Petersburg City Public Schools (PCPS)
Request for Proposals 22-001: Turf Field

Issue Date:	January 11, 2022
Project:	New Turf Field at Petersburg High School
Issuing Agency:	Petersburg City Public Schools 255 E. South Boulevard Petersburg, VA 23805
Initial Period of Contract:	Date of Award – Approximately **February 17, 2022**
Pre-Proposal Conference:	N/A

PCPS reserves the right to extend the Contract for any reason for a period or periods up to but not to exceed 12 months. This extension may be exercised when PCPS determines that an extension of the Contract is advantageous to the schools. Performance and Payment bonds will be required upon award of the contract.

Sealed proposals will be received in the Procurement Office until **1:00 P.M., Friday, January 28, 2022** furnishing the services as described herein. No proposal shall be accepted after this deadline unless the due date was changed by an Addendum.

Questions: All inquiries, questions, and requests for information should be directed via e-mail to **tafreeland@petersburg.k12.va.us**. All questions shall be due by Wednesday, **January 26, 2022**. If necessary, an addendum will be issued. It is the responsibility of the Offeror to download any addenda.

PROPOSALS MUST BE DELIVERED OR MAILED TO THE PETERSBURG CITY SCHOOLS OFFICE, 255 E. SOUTH BLVD., PETERSBURG, VA 23805, PURCHASING DEPARTMENT, TO THE ATTENTION OF TAMIKA FREELAND

In compliance with this Request for Proposals (RFP) and all conditions imposed in this RFP, the undersigned firm hereby offers and agrees to furnish all goods and services in accordance with the attached signed proposal or as mutually agreed upon by subsequent negotiation, and the undersigned firm hereby certifies that all information provided below and in any schedule attached hereto is true, correct, and complete.

Virginia Contractor License No._____ DSBSD-certified Small Business No. _____
Class: _____
Specialty Codes: _____

Name and Address of Firm:

_____
_____
_____

Zip Code: _____
eVA Vendor ID or DUNS #: _____

Fax Number: (____) _____

Date:_____
By: _____
(Signature in Ink)

Name:_____
(Please Print)

Title:_____

Note: This public body does not discriminate against faith-based organizations in accordance with the *Code of Virginia,* § 2.2-4343.1 or against a bidder or offeror because of race, religion, color, sex, national origin, age, disability, or any other basis prohibited by state law relating to discrimination in employment.

TABLE OF CONTENTS

I. PURPOSE

The Purpose and Intent of this Request for Proposal (RFP) is to solicit sealed proposals from qualified sources to establish a term contract based on hourly rates and negotiated reimbursable expenses through competitive negotiations for the installation of a turf field and applicable drainage at the high school football field site for Petersburg City Public Schools, herein referred to as PCPS, in accordance with the Scope of Services, terms and conditions stated herein.

Firms submitting a proposal shall have the "in-house" capability of performing these services. The services required by this RFP will enable PCPS to provide upgrades renovations to existing facilities. Proposed projects consist of known and anticipated requirements of the capital improvement program.

II. BACKGROUND

Petersburg City Public Schools (PCPS) is located 25 miles south of Richmond, Virginia along the Appomattox River. The City of Petersburg is rich in history dating back to the 18th century. Today, Petersburg is an important transportation hub in Virginia's Gateway Region.

PCPS enrollment for the 2020-2021 school year was 4.196 students, including students in Pre-K. There are currently four (4) elementary schools, one (1) early childhood center, one (1) middle school, one (1) high school, and one (1) alternative center. Other buildings of interest are the school board office, transportation and school nutrition complex, and the Pittman Building compromising facilities and operations.

III. SCOPE OF WORK

The successfully selected vendor will be responsible for installing a new Synthetic Turf Field to replace the existing natural grass and drainage on the football-stadium field at Petersburg High School, located at 3101 Johnson Road, Petersburg, VA 23805. The Scope of Work shall include investigation and analysis of the existing field conditions, develop preliminary and final design of proposed synthetic turf field, to include, but not be limited to, drainage replacement, storm water management, and construction drawings in compliance with all Standards, Codes and Regulations.

All work, including any architectural, engineering, civil/surveying, geotechnical and other portions of the Work shall be planned and designed by, or under the immediate supervision of, a licensed Architect or Engineer, who has the expertise in the particular discipline involved. Any sub-contracted work shall be performed by the consultants, associates, or subconsultants/ subcontractors proposed by the Offeror during the selection process as part of the Offeror's team. The successful Offeror shall be solely responsible for any work performed under the Contract by its consultants, associates, or subcontractors.

Services to include:

A. Conduct site evaluation, analysis and survey of existing field conditions and sports field lighting, as required.
B. Perform synthetic turf test pits or cores, as required.
C. Determine sub-grade, base, storm water management system/drainage system, pads, nailer boards, turf, infillmaterial and any other work required for a complete design for installation of a synthetic turf field.
D. Prepare, file and obtain all necessary permits and approvals.

E. The Offeror shall attend up to four (4) meetings with PCPS staff and representatives. The A/E firm of the owner's choice shall schedule and conduct meetings as necessary for the successful completion of the Project and as directed by PCPS. In conjunction with meetings, the selected A/E firm shall schedule meetings; provide advance notice of meetings to attendees; prepare and distribute agenda to all attendees before meetings; and chair meetings, addressing all old and new business, recording minutes, and controlling discussions to focus on results and the resolution of problems. The A/E firm shall provide written minutes to PCPS within five (5) days of the meeting.
F. Provide any applicable product samples and/or product documentation for review and approval.
G. Prepare preliminary and final design, construction drawings and specifications in compliance with all applicable Codes and Regulations.
H. Prepare construction cost estimate and detailed project schedule. This schedule shall include length of time required to complete design phases, permitting, milestones, estimated construction duration, review periods, and final construction completion. Construction shall be completed no later than the early Fall of 2022, in coordination with the PCPS' Athletic Schedule.
I. Provide construction administration services including but not limited to shop drawing review, review of contractor payment requisitions, contractor change order review, close out document review and regulatory compliance needs. Under these tasks the awarded vendor shall attend up to six (6) weekly or bi-weekly construction progress meetings, to include one (1) pre-construction / kick-off meeting with the contractor. Awarded firm shall schedule and conduct meetings as necessary for the successful completion of the Project and as directed by PCPS. In conjunction with meetings, the selected A/E firm shall schedule vendor meetings; provide advance notice of meetings to attendees; prepare and distribute agenda to all attendees before meetings; and chair meetings, addressing all old and new business, recording minutes, and controlling discussions to focus on results and the resolution of problems. The A/E shall provide written minutes to PCPS within five (5) days of the concluded meeting.
J. Identify any additional tasks, in your proposal submission, that are required to complete the design services.

For the Contract, the successful Offeror must:

1. Furnish the deliverables as required in the Scope of Work;
2. Assure complete, competent, properly coordinated, and thoroughly checked deliverables; and
3. Maintain security practices to prevent disclosure of information about the Work under the Contract to any individual or firm other than to PCPS and or their approved A/E firm except as may be required to obtain quotations for materials and suppliesfor subcontract work.

A. All Phases for each project to be provided may include but not limited to the work outlined below.

1. **Schematic Design Phase:** The Contractor will work with PCPS to establish an architectural project scope for capital projects such as but not limited to turf field and turf field drainage system installation. as a result of input from the Department of Facilities and Maintenance in conjunction with the deputy superintendent, division operations. The Contractor will validate the budget and project schedule, as well as present the findings to the Department of Facilities and Maintenance along with the deputy superintendent, division operations for review and approval and/or direction.

2. **Design Development Phase:** Upon approval of the schematic design phase by PCPS, the Contractor shall prepare documents consisting of design development drawings and specifications. The Contractor shall actively assist PCPS with identification, submittal and approval of any documentation required for approval. Contractor shall submit to PCPS an updated itemized

statement of probable construction cost and updated project schedule.

3. **Construction Document Phase:** The Contractor shall prepare working drawings and specifications for the solicitation of bids for the project. The Contractor shall actively assist PCPS with submittal and approval of any documentation required for approval and/or permitting by state and local government. The Contractor shall be responsible to insure the construction documents are in accordance with applicable codes. The Contractor shall submit to PCPS an updated, itemized statement of probable construction cost and updated project schedule.

4. **Bid Phase:** The Contractor shall assist in the bidding of the project for construction to include providing required documents for bidding, preparation and addenda, evaluations of bids and recommending contract award. The Contractor will provide for the distribution of bid documents for construction.

5. **Construction Phase:** The Contractor shall, upon PCPS' notice to proceed to the contractor, administer the contract for construction including, but not limited to, regular and special site visits, conduct progress meetings and preparation of the minutes, tracking and issuing project construction logs, certification of construction contract payments, evaluation and recommendation of proposals and request, shop drawing reviews and approvals, change order preparations and recommendations, punch list preparation and substantial completion certification, and other related work. Additionally, will be responsible for the preparation of complete contract documents for all elements of the scope of work and for construction administration until successful completion and acceptance of the project by PCPS.

6. **Post Construction Phase:** The Contractor will advise PCPS, concerning warranties, correction of defective work, or equipment operations issues during the construction contract warranty period.

7. If engaged by PCPS, the Contractor shall cooperate and coordinate with PCPS commissioning consultant.

IV. <u>PROJECT ORDERS</u>: PCPS reserves the right, at its sole discretion, to issue a separate RFP for similar work and other projects as the need may occur. PCPS also reserves the right, at its sole discretion, to issue purchase orders to any firm based on PCPS evaluation of each firm's qualifications as indicated below:

A. Availability of key personnel of the firm, based on current and past on-time performance for PCPS and the amount of similar work already assigned to the firm under this contract;

B. The cost negotiated for the work;

C. The qualifications and areas of expertise of the firm;

D. The firm's distance to the project;

E. The performance record of the firm with the procuring department, and;

F. Such other reasonable factors as may be specified in writing at the time of the assignment.

G. <u>Task Proposals/Response Time</u>: PCPS will notify the applicable Contractor when work is required. The Contractor shall respond to PCPS within forty-eight (48) hours after notification. PCPS may request a

meeting with the Contractor to discuss the proposed Scope of Work. Based upon the request and any subsequent meeting and/or negotiations, the Contractor shall prepare a written task proposal within five business days from PCPS task request to the appropriate Project Manager.

H. The Contractor's task proposal must include, but not limited to the following:

1. A detailed Scope of Work.

2. Key personnel assigned to the task.

3. Detailed total lump sum proposal based on hourly rates and reimbursable expenses to include but not limited to the following:

   a. Estimated staffing by position title, estimated number of hours for each, billable rates, and total cost of task. Hourly rates shall include salary, benefits, profit, travel and all other expenses for overhead, insurance, phone, equipment, etc.

   b. Identify subcontractors required for the task that are currently under contract with PCPS. Provide detailed information as indicated in *Section IV. H*. Contractor may propose additional subcontractor for disciplines not already identified in the contract. All subcontractors shall be approved by PCPS.

   c. Reimbursable costs incurred with task; cost shall consist of non-employee cost such as postage, copying charges, etc. An administrative fee will not be allowed. PCPS will only pay for the actual invoice amount.

   d. A list of material or information required from PCPS to complete the task order Scope of Services. The Contractor shall be responsible for obtaining information from PCPS at its own cost and expense for those items that are generally available to the public and are also essential for completion of the task.

   e. Performance Period: Projected start date and completion date.

   f. Contractor shall sign and date task proposal.

4. No compensation shall be paid to the Contractor for the preparation and delivery of task proposals. PCPS reserves the right to request from the Contractor additional information as deemed necessary prior to commencing with negotiations.

V. PROPOSAL SUBMISSION AND PREPARATION

A. GENERAL INSTRUCTIONS: In order to be considered for selection, Offerors must submit a complete response to the RFP. Proposals may be submitted by U. S. Mail, overnight service, or hand delivery.

1. All proposals must be sealed and labeled on the outside of an opaque envelope or package to show the following:

   a. Title of Proposal
   b. Name of Offeror
   c. Address of Offeror
   d. RFP Number
   e. Receipt and Closing Date

   Responses received after the due date and time will be returned to the offeror unopened. One (1) original, marked "Original," five (5) copies, and one copy on CD of their proposal shall be submitted to the Budget and Procurement. Proposals shall be open to public inspection only after award of the contract. The time proposals are received shall be determined with reference to the PCPS Official Clock. Offerors are responsible for ensuring that their proposals are stamped by PCPS personnel by the deadline indicated. In the event PCPS offices are closed due to inclement weather and/or emergency situations at the time set aside for a pre-proposal conference and/or the advertised proposal receipt date, the conference and/or receipt date will default to the next open business day at the same time and location.

   K. A digital version of the proposal in PDF or DOC format on a CD or USB.

   L. If the Offeror determines that part or parts of its proposal are trade secrets or proprietary information that is not to be open to public inspection, the Offeror must submit an additional digital copy of its proposal that eliminates such part or parts. This copy shall be identified with the words "REDACTED COPY" and should be submitted on the same CD or USB.

2. Proposal Preparation:

   a. Proposals shall be signed by an authorized representative of the Offeror. All information requested should be submitted. Failure to submit all information requested may result in PCPS requiring prompt submission of missing information and/or giving a lowered evaluation of the proposal. PCPS may reject proposals, which are substantially incomplete or lack key information. Mandatory requirements are those required by law or regulation or are such that they cannot be waived and are not subject to negotiation.

   b. Proposals should be prepared simply and economically, providing a straightforward, concise description of capabilities to satisfy the requirements of the RFP. Emphasis should be placed on completeness and clarity of content.

   c. Proposals should be organized in the order in which the requirements are presented in the RFP. All pages of the proposal should be numbered. Each paragraph in the proposal should reference the paragraph number of the corresponding section of the RFP. It is also helpful to cite the

paragraph number, sub letter, and repeat the text of the requirement as it appears in the RFP. If a response covers more than one page, the paragraph number and sub letter should be repeated at the top of the next page. The proposal should contain a table of contents, which cross-references the RFP requirements. Information which the Offeror desires to present that does notfall within any of the requirements of the RFP should be inserted at an appropriate place or be attached at the end of the proposal and designated as additional material. Proposals that are notorganized in this manner risk elimination from consideration if the evaluators are unable to findwhere the RFP requirements are specifically addressed.

d. As used in this RFP, the terms "must", "shall", "should" and “may” identify the criticality of requirements. "Must" and "shall" identify requirements whose absence will have a major negative impact on the suitability of the proposed solution. Items labeled as "should" or “may” are highly desirable, although their absence will not have a large impact and would be useful, but are not necessary. Depending on the overall response to the RFP, some individual "must" and "shall" items may not be fully satisfied, but it is the intent to satisfy most, if not all, "must" and "shall" requirements. The inability of an Offeror to satisfy a "must" or "shall" requirement does not automatically remove that Offeror from consideration; however, it may seriously affect the overall rating of the Offerors proposal.

e. Each copy of the proposal should be bound or contained in a single volume where practical. All documentation submitted with the proposal should be contained in that single volume.

f. Ownership of all data, materials, and documentation originated and prepared for PCPS pursuant to the RFP shall belong exclusively PCPS and be subject to public inspection in accordance with the Virginia Freedom of Information Act. Trade secrets or proprietary information submitted by an Offeror shall not be subject to public disclosure under the Virginia Freedom of Information Act; however, the Offeror must invoke the protections of § 2.2-4342F of the Code of Virginia, in writing, either before or at the time the data or other material is submitted. The written notice must specifically identify the data or materials to be protected and state the reasons why protection is necessary. The proprietary or trade secret material submitted must be identified by some distinct method such as highlighting or underlining and must indicate only the specific words, figures, or paragraphs that constitute trade secret or proprietary information. The classification of an entire proposal document, line item prices, and/or total proposal prices as proprietary or trade secrets is not acceptable and will result in rejection of the proposal.

3. Oral Presentation: Offerors who submit a proposal in response to this RFP may be required to give an oral presentation of their proposal to PCPS. This provides an opportunity for the offeror to clarify or elaborate on the proposal. This is a fact finding and explanation session only and does not include negotiation. PCPS will schedule the time and location of these presentations. Oral presentations arean option of PCPS and may or may not be conducted.

VI. FORMAT OF SUBMISSION

Offerors must organize their proposals according to the following:

A. **Title Sheet (TAB 1 Cover Sheet)**: Furnish the information requested on the **REQUEST FOR PROPOSAL'S TITLE PAGES** (Pages 1 and 2) of this solicitation and include it as the first two pages of your proposal. The name stated on the Title Sheet, page 2, must be the full legal name of the Offeror and the address must be that of the office which will have the responsibility for the services provided. Additionally, must provide all addenda, if any, signed and dated.

1. Offerors must specify on the introductory cover sheet if proposal contains trade secrets or proprietary information and if the proposal contains any exceptions to the content and requirements of the RFP.

B. **Submission of Proprietary Information (TAB 2 Proprietary)**: Offerors shall submit any information, in this section, considered by the Offeror to be trade secrets or proprietary information shall clearly identify the information as trade secrets or proprietary information and shall state the reason why protection is necessary. Offerors may not declare the entire proposal proprietary nor may they declare proposed pricing to be proprietary.

C. **Submission of Proposed Exceptions (TAB 3 Exceptions)**: Offerors wishing PCPS to consider any changes to these documents, such changes must be submitted in writing in this section, as part of the Offeror's proposal.

D. **Discipline Expertise (TAB 4 Expertise)**: The Offeror must provide a written narrative statement for each discipline to demonstrate his/her understanding and ability and/or willingness to satisfy all specified requirements (large and small) of the Scope of Services in Section III of the RFP.

1. The Offeror and its consultants must demonstrate the ability to finish projects within specified times, within a specified fixed fee, within PCPS budget, with minimal claims and with minimal change orders other than those requested by PCPS.

E. **Location (TAB 5 Location)**: Geographic location of the firm relative to the City of Petersburg, Virginia. The firm should include a street address of the office proposed to handle the work to include phone and facsimile numbers; and any other pertinent information relative to the size and organizational structure of the company.

F. **Experience, public (TAB 6 Experience Local)**:

1. List and describe, (including cost information) a clear and concise illustration of public projects completed in the Richmond Metropolitan Area, to include the Petersburg area; specifically, school infrastructure, during the past three (3) years by your firm to include the name, address, phone number, e-mail of the owners point of contact along with whether the project was completed on-time and within budget.

2. The Offeror and its consultants must demonstrate their experience in project construction administration to include proposal evaluation, negotiations, problem resolution, team building, reporting, logs and CPM schedule analysis

G. **Experience, public (other) (TAB 7 Experience Other)**: List and describe (including cost information)

a clear and concise illustration of other completed public projects not in the Richmond Metropolitan Area; specifically, school infrastructure during the past three (3) years by your firm to include the name, address, phone number, e-mail of the owners point of contact along with whether the project was completed on-time and within budget.

H. **Organizational Chart (TAB 8 Chart)**: Provide your firm's organizational chart (block diagram) as it pertains to task order for PCPS. Team who will be providing services to PCPS.

I. **Staff (principal) (TAB 9 Staff 1)**: Identification and statement of qualifications of each principal who will be assigned to PCPS project(s) for actual "hands on" work, as well as assigned to the project(s) for administrative responsibilities. Identify each person required by law to be licensed, registered or certified in the Commonwealth of Virginia.

J. **Staff (additional associates) (TAB 10 Staff 2)**: Identification and statement of qualifications of each team member that may be used on the project(s) along with a description of their possible role(s) on the project team. Identify each person licensed in the Commonwealth of Virginia. Identify each person required by law to be licensed, registered or certified in the Commonwealth of Virginia.

K. **Work Assignments (TAB 11 Assignments)**: Describe how your firm assigns and limits workload and your ability to complete PCPS projects within a timely manner for both large and small projects.

L. **Financial/Insurance (TAB 12 Financial)**: Provide pertinent financial data which demonstrates your firm's capability to successfully perform. This shall include information on the financial stability of the firm; e.g., annual financial reports and statements, Dun and Bradstreet current report and/or other credit bureau ratings.

M. **Strengths (TAB 13 Strengths)**: Describe any special strengths, insight or innovativeness, which may be applicable to your firm but not requested above.

N. **Recognition/Awards (TAB 14 Awards)**: Provide copies of all letters of commendations, special recognitions, awards, etc.

O. **Submittal Requirements (TAB 15 Submittals)**:

Appendix A – Anti-Collusion Form
Appendix B – Employee Certification Form
Appendix C – State Corporation Commission Form
Appendix D - Proprietary/Confidential Information Identification
Appendix E - Offeror Data Sheet

VII. EVALUATION CRITERIA

Proposals shall be evaluated by a PCPS Committee using the following criteria:

Proposal Component	Maximum Points
Experience Specific qualifications relative to professional services discipline described in the Scope of Services to include document preparation, bidding, and contract administration services.	30
Management/Project Team Expertise, experience and, qualifications of the firm's personnel in providing the services as related to the Scope of Services described in this RFP. Firm's ability to assign and complete projects within the time and funding restraints. Firm's geographic location to Petersburg, Virginia. Firm's financial capability and ability to meet professional liability insurance requirements.	30
Special Qualifications Special strengths and qualifications relative design development, construction renovation design document preparation, bidding and contract administration services performed by the firm not specifically requested elsewhere in this RFP.	20
References Favorable past performance on projects for similar public projects.	20
Total Proposal Score	100

VIII. GENERAL TERMS & CONDITIONS

A. **APPLICABLE LAWS AND COURTS:** This solicitation and any resulting contract shall be governed in all respects by the laws of the Commonwealth of Virginia, without regard to its choice of law provisions, and any litigation with respect thereto shall be brought in the City of Petersburg. The contractor shall comply with all applicable federal, state, and local laws, rules, and regulations.

