

## **Athletic Field Lighting – Statement of Feasibility**

Lighting athletic fields for evening play is a standard practice throughout the country. In addressing the feasibility of athletic field lighting in Westport we have focused on the technical performance of the current athletic lighting technology, management issues related to the use of athletic field lighting and a summary of installations in similar communities in Fairfield County.

### ***Lighting Technology***

A critical goal for the lighting technology is to minimize the impact of the lighting on neighboring properties by reducing light spillage to the greatest extent possible. Light spill is a term related to light levels beyond the playing area. From a performance and safety standpoint, the objective is to provide an average of 45-50 ft candles of illumination on the playing surface. Musco Lighting, the foremost athletic lighting manufacture in the country, has provided specifications which recommend lighting utilizing four (4) 80ft poles to best achieve both of these objectives on a multi purpose field.

In considering different heights for the poles, lights higher than 80 ft are unnecessary to achieve the lighting quality on the field, add cost to the project and have additional visual impact. Alternatively, lowering the lights will not achieve the light quality recommended for high school sports, and will result in additional light spill to the surrounding area as a result of the altered direction of the lamps and increase cost as a result of additional lamps being required. The 80 ft pole height allows both objectives to be achieved – minimal spillage onto neighboring properties and optimum lighting for field use. We also looked into telescoping poles and/or removal of lights when not in use. This is an alternative which would reduce the visual impact of the light poles themselves and fixtures when not in use. Lights are designed for permanent installation. Unnecessary handling of the lights/fixtures subjects them to wear and tear on the fixtures which ultimately increase the cost, decrease the efficiency and in some cases may void the warranty. This is not deemed a reasonable or cost effective method of managing athletic field lighting. There is also additional labor costs associated with installing and uninstalling the lights.

Because we are not preparing a site plan application for a specific site at this time we have addressed the issue of light spill in general terms using the 50 ft setback contained in the regulation to draw the most conservative conclusions. Musco Lighting is engineered to provide optimal light on the playing surface while minimizing spill to the surrounding area. Light levels at the property line will be less than 1.0 ft candles (or the light emitted by a single candle held 1 ft off of the ground). By comparison, the light levels achieved on the field are between 40 and 50 ft candles. Specific site characteristics may allow us to achieve 0 ft candles at the property line in some instances.

Control of lights can be managed remotely enabling the lighting controls to be, at all times, under the control of the Parks and Recreation Department and Board of Education. Lights can be programmed to be off at certain times and that control cannot be overridden without specific password authority. The coach or manager at the field cannot extend the time without explicit authorization. This should protect against unauthorized use of the lights or leaving the lights on after specified hours. Should the lighting period be extended, there is an audit trail of which password was used to override the default duration to protect against misuse or abuse.

Operating costs and environmental issues have also been reviewed as part of this feasibility assessment. Musco Lighting provides full maintenance and replacement of all parts including lamps for the first 10,000 hours of use replacing the lamps after 5,000 hours.

Musco Green Generation Systems provide energy efficient lighting that represents a reduction of 50% in electrical usage compared to standard field lighting just 3 years ago. Additionally, the lights can be programmed to turn on in a staggered sequence to reduce the peak demand charges from UI. Based on current UI charges, the cost of operating the lights is approximately \$12.00 per hour. With a warranty of 25 years covering maintenance for the first 10,000 hours there should be no maintenance cost for the life of the system.

### ***Management Issues***

Beyond addressing the technical feasibility related to the lighting we have also incorporated general comments related to the use of facilities and management of events as they relate to the impact on neighboring properties. It is understood that the actual impact may vary based on the specific characteristics of any individual site and that impact in areas such as light, and sound can be very subjective.

Overall use of potential properties is not projected to change. The only change contemplated is the time of day in which that use can take place. Availability until approximately 9 pm does not vary significantly from the existing use in late spring and summer.

Crowd control, parking and traffic will be managed by the Staples High School Athletic Department and/or the Parks and Recreation Department in conjunction with the Westport Police Department. Staples High School has hosted capacity crowds for high school football as recently as 2007 without incident. Additionally, evening events have taken place under temporary lights in 2002 and 2004 without incident. With the addition of Bedford Middle School and the increase in parking associated with the renovations of Staples High School, parking has not been an issue during special events including the 2007 Thanksgiving Day game with a crowd estimated at over 3,000. The Police Chief has stated his support for the proposal as well as his confidence in managing these events.

The Parks and Recreation Department has the ability to place facility staff at any location to assure compliance with policies and regulations as deemed necessary.

Sound is also a subjective issue and is one of the most difficult to define. What is pleasant sound to some may be considered objectionable noise by others. The Parks and Recreation Department and school Athletic Department have the ability to restrict use of PA systems. While there is no site plan currently being proposed, it is the intention to allow such PA systems only in association with Staples High School Varsity athletic contests or FCIAC or CIAC championship events. With proper design and controls PA systems can be engineered to reduce volume and lessen the amount of sound leaving the property. Again, specifications will be site specific and cannot be defined generally.

Safety and exit lighting should be incorporated into any lighting project to insure minimum light necessary for a crowd to safely exit in the event of a power failure.

### ***Summary of Athletic Field Lighting in Neighboring Communities***

Each community in Fairfield County has experience with sports and athletic field lighting in some capacity, including Westport where we have successfully managed sports lighting at Greens Farms School (softball), Longshore Club Park (tennis/skating) and Compo Beach (basketball). The following is a compilation of information resulting from personal contact with officials in the individual towns.

In our research we have found no universal standards related to zoning criteria in approving these installations. We have given an overview of restrictions to use of the lights, if any, as represented by those interviewed but cannot verify that they are complete or accurate.

We have not included tennis court, basketball court or other lighting. Towns included were deemed comparable to Westport. Towns and cities not included were not contacted and were not excluded for any specific reason.

Town	Field	Restrictions or Comments
Darien	Darien HS	No permanent lights, Permit for temporary lights for 2 weeks in fall
Fairfield	Ludlowe HS	Stadium
	Warde HS	Stadium
	South Pine Creek	2 fields, softball and youth football
	Fairfield Univ. Sacred Heart Univ.	Stadium, Lacrosse Stadium and Soccer Stadium Stadium
Greenwich	Greenwich HS	10 events start by 7:30, limited practice (6 times 1 hour per session) Lights taken down at end of season and stored.
	Byram Park	Softball and Pop Warner football
New Canaan	New Canaan HS	Stadium, 10 pm curfew practice fields (2) 8 pm curfew
	Waveny Park	Softball Field 10 pm curfew
	Mead Park	2 Little League Fields 8 pm curfew
Trumbull	Trumbull HS	Stadium, Baseball 10 pm curfew
	Indian Ledge Park	Softball and Multi Purpose, 10 pm curfew
Weston	Weston HS	10 pm curfew Soccer Field
Westport	Greens Farms	Softball, 11pm curfew
Wilton	Wilton HS Stadium	10 pm curfew
	Wilton HS Lilly Stadium	10 pm curfew
	Wilton HS Baseball	10:30 pm curfew
	Wilton HS Softball	10:30 pm curfew
	Middlebrook School	Practice only youth football