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## ADDENDUM No. THREE

Date: April 25, 2025  
Project: East Side Park Remodel, MES No. 2023-66  
Engineer: M.E. Sack Engineering  
Hinesville, Georgia

The original plans, specifications, and bid documents are amended to include the following:

### Technical Specifications:

- Replace the previous Section 32 18 16.16 Artificial Grass Sports Field with the enclosed of the same. Note that the language has changed in an effort to meet manufacturer requirements that allow for a more complete range of infill materials to be used in the artificial grass sports field design.

The following clarifications are offered for questions received:

1. *Will the East Side Park Remodel require Davis Bacon wages?*
  - No. Davis-Bacon wage determinations are not required on this project.
2. *What is the actual size of the artificial turf with the concrete curb as perimeter?*
  - The artificial turf must cover the playing surface dimensions indicated in the plans (180' x 360'), at a minimum. The concrete curb should be installed outside of that boundary. Please refer to Sheet C201.
3. *What is the drainage plan if artificial turf is used? The guys at Field Turf say that it would be different than shown on the drawings for the natural grass. They recommend (1) perimeter 10 or 12" perforated pipe in lieu of the lateral lines and installed as per the detail on Drawing C504.*
  - The drainage plan will need to incorporate the manufacturer's recommendation on drainage design and installation. Upon Engineer review and approval, the updated plan will replace the existing drainage plan for the area and be integrated into the rest of the project system as designed.

4. *There is a note on Drawing C201 for contractor to design sprinkler system on the sports field. Should any other areas beside the field be sprinkled?*
- The sports field is the only area on the project where a sprinkler system is required. The remaining grassed areas are to be irrigated as needed to establish permanent vegetation. It is the contractor's responsibility to determine the method used for establishing permanent vegetation in those areas. If the contractor elects to utilize a sprinkler system to irrigate any areas outside of the sports field, those additions to the sprinkler system will need to be included in the irrigation plan submitted to the Engineer for review.
5. *In the base bid, should the grass on the sports field be sod and if so, what type?*
- The sports field base bid item is not required to be sodded. The minimum requirement for grassing on this item is established in the erosion control plans. Please refer to Sheet C501 for details on species and planting schedule.
6. *Do areas outside the sports field get sodded, seeded, hydroseeded, etc?*
- All grassed areas on the project are to be seeded in accordance with the permanent vegetation requirements established in the plans and The Manual for Erosion and Sedimentation Control in Georgia.

-END-



## **SECTION 32 18 16.16**

### **ARTIFICIAL GRASS SPORTS FIELD**

#### **PART 1 - GENERAL**

##### **1.1 SUMMARY**

- A. Furnish all labor, materials, tools and equipment necessary to install slit-film artificial grass as indicated on the plans and as specified herein; including components and accessories required for a complete installation. including but not limited to
  - 1. Acceptance of prepared sub-base.
  - 2. Coordination with related trades to ensure a complete, integrated, and timely installation: Aggregate base course, sub-base material (tested for permeability), grading and compacting, piping and drain components (when required); as provided under its respective trade section.

##### **1.2 RELATED SECTIONS**

- A. Carefully examine all of the Contract Documents for requirements that affect the work of this Section. Other specification sections that directly relate to the work of this Section include, but are not limited to the following:
  - 1. Section 01001 General Requirements
  - 2. Section 02210 Site Grading
  - 3. Section 02221 Trench Excavation, Backfill and Compaction
  - 4. Section 02520 Storm Drainage and Appurtenances
  - 5. Section 02611 Base and Paving
  - 6. Section 03300 Concrete, General

