



COUNTY OF UNION

DEPARTMENT OF ENGINEERING, PUBLIC WORKS & FACILITIES MANAGEMENT

Joseph A. Graziano Sr., Director

MEMO TO: All Prospective Bidders
FROM: Thomas O. Mineo, P.E.
County Engineer
DATE: September 18, 2017
RE: **CLARIFICATION NUMBER 1**
BA#58-2017 – Meisel Park Field Improvements
Township of Springfield, County of Union, New Jersey
Union County Engineering Project #2016-004

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CHOSEN FREEHOLDERS**

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Clerk of the Board

THOMAS O. MINEO, P.E.
*County Engineer,
Director, Division of
Engineering*

This is in response to a question received for the above referenced project:

- Q.1** Based on the anticipated quantity (10,000 ton) provided in the specifications for Bid Item #7 "Exporting of Existing Site Soil Cap" this quantity includes ± 16 inch depth below existing surface grade. The Geotechnical Report (Appendix B in the Specifications) states there is unsuitable fill (Topsoil, Fill, Peat, and Organic Silt) that Range from two to ten feet (2'-10') below the existing surface grade. If it is the intent to remove and replace this material than will payment for the excavation and removal of unsuitable material be covered under the Bid Contingency. If not, please provide a separate Bid Item for Unsuitable Fill Removal and Import of Controlled Fill. Unless the aforementioned Bid Items are provided the contractor will base their bid on 50 tons of unsuitable fill removal and 50 tons of imported controlled fill.
- R.1** ***Within the Geotechnical Engineering Report please note Option 3 item 10. The Contractor shall proof roll all existing on-site soils with the presence of the engineer at no additional compensation to the Contractor. In the event that a soft spot is observed it shall be removed and replaced with controlled fill. The cost to remove and replace this material will be compensated through the Bid Contingency in accordance with the payment process for this pay item. Removal and replacement shall not be performed until written authorization is provided by the owner and/or engineer.***

DIVISION OF ENGINEERING

2325 South Avenue

Scotch Plains, NJ 07076

(908)789-3690

fax(908)789-3674

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**SPECIFICATIONS
FOR
MEISEL PARK FIELD IMPROVEMENTS
TOWNSHIP OF SPRINGFIELD
COUNTY OF UNION, NEW JERSEY
BA#58-2017; UNION COUNTY ENGINEERING PROJECT #2016-004**

SEPTEMBER 2017

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**DEPARTMENT OF ENGINEERING, PUBLIC WORKS AND
FACILITIES MANAGEMENT**
Joseph A. Graziano, Sr., CPWM
Director, Department of Engineering, Public Works and
Facilities Management

**COUNTY ENGINEER
DIVISION OF ENGINEERING**
Thomas O. Mineo, P.E.
2325 South Avenue
Scotch Plains, New Jersey 07076
Telephone: (908) 789-3675
Fax: (908) 789-3674

PREPARED BY:
Neglia Engineering Associates
1119 Raritan Road
Clark, New Jersey 07066
T: 201-939-8805
F: 732-943-7249

**COUNTY OF UNION
NOTICE TO BIDDERS**

Sealed bids will be received by the director of the Division of Purchasing, or her designee, at the County of Union, New Jersey on September 21, 2017 at 10:30 a.m., prevailing time, in the 3rd Floor Conference Room, U.C. Administration Building, 10 Elizabethtown Plaza, Elizabeth, New Jersey for:

**MEISEL PARK FIELD IMPROVEMENTS
TOWNSHIP OF SPRINGFIELD, COUNTY OF UNION, NEW JERSEY
BA#58-2017; UNION COUNTY ENGINEERING PROJECT #2016-004**

Bid Packages may be obtained at no charge by registering and downloading at <http://ucnj.org/bid-specs>. Bid Packages may also be obtained in person from the Division of Engineering at 2325 South Avenue, Scotch Plains, New Jersey 07076 between 8:30 a.m. and 4:00 p.m. weekdays upon payment of a non-refundable money order or bank check in the amount of \$275.00 made payable to the County of Union. No Personal / Company checks will be accepted. Requests for mailing of specifications will not be honored. For further information please call 908-789-3675.

The County reserves the right to reject any and all bids and to waive any and all informalities in the bid.

Bids shall be submitted in a sealed envelope and clearly marked with the subject of the bid, name and address of the bidder, phone & fax number, and date of the bid opening. Each bid must be delivered to reach the Division of Purchasing prior to the stated time of the opening of the bids. The County will not be responsible for late delivery by the U.S. Mail or any other carrier. If hand delivered, please note that parking and security access at the County Complex may cause delays and bidders should take them into consideration in order to submit a timely bid. **No** late bids will be accepted.

Bidders are required to comply with the requirements of N.J.S.A. 10:5-31 et seq. and N.J.S.A.C. 17:27.

LAURA M. SCUTARI, QPA, MPA, DIRECTOR OF PURCHASING

**UNION COUNTY BOARD
OF CHOSEN FREEHOLDERS**

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NB-1

MEISEL PARK FIELD IMPROVEMENTS
TOWNSHIP OF SPRINGFIELD, COUNTY OF UNION, NEW JERSEY
BA#58-2017; Union County Engineering Project #2016-004

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**UNION COUNTY BOARD OF CHOSEN FREEHOLDERS
INSTRUCTIONS TO BIDDERS AND FORMS**

DEFINITIONS

Wherever reference is made to the County, Title of Project, Bidder, or Vendor/Contractor they shall be as follows:

OWNER/COUNTY:

Union County Board of Chosen Freeholders
UC Administration Building, 6th Floor
10 Elizabethtown Plaza
Elizabeth, New Jersey 07207

ADDRESS BIDS AND SUBMIT TO:

Union County Division of Purchasing
UC Administration Building, 3rd Floor
10 Elizabethtown Plaza
Elizabeth, NJ 07207
Attn: Laura M. Scutari, QPA, MPA, Director, Division of Purchasing
Telephone: 908-527-4130
Facsimile: 908-558-2548

TITLE OF PROJECT: **Meisel Park Field Improvements
Township of Springfield, County of Union, New Jersey
BA#58-2017; Union County Engineering Project #2016-004**

BIDDER: Bidder shall be a single overall contract bidder

ENGINEER: **Neglia Engineering Associates
1119 Raritan Road
Clark, New Jersey 07066**

COUNTY ENGINEER AND/OR CONSTRUCTION MANAGER (as applicable):

COUNTY ENGINEER:

Thomas O. Mineo, P.E.
Union County
Division of Engineering
2325 South Avenue
Scotch Plains, NJ 07076
Office: (908) 789-3675
Facsimile: (908) 789-3674
Email: tmineo@ucnj.org

CONSTRUCTION MANAGER:

GENERAL SPECIFICATIONS

1. BID FORM

Bids for this Work will be enclosed in a sealed envelope addressed to the Purchasing Division, County of Union, New Jersey, Union County Administration Building, 10 Elizabethtown Plaza, Elizabeth, New Jersey 07207, with the full name of the Project clearly marked on the outside. Refer to the sheet marked "Notice of Bid (Advertisement)" for the correct name of the Project. Bidders must submit their bids on the attached pricing sheet (Bid Form), in a sealed envelope addressed to the County and bearing on the outside: the name of the Bidder, Bidder's business address, and the title of the Project.

The Division of Purchasing will receive the bids for this Work at the Union County Administration Building, 10 Elizabethtown Plaza, Elizabeth, New Jersey on the date and time noted on the sheet marked "**Notice of Bid (Advertisement)**".

The County will not assume responsibility for bids forwarded by mail. It is the individual's responsibility to see that the bids are presented to the Purchasing Division at the time and at the place designated.

Bids will be accepted only on the Bid Form supplied. Bids on forms other than the original supplied herein will be rejected. The "complete" Bid Documents includes the Bid Bond, Bid Form, Bidder's Checklist, Consent of Surety, Ownership Disclosure Certification, Non-Collusion Affidavit, and any other documents noted in these Instructions to Bidders or Contract Document to be submitted with this Bid.

The bidder will state in the bidding sheet the price per unit of measure for each scheduled Item of Work for which he will agree to carry out the Work, and the Total Bid Price for the construction of the Project.

The prices in the Bid Form shall be typed or written in pen and ink. Erasures or alterations must be initialed by the bidder in ink.

The bidding sheet for this Project may include a fixed amount as a Bid Allowance. If applicable, all bidders are required to add this fixed amount to their base bid and to include this additional amount in their Bid Bond. This sum will be included in the Contract as well as the performance, labor and materials bond. Payment by the County will be made to the Contractor from these funds only upon the completion of extra Work pursuant to a written Change Order(s) signed by the County's Engineer or his designee and the Contractor, prior to the commencement of such Work. Work commenced prior to written approval by the County shall be done at Contactor's risk. Such payment will only be in the amount agreed to by the parties, in writing in the Change Order(s). See Section 37, Change Orders, of these general specifications for further details.

Refer to Bid Document Submission Checklist for all required documents.

In the event there is a discrepancy between the unit price given and the extended total, the unit price will govern. Any discrepancies will be mathematically adjusted.

Insert applicable alternates, if any have been specified, applicable to the Bidder's Work. All alternates MUST be bid upon. Any Bidder's failure to do so will be deemed a material, non-waivable defect and shall render the bid nonresponsive. The Bidder shall clearly designate whether the change in price is an addition or subtraction, by using either a "+" sign or the word "addition", or in the alternative, a "-" sign or the word "minus". If there is no other change in price, the Bidder shall insert "NC" or "No Charge".

When two or more low bids are equal in all respects, awards will be made according to the provisions of N.J.S.A. 40A:11-6.1(d).

Where unit prices have already been established by the Contract Documents, the Bidder agrees that such unit prices shall prevail. All unit prices, whether filled in by the Bidder or established by the Contract Documents, shall become part of the Contract. No bid will be considered or award made, unless applicable unit prices, as required, are filled in.

The County reserves the right to reject any or all bids and also reserves the right to waive any informality in the bids received so long as said waiver is not of a response which is considered to be material and non-waivable pursuant to law.

The County of Union has the right to reject any and all bids from any bidder that is in, or contemplates bankruptcy of any chapter of nature. Said bidder shall notify the County, in writing, of any condition or knowledge of the same.

Conditional bids will not be accepted. Bids may be withdrawn prior to the advertised time for the opening of bids or authorized postponement thereof or in accordance with the provisions of N.J.S.A. 40A:11-23.3 discussed below. Bids received after the advertised time shall not be considered. Bidders shall be solely responsible for premature opening or late delivery of bids not properly marked, addressed, or directed.

2. WITHDRAWAL OF BID DUE TO MISTAKE

N.J.S.A. 40A:11-23.3 authorizes a bidder to request withdrawal of a public works bid due to a mistake on the part of the bidder. A mistake is defined by N.J.S.A. 40A:11-2(42) as a clerical error that is an **unintentional and substantial computational error or an unintentional omission of a substantial quantity of labor, material, or both, from the final bid computation.**

A bidder claiming a mistake under N.J.S.A. 40A:11-23.3 must submit a request for withdrawal, **in writing**, by certified or registered mail to Laura M. Scutari, QPA, MPA,

Director, Division of Purchasing, County of Union, New Jersey, Union County Administration Building, 10 Elizabethtown Plaza, Elizabeth, New Jersey 07207. The bidder must request withdrawal of a bid due to a mistake, as defined by the law, within five business days after the receipt and opening of the bids. Since the bid withdrawal request shall be effective as of the postmark of the certified or registered mailing, Laura M. Scutari, QPA, Director of the Division of Purchasing or his designee may contact all bidders, after bids are opened, to ascertain if any bidders wish to, or already have exercised a request to withdraw their bid pursuant to N.J.S.A. 40A:11-23.3.

A bidder's request to withdraw the bid **shall** contain evidence, including any pertinent documents, demonstrating that a mistake was made. Such documents and relevant written information shall be reviewed and evaluated by the County's designated staff pursuant to the statutory criteria of N.J.S.A. 40A:11-23.3.

The County will not consider any written request for a bid withdrawal for a mistake, as defined by N.J.S.A. 40A:11-2(42), by a bidder in the preparation of a bid proposal unless the postmark of the certified or registered mailing is within the five business days following the opening of bids.

3. QUALIFICATIONS OF BIDDERS AND REQUIRED SUBMISSIONS

The County may make such investigation as it deems necessary to determine the ability of the Bidders to perform the Work, which includes investigation of any and all subcontractors listed with the bid. The Bidder shall furnish any information and data for this purpose as the County may request.

4. INTERPRETATIONS AND ADDENDA

Any explanation desired by a bidder regarding the meaning or interpretation of the Contract Documents must be requested in writing to the County Engineer or Design Professional as the case may be and with reasonable time allowed for a reply to reach bidders before submission of their bids. Any interpretation or instruction made by the County Engineer will be in the form of an addendum to the Contract Documents or clarification and will be furnished to all prospective bidders. Oral explanations or instructions given before the award of the Contract will not be binding. Bidders are required to bring to the attention of the County Engineer, the discovery of any apparent ambiguity, inconsistency, error, discrepancy, omission in the Contract Documents for interpretation and correction at least ten (10) working days before opening of bids with the exception of Saturdays, Sundays and holidays.

All Addenda issued through the Offices of the County Engineer are amendments to the Contract Documents and shall be considered in preparing bids. Same shall become part of the Contract Documents.

Addenda take precedence over all earlier documents and over each other according to the latest date. Addenda unless themselves interpretive remain subject to interpretation the same as any other document incorporated in the Contract.

Addenda may be issued by the County Engineer up to seven (7) working days prior to the opening of bids. Failure of any bidder to receive an addendum shall not relieve such bidder from the obligation imposed by such addendum. Bidders are to keep themselves currently acquainted with the Contract Documents during the entire bidding period and make inquiry on their own initiative as to issuance of any Addenda. Receipts of all Addenda shall be acknowledged on the “*Acknowledgement of Receipt of Changes*” included in the bid package and must be submitted with the bid.

5. OBLIGATION OF BIDDER TO INSPECT SITE AND CONTRACT DOCUMENTS

At the time of the opening of bids, each Bidder will be presumed to have inspected the site(s) and to have read, and be thoroughly familiar with the Contract Documents. The failure or neglect of any Bidder to receive or examine any form, instrument, or document shall in no way relieve any Bidder from any obligation in respect to its bid.

The Bidder shall examine the contents of the Project Manual and the set of Drawings and assure itself that all pages of the Specifications, Drawings, and other Contract Documents are included in the documents obtained for bidding purposes. Should the Specifications, Drawings, and other Contract Documents be incomplete, the Bidder shall notify the County Engineer in writing, who will supply the Bidder with any missing pages of Specifications, Drawings, or other Contract Documents. The lack of such written notification by the Bidder will be construed as evidence that the Specifications, Drawings, or other Contract Documents supplied it for bidding purposes are full and complete and as a waiver of any subsequent claim to the contrary.

6. BID AND PERFORMANCE GUARANTEE

Each bidder must furnish a Bid Bond, Certified Check or Bank Cashier’s Check in the amount of ten percent (10%) of the Bid. Checks shall be drawn to the order of the County of Union, New Jersey, not to exceed \$20,000.

Each bidder must furnish with the bid a certificate from a Surety Company, i.e. Consent of Surety, stating that in the event of the contract being awarded to said bidder, such Surety Company will provide the Contractor with Bonds guaranteeing the faithful performance of the Work in accordance with the plans and specifications, and the payment for labor, materials, and all other indebtedness which may accrue on the account of this Work. A Performance, Labor and Materials bond will be furnished by the Contractor upon an award of Contract, and will be in the amount of 100% of the contract price.

A one-year Maintenance Bond will be required upon acceptance of the Project by the County in the amount as stated in Section 15 of the General Specifications. Bonds will be written by a firm authorized to issue the bonds under the laws of the State of New Jersey and be in a form acceptable to the County Counsel.

N.J.S.A. 40A:11-1.1 et. seq. allows the prime Contractor to furnish the Performance Security for his Subcontractors. The County of Union requires Performance Security to be furnished by the prime contractor for the entire job in the total amount of the contract.

The County of Union shall award the contract or reject all bids within sixty (60) days; except that the bids of any bidders who consent thereto may, at the request of the County be held for consideration for such longer periods as may be agreed.

The County will return all certified checks or cashier's checks after the proposals have been opened, read, tabulated and checked except those of the three (3) bidders who have bid the lowest total price for carrying out the Project. The County will return the checks of these bidders when a contract is awarded to the successful bidder within ten (10) days after the award of the contract.

If the successful bidder refuses or neglects to sign the said Agreement and furnish the required bonds, the Bid Bond will be held and used by the County to offset any damages for such refusal or neglect.

7. COMMENCEMENT AND COMPLETION

Work will not commence until a Notice to Proceed is received from the County Engineer.

Upon substantial completion of the Project, the Contractor must request a joint inspection with the County Engineer. Upon completion of this inspection, the County Engineer will prepare a list of incomplete or incorrect items (punch list) and have Contractor initial and date same. The Contractor shall rectify all deficiencies noted on the punch list within 30 calendar days of receipt of the list. The County Engineer may approve extensions for extenuating circumstances.

8. BIDDER AFFIDAVIT

All Bidders are required to complete, sign, and submit with their Bid, the attached "Affidavit Regarding List of Debarred, Suspended or Disqualified Bidders". (See form enclosed)

9. BID SECURITY

All Bidders are required to submit a form of Bid Security with their bids.
(Bid Bond or Certified Funds)

The Bid Security shall be in the amount of ten percent (10%) of the Bid, but not in excess of Twenty Thousand Dollars (\$20,000.00), and payable to the order of the "County of Union."

10. LABOR AND MATERIALS

The prices will cover all costs of any nature incident to and growing out of the Work, including all labor, material, equipment, transportation, loss by damage or destruction of the Project, settlement of damages, and for replacement of defective work or materials. N.J.S.A. 54:32B-1 et seq. exempts all materials sold to the County of Union from sales or use taxes and should not be included in the prices provided on the Bidding Sheet.

11. INSURANCE REQUIREMENTS

The County of Union requires all contractors to be able to comply with the following insurance requirements. In the event a bid is accepted by the County, the contractor must accept the applicable insurance requirements, as set forth below, as part of any contract awarded to it by the County.

Contractor shall carry and maintain at all times while the contract is in full force and effect, the following insurance coverage with an insurance company or companies acceptable to the County, with limits not less than those shown below. A Certificate of Insurance shall be filed with the County prior to commencement of any Work indicating the following:

- a) Commercial General Liability (CGL): Coverage for all operations including, but not limited to, contractual, products and completed operations, and personal injury with limits no less than \$5,000,000 per occurrence/\$10,000,000 aggregate. The County of Union, its Board of Chosen Freeholders, officers, employees, agents and servants shall be included as an additional insured. Coverage is provided on a primary and non-contributory basis to the County of Union, et al.
- b) Automobile Liability: Coverage for all owned, non-owned and hired vehicles with limits not less than \$5,000,000 per occurrence, combined single limits (CSL) or its equivalent.
- c) Workers Compensation: As required by the State of New Jersey and Employers Liability with limits not less than \$1,000,000 per accident for bodily injury or disease.
- d) Professional Liability (if design/build): Coverage with limits not less than \$1,000,000 per occurrence or claim, \$2,000,000 aggregate

- e) Contractor's Pollution Legal Liability and/or Asbestos Legal Liability and/or Errors & Omissions (if project involves environmental hazards): Coverage with limits no less than \$1,000,000 per occurrence or claim/\$2,000,000 aggregate.
- f) Builders Risk (for major renovations): During the course of construction utilizing an "All Risk" coverage form with limits equal to the completed value of the project and no coinsurance penalty provisions.

Where applicable, a waiver of subrogation in favor of the County of Union, its Board of Chosen Freeholders, officers, employees, agents, servants and the State of New Jersey is to be included in those policies of insurance where permitted by law.

Notice of Cancellation: Each insurance policy required above shall provide that coverage shall not be canceled, except with notice to the Entity.

Special Risks or Circumstances: The County reserves the right to modify these requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage, or other special circumstances.

12. INDEMNIFICATION REQUIREMENTS

The County of Union requires all bidders to accept the following indemnification requirements in the event the County accepts their bid. The Contract awarded by the County to the successful bidder will contain the following provision:

"To the fullest extent permitted by law the Contractor shall indemnify and hold harmless the owner and the owner's consultants, agents, representatives, and employees from and against any and all claims, damages, losses, costs, and expenses, including, but not limited to attorneys' fees, legal costs and legal expenses arising out of or resulting from the performance of the Contractor's work under this contract, provided that such claim, damage, loss, cost, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the work itself) caused or alleged to be caused by the negligent acts, negligent omissions, and/or fault of the Contractor, anyone directly or indirectly employed or retained by the Contractor, or anyone for whose acts the Contractor may be liable regardless of whether caused in part by the negligent act or omission of a party indemnified hereunder provided it is not caused by the sole negligence of a party indemnified hereunder. Contractor shall further indemnify and hold harmless the County and the County's consultants, agents, representative, and employees from and against any and all claims, damages, losses, costs, and expenses, including, but not limited to attorneys' fees, legal costs and legal expenses, arising out of or resulting from performance of the work, provided that such claim, damage, loss, cost, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the work itself) caused or alleged to be caused by the negligent acts, negligent omissions, and/or fault of

the County or the County's consultants, agents, representatives, or employees and arises out of this project and provided such claim, damage, loss, cost, or expense is not caused by the sole negligence of a party indemnified hereunder."

13. ROYALTIES AND PATENTS

The Contractor shall pay all royalties and license fees. He shall defend all suits or claims for infringement of any patent rights and shall hold the County harmless from loss on account thereof.

14. PLANS AND SPECIFICATIONS

In carrying out the Work, the plan(s) and the specifications will be followed by the Contractor. Minor alterations in the plan may be made or permitted by the County Engineer from time to time and, if no additional Work is necessary, there will be no additional charge for carrying out such minor alterations.

The Contractor shall provide the County Engineer a set of reproducible as-built drawings upon completion of the Project. The Contractor shall maintain an updated construction progress plan in the Project field office at all times.

When applicable, The New Jersey Department of Transportation Standard Specifications for Road and Bridge Construction, as amended, and Supplemental Specifications for State Aid Projects, herein after referred to as the "Standard Specifications", are made a part of these specifications and contract for the improvements, and will govern the construction of this Project, the material used and the execution of this Project, except as revised and modified herein. The references to these specifications are given herein for the purpose of aiding in the rapid location of the description of the various items herein specified. The entire Work must be carried on and completed to the satisfaction of the County. The Standard Specifications are amended as follows:

"Any reference to the Commissioner, Department, Department Laboratory, Engineer or Inspector should be redefined to be the County of Union".

15. GUARANTEE AGAINST DEFECTIVE WORK

Prior to final payment being made or before the release of the performance security required by Section 3 above, the Contractor and Surety shall execute and deliver to the County an original Maintenance Bond with an original signature and seal having a penal sum equal to:

- A) One hundred percent (100%) of the final adjusted Contract amount, if such amount is \$50,000.00 or less;

- B) Fifty percent (50%) of the final adjusted Contract amount, if such amount be greater than \$50,000.00 but less than \$250,000.00; and,
- C) Twenty-five percent (25%) of the final adjusted contract amount, if such amount is \$250,000.00 or more.

The Bond and Surety shall be satisfactory to the Union County Counsel. The Surety shall hold a Certificate of Authorization to do business in the State of New Jersey and shall conform to P.L. 1995 c.384, codified as N.J.S.A. 2A:44-143, 144. The Surety Disclosure Statement and Certification required by N.J.S.A. 2A: 44-143, 144, shall be attached to the Bond. Such Maintenance Bond shall remain in full force and effect for a period of one (1) year from the date of Final Completion. Such Maintenance Bond shall also provide that the Contractor and the Surety guarantee to replace for the said period of one (1) year from the date of Final Completion, all Work performed and/or all materials furnished that were not performed or were not furnished in accordance to the terms and performance requirements of the Contract Documents, and will make good any defects thereof which become apparent before the expiration of one (1) year. If, during that period, any part of the Project, in the judgment of the Engineer, is found defective, the Contractor will repair or replace same within five (5) days of receipt of notice from the County Engineer. If the Contractor refuses or neglects to do such Work in the time specified, the County Engineer may have the Work done by others and the Contractor or his Surety thereof will pay the cost.

The Contractor will furnish the County a Maintenance Bond for a percentage of the final adjusted contract price, as stated above. The one (1) year period will start the day of Final Completion of Project by the County. Final payment is conditional on the receipt of a maintenance bond in a form acceptable to County Counsel.

16. TRAFFIC AND STREET MAINTENANCE

The Work must be started and performed by the Contractor in such a manner as to minimize delays to the traveling public. It must be completed in a timely fashion, with little or no inconvenience to traffic and pedestrians, where such inconvenience may be avoided.

All municipal, county, and state roadways shall remain open to traffic unless otherwise provided for in the technical specifications.

If modified traffic patterns are authorized in order to provide a safe working or traveling environment, the Contractor is responsible for providing all equipment, barrels, cones, signs, and barricades to implement the work zone and detours, unless otherwise specified in the technical specifications. All work zones and detours shall be established in accordance with the technical plans and specifications if provided or in strict compliance with the current version of the Manual for Uniform Traffic Control Devices (MUTCD). The Contractor shall obtain approval for these work zones and

detour plans from the Municipal Police or applicable police agency and the Union County Bureau of Traffic Maintenance prior to implementation.

All traffic control plans shall provide for safe movement of vehicular, bicycle, and pedestrian traffic. Particular attention shall be given to requirements of the Americans with Disabilities Act.

No portion of any street or alleyway may be used for the storage of any materials or equipment without the approval of the Municipal Police or other applicable police agency. Sidewalks, gutters, drains, fire hydrants and private drives shall be maintained for their intended use unless specifically approved by the County Engineer.

Upon suspension of Work, at the end of the day or for protracted periods, the Contractor shall remove all rubbish and materials from the Work site to the approved storage/staging location. All road cuts, saw cuts, and trenches that may pose hazard to vehicular, pedestrian, or bicycle traffic, to include handicapped users, shall be filled to the surface of the roadway or sidewalk. At no time will steel plates or settled trenches be allowed at the daily suspension of Work, unless specifically approved by the County Engineer.

Use of Traffic Control Officers shall be determined by the County in accordance with the provisions of N.J.S.A. 40A:11-23.1(c). If applicable to the Project, the County shall have provided an allowance for same as set forth in the Bid Form.

With respect to pedestrian traffic, the Contractor shall install signs restricting access of the general public and, as necessary, Union County employees to the area of construction. The Contractor shall provide safe access to required areas and place physical barriers to restricted areas. These barriers may range from caution tape to actual barriers, at the direction of the County Engineer.

17. CONTRACTOR'S EMPLOYEES

The Contractor must employ only suitable and competent labor in the Work, and must remove from the Work any incompetent, unsuitable, or disorderly person upon complaint from the County Engineer.

The parties to any contract resulting from this proposal do hereby agree that the provisions of N.J.S.A. 10:2-1 through 10:2-4 (discrimination in employment on public works contracts): 34:11-56.25 et seq. (payment of prevailing rate of wages determined pursuant to N.J.S.A. 34:11-56.30 by the Commissioner), and the Rules and Regulations promulgated pursuant thereto, are hereby made a part of any contract and are binding upon them.

There will be no discrimination against any employee who is employed in the Work to be covered by any contract resulting from this bid because of age, race, creed, color, national origin, ancestry, marital status or sex.

Any person, firm, or corporation violating the provisions of this Section will be deemed and judged a disorderly person.

18. OWNERSHIP DISCLOSURES REQUIRED

Pursuant to P.L. 1977, N.J.S.A. 52:25-24.2, the Bidder shall submit with its Bid, or prior to receipt of bids, a statement setting forth the names and addresses of all stockholders in the corporation or partnership bidding who own ten percent (10%) or greater interest therein. (See forms attached)

19. NON-COLLUSION AFFIDAVIT

The Bidder shall submit with its bid either the attached completed "Non-Collusion Affidavit" or a statement of non-collusion with verbiage similar to same.

20. EQUAL EMPLOYMENT OPPORTUNITY COMPLIANCES

The successful bidder shall be required to complete and submit an Initial Project Workforce Report, New Jersey Department of Treasury Form AA-201, upon notification of award. Failure to submit this completed form may result in the Contract being terminated.

The successful bidder shall also be required to submit a copy of its Monthly Project Workforce Report, New Jersey Department of Treasury Form AA-202, to the New Jersey Department of Treasury's Division of Public Contracts Equal Employment Opportunity Compliance and to the Board.

21. COMPLIANCE WITH NEW JERSEY PREVAILING WAGE ACT

The County of Union, in order to fulfill the requirements of N.J.S.A. 34:11-56a.25 et seq, requires that the following additional conditions be strictly followed. The bidders represent that he is not listed or is not on record in the Office of the Commissioner or the Department of Labor and Industry as one who failed to pay prevailing wages in accordance with the provisions of this Act. The bidder agrees to the inclusion of a contract provision upon award which specifically requires said Contractor to fully comply with each and all of the requirements of the aforesaid Act as it relates to prevailing rates of wages on public contracts as set forth in the New Jersey Prevailing Wage Act, P.L. 1963, Chapter 150 and P.L. 1974, Chapter 64.

A Copy of the Prevailing Wage Rates is attached for your reference. Applicable rates are those wages and fringe benefit rates in effect on the date the contract is awarded. All predetermined rate increases listed at the time the contract award must also be paid, beginning on the dates specified. Rates may change between the time of issuance of this determination and the award of the public works contract. Therefore, prior to the award of the contract, verification must be made with the Public Contracts section, to insure that the rates contained in this determination are still prevailing.

The Contractor agrees to abide and be bound by each and all of the said statutory provisions with respect to the payment of prevailing rates of wages, and acknowledges that the County reserves the right to terminate the Contractor's (or his subcontractors') right to proceed with the scope of Work, or such portion thereof that relates to the failure to pay prevailing rates of wages. In such event or under the terms of N.J.S.A. 34:11-56.27, the Contractor and his surety will be liable to the County of Union for any excess costs occasioned by such a violation.

The Contractor or subcontractors for this Project will post the Prevailing Wage Rates for each craft and classification involved as determined by the Commissioner of Labor and Industry, including the effective date of any changes thereof, in prominent and easily accessible places at the site of the Work or at such place or places as are used by them to pay workmen their wages.

The County of Union requires a copy of payroll records from the Contractor and subcontractors. Payroll records shall be submitted with each voucher request for payment. Prevailing wage rates may be obtained from the New Jersey Labor, Division of Workplace Standards, Public Contracts Section, (609-292-2259).

In addition to compliance with the New Jersey Prevailing Wage Act, the County requires compliance with procedures established by Resolution No. 2014-0408 adopted by the Union County Board of Chosen Freeholders on May 8, 2014. The resolution is furnished in Section 51 of these General Specifications.

UNION LABOR IS PREFERRED ON ALL COUNTY WORK

The foregoing reference to specific laws will not be deemed to be a limitation of obligation of the Contractor to perform his obligations in full compliance with the provisions and requirements of all federal and state statues and local ordinances applicable to the Work to be done under the contract.

It is agreed and understood that any contracts and/or orders placed as a result of this proposal will be governed and construed and the rights and obligations of the parties hereto will be determined in accordance with the laws of the State of New Jersey.

Upon completion of the Work, the Contractor will furnish a Certification of Compliance with the New Jersey Prevailing Wage Act. The certificate in a form acceptable to County Counsel is a condition of the final payment. (See form attached)

22. BRAND NAME OR EQUAL

When the Specifications, Forms, and other Contract Documents use “brand name or equivalent” or similar language, the listed brand name shall serve as a reference or point of comparison for the functional or operational characteristic desired for the goods or services being requested. Where a bidder attempts to submit an equivalent product for a brand name, it shall be the responsibility of the bidder to fully describe and document the product to be provided with the bid in order to establish the equivalence claim.

- A. If the Bidder proposes to offer substitute goods as an equal to those specified herein, the bidder shall so indicate with the Bid Proposal. For the purposes of this paragraph, a proposed item shall be considered equal to goods specified herein if:
 - 1. The County, in its sole discretion, determines that: (i) the goods conform substantially, even with deviations, to the brand name goods specified herein; (ii) the goods are equal to or greater than the brand name goods specified herein in terms of quality, durability, functionality, appearance, strength and design; (iii) the goods are capable, at least as well as the brand name goods specified herein, or performing with existing equipment; and (iv) the goods do not cost the County more than the brand name goods specified herein costs the County.

- B. To offer substitute goods as an equal to those specified herein, it is necessary that:
 - 1. The Bidder submits sufficient information with its bid to permit the County to determine that the goods are equivalent to the brand name goods specified herein, including, but not necessarily limited to the brand, catalog number and specifications/data sheets;

 - 2. The Bidder fully identifies and describes the variations of the goods from the brand name goods specified herein on a separate sheet that is to be submitted with the bid proposal. Bidder’s literature WILL NOT suffice in explaining exceptions to these specifications.

3. The Bidder certifies that the goods (i) are similar in substance to the brand name goods specified, and (ii) are suited to the same use as the item specified;
- C. The County shall be allowed a reasonable time within which to evaluate the Bidder's proposal to offer substitute goods as an equal to those specified herein. The County shall be the sole judge of acceptability. No "or-equal" goods shall be ordered, delivered, assembled, set-up or utilized until the County's evaluation is complete. The County's determination as to equivalency shall be deemed final and absolute.

In the event the Bidder does not provide sufficient supporting documentation with the bid, it will be presumed and required that the brand name goods and services as described in the specifications will be provided.

23. LINES AND GRADES

Normally, horizontal and vertical control points will be provided in the technical specifications. All other surveying will be the responsibility of the Contractor unless otherwise noted.

24. NUMBER OF WORKING DAYS

In accordance with NJSA 40A:11-17, the Work for the within Project shall be completed as specified on the Time of Completion Form. See form attached

There shall be taken a deduction from the contract price, or any wages paid by the County, to any inspector(s) necessarily employed by it on the Work, for any number of days in excess of the number allowed in the specifications.

25. PROMPT PAYMENT OF CONSTRUCTION CONTRACTS (NJ Prompt Payment Act)

Pursuant to NJSA 2A:30A-1 et. seq., payment to the Contractor, other than for Work done pursuant to a contact allowance, where applicable, shall be processed and paid as follows:

1. All contractor bills shall be either approved for payment, or notice provided as to why the bill or any portion of it will not be approved by the representative(s) of the governing body no later than the public meeting following 20 calendar days of the billing date as defined in the statute.

2. If the billing is approved, said bill shall be paid in the payment cycle following the meeting.

26. STOPPING WORK ON ACCOUNT OF BAD WEATHER

Work must only be performed in weather suitable for the type of construction planned or underway. Extremes in temperature, humidity, precipitation, evaporation, etc. can detrimentally affect the constructed product. Refer to the Standard and Technical Specifications for specific items.

27. ACCESS FOR OTHER CONTRACTORS

The Contractor for this Work will give proper access to other contractors who may be employed upon the Project and must not hinder or delay unnecessarily any Work that may be progressing under other contracts.

28. CONDEMNED MATERIALS AND WORK

Any materials and or part of the Work that may be condemned by the County Engineer will be removed and replaced by the Contractor or otherwise rectified, as may be directed by the County Engineer. No payment will be made upon the Work until such faulty work has been made good as may be directed. In the event the Contractor refuses or neglects to make good such faulty work, he will be deemed to have abandoned the contract and proceedings may be taken against him as provided herein.

29. STORAGE

In the event that it is necessary for the Contractor to stockpile or store materials or equipment on the job site, the Contractor shall inform the County of such necessity and the County may offer available space, if any, for storage of such materials or equipment. The Contractor shall use said space only for such purpose. Any and all materials which may be stored in such space or which may be brought onto the job site at any time by the Contractor will be at the Contractor's sole risk. The County will not be responsible for loss of or damage to said materials or equipment for any cause whatsoever. The Contractor shall take necessary measures to protect any such storage area and shall be responsible for any and all damages.

30. FINAL CLEAN UP

Upon completion of the Work, the Contractor will remove all equipment, unused materials, rubbish, etc., and will repair, or replace in an a manner acceptable to the County Engineer, all areas that may have been damaged in the prosecution of the Work. Same shall be a condition precedent to final payment. Should said Contractor

fail to comply with this requirement, the County shall undertake the clean-up with its own forces and charge the cost of same against the Contractor's contract balance.

31. SUB-LETTING OF WORK

Except for the List of Subcontractors, pursuant to NJSA 40A:11-16 (See form attached), no portion of the Work will be sublet by the Contractor to any other entities, except with the consent of the County Engineer. A complete list of subcontractors must be submitted to the County Engineer at the preconstruction meeting. If the job does not warrant a preconstruction meeting, the Contractor must submit such list prior to the start of Work.

All Subcontractors will be subject to NJSA 34:11-56 et al.

N.J.S.A. 40A:11-16 requires the bidder to list in the bid sheets the name or names of all subcontractors involved in the following types of Work: plumbing and gas fitting and all kindred work, steam and hot water heating, ventilating apparatus, steam power plants and kindred work, electrical work, ornamental iron work, and structural steel. In addition, the County may require the identification of specific additional subcontractors. If these trades are expected to be part of the contract, such subcontractors should be listed on the "Subcontractor Identification Statement List of Subcontractors" and Bidder shall certify same on the accompanying sheet titled "Subcontractor Identification Certification". (See forms attached) **Bidder's failure to submit these two forms shall be considered a material defect and result in rejection of Bidder's bid.** Substitutions of any listed subcontractors pursuant to NJSA 40A:11-16 will not be permitted except with the consent of the County Engineer.

32. SAFETY

The Contractor shall observe all rules and regulations of the Federal, State, and local health officials. Attention is directed to Federal, State, and local laws, rules, and regulations concerning construction safety and health standards. The Contractor shall not require any worker to work in surroundings or under conditions that are unsanitary, hazardous, or dangerous to the worker's health or safety.

The Contractor shall admit to the site, without delay and without the presentation of an inspection warrant, any inspector of OSHA or other legally responsible agency involved in safety and health administration upon presentation of proper credentials.

The Contractor shall make available to the Contractor's employees, subcontractors, the County Engineer, and the public, all information pursuant to OSHA 29 CFR Part 1926.59 of The Hazard Communication Standard 29 CFR 1910.1200, and shall also maintain a file on each job site containing all Material Safety Data Sheets (MSDS) for products in use at the Project. These Material Safety Data Sheets shall be made available to the Engineer upon request.

The Contractor shall at all times conduct the Work to provide for the safety and convenience of the general public and protection of persons and property. The safety provisions of applicable laws, OSHA regulations, building and construction codes, and the rules and regulations of the New Jersey Department of Labor and Commerce shall be observed.

33. QUALITY, SAFETY AND PERFORMANCE STANDARDS

All goods and services must be constructed and provided with the highest quality materials and workmanship. It is the intent of these specifications that only equipment equal to, or exceeding, the standard specified will be acceptable in order to protect the safety of the occupants of the Building.

34. MATTERS NOT MENTIONED IN CONTRACT DOCUMENTS

Any Work, material, or method, not specifically described in these specifications, but shown upon the plans of the Work, will be carried out as shown on said plan.

35. PERMITS

The Contractor will obtain all necessary permits required by law and provide the County with necessary approvals prior to commencement of permitted Work.

36. CONTRACTOR TO PROVIDE PROOF OF PAYMENT

Upon the completion of the Work, the Contractor will furnish a General Release as proof that all claims for labor, materials, etc., have been settled by the Contractor. The General Release, in a form acceptable to County Counsel, is a condition of final payment.

37. CHANGE ORDERS

Change Order Procedures shall comply with *N.J.A.C. 5:30-11.1 et seq.*, "Change Orders and Open End Contracts" and subsequent provisions of the New Jersey Administrative Code.

38. SUPPLEMENTAL WORK

In case any supplemental work is necessary, it will be performed by the Contractor at a price fixed by agreement between the Contractor and the County Engineer and approved by the County as specified in Section 36. The Contractor will do no supplemental work on any character, for which the Contractor will demand pay, except upon the written order of the County.

39. FORM OF CONTRACT

The Contract will be subject to all statutory provisions on the matter of Public Works, Public Contracts, The Law Against Discrimination, the Laws Governing Affirmative Action and Prevailing Rates of Wages under the laws of New Jersey.

The Agreements shall be executed by both parties not later than twenty-one (21) days from the date of the award by the County (Sundays and holidays excluded); however, such time frame may be extended by agreement of the parties.

40. PROGRESS PAYMENTS

Monthly progress payments will be made based on the value of labor and materials incorporated in the Work and of materials suitably stored at the site. An itemized schedule of values shall be submitted with each Application for Payment.

(Refer to the Owner/Contractor Agreement for Retainage and other conditions pertaining to payment and the application of NJSA 2A:30A-1 et. seq.)

All Applications for Payment shall be accompanied by paid invoices for materials incorporated in the Work and for materials suitably stored at the site, and affidavit(s) by Subcontractors whose Work was included in the next to the last application to the effect such Work and such materials have been paid for.

No payment shall be made without Contractor having provided all submittals set forth in this Section, and the approval of same by the County.

For contracts exceeding \$100,000.00, monthly payments will be made on the Work to the extent of 98% of the value of the Work done which is considered to be retainage.

For contracts less than \$100,000.00, monthly payments will be on the Work to the extent of 90% of the value of the Work done. In lieu of the retainage, the Contractor will, at his option, deposit with the County Counsel negotiable bearer bonds of the State of New Jersey or any political subdivision thereof, equal to the amount otherwise withheld as retainage.

When the Project is completed, the final cost of the Project will be based on actual quantities of authorized Work done under each item scheduled in the bidding sheet and approved Change Orders, if any. The money due to the Contractor as determined by said final certificate after deduction of previous monthly payments on account, will be paid to the Contractor in accordance with the terms of the contract dealing with Prompt Payment, providing, however that before such final payment is made, all outstanding claims against the Contractor must be satisfied. Before final

payment is released, the Contractor must furnish: **a)** Maintenance Bond (see Section 6 of these general specifications); **b)** Certification of Compliance, New Jersey Prevailing Wage Act (see Sections 21 and 51); and **c)** General Release (see Section 36) in a form satisfactory to County Counsel; **d)** complete set of as-built plans in the latest AutoCad on compact disc; and **e)** a complete set of in-progress photos in jpg, jpeg, or bmp digital format on a compact disc.

41. INSPECTION

The Work must be done in accordance with the plans and specifications, and will be inspected by the County Engineer. An inspector may be placed upon the Work at any time by the County Engineer to see that the plans, specifications, and instructions of the County Engineer are carried out. In connection herewith, bidders are referred to N.J.S.A. 40A:11-17.

42. DAMAGES

The Contractor will be held responsible for all damages that may occur to Work, or to persons or property by reason of the nature of the Work or from the elements, or by reason of inadequate protection of the Work, or from any carelessness or negligence on his part or on the part of his employees. The County will withhold payments on the Work until all suits or claims for damages sustained on, or by reason of, this Work will have been settled by the Contractor.

The construction and final completion of this Work will be guaranteed by the Contractor. Any damages that may be done to the Work or any part thereof, by the elements or otherwise, during its construction, will be made good by the Contractor.

43. LIQUIDATED DAMAGES

If the Project is not completed within the time specified herein or within such further time as may have been granted by the County Engineer, then the Contractor hereby agrees to pay to the County as liquidated damages, but not as a penalty, \$1,000.00 per day for each and every calendar day that he is in default on time to complete the Work. The said sum will be deducted from moneys due the Contractor and if the damages exceed this amount, then the Contractor or his Surety Company will pay the excess. These damages may be waived at the option of the County.

44. AFFIRMATIVE ACTION REQUIREMENTS

EXHIBIT B (Revised 4/10)

MANDATORY EQUAL EMPLOYMENT OPPORTUNITY LANGUAGE N.J.S.A. 10:5-31 et seq. (P.L. 1975, C. 127) N.J.A.C. 17:27

CONSTRUCTION CONTRACTS

During the performance of this contract, the contractor agrees as follows:

The contractor or subcontractor, where applicable, will not discriminate against any employee or applicant for employment because of age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex. Except with respect to affectional or sexual orientation and gender identity or expression, the contractor will ensure that equal employment opportunity is afforded to such applicants in recruitment and employment, and that employees are treated during employment, without regard to their age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex. Such equal employment opportunity shall include, but not be limited to the following: employment, up-grading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Public Agency Compliance Officer setting forth provisions of this nondiscrimination clause.

The contractor or subcontractor, where applicable will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex.

The contractor or subcontractor will send to each labor union, with which it has a collective bargaining agreement, a notice, to be provided by the agency contracting officer, advising the labor union or workers' representative of the contractor's commitments under this act and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

The contractor or subcontractor, where applicable, agrees to comply with any regulations promulgated by the Treasurer, pursuant to N.J.S.A. 10:5-31 et seq., as amended and supplemented from time to time and the Americans with Disabilities Act.

When hiring or scheduling workers in each construction trade, the contractor or subcontractor agrees to make good faith efforts to employ minority and women workers in each construction trade consistent with the targeted employment goal prescribed by N.J.A.C. 17:27-7.2; provided, however, that the Division may, in its discretion, exempt a contractor or subcontractor from

compliance with the good faith procedures prescribed by the following provisions, A, B and C, as long as the Division is satisfied that the contractor or subcontractor is employing workers provided by a union which provides evidence, in accordance with standards prescribed by the Division, that its percentage of active "card carrying" members who are minority and women workers is equal to or greater than the targeted employment goal established in accordance with N.J.A.C. 17:27-7.2. The contractor or subcontractor agrees that a good faith effort shall include compliance with the following procedures:

(A) If the contractor or subcontractor has a referral agreement or arrangement with a union for a construction trade, the contractor or subcontractor shall, within three business days of the contract award, seek assurances from the union that it will cooperate with the contractor or subcontractor as it fulfills its affirmative action obligations under this contract and in accordance with the rules promulgated by the Treasurer pursuant to N.J.S.A. 10:5-31 et. seq., as supplemented and amended from time to time and the Americans with Disabilities Act. If the contractor or subcontractor is unable to obtain said assurances from the construction trade union at least five business days prior to the commencement of construction work, the contractor or subcontractor agrees to afford equal employment opportunities minority and women workers directly, consistent with this chapter. If the contractor's or subcontractor's prior experience with a construction trade union, regardless of whether the union has provided said assurances, indicates a significant possibility that the trade union will not refer sufficient minority and women workers consistent with affording equal employment opportunities as specified in this chapter, the contractor or subcontractor agrees to be prepared to provide such opportunities to minority and women workers directly, consistent with this chapter, by complying with the hiring or scheduling procedures prescribed under (B) below; and the contractor or subcontractor further agrees to take said action immediately if it determines that the union is not referring minority and women workers consistent with the equal employment opportunity goals set forth in this chapter.

(B) If good faith efforts to meet targeted employment goals have not or cannot be met for each construction trade by adhering to the procedures of (A) above, or if the contractor does not have a referral agreement or arrangement with a union for a construction trade, the contractor or subcontractor agrees to take the following actions:

(1) To notify the public agency compliance officer, the Division, and minority and women referral organizations listed by the Division pursuant to N.J.A.C. 17:27-5.3, of its workforce needs, and request referral of minority and women workers;

(2) To notify any minority and women workers who have been listed with it as awaiting available vacancies;

(3) Prior to commencement of work, to request that the local construction trade union refer minority and women workers to fill job openings, provided the contractor or subcontractor has a referral agreement or arrangement with a union for the construction trade;

(4) To leave standing requests for additional referral to minority and women workers with the local construction trade union, provided the contractor or subcontractor has a referral agreement or arrangement with a union for the construction trade, the State Training and Employment Service and other approved referral sources in the area;

(5) If it is necessary to lay off some of the workers in a given trade on the construction site, layoffs shall be conducted in compliance with the equal employment opportunity and non-discrimination standards set forth in this regulation, as well as with applicable Federal and State court decisions;

(6) To adhere to the following procedure when minority and women workers apply or are referred to the contractor or subcontractor:

(i) The contractor or subcontractor shall interview the referred minority or women worker.

(ii) If said individuals have never previously received any document or certification signifying a level of qualification lower than that required in order to perform the work of the construction trade, the contractor or subcontractor shall in good faith determine the qualifications of such individuals. The contractor or subcontractor shall hire or schedule those individuals who satisfy appropriate qualification standards in conformity with the equal employment opportunity and non-discrimination principles set forth in this chapter. However, a contractor or subcontractor shall determine that the individual at least possesses the requisite skills, and experience recognized by a union, apprentice program or a referral agency, provided the referral agency is acceptable to the Division. If necessary, the contractor or subcontractor shall hire or schedule minority and women workers who qualify as trainees pursuant to these rules. All of the requirements, however, are limited by the provisions of (C) below.

(iii) The name of any interested women or minority individual shall be maintained on a waiting list, and shall be considered for employment as described in (i) above, whenever vacancies occur. At the request of the Division, the contractor or subcontractor shall provide evidence of its good faith efforts to employ women and minorities from the list to fill vacancies.

(iv) If, for any reason, said contractor or subcontractor determines that a minority individual or a woman is not qualified or if the individual qualifies as an advanced trainee or apprentice, the contractor or subcontractor shall inform the individual in writing of the reasons for the determination, maintain a copy of the determination in its files, and send a copy to the public agency compliance officer and to the Division.

(7) To keep a complete and accurate record of all requests made for the referral of workers in any trade covered by the contract, on forms made available by the Division and submitted promptly to the Division upon request.

(C) The contractor or subcontractor agrees that nothing contained in (B) above shall preclude the contractor or subcontractor from complying with the union hiring hall or apprenticeship policies in any applicable collective bargaining agreement or union hiring hall arrangement, and, where required by custom or agreement, it shall send journeymen and trainees to the union for referral, or to the apprenticeship program for admission, pursuant to such agreement or arrangement. However, where the practices of a union or apprenticeship program will result in the exclusion of minorities and women or the failure to refer minorities and women consistent with the targeted county employment goal, the contractor or subcontractor shall consider for employment persons referred pursuant to (B) above without regard to such agreement or arrangement; provided further, however, that the contractor or subcontractor shall

not be required to employ women and minority advanced trainees and trainees in numbers which result in the employment of advanced trainees and trainees as a percentage of the total workforce for the construction trade, which percentage significantly exceeds the apprentice to journey worker ratio specified in the applicable collective bargaining agreement, or in the absence of a collective bargaining agreement, exceeds the ratio established by practice in the area for said construction trade. Also, the contractor or subcontractor agrees that, in implementing the procedures of (B) above, it shall, where applicable, employ minority and women workers residing within the geographical jurisdiction of the union.

After notification of award, but prior to signing a construction contract, the contractor shall submit to the public agency compliance officer and the Division an initial project workforce report (Form AA 201) electronically provided to the public agency by the Division, through its website, for distribution to and completion by the contractor, in accordance with N.J.A.C. 17:27-7. The contractor also agrees to submit a copy of the Monthly Project Workforce Report once a month thereafter for the duration of this contract to the Division and to the public agency compliance officer.

The contractor agrees to cooperate with the public agency in the payment of budgeted funds, as is necessary, for on-the-job and/or off-the-job programs for outreach and training of minorities and women.

(D) The contractor and its subcontractors shall furnish such reports or other documents to the Division of Public Contracts Equal Employment Opportunity Compliance as may be requested by the Division from time to time in order to carry out the purposes of these regulations, and public agencies shall furnish such information as may be requested by the Division of Public Contracts Equal Employment Opportunity Compliance for conducting a compliance investigation pursuant to **Subchapter 10 of the Administrative Code (NJAC 17:27)**.

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45. INVESTMENT ACTIVITIES IN IRAN

Pursuant to P.L. 2012, c.25, codified as NJSA 2:32-55 *et seq*, prohibits State and local public contracts with persons or entities engaging in certain investment activities in energy or finance sectors of Iran.

46. COMPLIANCE WITH THE PUBLIC WORKS CONTRACTOR REGISTRATION ACT - (NJSA 34:11-56.48 *et. seq.*)

Pursuant to the above-referenced law, Bidders are required to be registered with the New Jersey Department of Labor and to possess a current certificate by said Department indicating compliance with the Act prior to the time and date that bids are received. Bidders are notified of this requirement of their compliance. Such certificates or applications shall also be provided for each Subcontractor furnishing plumbing and gas fitting, steam and hot water heating and ventilating apparatus, and all kindred work, steam power plants and kindred work, electrical work, structural steel and ornamental iron work, and such other subcontractors as the specifications require relative to prior identification.

47. UTILITIES

Attention of the bidder is directed to the fact that the approximate locations of known utility structures and facilities that may be encountered within and adjacent to the limits of the Work are shown on the plans and described herein. The accuracy and completeness of this information is not guaranteed by the County Engineer and the bidder is advised to ascertain for himself all the facts concerning the location of these and other utilities.

The Contractor will not proceed with his Work until he has made diligent inquiries of all public utility and municipal officials to determine the exact location of all underground structures and pipes within the site of the Project. The Contractor will notify utility owners not less than ten (10) days in advance of the time he proposes to perform any Work that will endanger or affect their facilities in compliance with **New Jersey One-Call**. In excavating in any part of the Work, care must be taken not to remove or damage any gas, water, sewer, or other pipe, conduit, or structure, - public or private - without the concurrence of the owner and the County Engineer. The Contractor will, at his own expense, shore up, secure and maintain a continuous flow in such structures, and will keep them in repair until final acceptance of the Work.

When pipes or other structures are encountered or when the removal, relocation or protection of these utilities are necessary in carrying out the Project as planned, the Contractor will cooperate with the owner of said utilities and will permit the owners or their agents access to the site of the Work in order to relocate or protect their facilities

and not hinder or delay unnecessarily the Work of the owners in moving same. No extra allowance of payment will be made to the Contractor for the use of any materials, equipment, etc., or for the performance of any Work in connection with the moving of said structures unless the Contractor is specifically ordered by the County Engineer to furnish such materials, equipment, or services. If directed by the County Engineer to do any Work or furnish any materials or equipment, payment will be allowed the Contractor in accordance with the unit prices bid for such Work, or, if such items are not scheduled in the proposal, such Work shall be allowed "Supplemental Work" as provided in Section 39 of these general specifications. The corporations, companies, agencies or municipalities owning or controlling the utilities, and the name, and telephone numbers are listed in the beginning of the Technical Specifications.

48. MATERIAL COMPLIANCE AND SHOP DRAWINGS

The Contractor will require the manufacturer or supplier to furnish three (3) copies of Certification of Compliance with each delivery of materials, components and manufactured items for the Project. Two (2) copies will be furnished to the County Engineer; one copy will be retained by the Contractor. Certificates of Compliance will contain the following information:

1. Project to which material is consigned;
2. Name of the Contractor to which the material is supplied;
3. Kind of material supplied;
4. Quantity of material represented by the Certificate;
5. Means of identifying the consignment, such as label marking, seal number, etc.;
6. Date and method of shipment;
7. That the material is in conformity with the pertinent specifications stated in the certificate; and
8. Signature of a person having legal authority to bind the supplier.

The Contractor will submit to the County Engineer for his approval five (5) copies of complete and fully detailed shop or working drawings for those items listed in the beginning of the technical specifications.

Each drawing will identify the name of the job, location and Contractor.

All drawings will be approved in accordance with the standard specifications. Refer to the Technical Specifications for specific items.

All materials or articles used in the Work will be of American manufacture, insofar as same are available, in conformance with N.J.S.A. 40A:11-18.

49. PRECONSTRUCTION

In order to provide full coordination of this Project among the parties concerned, the County Engineer will arrange for a preconstruction meeting between the Contractor, County Engineer and other interested parties as soon as possible after the contract is executed. At this meeting the Contractor will present his proposed schedule of Work which shall be subject to review and approval of the County through its designated representatives.

50. DISPUTES UNDER THE CONTRACT

A dispute arising under the Contract shall be submitted in writing to the County Engineer with all facts and supporting data. The County Engineer will review the dispute and issue his decision or request additional facts or documentation after which he will render his decision.

In the event the dispute is not then resolved, the matter shall, pursuant to law, be submitted to mediation before being submitted to a court of competent jurisdiction venued in Union County.

The County Engineer will notify the County Counsel when a matter is to be submitted to mediation. The County Counsel will communicate with the parties and inform them of the procedures to be followed in making such a submission.

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51. CONTRACTOR BUSINESS REGISTRATION CERTIFICATE New Mandatory Requirement -Effective 1/18/2010

The recently enacted **P.L. 2009, c.315**, requires that effective January 18, 2010; a contracting agency must receive proof of the bidder's business registration prior to the award of a contract. However, the proof must show that the bidder was in fact registered with the State of New Jersey Department of the Treasury, Division of Revenue and obtained the business registration prior to the receipt of bids.

If subcontractors are named on the bid, proof of the business registration for each subcontractor must be provided prior to the award of bid. Similarly to the bidder, the proof must show that each subcontractor was registered with the State of New Jersey Department of the Treasury, Division of Revenue and obtained the business registration prior to the receipt of bids.

Proof of business registration shall be

- A copy of a Business Registration Certificate issued by the Department of the Treasury, Division of Revenue; or
- A copy of the web version provided by the NJ Division of Revenue, or

Register online at <http://www.state.nj.us/treasury/revenue/busregcert.htm>. Click the "online" link and then select "Register for Tax and Employer Purposes or call the Division at 609-292-1730.

Note: A NJ Certificate of Authority is not acceptable.

FAILURE to submit proof of registration of the bidder or any subcontractor named on the bid prior to the award of contract shall be cause to reject the bid.

FAILURE of the bidder or any subcontractor named on the bid to be registered prior to the receipt of bids is cause for a **MANDATORY REJECTION** of bids. (A NON-WAIVABLE DEFECT). This covers construction Work as well as non-construction bids.

IN ADDITION:

N.J.S.A. 52:32-44 imposes the following requirements on Contractors and all subcontractors that knowingly provide goods or perform services for a Contractor fulfilling this contract:

- 1) the Contractor shall provide written notice to its subcontractors and suppliers to submit proof of business registration to the Contractor;
- 2) subcontractors through all tiers of a project must provide written notice to their subcontractors and suppliers to submit proof of business registration and subcontractors shall collect such proofs of business registration and maintain them on file;

- 3) prior to receipt of final payment from a contracting agency, the Contractor must submit to the contacting agency an accurate list of all subcontractors and suppliers or attest that none was used; and,
- 4) during the term of this contract, the Contractor and its affiliates shall collect and remit, and shall notify all subcontractors and their affiliates that they must collect and remit, to the Director, New Jersey Division of Taxation, the use tax due pursuant to the Sales and Use Tax Act, (*N.J.S.A. 54:32B-1 et seq.*) on all sales of tangible personal property delivered into this State.

A Contractor, subcontractor or supplier who fails to provide proof of business registration or provides false business registration information shall be liable to a penalty of \$25 for each day of violation, not to exceed \$50,000 for each business registration copy not properly provided or maintained under a contract with a contracting agency. Information on the law and its requirements are available by calling (609) 292-9292.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

52. BID PROTEST – LEGAL FEES AND COSTS

In the event a Bidder unsuccessfully challenges a Bid Submission by filing an action in a court of law concerning same, said Bidder shall be responsible for payment of reasonable legal costs and fees incurred by the County relating to said protest.

53. AMERICAN GOODS AND PRODUCTS WHERE POSSIBLE

Bidder shall comply with the requirements of NJSA 40A:11-18 and use only manufactured and farm products of the United States, wherever available, for the Project.

54. NEW JERSEY PAY-TO-PLAY REQUIREMENTS

This Contract is required by law to be publicly advertised for bids. As such, lists of political contributions pursuant to NJSA 19A:44A-1 et. seq. are NOT REQUIRED to be provided with the bids.

55. STATEMENT OF EQUIPMENT TO BE USED IN CONSTRUCTION

Pursuant to NJSA 40A:11-20 entitled Certificate of Bidder Showing Ability to Perform Contract, the County requires a Certification from all bidders submitting a bid showing that the Bidder owns, leases, or controls all necessary equipment required by the Project Plans and Specifications. All bidders shall provide this information at the time of the bid opening using the attached form entitled, "CERTIFICATE OF BIDDER SHOWING ABILITY TO PERFORM CONTRACT".

If the Bidder is not the actual owner of the equipment, it shall state the source from which the equipment will be obtained and shall attach a certificate from the owner or person in control of the equipment demonstrating that the equipment owner has granted the Bidder control of the requisite equipment during such time as may be necessary for completion of the portion of the contract for which the equipment is necessary.

56. NEW JERSEY SALES AND USE TAX REQUIREMENTS,

Contractors are required to comply with the following:

New Jersey Sales and Use Tax Requirements: All contractors with subcontractors, or any of their affiliates, who enter into contracts for the provision of goods or services with or for New Jersey local government entities, are required to collect and remit to the New Jersey Director of Taxation in the Department of the Treasury the use tax due on all of their sales of tangible personal property delivered into the State of New Jersey pursuant to the "Sales and Use Tax Act," (NJSA 54:32B-1 et, seq.),

regardless of whether the tangible personal property is intended for a contract with the contracting agency. This tax shall be remitted for the term of the Contract.

For purposes herein "affiliate" shall mean any entity that: (a) directly, indirectly, or constructively controls another entity, (b) is directly, indirectly, or constructively controlled by another entity, or (c) is subject to the control of a common entity. For purposes of the immediately preceding sentence, an entity controls another entity if it owns, directly or indirectly, more than fifty percent (50%) of the ownership interest in that entity. NJSA 52:32-44(g)(3).

ALFRED J. FAELLA
COUNTY MANAGER

LAURA M. SCUTARI, QPA, MPA
DIRECTOR / DIVISION OF PURCHASING

BID DOCUMENT SUBMISSION CHECKLIST

ALL SIGNATURES AND SEALS SHALL BE ORIGINALS UNLESS OTHERWISE SPECIFIED
BID SHEETS SHOULD NOT BE SUBMITTED DOUBLE SIDED PAGES, (SINGLE SIDE ONLY)

EACH BIDDER SHOULD COMPLETE THIS FORM AND INITIAL EACH ENTRY.

DATE COMPLETED: _____

PLEASE SUBMIT BID DOCUMENTS ON SINGLE SIDED PAPER ONLY, WITH THE EXCEPTION OF THE SURETY AND BID BOND DOCUMENTS.

IN ACCORDANCE WITH THE BID SPECIFICATIONS I HAVE REVIEWED, COMPLETED / EXECUTED AND INCLUDED THE FOLLOWING FORMS:

_____ Bid Form Page (**Signed, Dated and Bid on all alternatives applicable to the Work**).

_____ Security in the form of:

- _____ Bid bond in an amount equal to 10% of the total amount of this bid not to exceed \$20,000.00; or
- _____ Certified check or cashier's check in the amount of 10% of this bid not to exceed \$20,000.00

_____ Consent of Surety form signed by a Surety Company if the total amount of your Bid is over \$36,000.00. If your bid is accepted, the Surety Company that provided the Consent shall be required to furnish a Performance, Labor and Materials Bond in the amount of 100% of the award of the contract. The County of Union has provided its Consent of Surety form for your use. The use of this form by your Surety Company will expedite the bid review process and eliminate the possibility of having your bid rejected. If, however, you should need to use another form, please use language similar to that used on the Union County form and avoid making any additions or deletions to the Union County form language. In lieu of the Consent of Surety you may submit a Certified Check in the full amount of the bid.

_____ STATEMENT OF BIDDER OWNERSHIP. Pursuant to N.J.S.A. 52:25-24.2, which includes **BOTH** of the following documents:

- Bidder Signature Page
- Bidder Disclosure Statement (**Fill out 2 pages completely**)

_____ SUBCONTRACTOR IDENTIFICATION. Pursuant to N.J.S.A. 40A:11-16, which includes **BOTH** of the following documents:

- Subcontractor Identification Statement: List of Subcontractors (**only for certain types of work**)
- Subcontractor Identification Certification

_____ Acknowledgement of Addendum form: (**This form is to be used only when an addendum has been added to the specifications**).

_____ A copy of the State of New Jersey Department of the Treasury, Division of Revenue, **Business Registration Certificate ("BRC")** should be included with the bids as it must be received by the County prior to the award of the contract. The BRC provided must show that the Bidder was registered at the time of receipt of bids or the bid will be rejected.

_____ A copy of the State of New Jersey Department of the Treasury, Division of Revenue, **Business Registration Certificate ("BRC")** of all named or listed subcontractors (List of Subcontractors) in a Construction bid should be included with the bid as the BRC(s) must be received by the County prior to the award of the contract. Each subcontractor's certificate provided must show that the subcontractor was registered at the time of the receipt of bids or the bid will be rejected.

- _____ Affirmative Action Requirement
- _____ Experience Statement
- _____ Certificate of Bidder showing ability to perform Contract
- _____ Non-Collusion Affidavit – Fill out completely and notarize
- _____ Certificates from New Jersey Department of Labor – Public Works Contractor Registration Act. **(Only for certain types of work)**
- _____ Federal Attachments **(If applicable)**
- _____ NJDPMC Certificate / Notice of Classification **(If applicable)**
- _____ Americans with Disabilities Act
- _____ Statement of Bidder's Qualifications
- _____ Contractor Performance Record
- _____ Affidavit Regarding List of Debarred, Suspended or Disqualified Bidders
- _____ Prior Negative Experience Questionnaire
- _____ Contractor's Certification of Compliance – New Jersey Prevailing Wage Act
- _____ Uncompleted Contracts Affidavit **(For Bidder, if applicable) MUST ALSO PROVIDE DPMC FORM 701**
- _____ Certificate of Insurance Statement
- _____ Collection of Use Tax on Sales to Local Government Statement
- _____ Time of Completion
- _____ Disclosure of Investment Activities in Iran form

I HAVE TAKEN THE FOLLOWING ACTIONS:

- _____ Visited the site and attended the Pre-Bid Meeting **(Where applicable)**
- _____ Reviewed the Contract Documents (including any permits the County or its professionals may have obtained), Work, Site, Locality, and Local Conditions and Laws and Regulations that in any manner may affect Cost, Progress, Performance or Furnishing of Work.
- _____ Reviewed Bond Requirements
- _____ Provided Proof of Compliance with New Jersey Prevailing Wage Act
- _____ Reviewed Form of Owner/Contractor Agreement and General Conditions to the Contract

NOTE: QUESTIONS PERTAINING TO THIS BID ARE TO BE DIRECTED TO DIVISION OF ENGINEERING AT 908-789-3675

BIDDING DOCUMENTS

The Bidding Documents consist of the following items:

- **ADDENDA, if issued**
- **CLARIFICATIONS, if issued**
- **INSTRUCTION TO BIDDERS**
- **BID FORM**
- **SPECIFICATIONS:** **As outlined in the Table of Contents and included in the Project Manual.**
- **DRAWINGS:** **As per List of Drawings, indicated on the Project Title Sheet.**

Bidder's Name _____

BID FORM

I/We have carefully examined the plans, specifications, and advertisement for bid for the

**MEISEL PARK FIELD IMPROVEMENTS
TOWNSHIP OF SPRINGFIELD, COUNTY OF UNION, NEW JERSEY
BA#58-2017; UNION COUNTY ENGINEERING PROJECT #2016-004**

that is on file in the Union County Division of Engineering. I/We have inspected the site of the work and will contract to do all the work and furnish all materials mentioned in said plans and specifications. Work will be accomplished in the manner prescribed therein.

BASE BID ITEMS:

ITEM NO	DESCRIPTION	UNIT	CONTRACT QUANTITY	UNIT PRICE	AMOUNT
1.	Mobilization/Demobilization	L.S.	1		
2.	Construction Layout	L.S.	1		
3.	Site Clearing/Demolition	L.S.	1		
4.	Soil Erosion and Sediment Control Devices	L.S.	1		
5.	Test Pits, 5' Deep Max (If & Where Directed)	Unit	5		
6.	Site Grading	L.S.	1		
7.	Exporting of Existing Site Soil Cap	Allow.	1	\$600,000.00	\$600,000.00
8.	Stormwater Manhole	Unit	10		
9.	Stormwater Doghouse Manhole	Unit	1		
10.	Stormwater Backflow Valve, 12" RCP	Unit	1		
11.	Stormwater Backflow Valve, 18" RCP	Unit	2		
12.	8" Perf. HDPE Pipe	L.F.	250		
13.	10" Perf. HDPE Pipe	L.F.	116		
14.	12" Perf. HDPE Pipe	L.F.	659		
15.	15" Perf. HDPE Pipe	L.F.	232		
16.	18" Perf. HDPE Pipe	L.F.	353		
17.	6" PVC Pipe	L.F.	40		
18.	Rip Rap Aprons, Complete	L.S.	1		

19.	Synthetic Turf Base - Underdrains and Stone (Complete Cross Section-Excludes Synthetic Turf, Infill and Line Striping)	L.S.	1		
20.	Concrete Header Curb	L.F.	2,075		
21.	Barrier Netting, 15' High and Posts/Footings Complete	L.F.	210		
22.	Synthetic Track System and Striping at Runways	L.S.	1		
23.	16' Portable Player Shelter and Bench	Unit	2		
24.	Football Goals, Complete with Turf Cover and Pads	Unit	2		
25.	Portable Soccer Goals, Complete with Netting	Unit	2		
26.	Portable Lacrosse Goals, Complete with Netting	Unit	2		
27.	Pole Vault Box, Lid and Concrete Pad	L.S.	1		
28.	Long Jump/Triple Jump, Concrete with Sand Pit, Cover, Takeoff Board and Concrete Pad	L.S.	1		
29.	Shot Circle Complete with Ring, Enclosure, Toeboard and Concrete Pad	L.S.	1		
30.	High Jump Pads, Complete	L.S.	1		
31.	Installation of 2-4" Conduits and Associated Handholes	L.S.	1		
32.	Installation of 2 Water Spigots within the Turf Field	L.S.	1		
33.	Final Cleanup/Site Retoration	L.S.	1		

Written

Figures

BID CONTINGENCY: (To be used if and when directed by the County)

ONE HUNDRED FIFTY THOUSAND DOLLARS

Written

\$150,000.00

Figures

TOTAL BASE BID ITEMS PLUS BID CONTINGENCY AMOUNT:

Written

Figures

NOTE: Bid Contingency may include one-half of one percent of contract amount set aside for local training if and when directed by the County.

Bidder's Name _____

CONSENT OF SURETY
TO ACCOMPANY PROPOSAL (BID)

_____ (hereinafter called Surety), organized and existing under the laws of the State of _____ duly authorized and qualified to transact business in the State of New Jersey, in consideration of the sum of One Dollar (\$1.00), lawful money of the United States of America, to it in hand paid, receipt whereof is hereby acknowledged, and in consideration, hereby certifies and agrees that if the contract for which the attached proposal is made be awarded to _____ (hereinafter called Contractor) for the performance of certain work and labor or the supplying of certain materials, or both, as more particularly set forth in said proposal and described for purposes of this instrument as a proposal for _____ to the COUNTY OF UNION and if Contractor shall enter into the contract, Surety will become bound as surety for its faithful performance, labor and material payment and will provide the Contractor with a performance, labor and material payment bond in the full amount of the contract price.

NOTE:
Expiration date
Needed if Annual
Surety

NAME OF INSURANCE COMPANY
ADDRESS: _____

ORIGINAL SIGNATURE
ATTORNEY-IN-FACT FOR INSURANCE CO.

NOTE: PROOF OF AUTHORITY OF OFFICERS OF SURETY COMPANY TO EXECUTE THIS DOCUMENT MUST BE SUBMITTED.

BIDDER SIGNATURE PAGE

THE BIDDER MUST READ THE FOLLOWING INSTRUCTIONS TO COMPLETE THIS PAGE:

1. If doing business under a **trade name, partnership or a sole proprietorship**, you must submit the bid under exact title of the trade name, partnership, or proprietorship, and the bid must be signed by either the **owner**, or a **partner** and **witnessed** by a **notary public**.
2. If a **Corporation**, the bid must be signed by the **President** or **Vice President** and **witnessed** by a **Corporate Secretary** (corporate title must be exact) and **affix corporate seal**. If a Corporate Secretary does not exist, President or Vice President's signature shall be witnessed by a Notary Public.
3. Other persons **authorized** by **corporate resolution** to execute agreements in its behalf may also sign the bid documents (pages). **Copy of a resolution must accompany the bid**.
4. The person who signs this bid form **must also** sign the **Non-Collusion Affidavit**.
5. You **cannot** witness your own signature.

NAME OF BIDDER

ADDRESS OF BIDDER

**ORIGINAL SIGNATURE
CORPORATE SECRETARY**

**PRINT NAME AND TITLE
CORPORATE SECRETARY**

TEL: _____
FAX: _____
E-Mail: _____

BY: _____
ORIGINAL SIGNATURE

Corporate Seal

PRINT OR TYPE NAME AND TITLE

WARNING: IF YOU FAIL TO FULLY, ACCURATELY, AND COMPLETELY SUPPLY THE INFORMATION REQUESTED ON THIS PAGE, YOUR BID MAY BE REJECTED.

Bidder's Name _____

STATEMENT OF OWNERSHIP DISCLOSURE

N.J.S.A. 52:25-24.2 (P.L. 1977, c.33, as amended by P.L. 2016, c.43)

This statement shall be completed, certified to, and included with all bid and proposal submissions. Failure to submit the required information is cause for automatic rejection of the bid or proposal.

Name of Organization: _____

Organization Address: _____

Part I Check the box that represents the type of business organization:

- Sole Proprietorship (skip Parts II and III, execute certification in Part IV)
- Non-Profit Corporation (skip Parts II and III, execute certification in Part IV)
- For-Profit Corporation (any type) Limited Liability Company (LLC)
- Partnership Limited Partnership Limited Liability Partnership (LLP)
- Other (be specific): _____

Part II

- The list below contains the names and addresses of all stockholders in the corporation who own 10 percent or more of its stock, of any class, or of all individual partners in the partnership who own a 10 percent or greater interest therein, or of all members in the limited liability company who own a 10 percent or greater interest therein, as the case may be. **(COMPLETE THE LIST BELOW IN THIS SECTION)**

OR

- No one stockholder in the corporation owns 10 percent or more of its stock, of any class, or no individual partner in the partnership owns a 10 percent or greater interest therein, or no member in the limited liability company owns a 10 percent or greater interest therein, as the case may be. **(SKIP TO PART IV)**

STATEMENT OF OWNERSHIP DISCLOSURE - CONTINUED

(Please attach additional sheets if more space is needed):

Name of Individual or Business Entity	Home Address (for Individuals) or Business Address

Part III DISCLOSURE OF 10% OR GREATER OWNERSHIP IN THE STOCKHOLDERS, PARTNERS OR LLC MEMBERS LISTED IN PART II

If a bidder has a direct or indirect parent entity which is publicly traded, and any person holds a 10 percent or greater beneficial interest in the publicly traded parent entity as of the last annual federal Security and Exchange Commission (SEC) or foreign equivalent filing, ownership disclosure can be met by providing links to the website(s) containing the last annual filing(s) with the federal Securities and Exchange Commission (or foreign equivalent) that contain the name and address of each person holding a 10% or greater beneficial interest in the publicly traded parent entity, along with the relevant page numbers of the filing(s) that contain the information on each such person. **Attach additional sheets if more space is needed.**

Website (URL) containing the last annual SEC (or foreign equivalent) filing	Page #'s

STATEMENT OF OWNERSHIP DISCLOSURE - CONTINUED

Please list the names and addresses of each stockholder, partner or member owning a 10 percent or greater interest in any corresponding corporation, partnership and/or limited liability company (LLC) listed in Part II **other than for any publicly traded parent entities referenced above**. The disclosure shall be continued until names and addresses of every noncorporate stockholder, and individual partner, and member exceeding the 10 percent ownership criteria established pursuant to N.J.S.A. 52:25-24.2 has been listed. **Attach additional sheets if more space is needed.**

Stockholder/Partner/Member and Corresponding Entity Listed in Part II	Home Address (for Individuals) or Business Address

Part IV Certification

I, being duly sworn upon my oath, hereby represent that the foregoing information and any attachments thereto to the best of my knowledge are true and complete. I acknowledge: that I am authorized to execute this certification on behalf of the bidder/proposer; that the **County of Union** is relying on the information contained herein and that I am under a continuing obligation from the date of this certification through the completion of any contracts with **County of Union** to notify the **County of Union** in writing of any changes to the information contained herein; that I am aware that it is a criminal offense to make a false statement or misrepresentation in this certification, and if I do so, I am subject to criminal prosecution under the law and that it will constitute a material breach of my agreement(s) with the, permitting the **County of Union** to declare any contract(s) resulting from this certification void and unenforceable.

Full Name (Print):		Title:	
Signature:		Date:	

Bidder's Name _____

SUBCONTRACTOR IDENTIFICATION STATEMENT

LIST OF SUBCONTRACTORS

This form is ONLY required for plumbing and gas fitting, steam and hot water heating and ventilating apparatus, steam power plants, electrical work, structural steel, ornamental iron work, and any other trades required to be identified by the specifications (including, but not limited, to satisfying any DPMC Classification requirements).

CHECK THIS BOX IF NONE OF THE ABOVE LISTED TRADES OR THOSE REQUIRED TO BE IDENTIFIED IN THE SPECIFICATIONS ARE TO BE USED TO PERFORM THE WORK

In compliance with N.J.S.A. 40A:11-16 and the bid specifications, the undersigned hereby lists the name or names of the following subcontractors:

Company Name: _____

Address: _____

Telephone: _____ Subcontract Amount: \$ _____

Specific Scope of Work Subcontracted: _____

License No. _____

Company Name: _____

Address: _____

Telephone: _____ Subcontract Amount: \$ _____

Specific Scope of Work Subcontracted: _____

License No. _____

Company Name: _____

Address: _____

Telephone: _____ Subcontract Amount: \$ _____

Specific Scope of Work Subcontracted: _____

License No. _____

IF MORE THAN THREE SUBCONTRACTORS, PLEASE COPY THIS SHEET AS NECESSARY AND ATTACH TO THE BID PACKAGE.

(Continued on following page)

Bidder's Name _____

SUBCONTRACTOR IDENTIFICATION CERTIFICATION

Note the law does not permit the listing of alternate subcontractors. However, multiple subcontractors for the same trade are permitted to be named provided the bidder meets the following requirements:

- Bidder identifies each subcontractor named for that category;
- Bidder states the scope of work, goods and services (the portion of the work) to be performed by each subcontractor; and
- Bidder provides the price quote provided by each subcontractor.

The bidder is advised that any change of subcontractor(s) from ones listed herein is subject to the County's approval. Change of subcontractor(s) will be approved only if made for good cause and not as a result of an arbitrary purpose.

The undersigned Bidder certifies and declares that the subcontractors listed above shall be used as subcontractors to complete certain portions of the work in this project as set forth in N.J.S.A. 40A: 11-16.

Witness

Date _____

NAME OF BIDDER

ADDRESS

By: _____
ORIGINAL SIGNATURE ONLY

PRINT NAME AND TITLE

Bidder's Name: _____

ACKNOWLEDGMENT OF ADDENDUM

COUNTY OF UNION

(Name of Construction /Public Works Project)

(Project or Bid Number)

Pursuant to N.J.S.A. 40A:11-23.1a., the undersigned bidder, hereby acknowledges receipt of the following notices, revisions, or addenda to the bid advertisement, specifications or bid documents. By indicating date of receipt, bidder acknowledges the submitted bid takes into account the provisions of the notice, revision or addendum. Note that the County of Union's record of notice to bidders shall take precedence and that failure to include provisions of changes in a bid proposal may be subject for rejection of the bid.

Local Unit Reference Number or Title of Addendum/Revision	How Received (mail, fax, pick-up, etc.)	Date Received

ACKNOWLEDGMENT BY BIDDER:

NAME OF BIDDER: _____

ORIGINAL SIGNATURE: _____

PRINTED NAME AND TITLE: _____

DATE: _____

CONTRACTOR BUSINESS REGISTRATION CERTIFICATE

New Mandatory Requirement - Effective 1/18/2010

The recently enacted **P.L. 2009, c.315**, requires that effective January 18, 2010; a contracting agency must receive proof of the bidder's business registration prior to the award of a contract. However, the proof must show that the bidder was in fact registered with the State of New Jersey Department of the Treasury, Division of Revenue and obtained the business registration prior to the receipt of bids.

If subcontractors are named on the bid, proof of the business registration for each subcontractor must be provided prior to the award of bid. Similarly to the bidder, the proof must show that each subcontractor was registered with the State of New Jersey Department of the Treasury, Division of Revenue and obtained the business registration prior to the receipt of bids.

Proof of business registration shall be

- A copy of a Business Registration Certificate issued by the Department of the Treasury, Division of Revenue; or
- A copy of the web version provided by the NJ Division of Revenue, or

Register online at www.nj.gov/treasury/revenue/taxreg.htm. Click the "online" link and then select "Register for Tax and Employer Purposes or call the Division at 609-292-1730.

Note: A NJ Certificate of Authority is not acceptable.

FAILURE to submit proof of registration of the bidder or any subcontractor named on the bid prior to the award of a contract shall be cause to reject the bids.

FAILURE of the bidder or any subcontractor named on the bid to be registered prior to the receipt of bids is cause for a **MANDATORY REJECTION** of bids. (A NON-WAIVABLE DEFECT). This covers construction work as well as non-construction bids.

IN ADDITION:

The contractor shall provide written notice to all **subcontractors and suppliers** not specifically named on the bid of the responsibility to register and submit proof of business registration to the contractor. The requirement of proof of business registration extends down through all levels (tiers) of the project.

Before final payment on the contract is made by the contracting agency, the contractor shall submit an accurate list and the proof of business registration of each subcontractor or supplier used in the fulfillment of the contract, or shall attest that no subcontractors were used.

For the term of the contract, the contractor and each of its affiliates and a subcontractor and each of its affiliates [N.J.S.A. 52:32-44(g)(3)] shall collect and remit to the Director, New Jersey Division of Taxation, the use tax due pursuant to the Sales and Use Tax Act on all sales of tangible personal property delivered into this State, regardless of whether the tangible personal property is intended for a contract with a contracting agency.

