Streetlighting General Notes

1. All work and material shall conform to the latest edition of the City of Overland Park Design and Construction Manual and shall be from the City of Overland Park pre-approved materials list available at City Hall.
2. All traffic control in conjunction with the streetlighting construction shall be in conformance with the Manual On Uniform Traffic Control Devices and the Overland Park Traffic Control Handbook for Street Maintenance and Construction Operations, latest revisions.
3. The Contractor shall stake the locations for all poles, controllers and junction boxes to be installed. The stations and offsets provided are to the center of the streetlighting equipment. The contractor shall provide elevations. If obstructions are encountered during installation, the contractor will re-stake those locations affected by the obstruction. The city streetlighting inspector shall inspect the staking prior to any excavation/construction.
4. The locations of existing underground utilities, if shown, are approximate only and have not been independently verified. The Contractor shall be responsible for contacting all utility companies for locations of all underground lines prior to excavation and be fully responsible for any and all damages, which might occur as a result of the Contractor's failure to exactly locate and preserve any and all underground utilities.
5. The City of Overland Park is on the KS One Call System. The contractor shall call 811 to obtain locates for streetlighting, traffic signal, and fiber optic conduits/cables.
6. All circuit cables in junction & service boxes and poles shall be identified with color-coded tape around individual cables as follows:
   North Cable: Tape Color Code Blue
   East Cable: Tape Color Code Yellow
   South Cable: Tape Color Code Purple
   West Cable: Tape Color Code Red
   Ground Cable: Tape Color Code Green.
7. The contractor shall be responsible for removing and salvaging existing equipment as noted. See instructions for Disassembly and Return of Salvaged Streetlighting Equipment.
8. Rock and shale may be encountered and thus the bid items shall reflect the extra work necessary to accomplish the installation. No additional payments ("extras") will be made for excavation of rock or shale and suitable backfill materials.
   The following conditions shall prevail:
   Screw-in foundations have been assumed for all areas. In the event a screw-in foundation may not be installed, then the contractor may at his option install the screw-in foundation within a pre-drilled hole. All pre-drilled holes within rock/shale shall be backfilled with flowable fill up to the bottom of the conduit slot, in accordance with the specifications.
9. Conduit shall be bored under all street pavements that are in place at the time of installation. Saw cutting existing street pavement for the purpose of trenching conduit across any existing pavement will not be allowed. Multiple conduits cannot be pulled back through the same bore unless otherwise approved.
10. The conduit placement shall be coordinated with the paving operation, when applicable. Conduit installation and conduit connections shall be inspected and approved by the City streetlighting inspector. The contractor shall pay any and all extra costs of installing conduits by alternate construction methods after pavement has been placed or for any damages to pavement that may occur during conduit installation. All trenches for conduit under proposed paved surfaces (drives, streets and sidewalks) shall be backfilled with diggable flowable fill unless otherwise directed, to below the proposed pavement surface.
11. Continuous 2" HDPE conduit shall be installed between all streetlighting appurtenances prior to paving within the limits of the street improvements. Conduit splices between appurtenances shall not be allowed unless fusion couplings or other fusion methods are used with prior approval from the Engineer.
12. All existing streetlight poles to be relocated shall be reinstalled from their present location to their new location according to the address stenciled on the pole. All existing streetlighting equipment to be relocated shall become the responsibility of the contractor for safe storage. The contractor, at his own expense, shall replace any materials to be reused that have been damaged with approved materials in accordance with the current standard details, specifications, policies and practices.
13. The conduit and cable shall be installed under underdrain pipe crossings and under the underdrain blankets. Refer to the street plans for underdrain pipe and blanket locations and appropriate details, if applicable. Where pole foundations are to be installed through an underdrain blanket, the blanket shall be pre-cut to prevent damage of the blanket. In the event the blanket is damaged, the fabric shall be replaced.
14. All cable connections at junction boxes shall be watertight.
15. All cable re-connections at existing light poles shall require new connector kits (i.e., multi-tap connectors and fused and non-fused connectors).
16. The connections of the new system made at an existing junction box, light pole or control center for the continuation of the existing circuit shall be made in the presence of the streetlighting inspector for approval.
17. The contractor shall take all precautions necessary to minimize the downtime of the existing streetlighting systems to be modified. Any existing streetlighting system shall be maintained during construction as long as possible until the new city-owned streetlighting system is installed and operating.
18. Damage to any existing streetlighting equipment due to the construction shall be the responsibility of the contractor. The equipment shall be replaced or repaired (as directed by the City) with materials equal or better than the existing material.
19. All existing streetlighting equipment is to be used in place (U.I.P.) unless otherwise noted in the plans.
20. The contractor shall notify the City of Overland Park, KS, Department of Public Works (Bruce Wacker (913) 895-6027) of the exact construction schedule so that inspection of the streetlight installation can be made, including conduit installations.
21. The contractor shall be responsible for any damage to existing underground sprinkler systems during construction. All affected pipes or fittings shall be restored to original condition and location with new materials similar to existing. All restoration work shall be acceptable to the engineer and property owner.
22. The contractor shall install service conduit with electrical service cable from the control center to the Evergy power source. (See Streetlighting Service Connection Detail).
23. All areas disturbed by construction shall be sodded as directed by the Engineer. The grass medians shall be seeded and brick pavers restored, unless otherwise noted or directed. Sidewalk damaged by construction or removed due to construction shall be replaced as directed, in accordance with the Overland Park Municipal Code requirements.
24. The contractor shall be required to apply stick-on street address numerals on the poles and controller cabinet as indicated in the plans. Letters and numerals should be 2 inch high. (See Stencil Detail)
25. Contractor shall use a polymer lubricating agent to facilitate conduit bores under paved streets. Failure to do so will result in a denial to retrieve bore head, in the case of loss, under any paved street by excavation methods.
26. All existing concrete foundations, shown to be removed, shall be removed a minimum of 24" below final grade.
27. The ends of all conduit in service boxes, junction boxes, and in the controller cabinet shall be plugged with duct seal.
28. If the final streetlight pole is less than ten (10) feet away from the nearest overhead power line, the contractor shall contact KCP&L and request them to sleeve their line prior to pole foundation and/or pole installation. All associated costs shall be the responsibility of the contractor.
29. Forms (including rebar cages, etc.) conduit and anchor bolts shall be installed and in place for review by the inspector a minimum of 24 hours in advance of the proposed concrete placement. No concrete placement shall begin after 3:00 pm.
30. The contractor, or their supplier, shall at the contractor's expense, submit a concrete mix design for approval by the Kansas City Metro Materials Board (KCMMB) prior to placement of any concrete. Additional information regarding KCMMB approved concrete mix designs is available on the following website: www.kcmmb.org

Instructions for Disassembly and Return of Salvaged Streetlighting Equipment

For Use on Federal Funded Projects

The following is a list of streetlighting equipment which shall be salvaged and stored on site for pickup by the City of Overland Park, unless otherwise instructed by the inspector. All salvaged equipment shall be carefully disassembled and stored. The condition at the time of City pickup shall be the same as prior to removal. The contractor shall notify the City of Overland Park Department of Public Works, Inventory Control Specialist (913) 327-6603 to arrange for the City pickup of the salvaged equipment. Provide 48-hours advance notice.

DELETE WHICHEVER NOTE DOES NOT APPLY TO THIS PROJECT

For Use on Non-Federally Funded Projects

The following is a list of streetlighting equipment which shall be salvaged and returned to the City of Overland Park, unless otherwise instructed by the inspector. The condition at the time of delivery shall be the same as prior to removal. Disassembly of equipment shall be done prior to returning the equipment to the Blue Valley Public Works Maintenance Facility (Traffic Services Maintenance Office and Shop) 6869 W. 153rd Street. The contractor shall notify the City of Overland Park Department of Public Works, Inventory Control Specialist (913) 327-6603 to arrange for the delivery of the salvaged equipment. Provide 48-hours advance notice.

The City maintains the first right of refusal of any equipment listed. The project inspector will make an on-site assessment to determine if the equipment should be salvaged or disposed. Any equipment that will not be salvaged shall become the property of the contractor.

1. All luminaires must be removed from streetlight arms or poles and be salvaged.
2. All luminaire arms shall be removed from the streetlight poles without cutting the arms and be salvaged with the pole. Pole caps shall remain attached to the pole.
3. All cable located in the pole and arms must be disconnected from luminaires, removed from the streetlight pole and arm and discarded.
4. All breakaway couplings shall be removed from the streetlight pole and screw-in base and discarded. Frangible bases with hardware shall be salvaged.
5. All screw in bases shall be cleaned of dirt and debris and returned with anchor studs or bolts threaded into the base plate.
6. All streetlight control centers must be salvaged with all circuit breakers, relays, removable entry panels and other internal equipment still installed.
7. All streetlight equipment hardware (i.e. arm bolts, multi-tap connectors, fuse holders and other small accessories) shall be discarded.
8. All junction boxes, service boxes and lids shall be removed and salvaged if in good condition.
9. Disassembly of any traffic signal equipment attached to streetlight equipment shall follow the guidelines as stated in the "Instructions for Disassembly and Removal of Salvaged Traffic Signal Equipment".

Design Parameters

A. Applications
   {Project Street Locations}

B. Design Luminaires:

   All luminaires used in the design analysis shall be from the City of Overland Park pre-approved materials lists for the various classes and/or wattages.

C. Design Requirements:
   1. Design Criteria

      Pedestrian Conflict Area –
      Functional Street Classification –

   2a. Luminance Design Criteria

      Avg. Maintained Luminance __ cd/m²
      Avg. to Min. Uniformity ___ :1
      Max. to Min. Uniformity ___ :1
      Veiling Luminance Ratio ___ :1

   2b. Luminance Design Results

      Avg. Maintained Luminance __ cd/m²
      Avg. to Min. Uniformity ___:1
      Max. to Min. Uniformity ___:1
      Veiling Luminance Ratio ___:1
      Designed Pole Spacing ___(ft)

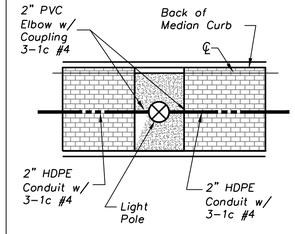
   2c. Illuminance Design Results

      Avg. Maintained Illuminance __ Fc
      Avg. to Min. Uniformity ___ :1

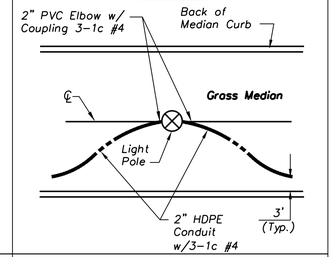
   3. Design Calculation Factors

      Light Loss Factor (LLF) – 0.91
      Mounting Height – ___ Ft.

