

## Poche, Lauren

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**From:** Clark, Courtney  
**Sent:** Tuesday, September 16, 2014 10:50 AM  
**To:** DEP NJHPO  
**Cc:** Poche, Lauren; Crowl, Heather; Lackowicz, Rob  
**Subject:** DEP Form 1, NCR39505, Lakeview Field, Little Ferry  
**Attachments:** NCR39505\_FORM1.pdf

Good morning,

Attached for your review please find a Form – 1: No Historic Properties Affected for NCR39505, Lakeview Field, Little Ferry.

Please forward any questions you may have to me at [courtney.clark@urs.com](mailto:courtney.clark@urs.com). We look forward to your response.

Thank you,

Courtney Clark  
Architectural Historian



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**Please note new address and phone number**

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**New Jersey Department of Environmental Protection  
Hurricane Sandy  
Community Development Block Grant  
Form – 1 : No Historic Properties Affected (Version 1.0)**



HPO USE ONLY

<b>Application ID #</b>	NCR39505		
<b>Applicant Name:</b>	0 Borough of Little Ferry		
<b>Street Address:</b>	Lakeview Field		
<b>Municipality:</b>	Little Ferry Boro (Little Ferry)	<b>County:</b>	Bergen
<b>PAMS PIN:</b>	0230_6.04_1	<b>Acreage:</b>	14.695
<b>Latitude:</b>	40.85661076	<b>Longitude:</b>	-74.03697723

<b>Undertaking:</b>	<input type="checkbox"/> Rehabilitation:	<input type="checkbox"/> Interior	<input type="checkbox"/> Exterior	<input type="checkbox"/> Both	<input type="checkbox"/> Elevation
	<input checked="" type="checkbox"/> Reconstruction:	<input type="checkbox"/> Within Existing Footprint, plus 2 feet		<input checked="" type="checkbox"/> Outside Existing Footprint	

**Property Description:**

The project area is located entirely within a mapped “green zone” identified jointly by FEMA and NJHPO and defined in the Programmatic Agreement as an area of low potential for above-ground historic properties. Therefore, in consideration of above-ground historic properties, it meets the Tier 1 Programmatic Allowance in Appendix B of the Programmatic Agreement.

The proposed project involves the reconstruction of existing fencing and lighting along with the rehabilitation/reconstruction of the playing surfaces within the park. New construction will include replacing dugouts. Although Tier II PA allowances (II.B. 1 and 2) include provisions for recreational facilities, the attached supporting documents identify a scope of work greater than in-kind replacement or considered to be minor upgrades.

The 14.695-acre Indian Lake Park is not located within an Archaeological Grid where a site is known to exist. The property has not been determined to be listed or eligible for the NRHP, nor is it located within a NRHP listed or eligible Historic District. The park is approximately 1,000 feet west of the Hackensack River and approximately 2,800 feet north of the confluence with Overpeck Creek. The large property is bounded by Bergen Turnpike on the east (aka. Hudson Street), Lakeview Avenue on the south, Indian Lake Road on the west, and Backiel Avenue on the north. To the east is a former marshland that has been filled and altered to accommodate substantial commercial and industrial development. Areas to the north, south, and west are primarily residential with mixed commercial ventures.

Six of the nearly 15-acres is a man-made endorheic retention pond referred to as Indian Lake, and used for recreational fishing. The lake is ringed with a paved walking and jogging trail that is flanked with planted trees. Approximately six additional acres of the park are devoted to maintained playing fields. The park includes several ancillary structures appearing to be associated with the playing fields and picnic areas and likely include public restrooms. Soils in the project area are classified as Udorthents, wet substratum; these are moderately well drained to excessively drained soils that have been disturbed by cutting or filling (USDA 2014). Typically, Udorthents are in areas that have been cut to a depth of two feet or more or are within areas with more than two feet of fill and are therefore not conducive to archaeological site integrity. Immediately to the east of the property are Urban land soils, immediately to the south are Udorthents, wet substratum-Urban land complex soils, and immediately to the west are Dunellen-Urban land complex soils; these soils reflect the ‘built up’ character of the area surrounding the property (ibid.).

Topographic maps from the early twentieth century indicate the project area was at the edge of a marshy area at the western margins of the Hackensack River (historicaerials.com). Indian Lake is neither fed by nor made from a natural drainage. It appears to have been constructed between 1923 (topographic map) and 1931 (aerial image), coinciding with suburban residential development in the surrounding area and bolstering development of the Little Ferry community, centered to the south. Through the 1950s and 1960s, residential and commercial development of the area continued in earnest and established the configuration and density seen today (ibid.). An aerial image from 1979 shows the playing fields within the park fully constructed (ibid.). The park is within an area that has been greatly modified as a result of the surrounding suburban development. Additionally, the park features an artificially-constructed lake, the construction of which may have provided fill soils for the remainder of the project area. Given these landscape disturbances, construction of other park infrastructure including playing fields, walkways, and support structures and the resulting/associated unfavorable soils, there is a low probability for any portion of the park to contain significant archaeological remains.