A business organization that fails to provide a copy of a business registration as required pursuant to section 1 of P.L.2001,c.134 (C.52:32-44 et al.) or subsection e. or f. of section 92 of P.L.1977,c.110 (C.5:12-92), or that provides false business registration information under the requirements of either of those sections, shall be liable for a penalty of \$25 for each day of violation, not to exceed \$50,000 for each business registration copy not properly provided under a contract with a contracting agency.

Bidder's Name _____

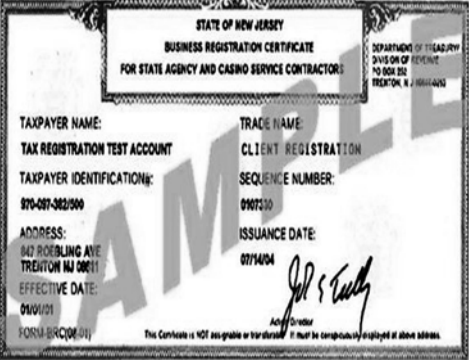
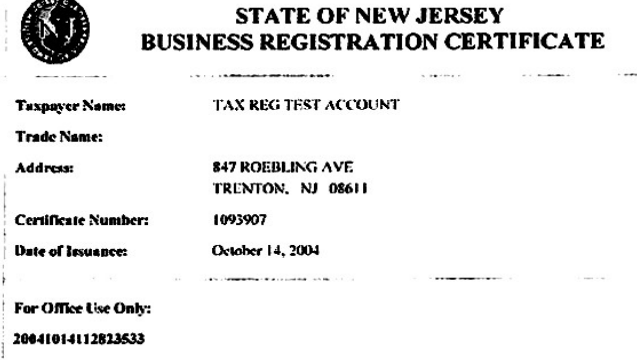
BUSINESS REGISTRATION
Mandatory Requirement

P.L. 2009, c.315, requires that effective January 18, 2010; a contracting agency must receive proof of the bidder's business registration prior to the award of a contract. However, the proof must show that the bidder was in fact registered with the State of New Jersey Department of the Treasury, Division of Revenue and obtained the business registration prior to the receipt of bids.

If subcontractors are named on the bid, proof of the business registration for each must be provided prior to the award of a contract. Similarly to the bidder, the proof must show that each subcontractor was registered with the State of New Jersey Department of the Treasury, Division of Revenue and obtained the business registration prior to the receipt of bids.

Proof of business registration shall be:

- A copy of a Business Registration Certificate issued by the Department of Treasury, Division of Revenue; or
- A copy of the web printed version provided by the NJ Division of Revenue

 <p>STATE OF NEW JERSEY BUSINESS REGISTRATION CERTIFICATE FOR STATE AGENCY AND CASINO SERVICE CONTRACTORS</p> <p>TAXPAYER NAME: TAX REGISTRATION TEST ACCOUNT TRADE NAME: CLIENT REGISTRATION TAXPAYER IDENTIFICATION: 010-007-382/000 SEQUENCE NUMBER: 0107510 ADDRESS: 847 ROEBLING AVE TRENTON NJ 08611 ISSUANCE DATE: 07/14/04 EFFECTIVE DATE: 09/01/04</p> <p>APPROVED: <i>[Signature]</i> Accepted for This Certificate is NOT assignable or transferable. It must be conspicuously displayed at above address.</p>	 <p>STATE OF NEW JERSEY BUSINESS REGISTRATION CERTIFICATE</p> <p>Taxpayer Name: TAX REG TEST ACCOUNT Trade Name: Address: 847 ROEBLING AVE TRENTON, NJ 08611 Certificate Number: 1093907 Date of Issuance: October 14, 2004</p> <p>For Office Use Only: 20041014112623533</p>
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ATTACH BRC HERE

Bidder's Name _____

AFFIRMATIVE ACTION REQUIREMENT

REQUIRED AFFIRMATIVE ACTION EVIDENCE

General Requirements of P.L. 1975, c. 127: You are hereby put on notice that:

CONSTRUCTION CONTRACTS: The successful contractor must submit within three (3) days of the notice of intent to award or the signing of the contract the initial project manning report (A.A.201). This report should be submitted at the time the signed contract is returned to the County of Union. Attention: *Affirmative Action Officer*.

If the successful contract does not submit the initial project manning report (A.A.201) within the three (3) days from the time the signed contract is returned to the County of Union, the County of Union WILL declare the contractor non-responsive and award the contract to the next lowest responsible bidder.

NAME OF BIDDER

ORIGINAL SIGNATURE

PRINT OR TYPE NAME AND TITLE

DATE THIS FORM IS COMPLETED

EXPERIENCE STATEMENT

I hereby certify that my company has performed the following private or public work, which is relevant to this bid. I further certify that my company has never defaulted under any contract. Should you not sign this form due to prior defaults, please provide details on an attached sheet.

Witness

Date

NAME OF BIDDER

ADDRESS

By: _____
ORIGINAL SIGNATURE ONLY

PRINT NAME AND TITLE

YOU MAY ATTACH ADDITIONAL SHEETS, BUT YOU MUST SIGN AND WITNESS THIS SHEET.

Bidder's Name _____

CERTIFICATE OF BIDDER SHOWING ABILITY TO PERFORM CONTRACT

STATE OF NEW JERSEY / _____)
Specify, if Other) SS:
COUNTY OF _____)

I, _____, of the (City, Town, Borough, etc.) of _____
State of _____, of full age, being duly sworn according
to law on my oath depose and say that:

I am _____ of the firm of _____,
the Bidder making the proposal for the above named Project ("Contractor"), and that I executed said
proposal with full authority to do so; and that said Contractor, pursuant to N.J.S.A. 40A:11-20, certifies
that it owns, leases or controls all the necessary equipment required by the Plans, Specifications and
Advertisements under this Bids are asked for.

If the Bidder is not the actual owner or lessee of any such equipment, then the Bidder shall attach to this
Certificate information identifying the source from which the equipment will be obtained, and such
information shall be accompanied by a certificate from the owner or person in control of the equipment
definitively granting to the Bidder the control of the equipment required during such time as may be
necessary for the completion of that portion of the contract.

(Also type or print name of affiant under signature)

By: _____

Contractor Registration Advisement
For Public Works Projects

A new law, known as “The Public Works Contractor Registration Act” (P.L. 1999, c.238), became effective April 11, 2000. Under the Act, no contractor/subcontractor will be permitted to bid on or engage in any contract for public work, as defined in Section 2 of P.L. 1963, c.150 (C:34:11-56.26), unless that contractor/subcontractor is registered with the New Jersey Department of Labor. The Act provides that upon registration with the Department, a public works contractor/subcontractor will be issued a certificate by the Department indicating compliance with the Act’s requirements. The registration fee has been set at \$300.00 per year. Upon the effective date of the Act, public bodies will be expected to request production of such a certificate from those bidding on or engaging in public works projects.

It is important to note that the term “contractor,” is defined in the, Act as, “a person, partnership, association, joint stock company, trust, corporation or other legal business entity or successor thereof who enters into a contract which is subject to the provision of the “New Jersey Prevailing Wage Act,” P.L. 1963, c.150 (C.34:11-56.25, et seq.) for the construction, reconstruction, demolition, alteration, repair or maintenance of a public building regularly open to and used by the general public or a public institution, and includes any subcontractor or lower tier subcontractor as defined herein: except that, for the purposes of the act, no pumping station, treatment plant or other facility associated with utility and environmental construction, reconstruction, demolition, alteration, repair or maintenance shall be regarded as a public building regularly open to and used by the general public or a public institution.”

Registration forms, copies of the Act, and other relevant information can be obtained by contacting:

Contractor Registration Unit
New Jersey Department of Labor
Division of Wage & Hour Compliance
PO Box 389
Trenton, New Jersey 08625-0389
Telephone: 609-292-9464
Fax: 609-633-8591
E-mail: contreg@dol.state.nj.us

Bidder's Name _____

AMERICANS WITH DISABILITIES ACT
EQUAL OPPORTUNITY FOR INDIVIDUALS WITH DISABILITIES

The contractor and the County of Union (hereafter "Owner") do hereby agree that the provisions of Title II of the Americans With Disabilities Act of 1990 (the "Act") (42 U.S.C.S12.101 et seq.), which prohibits discrimination on the basis of disability by public entities in all services, programs and activities provided or made available by public entities, and the rules and regulations promulgated pursuant thereto, are made a part of this contract. In providing any aid, benefit, or service on behalf of the Owner pursuant to this contract, the contractor agrees that the performance shall be in strict compliance with the Act. In the event the contractor, its agents, servants, employees, or subcontractors violate or are alleged to have violated the Act during the performance of this contract, the contractor shall defend the Owner in any action or administrative proceeding commenced pursuant to this Act. The contractor shall indemnify, protect, and save harmless the Owner, its agents, servants, and employees from and against any and all suits, claims, losses, demands, or damages of whatever kind or nature arising out of or claimed to arise out of the alleged violation. The contractor shall, at its own expense, appear, defend, and pay any and all charges for legal services and any and all costs and other expenses arising from such action or administrative proceeding or incurred in connection therewith. In any and all complaints brought pursuant to the Owner's grievance procedure, the contractor agrees to abide by any decision of the Owner which is rendered pursuant to said grievance procedure. If any action or administrative proceeding results in an award of damages against the Owner, or if the Owner incurs any expense to cure a violation of the ADA which has been brought pursuant to its grievance procedure, the contractor shall satisfy and discharge the same at its own expense.

The Owner shall, as soon as practicable after a claim has been made against it, give written notice thereof to the contractor along with full and complete particulars of the claim. If any action or administrative proceeding is brought against the Owner or any of its agents, servants, and employees, the Owner shall expeditiously forward or have forwarded to the contractor every demand, complaint, notice, summons, pleading, or process received by the Owner or its representatives.

It is expressly agreed and understood that any approval by the Owner of the services provided by the contractor pursuant to this contract will not relieve the contractor of the obligation to comply with the Act and to defend, indemnify, protect, and save harmless the Owner pursuant to this paragraph.

It is further agreed and understood that the Owner assumes no obligation to indemnify or save harmless the contractor, its agents, servants, employees and subcontractors for any claim which may arise out of their performance of this Agreement. Furthermore, the contractor expressly understands and agrees that the provisions of this indemnification clause shall in no way limit the contractor's obligations assumed in this Agreement, nor shall they be construed to relieve the contractor from any liability, nor preclude the Owner from taking any other actions available to it under any other provisions of this Agreement or otherwise at law.

Name _____ (Please print or type)

Signature _____ Date _____

Bidder's Name _____

STATEMENT OF BIDDER'S QUALIFICATIONS

All questions must be answered and the data given must be clear and comprehensive. This statement must be notarized. Questions may be answered on separate attached sheets. The Bidder may submit any additional information it desires.

1. _____
(Name of Bidder)

2. _____
(Permanent Main Office Address)

3. _____
(When Organized)

4. _____
(If a Corporation, where incorporated)

5. Number of years your organization has been engaged in construction or contracting business under present firm or trade name? _____

6. How many years of experience in construction work has your organization had (a) as a general contractor? And/or (b) As a subcontractor? _____

7. Contracts on hand: (Attach a list or table showing gross amounts of each Contract and the appropriate dates of completion) _____

8. General character of work performed by you. _____

9. Have you ever failed to complete any work awarded to you? _____

10. Have you ever defaulted on a Contract? _____ If so, complete details, including where and why?

Bidder's Name _____

STATEMENT OF BIDDER'S QUALIFICATIONS - (continued)

11. Has any officer or partner of your organization ever failed to complete a construction contract handled in its own name? If so, state name of individual, name of owner, location and type of project, and reason for the failure to complete. _____

12. List your major equipment available for this Contract.

13. Experience in the construction work similar in importance to this Project.

14. Have you had any material adverse changes from the trades as listed in NJ Notice of Classification within last five (5) years? _____. If so, list prior classification.

15. Background and experience of the principal members of your organization, including the officers.

Individual's Name	Present Position or Office	Yrs. of Construction Experience	Magnitude & Type of Work	In What Capacity

16. Bank Reference. (Name, Address, Phone, Representative) _____
17. Will you, upon request, fill out a detailed financial statement and furnish any other information that may be required by the proper agency? _____
18. The undersigned, hereby authorizes and requests any person, firm or corporation to furnish any information requested by the proper agency in verification of the responses comprising this Statement of Bidder's Qualifications.
17. Bidder's telephone number, fax number and e-mail address (if applicable).
- Phone _____
- Fax _____
- E-mail _____
- Mobile _____

Dated at _____ this _____ day of _____, 20__.

BIDDER (Signature)

BIDDER (Print Name)

Subscribed and sworn to before me
this _____ day of _____, 20__.

(Seal) Notary Public of New Jersey/
Specify Other State
My Commission Expires _____, 20__.

**NOTE: FAILURE TO COMPLETE AND SUBMIT THIS DOCUMENT WITH
YOUR PROPOSAL MAY RESULT IN A REJECTION OF YOUR BID.**

Bidder's Name _____

CONTRACTOR PERFORMANCE RECORD

List all contracts completed by you below or provide separate form.

Name of Owner	Name & Location of Project: Type Of Work	Prime or Sub-Cont.	Engineer or Architect in Charge for Owner	Contract Price (Omit Cost)	Date Completed	Was Time* Extension Necessary	Were Any Penalties Imposed	Were Liens* Claims or Stop Notice Filed

* If answer is YES, provide explanation of details in connection with non-completion of contracts, time extensions, penalties imposed, labor troubles, liens, claims and notices filed against contracts listed in preceding item "Performance Record" on an attached sheet.

NOTE: FAILURE TO COMPLETE AND SUBMIT THIS DOCUMENT WITH YOUR PROPOSAL MAY RESULT IN A REJECTION OF YOUR BID.

Bidder's Name _____

CONTRACTOR PERFORMANCE RECORD
CERTIFICATION

The information above is true and complete to the best of my knowledge and belief.

(Name of Organization)

(Signature)

(Title)

Subscribed and sworn to before me

this _____ day of _____, 20__.

(Seal) Notary Public of New Jersey/
Specify Other State

My Commission Expires _____, 20__.

PRIOR NEGATIVE EXPERIENCE QUESTIONNAIRE

(N.J.S.A. 40A:11-4)

1. Within the past ten (10) years, have you been found, through either court adjudication, arbitration, mediation, or other contractually stipulated alternate dispute resolution mechanism, to have: failed to provide or perform goods or services; or failed to complete a contract in a timely manner; or otherwise performed unsatisfactorily under a prior contract with a public entity?

_____ yes _____ no If yes, please provide full, detailed explanation.

2. Within the past ten (10) years, have you defaulted on a contract, thereby requiring a public entity to utilize the services of another contractor to provide the goods or perform the services or to correct or complete the contract?

_____ yes _____ no If yes, please provide full, detailed explanation.

3. Within the past ten (10) years, have you defaulted on a contract, thereby requiring a public entity to look to your surety for completion of the contract or tender of the costs of completion?

_____ yes _____ no If yes, please provide full, detailed explanation.

4. Within the past ten (10) years, have you been debarred or suspended from contracting with any of the agencies or department of the executive branch of the State of New Jersey at the time of the contract award, where the action was based on failure to perform a contract for goods or services with a public entity?

_____ yes _____ no If yes, please provide full, detailed explanation.

Bidder's Name _____

PRIOR NEGATIVE EXPERIENCE CERTIFICATION

I hereby certify that the above statements are true and accurate as of this _____
day of _____, 20__.

Name of Contractor

By _____
(Signature of Authorized Representative)

Subscribed and sworn to before me
this _____ day of _____, 20__.

(Seal) Notary Public of New Jersey/
Specify Other State

My Commission Expires _____, 20__.

NOTE: FAILURE TO COMPLETE AND SUBMIT THIS DOCUMENT WITH YOUR PROPOSAL MAY RESULT IN A REJECTION OF YOUR BID.

Bidder's Name _____

TO BE COMPLETED ONLY WHEN FINAL PAYMENT IS REQUESTED

CONTRACTOR'S CERTIFICATION OF COMPLIANCE - NEW JERSEY PREVAILING WAGE ACT

TO: County of Union
Division of Engineering
2325 South Avenue
Scotch Plains, New Jersey 07076

CONTRACT:

PROJECT: _____

In accordance with the requirements of the New Jersey Prevailing Wage Act, N.J.S.A. 34:11-56 et al *, the undersigned contractor on the public work being performed for:

COUNTY OF UNION

hereby certifies that he/she has complied with the contract requirements regarding the payment of the minimum prevailing wages established under "The New Jersey Prevailing Wage Act" N.J.S.A. 34:11-56 et al.

CONTRACTOR: _____
ADDRESS: _____

BY: _____
ORIGINAL SIGNATURE ONLY

STATE OF NEW JERSEY
COUNTY OF _____

Being by me duly sworn according to law, on his oath deposes and says that _____ is _____ of _____ the above named contractor, and that the facts set forth in the above statement are true.

Subscribed and sworn before me
this ____ day of _____, 200 ____.

Notary Public: _____
My Commission Expires: _____

* N.J.S.A. 34:11-56.33 requires the contractor and subcontractor to file written statements with the public body in form satisfactory to the Commissioner certifying to the amounts then due and owing from such contractor and subcontractor filing such statement to any and all workmen for wages due on account of the public work, setting forth therein the names of the persons whose wages are unpaid and the amount due to each respectively. Union County will withhold the amount so deducted for the benefit of the workmen whose wages are unpaid as shown by the verified statement filed, and will pay directly to any workman the amount shown by such statement to be due to him for such wages. Such payment shall thereby discharge the obligation of the contractor to the person receiving such payment to the extent of the amount thereof.

Bidder's Name _____

UNCOMPLETED CONTRACTS AFFIDAVIT
(To be Submitted with DPMC Form 701)

PURSUANT TO N.J.A.C. 17:19-2.13, BIDDER DECLARES THE FOLLOWING WITH RESPECT TO ITS UNCOMPLETED CONTRACTS, ON ALL WORK, FROM WHATEVER SOURCE (PUBLIC AND PRIVATE), BOTH IN NEW JERSEY AND FROM OTHER GOVERNMENTAL JURISDICTIONS

ENTITY	PROJECT TITLE	ORIGINAL CONTRACT AMOUNT	UNCOMPLETED AMOUNT AS OF BID OPENING DATE	NAME AND TELEPHONE NUMBER OF PARTY TO BE CONTACTED FROM ENTITY FOR VERIFICATION

TOTAL AMOUNT OF UNCOMPLETED CONTRACTS \$ _____

Sworn and Subscribed to Before me

This _____ day of _____, 20____

Notary Public

BIDDER:

(Signature)

(Print Name)

NOTE: FAILURE TO COMPLETE AND SUBMIT THIS DOCUMENT WITH YOUR PROPOSAL MAY RESULT IN A REJECTION OF YOUR BID.

Bidder's Name _____

CERTIFICATE OF INSURANCE STATEMENT

The Bidder fully understands the County of Union insurance requirements as stated in the Instructions to Bidders as well as the Owner/Contractor Agreement and agrees to provide all insurance required by these documents prior to the issuance of the Notice to Proceed.

BIDDER (Signature)

BIDDER (Print Name)

NOTE: FAILURE TO COMPLETE AND SUBMIT THIS DOCUMENT WITH YOUR PROPOSAL MAY RESULT IN A REJECTION OF YOUR BID.

Bidder's Name _____

COLLECTION OF USE TAX ON SALES TO LOCAL GOVERNMENTS STATEMENT

The Bidder fully understands the requirements of the use tax on sales to local governments as stated in the General Conditions to the Contract for Construction and the Instructions to Bidders, and agrees at all times to comply with the "Contractor Use Tax Collection Legislation", as defined therein, and the terms relating thereto contained in the Contract Documents.

BIDDER (Signature)

BIDDER (Print Name)

NOTE: FAILURE TO COMPLETE AND SUBMIT THIS DOCUMENT WITH YOUR PROPOSAL MAY RESULT IN A REJECTION OF YOUR BID.

Bidder's Name _____

TIME OF COMPLETION

The undersigned proposed that if awarded the Contract, the scope of work will be started within ten (10) calendar days and will be substantially completed within **180 calendar days** from the date of the notice to proceed.

I, _____ of _____
NAME (Print or type) COMPANY

Agree to complete work in the time frame specified _____
SIGNATURE

SITE VISIT – GENERAL CONTRACTOR

I, _____ of _____
NAME (Print or type) COMPANY

Visited the site of the work on _____
SIGNATURE

COUNTY OF UNION NEW JERSEY
Division of Purchasing
DISCLOSURE OF INVESTMENT ACTIVITIES IN IRAN

Solicitation Number: _____ Bidder/Offeror: _____

Pursuant to Public law 2012, c. 25, any person or entity that submits a bid or proposal or otherwise proposes to enter into or renew a contract must complete the certification below to attest, under penalty of perjury, that the person or entity, or one of the person or entity's parents, subsidiaries, or affiliates, is not identified on a list created and maintained by the Department of the Treasury as a person or entity engaging in investment activities in Iran. If the Director finds a person or entity to be in violation of the principles which are the subject of the law, s/he shall take action as may be appropriate and provided by law, rule or contract, including but not limited to, imposing sanctions, seeking compliance, recovering damages, declaring the party in default and seeking debarment or suspension of the person or entity.

I certify, pursuant to Public Law 2012, c. 25, that the person or entity listed above for which I am authorized to bid/renew:

is not providing goods or services of \$20,000,000 or more in the energy sector of Iran, including a person or entity that provides oil or liquefied natural gas tankers, or products used to construct or maintain pipe lines used to transport oil or liquefied natural gas, for the energy sector of Iran,
AND

is not a financial institution that extends \$20,000,000 or more in credit to another person or entity, for 45 days or more, if that person or entity will use the credit to provide goods or services in the energy sector in Iran.

In the event that a person or entity is unable to make the above certification because it or one of its parents, subsidiaries, or affiliates has engaged in the above-referenced activities, a detailed, accurate and precise description of the activities must be provided in part 2 below to the Division of Purchase under penalty of perjury. Failure to provide such will result in the proposal being rendered as non-responsive and appropriate penalties, fines and/or sanctions will be assessed as provided by law.

PART 2: PLEASE PROVIDE FURTHER INFORMATION RELATED TO INVESTMENT ACTIVITIES IN IRAN. You must provide, accurate and precise description of the activities of the bidding person/entity, or one of its parents, subsidiaries or affiliates, engaging in the investment activities in Iran outlined above by completing the boxes below.

Name _____ Relationship to Bidder/Offeror _____

Description of Activities _____

Duration of Engagement _____ Anticipated Cessation Date _____

Bidder/Offeror Contact Name _____ Contact Phone Number _____

Certification: I, being duly sworn upon my oath, hereby represent and state that the foregoing information and any attachments thereto to the best of my knowledge are true and complete. I attest that I am authorized to execute this certification on behalf of the above referenced person or entity. I acknowledge that Union County is relying on the information contained herein and hereby acknowledge that I am under a continuing obligation from the date of this certification through the completion of any contracts with the County to notify the County in writing of any changes to the answers of information contained herein. I acknowledge that I am aware that it is a criminal offense to make a false statement or misrepresentation in this certification, and if I do so, I recognize that I am subject to criminal prosecution under the law and that it will also constitute a material breach of my agreement(s) with Union County, New Jersey and that the County at its option may declare any contract(s) resulting from this certification void and unenforceable.

Full Name (Print) _____ Signature _____

Title _____ Date _____

STANDARD SPECIFICATIONS

The Standard Specifications for Road and Bridge Construction of New Jersey Department of Transportation, 2007 Edition; is added to and/or amended elsewhere herein by the Notice to Contractors (Advertisement), Proposal, Information for Bidders, General Conditions, Special Provisions, Project Plans, and Supplementary Specifications; shall, insofar as technical requirements are involved, govern in the execution of this project.

Such Standard Specifications are made a part of these Specifications by this reference and will not be repeated herein. It is the responsibility of prospective bidders to familiarize themselves with these Standard Specifications, copies of which may be examined at the office of the Engineer and may be obtained, upon payment of the cost thereof, from:

Department of Transportation
State of New Jersey
1035 Parkway Avenue
Trenton, New Jersey 08625

The Notice to Bidders (Advertisement), Proposal, General Conditions, Instructions to Bidders, Special Provisions, Project Plans and/or Technical Specifications shall govern and prevail in the case of conflict between them and the Standard Specifications.

In these Standard Specifications the words "COMMISSIONER" or "DEPARTMENT" shall refer to and mean the person, persons, body, board or agent legally empowered to enter into contracts and otherwise legally act for the Owner. The words "RESIDENT ENGINEER (RE)", "ENGINEER" or "STATE" shall refer to and mean the professional engineering representative of the Owner as hereinbefore defined and the word "INSPECTOR" shall mean the authorized project representative of the Engineer with the authority as hereinbefore defined. The word "LABORATORY" shall mean and refer to the Engineer who may, at his discretion, and with the consent of the Owner, employ qualified technical personnel or testing laboratories to assist him in fulfilling the duties normally assigned to the "LABORATORY" in these Standard Specifications.

When reference is made herein to the bulletins, standards, specifications, publications or requirements of the Manual on Uniform Traffic Control Devices (MUTCD), Institute of Traffic Engineers (ITE), Federal Highway Administration (FHWA), American Association of State Highway Officials (AASHTO), the American Concrete Institute (ACI), the American Society of Civil Engineers (ASCE) or similar national or regional societies, associations, institutes or organizations; the requirements of the bulletins, specifications, publications or requirements referred to shall be considered a part of these Specifications by such reference and shall not be repeated herein but shall have the same import and be as binding as if herein set forth in full.

OPERATING ENGINEERS **Rates Expiration Date : 03/31/2020**

{For apprentice rates refer to "Operating Engineers" apprentice rates in any county rate package}

The regular workday consists of 8 hours, Monday to Friday, between 6:00 AM and 4:30 PM.

SHIFT DIFFERENTIALS:

- Shift work must run for 5 consecutive workdays.
- When 2 shifts are worked, the second shift shall receive an additional 10% of the regular rate inclusive of benefits, per hour.
- When 3 shifts are worked, the second shift shall receive 8 hours pay for 7.5 hours of work, plus an additional 10% of the regular rate inclusive of benefits, per hour. The third shift shall receive 8 hours pay for 7 hours of work, plus an additional 15% of the regular rate inclusive of benefits, per hour.
- When such hours are mandated by the project owner, a shift that starts between 8:00 PM and midnight and ends by 6:00 AM Saturday, or that starts after 8:00 PM on Sunday, provided there are consecutive hours of work within the shift, shall receive an additional 15% of the regular rate, inclusive of benefits.
- On Highway, Road, Street, and Sewer projects irregular shifts starting between 5:00 PM and 12:00 AM may be worked Monday through Friday, and shall receive an additional 15% of the regular rate, inclusive of benefits. When working with other trades that receive a higher irregular shift rate, the Operating Engineer shall also receive the higher irregular shift rate.

OVERTIME:

- Hours in excess of 8 per day, or outside of the regular workday, Monday through Friday, that are not shift work, and all hours on Saturdays shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the regular rate, inclusive of benefits.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with all hours on Friday paid at time and one-half the regular rate, inclusive of benefits.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. When all trades on a particular job site agree, the day after Thanksgiving may be substituted for Veteran's Day.

On hazardous waste removal work or asbestos removal work, on a state or federally designated hazardous waste site, where the operating engineer is in direct contact with hazardous material and when personal protective equipment is required for respiratory, skin, and eye protection, the operating engineer shall receive an additional 20% of the hourly wage, per hour.

OPERATING ENGINEERS **Rates Expiration Date : 03/31/2020**

Effective Dates:

	07/01/2017		01/01/2018	07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total	Total
48.98	30.70	79.68	80.68	82.03	83.03	85.38

CLASSIFICATIONS:

- A-Frame
- Backhoe (combination)
- Boom Attachment on loaders (Except pipehook)
- Boring & Drilling Machine
- Brush Chopper, Brush Shredder, Tree Shredder
- Bulldozer, finish grade
- Cableway
- Carryall
- Concrete Pump
- Concrete Pumping System (Pumpcrete & similar types)
- Conveyor, 125 feet or longer
- Drill Doctor (Duties include dust collector and maintenance)
- Front End Loader (2 cu. yds. but less than 5 cu. yds.)
- Grader, finish
- Groove Cutting Machine (ride-on type)
- Heater Planer
- Hoist (all types including steam, gas, diesel, electric, air hydraulic, single and double drum, concrete, brick shaft caisson, snorkle roof, and other similar types, Except Chicago-boom type)
- Hydraulic Crane (10 tons & under)
- Hydro-Axe
- Hydro-Blaster
- Jack (screw, air hydraulic, power-operated unit, or console type, Except hand jack or pile load test type)
- Log Skidder

OPERATING ENGINEERS **Rates Expiration Date : 03/31/2020**

Effective Dates:

07/01/2017			01/01/2018	07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total	Total
48.98	30.70	79.68	80.68	82.03	83.03	85.38

CLASSIFICATIONS:

- Pan
- Paver, concrete
- Plate & Frame Filter Press
- Pumpcrete (unit type)
- Pumpcrete, Squeezecrete, or Concrete Pumping machine (regardless of size)
- Scraper
- Side Boom
- Straddle Carrier (Ross and similar types)
- Vacuum Truck
- Whiphammer
- Winch Truck (hoisting)

OPERATING ENGINEERS **Rates Expiration Date : 03/31/2020**

Effective Dates:

	07/01/2017		01/01/2018	07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total	Total
47.07	30.70	77.77	78.77	80.12	81.12	83.47

CLASSIFICATIONS:

Asphalt Curbing Machine

Asphalt Plant Engineer

Asphalt Spreader

Autograde Curb Trimmer & Sidewalk Shoulder Slipform (CMI & similar types)

Autograde Curecrete Machine (CMI & similar types)

Autograde Tube Finisher & Texturing Machine (CMI & similar types)

Bar Bending Machines (Power)

Batcher, Batching Plant, & Crusher [On Site]

Belt Conveyor System

Boom-Type Skimmer Machine

Bridge Deck Finisher

Bulldozer (all sizes)

Captain (Power Boats)

Car Dumper (railroad)

Compressor & Blower unit for loading/unloading of concrete, cement, fly ash, or similar type materials (used independently or truck-mounted)

Compressor (2 or 3 battery)

Concrete Breaking Machine

Concrete Cleaning/Decontamination Machine

Concrete Finishing Machine

Concrete Saw or Cutter (ride-on type)

Concrete Spreader (Hetzl, Rexomatic & similar types)

Concrete Vibrator

OPERATING ENGINEERS **Rates Expiration Date : 03/31/2020**

Effective Dates:

07/01/2017			01/01/2018	07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total	Total
47.07	30.70	77.77	78.77	80.12	81.12	83.47

CLASSIFICATIONS:

Conveyors - under 125 feet

Crane Signalman

Crushing Machine

Directional Boring Machine

Ditching Machine - Small (Ditchwitch, Vermeer or similar types)

Dope Pot - Mechanical (with or without pump)

Dumpster

Elevator

Fireman

Fork Lift (Economobile, Lull & similar types)

Front End Loader (1 cu. yd. and over but less than 2 cu. yds.)

Generator (2 or 3 battery)

Giraffe Grinder

Grader & Motor Patrols

Grout Pump

Gunnite Machine (Excluding nozzle)

Hammer - Vibratory (in conjunction with generator)

Heavy Equipment Robotics - Operator/Technician

Hoist (roof, tugger, aerial platform hoist, house car)

Hopper

Hopper Doors (power operated)

Ladder (motorized)

Laddervator

OPERATING ENGINEERS **Rates Expiration Date : 03/31/2020**

Effective Dates:

07/01/2017			01/01/2018	07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total	Total
47.07	30.70	77.77	78.77	80.12	81.12	83.47

CLASSIFICATIONS:

Locomotive (Dinky-type)

Maintenance Utility Man

Master Environmental Maintenance Technician

Mechanic

Mixer (Except paving mixers)

Pavement Breaker (truck-mounted or small self-propelled ride-on type)

Pavement Breaker - maintenance of compressor or hydraulic unit

Pipe Bending Machine (power)

Pitch Pump

Plaster Pump (regardless of size)

Post Hole Digger (post pounder, auger)

Roller (black top)

Scale (power)

Seamen Pulverizing Mixer

Shoulder Widener

Silo

Skimmer Machine (boom type)

Steel Cutting Machine (service & maintenance)

Tamrock Drill

Tractor

Transfer Machines

Tug Captains

Tug Master (Power Boats)

OPERATING ENGINEERS **Rates Expiration Date : 03/31/2020**

Effective Dates:

07/01/2017			01/01/2018	07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total	Total
47.07	30.70	77.77	78.77	80.12	81.12	83.47

CLASSIFICATIONS:

Ultra High Pressure Waterjet Cutting Tool System -
Operator/Maintenance Technician

Vacuum Blasting Machine - Operator/Maintenance Technician

Vibrating Plant (used with unloading)

Welder & Repair Mechanic

Effective Dates:

07/01/2017			01/01/2018	07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total	Total
43.73	30.70	74.43	75.43	76.78	77.78	80.13

CLASSIFICATIONS:

Assistant Engineer/Oiler

Driller's Helper

Field Engineer - Transit man or Instrument man

Maintenance Apprentice (Deckhand)

Maintenance Apprentice (Oiler)

Mechanic's Helper

Off Road Back Dump

Effective Dates:

07/01/2017			01/01/2018	07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total	Total
41.15	30.70	71.85	72.85	74.20	75.20	77.55

CLASSIFICATIONS:

Field Engineer - Rodman or Chainman

TERRITORY
ENTIRE STATE

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION

OPERATING ENGINEERS Rates Expiration Date : 03/31/2020

Effective Dates:

07/01/2017			01/01/2018	07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total	Total
51.31	30.70	82.01	83.01	84.36	85.36	87.71

CLASSIFICATIONS:

Lead Engineer, Foreman Engineer, Safety Engineer (minimum)

OPERATING ENGINEERS **Rates Expiration Date : 03/31/2020**

Effective Dates:

	07/01/2017		01/01/2018	07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total	Total
50.57	30.70	81.27	82.27	83.62	84.62	86.97

CLASSIFICATIONS:

- Autograde Pavement Profiler (CMI & similar types)
- Autograde Pavement Profiler - Recycle Type (CMI & similar types)
- Autograde Placer/Trimmer/Spreader Combination (CMI & similar types)
- Autograde Slipform Paver (CMI & similar types)
- Backhoe (Excavator)
- Central Power Plant
- Concrete Paving Machine
- Draglines
- Drill, Bauer, AMI and similar types
- Drillmaster, Quarrymaster
- Drillmaster/Quarrymaster (down-the-hole drill), rotary drill, self-propelled hydraulic drill, self-powered drill
- Elevator Grader
- Field Engineer-Chief of Party
- Front End Loader (5 cu. yards or larger)
- Gradall
- Grader, Rago
- Helicopter Co-Pilot
- Helicopter Communications Engineer
- Juntann Pile Driver
- Locomotive (large)
- Mucking Machine
- Pavement & Concrete Breaker (Superhammer & Hoe Ram)

OPERATING ENGINEERS **Rates Expiration Date : 03/31/2020**

Effective Dates:

07/01/2017			01/01/2018	07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total	Total
50.57	30.70	81.27	82.27	83.62	84.62	86.97

CLASSIFICATIONS:

Pile Driver

Prentice Truck

Roadway Surface Grinder

Scooper (loader & shovel)

Shovel (Excavator)

Trackhoe (Excavator)

Tree Chopper with boom

Trenching Machine (cable plow)

Tunnel Boring Machine

OPERATING ENGINEERS **Rates Expiration Date : 03/31/2020**

Effective Dates:

07/01/2017			01/01/2018	07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total	Total
45.44	30.70	76.14	77.14	78.49	79.49	81.84

CLASSIFICATIONS:

- Chipper
- Compressor (single)
- Concrete Spreader (small type)
- Conveyor Loader (Except elevator graders)
- Engines, Large Diesel (1620 HP) & Staging Pump
- Farm Tractor
- Fertilizing Equipment (operation & maintenance)
- Fine Grade Machine (small type)
- Form Line Grader (small type)
- Front End Loader (under 1 cubic yard)
- Generator (single)
- Grease, Gas, Fuel, & Oil Supply Trucks
- Heaters (Nelson or other type)
- Lights - portable generating light plant
- Mixer, Concrete (small)
- Mulching Equipment (operation & maintenance)
- Power Broom or Sweeper
- Pump (diesel engine & hydraulic - regardless of power)
- Pump (larger than 2 inch suction, including submersible pumps)
- Road Finishing Machine (small type)
- Roller - grade, fill, or stone base
- Seeding Equipment (operation & maintenance)
- Sprinkler & Water Pump Trucks

OPERATING ENGINEERS Rates Expiration Date : 03/31/2020

Effective Dates:

	07/01/2017		01/01/2018	07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total	Total
45.44	30.70	76.14	77.14	78.49	79.49	81.84

CLASSIFICATIONS:

Steam Generator or Boiler

Stone Spreader

Tamping Machine (vibrating ride-on type)

Temporary Heating Plant (Nelson or other type, including propane, natural gas, and flow-type units)

Water or Sprinkler Truck

Welding Machine (gas, diesel, or electric convertor, of any type)

Welding System - Multiple (rectifier transformer type)

Wellpoint Systems (including installation by bull gang and maintenance)

Effective Dates:

	07/01/2017		01/01/2018	07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total	Total
52.39	30.70	83.09	84.09	85.44	86.44	88.79

CLASSIFICATIONS:

Helicopter Pilot/Engineer

Effective Dates:

	07/01/2017		01/01/2018	07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total	Total
57.07	30.70	87.77	88.77	90.12	91.12	93.47

CLASSIFICATIONS:

Cranes, Derricks, Pile Driver (all types), over 100 tons and TOWER CRANE with boom (including jib and/or leads) 140 ft. and over

Effective Dates:

	07/01/2017		01/01/2018	07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total	Total
56.07	30.70	86.77	87.77	89.12	90.12	92.47

CLASSIFICATIONS:

Cranes, Derricks, Pile Driver (all types), over 100 tons and TOWER CRANE with boom (including jib and/or leads) from 100 ft. to 139 ft.

OPERATING ENGINEERS **Rates Expiration Date : 03/31/2020**

Effective Dates:

07/01/2017			01/01/2018	07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total	Total
52.57	30.70	83.27	84.27	85.62	86.62	88.97

CLASSIFICATIONS:

Cranes, Derricks, Pile Driver (all types) , under 100 tons with a boom (including jib and/or leads) 140 ft. and over

Effective Dates:

07/01/2017			01/01/2018	07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total	Total
55.07	30.70	85.77	86.77	88.12	89.12	91.47

CLASSIFICATIONS:

Cranes, Derricks, Pile Driver (all types), over 100 tons and TOWER CRANE with a boom (including jib and/or leads) under 100 ft.

Effective Dates:

07/01/2017			01/01/2018	07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total	Total
51.57	30.70	82.27	83.27	84.62	85.62	87.97

CLASSIFICATIONS:

Cranes, Derricks, Pile Driver (all types), under 100 tons with a boom (including jib and/or leads) from 100 ft. to 139 ft.

STRUCTURAL STEEL ERECTION **Rates Expiration Date : 03/31/2020**

{For apprentice rates refer to "Operating Engineers" apprentice rates in any county rate package}

The regular workday consists of 8 hours, Monday to Friday, between 6:00 AM and 4:30 PM.

SHIFT DIFFERENTIALS:

- Shift work must run for 5 consecutive workdays.
- When 2 shifts are worked, the second shift shall receive an additional 10% of the regular rate inclusive of benefits, per hour.
- When 3 shifts are worked, the second shift shall receive 8 hours pay for 7.5 hours of work, plus an additional 10% of the regular rate inclusive of benefits, per hour. The third shift shall receive 8 hours pay for 7 hours of work, plus an additional 15% of the regular rate inclusive of benefits, per hour.
- When such hours are mandated by the project owner, a shift that starts between 8:00 PM and midnight and ends by 6:00 AM Saturday, or that starts after 8:00 PM on Sunday, provided there are consecutive hours of work within the shift, shall receive an additional 15% of the regular rate, inclusive of benefits.
- On Highway, Road, Street, and Sewer projects irregular shifts starting between 5:00 PM and 12:00 AM may be worked Monday through Friday, and shall receive an additional 15% of the regular rate, inclusive of benefits. When working with other trades that receive a higher irregular shift rate, the Operating Engineer shall also receive the higher irregular shift rate.

OVERTIME:

- Hours in excess of 8 per day, or outside of the regular workday, Monday through Friday, that are not shift work, and all hours on Saturdays shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the regular rate, inclusive of benefits.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with all hours on Friday paid at time and one-half the regular rate, inclusive of benefits.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. When all trades on a particular job site agree, the day after Thanksgiving may be substituted for Veteran's Day.

On hazardous waste removal work or asbestos removal work, on a state or federally designated hazardous waste site, where the operating engineer is in direct contact with hazardous material and when personal protective equipment is required for respiratory, skin, and eye protection, the operating engineer shall receive an additional 20% of the hourly wage, per hour.

Effective Dates:

	07/01/2017		01/01/2018	07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total	Total
54.20	30.70	84.90	85.90	87.25	88.25	90.60

CLASSIFICATIONS:

Helicopter Pilot or Engineer

STRUCTURAL STEEL ERECTION **Rates Expiration Date : 03/31/2020**

Effective Dates:

07/01/2017			01/01/2018	07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total	Total
50.14	30.70	80.84	81.84	83.19	84.19	86.54

CLASSIFICATIONS:

- A-Frame
- Cherry Picker -10 tons or less (Over 10 tons use crane rate)
- Hoist (all types Except Chicago-boom)
- Jack (screw, air hydraulic, power-operated unit or console type, Except hand jack or pile load test type)
- Side Boom
- Straddle Carrier

Effective Dates:

07/01/2017			01/01/2018	07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total	Total
47.48	30.70	78.18	79.18	80.53	81.53	83.88

CLASSIFICATIONS:

- Aerial Platform Used On Hoists
- Apprentice Engineer/Oiler with Compressor or Welding Machine
- Captain (Power Boats)
- Compressor (2 or 3 in battery)
- Conveyor or Tugger Hoist
- Elevator or House Car
- Fireman
- Forklift
- Generator (2 or 3)
- Maintenance Utility Man
- Tug Master (Power Boats)
- Welding Machines, Gas or Electric Converters on any type-2 or 3 in battery including diesels

STRUCTURAL STEEL ERECTION **Rates Expiration Date : 03/31/2020**

Effective Dates:

	07/01/2017		01/01/2018	07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total	Total
45.95	30.70	76.65	77.65	79.00	80.00	82.35

CLASSIFICATIONS:

Compressor (Single)

Generators

Welding Machines, Gas, Diesel, Or Electric Converters of any type-single

Welding System, Multiple (Rectifier Transformer Type)

Effective Dates:

	07/01/2017		01/01/2018	07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total	Total
44.19	30.70	74.89	75.89	77.24	78.24	80.59

CLASSIFICATIONS:

Assistant Engineer/Oiler

Drillers Helper

Field Engineer - Transit/Instrument Man

Maintenance Apprentice (Deckhand)

Maintenance Apprentice (Oiler)

Effective Dates:

	07/01/2017		01/01/2018	07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total	Total
51.76	30.70	82.46	83.46	84.81	85.81	88.16

CLASSIFICATIONS:

Lead Engineer, Foreman Engineer, Safety Engineer (Minimum)

Effective Dates:

	07/01/2017		01/01/2018	07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total	Total
41.15	30.70	71.85	72.85	74.20	75.20	77.55

CLASSIFICATIONS:

Field Engineer - Rodman or Chainman

STRUCTURAL STEEL ERECTION **Rates Expiration Date : 03/31/2020**

Effective Dates:

07/01/2017			01/01/2018	07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total	Total
50.90	30.70	81.60	82.60	83.95	84.95	87.30

CLASSIFICATIONS:

Field Engineer-Chief of Party

Effective Dates:

07/01/2017			01/01/2018	07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total	Total
59.09	30.70	89.79	90.79	92.14	93.14	95.49

CLASSIFICATIONS:

Cranes (all cranes, land or floating with booms, including jib, 140 ft. and over, above ground). Derricks (all derricks, land, floating or Chicago Boom type with booms including jib, 140 ft. and over, above ground), and Pile Drivers (all types) over 100 tons and Tower Cranes.

Effective Dates:

07/01/2017			01/01/2018	07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total	Total
57.43	30.70	88.13	89.13	90.48	91.48	93.83

CLASSIFICATIONS:

Cranes (all cranes, land or floating with booms including jib, less than 140 ft. above ground), Derricks (all derricks, land, floating or Chicago Boom type with booms including jib, less than 140 ft. above ground), Pile Drivers (all types), over 100 tons and Tower Crane.

Effective Dates:

07/01/2017			01/01/2018	07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total	Total
54.59	30.70	85.29	86.29	87.64	88.64	90.99

CLASSIFICATIONS:

Cranes (all cranes, land or floating with booms including jib, 140 ft. and over, above ground), Derricks (all derricks, land, floating or Chicago Boom type with booms including jib, 140 ft. and over, above ground), Pile Drivers (all types), under 100 tons.

Effective Dates:

07/01/2017			01/01/2018	07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total	Total
52.93	30.70	83.63	84.63	85.98	86.98	89.33

CLASSIFICATIONS:

Cranes (all cranes, land or floating with booms including jib, less than 140 ft. above ground), Derricks (all derricks, land, floating or Chicago Boom type with booms including jib, less than 140 ft. above ground), Pile Drivers (all types), under 100 tons.

TERRITORY
ENTIRE STATE

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION

STRUCTURAL STEEL ERECTION Rates Expiration Date : 03/31/2020

Effective Dates:

07/01/2017			01/01/2018	07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total	Total
54.59	30.70	85.29	86.29	87.64	88.64	90.99

CLASSIFICATIONS:

Helicopter Co-Pilot

Helicopter Communications Engineer

TEST BORING PRELIMINARY TO CONSTRUCTION-SOUTH/WEST **Rates Expiration Date : 03/31/2020**

THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY:

Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Hunterdon, Mercer, Monmouth, Ocean, Salem, Sussex, Warren

The regular workday consists of 8 hours, Monday to Friday, between 6:00 AM and 4:30 PM.

SHIFT DIFFERENTIALS:

- Shift work must run for 5 consecutive workdays.
- When 2 shifts are worked, the second shift shall receive an additional 10% of the regular rate inclusive of benefits, per hour.
- When 3 shifts are worked, the second shift shall receive 8 hours pay for 7.5 hours of work, plus an additional 10% of the regular rate inclusive of benefits, per hour. The third shift shall receive 8 hours pay for 7 hours of work, plus an additional 15% of the regular rate inclusive of benefits, per hour.
- When such hours are mandated by the project owner, a shift that starts between 8:00 PM and midnight and ends by 6:00 AM Saturday, or that starts after 8:00 PM on Sunday, provided there are consecutive hours of work within the shift, shall receive an additional 15% of the regular rate, inclusive of benefits.
- On Highway, Road, Street, and Sewer projects irregular shifts starting between 5:00 PM and 12:00 AM may be worked Monday through Friday, and shall receive an additional 15% of the regular rate, inclusive of benefits. When working with other trades that receive a higher irregular shift rate, the Operating Engineer shall also receive the higher irregular shift rate.

OVERTIME:

- Hours in excess of 8 per day, or outside of the regular workday, Monday through Friday, that are not shift work, and all hours on Saturdays shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the regular rate, inclusive of benefits.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with all hours on Friday paid at time and one-half the regular rate, inclusive of benefits.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. When all trades on a particular job site agree, the day after Thanksgiving may be substituted for Veteran's Day.

On hazardous waste removal work or asbestos removal work, on a state or federally designated hazardous waste site, where the operating engineer is in direct contact with hazardous material and when personal protective equipment is required for respiratory, skin, and eye protection, the operating engineer shall receive an additional 20% of the hourly wage, per hour.

Effective Dates:

	07/01/2017		01/01/2018	07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total	Total
50.57	30.70	81.27	82.27	83.62	84.62	86.97

CLASSIFICATIONS:

Driller

Effective Dates:

	07/01/2017		01/01/2018	07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total	Total
43.73	30.70	74.43	75.43	76.78	77.78	80.13

CLASSIFICATIONS:

Driller's Helper

FREE AIR TUNNEL JOBS **Rates Expiration Date : 02/28/2018**

{For apprentice rates refer to "Heavy & General" apprentice rates in any county rate package}

The regular workday consists of 8 hours, starting at 7:00 AM or 8:00 AM.

SHIFT DIFFERENTIALS:

- Shifts must start at 3:00 PM, 4:00 PM, 12:00 AM, or 1:00 AM, to be considered shift work, except when the project owner mandates special hours of work in the job specifications, in which case those hours may be considered shift work.
- When such hours are mandated by the project owner, a shift that begins before midnight on Friday and ends on Saturday morning, or that begins at or after 8:00 PM on Sunday and ends on Monday morning may be paid at the shift differential rate.
- Shifts shall receive an additional \$2.50 per hour.

OVERTIME:

- Hours in excess of 8 per day, Monday through Friday, or outside of the regular workday that are not shift work, and all hours on Saturdays, shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with Friday used as a make-up day for a day lost to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. Veterans Day may be substituted for the day after Thanksgiving. However, in the trading of Veterans Day for the day after Thanksgiving, if overtime is worked on Veterans Day, it shall be paid at double the hourly rate.

Hazardous Waste Work:

- where Level A, B, or C protection is required: + \$3.00/hr
- other Hazardous Waste site: + \$1.00/hr

Effective Dates:

03/01/2017

Rate	Fringe	Total
41.50	29.03	70.53

CLASSIFICATIONS:

Walking Boss & Superintendent

Effective Dates:

03/01/2017

Rate	Fringe	Total
41.20	29.03	70.23

CLASSIFICATIONS:

Heading Foreman, Shaft Foreman, Rod Foreman, Electrician Foreman, Rigging Foreman

FREE AIR TUNNEL JOBS **Rates Expiration Date : 02/28/2018**

Effective Dates:

03/01/2017

Rate	Fringe	Total
40.70	29.03	69.73

CLASSIFICATIONS:

Iron Foreman, Caulking Foreman, Form Foreman, Cement Finishing Foreman, Concrete Foreman, Track Foreman, Cleanup Foreman, Grout Foreman

Effective Dates:

03/01/2017

Rate	Fringe	Total
43.20	29.03	72.23

CLASSIFICATIONS:

Blaster

Effective Dates:

03/01/2017

Rate	Fringe	Total
40.15	29.03	69.18

CLASSIFICATIONS:

Top Labor Foreman

Effective Dates:

03/01/2017

Rate	Fringe	Total
39.80	29.03	68.83

CLASSIFICATIONS:

Skilled Men (including Caulker, Powder Carrier, all other skilled men)

Skilled Men (including Miner, Drill Runner, Iron Man, Conveyor Man, Manitenance Man, Safety Miner, Rigger, Block Layer, Cement Finisher, Tod Man)

Effective Dates:

03/01/2017

Rate	Fringe	Total
39.65	29.03	68.68

CLASSIFICATIONS:

Semi-Skilled Men (including Bell or Signal Man Top or Bottom, Form Worker & Mover, Concrete Worker, Shaft Man, Tunnel Laborer, Caulker's Helper, all other semi-skilled)

Semi-Skilled Men (including Miner's Helper, Chuck Tender, Track Man, Nipper, Brake Man, Derail Man, Cable Man, Hose Man, Gravel Man, Form Man)

TERRITORY
ENTIRE STATE

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION

FREE AIR TUNNEL JOBS Rates Expiration Date : 02/28/2018

Effective Dates:

03/01/2017

Rate	Fringe	Total
39.15	29.03	68.18

CLASSIFICATIONS:

All Others (including Powder Watchman, Change House Attendant, Top Laborer)

DRILL FOR GROUND WATER SUPPLY **Rates Expiration Date : 03/31/2020**

The well driller and/or helper may perform all work relative to the construction, finishing, and servicing of wells, pumps and borings for ground water supply. The present methods of well drilling entailing as they do, many diverse job operations calling for drilling, pump discharge, piping, and the operation of various types of related power equipment, shall all be within the job duties and functions of the well driller and/or helper. In the event that an extension of work should occur beyond water well drilling functions, into the field of general construction work, such extension of work would come under the appropriate rates listed elsewhere in this wage determination.

- For Work Hours, Shift Differentials, Overtime Rates, and Recognized Holidays see the "Operating Engineers" section of this wage determination.

Effective Dates:

	07/01/2017		01/01/2018	07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total	Total
49.32	30.70	80.02	81.02	82.37	83.37	85.72

CLASSIFICATIONS:

Driller

Effective Dates:

	07/01/2017		01/01/2018	07/01/2018	01/01/2019	07/01/2019
Rate	Fringe	Total	Total	Total	Total	Total
42.48	30.70	73.18	74.18	75.53	76.53	78.88

CLASSIFICATIONS:

Driller's Helper

OPERATING ENGINEERS MARINE-DREDGING **Rates Expiration Date : 09/30/2018**

NOTE: Boat crews carrying explosive material (dynamite, pourfex, and other similar materials) shall be paid at 120% of the hourly wage rate for hours engaged in handling of said materials. Employees required to possess a Hazardous Material Certification as a condition of employment shall be compensated at 120% of the hourly wage rate.

OVERTIME:

Hours in excess of 40 per week, and all hours on Saturdays and Sundays, shall be paid at time and one-half the hourly rate. All hours on holidays shall be paid at double the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Martin Luther King Day, Good Friday, Memorial Day, July 4th, Labor Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday.

Effective Dates:

10/01/2016			10/01/2017
Rate	Fringe	Total	Total
37.25	13.78	51.03	52.51

CLASSIFICATIONS:

Lead Dredgerman, Operator, Leverman

Licensed Tug Operator (over 1000 HP)

Effective Dates:

10/01/2016			10/01/2017
Rate	Fringe	Total	Total
32.22	13.38	45.60	46.95

CLASSIFICATIONS:

Derrick Operator, Spider/Spill Barge Operator

Engineer, Electrician, Chief Welder, Chief Mate

Fill Placer, Operator II

Licensed Boat Operator

Maintenance Engineer

Effective Dates:

10/01/2016			10/01/2017
Rate	Fringe	Total	Total
30.33	13.23	43.56	44.86

CLASSIFICATIONS:

Certified Welder

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ENTIRE STATE

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION

OPERATING ENGINEERS MARINE-DREDGING **Rates Expiration Date : 09/30/2018**

Effective Dates:

10/01/2016			10/01/2017
Rate	Fringe	Total	Total
29.50	12.86	42.36	43.64

CLASSIFICATIONS:

Mate, Drag Barge Operator, Steward, Assistant Fill Placer

Welder

Effective Dates:

10/01/2016			10/01/2017
Rate	Fringe	Total	Total
28.54	12.78	41.32	42.58

CLASSIFICATIONS:

Boat Operator

Effective Dates:

10/01/2016			10/01/2017
Rate	Fringe	Total	Total
23.71	12.10	35.81	36.92

CLASSIFICATIONS:

Shoreman, Deckhand, Rodman, Scowman

MICROSURFACING/SLURRY SEAL Rates Expiration Date : 02/28/2018

THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY:

Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Mercer, Ocean, Salem

IN ALL OTHER COUNTIES use the Heavy and General Laborers - North "Slurry Seal Laborer" rates.

SHIFT DIFFERENTIALS:

Any shift starting at 3:30 PM or later shall receive an additional \$0.35/hr

OVERTIME:

Hours in excess of 8 per day or 40 per week shall be paid at time and one-half the hourly rate. All hours on holidays shall be paid at double the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Washington's Birthday, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day.

Effective Dates:

03/01/2017

Rate	Fringe	Total
36.50	21.27	57.77

CLASSIFICATIONS:

Foreman

Effective Dates:

03/01/2017

Rate	Fringe	Total
33.80	21.27	55.07

CLASSIFICATIONS:

Box man

Effective Dates:

03/01/2017

Rate	Fringe	Total
31.75	21.27	53.02

CLASSIFICATIONS:

Microsurface/Slurry Preparation

Effective Dates:

03/01/2017

Rate	Fringe	Total
31.75	21.27	53.02

CLASSIFICATIONS:

Squeegee man

TERRITORY
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NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION

MICROSURFACING/SLURRY SEAL Rates Expiration Date : 02/28/2018

Effective Dates:

03/01/2017

Rate	Fringe	Total
30.30	21.27	51.57

CLASSIFICATIONS:

Cleaner, Taper

ASPHALT LABORERS - SOUTH Rates Expiration Date : 02/28/2018

"THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY: Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Mercer, Ocean, Salem

{For apprentice rates refer to "Laborer - Heavy & General" apprentice rates in any county rate package}

The regular workday consists of 8 hours, starting at 7:00 AM or 8:00 AM.

SHIFT DIFFERENTIALS:

- Shifts must start at 3:00 PM, 4:00 PM, 12:00 AM, or 1:00 AM, to be considered shift work, except when the project owner mandates special hours of work in the job specifications, in which case those hours may be considered shift work.
- When such hours are mandated by the project owner, a shift that begins before midnight on Friday and ends on Saturday morning, or that begins at or after 8:00 PM on Sunday and ends on Monday morning may be paid at the shift differential rate.
- Shifts shall receive an additional \$2.50 per hour.

OVERTIME:

- Hours in excess of 8 per day, Monday through Friday, or outside of the regular workday that are not shift work, and all hours on Saturdays, shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with Friday used as a make-up day for a day lost to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. Veterans Day may be substituted for the day after Thanksgiving. However, in the trading of Veterans Day for the day after Thanksgiving, if overtime is worked on Veterans Day, it shall be paid at double the hourly rate.

Hazardous Waste Work:

- where Level A, B, or C protection is required: + \$3.00/hr
- other Hazardous Waste site: + \$1.00/hr

Effective Dates:

03/01/2017

Rate	Fringe	Total
41.00	29.03	70.03

CLASSIFICATIONS:

Paving Foreman

Effective Dates:

03/01/2017

Rate	Fringe	Total
39.55	29.03	68.58

CLASSIFICATIONS:

Head Raker

Effective Dates:

03/01/2017

Rate	Fringe	Total
39.40	29.03	68.43

CLASSIFICATIONS:

Raker, Screedman, Luteman

TERRITORY
ENTIRE STATE

NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION

ASPHALT LABORERS - SOUTH Rates Expiration Date : 02/28/2018

Effective Dates:

03/01/2017

Rate	Fringe	Total
39.15	29.03	68.18

CLASSIFICATIONS:

Tampers, Smoothers, Kettlemen,
Painters, Shovelers, Roller Boys

Effective Dates:

03/01/2017

Rate	Fringe	Total
39.25	29.03	68.28

CLASSIFICATIONS:

Milling Controller

Effective Dates:

03/01/2017

Rate	Fringe	Total
39.45	29.03	68.48

CLASSIFICATIONS:

Traffic Control Coordinator

TEST BORING PRELIMINARY TO CONSTRUCTION-NORTH **Rates Expiration Date : 10/16/2018**

THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY:
Bergen, Essex, Hudson, Middlesex, Morris, Passaic, Somerset, Union

SHIFT DIFFERENTIAL:

Employees on a shift other than between the hours of 8:00 AM and 5:00 PM shall receive an additional \$1.00 per hour.

OVERTIME:

Hours in excess of 8 per day, Monday through Friday, and all hours on Saturday shall be paid at time and one-half the regular rate. All hours on Sundays and holidays shall be paid at double the regular rate.

RECOGNIZED HOLIDAYS: New Year's Day, Memorial Day, July 4th, Labor Day, Thanksgiving Day, and Christmas Day. Sunday holidays observed the following Monday.

Hazardous Waste Pay (for Levels A, B, and C): an additional 10% of the hourly rate, per hour.

A newly hired Helper with no experience in the industry shall be paid as follows:

- 1st year on the job - 70% of Helper wage rate
- 2nd year on the job - 80% of Helper wage rate
- 3rd year on the job - 90% of Helper wage rate
- All helpers receive full fringe benefit rate.

Effective Dates:

11/01/2016			10/17/2017
Rate	Fringe	Total	Total
30.96	24.76	55.72	57.17

CLASSIFICATIONS:

Helper (4th year helper)

Effective Dates:

11/01/2016			10/17/2017
Rate	Fringe	Total	Total
38.82	24.76	63.58	65.24

CLASSIFICATIONS:

Driller

Effective Dates:

11/01/2016			10/17/2017
Rate	Fringe	Total	Total
44.64	24.76	69.40	71.28

CLASSIFICATIONS:

Foreman

HEAVY & GENERAL LABORERS - NORTH **Rates Expiration Date : 02/28/2018**

THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY:

Bergen, Essex, Hudson, Hunterdon, Middlesex, Monmouth, Morris, Passaic, Somerset, Sussex, Union, Warren

{For apprentice rates refer to "Laborer - Heavy & General" apprentice rates in any county rate package}

The regular workday consists of 8 hours, starting at 7:00 AM or 8:00 AM.

SHIFT DIFFERENTIALS:

- Shifts must start at 3:00 PM, 4:00 PM, 12:00 AM, or 1:00 AM, to be considered shift work, except when the project owner mandates special hours of work in the job specifications, in which case those hours may be considered shift work.
- When such hours are mandated by the project owner, a shift that begins before midnight on Friday and ends on Saturday morning, or that begins at or after 8:00 PM on Sunday and ends on Monday morning may be paid at the shift differential rate.
- Shifts shall receive an additional \$2.50 per hour.

OVERTIME:

- Hours in excess of 8 per day, Monday through Friday, or outside of the regular workday that are not shift work, and all hours on Saturdays, shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with Friday used as a make-up day for a day lost to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. Veterans Day may be substituted for the day after Thanksgiving. However, in the trading of Veterans Day for the day after Thanksgiving, if overtime is worked on Veterans Day, it shall be paid at double the hourly rate.

Hazardous Waste Work:

- where Level A, B, or C protection is required: + \$3.00/hr
- other Hazardous Waste site: + \$1.00/hr

Effective Dates:

03/01/2017

Rate	Fringe	Total
38.75	29.03	67.78

CLASSIFICATIONS:

"D" Rate:

basic, landscape, asphalt, slurry seal, or railroad track laborer; utility meter installer; flagman; salamander tender; pitman; dumpman; rakers or tampers on cold patch work; wrappers or coaters of pipe; waterproofer; timberman; wagon drill or drill master helper; powder carrier; magazine tender; signal man; power buggy operator; tree cutter; operator of basic power tools

Effective Dates:

03/01/2017

Rate	Fringe	Total
39.45	29.03	68.48

CLASSIFICATIONS:

"C" Rate:

pipe layer; laser man; conduit or duct line layer; operator of jack hammer, chipping hammer, pavement breaker, concrete cutter, asphalt cutter, sheet hammer, or walk-behind saw cutter; sandblaster; acetylene cutting or burning; wagon drill, directional drill, or hydraulic drill operator; drill master; core driller; traffic control coordinator; asphalt raker or lute man

HEAVY & GENERAL LABORERS - NORTH **Rates Expiration Date : 02/28/2018**

Effective Dates:

03/01/2017

Rate	Fringe	Total
39.70	29.03	68.73

CLASSIFICATIONS:

"B" Rate:

concrete finisher; setter of brick or stone pavers; stone cutter; form setter; manhole, catch basin, or inlet builder; asphalt screedman; rammer; hardscaping; gunite nozzle man

Effective Dates:

03/01/2017

Rate	Fringe	Total
43.25	29.03	72.28

CLASSIFICATIONS:

"A" Rate:

blaster

Effective Dates:

03/01/2017

Rate	Fringe	Total
41.00	29.03	70.03

CLASSIFICATIONS:

"FOREMAN" Rate:

labor foreman, asphalt foreman, drill foreman, pipe foreman, grade foreman, finisher foreman, concrete foreman

Effective Dates:

03/01/2017

Rate	Fringe	Total
42.00	29.03	71.03

CLASSIFICATIONS:

"GENERAL FOREMAN" Rate

HEAVY & GENERAL LABORERS - SOUTH **Rates Expiration Date : 02/28/2018**

THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY:

Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Mercer, Ocean, Salem

{For apprentice rates refer to "Laborer - Heavy & General" apprentice rates in any county rate package}

The regular workday consists of 8 hours, starting at 7:00 AM or 8:00 AM.

SHIFT DIFFERENTIALS:

- Shifts must start at 3:00 PM, 4:00 PM, 12:00 AM, or 1:00 AM, to be considered shift work, except when the project owner mandates special hours of work in the job specifications, in which case those hours may be considered shift work.
- When such hours are mandated by the project owner, a shift that begins before midnight on Friday and ends on Saturday morning, or that begins at or after 8:00 PM on Sunday and ends on Monday morning may be paid at the shift differential rate.
- Shifts shall receive an additional \$2.50 per hour.

OVERTIME:

- Hours in excess of 8 per day, Monday through Friday, or outside of the regular workday that are not shift work, and all hours on Saturdays, shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with Friday used as a make-up day for a day lost to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. Veterans Day may be substituted for the day after Thanksgiving. However, in the trading of Veterans Day for the day after Thanksgiving, if overtime is worked on Veterans Day, it shall be paid at double the hourly rate.

Hazardous Waste Work:

- where Level A, B, or C protection is required: + \$3.00/hr
- other Hazardous Waste site: + \$1.00/hr

Effective Dates:

03/01/2017

Rate	Fringe	Total
38.75	29.03	67.78

CLASSIFICATIONS:

basic, landscape, or railroad track laborer; utility meter installer; flagman; salamander tender; pitman; dumpman; rakers or tampers on cold patch work; wrappers or coaters of pipe; waterproofers; tree cutter, timberman

Effective Dates:

03/01/2017

Rate	Fringe	Total
39.45	29.03	68.48

CLASSIFICATIONS:

wagon drill or drill master helper; powder carrier; magazine tender; signal man

HEAVY & GENERAL LABORERS - SOUTH **Rates Expiration Date : 02/28/2018**

Effective Dates:

03/01/2017

Rate	Fringe	Total
39.45	29.03	68.48

CLASSIFICATIONS:

pipe layer; laser man; conduit or duct line layer; operator of jack hammer, chipping hammer, pavement breaker, concrete cutter, asphalt cutter, sheet hammer, or walk-behind saw cutter; sandblaster; acetylene cutting or burning

Effective Dates:

03/01/2017

Rate	Fringe	Total
39.45	29.03	68.48

CLASSIFICATIONS:

wagon or directional drill operator; drill master

Effective Dates:

03/01/2017

Rate	Fringe	Total
43.25	29.03	72.28

CLASSIFICATIONS:

blaster

Effective Dates:

03/01/2017

Rate	Fringe	Total
41.00	29.03	70.03

CLASSIFICATIONS:

labor foreman, drill foreman, pipe foreman, grade foreman, finisher foreman, concrete foreman

Effective Dates:

03/01/2017

Rate	Fringe	Total
42.00	29.03	71.03

CLASSIFICATIONS:

general foreman

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NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION

HEAVY & GENERAL LABORERS - SOUTH Rates Expiration Date : 02/28/2018

Effective Dates:

03/01/2017

Rate	Fringe	Total
39.70	29.03	68.73

CLASSIFICATIONS:

concrete finisher; setter of brick or stone pavers; stone cutter; form setter; manhole, catch basin, or inlet builder; rammer; gunite nozzle man

PIPELINE - MAINLINE TRANSMISSION Rates Expiration Date : 06/03/2018

These rates apply to the following: welding on Transportation Mainline pipe lines (cross-country pipe lines, or any segments thereof, transporting coal, gas, oil, water or other transportable materials, vapors or liquids, including portions of such pipe lines within private property boundaries up to the final metering station or connection - the point where a valve, consumer connection, or town border station divides mainline transmission lines or higher pressure lateral and branch lines from lower pressure distribution systems).

PER DIEM PAYMENT:

In addition to the total wage rate paid for each craft, the following per diem (per day) amounts must also be paid - Pipeline Journeyman: \$42.50; Pipeline Journeyman Welder: \$102.50; and Pipeline Helper: \$42.50. Note: in order to receive the per diem payment an employee must work a minimum of 8 hours in a 24 hour period.

NOTES:

- Journeymen employed as "stringer bead" welders and journeymen who are regularly employed as "hot-pass" welders shall receive \$1.00 per hour more than other journeymen.
- Welders running "stringer bead" or "hot-pass" on "cutouts" or "tie-ins" on a production basis shall be paid \$1.00 per hour above the journeymen rate.
- Whenever a welder helper is employed using a power buffer or power grinder immediately behind the stringer bead and/or hot-pass welders, and the pipe gang is set on a production basis, the helper shall be paid \$2.00 per hour above the helper rate.
- If back welding is performed inside a pipe under either or both of the following conditions, the welder engaged in the welding will receive \$3.00 per hour above the regular rate for the job only for the days on which such back welding is performed:
 - The employer elects, as a regular procedure, to back weld each line-up. This condition is not intended to apply to occasional back welding performed by the pipe gang to repair a bead, to rectify a "high-lo" condition or wall thickness, etc.
 - A welder is required to back weld a completed weld behind the firing line.
- If the welder helper is required to go inside the pipe for the purpose of brushing, buffing and grinding the weld, they shall receive a wage rate \$1.00 per hour above the regular helper rate for the days involved.
- Welders working on "hot work" shall be paid \$2.00 per hour above the regular rate for each day engaged in such work. "Hot work" is defined as work on lines in service where there is the danger of fire or explosion.

The regular workday shall be 8 hours, between 8:00 AM and 4:30 PM.

OVERTIME:

Hours in excess of 8 per day, and all hours on Sundays shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on holidays shall be paid at double the regular rate, inclusive of benefits.

RECOGNIZED HOLIDAYS: New Year's Day, July 4th, Labor Day, Thanksgiving Day, and Christmas Day. Sunday holidays observed the following Monday.

Effective Dates:

06/05/2017

Rate	Fringe	Total
54.58	28.97	83.55

CLASSIFICATIONS:

Pipeline Journeyman Welder

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PIPELINE - MAINLINE TRANSMISSION Rates Expiration Date : 06/03/2018

Effective Dates:

06/05/2017

Rate	Fringe	Total
54.58	28.97	83.55

CLASSIFICATIONS:

Pipeline Journeyman

Effective Dates:

06/05/2017

Rate	Fringe	Total
33.27	19.97	53.24

CLASSIFICATIONS:

Pipeline Helper

PIPELINE - GAS DISTRIBUTION **Rates Expiration Date : 10/31/2017**

These rates apply to the following: welding on gas line distribution systems (that portion of the gas distribution system placed in streets, roads, subways, tunnels, viaducts, highways and easements which serves the users of gas).

SHIFT DIFFERENTIALS:

An "irregular" shift may start any time from 5:00 PM to 12:00 AM, Monday through Friday, and shall receive an additional 15% of the regular rate per hour, inclusive of benefits.

OVERTIME:

Hours in excess of forty per week, and all hours on Saturdays shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the regular rate, inclusive of benefits.

RECOGNIZED HOLIDAYS: New Year's Day, Memorial Day, July 4th, Labor Day, Thanksgiving Day, and Christmas Day. Sunday holidays observed the following Monday.

Effective Dates:

11/01/2016

Rate	Fringe	Total
57.58	21.55	79.13

CLASSIFICATIONS:

Pipeline Journeyman Welder

Effective Dates:

11/01/2016

Rate	Fringe	Total
57.58	21.55	79.13

CLASSIFICATIONS:

Pipeline Journeyman

Effective Dates:

11/01/2016

Rate	Fringe	Total
37.16	15.74	52.90

CLASSIFICATIONS:

Pipeline Helper

ASPHALT LABORERS- NORTH **Rates Expiration Date : 02/28/2018**

THESE RATES APPLY IN THE FOLLOWING COUNTIES ONLY:

Bergen, Essex, Hudson, Hunterdon, Middlesex, Monmouth, Morris, Passaic, Somerset, Sussex, Union, Warren

{For apprentice rates refer to "Laborer - Heavy & General" apprentice rates in any county rate package}

The regular workday consists of 8 hours, starting at 7:00 AM or 8:00 AM.

SHIFT DIFFERENTIALS:

- Shifts must start at 3:00 PM, 4:00 PM, 12:00 AM, or 1:00 AM, to be considered shift work, except when the project owner mandates special hours of work in the job specifications, in which case those hours may be considered shift work.
- When such hours are mandated by the project owner, a shift that begins before midnight on Friday and ends on Saturday morning, or that begins at or after 8:00 PM on Sunday and ends on Monday morning may be paid at the shift differential rate.
- Shifts shall receive an additional \$2.50 per hour.

OVERTIME:

- Hours in excess of 8 per day, Monday through Friday, or outside of the regular workday that are not shift work, and all hours on Saturdays, shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with Friday used as a make-up day for a day lost to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. Veterans Day may be substituted for the day after Thanksgiving. However, in the trading of Veterans Day for the day after Thanksgiving, if overtime is worked on Veterans Day, it shall be paid at double the hourly rate.

Hazardous Waste Work:

- where Level A, B, or C protection is required: + \$3.00/hr
- other Hazardous Waste site: + \$1.00/hr

Effective Dates:

03/01/2017

Rate	Fringe	Total
41.00	29.03	70.03

CLASSIFICATIONS:

Asphalt Foreman

Effective Dates:

03/01/2017

Rate	Fringe	Total
39.70	29.03	68.73

CLASSIFICATIONS:

Asphalt Screedman

Effective Dates:

03/01/2017

Rate	Fringe	Total
39.45	29.03	68.48

CLASSIFICATIONS:

Asphalt Raker or Lute Man

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NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
PREVAILING WAGE RATE DETERMINATION

ASPHALT LABORERS- NORTH Rates Expiration Date : 02/28/2018

Effective Dates:

03/01/2017

Rate	Fringe	Total
38.75	29.03	67.78

CLASSIFICATIONS:

Asphalt Laborer

ELECTRICIAN- UTILITY WORK (NORTH) **Rates Expiration Date : 12/03/2017**

Electrician-Utility Work (North)

(For apprentice rates refer to Electrician-Utility Work (North) in any county rate package).

These rates apply to work contracted for by the following utility companies:

Public Service Electric & Gas Co. of NJ, GPU Energy, Borough of Madison Electric Department, Sussex Rural Electric Cooperative, Rockland Utilities, and Butler Municipal Electric Co.

These rates do not apply to work on substations or switching stations.

For Utility work contracted for by a utility company other than those listed above or those listed under "Electrician-Utility Work (South), see the "Outside Commercial Rates" for the county in which the jobsite is located.

* FOR OUTSIDE COMMERCIAL RATES PLEASE SEE COUNTY RATES

The regular workday is 8 hours, between 6:00 AM and 6:00 PM.

FOR EMERGENCY WORK ONLY: (emergency work is defined as work caused by storm, catastrophe, act of god, and circumstances beyond the control of the employer)-all hours of work shall be paid at double the hourly rate.

SHIFT DIFFERENTIALS:

Shift work must run for a minimum of 5 consecutive workdays.

2nd shift (between the hours of 4:30 PM and 1:00 AM): 8 hours of work + 17.3% of the regular rate, inclusive of benefits.

3rd shift (between the hours of 12:30 AM and 9:00 AM): 8 hours of work + 31.4% of the regular rate per hour, inclusive of benefits.

OVERTIME:

Hours in excess of 8 per day, or before or after the regular workday Monday through Friday, that is not shift work, and all hours on Saturday shall be paid at time and one-half the regular rate, inclusive of benefits. All hours on Sundays and holidays shall be paid at double the hourly rate, inclusive of benefits.

Four 10-hour days may worked, at straight time, between 7:00 AM and 6:30 PM, Monday through Thursday.

RECOGNIZED HOLIDAYS:

New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day and Christmas Day, or day on which they are legally observed.

Effective Dates:

12/04/2016

Rate	Fringe	Total
52.26	35.01	87.27

CLASSIFICATIONS:

Chief Lineman

Effective Dates:

12/04/2016

Rate	Fringe	Total
49.31	33.03	82.34

CLASSIFICATIONS:

Journeyman Lineman

ELECTRICIAN- UTILITY WORK (NORTH) Rates Expiration Date : 12/03/2017

Effective Dates:

12/04/2016

Rate	Fringe	Total
49.31	33.03	82.34

CLASSIFICATIONS:

Special License Operator

Effective Dates:

12/04/2016

Rate	Fringe	Total
48.81	32.70	81.51

CLASSIFICATIONS:

Transit Man

Effective Dates:

12/04/2016

Rate	Fringe	Total
47.33	31.71	79.04

CLASSIFICATIONS:

Line Equipment Operator

Effective Dates:

12/04/2016

Rate	Fringe	Total
41.42	27.75	69.17

CLASSIFICATIONS:

Dynamite Man

Effective Dates:

12/04/2016

Rate	Fringe	Total
58.18	38.98	97.16

CLASSIFICATIONS:

General Foreman

Effective Dates:

12/04/2016

Rate	Fringe	Total
56.70	37.98	94.68

CLASSIFICATIONS:

Assistant General Foreman

ELECTRICIAN- UTILITY WORK (NORTH) Rates Expiration Date : 12/03/2017

Effective Dates:

12/04/2016

Rate	Fringe	Total
55.22	36.99	92.21

CLASSIFICATIONS:

Line Foreman

Effective Dates:

12/04/2016

Rate	Fringe	Total
39.94	26.75	66.69

CLASSIFICATIONS:

Straight Light Mechanical Leader

Effective Dates:

12/04/2016

Rate	Fringe	Total
37.97	25.43	63.40

CLASSIFICATIONS:

Groundman Winch Operator

Effective Dates:

12/04/2016

Rate	Fringe	Total
37.97	25.43	63.40

CLASSIFICATIONS:

Groundman Truck Operator

Effective Dates:

12/04/2016

Rate	Fringe	Total
37.47	25.10	62.57

CLASSIFICATIONS:

Straight Light Mechanic

Effective Dates:

12/04/2016

Rate	Fringe	Total
37.47	25.10	62.57

CLASSIFICATIONS:

Line Equipment Mechanic

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NEW JERSEY DEPARTMENT OF LABOR AND WORKFORCE DEVELOPMENT
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ELECTRICIAN- UTILITY WORK (NORTH) Rates Expiration Date : 12/03/2017

Effective Dates:

12/04/2016

Rate	Fringe	Total
32.05	21.47	53.52

CLASSIFICATIONS:

Groundman 2nd Year

Effective Dates:

12/04/2016

Rate	Fringe	Total
29.58	19.81	49.39

CLASSIFICATIONS:

Groundman 1st Year

Effective Dates:

12/04/2016

Rate	Fringe	Total
48.81	32.70	81.51

CLASSIFICATIONS:

Line Equipment Foreman

ELECTRICIAN- UTILITY WORK (SOUTH) Rates Expiration Date : 12/02/2017

Electrician-Utility Work (South)

(For apprentice rates refer to Electrician-Utility Work (South) in any county rate package).

These rates apply to work contracted for by the following utility company:

Atlantic City Electric.

These rates do not apply to work on substations or switching stations.

For utility work contracted for by a utility company other than the one listed above or those listed under "Electrician-Utility Work (North), see the "Outside Commercial Rates" for the county in which the jobsite is located.

* FOR OUTSIDE COMMERCIAL RATES PLEASE SEE COUNTY RATES

The regular workday is 8 hours, between 7:00 AM and 4:30 PM.

FOR EMERGENCY WORK ONLY: (emergency work is defined as work caused by storm, catastrophe, act of god, and circumstances beyond the control of the employer)- all hours of work shall be paid at double the hourly rate.

SHIFT DIFFERENTIALS:

Shift work must run for a minimum of 5 consecutive workdays.

When two (2) or three (3) shifts are worked the following shall apply:

1st shift (between the hours of 8:00 AM and 4:30 PM)

2nd shift (between the hours of 4:30 PM and 12:30 AM): 8 hours of work + 10% of the regular rate of pay for 7.5 hours worked.

3rd shift (between the hours of 12:30 AM and 8:00 AM): 8 hours of work + 15% of the regular rate of pay for 7 hours worked.

OVERTIME:

Hours in excess of 8 per day, or before or after the regular workday Monday through Friday, that is not shift work, and all hours on Saturday shall be paid at time and one-half the regular rate. All hours on Sundays and Holidays shall be paid double the hourly rate.

Four 10-hour days may be worked, at straight time, between 6:00 AM and 6:00 PM, Monday through Thursday with Friday used as a make-up day.

RECOGNIZED HOLIDAYS:

New Year's Day, Memorial Day, July 4th, Labor Day, Veterans' Day, Thanksgiving Day and Christmas Day or on days celebrated.

WORKING RULES:

There shall be a Foreman in charge of each work crew. No crews are to exceed twelve (12) men, including Foremen.

There shall be a General Foreman designated for transmission work when three (3) or more crews are on the same job and for distribution work where there are more than twenty (20) employees on site.

A small job crew shall consist of five (5) or less employees, one (1) of the Journeyman Linemen in the crew shall be designated as a Small Job Foreman.

Work performed from ladders and/or mechanical lift equipment shall be the work of Linemen and/or Apprentices.

On new construction, fitting and framing poles, towers or structures may be done by Journeymen and/or Apprentices. Groundmen may assist, but may not perform any work which would be performed by Linemen if assembled in the air.

There shall be a Journeyman Lineman in each pole setting, erection, grounding, wire and cable-pulling crew of more than three (3) men.