B. **ANTI-DISCRIMINATION:** By submitting their proposals, offerors certify to Petersburg City Public Schools that they will conform to the provisions of the Federal Civil Rights Act of 1964, as amended, as well as the Virginia Fair Employment Contracting Act of 1975, as amended, where applicable, the Virginians With Disabilities Act, the Americans With Disabilities Act and § 2.2-4311 of the *Virginia Public Procurement Act (VPPA).* If the award is made to a faith-based organization, the organization shall not discriminate against any recipient of goods, services, or disbursements made pursuant to the contract on the basis of the recipient's religion, religious belief, refusal to participate in a religious practice, or on the basis of race, age, color, gender sexual orientation, gender identity, or national origin and shall be subject to the same rules as other organizations that contract with public bodies to account for the use of the funds provided; however, if the faith-based organization segregates public funds into separate accounts, only the accounts and programs funded with public funds shall be subject to audit by the public body. (*Code of Virginia*, § 2.2-4343.1E).

In every contract over $10,000 the provisions in 1. and 2. below apply:

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

   a. The contractor will not discriminate against any employee or applicant for employment because of race, religion, color, sex, sexual orientation, gender identity, national origin, age, disability, or any other basis prohibited by state law relating to discrimination in employment, except where there is a bona fide occupational qualification reasonably necessary to the normal operation of the contractor. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.

   b. The contractor, in all solicitations or advertisements for employees placed by or on behalf of the contractor, will state that such contractor is an equal opportunity employer.

   c. Notices, advertisements and solicitations placed in accordance with federal law, rule or regulation shall be deemed sufficient for the purpose of meeting the requirements of this section.

2. The contractor will include the provisions of 1. above in every subcontract or purchase order over $10,000, so that the provisions will be binding upon each subcontractor or vendor.

C. **ETHICS IN PUBLIC CONTRACTING:** By submitting their proposals, offerors certify that their proposals are made without collusion or fraud and that they have not offered or received any kickbacks or inducements from any other offeror, supplier, manufacturer or subcontractor in connection with their proposal, and that they have not conferred on any public employee having official responsibility for this procurement transaction any payment, loan, subscription, advance, deposit of money, services or anything of more than nominal value, present or promised, unless consideration of substantially equal or greater value was exchanged.

D. **IMMIGRATION REFORM AND CONTROL ACT OF 1986:** By submitting their proposals, offerors certify that the offerors does not and shall not, during the performance of the contract for goods and services, knowingly employ an unauthorized alien as defined in the federal Immigration Reform and Control Act of 1986.

E. **DEBARMENT STATUS:** By participating in this procurement, the vendor certifies that they are not currently debarred from submitting bids or proposals on contracts by any public body of the Commonwealth of Virginia, nor are they an agent of any person or entity that is currently debarred from submitting bids on contracts by any public body of the Commonwealth of Virginia.

F. **ANTITRUST:** By entering into a contract, the contractor conveys, sells, assigns, and transfers to Petersburg City Public Schools all rights, title and interest in and to all causes of action it may now have or hereafter acquire under the antitrust laws of the United States and the Commonwealth of Virginia, relating to the particular goods or services purchased or acquired by the Petersburg City Public Schools under said contract.

G. **CLARIFICATION OF TERMS:** If any prospective offeror has questions about the specifications or other solicitation documents, the prospective offeror should contact the buyer whose name appears on the face of the solicitation no later than five working days before the due date. Any revisions to the solicitation will be made only by addendum issued by the buyer.

H. **PAYMENT:**

1. To Prime Contractor:

   a. Invoices for items ordered, delivered and accepted shall be submitted by the contractor directly to the payment address shown on the purchase order/contract. All invoices shall show the contract number and/or purchase order number; social security number (for individual contractors), tax identification number (TIN), or the federal employer identification number (for proprietorships, partnerships, and corporations).

   b. Any payment terms requiring payment in less than 30 days will be regarded as requiring payment 30 days after invoice or delivery, whichever occurs last. This shall not affect offers of discounts for payment in less than 30 days, however.

   c. All goods or services provided under this contract or purchase order, that are to be paid for with public funds, shall be billed by the contractor at the contract price, regardless of which public agency is being billed.

   d. The following shall be deemed to be the date of payment: the date of postmark in all cases where payment is made by mail, or when offset proceedings have been instituted as authorized under the Virginia Debt Collection Act.

   e. **Unreasonable Charges**. Under certain emergency procurements and for most time and material purchases, final job costs cannot be accurately determined at the time orders are placed. In such cases, contractors should be put on notice that final payment in full is contingent on a determination of reasonableness with respect to all invoiced charges. Charges which appear to be unreasonable will be resolved in accordance with *Code of Virginia,* § 2.2-4363 and -4364. Upon determining that invoiced charges are not reasonable, Petersburg City Public Schools shall notify the contractor of defects or improprieties in invoices within fifteen (15) days as required in *Code of Virginia,* § 2.2-4351. The provisions of this section do not relieve an agency of its prompt payment obligations with respect to those charges which are not in dispute (*Code of Virginia,* § 2.2-4363).

2. To Subcontractors:

   a. Within seven (7) days of the contractor's receipt of payment from Petersburg City Public Schools, a contractor awarded a contract under this solicitation is hereby obligated:

      (1) To pay the subcontractor(s) for the proportionate share of the payment received for work performed by the subcontractor(s) under the contract; or

      (2) To notify the agency and the subcontractor(s), in writing, of the contractor's intention to withhold payment and the reason.

   b. The contractor is obligated to pay the subcontractor(s) interest at the rate of one percent per month (unless otherwise provided under the terms of the contract) on all amounts owed by the contractor that remain unpaid seven (7) days following receipt of payment from Petersburg City Public Schools, except for amounts withheld as stated in (2) above. The date of mailing of any payment by U. S. Mail is deemed to be payment to the addressee. These provisions apply to each sub-tier contractor performing under the primary contract. A contractor's obligation to pay an interest charge to a subcontractor may not be construed to be an obligation of Petersburg City Public Schools.

3. Each prime contractor who wins an award in which provision of a SWaM procurement plan is a condition to the award, shall deliver to the contracting agency or institution, on or before request for final payment, evidence and certification of compliance (subject only to insubstantial shortfalls and to shortfalls arising from subcontractor default) with the SWaM procurement plan. Final payment under the contract in question may be withheld until such certification is delivered and, if necessary, confirmed by the agency or institution, or other appropriate penalties may be assessed in lieu of withholding such payment.

4. Petersburg City Public Schools encourages contractors and subcontractors to accept electronic and credit card payments.

I. **PRECEDENCE OF TERMS:** The following General Terms and Conditions APPLICABLE LAWS AND COURTS, ANTI-DISCRIMINATION, ETHICS IN PUBLIC CONTRACTING, IMMIGRATION REFORM AND CONTROL ACT OF 1986, DEBARMENT STATUS, ANTITRUST, CLARIFICATION OF TERMS, PAYMENT shall apply in all instances. In the event there is a conflict between any of the other General Terms and Conditions and any Special Terms and Conditions in this solicitation, the Special Terms and Conditions shall apply.

J. **QUALIFICATIONS OF OFFERORS:** Petersburg City Public Schools may make such reasonable investigations as deemed proper and necessary to determine the ability of the offeror to perform the services/furnish the goods and the offeror shall furnish to Petersburg City Public Schools all such information and data for this purpose as may be requested. Petersburg City Public Schools reserves the right to inspect offeror's physical facilities prior to award to satisfy questions regarding the offeror's capabilities. Petersburg City Public Schools further reserves the right to reject any proposal if the evidence submitted by, or investigations of, such offeror fails to satisfy Petersburg City Public Schools that such offeror is properly qualified to carry out the obligations of the contract and to provide the services and/or furnish the goods contemplated therein.

K. **TESTING AND INSPECTION:** Petersburg City Public Schools reserves the right to conduct any test/inspection it may deem advisable to assure goods and services conform to the specifications.

L. **ASSIGNMENT OF CONTRACT:** A contract shall not be assignable by the contractor in whole or in part without the written consent of Petersburg City Public Schools.

M. **CONTRACT MODIFICATIONS:** Any changes to the contract must be approved through issuance of a written contract amendment or change order. Petersburg City Public Schools will not assume responsibility for the cost of any changes made without issuance of a written contract change order or change order.

N. **DEFAULT:** In case of failure to deliver goods or services in accordance with the contract terms and conditions, Petersburg City Public Schools, after due oral or written notice, may procure them from other sources and hold the contractor responsible for any resulting additional purchase and administrative costs. This remedy shall be in addition to any other remedies which the Petersburg City Public Schools may have.

O. **TAXES:** Sales to Petersburg City Public Schools are normally exempt from State sales tax. State sales and use tax certificates of exemption, Form ST-12, will be issued upon request. Deliveries against this contract shall usually be free of Federal excise and transportation taxes

If sales or deliveries against the contract are not exempt, the contractor shall be responsible for the payment of such taxes unless the tax law specifically imposes the tax upon the buying entity and prohibits the contractor from offering a tax-included price.

P. **USE OF BRAND NAMES:** Unless otherwise provided in this solicitation, the name of a certain brand, make or manufacturer does not restrict offerors to the specific brand, make or manufacturer named, but conveys the general style, type, character, and quality of the article desired. Any article which the public body, in its sole discretion, determines to be the equivalent of that specified, considering quality, workmanship, economy of operation, and suitability for the purpose intended, shall be accepted. The offeror is responsible to clearly and specifically identify the product being offered and to provide sufficient descriptive literature, catalog cuts and technical detail to enable Petersburg City Public Schools to determine if the product offered meets the requirements of the solicitation. This is required even if offering the exact brand, make or manufacturer specified. Normally in competitive sealed bidding only the information furnished with the bid will be considered in the evaluation. Failure to furnish adequate data for evaluation purposes may result in declaring a bid nonresponsive. Unless the offeror clearly indicates in its proposal that the product offered is an equivalent product, such proposal will be considered to offer the brand name product referenced in the solicitation.

Q. **TRANSPORTATION AND PACKAGING:** By submitting their proposals, all offerors certify and warrant that the price offered for FOB destination includes only the actual freight rate costs at the lowest and best rate and is based upon the actual weight of the goods to be shipped. Except as otherwise specified herein, standard commercial packaging, packing and shipping containers shall be used. All shipping containers shall be legibly marked or labeled on the outside with purchase order number, commodity description, and quantity.

R. **INSURANCE:** By signing and submitting a bid or proposal under this solicitation, the bidder or offeror certifies that if awarded the contract, it will have the following insurance coverage at the time the

contract is awarded. For construction contracts, if any subcontractors are involved, the subcontractor will have workers' compensation insurance in accordance with §§ 2.2-4332 and 65.2-800 et seq. of the *Code of Virginia*. The bidder or offeror further certifies that the contractor and any subcontractors will maintain these insurance coverage during the entire term of the contract and that all insurance coverage will be provided by insurance companies authorized to sell insurance in Virginia by the Virginia State Corporation Commission.

MINIMUM INSURANCE COVERAGES AND LIMITS:

1. Workers' Compensation - Statutory requirements and benefits. Coverage is compulsory for employers of three or more employees, to include the employer. Contractors who fail to notify Petersburg City Public Schools of increases in the number of employees that change their workers' compensation requirements under the *Code of Virginia* during the course of the contract shall be in noncompliance with the contract.

2. Employer's Liability - $100,000.

3. Commercial General Liability - $1,000,000 per occurrence and $2,000,000 in the aggregate. Commercial General Liability is to include bodily injury and property damage, personal injury and advertising injury, products and completed operations coverage. Petersburg City Public Schools shall be added as an additional insured to the policy by an endorsement.

4. Automobile Liability - $1,000,000 combined single limit. (Required only if a motor vehicle not owned by Petersburg City Public Schools is to be used in the contract. Contractor must assure that the required coverage is maintained by the Contractor (or third party owner of such motor vehicle.)

Profession/Service	**Limits**
Accounting	$1,000,000 per occurrence, $3,000,000 aggregate
Architecture	$2,000,000 per occurrence, $6,000,000 aggregate
Asbestos Design, Inspection or Abatement Contractors	$1,000,000 per occurrence, $3,000,000 aggregate
Health Care Practitioner (to include Dentists, Licensed Dental Hygienists, Optometrists, Registered or Licensed Practical Nurses, Pharmacists, Physicians, Podiatrists, Chiropractors, Physical Therapists, Physical Therapist Assistants, Clinical Psychologists, Clinical Social Workers, Professional Counselors, Hospitals, or Health Maintenance Organizations.) *Code of Virginia* § 8.01-581.15 https://law.lis.virginia.gov/vacode/title8.01/chapter21.1/section8.01-581.15/	
Insurance/Risk Management	$1,000,000 per occurrence, $3,000,000 aggregate
Landscape/Architecture	$1,000,000 per occurrence, $1,000,000 aggregate
Legal	$1,000,000 per occurrence, $5,000,000 aggregate
Professional Engineer	$2,000,000 per occurrence, $6,000,000 aggregate
Surveying	$1,000,000 per occurrence, $1,000,000 aggregate

S. **DRUG-FREE WORKPLACE:** Applicable for all contracts over $10,000:

During the performance of this contract, the contractor agrees to (i) provide a drug-free workplace for the contractor's employees; (ii) post in conspicuous places, available to employees and applicants for

employment, a statement notifying employees that the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in the contractor's workplace and specifying the actions that will be taken against employees for violations of such prohibition; (iii) state in all solicitations or advertisements for employees placed by or on behalf of the contractor that the contractor maintains a drug-free workplace; and (iv) include the provisions of the foregoing clauses in every subcontract or purchase order of over $10,000, so that the provisions will be binding upon each subcontractor or vendor.

For the purposes of this section, "*drug-free workplace"* means a site for the performance of work done in connection with a specific contract awarded to a contractor, the employees of whom are prohibited from engaging in the unlawful manufacture, sale, distribution, dispensation, possession or use of any controlled substance or marijuana during the performance of the contract.

T. **NONDISCRIMINATION OF CONTRACTORS**: A bidder, offeror, or contractor shall not be discriminated against in the solicitation or award of this contract because of race, religion, color, sex, sexual orientation, gender identity, national origin, age, disability, faith-based organizational status, any other basis prohibited by state law relating to discrimination in employment or because the bidder or offeror employs ex-offenders unless the state agency, department or institution has made a written determination that employing ex-offenders on the specific contract is not in its best interest. If the award of this contract is made to a faith-based organization and an individual, who applies for or receives goods, services, or disbursements provided pursuant to this contract objects to the religious character of the faith-based organization from which the individual receives or would receive the goods, services, or disbursements, the public body shall offer the individual, within a reasonable period of time after the date of his objection, access to equivalent goods, services, or disbursements from an alternative provider.

U. **AVAILABILITY OF FUNDS:** It is understood and agreed between the parties herein that the agency shall be bound hereunder only to the extent that the legislature has appropriated funds that are legally available or may hereafter become legally available for the purpose of this agreement.

V. **BID PRICE CURRENCY:** Unless stated otherwise in the solicitation, offerors shall state offer prices in US dollars.

W. **AUTHORIZATION TO CONDUCT BUSINESS IN THE COMMONWEALTH:** A contractor organized as a stock or nonstock corporation, limited liability company, business trust, or limited partnership or registered as a registered limited liability partnership shall be authorized to transact business in the Commonwealth as a domestic or foreign business entity if so required by Title 13.1 or Title 50 of the *Code of Virginia* or as otherwise required by law. Any business entity described above that enters into a contract with a public body pursuant to the *Virginia Public Procurement Act* shall not allow its existence to lapse or its certificate of authority or registration to transact business in the Commonwealth, if so required under Title 13.1 or Title 50, to be revoked or cancelled at any time during the term of the contract. A public body may void any contract with a business entity if the business entity fails to remain in compliance with the provisions of this section.

X. **CIVILITY IN STATE WORKPLACES:** The contractor shall take all reasonable steps to ensure that no individual, while performing work on behalf of the contractor or any subcontractor in connection with this agreement (each, a "Contract Worker"), shall engage in 1) harassment (including sexual harassment), bullying, cyber-bullying, or threatening or violent conduct, or 2) discriminatory behavior on the basis of race, sex, color, national origin, religious belief, sexual orientation, gender identity or

expression, age, political affiliation, veteran status, or disability.

The contractor shall provide each Contract Worker with a copy of this Section and will require Contract

Workers to participate in agency training on civility in the Petersburg City Public Schools workplace if contractor's (and any subcontractor's) regular mandatory training programs do not already encompass equivalent or greater expectations. Upon request, the contractor shall provide documentation that each Contract Worker has received such training.

For purposes of this Section, "Petersburg City Public Schools workplace" includes any location, permanent or temporary, where a Petersburg City Public Schools employee performs any work-related duty or is representing his or her agency, as well as surrounding perimeters, parking lots, outside meeting locations, and means of travel to and from these locations. Communications are deemed to occur in a Petersburg City Public Schools workplace if the Contract Worker reasonably should know that the phone number, email, or other method of communication is associated with a State workplace or is associated with a person who is a State employee.

Petersburg City Public Schools may require, at its sole discretion, the removal and replacement of any Contract Worker who Petersburg City Public Schools reasonably believes to have violated this Section.

This Section creates obligations solely on the part of the contractor. Employees or other third parties may benefit incidentally from this Section and from training materials or other communications distributed on this topic, but the Parties to this agreement intend this Section to be enforceable solely by Petersburg City Public Schools and not by employees or other third parties.

Y. **INDEMNIFICATION**: Contractor agrees to indemnify, defend and hold harmless PCPS, its officers, agents, and employees from any claims, damages and actions of any kind or nature, whether at law or in equity, arising from or caused by the use of any materials, goods, or equipment of any kind or nature furnished by the Contractor/any services of any kind or nature furnished by the Contractor, provided that such liability is not attributable to the sole negligence of the using agency or to failure of the using agency to use the materials, goods, or equipment in the manner already and permanently described by the Contractor on the materials, goods or equipment delivered.

IX. SPECIAL TERMS AND CONDITIONS

A. **AUDIT:** All records, reports, and documents relating to this contract shall be maintained by the contractor for a period of five (5) years following final payment (the "Audit Period"). Such records, reports, and documents shall be subject to review and audit at mutually convenient times.

B. **AWARD:** PCPS may make multiple awards for this procurement. PCPS shall engage in individual discussions with two or more Offerors it deems to be fully qualified, responsible, and suitable on the basis of initial responses and with emphasis on professional competence to provide the required services. Repetitive informal interviews shall be permissible. The Offerors shall be encouraged to elaborate on their qualifications and performance data or staff expertise pertinent to the proposed project, as well as alternative concepts. At the discussion stage, PCPS may discuss nonbinding estimates of total project costs, including, but not limited to, life-cycle costing, and where appropriate, nonbinding estimates of price for services. Proprietary information from competing Offerors shall not be disclosed to the public

or to competition. At the conclusion of discussions, based on the evaluation factors published in the Request for Proposal and all information developed in the selection process to this point, PCPS shall select in the order of preference two or more Offerors whose professional qualifications and proposed services are deemed most meritorious. Negotiations shall then be conducted, beginning with the Offeror(s) ranked highest. If contracts satisfactory and advantageous to PCPS can be negotiated at a price considered fair and reasonable, award shall be made to those Offerors. Otherwise, negotiations with the Offeror(s) ranked highest shall be formally terminated and negotiations conducted with the Offeror(s) ranked next highest, and so on until contracts are awarded at a fair and reasonable price. Should PCPS determine in writing and in its sole discretion that only one Offeror is fully qualified, or that one Offeror is clearly more highly qualified than the others under consideration, a contract may be negotiated and awarded to that Offeror.

C. **BEST AND FINAL OFFER (BAFO)**: At the conclusion of negotiations, the Offeror(s) may be asked to submit in writing, a Best and Final Offer (BAFO). After the BAFO is submitted, no further negotiations shall be conducted with the Offeror(s). The Offeror's proposal will be rescored to combine and include the information contained in the BAFO. The decision to award will be based on the final evaluation including the BAFO.

D. **CANCELLATION OF CONTRACT:** PCPS reserves the right to cancel and terminate any resulting contract, in part or in whole, without penalty, upon written notice to the contractor.