##### **1.3 REFERENCE STANDARDS**

- A. FM Factory Mutual
  - 1. P7825 - Approval Guide; Factory Mutual Research Corporation; current edition
- B. ASTM – American Society for Testing and Materials.
  - 1. D1907 - Standard Test Method for Denier
  - 2. D5848 - Standard Test Method for Mass Per Unit Area of Pile Yarn Floor Covering
  - 3. D1338 - Standard Test Method for Tuft Bind of Pile Yarn Floor Covering
  - 4. D1682 - Standard Method of Test for Breaking Load and Elongation of Textile Fabrics
  - 5. D5034 - Standard Test Method of Breaking Strength and Elongation of Textile Fabrics (Grab Test)
  - 6. F1551 - Standard Test Method for Water Permeability
  - 7. D2859 - Standard Test Method for Ignition Characteristics of Finished Textile Floor Covering Materials
  - 8. F355 - Standard Test Method for Shock-Absorbing Properties of Playing Surfaces.
  - 9. F1936 - Standard Test Method for Shock-Absorbing Properties of North American Football Field Playing Systems as Measured in the Field

## 1.4 SUBMITTALS

- A. Substitutions: Other products are acceptable if in compliance with all requirements of these specifications.
  - 1. Provide substantiation that proposed system does not violate any other manufacturer's patents, patents allowed or patents pending.
  - 2. Provide a sample copy of insured, non-prorated warranty and insurance policy information.
- B. Shop Drawings:
  - 1. Indicate field layout; field marking plan and details for the specified sports; i.e., NCAA Football; roll/seaming layout; methods of attachment, field openings and perimeter conditions.
  - 2. Show installation methods and construction indicating field verified conditions, clearances, measurements, terminations, drainage.
  - 3. Provide joint submission with related trades when requested by Engineer.
- C. Product Data:
  - 1. Submit manufacturer's catalog cuts, material safety data sheets (MSDS), brochures, specifications; preparation and installation instructions and recommendations; storage, handling requirements and recommendations.
  - 2. Submit fiber manufacturer's name, type of fiber and composition of fiber.
  - 3. Submit data in sufficient detail to indicate compliance with the contract documents.
  - 4. Submit manufacturer's instructions for installation.
  - 5. Submit manufacturer's instructions for maintenance for the proper care and preventative maintenance of the synthetic turf system, including painting and markings.
- D. Samples: Submit a synthetic turf sample, 12 x 12 inches, representing the turf carpet portion of the product proposed for this project.
- E. Product Certification:
  - 1. Submit manufacturer's certification that products and materials comply with requirements of the specifications.
  - 2. Submit test results indicating compliance with Reference Standards.
- F. Project Record Documents: Record actual locations of seams, drains and other pertinent information in accordance with Specifications and General Requirements.
- G. List of existing installations: Submit list including respective Owner's representative and telephone number.
- H. Warranties: Submit warranty and ensure that forms have been completed in Owner's name and registered with approved manufacturer.
- I. Submit Bills of Lading/Material Delivery Receipts for turf infill materials. Bills of lading shall bear the name of the project/delivery address, quantity of materials delivered, source/location of origin of infill materials and/or manufacturer, and date of delivery.

- J. Testing Certification: Submit certified copies of independent (third-party) laboratory reports on ASTM testing:
1. Pile Height, Face Weight & Total Fabric Weight, ASTM D5848.
  2. Primary & Secondary Backing Weights, ASTM D5848.
  3. Tuft Bind, ASTM D1335.
  4. Grab Tear Strength, ASTM D1682 or D5034.
  5. Water Permeability, ASTM F1551
- K. The Turf Vendor shall submit a document holding the Owner and it's representatives harmless as to any liability and or costs of any type, including but not limited to legal costs, royalties, replacement costs, etc. associated with any claim by the Turf Vendor or others associated and with any patents or infringements of any current or future patent issued for the synthetic turf product, infill materials, installation methods or drainage characteristics. It is not the intent of these documents to promote or induce the use of intellectual property belonging to others or promote infringement of any known or currently not known patents, licenses or rights of others.

