSURE WITH LOCK OFF CLIPS INSTALLED.

4" X 6" RECTANGULAR STEEL TUBING,  
0.188" WALL THICKNESS. TUBING TO BE  
HOT DIPPED GALVANIZED. SET ON A  
MINIMUM 2'-0" X 2'-0" X 4'  
CONCRETE PAD.

PROVIDE 2"  
P.V.C. CONDUIT  
INSTALLED INSIDE  
OF STEEL TUBING

PROVIDE 1-1/2"  
P.V.C. CONDUIT  
INSTALLED INSIDE  
OF STEEL TUBING

24" DIA. X 12"  
DEEP CONCRETE  
ANCHOR. TROWEL  
FINISH TOP.



1-1/2" P.V.C.  
CONDUIT TO  
STREET LIGHT.

CALL 48 HOURS  
BEFORE YOU DIG  
1-800-424-5555

RISER CONDUIT  
FURNISHED AND  
INSTALLED BY  
PURVEYOR

MINIMUM AS REQ'D  
BY PUD AND  
ELECT. CODES.

2'-0" MIN.  
2'-6" MAX.

5' MIN.

EXISTING  
GROUND

TYPICAL  
COUPLING

2" P.V.C. SCH. 80  
CONDUIT TO PUD  
POLE INSTALLATION.

2" P.V.C. SCH. 80 CONDUIT

2 - EACH 5/8" X 8'-0"  
GALVANIZED STEEL  
GROUNDING RODS MINIMUM  
6'-0" APART.

NOTE:

- 1) THE CONTRACTOR SHALL BE REQUIRED TO SECURE, AT HIS OWN EXPENSE, FROM THE CITY OF BENTON CITY AND THE STATE OF WASHINGTON ELECTRICAL INSPECTION DEPT. ALL INSPECTION PERMITS REQUIRED TO CONSTRUCT THE LIGHTING SYSTEM. CONTACT PURVEYOR TO VERIFY POWER SOURCE.
- 2) SEE SPECIFICATION SECTION 6-4.05 FOR WIRE SIZE AND CIRCUIT REQUIREMENTS.
- 3) SEE STANDARD DWG 6-4 FOR COMMERCIAL DISCONNECT LOCATION.
- 4) DISCONNECTS IN RESIDENTIAL SUBDIVISIONS SHALL BE LOCATED WITHIN 3 FT. OF PHONE AND CABLE TV PEDISTALS BUT NOT CONFLICT WITH ACCESS TO THE PUD TRANSFORMER.
- 3) CONTRACTOR TO DRILL OUT "ON" POSITION ON LOCKING PLATE

PURVEYOR POLE MOUNTED  
TRANSFORMER

CONTRACTOR TO FURNISH  
LIGHTING CONDUCTORS TO POWER  
SOURCE (INSTALLATION BY PURVEYOR).

CONTRACTOR TO INSTALL 2" SCH. 80  
P.V.C. CONDUIT. CONTACT PURVEYOR  
FOR LOCATION.

PURVEYOR GROUND  
TRANSFORMER

CONTRACTOR TO  
FURNISH CONDUCTOR  
(CROSS-LINK POLY  
U.S.E. INSULATED)  
TO SOURCE OF POWER.

24" RADIUS SWEEP MIN.

SINGLE & MULTI-LIGHT CIRCUIT

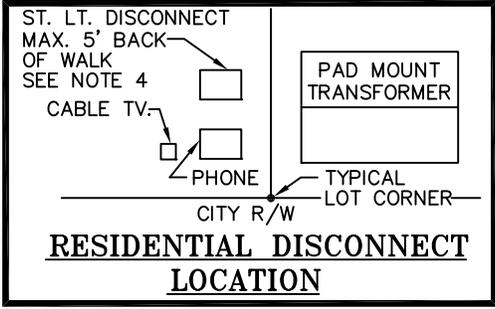
AUGUST 23, 2013

DWG #



FUSED SAFETY DISCONNECT

6-5



FUSED SERVICE SINGLE CIRCUIT SAFETY DISCONNECT SWITCH  
8-7/8"W X 8-3/4"D X 12-3/4"L GENERAL ELECTRIC  
MODEL TG 3222 RH OR EQUAL IN A NEMA 3R  
ENCLOSURE W/ A 60 AMP FUSE.

