

Project Manual

**Troy School District Bid No. 9951
2023 Synthetic Turf & Track Renovations
Troy, MI**

Date: November 28, 2022

Issued for: Construction Documents

**Owner: Troy School District
4400 Livernois Road
Troy, MI 48098**

**Landscape Architect: Foresite Design, Inc.
3269 Coolidge Highway
Berkley, MI 48072
PH: 248-547-7757
Email: mike@foresitedesign.com**

THIS PAGE IS INTENTIONALLY LEFT BLANK

SECTION 00 0110
TABLE OF CONTENTS

<u>TABLE OF CONTENTS</u>
<u>DIVISION 00 – PROCUREMENT AND CONTRACTING REQUIREMENTS</u>
00 1113 Advertisement for Bid
00 1115 Scope of Work
00 2113 Instructions to Bidders
00 2300 Schedule and Phasing
00 4200 Proposal Form
00 4336 List of Subcontractors
00 6513 Material Compliance Form
00 7200 General Conditions
00 7300 Supplementary Conditions
00 8500 File Transfer Agreement
<u>DIVISION 01 – GENERAL REQUIREMENTS</u>
01 2619 Clarification Request
01 3523 Safety Requirements
01 4100 Regulatory Requirements
01 5600 Cleaning
01 5629 Temporary Protective Walkways
01 7123 Field Engineering
01 7700 Project Closeout
01 7823 Operating, Maintenance Warranty Data
01 7839 Project Record Documents
<u>DIVISION 02 – EXISTING CONDITIONS</u>
02 4110 Salvage and Relocation
02 4113 Demolition
<u>DIVISION 03 – CONCRETE</u>
03 3000 Cast In Place
<u>DIVISION 06 – WOOD, PLASTICS, AND COMPOSITES</u>
06 1050 Turf Wood Nailer
<u>DIVISION 11 – EQUIPMENT</u>
11 6834 Football Goal Posts
11 6840 Field Event Construction

SECTION 00 0110
TABLE OF CONTENTS

<u>DIVISION 27 - COMMUNICATIONS</u>
27 5119 Field Communication Boxes
<u>DIVISION 31 – EARTHWORK</u>
31 1000 Site Preparation
31 2010 Earthwork – Turf
31 3219 Geotextile Fabric
31 3500 Slope Protection & Erosion Control
<u>DIVISION 32 – EXTERIOR IMPROVEMENTS</u>
32 1123 Aggregate Drainage Layer
32 1124 Aggregate Base Course
32 1217 Hot Mix Asphalt Pavement - Track
32 1815 Synthetic Turf – Parallel Slit Sand Rubber
32 1826 All-Weather Synthetic Track Surface
32 1828 Long Jump Pit Sand
32 1850 E-layer
32 9119 Topsoil
32 9227 General Lawn Restoration
<u>DIVISION 33 - UTILITIES</u>
33 4605 Subdrainage System - Peastone
33 4615 Subdrainage System – Turf Drintile

<u>DRAWINGS</u>	
<u>Sheet #</u>	<u>Title</u>
	Cover Sheet
L1.00	Troy HS Demolition Plan
L1.01	Troy HS Site Plan
L1.02	Troy HS Dimension Plan
L1.03	Troy HS Grading & Utility Plan
LD1.01	Site Details
LD1.02	Site Details
LD1.03	Field Graphics Reference Details
LD1.04	Field Graphics Details
LD1.05	Football Details
LD1.06	Soccer Details
LD1.07	Lacrosse Details

SECTION 00 0110
TABLE OF CONTENTS

L2.00	Boulan Park MS Demolition Plan
L2.01	Boulan Park MS Site Plan
L2.02	Boulan Park MS Dimension Plan
L2.03	Boulan Park MS Grading & Utility Plan
LD2.01	Track & Field Event Details
	City of Troy Standard Soil Erosion Control Details

THIS PAGE IS INTENTIONALLY LEFT BLANK



INVITATION TO BID
BID NO. 9951
TROY SCHOOL DISTRICT 2023 SYNTHETIC TURF & TRACK RENOVATIONS

The Troy School District will receive firm, sealed bids for all labor, material, equipment, and all other services to complete Bid No. 9951 Troy School District 2023 Synthetic Turf & Track Renovations projects.

Specifications and proposal forms can be obtained online at <http://www.troy.k12.mi.us>. From the main page menu click the “Business Services” tab listed under “Departments”, then click “Purchasing Bids and Invitations” and scroll down to locate and access the bid document. Bid documents will be placed by November 28, 2022, at 5:00 pm local time on Buildingconnected.com with the following link: <https://app.buildingconnected.com/public/5cc9d7f637c1a90018cb55dc>

Sealed bids should be submitted through Buildingconnect.com with the following link: <https://app.buildingconnected.com/public/5cc9d7f637c1a90018cb55dc>. No physical bids will be accepted in person or via delivery service. Bids are to be submitted no later than **11:00 AM Local Time Thursday, December 15, 2022**. The District will not consider or accept a bid received after the date and time specified for bid submission. Bids will be publicly opened immediately following the close of receiving bids with the following virtual meeting link <meet.google.com/hgc-whud-wji> or phone number (443) 424-3712 PIN 315251594. No oral, email, telephonic, or telegraphic proposals shall be considered.

A non-mandatory pre-bid walk through has been scheduled for **Tuesday, December 6, 2022, at 11:00 a.m. (EST)**. Please meet at the north entrance to the Troy High School stadium. All questions regarding the services specified, the bid specified, or the bid terms and conditions will be accepted in writing ONLY via Clarification Form 01 2619 and subsequently answered through an addendum to all interested parties. Questions must be received no later than **1:00 pm Local Time, Thursday, December 8, 2022; at no other time** prior to the bid opening will questions/concerns be addressed or accepted and may be faxed to: 248.823.4077, or emailed as a Word document to: PurchasingOffice@troy.k12.mi.us.

All bidders must provide familial disclosure in compliance with MCL 380.1267 & attach this information to the bid proposal. The bid proposal will be accompanied by a sworn & notarized statement disclosing any familial relationship that exists between the owner or any employee of the bidder & any member of the Troy School Board or the Troy School District’s Superintendent. Also, a sworn and notarized Affidavit of compliance for the Iran Economic Sanctions Act certifying the vendor does and will comply with Public Act 517 of 2012 shall accompany all proposals. Both forms will be enclosed in the specification booklet that shall be used for this purpose. The District will not accept a bid proposal that does not include these sworn and notarized disclosure statements. Certified check, money order or Bid Bond by an approved surety company must accompany each proposal in an amount not less than 5% of the bid amount. The price proposal shall be good for a period of no less than 60 days from the bid date, unless otherwise noted. Bid Bond can be included with the bid through Buildingconnected.com. Certified check and money order must be received prior to the bid due date and time at 1140 Rankin, Troy, MI 48083.

In accordance with Michigan Compiled Laws Section 129.201, successful bidders whose proposals are \$50,000 or more, for any bid category, will be required to furnish a U.S. Treasury Listed Company Performance and Payment Bond in the amount of 100% of their bid. The cost of the Bond shall be identified within each proposal.

The Troy Board of Education reserves the right to accept or reject any or all bids, either in whole or in part; to award the contract to other than the low bidder; to waive any irregularities and/or informalities; and in general to make awards in any manner deemed to be in the best interest of the owner.

THIS PAGE IS INTENTIONALLY LEFT BLANK

SECTION 00 1115
SCOPE OF WORK

GENERAL NOTES (Applicable to All Bid Categories)

1. Contractor shall visit the site and familiarize themselves with the project layout, existing conditions, site access, etc. and all other obstacles with the work areas. Contractor is responsible for all means of setting up and relocating their equipment and materials to perform this work as well as in conjunction with other trade contractors. There will be no additional compensation made for reason of omission or interpretation as it relates to the aforementioned required site visit.
2. Bidder/Contractor shall be aware of and include the cost for, all State and Local laws, codes, ordinances, building rules and regulations, as are or may become applicable to the Work.
3. Bidders shall exclude costs of quality control construction testing from bid unless required on the proposal form. Independent testing will be hired directly by the Owner/Owner's Representative and contractor shall cooperate with the testing agency.
4. Each contractor/subcontractors shall coordinate and cooperate with other contractors for expedient completion of the work of this project.
5. Each contractor shall be solely responsible and make every effort to locate existing underground utilities. This shall include consulting with all local utility companies, using a signal locator prior to excavation for private utility lines, or consulting with a private utility locating company.
6. The Scope of Work for each Bid Category includes cleaning and maintaining streets free of dirt, debris, mud, gravel caused by the construction operations as it pertains to their scope of work. Contractors shall be aware that local authorities intend to enforce local ordinances in this regard. Penalties resulting from contractor negligence in adhering to the State and Local ordinances, laws, codes shall be the responsibility of the Contractor.
7. The Scope of Work for each Bid Category includes strict adherence to the safety requirements as defined in the General Conditions and Supplementary General Conditions and current MiOSHA Guidelines.
8. Each Contractor shall review existing building and site conditions prior to commencement of work and advise the Owner's Representative of any claim of changes in the work within seventy-two (72) hours therefore, or waive its right for claim of changes in the existing site conditions. Each Contractor shall be responsible for restoring site to its original conditions upon completion of their respective work.
9. All excess materials shall be legally disposed of off-site unless indicated otherwise.
10. Milestone Schedule. All trades will be required to confirm a detailed schedule prior to award of this contract.

SECTION 00 1115
SCOPE OF WORK

PROPOSAL A: SITE WORK TURF

- CM Supplementary Conditions
- General Conditions
- Division 1 General Requirements
- Division 2 Existing Conditions

	Specification Section	02 4110	Salvage and Relocation
	Specification Section	02 4113	Demolition
	Specification Section	03 3000	Cast In Place Concrete
	Specification Section	06 1050	Turf Wood Nailer
	Specification Section	11 6834	Football Goal Posts
	Specification Section	27 5119	Field Communication Boxes
	Specification Section	31 1000	Site Preparation
	Specification Section	31 2010	Earthwork - Turf
	Specification Section	31 3219	Geotextile Fabric
	Specification Section	32 1123	Aggregate Drainage Layer
	Specification Section	33 4615	Subdrainage Systems – Turf Drain Tile

General Scope of Work:

1. Requirements of items included under General Work to be completed by all contractors.
2. Provide engineering and layout as required to complete this work.
3. Coordinate work with other trades on site.
4. Strict enforcement of this contractor's requirement to provide timely clean-up, removal and disposal of all rubbish and debris generated by this trade during the work. Maintain a clean condition at all areas on site and free from dirt, mud, and gravel.
5. Schedule and provide any chemical testing the landfill may require.
6. Protect existing asphalt/concrete from damage by equipment.
7. Remove and legally dispose of all excess materials and debris generated by scope of work, including topsoil, unless noted to stockpile.
8. Provide necessary dewatering associated with this work division.
9. Provide temporary pavement measures for vehicle or walkway traffic.
10. Furnish and install track protection as detailed. Track protection shall remain onsite for the duration of the project and usable by all trades. Contractor shall remove track protection upon completion of project.
- 11. Provide an allowance of 100lf of wood nailer for removal/replacement with bid. Any quantities added to or removed from scope of work will be added/credited using Unit Price provided with Bid.**
12. Clean debris from sumps and powerflush drainlines within D-zone space intended for demolition.
13. Provide all demolition as noted on the plans. Work includes but not limited to: synthetic turf, asphalt, concrete, track surface and utilities as indicated on drawings. During demolition operations, preserve and protect existing E-layer base from damage.
14. Prepare and proof roll sub-grades, including sub-grade for paving and site concrete contractors. Work includes necessary backfill from footing removal.
15. Adjust rim elevations of existing drainage structures as noted on drawings.
16. Provide sawcutting of existing trench drain/curb in preparation for new D-zone construction.
17. Remove existing aggregate base as required for new conduit and pre-manufactured access box installation. Coordinate pipe routing and access box locations in the field with Architect and coordinate removal of existing E-layer with Proposal C category. Removal and disposal of existing E-layer by Proposal C Contractor.
18. Provide all labor, materials and equipment necessary for the removal and replacement of the existing football goalposts and footings. Work shall include new goalpost pads.

SECTION 00 1115
SCOPE OF WORK

19. Provide new sleeves and concrete footings for Owner provided protective net system. Net System is provided by "On-Deck Sports" and sleeves should match current net system.
20. Furnish and install new pre-manufactured communication boxes and electrical conduits as indicated on plans. Coordinate work and installation with other trades in the field.
21. Provide new free draining aggregate base material as indicated.
22. Provide new draitile and utilities as indicated.
23. Provide all earthwork as shown unless specifically noted to be completed by others. Work includes but not limited to rough grading, subgrade fine grading and finish grade fine grading.
24. Conduct string check of completed aggregate base with Landscape Architect and Turf Installer. String check must be completed before base can be accepted for synthetic turf installation. Contact Foresite Design Project Manager 72 hours prior to anticipated completion date to coordinate the string check.
25. Provide electronic copies of submittals as noted in specifications. If submittals comply with specifications, "Material Compliance Certificate" may be used.
26. Provide all required closeout documents upon completion of project.

Excluded Work:

1. Procurement and installation of Synthetic Turf
2. Site work, concrete and demolition outside of track facility
3. Installation of Track Surface and E-Layer material

PROPOSAL B: SYNTHETIC TURF

CM Supplementary Conditions
General Conditions
Division 1 General Requirements
Division 2 Existing Conditions

	Specification Section	32 1815	Synthetic Turf
--	-----------------------	---------	----------------

General Scope of Work:

1. Requirements of items included under General Work to be completed by all contractors.
2. Provide engineering and layout as required to complete this work.
3. Coordinate work with other trades on site.
4. Provide electronic copies of submittals as noted in specifications. If submittals comply with specifications, "Material Compliance Certificate" shall be used.
5. Provide all labor, materials and equipment necessary for a complete installation of the synthetic turf system as shown on the plans and specified.
6. Provide inlaid game lines and markings as shown. Line packages include football, soccer, and men's & women's lacrosse tick marks.
7. Furnish and install logos and lettering as noted.
8. Field install synthetic turf to new communication and access boxes.
9. Furnish and install infill system as specified.
10. Include all required testing and warranties.
11. Furnish attic stock of materials in the amounts indicated in the specifications.
12. Provide electronic copies of submittals as noted in specifications. If submittals comply with specifications, "Material Compliance Certificate" may be used.
13. Provide all required closeout documents upon completion of project.

SECTION 00 1115
SCOPE OF WORK

PROPOSAL C: TRACK SURFACE

CM Supplementary Conditions
General Conditions
Division 1 General Requirements
Division 2 Existing Conditions

	Specification Section	32 1724	Track Markings
	Specification Section	32 1826	All-Weather Synthetic Track Surface
	Specification Section	32 1850	E-Layer

General Scope of Work:

1. Requirements of items included under General Work to be completed by all contractors.
2. Provide engineering and layout as required to complete this work. Layout points of reference will be established prior to commencement of work. Contractor shall be responsible for their own layout as it pertains to scope of work.
3. Coordinate work with other trades on site.
4. Contractor responsible to powerwash/powervac debris from existing track surface prior to installation of new surfacing.
5. Provide all-weather track surface and structural spray as indicated on drawings. Work shall include new runway at Troy High School and new track/runway at Boulan Park Middle School. Contractor is also responsible for protection of all surrounding surfaces and objects during spray applications.
6. Sawcut and remove E-layer areas as noted on drawings and provide new E-layer material as indicated. New work includes north D-zone and locations for utility box and conduit routing, of track surface and installation of new track surface as noted on drawings. **Provide an allowance of 500 square feet (SF) of E-layer removal/replacement with bid. Upon removal of the turf, Architect and Contractor shall evaluate the condition of the existing E-layer to determine extent of repair areas. Any quantities added to or removed from scope of work will be added/credited using Unit Price provided with Bid.**
7. Provide track markings as specified. Contractor shall coordinate markings with Owner prior to application.
8. Provide electronic copies of submittals as noted in specifications. If submittals comply with specifications, "Material Compliance Certificate" may be used.
9. Provide all required closeout documents upon completion of project.

PROPOSAL D: SITE WORK TRACK

CM Supplementary Conditions
General Conditions
Division 1 General Requirements
Division 2 Existing Conditions

	Specification Section	02 4110	Salvage and Relocation
	Specification Section	02 4113	Demolition
	Specification Section	03 3000	Cast In Place Concrete
	Specification Section	11 6840	Field Event Construction
	Specification Section	31 1000	Site Preparation
	Specification Section	31 2010	Earthwork
	Specification Section	31 3500	Slope Protection & Erosion Control
	Specification Section	32 1124	Aggregate Base Course
	Specification Section	32 1217	Hot Mix Asphalt Pavement – Track
	Specification Section	32 1828	Long Jump Pit Sand

SECTION 00 1115
SCOPE OF WORK

Specification Section	32 9119	Topsoil
Specification Section	32 9227	General Lawn Restoration
Specification Section	33 4605	Subdrainage Systems - Peastone

General Scope of Work:

1. Requirements of items included under General Work to be completed by all contractors.
2. Provide engineering and layout as required to complete this work.
3. Coordinate work with other trades on site.
4. Strict enforcement of this contractor's requirement to provide timely clean-up, removal and disposal of all rubbish and debris generated by this trade during the work. Maintain a clean condition at all areas on site and free from dirt, mud, and gravel.
5. Provide and install complete soil erosion control measures, including permits, bonds and maintenance. Maintain system including system log and remove system at the completion of the project or until approved to remove by governing authorities.
6. Protect existing asphalt/concrete from damage by equipment.
7. Remove and legally dispose of all excess materials and debris generated by scope of work, including topsoil, unless noted to stockpile.
8. Provide necessary dewatering associated with this work division.
9. Provide temporary pavement measures for vehicle or walkway traffic.
10. Provide all labor and equipment necessary for the complete site demolition as shown within the Construction Limits unless specifically noted to be completed by others. Work includes but not limited to: landscaping, concrete, asphalt, stone, topsoil and unsuitable soil. Prepare and proof roll sub-grades, including sub-grade for paving and site concrete contractors. Work includes necessary backfill from footing removal.
11. At Boulan Park, Contractor shall salvage existing aggregate base. Provide all required fine grading necessary to achieve proposed grades, which may include supplementing with new aggregate base material.
12. Provide all earthwork as shown unless specifically noted to be completed by others. Work includes but not limited to rough grading, compacting and re-compacting, subgrade fine grading and positive drainage swales to existing and proposed catch basins as shown on drawings.
13. Install new radius point monuments.
14. Furnish and install new site utilities as shown. Work includes, but not limited to, perforated daintile as noted on plans, excluding new utilities as part of the synthetic turf construction.
15. Provide labor, materials and equipment necessary for a complete installation of asphalt paving and new aggregate stone base, as required.
16. Provide labor, materials and equipment necessary for a complete installation of new concrete pavement, base material and reinforcing materials as indicated on drawings.
17. Protect finished asphalt from excessive damage while completing specified work, including limiting dirt and debris onto surface.
18. Provide all labor, materials, and equipment necessary for the installation of the new field event equipment. Work includes new sand-catcher long jump system and take-off board at Troy HS and Boulan Park and new shot put rings/toeboards at Boulan Park.
19. Provide new topsoil and seed to restore all disturbed lawn areas, applicable to Troy HS & Boulan Park MS.
20. Provide electronic copies of submittals as noted in specifications. If submittals comply with specifications, "Material Compliance Certificate" shall be used.
21. Provide all required closeout documents upon completion of project.

Excluded Work:

1. Track Surface and Markings
2. Synthetic Turf Procurement and Installation
3. Utilities, Boxes, and Conduits at the Troy HS athletic field

END OF SECTION00 1115

THIS PAGE IS INTENTIONALLY LEFT BLANK

SECTION 00 2113
INSTRUCTIONS TO BIDDERS

STANDARD FORM

The Standard Form of Instructions to Bidders, AIA Document A701, 1997 edition, issued by the American Institute of Architects, is part of this specification. Copies are on file and may be obtained at the office of the Architect.

TABLE OF ARTICLES

1. Definitions	6. Post-Bid Information
2. Bidder's Representation	7. Performance Bond and Payment Bond
3. Bidding Documents	8. Form of Agreement Between Owner and Contractor
4. Bidding Procedures	9. Description of Work
5. Consideration of Bids	10. Warranty & Indemnity

The following includes modifications or additions to the above standard form which are applicable to this project.

ARTICLE 1DEFINITIONS

- 1.2 All definitions set forth in the General Conditions of the Contract for Construction, AIA Document A201, are applicable to these Instructions to Bidders.
- 1.3 Addenda are written or graphic instruments issued prior to the execution of the Contract which modify or interpret the bidding documents, including Drawings and Specifications, by additions, deletions, clarifications or corrections. Addenda will become part of the Contract Documents when the Construction Contract is executed. All changes in cost resulting from addenda shall be included in proposals.

ARTICLE 2BIDDER'S REPRESENTATION

- 2.1.3 Each bidder, by making his bid, represents that he has visited the site and familiarized himself with the local conditions under which the work is to be performed. No claims for extra compensation shall be allowed due to failure of any Bidder to examine the conditions that exist at the building site nor for conditions or difficulties encountered in the execution of the work which may have been avoided by such examination.

In submitting his proposal, the Bidder also:

- represents that he has reviewed the work outlined in the Description of Work and fully understands the scope of the work required by interfacing Bid Categories as well as that required by Bid Categories covered in his proposal;
- acknowledges that the scope of the work is not necessarily restricted to a single trade,

SECTION 00 2113
INSTRUCTIONS TO BIDDERS

specification division, or section and that his proposal includes the work of all trades within the Bid Category or Categories covered in his proposal;

- agrees that his proposal, if accepted by the Owner, will be the basis for a contract directly with the Owner and to enter into such contract in accordance with the intent of the Contract Documents.

- 2.1.5 The Bidder shall familiarize himself, prior to bidding, with the work requirements of all other contractors which precede, interface, follow, or are concurrent with the work of this Category.

ARTICLE 3

BIDDING DOCUMENTS

3.3 SUBSTITUTIONS

- 3.3.1 Each Bidder represents that his bid is based upon the materials and equipment described in the Bidding Documents.

- 3.3.2 The successful Contractor must include without approved substitution, all materials and equipment which are specifically identified by manufacturer's name, model or catalog number in the respective Specification Section. Where more than one (1) product or material manufacturer is specified, the Bidder may use the one of his choice in his base bid. It is required that Bidder indicated his choice of material by identifying same in check list attached to his proposal together with the cost attributed to such material. This cost shall be a part of Base Bid, not in addition thereto.

Other substitutions will be considered only when:

- A. Request of substitution by the Bidder is made seven (7) days prior to the bid opening and approval for such request is given in the form of an Addendum.
- B. Offered as a voluntary alternate presented on the Bidder's letterhead together with the amount to be deducted from his base proposal. The Owner may accept or reject such voluntary alternate based upon his best judgment.

- 3.3.2.1 Each such request shall include a complete description of their proposed substitute, the name of the material or equipment for which it is to be substituted, drawings, cuts, performance and test data and any other data or information necessary for a complete evaluation.

- 3.3.2.2 The Owner shall receive the benefit of all cost differences resulting from any substitution.

- 3.3.2.3 Any revisions necessary after substitutions of equipment or materials have been approved shall be the full responsibility of the Contractor without extra cost to the Owner.

- 3.3.3 Refer to Article 3.19 of Supplementary Conditions regarding substitutions after Award of Contract.

SECTION 00 2113
INSTRUCTIONS TO BIDDERSARTICLE 4BIDDING PROCEDURES4.1 PREPARATION OF BIDS

- 4.1.1 All bids must be prepared on the forms provided by the Architect and submitted in accordance with the Instructions to Bidders.

4.2 BID SECURITY

- 4.2.2 ANY BID NOT ACCOMPANIED BY A BID BOND, CERTIFIED OR CASHIER'S CHECK MAY BE REJECTED.

4.2.2.1 Either a CERTIFIED OR CASHIER'S CHECK on an open, solvent bank or a BID BOND issued by an approved bonding company payable to Troy School District in an amount equal to five percent (5%) of the bid shall be submitted with each proposal as liquidated damages if successful Bidder fails to sign contract and file necessary general insurance within fifteen (15) days after Notice of Award from Architect or Owner.

4.2.2.2 The bonding company on issuing a bid bond thereby obligates themselves to furnish a Performance, Labor and Material Bond within (10) ten days, in the full amount of the contract should subject Bidder be Low Bidder.

4.2.2.3 The bid deposit of all except the three (3) lowest responsible bidders will be returned within three (3) days after the opening of bids. The bid deposit of the three (3) lowest responsible bidder will be returned within 48 hours after the contract and their required bonds have been finally approved by the Owner.

- 4.2.3 (d) Contractor fails to provide required bonding and submit post-bid information required to determine contract award.

4.3 SUBMISSION OF BIDS

4.3.2.1 **Electronically via Building Connected
Troy School District**

<https://app.buildingconnected.com/public/5cc9d7f637c1a90018cb55dc>

No physical bids will be accepted.

Bidders wishing to provide physical samples of products shall be addressed as follows:

Troy School District
4400 Livernois Road
Troy, MI 48098

- 4.3.3 A bid is invalid if it has not been deposited at the designated location prior to the time and date for receipt of any bids indicated in the Advertisement for Bids, or prior to any extension thereof issued to the bidders.

- 4.3.5 The contractor shall include in the bid and contract price all Sales Taxes and Use Taxes currently imposed by Legislative enactment and as administered by the Department of

SECTION 00 2113
INSTRUCTIONS TO BIDDERS

Revenue on the Bid Date. If the Contractor is not required to pay or bear the burden, or obtains a refund or drawback in whole or in part of any Sales or Use Tax, Interest or Penalty thereon, which was required to be and was deemed to have been included in the bid and contract price, the contract price shall be reduced by the amount thereof and the amount of such a reduction whether as a refund or otherwise, shall insure solely to the benefit of the Owner.

- 4.3.6 If required, a Bidder shall submit to the Architect a properly executed Contractor's qualification statement prior to receipt of proposals. Requested material may include the following:

Bidder's performance record, list of construction equipment, financial statement covering a period of two (2) years and any additional information required to satisfy the Owner that the Contractor is qualified to fulfill the Contract.

- 4.3.7 Within one (1) hour after the completion of the opening of the bids, the General Contractors who submitted the three lowest bids must submit a list of the names of each subcontractor who will provide labor or a portion of the work or improvement to the Contractor for which he will be paid an amount exceeding 5 percent of the prime Contractor's total bid or \$40,000 whichever is greater. If the General Contractor fails to submit such a list within the required time, his bid shall be deemed not responsive.

4.4 MODIFICATION OR WITHDRAWAL OF BID

- 4.4.1 Unless otherwise provided in any supplement to these Instructions to Bidders, no Bidder shall modify, withdraw or cancel his bid or any part thereof for sixty (60) days after the time designated for the receipt of bids in the Advertisement for Bids.

4.4.2.1 Prior to receipt of the bids, Addenda will be mailed or delivered to each person or firm recorded by the Architect as having received the bidding documents and will be available for inspection wherever the bidding documents are kept available for that purpose. Addenda issued after receipt of bids will be mailed or delivered only to the selected bidder.

ARTICLE 5

CONSIDERATION OF BIDS

5.2 REJECTION OF BIDS

- 5.2.1 The Bidder acknowledges the right of the Owner to reject any or all bids and to waive any informality or irregularity in any bid received. In addition, the Bidder recognizes the right of the Owner to reject a bid if the Bidder failed to furnish any required BID SECURITY, or to submit the data required by the Bidding Documents, or if the bid is in any way incomplete or irregular.

5.3 ACCEPTANCE OF BID (AWARD)

- 5.3.1 Emphasis is placed upon the fact that the Owner's decision regarding award of contracts will be influenced by such factors as quality, completion time, construction features, his best judgment of value, etc., and not entirely upon cost, and further, shall reserve the right to accept or reject any or all bids and to waive irregularities in proposals.

SECTION 00 2113
INSTRUCTIONS TO BIDDERS

- 5.3.3 Contracts will be awarded based upon proposals received for one Bid Category only or for all work combined under a single proposal.
- 5.3.4 Time is the essence of the Contract. It is understood that the work is to be carried through to completion with the utmost speed, consistent with good workmanship. The work of all trades shall be complete on days indicated except for minor replacement, correction or adjustment items which will not interfere with the complete operation and utilization of all parts of the contract work. The time of completion will be an important factor in determining award of the contract. Failure to comply with the construction document will result in rejection of the bid and/or cancellation of award.
- 5.3.5 Amounts entered in Proposal for Breakdowns or Unit Costs are subject to award, unless specifically noted otherwise.

ARTICLE 6POST-BID INFORMATION6.3 SUBMITTALS

- 6.3.1 Upon request by the Architect, the selected Bidder, within seven (7) days thereafter, shall submit the following:
 - 6.3.1.1 A designation of the work to be performed by the Bidder with his own forces. Not to exceed a 10% markup for self performed/subcontracted work, material, and labor
 - 6.3.1.2 A list of names of the Sub-Contractors or other persons or organizations (including those who are to furnish the materials or equipment fabricated to a special design) proposed for such portions of the work as may be designated, the names of the Sub-Contractors proposed for the principal portion of the work.
 - 6.3.1.3 A statement of costs for each major item or work included in the bid or in detail as requested by the Architect.
- 6.3.2 The Bidder will be required to establish to the satisfaction of the Architect and Owner the reliability and responsibility of the proposed Sub-Contractors to furnish and perform the work described in the divisions of the Specifications pertaining to such proposed Sub-Contractor's respective trades.
- 6.3.3 Prior to the Award of Contract, the Architect will notify the Bidder in writing if either the Owner or the Architect, after due investigation, has reasonable and substantial objection to any person or organizations on such list and refuses in writing to accept such person or organization. The Bidder may, at this option, withdraw his bid without forfeiture of bid security, notwithstanding anything to the contrary contained in Paragraph 4.3.3. If the Bidder submits an acceptable substitute with an increase in his bid price to cover the difference in cost occasioned by such substitution the Owner may, at his discretion, accept the increased bid price or he may disqualify the Bidder.
- 6.3.4 Sub-Contractors, manufacturers, material suppliers and other persons and organizations proposed by the Bidder and accepted by the Owner and Architect must be used on the work for which they were proposed and accepted and shall not be changed except with written approval of the Owner or Architect. Failure to provide the information, as stated, will result in rejection of bid and/or cancellation of award (post-award).

SECTION 00 2113
INSTRUCTIONS TO BIDDERSARTICLE 7PERFORMANCE BOND AND PAYMENT BOND7.1 BOND REQUIREMENTS

7.1 The Owner shall require the Bidder to furnish bonds covering the faithful performance of the Contract and the payment of all obligations arising there under in such form and amount as the Owner may prescribe and with such sureties secured through the Bidder's usual sources as may be agreeable to the parties. Premiums shall be paid by the Bidder. The bonding companies are to be limited to those listed on U.S. Department of Treasury Circular 570. All surety bonds will be checked for validity before an Award will be made. If for any reason the bonds are not valid, the selected Contractor's Proposal will be null and void.

7.2 TIME OF DELIVERY AND FORM OF BONDS

7.2.1 The Bidder shall deliver the required bonds to the Owner not later than (10) ten days from the date of intent to enter the contract, or if the work is commenced prior thereto in response to a letter of intent or Notice of Award, the Bidder shall, prior to commencement of the work, submit evidence satisfactory to the Owner that such bonds will be issued.

7.2.2.1 All successful Bidders, except those noted above, shall be required to furnish Performance and Labor and Material Bonds in the following amounts:

1. Performance Bond in the full amount of the contract insuring the faithful performance of all provisions of the contract and the satisfactory completion of the work embraced there under within the time agreed upon, and the covering of guarantees herein provided for. This bond shall also insure the Owner against defective material or workmanship in any work under the contract for a period of one (1) year after completion and acceptance of the project.
2. Payment Bond in the full amount of the contract for the protection of sub-contractors, labor and material men

7.2.4 The Bidder shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix thereto a certified and current copy of his Power of Attorney indication the monetary limit of such power.

ARTICLE 10WARRANTY AND INDEMNITY10.1 WARRANTY

10.1 All work shall be guaranteed in writing against defects in workmanship and materials for two (2) years from issuance by the Board of Education's architect of the Certificate of Substantial Completion, or approval, acceptance and final payment by the Board of Education, whichever occurs first.

10.2 INDEMNITY

SECTION 00 2113
INSTRUCTIONS TO BIDDERS

- 10.2 Contractor shall indemnify, defend and hold the Troy School District harmless from any damages to property or personal injuries resulting from or reasonable attributable to any defects in supplies or services provided by contractor hereunder.

THIS PAGE IS INTENTIONALLY LEFT BLANK

SECTION 00 2300
SCHEDULE AND PHASING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Attention is directed to Division 00 Procurement and Contracting Requirements, and to Division 01 General Requirements which are hereby made a part of this section.

1.2 MILESTONE SCHEDULE

- A. The following are the milestone schedule dates for the listed work and will become part of the Contract Documents. A Master Construction Schedule will be developed after award of contract(s) with Contractor input.

MILESTONE ACTIVITY	SCHEDULED START	SCHEDULED COMPLETION
Proposal A: Site Work Turf	June 1, 2023	June 23, 2023
Proposal B: Synthetic Turf	June 26, 2023	July 21, 2023
Proposal C: Track Surface	June 5, 2023	August 3, 2023
Proposal D: Site Work Track	June 1, 2023	July 28, 2023

- B. Close coordination will be required between all construction trades to ensure construction operations can be completed within the scheduled time.
- C. It is expressly agreed that time is of the essence for the completion of Work and Contractor agrees to perform the Work within the designated time specified. Contractor is responsible for any damage and expenses arising or resulting from the failure of Contractor to perform the Work in accordance with the specifications and milestone schedule.

1.3 CONSTRUCTION SCHEDULE PROCESS

- A. Contractor shall commence work in the field within five (5) days upon receiving a “Notice to Proceed” from Foresite Design, Inc. Contractor shall be responsible for performing and completing the Work to the approval of the Owner and Foresite Design, inc.
- B. Contractor shall submit to Foresite Design, Inc. within fifteen (15) days upon Award of Contract, information including but not limited to scheduling, anticipated work activities and working days, shop drawings and shall also note issues relating to availability of materials.
- C. If Contractor delays progress for any reason other than delays specifically excused under the Contract Documents, Contractor shall take any and all necessary actions to expedite its Work and maintain the project schedule at no additional expense to the Owner or Foresite Design, Inc.
- D. Contractor agrees that it shall have no claim against the Owner or Foresite Design, Inc. for an increase in awarded contract price nor for a payment or allowance of any kind for damage, loss, or expense arising from delays, regardless of whether the delay is the basis for an extension of time. This provision includes claims from damages, loss, or expense arising from interruptions to necessary suspension of Contractor’s Work to enable others to perform their work.
- E. The Contractor shall be back-charged an observation fee of \$1,000.00 per day for each day that the Contractor fails to meet the projected deadlines, weather permitting, and through no fault of the Owner, or Foresite Design, Inc.

- 1. Observation Fees, as agreed upon by Owner, Contractor and Architect, will be deducted

SECTION 00 2300
SCHEDULE AND PHASING

from Contractor's direct Contract with the Owner and fees paid by the Owner to Foresite Design, Inc.

END OF SECTION 00 2300

SECTION 00 4200
PROPOSAL FORM

PROPOSAL FOR: **2023 Synthetic Turf & Track Renovations
Troy School District**

PROPOSAL TO: **Troy School District
Electronically via Building Connected**
<https://app.buildingconnected.com/public/5cc9d7f637c1a90018cb55dc>
No physical bids will be accepted.

ARCHITECT: FORESITE DESIGN, INC
3269 Coolidge Highway
Berkley, MI 48072
248-547-7757
Email: mike@foresitedesign.com

SUBMITTING CONTRACTOR: _____

ADDRESS: _____

PHONE: _____ EMAIL: _____

1. BASE PROPOSAL

I have carefully examined the bidding documents which include the Instructions to Bidders, all General Conditions and Supplemental Conditions, all drawings title " Troy School District" and all various addenda as prepared by FORESITE DESIGN, INC. which cover the general and architectural trades, as well as the premises and conditions affecting this work.

The undersigned proposes to furnish all labor, materials and equipment, all utilities, transportation services and taxes for the general construction as indicated under each proposal in accordance with said documents.

Within one (1) hour after the completion of the opening of the bids, the Contractors who submitted the apparent low bid must submit a list of the names of each subcontractor who will provide labor or a portion of the work or improvement to the Contractor for which he will be paid an amount exceeding 5 percent of the prime Contractor's total bid or \$40,000 whichever is greater. If the Contractor fails to submit such a list within the required time, bid may be deemed not responsive.

A. PROPOSAL _____ COMPLETE

PROPOSAL _____: BASE BID \$ _____

Dollars
(written sum)

B. COMBINATION BID FOR CATEGORIES _____ & _____ COMPLETE

\$ _____

Dollars
(written sum)

2. VOLUNTARY ALTERNATES

The following alternates are offered at this time for the consideration of the Owner. If accepted, the Base Proposal will be changed by the amount listed.

A.

Add to or Delete from Base Proposal Amount: \$ _____

B.

Add to or Delete from Base Proposal Amount: \$ _____

C.

Add to or Delete from Base Proposal Amount: \$ _____

3. TIME OF COMPLETION

The undersigned understands and agrees that time is of the essence and that all services, the installation of all work and materials, provided for in the contract must be fully completed on or before the following dates:

Proposal A: Site Work Turf

Start- June 1, 2023
Complete- June 23, 2023

Proposal B: Synthetic Turf

Start- June 26, 2023
Complete- July 21, 2023

Proposal C: Track Surface

Start- June 5, 2023
Complete- August 3, 2023

Proposal D: Site Work Track

Start- June 1, 2023
Complete- July 28, 2023

4. PRICE GUARANTEE

The Undersigned agrees that its proposal shall not be withdrawn and the price stated in the Proposal is guaranteed for sixty (60) consecutive days from the bid date.

SECTION 00 4200
PROPOSAL FORM

5. TAXES

The undersigned acknowledges that the prices stated above include all applicable taxes of whatever character or description.

6. ADDENDA

If any Addenda covering changes to the Bidding Documents have been received during the bidding period, the bidder shall fill in their numbers and dates which acknowledge having received the same, and having included in this proposal the work involved.

No. ___ Dated _____

No. ___ Dated _____

No. ___ Dated _____

7. NEGOTIATION

The Undersigned agrees that, should the overall cost exceed the funds available, it will be willing to negotiate with the Owner for the purpose of making further reductions in the Contract Work, and shall agree to give full credit for all such reductions in the work requested by the Owner, including full value of labor, materials, and subcontract work and reasonable proportionate reductions in overhead and profit, thereby arriving at an agreed upon Contract price.

8. UNIT PRICES

All unit prices quoted shall include the sum total of all additional costs of labor, material, overhead, profit, fees, general conditions, and such other costs incidental to the work described. Any increase in cost must be approved by the Owner in writing prior to work being performed.

For all revisions involving the deletion of Contract work, it is agreed that full credit shall be given the Owner for such work deleted on a unit basis as quoted hereinafter.

UNIT PRICING BID PROPOSAL A SITE WORK TURF

A.	8" N12 Collector Pipe	\$ _____	Per lineal foot (lf)
B.	Flat Drintile	\$ _____	Per lineal foot (lf)
C.	Free-Draining Aggregate Base	\$ _____	Per ton
D.	Finishing Stone	\$ _____	Per ton
E.	Undercut (trucked offsite)	\$ _____	Per ton
F.	30" x 30" Pre-manufactured Turf Box	\$ _____	Per unit
G.	Wolmanized Wood Nailer Removal/Replc.	\$ _____	Per lineal foot
H.	3" Schedule 40 PVC	\$ _____	Per lineal foot
I.	1" Schedule 40 PVC	\$ _____	Per lineal foot

UNIT PRICE BID PROPOSAL B SYNTHETIC TURF

A.	Synthetic Turf System (w/ infill)	\$ _____	Per sq. foot (sf)
----	-----------------------------------	----------	-------------------

UNIT PRICING BID PROPOSAL C TRACK SURFACE

A.	E-Layer Sawcut, Removal, Disposal	\$ _____	Per square foot (sf)
B.	New E-Layer	\$ _____	Per square foot (sf)
C.	Black Mat Track Surface Material	\$ _____	Per square yard (sy)
D.	Black Mat w/ Red Structural Spray Track	\$ _____	Per square yard (sy)

SECTION 00 4200
PROPOSAL FORM

UNIT PRICING BID PROPOSAL D SITE WORK TRACK

A.	6" perforated draitile	\$ _____	Per lineal foot (lf)
B.	21AA limestone aggregate	\$ _____	Per ton
C.	4E1 asphalt	\$ _____	Per ton
D.	5E1 asphalt	\$ _____	Per ton
E.	Undercut (trucked offsite)	\$ _____	Per ton
F.	6" Reinforced Concrete	\$ _____	Per square foot (sf)

Any increased cost based on the unit prices must be approved by Owner's written change order prior to starting work. Quantities must be confirmed by a Testing Agency or Architect and the Owner.

9. LIQUIDATED DAMAGES PROVISION

Contractor shall complete the entire work and obtain a Certificate of Substantial Completion by the substantial completion date indicated on the Proposal Form. Contractor and Owner agree that if the Certificate of Substantial Completion is obtained later than the date, the following liquidated provisions apply. The project completion date shall be adjusted by an amount of time properly documented in Change Orders. If the Owner and Contractor do not agree with the adjustment in Contract time due to Change directives, such adjustment shall be determined by the Architect.

A. SITE OBSERVATION FEE

If the Contractor fails to obtain the Certification of Substantial Completion for the Project by the Project Completion Date (as adjusted pursuant to this paragraph), the Contract Sum payable to the Contractor will be reduced in the amount of \$1000.00 for each day that the issuance of the Certificate of Occupancy exceeds the Project Completion Date, weather permitting and through no fault of the Owner or Foresite Design, Inc.

10. RIGHTS RESERVED BY OWNER

The Owner reserves the unconditional right to waive any irregularities, reject any or all proposals or to accept proposals which in the judgment of the Owner will serve the best interests of the Owner. The Owner reserves the right to award to a Contractor based on factors other than low bid.

11. PROPOSAL GUARANTEE (BID BOND)

Is required: Refer to AIA Document A701-1997 "Instruction to Bidders"
Amount: 5% of contract sum

12. CONTRACT SECURITY (Performance and Labor & Material Payment Bond)

Is required: Refer to AIA Document A701-1997 "Instruction to Bidders"
Amount: 100% of contract sum

13. CONTRACT EXECUTION

The Undersigned agrees to execute a Contract for work covered by this Proposal as provided for in the Bidding Documents. The Undersigned declares the legal status indicated below:

() Individual

() Partnership, having the following partners:

1. _____
2. _____
3. _____

() Corporation, Incorporated under the laws of the State of _____

The Undersigned affirms that:

SECTION 00 4200
PROPOSAL FORM

- A. This proposal is based upon the materials and construction, equipment, etc., named or described in the specifications.
 - B. The address, given below, is the legal address to which all notices, directions, or other communications may be served or mailed.
 - C. Its proposal is made in good faith, without collusion or connection with any other person or persons bidding for the same work, and that the process quoted herein include all terms, insurance, royalties, transportation charges, allowances, taxes, use of all tools and equipment, overhead, profit, etc., necessary to fully complete the work in accordance with the Contract Documents.
14. The Contractor shall hold harmless from and indemnify the Owner and Architect against all claims, suits, actions, costs, counsel fees, expenses, damages, judgments or decrees, by reason of any person or persons or property being damaged or by the Contractor, or any other employed under said Contractor, in any capacity during the progress of the work whether by negligence or otherwise.

The Undersigned agrees to live up to the above specifications and gives the Owner the right to deduct the cost of any damage caused by faulty work and any item conflicting with good workmanship from the final payment.

If notified of acceptance of this proposal, the undersigned agrees to execute a contract for the above work, for the above stated compensation, in form of the standard form of the AIA.

SECTION 00 4200
PROPOSAL FORM

FIRM NAME : _____

ADDRESS: _____

SIGNED: _____

NAME: _____

TITLE: _____

TELEPHONE: _____

FAX: _____

EMAIL: _____

DATE: _____

Return TWO (2) signed copies.

The Owner reserves the unconditional right to waive any informality or irregularity, reject any or all proposals, or to accept proposals which in the judgment of the Owner will serve its best interests, and to make in its judgment a determination as to the adequacy of the Contractor's qualifications, experience, and capability.

SECTION 00 4200
PROPOSAL FORM

CONTRACTOR QUALIFICATIONS

1. Years in Business: _____ years
(This company and this business)

2. Minimum Experience – at least three (3) comparable (similar) projects of similar size and cost, with customer reference.

Project Name: _____

Location: _____

Cost: _____

Year: _____

Contact Name: _____ Title: _____

Phone: _____ Email: _____

Project Name: _____

Location: _____

Cost: _____

Year: _____

Contact Name: _____ Title: _____

Phone: _____ Email: _____

Project Name: _____

Location: _____

Cost: _____

Year: _____

Contact Name: _____ Title: _____

Phone: _____ Email: _____

SECTION 00 4200
PROPOSAL FORM

FAMILIAL RELATIONSHIP DISCLOSURE FORM MCL 380.1267 (d)

This form MUST BE NOTORIZED as a condition of being awarded business by the Troy School District.

1. I, the Undersigned, being first duly sworn, depose and say; and my signature verifies, that there are no Owner(s), Principals, Officers, Agents, Employees, or Representatives of this firm that have any familial relationships with any members of the Troy School District, or its Superintendent, unless specifically noted below:

The following are the familial relationship(s) disclosed:

	<u>Owner/Employee Name</u>	<u>Related to:</u>	<u>Relationship</u>
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____

(Attach additional pages if necessary to disclose familial relationships.)

2. I have personal knowledge and/or I have personally verified that the following are all of the familial relationships existing between the owner(s) and employees(s) of the aforementioned contractor and the school district's superintendent and/or board members
3. I have authority to bind the aforementioned contractor with the representations contained herein, and I am fully aware that the school district will rely on my representations in evaluating bids for the construction project.

There is no familial relationship that exists between the owner(s) and employees(s) of the aforementioned contractor and the school district's superintendent and/or board members.

BIDDER'S FIRM NAME _____

BY (SIGNATURE) _____

PRINTED NAME AND TITLE _____

Subscribed and sworn before me, this _____

Seal:

Day of _____, 20____, a Notary Public

In and for _____ County, _____

Signature

NOTARY PUBLIC

My Commission expires _____

SECTION 00 4200
PROPOSAL FORM

AFFIDAVIT OF COMPLIANCE – IRAN ECONOMIC SANCTIONS ACT
MICHIGAN PUBLIC ACT NO. 517 OF 2012

The undersigned, the Owner, or authorized officer of the below-names company (the “Company”), pursuant to the compliance certification requirement provided in Troy School District’s Request for Proposal Bid (“RFP”), hereby certifies, represents, and warrants that the Company (which includes its officers, directors and employees) is not an “Iran Linked Business” within the meaning of the Iran Sanctions Act, Michigan Public Act No. 517 of 2012, and that in the event the Company is awarded a contract by the Troy School District as a result of the aforementioned RFP, the Company is not and will not become an “Iran Linked Business” at any time during the course of performing any services under this contract.

The Company further acknowledges that any person who is found to have submitted a false certification is responsible for a civil penalty of not more than \$250,000.00 or two (2) times the amount of the contract or proposed contract for which the false certification was made, whichever is greater, the cost of the Troy School District’s investigation, and reasonable attorney fees, in addition to the fine. Moreover, any person who submitted a false certification shall be ineligible to bid on a request for proposal for three (3) years from the date that it is determined that a person has submitted a false certification.

PRINT:

Company Name _____

Street Address _____

City / State / Zip _____

Phone _____

Company Officer _____

Title _____

Officer’s Signature _____ Date _____

STATE OF _____) ss

COUNTY OF _____

Subscribed and sworn before me, this _____ day of _____, 20____, by _____

a Notary Public in and for _____ County, _____

Signature

NOTARY PUBLIC

My Commission expires _____

Seal:

END OF SECTION 00 4200

THIS PAGE IS INTENTIONALLY LEFT BLANK

SECTION 00 4220
CRIMINAL BACKGROUND CHECK
AFFIDAVIT OF COMPLIANCE FORM

CERTIFICATION OF COMPLIANCE – CRIMINAL BACKGROUND CHECKS

AFFIDAVIT OF BIDDER

The undersigned, the Owner, or authorized officer of the below-named company (the "Contractor"), pursuant to the compliance certification requirement provided in the Troy School District's Request for Proposal Bid ("RFP"), hereby certifies, represents, and warrants that the Contractor (which includes its officers, directors and employees) has performed and/or will perform sufficient criminal background checks, including, at a minimum, an Internet Criminal History Tool ("ICHAT") check, for all of the owners, employees, agents, representatives, contractors, and/or other personnel who will be on any School District premises to carry out the services contemplated by the Contract documents. The Contractor further certifies that no owners, employees, agents, representatives, contractors, and/or other personnel of the Contractor will be on any School District premises if they are a registered criminal sex offender under the Sex Offenders Registration Act, Public Act 295 of 1994, or have been convicted of "Listed Offences" as defined under Section 722 of the Sex Offenders Registration Act, MCL 28.772.

The Contractor further acknowledges that if it is found to have submitted a false certification or otherwise fails to comply with the requirements of this certification, the School District may immediately terminate the Contract.

PRINT:

Company Name

Officer's Signature

Title

On this ____ day of _____, 20__, the above appeared to be personally known who, being sworn by me, did say that he/she is the agent for the bidder and that the above was signed and sworn on behalf of the company and represents a true and accurate statement.

Notary Public

_____ County, Michigan

Commission expires: _____

SECTION 00 4220
CRIMINAL BACKGROUND CHECK
AFFIDAVIT OF COMPLIANCE FORM

THIS PAGE IS INTENTIONALLY LEFT BLANK

SECTION 00 4336
LIST OF SUBCONTRACTORS

TO BE COMPLETED BY BIDDER:

Project: 2023 Synthetic Turf & Track Renovations

	Proposal A – Site Work
	Proposal B – Synthetic Turf
	Proposal C – Track Surface

COMPLETE LIST OF SUBCONTRACTORS BIDDER WILL BE USING:

_____ Company Name	_____ Company Name
_____ Contact Name	_____ Contact Name
_____ Address	_____ Address
_____ City, State Zip	_____ City, State Zip
_____ Phone #	_____ Phone #
_____ Fax #	_____ Fax #
_____ Company Name	_____ Company Name
_____ Contact Name	_____ Contact Name
_____ Address	_____ Address
_____ City, State Zip	_____ City, State Zip
_____ Phone #	_____ Phone #
_____ Fax #	_____ Fax #
_____ Company Name	_____ Company Name
_____ Contact Name	_____ Contact Name
_____ Address	_____ Address
_____ City, State Zip	_____ City, State Zip
_____ Phone #	_____ Phone #
_____ Fax #	_____ Fax #

(USE ADDITIONAL SHEETS AS REQUIRED)

THIS PAGE IS INTENTIONALLY LEFT BLANK

SECTION 00 6513
MATERIAL COMPLIANCE CERTIFICATE

PROPOSAL ____ -- _____

This document serves as guarantee by the contractor that all products, devices, materials, etc. used or intended for use in the project are as approved for use in the Specifications issued by Foresite Design, Inc. for Novi Community Schools – Novi Middle School 2021 Tennis Reconstruction. Furthermore, no additional formal shop drawings will be necessary unless specifically requested by Novi Community Schools or Foresite Design, Inc. Items listed below are approved products and no substitutions have been made without written permission by Foresite Design, Inc. (please attach). By signing this document, the contractor is committed to use products required by the contract documents.

LIST SPECIFICATION #, ITEM, MANUFACTURER AND MODEL #

Spec Section	Item	Manufacturer	Model #

Contractor: _____

Signature: _____

Date: _____

Print Name: _____

Title: _____

Reviewed by: _____

Date: _____

SECTION 00 6513
MATERIAL COMPLIANCE CERTIFICATE

THIS PAGE IS INTENTIONALLY LEFT BLANK

AIA[®] Document A201[™] – 2007

General Conditions of the Contract for Construction

for the following PROJECT:
(Name and location or address)

THE OWNER:
(Name, legal status and address)

THE ARCHITECT:
(Name, legal status and address)

TABLE OF ARTICLES

1	GENERAL PROVISIONS
2	OWNER
3	CONTRACTOR
4	ARCHITECT
5	SUBCONTRACTORS
6	CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS
7	CHANGES IN THE WORK
8	TIME
9	PAYMENTS AND COMPLETION
10	PROTECTION OF PERSONS AND PROPERTY
11	INSURANCE AND BONDS
12	UNCOVERING AND CORRECTION OF WORK
13	MISCELLANEOUS PROVISIONS
14	TERMINATION OR SUSPENSION OF THE CONTRACT
15	CLAIMS AND DISPUTES

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

INDEX

(Topics and numbers in bold are section headings.)

Acceptance of Nonconforming Work

9.6.6, 9.9.3, **12.3**

Acceptance of Work

9.6.6, 9.8.2, 9.9.3, 9.10.1, 9.10.3, **12.3**

Access to Work

3.16, 6.2.1, 12.1

Accident Prevention

10

Acts and Omissions

3.2, 3.3.2, 3.12.8, 3.18, 4.2.3, 8.3.1, 9.5.1, 10.2.5, 10.2.8, 13.4.2, 13.7, 14.1, 15.2

Addenda

1.1.1, 3.11.1

Additional Costs, Claims for

3.7.4, 3.7.5, 6.1.1, 7.3.7.5, 10.3, 15.1.4

Additional Inspections and Testing

9.4.2, 9.8.3, 12.2.1, **13.5**

Additional Insured

11.1.4

Additional Time, Claims for

3.2.4, 3.7.4, 3.7.5, 3.10.2, 8.3.2, **15.1.5**

Administration of the Contract

3.1.3, **4.2**, 9.4, 9.5

Advertisement or Invitation to Bid

1.1.1

Aesthetic Effect

4.2.13

Allowances

3.8, 7.3.8

All-risk Insurance

11.3.1, 11.3.1.1

Applications for Payment

4.2.5, 7.3.9, 9.2, **9.3**, 9.4, 9.5.1, 9.6.3, 9.7, 9.10, 11.1.3

Approvals

2.1.1, 2.2.2, 2.4, 3.1.3, 3.10.2, 3.12.8, 3.12.9, 3.12.10, 4.2.7, 9.3.2, 13.5.1

Arbitration

8.3.1, 11.3.10, 13.1.1, 15.3.2, **15.4**

ARCHITECT

4

Architect, Definition of

4.1.1

Architect, Extent of Authority

2.4.1, 3.12.7, 4.1, 4.2, 5.2, 6.3, 7.1.2, 7.3.7, 7.4, 9.2, 9.3.1, 9.4, 9.5, 9.6.3, 9.8, 9.10.1, 9.10.3, 12.1, 12.2.1, 13.5.1, 13.5.2, 14.2.2, 14.2.4, 15.1.3, 15.2.1

Architect, Limitations of Authority and Responsibility

2.1.1, 3.12.4, 3.12.8, 3.12.10, 4.1.2, 4.2.1, 4.2.2, 4.2.3, 4.2.6, 4.2.7, 4.2.10, 4.2.12, 4.2.13, 5.2.1, 7.4, 9.4.2, 9.5.3, 9.6.4, 15.1.3, 15.2

Architect's Additional Services and Expenses

2.4.1, 11.3.1.1, 12.2.1, 13.5.2, 13.5.3, 14.2.4

Architect's Administration of the Contract

3.1.3, 4.2, 3.7.4, 15.2, 9.4.1, 9.5

Architect's Approvals

2.4.1, 3.1.3, 3.5, 3.10.2, 4.2.7

Architect's Authority to Reject Work

3.5, 4.2.6, 12.1.2, 12.2.1

Architect's Copyright

1.1.7, 1.5

Architect's Decisions

3.7.4, 4.2.6, 4.2.7, 4.2.11, 4.2.12, 4.2.13, 4.2.14, 6.3, 7.3.7, 7.3.9, 8.1.3, 8.3.1, 9.2, 9.4.1, 9.5, 9.8.4, 9.9.1, 13.5.2, 15.2, 15.3

Architect's Inspections

3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.8.3, 9.9.2, 9.10.1, 13.5

Architect's Instructions

3.2.4, 3.3.1, 4.2.6, 4.2.7, 13.5.2

Architect's Interpretations

4.2.11, 4.2.12

Architect's Project Representative

4.2.10

Architect's Relationship with Contractor

1.1.2, 1.5, 3.1.3, 3.2.2, 3.2.3, 3.2.4, 3.3.1, 3.4.2, 3.5, 3.7.4, 3.7.5, 3.9.2, 3.9.3, 3.10, 3.11, 3.12, 3.16, 3.18, 4.1.2, 4.1.3, 4.2, 5.2, 6.2.2, 7, 8.3.1, 9.2, 9.3, 9.4, 9.5, 9.7, 9.8, 9.9, 10.2.6, 10.3, 11.3.7, 12, 13.4.2, 13.5, 15.2

Architect's Relationship with Subcontractors

1.1.2, 4.2.3, 4.2.4, 4.2.6, 9.6.3, 9.6.4, 11.3.7

Architect's Representations

9.4.2, 9.5.1, 9.10.1

Architect's Site Visits

3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.5.1, 9.9.2, 9.10.1, 13.5

Asbestos

10.3.1

Attorneys' Fees

3.18.1, 9.10.2, 10.3.3

Award of Separate Contracts

6.1.1, 6.1.2

Award of Subcontracts and Other Contracts for Portions of the Work

5.2

Basic Definitions

1.1

Bidding Requirements

1.1.1, 5.2.1, 11.4.1

Binding Dispute Resolution

9.7, 11.3.9, 11.3.10, 13.1.1, 15.2.5, 15.2.6.1, 15.3.1, 15.3.2, 15.4.1

Boiler and Machinery Insurance

11.3.2

Bonds, Lien

7.3.7.4, 9.10.2, 9.10.3

Bonds, Performance, and Payment

7.3.7.4, 9.6.7, 9.10.3, 11.3.9, **11.4**

Building Permit

3.7.1

Capitalization

1.3

Certificate of Substantial Completion

9.8.3, 9.8.4, 9.8.5

Certificates for Payment

4.2.1, 4.2.5, 4.2.9, 9.3.3, 9.4, 9.5, 9.6.1, 9.6.6, 9.7, 9.10.1, 9.10.3, 14.1.1.3, 14.2.4, 15.1.3

Certificates of Inspection, Testing or Approval
13.5.4

Certificates of Insurance

9.10.2, 11.1.3

Change Orders

1.1.1, 2.4.1, 3.4.2, 3.7.4, 3.8.2.3, 3.11.1, 3.12.8, 4.2.8, 5.2.3, 7.1.2, 7.1.3, 7.2, 7.3.2, 7.3.6, 7.3.9, 7.3.10, 8.3.1, 9.3.1.1, 9.10.3, 10.3.2, 11.3.1.2, 11.3.4, 11.3.9, 12.1.2, 15.1.3

Change Orders, Definition of

7.2.1

CHANGES IN THE WORK

2.2.1, 3.11, 4.2.8, 7, 7.2.1, 7.3.1, 7.4, 7.4.1, 8.3.1, 9.3.1.1, 11.3.9

Claims, Definition of

15.1.1

CLAIMS AND DISPUTES

3.2.4, 6.1.1, 6.3, 7.3.9, 9.3.3, 9.10.4, 10.3.3, 15, 15.4

Claims and Timely Assertion of Claims

15.4.1

Claims for Additional Cost

3.2.4, 3.7.4, 6.1.1, 7.3.9, 10.3.2, 15.1.4

Claims for Additional Time

3.2.4, 3.7.46.1.1, 8.3.2, 10.3.2, 15.1.5

Concealed or Unknown Conditions, Claims for
3.7.4

Claims for Damages

3.2.4, 3.18, 6.1.1, 8.3.3, 9.5.1, 9.6.7, 10.3.3, 11.1.1, 11.3.5, 11.3.7, 14.1.3, 14.2.4, 15.1.6

Claims Subject to Arbitration

15.3.1, 15.4.1

Cleaning Up

3.15, 6.3

Commencement of the Work, Conditions Relating to

2.2.1, 3.2.2, 3.4.1, 3.7.1, 3.10.1, 3.12.6, 5.2.1, 5.2.3, 6.2.2, 8.1.2, 8.2.2, 8.3.1, 11.1, 11.3.1, 11.3.6, 11.4.1, 15.1.4

Commencement of the Work, Definition of

8.1.2

Communications Facilitating Contract

Administration

3.9.1, 4.2.4

Completion, Conditions Relating to

3.4.1, 3.11, 3.15, 4.2.2, 4.2.9, 8.2, 9.4.2, 9.8, 9.9.1, 9.10, 12.2, 13.7, 14.1.2

COMPLETION, PAYMENTS AND

9

Completion, Substantial

4.2.9, 8.1.1, 8.1.3, 8.2.3, 9.4.2, 9.8, 9.9.1, 9.10.3, 12.2, 13.7

Compliance with Laws

1.6.1, 3.2.3, 3.6, 3.7, 3.12.10, 3.13, 4.1.1, 9.6.4, 10.2.2, 11.1, 11.3, 13.1, 13.4, 13.5.1, 13.5.2, 13.6, 14.1.1, 14.2.1.3, 15.2.8, 15.4.2, 15.4.3

Concealed or Unknown Conditions

3.7.4, 4.2.8, 8.3.1, 10.3

Conditions of the Contract

1.1.1, 6.1.1, 6.1.4

Consent, Written

3.4.2, 3.7.4, 3.12.8, 3.14.2, 4.1.2, 9.3.2, 9.8.5, 9.9.1, 9.10.2, 9.10.3, 11.3.1, 13.2, 13.4.2, 15.4.4.2

Consolidation or Joinder

15.4.4

CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

1.1.4, 6

Construction Change Directive, Definition of

7.3.1

Construction Change Directives

1.1.1, 3.4.2, 3.12.8, 4.2.8, 7.1.1, 7.1.2, 7.1.3, 7.3, 9.3.1.1

Construction Schedules, Contractor's

3.10, 3.12.1, 3.12.2, 6.1.3, 15.1.5.2

Contingent Assignment of Subcontracts

5.4, 14.2.2.2

Continuing Contract Performance

15.1.3

Contract, Definition of

1.1.2

CONTRACT, TERMINATION OR SUSPENSION OF THE

5.4.1.1, 11.3.9, 14

Contract Administration

3.1.3, 4, 9.4, 9.5

Contract Award and Execution, Conditions Relating to

3.7.1, 3.10, 5.2, 6.1, 11.1.3, 11.3.6, 11.4.1

Contract Documents, Copies Furnished and Use of

1.5.2, 2.2.5, 5.3

Contract Documents, Definition of

1.1.1

Contract Sum

3.7.4, 3.8, 5.2.3, 7.2, 7.3, 7.4, 9.1, 9.4.2, 9.5.1.4, 9.6.7, 9.7, 10.3.2, 11.3.1, 14.2.4, 14.3.2, 15.1.4, 15.2.5

Contract Sum, Definition of

9.1

Contract Time

3.7.4, 3.7.5, 3.10.2, 5.2.3, 7.2.1.3, 7.3.1, 7.3.5, 7.4, 8.1.1, 8.2.1, 8.3.1, 9.5.1, 9.7, 10.3.2, 12.1.1, 14.3.2, 15.1.5.1, 15.2.5

Contract Time, Definition of

8.1.1

CONTRACTOR

3

Contractor, Definition of

3.1, 6.1.2

Init.

AIA Document A201™ – 2007. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997 and 2007 by The American Institute of Architects. All rights reserved. **WARNING: This AIA® Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA® Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law.** This document was produced by AIA software at 10:01:04 on 01/05/2010 under Order No.3780522392_1 which expires on 10/03/2010, and is not for resale.

User Notes:

(1465268038)

Contractor's Construction Schedules
3.10, 3.12.1, 3.12.2, 6.1.3, 15.1.5.2
Contractor's Employees
 3.3.2, 3.4.3, 3.8.1, 3.9, 3.18.2, 4.2.3, 4.2.6, 10.2, 10.3,
 11.1.1, 11.3.7, 14.1, 14.2.1.1,
Contractor's Liability Insurance
11.1
Contractor's Relationship with Separate Contractors and Owner's Forces
 3.12.5, 3.14.2, 4.2.4, 6, 11.3.7, 12.1.2, 12.2.4
Contractor's Relationship with Subcontractors
 1.2.2, 3.3.2, 3.18.1, 3.18.2, 5, 9.6.2, 9.6.7, 9.10.2,
 11.3.1.2, 11.3.7, 11.3.8
Contractor's Relationship with the Architect
 1.1.2, 1.5, 3.1.3, 3.2.2, 3.2.3, 3.2.4, 3.3.1, 3.4.2, 3.5,
 3.7.4, 3.10, 3.11, 3.12, 3.16, 3.18, 4.1.3, 4.2, 5.2, 6.2.2,
 7, 8.3.1, 9.2, 9.3, 9.4, 9.5, 9.7, 9.8, 9.9, 10.2.6, 10.3,
 11.3.7, 12, 13.5, 15.1.2, 15.2.1
Contractor's Representations
 3.2.1, 3.2.2, 3.5, 3.12.6, 6.2.2, 8.2.1, 9.3.3, 9.8.2
Contractor's Responsibility for Those Performing the Work
 3.3.2, 3.18, 5.3.1, 6.1.3, 6.2, 9.5.1, 10.2.8
Contractor's Review of Contract Documents
 3.2
Contractor's Right to Stop the Work
 9.7
Contractor's Right to Terminate the Contract
 14.1, 15.1.6
Contractor's Submittals
 3.10, 3.11, 3.12.4, 4.2.7, 5.2.1, 5.2.3, 9.2, 9.3, 9.8.2,
 9.8.3, 9.9.1, 9.10.2, 9.10.3, 11.1.3, 11.4.2
Contractor's Superintendent
 3.9, 10.2.6
Contractor's Supervision and Construction Procedures
 1.2.2, 3.3, 3.4, 3.12.10, 4.2.2, 4.2.7, 6.1.3, 6.2.4, 7.1.3,
 7.3.5, 7.3.7, 8.2, 10, 12, 14, 15.1.3
Contractual Liability Insurance
 11.1.1.8, 11.2
Coordination and Correlation
 1.2, 3.2.1, 3.3.1, 3.10, 3.12.6, 6.1.3, 6.2.1
Copies Furnished of Drawings and Specifications
 1.5, 2.2.5, 3.11
Copyrights
 1.5, 3.17
Correction of Work
 2.3, 2.4, 3.7.3, 9.4.2, 9.8.2, 9.8.3, 9.9.1, 12.1.2, 12.2
Correlation and Intent of the Contract Documents
1.2
Cost, Definition of
7.3.7
Costs
 2.4.1, 3.2.4, 3.7.3, 3.8.2, 3.15.2, 5.4.2, 6.1.1, 6.2.3,
 7.3.3.3, 7.3.7, 7.3.8, 7.3.9, 9.10.2, 10.3.2, 10.3.6, 11.3,
 12.1.2, 12.2.1, 12.2.4, 13.5, 14

Cutting and Patching
3.14, 6.2.5
Damage to Construction of Owner or Separate Contractors
 3.14.2, 6.2.4, 10.2.1.2, 10.2.5, 10.4, 11.1.1, 11.3,
 12.2.4
Damage to the Work
 3.14.2, 9.9.1, 10.2.1.2, 10.2.5, 10.4.1, 11.3.1, 12.2.4
Damages, Claims for
 3.2.4, 3.18, 6.1.1, 8.3.3, 9.5.1, 9.6.7, 10.3.3, 11.1.1,
 11.3.5, 11.3.7, 14.1.3, 14.2.4, 15.1.6
Damages for Delay
 6.1.1, 8.3.3, 9.5.1.6, 9.7, 10.3.2
Date of Commencement of the Work, Definition of
8.1.2
Date of Substantial Completion, Definition of
8.1.3
Day, Definition of
8.1.4
Decisions of the Architect
 3.7.4, 4.2.6, 4.2.7, 4.2.11, 4.2.12, 4.2.13, 15.2, 6.3,
 7.3.7, 7.3.9, 8.1.3, 8.3.1, 9.2, 9.4, 9.5.1, 9.8.4, 9.9.1,
 13.5.2, 14.2.2, 14.2.4, 15.1, 15.2
Decisions to Withhold Certification
 9.4.1, 9.5, 9.7, 14.1.1.3
Defective or Nonconforming Work, Acceptance, Rejection and Correction of
 2.3.1, 2.4.1, 3.5, 4.2.6, 6.2.5, 9.5.1, 9.5.2, 9.6.6, 9.8.2,
 9.9.3, 9.10.4, 12.2.1
Definitions
 1.1, 2.1.1, 3.1.1, 3.5, 3.12.1, 3.12.2, 3.12.3, 4.1.1,
 15.1.1, 5.1, 6.1.2, 7.2.1, 7.3.1, 8.1, 9.1, 9.8.1
Delays and Extensions of Time
 3.2, 3.7.4, 5.2.3, 7.2.1, 7.3.1, 7.4, 8.3, 9.5.1, 9.7,
 10.3.2, 10.4.1, 14.3.2, 15.1.5, 15.2.5
Disputes
 6.3, 7.3.9, 15.1, 15.2
Documents and Samples at the Site
3.11
Drawings, Definition of
1.1.5
Drawings and Specifications, Use and Ownership of
3.11
Effective Date of Insurance
 8.2.2, 11.1.2
Emergencies
10.4, 14.1.1.2, 15.1.4
Employees, Contractor's
 3.3.2, 3.4.3, 3.8.1, 3.9, 3.18.2, 4.2.3, 4.2.6, 10.2,
 10.3.3, 11.1.1, 11.3.7, 14.1, 14.2.1.1
Equipment, Labor, Materials or
 1.1.3, 1.1.6, 3.4, 3.5, 3.8.2, 3.8.3, 3.12, 3.13.1, 3.15.1,
 4.2.6, 4.2.7, 5.2.1, 6.2.1, 7.3.7, 9.3.2, 9.3.3, 9.5.1.3,
 9.10.2, 10.2.1, 10.2.4, 14.2.1.1, 14.2.1.2

Execution and Progress of the Work
 1.1.3, 1.2.1, 1.2.2, 2.2.3, 2.2.5, 3.1, 3.3.1, 3.4.1, 3.5,
 3.7.1, 3.10.1, 3.12, 3.14, 4.2, 6.2.2, 7.1.3, 7.3.5, 8.2,
 9.5.1, 9.9.1, 10.2, 10.3, 12.2, 14.2, 14.3.1, 15.1.3
 Extensions of Time
 3.2.4, 3.7.4, 5.2.3, 7.2.1, 7.3, 7.4, 9.5.1, 9.7, 10.3.2,
 10.4.1, 14.3, 15.1.5, 15.2.5
Failure of Payment
 9.5.1.3, 9.7, 9.10.2, 13.6, 14.1.1.3, 14.2.1.2
 Faulty Work
 (See Defective or Nonconforming Work)
Final Completion and Final Payment
 4.2.1, 4.2.9, 9.8.2, 9.10, 11.1.2, 11.1.3, 11.3.1, 11.3.5,
 12.3.1, 14.2.4, 14.4.3
 Financial Arrangements, Owner's
 2.2.1, 13.2.2, 14.1.1.4
 Fire and Extended Coverage Insurance
 11.3.1.1
GENERAL PROVISIONS
1
Governing Law
13.1
 Guarantees (See Warranty)
Hazardous Materials
 10.2.4, 10.3
 Identification of Subcontractors and Suppliers
 5.2.1
Indemnification
 3.17, 3.18, 9.10.2, 10.3.3, 10.3.5, 10.3.6, 11.3.1.2,
 11.3.7
Information and Services Required of the Owner
 2.1.2, 2.2, 3.2.2, 3.12.4, 3.12.10, 6.1.3, 6.1.4, 6.2.5,
 9.6.1, 9.6.4, 9.9.2, 9.10.3, 10.3.3, 11.2, 11.4, 13.5.1,
 13.5.2, 14.1.1.4, 14.1.4, 15.1.3
Initial Decision
15.2
Initial Decision Maker, Definition of
 1.1.8
 Initial Decision Maker, Decisions
 14.2.2, 14.2.4, 15.2.1, 15.2.2, 15.2.3, 15.2.4, 15.2.5
 Initial Decision Maker, Extent of Authority
 14.2.2, 14.2.4, 15.1.3, 15.2.1, 15.2.2, 15.2.3, 15.2.4,
 15.2.5
Injury or Damage to Person or Property
 10.2.8, 10.4.1
 Inspections
 3.1.3, 3.3.3, 3.7.1, 4.2.2, 4.2.6, 4.2.9, 9.4.2, 9.8.3,
 9.9.2, 9.10.1, 12.2.1, 13.5
 Instructions to Bidders
 1.1.1
 Instructions to the Contractor
 3.2.4, 3.3.1, 3.8.1, 5.2.1, 7, 8.2.2, 12, 13.5.2
Instruments of Service, Definition of
1.1.7
 Insurance
 3.18.1, 6.1.1, 7.3.7, 9.3.2, 9.8.4, 9.9.1, 9.10.2, 11

Insurance, Boiler and Machinery
11.3.2
Insurance, Contractor's Liability
11.1
 Insurance, Effective Date of
 8.2.2, 11.1.2
Insurance, Loss of Use
11.3.3
Insurance, Owner's Liability
11.2
Insurance, Property
 10.2.5, 11.3
 Insurance, Stored Materials
 9.3.2
INSURANCE AND BONDS
11
 Insurance Companies, Consent to Partial Occupancy
 9.9.1
 Intent of the Contract Documents
 1.2.1, 4.2.7, 4.2.12, 4.2.13, 7.4
Interest
13.6
Interpretation
 1.2.3, 1.4, 4.1.1, 5.1, 6.1.2, 15.1.1
 Interpretations, Written
 4.2.11, 4.2.12, 15.1.4
 Judgment on Final Award
 15.4.2
Labor and Materials, Equipment
 1.1.3, 1.1.6, 3.4, 3.5, 3.8.2, 3.8.3, 3.12, 3.13, 3.15.1,
 4.2.6, 4.2.7, 5.2.1, 6.2.1, 7.3.7, 9.3.2, 9.3.3, 9.5.1.3,
 9.10.2, 10.2.1, 10.2.4, 14.2.1.1, 14.2.1.2
 Labor Disputes
 8.3.1
 Laws and Regulations
 1.5, 3.2.3, 3.6, 3.7, 3.12.10, 3.13.1, 4.1.1, 9.6.4, 9.9.1,
 10.2.2, 11.1.1, 11.3, 13.1.1, 13.4, 13.5.1, 13.5.2,
 13.6.1, 14, 15.2.8, 15.4
 Liens
 2.1.2, 9.3.3, 9.10.2, 9.10.4, 15.2.8
 Limitations, Statutes of
 12.2.5, 13.7, 15.4.1.1
 Limitations of Liability
 2.3.1, 3.2.2, 3.5, 3.12.10, 3.17, 3.18.1, 4.2.6, 4.2.7,
 4.2.12, 6.2.2, 9.4.2, 9.6.4, 9.6.7, 10.2.5, 10.3.3, 11.1.2,
 11.2, 11.3.7, 12.2.5, 13.4.2
 Limitations of Time
 2.1.2, 2.2, 2.4, 3.2.2, 3.10, 3.11, 3.12.5, 3.15.1, 4.2.7,
 5.2, 5.3.1, 5.4.1, 6.2.4, 7.3, 7.4, 8.2, 9.2, 9.3.1, 9.3.3,
 9.4.1, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 11.1.3, 11.3.1.5,
 11.3.6, 11.3.10, 12.2, 13.5, 13.7, 14, 15
Loss of Use Insurance
11.3.3
 Material Suppliers
 1.5, 3.12.1, 4.2.4, 4.2.6, 5.2.1, 9.3, 9.4.2, 9.6, 9.10.5
Materials, Hazardous
 10.2.4, 10.3

Materials, Labor, Equipment and
 1.1.3, 1.1.6, 1.5.1, 3.4.1, 3.5, 3.8.2, 3.8.3, 3.12, 3.13.1,
 3.15.1, 4.2.6, 4.2.7, 5.2.1, 6.2.1, 7.3.7, 9.3.2, 9.3.3,
 9.5.1.3, 9.10.2, 10.2.1.2, 10.2.4, 14.2.1.1, 14.2.1.2
 Means, Methods, Techniques, Sequences and
 Procedures of Construction
 3.3.1, 3.12.10, 4.2.2, 4.2.7, 9.4.2
 Mechanic's Lien
 2.1.2, 15.2.8
Mediation
 8.3.1, 10.3.5, 10.3.6, 15.2.1, 15.2.5, 15.2.6, **15.3**,
 15.4.1
Minor Changes in the Work
 1.1.1, 3.12.8, 4.2.8, 7.1, 7.4
MISCELLANEOUS PROVISIONS
13
Modifications, Definition of
1.1.1
 Modifications to the Contract
 1.1.1, 1.1.2, 3.11, 4.1.2, 4.2.1, 5.2.3, 7, 8.3.1, 9.7,
 10.3.2, 11.3.1
Mutual Responsibility
6.2
Nonconforming Work, Acceptance of
 9.6.6, 9.9.3, **12.3**
 Nonconforming Work, Rejection and Correction of
 2.3.1, 2.4.1, 3.5, 4.2.6, 6.2.4, 9.5.1, 9.8.2, 9.9.3, 9.10.4,
 12.2.1
 Notice
 2.2.1, 2.3.1, 2.4.1, 3.2.4, 3.3.1, 3.7.2, 3.12.9, 5.2.1, 9.7,
 9.10, 10.2.2, 11.1.3, 12.2.2.1, 13.3, 13.5.1, 13.5.2,
 14.1, 14.2, 15.2.8, 15.4.1
Notice, Written
 2.3.1, 2.4.1, 3.3.1, 3.9.2, 3.12.9, 3.12.10, 5.2.1, 9.7,
 9.10, 10.2.2, 10.3, 11.1.3, 11.3.6, 12.2.2.1, **13.3**, 14,
 15.2.8, 15.4.1
Notice of Claims
 3.7.4, 10.2.8, **15.1.2**, 15.4
 Notice of Testing and Inspections
 13.5.1, 13.5.2
 Observations, Contractor's
 3.2, 3.7.4
 Occupancy
 2.2.2, 9.6.6, 9.8, 11.3.1.5
 Orders, Written
 1.1.1, 2.3, 3.9.2, 7, 8.2.2, 11.3.9, 12.1, 12.2.2.1, 13.5.2,
 14.3.1
OWNER
2
Owner, Definition of
2.1.1
Owner, Information and Services Required of the
 2.1.2, **2.2**, 3.2.2, 3.12.10, 6.1.3, 6.1.4, 6.2.5, 9.3.2,
 9.6.1, 9.6.4, 9.9.2, 9.10.3, 10.3.3, 11.2, 11.3, 13.5.1,
 13.5.2, 14.1.1.4, 14.1.4, 15.1.3

Owner's Authority
 1.5, 2.1.1, 2.3.1, 2.4.1, 3.4.2, 3.8.1, 3.12.10, 3.14.2,
 4.1.2, 4.1.3, 4.2.4, 4.2.9, 5.2.1, 5.2.4, 5.4.1, 6.1, 6.3,
 7.2.1, 7.3.1, 8.2.2, 8.3.1, 9.3.1, 9.3.2, 9.5.1, 9.6.4,
 9.9.1, 9.10.2, 10.3.2, 11.1.3, 11.3.3, 11.3.10, 12.2.2,
 12.3.1, 13.2.2, 14.3, 14.4, 15.2.7
Owner's Financial Capability
 2.2.1, 13.2.2, 14.1.1.4
Owner's Liability Insurance
11.2
Owner's Relationship with Subcontractors
 1.1.2, 5.2, 5.3, 5.4, 9.6.4, 9.10.2, 14.2.2
Owner's Right to Carry Out the Work
 2.4, 14.2.2
Owner's Right to Clean Up
6.3
Owner's Right to Perform Construction and to Award Separate Contracts
6.1
Owner's Right to Stop the Work
2.3
Owner's Right to Suspend the Work
 14.3
Owner's Right to Terminate the Contract
 14.2
Ownership and Use of Drawings, Specifications and Other Instruments of Service
 1.1.1, 1.1.6, 1.1.7, **1.5**, 2.2.5, 3.2.2, 3.11.1, 3.17,
 4.2.12, 5.3.1
Partial Occupancy or Use
 9.6.6, 9.9, 11.3.1.5
Patching, Cutting and
3.14, 6.2.5
 Patents
 3.17
Payment, Applications for
 4.2.5, 7.3.9, 9.2, **9.3**, 9.4, 9.5, 9.6.3, 9.7, 9.8.5, 9.10.1,
 14.2.3, 14.2.4, 14.4.3
Payment, Certificates for
 4.2.5, 4.2.9, 9.3.3, **9.4**, 9.5, 9.6.1, 9.6.6, 9.7, 9.10.1,
 9.10.3, 13.7, 14.1.1.3, 14.2.4
Payment, Failure of
 9.5.1.3, 9.7, 9.10.2, 13.6, 14.1.1.3, 14.2.1.2
 Payment, Final
 4.2.1, 4.2.9, 9.8.2, 9.10, 11.1.2, 11.1.3, 11.4.1, 12.3.1,
 13.7, 14.2.4, 14.4.3
Payment Bond, Performance Bond and
 7.3.7.4, 9.6.7, 9.10.3, **11.4**
Payments, Progress
 9.3, **9.6**, 9.8.5, 9.10.3, 13.6, 14.2.3, 15.1.3
PAYMENTS AND COMPLETION
9
 Payments to Subcontractors
 5.4.2, 9.5.1.3, 9.6.2, 9.6.3, 9.6.4, 9.6.7, 14.2.1.2
 PCB
 10.3.1

Performance Bond and Payment Bond
 7.3.7.4, 9.6.7, 9.10.3, 11.4
Permits, Fees, Notices and Compliance with Laws
 2.2.2, 3.7, 3.13, 7.3.7.4, 10.2.2
PERSONS AND PROPERTY, PROTECTION OF
10
 Polychlorinated Biphenyl
 10.3.1
Product Data, Definition of
3.12.2
Product Data and Samples, Shop Drawings
 3.11, 3.12, 4.2.7
Progress and Completion
 4.2.2, 8.2, 9.8, 9.9.1, 14.1.4, 15.1.3
Progress Payments
 9.3, 9.6, 9.8.5, 9.10.3, 13.6, 14.2.3, 15.1.3
Project, Definition of
1.1.4
 Project Representatives
 4.2.10
Property Insurance
 10.2.5, 11.3
PROTECTION OF PERSONS AND PROPERTY
10
 Regulations and Laws
 1.5, 3.2.3, 3.6, 3.7, 3.12.10, 3.13, 4.1.1, 9.6.4, 9.9.1,
 10.2.2, 11.1, 11.4, 13.1, 13.4, 13.5.1, 13.5.2, 13.6, 14,
 15.2.8, 15.4
 Rejection of Work
 3.5, 4.2.6, 12.2.1
 Releases and Waivers of Liens
 9.10.2
 Representations
 3.2.1, 3.5, 3.12.6, 6.2.2, 8.2.1, 9.3.3, 9.4.2, 9.5.1, 9.8.2,
 9.10.1
 Representatives
 2.1.1, 3.1.1, 3.9, 4.1.1, 4.2.1, 4.2.2, 4.2.10, 5.1.1, 5.1.2,
 13.2.1
 Responsibility for Those Performing the Work
 3.3.2, 3.18, 4.2.3, 5.3.1, 6.1.3, 6.2, 6.3, 9.5.1, 10
 Retainage
 9.3.1, 9.6.2, 9.8.5, 9.9.1, 9.10.2, 9.10.3
Review of Contract Documents and Field
Conditions by Contractor
 3.2, 3.12.7, 6.1.3
 Review of Contractor's Submittals by Owner and
 Architect
 3.10.1, 3.10.2, 3.11, 3.12, 4.2, 5.2, 6.1.3, 9.2, 9.8.2
 Review of Shop Drawings, Product Data and Samples
 by Contractor
 3.12
Rights and Remedies
 1.1.2, 2.3, 2.4, 3.5, 3.7.4, 3.15.2, 4.2.6, 5.3, 5.4, 6.1,
 6.3, 7.3.1, 8.3, 9.5.1, 9.7, 10.2.5, 10.3, 12.2.2, 12.2.4,
 13.4, 14, 15.4
Royalties, Patents and Copyrights
3.17

Rules and Notices for Arbitration
 15.4.1
Safety of Persons and Property
10.2, 10.4
Safety Precautions and Programs
 3.3.1, 4.2.2, 4.2.7, 5.3.1, 10.1, 10.2, 10.4
Samples, Definition of
3.12.3
Samples, Shop Drawings, Product Data and
3.11, 3.12, 4.2.7
Samples at the Site, Documents and
3.11
Schedule of Values
 9.2, 9.3.1
 Schedules, Construction
 3.10, 3.12.1, 3.12.2, 6.1.3, 15.1.5.2
 Separate Contracts and Contractors
 1.1.4, 3.12.5, 3.14.2, 4.2.4, 4.2.7, 6, 8.3.1, 12.1.2
Shop Drawings, Definition of
3.12.1
Shop Drawings, Product Data and Samples
3.11, 3.12, 4.2.7
Site, Use of
3.13, 6.1.1, 6.2.1
 Site Inspections
 3.2.2, 3.3.3, 3.7.1, 3.7.4, 4.2, 9.4.2, 9.10.1, 13.5
 Site Visits, Architect's
 3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.5.1, 9.9.2, 9.10.1, 13.5
 Special Inspections and Testing
 4.2.6, 12.2.1, 13.5
Specifications, Definition of
1.1.6
Specifications
 1.1.1, 1.1.6, 1.2.2, 1.5, 3.11, 3.12.10, 3.17, 4.2.14
 Statute of Limitations
 13.7, 15.4.1.1
 Stopping the Work
 2.3, 9.7, 10.3, 14.1
 Stored Materials
 6.2.1, 9.3.2, 10.2.1.2, 10.2.4
Subcontractor, Definition of
5.1.1
SUBCONTRACTORS
5
 Subcontractors, Work by
 1.2.2, 3.3.2, 3.12.1, 4.2.3, 5.2.3, 5.3, 5.4, 9.3.1.2, 9.6.7
Subcontractual Relations
5.3, 5.4, 9.3.1.2, 9.6, 9.10, 10.2.1, 14.1, 14.2.1
 Submittals
 3.10, 3.11, 3.12, 4.2.7, 5.2.1, 5.2.3, 7.3.7, 9.2, 9.3, 9.8,
 9.9.1, 9.10.2, 9.10.3, 11.1.3
 Submittal Schedule
 3.10.2, 3.12.5, 4.2.7
Subrogation, Waivers of
6.1.1, 11.3.7

Init.

