

NASHVILLE ELECTRIC SERVICE
**STREET LIGHTING
GUIDELINES**



VERSION 4
EFFECTIVE: 7-1-17

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GENERAL INFORMATION

Definition of Customer

“**Customer**” in these guidelines refers to the entity in contract with Nashville Electric Service for lighting services. Portions of the requirements for lighting may be completed by others, but the responsibility to meet all requirements and pay all debts rests solely with the **Customer**.

Definition of Street Lighting

“**Street Lighting**” in these guidelines applies to unmetered lighting services as defined in the NES Outdoor Lighting Rate – Schedule LS, Part A for **Street Lighting** accounts of government Customers.

Definition of Outdoor Lighting

“**Outdoor Lighting**” in these guidelines applies to unmetered lighting services as defined in the NES Outdoor Lighting Rate – Schedule LS, Part B for **Outdoor Lighting** for individual Customers.

Nashville Electric Service (NES) Guidelines

The **NES Electric Service Policies and Procedures** is the governing document approved by the NES Electric Power Board. Any discrepancies between policies therein and this, or any other NES guidelines, shall be resolved in favor of the **Policies and Procedures**. This document may be obtained by contacting an NES representative.

Refer to the **NES Electric Service Guidelines** for information regarding:

- **Metered Lighting Service**
- **Temporary Service**
- **Residential Developments**
- **Individual Residences**
- **Commercial and Industrial Services**

These and other NES guidelines can be obtained by contacting NES Customer Engineering, Customer Relations, or Meter Departments. Guidelines may also be accessed at nespower.com/content.aspx?page=guidelines

GENERAL INFORMATION

Standards

The following Street Lighting Standards have been developed for use by Customers to assist with the installation of street lighting on the NES system.

All designs and requests for street lighting must be submitted to and approved by the NES Street Lighting section of the NES Customer Engineering department prior to any construction.

Requests for NES inspections will be denied until appropriate documentation of the lighting system is submitted, approved, and finalized by the NES Street Lighting section.

Read and become familiar with these Standards before beginning a project. Follow these Standards as well as any other project specific documentation.

Locations of street lights must be in accordance with requirements of the local Authority Having Jurisdiction.

Street lighting conduit locations shown on NES distribution plans are not considered final lighting locations. It is the Customer's responsibility to determine the final light locations and coordinate those locations with the NES Street Lighting section. In order to receive an inspection, NES Operations crews must have a drawing and work order from the NES Street Lighting section of the NES Customer Engineering department.

FAILURE TO COMPLY WITH ANY OF THE STANDARDS OR PROCESSES OUTLINED OR INFERRED BY THESE GUIDELINES, OR BY WRITTEN OR VERBAL COMMUNICATION WITH NES SHALL BE CONSTITUTED AS GROUNDS FOR DENIAL OF SERVICE.

Contact Information

To contact the NES Street Lighting section for clarification of these guidelines or other general street lighting inquiries:

- Email StreetLighting@nespower.com
- Call (615) 747-3542
- Mail to NES Street Lighting, 1214 Church St, Room 347, Nashville, TN 37246

STREET LIGHTING

Lighting Installation Process



1. Determine the Lighting Account Type (go to page 4)
2. Initiate a Lighting Work Request
 - a. Street Lighting – Contact the Customer (see page 5)
 - b. Outdoor Lighting – Call to place an order (see page 6)
3. Select Light Fixture (go to page 7)
4. Select Pole (go to page 20)
5. Submit Street Lighting Documentation and Design (go to page 32)
 - a. Signed Contract or Letter with street light quantity, type, and wattage
 - b. Drawing of light location(s)
6. Obtain an NES Drawing and Work Order (see page 33)
7. Install Lighting
 - a. Contact NES Operations for inspection (go to page 34)
 - b. Contact NES Operations for power connection (page 35)

STREET LIGHTING



Determine the Lighting Account Type

Refer to the definitions of Street Lighting and Outdoor Lighting in the General Information section of these Guidelines (page 1).

Street Lighting is typically installed as required by a City government over public right-of-way. The location, quantity, and type of Street Lighting is determined by the City requiring lighting.

Outdoor Lighting is typically installed to illuminate areas not required by a City to have lighting both within and outside the public right-of-way. The location, quantity, and type of Outdoor Lighting is determined by the communities or agencies which they serve as allowed by the Authority Having Jurisdiction.

Contact NES Street Lighting for further clarification of new lighting account types and determining existing lighting account types. Refer to Contact Information on page 2.

Once the lighting account type has been determined, proceed to Step 2 of the Installation Process.

STREET LIGHTING

STEP 2

Initiate a Work Request

Street Lighting – Contact the Customer

To install, remove, or modify the Street Lighting of an existing Customer, contact the Customer and request that a letter be sent to NES authorizing work.

The list below has contact information for municipalities and government departments within the NES service area.

Municipality / Department	Contact Person	Phone Number
Metro Public Works	Metro Customer Service	(615) 862-8750
Metro Traffic Commission	Mike Hirtzer	(615) 456-9682
City of Belle Meade	Larry Smith	(615) 485-8445
City of Berry Hill	Joe Baker	(615) 292-5531
City of Brentwood	Steve Foster	(615) 371-0080
City of Forest Hills	Brad Bivens	(615) 383-8420
City of Gallatin	Nick Tuttle	(615) 451-5965
City of Goodlettsville	Jeff McCormick	(615) 859-2740
City of Hendersonville	Chip Moore	(615) 822-1016
City of Lavergne	Garlon Russell	(615) 793-9891
City of Millersville	Frank Wilkerson	(615) 859-0880
City of Mt. Juliet	Kenny Martin	(615) 754-2552
City of Oak Hill	Jeff Clawson	(615) 371-8291
City of Ridgetop	Tom Anderson	(615) 566-5450

Once a letter has been sent, proceed to Step 3 of the Installation Process.*

* Relocations of overhead electrical facilities by NES require a Work Request to be placed with NES Energy Services by calling (615) 747-3775.

STREET LIGHTING

STEP 2

Initiate a Work Request

Outdoor Lighting – Call to Place an Order

To install, remove, or modify Outdoor Lighting for new or existing accounts call NES Customer Service at (615) 736-6900 to place a Private Lighting Work Request.

Once an order has been placed, proceed to Step 3 of the Installation Process.

NES-APPROVED LIGHT FIXTURES

The following fixtures must be used for lighting systems which are to be maintained by NES.

Residential Fixtures

 <p>Hadco Refractive (p.8)</p>	 <p>Hadco Architectural (p.9)</p>	 <p>Hadco Independence (p.10)</p>
 <p>Holophane Granville (p.11)</p>	 <p>Holophane Octagonal (p.12)</p>	 <p>Cobrahead (p.13)</p>

Urban Streetscape Fixtures

 <p>Holophane Crystalite (p.14)</p>	 <p>Holophane Washington (p.15)</p>	 <p>USAL Viper (p.16)</p>
 <p>Holophane Prismsphere (p.17)</p>	 <p>Holophane Mongoose (p.18)</p>	 <p>Holophane Esplanade (p. 19)</p>

Once an approved fixture has been selected, proceed to Step 4 of the Installation Process.