E. **CONFIDENTIALITY OF PERSONALLY IDENTIFIABLE INFORMATION:** The contractor assures that information and data obtained as to personal facts and circumstances related to patients or clients will be collected and held confidential, during and following the term of this agreement, and unless disclosure is required pursuant to court PIM 98-039 B-29 order, subpoena or other regulatory authority, will not be divulged without the individual's and the agency's written consent and only in accordance with federal law or the Code of Virginia. Contractors who utilize, access, or store personally identifiable information as part of the performance of a contract are required to safeguard this information and immediately notify the agency of any breach or suspected breach in the security of such information. Contractors shall allow the agency to both participate in the investigation of incidents and exercise control over decisions regarding external reporting. Contractors and their employees working on this project may be required to sign a confidentiality statement.

F. **RENEWAL OF CONTRACT:** The initial term of this contract shall be from Date of Award to **Approximately Monday, October 31, 2022**, with the option to renew for an additional one-year period, one year at a time, upon mutual written consent of the parties to the contract. Proposed prices shall remain firm for the initial term of the contract.

For future contract renewal periods, price increases shall not exceed the percentage increase/ decrease in the Consumer Price Index, Table 1 (http://stats.bls.gov/news.release/ cpi.t01.htm), Urban Consumers (CPI-U), U. S. City Average, Services Unadjusted, for the most recently published twelve months as published by the U. S. Department of Labor, Bureau of Labor Statistics. The base price to which any adjustments will be made shall be the prices in effect during the contract period prior to the proposed contract period.

1. At the time of the contract renewal, if costs to PCPS are restricted by the current percentage increase/decrease of the CPI-U for the latest twelve months, any unusual circumstances that could not have been foreseen by Contractor occur, and those circumstances significantly affect the Contractor's cost in providing the required items or services, the Contractor may request adjustments to the costs to PCPS beyond the current CPI-U cap to reflect the circumstances. The circumstances must be beyond the control of the Contractor and fully documented.

    a. Documentation for pricing increases above the CPI-U cap must be provided as follows:

    4. For items, documentation supporting the increased costs must be provided by the manufacturer on their letterhead.

    5. For services, the Contractor must provide documentation of the circumstances causing the increased costs, including substantial proof supporting the claims made, to warrant any price increases.

2. After reviewing the documentation provided, the Finance Director, may accept the increased costs or refuse them if they are considered to be excessive.

    a. If the Finance Director does not accept the increased costs and PCPS originally awarded multiple contracts for these items/services, PCPS reserves the right to obtain prices for the affected items/services from the other vendors who were awarded a contract and, if the prices are considered to be fair and reasonable, award the items/services to the contractor(s) with the lowest price that meets the contract requirements.

    b. Alternatively, at its own discretion, PCPS may revise the contract requirements and issue a new solicitation

G. **STATE CORPORATION COMMISSION IDENTIFICATION NUMBER**: Pursuant to Code of Virginia, §2.2- 4311.2 subsection B, a bidder or offeror organized or authorized to transact business in the Commonwealth pursuant to Title 13.1 or Title 50 is required to include in its bid or proposal the identification number issued to it by the State Corporation Commission (SCC). Any bidder or offeror that is not required to be authorized to transact business in the Commonwealth as a foreign business entity under Title 13.1 or Title 50 or as otherwise required by law is required to include in its bid or proposal a statement describing why the bidder or offeror is not required to be so authorized. Indicate the above information on the SCC Form provided. Contractor agrees that the process by which compliance with Titles 13.1 and 50 is checked during the solicitation stage (including without limitation the SCC Form provided) is streamlined and not definitive, and the Commonwealth's use and acceptance of such form, or its acceptance of Contractor's statement describing why the bidder or offeror was not legally required to be authorized to transact business in the Commonwealth, shall not be conclusive of the issue and shall not be relied upon by the Contractor as demonstrating compliance.

H. **SUBCONTRACTORS:** No portion of the work shall be subcontracted without prior written consent of PCPS. In the event that the Contractor desires to subcontract some part of the work specified herein, the Contractor shall furnish PCPS the names, qualifications, and experience of their proposed subcontractors. The Contractor shall, however, remain fully liable and responsible for the work to be done by its subcontractor(s) and shall assure compliance with all requirements of the contract.

I. **PROJECT STAFF**: PCPS will, throughout the life of the contract, have the right of reasonable rejection and approval of staff or subcontractors assigned to the project by the Contractor. If PCPS reasonably rejects staff or subcontractors, the Contractor must provide replacement staff or subcontractors satisfactory to PCPS in a timely manner and at no additional cost to PCPS. The day-to-day supervision and control of the Contractor's employees shall be the sole responsibility of the Contractor.

J. **PROPRIETARY INFORMATION / DISCLOSURE**: Offerors are advised that the Code of Virginia, Virginia Public Procurement Act, Section 2.2-4342 shall govern public inspection of all records submitted by the Offeror. PCPS reserves the right to submit to the PCPS legal counsel for concurrence of the Offeror's claim that it is in fact proprietary. Trade secrets or proprietary information submitted by a Offeror in connection with this RFP is not subject to public disclosure under the Virginia Freedom of Information Act. However, Offeror must invoke the protection of this section prior to or upon submission of the data or other materials. Offeror must provide a statement that identifies the data or other materials to be protected and states the reasons why protection is necessary. Furthermore, Offeror shall submit trade secrets or proprietary information under separate cover in a sealed envelope clearly marked "PROPRIETARY." Information submitted which does not meet the above requirements will be considered public information. Proprietary information submitted by the Offeror will be maintained as confidential pursuant to Virginia Code 2.2-4342 to the extent allowable by law. PCPS will not release such information unless required to do so pursuant to the law or a court order. PCPS will inform the Offeror of any request for such proprietary information and whether the PCPS determines that the information should be released in accordance with the law or a court order. The PCPS will allow the Offeror a reasonable amount of time to challenge the release of such information. A statement by the Offeror that the entire proposal is proprietary and/or a statement that Offerors pricing/costs are to be protected is unacceptable. Offeror will be requested to remove any such statement(s) in order to be eligible for further evaluation and award. References may be made within the body of the proposal to proprietary information; however, all information contained within the body of the proposal, not under separate cover and labeled proprietary, shall be public information in accordance with state statutes.

K. **NEW LOBBYING RESTRICTIONS**: The Contractor agrees and certifies that (a) no federal appropriated funds have been paid or will be paid, by or on behalf of the Contractor, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, and officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative agreement; and (b) if any funds other than federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying" in accordance with its instructions. Contractor agrees to certify its compliance with this requirement by filling out and submitting Attachment E to the Petersburg City Public Schools.

SECTION 011000 - **SUMMARY**
PART I - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes the following:
1. Work covered by the Contract Documents.
2. Type of the Contract.
3. Project Completion Schedule.
4. Use of premises.
5. Owner's occupancy requirements.
6. Work restrictions.

1.3 WORK COVERED BY CONTRACT DOCUMENTS

A. Project Identification:

1. Turf Replacement - Petersburg High School

a. Address: 3101 Johnson Rd, Petersburg VA 23805

B. Owner: Petersburg City Public Schools

1. Owner's Representative: Mr. Arthur Squire

C. Engineer: Steve Raugh, P.E. LEED (Timmons Group)

D. The contractor is responsible for:

1. Remove existing grass field and replace with artificial turf field.
2. Replace long and triple jump as concrete with latex rubber surface and install new sand pit.
3. Provide take off boards and blanking boards for long jump and triple jump.
4. Stockpile surplus material onsite and stabilize.
5. Install storm water infrastructure.
6. Furnishing all maintenance equipment described in the plans as well as a John Deere TS 4x2 Traditional Utility Vehicle or approved equal.
7. Diligently protect existing track and high jump during construction.
8. All items shown as proposed work in the plans and specifications.
9. ALL permitting and bonding costs required by the authority having jurisdiction.

E. During the construction period, the Contractor will be responsible for the maintenance and proper operation of facilities which the Contractor alters, connects to, or damages as a result of project work.

F. Use of Professional Seals on Bidding, Procurement, and Contract Documents: for the purposes of this paragraph, the term "Regulant" refers to the individual who signs and seals parts of the Contract Documents (e.g. the Drawings and Specifications). Certain information has been excerpted verbatim from a source or sources (e.g., UL Assemblies, SMACNA details, IBC code text) which was considered or used by Regulant in preparing parts of the Contract Documents, as follows:

1. The excerpted information was neither prepared under the direct control nor personal supervision nor created by the Regulant, as it was prepared by the source and owner of the excerpted information.

2. For purposes of bidding, procuring, and performance of the Work, and in any event of conflicts or ambiguities between the excerpted information in the Contract Documents and the requirements of applicable codes and standards, provide the better quality or greater quantity of Work which, at a minimum, complies with the requirements of the applicable codes and standards.

3. Advise Architect immediately upon becoming aware of requirements of the Work which are not consistent with the requirements of the excerpted information.

4. Attribution is acknowledged for information obtained and included herein verbatim from other source or sources.

5. Regulant has taken into consideration and used certain excerpted information from other sources which are applicable to the Contract Documents, and the Regulant indicates by its seal that it is assuming responsibility for its services in use and application of the excerpted information to the requirements of Work, but not for the excerpted information itself which was prepared by others. Regulant does not indicate by its seal that it is responsible for use or application of other information in such source or sources which was not included herein.

1.4 TYPE OF CONTRACT

A. This project will be constructed under a single prime contract.

1.5 PROJECT COMPLETION SCHEDULE AND WORK SEQUENCE

A. Contractor shall provide the Owner with a schedule of work prior to commencing any construction.

B. The Contractor shall not interfere with the operation of equipment and services in those areas of the facility where work is not scheduled and where the Owner, students, employees and others occupy the facility, facilities and/or site.

C. Notice to Proceed will be issued by Owner on or before approximately **February 17, 2022**. Construction activities cannot begin until this date.

D. Construction Contract Project Substantial Completion and/or a Certificate of Occupancy shall be obtained by **September 30, 2022**.

E. Contractor shall submit Certificates of Insurance to the Owner within 2 weeks of Notice of Award. Failure to submit Certificates of Insurance within this 2-week period will not be considered for extensions of Contract Time.

1.6 USE OF PREMISES

A. Contractor Use of Premises and Partial Owner Occupancy: Contractor shall have limited use of the premises for construction operations. Owner will occupy the premises during entire construction period, with the exception of areas under construction. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's operations.

1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities.

2. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and authorities having jurisdiction.

3. Provide not less than 72 hours' notice to Owner of activities that will affect Owner's operations.

1.7 OWNER'S OCCUPANCY REQUIREMENTS

A. The Owner will occupy the site and all facilities located at the site during the entire period of construction. The Contractor shall cooperate fully with the Owner and any of his representatives during construction operations to minimize conflicts and to facilitate the Owner's usage of the facilities. The Contractor shall perform the work so as not to interfere with the Owner's usage, class schedules, and any other facility operations.

1.8 WORK RESTRICTIONS

A. On-Site Work Hours are unrestricted.

1.9 EXAMINATION OF SITE

A. Bidders are required to visit the site, compare the Drawings and specifications with existing conditions and inform themselves of all conditions. Failure to visit the site and examine the existing conditions in relation to the Work to be performed will in no way relieve the Contractor from necessity of furnishing any materials or performing any Work that may be required to complete Work in accordance with Drawings and specifications without any additional cost to the Owner. The Contractor will be responsible for demolition of all existing utilities and site elements necessary to provide finished product as indicated by the Contract Documents.

B. The Contractor shall be responsible for locating, determining, and clearly identifying (marking) all existing underground utilities in the work area, including but not limited to, conduits for exterior electrical services and communication services. The Contractor shall contact Petersburg's "Miss Utility" at 811 or 1-800-552-7001 prior to any digging work to identify and mark any underground utilities. The Contractor shall commission an independent utility locator to determine the exact location of all utilities before commencing Work and agree to be fully responsible for any and all damages which might be occasioned by the Contractor's failure to fully and exactly locate and preserve any and all underground utilities.

C. Any relocations of existing utilities for the convenience of the Contractor shall be at no additional cost to the Owner.

D. The Contractor shall not damage utilities. Damage caused to utilities by the Contractor shall be repaired and the facilities restored to their original conditions at no additional cost to the Owner.

E. The Contractor shall be responsible for filing all requests with public utility corporations, jurisdictional agencies, or other Owners to make all adjustments to public utility fixtures.

1.10 MISCELLANEOUS PROVISIONS

A. Use, consumption, and/or possession of any controlled substance, substances consider to be illegal, and alcohol are strictly prohibited on school property.

B. The entire school site, including construction areas, are no tobacco zones. Use of tobacco products and/or cigarette smoking are strictly prohibited on school property.

C. Use or possession of weapons, firearms, or archery equipment of any types, including those intended for hunting, are strictly prohibited on school property.

D. Use of vulgar, suggestive, or abusive language and/or gestures are strictly prohibited on school property.

E. Contractor shall provide identity badges that must be visibly worn at all times by each construction worker while on school property.

F. Contractor and construction workers shall not consult with school personnel regarding any issue of a construction nature, except in emergency situations and as necessary for safely scheduling school activities.

G. Fraternization between Contractor or construction workers and school staff or students is strictly prohibited on school property.

H. Use of school restrooms is strictly prohibited.

I. Use of, eating from, or dining in school cafeterias are strictly prohibited in an occupied school facility.

J. Use of school dumpsters for construction debris and trash is strictly prohibited.

K. Use of radios, stereos, compact disc players, and/or other noise producing equipment may be deemed unacceptable in occupied school facilities if they are disruptive to the educational environment.

1.11 ACBM MATERIALS AND CERTIFICATION

A. All new materials provided by this Contract shall be free from all new asbestos-containing building materials. The Contractor shall submit certification at the completion of the Project that no asbestos-containing materials have been used in the construction.

1.12 LEAD-BASED PAINT MATERIALS AND CERTIFICATION

A. The Work shall be free from all new lead-containing building materials. Contractor shall submit certification at the completion of the Project that the Project is free from all new lead-containing building materials.

Section 02749- Sand-Rubber Synthetic Turf System Athletic Field Surface and Related Work

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and General Provisions of Contract, including General Conditions and Division 1 Specifications Sections, apply to the Work of this Section.

1.2 RELATED WORK

A. Base Construction and Related Work Synthetic Turf Field System: Section 02752

1.3 DESCRIPTION

A. This project is a natural grass athletic field conversion to a multipurpose synthetic turf athletic field in which the contractor shall furnish all labor materials, materials, equipment and tools necessary to convert the existing natural grass field to synthetic turf including installation of typical Sand/Rubber In-Fill Synthetic Turf System as indicated on the drawings and as specified herein. The installation of all new materials shall be performed in strict accordance with the Synthetic Turf Manufacturer's instructions and in accordance with all approved shop drawings. A Synthetic Turf System includes all earthwork, base construction and athletic field surface.

1.4 QUALITY ASSURANCE

A. Regulatory Requirements and references as listed below are the current guidelines set forth by the governing bodies listed. All work under this Section shall conform to the latest edition as applicable:

1. American Society for Testing and Materials (ASTM)
2. Consumer Product Safety Commission (CPSC)
3. International Hockey Federation (FIH)
4. National Collegiate Athletic Association (NCAA)
5. National Federation of State High School Association (NFHS)
6. National Recreation and Park Association (NRPA)
7. USA Field Hockey
8. US Lacrosse Foundation
9. United States Soccer

B. The Contractor must employ competent workers skilled in the installation of Synthetic Turf as outlined in Section 1.05

C. The designated supervisory personnel on the project must be certified in writing by the Synthetic Turf Manufacturer as competent in the installation of this material, including sewing seams and proper installation of the infill mixture.

D. The Contractor is responsible for reviewing and certifying that the proposed subgrade, drainage, and laser grading are completed in accordance with the contract documents prior to the installation of the Synthetic Turf, that the Synthetic Turf system being supplied and installed meets or exceeds the design criteria of the specifications, and that the site conditions exceed the minimum requirements of the system's design performance standards as set by the Synthetic Turf Manufacturer. Installation of synthetic field surface materials may not commence until the Engineer receives the final acceptance of finished crushed stone/aggregate base from the synthetic turf field manufacturer.

E. The Contractor is required to use a licensed Land Surveyor registered in the State of Virginia for all layout and engineering work.

F. In-fill materials will be tested by the Owner for conformance to the specification.

1.5 EXPERIENCE

A. Firm Experience:

1. The Synthetic Turf System shall be installed by an experienced Contractor who shall provide a list of twenty-five (25) completed field installations in the United States within the last three years performing business under the name of the current installation company, providing specific information about the name of the product, contact names, addresses, telephone numbers, year of the installation and type of infill material for the following type of fields:

   A. A soccer field and a football field of 70,000 sq. ft. or larger.

   B. A list of synthetic turf fields, other than soccer or football.

2. The list shall include a minimum of twenty-five (25) fields that have been approved for game play by one of the following associations:

   A. National Collegiate Athletic Association-(NCAA)

   B. National Federation of State High School Associations

   C. Federation Internationale de Football Associations {FIFA)

   D. National Recreation and Park Association (NRPA)

3. The Contractor may use Subcontractors/Installers who employ only qualified and experienced Supervisors and Technicians skilled in the installation of the Synthetic Turf.

4. The contractor shall have a minimum of one (1) certified field builder on staff through American Sports Builders Association (ASBA).

B. Principal Staff Experience:

1. The Contractor shall detail the experience, educational background and training of the proposed principal staff, as follows:

   A. Contract Manager- The Contract Manager shall be a current and qualified employee of the Contractor; be skilled in the performance of the assigned duties; and have a minimum of three years' experience managing or supervising similar sized projects.

B. Supervisor-The supervisor shall be a current and qualified employee of the Contractor; be skilled in the performance of the assigned duties; have a minimum of eighteen months' experience in supervising similar sized projects; and have installed In-Fill Synthetic Turf System products a minimum of twenty-five (25) installations

C. The turf installation crew personnel qualifications shall include the individuals' resume, project list and contact information. Such information shall clearly identify the experience and qualifications in performing the type of work covered by these Specifications. All information provided shall include a description of the identified projects, and the name and telephone number of a responsible contact person who can verify the information provided.

D. The Contractor shall not replace the named individuals for the duration of the contract unless the substitute individuals have equivalent qualifications as approved by the Owner.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in sealed unopened containers with manufacturer's labels intact.

B. Store materials in protected area at a temperature not to exceed maximum and minimum temperatures as recommended by manufacturer. Protect products from UV degradation.

1.7 **SUBMITTALS**

A. All submittals shall be directed to the Owner and Engineer electronically for distribution. The contractor may only send paper submittals where applicable.

B. One sample of Synthetic Turf, a minimum of 12 x 12 inches in size, illustrating details of the finished product.

C. A letter and specifications sheet certifying that the products of this specification Section meet or exceed specified requirements.

D. Submit Certified copies of independent (third-party) laboratory reports on ASTM tests as follows for Synthetic Turf carpet:

1. Specific Gravity and Density of Plastics by Displacement, ASTM D792
2. Tuft Bind without Infill, ASTM D1335
3. Melt Point Index, American Association of Textile Chemists and Colorists #20 (AATCC#20)
4. Total Product Weight without Infill, ASTM D5848

5. Average Pile Yarn Weight, ASTM D5848
6. Average Tuft Height, ASTM D5823
7. Grab Tear Strength, ASTM D5034
8. Breaking Strength of Textile Fabrics {Length) - Glued or Sewn Seam Turf Sample, ASTMD5034
9. Pile Height, Face Width & Total Fabric Weight, ASTM D5848
10. Methanamine Pill Test ASTM D2859
11. Impact Attenuation, GMax, ASTM F355/F1936
12. Coefficient of Friction, ASTM F1551
13. Water Permeability with Infill, ASTM D4491
14. Abrasiveness, ASTM F1015
15. Primary Backing Weight, ASTM D5848
16. Secondary Backing Weight, ASTM D5848
17. Machine Gauge, ASTM D5793
18. Yarn Dernier, ASTM D1577
19. Fiber Thickness, ASTM D5034
20. Average Fiber Break Strength and Elongation, ASTM D2256
21. Accessibility of Surface, ASTM F1951
22. Heavy Metal Content for all metals in fiber and infill, ASTM F2765-09

A. One copy of the Synthetic Turf Manufacturer's insured non-prorated warranty and Insurance policy information.

B. Shop drawings indicating:

1. A Field Layout with tufted/inlaid lines
2. Field Marking Plan and details for all fields shown.
3. Roll/Seaming Layout.
4. Methods of Attachment, Field Openings and Perimeter Conditions
5. Synthetic Turf Manufacturer's technical product data literature
6. Sewing/Adhesives technical specification
7. Sieve Analysis of Sand and Ambient Rubber In-Fill
8. Sample of Ambient Rubber and Sand from actual source supplier
9. Base and Finish Aggregate Stone source and material specification/certification
10. Drainage Piping specifications
11. Concrete Curb Edging details

12. Concrete Mix design
13. Asphalt Mix design
14. Seed Mix and sod supplier
15. Specifications for soccer goal posts, backstays, and ground sleeves
16. Material Safety Data Sheet **(MSDS)** for rubber infill, turf backing system, and glue (if applicable)
17. Method of attachment, field openings and perimeter conditions

C. The Contractor shall submit a statement of the origin, composition, and manufacturer of all materials to be used in the work, including optional or alternate items.