Substantial Completion
4.2.9, 8.1.1, 8.1.3, 8.2.3, 9.4.2, 9.8, 9.9.1, 9.10.3, 12.2, 13.7

Substantial Completion, Definition of
9.8.1

Substitution of Subcontractors
5.2.3, 5.2.4

Substitution of Architect
4.1.3

Substitutions of Materials
3.4.2, 3.5, 7.3.8

Sub-subcontractor, Definition of
5.1.2

Subsurface Conditions
3.7.4

Successors and Assigns
13.2

Superintendent
3.9, 10.2.6

Supervision and Construction Procedures
1.2.2, 3.3, 3.4, 3.12.10, 4.2.2, 4.2.7, 6.1.3, 6.2.4, 7.1.3, 7.3.7, 8.2, 8.3.1, 9.4.2, 10, 12, 14, 15.1.3

Surety
5.4.1.2, 9.8.5, 9.10.2, 9.10.3, 14.2.2, 15.2.7

Surety, Consent of
9.10.2, 9.10.3

Surveys
2.2.3

Suspension by the Owner for Convenience
14.3

Suspension of the Work
5.4.2, 14.3

Suspension or Termination of the Contract
5.4.1.1, 14

Taxes
3.6, 3.8.2.1, 7.3.7.4

Termination by the Contractor
14.1, 15.1.6

Termination by the Owner for Cause
5.4.1.1, 14.2, 15.1.6

Termination by the Owner for Convenience
14.4

Termination of the Architect
4.1.3

Termination of the Contractor
14.2.2

TERMINATION OR SUSPENSION OF THE CONTRACT
14

Tests and Inspections
3.1.3, 3.3.3, 4.2.2, 4.2.6, 4.2.9, 9.4.2, 9.8.3, 9.9.2, 9.10.1, 10.3.2, 11.4.1.1, 12.2.1, 13.5

TIME
8

Time, Delays and Extensions of
3.2.4, 3.7.4, 5.2.3, 7.2.1, 7.3.1, 7.4, 8.3, 9.5.1, 9.7, 10.3.2, 10.4.1, 14.3.2, 15.1.5, 15.2.5

Time Limits
2.1.2, 2.2, 2.4, 3.2.2, 3.10, 3.11, 3.12.5, 3.15.1, 4.2, 5.2, 5.3, 5.4, 6.2.4, 7.3, 7.4, 8.2, 9.2, 9.3.1, 9.3.3, 9.4.1, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 11.1.3, 12.2, 13.5, 13.7, 14, 15.1.2, 15.4

Time Limits on Claims
3.7.4, 10.2.8, 13.7, 15.1.2

Title to Work
9.3.2, 9.3.3

Transmission of Data in Digital Form
1.6

UNCOVERING AND CORRECTION OF WORK
12

Uncovering of Work
12.1

Unforeseen Conditions, Concealed or Unknown
3.7.4, 8.3.1, 10.3

Unit Prices
7.3.3.2, 7.3.4

Use of Documents
1.1.1, 1.5, 2.2.5, 3.12.6, 5.3

Use of Site
3.13, 6.1.1, 6.2.1

Values, Schedule of
9.2, 9.3.1

Waiver of Claims by the Architect
13.4.2

Waiver of Claims by the Contractor
9.10.5, 13.4.2, 15.1.6

Waiver of Claims by the Owner
9.9.3, 9.10.3, 9.10.4, 12.2.2.1, 13.4.2, 14.2.4, 15.1.6

Waiver of Consequential Damages
14.2.4, 15.1.6

Waiver of Liens
9.10.2, 9.10.4

Waivers of Subrogation
6.1.1, 11.3.7

Warranty
3.5, 4.2.9, 9.3.3, 9.8.4, 9.9.1, 9.10.4, 12.2.2, 13.7.1

Weather Delays
15.1.5.2

Work, Definition of
1.1.3

Written Consent
1.5.2, 3.4.2, 3.7.4, 3.12.8, 3.14.2, 4.1.2, 9.3.2, 9.8.5, 9.9.1, 9.10.2, 9.10.3, 11.4.1, 13.2, 13.4.2, 15.4.4.2

Written Interpretations
4.2.11, 4.2.12

Written Notice
2.3, 2.4, 3.3.1, 3.9, 3.12.9, 3.12.10, 5.2.1, 8.2.2, 9.7, 9.10, 10.2.2, 10.3, 11.1.3, 12.2.2, 12.2.4, 13.3, 14, 15.4.1

Written Orders
1.1.1, 2.3, 3.9, 7, 8.2.2, 12.1, 12.2, 13.5.2, 14.3.1, 15.1.2

Init.

ARTICLE 1 GENERAL PROVISIONS

§ 1.1 BASIC DEFINITIONS

§ 1.1.1 THE CONTRACT DOCUMENTS

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding requirements.

§ 1.1.2 THE CONTRACT

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

§ 1.1.3 THE WORK

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

§ 1.1.4 THE PROJECT

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by separate contractors.

§ 1.1.5 THE DRAWINGS

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams.

§ 1.1.6 THE SPECIFICATIONS

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.7 INSTRUMENTS OF SERVICE

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.8 INITIAL DECISION MAKER

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2 and certify termination of the Agreement under Section 14.2.2.

§ 1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.3 CAPITALIZATION

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 INTERPRETATION

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.5 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE

§ 1.5.1 The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and will retain all common law, statutory and other reserved rights, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors and material or equipment suppliers are authorized to use and reproduce the Instruments of Service provided to them solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers may not use the Instruments of Service on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and the Architect's consultants.

§ 1.6 TRANSMISSION OF DATA IN DIGITAL FORM

If the parties intend to transmit Instruments of Service or any other information or documentation in digital form, they shall endeavor to establish necessary protocols governing such transmissions, unless otherwise already provided in the Agreement or the Contract Documents.

ARTICLE 2 OWNER

§ 2.1 GENERAL

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

§ 2.1.2 The Owner shall furnish to the Contractor within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein.

§ 2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

§ 2.2.1 Prior to commencement of the Work, the Contractor may request in writing that the Owner provide reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. Thereafter, the Contractor may only request such evidence if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) a change in the Work materially changes the Contract Sum; or (3) the Contractor identifies in writing a reasonable concern regarding the Owner's ability to make payment when due. The Owner shall furnish such evidence as a condition precedent to commencement or continuation of the Work or the

portion of the Work affected by a material change. After the Owner furnishes the evidence, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

§ 2.2.2 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

§ 2.2.3 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 2.2.4 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

§ 2.2.5 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

§ 2.3 OWNER'S RIGHT TO STOP THE WORK

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3.

§ 2.4 OWNER'S RIGHT TO CARRY OUT THE WORK

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect or failure. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

ARTICLE 3 CONTRACTOR

§ 3.1 GENERAL

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.2.3, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall make Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

§ 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner and Architect and shall not proceed with that portion of the Work without further written instructions from the Architect. If the Contractor is then instructed to proceed with the required means, methods, techniques, sequences or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any loss or damage arising solely from those Owner-required means, methods, techniques, sequences or procedures.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.4 LABOR AND MATERIALS

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

§ 3.4.2 Except in the case of minor changes in the Work authorized by the Architect in accordance with Sections 3.12.8 or 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive.

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

§ 3.5 WARRANTY

The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 3.6 TAXES

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

§ 3.7 PERMITS, FEES, NOTICES AND COMPLIANCE WITH LAWS

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.7.4 **Concealed or Unknown Conditions.** If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature, that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 21 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend an equitable adjustment in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor in writing, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may proceed as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

Init.

§ 3.8 ALLOWANCES

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

- .1 Allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
- .2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and
- .3 Whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.9 SUPERINTENDENT

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the name and qualifications of a proposed superintendent. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to the proposed superintendent or (2) that the Architect requires additional time to review. Failure of the Architect to reply within the 14 day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

§ 3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall prepare and submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.

§ 3.10.2 The Contractor shall prepare a submittal schedule, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, and shall submit the schedule(s) for the Architect's approval. The Architect's approval shall not unreasonably be delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect.

§ 3.11 DOCUMENTS AND SAMPLES AT THE SITE

The Contractor shall maintain at the site for the Owner one copy of the Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and one copy of approved Shop Drawings, Product Data, Samples and similar required submittals. These shall be available to the Architect and shall be delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

Init.

§ 3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. Their purpose is to demonstrate the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve and submit to the Architect Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been approved by the Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Architect in writing of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by the Architect's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such written notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. The Contractor shall not be required to provide professional services in violation of applicable law. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy, accuracy and

Init.

completeness of the services, certifications and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review, approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Contractor shall not be responsible for the adequacy of the performance and design criteria specified in the Contract Documents.

§ 3.13 USE OF SITE

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.14 CUTTING AND PATCHING

§ 3.14.1 The Contractor shall be responsible for cutting, fitting or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting and patching shall be restored to the condition existing prior to the cutting, fitting and patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or separate contractors by cutting, patching or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter such construction by the Owner or a separate contractor except with written consent of the Owner and of such separate contractor; such consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold from the Owner or a separate contractor the Contractor's consent to cutting or otherwise altering the Work.

§ 3.15 CLEANING UP

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials from and about the Project.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and Owner shall be entitled to reimbursement from the Contractor.

§ 3.16 ACCESS TO WORK

The Contractor shall provide the Owner and Architect access to the Work in preparation and progress wherever located.

§ 3.17 ROYALTIES, PATENTS AND COPYRIGHTS

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner or Architect. However, if the Contractor has reason to believe that the required design, process or product is an infringement of a copyright or a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Architect.

§ 3.18 INDEMNIFICATION

§ 3.18.1 To the fullest extent permitted by law the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described in this Section 3.18.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

ARTICLE 4 ARCHITECT

§ 4.1 GENERAL

§ 4.1.1 The Owner shall retain an architect lawfully licensed to practice architecture or an entity lawfully practicing architecture in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 4.1.2 Duties, responsibilities and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified or extended without written consent of the Owner, Contractor and Architect. Consent shall not be unreasonably withheld.

§ 4.1.3 If the employment of the Architect is terminated, the Owner shall employ a successor architect as to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Architect.

§ 4.2 ADMINISTRATION OF THE CONTRACT

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate for Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents, except as provided in Section 3.3.1.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and report to the Owner (1) known deviations from the Contract Documents and from the most recent construction schedule submitted by the Contractor, and (2) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of and will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 COMMUNICATIONS FACILITATING CONTRACT ADMINISTRATION

Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor shall endeavor to communicate with each other through the Architect about matters arising out of or relating to the Contract. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner.

§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.5.2 and 13.5.3, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons or entities performing portions of the Work.

Init.

§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5 and 3.12. The Architect's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Architect, of any construction means, methods, techniques, sequences or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may authorize minor changes in the Work as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more project representatives to assist in carrying out the Architect's responsibilities at the site. The duties, responsibilities and limitations of authority of such project representatives shall be as set forth in an exhibit to be incorporated in the Contract Documents.

§ 4.2.11 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either and will not be liable for results of interpretations or decisions rendered in good faith.

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 DEFINITIONS

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a separate contractor or subcontractors of a separate contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

Init.

§ 5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

§ 5.2.1 Unless otherwise stated in the Contract Documents or the bidding requirements, the Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each principal portion of the Work. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to any such proposed person or entity or (2) that the Architect requires additional time for review. Failure of the Owner or Architect to reply within the 14 day period shall constitute notice of no reasonable objection.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person or entity previously selected if the Owner or Architect makes reasonable objection to such substitution.

§ 5.3 SUBCONTRACTUAL RELATIONS

By appropriate agreement, written where legally required for validity, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work, which the Contractor, by these Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

- .1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor in writing; and
- .2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.

§ 5.4.3 Upon such assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. If the Owner assigns the subcontract to a successor contractor or other entity, the

Init.

Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS

§ 6.1.1 The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site under Conditions of the Contract identical or substantially similar to these including those portions related to insurance and waiver of subrogation. If the Contractor claims that delay or additional cost is involved because of such action by the Owner, the Contractor shall make such Claim as provided in Article 15.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 The Owner shall provide for coordination of the activities of the Owner's own forces and of each separate contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with other separate contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to the construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, separate contractors and the Owner until subsequently revised.

§ 6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces, the Owner shall be deemed to be subject to the same obligations and to have the same rights that apply to the Contractor under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6 and Articles 10, 11 and 12.

§ 6.2 MUTUAL RESPONSIBILITY

§ 6.2.1 The Contractor shall afford the Owner and separate contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a separate contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Architect apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acknowledgment that the Owner's or separate contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work, except as to defects not then reasonably discoverable.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a separate contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a separate contractor's delays, improperly timed activities, damage to the Work or defective construction.

§ 6.2.4 The Contractor shall promptly remedy damage the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or separate contractors as provided in Section 10.2.5.

§ 6.2.5 The Owner and each separate contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.3 OWNER'S RIGHT TO CLEAN UP

If a dispute arises among the Contractor, separate contractors and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect will allocate the cost among those responsible.

Init.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 GENERAL

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor and Architect; a Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor; an order for a minor change in the Work may be issued by the Architect alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents, and the Contractor shall proceed promptly, unless otherwise provided in the Change Order, Construction Change Directive or order for a minor change in the Work.

§ 7.2 CHANGE ORDERS

§ 7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor and Architect stating their agreement upon all of the following:

- .1 The change in the Work;
- .2 The amount of the adjustment, if any, in the Contract Sum; and
- .3 The extent of the adjustment, if any, in the Contract Time.

§ 7.3 CONSTRUCTION CHANGE DIRECTIVES

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- .1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- .2 Unit prices stated in the Contract Documents or subsequently agreed upon;
- .3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4 As provided in Section 7.3.7.

§ 7.3.4 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed in a proposed Change Order or Construction Change Directive so that application of such unit prices to quantities of Work proposed will cause substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 7.3.5 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.6 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.7 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the method and the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount

for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.7 shall be limited to the following:

- .1 Costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers' compensation insurance;
- .2 Costs of materials, supplies and equipment, including cost of transportation, whether incorporated or consumed;
- .3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;
- .4 Costs of premiums for all bonds and insurance, permit fees, and sales, use or similar taxes related to the Work; and
- .5 Additional costs of supervision and field office personnel directly attributable to the change.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.4 MINOR CHANGES IN THE WORK

The Architect has authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes will be effected by written order signed by the Architect and shall be binding on the Owner and Contractor.

ARTICLE 8 TIME

§ 8.1 DEFINITIONS

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 PROGRESS AND COMPLETION

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required by Article 11 to be furnished by the Contractor and Owner. The date of commencement of the Work shall not be changed by the effective date of such insurance.

Init.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

§ 8.3 DELAYS AND EXTENSIONS OF TIME

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by an act or neglect of the Owner or Architect, or of an employee of either, or of a separate contractor employed by the Owner; or by changes ordered in the Work; or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the Contractor's control; or by delay authorized by the Owner pending mediation and arbitration; or by other causes that the Architect determines may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Architect may determine.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 CONTRACT SUM

The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

§ 9.2 SCHEDULE OF VALUES

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit to the Architect, before the first Application for Payment, a schedule of values allocating the entire Contract Sum to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as the Architect may require. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 9.3 APPLICATIONS FOR PAYMENT

§ 9.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2, for completed portions of the Work. Such application shall be notarized, if required, and supported by such data substantiating the Contractor's right to payment as the Owner or Architect may require, such as copies of requisitions from Subcontractors and material suppliers, and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or material supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage and transportation to the site for such materials and equipment stored off the site.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or

Init.

encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work.

§ 9.4 CERTIFICATES FOR PAYMENT

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Architect determines is properly due, or notify the Contractor and Owner in writing of the Architect's reasons for withholding certification in whole or in part as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data comprising the Application for Payment, that, to the best of the Architect's knowledge, information and belief, the Work has progressed to the point indicated and that the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion and to specific qualifications expressed by the Architect. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment, or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 DECISIONS TO WITHHOLD CERTIFICATION

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

- .1 defective Work not remedied;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims unless security acceptable to the Owner is provided by the Contractor;
- .3 failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or a separate contractor;
- .6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- .7 repeated failure to carry out the Work in accordance with the Contract Documents.

§ 9.5.2 When the above reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.3 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or material or equipment suppliers to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Architect will reflect such payment on the next Certificate for Payment.

§ 9.6 PROGRESS PAYMENTS

§ 9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect.

Init.

§ 9.6.2 The Contractor shall pay each Subcontractor no later than seven days after receipt of payment from the Owner the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and material and equipment suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay or to see to the payment of money to a Subcontractor, except as may otherwise be required by law.

§ 9.6.5 Contractor payments to material and equipment suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors and suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, shall create any fiduciary liability or tort liability on the part of the Contractor for breach of trust or shall entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.7 FAILURE OF PAYMENT

If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents the amount certified by the Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' written notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shut-down, delay and start-up, plus interest as provided for in the Contract Documents.

§ 9.8 SUBSTANTIAL COMPLETION

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

Init.

§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion, shall establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in such Certificate. Upon such acceptance and consent of surety, if any, the Owner shall make payment of retainage applying to such Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 9.9 PARTIAL OCCUPANCY OR USE

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer as required under Section 11.3.1.5 and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.10 FINAL COMPLETION AND FINAL PAYMENT

§ 9.10.1 Upon receipt of the Contractor's written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection and, when the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment and (5), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.

Init.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

- .1 liens, Claims, security interests or encumbrances arising out of the Contract and unsettled;
- .2 failure of the Work to comply with the requirements of the Contract Documents; or
- .3 terms of special warranties required by the Contract Documents.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 SAFETY PRECAUTIONS AND PROGRAMS

The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract.

§ 10.2 SAFETY OF PERSONS AND PROPERTY

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to

- .1 employees on the Work and other persons who may be affected thereby;
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors; and
- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

§ 10.2.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.

§ 10.2.3 The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent sites and utilities.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3, except damage or loss attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 INJURY OR DAMAGE TO PERSON OR PROPERTY

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, written notice of such injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.3 HAZARDOUS MATERIALS

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner and Architect in writing.

§ 10.3.2 Upon receipt of the Contractor's written notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of such material or substance or who are to perform the task of removal or safe containment of such material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased in the amount of the Contractor's reasonable additional costs of shut-down, delay and start-up.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss or expense is due to the fault or negligence of the party seeking indemnity.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

§ 10.3.5 The Contractor shall indemnify the Owner for the cost and expense the Owner incurs (1) for remediation of a material or substance the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall indemnify the Contractor for all cost and expense thereby incurred.

Init.

§ 10.4 EMERGENCIES

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 CONTRACTOR'S LIABILITY INSURANCE

§ 11.1.1 The Contractor shall purchase from and maintain in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor's operations and completed operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

- .1 Claims under workers' compensation, disability benefit and other similar employee benefit acts that are applicable to the Work to be performed;
- .2 Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;
- .3 Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;
- .4 Claims for damages insured by usual personal injury liability coverage;
- .5 Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;
- .6 Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle;
- .7 Claims for bodily injury or property damage arising out of completed operations; and
- .8 Claims involving contractual liability insurance applicable to the Contractor's obligations under Section 3.18.

§ 11.1.2 The insurance required by Section 11.1.1 shall be written for not less than limits of liability specified in the Contract Documents or required by law, whichever coverage is greater. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from the date of commencement of the Work until the date of final payment and termination of any coverage required to be maintained after final payment, and, with respect to the Contractor's completed operations coverage, until the expiration of the period for correction of Work or for such other period for maintenance of completed operations coverage as specified in the Contract Documents.

§ 11.1.3 Certificates of insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the Work and thereafter upon renewal or replacement of each required policy of insurance. These certificates and the insurance policies required by this Section 11.1 shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment as required by Section 9.10.2 and thereafter upon renewal or replacement of such coverage until the expiration of the time required by Section 11.1.2. Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness.

§ 11.1.4 The Contractor shall cause the commercial liability coverage required by the Contract Documents to include (1) the Owner, the Architect and the Architect's consultants as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations.

§ 11.2 OWNER'S LIABILITY INSURANCE

The Owner shall be responsible for purchasing and maintaining the Owner's usual liability insurance.

Init.

§ 11.3 PROPERTY INSURANCE

§ 11.3.1 Unless otherwise provided, the Owner shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a builder's risk "all-risk" or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent Contract Modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis without optional deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in Section 9.10 or until no person or entity other than the Owner has an insurable interest in the property required by this Section 11.3 to be covered, whichever is later. This insurance shall include interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Project.

§ 11.3.1.1 Property insurance shall be on an "all-risk" or equivalent policy form and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, falsework, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Architect's and Contractor's services and expenses required as a result of such insured loss.

§ 11.3.1.2 If the Owner does not intend to purchase such property insurance required by the Contract and with all of the coverages in the amount described above, the Owner shall so inform the Contractor in writing prior to commencement of the Work. The Contractor may then effect insurance that will protect the interests of the Contractor, Subcontractors and Sub-subcontractors in the Work, and by appropriate Change Order the cost thereof shall be charged to the Owner. If the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain insurance as described above, without so notifying the Contractor in writing, then the Owner shall bear all reasonable costs properly attributable thereto.

§ 11.3.1.3 If the property insurance requires deductibles, the Owner shall pay costs not covered because of such deductibles.

§ 11.3.1.4 This property insurance shall cover portions of the Work stored off the site, and also portions of the Work in transit.

§ 11.3.1.5 Partial occupancy or use in accordance with Section 9.9 shall not commence until the insurance company or companies providing property insurance have consented to such partial occupancy or use by endorsement or otherwise. The Owner and the Contractor shall take reasonable steps to obtain consent of the insurance company or companies and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.

§ 11.3.2 BOILER AND MACHINERY INSURANCE

The Owner shall purchase and maintain boiler and machinery insurance required by the Contract Documents or by law, which shall specifically cover such insured objects during installation and until final acceptance by the Owner; this insurance shall include interests of the Owner, Contractor, Subcontractors and Sub-subcontractors in the Work, and the Owner and Contractor shall be named insureds.

§ 11.3.3 LOSS OF USE INSURANCE

The Owner, at the Owner's option, may purchase and maintain such insurance as will insure the Owner against loss of use of the Owner's property due to fire or other hazards, however caused. The Owner waives all rights of action against the Contractor for loss of use of the Owner's property, including consequential losses due to fire or other hazards however caused.

§ 11.3.4 If the Contractor requests in writing that insurance for risks other than those described herein or other special causes of loss be included in the property insurance policy, the Owner shall, if possible, include such insurance, and the cost thereof shall be charged to the Contractor by appropriate Change Order.

§ 11.3.5 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment

Init.

property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, the Owner shall waive all rights in accordance with the terms of Section 11.3.7 for damages caused by fire or other causes of loss covered by this separate property insurance. All separate policies shall provide this waiver of subrogation by endorsement or otherwise.

§ 11.3.6 Before an exposure to loss may occur, the Owner shall file with the Contractor a copy of each policy that includes insurance coverages required by this Section 11.3. Each policy shall contain all generally applicable conditions, definitions, exclusions and endorsements related to this Project. Each policy shall contain a provision that the policy will not be canceled or allowed to expire, and that its limits will not be reduced, until at least 30 days' prior written notice has been given to the Contractor.

§ 11.3.7 WAIVERS OF SUBROGATION

The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents and employees, each of the other, and (2) the Architect, Architect's consultants, separate contractors described in Article 6, if any, and any of their subcontractors, sub-subcontractors, agents and employees, for damages caused by fire or other causes of loss to the extent covered by property insurance obtained pursuant to this Section 11.3 or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by the Owner as fiduciary. The Owner or Contractor, as appropriate, shall require of the Architect, Architect's consultants, separate contractors described in Article 6, if any, and the subcontractors, sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

§ 11.3.8 A loss insured under the Owner's property insurance shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.3.10. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner.

§ 11.3.9 If required in writing by a party in interest, the Owner as fiduciary shall, upon occurrence of an insured loss, give bond for proper performance of the Owner's duties. The cost of required bonds shall be charged against proceeds received as fiduciary. The Owner shall deposit in a separate account proceeds so received, which the Owner shall distribute in accordance with such agreement as the parties in interest may reach, or as determined in accordance with the method of binding dispute resolution selected in the Agreement between the Owner and Contractor. If after such loss no other special agreement is made and unless the Owner terminates the Contract for convenience, replacement of damaged property shall be performed by the Contractor after notification of a Change in the Work in accordance with Article 7.

§ 11.3.10 The Owner as fiduciary shall have power to adjust and settle a loss with insurers unless one of the parties in interest shall object in writing within five days after occurrence of loss to the Owner's exercise of this power; if such objection is made, the dispute shall be resolved in the manner selected by the Owner and Contractor as the method of binding dispute resolution in the Agreement. If the Owner and Contractor have selected arbitration as the method of binding dispute resolution, the Owner as fiduciary shall make settlement with insurers or, in the case of a dispute over distribution of insurance proceeds, in accordance with the directions of the arbitrators.

§ 11.4 PERFORMANCE BOND AND PAYMENT BOND

§ 11.4.1 The Owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract.

§ 11.4.2 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 UNCOVERING OF WORK

§ 12.1.1 If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be at the Owner's expense. If such Work is not in accordance with the Contract Documents, such costs and the cost of correction shall be at the Contractor's expense unless the condition was caused by the Owner or a separate contractor in which event the Owner shall be responsible for payment of such costs.

§ 12.2 CORRECTION OF WORK

§ 12.2.1 BEFORE OR AFTER SUBSTANTIAL COMPLETION

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 12.2.2 AFTER SUBSTANTIAL COMPLETION

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.4.

§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction, whether completed or partially completed, of the Owner or separate contractors caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

§ 12.3 ACCEPTANCE OF NONCONFORMING WORK

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 GOVERNING LAW

The Contract shall be governed by the law of the place where the Project is located except that, if the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.

§ 13.2 SUCCESSORS AND ASSIGNS

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns and legal representatives to covenants, agreements and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate such assignment.

§ 13.3 WRITTEN NOTICE

Written notice shall be deemed to have been duly served if delivered in person to the individual, to a member of the firm or entity, or to an officer of the corporation for which it was intended; or if delivered at, or sent by registered or certified mail or by courier service providing proof of delivery to, the last business address known to the party giving notice.

§ 13.4 RIGHTS AND REMEDIES

§ 13.4.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights and remedies otherwise imposed or available by law.

§ 13.4.2 No action or failure to act by the Owner, Architect or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach there under, except as may be specifically agreed in writing.

§ 13.5 TESTS AND INSPECTIONS

§ 13.5.1 Tests, inspections and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of (1) tests, inspections or approvals that do not become requirements until after bids are received or negotiations concluded, and (2) tests, inspections or approvals where building codes or applicable laws or regulations prohibit the Owner from delegating their cost to the Contractor.

§ 13.5.2 If the Architect, Owner or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection or approval not included under Section 13.5.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection or approval by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.5.3, shall be at the Owner's expense.

§ 13.5.3 If such procedures for testing, inspection or approval under Sections 13.5.1 and 13.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by

such failure including those of repeated procedures and compensation for the Architect's services and expenses shall be at the Contractor's expense.

§ 13.5.4 Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

§ 13.5.5 If the Architect is to observe tests, inspections or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.5.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.6 INTEREST

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at such rate as the parties may agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

§ 13.7 TIME LIMITS ON CLAIMS

The Owner and Contractor shall commence all claims and causes of action, whether in contract, tort, breach of warranty or otherwise, against the other arising out of or related to the Contract in accordance with the requirements of the final dispute resolution method selected in the Agreement within the time period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all claims and causes of action not commenced in accordance with this Section 13.7.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 TERMINATION BY THE CONTRACTOR

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, for any of the following reasons:

- .1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- .2 An act of government, such as a declaration of national emergency that requires all Work to be stopped;
- .3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or
- .4 The Owner has failed to furnish to the Contractor promptly, upon the Contractor's request, reasonable evidence as required by Section 2.2.1.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, repeated suspensions, delays or interruptions of the entire Work by the Owner as described in Section 14.3 constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' written notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, including reasonable overhead and profit, costs incurred by reason of such termination, and damages.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing portions of the Work under contract with the Contractor because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' written notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

Init.

§ 14.2 TERMINATION BY THE OWNER FOR CAUSE

§ 14.2.1 The Owner may terminate the Contract if the Contractor

- .1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- .2 fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;
- .3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- .4 otherwise is guilty of substantial breach of a provision of the Contract Documents.

§ 14.2.2 When any of the above reasons exist, the Owner, upon certification by the Initial Decision Maker that sufficient cause exists to justify such action, may without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' written notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

- .1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- .2 Accept assignment of subcontracts pursuant to Section 5.4; and
- .3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.3 SUSPENSION BY THE OWNER FOR CONVENIENCE

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay or interruption as described in Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

- .1 that performance is, was or would have been so suspended, delayed or interrupted by another cause for which the Contractor is responsible; or
- .2 that an equitable adjustment is made or denied under another provision of the Contract.

§ 14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of written notice from the Owner of such termination for the Owner's convenience, the Contractor shall

- .1 cease operations as directed by the Owner in the notice;
- .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for Work executed, and costs incurred by reason of such termination, along with reasonable overhead and profit on the Work not executed.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 CLAIMS

§ 15.1.1 DEFINITION

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim.

§ 15.1.2 NOTICE OF CLAIMS

Claims by either the Owner or Contractor must be initiated by written notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party must be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.3 CONTINUING CONTRACT PERFORMANCE

Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents. The Architect will prepare Change Orders and issue Certificates for Payment in accordance with the decisions of the Initial Decision Maker.

§ 15.1.4 CLAIMS FOR ADDITIONAL COST

If the Contractor wishes to make a Claim for an increase in the Contract Sum, written notice as provided herein shall be given before proceeding to execute the Work. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.5 CLAIMS FOR ADDITIONAL TIME

§ 15.1.5.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, written notice as provided herein shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.

§ 15.1.5.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated and had an adverse effect on the scheduled construction.

§ 15.1.6 CLAIMS FOR CONSEQUENTIAL DAMAGES

The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

- .1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and
- .2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.6 shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 INITIAL DECISION

§ 15.2.1 Claims, excluding those arising under Sections 10.3, 10.4, 11.3.9, and 11.3.10, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim arising prior to the date final payment is due, unless 30 days have passed after the Claim has been referred to the Initial Decision Maker with no decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

Init.

§ 15.2.2 The Initial Decision Maker will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

§ 15.2.3 In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of such request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution.

§ 15.2.6 Either party may file for mediation of an initial decision at any time, subject to the terms of Section 15.2.6.1.

§ 15.2.6.1 Either party may, within 30 days from the date of an initial decision, demand in writing that the other party file for mediation within 60 days of the initial decision. If such a demand is made and the party receiving the demand fails to file for mediation within the time required, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.

§ 15.2.7 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

§ 15.2.8 If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

§ 15.3 MEDIATION

§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.6 shall be subject to mediation as a condition precedent to binding dispute resolution.

§ 15.3.2 The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

§ 15.3.3 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

§ 15.4 ARBITRATION

§ 15.4.1 If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.

§ 15.4.1.1 A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.

§ 15.4.2 The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

§ 15.4.3 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

§ 15.4.4 CONSOLIDATION OR JOINDER

§ 15.4.4.1 Either party, at its sole discretion, may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

§ 15.4.4.2 Either party, at its sole discretion, may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.

§ 15.4.4.3 The Owner and Contractor grant to any person or entity made a party to an arbitration conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as the Owner and Contractor under this Agreement.

Additions and Deletions Report for AIA[®] Document A201[™] – 2007

This Additions and Deletions Report, as defined on page 1 of the associated document, reproduces below all text the author has added to the standard form AIA document in order to complete it, as well as any text the author may have added to or deleted from the original AIA text. Added text is shown underlined. Deleted text is indicated with a horizontal line through the original AIA text.

Note: This Additions and Deletions Report is provided for information purposes only and is not incorporated into or constitute any part of the associated AIA document. This Additions and Deletions Report and its associated document were generated simultaneously by AIA software at 10:01:04 on 01/05/2010.

There are no differences.

Certification of Document's Authenticity

AIA® Document D401™ – 2003

I, Heather Cobb, hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 10:01:04 on 01/05/2010 under Order No. 3780522392_1 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A201™ – 2007 - General Conditions of the Contract for Construction, as published by the AIA in its software, other than those additions and deletions shown in the associated Additions and Deletions Report.

(Signed)

(Title)

(Dated)

SECTION 00 7300
SUPPLEMENTARY CONDITIONS

STANDARD FORM

The Standard Form of General Conditions of the Contract for Construction, AIA Document A201 - 2007, issued by the American Institute of Architects, is a part of this specification. Copies are on file and may be obtained at the office of the Architect.

TABLE OF ARTICLES

1.	General Provisions	8.	Time
2.	Owner	9.	Payments and Completion
3.	Contractor	10.	Protection of Persons and Property
4.	Administration of the Contract	11.	Insurance and Bonds
5.	Sub-Contractors	12.	Uncovering and Correction of Work
6.	Separate Contracts	13.	Miscellaneous Provisions
7.	Changes in the Work	14.	Termination of Contract

The following supplements modify, change, delete from or add to the above named documents. Where any article of the General conditions is modified or any paragraph, subparagraph or clause thereof is modified or deleted by these supplements, the unaltered provisions of that article, paragraph, subparagraph or clause shall remain in effect.

ARTICLE 1GENERAL PROVISIONS1.1 DEFINITIONS

1.1.2 The Contract

1.1.2.1 The work shall be performed under separate or combined contracts. It is the duty of each Contractor to coordinate his work with that of each other Contractor. A complete set of drawings and specifications will be made a part of the Contract Documents for each Contractor.

1.1.4 The Project

1.1.4.1. The work covered in this project manual consists of construction and other related items, as set forth in the Instruction to Bidders, all pursuant to completion of Troy School District 2023 Synthetic Turf and Track Renovations.

1.1.6.1 The term "product" as used in these Supplementary Conditions includes material, systems and equipment.

1.1.7.1 The term "Project Manual" as used in these Supplementary Conditions is the volume which includes the Bidding Requirements, Conditions of Contract and the Specifications.

1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

1.2.3.1 No responsibility either direct or implied is assumed by the Architect for omission or duplications by the Contractor or his Sub-contractor due to real or alleged error in arrangements of matter in these Contract Documents. It is the intent that the Drawings and Specifications include everything necessary

SECTION 00 7300
SUPPLEMENTARY CONDITIONS

for the completion of the project and to be consistent with each other. It is hereby agreed and understood that work shown on the Drawings and not mentioned in the Specifications, or vice versa, is to be included the same as if it were mentioned in both the Drawings and the Specifications, with no extra charge to the Owner. If any part of the Drawings and/or Specifications are inconsistent, incorrect, or obscured in their meaning, these discrepancies shall be brought to the attention of the Architect in writing before execution of the Contract. Where there is conflict regarding the quality of any equipment or material, the one having the better quality shall be used unless directed by the Architect.

In submitting his proposal, the Contractor agrees to furnish all labor and supervision necessary to produce the construction required by the Contract Documents and all materials and equipment incorporated or to be incorporated in such construction.

- 1.2.4 The organization of the Specifications is done with the intent of defining the work for multiple Contract performance. The extent of responsibility for Contractor performance is overlapping from one technical section to another. It is the responsibility of each Contractor to cooperate and coordinate his work with other Contractors as necessary to meet all interface conditions standard to the industry and obvious to the intended extent of the work on this particular project.

1.5 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE

- 1.5.1.1 Drawings and Specifications provided to those not party to the contract are to be returned immediately upon request of the Architect.

ARTICLE 2

OWNER

2.1 GENERAL

- 2.1.1.1 The Owner of this Project is:

Troy School District
4400 Livernois Road
Troy, MI 48098

2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

- 2.2.3.1 The Owner shall obtain and pay for those items described (if any) set forth in the General Requirements.

- 2.2.4.1 The Owner shall issue all instruction to the Contractor through the Architect.

2.4 OWNER'S RIGHTS TO CARRY OUT THE WORK

- 2.4.1 The written notice will arrive in the form of, two (2) "forty-eight (48) hour notices" prior to Owner's carrying out the work. The method of notification is distributed via an email transmittal and the original will be sent 1st Class Mail.

SECTION 00 7300
SUPPLEMENTARY CONDITIONSARTICLE 3CONTRACTOR3.7 PERMITS, FEES AND NOTICES

- 3.7.1.1 The individual contractor will be responsible for securing and paying for permits pertaining to their area of work, and other items as set forth in the general requirements. Costs and arrangements for governmental inspection shall be the responsibility of the Contractor.

3.9 SUPERINTENDENT

- 3.9.1 The contractor shall provide adequate supervision over the work involved in his portion of the project. The Contractor shall designate a representative through which all communications shall be made. This representative shall work closely with the Architect in the performance of the work and his communications shall be binding on the part of the Contractor. Important communications shall be confirmed in writing.

- 3.9.1.1 All work shall be of the highest quality and in strict accordance with Manufacturer's published specifications and to Owner's satisfaction. Unacceptable workmanship will not be tolerated or permitted to continue.

3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

- 3.10.1.1 The Contractor and all Sub-Contractors, suppliers and manufacturers shall schedule materials, deliveries and installation expeditiously, and provisions to this effect shall be included in all subcontracts.
- 3.10.2.1 The Projected Construction Schedule as endorsed or modified by the Contractor, is part of the Contract Documents. This schedule constitutes the Contractor's commitment to expedient performance.
- 3.10.2.2 Modification to the Schedule as a result of allowable time extensions or increased scope of work shall be accepted by the Contractor as inherent to the construction process and shall not qualify as a basis for extra compensation from the Owner.

3.11 DOCUMENTS AND SAMPLES AT THE SITE

- 3.11.1.1 The drawings marked to record all changes and of underground installations made during construction, shall be delivered to the Architect upon completion of the work. Receipt of as-built drawings by the Architect is a condition for Final Payment.
- 3.11.1.2 The prints for record drawings will be a set of black and white prints provided by the Architect at start of construction. The Contractor shall maintain the set in good condition and shall use colored pencils to mark up the set in a legible manner to show:
- 3.11.1.2.A Significant deviations made during construction.
- 3.11.1.2.B Significant details not previously shown on drawings.

3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

SECTION 00 7300
SUPPLEMENTARY CONDITIONS

- 3.12.5 Shop drawings and samples shall be submitted to the Architect, dated and marked to show the names of the project, Architect, Contractor, originating Sub-contractor, Manufacturer or Supplier, and separate Retailer if pertinent. Shop drawings shall completely identify Specification section and locations at which materials or equipment are to be installed. Reproductions of Contract Drawings are acceptable as Shop Drawings only when specifically authorized in writing by the Architect.

Submission of shop drawings and samples shall be accompanied by a transmittal letter containing Project name, Contractor's name, number of drawings and samples, titles and other pertinent data.

- 3.12.5.1 Each Contractor shall provide the necessary record drawing information in timely and efficient manner.
- 3.12.5.2 Submission of shop drawings for approval shall consist of five (5) prints. One (1) print will be returned to the Contractor marked per Paragraph 3.12.11.1 following.
- 3.12.5.3 Unless otherwise specified, the number of shop drawings and the number of samples which the Contractor shall submit for record is the number that the Contractor requires to be returned plus five (5) copies for drawings and three (3) for samples which will be retained by the Architect/Owner.

If the shop drawing affects the work of another contractor(s) the Contractor shall provide additional copies as directed by the Architect.

- 3.12.8.1 The Contractor shall conscientiously supply all information required when submitting Shop Drawings and Samples. Information pertaining to delivery and expediting will be part of his submittal. This data is vital to field performance; consequently, the submittal will be returned unless complete information is provided.

3.12.11 Grading of shop drawings shall be as follows:

- A. No Exception Taken: No corrections, no marks.
- B. Reviewed and Noted: Minor amount of corrections; all items can be fabricated without further correction; checking is complete and all corrections are obvious without ambiguity.
- C. Re-submit: Minor amount of corrections; noted items must not be fabricated without further corrections, checking is not complete, details of items noted by checker are to be further clarified before full approval can be given; items not noted to be corrected can be fabricated under this stamp.
- D. Disapproved: Drawing or equipment is not in accordance with the contract. Submit new drawings covering equipment which meets specifications. Drawings will be returned unstamped with notification on letter of transmittal.

3.13 USE OF SITE

- 3.13.1 The control of the site will be by the Owner. The Contractor shall cooperate with him in all matters involving use of the site.

3.14 CUTTING & PATCHING

- 3.14.2 Where cutting of existing work is necessary, same shall be straight, true and of proper size.

SECTION 00 7300
SUPPLEMENTARY CONDITIONS

No excessive cutting will be permitted nor shall any piers or other structural members be cut without the consent of the Architect. The Contractor shall not endanger any work by cutting, excavating or otherwise and shall not cut or alter the work of any other Contractor without the consent of the Architect.

3.14.2.1 The cutting of all existing work shall be performed by the Contractor requiring same except that the cutting of openings shall be performed by workmen skilled relative to the material being cut.

3.14.2.2 The patching of all exposed work shall be performed by workmen skilled relative to the material being patched.

3.14.2.3 All patching shall be done in a neat, workmanlike manner with materials to match existing.

3.14.2.4 Where cutting or patching is required of one Contractor because of negligence of another Contractor then the cost for same shall be borne by the negligent Contractor.

3.15 CLEANING UP

3.15.2 If the Contractor fails to clean up within 7 days after receipt of notice by the Architect, the Owner may do so and the cost thereof shall be charged to the Contractor.

3.15.2.1 Each Contractor shall perform clean up of his own work including knocked down boxes and other containers. Debris shall not be buried on the site.

3.17 ROYALTIES, PATENTS AND COPYRIGHTS

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

3.19 SUBSTITUTIONS

3.19.1 After the contract has been executed, the Architect will consider a formal request for substitution of products for those specified, under the following conditions:

A. The request is accompanied by complete data on the proposed substitution substantiating compliance with the Contract Documents including product identification and description, performance and test data, references and samples where applicable, and an itemized comparison or proposed substitution with the products specified or named by Addenda, with data relating to Contract time schedule, design and artistic effect where applicable, and its relationship to separate contracts.

B. The request is accompanied by accurate cost data on the proposed substitution in comparison with the product specified, whether or not modification of the Contract Sum is to be a consideration.

3.19.2 Requests for substitution based on Clause 3.19.1 above, when forwarded by the Contractor to the Architect, are understood to mean that the Contractor:

A. Represents that he has personally investigated the proposed substitute product and determined that it is equal or superior in all respects to that specified.

SECTION 00 7300
SUPPLEMENTARY CONDITIONS

- B. will provide the same guarantee for the substitution that he would for that specified.
- C. certifies that the cost data presented is complete and includes all related costs under this contract, but excludes costs under separate contracts and the Architect's redesign costs, and that he waives all claims for additional costs related to the substitution which subsequently became apparent; and
- D. will coordinate the installation of accepted substitute, making such changes as may be required for the work to be complete in all respects.

Substitutions will not be considered if:

- A. They are indicated or implied on the shop drawings submissions without the formal request required in Clause 3.19 above; or
- B. For their implementation they require a substantial revision of the Contract Documents in order to accommodate their use.

ARTICLE 4

ADMINISTRATION OF THE CONTRACT

4.1 THE ARCHITECT

- 4.1.1.1 Requests concerning interpretations during the construction period shall be made to the Landscape Architect. The term "Architect" means the Landscape Architect or the Landscape Architect's representative.

The Landscape Architect for this project is Foresite Design, Inc., 3269 Coolidge Highway, Berkley, MI 48072. (248) 547-7757.

4.5 MEDIATION

- 4.5.1 Binding mediation will be entered into only if mutually agreed upon by both the Owner and Contractor.

ARTICLE 6

CONSTRUCTION BY OWNER OR
BY SEPARATE CONTRACTORS

6.1 OWNER'S RIGHT TO PERFORM CONSTRUCTION
AND TO AWARD SEPARATE CONTRACTS

- 6.1.1 Delete:

"...and waiver of subrogation."

- 6.1.3.1 A pre-construction conference will be held to review schedule, in the event separate contracts are issued all work must be completed as outlined in the bidding documents. Contractor shall coordinate their Work with other trades in a manner that is in the best interest of the Owner and the overall project.

ARTICLE 7

SECTION 00 7300
SUPPLEMENTARY CONDITIONSCHANGES IN THE WORK7.3 CONSTRUCTION CHANGE DIRECTIVES

7.3.10 Add:

“The following fees apply to Changes in the Work in accordance with Subparagraph 7.3.6:

- a. 5 percent overhead and profit on the net cost of materials and labor done by the Contractor;
- b. 10 percent overhead and profit on the net cost of materials and labor done by any Subcontractor.

ARTICLE 8TIME8.2 PROGRESS AND COMPLETION

8.2.4 During the course of the work, the Architect will condone reduced crew size or even total absence on the part of the Contractor, providing such reduced activity is mutually agreed to and will not slow down or interfere with the overall progress of the work. However, when work is available and is required to maintain the Construction Schedule or assist an interface situation, performance by the Contractor is mandatory. If performance is not maintained by the contractor, the Owner will give the Contractor two (2) forty-eight (48) hours notices before taking over completion of work as covered in Article 2.4.1.

8.2.4.1 The Contractor will keep accurate daily records of performance on all Contracts involved in the project. The comparison of these records with the Contractor's commitment to the Construction Schedule will determine his effort in pursuit or total project completion.

8.3 DELAYS AND EXTENSIONS OF TIME

8.3.1.1 If a delay on the part of one Contractor directly affects the progress of others, then time extensions shall be granted to those directly affected. Necessarily, however, the granting of time extensions shall not increase the required working time span for any Contractor, only the completion date.

8.3.2 All claims for extension of time shall be made in writing to the Architect no more than seven (7) days after the occurrence of the delay; otherwise, they shall be waived. In the case of a continuing cause of delay, only one claim is necessary.

ARTICLE 9PAYMENTS & COMPLETION9.2 SCHEDULE OF VALUES

9.2.1 The Architect shall review the schedule of values, submitted by the Contractor. The schedule of values shall be prepared in such a manner that each major item of work and each subcontracted item of work is shown as a single line item on AIA Document G702, Application and Certificate for Payment, Continuation Sheet, G703.

9.3 APPLICATIONS FOR PAYMENT

SECTION 00 7300
SUPPLEMENTARY CONDITIONS

9.3.1 Substitute the following:

No later than the 15th day of each month, the Contractor shall submit to the Architect an itemized Application for Payment, supported by such data substantiating the contractor's right to payment as the Owner and Architect may require. Payment by the Owner will be made on or before the 20th day of the following month.

9.3.1.3 Until final payment, the Owner will pay ninety percent (90%) of the amount due to the Contractor on account of progress payments. If the manner of completion of the work and its progress are, and remain, satisfactory to the Architect, and in the absence of other good and sufficient reasons and shown to be fifty percent (50%) or more complete in the Application retainage, on presentation by the Contractor of Consent of Surety for each application, the landscape architect shall certify any remaining progress payments to be paid in full.

9.3.1.4 The full contract retainage may be reinstated if the manner of completion of the work and its progress do not remain satisfactory to the Architect, or if the surety withholds his consent, or for other good and sufficient reasons.

9.3.1.5 The form of Application for Payment shall be AIA Document G702, Continuation Sheet, G703.

9.3.1.6 At the time the payment is submitted, the Contractor will present to the Architect in triplicate and original, a Sworn Statement and a Waiver of Lien in the amount of the payment. Waivers from Sub-contractors, and Suppliers representing major expenditures shall also be required. **If these documents are not attached, the pay application will not be processed.**

9.3.1.7 Final payment will be made within 30 days after the Contractor has achieved final completion as determined by Owner and supplied necessary submittals/warranties/guarantees as may be required elsewhere in the contract document. 10% of value of Work completed and acceptable will be retained by Owner until final payment.

9.6 PROGRESS PAYMENTS

9.6.1 The Owner shall make payment to the Contractor on or before the twentieth (20th) day of the month following the Contractor's submission of Application for Payment and after the Architect has issued a Certificate for Payment.

9.8 SUBSTANTIAL COMPLETION

9.8.1.1 The Architect will prepare a Certificate of Substantial Completion when he determines that the work of each individual Contract is substantially complete.

9.8.4.1 The Contractor shall finish all items on the list within thirty (30) days of the acceptance of the Certificate of Substantial Completion. If completion is not obtained within thirty (30) days, the Owner will give the Contractor two (2) forty-eight (48) hours notices before taking over completion of work as covered in Article 2.4.1.

SECTION 00 7300
SUPPLEMENTARY CONDITIONS

9.10 FINAL COMPLETION AND FINAL PAYMENT

- 9.10.1.1 The Architect will issue a final Certificate for Payment after he finds the work acceptable under Contract Documents and the Contract fully performed.
- 9.10.2.1 Final payment, covering each individual Contract, will be made by the Owner to the Contractor thirty days after Substantial Completion of the work unless otherwise stipulated in the Certificate of Substantial Completion, provided the work has then been completed, the Contract fully performed, and a final Certificate for Payment has been issued by the Architect.

ARTICLE 10

PROTECTION OF PERSONS AND PROPERTY

10.1 SAFETY PRECAUTIONS AND PROGRAMS

- 10.1.1 Contractor shall adequately protect building, service drives, lawn, shrubs, trees etc. from damage, including water damage, during the process of performing required Work. Contractor shall repair or be responsible for the costs to repair, all property damaged during the performance of this Contract. Damages to the building will be addressed immediately and sent to Contractor in writing by Owner.

10.2 SAFETY OF PERSONS AND PROPERTY

- 10.2.8 Contractor shall be responsible for all means and methods as they relate to safety and shall comply with all applicable local, state and federal requirements that are safety related. Safety shall be the responsibility of the Contractors. All contractor related personnel shall be instructed daily to be ever mindful of the full time requirement to maintain a totally safe environment for the facilities' occupants including students, staff, visitors and the occurrence of the general public on or near the site.

ARTICLE 11

INSURANCE AND BONDS

11.1 CONTRACTOR'S LIABILITY INSURANCE

- 11.1.1 In the first line following the word "maintain", insert the words "In a company or companies licensed to do business in the state in which the Project is located."
- 11.1.1.9 Liability insurance shall include all major divisions of coverage and be on a comprehensive basis including:
1. Premises - Operations (including X-C-U). (For underground work only)
 2. Independent Contractor's protective
 3. Products and completed operations
 4. Contractual - including specified provisions for the Contractor's obligations under Paragraph 3.18.
 5. Owned, non-owned and hired motor vehicles.
 6. Broad form coverage for property damage.

Add the following:

SECTION 00 7300
 SUPPLEMENTARY CONDITIONS

11.1.2.1 Add the following minimum limits:

1. Worker's Compensation & Employers' Liability

A.	Each Accident	\$	500,000
B.	Disease-Policy Limit	\$	500,000
C.	Disease-Each Employee	\$	500,000

2. Comprehensive General Liability

A.	Bodily Injury		
	Each Person	\$	500,000
	Each Occurrence	\$	1,000,000
B.	Personal Injury		
	Each Person	\$	500,000
	Aggregate	\$	2,000,000
	General Aggregate	\$	2,000,000
C.	Property Damage		
	Each Person	\$	500,000
	Each Occurrence	\$	500,000
	Aggregate	\$	2,000,000

3. Automobile Liability

A.	Bodily Injury		
	Each Person	\$	500,000
	Each Occurrence	\$	500,000
B.	Property Damage		
	Each Occurrence	\$	100,000

4. Independent Contractors
 Same limits as above

5. Products and Completed Operations
 Same limits as above

11.1.2.2 The Contractor will require all Sub-contractors to maintain similar insurance coverage.

11.1.2.3 In addition to the General Liability coverage required by Article 11.1.2.1, the Contractor will maintain during the period of this Contract Umbrella Liability Insurance covering the risk of losses of \$ 1,000,000.00 in excess of the limits stated in Article 11.1.2.1.

SECTION 00 7300
SUPPLEMENTARY CONDITIONS

- 11.1.3.1 Furnish one (1) copy of Certificates herein required for each copy of the Agreement; specifically set forth evidence of all coverage required by Subparagraph 11.1.1. and 11.1.2. Furnish the Owner copies of any endorsements that are subsequently issued amending coverage or limits.
- 11.1.3.2 All Certificates for insurance shall name the Owner and Architect as additionally insured.
- 11.1.3.3 **The following language shall be indicated on all certificates of insurance from successful bidder: Troy School District, its elected or appointed officials, employees and volunteers, and Foresite Design, Inc. are included as insured with regards to damages and defense of claims arising from: (a) activities performed by or on behalf of the named insured, or (b) products and completed operations of the named insured, or (c) premises owned, leased, or used by the named insured".**

11.3 PROPERTY INSURANCE

- 11.3.5 Delete the last sentence in its entirety:

"All separate policies shall provide this waiver of subrogation by endorsement or otherwise."

- 11.3.7 Delete this section in its entirety:

"The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents and employees, each of the other, and (2) the Architect, Architect's consultants, separate contractors described in Article 6, if any, and any of their subcontractors, sub-subcontractors, agents and employees, for damages caused by fire or other causes of loss to the extent covered by property insurance obtained pursuant to this Section 11.3 or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by the Owner as fiduciary. The Owner or Contractor, as appropriate, shall require of the Architect, Architect's consultants, separate contractors described in Article 6, if any, and the subcontractors, sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged."

- 11.3.9 Add the following sentence:

In waiving rights of recovery under terms of this Subparagraph, the term "Owner" shall be deemed to include his employees, the Architect, and their employees as the Owner's representative as provided in the Contract Documents.

- 11.3.11 If the Owner finds it necessary to occupy or use a portion or portions of the work prior to Substantial Completion, such occupancy shall not commence prior to a time mutually agreed to by the Owner and the Contractor and concurred with by the insurance company or companies. This insurance shall not be canceled or lapsed on account of such partial occupancy.

11.5 OWNER'S PROTECTIVE INSURANCE

SECTION 00 7300
SUPPLEMENTARY CONDITIONS

11.6.1 The Contractor shall provide Owner's Protective Insurance on same limits as specified in 11.1.1 and 11.1.2 above, naming the Architect as additionally insured.

ARTICLE 13MISCELLANEOUS PROVISIONS13.3 WRITTEN NOTICE

13.3.1 Written notice shall be deemed to have been duly served if delivered or sent via the telephone facsimile machine to the last known number to the party giving notice.

13.5 TESTS AND INSPECTIONS

13.5.1 The Owner shall pay for all testing.

13.8 NO SMOKING

13.8.1 No smoking is permitted in the building or on school grounds.

13.9 SECURITY

13.9.1 Contractors shall observe the following procedure when working in a school building, unless otherwise instructed:

1. Proceed to the office, identify yourself, state reason for being in the building, and receive visitors pass.
2. Complete work, then revisit the office to check out prior to leaving the building/premises.

13.10 ENVIRONMENTAL SAFETY/RESPONSIBILITY

13.10.1 It shall be the responsibility of the Contractor or sub-contractor to pay any and all costs incurred from the clean up related to any environmental hazard created by means of contamination caused by accident or neglect of the Contractor or sub-contractor.

It shall be the responsibility of the Contractor or sub-contractor to dispose of any environmentally hazardous product(s) and/or material in accordance with the EPA, DNR, and local applicable laws and regulations.

It shall be the responsibility of the Contractor or sub-contractor, if required, to purchase permits and notify the proper authorities prior to commencing said project or, should a "release" take place, to notify proper authorities of any such release.

It shall be the responsibility of the Contractor or sub-contractor to maintain on site a blood borne pathogen plan and all necessary safety supplies associated with any spill or clean up that may occur.

13.11 RIGHT TO KNOW

13.11.1 In accordance with **MIOSHA** regulations pertaining to the "**Michigan Right to Know Law**" the owner has posted Material Safety Data Sheets for any hazardous chemicals in their workplace. The Contractor shall designate a coordinator to oversee the institution and maintenance of a similar program for the areas in which the construction work will take

SECTION 00 7300
SUPPLEMENTARY CONDITIONS

place. The program must encompass all **MIOSHA** Regulations with regards to the **"Michigan Right to Know Law"** for all hazardous chemicals which will be used on site during the course of construction.

13.12 ASBESTOS FREE CERTIFICATION

No asbestos containing material shall be purchased or installed as a part of this project. The Contractor shall be required to certify that no asbestos containing materials have been replaced in this project. **Approved certification shall be on file with the Owner prior to consideration for final payment.**

13.13 AFFIRMATIVE ACTION

Troy School District as an Equal Opportunity Affirmative Action Employer, Complies with the federal and state laws prohibiting discrimination, including Title IV and Title VII (with amendments) of the 1964 Civil Rights Act, Title IX of the Educational Amendment of 1972, Section 504 of the Rehabilitation Act of 1973 and Veterans Readjustment Act of 1974 as amended 38 USC20-12 and the Americans With Disabilities Act of 1990. It is the policy of the school board that no person, on the basis of race, sex, height, weight, color, religion, nation origin or ancestry, age, marital status, disability or veteran status, shall be discriminated against in employment, educational programs and activities, or admission.

END OF SECTION 00 7300

THIS PAGE IS INTENTIONALLY LEFT BLANK



FILE TRANSFER AGREEMENT

Project: 223 Troy School District Synthetic Turf & Track Renovations

Project Number:

Specific Type of Work:

FORESITE DESIGN, INC. (FDI) AGREEMENT FOR THE TRANSFER OF INSTRUMENTS OF SERVICE (ELECTRONIC FILES) TO _____.

As per your request, we will provide electronic files for your convenience and use in preparing for your specific work related to the above referenced project, subject to the following terms and conditions:

Hard Copy Instruments

These electronic files are not construction documents. Differences may exist between these electronic files and corresponding hard-copy construction documents. We make no representation regarding the accuracy or completeness of the electronic files you receive. In the event that a conflict arises between the signed or sealed hard-copy construction documents prepared by us and the electronic files, the signed or sealed hard-copy documents shall govern. You are responsible for determining if any conflicts exist. By your use of these electronic files, you are not relieved of your duty to fully comply with the contract documents, including, and without limitation, the need to check, confirm and coordinate all dimensions and details, take field measurements, verify field conditions and coordinate your work with that of other contractors for the project.

If addendums, bulletins, construction change directives, change orders, and/or any other change is formally issued to the contract documents, it is your responsibility to request updated CAD files if so needed. FDI will not automatically forward the updated files to you.

Electronic Data Transfer

Our electronic files are compatible with: AutoCAD Release 2010 and 2004. We make no representation as to the compatibility of these files with your hardware or your software beyond the specified release of the referenced specifications. Other software programs may have been used in the development of the drawings and design of the project. FDI will not release any of this associated software for use with the electronic files.

Because information presented on the electronic files can be modified, unintentionally or otherwise, we reserve the right to remove all indicia of ownership and/or involvement from each electronic display.

Data contained on these electronic files are part of our instruments or service and shall not be used by you or anyone else receiving these data through or from you for any purpose other than as a convenience in preparing your work for the above referenced project. Any other use or reuse by you or by others will be at your sole risk and without liability or legal exposure to us. You agree to make no claim and thereby waive, to the fullest extent permitted by law, any claim or

cause of action of any nature against us, our officers, directors, employees, agents or sub-consultants that may arise out of or in connection with your use of the electronic files.

Furthermore, you shall, to the fullest extent permitted by law, indemnify and hold us harmless against all damages. Liabilities or costs, including reasonable attorneys' fees and defense costs, arising out of or resulting from your use of these electronic files.

Computer Viruses

Computer viruses are a real and serious threat to all computer users. FDI takes steps to detect and eliminate computer viruses from our system and the diskettes that are made available to our clients and colleagues. Since computer viruses can attach at any time, FDI strongly urges its clients and colleagues to back-up their important data frequently and to take steps to detect viruses from any of the files that we make available. Even though FDI takes prudent steps to prevent the attachment of computer viruses to its electronic media, we cannot guarantee this.

If an electronic file is requested and provided by FDI, it is specifically understood and agreed that use of electronic media provided by FDI is done so at the sole risk of the user and the user is responsible for testing for and eliminating computer viruses from any files provided by FDI.

Service Fee

A service fee of \$250.00 shall be remitted to Foresite Design, Inc. Payment of this service fee is due upon receipt of this request for electronic files.

Under no circumstances shall delivery of the electronic files for use by you be deemed a sale by us, and we make no warranties, either expressed or implied, of merchantability and fitness for any particular purpose. In no event shall we be liable for any loss of profit or any consequential damages as a result of your use or re-use of these electronic files.

Architect:

Agreed by:
(signing below indicates that we have read and agree to both pages of this agreement)

Foresite Design, Inc.

Company Name

Michael Sims
President

Authorized Signature and Title

Date: _____

Date: _____

SECTION 01 2300
ALTERNATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for alternates as proposed by the Landscape Architect. The bidder proposes the following Voluntary Alternates for the sums to be deleted from the Base Bid as stated below:

- 1. Voluntary Alternates or Substitutions proposed by Bidders will not form the Base Bid Proposal Price

B. VOLUNTARY ALTERNATE NO. 1:

Which would save the Owner:

_____ () Dollars

C. VOLUNTARY ALTERNATE NO. 2:

Which would save the Owner:

_____ () Dollars

1.3 DEFINITIONS

- A. Alternate: An amount proposed by bidders and stated on the Proposal Form for certain work defined in the Bidding Requirements that may be added to or deducted from the Base Bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment or installation methods described in the Contract Documents.

- 1. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the work, No other adjustments are made to the Contract Sum.

SECTION 01 2300
ALTERNATES

- B. Voluntary Alternate: Bidders proposing voluntary alternates and substitutions will not be recognized as part of the Base Bid Price. Owner may review voluntary proposal with the successful Bidder.

1.4 PROCEDURES

- A. Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the alternate into the project.
 - 1. Include as part of each alternate, miscellaneous products, equipment, and similar items incidental to or required for a complete installation whether or not indicated as part of the alternate.
- B. Notification: Immediately following award of Contract, notify each party involved of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.
- C. Execute accepted alternates under the same conditions as other work of the Contract.
- D. Schedule: A schedule of Alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION

3.1 SCHEDULE OF ALTERNATES

- A. No Base Bid Alternates Scheduled

END OF SECTION 01 2300

SECTION 01 2619
CLARIFICATION REQUEST

**DUE FIVE DAYS PRIOR TO BID DUE DATE
NO LATE CLARIFICATION REQUESTS WILL BE ACCEPTED.**

DATE: _____

Project: Athletic Facility Improvements

	Proposal A – Site Work
	Proposal B – Synthetic Turf
	Proposal C – Track Surface

To: Foresite Design Inc.
3269 Coolidge Hwy.
Berkley, MI 48072
Office: (248) 547-7757

FROM:

Company Name

Contact Name

Address

City, State Zip

Phone # Fax #

CLARIFICATION:

1. _____

2. _____

3. _____

RESPONSE:

1. _____

2. _____

3. _____

SECTION 01 2619
CLARIFICATION REQUEST

**DUE FIVE DAYS PRIOR TO BID DUE DATE
NO LATE CLARIFICATION REQUESTS WILL BE ACCEPTED.**

THIS PAGE IS INTENTIONALLY LEFT BLANK

SECTION 01 3523
SAFETY REQUIREMENTS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Safety is the responsibility of each individual Contractor. Each Contractor shall comply with all local safety ordinances and MI-OSHA regulations and requirements while performing the Work.
- B. Each Contractor is required to submit Material Safety Data Sheets (MSDS) to the Construction Manager, to be used for reference only, prior to transporting the material/chemical on site. In addition, it is the responsibility of each Contractor to maintain an accessible MSDS file for their employees, subcontractors, and suppliers on site.
- C. Each Contractor shall submit evidence of an Employer Safety Program that complies with current MI-OSHA regulations and requirements prior to beginning any contract Work.
- D. The Contractor and their Sub-Contractor(s) and suppliers shall take all necessary precautions to ensure the safety of the public and of workers on the job, and to prevent accidents or injury to any persons, on about, or adjacent to the premises where the Work is being performed. The Contractor and the Sub-Contractor(s) and suppliers shall comply with Federal or State OSHA regulations and all other laws, codes, ordinances, and regulations relative to safety and the prevention of accidents.
- E. The Contractor shall designate a responsible representative at the job site as a Safety Representative who shall be responsible for the promotion of safety and prevention of accidents, and shall enforce all applicable laws, ordinances, codes, rules, regulations and standards pertaining to safety and prevention of accidents.
- F. Each Contractor shall submit their Experience Modification Rating (EMR) to the Construction Manager. In addition, the Contractor is responsible to provide to the Construction Manager a listing of any MIOSHA violations or citations they have received in the past 5 years.
- G. Upon award of Contract, Contractor must provide Construction Manager with a 'Safety Manual'. Record copy of safety manuals will be retained onsite. Safety Manual shall include the following, but not limited to:
 - Loss Control Program
 - Hazard Communication Program
 - Respiratory Protection Program
 - Necessary Forms Needed to Adequately Perform Job

END OF SECTION 01 3523

THIS PAGE IS INTENTIONALLY LEFT BLANK

SECTION 01 4100
REGULATORY REQUIREMENTS

PART 1 - GENERAL

1.1 PERMITS AND INSPECTION FEES

- A. The Contractor will secure and pay for all general building permits.
- B. All soil erosion and DEQ permits, mechanical, and electrical permits shall be applied for, secured, and paid for by the Contractor requiring such permits.
- C. Any other specialized permits or inspection fees (i.e. utility taps or fees) shall be applied for, secured, and paid by the Contractor requiring such permits.

1.2 INSPECTIONS

- A. Any Contractor requiring special inspection by the State or other agency shall arrange and schedule the inspection and give a minimum of 48 hour notice to the Construction Manager, Architect, or Engineer.
- B. Partial occupancy permits may be applied for by the Owner. All Contractors will cooperate and assist in securing and maintaining partial occupancy permits.
- C. Mechanical and electrical Contractors shall review their specifications to comply with all special testing and inspections.
- D. Where the Contract Documents require inspections, tests or approvals of the Work to be made by an independent testing agency or laboratory or an independent professional consultant, the independent testing agency or laboratory or independent professional consultant shall be satisfactory to the Architect, Engineer and Construction Manager.
- E. Each contractor shall inspect work of others which will receive or is adjacent to their work before commencing their work. Do not proceed until conditions which would result in a less than satisfactory installation are corrected. Commencing work shall constitute as acceptance of the work or others by the contractor as satisfactory to receive their work.

END OF SECTION 01 4100

THIS PAGE IS INTENTIONALLY LEFT BLANK

SECTION 01 56 00
CLEANING

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Work Included: Each Contractor shall, throughout the construction period, maintain the buildings and site in a standard of cleanliness as described in this Section.
- B. Related Work:
 - 1. Documents affecting work of this Section include, but are not limited to, General Conditions, Supplementary Conditions, and Section in Division 1 of these Specifications
 - 2. In addition to Standards described in this Section, comply with requirements for cleaning as described in other pertinent Sections of these Specifications.

1.2 QUALITY ASSURANCE

- A. Conduct daily inspection, and more often if necessary, to verify that requirements for cleanliness are being met.
- B. In addition to standards described in this Section, comply with pertinent requirements of governmental agencies having jurisdiction.

PART 2 - PRODUCTS

2.1 CLEANING MATERIALS AND EQUIPMENT

- A. Each Contractor shall provide required personnel, equipment, and materials needed to maintain the specified standard of cleanliness.
- B. Each contractor shall provide portable toilets for their employees unless otherwise advised by the Owner.

2.2 COMPATIBILITY

- A. Use only the cleaning materials and equipment which are compatible with the surface being cleaned, as recommended by the manufacturer of the material.

PART 3 - EXECUTION

3.1 PROGRESS CLEANING

- A. General; the Contractor shall:
 - 1. Retain stored items in an orderly arrangement allowing maximum access, not impeding traffic or drainage, and providing protection of materials from weather.
 - 2. Not allow accumulation of scrap, debris, waste material, and other items not required for construction of this Work either inside the building nor on the property surrounding the work site.
 - 3. At least once a week, and more often if necessary completely remove all scrap, debris, and waste material from the building and facility. If a dumpster is required for this work, it shall be paid for by the Contractor(s).

SECTION 01 56 00
CLEANING

4. Provide adequate storage for all items awaiting removal from the job site, observing requirements for fire protection and protection of the ecology.

B. Site:

1. Daily, and more often if necessary, inspect the site and pickup all scrap, debris, and waste material. Remove items to the place designated for their storage. Contractor shall dry sweep street(s) affected by construction traffic as directed, for the duration of the construction.
2. Weekly, and more often if necessary, inspect all arrangements of materials stored on the site. Restack, tidy or otherwise service arrangements to meet the requirements as noted above. Contractor shall water/wet sweep street(s) affected by construction traffic once a week, for the duration of the construction.
3. Maintain the site in a neat and orderly condition at all times.

C. Structures:

1. Weekly, and more often if necessary, sweep sidewalks, City roads, as directed.
 - a. "Clean: for the purposes of this subparagraph, shall be interpreted as meaning free from dust and other material capable of being removed by use of reasonable effort, hand-held broom, and heavy-duty vehicle sweeper.
2. Protect existing structures, finishes and materials. Should work occur near existing structures or finishes, Contractor shall ensure materials are left clean. Any damage caused by the Contractor shall be repaired or replaced by Contractor as directed by the Architect, at no additional cost to the Owner.
 - a. "Clean", for the purpose of this subparagraph, shall be interpreted as meaning free from foreign material which, in the opinion of the Architect, may be injurious to the finished material.

3.2 FINAL CLEANING

- A. "Clean" for the purpose of this Article, and except as may be specifically provided otherwise, shall be interpreted as meaning the level of cleanliness generally provided by skilled cleaners using commercial quality equipment and materials.
- B. Prior to completion of Work, remove from the job site, all tools, surplus materials, equipment, scrap, debris and waste. Location of surplus materials for Owner use shall be coordinated with Owner prior to Contractor leaving site.

END OF SECTION 01 5600

SECTION 01 5629
TEMPORARY PROTECTIVE WALKWAYS**PART 1 - GENERAL****1.1 DESCRIPTION**

- A. Work Included: Each Contractor shall, throughout the construction period, maintain the site in a standard of cleanliness as described in this Section.

1.2 SCOPE OF WORK

- A. The work under this section of the specifications shall include providing all labor, materials, and equipment necessary for the installation of heavy-duty composite protective mats for temporary access roads and pavement protection.

1.3 QUALITY ASSURANCE

- A. Conduct daily inspection, and more often if necessary, to verify that requirements for cleanliness and protection are being met. Work shall include ensuring interlocking decking attachment points have not been released from the decking.

PART 2 - PRODUCTS**2.1 PRODUCTS**

- A. Proposed products shall utilize one of the following:
 - 1. Dura-Base® as manufactured by Newpark Mats
9320 Lakeside Blvd., Suite 100
The Woodlands, TX 77381
(877) 628-7623
 - 2. MEGADECK® HD as manufactured by Signature Systems
1201 Lakeside Parkway, Suite 150
Flower Mound, TX 75028
(800) 931-7301
- B. Alternative System may include 1" Steel Plates over bridging material as detailed

PART 3 - EXECUTION**3.1 INSTALLATION**

- A. Install pre-manufactured HDPE mat material per manufacturer's written installation instructions and details. Materials include a geotextile fabric base material, 3/4" plywood, and 2" foam sheets placed beneath the mats or steel plates.
- B. Pre-manufactured matting shall be installed in a manner to connect to each other and form a tight and secure load-distributing surface.
- C. Provide a smooth transition from the mat road to an existing surface, which may include utilizing the manufacturer's Ramp Component or mounding aggregate gravel material against the edge of the mat. Should the mat road meet an existing road where traffic enters and exists at hard angles, wings should be constructed to accommodate the turning radius of vehicles.

SECTION 01 5629
TEMPORARY PROTECTIVE WALKWAYS

3.2 MAINTENANCE

- A. Construction matting or steel plates should be kept clean from debris, oils or materials from entering any nearby drainage points. This may include power-washing to restore optimal traction to maintain a clean worksite.
- B. Should a holding pin become damaged that it can no longer hold part of the mats, it should be replaced so the mat grid does not shift. Should damage to the mats occur where the damage appears irreparable, remove the damaged mat and replace with another mat.
- C. Should the mats or steel plates become slick with mud during heavy rainfall or if ice forms during cold weather, sand should be spread on the surface to aid traction. If snow accumulates on the surface, plow or shovel the snow to clear the mats, while minimize the impact to any protruding edges. Ensure the plow blade does not scrape the surface of the mat.

3.3 CLEAN-UP

- A. The Contractor shall remove the temporary construction access road matting or plates in a manner so as not to damage the surface below.
- B. Remove and dispose of all excess materials or debris from the site.
- C. Inspect the existing surrounding and protected surface areas for damage or debris. Contractor shall powerwash or clean the existing surfaces to remove all fine debris.

END OF SECTION 01 5629

SECTION 01 7301
FIELD ENGINEERING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 WORK INCLUDED

- A. Upon receipt of contract award, contractors are responsible to provide and pay for additional field engineering services required including all survey work.
- B. All survey work related to the project shall be completed by one (1) Surveyor.

1.3 QUALIFICATIONS

- A. Registered Professional Surveyor, acceptable to Owner, Construction Manager and Engineer.

1.4 SURVEY/ EXISTING CONDITIONS PLAN

- A. Survey documents provided are based on past survey work and historic drawings and field verification. Contractor shall field verify horizontal and vertical site conditions. Any discrepancies in documents shall be immediately reported to Owner's Representative, Construction Manager, and Engineer prior to the start of construction.

1.5 SURVEY REFERENCE POINTS

- A. Contractor shall establish control points prior to starting site work. Contractor shall protect and preserve all control and reference points during construction.
- B. Make no changes or relocation without prior written notice to Owner's Representative, Construction Manager, and Engineer.
- C. Report to Owner's Representative, Construction Manager, and Engineer when any reference point is lost or destroyed, or requires relocation because of necessary changes in grades or locations.
- D. Contractor shall be required to replace project control points which may be lost or destroyed.

1.6 RECORDS

- A. Maintain a complete, accurate log of all control and survey work as it progresses.

SECTION 01 7301
FIELD ENGINEERING

1.7 SUBMITTALS

- A. Submit name and address of Surveyor to Construction Manager.
- B. On request of Construction Manager, Owner's Representative or Engineer, submit documentation to verify accuracy of field engineering work.
- C. Submit certificate signed by Registered Surveyor certifying that elevations and locations of improvements are in conformance, or non-conformance, with Contract Documents.
- D. Provide "As-Built" drawings reflecting any changes illustrated on the contract documents.

PART 2 – PRODUCTS – Not Applicable

PART 3 – EXECUTION – Not Applicable

END OF SECTION 01 7301

SECTION 01 7700
PROJECT CLOSEOUT

PART 1 - GENERAL

1.1 SUMMARY

- A. Comply with requirements stated in Conditions of the Contract and in the Specifications for administrative procedures in closing out the work.