**There are no historic properties affected within the project’s area of potential effects, pursuant to 36 CFR 800.4(d)(1) for the following reason(s): [Check All That Apply]**

<b>Historic Architecture:</b>	<input checked="" type="checkbox"/> Located in “Green Zone” (Areas determined by FEMA/HPO to have low potential for above-ground historic properties)
	<input type="checkbox"/> Not 48 Years of Age
	<input type="checkbox"/> Lacks Integrity of Materials/Design
	<input type="checkbox"/> Not Within / In View of a National Register of Historic Places Listed / Eligible Historic District
	<input type="checkbox"/> Not a Building (per FEMA Definition)
	<input type="checkbox"/> Other – Lacks Distinctive Characteristics That Make It Individually Eligible for Listing on NRHP
<b>Archaeology:</b>	<input checked="" type="checkbox"/> Low Archaeological Potential:
	<input type="checkbox"/> Located on Barrier Island

<b>Architecture Reviewer</b>	N/A (cleared under Tier I PA allowance)	<b>Archaeology Reviewer</b>	Jeremy Lazelle, MA, RPA (URS Corporation)
<b>Date Reviewed</b>	9/11/2014		

Required Documentation:  Historic Properties Map  Soils Map  USGS Quad  Property Photos



**New Jersey Department of Environmental Protection**  
**Hurricane Sandy**  
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**Form – 1 : No Historic Properties Affected (Version 1.0)**



HPO USE ONLY



- Substantially Conforms to the Original Footprint
- Located on Disturbed Soils
- Not Located within 500 Feet of Waterways and/or Wetlands
- Not Located on Well-drained Soils
- Not Identified Within a Historic Property / Historic District

<b>Public Consultation</b>	Federally Recognized Tribes, Certified Local Governments, Historic Preservation Commissions, etc: PA does not require consultation based on location and type of activity proposed.
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<b>HISTORIC PRESERVATION OFFICE USE ONLY</b>
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<input type="checkbox"/> I concur with this finding,	
<input type="checkbox"/> I do not concur with this finding for the following reason(s):	

Daniel D. Saunders Deputy State Historic Preservation Officer	Date
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Architecture Reviewer	N/A (cleared under Tier I PA allowance)	Archaeology Reviewer	Jeremy Lazelle, MA, RPA (URS Corporation)
Date Reviewed	9/11/2014		



**New Jersey Department of Environmental Protection**  
**Hurricane Sandy**  
**Community Development Block Grant**  
**Form – 3 (Version 1.0)**



<b>Applicant ID #</b>	NCR39505
<b>Property Address:</b>	Lakeview Field, Little Ferry, NJ



Historic Properties			Historic Districts	
Proposed Action Site	Listed (Indv.)	Eligible (HD)	Listed	Eligible
HUD Review Parcels	Listed (HD)	Identified (Indv.)	Eligible	Identified
Archaeological Site Grid	Eligible (Indv.)	Identified (HD)		