Effective Dates:

12/04/2016

Rate	Fringe	Total
58.38	45.19	103.57

CLASSIFICATIONS:

General Foreman

ELECTRICIAN- UTILITY WORK (SOUTH) Rates Expiration Date : 12/02/2017

Effective Dates:

12/04/2016

Rate	Fringe	Total
52.00	41.37	93.37

CLASSIFICATIONS:

Foreman

Effective Dates:

12/04/2016

Rate	Fringe	Total
49.26	39.74	89.00

CLASSIFICATIONS:

Small Job Foreman

Effective Dates:

12/04/2016

Rate	Fringe	Total
45.61	37.54	83.15

CLASSIFICATIONS:

Heavy Equipment Operator

Effective Dates:

12/04/2016

Rate	Fringe	Total
45.61	37.54	83.15

CLASSIFICATIONS:

Cable Splicer

Effective Dates:

12/04/2016

Rate	Fringe	Total
45.61	37.54	83.15

CLASSIFICATIONS:

Journeyman Lineman

Effective Dates:

12/04/2016

Rate	Fringe	Total
45.61	37.54	83.15

CLASSIFICATIONS:

Journeyman Welder

ELECTRICIAN- UTILITY WORK (SOUTH) **Rates Expiration Date : 12/02/2017**

Effective Dates:

12/04/2016

Rate	Fringe	Total
45.61	37.54	83.15

CLASSIFICATIONS:

Journeyman Painter

Effective Dates:

12/04/2016

Rate	Fringe	Total
36.49	32.08	68.57

CLASSIFICATIONS:

Light Equipment Operator

Effective Dates:

12/04/2016

Rate	Fringe	Total
31.93	29.37	61.30

CLASSIFICATIONS:

Groundman Truck Driver

Effective Dates:

12/04/2016

Rate	Fringe	Total
29.65	27.99	57.64

CLASSIFICATIONS:

Groundman 3rd Year

Effective Dates:

12/04/2016

Rate	Fringe	Total
27.37	26.66	54.03

CLASSIFICATIONS:

Groundman 2nd Year

Effective Dates:

12/04/2016

Rate	Fringe	Total
25.09	25.29	50.38

CLASSIFICATIONS:

Groundman 1st Year

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ELECTRICIAN- UTILITY WORK (SOUTH) Rates Expiration Date : 12/02/2017

Effective Dates:

12/04/2016

Rate	Fringe	Total
20.07	22.27	42.34

CLASSIFICATIONS:

Flagman

HEAVY & GENERAL LABORERS- NEW TRANS HUDSON TUNNELS Rates Expiration Date : 02/28/2018

****THESE RATES APPLY TO CONSTRUCTION ON NEW TRANS HUDSON TUNNELS ONLY****

{For apprentice rates refer to "Laborer - Heavy & General" apprentice rates in any county rate package}

The regular workday consists of 8 hours, starting at 7:00 AM or 8:00 AM.

SHIFT DIFFERENTIALS:

- Shifts must start at 3:00 PM, 4:00 PM, 12:00 AM, or 1:00 AM, to be considered shift work, except when the project owner mandates special hours of work in the job specifications, in which case those hours may be considered shift work.
- When such hours are mandated by the project owner, a shift that begins before midnight on Friday and ends on Saturday morning, or that begins at or after 8:00 PM on Sunday and ends on Monday morning may be paid at the shift differential rate.
- Shifts shall receive an additional \$2.50 per hour.

OVERTIME:

- Hours in excess of 8 per day, Monday through Friday, or outside of the regular workday that are not shift work, and all hours on Saturdays, shall be paid at time and one-half the hourly rate. All hours on Sundays and holidays shall be paid at double the hourly rate.
- Four 10-hour days may be worked, Monday through Thursday, at straight time, with Friday used as a make-up day for a day lost to inclement weather. If Friday is not a make-up day, all hours on Friday shall be paid at time and one-half the hourly rate.

RECOGNIZED HOLIDAYS: New Year's Day, Presidents' Day, Memorial Day, July 4th, Labor Day, Presidential Election Day, Veterans' Day, Thanksgiving Day, Christmas Day. Sunday holidays observed the following Monday. Veterans Day may be substituted for the day after Thanksgiving. However, in the trading of Veterans Day for the day after Thanksgiving, if overtime is worked on Veterans Day, it shall be paid at double the hourly rate.

Hazardous Waste Work:

- where Level A, B, or C protection is required: + \$3.00/hr
- other Hazardous Waste site: + \$1.00/hr

Effective Dates:

03/01/2017

Rate	Fringe	Total
62.25	29.03	91.28

CLASSIFICATIONS:

Walking Boss & Superintendent

Effective Dates:

03/01/2017

Rate	Fringe	Total
61.80	29.03	90.83

CLASSIFICATIONS:

Heading Foreman, Shaft Foreman, Rod Foreman, Electrical Foreman, Rigging Foreman

HEAVY & GENERAL LABORERS- NEW TRANS HUDSON TUNNELS **Rates Expiration Date : 02/28/2018**

Effective Dates:

03/01/2017

Rate	Fringe	Total
61.05	29.03	90.08

CLASSIFICATIONS:

Iron Foreman, Caulking Foreman, Form Foreman, Cement Finishing Foreman, Concrete Foreman, Track Foreman, Clean-up Foreman, Grout Foreman

Effective Dates:

03/01/2017

Rate	Fringe	Total
64.80	29.03	93.83

CLASSIFICATIONS:

Blaster

Effective Dates:

03/01/2017

Rate	Fringe	Total
60.23	29.03	89.26

CLASSIFICATIONS:

Top Labor Foreman

Effective Dates:

03/01/2017

Rate	Fringe	Total
59.70	29.03	88.73

CLASSIFICATIONS:

Skilled Men (including Caulker, Powder Carrier, all other skilled men)

Skilled Men (including Miner, Drill Runner, Iron Man, Conveyor Man, Maintenance Man, Safety Miner, Rigger, Block Layer, Cement Finisher, Rod Man)

Effective Dates:

03/01/2017

Rate	Fringe	Total
59.48	29.03	88.51

CLASSIFICATIONS:

Semi-Skilled Men (including Bell or Signal Man top or bottom, Form Worker & Mover, Concrete Worker, Shaft Man, Tunnel Laborer, Caulker's Helper, all other semi-skilled)

Semi-Skilled Men (including Miner's Helper, Chuck Tender, Track Man, Nipper, Brake Man, Derail Man, Cable Man, Hose Man, Gravel Man, Form Man)

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HEAVY & GENERAL LABORERS- NEW TRANS HUDSON TUNNELS Rates Expiration Date : 02/28/2018

Effective Dates:

03/01/2017

Rate	Fringe	Total
58.73	29.03	87.76

CLASSIFICATIONS:

All others (including Powder Watchman, Change House Attendant, Top Laborer, Job Steward)

TECHNICAL SPECIFICATIONS

This project shall be governed by the “New Jersey Department of Transportation Standard Specifications for Road and Bridge Construction” 2007 using U.S. Customary English Units except as noted in the following specification.

Due to the presence of contaminated soil at the project Site (Meisel Park), all work must be performed in accordance with New Jersey Department of Environmental Protection (NJDEP), Site Remediation Program regulations and guidance. As such, the Contractor will need to coordinate all aspects of the project related to the environmental impacts with the Licensed Site Remediation Professional (LSRP) including but not limited to the excavation, Off-Site disposal of soil, and importation of all soils/aggregates.

Environmental conditions at the project Site: The Site had a long history of environmental investigations and remedial actions completed in conjunction with New Jersey Department of Environmental Protection (NJDEP) oversight. The environmental operations completed on Site have included soil and groundwater investigations and associated remedial actions. NJDEP Spill Case No. (99-04-28-1512-21) was assigned to the Site due to the reported spill of a 550-gallon No. 2 heating oil underground storage tank (UST) removed in April 1999. The property is managed under NJDEP PI#130838 and the Licensed Site Remediation Professional Program; Manal Baba of T&M Associates is assigned as the LSRP for this property.

A Site-wide soil investigation was conducted and determined the presence of impacted historic fill material at the Site. Based on the investigation conducted, the soil analytical results revealed that metals and PAHs were detected above the NJDEP Soil Remediation Standards in the soil samples collected. Remedial activities related to the soils were completed in 2004 and 2009. An engineering control (cap) and an institutional control (Deed Notice) were applied as the remedial action for the entire Site.

Based on findings of previous soil testing it is anticipated all material excavated shall be considered an environmentally contaminated (regulated) waste material and shall not be reused within the scope of this project.

The Contractor shall prepare and implement a Site specific Health and Safety Plan in accordance with OSHA requirements including standards 29 CFR 1910.120, 29 CFR 1926, and the NJ Worker & Community Right to Know Act. The Contractor will be responsible for the Health and Safety of their own employees, all their subcontractors, and all other personnel on Site during Work activities under this Contract. The Contractor will be responsible to provide all personnel/materials/equipment necessary to implement and comply with the HASP (i.e. personal protective equipment, air monitoring equipment, etc.). There will be no separate payment for preparation and implementation of the Site specific Health and Safety Plan and the cost thereof shall be included in the various items within the proposal.

Excavated material of soil should be disposed of at an approved disposal facility as detailed in the Excavation Section. Fill material that will be imported should follow the Fill Section of this specification.

Payment descriptions within the following specifications prevail over the “New Jersey Department of Transportation Standard Specifications for Road and Bridge Construction” 2007.

All unit prices shall be in accordance with the Bidder’s Proposal. Any unit prices not included in the Bidder’s Proposals shall be assumed distributed across all unit prices.

Any references in this specification to a specific product line or proprietary item, it is understood that the specification refers to that product or approved equal. The lack of the phrase “or approved equal” does not imply that the specified product is the only product that will be allowed. However, it will be the successful bidder’s burden to prove that an alternate product meets the specification called for.

Should there be a conflict between the plans and specifications, the items shall govern in the following order.

- Addendums to the bid to include changes to the plans
- Supplemental (Technical) Specifications
- Plans

MOBILIZATION / DEMOBILIZATION

DESCRIPTION

Mobilization/Demobilization shall consist of the cost of initiating the contract, including preparatory work and operations, necessary for the movement of personnel, equipment, supplies and incidentals to the Project site, and other work performed or costs incurred prior to beginning work. In any case of inconsistencies with the N.J.A.C. 7:14-2.9, the New Jersey Administrative Code shall govern.

QUANTITY AND PAYMENT

Payment for mobilization will be made on a lump sum basis, which price shall include the cost of initiating the contract, regardless of the fact that the Contractor may have, for any reason, shut down his work on the Project or moved equipment away from the Project and back again, in accordance with the 2007 NJDOT Standard Specifications Section 154.04.

Payment will be made in accordance with the following schedule:

1. When 5% of the work is completed - 25% of the amount bid for mobilization or 2.5% of the Total Contract Price, whichever is less, will be paid.
2. When 10% of the work is completed - 50% of the amount bid for mobilization or 5% of the Total Contract Price, whichever is less, will be paid.
3. When 15% of the work is completed – 75% of the amount bid for mobilization or 7.5% of the Total Contract Price, whichever is less, will be paid.
4. When 20% of the work is completed – 100% of the amount bid for mobilization or 10% of the Total Contract Price, whichever is less, will be paid.

Upon completion of all work on the project, payment for the amount bid for mobilization in excess of 10% of the Total Contract Price will be made.

The percentage of work completed shall be the total of payments earned compared to the Total Contract Price. The total of payments earned excludes the amount paid for this item and the amount paid for materials furnished but not incorporated into the work in accordance with Subsection 109.06 – Materials Payments and Storage, as shown on the monthly estimates of the approximate quantities of work done, prepared in accordance with Subsection 109.05 – Estimates of the 2007 NJDOT Standard Specification.

(A) The lump sum price bid for mobilization is limited to the following maximum amounts:
Original Contract Amount
(Including Mobilization)

<u>For More Than</u>	<u>To and Including</u>	<u>Max. Amount for Item of Mobilization</u>
\$ 0	100,000	\$ 3,000
100,000	500,000	15,000
500,000	1,000,000	30,000
1,000,000	2,000,000	60,000
2,000,000	3,000,000	90,000
3,000,000	4,000,000	120,000
4,000,000	5,000,000	125,000
5,000,000	6,000,000	150,000
6,000,000	7,000,000	175,000
7,000,000	10,000,000	200,000
10,000,000		2.5% of amount bid

Quantity and Payment for Mobilization/Demobilization will be made in accordance with the Contract Documents on a lump sum basis at the price bid for the item **MOBILIZATION/DEMOBILIZATION** in the Proposal, which shall include the cost of delivery, installation, storage, permitting, agreements, and all labor, tools, equipment and materials necessary therefore and incidental thereto or as directed by the Engineer.

-- END OF SECTION --

CONSTRUCTION LAYOUT

DESCRIPTION

Under this item the Contractor shall provide all work required in connection with the layout for construction of the project, using the control points and data furnished by the Engineer.

METHOD OF STAKEOUT

The Contractor shall submit all necessary computations to establish the exact position of all the work from the control points furnished by the Engineer, along with construction grade sheets, prepared by a licensed land surveyor, to the Engineer for approval prior to the start of construction.

The Contractor shall maintain the line and grade stakes furnished by the engineer for his/her use in staking out the work. If such control points are damaged, lost, displaced or removed, they shall be reset or replaced at a charge to the Contractor for the actual cost of the work at no additional cost to the Owner or Owner's Representatives.

The Contractor shall be responsible for maintaining the points he has established. Any error or apparent discrepancies found in the plans or specifications shall be called to the Engineers attention in writing for interpretation prior to proceeding with the work.

QUANTITY & PAYMENT

Construction Layout will not be measured. Payment for this item will be made on a lump sum basis for the item **CONSTRUCTION LAYOUT** as specified in the proposal.

--END OF SECTION--

PRE-CONSTRUCTION PHOTOGRAPHS

DESCRIPTION

The Contractor shall furnish photographs, taken by a professional photographer acceptable to the Engineer, to show the condition of the site prior to construction, as well as to show the progress of the work.

MATERIALS

Prints of pre-construction and construction photographs shall be 3 inch by 5 inch size, mounted on cardboard and provided with reinforced 1inch wide flap, punched with 2 holes for binding, spaced 4 ¼ inches apart. The binding flap shall be located along the 8-inch dimension, and at the lower right hand corner on the front. The title shall include the name of the photographer, name of the project, contract number, station or other description, direction of view and date the picture was taken. The photographs shall also be numbered consecutively. Negatives of all photographs shall be furnished to the Engineer.

MEHODS OF PHOTOGRAPHS

Pre-construction photographs shall be taken where directed by the Engineer to especially note the character of all easements and the condition of any structures, lawns, trees, streets, sidewalks, etc., which might be damaged, and shall average at least one photograph for each 50 feet of street or easement in the contract. The Engineer shall be provided with one matte print of each photograph. A minimum of thirty six construction photographs shall be taken each month at regular intervals while the work is in progress. Photographs shall be taken at such times and at such locations as may be determined by the Engineer. One matte print of each picture taken during the month shall be submitted to the Engineer at the time of submitting the periodic estimate for progress payment.

QUANTITY AND PAYMENT

No specific payment shall be made for the above item. The cost of the above described work shall be included in the overall price bid on the project.

Contractors are advised that damage claims by property owners, which cannot be disputed by pre-construction photographs, will be required to restore the claimed damage. Therefore, pre-construction photos will be required, and furnished to the engineer. Separate payment will not be made for pre-construction photos and shall be included in the various bid items.

Should the Contractor fail to take pre-construction photos, any property damage complaints received will be repaired by the contractor at no cost to the owner.

--END OF SECTION--

MAINTENANCE AND PROTECTION OF TRAFFIC

DESCRIPTION

Under this Contract this item shall mean that the Contractor shall provide for the safe passage of vehicles and pedestrians for safe ingress and egress to properties abutting the limits of construction, including but not limited to the use of flagmen, cones, barrels, etc. in any and all areas where contractor deems it necessary. The portions outside the limits of construction which are open to traffic shall be kept in pre-construction conditions to allow for the safe passage of vehicular and pedestrian traffic.

This item shall also include the maintenance and protection of off-site traffic (e.g. roadways, sidewalks, curbs, etc.) and shall include any and all materials necessary to provide for this passage, and that the Contractor shall abide to all of the rules and regulations as set forth in Section 110 - Traffic Control of the applicable New Jersey State Highway Department Standard Specifications as amended in the Standard Specifications of this project.

The contractor may utilize outside agencies (e.g. security company) to maintain traffic.

The contractor is responsible for all maintenance, safety and protection of traffic until the project is complete and turned over to the project owner. The contractor shall hold harmless the County of Union and its representatives, project construction managers and Neglia Engineering Associates for any safety incidents during the project construction period.

QUANTITY AND PAYMENT

It is the contractor's responsibility to maintain a safe working environment as well as protect pedestrian traffic from the construction site. Thus there is no specific pay item for the Maintenance & Protection of Traffic. The contractor shall include these costs within the bid item MOBILIZATION/DEMobilIZATION in the proposal which price shall include the cost of, any and all materials, all labor and equipment and all else necessary and incidental thereto.

--END OF SECTION--

SITE CLEARING/DEMOLITION

DESCRIPTION

Under this item the Contractor shall remove and dispose of all concrete pads, concrete foundations, clay mounds, clay, long jump runway, long jump sand pits, pole vault runway, pole vault pit, goal posts, benches, drainage structures, drainage pipes, topsoil, dirt, stones, and all debris; the removal of which is required for carrying out the work of this project, shall be removed. Contractor shall perform test pits to locate any uncertainties in Existing Subsurface Structures to determine if these structures interfere or affect the proposed construction.

The Contractor shall remove and dispose of pipes, inlets, manholes, reinforced concrete pavement, bituminous pavement, concrete and bituminous sidewalk, and curb, as necessary for the proposed construction. Contractor shall remove and reset to grade manhole and catch basin frames, and water valves; and complete all other removals and relocations required for the work and not specifically covered elsewhere for payment.

In the event that the existing four (4) foot height chain link fence is not sufficient or if the Contractor stores anything outside of the Track area the contractor shall provide a closed environment with a six (6) foot minimum height chain link construction fence, construction signage and gates provided by the contractor. The temporary gates on-site for construction shall remain locked and secured during non-working hours. The temporary fence shall remain on-site until all project work is complete or as directed by Engineer.

METHODS OF CONSTRUCTION

The lights, signs, inlets, sidewalk, pavement, bollards, curb, slabs, runways, posts, fence, and excavation unclassified shall be disposed of off-site at no additional cost to the Owner or Owner's Representatives in accordance with all client, local, state, and federal solid waste removal regulations.

Trees to be pruned shall be cut clean and straight. Measures shall be taken to protect the remaining limbs from damage during the work.

Any and all clean soil that is excavated during site clearing/demolition shall be backfilled and compacted with suitable soil.

Manhole frames, catch basin frames, valves, and other structures shall be removed and carefully reset to match proposed grades.

The existing features that are to remain onsite shall be protected by the contractor at all times. These items shall include but not limited to drainage pipe, inlets, slot drains, track, fence, paver walkway, asphalt paths, etc. Any damage to the existing items shall be restored to the satisfaction of the owner and no additional cost to the owner. The Contractor is responsible to leave the protective measures in place for the duration of the turf installation (by others), and is responsible to remove and restore the areas upon completed of the work.

QUANTITY AND PAYMENT

The quantity of Site Clearing/Demolition for which payment will be made, will be a lump sum covering all work of **SITE CLEARING/DEMOLITION** specified above. Such price shall include removal of debris, disposal of materials, and all else necessary therefore and incidental thereto.

The Contractor shall abide by all of the rules and regulations as set forth in Section 201 – Clearing Site of the NJDOT State Standard Specifications and the respective amendments.

--END OF SECTION--

SAWCUTTING

DESCRIPTION

Sawcutting shall consist of the cutting of concrete sidewalks, driveways, and curbs and concrete and asphalt pavements through their full depths, in order to maintain a clean finished look when matching into existing areas of concrete and asphalt where directed by the Engineer. Sweeping and cleanup shall also be included as needed or as directed by the Engineer.

MATERIALS - METHODS OF CONSTRUCTION

Concrete or bituminous surfaces shall be cut through the entire pavement thickness in a straight neat line using diamond-tipped blades with water, as approved by the Engineer. Sawcutting shall be in accordance with 2007 NJDOT Standard Specifications Section 202-Roadway Excavation.

QUANTITY AND PAYMENT

No specific payment will be made for sawcutting and the cost thereof shall be included in the prices bid for the installation of various sizes of the proposed pipe, pavement, curbing, driveways and other structures.

--END OF SECTION--

SOIL EROSION AND SEDIMENT CONTROL DEVICES

DESCRIPTION

The work performed under this item shall include construction of all Best Management Practices (BMPs) soil erosion measures (e.g. inlet filter protection, silt sacks, silt fence, temporary seeding or mulching, and general soil stabilization).

The contractor shall construct additional stone tracking pads not specifically shown on the plans as necessary to facilitate the mobilization of construction equipment on site.

Furthermore, the contractor shall notify the Somerset - Union Soil Conservation District, in writing, seventy-two (72) hours prior to the start of construction.

MATERIALS

Materials shall be in conformance with the Plan and Details, and shall include silt fences, gravel inlet filters, fertilizer and soil stabilization. All materials shall be approved by the Engineer. Permanent seeding shall not be paid for under this item.

METHODS OF CONSTRUCTION

State Standard Specifications and Regulations:

- A. All erosion and sedimentation control measures shall be in place prior to any grading operations or construction of proposed facilities and shall be maintained until construction is complete and the construction area is stabilized. After restoration is complete, temporary control measures shall be removed and disposed of properly.
- B. All erosion and sedimentation control measures shall be constructed and maintained in accordance with the "Standards for Soil Erosion and Sediment Control in New Jersey," prepared by the New Jersey State Soil Conservation Committee, 1987.
- C. Disturbed areas that will be exposed in excess of fourteen (14) days shall be temporarily seeded and/or mulched until proper weather conditions exists for establishment of a permanent vegetative cover except in areas where final restoration is expected to be completed within seven days after the completion of construction, in which case no temporary protective measures will be required. If final restoration is expected to begin more than seven days and completed more than thirty (30) days after the start of construction, seeding shall be required for temporary protection, except where seasonal conditions are not suitable for growing vegetation. In this case, mulch may be applied until conditions are suitable for establishing vegetative cover or until final restoration is implemented

Somerset - Union Soil Conservation District soil erosion and sediment control procedures:

- A. All soil erosion and sediment control practices shall be installed prior to any major soil disturbance, or in their proper sequence and maintained until permanent protection is established.
- B. Any disturbed areas that will be left exposed more than thirty (30) days and not subject to construction traffic will immediately receive a temporary seeding. If the season prevents the establishment of a temporary cover, the disturbed areas will be mulched with straw or equivalent material, at a rate of two (2) tons per acre, according to state Standards.
- C. Permanent vegetation shall be seeded or sodded on all exposed areas within ten (10) days after final grading. Mulch will be used for protection until seeding is established.
- D. All work shall be done in accordance with the State Standards for Soil Erosion and Sediment Control in New Jersey.
- E. A sub-base course will be applied immediately following rough grading and installation of improvements in order to stabilize streets, roads, driveways and parking areas. In areas where no utilities are present, the sub-base shall be installed within 15 days of preliminary grading.
- F. Immediately following initial disturbance or rough grading, all critical areas subject to erosion (i.e. steep slopes, roadway embankments) will receive a temporary seeding in combination with straw mulch or a suitable equivalent, at a rate of two (2) tons per acre, according to the State Standards.
- G. Any steep slopes receiving pipeline installation will be backfilled and stabilized daily, as the installation proceeds (i.e. slopes greater than 3:1).
- H. Traffic Control Standards require the installation of a minimum of 50'x30'x6" pad of 1 1/2" or 2" stone, at all construction driveways, immediately after initial site disturbance.
- I. The Somerset-Union Soil Conservation District shall be notified in writing 48 hours in advance of any land disturbing activity.
- J. At the time when the site preparation for permanent vegetative stabilization is going to be accomplished, any soil that will not provide suitable environment to support adequate vegetative ground cover, shall be removed or treated in such a way that will permanently adjust the soil conditions and render it suitable for vegetative ground cover. If the removal or treatment of the soil will not provide suitable conditions, non-vegetative means or permanent ground stabilization will have to be employed.

- K. In that NJSA 4:24-39 et seq., requires that no Certificate of Occupancy be issued before the provisions of the Certified Plan for Soil Erosion and Sediment Control have been complied with for permanent measures, all site work for site plans and all work around individual lots in subdivisions, will have to be completed prior to the District issuing a Report of Compliance for the issuance of a Certificate of Occupancy by the Municipality.
- L. Conduit Outlet Protection must be installed at all required outfalls prior to the drainage system becoming operations.
- M. Any changes to the Certified Soil Erosion and Sediment Control Plan will require the submission of revised Soil Erosion and Sediment Control Plans to the District for recertification. The revised plans must meet all current State Soil Erosion and Sediment Control Standards.
- N. The Somerset-Union Soil Conservation District shall be notified of any changes in ownership.
- O. Mulching in the Standards is required for obtaining a conditional Report of Compliance. Conditions are only issued when the season prohibits seeding.
- P. The Contractor is responsible for keeping all adjacent roads clean during the life of the construction project.
- Q. The developer shall be responsible for remediating any erosion or sediment problems that arise as a result of ongoing construction at the request of the Somerset-Union soil Conservation District.
- R. Hydroseeding is a two-step process. The first step includes seed, fertilizer, lime, etc., along with minimal amounts of mulch to promote consistency, good seed to soil contact, and give a visual indication of coverage. Upon completion of the seeding operation, hydro-mulch should be applied at a rate of 1500 lbs. per acre in the second step. The use of hydro-mulch as opposed to straw, is limited to optimum seeding dates as listed in the Standards.

QUANTITY AND PAYMENT

The quantity of Soil Erosion and Sediment Control Devices, for which payment will be made, will be on a lump sum basis for the item **SOIL EROSION AND SEDIMENT CONTROL DEVICES** in the Proposal, which price shall include the cost of all BMPs, soil erosion measures, construction entrances, and general soil stabilization techniques.

Payment for this item shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto.

--END OF SECTION--

TEST PITS

DESCRIPTION

Test pits shall include the excavation of surface and subsurface materials for the location of subsurface utilities and backfill of all earth, rock, boulders, brick and removal of all materials encountered and all incidental work to the satisfaction of the engineer, and shall also include the restoration of all hardscape areas in accordance with the construction documents.

METHODS OF CONSTRUCTION

Prior to the excavation of Test Pits, all existing on-site and off-site subsurface items (e.g. utilities, drainage, conveyance networks, tunnels) shall be located which may be affected by or interfere with the proposed construction. Test pits shall be backfilled in accordance with Section 202 - Excavation in the 2007 New Jersey Department of Transportation Standard Specifications.

QUANTITY AND PAYMENT

Payment will be made for each Test Pit constructed in accordance with the Plans, or as directed by the Engineer at the unit price bid for the item **TEST PITS, 5' DEEP MAX (IF & WHERE DIRECTED)** in the Proposal, which shall cover the cost of excavation, backfill, and pavement restoration, whether temporary or permanent in nature furnishing all materials, labor and equipment necessary to construct the Test Pits, as shown on the Plans or as directed by the Engineer.

--END OF SECTION--

DEWATERING

DESCRIPTION

The Contractor shall at all times provide ample means and equipment with which to promptly remove and dispose of all water and drainage entering the excavations or other parts of the work, and to keep such excavations dry until the structures to be built therein are completed. In no case will the laying of pipe or placing of masonry be permitted with water in the excavation or in unsuitable soils or as directed by the Engineer.

Dewatering methods and equipment shall be subject to the approval of the Engineer, and all water removed from the work shall be disposed of in a manner without damage to adjacent properties or off-site areas and shall meet the maximum turbidity requirements of the local soil conservation district and State regulations.

Depth to groundwater ranges between 4-5 feet below ground surface. If free/residual product encountered with groundwater, contain impacted groundwater in the excavation for the purpose of removal. Remove impacted groundwater in the following manner while under the oversight of the representative/LSRP:

- 1- Allow for the representative/LSRP to evaluate groundwater seepage into the excavation. If groundwater is present, allow for the representative/LSRP to field screen the groundwater with a calibrated PID; as well as, examine the groundwater for visual and olfactory evidence of any contamination (i.e., odors, sheens, etc.) to direct the removal of impacted groundwater.
- 2- Pump the impacted groundwater from the excavation and containerize the liquids in appropriate bulk containers (e.g., vacuum truck, drums, etc.) and properly dispose of the materials off-Site at a licensed disposal facility that is pre-approved by the Owner and LSRP. Contain any measurable free/residual product within any excavation during excavation.
- 3- All liquids sent for off-Site disposal must be transported by a licensed hauler and must be accompanied by appropriate disposal documentation (e.g., Bill of Lading, Non-Hazardous Waste Manifest, Hazardous Waste Manifest, etc.). Copies of the Bill of Lading shall be provided to the Owner and LSRP within five (5) working days following disposal of the material.
- 4- Do not mix the measurable free/residual product with any material, including impacted soil, prior to removal without permission from the Owner and LSRP.

QUANTITY AND PAYMENT

No specific payment will be made for dewatering and the cost thereof shall be included in the prices bid for the installation of various sizes of the proposed pipe and other structures.

--END OF SECTION--

EARTHWORK

PART 1 - GENERAL

1.1 DEFINITIONS

A. The following terms shall have the meanings ascribed to them in this Article, wherever they appear in this Section.

- 1- Earth Excavation: The removal of all surface and subsurface material not classified as rock (as defined below).
- 2- Due to the presence of contaminated soil (i.e. historic fill) at the Site, all excavation, disposal and backfilling work must be performed in accordance with New Jersey Department of Environmental Protection and Site Remediation Program regulations and guidance. As such, the Contractor shall coordinate all aspects of the project related to the environmental impacts with the property Licensed Site Remediation Professional (LSRP) including Off-Site disposal of contaminated soil and source of any imported material to the property.
- 3- The Contractor shall provide any/all necessary laboratory testing results and associated paperwork to the Owner, LSRP and approved Off-Site receiving/disposal facility.
- 4- The Contractor shall provide to the Owner and LSRP an approval acceptance letter from the proposed receiving/disposal facility, a minimum of five (5) working days in advance of the proposed soil removal operations.
- 5- Rock Excavation, Unclassified: Rock excavation, unclassified shall mean removal of all rock, boulders or pieces of concrete, and solid ledge rock and masonry, which in the opinion of The Engineer requires for its removal, drilling and blasting, wedging, sledging, barring, or breaking up with a power operated tool. Soft or disintegrated rock which can be removed with a pick or power operated excavator or shovel, loose, shaken or previously blasted rock, broken stone in rock fill or elsewhere, and rock exterior to the maximum limits allowed, or which may fall in the excavation, shall not be included as rock excavation. Pavements, curbs, gutters, sidewalks and driveways shall not be included as rock excavation.
- 6- Subgrade Surface: Surface upon which subbase or topsoil is placed.
- 7- Subbase: Select granular material or subbase course Type 2 which is placed immediately beneath pavement or concrete slabs.
- 8- Maximum Density: The dry unit weight in pounds per cubic foot of the soil at "Optimum Moisture Content" when determined by ASTM D 698 (Method C), and ASTM D 2922 (Method B).
- 9- Landscaped Areas: Areas not covered by structures, walks, roads, paving, or parking.
- 10- Unauthorized Excavation: The removal of material below required elevation indicated on the Drawings or beyond lateral dimensions indicated or specified without specific written direction by The Engineer.

1.2 SUBMITTALS

A. Product Data:

1. Filter Fabric: Manufacturer's catalog sheets, specifications, and installation instructions.

B. The Contractor shall provide to the Owner and LSRP the name, location, contact information, and permit/licenses numbers of the proposed off-Site disposal facility a minimum of five (5) working days in advance of the proposed soil removal operations.

C. The Owner and LSRP shall review the facility documentation, and provide approval to the Contractor to utilize said facility. The Owner and/or LSRP have the discretion to deny the proposed disposal facility for any reason. It is the intention of the Owner and LSRP to ensure that any proposed disposal facility is in compliance with all applicable rules, laws and regulations, included but not limited to possessing a valid NJDEP permit. Should the facility be denied by the Owner and/or LSRP, the Contractor at their own expense is responsible for identifying another off-Site disposal facility.

D. Site specific Health and Safety Plan (HASP).

E. Numbers, types, and specifications for compacting equipment to be used.

F. Samples and analyses of all proposed soil materials.

G. Samples: Submit samples as follows. Take the samples in the presence of the Engineer, and complete a Granular Material Sample Information Form for each sample. Forms and field sample designation numbers will be furnished by The Engineer.

1. Select Granular Material: 10 lb.
2. Selected Fill: 10 lb.
3. Subbase Course Type 2: 10 lb.

1.3 PROJECT CONDITIONS

A. Protect existing trees and plants during performance of the Work unless otherwise indicated. Box trees and plants indicated to remain within the grading limit line with temporary steel fencing or solidly constructed wood barricades as required. Protect root systems from smothering. Do not store excavated material, or allow vehicular traffic or parking within the branch drip line. Restrict foot traffic to prevent excessive compaction of soil over root systems.

The Contractor shall coordinate all soil excavation, disposal, soil/aggregate importation and modification to construction details related to the finished surfaces with the Licensed Site Remediation Professional (LSRP).

- B. The Contractor shall prepare and implement a Site specific Health and Safety Plan in accordance with OSHA requirements including standards 29 CFR 1910.120, 29 CFR 1926, and the NJ Worker & Community Right to Know Act. The Contractor will be responsible for the Health and Safety of their own employees, all their subcontractors, and all other personnel on-Site during Work activities under this Contract. The Contractor will be responsible to provide all personnel/materials/equipment necessary to implement and comply with the HASP (i.e. personal protective equipment, air monitoring equipment, etc.). The property soils to be excavated are impacted with gasoline related contaminants of concern (benzene, toluene, ethylbenzene and xylenes (BTEX)) and are above the NJDEP SRS.
- C. The Contractor to obtain all applicable federal, state and/or local permits. The Contractor shall call the New Jersey One-Call (1-800-272-1000) to obtain utility mark-outs prior to excavation or any other intrusive activities associated with this Contract. The Contractor shall be responsible for all utilities, and restoration to same, if necessary.
- D. Call Local Utility Line Information service not less than three working days before performing Work.
- E. Request underground utilities to be located and marked within and surrounding construction areas.
- F. Identify required lines, levels, contours, and datum.
- G. Notify utility company to remove and relocate utilities.
- H. Protect utilities indicated to remain from damage.
- I. Protect plant life, lawns and other features remaining as portion of final landscaping.
- J. Protect bench marks, survey control points, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.
- K. Cold Weather Requirements:
 - 1. When freezing temperatures are predicted, do not excavate to final required elevations for concrete Work unless concrete can be placed immediately. Retain enough earth over the bottom elevation of footings to prevent frost penetration. If excavation has progressed to final footing elevations and concrete cannot be placed immediately, cover the bottom of the excavations with protective material to adequately insulate the exposed earth surface from frost. Remove protective material immediately before placing concrete.
 - 2. Do not backfill between November 1 and April 1, except with written permission of The Engineer and/or the County of Union.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Select Granular Material: Stockpiled, sound, durable, sand, gravel, stone, or blends of these materials, free from organic and other deleterious materials. Comply with NJDOT Standard Specifications for subbase course material.

Sieve	Percent Passing
2 inch	100
1/4 inch	30-65
No. 40	5-40
No. 200	0-10

1. Magnesium Sulfate Soundness Test: 20 percent maximum loss by weight after 4 test cycles.
2. Plasticity Index: The plasticity index of the material passing the No. 40 mesh sieve shall not exceed 5.0.
3. Elongated Particles: Not more than 30 percent, by weight, of the particles retained on a 1/2 inch sieve shall consist of flat or elongated particles. A flat or elongated particle is defined as one which has its greatest dimension more than 3 times its least dimension.

- B. Selected Fill: Sound, durable, sand, gravel, stone, or blends of these materials, free from organic and other deleterious materials.

Sieve	Percent Passing
4 inch	100
No. 40	0-70
No. 200	0-15

- C. Subbase Course Type 2: Stockpiled, crushed ledge rock or approved blast furnace slag. Comply with NJDOT 2007 Standard Specifications for Subbase Course material.

Sieve	Percent Passing
2 inch	100
1/4 inch	25-60
No. 40	5-40
No. 200	0-10

1. Magnesium Sulfate Soundness Test: 20 percent maximum loss by weight after 4 test cycles.
2. Plasticity Index: The plasticity index of the material passing the No. 40 mesh sieve shall not exceed 5.0.
3. Elongated Particles: Not more than 30 percent, by weight, of the particles retained on a 1/2 inch sieve shall consist of flat or elongated particles. A flat or elongated particle is defined as one which has its greatest dimension more than 3 times its least dimension.

- D. Suitable Material (Fill and Backfill for Landscaped Areas): Material consisting of mineral soil (inorganic), blasted or broken rock and similar materials of natural or man-made origin, including mixtures thereof. Maximum particle size shall not exceed 2/3 of the specified layer thickness prior to compaction. NOTE: Material containing cinders, industrial waste, sludge, building rubble, land fill, muck, and peat shall be considered unsuitable for fill and backfill, except topsoil and organic silt may be used as suitable material in landscaped areas provided it is placed in the top layer of the subgrade surface.
- E. Filter Fabric (Separation, Drainage, Slope Protection): Amoco CEF 4545, CEF 4551; Exxon Chemical Co. GTF 150 EX; Mirafi Inc. HP270; Nicolon Corp. Filterweave 70/06; Phillips Fibers Corp. Supac 4NP, 5NP, 7NP; Wellman Quline Inc. Q60, Q80, Q100 or approved equal.
- F. Filter Fabric (Stabilization): Amoco CEF 2002 & 2006; Exxon Chemical Co. GTF 350; Mirafi Inc. 500X, 600X, 700X; Nicolon Corp. 500; Phillips Fibers Corp. Supac 3WS, 4WS, 5WS, 6WS; Wellman Quline Inc. Q160 or approved equal.
- G. Light Weight Fill and Backfill: Contractor is advised to follow the specifications of lightweight fill and backfill material if proposed under this project. The placement of this and all fill material must meet the requirements of a geotechnical engineer.
- H. Geofoam: Contractor is advised to follow the specifications of Geofoam if proposed under this project. The placement of any Geofoam must meet the requirements of the Geotechnical Engineer and installed per manufacturer specifications.

PART 3 - EXECUTION

3.1 CLEARING AND GRUBBING

- A. Clear and grub the site of trees, shrubs, brush, other prominent vegetation, debris, and obstructions except for those items indicated to remain. Completely remove stumps and roots protruding through the ground surface.
- B. Fill depressions caused by the clearing and grubbing operations in accordance with the requirements for filling and backfilling, unless further excavation is indicated.

3.2 UNDERGROUND UTILITIES

- A. Locate existing underground utilities and service connections prior to commencing excavation Work. Determine exact utility locations by hand excavated test pits. Support and protect utilities to remain in place.
- B. Remove inactive, abandoned utilities within the limits of the areas to be excavated. Cap or plug open ends of abandoned utilities extending outside the excavation limits.

3.3 SOIL EXCAVATION

Due to the presence of contaminated soil (i.e. historic fill) at the Site, all excavation, disposal and backfilling work must be performed in accordance with New Jersey Department of Environmental Protection and Site Remediation Program regulations and guidance. As such, the Contractor shall coordinate all aspects of the project related to the environmental impacts with the property Licensed Site Remediation Professional (LSRP) including off-Site disposal of contaminated soil and source of any imported material to the property.

1- The Contractor shall provide any/all necessary laboratory testing results and associated paperwork to the Owner, LSRP and approved off-Site receiving/disposal facility.

2- The Contractor shall provide to the Owner and LSRP an approval acceptance letter from the proposed receiving/disposal facility, a minimum of five (5) working days in advance of the proposed soil removal operations.

- A. Excavate earth as required for the Work.
- B. Maintain sides and slopes of excavations in a safe condition until completion of backfilling. Comply with Code of Federal Regulations Title 29 - Labor, Part 1926 (OSHA).
- C. Stockpile excavated materials classified as suitable material where directed, until required for fill. Place, grade, and shape stockpiles for proper drainage as approved by The Engineer and/or the County of Union.
- D. Excavation for Structures: Conform to elevations, lines, and limits indicated. Excavate to a vertical tolerance of plus or minus 1 inch. Extend excavation a sufficient lateral distance to provide clearance to execute the Work.
- E. Footings and Foundations: Trim bottoms to required lines and elevations. Excavate to final elevations by hand just prior to concrete placement. Leave solid undisturbed base for concrete.
- F. Slabs and Floors: Excavate to the following depths below bottom of concrete for addition of select granular material:
 - 1. Interior Floors: 6 inches unless otherwise indicated.
 - 2. Exterior Slabs and Steps: 12 inches unless otherwise indicated.
- G. Pipe Trenches: Open only enough trench length to facilitate laying pipe sections. Unless otherwise indicated on the Drawings, excavate trenches approximately 24 inches wide plus the outside pipe diameter, equally divided on each side of pipe centerline. Cut trenches to cross section, elevation, profile, line, and grade indicated. Accurately grade and shape trench bottom for uniform bearing of pipe.
- H. Pavement: Excavate to subgrade surface elevation.
- I. Unauthorized Excavations: Unless otherwise directed, backfill unauthorized excavation under footings, foundation bases, and retaining walls with compacted select

granular material without altering the required footing elevation. Elsewhere, backfill and compact unauthorized excavation as specified for authorized excavation of the same classification, unless otherwise directed by The Engineer.

3.4 ROCK EXCAVATION

- A. No blasting shall be performed by the Contractor except upon written permission of The Engineer. Any request by the Contractor for permission to blast must be submitted to The Engineer at least 24 hours prior to start of said proposed blasting.
- B. If blasting permission is granted, the Contractor shall adhere strictly to all required Federal, State and Local safety regulations. In no case shall blasting caps or other exploders be kept at the same place where dynamite or other explosives are stored. A watchman shall be stationed at all times at the place of storage of explosives.
- C. The prepared blast shall be carefully covered with a heavy woven wire blasting mat, placed so that the area affected by the explosion is positively confined. Should a gas, water or any other conduit intersect the line of trench, the rock must be removed without blasting from a distance of ten (10) feet on each side of such pipe or conduit.
- D. The contractor shall be responsible for any damage to adjacent structures and property caused by his operations. He shall inspect all structures adjacent to the site of blasting and, when ordered by The Engineer, he shall take clear, close-up photographs of these structures before and after blasting. Copies of these photographs shall be submitted to The Engineer and the County of Union. The Engineer or their representative must be present at all times during blasting operations.

3.5 DEWATERING

- A. Prevent surface and subsurface water from flowing into excavations and trenches and from flooding the site and surrounding area.

3.6 PLACING FILTER FABRIC

- A. Place and overlap filter fabric in accordance with the manufacturer's installation instructions, unless otherwise shown. Backfill over fabric in accordance with the manufacturer's instructions and in a manner to prevent damage to the fabric.

3.7 PLACING FILL AND BACKFILL

- A. Surface Preparation of Fill Areas: Strip topsoil, remaining vegetation, and other deleterious materials prior to placement of fill. Break up or scarify old pavements to a maximum of 2 square feet.

Fill Material:

If the Contractor elects to import fill material mined or excavated from undisturbed geologic formations from a commercial source or quarry that has not been located on or impacted by other contaminant sources based on a preliminary assessment or other site review requires the collection and analysis of one (1) sample per geologic formation per year.

The Contractor shall supply the Owner and LSRP with the results and a letter which states: the name of the affiant and relationship to the source of the fill; the location where the fill was obtained, including the street, town, lot and block, county, and state, and a history of the site which is the source of the fill; and a statement (certification) that to the best of the affiant's knowledge and belief the fill being provided is not contaminated pursuant to any applicable remediation standards and the steps taken to confirm such. The material must be pre-approved by the Owner, LSRP and the Geotechnical Engineer prior to the date of its intended use as backfill at the property.

- 1- The Contractor shall provide to the Owner and LSRP the name, location, contact information, and permit/licenses numbers of the proposed source of each material type to be imported to the property, a minimum of ten (10) working days in advance of the proposed material importation.
 - 2- The Contractor shall provide to the Owner and Consultant/LSRP clean fill documentation as identified in the NJDEP Alternative and Clean Fill Guidance for SRP Sites, latest edition, for each individual material type; a minimum of ten (10) working days in advance of the proposed material importation. Inclusive to this presentation shall be laboratory analytical results (in both hard copy and electronic format (including EDD)).
 - 3- The Owner and LSRP shall review the clean fill documentation for each individual material type, and provide approval/comment regarding the proposed use of the material(s). The material must be approved by the Owner, LSRP and the Geotechnical Engineer prior to the date of its intended use as backfill at the property.
 - 4- The Owner and LSRP have the discretion to deny the proposed material for any reason. Should the material be denied by the Owner and/or LSRP, the Contractor at their own expense, is responsible for identifying another material and/or source, and repeating the submission efforts.
 - 5- The Owner and/or LSRP reserve the right to sample the proposed fill material and perform laboratory analysis prior to same entering the property.
- B. Excavations: Backfill as promptly as practicable, but only after approval by The Engineer. Do not backfill with excavated material unless it meets the requirements of this Section.
- C. Place backfill and fill materials in layers not more than 8 inches thick in loose depth unless otherwise specified. Before compaction, moisten or aerate each layer as necessary to facilitate compaction to the required density. Do not place backfill or fill material on surfaces that are muddy, frozen, or covered with ice.
1. Place fill and backfill against foundation walls, and in confined areas (such as trenches) not easily accessible by larger compaction equipment, in maximum 6 inch thick (loose depth) layers.

D. Prevent wedging action of backfill against structures by placing backfill uniformly around structure to approximately same elevation in each layer. Place backfill against walls of structures containing basements or crawl spaces only after the first floor structural members are in place.

E. Under Exterior Concrete Slabs and Steps:

1. Up to Subgrade Surface Elevation: Place selected fill when fill or backfill is required.
2. Subbase Material: Place 12 inches of select granular material over subgrade surface.

F. Under Interior Concrete Slabs:

1. Up to Subgrade Surface Elevation: Place selected fill when fill or backfill is required.
2. Subbase Material: Place 6 inches of select granular material over subgrade surface.

G. Under Pavements and Walks:

1. Up to Subgrade Surface Elevation: Place selected fill when fill or backfill is required.
2. Subbase Material: Place as indicated.

H. Landscaped Areas: Place suitable material when required to complete fill or backfill areas up to subgrade surface elevation. Do not use material containing rocks over 4 inches in diameter within the top 12 inches of suitable material.

I. Plastic Pipe and Cement Water Pipe in Trenches: Place cushion material a minimum of 4 inches deep under pipe, 4 inches on both sides, and 4 inches over top of pipe. Complete balance of backfill as specified.

J. Copper Tubing and Steel Gas Pipe in Trenches: Place cushion material a minimum of 6 inches deep under pipe, 6 inches on both sides, and 4 inches over top of pipe. Complete balance of backfill as specified.

K. Rigid Non-Metallic Conduit: Except where concrete encasement is required, place cushion material a minimum of 4 inches deep under conduit, 4 inches on both sides, and 12 inches over top of conduit. Complete balance of backfill as specified.

3.8 COMPACTION

A. Compact each layer of fill and backfill for the following area classifications to the percentage of maximum density specified below and at a moisture content suitable to obtain the required densities, but at not less than 3 percent drier or more than 2 percent wetter than the optimum content as determined by ASTM D 698.

1. Structures: 95 percent.
2. Concrete Slabs and Steps: 95 percent.
3. Landscaped Areas: 90 percent.
4. Pavements and Walks: 95 percent.
5. Pipes: 95 percent.

3.9 GRADING

- A. Rough Grading: Trim and grade area required by this Contract to a level of 4 inches below the finish grades indicated unless otherwise specified herein or where greater depths are indicated. Provide smooth uniform transition to adjacent areas.
- B. Finish Grading: Finish surfaces free from irregular surface changes, and as follows:
 1. Grassed Areas: Finish areas to receive topsoil to within 1 inch above or below the required subgrade surface elevations.
 2. Walks and Pavements: Place and compact subbase material as specified. Shape surface of areas to required line, grade and cross section, with the finish surface not more than 1/2 inch above or below the required subbase elevation.
 3. Building Slabs: Grade subbase material smooth and even, free of voids, compacted as specified to within 1/4 inch above or below required subbase elevation.
- C. Spread approved topsoil directly upon prepared subgrade surface to a depth measuring 4 inches after natural settlement of the topsoil has occurred in areas to be seeded or to receive sod. Place to greater depth when necessary to adjust grades to required elevations.
 1. Approved existing topsoil within the Grading Limit Line may be used. Provide additional topsoil from outside sources as required.
- D. Finish topsoil surface free of depressions which will trap water, free of stones over 1 inch in any dimension, and free of debris.

3.10 SUBGRADE SURFACE FOR WALKS AND PAVEMENT

- A. Shape and grade subgrade surface as follows:
 1. Walks: Shape the surface of areas under walks to required line, grade and cross section, with the finish surface not more than 1 inch above or below the required subgrade surface elevation.
 2. Pavements: Shape the surface of areas under pavement to required line, grade and cross section, with the finish surface not more than 1/2 inch above or below the required subgrade surface elevation.

- B. Grade Control: During construction, maintain lines and grades including crown and cross-slope of subbase course.
- C. Thoroughly compact subgrade surface for walks and pavement by mechanical rolling, tamping, or with vibratory equipment as approved to the density specified.

3.11 RESTORATION

- A. Restore pavements, walks, curbs, lawns, and other exterior surfaces damaged during performance of the Work to match the appearance and performance of existing corresponding surfaces as closely as practicable.
- B. Topsoil and seed or sod damaged lawn areas outside of the project area as directed. Water as required until physical completion of the Work.

3.12 DISPOSAL OF EXCESS AND UNSUITABLE MATERIALS

- A. Remove from the project site and dispose of excess and unsuitable materials, including materials resulting from clearing and grubbing and removal of existing improvements.
- B. Transport excess and unsuitable materials, including materials resulting from clearing and grubbing and removal of existing improvements, to spoil areas away from the project site.
- C. Remove impacted soil in the following manner while under the oversight of the representative/LSRP:

The Contractor shall cooperate with the Engineer and representative/LSRP's directives regarding excavation and stockpiling of impacted soil. No soil shall be removed from the excavations as impacted without the approval of the Engineer and representative/LSRP. The Contractor will not be compensated for the unauthorized excavation of impacted soil. The Contractor shall backfill such unauthorized excavation with certified clean fill at no additional cost to the Owner. Impacted soil shall be excavated and placed within the designated areas.

- D. Impacted soil excavated shall be stockpiled on 10-mil polyethylene plastic sheeting and covered with the same. Provide adequate means to secure the 10-mil polyethylene plastic sheeting so that the stockpiled soil remains fully covered. Maintain all plastic sheeting, and provide required repairs the sheeting, and/or re-covering of the stockpiled soil as necessary.
- E. Install adequate runoff and sediment controls to prevent the migration of contaminated soil or runoff from the stockpiled soil to other areas of the site. Any soil or runoff that migrates from the stockpiled soil to unaffected areas of the property will be the Contractor's responsibility to remediate and dispose of. The Contractor will solely incur these costs.

3.13 FIELD QUALITY CONTROL

- A. Compaction Testing: Notify The Engineer at least 3 working days in advance of all phases of filling and backfilling operations. Compaction testing will be performed by an independent lab retained by the contractor to ascertain the compacted density of the fill and backfill materials. Compaction testing will be performed on certain layers of the fill and backfill as determined by a Geotechnical Engineer. If a compacted layer fails to meet the specified percentage of maximum density, the layer shall be recompacted and will be retested. No additional material may be placed over a compacted layer until the specified density is achieved.

3.14 PROTECTION

- A. Protect areas from traffic and erosion, and keep them free of trash and debris.

PART 4 – QUANTITY AND PAYMENT

Earthwork will not be measured as a separate item. Quantity and Payment for this item, and all costs related thereto, shall be distributed amongst the items specified in the Proposal or as directed by the Engineer

-- END OF SECTION --

EXPORTING OF SOIL

DESCRIPTION

The Contractor shall be responsible to implement the appropriate procedures as outlined within these specifications as it relates to work related to onsite soil excavation, grading, stockpiling and the exporting and disposal of excess onsite material.

The Contractor shall prepare and implement a Site specific Health and Safety Plan in accordance with OSHA requirements including standards 29 CFR 1910.120, 29 CFR 1926, and the NJ Worker & Community Right to Know Act. The Contractor will be responsible for the Health and Safety of their own employees, all their subcontractors, and all other personnel on Site during Work activities under this Contract. The Contractor will be responsible to provide all personnel/materials/equipment necessary to implement and comply with the HASP (i.e. personal protective equipment, air monitoring equipment, etc.).

The excavated soil shall be sampled for classification (hazardous/non-hazardous) by the Contractor according to RCRA (Resource Conservation and Recovery Act) regulations. If the results of the testing indicate the presence of hazardous material, the Contractor shall immediately notify the Owner and the LSRP and secure the material. All impacted soils deemed to be hazardous will be secured in accordance with all applicable rules, laws and regulations.

Provide waste characterization sampling and analysis for the wastes generated. Collect waste classification samples in the following manner while under the oversight of the representative/LSRP:

1. The New Jersey-certified laboratory selected by the Contractor shall perform the waste classification testing in accordance with the NJDEP approved test methods and the approved receiving disposal facility testing requirements based on the volume of material generated for disposal and the facility's solid waste operating permit.
2. The analytical laboratory selected by the Contractor shall submit the results to the representative/LSRP directly. The results shall be reviewed by the representative/LSRP for Quality Assurance/Quality Control. Any data or results that are not in conformance with the NJDEP test procedures will be rejected. The Contractor shall arrange for re-sampling and testing for the rejected samples at no additional cost to the Owner and/or representative/LSRP.
3. The Contractor shall be responsible for all sampling and analysis required by the approved receiving disposal facility to classify soil, groundwater, concrete and/or product for recycling and/or disposal.

The Contractor shall be responsible to furnish copies of the manifests for disposal of the material which shall outline but not limited to the truck information, the time the material left the construction site, the time it entered the receiving facility, the receiving facility location, the weight entering and leaving the receiving facility.

The Contractor shall ensure that all stockpiled material has had an opportunity to properly dry and is properly covered on route to the receiving facility.

The Contractor shall furnish to the Owner and/or Engineer the proposed route to the receiving facility and is responsible to keep any and all roads free from any construction debris. The Contractor shall immediately clean the offsite areas of any and all construction material.

METHODS OF CONSTRUCTION

NOT USED.

QUANTITY AND PAYMENT

The **EXPORT OF EXISTING SITE SOIL CAP** allowance item is intended to be utilized to compensate the contractor for the required testing of the soil to be disposed of as well as the per ton cost to truck and dispose of the excess soil. The Contractor will be paid from the allowance based on a mutually agreeable price made in writing between the Contractor and the Owner and/or Engineer prior to commencing the work.

Exporting of Soil shall be measured by the Ton of material that is trucked and delivered to an approved receiving facility. It is anticipated that there will be approximately 10,000 tons or less of soil to be tested and exported off site. Payment for material shall only be made for material included within the approved trucking manifest. Material not included within the Manifest will not be paid for and is done at the Contractors risk. Payment for the exporting of soil will be by *Paid out of the* **EXPORT OF EXISTING SITE SOIL CAP** allowance at a cost agreed to in writing prior to the initiation of services. Soil testing required by the governing agency as well as the LSRP and Receiving Facility shall be paid out of the **EXPORT OF EXISTING SITE SOIL CAP** allowance at a cost agreed to in writing prior to the initiation of services.

The Contractor shall note that the cost associated with the following items but not limited to shall not be paid out of the **EXPORT OF EXISTING SOIL CAP** allowance pay item and shall be included within the various pay items within the project; labor, equipment and other measures for loading and exporting of all excess soil; all Coordination with Owner/Engineer/Owner's LSRP for selection of an approved Soil Disposal Location; preparation and implementation of the necessary Health and Safety Plan; preparation and coordination of trucking manifests and all other costs therefore related to the exporting of soil. Payment for Exporting of Soil shall only be paid once the Truck Manifests have been submitted, reviewed and approved. The Owner shall not be responsible to pay for the exporting of soil material that has not been authorized to leave the site. Payment for Soil Testing shall only be paid once the test results have submitted, reviewed and approved by the Owner/Engineer/Owner's LSRP.

It is not anticipated that the onsite materials will be Hazardous, but in the event that this occurs the Contractor shall notify the Owner's LSRP immediately. The Cost related to special onsite handling, stockpiling and disposal of this material is not included in the scope of this work. The Contractor shall submit a detailed cost breakdown for the additional work, for review and approval by the Owner and/or Engineer and/or Owner's LSRP. No work shall begin until written authorization has been provided by the Owner. Said work shall be paid for at a negotiated price and will be paid out of the project Bid Contingency or Export of Existing Soil Cap allowance in strict conformance with the Owner's procedures for extra work.

--END OF SECTION--

SITE GRADING

DESCRIPTION

Site Grading shall include grading, excavation, backfill, preparing and compacting all material required for construction of the sub-grade of the entire disturbed area and all incidental work necessary to the satisfaction of the Engineer.

MATERIALS

Borrow and export material required for site grading shall conform to Section 200 of the 2007 NJDOT Standard Specifications. The Contractor shall provide the Engineer with certification attesting that the said material is free of contaminants and suitable for this application. The soil shall be smooth, soft and free of depressions, clods, mounds, stones, or other debris as approved by the Engineer.

A. Backfilling the excavation areas at the property requires the importation of various types of certified clean soil or quarried materials, including but not limited to topsoil, dense grade aggregate and clean fill material.

B. All backfilling work must be performed in accordance with New Jersey Department of Environmental Protection, Site Remediation Program regulations and guidance. As such, the Contractor shall coordinate all aspects of the project related to the environmental impacts with the property Licensed Site Remediation Professional (LSRP) including off-Site disposal of contaminated soil and importation of all soils/aggregates. Therefore, all imported materials (soil, top soil, quarried materials, etc.) must be certified clean fill and accepted by the LSRP prior to shipment to the property. The materials shall adhere to the project specific geotechnical requirements, as well as any/all applicable NJDEP requirements.

C. The requirements for determining clean fill are identified in the NJDEP Alternative and Clean Fill Guidance for SRP sites, latest edition. As detailed in the NJDEP Alternative and Clean Fill Guidance for SRP sites, latest edition, sampling and laboratory analysis is required to determine the quality of all imported material(s) to the property. The sampling frequency and all analytical testing for clean fill shall be in accordance with the NJDEP Alternative and Clean Fill Guidance for SRP sites, latest edition, based on the volume of material to be imported. It is the responsibility of the Contractor to determine the volume of material to be imported and required sampling frequency and analytical testing in accordance with the NJDEP Alternative and Clean Fill Guidance for SRP sites, latest edition.

Certified clean fill, clean topsoil and all quarried material shall consist of the following:

1. If the Contractor elects to import fill material from a donor site other than a commercial source or quarry, the Contractor shall have a New Jersey-certified laboratory perform the analysis of the Target Compound List/Target Analyte List compounds plus a library search of thirty non-targeted compounds (Full TAL/TCL+30) and extractable petroleum hydrocarbons (EPH method Category 2) at the frequency of one (1) sample for every 20 cubic yards of imported fill up to 100 cubic yards, plus one (1) sample for every 100 cubic yards of imported fill thereafter up to 1,000

cubic yard and then one (1) sample for every 1,000 cubic yard thereafter, in strict accordance with the NJDEP Alternative and Clean Fill Guidance for SRP sites, latest edition. The soil sample collected shall be grab samples, not composited.

or

If the Contractor elects to import fill material mined or excavated from undisturbed geologic formations from a commercial source or quarry that has not been located on or impacted by other contaminant sources based on a preliminary assessment or other site review requires the collection and analysis of one (1) sample per geologic formation per year.

2. The Contractor shall supply the Owner and LSRP with the results and a letter which states: the name of the affiant and relationship to the source of the fill; the location where the fill was obtained, including the street, town, lot and block, county, and state, and a history of the site which is the source of the fill; and a statement (certification) that to the best of the affiant's knowledge and belief the fill being provided is not contaminated pursuant to any applicable remediation standards and the steps taken to confirm such. The material must be pre-approved by the Owner, LSRP and the Geotechnical Engineer prior to the date of its intended use as backfill at the property.

A. The Contractor shall provide to the Owner and LSRP the name, location, contact information, and permit/licenses numbers of the proposed source of each material type to be imported to the property, a minimum of ten (10) working days in advance of the proposed material importation.

B. The Contractor shall provide to the Owner and Consultant/LSRP clean fill documentation as identified in the NJDEP Alternative and Clean Fill Guidance for SRP Sites, latest edition, for each individual material type; a minimum of ten (10) working days in advance of the proposed material importation. Inclusive to this presentation shall be laboratory analytical results (in both hard copy and electronic format (including EDD)).

C. The Owner and LSRP shall review the clean fill documentation for each individual material type, and provide approval/comment regarding the proposed use of the material(s). The material must be approved by the Owner, LSRP and the Geotechnical Engineer prior to the date of its intended use as backfill at the property.

D. The Owner and LSRP have the discretion to deny the proposed material for any reason. Should the material be denied by the Owner and/or LSRP, the Contractor at their own expense, is responsible for identifying another material and/or source, and repeating the submission efforts.

E. The Owner and/or LSRP reserve the right to sample the proposed fill material and perform laboratory analysis prior to same entering the property.

METHODS OF CONSTRUCTION

The site shall be graded within the limits shown on the Plans or as directed by the Engineer. The Contractor shall note that the project site is located within the NJDEP FHA and is responsible to restore the site to the existing grades at completion of the project. The Contractor shall grade the sub-grade according to the elevations shown on the Plans, taking into account the thickness of the layers above, and if necessary borrow materials as approved by the Engineer. The soil shall be

placed uniformly in layers not to exceed twelve (12) inches loose thickness. Each layer shall be compacted to 95% density in accordance with Section 200 of the NJDOT Standard Specifications.

The contractor shall make provisions to implement approved dust control measures while performing this work as not to impact surrounding property (e.g. railways, roadways, sidewalks, parking areas, buildings, athletic fields, business, residences, trees, landscape areas, vehicles, conveyance systems, watercourses). Should the contractor fail to implement these measures, the Contractor shall be responsible to restore all off-site surrounding properties to its original condition prior to the commencement of construction at no additional cost to the Owner or Owner's Representatives.

QUANTITY AND PAYMENT

The quantity of Site Grading for which payment will be made on a lump sum basis in accordance with the Plans and Specifications or as directed by the Engineer.

Payment for Site Grading will be on a lump sum basis at the price bid for the item **SITE GRADING & FILL IMPORT** in the Proposal, which price shall include the cost of furnishing the equipment for excavation, placing backfill, compaction of soil and all else necessary therefore and incidental thereto.

Any material excavated from the site which is not suitable for backfill as determined by the Engineer or is an excess of needed material shall be hauled off the site and disposed of in a suitable and timely manner and the cost thereof shall be included in the price bid for the item **EXPORT OF EXISTING SOIL CAP** in the Proposal.

--END OF SECTION--

EXCAVATION, UNCLASSIFIED

DESCRIPTION

Excavation Unclassified shall consist of the excavation, removal, and disposal of all materials of whatever nature, waste, rock, boulders, brick, stone, soil, and concrete masonry, small structures, removal of pipe where directed, removal of any other materials encountered of whatsoever nature, required for construction of the project, disposal of all excavated materials, the transportation of the excavated material, the construction of embankments with the material excavated when so required, the disposal of unsuitable and surplus materials, and all other work as herein described or as directed by the Engineer.

MATERIALS

NOT USED

METHODS OF CONSTRUCTION

2007 New Jersey Department of Transportation Standard Specifications, Division 200 – Earthwork, latest revised.

QUANTITY AND PAYMENT

No separate payment will be made for excavation unclassified. Any cost for excavation unclassified shall be distributed among the various items bid in the proposal for the installation of various sizes of the proposed pipe, walkways, pavement, turf field, curbing, driveways and other structures and shall include the cost of, any and all materials, all labor and equipment and all else necessary therefore and incidental thereto and in accordance with the Plans and Specifications or as directed by the Engineer.

--END OF SECTION--

4" PIPE RAMMING OPERATIONS

DESCRIPTION

As indicated on the Plans, the proposed electrical conduit shall be bored under the existing track surface, without disturbing the existing surface.

MATERIALS

1. PNEUMATIC PIPE PUSHER

- a. Pneumatic pipe pusher/driving device selected shall be a mono-bloc design with rear cushion and Teflon slide seals, no bolts or threaded connections; specifically designed for installing pipe from a drive pit through the geological materials as described in the Geotechnical Report.
- b. Patented soil removal system (soil port - partial removal with cone or adaptor) shall be capable of being operated in a manner, which will prevent loss of ground during installation.
- c. Amount of overcut shall be compatible with the soil conditions, stiffness characteristics of selected pipe, and joint system at the designed maximum ramming loads.
- d. Line and grade shall include, as a minimum, the capability to report the operating parameters listed in Article 1.3B.

2. MATERIALS

- a. Pipe material shall be steel.
- b. Pipe to be placed by ramming shall be as follows
- c. Steel casing shall be new, smooth wall carbon steel pipe, which conforms to ASTM Specifications A139, Grade B. No hydrostatic testing will be performed.
- d. Steel casing pipe shall have a minimum yield strength of 35,000 psi.
- e. Pipe casing diameter shall be 4-inch I.D. minimum. Pipe wall thickness shall be determined by contractor based on static and dynamic loads from traffic loading and anticipated ramming forces for selected pipe and driven pipe lengths. Pipe lengths shall be determined by contractor.
- f. Steel pipe joints shall be (1) a pressure fit type, or (2) welded.
- g. All steel casing pipe shall be square cut. (with beveled ends for welding)
- h. Steel casing pipe shall have a roundness such that the difference between the major and minor outside diameters shall not exceed 1% of the specified nominal outside diameter or 0.25 inch, whichever is less.
- i. Steel casing shall have an outside circumference, which is within 1% of the nominal circumference, which is within 0.50 inch, whichever is less.

- j. Steel casing pipe shall have a minimum allowable straightness deviation in any 10-foot length of 1/8 inch.

SUBMITTALS

1. Submit for approval complete working drawings showing details of the proposed method of construction and the sequence of operations to be performed during construction. Show the method of pipe ramming, including the ramming system to be used, location of working pits including method of excavation, shoring and bracing appurtenance installation, and dewatering techniques that are proposed to be used. These submittals shall include all the restrictions and limitations imposed by the special provisions.

EXECUTION

1. No work shall commence on the pipe ramming phase until the design and construction procedure has been approved in writing by the Engineer. The contractor is totally responsible for the performance of the equipment and methods selected for this phase. The Engineer's approval signifies only that the construction process is compatible with the overall objectives of the project.
2. Each pipe section shall be rammed forward as the excavation progresses in such a way to provide complete and adequate ground support at all times. Lubrication shall be applied to the external surface of the pipe to reduce skin friction. A hammer frame shall be positioned to develop a uniform distribution of ramming forces around the periphery of the pipe. Special care shall be taken by the contractor to insure that the launch seal is properly designed and constructed. Special care should be taken when setting the pipe guard rails in the pit to ensure correctness of the alignment.
3. Be responsible for monitoring ground movements associated with the work and making suitable changes in the construction methods to control ground movements and prevent damage or detrimental movement to the work and adjacent structures and pavements. Permissible tolerances with respect to settlement of ground surface and alignment of pipe shall not be exceeded.

MEASUREMENT & PAYMENT

Payment for Pipe Ramming will be on a lump sum basis at the price bid for the item **FURN. & INST. 4" ELECTRICAL CONDUITS** in the Proposal, which price shall include the cost of furnishing the equipment for excavation, placing backfill, compaction of soil and all else necessary therefore and incidental thereto.

--END OF SECTION--

WATER SUPPLY AND SPIGOTS

DESCRIPTION

Water Supply and Spigots shall consist of the construction of garden hose compatible spigots in hand holes within the turf athletic surface and all labor, materials and equipment necessary for the proper installation of such.

MATERIALS

All materials throughout the system shall be new and in perfect condition. After award of the Contract, and prior to beginning the work, the Contractor shall submit for approval two copies of the complete list of materials which he proposes to install. Quantities of materials and equipment need not be included. The Spigots shall be frost free and self-draining and should be installed in accordance with manufacturer's guidelines. Spigot's shall be Woodford Anti-Siphon Freezeless Yard Hydrant Model Y95 or approved equal.

SUBMITTALS

1. Submit for approval complete working drawings showing details of the proposed method of construction and the sequence of operations to be performed during construction. Show the method of pipe ramming, including the ramming system to be used, location of working pits including method of excavation, shoring and bracing appurtenance installation, and dewatering techniques that are proposed to be used. These submittals shall include all the restrictions and limitations imposed by the special provisions.

QUANTITY AND PAYMENT

Payment for Water Supply and Spigots will be on a lump sum basis at the price bid for the item **FURN. & INST. WATER SUPPLY & SPIGOTS** in the Proposal, which price shall include the cost of furnishing the equipment for excavation, placing backfill, compaction of soil, pipe, handholes, spigots, stone and drains and all else necessary therefore and incidental thereto.

MANHOLES, INLETS, CATCH BASINS AND RESET CASTINGS

DESCRIPTION

Manholes, Inlets, Catch Basins, and Reset Castings shall consist of the construction of these structures, stone bedding, backfilling and backfill material, and the furnishing and placing of new heads, castings, grates, and covers.

MATERIALS

Pre-cast Concrete Manholes and Inlets may be used as approved by the Engineer.

All materials used in the construction of Manholes, Inlets, and Catch Basins, shall conform to Section 602 – Drainage Structures of the NJDOT Standard Specifications.

All Type 'A' Inlets shall be Campbell Foundry Pattern No. 3405, or approved equal.

All Field Inlets located in landscape areas shall be Campbell Foundry Pattern No. 2815 and all Field Inlets located in hardscape areas shall have ADA compliant frames and grates and shall be Campbell Foundry Pattern No. 2815 1400, or approved equal.

Manufactured PVC or HDPE drainage inlets, including all covers, lids, grates and necessary appurtenances, manufactured by Advanced Drainage Systems, Inc. (ADS), or approved equal.

All castings shall have the name of the County, the date, and the words “Sanitary” or “Storm” stamped or cast clearly and legibly thereon. Units not so furnished will not be accepted for use on County projects. Concrete blocks shall conform to the compressive strength and absorption requirements of A.S.T.M. C -139.

Dense-Graded Aggregate (DGA) shall conform to the requirements of Section 901.10; Course Aggregate shall be broken stone or washed gravel conforming to the requirements of Section 901.03 and Section 901.05, respectively of the NJDOT Standard Specifications.

METHODS OF CONSTRUCTION

Construction for Manholes, Inlets, and Catch Basins shall be in accordance with Section 602 – Drainage Structures. Particular attention should be brought to Section 602.03 – Construction, for precast concrete structures, the reconstruction of concrete or block drainage structures, the resetting and setting of castings, and the reconstruction and conversion of existing structures in compliance with NJDOT Standard Specifications.

Excavation shall be in accordance with Subsection 202 – Excavation; and Backfilling shall be in accordance with Division 200 – Earthwork; of the NJDOT Standard Specifications.

QUANTITY AND PAYMENT

The quantity of Manholes, Inlets, and Catch Basins of the various categories herein above specified, for which payment will be made, will be the number of each type thereof constructed, reconstructed, reset or installed, in accordance with the Contract Plans or as directed by the Engineer.

--END OF SECTION--

TIDEFLEX CHECKMATE VALVE

PART 1 - GENERAL

1.01 SUBMITTALS

- A. Submit product literature that includes information on the performance and operation of the valve, materials of construction, dimensions and weights, elastomer characteristics, headloss, flow data and pressure ratings.
- B. Upon request, provide shop drawings that clearly identify the valve materials of construction and dimensions.

1.02 QUALITY ASSURANCE

- A. Supplier shall have at least twelve (12) years experience in the design and manufacture of “CheckMate®” style elastomeric check valves or approved equal..
- B. Manufacturer shall have conducted independent hydraulic testing to determine headloss, jet velocity and vertical opening height characteristics on multiple sizes of CheckMate® valves ranging from 4” through 72”. The testing must have been conducted for free discharge (discharge to atmosphere) and submerged conditions.

PART 2 - PRODUCTS

2.01 “CHECKMATE®” ELASTOMERIC CHECK VALVES, **OR EQUAL;**

- A. Check Valves are to be all rubber and the flow operated check type with slip-in cuff or flange connection. The entire CheckMate® Valve shall be ply reinforced throughout the body, disc and bill, which is cured and vulcanized into a one-piece unibody construction. A separate valve body or pipe used as the housing is not acceptable. The valve shall be manufactured with no metal, mechanical hinges or fasteners, which would be used to secure the disc or bill to the valve housing. The port area of the disc shall contour down, which shall allow passage of flow in one direction while preventing reverse flow. The entire valve shall fit within the pipe I.D. Once installed, the CheckMate® Valve shall not protrude beyond the face of the structure or end of the pipe.
- B. The downstream end of the valve must be circumferentially in contact with the pipe while in the closed positions.
- C. Slip-in style CheckMate® Valves will be furnished with a set of stainless steel expansion clamps. The clamps, which will secure the valve in place, shall be installed inside the cuff portion of the valve, based on installation orientation, and shall expand outwards by means of a turnbuckle. Each clamp shall be predrilled allowing for the valve to be pinned and secured into position in accordance with the manufacturer’s

installation instructions. Flange style CheckMate® Valves will be furnished with a stainless steel, ANSI 125/150 drilled, retaining ring unless specified otherwise.

- D. Manufacturer must have flow test data from an accredited hydraulics laboratory to confirm pressure drop and hydraulic data. Company name, plant location, valve size patent number, and serial number shall be bonded to the check valve.

2.02 FUNCTION

- A. When line pressure exceeds the backpressure, the line pressure forces the bill and disc of the valve open, allowing flow to pass. When the backpressure exceeds the line pressure, the bill and disc of the valve is forced closed, preventing backflow.

2.03 MANUFACTURER

- A. All valves shall be of the slip-in or flanged CheckMate® as manufactured by Tideflex Technologies®, A Division of Red Valve Company, Carnegie, PA 15106; **or equal**. All valves shall be manufactured in the U.S.A.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Valve shall be installed in accordance with manufacturer's written Installation and Operation Manual and approved submittals.

3.02 MANUFACTURER'S CUSTOMER SERVICE

- A. Manufacturer's authorized representative shall be available for customer service during installation and start-up, and to train personnel in the operation, maintenance and troubleshooting of the valve.
- B. If specified, the manufacturer shall also make customer service available directly from the factory in addition to authorized representatives for assistance during installation and start-up, and to train personnel in the operation, maintenance and troubleshooting of the valve.

PART 4 - QUANTITY AND PAYMENT

- A. Quantity and Payment for Tideflex Checkmate Valve will be made in accordance with the Contract Documents at the per unit price bid for the item **STORMWATER BACKFLOW VALVE** in the Proposal, which shall cover the cost of the valve, clamp, gasket, installation, all labor, tools, equipment, and material necessary therefore and incidental thereto or as directed by the Engineer.

-- END OF SECTION --

DRAINAGE PIPE

DESCRIPTION

This work shall consist of furnishing and installing underground drainage composed of lengths of high-density polyethylene (HDPE) pipe.

SUBMITTALS

Submit samples and catalogue cuts of the proposed HDPE pipe, geogrid, and geotextile fabric.

MATERIALS

HDPE pipe shall be Type N-12 as manufactured by Advanced Drainage Systems, Inc., Tel. 800-821-6710, or approved equal.

Flat Drains shall be AdvanEdge as manufactured by Advanced Drainage Systems, Inc., Tel. 800-821-6710, or approved equal.

Geotextile fabric shall Type HP270 as manufactured by Mirafi, Tel. 706-693-2226, or approved equal.

Geogrid to be Mirafi Miragrid or approved equal.

CONSTRUCTION

Excavation, bedding, and backfilling shall conform to Division 200 – Earthwork; of the NJDOT Standard Specifications.

The underground drainage basins shall be installed in accordance with ASTM D2321 – Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications.

QUANTITY AND PAYMENT

Drainage Pipe will not be measured. Payment for this item shall be included in the square yardage price for the “SYNTHETIC TURF, UNDERDRAINS AND STONE” in the proposal, which shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto for completion of the work as shown and specified in accordance with the Contract Plans and Specifications or as directed by the Engineer.

--END OF SECTION--

SCH 40 PVC STORM PIPE

DESCRIPTION

Schedule 40 PVC Storm Pipe shall consist of the excavation for the construction of the various sizes and classes of PVC pipe as shown on the Contract Documents or as otherwise directed by the Engineer. PVC storm pipe shall be constructed if and where directed.

PRODUCTS

MATERIALS and TESTING

BASIC MATERIAL

- A. The pipe shall be made of Polyvinyl Chloride (PVC) plastic having a cell classification of 12454B or 12454C or 13364B, (with minimum tensile modulus of 500,000 PSI) as defined in ASTM Specification D1784. Fittings shall be made of PVC plastic having a cell classification of 12454B or 12454C or 13343C as defined in ASTM Specification D1784. Compounds that have different cell classifications because one or more properties are superior to those of the specified compounds are also acceptable.
- B. All PVC drainage pipe, fittings, cleanouts, and materials shall be schedule 40.

METHODS OF CONSTRUCTION

Storm Sewer Pipes shall be constructed in accordance with Section 909.02.03 – Plastic Drainage Pipe, of the 2007 N.J. Department of Transportation Standard Specifications.

QUANTITY AND PAYMENT

Quantity and Payment for SCH 40 PVC Storm Pipe will be made in accordance with the Contract Documents at the linear foot price bid for item **6” PVC PIPE** in the Proposal, which shall cover the cost of excavation, backfill, bedding, furnishing, laying, assembling, pumping, dewatering, fittings, caps/covers, cleanouts, gutter connections, and all labor, tools, equipment and materials necessary therefore and incidental thereto or as directed by the Engineer.

-- END OF SECTION --

RIP RAP APRON

DESCRIPTION

This work shall consist of furnishing and installing rip rap at the existing concrete headwalls as noted on the construction plans.

SUBMITTALS

Submit documentation from the quarry verifying that the rip rap meets the gradation requirements.

MATERIALS

Rip Rap stone shall be in accordance with Section 901 of the NJDOT Standard Specifications.

Filter Fabric suitable for use in drainage work shall be shall be furnished as a barrier between the earth and stone. Product shall be Mirafi HP270 or approved equal.

CONSTRUCTION

Excavation, bedding, and backfilling shall conform to Division 200 – Earthwork; of the NJDOT Standard Specifications.

The underground drainage basins shall be installed in accordance with ASTM D2321 – Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications.

QUANTITY AND PAYMENT

The work for installation of Rip Rap Aprons will not be measured for payment. Payment for this item shall be included in the Lump Sum price “RIP RAP APRONS, COMPLETE” in the proposal, which shall include the furnishing of all materials, labor and equipment and all else necessary therefore and incidental thereto for completion of the work as shown and specified in accordance with the Contract Plans and Specifications or as directed by the Engineer.

--END OF SECTION--

CONCRETE PADS, 6" THICK REINFORCED CONCRETE

DESCRIPTION

Concrete Pads, 6" Thick Reinforced, shall include the construction of Portland Cement Concrete and landings and pads (6" thick) as shown on the plans, steel mesh reinforcement, and shall include the excavation and removal of all earth, rock, boulders, brick, sawcutting, stone and concrete masonry, including small structures and other materials encountered of whatever nature, required for the construction of reinforced concrete aprons. Concrete pads shall be constructed at Shot Put, Long Jump and Pole Vault locations as shown on the plans. It shall also include the transportation and disposal of the excavated materials; the construction of embankments with the materials excavated; the disposal of unsuitable and surplus materials; and other work as shown on the plans or specified herein.

MATERIALS

Materials shall be as those specified for Concrete Sidewalk and Driveways, as specified in Section 607, Sidewalks and Driveways of the N. J. Department of Transportation Standard Specifications.

METHODS OF CONSTRUCTION

Methods of construction shall be the same as for Concrete Sidewalk, as specified in Section 607, Sidewalks and Driveways of the N. J. Department of Transportation Standard Specifications.

QUANTITY AND PAYMENT

No separate payment will be made for Concrete Pads, 6" Thick Reinforced Concrete. Payment for reinforced concrete pads shall be included in the various bid items. Payment for any reinforced concrete pads as required per construction details or specifications shall be included in the various bid items.

-- END OF SECTION --

SYNTHETIC TURF

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. The work under this section is shown for information purposes only. The contractor shall not be responsible for the furnishing and installation of the turf and associated striping, but shall be responsible to prepare the surface to finish grade for turf installation by others. The work under this section shall consist of furnishing all labor, materials, and equipment necessary to install, in place, all synthetic turf and other materials as indicated on the plans and as specified herein. The installation of all new materials shall be performed in strict accordance with these specifications, the manufacturer's instructions and in accordance with all details and shop drawings.

1.3 SUBMITTALS

Items A, B, F, G, and H must be submitted with the bid.

- A. Product Data: For each type of product indicated. Includes product cut-sheets proving compliance with this specification..
- B. The contractor shall provide the following samples of the artificial turf system for this project:
 - 1. A 12-inch x 12-inch minimum infilled sample of the exact synthetic turf system being proposed for this project.
 - 2. Infill mix in accordance with product specifications.
- C. 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).
- D. All components of the synthetic turf system must indicate detection levels below those levels established in Table 1A - Residential Direct Contact Health Based Criteria and Soil Remediation Standards (mg/kg) N.J.A.C. 7:26D (Remediation Standards).
- E. Shop Drawings: Show fabrication and installation details for synthetic turf including, but not limited to:
 - a. Proposed locations of all seams in fabric surfacing.

- b. Field lining and marking - Submit a complete scale and dimensional drawing of inlaid or tufted-in field lines and marking boundaries. Include graphics for end zones and center logo artwork for approval as well.
 - c. This shall be submitted prior to field fabrication for approval.
 - d. 3rd party ASTM testing proving compliance with this specification.
- F. **Manufacturer Certificates:** Certified list of two (2) existing installations of a long pile synthetic turf and sand/rubber infill system with a nylon or polypropylene or polyethylene thatch layer in the last three years, including Owner Representative and telephone number, attesting compliance with quality assurance information. All must be located within the continental United States.
- G. **Qualification Data:** The turf contractor/manufacturer must have 100 full-sized sand/rubber infill fields 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 United States.
- H. **Sample Warranty & Sample 3rd Party Insurance Policy:** Provide a sample pre-paid third party insured warranty & sample manufacturer's warranty with the bid. Policy must be in force at the time of bid. Submission must comply with Section 1.5 Warranties.
- I. **Maintenance and Operations Data:** At the completion of the project submit 3 complete sets, in manual form, of all the manufacturer's recommended procedures and materials for, but not limited to general maintenance, line/marketing installation, small repair procedures, cleaning, etc.

