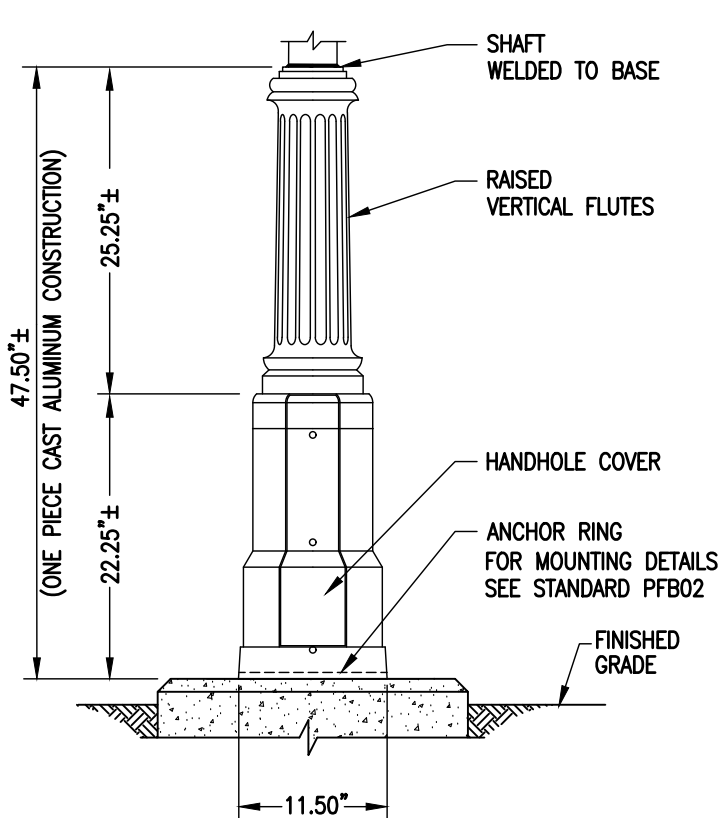
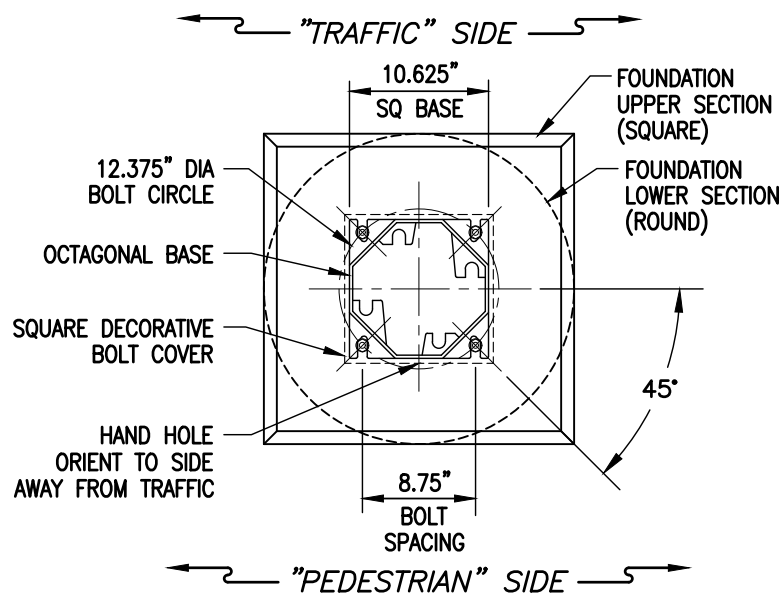
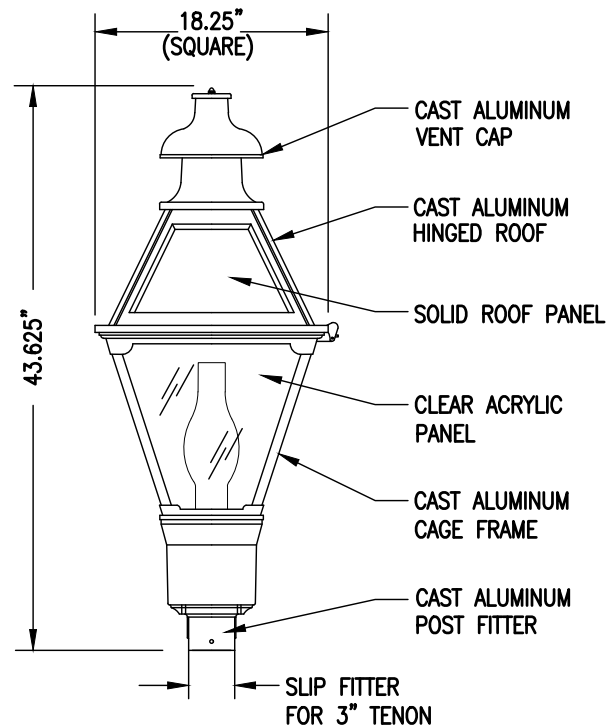




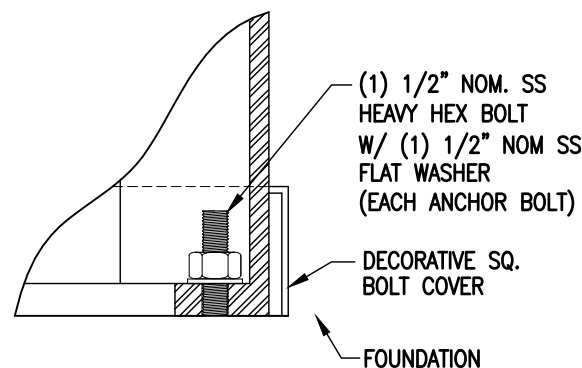
POST LIGHT BASE DETAILS
(PHILIPS HANOVER LANTERN POST STYLE #316)



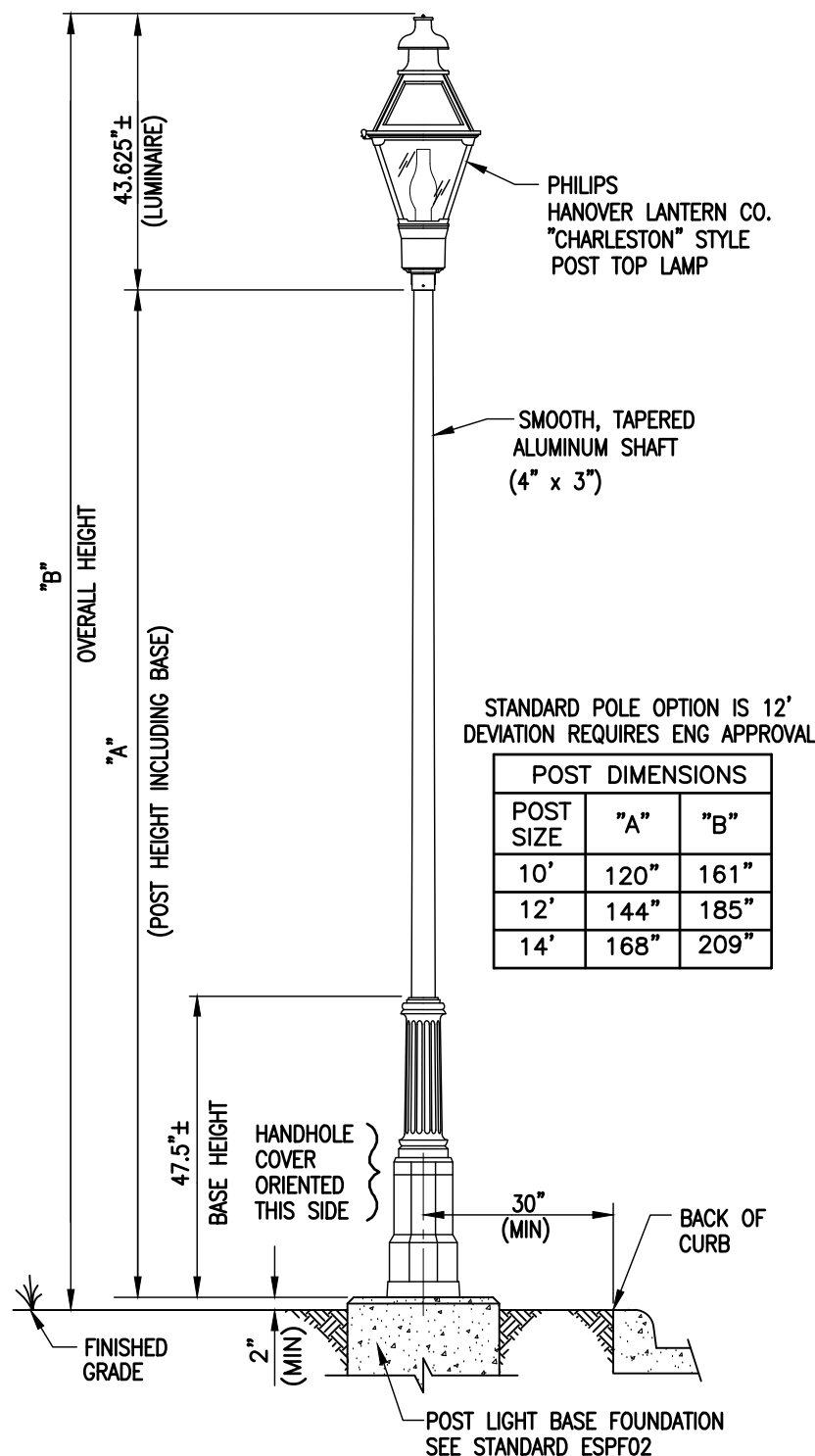
POST LIGHT BASE MOUNTING DETAIL



LUMINAIRE DETAILS
(PHILIPS HANOVER LANTERN "CHARLESTON" LAMP)



BASE BOLTING DETAILS



POST LIGHT ASSEMBLY DETAILS

SPECIFICATIONS:

- LUMINAIRE:** SEALED OPTICAL ASSEMBLY, GLASS OPTICS, TOOL-LESS MAINTENANCE, SWING OPEN HINGED UTILITY POD ROOF WITH MOISTURE PROOF BALLAST COMPARTMENT AND SLIDE -OUT BALLAST TRAY. CLEAR ACRYLIC PANELS AND GLOBE, PHILIPS HANOVER LANTERN "CHARLESTON" SERIES (1237) OR EQUAL.
- OPTICS:** GLASS REFRACTOR, 6" TYPE III (ASYMETRIC) LIGHT DISTRIBUTION.
- LAMP HOLDERS:**
HPS: MEDIUM BASE PORCELAIN.
LED: POLARIZED PLUG/RECEPTACLE COMBINATION.
- LAMPS:**
HPS: 100W OR 150W
LED: 3000 CCT (ENGINEERING TO PROVIDE SPEC)
- BALLAST/DRIVER:**
HPS: ELECTRONIC BALLAST, PEAK LEAD, AUTOTRANSFORMER TYPE, MULTI-TAP VOLTAGE WIRED FOR 240V.
LED: STD 0-10V DIMMING CAPABILITY, HIGH POWER FACTOR OF 95%. ELECTRONIC DRIVER OPERATING RANGE 50/60 Hz. AUTO-ADJUSTING VOLTAGE INPUT 120-277 VAC.
- SHAFT:** SMOOTH, TAPERED 4"-3" DIA., .125 WALL (MIN) ALLOY ALUMINUM. SHAFT HEAT TREATED TO PRODUCE A T6 TEMPER. SHAFT IS CIRCUMFERENTIALLY WELDED TO BASE. WIRE CLAMPS PROVIDED INSIDE PRE-WIRED POLE ASSEMBLY.
- BASE:** ONE PIECE CORROSION RESISTANT, DURABLE CAST ALUMINUM CONSTRUCTION. MINIMUM .125 WALL THICKNESS. BASE CONSISTS OF SMOOTH, STEPPED BOTTOM SECTION WITH FLUSH HAND HOLE, AND A DECORATIVE TAPERED FLUTED SECTION CONSISTING OF EVENLY SPACED, HIGHLY DETAILED RAISED VERTICAL FLUTES. GROUNDING LUG TO BE PROVIDED INSIDE BASE OPPOSITE THE HAND-HOLE. CAST ALUMINUM ACCESS DOOR PROVIDED WITH AN 18" PLASTIC SHEATHED KEEPER CHAIN AND TAMPER RESISTANT HARDWARE. (PHILIPS HANOVER LANTERN POST STYLE 316, OR EQUAL).
- WIRING:** 2'-0" (24") MIN. BEYOND BASE, 14/2, WITH GROUND, (TYPE UF-B) WIRE LEADS TO BE PROVIDED, POLE AND LUMINAIRE TO BE WIRED.
- ANCHORING:** FOUR (4) 1/2"(NOM) X 18" LG X 3" "L" TYPE (MIN) HOT-DIPPED, FULLY GALVANIZED, ANCHOR BOLTS, EACH SUPPLIED WITH (1) NUT AND (1) WASHER.
- FINISH:** RESILIENT TGIC THERMOSET POLYESTER POWDERCOAT, ELECTROSTATICALLY APPLIED. PHILIPS BLACK (BLK), OR EQUAL.

MATERIAL LIST

QTY	DESCRIPTION
1	LUMINAIRE, CHARLESTON STYLE, HPS OR LED, PHILIPS
1	POLE, TAPERED, 10 FT, ALUM., STYLE 316, PAINTED (NON-STANDARD)
1	POLE, TAPERED, 12 FT, ALUM., STYLE 316, PAINTED (STANDARD)
1	POLE, TAPERED, 14 FT, ALUM., STYLE 316, PAINTED (NON-STANDARD)
1	BASE, 11.5" SQ. PED, OCT. BASE, STYLE 316
4	NUT, 1/2" NOM., HEX, HEAVY, HRS, GALV.
4	FLATWASHER, 1/2" NOM, SS
A/N	WIRE, 14/2 TYPE UF-B, COPPER, WITH NEUTRAL

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ENGINEERING: SIGNED COPY ON FILE

REFERENCES:
ESMA01; ESMA04; ESPF02



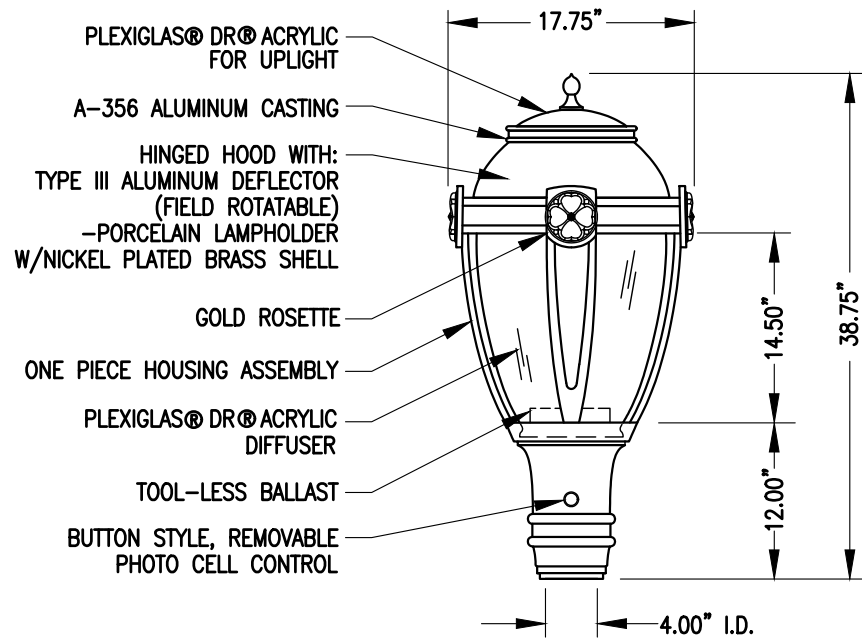
STANDARD FIXTURE ASSEMBLY DETAILS
THE HANOVER STYLE LIGHTING FIXTURE
HIGH PRESSURE SODIUM & LED TYPE LUMINAIRES



CITY OF RICHMOND PUBLIC UTILITIES
STREET LIGHT STANDARDS

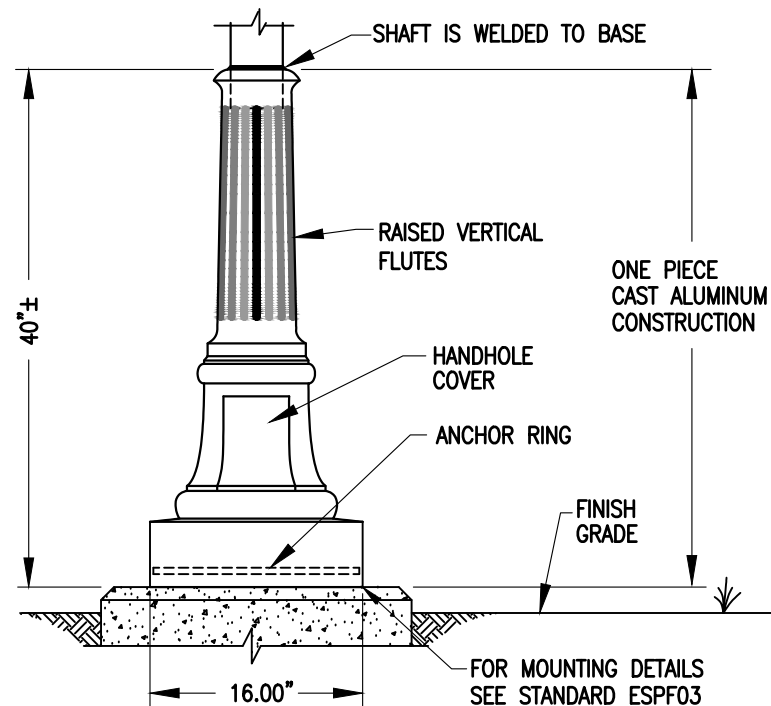
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ESFA02



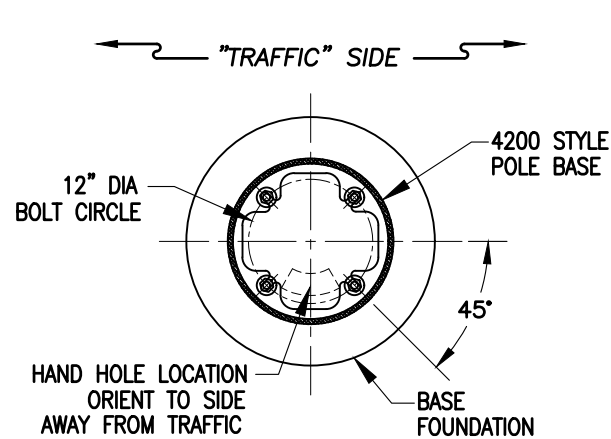
LUMINAIRE DETAILS

(SUN VALLEY LIGHTING LUMINAIRE STYLE "LCGS")

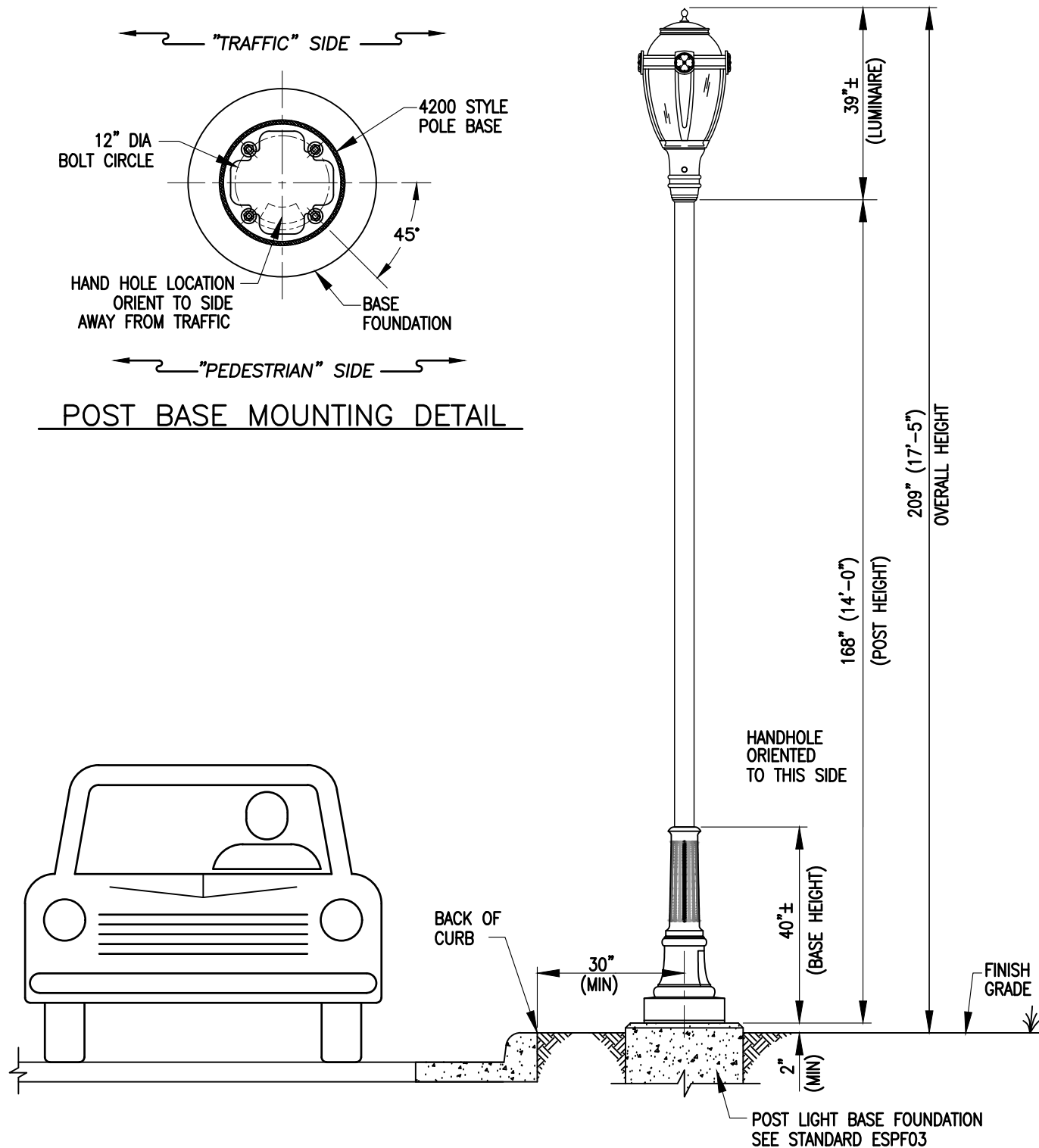


POST LIGHT BASE DETAILS

(SUN VALLEY LIGHTING BASE STYLE "4200")



POST BASE MOUNTING DETAIL



SPECIFICATIONS:

- LUMINAIRE:** ONE PIECE UNITIZED DURABLE CORROSION RESISTANT A-356 CAST ALUMINUM ALLOY. SUPPLIED WITH HIGH IMPACT CLEAR PATTERNED DR ACRYLIC DIFFUSER. TOP HINGED FOR EASY RELAMPING. TOOL-LESS LATCH PAINTED TO MATCH LUMINAIRE. (SUN VALLEY LIGHTING MODEL #LCGS, OR EQUAL)
- OPTICS:** LUMINAIRE HOOD HOUSES SEGMENTED ALUMINUM REFLECTOR, TYPE III (ASYMMETRIC) LIGHT DISTRIBUTION. REFLECTOR IS FIELD ROTATABLE IN 90° INCREMENTS.
- LAMP HOLDERS:**
METAL HALIDE: MEDIUM BASE PORCELAIN.
- LAMPS:**
HPS: 150W
- BALLAST/DRIVER:**
HPS: ELECTRONIC BALLAST, PEAK LEAD, AUTOTRANSFORMER TYPE, MULTI-TAP VOLTAGE WIRED FOR 240V.
- SHAFT:** 4" DIA. (.250 WALL THICKNESS) EXTRUDED FROM 6061-T6 ALLOY ALUMINUM. SHAFT HEAT TREATED TO PRODUCE A T6 TEMPER. SHAFT IS CIRCUMFERENTIALLY WELDED TO BASE. WIRE CLAMPS PROVIDED INSIDE PRE-WIRED POLE.
- WIRING:** 16'-0", 14/2 WITH GROUND (TYPE UF-B) WIRE LEADS TO BE PROVIDED, POLE AND LUMINAIRE TO BE PRE-WIRED.
- BASE:** ONE PIECE CORROSION RESISTANT, DURABLE CAST ALUMINUM CONSTRUCTION. MINIMUM .250 WALL THICKNESS. BASE CONSISTS OF SMOOTH, STEPPED BOTTOM SECTION WITH FLUSH HAND HOLE, AND A DECORATIVE TAPERED FLUTED SECTION CONSISTING OF EVENLY SPACED, HIGHLY DETAILED RAISED VERTICAL FLUTES. GROUNDING LUG TO BE PROVIDED INSIDE BASE OPPOSITE THE HAND-HOLE. CAST ALUMINUM ACCESS DOOR PROVIDED WITH AN 18" PLASTIC SHEATHED KEEPER CHAIN AND TAMPER RESISTANT HARDWARE. (SUN VALLEY LIGHTING 4200 BASE OR EQUAL)
- ANCHORING:** FOUR (4) 3/4"(NOM) X 18" LG (MIN), HOT-DIPPED, FULLY GALVANIZED, ANCHOR BOLTS, EACH SUPPLIED WITH NUTS AND WASHERS.
- FINISH:** FIVE STAGE FINISH, ELECTROSTATICALLY APPLIED, BAKED ON ACRYLIC ENAMEL. (DUPONT "HUNTER GREEN", #PFG-509-58 OR EQUAL).

MATERIAL LIST

QTY	DESCRIPTION
1	LUMINAIRE, STYLE: LCGS, HPS, SUN VALLEY LIGHTING
1	POLE, 4" DIA, 14 FT, #42-1040, SUN VALLEY LIGHT.
1	BASE, 16", STYLE 4200, SUN VALLEY LIGHTING
8	NUT, 3/4" NOM., HEX, HEAVY, HRS, GALV.
8	FLATWASHER, 3/4" NOM, SS
A/N	WIRE, 14/2 TYPE UF-B, COPPER, WITH NEUTRAL

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ENGINEERING: SIGNED COPY ON FILE

REFERENCES:
ESMA01, ESPF03, ESMA04



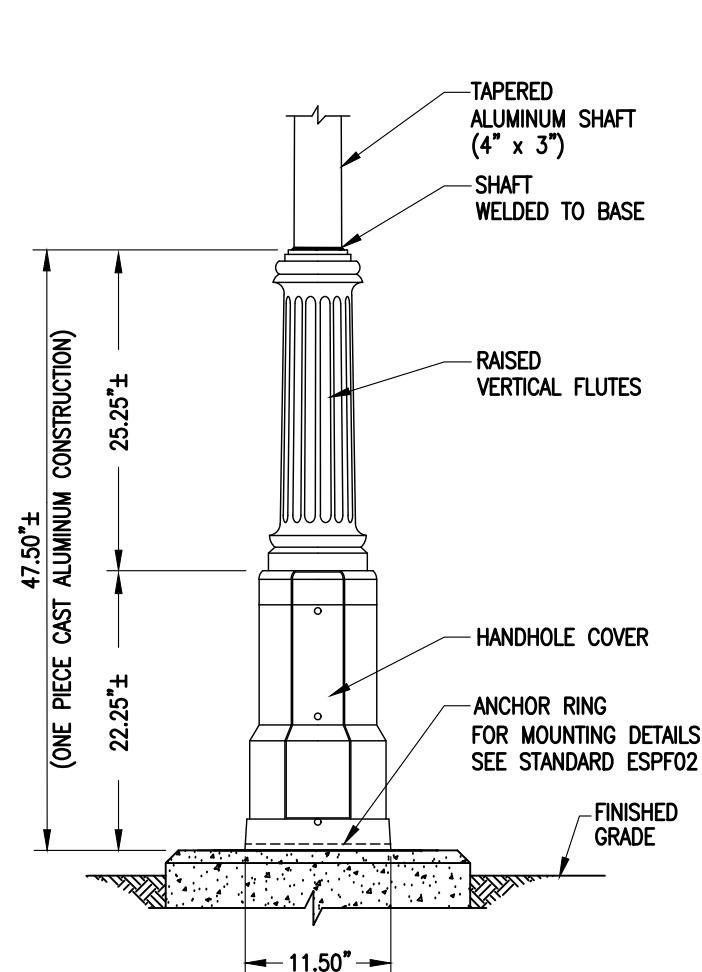
STANDARD FIXTURE ASSEMBLY DETAILS THE "CDA" AREA STYLE LIGHTING FIXTURE METAL HALIDE TYPE LUMINAIRE



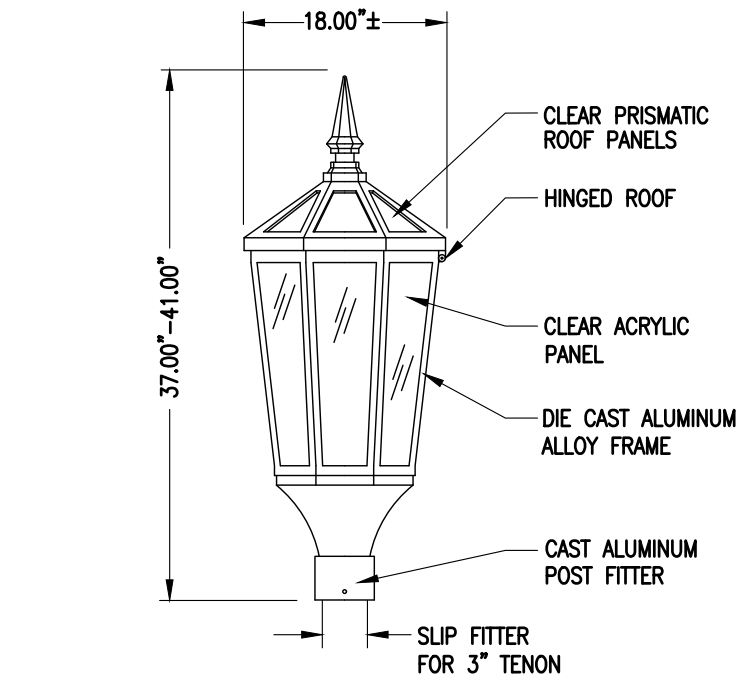
CITY OF RICHMOND PUBLIC UTILITIES
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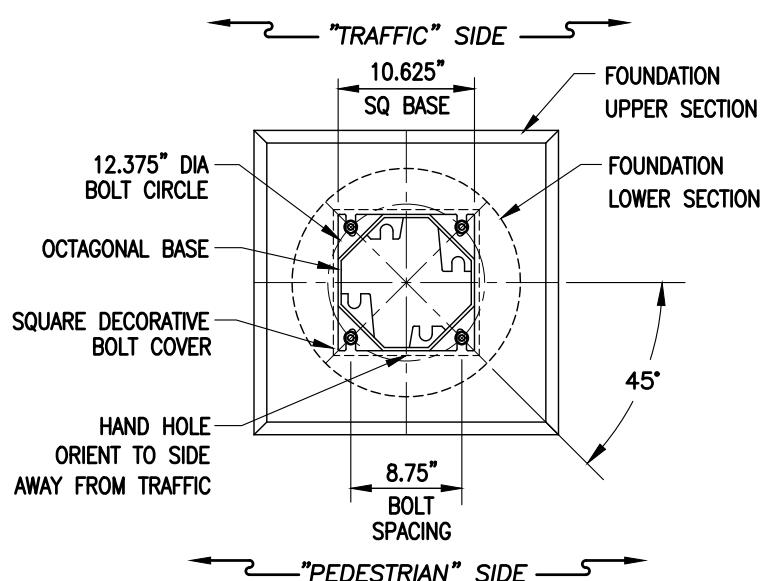
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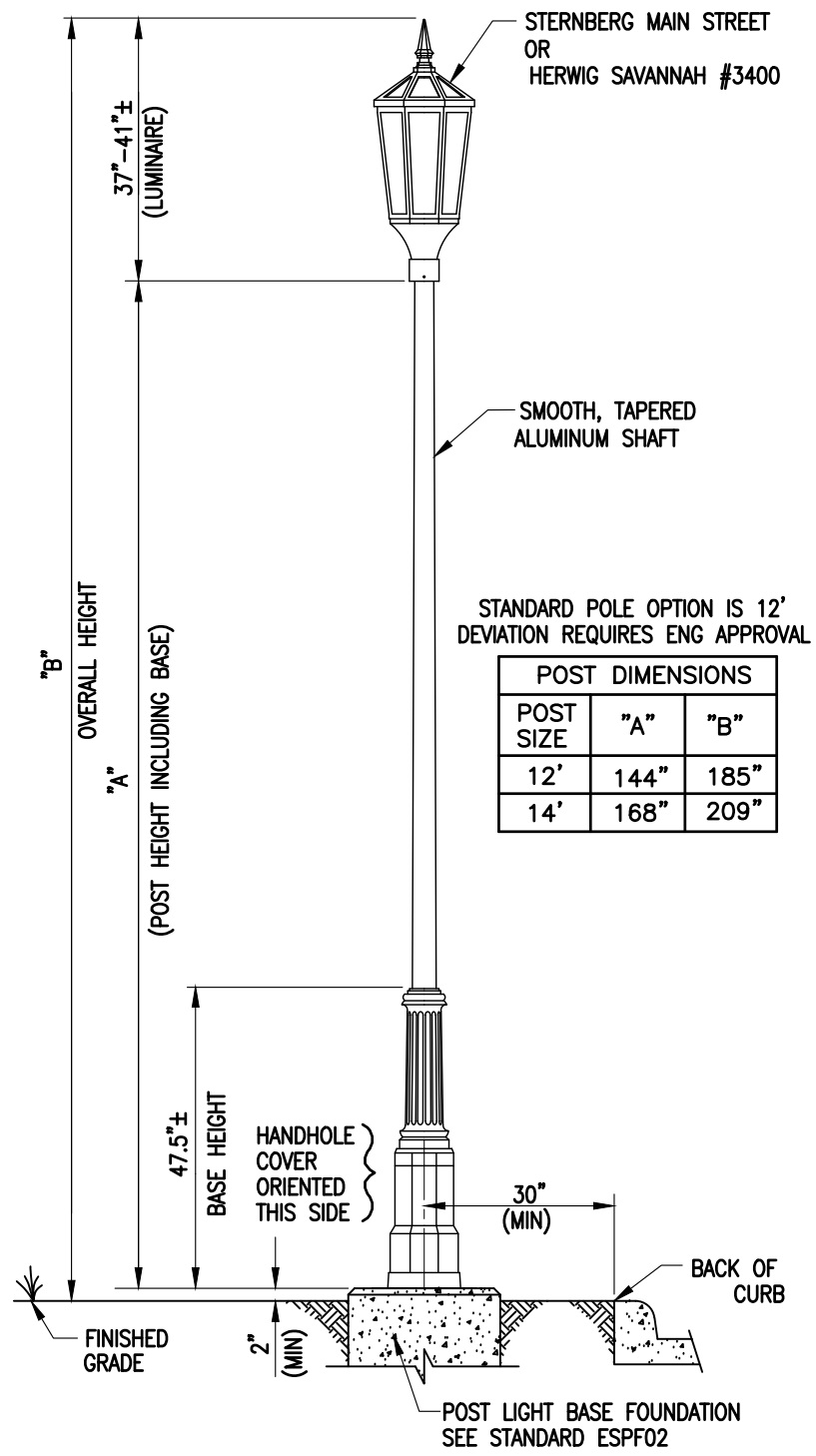
POST LIGHT BASE DETAILS
(PHILIPS HANOVER LANTERN POST STYLE #316)



LUMINAIRE DETAILS
(STERNBERG MAIN STREET SERIES LAMP)
-OR-
(HERWIG SAVANNAH #3400 LAMP)



POST LIGHT BASE MOUNTING DETAILS



POST DIMENSIONS		
POST SIZE	"A"	"B"
12'	144"	185"
14'	168"	209"

POST LIGHT ASSEMBLY DETAILS

SPECIFICATIONS

- LUMINAIRE:** SEALED OPTICAL ASSEMBLY, GLASS OPTICS, TOOL-LESS MAINTENANCE, SWING OPEN HINGED UTILITY POD ROOF WITH MOISTURE PROOF BALLAST COMPARTMENT. CLEAR ACRYLIC PANELS SIDES AND PRISMATIC ACRYLIC ROOF PANELS, STERNBERG LIGHTING MAIN STREET SERIES OR HERWIG LIGHTING SAVANNAH #3400 OR EQUAL.
- OPTICS:** GLASS REFRACTOR, TYPE III (ASYMMETRIC) LIGHT DISTRIBUTION.
- LAMP HOLDERS:** METAL HALIDE: MEDIUM BASE PORCELAIN.
- LAMPS:** METAL HALIDE: 70W (STANDARD)
- BALLAST/DRIVER:** HPS: ELECTRONIC BALLAST, PEAK LEAD, AUTOTRANSFORMER TYPE, MULTI-TAP VOLTAGE WIRED FOR 240V.
- SHAFT:** SMOOTH, TAPERED 4"-3" DIA., .125 WALL (MIN) ALLOY ALUMINUM. SHAFT HEAT TREATED TO PRODUCE A T6 TEMPER. SHAFT IS CIRCUMFERENTIALLY WELDED TO BASE. WIRE CLAMPS PROVIDED INSIDE PRE-WIRED POLE ASSEMBLY.
- WIRING:** 16'-0", 14/2 WITH GROUND (TYPE UF-B) WIRE LEADS TO BE PROVIDED, POLE AND LUMINAIRE TO BE PRE-WIRED.
- BASE:** ONE PIECE CORROSION RESISTANT, DURABLE CAST ALUMINUM CONSTRUCTION. MINIMUM .125 WALL THICKNESS. POST IS SMOOTH, 3" TO 4" TAPERED ALUMINUM SHAFT. BASE CONSISTS OF SMOOTH, STEPPED BOTTOM SECTION WITH FLUSH HAND HOLE, AND A DECORATIVE TAPERED FLUTED SECTION CONSISTING OF EVENLY SPACED, HIGHLY DETAILED RAISED VERTICAL FLUTES. GROUNDING LUG TO BE PROVIDED INSIDE BASE OPPOSITE THE HAND-HOLE. CAST ALUMINUM ACCESS DOOR PROVIDED WITH AN 18" PLASTIC SHEATHED KEEPER CHAIN AND TAMPER RESISTANT HARDWARE. (PHILIPS HANOVER LANTERN POST STYLE 316, OR EQUAL).
- ANCHORING:** FOUR (4) 1/2"(NOM) X 18" LG X 3" "L" TYPE (MIN) HOT-DIPPED, FULLY GALVANIZED, ANCHOR BOLTS, EACH SUPPLIED WITH NUTS AND WASHERS.
- FINISH:** RESILIENT TGIC THERMOSET POLYESTER POWDERCOAT, ELECTROSTATICALLY APPLIED, TEXTURED BLACK.