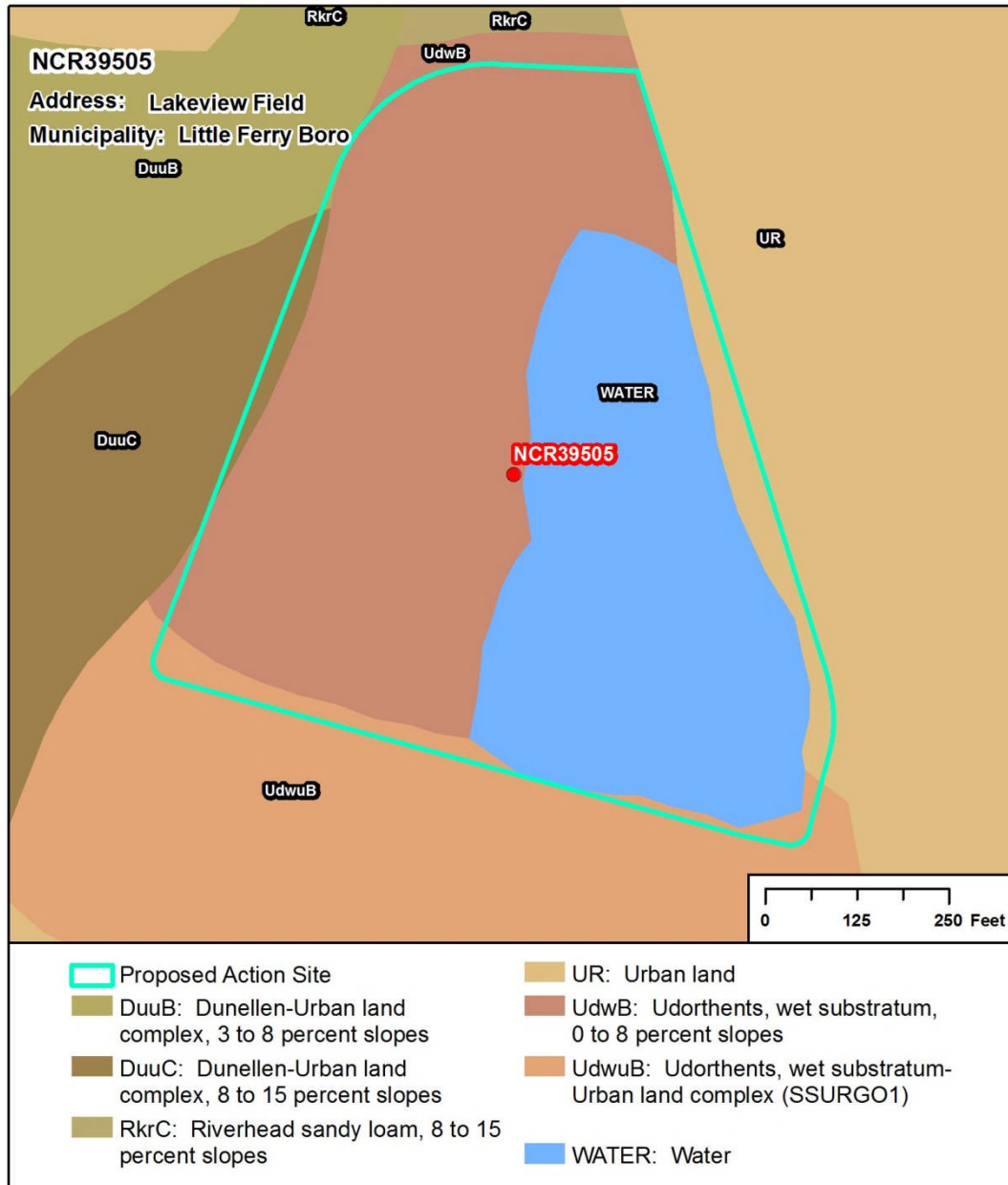
**Historic Properties Map**



**New Jersey Department of Environmental Protection**  
**Hurricane Sandy**  
**Community Development Block Grant**  
**Form – 4 (Version 1.0)**



<b>Applicant ID #</b>	NCR39505
<b>Property Address:</b>	Lakeview Field, Little Ferry, NJ



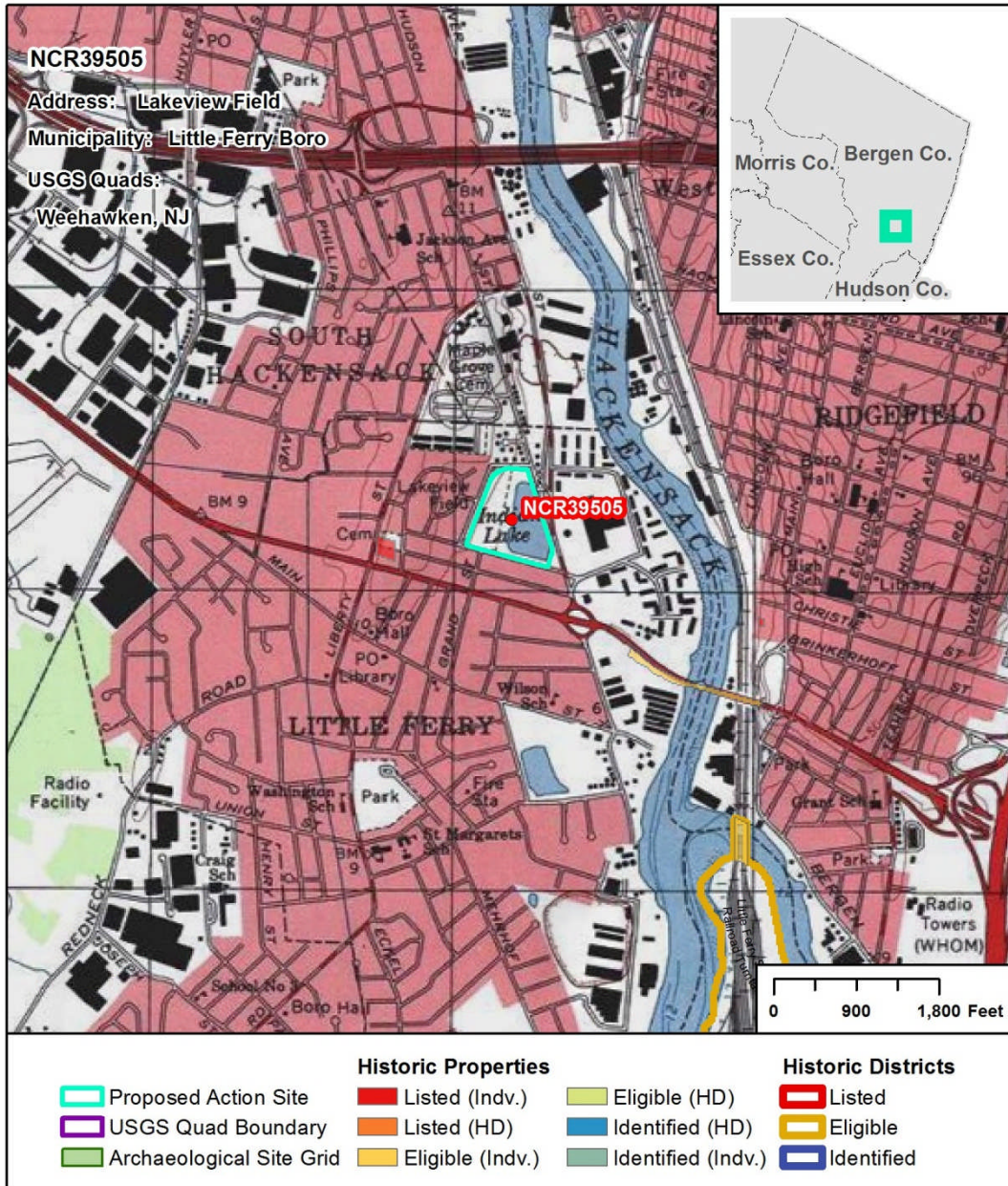
**Soils Map**



**New Jersey Department of Environmental Protection**  
**Hurricane Sandy**  
**Community Development Block Grant**  
**Form – 5 (Version 1.0)**