Detail A



Detail B



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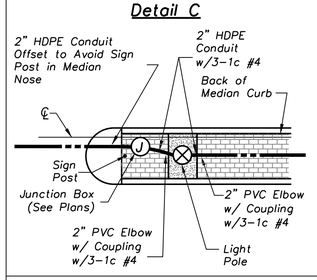

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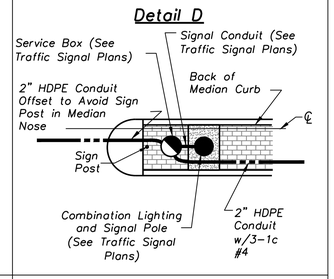

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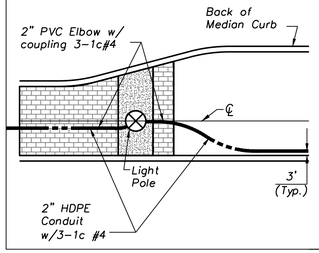

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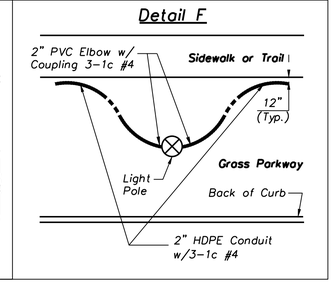
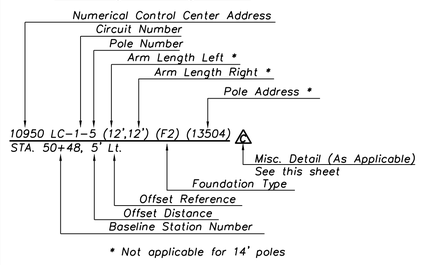


Miscellaneous Conduit Details

Streetlight Designation



* Not applicable for 14' poles

Streetlight Legend

Existing

- 100W HPS Post-Top Luminaire w/ 14' Pole
- 150W HPS Post-Top Luminaire w/ 14' Pole
- 150W HPS Cobra-Head Luminaire w/ 30' Pole
- 150W HPS Cobra-Head Luminaire w/ 40' Pole
- 250W HPS Cobra-Head Luminaire w/ 30' Pole
- 250W HPS Cobra-Head Luminaire w/ 40' Pole
- 310W HPS Cobra-Head Luminaire w/ 30' Pole
- 310W HPS Cobra-Head Luminaire w/ 40' Pole
- 400W HPS Cobra-Head Luminaire w/ 30' Pole
- 400W HPS Cobra-Head Luminaire w/ 40' Pole
- Former KCPL Owned Street Light
- Type 1 Service Box
- Type 2 Service Box
- Type 1 Junction Box
- Type 2 Junction Box
- Type 1 Fiber Optic Service Box
- Type 2 Fiber Optic Service Box
- Pad Mounted Control Center (Shaded Area Indicates Photocell Orientation)
- 3" HDPE Conduit
- 2" HDPE Conduit
- HDPE Fiber Optic Conduit w/Locating Cable
- Evergy Service Pedestal

Proposed

- Class E LED Lamp Post-Top Luminaire w/ 14' Pole
- Class A LED Cobra-Head Luminaire w/ 30' Pole
- Class A LED Cobra-Head Luminaire w/ 40' Pole
- Class B LED Cobra-Head Luminaire w/ 30' Pole
- Class B LED Cobra-Head Luminaire w/ 40' Pole
- Class C LED Cobra-Head Luminaire w/ 30' Pole
- Class C LED Cobra-Head Luminaire w/ 40' Pole
- Class D LED Cobra-Head Luminaire w/ 30' Pole
- Class E LED Cobra-Head Luminaire w/ 30' Pole
- Type 1 Service Box
- Type 2 Service Box
- Type 1 Junction Box
- Type 2 Junction Box
- Type 1 Fiber Optic Service Box
- Type 2 Fiber Optic Service Box
- Pad Mounted Control Center (Shaded Area Indicates Photocell Orientation) (North or East)
- 2 Inch HDPE Conduit
- 3" HDPE Conduit
- HDPE Fiber Optic Conduit w/Locating Cable
- Construction Note Number
- Electrical Service
- Evergy Service Pedestal

CITY OF OVERLAND PARK
DEPARTMENT OF PUBLIC WORKS

NO.	DATE	REVISIONS	BY
1	09/01/2021	2021 Standard Details	VJG
2			
3			

STREETLIGHTING
GENERAL NOTES (CIP)

SHEET NO. 19 | TOTAL SHEETS 53

March 8, 2023 - 9:19 AM
jluesse
P:\Auto\CAD\Details\2021 Street Light Details - MASTER.dwg

Streetlighting General Notes – Developer Projects

1. All work and material shall conform to the latest edition of the City of Overland Park Design and Construction Manual and shall be from the City of Overland Park pre–approved materials list available at City Hall.
2. All traffic control in conjunction with the streetlighting construction shall be in conformance with the Manual On Uniform Traffic Control Devices and the Overland Park Traffic Control Handbook for Street Maintenance and Construction Operations, latest revisions.
3. The Contractor shall stake the locations for all poles, controllers and junction boxes to be installed. The stations and offsets provided are to the center of the streetlighting equipment. The contractor shall provide elevations. If obstructions are encountered during installation, the contractor will re–stake those locations affected by the obstruction. The city streetlighting inspector shall inspect the staking prior to any excavation/construction.
4. The locations of existing underground utilities, if shown, are approximate only and have not been independently verified. The Contractor shall be responsible for contacting all utility companies for locations of all underground lines prior to excavation and be fully responsible for any and all damages, which might occur as a result of the Contractor's failure to exactly locate and preserve any and all underground utilities.
5. The City of Overland Park is on the KS One Call System. The contractor shall call 811 to obtain locates for streetlighting, traffic signal, and fiber optic conduits/cables.
6. All circuit cables in junction and service boxes and poles shall be identified with color–coded tape around individual cables as follows:
   North Cable: Tape Color Code Blue
   East Cable: Tape Color Code Yellow
   South Cable: Tape Color Code Purple
   West Cable: Tape Color Code Red
   Ground Cable: Tape Color Code Green.
7. The contractor shall be responsible for removing and salvaging existing equipment as noted. See instructions for Disassembly and Return of Salvaged Streetlighting Equipment.
8. Rock and shale may be encountered and thus the bid items shall reflect the extra work necessary to accomplish the installation. No additional payments ("extras") will be made for excavation of rock or shale and suitable backfill materials.
   The following conditions shall prevail:
   Screw–in foundations have been assumed for all areas. In the event a screw–in foundation may not be installed, then the contractor may at his option install the screw–in foundation within a pre–drilled hole. All pre–drilled holes within rock/shale shall be backfilled with flowable fill up to the bottom of the conduit slot, in accordance with the specifications.
9. Conduit shall be bored under all street pavements that are in place at the time of installation. Saw cutting existing street pavement for the purpose of trenching conduit across any existing pavement will not be allowed. Multiple conduits cannot be pulled back through the same bore unless otherwise approved.
10. The conduit placement shall be coordinated with the paving operation, when applicable. Conduit installation and conduit connections shall be inspected and approved by the City streetlighting inspector. The contractor shall pay any and all extra costs of installing conduits by alternate construction methods after pavement has been placed or for any damages to pavement that may occur during conduit installation. All trenches for conduit under proposed paved surfaces (drives, streets and sidewalks) shall be backfilled with diggable flowable fill unless otherwise directed, to below the proposed pavement surface.
11. Continuous 2" HDPE conduit shall be installed between all streetlighting appurtenances prior to paving within the limits of the street improvements. Conduit splices between appurtenances shall not be allowed unless fusion couplings or other fusion methods are used with prior approval from the Engineer.
12. All existing streetlight poles to be relocated shall be reinstalled from their present location to their new location according to the address stenciled on the pole. All existing streetlighting equipment to be relocated shall become the responsibility of the contractor for safe storage. The contractor, at his own expense, shall replace any materials to be reused that have been damaged with approved materials in accordance with the current standard details, specifications, policies and practices.
13. The conduit and cable shall be installed under underdrain pipe crossings and under the underdrain blankets. Refer to the street plans for underdrain pipe and blanket locations and appropriate details, if applicable. Where pole foundations are to be installed through an underdrain blanket, the blanket shall be pre–cut to prevent damage of the blanket. In the event the blanket is damaged, the fabric shall be replaced.
14. All cable connections at junction boxes shall be watertight.
15. All cable re–connections at existing light poles shall require new connector kits (i.e., multi–tap connectors and fused and non–fused connectors).
16. The connections of the new system made at an existing junction box, light pole or control center for the continuation of the existing circuit shall be made in the presence of the streetlighting inspector for approval.
17. The contractor shall take all precautions necessary to minimize the downtime of the existing streetlighting systems to be modified. Any existing streetlighting system shall be maintained during construction as long as possible until the new city–owned streetlighting system is installed and operating.
18. Damage to any existing streetlighting equipment due to the construction shall be the responsibility of the contractor. The equipment shall be replaced or repaired (as directed by the City) with materials equal or better than the existing material.
19. All existing streetlighting equipment is to be used in place (U.I.P.) unless otherwise noted in the plans.
20. The contractor shall notify the City of Overland Park, KS, Department of Planning and Development Services, (913) 895–6220 of the exact construction schedule so that inspection of the streetlight installation can be made, including conduit installations.
21. The contractor shall be responsible for any damage to existing underground sprinkler systems during construction. All affected pipes or fittings shall be restored to original condition and location with new materials similar to existing. All restoration work shall be acceptable to the engineer and property owner.
22. The contractor shall install service conduit with electrical service cable from the control center to the Evergy power source. (See Streetlighting Service Connection Detail)
23. All areas disturbed by construction shall be sodded as directed by the Engineer. The grass medians shall be seeded and brick pavers restored, unless otherwise noted or directed. Sidewalk damaged by construction or removed due to construction shall be replaced as directed, in accordance with the Overland Park Municipal Code requirements.
24. The contractor shall be required to apply stick–on street address numerals on the poles and controller cabinet as indicated in the plans. Letters and numerals should be 2 inches high. (See Stencil Detail)
25. Contractor shall use a polymer lubricating agent to facilitate conduit bores under paved streets. Failure to do so will result in a denial to retrieve bore head, in the case of loss, under any paved street by excavation methods.
26. All existing concrete foundations, shown to be removed, shall be removed a minimum of 24" below final grade.
27. The ends of all conduit in service boxes, junction boxes, and controller cabinets shall be plugged with duct seal.
28. The streetlighting contractor shall mark the locations of junction boxes at the end of platted streets with City supplied markers. This junction box shall remain in both the initial phase and the adjoining phase. Two inch HDPE conduit with a pull string shall be installed from the Type 1 junction box to the nearest light pole, junction box or control center through the existing conduit and connect the same cable to existing cable in the presence of the City Streetlight Inspector for approval.
29. The contractor shall be required to submit catalog cuts or shop drawings for all equipment to be installed on this project. All submittals shall conform to the Overland Park pre–approved materials list which is available at City Hall.
30. The streetlight contractor shall be responsible for removal of all undesirable material rock and debris) encountered during streetlight construction. The Owner or his/her representative will designate a location on the Owner's property for placing of all excess rock, debris, etc. Before proceeding with construction, the streetlight contractor shall verify that the right–of–way has been properly graded and in a mowable condition.
31. The streetlighting contractor shall be required to furnish evidence that their insurance meets the requirements of Chapter 13.10 of the City of Overland Park, Kansas, Municipal Code.
32. If the final streetlight pole is less than ten (10) feet away from the nearest overhead power line, the contractor shall contact KCP&L and request them to sleeve their line prior to pole foundation and/or pole installation. All associated costs shall be the responsibility of the contractor.
33. The contractor, or their supplier, shall at the contractor's expense, submit a concrete mix design for approval by the Kansas City Metro Materials Board (KCMMB) prior to placement of any concrete. Additional information regarding KCMMB approved concrete mix designs is available on the following website: www.kcmmb.org
34. Forms (including Rebar cages, etc.) conduit and anchor bolts shall be installed and in place for review by the inspector a minimum of 24 hours in advance of the proposed concrete placement that same day. No concrete placement shall begin after 3:00 pm.