RESIDENTIAL FIXTURES

Hadco Refractive (R34)

NES Stock Code: 303 294 700



Manufacturer:	Philips Hadco
Catalog #:	S7912-1 R34-B-B-B-A-1-A-H-R-G-150S-Multi-volt
Lamp:	150W High Pressure Sodium with Mogul Base
Control:	Integral Twist-lock Photocell
Pole:	NES Approved Residential 12' Decorative Poles (page 20)
Photometric File:	R34-15S3VCN.IES
Manufacturer's Representative:	Shad Asebrook, Sesco Lighting, (615) 830-1655
Website:	http://www.hadco.com/Hadco/Public/ProductDetail.aspx?pid=629&Id=4

RESIDENTIAL FIXTURES

Hadco Architectural (V600)

NES Stock Code: 303 303 500



Manufacturer:	Philips Hadco
Catalog #:	S7466-1 V600-A-B3-R-G-150S-Multi-tap
Lamp:	150W High Pressure Sodium with Mogul Base
Control:	Integral Twist-lock Photocell
Pole:	NES Approved Residential 12' Decorative Poles (page 20)
Photometric File:	TR02332@.IES
Manufacturer's Representative:	Shad Asebrook, Sesco Lighting, (615) 830-1655
Website:	http://www.hadco.com/Hadco/Public/ProductDetail.aspx?pid=22

RESIDENTIAL FIXTURES

Hadco Independence (V151)

NES Stock Code: 303 295 000



Manufacturer:	Philips Hadco
Catalog #:	S7466-A V151-A-B3-R-G-150S-Multi-tap
Lamp:	150W High Pressure Sodium with Mogul Base
Control:	Integral Twist-lock Photocell
Pole:	NES Approved Residential 12' Decorative Poles (page 20)
Photometric File:	V151-15SVB3.IES
Manufacturer's Representative:	Shad Asebrook, Sesco Lighting, (615) 830-1655
Website:	http://www.hadco.com/Hadco/Public/ProductDetail.aspx?pid=11&Id=5

RESIDENTIAL FIXTURES

Holophane Granville

NES Stock Code: 303 295 500



Manufacturer:	Holophane
Catalog #:	GVU-15AHP-MA-B-3-R-S-B-HP
Lamp:	150W High Pressure Sodium with Mogul Base
Control:	Integral Twist-lock Photocell
Pole:	NES Approved Residential 12' Decorative Poles (page 20)
Photometric File:	44468.IES
Manufacturer's Representative:	Sean Clare, Holophane Lighting, (615) 885-2831
Website:	http://www.holophane.com/products/family.asp?brand=HLP&family=Granville&producttype=Outdoor&category=Decorative&subcategory=Historical

RESIDENTIAL FIXTURES

Holophane Octagonal Lantern

NES Stock Code: 303 295 010



Manufacturer:	Holophane
Catalog #:	ARU-15AHP-MA-B-G3-H
Lamp:	150W High Pressure Sodium with Mogul Base
Control:	Integral Twist-lock Photocell
Pole:	NES Approved Residential 12' Decorative Poles (page 20)
Photometric File:	42746.IES
Manufacturer's Representative:	Sean Clare, Holophane Lighting, (615) 885-2831
Website:	http://www.holophane.com/products/Family.asp?Brand=HLP&Family=Octagonal Lantern Series&ProductType=Outdoor&Category=Decorative&SubCategory=Historical

RESIDENTIAL FIXTURES

Cobrahead

NES Stock Codes: 303 290 000 (100W), 303 300 000 (150W),
303 310 000 (250W), 303 010 000 (400W)



Manufacturer:	Various
Catalog #:	Various
Lamp:	100W, 150W, 250W, or 400W High Pressure Sodium with Mogul Base
Control:	Integral Twist-lock Photocell
Pole:	NES Utility Pole or Davit Pole (p. 25)
Photometric File:	Contact NES Street Lighting
Installation:	NES will furnish and install cobrahead fixtures

URBAN STREETSCAPE FIXTURES

Holophane Crystalite

NES Stock Codes: 303 295 200 (150W) and 303 348 100 (250W)



Manufacturer:	Holophane
Catalog #:	CRU-(15A or 250)HP-MA-B-4-PS-R
Lamp:	150W(G-18092) or 250W(G-11785) High Pressure Sodium w/ Mogul Base
Control:	Integral Twist-lock Photocell or External Relay System with Shorting Cap
Pole:	Valmont Core (Teardrop) Pole
Arm(s) & Fitter:	Holophane OUC45/1-CA-BKH (or OUC90/2-CA-BKH) & BALF-200-S-CA-BK
Photometric File:	47264.IES or 47254.IES
Manufacturer's Representative:	Sean Clare, Holophane Lighting, (615) 885-2831
Website:	http://www.holophane.com/products/Family.asp?Brand=HLP&Family=Teardrop&ProductType=Outdoor&Category=Decorative&SubCategory=Historical

URBAN STREETSCAPE FIXTURES

Holophane Washington

NES Stock Codes: 303 304 200 (150W) and 303 347 000 (250W)



Manufacturer:	Holophane
Catalog #:	WE-(15A or 250)HP-MA-B-3-B-6-H-PS
Lamp:	150W(G-18092) or 250W(G-11785) High Pressure Sodium w/ Mogul Base
Control:	Integral Twist-lock Photocell or External Relay System with Shorting Cap
Pole:	Hadco Traditional (2 nd Avenue) Pole or Metro Traffic Pole
Twin Arm:	Hadco PTH2520-P4-A
Photometric File:	47148.IES or 47135.IES
Manufacturer's Representative:	Sean Clare, Holophane Lighting, (615) 885-2831
Website:	http://www.holophane.com/products/family.asp?Brand=HLP&Category=Decorative&SubCategory=Historical&ProductType=Outdoor&Family=Washington%20Postlite%20-%20Glass

URBAN STREETSCAPE FIXTURES

US Architectural Lighting Viper-R

NES Stock Code: 302 801 100



Manufacturer:	US Architectural Lighting
Catalog #:	VPR-R-HR-III-100PSMHMT-PTB27-RAL7004-S-TPR
Lamp:	100W Metal Halide with Medium Base
Control:	Integral Twist-lock Photocell or External Relay System with Shorting Cap
Pole:	USA Lighting Contemporary (Gulch) Pole or Metro Traffic Pole
Photometric File:	Request from Manufacturer
Manufacturer's Representative:	Joshua Del Rosario, DesignLight, (615) 329-6700
Website:	http://www.usaltg.com/Products/Lums/VPRR.html

URBAN STREETSCAPE FIXTURES

Holophane Prismsphere

NES Stock Code: 302 802 000



Manufacturer:	Holophane
Catalog #:	PSU-175PM-MA-B-N-4-AC-H
Lamp:	175W Metal Halide with Mogul Base
Control:	Integral Twist-lock Photocell or External Relay System with Shorting Cap
Pole:	Hadco Alternative Traditional (Church Street) Pole or Metro Traffic Pole
Photometric File:	42730.IES
Manufacturer's Representative:	Sean Clare, Holophane Lighting, (615) 885-2831
Website:	http://www.holophane.com/products/Family.asp?Brand=HLP&Family=Prismasphere&ProductType=Outdoor&Category=Decorative&SubCategory=Historical

URBAN STREETSCAPE FIXTURES

Holophane Mongoose

NES Stock Code: 303 303 700



Manufacturer:	Holophane
Catalog #:	G-15AHP-MC-L-WF-V-K-C-P-R-6
Lamp:	150W High Pressure Sodium with Mogul Base
Control:	Integral Twist-lock Photocell or External Relay System with Shorting Cap
Pole:	Valmont Perimeter (West End) Pole
Photometric File:	49395.IES
Manufacturer's Representative:	Sean Clare, Holophane Lighting, (615) 885-2831
Website:	http://www.holophane.com/products/family.asp?brand=hlp&family=Mongoose&producttype=Outdoor&category=Infrastructure&subcategory=Contemporary

URBAN STREETSCAPE FIXTURES

Holophane Esplanade

NES Stock Code: 303 295 100 (150W) and 303 348 000 (250W)



Manufacturer:	Holophane
Catalog #:	ESU-(15A or 250)HP-MA-B-4-PS-R
Lamp:	150W(G-18092) or 250W(G-11785) High Pressure Sodium w/ Mogul Base
Control:	Integral Twist-lock Photocell or External Relay System with Shorting Cap
Pole:	Valmont Perimeter (Alternate Teardrop) Pole
Arm & Fitter:	Valmont DB0074B – Vanderbilt – Type B Arm & Holophane WLLF-200-S-CA-BK Fitter
Photometric File:	47249.IES or 47247.IES
Manufacturer's Representative:	Sean Clare, Holophane Lighting, (615) 885-2831
Website:	http://www.holophane.com/products/Family.asp?Brand=HLP&Family=Teardrop&ProductType=Outdoor&Category=Decorative&SubCategory=Historical

NES-APPROVED LIGHT POLES

STEP 4

The following poles must be used for lighting systems which are to be maintained by NES.

Residential Poles

Hadco P1566 (p.21)

Holophane Burlington (p.22)

Hapco Abingdon (p.23)

Hapco Grand (p.24)

Hapco Aluminum Davit (p.25)

Urban Streetscape Poles

Valmont Core (Teardrop) Assembly (p. 26)

Hadco Traditional (2nd Avenue) Assembly (p. 27)

USA Lighting Contemporary (Gulch) Assembly (p. 28)

Hadco Alternative Traditional (Church Street) Assembly (p. 29)

Valmont Perimeter (West End) Assembly (p. 30)

Valmont Perimeter (Alternate Teardrop) Assembly (p. 31)

Once an approved pole has been selected, proceed to Step 5 of the Installation Process.

