

## 2.10. LIGHTING DESIGN

### 2.10.1. IVINS CITY STANDARD STREET LIGHT

Ivins City has selected the Spectra™ light fixture system as manufactured by Architectural Areal Lighting (AAL) as a standard for all City street lighting. All streetlights installed on public streets must use the Spectra™ system as herein described. Refer to AAL website at <http://www.aal.net>.

Table 2.10.1

Road Classification	R/W Width	Pole Height	Spectra Fixture	Lamp Ballast	Maximum Spacing	Minimum Spacing	Bollards on Paths	Roundabouts
Major Arterial	100	18	SP1 IND	150W HPS	500'	250'	Yes	n/a
Minor Arterial	80/85	18	SP1 IND	150W HPS	500'	250'	Yes	4 Lights
Major Collector	66	14	SP2 IND	100W HPS	400'	200'	Yes	n/a
Minor Collector	60	14	SP2 IND	100W HPS	400'	200'	No	n/a
Residential Collector	55	14	SP2 IND	100W HPS	n/a	125'	No	n/a
Residential	50	14	SP2 IND	100W HPS	n/a	125'	No	n/a
Residential Entrance	n/a	14	SP2 IND	100W HPS	n/a	125'	N/a	n/a

R/W: Right of Way

HPS: High Pressure Sodium

#### A. Light fixture:

1. Light fixture shall be AAL Spectra™ Model SP1 IND ULS or SP2 IND ULS in accordance with Table 14.1.
2. Fixture shall be equipped to cast an asymmetrical Type 3 light pattern for road side installations. Fixture shall cast a symmetrical Type 5 light pattern for median installations.
3. Fixture shall be glare free with an indirect lighting system that meets IES definition of “full cutoff” for night sky protection. Lamp Ballast shall be as identified in Table 2.10.1

#### B. Photocell:

1. Photocell shall be housed in an AAL Model PCA-C rotatable housing as manufactured by AAL.
2. Housing and photocell is mounted on top of pole and directly beneath light fixture on single fixture mounts or directly beneath the twin arm mount structure for double fixture mounts.
3. Rotatable housing shall be oriented to point photocell in direction of least luminance from adjacent light fixtures.
4. Housing shall be locked into place in accordance with manufacturer’s recommendations.

C. Pole:

1. Poles shall be Model PR4 as manufactured by AAL.
2. Poles shall be cast aluminum A356 alloy free of any porosity, foreign materials, or cosmetic fillers and shall be heat treated to a T-6 condition, of uniform wall thickness with no warping or mold shifting.
3. Aluminum poles shall have a 4-inch outside diameter with 0.226-inch wall thickness regardless of height.
4. Poles shall be bolted into a cast in place concrete foundation. Bolt size, length and pattern shall be according to the manufacturer.

D. Twin Arm Mounts: All light poles placed in medians on arterial or major collector roads shall be mounted with a twin arm mount AAL Model TAP1 (for SP1) or Model TAP2 (for SP2) for the placement of double fixtures.

E. Street Signage: Where poles are located at intersections, street signs shall be attached to pole.

F. Color: Poles, Base Covers, Arm Mounts, Adapters, Photocell Housing and Fixtures shall match in color and shall all be a standard color of CORTEN (CRT) as manufactured by AAL.

#### 2.10.2. STREETLIGHT LOCATIONS

Streetlights shall be placed in accordance with the following:

A. Traffic Signalized Intersections:

1. All signalized intersections shall have Spectra™ SP1 IND 150 Watt HPS fixtures located on top of the signal pole.
2. The signal pole and signal cross arm shall match the AAL CORTEN color as best as possible.

B. Residential Entrances:

1. All residential developments accessed from arterial or collector roads shall have a streetlight consisting of a 14-foot pole mounted with a single Spectra™ SP2/IND3/ULS 100 Watt HPS fixture.
2. A residential entrance light will not be required if an adjacent residential entrance light is located within 125 feet on any arterial or major collector or within 250 feet on minor or residential collectors.

C. Major Arterials (Highway 91):

1. Streetlights, consisting of 18-foot poles mounted with single Spectra™ SP1/IND3/ULS 150 Watt HPS fixtures, shall be located at all intersections with

collector roads, located on two corners, and located diagonally across the intersection.

2. Only one light is required on T-intersections.
3. In commercial areas, twin arm mounted poles will be required in the street median in accordance with Table 2.10.1

D. Arterials (Snow Canyon Parkway/Center Street/Highway 91):

1. Streetlights, consisting of 18-foot poles mounted with single Spectra™ SP1/IND3/ULS 150 Watt HPS fixtures, shall be located at all intersections with collector roads, located on two corners, and located diagonally across the intersection.
2. Only one light is required on T-intersections.
3. Twin arm Spectra™ SP1/IND5/ULS 150 Watt HPS fixtures mounted on 14-foot poles will be required in the street medians in accordance with Table 2.10.1.