1.2 SUBSTANTIAL COMPLETION

- A. Refer to General Conditions of the Contract for Construction.
- B. When the Project is determined by the Landscape Architect to be sufficiently complete to permit utilization for the intended use, the Landscape Architect will issue a Certificate of Substantial Completion.
- C. To receive the Certificate of Substantial Completion, Contractor shall perform the following:
 - 1. Submit to the Architect a notice declaring that work is believed to be substantially complete.
 - 2. Submit a list of work items that remain to be completed or corrected and the date this work will be accomplished.
- D. Architect will visit the project to evaluate the request for issuance of Certificate of Substantial Completion.
 - 1. If the Architect concurs that the Project is substantially complete, the Architect will deliver a Certificate of Substantial Completion and a list of work items necessary for completion or correction prior to the request for inspection for final completion.
 - 2. If the Architect determines that the work is not substantially complete, the Architect will deliver to the Contractor a written statement including reasons.
 - 3. Complete work on the items required by the Architect for achieving substantial completion and make additional written requests for issuance of Certificate of Substantial Completion until the Architect determines that sufficient work has been performed.

1.3 CLOSEOUT SUBMITTALS

- A. When the Architect has determined and the Construction Work is acceptable under the Contract Documents and the Contract fully performed, prepare and submit final Application for Payment to the Architect together with the (1) copy of the following:
 - 1. A letter recommending acceptance of Project and indicating all punch list items are complete.
 - 2. Project Record Documents, Warranties and Bonds
 - 3. Sworn Statements and Waivers
- B. Architect will make an inspection to verify the status of completion with reasonable promptness after receipt of such certification.

1.4 FINAL APPLICATION FOR PAYMENT

- A. Submit the final Application for Payment in accordance with procedures and requirements stated in the Conditions of the Contract.

END OF SECTION 01 7700

THIS PAGE IS INTENTIONALLY LEFT BLANK

SECTION 01 7823
OPERATING, MAINTENANCE AND WARRANTY DATA

PART 1 - GENERAL

1.1 SUMMARY

- A. Compile product data and related information appropriate for Owner's maintenance and operation of products furnished under the Contract.
- B. Prepare operating, maintenance and warranty data as specified in this Section and as referred in other pertinent sections of Project Manual.
- C. Instruct Owner's personnel in the maintenance of products and in the operation of equipment and systems.
- D. Related Sections:
 - 1. Specification Section 01 7800 Project Closeout
 - 2. Specification Section 01 7839 Project Record Documents

1.2 QUALITY ASSURANCE

- A. Preparation of data shall be done by personnel with the following qualifications:
 - 1. Trained and experience in maintenance and operation of the described products.
 - 2. Completely familiar with requirements of this Section.
 - 3. Skilled as a technical writer to the extent required to communicate essential data.
 - 4. Skilled as a draftsman competent to prepare required drawings.

1.3 FORM OF SUBMITTALS

- A. Prepare data in the form of an instructional manual for use by the Owner's personnel.
- B. Format shall conform to the following:
 - 1. Size: 8-1/2" x 11"
 - 2. Paper: 20 pound minimum, white for typed pages
 - 3. Text: Manufacturer's printed data, or neatly typewritten
 - 4. Drawings:
 - a. Provide reinforced punched binder tab, bind in with text
 - b. Fold larger drawings to the size of the text pages
 - 5. Provide fly-leaf for each separate product, or each piece of equipment.
 - a. Provide typed description of product, and major component parts of equipment.
 - b. Provide indexed tab.
 - 6. Cover: Identify each volume with typed or partial title "OPERATING, MAINTENANCE AND WARRANTY INSTRUCTIONS". List:
 - a. Title of Project
 - b. Identity of separate structure as applicable
 - c. Identity of general subject matter covered in manual

1.4 CONTENT OF MANUAL

- A. Arrange neatly typewritten table of contents for each volume, in the following systematic order:
 - 1. Contractor, name of responsible principal, address and telephone number

SECTION 01 7823
OPERATING, MAINTENANCE AND WARRANTY DATA

2. A list of each product required to be included, indexed to the content of volume.
3. List, with each product, the name, address and telephone number of:
 - a. Contractor or installer
 - b. Maintenance contractor, as appropriate
 - c. Identify the area of responsibility of each
 - d. Local source of supply for parts and replacement
 - e. Include warranty information as specified
4. Identify each product by product name and other identifying symbols such as set in Contract Documents.

1.5 SUBMITTAL SCHEDULE

- A. Submit one copy of completed data in final form within thirty days of substantial completion, Copy will be returned with comments.
- B. Submit two copies of approved data in final form within ten (10 days after comments are received).

END OF SECTION 01 7823

SECTION 01 7839
PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Fully cooperate with the Architect to accomplish the following.
- B. These requirements supplement the requirements set forth in the General Conditions.
- C. Maintain at each site one record copy, as applicable, of:
 - 1. Drawings and data with addenda marked in.
 - 2. Specifications with addenda marked in.
 - 3. Addenda
 - 4. Change Orders and other modifications to the Contract.
 - 5. Architect/Engineer Supplemental Instructions, Proposal Requests or written instructions.
 - 6. Approved shop drawings, product data and samples.
 - 7. Field test records.

1.2 MAINTENANCE OF RECORD DOCUMENTS AND SAMPLES

- A. Store record documents and samples in Contractor's field office in files and racks. Provide locked cabinet or secure storage space for storage of samples.
- B. Maintain record documents in a clean, dry, legible condition and in good order. Do not use documents for construction purposes.
- C. Make record documents and samples available at all times for inspection by Architect or Owner.

1.3 RECORDING

- A. Label each document "PROJECT RECORD" in neat large printed letters.
- B. Continuously record information and changes.
- C. Drawings: Legibly mark to record actual construction.
 - 1. Horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 - 2. Location of internal utilities and appurtenances concealed in the construction, referenced to visible and accessible features of the structure.
 - 3. Field changes of dimension and detail.
 - 4. Changes made by Field Order or by Change Order.
 - 5. Details not on original contract drawings.
- D. Specifications and Addenda: Legibly mark each section to record:
 - 1. Manufacturer, trade name, catalog number, and Supplier of each Product and item of equipment actually installed.
 - 2. Changes made by Field Order or Change Order.
- E. Shop Drawings and Submittals: Label each set by corresponding specification section. At the completion of the project, provide the Owner with one complete set, reviewed and stamped by Architect, organized by Specification Section in the following formats:

SECTION 01 7839
PROJECT RECORD DOCUMENTS

1. Paper (various sizes) folded to 8-1/2" x 11" and boxed with project name and completion data clearly labeled on exterior.
2. Scanned PDF copy on a compact disk, ordered by specification section.

1.4 SUBMITTAL

- A. Deliver Record Documents to the Owner at contract close-out.
- B. Accompany submittal with transmittal letter in duplicate, containing:
 1. Date
 2. Project Title
 3. Title and number of each Record Document

END OF SECTION 01 7839

SECTION 02 4110
SALVAGE & RELOCATION OF FIELD ITEMS

PART 1 - GENERAL**1.1 SUMMARY**

- A. This Section is a part of the entire set of Contract Documents and shall be coordinated with the applicable provisions of the other parts.
- B. Related Sections:
 - 1. Section 31 1000 Site Preparation
 - 2. Section 31 2010 Earthwork
 - 3. Section 03 3000 Cast In Place Concrete
- C. Work Includes Salvage of the Following Items:
 - 1. Crushed Stone Base at Boulan Park MS.
 - 2. E-Layer at Troy High School.
 - 3. Existing Electrical and Data Conduits at Troy HS.

1.2 SCOPE

- A. The work under this section of the specifications shall consist of the relocation of all items as indicated on the drawings. Contractor shall furnish all labor, materials and equipment to complete the work according to the drawings and specifications.
- B. All other facilities and items that are indicated shall remain and be protected from construction damage.

PART 2 - PRODUCTS

N/A

PART 3 - EXECUTION**3.1 EXECUTION**

- A. General
 - 1. Contractor shall relocate items shown on drawings. Locations shall be within District boundaries.
 - 2. Methods to be used in relocating items to be determined by the Contractor and approved by the Owner. Equipment damaged during relocation shall be replaced or repaired at the Contractor's expense.
 - 3. All work to be performed shall be under applicable Government Codes.
 - 4. All items requiring electrical or water will be attached to existing sources and left in working condition.
 - 5. All underground electric wiring shall be installed in PVC Conduit (with exception to 24 volt electrical irrigation wire).
 - 6. Demolish existing footings to a depth of 24" below proposed finish grade.
 - 7. Restoration of all existing equipment locations shall be performed by Contractor.

SECTION 02 4110
SALVAGE & RELOCATION OF FIELD ITEMS

B. Removal of Debris

1. Prompt removal of demolished items (i.e., concrete footings, slabs, etc.) from the site. Legally dispose of debris/material, including obtaining permission from applicable regulatory authority for disposal of debris/material to proper waste disposal site.

END OF SECTION 02 4110

SECTION 02 4113
DEMOLITION**PART 1 - GENERAL****1.1 SUMMARY**

- A. This Section is a part of the entire set of Contract Documents and shall be coordinated with the applicable provisions of the other parts.
- B. Related Sections:
 - 1. Section 31 1000 Site Preparation
- C. Work includes demolition of the following items at Troy High School stadium field:
 - 1. Synthetic turf and infill
 - 2. Deteriorated wood nailer
 - 3. E-Layer (as identified on Demolition Plan)
 - 4. Football goalposts and footings
 - 5. Wood access boxes (preserve wiring and conduits for re-use)
 - 6. North D-zone – including asphalt, concrete, track surface, and trench drains
 - 7. Concrete turf anchor and wood nailer in North D-zone
 - 8. Protective net system sleeves and footings
- D. Work includes demolition of the following items at Boulan Park Middle School track:
 - 1. All-weather track surface, asphalt, and concrete
 - 2. Track and field equipment

1.2 SCOPE

- A. The work under this section of the specifications shall consist of the removal and disposal of all items as indicated on the drawings. Contractor shall furnish all labor, materials and equipment to complete the work according to the drawings and specifications.
- B. The work under this section of the specifications shall consist of the removal and disposal of all items as indicated on the drawings. Contractor shall furnish all labor, materials and equipment to complete the work according to the drawings and specifications.
- C. All other facilities and items that are indicated shall remain and be protected from construction damage. Areas damaged to known fault of the Contractor during construction shall be repaired or replaced at the expense of the Contractor. Lawn, paving, and concrete damaged during construction shall be restored to the condition which existed prior to commencement of Contractor's work.

PART 2 - PRODUCTS

N/A

PART 3 - EXECUTION**3.1 EXECUTION**

SECTION 02 4113
DEMOLITION

A. General

1. Contractor shall not, for any reason, dump or leave any excavated materials on property.
2. Contractor shall remove all items as indicated on drawings.

B. Removal of Debris

1. Promptly remove cleared debris from the site.
2. Burning of debris on site is not permitted, unless permission is obtained from applicable regulatory authority.
3. Obtain permission from applicable regulatory authority for disposal of debris to waste disposal site.
4. Upon the removal of fence posts and or footings, excavated areas shall be backfilled.
 - a. In excavated areas, backfill shall be excavated soil material, free of rock or gravel larger than 2" in any dimension, debris, waste, frozen materials, vegetable matter, and other deleterious matter. Existing materials may be used for backfill, provided no silt is mixed with material. Backfill shall be placed in compacted layers of 8" maximum depth, using a "jumping jack or pogo stick" style compactor to achieve 95% compaction.
 - b. Fill Material: Fill material shall be clean, hard, durable, uncoated particles of sand or sand gravel mixture, provided that there shall be a substantial excess of sand-screenings. Peastone is also acceptable backfill material.
 - c. Holes shall not be left open for more than 10 hours.

END OF SECTION 02 4113

SECTION 03 3000
CAST IN PLACE CONCRETE**PART 1 - GENERAL****1.1 SUMMARY**

- A. This Section is a part of the entire set of Contract Documents and shall be coordinated with the applicable provisions of the other parts.
- B. Related Sections:
 - 1. Section 31 2010 Earthwork

1.2 SCOPE

- A. The work under this section of the specifications shall consist of furnishing all labor, materials and equipment necessary to construct cast-in place concrete pavement for parking lots, curbs and gutters, sidewalks, and wheel stops.

1.3 QUALITY ASSURANCE

- A. Reference Standards:
 - 1. American Society for Testing and Materials (ASTM):
 - a. ASTM C 94-97 – Standard Specification for Ready Mixed Concrete
 - b. ASTM C 171-69 (1975) - Standard Specification for Sheet Materials for Curing Concrete
 - c. ASTM C 309-74 - Standard Specification for Liquid Membrane Forming Compound for Curing Concrete
 - d. ASTM D 1751-73 - Standard Specification for Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction (Non-extruding and Resilient Bituminous Types).
 - 2. MDOT current Standard Specifications for Construction

1.4 SUBMITTALS & TEST REPORTS

- A. Submit aggregate and concrete mix designs proposed for review. Contractor is to confirm that materials provided meet the required specifications and are to provide material certification to the Architect. Material certifications shall indicate that products meet or exceed the specified requirements indicated on the plans and the regulating authority.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Installer shall be experienced with at least five (5) years in business who has completed concrete pavement work similar to the design, materials and requirements indicated for this project.
- B. Manufacturer Qualifications: Manufacturer of ready-mix concrete products complying with ASTM C94 requirements for production facilities and equipment and approved by governing jurisdictions for State Department of Transportation.
 - 1. Manufacturer must be certificated according to the National Ready Mix Concrete Association's Plant Certification Program.

SECTION 03 3000
CAST IN PLACE CONCRETE

- C. Testing Agency Qualifications: The independent testing agency shall be qualified according to ASTM C 1077 and ASTM E 329 to conduct the testing indicated, as documented according to ASTM E 548.
- D. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant and each aggregate from a single source.

1.6 ENVIRONMENTAL REQUIREMENTS AND PROJECT CONDITIONS

- A. Allowable concrete temperatures
 - 1. Cold Weather: Maximum and minimum, ASTM C94
 - 2. Hot Weather: Maximum concrete temperature - 90 degrees F. (23 degrees C.)
- B. Do not place concrete during rain, sleet or snow.

PART 2 - PRODUCTS

2.1 FORMS

- A. Form Materials: Plywood, metal, metal framed plywood, or other approved panel materials to provide a full-depth, continuous, smooth exposed surface.
 - 1. Use flexible or curved forms for conditions that require curved finishes.
- B. Form Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect the concrete surfaces.

2.2 STEEL REINFORCEMENT

- A. Reinforcement Bars: ASTM A 615/A, 615M, Grade 60, deformed billet steel, unfinished.
- B. Plain-Steel Welded Wire Fabric: ASTM A 185, fabricated flat sheets, unfinished.
- C. Steel Bar Mats: ASTM A 184/A 184M; with ASTM A 615/A 615M, Grade 60 deformed bars, assembled with clips.
- D. Epoxy-Coated Reinforcement Bars: ASTM A 775/A 775M. with ASTM A 615/A 615M, Grade 60 deformed bars.
- E. Joint Dowel Bars: Plain steel bars, ASTM A 615/A 615M, Grade 60. Cut bars true to length with ends squared and free of any burrs.
- F. Tie Bars: ASTM A 615/A 615M, Grade 60 deformed.
- G. Epoxy Coated Joint Dowel Bars: ASTM A 775/A 775M. with ASTM A 615/A 615M, Grade 60, plain steel bars.
- H. Bar Supports: Bolsters, chairs, spaces, and other devices necessary for spacing, supporting, and fastening reinforcement bars, welded wire fabric, and dowels in place. Manufacture bar supports according to CRS'I's Manual of Standard Practice from steel wire, plastic, or precast concrete or fiber-reinforced concrete of greater compressive strength than concrete.

SECTION 03 3000
CAST IN PLACE CONCRETE

- I. Epoxy Repair Coating: Liquid two-part epoxy repair coating, compatible with epoxy coating on reinforcement.

2.3 MATERIALS

- A. Use the same brand and type of cementitious material from the same manufacturer through the entire project. All material to meet current MDOT specifications.

2.4 CONCRETE MIXES

- A. Prepare mix design, proportioned according to ACI 211.1 and ACI 301, for each type and strength of normal-weight concrete determined by lab trial mixes.
- B. Use a qualified testing agency for preparing and reporting proposed mix designs for the testing batch.
- C. Provide mixes for sidewalks, curbs, gutters, and roads meeting the following properties:
 1. Compressive Strength (28 days): 3500psi, unless indicated otherwise
 2. Maximum Water to Cement Ratio: 45 percent by weight
 3. Maximum Aggregate Size: 1.5 inches (38mm)
- D. Cementitious Material: Limit percentages, by weight of cementitious materials other than portland cement according to current ACI 301 requirements for concrete exposed chemicals used for de-icing.
- E. Air-entraining admixtures shall be used at manufacturer's prescribed rates to result in concrete at point of placement, with an air content of 5.0 to 8.5 percent.
- F. Slump: two (2) to three (3) inches

2.5 CONCRETE MIXING

- A. Ready-Mixed Concrete: Comply with requirements and ASTM C94 and ASTM C1116
 1. When air temperature is between 85 degrees F and 90 degrees F, reduce mixing and delivery time from 75 minutes to 90 minutes; when air temperature is above 90 degrees F, reduce mixing and delivery time to 60 minutes.
- B. Project Site Mixing: Comply with requirements and measure, batch, and mix concrete materials and concrete according to ASTM C94. Mix concrete materials in appropriate drum-type batch machine mixer.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Verify the earthwork is completed to correct line and grade. Notify the Owner/Landscape Architect of any incomplete work by previous contractors.
- B. Check that sub-grade is smooth, compacted, and free of frost or excessive moisture.

SECTION 03 3000
CAST IN PLACE CONCRETE

- C. Do not commence work until conditions are satisfactory.

3.2 WEATHER PROTECTION

- A. Cold weather: When the mean daily air temperature is 40 degrees F. or below, provide suitable protection for concrete work to maintain a minimum concrete temperature of 50 degrees F. for five (5) days (or 70 degrees F. for three (3) days). After the protection period, do not let concrete cool more than 20 degrees F. in each successive day
- B. Hot weather: Place concrete according to recommendations in ACI 305R when hot-weather conditions exist.
- C. Wet weather: Unless adequate protection is provided, do not place concrete in rain, sleet or snow.

3.3 JOINTS

- A. Construct all joints and tool edgings true to line with faces perpendicular to surface plane of concrete. Construct transverse joints at right angles, unless noted otherwise.
- B. At locations where new concrete abuts existing concrete, building walls and slabs, place expansion joint material and joint sealants.
- C. Expansion Joints: Place 1 inch wide expansion joints at maximum 40 foot intervals, if not indicated on drawings. Joints to be full depth of pavement and joint sealant placed at all expansion joints.
- D. Install all dowel bars and support assemblies at joints if indicated on the plans. Coat one-half of dowel length to prevent concrete bonding to one side of the joint.
- E. Contraction Joints: form any weakened plane contraction joints, sectioning concrete into areas. Construct ¼ inch wide contraction joints for a depth equal to one-third of the concrete thickness. Maximum spacing of the joints shall be 8'-0".
 - 1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint with tool to a 3/8" radius. Repeat any grooving of joint after application of surface finishes.
 - 2. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond blades. Joint cuts not to exceed 1/8 inch wide, when cutting will not tear or damage the surface and develop a contraction cracks.
 - 3. Doweled Contraction Joints: install dowel bars and support assemblies at joints where indicated.
- F. Edging: Tool edges of pavement, gutters, curbs, and joints in concrete after floating with an edging tool at a 3/8 inch radius.

3.4 INSTALLATION

- A. Contractor shall install the first section of sidewalk as a quality sample in place. Upon approval of sample by Landscape Architect, further installation can proceed.
- B. The sub-grade upon which concrete is to be placed shall be prepared by excavation or filling with suitable earth to such depth below the finished grade line, that when tamped or rolled until smooth, firm and hard, the sub-grade will be uniform and at the required depth below finished grade line.

SECTION 03 3000
CAST IN PLACE CONCRETE

- C. Unsuitable sub-grade soils shall be replaced as directed.
- D. Gravel backfill, when specified in the drawings, shall be constructed to the required depth and thoroughly compacted.
- E. Cast in Place Concrete
 - 1. Set forms to line and grade
 - 2. Install forms over full length of walk and oil before use.
 - 3. Forms shall be set accurately to line and grade. If the forms are set more than 0.01 foot (3mm) above or below grade or more than 0.01 foot (6mm) from prescribed alignment, they shall be corrected before any concrete is placed
 - 4. Flexible or curved forms of proper radii shall be used on all curves having a radius of 100 feet or less.
 - 5. Form contraction joints by tooling.
 - 6. Install expansion joint material behind walks at abutment curbs and adjacent structures with expansion joints every 100 feet (30m) or as detailed. Retaining wall shall have expansion joints every 25 feet.
 - 7. Provide sawcuts in concrete every 10 lineal feet. Sawcut depth shall be no more 3/4" deep and 1/8" in width.
 - 8. Place top of expansion joint material flush with walk surface, unless noted otherwise on plans.
 - 9. Place concrete with mechanical vibrators.
 - 10. Consolidate concrete with mechanical vibrators.
 - 11. Round edges of walks at top with finishing tool, 1/4" to 3/8" radius. 1" radius for retaining wall.
 - 12. Finished exposed walk surfaces with wood float followed by brushing with broom, smooth band of 12", unless otherwise shown on drawings.
 - 13. Apply plastic sheeting or curing material and cure for seven (7) days.
 - 14. Apply plastic sheeting or curing material
 - 15. Do not allow free drop of more than five (5) feet. Use elephant trunk when necessary.
- F. Slip form concrete to the same quality standards as cast in place.
 - 1. Construct concrete curb with slip form curb machine.
 - 2. Apply curing material and cure for seven (7) days.
 - 3. Saw expansion and contraction joints after concrete has sufficiently hardened.

SECTION 03 3000
CAST IN PLACE CONCRETE

3.5 FIELD QUALITY CONTROL

- A. Slump Tests: Make slump tests whenever concrete is being poured at the direction of the Owner.
- B. Compression Tests: Prepare standard test cylinders during the placing of concrete in accordance with ASTM 31 and ASTM 172. One set (three (3) cylinders) is required for each day's pour.
- C. Maintain two (2) cylinders at 50 to 70 degrees F. and protect from loss of moisture at the job site for a period of not over 48 hours, then deliver to the laboratory for curing and testing at seven (7) and twenty-eight (28) days, respectively. Place third cylinder near the in place concrete and cure completely at the job in the same manner as the in place concrete. Deliver this cylinder to the laboratory for testing at twenty-eight (28) days. Cure and test cylinders in accordance with ASTM C31, C39 and C192. Submit test reports to the Landscape Architect in duplicate

3.6 PAVING TOLERANCES

- A. Comply with tolerances of ACI 117 and as follows:
 - 1. Elevation variation: 1/4 inch
 - 2. Thickness: Plus 3/8 inch, minus 1/4 inch
 - 3. Surface Variation: gap below 10 foot long, unlevelled straightedge not to exceed 1/4 inch.
 - 4. Maximum cross slope for walks, ramps, or platforms: 2%
 - 5. Maximum longitudinal walk slopes not requiring landings and handrails: 5%
 - 6. Maximum longitudinal ramp slopes: 8.33% (1 on 12 slope)

3.7 PROTECTION OF FINISHED SURFACES

- A. All finished surfaces of concrete shall be protected so as to prevent damage. Marking temporary nailing or other damaging use of surfaces will be prohibited.

3.8 PATCHING

- A. Patch to match material, color and texture of surrounding area.
- B. Replace defective work if patching is not acceptable to the Landscape Architect.

3.9 REPAIR/REPLACE

- A. Within first year of placement, concrete will be replaced at no additional cost to the Owner, if horizontal and/or vertical cracks exceed 1/8" in width.
- B. Hairline cracks do not qualify for concrete replacement.

3.10 CLEAN-UP

- A. The Contractor shall remove excess excavated material from the site of the work. Spread and finish grade within five (5) feet of pad edge. Finish grading is incidental to pad installation. Contractor shall clean up and dispose of rubble and construction satisfactory to the Owner and Landscape Architect.

END OF SECTION 03 3000

SECTION 06 1050
TURF WOOD NAILER**PART 1 - GENERAL****1.1 SUMMARY**

- A. This Section is a part of the entire set of Contract Documents and shall be coordinated with the applicable provisions of the other parts.
- B. Related Sections:
 - 1. Section 03 3000 Cast In Place Concrete
 - 2. Section 03 3053 Concrete Turf Anchor

1.2 SCOPE

- A. Provide all material, labor, and equipment necessary to install the timber and cleanup as detailed on the drawings and herein.

PART 2 - PRODUCTS**2.1 TIMBER EDGING**

- A. Southern Pine or Douglas Fir pressure preservative treated with alkaline copper quaternary (ACQ) or Copper Azole (CA) preservatives in accordance with American Wood Preservers Associates (AWPA) standard C17 for ground contact use. Provide lumber sizes as indicated on drawings.
- B. All hardware shall meet a minimum requirement established ASTM standard A153 and ASTM standard A653 (Class G-185).

2.2 WOODEN NAILER FASTENERS

- A. Approved items for Wood Nailer Installation:
 - 1. Nails 16 d Hot Dipped Galvanized
 - 2. 1/4 x 2 3/4" Stainless Steel Tapcon Masonry Screws
 - 3. DEC-King Exterior Wood Screw with Climacoat
 - 4. Wood to-Metal TEKS with Grey Spex
 - 5. Tapcon Concrete Anchor with Blue Climaseal and White Ultrashield
 - 6. Roofgrip with Spex or Blue Climaseal
 - 7. GYP-FAST Nail with Climacoat
 - 8. Maxi-set Tapcon White UltraShield
 - 9. Ramguard Drive Pin

PART 3 - EXECUTION**3.1 DEMOLITION, EXCAVATION AND REMOVALS**

- A. Strip all existing topsoil, infield mix, etc. from work area. Stockpile sufficient material for restoration of perimeter area. Legally dispose of excess material off site.

SECTION 06 1050
TURF WOOD NAILER

3.2 GRADING

- A. Grade area to elevations and slopes as indicated on the drawings. Grade shall be such that when finished grade is established, the work area and the perimeter shall be free of standing water.

3.3 INSTALLATION OF TIMBER EDGING

- A. Install wood nailer using only the specified fasteners listed in Section 2.2 above.
- B. Fasteners shall be placed in the middle (vertical) of nailer board. Fastener shall be no closer than 6" from end of board.
- C. Fasteners spacing shall not be more than 2.5'
- D. Contractor shall maximize use of treated lumber and minimize cuts to corners.

3.4 RESTORATION AND CLEAN UP

- A. Clean-up all excess materials and remove from site. Adjoining areas to be the same as prior to construction, and properly graded to allow water to drain away from surface.

END OF SECTION 06 1050

SECTION 11 6834
FOOTBALL GOAL POSTS**PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This section includes the following:
 - 1. Furnish all labor, materials, and equipment necessary to install to install new football goal posts.
- B. Related Sections include the following:
 - 1. Specification Section 03 3000 Cast In Place Concrete
 - 2. Specification Section 31 2010 Earthwork

1.3 QUALITY ASSURANCE

- A. Manufacturers shall warrant that the product or materials specified herein meet all applicable grade trademarks or conform to industry standards and inspection requirements.
- B. Installer Experience:
 - 1. Installer should have a minimum of five (5) football goal post installations of similar experience in the last three (3) years.
- C. Warranty Guarantee:
 - 1. The completed system shall be guaranteed to be free from all defects for a period of one (1) year from the date of final acceptance, or the manufacturer's specific warranty related to the product or service, whichever is greater. Any defects or system malfunctions identified shall be immediately corrected at no cost to the Owner for the warranty/guarantee period.
- D. Product Testing:
 - 1. All material installed under this specification shall be subject to testing by Owner at his expense. Any material so inspected and found to be not in strict conformance with this specification shall be promptly removed and replaced by the Contractor at his expense.
- E. General: Comply with NCAA and NFHSA specifications.

1.4 SUBMITTALS

- A. Manufacturer's Product Data:
 - 1. Provide manufacturers literature, identifying the particular item to be installed. Manufacturer information should include catalog cut sheets, applicable technical information.
 - 2. Provide manufacturers cut sheets, color samples, and digital artwork data related to the football goalpost pad.
- B. Shop Drawings
 - 1. Provide drawings of the manufacturers recommended installation and foundation

SECTION 11 6834
FOOTBALL GOAL POSTS

requirements prior to actual field installation work

1.5 PRODUCT DELIVERY AND STORAGE

- A. Materials delivered to the site shall be examined for damage or defects in shipping. Any defects shall be noted and reported to the Owner's representative. Replacements, if necessary, shall be immediately re-ordered. Sound materials shall be stored above ground under protective cover or indoors for proper protection.

PART 2 - PRODUCTS**2.1 FOOTBALL GOAL POSTS**

- A. Football goal posts shall:
1. Be formed with an aluminum pipe capable of supporting the horizontal cross bar 8'-0" in front of the vertical upright. Cross bar shall be an aluminum structural tube 10'-0" above field level.
 2. Upright shall be supported in a concrete footing and secured with an anchor pin or anchor bolts. Concrete footing size and depth shall be determined by goalpost manufacturer.
 3. Uprights shall be 4" O.D. aluminum structural tube extending 30'-0" above horizontal cross bar. Uprights and cross bar shall be capped with zinc plated formed metal caps. Upright metal caps shall incorporate nylon wind directional flags, manufacturer's standard in color.
 4. Goalpost shall be powder-coated White.
- B. Goal posts shall be from one of the following manufacturers:
1. AAE - No. HSG-HS/8
 2. Sportsfield Specialties - No. GP830HSGHPL
- C. Provide one (1) set of "professional" style goalpost pads made from 6" thick high-impact polyurethane foam. Foam cylinder shall have a rear cut-out and be completely covered in a polyester reinforced vinyl cover concealed with a factory sewn hook and loop velcro closure flaps for ease of installation and removal.
1. Goalpost Pad Minimum Requirements:
 - a. Dimensions: 18" Outside Diameter, 7" Inside Diameter, 6'-0" height
 - b. Vinyl material shall allow for high UV Resistance
 - c. Total Weight: minimum 16 oz./yd²
 - d. Rot, Mildew and Fungus Resistant: Yes
 - e. Color to be selected by Owner from manufacturers standard colors.
 2. Manufacturer shall include custom high-resolution graphics on the goalpost pads.
 - a. Letters and logos shall be digitally printed onto the vinyl goalpost pad with a maximum of ten (10) letters and (1) 10"x10" logo per pad. Refer to plans for lettering and logo details and colors.
 - b. The Contractor shall supply a color sample or swatch to the Owner for color selection for the pads and lettering.
 - c. Custom logos and/or font styles can be provided to manufacturer in vector format as required.
- f. Goal post pads shall be from one of the following manufacturers:
1. AAE - No. GP6R
 2. Sportsfield Specialties - No. GPPR

SECTION 11 6834
FOOTBALL GOAL POSTS

- g. Pre-manufactured goalpost access box shall be from one of the following manufacturers:
1. Sportsfield Specialties – Model No.: GPAFITR (2'-8" x 2'-8", 12" box ht.)
 2. AAE – No. FBC-GA

2.2 CONCRETE

- A. Concrete shall conform to Section 03 3000 Cast In Place Concrete.
- B. Concrete reinforcement materials and concrete foundation sizes, to be determined by manufacturer. Concrete foundation design shall be the responsibility of the manufacturer based on local soil conditions and building codes or manufacturer's standard footing design, whichever is more stringent.

PART 3 - EXECUTION**3.1 EXAMINATION**

- A. Do not install goal posts until site grading is complete.

3.2 INSTALLATION

- A. All goalposts and accessories shall be installed as recommended per the manufacturer's written instructions and as indicated on drawings. Refer to Manufacturer's installation cut sheets for exact location bolt template.
- B. Posts shall be set and centered to the lines shown on the drawings, with the posts centered in the concrete bases.
- C. Holes shall be filled with concrete to 6" below grade. See detail sheet as per installation of the remaining 6" to grade.
- D. Concrete shall cure a minimum of 72 hours prior to installation of goal post.
- E. All posts shall be set plumb.

3.3 CLEAN UP AND DISPOSAL

- A. Remove from the site all equipment, materials, and debris resulting from construction work including this section. Leave work area neat and clean and in a condition acceptable by the Landscape Architect and Owner. All work shall be complete, ready for use, at the time of final acceptance.

END OF SECTION 11 6834

SECTION 11 6840
FIELD EVENT CONSTRUCTION

PART 1 - GENERAL**1.1 SUMMARY**

- A. This section is a part of the entire set of Contract Documents and shall be coordinated with the applicable provisions of the other parts.
- B. Related Sections:
 - 1. Section 03 3000 Cast In Place Concrete

1.2 SCOPE

- A. The work under this section of the specifications shall consist of furnishing all labor, materials and equipment for the installation of the field event equipment according to the drawings and specifications. (See Plans & Details for quantity).

1.3 QUALITY ASSURANCE

- A. Warranty Guarantee: The Contractor and any Sub-Contractors hereunder guarantee their respective work against workmanship for a period of two (2) years. Standard manufacturer's warranty shall apply to products being provided. Warranty period begins on the date of filing notice of completion and an acceptance by the Owner.

1.4 SUBMITTALS

- A. Submit manufacturer literature, identifying the particular item to be installed. Manufacturer information should include photographs, and applicable technical information.

PART 2 - PRODUCT**2.1 MANUFACTURERS**

- A. Aluminum Athletic Equipment Co. (AAE) (800) 523-5471
- B. Sportsfield Specialties, Inc. (888) 975-3343

2.2 LONG JUMP

- A. Take-off board(s) Sportsfield Specialties #LTJT0B16BL
AAE Model# HTB-16
- B. Sand Pit with Sand Catcher System Sportsfield Specialties Model# SP6020
AAE Model# PFS-HS-SC
- C. Aluminum Pit Covers Sportsfield Specialties Model# SPHSCVR
(track surface material field applied) AAE Model# APC

SECTION 11 6840
FIELD EVENT CONSTRUCTION**2.3 SHOT PUT**

- | | | |
|----|---|---|
| A. | Shot put toe board
(Flush mounted) | AAE #ATB
Sportsfield Specialties SPTBCALHS |
| B. | Shot put throwing circle
(Flush mounted) | AAE #SC
Sportsfield Specialties SSI373 |

PART 3 - EXECUTION**3.1 INSTALLATION**

- A. Install all equipment as per manufacturer's recommendations.
- B. Contractor shall verify with Owner and Landscape Architect the pole vault cushion(s) to be purchased prior to installation of vault box and surrounding pad (See Plans & Details).
- C. Track surface material should be field applied to pit covers.

3.2 CLEAN UP AND DISPOSAL

- A. Remove from the site all equipment, materials, and debris resulting from construction work including this section. Leave work area neat and clean and in a condition acceptable by the Landscape Architect and School District. All work shall be complete, ready for use, at the time of final acceptance.

END OF SECTION 11 6840

SECTION 27 5119
FIELD COMMUNICATION BOXES**PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This section includes the following:
 - 1. Furnish all labor, materials, and equipment necessary to install pre-manufactured synthetic turf field boxes. Work includes the following applications:
 - a. Electrical / Communication locations
 - b. Future Playclocks
 - c. Protective Net Sleeves
- B. Related Sections include the following:
 - 1. Specification Section 32 1815 Synthetic Turf

1.3 QUALITY ASSURANCE

- A. Warranty Guarantee:
 - 1. The completed system shall be guaranteed to be free from all defects for a period of one (1) year from the date of final acceptance, or the manufacturer's specific warranty related to the product or service, whichever is greater. Any defects or system malfunctions identified shall be immediately corrected at no cost to the Owner for the warranty/guarantee period.

1.4 SUBMITTALS

- A. Manufacturer's Product Data:
 - 1. Provide manufacturers product data prior to actual field installation work.
- B. Shop Drawings:
 - 1. Provide shop drawings of the manufacturer's recommended installation and foundation requirements prior to actual field installation work. Shop drawings shall include a utility box layout drawing if required.

1.5 PRODUCT DELIVERY AND STORAGE

- A. Materials delivered to the site shall be examined for damage or defects in shipping. Any defects shall be noted and reported to the Owner's representative. Replacements, if necessary, shall be immediately re-ordered. Sound materials shall be stored above ground under protective cover or indoors for proper protection.

SECTION 27 5119
FIELD COMMUNICATION BOXES

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Furnish and install synthetic turf communication boxes as detailed.
- B. Synthetic Turf Surface Communication boxes shall be from the following (or approved equal):
 - 1. Sportsfield Specialties: Model CBIT1815 – Protective Net Sleeves only w/ standard cover
 Model GPAFITRC – Communication & Playclock locations

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install equipment in accordance with manufacturer's written instructions and as indicated on the drawings.
 - 1. For a Synthetic Turf Installation, the communication access box shall abut the concrete curb unless noted otherwise on the drawings.
- B. Contractor is responsible to confirm the exact locations of the proposed boxes with Architect prior to installation.
- C. Field install synthetic turf surfacing.

END OF SECTION 27 5119

SECTION 31 1000
SITE PREPARATION**PART 1 - GENERAL****1.1 SUMMARY**

- A. This Section is a part of the entire set of Contract Documents and shall be coordinated with the applicable provisions of the other parts.
- B. The work under this Division consists of furnishing all labor, materials and equipment required for:
 - 1. Removal and replacement of synthetic turf field
 - 2. Removal and replacement of football goal posts
 - 3. Removal and replacement of turf and goalpost access boxes
 - 4. Removal and replacement of electrical conduit ground boxes
 - 5. Reconstruction of long jump runways and pit
 - 6. Reconstruction of track and field events at Boulan Park MS
- C. Bidders shall visit the site before submitting proposals and fully inform themselves as to the job and site conditions and other conditions under which the work of this section must be conducted. Verify themselves with the soil conditions at the site and familiarize themselves with the existing conditions that may be adjusted for this project. Submission of proposals implies that the Bidder has visited the site and is fully aware of these conditions.
- D. A pre-construction conference shall be held on the job site with all intended Contractors and Sub-contractors prior to the start of any work.

PART 2 - PRODUCTS

N/A

PART 3 - EXECUTION**3.1 SURVEY REQUIREMENTS**

- A. The Contractor shall provide all survey work required to locate lines and grades for the construction of this project as herein specified and shown on drawings. The Contractor shall employ a registered engineer or surveyor for this layout.
- B. The Contractor upon entering the site and before any other work is underway, shall establish and set control points as indicated on the drawings and verify all finish grades.
- C. Existing survey as shown on the drawings is for information only and accurate at time taken. Contractor shall verify field conditions and notify the Landscape Architect or Owner before bid date of any discrepancies found in the survey or site conditions.
- D. The Contractor shall provide a complete "as built" survey of the site within the site limits, noting all grades, locations, etc. if final constructed project should vary from bid documents.
- E. All work under this section shall be coordinated with the Landscape Architect so as to verify their understanding of the plans and intended layout.

END OF SECTION 31 1000

THIS PAGE IS INTENTIONALLY LEFT BLANK

SECTION 31 2010
EARTHWORK - TURF**PART 1 - GENERAL****1.1 SUMMARY**

- A. This Section is a part of the entire set of Contract Documents and shall be coordinated with the provisions of the other parts.
- B. Related Sections:
 - 1. Section 32 9227 General Lawn Restoration
 - 2. Section 33 4605 Subdrainage Systems
 - 3. Section 33 4615 Turf Draintile
- C. Section Includes:
 - 1. Excavation and backfill for site balance, utility trenches, footings, etc.
 - 2. Preparing subgrades for pavements, slabs-on-grade, synthetic turf, lawns, and plantings.
 - 3. Base course for asphalt or concrete paving.

1.2 SCOPE

- A. Furnish approved labor, materials, equipment, transportation, and services required to complete all earthwork as indicated on the drawings and specified herein. The Base Bid includes all earthwork and grading to provide a subgrade for other improvements. Adjustment of grades will be permitted, providing the overall grading concept and the positive drainage swales are maintained.

1.3 QUALITY ASSURANCE

- A. Excavation team shall be established and experienced with a minimum of 5 years' experience constructing athletic fields.
- B. Testing Agency Services
 - 1. The Owner shall secure and pay for the services of a qualified, independent geotechnical engineer to classify existing soil materials, to recommend and to classify proposed borrow materials, when necessary, to verify compliance of materials with specified requirements, and to perform required field and laboratory testing. Geotechnical engineer shall be acceptable to the Architect and the Owner and shall be licensed to practice in the State in which the project is located.

1.4 DEFINITIONS

- A. Backfill: Soil materials used to fill an excavation
- B. Base Course: Layer placed between the subbase course and asphalt paving.
- C. Bedding Course: Layer placed over the excavated subgrade in a trench before laying pipe.
- D. Borrow: Satisfactory soil imported from off-site for use as fill or backfill.
- E. Drainage Course: Layer supporting slab-on-grade or subbase for synthetic turf surfacing, used to minimize capillary flow of pore water.
- F. Engineered Fill: Material placed and compacted to densities specified, in a controlled manner, using lift

SECTION 31 2010
EARTHWORK - TURF

thickness limited herein, monitored and tested by the Testing Agency or Independent Geotechnical Engineer.

- G. Excavation: Removal of material encountered above subgrade elevations.
- H. Fill: Soil materials used to raise existing grades.
- I. Structures: Buildings, footings, foundations, retaining walls, curbs, slabs, utility components, or other man-made features above grade.
- J. Subbase Course: Layer placed between the subgrade and base course for asphalt paving or concrete pavement.
- K. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below subbase, drainage fill, or topsoil materials.
- L. Undercutting: Necessary excavation or poor quality soils which occur below the existing topsoil and any uncontrolled fill soils as described in the Geotechnical Report.
- M. Utilities: Includes underground pipes, conduits, ducts, and cables, irrigation lines, data and fiber optic, and underground services within buildings.

1.5 EXAMINATION OF SITE

- A. The contractor is expected to visit the site to determine all conditions to be encountered, protect improvements on adjoining properties, as well as those on the owner's property, and to restore any improvements damaged by his work to their original condition, as acceptable to the owner or other parties or authorities having jurisdiction.
- B. Existing Utilities: Contractor shall not interrupt utilities serving facilities occupied by Owner or others unless permitted in writing by Architect or owner and then only after arranging to provide temporary utility services according to requirements indicated:
 - 1. Notify Architect and Owner not less than three (3) calendar days in advance of proposed utility interruptions.
 - 2. Do not proceed with utility interruptions without Architect's or Owner's written permission.
 - 3. Contact both public and private utility locator services for area where Project is located before excavating.
- C. Demolish and completely remove from site, all existing underground utilities indicated to be removed. Coordinate with utility companies to shut off services if lines are active.

1.6 SAFETY CODES AND STANDARDS

- A. Perform excavation work in compliance with applicable requirements of governing authorities having jurisdiction.

1.7 DEWATERING

- A. The contractor shall perform all work so as to permit the site to be free draining at all times and to prevent ponding. Contractor shall provide positive drainage for the entire site during the course of construction to eliminate standing water in excavated areas.

SECTION 31 2010
EARTHWORK - TURF**1.8 PROTECTION**

- A. Protect newly graded areas from traffic: pedestrian or construction, freezing, and erosion. Keep free of trash and debris.
- B. Protect all existing trees, bushes, etc. indicated to remain during construction activities.
- C. Repair and/or reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, or settled due to subsequent construction activities or weather conditions.

PART 2 - PRODUCTS**2.1 SOIL MATERIALS**

- A. General: Provide soil materials without additional costs to Owner, when sufficient satisfactory soil materials are not available from excavations. Contractor is responsible for doing performing an independent earthwork calculation and including any import of appropriate fill material required to bring the site to the proposed elevations.

2.2 BACKFILL AND FILL MATERIALS

- A. General: Backfill shall be excavated soil material, free of rock or gravel larger than 2" in any dimension, debris, waste, frozen materials, vegetable matter, organic matter, and other deleterious matter. Existing materials may be used for backfill, provided no silt is mixed with material. Backfill consists of placement of acceptable soil material in layers, in excavations, to required subgrade elevation, for each area classification listed below.
- B. Subbase: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural/crushed sand. Generally, either MDOT Class II Sand or 21AA gravel will meet this requirement. Refer to plans and/or Geotechnical Engineer's recommendation as to whether the use of 21AA crushed concrete is an acceptable material.
- C. Base: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural/crushed sand. Generally, either MDOT Class II Sand or 21AA gravel will meet this requirement. Refer to plans and/or Geotechnical Engineer's recommendation as to whether the use of 21AA crushed concrete is an acceptable material.
- D. Engineered Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural/crushed sand. Generally, either MDOT Class II Sand or 21AA gravel will meet this requirement. Refer to plans and/or Geotechnical Engineer's recommendation as to whether the use of 21AA crushed concrete is an acceptable material.
 - 1. All materials shall meet MDOT Class II requirements and shall be clean granular fill.
 - 2. The use of on-site materials as engineered fill shall be approved by the Geotechnical Engineer prior to excavation and placement. Coordinate excavation protocols with Geotechnical Engineer to manage existing clay deposits.
 - 3. Import all fill materials as required to achieve volumes necessary to meet proposed elevations.
- E. Bedding: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural/crushed sand. Generally, either MDOT 3G or 6A will meet this requirement. Bedding materials used for utility installation shall meet the requirements of the local municipal jurisdiction.

SECTION 31 2010
EARTHWORK - TURF**PART 3 - EXECUTION****3.1 SITE PREPARATION**

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, washout, or undermining caused by earthwork operations.
- B. Provide erosion-control measures to prevent erosion or contamination of soils and discharge of water runoff or airborne dust to adjacent properties, walkways, or bodies of water.

3.2 EXCAVATION GENERAL

- A. Unnecessary Excavation: the expense of excavation of materials outside the limits indicated or administered in writing by the Architect shall be the responsibility of the contractor.
 - 1. Unnecessary excavation under footings: either deepen footings to bear on actual subgrade elevation without changing top elevations or place concrete fill up to required elevation.
 - 2. Unnecessary excavation other than under footings: place either compacted fill or otherwise correct conditions, as required by the Architect.
- B. Subgrade Approval:
 - 1. Notify the Testing Agency when required elevations have been reached.
 - 2. Should the presence of unforeseen or unsatisfactory materials or factors exist, perform additional excavation and replace with approved compacted fill material in accordance with Geotechnical Engineer or Architect's instructions.
 - 3. Compensation for unforeseen additional work will be made in accordance with established unit prices or, if none, in accordance with provisions for changes in the work. No payment will be made for correction of subgrades improperly protected against damage from contractor neglect, freeze-thaw or accumulation of water, or for correction of otherwise defective subgrades.
- C. Coordinate excavations with Dewatering operations as required to allow for construction during dry/workable conditions.
- D. Stability: Slope sides of excavations over five feet (5') deep to angle of repose of material excavated; otherwise shore and brace where sloping is not possible either because of space restrictions or stability of material excavated. Maintain sides and slopes of excavations in a safe condition until completion of backfill by scaling, benching, shelving, or bracing. Take precautions to prevent slides or cave-ins when excavations are made in locations adjacent to backfill excavations, and when sides of excavations are subjected to vibrations from vehicular traffic or the operation of machinery or any other source. Remove soft or unstable soil below finish grade elevations and backfill such voids with compacted fill material.
- E. Excavation consists of removal of material encountered to obtain required subgrade elevations.
 - 1. Excavation for Trench: Cut trench to cross-sections and grades as shown. Deposit excavated materials a sufficient distance from the edge of trench to prevent cave-ins or material from sliding into ditch. Keep trench free of leaves, sticks, and other debris until final acceptance of work.
 - a. Excavate trenches to provide a uniform working clearance width of each side of pipe or conduit.
 - b. Trench walls shall be excavated vertically from top to bottom to 12 inches higher than top of pipe or conduit, unless noted otherwise.

SECTION 31 2010
EARTHWORK - TURF

2. Trench Bottoms:

- a. Excavate and shape trench bottoms in accordance with details. Excavate trenches a minimum 4 inches deeper than bottom of pipe to allow for bedding course. Remove all projecting objects or foreign debris along trench subgrade.
- b. Place backfill materials and to compacted densities as noted herein.

3.3 SUBGRADE PREPARATION

- A. Perform mass earthwork operations to remove all existing topsoil and other organic materials in their entirety within the footprint of the proposed pavement and athletic field areas. Refer to Geotechnical Report for additional recommendations for site excavations. Buried objects should be removed in their entirety and backfilled.
- B. Contractor shall notify Testing Agency or Landscape Architect when excavations have reached the required subgrade elevations.
- C. Proof-roll subgrade in the presence of the Testing Agency and Landscape Architect to identify any areas of excessive yielding or soft conditions. Do not perform proof-roll on wet or saturated surfaces.
 1. Perform proof roll of subgrade with heavy pneumatic-tired equipment or loaded 10-wheel tandem axle truck weighing not less than 15 tons.
 2. Completely perform proof-roll of subgrade in one direction, repeating in a direction perpendicular to the first direction. Perform any additional proof roll operations deemed necessary by the Testing Agency in order to identify unsatisfactory ground conditions.
 3. As determined by and at the direction of the Testing Agency, excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting. Replace material with engineered fill as directed.
- D. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or improper construction activities.

3.4 MATERIAL STORAGE

- A. Export and dispose of all excavated materials classified as deemed unsatisfactory by the Testing Agency.
- B. Stockpile any imported materials and satisfactory excavated soil materials. Do not intermix new with excavated materials unless deemed allowable by the Testing Agency. Place, grade, and shape stockpiles to drain surface water and keep away from edge of excavations. Cover materials as necessary to prevent water or wind erosion of materials.

3.5 BACKFILL GENERAL

- A. Contractor shall ensure the following items have been completed prior to placement and compaction of backfill materials:
 1. Survey locations of underground utilities for record documents.
 2. Inspect and test underground utilities as necessary.
 3. Remove concrete form work.
 4. Remove trash and debris.

SECTION 31 2010
EARTHWORK - TURF**3.6 SITE PREPARATION**

- A. Remove vegetation, debris, unsatisfactory soil materials, obstruction and deleterious materials from ground surface prior to placement of fills.
- B. Plow, scarify, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.
- C. Place and compact fill materials in layers to required elevations as follows:
 - 1. Under grass, planted, and landscape areas: use satisfactory soil material.
 - 2. Under walks and pavements: use satisfactory soil material as long as the Gentechical Engineer deems material to be suitable and compactions requirements can be achieved.
 - 3. Under steps and ramps: use engineered fill
 - 4. Behind retaining walls: use engineered fill
 - 5. Under footings and foundations: use engineered fill
 - 6. Over excavated areas: use engineered fill

3.7 MOISTURE CONTROL

- A. Do not place backfill or fill material on surfaces that are muddy, or frozen, or contain frost or ice.
- B. Uniformly moisten or aerate subgrade and each subsequent fill or backfill later before compaction to within two (2) percent of optimum moisture content.

3.8 COMPACTION

- A. Place backfill materials in layers not more than eight inches (8") 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. Thoroughly compact all fill and backfill by rolling each layer, following spreading, as closely as possible. Roll the areas in equal amounts in two directions. Provide compaction equipment or type best suited to achieve the desired results with the type of soil. In general, use sheeps foot and/or tamping type rollers on soils of a cohesive type; pneumatic wheeled or vibrating rollers on granular fill material, all as approved by the Landscape Architect. Operate compacting equipment on each layer until the entire area has been thoroughly and uniformly compacted to the required density.
- C. Compact soil to not less than the following percentages of maximum dry density weight according to ASTM D1557 and ASTM D698
 - 1. Under lawn or unpaved areas, scarify and recompact top six (6) inches below subgrade and compact each layer at eighty-five percent (85%).
 - 2. Under walkways, scarify and recompact top six (6) inches below subgrade and compact each layer at ninety-five percent (95%).
 - 3. Under structures, building slabs, steps, and pavements, scarify and recompact top twelve (12) inches of existing subgrade and compact each layer at ninety-five percent (95%).

3.9 GRADING

- A. General: Uniformly grade areas to a smooth surface, free from irregular surface changes. Comply with all compaction requirements and grade to cross-section, lines, not more than 0.10 feet above or below a subgrade elevation.

SECTION 31 2010
EARTHWORK - TURF

1. Provide a smooth transition between existing grades and new grades.
2. Fine grade sub-soil systematically to eliminate uneven areas and low spots and trim high spots. Remove debris, roots, branches, stones, etc., in excess of two inches (2") in size.
3. Contractor shall confirm that the proposed grades shown on the plans will not create a ponding water condition (i.e. an unintended low spot of less than 1%).

3.10 LINES AND DRAINAGE SWALES

- A. Synthetic Turf: the plans indicate lines, grades and elevations of the finish work. In general, areas to be turfed shall be excavated, filled, and graded to the bottom elevations of drainage aggregate.
- B. Track Swale Preparation: Contractor shall provide positive drainage swales along track edge to all structures shown. The high point of the swale between all structures shall be four inches (4") below proposed inside track elevation provided.

3.11 FIELD QUALITY CONTROL

- A. Testing Agency: The Owner shall engage a qualified independent Geotechnical Engineering Testing Agency to perform quality-control testing as identified.
- B. Allow Testing Agency to inspect and to test subgrades and each fill or backfill layer. Contractor may proceed with subsequent earthwork only after test results for previously completed work has been have authorized to allow to proceed.
- C. When Testing Agency reports that subgrades, fills, or backfills have not achieved required compaction, scarify and moisten or aerate and remove/replace soil to depth required. Recompact and retest until specified compaction has been achieved.

3.12 DEBRIS

- A. Unless noted otherwise, all debris is to be disposed off Owner's property. This includes surplus satisfactory soil or waste materials and unsatisfactory trash or debris. Burning of materials on the Owner's property is strictly prohibited.

END OF SECTION 31 2010

THIS PAGE IS INTENTIONALLY LEFT BLANK

SECTION 31 3219
 GEOTEXTILE FABRIC

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section is a part of the entire set of Contract Documents and shall be coordinated with the applicable provisions of the other parts.

1.2 SCOPE

- A. The work under this section shall consist of furnishing all labor, materials and equipment for the installation of the geotextile fabric.

1.3 SUBMITTALS

- A. Manufacturer’s Literature: Furnish to Landscape Architect, when required, copies of manufacturer’s specifications, and installation instructions for geotextile fabric. Include photographs, catalogue cuts, samples as may be required to show compliance with these specifications.

PART 2 - PRODUCT

2.1 GEOTEXTILE FABRIC

- A. The product shall be AMOCO CEF2006, Mirafi - 600x, LINQ Industrial Fabrics - GTF-300, CSI Geoturf - W315 or an approved equivalent.
- B. The geotextile shall be of woven construction and consist of long-chain polymeric yarns. The yarns must be composed of at least 95% propylene or ester polymers. The fibers shall be produced in a manner which achieves a stable network. The geotextile shall conform to the mechanical and hydraulic property requirements listed below:

MINIMUM AVERAGE

<u>PROPERTY</u>	<u>VALUE</u>	<u>UNIT</u>	<u>TEST PROCEDURE</u>
Grab Tensile Strength	315	lbs.	ASTM D-4632
Grab Tensile Elongation	15	%	ASTM D4632
Wide Width Tensile	175/175	lbs/in	ASTM D4595
Wide Width Elongation	15/8	%	ASTM D4595
Mullen Burst	600	Psi	ASTM D3786
Puncture	145	lbs	ASTM D4833
Trapezoidal Tear	120	lbs	ASTM D4533
UV Resistance	70	% @ 500 hr	ASTM D4355
Apparent Opening Size (max)	40	AOS	ASTM D4751
Permittivity	.055	1/sec	ASTM D4491
Flow Rate	4.0	gpm/ft2	ASTM D4491

PART 3 – EXECUTION

3.1 INSTALLATION

- A. The geotextile fabric shall be furnished and stored in a wrap which will protect the geotextile fabric from

SECTION 31 3219
GEOTEXTILE FABRIC

ultraviolet radiation and abrasion. The geotextile fabric shall be covered with the appropriate soil cover within two weeks of its placement.

- B. Should the geotextile fabric be damaged during construction, the torn or punctured section shall be repaired by placing a piece of fabric that is sufficiently large enough to cover the damaged area plus two feet (2') of adjacent undamaged geotextile fabric in all directions.
- C. Fabric shall be installed on dry soil as per manufacturer.
- D. Overlap the fabric as recommended by the manufacturer.
- E. Installation and Unit Price shall include overlap quantities.

END OF SECTION 31 3219

SECTION 31 3500
SLOPE PROTECTION AND EROSION CONTROL

PART 1 - GENERAL**1.1 SUMMARY**

- A. This Section is a part of the entire set of Contract Documents and shall be coordinated with the applicable provisions of the other parts.
- B. Related Sections:
 - 1. Section 31 2010 Earthwork - Turf
 - 2. Section 32 9227 General Lawn Restoration

1.2 SCOPE

- A. The work under this section of the specifications shall consist of furnishing all labor, materials and equipment necessary for installation and maintenance of temporary erosion controls in conformance with Part 91, Act 451, PA 1994, the Soil Erosion and Sedimentation Control Act, Michigan Department of Natural Resources Environmental Protection Act guidelines and all pertinent local enforcing agency rules and regulations having jurisdiction.

1.3 QUALITY ASSURANCE

- A. Contractor shall perform all work under this Section in accordance with all pertinent rules and regulations, including but not limited to those mentioned above and the specifications.
- B. Where provisions of pertinent rules and regulations conflict with these specifications, the more stringent provisions shall govern.
- C. Confirm with Landscape Architect if Soil Erosion Control Permit has been applied for and/or obtained. If not, Contractor is responsible for submitting for and obtaining all pertinent permits including the Soil Erosion Control Permit from the County or local enforcing agency. Submit the NPDES Notice of Coverage when the soil erosion permit is received if not already done.

PART 2 - PRODUCTS**2.1 SEED, FERTILIZER AND MULCH**

- A. Temporary seed shall be cereal rye
- B. Permanent seed shall conform requirements indicated in Lawn Specifications.

2.2 STRAW

- A. Biodegradable wood excelsior, straw, or coconut-fiber mat enclosed in a photodegradable plastic mesh. Include manufacturer's recommended steel wire staples, 6 inches (150mm) long.

2.3 GEOTEXTILE (SILT FENCE)

- A. Fabric shall have uniform fiber distribution and shall be non woven, needle punched polyester material, inert to typical soil chemicals and resistant to sunlight. The material shall have a specific gravity greater than 1.0 and possesses excellent resistance to creep.
- B. Edges of the fabric shall be bonded or sealed to prevent raveling.

SECTION 31 3500
SLOPE PROTECTION AND EROSION CONTROL

- C. Fabric shall be equal to Terra Bond 1115 as manufactured by Hoechst Corporation.

PART 3 - EXECUTION**3.1 GENERAL**

- A. Provide all materials and promptly take all actions necessary to achieve effective soil erosion control in accordance with the Sedimentation Control Act, Michigan Department of Natural Resources guidelines, local enforcing agency guidelines and the specifications.
- B. Prior to start of work, Contractor shall perform a field evaluation of the site along with the Owner's Representative and the local enforcing agency.

3.2 SEEDING AND MULCHING

- A. General:
 - 1. All bare soil, unless otherwise required by the Contract Documents, shall be seeded, fertilized and mulched to create a protected condition. Use seed mix and application rates as indicated in the Contract Documents. Critical areas shall be sodded as approved by the Landscape Architect and as shown on the plans.
 - 2. Seeding and mulching shall be performed immediately upon completion of a phase of section of the work or as approved by Landscape Architect/Owner's Representative. In all instances, seeding and mulching shall be performed within thirty (30) days from the time the area was first disturbed.
 - 3. During any period of time which the soil is unprotected, provide erosion control structures as necessary to minimize erosion and keep any eroded soils on the site. Contractor shall make every attempt necessary to keep soils out of ditches, rivers, storm sewers and wetlands.
- B. Seed: Seed shall be applied uniformly at a minimum rate of 48 pounds per acre.
- C. Fertilizer: Fertilizer shall be applied uniformly at a minimum rate of 250 pounds per acre.
- D. Mulch: Mulch shall be uniformly applied at a rate of two tons per acre, or equal on seeded areas that have a slope of less than 1 vertical to 10 horizontal.

3.3 DITCHES AND RIVERS

- A. When possible, banks of ditches and rivers disturbed under this work shall be protected within 24 hours of disturbance, but in no case shall banks be left unprotected more than seven (7) calendar days.

3.4 STEEP SLOPES

- A. On slopes greater than 10%, but not immediately adjacent to a stream or ditch, use erosion control blankets or turf reinforcement matting to hold see in place. See notes on Soil Erosion Control Plan.

3.5 SITE IMPROVEMENTS CONSTRUCTION

- A. During construction of the site, Contractor shall conform to the following guidelines:
 - 1. Minimize the amount of earth disturbance at any one time.
 - 2. Establish a construction sequence which includes adequate erosion control and monitoring of

SECTION 31 3500
SLOPE PROTECTION AND EROSION CONTROL

erosion control measures.

3. Provide ground cover, even if temporary, so as to stabilize an area and minimize erosion.
4. Direct storm water away from construction area, as allowable. Diverted storm water shall be directed to a stable area.
5. Collect runoff from the site in sediment basins, traps or filters.
6. Establish an inspection and maintenance schedule, through all phases of construction. Employ a certified storm water operator and keep a log of the soil erosion and sedimentation control measures in accordance with the NPDES requirements.
7. Once final stabilization of the site is complete, and the governing agency has granted approval, remove all temporary erosion control measures.
8. Control site runoff during all periods of construction to ensure that excess surface runoff does not reach adjacent properties.

3.6 CLEANING

- A. Perform cleaning of all areas affected by work under this section and leave the site in a neat and tidy state. Contractor shall make every attempt to keep adjacent roads clean and free of debris.

END OF SECTION 31 3500

SECTION 31 3500
SLOPE PROTECTION AND EROSION CONTROL

THIS PAGE IS INTENTIONALLY LEFT BLANK

SECTION 32 1123
AGGREGATE DRAINAGE LAYER

PART 1 - GENERAL**1.1 SUMMARY**

- A. This Section is a part of the entire set of Contract Documents and shall be coordinated with the applicable provisions of the other parts.
- B. Related Sections:
 - 1. Section 31 2010 Earthwork – Turf

1.2 SCOPE

- A. The work under this section of the specification shall consist of furnishing all labor, materials and equipment to produce, place, spread, compact and finish to proper grade and cross section all aggregate base courses according to the drawings and specifications.

1.3 QUALITY ASSURANCE

- A. Reference Standards: American Society for Testing and Materials (ASTM):

C117	Method for Materials Finer than 75-m (No. 200) Sieve in Mineral Aggregates by Washing
C136	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
F1551	Comprehensive Characterization of Synthetic Turf Playing Surfaces and Materials
F2898-11	Standard Test Method for Permeability of Synthetic Turf Sports Field Base Stone and Surface System by Non-confined Area Flood Test Method
- B. Contractor shall have previously installed twelve (15) artificial infill turf bases for turf fields larger than 80,000 square feet in the last three (3) years.
 - 1. The contractor is responsible for repair of the perimeter nailing system and E-Layer (as necessary).
- C. Firms must have been in business under the same ownership for at least five (5) years and shall have been installing similar sports fields for that entire period.
- D. Contractor shall provide a sieve analysis prior to placement for every 150 ton of stone delivered to site. Material should be tested by a third-party construction testing firm administered through the project.
- E. Contractor will be required to provide product pit tickets to designated Owner's Representative for each load of material brought to and intended for job to ensure conformance to the approved Sieve Analysis. Material non-compliant with approved submittal shall be rejected.
- E. The synthetic turf manufacturer/installer shall perform an inspection of the field base onto which the synthetic turf system is to be installed to examine the finished surface for required compaction, permeability and grade tolerances. Earthwork contractor is responsible for correcting deficient items noted by the turf manufacturer/installer prior to acceptance. The turf installer will accept the aggregate stone base in writing when the Owner's representative provides test results for compaction, permeability and planarity that are in compliance with the project plans and specifications. After any discrepancies between the required materials, application and tolerance requirements noted have been corrected, the synthetic turf installer should submit a written certification of acceptance of the base for installation of synthetic turf system.

SECTION 32 1123
 AGGREGATE DRAINAGE LAYER

1.4 SUBMITTALS

- A. Submit to the Landscape Architect a sieve analysis of the proposed stone to be installed. Sieve analysis shall be dated within 14 days of submission.

1.5 ACCEPTABILITY OF THE WORK

- A. Grade: Grade conformance tests shall be conducted on the entire surface. The surface shall have positive drainage of 0.50% inclination.
- B. Planarity: After completion of the compacting operations, the compacted aggregate base shall be tested with a 10' straightedge. Measurements shall be made perpendicular to and across the field at a distance not to exceed 25' feet. The grade will not vary by 1/8" from proposed grades, elevations and slopes provided.
- C. The grade of the aggregate base shall be evaluated with a "string test". The contractor shall identify, with paint, every 5 yd line, in-bound lines, side line, touch line and end lines.
- D. Aggregate shall be tested as per ASTM F1551-09 or ASTM 2898-11 at a minimum of 8 locations after final grade as been achieved and accepted.
- E. Foresite Design commits to being onsite for a maximum 3 hours during string check. Any additional time required will be billed as an Additional Service to be compensated by the Base Contractor or Construction Manager. Hourly rates are between \$125 - \$150 depending on which personnel are present.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Aggregate base material shall conform to specifications for 100% crushed 100% limestone and shall be placed and compacted to the minimum depth shown on plans. Crushed concrete, slag, etc. shall not be allowed. DOT standard classifications do not conform. Modifications of standard DOT aggregate classification maybe required to meet specification. On-site mixing will not be an acceptable method for providing this material.

<u>Aggregate Sieve Analysis</u>	<u>Percent Passing</u>	
	Base Material	Finishing Stone (Not to exceed 1" compacted depth)
1 1/2"	90-100	
1"	75-100	
3/4"	65-95	100
3/8"	40-75	85-100
1/4"	25-65	75-100
No. 4	15-60	60-90
No. 8	0-40	35-75
No. 16	0-20	10-55
No. 30	0-7	0-40
No. 60	0-5	0-15

SECTION 32 1123
AGGREGATE DRAINAGE LAYER

No. 100	0-3	0-8
No. 200	0-2.0	0-2.0
LBW	Maximum 2.5	Maximum 2

- B. The hydraulic conductivity of the aggregate shall be such that is capable of draining the entire synthetic surface at a minimum of 10"/hr for the carpet and 14"/hr including aggregate drainage stone with perforated under drain system acting as the main water displacement conductor. The aggregate shall maintain its finished grade elevations. Migration of fines and subsequent loss of finished tolerances will not be accepted.
- C. Material shall be tested by a testing agency selected by the Owner to ensure compliance with the submitted documentation (ASTM D422 particle size analysis and ASTM 2898 or F1551-09/DIN 18-035:6, permeability to water). A minimum of 8 tests shall be performed at random locations selected by Owner's representative.

PART 3 - EXECUTION

3.1 SUB-GRADE CONSTRUCTION

- A. The sub-grade shall be so constructed as to have uniform stability for a width at least equal to that of the proposed improvements plus of the proposed anchoring system. It shall be brought to an elevation and cross section such that, after being rolled, the surface will be at the required elevation. At the time the sub-grade is prepared, the fill area shall have been constructed to the full width and to at least the elevation of the finished sub-grade.
- B. The material present in the next six (6) inches below the elevation of the sub-grade shall be scarified, mixed and recompact, or otherwise treated to produce a uniform condition. Stones over four (4) inches in size shall be removed from the loosened portion of the sub-grade and disposed as directed by the project representative.
- C. Depressions that develop during the following shall be filled with suitable material, and the rolling shall continue until the sub-grade is uniformly firm, properly shaped and substantially true to grade and cross section. It shall be so maintained until the pavement is place.
- D. Material, other than sand, which will not compact readily under roller shall be removed and replaced with material which will compact readily and that portion of the sub-grade shall be rolled again.
- E. The rolling of the sub-grade shall extend for at least twelve (12) inches outside of each edge of the proposed turf boundaries when possible. Piles or ridges of earth or material that would seriously interfere with the operations of finishing the pavement shall not be left on the shoulders.
- F. During the process of construction sub-grade, the soil shall be maintained in a condition sufficiently moist to facilitate compaction and produce a firm, compact surface.
- G. If, in the preparation of the sub-grade, it becomes necessary to excavate below the elevation of the earth shoulders, ditches or drains shall be provided at frequent intervals to permit ready drainage of surface water from sub-grade to side ditches.
- H. If ruts or other objectionable irregularities form in the sub-grade during construction, the Contractor shall reshape and re-roll the sub-grade before the drainage course is laid. The material used for filling ruts or other depressions shall be of such character as to make it equally desirable for sub-grade purposes as the material presented in the sub-grade.

SECTION 32 1123
AGGREGATE DRAINAGE LAYER

- I. When the sub-grade is being prepared for placement as an aggregate base course, the elevation of the most finished surface, at the time the next layer is placed, shall not vary by more than 0.02 foot above or below the prescribed elevation at any point where measurement is made.

3.2 AGGREGATE DRAINAGE COURSE

- A. Base course construction shall proceed as follows only after the qualified testing firm has approved the sub-grade construction and the gravel tests.
- B. The base shall be constructed in layers of not more than three (3) inches (75mm) compacted thickness when conventional rolling equipment is used.
- C. If vibratory or other approved special equipment is used, the thickness of every compacted layer may be increased to a maximum of eight (8) inches (200mm).
- D. The finished surface of any aggregate drainage layer shall not vary more than 1/8" from the elevations, grades and cross sections on the drawings.
- E. Compacted full profile aggregate drainage stone base dimensions shall be a minimum of 8". The thickness of the finishing stone shall not exceed one (1) inch of compacted depth.
- F. It shall be the contractor's responsibility to maintain a uniform consistent stone base gradation during the installation process. This shall include but not limited to keeping aggregate base at optimum moisture content (5%, \pm 1%) and/ or providing, placing, and compacting a 1/2" layer of stone chips.
- G. Installation shall be accomplished using automated laser grade control, equipment, with dual-slope capabilities.
- H. Prior to calling for grade verification from Landscape Architect, the contractor shall have a registered land surveyor establish and set PK nails at the following locations:
 1. Back of end zone.
 2. Goal line.
 3. Every 5 yard line.
 4. Football side line
 5. Soccer touch line
- I. PK nails, or equivalent, shall be placed on turf nailer system. Do not set flush into nailer. Allow enough to loop grade line onto nail for grade verification. String Check.
- J. Contractor shall have on-site, prior to Landscape Architect arrival, the following equipment:
 1. One (1) ton steel drum rover – rubber tired equipment not acceptable.
 2. 50 ton 3/8" stone chips.
 3. Topdresser – to distribute 3/8" stone chips.
 4. Two (2) 48"/38" aluminum landscape rakes.
 5. 24" wide broom.
 6. There must be enough personnel to operate all equipment simultaneously.
- K. It will be the contractor's obligation and responsibility to have all of the above items in place prior to grade verification by Landscape Architect.

SECTION 32 1123
AGGREGATE DRAINAGE LAYER

3.3 COMPACTION REQUIREMENTS

- A. Sub-grade shall be compacted to not less than ninety-two percent (92%) of maximum density at not less than seventy-five percent (75%) of optimum moisture content.
- B. Aggregate drainage layer shall be compacted to not less than eighty-five percent (85%) of maximum density. Using conventional rolling equipment, moisture content shall not be less than ninety percent (90%) nor more than one hundred-ten percent (110%) of optimum moisture content. Using vibrating equipment, moisture content shall not be less than seventy-five (75%) of optimum moisture content.
- C. Maximum density shall be determined in accordance with AASHTO Modified Method of Test for the Compaction and Density of Soil, Designation T-180, and the optimum moisture content shall be that corresponding to the maximum density in the above test.
- D. Contractor shall maintain optimum moisture content during the installation, (placement, grading, compacting, etc.) of the aggregate base materials.

3.4 ROLLERS

- A. Smooth steel-wheeled rollers shall be self-propelled and have a total weight not less than 8 tons. The compression (driving) roller shall exert a pressure of not less than 250 lbs. per inch width of the roller.
- B. Pneumatic-tire rollers shall have a compacting width of sixty (60) inches (1.5m) or more and shall be capable of varying the weight from 100 to 250 lbs. per inch of rolling width.

END OF SECTION 32 1123

THIS PAGE IS INTENTIONALLY LEFT BLANK

SECTION 32 1124
AGGREGATE BASE COURSE

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section is a part of the entire set of Contract Documents and shall be coordinated with the applicable provisions of the other parts.

1.2 SCOPE

- A. The work under this section of the specification shall consist of furnishing all labor, materials and equipment to produce, place, spread, compact and finish to proper grade and cross section all aggregate base courses according to the drawings and specifications.

1.3 SUBMITTALS

- A. Submit to the Landscape Architect a sieve analysis of the proposed stone to be installed.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Aggregate base material shall conform to DOT specifications for 21AA 100% crushed limestone and shall be placed and compacted to the minimum depth shown on plans. Crushed concrete, slag, etc. shall not be allowed.

<u>Aggregate Sieve Analysis</u>	<u>Percent Passing</u>
1½"	100
1"	85-100
½"	50-75
No. 8	20-45
No. 200	4-8

PART 3 - EXECUTION

3.1 SUB-GRADE CONSTRUCTION

- A. The sub-grade shall be so constructed as to have uniform stability for a width at least equal to that of the proposed pavement plus one (1) foot on each side. It shall be brought to an elevation and cross section such that, after being rolled, the surface will be at the required elevation. At the time the sub-grade is prepared, the fill area shall have been constructed to the full width and to at least the elevation of the finished sub-grade.
- B. The material present in the next six (6) inches below the elevation of the sub-grade shall be scarified, mixed and re-compacted, or otherwise treated to produce a uniform condition. Stones over four (4) inches in size shall be removed from the loosened portion of the sub-grade and disposed as directed by the project representative.
- C. Depressions that develop during the following shall be filled with suitable material, and the rolling shall continue until the sub-grade is uniformly firm, properly shaped and substantially true to grade and cross section. It shall be so maintained until the pavement is place.

SECTION 32 1124
AGGREGATE BASE COURSE

- D. Material, other than sand, which will not compact readily under roller shall be removed and replaced with material which will compact readily and that portion of the sub-grade shall be rolled again.
- E. The rolling of the sub-grade shall extend for at least twelve (12) inches outside of each edge of the proposed turf boundaries when possible. Piles or ridges of earth or material that would seriously interfere with the operations of finishing the pavement shall not be left on the shoulders.
- F. During the process of construction sub-grade, the soil shall be maintained in a condition sufficiently moist to facilitate compaction and produce a firm, compact surface.
- G. If, in the preparation of the sub-grade, it becomes necessary to excavate below the elevation of the earth shoulders, ditches or drains shall be provided at frequent intervals to permit ready drainage of surface water from sub-grade to side ditches.
- H. If ruts or other objectionable irregularities form in the sub-grade during construction, the Contractor shall reshape and re-roll the sub-grade before the pavement is laid. The material used for filling ruts or other depressions shall be of such character as to make it equally desirable for sub-grade purposes as the material presented in the sub-grade.
- I. When the sub-grade is being prepared for placement as an aggregate base course, the elevation of the most finished surface, at the time the next layer is placed, shall not vary by more than 0.05 foot above or below the prescribed elevation at any point where measurement is made.

3.2 AGGREGATE BASE COURSE

- A. Base course construction shall proceed as follows only after the qualified testing firm has approved the sub-grade construction and the gravel tests.
- B. The base shall be constructed in layers of not more than three (3) inches (75mm) compacted thickness when conventional rolling equipment is used.
- C. If vibratory or other approved special equipment is used, the thickness of every compacted layer may be increased to a maximum of eight (8) inches (150mm).
- D. The finished surface of any aggregate base course shall not vary more than 0.02 foot (15mm) from the elevations, grades and cross sections on the drawings.
- E. Compacted stone base dimensions shall be a minimum of 6”.

3.3 COMPACTION REQUIREMENTS

- A. Sub-grade shall be compacted to not less than ninety-two percent (92%) of maximum density at not less than seventy-five percent (75%) of optimum moisture content.
- B. Aggregate base course shall be compacted to not less than ninety-five percent (95%) of maximum density. Using conventional rolling equipment, moisture content shall not be less than ninety percent (90%) nor more than one hundred-ten percent (110%) of optimum moisture content. Using vibrating equipment, moisture content shall not be less than seventy-five (75%) of optimum moisture content.
- C. Maximum density shall be determined in accordance with AASHTO Modified Method of Test for the Compaction and Density of Soil, Designation T-180, and the optimum moisture content shall be that corresponding to the maximum density in the above test.

SECTION 32 1124
AGGREGATE BASE COURSE

3.4 ROLLERS

- A. Smooth steel-wheeled rollers shall be self-propelled and have a total weight not less than 8 tons. The compression (driving) roller shall exert a pressure of not less than 250 lbs. per inch width of the roller.
- B. Pneumatic-tire rollers shall have a compacting width of sixty (60) inches (1.5m) or more and shall be capable of varying the weight from 100 to 250 lbs. per inch of rolling width.

END OF SECTION 32 1124

THIS PAGE IS INTENTIONALLY LEFT BLANK

SECTION 32 1217
HOT MIX ASPHALT PAVEMENT - TRACK**PART 1 - GENERAL****1.1 SUMMARY**

- A. This Section is a part of the entire set of Contract Documents and shall be coordinated with the applicable provisions of the other parts.
- B. Related Sections:
 - 1. Section 32 1124 Aggregate Base Course

1.2 SCOPE

- A. The work under this section of specifications shall include the furnishing of all labor, materials, and equipment necessary to produce, place, spread, compact and finish to proper grade and cross section all plant mix bituminous pavement as shown on the drawings and as specified herein.

1.3 QUALITY ASSURANCE

- A. Reference Standards:
 - 1. Michigan Department of Transportation
 - a. All work done under this section of the specifications except as amended herein, shall be in accordance with current edition of the Michigan Department of Transportation Standard Specifications for Highway Construction, referred to hereafter as the MDOT Specifications. Where notes in this specification section differ from the MDOT standards, the MDOT standards shall govern.
 - 2. National Asphalt Paving Association (NAPA)
 - 3. Asphalt Institute (AI)
 - 4. National Highway Institute (NHI)
 - 5. American Association of State Highway and Transportation Officials (AASHTO)
 - 6. American Sports Builders Association (ASBA)
 - 7. National Federation of State High School Association (NFSHSA)
- B. Manufacturer Qualifications:
 - 1. Manufacturer shall be a paving-mix manufacturer registered with and Prequalified by MDOT.
- C. Testing Agency Qualifications:
 - 1. Qualified according to the AASHTO Accreditation Program.
- D. Acceptability of the Work:
 - 1. Grade: Grade conformance tests shall be conducted on both the leveling and wearing courses. The entire surface shall have positive drainage, 1% lateral inclination and 0.1% in running direction.
 - 2. Planarity: After completion of the finish rolling operations on each course, the compacted surface shall be tested with a 10' straightedge. Measurements shall be made perpendicular to and across all mats at a distance not to exceed 25 feet. The maximum allowable planarity deviation within a pass shall be no more than 1/8" in 10' when measured in any direction.

SECTION 32 1217
HOT MIX ASPHALT PAVEMENT - TRACK

1.4 SUBMITTALS

- A. Contractor shall submit mix designs for approval prior to placement which includes the exact proportions of bituminous material and mineral filler.
- B. Updated mix design shall be provided if changes are made at the asphalt plant prior to or during paving.
- C. Mix design submittals shall identify aggregate blend components and sources, any recycled materials, component gradations, aggregate properties, and target job mix formula. Mix design submittals shall identify volumetric properties of compacted mixtures including Gmm, Gmb, Pb, VMA, VFA, and air voids at design asphalt contents.

