

Memorandum

City of Lawrence

Planning and Development Services

TO: David L. Corliss, City Manager

FROM: Planning Staff

CC: Scott McCullough, Planning and Development Services Director

Date: For December 10, 2013 meeting

RE: Lighting plans for exterior lighting at Rock Chalk Park and the City Recreation Center approved with SUP-12-00225

REQUESTED ACTION:

Affirm administrative waiver of maximum pole height and approve the lighting plans for exterior lighting for the sports/recreation facilities and parking lot areas approved with Special Use Permit, SUP-12-00225.

BACKGROUND

SUP-12-00225, Special Use Permit and Institutional Development Plan for the Rock Chalk Park Sports/Recreation Facility and the City Recreation Center was approved by the City Commission on January 15, 2013 subject to conditions of approval. One condition required that a photometric plan for all exterior lighting be provided for review and approval by the City Commission prior to release of the SUP for building permits. Building permits have been granted for the project, and City Commission approval of the lighting plan is necessary before operation of the lighting.

The applicant provided lighting cut sheets and specifications indicating the type and size of lighting as well as the type of shielding being used. This information is included with this memo. There are 3 distinct types of lighting being proposed with this project: City tennis court lighting, parking lot lighting, and the KU athletic fields and stadium lighting. These are discussed separately in the following review.

ATTACHMENTS:

Att. A: Lighting specification brochure.
Att. B: Approved Special Use Permit plan

LIGHTING PLAN REVIEW

1) PARKING LOT AREAS

Full-cut off fixtures with three different luminaires will be utilized for the parking lot lighting. The luminaires (light fixtures) will be 206 watts and will range from 15405 to 16850 lumens. A point-by-point illumination array is required for parking lot lighting so

that light trespass at the property boundaries may be reviewed for compliance with the following Code standards:

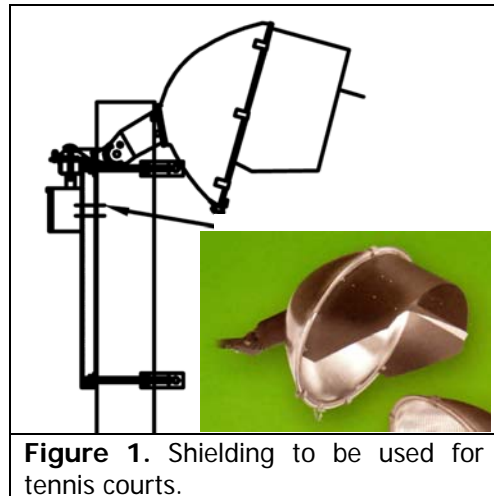
- No more than 0.2 footcandles at boundary with R-zoned property.
- No more than 3 foot candles at boundary with non R-zoned property.
- No more than 3 foot candles onto public street rights-of-way; except this is reduced to no more than 1 foot candle when the right-of-way is adjacent to R zoned property.

The Lighting Plan for the parking lot areas is compliant with the Code lighting standards in Section 20-1103(d).

2) CITY TENNIS COURTS

The City tennis courts will utilize Pro Series Qualite lighting fixtures, described in the attached specification sheets, which will be mounted on 40 ft tall poles. 1000-watt lighting fixtures will be used and the lighting level over the tennis courts ranges from 34 to 44 footcandles. Lighting levels on the courts are higher than those in parking lots due to the need to see details more clearly. While there are no maximum footcandle limits for the tennis court lighting, a general research of online lighting information shows that 1000-watt fixtures and 50 footcandles are generally acceptable for tennis court lights.

To mitigate the impact of the tennis court lighting on residences in the area, the SUP requires the tennis court lights be shut off by 10:30 PM Sunday through Thursday, and by 11:00 PM on Friday and Saturday nights. The light fixtures will include shielding to direct the lighting onto the courts to reduce the possibility of glare. (Figure 1)



The following are Code requirements for Outdoor Recreation Uses (Section 20-1103(e))

- Maximum pole height of 60 ft.
- No flickering or flashing lights.
- Shut-off time no later than 11:30 PM.
- The Code requires that lighting be designed, to the maximum extent feasible, to minimize adverse impacts on traffic safety and nuisance impacts on R-zoned property. Mitigation can be required via extra landscaping, earlier shut-off times for the lights, cutoff fixtures (where feasible) and other techniques.

The lighting plan for the City tennis courts is compliant with the Code standards for Outdoor Recreation Uses in Section 20-1103(e).

3) ATHLETIC FIELDS AND STADIUM

The athletic fields will also utilize the Pro Series Qualite Light fixtures. The following table illustrates the pole height and lighting levels for each athletic field:

FIELD	POLE HEIGHT	AVERAGE LIGHTING LEVEL (footcandles)
Track and Field Stadium	90 to 100 ft	100.1 on the track 103.6 on the track infield
Field Events (outside stadium)	95 ft	7.2
Soccer	90 ft	76
Ball Field	80 to 90 ft	72.9 in outfield 101.4 in the infield

The Code does not provide guidance to the lighting levels of the sports areas but has standards that prohibit the use of flashing or flickering lights and require lights to be shut off by 11:30 PM to reduce the nuisance factor associated with lighting. The sports lighting is located in the interior of the property (the stadium and soccer field are approximately 420 ft north of Rock Chalk Drive) and is screened to the north and west by wooded parkland, which should minimize its impact on residentially zoned properties.

The lighting plan for the athletic fields complies with the Code standards for Outdoor Recreation Uses, noted in the previous section, with the exception of the height of the poles. The Code limits the height of poles to 60 ft; however, this height may not be adequate when attempting to light large areas. Shorter poles would require more poles at closer placement, and could result in the need for light poles in the center of the sport area. Based on these concerns, the Planning Director invoked Section 20-1305(b)(3)(v) to administratively waive the height standard to allow the taller poles with these larger sports facilities.

The Code does not provide guidance as to the light level which should be achieved for sports facilities. Online resources provide a variety of lighting level recommendations; however, professional type fields which could have television coverage have the highest levels.

The Lighting Plan for the sports field and stadium is compliant with the Code standards for Outdoor Recreation Uses in Section 20-1103(e) with the administrative waiver to permit the use of poles up to 100 ft in height.