D. The Synthetic Turf Manufacturer's name, type and composition of fiber.

E. Sieve analysis of the infill rubber and sand with a certification that the drainage rates comply with the Synthetic Turf Manufacturer's requirements.

1.8 **WARRANTY**

A. The Synthetic Turf Manufacturer shall provide a Warranty to the Owner that covers defects in materials and workmanship of the Synthetic Turf for a minimum period of eight (8) years from the date of Substantial Completion. The Synthetic Turf Manufacturer must verify that their on-site Representative has inspected the installation and that the work conforms to the Synthetic Turf Manufacturer's requirements.

B. The Synthetic Turf Manufacturer shall provide a Warranty to the Owner that covers defects in materials and workmanship of the Synthetic Turf for a period of eight (8) years from the date of Substantial Completion. The Synthetic Turf Manufacturer shall include coverage for damage caused from UV degradation or defects in workmanship and materials in the manufacturing or installation of the Synthetic Turf. All Synthetic Turf warranties shall include repair or replacement of the affected areas and include all necessary materials, labor, transportation costs, etc. to complete the required repairs.

C. The synthetic turf system shall drain vertically a minimum of 14 inches per hour without prolonged accumulation of surface water. If the synthetic turf system does not drain in accordance with this Specification, then punching the carpet backing or any method creating additional holes in the backing other than the designed drainage holes will not be permitted. The removal and replacement of the infill will be permitted given there is not damage to the fibers in the process.

D. The Synthetic Turf Manufacturer's Warranty must be supported by a pre-paid insured warranty policy. A copy of the policy must be provided with the Bid Submittal and include the following information and features:

1. Name of the carrier
2. Method for payment of the policy (must be pre-paid and non-cancelable).
3. Insured warranty shall be provided by a third-party insurer with an A.M. Best financial strength rating of A- or better.
4. The policy shall not be a re-insurance or off-shore policy or a letter of credit.

5. Insured warranty coverage shall be for the full 100% replacement value of the total square footage installed.
6. Insured warranty coverage shall apply to the full 8-year period from substantial completion date of project with no uninsured periods or periods of self-insurance.
7. The insured warranty policy must have a zero deductible.
8. Insured warranty policy coverage shall specifically provide for reimbursement to the warranty holder (i.e. the Participating Public Agency) in the event of a bankruptcy of the synthetic turf provider.
9. Insured warranty coverage shall apply to playing surface inclusive of infill, seaming, labor and colored inlays for event markings.
10. Insured warranty coverage shall not have exclusions for epidemic or catastrophic failure.
11. Insured warranty coverage shall not limit the hours of use.
12. Insured warranty coverage shall not exclude heavily trafficked areas or related uses such as team or band practices.
13. Insured warranty coverage shall not exclude any colored turf fibers.
14. Insured warranty coverage shall offer a minimum claim limit of Five Million Dollars ($5,000,000) in the aggregate per annum.
15. Insured warranty coverage shall offer a minimum claim limit of Five Hundred Thousand Dollars ($500,000) per field.
16. Additional insured warranty policy features of importance.

E. The contractor shall provide one Gmax test at completion and one Gmax test at the one-year warranty anniversary.

PART 2 - PRODUCTS

2.1 MATERIALS

A. The only approved Synthetic Turf products identified for the purpose of this bidding solicitation are:

1. Astroturf - 2.25" Inch - Slit File Turf (minimum 13,000 Denier)
2. FieldTurfUSA, Inc. - 2.25" Inch - Slit File Turf (minimum 13,000 Denier)
3. Shaw Sports Turf - 2.25" Inch - Slit File Turf (minimum 13,000 Denier)

Selection of these products represents the required minimum performance criteria as outlined herein. The manufacturer's performance criteria and product properties and declarations both physical and chemical are as represented by the manufacturers at the time of this solicitation. Approved equals must be pre-bid approved.

B. The approved shock pad products identified for the purpose of this bidding solicitation are:

1. Brock International - SP-17 Composite Shock Pad.
(See Bid Alternate Section O1100 for all specified material)

C. The Synthetic Turf material and resilient ambient rubber/sand infill shall be in accordance with the following:

1. The Slit Film fiber shall be tufted with (2) two ends per needle to achieve 13,000 minimum denier with one (1) fiber less than 8000 denier and 100 micron thickness 100% polyethylene, low friction fiber, measuring not less than 2.25" inches high, product as manufactured by Controlled Products, Shaw, Bonar Yarns & Fabrics, TTC/Polyloom, Ten Cate Thiolon, or equal. The low friction fiber shall be specifically designed to minimize abrasion.

2. The tufted fiber weight shall not be less than 48 ounces per square yard for manufacturers using a sand/ambient rubber infill mix. The fiber shall be tufted on a 3/8" of an inch to a ½ " an inch tufting machine at a rate necessary to achieve specified face weight. The overall product weight must not be less than 60 ounces per square yard. The low friction non-abrasive fiber shall be 100% polyethylene, treated with a UV inhibitor. Systems that use polyethylene/polypropylene blended fibers and systems that include any type of nylon fibers are unacceptable.

3. The primary backing shall consist of a backing with a minimum weight of 7 ounces per square yard. The secondary backing shall consist of an application of polyurethane or urethane (minimum of 18 ounces per square yard) heat activated to permanently lock fiber tufts in place. Products using latex based secondary backings will not be acceptable. The Synthetic Turf system shall be perforated with a minimum of 1/8" of an inch diameter holes every 3/16" of an inch at 4" inches in both directions to provide for maximum drainage or independently tested approved equal performance system. Manufacturers may use a permeable non punched backing only if the system is capable of draining greater than 14 inches per hour. Water Permeability through the entire synthetic turf system shall drain equal to or greater than 14" inches per hour.

A summary of the required properties for the installed Synthetic Turf properties are as follows:

Testing	Standards	Specifications	Properties
A.	ASTMD1577	Fiber Denier (A) Fiber Denier (B)	8,000 (min) - Slit Film 5,000 (min) - Slit Film
B.	ASTMD3218	Fiber Thickness	100 microns (min) - Slit Film
C.	ASTMD5823	Pile Height	2.25" inches nominal (minimum)
D.	ASTMD5848	Pile Weight	48 oz. /sq. yd. (minimum)
E.	ASTMD1335	Tuft Bind without Infill	8 lbs./force (minimum)
F.	ASTMD5848	Primary Backing	7 oz./sq. yd. (minimum)
G.	ASTMD5848	Secondary Backing	18 oz./sq. yd. (minimum)
H.	ASTMD5848 (without Infill)	Total Product Weight	60 oz./sq. yd. (minimum)
I.	ASTMD5793	Machine Gauge	3/8" inch to 1/2" inch
J.	ASTMD5034	Grab Tear (width)	200 lbs./force (minimum)
K.	ASTMD5034	Grab Tear (length)	200 lbs./force (minimum)
L.	ASTMF1015	Relative Abrasiveness Index	Ranges between 14 and 22
M.	ASTMF2765	Total Lead Content	Less than *50* ppm

N.	ASTM D4491	Water Permeability	>=14 inches/hour (minimum)
0.	ASTM D2859	Flammability (Pill Burn)	Pass
P.	ASTM F355/ F1936	Impact Attenuation	=<110 at installation (GMax) =<140 over life of warranty
Q.	ASTM F1951	Accessibility of Surface	Present Test Findings
R.	ASTM F2765	Heavy Metal Testing	**Present Test Findings
S.	Headspace GC/MS - VOC Testing		**Present Test Findings
T.	Solvent extraction GC/MS - PAH Testing		**Present Test Findings

** Test findings shall comply with EPA soil and drinking water standards.

4. The carpet shall be delivered in 15' wide rolls. The rolls shall be of sufficient length to go from sideline to sideline of the soccer field. Head seams between the sidelines of the football field will not be acceptable.

D. All field lines, numbers and markings indicated on the drawings shall be permanently inlaid.

E. The fiber shall be green in color to simulate natural grass as closely as possible, treated with UV inhibitor and guaranteed for a minimum of eight years.

F. Infill Material: The infill system shall be graded, ambient hammer-milled SBR rubber. The rubber shall be free of all dust, toxic materials, and metals. The proposed ambient rubber and sand infill shall be clean material and shall be tested for compliance. The sand shall be select and graded dust-free silica sand. Depth of material at completion of placement shall be 1-¾" inches(± 1/16 inches) and as required to reach the required initial and subsequent Gmax ratings. Samples of both the ambient rubber and sand shall be submitted to the Owner for approval prior to installation.

Silica sand within the infill mix, 35% to 50% by weight, will meet the following size distribution:

U.S. Mesh	Metric (mm)	% Retained per sieve
16	1.190	0
20	08.840	0-3
25	0.710	10-30
30	0.590	30-50
35	0.500	15-35
40	0.420	5-15
50	0.297	<5
70	0.210	Trace

Sand will consist of uniform, sub-angular to rounded, single grains. **It will be dust-free,** and un-ground. Crusher fines are unacceptable.

Ambient rubber shall be governed by the following specifications:

Size Specifications for Ambient Ground 10-14 Rubber

1.60mm < Dso < 1.75mm
1.10 < Dw!D10 < 1.40
0.80 <____*Q* _< 1.20

D,o D6o

Where Dx represents the grain size for which x% of the rubber is smaller. i.e., if Dso = 0.7mm, this means that 50% of grains (by weight) are smaller than 0.7mm.

The shape of the rubber particles shall be granular (edges shall not be stringy). As an approximation, the fol lowmg ranges of values for the sieve analysis are acceptable:

MILLMTR	MICRONS	US MESH	%PASSING	%RETAINED
2.38	2380	8	95-100%	0-5%
2.00	2000	10	90-100%	0-10%
1.68	1680	12	35-65%	40-60%
1.41	1410	14	0-10%	40-60%
1.19	1190	16	Trace	0-10%
0.841	841	20	Trace	0%

G. The exposed fiber height above the infill material shall be approximately 5/8" of an inch +/- 1/16" of an inch. The entire Synthetic Turf system shall be resistant to bacteria and fungal growths.

H. Surplus Materials: The Contractor shall provide the Owner, at each installation as a part of the Contract, the following surplus materials transported to storage location selected by the Owner:

1. Synthetic Turf Fabric (green) - 500 square feet with at least one piece fifteen (15) feet by thirty (30) feet.
2. Synthetic Turf Fabric (White, Yellow, Blue, Orange, Red or any other colors) - 50 linear feet each.
3. Infill Material - as required to infill 500 square feet. This material shall not be used by the Synthetic Turf Subcontractor to maintain depth and GMax values during the warranty period. The Contractor must provide material, matching the existing infill material, during the warranty period at no cost to the Owner.
4. Shock Pad - 250 square ft. minimum. The Contractor must provide material, matching the existing shock pad material if needed for warranty repairs, during the warranty period at no cost to the Owner

2.1 EQUIPMENT

A. Maintenance Equipment: The Contractor shall deliver to the Owner as a part of the contract, one (1) non-powered new 7 ft. Mechanical Sweeper per Greens Groomer LitterKat with tow-behind sports field magnet and one (1) 7 ft. Fieldspec Drag Brush per Sportsfield Specialties, Inc. The Fieldspec equipment shall be provided with standard hitch to connect to the Owner's tractor vehicles. The Contractor shall be responsible for verifying the type of hitch attachment, at the project site, with the Owner.

1. The 7 ft. Drag Brush shall be of a design as recommended by the Synthetic Turf system in-order to satisfy and maintain the warranty requirements as described above. The 7 ft. Drag Brush shall operate utilizing synthetic bristle brushes that follow metal dethatching tines to loosen the infill and can be set a variety of heights. During a single pass the 7 ft. Drag Brush shall de-compact or loosed the infill, level the infill materials, and groom the pile fibers to stand upright and uniform. At no settings shall the 7 ft. sweeper damage the pile. Drag Brush shall have ability to mount a tow-behind magnet.

2. The 7 ft. mechanical sweeper shall operate utilizing rotating synthetic bristle brushes that can be set at a variety of heights. During a single pass the 7 ft. sweeper shall automatically and simultaneously collect all foreign surface debris, return all collected infill material to the field, level the infill materials, and groom the pile fibers to stand upright and uniform. At no settings shall the 7 ft. sweeper damage the pile. Sweeper shall have ability to mount a tow behind magnet.

The Contractor shall deliver to the Owner as part of the contract for each school, one (1) field sweeper with mechanically driven rotating brushes and one Fieldspec 7' Dragbrush with dethatching tines by Sportsfield Specialties Inc., Delhi NY. A pull behind magnet shall be provided as per part number FSMAG as manufactured by Sportsfield Specialties Inc., Delhi NY. Drag Brush and Sweeper shall be manufactured to be able to connect to a pull behind magnet.

B. Other Equipment: Refer to plan details and specification section 02752 for athletic accessories including permanent and/or portable goals.

PART 3 - EXECUTION

3.1 GENERAL

A. The installation of the Synthetic Turf System shall be performed in full compliance with approved Shop Drawings.

B. All designs, markings, layouts, and materials shall conform to all applicable and current National State High School Federation rules and other standards that may apply to this type of Synthetic Turf installation.

C. Only trained technicians, skilled in the installation of athletic caliber synthetic turf systems working under the direct supervision of the approved installer supervisors, shall undertake any cutting, sewing, gluing, shearing, topdressing or brushing operations.

D. The designated Supervisory personnel on the project must be certified, in writing by the turf Manufacturer, as competent in the installation of this material, including sewing seams and proper installation of the Infill mixture.

3.2 EXAMINATION

A. The Contractor shall verify that all subbase, drainage, and leveling are completed prior to installation. The subbase shall be drag-boxed prior to Synthetic Turf Manufacturer's approval of the subbase.

B. The finished grade of the aggregate base shall not vary more than 3/16" of an inch in ten feet. A laser grader must be used to meet these requirements

C. Prior to the beginning of installation, the Installer of the Synthetic Turf shall inspect the subbase and accept in writing the subbase surface planarity and compaction. The Contractor shall have the field dimensions and locations for markings measured by a licensed Land Surveyor registered in the State of VA in order to verify conformity to the specifications and applicable standards. A record of the finished field as-built measurements shall be made and submitted to the Owner.

D. The overall base design, vertical drainage system, and the gradations of the aggregate shall be approved in writing by the Synthetic Turf Manufacturer prior to Synthetic Turf installation

E. The surface must be perfectly clean as installation commences and shall be maintained in that condition throughout the process.

F. Restoration of Damage: The Infilled Synthetic Turf Removal contractor and/or Installation contractor shall exercise care in the execution of his work and avoid damage or defacement of the existing aggregate base substrate and adjacent or surrounding areas by using suitable protective means. Damage or defacement that occurs shall be remedied to the satisfaction of the Owner.

3.3 SYNTHETIC TURF FABRIC INSTALLATION

A. Install in accordance with Manufacturer's instructions. The Turf Contractor shall strictly adhere to the installation procedures outlined under this section. Any variance from these requirements must be accepted in writing, by the Manufacturer's onsite representative, and submitted to the Engineer/Owner, verifying that the changes do not in any way affect the warranty. Infill materials shall be approved by the Manufacturer and installed in accordance with the Manufacturer's standard procedures

B. The turf carpet rolls are to be installed directly over top of the shock pad system which is placed on the accepted aggregate base surface and geotextile membrane. Extreme care should be taken to avoid disturbing the underlayment material and aggregate base, both regarding compaction and planarity. The Contractor shall ensure that a 2-5 ton static roller is on-site and available to repair and properly compact any disturbed areas of the aggregate base.

C. Compaction of the perimeter around the playing field is essential to maintain the integrity of the perimeter and the soil surrounding the voided area.

D. The Synthetic Turf carpet shall be installed in accordance with Manufacturer's instructions. The Contractor shall adhere to the installation procedures outlined under this section. Any variance from these requirements must be accepted in writing, by the Owner, verifying that the changes do not in any way affect the warranty. Infill materials shall be approved by the Manufacturer and installed in accordance with the Manufacturer's standard procedures.

E. The full width rolls shall be laid out across the field. The Synthetic Turf shall be of sufficient length to permit full cross-field installation from sideline to sideline. No head or cross seams shall be allowed in the main playing area between the sidelines. Utilizing standard state-of-the-art sewing procedures, each roll shall be attached to the next at the 5-yard line locations on the white line, no seams between yard lines shall be permitted. When all the rolls of the playing surface have been installed, the sideline areas shall be installed at right angles to the playing field

F. This is a 99% sewn installation. Gluing of rolls shall not be acceptable. Minimum gluing will only be permitted to repair problem areas, comer completions, and to install any logos or inlaid lines as required by the specifications. All seams shall be sawn using double bagger stitches and polyester thread or adhered using seaming tape and high-grade adhesive (per the Manufacturer's Standard Procedures). Seams shall be flat, tight, and permanent with no separation or fraying.

G. All primary seams must be sewn using double bagger stitches or polyester thread on the football yard lines every 5-yards. Seams shall be flat, tight, and permanent with no separation or fraying. All inlays shall be glued with Mapei Adhesive (or equal) two-part epoxy adhesive and seam tape only. Hot melt glue is not allowed for any use on this project.

H. Prior to the application of any line painting the turf shall be fibrillated by means of a nylon rotary brush to provide the look, feel, and safety of optimally maintained natural grass, including subtle undulations normally associated with natural grass athletic fields

I. Non-turfed or inlaid lines and markings shall be painted according to the recommendations of the turf Manufacturer and of the paint manufacturer. Several applications may be required.

J. Provide extra turf and infill for replacement of the complete circular LAX goal creases (2 circles per field) once during the warranty period. Include turf replacement cost for the 2 circular goals per field in bid cost. Owner is not responsible for the turf replacement labor costs or material costs in the lax goal areas for first set of LAX goal area replacement

K. Infill material shall be applied in numerous thin lifts. The turf shall be brushed as the mixture is applied.

L. The sand and ambient rubber infill materials shall be installed in accordance with the Synthetic Turf Manufacturer's recommendations. The sand and ambient rubber infill materials shall be installed to a minimum depth of 1-5/8" inches +/-1/16" of an inch (42mm +/- 1mm) on a minimum pile height of 2- ¼" inches of Synthetic Turf fibers.

M. The sand/ambient rubber infill materials shall be installed to fill the voids between the fibers and allow the fibers to remain vertical and non-directional.

N. Synthetic turf shall be attached to the perimeter edge detail in accordance with the Manufacturer's standard procedures with continuous Mapei Adhesive (or equal) two-part epoxy adhesive glue or in-conjunction with mechanical fasteners at minimum 16" inches on center.

0. Installation shall not proceed when:

1. Ambient air temperature is below forty (40°) degrees Fahrenheit (F).
2. Material temperature is below forty (40°) degrees Fahrenheit (F).
3. Rain is falling or pending, unless acceptable to qualified installers.
4. Conditions exist, or are pending, that will be unsuitable for the installation of the system.

P. Follow-up Visits

1. The turf manufacturer/installer shall include in their price, two (2) follow-up visits at six-month intervals after the final turf inspection date. The visits shall be scheduled by the Owner or Engineer to inspect the condition of the synthetic turf, infill material, seams, painted lines, anchorage, and peripheral attachments. Items found to require repair, amendment, or replacement shall be the responsibility of the turf manufacturer/installer. Repairs, except those required due to vandalism, shall take place immediately upon notification by the Engineer.

2. The manufacturer shall include the cost to perform independent Gmax testing once peryear for 8 years after turf is installed. Manufacturer shall arrange Gmax testing yearly and supply owner with test results identifying any deficiencies or issues observed during the test and field inspection. Any maintenance issues shall be identified and proper instructions to the owner for corrective action. Any Gmax value outside of the allowed tolerances shall be identified and corrected by the turf manufacturer. An executed Purchase Order shall be provided verifying yearly Gmax testing has been accounted for.

3.4 FIELD MARKINGS

A. All synthetic turf fields shall follow the lines or inlaid according to National Federation of State High School Association Standards (NFSHSA). Inlaid/ tufted line(s) and field marking(s) shall be per the Front-End Specifications and Construction Document Drawings.

B. Painted lines shall be acceptable for all tick marked event(s) and paint product(s) shall be a manufacturer approved.

C. Designated soccer and football fields will have the following lines inlaid according to FIFA and NCAA standards., and the National Federation of State High School Associations (NFHS) for soccer and football and as shown on the contract documents:

1. Side lines
2. End lines
3. Center line
4. Goal lines
5. Penalty lines
6. Media lines

D. Designated soccer fields shall have the following markings inlaid in with a specific color:

1. Center circle (to be determined by the Owner)
2. Goal mouth (to be determined by the Owner)
3. Comer kick areas (to be determined by the Owner)

E. Designated Field Hockey Striping will be inlaid according to National Federation of State High School Associations (NFHS) and NCAA Standards.