FOR TWO TO FOUR CIRCUIT USE SQUARE D 100 AMP  
8 CIRCUIT ENCLOSURE WITH LOCK OFF CLIPS INSTALLED.

4" X 6" RECTANGULAR STEEL TUBING,  
0.188" WALL THICKNESS. TUBING TO BE  
HOT DIPPED GALVANIZED. SET ON A  
MINIMUM 2'-0" X 2'-0" X 4"  
CONCRETE PAD.

PROVIDE 2"  
P.V.C. CONDUIT  
INSTALLED INSIDE  
OF STEEL TUBING

PROVIDE 1-1/2"  
P.V.C. CONDUIT  
INSTALLED INSIDE  
OF STEEL TUBING  
24" DIA. X 12"  
DEEP CONCRETE  
ANCHOR. TROWEL  
FINISH TOP.

24" MIN.  
1-1/2" P.V.C. STD  
90° ELBOW

1-1/2" P.V.C.  
CONDUIT TO  
STREET LIGHT.

RISER CONDUIT  
FURNISHED AND  
INSTALLED BY  
PURVEYOR

2'-0" MIN.  
2'-6" MAX.  
MINIMUM AS REQ'D  
BY PUD AND  
ELECT. CODES.

5' MIN.

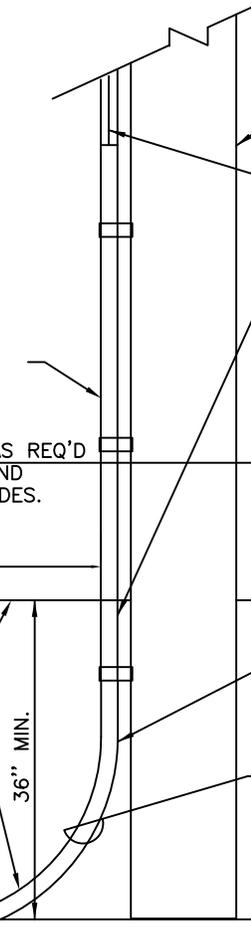
EXISTING  
GROUND

TYPICAL  
COUPLING

2" P.V.C. SCH. 80  
CONDUIT TO PUD  
POLE INSTALLATION.

2" P.V.C. SCH. 80 CONDUIT

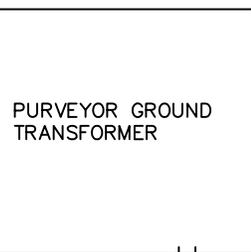
2 - EACH 5/8" X 8'-0"  
GALVANIZED STEEL  
GROUNDING RODS MINIMUM  
6'-0" APART.



PURVEYOR POLE MOUNTED  
TRANSFORMER

CONTRACTOR TO FURNISH  
LIGHTING CONDUCTORS TO POWER  
SOURCE (INSTALLATION BY PURVEYOR).

CONTRACTOR TO INSTALL 2" SCH. 80  
P.V.C. CONDUIT. CONTACT PURVEYOR  
FOR LOCATION.



CONTRACTOR TO  
FURNISH CONDUCTOR  
(CROSS-LINK POLY  
U.S.E. INSULATED)  
TO SOURCE OF POWER.

24" RADIUS SWEEP MIN.

