

Street Lighting Notes and Special Provisions

General

1. At least two (2) weeks prior to the installation of street lighting, contact the Village of Mundelein Engineering Department and the Village of Mundelein Public Works Department Facility Maintenance Division at (847) 949-3278 to schedule a pre-construction conference. The Public Works Department must also be notified a minimum of 24-hours prior to commencement of work. All street lighting components must be within the right-of-way or dedicated easement.
2. The contractor shall call J.U.L.I.E. at (800) 892-0123 for utility locations prior to beginning any excavations.
3. Street lighting shall be based on a 110-volt AC system, with a maximum of ten (10) lamps per circuit. Streetlights shall be controlled by a central controller. The Controller shall be located three (3)-feet behind the sidewalk within the right-of-way or dedicated easement.
4. All underground circuit wiring shall be run in minimum one (1)-inch "Unit Duct" with three (3) #6 U.S.E XLP Copper Conductors. No circuit wiring shall be run in side or backyards. Larger conductors may be required by the Village for compensation of line loss over long distances.
5. The electrical supply from the utility company pedestal to the streetlight controller shall be determined by length of run and placed in a two (2)-inch rigid conduit.
6. A #6 Stranded Copper Ground Cable shall be installed in the same trench and adjacent to the unit duct.
7. A 5/8-inch diameter by eight (8)-foot copper ground rod shall be installed at each streetlight and at the controller.
8. Street lighting cables shall be installed three (3)-feet behind the back of the curb, and a minimum of 24-inches below finished grade.
9. When circuit wiring must cross under permanent pavement (streets, driveways, sidewalks, etc.), the unit duct must be installed within a four (4)-inch PVC Schedule 40 conduit that shall extend a minimum of one (1)-foot beyond the edge of the concrete or blacktop.

Streetlight Controller

1. The controller box shall be a minimum 26-inches x 17-inches x 15-inches NEMA 3R Single Door Enclosure installed on a 30-inch long, four and a half (4 ½)-inch O.D. Spun Aluminum pedestal pole, with a square aluminum base.
2. The aluminum controller box shall have a one-quarter-inch stiffener plate installed in the base.
3. The controller box catalog cuts must be supplied to and approved by the Village prior to installation.
4. There shall be a maximum of ten (10) streetlights per branch breaker within the controller cabinet and branch breakers shall be FA Type.

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5. The cabinet shall be equipped with a latching device operated by a “Universal Key.”
6. The cabinet shall be factory painted green and have a three (3)-inch x 11-inch stainless steel plate imprinted with “Street Lighting.”
7. The equipment-mounting panel shall be half (½)-inch thick Arboron Material.
8. Exposed bus bars shall be insulated.
9. Connector screws shall be painted white for neutral bar, and green for ground bar connectors.
10. Power wiring screws shall be XLP 600 volts and control wiring shall be #12 MTW.
11. The power circuit shall be protected by Busman Brand Fast Acting KTK-20 Fuses in a BM Fuse Block.
12. All control wiring shall be stranded and marked with Brady Markers.
13. A photoelectric cell shall be located inside the controller cabinet in the lower right hand corner. Photocell shall be FA105M Fischer Pierce. The photocell shall control all lighting via an enclosed flange mount power relay.
14. A hand-off auto selector switch shall be installed in the controller circuit. A 120-volt, 60 AMP, electronically held multi-pole lighting contactor shall be used.
15. The controller shall be equipped with commercial grade, internal, GFCI Duplex Outlet with a rain tight horizontal mounting cover and a three (3)-inch gang box.
16. The controller box shall have a standard 125-volt outlet box lamp holder with pull chain mounted in the cabinet.

Residential Poles & Lamps - Existing Developments – Town & Country G.E.

