

ORDINANCE NO. F-1504

AN ORDINANCE AMENDING THE ZONING MAP AND GRANTING A SPECIAL USE PERMIT TO ALLOW THE INSTALLATION OF ADDITIONAL SOFTBALL FIELD LIGHTS AT ATTEN PARK - WHEATON PARK DISTRICT

WHEREAS, a written petition has been made to amend the Zoning Map, which is attached and forms a part of the Zoning Ordinance of the City of Wheaton, Illinois, to issue a special use permit to allow additional softball field lights at Atten Park for softball field #15 on the property legally described herein within the City limits of Wheaton, Illinois and commonly known as Atten Park and;

WHEREAS, pursuant to the 1998 intergovernmental agreement between Wheaton Park District and the City of Wheaton, a public hearing was conducted by the Wheaton City Council on July 12, 2010 to consider the zoning request.

NOW, THEREFORE, BE IT ORDAINED by the City Council of the City of Wheaton, DuPage County, Illinois, pursuant to its home rule powers, as follows:

Section 1: The Zoning Map, which is attached to and forms a part of the City's Zoning Ordinance, is hereby amended by including the following described R-1 Residential District property in the R-1 Residential District zoning classification with a special use permit for a park:

OF THAT PART OF THE SOUTH HALF OF SECTION 19 AND OF THE NORTH HALF OF SECTION 30, TOWNSHIP 39 NORTH, RANGE 10, EAST OF THE THIRD PRINCIPAL MERIDIAN, DESCRIBED BY COMMENCING AT THE NORTHWEST CORNER OF LOT 6 OF OAKWOODS (A SUBDIVISION IN SAID SECTIONS 19 AND 30, RECORDED AS DOCUMENT 502453) AND RUNNING THENCE SOUTHERLY ALONG THE WEST LINE OF SAID LOT 6, 545 FEET TO THE EASTERMOST CORNER OF PROPERTY CONVEYED TO THE WHEATON SANITARY DISTRICT BY DOCUMENT R64-46544; THENCE SOUTH 74 DEGREES 52 MINUTES WEST ALONG THE SOUTHERLY LINE OF SAID PROPERTY 643.75 FEET FOR A PLACE OF BEGINNING; THENCE CONTINUING ON SAID SOUTHERLY LINE 393.98 FEET TO THE NORTHEAST CORNER OF THE PROPERTY CONVEYED BY WILLIAM ATTEN TO THE WHEATON SANITARY DISTRICT BY DOCUMENT R71-2869, SAID POINT BEING ON THE WEST LINE OF THE PLAT OF SURVEY FOR WILLIAM ATTEN RECORDED AS DOCUMENT 772018; THENCE SOUTH 0 DEGREES 48 MINUTES EAST ALONG SAID WEST LINE 1268.05 FEET TO AN ANGLE POINT IN SAID WEST LINE, SAID POINT BEING ALSO THE SOUTHEAST CORNER OF SAID PROPERTY CONVEYED BY DOCUMENT R71-2869; THENCE SOUTH 89 DEGREES 12 MINUTES WEST ALONG THE SOUTH LINE OF SAID PROPERTY 530.95 FEET TO THE EAST LINE OF SHAFFNER ROAD AS DEDICATED BY PLAT RECORDED AS DOCUMENT 446325 AND WARRANTY DEED RECORDED AS DOCUMENT 447485; THENCE SOUTHERLY ALONG SAID EAST LINE 621.28 FEET TO THE NORTHERLY LINE OF A.T. MCINTOSH AND COMPANY'S WIESBROOK ROAD SUBDIVISION; THENCE SOUTH 82 DEGREES 48 MINUTES EAST ALONG SAID NORTHERLY LINE TO THE WESTERLY LINE OF WIEBROOK ROAD; THENCE NORTH 30 DEGREES 4 MINUTES EAST ALONG SAID WESTERLY LINE 107.45 FEET TO AN ANGLE POINT IN SAID WESTERLY LINE; THENCE NORTH 46 DEGREES 27 MINUTES EAST ALONG THE NORTHWESTERLY LINE OF SAID ROAD 608.4 FEET TO THE EAST LINE OF SAID PLAT OF SURVEY FOR WILLIAM ATTEN; THENCE NORTH 0 DEGREES 48 MINUTES WEST ALONG SAID EAST LINE 367.0 FEET TO THE CORNER LINE OF THE SANITARY SEWER EASEMENT GRANTED BY DOCUMENT R71-2124; THENCE NORTHWESTERLY ALONG A LINE WHICH INTERSECTS THE SOUTHERLY LINE OF SAID PROPERTY CONVEYED TO THE WHEATON SANITARY DISTRICT BY DOCUMENT R64-46544, 1251.9 FEET TO THE PLACE OF BEGINNING, IN DUPAGE COUNTY, ILLINOIS

P.I.N. 05-19-300-022; 05-30-100-005; 05-30-100-006; 05-30-100-007

The subject property is commonly known as Atten Park, 1720 Wiesbrook Road, Wheaton, IL 60189.

