


ADDENDUM #1

MARCH 25, 2016

TRANSMITTED VIA EMAIL: 18 pages

TO: ALL PLAN HOLDERS AND POTENTIAL BIDDERS
FROM: RON VENTURELLA, PURCHASING OFFICER 
SUBJECT: SYNTHETIC TURF FIELD REPLACEMENT
ERWIN & OWEN HIGH SCHOOLS
(RFP# 07-16)

The following changes, revisions, additions, and/or clarifications to the plans and/or specifications are hereby made a part of the original documents. **Be sure to acknowledge this addendum on the proposal sheet.**

Addendum # 1
RFP #07-16

A Pre-bid conference was held at Charles D. Owen High School on March 24, 2016 at 11:00am.

Pre-bid Conference Attendees: Attendance at the PreBid Conference was not mandatory. The following attendees were present for the prebid conference:

<u>Name</u>	<u>Company</u>	<u>Email</u>
Garrett Bare	SCM	garrett.bare@scminc.net
Brett Stowers	Medallion	adele@medallionathletics.com
Todd Weber	APT	weber@advpolytech.com
Charlie Welsh	Sprinturf	cwelsh@sprinturf.com
Anthony Lee	Owen High School	anthony.lee@bcseamil.org
Tim Fierle	BCS Facilities	tim.fierle@bcseamil.org
Conn White	CHA	jwhite@chacompanies.com
Ron Venturella	BCS Purchasing	ron.venturella@bcseamil.org

Pre-Bid Conference Minutes

1. Attendees were required to sign-in on the Attendance Sheet.
2. Owen High School information:
 - a. Anthony Lee provided the following information:

- Custodians arrive at 7:00 AM. Arrangements can be made upon request for earlier entry to the Project Site
- All user groups have been informed that the stadium facility is closed during construction.
- Anthony Lee will check and verify no use of the facility by FCA or other user groups has been arranged.
- Restrooms at Visitor Side concessions will be open and available for Contractor use.

3. Owner and Designer introductions.

- a. Ron Venturella, BCS, Purchasing Officer
- b. Tim Fierle, BCS, Director of Facilities & Planning
- c. Conn White, CHA Consulting, Construction Administration

4. Welcome to Pre-Bid Conference for the **Synthetic Turf Field Replacements at Owen High School and Erwin High School.**

5. BCS HUB Goals:

- a. **HISTORICALLY UNDERUTILIZED BUSINESSES:** Pursuant to General Statute 143-48 and Executive Order #150, Buncombe County Schools invites and encourages participation in this procurement process by businesses owned by minorities, women, disabled, disabled business enterprises and non-profit work centers for the blind and severely disabled. The Contractor agrees in particular to maintain open hiring and employment practices and to receive applications for employment in compliance with all requirements of applicable federal, state and local laws and regulations issued pursuant thereto relating to nondiscriminatory hiring and employment practices. Each Prime Contractor shall undertake an affirmative action program to ensure that no person shall be excluded from participation in any employment activities because of age, sex, race, religion, color, national origin or handicap.
- b. MBE and HUB forms are not required for this Project.
- c. Ron Venturella provided the following information:
 - Proposal forms must be in a sealed envelope. Two envelope system is preferred.
 - Bidders must use the bond forms supplied by Buncombe County Schools.
 - Bid opening will be April 8, 2016 2:00pm, at 175 Bingham Rd., Asheville, NC 28806.
 - Safe Schools Act applies.
 - Tobacco free campuses.
 - Iran Divestment Act of 2015 is applicable. By submitting the proposal contractor certifies that they do not have business transactions related to funding Iran.

6. Preferred Brand Alternate Meeting:

- a. The Pre-Bid Conference will be suspended in order to conduct the required Preferred Brand Alternate Meeting.
 - *“In accordance with General Statute GS 133-3, Specifications may list one or more preferred brands as an alternate to the base bid in limited*

circumstances. Specifications containing a preferred brand alternate under this section must identify the performance standards that support the preference. Performance standards for the preference must be approved in advance by the owner in an open meeting. Any alternate approved by the owner shall be approved only where the preferred alternate will provide cost savings, maintain or improve the functioning of any process or system affected by the preferred item or items, or both."

- "In accordance with GS133-3 and SCO procedures the following preferred brand items are being considered as Alternates by the owner for this project:"

1. AstroTurf GameDay Grass XPe42, Slit-Film fiber, 2.5" Pile Height.

b. Question and Answer Period related to the Preferred Brand Alternate.

