

Experts on the Field, Partners in the Game.  
www.stma.org

## Have You Considered Lighting your Sports Field?

Installing a quality sports lighting system on your athletic field can provide many benefits to your players and fans, including safety of the athletes, more flexible scheduling for games and practices, and improving the fans' experience. As you consider lighting your field, field maintenance plans and budgets may need to change accordingly to accommodate any additional play.

Depending upon your needs, cost effective lighting options can be for short- or long-term uses:

- Temporary lighting – portable, self-contained units that are usually best suited for special events.
- Permanent Lighting – mounted on fixed poles (concrete or steel) for long-lasting value.

### Factors to Consider as You Begin Planning

- **Community endorsement** – Depending upon the location of your sports field, nearby neighbors and businesses may have concerns about light spilling onto their properties. Your city may have ordinances regulating the amount of light/glare allowed, especially near highways and roadways. There may be zoning code restrictions that need to be followed.
- **Power lines** – Overhead and underground power lines need to be identified and included when making a system decision.
- **Field Layout** – Is there adequate room to set back the lighting poles? Systems usually require 50', 75' or 100' set-back. Is there easy accessibility for heavy equipment for installation and future maintenance or repairs?
- **Availability of utilities** – Is adequate electricity available to your field to power the lights?
- **Geotechnical engineering** – Soil and other factors may need to be tested and mitigated.
- **Go Green** – New light control technology is available that can reduce glare and redirect light to your field playing surfaces. This results in uniform lighting, which is imperative for your players' safety. More light on the field may reduce the number of fixtures needed. New energy efficient technology also can help to lower the amount of electricity used.
- **Operating costs** – Lighting systems are computer-regulated and may help to reduce staff resources. Maintenance costs may also be reduced if your lighting system uses bulbs that are commercially available rather than proprietary, which may need to be special-ordered. Be sure to budget for the costs to replace bulbs, which usually require the use of a bucket truck or cherry picker. When possible, design systems so that ballasts are placed within reach of a ladder to minimize the need for expensive pole climbers or bucket trucks. Also develop a plan and the procedures to operate the lights, including designating and training your lighting operators. Consider cost of electricity and future costs such as re-lamping and major repairs when determining rental rates for usage by outside groups.

*(Continued on next page)*

## Have You Considered Lighting your Sports Field?

Unique partnerships may also help defray capital or operating costs, such as entering into an agreement with a cellular telephone company that needs a cell tower in your area. The lighting pole/cell tower can serve a dual purpose of providing cellular service and supporting the lights for your field. Many times, you can negotiate to get new lights and income resulting from leasing the land to the cellular carrier for the tower and space for the transmission equipment. When buildings are required for the transmission equipment, you may be able to negotiate for some needed storage space within the structure. Always make sure that your site will be a co-location tower so you can have more than one carrier on the tower. It is common for carriers to pay \$10,000-\$20,000 per year to lease space for the towers. Remember, if they need towers in your area, you are in the drivers seat.

### Typical Field Lighting Costs

A high school football field can be lighted for approximately \$200,000. This includes lighting levels of 30 foot-candles and assumes that power source is adequate and within 100 feet of one of the four poles. Costs could range up to \$400,000 depending upon the field's location and specifications.

### Lighting Project Checklist

- **Standards.** *Does the system meet appropriate ANSI, other standards and certifications?*
- **Ballast ratings.** *At what temperature is the lighting system guaranteed to work efficiently?* Some lighting systems are guaranteed to work efficiently in higher ambient temperatures, which may lower maintenance costs by extending the life of equipment. This could be important if your football field is in a warm region of the country.
- **Off field lighting.** Be sure to consider light levels in areas such as the track radius farthest from the field.
- **Security lighting and surveillance cameras.** Consider the need and location of additional security lighting and cameras. It may be much cheaper to install this equipment during the lighting project since they can be incorporated into the new poles
- **Project management & timeline.** *What is the expected duration of the project? Is there a contingency plan if there are delays?*
- **Installation & quality control testing.** *At what stages are QC tests completed?*

