

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**SPECIAL PROVISION**

**P.I. No. 019927007**

**Fulton County  
Atlanta Beltline Northeast Trail  
At Westminster Drive**

**SECTION 680 - HIGHWAY LIGHTING**

**680.1 GENERAL DESCRIPTION**

Retain Section 680.1 and add the following:

- A. Project Location: The location of the roadway lighting construction work included in this Project is shown in the Plans. The work described within this Special Provision consists of design and installation of a lighting system along the Northeast Beltline Trail between Westminster Drive and I-85 in the City of Atlanta, Fulton County, Georgia.
- B. Project Lighting System: The Contractor and a design consultant (or design consultant team) will work together to design and build the Project Lighting System (PLS). Typically, the design consultant will either be acting as a sub-consultant to the Contractor or as a joint-venture member with whom an agreement has been executed. Within this document (Section 680), the words "design consultant" or "design consultant team" will refer to the consultant firm or consultant team acting as a subcontractor or joint-venture team member to the Contractor.

The design consultant shall be prequalified in Area Class 3.15 (Highway Lighting). The design consultant or design consultant team will not be required to fill out Department subcontractor forms for Department use.

The word "Engineer" (with a capital "E") will refer to those personnel of the Department that are acting in the capacity of an engineer for the Department. When the word "engineer" is used, the designation will refer to those persons acting on behalf of the Contractor. The Department will have oversight responsibilities only, which includes performing lighting plan reviews and granting acceptance of the preliminary and final design work.

After the Department has provided written authorization and the PLS final plans are Released for Construction, it shall be the Contractor's responsibility to continue to properly coordinate the Work during the land disturbing phase(s) of the PLS including but not limited to right of way requirements, utility relocations, and/or environmental requirements. Any additional PLS costs involving subsequent utility relocations that are determined to be no fault of the Utility shall be at the Contractor's cost with no additional cost to the Department.

The Contractor may proceed with construction activities upon receipt of NOTICE TO PROCEED (NTP) from the Department.

Bids on the PLS will reflect constructing the PLS as shown in the Scope (680.1.C) and close conformity to applicable portions of the Plans.

Ensure submission of any proposed changes in the design including the justification for said changes.

The work covered under this Specification includes the furnishing and installation of the light fixtures, security cameras and power service cabinets required for the completion of this project and other incidental items contained in the Scope (680.1.C). Ensure all the improvements for the PLS are within the right of way as shown in the Plans.

Information related to “existing conditions,” as reflected in the Plans Package, is for information only. The Contractor shall be aware that existing conditions found in the Plans package may have changed since the field survey work and associated design efforts were completed. Verify all existing conditions. No claims will be considered due to decisions/assumptions made by the Contractor based on “existing conditions” reflected in the Plans package.

- C. General Project Lighting System (PLS) Scope: This work will consist of the furnishing and installation integrated handrail LED lights (install only) along the ramp at Montgomery Ferry Road and power supply system for the lighting.

The work covered under this Special Provision includes, but is not limited to, the furnishing of all materials, labor, tools, equipment, and other incidental items for the furnishing and installation of the light fixtures and power supply systems.

The Contractor shall Furnish and install each light fixture as stated in this document and shown on the plans.

All luminaries used in the PLS shall be LED (light-emitting diode).

Coordinate with Georgia Power Company and the Atlanta Beltline to identify the best external power source locations for the street lighting. The final location of the service points must be submitted for review and approved by the Department.

Provide power service and construct and install power supply system from the existing utility facilities, with wiring to/from power supply points. Ensure that each service point is 240/120V 3-Phase.

Calculations of electrical service loads, voltage drop calculations and preparation of wiring schematics shall be submitted for review and approval by the Department.

Provide manufacturer name, model number and cut sheets for all proposed LED luminaires used in the design.