<b>Applicant ID #</b>	NCR39505
<b>Property Address:</b>	Lakeview Field, Little Ferry, NJ



**USGS Quadrangle: Weehawken, NJ**



New Jersey Department of Environmental Protection  
Hurricane Sandy  
Community Development Block Grant  
Form – 6 (Version 1.0)



<b>Applicant ID #</b>	NCR39505
<b>Property Address:</b>	Lakeview Field, Little Ferry, NJ

<b>Date:</b>	9/10/2014
<b>Direction:</b>	Northeast
<b>Description:</b>	
<b>Maintenance structure (office) at northwest corner of playing field 3</b>	



<b>Date:</b>	9/10/2014
<b>Direction:</b>	Southwest
<b>Description:</b>	
<b>Playing field 1 structure</b>	





**New Jersey Department of Environmental Protection  
Hurricane Sandy  
Community Development Block Grant  
Form – 6 (Version 1.0)**



<b>Applicant ID #</b>	NCR39505
<b>Property Address:</b>	Lakeview Field, Little Ferry, NJ

<b>Date:</b>	9/10/2014
<b>Direction:</b>	North
<b>Description:</b>	Playing field 3 dug-out



<b>Date:</b>	9/10/2014
<b>Direction:</b>	Southwest
<b>Description:</b>	Playing field 3 overview







New Jersey Department of Environmental Protection  
Hurricane Sandy  
Community Development Block Grant  
Form – 6 (Version 1.0)



<b>Applicant ID #</b>	NCR39505
<b>Property Address:</b>	Lakeview Field, Little Ferry, NJ

<b>Date:</b>	9/10/2014
<b>Direction:</b>	Southwest
<b>Description:</b>	Playground adjacent to playing field 2



<b>Date:</b>	9/10/2014
<b>Direction:</b>	N/A
<b>Description:</b>	Bing aerial image of Indian Lake Park (outlined in red) and environs. Playing field designations are provided in orange.



**NJDEP Environmental and Historic Review**  
**Application for EDA and DCA/NEP Programs**

1. **Agency Name:** New Jersey Economic Development Authority
2. **Date of Application Submittal to DEP:** \_\_\_\_\_
3. **CDBG-DR Program:** NCR- Development and Public Improvement
4. **Application ID Number:** NCR D & I/P39505
5. **National Objective Description/Number:** LMI
6. **Grant Number:** B-13-DS-34-0001
7. **Applicant Name:** Borough of Little Ferry
8. **Project Location:** Lakeview Field, within the Borough of Little Ferry; there is no physical address; Bergen County; Block 6.04 Lot 1

**9. Detailed Project Description.**

Provide a thorough description of the existing conditions at the site, work that will occur at the site, and the final project outcome. See Attachment A for directions.

The Borough is proposing reconstruction of a public facility that is exempt from a Environmental Review Process under Title 24 Housing and Urban Development § 58.35 Categorical exclusions:

Categorical exclusion refers to a category of activities for which no environmental impact statement or environmental assessment and finding of no significant impact under NEPA is required, except in extraordinary circumstances (see § 58.2(a)(3)) in which a normally excluded activity may have a significant impact. Compliance with the o the r applicable Federal environmental laws and authorities listed in § 58.5 is required for any categorical exclusion listed in paragraph (a) of this section.

(a) Categorical exclusions subject to § 58.5. The following activities are categorically excluded under NEPA, but may be subject to review under authorities listed in § 58.5:

**(1) Acquisition, repair, improvement, reconstruction, or rehabilitation of public facilities and improvements (o the r than buildings) when the facilities and improvements are in place and will be retained in the same use without change in size or capacity of more than 20 percent (e.g., replacement of water or sewer lines, reconstruction of curbs and sidewalks, repaving of streets).**

The Borough owns Lakeview Park, a 14.9 acre park that is home to a lake, gazebo, playground, small walking trail, four baseball/softball fields and a football field. This Park is protected Open Space as it is included in the Borough's Roster of Open Space Inventory (ROSI) under the New Jersey Department of Environmental Protection (DEP).

Lakeview Park is the most actively used park within the Borough. Used year round, the calling the Park home is all of the Borough's baseball and softball teams ranging in ages from t-ball to teenager. During the fall, the main field welcomes the football teams – equipped with cheerleaders – who play under the lights. The lake is trout stocked, the only such lake in South Bergen County, and the Borough is currently applying for a grant to extend the walking trail throughout the entire park.

During Hurricane Sandy, Lakeview Park was inundated with water. This brackish water has undermined various portions of all the playing fields. Walking the field, one can easily see the undulations in the

ground. It is not uncommon to see a player trip or stumble due to the ground. The spring grass grew back spotty. Home to water fowl, mostly Canada Geese, their droppings have exacerbated the problem by further robbing the grass of vital nutrients while polluting the lake. To ensure that the littlest victims of Sandy, the children, had a place to play sports this year, the volunteers and Borough staff spent countless hours improving the fields by filling holes and leveling the ground before the seasons started.

Sandy's winds caused havoc with the lights. The lighting system is thirty years old and sits upon old telephone poles that were not designed to handle such extreme storms that New Jersey is experiencing. The light poles (yes the telephone poles!) moved due to the wind, numerous ballasts were twisted and almost two dozen lights have had to be replaced.