Section 2: A special use permit is hereby issued and granted to allow additional softball field lights at Atten Park for softball field #15 in full compliance with the following conditions, restrictions and requirements:

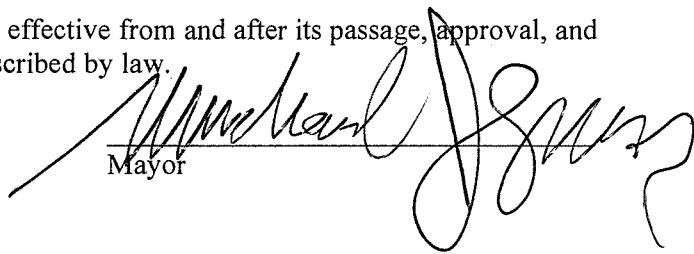
- A. The proposed fixtures shall be installed in accordance with the representation made in the Park District's memorandum dated June 7, 2010 and the plans entitled "*Atten Park Field 15, Baseball Lighting Project, Wheaton, IL, dated June 4, 2010 prepared by Musco Sports Lighting, LLC*".
- B. The proposed lights shall not be utilized past 11:00 p.m. and shall be equipped with a timer which would extinguish the lights at 11:00 p.m.
- C. The special use permit and the conditions, restrictions or requirements cited herein shall be considered a declaration of restrictive covenant and shall be binding upon the subject property and its owners, successors, assigns and grantees. This ordinance shall be recorded in the office of the Recorder of Deeds, DuPage County, Illinois by application for and receipt of any site development or building permit and the commencement of any improvements on the subject property, owner for himself/itself, its successors, assigns, grantees thereby agrees to all the terms and conditions of this ordinance and declares this ordinance to constitute a covenant running with and binding the subject property in perpetuity.

Section 3: All ordinances or parts of ordinances in conflict with these provisions are hereby repealed.

Section 4: This ordinance shall become effective from and after its passage, approval, and publication in pamphlet form in the manner prescribed by law.

ATTEST:

City Clerk



Mayor

Roll Call Vote

| | |
|-------|---|
| Ayes: | Councilman Suess Councilwoman Corry Councilman Levine Mayor Gresk Councilman Scalzo |
|-------|---|

| | |
|-------|------|
| Nays: | None |
|-------|------|

| | |
|---------|---|
| Absent: | Councilman Mouhelis Councilman Prendiville |
|---------|---|

Motion Carried Unanimously

Passed: July 19, 2010
Published: July 20, 2010

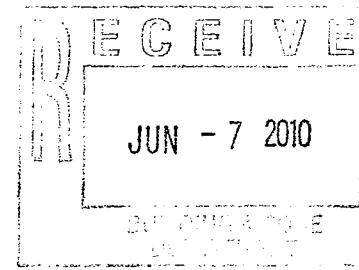


Wheaton Park District

F-1504

June 7, 2010

Jim Kozik, Director of Planning and Economic Development
City of Wheaton
303 West Wesley
Wheaton, IL 60187



Special Use Permit for Sports Lighting at Atten Park

Dear Jim,

The Wheaton Park District is pleased to submit its application for a special use permit to allow the addition of lighting at Atten Park. Below is a list of the documents submitted, a description of the improvements and their purpose, and information explaining how the WPD's proposal meets all of the special use criteria for approval:

Submittal Package:

- Special Use Application
- Title Policy
- Labels of all Property Owners within 250 feet
- Affidavit, dated June 7, 2010
- 15 copies of Site Plan, dated May 2010
- IDNR Consultation Agency Action Report
- 3 copies of Specifications
- Engineer's estimate

Exclusions

- Application Fee – Not applicable according to section B.2.a. of the intergovernmental agreement.
- Landscape Plan – No changes proposed
- Preliminary Engineering Plan – No changes proposed
- Plat of Annexation – Not applicable
- Preliminary Floor Plans – Not applicable
- Exterior Elevations – Not applicable
- Signage Plan – Not applicable
- PACE Coordination – Not applicable

Board of Commissioners

William R. Barrett Steve Fieweger John Kelly Phillip A. Luetkehans Terry A. Mee Ray Morrill Mark Schobel

Executive Director
Michael Benard

- Building Demolition Permit – Not applicable
- Natural Resource and Inventory Application – No grading proposed
- Plat of Consolidation – Not applicable
- Stormwater Management Report – No grading proposed
- Stormwater Detention and storm sewer calculations – No changes proposed
- Soil report – Soil borings to be completed
- Traffic Report – Ballfield capacity will not be increased or result in additional traffic
- State or County Highway Approval – Not applicable

Purpose and Description of the Project – The WPD is requesting a special use permit to allow the addition of lights to softball field #15 at Atten Park. The locations of the light poles are shown on the Site Plan.