1. Pedestrian Light Fixture “FA”, “FB”, “FE” and “FF”: Cree pole mounted LED luminaire with slim, low-profile design. Luminaire sides are rugged cast aluminum with integral, weather-tight LED driver compartments and high-performance aluminum heat sinks. The fixture is pole mounted at 14' height, on a 5" dia. round pole with hand hole at the top of pole. Provide Luminaire with LED Multi-Level option that includes an

**occupancy sensor that reacts to changes in infrared energy within sensor coverage area. The Luminaire is switched to high mode when motion is detected and returns to its low mode setting when motion is no longer detected and the timing cycle is satisfied. The contractor shall furnish and install the pole-mounted luminaire.**

Manufacturers:

- a. Cree Model #: ARE-EDG-2M-06-UH –BZ
  - b. Lithonia Lighting
  - c. Beacon
  - d. Or approved equal
2. Pedestrian Light Fixture “FC”: wall mounted LED canopy light fixture. Provide Luminaire with an occupancy sensor that reacts to changes in infrared energy within sensor coverage area. The contractor shall furnish and install the wall-mounted luminaire.

Manufacturers:

- a. Cooper Lighting Toptier Model #TTC4 LED E1 WO BZ
  - b. Insight Lighting
  - c. Lumenpulse Lighting
  - d. Or approved equal
3. Security Camera “SC”: HDTV network 360-degree security camera kit with zoom and autofocus camera. The security cameras will be pole mounted in a weather proof housing at locations shown in the plans. The Fiber Backbone will be installed in the new ductbank. Fiber splices will be made at indicated manholes along the ductbank. Power will be provided to each camera location as shown on the plans. The Atlanta Beltline, Inc. and Atlanta Police Foundation will guide the process of putting the system in service and integrating the system into the Atlanta Police Foundation’s surveillance operation. The Security Camera Kit includes, but is not limited to the following for each camera location:

- a. 1- Fixed HD Camera<sup>n<sub>L</sub></sup>
- b. 1- Camera Lense<sup>n<sub>L</sub></sup>
- c. 1- Outdoor Housing enclosure to match color of pole<sup>n<sub>L</sub></sup>
- d. 1- Blue Light for enclosure<sup>n<sub>L</sub></sup>
- e. 1- Pole Mount Kit/Power Supply<sup>n<sub>L</sub></sup>
- f. 1- SD Memory Card<sup>n<sub>L</sub></sup>
- g. 1- Surge Protector<sup>n<sub>L</sub></sup>
- h. 1- Camera License<sup>n<sub>L</sub></sup>
- i. 1- Video Wall License

## Manufacturers:

- a. Axis Model #P3727-PLE 8MP with IoT Base
- b. Sony
- c. Pelco
- d. Or approved equal

The material required for installation of the camera at locations indicated on the drawings includes, but is not limited to the following:

## Description

Single Jacket All-Dielectric, Free, Outdoor Stranded Loose Tube Cable  
 Free, Outdoor Stranded Loose Tube Cable  
 .15" diameter  
 J Closure, 5.0 in OD, two drop ports, one 12-fiber tray  
 Single grommet with two hole for cables ranging from 0.27-0.47 inches  
 Single grommet with four holes for cables ranging from 0.11--0.27 inches  
 Mounting hardware for J splice closure  
 Single fusion splice sleeves, pack of 50  
 Sliding Modular Cassette Shelf  
 Modular Cassette, equipped w/12 Pigtails. (Blue, Orange, Green, Brown, Slate, White, Red, Black, Yellow, Violet, Rose, Aqua)  
 Two splice kits for 48 splices

4. Provide and install power service cabinets as shown in Detail 1, on Sheet 25-101 of the plans.
5. Provide and install handholes, for making wiring connections as shown in Detail 2, on Sheet 25-102 of the plans .
6. Provide and install electrical vaults for housing lighting equipment and making wiring connections, as shown in Detail 1 on Sheet 25-102 of the plans.

Ensure that the installed lighting system effectively illuminates the operational area of the street, street approaches and tunnels.

Ensure Pole Data Legend Sheet (if applicable) includes:

- a. Circuit number
- b. Roadway station and offset
- c. Luminaire wattage and type
- d. Mounting height
- e. Mounting arrangement

Coordinate with the GDOT Lighting Group, the GDOT Construction Project Engineer, Georgia Power Company, and the City Of Atlanta on the lighting system's power

supply system construction and installation.

D. Right of Way: Ensure designing, constructing and installing the PLS occurs within the existing Right of Way. Ensure no encroachments.