### **The Proposed Project**

The Borough is proposing the following improvements to Lakeview Field:

- Turfing the existing grass fields
- Replace all lighting
- Replace damaged or older fencing
- Replace dugouts

The proposed project involves the reconstruction of the existing fencing and lighting along with the rehabilitation/reconstruction of the playing surface. Concerning new construction, this would include aspects of the lighting and removal/replacing of fencing and replacing dugouts.

By turfing the existing grass fields, future children will be ensured of a place to participate in active recreation. The turf will remove the water fowl, which will improve the environment. Currently, the droppings of the water fowl find their way into the Lake (which acts as a detention basin) before entering the Hackensack River. By turfing the fields, the run-off into the Lake will be cleaning and improve water quality standards. Also, the turf field and the sandy base it sits on, acts as a gigantic water filter – further improving water quality standards. Replacing of the lighting is not only a safety improvement but a “green” standard. The proposed lighting will be a full turn-key system; Borough staff will be able to remotely control the lumens via the Internet to ensure only the proper amount of lighting is being given off instead of the exiting “full blast” of lighting. This smart-lighting will reduce electrical usage and costs. By installing poles and ballasts that are designed with today's standards instead of standards of three decades ago, the entire park will be safer, especially as the poles and ballasts have already shown they are not stable. The green lighting, as proposed, will reduce CO2 output by approximately 430 metric tons annually. The average Kilowatt Hour will be almost cut in half, requiring less electricity to produce a brighter light. The green lighting information is attached. Lastly, the Borough will replace any old and outdated fencing for further safety precautions.

The Borough is classified low-moderate income area by HUD. This project benefits the entire Borough thereby expanding active and passive recreational opportunities for low-moderate income persons. A Wharton study found that close proximity to recreational activities not only stabilized residential home values but can also increase them by upwards of 30%. As the Borough realized a \$20 million valuation decrease from the year prior of Sandy's arrival (2012 to 2013), recreational projects such as these are

extremely vital to the Borough's residential tax base. During the period in which direct Sandy valuation appeals were permitted, the Borough's Tax Assessor had to decrease properties by \$7.3 million dollars.

The proposed field improvement will also provide for better opportunities to market and brand the Borough. The Borough is planning to create a virtual "walking tour" of our vast recreational facilities and these improvements will be the center of the marketing and re-branding of the Borough's diverse recreational opportunities. Opportunities rarely found in an urban setting from a trout stocked lake (at this site) to the guided tours of Losen Slote Park done by the Audubon Society.

The project will provide construction jobs. According to the "Labor Market Information Update for July 2013" (<http://lwd.dol.state.nj.us/labor/lpa/content/lmiupdate.pdf>) realized a decrease in construction jobs in the State (page 7) with a quantifiable decrease of 2,000. Lastly, the Bergen County Community Fact Book (<http://lwd.dol.state.nj.us/labor/lpa/pub/factbook/berfct.pdf>) demonstrates the Bergen County has a higher percentage of unemployment in the construction field when compared to the State; 11.5% compared to 11.0%.

This project will provide jobs in a demand occupation (construction) that has seen a higher rate of unemployment than the State average.

Concerning local economic development, the Borough will be able to utilize these fields to host tournaments. These tournaments, in which leagues/ teams will pay a "host" fee and a field usage fee, have the opportunity to provide tens of thousands of dollars in fees to the Borough. Since these fields cover all age brackets, the opportunity for hosting tournaments is enormous; both regional and state-wide tournaments.

The Borough will also realize a positive cash flow from installation of the more efficient green lighting. Over the twenty-five life cycle of these lights, the estimated savings is \$146,000 or approximately \$6,000 per year. This saving will help reduce the local property tax burden while providing cleaner, cheaper lighting.

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In anticipation of receiving this grant, the Borough has begun the local bonding process by introducing a Capital Ordinance at the September 10, 2013 Council meeting.

To expedite the construction process, the Borough will utilize various co-operative contracts. These co-operatives have already bid out the materials that will be required to complete the project:

- Lighting – Musco Lighting from the KPN Co-operative Contract
- Fencing – Consolidated Steel & Aluminum Fence Co. from NJ State Contract
- Field Turf - Field Turf from the KPN Co-operative Contract

Approvals:

- No local approval is required as the applicant has site control
- Bergen County Conservation District approval required but cannot seek these approvals until plans are drafted after the grant is awarded.

The Borough has finalized obtaining quotations from various contract vendors (as discussed above). Documentation has been previously provided.

There are no previous environmental studies at this site. This site is not listed in any of the DEP Known Contaminated Sites Reports found here: <http://www.state.nj.us/dep/srp/kcsnj/>

The proposed work is below the Federal threshold for Environmental Review as previously mentioned.

Proposed schedule:

Since it is unknown when the final agreements will be signed, we will assume a date of September 1, 2014 for all agreements to be completed:

- Introduction of local Capital Ordinance in September, finalized November 1.
- Approval by Bergen County Conservation District; by November 1
- Ordering of materials; November 2
- Four to six week material delivery; Mid-December
- Site work (November – December)
- NOTE – Weather permitting for site work. If it is warm, construction can begin in January. If not, then construction resumes in April
- Project completed by June 2014

Construction of this project is simple: the existing field will be graded, leveled and based with a four inch stone layer under the new turf. The existing light poles will be replaced in the same locations. The existing dugouts will be removed and replaced in the same location.