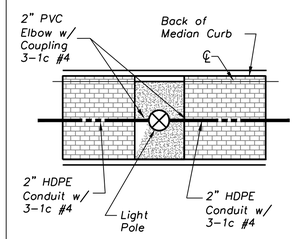
Instructions for Disassembly and Return of Salvaged Streetlighting Equipment

The following is a list of streetlighting equipment which shall be salvaged and returned to the City of Overland Park, unless otherwise instructed by the inspector. The City maintains the first right of refusal of any of the equipment listed. The project inspector will make an on–site assessment to determine if the equipment should be salvaged or disposed. Any equipment that will not be salvaged shall become the property of the contractor.

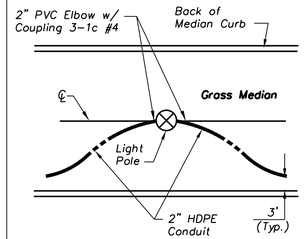
1. All luminaires must be removed from streetlight arms or poles and be returned.
2. All luminaire arms shall be removed from the streetlight poles without cutting the arms and be returned with the pole. Pole caps shall remain attached to the pole.
3. All cable located in the pole and arms must be disconnected from luminaires, removed from the streetlight pole and arm and discarded.
4. All breakaway couplings shall be removed from the streetlight pole and screw–in base and discarded. Frangile bases with hardware shall be returned.
5. All screw in bases shall be cleaned of dirt and debris and returned with anchor studs or bolts threaded into the base plate.
6. All streetlight control centers must be returned with all circuit breakers, relays and other internal equipment still installed. Any removable entry panels shall be returned with the control center.
7. All streetlight equipment hardware (i.e. arm bolts, multi–tap connectors, fuse holders and other small accessories) shall be discarded.
8. All junction boxes, service boxes and lids shall be removed and returned if in good condition.
9. Disassembly of any traffic signal equipment attached to streetlight equipment shall follow the guidelines as stated in the "Instructions for Disassembly and Removal of Salvaged Traffic Signal Equipment".

All streetlight equipment to be returned shall be returned in the same condition as it was prior to removal. Disassembly of equipment shall be done prior to returning the equipment to the Blue Valley Public Works Maintenance Facility (Traffic Services Maintenance Office and Shop) 6869 W. 153rd Street. The contractor shall notify the City of Overland Park Department of Public Works, Inventory Control Specialist (913) 327–6603 to arrange for the delivery of the salvaged equipment. Provide 48–hours advance notice.

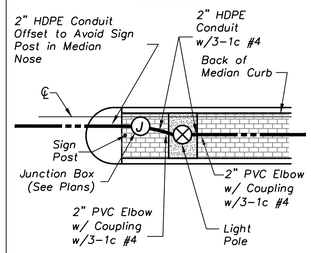
Detail A



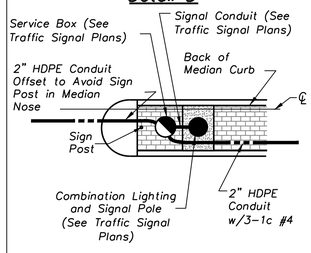
Detail B



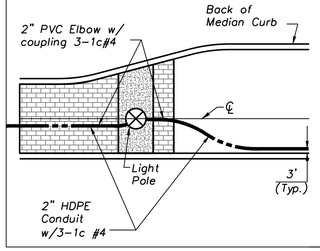
Detail C



Detail D



Detail E



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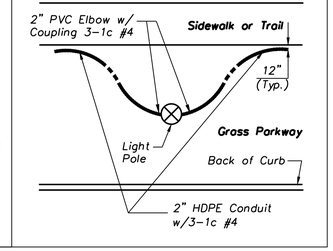


Miscellaneous Conduit Details

Design Parameters

A. Applications
   {Project Street Locations}

B. Design Luminaires:

   All luminaires used in the design analysis shall be from the City of Overland Park pre–approved materials lists for the various classes and/or wattages.

C. Design Requirements:
   1. Design Criteria

      Pedestrian Conflict Area –
      Functional Street Classification –

   2a. Luminance Design Criteria

      Avg. Maintained Luminance __ cd/m²
      Avg. to Min. Uniformity ___ :1
      Max. to Min. Uniformity ___ :1
      Veiling Luminance Ratio ___ :1
      Designed Pole Spacing ___(ft)

   2b. Luminance Design Results

      Avg. Maintained Luminance __:cd/m²
      Avg. to Min. Uniformity ___:1
      Max. to Min. Uniformity ___:1
      Veiling Luminance Ratio ___:1

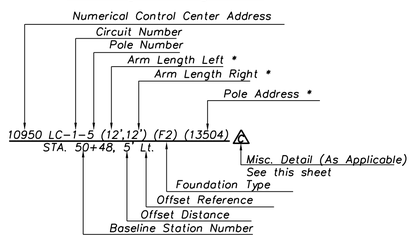
   2c. Illuminance Design Results

      Avg. Maintained Illuminance __ Fc
      Avg. to Min. Uniformity ___ :1

   3. Design Calculation Factors

      Light Loss Factor (LLF) – 0.91
      Mounting Height – ___ Ft.

Streetlight Designation



* Not applicable for 14' poles

Streetlight Legend

Existing
- 100W HPS Post–Top Luminaire w/ 14' Pole
- 150W HPS Post–Top Luminaire w/ 14' Pole
- 150W HPS Cobra–Head Luminaire w/ 30' Pole
- 150W HPS Cobra–Head Luminaire w/ 40' Pole
- 250W HPS Cobra–Head Luminaire w/ 30' Pole
- 250W HPS Cobra–Head Luminaire w/ 40' Pole
- 310W HPS Cobra–Head Luminaire w/ 30' Pole
- 310W HPS Cobra–Head Luminaire w/ 40' Pole
- 400W HPS Cobra–Head Luminaire w/ 30' Pole
- 400W HPS Cobra–Head Luminaire w/ 40' Pole
- Former KCPL Owned Street Light
- Type 1 Service Box
- Type 2 Service Box
- Type 1 Junction Box
- Type 2 Junction Box
- Type 1 Fiber Optic Service Box
- Type 2 Fiber Optic Service Box
- Pad Mounted Control Center (Shaded Area Indicates Photocell Orientation)
- 3" HDPE Conduit
- 2" HDPE Conduit
- HDPE Fiber Optic Conduit w/Locating Cable
- Evergy Service Pedestal

Proposed
- Class E LED Lamp Post–Top Luminaire w/14' Pole
- Class A LED Cobra–Head Luminaire w/ 30' Pole
- Class A LED Cobra–Head Luminaire w/ 40' Pole
- Class B LED Cobra–Head Luminaire w/ 30' Pole
- Class B LED Cobra–Head Luminaire w/ 40' Pole
- Class C LED Cobra–Head Luminaire w/ 30' Pole
- Class C LED Cobra–Head Luminaire w/ 40' Pole
- Class D LED Cobra–Head Luminaire w/ 30' Pole
- Class E LED Cobra–Head Luminaire w/ 30' Pole
- Type 1 Service Box
- Type 2 Service Box
- Type 1 Junction Box
- Type 2 Junction Box
- Type 1 Fiber Optic Service Box
- Type 2 Fiber Optic Service Box
- Pad Mounted Control Center (Shaded Area Indicates Photocell Orientation) (North or East)
- 2 Inch HDPE Conduit
- 3 Inch HDPE Conduit
- HDPE Fiber Optic Conduit w/Locating Cable
- Construction Note Number
- Electrical Service
- Evergy Service Pedestal

CITY OF OVERLAND PARK
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STREETLIGHTING
GENERAL NOTES (DEV)

SHEET NO. 20 | TOTAL SHEETS 53

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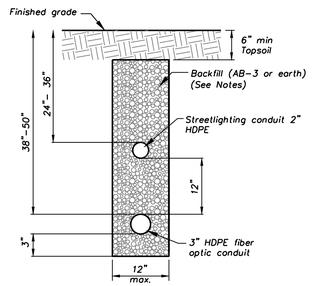
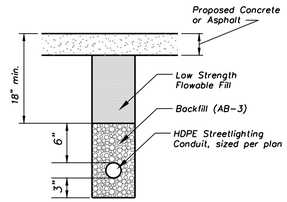
Bill of Materials (1)