E. Project Lighting System Plans:

1. Preparation of Project Lighting System Plans

- a. General Criteria: Ensure and use the most current design criteria at the time of letting, as determined by the Department, American Association of State Highway and Transportation Officials (AASHTO) Design Manuals for Arterial Streets, Rural, Urban and Interstate Highways, including those standards adopted by AASHTO and approved by the Secretary of Commerce, as provided by Title 23, United States Code, Section 109 (b), with the Department's Standards, Procedures, Plans, Specifications and Methods, with Federal Highway Administration procedures relating to plan review and approval, and shall produce plans in accordance therewith.
- b. Design Specifications and Guidelines: Design shall be in accordance with the current edition of AASHTO Design Specifications. Design work for inside interstate rights of way conforms to the interstate standards. Design for work outside interstate right of way conforms to AASHTO design standards for the appropriate classification. Deviation from these design criteria requires a written design exception or variance, depending on the violation, to be approved prior to incorporating it into the work.

Utilize the following references as a minimum in the development of this Project:

- 1) Electronic Data Guidelines (EDG) – current version at time of letting
- 2) Plan Presentation Guide (PPG) – current version at time of letting
- 3) GDOT Design Policy Manual – current version at time of letting
- 4) Manual on Uniform Traffic Control Devices (MUTCD) by the U.S. Department of Transportation, Federal Highway Administration "FHWA" – current version at time of letting
- 5) ANSI/IES RP22-11 Tunnel Lighting, 2011 edition & IES RP-8-00 Roadway Lighting, current edition (Reaffirmed 2005)
- 6) Manual on Drainage Design for Highways by the Georgia Department of Transportation - current version at time of letting
- 7) Roadway and Bridge Standard Plans as of October, 2010 by the GDOT Bridge office. Design and plan preparation in accordance with the Certification Acceptance authorized by 23 USC 117(a) for Administering Federal Aid Projects Not On Interstate System, dated June 1, 1990.
- 8) GDOT Construction Standards and Details - current versions at time of letting
- 9) Pay Item Index by GDOT's State Transportation Office Engineer - current version at time of letting
- 10) Utility Accommodation Policy and Standards by the GDOT Utilities Office - current version at time of letting

- 11) GDOT Signing and Marking Design Guidelines – current version at time of letting
- 12) Other manuals of guidance which are standard procedures of the Department.

The above list is not intended to be all-inclusive. All references to the “current version” shall mean those in effect at time of letting.

- c. Plan Sizes: Ensure reproducible Plans for roadway, drainage and utilities quality drawings on bond paper. For full size ensure outside dimensions of 36” x 24” with a 2” margin on the left and a ½” margin elsewhere and be produced by a MicroStation CADD system.
- d. Construction Plan Requirements and Scale: Dimension the Plans in English units; Specify all elevations necessary for construction similar to the Department’s normal practice. All plans are to be prepared on the scales according to the Department’s Plan Presentation Guide (PPG), current version at time of letting.

Check all details and dimensions shown on the plans before they are submitted to the Department for review. Topography will remain fully legible when plans are reduced in size, but will be less prominent and readily distinguishable from the proposed work. Ensure Profile sheets have the existing ground line dashed and the required profile in a solid line. Ensure all other plan sheets (utility, erosion control, signing & marking, etc.) are the same scale and sheet layout as corresponding roadway plan sheet? Ensure the retaining wall plans are per the Bridge Department’s Standards.

- e. Construction Plans Organization and Sheet Index: Ensure construction plans are assembled according to the PPG, current version at time of letting.

The total sheets shown in the Index will be the total number of sheets in the plans. Assign Plans temporary sheet numbers by using the sequence prefix followed by a three-digit number per the PPG. These numbers are to be placed in small blocks in the lower right corner of the sheet.

- f. Computations: Record all design computations and computer printouts neatly on an 8½” x 11”, fully titled, numbered, indexed, dated and signed by the designer/Project manager and checker. Submit to the Department the computer files and two copies of the computations fully checked and appropriately bound, with the plans. Submit to the Department a complete tabulation of the lighting analysis along with the calculations. Submit VISUAL and/or AGI-32 software files used in the design of the PLS.
- g. Construction Plan Sheets: Ensure construction plan sheets are in accordance with the PPG and shall include, but not limited to, the following: wiring, conduit, power service locations, and wiring diagrams.
- h. Pole Data Legend Sheet: Ensure Pole Data Legend Sheet, if applicable, includes, but is not limited to, the following: circuit number, roadway station and offset, luminaire wattage and type, mounting height, and mounting arrangement.