Although parks are uses permitted by right in residential districts in Wheaton and four of the existing ball fields are lighted, special use permits are required for the increase of lighting at WPD facilities in accordance with the 1998 Intergovernmental Agreement between WPD and the City. The special use permit process does not require review by the Plan Commission, but a City Council public hearing is required. The reason that the additional lighting is being requested is for player safety. Final innings of the last games played on this field are sometimes completed in diminished light because scheduling of the games is so tight that if one game runs long or has extra innings, all of the following games start late. Not only is visibility lowered, but the players are hurried. Additional lighting would allow the players on the field to complete their game at a safe pace.

Protection to Neighbors – It is very important to the WPD to be a good neighbor. The following points explain how the WPD will minimize lighting impacts to the greatest extent possible:

- a. Hours of Lighting – The proposed lighting will be turned off no later than 11:00 p.m. Existing bylaws of the youth baseball and softball league prohibit innings from starting after 8:00 p.m. during the school year.
- b. Light Control – The proposed light fixtures will be provided by Musco Lighting. This company specializes in lighting sports facilities in ways that minimize the potential for glare and light spillage. The WPD has provided copies of the catalog cut sheets that show what the fixtures look like; describes other Musco Lighting installations where glare and spillage are minimized; and, explains their trademarked Light-Structure Green System. This system was not used on the existing lighting at Atten Park because it had not been developed when the original lighting fixtures were installed.
- c. Lighting Intensity - The foot-candle levels along the eastern property line, abutting the residences to the east, range from 0.01 to 0.02 during operation. This exceeds the performance standard in the City's Zoning Ordinance. The Ordinance limits foot-candles at property lines abutting a residential district to a 0.05 level between 10:00 p.m. and 6:00 a.m. (Section 25.7-2 Glare). Foot-candle levels along the western property line range from 1-3 during operation. The space beyond the line is used as a detention area by the Wheaton Sanitary District and should not be affected by the light. Timers incorporated into the system will prevent usage between the prohibited hours.

d. Orientation of Proposed Lighting to Surrounding Homes – The Light-Structure Green System, which will be used for all of the proposed lighting, will include the custom reflectors so all of the lighting will point downward rather than be aimed toward any of the surrounding homes. In addition, the posts and fixtures will be oriented north and west, away from the residential neighborhood east of the park.

Compliance with Special Use Criteria – The Wheaton Park District meets all of the Special Use Criteria listed in Section 5.10D as amended by the City of Wheaton and WPD Intergovernmental Agreement, which was adopted in 1998. Each criteria is addressed below:

The establishment, maintenance, or operation of the special use shall not be detrimental to the public health, safety, morals, comfort, convenience, and general welfare.

The proposed lighting is in compliance with the criterion in accordance with the Intergovernmental Agreement. The existing athletic programs provided by the WPD at Atten Park will not be expanded or intensified; rather they will be enhanced by more realistic scheduling and safer evening game activity. Also, as an open space, Atten Park provides many benefits to the surrounding neighbors and residents within the entire WPD.

The special use shall not be injurious to the users and the enjoyment of other property in the immediate vicinity for the purposes already permitted, and not substantially diminish the property values within the neighborhood.

Atten Park, with its existing six ball fields (4 of which are lighted), tennis courts, batting cages, playground, and garden plots, has provided its residential neighbors an opportunity for high quality open space and recreational benefits for over 30 years. The proposed lighting and other improvements will not be injurious to its neighbors or negatively impact their property values because:

- a. The number of ball games and football practices will not increase, so additional traffic will not be attracted to the area and noise will not increase;
- b. The proposed lighting will never stay on later than 11:00 p.m.
- c. The WPD is proposing a light fixture specifically designed to minimize upward light, glare and spillage, and concentrate light on the field where it belongs.
- d. The light fixtures will be oriented north and west, away from the neighborhood to the east

The establishment of a special use shall not impede the normal and orderly development and improvement of the surrounding property for uses already permitted.

The proposal is adding lighting to a park that has been lighted and operational for approximately 30 years. Lighting does not necessitate the acquisition of any surrounding land or any changes to existing access. Also, development of surrounding properties will not be impeded because all of the land surrounding Atten Park is already developed (i.e. single family homes to the east, the

Wheaton Sanitary District to the north and west, and Wheaton Warrenville South High School to the south.)

Adequate utilities, access ways, drainage, and other necessary facilities shall be provided.