1.4 QUALITY ASSURANCE

- A. 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 the turf and directly into prepared granular base and into the field drainage system.
- B. The synthetic turf manufacturer shall be of national reputation with systems that have been in 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.

- C. The turf manufacturer must be experienced in the manufacture of synthetic turf. The turf manufacturer shall have completed installations in the United States and have completed at least two hundred (200) installations within the last two (2) years in the Continental United States.
- D. The turf manufacturer must have installed at least five (5) fields of tufted polyethylene fiber with a secondary nylon or polypropylene or polyethylene thatch layer tufted through a porous secondary backing with silica sand & SBR rubber infill.
- E. Prior to approval of a specified synthetic turf system, the company shall specify in writing that their turf system does not violate any other manufacturer's patents allowed or patents pending.

1.5 WARRANTIES

- A. The Contractor shall provide a manufacturer's warranty to the Owner that covers defects in materials and installation 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 and any written directives. The manufacturer's warranty shall include general wear and damage caused from UV degradation. Other items that must be addressed include the following:
 - 1. Acceptable uses for the field.
 - 2. Fading.
 - 3. Color match within specifications.
 - 4. Excessive fiber wear.
 - 5. Wrinkling and panel movement.
 - 6. Shock absorbency (Gmax) not to exceed 175.
 - 7. Drainage (through the turf only).
 - 8. Flammability.
- B. The manufacturer's warranty shall be fully third party insured, through a pre-paid policy of 8 years and be non-prorated. Warranties that include language which pro-rates benefits shall not be accepted. Prior to final payment for the synthetic turf, the Contractor shall submit to the Owner, this policy guaranteeing the warranty to the Owner. Insurance must reflect the following values:
 - 1. Must provide coverage for \$7 million dollars per claim of total installed turf for removal, disposal and replacement of new synthetic turf.
 - 2. Must have a minimum of a \$15 million dollar annual aggregate towards repairs/replacements in a given policy year. The annual aggregate shall be applied only to policies executed in the 12 month policy window. Every annual policy year, another \$15 million worth of annual aggregate shall be set aside for the policies executed in that policy year.
 - 3. Policy must be in-force at time of bid.
 - 4. Policy must be issued by an A-rated or greater A.M. Best Rating
 - 5. Must be pre-paid for the entire 8 years.

6. Policies that include self-insurance or self retention clauses shall not be considered.
7. Sample copy of this policy must be provided with the bid detailing compliance with policy limits as described.

2.1 MANUFACTURERS

“Not Used” – The phrase means no manufacturer is specified. Bidders are directed to provide a manufacturer which meets the specification requirements for the material.

2.2 MATERIALS

- A. Synthetic Turf System: A complete synthetic turf system consisting of a minimum of 2" 100% polyethylene with a combination of extruded spined monofilament & slit-film polyethylene fiber and shorter texturized nylon or polypropylene or polyethylene monofilament thatch fiber tufted to a minimum two -part woven backing primary backing. The spined monofilament shall be a minimum 10,000 denier. The fiber shall be specifically designed to virtually eliminate abrasion.
- B. The tufted fiber shall not weight less than 60 ounces per square yard. The tufted rows of fibers are to be spaced no more than ½" apart. The tufted carpet shall consist of both spined monofilament & slit-film polyethylene fibers and texturized monofilament thatch fiber.
- C. The carpets' primary backing shall be a minimum of 6.5 oz/sy thick and coated with a secondary backing of polyurethane at a minimum application rate of 22 oz/sy. Non-perforated carpet shall not be accepted.
- D. The carpet shall be delivered in 15' 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.
 1. The pile surface shall provide good traction in all types of weather with the use of conventional sneaker type shoes, composition sole athletic shoes, baseball spikes and screw-on football spikes.
 2. The pile surface shall be suitable for both temporary and permanent line markings using acrylic paint, as per the manufacturer's recommendations.
 3. All synthetic turf seams shall be glued.

2.2 FABRIC SURFACE

- A. The pile surface shall resemble freshly mown natural grass in appearance, texture and color.
- B. The pile surface shall be nominally uniform in length.

- C. The pile fiber angle shall be 90 degrees + 15 degrees, measured from the horizontal after installation of the infill material.
- D. The synthetic turf system shall have a nominal fiber length of 2”.
- E. Each roll shall be minimum 15' wide.
- F. Synthetic turf system shall be perforated at 4-6" on center. Systems that are not perforated for maximum drainage shall not be acceptable.

2.3 PILE YARN SPECIFICATIONS

- A. Yarn shall be proved athletic quality yarn designed specifically for outdoor use and stabilized to resist the effects of ultraviolet degradation, heat, foot traffic, water and airborne pollutants. The fabric shall possess the following minimum physical characteristics. ASTM testing shall be provided with the bid and any products not meeting the minimum characteristics will be rejected.

1. Polyethylene Yarn Denier (minimum)	10,000
2. Texturized Yarn Denier (minimum)	4,200
3. Pile Height (nominal)	2”
4. Pile Ribbon Face Weight	60 oz/sy
5. Tufting Gauge	1/2” maximum
6. Primary Backing Weight	6.5 oz/sy
7. Secondary Backing Weight	22oz/sy
8. Total System Weight	86 oz/sy
9. Tuft Bind	>9 lbs
10. Carpet Percolation Rate	>30 in/hr
11. Grab Tear Strength	>200 lbs/force

2.4 INFILL MATERIAL

- A. Infill particles shall be recycled granulates SBR rubber, free of belting fabric and/or wire, with a minimum fill height necessary to achieve the required shock absorbing properties and silica sand. Manufacturer shall provide a cross section indicating fill materials with specific system dimensions of materials to be used with a minimum of three and a half (3.5) pounds per square foot of rubber and a minimum of two and a half (2.5) pounds per square foot of silica sand.
- B. Infill materials: Infill materials are comprised of a base layer of silica sand (minimum of three and a half (3.5) pounds per square foot) and a top layer of SBR rubber (minimum of two and a half (2.5) pounds per square foot) placed on top of the synthetic turf backing and dressed between the synthetic surface fibers.

2.5 SYNTHETIC TURF GROOMER:

- A. Groomer - Contractor shall supply a Manufacturer recommended grooming system as part of the price for the synthetic turf. The groomer shall include a deep rake that penetrates the infill and sweep away debris. This should include all necessary equipment to properly clean and maintain the turf. The equipment should be capable of being pulled behind a standard tractor or utility vehicle. No additional payment will be made for providing the equipment.

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. Proceed with installation only after satisfactory conditions have been corrected.
- B. Certification of prior work: The synthetic turf manufacturer and/or installation contractor shall perform an inspection of the field base onto which the synthetic turf system is to be installed and to examine the finished surface for required compaction, permeability and grade tolerances (through string line testing). After any discrepancies between the required materials, application and tolerance requirements noted have been corrected, the synthetic turf installer should submit a written certification of VISUAL acceptance of the base for installation of the synthetic turf system. Any tests other than VISUAL tests (string line, water hose, etc.) shall be the responsibility of the General Contractor or Design Professional.
- C. Installation of all materials shall be performed in full compliance with approved project 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 turf system. The designated Supervisory personnel on the project must be certified, in writing by the turf manufacturer as competent in the installation of these materials, including sewing seams and proper installation of the infill mixture. The manufacturer shall certify the installation and warranty compliance.
- D. Inspect delivered field surface fabric and components immediately prior to installation. Any damaged or defective items shall be rejected. Installed artificial system shall be inspected for, but not limited to, the following:
 - i. Uniformity of product and color.
 - ii. Surface bubbles.
 - iii. Field markings.
 - iv. Field Edge installation.
 - v. Pile height of each roll shall be measured. Any material(s) that does not meet minimum height and thickness specifications shall be rejected.
 - vi. Pile height shall be measured in its finished positions.

- E. All installation shall be completed in strict accordance with the manufacturer's current printed installation instructions as approved by the Engineer.
- F. Environmental Conditions: Weather conditions are important for the successful installation of the systems. No work under this section will proceed when:
 - a. Ambient temperatures are below 45 degrees F.
 - b. Material temperatures are below 45 degrees F.
 - c. Surfaces are wet or damp.
 - d. Rain is imminent or falling.
 - e. Conditions exist or are imminent, which will be unsuitable to installation requirements of the systems specified herein. Humidity levels will be inside the limits recommended by the adhesive manufacturer to obtain optimum bonding characteristics of the surfaces.
- G. 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.
- H. The full width rolls shall be laid out across the field. Utilizing standard state of the art gluing procedures, each roll shall be attached to the next. Each seam will be glued. When all of the rolls of the playing surface have been installed, the sideline areas will be installed at right angles to the playing field turf. All work shall be such that seams shall remain as required for the duration of the warranty period at a minimum. All seam widths are to be held to a minimum and shall be traverse to the field direction. Seams shall be flat, tight and permanent, with no separation or fraying.
- I. The perimeter of the field shall be firmly secured to the edge anchors for the life of the warranty and in accordance to project details.
- J. Resilient Infill: The 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.
 - a. Inlays shall conform to the manufacturer's specifications, directions and recommendations for the best results.
 - b. Striping layout shall be accurately surveyed by the Contractor before installation of inlaid filed markings.
 - c. Install inlays only when the surface is completely dry. Adhere all inlays securely into place. Never loose-lay and sew an inlay into place.

3.2 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 suggestive states, in areas of extent and using methods that are industry standard. Do not proceed with application of next stages until test results for previously completed applications show compliance.
- C. Remove and replace items where test results indicate that it does not comply with specified requirements.

3.3 FINAL ACCEPTANCE

- A. Prior to final acceptance, the Contractor shall submit to the Owner three (3) copies of Maintenance Manual, 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 for all types. The finished surface shall resist abrasion and cutting from normal use.

3.4 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.

QUANTITY AND PAYMENT

The furnishing and installation of the Synthetic Turf will be performed by others. The Contractor is responsible to prepare the base material and header curb in preparation for others to install the turf. The Contractor is responsible to grade the site to finish grade minus the turf and infill thickness, which thickness shall be coordinated with the turf installation company and owner.

-- END OF SECTION--

SYNTHETIC TURF BASE

DESCRIPTION

Furnish all labor, materials, tools and equipment necessary to install, in place, aggregate base, drainage and fabric for the synthetic turf 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. Stone base materials shall be certified clean.

MATERIALS

The system shall consist of a vertical draining base consisting of the following:

GEOTEXTILE FABRIC

The entire field shall be underlain directly on subgrade by a continuous non-woven geotextile fabric, as manufactured by Tencate Mirafi, Mirafi HP270, **or equal**.

UNDERDRAIN SYSTEM

An underdrain system shall be installed as indicated on the plans and in accordance with all shop drawings. The underdrain system shall be connected to a perimeter drain as indicated on the plans.

POROUS STONE BASE

The 14” stone base shall consist of a large base stone and a porous "choking" finish aggregate material. The large stone base layer shall consist of a blended mix of certified clean, washed, No.3 and No. 2 Crushed Stone or 3/4” clean stone as per turf manufacturer’s recommendation. The aggregate "choking" material shall consist of certified clean, washed, No. 1 Crushed Stone. All stone must be approved in writing by the turf installer / supplier and must conform to the following gradations:

% PASSING

<u>SIEVES</u>	<u>BASE STONE</u>	<u>FINISHING STONE</u>
3” or 75mm		
2” or 50mm	100	
1½” or 38mm	90-100	
1” or 25mm	75-100	
¾ or 19mm	65-95	
½” or 12.5mm	55-85	100
3/8” or 9.5mm	40-75	85-100
¼” or 6.3mm	25-65	75-100
US #4 or 4.75mm	15-60	60-90
US #8 or 2.36mm	0-40	35-75
US #16 or 1.18mm	0-20	10-55
US #30 or 600mm	0-7	0-40
US #60 or 250mm	0-5	0-15
US #100 or 150mm	0-3	0-8
US #200 or 75mm	0-2	0-2

RESTRICTIONS:

To ensure structural stability: $D_{60}/D_{10} > 5$ and $1 < \frac{D_{30}^2}{D_{10} D_{60}} < 3$

Fragmentation must be 100%.

To ensure separation of both stones: $\frac{D_{85} \text{ of finishing stone}}{D_{15} \text{ of base stone}} > 2$

and $3 < \frac{D_{50} \text{ of base stone}}{D_{50} \text{ of finishing stone}} < 6$

To ensure proper drainage:

Permeability of base stone > 500 in/hr (3.5×10^{-1} cm/sec)

Permeability of finishing stone > 20 in/hr (1.4×10^{-2} cm/sec)

Porosity of both stones $> 25\%$

(When stone is saturated and compacted to 95% Proctor.)

Depending on the type of rock present in the crushed stone mix, other mechanical characteristics might be necessary for approval

“Dx” is the size of the sieve (in mm) that lets pass x% of the stone. For example, D₆₀ is the size of the sieve that lets 60% of the stone pass. These sizes, for calculation purposes, may be obtained by interpolation on a semi-log graph of the sieve analysis.

CONSTRUCTION

All topsoil, organic, and non-compactable materials shall be removed. The sub-grade slope shall be between 0.5% to 1% from the center of the field to the sidelines. The base installer shall strictly adhere to the installation procedures outlined under this section. Any variance from these requirements must be approved in writing by the manufacturer's representative, and submitted to the Engineer, verifying that the changes do not in any way affect the warranty. The turf manufacturer and turf installer must accept the aggregate base prior to the installation of the synthetic grass system. The surface tolerance shall not exceed 1/4 inch over 10 feet when measured in any direction. Laser grading shall be utilized. The soil bed must be compacted in both directions to attain the specified compaction rate which is generally 95% standard Proctor.

The 14” crushed stone shall be laid without damaging the soil bed. If the required compacted depth of the base course exceeds 14”, the base shall be constructed in 2 or more layers or lifts of approximate equal thickness. Each layer shall be compacted in both directions to attain the specified compaction rate. The finished crushed stone base shall be sloped 0.5% from the center longitudinal axis towards the sidelines or as specified. The finished crushed stone base surface of the leveling course shall not vary from the specified grade by more than 1/4 inch over 10 feet when measured in any direction.

The final grade aggregate layer shall not be more than 2” thick. The final grade material shall be sloped 0.5% from the center longitudinal axis towards the sidelines unless otherwise specified. The final grade shall be compacted in both directions according to the specifications.

An As-Built survey of the final grades of the Synthetic Turf Base shall be performed by others to confirm that the final grades for the turf base are compliant with the proposed drawings. The Contractor is responsible to notify the owner and/or engineer in writing in advance of completion of this work so that the survey may be scheduled accordingly. The Contractor shall be responsible to make the necessary grade adjustments immediately thereafter to not cause any delay of the Turf Installation to be performed by others.

QUANTITY AND PAYMENT

Synthetic Turf Base will not be measured under a separate item. Quantity and Payment for this item, and all costs related thereto, shall be included in the lump sum price bid for **SYNTHETIC TURF BASE - UNDERDRAINS AND STONE (COMPLETE CROSS-SECTION-EXCLUDES SYNTHETIC TURF, INFILL AND LINE STRIPING)** in the Proposal, which shall cover the cost of installation of the synthetic turf base, turf edge, removal turf covers and area, excavation, backfill, nailers, and all labor, coordination with turf installer, tools, equipment and materials necessary therefore and incidental thereto or as directed by the Engineer.

-- END OF SECTION --

TURF EDGE

DESCRIPTION

This item shall include the construction of 6" x 12" Concrete Curb with attached nailer around all edges of the synthetic turf including interior runways and shotput pad, the attachment of the synthetic turf to the curb, the excavation and removal of all earth, rock, boulders, brick, stone and concrete masonry, including small structures and other materials encountered of whatever nature, required for the construction of concrete curb. It shall also include the transportation of the excavated materials; the construction of embankments with the materials excavated; the disposal of unsuitable and surplus materials; and other work as shown on the plans or specified herein.

MATERIALS

Class B concrete shall be used throughout.

CONSTRUCTION

Excavation and backfill shall conform to the requirements of NJDOT Specifications Section 202 - Excavation. The backfill and curb foundation shall be well compacted by means of flat-faced mechanical tampers, or by other means to be approved by the Engineer.

Curbs shall be constructed in accordance with Section 607 – Curbs of the NJDOT specifications.

QUANTITY AND PAYMENT

Turf Edge will not be measured under a separate item. Quantity and Payment for this item, and all costs related thereto, shall be included in the linear foot price bid for CONCRETE HEADER CURB in the Proposal.

-- END OF SECTION --

BARRIER NETTING, 15 FEET HIGH AND POSTS COMPLETE

PART 1 GENERAL

1.01 WORK INCLUDED

- A. Provide all equipment and materials, and do all work necessary to furnish and install the Barrier Netting, 15 feet High and Posts complete, including furnishing and installing the barrier netting, posts, footings and foundations complete, all labor materials and all else required to provide a complete installation of the Barrier Netting as indicated on the drawings and as specified herein. Athletic equipment shall include, but not be limited to:

1. TFBSS415P-SG - 15ft Ball Safety Netting System Painted – or approved equal, as provided by Sportsfield Specialties or approved equal.

Engineered shop drawings, signed and sealed by NJ Professional Engineer for complete netting, poles, footings, and foundations shall be obtained by contractor and provided prior to construction and the cost thereof included in the price bid for the Barrier Netting, 15feet High and Post complete.

1.02 RELATED WORK

- A. Examine contract documents for requirements that affect work of this section. Other specification sections that directly relate to the work of this section include, but are not limited to:

1. Section 02200 – Earthwork; Excavation and Backfill and establishment of sub-grade elevations.
2. Section 02700 – Asphalt, Concrete, and Pavement
3. Section 02794 – Synthetic Grass & Turf
4. Section 02793 – Synthetic Field Surfacing
5. Section 03110 – Cast-in-Place Concrete

1.03 REFERENCES

- A. Comply with applicable requirements of the following standards. Where these standards conflict with other specified requirements, the most restrictive requirements shall govern.

1. National Federation of State High School Associations (NFHS)
2. National Collegiate Athletic Association (NCAA)
3. International Amateur Athletic Association (IAAF)
4. American Sports Builders Association (ASBA)
5. Manufacturers Data and Recommended Installation Requirements

1.04 SUBMITTALS

A. Manufacturers Product Data

1. Provide manufacturers product data prior to actual field installation work, for Architects or Owners representatives review.

B. Shop Drawings

1. Provide drawings of the manufacturers recommended installation and foundation requirements prior to actual field installation work, for Architects or Owners representatives review.

Engineered shop drawings, signed and sealed by NJ Licensed Professional Engineer for complete netting, poles, footings, and foundations shall be obtained by the contractor and provided prior to construction and the cost thereof shall be included in the price bid. Foundation requirements shall meet all local code requirements and shall be based on the soil conditions provided in the project specifications. Foundation design, certified and signed by NJ Licensed Professional Engineer shall be obtained by the contractor and provided prior to construction the cost thereof included in the contractors bid for the Barrier Netting.

1.05 QUALITY ASSURANCE

- ### A.
- Manufacturers warranties shall pass to the Owner and certification made that the product materials meet all applicable grade trademarks or conform to industry standards and inspection requirements.

1.06 PRODUCT DELIVERY AND STORAGE

- ### A.
- Materials delivered to the site shall be examined for damage or defects in shipping. Any defects shall be noted and reported to the Owners representative. Replacements, if necessary, shall be immediately re-ordered, so as to minimize any conflict with the construction schedule. Sound materials shall be stored above ground under protective cover or indoors so as to provide proper protection.

PART 2 PRODUCTS

2.01 Ball Safety Netting System

A. BASE: TFBSS415P-SG - Ball Safety Netting System or approved equal as manufactured by:

Sportsfield Specialties Inc.
P.O. Box 231
41155 State Highway 10
Delhi, NY 13753
p. 888-975-3343
f. 607-746-8481
www.sportsfieldspecialties.com
OR APPROVED EQUAL

B. COMPONENTS:

1. Upright Posts Fabricated with 4" SCH 40 Aluminum Pipe:
 - A. Height Above Ground equal to system height plus 1Ft (for hardware)
 - B. Aluminum Mill Finish (TFBSS415P Powder Coated)
2. Upright Post Ground Sleeves Fabricated with 4.3in OD (4.1in ID) Steel:
 - A. 30.0in Length
 - B. Steel Tube
 - C. Aluminum Ground Sleeve Caps
3. Ball Safety Net:
 - A. 15 FEET Height x Length Specified by Customer
 - B. #36 Black Nylon 1-3/4" Mesh
 - C. Tethers 2X net height + 5Ft
4. Accessories:
 - A. Stainless Steel Assembly Hardware
 - B. Shell Block Pulley System
 - C. 9.0in Net Guide Rings
 - D. Black Vinyl Coated Wire Rope

PART 3 EXECUTION
3.01 INSTALLATION OF EQUIPMENT

A. All athletic equipment shall be installed as recommended with manufacturer's written directions, and as indicated on the drawings.

QUANTITY AND PAYMENT

Payment for the Barrier Netting will be made on a linear foot basis for the actual length of Barrier Netting constructed, at the price bid, per linear foot for the item “**BARRIER NETTING, 15’ HIGH AND POSTS/FOOTINGS COMPLETE**” in the Proposal, which prices which shall include the cost of footings; foundations, engineered shop drawings and calculations, furnishing and installing the footings, foundations, posts, and netting complete, all material, accessories, labor, tools and equipment and all else necessary therefor and incidental thereto to construct the barrier netting system complete.

Note: Building codes may vary from site to site. The Contractor shall be responsible for verification of local code requirements.

-- END OF SECTION --

16' PORTABLE PLAYER SHELTER AND BENCH

PART ONE - GENERAL

1.1 DESCRIPTION

16' Portable Player Shelter and Bench shall include all materials and labor necessary for the furnishing and installation of the above noted portable player shelter and bench as shown on the Plans or as directed by the Engineer.

PART TWO - MATERIALS

2.1 PRODUCTS

16' Portable Player Shelter and Bench:
Heavy Duty, Standard, 16' Portable Player Shelter with Attached Bench, shaded Lexan and Black Powder Coated, or approved equal, as Manufactured by Keeper Goals, 12400 Spring Drive, Butler, Wisconsin, (800-594-5126) or approved equal, to be approved by Union County and Engineer prior to ordering.

Benches shall be aluminum.
Shelter to include all required anchoring.

PART THREE – EXECUTION

3.1 METHODS OF CONSTRUCTION

Installation and assembly shall be according to manufacturer's specifications, the plans and as directed by the Engineer.

QUANTITY AND PAYMENT

Quantity and Payment for 16' Portable Player Shelter and Bench will be made for the actual portable shelter and bench units actually constructed in accordance with the Contract Documents at the unit price bid for the items "**16' PORTABLE PLAYER SHELTER AND BENCH**," in the Proposal, which shall cover the cost of all labor, tools, equipment and materials necessary therefore and incidental thereto or as directed by the Engineer.

--END OF SECTION--

BEYNON BSS-1000
10mm ENCAPSULATED SYNTHETIC TRACK SURFACING SYSTEM

SECTION 02880

DESCRIPTION

- A. This section may include, but is not limited to the following track & field equipment:
1. Beynon BSS-1000 10mm Encapsulated Synthetic Track Surfacing System
 2. Pole Vault Box, Lid & Concrete Pad
 3. Long Jump / Triple Jump, Complete w/ Sand Pit, Cover, Takeoff Board & Concrete Pad
- B. Related Sections: Review Contract Documents for requirements that affect work of this section. Specification sections that directly relate to work of this section include, but are not limited to:

Section 02881 – Long Jump / Triple Jump Sand Pit With Sand Catchers & Pit Cover

Section 02882 – Long Jump Pit cover

Section 02883 – Take Off Board System

Section 02891 – Pole Vault Box & Lid

Section 02995 – Track Equipment (items 6, 7 & 8 under Part 1, 1.01, A)

The synthetic surfacing contractor shall furnish all labor, materials, equipment, supervision and services necessary for the proper completion of the BSS 1000 Dual Durometer, **or Approved Equal**, synthetic track surfacing and related work and track and field equipment indicated on the Contract Drawings and specified herein.

The synthetic surfacing contractor shall refer to the drawings for the required locations of synthetic track surfacing to be installed and for the location of all track and field equipment and materials. Contractor shall note that synthetic surface shall be installed on the following locations in addition to the locations shown on the drawings, long jump runway, long jump pit covers, pole vault runway and landing pad, and all other areas damaged by the contractor. All quantities and dimensions shall be field verified by the synthetic surfacing contractor.

A. Specific Scope of Work:

1. Install a full depth poured-in-place two component; UV stabilized elastomeric polyurethane Dual Durometer synthetic surfacing system with encapsulated textured finish.
2. Layout and paint all track and runway lines and event markings as required and specified by current IAAF and NFHS rules.
3. Contractor shall include, as part of this item, the cost for the construction, installation, excavation, backfill, soil movement, etc. of all track and field event equipment, runways, concrete pads, subbase, and items A1 and A2 above to provide complete long jump/triple jump and pole vault systems in accordance with the Contract Documents and as specified herein.

The synthetic surfacing contractor shall coordinate the work specified with an authorized and appointed representative of the Owner so as to perform the work during a period and in a manner acceptable to the Owner.

CODES AND STANDARDS

Codes and standards follow the current guidelines set forth by the National Federation of State High School (NFHS) along with the current material testing guidelines as published by the American Society of Testing and Materials (ASTM).

PERFORMANCE STANDARDS

The new synthetic track surfacing system shall exhibit the following minimum performance standards:

- | | |
|-----------------------------------|--|
| A. Thickness | Average - $\geq 10\text{mm}$
Minimum - 10mm |
| B. Force Reduction | 35 to 50 |
| C. Modified Vertical Deformation | 0.6 to 1.8 |
| D. Friction: TRRL Skid Resistance | ≥ 47 |
| E. Tensile Strength | ≥ 0.5 |
| F. Elongation at break | ≥ 40 |

QUALITY ASSURANCE

Contractor Qualifications:

- A. The CONTRACTOR must have a minimum of 5 years of experience in the installation of full depth poured-in-place two component elastomeric polyurethane synthetic track surfacing.
- B. The CONTRACTOR and MANUFACTURER shall be the same and must have a minimum of 10 years of experience with the compounding of two-part polyurethane for athletic surfaces.
- C. The CONTRACTOR shall have 10 years experience with the aliphatic coating.
- D. The INSTALLATION SUPERVISOR must have installed a minimum of 5 full depth two component polyurethane tracks with encapsulated texture in the last 3 years. A reference list must be submitted.
- E. The MANUFACTURER must offer a minimum of four (4) IAAF Certified Track Systems.

SUBMITTALS

The following submittals must be received with bid submittal:

- A. Standard printed specifications of the synthetic track surfacing system to be installed on this project.
- B. An affidavit attesting that the synthetic track surfacing material to be installed meets the requirements defined by the manufacturers currently published specifications and any modifications outlined in those technical specifications.
- C. A synthetic track surfacing system sample, 12" x 12" in size, of the same synthetic track surfacing system to be installed on this project.
- D. A list of completed facilities, including the installing supervisor, of the exact Dual Durometer synthetic track surfacing system.
- E. Contractor is responsible for providing a preliminary track striping diagram showing proposed track striping, including but not limited to lane lines, track markings, numbers, dimensions, etc. Contractor shall be responsible for providing an As-Built Survey of newly constructed track for use in preparing and submitting the aforementioned preliminary track striping diagram. Preliminary track striping diagram shall be approved by owner prior to installation.

MATERIALS

Elastomeric Polyurethane:

- A. BEYPUR, the two-component U.V. stabilized elastomeric polyurethane compounded from polyol and isocyanate components, based on one hundred percent Methylene Diphenyl Isocyanate (MDI). No Toluene Diisocyanate Isocyanate (TDI) will be allowed.
- B. The elastomeric polyurethane shall be red in color.

EPDM Granulate:

- A. The EPDM granulates shall be .5 to 1.5mm in size and peroxide cured.
- B. The EPDM granulates and the U.V. stabilized elastomeric polyurethane shall be color matched.

Rubber Granulate:

- A. Fine mesh Styrene Butadiene Rubber (SBR) processed ground to a graded size not to exceed 20 mesh in size.
- B. A maximum of twenty percent, by weight of the SBR will be allowed in the force reduction layer.

Aliphatic Coating:

- A. Single Component moisture cured aliphatic coating
- B. Aliphatic Coating shall be read in color matching the UV stabilized elastomeric polyurethane.
- C. No clear or two component coatings will be allowed.

Line Marking Paint:

All line and event markings shall be applied by experienced personnel utilizing a single component, moisture cured, aliphatic polyurethane paint compatible with the BSS 1000 (10mm Encapsulated) Track Surfacing material.

Stripe all lines, start-finish lines, event markings and runway borders according to NFHS standards per the listing hereafter and any other details outlined by the Owner. All events to be confirmed with the Owner prior to installation.

A. Official NFHS Events:

- 1. Pole vault, long jump, triple jump - paint runway lines

B. Paint:

- 1. All lane lines, start and finish lines to receive 2 coats

INSTALLATION

Subbase:

The synthetic track surfacing system shall be laid on an approved dense graded aggregate subbase. The General Contractor shall provide compaction test results of 95% or greater for the installed subbase and asphalt surface.

For certification the following criteria must be followed: The track surface, i.e. asphalt substrate (as shown in the details), shall not vary from planned cross slope by more than + 0.2%, with a maximum lateral slope outside to inside of 1%, and a maximum slope of 0.1% in any running direction. The finished asphalt shall not vary under a 10' straight edge more than 1/8".

It should be the responsibility of the asphalt paving contractor to flood the surface immediately after the asphalt is capable of handling traffic, but within 24 hours. If, after 20 minutes of drying time, there are birdbaths evident, it shall be the responsibility of the architect, in conjunction with the surfacing contractor, to determine the method of correction. No cold tar patching, skin patching or sand mix patching will be acceptable.

Any oil spills (hydraulic, diesel, motor oil, etc.) must be completely removed and replaced with either polyurethane or new, keyed in asphalt. The minimum curing time for the asphalt base is 28 days. It shall be the responsibility of the surfacing contractor to determine if the asphalt substrate has cured sufficiently prior to the application of the polyurethane surfacing system.

It shall be the responsibility of the general contractor to determine if the asphalt substrate meets all design specifications, i.e. cross slopes, planarity and specific project criteria. After all the above conditions are met, the synthetic surfacing contractor must, in writing, accept the planarity of the asphalt receiving base, before work can commence.

Thickness:

Total thickness of the BSS 1000 Dual Durometer Encapsulated or Approved Equal synthetic track surfacing system shall average 10mm.

Equipment:

The BSS 1000 Dual Durometer Encapsulated or Approved Equal synthetic track surfacing system components shall be processed and installed by specially designed machinery with automatic electronic portioning, which provides continuous mixing, feeding and finishing for accurate quality controlled installation.

No hand mixing will be allowed.

Materials:

A. Force Reduction Layer

The fine mesh SBR granules and UV stabilized elastomeric polyurethane shall be metered and mixed together on site to regulate the ratio/quantity of SBR, not to exceed fourteen percent in the system and to insure an even distribution of the granules throughout the 5mm force reduction layer. No multi-layered system allowed.

B. Resilient Wearing Layer

The .5 to 1.5 millimeter EPDM granules shall be mechanically integrated with an UV stabilized elastomeric polyurethane to the full depth of the 5mm wearing layer. The resilient textured finish shall be a dense matrix of encapsulated EPDM granules.

C. Protective Coating

The initial red pigmented aliphatic polyurethane coating shall be spray applied over the entire synthetic surfaced area at a rate of 125 square feet per gallon. The second red pigmented aliphatic polyurethane coating shall be spray applied over the initial application at a rate of 125 square feet per gallon in the opposite direction.

Site Conditions:

A. Installation shall not take place if adjacent or concurrent construction generates excessive dust, abrasives or any other byproduct that, in the opinion of the installer, would be harmful to the track material, until completion of such works.

- B. If, in the opinion of the installer of the synthetic material, the weather and/or climatic conditions are detrimental to the proper installation of the surfacing materials, work shall be delayed until conditions are acceptable. Preferred installed temperature is 50 degrees Fahrenheit and rising. Installation shall be executed only in dry conditions.

LINE STRIPING AND EVENT MARKINGS

Layout:

Line striping and event markings shall be laid out in accordance with current IAAF and NFHS rules.

Certification:

Upon completion of the installation, the owner shall be supplied with all necessary computations and drawings as well as a letter of certification attesting to the accuracy of the markings.

GUARANTEE

Synthetic track surfacing system shall be fully guaranteed against faulty workmanship and material failure for a period of seven (7) years from the date of acceptance.

Synthetic surfacing material found to be defective as a result of faulty workmanship and/or material failure shall be replaced or repaired at no charge, upon written notification within the guarantee period.

QUANTITY AND PAYMENT

Quantity and Payment for Beynon BSS-1000 10mm Encapsulated Synthetic Track Surfacing System will be made in accordance with the Contract Documents at the lump sum price bid for the item **SYNTHETIC TRACK SYSTEM AND STRIPING AT RUNWAYS** in the Proposal, which shall cover the cost of all track event surfaces, perimeter track surfaces, subbase, runways, striping, excavation, backfill, concrete, concrete pads, asphalt, and all labor, tools, equipment and materials necessary therefore and incidental thereto or as directed by the Engineer.

-- END OF SECTION --

FOOTBALL GOAL

SECTION 11 6600

PART 1 - GENERAL

1.01 RELATED WORK

- A. Review Contract Documents for requirements that affect work of this section. Specification sections that directly relate to work of this section include, but are not limited to:

Section 11 6601 – Athletic Equipment - Goal Post Pads

1.02 SUBMITTALS

- A. Product Data: Submit manufacturer's product literature, technical specifications, and other data required to demonstrate compliance with specified requirements for all athletic equipment.
- B. Contractor shall submit footing design for Football Goal posts signed and sealed by a licensed NJ Professional Engineer.

1.03 QUALITY ASSURANCE

- A. Fabrication and installation of site improvements by experienced craftsmen with excellent record of performance on completed projects of comparable size, scope, and quality.
- B. All materials, hardware and furnishings shall be new, first quality

1.04 FIELD MEASUREMENTS

- A. Contractor shall verify position and layout of all athletic field equipment. Verify dimensions by field measurements.

1.05 SYSTEM DESCRIPTION

- A. Football goals manufactured of Powder Coated Galvanized Steel with an 5' minimum offset, and 20' minimum length uprights. Assembly number FGP401S.

PART 2 - PRODUCTS

2.01 FOOTBALL GOAL POST

- A. Base: Model #FGP401S as manufactured by:

Performance Sports System
Gared Holdings, LLC
9200 E.. 146th Street
Noblesville, IN 46060
www.perfsports.com

Or Equal;

B. COMPONENTS

SUMMARY: Football goals shall be manufactured of powder coated galvanized steel with an 5' (60") offset, and must meet the following criteria as a minimum.

1. Gooseneck support: fabricated 4-1/2" galvanized steel pipe, 5' offset.
2. Crossbar: 4-1/2" galvanized steel pipe.
 - a. Length: High School: 23'-4" between uprights.
3. Uprights: fabricated of heavy wall aluminum tube, Length: 20'-0"
4. Installation package consisting of the following components:
 - a. Ground Sleeve: Part # FGP400GS, 6-5/8" OD Heavy Wall Galvanized tubing, 5' long.
 - b. Access frame: fabricated of aluminum. Include cut-outs: fabricated of pressure treated plywood and artificial turf for grass field. Synthetic turf fields to have plywood cutouts wrapped on the job to match carpet.
5. Accessories:
 - a. 4 ea. - Directional wind flags.
 - b. Assembly bolts, nuts and spring (set) pins.

PART 3 - EXECUTION

3.01 INSTALLATION OF EQUIPMENT

- A. All athletic equipment shall be installed as recommended by manufacturer, and as indicated on the drawings.

PART 4 - QUANTITY AND PAYMENT

- A. Quantity and Payment for Football Goal will be made in accordance with the Contract Documents at the per unit price bid for the item **FOOTBALL GOALS, COMPLETE W/ TURF COVER AND PADS** in the Proposal, which shall cover the cost of excavation, backfill, foundations, foundation design, sleeves, caps, concrete, appurtenances, and all labor, equipment, and materials necessary therefore and incidental thereto or as directed by the Engineer.

-- END OF SECTION --

ATHLETIC EQUIPMENT – GOAL POST PADS

SECTION 11 6601

PART 1 - GENERAL

1.01 RELATED WORK

- B. Review Contract Documents for requirements that affect work of this section. Specification sections that directly relate to work of this section include, but are not limited to:

Section 11 6600 – Football Goal

1.02 SUBMITTALS

- A. Product Data: Submit manufacturer's product literature, technical specifications, and other data required to demonstrate compliance with specified requirements for all athletic equipment.

1.03 QUALITY ASSURANCE

- A. Fabrication and installation of site improvements by experienced craftsmen with excellent record of performance on completed projects of comparable size, scope, and quality.
- B. All materials, hardware and furnishings shall be new, first quality.

1.04 FIELD MEASUREMENTS

- A. Contractor shall verify position and layout of all athletic field equipment. Verify dimensions by field measurements.

1.05 DESCRIPTION

- A. Goal post pads, 6.0' height, Velcro closure.

PART 2 - PRODUCTS

2.01 GOAL POST PADS

- A. Base: Shall be Model #GSPPAD3 by:
Performance Sports System
Gared Holdings, LLC
9200 E.. 146th Street
Noblesville, IN 46060
www.perfsports.com

or Equal;

B. COMPONENTS

1. 4” min. thickness
2. Vinyl laminated polyester fabric, 18 oz. / square yard minimum weight.
3. Height of six feet (6.0') 72”.
4. Full length Velcro closure strip.

C. ACCESSORIES:

1. Custom colors, logo, and lettering are optional.

PART 3 - EXECUTION

3.01 INSTALLATION OF EQUIPMENT

- A. All athletic equipment shall be installed as recommended with manufacturer's written directions, and as indicated on the drawings.

PART 4 - QUANTITY AND PAYMENT

- A. Athletic Equipment – Goal Post Pads will not be measured as a separate item. Quantity and Payment for this item, and all costs related thereto, shall be included in the lump sum price bid for the item **FOOTBALL GOALS, COMPLETE W/ TURF COVER AND PADS** in the Proposal.

-- END OF SECTION --

SOCCER GOAL

SECTION 02820

PART 1 - GENERAL

1.06 RELATED WORK

A. Review Contract Documents for requirements that affect work of this section. Other specification sections that directly relate to the work of this section include, but are not limited to:

1. Section 02825 – 6B504 Official Corner Flag

1.07 SUBMITTALS

A. Product Data: Submit manufacturer's product literature, technical specifications, and other data required to demonstrate compliance with specified requirements for all athletic equipment.

1.08 QUALITY ASSURANCE

A. Fabrication and installation of site improvements by experienced craftsmen with excellent record of performance on completed projects of comparable size, scope, and quality.

B. All materials, hardware and furnishings shall be new, first quality.

1.09 FIELD MEASUREMENTS

A. Contractor shall verify position and layout of all athletic field equipment. Verify dimensions by field measurements.

1.10 SYSTEM DESCRIPTION

A. Soccer Goals, all aluminum construction, meeting NCAA and NFHS specifications.

PART 2 - PRODUCTS

2.01 SOCCER GOALS

A. BASE: Shall be Model #SE700 as supplied by:

SportsEdge
P.O. Box 837
Troutman, NC 28166
P: 800-334-6057

info@sportsedge.com
www.sportsedge.com

Or Equal;

B. COMPONENTS

SUMMARY: Model #SE700R Soccer Goals meeting NCAA and NFHS specifications; shall be all aluminum construction with White powder coated finish and must meet the following criteria as a minimum standard:

1. Frame: 8'H x 24'W x 4'B x 10'D.
 - a. SPECIFIER SELECT:
 - i. 4" Round aluminum tubing #SE700R
 - b. White powder coated finish
2. Backstays:
 - a. 2" O.D. Aluminum Backstays, 0.125" Wall thickness
 - b. White powder coated finish
3. Ground Bar:
 - a. 2" O.D. Aluminum, 0.125" Wall thickness
 - b. White powder coated finish
 - c. Must be adjustable & moveable
4. Net Attachments:
 - a. Crossbar & Uprights: Twist in nylon net clips
 - b. Backstays & Ground bar" Hoop & Loop strap
5. Nets: #SE755 3mm HTTP Nets, 4.0" square mesh.
6. Ground Anchors:
 - a. Natural Grass Field Applications: #SE752 16" Steel Spiral Anchor w/ Lanyards & quick clip attachment (Set of 4)
 - b. Synthetic Turf Field Applications: #SE753 (Set of 4) Heavy Duty Nylon Sand Bags (Holds 40 lbs.)
7. Wheel Kit: #SE751 rear mounted backstay wheel attachment (set of 4), 10" flat free polyurethane Marathon® tire with nylon bearing.

PART 3 - EXECUTION

3.01 INSTALLATION OF EQUIPMENT

- A. All athletic equipment shall be installed as recommended by manufacturer, and as indicated on the drawings.

PART 4 - QUANTITY AND PAYMENT

- A. Quantity and Payment will be made for Soccer Goal in accordance with the Contract Documents at the per unit price for the item **PORTABLE SOCCER GOALS, COMPLETE W/ NETTING** in the Proposal, which shall cover the cost of wheel kits, corner flags, anchors, and all labor, tools, equipment, and materials necessary therefore and incidental thereto or as directed by the Engineer.

-- END OF SECTION --

6B504 Official Corner Flag

SECTION 02825

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Provide all equipment and materials, and do all work necessary to furnish and install the athletic equipment, as indicated on the drawings and as specified herein. Athletic equipment shall include, but not be limited to:

- 1. 6B1404 Official Corner Flag

1.2 RELATED WORK

- B. Examine contract documents for requirements that affect work of this section.
- C. Other specification sections that directly relate to the work of this section include, but are not limited to:
 - 2. Section 02820 – Soccer Goal

1.3 REFERENCES

- A. Comply with applicable requirements of the following standards. Where these standards conflict with other specified requirements, the most restrictive shall govern.
 - 1. National Federation of State High School Associations (NFSHSA)

1.4 SUBMITTALS

A. Manufacturer's Product Data

- 1. Provide manufacturer's product literature, technical specifications and other data prior to actual field installation work for architect or owner's representative review.

B. Shop Drawings

- 1. Provide drawings of manufacturer's recommended installation and foundation requirements prior to actual field installation work for architect or owner's representative review.

1.5 QUALITY ASSURANCE

- A. Manufacturer's warranties shall pass to the owner and certification made that the product materials meet all applicable grade trademarks or conform to industry standards and inspection requirements.

1.6

PRODUCT DELIVERY, STORAGE AND HANDLING

- B. Material delivered to the site shall be examined immediately for concealed damage or defects and noted on the carriers deliver receipt. If any damage is discovered after the initial delivery, you have 15 calendar days to notify Kwik Goal, Ltd. If the damage is reported within 15 days, Kwik Goal, Ltd. Will replace any damaged parts at no charge. If damage is discovered after 15 calendar days, the parts will need to be purchased in full from Kwik Goal, Ltd.
- C. Replacements, if necessary, shall be immediately re-ordered, so as to minimize any conflict with the construction schedule.
- D. Sound materials shall be stored above the ground under protective cover or indoors so as to provide proper protection.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers and product selections named are provided to establish the minimum standard.
- B. BASE: 6B1404 Official Corner Flag as manufactured by:

Kwik Goal Ltd.
140 Pacific Drive
Quakertown, PA 18951
P: 800-531-4252
F: 800-778-8869
www.kwikgoalspecs.com

Or Equal;

C. COMPONENTS:

- 1. 6B1404 Official Corner Flag
 - i. 6B1404 – pole fabricated of PVC, 1.05” outside diameter, having the following attributes:
 - a. Length: 60.00”

- b. Round
 - c. 0.060" wall
 - d. White
- ii. 6B1404 – flag fabricated of nylon, having the following attributes:
 - a. Height: 12.25"
 - b. Width: 19.5625"
 - c. 1.3125" pocket open at bottom end only
 - d. Red with white trim
- iii. 6B1404 – ground peg, having the following attributes:
 - a. Base
 - 1) Steel
 - 2) 3.00" diameter
 - 3) 0.109" wall steel
 - 4) MIG weld to cup and peg
 - b. Cup
 - 1) Steel
 - 2) Height: 1.50"
 - 3) 1.06" inside diameter
 - 4) Riveted to PVC
 - c. Peg
 - 1) Steel
 - 2) Height: 5.75"
 - 3) 0.375" outside diameter

PART 3 - EXECUTION

3.1 INSTALLATION OF ATHLETIC FIELD EQUIPMENT

- A. All athletic field equipment shall be installed as recommended with manufacturer's written directions, included with product or found at www.kwikgoalspecs.com, and as indicated on the drawings.

PART 4 - QUANTITY AND PAYMENT

- A. 6B1404 Official Corner Flag will not be measured as a separate item. Quantity and Payment for this item, and all costs related thereto, shall be included in the bid item **PORTABLE SOCCER GOALS, COMPLETE W/ NETTING** in the Proposal.

-- END OF SECTION --

LACROSSE GOAL

PART 1 - GENERAL

1.5 WORK INCLUDED

- B. Provide all equipment and materials, and do all work necessary to furnish and install the athletic equipment, as indicated on the drawings and as specified herein.

1.6 RELATED WORK

- A. Examine contract documents for requirements that affect work of this section.

1.7 REFERENCES

- A. Comply with applicable requirements of the following standards. Where these standards conflict with other specified requirements, the most restrictive shall govern.
 - 2. National Collegiate Athletic Association (NCAA)
 - 3. National Federation of State High School Associations (NFSHSA)
 - 4. International Amateur Athletic Foundation (IAAF)

1.8 SUBMITTALS

C. Manufacturer's Product Data

- 2. Provide manufacturer's product literature, technical specifications and other data prior to actual field installation work for architect or owner's representative review.

D. Shop Drawings

- 1. Provide drawings of manufacturer's recommended installation and foundation requirements prior to actual field installation work for architect or owner's representative review.

2.5 QUALITY ASSURANCE

- A. Manufacturer's warranties shall pass to the owner and certification made that the product materials meet all applicable grade trademarks or conform to industry standards and inspection requirements.

2.6 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Material delivered to the site shall be examined immediately for concealed damage or defects and noted on the carriers deliver receipt. If any damage is discovered after the initial delivery, you have 15 calendar days to notify Kwik Goal, Ltd. If the damage is reported within 15 days, Kwik Goal, Ltd. Will replace any damaged parts at no charge. If damage is discovered after 15 calendar days, the parts will need to be purchased in full from Kwik Goal, Ltd.
- B. Replacements, if necessary, shall be immediately re-ordered, so as to minimize any conflict with the construction schedule.
- C. Sound materials shall be stored above the ground under protective cover or indoors so as to provide proper protection.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- D. Manufacturers and product selections named are provided to establish the minimum standard.
- E. BASE: 2E201 Official Lacrosse Goal as manufactured by:

Kwik Goal Ltd.
140 Pacific Drive
Quakertown, PA 18951
P: 800-531-4252
F: 800-778-8869
www.kwikgoalspecs.com

Or Equal;

F. COMPONENTS:

- 1. 2E201 Official Lacrosse Goal
 - iv. 2E201 – crossbar and front posts fabricated of Schedule 10 Steel pipe, 1.90” outside diameter, having the following attributes:
 - a. Height: 72.40”
 - b. Width: 75.80”
 - c. Net rail MIG welded

- d. Round
 - e. 0.109" wall steel
 - f. DuPont powder coated orange
- v. 2E201 – base fabricated of HR Steel, 0.5" x 3" x 91", having the following attributes:
- a. Length: 91.00"
 - b. Width: 3.00"
 - c. Thickness: 0.5"
 - d. Flat
 - e. DuPont powder coated orange
- vi. 2E201 – connector plate fabricated of 6005 T5 extruded aluminum tube, 0.25" x 4.00".
- vii. Accessories:
- a. White HTPP Soccer Net
 - 1) 3mm rope thickness
 - 2) 1.5" mesh
 - b. Hardware
 - 1) Zinc Plated Steel

PART 3 - EXECUTION

3.1 INSTALLATION OF ATHLETIC FIELD EQUIPMENT

- A. All athletic field equipment shall be installed as recommended with manufacturer's written directions, included with product or found at www.kwikgoalspecs.com, and as indicated on the drawings.

PART 4 - QUANTITY AND PAYMENT

- B. Quantity and Payment will be made for Lacrosse Goal in accordance with the Contract Documents at the per unit price bid for the item **PORTABLE LACROSSE GOALS, COMPLETE W/ NETTING** in the Proposal, which shall cover the cost of sleeves, appurtenances, and all labor, tools, equipment and materials necessary therefore and incidental thereto or as directed by the Engineer.

-- END OF SECTION --

POLE VAULT BOX AND LID

SECTION 02891

PART 1 - GENERAL

1.01 SUMMARY

- A. This section may include, but is not limited to the following track & field equipment:
 - 1. Pole Vault Box and Lid with Concrete Pad and Landing System.
- B. Related Sections: Review Contract Documents for requirements that affect work of this section. Specification that directly relate to work of this section include, but are not limited to:

Section 02880 – Beynon BSS-1000 10mm Encapsulated Synthetic Track Surfacing System

1.02 SUBMITTALS

- A. Product Data: Submit manufacturer's product literature, technical specifications, and other data required to demonstrate compliance with specified requirements for all athletic equipment.

1.03 QUALITY ASSURANCE

- A. Fabrication and installation of site improvements by experienced craftsmen with excellent record of performance on completed projects of comparable size, scope, and quality.
- B. All materials, hardware and furnishings shall be new, first quality.

1.04 FIELD MEASUREMENTS

- A. Contractor shall verify position and layout of track and field equipment. Verify dimensions by field measurements.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Manufacturers and product selections named are provided to establish the minimum standard and shall comply with NFHS requirements.

Equipment shall be as supplied by:
SportsEdge, P.O. Box 837, 259 Murdock Rd. Troutman, NC 28166
Telephone: 800-334-6057, Fax: 704-528-0179, Email: info@sportsedge.com

Or Equal;

2.02 TRACK AND FIELD EQUIPMENT

A. General: Provide equipment complying with NFHS requirements.

B. Pole Vault Box with Cover, **or equal**:

1. Vault Box Model SE502, fabricated from 6061 structural aluminum tempered to a T6 condition, (1/8") .125" thick, folded to eliminate sharp edges. The box backstop is formed from (1/4") .25" Aluminum plate welded to the sides and bottom with one continuous weld along the outside edge. Outer side wings to anchor into the encasement concrete.
2. Vault Box Lid Model SE50201, manufactured from (1/4") .25" thick 6061-T6 aluminum plate, with two welded angle vertical supports to stiffen and support the lid the box.
3. Pole Vault Pit Pad, Model # SE653, ESSENTIALS® with #SE65302 Vinyl Weather Cover, #SE717 Planting Box Safety Collar, or Approved Equal and having the following attributes:
 - a. Skirted mesh top to hold the units together for a snug fit. Includes recommended preferred landing zone.
 - b. Royal Blue.
 - c. Specification Compliance: NFHS
 - d. Overall size: 19'9" x 20'2" x 26" (Overall size metric: 6.02m x 6.15m x .66m)
 - (1) Base Units: 6'7" x 12'9" x 26"
 - (2) Front Slant Units: 8'3" x 7'5" x 26"

PART 3 - EXECUTION

3.01 INSTALLATION

A. All athletic equipment shall be installed as recommended by manufacturer's written directions, and as indicated on the drawings.

PART 4 - QUANTITY AND PAYMENT

A. Quantity and Payment for Pole Vault Box & Lid, inclusive of the Pole Vault Pit Pad will be made in accordance with the Contract Documents at the lump sum price bid for the item **POLE VAULT BOX, LID & CONCRETE PAD** in the Proposal, which shall cover the cost of excavation, backfill, grading, concrete, reinforcement, and all labor, tools, equipment and materials necessary therefore and incidental thereto or as directed by the Engineer.

-- END OF SECTION --

LONG JUMP / TRIPLE JUMP SAND PIT WITH SAND CATCHERS

SECTION 02881

PART 1 - GENERAL

1.01 SUMMARY

- A. This section may include, but is not limited to the following track & field equipment:
 - 1. Long/ Triple Jump Sand Pit Forms System with Side Sand Catchers and Pit Cover Set
- B. Related Sections: Review Contract Documents for requirements that affect work of this section. Specification sections that directly relate to work of this section include, but are not limited to:

- Section 02880 – Beynon BSS-1000 10mm Encapsulated Synthetic Track Surfacing System
 - Section 02882 – Long Jump Pit cover
 - Section 02883 – Take Off Board System
 - Section 02995 – Track Equipment (items 7 & 8 under Part 1, 1.01, A)

1.02 SUBMITTALS

- A. Product Data: Submit manufacturer’s product literature, technical specifications, and other data required to demonstrate compliance with specified requirements for all athletic equipment.

1.03 QUALITY ASSURANCE

- A. Fabrication and installation of site improvements by experienced craftsmen with excellent record of performance on completed projects of comparable size, scope, and quality.
- B. All materials, hardware and furnishings shall be new, first quality.

1.04 FIELD MEASUREMENTS

- A. Contractor shall verify position and layout of track and field equipment. Verify dimensions by field measurements.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Manufacturers and product selections named are provided to establish the minimum standard and shall comply with NFHS requirements. Equipment shall be as supplied by:

SportsEdge®
P.O. Box 837, 259 Murdock Rd.
Troutman, NC 28166
P: 800-334-6057
www.sportsedge.com
info@sportsedge.com

Or Equal;

- B. Substitutions: Substitutions will be considered in accordance with Section 01630 (01 2513).

2.02 TRACK AND FIELD EQUIPMENT

- A. Long / Triple Jump Pit Form: Model #SEF44124 - Sand Pit Form, **or equal:**
Constructed of aluminum in modular sections. The forms shall have a built in ledge to receive a sand pit cover system and a built in sand catcher. The sand catcher shall run the entire length of the sand pit form on the two sides as well as along the back of the pit. Inside dimensions of sand pit shall be 24' x 9'-8" minimum. Pit form system to include aluminum pit cover set.
1. Base form: Fabricated of 0.125in thick aluminum, having the following attributes:
 2. Cover ledge units: Aluminum.
 3. Sand catcher components:
 - a. Bar grating, galvanized steel, 1" x 18" x 36"
 - b. Mat support: perforated rubber overlay
 4. End plates: Aluminum end plates for all open end components.
 5. Pit Cover Set: Aluminum, 13mm (0.5in) recessed top surface.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. All athletic equipment shall be installed as recommended by manufacturer's written directions, and as indicated on the drawings.

PART 4 - QUANTITY AND PAYMENT

- A. Quantity and Payment for Long Jump / Triple Jump Sand Pit with Sand Catchers will be made in accordance with the Contract Documents at the lump sum price bid for the item **LONG JUMP/TRIPLE JUMP, COMPLETE W/ SAND PIT, COVER, TAKEOFF BOARD & CONCRETE PAD** in the Proposal, which shall cover the cost

of excavation, backfill, grading, concrete, reinforcement, and all labor, tools, equipment and materials necessary therefore and incidental thereto or as directed by the Engineer.

-- END OF SECTION --

LONG JUMP PIT COVER

SECTION 02882

PART 1 - GENERAL

1.01 SUMMARY

- A. This section may include, but is not limited to the following track & field equipment:
 - 1. Long Jump Pit Covers
- B. Related Sections: Review Contract Documents for requirements that affect work of this section. Specification sections that directly relate to work of this section include, but are not limited to:

Section 02880 – Beynon BSS-1000 10mm Encapsulated Synthetic Track Surfacing System

Section 02881 – Long Jump / Triple Jump Sand Pit With Sand Catchers

Section 02883 – Take Off Board System

Section 02995 – Track Equipment (items 4 & 5 under Part 1, 1.01, A)

1.02 SUBMITTALS

- A. Product Data: Submit manufacturer's product literature, technical specifications, and other data required to demonstrate compliance with specified requirements for all athletic equipment.

1.03 QUALITY ASSURANCE

- A. Fabrication and installation of site improvements by experienced craftsmen with excellent record of performance on completed projects of comparable size, scope, and quality.
- B. All materials, hardware and furnishings shall be new, first quality.

1.04 FIELD MEASUREMENTS

- A. Contractor shall verify position and layout of track and field equipment. Verify dimensions by field measurements.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Manufacturers and product selections named are provided to establish the minimum standard and shall comply with the requirements in NFHS rule book.

Equipment shall be as supplied by:

SportsEdge, P.O. Box 837 259 Murdock Rd. Troutman, NC 28166
Telephone: 800-334-6057 Fax: 704-528-0179 Email: info@sportsedge.com

Or Equal;

2.02 TRACK AND FIELD EQUIPMENT

A. General: Provide equipment complying with requirements in NFHS rule book.

B. Pit Cover Set for Long / Triple Jump Sand Pit, **or equal:**

1. Model # SE730148
 - a. Recessed top surface: 0.5" (13mm)
 - b. Retractable handles, (4) per cover.
 - c. Frame: 2.375" x 1.5" x 0.1875" aluminum angle.
 - d. Panel Width: 29.125" finish cover width as required.
 - e. Panel Length: 9' - 7.875" (115.875")

PART 3 - EXECUTION

3.01 INSTALLATION

A. All athletic equipment shall be installed as recommended by manufacturer's written directions, and as indicated on the drawings.

PART 4 - QUANTITY AND PAYMENT

A. Long Jump Pit Cover will not be measured as a separate item. Quantity and Payment for this item, and all work related thereto, shall be included in the bid item **LONG JUMP/TRIPLE JUMP, COMPLETE W/ SAND PIT, COVER, TAKEOFF BOARD & CONCRETE PAD** in the Proposal.

-- END OF SECTION --

TAKE OFF BOARD SYSTEM

SECTION 02883

PART 1 - GENERAL

1.01 SUMMARY

- A. This section may include, but is not limited to the following track & field equipment:
 - 1. Take Off Board System; Long Jump / Triple Jump.
- B. Related Sections: Review Contract Documents for requirements that affect work of this section. Specification sections that directly relate to work of this section include, but are not limited to:

Section 02880 – Beynon BSS-1000 10mm Encapsulated Synthetic Track
Surfacing System

Section 02881 – Long Jump / Triple Jump Sand Pit With Sand Catchers & Pit
Cover

Section 02882 – Long Jump Pit cover

Section 02995 – Track Equipment (items 7 & 8 under Part 1, 1.01, A)

1.02 SUBMITTALS

- A. Product Data: Submit manufacturer's product literature, technical specifications, and other data required to demonstrate compliance with specified requirements for all athletic equipment.

1.03 QUALITY ASSURANCE

- A. Fabrication and installation of site improvements by experienced craftsmen with excellent record of performance on completed projects of comparable size, scope, and quality.
- B. All materials, hardware and furnishings shall be new, first quality.

1.04 FIELD MEASUREMENTS

- A. Contractor shall verify position and layout of track and field equipment. Verify dimensions by field measurements.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Manufacturers and product selections named are provided to establish the minimum standard and shall comply with NFHS requirements.

Equipment shall be as supplied by:
SportsEdge, P.O. Box 837, 259 Murdock Rd. Troutman, NC 28166
Telephone: 800-334-6057, Fax: 704-528-0179, Email: info@sportsedge.com

Or Approved Equal;

2.02 TRACK AND FIELD EQUIPMENT

- A. General: Provide equipment complying with NFHS and NCAA requirements.
- B. Long Jump Take-Off Boards, **or approved equal:**
 - 1. Model # SE441, Wood, Long Jump Take-Off Board consisting of a replaceable 48" long x 19 ½" wide x 2 ¼" thick wood board sealed and finished in white outdoor enamel and mounted to aluminum planking to resist warping or swelling from water.
 - 2. Model # SE442, Aluminum, Tray is fabricated from 3/16" thick 6061-T6 aluminum sheet and angle which is formed and securely welded together and protects take-off area and facilitates easy replacement of the takeoff board.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. All athletic equipment shall be installed as recommended by manufacturer's written directions, and as indicated on the drawings.

PART 4 - QUANTITY AND PAYMENT

- A. Take Off Board System will not be measured as a separate item. Quantity and Payment for this item, and all work related thereto, shall be included in the bid item **LONG JUMP/TRIPLE JUMP, COMPLETE W/ SAND PIT, COVER, TAKEOFF BOARD & CONCRETE PAD** in the Proposal.

-- END OF SECTION --

SHOT CIRCLE

SECTION 02950

PART 1 – GENERAL

1.01 SUMMARY

- A. This section may include, but is not limited to the following track & field equipment:
 - 1. Shot Circle, Steel, surface mounted
- B. Related Sections: Review Contract Documents for requirements that affect work of this section. Specification sections that directly relate to work of this section include, but are not limited to:

Section 02960 – Shot Circle Cage

Section 02970 – Shot Put Toeboard

Section 02995 – Track Equipment (items 1 - 3 under Part 1, 1.01, A)

1.02 SUBMITTALS

- A. Product Data: Submit manufacturer's product literature, technical specifications, and other data required to demonstrate compliance with specified requirements for all athletic equipment.

1.03 QUALITY ASSURANCE

- A. Fabrication and installation of site improvements by experienced craftsmen with excellent record of performance on completed projects of comparable size, scope, and quality.
- B. All materials, hardware and furnishings shall be new, first quality.

1.04 FIELD MEASUREMENTS

- A. Contractor shall verify position and layout of track and field equipment. Verify dimensions by field measurements.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Manufacturers and product selections named are provided to establish the minimum standard and shall comply with the requirements in NFHS rule book.

Equipment shall be as supplied by:

SportsEdge, P.O. Box 837 259 Murdock Rd. Troutman, NC 28166

Telephone: 800-334-6057 Fax: 704-528-0179 Email: info@sportsedge.com

Or Approved Equal;

2.02 TRACK AND FIELD EQUIPMENT

A. General: Provide equipment complying with requirements in NFHS rule book.

B. Shot Circle, **or approved equal:**

1. Model # SE373, powder coated steel shot circle consisting of two flat segments that are installed end to end to form a 7 ft. (84") circle. Each segment is roll bent out of 1/4" x 1 1/2" steel strip to a radius of 42". Circle to be bolted to the surface of a new or existing level pad. Mounting holes located at the ends and center of each segment for 1/4" anchors. Use with #SE364 cast aluminum shot toeboard for a level pad.

2.03 CONCRETE PAD (REINFORCED)

1. Concrete Pad: Shall be 6-inch thick reinforced concrete (4,000 PSI). The Contractor shall place concrete pad as shown on the Contract Drawings. The concrete pad shall meet and match the grade and alignment of the surrounding landscaped area.
2. Reinforcement: Shall be 6x6 (#8/8 (W2.9/W2.9) wire mesh Reinforcement. Contractor shall position reinforcement at a clear distance of 2.5-inches from the surface (top) of the concrete pad. Contractor shall anchor materials to the concrete pad as per the manufacturer's anchoring requirements.
3. Base: Shall be 6-inch thick dense graded aggregate (DGA), which all methods of construction shall be in accordance with Division 300 – Subbase and Base Courses, of the 2007 New Jersey Department of Transportation Standard Specifications for Road and Bridge Construction, latest revised. Base material shall be compacted to 95% maximum density.
4. Subgrade: Shall be of suitable subgrade material compacted to 95% maximum density

PART 3 - EXECUTION

3.01 INSTALLATION

- A. All athletic equipment shall be installed as recommended by manufacturer's written directions, and as indicated on the drawings.

PART 4 - QUANTITY AND PAYMENT

- A. Quantity and Payment for item Shot Circle will be made in accordance with the Contract Documents at the lump sum price bid for the item **SHOT CIRCLE, COMPLETE W/ RING, ENCLOSURE, TOEBOARD & CONCRETE PAD** in the

Proposal, which shall cover the cost of excavation, backfill, grading, concrete pad, reinforcement, permanent shot cage, netting and footings, striping, and all labor, tools, equipment, and materials necessary therefore and incidental thereto or as directed by the Engineer.

-- END OF SECTION --

SHOT CIRCLE CAGE

SECTION 02960

PART 1 - GENERAL

1.01 SUMMARY

- A. This section may include, but is not limited to the following track & field equipment:
 - 1. Shot Circle Cage
- B. Related Sections: Review Contract Documents for requirements that affect work of this section. Specification sections that directly relate to work of this section include, but are not limited to:

Section 02950 – Shot Circle

Section 02970 – Shot Put Toeboard

Section 02995 – Track Equipment (items 1 - 3 under Part 1, 1.01, A)

1.02 SUBMITTALS

- A. Product Data: Submit manufacturer's product literature, technical specifications, and other data required to demonstrate compliance with specified requirements for all athletic equipment.

1.03 QUALITY ASSURANCE

- A. Fabrication and installation of site improvements by experienced craftsmen with excellent record of performance on completed projects of comparable size, scope, and quality.
- B. All materials, hardware and furnishings shall be new, first quality.

1.04 FIELD MEASUREMENTS

- A. Contractor shall verify position and layout of track and field equipment. Verify dimensions by field measurements.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Manufacturers and product selections named are provided to establish the minimum standard and shall comply with the requirements in NFHS rule book. Shot cage shall be by as supplied by:

SportsEdge®
259 Murdock Rd.

Troutman, NC 28166
Telephone: 800-334-6057
Fax: 704-528-0179
info@sportsedge.com
www.sportsedge.com

Or Approved Equal;

2.02 TRACK AND FIELD EQUIPMENT

A. General: Provide equipment complying with requirements in NFHS rule book.

B. Shot Put Cage, **or approved equal:**

1. Model # SE805, High School, 4 main upright poles to be 2.5” Square 14ga. Steel powder coated White, 180 lb. test nylon weather treated netting, vinyl coated steel cable running throughout the top to reduce sag, net secured at ground level with (4) stakes, include 20” deep ground sleeves.

PART 3 - EXECUTION

3.01 INSTALLATION

A. All athletic equipment shall be installed as recommended by manufacturer's written directions, and as indicated on the drawings.

PART 4 - QUANTITY AND PAYMENT

A. Quantity and Payment for item Shot Circle Cage will be made in accordance with the Contract Documents at the lump sum price bid or the item **SHOT CIRCLE, COMPLETE W/ RING, ENCLOSURE, TOEBOARD & CONCRETE PAD** in the Proposal, which shall cover the cost of excavation, backfill, grading, concrete pad, permanent shot cage, netting and footings, striping, and all labor, tools, equipment, and materials necessary therefore and incidental thereto or as directed by the Engineer.

-- END OF SECTION --

SHOT PUT TOEBOARD

SECTION 02970

PART 1 - GENERAL

1.01 SUMMARY

- A. This section may include, but is not limited to the following track & field equipment:
 - 1. Shot Put Toeboard; wood, level concrete pad
- B. Related Sections: Review Contract Documents for requirements that affect work of this section. Specification sections that directly relate to work of this section include, but are not limited to:

Section 02950 – Shot Circle

Section 02960 – Shot Circle Cage

Section 02995 – Track Equipment (items 1 - 3 under Part 1, 1.01, A)

1.02 SUBMITTALS

- A. Product Data: Submit manufacturer's product literature, technical specifications, and other data required to demonstrate compliance with specified requirements for all athletic equipment.

1.03 QUALITY ASSURANCE

- A. Fabrication and installation of site improvements by experienced craftsmen with excellent record of performance on completed projects of comparable size, scope, and quality.
- B. All materials, hardware and furnishings shall be new, first quality.

1.04 FIELD MEASUREMENTS

- A. Contractor shall verify position and layout of track and field equipment. Verify dimensions by field measurements.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Manufacturers and product selections named are provided to establish the minimum standard and shall meet all NFHS requirements for high school use.

Equipment shall be as supplied by:

SportsEdge, P.O. Box 837 259 Murdock Rd. Troutman, NC 28166

Or Approved Equal;

2.02 TRACK AND FIELD EQUIPMENT

- A. General: Provide equipment complying with requirements in NFHS rule book.
- B. Shot Put Toeboard, **or approved equal:**
 - 1. Model # SE360, Wood Toeboard, fabricated from select yellow pine and sealed with two coats of white enamel paint, designed to be used on a level throwing surface with Model #SE373 Powder Coated Steel Shot Circle

PART 3 - EXECUTION

3.01 INSTALLATION

- A. All athletic equipment shall be installed as recommended by manufacturer's written directions, and as indicated on the drawings.

PART 4 - QUANTITY AND PAYMENT

- A. Quantity and Payment for item Shot Put Toeboard will be made in accordance with the Contract Documents at the lump sum price bid for the item **SHOT CIRCLE, COMPLETE W/ RING, ENCLOSURE, TOEBOARD & CONCRETE PAD** in the Proposal, which shall cover the cost of excavation, backfill, grading, concrete pad, permanent shot cage, netting and footings, striping, and all labor, tools, equipment, and materials necessary therefore and incidental thereto or as directed by the Engineer.

-- END OF SECTION --

TRACK EQUIPMENT

SECTION 02995

PART 1 - GENERAL

1.01 SUMMARY

- A. This section may include, but is not limited to the following track & field equipment:
1. Shot Circle
 2. Shot Circle Toe Board
 3. Pole Vault Box / Cover
 4. Long Jump Pits / Covers
 5. Long Jump Take-Off Board & Tray
 6. Pole Vault Pad
 7. High Jump Pad
- B. Related Sections: Review Contract Documents for requirements that affect work of this section. Specification sections that directly relate to work of this section include, but are not limited to:

Section 02880 – Beynon BSS-1000 10mm Encapsulated Synthetic Track Surfacing System

Section 02881 – Long Jump / Triple Jump Sand Pit With Sand Catchers

Section 02882 – Long Jump Pit cover

Section 02883 – Take Off Board System

Section 02950 – Shot Circle

Section 02960 – Shot Circle Cage

Section 02970 – Shot Put Toeboard

Section 0XXXX-High Jump Pad

1.02 SUBMITTALS

- A. Product Data: Submit manufacturer's product literature, technical specifications, and other data required to demonstrate compliance with specified requirements for all athletic equipment.

1.03 QUALITY ASSURANCE

- A. Fabrication and installation of site improvements by experienced craftsmen with excellent record of performance on completed projects of comparable size, scope, and quality.
- B. All materials, hardware and furnishings shall be new, first quality.

1.04 FIELD MEASUREMENTS

- A. Contractor shall verify position and layout of track and field equipment. Verify dimensions by field measurements.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Manufacturers and product selections named are provided to establish the minimum standard and shall comply with NFHS requirements.

Equipment shall be as supplied by:
SportsEdge®
P.O. Box 837, 259 Murdock Rd.
Troutman, NC 28166
PH: 800-334-6057
info@sportsedge.com
www.sportsedge.com

Or Approved Equal;

2.02 TRACK AND FIELD EQUIPMENT

- A. General: Provide equipment complying with requirements in NFHS rule book.
- B. **Shot Circle, or approved equal:**
 - 1. Model # SE373, Steel, Shot Circle consisting of two flat segments that are installed end to end to form a 7-ft dia. circle. Each segment is roll bent out of 1/4" x 1-1/2" steel strip to a radius of 42".
- C. **Shot Circle Toe Board, or approved equal:**
 - 1. Model # SE360, Wood, Shot Circle Toe Board level concrete pad throwing surface.
- D. **Shot Circle Cage, or approved equal:**
 - 1. Model # SE805, Steel, Shot Circle Cage consisting of four (4) painted steel net poles with ground sleeves, a vinyl coated net support cable to reduce net sag, and a 320 lb. test weather treated nylon net secured at the ground level with four (4) net stakes and net retainer ropes. Steel poles are 14 gauge, 2-1/2" square steel tube finished with white powder coat paint, which each pole stands in a 20" deep ground sleeve.
- E. **Discus Circle / Hammer Circle, or approved equal:**
 - 1. Model # SE371, Steel, Discus Circle consists of three flat segments that are installed end to end to form an 8' 2-7/16" circle. Each segment is roll bend out of 1/4" x 1-1/2" steel strip to a radius of 49-7/32".

Model # SE362, PVC, Hammer Circle shall be installed in an existing discus circle to convert it to the hammer throw. Consists of four (4) interlocking sections that form a solid, rattle free ring molded out of stiff but pliable PVC plastic.

F. Pole Vault Box with Cover, or approved equal:

4. Model # SE502, Aluminum, Pole Vault Box fabricated from 6061 structural aluminum tempered to a T6 condition, (1/8") .125" thick, folded to eliminate sharp edges. The box backstop is formed from (1/4") .25" Aluminum plate welded to the sides and bottom with one continuous weld along the outside edge. Outer side wings to anchor into the encasement concrete.
5. Model SE50201, Aluminum, Cover manufactured from (1/4") .25" thick 6061-T6 aluminum plate, with two welded angle vertical supports to stiffen and support the lid the box

G. Long Jump Pit Forming System and Cover Set, or approved equal:

1. Model # SEF44124, Aluminum, Long Jump Forming System constructed of aluminum in modular sections. The forms shall have a built in ledge to receive a sand pit cover system and a built in sand catcher. The sand catcher shall run the entire length of the sand pit form on the two sides as well as along the back of the pit. Inside dimensions of sand pit shall be 24' x 9'-8" minimum. Pit form system to include aluminum pit cover set.
2. Model # SE730148, Aluminum, Cover fabricated from 1/4" thick 6061-T6 aluminum. Two triangular plates are welded to the bottom for stiffening and support of cover. This cover fits recessed with top edge of the specified vault box.

H. Long Jump Take-Off Board & Tray, or approved equal:

1. Model # SE441, Wood, Long Jump Take-Off Board consisting of a replaceable 48" long x 19 1/2" wide x 2 1/4" thick wood board sealed and finished in white outdoor enamel and mounted to aluminum planking to resist warping or swelling from water.
2. Model # SE442, Aluminum, Tray is fabricated from 3/16" thick 6061-T6 aluminum sheet and angle which is formed and securely welded together and protects take-off area and facilitates easy replacement of the takeoff board.

I. Pole Vault Pit Pad, or approved equal:

1. Model # SE653, ESSENTIALS® with #SE65302 Vinyl Weather Cover, #SE717 Planting Box Safety Collar and having the following attributes:
 - a. Skirted mesh top to hold the units together for a snug fit. Includes recommended preferred landing zone.
 - c. Royal Blue.
 - c. Specification Compliance: NFHS
 - d. Overall size: 19'9" x 20'2" x 26" (Overall size metric: 6.02m x 6.15m x .66m)
 - (2) Base Units: 6'7" x 12'9" x 26"
 - (2) Front Slant Units: 8'3" x 7'5" x 26"

J. High Jump Pad, **or approved equal:**

1. Model # SE640A, ESSENTIALS® with #SE640A02 Vinyl Weather Cover, meets high school specifications, to have the following attributes:
 - a. Skirted mesh top to hold the units together for a snug fit.
 - b. Royal Blue.
 - c. Specification Compliance: NFHS
 - d. Overall size: 16' x 8' x 24" (Overall size metric: 4.88m x 2.44m x .61m), Base Units (2): 8' x 8' x 24"

PART 3 - EXECUTION

3.01 INSTALLATION

- A. All athletic equipment shall be installed as recommended by manufacturer's written directions, and as indicated on the drawings.

PART 4 - QUANTITY AND PAYMENT

- A. Track Equipment will not be measured as a separate item. Quantity and Payment for this item, and all costs related thereto, shall be included in the price bid for items **SYNTHETIC TRACK SYSTEM, COMPLETE W/ CONCRETE SUB-BASE FOR FIELD EVENTS & STRIPING, LONG JUMP/TRIPLE JUMP, COMPLETE W/ SAND PIT, COVER, TAKEOFF BOARD & CONCRETE PAD, SHOT CIRCLE, COMPLETE W/ RING, ENCLOSURE, TOEBOARD & CONCRETE PAD** and **HIGH JUMP PADDING** in the Proposal or as directed by the Engineer..

-- END OF SECTION --

SEEDING

DESCRIPTION

Seeding shall include furnishing and placing of turf grass seed all newly graded areas on the Contract Drawings or as directed by the Engineer.

SUBMITTALS

Product Data: For each type of product indicated.

Certification of Grass Seed: From seed vendor for each grass-seed monostand or mixture stating the botanical and common name and percentage by weight of each species and variety, and percentage of purity, germination, and weed seed. Include the year of production and date of packaging.

Maintenance Instructions: Recommended procedures to be established by Owner for maintenance of lawns during a calendar year. Submit before expiration of required maintenance periods.

MATERIALS

Seed

Deliver seed in original sealed, labeled, and undamaged containers. Seed shall be fresh, clean, dry, new-crop seed complying with AOSA's "Journal of Seed Technology; Rules for Testing Seeds" for purity and germination tolerances

Seed Species: Seed of grass species as follows, with not less than 95 percent germination, not less than 85 percent pure seed, and not more than 0.5 percent weed seed. Seed variety shall have endophytes.

Sun and Partial Shade: Proportioned by weight as follows:

- A. 80 percent Turf-type tall fescue (Three (3) varieties of Festuca sp. Such as Pennfine, Falcon, or Rebel).
- B. 10 percent Kentucky bluegrass (Poa pratensis).
- C. 10 percent perennial ryegrass (Lolium perenne).

Topsoil

Topsoil: Shall comply with the topsoil specified in item TOPSOILING

Inorganic Soil Amendments

Inorganic Soil Amendments: Shall comply with the inorganic soil amendments specified in item PLANTING SOIL PREPARATION

Organic Soil Amendments

Organic Soil Amendments: Shall comply with the organic soil amendments specified in item PLANTING SOIL PREPARATION

Fertilizer

Fertilizer: Shall comply with the fertilizer specified in item PLANTING SOIL PREPARATION.

Mulch

Straw Mulch: Provide air-dry, clean, mildew- and seed-free, salt hay or threshed straw of wheat, rye, oats, or barley.

Planting Soil Mix

Planting Soil Mix: Planting soil mix shall conform to item PLANTING SOIL PREPARATION.

CONSTRUCITON METHODS

Planting Restrictions: Plant during one of the following periods. Coordinate planting periods with maintenance periods to provide required maintenance from date of Substantial Completion.

A. Spring Planting: March 15 – June 15

B. Fall Planting: August 15 to October 5

Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit.

Examine areas to receive lawns and grass for compliance with requirements and other conditions affecting performance. Proceed with installation only after unsatisfactory conditions have been corrected.

Protect structures, utilities, sidewalks, pavements, and other facilities, trees, shrubs, and plantings from damage caused by planting operations.

Provide erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

Lawn Preparation

Limit lawn subgrade preparation to areas to be planted.

Newly Graded Subgrades: Loosen subgrade to a minimum depth of 6 inches (150 mm) Remove stones larger than 1 inch (25 mm) in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.

A. Apply fertilizer directly to subgrade before loosening.

B. Thoroughly blend planting soil mix off-site before spreading or spread topsoil, apply soil amendments and fertilizer on surface, and thoroughly blend planting soil mix.

Delay mixing fertilizer with planting soil if planting will not proceed within a few days.

Mix lime with dry soil before mixing fertilizer.

Finish Grading: Grade planting areas to a smooth, uniform surface plane with loose, uniformly fine texture. Grade to within plus or minus 1/2 inch (13 mm) of finish elevation. Roll and rake, remove ridges, and fill depressions to meet finish grades. Limit fine grading to areas that can be planted in the immediate future.

Moisten prepared lawn areas before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.

Restore areas if eroded or otherwise disturbed after finish grading and before planting.

Seeding

Sow seed with spreader or seeding machine. Do not broadcast or drop seed when wind velocity exceeds 5 mph (8 km/h). Evenly distribute seed by sowing equal quantities in two directions at right angles to each other. Do not use wet seed or seed that is moldy or otherwise damaged.

Sow seed at the rate recommended by the supplier.

Rake seed lightly into top 1/8 inch (3 mm) of planting soil mix, roll lightly, and water with fine spray.

Protect seeded areas by spreading straw mulch. Spread uniformly at a minimum rate of 90 lbs. per 1000 square feet to form a continuous blanket 3/8" depth over seeded areas. Spread by hand, blower, or other suitable equipment. Anchor straw mulch by crimping into topsoil with suitable mechanical equipment.

Lawn Maintenance

Begin maintenance immediately after each area is planted and continue until acceptable lawn is established, but for not less than 60 days from date of Substantial Completion. When full maintenance period has not elapsed before end of planting season, or if lawn is not fully established, continue maintenance during next planting season.

Maintain and establish lawn by watering, fertilizing, weeding, mowing, trimming, replanting, and other operations. Roll, regrade, and replant bare or eroded areas and remulch to produce a uniformly smooth lawn. In areas where mulch has been disturbed by wind or maintenance operations, add new mulch. Anchor as required to prevent displacement.

Watering: Schedule watering by hand to prevent wilting, puddling, erosion, and displacement of seed or mulch. Water lawn evenly at a minimum rate of 1 inch (25 mm) per week.

Mow lawn as soon as top growth is tall enough to cut. Repeat mowing to maintain specified height without cutting more than 40 percent of grass height. Remove no more than 40 percent of grass-leaf growth in initial or subsequent mowings. Do not delay mowing until grass blades bend over and become matted. Do not mow when grass is wet. Schedule initial and subsequent mowings to maintain the following grass height: Mow grass 2 to 3 inches (50 to 75 mm) high.

Lawn Postfertilization: Apply fertilizer after initial mowing and when grass is dry. Use fertilizer that will provide actual nitrogen of at least 1 lb/1000 sq. ft. (0.45 kg/92.9 sq. m) to lawn area. Adjust if necessary depending upon amount of fertilizer applied at initial planting.

Satisfactory Lawns

Satisfactory Seeded Lawn: At end of maintenance period, a healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities, with coverage exceeding 95 percent over any 10 sq. ft. (0.92 sq. m) and bare spots not exceeding 2 by 2 inches (25 by 25 mm)]. Reestablish lawns that do not comply with requirements and continue maintenance until lawns are satisfactory.