3.5 DELIVERABLES

A. Prior to Final Acceptance, the Contractor shall submit to the Owner:

1. Three (3) copies of Maintenance Manuals, which shall include all necessary instructions for the proper care and preventive maintenance of the synthetic turf system, including painting and markings.
2. Project Record Documents: Recording actual locations of seams, drains or other pertinent information including three (3) copies of the certified "as-built" drawings for all work performed on this project.
3. Warranty: Manufacturer Warranty ensuring that applicable documented forms have been

completed in Owner's name and registered with the Manufacturer. The Manufacturer shall have a representative on-site to certify the installation and Warranty compliance.

4. Necessary testing data to the Owner that the finished field meets the required shock attenuation (GMax), as per ASTM F355/F1936 at turf installation. GMax to be <= 110 at installation and no greater than 140 for the life of the warranty.

5. The synthetic turf supplier/installer shall submit at the pre-construction conference a certificate stating that it is not aware of any aspects of the proposed turf system to be installed which knowingly violate any patented materials or methods and that the manufacturer fully indemnifies the Owner and Design Engineer from any liability arising out of any issue related to patent infringement.

6. Submit a certified statement issued by the synthetic field surfacing materials supplier/installer, attesting that all areas and surfaces designated to receive synthetic field surfacing have been inspected and found satisfactory for the reception of the Work covered under this Section; and are not in conflict with the "Guarantee" requirements. Installation of synthetic field surfacing materials may not commence until the Design Engineer has determined that the specifications of the aggregate base planarity and sideline drainage have been met.

3.6 CLEANING AND PROTECTION

A. Protect installed Synthetic Turf from subsequent construction operations.

B. Do not permit traffic over unprotected Synthetic Turf surface.

C. Contractor shall provide the labor, supplies, and equipment as necessary for final cleaning of surfaces and installed items.

D. All usable remnants of new material shall become the property of the Owner. These shall become the contractors' responsibility to dispose if not wanted by owner.

E. The Contractor shall keep the area clean throughout the project and clear of debris.

F. 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.

END OF SECTION 02749

SECTION 02752 - BASE CONSTRUCTION AND RELATED WORK SYNTHETIC TURF FIELD SYSTEM

PART 1 -GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and General Provisions of Contract, including General Conditions, Supplementary Conditions and Division 1 through Division 3 Specification Sections, apply to the Work of this Section.

1.2 1.02 RELATED WORK

A. Section 02749: Sand/Rubber Synthetic Turf Field Surface and Related Work Synthetic Turf Field System Replacement

1.3 DESCRIPTION OF WORK

A. Furnish all labor, materials, equipment, and tools necessary to install a typical Synthetic Turf System as indicated on the drawings and as specified herein. The installation of all new materials shall be performed in strict accordance with the Synthetic Turf Manufacturer's instructions and in accordance with all approved shop drawings. Installation of the Synthetic Turf System shall be a turn-key operation. A Synthetic Turf System includes all earthwork, base construction, and athletic field surface as follows:

1. All engineering and layout work.
2. Pouring in-place concrete around the perimeter edge as detailed on the drawings. Attachment of the synthetic turf to the concrete perimeter edge shall be accomplished per the Synthetic Turf Manufacturer's recommendations.
3. Acceptance of the subgrade by the Owner will be based on the compaction testing and conformance planarity survey meeting compliance design grade requirements.
4. Trenching for all subsurface drainage systems including installation of geotextile filter fabric.
5. Installation of all horizontal pipes, collector pipes, and outfall pipes per drawings.
6. Installation of new football goal post and foundations.
7. Backfilling pipe drainage system per drawings.
8. Installation of stone drainage base system per drawings.
9. Survey verification of stone base elevation tolerances by the Owner's Engineer to check for conformance. Base and existing condition as-built elevations to be submitted to Owner.

1.4 QUALITY ASSURANCE

A. Standards: Install Synthetic Turf System complying with Synthetic Turf Manufacturer's requirements and the plans and specifications.

B. The Contractor, prior to installation of the Synthetic Turf, shall inspect the sub-base for conformance with the drawings and verify that the sub-base meets or exceeds the requirements of the Turf Installer. The Contractor shall be responsible for compaction testing of the sub-grade and sub-base to ensure compliance with the specifications and drawings. The Contractor shall survey the sub-grade and the sub-base to verify conformance with the approved drawings. The Contractor shall be responsible for correcting grades, elevations and planarity to conform with the drawings prior to installing the Synthetic Turf. The Contractor shall be responsible for conducting a water permeability test on the finished stone base drainage layer as specified herein and conducted in the presence of the Owner's representative. The Contractor shall be responsible for contracting a testing agent to conduct an infiltration test per BSI 7044 Method #4, Standard Test Method for Infiltration Rate of Soils in Field, Using Double-Ring Infiltrometer to affirm the water permeability rates at four (4) locations on each field to exceed a **minimum of 20 inches/hour** on the completed aggregate base system.

C. The Contractor shall provide the necessary written certification that the aggregate base has been tested and meets the standards for infiltration, compaction and planarity. Written certification shall also be provided from turf manufacturer accepting the aggregate surface prior to placing artificial turf.

D. The performance of the aggregate base system shall be guaranteed in writing by the base contractor, or third party insured warranty for 8 years to accompany the synthetic turf warranty for a "complete system guarantee". If a third-party warranty is not available for the aggregate base and drainage system by the base contractor, the turf manufacturer shall include a letter guaranteeing the performance of the complete system for a minimum of 8 years after substantial completion. At no time during the 8-year "guarantee" period shall the owner be responsible for paying for any portion of remedial repairs to the aggregate base or turf system

E. Acceptance of the subgrade by the Owner will be based on the compaction testing and as-built survey verification provided by the contractor meeting compliance with design grade elevations for all disturbed areas within the field and outside of the field area. No aggregate, sod or finish materials shall be installed without the authorization from the owner/engineer that all grades have been properly established in accordance with the contract documents.

1.5 EXPERIENCE

A. Firm Experience:

1. The Synthetic Turf aggregate base system shall be installed by an experienced Contractor who shall provide a list of ten (10) completed full size athletic field installations in the United States within the last five (5) years, providing specific information about the name of the project, contact name, addresses, telephone numbers, year of the installation and type of turf material for the following type of fields:

   A. A soccer field and a football field of 70,000 sq. ft. or larger.

   B. A list of synthetic turf fields, other than soccer or football.

2. The list shall include a minimum of five (5) fields that have been approved for game play by one of the following associations.

   A. National Collegiate Athletic Association - (NCAA)

   B. National Federation of State High School Associations (NFHS)

   C. Federation Internationale de Football Associations (FIFA)

D. National Recreation and Park Association (NRPA)

3. The Contractor may use Subcontractors /Installers who employ only qualified and experienced Supervisors and Technicians skilled in the installation of the Synthetic Turf.

4. The Subcontractor/Installer must demonstrate its past experience on at least ten (10) acceptable preparations of the sub-base for the installation of Synthetic Turf system for full-size football, soccer or other athletic /recreational fields (minimum of 70,000 square feet) in the United States within the past five years. A completed list of all installations of vertically draining porous stone base and drainage systems, contact names, and phone numbers shall be submitted to the Owner for review to demonstrate the Subcontractor' s/Installer's qualifications.

B. Principal Staff Experience:

l. The Contractor shall detail the experience, educational background and training of proposed principal staff, as follows:

A. Contract Manager - The Contract Manager shall be a current and qualified employee of the Contractor; be skilled in the performance of the assigned duties; have a minimum of three years' experience managing or supervising similar size projects: and have installed the proposed product at least twenty (20) installations.

B. On Site Supervisor - The Supervisor shall be a current and qualified employee of the Contractor; be skilled in the performance of the assigned duties; have a minimum of eighteen months' experience in supervising similar size projects; andhave installed the proposed product at lease twenty (20) installations.

C. The turf installation crew personnel qualifications shall include the individual's resume, project list and contact information. Such information shall clearly identify the experience and qualifications in performing the type of work covered by these specifications. All information provided shall include a description of the identified projects, and the name and telephone number of a responsible contact person who can verify the information provided.

D. The Contractor shall not replace the named individuals for the duration of the contract unless the substitute individuals have equivalent qualifications as approved by the Owner.

1.6 DELIVERY, STORAGE, AND HANDLING

A. The Contractor shall deliver product materials to the project site in a sealed unopened container with manufacturer's labels intact.

B. Store materials in protected area at a temperature not to exceed maximum and minimum temperatures as recommended by manufacturer. Protect products from UV degradation.

1.7 **SUBMITTALS**

A. The Contractor shall submit the following information for approval prior to the start of base construction.

1. A statement of the origin, composition, and manufacturer of all aggregate materials to be used in the work, including testing information supporting that the proposed aggregates meet or exceed the technical specifications.
2. Supplier's material certifications for aggregate.
3. Supplier's material certification for concrete.
4. Product data sheets on all drainage pipe geotextile fabrics and fittings.
5. Athletic and Maintenance Equipment product data and shop drawings.
6. Communication boxes, Irrigation Boxes and Clean out boxes.
7. Fences and Gates, fence pole foundation details.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Concrete for field perimeter curb shall be VDOT A4 4000 PSI or a minimum strength of 4000 PSI.

B. Geotextile Fabric shall be Mirafi 140N or approved equal, unless specified otherwise on plans.

C. Drainage Pipe shall be HOPE highway grade ADS N-12, unless specified otherwise on plans. Flat panels to be manufactured by Advanced Drainage Systems or approved equal and consist of polymeric core surrounded by geotextile.

D. The base aggregate shall consist of a minimum of six (6) inches of VDOT #57 coarse aggregate (open graded) type material or of a base stone material meeting the gradation specifications shown in the table below. The base aggregate must be an open graded aggregate material and free draining, consistent with the vertical draining requirements of the Synthetic Turf Manufacturer.

BASE STONE GRADATION SPECIFICATIONS
%PASSING AND %RETAINED

Sieves	Base Stone % Passing	Base Stone % Retained
1½" or 38.1mm	100	0
l" or 25.4mm	95-100	0-5
¾ or 19mm	Optional	Optional
½" or 12.7mm	25-60	40-75
3/8" or 9.51mm	Optional	Optional
US #4 or 4.76mm	0-10	90-100
US #8 or 2.38mm	0-5	95-100

E. The secondary aggregate shall comprise, not to exceed two (2) inches of VDOT #8 coarse aggregate (open graded) type material or of a secondary stone material meeting the gradation specifications as displayed in the table below. VDOT #8 coarse aggregate or the secondary stone material meeting the gradation specifications shall be transitioned in with the base aggregate and vibrated and rolled to provide a compacted sub-base.

SECONDARY STONE GRADATION SPECIFICATIONS
%PASSING AND %RETAINED

Sieves	Secondary Stone % Passing	Secondary Stone % Retained
½" or 12.7mm	100	0
3/8" or 9.51mm	75-100	0-25
US #4 or 4.76mm	5-30	70-95
US #8 or 2.38mm	0-5	95-100
US #16 or 1.19mm	0	100

F. The compacted sub-base of base aggregate and secondary aggregate shall be top-dressed with **not to exceed one (1) inch of porous, free draining material,** washed screenings that will provide a 90% minimum overall compaction of the finished aggregate base. The finishing aggregate shall meet the gradation specifications as shown in the table below.

TOP FINISH GRADATION SPECIFICATIONS
%PASSING AND %RETAINED

Sieves	2" Top Finish % Passing	2" Top Finish % Retained
½" or 12.5mm	100	0
3/8" or 9.51mm	95-100	0-5
US#4 or 4.76mm	70-85	15-30
US#8 or 2.38 mm	45-60	40-55
US#l6 or 1.19mm	25-40	60-75
US#40 or 0.400 mm	2-12	**88-98**
US#200 or 0.074 mm	0-2	98-100

To ensure proper drainage: Permeability of complete aggregate system >20in/hr
Porosity of both stones > 25%

G. EQUIPMENT

1. 30' (H) Sportsfield Specialties - Custom GoalPak® Football / Round Soccer Goal System with base plate foundations (GPKR30HSRH) or approved equal. Contractor is responsible for providing and installing the stadium football goal post systems composed of two (2) 6' Gooseneck Goal Posts with access frame and turf cover (SG2SGP), with all necessary footings, attachment hardware, reinforcement, access frame and turf covers over footings. Turf covers shall be removable in order to access the base of the goal posts. Gooseneck length shall be field verified. The Goal Pak systemshall include (2) two portable soccer goals per Model No. SG824R Round Faced SoccerGoal with SGMKR Integrated SGMobile Wheel Kit. Contractor shall drill side frame holes for soccer goal on-site during assembly process by sliding the soccer goal into the correct position and set the soccer ground bar in place to mark bolt holes in accordance with the manufacturer's recommendations. An approved equal will be allowed. Should a substitute be proposed, please include a specification sheet proving the item is indeed equal.
2. Sportsfield Specialties JumpForm® (SP6020) Sandpit and Sand Catchers with Mesh Sandpit Cover. An approved equal will be allowed. Should a substitute be proposed, please include a specification sheet proving the item is indeed equal.
3. Sportsfield Specialties 12" Long/Triple Jump Take-off Board System with Replacement Blanking Lid. An approved equal will be allowed. Should a substitute be proposed, please include a specification sheet proving the item is indeed equal.

H. BID ALTERNATES

I. Bid Alternate# 1 - Outer Perimeter Curb and Concrete Pad at Track Access Points in accordance with contract documents
2. Bid Alternate #2 - Provide and install (2) Sportsfield Specialties High School Aluminum Sand Pit Covers (SP6820) with ½" black latex track surfacing for Aluminum panels. Contractor shall provide O&M documents. An approved equal will be allowed. Should a substitute be proposed, please include a specification sheet proving the item is indeed equal.
3. See Bid Alternate Section O1100 for specified equipment.

I. MAINTENANCE EQUIPMENT

1. See Section 02749 for specified maintenance equipment.

PART 3 - EXECUTION

3.1 MATERIAL TESTING

A. Testing During Construction: To ensure that the quality of drainage stone materials remain constant from point of supply to jobsite, the following protocol shall be used by the Contractor:

1. Contractor shall submit a gallon supply of each base stone, secondary stone and finishing aggregate stone that meet the aforementioned properties for testing to ensure compliance by the Owner's testing agency prior to stone placement.

2. If anytime during the installation of the base stone, the secondary stone, and the finish aggregate stone the Contractor or owner observes a change in material and/or quality based on a visual inspection, then the Contractor must stop all operations immediately and contact the Owner/Engineer in order to perform additional testing on the materials in question. Failure to do so is the sole responsibility of the Contractor. The Owner will not be held accountable for any liability if the Contractor does not contact the Owner.

3. Before commencing the placement of synthetic turf on the stone drainage base, Contractor shall perform a conformance survey by a Licensed Surveyor registered in the State, on a 30-foot grid over the finished stone of the entire playing field for the Owner's approval. Additional layers of the base may be required to be as-built if indicated on the construction drawings. Finished stone elevations shall be verified using laser survey. Finished grade must be within 3/16" of an inch form the elevation shown on the plans.

4. Prior to commencing the base aggregate, confirm that the geotextile has been installed satisfactorily.

5. Protect the geotextile work as installation of the stone base is commenced.

6. Do not operate machinery directly over the geotextile fabric. Delivery trucks shall enter the field only form the designated entrance point. Stone shall be dumped at the entrance first and spread toward the furthest point of the field. Extreme care must be taken not to disturb the geotextile or subgrade surfaces. Ensure a minimum depth of 4" inch of aggregate between the geotextile fabric and equipment.

7. Percolation Testing: The contractor shall contract a professional engineer to perform infiltration testing per BSI 7044, Standard Test Method for Infiltration Rate of materials using Double-Ring Infiltrometer administered under BSI 7044 test method #4 by a licensed professional engineer at five (5) locations on each field to exceed 20 inches per hour. (4) Random locations covering all 4 field quadrants and minimum of 2 locations on each sideline directly over the perimeter collector trench. **Any location not exceeding 20 inches per hour shall be remediated and re-tested to verify conformance.** Any remedial work required due to a non-compliant infiltration test will not be additional scope or considered as a scope change.

3.2 EXAMINATION

A. The Contractor shall verify that all sub-base, drainage, and leveling are completed prior to release of Synthetic Turf Installer.

B. Finished stone elevations shall be verified using laser survey. Finished grade must be within 3/16" of an inch from the elevations shown on the plans. The finished grade of the stone drainage base shall not vary more than 3/16" of an inch in ten feet. A laser grader must be used to verifiably meet these requirements.

C. Prior to the beginning of installation, the installer of the Synthetic Turf shall inspect the subbase and accept in writing the subbase surface planarity and compaction. The Contractor shall have the field dimensions and locations for markings measured by a licensed Land Surveyor registered in the State of Virginia to verify conformity to the specifications and applicable standards. A record of the finished field as-built measurements shall be made and submitted to the Owner

D. The surface to receive the Synthetic Turf shall be inspected by the Contractor and reviewed with

the Owner. The surface must be perfectly clean as installation commences and shall be maintainedin that condition throughout the process.

3.3 GEOTEXTILE INSTALLATION

A. Place geotextile promptly according to manufacturer's written instructions. Broom or roll geotextile smooth and free of wrinkles and folds. Overlap longitudinal joints 24" inches and transverse joints 24" inches.

B. Protect geotextile from traffic and other damage and place aggregate the same day. Only place as much geotextile as can be covered with aggregate in the same working day.

3.4 SUBGRADE PREPARATION

A. The subgrade must be sloped as specified on drawings but not less than a minimum slope of 0.50% (or as shown on the drawings) for consistent base thickness, from the longitudinal center of the field towards the sidelines.

B. The subgrade must be compacted in both directions to attain the specified compaction rate, which is 95% of standard Proctor at a moisture content within 2.0% of optimum in accordance with ASTM D1557. Subgrade shall also be proof rolled to check entire field for inadequate compaction requiring correction.

C. The subgrade must be prepared to tolerances of not more than ½ " of an inch from design grade to allow for even drainage. Subgrade shall be inspected with Owner's representative prior to covering with geotextile. Contractor to provide written acceptance of subgrade prior to geotextile installation.

D. Repair and reestablish the grades to specified tolerances where completed or partially completed surfaces become saturated, settled, eroded or compromised due to subsequent construction traffic or weather conditions.

E. When testing agency reports that fills, lifts backfills or subgrades to not achieve the degree of compaction specified, recompact and retest until specified compaction is obtained. Contractor may be required to undercut, aerate, scarify, moisten or completely replace with suitable materials to the depth required to achieve adequate compaction at no additional cost to the contract.

3.5 AGGREGATE BASE COURSE AND SECONDARY STONE INSTALLATION

A. The aggregate must be laid without damaging the soil bed, geo-textile liner or membrane, or underlying drains. It is very important not to create any depressions in the sub-grade with heavy equipment. The specified aggregate supplied must conform to the recommended specifications, as noted above. The finished crushed aggregate base supplied must be stable and permeable.

B. The base course shall be constructed in layers or lifts. Each layer must be compacted in both directions to attain the specified compaction rate. The base course total thickness shall be in accordance with the details shown on the drawings.

C. The aggregate base course must be sloped a minimum of 0.50% from the center longitudinal axis towards the sidelines or as specified on the Plans.

D. The finish surface slope of the base course shall not vary from the finish grade surface slope.

E. The base course must be compacted in both directions to attain the specified compaction rate,

which is 95% standard Proctor at a moisture content within 2.0% of optimum in accordance with ASTM Dl557.

3.6 AGGREGATE FINISH COURSE INSTALLATION

A. The final lift of aggregate layer shall be installed at the specified depth shown on the project drawings and details.

B. The final lift material must be sloped 0.50% from the center longitudinal axis towards the sidelines unless otherwise specified.

C. The final grade must be compacted in both directions to attain the specified compaction rate, which is 95% standard Proctor at a moisture content within 2.0% of optimum in accordance with ASTM Dl557.

D. The final grade of the finishing stone shall not vary from the specified grade by more than 3/16" of an inch from design grade, nor by more than 3/16" of an inch when measured under a 10 ft straightedge, in all directions. Laser guided fine grading is mandatory and shall be performed with laser equipped grading equipment (GPS grading will not be acceptable). This tolerance is required over the entire field. Check the tolerance-to-grade by means of an orbital laser once the stone is fine graded and compacted to proper density. Additional testing and inspection required as outlined within this specification.

E. All track events, track edges, turf boxes and goal posts transitions shall meet the field's planarity requirements of 3/16" of an inch per I Oft using a straightedge. All transitions shall be inspected and accepted by engineer and owner.

F. Contractor to demonstrate final grade surface tolerance to owner and engineer with all parties present with string line and professional survey. Finish surface shall be inspected by the turf manufacturer and accepted in writing prior to installing synthetic turf.

3.7 CONCRETE PERIMETER CURB INSTALLATION

A. The layout of the concrete curb shall be inspected by the Owner prior to construction to verify field location, size, and geometry.

B. The curb shall be constructed with 4000psi concrete on subgrade compacted to 95% according to the Modified Proctor procedure (ASTM Dl557) with 6" inches aggregate base

C. The curb shall be formed and poured in a uniform width AND monolithically as shown on the drawings. The curb shall include two (2) number four (4) rebar evenly spaced from the top and bottom.