- No Questions.

c. Upon conclusion of the Q&A, the Preferred Brand Alternate meeting will be adjourned and the Pre-Bid Conference will re-convene.

- Adjourned.

7. Review of Bid Documents

a. General overview of project scope

- Project consists of the replacement of the existing synthetic turf at Owen High School and Erwin High School. The improvements at each site consists of the complete demolition of the existing synthetic turf field surfacing, selective demolition of the existing concrete field curb, selective installation on new field curb, installation of supplement drain basins, installation of new Combox at midfield on each sideline and 30-yard lines on the home sideline and adjacent to each play clock in the endzone areas, supplementation of existing stone base with new topping stone, installation of new turf nailer system as needed and installation of new synthetic turf field surfacing system.

b. Basic review of Plans and Specifications

c. Review of Contract Documents

- Review Bonding requirements & Contractor Payment
 - BONDING REQUIREMENTS
 - Bid Bond – Five (5) percent of the Contract Price
 - Performance Bond – One hundred (100) percent of the Contract Price
 - Payment Bond – One hundred (100) percent of the Contract Price
 - CONTRACTOR PAYMENT
 - In accordance with General Conditions and Supplementary General Conditions
 - Based on a monthly estimate of completed work, less five (5) percent retainage
 - Each Application for Progress Payment shall include the Contractor Sales Tax Reporting Form, as included within the Project Manual

- Base Bid

- Base Bid include all labor, materials, supervision, overhead, and profit for the construction of the synthetic turf replacement identified in the Base Bid.
- Allowances
 - Allowances in accordance with the Contract Documents and more generally described as:

230 tons of topping stone complying with the technical specifications for supplementing the existing drainage base and to provide necessary planarity requirements of the Contract Documents. Quantities shall be verified by submitted truck tickets. Quantities in excess of the allowance amount shall be submitted for review and approval prior to delivery to the Project site. Approved quantities in excess shall be included in the contract by Change Order. Quantities less than the allowance amount shall be credited to the Contract and deducted from the Contract Price by Change Order at the unit price submitted.
- Unit Costs
 - Unit Costs in accordance with the Contract Documents and more general described as:
 - Unit cost per ton for topping stone complying with the technical specifications.
- Alternates
 - Preferred Brand Alternate in accordance with the technical specifications and Contract Documents:
 - **AstroTurf GameDay Grass XPe42, Slit-film fiber, 2.5" pile height**
- Staging Area/Parking
 - Material delivery shall be coordinated by the Contractor. The Schools shall not be liable for signing for, or accepting, any material deliveries. The material delivery and storage shall occur only in the areas identified on the drawings and as agreed to by the Owner and administration of each school.
 - No equipment or combustible material shall be stored outside of the material staging areas.
 - Security of the material staging areas shall be the sole responsibility of the Contractor and shall be marked by temporary flagging, fencing, and signage.
 - Contractor parking shall be limited to the area adjacent or within the limits of the material staging area.
 - No equipment or material shall be stored on the track at Owen High School.
- Construction Time/Schedule
 - Construction of the synthetic turf replacement at Erwin High School is anticipated to commence no earlier than May 16, 2016 and shall be complete on or before June 30, 2016.
 - Construction of the synthetic turf replacement at Owen High School is anticipated to commence no earlier than June 13, 2016 and shall be complete on or before August 8, 2016.
- Liquidated Damages

- Liquidated Damages Clause is in effect on this project and the cost per day is five hundred dollars (\$500) for each day beyond the contract schedule.
- d. Bid Opening Date, Time, and Location
 - Hand delivering Bids
 - Shall be time-stamped by BCS before 2:00 PM, Friday, April 8, 2016
 - Mailed bids
 - Mail to the Buncombe County Schools, Purchasing Division, 175 Bingham Road, Asheville, NC 28806.
 - Contractor shall be solely responsible for ensuring timely and complete delivery.
- e. Processing of Addendum prior to bid opening
 - Cutoff date for Contractor questions the last Addendum shall be sent no later than close of business (5:00 PM) on Thursday, March 31, 2016. The designer requires all questions be submitted in writing to allow time to complete the addendum.
 - Date that last Addendum will be published.
 - 5:00 PM April 4, 2016
- 8. Thank you for your interest in this Project.
- 9. Adjournment of Pre-Bid Conference
- 10. Open site visit at each Project Site will be conducted following Pre-Bid Conference.
 - a. Owen High School site will be available immediately following the Pre-Bid Conference.
 - b. Erwin High School site visit will follow the Owen High School site visit. Erwin High School; 60 Lees Creek Road; Asheville, NC 28806.
 - c. For additional site visits during bid period contact Tim Fierle at 828-255-5916 or via e-mail at tim.fierle@bcsemail.org to schedule a time. Do not contact the school administration directly for the coordination of any additional site visits.