RESIDENTIAL POLES

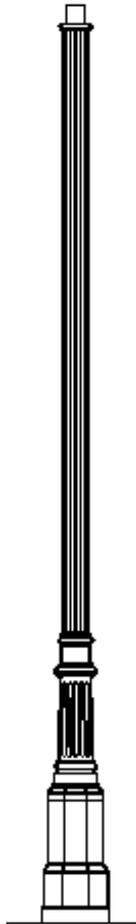
Hadco P1566

NES Stock Code: 306 925 000



Manufacturer:	Hadco
Catalog #:	C1915-DWG01 P1566-12A
Dimensions:	12' Height x 3" Diameter x 3" Tenon
Style:	Fluted Aluminum Shaft, Decorative Base, Black
Luminaires:	NES Approved Residential Fixtures
Footing:	3' Depth x 24" Diameter, See Figure 6 on p. 44
Manufacturer's Representative:	Shad Asebrook, Sesco Lighting, (615) 830-1655
Website:	http://www.hadco.com/Hadco/Public/ProductDetail.aspx?pid=411

RESIDENTIAL POLES
Holophane Burlington



Manufacturer:	Holophane
Catalog #:	BLA 12 F4J 11 P07 ABG BK
Dimensions:	12' Height x 4" Diameter x 3" Tenon
Style:	Fluted Aluminum Shaft, Decorative Base, Black
Luminaires:	NES Approved Residential Fixtures
Footing:	3' Depth x 24" Diameter, See Figure 6 on p. 44
Manufacturer's Representative:	Sean Clare, Holophane Lighting, (615) 885-2831
Website:	http://www.holophane.com/Products/Family.asp?Brand=HLP&Family=Aluminum&ProductType=Outdoor&Category=Poles

RESIDENTIAL POLES

Hapco Abingdon

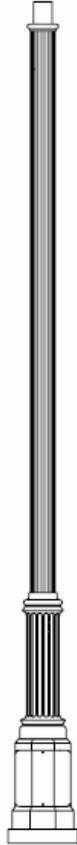


Manufacturer:	Hapco
Catalog #:	B74735-004-P1
Dimensions:	12' Height x 4" Diameter x 3" Tenon
Style:	Fluted Aluminum Shaft, Decorative Base, Black
Luminaires:	NES Approved Residential Fixtures
Footing:	3' Depth x 24" Diameter, See Figure 6 on p. 44
Manufacturer's Representative:	Jason Bittaker, Yoder Sales, (423) 510-0164
Website:	http://www.hapco.com/products.php?view=detail&id=20081002175392

RESIDENTIAL POLES

Hapco Grand

NES Stock Code: 306 910 000



Manufacturer:	Hapco
Catalog #:	B75863-004-P1
Dimensions:	12' Height x 4" Diameter x 3" Tenon
Style:	Fluted Aluminum Shaft, Decorative Base, Black
Luminaires:	NES Approved Residential Fixtures
Footing:	3' Depth x 24" Diameter, See Figure 6 on p. 44
Manufacturer's Representative:	Jason Bittaker, Yoder Sales, (423) 510-0164
Website:	http://www.hapco.com/products.php?view=detail&id=20081002176394

RESIDENTIAL POLES

Hapco Davit

NES Stock Code: 307 010 000



Manufacturer:	Hapco
Catalog #:	41-230-99-72"ANC
Dimensions:	35' Height
Style:	Round Tapered Aluminum, Single Arm
Luminaires:	NES Cobrahead Fixtures
Footing:	6' Depth x 24" Diameter, See Figure 5 on p. 43
Manufacturer's Representative:	Jason Bittaker, Yoder Sales, (423) 510-0164
Website:	http://www.hapco.com/products.php?view=detail&id=20081002174791

URBAN STREETScape POLES

Valmont Core (Teardrop) Assembly

**NES Stock Codes: 307 790 100 (Pole), 304 510 100 (Arm), 301 669 000 (Fitter),
304 510 200 (Double Arm), 307 100 100 (Base Cover)**

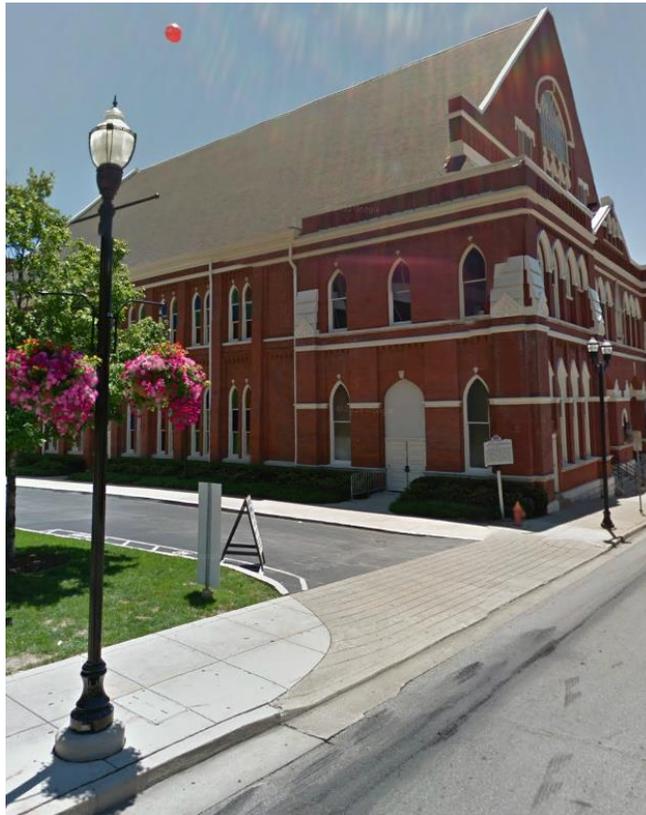


Sub-District:	CORE
Manufacturer:	Valmont
Catalog #:	DB00794D – Nashville – Type A
Dimensions:	23' Height
Style:	Round Tapered Fluted Steel, Renaissance Base, Black
Luminaires:	Holophane Crystalite with Holophane Arm and Fitter
Footing:	6' Depth x 24" Diameter, See Figure 5 on p. 43
Representative:	Mike Wright, Factory Sales Agency, (615)242-5050
Website:	http://www.valmont.com/valmont-structures/products/lighting/steel-and-aluminum-light-poles-and-posts/aluminum/rtfa-8'-to-32'-fluted-pole

URBAN STREETScape POLES

Hadco Traditional (2nd Avenue) Assembly

NES Stock Code: 306 993 000



Sub-District:	TRADITIONAL
Manufacturer:	Hadco
Catalog #:	SP5442F P2065-16A/MOD72
Dimensions:	16' Height
Style:	Fluted Steel Shaft, Decorative Base, Black
Luminaires:	Holophane Washington
Footing:	6' Depth x 24" Diameter, See Figure 5 on p. 43
Manufacturer's Representative:	Shad Asebrook, Sesco Lighting, (615) 830-1655
Website:	http://www.hadco.com/Hadco/Public/ProductDetail.aspx?pid=439

URBAN STREETSCAPE POLES

USA Lighting Contemporary (Gulch) Assembly

NES Stock Code: 306 940 000



Sub-District:	CONTEMPORARY
Manufacturer:	U.S. Architectural Lighting
Catalog #:	RNTA-165.125-PT27-RBC-SLM-FBA20-BEB
Dimensions:	16' Height
Style:	Round Non-tapered Aluminum, Round Base, Grey
Luminaires:	Cooper Mesa
Footing:	6' Depth x 24" Diameter, See Figure 5 on p. 43
Manufacturer's Representative:	Steve Dambach, (615) 329-6700
Website:	http://www.usaltg.com/OC-Poles.html

URBAN STREETScape POLES

Alternative Traditional (Church Street) Assembly

NES Stock Code: 306 921 000



Sub-District:	TRADITIONAL, ALTERNATIVE
Manufacturer:	Hadco
Catalog #:	P2555-12A
Dimensions:	12' Height
Style:	Decorative, Black
Luminaires:	Holophane Prismsphere
Footing:	3' Depth x 24" Diameter, See Figure 6 on p. 44
Manufacturer's Representative:	Shad Asebrook, Sesco Lighting, (615) 830-1655
Website:	http://www.hadco.com/Hadco/Public/ProductDetail.aspx?pid=454