1. Poles shall be reinforced concrete with a tapered exposed aggregate finish, Centrecon SEO-4.3 112 or approved equal.
2. The poles shall be direct bury models with a lower cable entrance able to support dual cable entry.
3. There shall be a three (3)-inch x six (6)-inch hand-hole on each pole. The bottom of the hand-hole shall be 16-inches above the finish grade. The hand-hole shall face away from the street.
4. Standard residential streetlight poles shall have a 14-foot mounting height.
5. Poles located at intersections with arterial or collector streets or highways shall have a 23-foot mounting height, Centrecon Model MEO-7-112, or approved equal.
6. The 14-foot poles shall be installed three (3)-feet behind the back of the curb. The 23-foot poles shall be installed eight (8)-feet behind the back of the curb center of radius.

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7. The luminaire on 14-foot poles shall be a 100-watt HPS Town & Country style (General Electric) fixture or approved equal. Refractor lenses shall be polycarbonate.
8. The 23-foot poles shall have a 400-watt HPS Cobra Head fixture with a cut-off lens mounted on an eight (8)-foot davit arm, Model MO-AD8.
9. Photoelectric cells shall not be located on the Luminaires. A single photocell shall be located at the controller.
10. Each pole shall have a Fuse-Tron inline fuse, with rubber boot on the load side of the circuit. Sufficient internal wiring shall be provided at each pole to provide ease of maintenance.
11. Internal wiring of pole and luminaire shall be ten (10) gauge THNN wire, minimum.
12. Maximum spacing between poles in a residential development shall be designed at 200-feet, measured along the centerline of the street. Additional lights must be installed at all intersections, road curves, and at the end of cul-de-sacs.
13. Poles shall not be located closer than 15-feet to any tree.
14. Poles shall not be placed within six (6)-feet of a driveway.

Street Lighting Standards

Streetlights shall be installed to conform to the Standards and Specifications developed by the Village Engineer.

Design References

All street or parking area lighting systems shall be designed and constructed in accordance with one (1) or more of the following references as they apply:

- A. National Electric Code;
- B. "Standard Specifications for Road and Bridge Construction" by Illinois Department of Transportation;
- C. "Standard Specifications for Traffic Control Items" by Illinois Department of Transportation;
- D. "Design Manual" by Illinois Department of Transportation;
- E. Manufacturer – supplied literature; and
- F. Municipal Electric Code.

Residential Poles & Lamps – New Developments (Holophane)

1. Poles shall be Holophane Wadsworth Series with a 17-inch base. (Catalog # W14F5/17-CA/BKH.)
 2. Standard residential streetlight poles should have a 14-foot mounting height.
 3. Poles located at intersections with arterial or collector streets or highways shall have a 23-foot mounting height, Holophane Columbia Series. (Catalog # C22/20-CIS/BKH.)
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4. The 14-foot poles should be installed three (3)-feet from the back of the curb to the center of the base. The 23-foot poles should be installed eight (8)-feet behind the back of the curb center of the radius.
5. The luminaries on 14-foot poles shall be a 100-watt HPS Holophane Utility Granville Series. (Catalog # GVU100HPMAB7RSBP.)
6. The luminaries on the 23-foot poles shall be a 400-watt HPS Holophane Esplanade Series Catalog # ESU400HPMT B4 P.S with a 72-inch Crossarm Catalog # WLC 72/1-CA/BKM utilizing a Holophane West Liberty Style Decorative Arm Fitter. (Catalog # WLLF/200-SCA/BK.)
7. Photoelectric controls shall not be used on the luminaries. A single photocell shall be located at the controller.
8. Each pole shall have a Fuse-Tron inline fuse, with rubber boot on the load side of the circuit. Sufficient internal wiring shall be provided at each pole for ease of maintenance.
9. Internal wiring of pole and luminaire shall be ten (10) gauge THHN wire, minimum.
10. Maximum spacing between poles in a residential development shall be designed at 200-feet, measured along the centerline of the street. Additional lights must be installed at all intersections, road curves, and at the end of cul-de-sacs.
11. Poles shall not be closer than 15-feet measured from any trunk of a tree.
12. Poles shall not be placed within six (6)-feet of a driveway.

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