End of Pre-bid Minutes

SECTION 321813 - SYNTHETIC TURF PLAYING FIELD SYSTEM REPLACEMENT

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Provide all labor, equipment, and materials, and do work necessary to replace the existing synthetic turf field surface at Charles D. Owen High School and Clyde A. Owen High School, as indicated on the Drawings and as specified. Work shall include but shall not be limited to:
 - 1. Synthetic surface including all inlays and/or painted lines/markings and related finish work.
 - 2. Installation of all surface lines and logos, repair to existing perimeter anchor systems and existing stone base.

1.2 REFERENCES

- A. Comply with applicable requirements of the following standards. Where these standards conflict with other specified requirements, the most restrictive requirement shall govern.
 - 1. Consumer Products Safety Commission (CPSC).
 - 2. American Association of State Highway and Transportation Officials (AASHTO):
 - a. T 89 - Determining the Liquid Limit of Soils
 - b. T 90 - Determining the Plastic Limit and Plasticity Index of Soils
 - 3. Occupational Safety and Health Administration (OSHA).
 - 4. Department of Transportation Standard Specifications
 - 5. American Society for Testing and Materials (ASTM):
 - a. D 395 - Rubber Property – Compression Test
 - b. D 418 - Pile Yarn Floor Covering Construction
 - c. D 2256 - Breaking Load (Strength) and Elongation of Yarn by the Single-Strand Method
 - d. D 3776 - Mass Per Unit Area (Weight) of Woven Fabric
 - e. D 3786 - Hydraulic Bursting Strength of Knitted Goods and Non-Woven Fabrics: Diaphragm Bursting Strength Tester Method,
 - f. D 4491 - Water Permeability of Geotextiles by Permittivity
 - g. D 4533 - Trapezoid Tearing Strength of Geotextiles
 - h. D 4632 - Breaking Load and Elongation of Geotextiles (Grab Method)

- i. D 4833 - Index Puncture Resistance of Geotextiles, Geo-membranes, & Related Products
 - j. F 355 - Shock Absorbing Properties of Playing Surface Systems and Materials
 - k. F 405 - Corrugated Polyethylene (PE) Tubing and Fittings
 - l. F 449 - Subsurface Installation for Agricultural Drainage or Water Table Control
 - m. F 667 - 8, 10, 12 and 15-inch Corrugated Polyethylene Tubing and Fittings
6. Current "National Federation of High School Associations" playing rules for football and soccer.

1.3 DEFINITIONS

- A. Existing Base Stone: The existing, undisturbed base stone below the existing synthetic turf field surface.
- B. Topping Stone: New stone, as required by this section, to make repairs to the existing stone base.

1.4 SUBMITTALS

- A. Manufacturer's Product Data: Submit manufacturer's specifications and installation instructions for all products in the synthetic turf playing field system, including certifications and other data as may be required to show compliance with the Contract Documents. Included but not limited to the following; perimeter turf anchoring system, and topping stone.
- B. Material Certifications: Manufacturer's or vendor's certified analysis for rubber and sand infill amendments.
- C. Material samples:
 - 1. Gravel Materials – See Section 1.6, "Quality Control".
- D. Synthetic Turf Material Samples and Test Reports:
 - 1. Synthetic Turf – Three samples, approximately 7" x 11", of each turf color specified for each field replacement
 - 2. Rubber/Sand Mix with proper ratio or Rubber - three samples, approximately 8-ounces each.
 - 3. Submit to Owner for approval - quality assurance information as delineated in paragraphs 1.5 Quality Assurance below.
 - 4. Certified list of successful existing installations, including Owner representative and telephone number, attesting compliance with quality assurance information.
 - 5. Certified copies of independent (third-party) laboratory reports on ASTM tests as follows:
 - a. Pile Height, Face Weight & Total Fabric Weight - ASTM D418
 - b. Primary & Secondary Backing Weights – ASTM D418
 - c. Tuft Bind – ASTM D1335
 - d. Grab Tear Strength – ASTM D1682