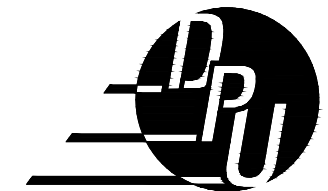
MATERIAL LIST

QTY	DESCRIPTION
1	LUMINAIRE, STERNBERG MAIN STREET SERIES, 70W MH, 240V
1	LUMINAIRE, HERWIG SAVANNAH #3400, 70W MH, 240V
1	POLE, TAPERED, 12 FT, ALUM., STYLE 316, PAINTED (STANDARD)
1	POLE, TAPERED, 14 FT, ALUM., STYLE 316, PAINTED (NON-STANDARD)
1	BASE, 11.5" SQ. PED. OCT. BASE, STYLE 316
8	NUT, 1/2" NOM., HEX, HEAVY, HRS, GALV.
1	FLATWASHER, 1/2" NOM, SS
8	WIRE, 14/2 TYPE UF-B, COPPER, WITH NEUTRAL

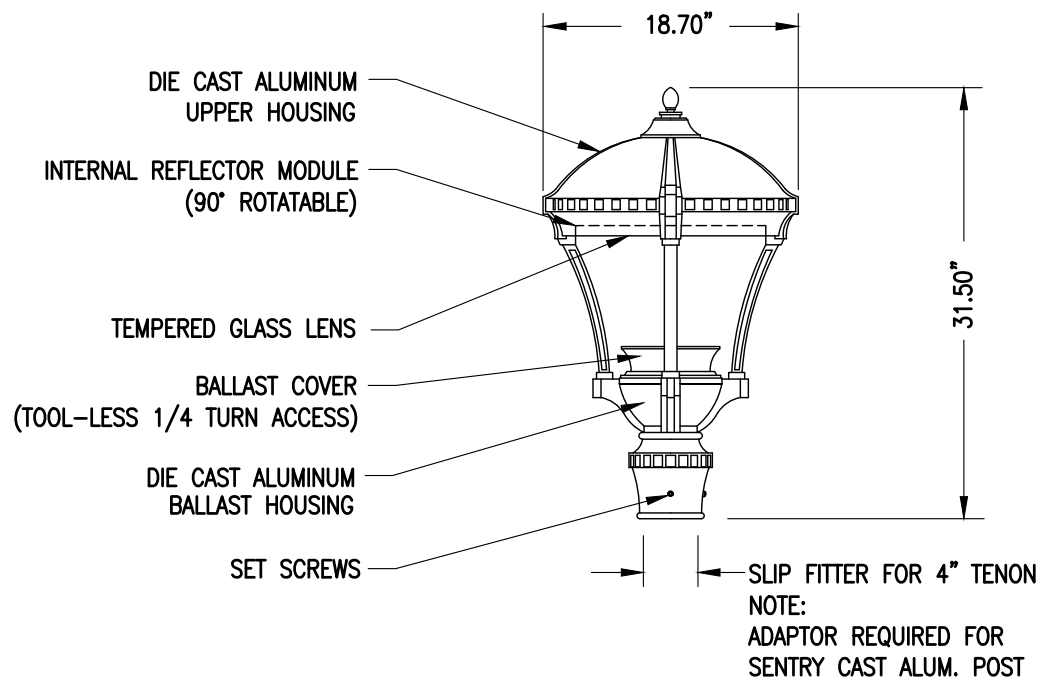
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REFERENCES:
ESMA01, ESMA04, ESPF02



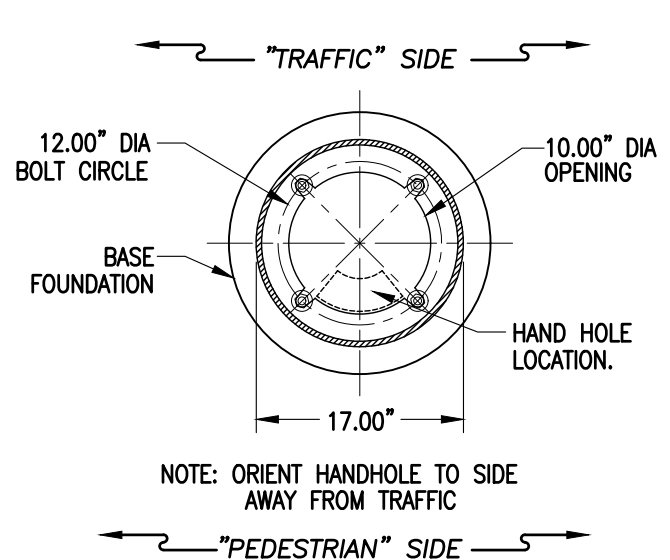
STANDARD FIXTURE ASSEMBLY DETAILS
THE "MONUMENT AVENUE" STYLE FIXTURE
METAL HALIDE TYPE LUMINAIRE



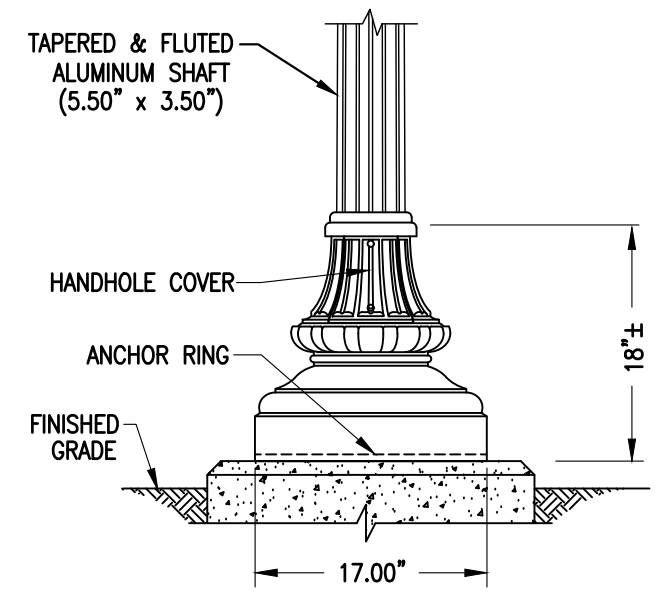
CITY OF RICHMOND PUBLIC UTILITIES
STREET LIGHT STANDARDS
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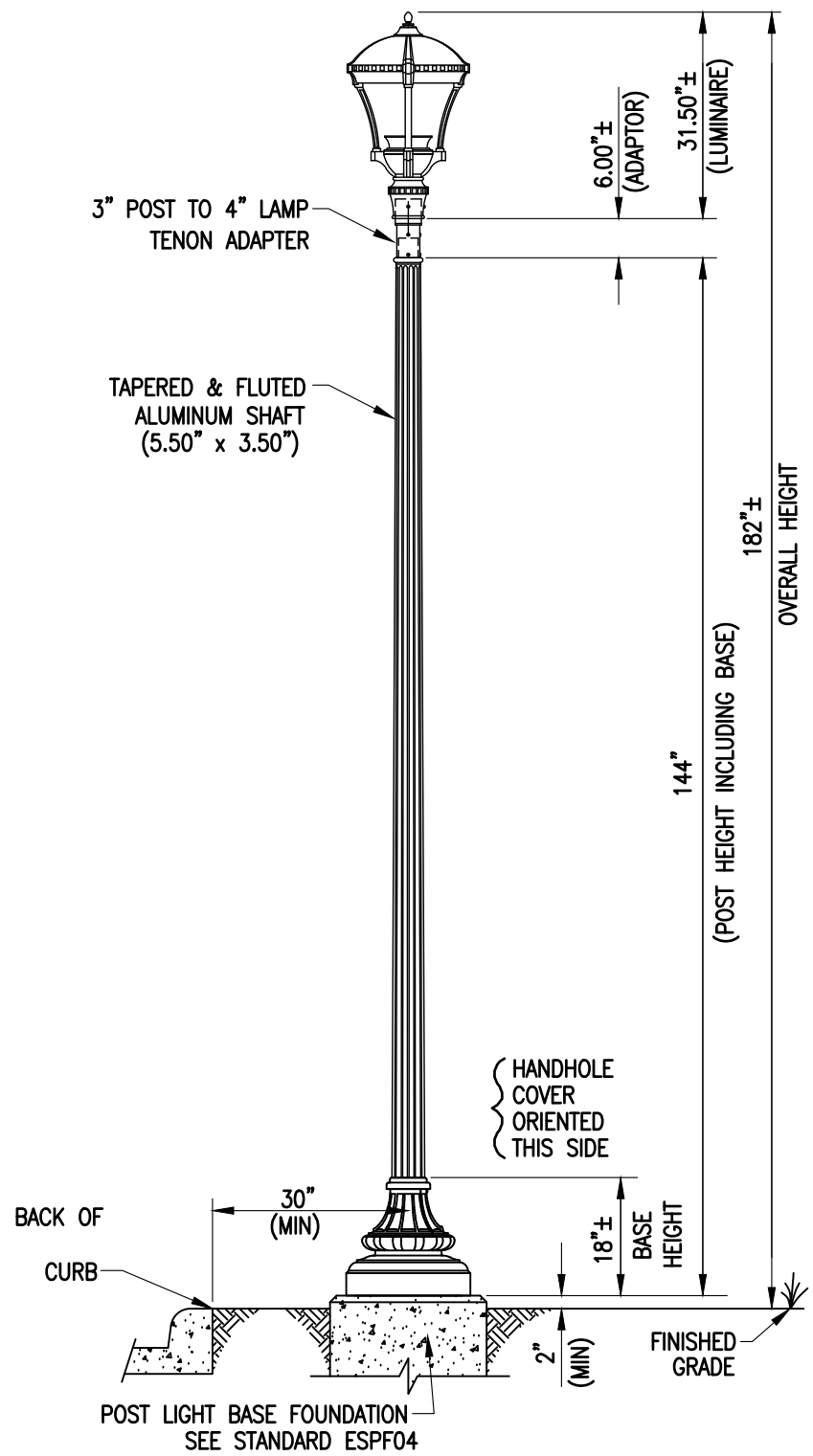
LUMINAIRE DETAILS
(ARCHITECTURAL AREA LIGHTING "PROVIDENCE" SERIES)



POST LIGHT BASE MOUNTING DETAILS
(SENTRY STYLE "W" BASE)



POST LIGHT BASE DETAILS
(SENTRY SAL-W SERIES)



POST LIGHT ASSEMBLY DETAILS

SPECIFICATIONS:

- LUMINAIRE:** SEALED OPTICAL ASSEMBLY, TEMPERED GLASS LENS, TOOL-LESS MAINTENANCE, SWING OUT BALLAST DOOR, INTEGRAL RE-LAMP ASSEMBLY, MODULAR ASSEMBLY. ARCHITECTURAL AREA LIGHTING PROVIDENCE MEDIUM WITH HID OPTICS AND DIE CAST ALUMINUM HOUSING.
- OPTICS:** DURABLE FLAT TEMPERED CLEAR GLASS LENS. TYPE III (ASYMMETRIC) LIGHT DISTRIBUTION.
- LAMP HOLDERS:**
HPS: MEDIUM BASE PORCELAIN.
LED: POLARIZED PLUG/RECEPTACLE COMBINATION.
- LAMPS:**
HPS: 150W (NOTE: SPECIAL COLOR RENDERING)
LED: 2700-3000 CCT (ENGINEERING TO PROVIDE SPEC)
- BALLAST/DRIVER:**
HPS: ELECTRONIC BALLAST, PEAK LEAD, AUTOTRANSFORMER TYPE, MULTI-TAP VOLTAGE WIRED FOR 240V.
LED: STD 0-10V DIMMING CAPABILITY, HIGH POWER FACTOR OF 95%. ELECTRONIC DRIVER OPERATING RANGE 50/60 Hz. AUTO-ADJUSTING VOLTAGE INPUT 120-277 VAC.
- SHAFT:** FLUTED, TAPERED 5"-3" DIA. (.250 WALL THICKNESS), 6063-T6 ALLOY ALUMINUM. SHAFT HEAT TREATED TO PRODUCE A T6 TEMPER. SHAFT IS CIRCUMFERENTIALLY WELDED TO BASE. WIRE CLAMPS PROVIDED INSIDE PRE-WIRED POLE.
- WIRING:** 16'-0", 14/2 WITH GROUND (TYPE UF-B) WIRE LEADS TO BE PROVIDED, POLE AND LUMINAIRE TO BE PRE-WIRED.
- BASE:** ONE PIECE CORROSION RESISTANT, DURABLE CAST ALUMINUM CONSTRUCTION. MINIMUM .250 WALL THICKNESS. BASE CONSISTS OF SMOOTH, STEPPED BOTTOM SECTION WITH FLUSH HAND HOLE, AND A DECORATIVE TAPERED FLUTED SECTION CONSISTING OF EVENLY SPACED, HIGHLY DETAILED RAISED VERTICAL FLUTES. GROUNDING LUG TO BE PROVIDED INSIDE BASE OPPOSITE THE HAND-HOLE. CAST ALUMINUM ACCESS DOOR PROVIDED WITH AN 18" PLASTIC SHEATHED KEEPER CHAIN AND TAMPER RESISTANT HARDWARE. (SENTRY STYLE SAL-W BASE OR EQUAL)
- ANCHORING:** FOUR (4) 3/4"(NOM) X 18" LG (MIN), HOT-DIPPED, FULLY GALVANIZED, ANCHOR BOLTS, EACH SUPPLIED WITH NUTS AND WASHERS.
- FINISH:** PAINT TO MATCH FEDERAL STANDARD 595L, "FEDERAL GREEN", OR EQUAL

MATERIAL LIST	
QTY	DESCRIPTION
1	LUMINAIRE, ARCHITECTURAL LIGHTING PROVIDENCE, MED., HPS
1	LUMINAIRE, ARCHITECTURAL LIGHTING, PROVIDENCE, MED., LED
1	POLE, TAPERED, FLUTED, 12 FT, ALUM., SAL-W-12'
1	BASE, 17"DIA, SENTRY STYLE W, SENTRY ELECTRIC
1	ADAPTOR, 4" X 3" TENON REDUCER
4	NUT, 3/4" NOM., HEX, HEAVY, HRS, GALV.
4	FLATWASHER, 3/4" NOM, SS
A/R	WIRE, 14/2 TYPE UF-B, COPPER, WITH NEUTRAL

REVIEWED & APPROVED

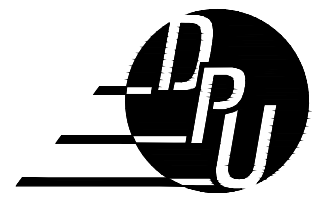
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REFERENCES:
ESMA01, ESMA04, ESPF04



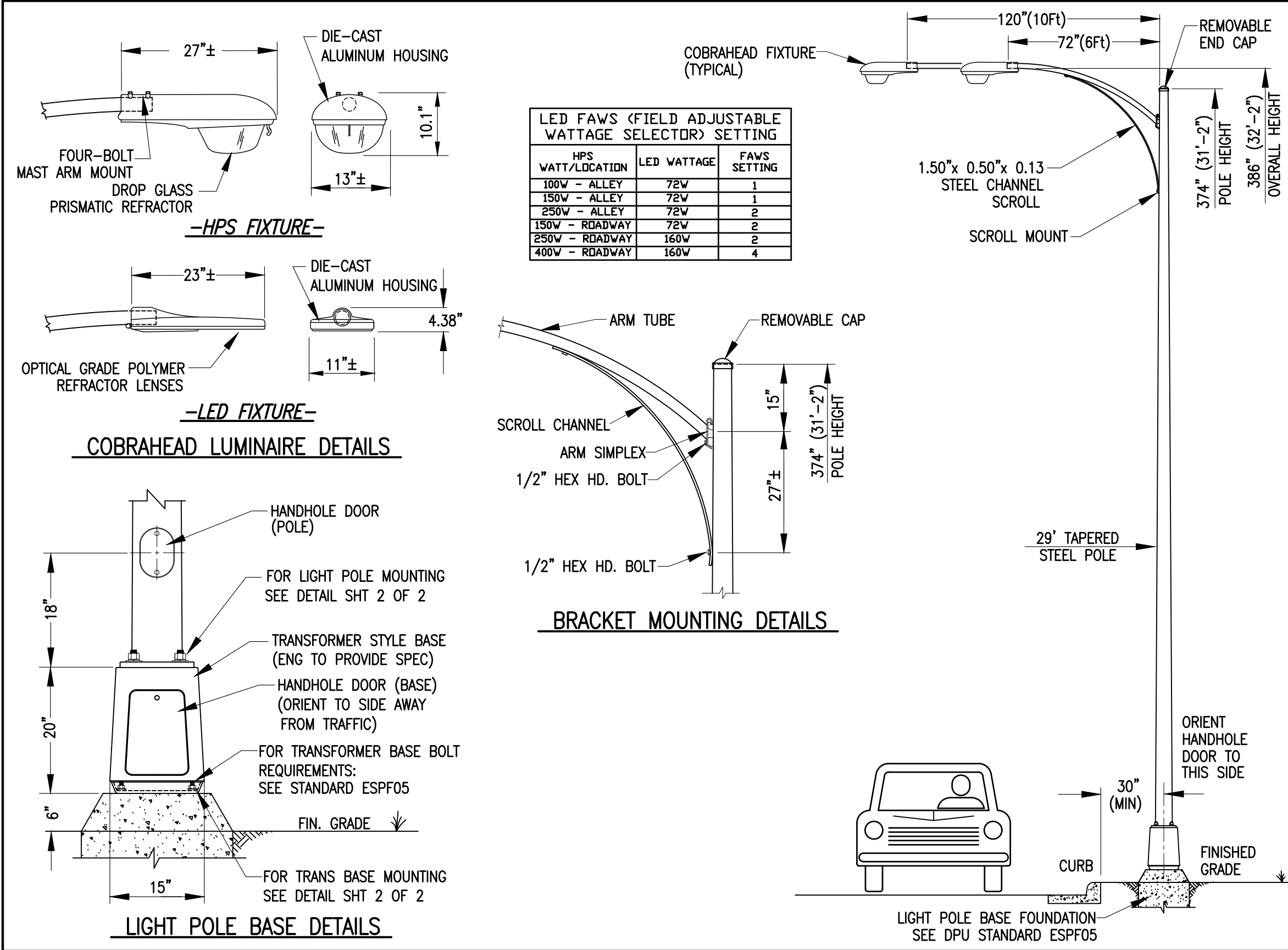
STANDARD FIXTURE ASSEMBLY DETAILS
THE "FAN AREA" STYLE LIGHTING FIXTURE
HIGH PRESSURE SODIUM AND LED TYPE FIXTURES



CITY OF RICHMOND PUBLIC UTILITIES
STREET LIGHT STANDARDS

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- SPECIFICATIONS:**
- LUMINAIRE**
HPS: SINGLE DOOR COBRAHEAD, POWDER COATED, DIE-CAST ALUMINUM, FOUR-BOLT INTERNAL MAST ARM MOUNT NO PHOTO-CONTROL RECEPTACLE. (ACUITY BRANDS LIGHTING INC., ROADWAY SERIES XXX, #XXX XXX CA MT2 R3 DG 4B NR, OR EQUAL.) - ENGINEERING TO PROVIDE SPEC
LED: SINGLE DOOR COBRAHEAD, POWDER COATED, DIE-CAST ALUMINUM, FOUR-BOLT INTERNAL MAST ARM MOUNT, NO PHOTO-CONTROL RECEPTACLE. (SIGNIFY BRANDS - ROADFOCUS SERIES RFM, #RFM-3K-G2-R2M-UNV-DMG -FAWS-RCD7-SP2-GY3, OR EQUAL.) - ENGINEERING TO PROVIDE SPEC
 - OPTICS**
HPS: LUMINAIRE HOOD HOUSES DROP GLASS PRISMATIC REFRACTOR, TYPE III (ASYMMETRIC) LIGHT DISTRIBUTION.
LED: LUMINAIRE HOOD HOUSES OPTICAL GRADE POLYMER REFRACTOR LENS, TYPE II (ASYMMETRIC) LIGHT DISTRIBUTION.
 - LAMP HOLDERS:**
HPS: MEDIUM BASE PORCELAIN.
LED: POLARIZED PLUG/RECEPTACLE COMBINATION.
 - LAMPS:**
HPS: 150W, 250W, OR 400W
LED: 3000 CCT (ENGINEERING TO PROVIDE SPEC)
 - BALLAST/DRIVER:**
HPS: ELECTRONIC BALLAST, PEAK LEAD, AUTOTRANSFORMER TYPE, MULTI-TAP VOLTAGE WIRED FOR 240V.
LED: STD 0-10V DIMMING CAPABILITY, HIGH POWER FACTOR OF 95%. ELECTRONIC DRIVER OPERATING RANGE 50/60 Hz. AUTO-ADJUSTING VOLTAGE INPUT 120-277 VAC.
 - SHAFT:**
STEEL: TAPERED, 8.00" DIA BASE, 3.94" DIA TOP, 29.00' LENGTH, A595 GR.A, 11 GA STEEL, MIN. YIELD 55 KSI, WELDED TO BASE. SHAFT TO HAVE WIRE CLAMPS PROVIDED INSIDE PRE-WIRED POLE. GROUNDING LUG TO BE PROVIDED INSIDE FLUSH HANDHOLE. ACCESS DOOR WITH AN 18" PLASTIC SHEATHED KEEPER CHAIN AND TAMPER RESISTANT HARDWARE. HOLOPHANE NO. DS30800A290SCHLHH10SAB, OR EQUAL.
 - WIRING:** 35'-0", 14/2 WITH GROUND (TYPE UF-B) WIRE LEADS TO BE PROVIDED, POLE AND LUMINAIRE TO BE PRE-WIRED.
 - POLE BASE:**
STEEL: ONE PIECE 11.75" SQ, 0.88" THK, ASTM A36 GR STEEL, MIN YIELD 36 KSI, 10.50" BOLT CIRCLE.
-CONTINUED ON SHEET 2 OF 2-



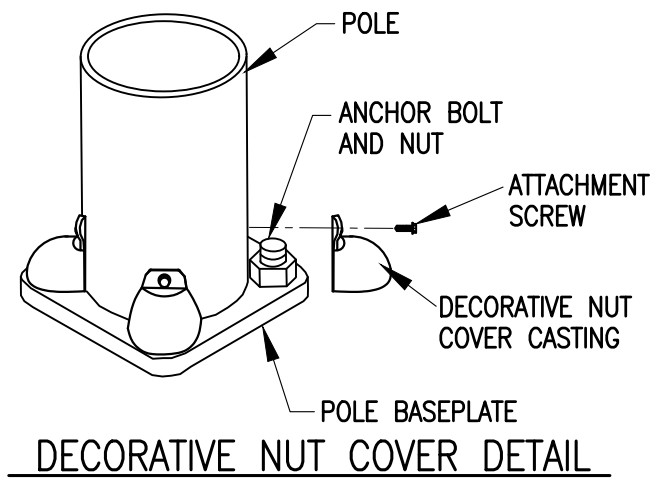
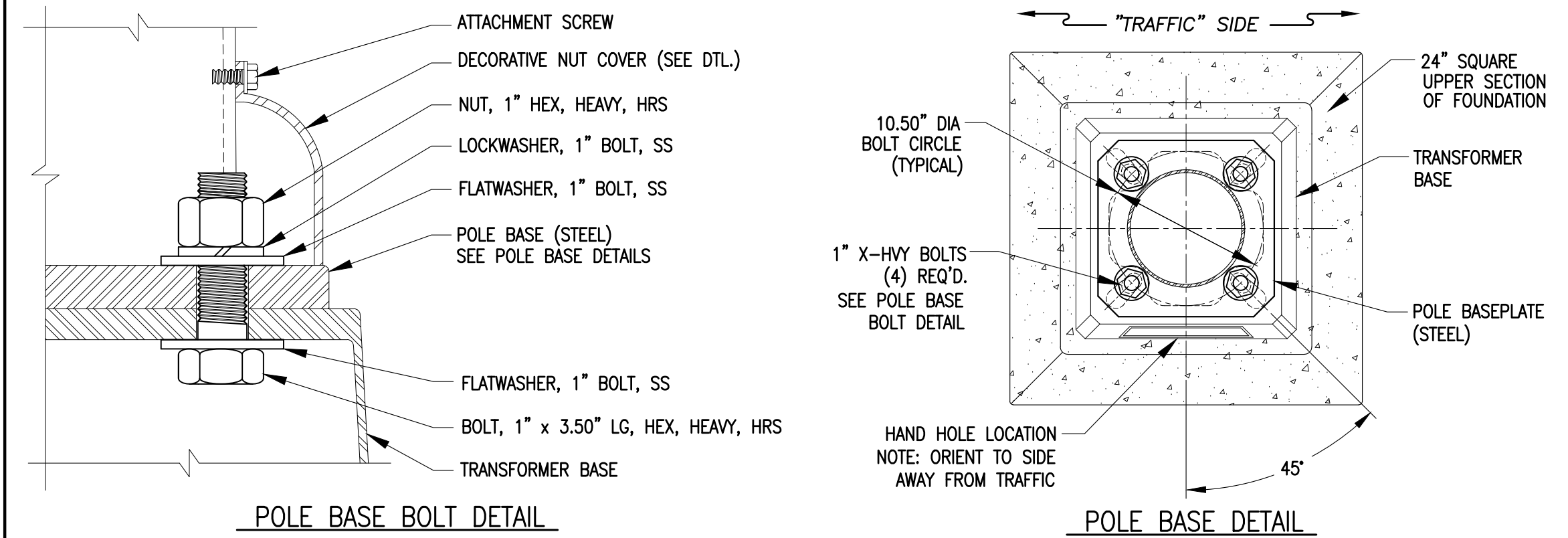
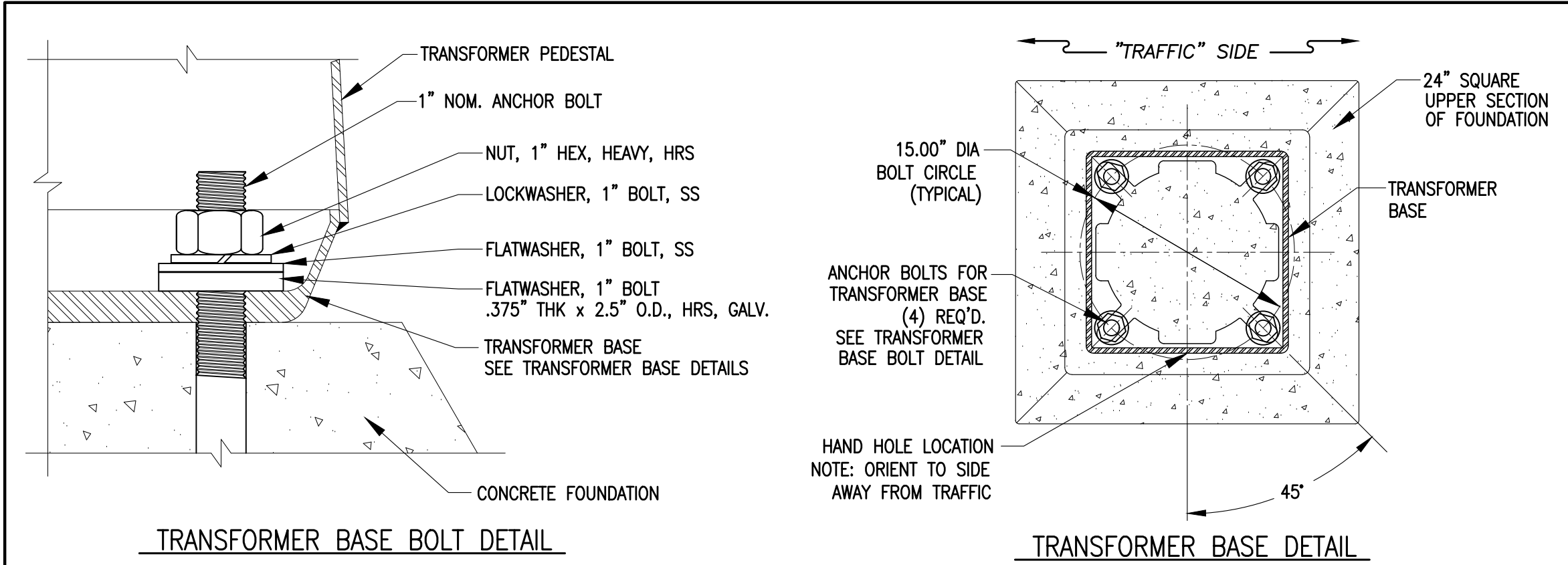
STANDARD FIXTURE ASSEMBLY DETAIL
29ft STEEL POLE WITH TRANSFORMER PEDESTAL BASE
FOR 6ft & 10ft BRACKET ARM
WITH COBRAHEAD FIXTURE



CITY OF RICHMOND PUBLIC UTILITIES
STREET LIGHT STANDARDS

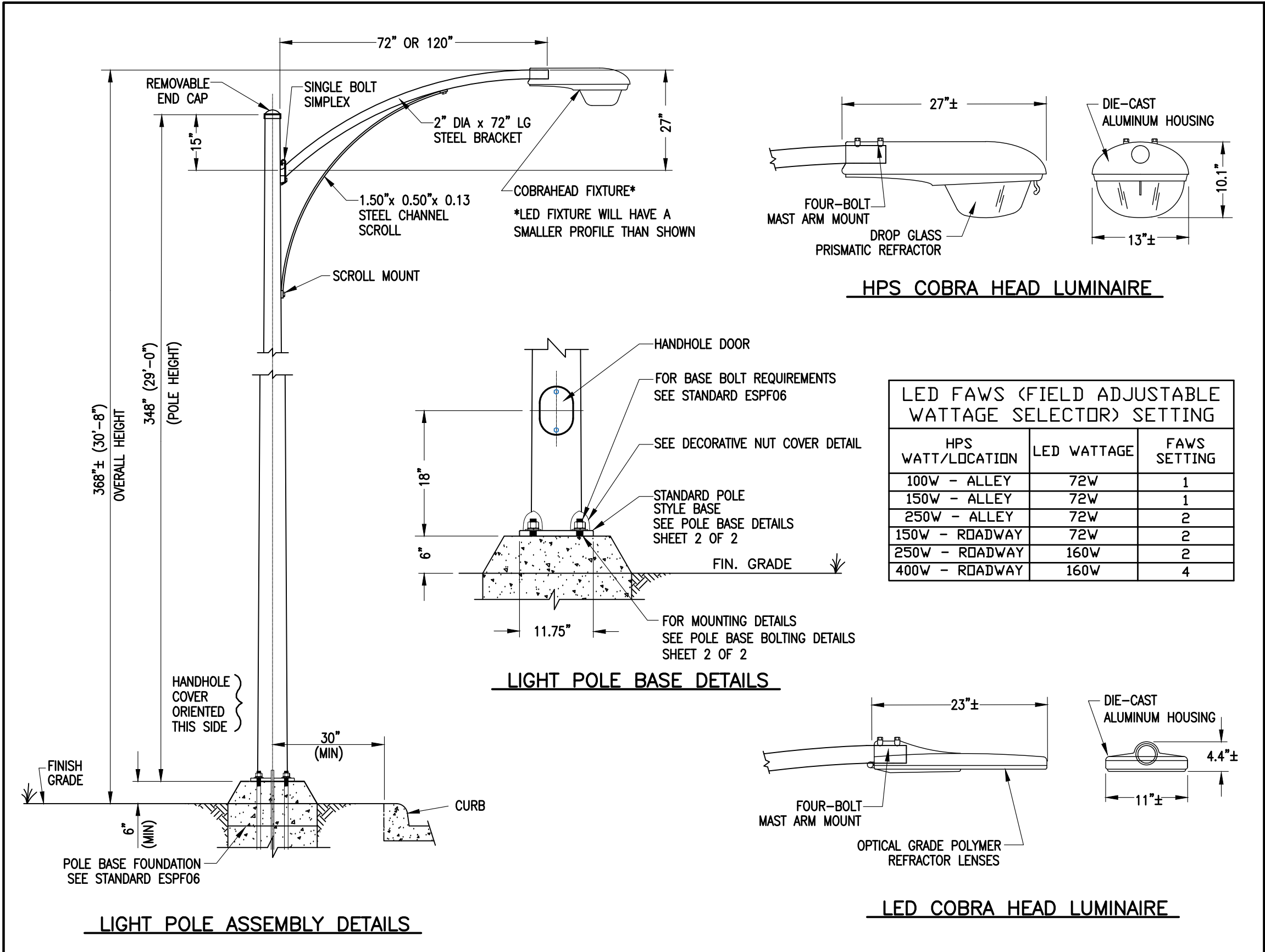
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REVISION DATE
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SHEET 1 OF 2
ESFA06



- SPECIFICATIONS:**
9. **POLE ANCHORING:**
(4) 1" DIA ANCHOR BOLTS, x 36" LG x 4" HOOK LENGTH MIN., THREADED END GALVANIZED A MINIMUM OF 12".
FOR EACH 1" ANCHOR BOLT: (2) HEAVY HEX NUTS, SS, (2) FLAT WASHERS, SS, AND (1) LOCKWASHER, SS.
10. **POLE FINISH:**
PRIMER COAT: VALMONT SPECIFICATION F73. TOP COAT CAN BE URETHANE POLYESTER POWDER COAT, DUPONT "FEDERAL GREEN" OR EQUAL WHEN ORDERING NEW. REFURBISHMENT CAN BE HAND ROLLED FOR PRIMER AND "FEDERAL GREEN" TOP COAT.
11. **TRUSS ARMS:**
MAIN TRUSS: 2.375 O.D. x 0.154" WALL
SUPPORT SCROLL: 1.50" x 0.50" x 0.13" COMMERCIAL GR STEEL CHANNEL.
HOLOPHANE NO. 0000000000 (6FT) OR 0000000000 (10FT) OR EQUAL.

