

## Chapter 25

### Lighting Plans

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## Chapter 25

### Lighting Plans

#### 25.1 General

Lighting Plans are usually a component set of plans. Projects with minor lighting may include these features on sheets in the roadway plan set or detailed on the roadway plans. When prepared as component plans they must be assembled as a separate plans set complete with a key sheet, tabulation of quantities and all other lighting sheets. When prepared as component plans, number the sheets consecutively with the sheet numbers prefixed by the letter "L".

Modification for Non-Conventional Projects:

Delete the third sentence from the above paragraph and replace with the following:

When prepared as component plans they must be assembled as a separate plans set complete with a key sheet and all other lighting sheets identified herein.

The lighting plans must show the construction details, electrical circuits, pole data, conduits, service points, luminaires, foundations, boring details and other relevant data.

Assemble the Lighting Plans as follows:

1. Key Sheet
2. Tabulation of Quantities
3. General Notes (if required)
4. Pole Data and Legend Sheet
5. Plan Sheets or Layout Sheets
6. Foundation Details - High Mast (if required)
7. Boring Data Sheets - High Mast (if required)

Modification for Non-Conventional Projects:

Delete Item 2 from the above list.

In addition, the lighting plans may contain sheets which were prepared separately (perhaps by a sub-consultant) and incorporated into the lighting plans early in the design process (prior to the establishment of sheet numbering). As an option, these may be identified with the following prefixes and placed at the end of the numbered sequence of the lighting plans:

GL-#      Soil Survey and Report of Core Borings normally associated with the lighting plans set

## 25.2      **Key Sheet**

The key sheet is the first sheet in the component plans set and must be prepared as described in **Chapter 3** of this Volume. The location map and contract plans set information are not required on this sheet when shown on the lead key sheet. Show the index of lighting plans on the left of the sheet. Other data, including name, consultant contract number, vendor number, and certificate of authorization number of the firm (when plans are prepared by a consultant), must be shown as described in **Chapter 3** of this Volume.

## 25.3      **Signature Sheet**

See **Chapter 3** of this Volume for Signature Sheet requirements.

## 25.4      **Tabulation of Quantities and Standard Notes**

The tabulation of quantities sheet lists the item numbers, description and quantity of materials. Place this sheet behind the key sheet in plans assembly.

List pay item numbers in numerical order. Provisions must be made to show the original and final quantities per sheet or by station. When the number of pay item numbers to be used exceeds one page, the additional sheet is to be numbered using a suffix (i.e. 3 and 3A, 4 and 4a, etc.).

On contracts with multiple Financial Project ID's, or Federal Aid and non-Federal Aid quantities, provisions must be made to tabulate and summarize their respective quantities.

Show pay item notes and standard notes that refer to item numbers on this sheet. Show general notes on a separate plan format sheet. Place this sheet behind the tabulation of

quantities in the plans assembly. On minor projects, general notes may be combined with the tabulation of quantities sheet.

Modification for Non-Conventional Projects:

Delete **PPM** 25.4.

## 25.5 Pole Data and Legend Sheet

Prepare the pole data sheet on a standard plan format and include details and notes pertaining to pole placement and construction.

Provide a listing of each pole by pole number on this sheet. The following information must also be given for each pole:

1. Circuit Number
2. Roadway Station and Offset
3. Arm Length
4. Luminaire Wattage
5. Mounting Height
6. Pay Item Number

Modification for Non-Conventional Projects:

Delete Item 6 from the above list.

The pay item number will indicate if the pole is a standard pole or a special design. Two pay item numbers are utilized: one for standard poles and one for non-standard poles.

Modification for Non-Conventional Projects:

Delete the above paragraph.

Show the design values for light intensities and uniformity ratios together with a legend and description of the symbols used on the plan sheets.

## 25.6 Plan Sheets

### 25.6.1 Format and Scale

Prepare the plan sheets on a standard plan format. The scale must be such that all details are clear and legible. However, the scale must not be smaller than 1" = 100'. For simple projects, or for narrow sections of a project, it may be possible to "stack" two plans on one sheet, one below the other. Stationing must progress from left to right and be stacked from top to bottom. Clarity and legibility must be preserved in all cases.

Place a north arrow and scale at a point of maximum visibility on the sheet. If two plans are "stacked" on one sheet, include a north arrow and scale in each plan portion.

### 25.6.2 Required Information

The basic information pertaining to roadway geometrics and project limits required on the lighting plan sheets is the same as that required on the plan portion of the roadway plan-profile sheets. Topography and construction details need not be shown. Check utilities, drainage, signal structures, sign structures, landscape features, sidewalks, driveways, etc. for conflicts. Those that may cause conflicts must be shown.

Show the lighting layout on the plan format. This must be accomplished by symbols which represent poles, conduits and service points. Use symbols in accordance with the requirements of the FDOT Engineering/CADD Systems Software throughout the plans. A flag or note must be used to identify conduit size, number and conductor sizes.

Show the beginning and ending of the lighting limits on the appropriate plan sheet(s). Show the symbols for poles at the correct baseline or centerline station and note the approximate offset from the roadway.

The poles must be flagged, and specific information for each pole must be shown. The pole number, baseline or centerline station, circuit number, and offset from baseline or centerline (for high mast) must be shown.

Show the service point locations on the plan sheets as determined through utility negotiations. ***Design Standards, Index No. 17504*** provides details for the service point. The service point must be shown at the location where it is to be installed. The following information is not covered on the index and must be shown on the plan sheet:

Description--voltages, phases, etc. Ex: 240/480 Volt, 3 phase, Overhead Breaker sizes--The main breaker size and the number of branch circuits and the breaker size of each.

## 25.7 Foundations and Boring Detail Sheets

The foundation design for standard conventional poles is shown in the ***Design Standards, Index 17515***. The foundation design for standard high mast light poles is shown in the ***Design Standards, Index 17502***. These foundations do not need to be shown in the plans. Foundations for non-standard high mast poles and foundations in soil conditions weaker than those shown in the ***Design Standards*** must be designed by the responsible structures design engineer of record.

Plan sheets showing the boring data for high mast poles and non-standard foundation details must be included in the lighting plans.

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