- e. Dynamic Cushion Test (G-max) - ASTM F-355, Procedure A (system)
 - f. Total Lead Content in Synthetic Turf Fibers – ASTM F2765-14
- 6. Seam – Glued and/or sewn, per manufacturers’ recommendation
 - a. Twenty-four (24) inches in length.
- 7. Color: Submit sample of line markings for approval by Owner.
- E. Supplier List: Submit list of procured and contracted suppliers of all materials required for the Playing Field System.
- F. Shop Drawings:
 - 1. Sample Warranty
 - 2. Seam layout of the field
 - 3. Striping plan: Submit one (1) for each field.
 - 4. Layout for Owner designated sports, showing any field lines, markings, boundaries and logos.
 - 5. Construction detail sketches, especially those that may deviate from the plans and specifications. Including but not limited to the following; perimeter turf anchor details.
- G. Manufacturer’s Review: submit written statement, signed by Sports Field Contractor and synthetic turf field surfacing installer stating that the Drawings and Specifications have been reviewed by qualified representatives of the materials manufacturer, and that they are in agreement that the materials and system to be used for synthetic field surfacing are proper and adequate for the applications shown
- H. Substrate (Topping Stone) Acceptance: Submit a certified statement issued by the manufacturer of the synthetic turf field surfacing materials and countersigned by the installer, attesting that all areas and surfaces designated to receive new synthetic turf field surfacing has been visually inspected and found satisfactory for the reception of the Work covered under this Section; and not in conflict with the “Guarantee” requirements. Installation of new synthetic turf field surfacing materials shall be construed as acceptance of the substrate (topping stone) construction by the manufacturer and installer.
- I. Independent, third-party test results documenting health safety findings for all materials and components used in the fabrication and installation of the synthetic turf playing field system. Submittal shall include, but not be limited to, substrate, backing, turf fibers, silica sand and crumb rubber infill. Synthetic Turf Manufacturer/Supplier shall provide certification letter, on company letterhead and signed by the company President/CEO, stating and certifying that all components, materials, and fabrication methods of the synthetic turf system meet or exceed current, established health safety guidelines, to the best of their knowledge.

1.5 QUALITY ASSURANCE

- A. The Sports Field Contractor shall have previously installed at least six (6) infilled synthetic turf fields of similar size and scope within the last three (3) years.

1. The sports field contractor shall be responsible for all work associated with the synthetic turf field replacement as shown in the Contract Documents. Replacement work includes, but is not limited to, the removal of the existing synthetic turf field surface, removal of the existing perimeter turf anchoring system (nailer), repairs to the existing stone base, installation of new topping stone, installation of new perimeter turf anchoring system (nailer), and installation of new synthetic turf field surface with all associated field lines and markings.
- B. The synthetic turf field surfacing installation shall be performed by a firm and crew having completed at least six (6) fields within the last three (3) years on projects of similar size and scope to this project. The firm shall have the approval of the synthetic turf field surfacing manufacturer. The synthetic turf field surfacing installation superintendent shall provide a list of the five (5) projects for which he was directly responsible and had direct oversight.
- C. The Sports Field Contractor shall have been in business under the same ownership for at least three (3) years, and shall have been installing similar sports fields for that entire period.
- D. The Synthetic Turf Manufacturer/Supplier shall have been in business under the same ownership for at least eight (8) years and shall have been manufacturing and supplying similar synthetic turf products specific to the sports field industry.
- E. The Synthetic Turf Manufacturer/Supplier shall submit a list of all completed products, using the specified turf system, in the United States. The list shall include references for at least five (5) of the submitted projects.
- F. The Synthetic Turf Manufacturer/Supplier shall provide evidence indicating that the specified materials have been successfully utilized on work of similar scope to that shown and specified for this Project.
- G. Installation of the synthetic turf field surfacing shall be done only after existing synthetic turf removal work has been satisfactorily completed. Damage caused to the existing stone base and new topping stone shall be repaired prior to acceptance.
- H. The Sports Field Contractor shall coordinate the installation of the synthetic turf field surfacing and the surrounding surfaces for optimum interface at all edges.