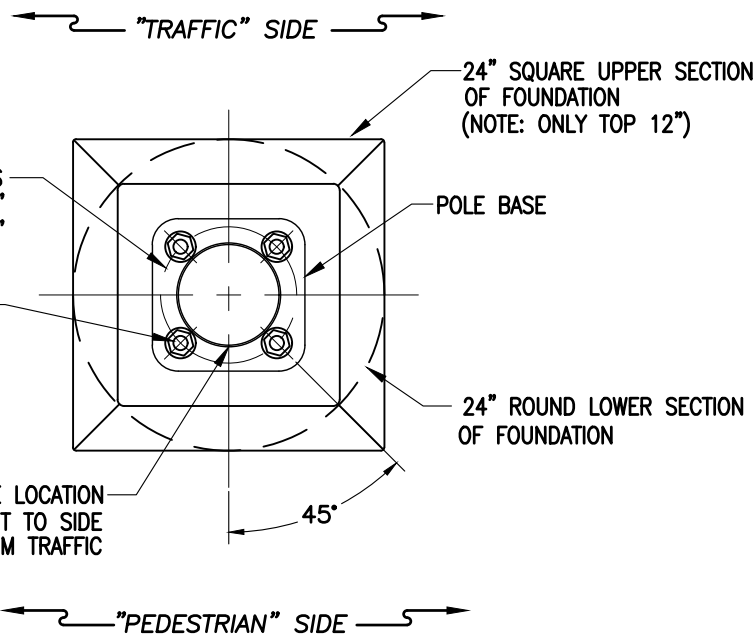
MATERIAL LIST	
QTY	DESCRIPTION
1	LUMINAIRE, COBRAHEAD, HPS OR LED
1	POLE, 29 FT, TAPERED STEEL (ENG TO PROVIDE SPEC)
1	TRANSFORMER POLE BASE (FAB-405C OR EQUAL)
1	TRUSS, STEEL, 6FT OR 10FT
4	BOLT, 1" NOM. x 3.50" LG, HEX, HEAVY, HRS
8	NUT, 1" NOM, HEX, HEAVY, HRS
8	LOCKWASHER, 1" NOM., SS
12	FLATWASHER, 1" NOM., SS
4	FLATWASHER, 1" NOM., 0.375" THK x 2.5" O.D., HRS
A/N	WIRE, 14/2 TYPE UF-B, COPPER, WITH GROUND



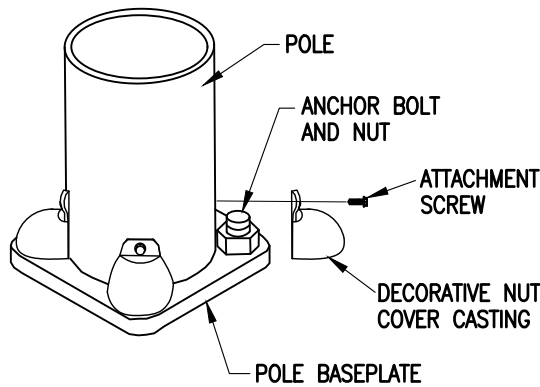
- SPECIFICATIONS:**
- LUMINAIRE**
HPS: SINGLE DOOR COBRAHEAD, POWDER COATED, DIE-CAST ALUMINUM, FOUR-BOLT INTERNAL MAST ARM MOUNT NO PHOTO-CONTROL RECEPTACLE. (ACUITY BRANDS LIGHTING INC., ROADWAY SERIES XXX, #XXX XXX CA MT2 R3 DG 4B NR, OR EQUAL.) – ENGINEERING TO PROVIDE SPEC

LED: SINGLE DOOR COBRAHEAD, POWDER COATED, DIE-CAST ALUMINUM, FOUR-BOLT INTERNAL MAST ARM MOUNT NO PHOTO-CONTROL RECEPTACLE. (SIGNIFY BRANDS – ROADFOCUS SERIES RFM, #RFM XXXX 3K G2 R2M UNV DMG FAWS RCD7 SP2 GY3, OR EQUAL.) – ENGINEERING TO PROVIDE SPEC
 - OPTICS:** HPS LUMINAIRE HOOD HOUSES DROP GLASS PRISMATIC REFRACTOR, TYPE III (ASYMMETRIC) LIGHT DISTRIBUTION. LED LUMINAIRE HOOD HOUSES OPTICAL GRADE POLYMER REFRACTOR LENS, TYPE II (ASYMMETRIC) LIGHT DISTRIBUTION.
 - LAMP HOLDERS:**
HPS: MEDIUM BASE PORCELAIN.
LED: POLARIZED PLUG/RECEPTACLE COMBINATION.
 - LAMPS:**
HPS: 150W, 250W, OR 400W
LED: 3000 CCT (ENGINEERING TO PROVIDE SPEC)
 - BALLAST/DRIVER:**
HPS: ELECTRONIC BALLAST, PEAK LEAD, AUTOTRANSFORMER TYPE, MULTI-TAP VOLTAGE WIRED FOR 240V.

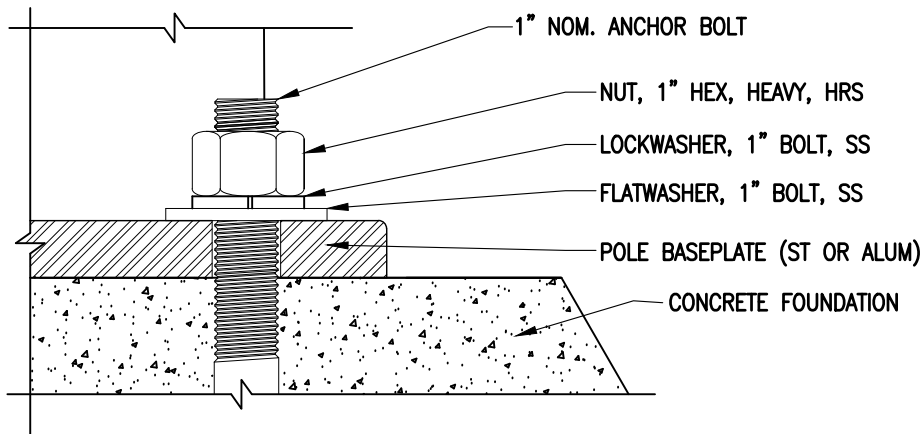
LED: STD 0-10V DIMMING CAPABILITY, HIGH POWER FACTOR OF 95%. ELECTRONIC DRIVER OPERATING RANGE 50/60 Hz. AUTO-ADJUSTING VOLTAGE INPUT 120-277 VAC.
 - SHAFT:**
STEEL: TAPERED, 8.00" DIA BASE, 3.94" DIA TOP, 29.00' LENGTH, A595 GR.A, 11 GA STEEL, MIN. YIELD 55 KSI, CIRCUMFERENTIALLY WELDED TO BASE.
SHAFT TO HAVE WIRE CLAMPS PROVIDED INSIDE PRE-WIRED POLE. GROUNDING LUG TO BE PROVIDED INSIDE FLUSH HAND-HOLE. ACCESS DOOR PROVIDED WITH AN 18" PLASTIC SHEATHED KEEPER CHAIN AND TAMPER RESISTANT HARDWARE.
 - WIRING:** 35'-0", 14/2 WITH GROUND (TYPE UF-B) WIRE LEADS TO BE PROVIDED, POLE AND LUMINAIRE TO BE PRE-WIRED.
 - POLE BASE:**
ONE PIECE 11.75" SQ, 0.88" THK, ASTM A36 GR STEEL, MINIMUM YIELD 36 KSI, 10.50" BOLT CIRCLE.
- CONTINUED ON SHEET 2 OF 2-



POLE BASE DETAILS



DECORATIVE NUT COVER DETAIL



POLE BASE BOLTING DETAILS

SPECIFICATIONS:

9. ANCHORING:
(4) 1" DIA ANCHOR BOLTS, x 36" LG X 4" HOOK LENGTH MIN., THREADED END GALVANIZED A MINIMUM OF 12".
FOR EACH 1" ANCHOR BOLT: (2) HEAVY HEX NUTS, SS, (2) FLAT WASHERS, SS, AND (1) LOCKWASHER, SS.
10. POLE FINISH:
PRIMER COAT: VALMONT SPECIFICATION F73. TOP COAT CAN BE URETHANE POLYESTER POWDER COAT, DUPONT "FEDERAL GREEN" OR EQUAL WHEN ORDERING NEW. REFURBISHMENT CAN BE HAND ROLLED FOR PRIMER AND "FEDERAL GREEN" TOP COAT.

MATERIAL LIST

QTY	DESCRIPTION
1	LUMINAIRE, COBRAHEAD, HPS OR LED, WATTAGE AS REQUIRED
1	POLE, 29 FT, TAPERED STEEL (ENG TO PROVIDE SPEC)
1	BRACKET, 2.00" X 72" OR 120", FOR STEEL POLES
4	NUT, 1" NOM, HEX, HEAVY, HRS
4	LOCKWASHER, 1" NOM., SS
4	FLATWASHER, 1" NOM., SS
A/N	WIRE, 14/2 TYPE UF-B, COPPER, WITH NEUTRAL

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ENGINEERING: _____ SIGNED COPY ON FILE

REFERENCES:
ESMA01, ESMA04, ESPF06



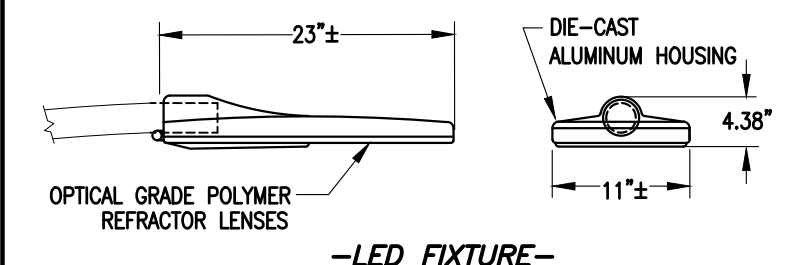
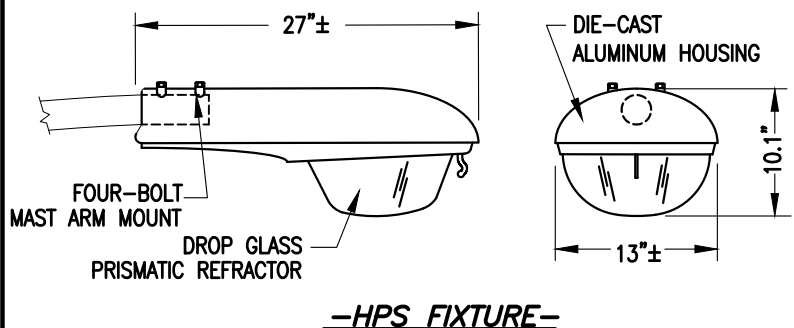
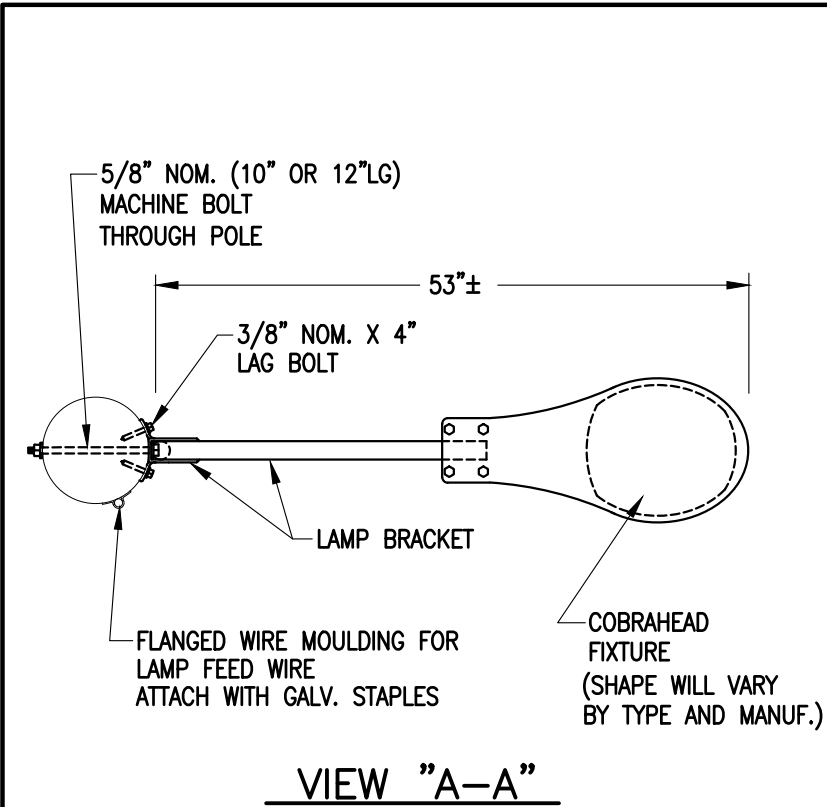
STANDARD FIXTURE ASSEMBLY DETAIL
29ft STEEL POLE W/O TRANSFORMER BASE
FOR 6ft & 10ft BRACKET ARM
WITH COBRAHEAD FIXTURE



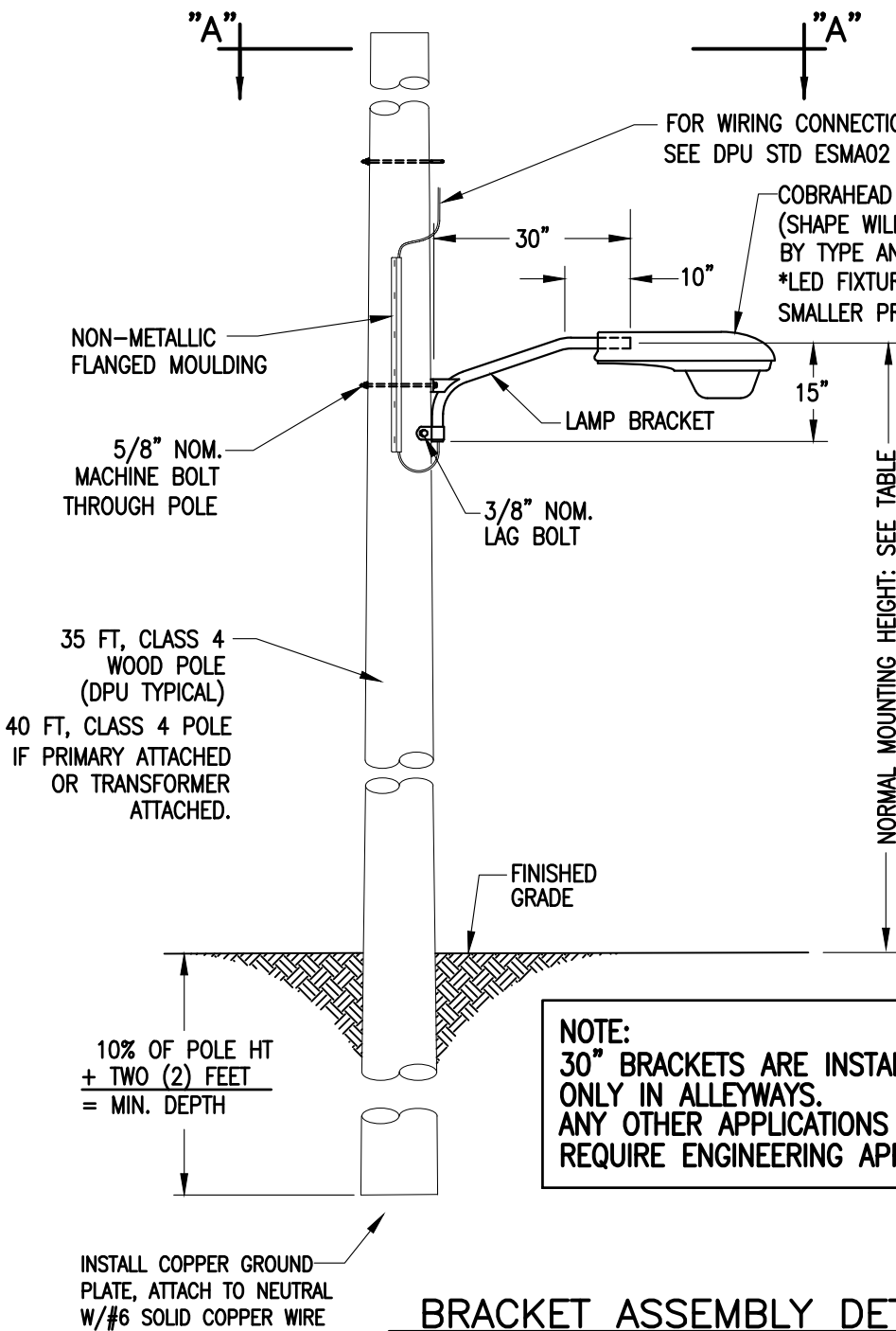
CITY OF RICHMOND PUBLIC UTILITIES
STREET LIGHT STANDARDS

REVISION 0
REVISION DATE
01/2022

SHEET 2 OF 2
ESFA07



COBRAHEAD STYLE LUMINAIRE DETAILS



LED FAWS (FIELD ADJUSTABLE WATTAGE SELECTOR) SETTING		
HPS WATT/LOCATION	LED WATTAGE	FAWS SETTING
100W - ALLEY	72W	1
150W - ALLEY	72W	1
250W - ALLEY	72W	2
150W - ROADWAY	72W	2
250W - ROADWAY	160W	2
400W - ROADWAY	160W	4

NORMAL MOUNTING HEIGHT		
HPS	LED	MOUNTING HEIGHT
100W - ALLEY	72W	25FT
150W - ALLEY	72W	25FT
250W - ALLEY	72W	28FT
150W - ROADWAY	72W	25FT
250W - ROADWAY	160W	28FT
400W - ROADWAY	160W	30FT

SPECIFICATIONS:

- LUMINAIRE:**
HPS: SINGLE DOOR COBRAHEAD, POWDER COATED, DIE-CAST ALUMINUM, FOUR-BOLT INTERNAL MAST ARM MOUNT NO PHOTO-CONTROL RECEPTACLE. (ACUITY BRANDS LIGHTING INC., ROADWAY SERIES XXX, #XXX XXX CA MT2 R3 DG 4B NR, OR EQUAL.) - ENGINEERING TO PROVIDE SPEC
LED: SINGLE DOOR COBRAHEAD, POWDER COATED, DIE-CAST ALUMINUM, FOUR-BOLT INTERNAL MAST ARM MOUNT NO PHOTO-CONTROL RECEPTACLE. (SIGNIFY BRANDS - ROADFOCUS SERIES RFM, #RFM XXXX 3K G2 R2M UNV DMG FAWS RCD7 SP2 GY3, OR EQUAL.) - ENGINEERING TO PROVIDE SPEC
- OPTICS:** HPS LUMINAIRE HOOD HOUSES DROP GLASS PRISMATIC REFRACTOR, TYPE III (ASYMMETRIC) LIGHT DIST. LED LUMINAIRE HOOD HOUSES OPTICAL GRADE POLYMER REFRACTOR LENS, TYPE II (ASYMMETRIC) LIGHT DISTRIBUTION.
- LAMP HOLDERS:**
HPS: MEDIUM BASE PORCELAIN.
LED: POLARIZED PLUG/RECEPTACLE COMBINATION.
- LAMPS:**
HPS: 150W, 250W, OR 400W
LED: 3000 CCT (ENGINEERING TO PROVIDE SPEC)
- BALLAST/DRIVER:**
HPS: ELECTRONIC BALLAST, PEAK LEAD, AUTOTRANSFORMER TYPE, MULTI-TAP VOLTAGE WIRED FOR 240V.
LED: STD 0-10V DIMMING CAPABILITY, HIGH POWER FACTOR OF 95%. ELECTRONIC DRIVER OPERATING RANGE 50/60 Hz. AUTO-ADJUSTING VOLTAGE INPUT 120-277 VAC.
- WIRING:** 14/2 WITH GROUND (TYPE UF-B) WIRE. LUMINAIRE TO BE PRE-WIRED.

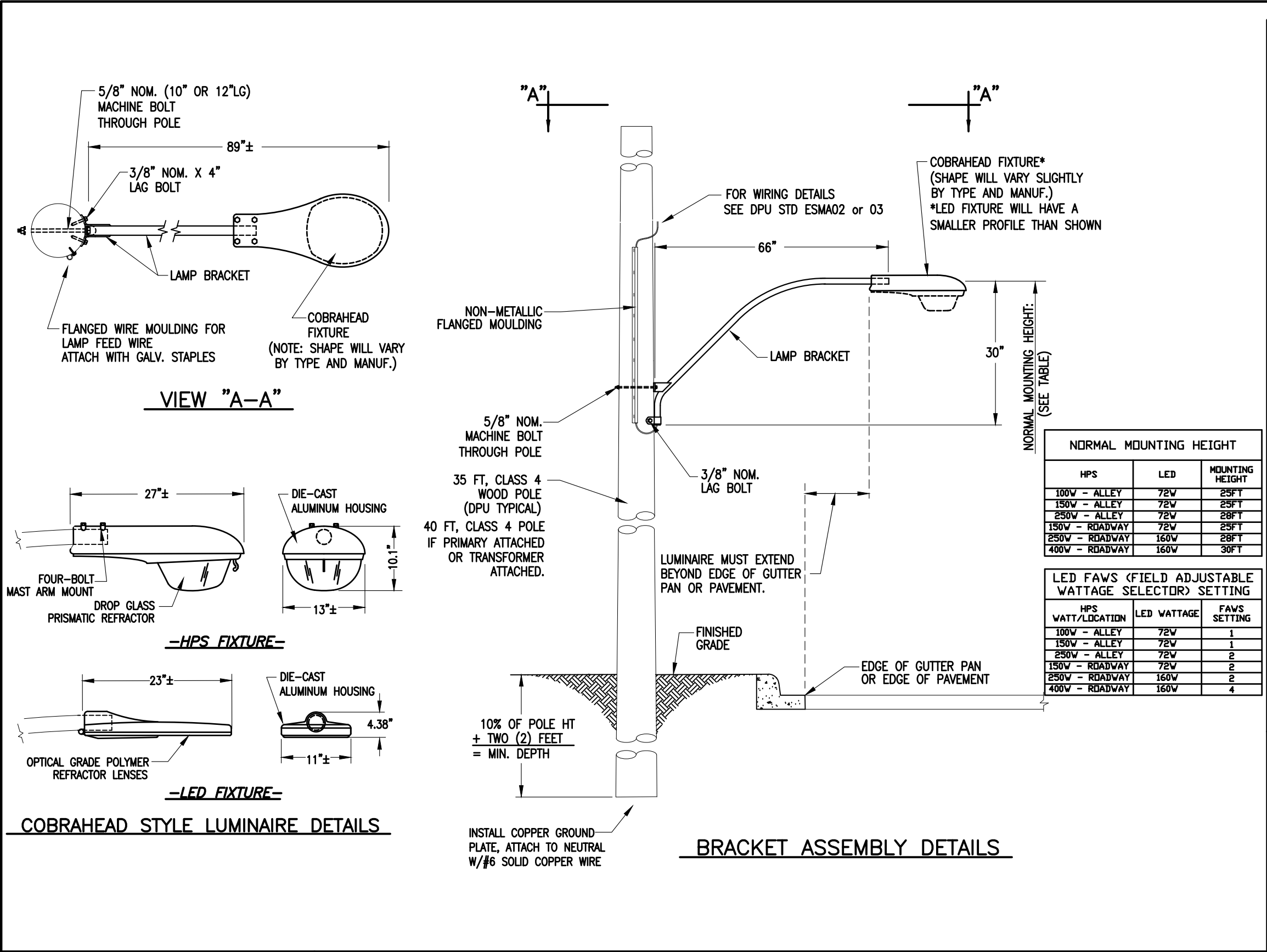
GENERAL NOTES:

- CONNECT FOR 240V OPERATION.
- MARK THE INSTALLATION DATE ON THE LAMP AND INSIDE THE DOOR OF THE FIXTURE WITH PERMANENT INK MARKING PEN.
- MOUNT THE FIXTURE PARALLEL TO THE ROAD SURFACE.
- ROUTE THE WIRE THROUGH THE NON-METALLIC WIRE MOULD AND SECURE WITH GALVANIZED STAPLES.

MATERIAL LIST

QTY	DESCRIPTION
1	LUMINAIRE, COBRAHEAD, HPS OR LED
1	BRACKET, 1-1/4" X 2.5FT (30"), UPSWEEP
A/N	FLANGED NON-METALLIC WIRE MOULDING
1	BOLT, 5/8" X 12" OR 10"LG, MACHINE, GALVANIZED
2	LAG BOLT, 3/8" X 4", GALVANIZED
A/N	WIRE, 14/2 TYPE UF-B, COPPER, WITH NEUTRAL
1	POLE, TREATED WOOD, CLASS 4, 35FT OR 40FT
1	COPPER GROUND PLATE, GP110 OR EQUAL
A/N	#6 SOFT DRAWN BARE COPPER WIRE





SPECIFICATIONS:

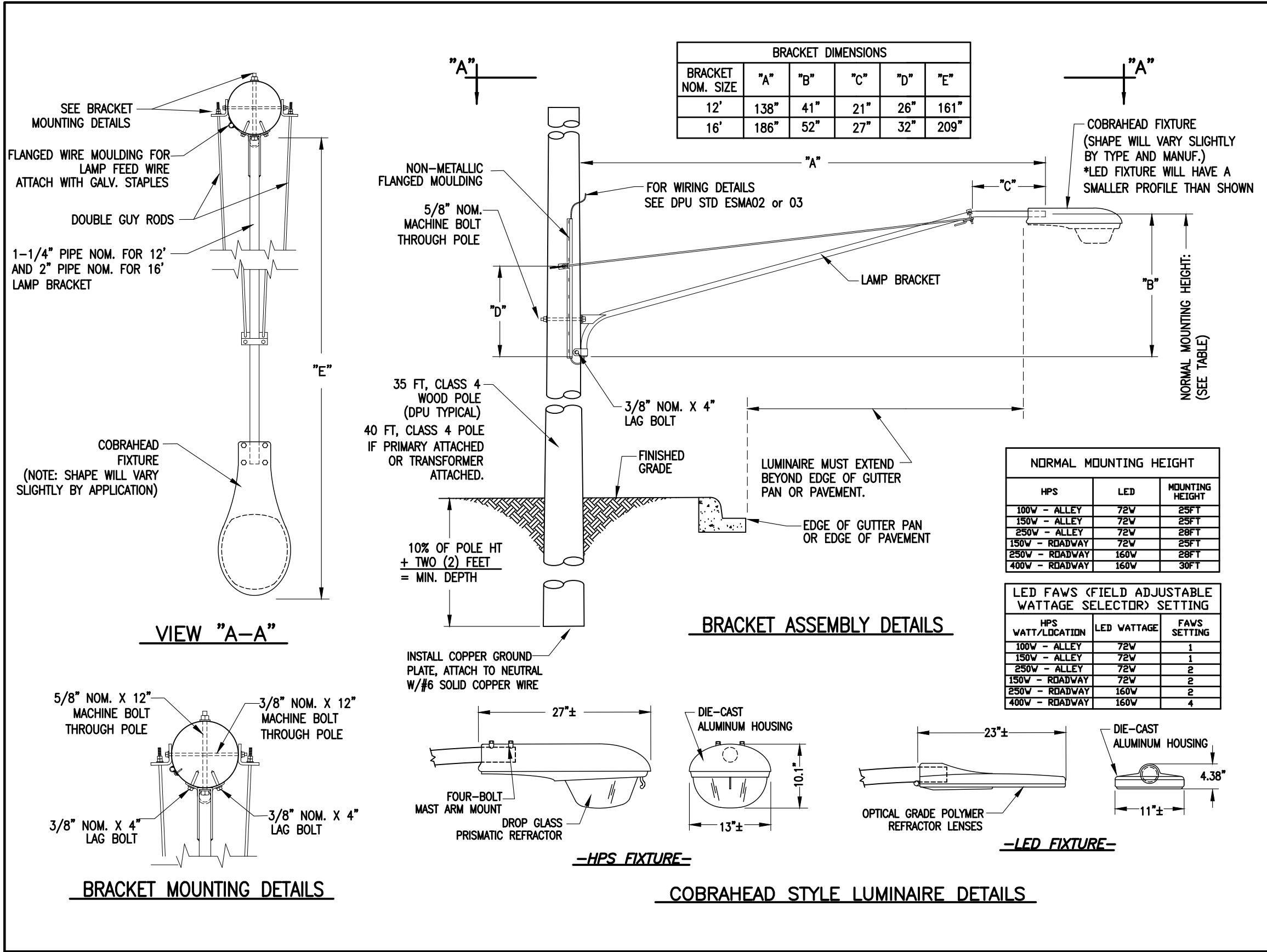
1. **LUMINAIRE:**
HPS: SINGLE DOOR COBRAHEAD, POWDER COATED, DIE-CAST ALUMINUM, FOUR-BOLT INTERNAL MAST ARM MOUNT NO PHOTO-CONTROL RECEPTACLE. (ACUITY BRANDS LIGHTING INC., ROADWAY SERIES XXX, #XXX XXX CA MT2 R3 DG 4B NR, OR EQUAL.) – ENGINEERING TO PROVIDE SPEC
LED: SINGLE DOOR COBRAHEAD, POWDER COATED, DIE-CAST ALUMINUM, FOUR-BOLT INTERNAL MAST ARM MOUNT NO PHOTO-CONTROL RECEPTACLE. (SIGNIFY BRANDS – ROADFOCUS SERIES RFM, #RFM XXXX 3K G2 R2M UNV DMG FAWS RCD7 SP2 GY3, OR EQUAL.) – ENGINEERING TO PROVIDE SPEC
2. **OPTICS:** HPS LUMINAIRE HOOD HOUSES DROP GLASS PRISMATIC REFRACTOR, TYPE III (ASYMMETRIC) LIGHT DIST. LED LUMINAIRE HOOD HOUSES OPTICAL GRADE POLYMER REFRACTOR LENS, TYPE II (ASYMMETRIC) LIGHT DISTRIBUTION.
3. **LAMP HOLDERS:**
HPS: MEDIUM BASE PORCELAIN.
LED: POLARIZED PLUG/RECEPTACLE COMBINATION.
4. **LAMPS:**
HPS: 150W, 250W, OR 400W
LED: 3000 CCT
5. **BALLAST/DRIVER:**
HPS: ELECTRONIC BALLAST, PEAK LEAD, AUTOTRANSFORMER TYPE, MULTI-TAP VOLTAGE WIRED FOR 240V.
LED: STD 0-10V DIMMING CAPABILITY, HIGH POWER FACTOR OF 95%. ELECTRONIC DRIVER OPERATING RANGE 50/60 HZ. AUTO-ADJUSTING VOLTAGE INPUT 120-277 VAC.
6. **WIRING:** 14/2 WITH GROUND (TYPE UF-B) WIRE. LUMINAIRE TO BE PRE-WIRED.

GENERAL NOTES:

1. CONNECT FOR 240V OPERATION.
2. MARK THE INSTALLATION DATE ON THE LAMP AND INSIDE THE DOOR OF THE FIXTURE WITH PERMANENT INK MARKING PEN.
3. MOUNT THE FIXTURE PARALLEL TO THE ROADWAY SURFACE.
4. ROUTE THE WIRE THROUGH THE NON-METALLIC WIRE MOULD AND SECURE WITH GALVANIZED STAPLES.

MATERIAL LIST

QTY	DESCRIPTION
1	LUMINAIRE, COBRAHEAD, HPS OR LED
1	BRACKET, 1-1/4" X 6FT (72"), UPSWEEP
A/N	FLANGED NON-METALLIC WIRE MOULDING
1	BOLT, 5/8" X 12" OR 10"LG, MACHINE, GALVANIZED
2	LAG BOLT, 3/8" X 4", GALVANIZED
A/N	WIRE, 14/2 TYPE UF-B, COPPER, WITH NEUTRAL
1	POLE, TREATED WOOD, CLASS 4, 35FT OR 40FT
1	COPPER GROUND PLATE, GP110 OR EQUAL
A/N	#6 SOFT DRAWN BARE COPPER WIRE



SPECIFICATIONS:

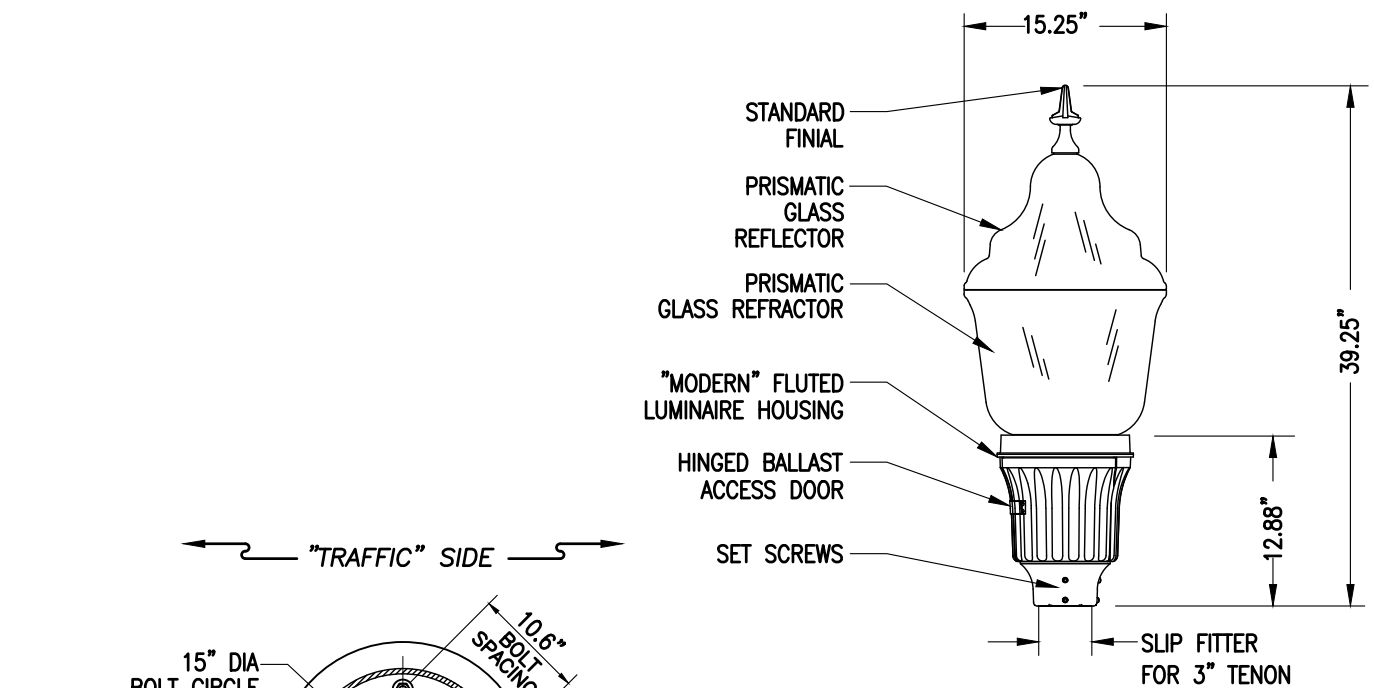
1. **LUMINAIRE:**
HPS: SINGLE DOOR COBRAHEAD, POWDER COATED, DIE-CAST ALUMINUM, FOUR-BOLT INTERNAL MAST ARM MOUNT NO PHOTO-CONTROL RECEPTACLE. (ACUITY BRANDS LIGHTING INC., ROADWAY SERIES XXX, #XXX XXX CA MT2 R3 DG 4B NR, OR EQUAL.) - ENGINEERING TO PROVIDE SPEC
LED: SINGLE DOOR COBRAHEAD, POWDER COATED, DIE-CAST ALUMINUM, FOUR-BOLT INTERNAL MAST ARM MOUNT NO PHOTO-CONTROL RECEPTACLE. (SIGNIFY BRANDS - ROADFOCUS SERIES RFM, #RFM XXXX 3K G2 R2M UNV DMG FAWS RCD7 SP2 GY3, OR EQUAL.) - ENGINEERING TO PROVIDE SPEC
2. **OPTICS:** HPS LUMINAIRE HOOD HOUSES DROP GLASS PRISMATIC REFRACTOR, TYPE III (ASYMMETRIC) LIGHT DIST. LED LUMINAIRE HOOD HOUSES OPTICAL GRADE POLYMER REFRACTOR LENS, TYPE II (ASYMMETRIC) LIGHT DISTRIBUTION.
3. **LAMP HOLDERS:**
HPS: MEDIUM BASE PORCELAIN.
LED: POLARIZED PLUG/RECEPTACLE COMBINATION.
4. **LAMPS:**
HPS: 150W, 250W, OR 400W
LED: 3000 CCT
5. **BALLAST/DRIVER:**
HPS: ELECTRONIC BALLAST, PEAK LEAD, AUTOTRANSFORMER TYPE, MULTI-TAP VOLTAGE WIRED FOR 240V.
LED: STANDARD 0-10V DIMMING CAPABILITY, HIGH POWER FACTOR OF 95%. ELECTRONIC DRIVER OPERATING RANGE 50/60 Hz. AUTO-ADJUSTING VOLTAGE INPUT 120-277 VAC.
6. **WIRING:** 14/2 WITH GROUND (TYPE UF-B) WIRE. LUMINAIRE TO BE PRE-WIRED.

GENERAL NOTES:

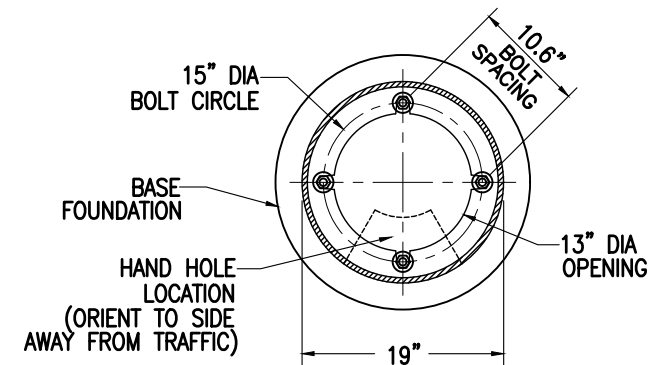
1. CONNECT FOR 240V OPERATION.
2. MARK THE INSTALLATION DATE ON THE LAMP AND INSIDE THE DOOR OF THE FIXTURE WITH PERMANENT INK MARKING PEN.
3. MOUNT THE FIXTURE PARALLEL TO THE ROADWAY SURFACE.
4. ROUTE THE WIRE THROUGH THE NON-METALLIC WIRE MOULD AND SECURE WITH GALVANIZED STAPLES.