Item		Unit	Quantity	
Steel Combination Lighting/Signal Pole		Each	–	(3)
40' Aluminum Pole w/ __' Bracket Arm	OP401	Each	–	
40' Aluminum Pole w/ __' Bracket Arm	OP402	Each	–	
40' Aluminum Pole w/ Twin __' Bracket Arms	OP403	Each	–	
40' Aluminum Pole w/ __' and __' Bracket Arms	OP403	Each	–	
30' Aluminum Pole w/__' Bracket Arm	OP301	Each	–	
30' Aluminum Pole w/12' Bracket Arm	OP302	Each	–	
30' Aluminum Pole w/ Twin 8' Bracket Arms	OP303	Each	–	
14' Aluminum Pole	OP14	Each	–	
Concrete Pole Foundation Cap		Each	–	
Concrete Foundation for 40' Pole w/Anchor Bolts		Each	–	
Concrete Foundation for 30' Pole w/Anchor Bolts		Each	–	
Concrete Foundation for 14' Pole w/Anchor Bolts		Each	–	
⅝" x 10' Ground Rod w/ Clamp for Concrete Foundation		Each	–	
Type F1 Screw-in Foundation		Each	–	
Type F2 Screw-in Foundation		Each	–	
Type T1 Screw-in Foundation		Each	–	
Type R Screw-in Foundation		Each	–	
Class A LED Cobra-Head Luminaire		Each	–	(4)
Class B LED Cobra-Head Luminaire		Each	–	(4)
Class C LED Cobra-Head Luminaire		Each	–	(4)
Class D LED Cobra-Head Luminaire		Each	–	(4)
Class E LED Cobra-Head Luminaire		Each	–	(4)
Class E Post-Top Luminaire w/ LED Lamp		Each	–	
Post-Top Luminaire w/___ Watt H.P.S. Lamp		Each	–	
Type 1 Service Box		Each	–	
Type 1 Junction Box		Each	–	
Type 2 Junction Box		Each	–	
Control Center – Pad Mounted (1-Circuit) (100 Amp; 240 V)		Each	–	
Control Center – Pad Mounted (4 Circuit) (100 Amp; 240 V)		Each	–	
Concrete Control Center Foundation (1-Circuit Control Center)		Each	–	
Concrete Control Center Foundation (4-Circuit Control Center)		Each	–	
5/8" x 10'-0" Ground Rod with Clamp for Control Center		Each	–	
Photo Cell		Each	–	
Schedule 40 PVC Conduit, 1" (for Equipment Ground Cable)		Ln. Ft.	–	
Schedule 40 PVC Conduit, (Gray) Electrical Service Conduit, 3" (Between Evergy Service Pedestal and Power Pole)		Ln. Ft.	–	
SDR 13.5 HDPE (Black w/ Red Stripes) KCP&L Electrical Service Conduit, 2" or Schedule 40 PVC, 2"		Ln. Ft.	–	(5)
SDR 13.5 HDPE (Black w/ Red Stripes) KCP&L Electrical Service Conduit, 3" or Schedule 40 PVC, 3"		Ln. Ft.	–	(5)
SDR 13.5 HDPE (Gray) Conduit, 2"		Ln. Ft.	–	
SDR 13.5 HDPE (Gray) Conduit, 3"		Ln. Ft.	–	
Distribution Cable 3-1c No. 4 AWG		Ln. Ft.	–	
Pole and Bracket Cable 1c No. 10 AWG		Ln. Ft.	–	
Solid Copper Ground Cable (Bare # 6 AWG)		Ln. Ft.	–	
Locating Cable (Red) 1c No. 10 AWG		Ln. Ft.	–	
Electrical Service Power Cable 3-1c #2 AWG		Ln. Ft.	–	
8 AMP Fuse		Each	–	
Break-Away Non-Fused Connector Kits		Each	–	
Break-Away Fused Connector Kits		Each	–	
Multiple Streetlight Tap Connector		Each	–	
Remove Existing Equipment		Each	–	
Relocate Existing Equipment		Each	–	
Break-Away Pole Device		Set/Each	–	(2)
Cable Retainer Device For Type R Screw-in Foundations		Each	–	
Cable Retainer Device For Type T1 Screw-in Foundations		Each	–	
Cable Retainer Device For Type F1 Screw-in Foundations		Each	–	
Cable Retainer Device For Type F2 Screw-in Foundations		Each	–	
Cable Retainer Device For Concrete Foundations		Each	–	
Evergy Service Pedestal (Supplied by Evergy to Contractor)		Each	–	

Notes:
1. These approximate quantities were prepared solely for the contractor's convenience. It is not guaranteed that this list of materials constitutes all items required for the completion of the work.
2. Approved break-away couplings or frangible bases are acceptable. Frangible bases shall be measured per each and couplings shall be measured as four units per set.
3. Refer to Chart B "Traffic Signal Pole Summary" on Traffic Signal Detail Sheet for design parameters.
4. All LED Cobra-Head luminaires shall have a minimum 10 year manufacturer's warranty
5. If PVC is used it shall be trenched.



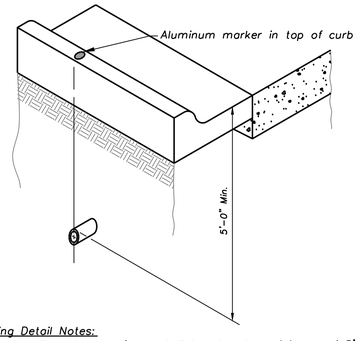
Trench in Unpaved Areas



Trench in Proposed Paved Areas

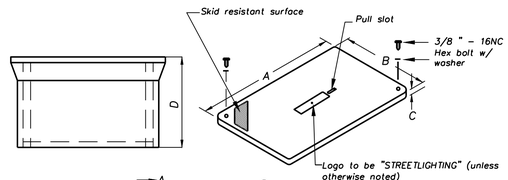
Trenching Notes:
1. All trenches for conduit under proposed paved surfaces (drives, streets and sidewalks) shall be backfilled with AB-3 to 6" above the conduit and low strength flowable fill to below the proposed paved surface or existing terrain, unless otherwise directed.
2. Backfill in unpaved areas shall be free of rubble and rock.
3. If multiple conduits are installed, they shall have a minimum of 12" horizontal or vertical clearance between them.
4. Details are typical and information for the separation of multiple conduits are applicable whether trenching in unpaved or paved areas.

Trenching Details

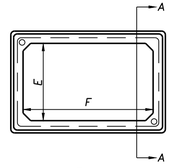


Conduit Marking Detail Notes:
1. Conduit under all roadway surfaces shall be placed a minimum of 5'-0" below the top of pavement and shall extend to a junction box or service box. Refer to The City of Overland Park Horizontal Directional Drilling Guidelines Handbook, latest edition for further requirements for conduit installation under roadway surfaces. The conduit shall be installed to drain. All ends shall be capped if not used. An aluminum marker shall be placed in the top of the curb, or outside edge of shoulder, directly over the conduit with epoxy. Markers shall be embedded such that the top is flush. Aluminum markers will be furnished by The City of Overland Park.
2. The contractor shall notify the City of Overland Park, Department of Public Works Traffic Services Division, 895-6000, for inspection of the conduit installation by the City inspector. At least 24 hours notice shall be provided. The conduit shall not be covered so as to ensure proper depth, correct conduit material, and proper conduit end treatment as described above.

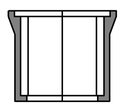
Conduit Marking Detail



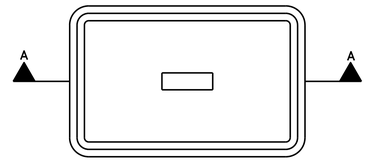
Cover



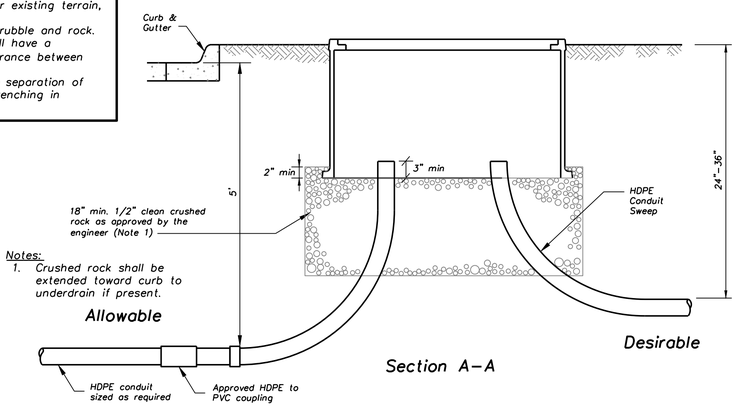
Box



Section A-A



Plan



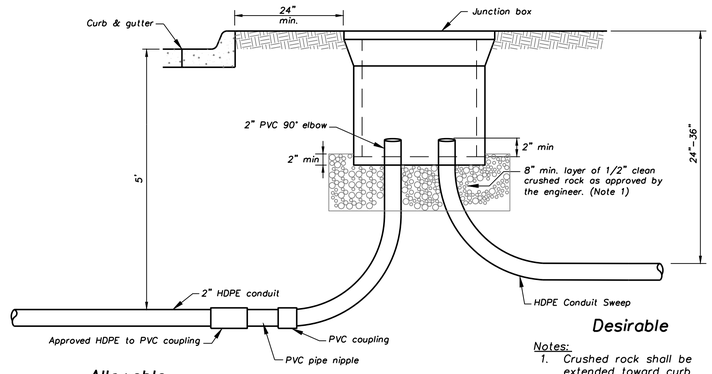
Notes:
1. Crushed rock shall be extended toward curb to underdrain if present.

Allowable

Desirable

Section A-A

Service Box Installation Detail



Allowable

Desirable

Notes:
1. Crushed rock shall be extended toward curb to underdrain if present.

Junction Box Installation Detail

Box Notes:
1. The Type 2 Service Box shall have a two-piece overlapping cover.
2. Cover label shall be applied with epoxy.

