DIVISION 16 - ELECTRICAL

Section 16530 - Site Lighting

Introduction

When designing site lighting for the University two areas of major concern arise. The first and most prominent is that of safety for the students and faculty members. Since many times students need to be out and around the facility at late hours it is important to provide lighting such that they can see well enough to feel safe when they are traveling from one building to another.

The second area of concern is to minimize site lighting so as to meet within the guidelines for both Kitt Peak and Mt. Hopkins Observatories.

Lighting design should be in keeping with IES Lighting Standards *and the Pima County Lighting Ordinance. Follow the ordinance. Special situations may receive a variance. Submit written requests to FDC for written approval.*

As a part of the design we expect to see details of both bollard and light pole foundations. *Foundation designs* shall be sealed by a Structural Engineer.

Metal halide shall not be used unless approved by UA, FDC Electrical Engineer or UA, FDC Electrical Inspector*.*

Low pressure sodium sources are not to be used. High pressure sodium, fully shielded is the preferred source.

Whenever rework in the existing series street lighting is accomplished we should make an aim to eliminate the 2300 volt circuit and rewire to be powered by the nearest building. In addition label each pole base inside as to the source of the power.

Light fixtures should be located in such a manner that they can be easily maintained using standard equipment. Where fixtures can not be easily accessed the use of hinged poles shall be required. All exterior building light fixtures and poles shall able readily accessible and not restricted by other site improvements.

The design should be made in a manner such that is both energy efficient and cost effective as well as meeting the requirements for the local regulations.

The design should be flexible for both the field installation for expansion and for maintenance.

Where large areas are involved provide handholes for maintenance use to trouble shoot the underground wiring when needed, and to allow for easier expansion if required in the future.

As part of the design development phase provide cut sheets and point to point design calculations for all site lighting.

Where site lighting is to be designed either on the fringes of campus or off campus, insure that no light trespass occurs.

Part 1 - General

- Provide submittals on all fixtures, including poles, bases, and ballasts.

Part 2 - Products

- Provide high quality products which are both architectural in nature and have an efficient lighting design.
- Use enough fixtures to provide adequate light especially in exterior corridors or areas between buildings to allow proper levels for personnel safety.
- Where available match fixtures in surrounding areas to be able to allow some continuity with the lighting in a general area.
- Light poles need to be designed for a minimum of a 100 mph wind loading. (80 mph + 1.3 gust factor)
- All fixtures with ballasts shall be fused.
- Pole mounted fixtures shall have fuses in base of pole with handhole access.
- **Part 3 - Execution**
- Include requirements for aligning light fixtures, light poles, and bollards to be both level and uniform in layout and light distribution.

End of Section 16530