No grading is anticipated to occur in the area where the new lights are proposed and the extension of electric service for additional lighting will meet all City Codes and Ordinances.

Adequate measures shall be taken to provide ingress and egress designed to minimize traffic congestion in the public streets.

The proposal for additional lighting is intended to eliminate the need for ballplayers to rush to complete games and allow other sports to practice with more space. Neither the number nor the frequency of ball games or practicing would increase; therefore, an increase in activity at the park or the need for additional parking would not occur. Also, the existing ingress and egress is not proposed to be changed from its existing condition.

The special use shall comply with the objectives of the Wheaton Comprehensive Plan.

The proposed lighting is in compliance with this criterion in accordance with the Intergovernmental Agreement. An enhancement to the programs offered at Atten Park further the objectives of the Comprehensive Plan because the lighting allows the recreational land uses to be used safely and more efficiently.

The special use shall conform to the applicable requirements of the district in which it is located, as well as any other applicable requirements of this ordinance, except as may be varied by the Planning and Zoning Board or City Council.

The proposed lighting levels comply with the City's Zoning Ordinance.

Please feel free to contact me at (630) 510-4976 if you have any questions.

Respectfully submitted,



Steve Hinchee
Park Planner

Presented to:

Atten Park Field 15
Baseball Lighting Project
Wheaton, IL
June 4, 2010

Project #145562

Light•Structure
GREENTM

Submitted by:

Musco Sports Lighting, LLC
2107 Stewart Road
Muscatine, Iowa 52761

Local Phone: 563/263-2281
Toll Free: 800/756-1205
Fax: 800/374-6402

LSG Material Only Spec - Revision Level: 3
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BID PROPOSAL

**Atten Park Field 15 Bid Proposal
Baseball Lighting Project
Wheaton, IL**

The undersigned bidder, in compliance with your request for bids for the lighting equipment at the above project, having examined specifications, related documents, and site of the proposed project, hereby proposes to furnish the lighting equipment material as described in the specifications. These prices are for all labor and materials and are to cover the specified equipment and delivery charges. The contract for bid item "A" will be based on the bid item "C" (The total cost of bid item A and bid item B).

A. Contract Price: \$ _____

B. 25-Year Life Cycle Operating Cost Total: \$ _____
(From Section 1.4, Item H)

C. Total Project Cost: \$ _____
(Add Bid item "A" and "B")

Company Name

Authorized Signature

Address

City/State/ZIP

Telephone

Date

PART 1 – GENERAL**1.1 SUMMARY**

- A. Work covered by this section of the specifications shall conform to the contract documents, engineering plans as well as state and local codes.
- B. The purpose of these specifications is to define the performance and design standards for Atten Park, in Wheaton, IL. The manufacturer / contractor shall supply lighting equipment to meet or exceed the standards set forth by the criteria set forth in these specifications.
- C. The sports lighting will be for the following fields:
 1. Baseball
- D. The primary goals of this sports lighting project are:
 1. Guaranteed Light Levels: Selection of appropriate light levels impact the safety of the players and the enjoyment of spectators. Therefore the lighting system shall be designed such that the light levels are guaranteed for a period of 25 years.
- E. Life Cycle Cost: In order to reduce the operating budget, the preferred lighting system shall be energy efficient and cost effective to operate. All maintenance costs shall be eliminated, and the field(s) should be proactively monitored to detect fixture outages over a 25 year life cycle. To allow for optimized use of labor resources and avoid unneeded operation of the facility, customer requires a remote on/off control system for the lighting system.

1.2 LIGHTING PERFORMANCE

- A. Performance Requirements: Playing surfaces shall be lit to an average constant light level and uniformity as specified in the chart below. Light levels shall be held constant for 25 years. Lighting calculations shall be developed and field measurements taken on the grid spacing with the minimum number of grid points specified below. Measured average illumination level shall be +/- 10% of predicted mean in accordance with IESNA RP-6-01, and measured at the first 100 hours of operation.

| Area of Lighting | Average Constant Light Levels | Maximum to Minimum Uniformity Ratio | Grid Points | Grid Spacing |
|-------------------|-------------------------------|-------------------------------------|-------------|--------------|
| Baseball Infield | 50 footcandles | 2.0:1.0 | 25 | 20' x 20' |
| Baseball Outfield | 30 footcandles | 2.5:1.0 | 77 | 20' x 20' |

- B. Mounting Heights: To ensure proper aiming angles for reduced glare and to provide better playability, the pole mounting heights from the playing field surface shall be 60' and 70' poles.