PART 2 - PRODUCTS

2.1 PLANT MIX

- A. Leveling Course: The bituminous plant mix base course shall meet the requirements of MDOT Division 5 – Hot Mix Asphalt. The specific mix and cross sections are as follows.
 - 1. Thickness: Not less than 2 ½ inches when compacted
 - 2. Liquid Asphalt or Bitumen: 4% ~ 6% by weight
 - 3. Asphalt Binder Grade: (PG 58-28)
 - 4. Target Air Void = 3.5%
 - 5. Aggregate Type: Crushed limestone and manufactured sand. Slag, iron pyrites, and dust balls are unacceptable.
 - 6. No Recycled Asphalt Pavement (RAP), Recycled Asphalt Shingles (RAS), or crushed concrete.
 - 7. MDOT Mix: 4E1

<u>Aggregate Sieve Analysis</u>	<u>Percent Passing</u>
3/4"	100
1/2"	90-100
3/8"	≤90
No. 8	39-58
No. 200	2.0-10.0
Percent Crushed	>10%

- B. Wearing Course: The bituminous plant mix base course shall meet the requirements of MDOT Division 5 – Hot Mix Asphalt. The specific mix and cross sections are as follows.
 - 1. Thickness: Not less than 1 ½ inches when compacted
 - 2. Liquid Asphalt/Bitumen: 4% ~ 6% by weight ($\pm 1\frac{1}{2}\%$)
 - 3. Asphalt Binder Grade: (PG 58-28)
 - 4. Target Air Void = 3.5%
 - 5. Aggregate Type: Crushed limestone and manufactured sand. Slag, iron pyrites, and dust balls are unacceptable.
 - 6. No Recycled Asphalt Pavement (RAP), Recycled Asphalt Shingles (RAS), or crushed concrete.
 - 7. MDOT Mix: 5E1

SECTION 32 1217
HOT MIX ASPHALT PAVEMENT - TRACK

<u>Aggregate Screen Size</u>	<u>Percent Passing</u>
1/2"	100
3/8"	90-100
No. 4	≤90
No. 8	47-67
No. 30	--
No. 200	2.0-10.0
Percent Crushed	>10%

PART 3 - EXECUTION

3.1 LIMITATIONS OF OPERATIONS

- A. Bituminous tack coat shall be applied only when surface and weather conditions are favorable.
- B. Bituminous plant mix shall be placed only during daylight hours when the temperature of a shaded portion of the aggregate base is 40°F or higher and when the surface upon which it is to be constructed is dry.
- C. The entire leveling course shall be installed in a single day to avoid cold joints. If rain is expected, contractor shall reschedule installation.
- D. The entire wearing course shall be installed in a single day to avoid cold joints. If rain is expected, contractor shall reschedule installation.

3.2 SUB-GRADE AND BASE COURSE PREPARATION

- A. Prepare sub-grade and aggregate base course in accordance with these specifications. The subgrade shall be proof compacted loaded rubber tired equipment and witnessed by a representative of the design team. Areas that exhibit significant deflection or pumping shall be removed and replaced with compacted granular material. Aggregate base course shall be compacted to 98% of the maximum dry density as determined by ASTM D698 (AASHTO T99) or One Point Michigan Cone Test per current MDOT Density Control Manual procedures.
- B. At the time of applying bituminous material, the sub-grade surface shall be dry and clean, and all necessary repairs or reconditioning work shall have been completed.
- C. All objectionable foreign matter dirt, debris, etc. on the asphalt surface shall be removed and disposed by the Contractor.

3.3 BITUMINOUS TACK COAT

- A. Bituminous tack coat shall be applied at a rate of 0.10 gallons per square yard to existing bituminous surfaces and to successive plant mix surfaces. The tack coat may be waived by the Landscape Architect where successive plant mix courses are to be placed during one day's operation.
- B. The bituminous tack coat shall be applied uniformly to the clean, dry surface with a pressure distributor. Pools of bituminous material shall not be allowed to remain on the surface. The tack coat material shall be applied far enough ahead of the paving operation to allow it to cure before

SECTION 32 1217
HOT MIX ASPHALT PAVEMENT - TRACK

placing the subsequent plant mix bituminous material.

3.4 TEMPERATURE

- A. The temperature of bituminous material at the time of application shall be as approved by the Landscape Architect within the limits specified below.

SS-1h	105-180 degrees F.
Plant Mix	270-300 degrees F.

- B. The Landscape Architect may reject any load of plant mix bituminous material whose temperature is outside the temperature limits identified in 3.4A

3.5 PLACEMENT AND COMPACTION

- A. Paving operations shall provide a mat that is smooth, dense and of the proper thickness, slope and planarity. The plant mix bituminous material shall be compacted to 92 - 98% of Theoretical Maximum Density (Gmm).
- B. The wearing course shall be placed such that the longitudinal joints of the wearing course are offset from that of the leveling course. Transverse joints shall be off set a minimum of 24".
- C. In placing each succeeding pass after the initial one, the screed of the paver should be set so that it overlaps the preceding pass by 2" and be sufficiently high so that when compacted, a smooth joint is produced. Prior to pinching the joint, the excess material shall be pushed onto the edge of the new pass with a lute. Excess material shall be removed from the pass.
- D. Deficient areas within the base course shall be corrected by sawcutting or milling to a depth equal to the thickness of the mat. Tack coat shall be applied to all edges and the pavement shall be replaced. Skin patching of the wearing course shall only be done with materials acceptable to the surfacing contractor.
- E. Surface Smoothness: Compact each course to produce a surface smoothness within the following tolerances as determined by using a 10-foot straightedge applied transversely or longitudinally to paved areas.
 - 1. Base Course: 1/4 inch
 - 2. Surface Course: 1/8 inch
 - 3. Crowned Surfaces: Test with crowned template centered and at a right angle to crown. Maximum allowable variance from template is 1/4 inch.

3.6 BITUMINOUS PAVING

- A. After completion and acceptance of the stone base course, install 2½" of leveling course and 1½" of wearing asphalt materials.
- B. Installation shall be in two (2) separate courses of 2½" and 1½" after compaction. Each asphalt lift shall be installed using automated laser grade control, self-propelled paving equipment, with dual-slope capabilities.
- C. Edge Shaping: While surface is being compacted and finished, trim edges of pavement for proper alignment, bevel edges of asphalt and compact thoroughly.

SECTION 32 1217
HOT MIX ASPHALT PAVEMENT - TRACK

- D. The plant mix bituminous material shall be compacted to 92- 98% of Theoretical Maximum Density (Gmm).
- E. Plant mix shall be placed and compacted in accordance with current MDOT Guidelines, Division No. 5 - Hot-Mix Asphalt Pavements and Surface Treatments. The initial contact with the hot mixture leveling course shall be made by the power or driving roll of the steel roller, weighing not less than six (6) tons. The finish surface of the leveling course shall not vary more than 1/4" in 10 feet when measured in any direction. The finish surface of the wearing course shall not vary more than 1/8" in 10 feet when measured in any direction.
- F. HMA mixtures shall be produced to test as closely as possible to the job mix formula identified on the approved mix design submittal for each mixture and shall meet the Uniformity Tolerance Limits identified in Table 1. Mixtures tested that fall outside of Range 1 tolerances shall be adjusted as necessary to comply with Range 1 tolerances. Mixtures tested that fall outside of Range 2 tolerances shall be subject to rejected at the discretion of the Architect.

Table 1: Uniformity Tolerance Limits for HMA Mixtures

Parameter		Top and Leveling Course		Base Course		
Number	Description	Range 1 (a)	Range 2	Range 1 (a)	Range 2	
1	% Binder Content	-0.30 to +0.40	±0.50	-0.30 to +0.40	±0.50	
2	% Passing	# 8 and Larger Sieves	±5.0	±8.0	±7.0	±9.0
		# 30 Sieve	±4.0	±6.0	±6.0	±9.0
		# 200 Sieve	±1.0	±2.0	±2.0	±3.0
3	Crushed Particle Content (b)	Below 10%	Below 15%	Below 10%	Below 15%	
a. This range allows for normal mixture and testing variations. The mixture must be proportioned to test as closely as possible to the Job-Mix-Formula (JMF). b. Deviation from JMF.						

3.7 TESTS AND SAMPLES

- A. At the direction of the Landscape Architect, the Contractor shall cut samples from any course or finished pavement not to exceed five (5) in number from any days run for tests of density and composition. These samples shall be taken at points designated by the Landscape Architect by sawing with a power driven masonry saw or diamond core drill. Samples shall be sufficiently large to meet the needs of the testing laboratory.
- B. The Owner will hire an independent testing laboratory to perform field density testing with a nuclear density gage, a Correlated Pavement Quality Indicator, or PaveTracker (non-nuclear) to verify that the specified density requirements are being met.
- C. The surface from which samples are taken shall be restored by the Contractor not later than the next succeeding day of plant operation.
- D. All test results will be available to the Contractor.
- E. All testing samples will be paid for in accordance with these specifications.

SECTION 32 1217
HOT MIX ASPHALT PAVEMENT - TRACK

- F. Asphalt paving contractor shall power-wash asphalt prior to installation of tennis court or all weather track surface. Contractor shall flood the asphalt to identify all potential "Bird Bath" areas prior to surface application. Bird bath areas will be repaired as directed by the Landscape Architect.

END OF SECTION 32 1217

SECTION 32 1217
HOT MIX ASPHALT PAVEMENT - TRACK



Mix Design Submittal Checklist			
Project:		Date:	
Supplier:		Mix Design:	Surface / Leveling / Base
Included	Missing	N/A	Required Information
			Contractor to select mix design method: (design shall be less than 24 months old)
			50-Blow Marshall
			50-Gyratation Superpave
			Hveem, Low Volume
			Other, Engineers Approval Req'd Before Bidding
			Proper Authorizing Signature for Mix Design
			All Aggregate Types, Gradations & % Crush
			FAA >= 40%, Maximum of 20% Natural Sand
			Plot (0.45 Power Graph) of Final Aggregate Blend
			Bulk (Dry) Specific Gravity of All Aggregates and Final Blend (Gsb), Include All Worksheets
			Optimum Binder Content (Pb)
			Mix Voids at Optimum (Va)
			VMA at Optimum
			Bulk Specific Gravity of Mix at Optimum (Gmb)
			Theoretical Maximum Specific Gravity at Optimum (Gmm)
			Dust to Total AC Ratio
			All Design Data and Associated Design Curves
			Recent Quality Control Production Charts
			Other Information per Specifications
Comments:			

SECTION 32 1217
HOT MIX ASPHALT PAVEMENT - TRACK

THIS PAGE IS INTENTIONALLY LEFT BLANK

SECTION 32 1724
TRACK MARKINGS**SECTION 32 1724 – TRACK MARKINGS****PART 1 - GENERAL****1.1 SUMMARY**

- A. This Section is a part of the entire set of Contract Documents and shall be coordinated with the applicable provisions of the other parts.
- B. Verify all-weather surface dimensions on plans, details, and field prior to track surface installation.

1.2 SCOPE

- A. The work under this section of the specifications shall consist of furnishing all labor, materials, equipment, transportation, and services necessary to complete the striping of track and field event markings.
- B. The track shall be marked for 8-42" lanes and include all event markings as recommended by National Federation of State High School Athletic Association and the Michigan High School Athletic Association.

1.3 SUBMITTALS

- A. Submit to the Landscape Architect upon notification of award of project, a drawing showing location of all proposed track markings and a chart with the appropriate colors to be used.
- B. Submit product literature for paint for prior approval from Landscape Architect. The paint must be recommended by the manufacturer of track surface.
- C. Upon completion, supply the Owner with all necessary as-built drawings showing color coded markings of each event.
- D. Upon completion, a letter of certification attesting to the accuracy of the markings shall be submitted by the Professional Engineer or Land Surveyor in charge of the layout. The letter shall be signed and sealed by the person or persons in charge of the layout indicating the state of registration, number and name.

1.4 ADDITIONAL MARKINGS

- A. The following Junior High School Events will also be installed:
 - 1. 55 Meter Hurdles
 - 2. 200 Meter Hurdles
 - 3. 70 Meter Dash

PART 2 - PRODUCTS**2.1 PAINT**

- A. Paint shall be that material as recommended by the manufacturer of the track surface.
- B. No thinners shall be used.

SECTION 32 1724
TRACK MARKINGS**PART 3 - EXECUTION****3.1 COMPUTATIONS**

- A. Verify the locations of proposed events with the Owner.
- B. Calculations shall be made to the nearest 1/100,000th of a foot.
- C. Calculations of the angle shall be made to the nearest one second.
- D. Calculations shall be submitted to the Landscape Architect prior to the painting.
- E. Calculations shall be made by or certified by the engineer or surveyor completing the work.
- F. All measurements and tolerances shall conform with those recommended by the N.F.S.H.S.A. for track and field event layout.

3.2 LAYOUT

- A. Lines and markings shall be made by a competent, experienced and fully qualified Professional Engineer or Registered Land Surveyor.
 - 1. Locate and confirm both new radius points.
 - 2. Establish and set all necessary control points.
 - 3. Measurements shall be made on the track to the nearest 1/100th of a foot.
 - 4. Angles shall be set by using a transit or theodolite capable of reading direct to 20 seconds.
 - 5. The markings on the curve may also be set by using the chord length method.
 - 6. Measurements shall be made with an engineering steel tape in engineering scale.
 - 7. All markings shall be clearly identified and color coded for the painter to identify.

3.3 TRACK MARKINGS

- A. All markings shall conform with those recommended by the current requirements as published by the National Federation of State High School Association (NFSHA) for track and field event layout.
 - 1. Lanes and lines shall be 2" wide markings with color determined by Owner..
 - 2. Start and finish lines shall be 2" wide lines and shall be clearly marked with the start of said events.
 - 3. Exchange zones shall be indicated with triangles with a 41" base and 24" high with the base as the limits of the zone.
 - 4. Acceleration marks shall be a 2" wide by 4" long dash marked clearly in the center of the lane.
 - 5. Hurdle marks shall be 2" x 2" tic marks on the lane line on both sides of the lane.
 - 6. Lane numbers shall be not less than 42" high and located as directed by the Landscape Architect in four (4) locations. Numbers shall be in two (2) colors (shadowed background as selected by the Owner).
 - 7. Event identification shall be 4" letters stenciled below and to the right of each lane and mark.
 - 8. Scratch lines for the jumping events shall be 8" wide.
 - 9. All symbols shall have the proper color code for the event.
 - 10. Check marks for the long jump event shall be included with bid, with the minimum requirements to include markings and labels every 5' o.c. on the right side running direction of runways. Coordinate exact frequency and locations with Athletic Department prior to striping. Check marks are applicable to Troy HS runway and Boulan Park MS.

SECTION 32 1724
TRACK MARKINGS

3.4 INSTALLATION

- A. No painting shall be performed when the velocity of the wind exceeds twelve miles per hour (12mph), unless the spray equipment is equipped with the proper air curtains.
- B. Day time temperature shall be a minimum of 50 degrees with nighttime temperatures above 45 degrees.
- C. Sunny skies with no forecast of rain for a minimum of 5 hours.
- D. Advertisement by track surface installer or track marking company shall not be permitted on finish surface.

****Contact the Athletic Department and verify all markings prior to installation.****

SECTION 32 1724
TRACK MARKINGS

BLACK SURFACE (BOULAN PARK MS)

All Lanes Yellow-White Alleys
Common Finish White
Common Exchange Zone Green

EVENT	GRAPHIC SYMBOL	COLOR
70 M DASH	Start Line	White
100 M DASH	Start Line	White
200 M DASH	Start Line (1 turn stagger)	White
400 M DASH	Start Line (2 turn stagger)	White
800 M RUN	Alleys	Green
1600 M RUN	Alley Start	White
3200 M RUN	Alley Start	White
100 M HIGH HURDLES	Start Line Hurdle Location	White Yellow
110 M HIGH HURDLES	Start Line Hurdle location	White Blue
300 M INT/LOW HURDLES	Start Line Hurdle Location	White Red
400 M RELAY 4 x 100	Start Line Exchange Zone	White Yellow △
800 M RELAY 4 x 200	Start Line 1st-exchange zone 2nd-exchange zone 3rd-exchange zone	White Red △ Red △ Yellow △
1600 M RELAY 4 x 400	Start Line 1st-exchange zone 2nd-exchange zone 3rd-exchange zone	White Blue △ Blue △ Blue or Blue/Green Split △
3200 M RELAY 4 x 800	Waterfall Start Common Exchange Zone	White Blue or Blue/Green Split △
55 M LOW HURDLES (Junior High Event)	Start Line Hurdle Location	White Yellow
200 M INT/LOW HURDLES (Junior High Event)	Start Line Hurdle Location	White Red
LANE NUMBERS	Primary Number Shadow	White To Be Selected

END OF SECTION 32 1724

SECTION 32 1815
SYNTHETIC TURF - PARALLEL SLIT SAND/RUBBER

PART 1 - GENERAL**1.1 SUMMARY**

- A. This Section is a part of the entire set of Contract Documents, including General and Supplementary Conditions. Drawings shall be coordinated with the applicable provisions of the other parts.
- B. Related Sections:
1. Section 32 1123 Aggregate Drainage Layer
 2. Section 32 1850 E-Layer

1.2 SCOPE OF WORK

- A. The work under this section includes the following:
1. Furnish all labor, materials and equipment, necessary for the complete installation of a multi-purpose synthetic turf system.
 2. Procure and install infill material
 3. Pre and Post Installation Testing
 4. Warranty Guarantees
 5. Installation of synthetic grass surfacing system shall include all incidental work required to complete the work described herein, as shown on the Drawings, and included in related Specifications.

1.3 REFERENCES

- A. Reference herein to any technical society, organization, group, or regulation are made in accordance with the following abbreviations, and unless noted or specified otherwise, all work under this Section shall conform to the latest edition as applicable.
- B. American Society for Testing and Materials (ASTM):
- | | |
|-------|---|
| D418 | Standard Test Method for Testing Pile Yarn Floor Covering Construction |
| D789 | Yarn Melting Point |
| D1335 | Standard Test Method for Tuft Bind of Pile Yarn Floor Coverings |
| D1577 | Standard Test Method for Linear Density of Textile Fiber |
| D1682 | Standard Method of Test for Breaking Load and Elongation of Textile Fabrics |
| D2256 | Standard Test Method for Tensile Properties of Yarns by the Single-Strand Method (breaking Strength and Elongation) |
| D2859 | Standard Test Method for Ignition Characteristics of Finished Textile Floor Covering Materials |
| D3218 | Standard Test for Fiber Thickness (Microns) |
| D4491 | Water Permeability of Geotextiles by Permittivity |
| D5034 | Standard Test Method of Breaking Strength and Elongation of Textile Fabrics (Grab Test) |
| D5035 | Standard Test Method for Breaking Force and Elongation of Textile Fabrics (Strip Method) |

SECTION 32 1815
SYNTHETIC TURF - PARALLEL SLIT SAND/RUBBER

- D5848 Standard Test Method for Mass Per Unit Area of Pile Yarn Floor Covering
- F355 Standard Test Method for Impact Attenuation of Playing Surface Systems and Materials
- F1015 Standard Test Method for Relative Abrasiveness of Synthetic Turf Playing Surfaces
- F1551 Comprehensive Characterization of Synthetic Turf Playing Surfaces and Materials
- F1936 Standard Specification for Impact Attenuation of Turf Playing Systems as Measured in the Field
- F2117 Standard Test Method for Vertical Rebound Characteristics of Sports Surface/Ball Systems; Acoustical Measurement
- F2765 Standard Specification for Total Lead Content in Synthetic Grass Fibers

C. Federation Internationale de Football Association (FIFA)

- FIFA 09/EN 13672 Simulated Wear/Abrasion Resistance
- EN ISO 20105-A02 Artificial Weathering (3,000 hours UVA)
- EN 13864 Artificial Weathering (3,000 hours UVA) Pile Yarn Tensile Strength

D. National Collegiate Athletic Association (NCAA)

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

F. Michigan High School Athletic Association (MHSAA)

G. Synthetic Turf Council (STC)

H. American Sports Builders Association (ASBA)

1.4 QUALITY ASSURANCE

- A. In the event conflicts exist between information contained in this Specification and in other parts of the Contract documents, Bidder shall assume that the more stringent and highest performing solution is required.
- B. Following acceptance of bids and evaluation of all product related information submitted with bid and requested additionally, the Owner reserves the right to award based on factors other than low bid.
- C. Manufacturer Qualifications:
 1. Have not had a Surety or Bonding Company finish work on any contract within the last five (5) years.
 2. Have not been disqualified or barred from performing work for any public Owner or contracting entity.
 3. Shall have documented financial strength to fully service and warrant the systems installed. An audited financial statement for the past fiscal year shall be provided upon the request of the Owner or Landscape Architect.
 4. Must be a member in good standing of the Synthetic Turf Council (STC) and/or American Sports Builders Association (ASBA). Prospective bidder shall employ one ASBA Synthetic Turf Certified Field Builder.

SECTION 32 1815
SYNTHETIC TURF - PARALLEL SLIT SAND/RUBBER

5. All products and installation methods shall meet or exceed the current guidelines of the NFHS, NCAA, all applicable ASTM State and Federal Standards, and all current guidelines set forth by the Synthetic Turf Council.
 6. Prospective bidder must be experienced in the manufacturing of infilled synthetic turf systems. Turf Manufacturer/Installer shall have fifty (50) fields in the last (5) five years of the same synthetic turf system being proposed with the same manufacturer, product and infill proposed for this project. This includes the fiber, backing, the secondary backing and installation method.
 7. Product shall meet the following criteria:
 - a. Have a NCAA Division 1 football field installed with parallel slit or monofilament fiber product.
 - b. Have a football field of 85,000 sq. ft. or more of the exact specified material, including the infill material and fiber, in play for at least two years with the same turf manufacturer and company proposed for this field.
 - c. Verification that provider meets these requirements shall be included with Bid.
- D. Installer Qualifications:
1. The Turf Contractor must provide competent workmen skilled in the installation of synthetic turf material, including, but not limited to, gluing or sewing seams, gluing inlays, proper installation of the infill material, and competency in installing performance shock pads (if required). The Installer shall have a representative onsite to certify the installation and warranty compliance.
 2. The assigned designated Supervisory Personnel on the project must be certified, in writing by the Turf Manufacturer, as competent in the installation of the proposed material. Should there be a change in the assigned designated Supervisory Personnel, the Owner and/or Landscape Architect shall be notified in writing within 48 hours of change.
 3. Supervisory Personnel shall remain onsite at all times during the installation.
 4. The installer shall provide documentation for the following: Fifteen (15) reference projects consisting of Synthetic Multi-Sport Grass Fields of 75,000 square-feet or larger within the past three (3) years which details the following criteria:
 - a. Project Name and Location
 - b. Project Scope
 - c. Construction timeline
 - d. Construction Cost
 - e. Reference name, title, affiliation, and contact information
- E. Pre-Installation Field Verification:
1. Base Acceptance:
 - a. The synthetic turf manufacturer and/or installation contractor shall perform an inspection of the field base onto which the synthetic turf system is to be installed and to examine the finished surface for required compaction, permeability and grade tolerances.
 - b. Upon correction of any discrepancies between the required materials, application and tolerance, the Owner's representative shall provide test results for compaction, permeability and planarity that are in compliance with the project plans and specifications. The turf installer shall accept the aggregate stone base via a written certification of acceptance of the base for installation of subsequent layers of the

SECTION 32 1815
SYNTHETIC TURF - PARALLEL SLIT SAND/RUBBER

synthetic turf system.

- c. The acceptance of the base construction should be included in the certification for warranty validation.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Properly store all materials in accordance with manufacturer's recommendations.
 1. Deliver products in original, unopened packaging with manufacturer's identification clearly legible. All products shall be received by Contractor.
 2. All materials shall be stored in a location directed by the Owner and acceptable to the Contractor.
 3. Protect materials from puncture, dirt, grease, water, moisture, mechanical abrasion, excessive heat or cold, or other damaging circumstances.
- B. Upon delivery and prior to installation of synthetic turf system and materials, Contractor shall inspect the materials as follows:
 1. For damaged or defective items.
 2. Measure synthetic turf roll lengths, perforations, and uniformity of product and color.
 3. Adhesives and seaming tape shall arrive in sealed dry containers or packaging and shall be kept in adequate temperatures per manufacturer's written requirements.
 4. Rubber infill shall arrive in sacks or bags without any tears or loose material. Rubber shall arrive dry and loose: no rubber will be accepted that is bulked or solid.
 5. Sand Infill:
 - a. Bagged Material: shall arrive without any tears and shall be free from contamination of site materials.
 - b. Bulk Material: deliver materials in clean, washed and covered trucks to eliminate contamination during transportation. Onsite stockpiling locations shall be coordinated with the Owner. Stockpile only in areas free of debris and away from drainage routes and structures. Cover all materials with plastic or geotextile if materials are to be stockpiled more than 48 hours.
 6. Any material(s) that does not meet minimum specified criteria is grounds for rejection.
- C. At time of delivery, lot numbers for each carpet roll shall be provided to Construction Manager or Owner's Representative to validate carpet supplied. Lot numbers shall be provided as part of close-out documentation.

1.6 SUBMITTALS

- A. Bid Submittals
 1. Proposal package shall include the following information to assist in the preliminary review process:
 - a. Manufacturer qualifications/references as noted herein.
 - b. Installer qualifications/references as noted herein.

SECTION 32 1815
SYNTHETIC TURF - PARALLEL SLIT SAND/RUBBER

- c. Samples of non-infilled turf product for all colors required, minimum 8"x8" in size. Bidders may elect to submit a color roll of standard manufacturer colors with their bid in lieu of individual samples.
 - d. Fiber manufacturer's name, type of fiber and composition of fiber.
 - e. Product being bid meets or exceeds pre-manufacturer testing
 - f. Sample Manufacturer's Warranty and Third-Party Insured Warranty
 - g. Sample insurance policy for the Third-Party Insured Warranty
 2. The following letters, on the submitting company's letterhead and signed by a company officer, shall be submitted with the Bid:
 - a. A letter confirming that the Bid Documents have been completely reviewed by qualified representatives of the submitting company acknowledging that the materials and system proposed are adequate for the applications shown and will not impact the system warranty.
 - b. The Bidder shall provide written documentation that system for which they are bidding, does not violate any known or pending patents for specified products.
- B. Post-Award Submittals
1. Shop Drawings – Submit the following for approval:
 - a. Complete scaled and dimensional drawing, in full color, showing all field lines, markings, inlays, and boundaries in specified colors required for project. All markings shall be tufted in the factory or field inlaid, unless noted otherwise. Custom logos can be provided by Landscape Architect in AutoCad format to expedite shop drawing process.
 - b. Roll/seaming layout Plan
 - c. Details on field construction, noting any details that may deviate from the Drawings or Specifications including, but not limited to: edge detail, goal post detail, covers for access to subsurface structures, etc.
 2. Provide certified copies of independent (third-party) laboratory testing reports per section 1.7 Quality Control Testing.
 3. Fiber manufacturer's name, type of fiber and composition of fiber.
 4. Proposed infill composition, including pounds of sand and pounds of rubber per square foot. Provide (3) one-pound samples of sand and rubber (in separate bags).
 5. Rubber, with certification of availability, from supplier guaranteeing product supply reserved for the Troy School District. Certification shall include:
 - a. Type and origin of raw material (certify that it comes from tires)
 - b. Production facility
 - c. Production method (cryo or ambient)
 - d. Fiber content (%)
 - e. CRI sieve/gradation analysis
 - f. The provider the of CRI shall provide in writing that they maintain an ongoing Quality Control program meeting all the standards of the STC Guidelines for CRI Used in Synthetic Turf Fields and capable of meeting all the specifications described herein.

SECTION 32 1815
 SYNTHETIC TURF - PARALLEL SLIT SAND/RUBBER

1.7 QUALITY CONTROL TESTING

- A. All testing services shall be the responsibility of and paid for by the submitting or awarded Contractor, unless noted otherwise. All testing noted herein shall be performed by a third-party testing agency that is ISO 17025 certified and approved by the Landscape Architect.
- B. Testing by independent laboratory must be for current materials and testing not older than twelve (12) months from project Bid Date.
- C. Any material tested and found non-compliant with the specifications may be rejected. The Contractor shall be required to submit material that is compliant with the specifications.
- D. The Owner, or the Landscape Architect on the Owner's behalf, reserves the right to independently test any material. Any testing performed by the Owner will be at the Owner's expense. The Contractor is responsible to bear the cost of any testing of product found to be non-compliant. Contractor will bear the cost of all retesting as required by the Owner.
- E. Pre-Manufacturing Testing: Contractor shall submit to Landscape Architect a copy of the test results certified by the independent Testing Laboratory prior to manufacturing of the synthetic turf for the project. Testing data required is as follows:

SYNTHETIC GRASS YARN		
PROPERTY	TEST METHOD	REQUIREMENT
Pile Height	ASTM D 5823	± 1/8" of specification
Pile Weight	ASTM D 5848	± 5% of specification
Total Weight	ASTM D 5848	± 5% of specification
Tuft Bind (w/o infill)	ASTM D 1335	> 8 lbs
Melting Point	ASTM D 789	> 235 degrees F
Denier	ASTM D 1907	± 10% of specifications
Pill Burn Test	ASTM D2859	8 Passed / 0 Failed
Microns	ASTM D3218	± 10% of specifications
Breaking Strength (length)	ASTM D 5034	> 283 lbs./ft
Breaking Strength (width)	ASTM D 5034	> 200 lbs./ft
Fiber Abrasiveness Index	ASTM F 1015	< 35
Lead Content	ASTM F 2765-09	< 50 ppm
Artificial Wearing (3,000 hours UVA) Turf Color Change	EN ISO 20105-A02	> Gray Scale 3
Artificial Wearing (3,000 hours UVA) Pile Yarn Tensile Strength	EN 13864	< 50% reduction

SYNTHETIC GRASS BACKING MATERIALS		
PROPERTY	TEST METHOD	REQUIREMENT
Primary Backing Weight	ASTM D 5848	± 2 oz./yd ² of specification
Secondary Backing Weight	ASTM D 5848	± 2 oz./yd ² of specification

SYNTHETIC GRASS INFILL MATERIALS		
PROPERTY	TEST METHOD	REQUIREMENT
Safety of Toys Part 3	EN 71-3	Pass
Safety of Synthetic Turf Infill	ASTM F 3188	Pass
Infill Size Gradation	EN 933	
Infill Bulk Density	EN 1097	
Artificial Weathering (3,000 hours UVA) Infill Color Change	EN ISO 20105-A02	> Gray Scale 3

SECTION 32 1815
 SYNTHETIC TURF - PARALLEL SLIT SAND/RUBBER

SYNTHETIC GRASS SYSTEM		
PROPERTY	TEST METHOD	REQUIREMENT
Lisport Simulated Wear	EN 13672	> 50,000 passes without splitting

F. Post Manufacturing/Pre-Shipment Testing: Contractor shall submit to Landscape Architect a copy of the test results certified by the Independent Testing Laboratory prior to shipping of the synthetic turf product. Any test result not meeting specifications is grounds for rejection of product, in whole or in part. Testing requirements are as follows:

1. Test sample shall be from five random rolls manufactured for this project. Proof of documentation must be provided upon delivery of the carpet to the job site.
2. Test results to identify manufacturer, date of test(s), lab technician, project, lot number, etc.

SYNTHETIC GRASS SURFACING CARPET		
PROPERTY	TEST METHOD	REQUIREMENT
Tuft Bind (w/o infill)	ASTM D 1335	> 8 lbs
Stitch Gauge	ASTM D 5793	< 1/2"
Pile Height	ASTM D 5823	± 1/8" of specification
Pile Weight	ASTM D 5848	± 5% of specification
Total Weight	ASTM D 5848	± 5% of specification
Perforations	Visual	> 3/16" dia., spaced 4" o.c.
Denier	ASTM D 418 or 1907	± 10% of specification
Primary Backing Weight	ASTM D 5848	± 2 oz./yd ² of specification
Secondary Backing Weight	ASTM D 5848	± 2 oz./yd ² of specification
Breaking Strength (length)	ASTM D 5034	> 283 lbs./ft
Breaking Strength (width)	ASTM D 5034	> 200 lbs./ft
Pill Burn Test	ASTM D2859	8 Passed / 0 Failed
Lead Content	ASTM F 2765-09	< 50 ppm

SYNTHETIC GRASS SURFACING SYSTEM (carpet, infill)		
PROPERTY	TEST METHOD	REQUIREMENT
Water Infiltration Rate	ASTM F 1551	> 16 in./hr.
Infill Depth Measurement	EN 1969	± 10% of specification (1/2" exposed fiber)
Impact Attenuation	ASTM F 1936	< 120 G's
Impact Attenuation, Head Injury Criteria (HIC)	EN 1177	< 900 @ 1.3m

G. Post Installation Testing: Upon substantial completion, the Contractor shall perform a one-time test of the items listed below. Contractor shall submit to Landscape Architect, a copy of these test results, certified by the independent Testing Agency.

1. Testing shall be completed on-site within five (5) days upon completion of the installation.
2. Following field testing, it shall be the Contractor's responsibility to correct any part of the system deemed non-compliant with the specifications.

SECTION 32 1815
 SYNTHETIC TURF - PARALLEL SLIT SAND/RUBBER

SYNTHETIC GRASS SURFACING SYSTEM (carpet, infill)		
PROPERTY	TEST METHOD	REQUIREMENT
Infill Depth Measurement	EN 1969	± 10% of specification (1/2" exposed fiber)
Impact Attenuation (min. 10 locations)	ASTM F 1936	< 120 G's (individual, not average results)
Impact Attenuation, Head Injury Criteria (HIC) (min. 10 locations)	EN 1177	< 900 @ 1.3m (individual, not average results)

- 3. Any testing desired after the initial testing shall be the responsibility and obligation of the Owner.

H. Synthetic Turf System Warranty:

- a. The Contractor shall be responsible to provide a Pre-Paid and non-prorated Manufacturer/Installer Warranty Guarantee (referred to herein as "Warranty") for the synthetic grass system for a minimum non-prorated period of eight (8) years from the date of Certificate of Substantial Completion. Synthetic grass system refers to synthetic turf materials, infill materials, installation materials and installation workmanship.
- b. \$5,000,000.00 per each insured warranty and \$15Million dollar annual aggregate for all warranties issued during each 12-month period of the 8-Year warranty.
- c. Infill material shall be warranted against breakdown of material outside of project specifications and failure to adhere to EN 71-3 and ASTM F3188 Testing Requirements.
- d. The Turf Manufacturer's Warranty must be underwritten by a third-party Best "A" Rated (or better) Insurance Carrier listed in the A.M. Best Key Rating Guide. Warranty shall be guaranteed to cover the items set forth in this Specification for the full eight (8) year period.
- e. Insured Warranty coverage must be provided in the form of one (1) single policy.
- f. Policies that include self-insurance or self-retention clauses shall not be considered.
- g. Policy cannot include any form of deductible amount nor should the Owner be responsible for any deductible.
- h. A sample policy shall be provided at the time of Bid to prove that policy is in force. A letter from an agent of sample Certificate of Insurance will not be acceptable.
- i. The artificial grass field turf must maintain an ASTM 1936 G-max between 80 – 165 for the life of the Warranty.

I. Warranty Requirements:

- a. The materials utilized in the synthetic turf system shall be guaranteed for the designated usage:
 - i. Football, Rugby, Soccer, Baseball, Softball, Lacrosse, Field Hockey
 - ii. Marching Band
 - iii. Physical Education and Intramural Sports Programs
 - iv. Physical Education exercises and other similar uses
 - v. Pedestrian traffic
 - vi. Pneumatic rubber-tired maintenance and service equipment, designated for use on

SECTION 32 1815
SYNTHETIC TURF - PARALLEL SLIT SAND/RUBBER

- athletic fields and golf courses
- vii. Shot put and discus throwing events compliant with manufacturer recommendations
 - viii. Graduations and Ceremonies compliant with manufacturer recommended floor protection
- b. Warranty Coverage on Materials:
- i. General wear and damage caused from UV degradation
 - ii. Excessive fiber wear weathering
 - iii. Wrinkling, panel movement, or panel shrinkage
 - iv. Seam integrity
 - v. Drainage (of Carpet and Infill only)
 - vi. Flammability
- c. Warranty Coverage on Workmanship:
- i. Warranty shall cover defects in the installation workmanship for full warranty period. Workmanship includes, but not limited to, seam installation (glued and sewn), inlay installation, proper installation of infill materials, and securing of turf system to nailer board.
 - ii. The Turf Manufacturer shall verify that Supervisory Personnel have inspected the installation and that the work conforms to the manufacturer's requirements.
- d. Warranty Replacement:
- a. The warranty shall specifically exclude acts of vandalism and acts of God beyond the control of the Owner or the Manufacturer.
 - b. All items covered by the Warranty are to be replaced or repaired with new materials, including installation at the sole expense of the warranting manufacturer for the life of the warranty period. Replacement or repair of affected areas shall include all necessary materials, labor, and transportation costs to complete repairs.
 - c. Must have a provision to either make a cash refund or repair/replace such portions of the installed materials that are no longer serviceable to maintain a playable surface.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. All components and their installation method shall be designed and manufactured for use on outdoor athletic fields. The finished surface shall resist abrasion and cutting from normal use.
- B. The materials and turf system should be able to withstand full climatic exposure and shall be resistant to insects, rot, fungus, mildew, ultraviolet light degradation, heat degradation, and shall be non-allergenic and non-toxic.
- C. The turf system shall consist of an artificial grass-like surface pile, which shall be tufted into a primary backing and coated with a secondary backing to lock in the tufted fibers. The turf system shall be constructed to maximize dimensional stability and to resist damage and normal wear and tear from its designated uses.
- D. The entire turf system shall have the basic characteristics of flow-through drainage, allowing free movement of surface runoff through the turf system where such water may flow to the sub-base and field drainage system. The Turf System shall remain free-draining at all times before, during, and after the infill materials are installed.

SECTION 32 1815
SYNTHETIC TURF - PARALLEL SLIT SAND/RUBBER

- E. Turf fibers shall be a proven athletic caliber yarn designed specifically for outdoor use and shall resemble natural grass appearance, texture and color. Streaks, discoloration, or different dye lots shall not be accepted and may be grounds for product rejection. The turf fiber shall provide good traction in all types of weather with the use of conventional sneakers type shoes, composition mold sole athletic shoes, baseball spikes, and screw-on football cleats.
- F. In addition to the tufted lines, inlaid lines and logos, the pile surface shall be suitable for both temporary and permanent line markings using paint specifically developed for this use and as recommended by the turf manufacturer.
- G. The Turf Fabric surface shall be constructed and installed in minimum roll widths of 15 feet with no longitudinal or transverse seams, except for inlaid lines with finished roll assembly.
- H. All adhesives used in bonding the inlaid markings to the adjacent carpet shall be resistant to moisture, bacteria and fungus attacks, and resistant to ultraviolet radiation. Adhesives used shall be as recommended by the Turf Manufacturer.

2.2 PRODUCTS

A. Synthetic Turf Products:

1. The synthetic turf material and resilient infill shall be in accordance with the following:

Physical Properties	Minimum Specification Requirements
Pile Height	2.0"
Fiber Composition	Polyethylene, Parallel-Slit
Pile Ribbon Weight	44 oz./sy
Primary Backing Weight	8 oz./sy
Secondary Backing Weight	24 oz./sy
Total Product Weight	76 oz./sy
Denier	8,000
Fiber Thickness	>100 microns
Primary Backing Material	Polypropylene
Secondary Backing Material	Polyurethane
Turf Bind	> 8 lbs w/o infill
Approved Yarn Suppliers	Tencate XP Blade Plus Polytex (Duramax Minimum) *Manufacturer specific proprietary fiber may only be used if it has been pre-approved by Architect within 6 months' time from date of current Project Bid
Grab Tear Strength – Width	300 lbs/force
Grab Tear Strength – Length	180 lbs/force
Stitch Gauge	< 1/2"

**Note: Exceptions to Specifications shall be outlined within Proposal

B. Carpet Backing:

1. The primary backing shall consist of a one part, three component polyester/polypropylene backing and treated with UV inhibitors.
2. The secondary backing shall consist of an application of porous polyurethane, heat activated to permanently lock fibers in place . Products using latex based secondary backings will not be acceptable.

SECTION 32 1815
SYNTHETIC TURF - PARALLEL SLIT SAND/RUBBER

3. Perforations:
 - a. Synthetic turf surfacing shall be perforated to provide vertical drainage or the secondary backing can be applied to the tufted fiber rows. Complete synthetic grass system shall drain in excess of 10" per hour.
 - b. Perforations shall be uniformly spaced at 4 inches, in both directions.
 - c. Perforations shall be tested by passing a 3/8" drill bit through the holes with no more than 7 lbs. pressure.

- C. Turf Panels, Markings and Logos
 1. The carpet shall be delivered in 15-foot wide rolls with the four 4 inch white, 5-yard lines tufted into the ends of each roll.
 2. The rolls shall be of sufficient length to go from sideline to sideline. The perimeter white line shall be tufted into the individual sideline rolls. Head seams between the sidelines of the football field will not be acceptable.
 3. All field lining, marking, field boundary system with the team area limits, logos, etc. shall be the same material (yarn, infill, and backing) as the playing field system.
 4. Lines, logos, and graphics to be installed per the design documents and approved shop drawings are to be tufted in the factory to the maximum extent practical. Those not tufted in the factory shall be inlaid in the field.
 5. Logos and inlays shall be true and shall not vary more than 1/2" from specified width and location.
 6. The primary fiber color of the playing field shall be Field Green.
 7. Primary Field Markings and Lines:
 - a. Football: 4" White
 - b. Soccer: 4" Gray
 - c. Men's Lacrosse: 4" Royal Blue TICK MARKS
 - d. Women's Lacrosse: 4" Red TICK MARKS

- D. Infill Materials:
 1. Infill Materials shall be uniformly filled to a depth which leaves no more than 1/2" of exposed pile after settlement.
 - a. Infill materials shall be new material and consist of a homogeneous non-compacting mixture of uniformly sized ambient and/or cryogenic SBR crumb rubber and silica sand.
 - b. For installations over shock pad, the crumb rubber content shall be approximately 30-40% by weight and the sand content shall be 60-70% by weight. Manufacturer shall provide proposed infill ratios based on pre-installation testing.
 2. Crumb Rubber:
 - a. The CRI used in artificial turf fields shall be derived from used whole vulcanized automobile, SUV, and truck tires (DOT tires for over the road). Buffing's, bladders and tubes shall not be used as feedstock for CRI. No factory tires rejects are allowed.
 - b. The Crumb Rubber shall have a specific gravity range from 1.1 minimum to 1.2 maximum as determined by ASTM D 297.
 - c. Shall be free of all metal and produced with 100% recycled automobile or truck tires. The material shall have a size not to exceed 10 mesh nor smaller than 20 mesh.

SECTION 32 1815
SYNTHETIC TURF - PARALLEL SLIT SAND/RUBBER

- d. The fine particles shall not exceed 10% and shall have no visible evidence of steel particles present in the final synthetic turf surfacing.
- e. Crumb rubber shall be UV stable and resistant to heat degradation.
- f. Rubber Mesh

Sieve Size	*Mesh (ASTM E-11) Percent Retained
8	
12	1.3%
16	58.8%
20	38.2%
30	1.0%
40	0.0%
50	0.0%
PAN	Not-to-exceed 0.004%

- 3. Silica Sand:
 - a. Round, uniformly-sized pure silica sand
 - b. Sized between US Sieve 20 to 40

PART 3 - EXECUTION

3.1 GENERAL

- A. The Contractor shall perform all work in strict accordance to the Contract Drawings, Approved Shop Drawings and manufacturer's written specifications and instructions.
- B. The Contractor shall be responsible for the inspecting, verifying, and completing all installed work of this section.
- C. Environmental Conditions: The Contractor shall not perform any work if the conditions for working are:
 - 1. Ambient air temperatures are below 45 degrees F.
 - 2. Material temperatures are below 45 degrees F.
 - 3. Surfaces are wet or damp.
 - 4. Rain is imminent or falling.
 - 5. Conditions exist or are imminent, which will be unsuitable to installation requirements of the systems specified herein. Humidity levels will be inside the limits recommended by the adhesive manufacturer to obtain optimum bonding characteristics of the surfaces.

3.2 EXAMINATION

- A. Acceptance of Base Construction: Upon completion of the base and drainage work, a written "Certification of Acceptance of the Base Construction" is required from the synthetic turf manufacturer and/or installation contractor (referred to herein as "Surfacing Contractor") prior to proceeding with any installation work under this section of the specifications.
- B. The Certification shall include but not be limited to the acceptance of the following:

SECTION 32 1815
SYNTHETIC TURF - PARALLEL SLIT SAND/RUBBER

1. Surfacing Contractor has reviewed the base construction finish surface and is accepting the construction is acceptable for application of work under this Section.
 2. Surfacing Contractor has been provided testing results of water permeability and accepts the results to place the synthetic turf material.
 3. The materials and method of installation for the aggregate stone base construction is in conformance with the manufacturer's current recommendations for the application of the turf to be installed under this section.
 4. Surfacing Contractor has reviewed the base construction with representatives of the Site Contractor and Landscape Architect and all parties are satisfied with the compaction and planarity of the surface.
 5. The base construction finish surface is clean and free of contaminants.
 6. Continuing with the installation of the synthetic turf materials without issuance of a Certification of Acceptance Letter shall be considered as an approval of the base by the Turf Contractor.
- C. All discrepancies between the required materials, application and tolerance requirements noted by the installer shall be brought immediately to the attention of the Contractor and Landscape Architect. Failure to immediately inform the Site Contractor and Landscape Architect of any prior work which does not meet the required specifications for installation of the artificial turf surfacing system shall be considered an acceptance by the installer of the non-conforming work.

3.3 INSTALLATION OF TURF AND COMPONENTS

A. GENERAL:

1. All installation shall be done in strict accordance with the manufacturer's current written installation instructions approved by the Landscape Architect.
2. The synthetic turf shall be staged and unrolled as necessary for a daily installation. No material shall be allowed to remain unrolled for a period of 24 hours prior to installation.
3. In the event of damage during delivery, staging, or installation, immediately make all repairs and replacements necessary to the approval of the Landscape Architect and at no additional cost to the Owner.
4. The pile lay of the turf shall be installed facing the home bleacher side of the field, unless noted otherwise. During the turf panel installation process, the Contractor shall continuously check the field layout dimensions in all directions.

B. SEAMS

1. All panel seam spacing shall be held to a minimum of 15 feet in width unless prior approval of seaming diagram indicates a lesser panel width.
 - a. For fields with football yardlines, all seams shall be adjacent to 4" white yardline. Yardlines placed in the middle of the carpet roll will not be permitted. See Section 2.2, C. #1, this Specification.
2. The mechanical or adhesive bonding of all system material components shall provide a permanent, tight, secure and hazard free athletic playing surface.

SECTION 32 1815
SYNTHETIC TURF - PARALLEL SLIT SAND/RUBBER

3. All panel seams are to be held to the absolute minimum and as approved by Landscape Architect. Ridges or tenting of seams is not acceptable. Gaps greater than 1/8" are not acceptable.
4. Seams within the body of the field shall be sewn with a high strength polyester fiber cord.
 - a. Sewn seams shall be butt-sewn with a double loop lock stitch.
 - b. Hand-bagger type seam stitching is not permitted.
 - c. Seams shall lay flat after infill installation.
5. Traverse panel seams shall be securely sewn or glued and lay flat. A minimum of 5" of seaming tape and glue shall extend on either side of the seam

C. LINES, MARKINGS, AND INLAYS

1. Lines and markings shall be tufted in the factory to the greatest extent possible during manufacturing.
2. Lines and markings not tufted in the factory are to be field cut, inlaid and glued with manufacturer approved adhesive or hot-melt. Shaving and gluing of inlays is not a permitted method of installation.
3. All lines and markings shall be installed and verified prior to installation of infill material.
4. All inlays shall have a 12" wide manufacturer approved seaming tape, which is fully coated with adhesive.
 - a. Bonding surfaces shall be clean, dry and free from grease, oil, wax, or other contaminants.
5. All seams and inlays shall be thoroughly brushed or picked before infill materials are installed.
6. All seams and inlays shall be fully fastened with no loose areas. At no time should pulling of section allow for separation of the turf from the seaming tape. Gaps greater than 1/8" are not acceptable.
7. Install turf as required to boxes/lids as shown on plans.

D. TURF EDGES AND TERMINATION

1. The perimeter of the field shall be firmly secured to the wood nailer edge, for the life of the warranty and as detailed, using stainless steel or hot dipped galvanized fasteners, minimum 1" in length. Fastener spacing shall not exceed 12 inches on-center.
2. Final infill level shall be flush with adjacent anchor curb or track surfacing.

E. INFILL INSTALLTION

1. No infill materials shall be installed until the synthetic turf system is fully installed with all lines, markings, and logos. Infill level on box covers/lids shall be flush with adjacent turf infill.
2. The infilling operation shall only take place with dry material, dry field conditions, and no forecasted threat of rain or snow.
3. Open utility grates and drains shall be covered by turf installer prior to placing infill.

SECTION 32 1815
SYNTHETIC TURF - PARALLEL SLIT SAND/RUBBER

4. The synthetic turf surface shall be thoroughly brushed prior to installation of infill materials to remove any wrinkles.
5. The infill shall be installed at a rate determined by the manufacturer. Infill material shall be thoroughly raked and brushed into the turf fibers during each pass of the broadcasting unit.
6. The infill shall not leave more than 1/2" exposed fiber after settlement.

2.4 CLEANING

- A. Contractor shall be responsible for clean up of all materials utilized on a daily basis. Upon completion of installation, all surrounding areas, including turf area, shall be clean and in "game" condition.
- B. Contractor shall utilize magnetic bar to remove any metal objects within the field prior to infill and after infill, before final acceptance.
- C. Contractor shall be responsible to neatly place attic stock on pallets and deliver to a suitable location as directed by Owner.
- D. All excess infill outside of the playing surface shall be properly removed and disposed of and deemed acceptable to Owner and Landscape Architect.

2.5 ACCEPTANCE, MAINTENANCE, AND PROJECT CLOSE-OUT

A. ACCEPTANCE

1. Should any imperfections develop in the surface areas prior to the final acceptance of the work and deemed to not have been vandalism or an Act of God, they shall be removed and replaced with new materials. All such repair work shall be done at no additional cost to the Owner.
2. Final acceptance will be issued to the Contractor as described and issued with a formal "Certificate of Substantial Completion". The Owner or Landscape Architect will not be responsible for any additional acceptance requirements by the Contractor or their subcontractors.

B. MAINTENANCE

1. Following turf system installation, the Turf Contractor shall be responsible for training the Owner's personnel in necessary maintenance of the turf system. Prior to conducting training, Contractor shall assemble and test all maintenance equipment. Equipment should be fully functional and ready to use at the time of training.
2. Owner Training shall include review and demonstration of the following items:
 - a. Daily / Weekly fiber, infill and seam inspections
 - b. Hand grooming low infill and techniques for placing infill
 - c. Emergency seam repair
 - d. Proper methods for field sweeping and grooming: including demonstration of hook-up, detachment, transporting, and use of all equipment.
 - e. Field Snow Plowing (as applicable)
 - f. Protection of surface for events
 - g. Procedure for Warranty Claims

SECTION 32 1815
SYNTHETIC TURF - PARALLEL SLIT SAND/RUBBER

3. Maintenance training shall take place no later than fourteen (14) days after "Quality Control/Post-Installation Testing" is completed.

C. PROJECT CLOSE-OUT

1. Contractor shall furnish three (3) copies of Maintenance Manuals, which shall include all necessary instructions for the proper care and preventative maintenance of the turf system, including painting, markings, small repair procedures, and cleaning.
2. Maintenance Manual shall include list of procedures required to maintain surface condition and activities to be avoided, including static and dynamic load limits, snow clearing, etc.
3. Provide Project Record Documents: Record actual locations of seams and other pertinent information.
4. Provide sample Maintenance Log Book and proposed Testing Schedule for all required testing during Warranty Period.

D. ATTIC STOCK

1. The Contractor shall supply and deliver an additional 50 lineal feet of full width material (± 750 sf), plus 100 lineal feet of each 4" line color installed.
2. The Contractor shall supply and deliver (1) super-sack bag of additional rubber infill material to the Owner.

END OF SECTION 32 1815

SECTION 32 1815
SYNTHETIC TURF - PARALLEL SLIT SAND/RUBBER

SAMPLE SYNTHETIC TURF WARRANTY

1.1 Warranty

- A. System Installer/Manufacturer (“_____”) hereby warrants to the Troy School District subject to the limitations and conditions set forth below, that its entire synthetic turf installation described as _____, is free from defects in material workmanship, meets or exceeds the specifications, and shall (for a period of EIGHT (8) YEARS from the date of final acceptance) remain acceptable for multiple sports activities.
- B. System Installer/Manufacturer warrants to the Troy School District that its synthetic turf system shall not unevenly fade, shall not fail, shrink, expand, flood, tear, bubble and shall not reflect unusual excessive wear and shall meet specified Gmax values, for a period of EIGHT (8) YEARS from the date of Certificate of Substantial Completion. In the event that the synthetic turf shall unevenly fade, fail, shrink, expand, flood, tear, bubble or reflect excessive water, System Installer/Manufacturer shall repair and/or replace such areas of the synthetic turf that are affected.
- C. System Installer/Manufacturer warrants to the Troy School District that the installation of the entire synthetic turf and all associated turf components (i.e. Inlays and seams) shall be performed in a professional manner under the supervision of highly-trained employees familiar in the installation of their tufted synthetic turf system. The supervisor and key installers shall have installed synthetic turf systems for at least three (10) previous system installations.
- D. System Installer/Manufacturer warrants that the finished synthetic turf system shall have an initial G-max (shock attenuation) value of approximately 110 G’s and shall not become harder than 165 G’s over the life of the system at any point on the field of play. The manufacturer shall make only the necessary repairs if, at any time during the warranty period, the G-max force at any point exceeds the specified 165 G’s.
- E. The term “not fade” in the context of this warranty shall mean that the synthetic grass material remain a uniform shade of green or the other colors installed with no significant loss of color as defined by not greater than 20% loss or shade reduction.
- F. The term “not fail” or “excessive wear” as used in the context of this warranty shall mean that the length and weight of the face yarn or pile material in the synthetic grass surface shall not have been decreased by more than 6% per year according to ASTM D418, nor exceed 20% during the warranty period.
- G. System Installer/Manufacturer shall warrant seams against separation, puncturing, bubbling, etc., for any reason.
- H. This warranty does not cover any defect, failure, damage or undue wear in or to the synthetic turf system caused by or connected with abuse, neglect, deliberate act, Act of God, casualty, static or dynamic loads exceeding recommended levels, footwear having metal cleats, spikes, or similar projections (other than conventional football, baseball, soccer or rugby shoes having cleats of not more than ½” in length).

SECTION 32 1815
SYNTHETIC TURF - PARALLEL SLIT SAND/RUBBER

- I. System Installer/Manufacturer shall be allowed to examine the synthetic turf system regarding any claim which the Troy School District makes, to be present at and to analyze the results of all tests conducted by the Troy School District or others, and to conduct such tests incurred by the Troy School District or others with respect to such tests.
- J. All claims made by the Troy School District under this warranty must be made in writing to System Installer/Manufacturer.
- K. This warranty, when signed and notarized by all parties, shall constitute a contract made in the State of Michigan and shall be governed by the laws thereof.
- L. Contractor shall provide an independent 3rd party insurance policy to cover all items identified above.

OWNER: the Troy School District

DATE: _____

BY: _____

CONTRACTOR:

DATE: _____

BY: _____

MANUFACTURER:

DATE: _____

BY: _____

SECTION 32 1826
ALL-WEATHER SYNTHETIC TRACK SURFACE

PART 1 - GENERAL**1.1 SUMMARY**

- A. This Section is a part of the entire set of Contract Documents and shall be coordinated with the applicable provisions of the other parts.
- B. Related Sections:
 - 1. Section 32 1217 Hot Mix Pavement Track & Tennis
 - 2. Section 32 1219 Asphalt Overlay

1.2 SCOPE OF WORK

- A. The work under this section of the specification shall consist of furnishing all labor, materials and equipment to produce, place, spread, and finish to proper grade and cross section, an all-weather synthetic track surface.

1.3 PERFORMANCE STANDARDS

- A. Thickness $\geq 13\text{mm}$
- B. Force Reduction 35-50%
- C. Modified Vertical Deformation 0.6-1.8mm
- D. Friction ≥ 47 TRRL Skid Resistance
- E. Tensile Strength ≥ 0.5 MPa
- F. Elongation at Break $\geq 40\%$

1.4 QUALITY ASSURANCE

- A. Reference Standards
 - 1. American Society for Testing and Materials (ASTM):
 - a. F 2157-02 Synthetic Surfaced Running Tracks
- B. Each Bidder shall submit color samples with their bid.
- C. The manufacturer must have ten (10) uninterrupted years of experience compounding polyurethane for athletic surfacing under the same corporation name. The installer must have ten (10) years experience installing the specified system with the same polyurethane. This is applicable for the polyurethane alternates only.
- D. The synthetic track surface shall be installed by authorized applicators of the approved manufacturer, acceptable to the Owner. The Owner reserves the right to final acceptance with regards to any installers. The manufacturer must attest to the work previously completed by each person installing the work. The Installation Contractor shall be solely responsible for the following:
 - 1. Protection of the surface until it has fully cured.
 - 2. Removal of all excess rubber crumb and binder on the inside and outside edges.
 - 3. All material used shall be handled, shipped and installed as outlined in the Material Safety Data Sheets and according to current O.A.S.H.A. Standards.
 - 4. Disposal of all products as per current EPA Regulations.
 - 5. Inspection and acceptance of the asphalt surface, prior to manning the site.
 - 6. Verify all-weather surface dimensions on plans, details, and field prior to track surface installation.

SECTION 32 1826
ALL-WEATHER SYNTHETIC TRACK SURFACE

7. Submission of an affidavit acknowledging each crew member, to be assigned to this project has read the Material Safety Data Sheets and is familiar with all safety procedures and the proper handling of all materials.
 8. Submission of the Material Safety Data Sheets prior to the material arrival. Submission shall be in triplicate and the job superintendent shall maintain a copy on the site at all times.
- E. The work shall conform to standards for running track construction as prescribed or approved by the National Federation of State High School Associations (NFSHSA) *Track and Field Rule Book* and American Sports Builders Association (ASBA) *Track Construction Manual*. Installer must be a member of the American Sports Builders Association (ASBA).
- F. Base Bid shall be Black and not be less than 13mm total thickness. This depth shall be measured from the top of asphalt to the top of the continuous surface. (ie. to the top of the binder, not to the top of the projecting rubber corners)

1.5 SUBMITTALS

- A. Each Bidder shall submit one (1) sample, not less than 3" X 3" with each surface being bid. All samples shall represent the exact surface being bid. These samples will be used to determine the most qualified surface.
- B. Each Bidder shall submit a complete installation specification with the bid and any items that are regarded as technical guidelines for the installation of the surface that varies from the specification, include maintenance instructions and recommendations.
- C. Each Bidder are required to submit a list of facilities that have been installed under this product name. List to include four (4) to five (5) year old surface installations with contact person, and telephone number.
- D. Contractor must submit copies, in triplicate, of the Material Data Safety Sheets (MSDS) for all products to be used, before materials are delivered to the site.

1.6 TESTING

- A. The Owner shall reserve the right to submit the surface to the following tests to determine the surface performance. Any section of the track that is found to be unacceptable by these standards shall be removed and replaced in a proper workmanship-like manner.
- B. The sample size shall be approximately one (1) square foot. The samples shall be taken for testing and not replaced. A sample shall be taken for every four thousand (4,000) square feet. If the surface is acceptable, the Owner will accept the responsibility of the testing cost and the replacement cost for surface areas.
- C. The above performance characteristics shall be a part of the overall performance of the surface. The data that shall be obtained from the above testing will be the factors that will determine the final acceptance of the surface if the above tests are required.
- D. The installation Contractor will be responsible for all tests that fail the above characteristics. The Owner reserves the right to submit the surface to the above tests at any time during the length of the guarantee. Consideration will be given to the time and use of the surface.

1.7 WARRANTY

- A. Warranty: Furnish 5 year written warranty, executed by Applicator and Contractor, certifying that the

SECTION 32 1826
ALL-WEATHER SYNTHETIC TRACK SURFACE

track and field surfacing complies with the following:

1. Has been manufactured, applied, and will perform in accordance with these and the manufacturer's specifications.
2. Will hold fast and/or adhere to the primer, asphalt, concrete, edging filler, patches, or overlay materials.
3. Is Ultra-Violet resistant, will not bubble, blister, fade, crack or wear excessively during the warranty period.
4. Provide a five (5) year manufacturer's warranty against workmanship and materials on the synthetic surface.

1.8 DELIVERY AND STORAGE

- A. The Owner shall provide a secure, clean, dry location for storage of materials at 50 °F to 85°F temperature minimum. Outdoor storage must be fully protected from moisture by a covering with 10 mil polyethylene fill and tarpaulin. All materials stored outside shall be inspected by installer for moisture contamination before application. Manufacturer recommends materials are to be stored at a secure/locked facility.

PART 2 – PRODUCTS

2.1 ACCEPTABLE SYSTEMS FOR POLYURETHANE BOUND, BLACK EPDM CRUMB BASE MAT (BOULAN PARK MIDDLE SCHOOL):

BSS-50	By:	Beynon Sports Surfaces Hunt Valley, MD 21030 (410) 771-9473
POLYMAT:	by:	Fisher Tracks, Inc. Boone, IA 50036 (800) 432-3191
GTS SELECT	by:	Goddard Coatings Lake Orion, MI 48359 (248) 393-6320
POLYTRAC BM:	by:	Star Trac Southfield, MI 48034 (248) 354-2304
SPURTAN B	by:	Track Surfaces Company Elburn, IL 60119 (630) 365-2694
SPURTAN Base	by:	A.G. Sports Services LLC Jackson, MI 49203 (517) 788-6090
CONIPUR BM	by:	Conica Ltd.

SECTION 32 1826
ALL-WEATHER SYNTHETIC TRACK SURFACE

Hendersonville, TN 37075
(615) 991-4358

PART 3 - EXECUTION**3.1 SITE CONDITIONS**

- A. Installation shall not take place if adjacent or concurrent construction generates excessive dust, abrasives or any other by-product that, in the opinion of the installer, would be harmful to the track material, until completion of such works.
- B. If, in the opinion of the installer of the synthetic material, the weather and/or climatic conditions are detrimental to the proper installation of the surfacing materials, work shall be delayed until conditions are acceptable. Required installation temperature is 50 °F and rising, with overnight temperature not less than 40 °F. Installation shall be executed only in dry conditions. There will be no installation after October 1.

3.2 BASE MAT

- A. The contractor shall clean the entire surface of all dirt and debris with a 5000 psi power washer prior to the application of any materials. Surface shall be free from all grease, oils and other foreign matter. The asphalt shall be allowed to cure for not less than fourteen (14) days and a concrete base a minimum of twenty-eight (28) days prior to any application of the urethane materials (weather permitting).
- B. The base mat shall consist of a mixture of one hundred percent (100%) polyurethane and synthetic materials, with no mineral or clay type fillers. The combination shall be of polyurethane and elastomeric granules consisting of Styrene Butadiene Rubber (SBR) granules. The base mat shall be free draining when cured. Granule shall consist of ambient ground SBR rubber crumb not less than 1mm and not more than 3mm. Dust and the No. 200 sieve shall not exceed four percent (4%) of the total volume of rubber. The binder shall be a diphenylmethane diisocyanate based (100% MDI). Manufacture of the polyurethane binder shall submit the Materials Safety Data Sheet (MSDS) prior to commencement of the work.
- C. The base mat shall be thoroughly mixed in one container. No evidence of water may exist during the mixing of the materials. All containers shall be completely empty to assure the proper ratio of mixture. The mixture shall be at the ratio of not less than twenty percent (20%) by weight binder to eighty percent (80%) granules. These proportions shall be based on total combined mixture.
- D. No solvents or emulsifier agent shall be used in the binding to extend the curing of the mixture. The contractor shall submit all shipment documents and proper material volumes.
- E. The asphalt surface shall be allowed to cure for not less than fourteen (14) days prior to any work being done (weather permitting). This timetable shall be agreed upon by the Owner and the Application Contractor, based on the time of the year, and may be changed with the Landscape Architect's approval.
- F. After the asphalt has cured, the surface shall receive a prime coat of polyurethane at the rate of three-hundredths (0.03) to five-hundredths (0.05) gallons per square yard prior to the installation of the base mat.

SECTION 32 1826
ALL-WEATHER SYNTHETIC TRACK SURFACE

- G. The base mat shall be applied by mechanically operated screed equipment which shall be electrically heated. No fuel heater shall be allowed. All hand rollers shall be electrically heated if used.
- H. The Pot Life of the base mat shall not be less than forty-five (45) minutes from the time of the completed mix. All trowel work shall be done within this time. Any areas that are rough, high, uneven or open in texture shall be sanded and filled prior to any finish work.
- I. All joint work shall be flush with the adjacent mat and shall have all edges primed with the binder material if the joint has cured.
- J. The contractor shall install the all-weather surface at the elevation required per manufacturers installation guide for specified field event equipment.

PART 2 - PRODUCTS

2.1 ACCEPTABLE SYSTEMS FOR POLYURETHANE BOUND, BLACK EPDM CRUMB BASE MAT WITH TERRA COTTA STRUCTURAL SPRAY (TROY HIGH SCHOOL LONG JUMP RUNWAY):

BSS-100	by:	Benyon Sports Surfaces Hunt Valley, MD 21030 (410) 771-9473
POLYMAT SS:	by:	Fisher Tracks, Inc. Boone, IA 50036 (800) 432-3191
GTS SELECT SS	by:	Goddard Coatings Lake Orion, MI 48359 (248) 393-6320
POLYTRAC MS:	by:	Star Trac Southfield, MI 48034 (248) 354-2304
SPURTAN BS	by:	A.G. Sports Services LLC Jackson, MI 49203 (517) 788-6090
SPURTAN BS	by:	Track Surfaces Company Elburn, IL 60119 (630) 365-2694
CONIPUR SP	by:	Conica Ltd. Hendersonville, TN 37075 (615) 991-4358

SECTION 32 1826
ALL-WEATHER SYNTHETIC TRACK SURFACE

PART 3 - EXECUTION**3.1 SITE CONDITIONS**

- A. Installation shall not take place if adjacent or concurrent construction generates excessive dust, abrasives or any other by-product that, in the opinion of the installer, would be harmful to the track material, until completion of such works.
- B. If, in the opinion of the installer of the synthetic material, the weather and/or climatic conditions are detrimental to the proper installation of the surfacing materials, work shall be delayed until conditions are acceptable. Required installation temperature is 50 °F and rising, with overnight temperature not less than 40 °F. Installation shall be executed only in dry conditions. There will be no installation after October 1.

3.2 BASE MAT

- A. The contractor shall clean the entire surface of all dirt and debris with a 5000 psi power washer prior to the application of any materials. Surface shall be free from all grease, oils and other foreign matter. The asphalt shall be allowed to cure for not less than fourteen (14) days and a concrete base a minimum of twenty-eight (28) days prior to any application of the urethane materials (weather permitting).
- B. The base mat shall consist of a mixture of one hundred percent (100%) polyurethane and synthetic materials, with no mineral or clay type fillers. The combination shall be of polyurethane and elastomeric granules consisting of EPDM granules. The base mat shall be free draining when cured. Granules shall consist of ambient ground EPDM rubber crumb not less than 1 mm and not more than 3 mm. Dust and the No. 200 sieve shall not exceed four percent (4%) of the total volume of rubber. The binder shall be a diphenylmethane diisocyanate base (100% MDI). Manufacturer of the polyurethane binder shall submit the Material Safety Data Sheets (MSDS), immediately upon request.
- C. The base mat shall be thoroughly mixed in one container. No evidence of water may exist during the mixing of the materials. All containers shall be completely empty to assure the proper ratio of mixture. The mixture shall consist of a ratio of polyurethane binder of not less than twenty percent (20%) of the combined weight to eighty percent (80%) of the combined weight of the mixture of EPDM rubber granules.
- D. No solvents or emulsifier agent shall be used in the binder to extend the cure of the mixture. The contractor shall submit all shipment documents and proper material volumes.
- E. The asphalt surface shall be allowed to cure for not less than fourteen (14) days prior to any work being done (weather permitting). This timetable shall be agreed upon by the Owner and the Application Contractor, based on the time of the year, and may be changed with the Landscape Architect's approval.
- F. After the asphalt has cured, the surface shall receive a prime coat of polyurethane at the rate of three-hundredths (0.03) to five-hundredths (0.05) gallons per square yard prior to the installation of the base mat.
- G. The base mat shall be applied by mechanically operated screed equipment, which shall be electrically heated. No fuel heaters shall be allowed. All hand rollers shall be electrically heated if used.

SECTION 32 1826
ALL-WEATHER SYNTHETIC TRACK SURFACE

- H. The Pot Life of the base mat shall not be less than forty-five (45) minutes from the time of the completed mix. All trowel work shall be done within this time. Any areas that are rough, high, uneven or open in texture shall be sanded and filled prior to any finish work.
- I. All joint work shall be flush with the adjacent mat and shall have edges primed with the binder material if the adjoining mat has cured or set.
- J. The contractor shall install the all-weather surface at the elevation required per manufacturers installation guide for specified field event equipment.

3.3 TOP SURFACE

- A. This work shall consist of a blend of pigmented polyurethane and colored Ethylene Propylene Diene Monomer (EPDM) granules. The top surface shall be applied in multiple coats of two or more over the black base mat at the rate of 1.8 lbs. per square yard per coat (minimum 2-coat application).
- B. Granules shall be an ambient ground EPDM rubber crumb having a peroxide cure. The size of the material shall not be less than 0.5 mm and not more than 1.5 mm. The mixture shall include a fine content (dust) not to exceed ten percent (10%).
- C. Binder shall be pigmented polyurethane mixture of Methylene Diphenylene Isocyanide. The pigmented binder shall consist of a two (2) part mixture. The ratio of Polyol to binder shall be installed in accordance with the manufacturer's specifications. The catalyst shall be added at the mixing site, if necessary.
- D. The material ratio of the top surface shall consist of sixty percent (60%) binder (Polyol-binder) and forty percent (40%) EPDM granules. The spray operation shall be performed when the average wind velocity does not exceed five (5) to seven (7) mph. This operation shall be stopped immediately at this excess.
- E. The Owner shall reserve the right to have an anemometer on the site at this time. All work shall be protected from over spray outside the limits of the asphalt base.
- F. Final color and appearance shall be consistent along with the texture of the surface at all angles.
- G. No flooding or excess material over two (2) square feet shall be accepted. Excessive flooding constitutes poor workmanship and shall be reviewed and corrections determined at that time.

END OF SECTION 32 1826

SECTION 32 1826
ALL-WEATHER SYNTHETIC TRACK SURFACE

SAMPLE TRACK WARRANTY**PART 1 - GENERAL****1.1 SUMMARY**

- A. This Section is a part of the entire set of Contract Documents and shall be coordinated with the applicable provisions of the other parts.

1.2 NOTE

- A. The installation Contractor will be responsible for all tests that fail the specified characteristics. The Owner reserves the right to submit the surface to the above tests at any time during the length of the guarantee. Consideration will be given to the time and use of the surface.

1.3 GUARANTEE

- A. The Contractor shall be required to guarantee all labor, materials, workmanship and services for the All Weather Synthetic Track Surface and Track Markings.
- B. This guarantee shall remain in force for a period of not less than FIVE (5) YEARS from the date of written acceptance of the work.
- C. Any defects caused by cracks, normal abrasion or raveling that is not in original conformance with the testing specifications or structural in nature shall be repaired or replaced at no cost to the Owner during this guarantee period.
- D. This Contractor shall be required to submit the following documents in regard to the guarantee:
1. Letter from the manufacturer of all materials attesting to the guarantee length and limits. This must be signed by an officer of the organization.
 2. Letter of Guarantee from the Installation Contractor for the above time period.
 3. These documents shall be submitted to the Architect or Owner prior to final payment.

PART 2 - PRODUCTS

N/A

PART 3 - EXECUTION

N/A

SECTION 32 1828
LONG JUMP PIT SAND

SECTION 32 1828 – LONG JUMP PIT SAND

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section is a part of the entire set of Contract Documents and shall be coordinated with the applicable provisions of the other parts.
- B. Related Sections:
 - 1. Section 03 3000 Cast In Place Concrete
 - 2. Section 11 6840 Field Event Construction

1.2 SCOPE

- A. The work under this section of the specification shall consist of furnishing all labor, materials and equipment to produce, place, spread, compact and finish long jump sand to proper grade and cross section.

1.3 SUBMITTALS

- A. Submit to the Landscape Architect a sieve analysis of the proposed sand material to be installed.

PART 2 - PRODUCTS

2.1 SAND

- A. Sand material shall conform to DOT specifications for clean 2MS category and shall be placed to the minimum depth shown on plans.

Material	3/8 in.	No. 4	No. 8	No.16	No. 30	No. 50	No. 100	LBW % Passing No. 200
2MS	-	100	95-100	-	-	15-40	0-10	0-3

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Place material in pit to a depth not less than 18".
- B. Crown sand in the center of pit (+3") to allow for settlement.
- C. Material, other than sand, which will not compact readily under roller, shall be removed and replaced with material which will compact readily and that portion of the sub-grade shall be rolled again.

END OF SECTION 32 1828

SECTION 32 1828
LONG JUMP PIT SAND

THIS PAGE IS INTENTIONALLY LEFT BLANK

SECTION 32 1850
E-LAYER**PART 1 - GENERAL****1.1 SUMMARY**

- A. This Section is a part of the entire set of Contract Documents and shall be coordinated with the applicable provisions of the other parts.
- B. Related Sections:
 - 1. Section 31 2010 Earthwork
 - 2. Section 32 1815 Synthetic Turf

1.2 SCOPE

- A. The work under this section of the specification shall consist of furnishing all labor, materials and equipment to produce, place, spread, compact and finish to proper grade and cross section all e-layer material according to the drawings and specifications.

1.3 SUBMITTALS

- A. Submit to the Architect a sample of the proposed product to be installed.
 - 1. Each Bidder shall submit a complete installation specification with the bid and any items that are regarded as technical guidelines for the installation of the surface that varies from the specification, include maintenance instructions and recommendations.
 - 2. Each Bidder shall submit a list of facilities that have been installed under this product name. List to include four (4) to five (5) year old surface installations with contact person, and telephone number.
 - 3. Contractor must submit copies, in triplicate, of the Material Data Safety Sheets (MSDS) for all products to be used, before materials are delivered to the site.

1.4 THICKNESS

- A. Base Bid shall not be less than 19mm total thickness.

1.5 TESTING

- A. The Owner shall reserve the right to submit the surface to an independent testing lab to determine the surface performance.
 - 1. Test results shall provide manufacturing shipping, project, lot number, etc. identifying the intended project.
- B. The sample size shall be approximately one (1) square foot.

1.6 CONTRACTOR'S RESPONSIBILITY

- A. Protection of the surface until it has fully cured.
- B. Removal of all excess rubber crumb and binder on the inside and outside edges.
- C. All material used shall be handled, shipped and installed as outlined in the Material Safety Data Sheets and according to current O.A.S.H.A. Standards.
- D. Disposal of all products as per current EPA Regulations.

SECTION 32 1850
E-LAYER

- E. Inspection and acceptance of the asphalt surface, prior to manning the site.
- F. Submission of an affidavit acknowledging each crew member, to be assigned to this project has read the Material Safety Data Sheets and is familiar with all safety procedures and the proper handling of all materials.
- G. Submission of the Material Safety Data Sheets prior to the material arrival. Submission shall be in triplicate and the job superintendent shall maintain a copy on the site at all times.

PART 2 - PRODUCTS

2.1 SHOCK ABSORBING ELASTIC-LAYER:

- A. Pad shall be a 19mm elastic-layer comprised of SBR rubber, pea stone and polyurethane binder. The system shall be installed in a single lift and non-laminated to ensure sturdy construction.
 - B. Average nominal depth of pad shall be 19 mm.
 - C. Will provide excellent shock absorbency in all temperatures, and will remain shock absorbent throughout the life of the turf system. The elastic-layer will be mixed and installed by experienced elastic-layer technicians.
1. The Shock pad shall be a 19mm in nominal thickness, energy absorbing, and elastic-layer. Composition to be 1 – 5 mm SBR rubber, mineral aggregate and moisture cured polyurethane binder. Elastic-layer system shall have demonstrated resistance to rot, mildew, water, freeze-thaw and compression set associated with normal athletic field use.

<u>Material</u>	<u>Lbs. / Sq. Yd.</u>
1-5 mm SBR Rubber Granules	18.0
Pea Gravel	18.0
Binder	<u>2.9</u>
Total:	38.9 Lbs. / Sq. Yd

2. Shock pad shall possess these physical characteristics:

Thickness	19mm
Density	52 lbs./cu.ft.
Weight	38.9 lbs./sq.yd.

SECTION 32 1850
E-LAYER**PART 3 - EXECUTION****3.1 E-LAYER**

- A. The E-layer shall consist of a mixture of one hundred percent (100%) polyurethane and synthetic materials, and peastone. The combination shall be of polyurethane and elastomeric granules consisting of Ethylene Propylene Diene Monomer (EPDM) granules. The E-layer shall be free draining when cured. Granule shall consist of ambient ground EPDM rubber crumb not less than 1mm and not more than 3mm. Dust and the No. 200 sieve shall not exceed four percent (4%) of the total volume of rubber. The binder shall be a diphenylmethane diisocyanate based (100% MDI). Manufacture of the polyurethane binder shall submit the Materials Safety Data Sheet (MSDS) prior to commencement of the work.
- B. The E-layer shall be thoroughly mixed in one container. No evidence of water may exist during the mixing of the materials. All containers shall be completely empty to assure the proper ratio of mixture. The mixture shall be at the ratio of not less than seven and one-half percent (7.5%) by weight binder to forty-six percent (46%) granules to forty-six percent (46%) peastone. These proportions shall be based on total combined mixture.
- C. No solvents or emulsifier agent shall be used in the binding to extend the curing of the mixture. The contractor shall submit all shipment documents and proper material volumes.
- D. The E-layer shall be applied by mechanically operated screed equipment which shall be electrically heated. No fuel heater shall be allowed. All hand rollers shall be electrically heated if used.
- E. The Pot Life of the E-layer shall not be less than forty-five (45) minutes from the time of the completed mix. All trowel work shall be done within this time. Any areas that are rough, high, uneven or open in texture shall be sanded and filled prior to any finish work.
- F. All joint work shall be flush with the adjacent mat and shall have all edges primed with the binder material if the joint has cured.

END OF SECTION 32 1850

THIS PAGE IS INTENTIONALLY LEFT BLANK

SECTION 32 9119
TOPSOIL**PART 1 - GENERAL****1.1 SUMMARY**

- A. This Section is a part of the entire set of Contract Documents and shall be coordinated with the applicable provisions of the other parts.
- B. Related Sections:
 - 1. Section 31 2010 Earthwork

1.2 SCOPE

- A. The work under this section of the specifications shall consist of furnishing all labor, materials and equipment necessary to place and spread topsoil to required depths as indicated on Contract Documents.
- B. Contractor shall make all attempts to salvage and stockpile usable topsoil from site.

1.3 QUALITY ASSURANCE

- A. Testing and inspection: At the discretion of the Landscape Architect, Contractor shall employ a qualified independent testing laboratory, specializing in soils engineering. Testing facility, or lab, shall have American Association of Laboratory Accreditation (AALA)
 - 1. Provide and pay for testing and inspection during topsoil operations. Laboratory, inspection services and Soils Engineer shall be acceptable to the Landscape Architect.
 - 2. Test representative material samples for proposed use.
 - 3. Topsoil: (Supplied by Landscape Contractor).
 - a. pH factor.
 - b. Mechanical analysis.
 - c. Percentage of organic content.
 - 4. Recommendations on type and quantity of additives required to establish satisfactory pH factor and supply of nutrients to bring nutrients to satisfactory level for planting.
 - 5. Test reports shall be made available to the Owner and Landscape Architect.

1.4 PROJECT CONDITIONS

- A. Underground and surface utility lines are to be located in field prior to construction.
- B. Protect existing trees, plants, lawns and other features designated to remain as part of the landscaping work. Protect existing trees to drip line.
- C. Promptly repair damage to adjacent facilities caused by topsoil operations. Cost of repair at Contractor's expense.
- D. Promptly notify the Landscape Architect of unexpected sub-surface conditions.

PART 2 - PRODUCTS**2.1 MATERIALS**

- A. Topsoil: Natural, friable fertile soil characteristic of productive soil in the vicinity, reasonably free of stones larger than 1", clay lumps, roots and other foreign matter.

SECTION 32 9119
TOPSOIL

1. Proposed topsoil material for shall be screened and acceptable to Landscape Architect.
 2. Utilize and screen on-site stockpiled topsoil as required to complete the work.
- B. Provide topsoil as required to complete job. Topsoil must meet testing criteria results specified. All processing, cleaning and preparation of this stored topsoil to render it acceptable for use is the responsibility of this Contractor.
- C. Supplied topsoil, shall be fertile, friable and representative of local productive soil, capable of sustaining vigorous plant growth and free of clay lumps, subsoil, noxious weeds or other foreign matter such as stones, roots, sticks and other extraneous materials: not frozen or muddy.
1. Ph of soil to range between 5.0 and 7.5.
 2. Mechanical Analysis
 - a. Sand 70-85%
 - b. Silt 10-20%
 - c. Clay 10-15%
- D. Provide earth crowning where indicated on drawings.
- E. Crowning/mounding to be free flowing in shape and design, as indicated, and to blend into existing grades gradually so that toe of slope is not readily visible. Landscape Architect to verify final contouring before planting.
- F. Regardless of finish grading elevations indicated, it is intended that grading be such that proper drainage of surface water will occur and that no low areas created to allow ponding. Contractor to consult with Owner or Landscape Architect regarding minor variations in grade elevations before rough grading is completed.