MATERIAL LIST

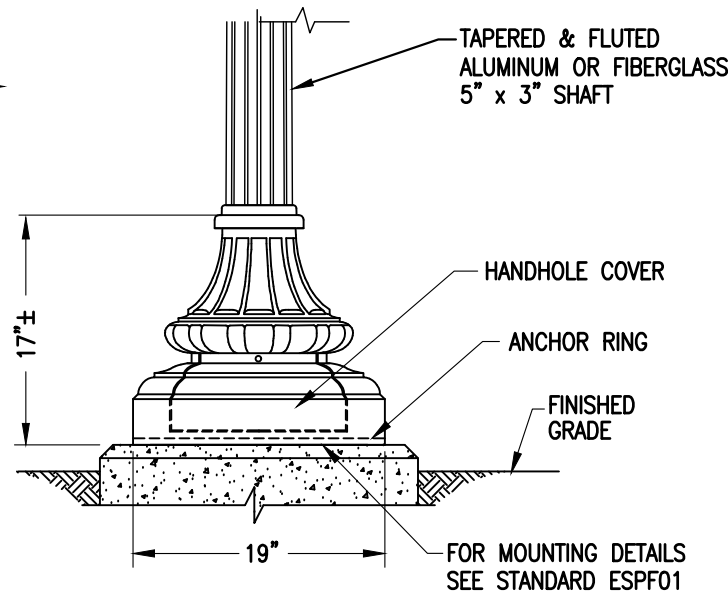
QTY	DESCRIPTION
1	LUMINAIRE, COBRAHEAD, HPS OR LED
1	BRACKET, 1-1/4" X 12' OR 2" X 16', DOUBLE GUY
A/N	FLANGED NON-METALLIC WIRE MOULDING
1	BOLT, 5/8" X 12" OR 10"LG, MACHINE, GALVANIZED
1	BOLT, 3/8" X 12" OR 10"LG, MACHINE, GALVANIZED
2	LAG BOLT, 3/8" X 4", GALVANIZED
A/N	WIRE, 14/2 TYPE UF-B, COPPER, WITH NEUTRAL
1	POLE, TREATED WOOD, CLASS 4, 35FT OR 40FT
1	COPPER GROUND PLATE, GP110 OR EQUAL
A/N	#6 SOFT DRAWN BARE COPPER WIRE



LUMINAIRE DETAILS
(HOLOPHANE GRANVILLE PREMIER SERIES)



POST LIGHT BASE MOUNTING DETAILS
(WADSWORTH STYLE BASE)



POST LIGHT BASE DETAILS
(“WADSWORTH” STYLE BASE)

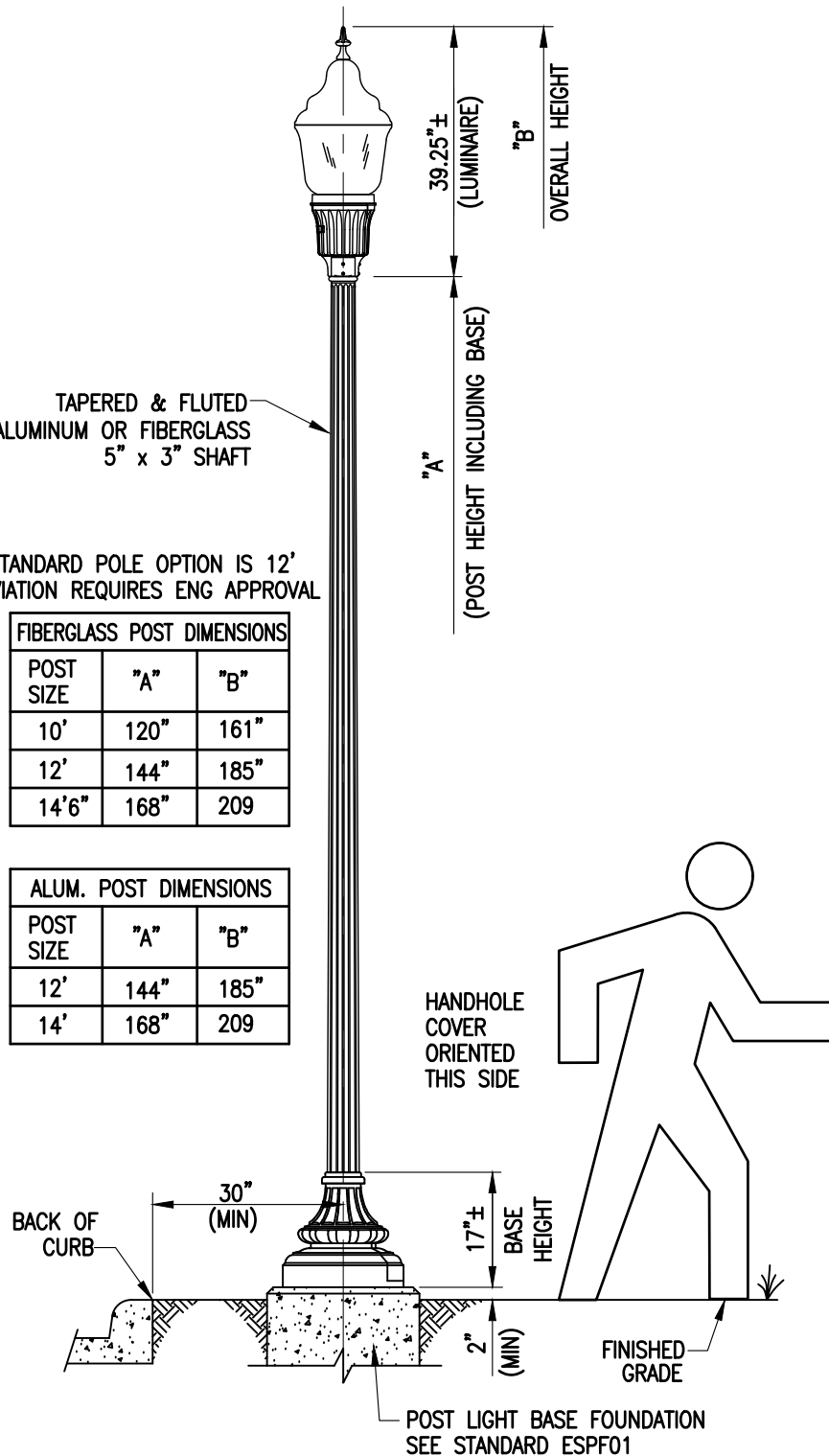
(COMPOSITE BASE & SHAFT: MAGEE HERMITAGE ROAD SERIES)

TAPERED & FLUTED ALUMINUM OR FIBERGLASS 5" x 3" SHAFT

STANDARD POLE OPTION IS 12' DEVIATION REQUIRES ENG APPROVAL

FIBERGLASS POST DIMENSIONS		
POST SIZE	"A"	"B"
10'	120"	161"
12'	144"	185"
14'6"	168"	209"

ALUM. POST DIMENSIONS		
POST SIZE	"A"	"B"
12'	144"	185"
14'	168"	209"



POST LIGHT ASSEMBLY DETAILS

SPECIFICATIONS:

- LUMINAIRE:** SEALED OPTICAL ASSEMBLY, BOROSILICATE GLASS OPTICS, TOOL-LESS MAINTENANCE, SWING OUT BALLAST DOOR, INTEGRAL RE-LAMP ASSEMBLY, MODULAR "UTILITY" ELECTRICAL ASSEMBLY. MODERN FLUTED SWING OPEN DESIGN. HOLOPHANE GRANVILLE CLASSIC SERIES GVD2 XXX 30K AS M CMC 3 N S CMC OR EQUAL. GVDRETRO2 XXX 30K AS F CMC 3 FOR RETROFIT. SURGE SUPPRESSION 20kV/10kA
- OPTICS:** DURABLE BOROSILICATE GLASS OPTICS, INTEGRAL ISD SUPERGLASS REFLECTOR, TYPE II (ASYMMETRIC) LIGHT DISTRIBUTION.
- LAMP HOLDERS:** LED: POLARIZED PLUG/RECEPTACLE COMBINATION.
- LAMPS:** LED: P20 - 100W HPS or P30 - 150W/175 HPS, 3000 CCT
- LED DRIVER:** STANDARD 0-10V DIMMING CAPABILITY, HIGH POWER FACTOR OF 95%. ELECTRONIC DRIVER OPERATING RANGE 50/60 Hz. AUTO-ADJUSTING VOLTAGE INPUT 120-277 VAC.
- SHAFT (ALUM):** FLUTED, TAPERED 5"-3" DIA. (.250 WALL), 6063-T6 ALLOY ALUMINUM. SHAFT HEAT TREATED TO PRODUCE A T6 TEMPER. SHAFT IS CIRCUMFERENTIALLY WELDED TO BASE. WIRE CLAMPS PROVIDED INSIDE PRE-WIRED POLE.
- BASE:** ONE PIECE CORROSION RESISTANT, DURABLE CAST ALUMINUM CONSTRUCTION. MINIMUM .250 WALL THICKNESS. WITH FLUSH HAND HOLE, GROUNDING LUG TO BE PROVIDED INSIDE BASE OPPOSITE THE HAND-HOLE. CAST ALUMINUM ACCESS DOOR PROVIDED WITH AN 18" PLASTIC SHEATHED KEEPER CHAIN AND TAMPER RESISTANT HARDWARE. (HOLOPHANE WADSWORTH STYLE BASE OR EQUAL)
- COMPOSITE BASE AND SHAFT:** ONE PIECE FIBERGLASS COMPOSITE CONSTRUCTION, WITH WITH FLUSH HANDHOLE ACCESS DOOR AND SHEATHED KEEPER CHAIN. WADSWORTH STYLE BASE. MAGEE HERMITAGE ROAD SERIES OR EQUAL.
- WIRING:** 2'-0" (24") MIN. BEYOND BASE, 14/2, WITH GROUND, (TYPE UF-B) WIRE LEADS TO BE PROVIDED, POLE AND LUMINAIRE TO BE PRE-WIRED.
- ANCHORING:** FOUR (4) 3/4"(NOM) X 18" LG (MIN), HOT-DIPPED, FULLY GALVANIZED, ANCHOR BOLTS, EACH SUPPLIED WITH NUTS AND WASHERS.
- FINISH:** PAINT TO MATCH FEDERAL STANDARD 595L, HOLOPHANE PAINT# Y979A "FEDERAL GREEN", OR EQUAL

MATERIAL LIST

QTY	DESCRIPTION
1	LUMINAIRE, GRANVILLE PREMIER, LED, HOLOPHANE
1	POLE, FLUTED AND TAPERED, 10 FT, FG ONLY (NON-STANDARD)
1	POLE, FLUTED AND TAPERED, 12 FT, ALUM/FG (ALUM STANDARD)
1	POLE, FLUTED AND TAPERED, 14.5 FT, FG ONLY (NON-STANDARD)
1	BASE, WADSWORTH STYLE, 19", HOLOPHANE
4	NUT, 3/4" NOM., HEX, HEAVY, HRS, GALV.
4	FLATWASHER, 3/4" NOM, SS
A/N	WIRE, 14/2 TYPE UF-B, COPPER, WITH NEUTRAL

REVIEWED & APPROVED

ENGINEERING: _____ SIGNED COPY ON FILE

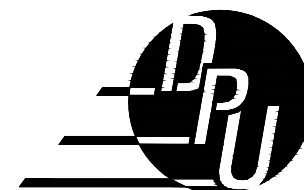
REFERENCES:
ESMA01, ESMA04, ESPF01



STANDARD FIXTURE ASSEMBLY DETAILS

THE "GRANVILLE" STYLE LIGHTING FIXTURE

LED TYPE LUMINAIRE



CITY OF RICHMOND PUBLIC UTILITIES
STREET LIGHT STANDARDS

REVISION 0
REVISION DATE
01/2022

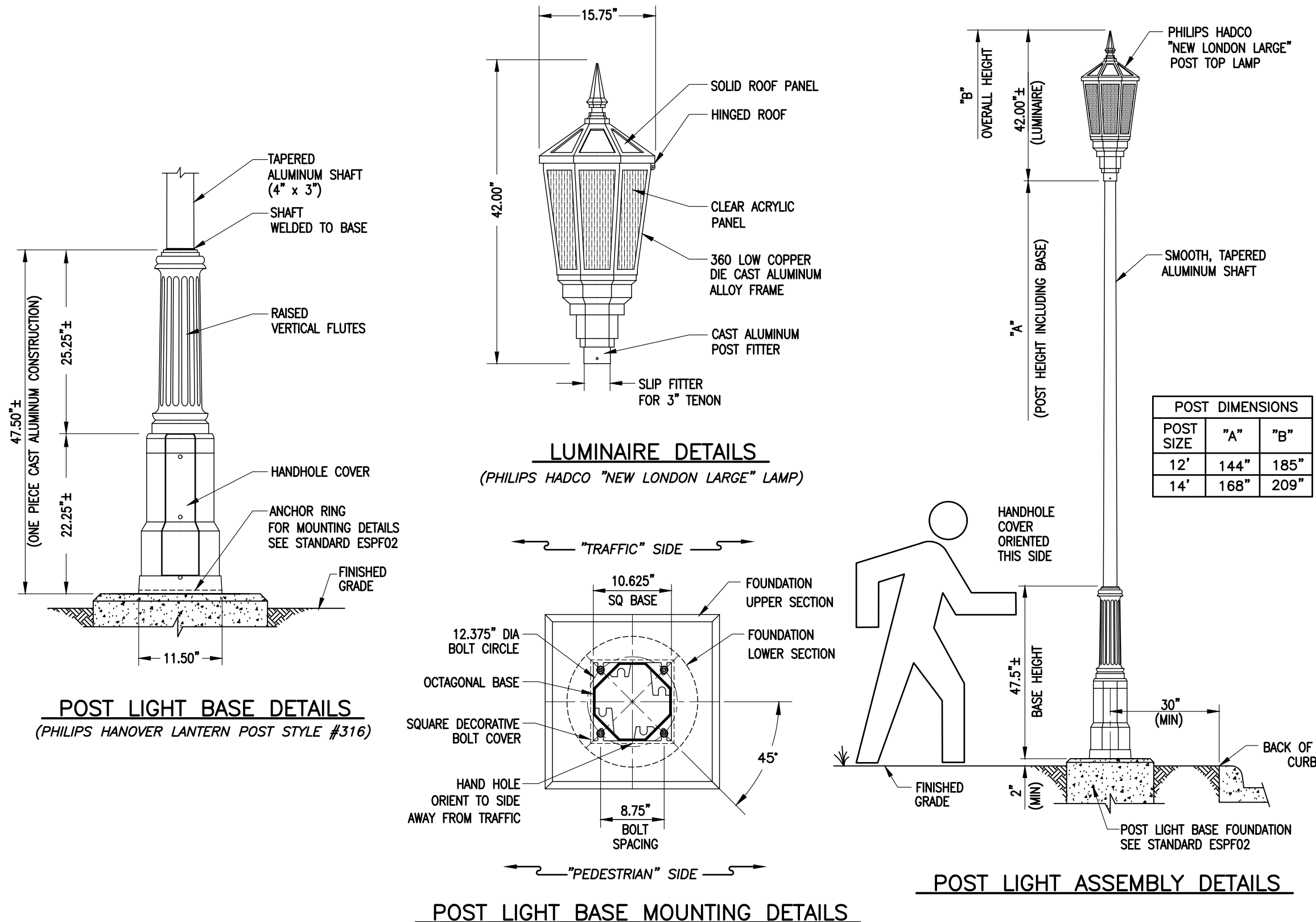
SHEET 1 OF 1
ESFA11

SPECIFICATIONS

1. LUMINAIRE: SEALED OPTICAL ASSEMBLY, GLASS OPTICS, TOOL-LESS MAINTENANCE, SWING OPEN HINGED UTILITY POD ROOF WITH MOISTURE PROOF BALLAST COMPARTMENT AND SLIDE -OUT BALLAST TRAY. CLEAR ACRYLIC PANELS AND GLOBE, PHILIPS HADCO NEW LONDON SERIES POST TOP LANTERN OR EQUAL.
2. OPTICS: GLASS REFRACTOR, 6" TYPE III (ASSYMETRIC) LIGHT DISTRIBUTION.
3. LAMP HOLDERS:
LED: POLARIZED PLUG/RECEPTACLE COMBINATION.
4. LAMPS:
LED: (70W METAL HALIDE EQUIVALENT), 3000 CCT
5. LED DRIVER:
STANDARD 0-10V DIMMING CAPABILITY, HIGH POWER FACTOR OF 95%. ELECTRONIC DRIVER OPERATING RANGE 50/60 Hz. AUTO-ADJUSTING VOLTAGE INPUT 120-277 VAC.
6. SHAFT: SMOOTH, TAPERED 4"-3" DIA., .125 WALL (MIN) ALLOY ALUMINUM. SHAFT HEAT TREATED TO PRODUCE A T6 TEMPER. SHAFT IS CIRCUMFERENTIALLY WELDED TO BASE. WIRE CLAMPS PROVIDED INSIDE PRE-WIRED POLE ASSEMBLY.
7. WIRING: 16'-0", 14/2 WITH GROUND (TYPE UF-B) WIRE LEADS TO BE PROVIDED, POLE AND LUMINAIRE TO BE PRE-WIRED.
8. BASE: ONE PIECE CORROSION RESISTANT, DURABLE CAST ALUMINUM CONSTRUCTION. MINIMUM .125 WALL THICKNESS. BASE CONSISTS OF SMOOTH, STEPPED BOTTOM SECTION WITH FLUSH HAND HOLE, AND A DECORATIVE TAPERED FLUTED SECTION CONSISTING OF EVENLY SPACED, HIGHLY DETAILED RAISED VERTICAL FLUTES. GROUNDING LUG TO BE PROVIDED INSIDE BASE OPPOSITE THE HAND-HOLE. CAST ALUMINUM ACCESS DOOR PROVIDED WITH AN 18" PLASTIC SHEATHED KEEPER CHAIN AND TAMPER RESISTANT HARDWARE. (PHILIPS HANOVER LANTERN POST STYLE 316, OR EQUAL).
9. ANCHORING: FOUR (4) 1/2"(NOM) X 18" LG x 3" "L" TYPE (MIN) HOT-DIPPED, FULLY GALVANIZED, ANCHOR BOLTS, EACH SUPPLIED WITH NUTS AND WASHERS.
10. FINISH: RESILIENT TGIC THERMOSET POLYESTER POWDERCOAT, ELECTROSTATICALLY APPLIED. PHILIPS BLACK (BLK), OR EQUAL.

MATERIAL LIST

QTY	DESCRIPTION
1	LUMINAIRE, NEW LONDON LG, LED, PHILIPS/HADCO, VX8911
1	POLE, TAPERED, 12FT OR 14FT, ALUM, STYLE 316, PAINTED
1	BASE, 11.5" SQ. PED, OCT. BASE, STYLE 316
8	NUT, 1/2" NOM., HEX, HEAVY, HRS, GALV.
1	FLATWASHER, 1/2" NOM, SS
8	WIRE, 14/2 TYPE UF-B, COPPER, WITH NEUTRAL



REVIEWED & APPROVED

ENGINEERING: SIGNED COPY ON FILE

REFERENCES:
ESMA01, ESMA04, ESPF02



STANDARD FIXTURE ASSEMBLY DETAILS
THE "MONUMENT AVENUE" STYLE LIGHTING FIXTURE
LED TYPE LUMINAIRE

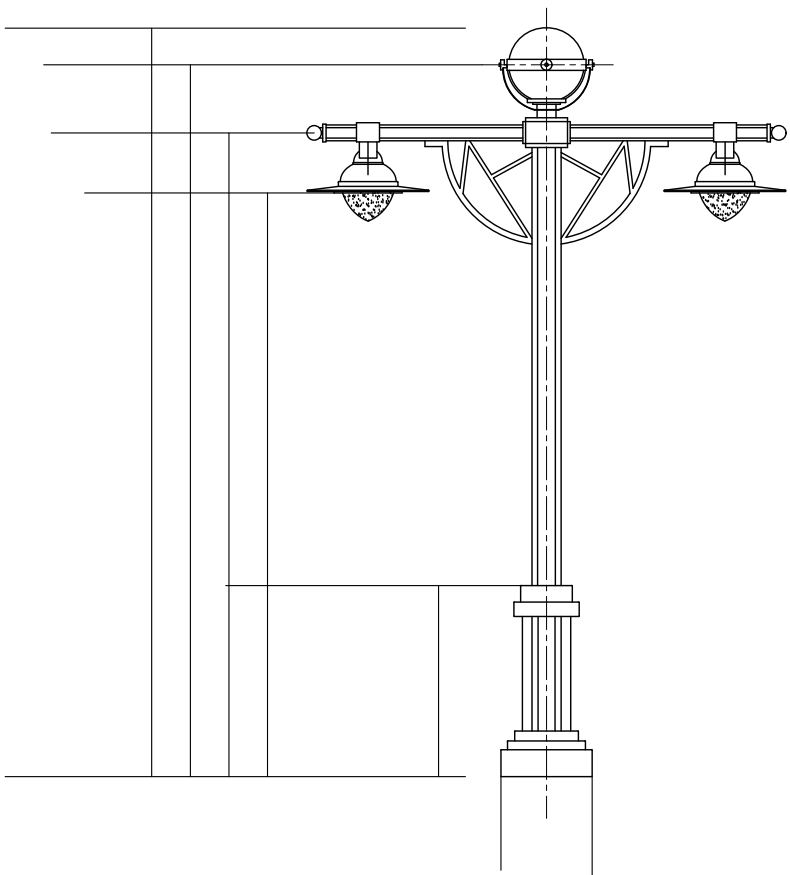


CITY OF RICHMOND PUBLIC UTILITIES

STREET LIGHT STANDARDS

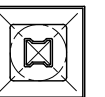
REVISION 0
REVISION DATE
01/2022

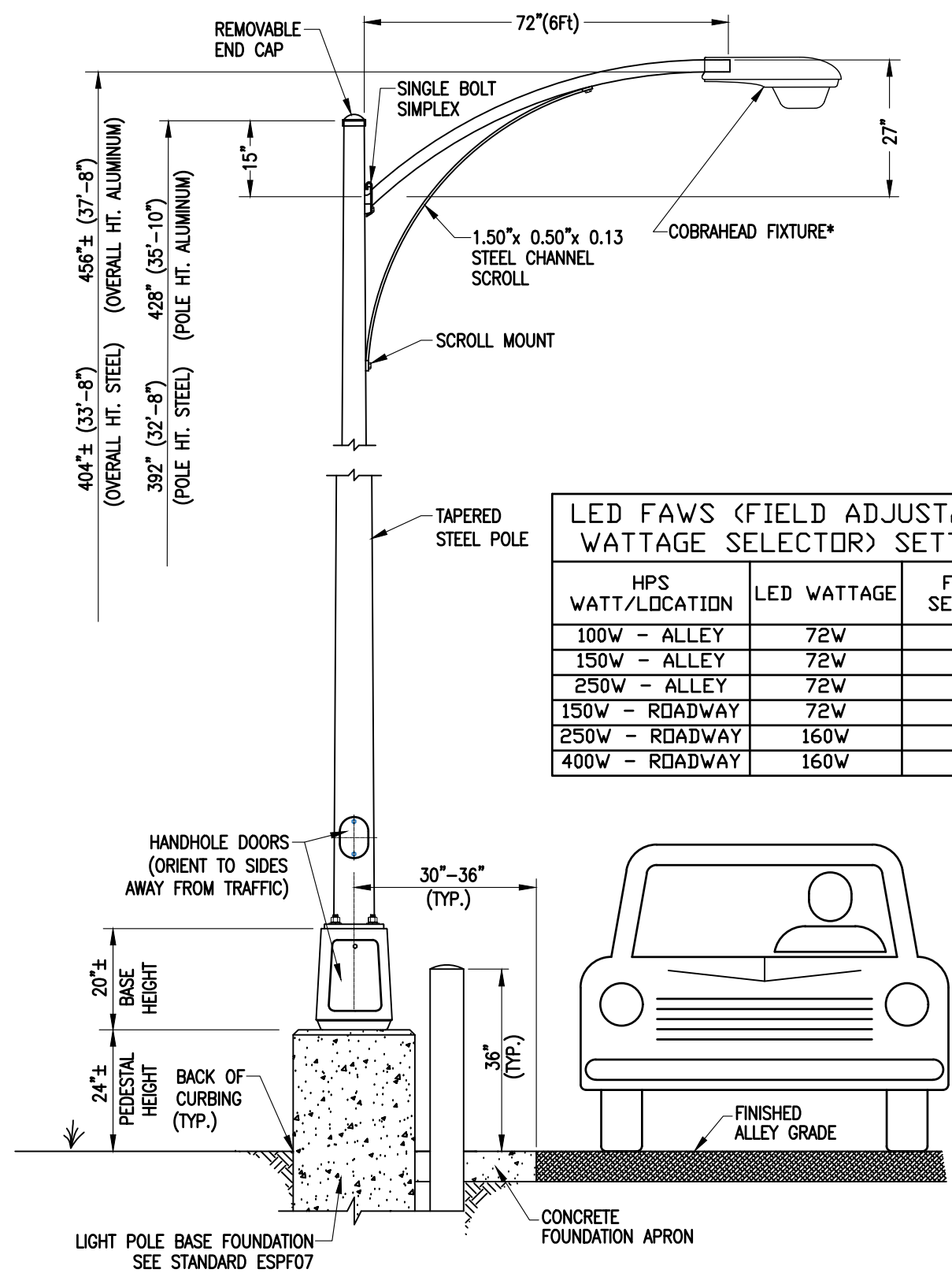
SHEET 1 OF 1
ESFA12



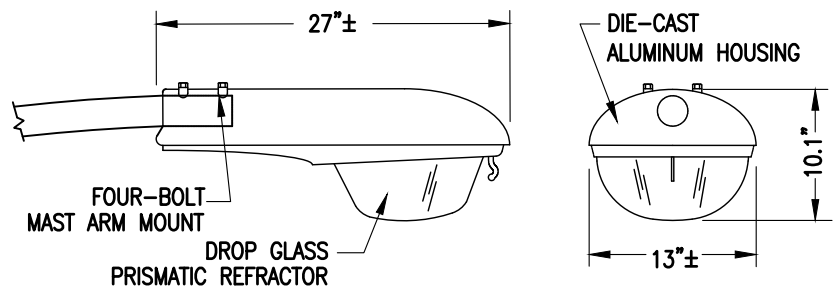
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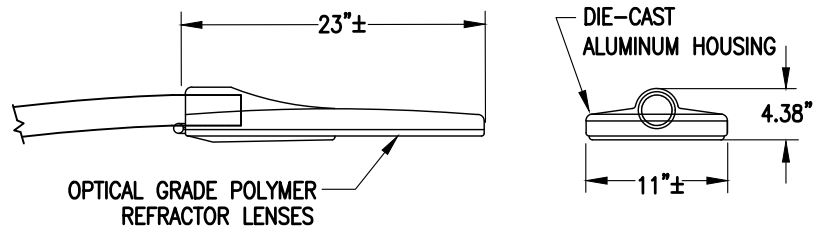




LED FAWS (FIELD ADJUSTABLE WATTAGE SELECTOR) SETTING		
HPS WATT/LOCATION	LED WATTAGE	FAWS SETTING
100W - ALLEY	72W	1
150W - ALLEY	72W	1
250W - ALLEY	72W	2
150W - ROADWAY	72W	2
250W - ROADWAY	160W	2
400W - ROADWAY	160W	4

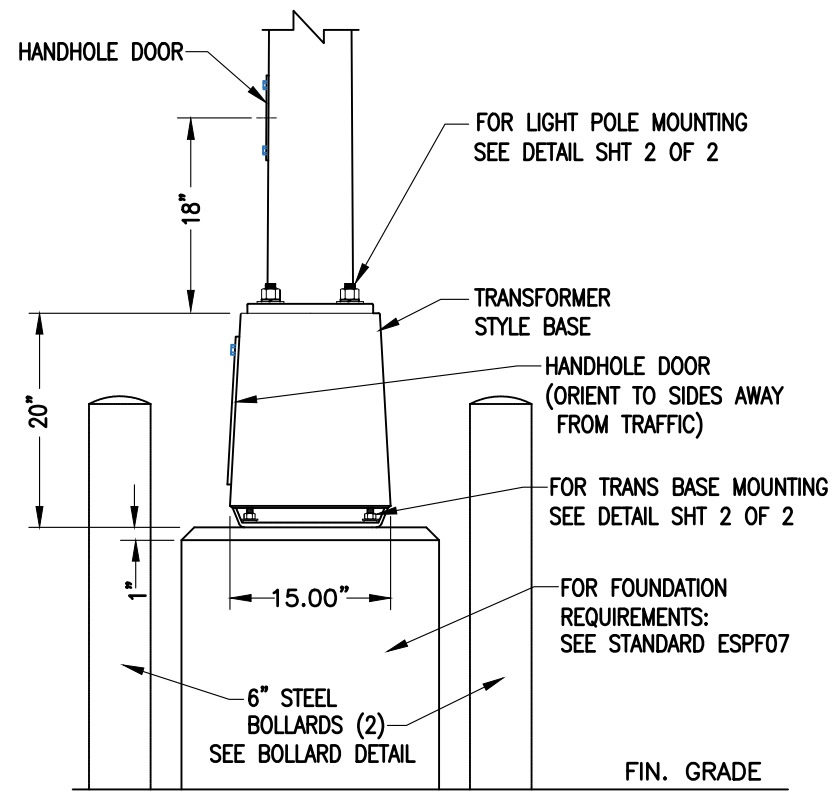


-HPS FIXTURE-



-LED FIXTURE-

COBRAHEAD STYLE LUMINAIRE

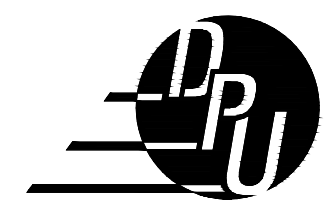


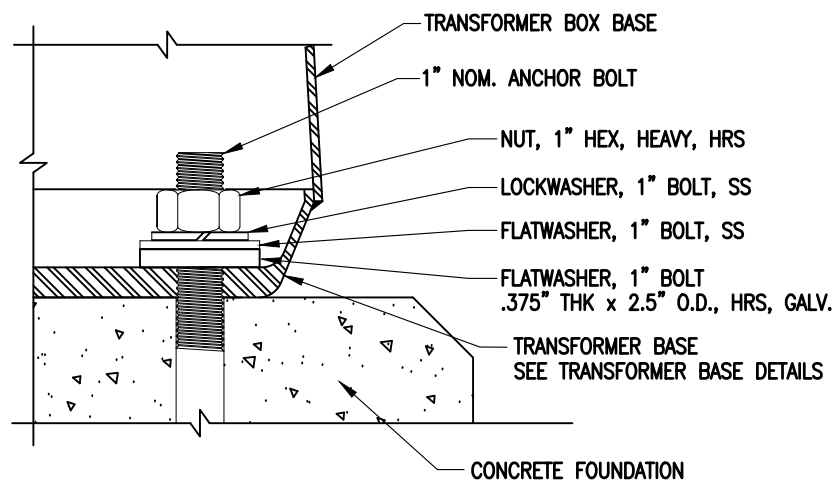
ELEVATED LIGHT POLE BASE DETAILS

SPECIFICATIONS:

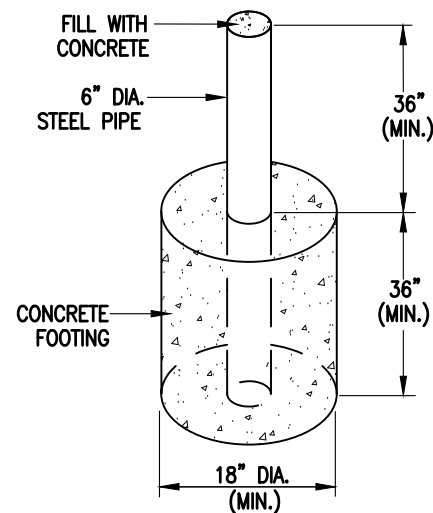
- LUMINAIRE:**
HPS: SINGLE DOOR COBRAHEAD, POWDER COATED, DIE-CAST ALUMINUM, FOUR-BOLT INTERNAL MAST ARM MOUNT NO PHOTO-CONTROL RECEPTACLE (ACUITY BRANDS LIGHTING INC., ROADWAY SERIES XXX, #XXX XXX CA MT2 R3 DG 4B NR, OR EQUAL) - ENGINEERING TO PROVIDE SPEC
LED: SINGLE DOOR COBRAHEAD, POWDER COATED, DIE-CAST ALUMINUM, FOUR-BOLT INTERNAL MAST ARM MOUNT NO PHOTO-CONTROL RECEPTACLE. (SIGNIFY BRANDS - ROADFOCUS SERIES RFM, #RFM-3K-G2-R2M-UNV-DMG-FAWS-RCD7-SP2-GY3, OR EQUAL) - ENGINEERING TO PROVIDE SPEC
- OPTICS:** HPS LUMINAIRE HOOD HOUSES DROP GLASS PRISMATIC REFRACTOR, TYPE III (ASYMMETRIC) LIGHT DISTRIBUTION. LED LUMINAIRE HOOD HOUSES OPTICAL GRADE POLYMER REFRACTOR LENS, TYPE II (ASYMMETRIC) LIGHT DISTRIBUTION.
- LAMP HOLDERS:**
HPS: MEDIUM BASE PORCELAIN.
LED: POLARIZED PLUG/RECEPTACLE COMBINATION.
- LAMPS:**
HPS: 150W, 250W, OR 400W
LED: 3000 CCT
- BALLAST/DRIVER:**
HPS: ELECTRONIC BALLAST, PEAK LEAD, AUTOTRANSFORMER TYPE, MULTI-TAP VOLTAGE WIRED FOR 240V.
LED: STD 0-10V DIMMING CAPABILITY, HIGH POWER FACTOR OF 95%. ELECTRONIC DRIVER OPERATING RANGE 50/60 Hz. AUTO-ADJUSTING VOLTAGE INPUT 120-277 VAC.
- SHAFT:**
STEEL: TAPERED, 8.00" DIA BASE, 3.94" DIA TOP, 29.00' LENGTH, A595 GR.A, 11 GA STEEL, MIN. YIELD 55 KSI, WELDED TO BASE.
ALUMINUM: TAPERED, 8.00" DIA BASE, 4.50" DIA TOP, 29.66' LENGTH, 6063 ALLOY ALUMINUM TUBING, HEAT TREATED TO T6, CIRCUMFERENTIALLY WELDED TO BASE.
BOTH SHAFTS TO HAVE WIRE CLAMPS PROVIDED INSIDE PRE-WIRED POLE. GROUNDING LUG TO BE PROVIDED INSIDE FLUSH HAND-HOLE. ACCESS DOOR PROVIDED WITH AN 18" PLASTIC SHEATHED KEEPER CHAIN AND TAMPER RESISTANT HARDWARE.
- WIRING:** 35'-0", 14/2 WITH GROUND (TYPE UF-B) WIRE LEADS TO BE PROVIDED, POLE AND LUMINAIRE TO BE PRE-WIRED.
- POLE BASE:**
STEEL: ONE PIECE 11.75" SQ, 0.88" THK, ASTM A36 GR STEEL, MIN YIELD 36 KSI, 10.50" BOLT CIRCLE.
ALUMINUM: ONE PIECE 11.50" SQ, ASTM A356 ALLOY ALUMINUM, HEAT TREATED TO A T6 CONDITION, 11-12" BOLT CIRCLE.

-CONTINUED ON SHEET 2 OF 2-

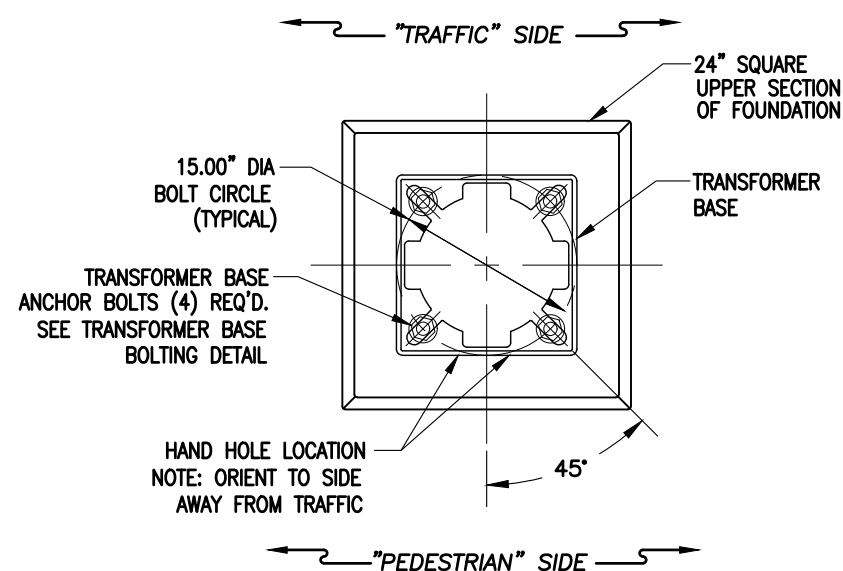




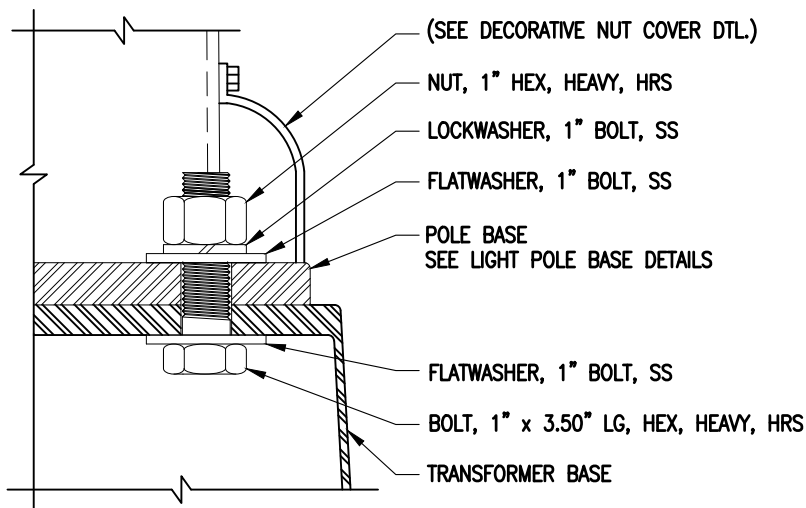
TRANSFORMER BASE BOLT DETAIL
(BOTTOM SECTION OF TRANSFORMER BASE)



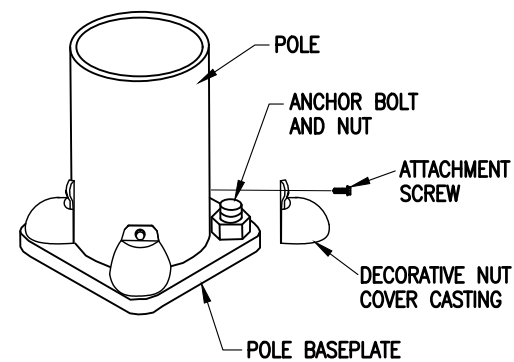
BOLLARD DETAILS



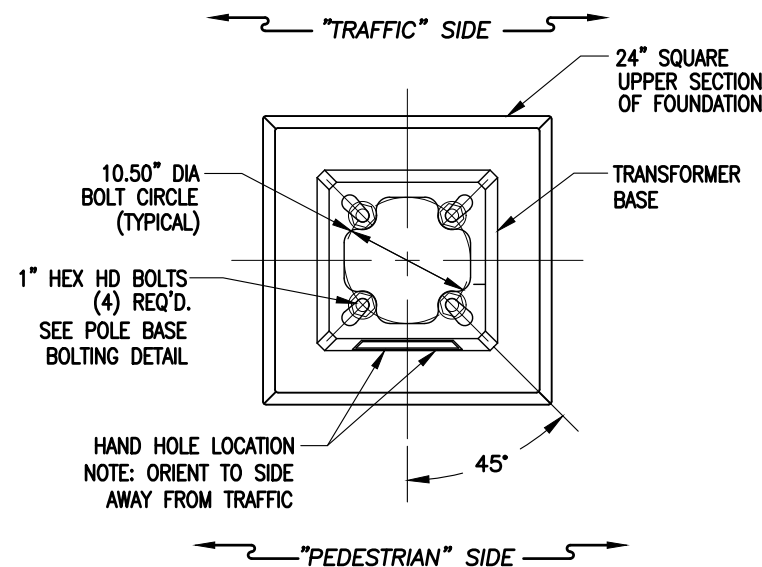
TRANSFORMER BASE DETAIL
(15" SQUARE BASE)



LIGHT POLE BASE BOLT DETAIL
(TOP SECTION OF TRANSFORMER BASE)



DECORATIVE NUT COVER DETAIL



LIGHT POLE BASE DETAIL
(TOP SECTION OF TRANSFORMER BASE)

SPECIFICATIONS:

9. **ANCHORING:**
(4) 1" DIA ANCHOR BOLTS, x 36" LG X 4" HOOK LENGTH MIN., THREADED END GALVANIZED A MINIMUM OF 12".
FOR EACH 1" ANCHOR BOLT: (2) HEAVY HEX NUTS, SS, (2) FLAT WASHERS, SS, AND (1) LOCKWASHER, SS.
10. **FINISH:**
STEEL POLES: FIVE STAGE FINISH, ELECTROSTATICALLY APPLIED, BAKED ON URETHANE POLYESTER POWDER. (DUPONT "FEDERAL GREEN" OR EQUAL).
ALUMINUM POLES: NATURAL ALUMINUM FINISH.