The details of the turf installation are:

## SECTION 02925 - SYNTHETIC TURF

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes the following:

1. Furnishing all labor, materials, tools and equipment necessary to install, in place, all synthetic turf and infill materials as indicated on the plans and as specified herein. The installation of all new materials shall be performed in strict accordance with the manufacturers written installation instructions, and in accordance with all approved shop drawings.

### 1.3 SUBMITTALS

- A. Items B, E, F K H, I, J, K and M with the bid.
- B. Product Data: For each type of product indicated.
- C. Shop Drawings: Show fabrication and installation details for synthetic turf.
- D. Shop Drawings: Include plans, elevations, sections, details, and attachments to other Work.
- E. Samples for Verification: For the following products, in manufacturer's standard sizes.
  1. A 12-inch x 12-inch, minimum sample of the synthetic turf and infill system that is specified for this project. (if different than specified system)
  2. Sand / Rubber mix with proper mix ratio, if different than specified..
- F. Manufacturer Certificates: Certified list of twenty-five (25) existing installations of the synthetic turf infill system that is specified for this project within the last three years, including Owner representative and telephone number, attesting compliance with quality assurance information. These fields must comply with the materials section of the specification. All must be located in the continental United States.
- G. Qualification Data: The turf manufacturer must have 25 football/soccer specific installations of 65,000 square feet or more of this specific type infill system that have been in use for a minimum of three years all being located in the Continental United States in locations similar in climate to the Northeast USA. These fields shall not have been constructed over an E-Layer (elastic) or a formed under pad.
- H. Turf manufacturer must have at least five (5) FIFA recommended / approved installations, past or present. These installations must be constructed utilizing the same infill components and methods of installation described within this section. These installations must be located in the United States.
- I. Sample Warranty: Must be provided with bid submittal. Provide a sample pre paid third party insured warranty conforming to all requirements as set forth in warranty section of this specification with the bid. Policy must be in force at time of bid.
- J. Warranties: The Contractor shall provide a warranty to the Owner that covers defects in materials and workmanship of the turf for a period of eight (8) years from the date of substantial completion. The turf manufacturer must verify that their representative has inspected the installation and that the work conforms to the manufacturer's requirements. The manufacturer's warranty shall include general wear and damage caused from UV degradation. The warranty shall specifically exclude vandalism, and acts of God beyond the control of the Owner or the manufacturer. The warranty shall be fully third party insured, pre paid for the entire 8 year term and be non-prorated. The Contractor shall provide a warranty to the Owner that covers defects

in the installation workmanship, and further warrant that the installation was done in accordance with both the manufacturer's recommendations and any written directives of the manufacturer's representative. Prior to final payment for the synthetic turf, the Contractor shall submit to owner an insurance policy, guaranteeing the warranty to the Owner. The insurance must reflect the following values: 1) no maximum per claim coverage amount up to the annual policy aggregate.. 2) minimum of thirteen million dollar annual aggregate 3) Pre Paid 8 year third party policy must be issued by a carrier with an A.M. Best rated "A" or better rating. 4) Policies that include self insurance or self retention clauses shall not be considered. Policy can not include any form of deductible amount. Policy must be a single policy. Excess or umbrella insurance shall not be acceptable. Policy must be in force at time of bid.

- K. Synthetic turf system shall be approved as ADA Handicap accessible as determined by Test Method - ASTM 1951-99 (Standard Specification for determination of accessibility of surface under and around playground equipment). Proof of passing test report must be submitted with the bid.
- L. Certified tuft bind test results must be submitted with the bid to confirm compliance with requirement as defined within specification.
- M. . The manufacturer must have ISO 9001, ISO 14001 and OHSAS 18001 certifications demonstrating its manufacturing efficiency with regards to quality, environment and safety management systems. Proof of designations must be supplied at the time of bid.

#### 1.4 QUALITY ASSURANCE

- A. Installer Qualifications: An authorized representative of synthetic turf manufacturer for installation and maintenance of units required for this Project.
- B. Source Limitations: Obtain synthetic turf through one source from a single manufacturer.
- C. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination."
- D. All components and their installation method shall be designed and manufactured for use on outdoor athletic fields. The materials as hereinafter specified, should be able to withstand full climatic exposure in the Northeast USA, be resistant to insect infestation, rot, fungus and mildew; to ultra-violet light and heat degradation, and shall have the basic characteristic of flow through-drainage allowing free movement of surface run-off through turf and directly into the prepared granular base and into the field drainage system.
- E. The synthetic turf and components shall be of national reputation with previous use at all levels of competition, including professional and collegiate levels of Football and Soccer and shall have been in use for a period of not less than three years. The turf fabric shall be produced by the manufacturer and installed by factory-authorized distributors directly employing the installation crew. Manufacturing "jobbers" or installation "subcontractors" shall not be permitted.
- F. The turf manufacturer must be experienced in the manufacture and installation of this specific type of synthetic infilled grass system (comply w/ materials section of this specification) with completed installations in the United States, for at least six (6) years, and have completed at least twenty five (25) installations of this specific type (must comply with description of system



under materials section of this specification) within the last three (3) years within the Continental United States in climates similar to the State of New Jersey..