PART 3 - EXECUTION**3.1 EXAMINATION**

- A. Examine rough grades and installation conditions performed by General Contractor. Do not start topsoil work until unsatisfactory conditions are corrected and site is accepted by Landscape Contractor.

3.2 PREPARATION

- A. Establish extent of grading by area and elevation. Designate and identify datum elevation and project engineering reference points. Set required lines, levels and elevations.
- B. Do not cover or enclose work of this Section before obtaining required inspections, tests, approvals and location recording.
- C. Use of equipment of excessive weight or excessive travel over grade will not be permitted.

3.3 SITE GRADING

- A. Perform grading within contract limits, including adjacent transition areas, to new elevations, levels, profiles, and contours indicated. Provide subgrade surfaces parallel to finished surface grades. Provide uniform levels and slopes between new elevations and existing grades.
- B. Contractor shall utilize low pressure ground track equipment or flotation tires for moving soil, to prevent compaction and/or damage to the soil structure during construction.

SECTION 32 9119
TOPSOIL

- C. Grade surfaces to assure areas drain away from structures and to prevent ponding and pockets of surface drainage. Provide subgrade surfaces free from irregular surface changes and as follows:
1. Rough grading: Plus or minus 0.10 ft. subgrade tolerance. Finish required will be that ordinarily obtained from either blade-grader or scraper operations.
 2. Provide subgrade surface free of exposed boulders or stones exceeding 4" in greatest dimension in paved areas; 2" lawn areas.
 3. Lawn and planting areas: Allow for 4" average depth of topsoil at lawn areas, except as otherwise indicated on the drawings.

3.4 FINISH GRADING

- A. Uniformly distribute and spread stockpiled topsoil. Provide 4" average depth at lawn areas, 12" at planting areas. Provide additional imported topsoil as required to complete the work. Use loose, dry topsoil. Do not use frozen or muddy topsoil. Place during dry weather.
- B. Fine grade topsoil eliminating rough and low areas to ensure positive drainage. Maintain levels, profiles, and contours of subgrades.
- C. Remove stones, roots, weeds, and debris while spreading topsoil materials. Rake surface clean of stones 1" or larger in any dimensions and all debris. Provide surfaces suitable for soil preparation provided under lawn and planting work.
- D. Manually install topsoil at trees to remain. Avoid damage to root systems.
- E. Maintenance:
1. Protect finish graded areas from traffic and erosion. Keep free of trash and debris. Repair and re-establish grades in settled, eroded, and damaged areas.
 2. Where completed areas are disturbed by construction operations or adverse weather, scarify, re-shape, and compact to required density.

3.5 DISPOSAL OF WASTE MATERIALS

- A. Stockpile, haul from site, and legally dispose of waste materials, including excess excavated materials, rock, trash, and debris.
- B. Maintain disposal route clear, clean, and free of debris.

3.6 CLEANING

- A. Upon completion of earthwork operations, clean areas within contract limits, remove tools and equipment. Provide site clear, clean, free of debris, and suitable for site work operations.

END OF SECTION 32 9119

THIS PAGE IS INTENTIONALLY LEFT BLANK

SECTION 32 9227
GENERAL LAWN RESTORATION

PART 1 - GENERAL**1.1 SUMMARY**

- A. This Section is a part of the entire set of Contract Documents and shall be coordinated with the applicable provisions of the other parts.
- B. Related Sections:
 - 1. Section 31 2000 Earthwork
 - 2. Section 31 3500 Slope Protection and Erosion Control
 - 3. Section 32 9119 Topsoil

1.2 SCOPE

- A. The work under this section of the specifications shall consist of furnishing all labor, materials and equipment necessary for restoring disturbed lawn areas and maintaining lawns until final acceptance.

1.3 QUALITY ASSURANCE AND WARRANTY GUARANTEE

- A. Grass seed shall meet the tolerance for germination and purity of the Official Seed Analysis of North America.
- B. Submit all seed tags after completion of seeding.
- C. The Contractor, and its Subcontractors, shall provide a staff adequate to coordinate and expedite the work properly and shall maintain competent supervision of its own work to insure compliance with contract requirements.
- D. Contractor responsible for seeding and fertilizing shall inspect the finish grade for acceptability prior to application. Areas of discrepancy shall be indentified and Landscape Architect or Owner's Representative shall be notified.
- E. It is the responsibility of the Contractor to establish a dense lawn of permanent grasses, free from lumps, depressions and settlement. Any part of the area that fails to show a uniform germination shall be re-seeded and such re-seeding shall continue until a dense lawn is established. Damage to seeded areas resulting from erosion and through no fault of the Owner shall be repaired by the Contractor, at his expense.
 - 1. Guarantee shall extend for one year from the date of acceptance.

1.4 SUBMITTALS

- A. Submit product data for seed and fertilizer to Landscape Architect for approval, prior to application.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Deliver grass seed in original containers showing analysis of seed mixture, percentage of pure seed, year of production, net weight, date of packaging and location of packaging. Damaged packages are not acceptable.

SECTION 32 9227
GENERAL LAWN RESTORATION

- B. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.

PART 2 - PRODUCTS

2.1 SEED

- A. Seed shall be provided from one of the following suppliers
 - EcoGreen Supply- 616-877-5326
 - John Deere Landscapes - (800) 347-4272 (now Site One Landscapes)
 - TurfGrass, Inc. – (248) 437-1427 (now Residex)
 - Commerce Corp. – (800) 243-4769- closed (now BFG)
 - Rhino Seed & Supply - (800) 482-3130
 - Michigan State Seed Solutions - (800) 647-8873 (now Lacrosse Seeds)
 - Tri Turf – (800) 636-7039

- B. Contractors shall seed all areas disturbed during construction and not otherwise developed or indicated to be sodded. Topsoiling, finish grading and fertilization is to remain the same. *Seed shall be new crop, cleaned, and comprising of the following varieties:
 1. Athletic Field Seed blend shall consist of a minimum of 3 of the listed bluegrass varieties and one of the listed ryegrass varieties. Blend shall be 80% Kentucky Bluegrass and 20% Perennial Ryegrass by weight. Only Elite bluegrasses (according to NTEP characteristics ratings) will be allowed on Athletic surfaces. No “named common” types will be accepted. Enhanced Elite varieties will be allowed at same seeding rates.
 2. General Seeding Areas: “Varieties Named” blend shall be 50-60% Kentucky Bluegrass and 40-50% Perennial Ryegrass by weight for irrigated fields. A “Varieties Named” blend of 60-70% bluegrass, 30-40% perennial ryegrass for non-irrigated fields, and a blend of 20-40% bluegrass, 20-40% perennial ryegrass and 20-30% creeping red fescue for general turf areas.(VNS-varieties not stated- blends will not be accepted)
 3. Athletic Fields

Seed Varieties	Purity	Germination
Shannon Kentucky Bluegrass	95%	85%
Lunar Kentucky Bluegrass	95%	85%
SPF 30 Kentucky Bluegrass	95%	85%
Fullback Kentucky Bluegrass	95%	85%
Midnight Kentucky Bluegrass	95%	85%
Hampton Kentucky Bluegrass	95%	85%
Gaelic Kentucky Bluegrass	95%	85%
BlueBank Kentucky Bluegrass	95%	85%
Noble Kentucky Bluegrass	95%	85%
Touchdown Kentucky Bluegrass	95%	85%
Salinas Perennial Ryegrass	95%	85%
Gray Star Perennial Ryegrass	95%	85%
Sox Fan Perennial Ryegrass	95%	85%
Gallop Perennial Ryegrass	95%	85%

SECTION 32 9227
GENERAL LAWN RESTORATION

4. General Seeding Areas

Seed Varieties	Purity	Germination
Shannon or Bluestar Kentucky Bluegrass	95%	85%
Gaelic or Corsair Kentucky Bluegrass	95%	85%
Lunar or Avalanche Kentucky Bluegrass	95%	85%
Yellowstone Kentucky Bluegrass	95%	95%
Gray Star or Salinas Perennial Ryegrass	95%	90%
SoxFan or Showtime Perennial Ryegrass	95%	90%
Xcelerator Perennial Ryegrass	95%	90%
Charger 2 Perennial Ryegrass	95%	90%
Oracle Creeping Red Fescue	95%	85%
Fairmont Chewings Fescue	95%	85%
Marvel Creeping Red Fescue	95%	85%
Sword Hard Fescue	95%	85%
Minimus Hard Fescue	95%	85%

2.2 COMMERCIAL FERTILIZER

- A. Fertilizer shall be uniform in composition, free-flowing and suitable for application with approved spreader, granular or pelleted with 50 percent (50%) of total nitrogen derived from a synthetic or natural organic material, delivered in original unopened containers with the analysis, type and trade name attached to each container. The composition shall be:

Fertilizer "A": applied at the time of seeding at 50 lbs. per 8000 square feet.
16-32-4 (14.3% Ammoniacal Nitrogen, 1.7% Urea Nitrogen, 32% Phosphorus, 4% Available Potassium (SOP))

Fertilizer "B": applied 3-4 weeks after seeding at 50 lbs. per 8,000-10,000 square feet.
22-16-6 (6.3% Ammoniacal Nitrogen, 15.7% Urea Nitrogen, 16% Phosphorus, 6% Soluble Potassium.

Fertilizer "C" for enhanced establishment program (seed in lieu of sod)
5-5-5 with Mycorrhiza (1.7% Ammoniacal Nitrogen, 3.3% Water Insoluble Nitrogen, 5% Available Phosphorus, 5% Available Potassium, 4% Calcium, 2.5% Magnesium, .2% Copper, 5% Iron, .2% Manganese, .2% Zinc, complete Mycorrhiza and Bacterial Package.

Fertilizer "D" for enhanced establishment program (seed in lieu of sod)
15-0-7 with Broad Spectrum Inoculant (bacterial package (.75% Ammoniacal Nitrogen, 3.75% Urea Nitrogen, 3.50% other water soluble nitrogen, 7% water insoluble nitrogen, 7% soluble potash, 1% Calcium, .5% Magnesium, 1% Sulphur, .1% Copper, 1% Iron, .5% Manganese, .1% Zinc. 100% slow release nitrogen derived from Feather Meal and Methylated Urea.

- B. Complete Soil testing for both fertility (including micronutrients, CEC, pH) and particle size is required on all new establishment sites
- C. A critical establishment fertilizer application comes at planting whereas fertilizer in a ratio of 2-4-1 is applied directly adjacent to the seed to compensate for the seeds inability to extract phosphorus and other nutrients out of the soil Usually approx. 1lb. of P205 is applied with ½ lb. of N and ¼- ½ lb of K20 is applied. An analysis of 16-32-4 would be an example. Fertilizer ingredients with lower chloride index are preferred at seeding, such as Ammonium Sulfate and

SECTION 32 9227
GENERAL LAWN RESTORATION

Sulfate of Potash.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protect existing underground improvements from damage.
- B. Remove all foreign materials, plants, roots, stones, and debris larger than 1" in any dimension from site. Do not bury foreign material.
- C. Loosen soil to a depth of four inches (4") in lawn areas by approved method of scarification and grade to remove ridges and depressions. Remove all stones or foreign matter from top two inches (2") of soil.
- D. If above steps have had rain in sufficient quantity to cause soil to recompact, entire steps are to be done prior to seeding.
- E. Where no grades are shown, areas shall have a smooth and continual grade between existing or fixed controls and elevations shown on plans. Roll, scarify, rake and level as necessary to obtain true, even lawn surfaces. All finish grades shall meet approval of the Owner.
- F. Grade lawn areas to finish grades, filling as needed or removing surplus dirt and floating areas to a smooth, uniform grade. All lawn areas shall slope to drain.

3.2 PREPLANT FERTILIZING

- A. Broadcast spread fertilizer "A" (or Alternates "C" and "D") after seeding at a rate of 2 lbs. of Phosphorus per 1000 square feet. (Apply Alternate "C" at 50 lbs. per 5000 square feet and Alternate "D" at 50 lbs. per 10,000 square feet.)

3.3 SEEDING

- A. Dates of Seeding:
 - 1. Grass seed shall be sown in the fall from August 15th until October 15th or in the spring between March 1st and May 15th or at such other times as approved by the Landscape Architect. All seeding is to be done in dry or moderately dry soil and at times when the wind does not exceed a velocity of five (5) miles per hour.
 - 2. If special conditions exist, which may warrant a variance in the above dates, submit a written request to the Landscape Architect stating the conditions and proposed variance. Permission for the variance will be given if, in the opinion of the Landscape Architect, the variance is warranted.
- B. Seed Application:
 - 1. Immediately before sowing the seed, the earth surface shall be re-worked until it is a fine, pulverized, smooth seedbed, showing not more than 1/4" variance from grade.
 - 2. Apply seed mixture, as specified, at a rate of two and one half to four (2.5-4) lbs/1000 sq. ft. Apply seed in two directions where possible at a rate of 1.25-2 lbs. /1000 sq. ft. in each direction with seeder, using a cultipacker type seeder such as Brillion (or equal) mounted on

SECTION 32 9227
GENERAL LAWN RESTORATION

- tractor. Seed shall be uniformly spread over the previously fine graded and fertilized topsoil. The surface shall be dry when seed is planted. Hand sow seed around each irrigation system head. Hydro-seeding is not acceptable.
3. Mulching: Biodegradable wood excelsior, straw, or coconut-fiber mat enclosed in a photodegradable plastic mesh. Include manufacturer's recommended steel wire staples, 6 inches (150mm) long.
 4. Contractor shall return to site six (6) weeks after installation to evaluate germination. If germination of seed exceeds 70%, Contractor to remove mesh. If germination of seeds is less than 70%, mesh shall remain and Contractor shall reevaluate in ten (10) days.
- C. Summer Seeding:
1. If seeding is authorized between June 1 and August 15, annual rye shall be sown separately in addition to specified seed mix. Sow at the rate of (one) 1 lbs./1000 sq. ft.
 2. Cultipacker or approved similar equipment may be used to cover the seed and to firm the seed bed in one operation. In areas inaccessible to cultipacker, the seeded ground shall be lightly raked and rolled in two directions with a water ballast roller. Extreme care shall be taken during seeding and raking to insure that the seed is not raked from one spot to another.
 3. The seeded areas are to be protected, watered, mowed and otherwise maintained until Owner Acceptance.
- D. Post Seeding Fertilizer: Supply fertilizer "B" when grass reaches height of one (1) inch or 3 weeks after seeding at .75-1 lbs Phosphorus per 1000 square feet.
- E. Maintenance
1. Maintenance of all lawns consist of mowing, watering and repairing erosion. Maintenance of lawns shall commence when any portion of the seeding has been completed. Seeded lawns shall never reach a height of three (3) inches prior to a cutting and shall be cut to a height of two (2) inches.
 2. If, for reasons beyond the Sub-contractor's control, the height of the grass has exceeded three (3) inches, the mower blades shall be raised so that at no time will more than 1/3 of the grass leaf surface be removed.
 3. Contractor shall notify the Owner through the Landscape Architect in writing one (1) week in advance of the final lawn cutting to allow the Owner and the Landscape Architect to inspect the lawns and schedule his maintenance work. The Owner will accept the lawns after a minimum of three (3) cuttings if a uniform cover of grass is established and is acceptable to Owner and Landscape Architect. **If a uniform stand of grass is not established, contractor shall continue maintenance and cutting until lawn is accepted.**
 4. If an infestation of weeds or crab grass develops prior to acceptance of the lawn, the Contractor shall treat the infestation by hand weeding or chemical control. The chemical control shall be furnished and installed by the contractor as recommended by the manufacturer and approved by the Landscape Architect. At least two weeks shall elapse after chemical control is applied before a request or inspection for acceptance is made to the Landscape Architect.

3.4 SATISFACTORY TURF

- A. Turf installations shall meet the following criteria as determined by Architect:
1. Satisfactory Seeded Turf: At end of maintenance period, a healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities, with coverage exceeding 90 percent over a 10 square foot and bare spots not exceeding 5 by 5 inches.

SECTION 32 9227
GENERAL LAWN RESTORATION

2. Use specified materials to reestablish turf that does not comply with the requirements and continue watering and maintenance until turf is satisfactory.
3. If the lawn is not acceptable after 18 months, the owner shall contract with an independent contractor, of their choosing, to complete the work.

3.5 CLEAN UP AND DISPOSAL

- A. Remove from the site all equipment, materials, and debris resulting from construction work including this section. Leave work area neat and clean and in a condition acceptable by the Landscape

Architect and School District. All work shall be complete, ready for use, at the time of final acceptance.

END OF SECTION 32 9227

SECTION 33 4605
SUBDRAINAGE SYSTEMS - PEASTONE**PART 1 - GENERAL****1.1 SUMMARY**

- A. This Section is a part of the entire set of Contract Documents and shall be coordinated with the applicable provisions of the other parts.
- B. Related Sections
 - 1. Section 31 2010 Earthwork - Turf

1.2 SCOPE

- A. The work under this section consists of furnishing all labor, materials and equipment to install the drainage system, couplings and accessories for an operating sub-drainage system.

1.3 QUALITY ASSURANCE

- A. Reference Standards:
 - 1. American Society for Testing and Materials (ASTM):
 - a. ASTM D1785 – Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe
 - b. ASTM D3350 – Standard Specification for Polyethylene Plastics Pipe and Fitting Materials
 - c. ASTM F405 – Standard Specification for Corrugated Polyethylene Pipe and Fittings
 - 2. American Association of State Highway and Transportation Officials (AASHTO):
 - a. AASHTO M294 – Standard Specification for Corrugated Polyethylene Pipe

1.4 SUBMITTALS

- A. Manufacturer's Literature: Furnish to Landscape Architect, copies of manufacturer's specifications, maintenance, and installation instructions for each item specified herein. Include photographs, catalogue cuts, and other data as may be required to show compliance with these specifications.

PART 2 - PRODUCTS**2.1 DRAINAGE TILE**

- A. Perforated corrugated polyethylene tubing (with filter wrap) complete with required couplings and fittings.

2.2 PEASTONE

- A. 3/8" minus peastone to be used as backfill material.

PART 3 - EXECUTION**3.1 EXECUTION FOR CORRUGATED POLYETHYLENE TUBING**

- A. Hand trim excavating to required elevations. Do not over excavate. Remove large stones or other hard matter which could damage drain tile.

SECTION 33 4605
SUBDRAINAGE SYSTEMS - PEASTONE

- B. Place a two inch (2") thick bed of filter aggregate.
- C. Install the drainage tile on the filter aggregate bed.
- D. Ensure complete connection to storm sewer using perforated pipe.
- E. Cover the pipe with filter aggregate to top of trench and compact to 90% Modified Proctor.

END OF SECTION 33 4605

SECTION 33 4615
SUBDRAINAGE SYSTEMS – TURF DRAINTILE

PART 1 - GENERAL**1.1 SUMMARY**

- A. This Section is a part of the entire set of Contract Documents and shall be coordinated with the applicable provisions of the other parts.
- B. Related Sections
 - 1. Section 31 2010 Earthwork (Turf)
 - 2. Section 31 3219 Geotextile Fabric
 - 3. Section 32 1815 Synthetic Turf

1.2 SCOPE

- A. The work under this section consists of furnishing all labor, materials and equipment to install the drainage system, couplings and accessories for the artificial turf subdrainage system.

1.3 QUALITY ASSURANCE

- A. Reference Standards:
 - 1. American Society for Testing and Materials (ASTM):
 - a. ASTM D2729 – Standard Specification for Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings
 - b. ASTM D3350 – Standard Specification for Polyethylene Plastics Pipe and Fittings Materials
 - 2. American Association of State Highway and Transportation Officials (AASHTO):
 - a. AASHTO M294 – Standard Specification for Corrugated Polyethylene Pipe

1.4 SUBMITTALS

- A. Manufacturer's Literature: Furnish to Landscape Architect, copies of manufacturer's specifications, maintenance, and installation instructions for each item specified herein. Include photographs, catalogue cuts, and other data as may be required to show compliance with these specifications.

PART 2 - PRODUCTS**2.1 DRAINTILE - GENERAL**

- A. High Density corrugated polyethylene (HDPE), tubular-style perforated type, pipe and fittings.
- B. Hancor "HI-Q", ADS N-12, or approved equal.
- C. Diameter of systems lateral and collector lines as shown on plans.

2.2 DRAINTILE - FLAT DRAIN

- A. AdvanEDGE pipe with geotextile sock manufactured by Advanced Drainage Systems, Inc. (800) 733-9554. Size as indicated on Drawings.
- B. Multi-Flow manufactured by Varicore Technologies, Inc., (800) 978-8007. Size as indicated on

SECTION 33 4615
SUBDRAINAGE SYSTEMS – TURF DRAINTILE

Drawings.

2.3 TRENCH MATERIAL

- A. Filter Aggregate: Evenly graded mixture of $\frac{3}{4}$ " diameter clean crushed stone.

PART 3 - EXECUTION

3.1 INSTALLATION FOR CORRUGATED POLYETHYLENE TUBING

- A. Hand trim excavating to required elevations. Do not over excavate. Remove large stones or other hard matter which could damage drain tile.
- B. Place a two inch (2") thick bed of filter aggregate.
- C. Install the drainage tile on the filter aggregate bed.
- D. Ensure complete connection to storm sewer using perforated pipe.
- E. Cover the pipe with filter aggregate to top of trench and compact to 90% Modified Proctor.

3.2 INSTALLATION FOR "FLAT DRAIN" PIPE

- A. Install flat drain pipe horizontally, being sure to allow for a minimum of 8" of stone below turf material.
- B. Joints shall be made using manufacturers couplers prior to placing flat drain on subgrade. Use 2 coupling pins for each coupler. Couplers shall be placed under the fabric at the joint to prevent backfill infiltration. To accomplish this, split the fabric seam and lay back the fabric approximately 8". Install the coupler with 2 pins. Replace fabric over the coupler and secure the fabric with suitable tape.
- C. End caps shall be used at all termination points to prevent soil infiltration into system.
- D. Compact stone to appropriate modified proctor density value.

END OF SECTION 33 4615

TROY SCHOOL DISTRICT

TROY HIGH SCHOOL & BOULAN PARK MIDDLE SCHOOL 2023 SYNTHETIC TURF & TRACK RENOVATIONS

Bid Release: November 28, 2022

PROJECT ADDRESS

Troy High School
4777 Northfield Parkway
Troy, MI 48098

Boulan Park Middle School
3570 Northfield Parkway
Troy, MI 48084

PROJECT TEAM

OWNER
Troy School District
4400 Livernois Road
Troy, MI 48098

LANDSCAPE ARCHITECT
Foresite Design, Inc.
3269 Coolidge Hwy.
Berkley, MI 48072

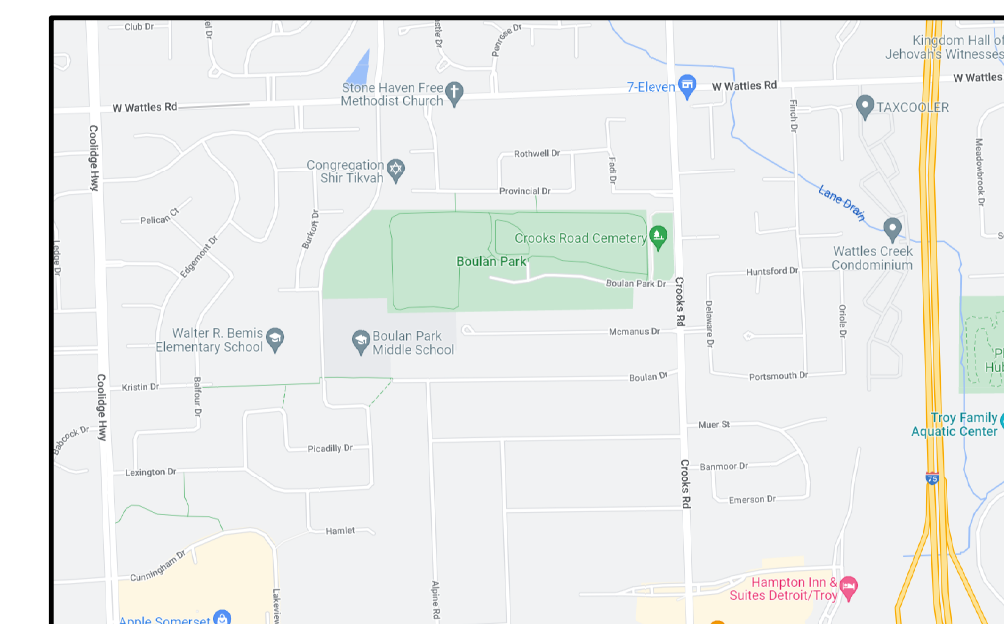
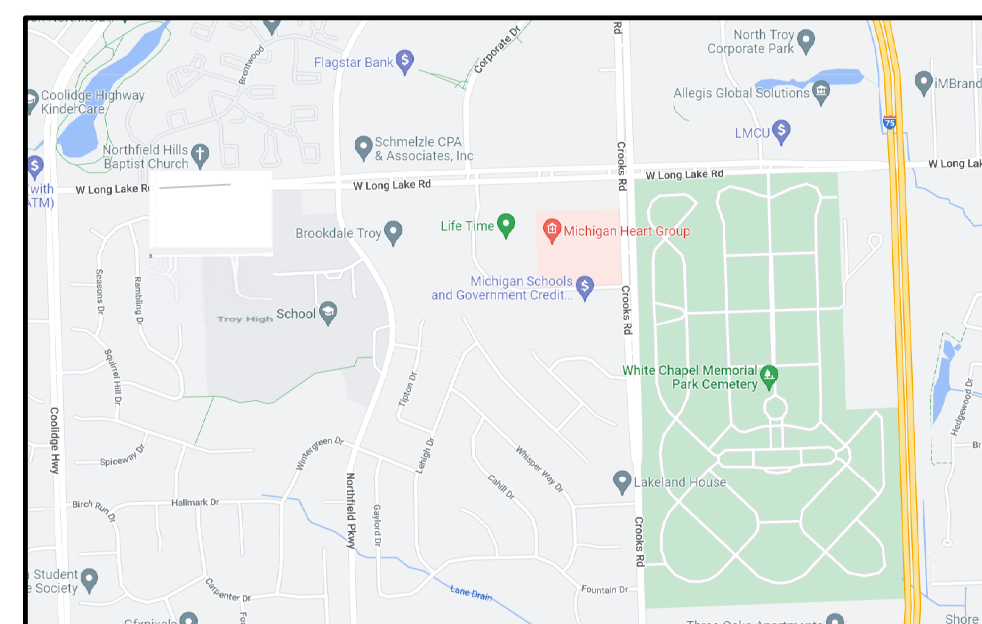
OWNER'S REPRESENTATIVE
Lecole Planners
145 North Center Street
Suite B
Northville, MI 48167

DRAWING INDEX

- L1.00 TROY H.S. DEMOLITION PLAN
- L1.01 TROY H.S. SITE PLAN
- L1.02 TROY H.S. DIMENSION PLAN
- L1.03 TROY H.S. GRADING AND UTILITY PLAN
- LD1.01 SITE DETAILS
- LD1.02 SITE DETAILS
- LD1.03 FIELD GRAPHICS REFERENCE DETAILS
- LD1.04 FIELD GRAPHICS DETAILS
- LD1.05 FOOTBALL DETAILS
- LD1.06 SOCCER DETAILS
- LD1.07 LACROSSE DETAILS

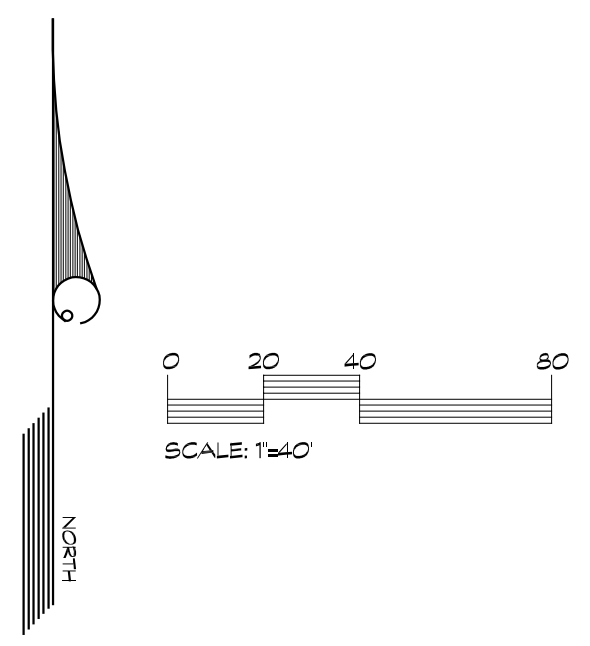
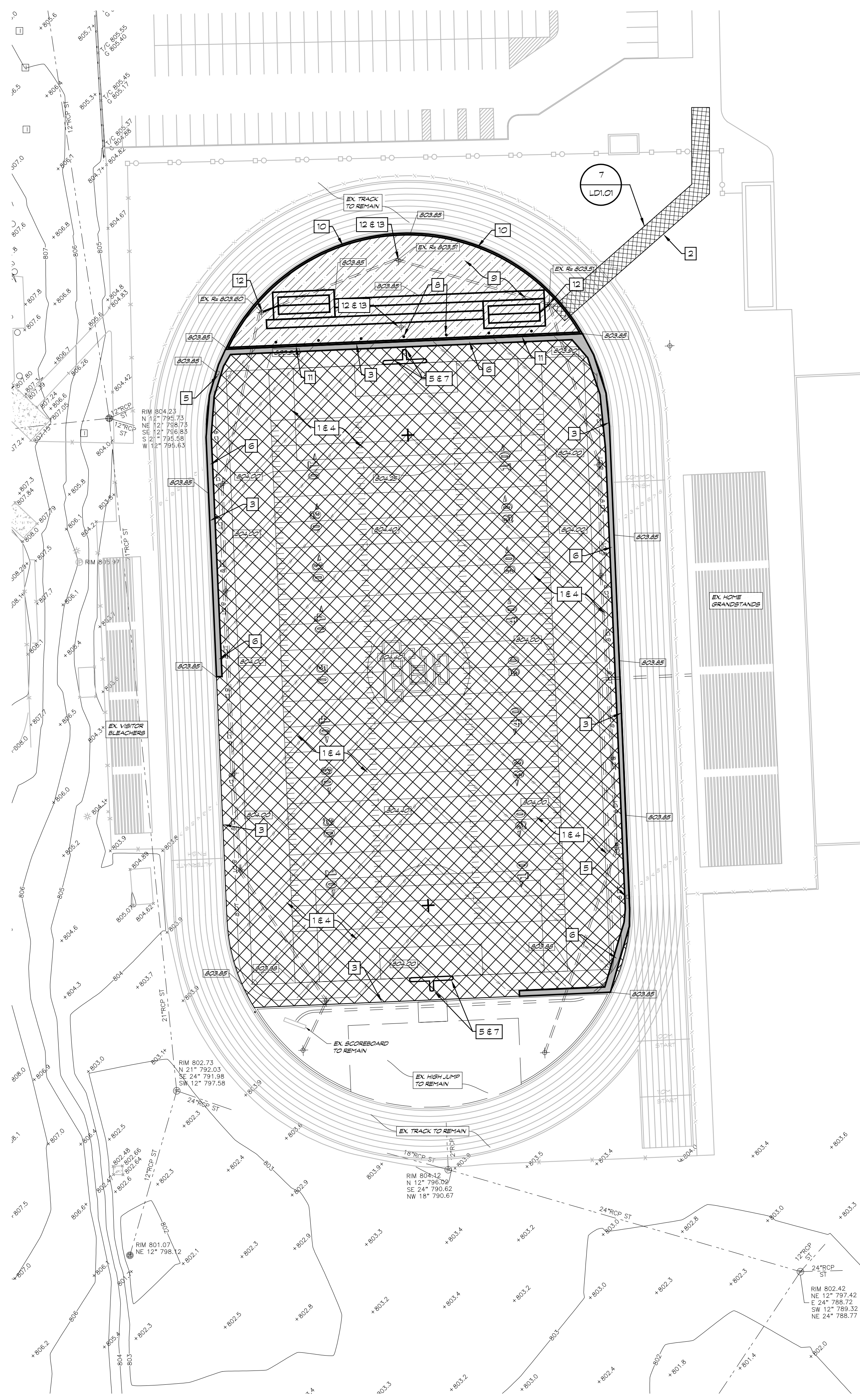
- L2.00 BOULAN PARK M.S. DEMOLITION PLAN
- L2.01 BOULAN PARK M.S. SITE PLAN
- L2.02 BOULAN PARK M.S. DIMENSION PLAN
- L2.03 BOULAN PARK M.S. GRADING AND UTILITY PLAN
- LD2.01 TRACK AND FIELD EVENT DETAILS
- CITY OF TROY STANDARD SOIL EROSION CONTROL DETAILS

LOCATION MAP



REGISTRATION SEALS:

--	--	--



LEGEND

EXISTING	PROPOSED
○ SPOT ELEVATION	X-XXXXX SPOT GRADE
XXXXX AS-BUILT SPOT ELEVATION	X-T/XXXXX TOP OF WALL ELEVATION
-X-X- FENCE	X-T/CXXXXX TOP OF CURB ELEVATION
⊕ DRAINAGE STRUCTURE	X-ME-XXXXX MATCH EXISTING ELEVATION
ST STORM DRAIN	T/XXXXX TOP OF TRENCH ELEVATION
○ LIGHT POLE	← DRAINAGE SWALE
-E- ELECTRICAL	-X-X- CHAINLINK FENCE - SEE PLANS FOR HT.
-W- WATER	-O-O- ORNAMENTAL FENCE - SEE PLANS FOR HT.
-T- TELEPHONE	⊕ DRAINAGE STRUCTURE
-IRR- IRRIGATION	ST STORM DRAIN
-P- PROPERTY	FLAT DRAIN
-SS- SANITARY	- - - 4' PERFORATED DRAIN TILE
-GAS- GAS	- - - 6' PERFORATED DRAIN TILE
	- - - 8' PERFORATED DRAIN TILE
	○ LIGHT POLE
	-E- ELECTRICAL
	-W- WATER
	-T- TELEPHONE
	-IRR- IRRIGATION
	- - - LIMITS OF CONSTRUCTION
	▨ ALL-WEATHER SURFACE OVER REINFORCED CONCRETE OVER COMPACTED SAND BASE
	▨ REINFORCED CONCRETE OVER COMPACTED SAND BASE
	■ DEMOLITION
	⊕ TOPSOIL AND SEED
	▨ MASON SAND
	▨ SYNTHETIC TURF

DEMOLITION LEGEND:

▨	1 REMOVE EXISTING SYNTHETIC TURF AND INFILL. TAKE CARE TO PRESERVE AND PROTECT INTEGRITY OF EXISTING E-LAYER.
▨	2 FURNISH AND INSTALL PROTECTION OVER EXISTING ASPHALT. TRACK PROTECTION SHALL BE LEFT ONSITE UNTL WORK BY ALL TRADES IS COMPLETE
▨	3 CONTRACTOR SHALL EVALUATE THE CONDITION OF EXISTING WOOD NAILER WITH LANDSCAPE ARCHITECT AND WILL BE REQUIRED TO REPLACE DETERIORATED WOOD AS DIRECTED. PROVIDE AN ALLOWANCE OF 100LF OF WOOD NAILER REPLACEMENT WITH BID.
▨	4 UPON REMOVAL OF TURF, CONTRACTOR SHALL EVALUATE THE CONDITION OF EXISTING E-LAYER WITH LANDSCAPE ARCHITECT AND WILL BE REQUIRED TO REPLACE DETERIORATED MATERIAL AS DIRECTED. PROVIDE AN ALLOWANCE OF 500 SF OF E-LAYER REMOVAL AND REPLACEMENT WITH BID.
▨	5 REMOVE EXISTING WOOD ACCESS BOX, PRESERVE EXISTING ELECTRICAL/DATA CONDUITS SHALL FOR RE-USE
▨	6 SAWCUT AND REMOVE EXISTING E-LAYER AND AGGREGATE BASE MATERIAL FOR NEW CONDUIT INSTALLATION.
▨	7 REMOVE EXISTING GOALPOSTS AND FOOTINGS, PROVIDE NEW
▨	8 REMOVE EXISTING SLEEVES AND FOOTINGS FOR PORTABLE PROTECTIVE NET SYSTEM
▨	9 REMOVE EXISTING ASPHALT, CONCRETE, TRACK SURFACING FULL DEPTH. REMOVE EXISTING DRAIN TILE AROUND TRENCH DRAIN RADIUS
▨	10 SAWCUT AND REMOVE EXISTING TRENCH DRAIN, PRESERVE #6 INCHES OF EXPOSED CONCRETE CURB ON TRACK SIDE OF TRENCH DRAIN FOR USE AS NEW CONCRETE TURF ANCHOR.
▨	11 REMOVE EXISTING CONCRETE TURF ANCHOR AND WOOD NAILER
▨	12 LOWER DRAINAGE STRUCTURE #12 INCHES BELOW PROPOSED FINISHED GRADE AND PROVIDE A SEALED, SOLID LID
▨	13 CLEAN DEBRIS FROM SUMPS AND POWERFLUSH DRAIN LINES

REVISIONS

PROJECT
TROY H.S. & BOULAN PARK M.S.

2023 SYNTHETIC TURF AND TRACK RENOVATIONS

OWNER
TROY SCHOOL DISTRICT TROY, MI

FORESITE design
ATHLETIC FACILITY PLANNING * SITE PLANNING * CONSULTING * LANDSCAPE ARCHITECTURE
3269 COOLIDGE HWY * BERKLEY, MI 48072
PH. 248.547.7757 * FAX 248.547.0218
WWW.FORESITEDESIGN.COM

DRAWINGS ARE PROPERTY OF FORESITE DESIGN, INC. AND ARE NOT TO BE USED, REPRODUCED, OR PUBLISHED IN PART OR WHOLE, WITHOUT EXPRESSED WRITTEN PERMISSION FROM FORESITE DESIGN, INC. COPYRIGHT 2022.

SHEET TITLE
TROY H.S. DEMOLITION PLAN

- ### NOTES
- NOTES AND LEGEND SHALL APPLY TO ALL SHEETS AND ALL SITES
 - CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND MAKE EVERY EFFORT TO LOCATE EXISTING UNDERGROUND UTILITIES. THIS SHALL INCLUDE CONSULTING WITH ALL LOCAL UTILITY COMPANIES AND USING A SIGNAL LOCATOR PRIOR TO EXCAVATION. ANY AND ALL REPAIRS SHALL BE COMPLETED WITHIN 48 HRS. OR THE OWNER SHALL HAVE THE REPAIR WORK COMPLETED AT THE CONTRACTORS EXPENSE.
 - TOPSOIL AND SEED ALL AREAS DISTURBED AND NOT OTHERWISE DEVELOPED. ALL WORK I.E. DEMOLITION AND REMOVALS, DRAINAGE WORK, STONE AND ASPHALT, FENCING, TRACK SURFACE, ETC. SHALL BE COMPLETED BY DATE AS NOTED IN CONTRACT DOCUMENTS. ALL LAWN AREAS SHALL SLOPE TO DRAINAGE STRUCTURES.
 - ALL CONTOURS AND SPOT GRADES REFER TO FINISH GRADE OF LAWN, ASPHALT, CONCRETE, OR SYNTHETIC TURF. DO NOT FACTOR IN THE ALL-WEATHER SURFACE DEPTH.

DWN. BY MDS	CHK BY CAO
DATE 11/28/22	SCALE 1"=40'-0"
SHEET NO.	

L1.00

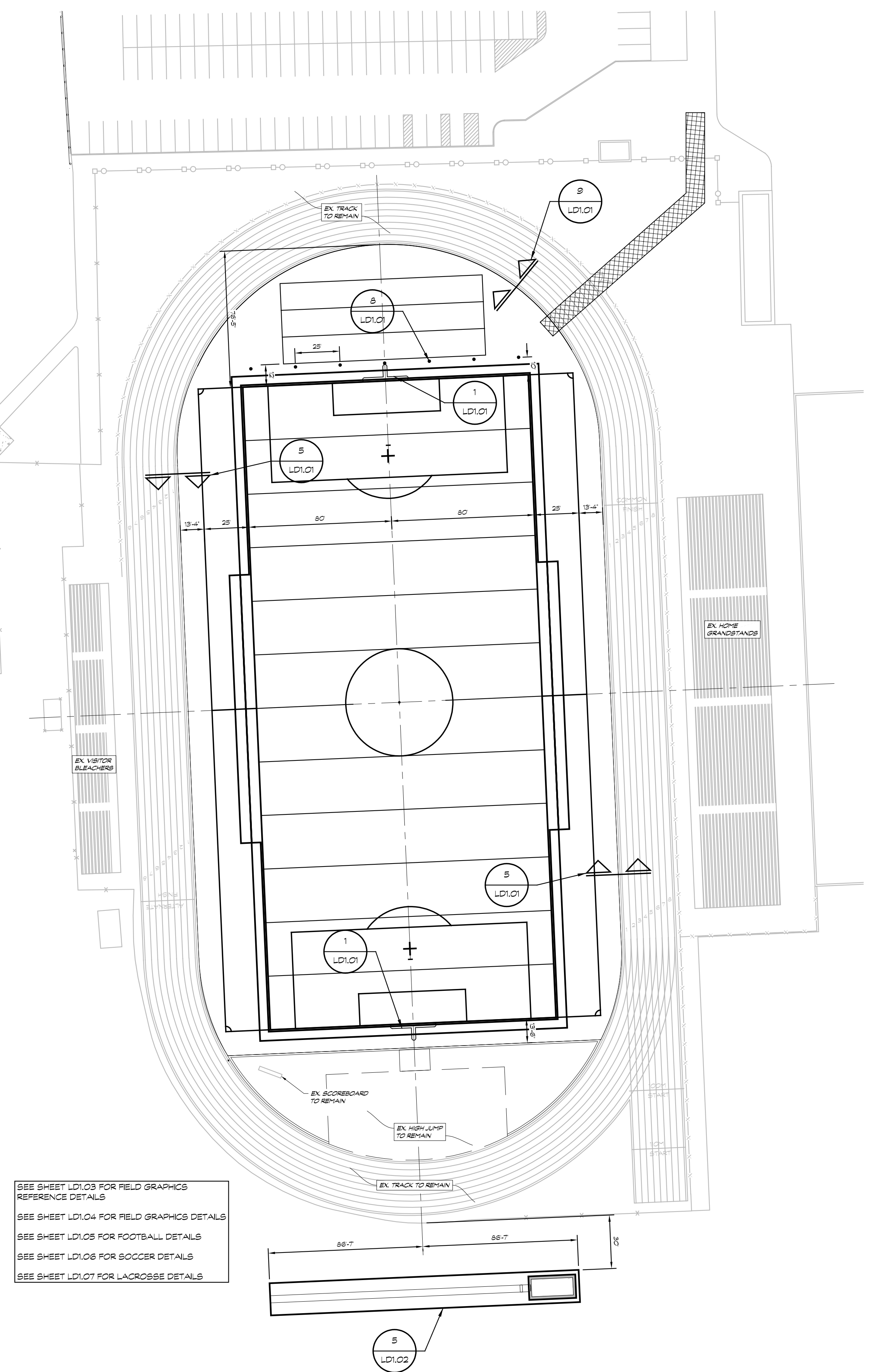
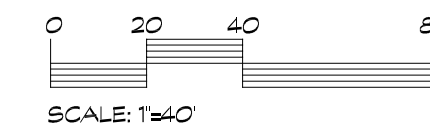
LEGEND

EXISTING

- SPOT ELEVATION
- XXXXX AS-BUILT SPOT ELEVATION
- X-X- FENCE
- ⊕ DRAINAGE STRUCTURE
- ST- STORM DRAIN
- LIGHT POLE
- E- ELECTRICAL
- W- WATER
- T- TELEPHONE
- IRR- IRRIGATION
- - - PROPERTY
- SS- SANITARY
- GAS- GAS

PROPOSED

- X-XXXXX SPOT GRADE
- X-T/XXXXX TOP OF WALL ELEVATION
- X-T/C/XXXXX TOP OF CURB ELEVATION
- X-ME-XXXXX MATCH EXISTING ELEVATION
- T/T/XXXXX TOP OF TRENCH ELEVATION
- ← DRAINAGE SWALE
- X-X- CHAINLINK FENCE - SEE PLANS FOR HT.
- O-O- ORNAMENTAL FENCE - SEE PLANS FOR HT.
- ⊕ DRAINAGE STRUCTURE
- ST- STORM DRAIN
- - - FLAT DRAIN
- - - 4" PERFORATED DRAIN TILE
- - - 6" PERFORATED DRAIN TILE
- S DT- 8" PERFORATED DRAIN TILE
- LIGHT POLE
- E- ELECTRICAL
- W- WATER
- T- TELEPHONE
- IRR- IRRIGATION
- - - LIMITS OF CONSTRUCTION
- ALL-WEATHER SURFACE OVER REINFORCED CONCRETE OVER COMPACTED SAND BASE
- REINFORCED CONCRETE OVER COMPACTED BASE
- DEMOLITION
- TOPSOIL AND SEED
- MASON SAND
- SYNTHETIC TURF



SEE SHEET LDI.03 FOR FIELD GRAPHICS REFERENCE DETAILS
 SEE SHEET LDI.04 FOR FIELD GRAPHICS DETAILS
 SEE SHEET LDI.05 FOR FOOTBALL DETAILS
 SEE SHEET LDI.06 FOR SOCCER DETAILS
 SEE SHEET LDI.07 FOR LACROSSE DETAILS

NOTES

1. NOTES AND LEGEND SHALL APPLY TO ALL SHEETS AND ALL SITES
2. CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND MAKE EVERY EFFORT TO LOCATE EXISTING UNDERGROUND UTILITIES. THIS SHALL INCLUDE CONSULTING WITH ALL LOCAL UTILITY COMPANIES AND USING A SIGNAL LOCATOR PRIOR TO EXCAVATION. ANY AND ALL REPAIRS SHALL BE COMPLETED WITHIN 48 HRS. OR THE OWNER SHALL HAVE THE REPAIR WORK COMPLETED AT THE CONTRACTORS EXPENSE.
3. TOPSOIL AND SEED ALL AREAS DISTURBED AND NOT OTHERWISE DEVELOPED. ALL WORK I.E. DEMOLITION AND REMOVALS, DRAINAGE WORK, STONE AND ASPHALT, FENCING, TRACK SURFACE, ETC. SHALL BE COMPLETED BY DATE AS NOTED IN CONTRACT DOCUMENTS. ALL LAWN AREAS SHALL SLOPE TO DRAINAGE STRUCTURES.
4. ALL CONTOURS AND SPOT GRADES REFER TO FINISH GRADE OF LAWN, ASPHALT, CONCRETE, OR SYNTHETIC TURF. DO NOT FACTOR IN THE ALL-WEATHER SURFACE DEPTH.

REVISIONS

PROJECT

TROY H.S. & BOULAN PARK M.S.

2023 SYNTHETIC TURF AND TRACK RENOVATIONS

OWNER

TROY SCHOOL DISTRICT TROY, MI

FORESITE design
 ATHLETIC FACILITY PLANNING * SITE PLANNING * CONSULTING * LANDSCAPE ARCHITECTURE
 3269 COOLIDGE HWY * BERKLEY, MI 48072
 PH. 248.547.7757 * FAX 248.547.0218
 WWW.FORESITEDESIGN.COM

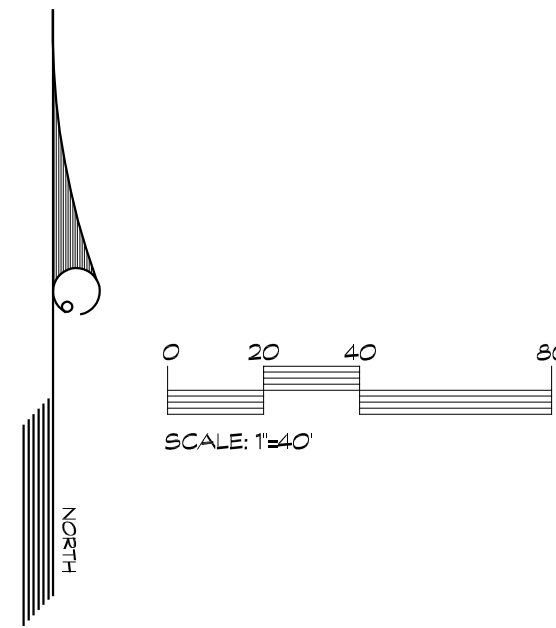
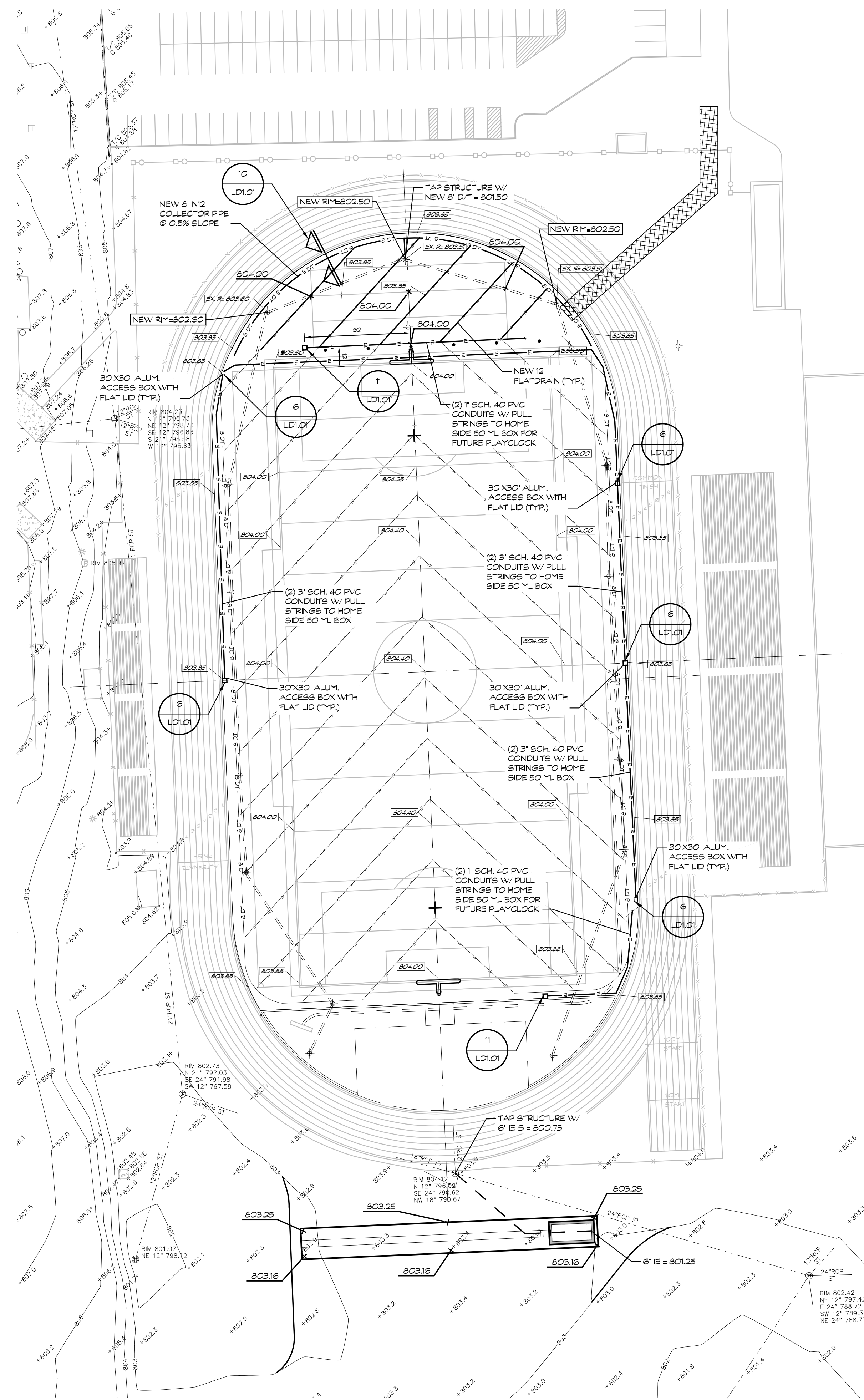
DRAWINGS ARE PROPERTY OF FORESITE DESIGN, INC. AND ARE NOT TO BE USED, REPRODUCED, OR PUBLISHED IN PART OR WHOLE, WITHOUT EXPRESSED WRITTEN PERMISSION FROM FORESITE DESIGN, INC. COPYRIGHT 2022.

SHEET TITLE

TROY H.S. DIMENSION PLAN

DWN. BY MDS	CHK BY CAO
DATE 11/28/22	SCALE 1/4"=1'-0"
SHEET NO.	

L1.02



LEGEND

EXISTING	PROPOSED
○ SPOT ELEVATION	XXXXX SPOT GRADE
XXXXX AS-BUILT SPOT ELEVATION	X-T/XXXXX TOP OF WALL ELEVATION
-X-X- FENCE	X-T/CXXXXX TOP OF CURB ELEVATION
⊕ DRAINAGE STRUCTURE	X-ME-XXXXX MATCH EXISTING ELEVATION
-ST- STORM DRAIN	T/TXXXXX TOP OF TRENCH ELEVATION
○ LIGHT POLE	← DRAINAGE SWALE
-E- ELECTRICAL	-X-X- CHAINLINK FENCE - SEE PLANS FOR HT.
-W- WATER	-O-O- ORNAMENTAL FENCE - SEE PLANS FOR HT.
-T- TELEPHONE	⊕ DRAINAGE STRUCTURE
-IRR- IRRIGATION	-ST- STORM DRAIN
-P- PROPERTY	-FD- FLAT DRAIN
-SS- SANITARY	-6\"/>
-GAS- GAS	-8\"/>
	⊕ LIGHT POLE
	-E- ELECTRICAL
	-W- WATER
	-T- TELEPHONE
	-IRR- IRRIGATION
	-L- LIMITS OF CONSTRUCTION
	▨ ALL-WEATHER SURFACE OVER REINFORCED CONCRETE OVER COMPACTED SAND BASE
	▨ REINFORCED CONCRETE OVER COMPACTED BASE
	■ DEMOLITION
	⊕ TOPSOIL AND SEED
	▨ MASON SAND
	▨ SYNTHETIC TURF

REVISIONS

PROJECT
TROY H.S. & BOULAN PARK M.S.

2023 SYNTHETIC TURF AND TRACK RENOVATIONS

OWNER
TROY SCHOOL DISTRICT TROY, MI

FORESITE design
ATHLETIC FACILITY PLANNING • SITE PLANNING • CONSULTING • LANDSCAPE ARCHITECTURE
3269 COOLIDGE HWY • BERKLEY, MI 48072
PH. 248.547.7757 • FAX 248.547.0218
WWW.FORESITEDESIGN.COM

DRAWINGS ARE PROPERTY OF FORESITE DESIGN, INC. AND ARE NOT TO BE USED, REPRODUCED, OR PUBLISHED IN PART OR WHOLE, WITHOUT EXPRESSED WRITTEN PERMISSION FROM FORESITE DESIGN, INC. COPYRIGHT 2022.

SHEET TITLE
TROY H.S. GRADING AND UTILITY PLAN

- ### NOTES
- NOTES AND LEGEND SHALL APPLY TO ALL SHEETS AND ALL SITES
 - CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND MAKE EVERY EFFORT TO LOCATE EXISTING UNDERGROUND UTILITIES. THIS SHALL INCLUDE CONSULTING WITH ALL LOCAL UTILITY COMPANIES AND USING A SIGNAL LOCATOR PRIOR TO EXCAVATION. ANY AND ALL REPAIRS SHALL BE COMPLETED WITHIN 48 HRS. OR THE OWNER SHALL HAVE THE REPAIR WORK COMPLETED AT THE CONTRACTORS EXPENSE.
 - TOPSOIL AND SEED ALL AREAS DISTURBED AND NOT OTHERWISE DEVELOPED. ALL WORK I.E. DEMOLITION AND REMOVALS, DRAINAGE WORK, STONE AND ASPHALT, FENCING, TRACK SURFACE, ETC. SHALL BE COMPLETED BY DATE AS NOTED IN CONTRACT DOCUMENTS. ALL LAWN AREAS SHALL SLOPE TO DRAINAGE STRUCTURES.
 - ALL CONTOURS AND SPOT GRADES REFER TO FINISH GRADE OF LAWN, ASPHALT, CONCRETE, OR SYNTHETIC TURF. DO NOT FACTOR IN THE ALL-WEATHER SURFACE DEPTH.

DWN. BY MDS	CHK BY CAO
DATE 11/28/22	SCALE 1"=40'-0"
SHEET NO.	

REVISIONS

PROJECT
TROY H.S. & BOULAN PARK M.S.

2023 SYNTHETIC TURF AND TRACK RENOVATIONS

OWNER
TROY SCHOOL DISTRICT TROY, MI

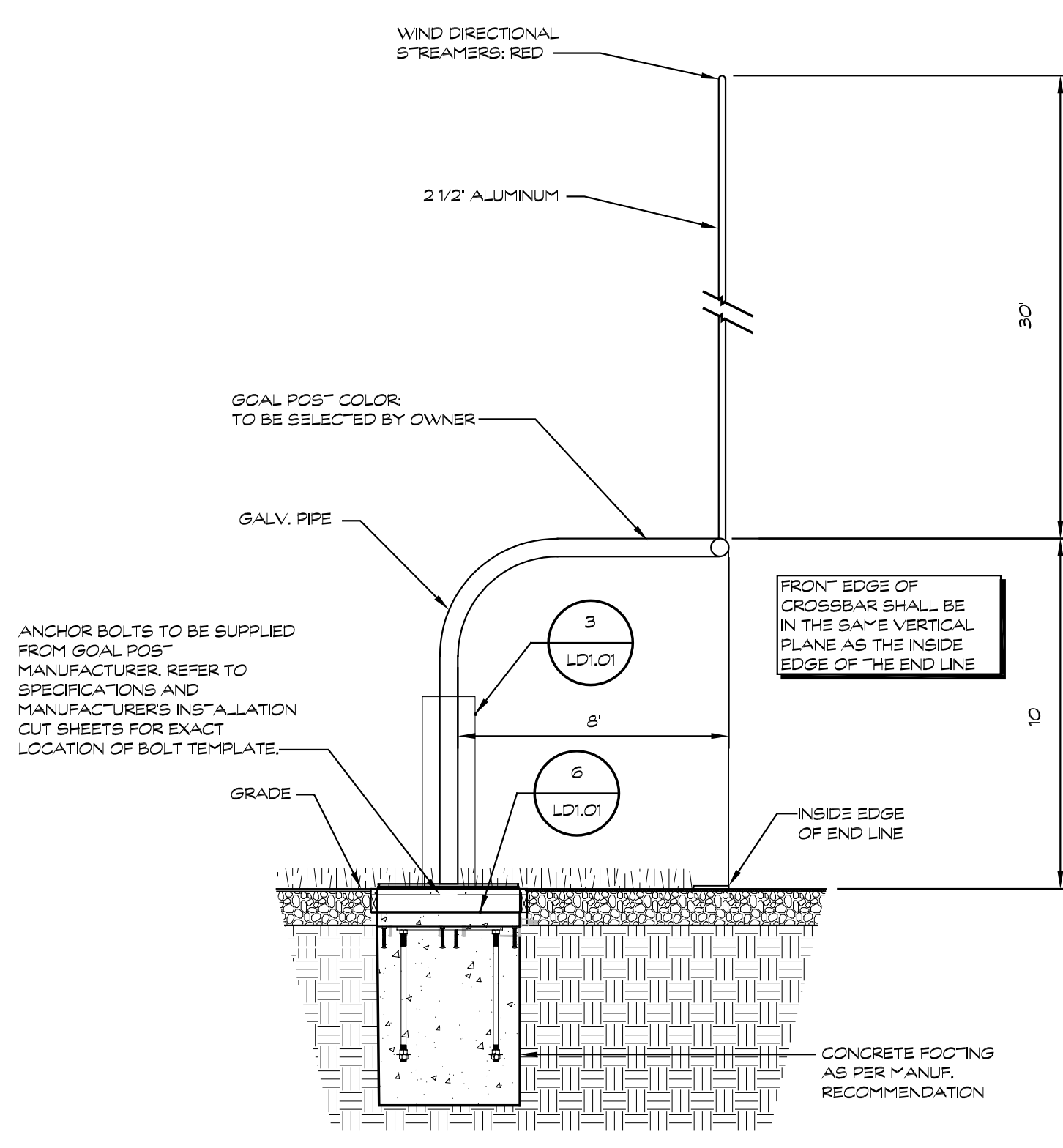
FORESITE design
ATHLETIC FACILITY PLANNING • SITE PLANNING • CONSULTING • LANDSCAPE ARCHITECTURE
3269 COOLIDGE HWY • BERKLEY, MI 48072
PH. 248.547.7757 • FAX 248.547.0218
WWW.FORESITEDESIGN.COM

DRAWINGS ARE PROPERTY OF FORESITE DESIGN, INC. AND ARE NOT TO BE USED, REPRODUCED, OR PUBLISHED IN PART OR WHOLE, WITHOUT EXPRESSED WRITTEN PERMISSION FROM FORESITE DESIGN, INC. COPYRIGHT 2022.

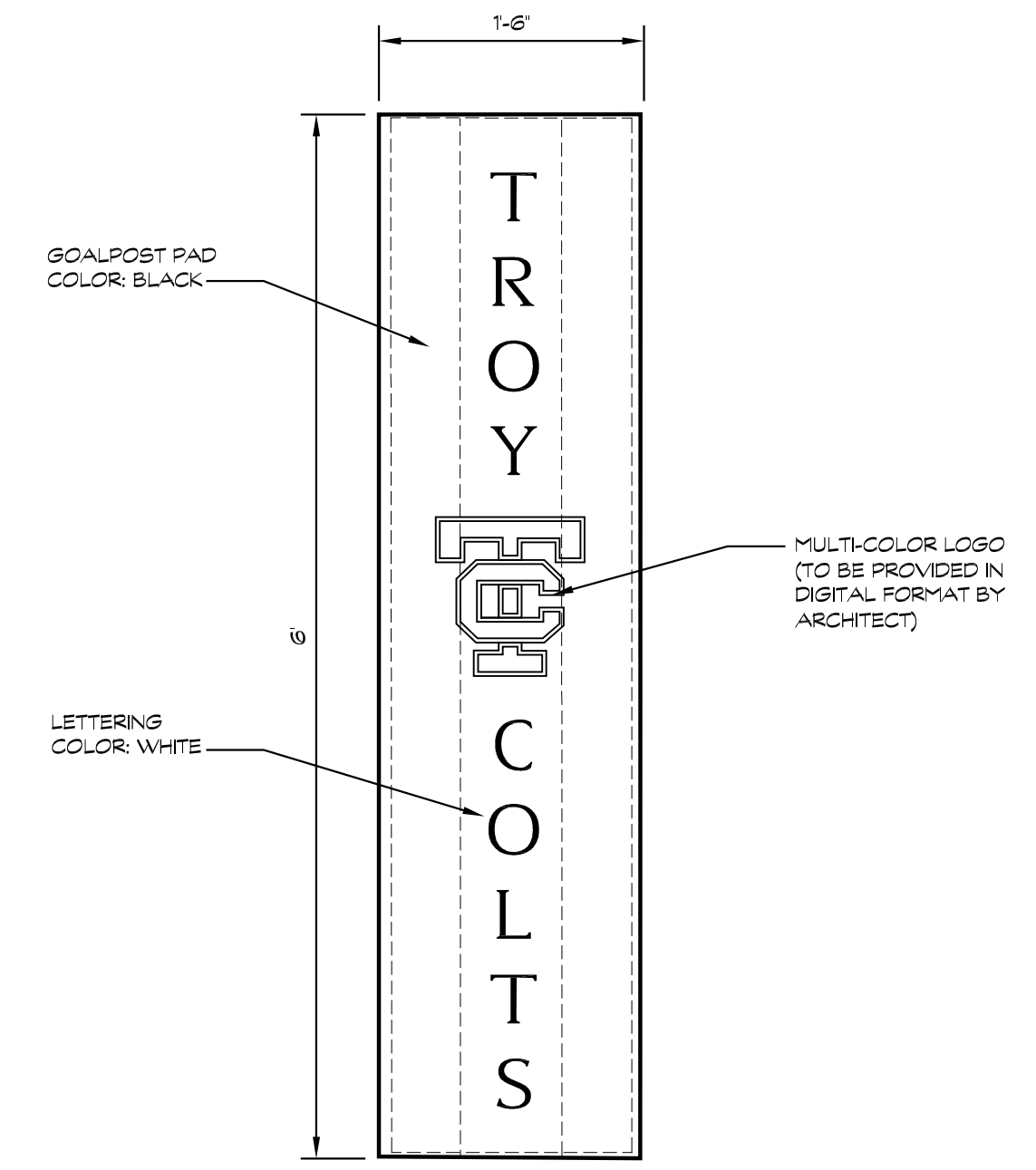
SHEET TITLE
SITE DETAILS

DWN. BY MDS	CHK BY CAO
DATE 11/28/22	SCALE AS SHOWN
SHEET NO.	

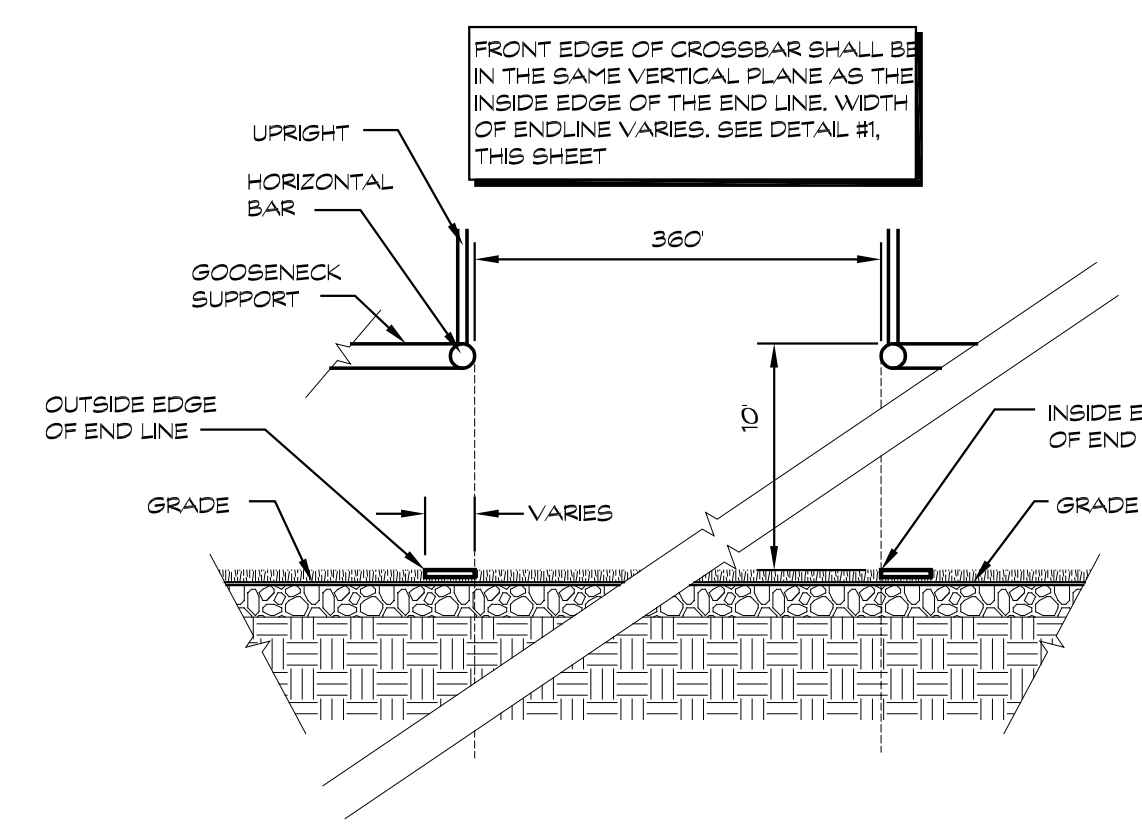
LD1.01



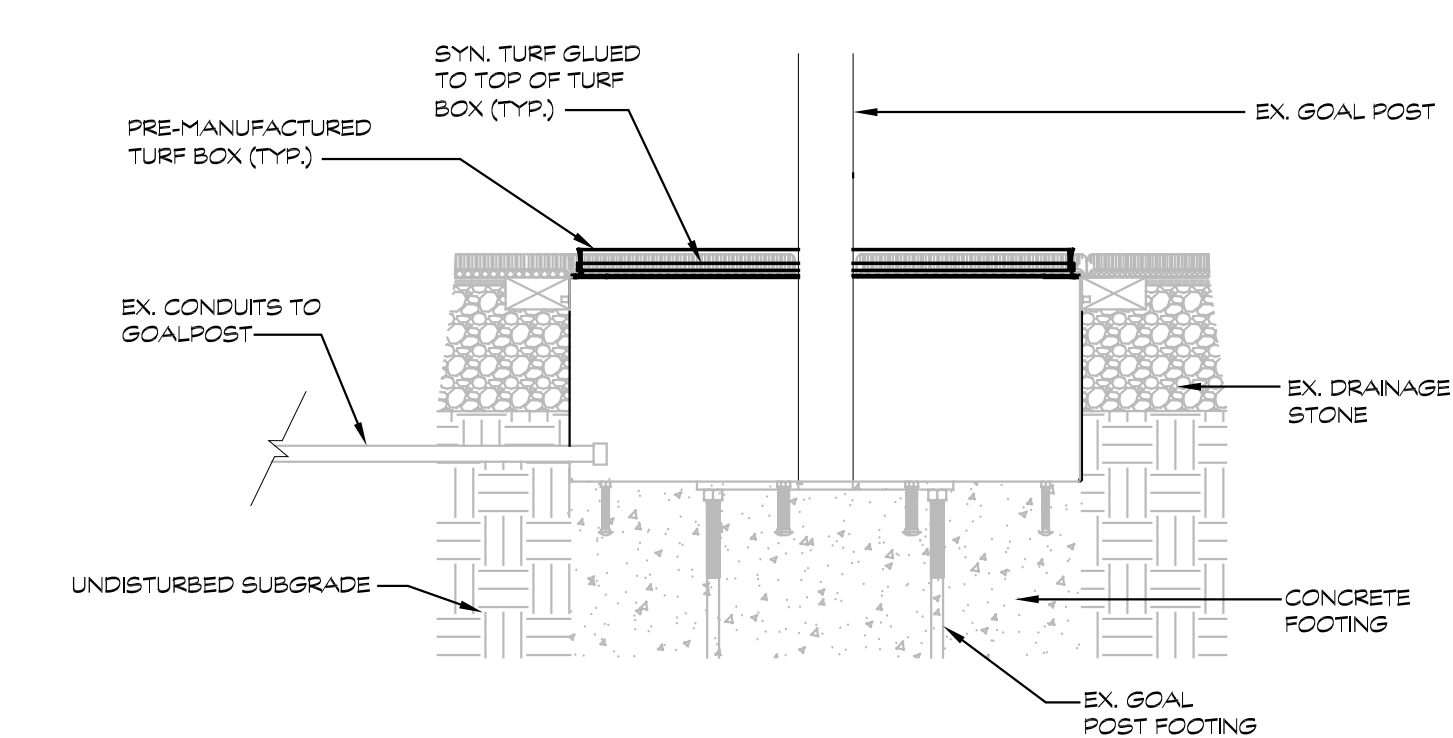
1 FOOTBALL GOAL POST FOUNDATION
SCALE 1/4"=1'-0"



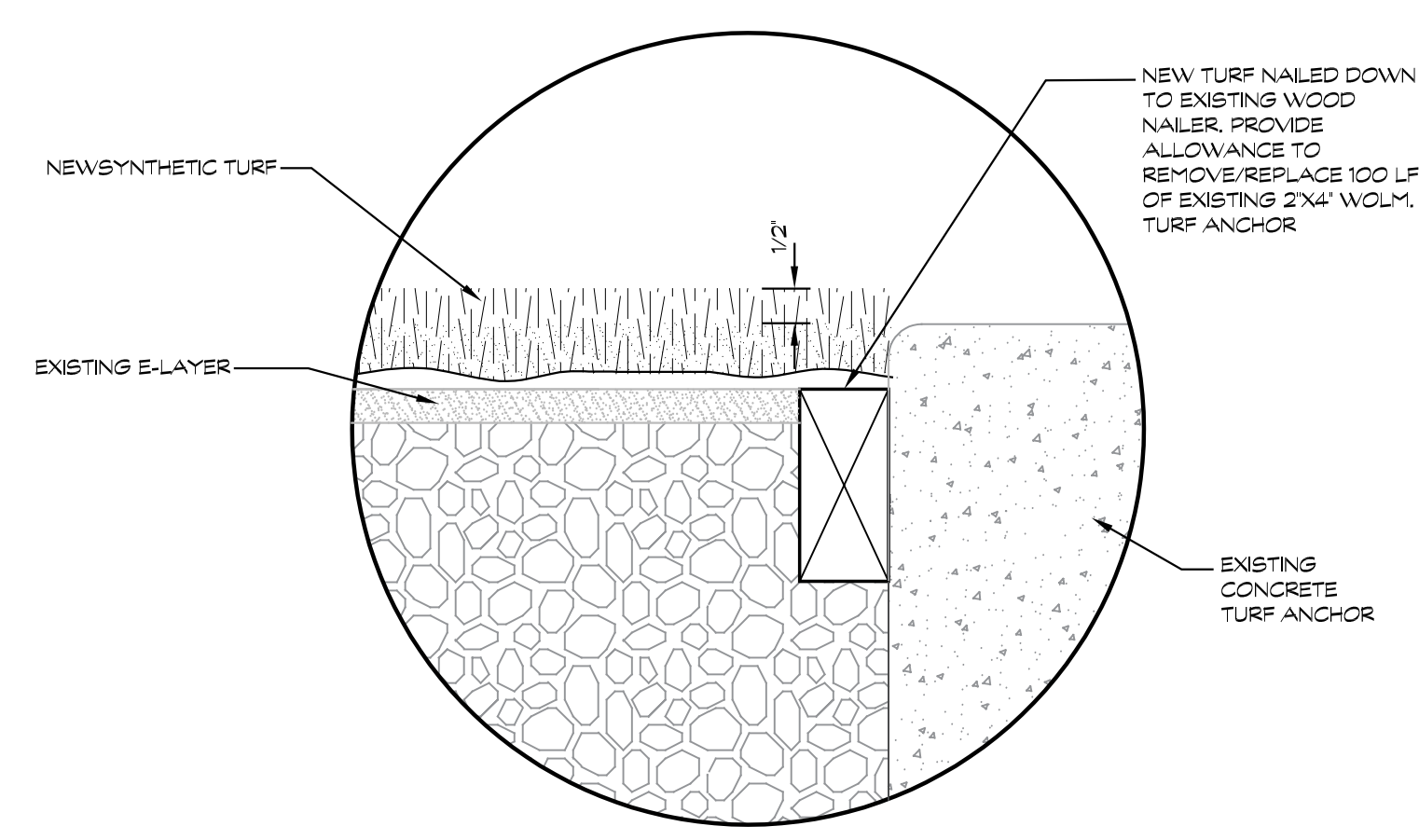
2 FOOTBALL GOAL POST PAD
SCALE 1"=1'-0"



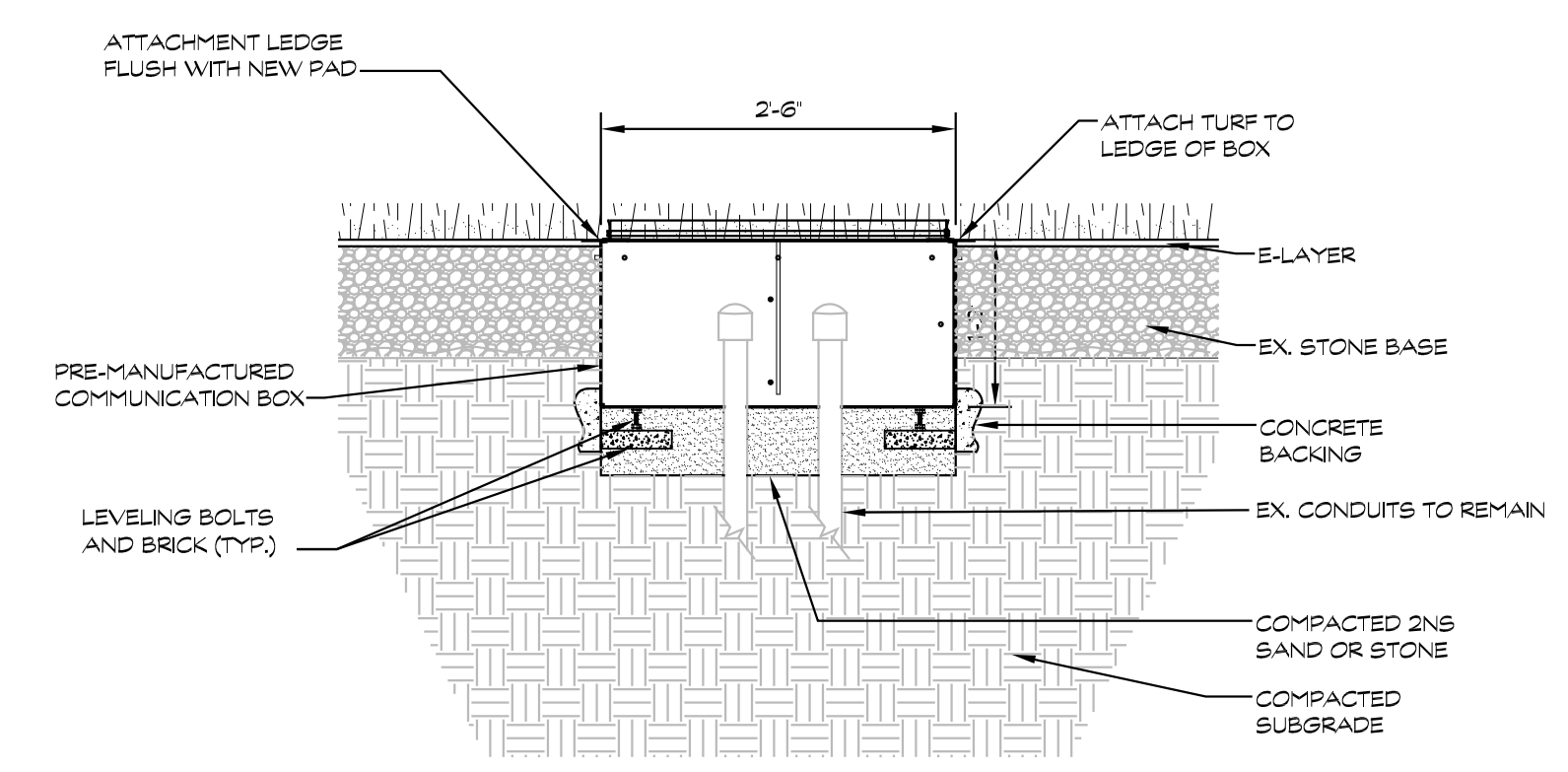
3 HORIZONTAL BAR ORIENTATION
SCALE 1/4"=1'-0"



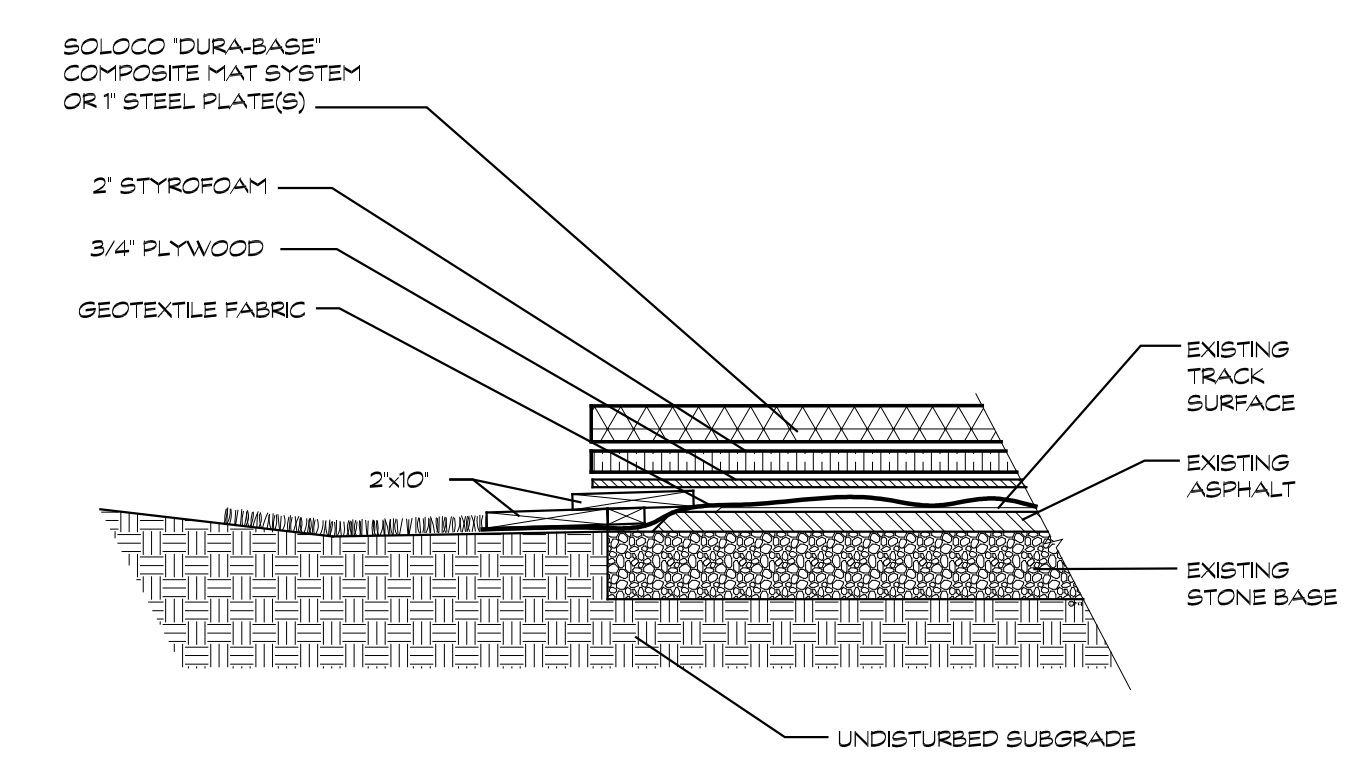
4 GOAL POST FOOTING/TURF DETAIL
SCALE 1"=1'-0"



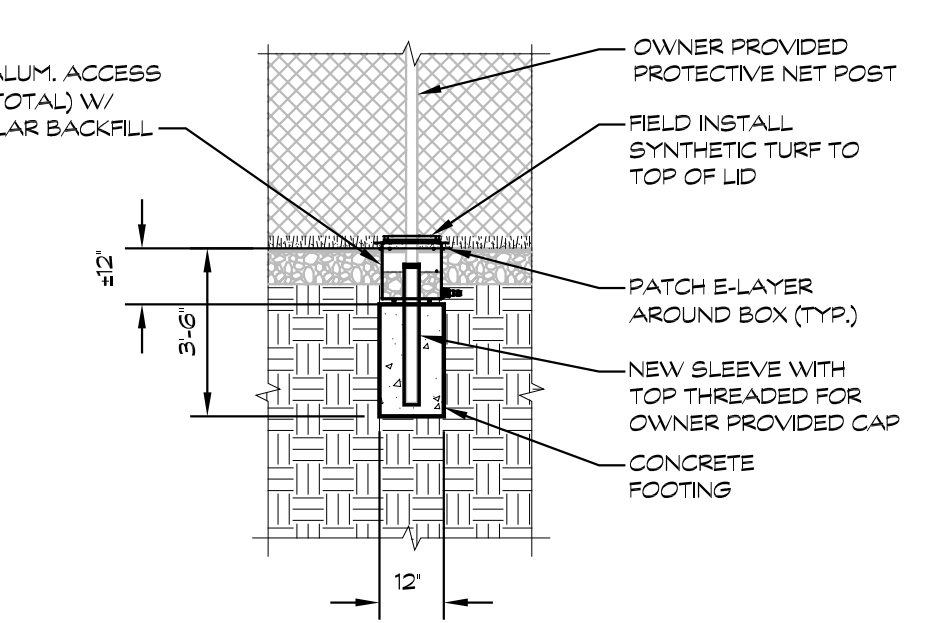
5 TURF EDGE SECTION
N.T.S.



