



UTILITIES DEPARTMENT

Current Revision: October 14, 2021

Street Lighting Standards

STREET LIGHTING

| | |
|---------|---|
| ES-1 | GENERAL NOTES FOR WIRING |
| ES-2 | STREET LIGHT POLE WIRING DETAILS (4 SHEETS) |
| ES-3-1 | WOOD POLE- 30' MOUNTING HEIGHT- OVERHEAD FEED |
| ES-3-2 | WOOD POLE- 30' MOUNTING HEIGHT- UNDERGROUND FEED |
| ES-4-1 | CONCRETE POLE- 30' MOUNTING HEIGHT |
| ES-5-1 | FIBERGLASS POLE- 30' MOUNTING HEIGHT |
| ES-5-2 | FIBERGLASS POLE- 40' MOUNTING HEIGHT |
| ES-6-1 | FIBERGLASS POLE- 14' MOUNTING HEIGHT- PEDESTRIAN |
| ES-6-2 | FIBERGLASS POLE- 14' MH- PEDESTRIAN LIGHT DETAILS |
| ES-7-1 | ALUMINUM POLE- 30' MOUNTING HEIGHT- NON-BREAK |
| ES-7-2 | ALUMINUM POLE- 30' MOUNTING HEIGHT- BREAKAWAY |
| ES-7-3 | ALUMINUM POLE- 40' MOUNTING HEIGHT- NON-BREAK |
| ES-7-4 | ALUMINUM POLE- 40' MOUNTING HEIGHT- BREAKAWAY |
| ES-8-1 | STEEL POLE- 45' MOUNTING HEIGHT- BREAKAWAY |
| ES-9-1 | VINTAGE STYLE POLE WITH TWIN FIXTURES- 14'-6" MH |
| ES-9-2 | VINTAGE STYLE POLE- CONCRETE FOUNDATION |
| ES-9-3 | VINTAGE STYLE POLE- CONCRETE PARKING LOT ISLAND |
| ES-10 | STREETLIGHT CONDUIT INSTALLATION (2 SHEETS) |
| ES-11-1 | ALUMINUM POLE WITH CELLULAR ANTENNA ATTACHMENT |
| ES-11-2 | CONCRETE POLE WITH CELLULAR ANTENNA ATTACHMENT |

GENERAL NOTES:

1. ALL CONNECTIONS IN PULL BOXES WILL BE MADE USING SUBMERSIBLE SECONDARY CONNECTORS MEETING ANSI C119.1.
2. ALL CONNECTIONS IN POLE BASES AND TRANSFORMER BASES WILL BE MADE USING APPROVED CONNECTORS WITH PREFORMED INSULATING COVERS. CONNECTIONS MUST BE RATED FOR SIZE AND CONDUCTOR MATERIAL BEING USED. ANTIOXIDANT COMPOUND SHALL BE USED AND PROPER PROCEDURES FOLLOWED. COMPRESSION TAPS AND TAPING WILL NOT BE ALLOWED.
3. AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE BONDED :
 - (A) TO ALL POLES
 - (B) AT ALL CONTROL CENTER SERVICE LOCATIONS
 - (C) TO ALL METALLIC NONCURRENT CARRYING COMPONENTS
 - (D) TO ALL GROUND RODS
4. PULL BOXES OR POLE BASES WITH MORE THAN TWO CONDUITS, THE DIRECTION OF EACH CABLE RUN SHALL BE INDICATED WITH PERMANENT TAGS OF RIGID PLASTIC OR NON-FERROUS METAL. TAGS SHALL BE EMBOSSED OR ENGRAVED WITH LETTERS 1/2" IN HEIGHT AND SECURED BY NYLON OR PLASTIC TIES.
5. CONDUIT AND WIRE SHALL BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE LATEST EDITION.
6. ALL METALLIC AND NONMETALLIC CONDUIT SHALL BEAR THE U.L. LABEL.
7. UNLESS OTHERWISE NOTED ON THE PLANS:
 - (A) ALL CONDUIT SHALL BE AS NOTED ON THE PLANS.
 - (B) CONDUIT PLACED IN THE TRENCH OR UNDER THE ROADWAY SHALL BE NONMETALLIC AND OF THE FOLLOWING TYPES AS DEFINED IN THE SPECIFICATIONS: PVC, GRC, OR HDPE.
 - (C) NONMETALLIC CONDUIT USED ON STRUCTURES OR AS RISERS SHALL BE TYPE PVC SCHEDULE 80.
 - (D) METALLIC CONDUIT WHEN USED SHALL BE TYPE GRS OR IMC.
8. CONDUIT UNDER ROADWAY SHALL BE MEASURED FOR PAYMENT AS EXTENDING 1 FT. BEYOND THE EDGE OF THE ROADWAY SURFACE (INCLUDING SURFACE SHOULDERS).
9. TRENCHING SHALL BE KEPT A MINIMUM OF 5 FT. FROM THE TRUNK OF EXISTING TREES. JACKING MAY BE REQUIRED UNDER THE CENTER OF LARGE TREES IN LIMITED SPACE.
10. ROUTING OF CONDUIT AND CABLE MAY BE ALTERED BY THE G.I.U.D. IF NECESSARY TO SUIT FIELD CONDITIONS.
11. LUMINAIRES SHALL BE LEVELED AFTER POLE HAS BEEN INSTALLED. LUMINAIRE MOUNTING BOLTS SHALL BE TORQUED TO MANUFACTURERS SPECIFICATIONS.
12. ALL MATERIALS SHALL BE AS LISTED, OR AN APPR. EQUAL. THE USE OF A BRAND NAME IS FOR THE PURPOSE OF DESCRIBING A STANDARD QUALITY, PERFORMANCE, AND CHARACTERISTIC DESIRED, AND NOT INTENDED TO LIMIT OR RESTRICT COMPETITION.
13. ALL BOXES AND CABINETS WITH ACCESS TO ELEC. COMPONENTS MUST BE PADLOCKED IMMEDIATELY AFTER INSTALLATION. CONTRACTOR SHALL PROVIDE PADLOCK DURING CONSTRUCTION PERIOD. AFTER FINAL ACCEPTANCE OF PROJECT, THE UTILITY DEPARTMENT WILL PROVIDE PADLOCKS.

REVISED: 7/10/19
 REVISED: 2/20/2012

SCHEDULE OF WIRING MATERIALS

WIRE & CABLE
 THE ELECTRICAL, MECHANICAL AND PHYSICAL PROPERTIES OF THE CONDUCTORS LISTED IN THE FOLLOWING SCHEDULE ESTABLISH THE MINIMUM ACCEPTABLE REQUIREMENTS FOR EACH OF THE LISTED APPLICATIONS. CONDUCTORS WHICH HAVE PROPERTIES THAT EXCEED THESE MINIMUM REQUIREMENTS MAY BE FURNISHED, AT THE CONTRACTORS OPTION, WITH THE G.I.U.D.'S APPROVAL. NO ADJUSTMENT IN THE CONTRACT PRICE WILL BE ALLOWED.

ALL CONDUCTORS SHALL BE SINGLE CONDUCTOR, STRANDED COPPER U.L. LISTED, 600V. WITH SIZE OF CONDUCTOR AND TYPE AND COLOR OF INSULATION AS LISTED BELOW.

ONE PHASE CONDUCTOR MUST, AT THE TIME OF INSTALLATION, BE PERMANENTLY IDENTIFIED AS THE LINE 2 (RED) CONDUCTOR AT EACH END AND AT EVERY POINT WHERE THE CONDUCTOR IS ACCESSIBLE. IDENTIFICATION WILL BE ACCOMPLISHED BY (A) COLORING THE EXPOSED INSULATION RED (B) MARKING THE EXPOSED INSULATION WITH RED TAPE.

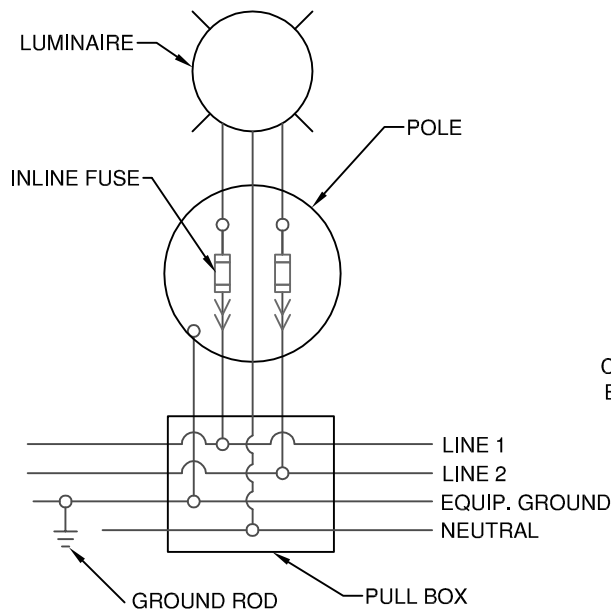
- WIRE / CONDUIT:
 1- #6 CU STRAND THHN-THWN (WHITE)
 1- #6 CU STRAND THHN-THWN (BLACK)
 1- #6 CU STRAND THHN-THWN (BLUE)
 1- #8 CU STRAND THHN-THWN (GREEN)
 2" PVC CONDUIT
- EQUIP. GROUND:
 INSULATED, #8 CU STRAND AWG (GREEN)
- POLE :
 12-2 CU UF W / GROUND, THHN OR THWN
- COLOR CODES :
 LIGHTING CIRCUIT "HOT" (BLACK)
 2ND LIGHTING CIRCUIT "HOT" (BLUE)
 "NEUTRAL" (WHITE)
 "INSULATED EQUIPMENT GROUND" (GREEN)
 "RECEPTACLE CIRCUIT" IF APPLICABLE (RED)
- POLE FUSES / FUSE HOLDER:
 ALL FUSING WILL BE LOCATED IN THE BASE OF POLE UNLESS OTHERWISE SPECIFIED
- N-LINE BREAK-AWAY FUSE HOLDER TO BE HEB-LW-RYC OR HEB-LW-RLC
 NEUTRAL / GROUNDS SHALL USE SLC4-4P POLARIS 4 PORT LUG
- FUSES TYPE TO BE FNM (10 AMP)
- FLUSH BOX CONNECTIONS:
 USB 33S BLACKBURN 3 HOLE SUBMERSIBLE LUGS



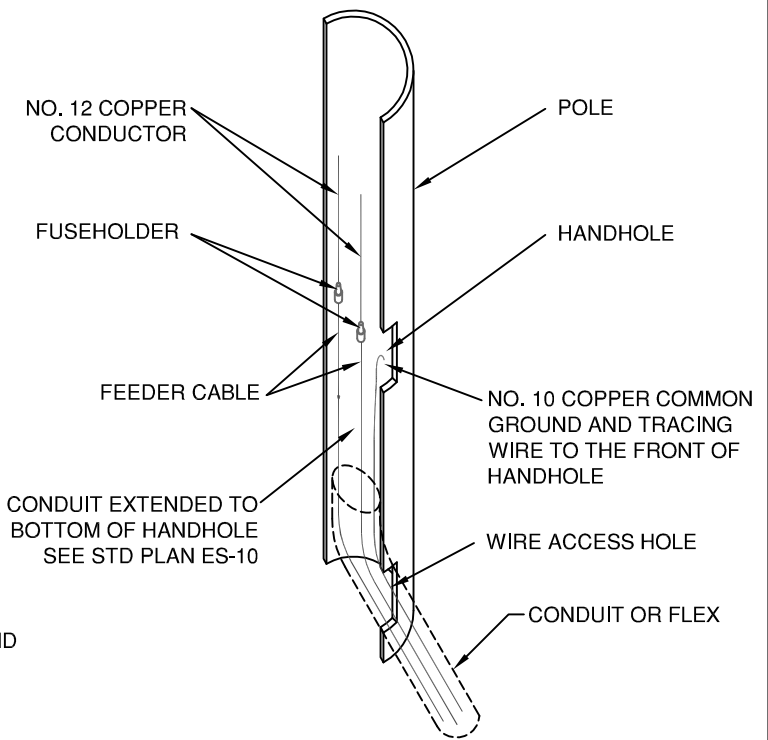
DATE: 2/16/1998
 DRAWN BY: T.D.Z.
 CHECKED BY: T.W.B.

STREET LIGHTING
 GENERAL NOTES

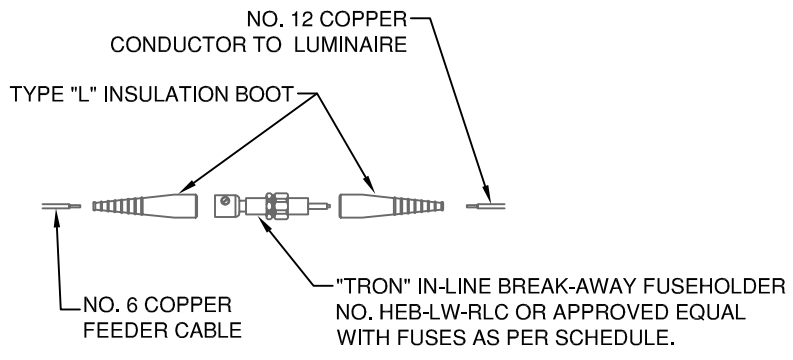
PLAN
 ES - 1



WIRING SCHEMATIC
(240 VOLT 2-WIRE)



WIRING DETAIL



FUSEHOLDER TYPE "1" DETAILS

FOR USE WITH TYPE ES-4, ES-5, ES-6, AND ES-7 LIGHTING UNITS.

FUSE SCHEDULE:
FRN - 5 AMP FOR SINGLE LIGHT FIXTURE

NOTE:
ALL MATERIALS SHALL BE AS LISTED, OR AN APPROVED EQUAL. THE USE OF A BRAND NAME IS FOR THE PURPOSE OF DESCRIBING A STANDARD QUALITY, PERFORMANCE, AND CHARACTERISTIC DESIRED, AND IS NOT INTENDED TO LIMIT OR RESTRICT COMPETITION.