Type	Approximate Dimensions (Inches)					
	A	B	C	D	E	F
1-Junction	12⅞	12⅞	¾	12¾	9¾-10½	9¾-10½
2-Junction	18-18½	11¼ -11½	2	12	9½-10¼	16½-17¼
1-Service	35⅝	24	3	24	22¼	33⅞
2-Service (1)	47⅝	30⅛	3	24	28⅛	45⅝

Fiberglass Reinforced Polymer Concrete Junction & Service Box Details

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2021 Standard Details

STREETLIGHTING
BILL OF MATERIALS / BOX DETAILS

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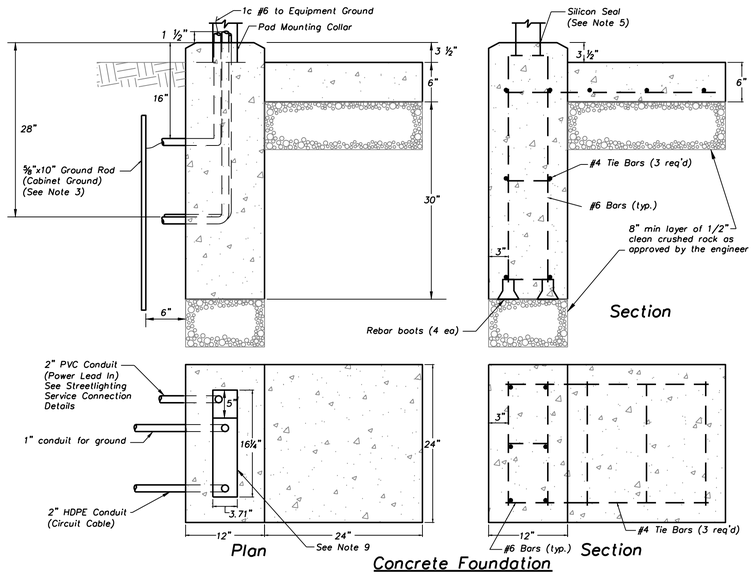
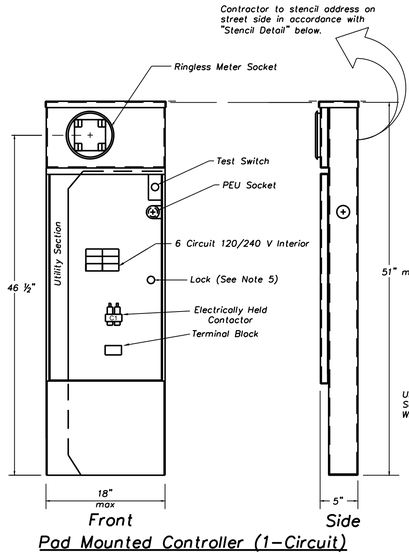


Concrete Foundation
(1–Circuit Controller)

Concrete Foundation Notes:

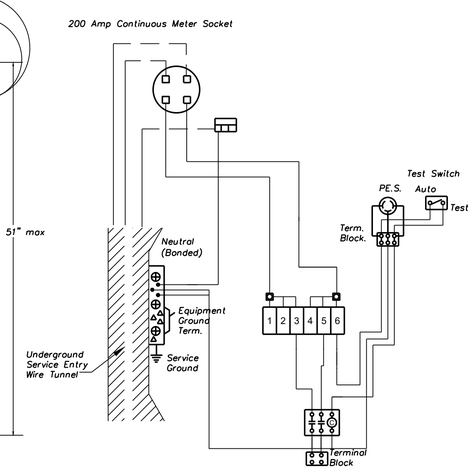
1. See the plan sheets for specific details (i.e. pad size, conduit requirements for circuit cables) for each individual control center.
2. All concrete used in this work shall meet the requirements of the Overland Park Municipal Code and shall be KCMMB4K concrete (f'c = 4,000 psi) with a 4" slump.
3. Contractor to provide ground rod(s) as required for maximum of 25 ohms resistance to ground. Contractor shall be required to test with inspector present.
4. Duct Seal shall be applied at all conduit entrances after cable installation.
5. Seal the bottom edge of the cabinet at the contact point with the concrete pad with silicon sealant.
6. All reinforcing steel shall be ASTM A615 GR40.
7. All concrete surfaces shall be brushed and sealed w/curing compound.
8. All reinforcing steel shall be set 3" clear from all forms and trench walls. Rebar boots shall be used on the vertical steel in each of the four corners to maintain proper clearance.
9. Dimensions of the mounting collar varies between manufacturers, consult actual mounting collar prior to setting any conduits.



Pad Mounted Controller (1–Circuit)
(Used Only in Temporary Situations as Approved by the City)

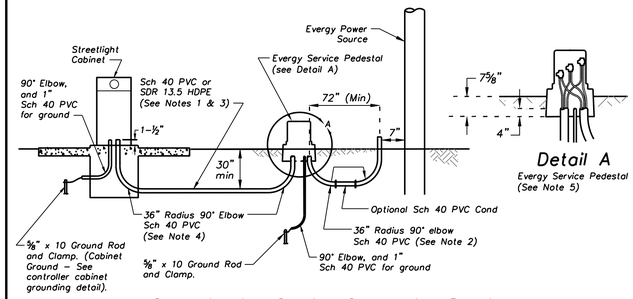
1–Circuit & 4–Circuit Controller Notes:

1. Contractor performing work on any streetlight circuit shall be required to install a city approved lockout device for each respective circuit affected. A City approved tag, indicating contractor's name and contact information shall be attached to the lockout device.
2. Photocell and pad shall be oriented to the north or east. Photocell is located on the right side of the cabinet.
3. A mounting collar shall be included with cabinet.

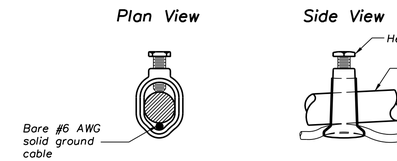


Wiring Diagram

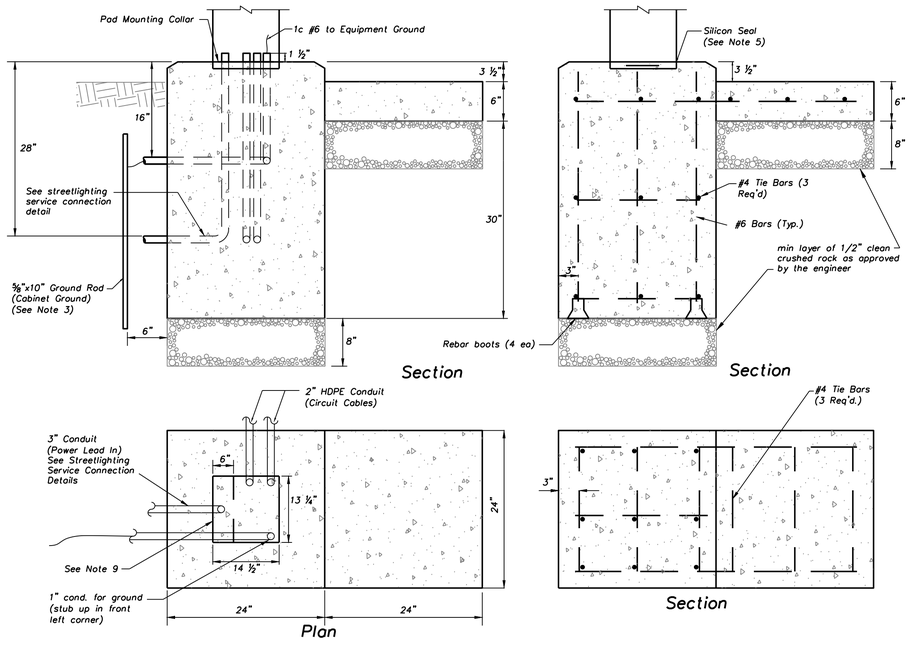
1. Contractor shall trench Schedule 40 PVC (gray) or bore/trench SDR 13.5 HDPE (black with red stripe) conduit (2" for single circuit controller or 3" for four circuit controller) from the controller cabinet to the Evergy Service Pedestal. The conduit shall be installed 30" deep with a 36" radius 90° PVC elbow where indicated.
2. Sweep 3" Sch 40 PVC conduit elbow up to within 7" from the base of the Evergy power pole. If possible:
   - When there are multiple conduits on the power pole, the new conduit should be installed adjacent to, and in contact with, the existing conduits. Verify with Evergy.
   - Do not stub the conduit up underneath a pole mounted transformer.
   - Install the conduit on the side of the pole opposite the direction of approaching traffic and the side away from the street.
3. Contractor shall install electrical service power cable from the streetlight controller cabinet to the Evergy service pedestal and connect cables to the meter lugs. Coil 24" of extra cable inside of the service pedestal for Evergy to make connections.
4. If HDPE conduit is used between the streetlight controller cabinet and the Evergy service pedestal, the contractor shall transition to PVC elbows with approved couplings.
5. Contractor shall pick up Evergy supplied service pedestal from Evergy facility at 19950 Newton Dr., Stillwell, KS 66085. Call 48 hours in advance to coordinate. Install as indicated according to Detail A. (Not required if power is obtained from a ground mounted transformer).



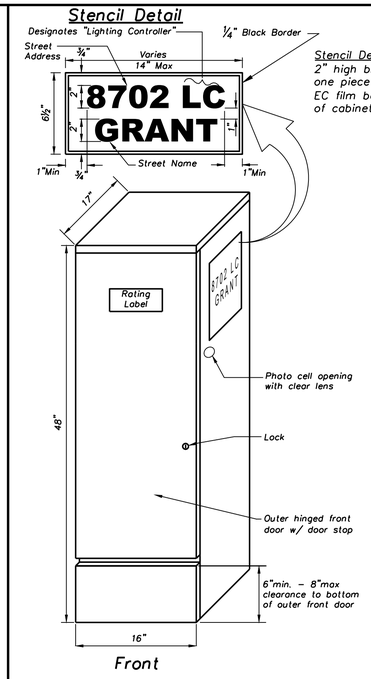
Streetlighting Service Connection Details



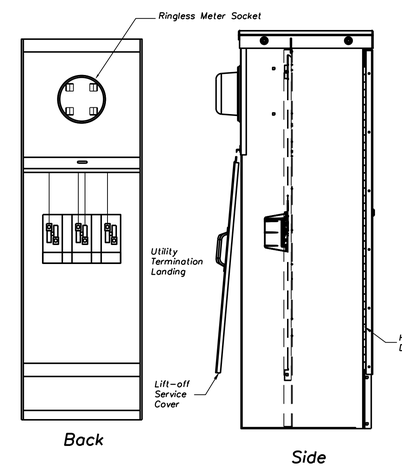
Ground Rod Clamp Connection Detail



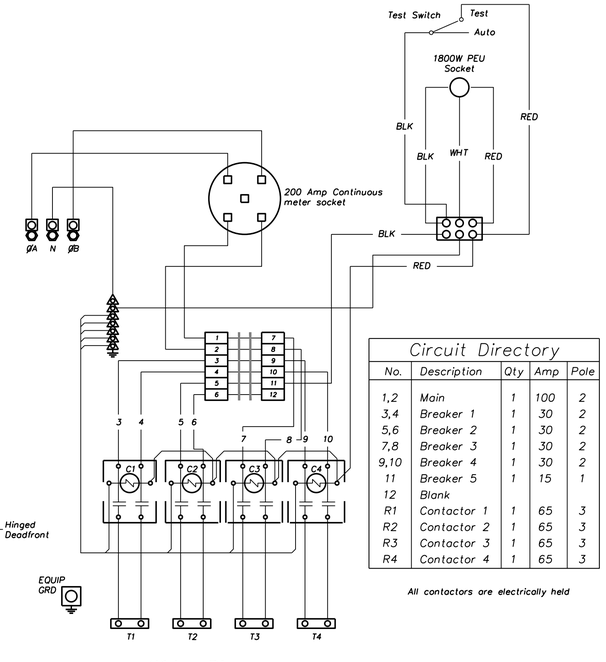
Concrete Foundation
(4–Circuit Controller)



Stencil Detail Note:
2" high black EC film letters and numerals applied to a one piece Type XI retro–reflective sheeting with a black EC film border by the contractor. Apply on "street side" of cabinet facing the street referenced by the address.