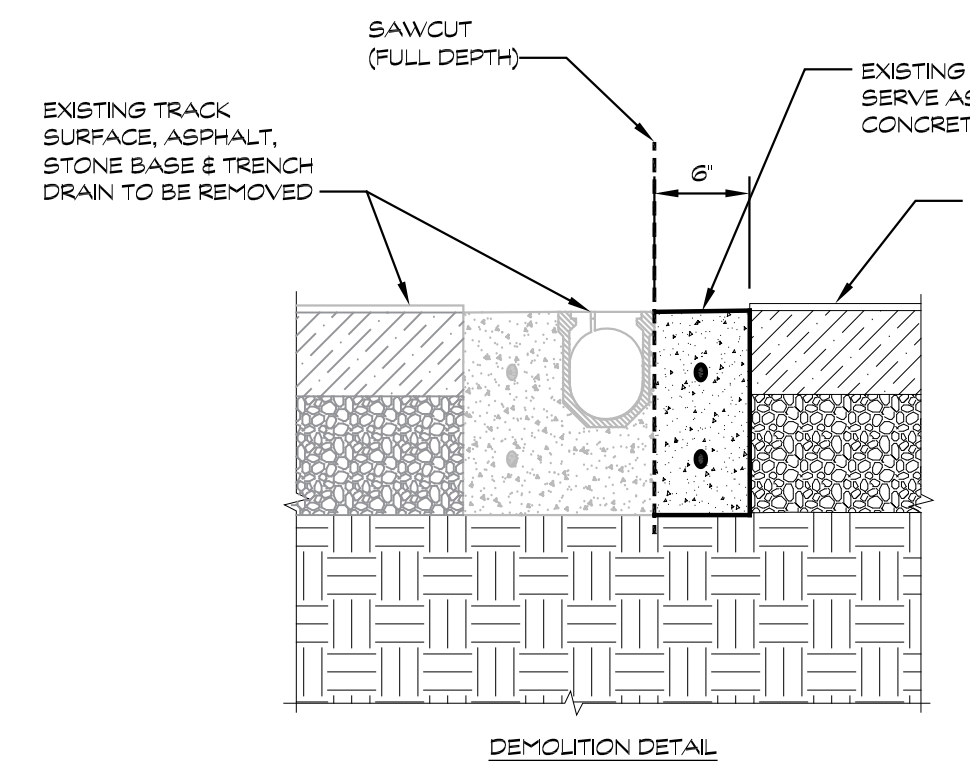
6 SYNTHETIC TURF UTILITY BOX DETAIL
SCALE 3/4"=1'-0"



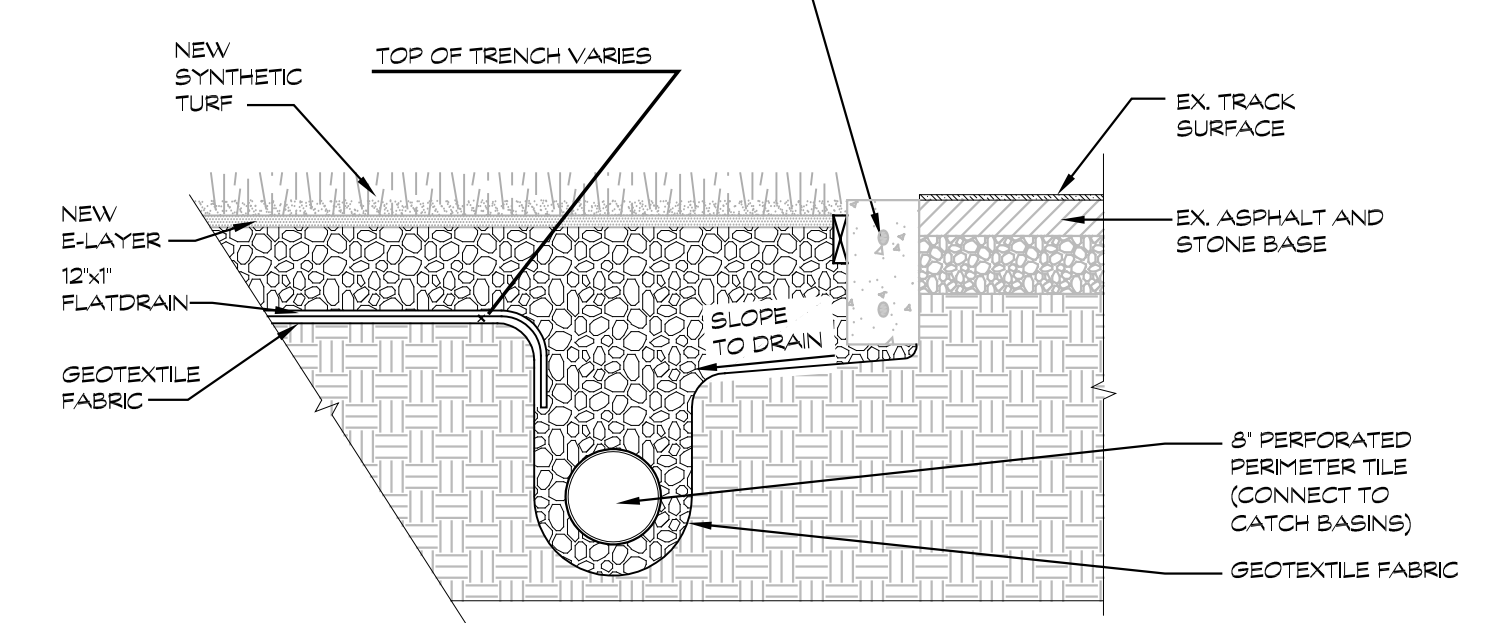
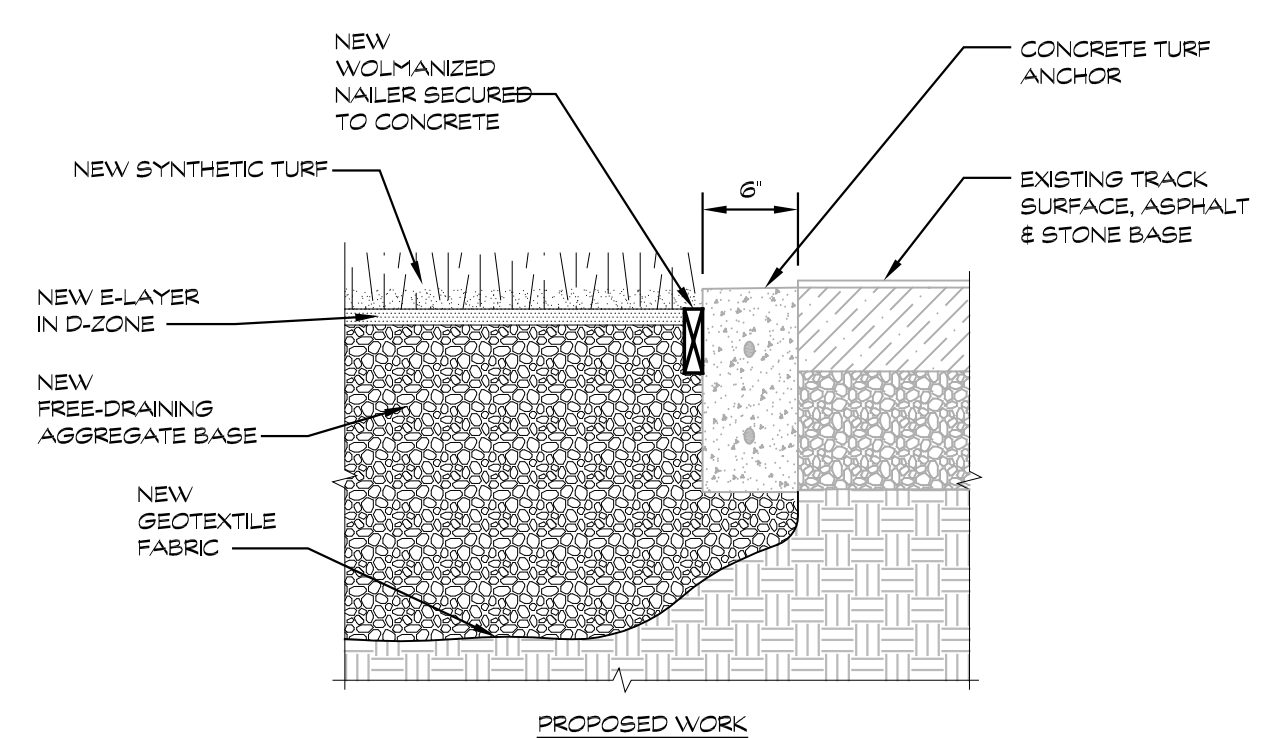
7 TRACK SURFACE PROTECTION
N.T.S.



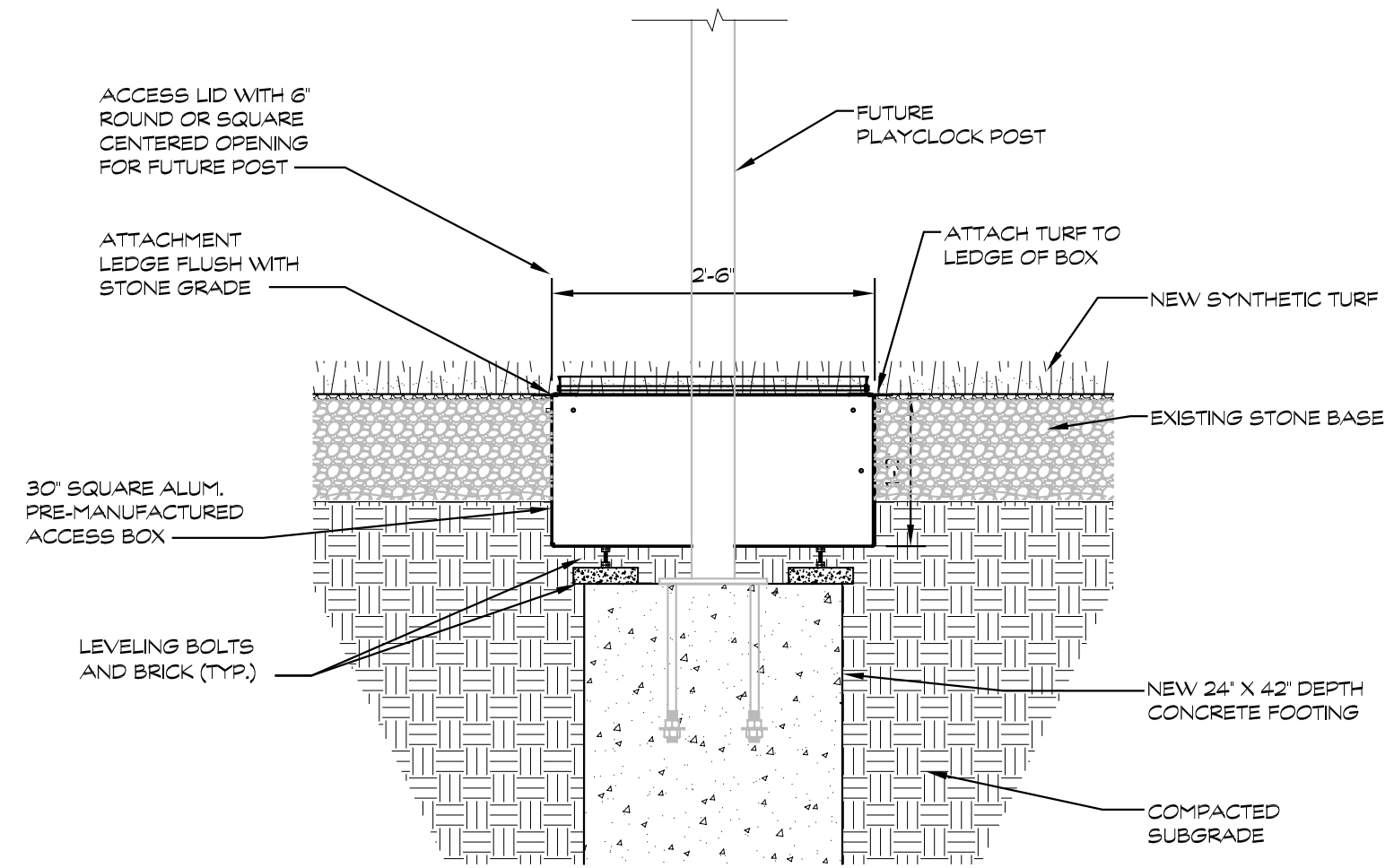
8 NET SLEEVE DETAIL
SCALE 1/4"=1'-0"



9 D-ZONE CONCRETE CURB DETAIL
SCALE 1"=1'-0"



10 EDGE DETAIL-TYP.
SCALE 3/4"=1'-0"



11 PLAYCLOCK FOOTING & BOX DETAIL
SCALE 3/4"=1'-0"

REVISIONS

PROJECT

TROY H.S. &
BOULAN PARK M.S.

2023 SYNTHETIC TURF
AND TRACK RENOVATIONS

OWNER

TROY SCHOOL DISTRICT
TROY, MI

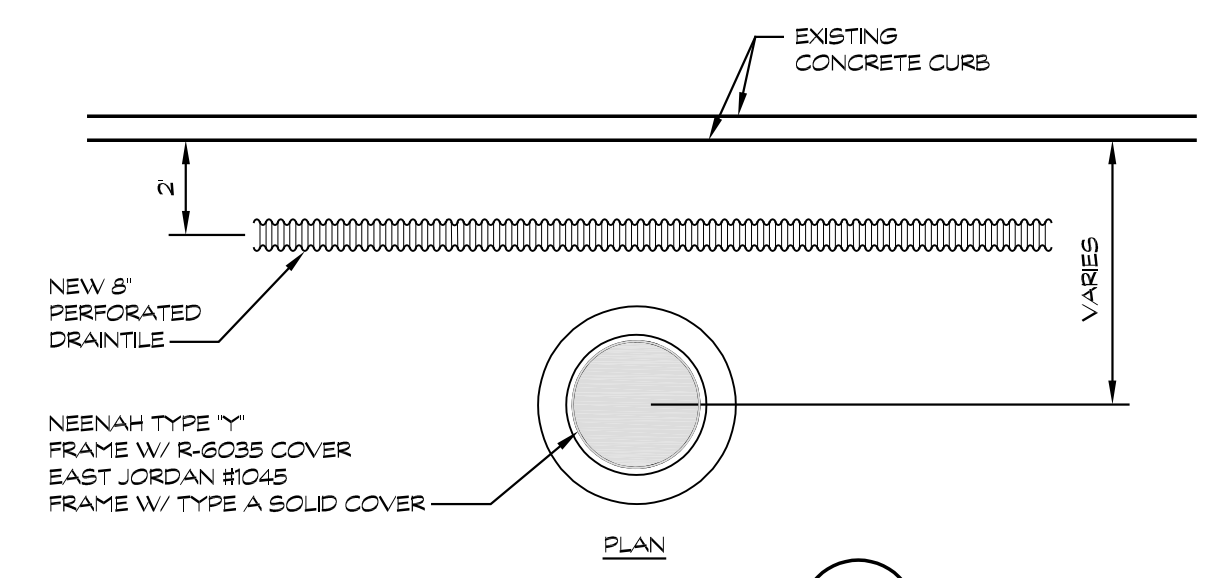


DRAWINGS ARE PROPERTY OF FORESITE DESIGN, INC. AND ARE NOT TO BE USED, REPRODUCED, OR PUBLISHED IN PART OR WHOLE, WITHOUT EXPRESSED WRITTEN PERMISSION FROM FORESITE DESIGN, INC. COPYRIGHT 2022.

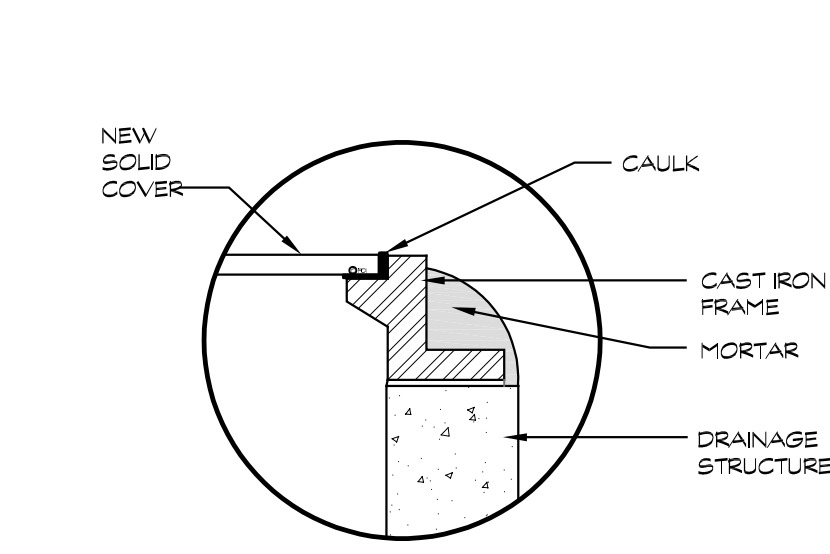
SHEET TITLE

SITE DETAILS

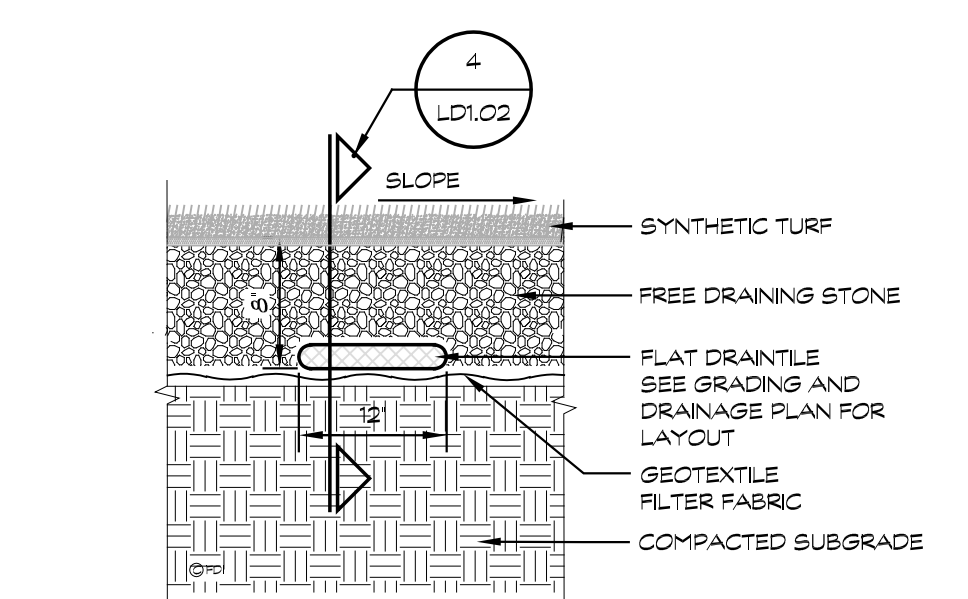
DWN. BY MDS	CHK BY CAO
DATE 11/28/22	SCALE AS SHOWN
SHEET NO.	



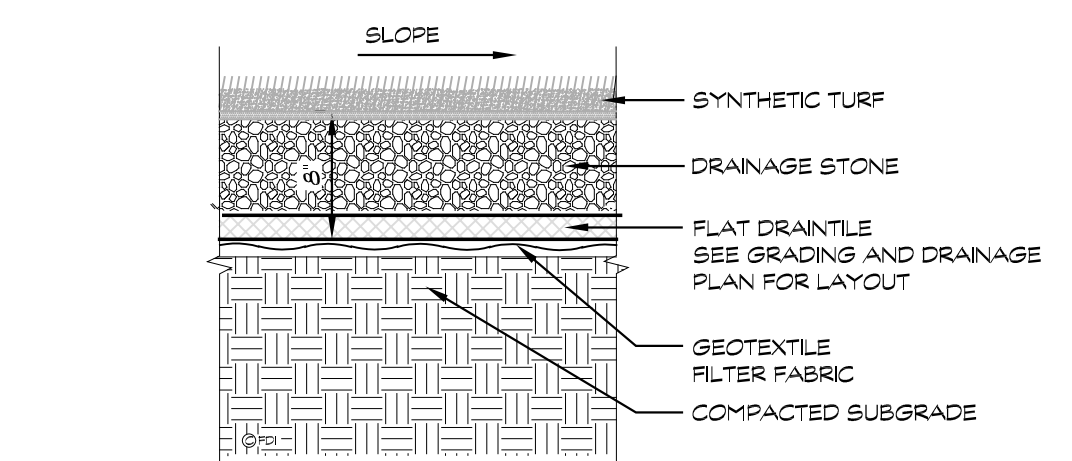
1 SOLID COVER ON DRAINAGE STRUCTURE
SCALE 1/4"=1'-0"



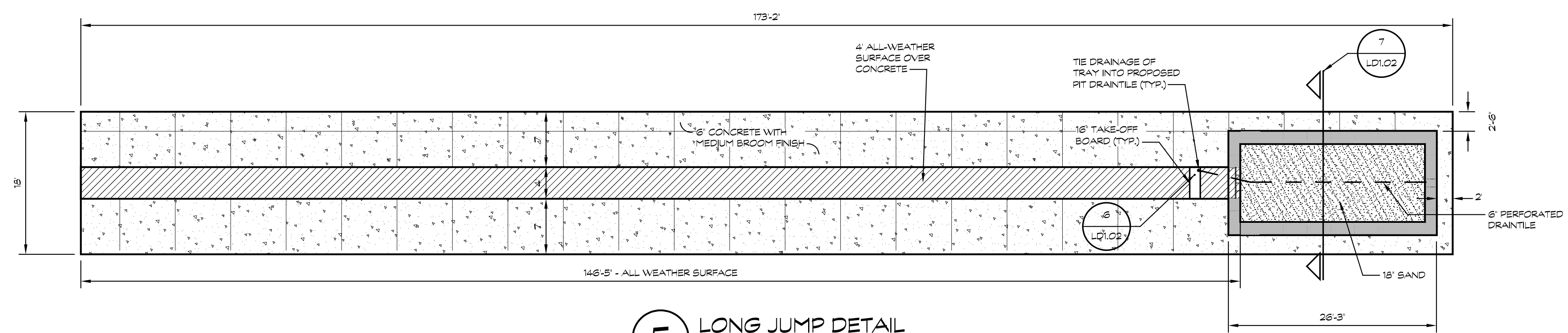
2 DRAINAGE STRUCTURE DETAIL
SCALE 3/8"=1'-0"



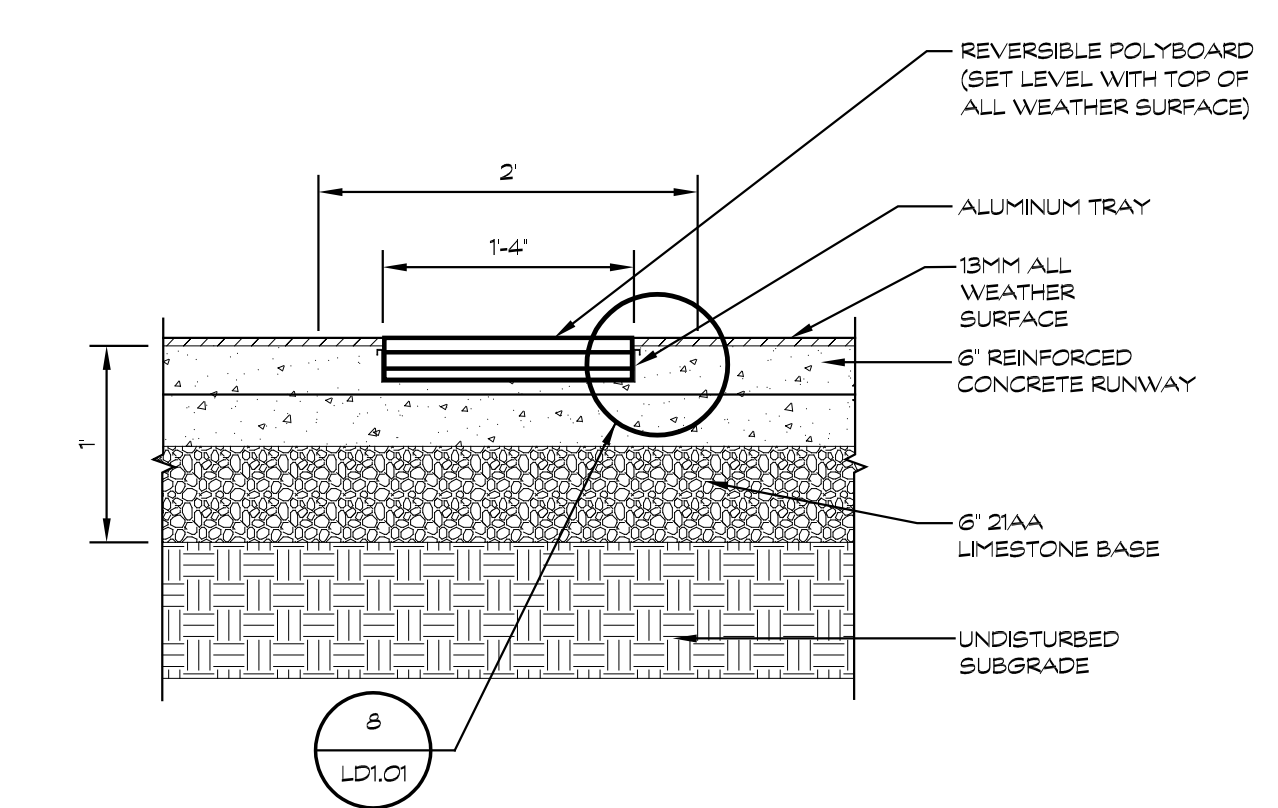
3 SUB DRAINAGE SYSTEM
SCALE 1/4"=1'-0"



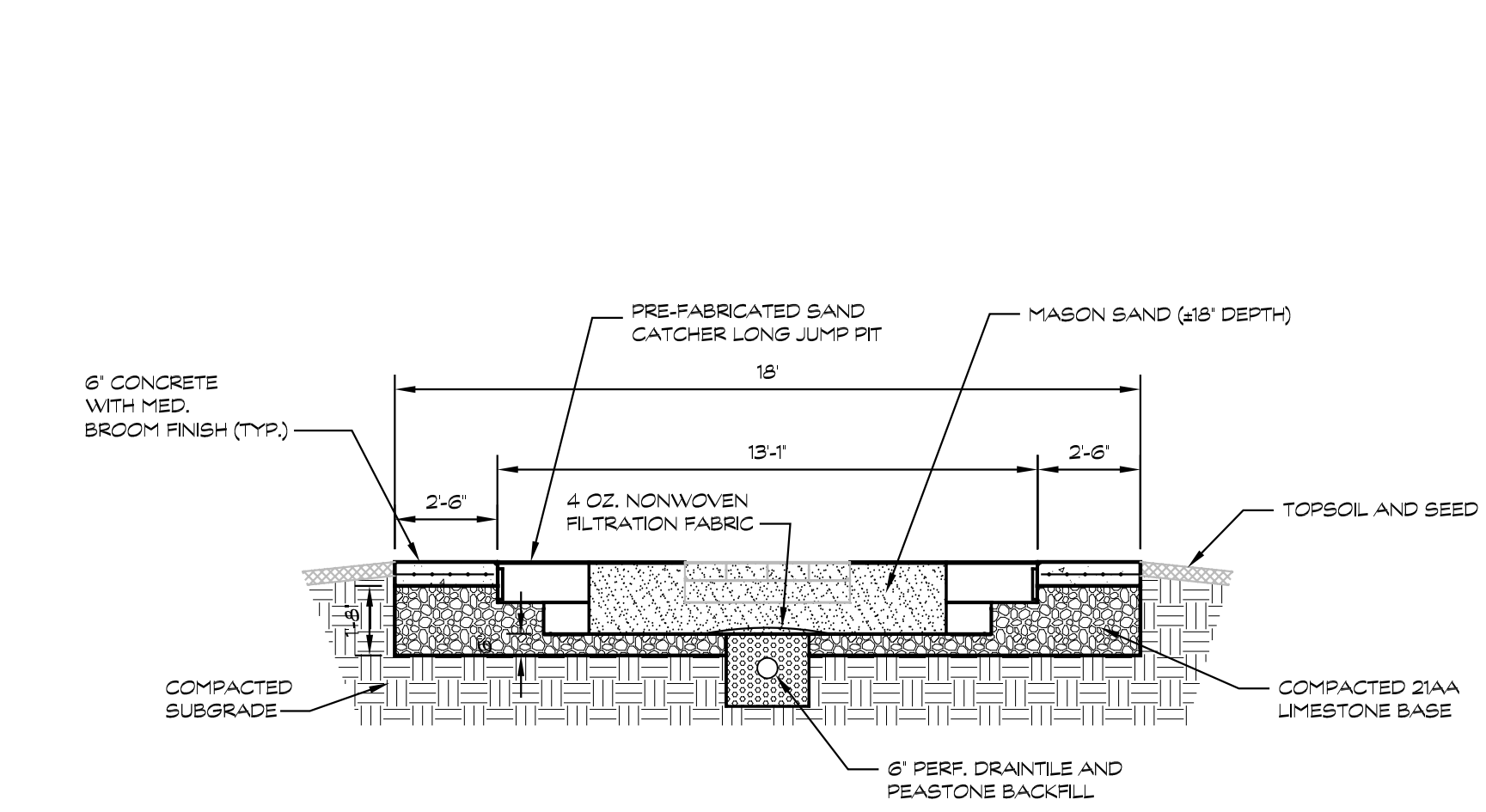
4 SUB DRAINAGE SYSTEM
SCALE 1/4"=1'-0"



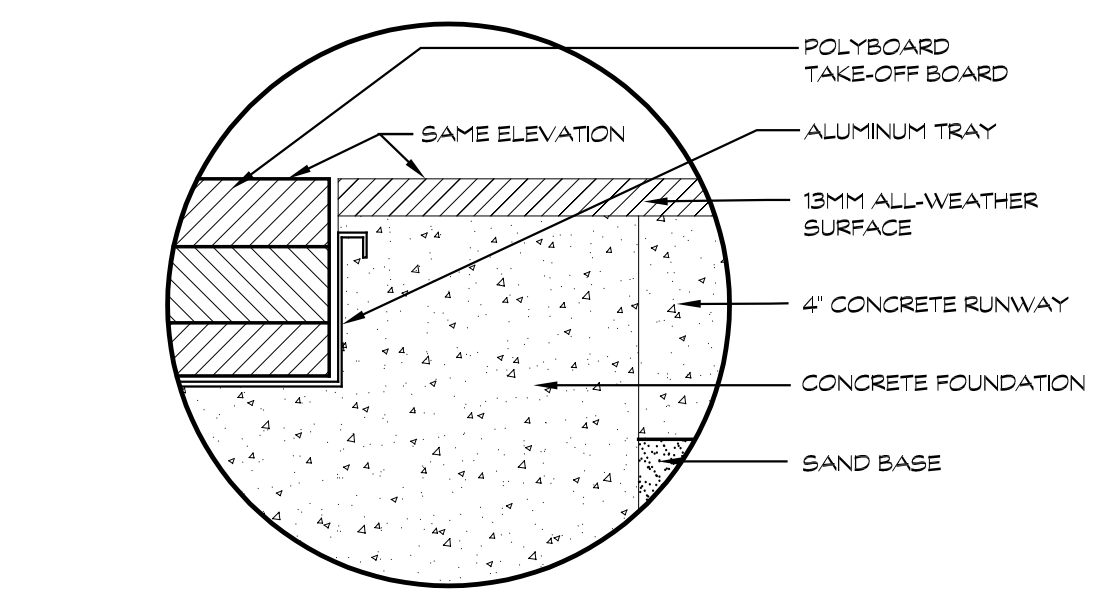
5 LONG JUMP DETAIL
SCALE 1/16"=1'-0"



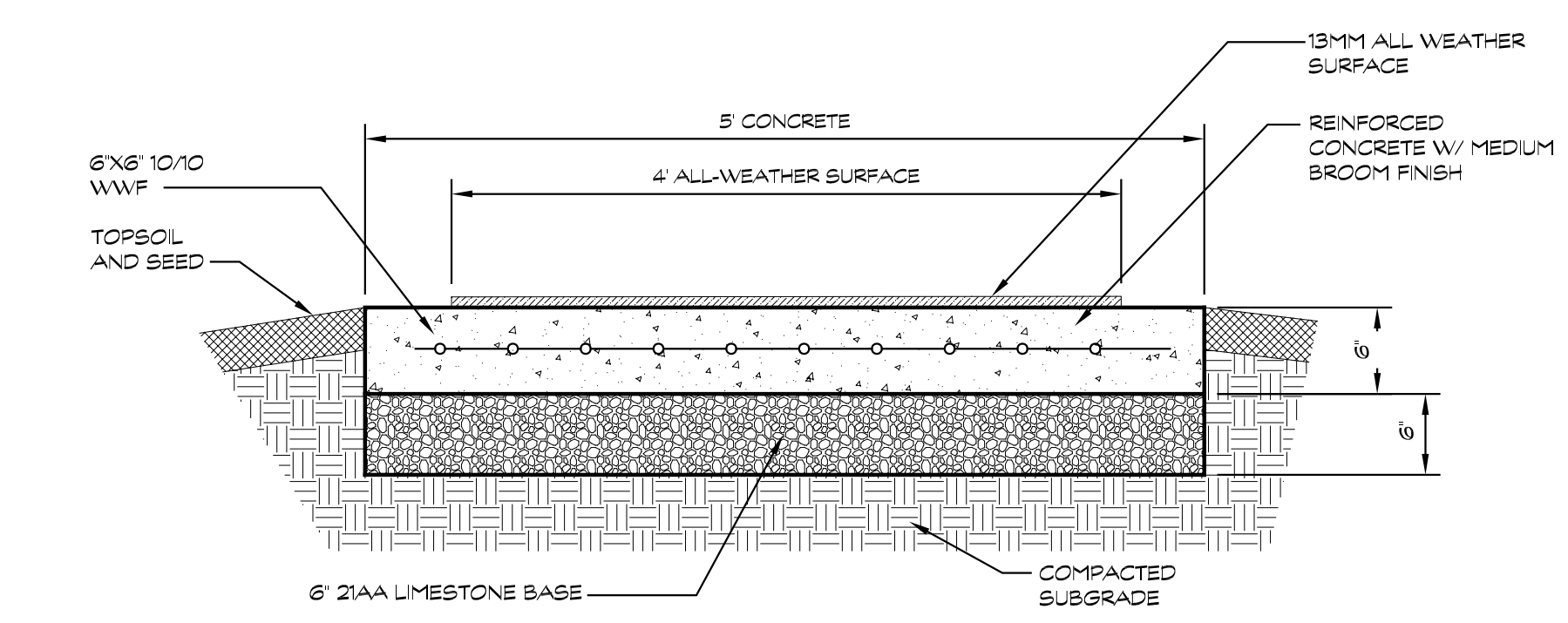
6 TAKE-OFF BOARD SECTION
SCALE 1/16"=1'-0"



7 LONG JUMP PIT/RUNWAY SECTION
SCALE 1/4"=1'-0"



8 TAKE-OFF BOARD SECTION
SCALE 1/4"=1'-0"



9 CONCRETE RUNWAY SECTION
SCALE 1/4"=1'-0"

NOTE:
1. TAKE-OFF BOARD AND TRAY MUST BE INSTALLED PRIOR TO INSTALLATION OF THE ALL-WEATHER SURFACE. SEE MFR. CUT SHEET FOR TRAY INSTALLATION.
2. ARTIFICIAL RUNWAY SURFACE SHOULD BE TRIMMED EVEN WITH THE INSIDE EDGE OF THE TRAY.
3. THE TOP OF THE TAKE-OFF BOARD SHALL BE LEVEL WITH TOP OF ALL-WEATHER SURFACE. ADJUST AS REQUIRED FOR DIFFERENT SURFACE THICKNESS.

PROPOSED SYNTHETIC TURF COLORS

- FIELD GREEN
- LIME GREEN (CENTERFIELD LETTERING)
- WHITE (FOOTBALL MARKINGS, LOGOS, FIELD NUMBERS)
- BLACK (RESTRAINING AREA, LOGOS, FIELD NUMBER SHADOW, SOCCER HALFWAY LINE)

- GRAY (CENTERFIELD LOGO, TEAMBOX, SOCCER LINES)
- RED (CENTERFIELD LOGO, WOMEN'S LACROSSE TICK MARKS)
- ROYAL BLUE (MEN'S LACROSSE TICK MARKS)

- NOTES:
1. THE ENCLOSED RENDERINGS ARE FOR REFERENCE PURPOSES ONLY.
 2. COLORS AND LAYOUTS SHOWN REPRESENT GRAPHICAL INTENT ONLY AND COLORS SHOWN SHALL NOT BE REGARDED AS ACTUAL COLORS OF INSTALLED PRODUCTS.
 3. MANUFACTURERS SHALL INCORPORATE STANDARD MANUFACTURER COLORS WITHIN PRODUCTION.
 4. DUE TO VARIATIONS IN MONITOR AND PRINTER SETTINGS WHEN VIEWING THESE REFERENCE SHEETS, THERE IS NO GUARANTEE THAT COLORS SHOWN WILL MATCH COLOR OF INSTALLED PRODUCT.

REVISIONS

PROJECT

**TROY H.S. &
BOULAN PARK M.S.**

**2023 SYNTHETIC TURF
AND TRACK RENOVATIONS**

OWNER

**TROY SCHOOL DISTRICT
TROY, MI**



**FORESITE
design**

ATHLETIC FACILITY PLANNING * SITE PLANNING *
CONSULTING * LANDSCAPE ARCHITECTURE

3269 COOLIDGE HWY * BERKLEY, MI 48072
PH. 248.547.7757 * FAX 248.547.0218
WWW.FORESITEDESIGN.COM



DRAWINGS ARE PROPERTY OF FORESITE DESIGN, INC. AND ARE NOT TO BE USED, REPRODUCED, OR PUBLISHED IN PART OR WHOLE, WITHOUT EXPRESSED WRITTEN PERMISSION FROM FORESITE DESIGN, INC. COPYRIGHT 2022.

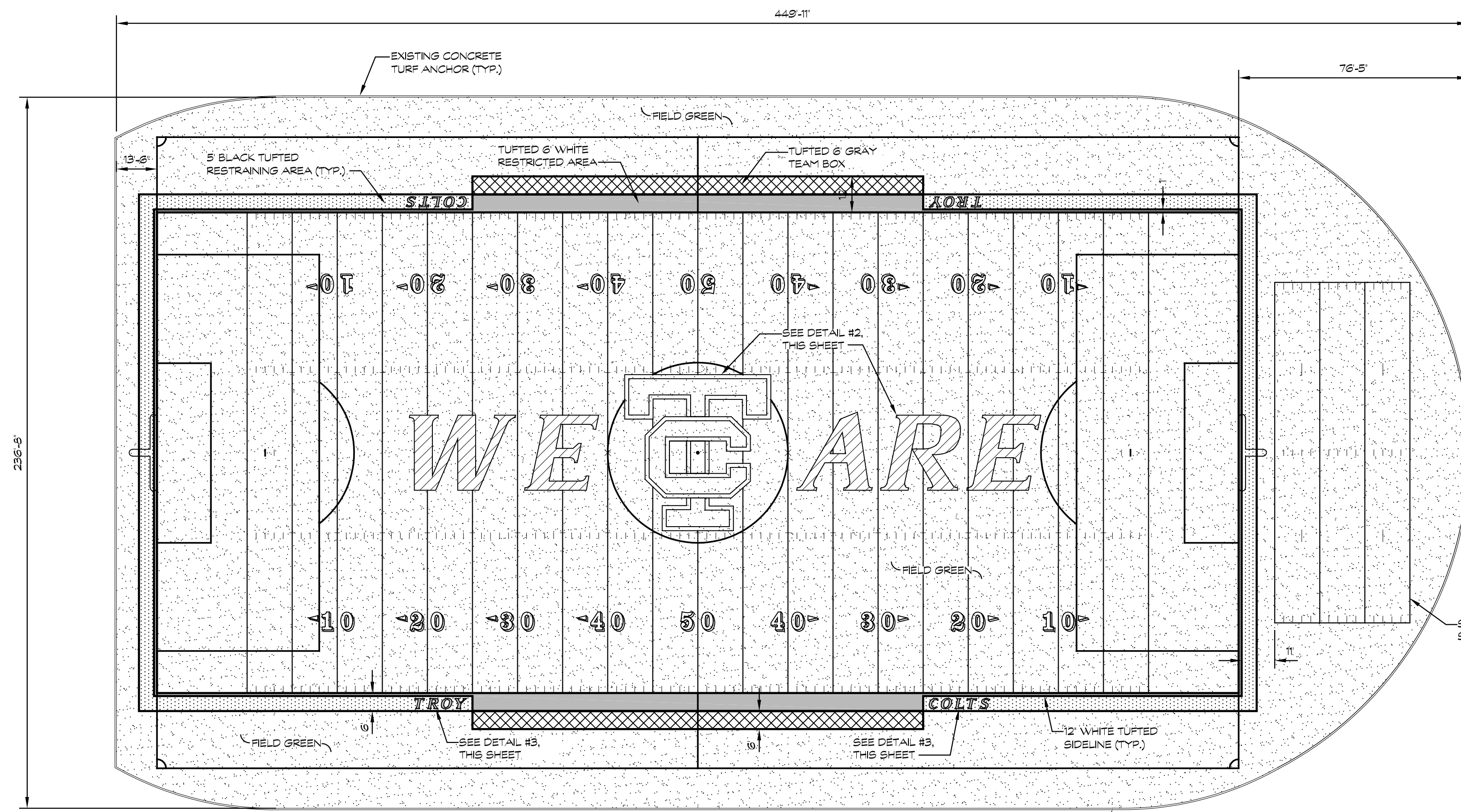
SHEET TITLE

**FIELD GRAPHICS
TURF REFERENCE DETAILS**

1 PROPOSED ATHLETIC
IMPROVEMENTS REFERENCE GRAPHICS
N.T.S.

DWN. BY MDS	CHK BY CAO
DATE 11/28/22	SCALE AS SHOWN
SHEET NO.	

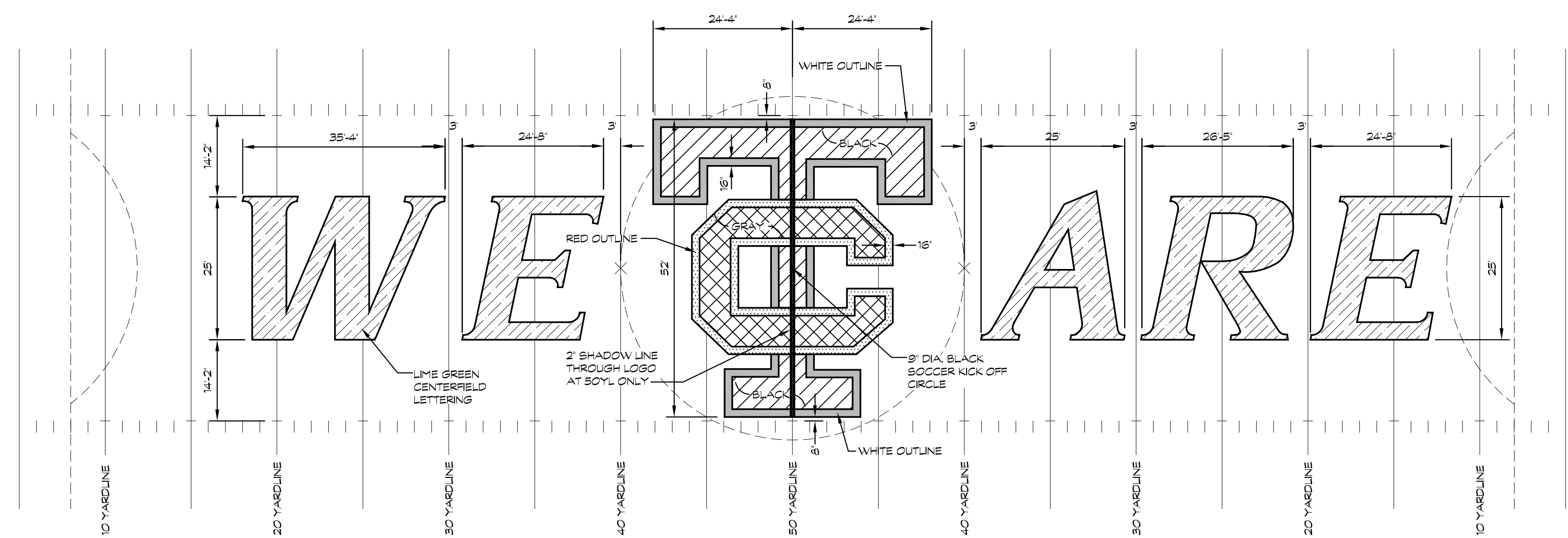
LD1.03



LEGEND

- FIELD GREEN
- LIME GREEN
- WHITE
- BLACK
- GRAY

1 SYNTHETIC TURF LAYOUT
SCALE 1/320'-0"

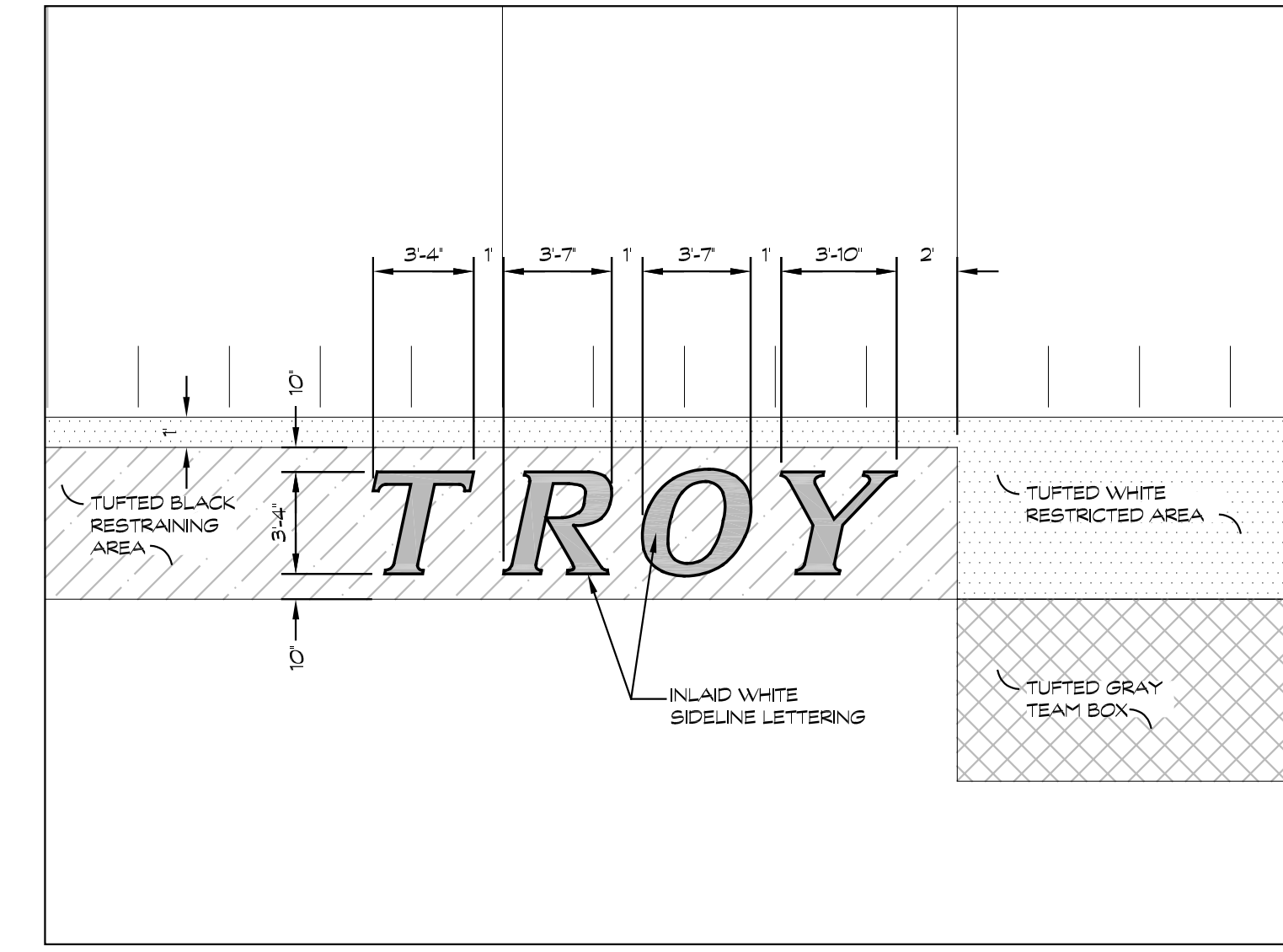


NOTE
CENTERFIELD LOGO & LETTERING IS TO BE DOMINANT OVER 45 YARDLINES & SOCCER CIRCLE

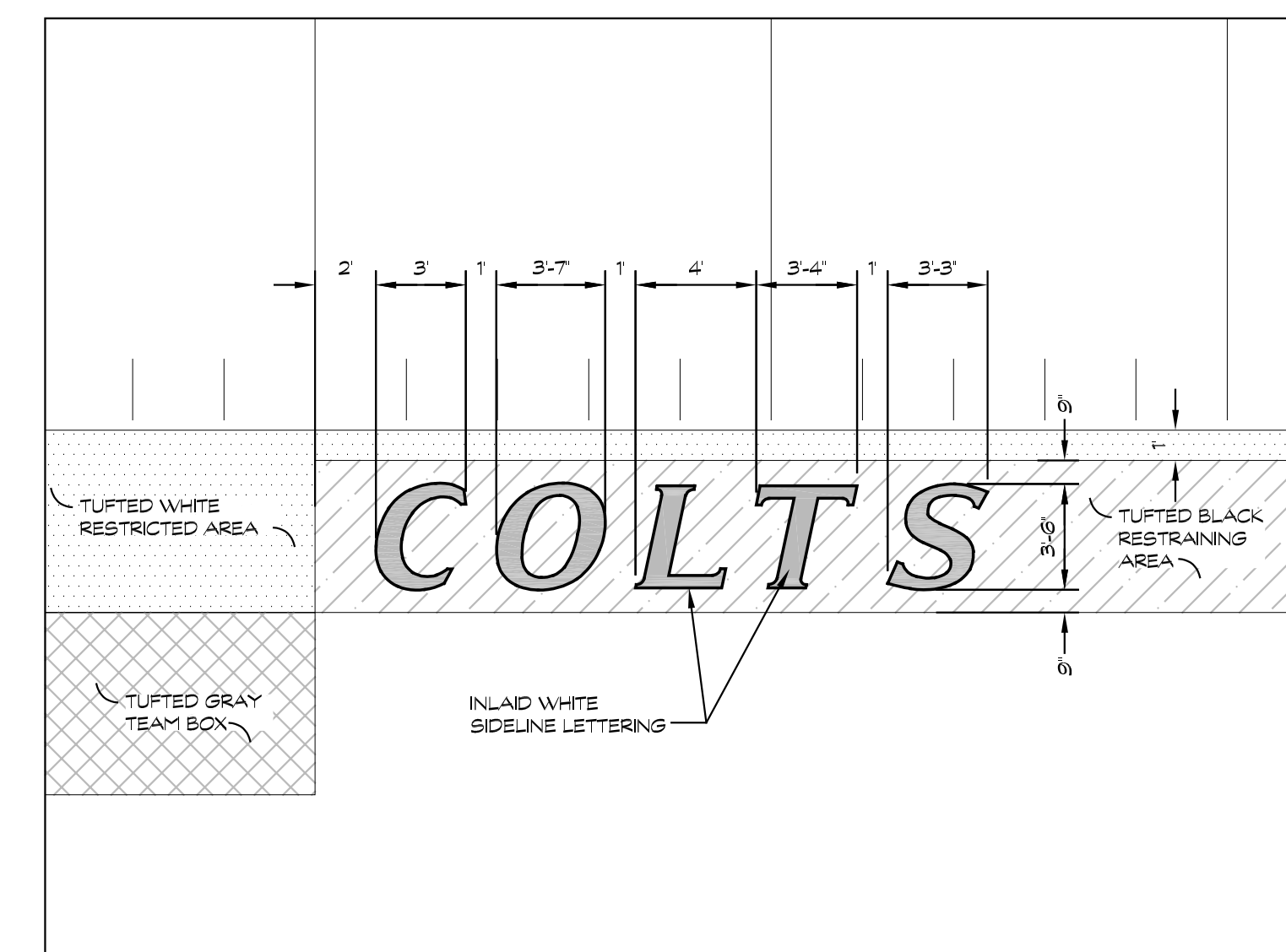
2 CENTERFIELD LOGO & LETTERING DETAIL
SCALE 1/16'-0"

LEGEND

- LIME GREEN
- WHITE
- BLACK
- RED
- GRAY



3 SIDELINE LETTERING DETAIL
SCALE 3/16'-0"



REVISIONS

PROJECT

TROY H.S. & BOULAN PARK M.S.

2023 SYNTHETIC TURF AND TRACK RENOVATIONS

OWNER

TROY SCHOOL DISTRICT TROY, MI

FORESITE design

ATHLETIC FACILITY PLANNING • SITE PLANNING • CONSULTING • LANDSCAPE ARCHITECTURE

3269 COOLIDGE HWY • BERKLEY, MI 48072
PH. 248.547.7757 • FAX 248.547.0218
WWW.FORESITEDESIGN.COM

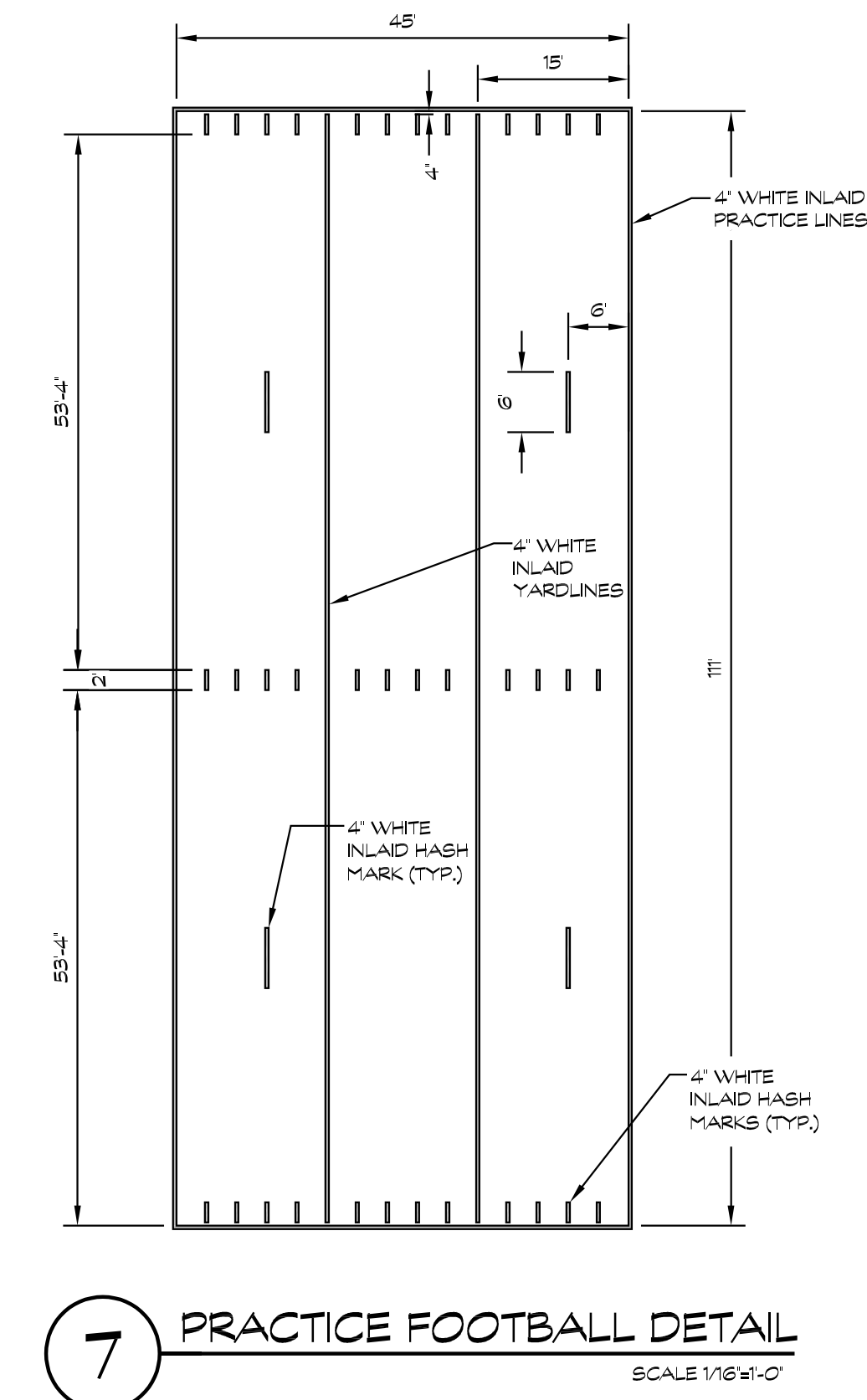
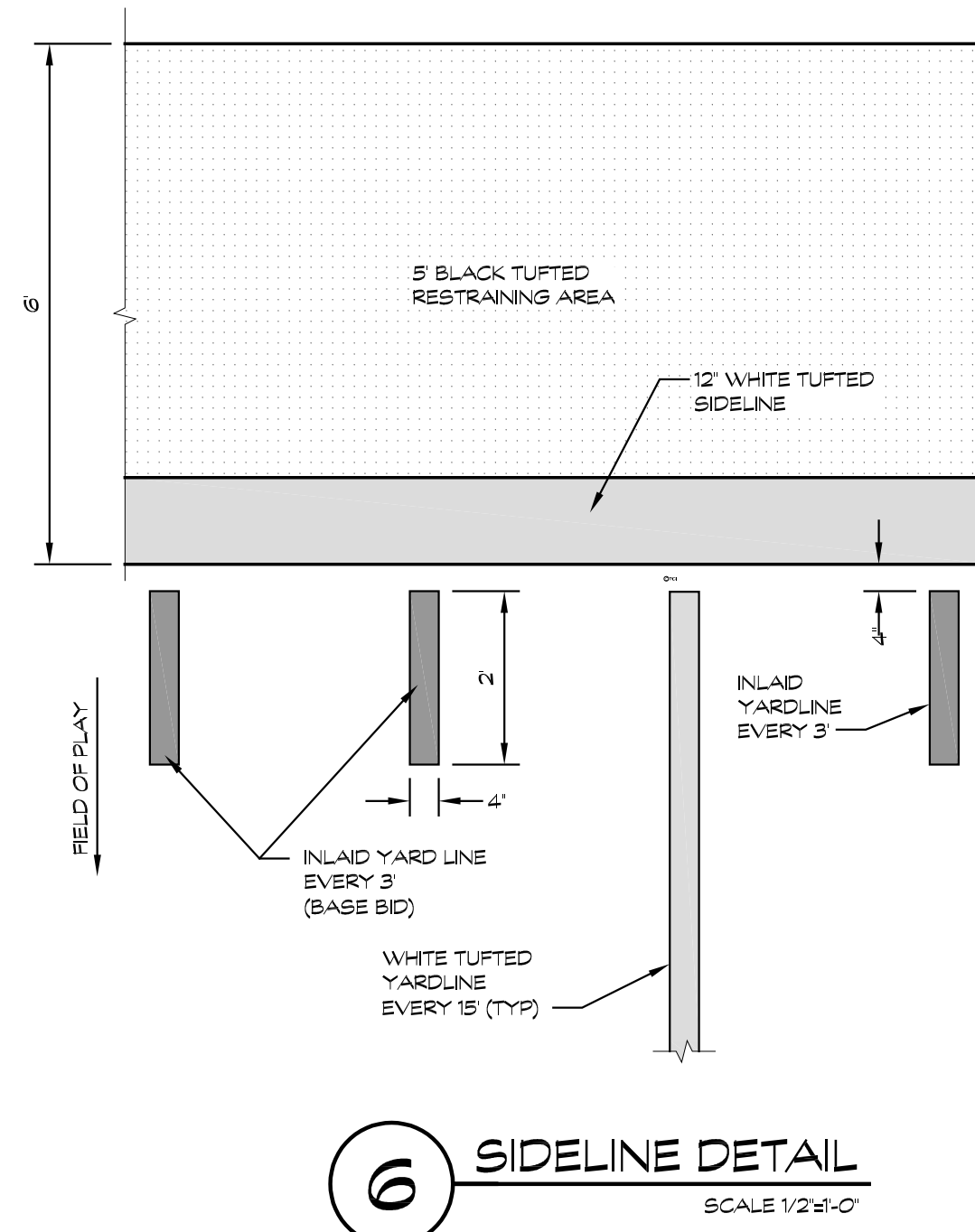
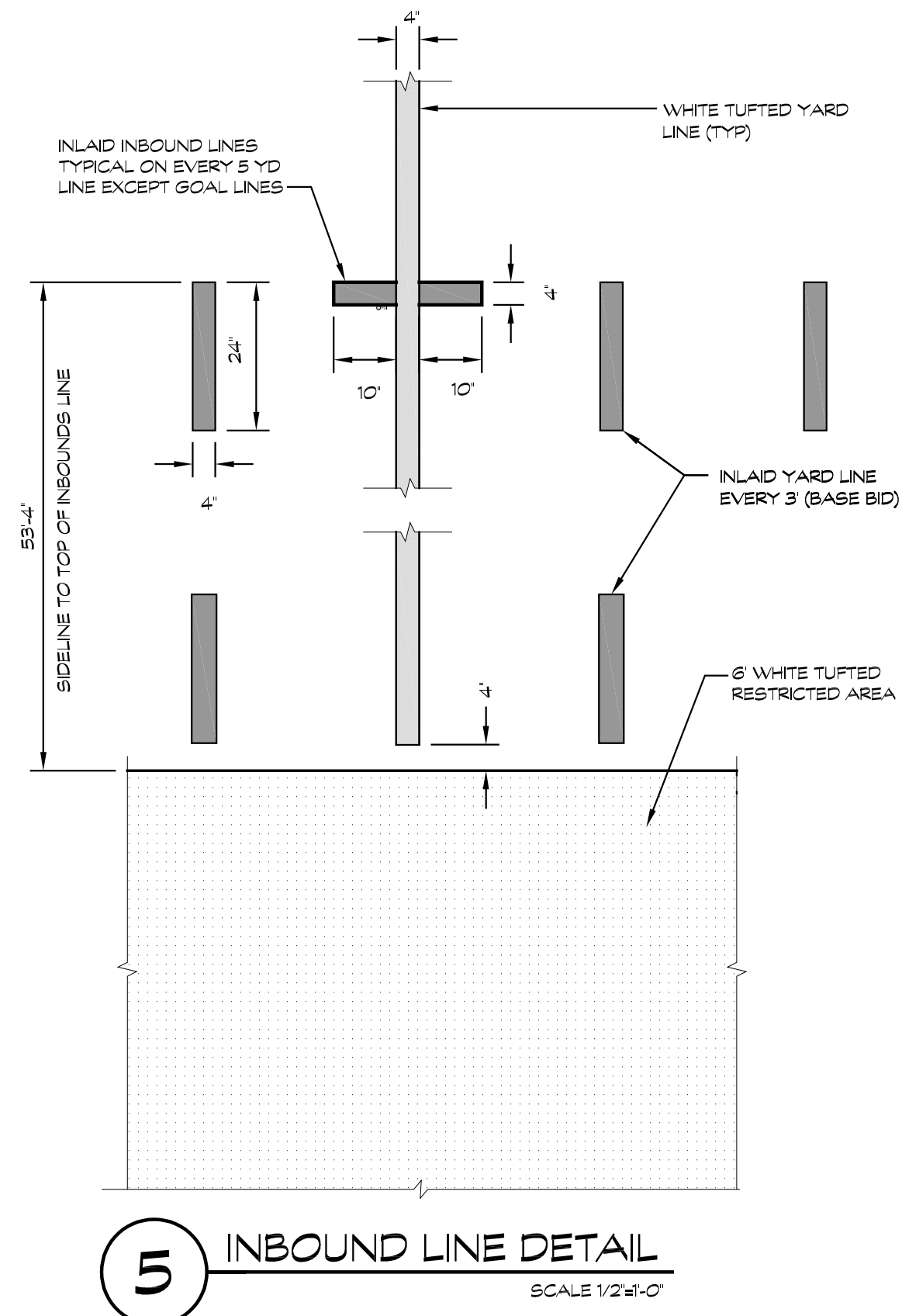
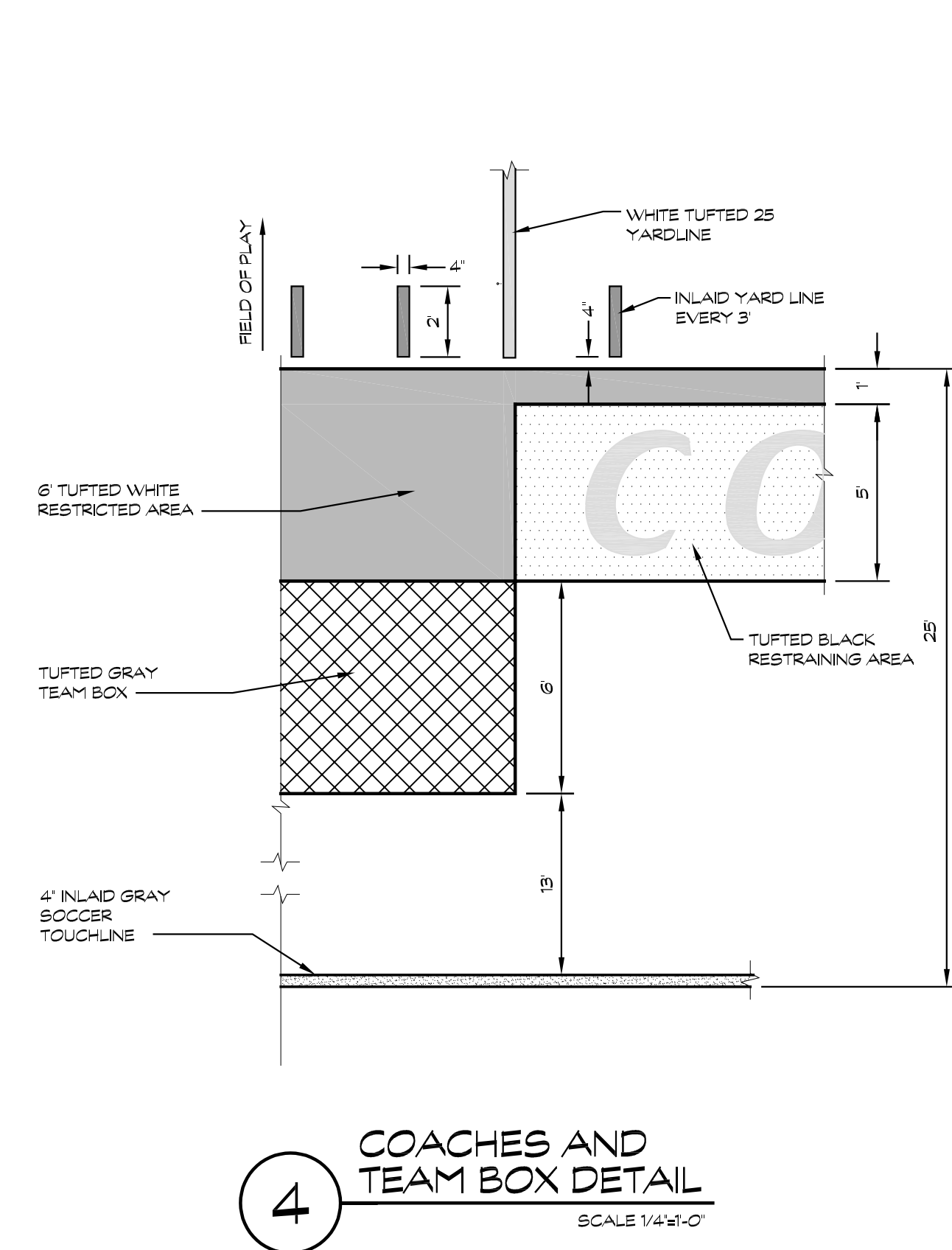
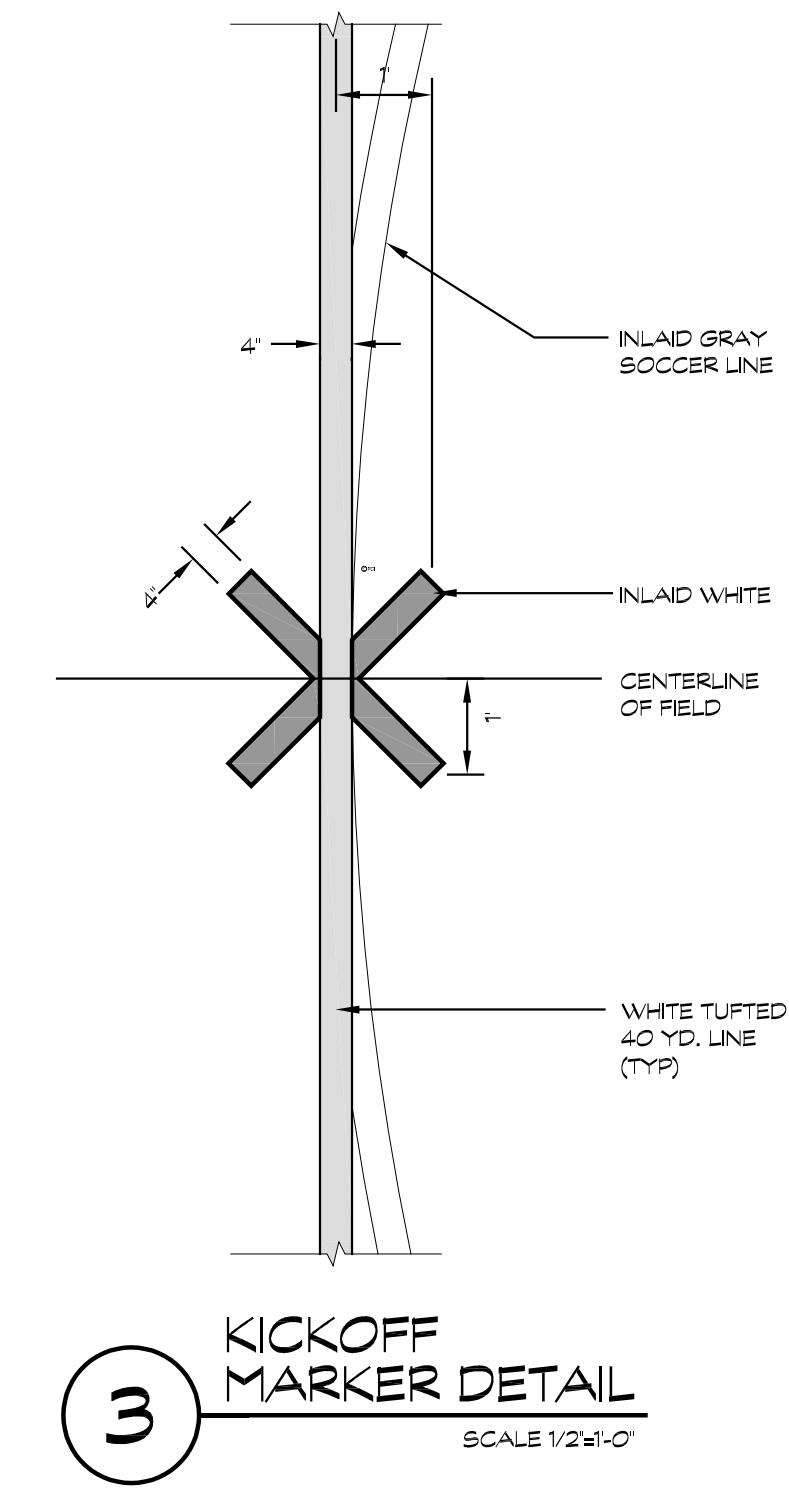
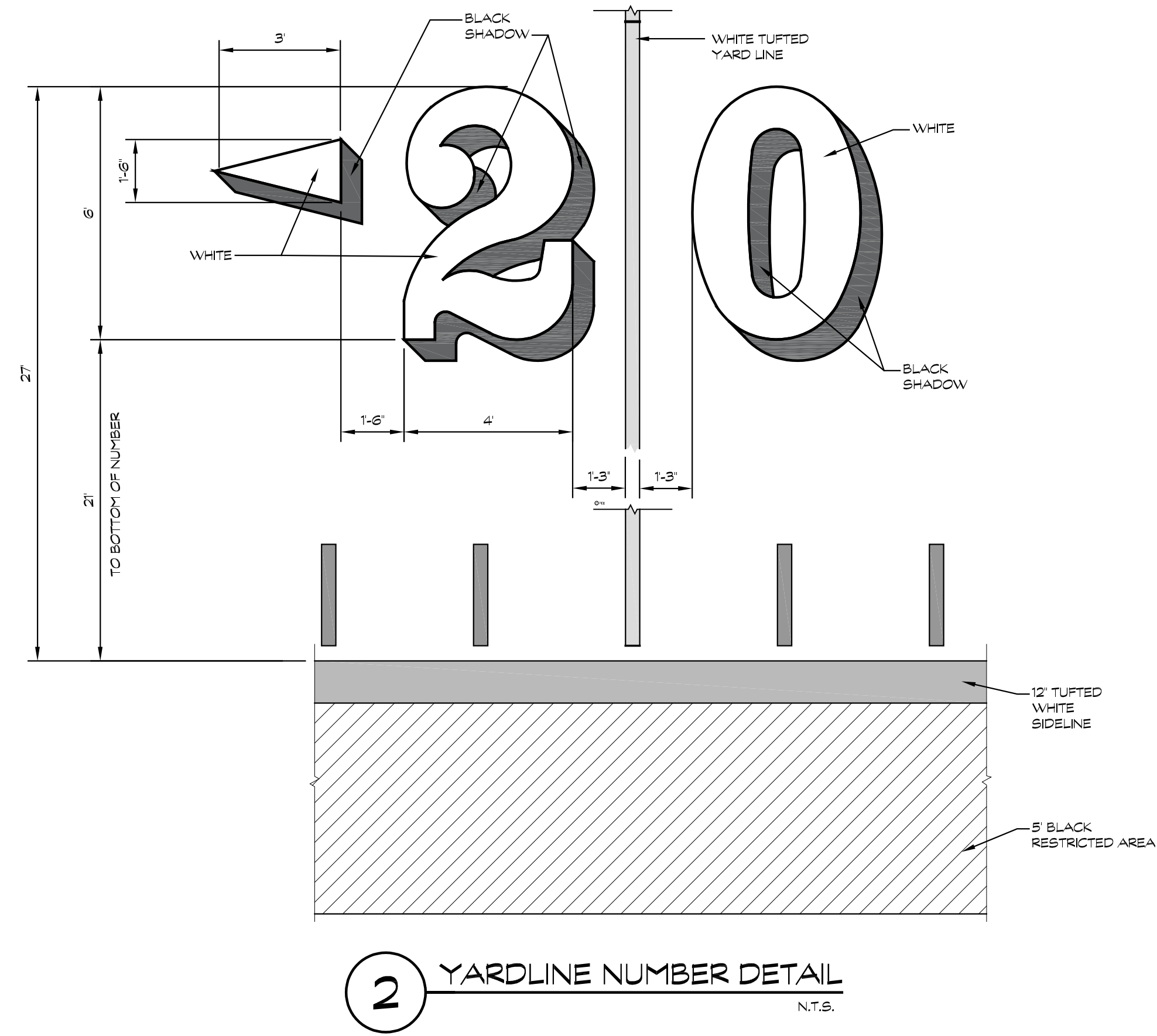
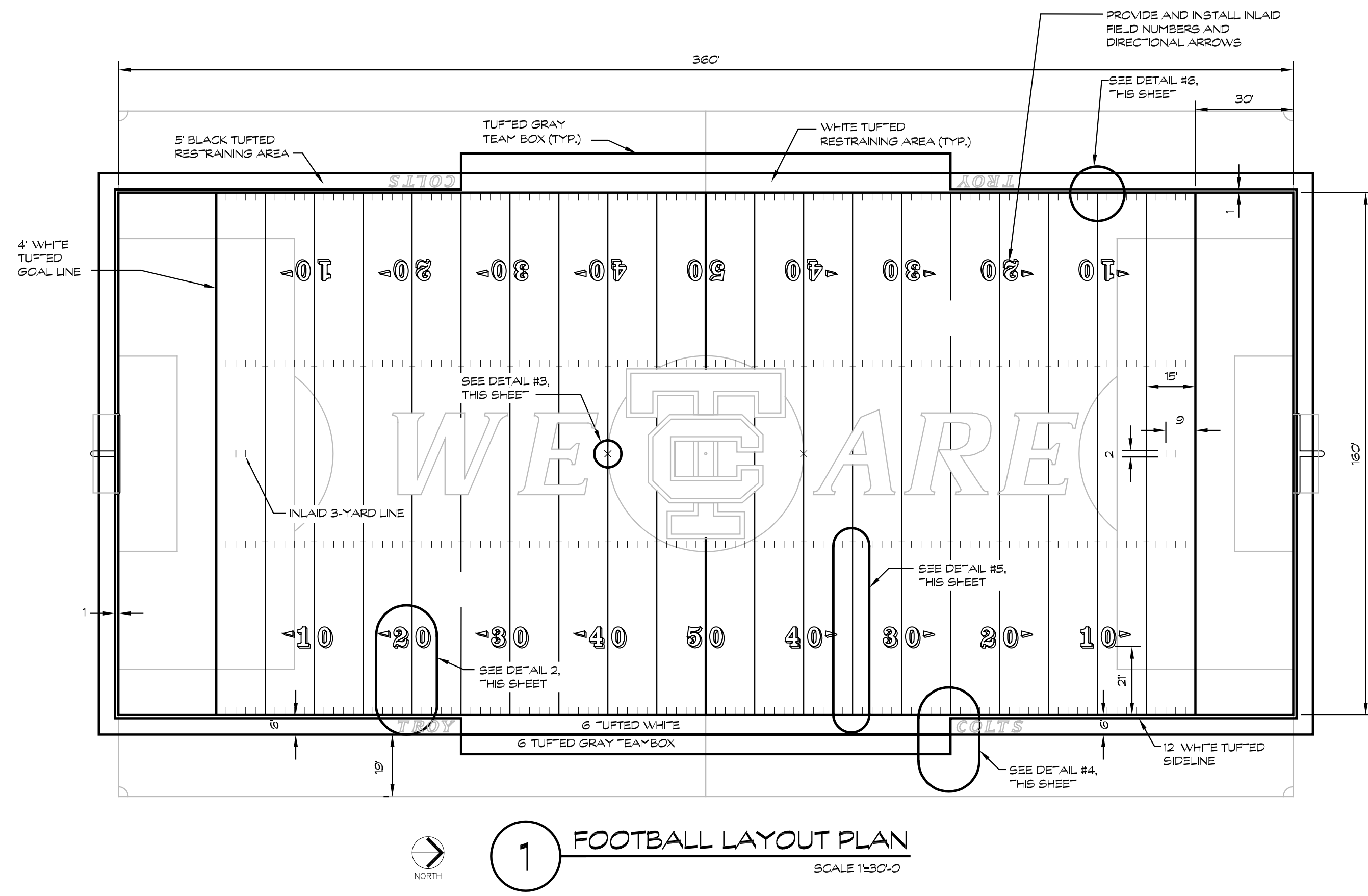
DRAWINGS ARE PROPERTY OF FORESITE DESIGN, INC. AND ARE NOT TO BE USED, REPRODUCED, OR PUBLISHED IN PART OR WHOLE, WITHOUT EXPRESSED WRITTEN PERMISSION FROM FORESITE DESIGN, INC. COPYRIGHT 2022.