## **1.5 QUALITY ASSURANCE**

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section. The turf contractor and/or the turf manufacturer:
1. Shall be experienced in the manufacture and installation of slit-film grass turf for a minimum of three years. This includes use of a slit-film fiber, and the installation method.
  2. Shall have 100 fields in play for at least two years. Fields shall be 65,000 ft<sup>2</sup> or more.
  3. Turf manufacturer shall have installed a minimum of 5 fields that are at least 8 years old, which is equal to the respective warranty period.
  4. Shall have a minimum of 10 installations in the State of Georgia.
  5. Shall have a minimum of 100 installations in North America with a slit-film fiber, each field of 65,000 ft<sup>2</sup> or more.
  6. Manufacturer must have available a program, certified by Carbonfund.org, to offset the complete CO<sub>2</sub>e emissions that will result from this specific project, including the field's specific materials, manufacturing and installation. Carbon Offsets are to be provided through the Carbonfund Foundation's Carbonfree® Partner Program, which funds third-party validated and verified renewable energy, forestry, and energy efficiency projects supporting a low carbon transition for the planet. Costs for the Carbon offset program to be included as a line item in the pricing proposal / submission.
- B. Installer: Company shall specialize in performing the work of this section. The Contractor shall provide competent workmen skilled in this specific type of synthetic grass installation.
1. The designated Supervisory Personnel on the project shall be certified, in writing by the turf manufacturer, as competent in the installation of specified slit-film material, including sewing seams and proper installation of the infill mixture.
  2. Installer shall be certified by the manufacturer and licensed.
  3. The installer supervisor shall have a minimum of 5 years experience as either a construction manager or a supervisor of synthetic turf installations

- C. Pre-Installation Conference: Conduct conference at project site at time to be determined by Engineer. Review methods and procedures related to installation including, but not limited to, the following:
  - 1. Inspect and discuss existing conditions and preparatory work performed under other contracts.
  - 2. In addition to the Contractor and the installer, arrange for the attendance of installers affected by the Work, The Owner's representative, and the Engineer.
- D. The Contractor shall verify special conditions required for the installation of the system.
- E. The Contractor shall notify the Engineer of any discrepancies.
- F. In order to measure its environmental impact, the synthetic turf supplied will be covered by an environmental product declaration (EPD) declaring, among other indicators, the carbon footprint of artificial turf from cradle to gate. The EPD must be verified and registered by a third party established according to iso 14025 and EN 15804 + a2. EPD documentation must be provided at the time of bid.

## **1.6 DELIVERY, STORAGE, AND HANDLING**

- A. Prevent contact with materials that may cause dysfunction.
- B. Deliver and store components with labels intact and legible.
- C. Store materials/components in a safe place, under cover, and elevated above grade.
- D. Protect from damage during delivery, storage, handling and installation. Protect from damage by other trades.
- E. Inspect all delivered materials and products to ensure they are undamaged and in good condition.

## **1.7 SEQUENCING AND SCHEDULING**

- A. Coordinate the Work with installation of work of related trades as the Work proceeds.
- B. Sequence the Work in order to prevent deterioration of installed system.

## **1.8 WARRANTY AND GUARANTEE**

- A. The Contractor shall provide a warranty to the Owner that covers defects in materials and workmanship of the turf for a period of eight (8) years from the date of substantial completion. The turf manufacturer must verify that their representative has inspected the installation and that the work conforms to the manufacturer's requirements. The manufacturer's warranty shall include general wear and damage caused from UV degradation. The warranty shall specifically exclude vandalism, and acts of God beyond the control of the Owner or the manufacturer. The warranty shall be fully third party insured; prepaid for the entire 8 year term and be non-prorated. The Contractor shall provide a warranty to the Owner that covers defects in the installation workmanship, and further warrant that the installation was done in accordance with both the manufacturer's recommendations and any written directives of the manufacturer's representative. Prior to final payment for the synthetic turf, the Contractor shall submit to owner notification in

writing that the field is officially added to the annual policy coverage, guaranteeing the warranty to the Owner. The insurance policy must be underwritten by an “AM Best” A rated carrier and must reflect the following values:

- Pre-Paid 8-year insured warranty from a single source.
- Maximum per claim coverage amount of \$15,000,000.
- Minimum of fifteen million dollars (\$15,000,000) annual.
- Must cover full 100% replacement value of total square footage installed, minimum of \$7.00 per sq ft. (in case of complete product failure, which will include removal and disposal of the existing surface)
- Provide a sample copy of insured, non-prorated warranty and insurance policy information.
- Policy cannot include any form of deductible to be paid by the Owner.