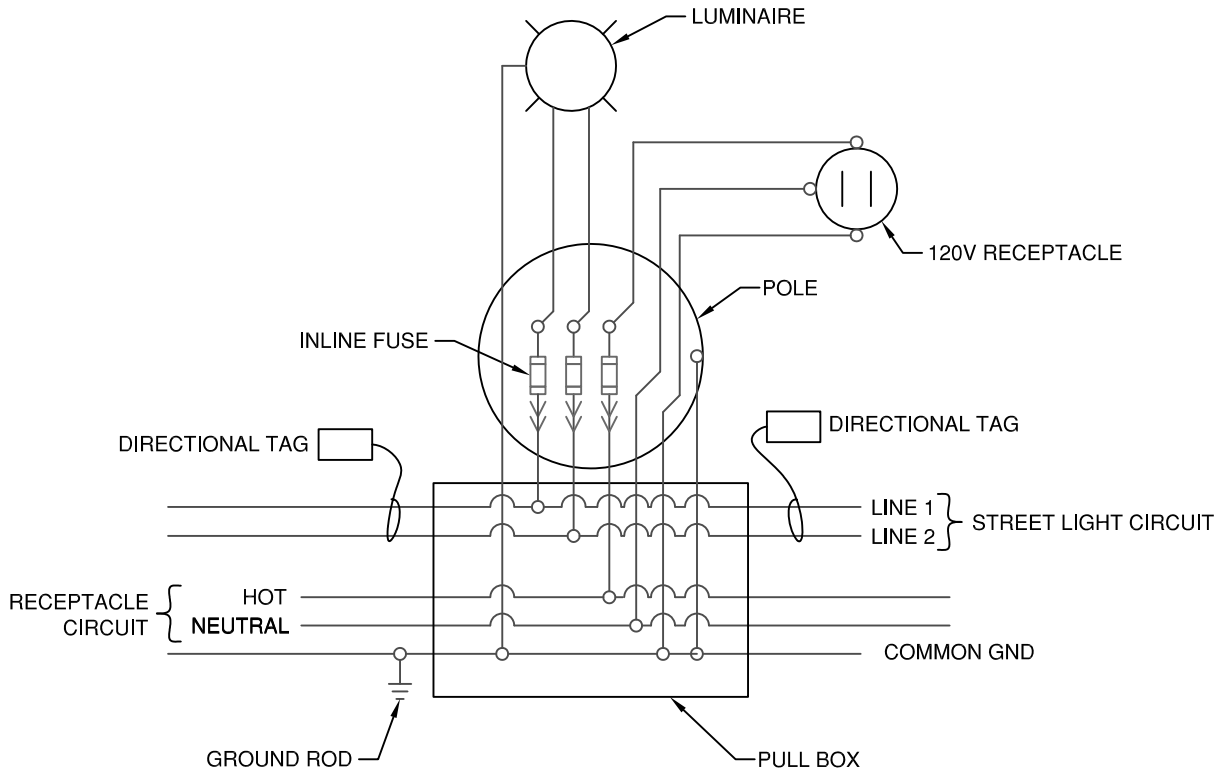
REVISED 6/26/19



DATE: 1/10/2012
DRAWN BY: P.F.G.
CHECKED BY: T.W.B.

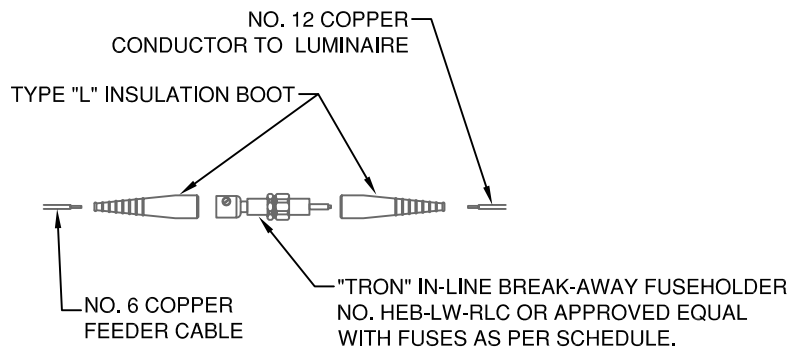
SINGLE LUMINAIRE
STREET LIGHT
WIRING DETAILS

PLAN
ES - 2
1 OF 4



WIRING SCHEMATIC

240V WITH 120V RECEPTACLE CIRCUIT



FUSEHOLDER TYPE "1" DETAILS

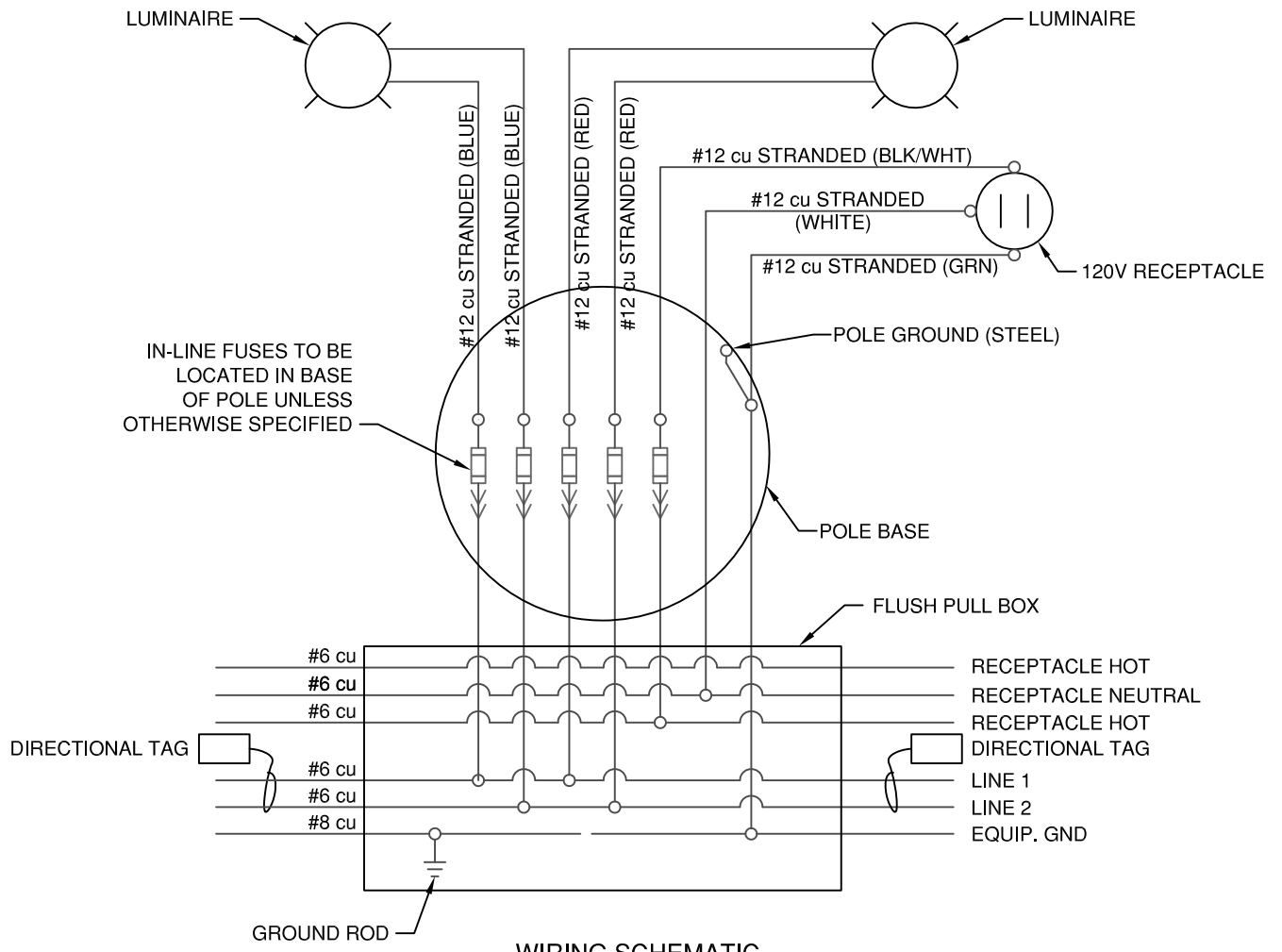
TYPE ES-4, ES-5, ES-6, AND ES-7 LIGHTING UNITS.

FUSE SCHEDULE:

FRN - 5 AMP FOR SINGLE LIGHT FIXTURES
 FRN - 20 AMP FOR RECEPTACLES AT POLES

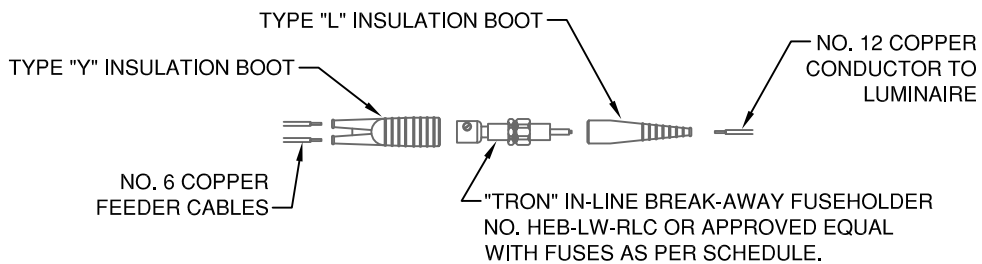
NOTE:

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WIRING SCHEMATIC

DUAL FIXTURE
208V 2-WIRE WITH 120V RECEPTACLE CIRCUIT



FUSEHOLDER TYPE "2" DETAILS

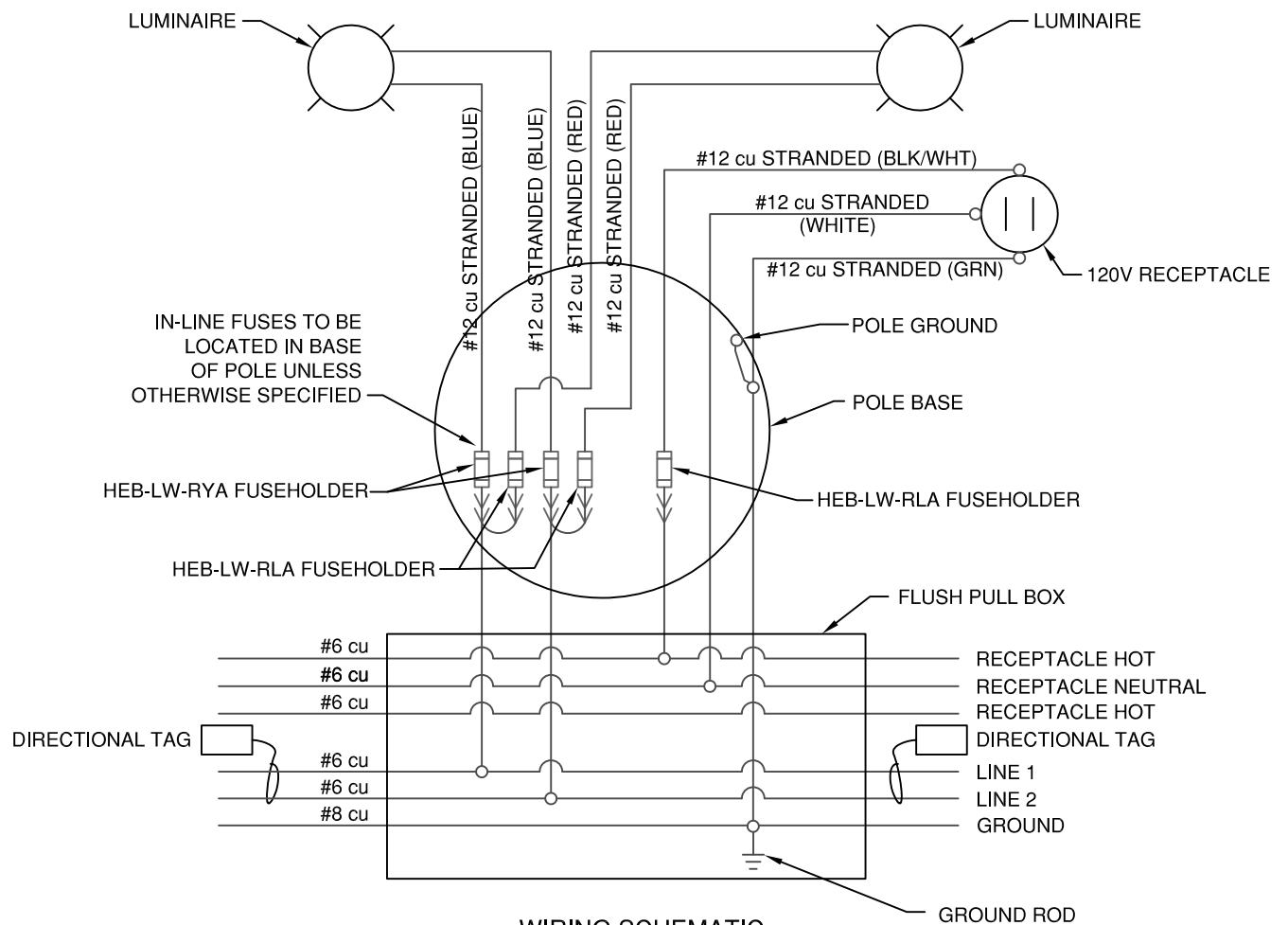
TYPE ES-8 LIGHTING UNIT.

FUSE SCHEDULE:

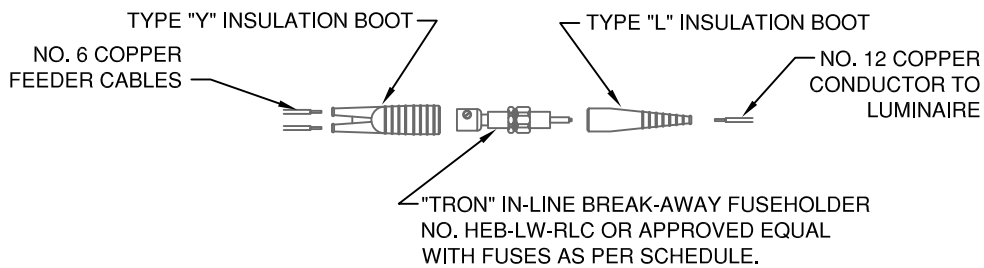
FRN - 5 AMP FOR LIGHT FIXTURES
FRN - 20 AMP FOR RECEPTACLES AT POLES

NOTE:

ALL MATERIALS SHALL BE AS LISTED, OR AN APPROVED EQUAL. THE USE OF A BRAND NAME IS FOR THE PURPOSE OF DESCRIBING A STANDARD QUALITY, PERFORMANCE, AND CHARACTERISTIC DESIRED, AND IS NOT INTENDED TO LIMIT OR RESTRICT COMPETITION.