1.3 ENVIRONMENTAL LIGHT CONTROL

- A. Spill Light Control: Maximum vertical footcandles taken with the meter aimed at the brightest light bank at the property line from the field perimeter shall not exceed 4.95 footcandles. Maximum horizontal footcandles at the property line from the perimeter of the field shall not exceed 3.95 footcandles. Footcandle readings shall be taken at 30' intervals along the specified line. Measured average illumination level shall allow a 10% variance of predicted mean in accordance with IESNA RP-6-01, and be measured at the first 100 hours of operation.

1.4 LIFE CYCLE COSTS

- A. Energy Consumption: The average kWh consumption for the field lighting system shall be 28.2 or less.
- B. Complete Lamp Replacement: Manufacturer shall include all group lamp replacements required to provide 25 years of operation based upon 300 usage hours per year.
- C. Preventative and Spot Maintenance: Manufacturer shall provide all preventative and spot maintenance, including parts and labor for 25 years from the date of equipment shipment. Individual lamp outages shall be repaired when the usage of any field is materially impacted. Owner agrees to check fuses in the event of a luminaire outage.

- D. **Remote Monitoring System:** System shall monitor lighting performance and notify manufacturer if individual luminaire outage is detected so that appropriate maintenance can be scheduled. The manufacturer shall notify the owner of outages within 24 hours, or the next business day. The controller shall determine switch position (Manual or Auto) and contactor status (open or closed).
- E. **Remote Lighting Control System:** System shall allow owner and users with a security code to schedule on/off system operation via a web site, phone, fax or email up to ten years in advance. Manufacturer shall provide and maintain a two-way TCP/IP communication link. Trained staff shall be available 24/7 to provide scheduling support and assist with reporting needs.

The owner may assign various security levels to schedulers by function and/or fields. This function must be flexible to allow a range of privileges such as full scheduling capabilities for all fields, to only having permission to execute "early off" commands by phone.

Controller shall accept and store 7-day schedules, be protected against memory loss during power outages, and shall reboot once power is regained and execute any commands that would have occurred during outage.

- F. **Management Tools:** Manufacturer shall provide a web-based database of actual field usage and provide reports by facility and user group.
- G. **Communication Costs:** Manufacturer shall include communication costs for operating the controls and monitoring system for a period of 25 years.
- H. **25-Year Life Cycle Cost:** Manufacturer shall submit 25-year life cycle cost calculations as follows. Equipment price and total life cycle cost shall be entered separately on bid form.

| | | | |
|--|--|---|--|
| a. | Luminaire energy consumption # luminaires x __kW demand per luminaire x .08 kWh rate x 300 annual usage hours x 25 years | | |
| b. | Demand charges, if applicable | + | |
| c. | Cost for spot relamping and maintenance over 25 years Assume 8 repairs at \$ \$600 each if not included with the bid | + | |
| d. | Cost to relamp all luminaires during 25 years 300 annual usage hours x 25 years / <u>lamp replacement hours</u> x \$125 lamp & labor x # fixtures if not included with the bid | + | |
| e. | Extra energy used without base bid automated control system \$ Energy consumption in item a. x 10% if control system not included with the bid | + | |
| TOTAL 25-Year Life Cycle Operating Cost | | = | |

1.5 WARRANTY AND GUARANTEE

- A. **25-Year Warranty:** Each manufacturer shall supply a signed warranty covering the entire system for 25 years. Warranty shall guarantee light levels; lamp replacements; system energy consumption; monitoring, maintenance and control services, spill light control, and structural integrity. Manufacturer shall maintain specifically-funded financial reserves to assure fulfillment of the warranty for the full term. Warranty may exclude fuses, storm damage, vandalism, abuse and unauthorized repairs or alterations.

1.6 DELIVERY TIMING

- A. **Equipment On-Site:** The equipment must be on-site 4-6 weeks from receipt of approved submittals and receipt of complete order information.

1.7 PRE-BID SUBMITTAL REQUIREMENTS

- A. **Approved Product:** Musco's Light-Structure Green™ System is the approved product. All substitutions must provide a complete submittal package for approval as outlined in Submittal Information at the end of this section at least 10 days prior to bid. Special manufacturing to meet the standards of this specification may be required. An addendum will be issued prior to bid listing any other approved lighting manufacturers and designs.

B. Design Approval: The owner / engineer will review pre-bid shop drawings from the manufacturers to ensure compliance to the specification. If the design meets the design requirements of the specifications, a letter will be issued to the manufacturer indicating approval for the specific design submitted.

1.8 ALTERNATE SYSTEM REQUIREMENTS

A. Compliance to Specifications: Acceptance of a bid alternate does not negate the contractor and lighting manufacturer's responsibility to comply fully with the requirements of these specifications. Any exceptions to the specifications must be clearly stated in the prior approval submittal documents.