**NOTE:**

- 1) THE CONTRACTOR SHALL BE REQUIRED TO SECURE, AT HIS OWN EXPENSE, FROM THE CITY OF KENNEWICK AND THE STATE OF WASHINGTON ELECTRICAL INSPECTION DEPT. ALL INSPECTION PERMITS REQUIRED TO CONSTRUCT THE LIGHTING SYSTEM. CONTACT PURVEYOR TO VERIFY POWER SOURCE.
- 2) SEE SPECIFICATION SECTION 6-4.05 FOR WIRE SIZE AND CIRCUIT REQUIREMENTS.
- 3) SEE STANDARD DWG 6-4 FOR COMMERCIAL DISCONNECT LOCATION.
- 4) DISCONNECTS IN RESIDENTIAL SUBDIVISIONS SHALL BE LOCATED WITHIN 3 FT. OF PHONE AND CABLE TV PEDISTALS BUT NOT CONFLICT WITH ACCESS TO THE PUD TRANSFORMER.
- 3) CONTRACTOR TO DRILL OUT "ON" POSITION ON LOCKING PLATE

AUGUST 29, 2013

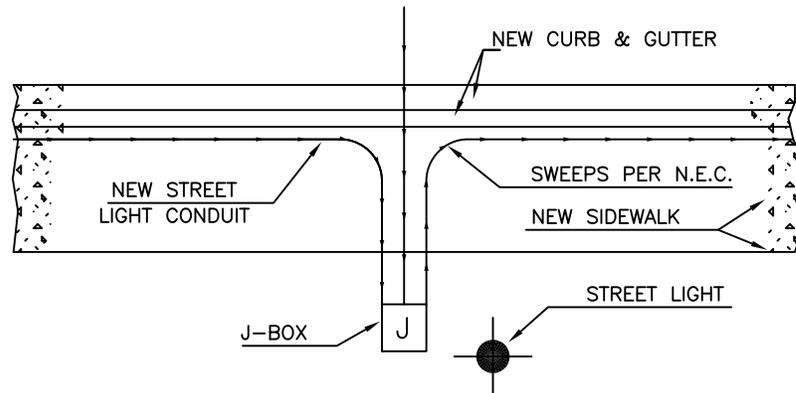


**FUSED SAFETY DISCONNECT  
SINGLE & MULTI-LIGHT CIRCUIT**

DWG #

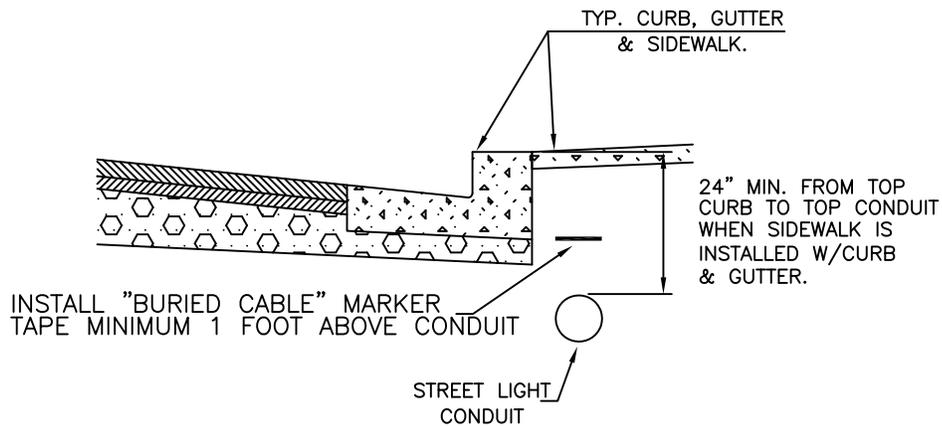
**6-6**

ALTERNATE STREET LIGHT CONDUIT LOCATION



NOTE:

A TOTAL OF FOUR 90° BENDS, OR AN EQUIVALENT OF 360° MAXIMUM IS PERMITTED IN A CONDUIT RUN PER NEC SECTION 347-14. SINCE EACH "J" BOX REQUIRES ONE 90° BEND TO ENTER THE BOTTOM OF THE BOX, A MAXIMUM OF TWO ADDITIONAL 90° BENDS CAN BE INSTALLED BETWEEN BOXES OR NO MORE THAN 180°