C. The artificial grass system must maintain a G-max of less than 200 for the life of the Warranty as per ASTM F1936

## **1.9 MAINTENANCE SERVICE**

- A. Contractor shall train the Owner's facility maintenance staff in the use of the turf manufacturer's recommended maintenance equipment.
- B. Manufacturer must provide maintenance guidelines to the facility maintenance staff.

## **PART 2 - PRODUCTS**

### **2.1 ACCEPTABLE MANUFACTURER**

A. Approved artificial grass system manufacturers are as follows:

1. FieldTurf USA  
175 N. Industrial Blvd  
Calhoun, GA 30701  
P: 800-724-2969  
Model: FieldTurf XT-50
2. AstroTurf  
Model: 3DX 2” - Infill: 3lbs./sf rubber and 2lbs./sf sand
3. Shaw  
Model: Momentum 2” - Infill: 3lbs./sf rubber and 2lbs./sf sand
4. Sprinturf  
Model: UltraBlade 2” - Infill: 3lbs./sf rubber and 2lbs./sf sand

5. ProGrass  
Model: Xtreme Turf FB 2” - Infill: 3lbs./sf rubber and 2lbs./sf sand
  6. A-Turf  
Model: Premier XP 2” - Infill: 3lbs./sf rubber and 2lbs./sf sand
  7. UBU  
Model: S4-M 2” - Infill: 3lbs./sf rubber and 2lbs./sf sand
  8. Greenfields  
Model: XP Blade 2” - Infill: 3lbs./sf rubber and 2lbs./sf sand
  9. Motz  
Model: Twenty-Four/Seven 2” - Infill: 3lbs./sf rubber and 2lbs./sf sand
  10. Hellas  
Model: Velocity 2” - Infill: 3lbs./sf rubber and 2lbs./sf sand
- B. Approved shock pad system manufacturers are as follows:
1. Brock International  
Model: SP-17
  2. Ultra Base Systems  
Model: Champion Panel
  3. Notts Sport  
Model: ShockWave EcoBase

\*Alternate 1: FieldTurf Classic HD– FTHD-2

\*Alternate 2: FieldTurf Classic HD– FTHD-2+ Cooling Composite

## **2.2 MATERIALS AND PRODUCTS – BASE BID**

- A. Artificial grass system materials shall consist of the following:
1. Carpet made of slit-film polyethylene fibers tufted into a perforated backing.
  2. Infill: Synthetic or organic materials, or any combination of the two depending on the manufacturer requirement or recommendation.
  3. Glue, thread, paint, seaming fabric and other materials used to install and mark the artificial grass slit-film turf.
  4. Shock Pad installed simultaneously with the synthetic turf.



- B. The installed artificial grass slit-film turf shall have the following properties:

Standard	Property	Specification
ASTM D1907	Fiber Denier	9,000+
ASTM D3218	Tape Thickness	110+ Microns
ASTM D5823	Min. Pile Height	2"
ASTM D5793	Stitch Gauge	3/8" – 3/4"
ASTM D5848	Pile Weight	30oz/square yard
ASTM D5848	Primary Backing	7+oz/square yard
ASTM D5848	Secondary Backing	16+oz/square yard
ASTM D5848	Total Weight	53+oz/square yard
ASTM D1335	Tuft Bind (Without Infill)	8+ lbs
ASTM D5034	Grab Tear (Width)	>200 lbs/force
ASTM D5034	Grab Tear (Length)	>200 lbs/force
ASTM F1551	Carpet Permeability	>40 inches/hour
ASTM F1936	Impact Attenuation (Gmax)	<200
	Min. Infill Material Depth	1.25 inches
	Minimum Sand Infill	2lbs/sq.ft
	Minimum SBR Rubber Infill	3lbs/sq.ft
	Total Product Weight	773+oz/sq. yard