MATERIAL LIST

QTY	DESCRIPTION
1	LUMINAIRE, COBRAHEAD, HPS, WATTS AS NEEDED
1	LUMINAIRE, COBRAHEAD, LED, WATTS AS NEEDED
1	POLE, 29', STEEL, PAINTED OR 32' ALUMINUM, BRUSHED
1	TRANSFORMER POLE BASE (FAB-405C OR EQUAL)
1	BRACKET, 1-1/4" X 72" OR 120", FOR STEEL OR ALUM.
4	BOLT, 1" NOM. x 3.50" LG, HEX, HEAVY, HRS
8	NUT, 1" NOM, HEX, HEAVY, HRS
8	LOCKWASHER, 1" NOM., SS
12	FLATWASHER, 1" NOM., SS
4	FLATWASHER, 1" NOM., 0.375" THK x 2.5" O.D., HRS
A/R	WIRE, 14/2 TYPE UF-B, COPPER, WITH NEUTRAL

REVIEWED & APPROVED

ENGINEERING: SIGNED COPY ON FILE

REFERENCES:
ESMA01, ESMA04, ESPF07



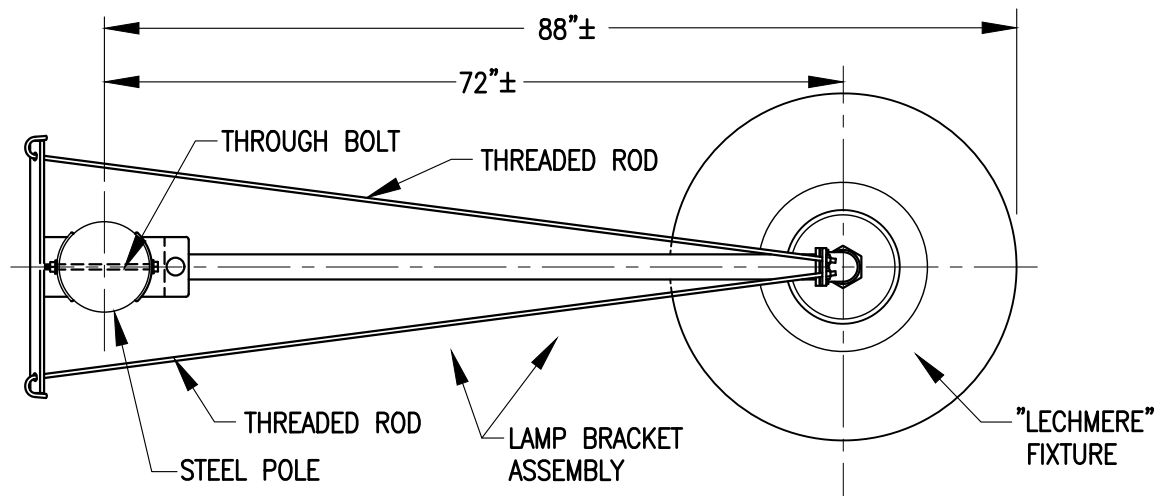
STANDARD FIXTURE ASSEMBLY DETAIL
29' STEEL OR 32' ALUMINUM POLE W/ ELEVATED BASE
FOR PAVED ALLEYWAYS; W/ 6ft OR 10ft BRACKET ARM
HIGH PRESS SODIUM OR LED TYPE COBRA HEAD STYLE FIXTURE



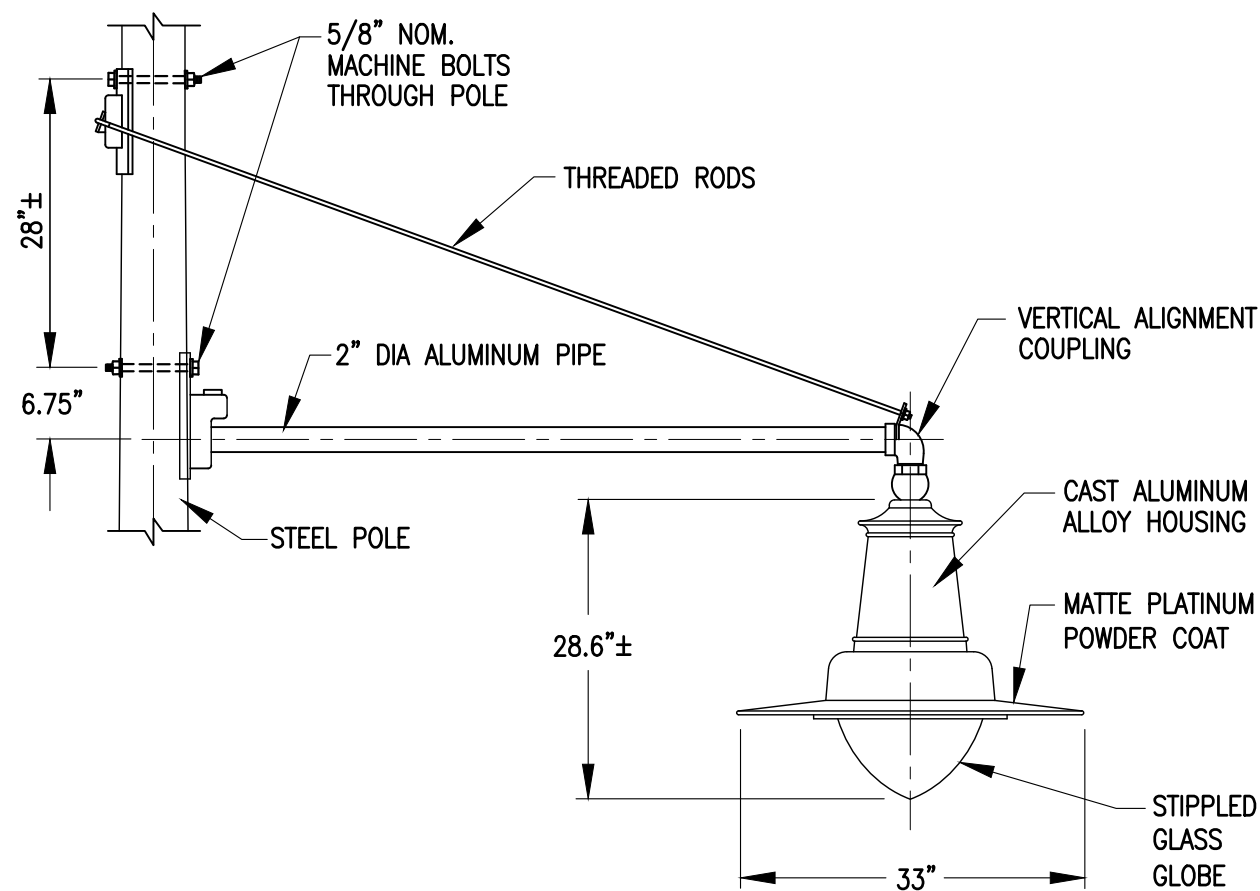
CITY OF RICHMOND PUBLIC UTILITIES
STREET LIGHT STANDARDS

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REVISION DATE
01/2022

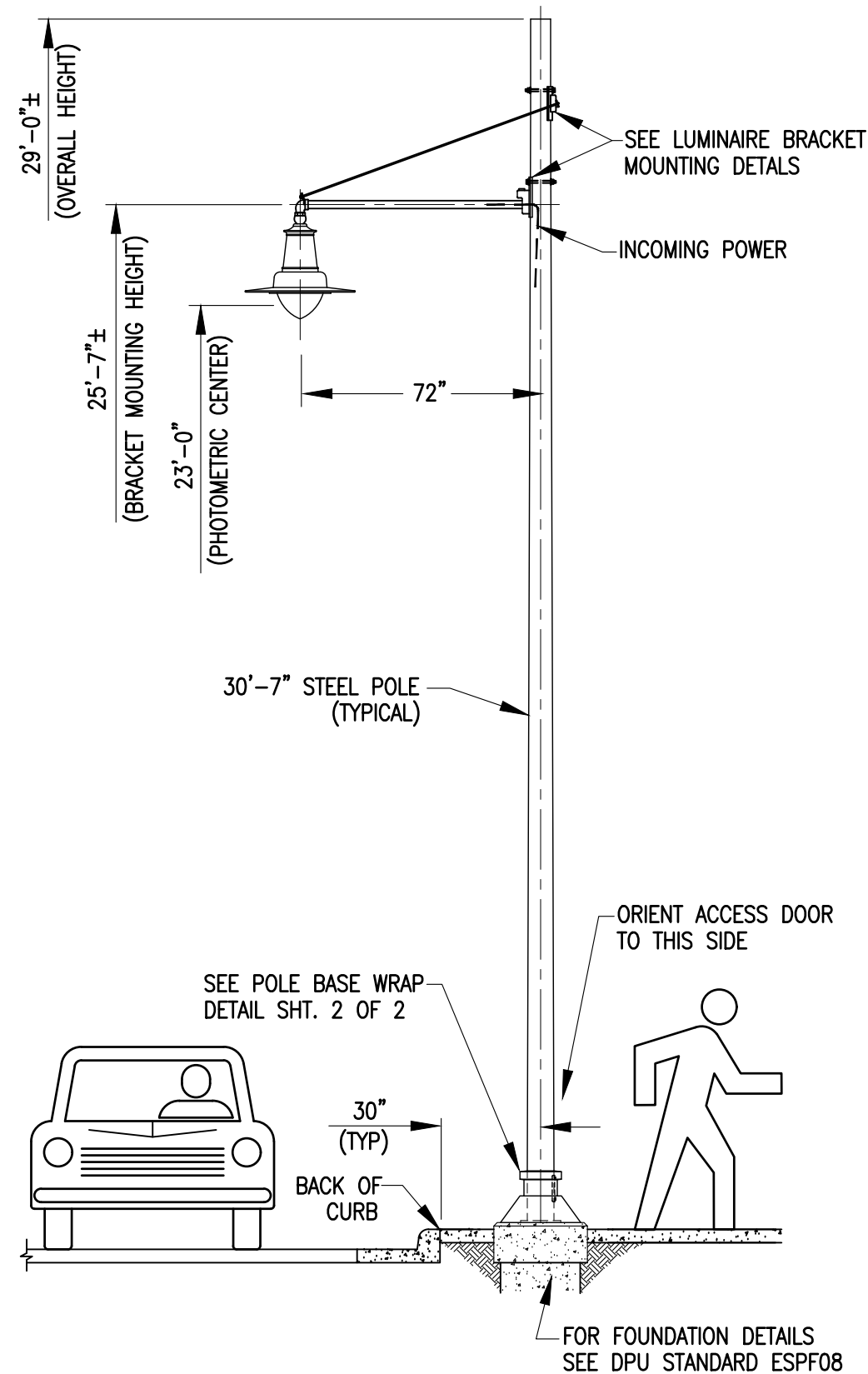
SHEET 2 OF 2
ESFA14



TOP VIEW



LUMINAIRE BRACKET MOUNTING DETAIL



SPECIFICATIONS:

1. **LUMINAIRE:** 28.44" TALL X 33" DIAMETER, POWDER COATED, CAST ALUMINUM ALLOY HOUSING, 110 STIPPLED GLASS GLOBE, WITH VERTICAL ALIGNMENT COUPLING, SPRING CITY ELECTRICAL MANUFACTURING CO. LECHMERE SERIES, #ALMLCH-LE120/EVX/X2-27 -FM3-GS10-LAVBC-CU, OR EQUAL.
2. **OPTICS:** LED LUMINAIRE, 2700K WARM WHITE, TYPE III, ASYMMETRIC, MEDIUM TRANSMISSION, FROSTED REFRACTIVE OPTICS.
3. **LAMP:** 120 WATT LED (2700K).
4. **BALLAST/DRIVER:** ELECTRONIC, WIRED FOR 120-277 VOLTS.
5. **WIRING:** 14/2 WITH GROUND (TYPE UF-B) WIRE LEADS TO BE PROVIDED, BRACKET AND LUMINAIRE TO BE PRE-WIRED.
6. **CROSSARM (BRACKET):** FABRICATED ALUMINUM PLATE AND 2" DIA PIPE, FOR 72" PROJECTION. 2" NPT X 1" LG NIPPLE TENON FOR VERTICAL ALIGNMENT COUPLING, POWDER COATED MATTE ALUMINUM, SPRING CITY ELECTRICAL MANUFACTURING, "TIMBER" CROSSARM MODEL # AARTMB-M1-1S-72-TN2.38/1.00-CU, OR EQUAL.
7. **POST:** 8" DIA. x 29'-0", 7 GAUGE, TAPERED STEEL; MONOTUBE CONSTRUCTION; MATTE PLATINUM POWDER COAT FINISH.

NOTE:
IN ALLEYWAYS, DPU WILL INSTALL 36" BRACKETS WITH THE SAME 23ft PHOTO-METRIC CENTER AS THE 72" BRACKET.

REVIEWED & APPROVED

ENGINEERING: _____ SIGNED COPY ON FILE

REFERENCES:
ESPF08



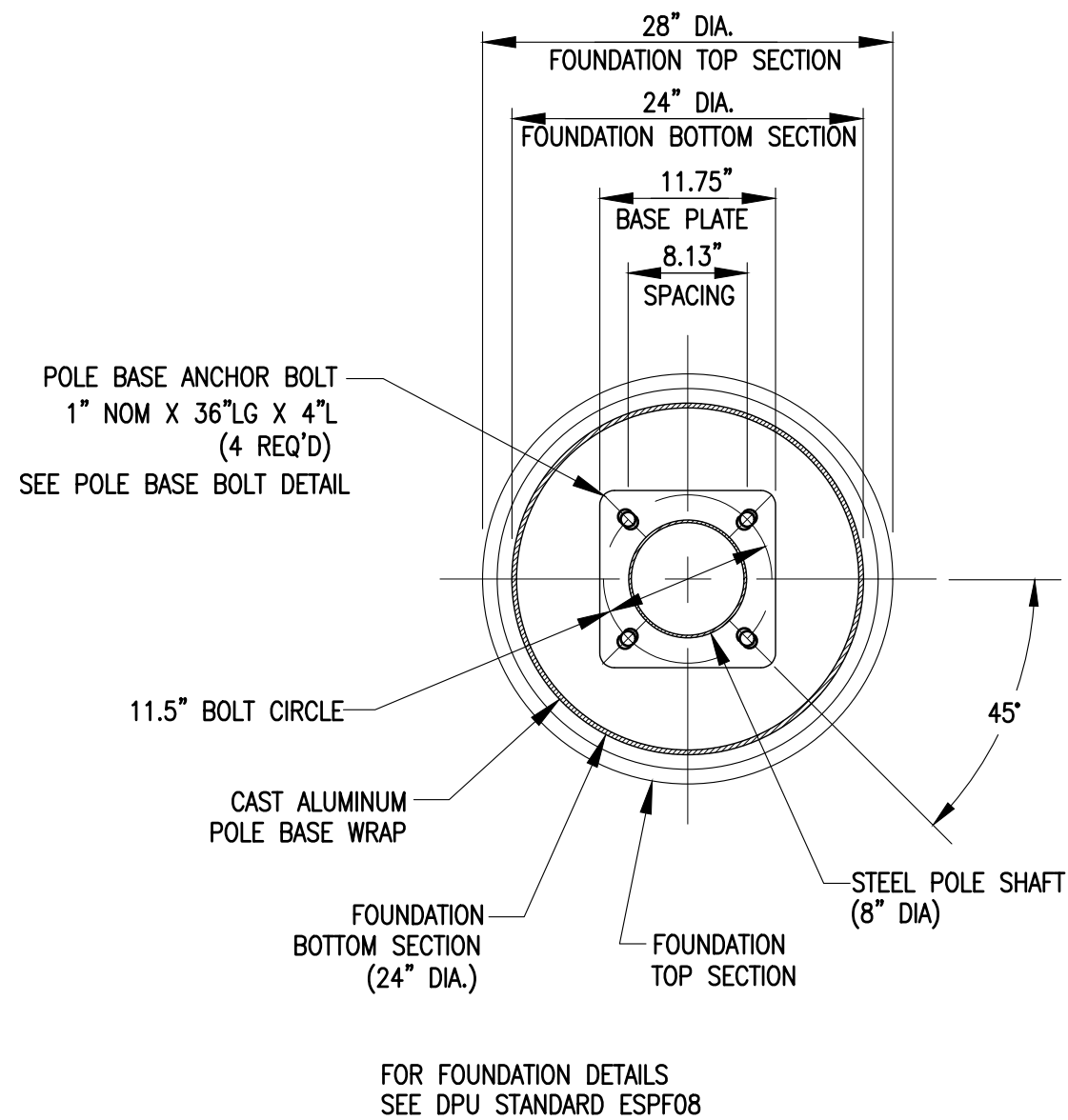
STANDARD FIXTURE ASSEMBLY DETAILS
MANCHESTER AREA 6ft BRACKET - 8" x 29ft STEEL POLE ASSEMBLY
LECHMERE STYLE LED LUMINAIRE



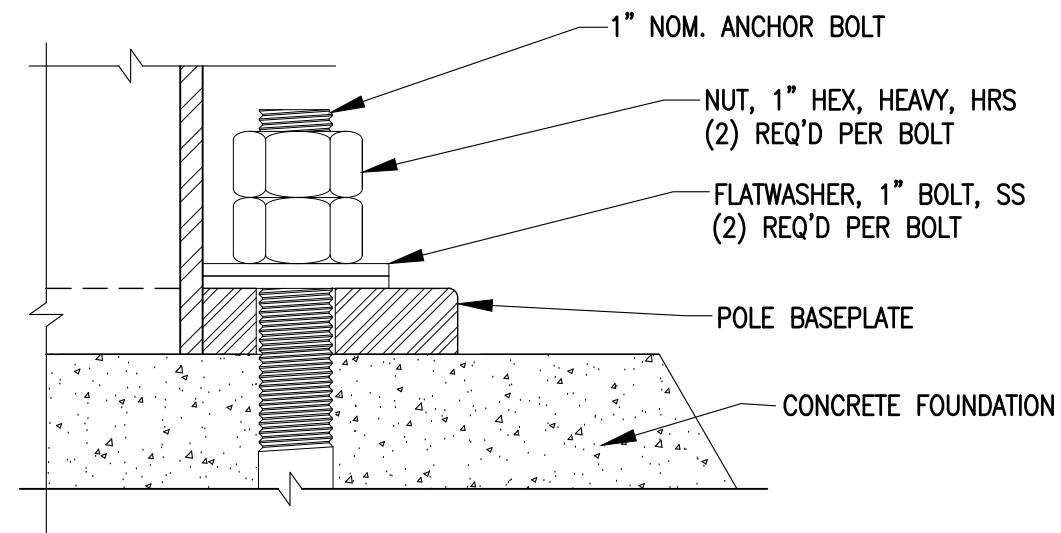
CITY OF RICHMOND PUBLIC UTILITIES
STREET LIGHT STANDARDS

REVISION 0
REVISION DATE
01/2022

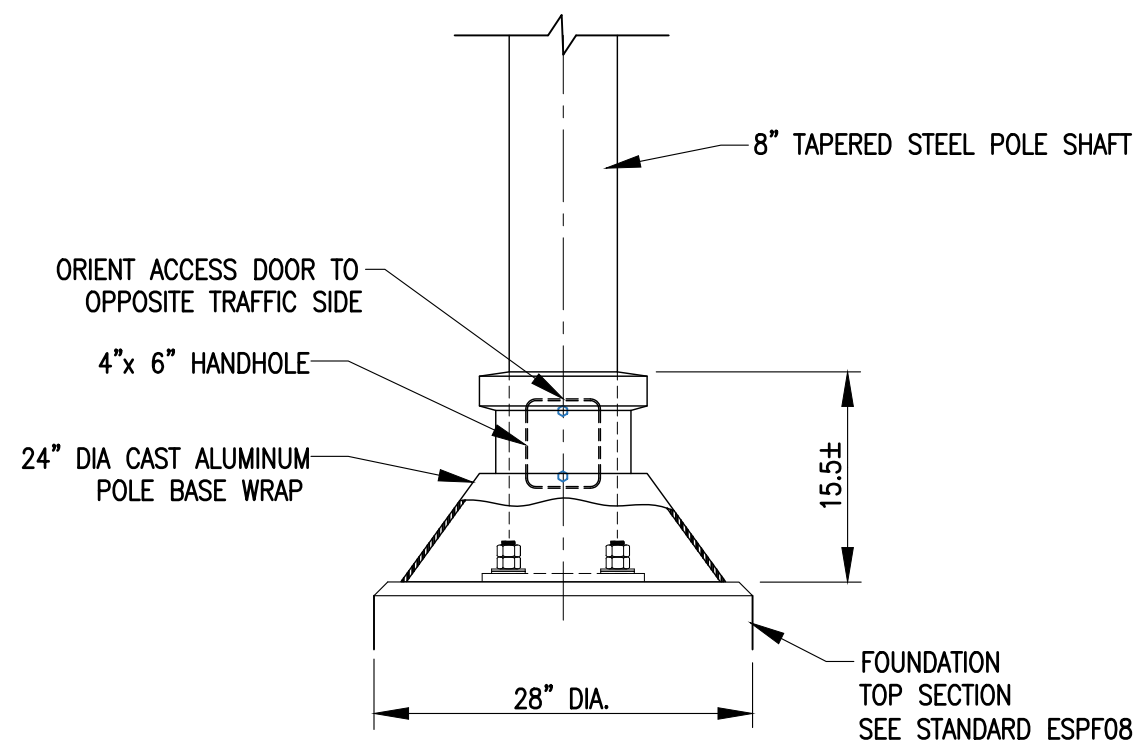
SHEET 1 OF 2
ESFA15



POLE BASE MOUNTING DETAIL



POLE BASE BOLTING DETAIL



POLE BASE WRAP DETAIL

REVIEWED & APPROVED

ENGINEERING: _____ SIGNED COPY ON FILE

REFERENCES:
ESPF08



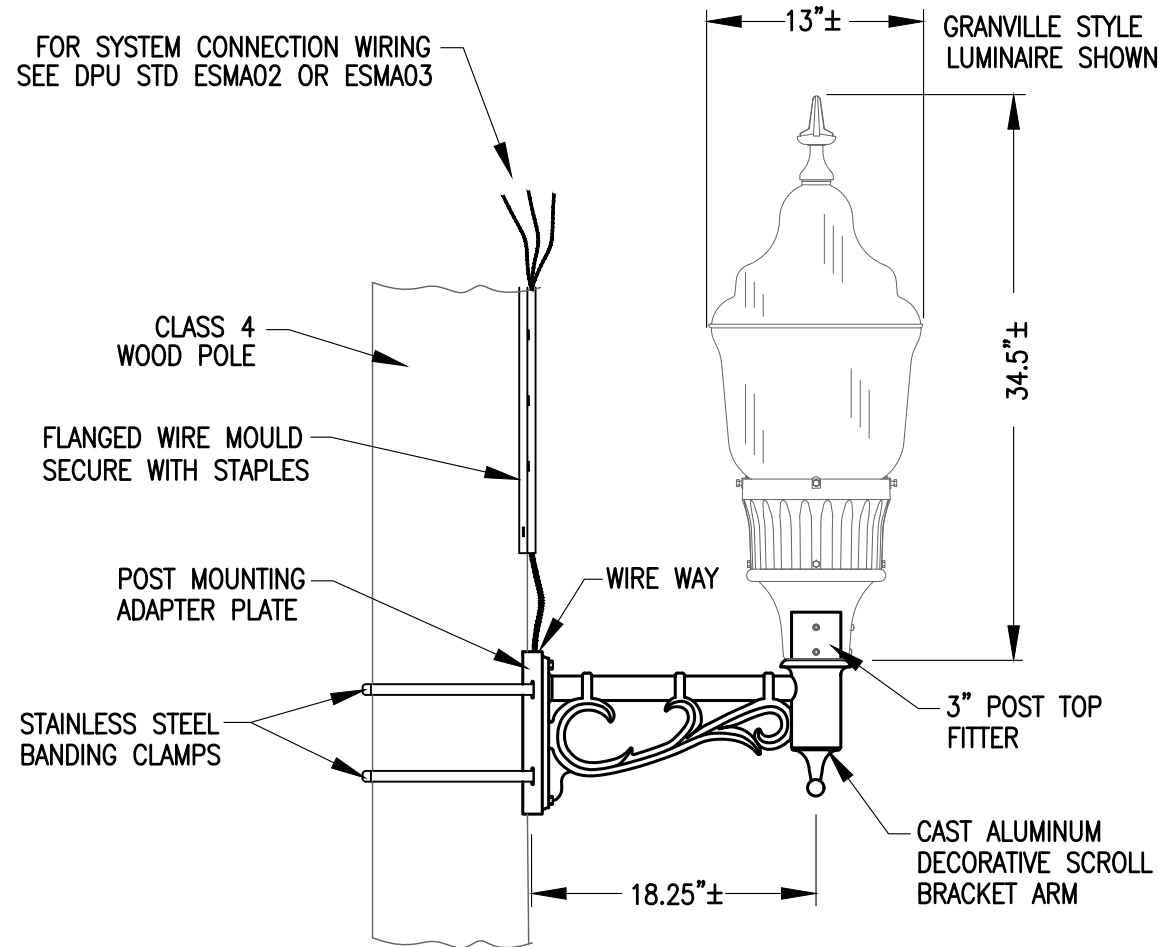
STANDARD FIXTURE ASSEMBLY DETAILS
MANCHESTER AREA 6ft BRACKET – 8" x 29ft STEEL POLE ASSEMBLY
LECHMERE STYLE LED LUMINAIRE



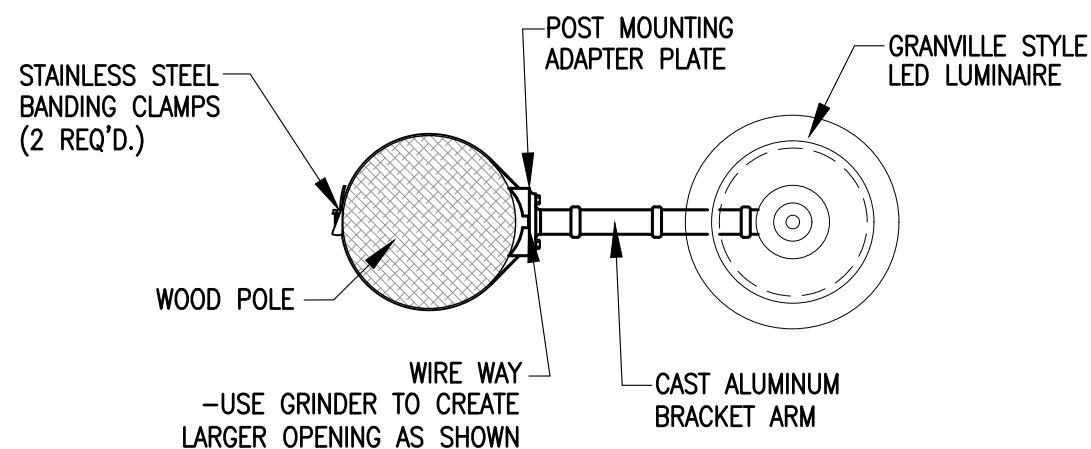
CITY OF RICHMOND PUBLIC UTILITIES
STREET LIGHT STANDARDS

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REVISION DATE
01/2022

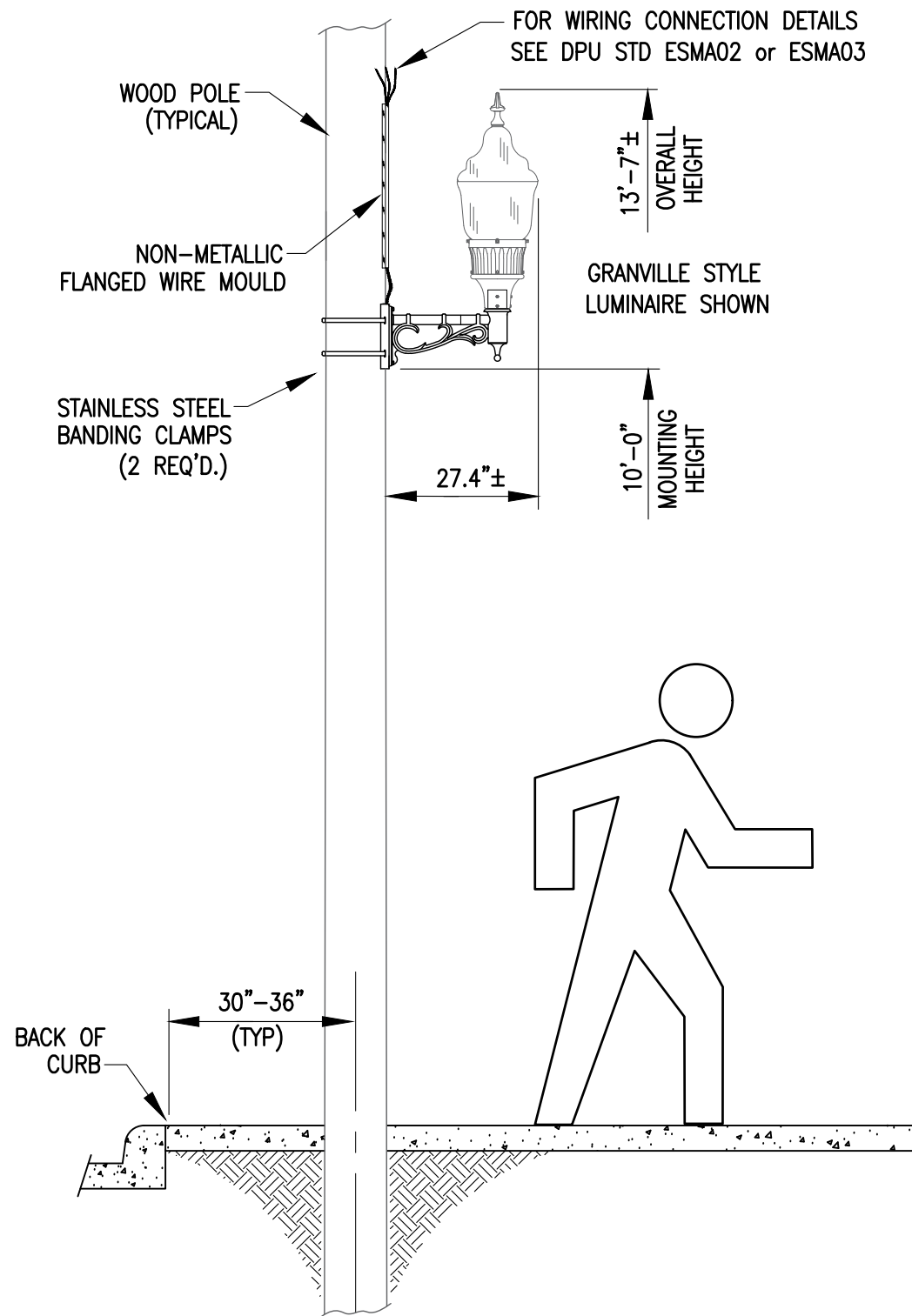
SHEET 2 OF 2
ESFA15



LUMINAIRE DETAIL



TOP VIEW



FIXTURE ASSEMBLY DETAILS

SPECIFICATIONS:

1. **BRACKET:** CAST ALUMINUM DECORATIVE SCROLL BRACKET ARM W/ POST TOP FOR 3" SLIP-FITTER. PHILIPS HANOVER LANTERN MODEL 535S OR EQUAL. W/ CAST ALUMINUM POST ADAPTER PLATE.
2. **BRACKET FINISH:** TGIC THERMOSET POLYESTER POWDERCOAT BLK (BLACK) FINISH, OR EQUAL.
3. **LUMINAIRE:** SEALED OPTICAL ASSEMBLY, 1/8" TEMPERED SOLITE® SEAMED FLAT GLASS LENS, TOOL-LESS MAINTENANCE. ARCHITECTURAL AREA LIGHTING (AAL) PROVIDENCE MICROCORE (TM) MEDIUM HOUSING "PROV". CAST ALUM. HOUSING, 4" SLIP FITTER. POLYESTER POLY COAT FINISH, AAL COLOR: MATTE BLACK. CATALOG NUMBER PROV-T3-32LED-27K-700-UNV-BLT-MOD-SOLITE LENS-ADAPTOR (4IN-3IN-10IN), OR EQUAL.
4. **OPTICS:** CLEAR INJECTION MOLDED PMMA ACRYLIC, TYPE III (ASYMMETRIC) DISTRIBUTION.
5. **LAMP HOLDERS:**
LED: POLARIZED PLUG/RECEPTACLE COMBINATION.
6. **LAMP:**
32LED: 2700 CCT AVERAGE, CRI MINIMUM >= 80.
7. **BALLAST/DRIVER:**
INTEGRAL SURGE PROTECTION, 10,000 AMP SURGE RATING, INRUSH CURRENT MAX. <20.0 AMPS MAX AT 230VAC, UNIVERSAL VOLTAGE INPUT 120-277 VAC, DRIVE CURRENT 700mA, 75 WATTS.