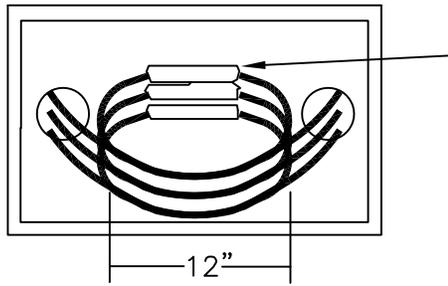
AUGUST 29, 2013

DWG #



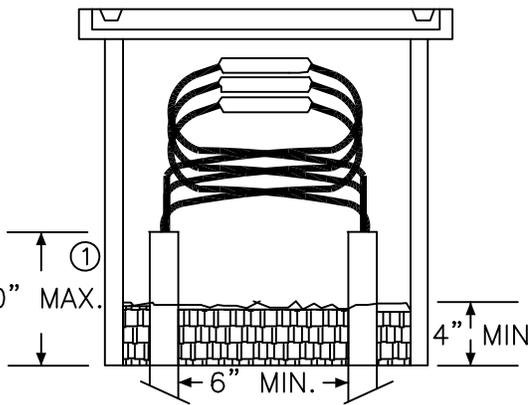
STREET LIGHT CONDUIT  
SINGLE & MULTI-LIGHT CIRCUIT

6-7



PLAN VIEW

FUSED, WATERTIGHT, QUICK DISCONNECT  
 GROUND WIRE TO BE COLOR-CODED GREEN  
 CONDUCTOR LOOP MIN. 12 INCHES  
 BOX AND LID PER  
 CITY STANDARD SPECIFICATIONS  
 SECTION 6-4.02



PROFILE VIEW

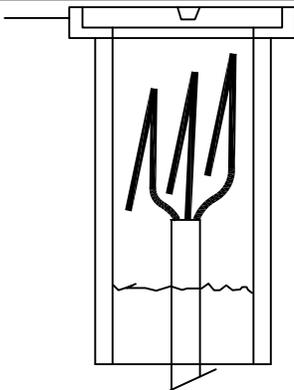
MINIMUM OF 4 INCHES OF 5/8" GRAVEL  
 TO BE PLACED IN BOTTOM OF J-BOX  
 AFTER INSTALLING THE CONDUIT  
 AND WIRING.

① CUT CONDUITS 4" TO 6" MAXIMUM  
 ABOVE 5/8" MINUS ROCK

8" TO 10" MAX.

4" MIN

6" MIN.



END VIEW

J-BOX SHALL BE INSTALLED FLUSH WITH SIDEWALK  
 OR LANDSCAPING, BUT SHALL NOT BE PLACED  
 WHERE DRAINAGE WILL COLLECT IN OR NEAR.

NOTE:

- 1) ALL MATERIALS AND CONSTRUCTION TO CONFORM TO SECTION 6-4.02 OF THESE SPECIFICATIONS.
- 2) ALL BACKFILL TO BE COMPACTED TO MINIMUM OF 95% OF MAXIMUM DENSITY. OR AS REQUIRED TO PRECLUDE FUTURE SETTLEMENT.