D. Provide Fabric Expansion Joints every 50ft O.C. and DO NOT saw cut through curb and rebar. Expansion material set ¼"-inch depth of slab thickness.

E. Provide Control Joints (saw cut) every 10ft O.C. Use max ¼"-inch wide diamond blade, cut into ¼" - inch depth of slab thickness.

F. For Exposed curb, the top elevation of the curb shall match the top elevation of the infill and as shown on the drawings. The elevation of the preformed step for turf attachment shall be the same elevation as the finish stone surface.

G. For Non-Exposed curb, the top elevation of the curb shall be at the same elevation of the finished stone to provide a smooth transition to the terminal edge of the synthetic turf.

H. Form curbs per contract document details including a 2" (W) x Depth of infill material notch for turf attachment to curb.

3.8 INSTALLATION OF PERIMETER COLLECTOR

A. Excavate perimeter drainage collector trenches minimum 20" wide and to the depth as required to achieve pipe inverts shown on the drawings. The trenches should be constructed with a minimum 0.5% slope commencing at the low point of the collection system and extending to the high points as shown on the drawings. Collection trenches should be void of all debris.

B. The trenches shall be backfilled using premium #57 drainage stone materials specified in detail and compacted by machinery to a minimum 95% of the maximum density.

C. The fabric should be placed in the perimeter trench prior to placing aggregate or piping. The fabric should be separate from the fabric on the field. Overlap field and trench liners at least 36" in the direction of runoff flow.

D. Weight down the fabric with ballast to prevent fabric movement by wind.

E. Place corrugated, perforated plastic pipes in the collector trenches. The centerline of the pipe shall coincide with the centerline of the trench. Pre-manufactured fittings shall be used for all connections into the collector drainage network.

F. A minimum of 2" clean, drainable crushed stone aggregate shall be placed in the bottom of the collector trenches, on top of the geotextile. The crushed aggregate must be compacted suitably. Place a minimum of 4" clean, crushed aggregate on the sides of the underdrain pipes and headers, and 6" minimum of the aggregate on top of the pipe network. Compact all trenches in minimum of 12" Lifts.

G. Repair and reestablish the grades to specified tolerances where completed or partially completed surfaces become saturated, settled, eroded, or compromised due to subsequent construction traffic or weather conditions.

3.9 INSTALLATION OF HORIZONTAL STRIP DRAIN SYSTEM

A. Install according to the manufacturer's specifications, l" x 12" Horizontal Strip Drain (Horizontal Flat Panel Drain) by Advanced Drainage Systems (ADS) or approved equal, prefabricated flat composite under drain lines as shown on drawings with lines spaced at a minimum 30' on center and terminating at perimeter drain trench per the layout and details on the drawings. An approved equal specification sheet must be included in this bid submission.

B. The Contractor shall supply all necessary connectors and waterproof tape and is responsible for a proper and secure connection at the seams. Horizontal drains shall terminate in the perimeter trench directly above the collector pipe.

C. Tape the drains every 15' to the fabric using suitable tape. Do not use metal sod spikes.

D. Horizontal drain shall consist of a formed polymeric core surrounded by geotextile fabric.

3.10 CAST-IN-PLACE CONCRETE

A. SECTION INCLUDES

I. Cast-in-place concrete items.

2. Footings for benches and steal handrails.

3. Concrete Trials

B. REFERENCES

I. VDOT standards and specifications for aggregate and concrete placement.

2. ACI 302 - Guide for Concrete Floor and Slab Construction.

3. ACI 304 - Recommended Practice for Measuring, Mixing, Transporting, and Placing Concrete.

4. ACI 305R - Hot Weather Concreting.

5. ACI 306R- Cold Weather Concreting.

6. ACI 308 - Standard Practice for Curing Concrete.

7. ANSI/ASTM D1751 - Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction (Non-extruding and Resilient Bituminous Types).

8. ANSI/ASTM DI 752 - Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction.

9. ASTM C33 - Concrete Aggregates.

10. ASTM C94 - Ready-Mixed Concrete.

11. ASTM C150 - Portland Cement.

12. ASTM C260 - Air Entraining Admixtures for Concrete.

C. QUALITY ASSURANCE

1. Perform Work in accordance with VDOT Specifications and contract drawing details.

2. Maintain one copy of each document on site.

3. Acquire cement and aggregate from same source for all work.

4. Conform to ACI 305R when concreting during hot weather.

5. Conform to ACI 306R when concreting during cold weather.

D. PLACING CONCRETE

1. Place concrete in accordance with VDOT standards and specifications.

2. Notify Owner minimum 24 hours prior to commencement of operations.

3. Ensure reinforcement, inserts, embedded parts, formed expansion and contraction joints, and foundation hardware are not disturbed during concrete placement.

4. Maintain records of concrete placement. Record date, location, quantity, air temperature, and test samples taken.

5. Place concrete continuously between predetermined expansion, control, and construction joints.
6. Form curbs per contract document details including a 1.75' x 2' step for turf attachment. Do not interrupt successive placement; do not permit cold joints to occur.
7. Saw cut joints within 24 hours after placing. Use max¼" wide diamond blade, cut into ¼-inch depth of slab thickness.

E. CONCRETE FINISHING

1. Finish plain concrete by hand float to a uniform surface texture.
2. Saw cuts shall be every 10 feet O.C. in perimeter curb.
3. Expansion joints minimum 50 feet apart and at each cold joint, with expansion material set ¼" to ½" below surface. Sika-flex shall be installed over expansion material.

F. CURING AND PROTECTION

1. Immediately after placement, protect concrete from premature drying, excessively hot, or cold temperatures, and mechanical injury.
2. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.

G. FIELD QUALITY CONTROL

1. Submit proposed mix design of each class of concrete to Owner for review and approvalprior to commencement of Work.

END OF SECTION 02752

SECTION 312000 - EARTHWORK

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. The provisions of the Contract Documents apply to the work of this Section.

B. Refer to Section 31 1000 for topsoil stripping and Section 32 9200 for topsoil placement.

1.2 SUMMARY

A. This Section includes the following:

1. Excavation, filling, backfilling, and grading indicated and necessary for proper completion of the work.

2. Preparing of subgrade for turf and field events.

3. Excavating and backfilling of trenches.

1.3 SUBMITTALS

A. VDOT approved Job Mix for stone.

B. Imported fill (if required): Submit location of borrow pit and a sample of the soil for approval to the Owner's Geotechnical Engineer a minimum of fourteen (14) working days prior to use

C. Geotextile Fabric

1.4 DEFINITIONS

A. Excavation: Removal of all material encountered to design subgrade elevations indicated for cut areas and to subsoil elevations in fill areas. Excavation also includes subsequent respreading, moisture conditioning, compaction, and grading of satisfactory materials removed.

B. Unauthorized Excavation: Removal of materials beyond the limits indicated in the definition of "Excavation" without specific direction of Architect.

C. Additional Excavation: Removal, disposal and replacement of materials beyond the limits indicated in the definition of "Excavation" at the direction of the Architect. Refer to Part 3 of this Section for requirements of Additional Excavation.

D. Subgrade: The undisturbed earth (in cut) or the compacted soil layer (in fill) immediately below granular subbase, drainage fill, or topsoil materials.

E. Subsoil: The undisturbed earth immediately below the existing topsoil layer.

F. Pavements: The area extending 10 feet beyond the exterior limits of paved areas and down to undisturbed soils at a one horizontal to one vertical slope. The area extending 3 feet beyond the exterior limits of walks and down to undisturbed soils at a one horizontal to one vertical slope

G. Subbase Material: Artificially graded mixture of crushed gravel or crushed stone meeting VDOT specifications. Material type is indicated on the drawings.

H. Drainage/Porous Fill: Washed, evenly graded mixture of crushed stone, or crushed or uncrushed gravel meeting the requirements of VDOT No. 57 Stone.

1.5 ADDITIONAL WORK

A. Paragraph 4.3.4 of General Conditions refers to certain conditions that may require additional excavation work. This paragraph is further defined herein and, where there are conflicts, is superseded by this section.

B. Claims for concealed, unknown, or unanticipated subsurface conditions are limited to those circumstances where:

1. Additional excavation work is required below the contract limits indicated to provide acceptable bearing for building pad, structures or pavements.

2. Additional excavation work below the utility trench design elevations, for utilities outside the limits of the building, as required to provide acceptable bearing for the utility.

C. The risks of concealed, unknown, or unanticipated subsurface conditions (except for rock) from existing ground surface to the design subgrade elevations in cut areas and to subsoil elevations in fill areas shall be included in the Contract Amount and shall not be considered as grounds for additional costs to the Contract. The risks of concealed, unknown, or unanticipated subsurface conditions below the elevations stated above shall be considered as Additional Excavation.

D. During construction, if concealed, unknown, or unanticipated subsurface conditions are encountered which require that footings, foundations or other parts of the building be raised, lowered or revised to provide acceptable bearing for the building or if, outside the building limits, additional depth of utility trench excavation below the design subgrade or subsoil elevations is required, immediately notify the Architect upon discovery of such condition prior to disturbing the material encountered.

1.6 EARTHWORK BALANCE ADJUSTMENTS

A. Not used

1.7 QUALITY ASSURANCE

A. Codes and Standards: Perform excavation work in compliance with applicable requirements of authorities having jurisdiction.

B. Environmental Compliance:

1. Comply with the requirements of the latest edition of the Virginia Erosion and Sediment Control Handbook for erosion control during earthwork operations.

2. Comply with the permit conditions for all work performed within wetlands.

C. Testing and Inspection Service: Owner will employ and pay for an independent Geotechnical testing and inspection laboratory to perform soil testing and inspection service during earthwork operations. Cooperate with Owner's Geotechnical Engineer as required for testing and inspection of work. These services do not relieve the responsibility for compliance with Contract Document requirements.

1.8 PROJECT CONDITIONS

A. Existing Utilities: Do not interrupt existing utilities serving facilities occupied by the Owner of others except when permitted under the following conditions and then only after arranging to provide acceptable temporary utility services.

1. Notify Architect not less than 48 hours in advance of proposed utility interruptions.

2. Do not proceed with utility interruptions without receiving Architect's written permission.

3. Existing utilities across or along the line of work are indicated only in an approximate location. Locate all underground lines and structures. Call "Miss Utility" at 1-800-552-7001 prior to construction. If utilities are marked that are not shown on the plans, locate utility vertically and horizontally and provide information to architect. Repair and correct any damage to underground lines and structures.

1.9 SAFETY

A. Protection of Persons and Property: Barricade open excavations occurring as part of this work and post with warning lights.

1. Operate warning lights as recommended by authorities having jurisdiction and governing regulations and standards.

2. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.

B. Work within the road right-of-way shall meet all requirements of the latest edition of the Virginia Department of Transportation Work Area Protection Manual.

PART 2 PRODUCTS

2.1 SOIL MATERIALS

A. Satisfactory soil materials are defined as those complying with ASTM D2487 soil classification groups CL, GC, SC, GW, GP, GM, SM, SW, and SP.

B. Unsatisfactory soil materials are defined as those complying with ASTM D2487 soil classification groups CH, OL, OH, MH, ML and PT.

C. Backfill and Fill Materials: Satisfactory soil materials free of clay, rock or gravel larger than 4 inches in any dimension (2 inches for material used in trench backfill), debris, waste, frozen materials, organics, vegetation and other deleterious matter.

D. Imported material for structural fill shall comply with ASTM D2487 soil classification groups CL, ML, SC, SM, SP, SW, GC, GM, GP, or GW.

2.2 ACCESSORIES

A. Non-woven Geotextile Fabric (for drainage): Mirafi 140N, or equivalent.

B. Woven Geotextile Fabric (for reinforcement): PROPEX 2002, or equivalent.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.

B. Preparation of subgrade for earthwork operations including removal of vegetation, topsoil, debris, obstructions, and deleterious materials from ground surface is specified for site Clearing.

C. Protect and maintain erosion and sedimentation controls during earthwork operations.

3.2 DEWATERING

A. Prevent surface water and subsurface or groundwater from flowing into excavations and from flooding project site and surrounding area.

1. Do not allow water to accumulate in excavations. Remove water to prevent softening of foundation bottoms, undercutting footings, and soil changes detrimental to stability of subgrade and foundations. Provide and maintain pumps, well points, sumps, suction and discharge lines, and other dewatering system components necessary to convey water away from excavations.

2. Establish and maintain temporary drainage ditches and other diversions outside excavation limits to convey rain water and water removed from excavations to collecting or runoff areas. Do not use utility trench excavations as temporary drainage ditches.

B. Should any springs or running water be encountered in the excavation, notify the Architect and provide discharge by trenches (or other acceptable means) and drain to an appropriate point of disposal. Provide temporary drainage facilities to minimize the flow of rainwater onto adjacent property. Repair any damage to property or to subgrade as a result of construction and/or dewatering (or lack thereof) operations at no additional cost to the Contract. If permanent provision must be made for disposal of water other than as indicated, the Contract price shall be adjusted.

3.3 EXPLOSIVES

A. Strictly prohibited.

3.4 EXCAVATION

A. Excavation consists of removal, placement and disposal of material encountered when establishing required subgrade or finish grade elevations.

1. Excavation includes removal and disposal of pavements and other obstructions visible on ground surface; underground structures, utilities and other items indicated to be demolished and removed; together with earth and other materials encountered that are not classified as rock or unauthorized excavation.

3.5 EXCAVATION FOR WALKS AND PAVEMENTS

A. Cut surface under pavements to comply with cross-sections, elevations and grades as indicated.

3.6 EXCAVATION FOR UTILITY TRENCHES

A. Excavate trenches to uniform width, sufficiently wide to provide ample working room and a minimum of 6 to 9 inches of clearance on both sides of pipe or conduit.

B. Excavate trenches to depth indicated or required to establish indicated slope and invert elevations and to support bottom of pipe or conduit on undisturbed soil. Beyond building perimeter, excavate trenches to allow installation of top of pipe below frost line.

1. Where rock is encountered, carry excavation to required elevations and backfill with VDOT #57 crushed stone prior to installation of pipe.

2. For pipes or conduit less than 6 inches in nominal size, and for flat-bottomed, multiple duct conduit units, do not excavate beyond indicated depths.

3. Hand excavate bottom cut to accurate elevations and support pipe or conduit on undisturbed soil.

4. For pipes and equipment 6 inches or larger in nominal size, shape bottom of trench to fit bottom of pipe for 90 degrees (bottom 1/4 of the circumference). Fill depressions with tamped sand backfill. At each pipe joint, dig bell holes to relieve pipe bell of loads ensure continuous bearing of pipe barrel on bearing surface.

3.7 EXCAVATION STABILITY

A. General: Comply with local codes, ordinances, and requirements of agencies having jurisdiction.

B. Slope sides of excavations to comply with local codes, ordinances, and requirements of agencies having jurisdiction. Shore and brace where sloping is not possible because of space restrictions or stability of material excavated. Maintain sides and slopes of excavations in safe condition until completion of backfilling.

C. Shoring and Bracing: Provide materials for shoring and bracing, such as sheet piling, uprights, stringers, and cross braces, in good serviceable condition. Maintain shoring and bracing in excavations regardless of time period excavations will be open. Extend shoring and bracing as excavation progresses.

3.8 SUBGRADE INSPECTION

A. Notify Architect when mass, trench and footing excavations have reached required subgrade. The Architect will arrange for an inspection of conditions by the Owner's Geotechnical Engineer. *Alternative procedures for arranging this review may be implemented at the Owner's written option.*

B. If the Owner's Geotechnical Engineer determines that the subgrade bearing conditions are unacceptable, the Architect will authorize additional excavation until suitable bearing conditions are encountered.

C. Proof-roll subgrade below pavements with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.

1. Completely proof-roll subgrade in one direction. Limit vehicle speed to 3 mph (5 km/h).

2. Proof-roll with a loaded 10-wheel, tandem-axle dump truck weighing not less than 15 tons (13.6 tonnes).

3. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by Architect, and replace with compacted backfill or fill as directed.

D. Under supervision of the Owner's Geotechnical Engineer, proof roll subgrade in cut areas below the building pad and pavement(s) with a loaded dump truck or other approved pneumatic tired vehicle. Should any unstable sub-soil be encountered below pavement or structures, break up the top eight inches of ground surface, pulverize, moisture condition to optimum moisture content, and compact to percentage of maximum density as stated in Percentage of Maximum Density Requirements. Perform this work at no additional cost and/or time to the Contract.

E. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Architect, without additional compensation.

3.9 ADDITIONAL EXCAVATION

A. Additional Excavation in Trenches: Remove excavated materials and dispose of off-site as directed by the Architect. Replace this excavated material with stone.

B. The quantity of material removed as Additional Excavation shall be calculated (on an in-situ basis) by a surveyor licensed in the Commonwealth of Virginia and employed by the Contractor. The Owner's Project Representative shall review the quantity calculated within 48 hours of receiving the survey notes.

C. Protect the subgrade during construction. During wet conditions, the subgrade soils may become saturated and soften, possibly resulting in damage to the subgrade if disturbed by equipment. Correct subgrade damaged in this manner. **No additional payment will be made to correct subgrade damaged in this manner.**

3.10 UNAUTHORIZED EXCAVATION

A. Correct Unauthorized Excavation as follows:

1. Under footings, foundation bases, or retaining walls, fill unauthorized excavation by extending indicated bottom elevation of footing or base to excavation bottom without altering required top elevation. Lean concrete fill may be used to bring elevations to proper position when acceptable to Architect.

2. Elsewhere, backfill and compact unauthorized excavations as indicated for authorized excavations of same classification unless otherwise directed by Architect.

3.11 STORAGE OF EXCAVATED MATERIALS

A. Temporarily stockpile excavated materials acceptable for use as backfill and fill. Place, grade, and shape stockpiles for proper drainage. Cover to prevent windblown dust.

1. Stockpile excavated materials away from edge of excavations. Do not store within the drip line of trees to remain.

3.12 BACKFILL AND FILL

A. Backfill excavations as promptly as work permits, but not until completion of the following:

1. Acceptance by local authority having jurisdiction of construction below finished grade, including perimeter insulation.

2. Review, approval, and recording of the locations of underground utilities.
3. Removal of concrete formwork.
4. Removal of shoring and bracing (including backfilling of voids with satisfactory materials).
5. Removal of trash and debris from excavation.
6. Permanent or temporary horizontal bracing is in place on horizontally supported walls.

B. Place backfill on subgrades free of mud, frost, snow or ice.

C. Ground Surface Preparation: Remove vegetation, debris, obstructions, and deleterious materials from ground surface prior to placement of fills.

D. Bench sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material. Plow, scarify, bench or break up sloped surfaces flatter than 1 vertical to 4 horizontal so fill material will bond with existing material.

E. Place soil material in layers to required subgrade elevations, for each area classification listed below, using materials indicated in Part 2 of this Section.

1. Under grassed areas, use satisfactory excavated or borrow material.
2. Under walks, curbs, and pavements, use satisfactory excavated or borrow material.
3. Under building slabs, use satisfactory excavated or borrow materials and drainage/porous fill material as indicated.

3.13 UTILITY TRENCH BACKFILL

A. Place backfill on subgrades free of mud, frost, snow, or ice.

B. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.

C. Backfill trenches with concrete where trench excavations pass within 18 inches of column or wall footings and that are carried below bottom of such footings or that pass under wall footings. Place concrete to level of bottom of adjacent footing.

D. Provide 4-inch- (100-mm-) thick, concrete-base slab support for piping or conduit less than 30 inches (750 mm) below surface of roadways. After installing and testing, completely encase piping or conduit in a minimum of 4 inches (100 mm) of concrete before backfilling or placing roadway subbase.

E. Place and compact initial backfill of subbase material, free of particles larger than 1 inch (25 mm) in any dimension, to a height of 12 inches (300 mm) over the utility pipe or conduit.

1. Carefully compact initial backfill under pipe haunches and compact evenly up on both sides and along the full length of utility piping or conduit to avoid damage or displacement of piping or conduit. Coordinate backfilling with utilities testing.

F. Controlled Low-Strength Material: Place initial backfill of controlled low-strength material to a height of 12 inches (300 mm) over the utility pipe or conduit.

G. Backfill voids with satisfactory soil while installing and removing shoring and bracing.

H. Place and compact final backfill of satisfactory soil to final subgrade elevation.

I. Controlled Low-Strength Material: Place final backfill of controlled low-strength material to final subgrade elevation.

J. Install warning tape directly above utilities, 12 inches (300 mm) below finished grade, except 6 inches (150 mm) below subgrade under pavements and slabs.

K. Do not backfill trenches until any required testing and inspections have been completed and Architect authorizes backfilling. Backfill carefully to avoid damage or displacement of pipe systems.

L. Under piping and conduit and equipment, use crushed stone where required over rock bearing surface and for correction of unauthorized excavation. Shape excavation bottom to fit bottom 90 degrees of cylinder.

M. Place backfill and fill materials evenly adjacent to structures, piping, or conduit to required elevations. Prevent wedging action of backfill against structures or displacement of piping or conduit by carrying material uniformly around structure, piping, or conduit to approximately same elevation in each lift.