WIRING SCHEMATIC
 DUAL VINTAGE STYLE FIXTURE
 208V 2-WIRE WITH 120V RECEPTACLE CIRCUIT

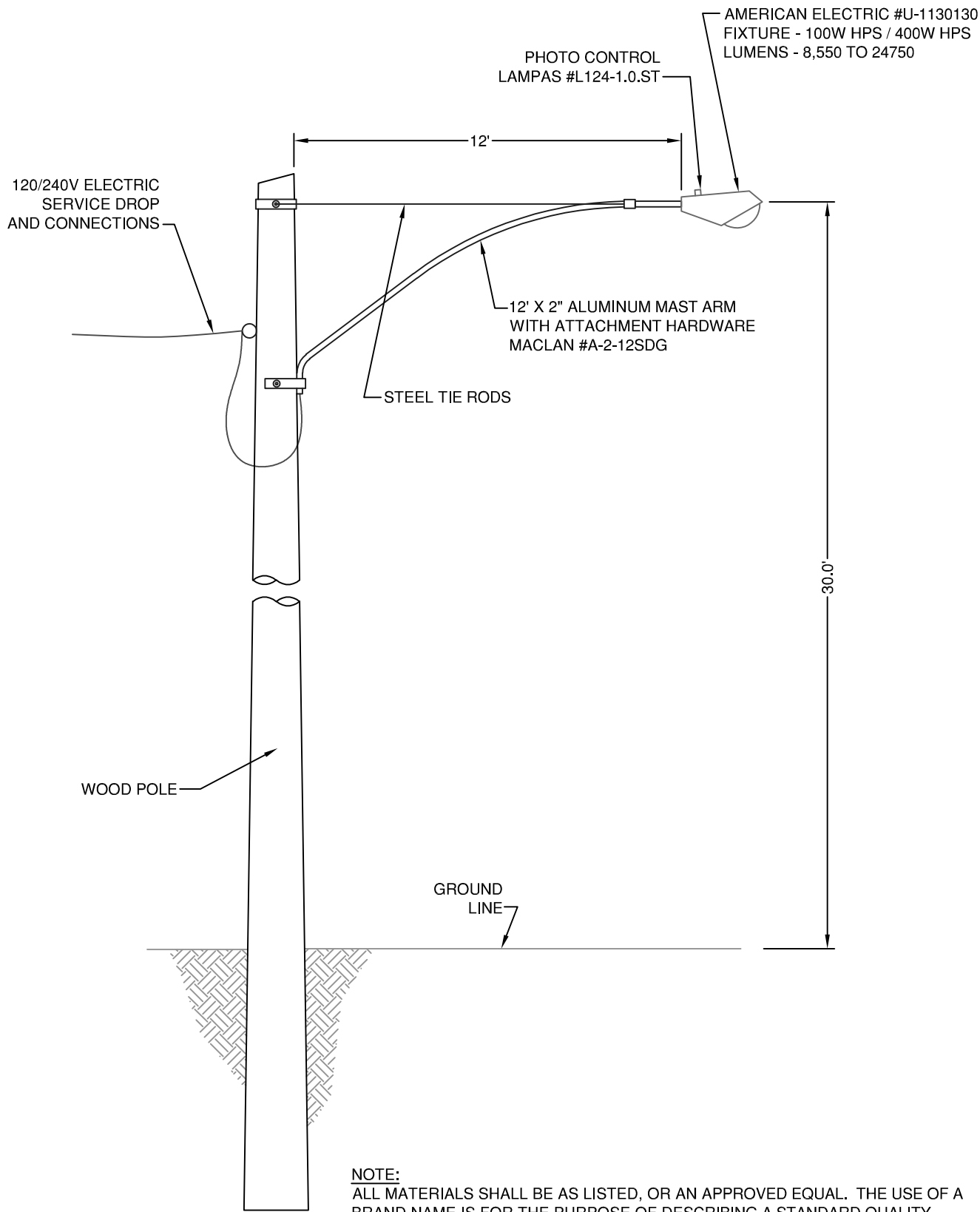


FUSEHOLDER TYPE "2" DETAILS

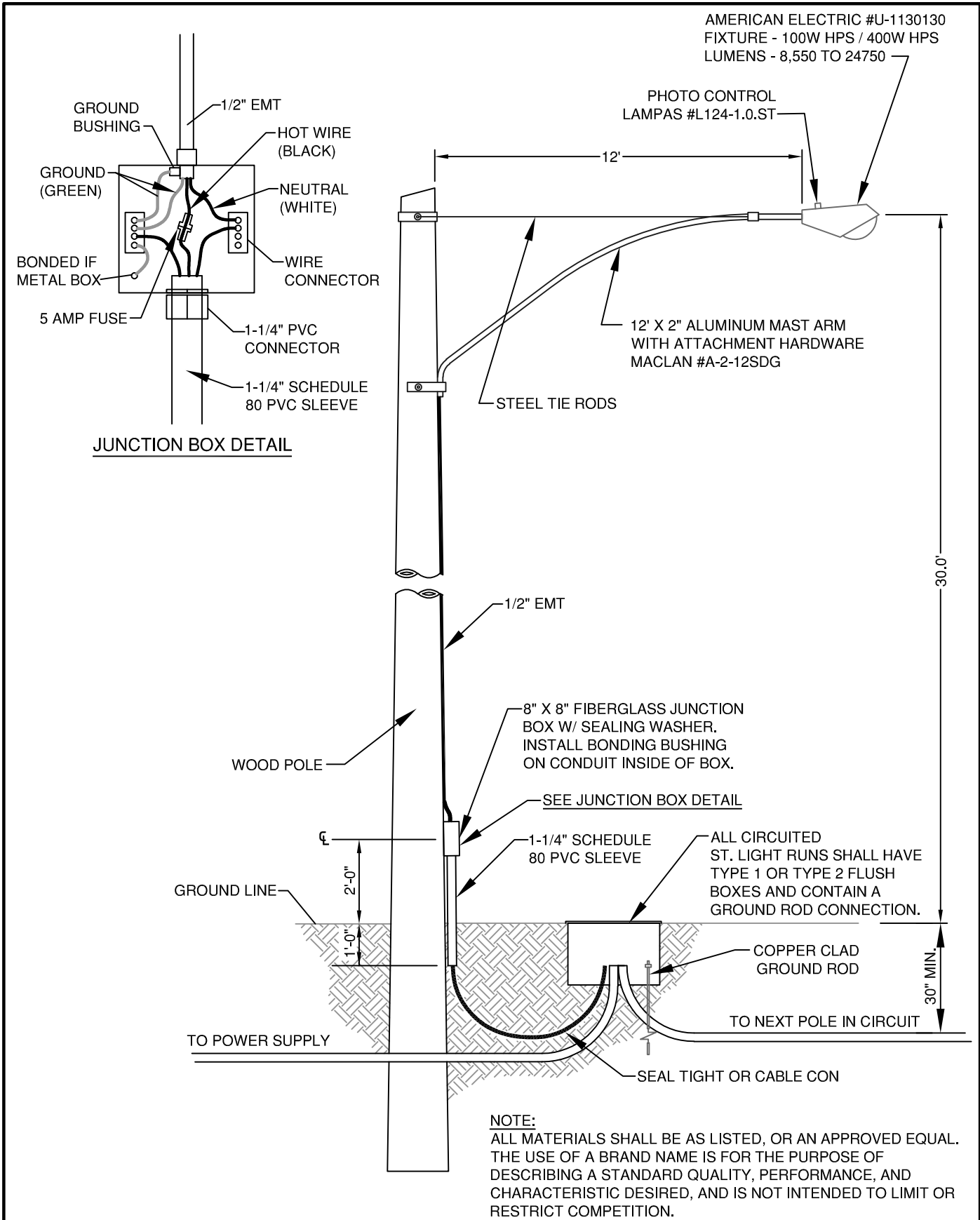
TYPE ES-8 LIGHTING UNIT.

FUSE SCHEDULE:
 FRN - 5 AMP FOR LIGHT FIXTURES
 FRN - 20 AMP FOR RECEPTACLES AT POLES

NOTE:
 ALL MATERIALS SHALL BE AS LISTED, OR AN APPROVED EQUAL. THE USE OF A BRAND NAME IS FOR THE PURPOSE OF DESCRIBING A STANDARD QUALITY, PERFORMANCE, AND CHARACTERISTIC DESIRED, AND IS NOT INTENDED TO LIMIT OR RESTRICT COMPETITION.



REVISED: 2/20/2012



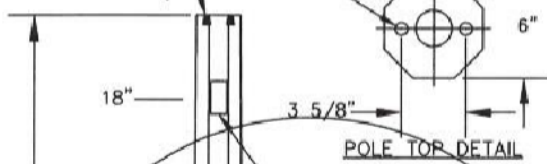
REVISED: 12/9/2015

| | | | |
|---|--|--|---|
| <p>CITY OF GRAND ISLAND UTILITIES DEPARTMENT</p> | <p>DATE: 10/6/2021 DRAWN BY: K.J.M. CHECKED BY: R.S.</p> | <p>STREET LIGHT WOOD POLE 30' MH - UG FEED</p> | <p>PLAN ES - 3 2 OF 2</p> |
|---|--|--|---|

TOP SIZE: 6" FL/FL

(2) 3/8" INSERTS
(SEE POLE
TOP DETAIL)

(2) 3/8" INSERTS

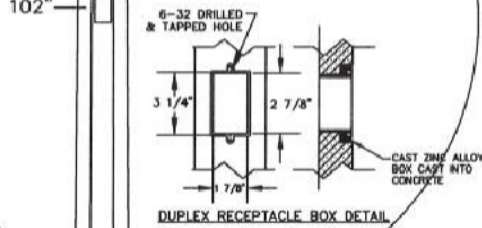


POLE TOP DETAIL

[A-C] 1 1/2" x 3"
WIRING APERTURE
BACK-TO-BACK

GFI PLUG IS NEEDED ON FUTURE ORDERS

[A] "DUPLEX RECEPTACLE BOX"
C/W FLAT ALUM COVERPLATE
C/W 1/4" ALLENHEAD SCREWS



DUPLEX RECEPTACLE BOX DETAIL

COLOR & FINISH:
S35 ASH WHITE
WHITE-00-LS-NF

* COATING REQUIRED *
-SILANE COATING FULL LENGTH

[A] SMALL NAMEPLATE

[A] 3 1/2" x 10 1/2" RECESSED ZINC
HH BOX & COVERPLATE
C/W GROUND WIRE
& ALLENHEAD SCREWS

GRADE

[A-C] **3" x 12" **
WIRING APERTURE
BOTH SIDES

35' 0"

1' 0"

1' 0"

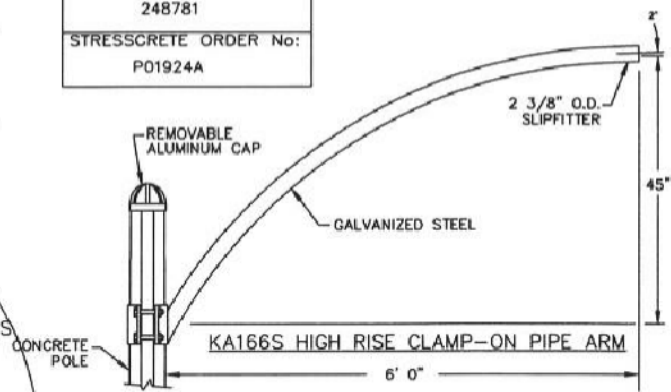
3' 0"

1' 6"
(REF.)

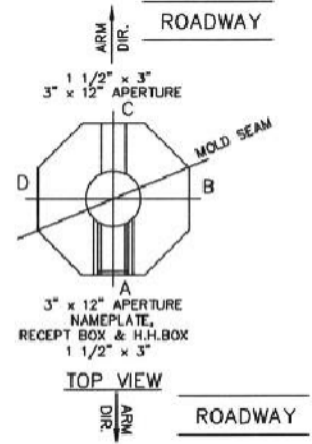
5' 0"

| REV. | ALTERATION | DATE | BY |
|------|------------|------|----|
| | | | |

CUSTOMER ORDER No:
248781
STRESSCRETE ORDER No:
P01924A



CATALOG NO.: E350-CPO-G-S35
C/W KA166S & FC
SECTION: OCTAGONAL
COLOR: ASH WHITE
FINISH: POLISHED
POLE LENGTH: 35' 0"
POLE TOP: 6" FL/FL
POLE BUTT: 10 3/8" FL/FL
APPROX. WGT.: 1,925 LBS.
QUANTITY: 20
RACEWAY: MIN 1 1/8" TO POLE TOP



TOP VIEW

CUSTOMER APPROVAL & DATE:

King Luminaire StressCrete • Est. 1953
STRESSCRETE GROUP

Manufacturing Locations:
Burlington, Ontario 1-800-268-7809
Northport, Alabama 1-800-435-6563
Atchison, Kansas 1-800-837-1024
Jefferson, Ohio 1-800-268-7809

CITY OF GRAND ISLAND

| | | | | |
|--|------------|-------------|----------------------------|-----------|
| DRAWN BY: SC | AT: SC3 | CHECKED BY: | DATE: 1-8-16 | REVISION: |
| APPROVAL DWG. <i>M. Ahmed</i> 4-11-2019 | | | DRAWING NUMBER: P01924A | |

***NOTE:**
STRESSCRETE MAKES NO CLAIMS THAT THE REFERENCE EMBEDMENT DEPTH SHOWN IS SUITABLE FOR SUPPORTING THIS STRUCTURE. IT IS RECOMMENDED THAT A COMPETENT PROFESSIONAL EVALUATE THE SOILS PRESENT ON SITE, CONFIRMING REQUIRED EMBEDMENT DEPTH, HOLE DIAMETER AND BACKFILL MATERIAL TO BE USED.



DATE: 10/6/2021
DRAWN BY: K.J.M.
CHECKED BY: R.S.

STREET LIGHT
CONCRETE POLE
30' MH

PLAN
ES - 4
1 OF 1

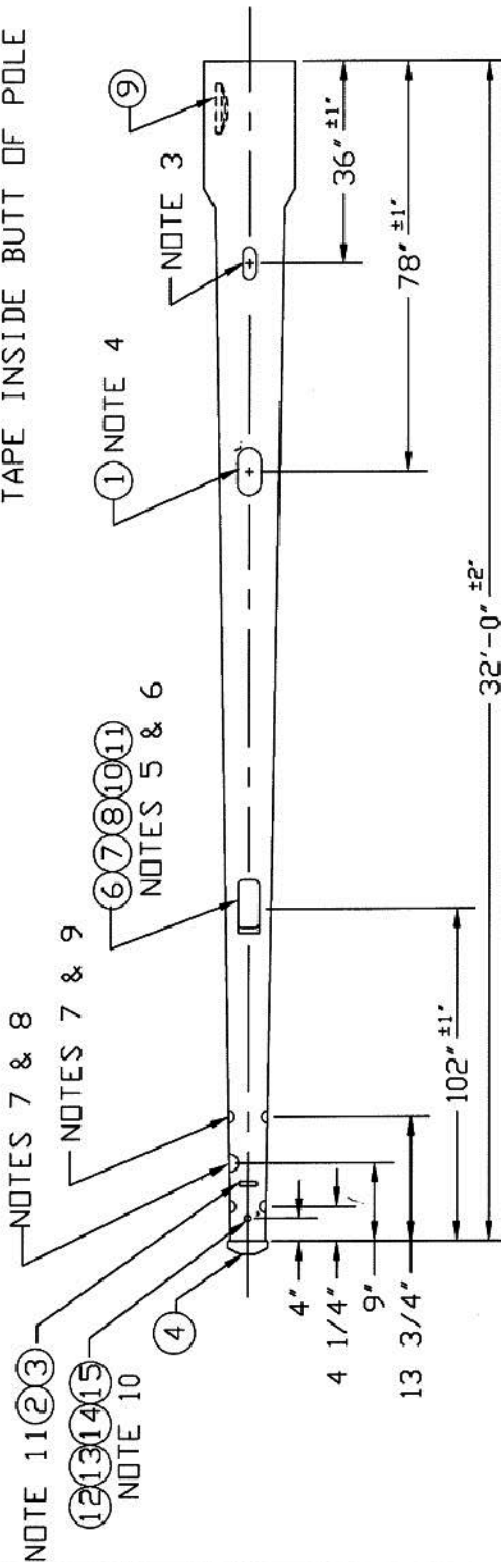
NOTES:
1-RUN & CUT TUBE PER PROCESS SPEC# C7-25-078-384 (APPROPRIATE COLOR)
2-SAND POLE SMOOTH
3-CUT 2 1/2" X 6" SLOT THRU BOTH SIDES
4-CUT 4" X 6" SLOT THRU ONE SIDE ONLY & INSTALL COVER ASSY
5-CUT 2" X 4" SLOT THRU ONE SIDE ONLY (INLINE WITH COVER)
6-DRILL TWO 3/16" DIA. HOLES THRU ONE SIDE ONLY (INLINE WITH COVER) & INSTALL GASKET & HOUSING USING WASHERS & RIVETS. THEN INSTALL RECEPTACLE PER SOP, QS.001.400.003. (*NOTE* DO NOT INSTALL RECEPTACLE COVER)
7-USE TEMPLATE NO. 0004
8-DRILL 1 3/4" DIA. HOLE THRU ONE SIDE ONLY (90° FROM COVER, IF ANY)
9-DRILL 3/4" DIA. HOLES THRU BOTH SIDES (TYP 2 PLACES AT 90° FROM COVER, IF ANY)
10-DRILL 5/16" DIA. HOLE THRU ONE SIDE ONLY (90° FROM TOP BOLT HOLE) & INSTALL HANGER (ITEM 14) INSIDE OF POLE. INSTALL CARRIAGE BOLT THRU HOLE THEN ATTACH HANGER (INSIDE POLE) WITH LOCKWASHER & HEX NUT BEFORE COATING.
11-DRILL 1/8" DIA. HOLES & INSTALL DATE TAG APPROX. 6" FROM TIP PER SOP QS.001.400.012
12-COAT ENTIRE POLE WITH 38-04-0460-00 (DARK BRONZE)
13-INSTALL CAP, PACKAGE POLE PER SOP QS.001.400.020