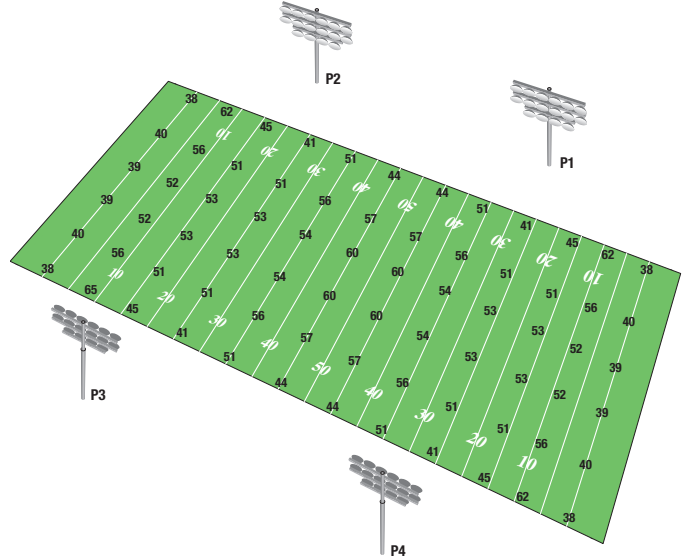
- **Training.** Are there special instructions and information that need to be communicated and understood to use the system most effectively?
- **Warranty coverage.** *What is included? Excluded?* Some companies can include maintenance and repair costs for up to 25 years in the original purchase price.

Lighting companies can usually provide turn-key services, which include financing options, support to gain community buy-in, help with bid specifications, developing the field lighting design, soil engineering and installation.

# Examples of Lighting Layouts for a Football Field

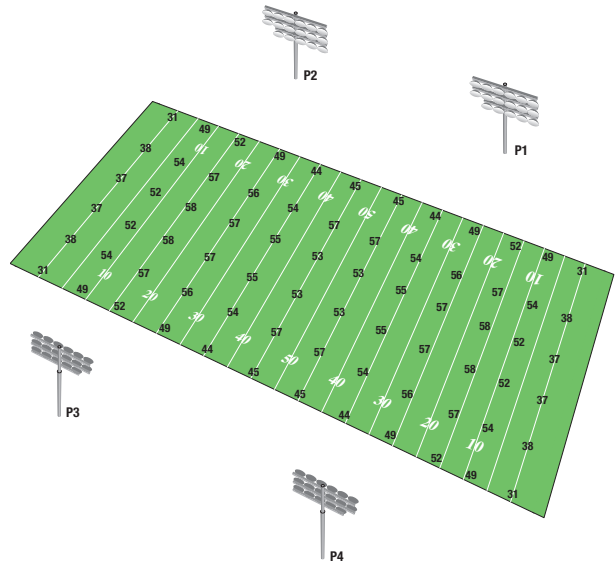
## FOOTBALL 75' SETBACK

**MOUNTING HEIGHT:** 70'  
**# OF POLES:** 4  
**BEAM TYPE:** 24 narrow luminaires  
 40 medium luminaires  
**TOTAL LUMINAIRES:** 64  
**OPTIC:** horizontal  
**INITIAL LUMENS:** 153,000  
**FOOTCANDLES:** 50 maintained



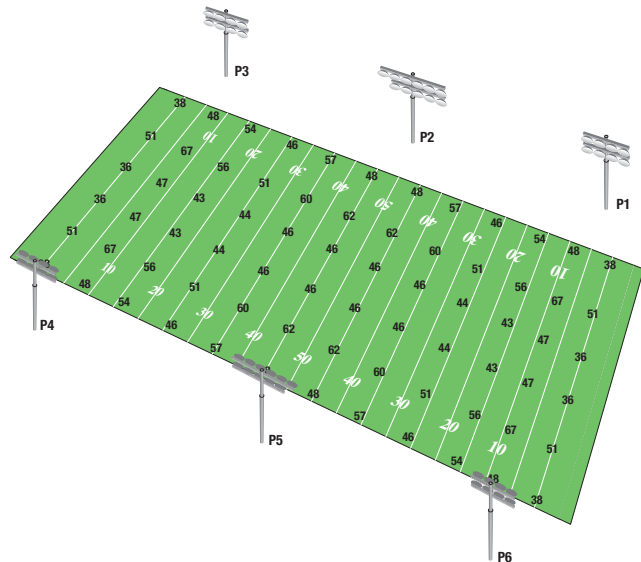
## FOOTBALL 100' SETBACK

**MOUNTING HEIGHT:** 90'  
**# OF POLES:** 4  
**BEAM TYPE:** 36 narrow luminaires  
 32 medium luminaires  
**TOTAL LUMINAIRES:** 68  
**OPTIC:** horizontal  
**INITIAL LUMENS:** 153,000  
**FOOTCANDLES:** 50 maintained



## FOOTBALL 50' SETBACK

**MOUNTING HEIGHT:** 60'  
**# OF POLES:** 6  
**BEAM TYPE:** 46 medium luminaires  
 8 wide luminaires  
**TOTAL LUMINAIRES:** 54  
**OPTIC:** horizontal  
**INITIAL LUMENS:** 153,000  
**FOOTCANDLES:** 50 maintained



Diagrams courtesy of Hubbell Lighting, SportsLiter Solutions.