Cleanup and Protection

Promptly remove soil and debris created by lawn work from paved areas. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.

Erect barricades and warning signs as required to protect newly planted areas from traffic. Maintain barricades throughout maintenance period and remove after lawn is established.

Remove erosion-control measures after grass establishment period.

QUANTITY AND PAYMENT

Seeding will not be measured. Quantity and Payment for this item, and all work related thereto, shall be included in the lump sum price bid for the item **FINAL CLEANUP/SITE RESTORATION** in the Proposal.

-- END OF SECTION --

FINAL CLEANUP/SITE RESTORATION

DESCRIPTION

Under this item the Contractor shall restore the work site and access area to its original condition including, but not limited to signage, existing monuments, fences, hedges, re-grading, seeding, landscape areas, trees, drainage structures and castings, repair of driveways, (both bituminous and concrete) sidewalks, roadways, curbs, cleaning and removal of stockpiles and equipment, any underground electrical conduit servicing lighting and all else not specifically covered elsewhere in these specifications.

MATERIALS

2007 NJDOT Standard Specifications for Road and Bridge Construction, latest revised.

METHODS OF CONSTRUCTION

The site shall be returned to its original condition. Fences shall be reinstalled with posts in concrete footings in accordance with specifications herein. Hedges shall be reinstalled where possible or replaced in kind and in the same locations as existing. Lawn areas disturbed by Contractor's activities shall be re-graded, hydroseeded and mulched as specified by the Engineer. Temporary safety fence shall be removed and the holes filled to meet finished grade and match the existing/proposed surface material(s). Cleaning shall include hand brooming of sidewalk and pavement areas. Adjacent structures shall be cleaned, as necessary, by a method approved by the Engineer. Sidewalks shall be replaced with 4-inch thick concrete walk in evenly sized slabs, sawcut where necessary, only to the extent damaged by the construction. Both concrete and bituminous concrete shall be repaired as specified by the Engineer sawcut where necessary, only to the extent damaged by the construction. All construction equipment and stockpiles shall be removed from the site and disposed of by the Contractor in a suitable and timely manner.

QUANTITY AND PAYMENT

Payment for Final Cleanup/Site Restoration will be made at the lump sum price bid for the item **FINAL CLEANUP/SITE RESTORATION** in the Proposal, which shall cover the cost of sweeping, washing, loading, hauling, removal, disposal, storage, landscaping, seeding, topsoiling, mulch, asphalt, concrete, striping, signage, structures, lighting and appurtenances, utilities and appurtenances, bleachers, drainage, and all labor, tools, equipment and materials necessary therefore and incidental thereto or as directed by the Engineer.

-- END OF SECTION --

APPENDIX A –

“NJDEP Flood Hazard Area Individual Permit”




**STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF LAND USE REGULATION**

Mail Code 501-02A, P.O. Box 420, Trenton, New Jersey 08625-0420
Telephone: (609) 777-0454 or Fax: (609) 777-3656
www.state.nj.us/dep/landuse



PERMIT

<p>In accordance with the laws and regulations of the State of New Jersey, the Department of Environmental Protection hereby grants this permit to perform the activities described below. This permit is revocable with due cause and is subject to the limitations, terms and conditions listed below and on the attached pages. For the purpose of this document, "permit" means "approval, certification, registration, authorization, waiver, etc." Violation of any term, condition or limitation of this permit is a violation of the implementing rules and may subject the permittee to enforcement action.</p>		Approval Date JUN 12 2017
		Expiration Date JUN 11 2021
Permit Number(s): 2017-05-0001.1 FHA170001 2017-05-0001.1 FHA170002	Type of Approval(s): Flood Hazard Area Individual Permit Flood Hazard Area Verification	Enabling Statute(s): NJSА 58:16A et seq. FHACA NJSА 58:10A et seq. WPCA NJSА 58:11A-1 et seq. WQPA NJSА 13:1D-29 et seq. 90-D CPL NJSА 13:1D-1 et seq. RDCD
Permittee: County of Union c/o Thomas O. Mineo, P.E. 2325 South Ave Scotch Plains, NJ 07076	Site Location: Block(s) & Lot(s): [1402, 20] Municipality: Springfield Twp. County: Union	
Description of Authorized Activities: This permit verifies the flood hazard design flood elevation and authorizes the replacement of the existing natural grass playing field with an artificial turf surface and the construction of a new field drainage improvements on the site located in the flood plain of the Van Winkles Brook within Meisel Park, with Lo No. 20 of Block No. 1402, in the Township of Springfield, Union County, New Jersey, as shown on the plans referenced on the last page of this permit.		
Prepared by:  Nabil M. Andrews	Received and/or Recorded by County Clerk:	
If the permittee undertakes any regulated activity authorized under a permit, such action shall constitute the permittee's acceptance of the permit in its entirety as well as the permittee's agreement to abide by the permit and all conditions therein.		
This permit is not valid unless authorizing signature appears on the last page.		

FLOOD HAZARD SPECIAL CONDITIONS:

1. Any new, reconstructed, enlarged, or elevated structure within a flood hazard area shall be secured to resist flotation, collapse, and displacement due to hydrostatic and hydrodynamic forces from floodwaters.
2. The regulated activity shall not adversely affect low-flow aquatic passage in any regulated water.
3. The regulated activity shall not expose unset or raw cement to flowing water within any channel or regulated water during construction.
4. All riparian zone vegetation that is temporarily cleared, cut, and/or removed to conduct a regulated activity, access an area where regulated activities will be conducted, or otherwise accommodate a regulated activity shall be replanted immediately after completion of the regulated activity, unless prevented by seasonal weather, in which case the vegetation shall be replanted as soon as conditions permit. The vegetation to be replanted shall:
 - a. Consist of vegetation of equal or greater ecological function and value as the vegetation that was cleared, cut, or removed. For example, herbaceous vegetation may be replaced with the same type of vegetation or with trees, but the trees in forested areas must be replaced with trees of equal or greater density and ecological function and value;
 - b. Consist of native, non-invasive vegetation, except in an actively disturbed area. In an actively disturbed area, the vegetation may be replaced with the same type of vegetation that was cleared, cut, or removed, or with another kind of vegetation typical of an actively disturbed area. For example, lawn grass may be replaced with garden plants or agricultural crops; and
 - c. In cases where replanting would interfere with continued access to or maintenance of a structure that is required by Federal, State, or local law, the vegetation replanted shall meet the requirements to the extent feasible.

STANDARD CONDITIONS:

1. The issuance of a permit shall in no way expose the State of New Jersey or the Department to liability for the sufficiency or correctness of the design of any construction or structure(s). Neither the State nor the Department shall, in any way, be liable for any loss of life or property that may occur by virtue of the activity or project conducted as authorized under a permit.
2. The issuance of a permit does not convey any property rights or any exclusive privilege.
3. The permittee shall obtain all applicable Federal, State, and local approvals prior to commencement of regulated activities authorized under a permit.
4. A permittee conducting an activity involving soil disturbance, the creation of drainage structures, or changes in natural contours shall obtain any required approvals from the Soil Conservation District having jurisdiction over the site.
5. The permittee shall take all reasonable steps to prevent, minimize, or correct any adverse impact on the environment resulting from activities conducted pursuant to the permit, or from noncompliance with the permit.

6. The permittee shall immediately inform the Department by telephone at (877) 927-6337 (Warn DEP Hotline) of any noncompliance that may endanger the public health, safety, and welfare, or the environment. In addition, the permittee shall inform the Division of Land Use Regulation by telephone at (609) 777-0454 of any other noncompliance within two working days of the time the permittee becomes aware of the noncompliance, and in writing within five working days of the time the permittee becomes aware of the noncompliance. Such notice shall not, however, serve as a defense to enforcement action if the project is found to be in violation of this chapter. The written notice shall include:
 - a. A description of the noncompliance and its cause;
 - b. The period of noncompliance, including exact dates and times;
 - c. If the noncompliance has not been corrected, the anticipated length of time it is expected to continue; and
 - d. The steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.
7. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the authorized activity in order to maintain compliance with the conditions of the permit.
8. The permittee shall employ appropriate measures to minimize noise where necessary during construction, as specified in N.J.S.A. 13:1G-1 et seq. and N.J.A.C. 7:29.
9. The issuance of a permit does not relinquish the State's tidelands ownership or claim to any portion of the subject property or adjacent properties.
10. The issuance of a permit does not relinquish public rights to access and use tidal waterways and their shores.
11. The permittee shall allow an authorized representative of the Department, upon the presentation of credentials, to:
 - a. Enter upon the permittee's premises where a regulated activity is located or conducted, or where records must be kept under the conditions of the permit;
 - b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit; and
 - c. Inspect at reasonable times any facilities, equipment, practices, or operations regulated or required under the permit. Failure to allow reasonable access under this paragraph shall be considered a violation of this chapter and subject the permittee to enforcement action under.
12. The permittee and its contractors and subcontractors shall comply with all conditions, site plans, and supporting documents approved by the permit. Any noncompliance with a permit constitutes a violation of this chapter and is grounds for enforcement action under, as well as, in the appropriate case, suspension and/or termination of the permit.
13. All conditions, site plans, and supporting documents approved by a permit shall remain in full force and effect so long as the regulated activity or project, or any portion thereof, is in existence, unless the permit is modified.
14. For Coastal Permits, Flood Hazard Permits and Flood Hazard Verifications, the permittee shall record the permit, including all conditions listed therein, with the Office of the County Clerk (the

Registrar of Deeds and Mortgages, if applicable) of each county in which the site is located. The permit shall be recorded within 30 calendar days of receipt by the permittee, unless the permit authorizes activities within two or more counties, in which case the permit shall be recorded within 90 calendar days of receipt. Upon completion of all recording, a copy of the recorded permit shall be forwarded to the Division of Land Use Regulation at the address set forth in the rules.

15. If any condition or permit is determined to be legally unenforceable, modifications and additional conditions may be imposed by the Department as necessary to protect public health, safety, and welfare, or the environment.
16. A copy of the permit and all approved site plans and supporting documents shall be maintained at the site at all times and made available to Department representatives or their designated agents immediately upon request.
17. A permit shall be transferred to another person only in accordance with the regulations.
18. A permit can be suspended or terminated by the Department for cause.
19. The submittal of a request to modify a permit by the permittee, or a notification of planned changes or anticipated noncompliance, does not stay any condition of a permit.
20. Where the permittee becomes aware that it failed to submit any relevant facts in an application, or submitted incorrect information in an application or in any report to the Department, it shall promptly submit such facts or information.
21. The permittee shall submit written notification to the Bureau of Coastal and Land Use Compliance and Enforcement, 401 East State Street, 4th Floor, P.O. Box 420, Mail Code 401-04C, Trenton, NJ 08625, at least three working days prior to the commencement of regulated activities.
22. The permittee shall not cause or allow any unreasonable interference with the free flow of a regulated water by placing or dumping any materials, equipment, debris, or structures within or adjacent to the channel while the regulated activity(ies) is being undertaken. Upon completion of the regulated activity(ies), the permittee shall remove and dispose of in a lawful manner, all excess materials, debris, equipment, and silt fences and other temporary soil erosion and sediment control devices from all regulated areas.
23. The regulated activity shall not destroy, jeopardize, or adversely modify a present or documented habitat for threatened or endangered species, and shall not jeopardize the continued existence of any local population of a threatened or endangered species.

APPROVED PLANS:

The drawings hereby approved are five (5) sheets prepared by Neglia Engineering Associates; four (4) sheets dated 2016, last revised June 2, 2017, unless otherwise noted, entitled:

“MEISEL PARK FIELD IMPROVEMENTS BLOCK 1402 – LOT 20 TOWNSHIP OF SPRINGFIELD
UNION COUNTY NEW JERSEY”

“EXISTING CONDITIONS & DEMOLITION PLAN”, sheet no. 2.00,
“SITE PLAN”, sheet no. 3.00,
“GRADING & DRAINAGE PLAN”, sheet no. 5.00, and
“CONSTRUCTION DETAILS”, sheet no. 7.01.

And one sheet dated March 15, 2017, unrevised, entitled:

“PARTIAL TOPOGRAPHICAL SURVEY A PORTION OF LOT 20 BLOCK 1402 TOWNSHIP OF
SPRINGFIELD UNION COUNTY NEW JERSEY”, sheet no. 1 of 1.

In accordance with the applicable regulations, any person who is aggrieved by this decision or any of the conditions of this permit may request an adjudicatory hearing within 30 calendar days after public notice of the decision is published in the DEP Bulletin. This request must include a completed copy of the Adjudicatory Hearing Request form. The DEP Bulletin is available through the Department's website at <http://www.nj.gov/dep/bulletin> and the form is available through the Division's website at http://www.nj.gov/dep/landuse/download/lur_024.pdf. In addition to requesting a hearing, a request may be filed with the Department's Office of Dispute Resolution to determine whether the matter is suitable for mediation. Information concerning the dispute resolution process is available at www.nj.gov/dep/odr.

If you need clarification on any section of this permit or conditions, please contact the Division of Land Use Regulation's Technical Support Call Center at (609) 777-0454.

Approved By:



Dennis Contois,
Division of Land Use Regulation

6-12-2017
Date

Original sent to Agent to record
c: Permittee
Construction Official

APPENDIX B –
“Geotechnical Report”



66 Glen Avenue
Glen Rock, NJ 07452
Telephone: 201-301-1045
Fax: 201-857-8002
Email: info@johnsonsoils.com

March 22, 2017
Revised March 23, 2017

NEGLIA ENGINEERING ASSOCIATES
1119 Raritan Road, Suite 2
Clark, NJ 07066

Attn: David R. Atkinson, P.E., P.P., C.M.E.

Re: Geotechnical Engineering Report
Meisel Park
278 Meisel Avenue
Springfield, NJ
JSC Job # 17-061

Johnson Soils Company, Inc. (JSC) submits this report to **NEGLIA ENGINEERING ASSOCIATES** as per our proposal dated February 3, 2017. It includes JSC's findings, conclusions and recommendations related to the construction of the proposed synthetic turf field.

The site is an existing athletic field located in Springfield, New Jersey. Railroads tracks are located to the north, Meisel Avenue is located to the east and Van Wrinkles Brook is located on both the south and west sides of the area. The existing and proposed features are shown on the plan entitled "Boring Location Plan," which was provided by **NEGLIA ENGINEERING ASSOCIATES**.

INVESTIGATION

Nine (9) borings were completed on February 21, 2017. The borings were advanced using truck mounted drilling equipment in accordance with the procedures of the Standard Penetration Test (ASTM-1586). For this test, a standard split barrel sampler, which is two (2) inches outside diameter and one and three eighth (1 3/8) inches inside diameter, is advanced into the soil using a one hundred forty (140) pound weight hammer falling thirty (30) inches. Standard Penetration Tests were taken continuously from zero (0) to ten (10) feet.

The boring location plan and record sheet for each boring are attached to this report.

Nine (9) samples were tested to confirm soil properties and permeability ratings.

FINDINGS

The explorations for this study indicate that the site is underlain by relatively uniform subsurface conditions. The strata are listed below in the order of increasing depth. Detailed descriptions of the subsurface conditions are shown on the individual Logs of Borings, Plates 3A through 3I.

1. Topsoil: A layer of Topsoil was encountered from the surface in Borings 8 and 9 to a depth of six (6) inches below the existing surface grade.
2. Fill: A layer of Misc. Fill was encountered from the surface in Borings 1, 2, 3, 4, 5, 6 and 7 and below the Topsoil in Boring 9 to depths ranging from two to ten (2-10) feet below the existing surface grade.
3. Peat and Organic Silt (PT-OL): A layer of Peat and Organic Silt was encountered below the Fill in Borings 3, 4, 5, 6, and 7 to depths ranging from nine to ten (9-10) feet below the existing surface grade.
4. Silty Sand (SM): A layer of Silty Sand was encountered below the Fill in Borings 1 and 2, below the Topsoil in Boring 8 and below the Peat in Boring 7 to a completion depth of ten (10) feet below the existing surface grade.

No ground water was observed in Borings 3, 4, 5, 6, 7 and 9 at the time of the investigation. Ground water was encountered at depths ranging from six to ten (6-10) feet below the existing surface grade in Borings 1, 2 and 8. It should be noted that the water level conditions may fluctuate due to variations in seasons, rainfall, temperature and other factors.

Following are the percolation rates of the nine (9) tested samples:

- | | |
|--------------------------------|--------------------------------|
| 1. Boring 1 at 6' is 1.5 in/hr | 6. Boring 6 at 6' is 4 in/hr |
| 2. Boring 2 at 6' is 1.5 in/hr | 7. Boring 7 at 6' is 4 in/hr |
| 3. Boring 3 at 6' is 1.5 in/hr | 8. Boring 8 at 6' is 0.4 in/hr |
| 4. Boring 4 at 6' is 4 in/hr | 9. Boring 9 at 6' is 0.4 in/hr |
| 5. Boring 5 at 6' is 1.5 in/hr | |

COMMENTS AND CONCLUSIONS

The proposed synthetic turf field should have all the existing Topsoil, Fill, Peat and Organic Silt removed and replace with compacted, controlled Fill on top of the dense Silty Sand. If removal and replacement seems cost prohibitive, another option is to remove a minimum of four (4) feet of the existing Fill and Organic material and replace with a combination of two feet of geofoam and two (2) feet of compacted, controlled Fill.

The partial removal of Fill and Peat and replacement with the geofoam will give a weight credit and reduce differential settlement across the field. If the existing Peat and Fill are left as is, the Peat and Organic Silt layer at the middle and southeast ends of the field (nearest Meisel Avenue) will continue to consolidate and settle, which will cause the field to become rough and uneven.

A last option (#3) to be considered is removal of a minimum amount of unsuitable material, in accordance with Neglia Engineer Associates design plans, and placing a layer of filter fabric (Mirafi HP270 or approved equal). This will reduce the costs of exporting fill off site and replacement. Due to some of the deep Peat areas at the southeast end of the field some consolidation of the Peat and Organic Silt layer will happen. Estimated settlement is in the range of 1 to 6 inches.

RECOMMENDATIONS

The following construction recommendations are offered:

OPTION 1

1. Remove ALL Topsoil, Fill, Peat and Organic Silt from underneath the proposed turf subgrade area. Estimated depths range from two to ten (2-10) feet from the existing surface grade. Most of the excavated material will be taken from the middle and south east areas.
2. Proof roll all existing on-site soils (after removal of all Topsoil, Fill, Peat and Organic Silt) with a minimum of four (4) passes of heavy vibratory compactor with a minimum static drum weight of 12,000 pounds or equal. Any areas observed to be soft or unstable should be removed and replaced with controlled Fill (see recommendation #4) and inspected by a geotechnical engineer.
3. Where additional Fill is required to establish turf subgrades, controlled Fill should be used (see recommendation #4).

4. The existing Topsoil, misc. Fill, Peat and Organic Silt is **unsuitable** for use as backfill.

Other Controlled Fill Options:

- a. Crushed Stone at $\frac{3}{4}$ " or $1\frac{1}{2}$ " size with no fines.
- b. Sand and Gravel with less than 20% passing the #200 sieve.
- c. Quarry Process Stone (QP) with less than 20% passing the #200 sieve.

5. Controlled and Compacted Fill Requirements:

- a. A geotechnical engineer licensed in the state of New Jersey to inspect all earthwork operations.
- b. The contractor and/or owner shall notify the geotechnical engineer in writing a minimum of five (5) days prior to the start of all work on the project. The notification shall include all sources of Fill, equipment to be used, the estimated dates of the work and the proposed onsite supervisor.
- c. In areas where an old basement will be Filled to the proposed subgrade elevation, the existing concrete slab shall be removed and the area proof rolled to check for soft or loose material.
- d. All misc. Fill, Topsoil and Peat and Organic Silt shall be graded prior to the start of all earthwork operations.
- e. All Fill areas shall be proof rolled prior to the placement of any new Fill. All proof rolling shall be performed in the presence of the geotechnical engineer. If soft areas are found during the proof rolling process, the area shall be removed and replaced with compacted, controlled Fill as per the direction of the geotechnical engineer.
- f. Any proposed Fill area shall be leveled before placement of any Fill. The area shall be free from ruts, hummocks or other uneven surfaces that would prevent uniform compaction.
- g. Use any of the material stated in the types of controlled Fill section or other material approved by the geotechnical engineer.
- h. A fifty pound (50-lb) bag of material shall be submitted to the geotechnical engineer for approval and testing a minimum of five (5) days prior to the start of work. No Fill material shall be placed until the geotechnical engineer has approved the material for use in the project.
- i. All controlled Fill should be placed in horizontal layers of eight to twelve (8-12) inches in loose thickness and be uniformly compacted to achieve a density of at least ninety-five (95) percent of the maximum dry density as determined by in the laboratory when tested in accordance with the most recent ASTM D1557 Standard.

- j. Backfill within confined areas should be placed in layers of six to eight (6-8) inches in loose thickness and compacted to the same 95% of maximum dry density using portable compaction equipment.
 - k. No Fill material shall be placed, spread or compacted when the ground or Fill is frozen, thawing or during unfavorable weather conditions. When work is interrupted by heavy rain or frost, operations shall not be resumed unless the moisture content and density of the Fill are acceptable to the geotechnical engineer.
 - l. A sufficient number of passes shall be approved by the geotechnical engineer in order to achieve the acceptable specified density above. A minimum of three (3) passes of the approved compactor shall be required over all areas of each lift.
 - m. Field density tests shall be made by the geotechnical engineer to determine the in-place field density in each layer placed. No Fill shall be placed over any layer that has not been previously approved by the geotechnical engineer. Should any of the tests find insufficient density, then additional compaction will be required until the required density is obtained.
6. The following construction tasks should be inspected by a geotechnical engineer using appropriate laboratory and field testing support:
- a. Removal of all Topsoil, Misc. Fill, Peat and Organic Silt.
 - b. Proof rolling of existing on-site soils.
 - c. All controlled Fill to be used for replacement.
 - d. Replacement and compaction of controlled Fill.

OPTION 2

1. Remove a minimum of four (4) feet of the Topsoil, Fill, Peat and Organic Silt underneath the proposed surf subgrade area.
2. Proof roll all existing on-site soils with a minimum of four (4) passes of heavy vibratory compactor with a minimum static drum weight of 12,000 pounds or equal. Any areas observed to be soft or unstable should be removed and replaced with controlled Fill (see recommendation #4) and inspected by a geotechnical engineer.
3. Place a two (2) feet layer of Geofoam (EPS46 or other approved equal).
4. Place a layer of 6mil plastic to prevent the migration of fines.

5. Place compacted controlled Fill up to proposed subgrade. Where additional Fill is required to establish turf subgrades, controlled Fill should be used (see recommendation #4).
6. The existing Topsoil, misc. Fill, Peat and Organic Silt is **unsuitable** for use as backfill.
Other Controlled Fill Options:
 - a. Crushed Stone at $\frac{3}{4}$ " or 1 $\frac{1}{2}$ " size with no fines.
 - b. Sand and Gravel with less than 20% passing the #200 sieve.
 - c. Quarry Process Stone (QP) with less than 20% passing the #200 sieve.
7. Controlled and Compacted Fill Requirements:
 - a. A geotechnical engineer licensed in the state of New Jersey to inspect all earthwork operations.
 - b. The contractor and/or owner shall notify the geotechnical engineer in writing a minimum of five (5) days prior to the start of all work on the project. The notification shall include all sources of Fill, equipment to be used, the estimated dates of the work and the proposed onsite supervisor.
 - c. In areas where an old basement will be Filled to the proposed subgrade elevation, the existing concrete slab shall be removed and the area proof rolled to check for soft or loose material.
 - d. Four (4) feet of misc. Fill, Topsoil and Peat and Organic Silt shall be graded prior to the start of all earthwork operations.
 - e. All Fill areas shall be proof rolled prior to the placement of any new Fill. All proof rolling shall be performed in the presence of the geotechnical engineer. If soft areas are found during the proof rolling process, the area shall be removed and replaced with compacted, controlled Fill as per the direction of the geotechnical engineer.
 - f. Any proposed Fill area shall be leveled before placement of any Fill. The area shall be free from ruts, hummocks or other uneven surfaces that would prevent uniform compaction.
 - g. Use any of the material stated in the types of controlled Fill section or other material approved by the geotechnical engineer.
 - h. A fifty pound (50-lb) bag of material shall be submitted to the geotechnical engineer for approval and testing a minimum of five (5) days prior to the start of work. No Fill material shall be placed until the geotechnical engineer has approved the material for use in the project.

- i. All controlled Fill should be placed in horizontal layers of eight to twelve (8-12) inches in loose thickness and be uniformly compacted to achieve a density of at least ninety-five (95) percent of the maximum dry density as determined by in the laboratory when tested in accordance with the most recent ASTM D1557 Standard.
 - j. Backfill within confined areas should be placed in layers of six to eight (6-8) inches in loose thickness and compacted to the same 95% of maximum dry density using portable compaction equipment.
 - k. No Fill material shall be placed, spread or compacted when the ground or Fill is frozen, thawing or during unfavorable weather conditions. When work is interrupted by heavy rain or frost, operations shall not be resumed unless the moisture content and density of the Fill are acceptable to the geotechnical engineer.
 - l. A sufficient number of passes shall be approved by the geotechnical engineer in order to achieve the acceptable specified density above. A minimum of three (3) passes of the approved compactor shall be required over all areas of each lift.
 - m. Field density tests shall be made by the geotechnical engineer to determine the in-place field density in each layer placed. No Fill shall be placed over any layer that has not been previously approved by the geotechnical engineer. Should any of the tests find insufficient density, then additional compaction will be required until the required density is obtained.
8. The following construction tasks should be inspected by a geotechnical engineer using appropriate laboratory and field testing support:
- a. Removal of a minimum of four (4) feet of Topsoil, Misc. Fill, Peat and Organic Silt.
 - a. Proof rolling of existing on-site soils.
 - b. All controlled Fill to be used for replacement.
 - c. Replacement of Geofoam and compaction of controlled Fill.

OPTION 3

9. Remove a minimum of sixteen (16) inches of the Topsoil, Fill, Peat and Organic Silt underneath the proposed surf subgrade area, in accordance with Neglia Engineering Associates design plans.

10. Proof roll all existing on-site soils with a minimum of four (4) passes of heavy vibratory compactor with a minimum static drum weight of 12,000 pounds or equal. Any areas observed to be soft or unstable should be removed and replaced with controlled Fill (see recommendation #4) and inspected by a geotechnical engineer.
11. Place Mirafi HP270 (see plate 6) or other pre-approved equal
12. Place compacted controlled Fill up to proposed subgrade. Where additional Fill is required to establish turf subgrades, controlled Fill should be used (see recommendation #4).
13. The existing Topsoil, misc. Fill, Peat and Organic Silt is **unsuitable** for use as backfill.
Other Controlled Fill Options:
 - d. Crushed Stone at ¾" or 1 ½" size with no fines.
 - e. Sand and Gravel with less than 20% passing the #200 sieve.
 - f. Quarry Process Stone (QP) with less than 20% passing the #200 sieve.
14. Controlled and Compacted Fill Requirements:
 - n. A geotechnical engineer licensed in the state of New Jersey to inspect all earthwork operations.
 - o. The contractor and/or owner shall notify the geotechnical engineer in writing a minimum of five (5) days prior to the start of all work on the project. The notification shall include all sources of Fill, equipment to be used, the estimated dates of the work and the proposed onsite supervisor.
 - p. In areas where an old basement will be Filled to the proposed subgrade elevation, the existing concrete slab shall be removed and the area proof rolled to check for soft or loose material.
 - q. Four (4) feet of misc. Fill, Topsoil and Peat and Organic Silt shall be graded prior to the start of all earthwork operations.
 - r. All Fill areas shall be proof rolled prior to the placement of any new Fill. All proof rolling shall be performed in the presence of the geotechnical engineer. If soft areas are found during the proof rolling process, the area shall be removed and replaced with compacted, controlled Fill as per the direction of the geotechnical engineer.
 - s. Any proposed Fill area shall be leveled before placement of any Fill. The area shall be free from ruts, hummocks or other uneven surfaces that would prevent uniform compaction.
 - t. Use any of the material stated in the types of controlled Fill section or other material approved by the geotechnical engineer.

- u. A fifty pound (50-lb) bag of material shall be submitted to the geotechnical engineer for approval and testing a minimum of five (5) days prior to the start of work. No Fill material shall be placed until the geotechnical engineer has approved the material for use in the project.
 - v. All controlled Fill should be placed in horizontal layers of eight to twelve (8-12) inches in loose thickness and be uniformly compacted to achieve a density of at least ninety-five (95) percent of the maximum dry density as determined by in the laboratory when tested in accordance with the most recent ASTM D1557 Standard.
 - w. Backfill within confined areas should be placed in layers of six to eight (6-8) inches in loose thickness and compacted to the same 95% of maximum dry density using portable compaction equipment.
 - x. No Fill material shall be placed, spread or compacted when the ground or Fill is frozen, thawing or during unfavorable weather conditions. When work is interrupted by heavy rain or frost, operations shall not be resumed unless the moisture content and density of the Fill are acceptable to the geotechnical engineer.
 - y. A sufficient number of passes shall be approved by the geotechnical engineer in order to achieve the acceptable specified density above. A minimum of three (3) passes of the approved compactor shall be required over all areas of each lift.
 - z. Field density tests shall be made by the geotechnical engineer to determine the in-place field density in each layer placed. No Fill shall be placed over any layer that has not been previously approved by the geotechnical engineer. Should any of the tests find insufficient density, then additional compaction will be required until the required density is obtained.
15. The following construction tasks should be inspected by a geotechnical engineer using appropriate laboratory and field testing support:
- b. Removal of a minimum of sixteen (16) inches of Topsoil, Misc. Fill, Peat and Organic Silt.
 - a. Proof rolling of existing on-site soils.
 - b. All controlled Fill to be used for replacement.
 - c. Replacement of Mirafi fabric and compaction of controlled Fill.

The recommendations above are based on the data obtained from soil borings performed at the indicated specific locations and from other identified information. This report does not reflect any variations which may occur between borings or across the site apart from the borings. The nature and extent of such variations may not become evident until construction. If variations appear evident, it will be necessary to re-evaluate the recommendations of this report.

This report has been prepared for the specific application to the project noted. In the event that there are changes in the nature, design or locations of the proposed structures, the conclusions and recommendations contained herein are not valid unless the changes are reviewed and the recommendations modified in writing by JSC.

The information and opinions rendered in our report are exclusively for use by **NEGLIA ENGINEERING ASSOCIATES**. JSC will not distribute or publish this report without written consent except as required by law or court order. The information and opinions expressed in this report are given in response to a limited assignment and should be considered and implemented only in light of that assignment. The services provided by JSC in completing this project were consistent with normal standards of the profession. No warranty, expressed or implied, is made.

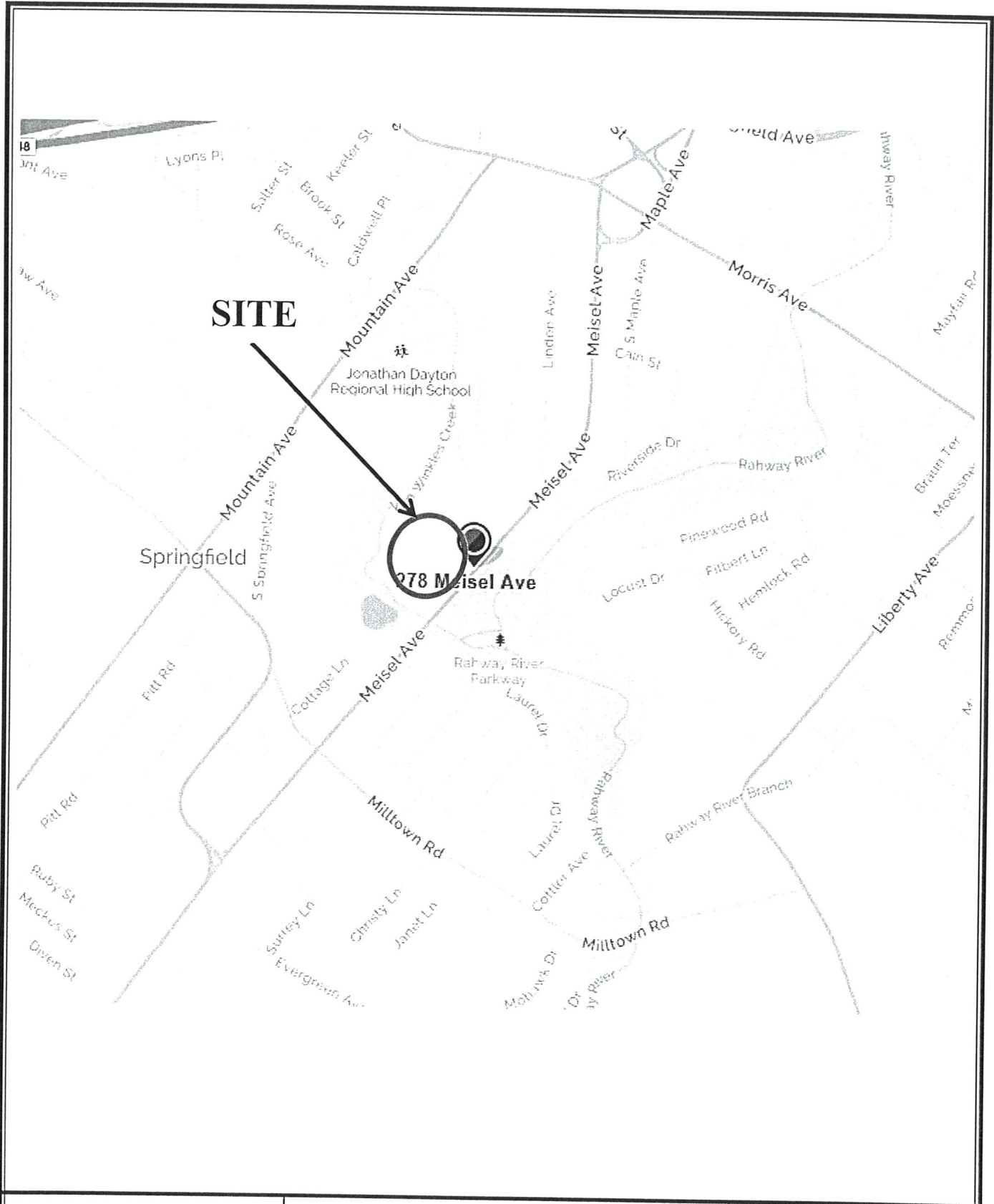
The following Plates are attached to this report:

Plate 1-	Site Location Maps
Plate 2-	Boring Location Plans
Plates 3A through 3I -	Logs of Borings
Plate 4-	Unified Soil Classification System
Plate 5 -	Geofoam EPS 46
Plate 6 -	Mirafi HP270

Very truly yours,
JOHNSON SOILS COMPANY



Lisa V. Mahle-Greco, P.E.
Engineering Manager
NJ Lic. No. 43197

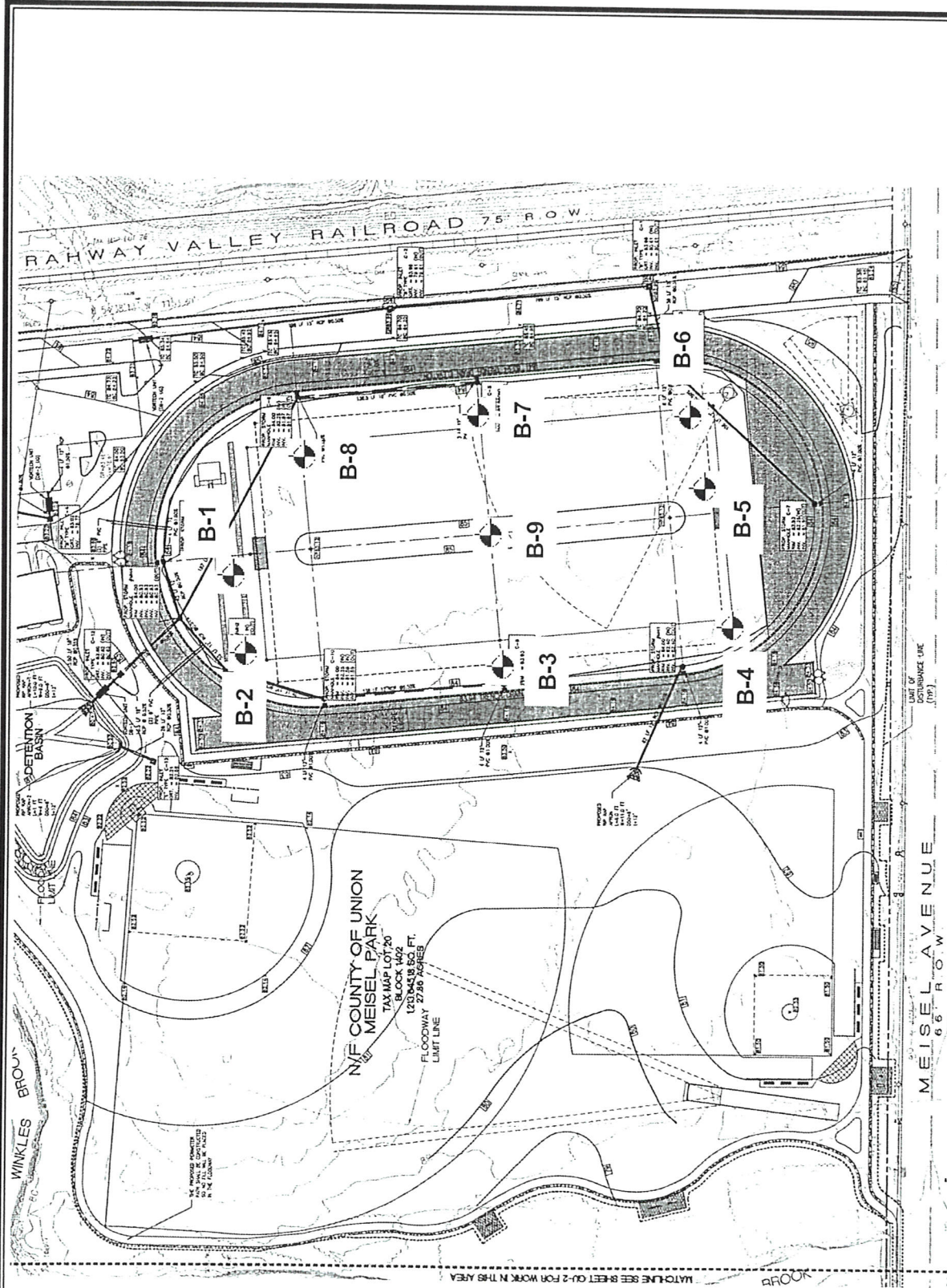


Site Location Plan

JSC #17-061

Meisel Park, 278 Meisel Ave.
Springfield, NJ

PLATE 1



Boring Location Plan

Meisel Park, 278 Meisel Ave,
Springfield, NJ

JSC # 17-061

PLATE 2



LOG OF BORING

B-1

Sheet: 1 of 1
 Project Number : 17-061
 Date Started: 2/21/2017
 Date Completed: 2/21/2017
 Ground Surface El:
 Depth to Ground Water: 9'

Depth (Feet)	Sample No.	Depth (Feet)	Sample/Spoon Blows/6"	Symbol USCS	Description
0	S-1	0-2	4-9-5-5		0-2' Fill - Topsoil, Sand & Silt.
-	S-2	2-4	11-17-13-11	SM	2'-10' Redbrown fine to coarse Sand, little Silt & Gravel. (moist, medium dense) grading to dense @ 4' -grading to very dense@6'
-	S-3	4-6	12-18-18-19		
5	S-4	6-8	11-33-54-48		
-	S-5	8-10	16-47-58-52		
10					
-					
-					
-					
15					
-					
-					
-					
20					
-					
-					
-					
25					
-					
-					
-					
30					
-					

Remarks: Boring 1 completed @ 10' on 2/21/2017

Client: **Neglia Engineering Associates**
 Project: **278 Meisel Ave.**
 Location: **Springfield, NJ**
 Driller: **Allied Drilling, Inc.**

Hollow Stem Auger
 Mud Rotary
 Air Rotary



LOG OF BORING

B-2

Sheet: 1 of 1
 Project Number : 17-061
 Date Started: 2/21/2017
 Date Completed: 2/21/2017
 Ground Surface El:
 Depth to Ground Water: 10'

Depth (Feet)	Sample No.	Depth (Feet)	Sample/Spoon Blows/6"	Symbol USCS	Description
0	S-1	0-2	1-11-11-15		0-2' Fill - Topsoil, Sand & Silt.
-	S-2	2-4	10-11-18-24	SM	2'-10' Redbrown fine to coarse Sand, little Silt & Gravel. (moist, medium dense) grading to very dense @ 4' -grading to medium dense@6' -grading to dense@8'
-	S-3	4-6	21-31-34-19		
5	S-4	6-8	13-12-11-20		
-	S-5	8-10	12-11-26-30		
-					
10					
-					
-					
-					
15					
-					
-					
-					
20					
-					
-					
-					
25					
-					
-					
-					
30					
-					

Remarks: Boring 2 completed @ 10' on 2/21/2017

Client: Neglia Engineering Associates
 Project: 278 Meisel Ave.
 Location: Springfield, NJ
 Driller: Allied Drilling, Inc.

Hollow Stem Auger
 Mud Rotary
 Air Rotary



LOG OF BORING

B-3

Sheet: 1 of 1
 Project Number : 17-061
 Date Started: 2/21/2017
 Date Completed: 2/21/2017
 Ground Surface El:
 Depth to Ground Water: Dry.

Depth (Feet)	Sample No.	Depth (Feet)	Sample/Spoon Blows/6"	Symbol USCS	Description
0	S-1	0-2	3-4-3-7		0-6' Fill - Topsoil, Sand & Cinders.
-	S-2	2-4	20-21-20-15		
-	S-3	4-6	5-6-3-2		
5	S-4	6-8	1-WH-WH-1	OL-PT	6'-10' Organic Silt and Peat.
-	S-5	8-10	1-1-2-2		
10					
-					
-					
-					
15					
-					
-					
-					
20					
-					
-					
-					
25					
-					
-					
30					
-					

Remarks: Boring 3 completed @ 10' on 2/21/2017

Client: **Neglia Engineering Associates**
 Project: **278 Meisel Ave.**
 Location: **Springfield, NJ**
 Driller: **Allied Drilling, Inc.**

Hollow Stem Auger
 Mud Rotary
 Air Rotary



LOG OF BORING

B-4

Sheet: 1 of 1
 Project Number : 17-061
 Date Started: 2/21/2017
 Date Completed: 2/21/2017
 Ground Surface El:
 Depth to Ground Water: Dry.

Depth (Feet)	Sample No.	Depth (Feet)	Sample/Spoon Blows/6"	Symbol USCS	Description
0	S-1	0-2	4-7-11-7		0-4' Fill - Topsoil, Sand & Brick.
-	S-2	2-4	7-17-11-12		
-	S-3	4-6	10-10-8-6		4'-8' Fill - Cinders and Ash.
5	S-4	6-8	4-2-3-1		
-	S-5	8-10	1-1-1-2	PT	8'-10' Black Peat.
10					
-					
-					
-					
15					
-					
-					
-					
20					
-					
-					
-					
25					
-					
-					
-					
30					
-					

Remarks: Boring 4 completed @ 10' on 2/21/2017

Client: **Neglia Engineering Associates**
 Project: **278 Meisel Ave.**
 Location: **Springfield, NJ**
 Driller: **Allied Drilling, Inc.**

Hollow Stem Auger
 Mud Rotary
 Air Rotary



LOG OF BORING

B-5

Sheet: 1 of 1
 Project Number : 17-061
 Date Started: 2/21/2017
 Date Completed: 2/21/2017
 Ground Surface El:
 Depth to Ground Water: Dry.

Depth (Feet)	Sample No.	Depth (Feet)	Sample/Spoon Blows/6"	Symbol USCS	Description
0	S-1	0-2	3-5-7-7		0-8' Fill - Topsoil, Cinder, Ash & Brick.
-	S-2	2-4	13-14-15-13		
-	S-3	4-6	7-6-5-4		
5	S-4	6-8	2-1-2-1		
-	S-5	8-10	3-3-2-3		
10					
-					
-					
-					
15					
-					
-					
-					
20					
-					
-					
-					
25					
-					
-					
30					
-					

Remarks: Boring 5 completed @ 10' on 2/21/2017

Client: **Neglia Engineering Associates**
 Project: **278 Meisel Ave.**
 Location: **Springfield, NJ**
 Driller: **Allied Drilling, Inc.**

Hollow Stem Auger
 Mud Rotary
 Air Rotary



LOG OF BORING

B-6

Sheet: 1 of 1
 Project Number : 17-061
 Date Started: 2/21/2017
 Date Completed: 2/21/2017
 Ground Surface El:
 Depth to Ground Water: Dry.

Depth (Feet)	Sample No.	Depth (Feet)	Sample/Spoon Blows/6"	Symbol USCS	Description
0	S-1	0-2	5-17-31-24		0-6' Fill - Topsoil, Cinder, Ash & Brick.
-	S-2	2-4	13-16-14-13		
-	S-3	4-6	7-13-6-6		
5					
-	S-4	6-8	8-4-4-2	PT	6'-9' Black Peat.
-	S-5	8-10	3-2-3-4	SM	9'-10' Gray fine to medium Sand, little Silt.
10					
-					
-					
-					
-					
15					
-					
-					
-					
20					
-					
-					
-					
25					
-					
-					
-					
30					
-					

Remarks: Boring 6 completed @ 10' on 2/21/2017

Client: Neglia Engineering Associates
 Project: 278 Meisel Ave.
 Location: Springfield, NJ
 Driller: Allied Drilling, Inc.

Hollow Stem Auger
 Mud Rotary
 Air Rotary



LOG OF BORING

B-7

Sheet: 1 of 1
 Project Number : 17-061
 Date Started: 2/21/2017
 Date Completed: 2/21/2017
 Ground Surface El:
 Depth to Ground Water: Dry.

Depth (Feet)	Sample No.	Depth (Feet)	Sample/Spoon Blows/6"	Symbol USCS	Description
0	S-1	0-2	7-10-11-17		0-6' Fill - Topsoil, Cinder, Ash & Brick.
-	S-2	2-4	8-7-9-5		
-	S-3	4-6	4-1-WH-1		
5	S-4	6-8	1-WH-WH-1	PT	6'-10' Black Peat.
-	S-5	8-10	1-1-1-2		
10					
-					
-					
-					
15					
-					
-					
-					
20					
-					
-					
-					
25					
-					
-					
-					
30					
-					

Remarks: Boring 7 completed @ 10' on 2/21/2017

Client: Neglia Engineering Associates
 Project: 278 Meisel Ave.
 Location: Springfield, NJ
 Driller: Allied Drilling, Inc.

Hollow Stem Auger
 Mud Rotary
 Air Rotary



LOG OF BORING

B-8

Sheet: 1 of 1
 Project Number : 17-061
 Date Started: 2/21/2017
 Date Completed: 2/21/2017
 Ground Surface El:
 Depth to Ground Water: 6'

Depth (Feet)	Sample No.	Depth (Feet)	Sample/Spoon Blows/6"	Symbol USCS	Description
0	S-1	0-2	17-16-12-7	SM	0-6" Topsoil.
-	S-2	2-4	3-5-5-14		6"-10' Redbrown fine to coarse Sand, little Silt & Gravel. (moist, medium dense)
-	S-3	4-6	15-26-28-20		-grading to very dense@4'
5	S-4	6-8	9-8-12-8		-grading to medium dense@6'
-	S-5	8-10	7-9-8-7		
10					
-					
-					
-					
15					
-					
-					
-					
20					
-					
-					
-					
25					
-					
-					
-					
30					
-					

Remarks: Boring 8 completed @ 10' on 2/21/2017

Client: **Neglia Engineering Associates**
 Project: **278 Meisel Ave.**
 Location: **Springfield, NJ**
 Driller: **Allied Drilling, Inc.**

Hollow Stem Auger
 Mud Rotary
 Air Rotary



LOG OF BORING

B-9

Sheet: 1 of 1
 Project Number : 17-061
 Date Started: 2/21/2017
 Date Completed: 2/21/2017
 Ground Surface El:
 Depth to Ground Water: Dry.

Depth (Feet)	Sample No.	Depth (Feet)	Sample/Spoon Blows/6"	Symbol USCS	Description
0	S-1	0-2	9-11-15-15		0-6" Topsoil.
-					6"-3' Fill - Sand & Gravel.
-	S-2	2-4	9-10-13-13		3'-10' Fill - Topsoil, Cinders, Ash & Brick.
-					
5	S-3	4-6	6-5-3-2		
-	S-4	6-8	1-WH-2-1		
-	S-5	8-10	3-3-4-3		
10					
-					
-					
-					
-					
15					
-					
-					
-					
20					
-					
-					
-					
25					
-					
-					
-					
30					
-					

Remarks: Boring 9 completed @ 10' on 2/21/2017

Client: **Neglia Engineering Associates**
 Project: **278 Meisel Ave.**
 Location: **Springfield, NJ**
 Driller: **Allied Drilling, Inc.**

Hollow Stem Auger
 Mud Rotary
 Air Rotary



UNIFIED SOIL CLASSIFICATION SYSTEM

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			LETTER SYMBOL	TYPICAL DESCRIPTIONS	
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS (LITTLE OR NO FINES)	GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES	
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)	GP	POORLY-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES	
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)	GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES	
	MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	SAND AND SANDY SOILS	CLEAN SAND (LITTLE OR NO FINES)	SW	WELL-GRADED SANDS, GRAVELLY-SANDS LITTLE OR NO FINES
			SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)	SP	POORLY-GRADED SANDS, GRAVELLY SANDS LITTLE OR NO FINES
		MORE THAN 50% OF COURSE FRACTION PASSING NO.4 SIEVE	SM	SILTY SANDS, SAND-SILT MIXTURES	
FINE GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50	SC	CLAYEY SANDS, SAND-CLAY MIXTURES	
			ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY	
			CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDS CLAYS. SILTY CLAYS. LEAN CLAYS	
			OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY	
	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50	MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS	
			CH	INORGANIC CLAYS OF HIGH PLASTICITY FAT CLAYS	
			OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS	
			PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS	
HIGHLY ORGANIC SOILS					

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS.

GRADUATION*	COMPACTNESS*	CONSISTENCY*
% FINER BY WEIGHT	SAND AND/OR GRAVEL	CLAY AND/OR SILT
TRACE.....0% TO 10%	RELATIVE DENSITY	RANGE OF SHEARING STRENGTH
LITTLE.....10% TO 20%	LOOSE.....0% TO 40%	IN POUND PER SQUARE FOOT
SOME.....20% TO 35%	MEDIUM DENSE.....40% TO 70%	VERY SOFT.....LESS THAN 250
AND.....35% TO 50%	DENSE.....70% TO 90%	SOFT.....250 TO 500
VALUES ARE FROM LABORATORY OR FIELD TEST DATA WHERE APPLICABLE WHEN NO TESTING WAS PERFORMED, VALUES ARE ESTIMATED.	VERY DENSE.....90% TO 100%	MEDIUM.....500 TO 1000
		STIFF.....1000 TO 2000
		VERY STIFF.....2000 TO 4000
		HARD.....GREATER THAN 4000



GEOFOAM

Foam-Control Geofoam is a cellular plastic material that is strong, but has very low density (1% of traditional earth materials). It is manufactured in block form and meets ASTM D6817, "Standard Specification for Rigid, Cellular Polystyrene Geofoam." Foam-Control Geofoam is available in a range of Types to provide control of structural integrity and cost effectiveness.

The information given is deemed to be timely, accurate, and reliable for the use of Foam-Control Geofoam. Each project using Foam-Control Geofoam should be designed by a professional engineer. The engineer or project specifications should be consulted to determine the ASTM D6817 Type required for your project loading conditions.

Foam-Control Geofoam Properties								
Property		ASTM D6817						
		EPS12	EPS15	EPS19	EPS22	EPS29	EPS39	EPS46
Density ¹ , min.	lb/ft ³ (kg/m ³)	0.70 (11.2)	0.90 (14.4)	1.15 (18.4)	1.35 (21.6)	1.80 (28.8)	2.40 (38.4)	2.85 (45.7)
Compressive Resistance ^{1,2} @ 1% deformation, min.	psi psf (kPa)	2.2 320 (15)	3.6 520 (25)	5.8 840 (40)	7.3 1050 (50)	10.9 1570 (75)	15.0 2160 (103)	18.6 2680 (128)
Elastic Modulus ¹ , min	psi (kPa)	220 (1500)	360 (2500)	580 (4000)	730 (5000)	1090 (7500)	1500 (10300)	1860 (12800)
Flexural Strength ¹ , min.	psi (kPa)	10.0 (69)	25.0 (172)	30.0 (207)	35.0 (240)	50.0 (345)	60.0 (414)	75.0 (517)
Water Absorption ¹ by total immersion, max.,	vol. %	4.0	4.0	3.0	3.0	2.0	2.0	2.0
Oxygen Index ¹ , min.	vol. %	24	24	24	24	24	24	24
Buoyancy Force	lb/ft ³ (kg/m ³)	61.7 (990)	61.5 (980)	61.3 (980)	61.1 (980)	60.6 (970)	60.0 (960)	59.5 (950)

¹ See ASTM D6817 Standard for test methods and complete information.

² Combined live and dead load stresses should not exceed the compressive resistance at 1% deformation.

Foam-Control Geofoam is used in ground fill applications where a lightweight fill material is required to reduce stresses on underlying or adjoining soils/structures.

Ready to Use.

Foam-Control Geofoam maximizes onsite installation efficiency: material arrives ready to place, no weather delays, material can be prefabricated or cut at the jobsite, no staging required, material can be inventoried, production efficiency improved, and it is easy to handle.

Design Loads.

For most applications, long-term design loads should not exceed the linear elastic range of Foam-Control Geofoam. Combined live and dead load stresses should not exceed the compressive resistance at 1% deformation.

In some specialty compressible applications, the compressive resistance at 5% and 10% deformation may be applicable. Please consult Foam-Control Geofoam Technical Bulletins for additional information.

In general earthwork applications (such as levees, dikes, berms, etc.) uplift buoyancy force must be counteracted with overburden or restraint devices, such as geogrids, geomembranes, hold down devices, etc.

Size and Shape.

Foam-Control Geofoam is produced in block form and is easily positioned at the work site. Standards sizes:

- 4' (1.2 m) widths
- 8' (2.4 m) up to 16' (4.8 m) lengths
- 1" (25 mm) to 36" (914 mm) thickness

Other sizes and fabrication can be provided by the manufacturer.

Exposure to Water and Water Vapor.

The mechanical properties of Foam-Control Geofoam are unaffected by moisture. Exposure to water or water vapor does not cause swelling.

Temperature Exposure/Flame Retardants.

Foam-Control Geofoam is able to withstand the rigors of temperature cycling, assuring long-term performance.

Although flame retardants used in the manufacture of Foam-Control Geofoam provide an important margin of safety, Foam-Control Geofoam must be considered combustible.

The maximum recommended long-term exposure temperature for Foam-Control Geofoam is 165°F (74°C).

Adhesives, Coatings, and Chemicals.

Solvents which attack Foam-Control Geofoam include esters, ketones, ethers, aromatic, and aliphatic hydrocarbons and their emulsions, among others. If Foam-Control Geofoam is to be placed in contact with materials (or their vapors) of unknown composition, pretest for compatibility at maximum exposure temperature.

Quality Assurance.

Foam-Control Geofoam meets or exceeds the requirements of ASTM D6817, "Standard Specification for Rigid, Cellular Polystyrene Geofoam." Foam-Control Geofoam is monitored for Quality Control and Listed by Underwriters Laboratories Inc.



Resistance to Termites, Mold, and Mildew.

Foam plastics have been shown to become termite infested under certain exposure conditions. Foam-Control Geofoam with Perform Guard[®] provides resistance to termite infestation. Please review literature on Foam-Control Geofoam with Perform Guard for complete information.



Foam-Control Geofoam will not decompose and will not support mold or mildew growth. Foam-Control Geofoam provides no nutrient value to plants or animals.

Storage and Ballast.

Foam-Control Geofoam stands up well to normal short-term weather conditions encountered during installation.

Long-term exposure to sunlight causes yellowing and a slight embrittlement of the surface due to ultraviolet light. This has little effect on mechanical properties. If stored outdoors, cover Foam-Control Geofoam with opaque polyethylene film, tarps, or similar material.

Foam-Control Geofoam should be ballasted to prevent displacement by wind or high water conditions, both in storage and during all phases of placement.

Warranty.

Foam-Control Geofoam Licensees offer a product warranty ensuring physical properties.



Foam-Control products are manufactured by AFM Corporation licensees.

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GF05-10/15



GEOFOAM

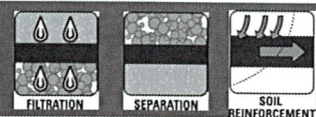
www.geofoam.com

**CONTROL,
NOT COMPROMISE.®**

Plate 6



Mirafi® HP270



Mirafi® HP270 geotextile is composed of high-tenacity polypropylene yarns, which are woven into a network such that the yarns retain their relative position. Mirafi® HP270 geotextile is inert to biological degradation and resistant to naturally encountered chemicals, alkalis, and acids.

TenCate Geosynthetics Americas Laboratories are accredited by a2La (The American Association for Laboratory Accreditation) and Geosynthetic Accreditation Institute – Laboratory Accreditation Program (GAI-LAP). NTPEP Listed

Mechanical Properties	Test Method	Unit	Minimum Average Roll Value	
			MD	CD
Tensile Strength (at ultimate)	ASTM D4595	lbs/ft (kN/m)	2640 (38.5)	2460 (35.9)
Tensile Strength (at 2% strain)	ASTM D4595	lbs/ft (kN/m)	504 (7.4)	600 (8.8)
Tensile Strength (at 5% strain)	ASTM D4595	lbs/ft (kN/m)	1272 (18.6)	1440 (21.0)
Minimum Roll Value				
Flow Rate	ASTM D4491	gal/min/ft ² (l/min/m ²)	40 (1630)	
Permittivity	ASTM D4491	sec ⁻¹	0.6	
Maximum Opening Size				
Apparent Opening Size (AOS)	ASTM D4751	U.S. Sieve (mm)	30 (0.60)	
Typical Test Value				
Pore Size 0 ₉₅ ¹	ASTM D6767	microns	386	
Pore Size 0 ₅₀ ¹	ASTM D6767	microns	294	
Minimum Test Value				
Factory Sewn Seam	ASTM D4884	lbs/ft (kN/m)	1260 (18.4)	
UV Resistance (at 500 hours)	ASTM D4355	% strength retained	80	

¹ Based on Third Party Testing

Physical Properties	Unit	Roll Size	
Roll Dimensions (width x length)	ft (m)	15 x 300 (4.5 x 91)	17 x 375 (5.2 x 114)
Roll Area	yd ² (m ²)	500 (418)	708 (592)

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Fax 706 693 4400
www.tencate.com

FGS000117
ETQR35



GAI-LAP-25-97

Testing Lab 1291.01 & 1291.02

COUNTY OF UNION
BOARD OF CHOSEN FREEHOLDERS

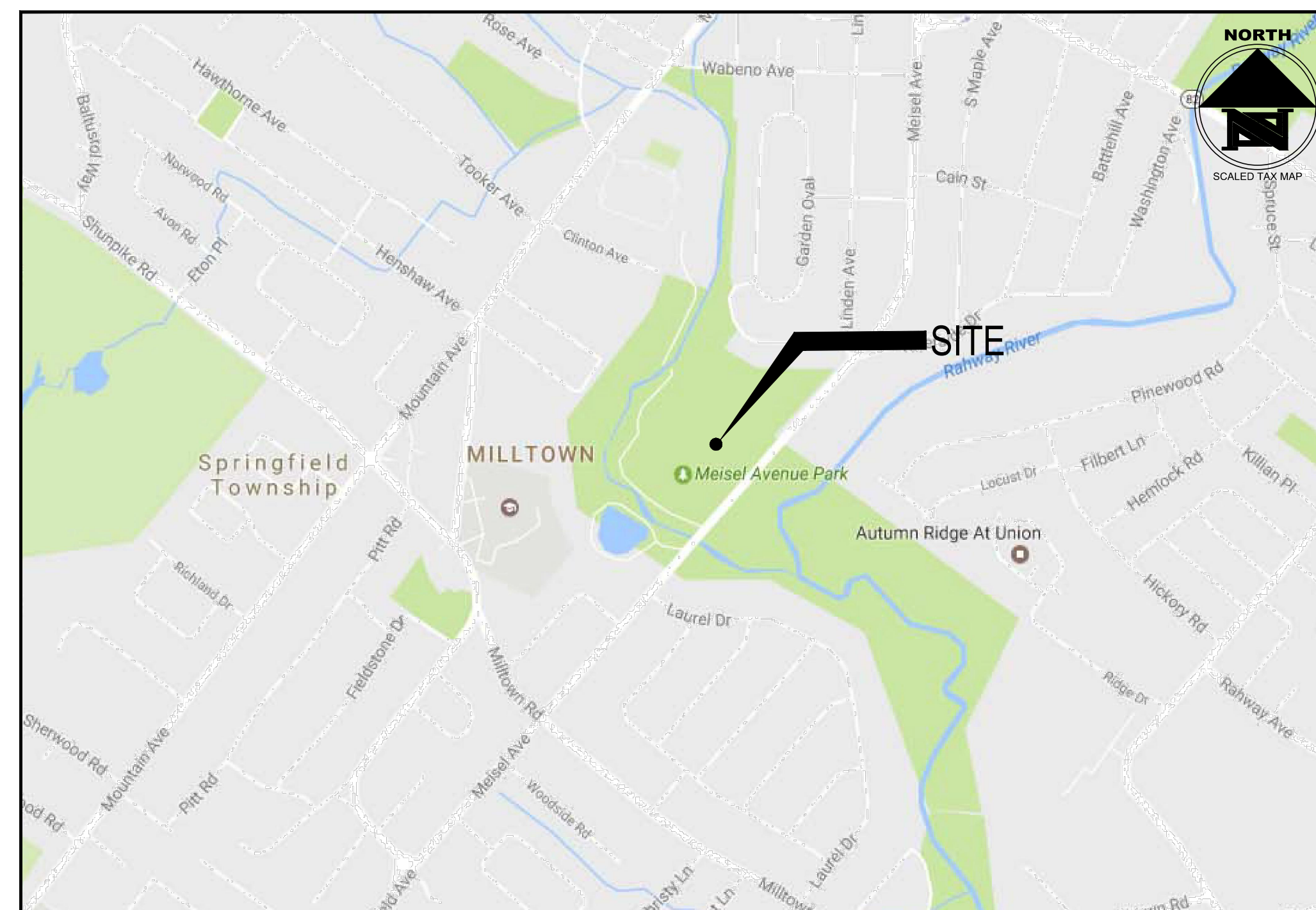
PLANS FOR

MEISEL PARK FIELD IMPROVEMENTS

LOCATED IN
SPRINGFIELD TOWNSHIP
UNION COUNTY, NEW JERSEY
MARCH, 2017

PREPARED BY: NEGLIA ENGINEERING ASSOCIATES

UTILITY CONTACTS		
SERVICE	COMPANY	ADDRESS
GAS	PSE&G	48 MIDDLE AVENUE SUMMIT, NJ 07901
ELECTRIC	GPU POWER & LIGHT CO.	8 WHIPPANY STREET. MORRISTOWN, NJ 07960
WATER	NEW JERSEY AMERICAN WATER	167 JFK PARKWAY SHORT HILLS, NJ 07078
SEWER	TOWNSHIP OF SPRINGFIELD	100 MOUNTAIN AVE. SPRINGFIELD, NJ 07081
CABLE	COMCAST	800 RAHWAY AVE., UNION, N.J. 07083
TELEPHONE	VERIZON	1000 CELLAR AVENUE SCOTCH PLAINS, NJ 07076



KEY MAP (N.T.S.)
SOURCE: GOOGLE MAPS

SHEET INDEX	
DRAWING NO.	DRAWING TITLE
1.00	COVER SHEET / KEY MAP
2.00	EXISTING CONDITIONS & DEMOLITION PLAN
3.00	SITE PLAN
4.00	STRIPING & DIMENSIONS PLAN
5.00	GRADING & DRAINAGE PLAN
6.00	SOIL EROSION & SEDIMENT CONTROL PLAN
7.00	CONSTRUCTION DETAILS
7.01	CONSTRUCTION DETAILS
7.02	CONSTRUCTION DETAILS
7.03	CONSTRUCTION DETAILS
7.04	CONSTRUCTION DETAILS
7.05	CONSTRUCTION DETAILS
7.06	CONSTRUCTION DETAILS
7.07	CONSTRUCTION DETAILS
1 OF 1	TOPOGRAPHIC SURVEY

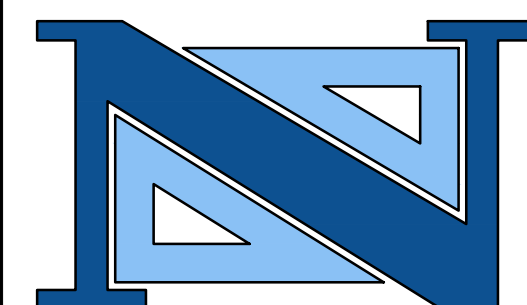
PROJECT CONTACTS		
DISCIPLINE	COMPANY	ADDRESS
OWNER/APPLICANT	UNION COUNTY CONTACT: THOMAS O. MINEO, P.E., COUNTY ENGINEER	2325 SOUTH AVENUE SCOTCH PLAINS, NJ 07076
CIVIL ENGINEER	NEGLIA ENGINEERING ASSOCIATES CONTACT: THOMAS R. SOLFARO, P.E., C.M.E.	1119 RARITAN RD. - SUITE 2 CLARK, NJ 07066



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REVISIONS					
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2	06/28/17	ISSUED FOR BIDDING	D.R.A.	D.R.A.	D.R.A.
3	08/23/17	REVISED PER 08/17/17 SUSCD COMMENT LETTER (ADDED RIPRAP APRONS AT EXISTING HEADWALLS)	E.M.J.	E.M.J.	D.R.A.
4	09/07/17	ISSUED FOR BIDDING	D.R.A.	D.R.A.	D.R.A.



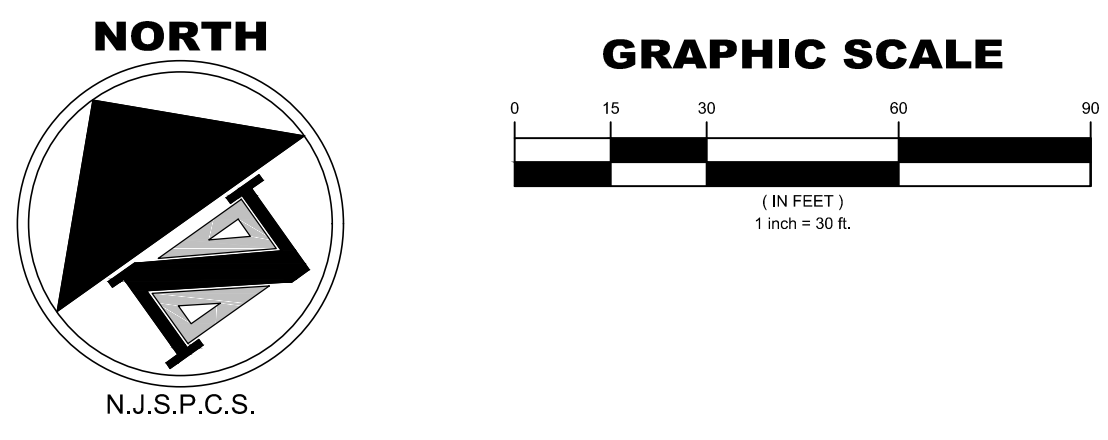
DAVID R. ATKINSON, P.E., C.M.E.
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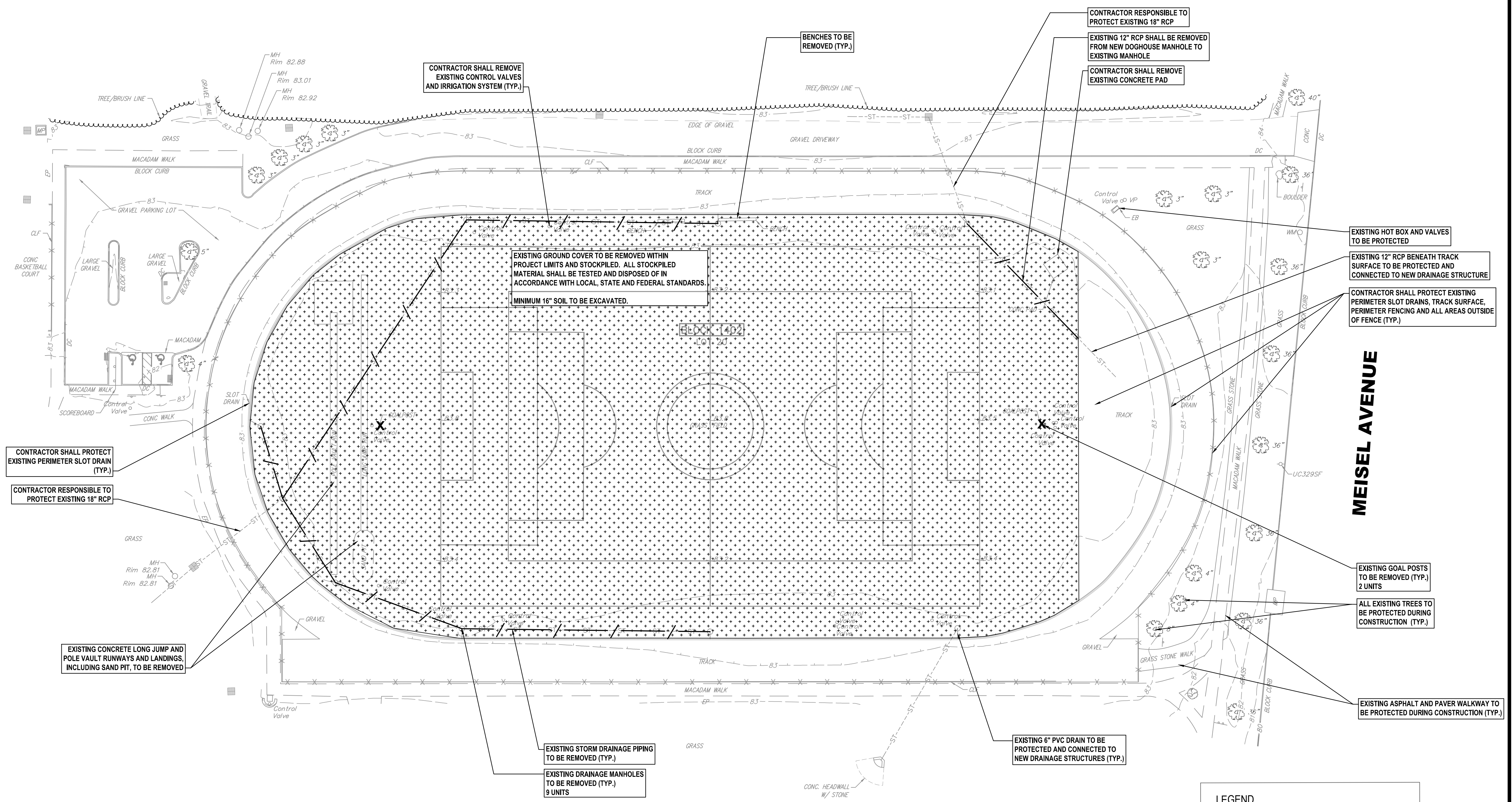
MICHAEL J. NEGLIA, P.E., P.L.S., P.P.
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N.J. LICENSE NO. 38604
PROFESSIONAL LAND SURVEYOR
N.J. LICENSE NO. 38604
PROFESSIONAL PLANNER
N.J. LICENSE NO. 33LJ00569800

COVER SHEET / KEY MAP MEISEL PARK FIELD IMPROVEMENTS BLOCK 1402 - LOT 20 TOWNSHIP OF SPRINGFIELD UNION COUNTY NEW JERSEY			
DRAWN BY: B.R./E.M.J.	CHECKED BY: D.R.A.	PROJECT NO:	SHEET NO:
DESIGNED BY: B.R./E.M.J.	SCALE: N.T.S.	UNIOCTY16.012	1.00
FIELD BOOK NO:	PAGE:	DATE: MARCH 16, 2017	



- Demolition Plan Notes**
- Burning debris is prohibited.
 - The use of explosives is prohibited.
 - Protect utilities during the Work of this Section.
 - Contractor shall verify the location and status of all utilities within and surrounding the demolition limits.
 - Disconnection of all utility services, including sewer, water, gas, and electric lines, and plugging and capping of services shall be in accordance with the requirements of all Municipal and Public Services Corporations.
 - Fill Within Building Foundation shall consist of clean earth, sand, gravel, broken brick and masonry with a maximum size of one cubic foot as approved by the engineer. Combustible materials, metal glass, or other debris shall not be permitted as fill.
 - Remove and dispose of concrete and bituminous pavement and sidewalk, trees, shrubs, hedges, brush, stumps, roots, dirt, stone, debris, surplus materials and rubbish, as shown or otherwise directed.
 - Remove curbs, slabs on grade, and fences as shown or directed otherwise.
 - Repair any and all damages or injury to the adjoining properties caused by the work and leave the properties in as good condition as before work was started. The Contractor shall relieve the Owner of all responsibility for any claims due to such injury and shall defend any action brought by reason thereof.
 - If so directed, the Contractor shall thoroughly wet the work to prevent dust.
 - Protect trees not designated for removal as shown on the Plans.
 - Remove demolition debris and excess fill from the project site as soon as practicable.
 - Transport demolition debris and excess fill to designated disposal area as soon as practicable. Grade disposal areas to adjacent contours and slope to drain.
 - Do not store, sell, or burn materials on Town property.
 - The removal and disposal of materials and debris accumulated by clearing site is regulated under the Solid Waste Management Act (N.J.S.A. 13:1 E-1) and is governed by N.J.A.C. 7:26 *et seq.* The Contractor shall dispose of the material and debris according to the solid waste management plan developed by the solid waste management district of origin. Proper documentation from the disposal facility shall be submitted to the Engineer.
 - All demolition work shall be in accordance with local, county, state and federal regulations.
 - The contractor is specifically cautioned that the location and/or records of the various utilities shown on these plans is based on records of the various utility companies and where possible field measurements. The information is not to be relied on as being complete or exact. The contractor must contact all the appropriate utility companies at least 48 hours before any work or excavation to request a field mark out of existing utilities. The contractor must call 1800-242-1000 before commencement of work. It shall be the contractor's responsibility to locate all on site utilities prior to start of demolition work.
 - Contractor shall prepare and submit for approval by the owners engineer a plan detailing the locations of the temporary fencing, gates, barricades and other items required to secure the demolition work area and to protect the public.

- FLOOD HAZARD NOTES:**
- THE LIMITS OF THE FLOOD HAZARD AREA AND FLOODWAY ARE BASED ON DEPARTMENT DELINEATION (METHOD 3).
 - THE ENTIRE SITE LIES WITHIN THE FLOOD HAZARD AREA.
 - BASED ON DELINEATION PROFILE DATA, THE NEW JERSEY FLOOD HAZARD AREA DESIGN FLOOD ELEVATION IS 87.02 NGVD29.
 - SURVEY ELEVATIONS REFERENCE NAVD 88
 - NGVD29 = NAVD88 + 1.024
 - ALL POST-DEVELOPMENT GRADES WILL BE RESTORED TO EXISTING GRADES.



NOTE:

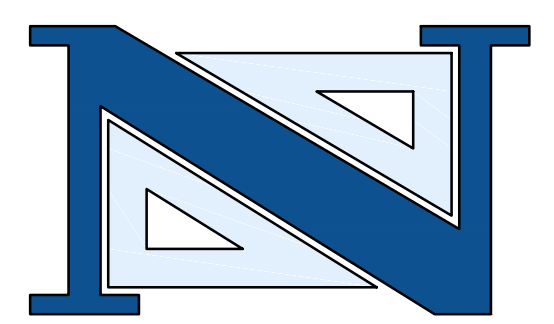
- THE CONTRACTOR IS RESPONSIBLE TO CREATE A CONSTRUCTION ACCESS ROAD FOR USE DURING THE DURATION OF THE PROJECT IN A LOCATION AS APPROVED BY THE OWNER AND/OR ENGINEER. NO SEPARATE PAYMENT WILL BE MADE. THE CONTRACTOR IS RESPONSIBLE TO RESTORE ALL DISTURBED AREAS WITHIN AND OUTSIDE OF THE PROJECT LIMITS TO IN-KIND CONDITION OR AS REQUIRED BY THE OWNER AND/OR ENGINEER.
- THE CONTRACTOR SHALL NOTE THAT ALL TEMPORARY PROTECTIVE MEASURES AND ACCESS ROADS SHALL BE LEFT IN PLACE FOR THE TURF INSTALLATION WORK WHICH IS TO BE PERFORMED BY OTHERS. THE CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE ALL TEMPORARY MEASURES AND ACCESS ROAD AT COMPLETION OF THE TURF INSTALLATION AND/OR COMPLETION OF SITE WORK (WHICHEVER IS LATER). NO SEPARATE PAYMENT WILL BE MADE.

LEGEND

- DEMOLITION AREA
- TO BE REMOVED
- TO BE REMOVED

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4	09/07/17	ISSUED FOR BIDDING	D.R.A.	D.R.A.	D.R.A.



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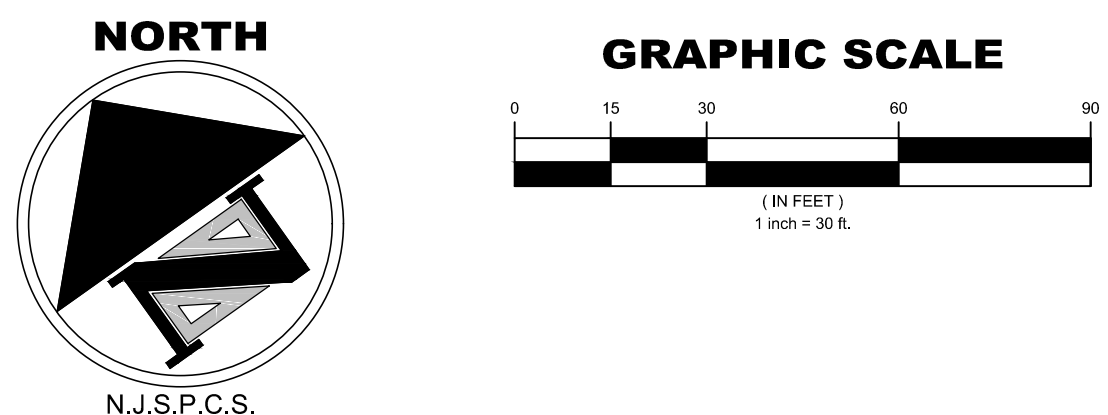
MICHAEL J. NEGLIA, P.E., P.L.S., P.P.
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PROFESSIONAL LAND SURVEYOR
N.J. LICENSE NO. 38604

PROFESSIONAL PLANNER
N.J. LICENSE NO. 33LJ00569800

EXISTING CONDITIONS & DEMOLITION PLAN
MEISEL PARK FIELD IMPROVEMENTS
BLOCK 1402 - LOT 20
TOWNSHIP OF SPRINGFIELD
UNION COUNTY
NEW JERSEY

DRAWN BY: B.R./E.M.J. CHECKED BY: D.R.A. PROJECT NO: UNIOCTY16.012 SHEET NO: 2.00
DESIGNED BY: B.R./E.M.J. SCALE: 1" = 30' FIELD BOOK NO: DATE: MARCH 15, 2017

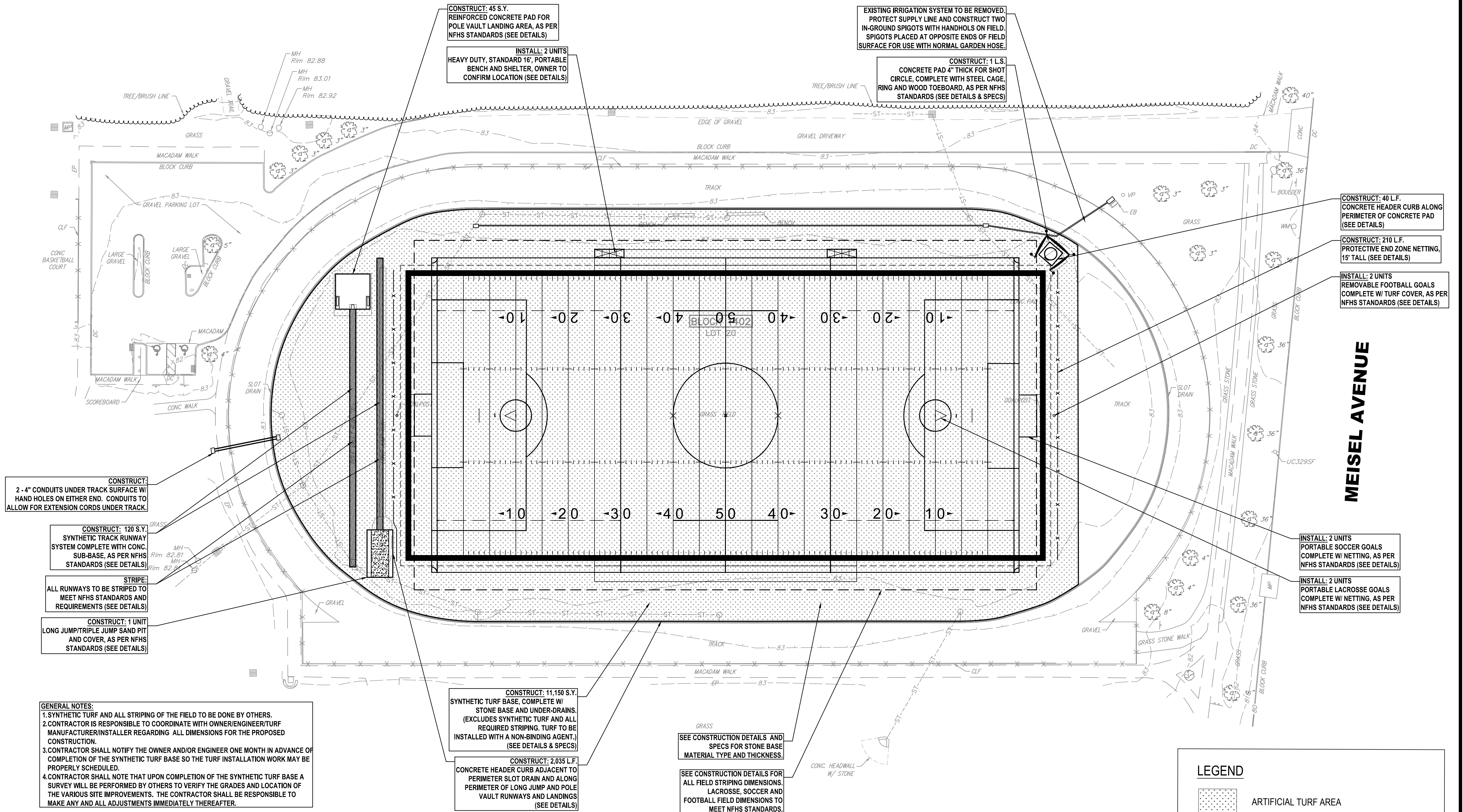


N.J.S.P.C.S.