1.6 QUALITY CONTROL

- A. Prior to construction: Submit samples of each of the following materials to establish Baseline specification and ratios for the remainder of the testing process.
 1. Topping Stone Material: Provide a one (1) gallon sample of each topping stone source to be used for testing.
 2. Topping Stone Material:
 - a. A minimum of one (1) gallon sample of topping stone material used shall be tested by the Playing Field Testing Agent for general compliance with this Section.
- B. Testing Agents:
 1. The Owner shall contract with, and pay for, an independent testing agent to make recommendations regarding the topping stone materials. The Sports Field Contractor shall

notify the Owner regarding timing, scheduling and use of these agents and shall provide performance specifications to the Testing Agent to compare to field conditions, as defined by the Synthetic Turf Manufacturer/Supplier.

2. Sports Field Testing Agent:

- a. The Owner shall hire an independent Sports Field Testing Agent to perform testing of the field system material components and performance, at the Owner's discretion.
- b. Topping Stone Materials Test Reports: The Sports Field Testing Agent is to report/submit test results as they are known and simultaneously to the Sports Field Contractor, the Owner and its representatives.

1.7 DELIVERY, STORAGE AND HANDLING

- A. All materials shall be delivered and stored within the Contractor's work limits or in an area approved by the Owner. Materials shall be inspected for damage immediately upon delivery.
- B. All material shall be stored in strict accordance with the manufacturer's recommendations.
- C. Special care shall be exercised during delivery and storage to avoid damage to the products.
- D. Products that are damaged will be removed and replaced, unless the product can be repaired in an acceptable manner by the Contractor, at his expense.
- E. Packaged Materials:
 1. Deliver packaged materials in containers showing weight, analysis, and name of manufacturer. Protect materials from deterioration during delivery, and while stored at site.
- F. Topping Stone Materials:
 1. Deliver tested and approved lots in clean, washed and covered trucks to eliminate contamination during transportation. Place directly on playing field. Do not stockpile on site.

1.8 COMPLETION AND ACCEPTANCE

- A. General: Field completion shall be separated into two (2) phases, "Preliminary Completion" and "Substantial Completion."
- B. Preliminary Completion: Scheduled date for preliminary completion shall be at least ten (10) calendar days before Substantial Completion. Notify the Sports Field Designer/Engineer and Owner in writing, three (3) days prior to scheduled date for observation for "Preliminary Completion." To be considered "Preliminarily Complete" the following items shall be provided:
 1. New field curb and border complete.
 2. New inline drain basins installed.
 3. Existing stone base repaired.
 4. Topping stone materials in place, compacted and to grade.

5. Synthetic turf installed inclusive of infill materials, field markings and logos.
- C. Substantial Completion: After “Preliminary Completion” observation, the Playing Field Designer/Engineer and Owner shall prepare and submit to the Contractor, a punch list of items to be completed to achieve “Substantial Completion”. Contractor shall notify the Playing Field Designer/Engineer and Owner in writing, 5 days prior to a requested date for a site observation to meet “Substantial Completion.” To be considered “Substantially Complete” or “Playable” the following items shall be provided:
1. All “Preliminary Completion” punch list items are complete.
 2. Submit five (5) copies of written operating and maintenance instructions. Provide format and contents as directed by the Engineer.
 3. Submit (5) copies of all certified surveys performed during construction for Quality Control.
 4. Smooth, level playing surface level to grading tolerances.
 5. Written warranties/guarantees.
 6. Stockpiling or storage of required “attic stock” materials.
 7. Upon completion of the synthetic field surface, the contractor shall provide the Owner with two (2) hours of maintenance training that shall be recorded on a video tape and supplied to the Owner.

1.9 WARRANTY/GUARANTEE

- A. General: Warranties / Guarantees specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and are in addition to and run concurrent with other warranties/guarantees made by the Contractor under requirements of the Contract Documents.
- B. The following are inclusive of the term “Synthetic Turf Playing Field System” for provisions of the guarantee:
1. Final grade tolerances to one-quarter (1/4) inch in the length of twenty-five (25) feet of finish grade in any direction.
 2. Synthetic turf product as specified and represented by the Turf manufacturer/vendor.
 3. All materials and products specified.
- C. Installer Guarantee: Provide in writing a “Full System Guarantee” agreement. The President(s) of the synthetic turf field surfacing manufacturer (if different) shall sign this document and it shall include the following:
1. All work executed under this section will be free from defects of material and workmanship for a period of eight (8) years from date of Substantial Completion.
 2. Any defects shall be remedied upon written notice at no additional cost to the Owner.