SHEET TITLE
FIELD GRAPHICS DETAILS

DWN. BY MDS	CHK. BY CAO
DATE 11/28/22	SCALE AS SHOWN

SHEET NO.

LD1.04



FOOTBALL NOTES:

- CONTRACTOR SHALL VERIFY ALL DIMENSIONS. ALL LINE WORK IS TO BE LAID OUT WITH A TOLERANCE OF 1/4 INCH.
- ALL YARDLINES SHALL BE 4 INCH, WHITE TUFTED TURF, REFER TO DETAIL 5.
- A 1 FOOT (12 INCH) WHITE, TUFTED SIDELINE WILL SURROUND THE ENTIRE PLAYING FIELD.
- 24 INCH SHORT YARDLINE MARKS, 4 INCHES FROM THE SIDELINES SHALL BE 4 INCHES WIDE, WHITE, TUFTED LINES. REFER TO DETAIL 6.
- THE RESTRICTED AREA SHALL CONSIST OF A 5' (60 INCH) BLACK TUFTED PANEL SURROUNDING THE ENTIRE FIELD. THE TEAM BOX BETWEEN THE 25 YARDLINES, SHALL BE PER NFHS/A RULES AND SHALL BE A 6'-0" WIDE TUFTED GRAY PANEL. REFER TO PLAN AND DETAIL #4.
- THE TWO INBOUNDS LINES ARE 53 FEET 4 INCHES FROM THE SIDELINES. INBOUNDS LINES AND SHORT YARDLINE EXTENSIONS SHALL BE 24 INCHES LONG AND 4 INCHES WIDE, INLAIN - INBOUND ONLY, REFER TO DETAIL 5.
- THE EXTRA POINT LINES ARE 6 FEET LONG, 4 INCHES WIDE, WHITE TUFTED LINES AT THE CENTERLINE OF THE FIELD AND THE 3 YARDLINE ON EACH END OF THE FIELD. REFER TO PLAN FOR LOCATION.
- INLAIN WHITE 'GETTYSBURG' YARDLINE NUMBERS AND DIRECTIONAL ARROWS WITH A BLACK SHADOW, MEASURING 6 FEET IN HEIGHT AND 4 FEET IN WIDTH TO THE OUTSIDE OF THE WHITE SHALL BE 21 FEET FROM THE SIDELINE TO THE BOTTOM OF THE NUMBER. REFER TO DETAIL 2.
- AN 'X' WILL MARK THE SPOT OF THE KICKOFF AT THE 40 YARDLINE ON EACH END OF THE FIELD AND SHALL BE DIMENSIONED AS PER DETAIL 3. THE 40 YARDLINE IS WHITE TUFTED TURF AND THE EXTENSIONS TO FORM THE X ARE INLAIN WHITE.
- CENTERFIELD LOGO SHALL BE DOMINANT THROUGH 45 & 50 YARDLINES. SHEET LD1.03 FOR ADDITIONAL DETAILS.

REVISIONS

PROJECT

TROY H.S. & BOULAN PARK M.S.

2023 SYNTHETIC TURF AND TRACK RENOVATIONS

OWNER

TROY SCHOOL DISTRICT TROY, MI



ATHLETIC FACILITY PLANNING * SITE PLANNING * CONSULTING * LANDSCAPE ARCHITECTURE
3269 COOLIDGE HWY * BERKLEY, MI 48072
PH. 248.547.7757 * FAX 248.547.0218
WWW.FORESITEDESIGN.COM

DRAWINGS ARE PROPERTY OF FORESITE DESIGN, INC. AND ARE NOT TO BE USED, REPRODUCED, OR PUBLISHED IN PART OR WHOLE, WITHOUT EXPRESSED WRITTEN PERMISSION FROM FORESITE DESIGN, INC. COPYRIGHT 2022.

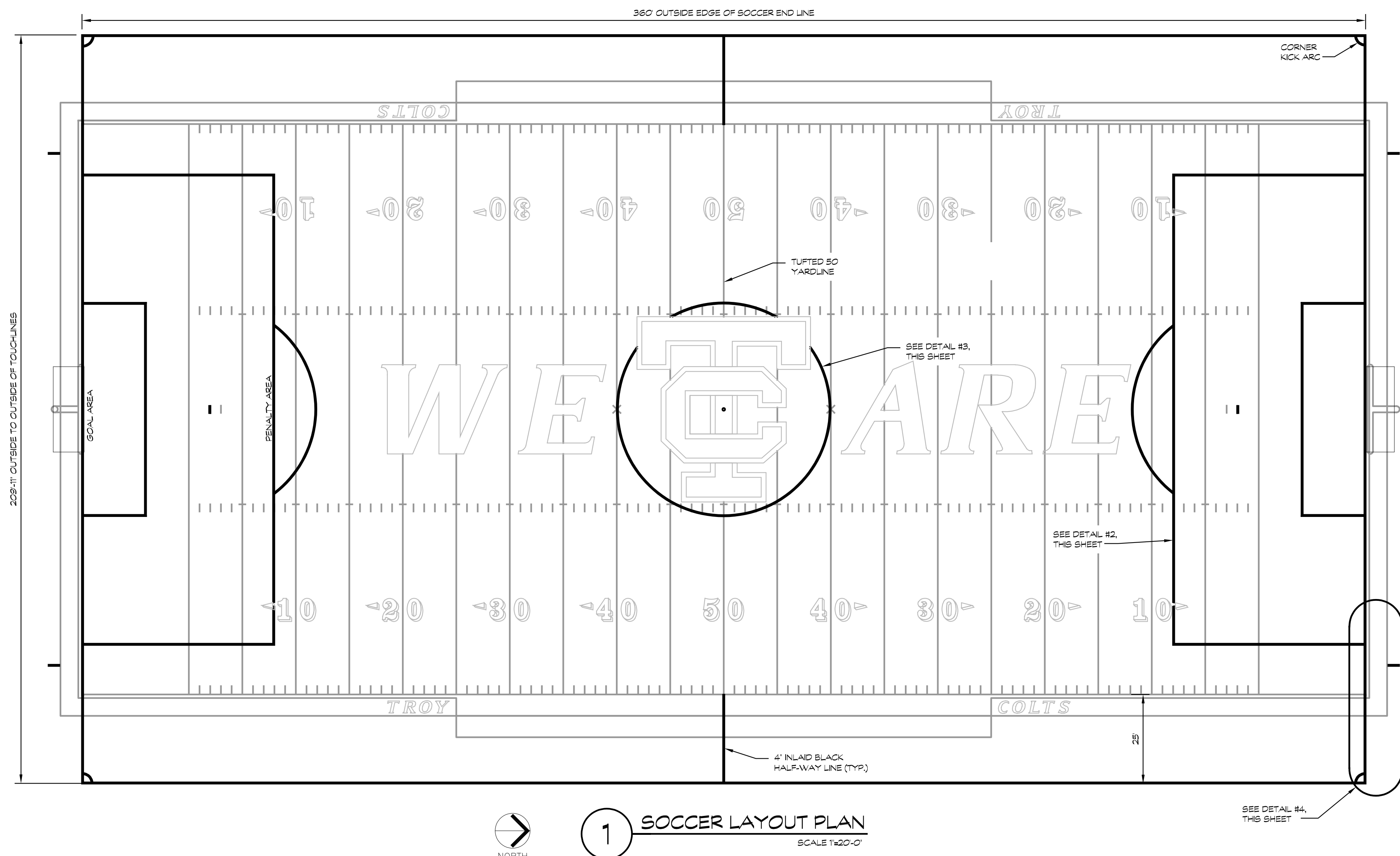
SHEET TITLE

FOOTBALL DETAILS

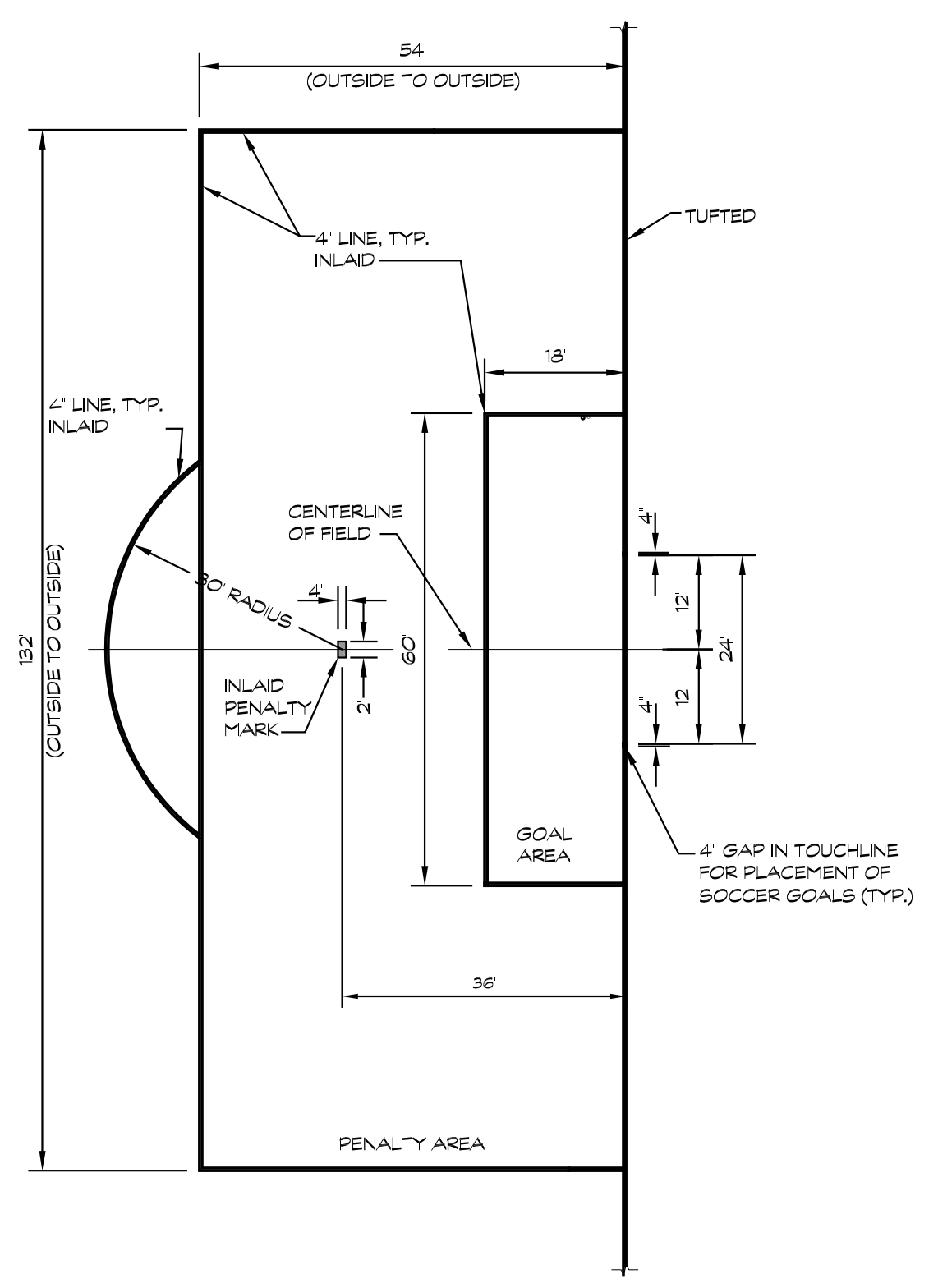
DWN. BY MDS	CHK. BY CAO
DATE 11/29/22	SCALE AS SHOWN

SHEET NO.

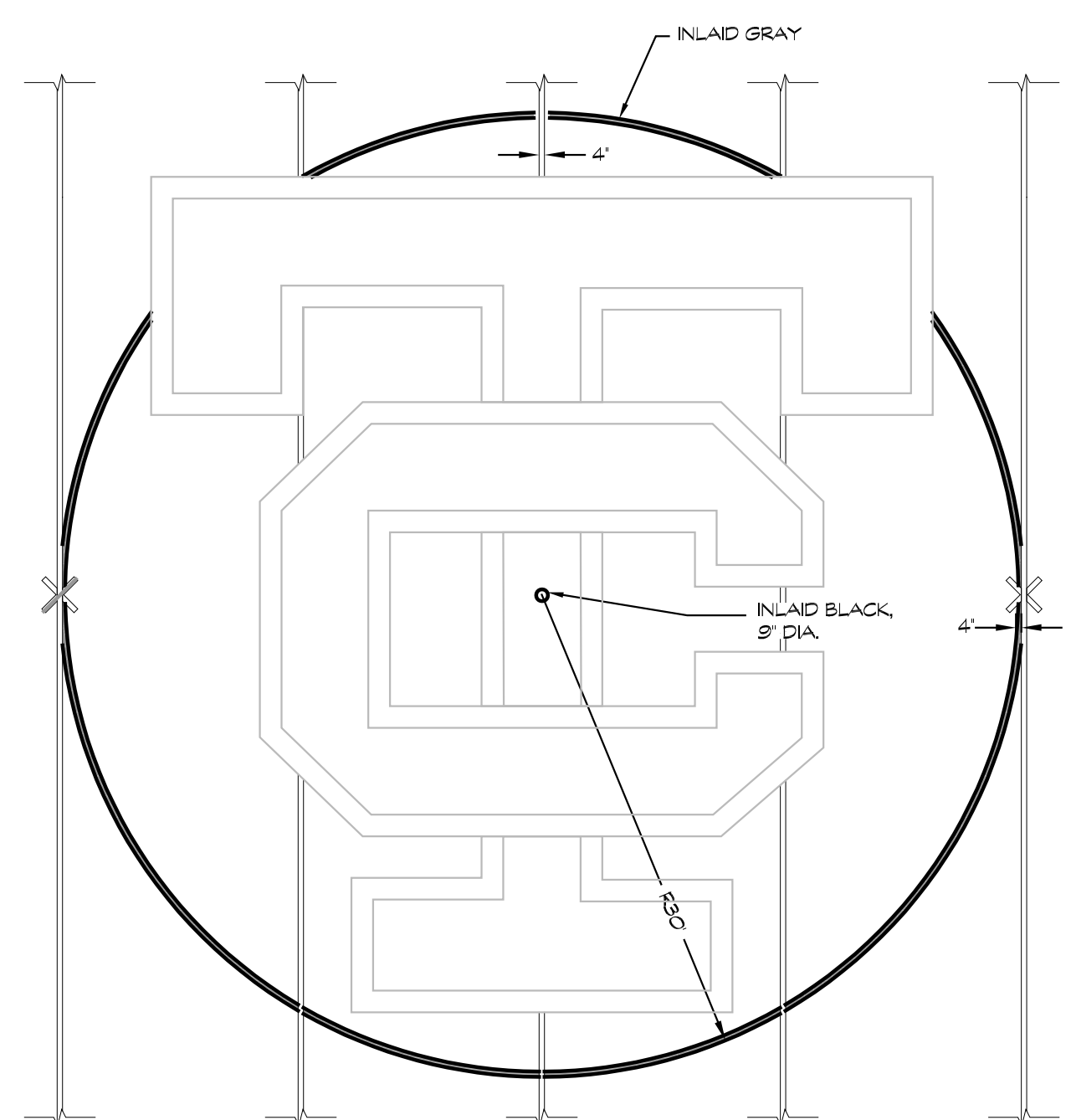
LD1.05



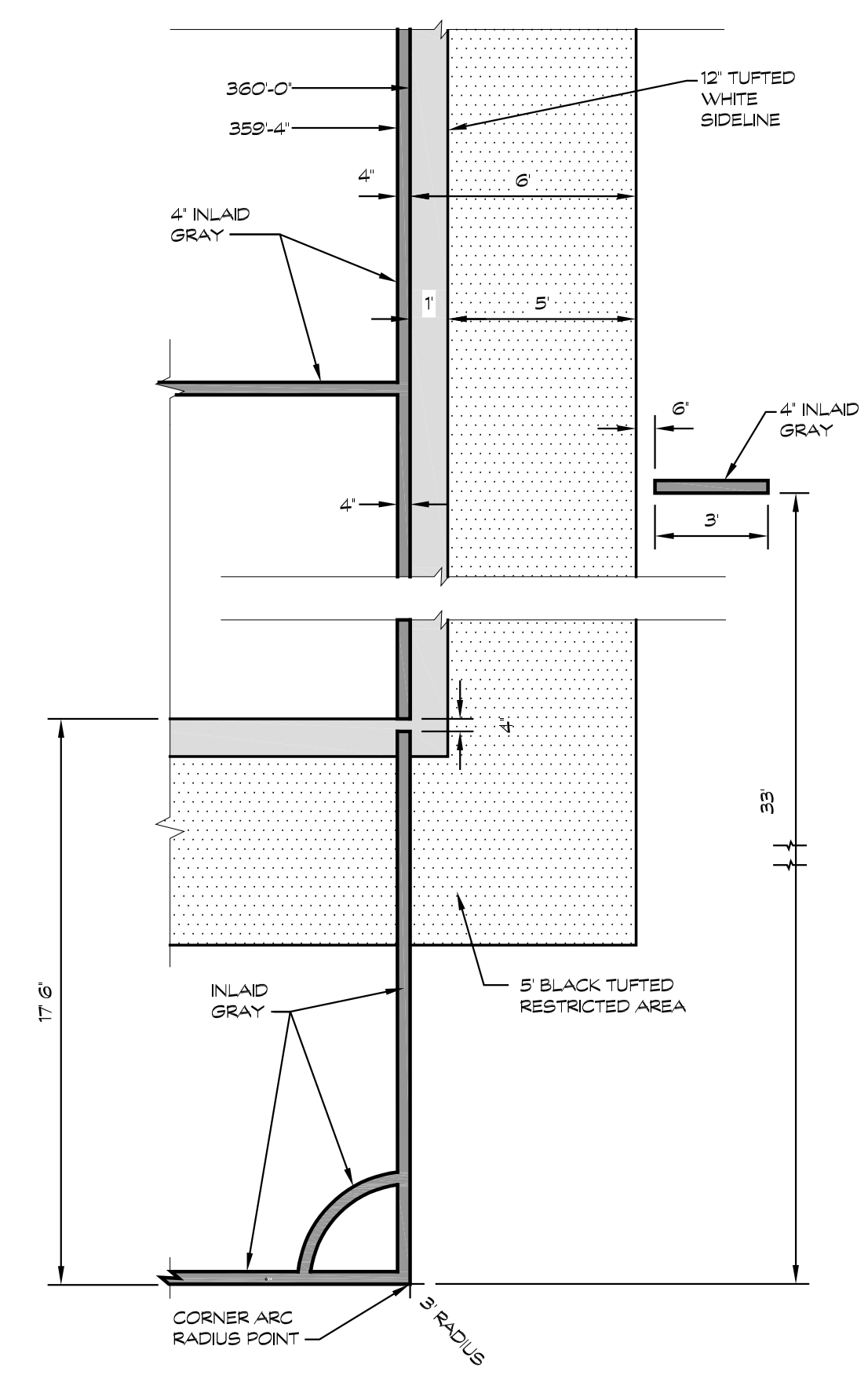
1 SOCCER LAYOUT PLAN
SCALE 1/4" = 1'-0"



2 GOAL AREA DETAIL
SCALE 1/8" = 1'-0"



3 CENTER CIRCLE DETAIL
SCALE 1/8" = 1'-0"



4 CORNER KICK DETAIL
SCALE 1/4" = 1'-0"

SOCCER LAYOUT NOTES

1. CONTRACTOR SHALL VERIFY ALL DIMENSIONS. ALL LINE WORK SHALL BE LAID OUT WITH A TOLERANCE OF 1/4" INCH.
2. ALL SOCCER LINES ARE 4" INCH GRAY INLAID TURF AS DIMENSIONED ON THE SOCCER LAYOUT PLAN.
3. THE SOCCER GOAL AREA IS 18' X 60'. REFER TO PLAN FOR LOCATION. THE SOCCER PENALTY AREA IS 54' X 132'. REFER TO PLAN FOR LOCATION.
4. THE PENALTY MARK IS AN INLAID GRAY LINE, 24" IN LENGTH, 4" WIDE, 36" FROM GOAL LINE AND CENTERED ON THE GOAL. THE RESTRAINING LINE FOR PENALTY KICKS IS AN ARC 30' FROM THIS MARK OUTSIDE OF THE PENALTY AREA. REFER TO THE PLAN FOR LOCATION.
5. THE HALFWAY LINE FOR THE SOCCER FIELD IS A 4" BLACK LINE TO CONTRAST WITH THE PROPOSED TEAM-BONES. THE 50 YARDLINE OF THE FOOTBALL FIELD SHALL BE WHITE AND DOMINANT AS SHOWN ON THE FOOTBALL LAYOUT PLAN AND THE SOCCER LINE WILL EXTEND BEYOND THE FOOTBALL SIDELINES.
6. THE CORNERS OF THE SOCCER FIELD SHALL HAVE A 3' ARC RADIUS IN GRAY DESIGNATING THE CORNER KICK AREA. REFER TO DETAIL #4, THIS SHEET.
7. A CIRCLE 30' IN RADIUS IN THE CENTER OF THE FIELD SHOULD BE 4" INLAID GRAY IN COLOR. THE CENTER KICK-OFF CIRCLE IS A 9' DIAMETER CIRCLE, INLAID BLACK. REFER TO DETAIL #3, THIS SHEET.

REVISIONS

PROJECT

TROY H.S. & BOULAN PARK M.S.

2023 SYNTHETIC TURF AND TRACK RENOVATIONS

OWNER

TROY SCHOOL DISTRICT
TROY, MI

FORESITE design

ATHLETIC FACILITY PLANNING * SITE PLANNING * CONSULTING * LANDSCAPE ARCHITECTURE

3269 COOLIDGE HWY * BERKLEY, MI 48072
PH. 248.547.7757 * FAX 248.547.0218
WWW.FORESITEDESIGN.COM

DRAWINGS ARE PROPERTY OF FORESITE DESIGN, INC. AND ARE NOT TO BE USED, REPRODUCED, OR PUBLISHED IN PART OR WHOLE, WITHOUT EXPRESSED WRITTEN PERMISSION FROM FORESITE DESIGN, INC. COPYRIGHT 2022.

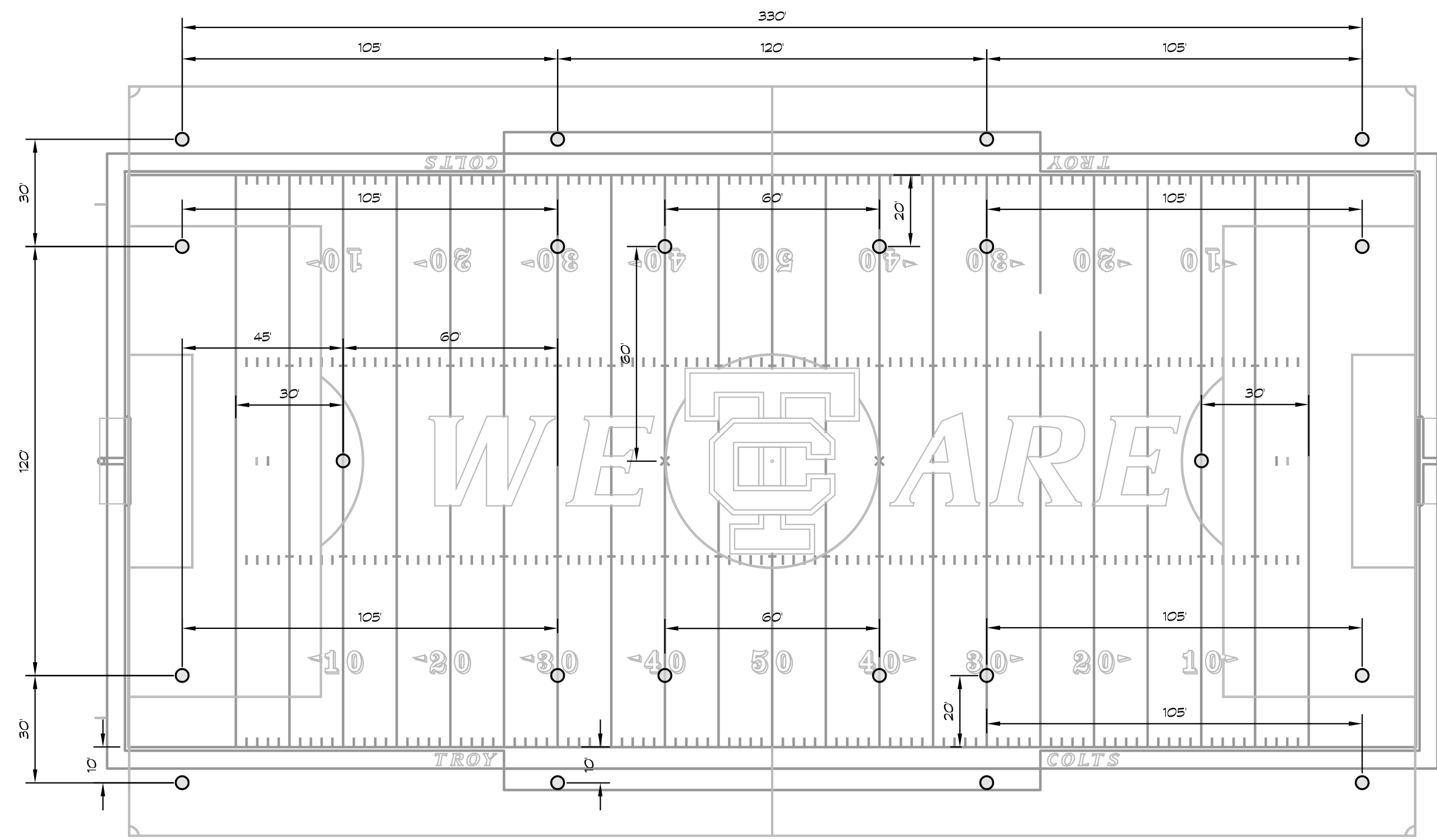
SHEET TITLE

SOCCER DETAILS

DWN. BY MDS	CHK BY CAO
DATE 11/28/22	SCALE AS SHOWN

SHEET NO.

LD1.06



1 MENS LACROSSE LAYOUT PLAN
SCALE 1/8"=1'-0"

MEN'S LACROSSE LAYOUT NOTES:

1. MEN'S LACROSSE TICK MARK ARE SHOWN ENLARGED FOR GRAPHICAL PURPOSES ONLY. ALL MEN'S LACROSSE TICK MARKS SHALL BE 4"x4" INLAD ROYAL BLUE IN COLOR, ONLY EXCEPTION IS THE GOAL LINE TICK MARK WHICH SHALL BE 2"x2" INLAD ROYAL BLUE IN COLOR.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS.
3. ALL DIMENSIONS ARE SHOWN TO CENTER OF THE LACROSSE MARKINGS UNLESS OTHERWISE NOTED.
4. ALL LINE WORK IS TO BE LAID OUT WITH A TOLERANCE OF 1/4 INCH.

REVISIONS

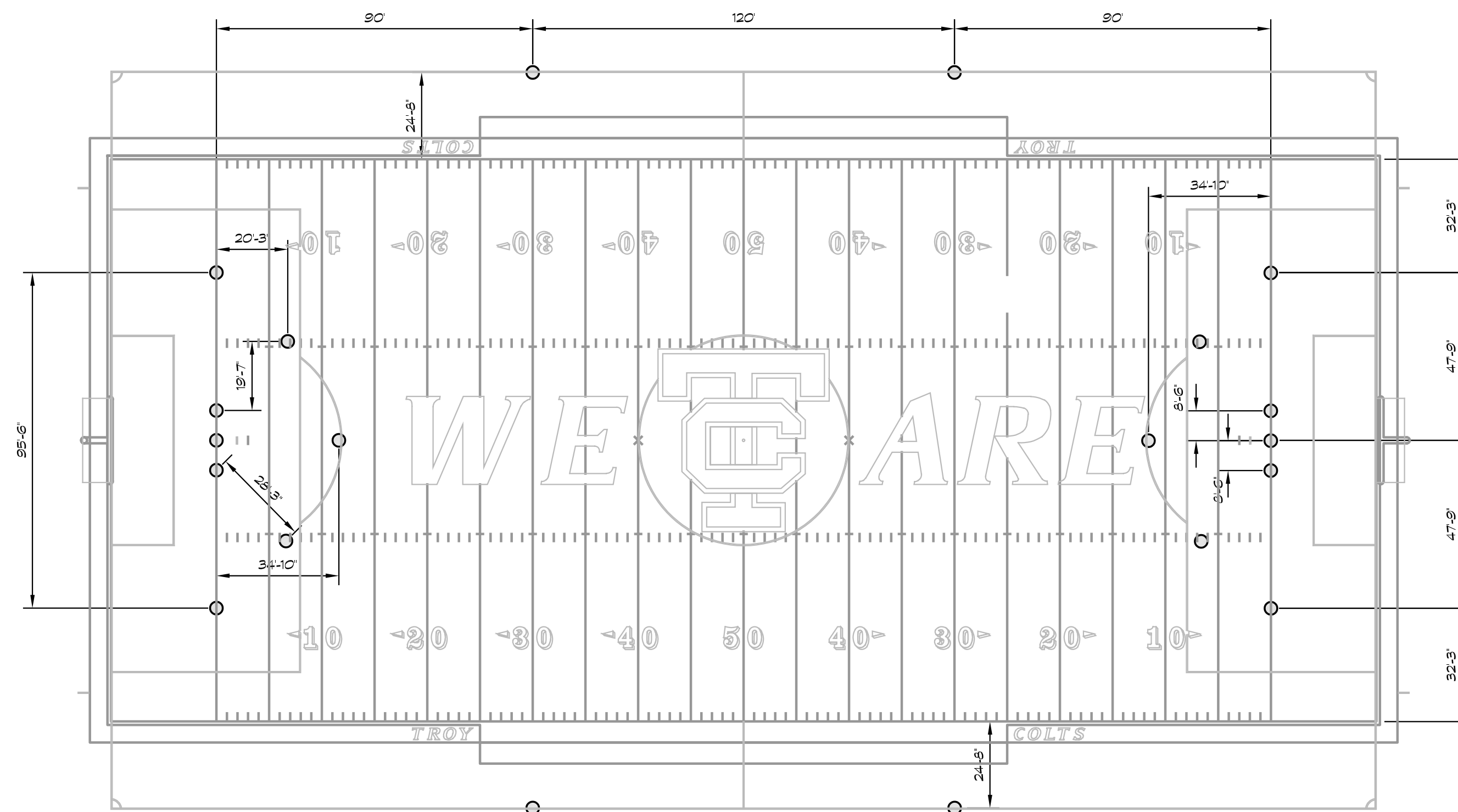
PROJECT

TROY H.S. &
BOULAN PARK M.S.

2023 SYNTHETIC TURF
AND TRACK RENOVATIONS

OWNER

TROY SCHOOL DISTRICT
TROY, MI



1 WOMEN'S LACROSSE LAYOUT PLAN
SCALE 1/8"=1'-0"

WOMEN'S LACROSSE LAYOUT NOTES:

1. WOMEN'S LACROSSE TICK MARK ARE SHOWN ENLARGED FOR GRAPHICAL PURPOSES ONLY. ALL WOMEN'S LACROSSE TICK MARKS SHALL BE 4"x4" INLAD RED IN COLOR.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS.
3. ALL DIMENSIONS ARE SHOWN TO CENTER OF THE LACROSSE MARKINGS UNLESS OTHERWISE NOTED.
4. ALL LINE WORK IS TO BE LAID OUT WITH A TOLERANCE OF 1/4 INCH.
5. WOMEN'S LACROSSE SIDELINE IS TO BE PLAYED TO GRAY SOCCER TOUCHLINE.
6. WOMEN'S LACROSSE ENDLINE IS TO BE PLAYED TO GRAY SOCCER END LINE.

DRAWINGS ARE PROPERTY OF FORESITE DESIGN, INC. AND ARE NOT TO BE USED, REPRODUCED, OR PUBLISHED IN PART OR WHOLE, WITHOUT EXPRESSED WRITTEN PERMISSION FROM FORESITE DESIGN, INC. COPYRIGHT 2022.

SHEET TITLE

LACROSSE DETAILS

DWN. BY MDS	CHK BY CAO
DATE 11/28/22	SCALE AS SHOWN

SHEET NO.

LD1.07

NOTES

- NOTES AND LEGEND SHALL APPLY TO ALL SHEETS AND ALL SITES
- CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND MAKE EVERY EFFORT TO LOCATE EXISTING UNDERGROUND UTILITIES. THIS SHALL INCLUDE CONSULTING WITH ALL LOCAL UTILITY COMPANIES AND USING A SIGNAL LOCATOR PRIOR TO EXCAVATION. ANY AND ALL REPAIRS SHALL BE COMPLETED WITHIN 48 HRS. OR THE OWNER SHALL HAVE THE REPAIR WORK COMPLETED AT THE CONTRACTORS EXPENSE.
- TOPSOIL AND SEED ALL AREAS DISTURBED AND NOT OTHERWISE DEVELOPED. ALL WORK I.E. DEMOLITION AND REMOVALS, DRAINAGE WORK, STONE AND ASPHALT, FENCING, TRACK SURFACE, ETC. SHALL BE COMPLETED BY DATE AS NOTED IN CONTRACT DOCUMENTS. ALL LAWN AREAS SHALL SLOPE TO DRAINAGE STRUCTURES.
- ALL CONTOURS AND SPOT GRADES REFER TO FINISH GRADE OF LAWN, ASPHALT, OR CONCRETE. DO NOT FACTOR IN THE ALL-WEATHER SURFACE DEPTH.

DEMOLITION LEGEND:

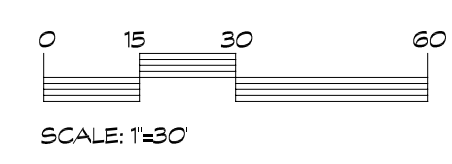
	1	REMOVE EXISTING ALL-WEATHER SURFACE, ASPHALT AND CONCRETE. EXISTING AGGREGATE BASE TO REMAIN AND RE-GRADED FOR RE-USE WITH NEW ASPHALT
	2	REMOVE AND DISPOSE OF EXISTING TRACK & FIELD EQUIPMENT
	3	EXISTING RADIUS POINT MONUMENT - FIELD VERIFY LOCATION AND PRESERVE FOR RE-USE

DEMOLITION NOTES:

- CONTRACTOR SHALL POWERFLUSH ALL EXISTING DRAIN LINES AND CLEAN DEBRIS FROM BUMPS WITHIN LIMITS OF CONSTRUCTION. FIELD VERIFY THAT ALL EXISTING DRAIN LINES ARE FUNCTIONAL AND CONNECTED.
- CONTRACTOR SHALL VERIFY LOCATIONS OF ALL PUBLIC AND PRIVATE ON-SITE UTILITIES PRIOR TO CONSTRUCTION ON THE CONTRACTORS BEHALF. WORK SHALL INCLUDE ENLISTING THE SERVICES OF A PRIVATE UTILITY LOCATOR AS REQUIRED.
- ANY DEPRESSIONS CREATED DURING DEMOLITION ACTIVITIES SHALL BE BACKFILLED WITH CLASS II FILL MATERIAL UP TO PROPOSED SUBGRADE ELEVATION, IN 8 INCH LIFTS AND COMPACTED TO 95% OF MAXIMUM UNIT WEIGHT.
- ALL CONTRACTORS ARE RESPONSIBLE TO PROTECT EXISTING WALKS, PAVEMENT, LAWNS, BUILDINGS, AND TREES SCHEDULED TO REMAIN THROUGH CONSTRUCTION.
- ALL EXCESS SOL SHALL BE EXPORTED OFFSITE UNLESS NOTED OTHERWISE.

LEGEND

EXISTING	PROPOSED



REVISIONS

PROJECT
TROY H.S. & BOULAN PARK M.S.

2023 SYNTHETIC TURF AND TRACK RENOVATIONS

OWNER
TROY SCHOOL DISTRICT TROY, MI

FORESITE design

ATHLETIC FACILITY PLANNING * SITE PLANNING * CONSULTING * LANDSCAPE ARCHITECTURE

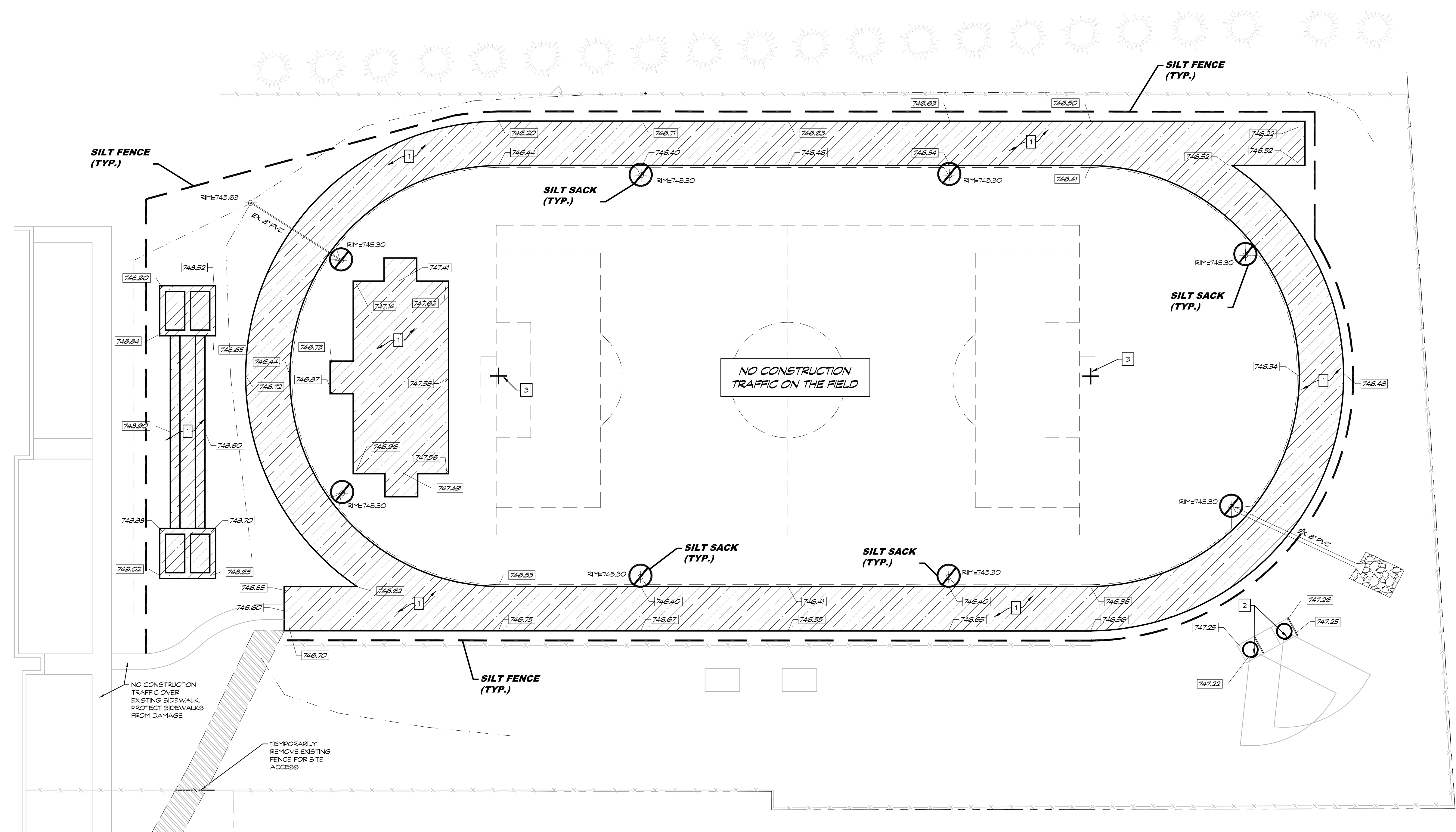
3269 COOLIDGE HWY * BERKLEY, MI 48072
PH. 248.547.7757 * FAX 248.547.0218
WWW.FORESITEDESIGN.COM

DRAWINGS ARE PROPERTY OF FORESITE DESIGN, INC. AND ARE NOT TO BE USED, REPRODUCED, OR PUBLISHED IN PART OR WHOLE, WITHOUT EXPRESSED WRITTEN PERMISSION FROM FORESITE DESIGN, INC. COPYRIGHT 2022.

SHEET TITLE
BOULAN PARK M.S. DEMOLITION PLAN

DWN. BY MDS	CHK BY CAO
DATE 11/28/22	SCALE 1/8"=1'-0"
SHEET NO.	

L2.00

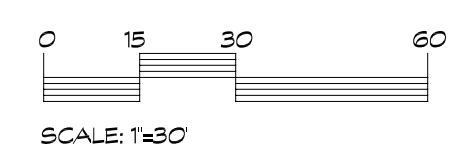


NOTES

- NOTES AND LEGEND SHALL APPLY TO ALL SHEETS AND ALL SITES
- CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND MAKE EVERY EFFORT TO LOCATE EXISTING UNDERGROUND UTILITIES. THIS SHALL INCLUDE CONSULTING WITH ALL LOCAL UTILITY COMPANIES AND USING A SIGNAL LOCATOR PRIOR TO EXCAVATION. ANY AND ALL REPAIRS SHALL BE COMPLETED WITHIN 48 HRS. OR THE OWNER SHALL HAVE THE REPAIR WORK COMPLETED AT THE CONTRACTORS EXPENSE.
- TOPSOIL AND SEED ALL AREAS DISTURBED AND NOT OTHERWISE DEVELOPED. ALL WORK I.E. DEMOLITION AND REMOVALS, DRAINAGE WORK, STONE AND ASPHALT, FENCING, TRACK SURFACE, ETC. SHALL BE COMPLETED BY DATE AS NOTED IN CONTRACT DOCUMENTS. ALL LAWN AREAS SHALL SLOPE TO DRAINAGE STRUCTURES.
- ALL CONTOURS AND SPOT GRADES REFER TO FINISH GRADE OF LAWN, ASPHALT, OR CONCRETE. DO NOT FACTOR IN THE ALL-WEATHER SURFACE DEPTH.

LEGEND

EXISTING	PROPOSED
○ SPOT ELEVATION	X-XXXXX SPOT GRADE
XXXXX AS-BUILT SPOT ELEVATION	X-TAVEXXXXX TOP OF WALL ELEVATION
-X-X- FENCE	X-T/CXXXXX TOP OF CURB ELEVATION
⊕ DRAINAGE STRUCTURE	X-ME-XXXXX MATCH EXISTING ELEVATION
ST STORM DRAIN	T/TXXXXX TOP OF TRENCH ELEVATION
○ LIGHT POLE	← DRAINAGE SWALE
-E- ELECTRICAL	-X-X- CHAINLINK FENCE - SEE PLANS FOR HT.
-W- WATER	— ORNAMENTAL FENCE - SEE PLANS FOR HT.
-T- TELEPHONE	⊕ DRAINAGE STRUCTURE
-RR- IRRIGATION	ST STORM DRAIN
- - - PROPERTY	— FLAT DRAIN
-SS- SANITARY	- - - 4' PERFORATED DRAIN
-GAS- GAS	- - - 6' PERFORATED DRAIN
	-S DT- 8' PERFORATED DRAIN
	▲ LIGHT POLE
	-E- ELECTRICAL
	-W- WATER
	-T- TELEPHONE
	-RR- IRRIGATION
	- - - LIMITS OF CONSTRUCTION
	ALL-WEATHER SURFACE OVER ATHLETIC VIRGIN ASPHALT (2 LIFTS) OVER EXISTING LIMESTONE BASE
	ATHLETIC VIRGIN ASPHALT (2 LIFTS) OVER EXISTING LIMESTONE BASE
	ALL-WEATHER SURFACE OVER REINFORCED CONCRETE OVER COMPACTED SAND BASE
	REINFORCED CONCRETE OVER COMPACTED SAND/STONE BASE
	DEMOLITION
	TOPSOIL AND SEED
	MASON SAND



REVISIONS

PROJECT

TROY H.S. & BOULAN PARK M.S.

2023 SYNTHETIC TURF AND TRACK RENOVATIONS

OWNER

TROY SCHOOL DISTRICT TROY, MI

FORESITE design

ATHLETIC FACILITY PLANNING • SITE PLANNING • CONSULTING • LANDSCAPE ARCHITECTURE

3269 COOLIDGE HWY • BERKLEY, MI 48072
PH. 248.547.7757 • FAX 248.547.0218
WWW.FORESITIDESIGN.COM

DRAWINGS ARE PROPERTY OF FORESITE DESIGN, INC. AND ARE NOT TO BE USED, REPRODUCED, OR PUBLISHED IN PART OR WHOLE, WITHOUT EXPRESSED WRITTEN PERMISSION FROM FORESITE DESIGN, INC. COPYRIGHT 2022.

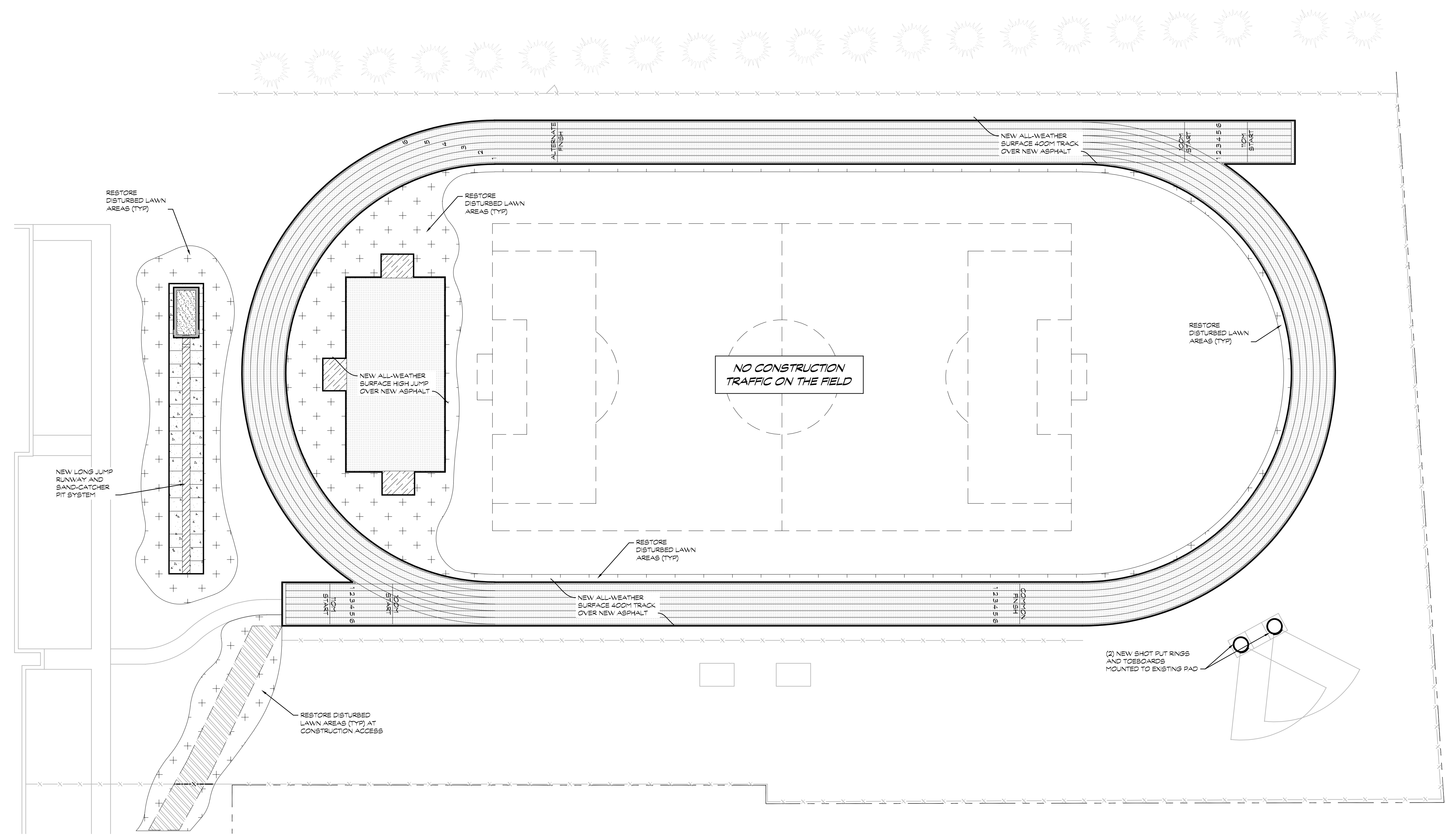
SHEET TITLE

BOULAN PARK M.S. SITE PLAN

DWN. BY MDS	CHK BY CAO
DATE 11/28/22	SCALE 1:30'-0"

SHEET NO.

L2.01

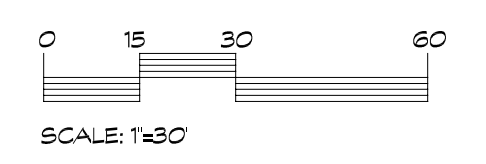


NOTES

- NOTES AND LEGEND SHALL APPLY TO ALL SHEETS AND ALL SITES
- CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND MAKE EVERY EFFORT TO LOCATE EXISTING UNDERGROUND UTILITIES. THIS SHALL INCLUDE CONSULTING WITH ALL LOCAL UTILITY COMPANIES AND USING A SIGNAL LOCATOR PRIOR TO EXCAVATION. ANY AND ALL REPAIRS SHALL BE COMPLETED WITHIN 48 HRS. OR THE OWNER SHALL HAVE THE REPAIR WORK COMPLETED AT THE CONTRACTORS EXPENSE.
- TOPSOIL AND SEED ALL AREAS DISTURBED AND NOT OTHERWISE DEVELOPED. ALL WORK I.E. DEMOLITION AND REMOVALS, DRAINAGE WORK, STONE AND ASPHALT, FENCING, TRACK SURFACE, ETC. SHALL BE COMPLETED BY DATE AS NOTED IN CONTRACT DOCUMENTS. ALL LAWN AREAS SHALL SLOPE TO DRAINAGE STRUCTURES.
- ALL CONTOURS AND SPOT GRADES REFER TO FINISH GRADE OF LAWN, ASPHALT, OR CONCRETE. DO NOT FACTOR IN THE ALL-WEATHER SURFACE DEPTH.

LEGEND

EXISTING	PROPOSED
○ SPOT ELEVATION	X-XXXXX SPOT GRADE
XXXXX AS-BUILT SPOT ELEVATION	X-TAVEXXXXX TOP OF WALL ELEVATION
-X-X- FENCE	X-T/CXXXXX TOP OF CURB ELEVATION
⊕ DRAINAGE STRUCTURE	X-ME-XXXXX MATCH EXISTING ELEVATION
-ST- STORM DRAIN	T/TXXXXX TOP OF TRENCH ELEVATION
○-○ LIGHT POLE	←-←-←- DRAINAGE SWALE
-E- ELECTRICAL	-X-X- CHAINLINK FENCE - SEE PLANS FOR HT.
-W- WATER	—O— ORNAMENTAL FENCE - SEE PLANS FOR HT.
-T- TELEPHONE	⊕ DRAINAGE STRUCTURE
-RR- IRRIGATION	-ST- STORM DRAIN
-P- PROPERTY	— FLAT DRAIN
-SS- SANITARY	- - - 4" PERFORATED DRAIN
-GAS- GAS	- - - 6" PERFORATED DRAIN
	-S DT- 8" PERFORATED DRAIN
	▲▲▲▲ LIGHT POLE
	-E- ELECTRICAL
	-W- WATER
	-T- TELEPHONE
	-RR- IRRIGATION
	- - - LIMITS OF CONSTRUCTION
	ALL-WEATHER SURFACE OVER ATHLETIC VIRGIN ASPHALT (2 LIFTS) OVER EXISTING LIMESTONE BASE
	ATHLETIC VIRGIN ASPHALT (2 LIFTS) OVER EXISTING LIMESTONE BASE
	ALL-WEATHER SURFACE OVER REINFORCED CONCRETE OVER COMPACTED SAND BASE
	REINFORCED CONCRETE OVER COMPACTED SAND/STONE BASE
	DEMOLITION
	TOPSOIL AND SEED
	MASON SAND



REVISIONS

PROJECT
TROY H.S. & BOULAN PARK M.S.

2023 SYNTHETIC TURF AND TRACK RENOVATIONS

OWNER
TROY SCHOOL DISTRICT TROY, MI

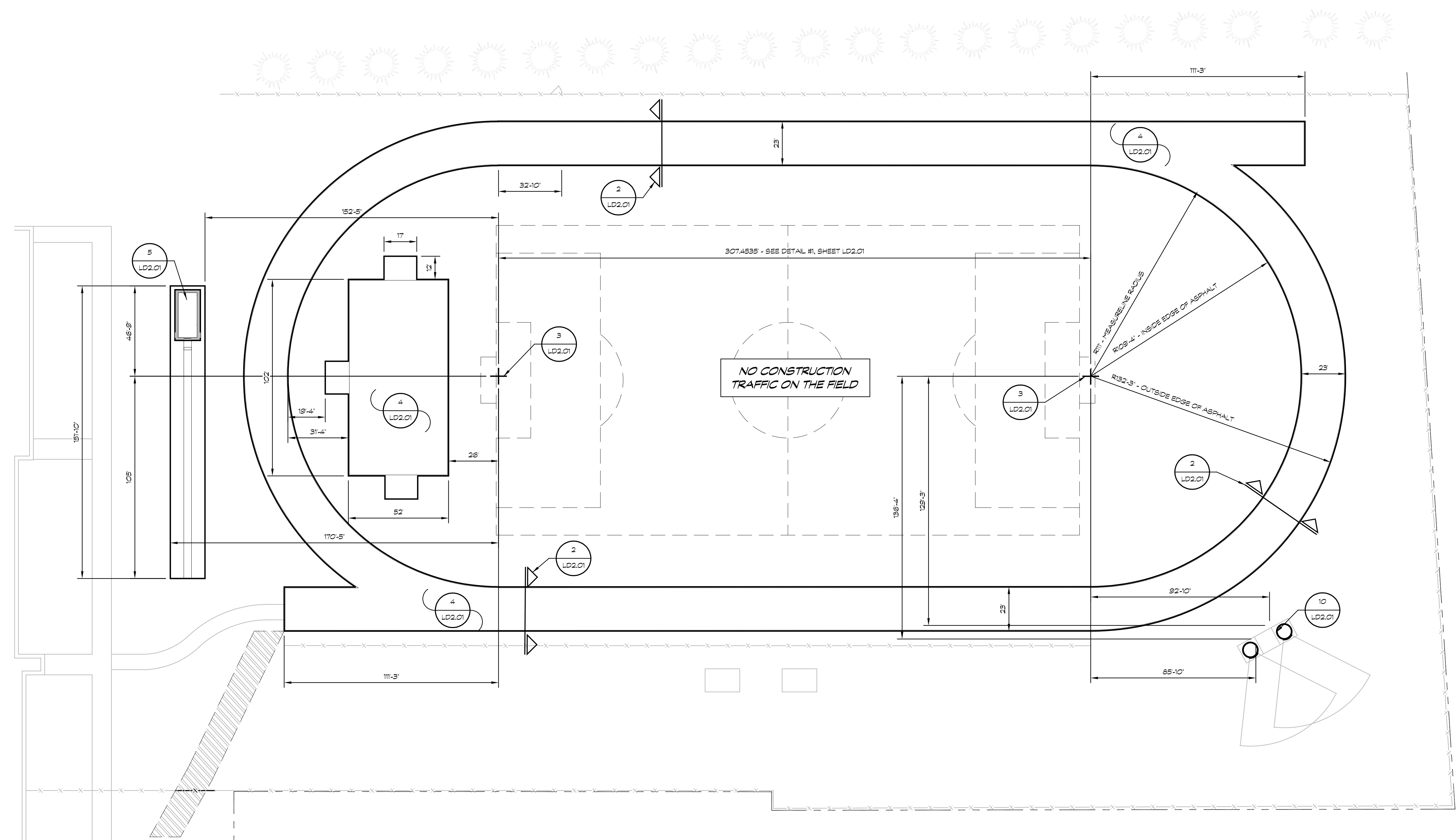
FORESITE design
ATHLETIC FACILITY PLANNING • SITE PLANNING • CONSULTING • LANDSCAPE ARCHITECTURE
3269 COOLIDGE HWY • BERKLEY, MI 48072
PH. 248.547.7757 • FAX 248.547.0218
WWW.FORESITEDESIGN.COM

DRAWINGS ARE PROPERTY OF FORESITE DESIGN, INC. AND ARE NOT TO BE USED, REPRODUCED, OR PUBLISHED IN PART OR WHOLE, WITHOUT EXPRESSED WRITTEN PERMISSION FROM FORESITE DESIGN, INC. COPYRIGHT 2022.

SHEET TITLE
BOULAN PARK M.S. DIMENSION PLAN

DWN. BY MDS	CHK BY CAO
DATE 11/28/22	SCALE 1/8"=1'-0"
SHEET NO.	

L2.02

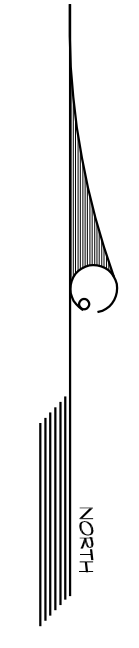
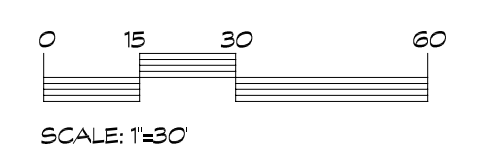


NOTES

- NOTES AND LEGEND SHALL APPLY TO ALL SHEETS AND ALL SITES
- CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND MAKE EVERY EFFORT TO LOCATE EXISTING UNDERGROUND UTILITIES. THIS SHALL INCLUDE CONSULTING WITH ALL LOCAL UTILITY COMPANIES AND USING A SIGNAL LOCATOR PRIOR TO EXCAVATION. ANY AND ALL REPAIRS SHALL BE COMPLETED WITHIN 48 HRS. OR THE OWNER SHALL HAVE THE REPAIR WORK COMPLETED AT THE CONTRACTORS EXPENSE.
- TOPSOIL AND SEED ALL AREAS DISTURBED AND NOT OTHERWISE DEVELOPED. ALL WORK I.E. DEMOLITION AND REMOVALS, DRAINAGE WORK, STONE AND ASPHALT, FENCING, TRACK SURFACE, ETC. SHALL BE COMPLETED BY DATE AS NOTED IN CONTRACT DOCUMENTS. ALL LAWN AREAS SHALL SLOPE TO DRAINAGE STRUCTURES.
- ALL CONTOURS AND SPOT GRADES REFER TO FINISH GRADE OF LAWN, ASPHALT, OR CONCRETE. DO NOT FACTOR IN THE ALL-WEATHER SURFACE DEPTH.

LEGEND

EXISTING	PROPOSED
○ SPOT ELEVATION	XXXXXX SPOT GRADE
XXXXXX AS-BUILT SPOT ELEVATION	X-TAVEXXXXX TOP OF WALL ELEVATION
-X-X- FENCE	X-T/CXXXXX TOP OF CURB ELEVATION
⊕ DRAINAGE STRUCTURE	X-ME-XXXXX MATCH EXISTING ELEVATION
ST STORM DRAIN	T/TXXXXX TOP OF TRENCH ELEVATION
○ LIGHT POLE	← DRAINAGE SWALE
-E- ELECTRICAL	-X-X- CHAINLINK FENCE - SEE PLANS FOR HT.
-W- WATER	— ORNAMENTAL FENCE - SEE PLANS FOR HT.
-T- TELEPHONE	⊕ DRAINAGE STRUCTURE
-RR- IRRIGATION	ST STORM DRAIN
-P- PROPERTY	— FLAT DRAIN
-SS- SANITARY	- - - 4" PERFORATED DRAIN
-GAS- GAS	- - - 6" PERFORATED DRAIN
	-S DT- 8" PERFORATED DRAIN
	▲ LIGHT POLE
	-E- ELECTRICAL
	-W- WATER
	-T- TELEPHONE
	-RR- IRRIGATION
	- - - LIMITS OF CONSTRUCTION
	ALL-WEATHER SURFACE OVER ATHLETIC VIRGIN ASPHALT (2 LIFTS) OVER EXISTING LIMESTONE BASE
	ATHLETIC VIRGIN ASPHALT (2 LIFTS) OVER EXISTING LIMESTONE BASE
	ALL-WEATHER SURFACE OVER REINFORCED CONCRETE OVER COMPACTED SAND BASE
	REINFORCED CONCRETE OVER COMPACTED SAND/STONE BASE
	DEMOLITION
	TOPSOIL AND SEED
	MASON SAND



REVISIONS

PROJECT
TROY H.S. & BOULAN PARK M.S.

2023 SYNTHETIC TURF AND TRACK RENOVATIONS

OWNER
TROY SCHOOL DISTRICT TROY, MI

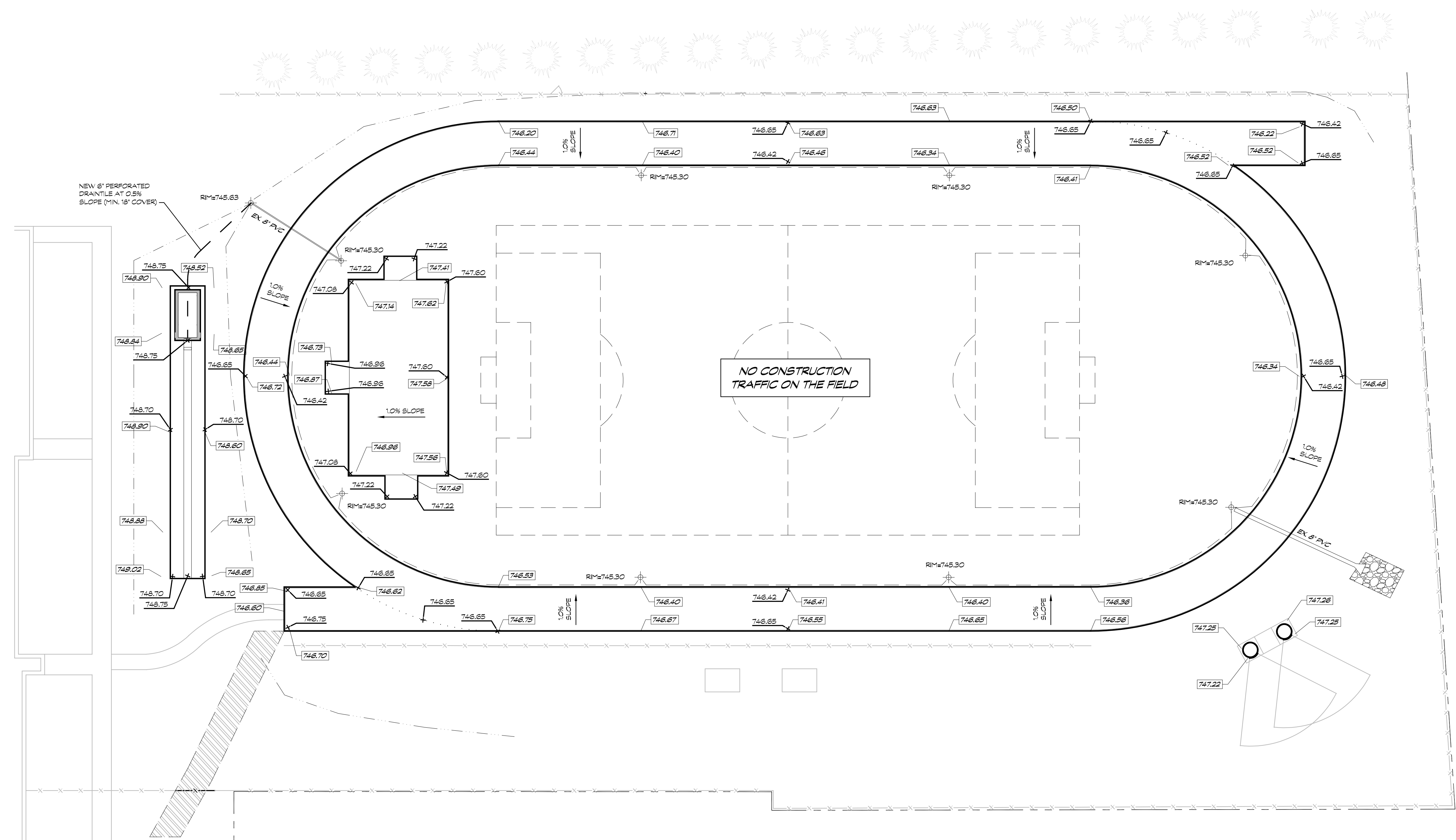
FORESITE design
ATHLETIC FACILITY PLANNING • SITE PLANNING • CONSULTING • LANDSCAPE ARCHITECTURE
3269 COOLIDGE HWY • BERKLEY, MI 48072
PH. 248.547.7757 • FAX 248.547.0218
WWW.FORESITIDESIGN.COM

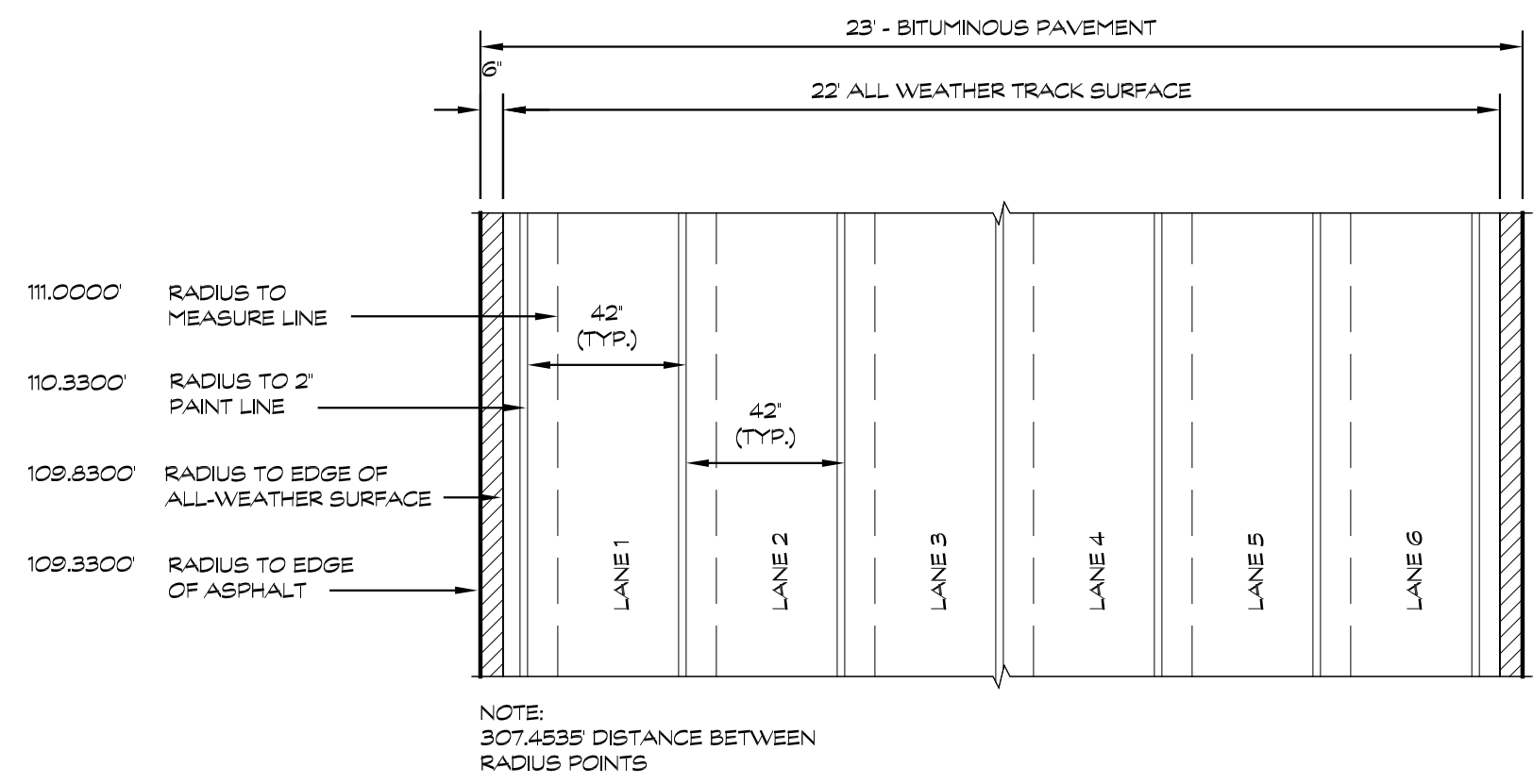
DRAWINGS ARE PROPERTY OF FORESITE DESIGN, INC. AND ARE NOT TO BE USED, REPRODUCED, OR PUBLISHED IN PART OR WHOLE, WITHOUT EXPRESSED WRITTEN PERMISSION FROM FORESITE DESIGN, INC. COPYRIGHT 2022.

SHEET TITLE
BOULAN PARK M.S. GRADING PLAN & UTILITY PLAN

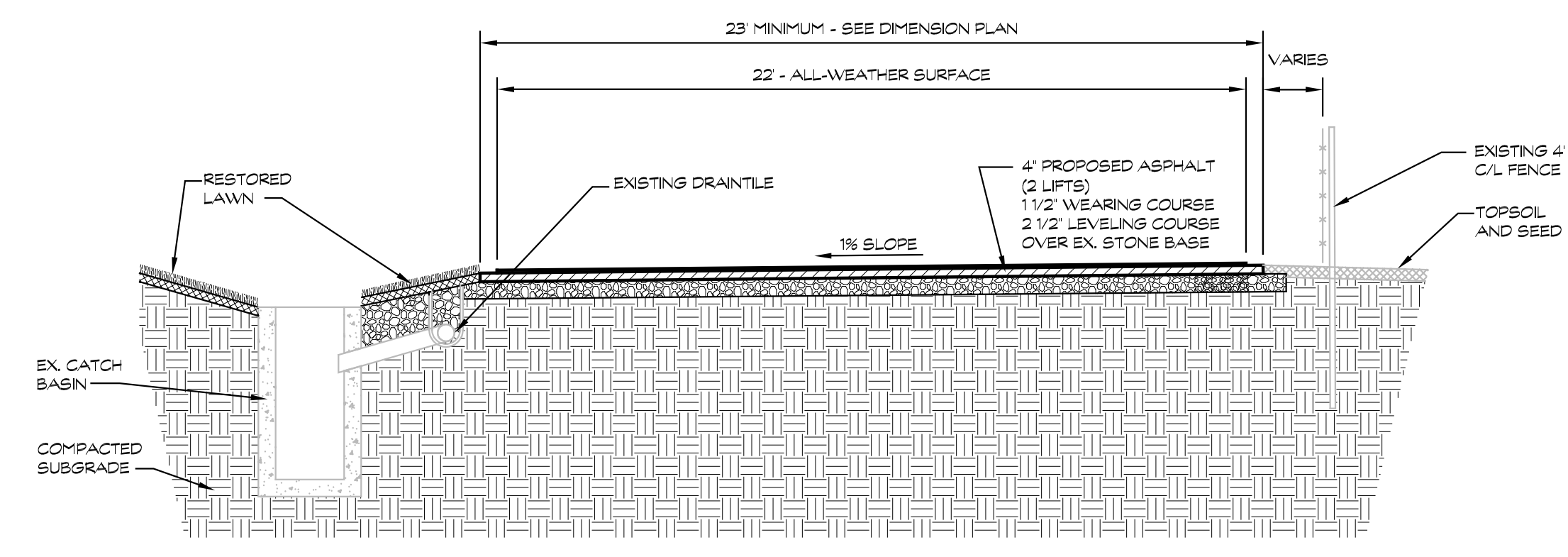
DWN. BY MDS	CHK BY CAO
DATE 11/28/22	SCALE 1:30'-0"
SHEET NO.	