E. Major Collectors:

1. Streetlights, consisting of 14-foot poles mounted with single Spectra™ SP2/IND3/ULS 100 Watt HPS fixtures, shall be located at all intersections with collector roads, located on two corners, and located diagonally across the intersection.
2. Only one light is required on T-intersections.
3. Twin arm Spectra™ SP2/IND5/ULS 100 Watt HPS fixtures mounted on 14-foot poles will be required in the street medians in accordance with Table 2.10.1.

F. Minor/Residential Collectors:

1. A streetlight, consisting of a 14-foot pole mounted with a single Spectra™ SP2/IND3/ULS 100 Watt HPS fixture, shall be located at all intersections with collector roads, located on one corner of the intersection.

### 2.10.3. IVINS CITY STANDARD BOLLARD FOR PAVED TRAILS

Ivins City has selected the Bounce Bollard light fixture system as manufactured by Kim Lighting as a standard for all trail lighting. Refer to Kim website at <http://www.kimlighting.com/>.

A. Bollard Fixture:

1. Bollard fixture shall be the Bounce Bollard Model No. BNB as manufactured by Kim Lighting.
2. Lighting element shall be 70 Watt HPS.

3. Fixture shall include Optional Matte Black Body Cap (Cat. No. BBC) to meet IES designation for “full cutoff”.
- B. Color: Bollard shall be a standard color of Dark Bronze as manufactured by Kim Lighting.
- C. Locations: Bollard lighting of trails will be required on all arterial and major collector roads.
- D. Spacing: Bollards shall be placed at a target spacing of 80 feet with a maximum spacing of 90 feet along these trails.

#### 2.10.4. REQUIREMENTS FOR NEW DEVELOPMENT

- A. Conduit, wiring and streetlights shall be installed at the developer’s expense in all new and proposed subdivisions or commercial areas.
- B. Those subdivisions and commercial areas will be lighted in accordance with a written plan that addresses intersections, public facilities, trails and crosswalks. (See Zoning Ordinance Chapter 11 for details)
- C. Non-Standard Lighting for New Development.
  1. In the event that a new subdivision or commercial area presents a written lighting plan that uses non-standard streetlights, the plan must be approved by the Planning and Zoning Commission and the City Council.
  2. All costs associated with installation, operation and maintenance of non-standard lights shall be by other than Ivins City.
  3. All non-standard lighting must meet the requirements of Ivins City Outdoor Lighting Ordinance (Ord. No. 2007-11).
- D. Exceptions may be made by the City Engineer or Public Works Director on the location of lighting if crosswalks and street signs along collector and arterial streets are provided with alternative lighting as proposed by a developer.

#### 2.10.5. EXISTING SUBDIVISIONS

- A. Existing subdivisions which do not want streetlights shall not be required to install them.
- B. In the event a resident living in an established, built-out area requests the installation of a street light, the resident must have the approval and signatures of all adjoining residents impacted by the street light installation, and the City Council. The requesting resident is responsible for costs associated with the street light and its installation. The City will assume ownership after installation.
- C. If an existing subdivision or project has non-standard lights installed, approval may be given to continue the non-standard street lights. All non-standard lights shall not be maintained by Ivins City unless already under Ivins City maintenance.

## **2.11. UTILITY LAYOUT**

2.11.1. The following Design and Construction Standards are to be followed at all times, unless a problem exists. When the Standards cannot be followed, the City Engineer will be required to approve the alternative.

- A. All utilities, i.e. gas, cable, power, sewer and water will be shown on the appropriate drawings.
- B. Phone, cable and power joint trench will be located on the north and west side of roadways, back of sidewalk within new developments as much as possible. In planned developments without sidewalks, joint utility trench will be located 36 inches back of curb.
- C. Gas mains will stay 5 feet minimum off of back of sidewalk on public streets.
- D. Water will be located on south and east side of roadway 5 feet into roadway off of curb as much as possible or opposite power. In planned development, lip of curb for gas, water stays the same.
- E. Water, sewer and drainage layout will be first utilities designed.
- F. Generally, sewer will be located 10 feet off curb & gutter opposite of waterline. In private development or streets, the centerline will be used to align sewer as much as possible.
- G. Generally, storm drain will be designed to fall at the inside lip of curb & gutter as per the detail.
- H. Cable and phone boxes will be located on the right and left side of power transformers and secondary boxes. Cable will be on the left and phone on the right looking from the street.
- I. Gas and water stubs will be placed 5 and 2 feet, respectively, to the right and left of the property lot line, with gas on the left and water on the right looking from the street.
- J. Irrigation water mains should be generally installed 4' away from waterline towards centerline of street.

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