

# Citizens to Parks: Look Before you Light!

**D**eveloping Magnuson Park is first and foremost an environmental issue. Here is a rich, successful habitat with 170 species of birds and chorus frogs, comparable to Discovery Park. Nowhere else along the shores of Lake Washington is there sufficient space to attract so many varied bird populations.

As we look to the future, it is essential to preserve these green open spaces, wetlands and wildlife.

When you deliberate the pole height variance for Magnuson Park, remember to maintain the long-term vision of what this park should be. This is a successful habitat. There are established wetlands. Constructed wetlands are risky, and the cohabitation of wildlife with a sports complex is an experiment. The level of light you are considering for this park is a true, invasive pollution.

Most of us choose to live in this city because of the wonderful natural beauty it offers. Please preserve Seattle's landscape so that humans and wildlife can thrive here.

## Important Requests:

**1** Ordinance 121501 specifying the 10 PM lighting cutoff also permits Council to impose "further conditions" on the Council's final approval of lighting pole heights. **Please put in place the following safeguards:**

### A. Enforce phasing

This variance pertains to the entire project. Yet rather than approving a "carte blanche" variance for all the lights before the effects of the Phase 2 lights are known, Council should (1) only approve Phase 2 lighting fixtures for a maximum of three fields now and mandate that Parks come back for another variance later, and (2) make the variance contingent on a five-year evaluation period after Phase 2 is completed, allowing time for a scientifically valid appraisal of the effects of the lights on park habitat.

This schedule would allow City Council to have oversight on Parks if the impacts are too great. It is the environmentally responsible approach.

### B. Require proper mounting of full cut-off fixtures

Theoretically, full cut-off luminaires do not emit any direct light above the plane of the luminaires **if and only if**

the full cut-off lights are mounted on a horizontal plane.

There is a financial incentive to tilt the lights, since tilting reduces lighting costs, and Parks and Schools have done so at other fields, negating much of the benefit of full cut-off fixtures. Please prohibit tilting.

### C. Establish correct illumination levels

The Parks Department states that it is using a "RP-6 Class IV lighting level" (as recommended by the Illuminating Engineering Society of North America). Class IV is the lowest level for assuring "safe play".

Both the EIS and variance indicate that the soccer and rugby fields would be illuminated to 25 foot-candles, whereas the Class IV standard mandates 20 foot-candles.

Please require Parks to adhere to the Class IV lighting standard they profess to be following.

### D. Specify and enforce shut-off times

Ordinance 121502 states: "field lights shall be turned off no later than 10 PM on all fields." Yet the DPD Analysis document refers to limiting "illumination of any of the playfields to fifteen (15) minutes after the 10:00 PM limit of play."

Council should require the field lights to be controlled by a technology that is programmed to enforce shut-off times. Also, Council needs to establish penalties and procedures to protect against abuse or lackadaisical enforcement of shut-off times, including a specific, channeled citizen complaint and oversight process.

Council needs to insist on no exceptions. For example, Parks can't issue a "special permit" to conduct a special tournament later than 10 PM.

### E. Supervise ancillary lighting

In November, 2004, the Parks Department removed parking and roadway lighting from the variance request. The original proposal included 36 parking lot poles and 39 roadway poles, each 40 feet in height, and containing a total of 93 luminaires.

Magnuson Park is a single family zone with a 30 foot height limit. That is why the 40-foot-tall parking and roadway lighting poles were included in the original variance request. It is hard to conceive of the lighted fields project without parking and roadway lighting.

So, Parks will either install this lighting on 30-foot poles (because no variance is required), or come back to Council later for a separate variance. Whether alone or in combination with playfields lights, even on modest 30-foot poles, 93 luminaires with 400-watt lights represent a substantial increase in lighting for Magnuson Park and should be part of your deliberations.

Therefore, your Urban Development and Planning Committee must factor these lights into its decision. Council needs to clearly specify shut-off times for ancillary lighting; for good community relations, we recommend 10:15 PM.

Parks also must certify that full cut-off technologies (i.e., the least obtrusive possible lighting) will be used on these poles, and that they will be mounted horizontal to ground.

#### **F. Restrict use of towers to lights only**

Prohibit using the towers for anything but lights without City Council approval. This would exclude use of the towers for wireless communications, for example, which would detract from the beauty of the Park.

#### **G. Discourage large tournaments at Magnuson**

Although City officials continue to deny that the large number of synthetically-turfed and lighted fields are intended for tournaments, which would produce considerable noise, traffic, and other impacts that have never been considered by the EIS, new Guidelines drafted by Parks for Magnuson refer to tournament use.

Please discourage use of Magnuson for tournaments by disallowing construction of bleachers or P.A. equipment on any field with lighting.

#### **H. Assure adequate funding for wetlands maintenance**

The record for man-made wetlands habitat is poor, and made even worse in the absence of proper maintenance.

Parks plans to share costs of fields and wetlands maintenance equally; but with wetlands maintenance at Magnuson costing \$40-80,000/year and perhaps as much as \$90,000, as estimated by wetlands expert Sarah Cooke, allocating a higher proportion to the wetlands would seem justified. Therefore, please mandate that Parks fund wetlands maintenance at levels consistent with actual requirements. Otherwise, this project will not live up to its title and professed purpose.