*Variation of +/- 5% on above listed properties is within normal manufacturing tolerances*

- C. Carpet shall consist of slit-film fibers tufted into a primary backing with a secondary backing.
- D. Carpet Rolls shall be 15' wide rolls.
- Rolls shall be long enough to go from field sideline to sideline.
  - Where the playing field is for football, the perimeter white line shall be tufted into the individual sideline rolls.
- E. Backing:
- Primary backing shall be a minimum double-layered polypropylene fabric.
  - Secondary backing shall permanently lock the fiber tufts in place.
  - Perforated (with punched holes), backed carpet are acceptable.
- F. Fiber shall be measuring no less than 2 inches high.
- Systems with less than 2 inch fibers are unacceptable.
- G. Infill materials shall be approved by the manufacturer.
- The infill shall consist of a resilient-layered, granular system, comprising either selected graded sand, ambient rubber, or a combination of the two.
- H. The sand infill will comply within the following characteristics:
- Average Particle size between 20 and 30 mesh [calculated based on summing the midpoint of sieve pan fractions times the % retained on given screen fractions]
  - Average Particle shape > 0.4 on the Krumbein scale
  - Particle structure predominantly single grain

- Produce < 0.4%, -50M in API crush test at 80psig
- I. Non-tufted or inlaid lines and markings shall be painted with paint approved by the synthetic turf manufacturer.
  - J. Thread for sewing seams of turf shall be as recommended by the synthetic turf manufacturer.
  - K. Glue and seaming fabric for inlaying lines and markings shall be as recommended by the synthetic turf manufacturer.

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## **MATERIALS AND PRODUCTS – ALTERNATE 1**

Model: FieldTurf Classic HD– FTHD-2

- A. Artificial grass FieldTurf system materials shall consist of the following:
  1. Carpet made of slit-film polyethylene fibers tufted into a fibrous, non-perforated, porous backing.
  2. Infill: graded sand and cryogenic rubber crumb that partially covers the carpet.
  3. Glue, thread, paint, seaming fabric and other materials used to install and mark the artificial grass slit-film FieldTurf.
- B. The installed artificial grass slit-film FieldTurf shall have the following properties:

<u>Standard</u>	<u>Property</u>	<u>Specification</u>
ASTM D1907	Fiber Denier	10,800
ASTM D5823	Min. Pile Height	2"
ASTM D1577	Fiber Thickness	130 Microns
ASTM D5793	Stitch Gauge	3/4"
ASTM D5848	Pile Weight	30oz/square yard
ASTM D5848	Primary Backing	7+oz/square yard
ASTM D5848	Secondary Backing	14+oz/square yard
ASTM D5848	Total Weight	51+oz/square yard
ASTM D1335	Tuft Bind (Without Infill)	8+ lbs
ASTM D5034	Grab Tear (Width)	200 lbs/force
ASTM D5034	Grab Tear (Length)	200 lbs/force
ASTM F1551	Carpet Permeability	>40 inches/hour
ASTM F1936	Impact Attenuation (Gmax)	<200
	Min. Infill Material Depth	1.25 inches
	Min. Sand Infill Component	3.65lbs/square foot
	Min. Cryogenic Rubber Infill	2.6lbs/square foot
	Total Product Weight	951+oz/square yard

*Variation of +/- 5% on above listed properties is within normal manufacturing tolerances*

- C. Carpet shall consist of slit-film fibers tufted into a primary backing with a secondary backing.