B. Light Level Requirements: Manufacturer shall provide computer models guaranteeing light levels on the field over 25 years. If a constant light level cannot be provided, a maximum Recoverable Light Loss Factor of 0.70 shall be applied to the initial light level design to achieve the following Initial and target/maintained light levels. For alternate systems, scans for both initial and maintained light levels shall be submitted.

| Area of Lighting | Average Initial Light Levels | Average Target/Maintained Light Levels | Maximum to Minimum Uniformity Ratio | Grid Points | Grid Spacing |
|-------------------|------------------------------|--|-------------------------------------|-------------|--------------|
| Baseball Infield | 71.4 footcandles | 50 footcandles | 2.0:1.0 | 25 | 20' x 20' |
| Baseball Outfield | 42.8 footcandles | 30 footcandles | 2.5:1.0 | 77 | 20' x 20' |

C. Revised Electrical Distribution: Manufacturer shall provide revised electrical distribution plans to include changes to service entrance, panel, and wire sizing.

PART 2 – PRODUCT

2.1 LIGHTING SYSTEM CONSTRUCTION

A. System Description: Lighting system shall consist of the following:

1. Galvanized steel poles and crossarm assembly
2. Pre-stressed concrete base embedded in concrete backfill allowed to cure for 12-24 hours before pole stress is applied. Alternate may be an anchor bolt foundation designed such that the steel pole and any exposed steel portion of the foundation is located a minimum of 18 inches above final grade. The concrete for anchor bolt foundations shall be allowed to cure for a minimum of 28 days before the pole stress is applied.
3. All luminaires shall be constructed with a die-cast aluminum housing or external hail shroud to protect the luminaire reflector system.
4. Manufacturer will remote all ballasts and supporting electrical equipment in aluminum enclosures mounted approximately 10' above grade. The enclosures shall include ballast, capacitor and fusing for each luminaire. Safety disconnect per circuit for each pole structure will be located in the enclosure.
5. Wire harness complete with an abrasion protection sleeve, strain relief and plug-in connections for fast, trouble-free installation.
6. Controls and Monitoring Cabinet to provide on-off control and monitoring of the lighting system, constructed of NEMA Type 4 aluminum. Communication method shall be provided by manufacturer. Cabinet shall contain custom configured contactor modules for 30, 60, and 100 amps, labeled to match field diagrams and electrical design. Manual Off-On-Auto selector switches shall be provided.

B. Manufacturing Requirements: All components shall be designed and manufactured as a system. All luminaires, wire harnesses, ballast and other enclosures shall be factory assembled, aimed, wired and tested.

C. Durability: All exposed components shall be constructed of corrosion resistant material and/or coated to help prevent corrosion. All exposed carbon steel shall be hot dip galvanized per ASTM A123. All exposed aluminum shall be powder coated with high performance polyester or anodized. All exterior reflective inserts shall be anodized, coated, and protected from direct environmental exposure to prevent reflective degradation or corrosion. All exposed hardware and fasteners shall be stainless steel of 18-8 grade or better, passivated and coated for protection against corrosion and stress corrosion cracking. All wiring shall be enclosed within the crossarms, pole, or electrical components enclosure.

- D. Lightning Protection: All structures shall be equipped with lightning protection meeting NFPA 780 standards. Contractor shall supply and install a ground rod of not less than 5/8" in diameter and 8' in length, with a minimum of 10' embedment. Ground rod should be connected to the structure by a copper main down conductor with a minimum size of #2 for poles with less than 75' mounting height and 2/0 for poles with more than 75' mounting height.
- E. Safety: All system components shall be UL Listed for the appropriate application.
- F. Electric Power Requirements for the Sports Lighting Equipment:
 1. Electric power: 480 Volt, 3 Phase
 2. Maximum total voltage drop: Voltage drop to the disconnect switch located on the poles shall not exceed three (3) percent of the rated voltage.

2.2 STRUCTURAL PARAMETERS

- A. Support Structure Wind Load Strength: Poles and other support structures, brackets, arms, bases, anchorages and foundations shall be determined based on the 2006 edition of the IBC Building Code, wind speed of 90, exposure category C and an importance factor of 1.0. Luminaire, visor, and crossarm shall withstand 150 mph winds and maintain luminaire aiming alignment. Foundation design will be based on 2006 IBC.
- B. Structural Design: The stress analysis and safety factor of the poles shall conform to AASHTO 2001 (LTS-4) Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals.
- C. Soil Conditions: The design criteria for these specifications are based on soil design parameters as outlined in the geotechnical report. If a geotechnical report is not provided by the owner, the foundation design shall be based on soils that meet or exceed those of a Class 5 material as defined by 2006 IBC
- D. It shall be the contractor's responsibility to notify the owner if soil conditions exist other than those on which the foundation design is based, or if the soil cannot be readily excavated. Contractor may issue a change order request / estimate for the owner's approval / payment for additional costs associated with:
 - a) Providing engineered foundation embedment design by a registered engineer in the State of Illinois
 - b) Additional materials required to achieve alternate foundation.
 - c) Excavation and removal of materials other than normal soils, such as rock, caliche, etc.
- E. Foundation Drawings: Project specific foundation drawings stamped by a registered engineer in the state where the project is located are required. The foundation drawings must list the moment, shear (horizontal) force, and axial (vertical) force at ground level for each pole. These drawings must be submitted at time of bid to allow for accurate pricing.