#### **I. Limit Phase 2 lighting to full cut-off technologies**

The full-size baseball field included in current Phase 2 plans would be the brightest field with the tallest poles (85 feet, and the least effective light shields (conventional shielded floodlights). This baseball field is closest to habitat area. In terms of annual hours of play (compared to soccer fields, for example, which are used year around), it is the least utilized. Full cut-off technologies (installed horizontally) have less

adverse impacts than conventional shielded floodlights.

Therefore, please disallow use of conventional shielded floodlights during Phase 2. Only if the more “conservative” full cut-off lighting used in Phase 2 are properly mounted and maintained, and determined to have acceptable impacts, may conventional shielded floodlights even be considered for Phase 3.

**2 Ask Parks to clearly define its plan.** Parks’ current variance request is ambiguous—it does not specify details such as what fields will be lighted in Phase 2 and is inconsistent with data in the Environmental Impact Statement (EIS).

The variance request also doesn’t specify how many 85-foot lighting towers are being requested, nor the number of each type of light fixture is being requested. This is critically important because the effects of shielded conventional fixtures are much more egregious than full cut-off fixtures. Furthermore, the number of poles and light fixtures requested in the variance exceeds the number of poles and light fixtures required for seven fields (based on data from page 2-35 of the EIS). The Parks Department has been unable to resolve this discrepancy.

Before making a decision, please insist on a full accounting of how many of each type of field will be lighted, where each field will be located, what lighting technology will be used, and exactly how many poles (including their heights) and light fixtures are associated with each field. Also ask which fields are to be included as part of Phase 2, and which are planned for subsequent phases.

**3** Before you make this crucial decision about pole height variances, instruct the Parks Dept. to **re-evaluate its calculations about the effect of lighting.**

Therefore, please take the time to review the lighting impacts of the spill light, glare, surface luminance, and sky glow as outlined by the EIS. If read carefully, the discussion provides a picture of how exceptionally pervasive the light would be.

Please note that the EIS acknowledges that reflected light is an issue: “The increase in surface luminance means that there would be more light emanating from reflective surfaces in the park. This reflective light would travel in all directions and strike other surfaces within and outside of the park, and would be reflected again and again. Areas within and bordering the park would receive reflected light even if they did not receive light directly from a source. **The 22 acres used for sports fields would be 50 times brighter than any park surface that is presently illuminated.**” (EIS, p. 3-153)

“... 116 acres within the park would be subject to increased luminance produced by the sports field lights, and light reflected from surfaces in the park would travel in all directions

to surrounding areas. The increased surface luminance would result in reflected glare and sky glow, and could make it difficult for off-site observers to view dark elements within or adjacent to the park.” (EIS, p. 2-27)

“The synthetic athletic field surfaces would be the greatest contributor to reflected glare.” (EIS, p. 3-147)

In the initial SEPA appeal, Parks’ own attorney acknowledges the lights will be very disruptive to their surroundings: “Counsel for the Department notes that the EIS allows even the ‘most obtuse’ decision-makers to know that light pollution would result from this proposal. The Examiner agrees.”

Parks contends, as cited in the DPD Analysis CF# 306574, that over 95 percent of the spill light coming directly from the sports field luminaires would land on areas immediately adjacent to the fields and inside the park boundaries.

Parks’ Eric Friedli belatedly admitted when questioned that **computer lighting models used to determine light trespass figures did not account for reflected light.**

**4** Please **re-calculate your projections of the illumination and its effects** before proceeding with the variance.

James Benya (PE, FIES, IALD, LC) has stated that the omission of reflected light calculations “dramatically underestimates the illumination levels of light trespass from the illuminated fields onto adjacent areas.” His other conclusions are as follows:

- \* The design presented in the EIS will produce an extraordinary amount of light pollution
- \* The EIS admits to it but understates the impacts and fails to compare it with other situations
- \* The EIS sets unreasonably high thresholds of tolerance for light pollution, this minimizing the environmental impacts
- \* The EIS avoids discussing the potentially harmful effects of light with respect to circadian rhythm disruption in humans
- \* The EIS fails to thoroughly address the loss of view and enjoyment by area residents at night.

Therefore, before rendering a decision, please request that the Parks Department re-run their computer lighting models to account for reflected light. Apply a model that uses the acreage of the seven fields as the “floor” of box of light, with a zero reflectance “ceiling” and upper “walls” surrounding the seven fields. The 20% artificial turf reflectance value referenced in the EIS must then be included in the computer model.

## Summary

1. Impose safeguards and conditions on the light poles project:
  - A. Phasing: restrict the implementation and allow for evaluation period
  - B. Require proper mounting and direction of full cut-off fixtures
  - C. Establish maximum illumination levels
  - D. Establish and enforce shut-off times
  - E. Define parking and driveway lighting specifications
  - F. Restrict other uses of poles
  - G. Prohibit tournament play
  - H. Assure adequate funding for wetlands maintenance
  - I. Restrict conventional shielded floodlights
2. Specifically define which lights are included in the variance
3. Demand that the Parks Department re-calculate the projected effects of lighting and revise its plans accordingly

*Thank you,*

*Friends of Magnuson Park  
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