Pad Mounted Controller (4–Circuit)



Circuit Directory				
No.	Description	Qty	Amp	Pole
1,2	Main	1	100	2
3,4	Breaker 1	1	30	2
5,6	Breaker 2	1	30	2
7,8	Breaker 3	1	30	2
9,10	Breaker 4	1	30	2
11	Breaker 5	1	15	1
12	Blank			
R1	Contactor 1	1	65	3
R2	Contactor 2	1	65	3
R3	Contactor 3	1	65	3
R4	Contactor 4	1	65	3

All contactors are electrically held

Wiring Diagram

Pad Mounted Controller (4–Circuit)

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DEPARTMENT OF PUBLIC WORKS

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STREETLIGHTING CONTROLLER DETAILS

SHEET NO. 22 | TOTAL SHEETS 53

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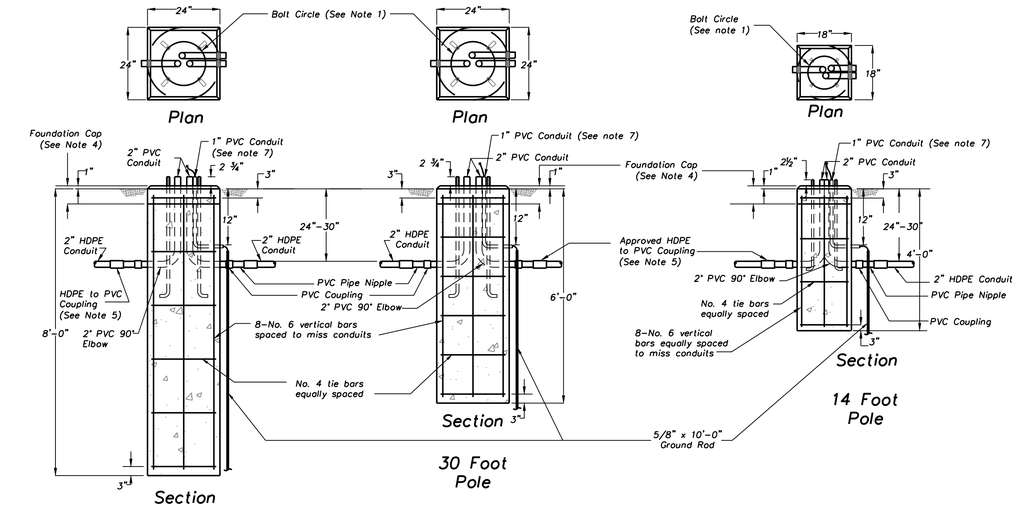
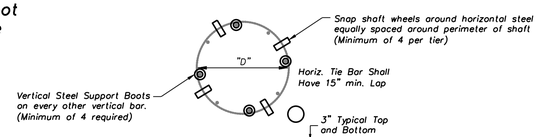
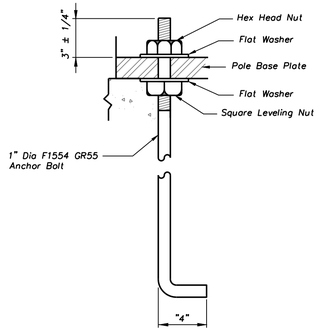
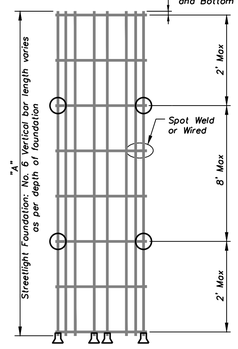






Anchor Bolt Detail



Rebar Cage Detail

Anchor Bolt Information			
Pole Foundation Depth	Anchor Bolt Dia.	Anchor Bolt Length	Hook Length (in)
4'–0"	1"	24"	3"
6'–0"	1"	36"	4"
8'–0"	1"	36"	4"
10'–0" *	1"	36"	4"

*** For foundations in parking lots with 2'–0" exposed top**

Streetlighting Foundation Horizontal Rebar			
Pole Fnd. Dia.	Pole Fnd. Depth	Rebar Cir. "D"	Spacing
18"	4'	15"	12" max.
24"	6'	18"	12" max.
24"	8'	18"	12" max.
24"	10' *	18"	12" max.

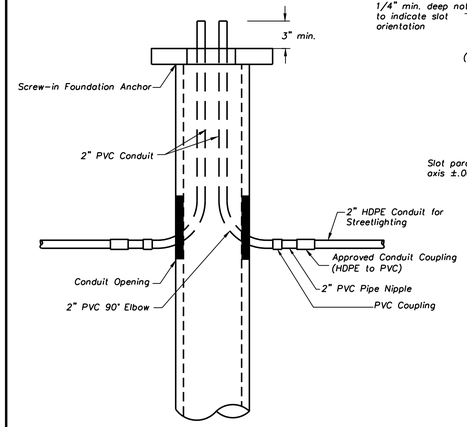
Streetlighting Foundation Vertical Rebar		
Pole Foundation Depth	Length "A"	# of Spacers
4'–0"	3'–6"	4
6'–0"	5'–6"	8
8'–0"	7'–6"	8
10'–0" *	9'–6"	8

*** For foundations in parking lots with 2'–0" exposed top**

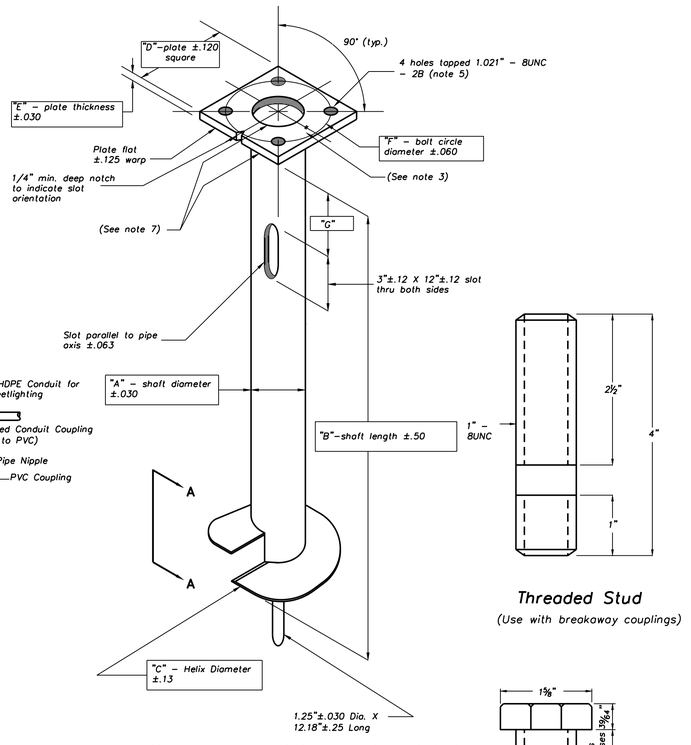
Concrete Foundation Details

Concrete Foundation Notes:

1. Final anchor bolt projection, and bolt circle shall be as per manufacturer's recommended practices. Rotate anchor bolt to maintain minimum clearance from edge of hole. All anchor bolts threads and nut surfaces shall be lubricated prior to tightening with stick wax or approved alternative.
2. All conduits and anchor bolts for all the new pole bases shall be rigidly installed before concrete is placed. Anchor bolts shall be spaced by means of a factory certified template or drawing, the center of which shall coincide with the center of the base.
3. All concrete pole bases shall be consolidated by an internal type vibrator.
4. Final 6" of concrete foundation (pole cap) shall be formed square. The cap shall be formed and poured after the arms are attached and the pole plumb.
5. PVC conduit elbows in concrete foundations shall be connected to HDPE conduit with PVC pipe nipple and approved PVC to HDPE coupling. All conduit elbows shall be considered subsidiary to the traffic signal pole base.
6. All concrete used in this work shall meet the requirements of the Overland Park Municipal Code and shall be KCMMB4K concrete.
7. Bare No. 6 solid copper ground conductor from internal pole grounding nut to clamp on ground rod.
8. All reinforcing steel shall be ASTM A615 Grade 60 for KCMMB 5k concrete.
9. All concrete surfaces shall be brushed and sealed with curing compound.
10. All concrete used in this work shall meet the requirements of the Overland Park Municipal Code and shall be KCMMB5K concrete (f'c = 5,000 psi) with a 7" slump. Poles shall not be erected until concrete has reached 3,500 psi.



Conduit Entrance into Screw–in Foundation Anchor

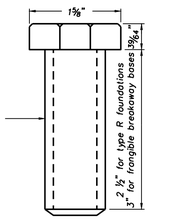


Screw–in Foundation Anchor Details

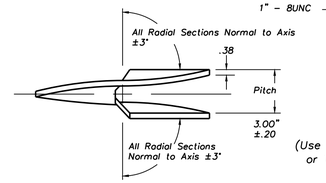
Threaded Stud
(Use with breakaway couplings)

Screw–in Foundation Notes:

1. Anchor bolts shall be used with concrete foundations. Threaded stud shall be used with T and F screw–in foundation anchor when using breakaway couplings. Hex head bolt shall be used with type R screw–in foundation anchor or T and F foundations when using frangible breakaway base.
2. All 30' and 40' aluminum light poles shall be furnished with breakaway pole device. Breakaway pole devices are not required for 14' light poles.
3. Contractor shall ensure that earth around the base of the pole is thoroughly compacted prior to laying sod
4. All anchor bolts, threaded studs, nuts and washers shall be hot–dipped galvanized.