URBAN STREETSCAPE POLES

Valmont Perimeter (West End) Assembly

NES Stock Code: 307 590 500 (Pole) and 300 382 500 (Base)



Sub-District:	PERIMETER
Manufacturer:	Valmont
Catalog #:	LH95177
Dimensions:	30' Height
Style:	Round Tapered, Transformer Base, Black
Luminaires:	Holophane Mongoose
Footing:	6' Depth x 24" Diameter, See Figure 5 on p. 43
Representative:	Mike Wright, Factory Sales Agency, (615)242-5050
Website:	http://www.valmont.com/valmont-structures/products/lighting/steel-and-aluminum-light-poles-and-posts/aluminum/rta-28'-to-33'-pole-4-bolt-anchor-base

URBAN STREETSCAPE POLES

Valmont Perimeter (Alternate Teardrop) Assembly

NES Stock Codes: 307 790 100 (Pole), 304 950 100 (Arm), 301 669 500 (Fitter)



Sub-District:	PERIMETER
Manufacturer:	Valmont
Catalog #:	DB00794D – Vanderbilt – Type D
Dimensions:	23' Height
Style:	Round Tapered Fluted Steel, Black
Luminaires:	Holophane Esplanade with Valmont Arm and Holophane Fitter
Footing:	6' Depth x 24" Diameter, See Figure 5 on p. 43
Representative:	Mike Wright, Factory Sales Agency, (615)242-5050
Website:	http://www.valmont.com/valmont-structures/products/lighting/steel-and-aluminum-light-poles-and-posts/aluminum/rtfa-8'-to-32'-fluted-pole

STREET LIGHTING



Documentation and Design

The following documentation must be submitted prior to the installation of street lighting:

- Signed Lighting Contract (Outdoor Lighting) or Modification Letter (Street Lighting)
 - Once a Private Lighting Work Request has been placed, NES will generate a Contract for the Customer to sign.
- Scaled engineering drawing showing all components of the lighting system

The following design criteria must be met for all street lighting systems:

Criteria	NES Specification
Codes	Street lighting systems must comply with all applicable codes adopted by the Authority Having Jurisdiction including, but not limited to, the National Electric Code and the National Electrical Safety Code
Conductor Size	Conductors shall be sized to handle the rated ampacity of the lighting served, and such that voltage drop does not exceed 5% from the point of service to the farthest point of utilization
Clearances	In addition to applicable codes clearances NES lighting systems shall maintain: <ul style="list-style-type: none"> • 10' clear to all fire hydrants or other grounded objects • 6' clear to all portions of NES underground vault, manhole, and handhole entrances • 3' clear from non-accessible sides of all above ground NES equipment pads if bonded per NESC Rule 384 • 6' clear from accessible sides of all above ground NES equipment pads <ul style="list-style-type: none"> ▪ DO NOT INSTALL ANY ITEM DIRECTLY IN FRONT OF ANY NES ABOVE GROUND EQUIPMENT • 1' clear horizontally and vertically from all other utilities
Landscaping	Landscaping materials shall not cover or come in contact with NES equipment
Locations	Street light locations shall be in accordance with the requirements of the Authority Having Jurisdiction. Private Customers must obtain written approval from the Authority Having Jurisdiction to place lighting over public streets or within the right-of-way Street lighting shall be a maximum of fifteen feet (15') from the street right-of-way and accessible by NES trucks on paved surfaces The Customer shall coordinate placement of lighting with other trades.

The Customer shall ensure proper clearance from NES equipment to allow access for inspection, maintenance, and replacement. Any object not conforming to these requirements shall be promptly removed or modified to comply upon notification from NES. Failure to comply with clearance requirements after notification shall grant NES the right to remove any such object at the owner's expense without incurring any liability.

Once proper documentation has been submitted and the design is approved, proceed to Step 6 of the Installation Process.

A rectangular box with a blue border and a white background containing the text "STEP 6" in a blue, outlined font.

NES Drawing and Work Order

NES Customer Engineering, Street Lighting section will generate an official street lighting inspection and power connection Drawing, and a Work Order for NES Operations crews.

Once the NES Street Lighting Drawing is complete and Work Order number is created, proceed to Step 7 of the Installation Process.

STREET LIGHTING

STEP 7

Inspection and Power Connection

It is the Customer's responsibility to contact NES and schedule all required inspections. NES must inspect any lighting system that will be maintained by NES. If the Customer fails to have NES inspect the construction phase of the lighting system, the Customer will be required to take any necessary action to facilitate the inspections listed on the following page.

NES requests a minimum of three business days advance notice for all inspections.

NES Center	Contact Info	Zip Codes Served
Donelson	DonelsonLighting@nespower.com	37013, 37027, 37076, 37086, 37122, 37135, 37167, 37204, 37210, 37211, 37214, 37217, 37220
North	NorthLighting@nespower.com	37066, 37072, 37073, 37075, 37080, 37115, 37138, 37189, 37206, 37207, 37208, 37213, 37216, 37228
West	WestLighting@nespower.com	37015, 37062, 37064, 37069, 37082, 37143, 37201, 37203, 37205, 37209, 37212, 37215, 37218, 37219, 37221
C&M	DowntownLighting@nespower.com	Downtown Network
Central	Centrallighting@nespower.com	Interstate Lighting

The Codes department of the Authority Having Jurisdiction inspects any receptacles mounted on NES light poles. An Electrical Codes release may be required prior to energizing any receptacles.

Refer to the installation details section (page 36) for construction requirements in order to satisfy the inspections. The following inspections shall be performed by NES Operations:

Inspection	Requirements
Conduit and Pull-box	<ul style="list-style-type: none"> • Conduit and pull-boxes shall be inspected prior to backfilling ditch • All work shall be performed according to the applicable NES construction details and drawings • Excavate ditch and/or pull-box hole to proper depth <ul style="list-style-type: none"> ▪ Call for inspection and obtain approval • Install ground wire, first layer of gravel, conduit, and/or pull-box as directed by NES Operations <ul style="list-style-type: none"> ▪ Call for Inspection and obtain approval • Install warning tape and backfill
Footing	<ul style="list-style-type: none"> • Footing shall be inspected prior to pouring concrete • All work shall be performed according to the applicable NES construction details and drawings • Construct footing according to appropriate NES detail, including grounding <ul style="list-style-type: none"> ▪ Call for inspection and obtain approval • Pour Concrete
Conductor, Light, and Pole	<ul style="list-style-type: none"> • Conductors, lights, and poles shall be inspected prior to power connection • All work shall be performed according to the applicable NES construction details and drawings • Install conductors, lights, and poles <ul style="list-style-type: none"> ▪ Call for power connection

INSTALLATION DETAILS

Lighting Equipment Maintained by NES

Lighting Equipment Not Maintained by NES

Figure 1: Trench Requirements – Roadway Lighting

Figure 2: NES Maintained Lighting in Underground Developments

Figure 3: Underground Street Lighting Service from Riser

Figure 4: Street Lighting Pull-Box Installation Detail

Figure 5: General Footing Detail – NES Poles, Height Greater than Fourteen Feet (14')

Figure 6: Footing Detail for Subdivisions – NES Poles, Height of Fourteen Feet (14') or Less

Figure 7: Metro–Davidson County Street Lighting Location Detail

Figure 8: Street Lighting and Traffic Signal Manhole Connections

INSTALLATION DETAILS

Lighting Equipment Maintained by NES

The following materials must be used for lighting systems which are to be maintained by NES.