- D. Carpet Rolls shall be 15' wide rolls.
1. Rolls shall be long enough to go from field sideline to sideline.
  2. Where the playing field is for football, the perimeter white line shall be tufted into the individual sideline rolls.
- E. Backing:
1. Primary backing shall be a minimum double-layered polypropylene fabric
  2. Secondary backing shall permanently lock the fiber tufts in place.
  3. Perforated (with punched holes), backed carpet is unacceptable.
- F. Fiber shall be measuring no less than 2 inches high.
1. Systems with less than 2 inch fibers are unacceptable.
- G. Infill materials shall be approved by the manufacturer.
1. Infill shall consist of a resilient granular system, comprising selected and graded sand and cryogenically hammer-milled SBR rubber crumb.
  2. Artificial Grass products without cryogenically processed rubber shall not be accepted.
- H. The sand infill will comply within the following characteristics:
- Average Particle size between 20 and 30 mesh [calculated based on summing the midpoint of sieve pan fractions times the % retained on given screen fractions]
  - Average Particle shape > 0.4 on the Krumbein scale
  - Particle structure predominantly single grain
  - Produce < 0.4%, -50M in API crush test at 80psig
- I. Non-tufted or inlaid lines and markings shall be painted with paint approved by the synthetic turf manufacturer.
- J. Thread for sewing seams of turf shall be as recommended by the synthetic turf manufacturer.
- K. Glue and seaming fabric for inlaying lines and markings shall be as recommended by the synthetic turf manufacturer.

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## **MATERIALS AND PRODUCTS – ALTERNATE 2**

Model: FieldTurf FieldTurf Classic HD– FTHD-2+ Cooling Composite

- A. Artificial grass FieldTurf system materials shall consist of the following:
1. Carpet made of slit-film polyethylene fibers tufted into a fibrous, non-perforated, porous backing.
  2. Infill: graded sand and cryogenic rubber crumb and an extruded cooling composite

particle that partially covers the carpet.

3. Glue, thread, paint, seaming fabric and other materials used to install and mark the artificial grass slit-film FieldTurf.

B. The installed artificial grass slit-film FieldTurf shall have the following properties:

Standard	Property	Specification
ASTM D1907	Fiber Denier	10,800
ASTM D5823	Min. Pile Height	2"
ASTM D1577	Fiber Thickness	130 Microns
ASTM D5793	Stitch Gauge	3/4"
ASTM D5848	Pile Weight	30oz/square yard
ASTM D5848	Primary Backing	7+oz/square yard
ASTM D5848	Secondary Backing	14+oz/square yard
ASTM D5848	Total Weight	51+oz/square yard
ASTM D1335	Tuft Bind (Without Infill)	8+ lbs
ASTM D5034	Grab Tear (Width)	200 lbs/force
ASTM D5034	Grab Tear (Length)	200 lbs/force
ASTM F1551	Carpet Permeability	>40 inches/hour
ASTM F1936	Impact Attenuation (Gmax)	<200
	Min. Infill Material Depth	1.25 inches
	Min. Extruded Cooling Composite	0.6lbs/square foot
	Min. Sand Infill Component	3.65lbs/square foot
	Min. Cryogenic Rubber Infill	2.0lbs/square foot
	Total Product Weight	951+oz/square yard

*Variation of +/- 5% on above listed properties is within normal manufacturing tolerances*

- C. Carpet shall consist of slit-film fibers tufted into a primary backing with a secondary backing.
- D. Carpet Rolls shall be 15' wide rolls.
  1. Rolls shall be long enough to go from field sideline to sideline.
  2. Where the playing field is for football, the perimeter white line shall be tufted into the individual sideline rolls.
- E. Backing:
  1. Primary backing shall be a minimum double-layered polypropylene fabric
  2. Secondary backing shall permanently lock the fiber tufts in place.
  3. Perforated (with punched holes), backed carpet is unacceptable.
- F. Fiber shall be measuring no less than 2 inches high.
  1. Systems with less than 2 inch fibers are unacceptable.
- G. Infill materials shall be approved by the manufacturer.
  1. Infill shall consist of a resilient layered granular system, comprising selected and graded sand, cryogenically hammer-milled SBR rubber crumb and an extruded cooling composite.
  2. Artificial Grass products without cryogenically processed SBR rubber and a top layer of the extruded cooling composite will not be acceptable.