Hex Head Bolt
(Use with frangible breakaway bases or Type R and SP1 Foundations)



Helix must be formed by matching metal die

View A–A

Type	Pole Type(s)	Max Torque Rating (lbs ft)	A Shaft Dia	B Shaft Length	C Helix Dia	D Plate Size	E Plate Thickness	F Bolt Circle	G Slot Location
R	OP14	15,000	6"	48"	12"	10"	0.75"	9.5"	12"
T1	OP301,302,303	15,000	6"	60"	12"	12"	1.0"	11"	18"
F1	OP401,OP402	20,000	8"	60"	14"	12"	1.0"	11.5"	18"
F2	OP403	20,000	8"	60"	14"	15"	1.25"	14.5"	18"
SP1	Decorative	15,000	6"	48"	12"	11.5"	0.75"	12"	12"

Screw–in Foundation Details

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STREETLIGHTING
POLE FOUNDATION DETAILS

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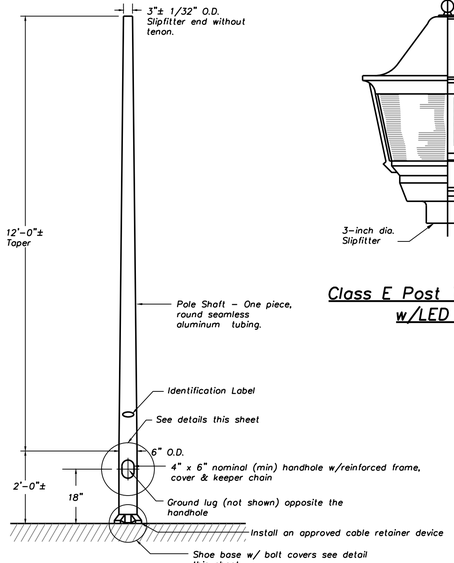
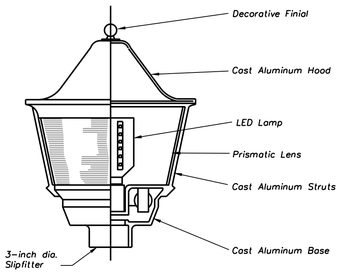
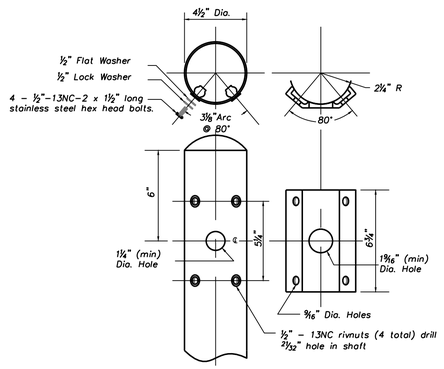


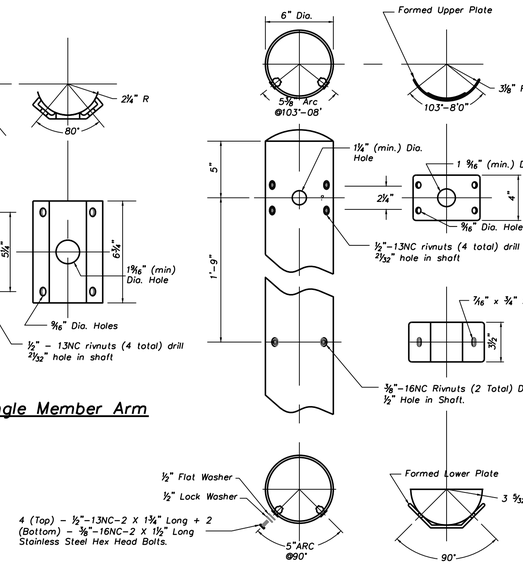
14' Pole Elevation (OP14)



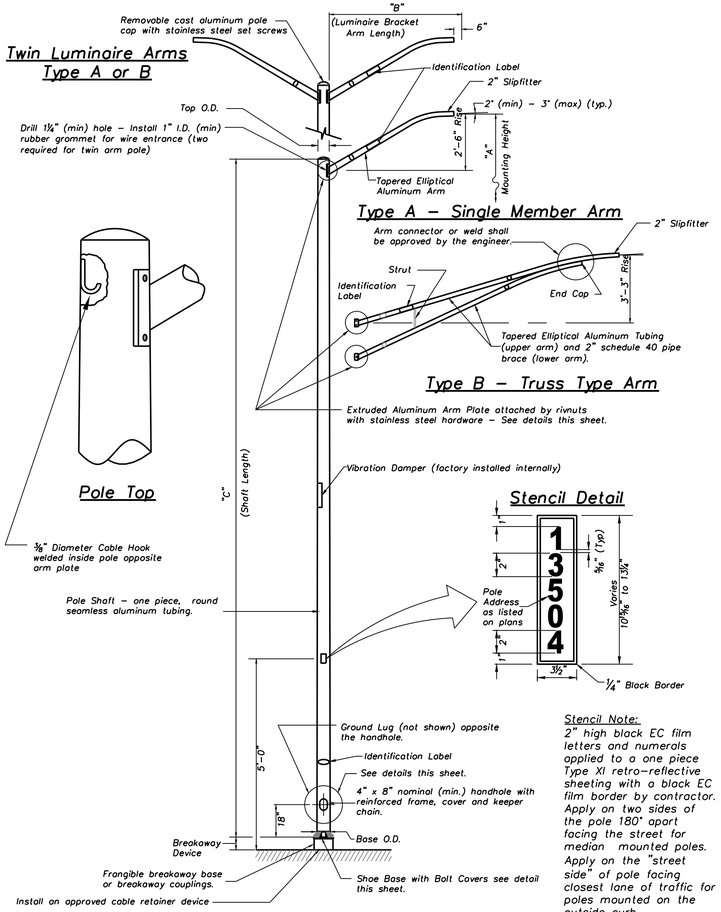
Class E Post Top Luminaire w/LED Lamp



Type A – Single Member Arm



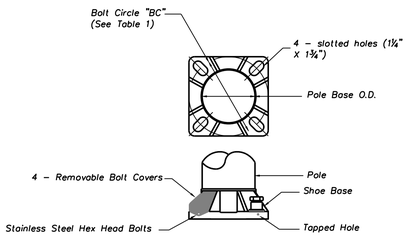
Type B – Truss Arm



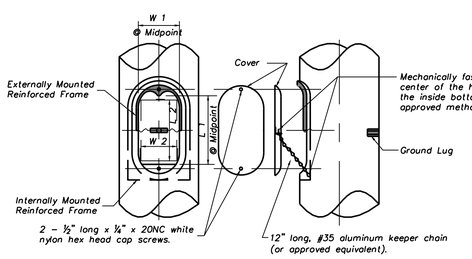
30' & 40' Pole Elevation

(See Table 1 for Designations & Dimensions)

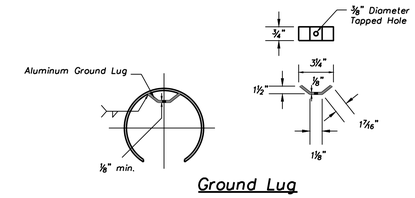
Stencil Note:
2" high black EC film letters and numerals applied to a one piece Type XI retro–reflective sheeting with a black EC film border by contractor. Apply on two sides of the pole 180° apart facing the street for median mounted poles. Apply on the "street side" of pole facing closest lane of traffic for poles mounted on the outside curb.



Shoe Base



Front Handhole Side



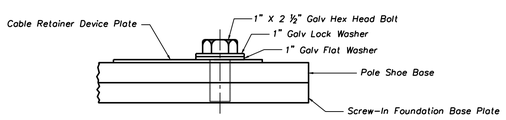
Ground Lug

Handhole Notes:

1. The dimensions for the handhole opening shall be clear of any interference from the handhole reinforcing frame. These dimensions represent minimum values.
2. The handhole opening shall be smooth and free of burrs.
3. The handhole cover shall be uniform and fit tightly with no gaps and secured with 7/16" (flat to flat) nylon hex head screws.
4. Holes in cover shall be overdrilled and not tapped allowing screw to slide through.
5. Handhole for poles located on bridges shall be on same side as luminaire arm.
6. Handhole covers shall be universal in size to fit all poles interchangeably.
7. Tighten nylon hex head screws for handholecover, finger tight only.

Handhole Opening Dimensions (min)

	4" x 6"	4" x 8"
W1	3 7/8"	4"
L1	5 ¼"	7 ½"
W2	3"	3 7/16"
L2	3 15/16"	6 3/32"



Bolt Detail

Table 1 – Luminaire Arm, Pole, Shoe Base & Anchor Bolt Data

OP Designation	Mounting Height (A)	Luminaire Arm(s)				Pole Shaft				Shoe Base	Anchor Bolt for Concrete Foundation			Screw–in Anchor Foundation
		Luminaire 1		Luminaire 2										
		Length (B)	Type	Length (B)	Type	Base O.D.	Top O.D.	Minimun Wall Thickness	Shaft Lengths (C)	Bolt Circle (BC)	Diameter	Length	Hook	Type
OP14	14	NA	NA	NA	NA	6"	3"	0.156"	14'	9.5"	0.75"10NC	25"	3"	R
OP301	30	6, 8	A	NA	NA	7"	4.5"	0.188"	27'–6"	11"	1.0" 8NC	36"	4"	T1
OP302	30	12	B	NA	NA	8"	6"	0.188"	26'–8"	11"	1.0" 8NC	36"	4"	T1
OP303	30	8	A	8	A	8"	4.5"	0.188"	27'–6"	11"	1.0" 8NC	36"	4"	T1
OP401	40	6, 8	A	NA	NA	8"	4.5"	0.219"	37'–6"	11.5"	1.0" 8NC	36"	4"	F1
OP401	40	6, 8	A	6,8	A	8"	4.5"	0.219"	37'–6"	11.5"	1.0" 8NC	36"	4"	F1
OP402	40	10,12,15	B	NA	NA	8"	6"	0.219"	36'–8"	11.5"	1.0" 8NC	36"	4"	F1
OP403	40	8,12,15	B	8,12,15	B	10"	6"	0.219"	36'–8"	14.5"	1.0" 8NC	48"	4"	F2

Table 1 Notes:

1. The intent of these material restrictions is to provide interchangeability of both types of luminaire arms for mounting on either the 30' or 40' pole.
2. Luminaire arms – 6' & 8' arms shall be single member (Type A) unless otherwise noted on the plans; 10, 12 & 15' arms shall be truss–type (Type B).
3. Table 1 represents pole shaft dimensions for a 30' and 40' pole to be installed with breakaway devices. The pole shaft length shall be dimensioned accordingly but the top & bottom pole diameters, bolt circle, mounting height, and luminaire arm design and rise shown in Table 1 and noted in the pole elevation detail shall be maintained (see note 2).
4. Anchor bolts/threaded studs shall project above the foundation as per manufacturer's recommended practices – 2.5" to 3". The leveling devices (i.e. washers) shall be installed between the steel shim plate, provided as per the manufacturer's recommended practices, and the top of the pole foundation.
5. Pole OP403 shall be pre–drilled for the mounting of twin luminaire arms whether or not twin arms are noted on the plans to be installed. If the second luminaire arm is not to be installed, the extra holes shall be 'plugged'.