- i. Erosion and Sediment Control Sheets: Ensure that the work is compatible with the erosion control/BMP plans.

F. PLS Design Reviews: The design is to be prepared under the direct supervision of licensed design professionals. A Professional Engineer licensed to practice engineering in the State of Georgia shall seal/stamp/sign the Final Lighting Plans. The seal on the drawing represents certification the design meets all applicable codes and is of good engineering practice and standards.

Current Department design manuals and guidelines may be found at:

<http://www.dot.ga.gov/doingbusiness/PoliciesManuals/roads/Pages/default.aspx>.

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Table 4-1: PROJECT LIGHTING SYSTEM (PLS) PLAN REVIEWS

Submittal Description	Format	Quantity	Delivery Date	Review	Review Type	Comment
Schedule - Including Review Times	HC, PDF	3, 1	NTP + 14	30	Accepted BY Project Engineer	
High Mast Light Tower Foundation	HC, PDF	3, 1	NTP + 90	30	Accepted BY Project Engineer	Review/ approval required by GDOT Lighting Group
Lighting Photometric Layout Review	HC, PDF	1, 1	NTP + 30	14	Accepted BY Project Engineer	Review/ approval required by GDOT Lighting Group
Preliminary Plans	HS, MS, PDF	12, 1	PAS	14	Accepted BY Project Engineer	Review/ approval required by GDOT Lighting Group
Final Plans	HS, MS, PDF	12, 1	PAS	14	Accepted BY Project Engineer	Review/ approval required by GDOT Lighting Group
Shop Drawings	FS	6	PAS	30	Accepted BY Project Engineer	Review/ approval required by GDOT Lighting Group
Released For Construction Plans	FS, HS, PDF	9, 12, 1	PAS	NA	NA	Contractor shall provide the Engineer with one HS set for a backcheck prior to Release for Construction authorization.
Plan Revisions During Construction	FS, HS, PDF	1, 3, 1	Per Occurrence	14	Accepted BY Project Engineer	Clear, concise supporting documentation justifying reason for proposed revision to be included with submittal.
As-Built-Plans	See 680.1F7	8	Project Completion +30	30	Accepted BY Project Engineer	Provided to GDOT Lighting Group



ABBREVIATIONS FOR TABLE 4.1

AR	As Required
FS	Full-size paper – meets GDOT Plan Presentation Guide
HC	Hard Copy – 8 ½ x 11 unless otherwise noted
HS	Half-size paper – meets GDOT Plan Presentation Guide
MS	MicroStation File – Electronic
NTP	Notice to Proceed
PAS	Per Approved Schedule
PDF	Adobe PDF – One complete file

All Submittals shall be made directly to the Project Engineer. The Engineer shall provide submittals to the applicable GDOT Office Reviewer and/or other applicable entities as directed by the Project Engineer, unless otherwise noted or discussed with the Contractor. As accepted by the Project Engineer the Contractor may provide submittals to applicable offices for a concurrent review. Hand-deliver submittals, track and regularly update the Project Engineer on review status. In the event concurrent submittals are required, the “receipt” date shall be the date the last recipient receives the submittal and shall be the contractual begin date for the review. Unless a different review time is specified elsewhere in the contract, a period of thirty (30) calendar days from receipt to release of the submittal by the Department shall be allowed for the Department’s review. The Project Engineer’s (Department’s) acceptance as to completeness is required for all reviews. All Contractors’ schedules shall reflect the review times contained within the specifications and contract. The Project Engineer’s receipt of submittals will mark the beginning of the review period. All submittals by the Contractor shall be required to contain a statement certifying that no unapproved design-exceptions have been incorporated in the submittal. Up to date half-size sets of plans with the most current design and construction plans shall be made available to a distribution list made up of up to 20 individuals/offices at all times during this Project. Errors and omissions are the responsibility of the Contractor to correct and shall be at the Contractor’s expense.

Any submittal received by the Project Engineer after 12 PM (noon) shall be considered as being received the following business day.

Monthly progress meetings will be held at the project location if requested by either the Contractor or the Department. Attendees shall include the Contractor, design consultant, the Department’s project engineer and design liaison, and may also include a representative from various Department Offices.

Quality Control/Quality Assurance for Design: The Department, except where noted otherwise, shall have oversight responsibilities only and will not perform official reviews and approvals of design work. The Department will not take any approval or formal review actions on design issues except as noted herein or for deviations from the intended scope of the Project.