BB35-99S5CG2501

LIGHT POLE STYLE
& ASSY. Shakespeare CS

| | | | | |
|-----|-----|-----|------|---------|
| DWN | DBD | CHD | DATE | 5/22/15 |
| REV | | WAS | BY | DATE |

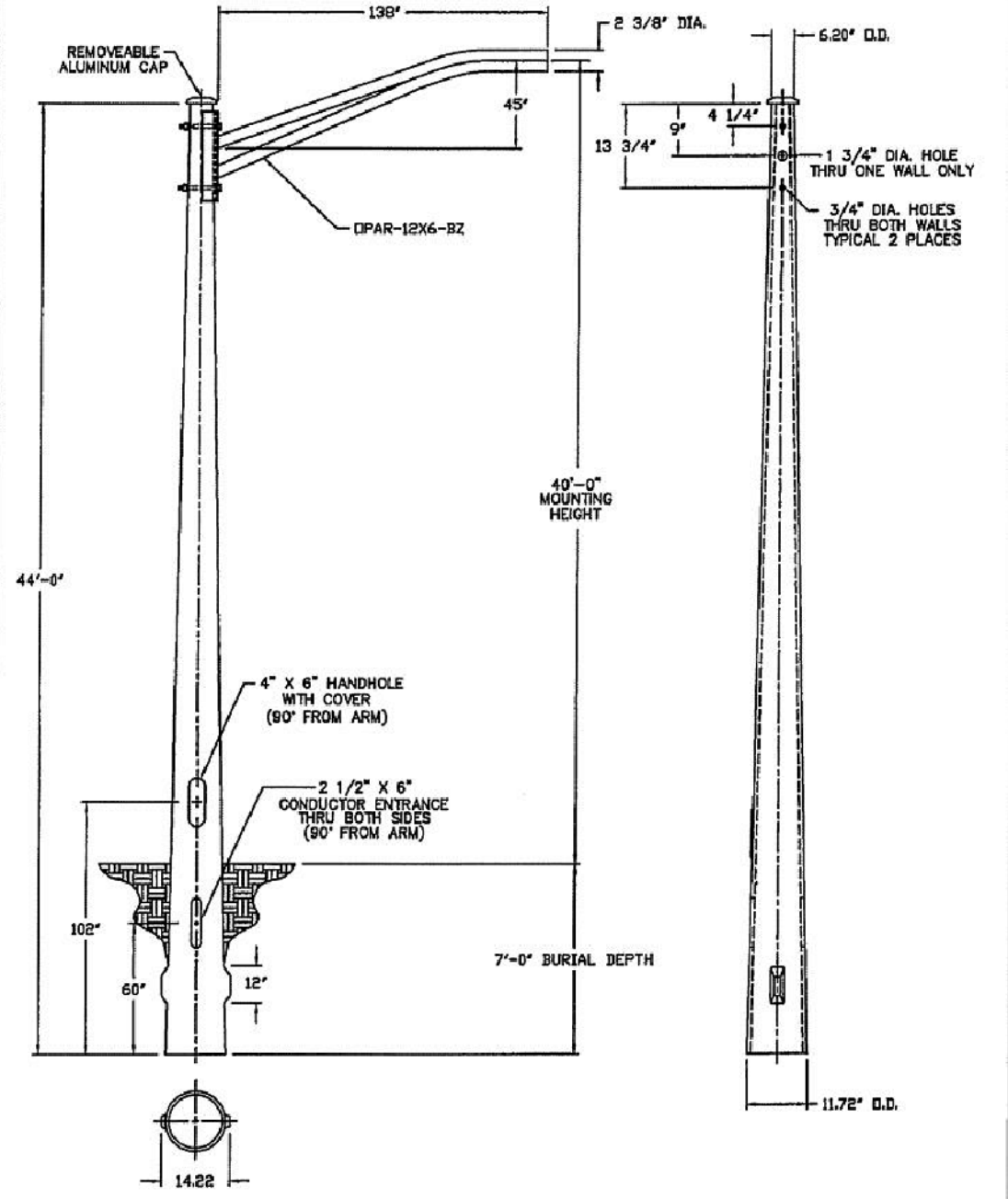
NOTE RECEPTACLE COVER
NOT INSTALLED. WIRE OR
TAPE INSIDE BUTT OF POLE



| ITEM | PART NUMBER | DESCRIPTION | REQ'D |
|------|---------------|---------------|-------|
| 15 | 80-08-0069-41 | LOCK WASHER | 1 |
| 14 | 37-55-0208-00 | HANGER | 1 |
| 13 | 80-07-0052-40 | HEX NUT | 1 |
| 12 | 80-06-0154-40 | CARRIAGE BOLT | 1 |
| 11 | 80-09-0091-10 | WASHER | 2 |
| 10 | 80-09-0085-10 | RIVET | 2 |
| 9 | 37-55-0406-00 | COVER | 1 |
| 8 | 37-75-0036-60 | GASKET | 1 |

| ITEM | PART NUMBER | DESCRIPTION | REQ'D |
|------|---------------|-------------|-------|
| 7 | 37-55-0244-00 | RECEPTACLE | 1 |
| 6 | 37-60-0232-39 | HOUSING | 1 |
| 5 | | | |
| 4 | 37-60-0202-10 | CAP | 1 |
| 3 | 80-09-0055-40 | RIVET | 2 |
| 2 | 37-90-0011-00 | DATE TAG | 1 |
| 1 | 37-27-0242-00 | COVER ASSY | 1 |

NOTES:
 1-COLOR - DARK BRONZE
 2-FINISH - SMOOTH
 3-MATERIAL - FIBERGLASS REINFORCED
 COMPOSITE EXCEPT AS NOTED



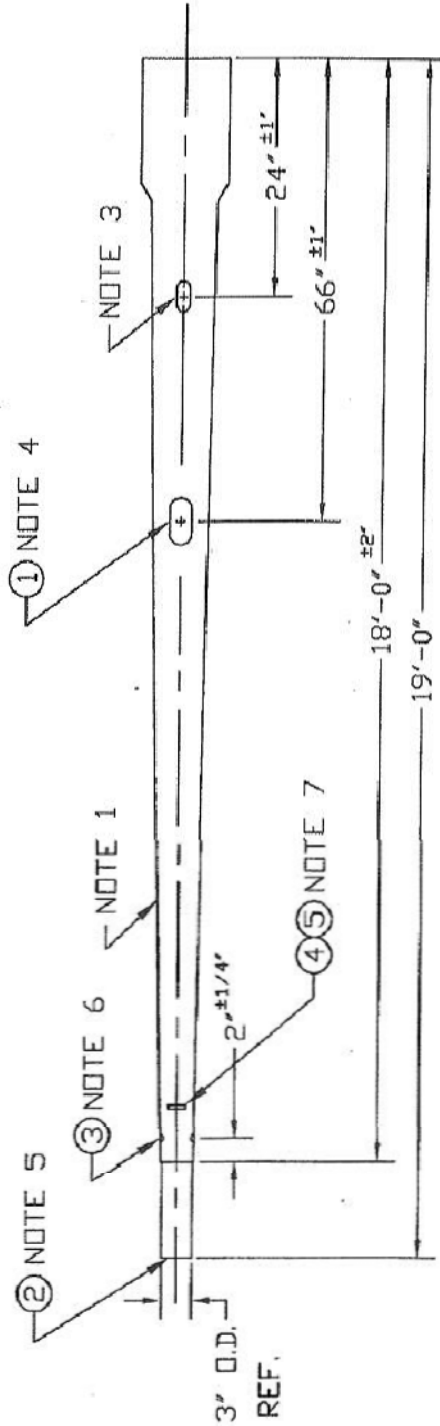
| | | | | | | | |
|---------------------------|-----|----|------|------------------------------|------|-------|----------|
| DESCRIPTION: | | | | <i>Shakespeare C & E</i> | | | |
| 47'-0" SMOOTH DARK BRONZE | | | | DRAWN | CHKD | SCALE | DATE |
| "A" SERIES DIRECT BURIAL | | | | SLJ | | NONE | 08/04/16 |
| LIGHT POLE | | | | SAVED AS: | | | |
| WITH OPAR-12X6-BZ | | | | PC. NO. | | | |
| | | | | BA47-12S5CK49 | | | |
| LET | WAS | BY | DATE | | | | |

BD18-99S5EE1301

LIGHT POLE STYLE
& ASSY. Shakespeare C & E

| | | | | |
|-----|-----|-----|------|---------|
| DWN | CDC | CHD | DATE | 6/11/01 |
| REV | | WAS | BY | DATE |

- NOTES:
- 1-RUN TUBE PER PROCESS SPECH B3-24-066-216 (APPROPRIATE COLOR)
 - 2-SAND POLE SMOOTH.
 - 3-CUT 2 1/2" X 6" SLOT THRU BOTH SIDES
 - 4-CUT 3" X 9" SLOT THRU ONE SIDE ONLY & INSTALL COVER ASSY
 - 5-BOND IN TENDON WITH R-9
 - 6-DRILL TWO 1/4" DIA. HOLES (90° TO 120° APART) & INSTALL GROOVE PINS
 - 7-DRILL 1/8" DIA. HOLES & INSTALL DATE TAG APPROX. 6" FROM TIP PER SOP QS.001.400.012
 - 8-COAT ENTIRE POLE WITH R-460 (DK BRONZE)
 - 9-SLEEVE POLE WITH 85-09-0109-00 POLY SLEEVEING



NOTE:
SPECIAL 3" O.D. X 12' LONG TENDON

| ITEM | PART NUMBER | DESCRIPTION | REQ'D |
|------|---------------|-------------|-------|
| 5 | 80-09-0055-40 | RIVET | 2 |
| 4 | 37-90-0011-09 | DATE TAG | 1 |
| 3 | 80-03-0004-34 | GROOVE PIN | 2 |
| 2 | 37-55-0352-00 | TENDON | 1 |
| 1 | 37-27-0072-00 | COVER ASSY | 1 |

TYPE CODE FOR PEDESTRIAN LIGHTING UNIT
(SEE LIGHTING UNIT SCHEDULE)

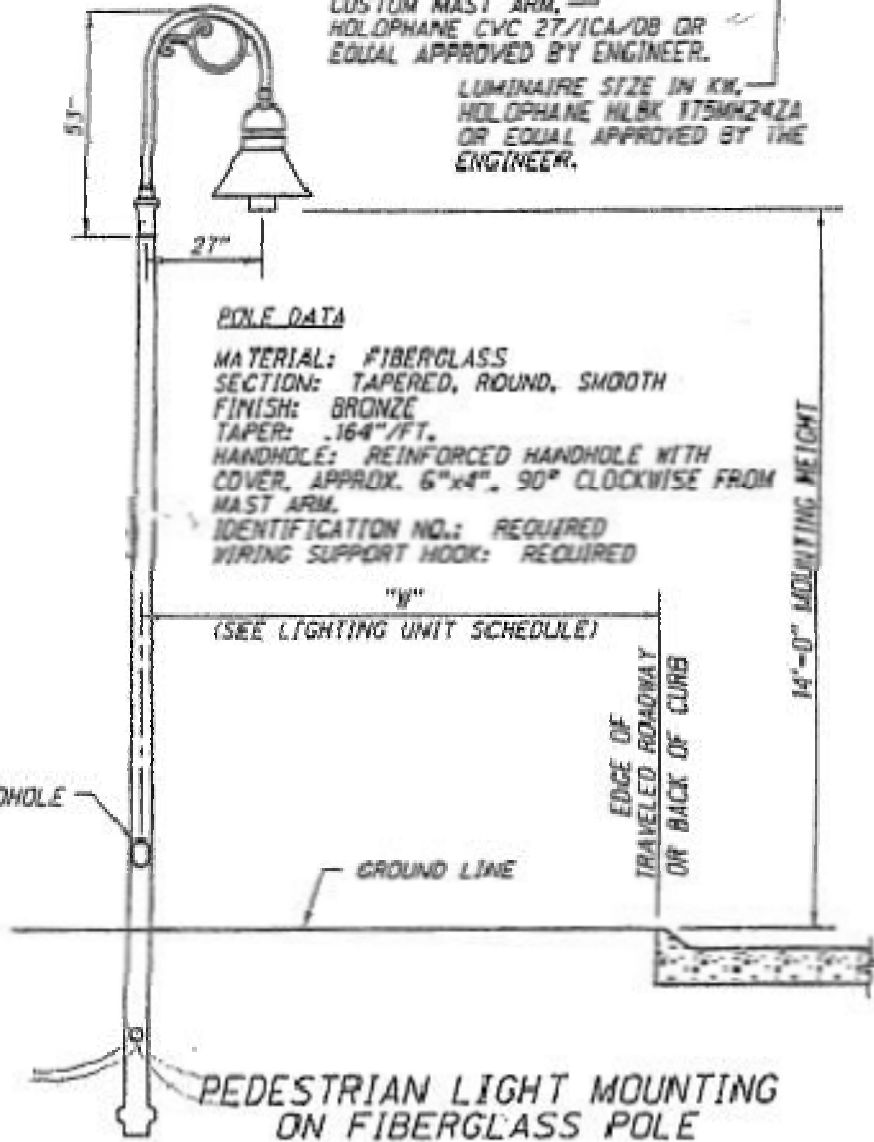
PEDESTRIAN LIGHTING UNIT MOUNTING HEIGHT (ft)

EXAMPLE: PL-0-14-C-0.175

- D-DIRECT BURIED
- A-ANCHOR BASE
- BC-BREAKAWAY COUPLING BASE
(MEETING 1985 AASHTO CRITERIA)
- BT-BREAKAWAY TRANSFORMER BASE
(MEETING 1985 AASHTO CRITERIA)
- S-MOUNTED ON STRUCTURE

CUSTOM MAST ARM,
HOLOPHANE CVC 27/1CA/DB OR
EQUAL APPROVED BY ENGINEER.