3. Guarantee shall include removal and replacement of materials (parts and labor) as required to repair synthetic turf field surfacing at no cost to the Owner.
 4. The eight (8) year warranty shall not be prorated and shall be provided by the synthetic turf manufacturer.
 5. At no time in the life of the Guarantee shall the g-max exceed 165 at any one point on the field.
- D. Statement of Supervision: Upon completion of the Work, Contractor to submit a written statement signed by the synthetic turf field surfacing manufacturer stating that the field supervision by the manufacturer's representative was sufficient to insure proper application of the complete system and materials, that the Work was installed in accordance with the Contract Documents, and that the installation is acceptable to the manufacturer.
- E. gMax Testing: The synthetic turf field surfacing manufacturer shall retain a third party certified testing laboratory and shall perform g-max testing during the first year of the life of the Guarantee.
1. Upon completion of the required equipment calibration g-max testing shall be performed in accordance with ASTM F1936 (latest edition) A Standard Specification for Shock-Absorbing Properties of North American Football Field Playing Systems as Measured in the Field. Additionally g-max testing shall occur at each goal locations for soccer and at ten (10) yards inside the corners of the overlaid rectangular field. This results in a minimum of fourteen (14) g-max test locations. The testing shall be performed between ninety (90) and one hundred twenty (120) days after Substantial Completion. This g-max testing shall be paid for by the Contractor.
 2. g-max testing shall be in conformance with the technical requirements of ASTM F355 procedure A.
 - a. g-max shall not change more than five (5) percent at any one location per year over the life of the Guarantee.
 - 1) In cases where the results of the above testing exceed the specified values, the condition shall be corrected by the synthetic turf field surfacing manufacturer. The synthetic turf field surfacing manufacturer shall provide adequate information to confirm that the mitigation measures were effective.
 - b. At no time in the life of the Guarantee shall the g-max exceed 165 at any one point on the field.
 3. Future testing shall be performed by a certified independent lab and paid for by the Owner.

1.10 SPARE PARTS/ATTIC STOCK

- A. Stockpile Materials: Provide the following additional materials stored as directed by the Owner.
- B. Infill materials shall be stored in shipping super sacks, strapped and palletized prior to delivery to Owner for storage.

- C. Attic stock materials of the same color and turf type shall be stored together and shall not be mixed with other colors or types. Materials shall be rolled, securely stretch wrapped, and stored on 6'x6' pressure-treated skids to prevent ground storage of materials. Each package of materials shall have contents labeled with manufacturer, year of installation, contact, turf type (model), pile height, and color. Labels shall be durable and capable of withstanding storage environments, UV exposure, and other elements. Contractor shall transport and place packaged materials at the designated storage location, as selected by Owner and each high school. Contractor is notified that storage may be off-site at a central warehouse facility or on-site at each high school.
- D. Synthetic turf attic stock shall consist of at least one (1) piece measuring fifteen (15) feet by thirty (30) feet each of field green and remnants are allowable for the remainder of the required attic stock. Synthetic turf attic stock shall exclude lines and/or markings. Synthetic turf shall be rolled, strapped and labeled with Project name, product identification, and color prior to delivery to Owner for storage.

Material	Quantity
Infill Materials	2 tons each material
Synthetic Turf	
Each Project Site - Field Green	1,000 SF
Owen - Maroon (PMS 505c)	900 SF (15' x 60')
Erwin - Graphite Gray (PMS 432c)	900 SF (15' x 60')
Erwin - Red	900 SF (15' x 60')

PART 2 - PRODUCTS

2.1 PERIMETER TURF ANCHOR

- A. The existing perimeter turf anchor shall be inspected upon removal of the existing synthetic turf. Sports Field Contractor shall notify the Sports Field Designer/Engineer of any damaged perimeter turf anchor that requires removal and replacement. Replacement materials for the perimeter turf anchor shall be approved by Owner and Sports Field Designer/Engineer prior to installation.