- CONSTRUCTION NOTES:**
1. CONTRACTOR SHALL PROVIDE SOIL EROSION CONTROL MEASURES AS PER NJAC 7:22-10.11 INCLUDING SILT FENCE, INLET FILTER, ETC. THE CONTRACTOR SHALL OBSERVE ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES.
 2. WORKING HOURS MUST BE KEPT BETWEEN THE HOURS OF 8:00AM AND 4:00PM. ALL WORKING HOURS TO BE CONFIRMED PRIOR TO BIDDING AND AT PRE-CONSTRUCTION MEETING.
 3. THE CONTRACTOR SHALL FURNISH AN APPROVED CONSTRUCTION SCHEDULE PRIOR TO MOBILIZATION. WORK WILL NOT BEGIN UNTIL THE SCHEDULE IS APPROVED BY ALL PARTIES.
 4. THE CONTRACTOR SHALL PROVIDE DIGITAL PHOTOGRAPHS OF THE PROJECT AREAS. IMAGES SHALL BE TAKEN AT ALL PROPERTY FRONTAGES. THE CONTRACTOR SHALL PROVIDE THE PHOTOGRAPHS TO UNION COUNTY PRIOR TO MOBILIZATION.
 5. ALL WORK NOTED IN THESE NOTES, PLANS AND SPECIFICATIONS SHALL BE INCLUDED IN THE VARIOUS BID ITEMS UNLESS SPECIFICALLY ITEMIZED ON THE PROPOSAL SHEET. THE CONTRACTOR IS NOT LIMITED TO THE REQUIREMENTS WITHIN THESE NOTES AND IS STRONGLY ADVISED TO REVIEW THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
 6. THE CONTRACTOR WILL COORDINATE WITH AN LSRP REGARDING THE EXCAVATION AND REMOVAL OF ALL EXCESS MATERIAL. A SEPARATE PAY ITEM WILL BE INCLUDED IN THE PROPOSAL FOR THE PROPER REMOVAL OF EXCESS EXCAVATED MATERIAL.

- GRADING, DRAINAGE & UTILITY NOTES:**
1. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR MAINTAINING A POSITIVE DRAINAGE PATTERN ACROSS ALL FIELDS OF PLAY AND ADJACENT LAWN AREAS. THE CONTRACTOR SHALL BE RESPONSIBLE TO REPLACE AND RECONSTRUCT ANY AREA THAT HAS BEEN CONSTRUCTED IN A MANNER WHICH NEGATIVELY IMPACTS THE EXISTING DRAINAGE PATTERN.

- FLOOD HAZARD NOTES:**
1. THE LIMITS OF THE FLOOD HAZARD AREA AND FLOODWAY ARE BASED ON DEPARTMENT DELINEATION (METHOD 3).
 2. THE ENTIRE SITE LIES WITHIN THE FLOOD HAZARD AREA.
 3. BASED ON DELINEATION PROFILE DATA, THE NEW JERSEY FLOOD HAZARD AREA DESIGN FLOOD ELEVATION IS 87.02 NGVD29.
 4. SURVEY ELEVATIONS REFERENCE NAVD 88
 5. NGVD29 = NAVD88 + 1.024
 6. ALL POST-DEVELOPMENT GRADES WILL BE RESTORED TO EXISTING GRADES.



LEGEND

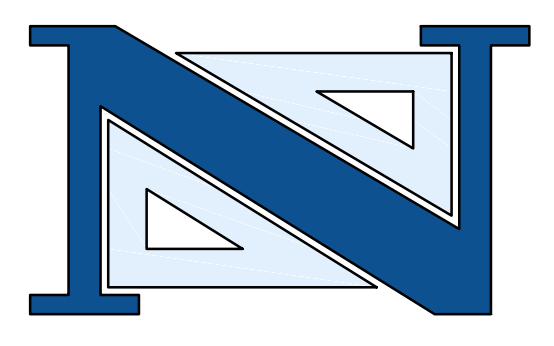
- ARTIFICIAL TURF AREA
- TRACK RUNWAY SURFACE
- SAND
- PROTECTIVE NETTING

- GENERAL NOTES:**
1. SYNTHETIC TURF AND ALL STRIPING OF THE FIELD TO BE DONE BY OTHERS.
 2. CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH OWNER/ENGINEER/TURF MANUFACTURER/INSTALLER REGARDING ALL DIMENSIONS FOR THE PROPOSED CONSTRUCTION.
 3. CONTRACTOR SHALL NOTIFY THE OWNER AND/OR ENGINEER ONE MONTH IN ADVANCE OF COMPLETION OF THE SYNTHETIC TURF BASE SO THE TURF INSTALLATION WORK MAY BE PROPERLY SCHEDULED.
 4. CONTRACTOR SHALL NOTE THAT UPON COMPLETION OF THE SYNTHETIC TURF BASE A SURVEY WILL BE PERFORMED BY OTHERS TO VERIFY THE GRADES AND LOCATION OF THE VARIOUS SITE IMPROVEMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE ANY AND ALL ADJUSTMENTS IMMEDIATELY THEREAFTER.

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4	09/07/17	ISSUED FOR BIDDING	D.R.A.	D.R.A.	D.R.A.



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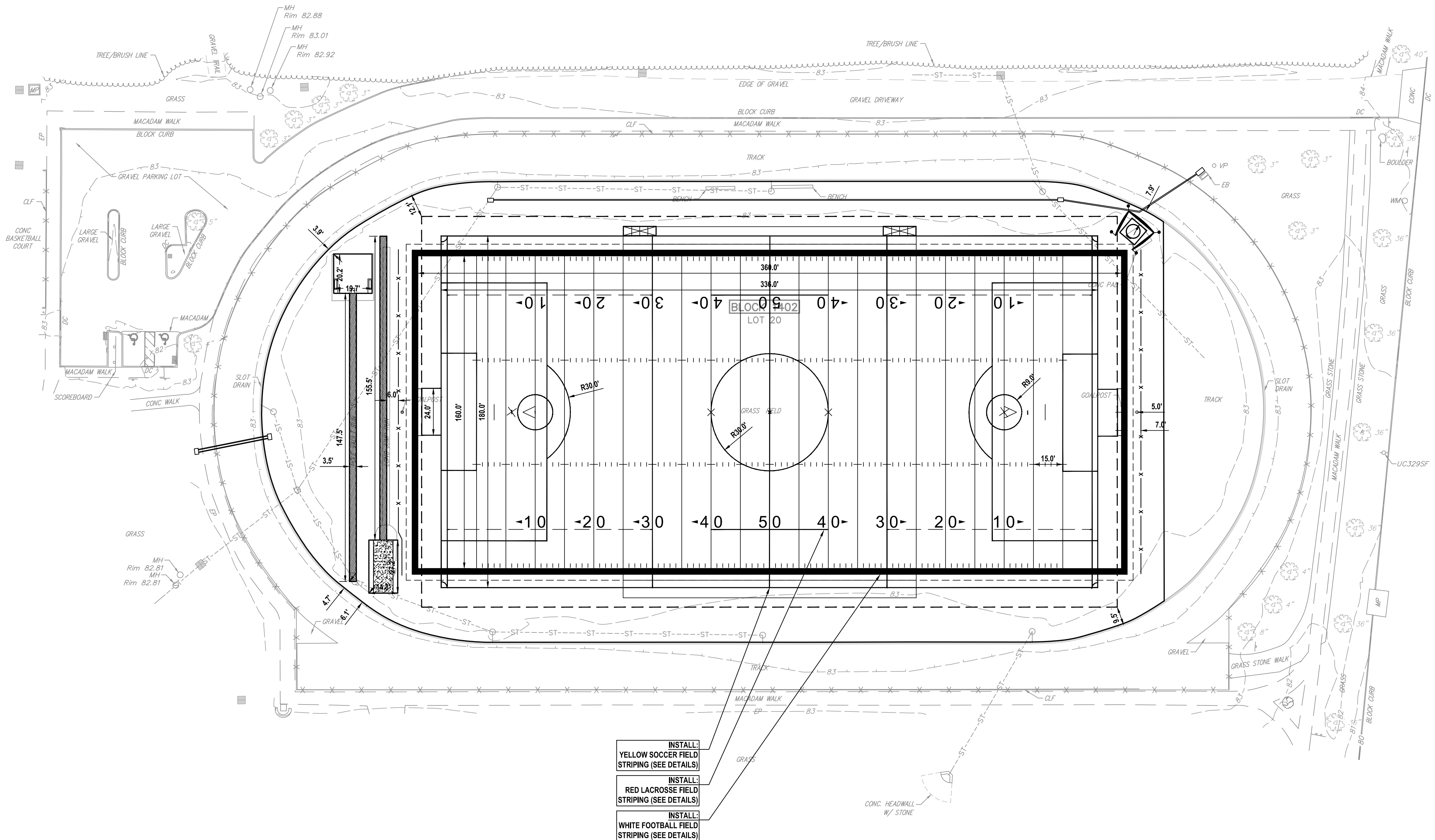
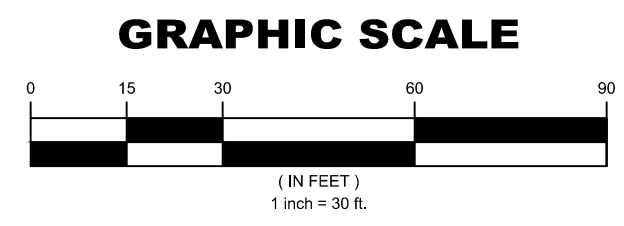
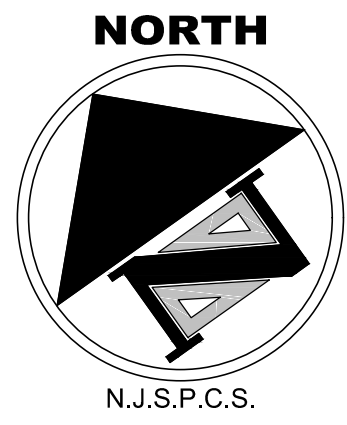
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PROFESSIONAL PLANNER
N.J. LICENSE NO. 33LJ00569800

SITE PLAN
MEISEL PARK FIELD IMPROVEMENTS
BLOCK 1402 - LOT 20
TOWNSHIP OF SPRINGFIELD
UNION COUNTY
NEW JERSEY

DESIGNED BY: B.R./E.M.J. SCALE: 1" = 30' PROJECT NO: UNIOCTY16.012 SHEET NO: 3.00
FIELD BOOK NO: [] PAGE: [] DATE: MARCH 15, 2017



MEISEL AVENUE

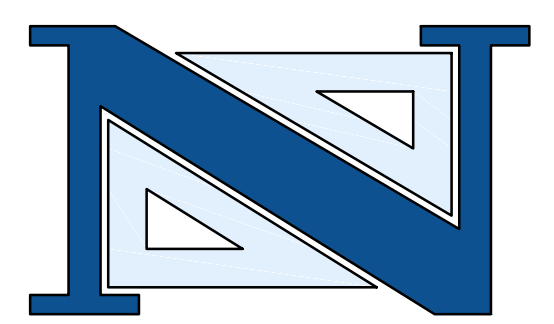
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 4. SURVEY ELEVATIONS REFERENCE NAVD 88
 5. NAVD29 = NAVD88 + 1.024
 6. ALL POST-DEVELOPMENT GRADES WILL BE RESTORED TO EXISTING GRADES.

NOTE:
ALL PROPOSED SPORTS FOR THIS PROJECT SITE MUST MEET ALL REQUIREMENTS OUTLINED IN THE NATIONAL FEDERATION OF STATE HIGH SCHOOL ASSOCIATIONS REQUIREMENTS. IT IS THE CONTRACTORS RESPONSIBILITY TO MEET ALL THESE REQUIREMENTS. ANY DISCREPANCIES SHALL BE SUBMITTED TO THE PROJECT ENGINEER PRIOR TO CONSTRUCTION.

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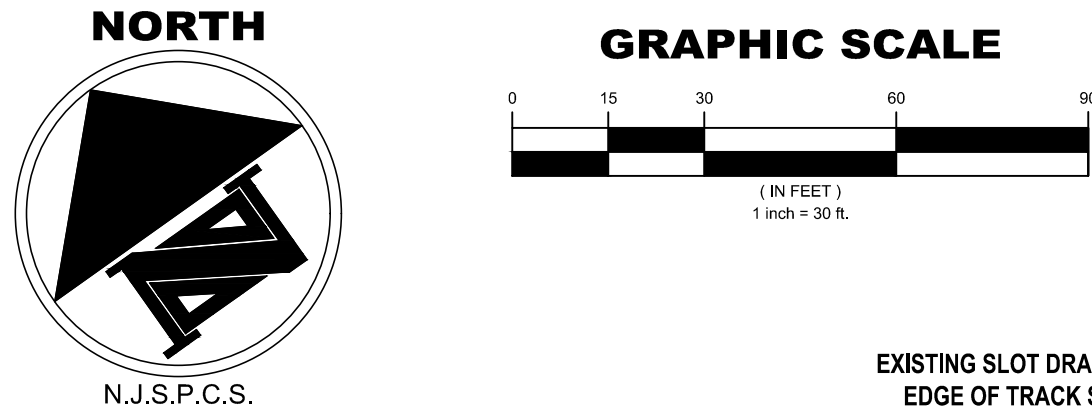
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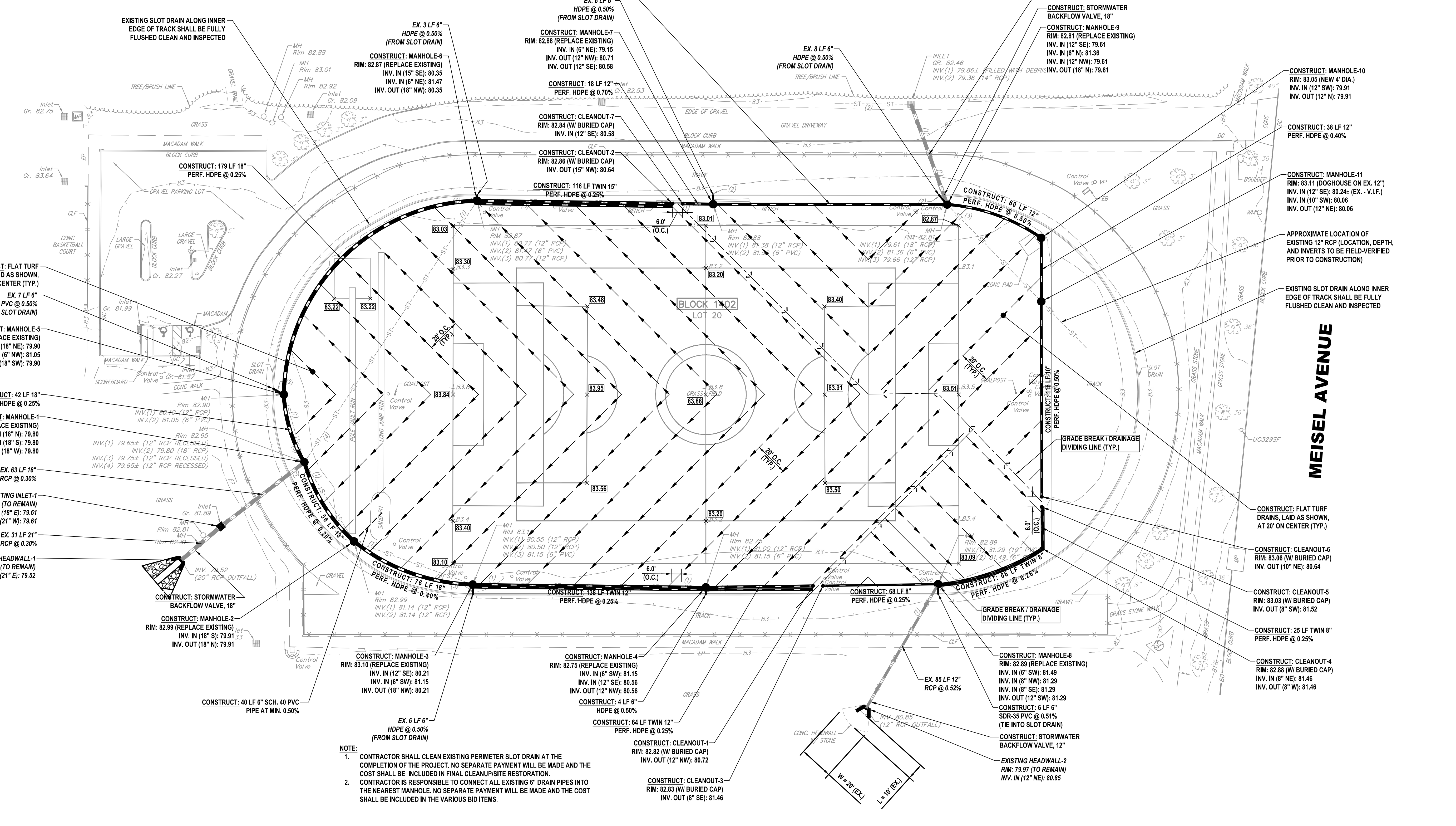
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PROFESSIONAL PLANNER N.J. LICENSE NO. 33100569800

STRIPING & DIMENSIONS PLAN
MEISEL PARK FIELD IMPROVEMENTS
BLOCK 1402 - LOT 20
TOWNSHIP OF SPRINGFIELD
UNION COUNTY NEW JERSEY

DRAWN BY: B.R./E.M.J. CHECKED BY: D.R.A. PROJECT NO: UNIOCTY16.012 SHEET NO: 4.00
DESIGNED BY: B.R./E.M.J. SCALE: 1" = 30' DATE: MARCH 15, 2017
FIELD BOOK NO: PAGE:



GRAPHIC SCALE
 0 15 30 60 90
 (IN FEET)
 1" = 30'



CONSTRUCT: FLAT TURF DRAINS, LAID AS SHOWN, AT 20' ON CENTER (TYP.)
 EX. 7 LF 6" PVC @ 0.50% (FROM SLOT DRAIN)

CONSTRUCT: MANHOLE-5 RIM: 82.90 (REPLACE EXISTING) INV. IN (18" NE): 79.90 INV. IN (6" NW): 81.05 INV. OUT (18" SW): 79.90

CONSTRUCT: 42 LF 18" PERF. HDPE @ 0.25%
 CONSTRUCT: MANHOLE-1 RIM: 82.95 (REPLACE EXISTING) INV. IN (18" N): 79.80 INV. IN (18" S): 79.80 INV. OUT (18" W): 79.80

EX. 63 LF 18" RCP @ 0.30%
 EXISTING INLET-1 RIM: 81.89 (TO REMAIN) INV. IN (18" E): 79.61 INV. OUT (21" W): 79.61

CONSTRUCT: STORMWATER BACKFLOW VALVE, 18"
 CONSTRUCT: MANHOLE-2 RIM: 82.99 (REPLACE EXISTING) INV. IN (18" S): 79.91 INV. OUT (18" N): 79.91

EXISTING SLOT DRAIN ALONG INNER EDGE OF TRACK SHALL BE FULLY FLUSHED CLEAN AND INSPECTED

EX. 3 LF 6" HDPE @ 0.50% (FROM SLOT DRAIN)
 CONSTRUCT: MANHOLE-6 RIM: 82.87 (REPLACE EXISTING) INV. IN (6" NE): 80.35 INV. IN (15" SE): 80.35 INV. OUT (18" NW): 80.35

CONSTRUCT: 139 LF 12" PERF. HDPE @ 0.70%
 EX. 6 LF 6" HDPE @ 0.50% (FROM SLOT DRAIN)
 CONSTRUCT: MANHOLE-7 RIM: 82.88 (REPLACE EXISTING) INV. IN (6" NE): 79.15 INV. OUT (12" NW): 80.71 INV. OUT (12" SE): 80.58

CONSTRUCT: CLEANOUT-7 RIM: 82.84 (W/ BURIED CAP) INV. IN (12" SE): 80.58
 CONSTRUCT: CLEANOUT-2 RIM: 82.86 (W/ BURIED CAP) INV. OUT (15" NW): 80.64
 CONSTRUCT: 116 LF TWIN 15" PERF. HDPE @ 0.25%

EX. 8 LF 6" HDPE @ 0.50% (FROM SLOT DRAIN)
 INLET GR. 82.46 INV.(1) 79.86.5 (12" RCP) INV.(2) 79.36 (14" RCP)

EX. 63 LF 18" RCP @ 0.40%
 CONSTRUCT: STORMWATER BACKFLOW VALVE, 18"
 CONSTRUCT: MANHOLE-9 RIM: 82.81 (REPLACE EXISTING) INV. IN (12" SE): 79.61 INV. IN (6" N): 81.36 INV. IN (12" NW): 79.61 INV. OUT (18" N): 79.61

CONSTRUCT: MANHOLE-10 RIM: 83.05 (NEW 4' DIA.) INV. IN (12" SW): 79.91 INV. OUT (12" N): 79.91

CONSTRUCT: 38 LF 12" PERF. HDPE @ 0.40%
 CONSTRUCT: MANHOLE-11 RIM: 82.81 (REPLACE EXISTING) INV. IN (12" SE): 80.24 (EX. - V.I.F.) INV. IN (10" SW): 80.06 INV. OUT (12" NE): 80.06

APPROXIMATE LOCATION OF EXISTING 12" RCP (LOCATION, DEPTH, AND INVERTS TO BE FIELD-VERIFIED PRIOR TO CONSTRUCTION)

EXISTING SLOT DRAIN ALONG INNER EDGE OF TRACK SHALL BE FULLY FLUSHED CLEAN AND INSPECTED

MEISEL AVENUE

CONSTRUCT: FLAT TURF DRAINS, LAID AS SHOWN, AT 20' ON CENTER (TYP.)

CONSTRUCT: CLEANOUT-6 RIM: 83.06 (W/ BURIED CAP) INV. OUT (10" NE): 80.64

CONSTRUCT: CLEANOUT-5 RIM: 83.03 (W/ BURIED CAP) INV. OUT (8" SW): 81.52

CONSTRUCT: 25 LF TWIN 8" PERF. HDPE @ 0.25%
 CONSTRUCT: CLEANOUT-4 RIM: 82.88 (W/ BURIED CAP) INV. IN (8" NE): 81.46 INV. OUT (8" W): 81.46

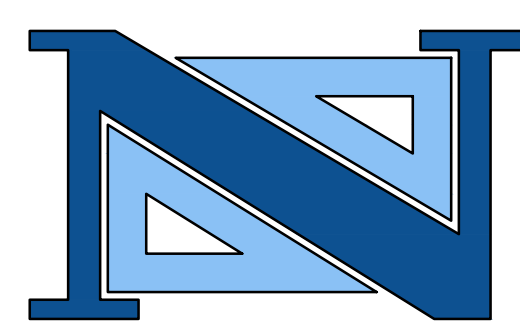
NOTE:
 1. CONTRACTOR SHALL CLEAN EXISTING PERIMETER SLOT DRAIN AT THE COMPLETION OF THE PROJECT. NO SEPARATE PAYMENT WILL BE MADE AND THE COST SHALL BE INCLUDED IN FINAL CLEANUP/SITE RESTORATION.
 2. CONTRACTOR IS RESPONSIBLE TO CONNECT ALL EXISTING 6" DRAIN PIPES INTO THE NEAREST MANHOLE. NO SEPARATE PAYMENT WILL BE MADE AND THE COST SHALL BE INCLUDED IN THE VARIOUS BID ITEMS.

FLOOD HAZARD NOTES:
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 2. THE ENTIRE SITE LIES WITHIN THE FLOOD HAZARD AREA.
 3. BASED ON DELINEATION PROFILE DATA, THE NEW JERSEY FLOOD HAZARD AREA DESIGN FLOOD ELEVATION IS 87.02 NGVD29.
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REVISIONS				
NO.	DATE	DESCRIPTION	DRAWN	CHECKED
1	06/02/17	REVISED PER NJDEP COMMENTS	B.R.R.	D.R.A.
2	06/28/17	ISSUED FOR BIDDING	D.R.A.	D.R.A.
3	08/23/17	REVISED PER 08/17/17 SUSCD COMMENT LETTER (ADDED RIPRAP APRONS AT EXISTING HEADWALLS)	E.M.J.	D.R.A.
4	09/07/17	ISSUED FOR BIDDING	D.R.A.	D.R.A.



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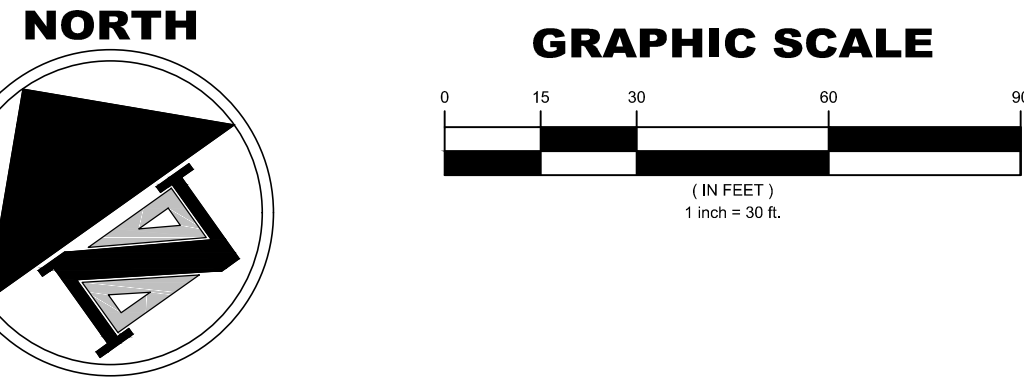
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 N.J. LICENSE NO. 33L00569800

GRADING & DRAINAGE PLAN
MEISEL PARK FIELD IMPROVEMENTS
BLOCK 1402 - LOT 20
TOWNSHIP OF SPRINGFIELD
UNION COUNTY
NEW JERSEY

DESIGNED BY: B.R./E.M.J.
 CHECKED BY: D.R.A.
 SCALE: 1" = 30'
 SHEET NO.: 5.00
 PROJECT NO.: UNIOCTY16.012
 DATE: MARCH 15, 2017

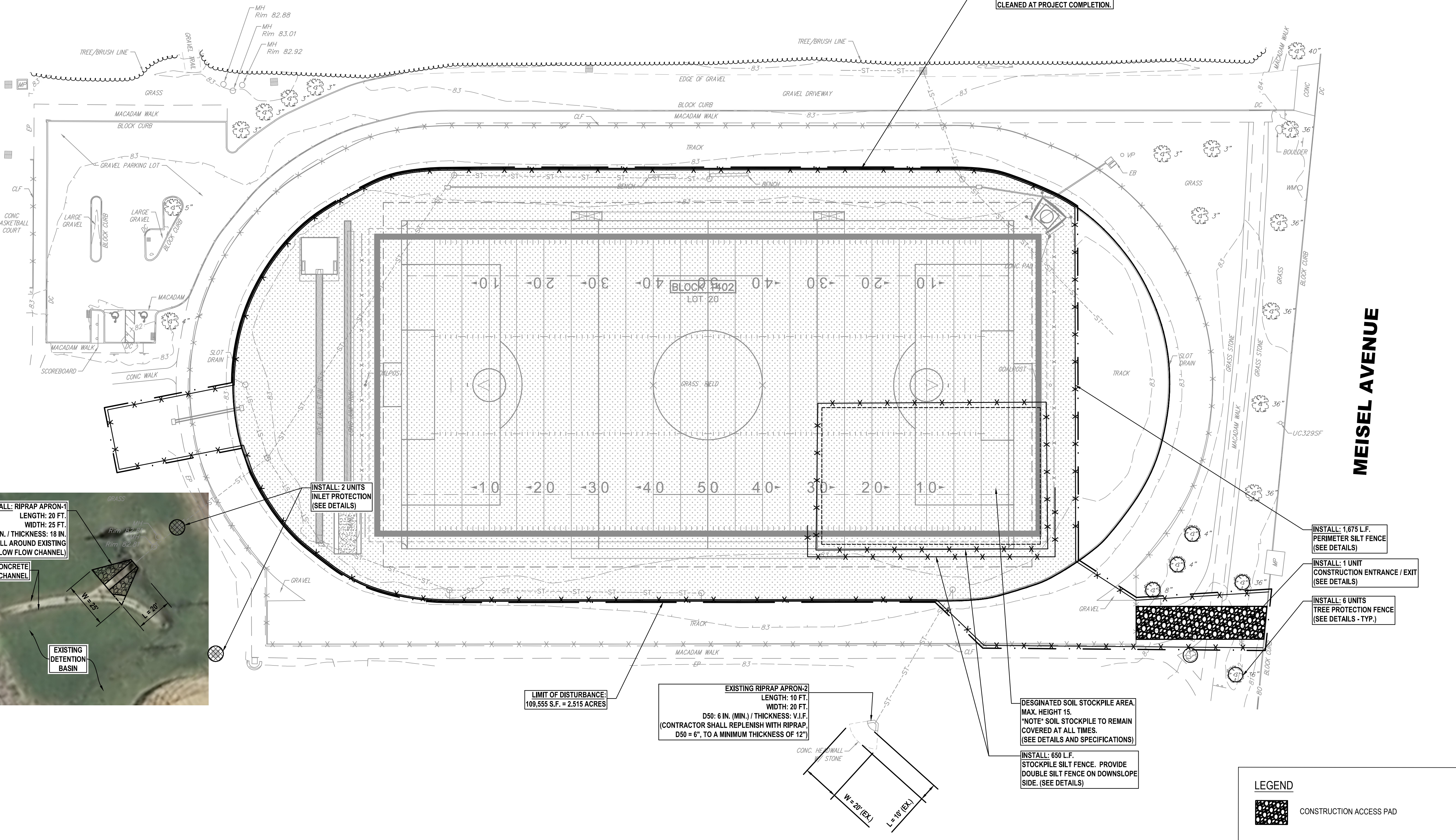
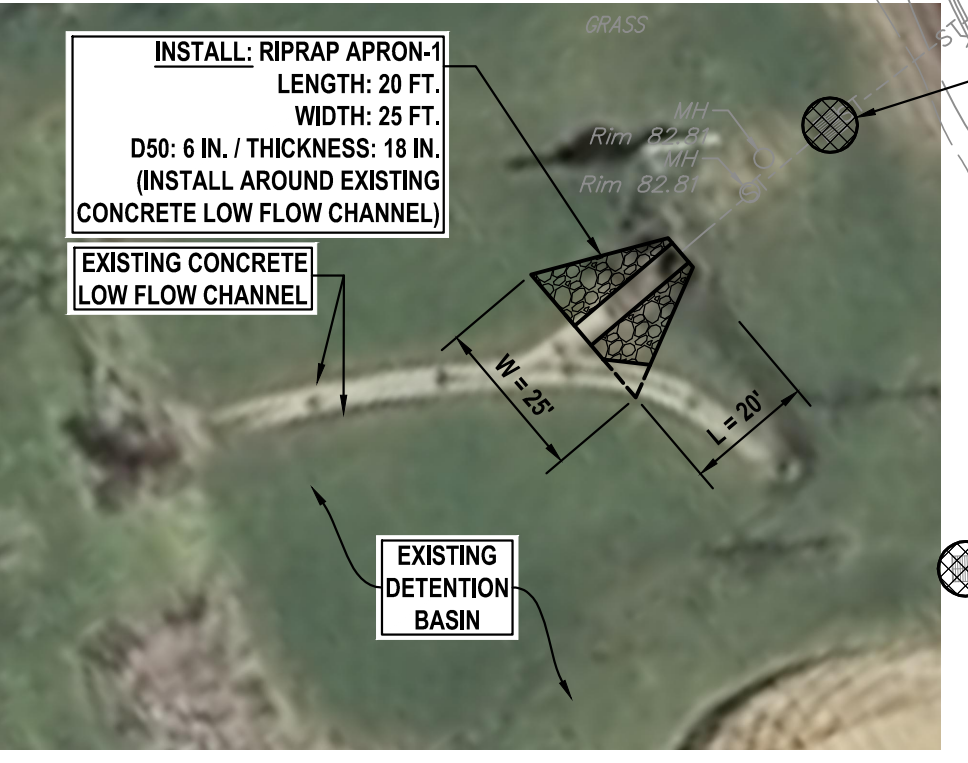


**SOMERSET-UNION COUNTY SOIL CONSERVATION DISTRICT
SOIL EROSION AND SEDIMENT CONTROL NOTES**

- ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCE, OR IN THEIR PROPER SEQUENCE AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
- ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN 30 DAYS AND NOT SUBJECT TO CONSTRUCTION TRAFFIC WILL IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PREVENTS THE ESTABLISHMENT OF A TEMPORARY COVER, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW OR EQUIVALENT MATERIAL, AT A RATE OF TWO (2) TONS PER ACRE, ACCORDING TO STATE STANDARDS.
- PERMANENT VEGETATION SHALL BE SEEDING OR SODDED ON ALL EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING. MULCH WILL BE USED FOR PROTECTION UNTIL SEEDING IS ESTABLISHED.
- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE STATE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY.
- A SUB-BASE COURSE WILL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING AND INSTALLATION OF IMPROVEMENTS IN ORDER TO STABILIZE STREETS, ROADS, DRIVEWAYS AND PARKING AREAS. IN AREAS WHERE NO UTILITIES ARE PRESENT, THE SUB-BASE SHALL BE INSTALLED WITHIN 15 DAYS OF PRELIMINARY GRADING.
- IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING, ALL CRITICAL AREAS SUBJECT TO EROSION (I.E. STEEP SLOPES, ROADWAY EMBANKMENTS) WILL RECEIVE A TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH OR A SUITABLE EQUIVALENT, AT A RATE OF TWO (2) TONS PER ACRE, ACCORDING TO THE STATE STANDARDS.
- ANY STEEP SLOPES RECEIVING PIPELINE INSTALLATION WILL BE BACKFILLED AND STABILIZED DAILY, AS THE INSTALLATION PROCEEDS (I.E. SLOPES GREATER THAN 3:1).
- TRAFFIC CONTROL STANDARDS REQUIRE THE INSTALLATION OF A 100'X30' PAD OF 1 1/2" OR 2" STONE, AT ALL CONSTRUCTION DRIVEWAYS, IMMEDIATELY AFTER INITIAL SITE DISTURBANCE.
- THE SOMERSET-UNION COUNTY SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED IN WRITING 48 HOURS IN ADVANCE OF ANY LAND DISTURBING ACTIVITY.
- AT THE TIME WHEN THE SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION IS GOING TO BE ACCOMPLISHED, ANY SOIL THAT WILL NOT PROVIDE SUITABLE ENVIRONMENT TO SUPPORT ADEQUATE VEGETATIVE GROUND COVER, SHALL BE REMOVED OR TREATED IN SUCH A WAY THAT WILL PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE FOR VEGETATIVE GROUND COVER. IF THE REMOVAL OR TREATMENT OF THE SOIL WILL NOT PROVIDE SUITABLE CONDITIONS, NON-VEGETATIVE MEANS OR PERMANENT GROUND STABILIZATION WILL HAVE TO BE EMPLOYED.
- IN THAT NJSA 4-24-39 ET SEQ. REQUIRES THAT NO CERTIFICATE OF OCCUPANCY BE ISSUED BEFORE THE PROVISIONS OF THE CERTIFIED PLAN FOR SOIL EROSION AND SEDIMENT CONTROL HAVE BEEN COMPLIED WITH FOR PERMANENT MEASURES, ALL SITE WORK FOR SITE PLANS AND ALL WORK AROUND INDIVIDUAL LOTS IN SUBDIVISIONS, WILL HAVE TO BE COMPLETED PRIOR TO THE DISTRICT ISSUING A REPORT OF COMPLIANCE FOR THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY BY THE MUNICIPALITY.
- CONDUIT OUTLET PROTECTION MUST BE INSTALLED AT ALL REQUIRED OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL.
- ANY CHANGES TO THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN WILL REQUIRE THE SUBMISSION OF REVISED SOIL EROSION AND SEDIMENT CONTROL PLANS TO THE DISTRICT FOR RE-CERTIFICATION. THE REVISED PLANS MUST MEET ALL CURRENT STATE SOIL EROSION AND SEDIMENT CONTROL STANDARDS.
- THE SOMERSET-UNION COUNTY SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED OF ANY CHANGES IN OWNERSHIP.
- MULCHING IN THE STANDARDS IS REQUIRED FOR OBTAINING A CONDITIONAL REPORT OF COMPLIANCE. CONDITIONS ARE ONLY ISSUED WHEN THE SEASON PROHIBITS SEEDING.
- THE CONTRACTOR IS RESPONSIBLE FOR KEEPING ALL ADJACENT ROADS CLEAN DURING THE LIFE OF THE CONSTRUCTION PROJECT.
- THE DEVELOPER SHALL BE RESPONSIBLE FOR REMEDIATING ANY EROSION OR SEDIMENT PROBLEMS THAT ARISE AS A RESULT OF ONGOING CONSTRUCTION AT THE REQUEST OF THE SOMERSET-UNION COUNTY SOIL CONSERVATION DISTRICT.
- HYDROSEEDING IS A TWO-STEP PROCESS. THE FIRST STEP INCLUDES SEED, FERTILIZER, LIME, ETC., ALONG WITH MINIMAL AMOUNTS OF MULCH TO PROMOTE CONSISTENCY. GOOD SEED TO SOIL CONTACT, AND GIVE A VISUAL INDICATION OF COVERAGE. UPON COMPLETION OF THE SEEDING OPERATION, HYDRO-MULCH SHOULD BE APPLIED AT A RATE OF 1500 LBS. PER ACRE IN THE SECOND STEP. THE USE OF HYDRO-MULCH AS OPPOSED TO STRAW, IS LIMITED TO OPTIMUM SEEDING DATES AS LISTED IN THE STANDARDS.

- CONSTRUCTION NOTES**
- CONTRACTOR IS TO PROVIDE SOIL EROSION CONTROL MEASURES AS PER NJAC 7-22-10.11 INCLUDING SILT FENCE, INLET FILTER, ETC. THE CONTRACTOR SHALL OBSERVE ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES.
 - WORKING HOURS MUST BE KEPT BETWEEN THE HOURS OF 8:00 AM AND 4:00 PM. ALL WORKING HOURS TO BE CONFIRMED PRIOR TO BIDDING AND AT PRE-CONSTRUCTION MEETING.
 - THE CONTRACTOR SHALL FURNISH AN APPROVED CONSTRUCTION SCHEDULE PRIOR TO MOBILIZATION. THE CONTRACTOR SHALL FURNISH A CONSTRUCTION SCHEDULE AND TRAFFIC CONTROL PLAN PRIOR TO WORKING. WORK WILL NOT BEGIN UNTIL THE SCHEDULE AND TRAFFIC CONTROL PLAN ARE APPROVED BY ALL PARTIES.
 - THE CONTRACTOR SHALL PROVIDE 2 COPIES OF PHOTOGRAPHS OR VIDEOTAPES OF THE PROJECT AREAS. IMAGES SHALL BE TAKEN AT ALL PROPERTY FRONTAGES. PHOTOGRAPHS SHALL BE LABELED AND MOUNTED INTO BINDERS. AUDIO SHALL BE USED ON VIDEOTAPES TO DESIGNATE AREAS. THE CONTRACTOR SHALL PROVIDE THE PHOTOGRAPHS OR VIDEOTAPES PRIOR TO MOBILIZATION.
- CONSTRUCTION NOTES/CONT.**
- ALL WORK STATED IN THESE NOTES, PLANS, AND SPECIFICATION SHALL BE INCLUDED IN THE VARIOUS BID ITEMS UNLESS SPECIFICALLY ITEMIZED ON THE PROPOSAL SHEET. THE CONTRACTOR IS NOT LIMITED TO THE REQUIREMENTS WITHIN THESE NOTES AND IS STRONGLY ADVISED TO REVIEW THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ALL EXCESS EXCAVATED MATERIAL TO AN OFF-SITE LOCATION AT NO ADDITIONAL COST TO OWNER.

- FLOOD HAZARD NOTES:**
- THE LIMITS OF THE FLOOD HAZARD AREA AND FLOODWAY ARE BASED ON DEPARTMENT DELINEATION (METHOD 3).
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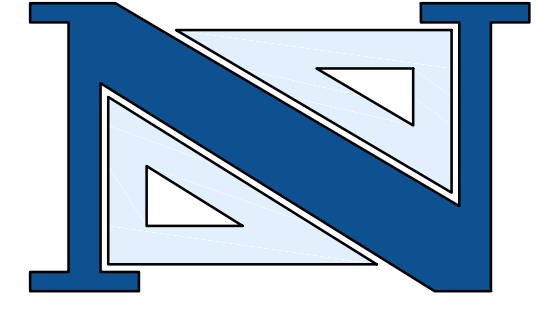


NOTE:
SLOT DRAIN INLET SHALL BE PROTECTED FROM SILT AND DEBRIS. SLOT DRAIN SHALL BE FLUSHED AND CLEANED AT PROJECT COMPLETION.

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SOIL EROSION & SEDIMENT CONTROL PLAN
MEISEL PARK FIELD IMPROVEMENTS
BLOCK 1402 - LOT 20
TOWNSHIP OF SPRINGFIELD
UNION COUNTY
NEW JERSEY

DRAWN BY: B.R./E.M.J. CHECKED BY: D.R.A. PROJECT NO.: UNIOCTY16.012 SHEET NO.: 6.00
DESIGNED BY: B.R./E.M.J. SCALE: 1" = 30' DATE: MARCH 16, 2017
FIELD BOOK NO.: [] PAGE: []

- SOMERSET-UNION COUNTY SOIL CONSERVATION DISTRICT SOIL EROSION AND SEDIMENT CONTROL NOTES**
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INLET PROTECTION STANDARDS

DEFINITION

A TEMPORARY BARRIER AND SETTLING FACILITY INSTALLED AT A STORM SEWER INLET.

PURPOSE

THE PURPOSE OF STORM SEWER INLET PROTECTION IS TO INTERCEPT AND RETAIN SEDIMENT, THUS PREVENTING THE ENTRANCE OF SEDIMENT INTO THE STORM SEWER SYSTEM.

CONDITIONS WHERE PRACTICE APPLIES

- CONTRIBUTING DRAINAGE AREA IS 3 ACRES OR LESS.
- A STORM SEWER OR THE OUTLET CHANNEL OF A STORM SEWER NEEDS PROTECTION FROM SEDIMENT.
- TRAFFIC WILL NOT DESTROY OR CAUSE CONSTANT MAINTENANCE OF THE STORM SEWER INLET PROTECTION.
- A TRAFFIC HAZARD WILL NOT BE CREATED.
- A FLOODING PROBLEM WILL NOT BE CREATED.

WATER QUALITY ENHANCEMENT

THE PRIMARY BENEFIT TO WATER QUALITY IS REMOVAL OF SEDIMENT FROM STORMWATER RUNOFF PRIOR TO ENTERING THE STORM SEWER SYSTEM. AS AN ADDED BENEFIT, OTHER FLOATABLE DEBRIS, SUCH AS VEGETATIVE MATTER AND LITTER, MAY ALSO BE FILTERED OUT OF THE RUNOFF.

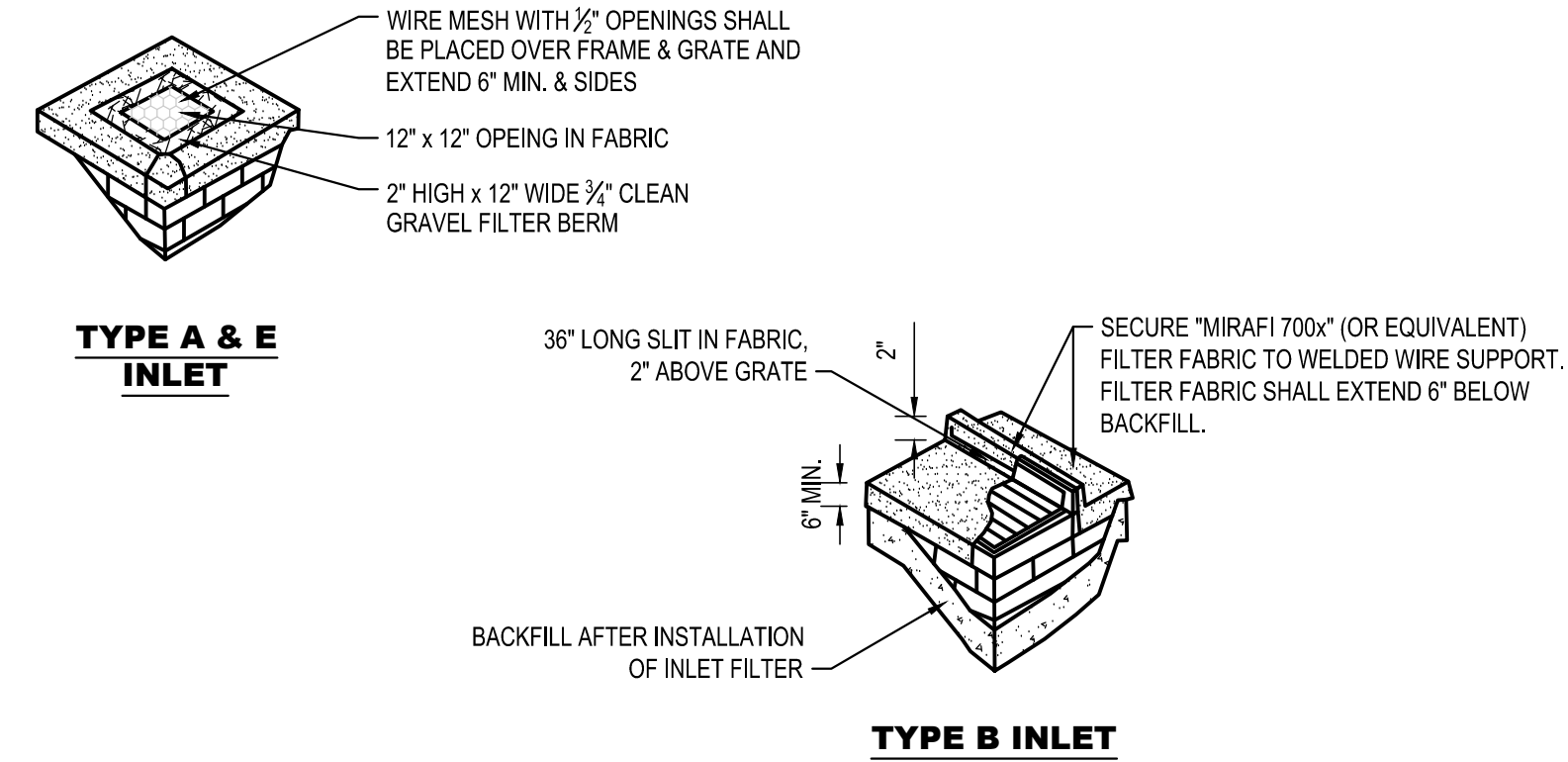
DESIGN CRITERIA

THE FOLLOWING APPLIES TO ALL METHODS OF STORM SEWER INLET PROTECTION:

- MUST SLOW THE STORM WATER, PROVIDE THE COARSE SEDIMENT PARTICLES A CHANCE TO SETTLE, AND PROVIDE AN AREA TO RETAIN THE PARTICLES THAT HAVE SETTLED.
- IN ALL CASES, THE INLET PROTECTION SHOULD NOT COMPLETELY CLOSE OFF THE INLET.
- THE PROTECTION DEVICE WILL BE DESIGNED TO CAPTURE OR FILTER RUNOFF FROM THE 1 YEAR, 24 HOUR STORM EVENT AND SHALL SAFELY CONVEY HIGHER FLOWS DIRECTLY INTO THE STORM SEWER SYSTEM.

OTHER METHODS THAT ACCOMPLISH THE PURPOSE OF STORM SEWER INLET PROTECTION MAY BE USED IF APPROVED BY THE SOIL CONSERVATION DISTRICT.

INSPECTIONS SHALL BE FREQUENT, MAINTENANCE, REPAIR, AND REPLACEMENT SHALL BE MADE PROMPTLY, AS NEEDED. THE BARRIER SHALL BE REMOVED WHEN THE AREA DRAINING TOWARD THE INLET HAS BEEN STABILIZED.

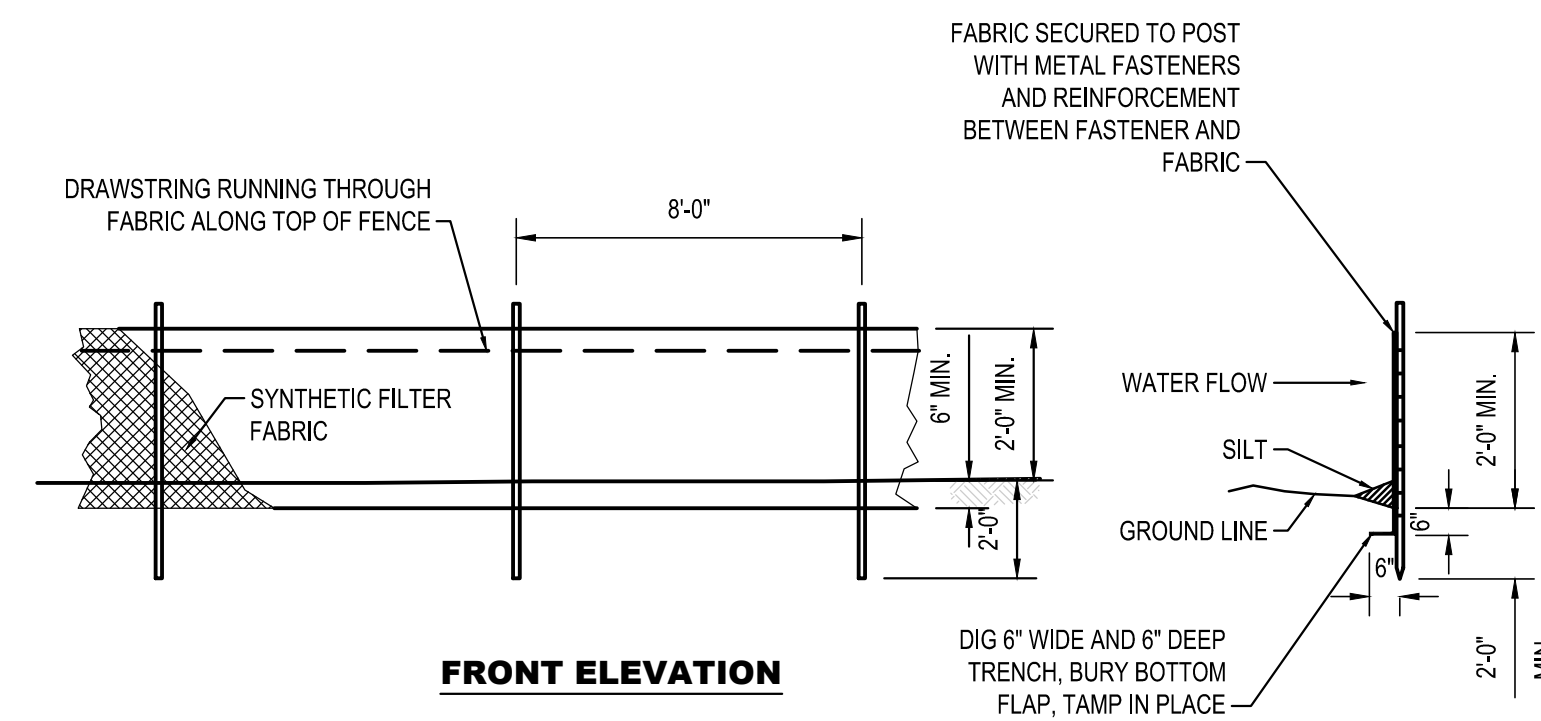


NOTES:

- CONTRACTOR IS TO INSPECT INLET FILTER AFTER EVERY STORM, AND CLEAN OR REPLACE AS REQUIRED.
- CONTRACTOR IS TO REMOVE FABRIC AND MESH JUST PRIOR TO PAVING.
- FILTER FABRIC SHALL BE "MIRAFI 700X" TYPE OR APPROVED EQUAL.
- INLET FILTER SHALL FILTER RUNOFF FROM THE 1 YEAR 24 HOUR STORM EVENT AND SHALL SAFELY CONVEY HIGHER FLOWS DIRECTLY INTO STORM SEWER SYSTEM.

INLET FILTER & PROTECTION

NOT TO SCALE



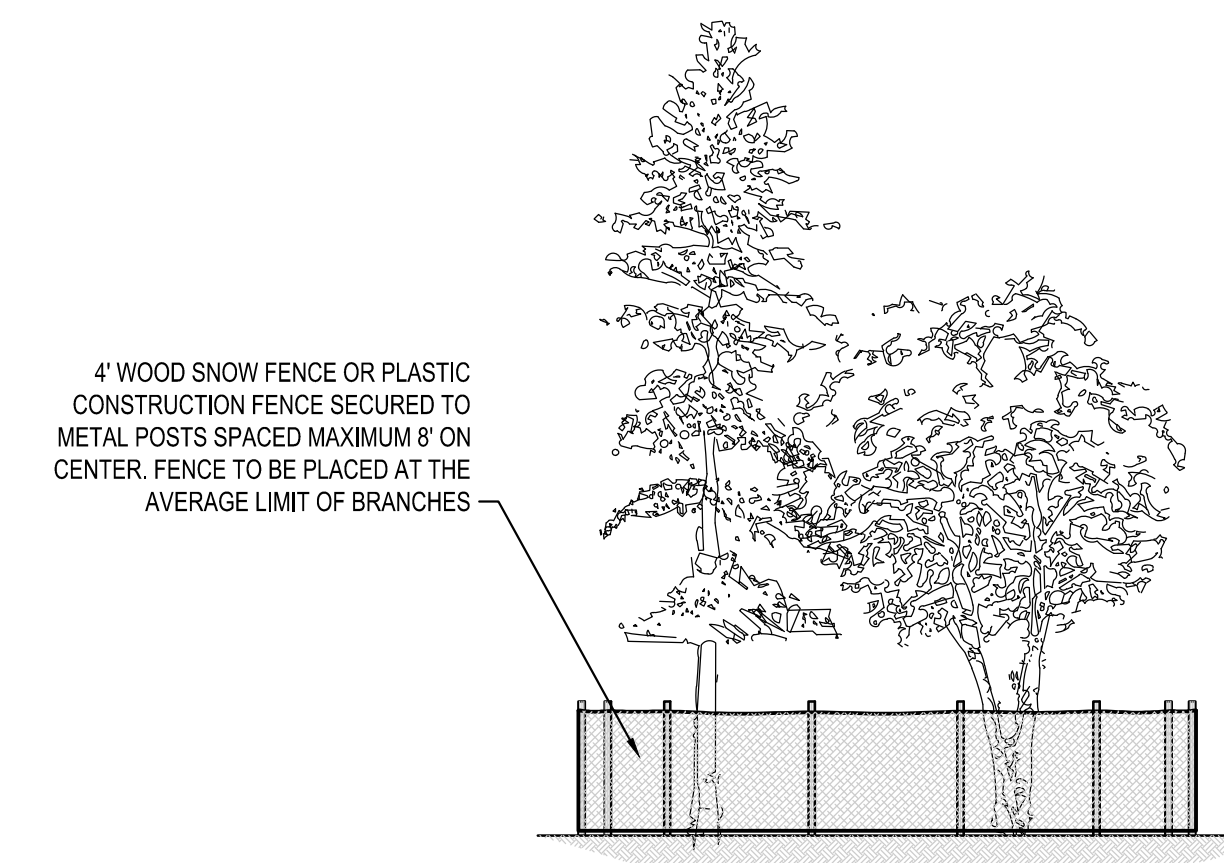
NOTES:

- CONTRACTOR SHALL MAINTAIN AND REMOVE SILT COLLECTED ON UP-SLOPE SIDE OF SILT FENCE AFTER EACH STORM EVENT.
- CONTRACTOR SHALL PROVIDE CONTRASTING SAFETY CAPS AT TOP OF EACH FENCE POST.

NOTES:

SEDIMENT SILT FENCE DETAIL

NOT TO SCALE

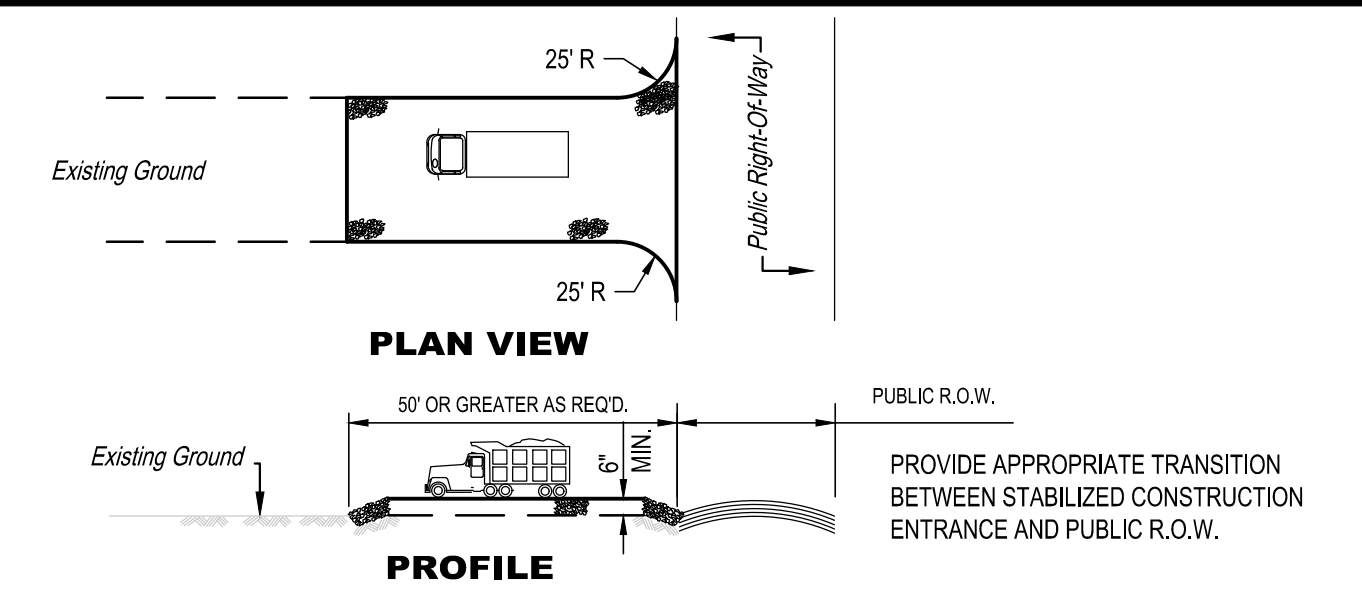


NOTES:

- CONSTRUCTION EQUIPMENT OF ANY KIND IS TO BE PROHIBITED FROM DRIVING AND/OR PARKING UNDER TREES. THE STOCKPILE OF CONSTRUCTION MATERIAL SHALL BE PROHIBITED FROM BEING STORED UNDER ANY TREES.

TREE PROTECTION

NOT TO SCALE



NOTES:

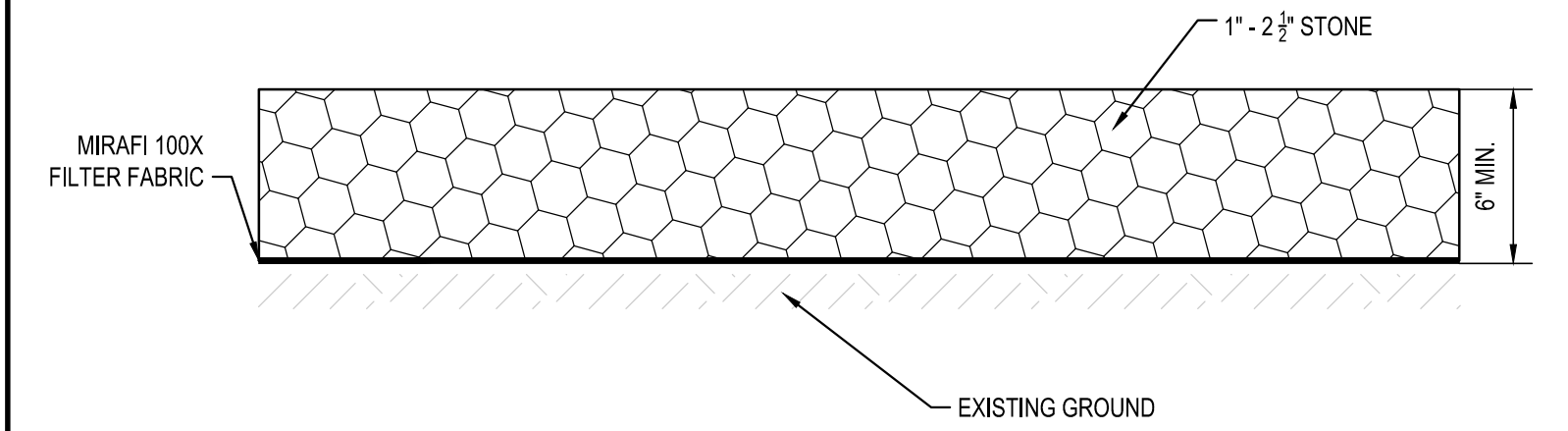
- PLACE STABILIZED CONSTRUCTION ENTRANCE AT LOCATION(S) AS SHOWN ON THE SOIL EROSION AND SEDIMENT CONTROL PLAN.
- STONE SIZE SHALL BE ASTM C-33, SIZE NO. 2 OR 3, CRUSHED STONE.
- THE THICKNESS OF THE STABILIZED CONSTRUCTION ENTRANCE SHALL NOT BE LESS THAN 6".
- THE WIDTH AT THE EXIST. PAVEMENT SHALL NOT BE LESS THAN THE FULL WIDTH OF POINTS OF INGRESS AND EGRESS.
- THE STAB. CONST. ENT. SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO THE R.O.W./PAVEMENT. THIS REQUIRES PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURE USED TO TRAP SEDIMENT.
- ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO THE PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.
- APPROPRIATE TRANSITION BETWEEN STAB. CONST. ENT. & PUBLIC R.O.W. MUST BE PROVIDED.
- THE RATIO OF STONE SIZE TO WIDTH MUST BE 9:27.

PERCENT SLOPE OF ROADWAY	LENGTH OF STONE REQUIRED	
	COARSE GRAINED SOILS	FINE GRAINED SOILS
0 TO 2%	50 FT.	100 FT.
2 TO 5%	100 FT.	200 FT.
>5%	ENTIRE SURFACE STABILIZED WITH FABRIC BASE COURSE*	

* AS PRESCRIBED BY LOCAL ORDINANCE OR OTHER GOVERNING AUTHORITY.

STABILIZED CONSTRUCTION ACCESS

NOT TO SCALE



NOTES:

- APPROPRIATE TRANSITION BETWEEN STABILIZED CONSTRUCTION ENTRANCE AND PUBLIC R.O.W. MUST BE PROVIDED.
- THE RATIO OF STONE SIZE TO WIDTH MUST BE 9:27.

STABILIZED CONSTRUCTION PAD

NOT TO SCALE

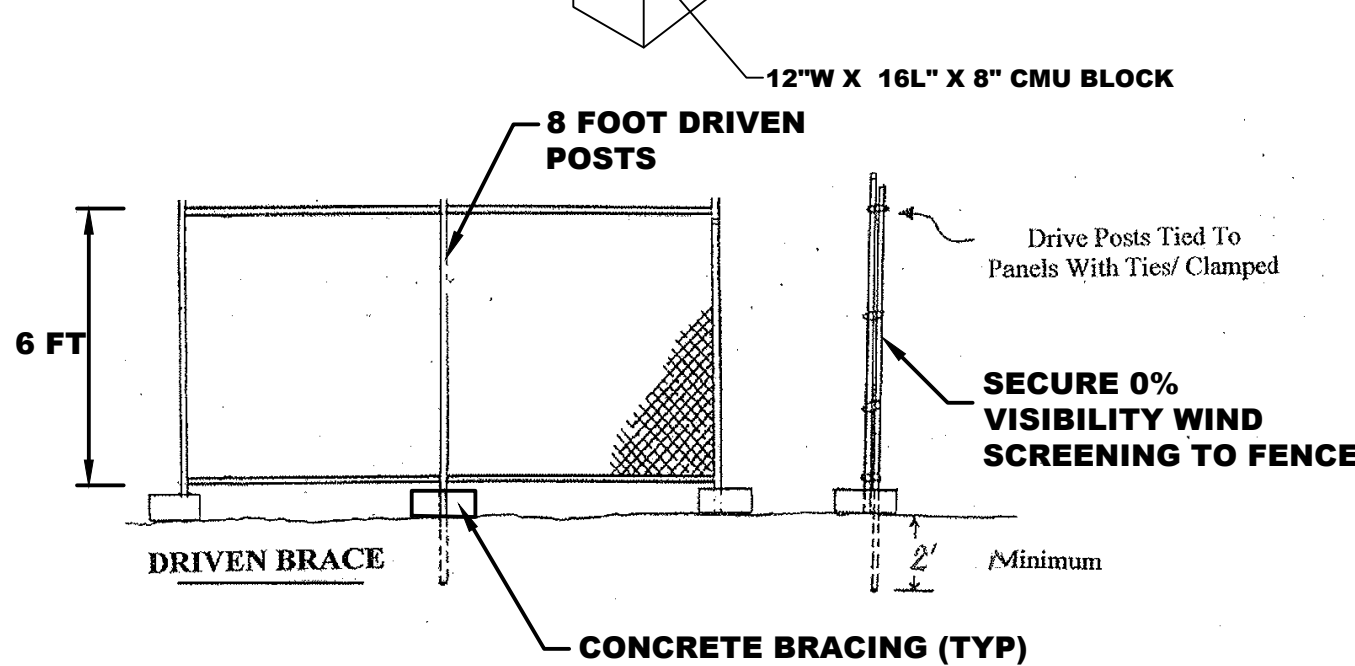
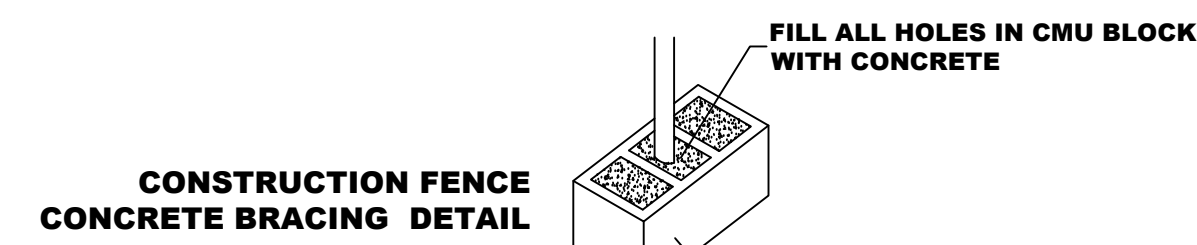
SEQUENCE OF CONSTRUCTION

- | | |
|--|----------|
| 1. INSTALL STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE & INLET FILTERS | 1 WEEK |
| 2. DEMOLITION & SITE CLEARING | 2 WEEKS |
| 3. SITE GRADING AND SOIL COMPACTION | 3 WEEKS |
| 4. INSTALL UNDERDRAINAGE & CONVEYANCE SYSTEMS | 4 WEEKS |
| 5. CONSTRUCT TRACK AND EVENT SUB-BASES | 1 WEEK |
| 7. INSTALL SYNTHETIC TURF FIELD | 2 WEEKS |
| 8. INSTALL ALL-WEATHER TRACK SURFACES | 1 WEEK |
| 9. INSTALL GOALS, BENCHES, ETC. | 1/2 WEEK |
| 10. TOPSOIL & SEED DISTURBED AREAS | 1/2 WEEK |
| 11. REMOVE SOIL EROSION AND SEDIMENT CONTROL DEVICES, FINAL SITE CLEANUP | 2 WEEKS |

TOTAL = 17 WEEKS*

* SOME ITEMS MAY OCCUR SIMULTANEOUSLY DURING CONSTRUCTION

LIMIT OF DISTURBANCE = 109,555 SF (2.515 AC)



NOTES:

- TEMPORARY CONSTRUCTION FENCE SHALL BE 6' HIGH WITH DRIVEN POSTS AS SHOWN OR APPROVED EQUAL.
- FENCE SHALL BE INSTALLED WITH 0% VISIBILITY WIND SCREENING AS SHOWN OR APPROVED EQUAL.
- CONCRETE BRACING SHALL BE AS SHOWN OR APPROVED EQUAL.
- SHOP DRAWINGS SHALL BE PROVIDED PRIOR TO CONSTRUCTION.

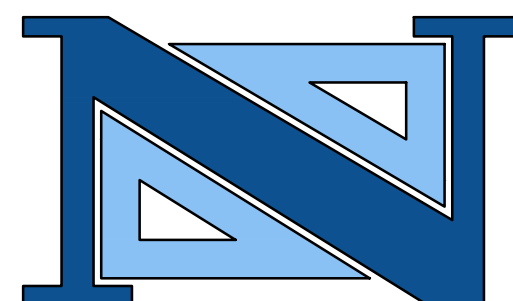
DRIVEN POST CHAIN LINK TEMPORARY CONSTRUCTION FENCE - 6' HIGH

NOT TO SCALE

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2	06/28/17	ISSUED FOR BIDDING	D.R.A.	D.R.A.	D.R.A.
3	08/23/17	REVISED PER 08/17/17 SUSCD COMMENT LETTER (ADDED RIPRAP APRONS AT EXISTING HEADWALLS)	E.M.J.	E.M.J.	D.R.A.
4	09/07/17	ISSUED FOR BIDDING	D.R.A.	D.R.A.	D.R.A.



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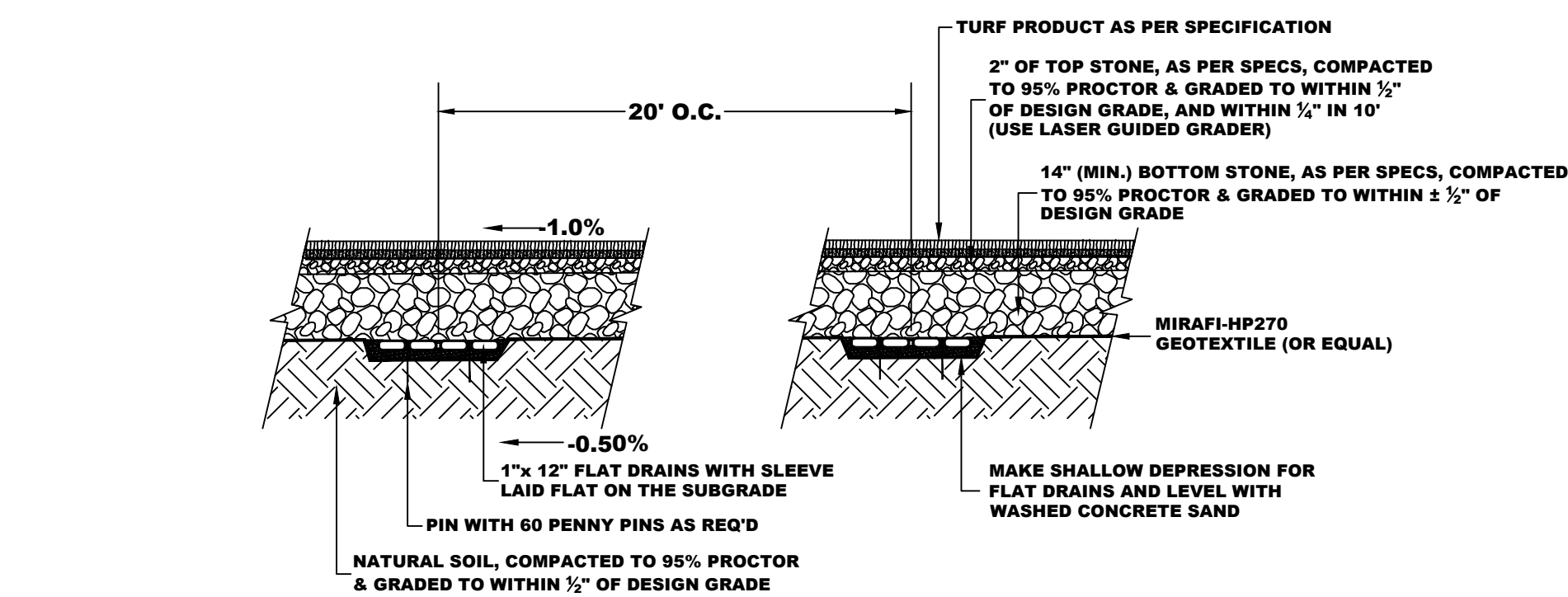
THOMAS R. SOLFARO, P.E., C.M.E.
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N.J. LICENSE NO. 41635

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NEGLIA ENGINEERING ASSOCIATES
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N.J. LICENSE NO. 38604
PROFESSIONAL PLANNER
N.J. LICENSE NO. 33LJ00569800

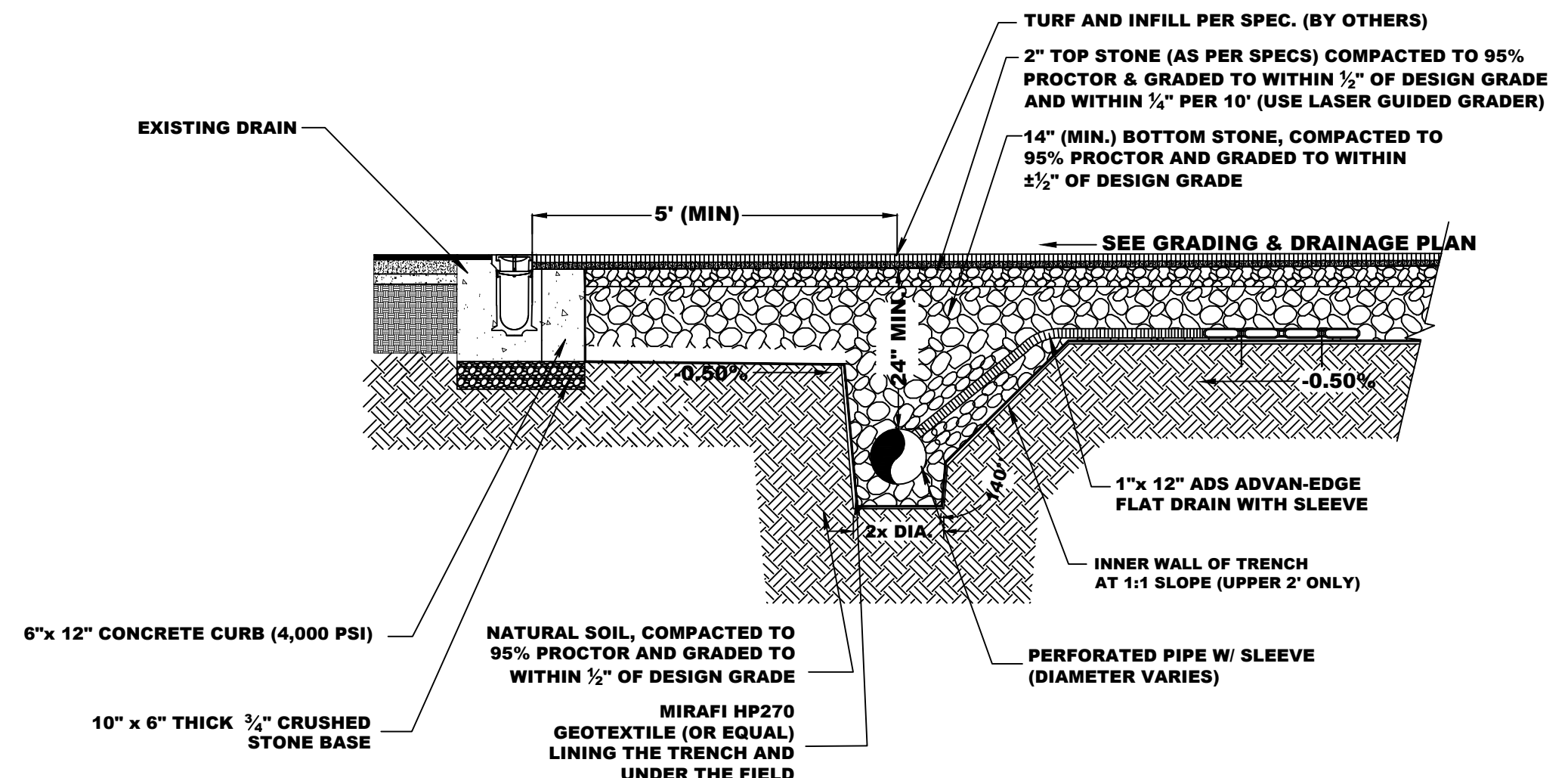
SOIL EROSION & SEDIMENT CONTROL DETAILS
MEISEL PARK FIELD IMPROVEMENTS
BLOCK 1402 - LOT 20
TOWNSHIP OF SPRINGFIELD
UNION COUNTY
NEW JERSEY

DRAWN BY: B.R./E.M.J. CHECKED BY: D.R.A. PROJECT NO: UNIOCTY16.012 SHEET NO: 7.00
DESIGNED BY: B.R./E.M.J. SCALE: N.T.S. DATE: MARCH 16, 2017



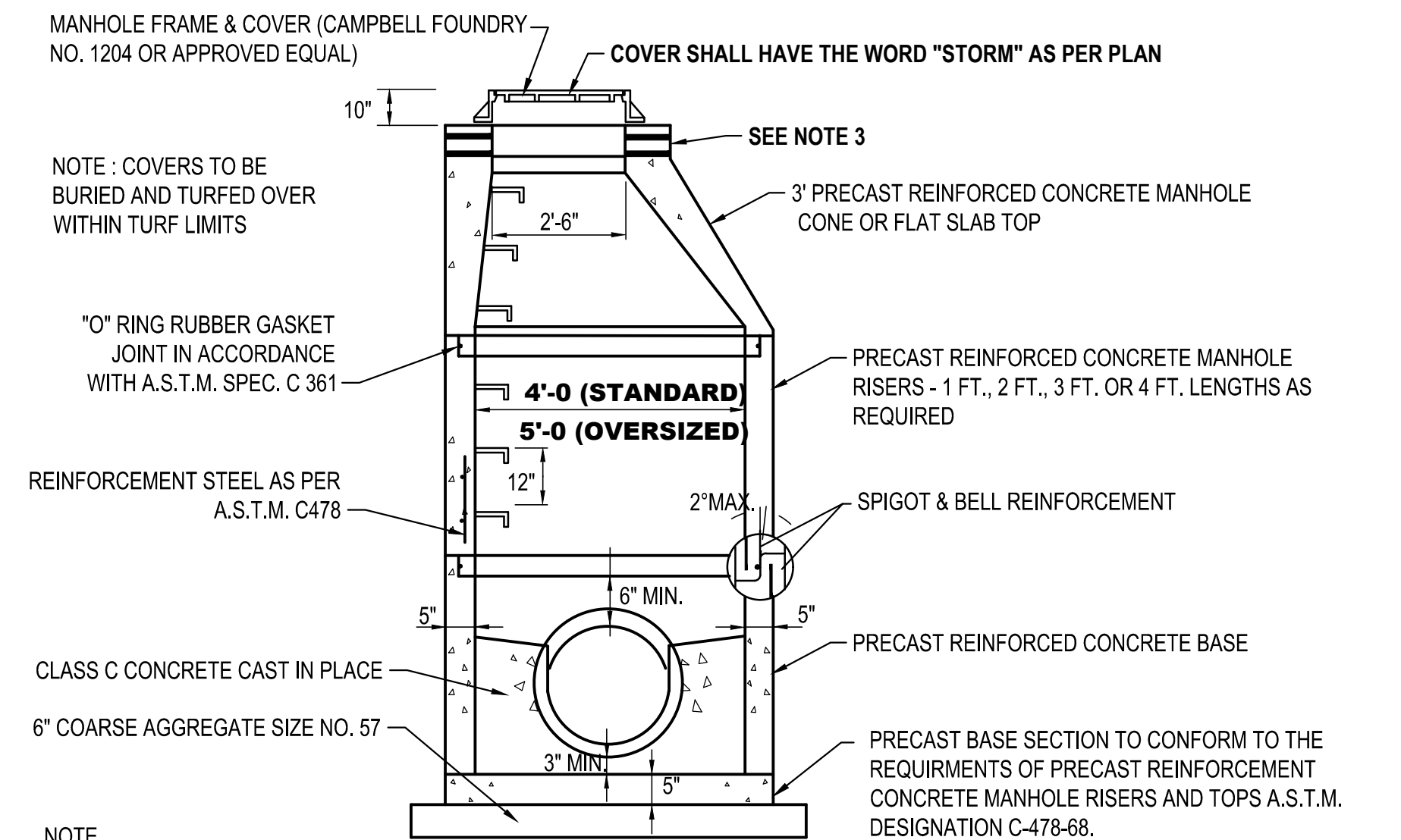
TYPICAL BASE SECTION UNDER ARTIFICIAL TURF

NOT TO SCALE



EDGE BETWEEN ARTIFICIAL TURF & ALL WEATHER SURFACE

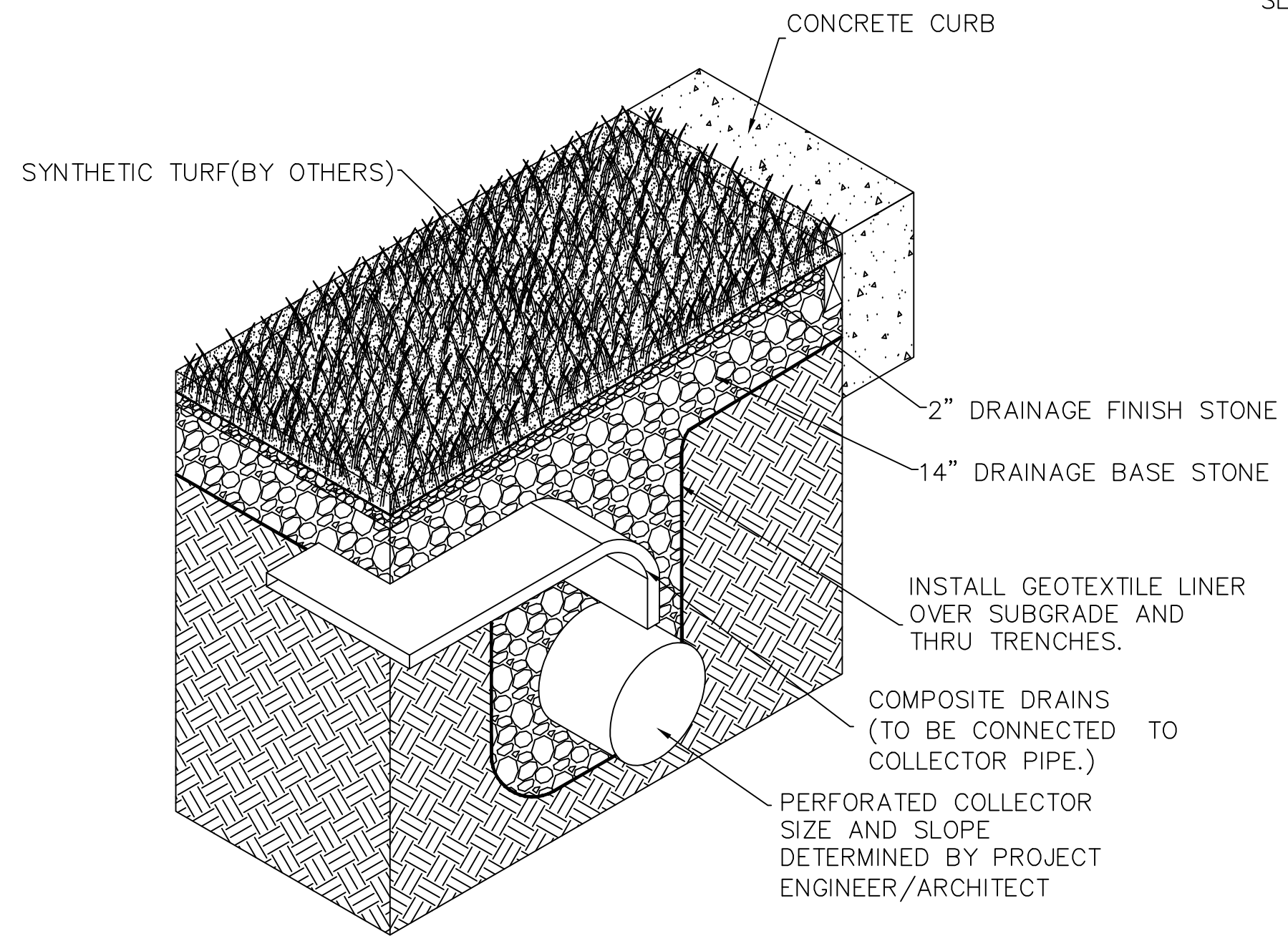
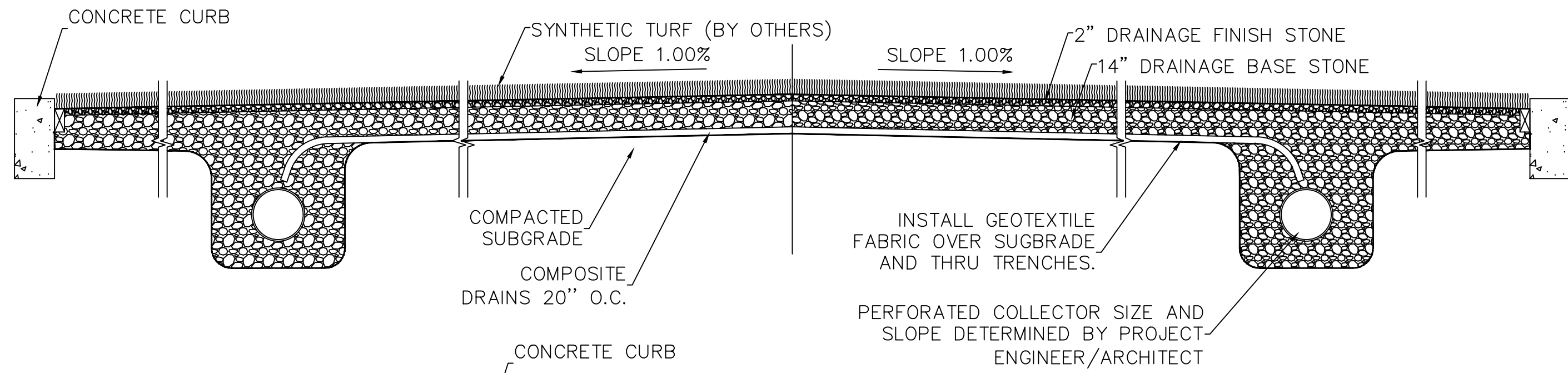
NOT TO SCALE



NOTE
 1) ALL PIPES ARE TO BE CUT FLUSH WITH STRUCTURE WALL.
 2) COST FOR FRAME AND COVER ARE INCLUDED IN THE BID PRICE FOR THE STRUCTURE.
 3) SHOP DRAWINGS MUST BE SUBMITTED BY A NEW JERSEY PROFESSIONALLY LICENSED ENGINEER FOR ALL PROPOSED PRECAST STRUCTURES THREE (3) WEEKS PRIOR TO CONSTRUCTION.

