

## Work Type Definition: Roadway Lighting Design



### **I. Minimum requirements:**

The work to be under the direct supervision of a Minnesota Professional Civil Engineer.

### **II. Description**

Roadway Lighting Design includes developing lighting analysis reports, forms and letters, supporting documentation, lighting plans, special provisions, and engineer's cost estimate for roadway lighting construction projects. This includes all required data collection, field site investigation, coordination with power companies, pole and foundation structural analysis, civil and electrical engineering design, plan preparation, special provision preparation, cost estimation, any calculations and analysis required to produce the deliverables, and providing technical support and construction inspection during bidding and construction concerning the design.

### **III. Standards and Specifications**

**Standards and specifications required for a project under this work type may include the following:**

- A. Plans will be delivered at 30 percent, 60 percent, 90 percent, and 100 percent complete.
- B. The Plans, Special Provisions, and Engineer's Estimate will be in accordance with all Federal and Minnesota State standards
- C. The deliverables will use the proper formats, symbols, abbreviations, etc.
- D. Photometric analysis of lighting configuration shall be provided in hard copy and electronic format.
- E. Plans must be provided in hard copy and Microstation format.
- F. Text documents must be provided in Microsoft Word format.
- G. Spreadsheets must be provided in Microsoft Excel format.

### **IV. Provided by Hennepin County**

**Information to be supplied by Hennepin County for a project may include the following:**

- H. National Electrical Code
- I. MnDOT Traffic Engineering Manual
- J. MnDOT Standard Plates Manual
- K. MnDOT Standard Specifications for Construction
- L. MnDOT Architectural and Aesthetic Design Guidelines
- M. American Association of State Highway & Transportation Officials (AASHTO) Green Book

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- N. AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals (2001)
- O. MnDOT Roadway Lighting Design Manual
- P. MnDOT CADD Lighting Cell Library
- Q. Sample Lighting Plans
- R. Sample Lighting Special Provisions
- S. Illuminating Engineering Society of North America, American National Standards Practice for Roadway Lighting
- T. AASHTO, An Informational Guide for Roadway Lighting
- U. MnDOT Technical Manual
- V. AASHTO Roadside Design Guide
- W. City or State lighting design requirements for lighting that will not be owned or maintained by Hennepin County

### **V. Provided by Consultant**

**Deliverables to be supplied by the consultant for a project may include the following:**

- A. A plan set may be for a stand-alone lighting system project or for lighting that is part of a larger grading/surfacing project, and includes the following:
  - Title Sheet, Estimated Quantities Sheet, Detail Sheets, Layout Sheets, “For Information Only” Sheets of Existing Lighting, Utilities Sheets, and — when construction is complete — “as-built” plans.
- B. Special Provisions defining special requirements for the construction or changes from the Standard Specifications for Construction.
- C. Engineer’s Estimate, including “quantities tabulation” and an engineer’s estimate for construction cost.
- D. Supporting document includes meeting minutes, correspondence, applicable calculations, etc.