Material	NES Specification
Underground Conduit	2" Schedule 40 PVC
Conduit Elbow at Miscellaneous Locations	2" Schedule 40 PVC with 24" Radius
Conduit Elbow at Riser Poles	2" Schedule 80 PVC with 24" Radius
Exposed Conduit at Utility Riser Pole	2" Rigid Galvanized Steel from End of Schedule 80 PVC Radius and Continuing up First 10' of Pole Above Finished Grade (see Figure 4 on page 42)
Decorative Luminaires	See Approved Light Fixture List (page 9)
Decorative Poles	See Approved Light Pole List (page 22)
Lamps	Wattages and Type as specified in Approved Light Fixture List
Conductor	NEMA Listed THHN/THWN Copper, 600V, 90°C #4, #6, or #12 AWG as required to maintain Voltage Drop of less than 5% (#12 allowed only in Residential Subdivisions)
Conductor Color Code	Lighting Phase – Black Spare Phase – Red Receptacle Phase – Blue (Obtain NES approval for Receptacle Installation) Full Size Neutral – White Ground – Green
Bare Copper Ground in Trench	Minimum #6 Copper, Soft Drawn, Bare
Wire Connectors	600V Rated Compression Type
Pole Base Fuses and Fuse Blocks	Furnished by NES, Installed by Customer
Pull-Boxes	Hubbell Quazite (See Figure 5 on page 43)
Photocells	DTL DP124, Sun-Tech PX124, Ripley 6390 with ANIS Standard 1.5fc turn-on
Warning Tape	Furnished by NES, Installed by Customer

INSTALLATION DETAILS

Lighting Equipment Maintained by NES (Continued)

Lighting maintained by NES shall be subject to Inspection by NES Operations.

Lighting maintained by NES shall be billed at the appropriate rate.

Outdoor lighting rates can be found at: nespower.com/content.aspx?page=securitylighting

Lighting Equipment Not Maintained by NES

Lighting equipment not maintained by NES must be connected to a metered service.

Refer to the NES Electric Service Guidelines for all metered service requirements.

These and other NES guidelines can be obtained by contacting NES Customer Engineering, Customer Service, or Meter Departments. Guidelines may also be accessed at nespower.com/content.aspx?page=guidelines

Contact NES Customer Service (615) 736-6900 to apply for service.

INSTALLATION DETAILS

Trench Requirements – Roadway Lighting

1. All trenches shall meet OSHA standards.
2. Trench depths and widths given are the minimum working requirements.
3. All excavated and other materials shall be placed at least two feet from the edge of the trench.
4. All selected backfill shall be free of stones, rock, or other material which might damage the conduit system. Selected backfill shall contain no solid material larger than two inches in diameter. If native soils are not suitable, #67 crushed gravel shall be substituted three inches above and three inches below the conduit.
5. A minimum of 12" vertical and horizontal clearance is required between NES conduit and other utilities, unless the said utility has a greater clearance requirement (for example, Harpeth Valley Utility District requires five feet). Conduits for lighting maintained by NES are considered another utility.
6. Conduit crossing under drainage ditches or small creeks shall have four inches of concrete encasement. The length of the encasement shall be determined in the field by NES.
7. All backfill under paved areas shall be #67 crushed gravel.
8. Schedule trench/conduit inspection with NES Operations a minimum of three business days prior to the desired time of inspection. Do not backfill trench prior to inspection by NES Operations.
9. If the street lighting conduits are installed at the same time, and in the same trench as the primary/secondary conduits for NES electrical distribution conduits, it is the Customer's responsibility to contact NES Operations for inspection of the 2" conduits shown on the distribution plan or street lighting plan.
10. Conduit to be laid so that the imprint is visible from grade.
11. Customer must ensure complete conduit integrity throughout all lighting system before any lights will be energized. Damaged conduit must be repaired or replaced.
12. Operations will not inspect work without an NES street lighting drawing.
13. Ground Installation Option: Ground wire may be installed in conduit for poles less than 20' in height.

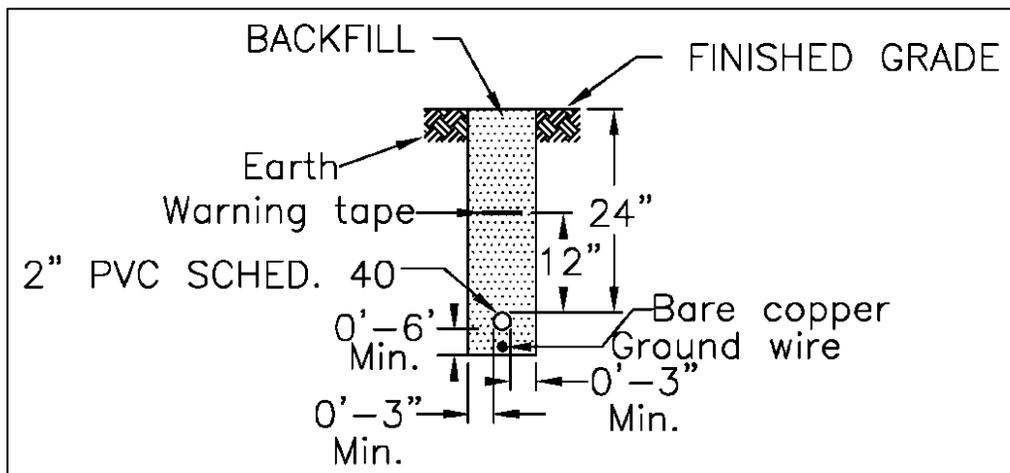


FIGURE 1

INSTALLATION DETAILS

NES-Maintained Lighting in Underground Developments

1. NES requires an NES inspection approving the lighting system installation before energizing the fixtures.
2. Customer shall be responsible for all excavation and backfill.
3. Customer shall install the street lighting conduit and wire from the secondary compartment of the transformer to the light fixture.
4. The Customer is responsible for coordinating the installation of the conduit and wire into the pad-mounted transformer with NES Operations.
5. Customer shall furnish and install all wire into the pad-mounted transformer under the supervision of NES Operations.
6. Conduit shall be installed to street light pole base or pull-box according to NES street lighting drawing or NES Operations.
7. Enclosed circuit breakers should not be installed for lighting systems which are to be maintained by NES.