3.14 SOIL MOISTURE CONTROL

A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 2 percentage points of optimum moisture content.

1. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost or ice.

2. Remove and replace or scarify and air dry otherwise satisfactory soil material that exceeds optimum moisture content by 2 percentage points and is too wet to compact to specified dry unit weight.

B. Moisture Control: Where subgrade or layer of soil material must be moisture conditioned before compaction, uniformly apply water to surface of subgrade or layer of soil material. Apply water in minimum quantity as necessary to prevent free water from appearing on surface during or subsequent to compaction operations. Maintain the moisture content of the structural fill materials to within 2 percentage points of the optimum moisture content until permanently covered.

C. Remove and replace, or scarify and air dry, soil material that is too wet to permit compaction to required density.

1. Stockpile or spread soil material that has been removed because it is too wet to permit compaction. Assist drying by discing, harrowing, or pulverizing until moisture content is reduced to a satisfactory value.

2. Work wet materials as directed by the Owner's Geotechnical Engineer. Base bids on working material daily for a maximum of five days of acceptable weather.

3. No additional payment will be made for these operations.

3.15 COMPACTION OF SOIL BACKFILL AND FILLS

A. Place backfill and fill materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for

material compacted by hand operated tampers.

B. Before compaction, moisten or aerate each layer as necessary to provide optimum moisture content. Compact each layer to required percentage of maximum dry density or relative dry density for each area classification. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice.

C. Control soil and fill compaction, providing minimum percentage of density indicated for each area classification indicated below. Correct improperly compacted areas or lifts as directed by Architect if soil density tests indicate inadequate compaction.

D. Percentage of Maximum Density Requirements: Compact soil to not less than the following percentages of maximum density at a moisture content within 2 percentage points of optimum in accordance with ASTM D698:

1. Under structures, building pad and pavements, compact each layer of backfill or fill material at 95 percent maximum density. This includes ground under future expansionareas.

2. Under grass or unpaved areas, compact each layer of backfill or fill material at 90 percentmaximum density.

E. Seal all fill areas at the end of each working day, utilizing a smooth drum roller.

3.16 GRADING

A. General: Rough grading of areas within the Project, including cut and fill sections and adjacent transition areas, shall be reasonably smooth, compacted and free from irregular surface changes. The degree of finish shall be that ordinarily obtainable from either blade-grader or motor patrol except as otherwise indicated. The finished subgrade surface from the grassed areas generally shall be not more than 0.2 feet above or below the final grade or approved cross section, with due allowance for topsoil.

B. The tolerance for areas within 10 feet of building perimeter, walks and all areas to be paved shall not exceed 0.10 feet above or below the established subgrade. Finish all ditches, swales and gutters to drain readily. Unless otherwise indicated, evenly slope the subgrade to provide drainage away from building walls in all directions at a grade not less than ¼ inch per foot. Provide rounding at top and bottom of cut and fill slopes and at other breaks in grade.

C. Protection of Graded Areas: Protect newly graded areas and areas of cut, fill and design/subgrade elevations from the actions of the elements and from deterioration as a result of construction operations and weather conditions (frost, rains, snow, sleet, hail, etc.). Repair any settlement or washing that occurs prior to or after acceptance of the work. Fill to required subgrade levels any areas where settlement occurs. Protect trees to remain, and, at all areas of the Site where construction operations are in progress, provide protection for the safety of occupants of the existing facilities.

D. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.

1. Provide a smooth transition between adjacent existing grades and new grades.

2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.

E. Site Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:

1. Lawn or Unpaved Areas: Plus or minus 1 inch (25 mm).

2. Walks: Plus or minus 1 inch (25 mm).

3. Pavements: Plus or minus 1/2 inch (13 mm).

F. Grading inside Building Lines: Finish subgrade to a tolerance of 1/2 inch (13 mm) when tested with a 10-foot (3-m) straightedge.

3.17 FIELD QUALITY CONTROL

A. Quality Control Testing During Construction: Allow testing service to inspect and approve each subgrade and fill layer before further backfill or construction work is performed.

1. If in the opinion of the Architect, based on testing service reports and inspection, subgrade or fills have been placed that are below required density, perform additional compaction and testing until required density is obtained.

B. The Owner will engage, and pay for, the services of a Geotechnical Engineer whose function shall be to afford complete engineering control by testing of the conditions of all footing subgrades, the placement of all structural fills under structures, building pad and pavement areas, and all compaction where required, and to observe the proof rolling of the building pad and pavement areas.

C. The Owner's Geotechnical Engineer will be present as deemed necessary during all phases of the Work requiring filling, compaction operations or testing. The Geotechnical Engineer will provide the Architect with written certification that fill and compaction was completed with accepted materials in accordance with the Documents, and give a professional opinion regarding shrinkage or settlement of fill and safe load bearing capacity of fill.

D. Site Preparation and Proof rolling: The Owner's Geotechnical Engineer will determine if any additional excavation or in-place densification is necessary to prepare a subgrade for fill placement for slab or pavement support.

E. Fill Placement and Compaction: The Owner's Geotechnical Engineer will witness all fill operations and take sufficient in-place density tests to verify that the indicated degree of fill compaction is achieved. The Owner's Geotechnical Engineer will observe and approve borrow materials used and shall determine if their existing moisture contents are suitable/acceptable.

F. Footing Excavation Review: The Owner's Geotechnical Engineer will review the footing excavations for the building foundations. He will verify that the design bearing pressures are available and that no loose or soft areas exist beneath the bearing surfaces of the footing excavations.

G. The Owner's Geotechnical Engineer will submit two (2) copies each of his reports, recommendations and/or opinions to the Architect/Engineer and the Owner. Pertinent information will be provided to the Contractor as required.

3.18 EROSION CONTROL:

A. Provide erosion control methods in accordance with requirements of authorities having jurisdiction, the Virginia Erosion and Sediment Control Handbook, and as indicated in the

Contract Documents.

3.19 PROTECTION

A. Repair and reestablish grades in settled, eroded, and rutted areas to indicated tolerances.

B. Reconditioning Compacted Areas: Where subsequent construction operations or adverse weather disturbs completed compacted areas, scarify surface, reshape, and compact to required density prior to further construction.

C. Settling: Where settling is measurable or observable at excavated areas during general project warranty period, remove surface (pavement, lawn, or other finish), add backfill material, compact, and replace surface treatment. Restore appearance, quality, and condition of surface or finish to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

D. Protect excavation bottoms against freezing when atmospheric temperature is less than 35 degrees F.

3.20 DISPOSAL OF WASTE MATERIALS

A. Excess material is intended to be permanently stockpiled and stabilized on site in the locations shown on the plans.

END OF SECTION 312000

SECTION 321313 - SITE CONCRETE

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. The provisions of the Contract Documents apply to the work of this Section.

1.2 DESCRIPTION OF WORK:

A. Extent of Portland cement concrete paving is shown on drawings, including:
   1. Curbs
   2. Long Jump/Triple Jump runways

1.3 SUBMITTALS

A. Job-Mix Designs: Certification, by authorities having jurisdiction, of approval of each job mix proposed for the Work.

B. Material Certification: Certification signed by Contractor certifying that each material complies with requirements.

C. Concrete scoring plan. (unless shown in the drawings)

1.4 JOB CONDITIONS

A. Traffic Control: Maintain access for vehicular and pedestrian traffic as required for other construction activities.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Forms: Steel, wood, or other suitable material of size and strength to resist movement during concrete placement and to retain horizontal and vertical alignment until removal. Use straight forms, free of distortion and defects.

   1. Use flexible spring steel forms or laminated boards to form radius bends as required.

   2. Coat forms with a non-staining form release agent that will not discolor or deface surface of concrete.

B. Welded Wire Mesh: Welded plain cold drawn steel wire fabric, ASTM A 185.

C. Reinforcing Steel: ASTM A 615, Grade 60, deformed

D. Concrete Materials: Comply with requirements of applicable Division 3 sections for concrete materials, admixtures, bonding materials, curing materials, and others as required.

E. Expansion Joint Materials: Comply with requirements of applicable Division 7 sections for preformed expansion joint fillers and sealers.

F. Anti-spalling Compound: Combination of boiled linseed oil and mineral spirits, complying with **AASHTO** M233.

G. Liquid Membrane Forming and Sealing Curing Compound: Comply with VDOT Road and

Bridge Specifications.

2.2 CONCRETE MIX, DESIGN, AND TESTING

A. Comply with requirements of applicable Division 3 sections for concrete mix design, sampling and testing, and quality control or VDOT Road and Bridge Specifications whichever is more stringent.

B. Design mix to produce normal weight concrete consisting of Portland cement, aggregate, water reducing or high range water reducing admixture (superplasticizer), airentraining admixture, and water to produce the following properties:

1. Comply with the requirements of VDOT Std. Class A3 Concrete, unless otherwise indicated.

C. Testing to be performed by the Owner's third-party testing firm.

PART 3 EXECUTION

3.1 SURFACE PREPARATION

A. Remove loose material from compacted subbase surface immediately before placing concrete.

B. Proof roll prepared subbase surface to check for unstable areas and need for additional compaction. Do not begin paving work until such conditions have been corrected and are ready to receive paving,

3.2 FORM CONSTRUCTION

A. Set forms to required grades and lines, braced and secured. Install forms to allow continuous progress of work and so that forms can remain in place at least 24 hours after concrete placement.

B. Check completed formwork for grade and alignment to following tolerances:

1. Top of forms not more than l/8 inch in 10 feet.

2. Vertical face on longitudinal axis, not more than l/4 inches in 10 feet.

C. Clean forms after each use and coat with form release agent as required to ensure separation from concrete without damage.

3.3 REINFORCEMENT

A. Locate, place and support reinforcement as specified in Division 3 sections, unless otherwise indicated.

3.4 CONCRETE PLACEMENT

A. General: Comply with requirements of applicable Division 3 sections for mixing and placing concrete or VDOT Road and Bridge Specifications whichever is more stringent.

B. Do not place concrete until subbase and forms have been checked for line and grade. Moisten subbase if required to provide a uniform dampened condition at time concrete is placed. Do not place concrete around manholes or other structures until they are at required finish elevation and alignment.

C. Place concrete by methods that prevent segregation of mix. Consolidate concrete along face of forms and adjacent to transverse joints with internal vibrator. Keep vibrator away from joint assemblies, reinforcement, or side forms. Use only square faced shovels for hand spreading and consolidation. Consolidate with care to prevent dislocation of reinforcing, dowels, and joint devices.

D. Deposit and spread concrete in a continuous operation between transverse joints as far as possible. If interrupted for more than 1/2 hour, place a construction joint.

E. Fabricated Bar Mats: Keep mats clean and free from excessive rust, and handle units to keep them flat and free of distortions. Straighten bends, kinks, and other irregularities or replace units as required before placement. Set mats for a minimum 2inch overlap to adjacent mats.

F. Place concrete in 2 operations; strike off initial pour for entire width of placement and to the required depth below finish surface. Lay fabricated bar mats immediately in final position. Place top layer of concrete, strike off, and screed.

G. Remove and replace portions of bottom layer of concrete that have been placed more than 15 minutes without being covered by top layer or use bonding agent if acceptable to Architect.

H. Curbs and Gutters: Automatic machine may be used for curb and gutter placement. If machine placement is to be used, submit revised mix design and laboratory test results that meet or exceed minimums indicated. Machine placement must produce curbs and gutters to required cross-section, lines, grades, finish, and jointing as indicated for formed concrete. If results are not acceptable, remove and replace with formed concrete meeting requirements.

3.5 JOINTS

A. General: Construct expansion, weakened plane (contraction), and construction joints true to line with face perpendicular to surface of concrete. Construct transverse joints at right angles to the centerline, unless otherwise indicated.

B. Weakened Plane (Contraction) Joints: Provide weakened plane (contraction) joints, sectioning concrete into approximately 10' areas or as shown on drawings. Construct weakened plane joints for a depth equal to at least 1/4 concrete thickness, as follows:

1. Tooled Joints: Form weakened plane joints in fresh concrete by grooving top portion witha recommended cutting tool and finishing edges with a jointer.

2. Sawed Joints: Form weakened plane joints with powered saws equipped with shatterproof abrasive or diamond rimmed blades. Cut joints into hardened concrete as soon as surface will not be tom, abraded, or otherwise damaged by cutting action.

C. Construction Joints: Place construction joints at end of placements and at locations where placement operations are stopped for more than 1/2 hour, except where such placements terminate at expansion joints.

D. Construct joints as indicated or, if not indicated, use standard metal keyway section forms.

E. Expansion Joints: Provide pre-molded joint filler for expansion joints abutting catch basins, manholes, inlets, structures, walks, and other fixed objects, unless otherwise indicated.

F. Locate expansion joints at 50 feet o.c. for each pavement lane unless otherwise indicated.

G. Extend joint fillers full width and depth of joint, not less than 1/2 inch or more than 1 inch below finished surface where joint sealer is indicated. If no joint sealer, place top of joint filler flush with finished concrete surface.

H. Provide joint fillers in one piece lengths for full width being placed wherever possible. Where more than one length is required, lace or clip joint filler sections together.

I. Protect top edge of joint filler during concrete placement with a metal cap or other temporary material. Remove protection after concrete has been placed on both sides of joint.

J. Fillers and Sealants: Comply with requirements of applicable Division 7 sections for preparation of joints, materials, installation, and performance.

K. Refer to Drawings for scoring patterns for:

1. Selected sidewalk areas
2. Service Area

3.6 CONCRETE FINISHING

A. After striking off and consolidating concrete, smooth surface by screeding and floating. Use hand methods only where mechanical floating is not possible. Adjust floating to compact surface and produce uniform texture.

B. After floating, test surface for trueness with a 10ft. straightedge. Distribute concrete as required to remove surface irregularities, and refloat repaired areas to provide a continuous smooth finish.

C. Work edges of slabs, gutters, back top edge of curb, and formed joints with an edging tool, and round to 112inch radius, unless otherwise indicated. Eliminate tool marks on concrete surface.

D. After completion of floating and when excess moisture or surface sheen has disappeared, complete troweling and finish surface as follows:

1. Broom finish by drawing a fine hair broom across concrete surface perpendicular to line of traffic. Repeat operation if required to provide a fine line texture acceptable to Architect.
2. Exposed-Aggregate Finish: At handicap ramps and where indicated on drawings, by applying an approved retardant curing compound to the surface. Allow minimum 12 hours of setting time before washing surface to expose a maximum of (1/3) one-third of stone surface. Aggregate shall be brown River stone having a uniform size and color for each subsequent concrete pour. Aggregate size shall range between 1/2" and 3/4".

E. Do not remove forms for 24 hours after concrete has been placed. After form removal, clean ends of joints and pointup any minor honeycombed areas. Remove and replace areas or sections with major defects, as directed by Architect.

3.7 CURING

A. Protect and cure finished concrete paving in compliance with applicable requirements of Division 3 sections. Use membrane forming curing and sealing compound or approved moist curing methods.

3.8 REPAIRS AND PROTECTIONS

A. Repair or replace cracked, broken or defective concrete curbs and curb and gutter, as directed by Architect.

B. Replace cracked, broken or defective concrete sidewalks.

C. Repair or replace cracked, broken or defective concrete pavement, as directed by Architect.

D. Drill test cores where directed by Architect when necessary to determine magnitude of cracks or defective areas. Fill drilled core holes in satisfactory pavement areas with Portland cement

concrete bonded to pavement with epoxy adhesive.

E. Protect concrete from damage until acceptance of work. Exclude traffic from pavement for at least 14 days after placement. When construction traffic is permitted, maintain pavement as clean as possible by removing surface stains and spillage of materials as they occur.

F. Sweep concrete pavement and wash free of stains, discolorations, dirt, and other foreign material just before final inspection.

END OF SECTION 321313

SECTION 321823.33 - TRACK AND FIELD SURFACE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. The provisions of the Contract Documents apply to the work in this Section.

1.2 DESCRIPTION OF WORK

A. Provide a mixture of uniformly graded rubber particles bound together with formulated styrene butadiene resin, providing a durable, resilient surface for the running track and designated field event areas. No asphalt material shall be incorporated into this system.

B. The following surfaces shall receive the surface system:

- Runways for long jump; triple jump;

C. Provide line markings in accordance with the most current National Federation of State High School Association (NFHS) standards including the 400M hurdles.

1.3 SUBMITTALS

A. Product data in the form of manufacturer's technical data, specifications, and construction.

B. Shop drawings showing line striping (with dimensions) that meets current NFHS standards.

C. Samples: Submit sample representative of actual surface to architect/owner for approval.

1.4 QUALITY ASSURANCE

A. Surfacing Installer Requirements: Over the last five years, the Contractor must have installed at least 20 running track surfaces that utilize the exact same material as specified herein. Contractor must be a licensed general contractor in the Commonwealth of Virginia.

B. Weather Conditions: The quality of the installation is dependent upon proper weather conditions. No installation shall be made when rain is imminent or when ambient temperatures are below 60° F. It is best to install the system in full sun, and dry weather with daytime temperatures of at least 60° F and rising for five (5) hours. When nighttime temperatures fall below 45° F, the system should not be installed.

1.5 WARRANTY

A. Warrant surface against defects in workmanship and materials for THREE (3) YEARS from date of Substantial Completion. The contractor shall repair or replace defective surface at no cost to the owner. Excluded from the warranty are defects caused by faulty design, acts of God, improper maintenance, abuse, and uses other than those set forth above. The owner is required to maintain the facility in accordance with the maintenance instructions which are provided with the warranty.

1.6 PROJECT CONDITIONS

A. **Concrete Substrate:** The concrete upon which the MAXFLEX BL 1/2" TRACK SURFACE is installed shall be clean, free-draining, and shall exhibit the planarity and tolerances set forth in running Track and Field Event Base Course Construction as published by Precision Athletics, Inc.

PART 2 – PRODUCTS

2.1 BASIS FOR SPECIFICATION

A. The design basis for this specification is the MAXFLEX BL 1/2" system as manufactured and installed by Precision Athletics, Richmond, VA (804-585-3015). Alternative equivalent systems may be submitted for approval as set forth below.

2.2 MATERIALS

A. BINDER A - formulated styrene butadiene polymer containing a minimum of 50% resin solids content; having a styrene butadiene ratio of 45:55; and having a Glass Transition Temperature of - 32° C

B. BINDER B - formulated styrene butadiene polymer containing a minimum of 50% resin solids content; having a styrene butadiene ratio of 65:35; and having a Glass Transition Temperature of- 7° C.

C. Ultraviolet Protectant/Pigment: proprietary aqueous solution of black pigments.

D. Rubber Particulate: proprietary black SBR rubber particulate having a specific gravity of 1.15.

E. Line Marking Paint: acrylic line marking paint approved by the manufacturer of the track surface.

2.3 SUBSTITUTIONS

A. With any request for substitution, provide the following information in addition to the source of the proposed material:

1. Latex: Tensile strength and elasticity; glass transition temperature; styrene butadiene ratio
2. SBR Rubber: Compound content and sieve analysis
3. List of five installations within 100 miles radius of this project that have had the same system installed within at least the last two years.

PART 3 - EXECUTION

3.1 SCHEDULING

A. Inform the owner's representative 48 hours prior to material placement. Any material placed when owner's representative has not been given 48 hours notice may be required to be removed and replaced.

3.2 PREPARATION

A. New asphalt shall be allowed to cure for a minimum of 14 days prior to the installation of any

surfacing material. Thoroughly clean the new asphalt substrate and check for deviations of planarity exceeding 3/16" when measured with a ten-foot straight-edge. Correct deviations exceeding this tolerance using asphalt. Minimum cross slope on the asphalt shall be 1%.

3.3 CONSTRUCTION

A. Mat Construction: The track and field event surface shall be constructed in accordance with the methods approved by the manufacturer of the system. The methods employed shall be designed to fully encapsulate all rubber particulate with a resin film of sufficient thickness to produce the required system tensile strength. Ultraviolet protectant/pigment shall be added to Binder A and B in accordance with the manufacturers recommendations and in sufficient quantity to protect the finished track system for the duration of the warranty period. The mat shall be constructed using the following material quantities:

1. SBR Resin: 3.3 to 3.5 dry lbs. per square yard of surface area.
2. Rubber Particulate: 12.5 to 12.7 dry lbs. per square yard of surface area.
3. Total System Weight: 15.8 to 16.2 dry lbs. per square yard.

B. Physical Properties: The finished surface shall be uniform in appearance, depth, and density, and shall exhibit the following physical characteristics:

1. Thickness: 1/2" (13mm)
2. Color: Black
3. Spike Use: Yes, 1/8" Pyramid Type

3.4 LINE MARKING

A. Line field events according to most current National Federation of State High School Association (NFHS) standards.

END OF SECTION 321823.33

SECTION 32 31 13 - CHAIN LINK FENCE
PVC COATED CHAIN LINK FABRIC ON PVC COLOR COATED GALVANIZED FRAMEWORK

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Poly Vinyl Chloride (PVC) coated chain link fabric with PVC color coated galvanized steel framework and accessories for commercial or industrial applications.