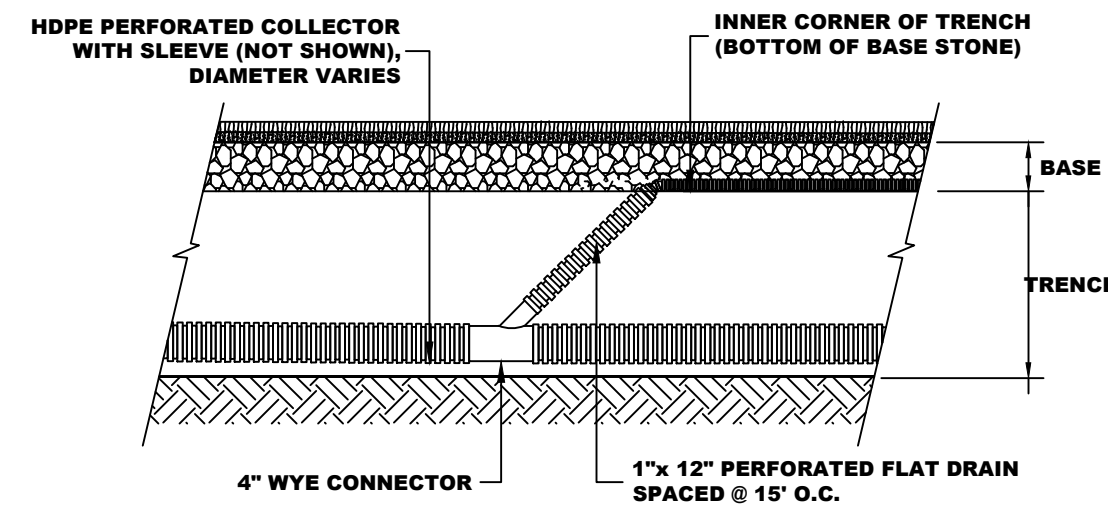
PRECAST CONCRETE MANHOLE

NOT TO SCALE



CROSS-SECTIONAL AND ISOMETRIC DETAILS OF TURF UNDERDRAINAGE

NOT TO SCALE



CONNECTION OF FLAT DRAINS TO PERIMETER DRAINS

NOT TO SCALE

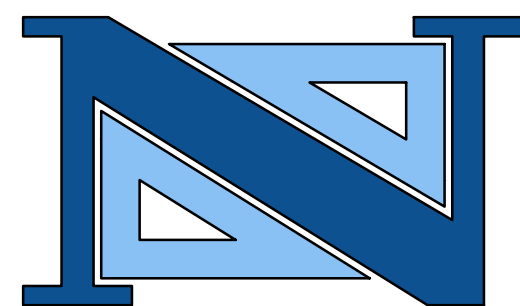
FIELD DRAINAGE NOTES:

1. AFTER EXCAVATION OF EXISTING SOIL TO THE PROPER ELEVATIONS REQUIRED THE NEW SUBGRADE WILL BE SHAPED AND COMPACTED TO 95% DENSITY WITH A 0.5% SLOPE TO ALLOW FOR DRAINAGE.
2. A GEOTEXTILE FILTER FABRIC WILL BE PLACED OVER THE SUBGRADE AND COMPOSITE DRAINS WILL BE INSTALLED AT 20 FEET ON CENTER AT A 45 DEGREE ANGLE TO THE FIELD.
3. THE COMPOSITE DRAINS WILL DRAIN TO A PERIMETER COLLECTOR WHICH WILL BE CONNECTED TO THE EXISTING DRAINAGE SYSTEM. REFER TO THE FIELD DRAINAGE PLAN AND THE COMPOSITE DRAIN DETAIL.
4. CLEAN WASHED STONE WILL BE PLACED OVER THE COMPOSITE DRAINS AND THE PERIMETER COLLECTORS AND FINE GRADED FOR A FIELD WITH A 0.5% SLOPE.
5. A 2" LAYER (MAX. DEPTH) OF FINISH STONE WILL BE FINE GRADED OVER THE BASE STONE FOR A FINISH SLOPE OF 0.5%.
6. SYNTHETIC TURF WILL BE INSTALLED OVER THE STONE BASE AND THE RUBBER INFILL WILL BE FLUSH WITH THE TOP OF THE CHANNEL DRAIN. TURF AND INFILL MATERIAL TO BE FURNISHED AND INSTALLED BY OTHERS.

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[Signature]

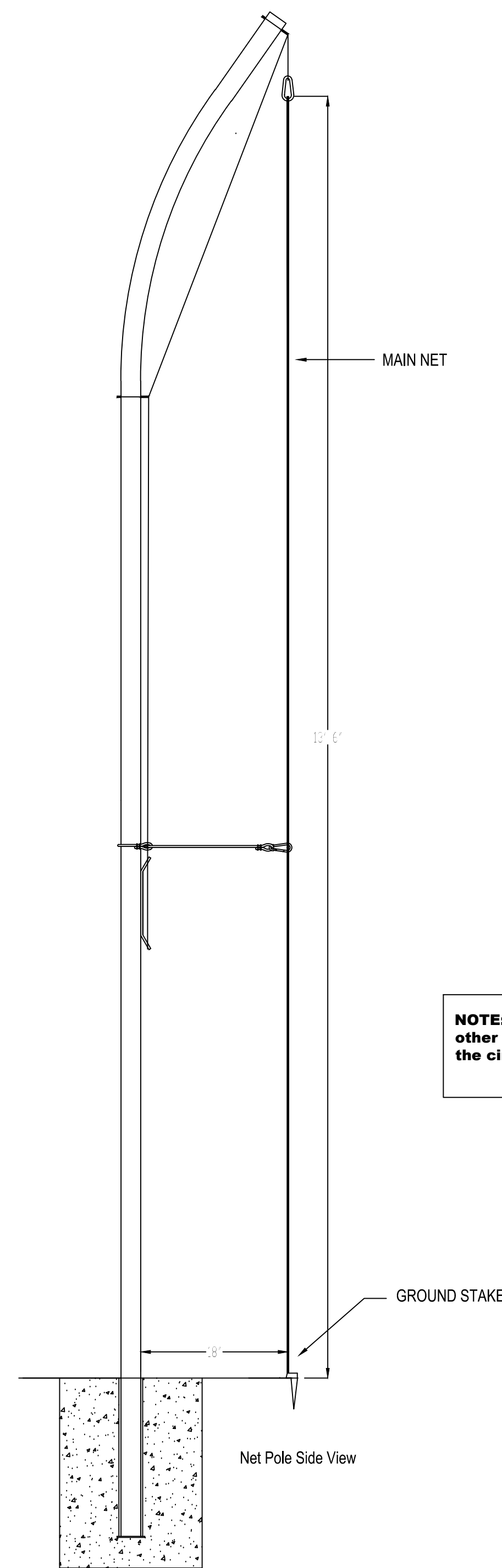
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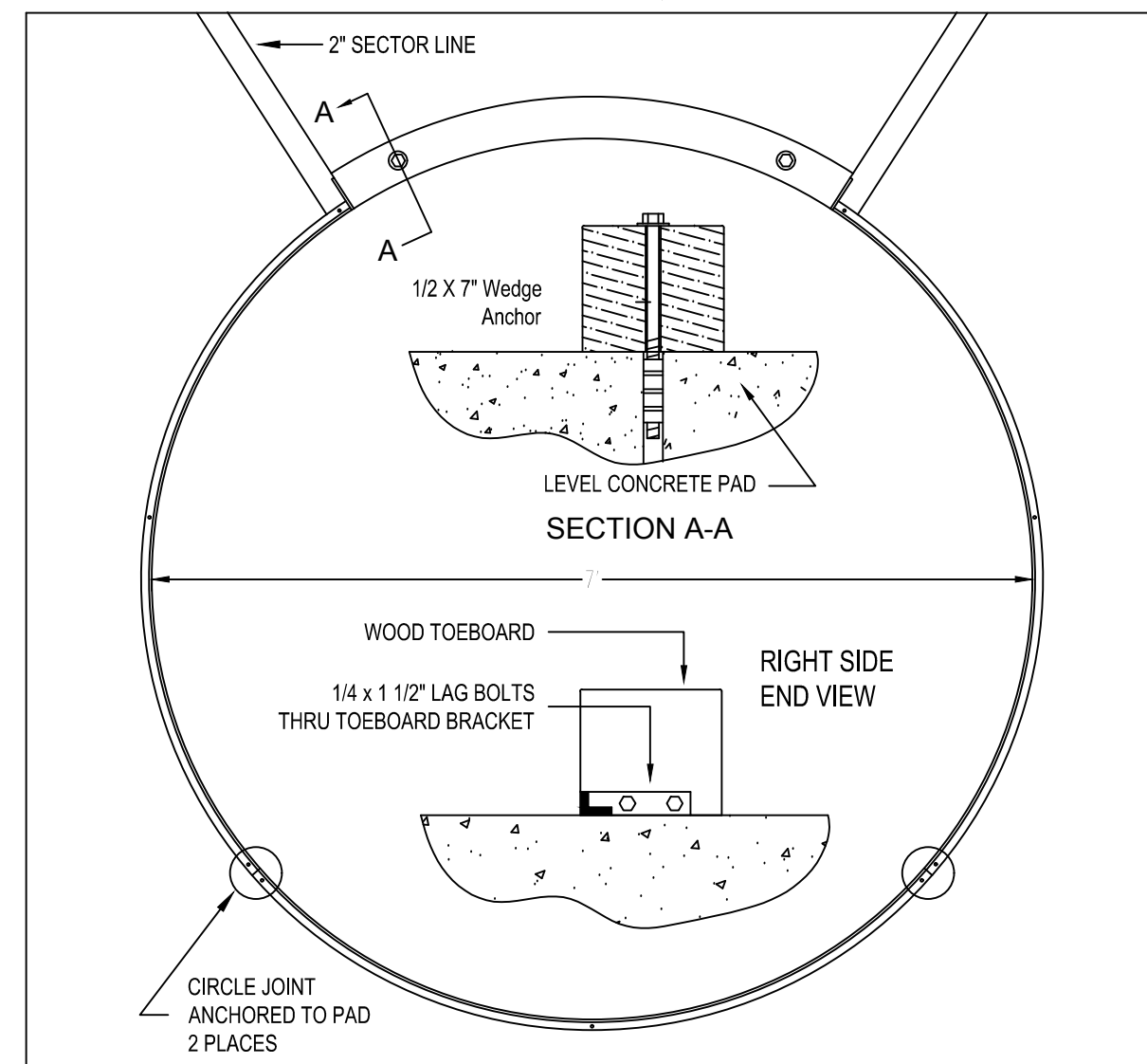
MICHAEL J. NEGLIA, P.E., P.L.S., P.P.
 PROFESSIONAL ENGINEER
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 N.J. LICENSE NO. 38604
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 N.J. LICENSE NO. 33100569800

CONSTRUCTION DETAILS
MEISEL PARK FIELD IMPROVEMENTS
BLOCK 1402 - LOT 20
TOWNSHIP OF SPRINGFIELD
UNION COUNTY
NEW JERSEY

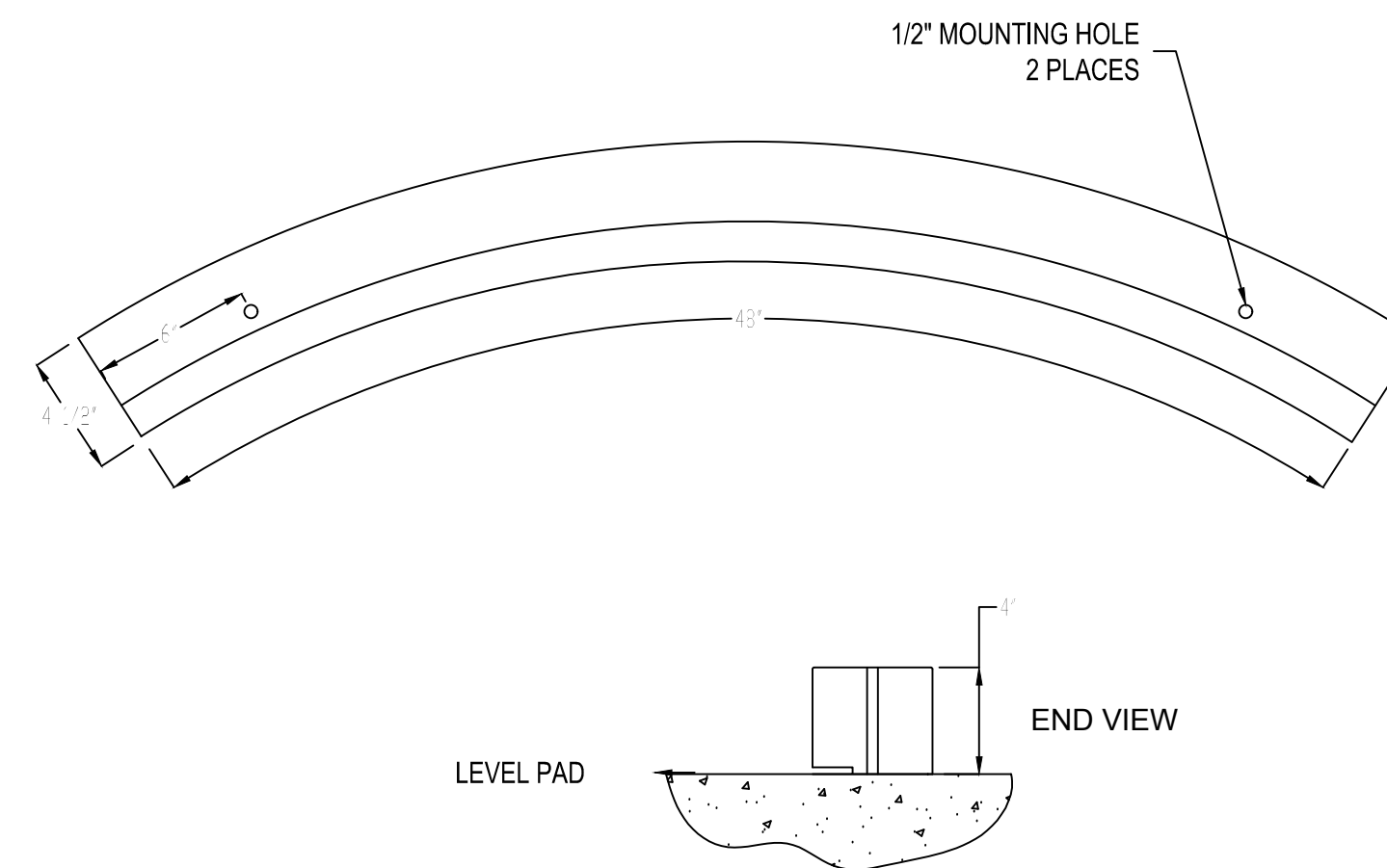
DESIGNED BY: B.R./E.M.J. SCALE: N.T.S. PROJECT NO: UNIOCTY16.012 SHEET NO: 7.01
 DRAWN BY: B.R./E.M.J. CHECKED BY: D.R.A. FIELD BOOK NO: DATE: MARCH 16, 2017



NOTE: Toeboard must be centered on sector lines, high school sector shown.



- NOTES:**
1. The Model SE360 toeboard as manufactured by SportsEdge, Provincetown, MA (or approved equal) is mounted to a flat throwing surface (pad) with a SE373 circle (see details) to designate the throwing circle. The circle should be centered on the pad.
 2. Circumscribe a 7 foot diameter circle on the pad to designate the inside edge of the aluminum shot circle. The circle should be centered on the pad.
 3. Using the toeboard as a template, mark the center of the holes to be drilled for the 1/2" wedge anchors. Be sure the toeboard is properly positioned with the inside curved edge even with the inner edge of the scribed line. The toeboard must also be centered on the sector lines.
 4. Drill the holes for the bolt anchors and LOOSELY mount the toeboard in position. Lay out the aluminum circle sections so the inside edge corresponds with the 7 foot circle on the pad and the toeboard brackets are even with the inner edge of the toeboard. Mark the ends of the toeboard and the pad where the lag screws and anchors for the circle will go. The circle will require nine 1/4" concrete anchor screws.
 5. Remove the circle sections and toeboard. Drill two 5/32" pilot holes in each end of the toeboard at the marked locations. Drill nine holes in the pad for the circle concrete anchors, hole size will depend on the type of anchor you use.
 6. Install two 1/2" anchors through the toeboard, and secure it in place. Use flat washers between the toeboard and the heads of the anchor bolts. Secure the circle toeboard brackets to the ends of the toeboard with the 1/4" lag screws provided. Secure the circle sections to the pad with the anchor screws. The SE360 toeboard shall meet all NFHS requirements for high school use.

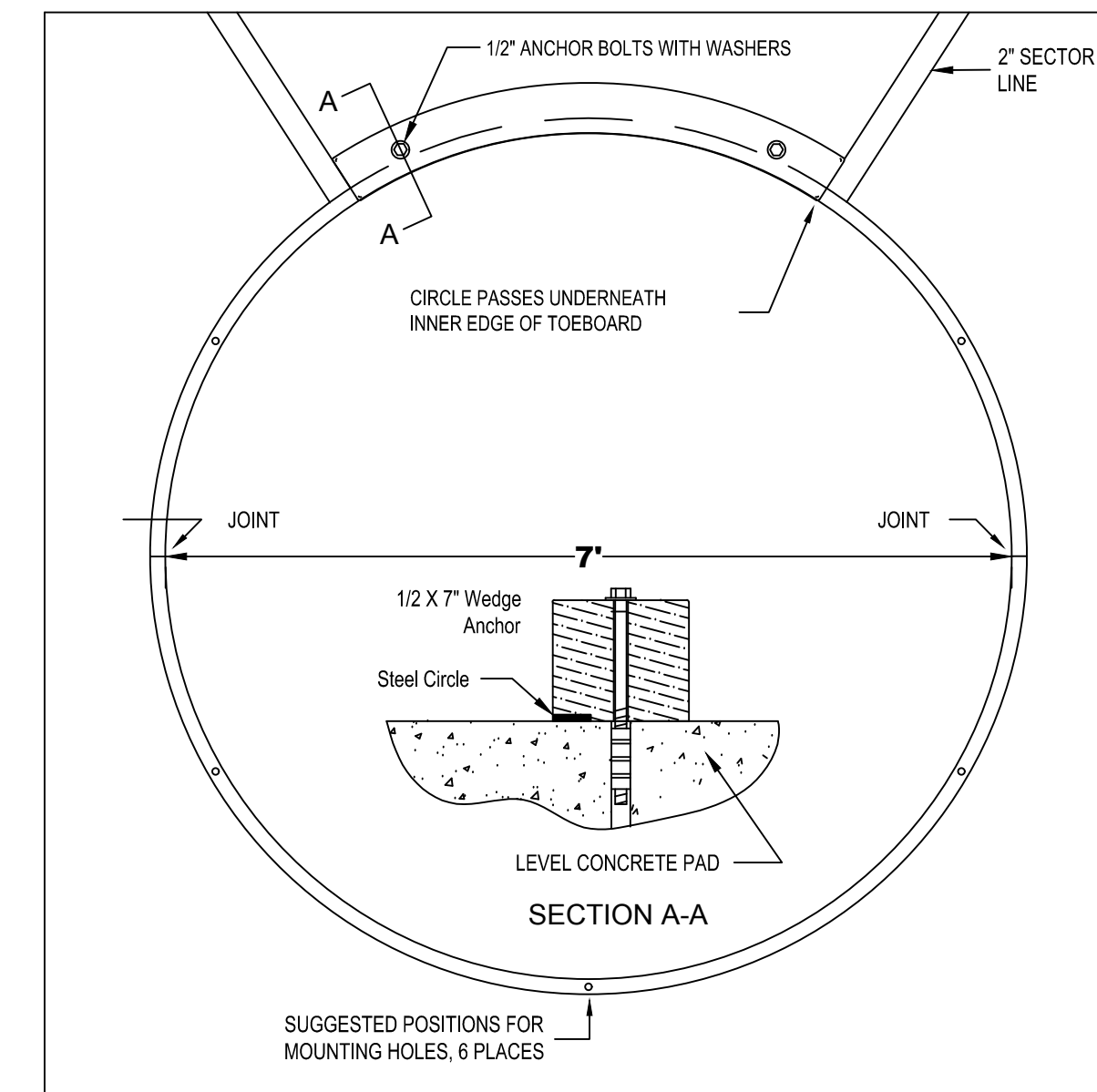


- NOTES:**
1. The SE360 Wood Toeboard as manufactured by SportsEdge, Provincetown, MA (or approved equal) is designed to be used on a level throwing surface with the SE373 Steel Shot Circle (see details). The toeboard is fabricated from select yellow pine and sealed with two coats of white enamel paint. The SE360 toeboard shall meet all NFHS requirements for high school use.

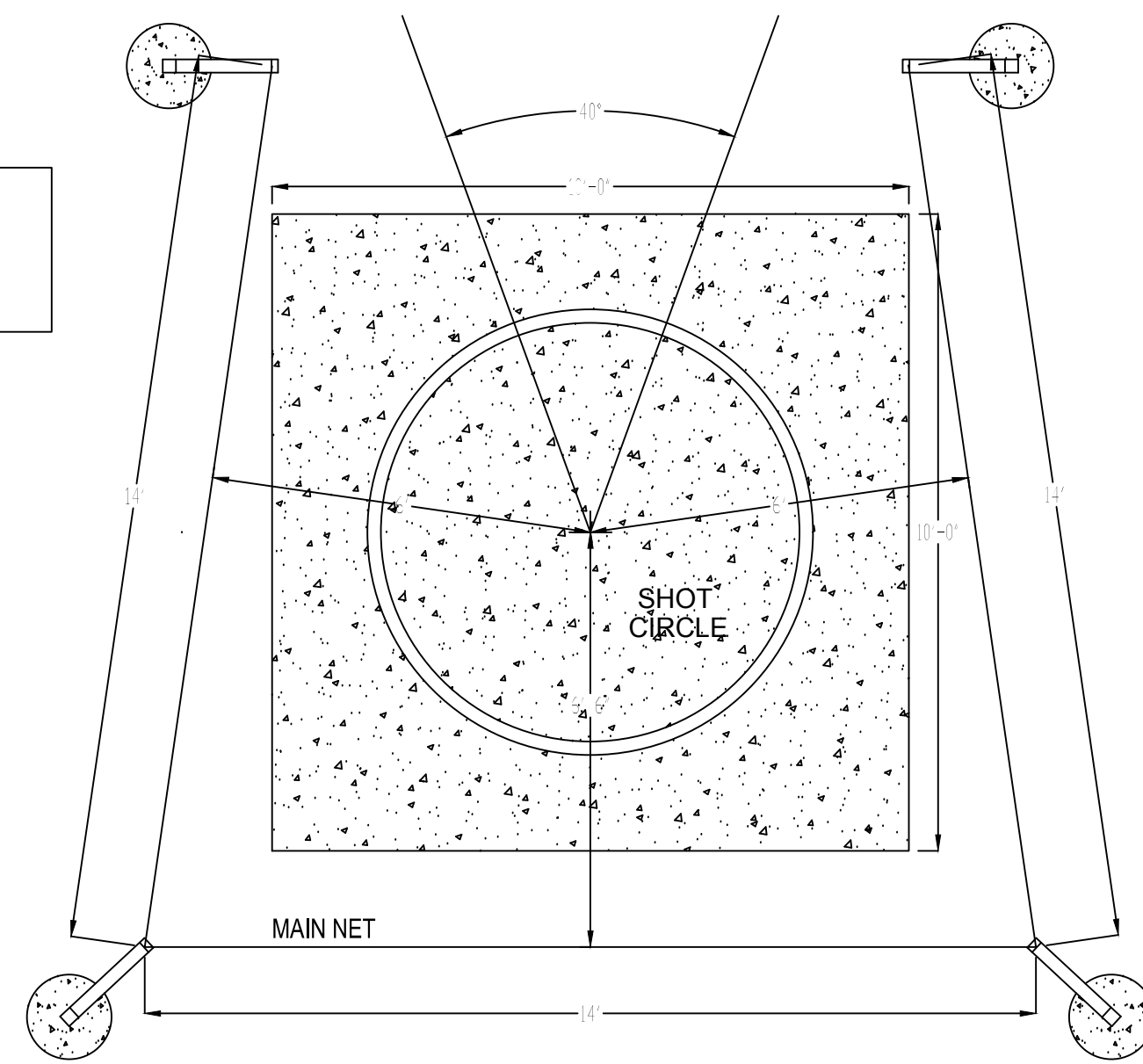
SHOT CIRCLE WOOD TOEBOARD, LEVEL PAD

NOT TO SCALE

NOTE: Toeboard must be centered on sector lines, high school sector shown.



- NOTES:**
1. The Model SE360 toeboard as manufactured by SportsEdge, Provincetown, MA (or approved equal) is mounted to a flat throwing surface (pad) with a SE373 Steel Shot Circle (see details).
 2. Scribe a 7 foot diameter circle on the pad to designate the inside edge of the steel shot circle or 2" wide painted circle. The circle should be centered on the pad with the two section joints to the right and left sides.
 3. Using the toeboard as a template, mark the center of the holes to be drilled for the 1/2" wedge anchors. Be sure the toeboard is properly positioned with the inside curved edge even with the inner edge of the steel circle. The toeboard must also be centered on the sector lines.
 4. Drill the holes for the wedge anchors and mount the circle and toeboard. Use 1/2" flat washers between the toeboard and the anchor nuts. The SE360 toeboard shall meet all NFHS requirements for high school use.

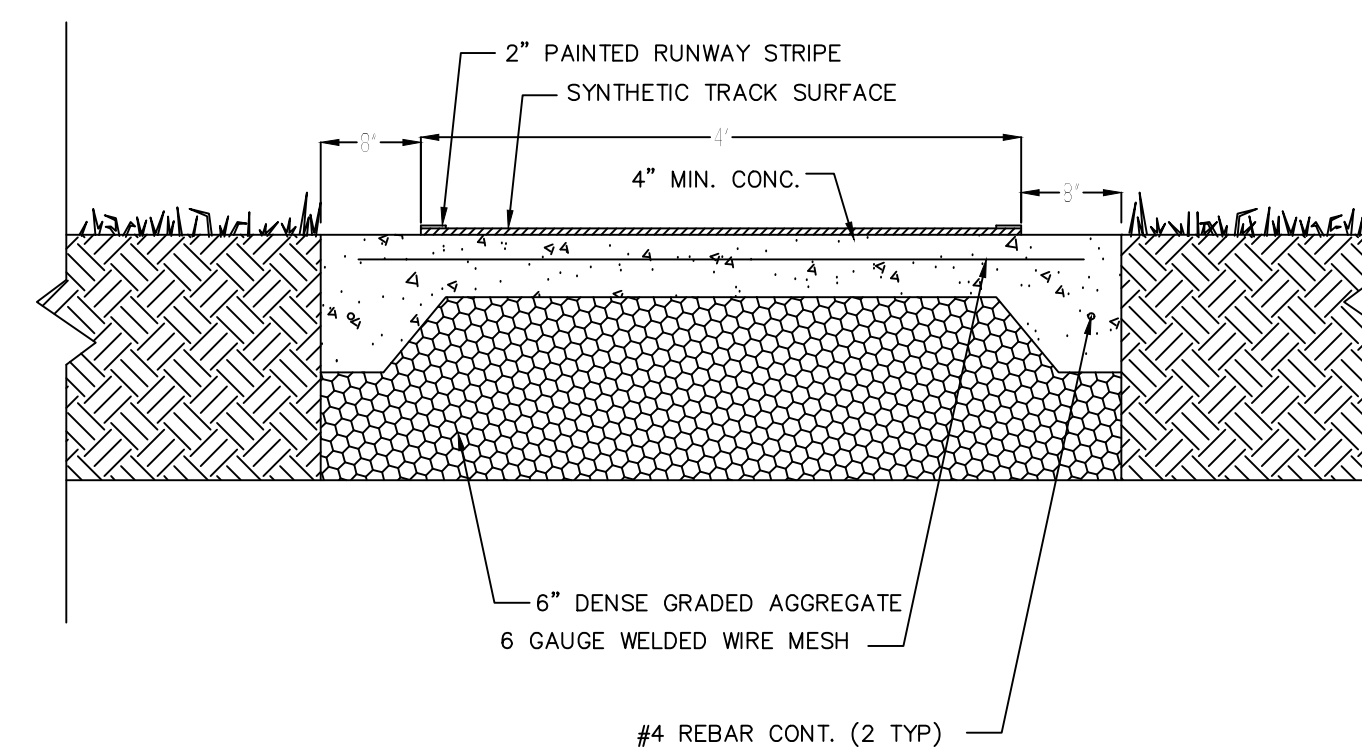


Drawing "A" - Cage Layout

- NOTES:**
1. The Model SE805 Steel Shot Cage as manufactured by SportsEdge, Provincetown, MA (or approved equal) consists of four painted steel net poles with ground sleeves, a vinyl coated net support cable to reduce net sag, and a weather treated nylon net. Also included are four net ground stakes to position the net at the base of the pole and net retainer ropes. The poles are 14 gauge, 2-1/2" square steel tube finished with white powder coat paint. Each pole stands in a 20" deep ground sleeve. The net is 320 lb. test nylon which has been weather treated. The SE805 Steel Shot Cage shall meet all NFHS requirements.

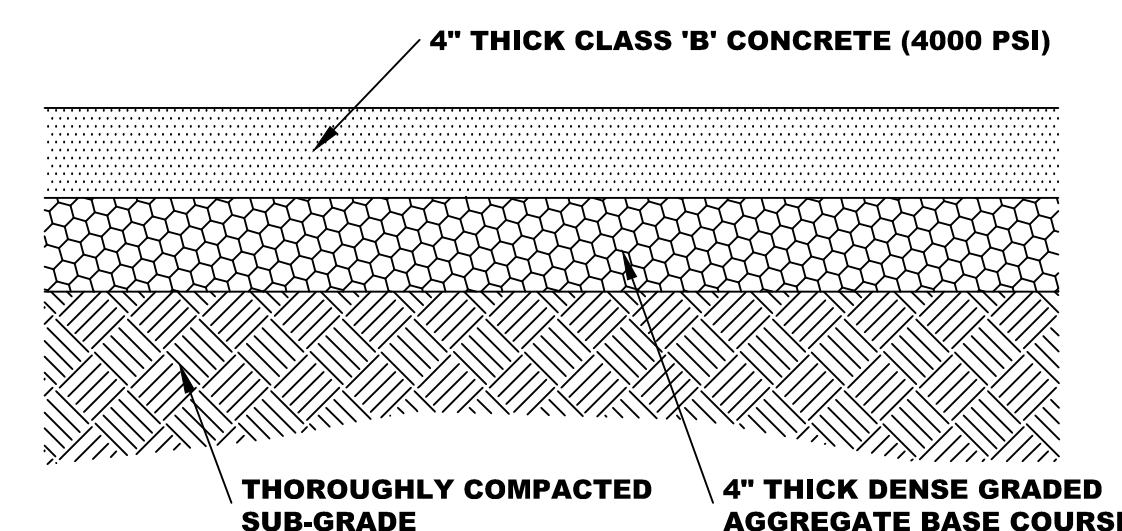
STEEL SHOT CIRCLE CAGE

NOT TO SCALE



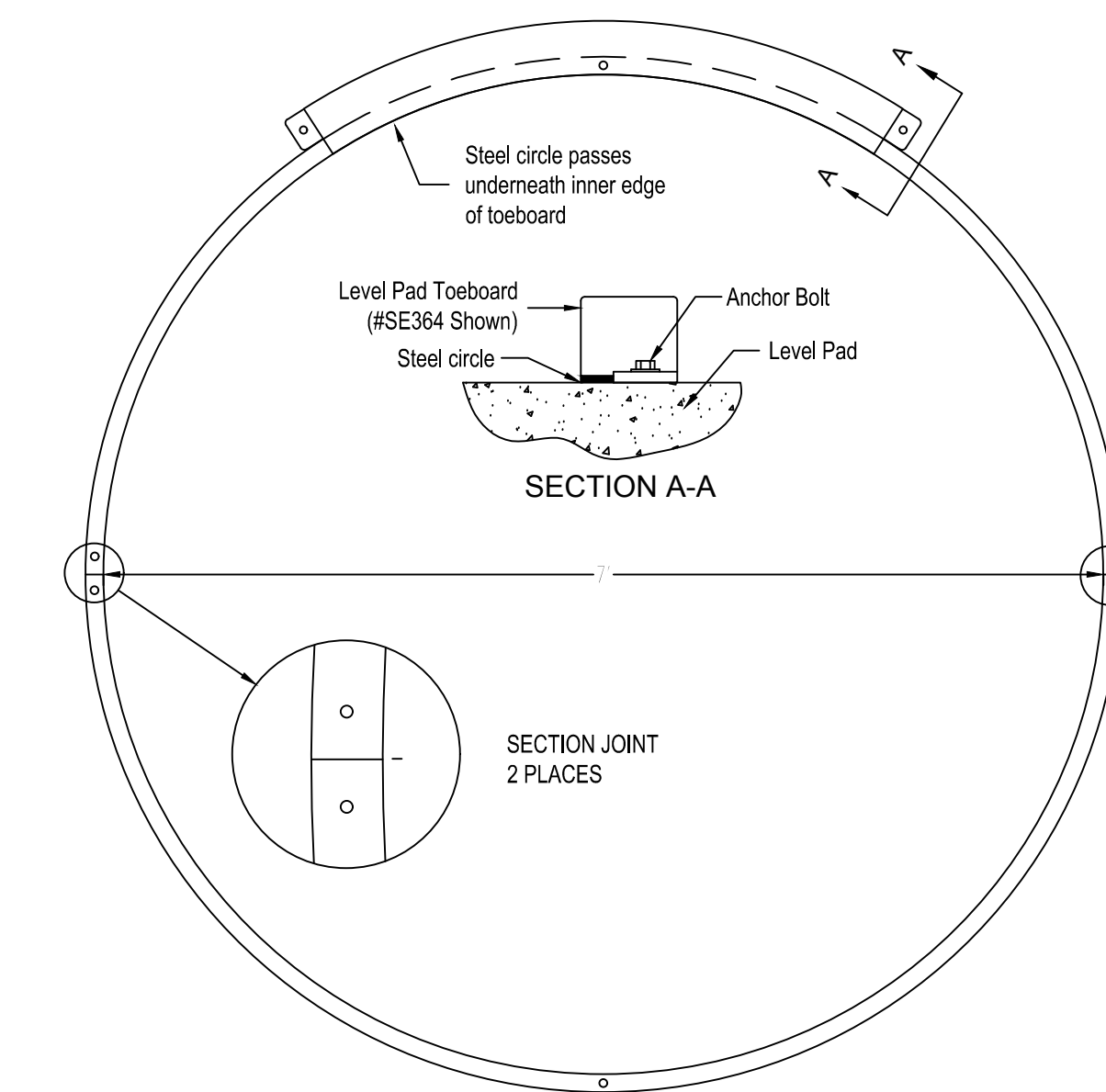
RUNWAY DETAIL

NOT TO SCALE



TYPICAL CONCRETE PAD DETAIL

NOT TO SCALE



NOTE: When used as a shot circle, a SE360 Wood Toeboard is required. Toeboards are sold separately.

NOTICE: All installations should be conducted by experienced contractors and in accord with all applicable codes, laws and regulations. Suggested instructions herein are illustrative only and should be adapted to suit local requirements. SportsEdge is not responsible for the manner in which these products are installed.

The Model SE373 Steel Shot Circle as manufactured by SportsEdge, Provincetown, MA (or approved equal) consists of two flat segments that are installed end to end to form a 7 ft. circle. Each segment is roll bent out of 1/4" x 1-1/2" steel strip to a radius of 42". This product is designed to be bolted to the surface of a new or existing level pad. Mounting holes are drilled at the ends and center of each segment for 1/4" anchors. This circle shall meet NFHS specifications.

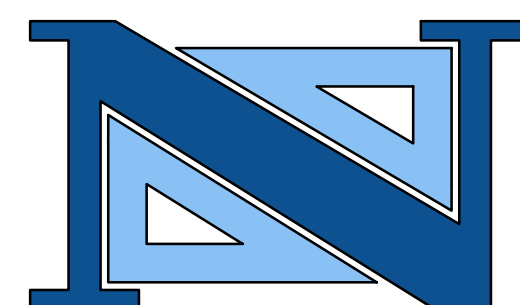
STEEL SHOT CIRCLE

NOT TO SCALE

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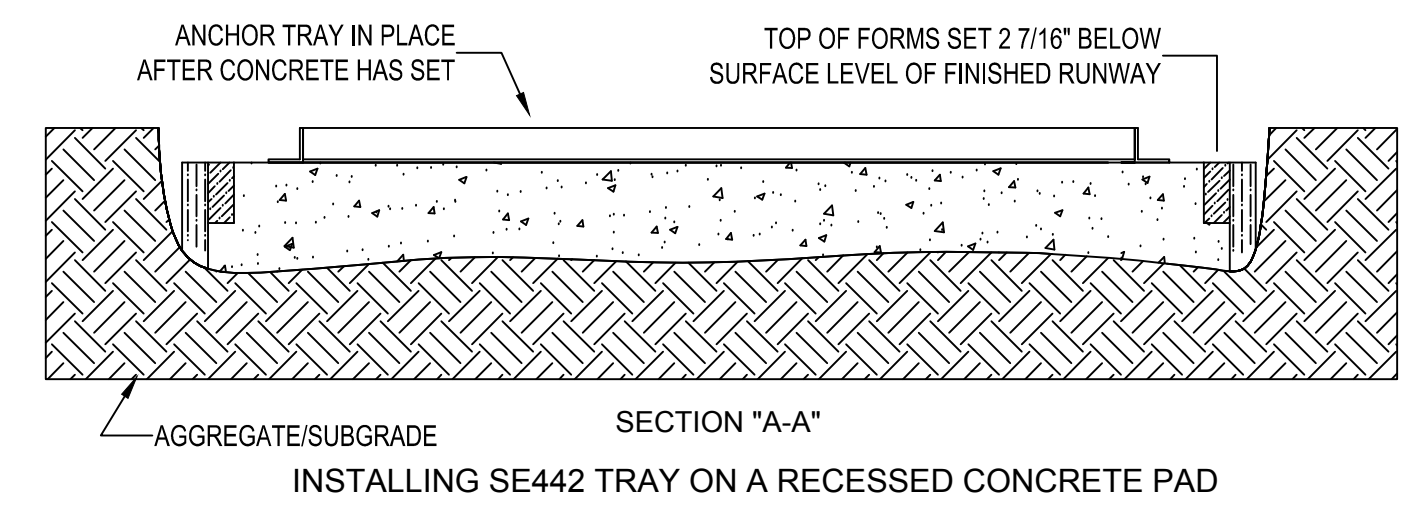
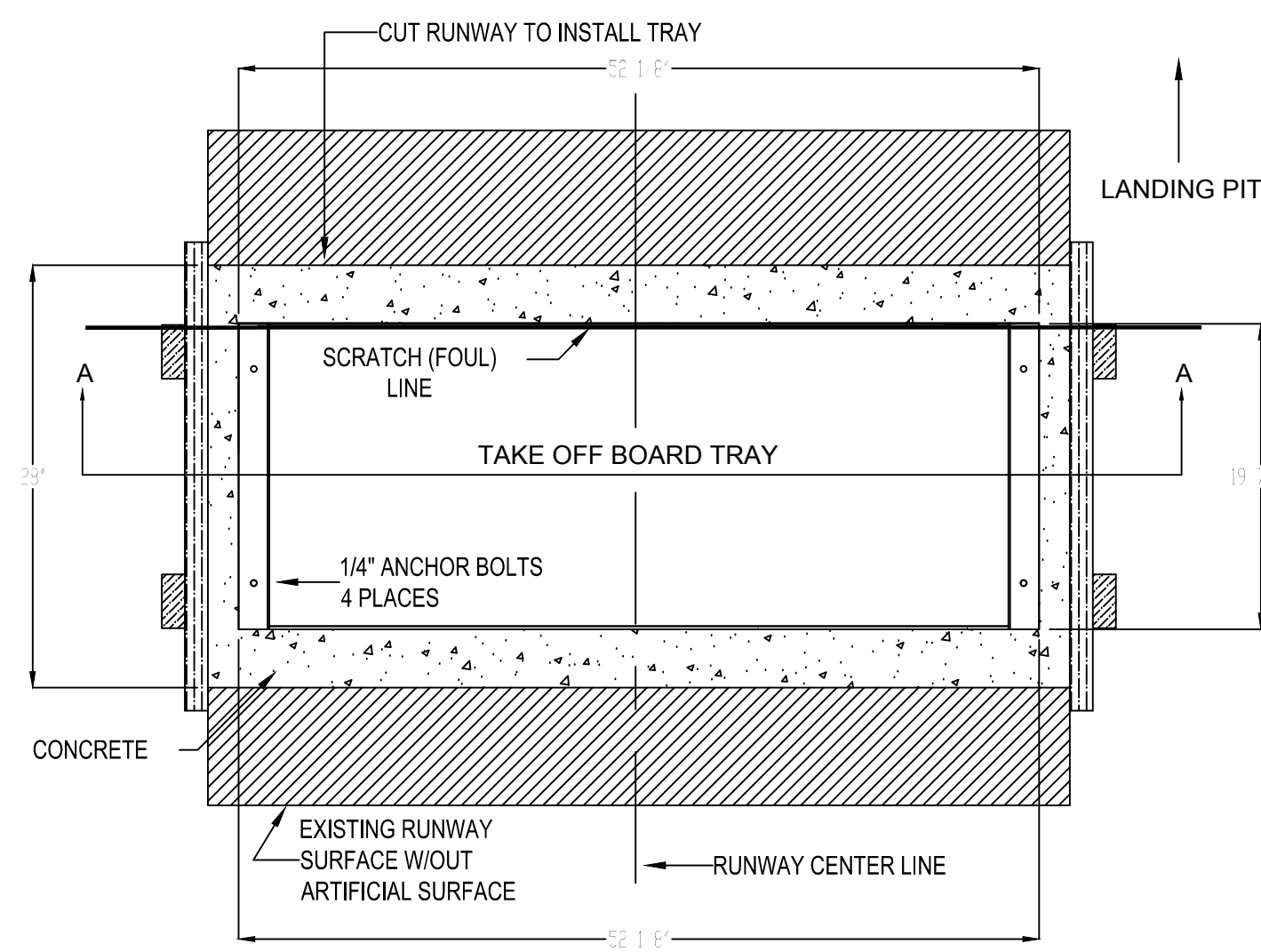
MICHAEL J. NEGLIA, P.E., P.L.S., P.P.
PROFESSIONAL ENGINEER
N.J. LICENSE NO. 38604

PROFESSIONAL LAND SURVEYOR
N.J. LICENSE NO. 38604

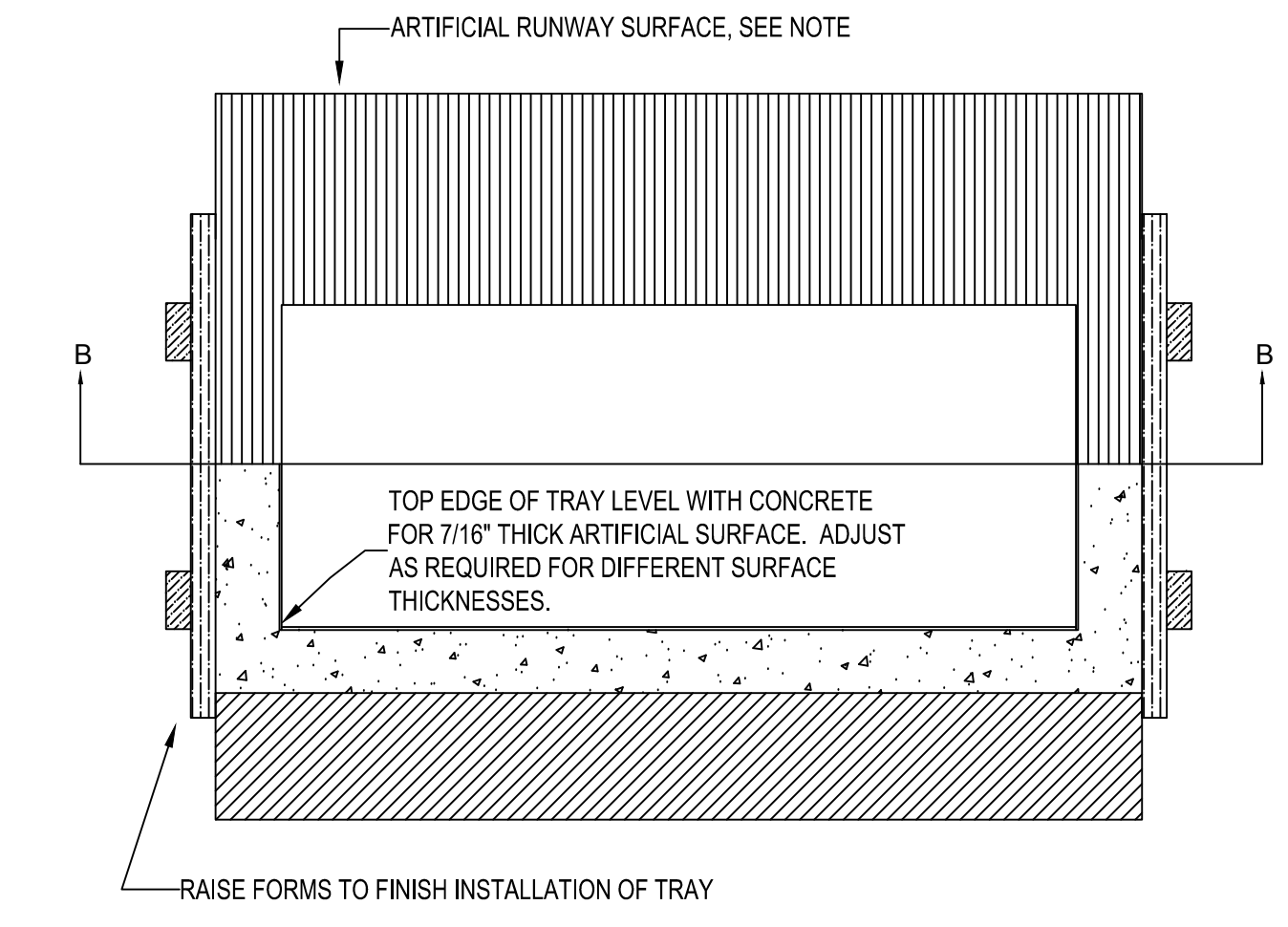
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N.J. LICENSE NO. 33LJ00569800

CONSTRUCTION DETAILS
MEISEL PARK FIELD IMPROVEMENTS
BLOCK 1402 - LOT 20
TOWNSHIP OF SPRINGFIELD
UNION COUNTY
NEW JERSEY

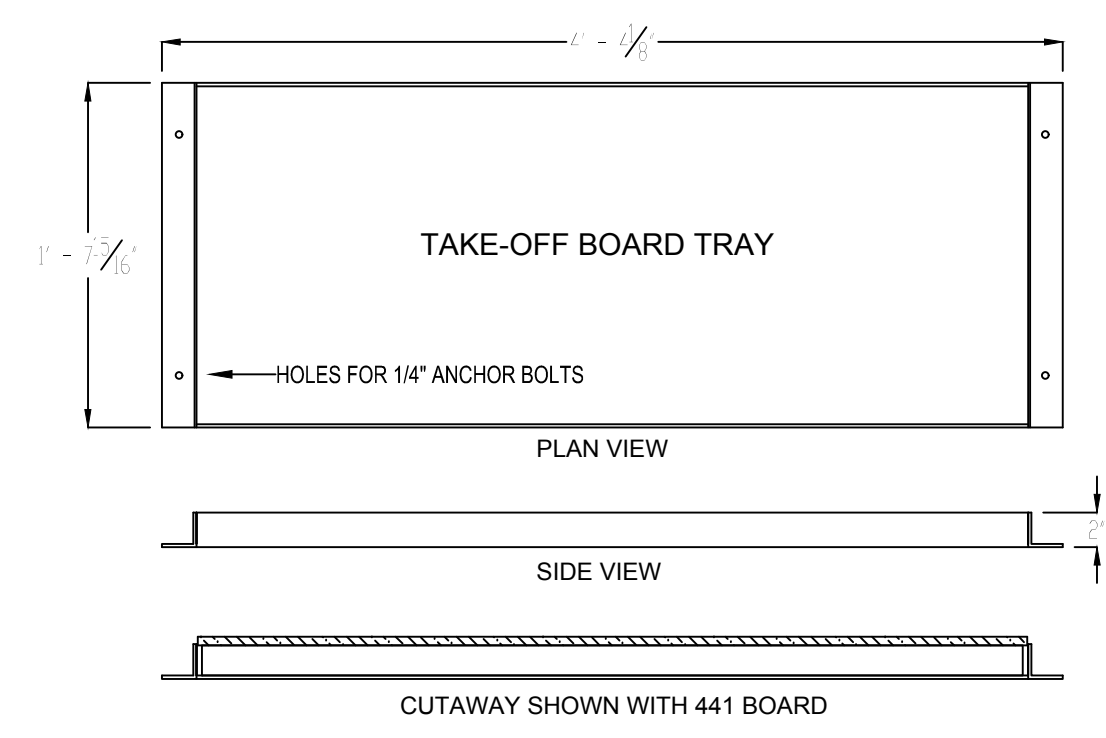
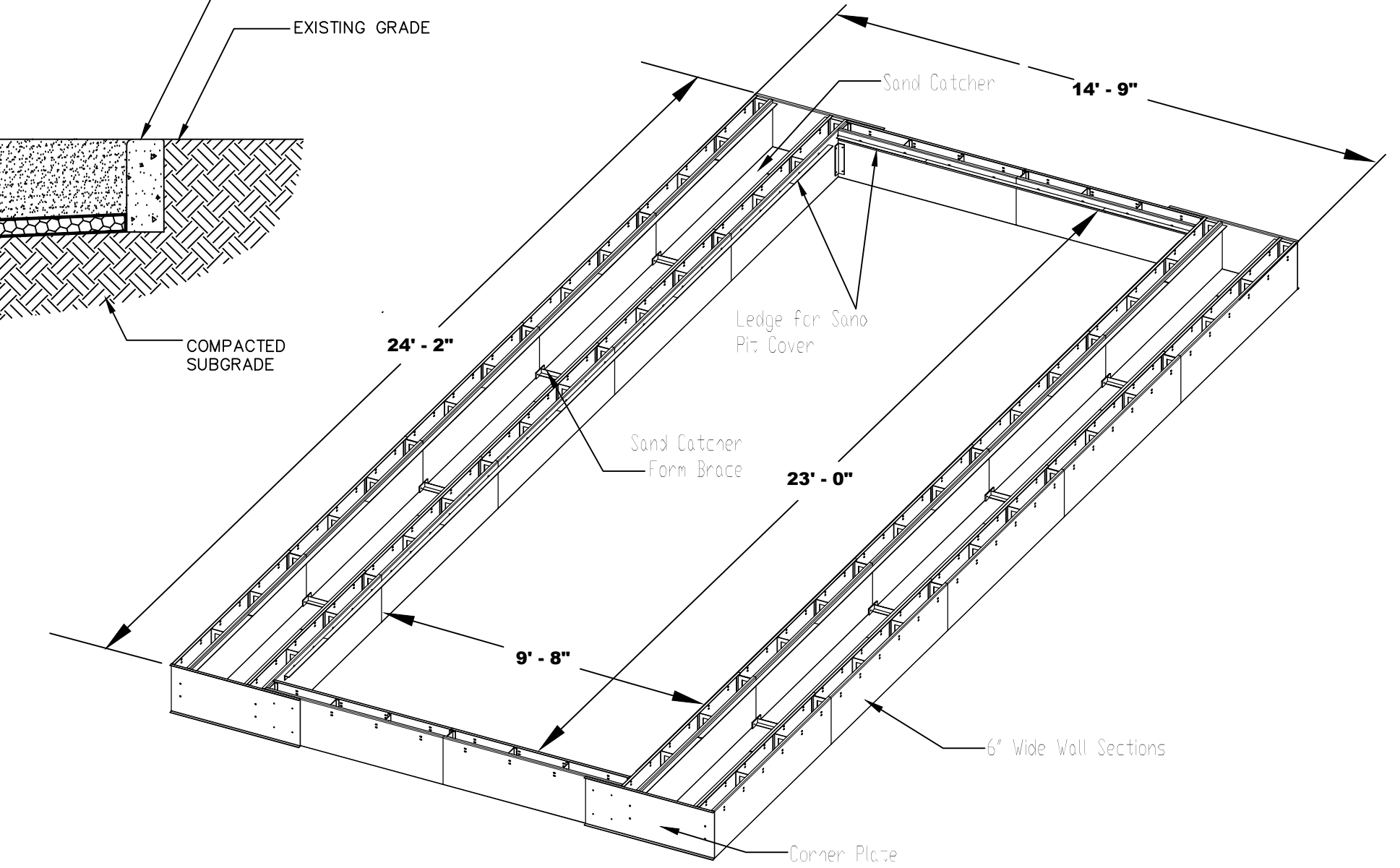
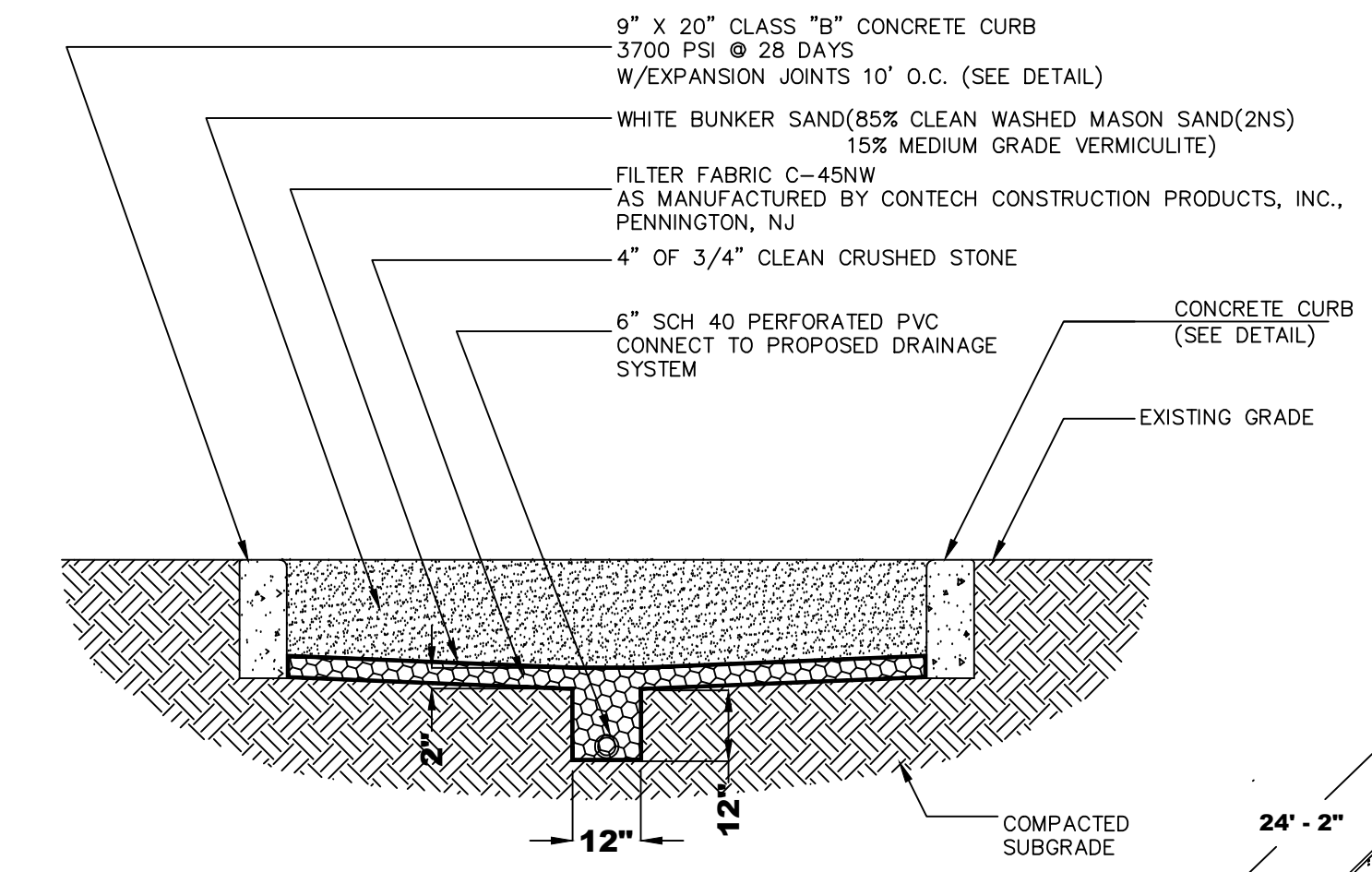
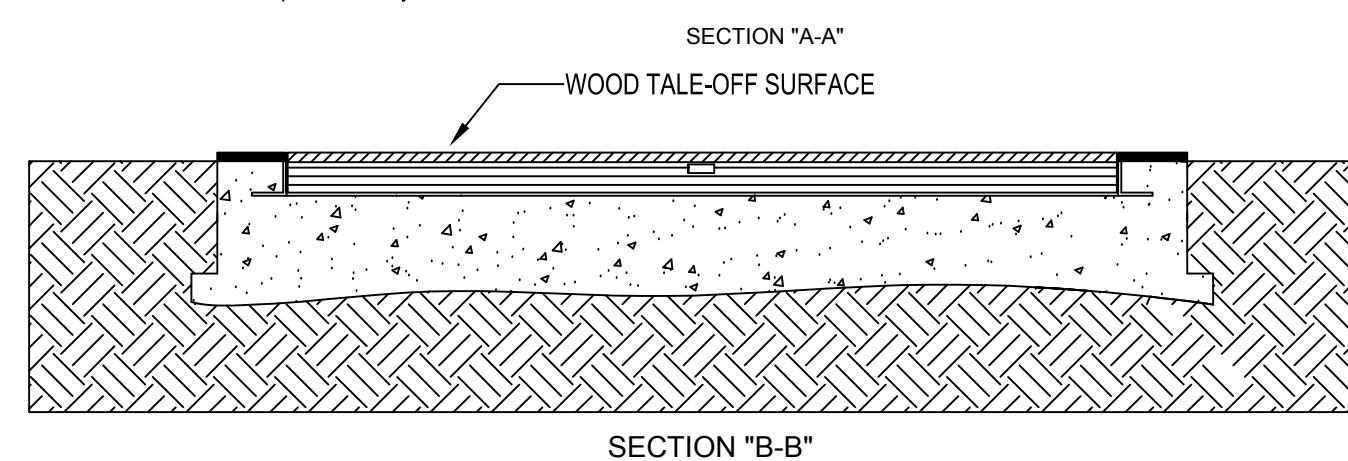
DRAWN BY: B.R./E.M.J. CHECKED BY: D.R.A. PROJECT NO.: UNIOCTY16.012 SHEET NO.: 7.02
DESIGNED BY: B.R./E.M.J. SCALE: N.T.S. DATE: MARCH 15, 2017
FIELD BOOK NO.: [] PAGE: []



INSTALLING SE442 TRAY ON A RECESSED CONCRETE PAD

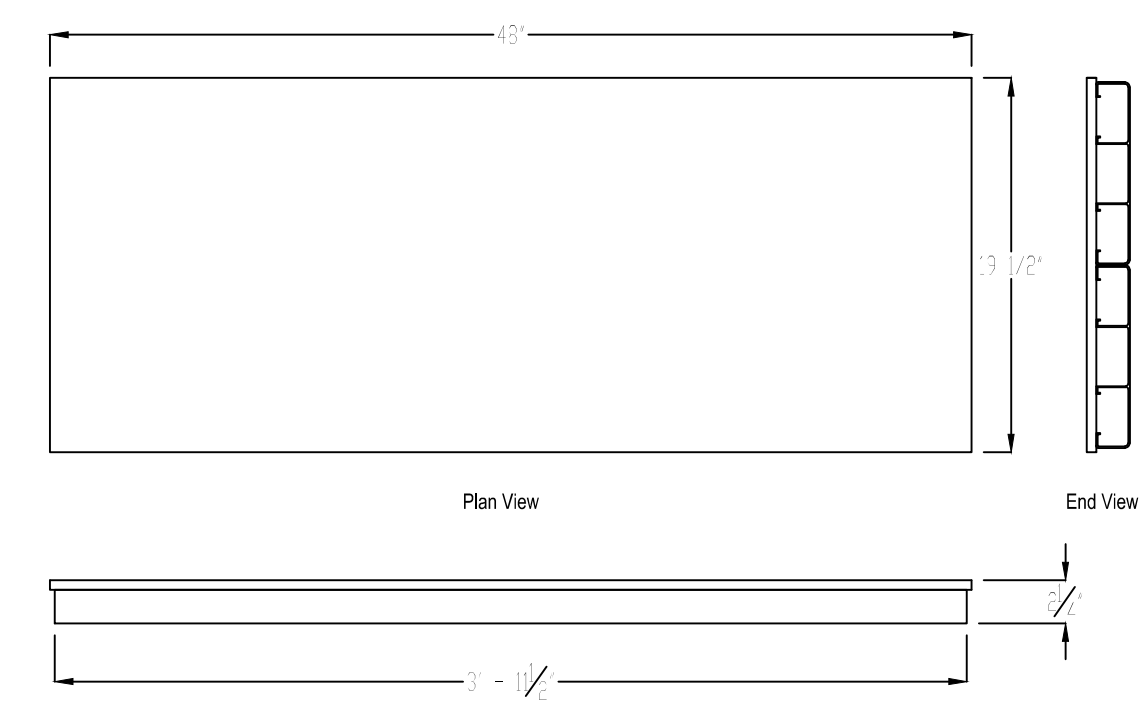


NOTE:
 1. Artificial runway surface should be trimmed even with the inside edge of the tray.
 2. If tray is installed in an asphalt runway without an artificial surface, the top edge of the tray should be 7/16\"/>



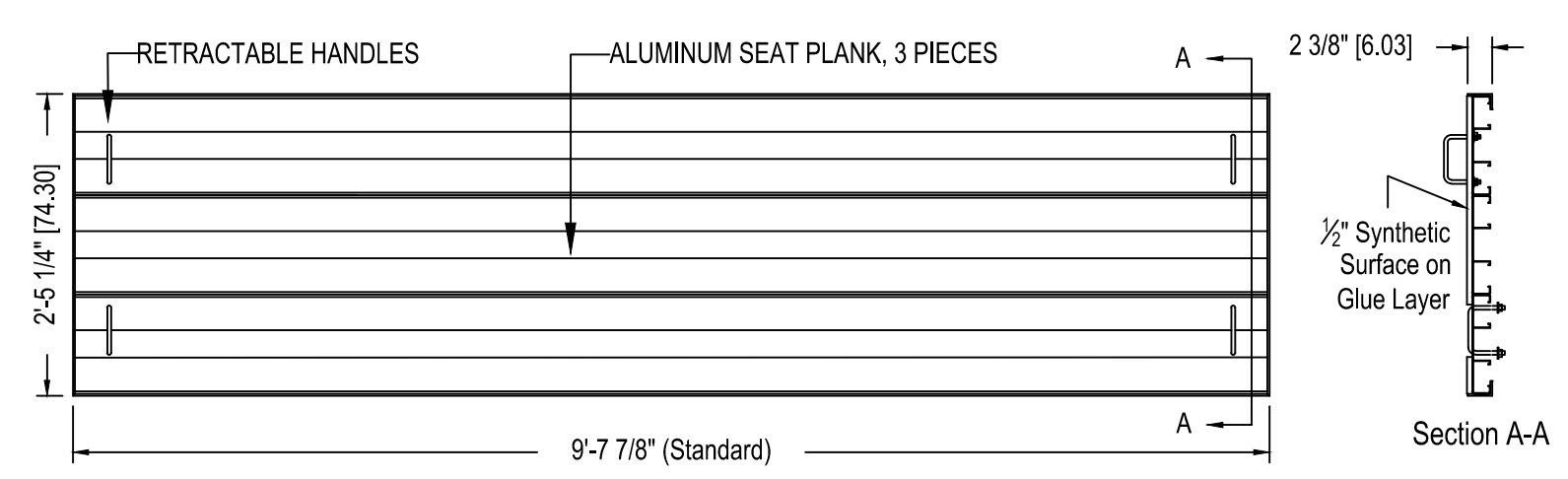
NOTES:
 1. The SE442 High School Aluminum Take-off Board Tray is designed to hold the SE441 take-off board which is purchased separately. The tray assembly is fabricated from 3/16\"/>

LONG JUMP/TRIPLE JUMP TAKE-OFF BOARD TRAY
 NOT TO SCALE

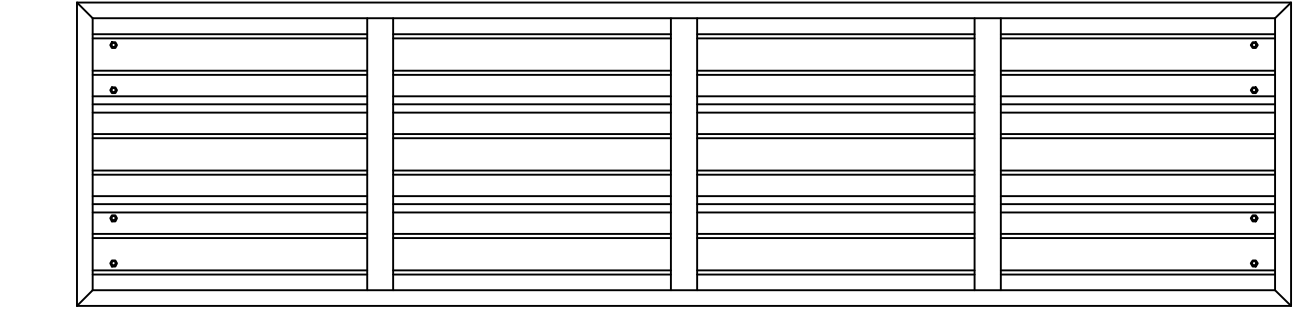


NOTES:
 1. The SE441 Wood High School Take-off Board is fabricated from 1/2\"/>

LONG JUMP/TRIPLE JUMP TAKE-OFF BOARD
 NOT TO SCALE



NOTE: Track surface material is to be installed in panels by contractor.
 FRAME - 2 3/8\"/>



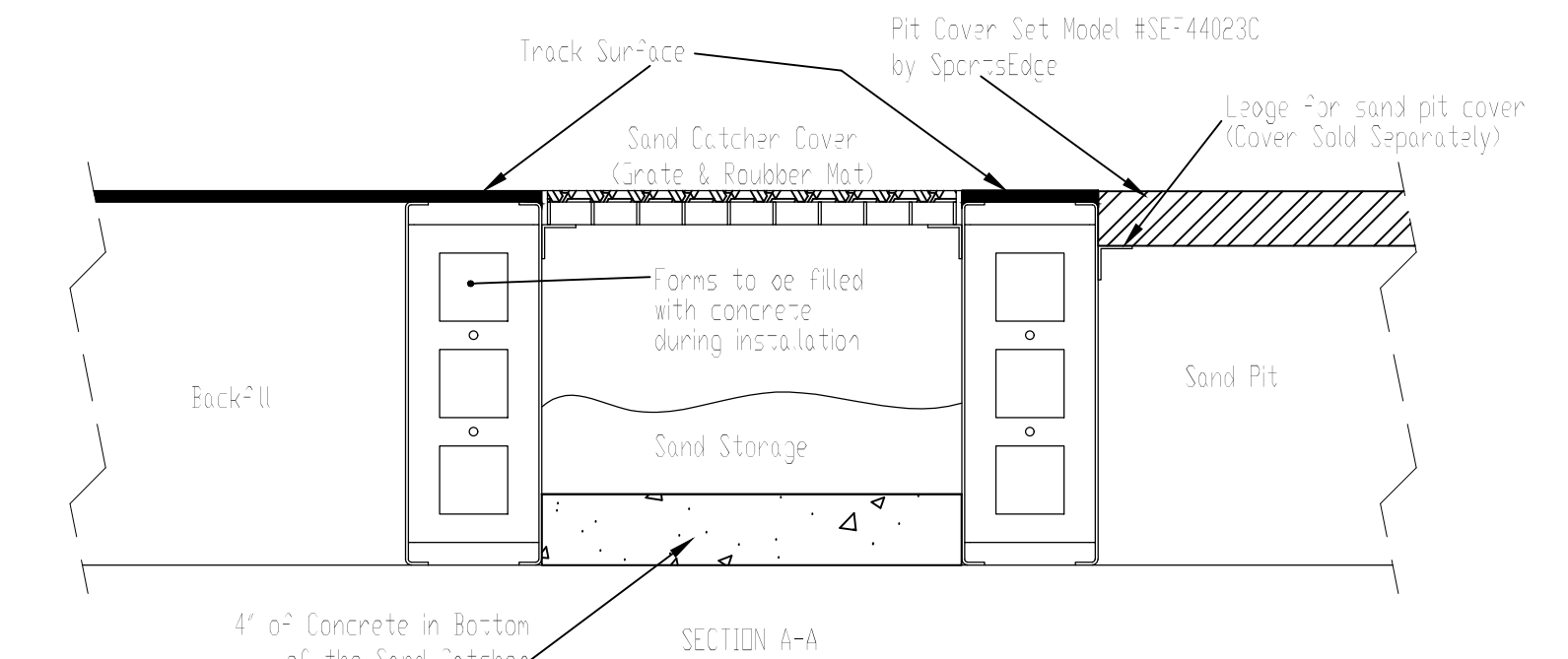
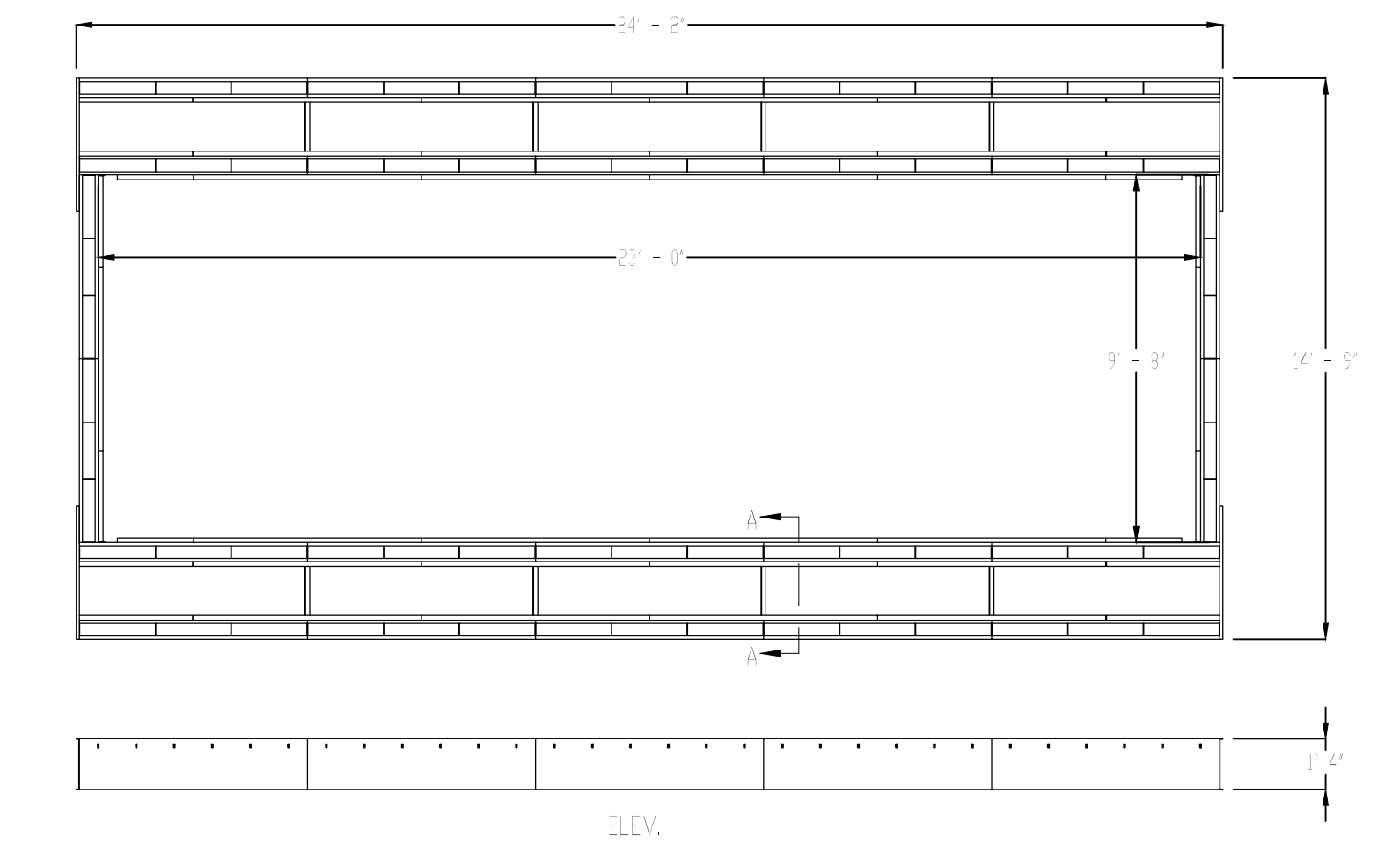
NOTE: For a 1/2\"/>



NOTE: Typical sand pit requiring 10 cover panels shown, one cover is removed. For longer sand pits, add 29 1/4\"/>

NOTES:
 1. To be Model SE730148 as manufactured by SportsEdge of Provincetown, MA or approved equal, is fabricated from 9-5/8\"/>
 2. The price bid on the Long Jump Sandpit Cover shall include a complete installation in accordance with the manufactures instructions. Sandpit cover shall meet NFHS specifications.

ALUMINUM LONG / TRIPLE JUMP SANDPIT COVER
 NOT TO SCALE



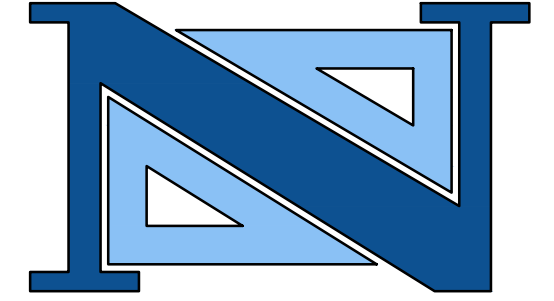
NOTES:
 1. Form system shall be Model #SEF44023 as manufactured by SportsEdge of Provincetown, MA or approved equal.
 2. The price bid on the Long Jump/Triple Jump Pit shall include a complete installation in accordance with the manufacture's instructions.
 3. Contractor shall review technical specifications for more information.
 4. Long Jump/Triple Jump Pit shall meet NFHS specifications.