2.2 TOPPING STONE

- A. The topping stone shall conform to the synthetic turf field surfacing manufacturer's standard specifications, is subject to the Sports Field Designer/Engineer's approval, and shall meet the following gradation:

Sieve Size		Percent Passing by Weight
1/2"	12.70 mm	100
3/8"	9.51 mm	90-100
1/4"	6.35 mm	75-100
No. 8	2.38 mm	35-75
No. 16	1.19 mm	10-55
No. 60	250 µm	0-15
No. 200	74 µm	0-4

2.3 SYNTHETIC TURF FIELD SURFACING

- A. The synthetic turf field surfacing materials and system shall be subject to approval by the Owner and Sports Field Designer/Engineer and shall conform to following finish fabric construction requirements:
1. Yarn fibers shall be fibrillated polyethylene slit film.
 2. Minimum yarn denier shall be 10,000.
 3. Minimum yarn thickness shall be 100 microns.
 4. Minimum primary backing shall consist of 2 layers.
 5. Minimum primary backing shall be 8 ounces per square yard.
 6. Minimum tuft bind shall be 8 pounds.
 7. Minimum permeability shall be 30 inches per hour.
 8. Minimum face weight shall be 42 ounces per square yard.
 9. Finished pile height shall be 2 1/2 inches.
 10. All required testing shall have passing results per the reference standards and testing methods.
- B. Pre-approved Infill Synthetic Turf Systems:
1. AstroTurf - GameDay Grass
 2. Shaw Sports Turf - Momentum
 3. Advanced Polymer Technology (APT) - Gridiron S
 4. Sprinturf – Ultrablade
 5. UBU Sports – Speed Series
- C. All inlaid lines shall be tufted in the factory to the maximum extent practical. The use of field inlaid lines shall be kept to a minimum.
- D. Owner's Preferred Brand Alternate:
1. The Owner has identified a preferred brand alternate for the Synthetic Turf Field Surfacing, as described herein.
 2. The preferred brand for the Synthetic Turf Field Surfacing is AstroTurf - Gameday Grass XPe42.
- E. Appearance/Feel:
1. The finished playing surface shall appear as mowed grass with no surface irregularities and shall afford excellent traction for conventional athletic shoes of all types.
 2. The finished surface shall resist abrasion and cutting from normal use.
 3. The synthetic turf field surfacing shall employ the general color schemes as noted herein and per the athletic field details.
 - a. Charles D. Owen High School:
 - 1) Primary Field Color: Field Green
 - 2) Football Game Lines: White
 - 3) Soccer Game Lines: Maroon (Pantone 505c)
 - 4) Game Line Continuation: Light Gray
 - 5) Logo Colors: Maroon (Pantone 505c) and White

- 6) Endzone Markings: Maroon (Pantone 505c) and White
- b. Clyde A. Erwin High School:
 - 1) Primary Field Color: Field Green
 - 2) Football Games Lines: White
 - 3) Soccer Game Lines: Red
 - 4) 2-Part Sidelines: 4" White with 32" Red Border
 - 5) Endzone Infill: Graphite Gray (Pantone 432c)
 - 6) Game Line Continuation: Graphite Gray (Pantone 432c)
 - 7) Logo Colors: Red, Black and White
 - 8) Endzone Markings: Red and White

F. Infill Materials:

1. Infill materials for the synthetic turf field surfacing system shall conform to the manufacturer's standard specifications, is subject to approval by the Owner and Sports Field Designer/Engineer and consist a manufacturer-recommended mixture of sand and rubber.
2. Rubber shall be dust toxics & metal free. Particle sizes shall be consistent in size and shape, between 250 µm and 3.0 mm.
3. Sand shall meet the following gradation:

Sieve Size	% Retained
2 mm	0
.5 mm	20-30
.25 mm	40-50
.15 mm	30-40
.05 mm	5-10

4. The exposed fiber height shall be one-half (1/2) to three-quarter (3/4) inch after forty (40) hours of field use or ninety (90) days after placement.

G. Glued Seams:

1. Adhesives for bonding tufted synthetic turf shall be as recommended by the synthetic turf manufacturer. Adhesives shall be one-part moisture cured polyurethane.

H. Sewn Seams:

1. Cord for sewing seam turf shall be as recommended by the synthetic turf field surfacing manufacturer.

2.4 SYNTHETIC INFILL TURF MAINTENANCE EQUIPMENT

- A. Provide one (1) turf sweeping unit and one (1) turf groomer unit, for each Project site, including all necessary tools and equipment to properly maintain the synthetic turf system:
 1. Turf sweeping unit shall be six (6) foot wide with magnet bar attachment, which shall include a towing mechanism compatible with a field utility vehicle. The turf sweeping unit shall be the LitterKat 760 sweeper, or equivalent.