1.2 RELATED SECTIONS
01 33 13 Certifications
01 33 23 Shop drawings, product data
01 43 13 Manufacturers Qualifications
01 43 13 Installer qualifications
01 45 00 Quality control
01 65 00 Product delivery requirements
03 30 00 Cast-In-Place Concrete
25 50 00 Integrated automation, gate operators/access control
32 31 13.23 Recreational Court Fences and Gates
32 31 13.26 Tennis Court Fences and Gates
32 31 13.33 Chain Link Backstops
32 1 13.53 High-Security Chain Link Fences and Gates

1.3 REFERENCES

A. ASTM A36 Standard Specification for Carbon Structural Steel

B. ASTM A780 Standard Practice for Repair of Damaged and Uncoated Areas of Hot-dip Galvanized Coatings

C. ASTM B221 Standard Specification for Aluminum and Aluminum Alloy Bars, Rods, Wire Profiles and Tubes

D. ASTM F552 Standard Terminology Relating to Chain Link Fencing

E. ASTM F567 Standard Practice for Installation of Chain Link Fence

F. ASTM F626 Standard Specification for Fence Fittings

G. ASTM F668 Standard Specification for Polyvinyl Chloride (PVC) and Other Organic Polymer-Coated Steel Chain Link Fence Fabric

H. ASTM F900 Standard Specification for Industrial and Commercial Swing Gates

I. ASTM F934 Standard Specification for Standard Colors for Polymer-Coated Chain Link Fence Materials

J. ASTM F1043 Standard Specification for Strength and Protective Coatings on Steel Industrial Chain Link Fence Framework

K. ASTM F1083 Standard Specification for Pipe, Steel, Hot-Dipped Zinc-Coated (Galvanized) Welded, for Fence Structures CHAIN LINK FENCE 323113 - 2

L. ASTM F1184 Standard Specification for Industrial and Commercial Horizontal Slide Gates

M. ASTM F1664 Standard Specification for Polyvinyl Chloride (PVC) and Other Conforming Organic Polymer- Coated Steel Tension Wire Used With Chain Link Fence

N. ASTM F1665 Standard Specification for Polyvinyl Chloride (PVC) and Other Conforming Organic Polymer- Coated Steel Barbed Wire Used With Chain Link Fence

0. **ASTM** Fl910 Standard Specification for Long Barbed Tape Obstacles

P. **ASTM** F1911 Standard Practice for Installation of Barbed Tape

Q. **ASTM** F2200 Standard Specification for Automated Vehicular Gate Construction

R. UL 325 Door, Drapery, Gate, Louver and Window Operators

S. WLG2445 Chain Link Fence Manufacturers Institute, Chain Link Fence Wind Load Guide for the Selection of Line Posts and Line Post Spacing

1.4 **SUBMITTALS**

A. Changes in specifications may not be made after the bid date.

B. Shop drawings: Layout of fences and gates with dimensions, details, and finishes of components, accessories, and post foundations.

C. Product data: Manufacturer's catalog cuts indicating material compliance and specified options.

1.5 QUALITY ASSURANCE

A. Manufacturer: Company having manufacturing facilities in the United States with *5* years' experience specializing in manufacturing of chain link fence products.

B. Fence contractor: Contractor having *5* years' experience installing similar projects in accordance with ASTM F567.

C. Tolerances: ASTM current specification and tolerances apply and supersede any conflicting tolerance.

D. Substitutions: Alternate chain link products may be acceptable by the architect as equal if approved in writing ten days prior to bidding provided that the items submitted meet the specifications contained in this document.

E. Single source: To ensure system integrity obtain the chain link system, framework, fabric, fittings, gates and accessories from a single source.

PART 2 - PRODUCTS

2.1 MANUFACTURER

A. Approved Manufacturers:

1. Master Halco, Inc.

One City Blvd. West, Suite 900 Orange, CA 92868

Phone (800) 229-5615 Fax (714) 385-0107

www.masterhalco.com. E-mail: spec@fenceonline.com

2. Merchants Metals

www.merchantsmetals.com

Tech-Info@merchantsmetals.com

Phone: (888) 260-1600 Fax: (888) 261-3600

3. Ameristar Fence Products in Tulsa, Oklahoma

4. Approved Equal

2.2 CHAIN LINK FENCE FABRIC

A. Poly Vinyl Chloride (PVC) color coated steel chain link fabric per ASTM F668 Class 1 Extruded over metallic coated steel wire

B. Size and Height: See plans

C. Color of chain link fabric per ASTM F934 Black

2.3 PVC COLOR COATED STEEL FENCE FRAMEWORK

A. Steel pipe Type I: ASTM F1043 Group IA, ASTM F1083 standard weight schedule 40 hot-dip galvanized pipe having a zinc coating of 1.8 oz/ft² (550 g/m² on the outside and 1.8 oz/fl:2 (550 g/m² on the inside surface. Exterior of pipe to have F1043 PVC thermally fused color coating, minimum thickness 10 mils (0.254 mm). Regular Grade: Minimum steel yield strength of30,000 psi (205 MPa)

B. Pipe End and Comer Post 2 3/8" OD

C. Pipe Line Post 1.9" OD

D. Pipe Rail and Braces, 1.660 in. OD

2.4 FITTINGS

A. All fittings to be PVC thermally fused color coated having a minimum thickness of 0.006" (0.152 mm) per ASTM F626. PVC color to match fabric and framework. Moveable parts, nuts and bolts to be field coated with PVC liquid touch up after installation.

B. Post caps: ASTM F626 galvanized pressed steel, malleable iron, or aluminum alloy weather tight closure cap for tubular posts. Provide one cap for each post. "C" shaped line post without top rail do not require post caps. When top rail is specified provide line post loop tops to secure top rail.

C. Rail ends: Galvanized pressed steel per ASTM F626, for connection of rails to post using a brace band.

D. Top rail sleeves: 7" (178 mm) galvanized steel sleeve per ASTM F626.

E. Wire ties: 9 gauge (0.148") (3.76 mm) galvanized steel wire for attachment of fabric to line posts and rails. Pre-formed hog ring ties to be 9 gauge (0.148") (3.76 mm) galvanized steel or aluminum for attachment of fabric to tension wire. Tie wire and hog rings PVC coated and in compliance with ASTM F626. Color to match fabric color.

F. Brace and tension (stretcher bar) bands: ASTM F626 galvanized 12 gauge (0.105") (2.67mm) pressed steel by 3/4" (19mm) formed to a minimum 300 degree profile curvature for post

attachment. Secure bands using minimum 5/16" (7.94 mm) galvanized carriage bolt and nut.

G. Tension (stretcher) galvanized steel bars: One piece lengths equal to 2 inches (50 mm) less than full height of fabric with a minimum cross-section of 3/16" x 3/4" (4.76 mm x 19 mm) per **ASTM** F626. Provide tension (stretcher) bars where chain link fabric is secured to the terminal post.

H. Truss rod assembly: Galvanized steel minimum 5/16" (7.9mm) diameter truss rod with pressed steel tightener, in accordance with **ASTM** F626

I. Carriage bolts and nuts: Galvanized of commercial quality

2.5 TENSION WIRE

A. Tension wire: Poly Vinyl Chloride (PVC) coated metallic coated steel tension wire per ASTM F 1664 9 gauge steel core wire, 0.148 PVC coating class and color to match chain link fabric

2.6 POST SETTING MATERIALS

A. Concrete: Minimum 28 day compressive strength of 3,000 psi (20 MPa).

B. Drive Anchors: Galvanized ASTM A36 steel drive anchor angle blades, 30" long secured to post with a pressed steel galvanized shoe clamp.

2.7 ACCESSORIES

A. Not used.

PART 3 EXECUTION

3.1 SITE EXAMINATION

A. Ensure property lines and legal boundaries of work are clearly established.

B. Survey offence location to be provided by general contractor

C. Verify areas to receive fencing are completed to final grade.

3.2 CHAIN LINK FRAMEWORK INSTALLATION

A. Install chain link fence system in accordance with ASTM F567 and manufacturer's instructions.

B. Locate terminal post at each fence termination and change in horizontal or vertical direction of 30° or more.

C. Space line posts as shown on the drawings.

D. Concrete set posts: Dig holes in firm, undisturbed or compacted soil. Holes shall have diameter 4 times greater than outside dimension of post, and depths approximately 6" (152 mm) deeper than post bottom. Excavate deeper as required for adequate support in soft and loose soils, and for posts with heavy lateral loads. Set post bottom 36" (914 mm) below surface when in firm, undisturbed soil. Place concrete around posts in a continuous pour. Trowel finish around post and slope to direct water away from posts.

E. Drive Anchor set line posts: With protective cap, drive post 36" (914 mm) into ground. Excavate a 6" (152.4 mm) diameter by 6" (152.4 mm) deep section around post to accommodate the drive anchor shoe clamp. Drive the 2 diagonal drive anchor angle blades into the soil and securely tighten the angle blades to the post using the shoe clamp, bury the shoe clamp.

F. Check each post for vertical and top alignment, and maintain in position during placement and finishing operations.

G. Bracing: Install horizontal brace and truss assembly at mid-height or above for fences 6' (1829 mm) and over at each fabric connection to the terminal post. The diagonal truss rod is installed at the point where the brace rail is attached to the terminal post and diagonally down to the bottom of the adjacent line post. Place the truss rod in tension by adjusting the turnbuckle.

H. Tension wire: Install tension wires so that it will be located 4" (101.6 m) up from bottom the fabric. If top rail is not specified, install the tension wire so that it will be located 4" (101.6 mm) down from the top of the fabric. Stretch and Install tension wire before installing the chain link fabric and attach it to each post using wire ties.

I. Top rail: Install in lengths of 21' (6.400 m). Connect ends with sleeves forming a rigid connection, allow for expansion and contraction.

J. Bottom Rails: Install bottom rails between posts and attach to post using rail end or line rail clamps.

K. Touch up any nicks or scratches of the PVC color coating with liquid PVC paint.

3.3 CHAIN LINK FABRIC INSTALLATION

A. Fabric: Install fabric on security side, pull fabric taut; thread the tension bar through fabric and attach to terminal posts with tension bands spaced maximum of 15" (381 mm) on center and attach so that fabric remains in tension after pulling force is released. Install fabric so that it is 2" (50 mm) +/- 1" (25 mm) above finish grade.

B. Secure fabric using wire ties to line posts at 15" (381 mm) on center and to rails and braces 24" (610 mm) on center, and to the tension wire using hog rings 24" (610 mm) on center. Tie wire shall be secured to the fabric by wrapping it two 360 degree turns around the chain link wire pickets. Cut off any excess wire and bend back so as not to protrude so as to avoid injury if a pedestrian may come in contact with the fence.

3.4 SITE CLEAN UP

A. Clean up area adjacent to fence line from debris and unused material created by fence installation.

END OF SECTION 323113

SECTION 334100 - STORM DRAINAGE

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

A. The provisions of the Contract Documents apply to the work of this Section.

1.2 **SUMMARY:**

A. This Section includes the storm sewerage system piping and appurtenances.

1.3 SUBMITTALS

A. Product data for:

1. Concrete pipe
2. Polyethylene pipe
3. Ductile iron pipe
4. Frames and covers.
5. Grates
6. Couplings for connection into concrete pipe.

B. Certification, signed by material producer and contractor, that standard precast and cast in place concrete storm drainage manholes and Drop Inlets comply with VDOT standards and specifications.

C. VDOT approved job mix for bedding stone.

D. Shop drawings for:

1. Storm water structures
2. Cleanouts
3. Underdrains

E. Record drawings of installed storm drainage system.

1.4 QUALITY ASSURANCE

A. Environmental Compliance: Comply with applicable portions of local environmental agency regulations pertaining to storm sewerage systems.

B. Utility Compliance: Comply with state and local regulations and standards pertaining to storm sewerage systems.

C. All materials shall be new and free of defects (i.e. pipe shall not have chipped spigots or bells).

1.5 PROJECT CONDITIONS

A. Site Information: Perform site surveys, research public utility records, and verify existing utility locations. Verify that storm sewerage system piping may be installed in compliance with

2.1 UNDERDRAINS

A. Underdrains and combination underdrains: Conform to the requirements of the latest edition of the VDOT Road and Bridge Specifications and the VDOT Road and Bridge Standards for the type of underdrain, unless otherwise indicated.

1. PVC underdrains shall conform to the requirements of ASTM F758, Type PS 28 or ASTMF949.

2. PE corrugated underdrain pipe shall conform to AASHTO M252.

PART 3 EXECUTION

3.1 GENERAL

A. Install the storm sewerage system in accordance with the latest edition of the Virginia Department of Transportation's Road and Bridge Standards and Road and Bridge Specifications.

3.2 PREPARATION OF FOUNDATION FOR BURIED STORM SEWERAGE SYSTEMS

A. Grade trench bottom to provide a smooth, firm, stable, and rock free foundation, throughout the length of the pipe.

B. Remove unstable, soft, and unsuitable materials at the surface upon which pipes are to be laid, and backfill with clean sand or pea gravel to indicated level.

C. Install pipe bedding conforming to the requirements of the latest edition of the Virginia Department of Transportation's Road and Bridge Standards and Road and Bridge Specifications.

3.3 PIPE INSTALLATION

A. Install piping beginning at low point of systems, true to grades and alignment indicated with unbroken continuity of invert. Place bell ends of piping facing upstream. Install gaskets, seals, sleeves, and couplings in accordance with manufacturer's recommendations for use of lubricants, cements, and other installation requirements. Maintain swab or drag in line and pull past each joint as it is completed.

B. Use proper size increasers, reducers, and couplings, where different size or material of pipes and fittings are connected. Reduction of the size of piping in the direction of flow is prohibited.

C. Extend storm sewerage system piping to connect to building storm drains, of sizes and in locations indicated.

D. Join and install concrete pipe and fittings per VDOT specifications.

E. Join and install PE pipe and fittings per manufacturer's recommendations.

F. Join different types of pipe with standard manufactured couplings and fittings intended for that purpose.

3.4 FIELD QUALITY CONTROL

A. Cleaning: Clear interior of piping and structures of dirt and other superfluous material as work progresses. Maintain swab or drag in piping and pull past each joint as it is completed.

1. In large, accessible piping, brushes and brooms may be used for cleaning.

2. Place plugs in ends of uncompleted pipe at end of day or whenever work stops.

3. Flush piping between manholes and drop inlets to remove collected debris. Flush pipes through an approved erosion and sediment control measure.

B. Interior Inspection: Inspect piping to determine whether line displacement or other damage has occurred.

1. Make inspections after pipe between have been installed and approximately 2 feet of backfill is in place, and again at completion of project.

2. If inspection indicates poor alignment, debris, displaced pipe, infiltration, or other defects correct such defects and re-inspect.

END OF SECTION 334100

Appendix A

PROPOSAL REQUIREMENTS AND NON-COLLUSION STATEMENT

Terms/Conditions: **ALL** ____ enclosed General and Special Terms and Conditions shall apply to this Request for Proposals. Offerors are reminded to read and comply with all requirements of this solicitation.

My signature certifies that the accompanying proposal is not the result of, or affected by, any unlawful act of collusion with another person or company engaging in the same line of business or commerce, or any act of fraud punishable under Title 18.2, Chapter 12, Article 1.1 of the *Code of Virginia*, 1950, as amended. Furthermore, I understand that fraud and unlawful collusion are crimes under the Virginia Government Frauds Act, the Virginia Government Bid Rigging Act, Virginia Antitrust Act, and Federal Law, and can result in fines, prison sentences, and civil damage awards.

I hereby certify that I am authorized to sign, personally or as a representative, for the offeror:

Name of Firm or Individual: _____

Address: _____

_____

Signature:_____

Name (type/print): _____

Title: ___

Telephone:_____ Fax: _____

E-mail Address of Signer: _____

FEI/FIN No._____Date: _____

Appendix B

EMPLOYEE CERTIFICATION

Name of Contractor: _____

Pursuant to §22.1-296.1 of the *Code of Virginia*, prior to awarding a contract for the provision of services that require the contractor and/or employees (or subcontractors) to have **direct contact with students**, the school board shall require the contractor and, when relevant, any employee who will have direct contact with students, to provide certification that (i) he/she has not been convicted of a felony or any offense involving the sexual molestation or physical or sexual abuse or rape of a child; and (ii) such person has not been convicted of a crime of moral turpitude.

Any person making a materially false statement regarding any such offense shall be guilty of a Class 1 misdemeanor and, upon conviction, the fact of such conviction shall be grounds for the revocation of the contract to provide such services and, when relevant, the revocation of any license required to provide such services.

For the purposes of this subsection, **direct contact with students** means being in the presence of students during regular school hours or during school-sponsored activities.

As part of this submission, I certify that the employees of, or subcontractors to, the above mentioned contractor that will be providing services to the School Division under the resulting contract (i) will have not been convicted of a felony or any offense involving the sexual molestation or physical or sexual abuse or rape of a child; and/or (ii) such persons have not been convicted of a crime of moral turpitude. Furthermore, I understand that the duty to certify is ongoing and extends to future employees and employees of subcontractors for the duration of the contract.

_____
Signature of Authorized Contractor Representative

_____
Printed Name of Authorized Contractor Representative

_____
Printed Name of Vendor (if different than Representative)

_____
Date

Appendix C

VIRGINIA STATE CORPORATION COMMISSION (SCC) REGISTRATION INFORMATION SHEET

The offeror: _____

□ is a corporation or other business entity with the following SCC identification number:_ _____

_____

-OR-

□ is not a corporation, limited liability company, limited partnership, registered limited liability partnership, or business trust

-OR-

□ is an out-of-state business entity that does not regularly and continuously

maintain as part of its ordinary and customary business any employees, agents, Offices, facilities, or inventories in Virginia (not counting any employees or agents in Virginia who merely solicit orders that require acceptance outside Virginia before they become contracts, and not counting any incidental presence of the Offeror in Virginia that is needed in order to assemble, maintain, and repair goods in accordance with the contracts by which such goods were sold and shipped into Virginia from bidders out-of-state location) **-OR-**

□ is an out-of-state business entity that is including with this proposal an opinion of legal counsel which accurately and completely discloses the undersigned Bidder's current contacts with Virginia and describes why whose contacts do not constitute the transaction of business in Virginia within the meaning of § 13.1-757 or other similar provisions in Titles 13.1 or 50 of the Code of Virginia.

Please check the following box if you have not checked any of the foregoing options but currently have pending before the SCC an application for authority to transact business in the Commonwealth of Virginia and wish to be considered for a waiver to allow you to submit the SCC identification number after the due date for bids: □

_____

Appendix D

Proprietary/Confidential Information Identification

Name of Firm/Offeror: _____

Trade secrets or proprietary information submitted by an offeror shall not be subject to public disclosure under the Virginia Freedom of Information Act; however the offeror must invoke the protections of VA Code § 2.2-4342.F in writing, either before or at the time the data or other material is submitted. The written notice must specifically identify the data or materials to be protected, including the section of the proposal in which it is contained and the page numbers, and state the reasons why protection is necessary. The proprietary or trade secret material submitted must be identified by some distinct method such as highlighting or underlining and must indicate only the specific words, figures, or paragraphs that constitute trade secret or proprietary information. In addition, a summary of proprietary information submitted shall be submitted on this form. The classification of an entire proposal document, line item prices, and/or total proposal prices as proprietary or trade secrets is not acceptable. If, after being given reasonable time, the offeror refuses to withdraw such a classification designation, the proposal will be rejected.

Section/Title	***Page Number(s)***	***Reasons for Withholding from Disclosure***

Submit this form with proposal.

Appendix E
OFFEROR DATA SHEET

Note: The following information is required as part of your response to this solicitation. Failure to complete and provide this sheet may cause your bid to be deemed non-responsive.

4. Qualifications: The offeror must have the capability and capacity in all respects to fully satisfy all of the contractual requirements.

5. Offeror's Primary Contact:

   Name:_____ Phone: _____

6. Years in Business: Indicate the length of time you have been in business providing this type of service, under the current name, as well as any prior names with dates:

   Years:_____Months: _____

7. Indicate below a listing of at least three (3) current or recent contracts (at least 6 months), either commercial or governmental, that your firm is servicing, has serviced, or has provided similar service Include the length of service and the name, address, and telephone number of the point of contact.

   A. Company:_____Contact:_____
   Phone: (____)_____Fax: (____)_____
   Project: _____

   Dates of Service:_____$ Value: _____

   B. Company:_____Contact:_____
   Phone: (____)_____Fax: (____)_____
   Project: _____

   Dates of Service:_____$ Value: _____

   C. Company:_____Contact:_____
   Phone: (____)_____Fax: (____)_____
   Project: _____

   Dates of Service:_____$ Value: _____

   D. Company:_____Contact:_____
   Phone: (____)_____Fax: (____)_____
   Project: _____

   Dates of Service:_____$ Value: _____

8. Business Category (Check all that apply)

   ___Small Business Women Owned and Controlled

   ___Minority Owned and Controlled Service Disabled Veteran Owned and Controlled

   ___None of the above