L2.03

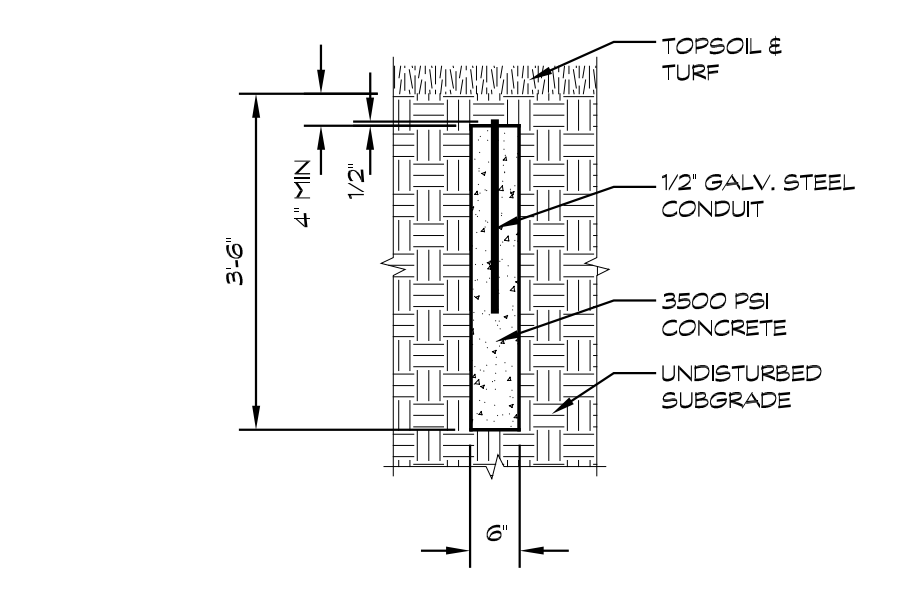




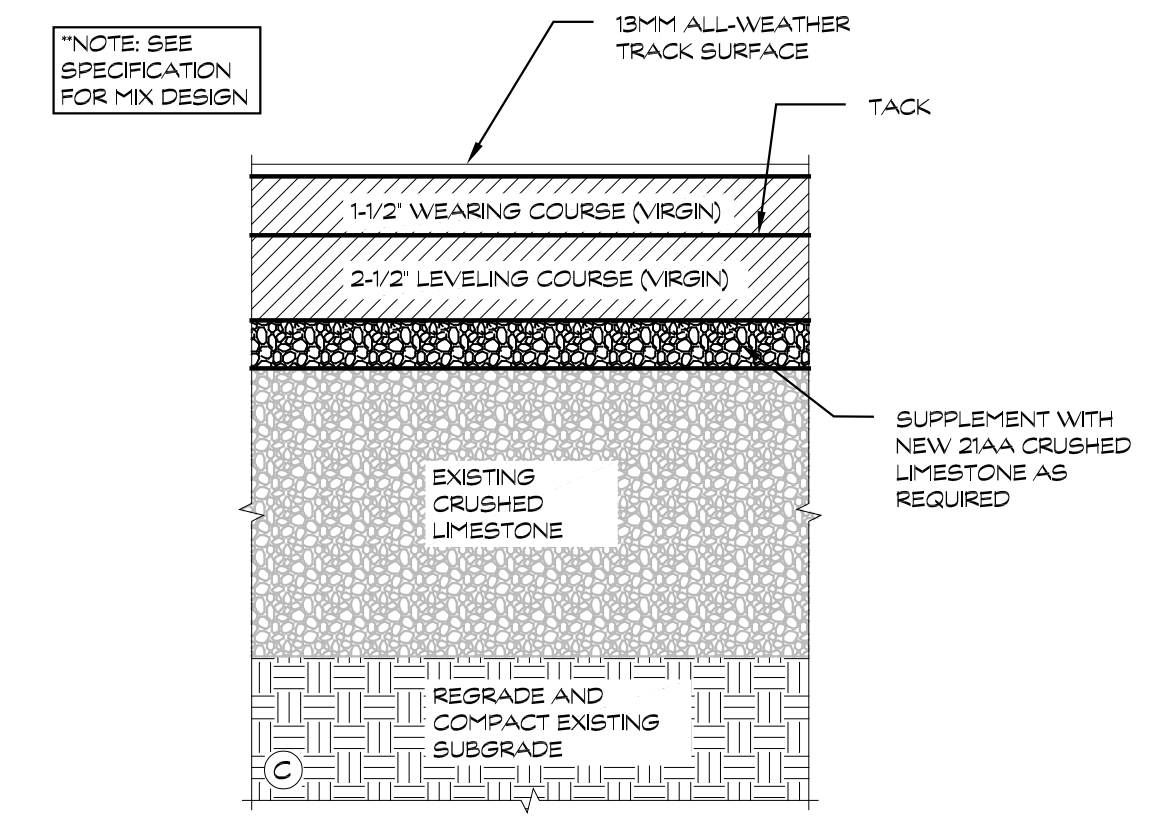
1 TRACK DIMENSION
SCALE 1/4"=1'-0"



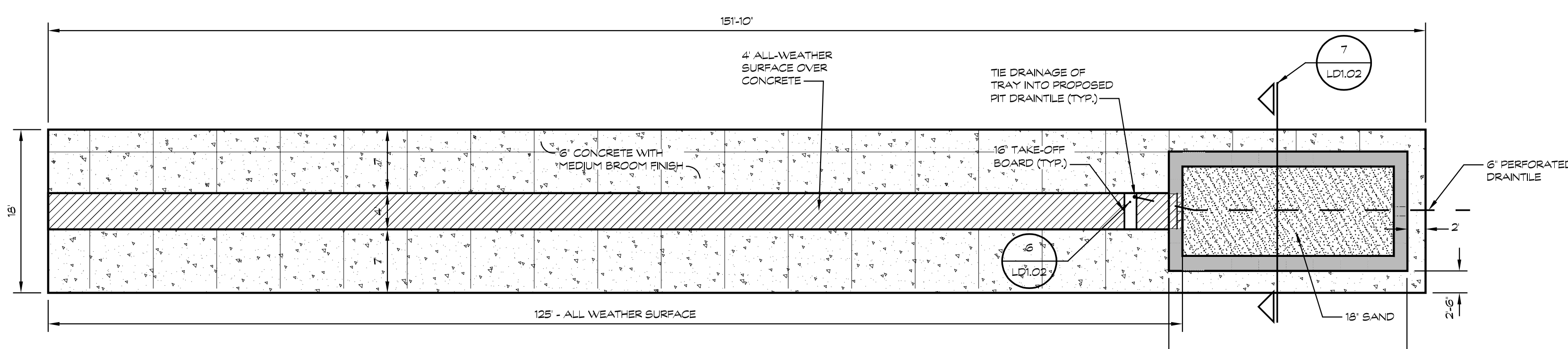
2 TRACK SECTION
SCALE 1/4"=1'-0"



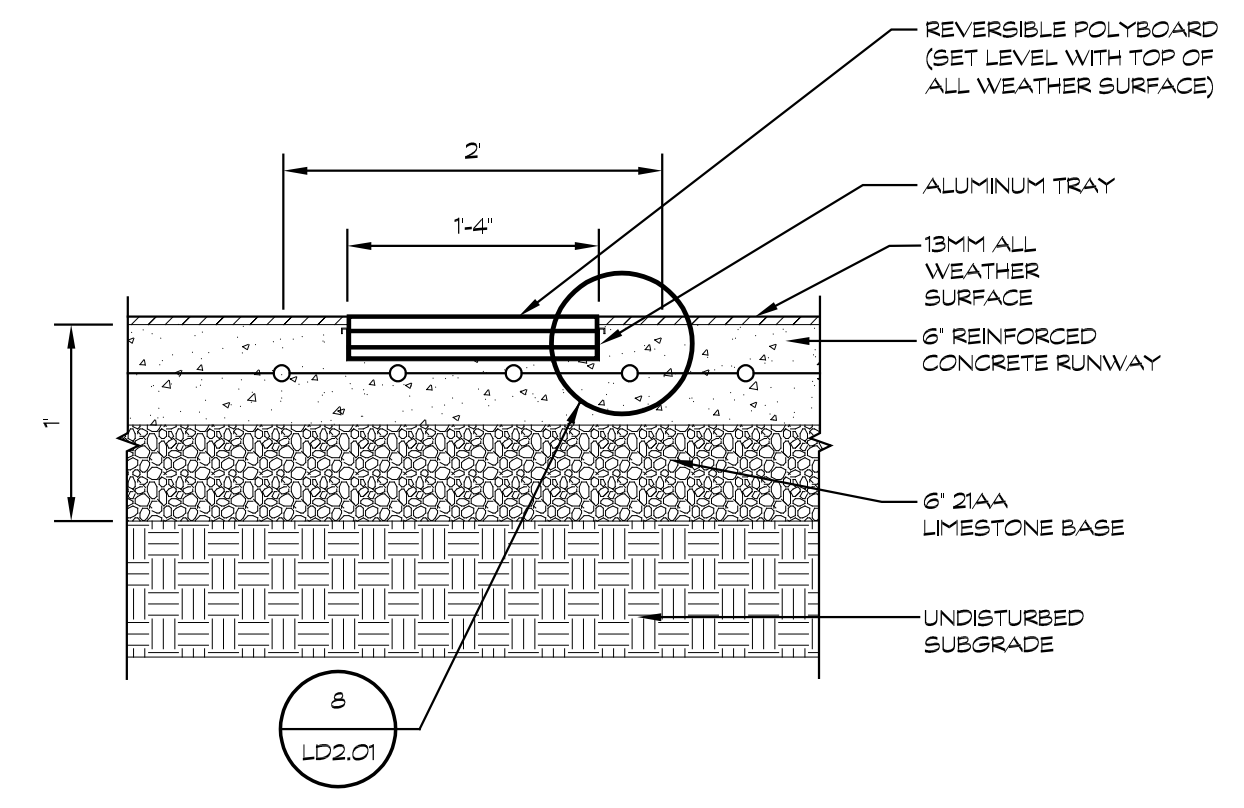
3 RADIUS POINT MONUMENT
SCALE 1/2"=1'-0"



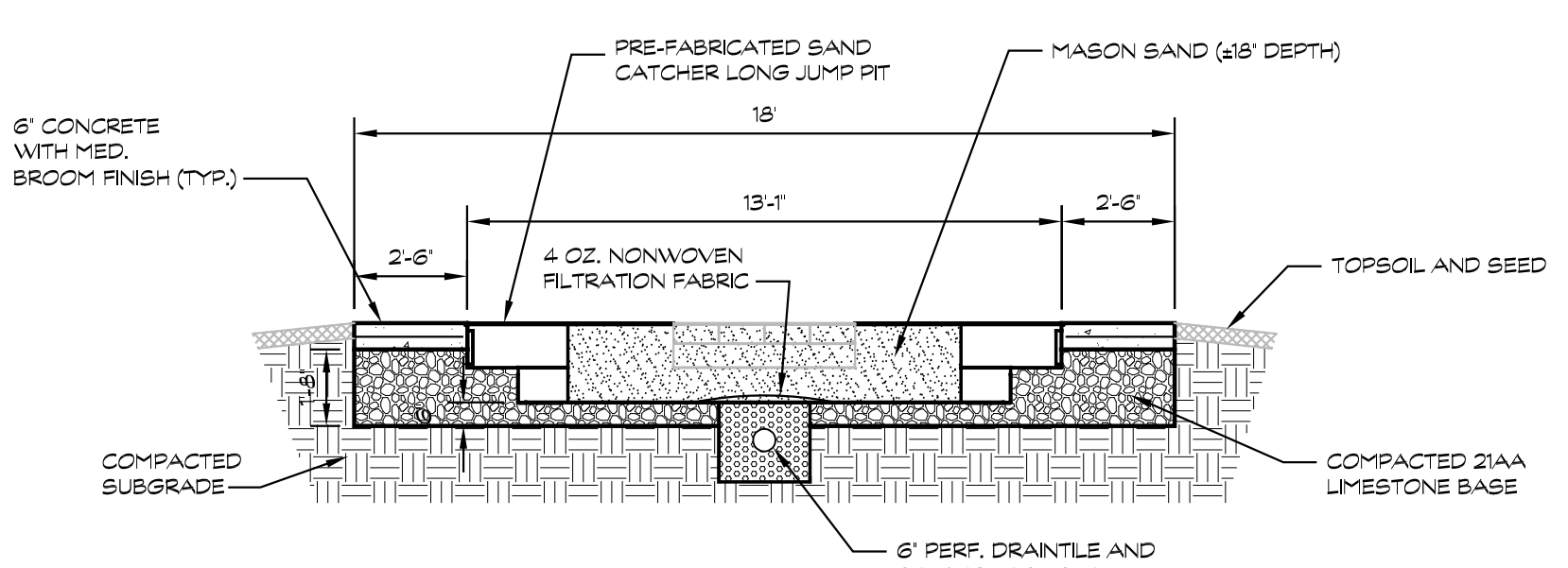
4 4\"/>



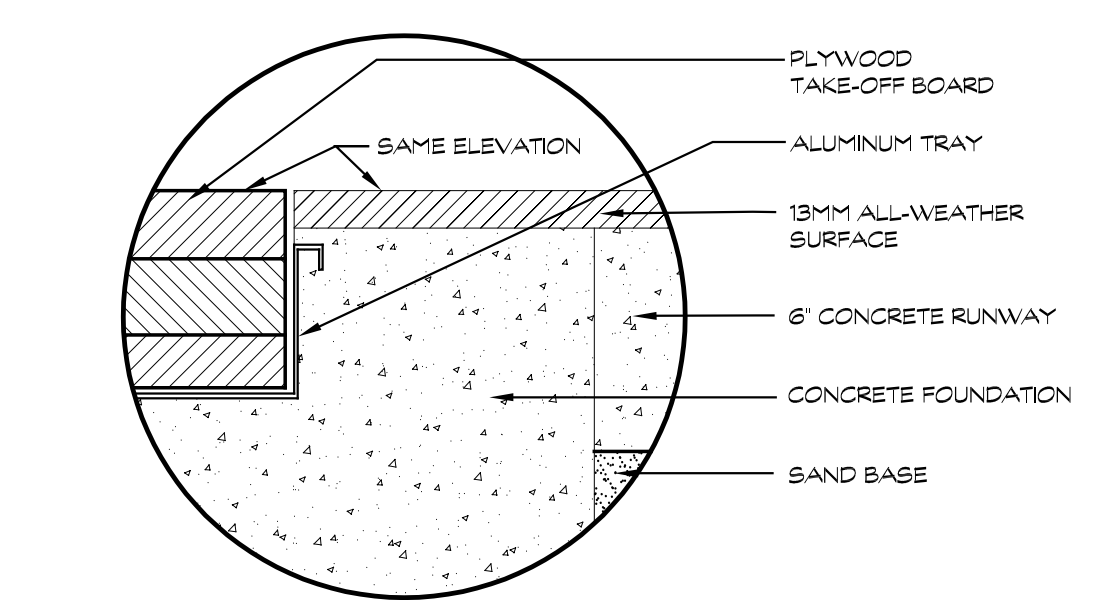
5 LONG JUMP DETAIL
SCALE 1/4"=1'-0"



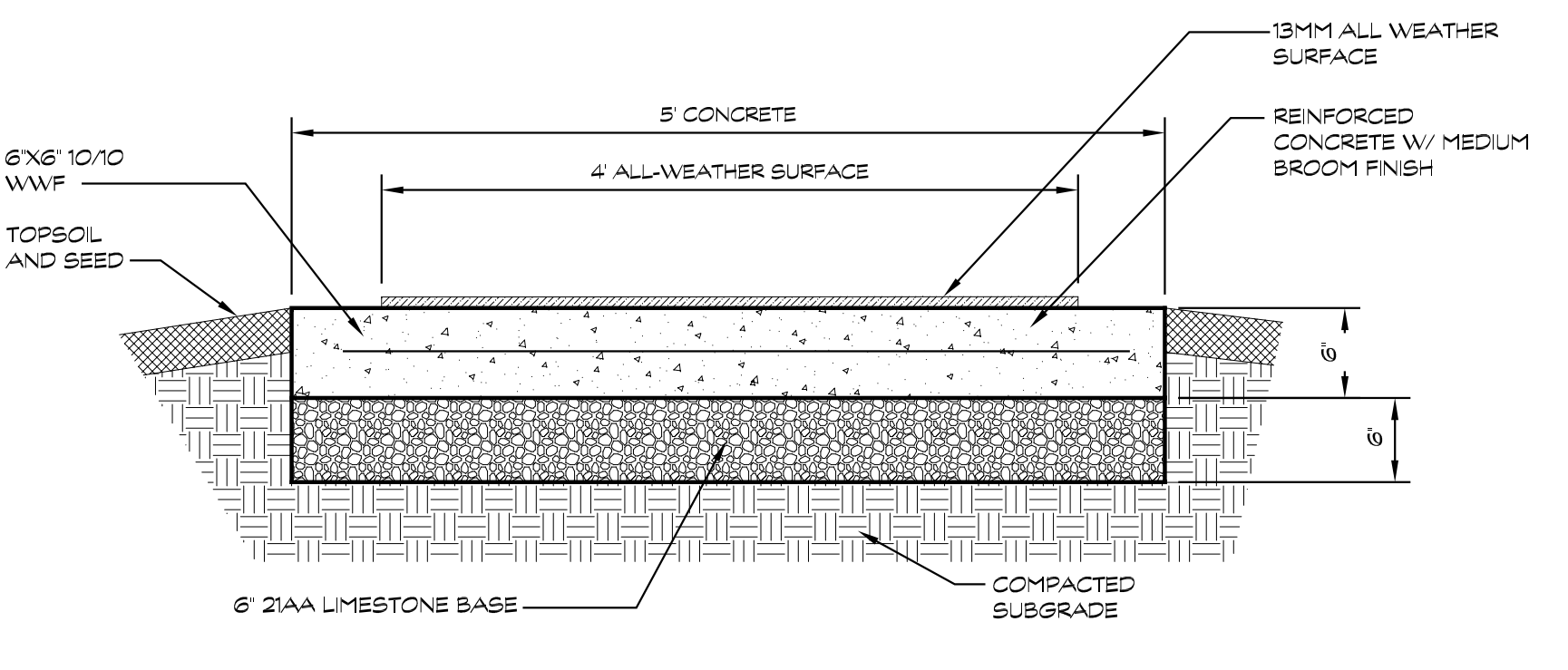
6 TAKE-OFF BOARD SECTION
SCALE 1/4"=1'-0"



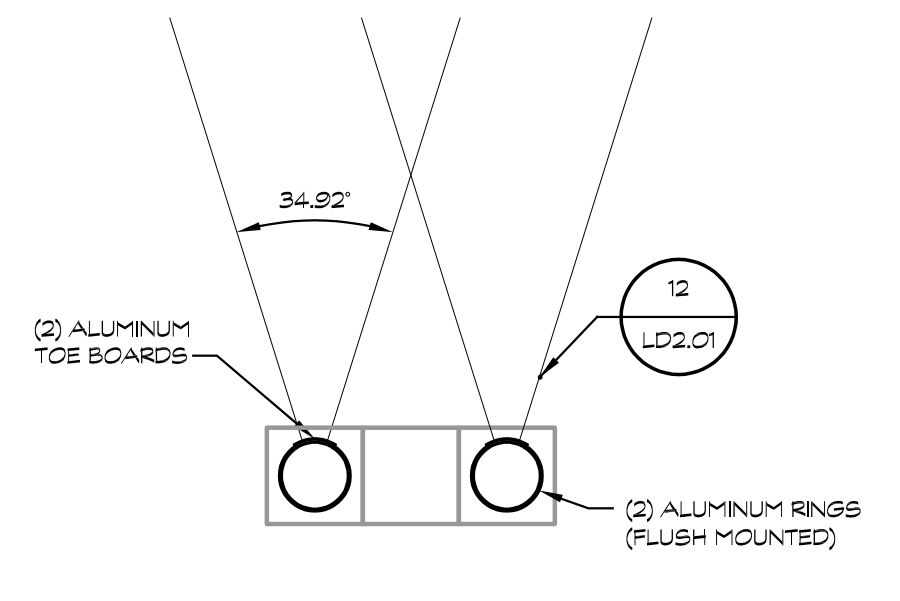
7 LONG JUMP PIT/RUNWAY SECTION
SCALE 1/4"=1'-0"



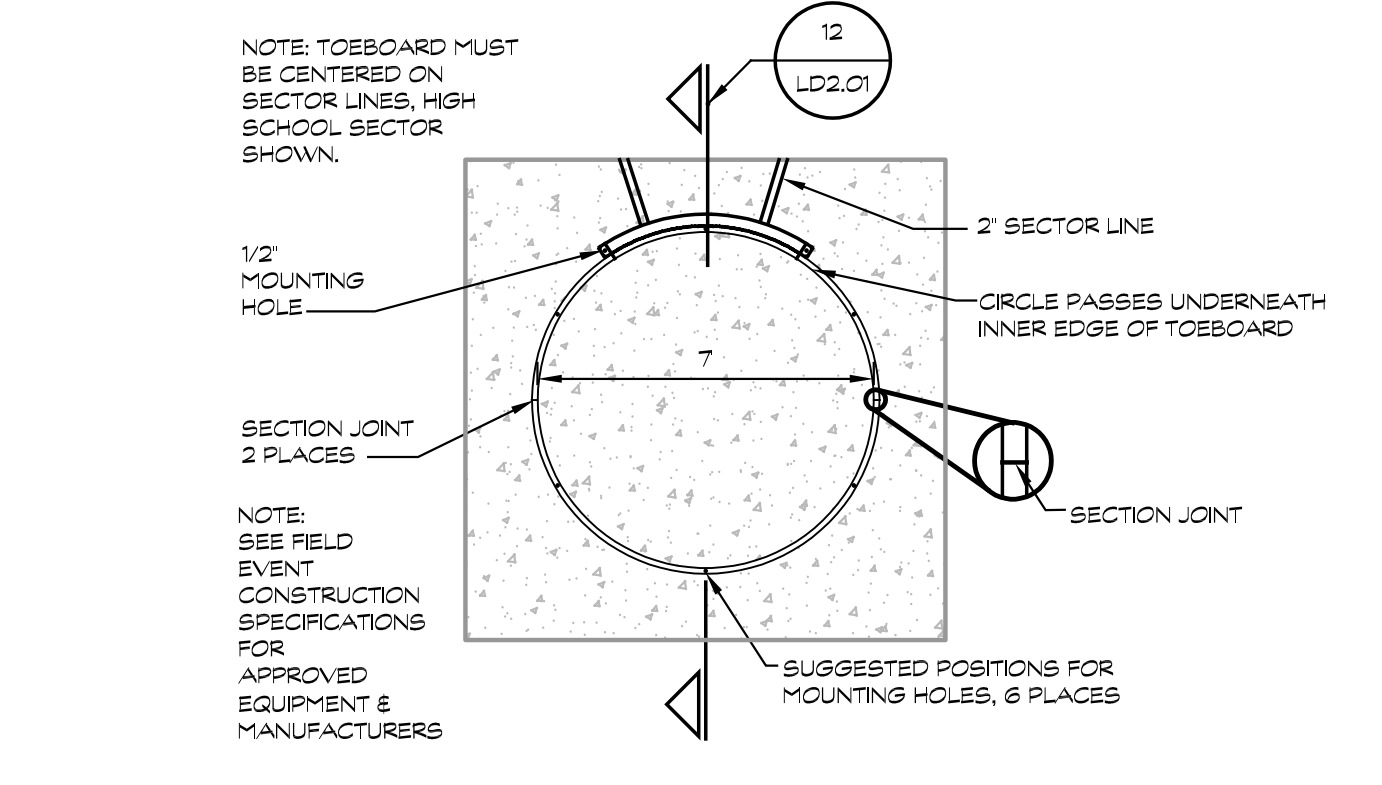
8 TAKE-OFF BOARD SECTION
NTS



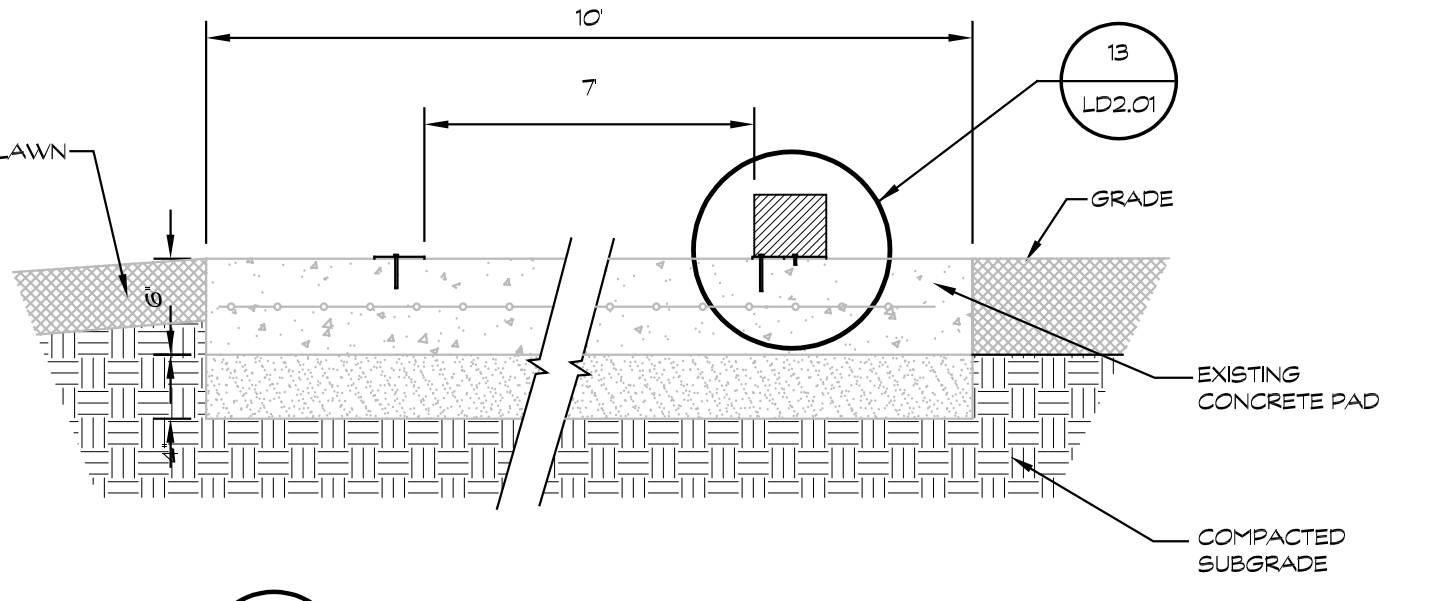
9 CONCRETE RUNWAY SECTION
SCALE 1/4"=1'-0"



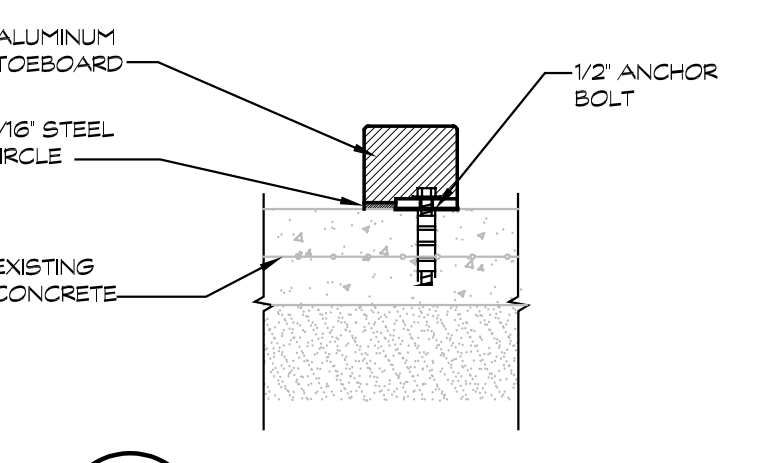
10 SHOT PUT PAD
SCALE 1/2"=1'-0"



11 TOEBOARD DETAIL
SCALE 1/4"=1'-0"



12 SHOT-PUT RING SECTION
SCALE 1/4"=1'-0"



13 TOEBOARD DETAIL
NTS

REVISIONS

PROJECT
TROY H.S. & BOULAN PARK M.S.

2023 SYNTHETIC TURF AND TRACK RENOVATIONS

OWNER
TROY SCHOOL DISTRICT TROY, MI

FORESITE design
ATHLETIC FACILITY PLANNING * SITE PLANNING * CONSULTING * LANDSCAPE ARCHITECTURE
3269 COOLIDGE HWY * BERKLEY, MI 48072
PH. 248.547.7757 * FAX 248.547.0218
WWW.FORESITEDESIGN.COM

DRAWINGS ARE PROPERTY OF FORESITE DESIGN, INC. AND ARE NOT TO BE USED, REPRODUCED, OR PUBLISHED IN PART OR WHOLE, WITHOUT EXPRESSED WRITTEN PERMISSION FROM FORESITE DESIGN, INC. COPYRIGHT 2022.

SHEET TITLE
TRACK AND FIELD EVENT DETAILS

DWN. BY MDS	CHK BY CAO
DATE 11/28/22	SCALE AS SHOWN

SHEET NO.

LD2.01

Project Information

a. Type of soil being disrupted:

Derived from: Soil Survey Soil Borings Other

b. Present the chronological sequence and expected time of year for each major phase of earth disruption.

Site Clearing DATE
Soil Erosion Control
Mass Balancing
Underground Utilities
Paving
Restoration / Stabilization

c. Indicate the measures proposed to prevent sediment from leaving the site:

Hydrologic Characteristics of Site

a. Type of "Offsite" drainage outlet(s) available for this site:

County Drain Name of Drain:
Lake/Pond Name of Lake/Pond:
River/Stream Name of River/Stream:
Enclosed Drain Name of Enclosed Drain:
Detention Basin (with outlet)
Wetland Retention Basin (no outlet)
Overland Flow Open Ditch

b. Distance to nearest lake, stream, pond, open drain, or wetland:

c. Does the project include any work or disruption with a flood plain (Yes or No)?

d. Does the project include work within the cross-section of a lake/stream (Yes or No)?

e. Is a MDEQ Permit required (Yes or No)? If Yes, what is the MDEQ Permit Number (if known):

f. If MDEQ Permit is required and application has not been submitted, what is the expected date of submittal?

Builders and developers working in Troy are responsible for complying with the regulations for temporary Storm Drain inserts, also known as "siltbags". The inserts are used on many construction projects to catch sediment not captured upstream by other construction-related erosion control devices and can be an important temporary environmental safeguard.

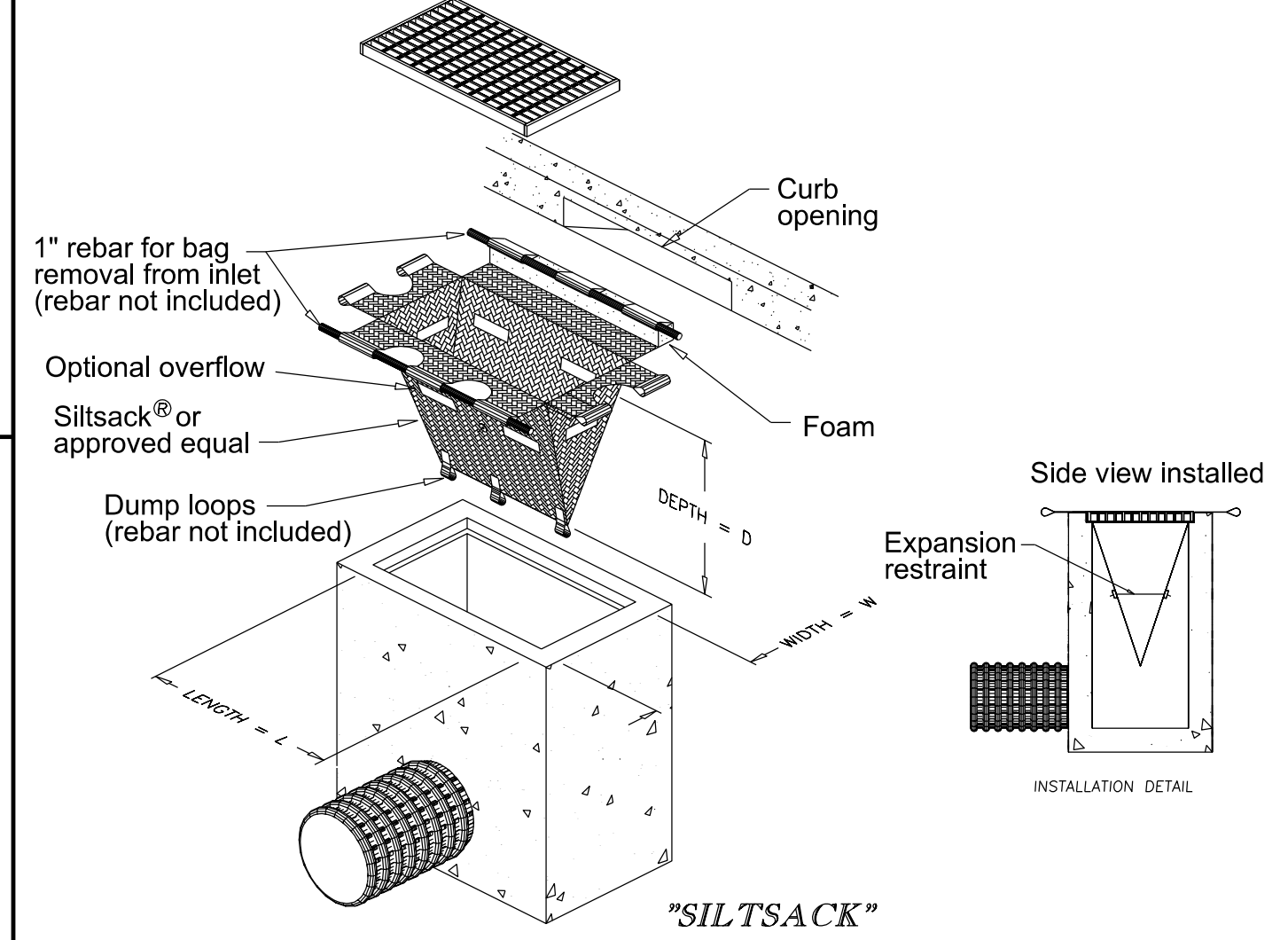
Builders must clean and/or replace the inserts when half of the trap is filled with sediment.

Builders must inspect and maintain the inserts whenever 1/2 inch of rain falls within a 24-hour period.

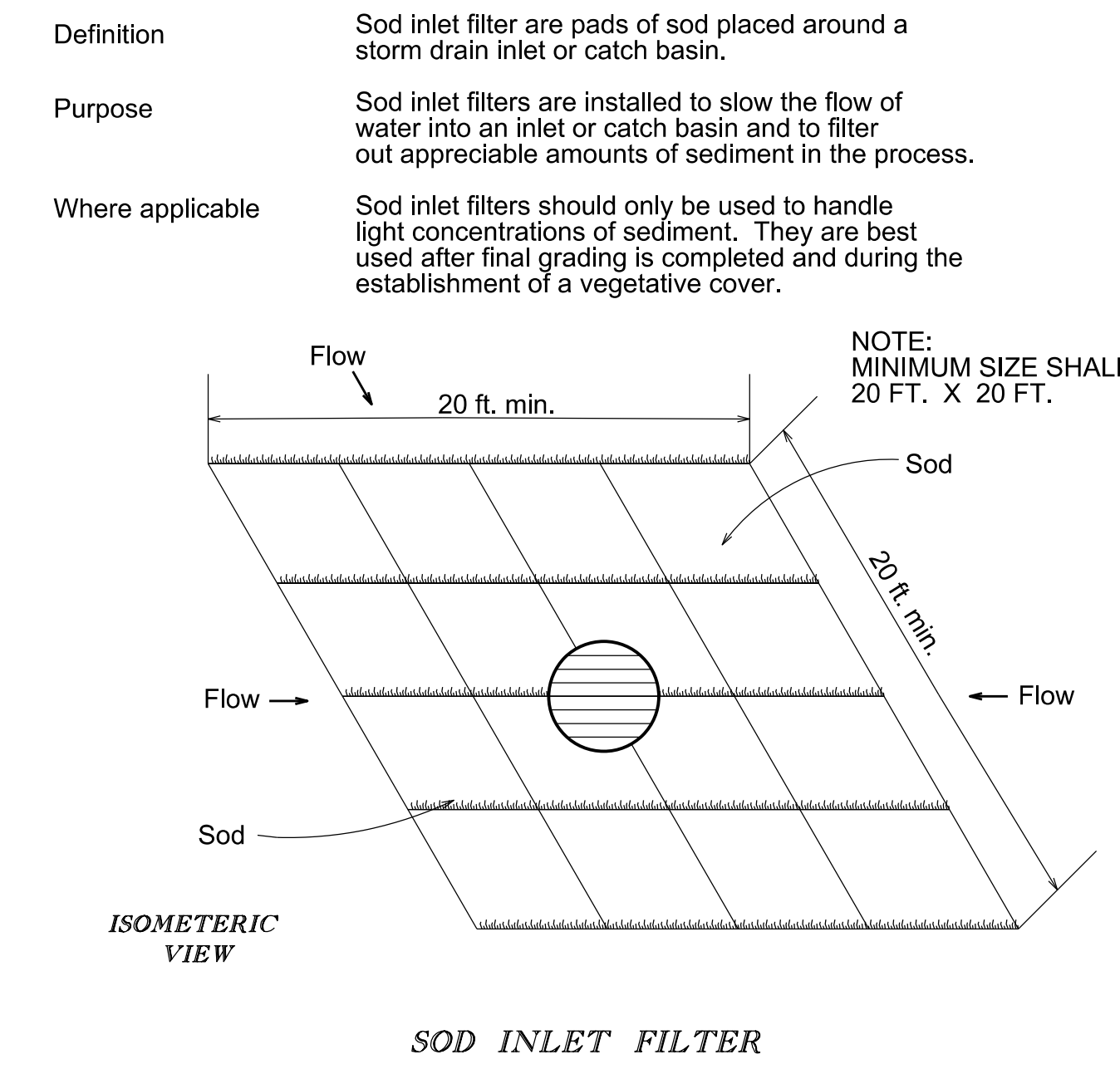
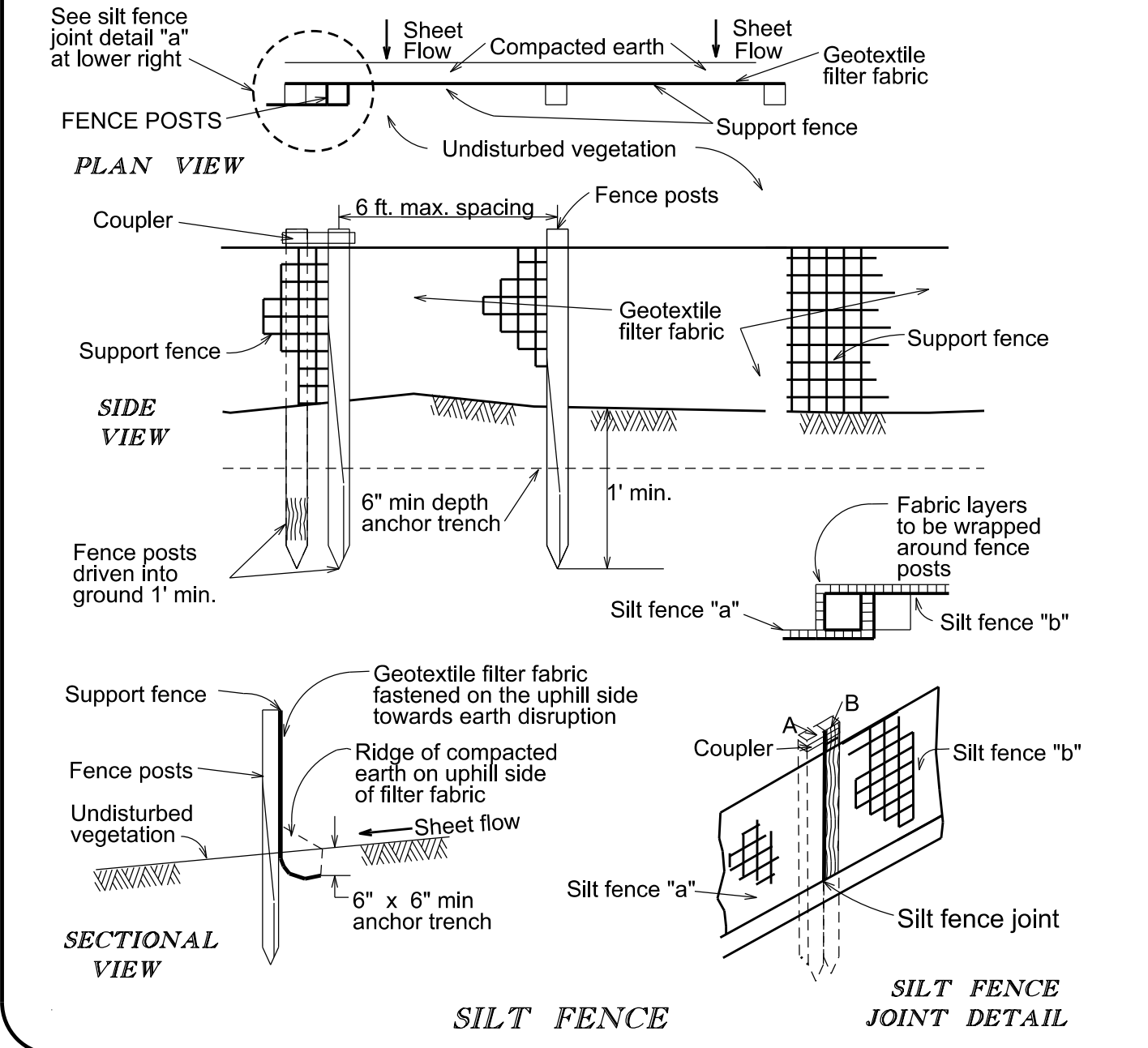
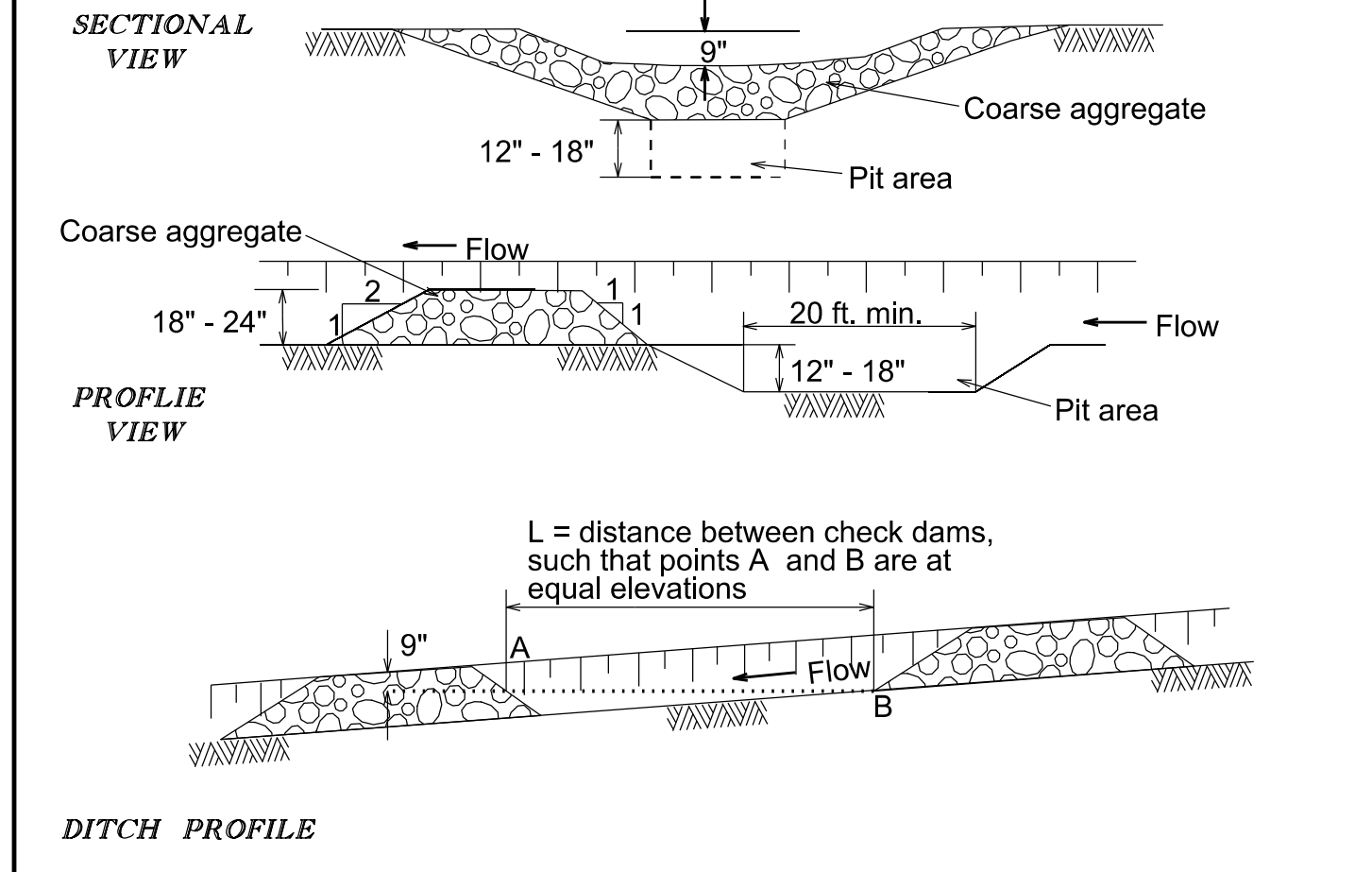
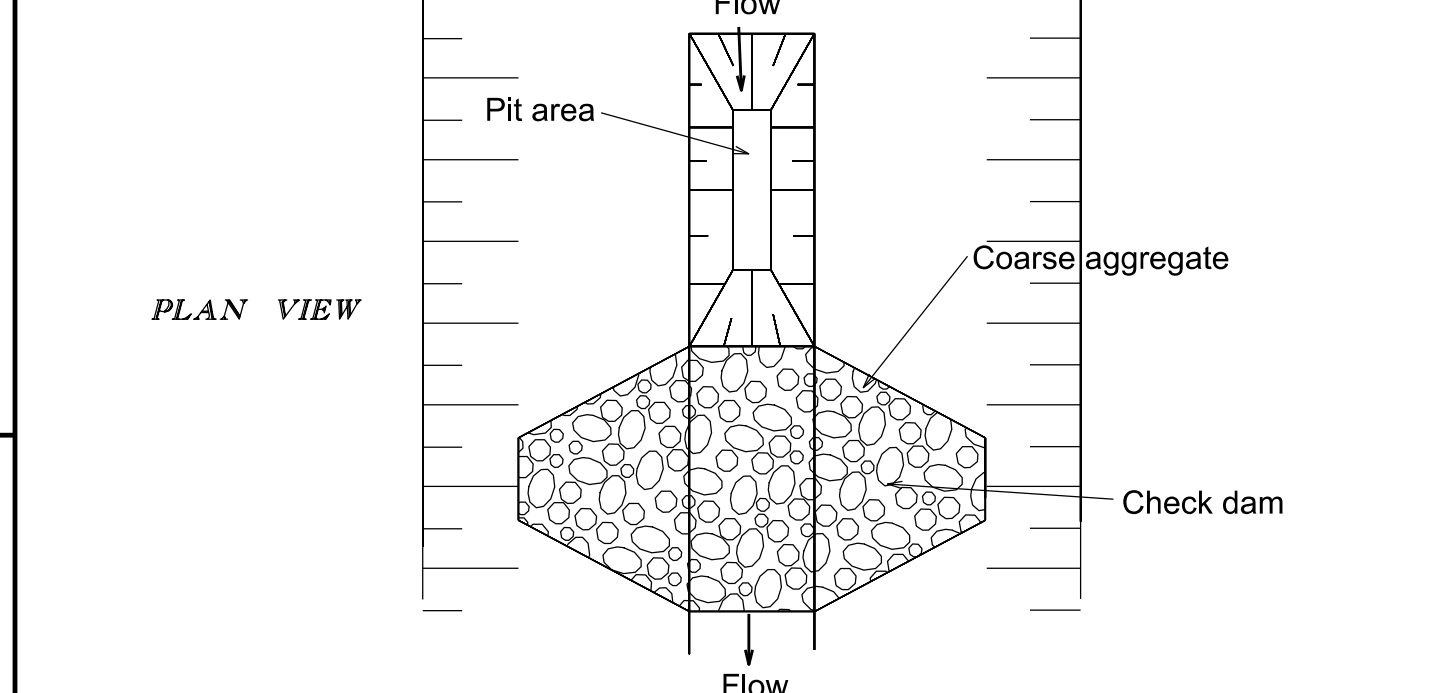
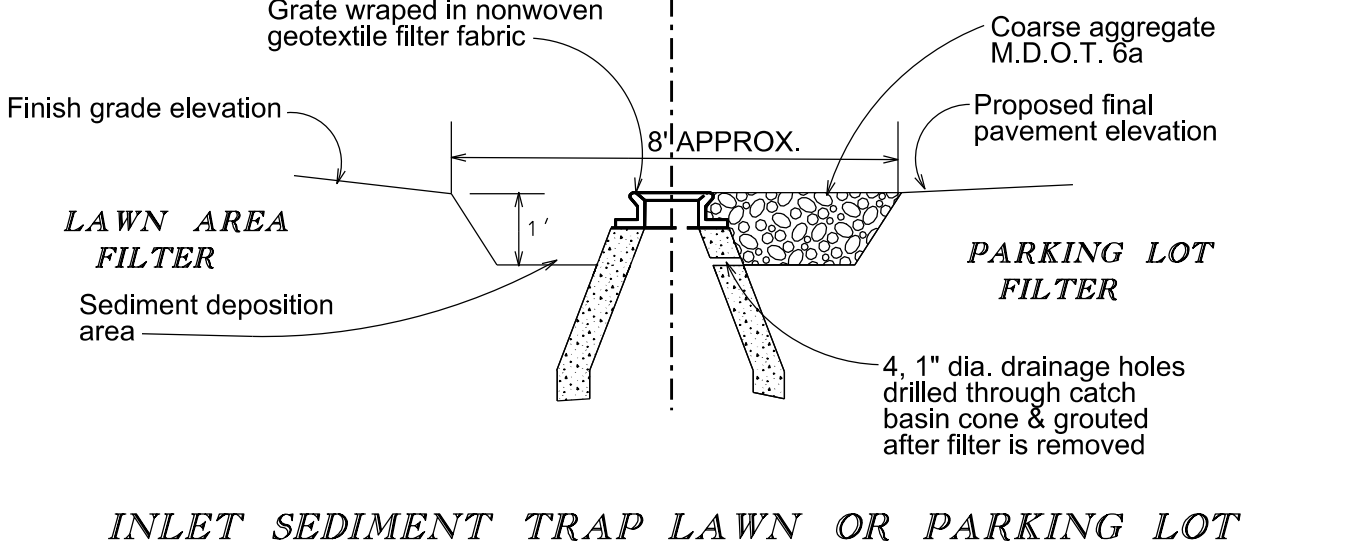
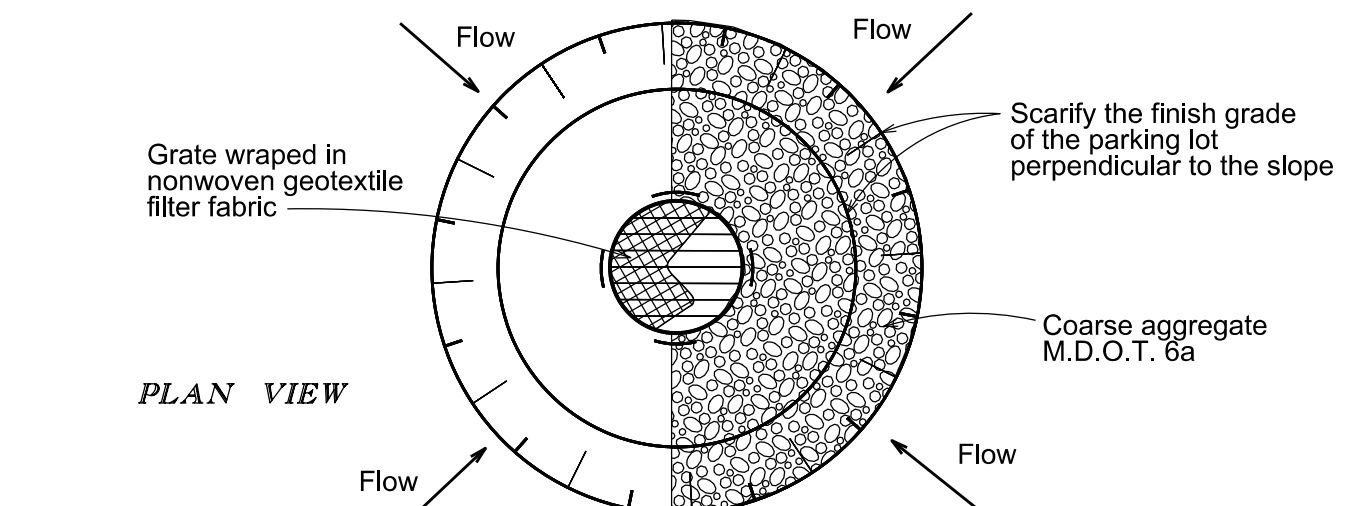
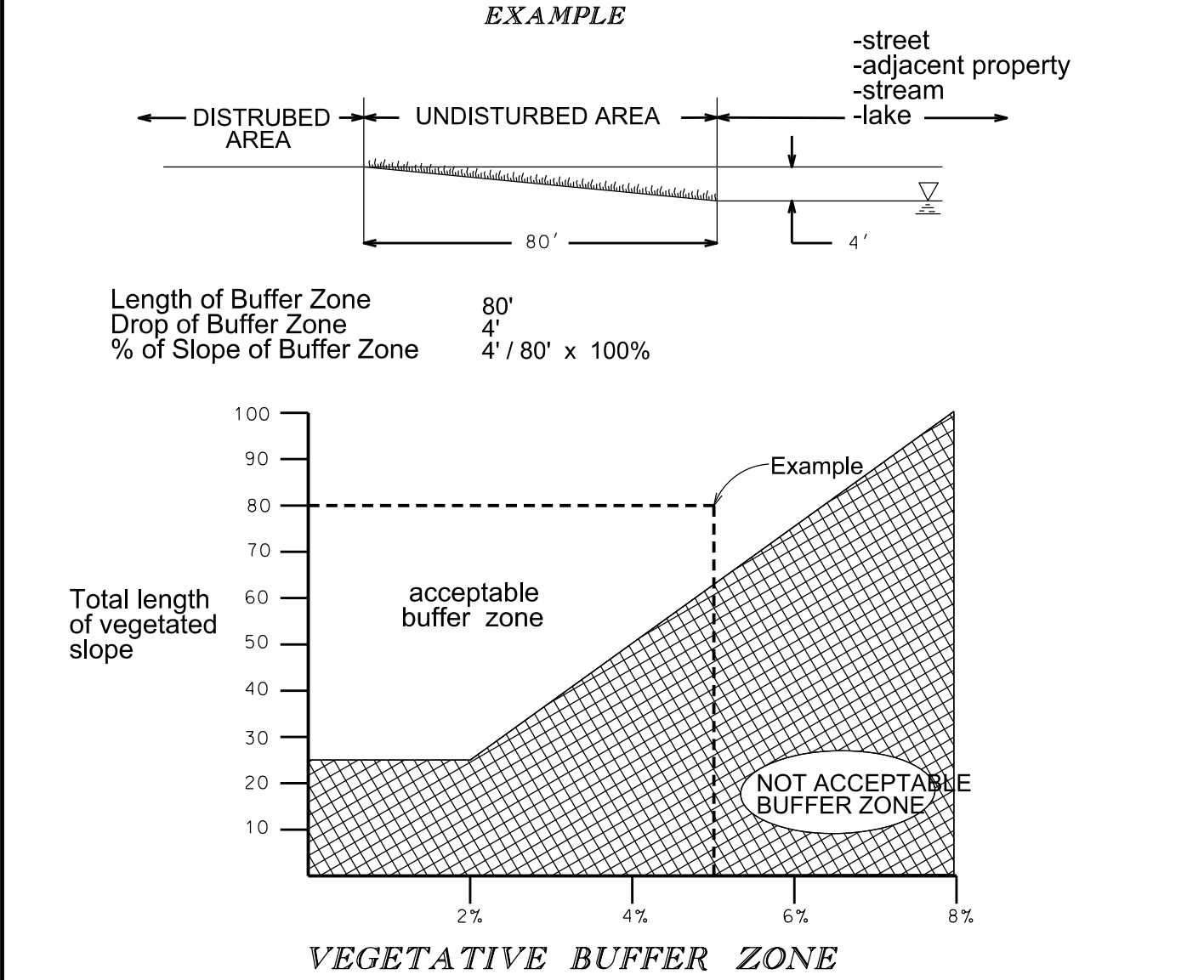
The inserts are to be removed by the builders within 30 days of site stabilization or after the temporary erosion measures are no longer needed.

If inserts are removed during times of flooding, the builder is responsible for re-installing them per regulations.

Silt sock inserts are required for all developments with curb inlets or pavement inlets. Rear yard catch basins may utilize a non-woven Geotextile fabric.

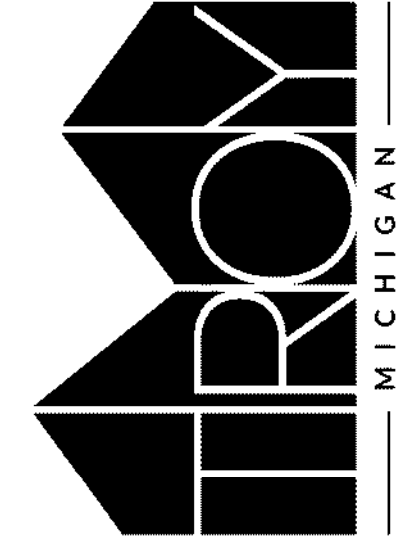


The graph listed below is used to determine the adequacy of an existing vegetative buffer zone for use as a sediment filter. This graph is only applicable if the vegetation is a dense well-grown stand of ground cover, at least 4" in height. An area covered with bushes and trees without a good ground cover is not acceptable.



SOIL EROSION & SEDIMENTATION CONTROL NOTES

- The following items are intended to be a guide to the contractor in evaluating Soil Erosion control requirements for the project. Specific Soil Erosion control devices and locations may be detailed on the plans. The contractor should also note that Soil Erosion and Sedimentation controls are included in the project unless specified otherwise on the plans or in the specifications.
- All erosion and Sediment control work shall conform to the permit requirements and the standards and specifications of the City of Troy.
- Daily inspections shall be made by the contractor for effectiveness of Soil Erosion and Sedimentation control measures and any necessary repairs shall be performed without delay.
- Erosion and any sedimentation from work on this site shall be contained on the site and not allowed to collect on any off-site areas or in waterways.
- Waterways include natural or man-made open ditches, streams, storm drains, lakes and ponds.
- Contractor shall apply temporary soil erosion and sedimentation control measures when required or as directed. Contractor shall remove temporary measures as soon as permanent stabilization of slopes, ditches, and other earth changes has been accomplished.
- Staging the work will be done by the contractor as indicated on the Soil Erosion plans and as required to ensure progressive stabilization of disturbed earth.
- The contractor will establish soil erosion control measures in the early stages of construction. Sediment control measures will be applied as a perimeter defense against any transporting of silt off the site.
- Engineer and owner certification must be included on the plans.
- Separate sheets showing soil erosion and sedimentation control plans must be provided.
- The following guidelines are to be implemented:
 - Check Dams:
 - Stone size must be increased with increased slope and velocity.
 - Side slope of the dam should be 2:1 or flatter.
 - Straw bales are not to be used for check dams.
 - Add stones as needed to maintain design height and cross section.
 - Any accumulation of sediment shall be removed and stockpiled in a stabilized area to prevent the material from eroding back into the drainage course.
 - Vegetative Buffer Zones:
 - Vegetation must be maintained in a vigorous condition.
 - Reshape and reseed areas where concentrated flow occurs or vegetation fails.
 - To be used for sheet flows only.
 - Not to be used as a roadway.
 - Silt Fence:
 - Must be installed along the contour line.
 - Is not to be used in areas of concentrated flow.
 - Must be trenched in at least 6 inches and backfilled.
 - Multiple rows are to be used up a slope.
 - Accumulated sediment must be periodically removed.
 - Where necessary, a support fence shall be used to support the geotextile filter fabric.
 - To be removed after site is permanently stabilized.
 - Inlet Sediment Trap:
 - The sediment deposition area and nonwoven geotextile filter fabric should be cleaned of all accumulated sediment after each storm.
 - After all contributing areas are stabilized, the filter fabric will be removed, sediment deposition area filled, and a sod inlet filter placed over the disrupted lawn area.
 - The filter material used to backfill parking lot drainage holes will be pea stone. The side excavation for the placement of this material will not be deeper than the invert of the drainage holes.
 - Inlet Filters After Paving or Grading:
 - Inlet filters will remain in place until all denuded areas contributing to them are stabilized with vegetation.
 - Periodic inspection and maintenance will be provided to insure that filters are functioning properly.
 - Sod Inlet Filter:
 - Sod inlet filters will only be used to handle light concentrations of sediment.
 - Recommended for use after final grading is complete and during the establishment of a vegetative cover.
 - Catch basin inlet covers may be wrapped in a non-woven geotextile filter fabric for additional filtration.
 - Periodic inspection and maintenance must be provided to insure efficient operation.



STANDARD SOIL EROSION CONTROL DETAILS

ENGINEERING DEPARTMENT

APPROVED BY: WILLIAM J. HUOTARI, CITY ENGINEER

DATE: JUNE 2019

REMARKS

DATE

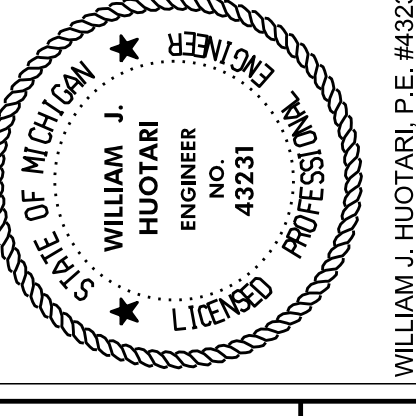
GENERAL UPDATES

REMARKS

DATE

SN0151A3B

SN0151A3B



3 FULL WORKING DAYS BEFORE YOU DIG CALL 811

Know what's below Call before you dig

MS&S Systems, Inc. 1-800-482-2171 www.msands.com

CONTRACT NO. XX-XX

PROJECT NO. XX-XXX-X

WILLIAM J. HUOTARI, P.E. #43231

ADDENDUM NO. 1

Issue Date: December 9, 2022

Project Name: Troy School District
Troy HS & Boulan Park MS 2023 Turf and Track Renovations
Troy, Michigan

This Addendum is issued prior to the receipt of Bids to clarify, modify or interpret the Bid Documents by additions, deletions, clarifications, or corrections. This Addendum forms a part of the Contract Documents and modifies the original Bidding Documents. All requirements contained in the Contract Documents shall apply to this Addendum. All incidental work necessary to complete the work shall be included in the Contractor's Proposal even though not particularly mentioned. Parts of the Specifications and Drawings referred to herein supersede previously issued data and shall form a part of the Bid Documents.

Receipt of this Addendum should be noted on the proposal form; failure to do so may subject Bidder to disqualification.

NEW OR REVISED DOCUMENTS ISSUED WITH THIS ADDENDUM

Project Manual Documents: None

Drawings: L2.00

Sketches: None

PROJECT MANUAL DOCUMENTS DELETED OR REVISED

- Item No. 1 Insert Pre-Bid Meeting Sign-In Sheet
- Item No. 2 Clarification: Existing E-layer thickness is ± 0.75 inches (± 19 mm). All new or patched work shall achieve a common depth to existing material.
- Item No. 3 Clarification: No Geotechnical Data is available for the existing track at Boulan Park M.S., but bidders shall assume there is 6 inches of existing aggregate base material. Proposal D bidders shall supply new aggregate base material as required to achieve proposed finished grade.
- Item No. 4 Insert Substitution Request



DRAWINGS DELETED OR REVISED

Item No. 1 Reference: Drawing L1.00 Demolition Plan

- A. Revise Note #6: Maximum width of E-Layer to be removed and patched for utility installation is 3'-0" wide.

Item No. 2 Reference: Drawing LD1.03 Field Graphics Details

- A. Clarify: Centerfield Logo "We Are" shall be 100% lime green, per legend.

Item No. 3 Reference: Drawing L2.00 Boulan Park M.S. Demolition Plan

- A. Clarified demolition legend
- B. Revised site access and protection of existing sidewalk.

END OF ADDENDUM NO. 1

cc: Planholder List and Plan Rooms
 FDI File

ec: Rob Carson, Troy Schools
 Mark Paulus, Lecole Planners



Pre-Bid Meeting Attendance

Project Name: Troy High School Stadium Renovations Date: 6-Dec-22
 Location: Troy HS Stadium Entrance Time: 11:00 AM

Name	Company	Phone No.	Fax No.	E-mail	Present
Troy DeWolfe	AstroTurf Great Lakes	248-340-8074		tdewolfe@astroturfgreatlakes.com	<input checked="" type="checkbox"/>
Ken Hutchinson	AstroTurf Great Lakes	517-404-0931		Ken@astroturfgreatlakes.com	<input type="checkbox"/>
John Girardot	Nagle Paving	248-765-3106		JOHN@NAGLEPAVING.COM	<input type="checkbox"/>
Scott Hayes	SPH Trucking & Exc.	810-650-3653		SCOTT@SPHSITE.COM	<input type="checkbox"/>
					<input type="checkbox"/>
					<input type="checkbox"/>
					<input type="checkbox"/>
					<input type="checkbox"/>

Substitution Request #001

SUBSTITUTION REQUEST
(During the Bidding/Negotiating Stage)

Project: <u>Synthetic Turf & Track Renovations 2023</u>	Substitution Request Number: <u>Spec-0048413</u>
<u>Troy, MI</u>	From: <u>Paulette Hogan, ICP Building Solutions Group</u>
To: <u>Todd Hensley , Troy School District</u>	Date: <u>12/02/2022</u>
<u>thensley@troy.k12.mi.us, 2488234091</u>	A/E Project Number: _____
Re: <u>Synthetic Track Surface</u>	Contract For: <u>Troy School District</u>

Specification Title: <u>Synthetic Track Surface</u>	Description: <u>Synthetic Running Track Surfacing</u>
Section: <u>321823</u> Page: <u>193</u>	Article/Paragraph: <u>Part 2, 2.1</u>

Proposed Substitution: Plexitrac Accelerator , Plexitrac Lightning

Manufacturer: <u>ICP Building Solutions Group</u>	Corporate HQ: <u>150 Dascomb RD. Andover, MA 01810</u>	Phone: <u>(800) 225-1141</u>
Trade Name: <u>Plexitrac Accelerator , Plexitrac Lightning</u>	Model No.: <u>N/A</u>	

Attached data includes product description, specifications, drawings, photographs, and performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified.

Attached data also includes a description of changes to the Contract Documents that the proposed substitution will require for its proper installation.

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Proposed substitution does not affect dimensions and functional clearances.

Submitted by: Paulette Hogan

Signed by: Paulette Hogan


Firm: ICP Building Solutions Group

Address: _____
, MA

Telephone: , phogan@icpgroup.com

A/E' s REVIEW AND ACTION

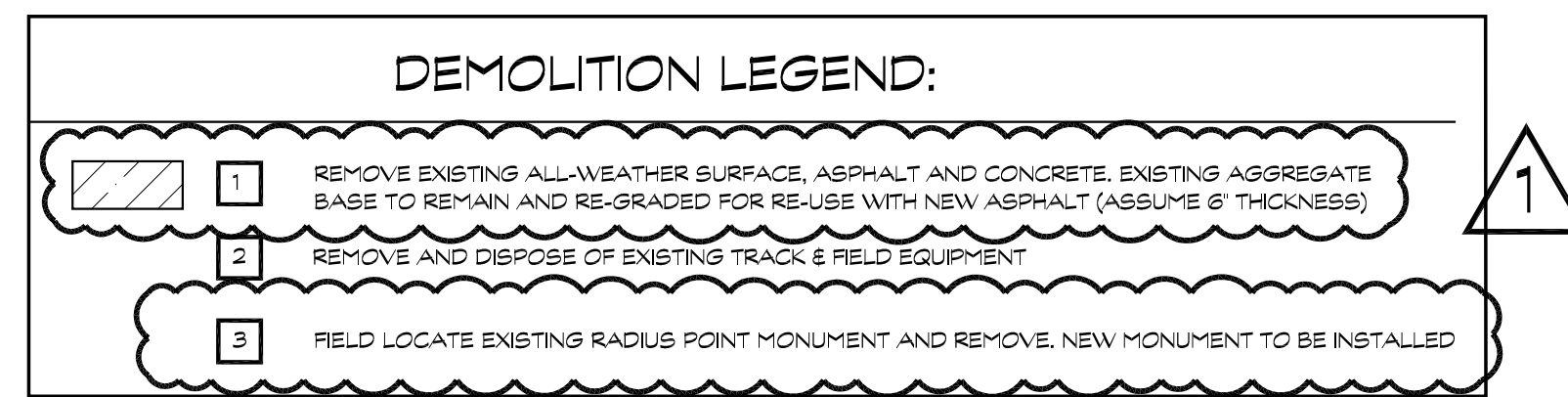
- Substitution approved - Make submittals in accordance with Specification Substitution Procedures.
- Substitution approved as noted - Make submittals in accordance with Specification Substitution Procedures.
- Substitution rejected - Use specified materials. **Products submitted for substitution may be submitted as a voluntary alternate only, not an approved equal to the Base Bid.**
- Substitution Request received too late - Use specified materials.

Signed by:  Michael Sims Date: 12-9-22

Supporting Data Attached: Drawings Product Data Samples Tests Reports _____

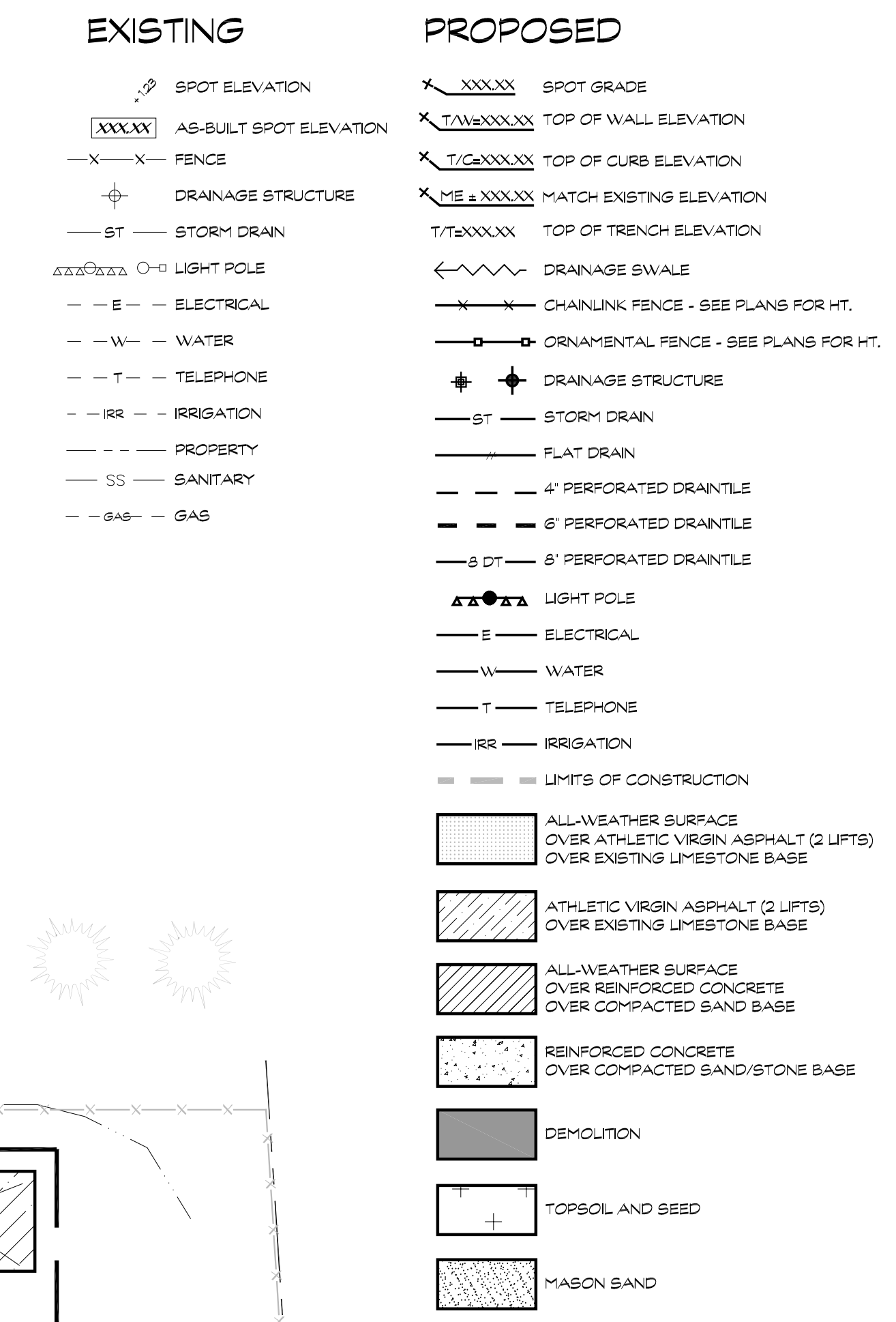
NOTES

- NOTES AND LEGEND SHALL APPLY TO ALL SHEETS AND ALL SITES
- CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND MAKE EVERY EFFORT TO LOCATE EXISTING UNDERGROUND UTILITIES. THIS SHALL INCLUDE CONSULTING WITH ALL LOCAL UTILITY COMPANIES AND USING A SIGNAL LOCATOR PRIOR TO EXCAVATION. ANY AND ALL REPAIRS SHALL BE COMPLETED WITHIN 48 HRS. OR THE OWNER SHALL HAVE THE REPAIR WORK COMPLETED AT THE CONTRACTORS EXPENSE.
- TOPSOIL AND SEED ALL AREAS DISTURBED AND NOT OTHERWISE DEVELOPED. ALL WORK I.E. DEMOLITION AND REMOVALS, DRAINAGE WORK, STONE AND ASPHALT, FENCING, TRACK SURFACE, ETC. SHALL BE COMPLETED BY DATE AS NOTED IN CONTRACT DOCUMENTS. ALL LAWN AREAS SHALL SLOPE TO DRAINAGE STRUCTURES.
- ALL CONTOURS AND SPOT GRADES REFER TO FINISH GRADE OF LAWN, ASPHALT, OR CONCRETE. DO NOT FACTOR IN THE ALL-WEATHER SURFACE DEPTH.



- DEMOLITION NOTES:**
- CONTRACTOR SHALL POWERFLUSH ALL EXISTING DRAIN LINES AND CLEAN DEBRIS FROM SLUPS WITHIN LIMITS OF CONSTRUCTION. FIELD VERIFY THAT ALL EXISTING DRAIN LINES ARE FUNCTIONAL AND CONNECTED.
 - CONTRACTOR SHALL VERIFY LOCATIONS OF ALL PUBLIC AND PRIVATE ON-SITE UTILITIES PRIOR TO CONSTRUCTION ON THE CONTRACTORS BEHALF. WORK SHALL INCLUDE ENLISTING THE SERVICES OF A PRIVATE UTILITY LOCATOR AS REQUIRED.
 - ANY DEPRESSIONS CREATED DURING DEMOLITION ACTIVITIES SHALL BE BACKFILLED WITH CLASS II FILL MATERIAL UP TO PROPOSED SUBGRADE ELEVATION, IN 8 INCH LIFTS AND COMPACTED TO 95% OF MAXIMUM UNIT WEIGHT.
 - ALL CONTRACTORS ARE RESPONSIBLE TO PROTECT EXISTING WALKS, PAVEMENT, LAWNS, BUILDINGS, AND TREES SCHEDULED TO REMAIN THROUGH CONSTRUCTION.
 - ALL EXCESS SOL SHALL BE EXPORTED OFFSITE UNLESS NOTED OTHERWISE.

LEGEND



REVISIONS

PROJECT
TROY H.S. & BOULAN PARK M.S.

2023 SYNTHETIC TURF AND TRACK RENOVATIONS

OWNER
TROY SCHOOL DISTRICT TROY, MI

FORESITE design

ATHLETIC FACILITY PLANNING • SITE PLANNING • CONSULTING • LANDSCAPE ARCHITECTURE

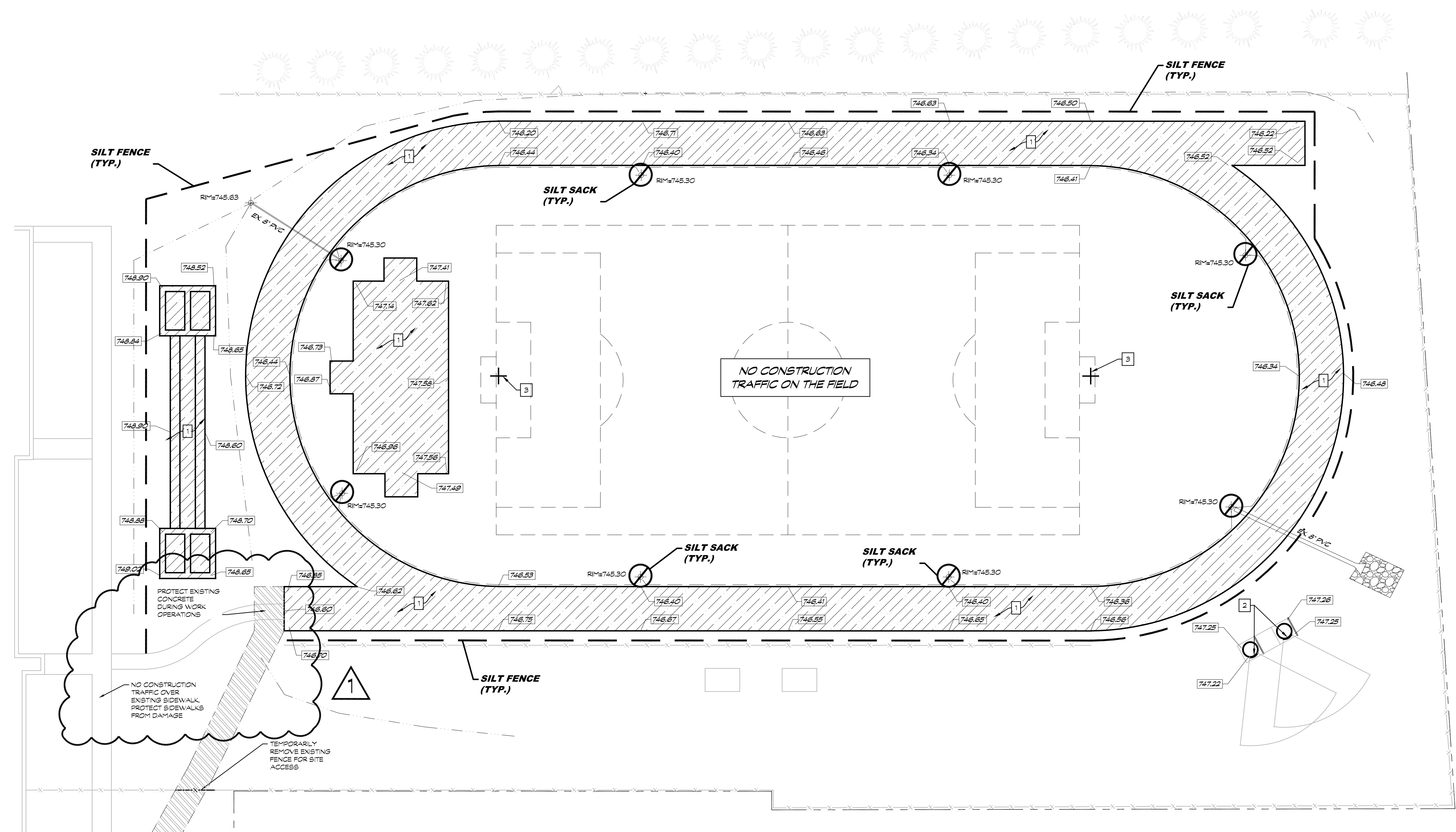
3269 COOLIDGE HWY • BERKLEY, MI 48072
PH. 248.547.7757 • FAX 248.547.0218
WWW.FORESITEDESIGN.COM

DRAWINGS ARE PROPERTY OF FORESITE DESIGN, INC. AND ARE NOT TO BE USED, REPRODUCED, OR PUBLISHED IN PART OR WHOLE, WITHOUT EXPRESSED WRITTEN PERMISSION FROM FORESITE DESIGN, INC. COPYRIGHT 2022.

SHEET TITLE
BOULAN PARK M.S. DEMOLITION PLAN

DWN. BY MDS	CHK BY CAO
DATE 11/28/22	SCALE 1"=30'-0"
SHEET NO.	

L2.00



Troy School District 2023 Troy High School Turf Track Boulan Park MS Track

Bids Due: 12/15/22 @ 11:00 A.M.

BIDDER:	BID SECURITY		IRAN SANCTION DOCUMENT		FAMILIAL DSCL.		ADD. #1		Proposal A - Site Work Turf	
	BB	CC	Y	N	Y	N	Y	N	BASE BID	REMARKS
S&H Trucking & Excavating	BB	CC	Y	N	Y	N	Y	N	\$343,000.00	Vol Alt (1)
Gibraltar Construction Company	BB	CC	Y	N	Y	N	Y	N	\$487,400.00	
Eagle Excavation Incorporated	BB	CC	Y	N	Y	N	Y	N	\$770,000.00	
	BB	CC	Y	N	Y	N	Y	N		
	BB	CC	Y	N	Y	N	Y	N		
	BB	CC	Y	N	Y	N	Y	N		
	BB	CC	Y	N	Y	N	Y	N		

**Bold Indicates Apparent Low Bidder



Troy School District 2023 Troy High School Turf Track Boulan Park MS Track

Bids Due: 12/15/22 @ 11:00 A.M.

BIDDER:	BID SECURITY		IRAN SANCTION DOCUMENT		FAMILIAL DSCL.		ADD. #1		Proposal B - Synthetic Turf	
	BB	CC	Y	N	Y	N	Y	N	BASE BID	REMARKS
Sprinturf	BB	CC	Y	N	Y	N	Y	N	\$460,440.00	Vol Alt (1)
Astroturf Great Lakes	BB	CC	Y	N	Y	N	Y	N	\$462,365.00	Vol Alt (2)
A-Turf, Inc.	BB	CC	Y	N	Y	N	Y	N	\$477,500.00	Vol Alt (1)
Shaw Integrated Turf Solutions	BB	CC	Y	N	Y	N	Y	N	\$515,905.00	Vol Alt (1)
Act Global Americas, Inc.	BB	CC	Y	N	Y	N	Y	N	\$529,927.00	
	BB	CC	Y	N	Y	N	Y	N		
	BB	CC	Y	N	Y	N	Y	N		
	BB	CC	Y	N	Y	N	Y	N		

**Bold Indicates Apparent Low Bidder



**Troy School District 2023
Troy High School Turf Track
Boulan Park MS Track**

Bids Due: 12/15/22 @ 11:00 A.M.

BIDDER:	BID SECURITY		IRAN SANCTION DOCUMENT		FAMILIAL DSCL.		ADD. #1		Proposal C - Track Surface	
	BB	CC	Y	N	Y	N	Y	N	BASE BID	REMARKS
Goddard Coatings Company	BB	CC	Y	N	Y	N	Y	N	\$194,105.00	
Star Trac Enterprise, LLC	BB	CC	Y	N	Y	N	Y	N	\$282,000.00	
	BB	CC	Y	N	Y	N	Y	N		
	BB	CC	Y	N	Y	N	Y	N		
	BB	CC	Y	N	Y	N	Y	N		
	BB	CC	Y	N	Y	N	Y	N		
	BB	CC	Y	N	Y	N	Y	N		

****Bold Indicates Apparent Low Bidder**



Troy School District 2023 Troy High School Turf Track Boulan Park MS Track

Bids Due: 12/15/22 @ 11:00 A.M.

BIDDER:	BID SECURITY		IRAN SANCTION DOCUMENT		FAMILIAL DSCL.		ADD. #1		Proposal D - Site Work Track	
	BB	CC	Y	N	Y	N	Y	N	BASE BID	REMARKS
Nagle Paving Company	BB	CC	Y	N	Y	N	Y	N	\$534,790.00	
Asphalt Specialists, LLC	BB	CC	Y	N	Y	N	Y	N	\$750,000.00	
	BB	CC	Y	N	Y	N	Y	N		
	BB	CC	Y	N	Y	N	Y	N		
	BB	CC	Y	N	Y	N	Y	N		
	BB	CC	Y	N	Y	N	Y	N		
	BB	CC	Y	N	Y	N	Y	N		

****Bold Indicates Apparent Low Bidder**



**Bid 9951 Synthetic Turf & Track Renovation 2023
Tabulation**

Vendors	Proposal A Site Work Turf	Proposal B Synthetic Turf	Proposal C Track Surface	Proposal D Site Work Track
Eagle Excavation Inc.	\$770,000			
Gibraltar Construction Company	\$487,400			
S & H Trucking & Excavating, LLC	\$343,000 a)			
A - Turf, Inc.		\$477,500 b)		
Act Global America's Inc		\$529,927		
AstroTurf Great Lakes		\$462,365 c), d)		
Shaw Integrated and Turf Solutions, Inc.		\$515,905 e)		
Sprinturf, LLC		\$460,440 f)		
Goddard Coatings			\$194,105	
Star Trac Enterprise, LLC			\$282,000	
Asphalt Specialists, LLC				\$750,000
Nagle Paving Company				\$534,790

a) Voluntary Alternate - Remove all Elaxer, install new ProPlay Sport 20 Pad - Add \$140,000

b) Voluntary Alternate - Titan 44oz - 2" Dual Fiber Turf System in lieu of specified Slit Film Turf System , this would include 4 additional manufacturer warranty - No charge

c) Voluntary Alternate - Rhino Slit - Film 42oz -2" System with 20oz Secondary Backing - Deduct \$32,835

d) Voluntary Alternate - 3D3 Rootzone 52oz - 2" with AstroTurf's Standard Backing - Add \$47,432

e) Voluntary Alternate - GameOn Hybrid 2.0 Turf System in lieu of Base Bid Turf System - Add \$64,553

f) Voluntary Aternate - Provide 50oz Dual Fiber Predator Synthetic Turf with a 10 year manufacturer warranty - Add \$39,075