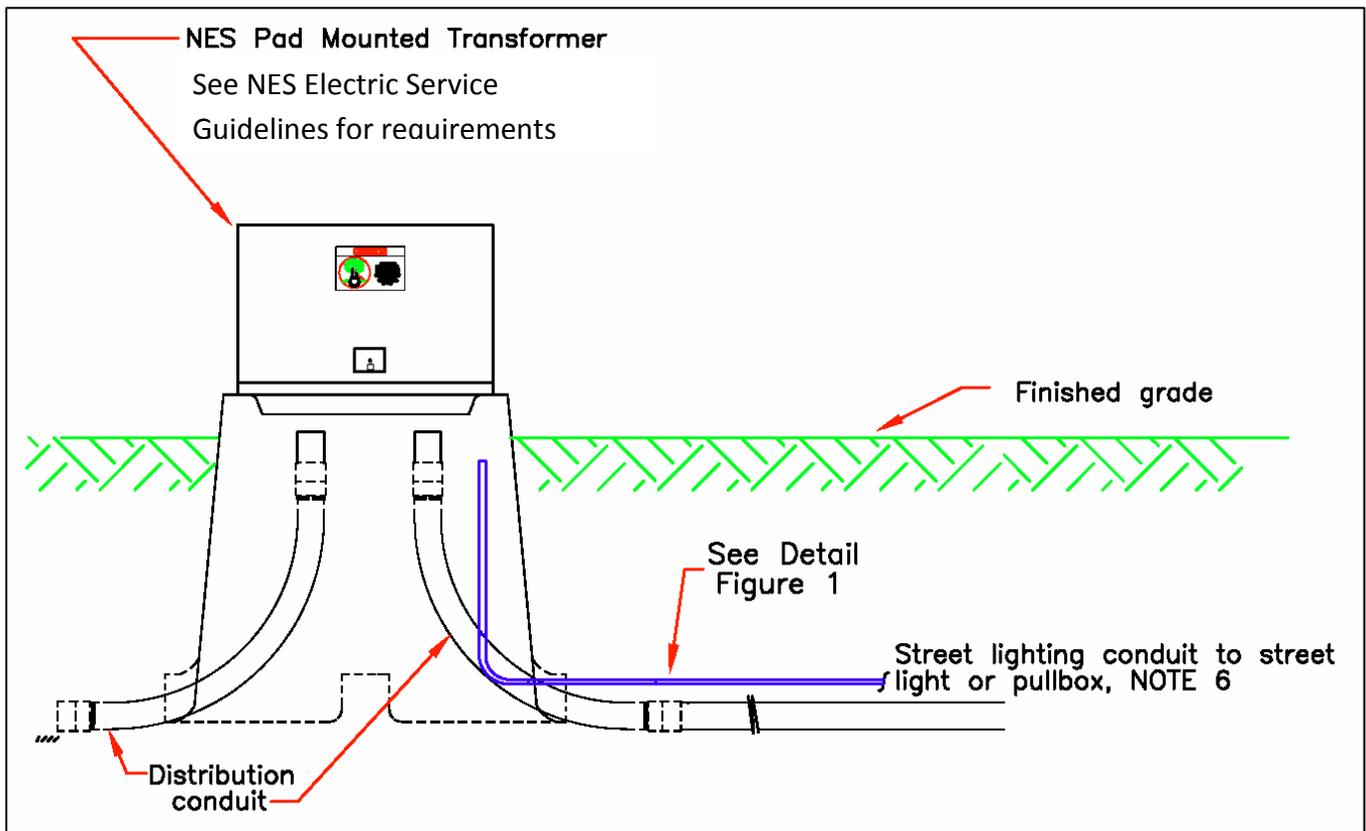


FIGURE 2

INSTALLATION DETAILS

Underground Street Lighting Service from Riser

1. Two inch (2") conduit and 24 inch (24") radius shall be used for elbows.
2. Conduit must be laid so the imprint is visible.
3. The Customer is responsible for soil stabilization during and after construction. The Customer is also responsible for the disposal of soils from excavation.
4. NES to furnish and install stand-off brackets.
5. An NES Street Lighting pull-box is required within 25' of utility pole base.
6. Refer to NES Pole Attachment and Conduit Usage Guidelines for conduit placement requirements.

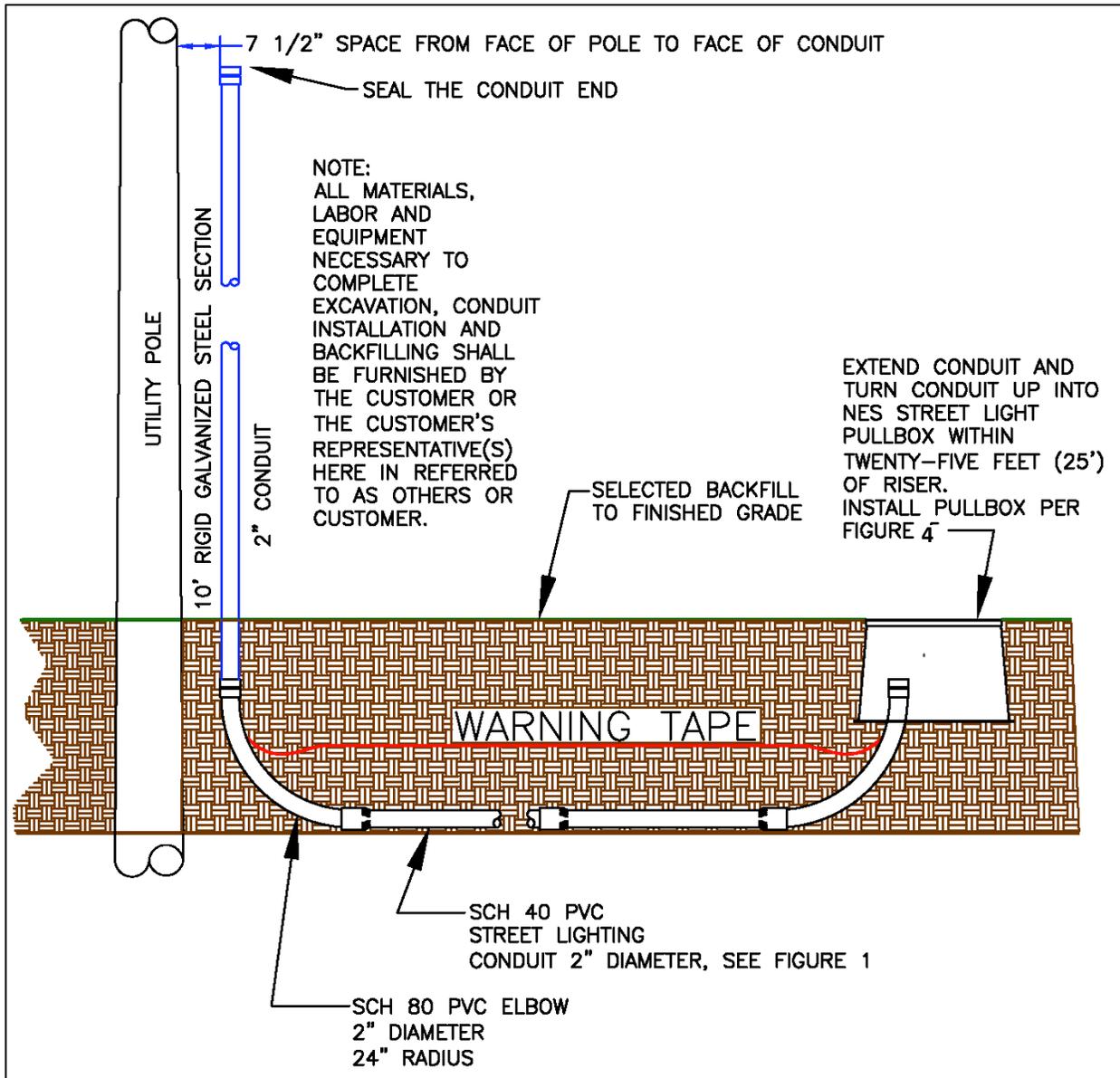


FIGURE 3

INSTALLATION DETAILS

Street Lighting Pull-box Installation Detail

1. Excavate and backfill with minimum eighteen inch (18") thick layer of #67 crushed gravel.
2. Install box and backfill to within twelve inches (12") of finished grade with #67 crushed gravel.
3. Backfill inside box within three inches (3") of the top of the conduit with #67 crushed gravel.
4. The top of the pull-box must be flush with finished grade.
5. Pull-box to be furnished and installed by customer.
6. Schedule inspection of pull-box installation with NES Operations a minimum of three business days prior to inspection.
7. NES reserves the right to require a larger pull-box. If larger pull-box is required, NES will issue specifications and installation requirements for the larger pull-box.
8. Pull-boxes are required to be installed at the midpoint of any circuit run that exceeds 200 feet.
9. Pull-boxes are not to be installed in the path of vehicular travel.