General Notes:

1. All poles, arms, and miscellaneous equipment shall conform to these details and as specified in the latest edition of the Overland Park Streetlighting Specification. The poles and arms shall be dimensioned to enable interchangeability.
2. The aluminum lighting standard including anchorage with luminaire properly installed shall be in accordance with the 2013 edition of American Association of State Highway and Transportation Officials (AASHTO) for continuous 90 MPH wind and a maximum luminaire size of 1.3 sq. ft. effective projected area and maximum 55 lbs.
3. Minor adjustments in the location of streetlight poles should be made in the field during construction in order to maintain 4'–0" clearance from the centerline of any fire hydrant to the face of pole.
4. All poles and arms shall be clearly identified by the manufacturer name, abbreviation or symbol engraved on the shaft, baseplate, handhole or other means such as to be readily visible after installation.
5. All 14' poles shall be installed with the handhole oriented 180 degrees from the direction vehicles approach.

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STREETLIGHTING
POLE & LUMINAIRE DETAILS

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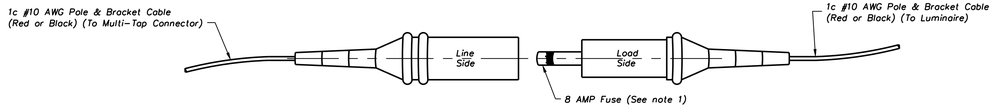
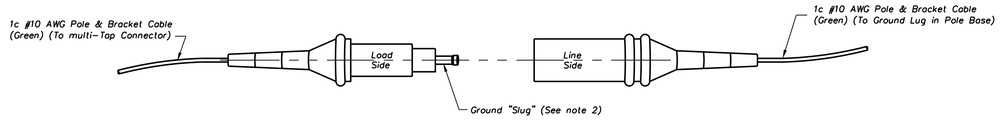


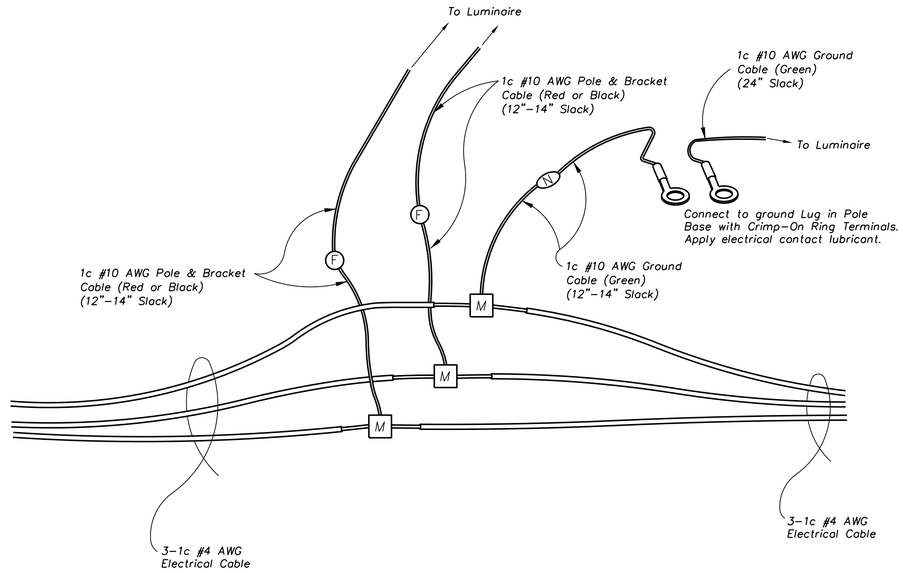
Break-Away Fused Electrical Connector



Break-Away Non Fused Electrical Connector

Notes:

1. Fuse remains in "Load Side" after break-away.
2. Ground "Slug" remains in "Load Side" after break-away.



Electrical Connector KIt Schematic

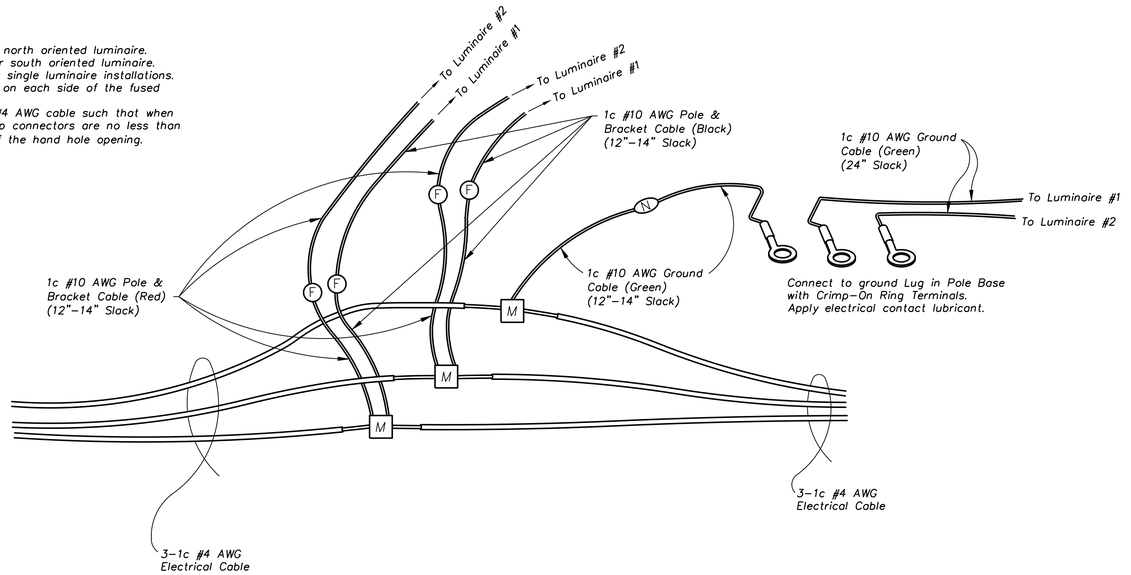
(Single Luminaire)

Legend

- M — Multi-Tap Electrical Connector
- F — Break-Away Fused Electrical Connector with 8 Amp Fuse
- N — Break-Away Non-Fused Electrical Connector with Ground "Slug"
- S — Splice Kit

Notes:

1. Red cables shall be connected to west or north oriented luminaire. Black cables shall be connected to east or south oriented luminaire. Either red or black cables can be used on single luminaire installations.
2. The specified cable slack shall be provided on each side of the fused and un-fused connectors.
3. Additional slack shall be provided for the #4 AWG cable such that when extended upward, the top of the multi-tap connectors are no less than 1" and no more than 3" above the top of the hand hole opening.



Electrical Connector Kit Schematic

(Twin Luminaires)

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STREETLIGHTING
ELECTRICAL CONNECTOR DETAILS

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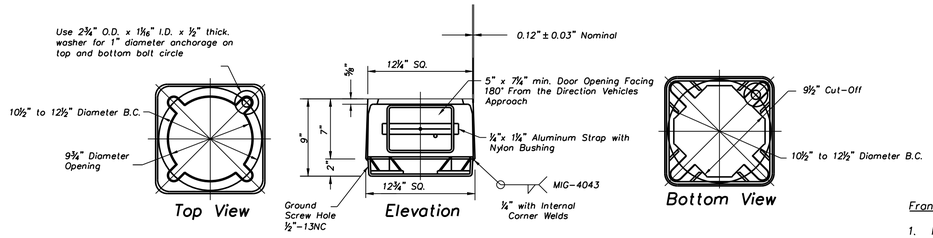
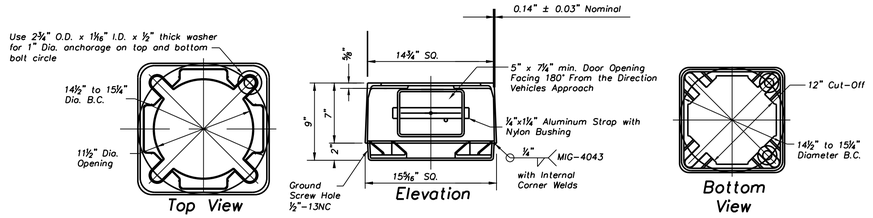


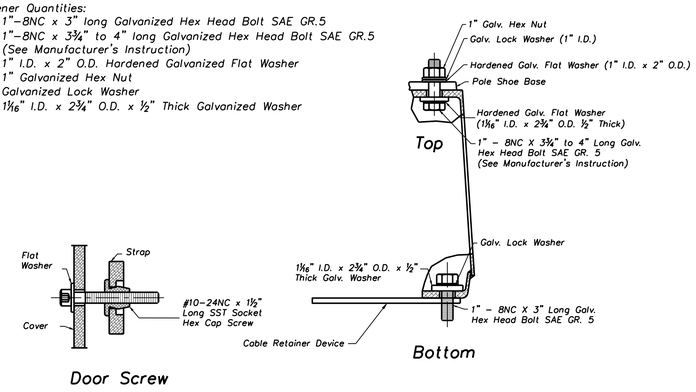
Frangible Base (30' Pole – Series 301, 302, & 303) and (40' Pole – Series 401 & 402)



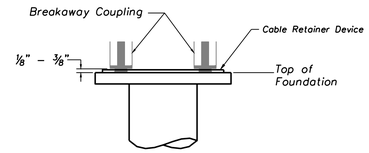
Frangible Base (40' Pole – Series 403)

Frangible Base Notes:

1. *Fastener Quantities:*
   - *(4) 1"–8NC x 3" long Galvanized Hex Head Bolt SAE GR.5*
   - *(4) 1"–8NC x 3¾" to 4" long Galvanized Hex Head Bolt SAE GR.5 (See Manufacturer's Instruction)*
   - *(4) 1" I.D. x 2" O.D. Hardened Galvanized Flat Washer*
   - *(4) 1" Galvanized Hex Nut*
   - *(8) Galvanized Lock Washer*
   - *(8) 1⅛6" I.D. x 2¾" O.D. x ½" Thick Galvanized Washer*



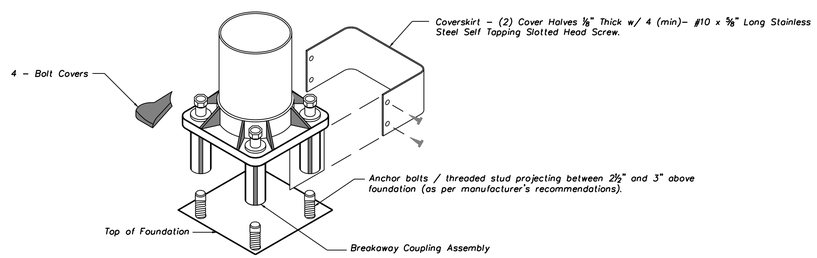
Frangile Base Details



Breakaway Coupling Installation

Coupling Notes:

1. *Shall be as per manufacturer's recommended procedures.*
2. *An approved cable retainer device shall be installed.*



Breakaway Coupling Assembly & Coverskirt Detail

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STREETLIGHTING
BREAKAWAY POLE BASE DETAILS

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