LUMINAIRE SIZE IN KW,
HOLOPHANE HLBK 175MH24ZA
OR EQUAL APPROVED BY THE
ENGINEER.

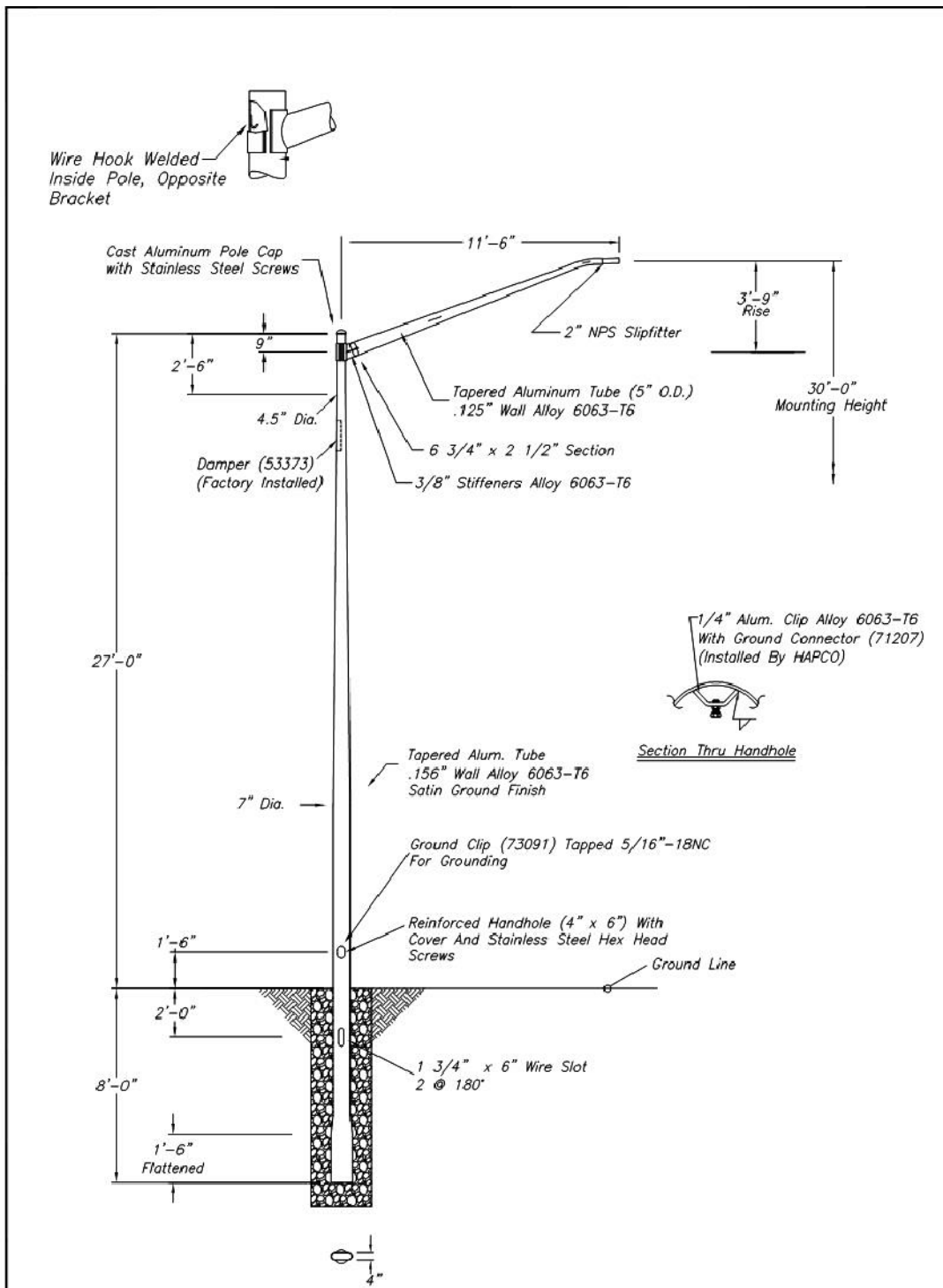


POLE DATA

MATERIAL: FIBERGLASS
SECTION: TAPERED, ROUND, SMOOTH
FINISH: BRONZE
TAPER: .164"/FT.
HANDHOLE: REINFORCED HANDHOLE WITH
COVER, APPROX. 6"x4", 90° CLOCKWISE FROM
MAST ARM.
IDENTIFICATION NO.: REQUIRED
WIRING SUPPORT HOOK: REQUIRED

"Y"

(SEE LIGHTING UNIT SCHEDULE)



Ref: 36549 (OPP-4465), OPP-5670

WARNING: DO NOT INSTALL LIGHTING POLES WITHOUT LUMINAIRES

| NO. | REVISIONS | DATE |
|-----|--|--------|
| 1 | Revised Grounding Provision, Added Wire Hook (JBC) | 4/7/20 |
| | | |
| | | |
| | | |
| | | |

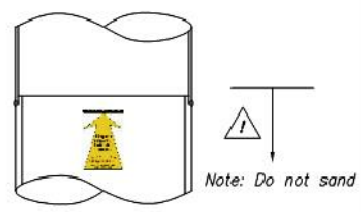
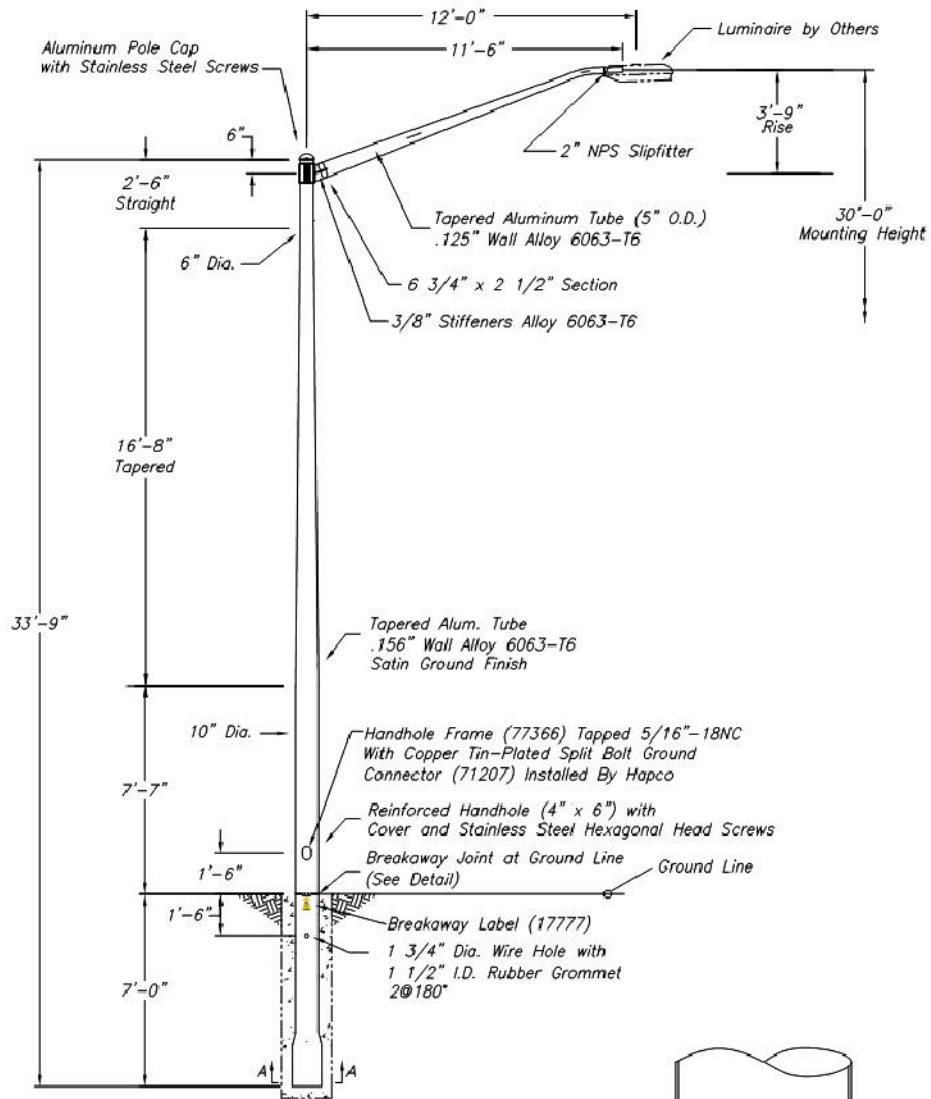
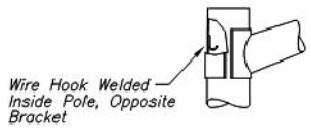
| | | | |
|---------------|-------------------|---------------------|--|
| hapco | | TITLE EMBEDDED POLE | |
| Abingdon, Va. | | CUSTOMER | |
| SCALE NTS | DATE 9/26/2016 | DWG. NO. | |
| BY TAD | CHK'D SKTD092616A | | |



DATE: 4/12/1996
 DRAWN BY: P.S.L.
 CHECKED BY: T.W.B.

STREET LIGHT
 ALUMINUM POLE
 30' MH NON-BREAK

PLAN
 ES - 7
 1 OF 4



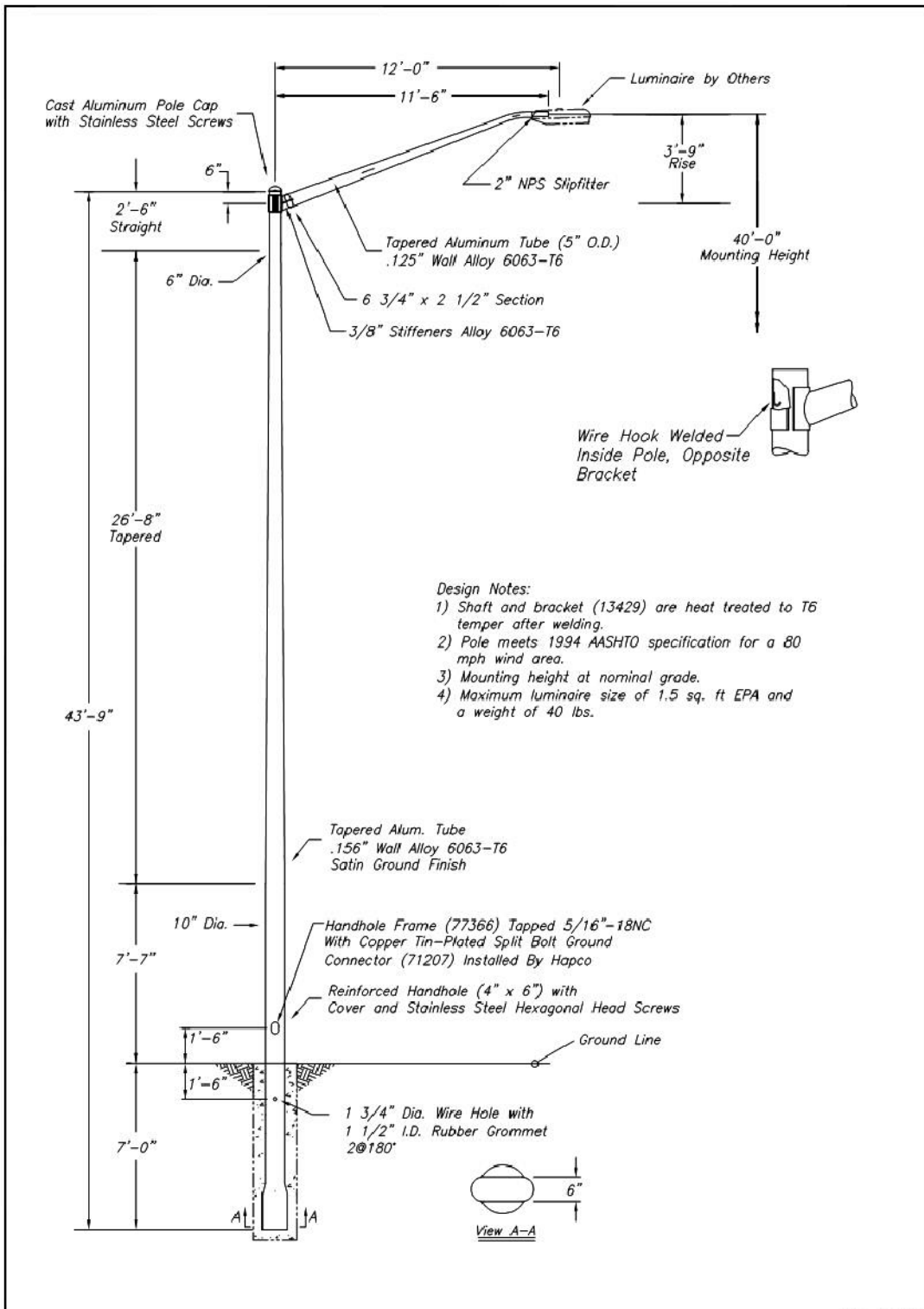
Breakaway Joint (HAPCO No. 12592)

Ref. 13408

WARNING: DO NOT INSTALL LIGHTING POLES WITHOUT LUMINAIRES

| NO. | REVISIONS | DATE |
|-----|---|--------|
| 1 | Added J-Hook Per Customer Request (JBC) | 9/5/19 |
| | | |
| | | |
| | | |
| | | |

| | | | |
|---------------|------------------|-------------------------------|--|
| hapco | | TITLE BREAKAWAY EMBEDDED POLE | |
| Abingdon, Va. | | CUSTOMER | |
| SCALE | DATE 8.22.19 | BY RDG | |
| CHK'D | EDWG. NO. 102935 | | |



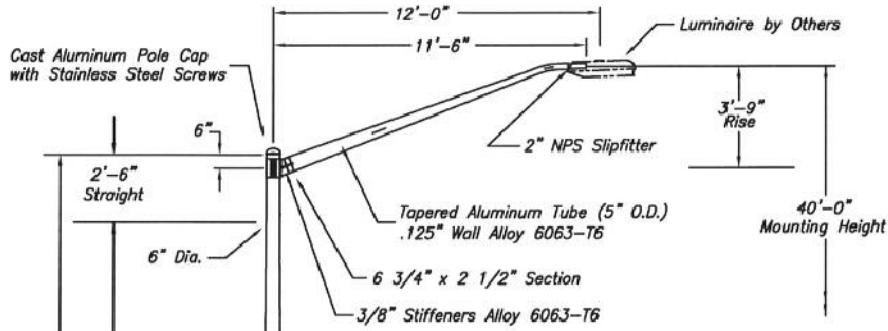
- Design Notes:
- 1) Shaft and bracket (13429) are heat treated to T6 temper after welding.
 - 2) Pole meets 1994 AASHTO specification for a 80 mph wind area.
 - 3) Mounting height at nominal grade.
 - 4) Maximum luminaire size of 1.5 sq. ft EPA and a weight of 40 lbs.