Employ only persons duly registered in Georgia in the appropriate category in responsible charge of supervision and design of the work.

Endorse all final reports and contract plans. These endorsements shall be made by a person(s) duly registered in the appropriate category by the Georgia State Board of Registration for Professional Engineers and Land Surveyors, being in the full employ of the Contractor and responsible for the work prescribed in the contract.

Authorized representatives of the Department and Federal Highway Administration (FHWA) may review and inspect the Project activities and data collected at all times. All reports, drawings, studies, specifications, estimates, maps and computations prepared by or for the Contractor shall be available to authorized representatives of both the Department and FHWA for inspection and review. The Department's review comments are to be incorporated into the plans by the Contractor or as agreed. These changes shall not result in an increase in cost.

- G. Released for Construction: Upon the Contractor's satisfactory completion and written authorization from the Department the plans are Released for Construction, stamp each plan sheet with "Released for Construction" and include the authorization date. The Released for Construction plans are the official plans used for construction of the Project.
- H. As-Built Plans: Upon completion of the Project construction, provide a complete As-Built set of plans to the Department in the following formats:
  - a. Two (2) CD-ROMs or DVDs containing:
    - 1) all electronic design files, electronic calculations, etc.
    - 2) .pdf containing the entire plan set
    - 3) .pdf of each sheet in accordance with current requirements in the Department's Electronic Plans Process (EPP) manual.
    - 4) .pdf photometric layout
    - 5) .pdf vendor data cut sheets
  - b. One (1) hard copy of the design databook, and lighting calculations
  - c. Two (2) full-size set of bond prints
  - d. Two (2) half-size set of bond prints
  - e. Provide a revised estimated summary of quantities and detailed estimate in the final

#### As-Built plans

Ensure all production and delivery of materials needed for Department review. A member of the design team, who is a licensed Professional Engineer, licensed to practice engineering in the State of Georgia shall seal the As-Built plans.

- I. Ownership of Documents: The Contractor agrees all reports, drawings, studies, specifications, survey notes, estimates, maps, computations, computer files and other data, prepared by or for the Project under the terms of this Agreement and delivered to the Department become and remain the property of the Department upon termination or Ensure the Project is constructed as per the PLS scope and as per the accepted Released for Construction plans in accordance with the Specifications. No PLS construction activities shall begin until the Department provides written authorization to the Contractor to begin PLS activities.

Construction includes, but is not limited to, the following:

- A. Ensure storing of any equipment and materials on the Project outside of the Work area.
- B. Errors and omissions are the responsibility of the Contractor to correct and at the expense of the Contractor.
- C. No existing materials removed shall be reused. Coordinate the removal and disposal of all existing
- C. Preparation of As-Built Construction Plans.

#### 680.4 AND 680.5 MEASUREMENT; PAYMENT

The Work required under this Specification will not be measured separately for payment unless otherwise specified. Payment for the items listed below, complete and accepted, will be made based on the unit price bid.

Unit prices will be used for payment for each of the following items:

FURNISH AND INSTALL LIGHT FIXTURE "FA", FURNISH AND INSTALL LIGHT FIXTURE "FB", FURNISH AND INSTALL LIGHT FIXTURE "FE", FURNISH AND INSTALL LIGHT FIXTURE "FF", FURNISH AND INSTALL LIGHT FIXTURE "FC", FURNISH AND INSTALL SECURITY CAMERA "SC", FURNISH AND INSTALL POWER SERVICE CABINETS "PSC", FURNISH AND INSTALL MDF CABINET, FURNISH AND INSTALL HANDHOLES, FURNISH AND INSTALL ELECTRICAL VAULTS.

Payment shall be made under:

<u>Pay Item</u>	<u>Item Description</u>	<u>Units</u>
680---6130	Luminaire Type "FA"	EA
680---6130	Luminaire Type "FB"	EA
680---6130	Luminaire Type "FE"	EA
680---6130	Luminaire Type "FF"	EA
630---6200	Luminaire Type "FC"	EA
937---1000	Security Camera "SC"	EA
682---9001	Power Service Cabinet "PSC"	EA
682---9002	MDF Cabinet for Fiber Terminations	EA
682---9024	Electric Vault	EA
682---9020	Handhole	EA