3. Coated infill and infill needing to be watered to activate their cooling properties are unacceptable.
  4. The extruded cooling composite must have a bulk density of 0.55 g/cm<sup>3</sup> +/- 15% and a specific gravity of greater than 1.
  5. Shall provide third-party laboratory testing proving heat reduction qualities of the same infill materials used in the proposed turf system including the top layer extruded cooling composite.
  6. Shall have a minimum of \_\_\_ references of fields installed with an extruded cooling composite installed as the top layer of infill.
- H. The sand infill will comply within the following characteristics:
- Average Particle size between 20 and 30 mesh [calculated based on summing the midpoint of sieve pan fractions times the % retained on given screen fractions]
  - Average Particle shape > 0.4 on the Krumbein scale
  - Particle structure predominantly single grain
  - Produce < 0.4%, -50M in API crush test at 80psig
- I. Non-tufted or inlaid lines and markings shall be painted with paint approved by the synthetic turf manufacturer.
- J. Thread for sewing seams of turf shall be as recommended by the synthetic turf manufacturer.
- K. Glue and seaming fabric for inlaying lines and markings shall be as recommended by the synthetic turf manufacturer.
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## **2.3 QUALITY CONTROL IN MANUFACTURING**

- A. The manufacturer shall own and operate its own manufacturing plant in North America. Both tufting of the field fibers into the backing materials and coating of the turf system must be done in-house by the turf manufacturer. Outsourcing of either is unacceptable.
- B. The manufacturer's full-time in-house certified inspectors shall perform pre-tufting fiber testing on tensile strength, elongation, tenacity, denier, shrinkage, and twist i.e., turns per inch, upon receipt of fiber spools from fiber manufacturer.
- C. The manufacturer shall have its own, in-house laboratory where samples of turf are retained and analyzed, based on standard industry tests, performed by full-time, in-house, certified inspectors.

## **2.4 FIELD GROOMER & SWEEPER**

Supply field groomer as part of the work.

1. Field Groomer shall include a towing attachment compatible with a field utility

- vehicle.
- 2. Field Groomer shall be a FieldTurf GroomRight
- 3. Field Sweeper shall include a towing attachment compatible with a field utility vehicle.
- 4. Field Sweeper shall be a FieldTurf FieldSweep

## **PART 3 - EXECUTION**

### **3.1 EXAMINATION**

- A. Verify that all sub-base leveling is complete prior to installation.
- B. Installer shall examine the surface to receive the synthetic turf and accept the sub-base planarity in writing prior to the beginning of installation.
  - 1. Acceptance is dependent upon the Owner's test results indicating compaction and planarity are in compliance with manufacturer's specifications.
  - 2. The surface shall be accepted by Installer as "clean" as installation commences and shall be maintained in that condition throughout the process.
- C. Compaction of the aggregate base shall be 95%, in accordance with ASTM D1557 (Modified Proctor procedure); and the surface tolerance shall not exceed 0-1/4 inch over 10 feet and 0-1/2" from design grade.
- D. Correct conditions detrimental to timely and proper completion of Work.
- E. Do not proceed until unsatisfactory conditions are corrected.
- F. Beginning of installation means acceptance of existing conditions.

### **3.2 PREPARATION**

- A. Prior to the beginning of installation, inspect the sub-base for tolerance to grade.
- B. Sub-base acceptance shall be subject to receipt of test results (by others) for compaction and planarity that sub-base is in compliance with manufacturer's specifications and recommendations.
- C. Dimensions of the field and locations for markings shall be measured by a registered surveyor to verify conformity to the specifications and applicable standards. A record of the finished field as-built measurements shall be made.
- D. When requested by Engineer, installed sub-base shall be tested for porosity prior to the installation of the slit-film turf. A sub base that drains poorly is an unacceptable substrate

### **3.3 INSTALLATION - GENERAL**

- A. The installation shall be performed in full compliance with approved Shop Drawings.
- B. 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.