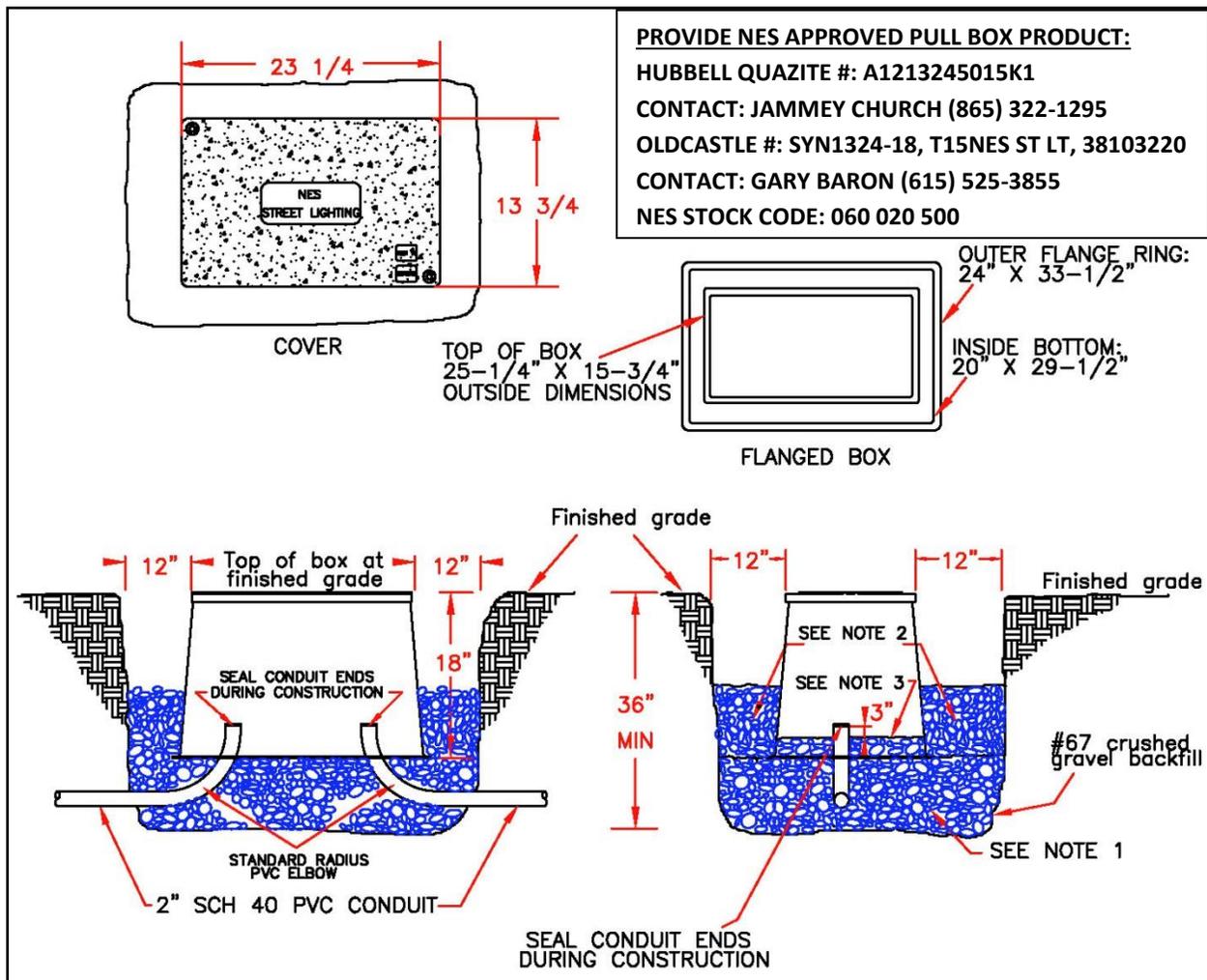


FIGURE 4

INSTALLATION DETAILS

General Footing Detail – NES Poles, Height Greater than Fourteen Feet (14')

1. Concrete to be Class 'A', 3000 P.S.I. compressive strength in 28 days.
2. All conduits to be capped.
3. Protect anchor bolts from damage before and after concrete pour. NES will require damaged anchor bolts to be replaced.
4. Schedule footing inspection with NES Operations a minimum of three business days prior to the desired time of inspection. Do not pour concrete without inspection and approval by NES Operations.
5. This detail is for use with NES-approved lighting poles taller than fourteen feet (14') found in these guidelines.

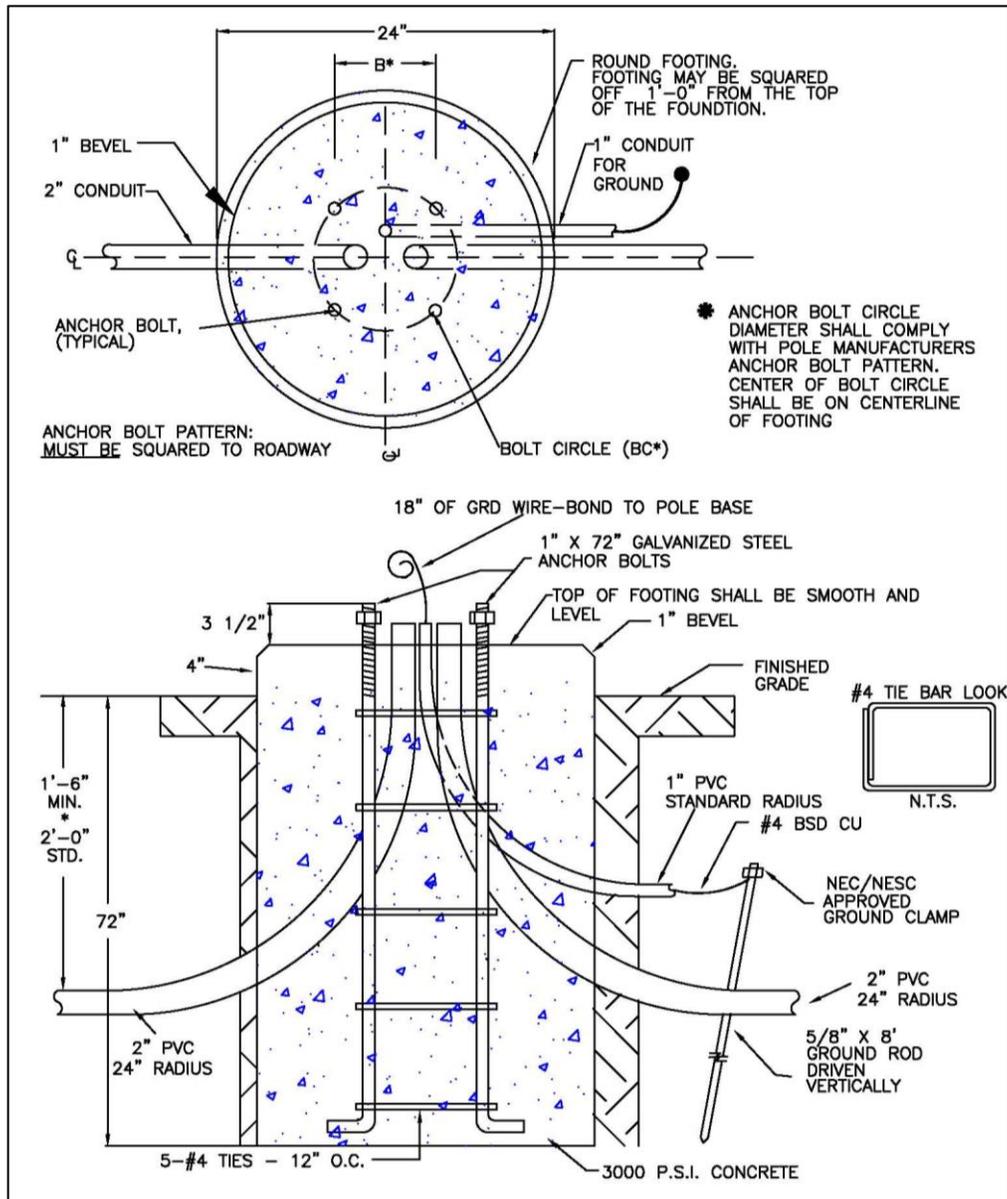


FIGURE 5

INSTALLATION DETAILS

Metro-Davidson County Street Lighting Location Detail

1. "Light Zone" indicates space where lighting is required.
2. "No Light Zone" indicates space where lighting is not required.
3. Intersections of private alleys or private roads with public roads are not considered "Light Zones".
4. "Intersection Light Zone" indicates an intersection at multiple Metro public roads, or a Metro public road and a Metro public alley.
5. Locate decorative street light poles at the center line of the width of the grass strip between the sidewalk and back of curb.