Ref: 13408

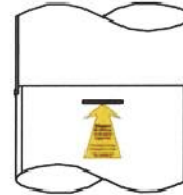
WARNING: DO NOT INSTALL LIGHTING POLES WITHOUT LUMINAIRES

| NO. | REVISIONS | DATE |
|-----|-----------|------|
| | | |
| | | |
| | | |
| | | |
| | | |

| | | | |
|----------|-----------------------|----------------------------|--|
| | | TITLE 40' MH EMBEDDED POLE | |
| | | CUSTOMER | |
| SCALE 42 | DATE 10/9/2020 | BY JBC | |
| CHK'D | DWG. NO. SKJCOPP59256 | Abingdon, Va. | |

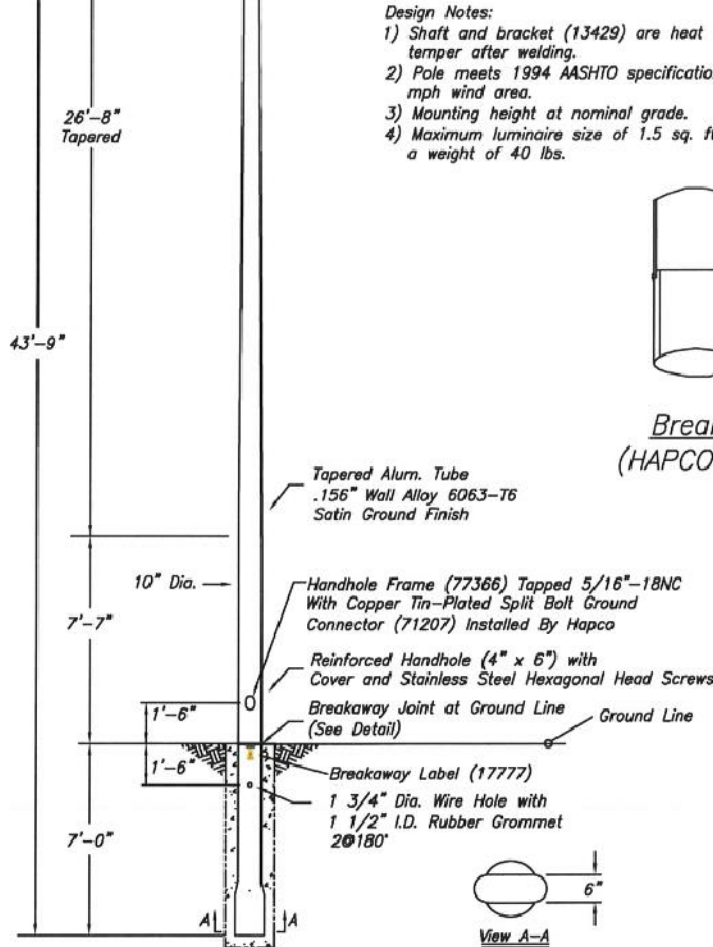


- Design Notes:**
- 1) Shaft and bracket (13429) are heat treated to T6 temper after welding.
 - 2) Pole meets 1994 AASHTO specification for a 80 mph wind area.
 - 3) Mounting height at nominal grade.
 - 4) Maximum luminaire size of 1.5 sq. ft EPA and a weight of 40 lbs.



Note: Do not sand

Breakway Joint
(HAPCO No. 12592)



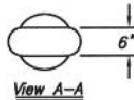
Tapered Alum. Tube
.156" Wall Alloy 6063-T6
Satin Ground Finish

Handhole Frame (77366) Tapped 5/16"-18NC
With Copper Tin-Plated Split Bolt Ground
Connector (71207) Installed By Hapco

Reinforced Handhole (4" x 6") with
Cover and Stainless Steel Hexagonal Head Screws

Breakaway Joint at Ground Line
(See Detail)

Breakaway Label (17777)
1 3/4" Dia. Wire Hole with
1 1/2" I.D. Rubber Grommet
20°180"



Ref: B9962

WARNING: DO NOT INSTALL LIGHTING POLES WITHOUT LUMINAIRES

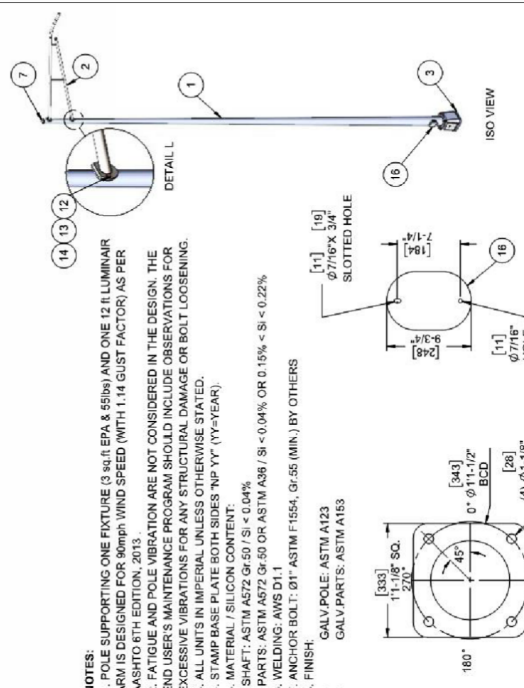
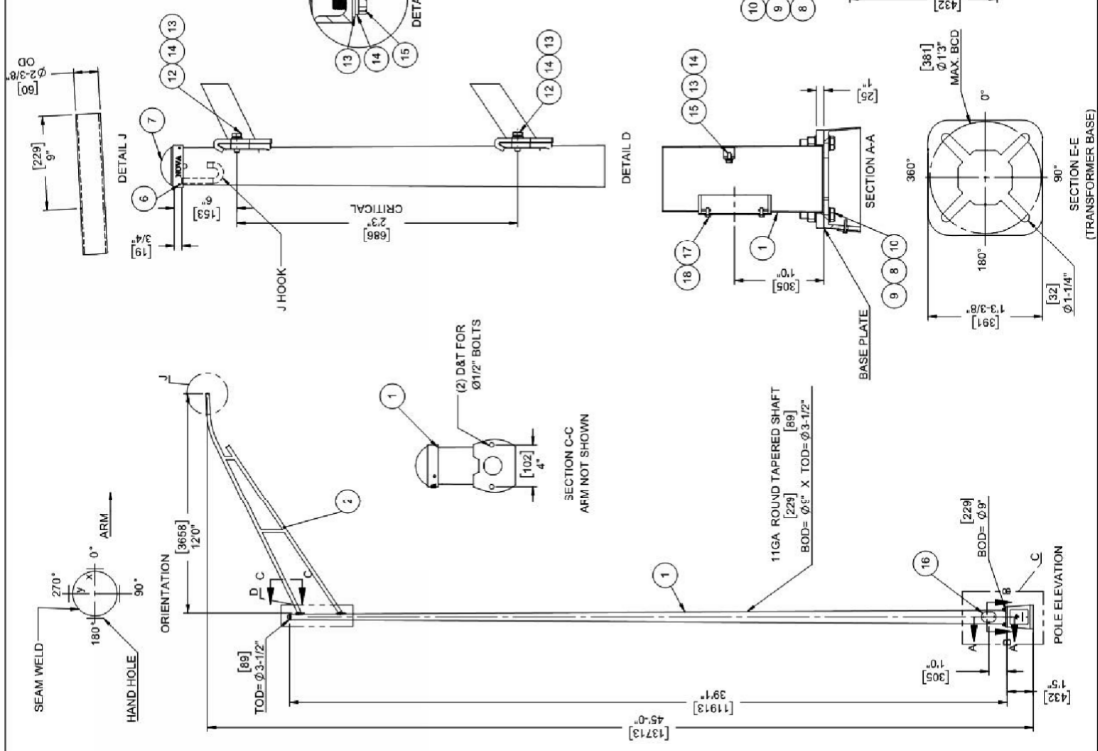
| NO. | REVISIONS | DATE |
|-----|-------------------------------------|-------|
| 1 | HH Frame Was Tapped 3/8"-16NC (TNB) | 11/08 |
| 2 | Breakaway Label Added (LW) | 10/09 |
| 3 | HH Frame Was Tapped 1/2"-13NC (TNB) | 1/12 |
| 4 | Ground Connector Installed (TNB) | 1/12 |

hapco

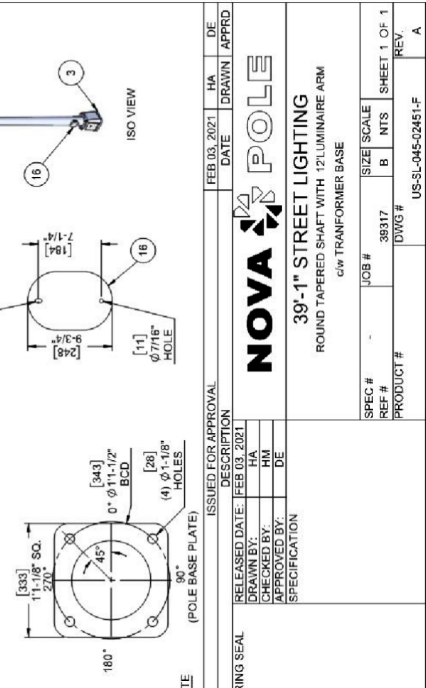
Abingdon, Va.

| | |
|-------------------------------|----------------|
| TITLE BREAKAWAY EMBEDDED POLE | |
| CUSTOMER | |
| SCALE 42 | DATE 1/25/2008 |
| BY RFM | DWG. NO. |
| CHK'D | B13408 |

| ITEM NO. | QTY | DESCRIPTION | MATERIAL | UNIT WEIGHT | TOTAL WEIGHT |
|----------|-----|--|---------------------------|------------------|--------------|
| 1 | 1 | 45' STREET LIGHTING, ROUND TAPERED SHAFT, FOR 12" ARM, SUBASSEMBLY | SEE DWG US-SL-045-02451-S | 348.1 | 348.1 |
| 2 | 1 | ARM, OD=2.38", LT=12', CW SIMPLEX | SEE DWG US-AR-012-02452 | 97.1 | 97.1 |
| 3 | 1 | TRANSFORMER BASE (181-17) | | 447.1 | 447.1 |
| 6 | 2 | SET SCREW, CUP HEAD POINTED, 1/4" x 0.500", SS | 18-8 / TYPE18 SS | 0.0 | 0.0 |
| 7 | 1 | DOME POLE CAP, FOR 3.1/2" TENON SIZE, CAST ALUMINUM | CAST ALUMINUM 358-CF | 0.2 | 0.2 |
| 8 | 1 | WASHER, FLAT, STRUCTURAL, 1", GALV | ASTM F436 | 0.1 | 0.1 |
| 9 | 1 | WASHER, FLAT, STRUCTURAL, 1", GALV | ASTM F436 | 0.1 | 0.1 |
| 10 | 4 | HEAVY HEX, 1/2" x 1.00", GALV | ASTM A308 TYPE 1H | 0.5 | 2.0 |
| 11 | 4 | NUT COVER, FOR 1" REGULAR HEX NUT, COLOUR GREY | PLASTIC | 0.1 | 0.4 |
| 12 | 4 | BOLT HEX, 1/2" x 1.50", GALV | ASTM A325 TYPE1 | 0.1 | 0.4 |
| 13 | 5 | WASHER, FLAT, STRUCTURAL, 1/2", GALV | ASTM F436 | 0.0 | 0.0 |
| 14 | 5 | WASHER, SPRING LOCK, 1/2", GALV | ASTM A36 | 0.0 | 0.0 |
| 15 | 1 | COPPER HEX HEAD BOLT, 1/2" x 1.00", COPPER, FULL THREAD | COPPER | 0.0 | 0.0 |
| 16 | 1 | HAND HOLE COVER, OVAL, TWO HOLES, B93, THK=0.12" | ASTM A36 | 0.9 | 0.9 |
| 17 | 2 | WASHER, FLAT, 3/8", STAINLESS STEEL, FULL THREAD | ASTM A166 SS | 0.0 | 0.0 |
| 18 | 2 | WASHER, FLAT, 3/8", STAINLESS STEEL | 18-8 / TYPE18 SS | 0.0 | 0.0 |
| | | | | KIT WEIGHT (lb)= | 7.1 |



NOTES:
 1. POLE SUPPORTING ONE FIXTURE (3 sq.ft. EPA & \$50sq) AND ONE 12 IN LUMINAIR ARM IS DESIGNED FOR 30mph WIND SPEED (WITH 1.14 GUST FACTOR) AS PER AWS10 6TH EDITION, 2013.
 2. FATIGUE AND POLE VIBRATION ARE NOT CONSIDERED IN THE DESIGN. THE END USER'S MAINTENANCE PROGRAM SHOULD INCLUDE OBSERVATIONS FOR EXCESSIVE VIBRATIONS FOR ANY STRUCTURAL DAMAGE OR BOLT LOOSENING.
 3. ALL UNITS IN IMPERIAL UNLESS OTHERWISE STATED.
 4. STAMP BASE PLATE BOTH SIDES "NP 17" (17=YEAR).
 5. FINISH: 18-8 TYPED SS (SUS 304).
 6. PARTS: ASTM A572 G-50 OR ASTM A36 / SI < 0.04% OR 0.15% < SI < 0.22%
 7. ANCHOR BOLT: 01" ASTM F1554, G-55 (MIN.) BY OTHERS
 8. FINISH: GALV PARTS: ASTM A123 GALV PARTS: ASTM A153