- G. The turf manufacturer must have 25 football/soccer specific installations of 65,000 sf or more of this specific type infill system that have been in use for a minimum of five years all being located in the Continental United States in locations similar in climate to the State of New Jersey. These fields shall not have been constructed over an E-Layer or a formed under pad.
- H. Turf manufacturer must have at least five (5) FIFA recommended / approved installations, past or present. These installations must be constructed utilizing the same infill components and methods of installation described within this section. These installations must be located in the United States.
- I. Prior to the bid and/or Landscape Architect approval of a specified synthetic turf system, the company and manufacturer (if different than company) shall specify in writing that their turf system does not violate any other manufacturers patents, patents allowed or patents pending.
- J. Prior to the beginning of installation, the manufacturer/ installer of the synthetic turf shall inspect the sub base and supply a Certificate of Subbase Acceptance for the purpose of obtaining manufacturer's warranty for the finished synthetic playing surface.

#### 1.5 PROJECT CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit synthetic turf to be performed according to manufacturers' written instructions and warranty requirements.
- B. Field Measurements: Indicate measurements on Shop Drawings.

#### 1.6 WARRANTY

- A. Special Warranty: Turf must maintain an ASTM F 355 G Max of less than 190 for the life of the warranty.
- B. Warranty Period: Eight (8) years from date of Substantial Completion.

### PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by the following:

Basis of Design System -Fieldturf Elite Series, Classic HD by Fieldturf USA, Inc., (800) 724-2969 or Approved Equivilent systems in compliance with bid specification requirements.

Alternate systems presented by bidding contractors must include all product data information including product history with the bid. Proposed alternative systems shall be reviewed post bid for compliance to specification requirements.

### MATERIALS

- B. **Synthetic Grass System:** A complete synthetic grass system consisting of minimum 2.25 inch long fiber polyethylene fiber (combined with all other described system components) tufted to a double primary porous backing and a porous secondary backing. The fiber shall be a minimum of 9,000 denier, low friction fiber, measuring minimum 2.25 inches high. The low friction fiber shall be specifically designed to virtually eliminate abrasion.
1. The tufted fiber weight shall not be less than 35 ounces per square yard. The low friction fiber shall be treated with UV inhibitors. The tufted rows of fiber are to be spaced ¾" apart.
  2. The carpet's primary backing shall be a layered polypropylene fabric treated with UV inhibitors. The secondary backing shall consist of an application of porous, heat-activated material to permanently lock the fiber tufts in place. Carpet backing shall be not be perforated. The tuft bind must be a minimum of 9.0 lbs, certified test results confirming that product meets or exceeds this requirement must be submitted with the bid.
  3. The carpet shall be delivered in 15 feet wide rolls. The rolls shall be of sufficient length to go from sideline to sideline. Head seams, other than at sidelines, will not be acceptable. Cord for sewing seams of turf shall be as recommended by the synthetic turf manufacturer. Perimeter edge details required for the system shall be as detailed and recommended by the manufacturer, and as approved by the manufacturer.
- C. **Resilient Layered Infill:** A resilient layered infill system consisting of specifically formulated rounded silica sand and cryogenically processed rubber. Layering of materials shall be utilized to insure that the top layer of infill is inserted using moderately, larger sized, cryogenic rubber particles. The total infill amount shall be no less than 8.0 lbs. per sq.ft. Cryogenic rubber must represent a minimum of 3.0 lbs per sq ft.
- D. **Turf Groomer:** The Contractor shall provide a turf grooming system, which consists of spiked wheels designed to penetrate the infill in order to loosen the infill without damaging the grass fibers and light raking tines attached to the rear of the unit designed to groom the exposed grass fibers to keep them from matting down excessively. Equipment must be a minimum of 6 feet in width and include two sets of brushes on front and rear. This equipment shall be approved by the turf manufacturer and the Owner to be used by the Owner as directed by the Manufacturer. No additional payment will be made for providing the equipment, but the costs for providing the equipment shall be included in the price bid for synthetic turf.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for maximum moisture content, installation tolerances, and other conditions affecting performance of work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
- C. The surface to receive the synthetic turf shall be inspected and certified by the manufacturer as ready for the installation of the synthetic turf system and must be perfectly clean as installation commences and shall be maintained in that condition throughout the process. The final subbase surface shall be surveyed by the contractor by means of a laser level with a minimum 500 shots taken (10-foot grid). Based on the contractor's topological survey, the contractor shall fine grade the subbase suitably - including properly rolling and compacting the base. The contractor

shall survey the areas that were fine graded and shall submit the final topological survey to the turf installer and the Landscape Architect for approval. CONTRACTOR SHALL NOT APPROVE THE SUBBASE FOR TOLERANCE TO GRADE WITHOUT OBTAINING THE TOPOLOGICAL SURVEY.

- D. The installation shall be performed in full compliance with approved shop drawings. Only factory-trained technicians skilled in the installation of athletic caliber synthetic turf systems, working under the direct supervision of the manufacturer's supervisors, shall undertake the placement of the system. The designated Supervisory personnel on the project must be certified, in writing by the turf manufacturer, as competent in the installation of this material, including sewing seams and proper installation of the infill mixture. The manufacturer shall certify the installation and warranty compliance. The surface to receive the synthetic turf shall be inspected and certified by the manufacturer as ready for the installation of the synthetic turf system and must be perfectly clean as installation commences and shall be maintained in that condition throughout the process.

### 3.2 PREPARATION

- A. Preparation of Subgrade: All topsoil, organic, and non-compactable materials need to be removed.
- B. The soil bed must have a minimum slope of 0.5% or more, depending on the soil analysis, from the longitudinal center of the field towards the sidelines.
- C. The soil bed must be compacted in both directions to attain the specified compaction rate of 95% standard Proctor.
- D. The soil bed must be prepared to tolerances of not more than 1/2" from design grade to allow for even drainage.
- E. A geotextile fabric is required to cover the soil bed.