PART 3 – EXECUTION

3.1 FIELD QUALITY CONTROL

- A. Illumination Measurements: Upon substantial completion of the project and in the presence of the Contractor, Project Engineer, Owner's Representative, and Manufacturer's Representative, illumination measurements shall be taken and verified. The illumination measurements shall be conducted in accordance with IESNA RP-6-01, Appendix B.

B. Correcting Non-Conformance: If, in the opinion of the Owner or his appointed Representative the equipment was installed per the manufacturer's stated requirements, **and** the actual performance levels including footcandles, uniformity ratios, and maximum kilowatt consumptions are not in conformance with the requirements of the performance specifications and submitted information, the Manufacturer shall be liable to any or all of the following:

1. Manufacturer shall at his expense provide and install any necessary additional fixtures to meet the minimum lighting standards. The Manufacturer shall also either replace the existing poles to meet the new wind load (EPA) requirements or verify by certification by a licensed structural engineer that the existing poles will withstand the additional wind load.
2. Manufacturer shall minimize the Owner's additional long term fixture maintenance and energy consumption costs created by the additional fixtures by reimbursing the Owner the amount of \$1,000.00 (one thousand dollars) for each additional fixture required.
3. Manufacturer shall remove the entire unacceptable lighting system and install a new lighting system to meet the specifications.

SUBMITTAL CHECKLIST

Design Submittal Data Checklist and Certification

All items listed below are mandatory, shall comply with the specification, and be submitted 10 days prior to bid.

| Tab | Item | Description |
|-----|-----------------------------|---|
| A | Checklist | Listing of all information being submitted must be included on the table of contents. List the name of the manufacturer's local representative and his/her phone number. Signed submittal checklist to be included. |
| B | Equipment Layout | Drawing(s) showing field layouts with pole locations. |
| C | On Field Lighting Design | <p>Lighting design drawing(s) showing:</p> <ul style="list-style-type: none"> a. Field Name, date, file number, prepared by, and other pertinent data b. Outline of field(s) being lighted, as well as pole locations referenced homeplate for baseball field. Illuminance levels at grid spacing specified c. Pole height, number of fixtures per pole, as well as luminaire information including wattage, lumens and optics d. Height of light level test meter above field surface e. Summary table showing the number and spacing of grid points; average, minimum and maximum illuminance levels in foot candles (fc); uniformity including maximum to minimum ratio, coefficient of variance and uniformity gradient; number of luminaires, total kilowatts, average tilt factor; light loss factor. f. Alternate manufacturers shall provide both initial and maintained light scans using a maximum 0.70 Light Loss Factor to calculate maintained values. |
| D | Off Field Lighting Design | Lighting design drawing showing initial vertical spill light levels along the boundary line (defined on bid drawings) in footcandles. Vertical levels shall be at 30-foot intervals along the boundary line. Readings shall be taken with the meter orientation at both horizontal and aimed towards the most intense bank lights. |
| E | Life Cycle Cost Calculation | Document life cycle cost calculations as defined in the specification. Identify energy costs for operating the luminaires, maintenance cost for the system including spot lamp replacement, and group relamping costs. All costs should be based on 25 years. |
| F | Luminaire Aiming Summary | Document showing each luminaire's aiming angle and the poles on which the luminaires are mounted. Each aiming point shall identify the type of luminaire. |
| G | Structural Information | Pole structural calculations and foundation design showing foundation shape, depth backfill requirements, rebar and anchor bolts (if required). Pole base reaction forces shall be shown on the foundation drawing along with soil bearing pressures. Design must be stamped by a structural engineer in the state of Illinois. |
| H | Control & Monitoring System | Manufacturer shall provide written definition and schematics for automated control system to include monitoring. They will also provide examples of system reporting and access for numbers for personal contact to operate the system. |
| I | Performance Guarantee | Provide performance guarantee including a written commitment to undertake all corrections required to meet the performance requirements noted in these specifications at no expense to the owner. Light levels must be guaranteed per specification for 25 years. |
| J | Warranty | Provide written warranty information including all terms and conditions. |
| K | Project References | Manufacturer to provide a list of project references of similar projects completed within the past three years. |
| L | Product Information | Complete set of product brochures for all components, including a complete parts list, UL Listings, and Manufacturers Certificate of Corrosion Protection. |
| M | Delivery | Manufacturer shall supply an expected delivery timeframe from receipt of approved submittals and complete order information. |
| N | Non-Compliance | Manufacturer shall list all items that do not comply with the specifications. If in full compliance, tab may be omitted. |

