Ballard Playground - Athletic Field Improvements

Project Description:
- Installing two baseball synthetic turf infields
- Replacing Field lighting
- Improving access to meet Americans with Disabilities Act (ADA)
- Improve Field drainage and irrigation
- Other Field enhancements as budget allows

Project Budget: $2.15 (includes additional funds for drainage/irrigation)
Schedule: Design through Summer 2019; Construction through late Fall 2019
Ballard Playground - Athletic Field Improvements

Project Team:

Project Manager: Katie Bang
Project Planner: Libby Hudson

Project Designers:
- Cascade Design Collaborative: Lisa Corry and Renee Finney
- Civil Engineer (Sitewise Design): Steve Hatzenbeler
- Lighting Engineer (DMD & Associates): Don McLean and Dan Wong
Accessibility Notes

- Project scope includes retrofitting the accessible route of travel from the parking lot and community center’s exterior restrooms to the dugouts of each field.

- Slopes of walkways and accessible routes to have a maximum cross slope of 2% and a maximum running slope of 5%.

- Accessible routes to be of varying materials with flush finish grades: 1/4” minus crushed rock with metal edging; concrete; porous concrete; porous asphalt; and synthetic turf infield.

- Concrete landing between crushed rock path and porous concrete is provided as a separation of materials for maintenance purposes.

- Drinking fountain to be relocated to provide a minimum 30” x 48” level pad centered on the lower drinking fountain.
Site Inventory: Existing Field Lighting Effect on Neighboring Residences

NW 60TH ST

Field Lighting OFF (Street Lighting Only)

Field Lighting ON (and Street Lighting)

26TH AVE W

0.40-0.94 fc

0.08-0.94 fc

0.09-0.64 fc

Proposed Calculated: 0.40-1.02 fc

Proposed Calculated: 0.08-1.02 fc

Proposed Calculated: 0.09-1.38 fc

Ballard Playground Athletic Field Improvements
Sample Field Lighting with Minimal Light Spill

Lighting Goals
- Upgrade the existing field lighting to LED lights.

International Dark-Sky Association Compliant
- Design shall be IDA Dark Skies compliant.
- Minimize neighborhood lighting nuisance by greatly reducing spill and glare disruption.
- Manage high angle glare, thus dramatically decreasing off-site light trespass and sky glow.
- Mitigate neighborhood nuisance factors and sky glow which, in turn, provide benefits to the environment, the astronomy community and others.
- Minimize lumen densities, which reduce energy consumption by 60%.

Evolution of Sports Lighting

<table>
<thead>
<tr>
<th>Year</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1977</td>
<td>High-pressure sodium, floodlights</td>
</tr>
<tr>
<td>1989</td>
<td>High-pressure sodium, compound lens</td>
</tr>
<tr>
<td>1989</td>
<td>High-pressure sodium, compound lens</td>
</tr>
<tr>
<td>1995</td>
<td>High-pressure sodium, compound lens</td>
</tr>
<tr>
<td>2005</td>
<td>LED, low-profile, efficient lighting</td>
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Proposed LED Technology

<table>
<thead>
<tr>
<th>Description</th>
<th>Lux Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunny Day Outdoors</td>
<td>5,000 fc</td>
</tr>
<tr>
<td>Overcast Day</td>
<td>500 fc</td>
</tr>
<tr>
<td>Illuminated College Football Stadium</td>
<td>150 fc</td>
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<tr>
<td>Stadium Lighted for TV</td>
<td></td>
</tr>
<tr>
<td>Illuminated Baseball/Soccer Field</td>
<td>20 to 30 fc</td>
</tr>
<tr>
<td>Typical Street lighting (measured directly under luminaire)</td>
<td>4 to 5 fc</td>
</tr>
<tr>
<td>Moonlight falling on a surface</td>
<td>0.1 fc</td>
</tr>
</tbody>
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Ballard Playground Athletic Field Improvements
Program and Design

Field Upgrades
- Synthetic turf on two softball infields including inlaid lines and bases.
- Upgrading field drainage and irrigation.

Ballfield Amenities
- Protect existing backstops, dugouts, and wing fences.

Accessibility Upgrades
- Retrofitting the accessible route for travel from the parking lot and community center’s exterior restrooms to the dugouts of each field.
- Re-grading and resurfacing travel pathways to meet surface and slope standards.
- Relocate drinking fountain for ADA compliance.

Lighting Upgrades
- System replacement with energy efficient LED field lighting, including replacement of poles, brackets, and luminaires.
- Meet desired illumination levels and minimize glare and off-site spill lighting.
- New field lighting control system to meet Park’s Energy Management Control System.
DISCUSSION

Ballard Playground Athletic Field Improvements
Site Inventory: Photos

PLAZA

FIELD #2

LIGHTS

FIELD #1

HERITAGE TREES

Ballard Playground Athletic Field Improvements