### 3.3 INSTALLATION

- A. Underdrain System: Install as detailed on the project drawings.
- B. Perimeter Edge: Install at entire perimeter of synthetic turf system where synthetic turf abuts natural lawn areas. Set on minimum 3" layer of stone dust or screenings. Spike with #4 re-bar, hammered into soil, spaced as recommended by the manufacturer. Synthetic carpet system will overlap on top, and be tacked or nailed to perimeter edge side.
- C. Base Stone
  - 1. The base stone must be laid without damaging the soil bed, geotextile liner or drains. It is very important to not create any depressions with heavy equipment. The specified stone or aggregate supplied must conform to the recommended specifications. The finished crushed stone or aggregate base supplied must be stable and permeable.
  - 2. The base course of stone aggregate shall be 22 inches of  $\frac{3}{4}$  clean followed by a 2 inch layer of specified choke stone. The base shall be constructed in 2 or more layers or lifts of

approximate equal thickness. Each layer must be compacted in both directions to attain the specified compaction rate.

3. The base course must be sloped 0.5% from the center longitudinal axis towards the sidelines or as specified.
4. The grade of the base course shall not vary from the specified grade by more than ½" from design grade.
5. The base course must be compacted in both directions to attain the specified compaction rate of 95% standard Proctor.

#### D. Finishing Stone

1. The final grade aggregate layer should not be more than 2" deep.
2. The final grade material must be sloped 0.5% from the center longitudinal axis towards the side lines unless otherwise specified.
3. The final grade must be compacted in both directions to attain the specified compaction rate of 95% standard Proctor.
4. The final grade of the finishing stone shall not vary from the specified grade by more than ½" from design grade, nor by more than ¼" in 10ft. Laser guided grading is highly recommended.

#### E. Synthetic Turf

1. The carpet rolls are to be installed directly over the properly prepared base stone. Extreme care should be taken to avoid disturbing the base stone, both in regard to compaction and planarity. A 2-5 ton static roller shall be on site and available to repair and properly compact any disturbed areas of the base stone.
2. The full width rolls shall be laid out across the field. Utilizing standard state of the art sewing procedures, each roll shall be attached to the next. Each seam will be double sewn. When all of the rolls of the playing surface have been installed, the sideline areas shall be installed at right angles to the playing field turf. **GLUING OF ROLLS SHALL NOT BE ACCEPTABLE.** This is a 99% sewn installation. Minimum gluing will only be permitted to repair problem areas, and corner completions.
3. Turf panel seams shall be sewn. All turf panel seams shall be sewn with high strength thread. All seams shall be transverse to the field direction; i.e., run perpendicularly across the field. Seams shall be flat, tight, and permanent with no separation or fraying.
4. Synthetic turf shall be installed across the field and attached to the perimeter edge detail. Turf shall be of sufficient length to permit full cross-field installation. No head or cross seams will be allowed.

#### F. Resilient Layered Infill

1. The blending infill material shall be spread evenly with a large spreader, (minimum 5-foot wide). Between applications the infill area shall be brushed with a motorized rotary nylon broom. Infill depth shall be such that a maximum of ¾ inch of fiber is exposed.
2. The infill system shall be the only acceptable cushioning system. E-layers and formed rubber pads shall be deemed unacceptable as enhancements to meet the necessary safety requirements.

### 3.4 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to perform field tests and inspections and prepare test reports.

- B. Testing Services: Testing and inspecting of completed applications of synthetic turf system shall take place in successive stages, in areas of extent and using methods as follows. Do not proceed with application of the next stage until test results for previously completed applications show compliance with requirements.
- C. Remove and replace applications where test results indicate that it does not comply with specified requirements.

### 3.5 FINAL ACCEPTANCE

- A. Prior to Final Acceptance, the Contractor shall submit to the owner three (3) copies of Maintenance Manuals, which will include all necessary instructions for the proper care and preventative maintenance of the synthetic turf system, including painting and striping.
- B. The Contractor shall provide evidence that the turf can be plowed with conventional rubber bladed snow removal equipment.
- C. The finished playing surface shall appear as mowed grass with no irregularities and shall afford excellent traction for conventional athletic shoes of all types. The finished surface shall resist abrasion and cutting from normal use.

### 3.6 CLEANING

- A. Contractor shall provide the labor, supplies and equipment as necessary for final cleaning of surfaces and installed items. All usable remnants of new material shall become the property of the Owner. The Contractor shall keep the area clean throughout the project and clear of debris. Surfaces, recesses, enclosures, etc., shall be cleaned, as necessary, to leave the work area in a clean, immaculate condition ready for immediate occupancy and use by the Owner.

#### **10. Change in Use.**

Will the project result in a change in use for the land or structure? If YES, please describe and document.

There is no change in use.

#### **11. Change in Size or Capacity.**

Will the project result in a change in size or capacity of any kind? If YES, describe the percentage increase in size, footprint, number or capacity. Include any increase to main building(s), ancillary structure(s), parking areas, landscaping, paving, etc.

There is no change in size or capacity.

#### **12. Market Value (for multi-family rehabilitation projects only).**

Will the proposed project for which funding is requested result in an increase in the market value of the property, facility, or installation? If YES, what is the percentage increase?

Examples:

No applicable

13. Attach **Right of Entry Form** signed by property owner.

Attached