2. Turf grooming unit shall be six (6) foot wide. The turf grooming unit shall be the Sportsturf Groomer 720-SDE by Greens Groom, G7 Groomer by Go Groomer Go, or equivalent.

PART 3 - EXECUTION

3.1 EXAMINATION AND PROTECTION

- A. Verification of Conditions: Examine areas and conditions under which all work of this Section is being performed. Do not proceed with any work until unsatisfactory conditions have been corrected. Commencement of work implies acceptance of all areas and conditions.
- B. Protection of Work: Protect all on-going work, so as not to delay work due to weather or project related construction. This includes but is not limited to the use of tarps, geotextile, plywood and other protective measures.
- C. Protection of Persons and Property: Provide all necessary measures to protect workmen and passersby. Barricade open excavations occurring as part of the work, as required by municipal or other authorities having jurisdiction.
 1. Protect adjacent construction throughout the entire operation. Protect newly graded areas from destruction by weather or runoff. Protect structures, utilities, pavements, and other improvements from damage caused by settlement, lateral movement, undermining and washout.
- D. Unanticipated Conditions: Notify the Sports Field Designer/Engineer immediately upon finding unanticipated conditions which are not shown or which cannot be reasonably assumed from existing surveys and geotechnical reports. Secure the Sports Field Designer/Engineer's instruction before proceeding with further work in such areas.
- E. Installation of synthetic field surfacing shall be done only after construction work which might injure it has been completed. Damage caused during construction shall be repaired before acceptance.

3.2 PERIMETER TURF ANCHOR

- A. Repair existing perimeter turf anchor, as directed by Sports Field Designer/Engineer for all areas noted as damaged.
- B. Install anchor "collar" around other in place or installed items (goal posts, quick coupler boxes, power/communication boxes, etc.), as appropriate to installation sequencing and as may be excluded from the existing synthetic turf installation. installation of Topping Stone
- C. Install tested and approved material at a uniform depth as indicated on drawings.
- D. Placement of the Topping Stone: This stone layer shall be placed over the existing stone base at an approximate depth of one-half (1/2) inch to produce a level and smooth surface prior to the placement of the synthetic turf.
- E. Finish grade for Topping Stone shall be verified using laser operated survey instrument with a tolerance of one-quarter (1/4) inch (+/-) over twenty-five (25) feet in any direction.

1. A survey of the finished spot grades shall be developed by a Licensed Surveyor in the State of North Carolina over the entire surface at a twenty-five (25) foot grid. The survey shall be certified, signed and submitted to the Owner and its representatives for approval prior to installing the synthetic turf.

3.3 INSTALLATION OF SYNTHETIC TURF

- A. Synthetic turf shall be installed by crews employed by the synthetic turf field surfacing manufacturer, in strict accordance with manufacturer's recommendations and instructions including but not limited to, fabric, adhesives, seaming and abutting or attaching to adjacent materials.
- B. Field markings and lining of synthetic turf field surfacing shall be laid out as shown on the drawings and as approved by the Owner with Sports Field Contractor submitted drawings.
- C. Turf panel seams shall be sewn with high strength thread using a double loop stitch or glued with an adhesive as recommended by the synthetic turf manufacturer and installed per manufacturer's instructions. All seams shall be flat, tight and permanent with no separation or fraying.
- D. All inlaid lines shall be backed using seaming tape with a minimum width of twelve (12) inches.
- E. Anchor turf edges at perimeter as shown on drawings and as recommended by synthetic turf field surfacing manufacturer.
- F. At the end of each day, remove all scraps and other debris created by the synthetic turf installation from the athletic field area.
- G. Infill materials shall be applied at a uniform depth and at an ultimate finish grade tolerance of one-quarter (1/4) inch at any point over the entire athletic field area. Fill to a depth so that minimum one-half (1/2) inch to a maximum three-quarter (3/4) inch of fiber is visible.
- H. Fiber shall not be buried or trapped below infill material when complete.

3.4 FIELD MARKINGS

- A. The field lines shall be tufted or inlaid per Owner designated sports. The final field markings shall conform to NFHS standards as shown on the striping plan drawings.

3.5 CLEAN UP

- A. Remove all surplus material not required for field construction, trash, and debris and dispose of it properly off of the Owner's property at Contractor's expense.

END OF SECTION

END OF ADDENDUM #1
SYNTHETIC TURF FIELD REPLACEMENT - ERWIN & OWEN HIGH SCHOOLS (RFP# 07-16)