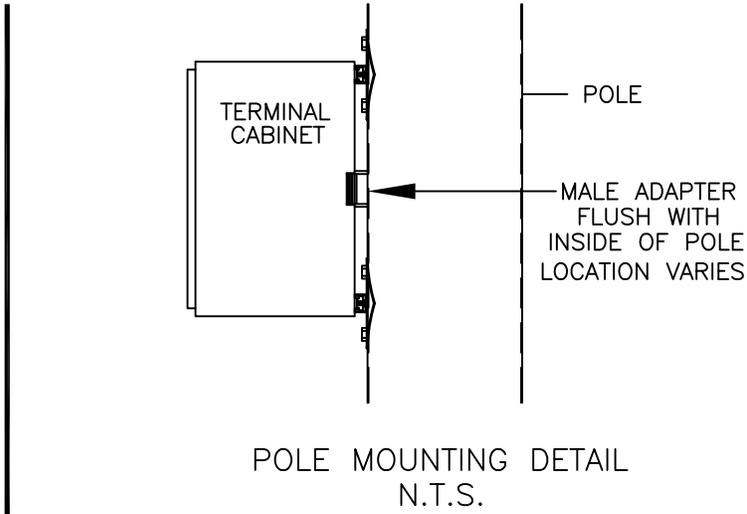
AUGUST 29, 2013

DWG #

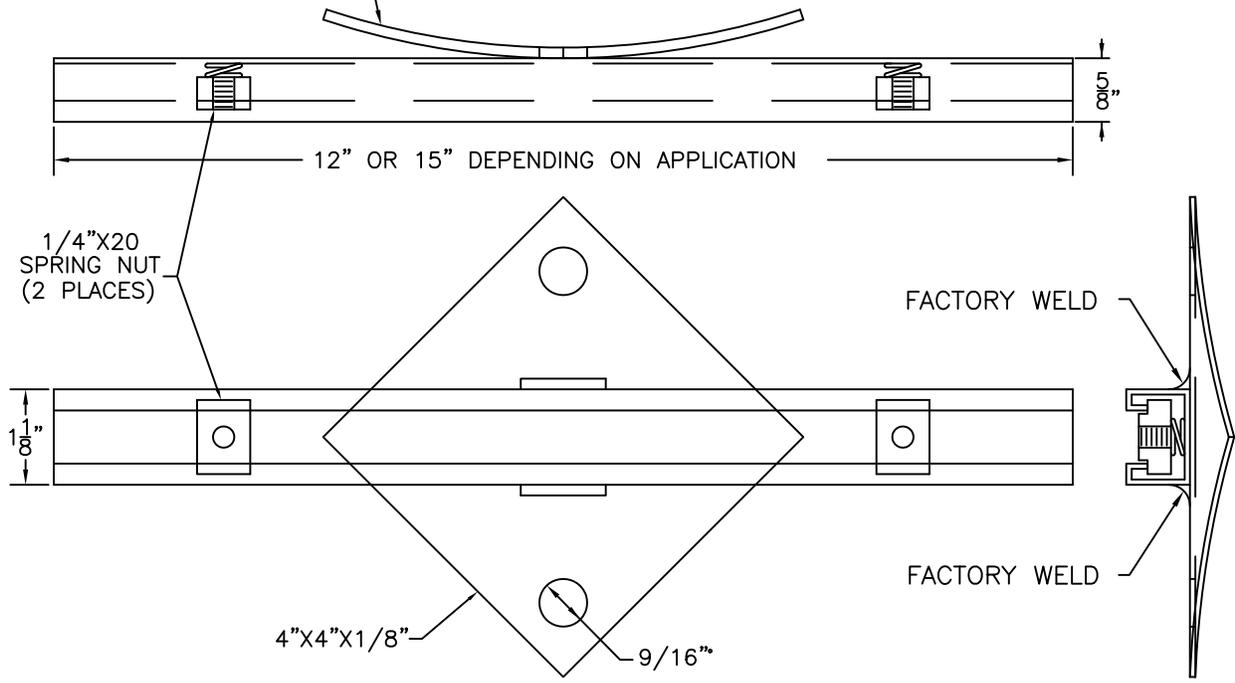


STREET LIGHT JUNCTION  
 BOX INSTALLATION

6-8



RADIUS FITS ANY ROUND POLE



"MORFAB" PART # 12SOSM-12, 15SOSM-15



TERMINAL CABINET POLE  
STAND OFF BRACKET

AUGUST 29, 2013

DWG #

6-9