MATERIAL LIST

QTY	DESCRIPTION
1	LUMINAIRE, HOLOPHANE LIGHTING, GRANVILLE II LED,
	X
	X
1	WALL MOUNT BRACKET, PHILIPS HANOVER LANTERN
	MODEL 535S, W/ WOOD POST ADAPTOR PLATE
2	BANDING CLAMPS, SS, FOR 9-7/8" DIA POST
A/N	WIRE, 14/2 TYPE UF-B, COPPER, WITH NEUTRAL
A/N	FLANGED WIRE MOULD

REVIEWED & APPROVED

ENGINEERING: _____ SIGNED COPY ON FILE

REFERENCES:
ESMA02, ESMA03



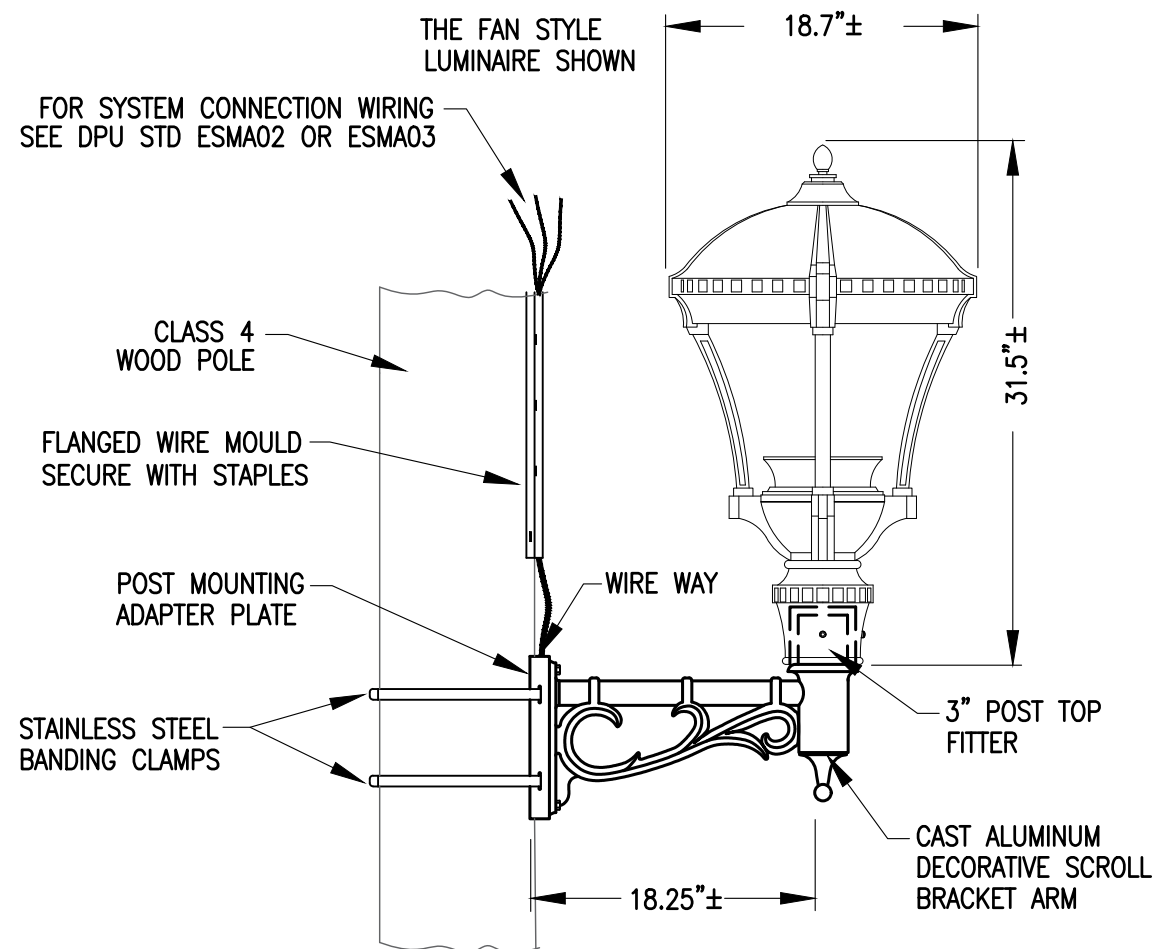
STANDARD FIXTURE ASSEMBLY DETAILS
ORNAMENTAL BACKSIDE BRACKET FOR PEDESTRIAN LIGHTING
SHOWN WITH THE GRANVILLE STYLE FIXTURE



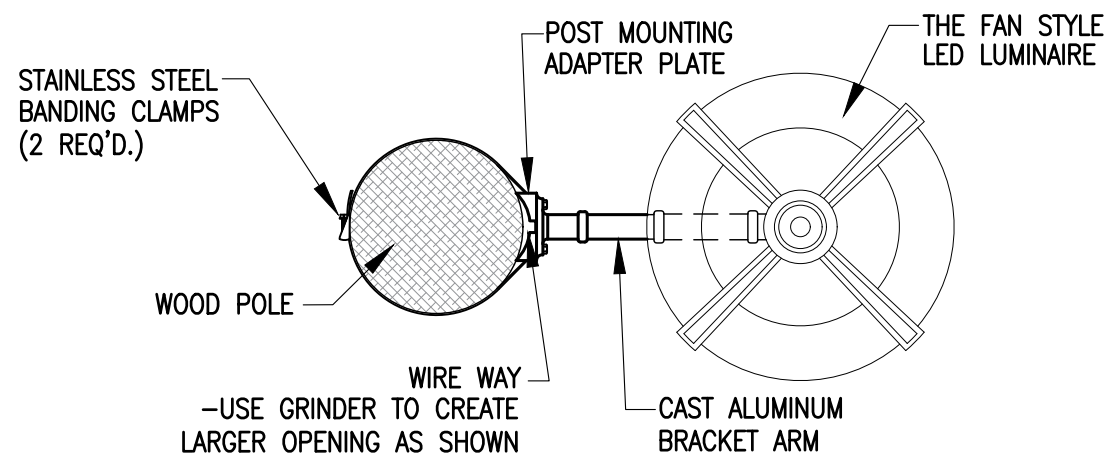
CITY OF RICHMOND PUBLIC UTILITIES
STREET LIGHT STANDARDS

REVISION 0
REVISION DATE
01/2022

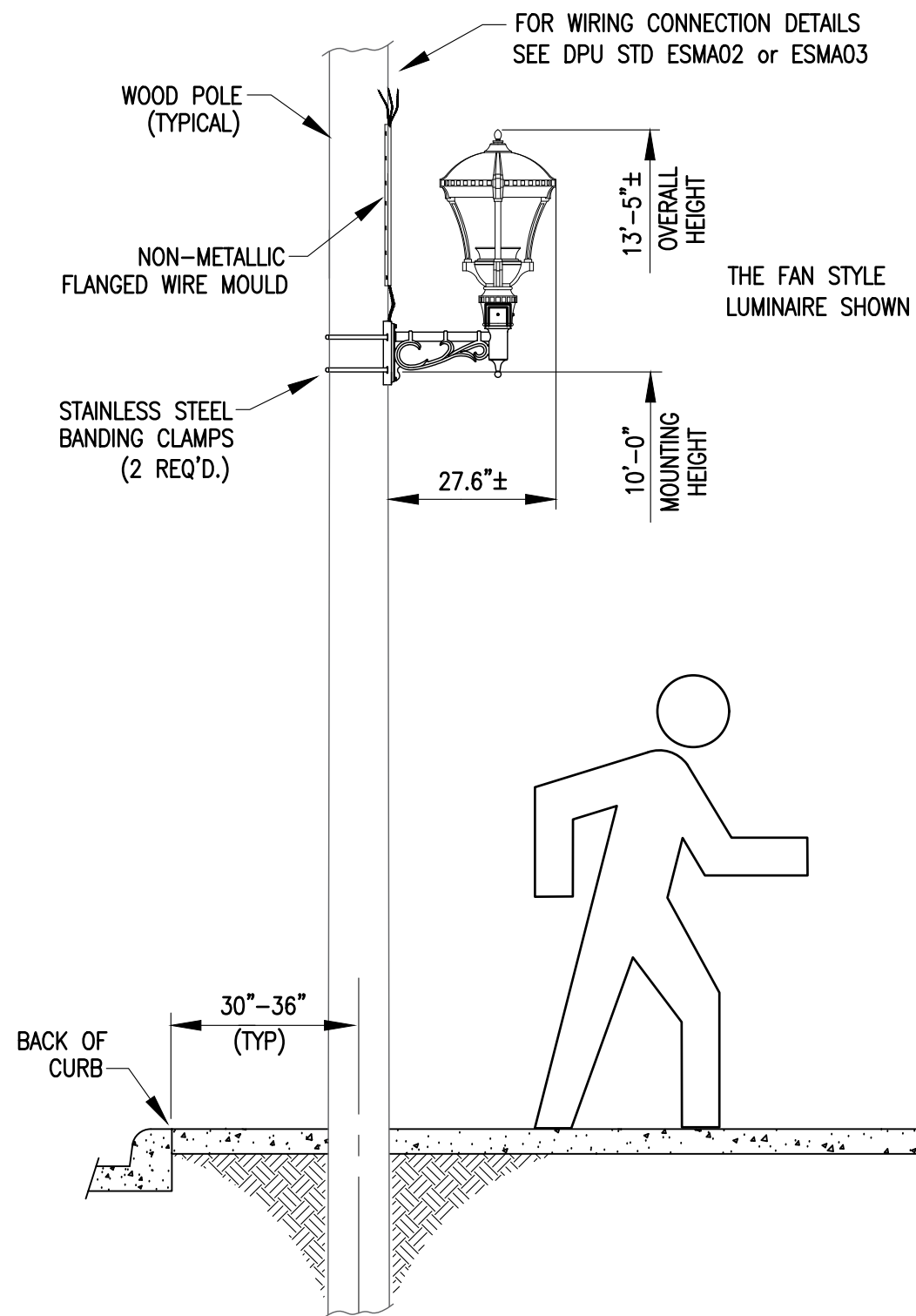
SHEET 1 OF 1
ESFA16



LUMINAIRE DETAIL



TOP VIEW



FIXTURE ASSEMBLY DETAILS

SPECIFICATIONS:

- BRACKET:** CAST ALUMINUM DECORATIVE SCROLL BRACKET ARM W/ POST TOP FOR 3" SLIP-FITTER. PHILIPS HANOVER LANTERN MODEL 535S OR EQUAL. W/ CAST ALUMINUM POST ADAPTER PLATE.
- BRACKET FINISH:** TGIC THERMOSET POLYESTER POWDERCOAT BLK (BLACK) FINISH, OR EQUAL.
- LUMINAIRE:** SEALED OPTICAL ASSEMBLY, 1/8" TEMPERED SOLITE® SEAMED FLAT GLASS LENS, TOOL-LESS MAINTENANCE. ARCHITECTURAL AREA LIGHTING (AAL) PROVIDENCE MICROCORE (TM) MEDIUM HOUSING "PROV". CAST ALUM. HOUSING, 4" SLIP FITTER. POLYESTER POLY COAT FINISH, AAL COLOR: MATTE BLACK. CATALOG NUMBER PROV-T3-32LED-27K-700-UNV-BLT-MOD-SOLITE LENS-ADAPTOR (4IN-3IN-10IN), OR EQUAL.
- OPTICS:** CLEAR INJECTION MOLDED PMMA ACRYLIC, TYPE III (ASSYMETRIC) DISTRIBUTION.
- LAMP HOLDERS:**
LED: POLARIZED PLUG/RECEPTACLE COMBINATION.
- LAMP:**
32LED: 2700 CCT AVERAGE, CRI MINIMUM ≥ 80 .
- BALLAST/DRIVER:**
INTEGRAL SURGE PROTECTION, 10,000 AMP SURGE RATING, INRUSH CURRENT MAX. <20.0 AMPS MAX AT 230VAC, UNIVERSAL VOLTAGE INPUT 120-277 VAC, DRIVE CURRENT 700mA, 75 WATTS.

MATERIAL LIST

QTY	DESCRIPTION
1	LUMINAIRE, THE FAN
	X
	X
1	WALL MOUNT BRACKET, PHILIPS HANOVER LANTERN MODEL 535S, W/ WOOD POST ADAPTOR PLATE
2	BANDING CLAMPS, SS, FOR 9-7/8" DIA POST
A/N	WIRE, 14/2 TYPE UF-B, COPPER, WITH NEUTRAL
A/N	FLANGED WIRE MOULD

REVIEWED & APPROVED
ENGINEERING: _____ SIGNED COPY ON FILE

REFERENCES:
ESMA02, ESMA03



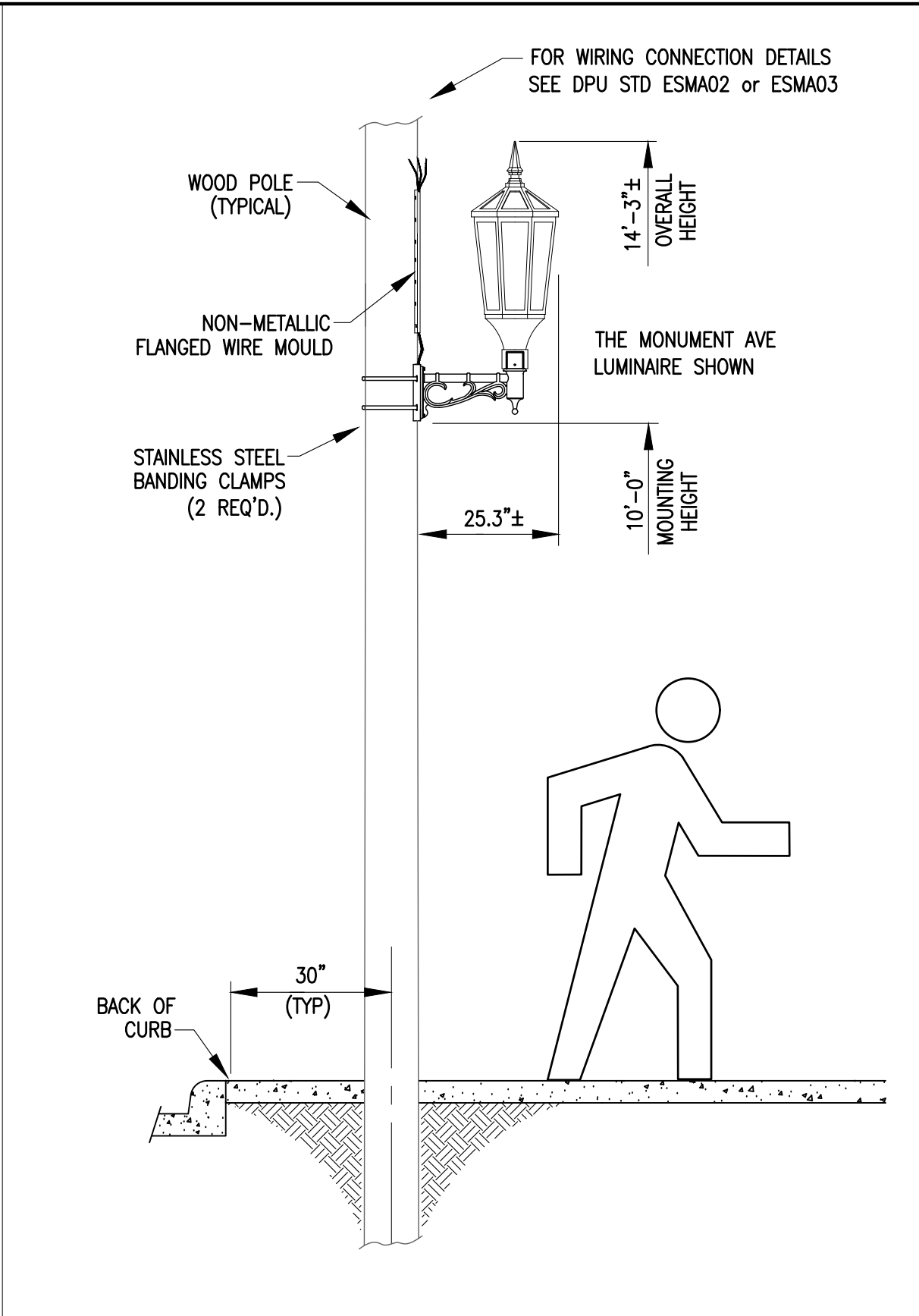
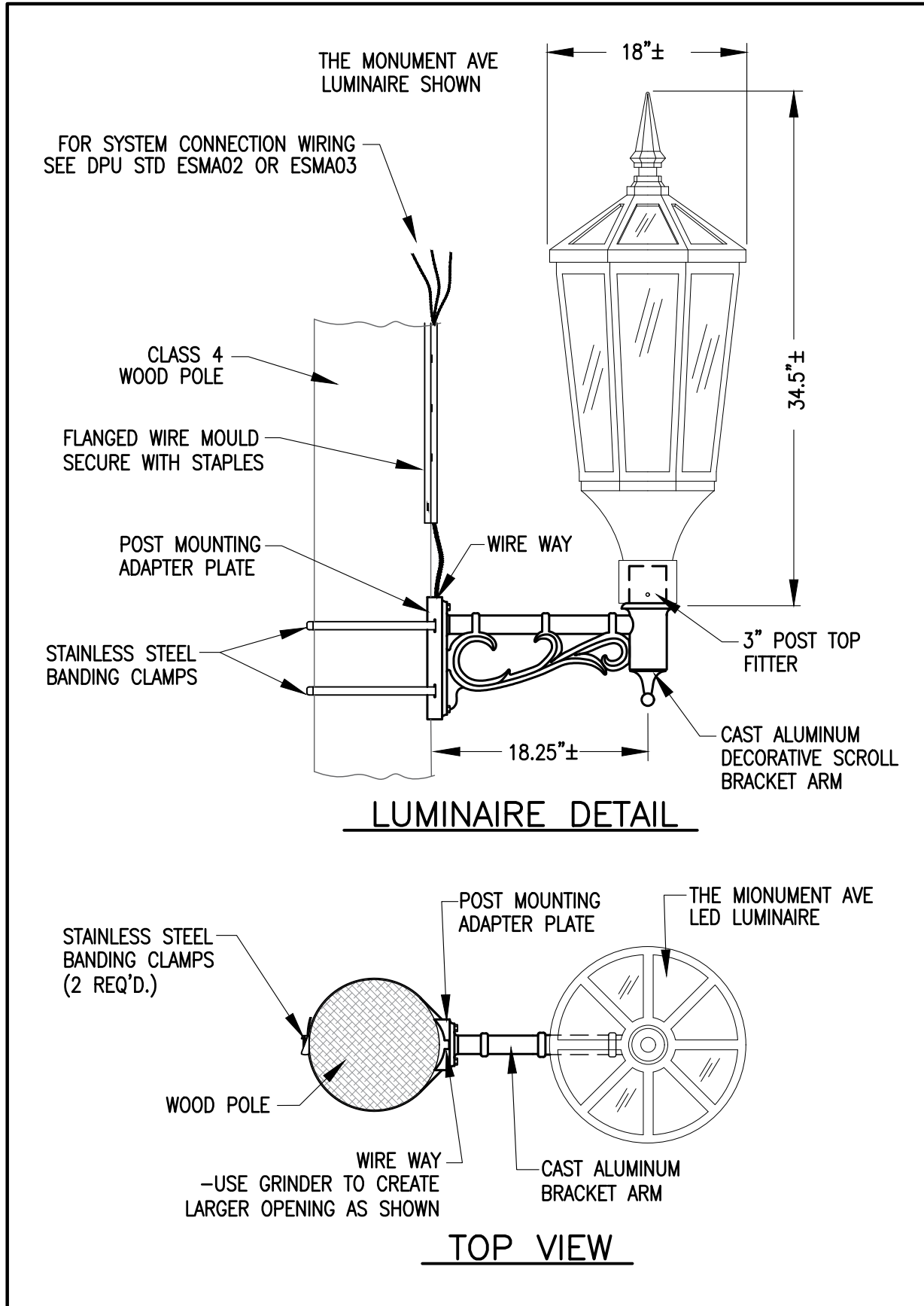
STANDARD FIXTURE ASSEMBLY DETAILS
ORNAMENTAL BACKSIDE BRACKET FOR PEDESTRIAN LIGHTING
SHOWN WITH THE FAN STYLE FIXTURE



CITY OF RICHMOND PUBLIC UTILITIES
STREET LIGHT STANDARDS

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REVISION DATE
01/2022

SHEET 1 OF 1
ESFA16



SPECIFICATIONS:

1. **BRACKET:** CAST ALUMINUM DECORATIVE SCROLL BRACKET ARM W/ POST TOP FOR 3" SLIP-FITTER. PHILIPS HANOVER LANTERN MODEL 535S OR EQUAL. W/ CAST ALUMINUM POST ADAPTER PLATE.
2. **BRACKET FINISH:** TGIC THERMOSET POLYESTER POWDERCOAT BLK (BLACK) FINISH, OR EQUAL.
3. **LUMINAIRE:** SEALED OPTICAL ASSEMBLY, 1/8" TEMPERED SOLITE® SEAMED FLAT GLASS LENS, TOOL-LESS MAINTENANCE. ARCHITECTURAL AREA LIGHTING (AAL) PROVIDENCE MICROCORE (TM) MEDIUM HOUSING "PROV". CAST ALUM. HOUSING, 4" SLIP FITTER. POLYESTER POLY COAT FINISH, AAL COLOR: MATTE BLACK. CATALOG NUMBER PROV-T3-32LED-27K-700-UNV-BLT-MOD-SOLITE LENS-ADAPTOR (4IN-3IN-10IN), OR EQUAL.
4. **OPTICS:** CLEAR INJECTION MOLDED PMMA ACRYLIC, TYPE III (ASSYMETRIC) DISTRIBUTION.
5. **LAMP HOLDERS:** LED: POLARIZED PLUG/RECEPTACLE COMBINATION.
6. **LAMP:** 32LED: 2700 CCT AVERAGE, CRI MINIMUM >= 80.
7. **BALLAST/DRIVER:** INTEGRAL SURGE PROTECTION, 10,000 AMP SURGE RATING, INRUSH CURRENT MAX. <20.0 AMPS MAX AT 230VAC, UNIVERSAL VOLTAGE INPUT 120-277 VAC, DRIVE CURRENT 700mA, 75 WATTS.

MATERIAL LIST	
QTY	DESCRIPTION
1	LUMINAIRE, MONUMENT AVE
	X
	X
1	WALL MOUNT BRACKET, PHILIPS HANOVER LANTERN MODEL 535S, W/ WOOD POST ADAPTOR PLATE
2	BANDING CLAMPS, SS, FOR 9-7/8" DIA POST
A/N	WIRE, 14/2 TYPE UF-B, COPPER, WITH NEUTRAL
A/N	FLANGED WIRE MOULD

REVIEWED & APPROVED

ENGINEERING: _____ SIGNED COPY ON FILE

REFERENCES:
ESMA02, ESMA03



STANDARD FIXTURE ASSEMBLY DETAILS

ORNAMENTAL BACKSIDE BRACKET FOR PEDESTRIAN LIGHTING

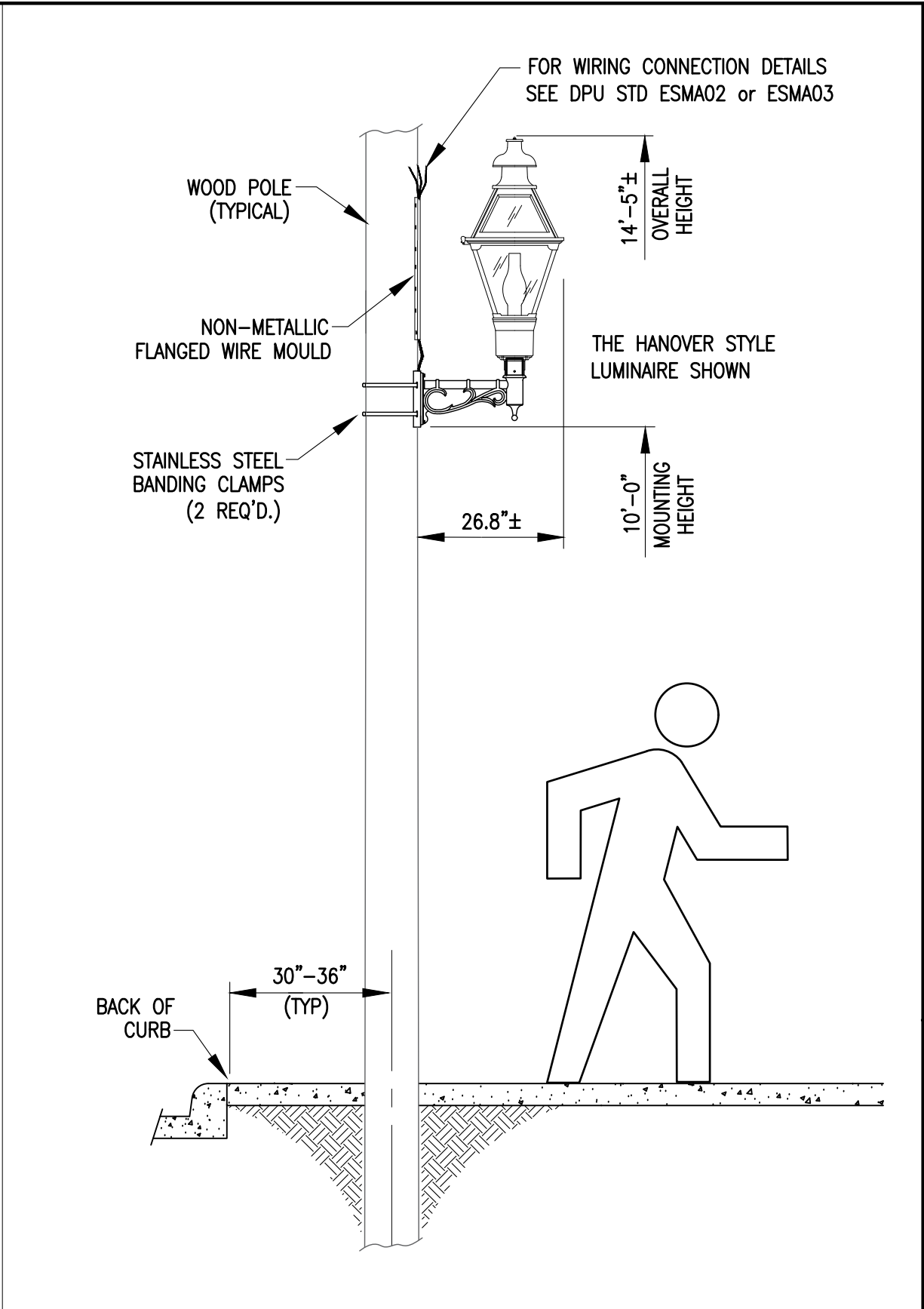
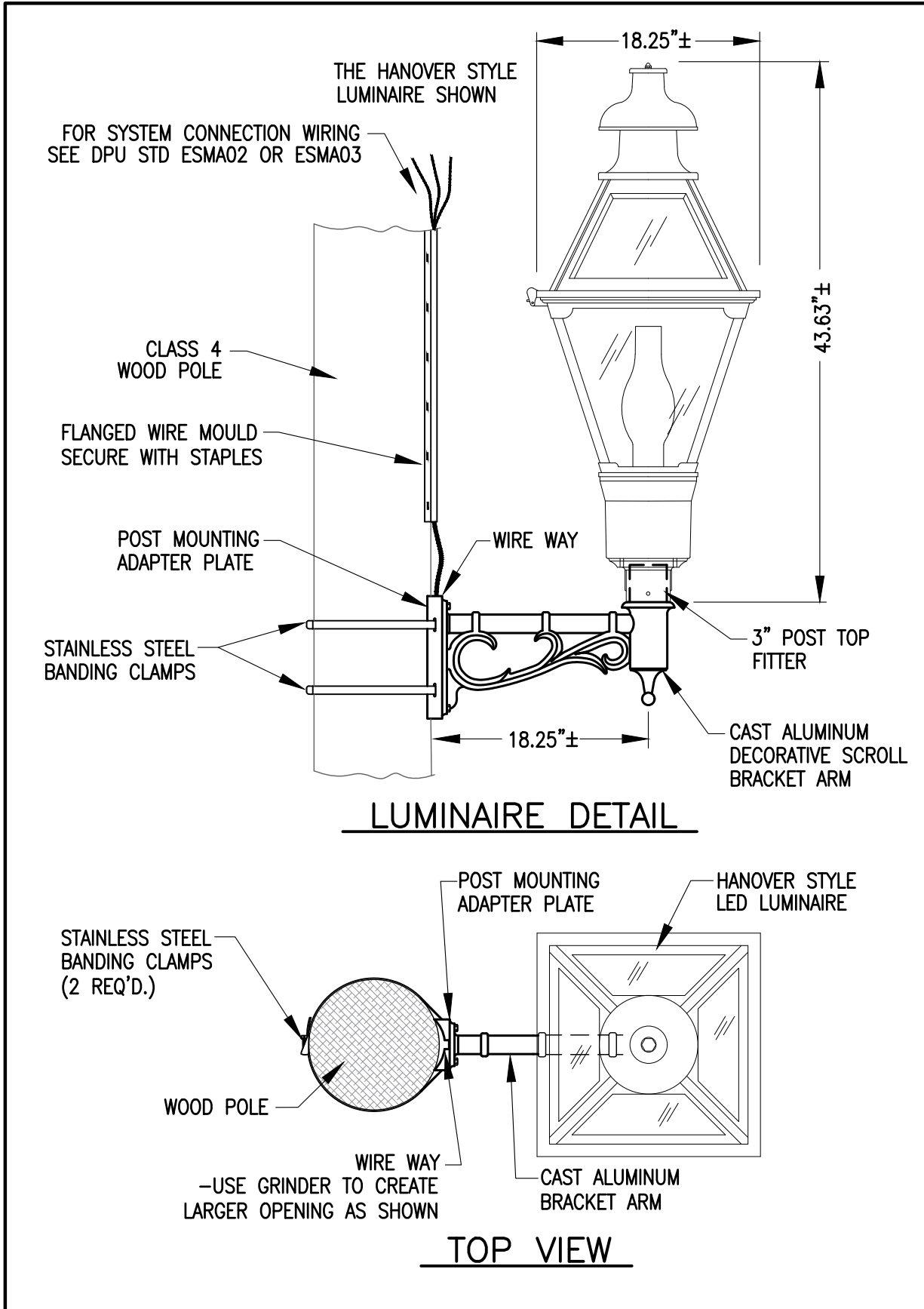
SHOWN WITH THE MONUMENT AVE STYLE FIXTURE



CITY OF RICHMOND PUBLIC UTILITIES
STREET LIGHT STANDARDS

REVISION 0
REVISION DATE
01/2022

SHEET 1 OF 1
ESFA16



SPECIFICATIONS:

- BRACKET:** CAST ALUMINUM DECORATIVE SCROLL BRACKET ARM W/ POST TOP FOR 3" SLIP-FITTER. PHILIPS HANOVER LANTERN MODEL 535S OR EQUAL. W/ CAST ALUMINUM POST ADAPTER PLATE.
- BRACKET FINISH:** TGIC THERMOSET POLYESTER POWDERCOAT BLK (BLACK) FINISH, OR EQUAL.
- LUMINAIRE:** SEALED OPTICAL ASSEMBLY, 1/8" TEMPERED SOLITE® SEAMED FLAT GLASS LENS, TOOL-LESS MAINTENANCE. ARCHITECTURAL AREA LIGHTING (AAL) PROVIDENCE MICROCORE (TM) MEDIUM HOUSING "PROV". CAST ALUM. HOUSING, 4" SLIP FITTER. POLYESTER POLY COAT FINISH, AAL COLOR: MATTE BLACK. CATALOG NUMBER PROV-T3-32LED-27K-700-UNV-BLT-MOD-SOLITE LENS-ADAPTOR (4IN-3IN-10IN), OR EQUAL.
- OPTICS:** CLEAR INJECTION MOLDED PMMA ACRYLIC, TYPE III (ASYMMETRIC) DISTRIBUTION.
- LAMP HOLDERS:**
LED: POLARIZED PLUG/RECEPTACLE COMBINATION.
- LAMP:**
32LED: 2700 CCT AVERAGE, CRI MINIMUM >= 80.
- BALLAST/DRIVER:**
INTEGRAL SURGE PROTECTION, 10,000 AMP SURGE RATING, INRUSH CURRENT MAX. <20.0 AMPS MAX AT 230VAC, UNIVERSAL VOLTAGE INPUT 120-277 VAC, DRIVE CURRENT 700mA, 75 WATTS.

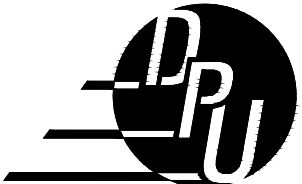
MATERIAL LIST	
QTY	DESCRIPTION
1	LUMINAIRE, HANOVER
	X
	X
1	WALL MOUNT BRACKET, PHILIPS HANOVER LANTERN MODEL 535S, W/ WOOD POST ADAPTOR PLATE
2	BANDING CLAMPS, SS, FOR 9-7/8" DIA POST
A/N	WIRE, 14/2 TYPE UF-B, COPPER, WITH NEUTRAL
A/N	FLANGED WIRE MOULD

REVIEWED & APPROVED
ENGINEERING: _____ SIGNED COPY ON FILE

REFERENCES:
ESMA02, ESMA03



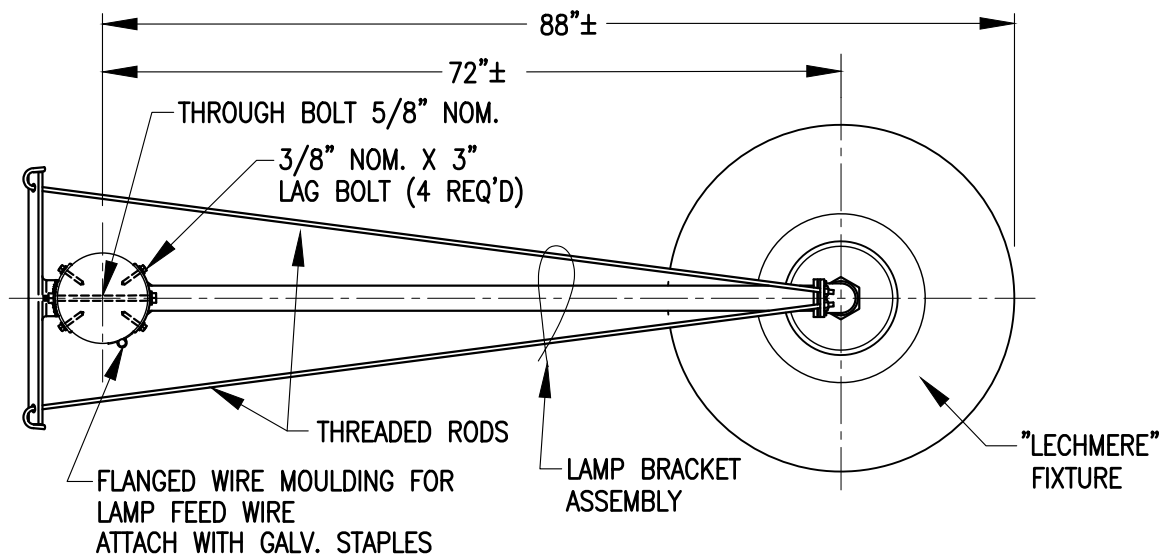
STANDARD FIXTURE ASSEMBLY DETAILS
ORNAMENTAL BACKSIDE BRACKET FOR PEDESTRIAN LIGHTING
SHOWN WITH THE HANOVER STYLE FIXTURE



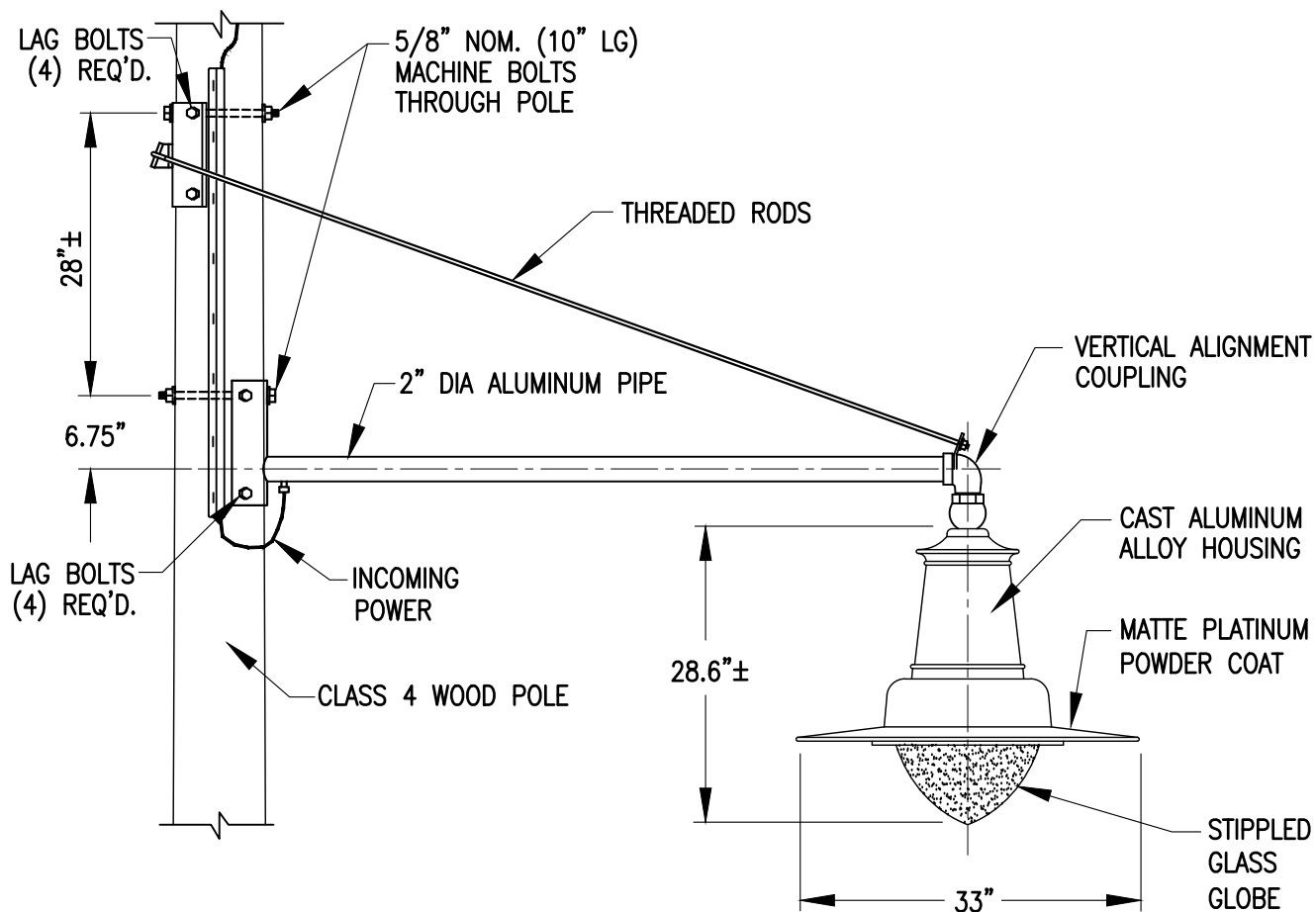
CITY OF RICHMOND PUBLIC UTILITIES
STREET LIGHT STANDARDS