- C. 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.
- D. Designs, markings, layouts, and materials shall conform to all currently applicable National Collegiate Athletic Association rules, NFHS rules, and/or other rules or standards that may apply to this type of synthetic grass installation. Designs, markings and layouts shall first be approved by the Engineer or Owner in the form of final shop drawings. All markings will be in full compliance with final shop drawings.

### **3.4 INSTALLATION**

- A. Install at location(s) indicated, to comply with final shop drawings, manufacturers'/installer's instructions.
- B. The Contractor shall strictly adhere to specified procedures. Any variance from these requirements shall be provided in writing, by the manufacturer's on-site representative, and submitted to the Engineer and/or 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.
- C. Carpet rolls shall be installed directly over the properly prepared aggregate base. Extreme care shall be taken to avoid disturbing the aggregate base, both in regard to compaction and planarity.
  - 1. Repair and properly compact any disturbed areas of the aggregate base as recommended by manufacturer.
- D. Full width rolls shall be laid out across the field.
  - 1. Turf shall be of sufficient length to permit full cross-field installation from sideline to sideline.
  - 2. Each roll shall be attached to the next roll utilizing standard state-of-the-art sewing procedures.
  - 3. When all of the rolls of the playing surface have been installed, the sideline areas shall be installed at right angles to the playing surface.
- E. Artificial turf panel seams shall be sewn. Other than extension inlays, seams secured by other means including gluing are unacceptable. Installation shall be 99% sewn.
  - 1. Minimum gluing will only be permitted to repair problem areas, corner completions, and to cut in any logos or inlaid lines as required by the specifications.
  - 2. Seams shall be flat, tight, and permanent with no separation or fraying.
  - 3. In the case of all lines and logos, turf carpet must be sheared to the backing (do not cut the backing) and adhered using hot melt adhesives.
- F. Infill Materials:
  - 1. Infill materials shall be applied in numerous thin lifts. The turf shall be brushed as the mixture is applied. The infill material shall be installed to a depth determined by the manufacturer.
  - 2. Infill materials shall be installed to fill the voids between the fibers and allow the fibers to remain vertical and non-directional. The Infill installation consists of a base layer of sand followed by a final application of specifically sized rubber,

organic, or compound material as specified by the manufacturer that completes the system.

- G. Non-tufted or inlaid lines and markings shall be painted in accordance with turf and paint manufacturers' recommendations. Number of applications will be dependent upon installation and field conditions.
- H. Synthetic turf shall be attached to the perimeter edge detail in accordance with the manufacturer's standard procedures.
- I. Upon completion of installation, the finished field shall be inspected by the installation crew and an installation supervisor.

### **3.5 FIELD MARKINGS**

- A. Field markings shall be installed in accordance with approved shop drawings. If football is designated as the primary sport, all five-yard lines will be tufted-in.
- B. Balance of sports markings will be inlaid or painted in accordance with the Drawings.
- C. Center field logo shall be either painted or inlaid according to artwork indicated on Drawings and in accordance with manufacturer's standard palette of turf colors.
- D. End-zone letters and logos shall be either painted or inlaid according to artwork and fonts indicated on the Drawings, and in accordance with manufacturer's standard palette of turf colors.

### **3.6 ADJUSTMENT AND CLEANING**

- A. Do not permit traffic over unprotected surface.
- B. Contractor shall provide the labor, supplies, and equipment as necessary for final cleaning of surfaces and installed items.
- C. All usable remnants of new material shall become the property of the Owner.
- D. The Contractor shall keep the area clean throughout the project and clear of debris.
- E. Surfaces, recesses, enclosures, and related spaces shall be cleaned as necessary to leave the work area in a clean, immaculate condition ready for immediate occupancy and use by the Owner.

### **3.7 PROTECTION**

- A. Protect installation throughout construction process until date of final completion.

END OF SECTION