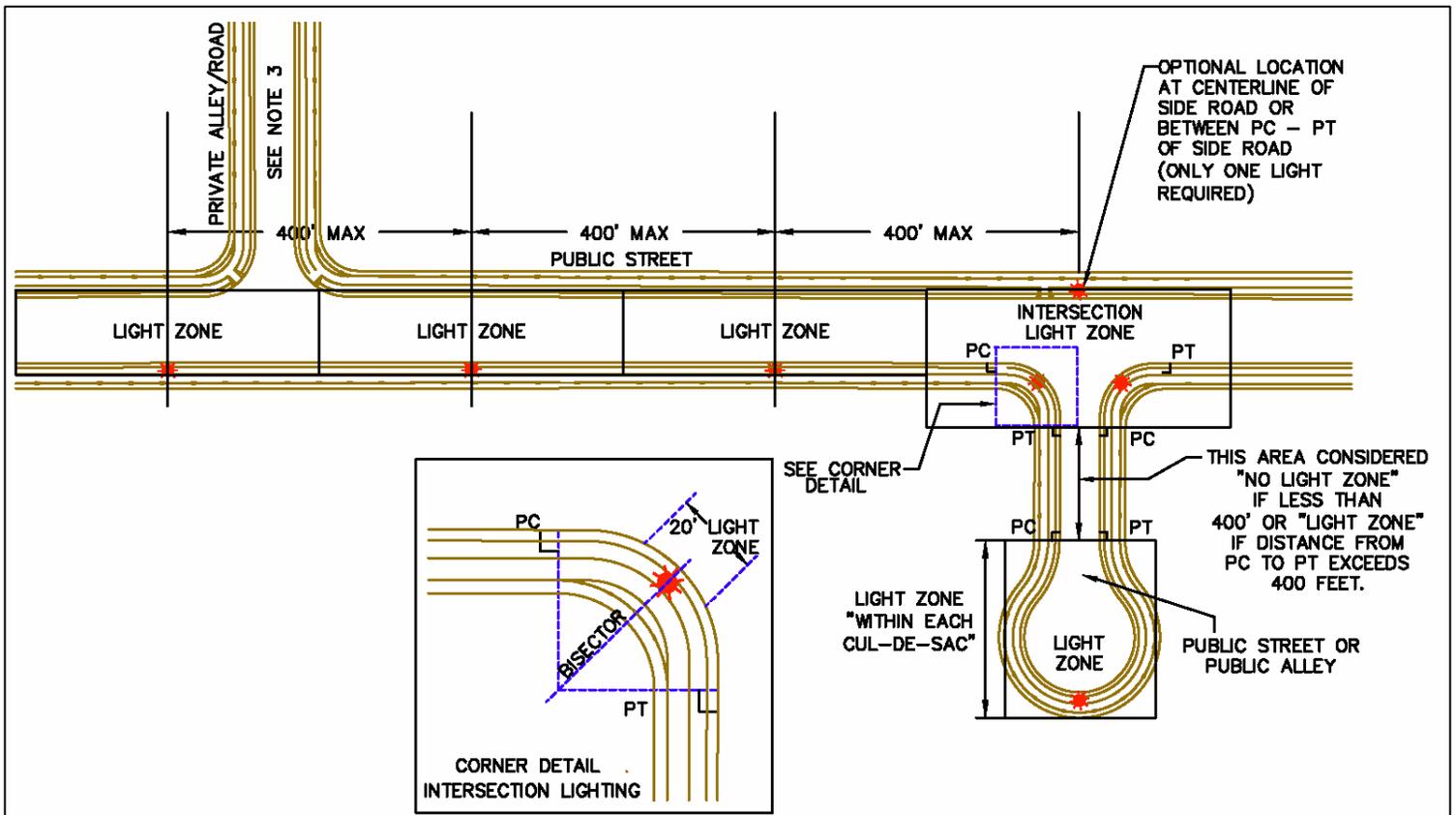


FIGURE 7

INSTALLATION DETAILS

Street Lighting and Traffic Manhole Connections

1. Contractor shall furnish and install conduit to within eighteen inches (18") of wall of manhole. Contractor shall trench and backfill to face of manhole under supervision of NES. NES to core manhole (if necessary) and install two inch (2") conduit from manhole to Contractor's conduit. Contractor to connect conduits. NES will furnish and install conductors from manhole to first pull-box. Contractor is responsible for repaving/repairing road as required by Public Works.
2. All down-stream conduit and wiring requirements for traffic signal work past this pull-box are to be determined by Public Works.
3. NES to determine 120 volt power source connection and lighting control method.
4. Pole set-back to be three feet (3') from face of curb and five feet (5') from radius.

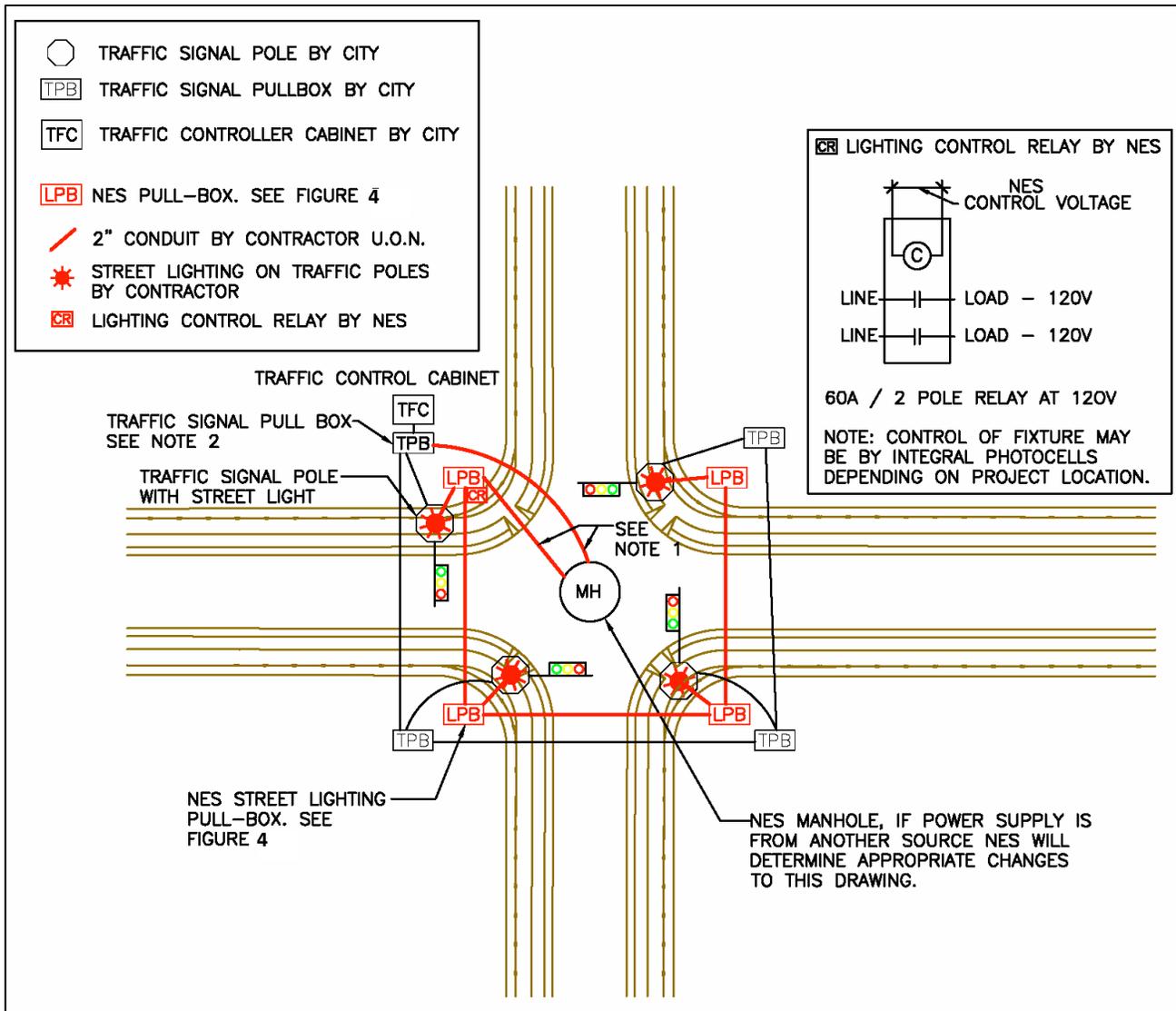


FIGURE 8

STREET LIGHT MAINTENANCE

NES Maintains Lighting which meets the following criteria:

- Lighting installed using NES approved materials
- Lighting installed according to NES requirements
- Lighting inspected and approved by NES Operations
- Lighting in developments that are complete
- Lighting in locations accepted by the City
- Lighting with normal fixture or pole component failure
 - Includes ballast, photocell, lamp, starter, and capacitor
 - Costs associated with repairing fixtures damaged by abnormal means (e.g. construction, vehicular accident, lawn equipment, animal urine, shotgun) shall be borne by the responsible party
- Lighting located no more than fifteen feet (15') from the road right-of-way and accessible by NES trucks on paved surfaces
- Lighting installed on an NES utility pole

Provide the following information when requesting Street Light Maintenance:

- Location of the problem including an address
- Type of Problem (e.g. Light Out, Light Always On, etc.)
- Pole number (8 digit yellow & black tag), if available
- Your name and contact information

To request NES Street Light Maintenance:

- Visit <http://nespower.com/securitylight.aspx>
- Email CustServ@nespower.com
- Call (615) 736-6900
- Mail to NES Street Lighting, 1214 Church St, Room 347, Nashville, TN 37246

NES does not provide maintenance for the following:

- Concrete Footings for Lighting Poles
- Conduit for Lighting
- Receptacles mounted on Lighting Poles
- Vegetation (e.g. trees, shrubs, algae) or vandalism on or around Lighting

NES Street Lighting Guidelines

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