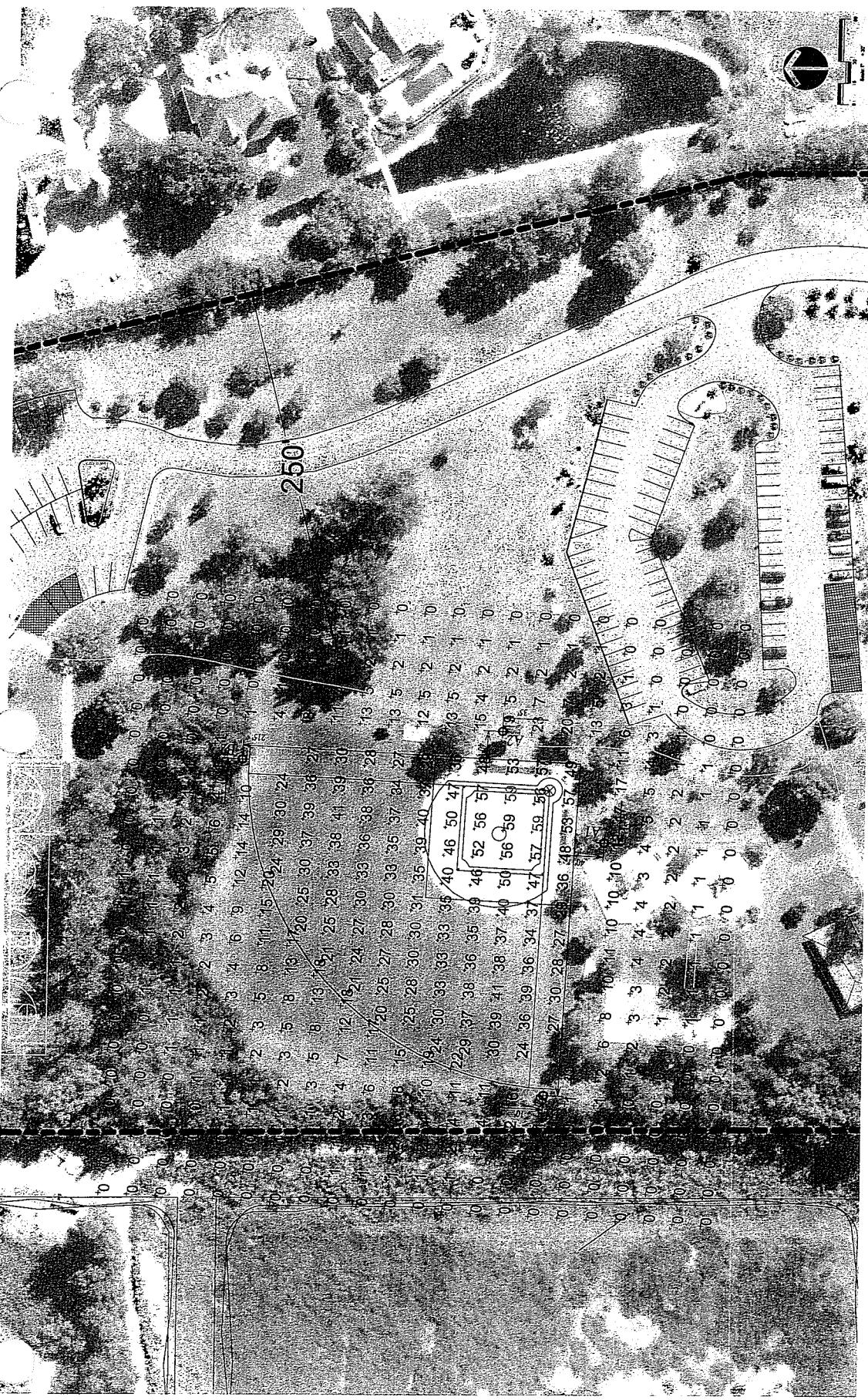
Manufacturer: _____

Signature: _____

Contact Name: _____

Date: ____ / ____ / ____

F-1504



WHEATON PARK DISTRICT

102 E WHISLEY WHERTON IL 60187
(630) 665-4710



**ATTEN PARK
ATTEN FIELD 15 LIGHTS
FOOT CANDLE PLAN**

| | | | |
|--|-----------|------------|--|
| drawn by | SMH | revised by | |
| date | 5/10 | date | |
| checked by | | revised by | |
| date | | date | |
| file name: | last name | | |
| 101 practices - no student names allowed 15 practice | | | |

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