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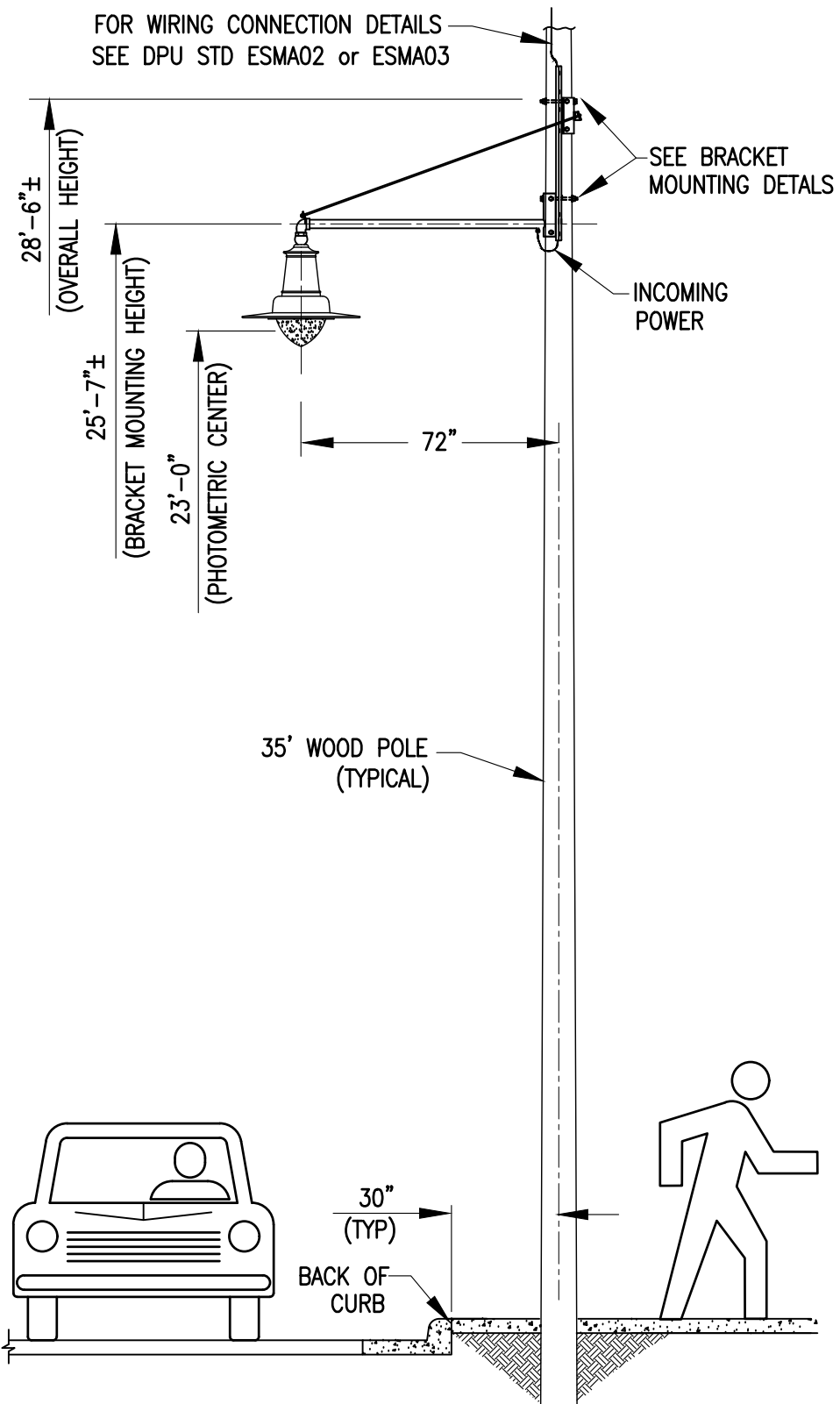
SHEET 1 OF 1
ESFA16



TOP VIEW



LUMINAIRE BRACKET MOUNTING DETAIL



SPECIFICATIONS:

1. **LUMINAIRE:** 28.44" TALL X 33" DIAMETER, POWDER COATED, CAST ALUMINUM ALLOY HOUSING, 110 STIPPLED GLASS GLOBE, WITH VERTICAL ALIGNMENT COUPLING, SPRING CITY ELECTRICAL MANUFACTURING CO. LECHMERE SERIES, #ALMLCH-LE120/EVX/X2-27-FM3-GS10-LAVBC-CU, OR EQUAL.
2. **OPTICS:** LED LUMINAIRE, 2700K WARM WHITE, TYPE III, ASYMMETRIC, MEDIUM TRANSMISSION, FROSTED REFRACTIVE OPTICS.
3. **LAMP:** 120 WATT LED (2700K).
4. **BALLAST/DRIVER:** ELECTRONIC, WIRED FOR 120-277 VOLTS.
5. **WIRING:** 14/2 WITH GROUND (TYPE UF-B) WIRE LEADS TO BE PROVIDED, BRACKET AND LUMINAIRE TO BE PRE-WIRED.
6. **CROSSARM (BRACKET):** FABRICATED ALUMINUM PLATE AND 2" DIA PIPE, FOR 72" PROJECTION. 2" NPT X 1" LG NIPPLE TENON FOR VERTICAL ALIGNMENT COUPLING, POWDER COATED MATTE ALUMINUM, SPRING CITY ELECTRICAL MANUFACTURING, "TIMBER" CROSSARMMODEL # AARTMB-M1-1S-72-TN2.38/1.00-CU, OR EQUAL.

NOTE:
IN ALLEYS, DPU WILL INSTALL 36" BRACKETS WITH THE SAME 23ft PHOTO-METRIC CENTER AS THE 72" BRACKET.

REVIEWED & APPROVED

ENGINEERING: SIGNED COPY ON FILE

REFERENCES:
ESMA01, ESMA04, ESPF08



STANDARD FIXTURE ASSEMBLY DETAILS
MANCHESTER AREA 6ft BRACKET – STANDARD WOOD POLE MOUNTING
LECHMERE STYLE LED LUMINAIRE

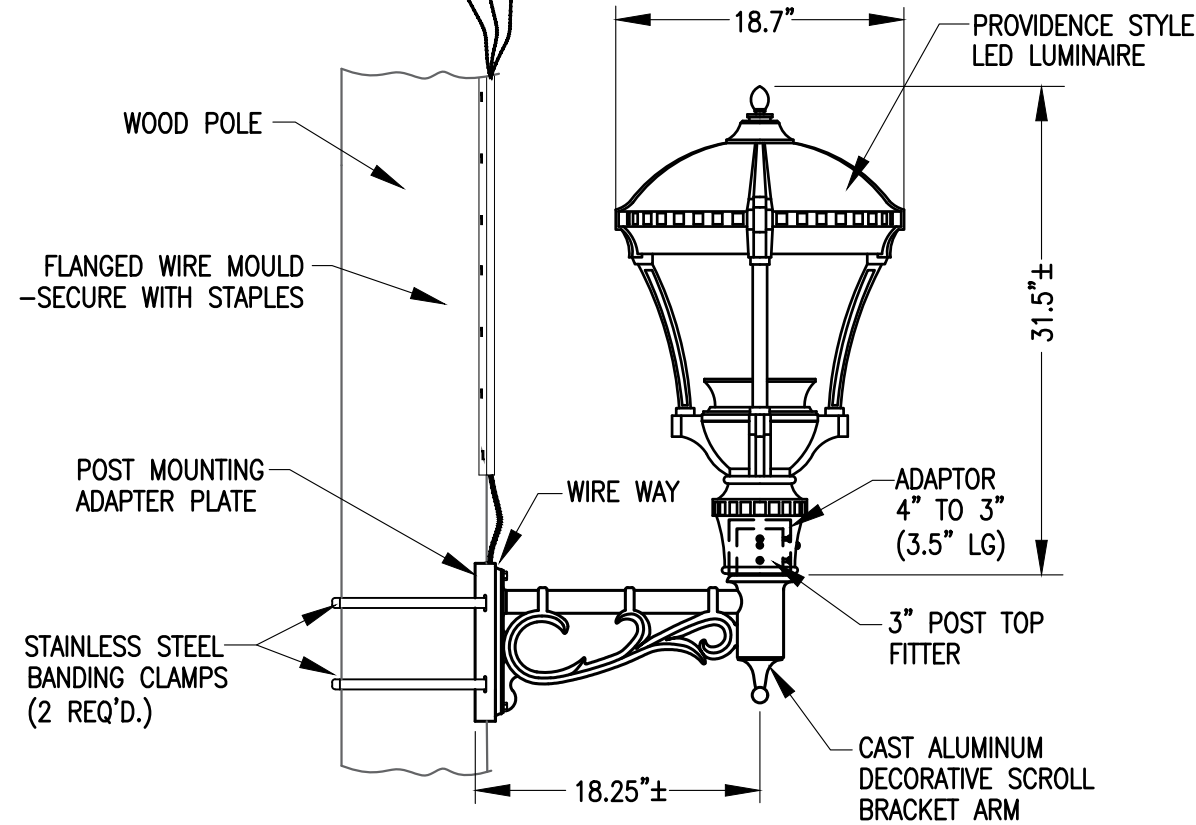


CITY OF RICHMOND PUBLIC UTILITIES
STREET LIGHT STANDARDS

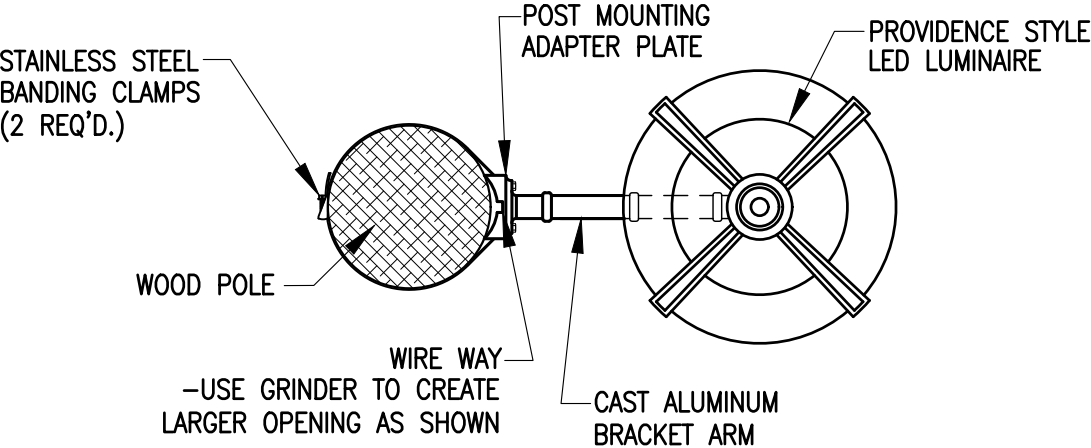
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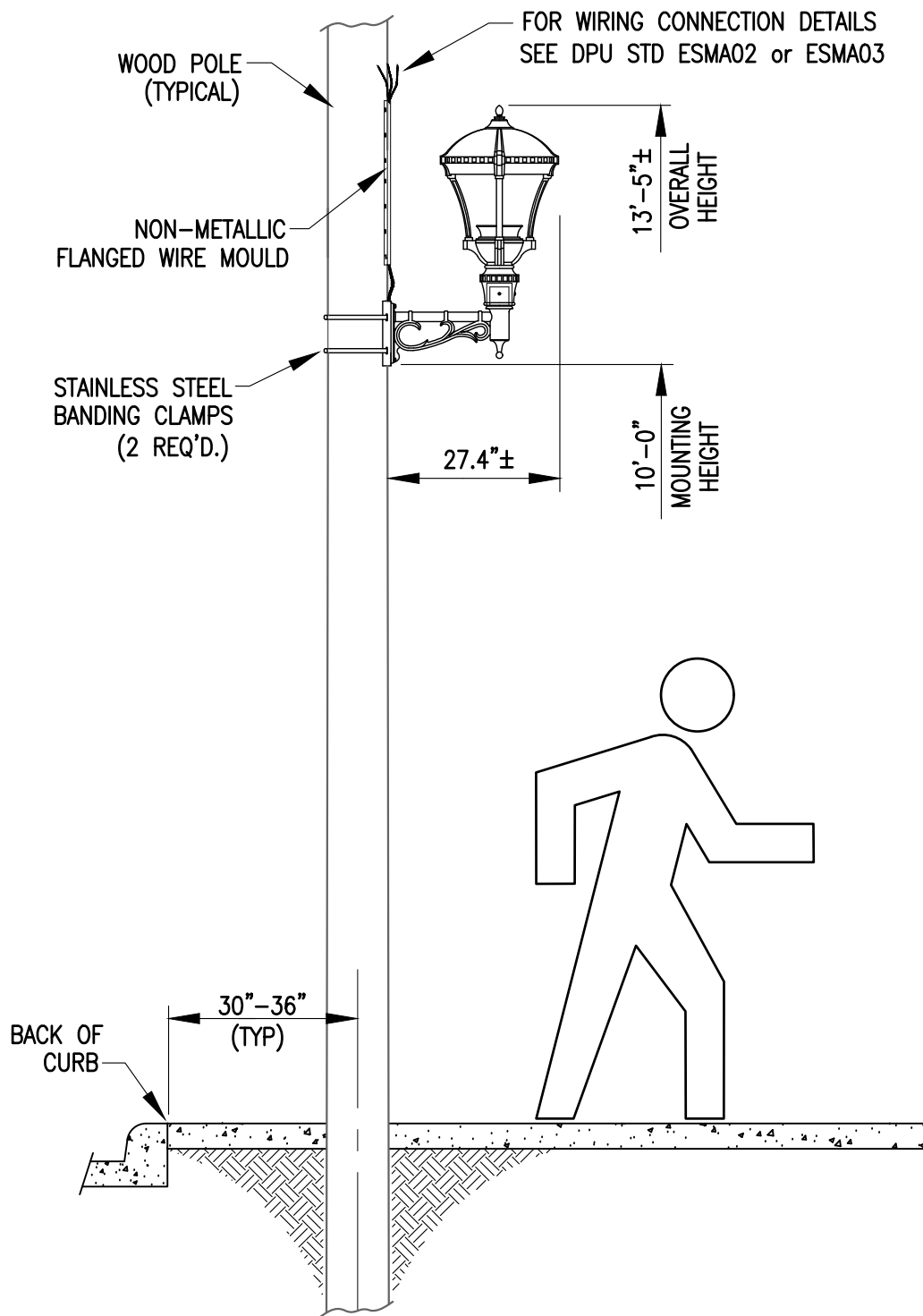
FOR SYSTEM CONNECTION WIRING
SEE DPU STD ESMA02 OR ESMA03



LUMINAIRE DETAIL



TOP VIEW



FIXTURE ASSEMBLY DETAILS

SPECIFICATIONS:

- 1. BRACKET: CAST ALUMINUM DECORATIVE SCROLL BRACKET ARM W/ POST TOP FOR 3" SLIP-FITTER. PHILIPS HANOVER LANTERN MODEL 535S OR EQUAL. W/ CAST ALUMINUM POST ADAPTER PLATE.
- 2. BRACKET FINISH: TGIC THERMOSET POLYESTER POWDERCOAT BLK (BLACK) FINISH, OR EQUAL.
- 3. LUMINAIRE: SEALED OPTICAL ASSEMBLY, 1/8" TEMPERED SOLITE® SEAMED FLAT GLASS LENS, TOOL-LESS MAINTENANCE. ARCHITECTURAL AREA LIGHTING (AAL) PROVIDENCE MICROCORE (TM) MEDIUM HOUSING "PROV". CAST ALUM. HOUSING, 4" SLIP FITTER. POLYESTER POLY COAT FINISH, AAL COLOR: MATTE BLACK. CATALOG NUMBER PROV-T3-32LED-27K-700-UNV-BLT-MOD-SOLITE LENS-ADAPTOR (4IN-3IN-10IN), OR EQUAL.
- 4. OPTICS: CLEAR INJECTION MOLDED PMMA ACRYLIC, TYPE III (ASSYMETRIC) DISTRIBUTION.
- 5. LAMP HOLDERS:
LED: POLARIZED PLUG/RECEPTACLE COMBINATION.
- 6. LAMP:
32LED: 2700 CCT AVERAGE, CRI MINIMUM >= 80.
- 7. BALLAST/DRIVER:
INTEGRAL SURGE PROTECTION, 10,000 AMP SURGE RATING, INRUSH CURRENT MAX. <20.0 AMPS MAX AT 230VAC, UNIVERSAL VOLTAGE INPUT 120-277 VAC, DRIVE CURRENT 700mA, 75 WATTS.

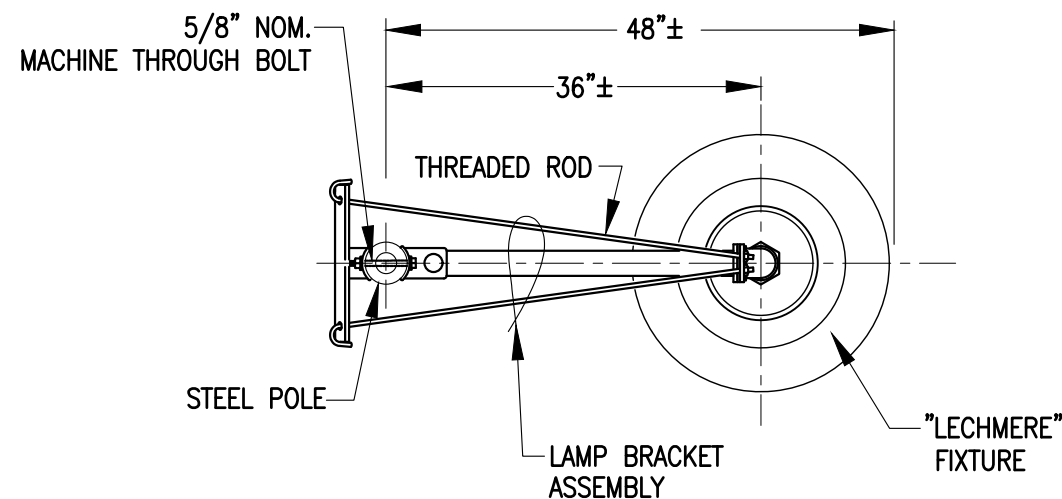
MATERIAL LIST	
QTY	DESCRIPTION
1	LUMINAIRE, ARCHITECTURAL LIGHTING, PROVIDENCE, MEDIUM, LED, WITH SLEEVE ADAPTOR/REDUCER, 4" TO 3" x 3.5" LG (SPECIAL ORDER)
1	WALL MOUNT BRACKET, PHILIPS HANOVER LANTERN MODEL 535S, W/ WOOD POST ADAPTOR
2	BANDING CLAMPS, SS, FOR 9-7/8" DIA POST
A/N	WIRE, 14/2 TYPE UF-B, COPPER, WITH NEUTRAL
A/N	FLANGED WIRE MOULD

REVIEWED & APPROVED
ENGINEERING: _____ SIGNED COPY ON FILE
REFERENCES:
ESMA02, ESMA03

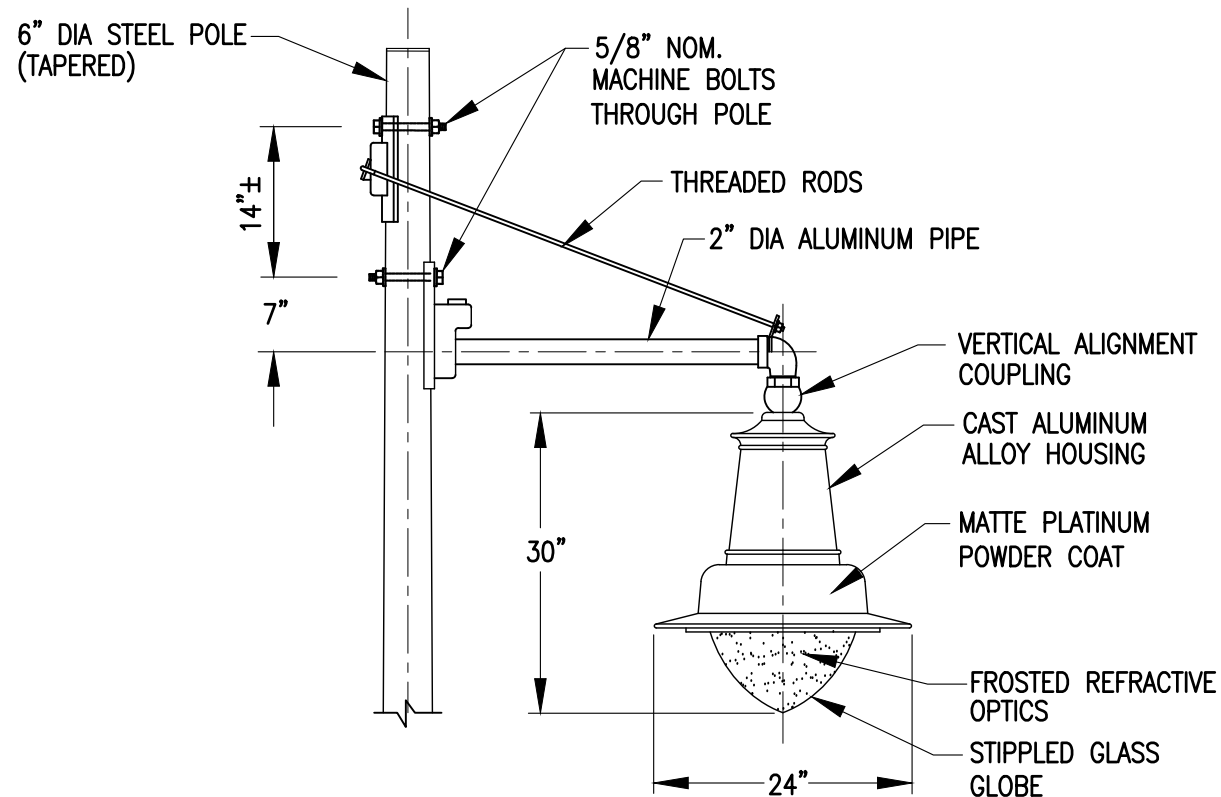


STANDARD FIXTURE ASSEMBLY DETAILS
ORNAMENTAL BACKSIDE BRACKET FOR "FAN AREA" PEDESTRIAN LIGHTING
"THE PROVIDENCE" STYLE LED FIXTURE

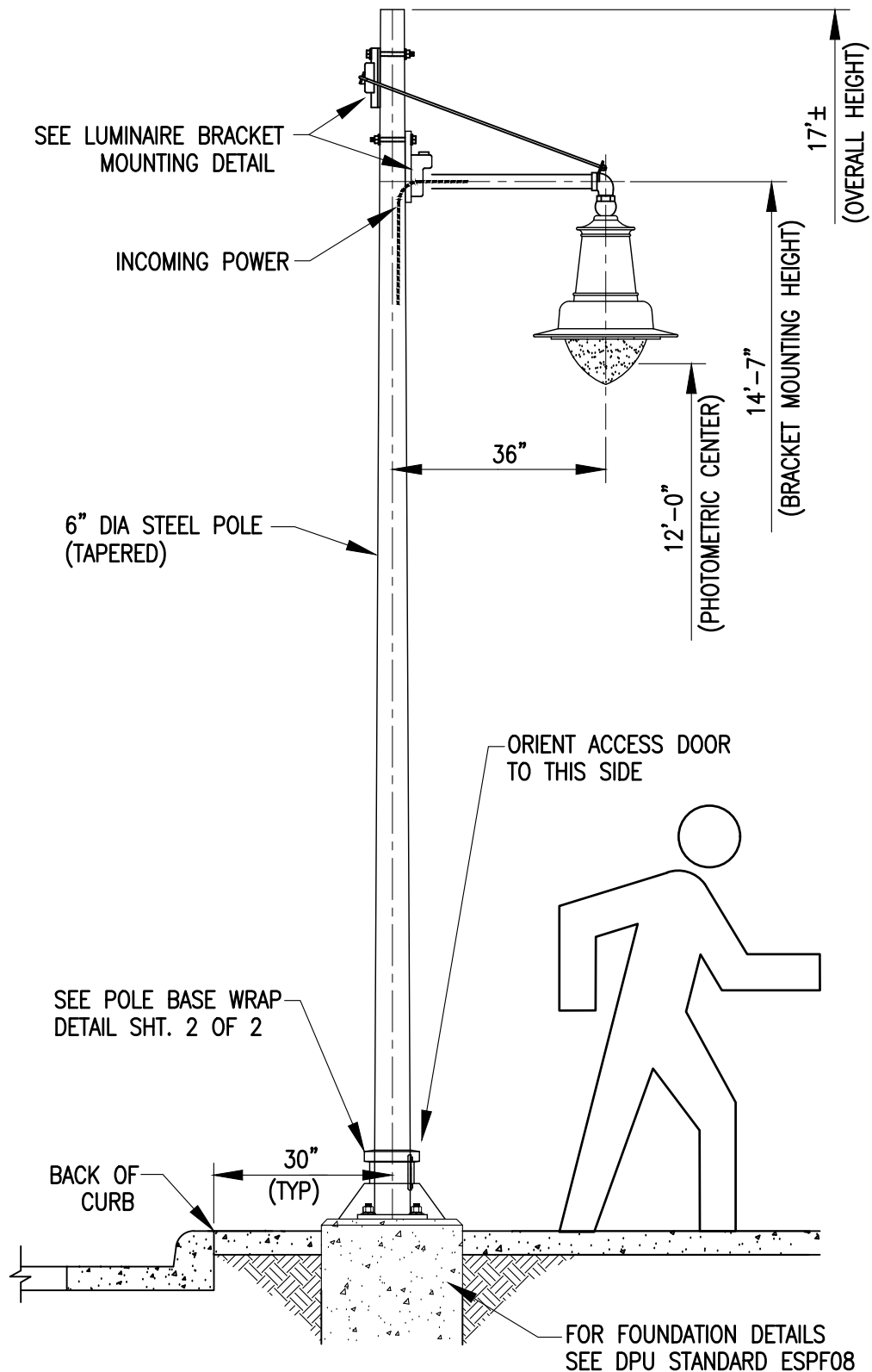




TOP VIEW



LUMINAIRE BRACKET MOUNTING DETAIL



SPECIFICATIONS:

1. **LUMINAIRE:** 28.44" TALL X 24" DIAMETER, POWDER COATED - MATTE PLATINUM, CAST ALUMINUM ALLOY HOUSING, 110 STIPPLED GLASS GLOBE WITH VERTICAL ALIGNMENT COUPLING, SPRING CITY ELECTRICAL MANUFACTURING CO. LECHMERE SERIES, #ALMLCH-LE040/EVX/X2-27-FM3-GS10-LAVBC-CU, OR EQUAL.
2. **OPTICS:** LED LUMINAIRE, 2700K WARM WHITE, TYPE III, ASYMMETRIC, MEDIUM TRANSMISSION, FROSTED REFRACTIVE OPTICS.
3. **LAMP:** 40 WATT LED (2700K).
4. **BALLAST/DRIVER:** ELECTRONIC, WIRED FOR 120-277 VOLTS.
5. **WIRING:** 14/2 WITH GROUND (TYPE UF-B) WIRE LEADS TO BE PROVIDED, BRACKET AND LUMINAIRE TO BE PRE-WIRED.
6. **CROSSARM (BRACKET):** FABRICATED ALUMINUM PLATE AND 2" DIA PIPE, FOR 36" PROJECTION. 2" NPT X 1" LG NIPPLE TENON FOR VERTICAL ALIGNMENT COUPLING, POWDER COATED MATTE ALUMINUM, SPRING CITY ELECTRICAL MANUFACTURING, "TIMBER" CROSSARM MODEL # AARTMB-M1-1S-36-TN2.38/1.00-CU, OR EQUAL.
7. **POST:** 6" DIA. x 17'-0", 11 GAUGE, TAPERED STEEL; MONOTUBE CONSTRUCTION; MATTE PLATINUM POWDER COAT FINISH.

NOTE:
36" BRACKETS ARE ALSO INSTALLED IN ALLEYWAYS, BUT WITH A 23 FT PHOTOMETRIC CENTER AND A 33" DIA LIGHTING FIXTURE.

REVIEWED & APPROVED

ENGINEERING: SIGNED COPY ON FILE

REFERENCES:
ESMA01, ESMA04, ESPF08



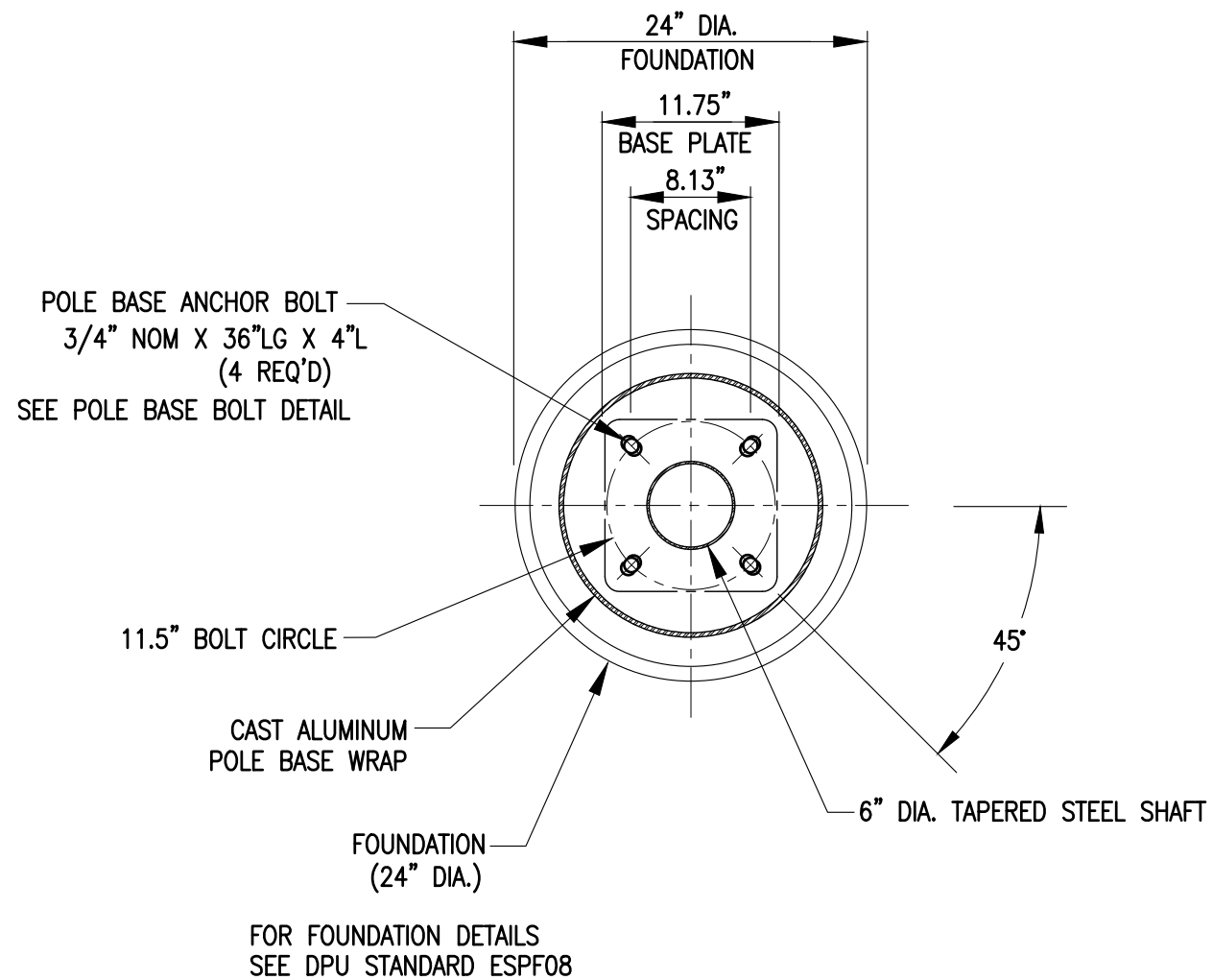
STANDARD FIXTURE ASSEMBLY DETAILS
MANCHESTER AREA 3ft BRACKET - 17ft STEEL POLE MOUNT
LECHMERE STYLE LED LUMINAIRE



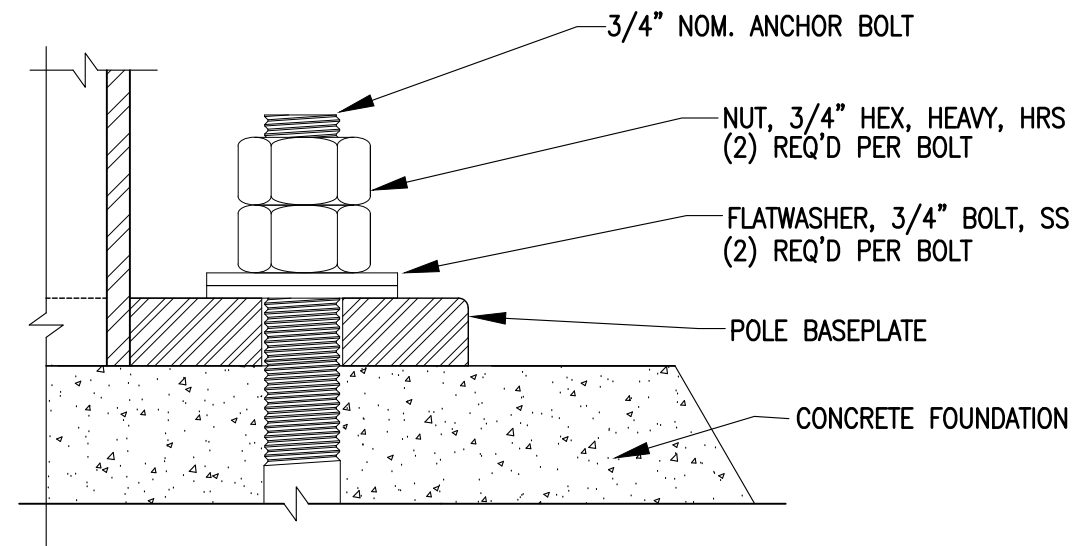
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STREET LIGHT STANDARDS

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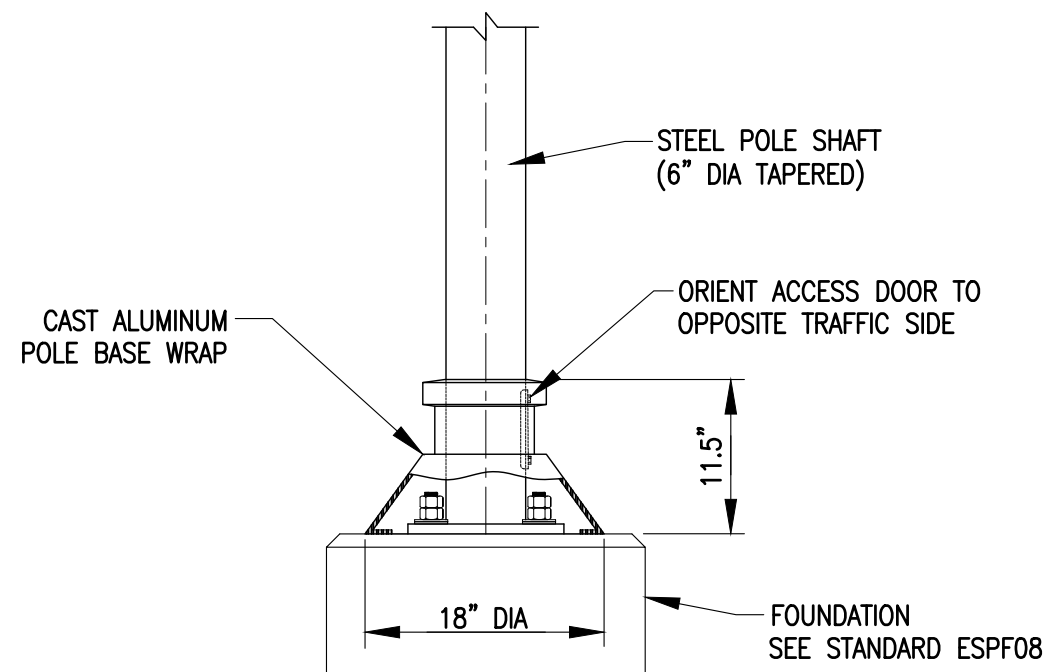
SHEET 1 OF 2
ESFA19



POLE BASE MOUNTING DETAIL



POLE BASE BOLTING DETAIL



POLE BASE WRAP DETAIL

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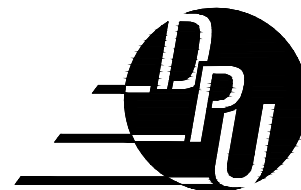
REFERENCES:



STANDARD FIXTURE ASSEMBLY DETAILS

MANCHESTER AREA 3ft BRACKET – 17ft STEEL POLE MOUNT

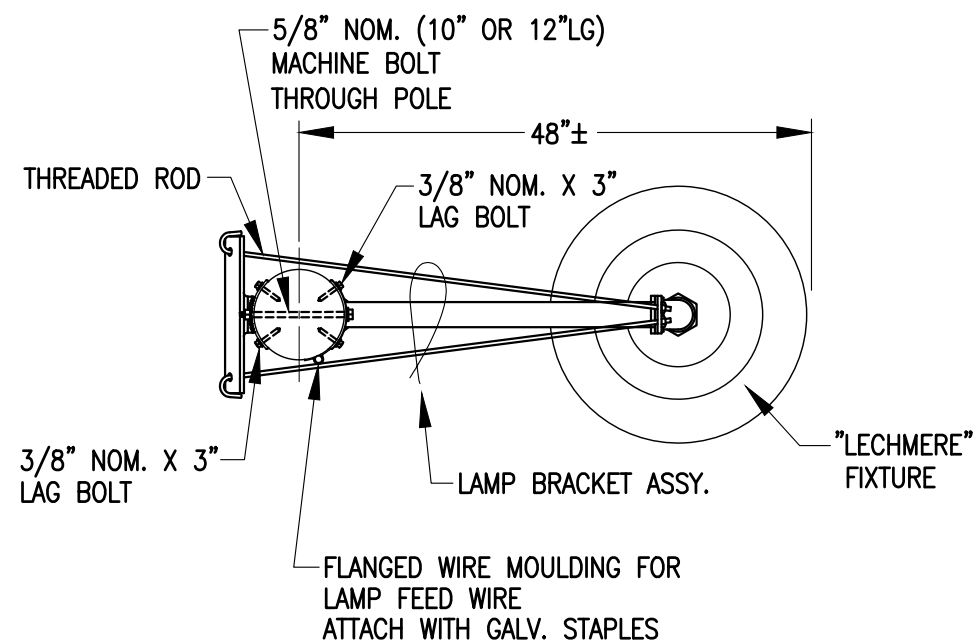
LECHMERE STYLE LED LUMINAIRE



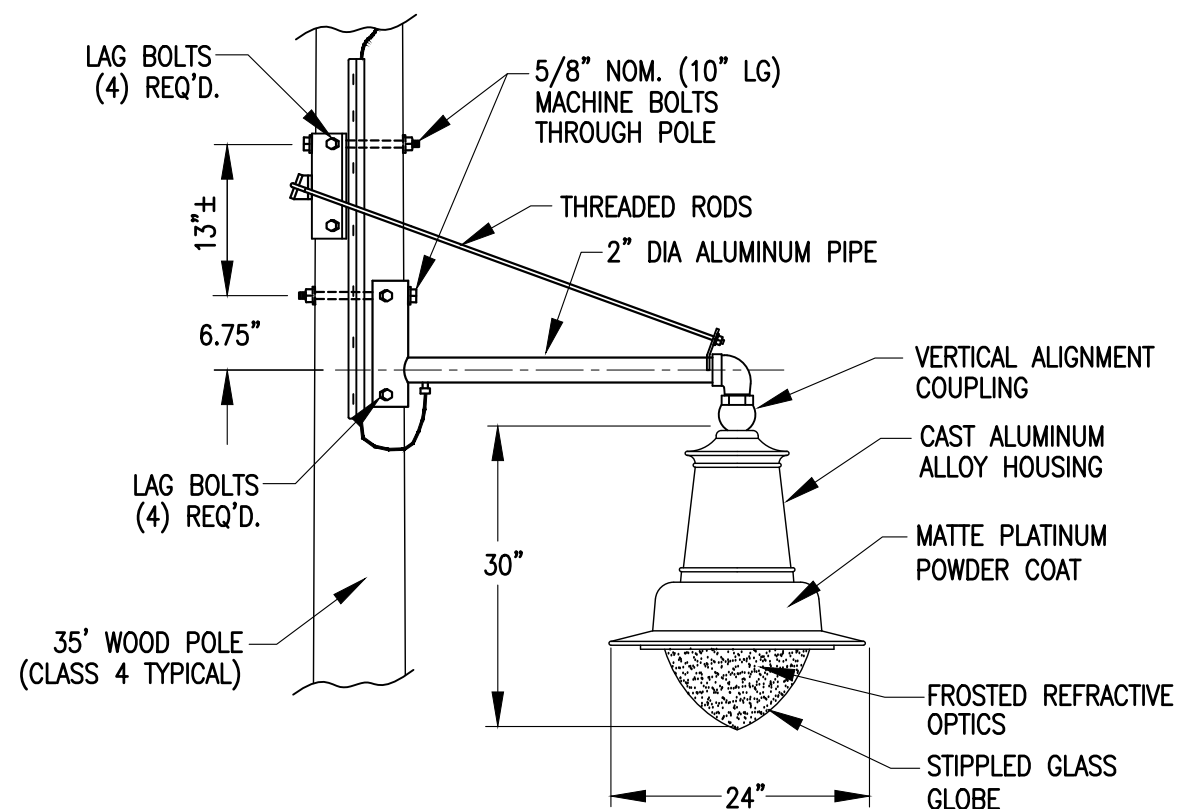
CITY OF RICHMOND PUBLIC UTILITIES
STREET LIGHT STANDARDS

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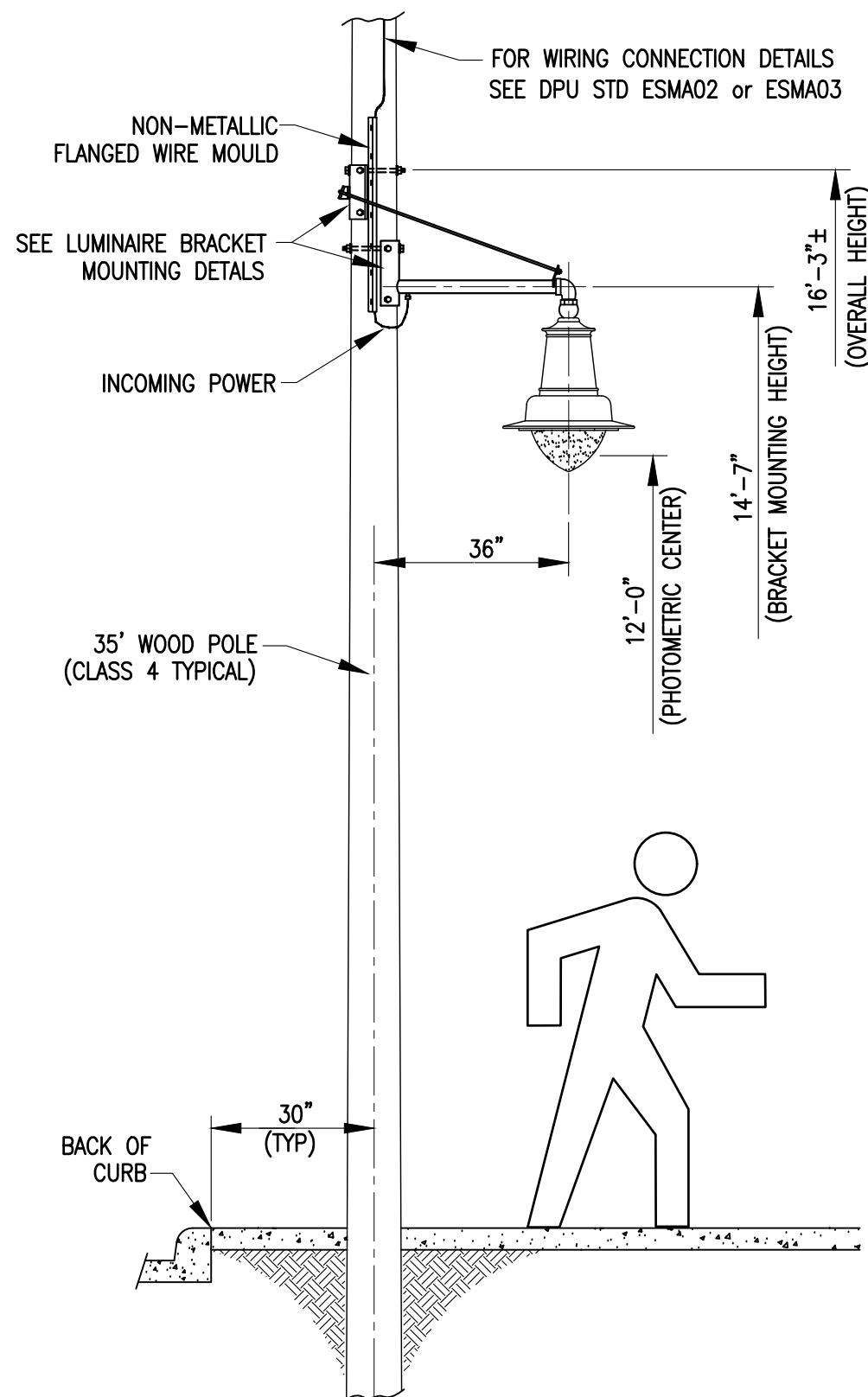
SHEET 2 OF 2
ESFA19



TOP VIEW



LUMINAIRE BRACKET MOUNTING DETAIL



SPECIFICATIONS:

1. LUMINAIRE: 28.44" TALL X 24" DIAMETER, POWDER COATED - MATTE PLATINUM, CAST ALUMINUM ALLOY HOUSING, 110 STIPPLED GLASS GLOBE WITH VERTICAL ALIGNMENT COUPLING, SPRING CITY ELECTRICAL MANUFACTURING CO. LECHMERE SERIES, #ALMLCH-LE040/EVX/X2-27-FM3-GS10-LAVBC-CU, OR EQUAL.
2. OPTICS: LED LUMINAIRE, 2700K WARM WHITE, TYPE III, ASYMMETRIC, MEDIUM TRANSMISSION, FROSTED REFRACTIVE OPTICS.
3. LAMP: 40 WATT LED (2700K).
4. BALLAST/DRIVER:
ELECTRONIC, WIRED FOR 120-277 VOLTS.
5. WIRING: 14/2 WITH GROUND (TYPE UF-B) WIRE LEADS TO BE PROVIDED, BRACKET AND LUMINAIRE TO BE PRE-WIRED.
6. CROSSARM (BRACKET):
FABRICATED ALUMINUM PLATE AND 2" DIA PIPE, FOR 36" PROJECTION. 2" NPT X 1" LG NIPPLE TENON FOR VERTICAL ALIGNMENT COUPLING, POWDER COATED MATTE ALUMINUM, SPRING CITY ELECTRICAL MANUFACTURING, "TIMBER" CROSSARM MODEL # AARTMB-M1-1S-36-TN2.38/1.00-CU, OR EQUAL.

NOTE:
36" BRACKETS ARE ALSO INSTALLED
IN ALLEYWAYS, BUT WITH A 23 FT
PHOTOMETRIC CENTER AND A 33" DIA
LIGHTING FIXTURE.

REVIEWED & APPROVED

ENGINEERING: SIGNED COPY ON FILE

REFERENCES:



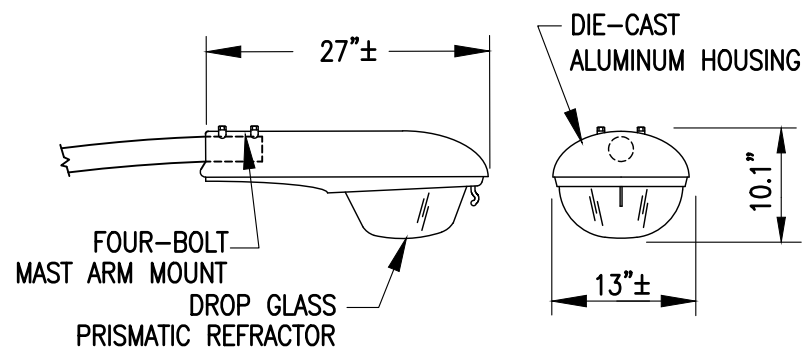
STANDARD FIXTURE ASSEMBLY DETAILS
MANCHESTER AREA 3ft BRACKET – STANDARD WOOD POLE MOUNTING
LECHMERE STYLE LED LUMINAIRE



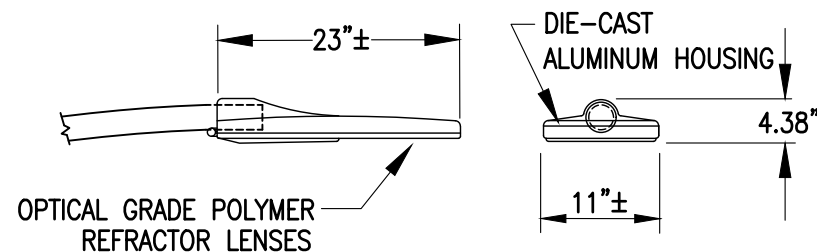
CITY OF RICHMOND PUBLIC UTILITIES STREET LIGHT STANDARDS

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SHEET 1 OF 1
ESFA20

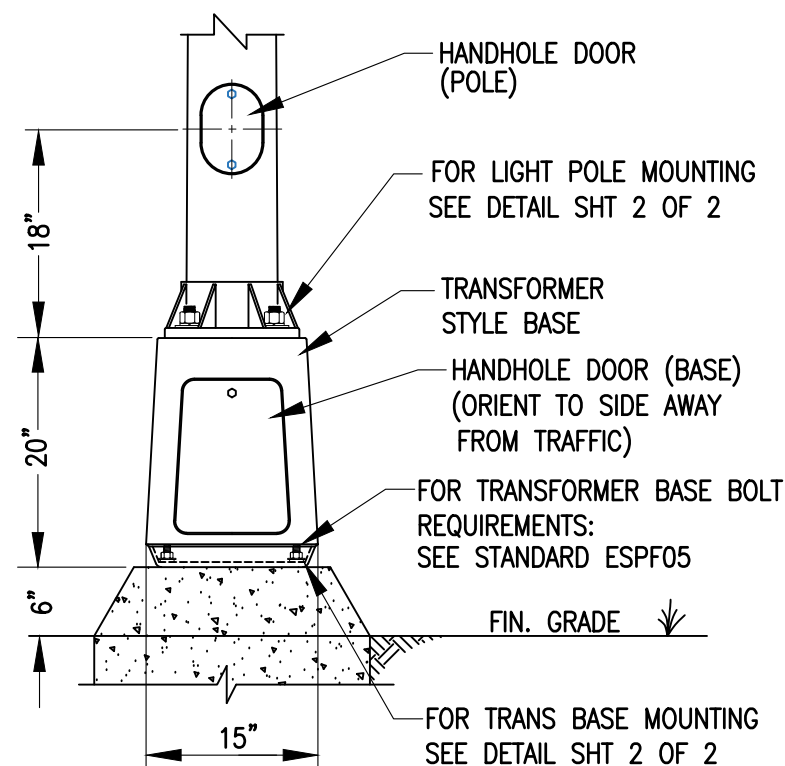


-HPS FIXTURE-



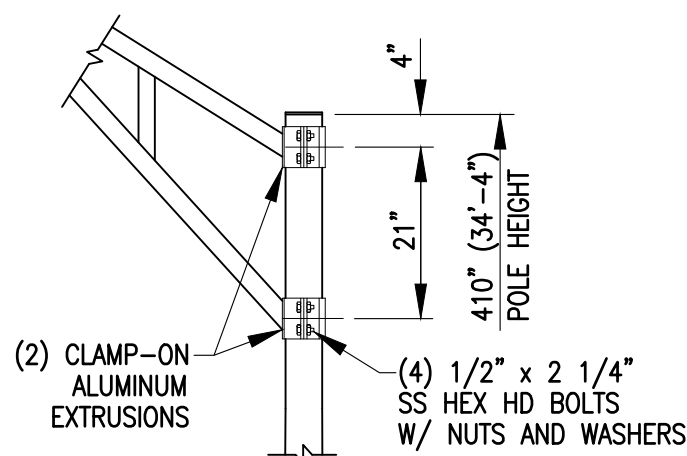
-LED FIXTURE-

COBRAHEAD LUMINAIRE DETAILS

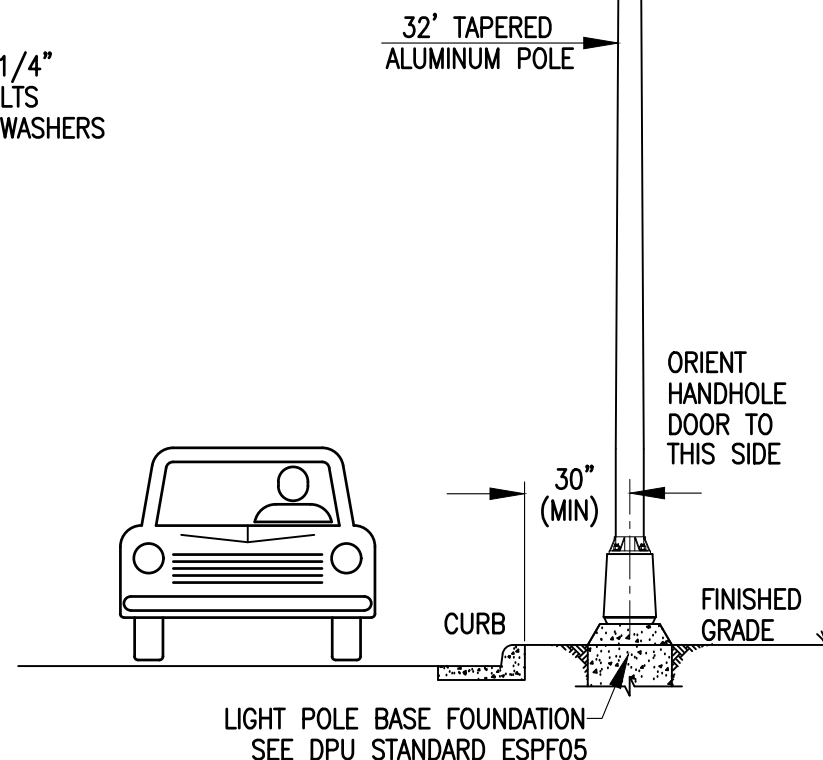
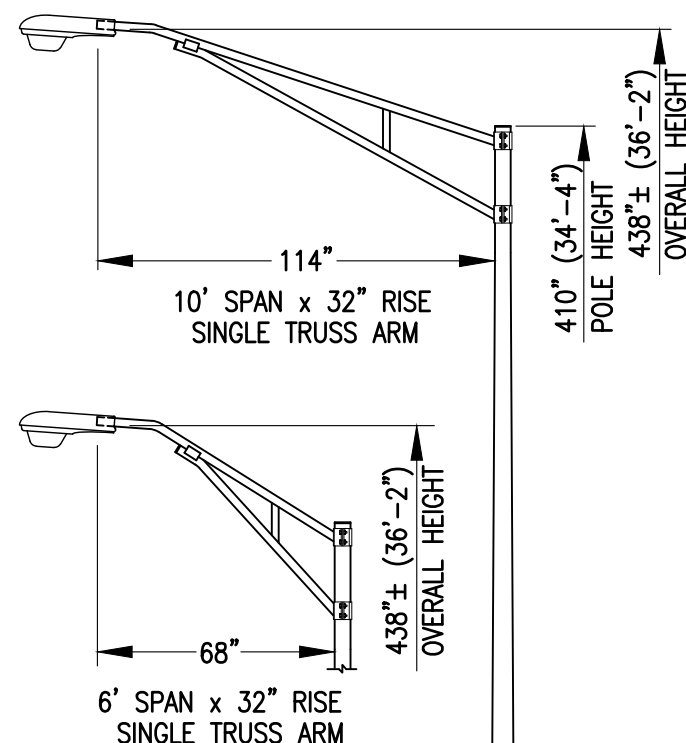


LIGHT POLE BASE DETAILS

LED FAWS (FIELD ADJUSTABLE WATTAGE SELECTOR) SETTING		
HPS WATT/LOCATION	LED WATTAGE	FAWS SETTING
100W - ALLEY	72W	1
150W - ALLEY	72W	1
250W - ALLEY	72W	2
150W - ROADWAY	72W	2
250W - ROADWAY	160W	2
400W - ROADWAY	160W	4



BRACKET MOUNTING DETAILS



SPECIFICATIONS:

- LUMINAIRE**
HPS: SINGLE DOOR COBRAHEAD, POWDER COATED, DIE-CAST ALUMINUM, FOUR-BOLT INTERNAL MAST ARM MOUNT NO PHOTO-CONTROL RECEPTACLE. (ACUITY BRANDS LIGHTING INC., ROADWAY SERIES XXX, #XXX XXX CA MT2 R3 DG 4B NR, OR EQUAL.) - ENGINEERING TO PROVIDE SPEC

LED: SINGLE DOOR COBRAHEAD, POWDER COATED, DIE-CAST ALUMINUM, FOUR-BOLT INTERNAL MAST ARM MOUNT NO PHOTO-CONTROL RECEPTACLE. (SIGNIFY BRANDS - ROADFOCUS SERIES RFM, #RFM XXXX 3K G2 R2M UNV DMG FAWS RCD7 SP2 GY3, OR EQUAL.) - ENGINEERING TO PROVIDE SPEC
- OPTICS**
HPS: LUMINAIRE HOOD HOUSES DROP GLASS PRISMATIC REFRACTOR, TYPE III (ASYMMETRIC) LIGHT DISTRIBUTION.
LED: LUMINAIRE HOOD HOUSES OPTICAL GRADE POLYMER REFRACTOR LENS, TYPE II (ASYMMETRIC) LIGHT DISTRIBUTION.
- LAMP HOLDERS:**
HPS: MEDIUM BASE PORCELAIN.
LED: POLARIZED PLUG/RECEPTACLE COMBINATION.
- LAMPS:**
HPS: 150W, 250W, OR 400W
LED: 3000 CCT
- BALLAST/DRIVER:**
HPS: ELECTRONIC BALLAST, PEAK LEAD, AUTOTRANSFORMER TYPE, MULTI-TAP VOLTAGE WIRED FOR 240V.
LED: STD 0-10V DIMMING CAPABILITY, HIGH POWER FACTOR OF 95%. ELECTRONIC DRIVER OPERATING RANGE 50/60 Hz. AUTO-ADJUSTING VOLTAGE INPUT 120-277 VAC.
- SHAFT:**
TAPERED, 8.00" DIA BASE, 4.50" DIA TOP, 32'-0" LENGTH, 6063 T4 ALLOY ALUMINUM TUBING, HEAT TREATED TO T6, CIRCUMFERENTIALLY WELDED TO BASE, FACTORY INSTALLED VIBRATION DAMPENER. SHAFT TO HAVE WIRE CLAMPS PROVIDED INSIDE PRE-WIRED POLE. GROUNDING LUG TO BE PROVIDED INSIDE FLUSH HANDHOLE. ACCESS DOOR WITH AN 18" PLASTIC SHEATHED KEEPER CHAIN AND TAMPER RESISTANT HARDWARE. HOLOPHANE NO. 320045805T4A-SB, OR EQUAL.
- WIRING:** 35'-0", 14/2 WITH GROUND (TYPE UF-B) WIRE LEADS TO BE PROVIDED, POLE AND LUMINAIRE TO BE PRE-WIRED.
- POLE BASE:**
ONE PIECE 12.0" SQ, ASTM A356 ALUMINUM ALLOY, HEAT TREATED TO A T6 CONDITION, WITH AN 11"-12" BOLT CIRCLE.

-CONTINUED ON SHEET 2 OF 2-

REVIEWED & APPROVED

ENGINEERING: SIGNED COPY ON FILE

REFERENCES:
ESMA01, ESMA04, ESPF05



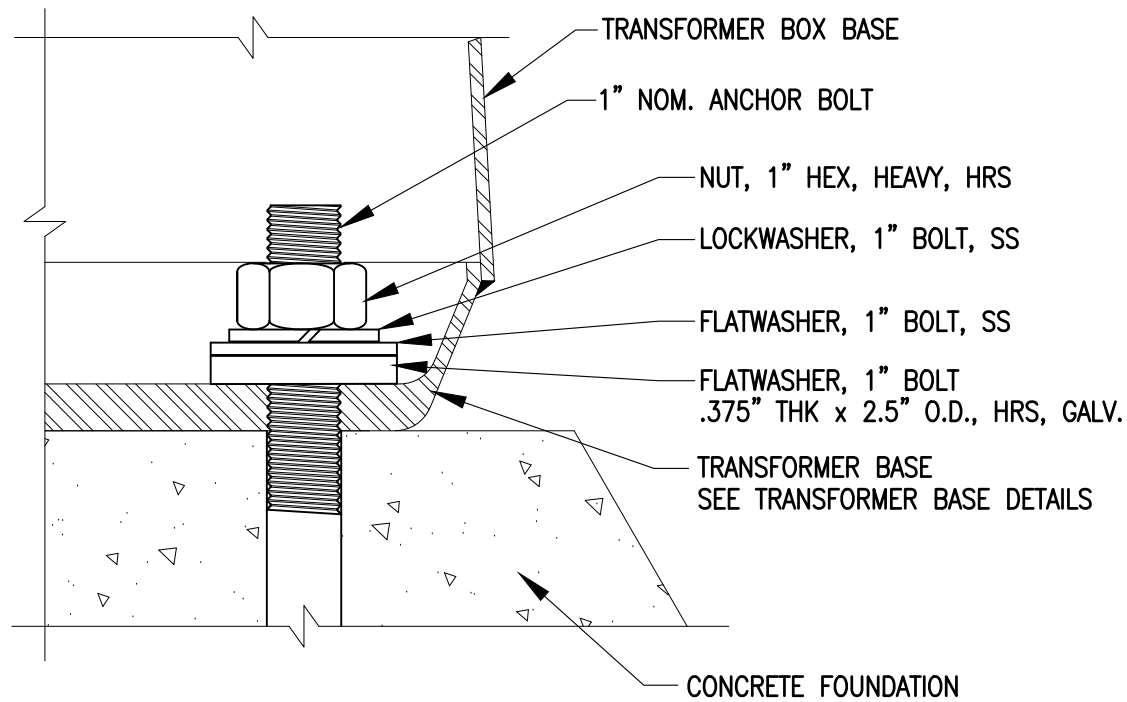
STANDARD FIXTURE ASSEMBLY DETAIL
**32ft ALUMINUM POLE WITH TRANSFORMER PEDESTAL BASE
FOR 6ft & 10ft BRACKET ARM
WITH COBRAHEAD FIXTURE**



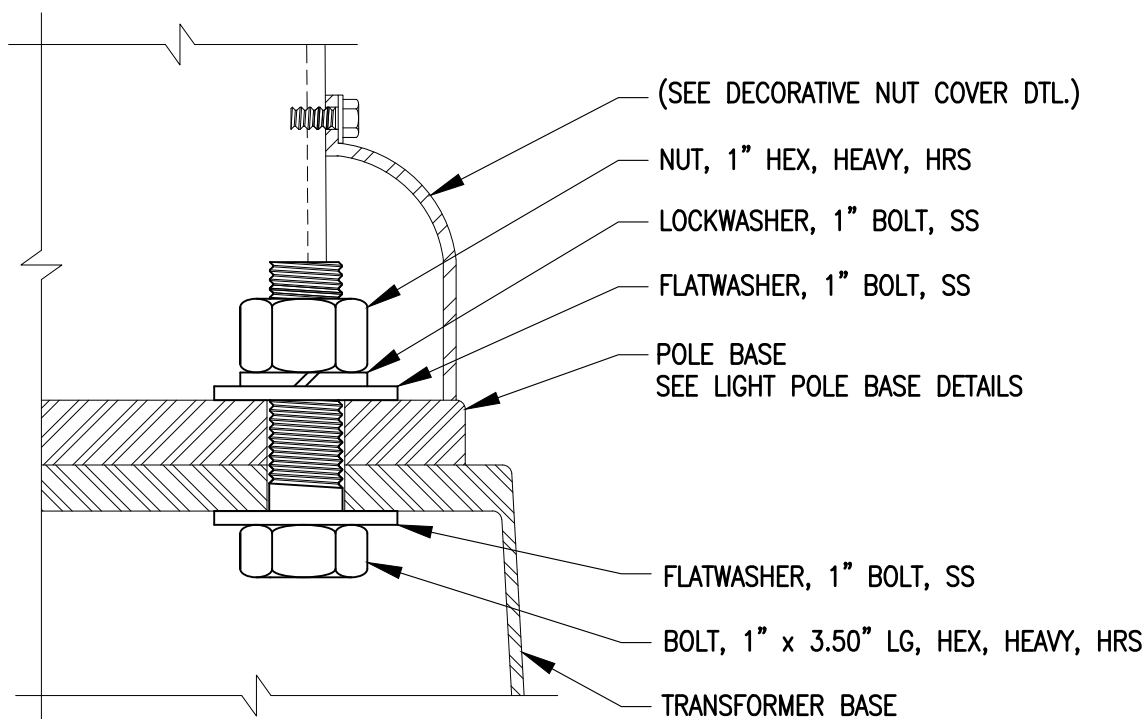
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STREET LIGHT STANDARDS

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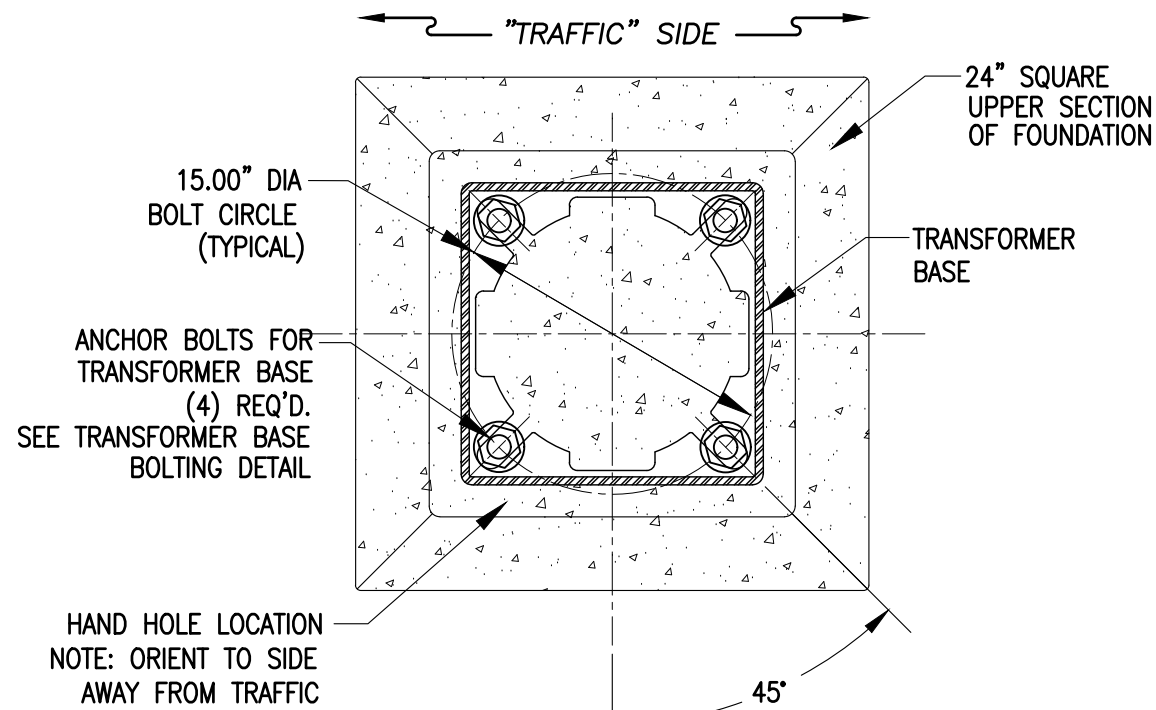
SHEET 1 OF 2
ESFA21



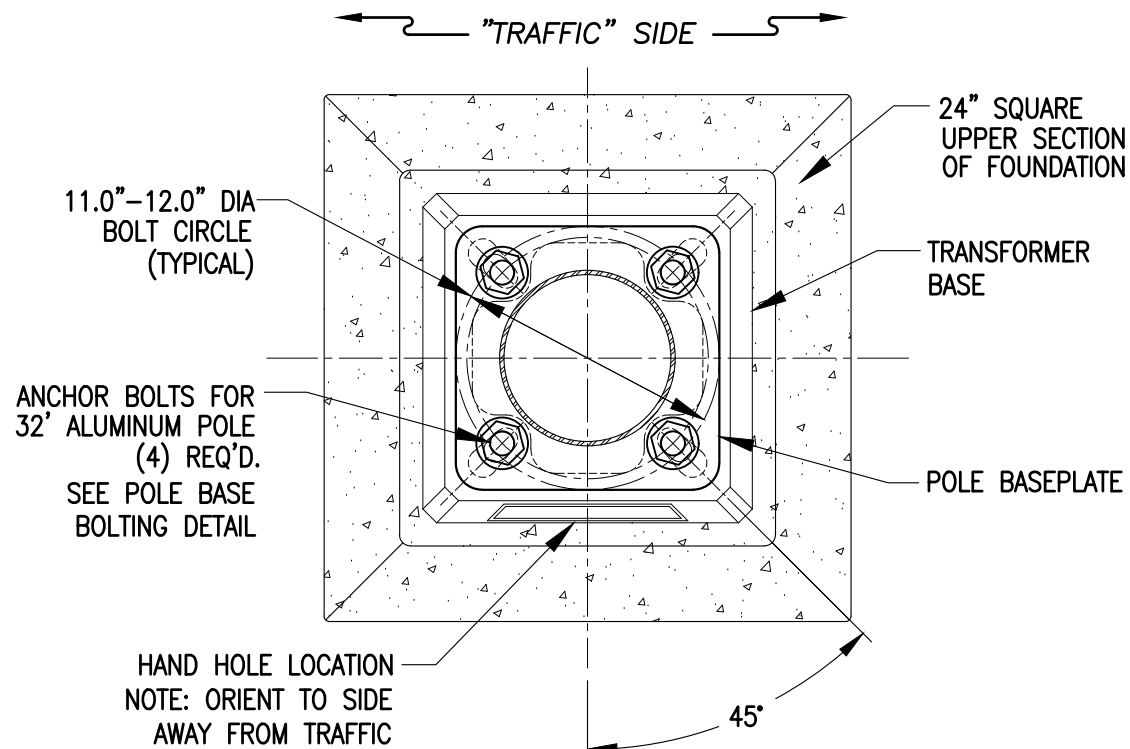
TRANSFORMER BASE BOLT DETAIL



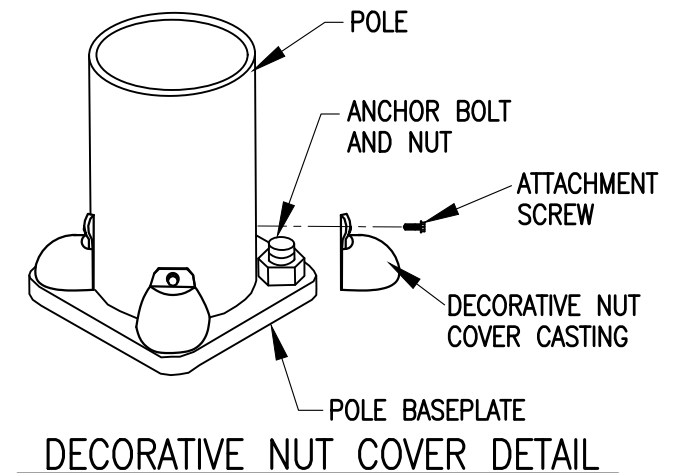
LIGHT POLE BASE BOLT DETAIL



TRANSFORMER BASE DETAIL



POLE BASE DETAIL



SPECIFICATIONS:

9. POLE ANCHORING:
(4) 1" DIA ANCHOR BOLTS, x 36" LG x 4" HOOK LENGTH MIN., THREADED END GALVANIZED A MINIMUM OF 12".
FOR EACH 1" ANCHOR BOLT: (2) HEAVY HEX NUTS, SS, (2) FLAT WASHERS, SS, AND (1) LOCKWASHER, SS.
10. POLE FINISH:
NATURAL ALUMINUM WITH 100 GRIT SATIN POLISH FINISH.
11. TRUSS ARMS:
MAIN TRUSS: 3.5" O.D. x 0.125" WALL 6063-T6 ALUMINUM ALLOY. TAPERED TO 2.375" O.D. AND FLATTENED TO 4.34" x 2.375" ELLIPTICAL.
SUPPORT TRUSS: 2.375" O.D. x 0.154" WALL (2" SCH 40) 6063-T6 ALUMINUM ALLOY TUBE.
HOLOPHANE NO. 1TA0632C45 (6FT) OR 1TA1032C45 (10FT) OR EQUAL.

MATERIAL LIST

QTY	DESCRIPTION
1	LUMINAIRE, COBRAHEAD, HPS OR LED
1	POLE, 32 FT, ALUMINUM (ENG TO PROVIDE SPEC)
1	TRANSFORMER POLE BASE (FAB-405C OR EQUAL)
1	TRUSS, ALUMINUM, 6FT OR 10FT
4	BOLT, 1" NOM. x 3.50" LG, HEX, HEAVY, HRS
8	NUT, 1" NOM, HEX, HEAVY, HRS
8	LOCKWASHER, 1" NOM., SS
12	FLATWASHER, 1" NOM., SS
4	FLATWASHER, 1" NOM., 0.375" THK x 2.5" O.D., HRS
A/N	WIRE, 14/2 TYPE UF-B, COPPER, WITH GROUND

REVIEWED & APPROVED

ENGINEERING: _____ SIGNED COPY ON FILE

REFERENCES:
ESMA01, ESMA04, ESPF05



STANDARD FIXTURE ASSEMBLY DETAIL 32ft ALUMINUM POLE WITH TRANSFORMER PEDESTAL BASE FOR 6ft & 10ft BRACKET ARMS WITH COBRAHEAD FIXTURE



CITY OF RICHMOND PUBLIC UTILITIES
STREET LIGHT STANDARDS

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