LONG JUMP/TRIPLE JUMP PIT & SAND CATCHER'S DETAIL
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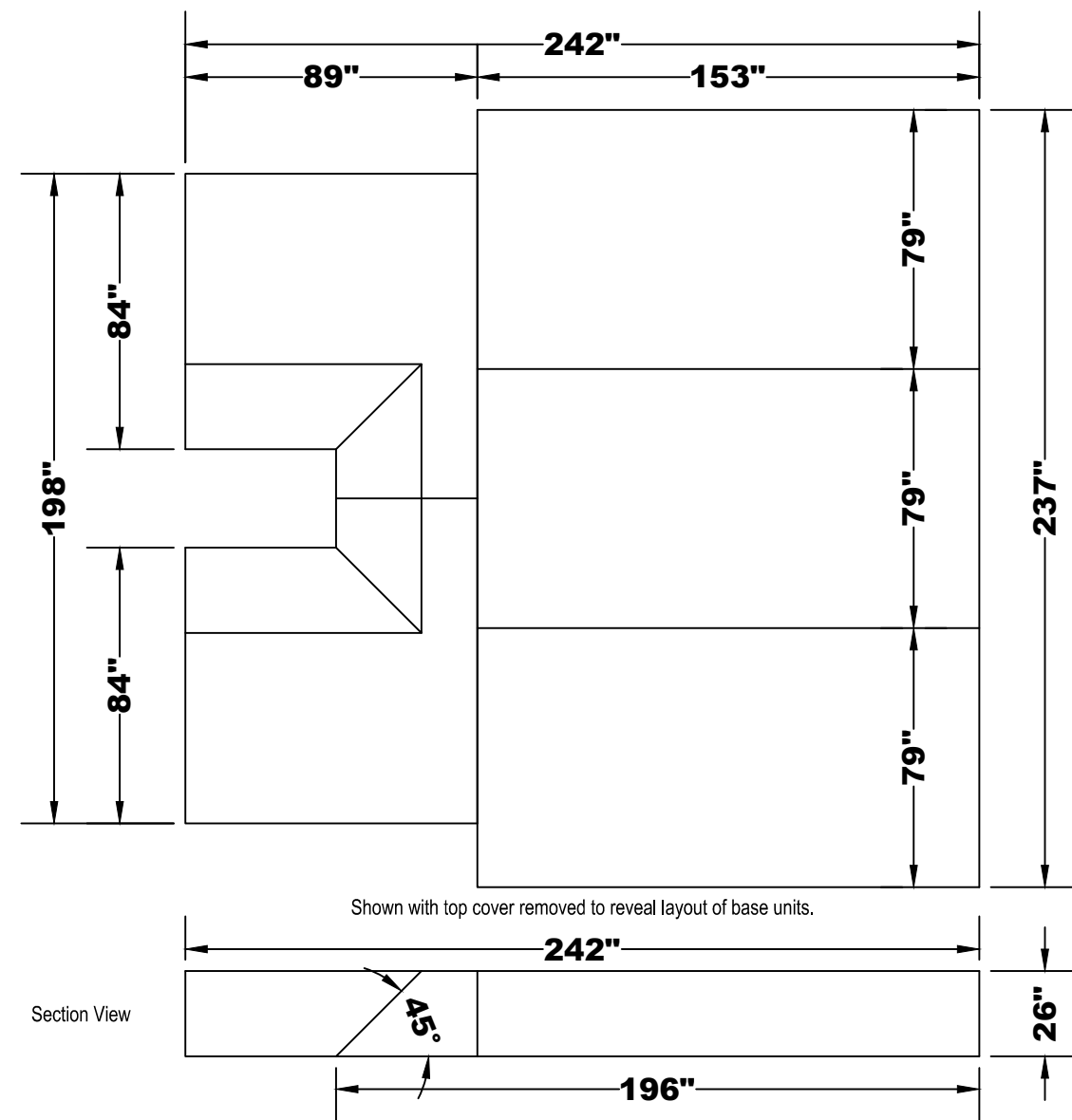
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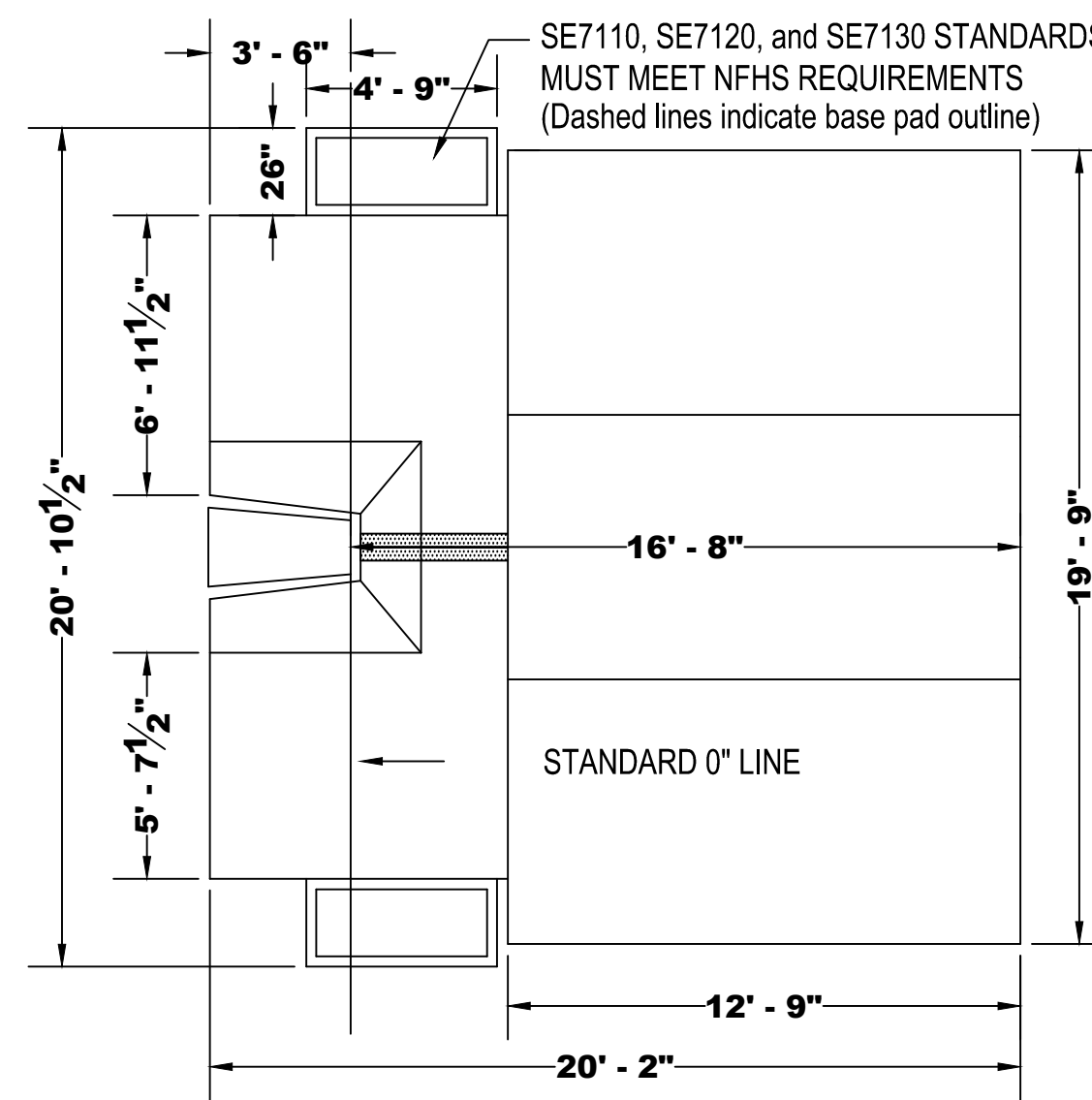
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 FIELD BOOK NO: | SCALE: N.T.S. | DATE: MARCH 15, 2017



Overall size: 19'-9" x 20'-2" x 26"
 Overall size metric: 6.02m x 6.15m x 0.66m
 (3) Base units: 6'-7" x 12'-9" x 26"
 (2) Front Slant units: 8'-3" x 7'-5" x 26"

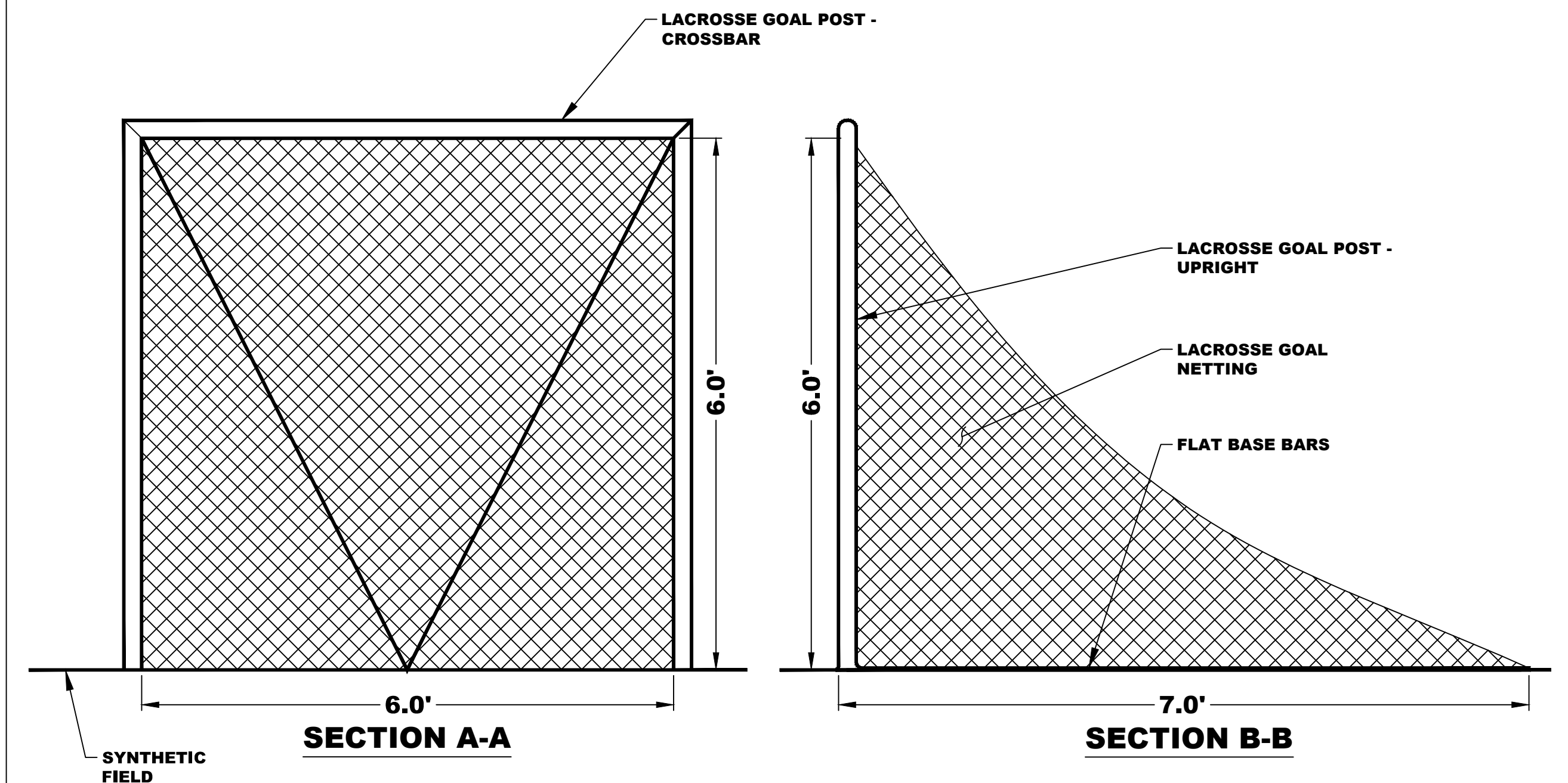
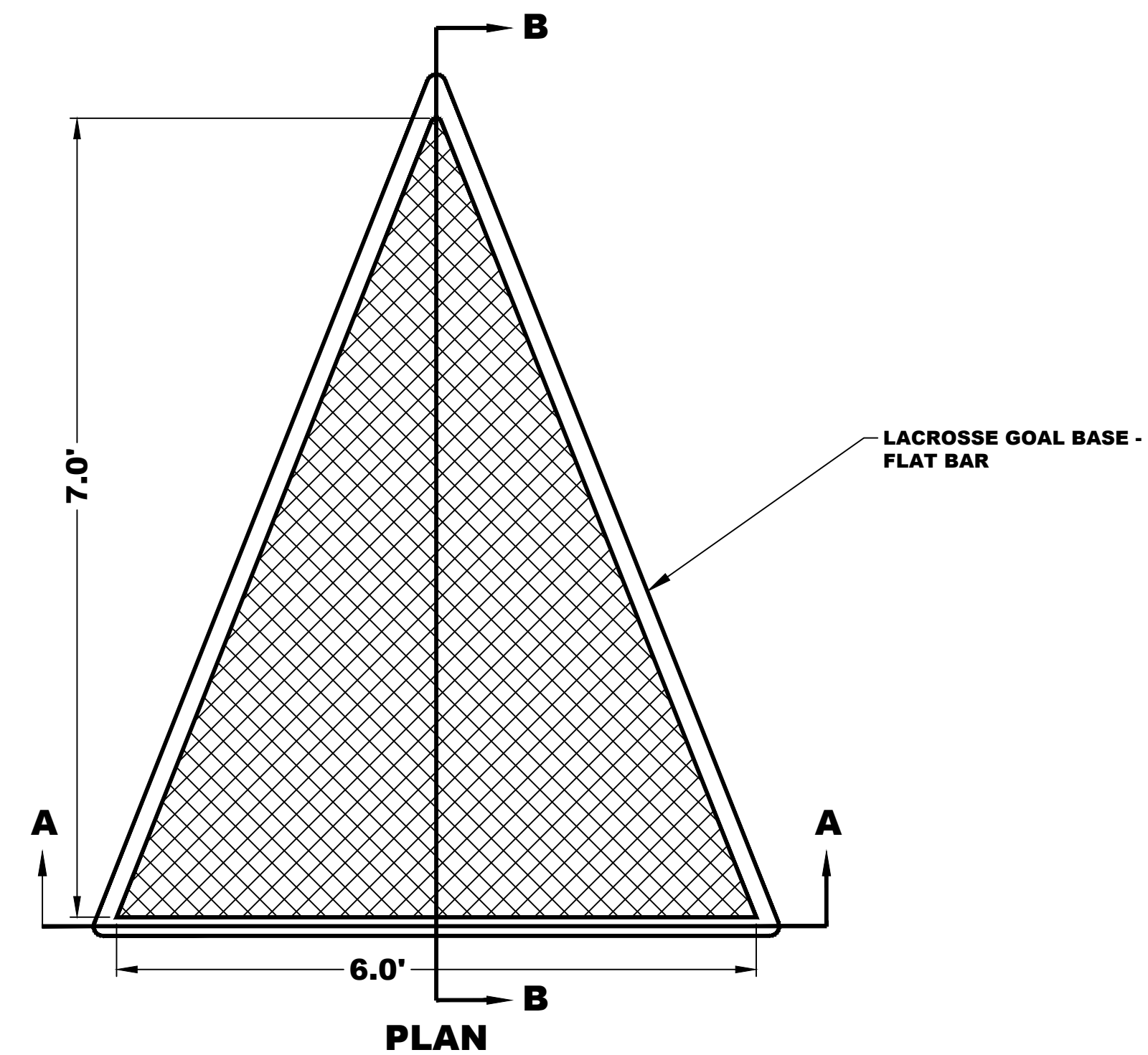
- NOTES:**
 1. The Model SE653 essentials pole vault landing system as manufactured by SportsEdge, Provincetown, MA (or approved equal).
 2. The Model SE653 essentials pole vault landing system employs a skirted mesh top that holds the units together for a snug fit. Essentials pole vault landing system shall meet all NFHS specifications.

POLE VAULT LANDING SYSTEM DETAIL
 NOT TO SCALE



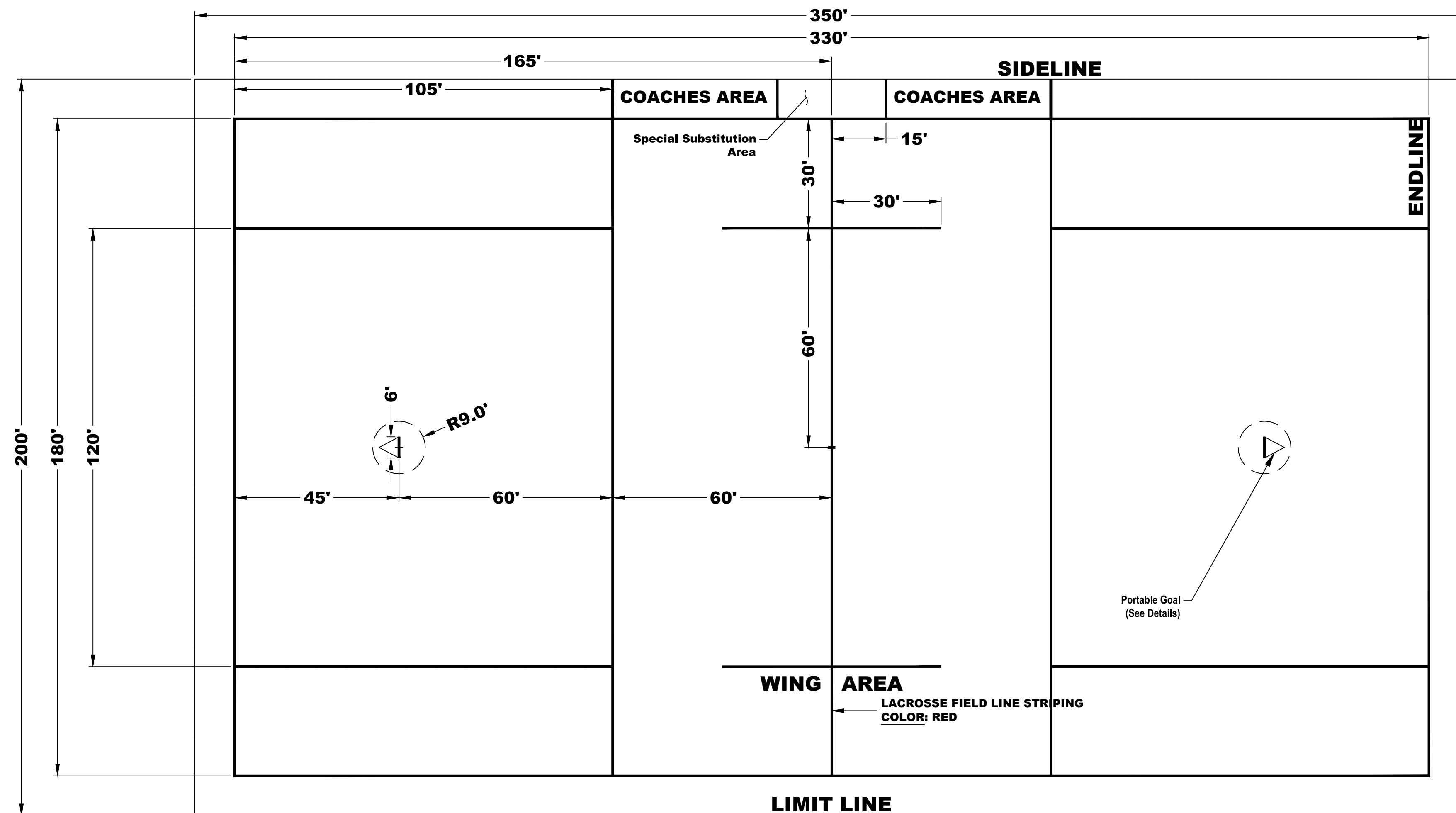
- NOTES:**
 1. The Model SE654 scholastic pole vault landing pit as manufactured by SportsEdge, Provincetown, MA (or approved equal).
 2. The Model SE654 scholastic pole vault landing pit is shown with top pad removed to reveal layout of base units and velcro at box cut-out. Pole vault landing pit shall meet all NFHS specifications.

POLE VAULT LANDING PIT DETAIL
 NOT TO SCALE



- NOTES:**
 1. LACROSSE GOAL SHALL BE MODEL NO. "2E201, BY KWIKGOAL" AS DISTRIBUTED BY SPORTSEGE, PROVINCETOWN, MA; OR APPROVED EQUAL.
 2. LACROSSE GOAL SHALL BE EQUIPPED WITH NETTING AND NET FASTENERS, AS MANUFACTURED BY SPORTSEGE, PROVINCETOWN, MA; OR APPROVED EQUAL.
 3. LACROSSE GOAL SHALL BE ASSEMBLED & INSTALLED AS PER MANUFACTURERS INSTRUCTIONS AND NFHS SPECIFICATIONS.

PORTABLE LACROSSE GOAL
 NOT TO SCALE



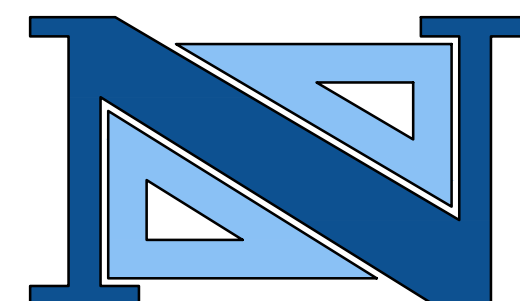
- NOTES:**
 1. LACROSSE FIELD LAYOUT TO MEET ALL NATIONAL FEDERATION OF STATE HIGH SCHOOL ASSOCIATIONS GUIDELINES AND REQUIREMENTS.

LACROSSE FIELD LAYOUT

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REVISIONS			DRAWN	DESIGNED	CHECKED
NO.	DATE	DESCRIPTION			
1	06/21/17	REVISED PER NJDEP COMMENTS	B.R.	B.R.	D.R.A.
2	06/28/17	ISSUED FOR BIDDING	D.R.A.	D.R.A.	D.R.A.
3	08/23/17	REVISED PER 08/17/17 SUSCD COMMENT LETTER (ADDED RIPRAP APRONS AT EXISTING HEADWALLS)	E.M.J.	E.M.J.	D.R.A.
4	09/07/17	ISSUED FOR BIDDING	D.R.A.	D.R.A.	D.R.A.



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 N.J. LICENSE NO. 45906

[Signature]

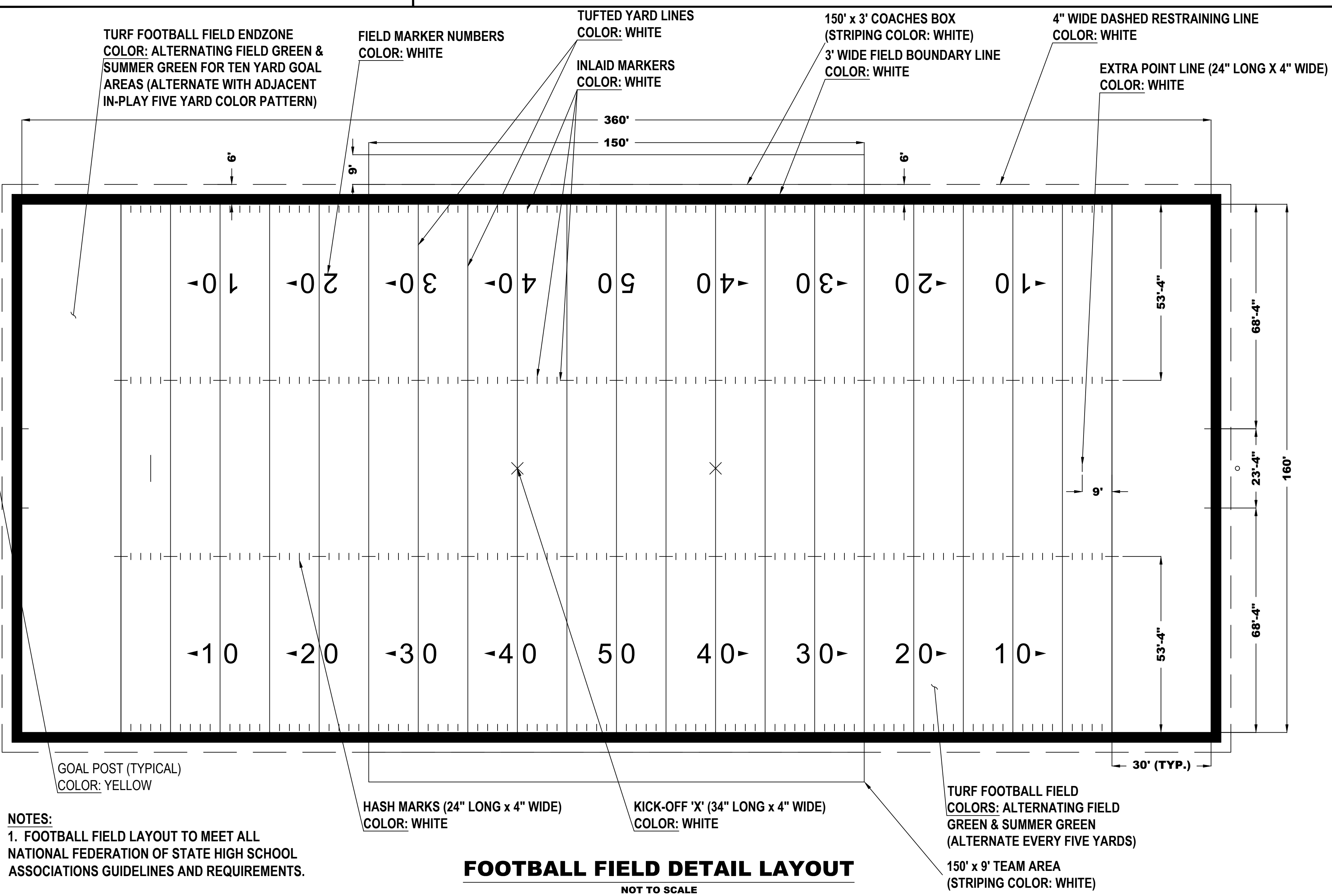
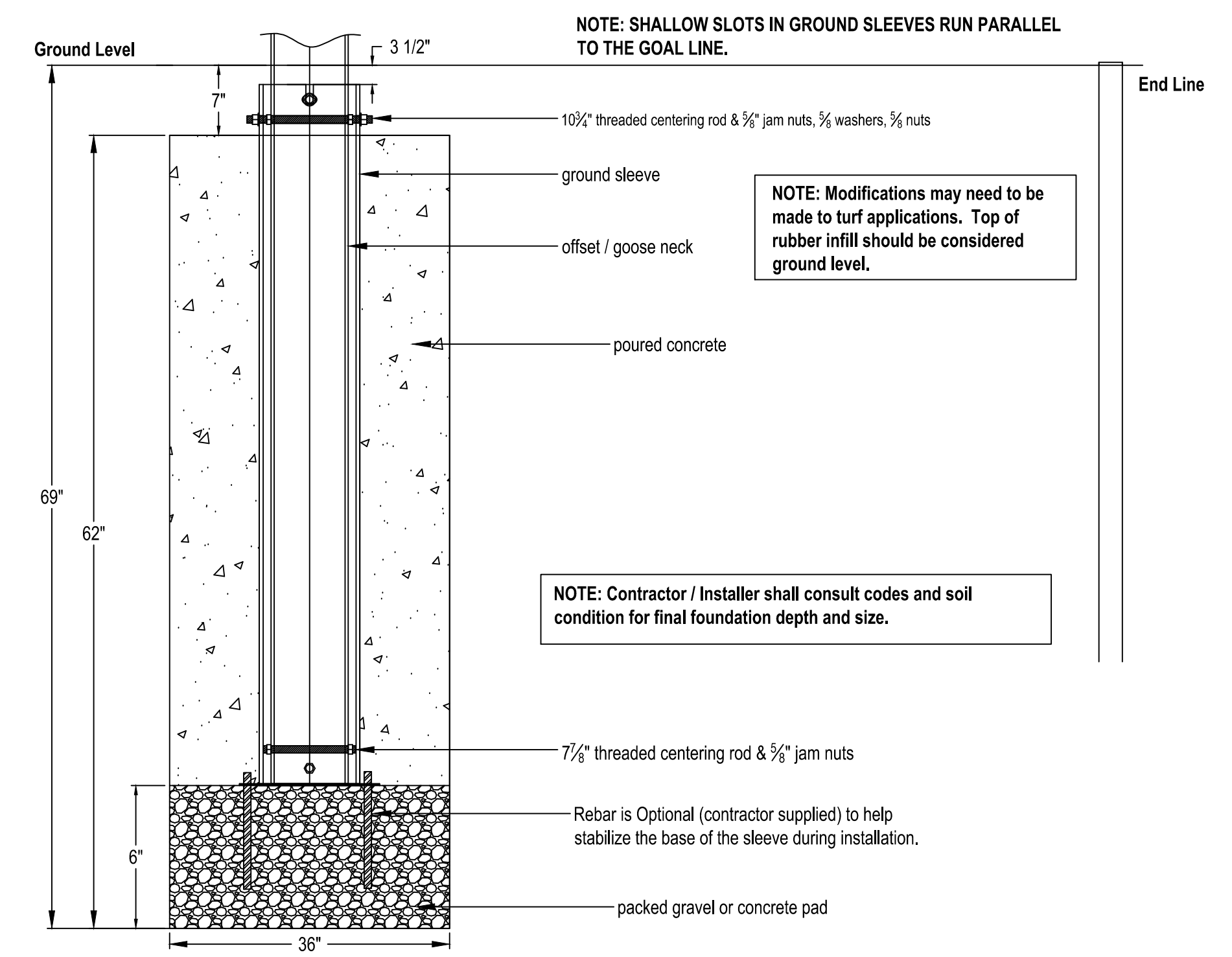
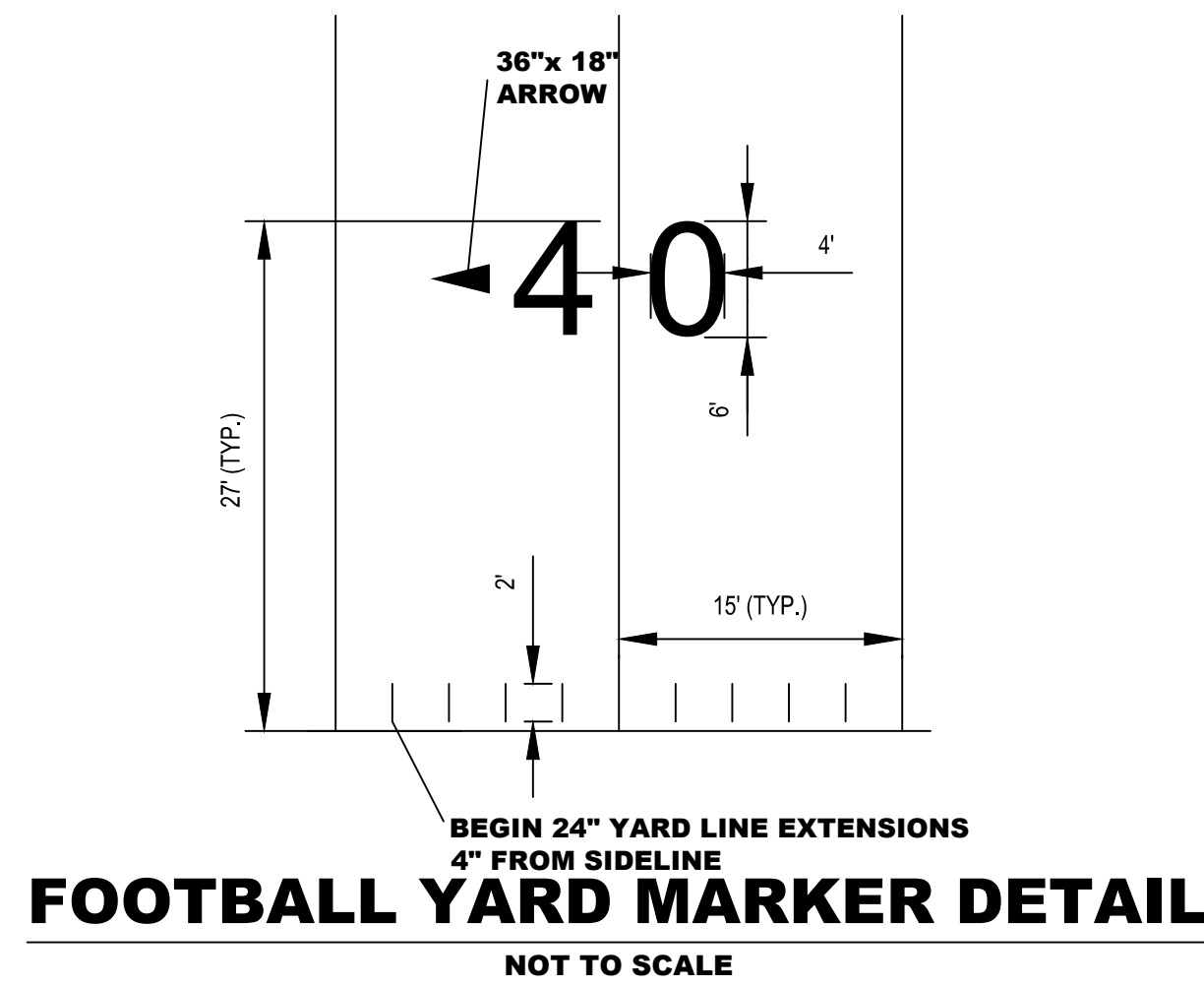
THOMAS R. SOLFARO, P.E., C.M.E.
 PROFESSIONAL ENGINEER
 N.J. LICENSE NO. 41635

[Signature]

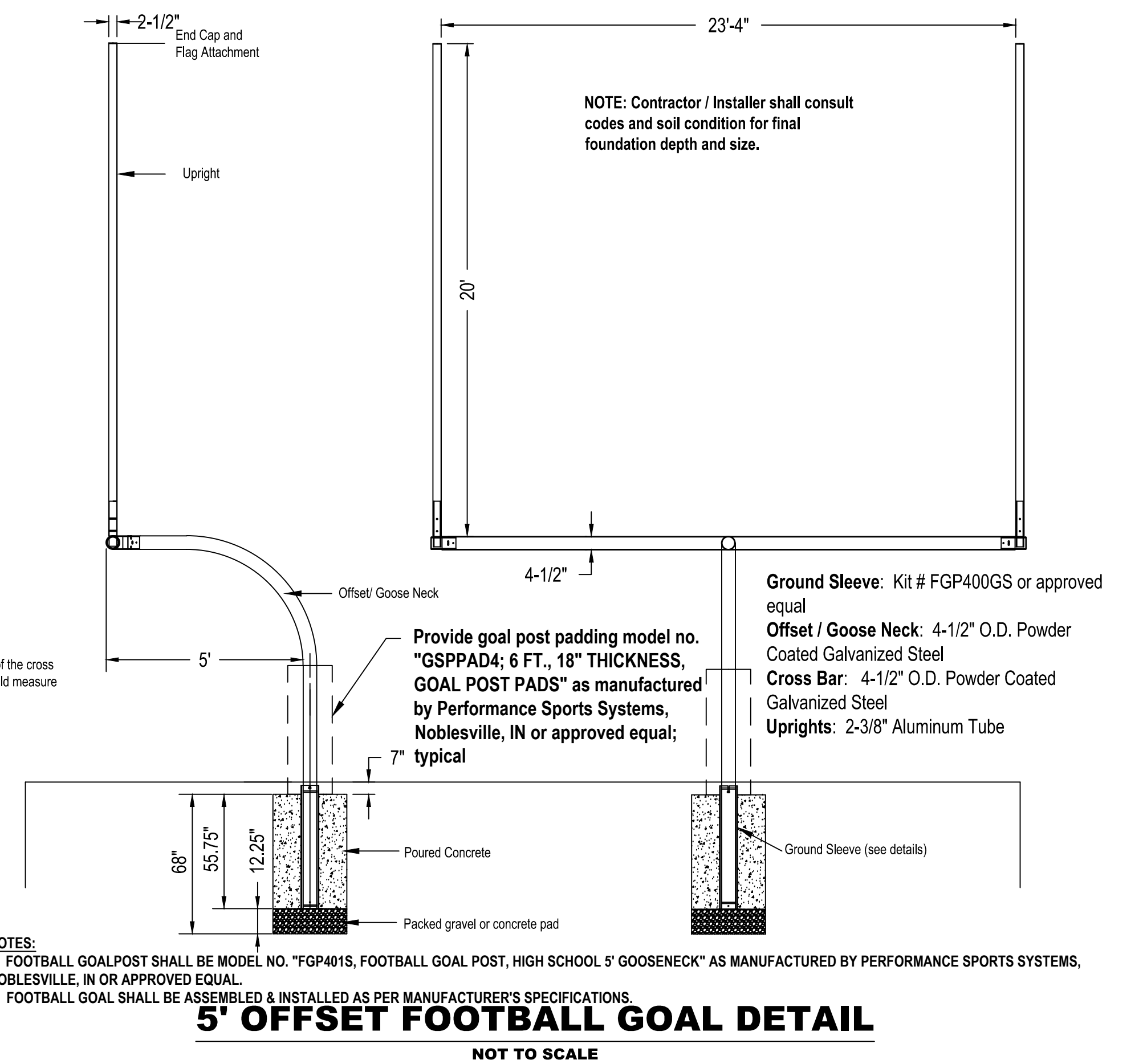
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 PROFESSIONAL LAND SURVEYOR N.J. LICENSE NO. 38604
 PROFESSIONAL PLANNER N.J. LICENSE NO. 33LJ00569800

CONSTRUCTION DETAILS
MEISEL PARK FIELD IMPROVEMENTS
BLOCK 1402 - LOT 20
TOWNSHIP OF SPRINGFIELD
UNION COUNTY NEW JERSEY

PROJECT NO: UNIOCTY16.012
 SHEET NO: 7.04
 DATE: MARCH 15, 2017



Goal posts to be constructed of powder coated galvanized steel with a 4-1/2" diameter cross bar and a gooseneck offset with 2-1/2" diameter heavy wall aluminum uprights. The post shall be coated with durable yellow powder coat finish. Each goal shall be designed for easy leveling of the crossbar and uprights. Ground sleeves shall be included in bid price for football goal posts. Goal posts and sleeves shall meet NFHS specifications.



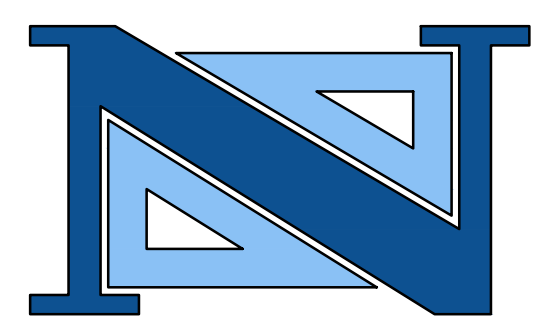
NOTES:
1. FOOTBALL FIELD LAYOUT TO MEET ALL NATIONAL FEDERATION OF STATE HIGH SCHOOL ASSOCIATIONS GUIDELINES AND REQUIREMENTS.

NOTE: From the top of the cross bar to the ground should measure 10ft.

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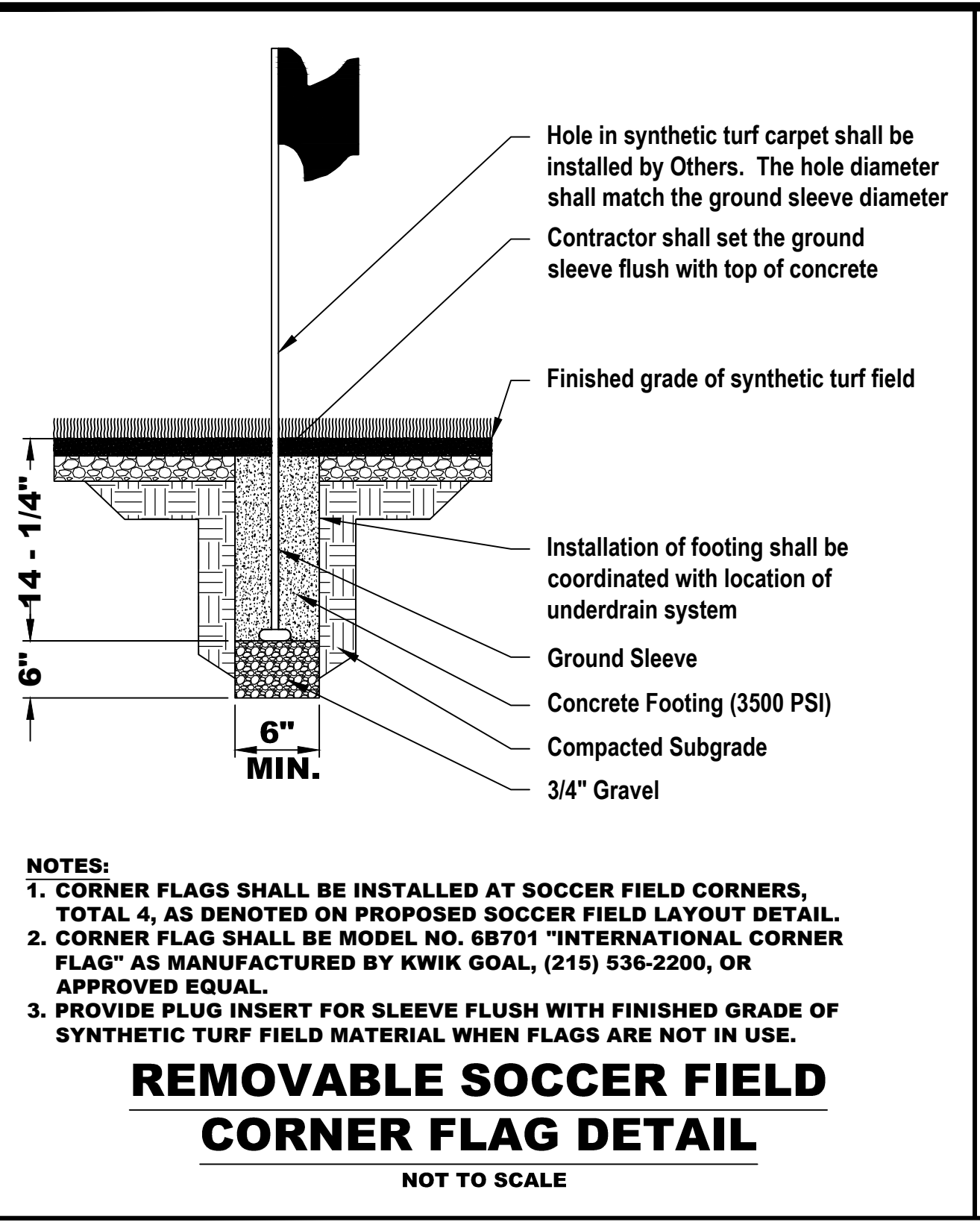
MICHAEL J. NEGLIA, P.E., P.L.S., P.P.
PROFESSIONAL ENGINEER
N.J. LICENSE NO. 38604

PROFESSIONAL LAND SURVEYOR
N.J. LICENSE NO. 38604

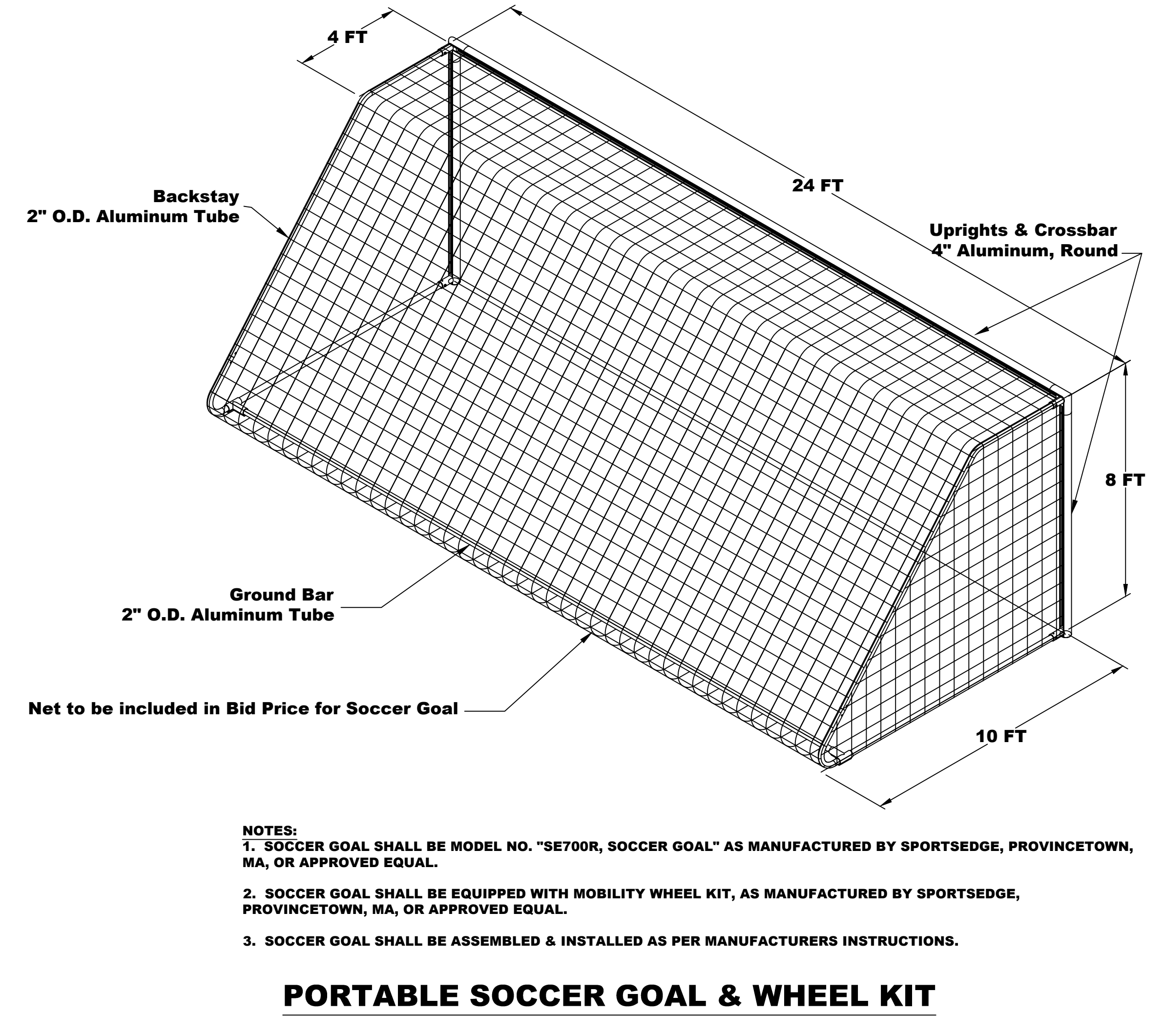
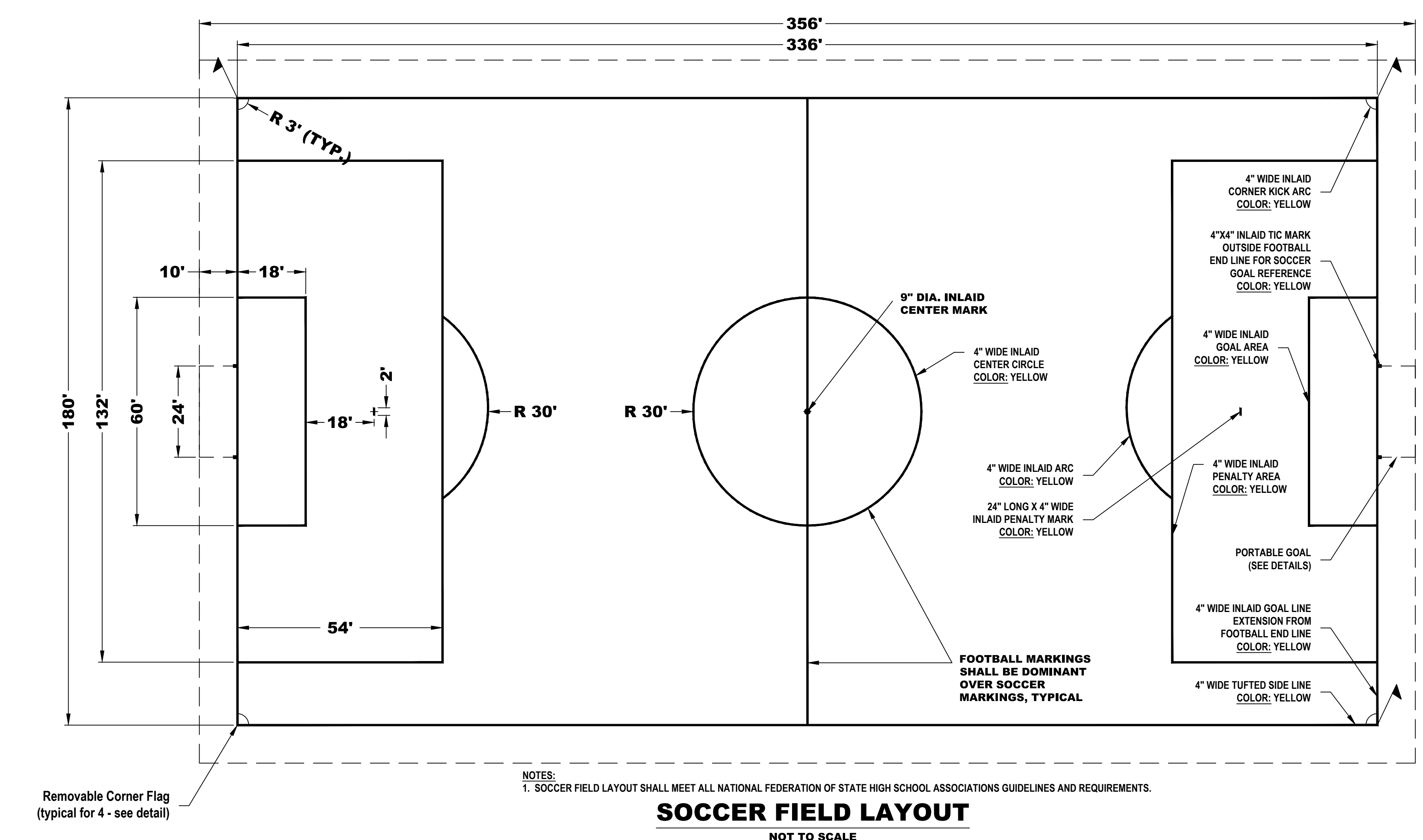
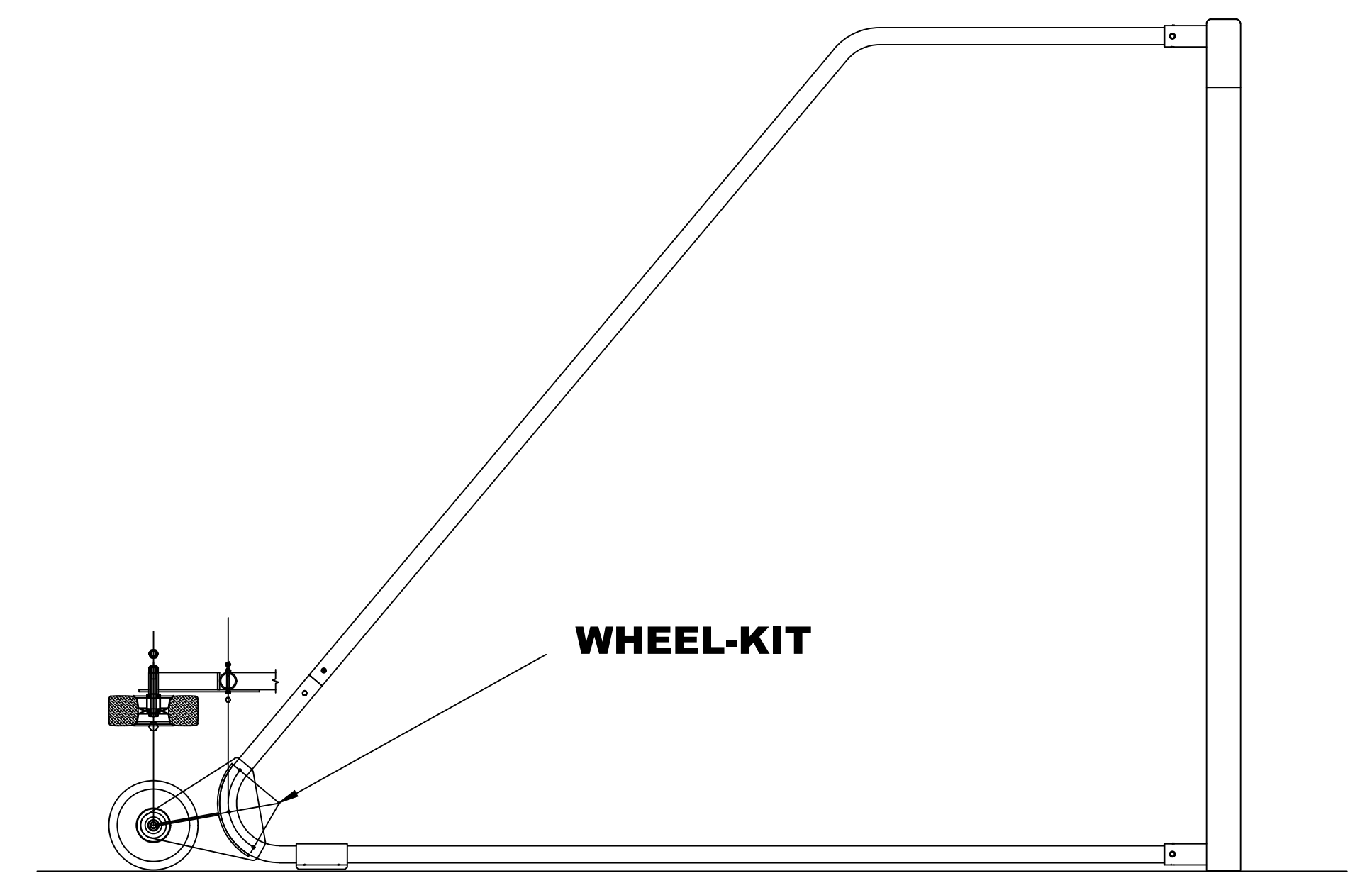
PROFESSIONAL PLANNER
N.J. LICENSE NO. 33LJ00569800

CONSTRUCTION DETAILS
MEISEL PARK FIELD IMPROVEMENTS
BLOCK 1402 - LOT 20
TOWNSHIP OF SPRINGFIELD
UNION COUNTY
NEW JERSEY

DESIGNED BY: B.R./E.M.J. CHECKED BY: D.R.A. PROJECT NO: UNIOCTY16.012 SHEET NO: 7.05
SCALE: N.T.S. DATE: MARCH 16, 2017



16' PORTABLE PLAYER SHELTER & BENCH DETAIL
NOT TO SCALE



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3	08/23/17	REVISED PER 08/17/17 SUSCD COMMENT LETTER (ADDED RIPRAP APRONS AT EXISTING HEADWALLS)	E.M.J.	E.M.J.	D.R.A.
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CONSTRUCTION DETAILS
MEISEL PARK FIELD IMPROVEMENTS
BLOCK 1402 - LOT 20
TOWNSHIP OF SPRINGFIELD
UNION COUNTY
NEW JERSEY

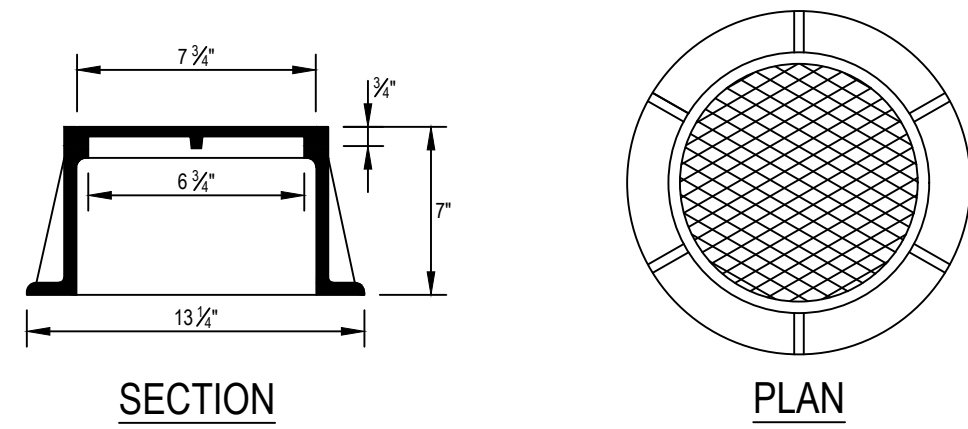
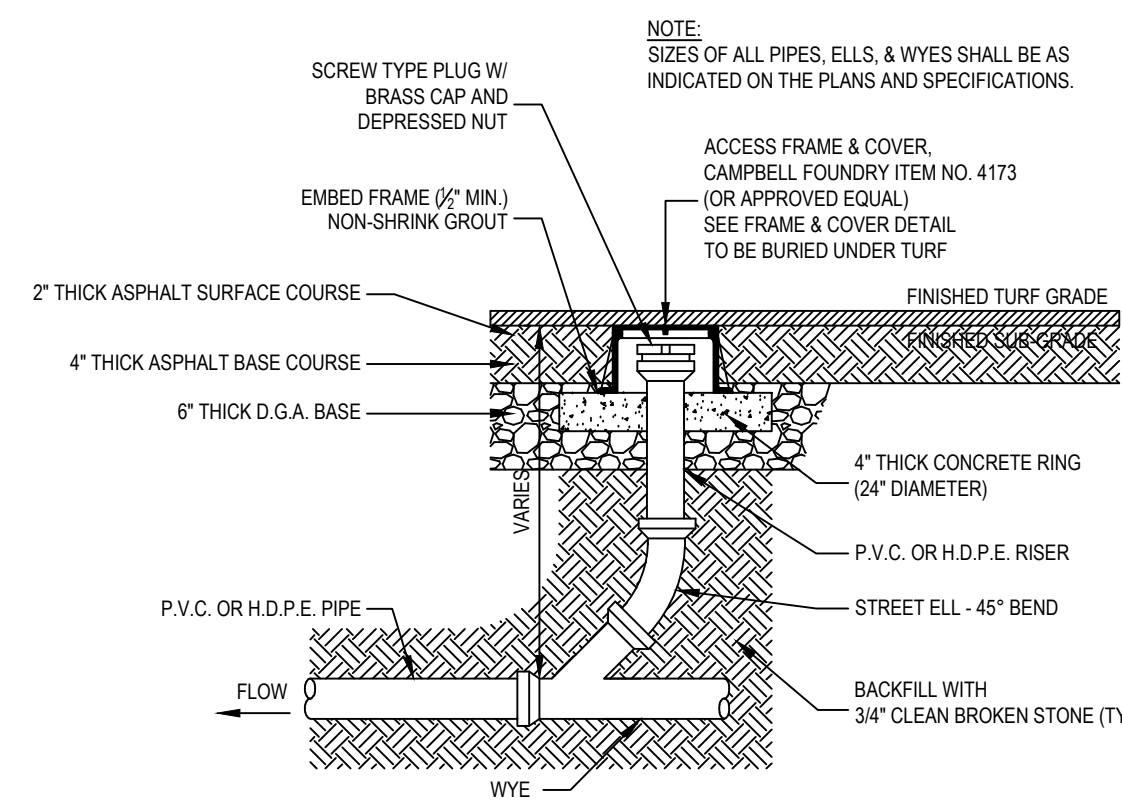
PROJECT NO: UNIOCTY16.012
SHEET NO: 7.06
DATE: MARCH 16, 2017

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DESIGNED BY: B.R./E.M.J.
FIELD BOOK NO:

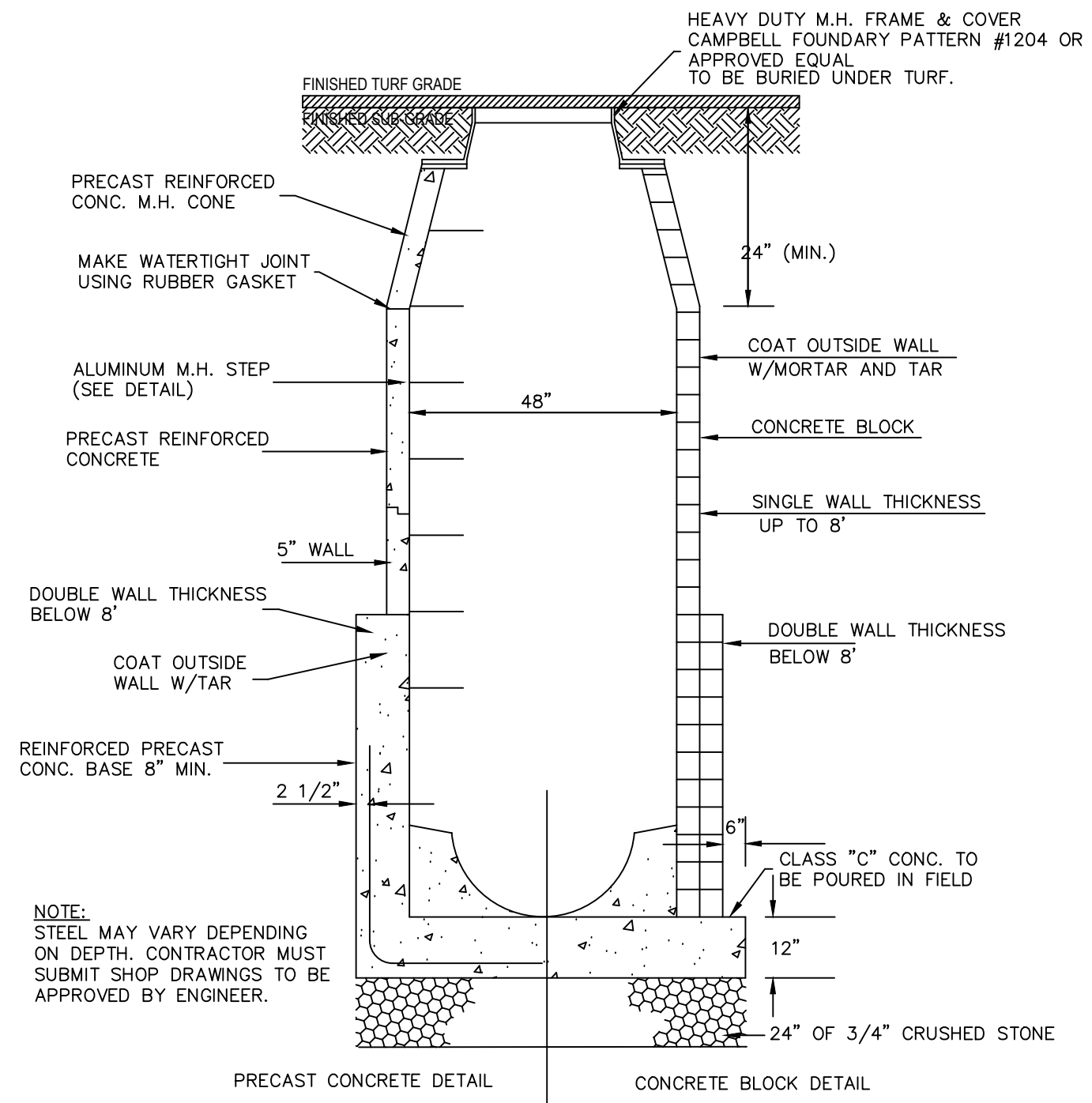
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SHEET NO: 7.06
DATE: MARCH 16, 2017



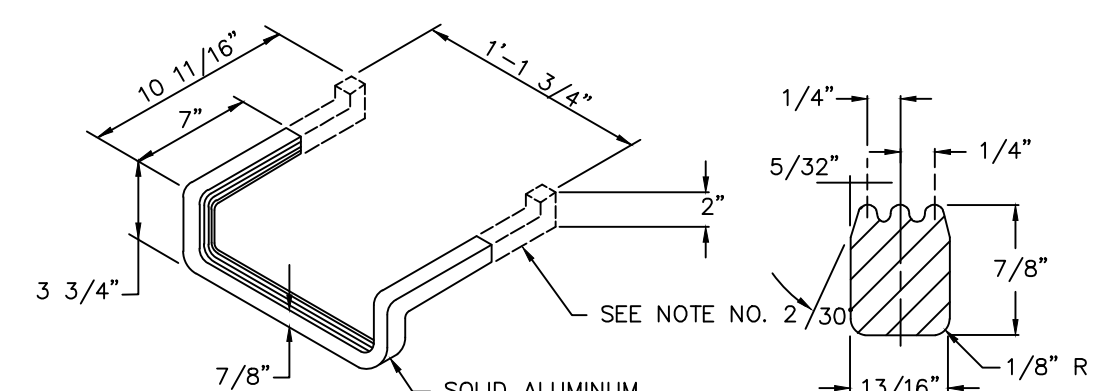
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CLEANOUT W/ ACCESS FRAME DETAIL
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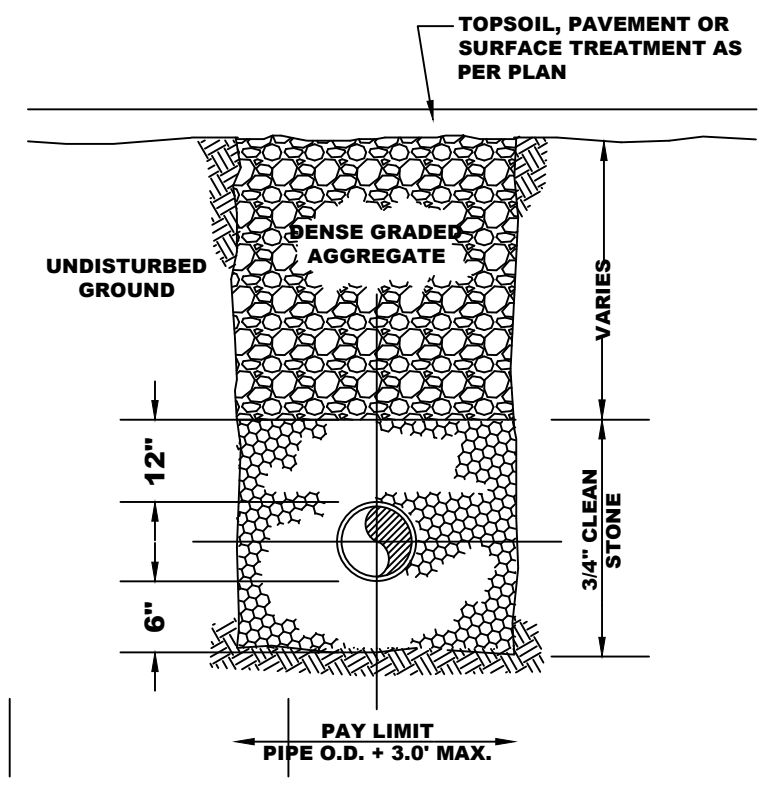


STORM MANHOLE DETAIL

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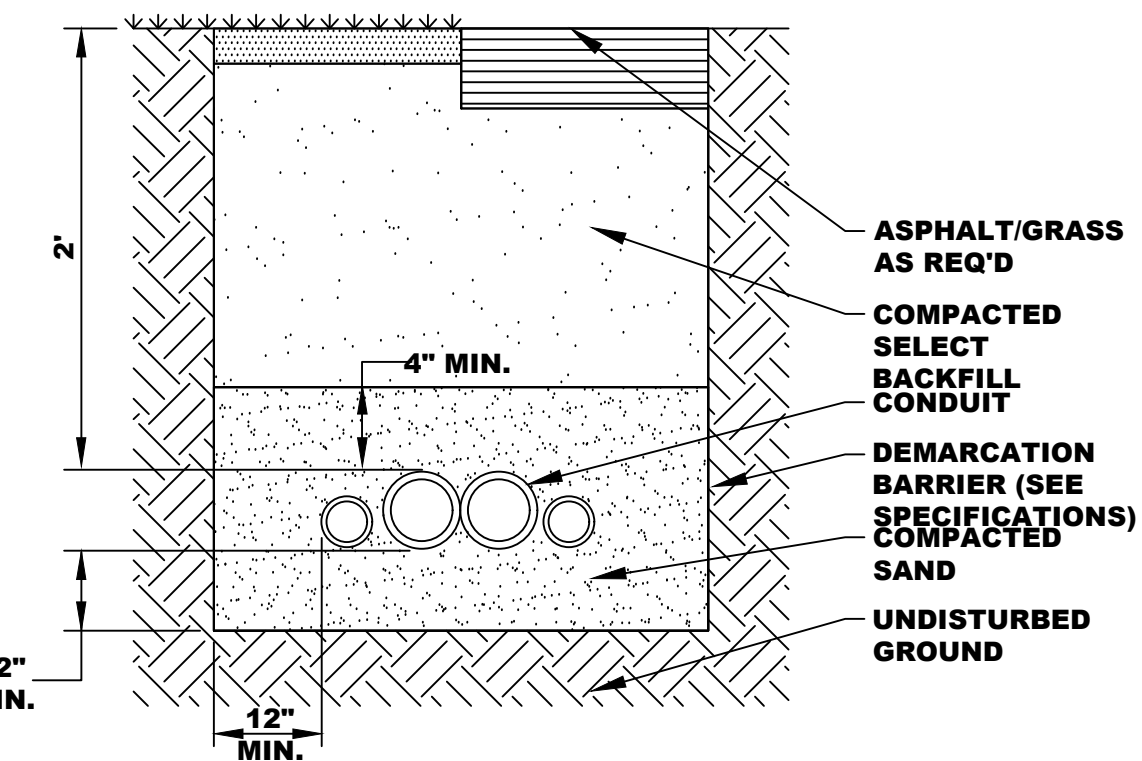


MANHOLE LADDER RUNGS
NOT TO SCALE



STORM SEWER TRENCH DETAIL

NOT TO SCALE



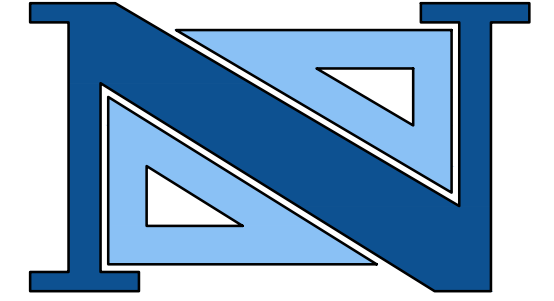
ELECTRICAL CONDUIT TRENCH

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2	06/28/17	ISSUED FOR BIDDING	D.R.A.	D.R.A.	D.R.A.
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4	09/07/17	ISSUED FOR BIDDING	D.R.A.	D.R.A.	D.R.A.



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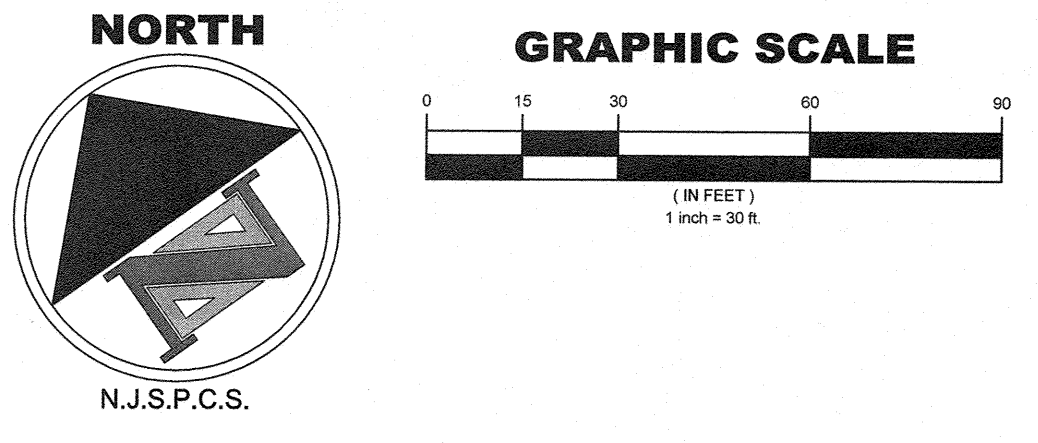
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N.J. LICENSE NO. 38604

PROFESSIONAL LAND SURVEYOR
N.J. LICENSE NO. 38604

PROFESSIONAL PLANNER
N.J. LICENSE NO. 33L00569800

CONSTRUCTION DETAILS
MEISEL PARK FIELD IMPROVEMENTS
BLOCK 1402 - LOT 20
TOWNSHIP OF SPRINGFIELD
UNION COUNTY NEW JERSEY

DESIGNED BY: B.R./E.M.J. SCALE: N.T.S. PROJECT NO: UNIOCTY16.012 SHEET NO: 7.07
FIELD BOOK NO: DATE: MARCH 15, 2017



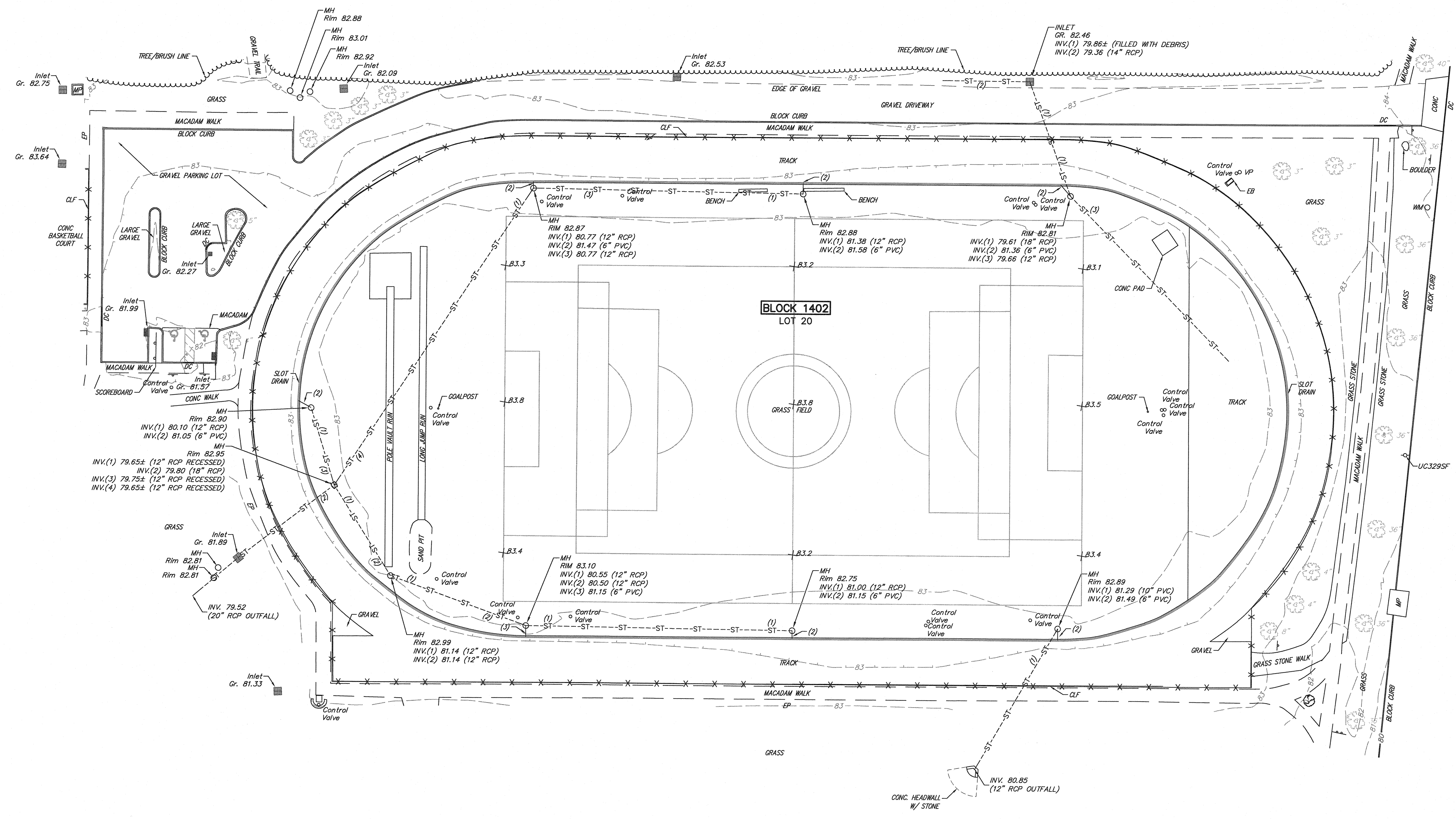
PLAN LEGEND:

	SURVEY CALL		DEED CALL
	INLETS		SIGNS
	TREES		UTILITY POLE
	SHRUB		LIGHT POLE
	ROOF DRAIN		WATER VALVE
	DEPRESSED CURB		GAS VALVE
	EDGE OF PAVEMENT		CLEAN-OUT
	MANHOLE		UNKNOWN VALVE
	FIRE HYDRANT		LANDSCAPED AREA
	HANDICAPPED SPACE		CHAIN LINK FENCE
	ELECTRIC MARKOUT		FINISHED FLOOR(SILL) LINE
	FIBER OPTIC MARKOUT		SANITARY SEWER LINE
	GAS MARKOUT		STORM SEWER LINE
	OVERHEAD WIRES		TELEPHONE MARKOUT
			WATER MARKOUT

SURVEYOR'S CERTIFICATION:
 TO: UNION COUNTY PARK COMMISSION, I CERTIFY THAT I AM A PROFESSIONAL LAND SURVEYOR, LICENSED TO PRACTICE IN THE STATE OF NEW JERSEY, AND THAT THIS MAP OR PLAN IS A RESULT OF A FIELD SURVEY MADE ON SEPTEMBER 22, 2016 UNDER MY DIRECT SUPERVISION IN ACCORDANCE WITH THE RULES AND REGULATIONS PROMULGATED BY THE STATE BOARD OF ENGINEERS AND LAND SURVEYORS. I DECLARE THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE INFORMATION SHOWN HEREON CORRECTLY REPRESENTS THE CONDITIONS FOUND AT, AND AS OF THE DATE OF THE FIELD SURVEY, EXCEPT SUCH IMPROVEMENTS OR EASEMENTS, IF ANY, BELOW THE SURFACE AND NOT VISIBLE. ALSO, THAT THIS PLAN WAS PREPARED IN ACCORDANCE WITH A CONTRACTUAL AGREEMENT. THE PROPERTY LINES SHOWN HEREON REPRESENT, UNLESS OTHERWISE NOTED, THE LINES DESCRIBED IN THE RECORD DOCUMENTS REFERENCED HEREON.

- SURVEY NOTES:**
1. THIS SURVEY IS PREPARED SPECIFICALLY FOR THE INDIVIDUAL(S) IN THE TITLE AND/OR THE CERTIFICATION. THE UNDERSIGNED WILL NOT BE RESPONSIBLE OR ASSUME ANY LIABILITY FOR THE USE OF THIS SURVEY FOR ANY OTHER PURPOSE INCLUDING, BUT NOT LIMITED TO SURVEY AFFIDAVIT, RESALE OF THE PROPERTY OR ASSIGNMENT OF THE SURVEY TO ANY PERSON NOT SO NAMED.
 2. SUBJECT TO EASEMENTS AND RESTRICTIONS OF RECORD AND RIGHTS OR CLAIMS OF PARTIES IN POSSESSION OF THE LAND AND/OR EASEMENTS OR CLAIMS OF EASEMENTS NOT SHOWN BY THE PUBLIC RECORD.
 3. UNDERGROUND UTILITIES IF DEPICTED ARE BASED ON VISIBLE EVIDENCE. THE LACK OF UTILITY INFORMATION DOES NOT DENY THE EXISTENCE OF SAME. REFERENCE TO THE APPROPRIATE UTILITY AUTHORITY SHOULD BE MADE TO VERIFY THE PRESENCE OR ABSENCE OF UTILITIES.
 4. WETLANDS ARE NOT DEPICTED. THE LACK OF WETLANDS INFORMATION DOES NOT DENY THE EXISTENCE OF SAME. SITE REVIEW AND DELINEATION BY A QUALIFIED PROFESSIONAL IN SAME CAN BE LOCATED IF REQUIRED.
 5. TOXIC WASTES ARE NOT DEPICTED. THE LACK OF TOXIC WASTE INFORMATION DOES NOT DENY THE EXISTENCE OF SAME. SITE REVIEW FOR THE SAME SHOULD BE PURSUED AND APART FROM THIS SURVEY.
 6. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE SEARCH. IT IS SUBJECT TO FACTS THAT A TITLE SEARCH MAY DISCLOSE.
 7. HORIZONTAL DATUM BASED ON NAD'83. VERTICAL DATUM BASED ON NAVD'88 BY NETWORK RTK GPS OBSERVATIONS. TO CONVERT TO NGVD'29 ADD 1.024' TO NAVD'88.

MAP REFERENCES:
 1. LOT AND BLOCK NUMBERS SHOWN HEREON REFER TO TOWNSHIP OF SPRINGFIELD, TAX MAP SHEET NO. 14, DECEMBER 31, 1992.

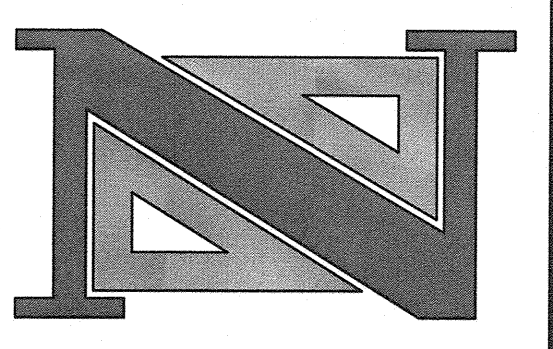


MEISEL AVENUE

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REVISIONS			
NO.	DATE	DESCRIPTION	



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 PROFESSIONAL LAND SURVEYOR
 N.J. LICENSE NO. 43294

Michael Wolfe 3/15/17

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 PROFESSIONAL PLANNER N.J. LICENSE NO. 3310056800

**PARTIAL TOPOGRAPHICAL SURVEY
 MEISEL PARK FIELD IMPROVEMENTS
 A PORTION OF LOT 20 BLOCK 1402
 TOWNSHIP OF SPRINGFIELD
 UNION COUNTY NEW JERSEY**

DRAWN BY: D.J.C. CHECKED BY: SCALE: 1"=30' PROJECT NO: UNIOCTY16.012 SHEET NO: 1 OF 1
 DESIGNED BY: DATE: MARCH 15, 2017

\\nas01\municipal\unionsurvey\survey\meisel\meisel park field improvements\survey\office\workdrawing\meisel park.dwg