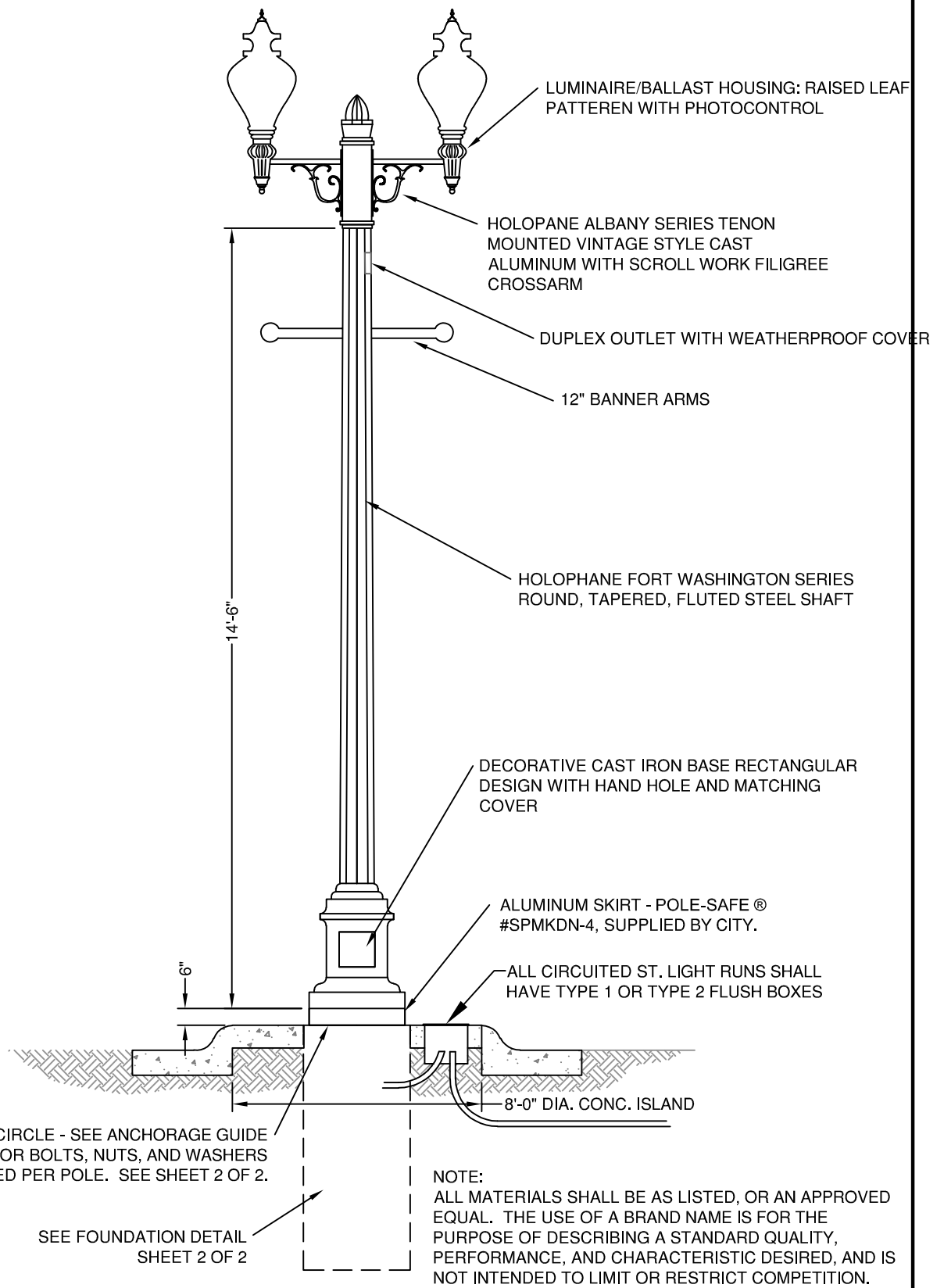


| REV | DESCRIPTION | DATE | HA | DE |
|-----|-----------------------------|--------------|----|----|
| A | ISSUED FOR APPROVAL | FEB 03, 2021 | | |
| B | ENGINEERING SEAL | | | |
| C | RELEASED DATE: FEB 14, 2021 | | | |
| D | DRAWN BY: HM | | | |
| E | CHECKED BY: HM | | | |
| F | APPROVED BY: DE | | | |

NOVA **POLE**
 39'-1" STREET LIGHTING
 ROUND TAPERED SHAFT WITH 12" LUMINAIRE ARM
 CW TRANSFORMER BASE

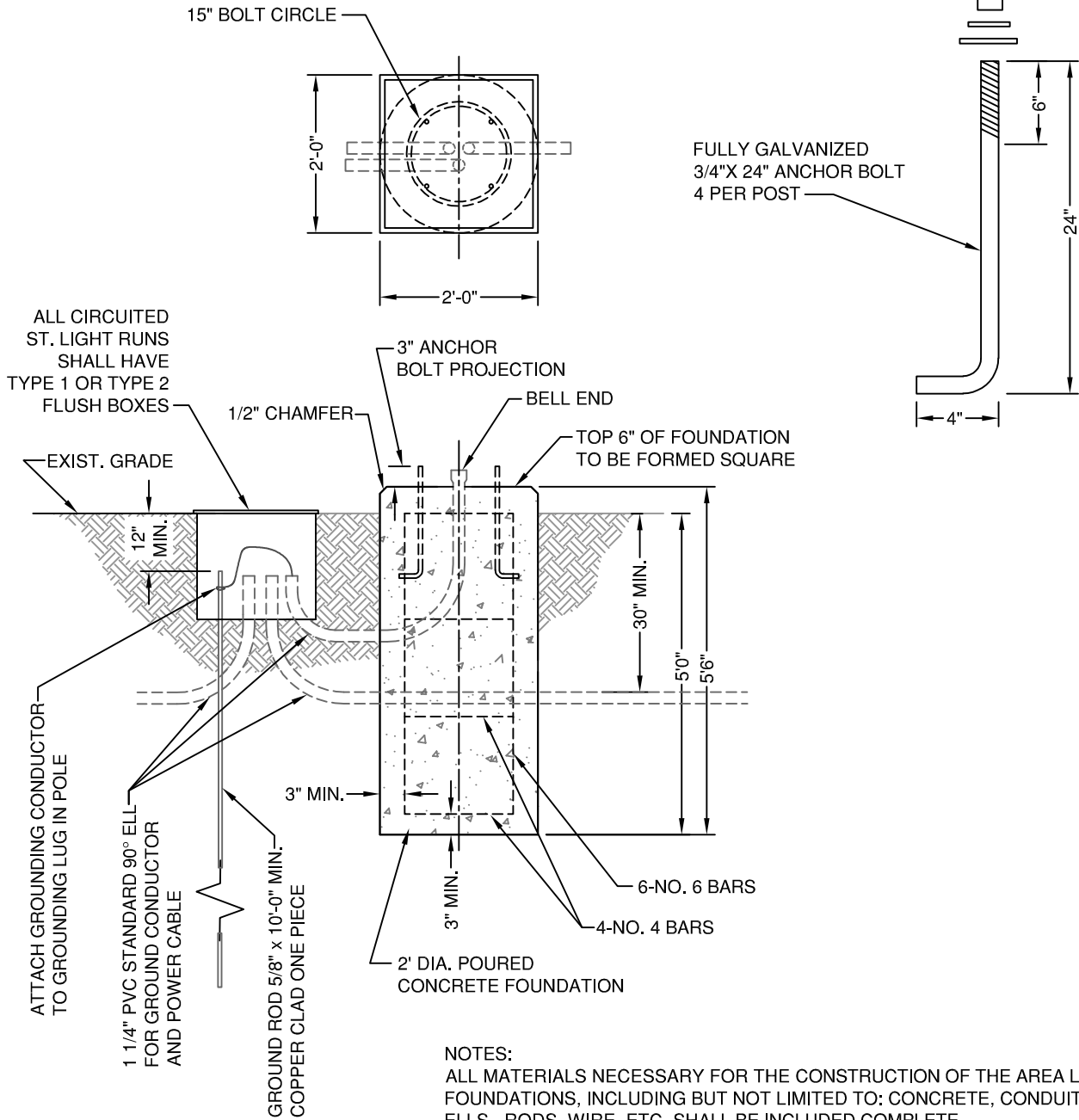
SPEC # 38017
 JOB # 10105 #
 PRODUCT #

SIZE SCALE B NTS
 SHEET 1 OF 1
 REV. A

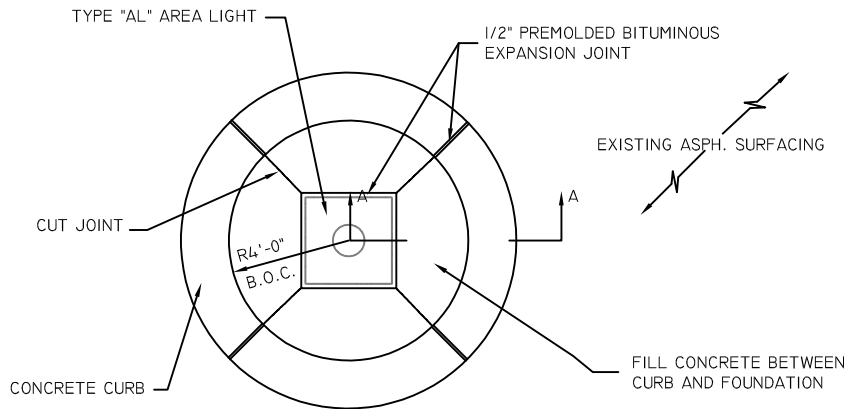


CONCRETE: CLASS 47B-3000
 REINFORCING STEEL: GRADE 60
 ANCHOR BOLTS: 3/4" DIA (AASHTO M314, GR 55)
 HEAVY HEX GALVANIZED NUTS: (AASHTO M291, GR A)
 FLAT WASHERS GALVANIZED: (AASHTO M293)

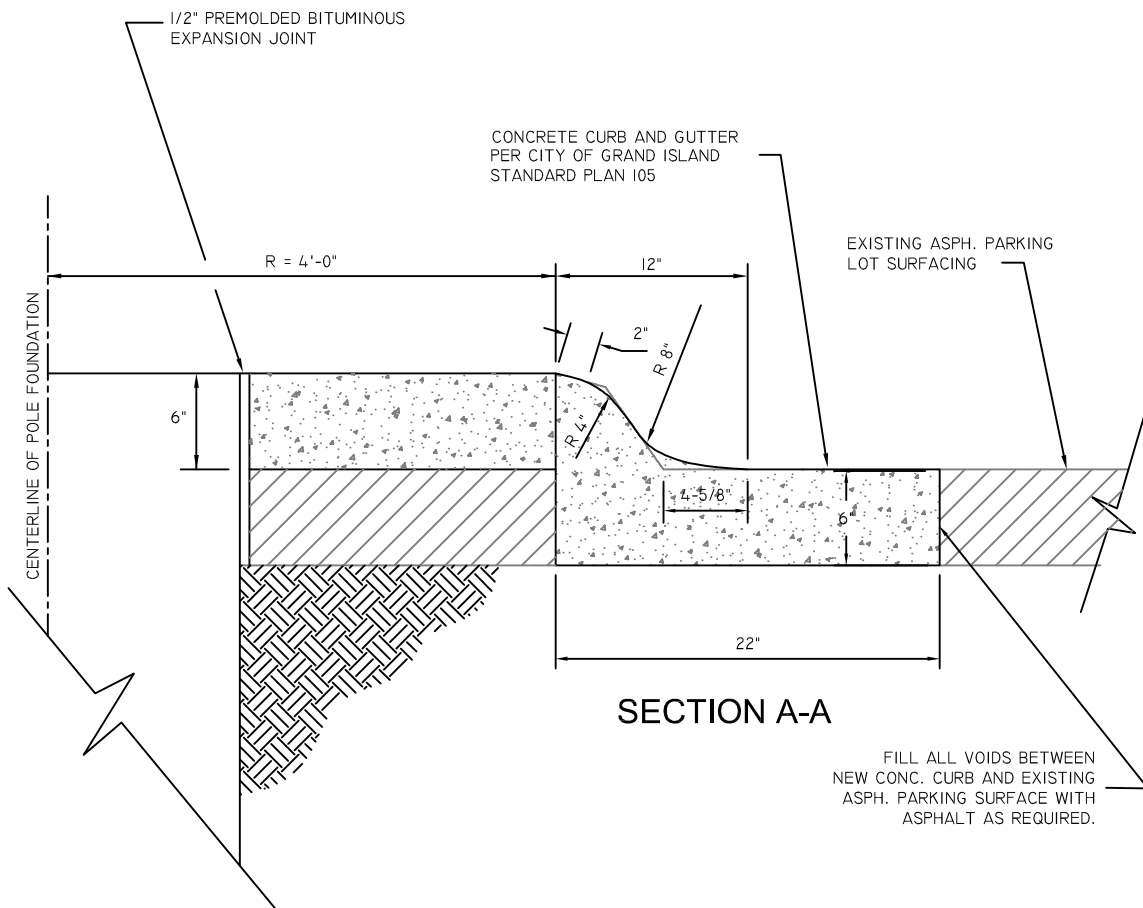
BREAKAWAY SUPPORT SYSTEM FOR
 LIGHT POLES POLESAFE® #4075
 DOUBLE-NECK COUPLING 4 PER POLE.



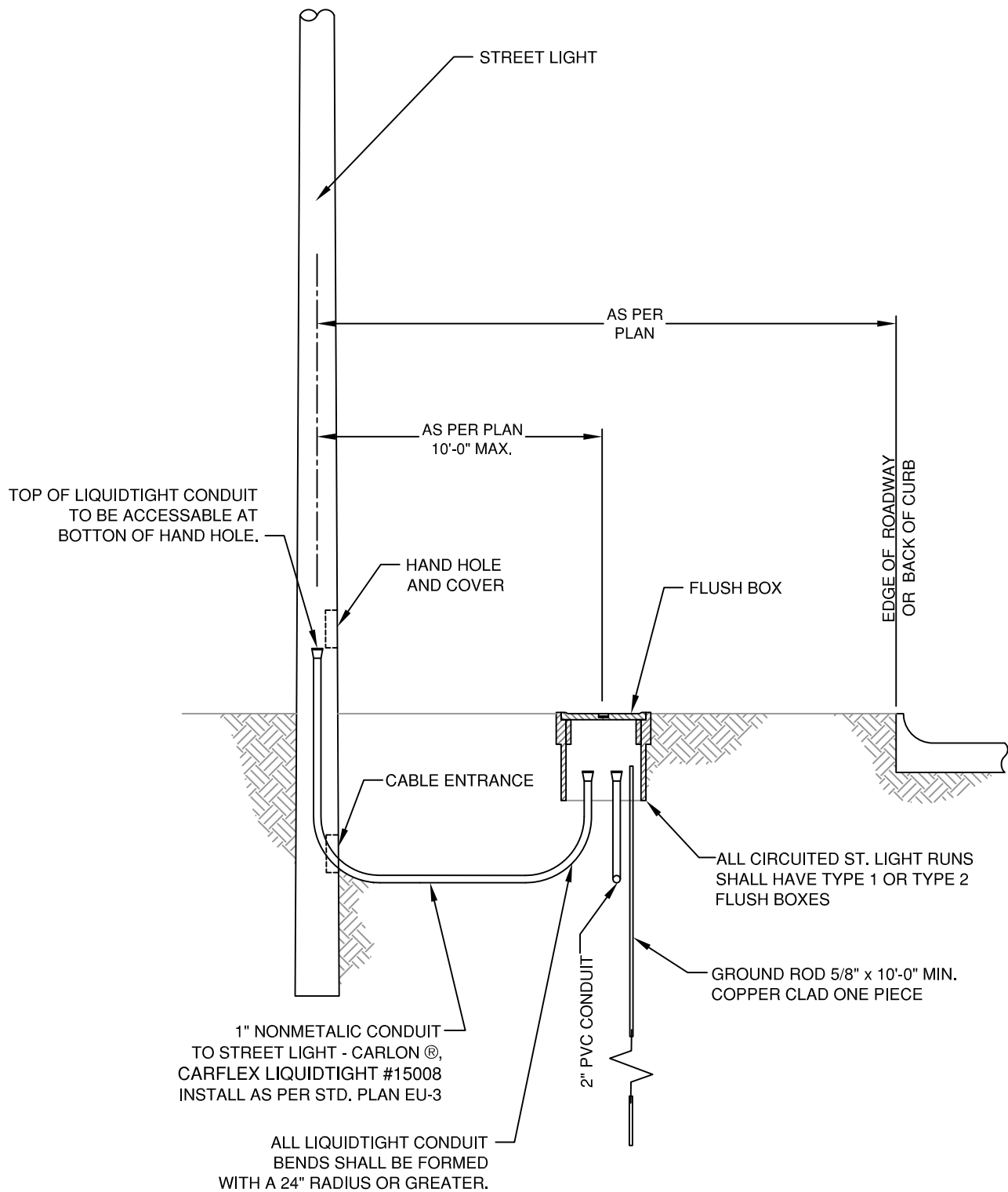
8' DIA CONCRETE CURB ISLANDS TO BE INSTALLED:



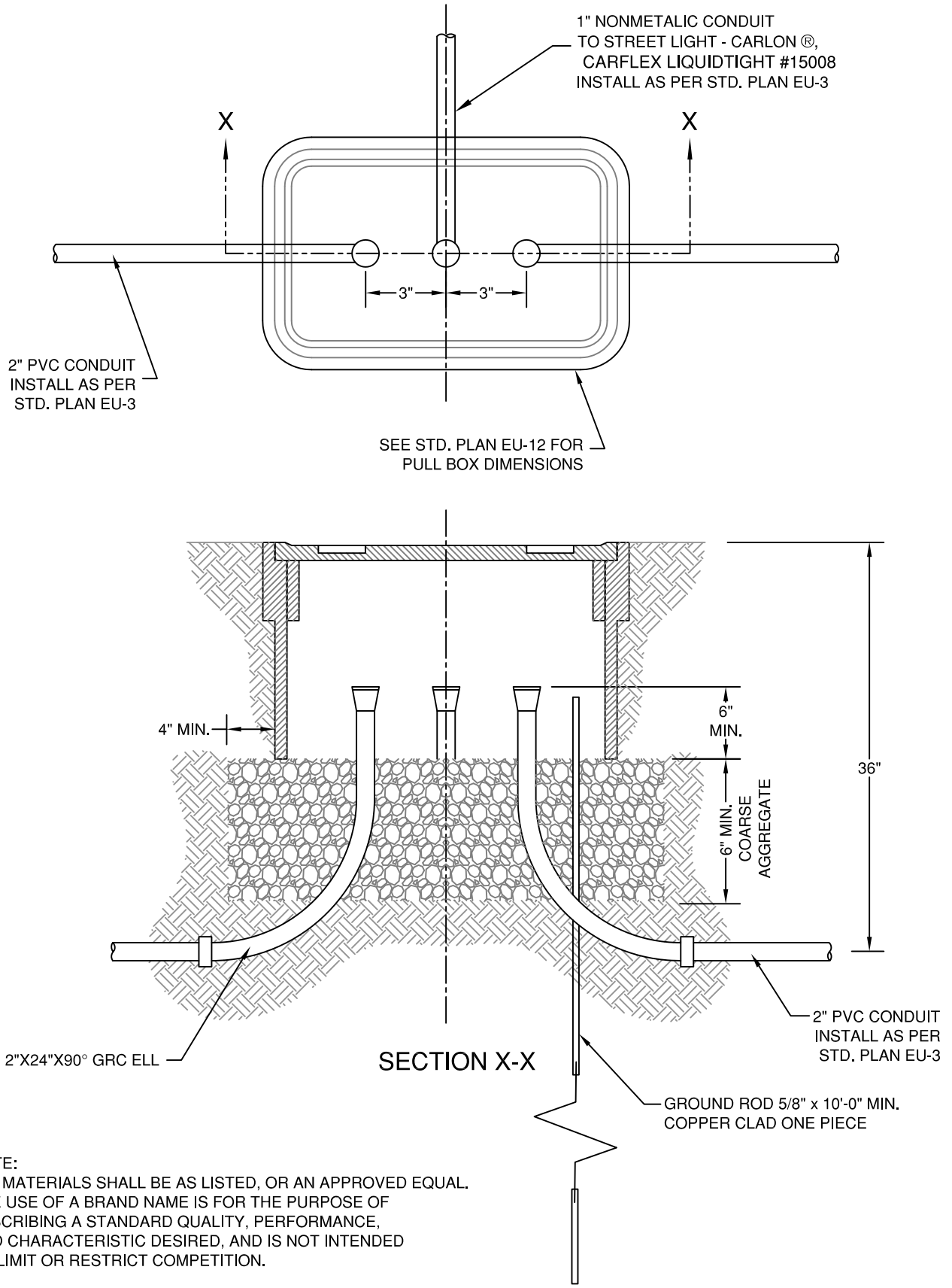
PLAN VIEW



SECTION A-A

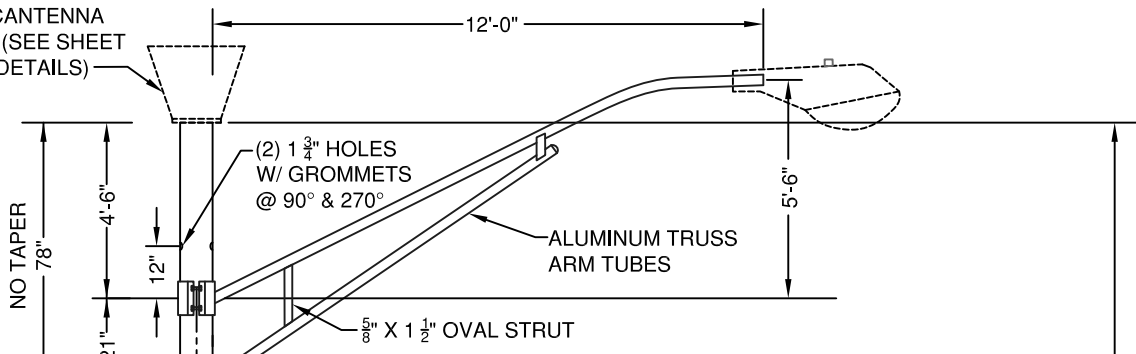


NOTE:
 ALL MATERIALS SHALL BE AS LISTED, OR AN APPROVED EQUAL. THE USE OF A BRAND NAME IS FOR THE PURPOSE OF DESCRIBING A STANDARD QUALITY, PERFORMANCE, AND CHARACTERISTIC DESIRED, AND IS NOT INTENDED TO LIMIT OR RESTRICT COMPETITION.



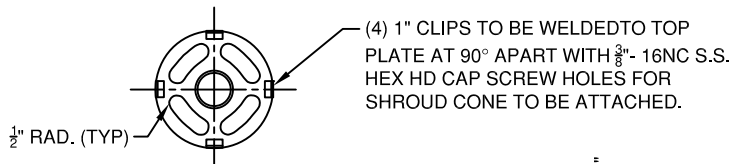
NOTE:
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CELLULAR ANTENNA
BY OTHERS (SEE SHEET
2 OF 2 FOR DETAILS)

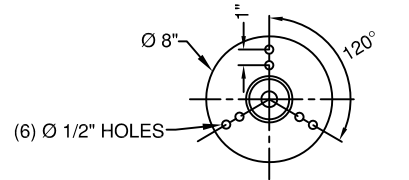


POLE DATA

| | |
|---------------|--|
| MATERIAL: | ALUMINUM TUBE |
| SECTION: | ROUND - TAPERED |
| FINISH: | SATIN POLISH |
| HANDHOLE: | HANDHOLE WITH COVER, SAME SIDE AS MAST ARM |
| MANUFACTURER: | UNION METAL OR APPROVED EQUAL |
| MODEL: | 165-B32-R2 OR APPROVED EQUAL |
| | WIRE SUPPORT HOOK REQUIRED |

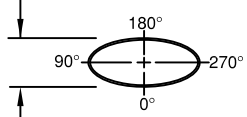


TOP PLATE DETAIL
Ø 7 1/2" O.D. X 1/2" THICK PLATE



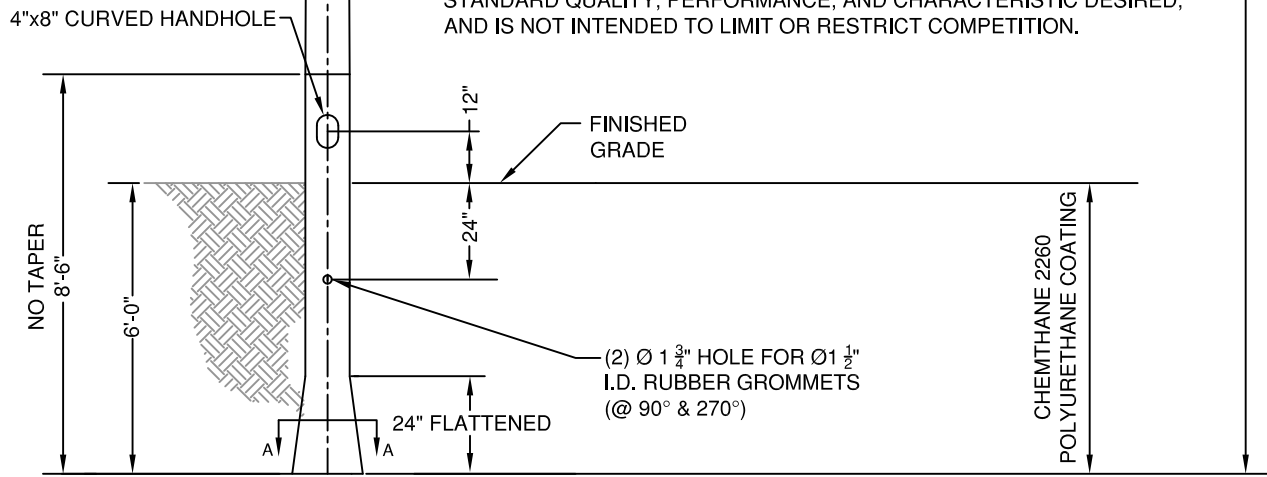
CANTENNA HUB DETAIL
Ø8" O.D. X 1/2" THICK PLATE

FLATTEN TUBE TO 3"-4" MAX @ BOTTOM TO PREVENT ROTATION OF POLE

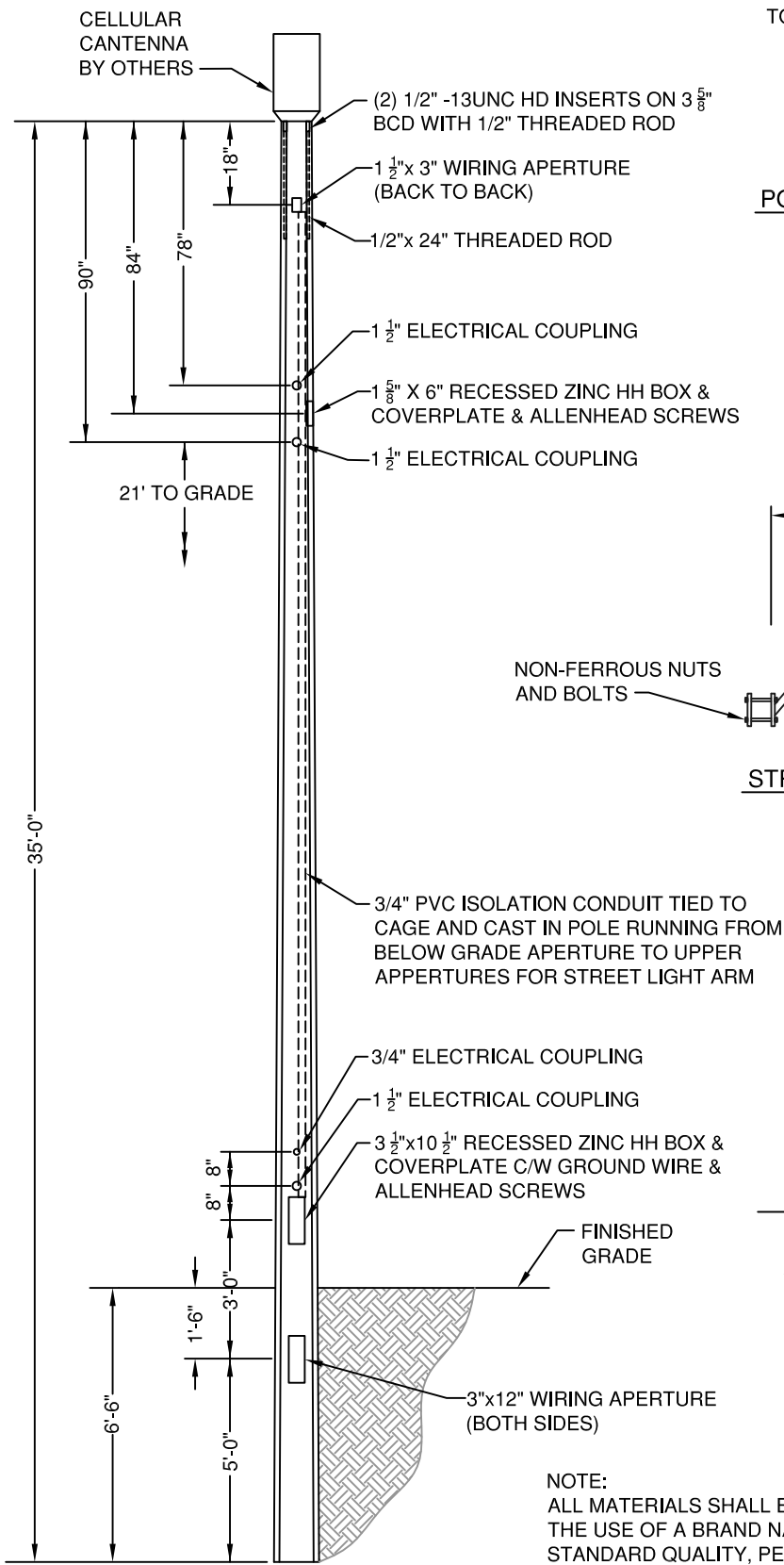


SECTION A-A

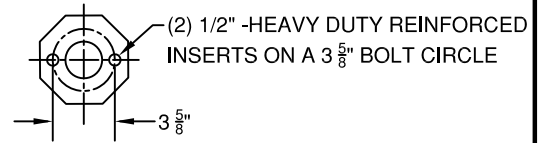
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REVISED: 1/24/17

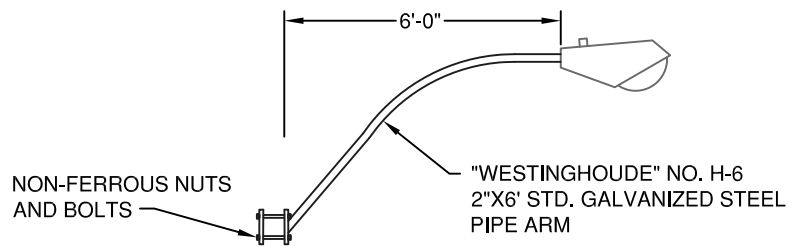


TOP SIZE: 6" FL/FL



POLE TOP DETAIL

PHOTO CONTROL FISHER PIERCE #7790B-MSS OR APPROVED EQUAL



STREET LIGHT ARM (TYPICAL)

POLE DATA

| | |
|-----------|-------------------------|
| MATERIAL: | PRESTRESSED CONCRETE |
| SECTION: | OCTAGONAL |
| FINISH: | S35 ASH WHITE- POLISHED |
| MAX EPS: | 23 SQ. FT. @ 90 MPH |

NOTE:
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REVISED: