

# ADDENDUM SUMMARY

19306.0000 – RED OAK ISD PRACTICE FIELD RENOVATIONS

10/1/2019 12:00 PM

To: FILE



Addendum: 001

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This addendum contains changes to the requirements of the contract drawings and/or project manual. Such changes shall be incorporated into the contract documents and shall apply to the work with the same meaning and force as if they had been included in the original documents. Wherever this addendum modifies a portion of the paragraph of project manual or any portion of the drawing, the remainder of the paragraph of drawing affected shall remain in force.

The conditions of the basic project manual shall govern all work described in this addendum. Wherever the conditions of work and the quality of quantity of materials or workmanship are not fully described in this Addendum, the conditions of work, etc. included in the basic project manual for similar items of work shall apply to the work described in this addendum.

The "Conditions of the Contract" apply to all work described in this Addendum. The following changes shall be and are hereby made:

## Summary of Revisions

### SPECIFICATON REVISIONS:

#### ITEM 1.001.

#### **INFO**

1. As reviewed at the Pre-Bid Meeting, all items within the Documents (including lighting, paving, and fencing) shall be included within the proposing Contractors price.

- ITEM 1.002.    **Section 26 56 68 EXTERIOR ATHLETIC LIGHTING**
1. Musco Shall be considered the Basis of Design. Alternate Equal Products/Manufacturers will be considered pending approval of information submitted per **Section 26 56 68**. Remove requirement from substitution form that Substitutions be submitted 10 days prior to bid.
  2. Lighting shall be Contractor provided.
- ITEM 1.003.    **Section 31 23 15 MOISTURE CONDITIONED SUBGRADE**
1. Add this Section in its entirety.
  2. Subgrade preparation shall be done in accordance with this Section.
- ITEM 1.004.    **Division 32 – Turf Practice Field Material**
1. Add SPORTURF as an acceptable Manufacturer
    - i. Add Monosport 40oz. FL469z-40 as an acceptable Product.
  2. Add ACT GLOBAL as an acceptable Manufacturer.
    - i. Add ACT GLOBAL Xtreme Turf DX57 as an acceptable Product.
- ITEM 1.005.    **Division 32 18 16 – ARTIFICIAL GRASS FIELDTURF MONOFILAMENT FTRV 57: REVOLUTION**
1. Replace Section with the enclosed latest Product Version FTRV360-57: REVOLUTION 360.

#### **DRAWING REVISIONS:**

- ITEM 1.006.    **Sheet C03.01 DETAILED SITE PLAN**
1. Add note to “Sod all disturbed areas with common Bermuda.”
- ITEM 1.007.    **Sheet C04.00 GRADING PLAN**
1. This site is considered to be a balanced site all excess dirt shall be placed in the location of the future track and field, west adjacent to the proposed turf fields.
  2. Replace this Sheet in its entirety.
  3. Revised grading along the entire north end.
  4. Removed erroneous see MEP for downspout location note.
  5. Remove note: “THIS SHEET IS FOR REFERENCE ONLY”
  6. All grading shown on this sheet shall be included in base bid.
- ITEM 1.008.    **Sheet C05.00 UTILITY PLAN**
1. Replace this Sheet in its entirety.
  2. Changed the 30” HDPE Pipe to a solid pipe.
  3. Changes the 24” from Sta. 3+80 to 4+54 to a solid pipe.
  4. Removed erroneous “See MEP for downspout location note”.
- ITEM 1.009.    **Sheet C06.00 PAVING PLAN**
1. Replace this Sheet in its entirety.
  2. Removed the note in the lower right-hand corner stating, “SEE LANDSCAPE PLAN LS 1.01 FOR SLEEVES UNDER ALL PAVING, WALKS, DRIVES AND PARKING”
  3. Changed the 30” HDPE Pipe to a solid pipe.
  4. Changes the 24” from Sta. 3+80 to 4+54 to a solid pipe.

**ITEM 1.010. Sheet C07.00 TURF INSTALLATION PLAN**

1. Replace this Sheet in its entirety.
2. Replaced note for subgrade preparation, "SEE TURF SECTION FOR SUBGRADE PREPARATION" - "5' - 0" MOISTURE CONDITIONED SUBGRADE PER **SECTION 31 23 15** (INCLUDES 6" LIME STABILIZED SUBGRADE)

**ITEM 1.011. Sheet C07.01 TURF SECTION**

1. Replace this Sheet in its entirety.
2. Added note "5' - 0" MOISTURE CONDITIONED SUBGRADE PER **SECTION 31 23 15** (INCLUDES 6" LIME STABILIZED SUBGRADE)

**ITEM 1.012. Sheet C07.02 TURF DETAILS**

1. Replace this Sheet in its entirety.
2. Modified base stone depth to match C07.01 in the "Typical Artificial Turf Section – Base Bid" from 6" to 4". All base rock shall be 4" thick.
3. Modified the "Artificial Turf Attachment Detail" Note to allow for either "2" x 4" Recycled Plastic or Treated Lumber"

**ITEM 1.013. Sheet C07.04 FIELD DRAINAGE PLAN**

1. Replace this Sheet in its entirety.
2. Revised Flat Drain Layout.
3. Remove hard connection details.

**ITEM 1.014. Sheet C07.05 FENCE DETAILS**

1. Replace this Sheet in its entirety.
2. All Line Post shall be 3" Dia.
3. All Corner, End, Pull or Gate post shall be 4" Dia.

**ITEM 1.015. Sheet C07.06 TURF MARKING FOOTBALL**

1. Replace this Sheet in its entirety.
2. Modified General Notes 12, 13, and 14. NO LOGOS.
3. Modified **Details 6 and 7** "END ZONE LAYOUTS" Removed notes for Red and Yellow colors and school colors.

End of Addendum Summary

CC:

Attachments: **SECTION 31 23 15 - MOISTURE CONDITIONED SUBGRADE; SECTION 32 18 16; C04.00 GRADING PLAN; C05.00 DRAINAGE PLAN; C06.00 PAVING PLAN; C07.00 TURF INSTALLATION PLAN; C07.01 TURF SECTION; C07.02 TURF DETAILS; C07.04 FIELD DRAINAGE PLAN; C07.05 FENCE DETAILS; C07.06 TURF MARKINGS FOOTBALL**

*Please review this information and advise writer of any corrections, misunderstandings, or additions within 3 business days.*

1 SECTION 31 23 15 – MOISTURE CONDITIONED SUBGRADE

2  
3 PART 1 – GENERAL

4  
5 1.1. DESCRIPTION

6 A. The work as specified in this section shall consist of preparing the five (5'-0") below the liner. Sub  
7 grade preparation will be considered for that portion of sub grade inside the track curb.

8 1.2. MEASUREMENT AND PAYMENT

9 Preparation, manipulation and compaction of sub grade either with no additions, with lime, or  
10 with cement will be measured by the square yard complete in place and will be required 2 feet  
11 outside of the back of curbs. Payment for sub grade preparation shall be paid for at the unit price  
12 as shown in the bid proposal for the applicable bid item.

13 If cement or lime is required, it will be measured by the ton (2000 lbs.) based on the actual  
14 delivered and incorporated material complete in place. Payment for cement or lime for sub grade  
15 shall be paid for at the unit price shown in the bid proposal for the applicable bid item.

16  
17 PART 2 - MATERIALS AND EXECUTION

18 The site should be stripped and grubbed to remove all vegetation and deleterious  
19 material. The area should then be excavated to a depth of three to four feet. The  
20 exposed surface should be proof rolled after excavating to the final grade. The proof  
21 rolling should be performed with a fully loaded, tandem-axle dump truck, or other  
22 equipment providing an equivalent subgrade loading. A minimum gross weight of 20  
23 tons is recommended for the proof-rolling equipment. The proof rolling should consist of  
24 several overlapping passes in mutually perpendicular directions over a given area. Any  
25 soft or pumping areas should be excavated to firm ground. Excavated areas should  
26 then be backfilled with the excavated material in lifts as discussed below. The top 6  
27 inches of the exposed subgrade should be stabilized with the addition of hydrated lime.  
28 A lime series tests should be performed to determine the exact quantity of lime that will  
29 be required to achieve a Plasticity Index of 12 or less. 8% lime (37 pounds per square  
30 yards of treated area) may be used for estimating purposes.

ITEM	DESCRIPTION
Subgrade preparation to receive fill	Surface scarified to a minimum depth of 6 inches and compacted to criteria below
All fills; loose lift thickness	9-inches or less
General site fill outside moisture conditioned areas	A minimum of 95% maximum standard Proctor dry density (ASTM D 698) at least +2 percentage points above optimum moisture content.
Moisture conditioned soils	93% to 98% of the maximum standard Proctor dry density (ASTM D 698) at a minimum of +4 percentage points above optimum moisture content

ITEM	DESCRIPTION
Lime stabilized soil	A minimum of 95% maximum standard Proctor dry density (ASTM D 698) in the range of 0 to +5 percentage points above the optimum moisture content

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**END OF SECTION 31 23 15**

## SECTION 32 18 16

### ARTIFICIAL GRASS FIELDTURF MONOFILAMENT FTRV360-57: REVOLUTION 360

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

##### **1.1 SUMMARY**

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

##### **1.2 REFERENCE STANDARDS**

- A. FM Factory Mutual
  - 1. P7825 - Approval Guide; Factory Mutual Research Corporation; current edition
- B. ASTM – American Society for Testing and Materials.
  - 1. D1577 - Standard Test Method for Linear Density of Textile Fiber
  - 2. D5848 - Standard Test Method for Mass Per Unit Area of Pile Yarn Floor Covering
  - 3. D1338 - Standard Test Method for Tuft Bind of Pile Yarn Floor Covering
  - 4. D1682 - Standard Method of Test for Breaking Load and Elongation of Textile Fabrics
  - 5. D5034 - Standard Test Method of Breaking Strength and Elongation of Textile Fabrics (Grab Test)
  - 6. F1015 - Standard Test Method for Relative Abrasiveness of Synthetic Turf Playing Surfaces
  - 7. D4491 - Standard Test Methods for Water Permeability of Geotextiles by Permittivity
  - 8. D2859 - Standard Test Method for Ignition Characteristics of Finished Textile Floor Covering Materials
  - 9. F355 - Standard Test Method for Shock-Absorbing Properties of Playing Surfaces.
  - 10. F1936 - Standard Test Method for Shock-Absorbing Properties of North American Football Field Playing Systems as Measured in the Field

##### **1.3 SUBMITTALS**

- A. Substitutions: Other products are acceptable if in compliance with all requirements of these specifications. Submit alternate products to Architect for approval prior to bidding in accordance Section 01 25 13, Product Substitution Procedures.
  - 1. Provide substantiation that proposed system does not violate any other

- manufacturer's patents, patents allowed or patents pending.
  - 2. Provide a sample copy of insured, non-prorated warranty and insurance policy information.
- B. Comply with Section 01 33 00, Submittals Procedures. Submit for approval prior to fabrication.
- C. Shop Drawings:
- 1. Indicate field layout; field marking plan and details for the specified sports; i.e., NCAA Football; roll/seaming layout; methods of attachment, field openings and perimeter conditions.
  - 2. Show installation methods and construction indicating field verified conditions, clearances, measurements, terminations, drainage.
  - 3. Provide joint submission with related trades when requested by Architect.
- D. Product Data: Due at time of Bid
- 1. Submit manufacturer's catalog cuts, material safety data sheets (MSDS), brochures, specifications; preparation and installation instructions and recommendations; storage, handling requirements and recommendations.
  - 2. Submit fiber manufacturer's name, type of fiber and composition of fiber.
  - 3. Submit data in sufficient detail to indicate compliance with the contract documents.
  - 4. Submit manufacturer's instructions for installation.
  - 5. Submit manufacturer's instructions for maintenance for the proper care and preventative maintenance of the synthetic turf system, including painting and markings.
- E. Samples: Submit a synthetic turf sample, 12 x 12 inches, representing the turf carpet portion of the product proposed for this project.
- F. Product Certification: Due at time of Bid
- 1. Submit manufacturer's certification that products and materials comply with requirements of the specifications.
  - 2. Submit test results indicating compliance with Reference Standards.
- G. Project Record Documents: Record actual locations of seams, drains and other pertinent information in accordance with Specifications, General Requirements.
- H. List of existing installations: Due at time of Bid. Submit list including respective Owner's representative and telephone number.
- I. Warranties: Submit warranty and ensure that forms have been completed in Owner's name and registered with approved manufacturer.
- J. Submit Bills of Lading/Material Delivery Receipts for synthetic turf infill materials. Bills of lading shall bear the name of the project/delivery address, quantity of materials delivered, source/location of origin of infill materials and/or manufacturer, and date of delivery.
- K. Testing Certification: Due at time of Bid. Submit certified copies of independent (third-party) laboratory reports on ASTM testing:
- 1. Pile Height, Face Weight & Total Fabric Weight, ASTM D5848.
  - 2. Primary & Secondary Backing Weights, ASTM D5848.
  - 3. Tuft Bind, ASTM D1335.



4. Grab Tear Strength, ASTM D1682 or D5034.
5. Water Permeability, ASTM D4491

#### **1.4 QUALITY ASSURANCE**

- A. Comply with Section 01 43 00, Quality Assurance.
- B. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section. The turf contractor and/or the turf manufacturer:
  1. Shall be experienced in the manufacture and installation of specified type of infilled monofilament synthetic grass system for a minimum of three years. This includes a monofilament fiber, backing, the backing coating, and the installation method.
  2. The manufacturer must have ISO 9001, ISO 14001 and OHSAS 18001 certifications demonstrating its manufacturing efficiency with regards to quality, environment and safety management systems.
  3. The manufacturer must be a FIFA Preferred Producer and a FIFA Licensee
  4. The manufacturer must be licensed by all of the following major international governing bodies: FIFA, World Rugby and International Hockey Federation (FIH)
  5. Shall have a minimum of 1 FIFA Quality Pro recommended field in North America.
  6. The fiber and turf carpet being proposed must have a documented Fiber Performance Index of at least 80. Official testing to be completed by Labosport.
  7. Artificial turf fiber proposed for the field(s) must have successfully undergone a Lisport wear test as part of Penn State University's fiber wear testing program. This fiber must be exactly the same fiber that is being proposed for the field(s). Official Penn State test reports must be provided.
  8. Manufacturer must provide proof that its turf systems have been subject to long-term independent, epidemiological and peer reviewed studies proving its ability to provide for a safe surface.
- C. Installer: Company shall specialize in performing the work of this section. The Contractor shall provide competent workmen skilled in this specific type of synthetic grass installation.
  1. The designated Supervisory Personnel on the project shall be certified, in writing by the turf manufacturer, as competent in the installation of specified monofilament material, including sewing seams and proper installation of the infill mixture.
  2. Installer shall be certified by the manufacturer and licensed.
  3. The installer supervisor shall have a minimum of 5 years experience as either a construction manager or a supervisor of synthetic turf installations
- D. Pre-Installation Conference: Conduct conference at project site at time to be determined by Architect. Review methods and procedures related to installation including, but not limited to, the following:
  1. Inspect and discuss existing conditions and preparatory work performed under other contracts.
  2. In addition to the Contractor and the installer, arrange for the attendance of installers affected by the Work, The Owner's representative, and the Architect.
- E. The Contractor shall verify special conditions required for the installation of the system.

- F. The Contractor shall notify the Architect of any discrepancies.

### **1.5 DELIVERY, STORAGE, AND HANDLING**

- A. Comply with Section 01 60 00, Product Requirements.
- B. Prevent contact with materials that may cause dysfunction.
- C. Deliver and store components with labels intact and legible.
- D. Store materials/components in a safe place, under cover, and elevated above grade.
- E. Protect from damage during delivery, storage, handling and installation. Protect from damage by other trades.
- F. Inspect all delivered materials and products to ensure they are undamaged and in good condition.
- G. Comply with manufacturer's recommendations.

### **1.6 SEQUENCING AND SCHEDULING**

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

### **1.7 WARRANTY AND GUARANTEE**

- A. See Section 01780 - Closeout Submittals, For Additional Warranty Requirements.
- B. The Contractor shall provide a warranty to the Owner that covers defects in materials and workmanship of the turf for a period of eight (8) years from the date of substantial completion. The turf manufacturer must verify that their representative has inspected the installation and that the work conforms to the manufacturer's requirements. The manufacturer's warranty shall include general wear and damage caused from UV degradation. The warranty shall specifically exclude vandalism, and acts of God beyond the control of the Owner or the manufacturer. The warranty shall be fully third party insured; prepaid for the entire 8 year term and be non-prorated. The Contractor shall provide a warranty to the Owner that covers defects in the installation workmanship, and further warrant that the installation was done in accordance with both the manufacturer's recommendations and any written directives of the manufacturer's representative. Prior to final payment for the synthetic turf, the Contractor shall submit to owner notification in writing that the field is officially added to the annual policy coverage, guaranteeing the warranty to the Owner. The insurance policy must be underwritten by an "AM Best" A rated carrier and must reflect the following values:
- Pre-Paid 8-year insured warranty from a single source.
  - Maximum per claim coverage amount of \$15,000,000.
  - Minimum of fifteen million dollars (\$15,000,000) annual.
  - Must cover full 100% replacement value of total square footage installed, minimum of \$7.00 per sq ft. (in case of complete product failure, which will include removal and

disposal of the existing surface)

- Provide a sample copy of insured, non-prorated warranty and insurance policy information.
- Policy cannot include any form of deductible to be paid by the Owner.

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

## 1.8 MAINTENANCE SERVICE

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

## PART 2 - PRODUCTS

### 2.1 ACCEPTABLE MANUFACTURER

A. Approved manufacturers are as follows:

- 1. FieldTurf USA Inc.  
175 N. Industrial Blvd  
Calhoun, GA 30701  
P: 800-724-2969

Model: FieldTurf Revolution 360 2.25"

### 2.2 MATERIALS AND PRODUCTS

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

<u>Standard</u>	<u>Property</u>	<u>Specification</u>
ASTM D1577	Fiber Denier	14,500
ASTM D5823	Min. Pile Height	2.25"
ASTM D1577	Fiber Thickness	360 Microns
ASTM D5793	Stitch Gauge	3/4"
ASTM D5848	Pile Weight	38oz/square yard
ASTM D5848	Primary Backing	7+oz/square yard
ASTM D5848	Secondary Backing	14+oz/square yard
ASTM D5848	Total Weight	59+oz/square yard

ASTM D1335	Tuft Bind (Without Infill)	8+ lbs
ASTM D5034	Grab Tear (Width)	200 lbs/force
ASTM D5034	Grab Tear (Length)	200 lbs/force
ASTM D4491	Carpet Permeability	>40 inches/hour
ASTM F1936	Impact Attenuation (Gmax)	<200
	Min. Infill Material Depth	1.5 inches
	Min. Sand Infill Component	6.2lbs/square foot
	Min. Cryogenic Rubber Infill	2.2lbs/square foot
	Total Product Weight	1269oz/square yard

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

- C. Carpet shall consist of monofilament fibers tufted into a primary backing with a secondary backing.
- D. Carpet Rolls shall be 15' wide rolls.
1. Rolls shall be long enough to go from field sideline to sideline.
  2. Where the playing field is for football, the perimeter white line shall be tufted into the individual sideline rolls.
- E. Backing:
1. Primary backing shall be a minimum double-layered polypropylene fabric.
  2. Secondary backing shall permanently lock the fiber tufts in place.
  3. Perforated (with punched holes), backed carpet are unacceptable.
- F. Fiber shall be measuring no less than 2.25 inches high.
1. Systems with less than a 2.25 inch fibers are unacceptable.
- G. Infill materials shall be approved by the manufacturer.
1. Infill shall consist of a resilient granular system, comprising selected and graded sand and cryogenically hammer-milled SBR rubber crumb.
  2. Artificial Grass products without cryogenically processed rubber shall not be accepted.
- H. The sand infill will comply within the following characteristics:
- Average Particle size between 20 and 30 mesh [calculated based on summing the midpoint of sieve pan fractions times the % retained on given screen fractions]
  - Average Particle shape > 0.4 on the Krumbein scale
  - Particle structure predominantly single grain
  - Produce < 0.4%, -50M in API crush test at 80psig
- I. Non-tufted or inlaid lines and markings shall be painted with paint approved by the synthetic turf manufacturer.
- J. Thread for sewing seams of turf shall be as recommended by the synthetic turf manufacturer.
- K. Glue and seaming fabric for inlaying lines and markings shall be as recommended by the

synthetic turf manufacturer.

### **2.3 QUALITY CONTROL IN MANUFACTURING**

- A. The manufacturer shall own and operate its own manufacturing plant. Manufacturing the fiber, tufting of the field fibers into the backing materials and coating of the turf system must be done in-house by the turf manufacturer. Outsourcing of any of these major processes is unacceptable.
- B. The manufacturer shall have full-time certified in-house inspectors at their manufacturing plant that are experts with industry standards.
- C. Primary backing shall be inspected by the manufacturer's full-time certified in-house inspectors before tufting begins.
- D. The manufacturer's full-time in-house certified inspectors shall verify "pick count", yarn density in relation to the backing, to ensure the accurate amount of face yarn per square inch.
- E. The manufacturer's full-time, in-house, certified inspectors shall perform turf inspections at all levels of production including during the tufting process and at the final stages before the turf is loaded onto the truck for delivery.
- F. The manufacturer shall have its own, in-house laboratory where samples of turf are retained and analyzed, based on standard industry tests, performed by full-time, in-house, certified inspectors.
- G. The manufacturer must have ISO 9001, ISO 14001 and OHSAS 18001 certifications demonstrating its manufacturing efficiency with regards to quality, environment and safety management systems.

### **2.4 FIELD GROOMER & SWEEPER**

Supply field groomer as part of the work.

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

## **PART 3 - EXECUTION**

### **3.1 EXAMINATION**

- A. Verify that all sub-base leveling is complete prior to installation.
- B. Installer shall examine the surface to receive the synthetic turf and accept the sub-base planarity in writing prior to the beginning of installation.
  - 1. Acceptance is dependent upon the Owner's test results indicating compaction and planarity are in compliance with manufacturer's specifications.
  - 2. The surface shall be accepted by Installer as "clean" as installation commences and

shall be maintained in that condition throughout the process.

- C. Compaction of the aggregate base shall be 95%, in accordance with ASTM D1557 (Modified Proctor procedure); and the surface tolerance shall not exceed 0-1/4 inch over 10 feet and 0-1/2" from design grade.
- D. Correct conditions detrimental to timely and proper completion of Work.
- E. Do not proceed until unsatisfactory conditions are corrected.
- F. Beginning of installation means acceptance of existing conditions.

### **3.2 PREPARATION**

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

### **3.3 INSTALLATION - GENERAL**

- A. The installation shall be performed in full compliance with approved Shop Drawings.
- B. Only trained technicians, skilled in the installation of athletic caliber synthetic turf systems working under the direct supervision of the approved installer supervisors, shall undertake any cutting, sewing, gluing, shearing, topdressing or brushing operations.
- C. The designated Supervisory personnel on the project must be certified, in writing by the turf manufacturer, as competent in the installation of this material, including sewing seams and proper installation of the Infill mixture.
- D. Designs, markings, layouts, and materials shall conform to all currently applicable National Collegiate Athletic Association rules, NFHS rules, and/or other rules or standards that may apply to this type of synthetic grass installation. Designs, markings and layouts shall first be approved by the Architect or Owner in the form of final shop drawings. All markings will be in full compliance with final shop drawings.

### **3.4 INSTALLATION**

- A. Install at location(s) indicated, to comply with final shop drawings, manufacturers'/installer's instructions.
- B. The Contractor shall strictly adhere to specified procedures. Any variance from these requirements shall be provided in writing, by the manufacturer's on-site representative, and submitted to the Architect and/or Owner, verifying that the changes do not in any way affect the Warranty. Infill materials shall be approved by the manufacturer and installed in

accordance with the manufacturer's standard procedures.

- C. Carpet rolls shall be installed directly over the properly prepared aggregate base. Extreme care shall be taken to avoid disturbing the aggregate base, both in regard to compaction and planarity.
  - 1. Repair and properly compact any disturbed areas of the aggregate base as recommended by manufacturer
- D. Full width rolls shall be laid out across the field.
  - 1. Turf shall be of sufficient length to permit full cross-field installation from sideline to sideline.
  - 2. No cross seams will be allowed in the main playing area between the sidelines.
  - 3. Each roll shall be attached to the next roll utilizing standard state-of-the-art sewing procedures.
  - 4. When all of the rolls of the playing surface have been installed, the sideline areas shall be installed at right angles to the playing surface.
- E. Artificial turf panel seams shall be sewn along the selvedge edging flap of the turf roll. Seams secured by other means including gluing are unacceptable. Installation shall be 99% sewn.
  - 1. Minimum gluing will only be permitted to repair problem areas, corner completions, and to cut in any logos or inlaid lines as required by the specifications.
  - 2. Seams shall be flat, tight, and permanent with no separation or fraying.
  - 3. In the case of all lines and logos, turf carpet/field fibers must be sheared to the backing (do not cut the backing) and adhered using hot melt adhesives.
- F. Infill Materials:
  - 1. Infill materials shall be applied in numerous thin lifts. The turf shall be brushed as the mixture is applied.
  - 2. Infill materials shall be installed to fill the voids between the fibers and allow the fibers to remain vertical and non-directional. The Infill installation consists of sand and cryogenically processed rubber. The Infill shall be installed to a minimum depth of 1 1/2".
- G. Non-tufted or inlaid lines and markings shall be painted in accordance with turf and paint manufacturers' recommendations. Number of applications will be dependent upon installation and field conditions.
- H. Synthetic turf shall be attached to the perimeter edge detail in accordance with the manufacturer's standard procedures.
- I. Upon completion of installation, the finished field shall be inspected by the installation crew and an installation supervisor.

### **3.5 FIELD MARKINGS**

- A. Field markings shall be installed in accordance with approved shop drawings. If football is designated as the primary sport, all five yard lines will be tufted-in.
- B. Balance of sports markings will be inlaid or painted in accordance with the Drawings.
- C. Center field logo shall be either painted or inlaid according to artwork indicated on

Drawings and in accordance with manufacturer's standard palette of turf colors.

- D. End-zone letters and logos shall be either painted or inlaid according to artwork and fonts indicated on the Drawings, and in accordance with manufacturer's standard palette of turf colors.

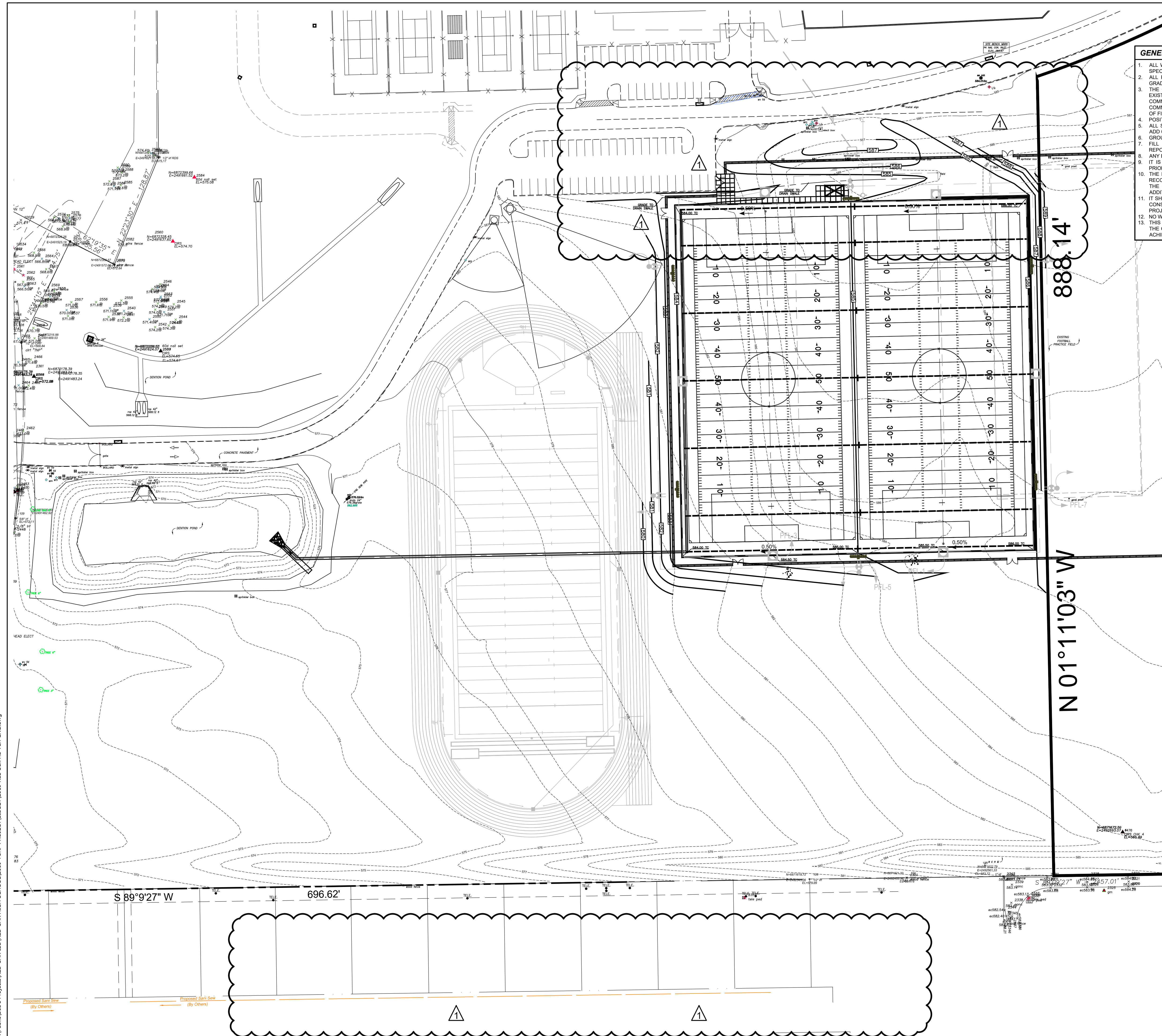
### **3.6 ADJUSTMENT AND CLEANING**

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

### **3.7 PROTECTION**

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



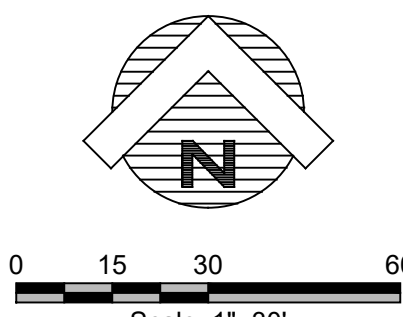


- GENERAL GRADING NOTES:**
1. ALL WORK SHALL BE IN ACCORDANCE WITH THESE PLANS AND CITY OF RED OAK STANDARDS AND SPECIFICATIONS.
  2. ALL PROPOSED CONTOURS ARE APPROXIMATE. PROPOSED SPOT ELEVATIONS AND DESIGNATED GRADIENT ARE TO BE USED IN THE EVENT OF ANY DISCREPANCIES.
  3. THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS SHALL VERIFY THE SUITABILITY OF ALL EXISTING AND PROPOSED SITE CONDITIONS INCLUDING GRADES AND DIMENSIONS BEFORE COMMENCEMENT OF ANY CONSTRUCTION. IN THE EVENT OF ANY CONFLICT AND PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION, IMMEDIATELY NOTIFY ENGINEER. MINOR ADJUSTMENTS OF FINISHED GRADE TO ACCOMPLISH SPOT DRAINAGE ARE ACCEPTABLE.
  4. POSITIVE DRAINAGE SHALL BE PROVIDED AWAY FROM ALL FOUNDATIONS AND STRUCTURES.
  5. ALL SPOT ELEVATIONS ARE TOP OF PAVEMENT OR GUTTER. TO OBTAIN TOP OF CURB ELEVATION, ADD 0.5 FEET.
  6. GROUND SHALL BE SCARIFIED PRIOR TO PLACING ANY FILL.
  7. FILL SHALL BE PLACED IN ACCORDANCE WITH THE GEOTECHNICAL INVESTIGATION AND SOILS REPORT RECOMMENDATIONS.
  8. ANY EXCESS EXCAVATION SHALL BE DISTRIBUTED AS DIRECTED BY THE OWNER OR THE ENGINEER.
  9. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND/OR ESTABLISH A BENCHMARK PRIOR TO CONSTRUCTION AND MAINTAIN THE BENCHMARK DURING CONSTRUCTION.
  10. THE LOCATIONS OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM AVAILABLE PUBLIC RECORDS. THE EXACT LOCATION AND DEPTH OF ALL UTILITIES INDICATED MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.
  11. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL EXISTING UTILITIES IN THE CONSTRUCTION OF THIS PROJECT. ANY UTILITIES DAMAGED DURING THE CONSTRUCTION OF THIS PROJECT SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
  12. NO WEEP HOLES SHALL BE COVERED.
  13. THIS SITE IS ASSUMED TO BE A BALANCED SITE BY ADJUSTING THE BENCHMARK ELEVATION. THE CONTRACTOR SHALL INFORM THE ENGINEERING OF THE ADJUSTMENT TO THE BENCHMARK TO ACHIEVE THE BALANCED SITE OR DIRT CAN BE BORROWED FROM THE DETENTION BASIN.

**BENCHMARKS:**

BENCHMARK #1:  
SPK NAIL IN CENTER OF HUBBARD DRIVE.  
N 6955.1717'0, E 2587.917'859  
ELEVATION=556.02

BENCHMARK #2:  
3" ALUMINUM DISK SET IN CONCRETE  
N.W. CORNER OF LIFT STATION FENCE.  
N 698281.3710, E 258791.4690  
ELEVATION=524.55



**LEGEND**

	PROPOSED TOP OF CURB
	PROPOSED TOP OF PAVEMENT
	PROPOSED TOP OF INLET
	PROPOSED TOP OF INLET
	PROPOSED CONTOUR
	PROPOSED FINISH FLOOR
	PROPOSED LANDSCAPE BERM
	DIRECTION OF FLOW
	EXISTING SPOT
	EXISTING CONTOUR

Revised: Oct 1, 2019, 10:29 AM by: user: rtkb, Scale: 1/10/2019 by: user: rtkb  
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NOTE: THE CITY OF RED OAK CONSTRUCTION STANDARDS APPLY, WHETHER INDICATED ON THESE PLANS OR NOT. NOTE: EROSION CONTROLS SHALL BE IN PLACE PRIOR TO THE DISTURBANCE OF ANY EXISTING SURFACE.



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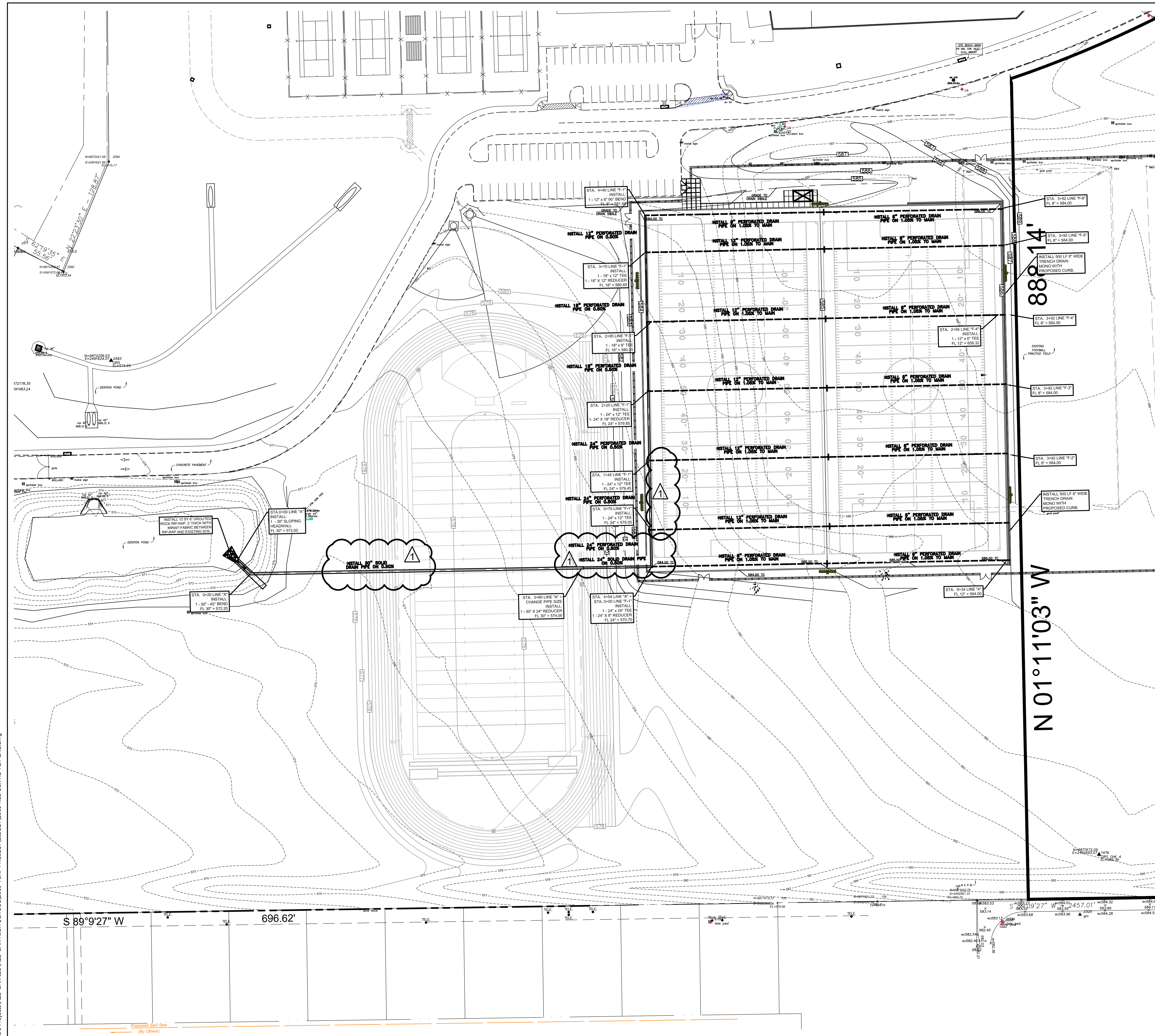
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T.B.P.E. FIRM REGISTRATION NO. F - 303  
PHONE 972-717-5151 FAX 972-717-2176  
105 DECKER COURT - SUITE 910 IRVING, TEXAS 75014

**RED OAK HIGH SCHOOL**  
**ARTIFICIAL**  
**TURF PRACTICE FIELDS**  
 FOR  
**RED OAK INDEPENDENT SCHOOL DISTRICT**

**GRADING PLAN**

**JOB** 19306.0000  
**DATE** 09/13/2019  
**SHEET**

**C04.00**

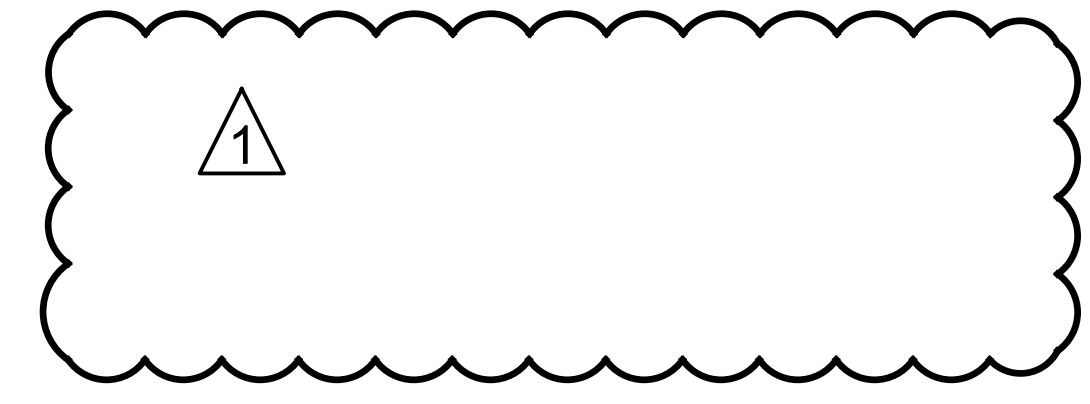
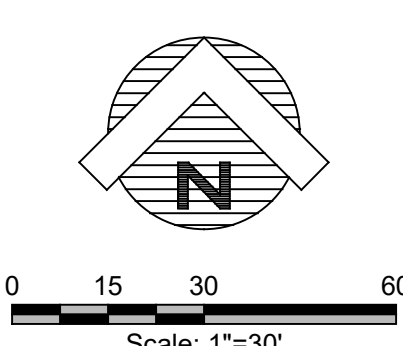


- GENERAL STORM SEWER NOTES:**
1. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH THESE PLANS AND CITY OF RED OAK STANDARDS AND SPECIFICATIONS.
  2. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL MAKE CERTAIN THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.
  3. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE REQUIREMENTS AND STANDARDS OF THE LOCAL GOVERNING AUTHORITY.
  4. IN THE EVENT AN ITEM IS NOT COVERED IN THE CITY OF RED OAK SPECIFICATIONS, THE ENGINEER'S DECISION SHALL APPLY.
  5. BARRICADING, TRAFFIC CONTROL, AND PROJECT SIGNS SHALL CONFORM TO "STATE DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION BARRICADING AND CONSTRUCTION STANDARDS".
  6. THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS SHALL VERIFY THE SUITABILITY OF ALL EXISTING AND PROPOSED SITE CONDITIONS INCLUDING GRADES AND DIMENSIONS BEFORE COMMENCEMENT OF ANY CONSTRUCTION. IN THE EVENT OF ANY CONFLICT AND PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION, IMMEDIATELY NOTIFY ENGINEER. MINOR ADJUSTMENTS OF FINISH GRADE TO ACCOMPLISH SPOT DRAINAGE ARE ACCEPTABLE, IF NECESSARY, UPON PRIOR APPROVAL OF ENGINEER. PAVING INSTALLED SHALL "FLUSH OUT" AT ANY JUNCTURE WITH EXISTING PAVING.
  7. THE LOCATIONS OF UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE BASED ON FIELD SURVEYS AND LOCAL UTILITY COMPANY RECORDS. IT SHALL BE THE CONTRACTOR'S FULL RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES TO LOCATE THEIR UTILITIES PRIOR TO STARTING CONSTRUCTION.
  8. CONTRACTOR SHALL VERIFY ALL EXISTING INVERTS, RIM ELEVATIONS AND SIZES PRIOR TO CONSTRUCTION.
  9. ALL NON RCP DRAIN PIPE SHALL BE PVC SCH 40, ADS OR APPROVED EQUAL.
  10. ALL RCP SHALL BE CLASS III.
  11. W. E. AS INDICATED ON INLET CALLS INDICATES WATER ELEVATION AT INLET DURING 100 YEAR STORM EVENT.

**BENCHMARKS:**

BENCHMARK #1:  
 SPK NAIL IN CENTER OF HUBBARD DRIVE.  
 N 688521.0710 E 2586187.9030  
 ELEVATION=456.02

BENCHMARK #2:  
 3" ALUMINUM DISK SET IN CONCRETE  
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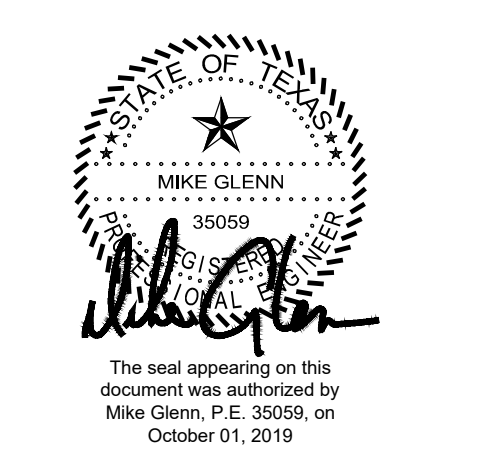


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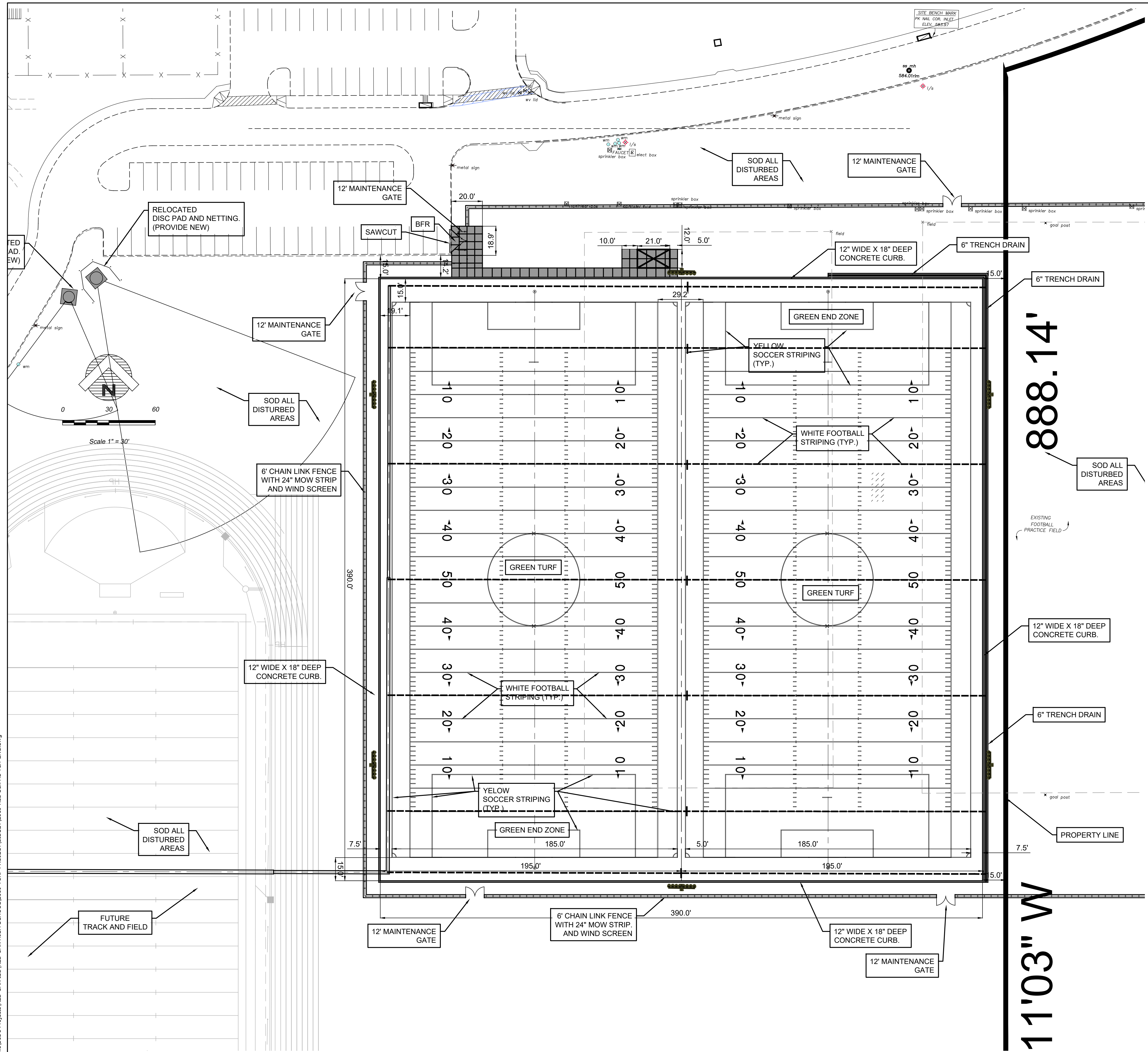
**RED OAK HIGH SCHOOL  
 ARTIFICIAL  
 TURF PRACTICE FIELDS  
 FOR  
 RED OAK INDEPENDENT SCHOOL DISTRICT**

**DRAINAGE PLAN**

JOB 19306.0000  
 DATE 09/13/2019  
 SHEET **C05.00**

Revised: Oct 1, 2019, 9:48 AM by user: sghat - Sheet: 001 of 019 by user: sghat  
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NOTE: THE CITY OF RED OAK CONSTRUCTION STANDARDS APPLY, WHETHER INDICATED ON THESE PLANS OR NOT. NOTE: EROSION CONTROLS SHALL BE IN PLACE PRIOR TO THE DISTURBANCE OF ANY EXISTING SURFACE.



- GENERAL PAVING NOTES**
1. ALL CURBS SHALL BE 6-INCH REINFORCED CONCRETE CURBS AS PER DETAIL. ALL BAR LAPS SHALL BE A THIRTY DIAMETER MINIMUM.
  2. ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE TOWN OF RED OAK STANDARD DETAILS AND SPECIFICATIONS.
  3. CONTRACTOR TO VERIFY EXISTING PAVEMENT ELEVATIONS PRIOR TO CONSTRUCTION.
  4. NEW PAVING INSTALLED SHALL "FLUSH-OUT" AT ANY JUNCTURE WITH EXISTING PAVING.
  5. CONTRACTOR TO PROVIDE FIRE LANE STRIPING PER TOWN OF RED OAK REQUIREMENTS. PROVIDE PARKING LOT STRIPING AND HANDICAP STRIPING PER THESE PLANS AND TOWN OF RED OAK REQUIREMENTS.
  6. BARRIER FREE RAMP SHALL COMPLY WITH TOWN OF RED OAK DETAIL.
- ALL PAVING SHALL BE PLACED OVER COMPACTED SUBGRADE TO BETWEEN 95% AND 100% OF STANDARD PROCTOR AT A MOISTURE CONTENT AT OR ABOVE OPTIMUM.
7. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,500 PSI AT 28 DAYS.

**PAVING NOTES:**

C. ON-SITE SIDEWALKS

CONCRETE SIDEWALKS SHALL BE A WIDTH AS DESIGNATED ON SITE PLAN AND A MINIMUM OF 4 INCHES THICK, CONSTRUCTED OF 3,500 PSI, IN 28 DAYS CONCRETE WITH 4% EXTRACTED AIR AND REINFORCED WITH #3 BARS AT 18" O.C.E.W. TOOLED CONSTRUCTION JOINTS SHALL BE 5'-0" O.C. ONE-HALF INCH EXPANSION JOINT SHALL BE PLACED EVERY 40 FEET AND WHERE NEW WORK IS CONSTRUCTED ADJACENT TO OTHER CONCRETE WORK (WALLS, FOUNDATION CURB, ETC.), THE JOINTS SHALL BE FILLED WITH 1/2-INCH PRE MOULDED GRAY BITUMINOUS EXPANSION JOINT FILLER AND SHALL EXTEND THE ENTIRE DEPTH AND WIDTH OF THE CONCRETE SECTION.

FINISH OF SIDEWALKS SHALL BE WITH A BROOM FINISH PER ENGINEER. WALKS SHALL HAVE TOOLED CURB EDGES & TOOLED JOINTS.

III. FINISHING FOR CONCRETE DRIVEWAY, PARKING LOT AND STREET CURBS

THE EXPOSED SURFACES OF DRIVEWAYS AND PARKING LOT SHALL HAVE A MONOLITHIC FINISH BY FLOATING WITH A WOODEN FLAT UNTIL A SLIGHT EXCESS OF SAND APPEARS ON THE SURFACES. IN NO CASE SHALL THE SURFACE BE LEFT SLICK OR WITH A GLOSSY FINISH. EXPOSED SURFACES OF SIDEWALKS SHALL HAVE A MONOLITHIC FINISH BY TROWELING WITH A STEEL TROWEL AND BRUSHED LIGHTLY WITH AN APPROVED BROOM. THE EDGE OF ALL CONCRETE SHALL BE NEATLY ROUNDED TO THE REQUIRED RADIUS WITH AN EDGING TOOL.

THE EXPOSED SURFACE OF CURBS AND CURBS WITH GUTTER SHALL BE SHAPED WITH A "MULE" AND BRUSHED WITH A WET BRUSH AT RIGHT ANGLE TO THE LINE OF THE CURB TO PRODUCE A UNIFORM TEXTURED SURFACE. THE EDGES SHALL BE NEATLY ROUNDED OFF TO THE REQUIRED RADIUS. USE OF GROUT OVER A ROUGH FINISHED TEXTURE WILL NOT BE ALLOWED.

**PAVING LEGEND**

	PROPOSED 7" REINFORCED CONCRETE PAVEMENT 3,600 P.S.I. CONCRETE, 6 1/2 SACK HAND FINISH 6 SACK MACHINE FINISH WITH #4 REBARS ON 18" CENTERS EACH WAY.
	PROPOSED 4" REINFORCED CONCRETE SIDEWALK PAVEMENT 3,600 P.S.I. CONCRETE, 5 1/2 SACK HAND FINISH WITH #3 REBARS ON 18" CENTERS EACH WAY.

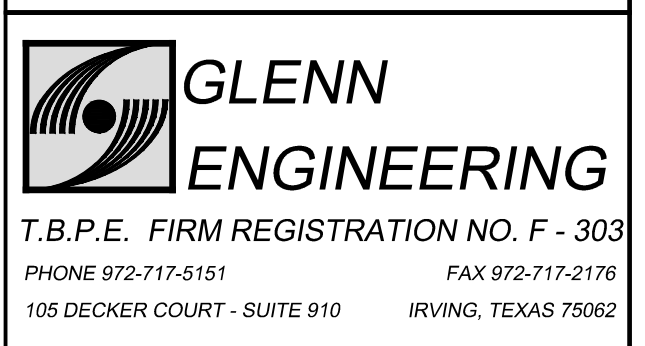
SEE M.E.P. PLANS ES 1.01 FOR ALL SLEEVE LOCATIONS FOR LIGHTING.

**NOTE: NO SAND WILL BE PERMITTED UNDER PAVEMENT.**



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**RED OAK HIGH SCHOOL  
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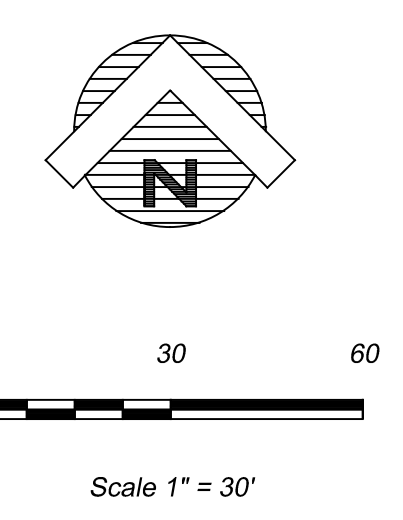
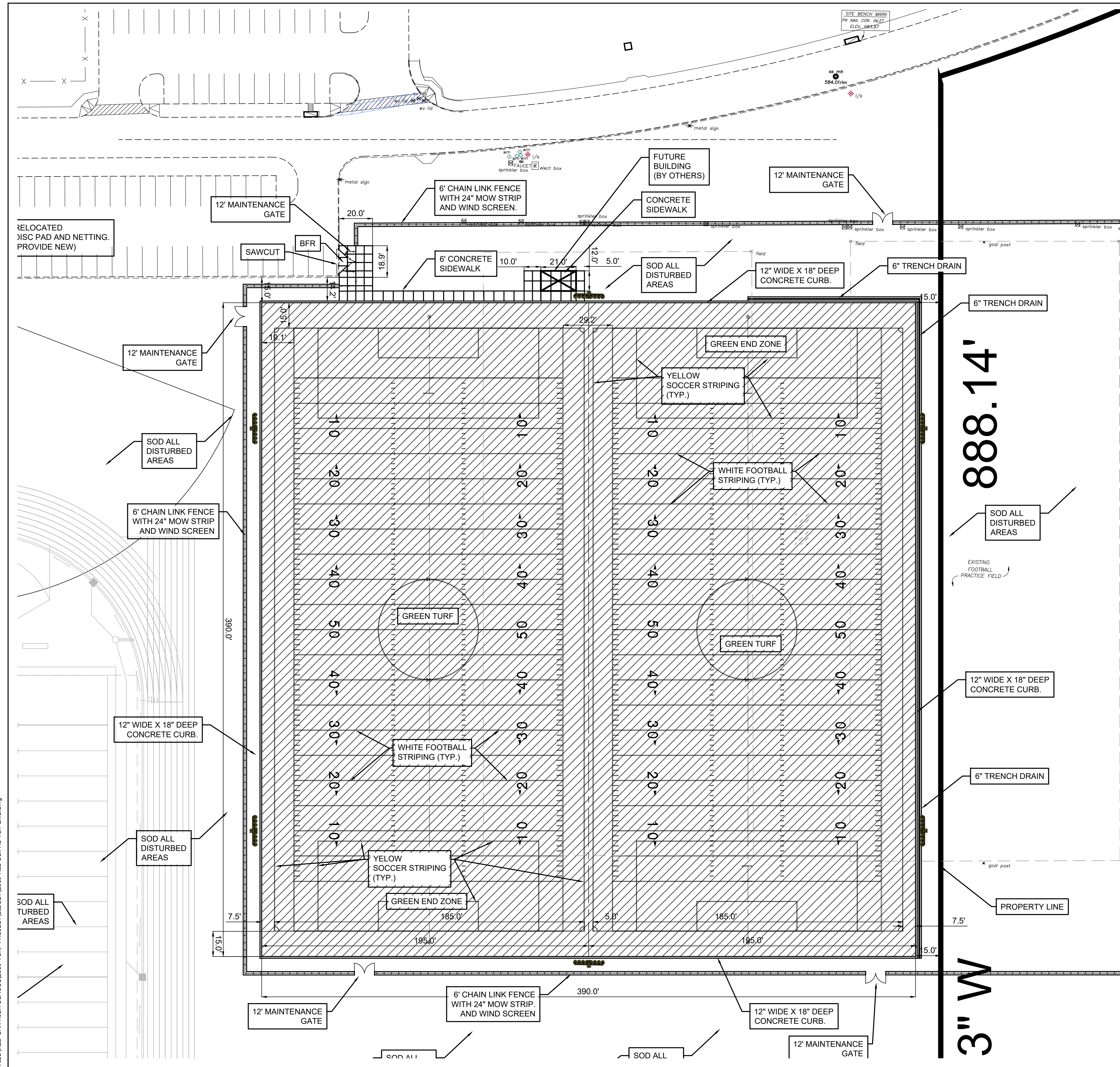
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JOB 19306.0000  
DATE 09/13/2019  
SHEET C06.00

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NOTE: THE CITY OF RED OAK CONSTRUCTION STANDARDS APPLY, WHETHER INDICATED ON THESE PLANS OR NOT.

NOTE: EROSION CONTROLS SHALL BE IN PLACE PRIOR TO THE DISTURBANCE OF ANY EXISTING SURFACE.



**SEE SPECIFICATIONS FOR APPROVED TURF PRODUCTS LIST**

NOTE: ALL PRODUCTS SHALL BE INSTALLED OVER EXISTING 19 MM E-LAYER. ANY DAMAGE TO THE EXISTING E-LAYER SHALL BE REPAIRED AS PART OF THE BASE BID.

NOTE: ALL PRODUCTS SHALL MAINTAIN THEIR G-MAX FOR THE LIFE OF THE PRODUCT. CONTRACTOR SHALL SUPPLY THE SCHOOL DISTRICT IN JULY OF EACH YEAR FOR THE LIFE OF THE PRODUCT A G-MAX TEXT OF THE FIELD PER ASTM STANDARDS.

NOTE: ALL TURF MARKING FOR FOOTBALL, SOCCER AND LACROSS SHALL BE IN-LAY AND SHALL MATCH THE EXISTING FIELD IN ITS ENTIRETY.

**PROPOSALS**

1A	SHAW POWERBLADE PRO 2.25	SPEC SECTION 32 1817
1A	SHAW POWERBLADE BOLT	SPEC SECTION 32 1817
1C	HELLAS - MATRIX 42 OZ	SPEC SECTION 32 1820
1D	HELLAS - MATRIX 46 OZ	SPEC SECTION 32 1820
1E	HELLAS - HELIX REAL FILL	SPEC SECTION 32 1821
1F	FIELDTURF - REVOLUTION	SPEC SECTION 32 1821

NOTE: ALL PRODUCTS SHALL BE INSTALLED OVER EXISTING 19 MM E-LAYER. ANY DAMAGE TO THE EXISTING E-LAYER SHALL BE REPAIRED AS PART OF THE BASE BID.

**LEGEND**

PROPOSED TURF PER MANUFACTURERS RECOMMENDATION. INFILL/SYNTHETIC

SEE TURF SECTION FOR SUB GRADE PREPARATION

Revised: Oct 1, 2019, 10:11 AM by user: rshah - Sheet: 10/1/2019 by user: rshah  
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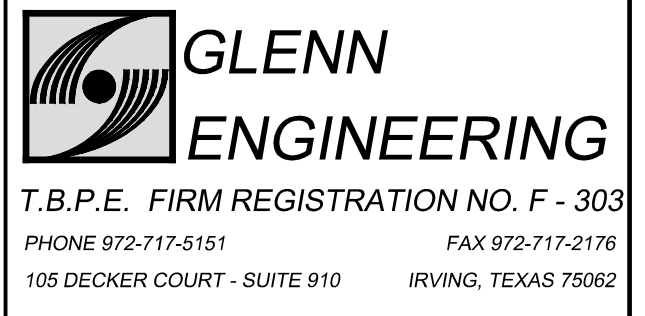


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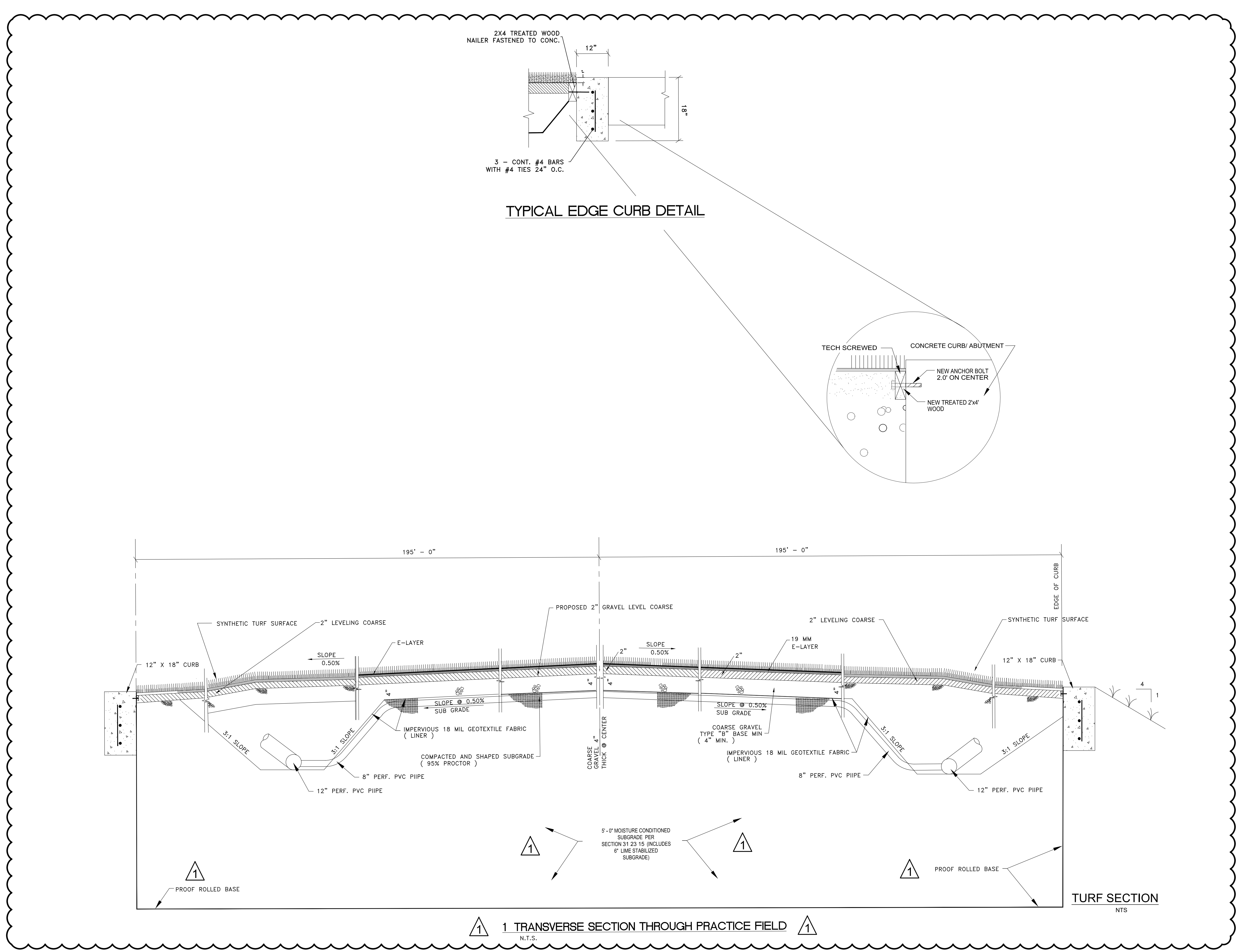
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**TURF PRACTICE FIELDS**  
 FOR  
**RED OAK INDEPENDENT SCHOOL DISTRICT**

**TURF INSTALLATION PLAN**

**JOB** 19306.0000  
**DATE** 09/13/2019  
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**C07.00**

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1 TRANSVERSE SECTION THROUGH PRACTICE FIELD  
 N.T.S.

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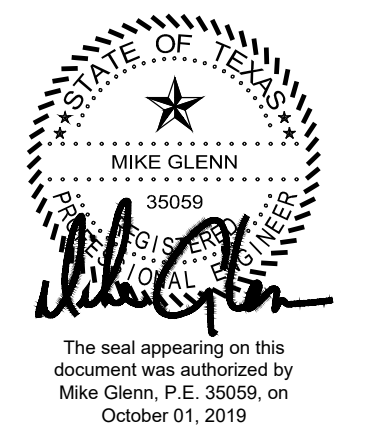


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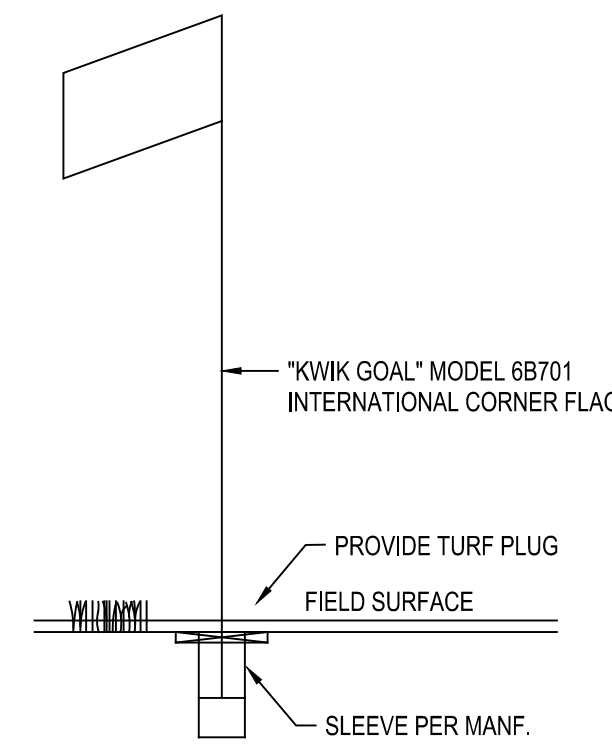
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**RED OAK HIGH SCHOOL**  
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**TURF PRACTICE FIELDS**  
 FOR  
 RED OAK INDEPENDENT SCHOOL DISTRICT

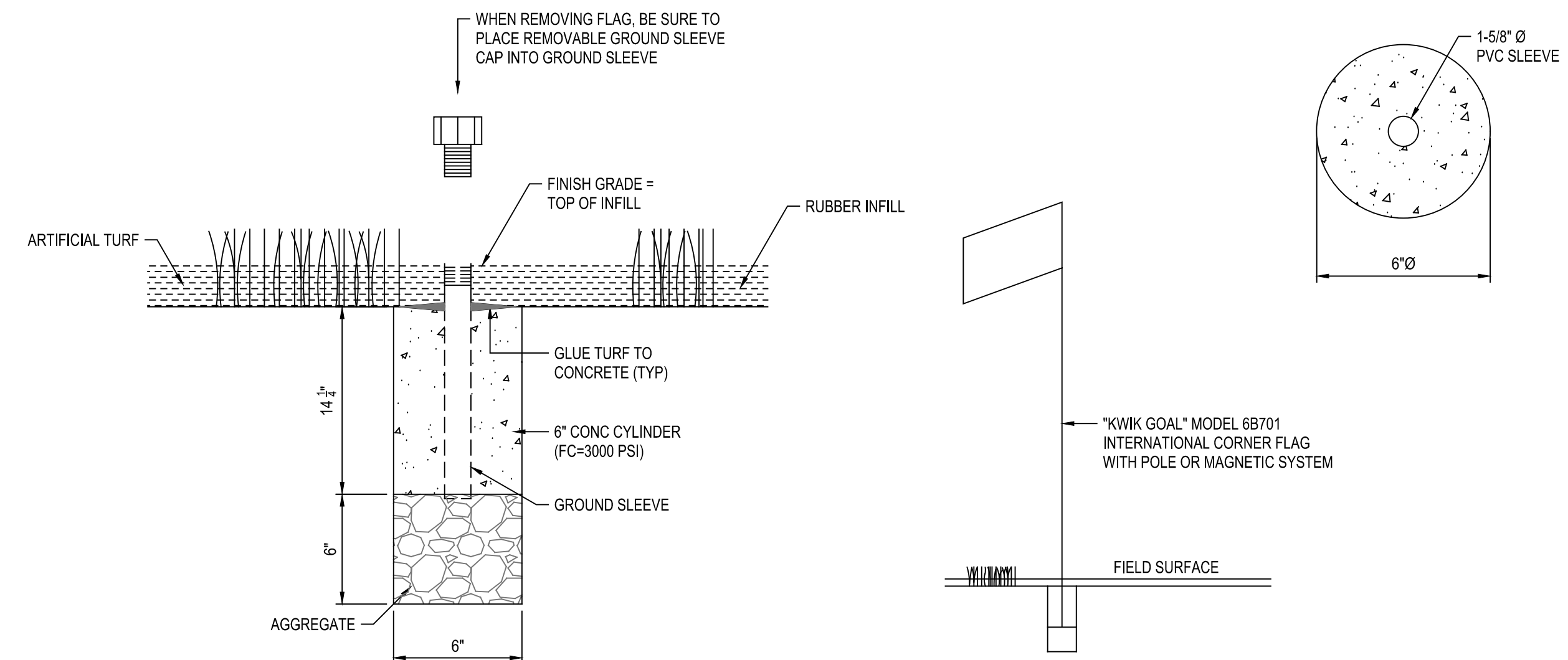
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 DATE 09/13/2019  
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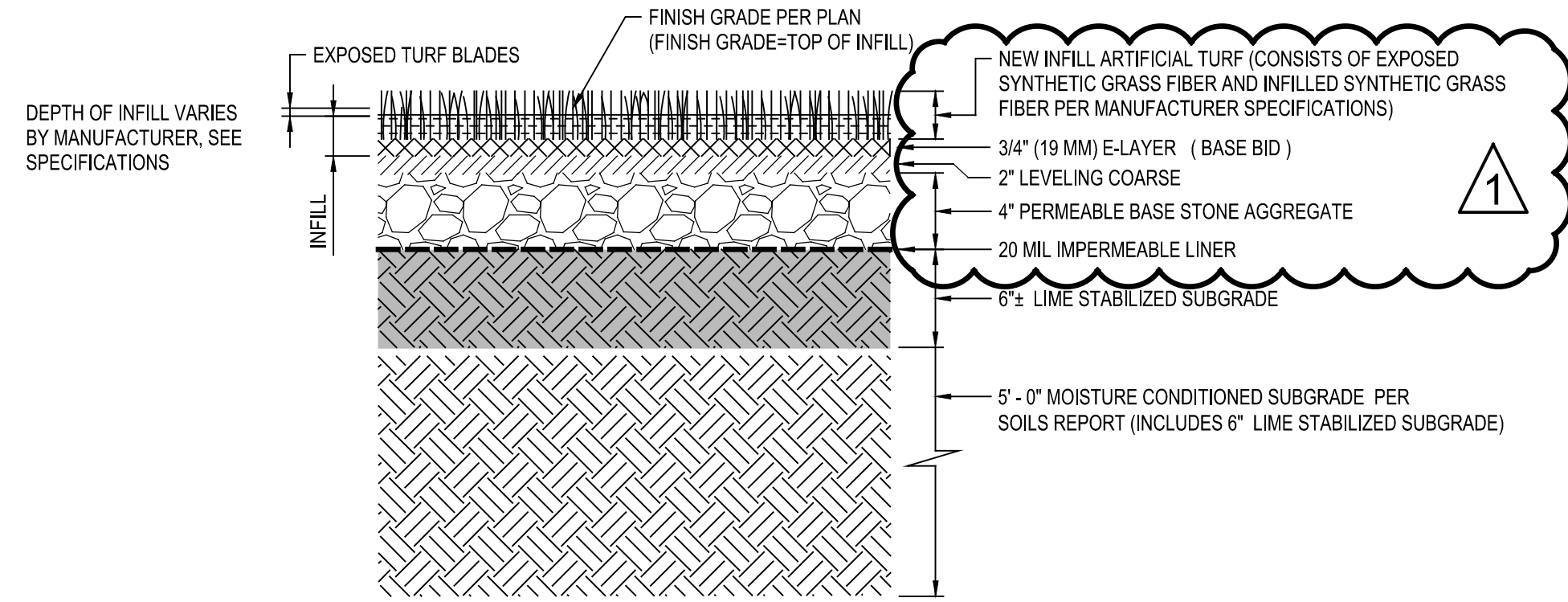
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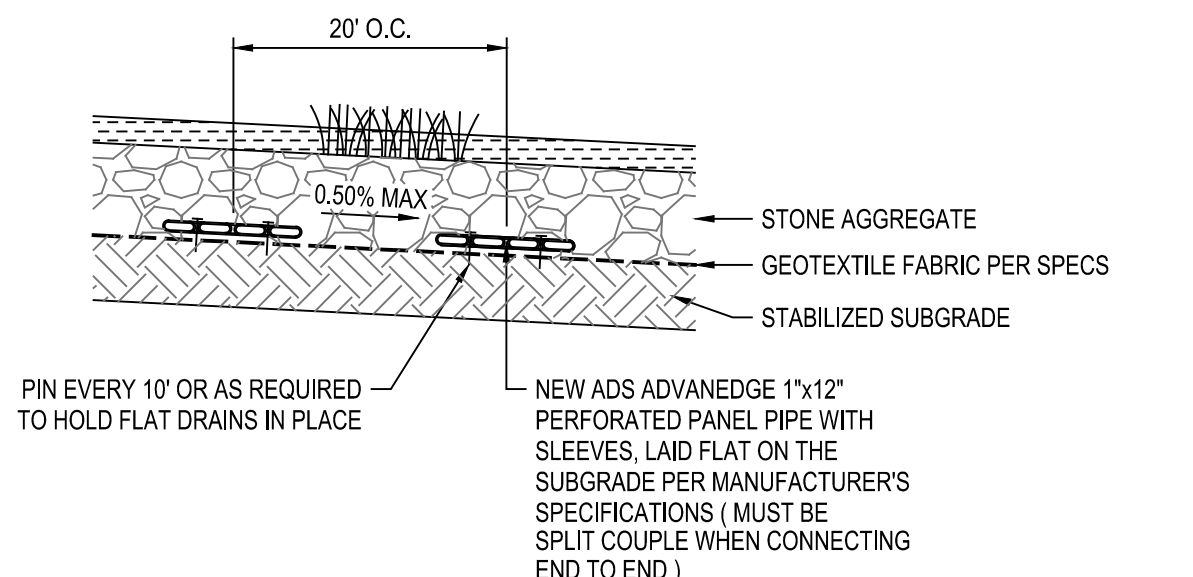
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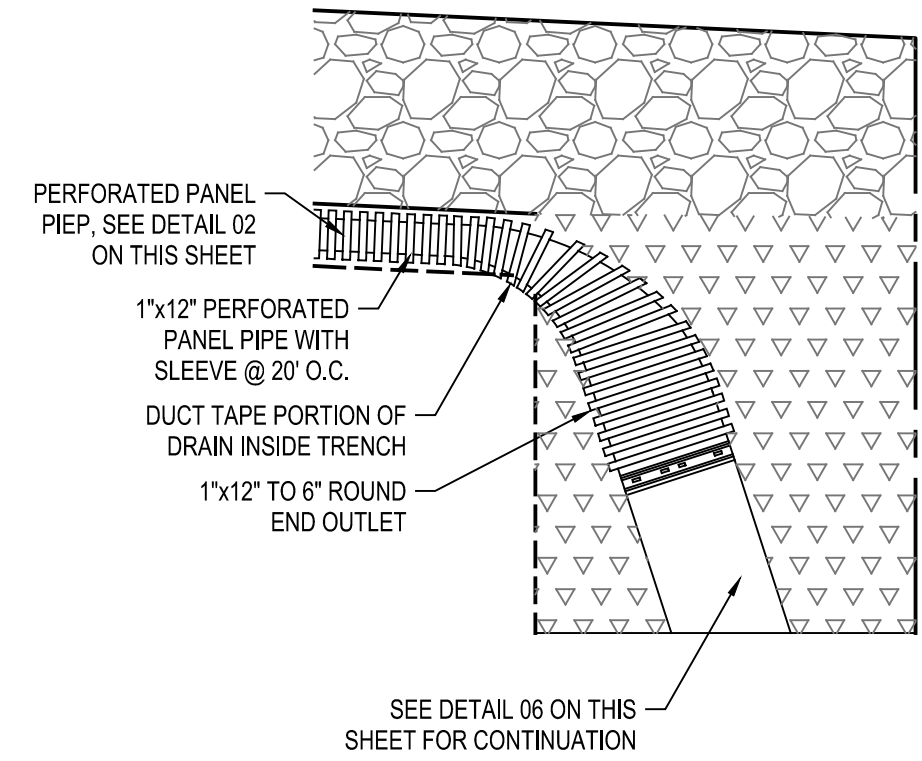
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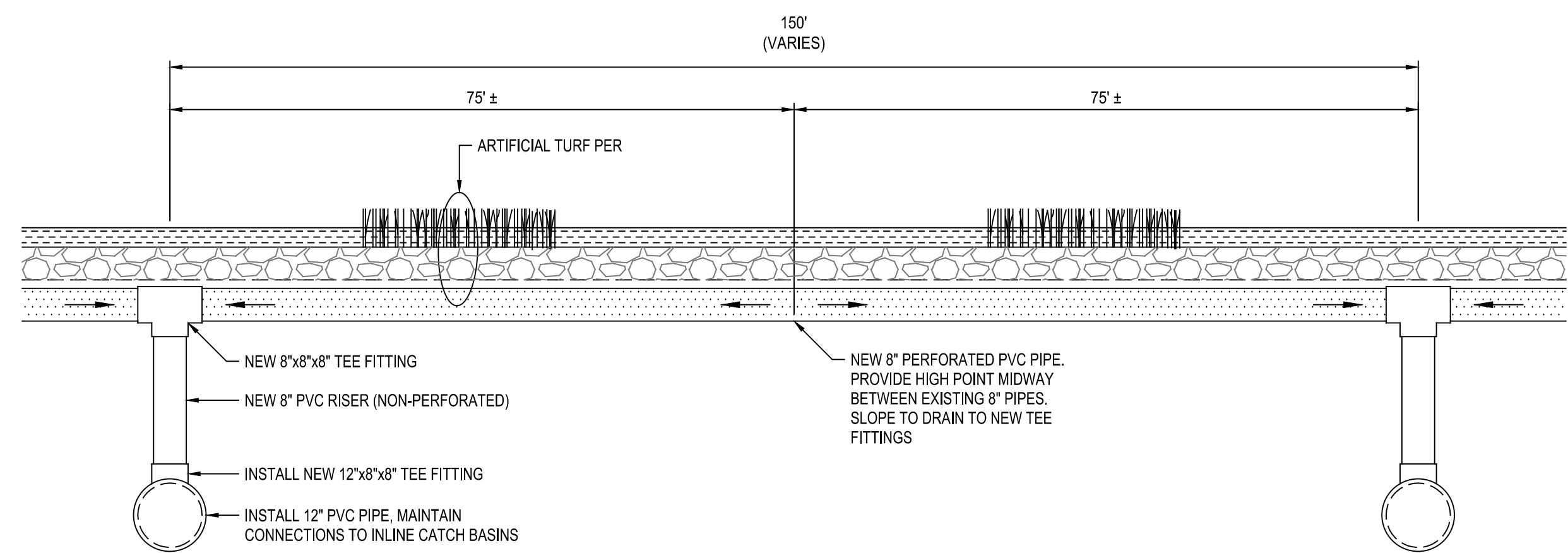
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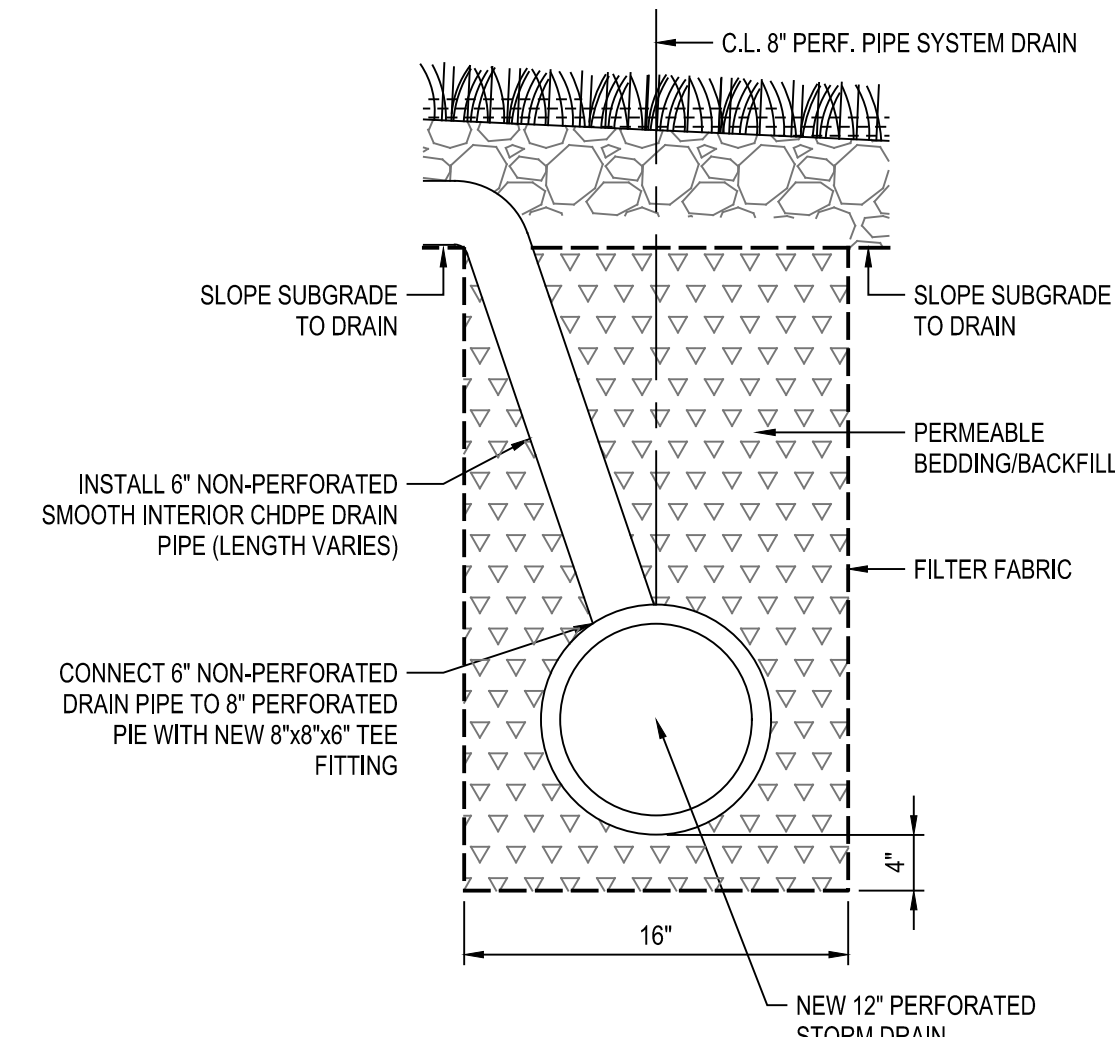
**PERFORATED PANEL PIPE - FLAT**  
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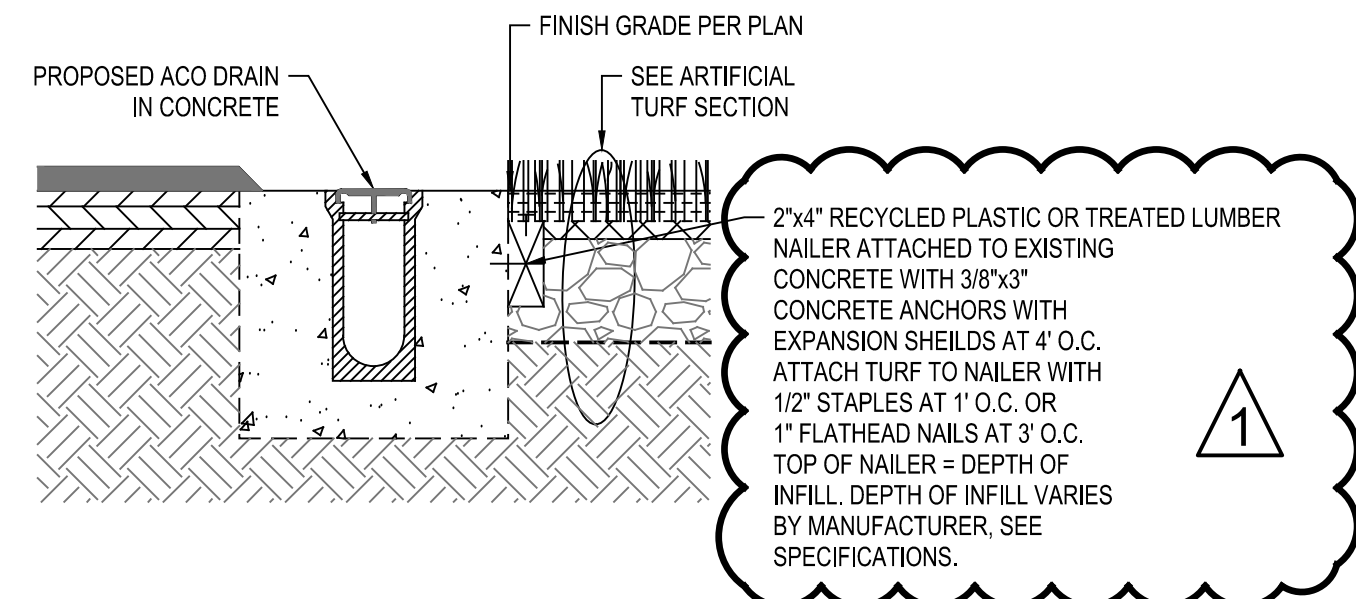
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**8" PERFORATED PVC CONNECTION DETAIL**  
SCALE: NTS



**MAIN STORM DRAIN TRENCH SECTION**  
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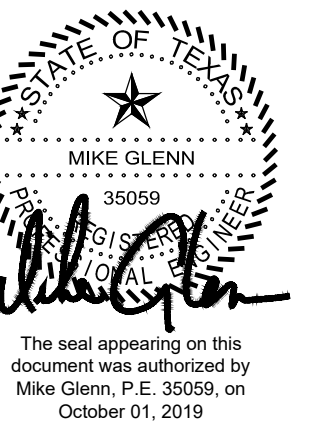
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**RED OAK HIGH SCHOOL  
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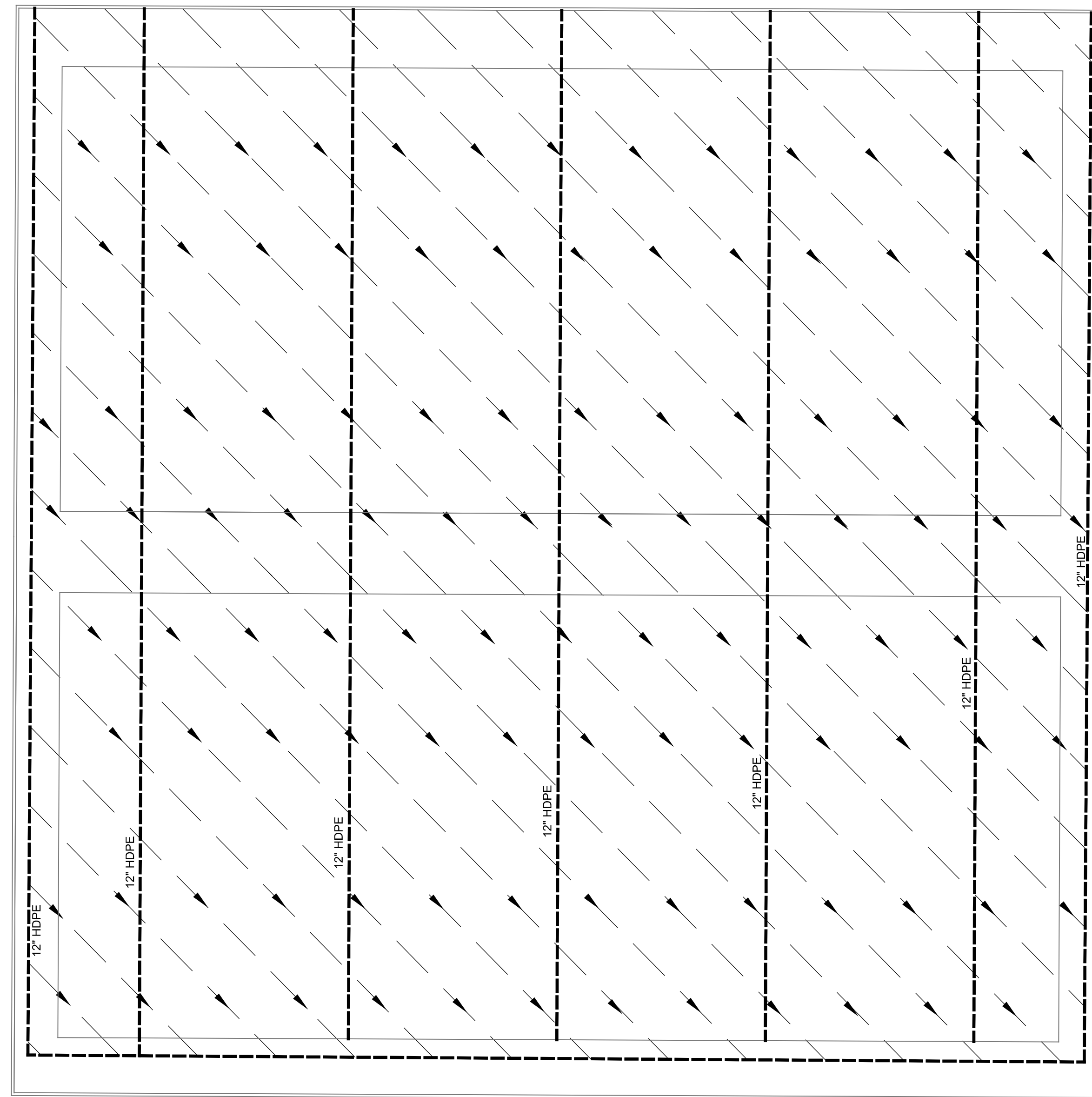
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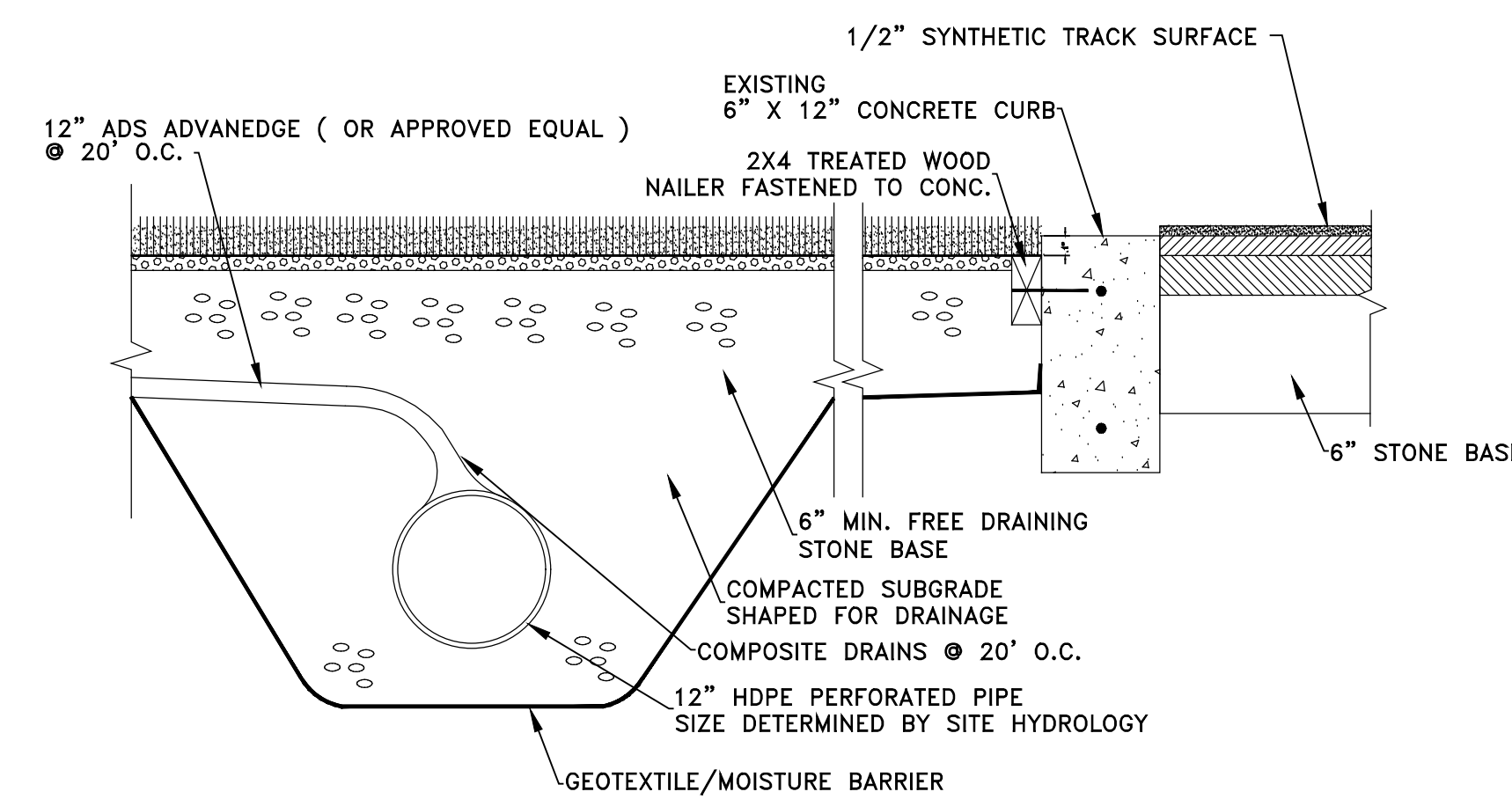
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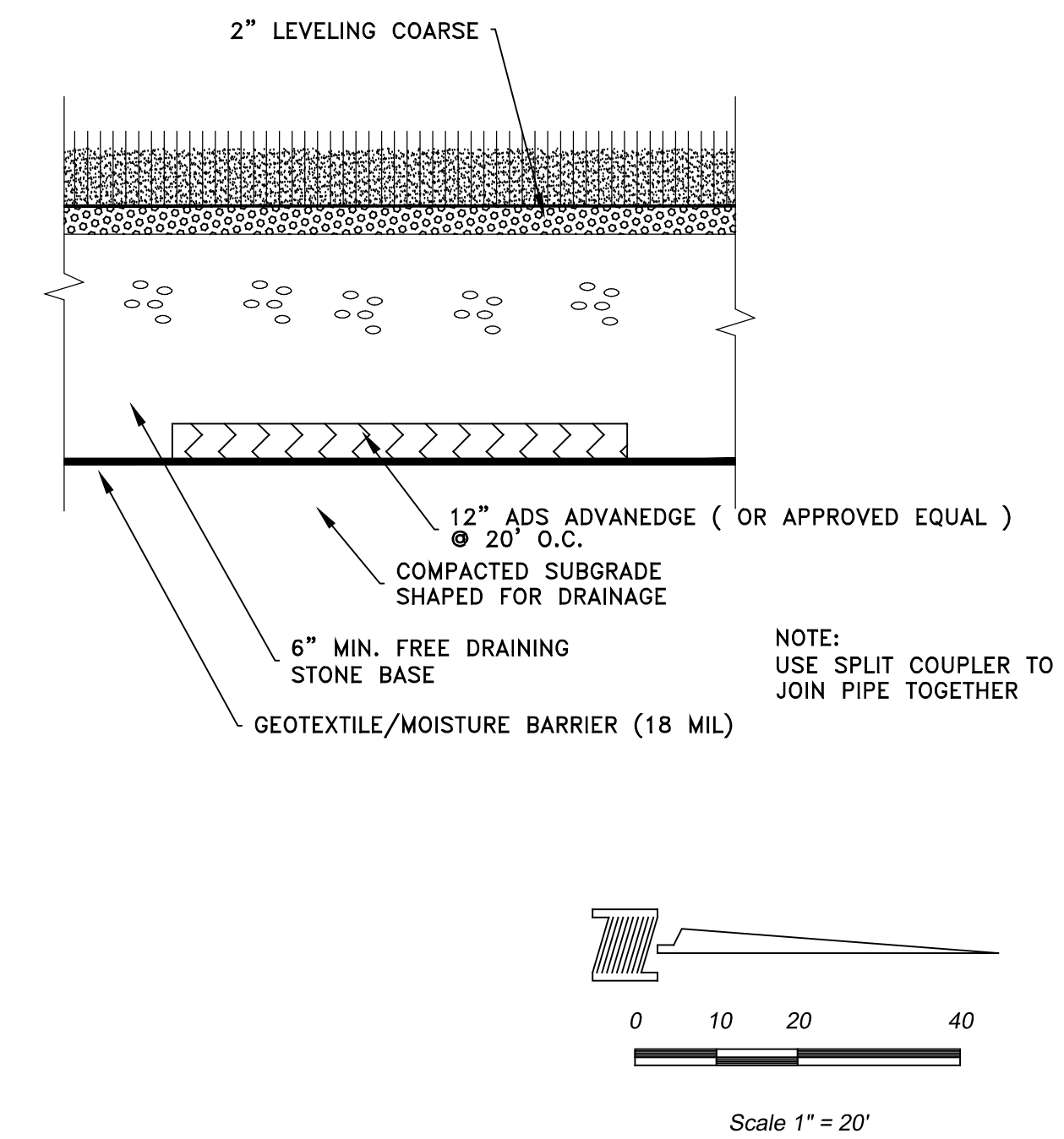
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FLAT DRAIN LAYOUT  
NTS

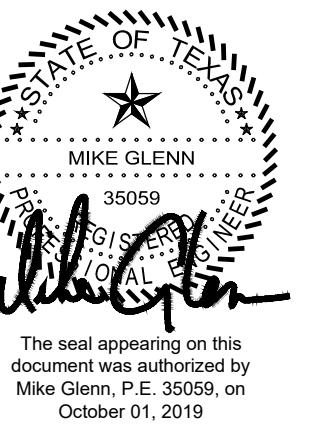


PRACTICE FIELD DRAINAGE PLAN  
NTS



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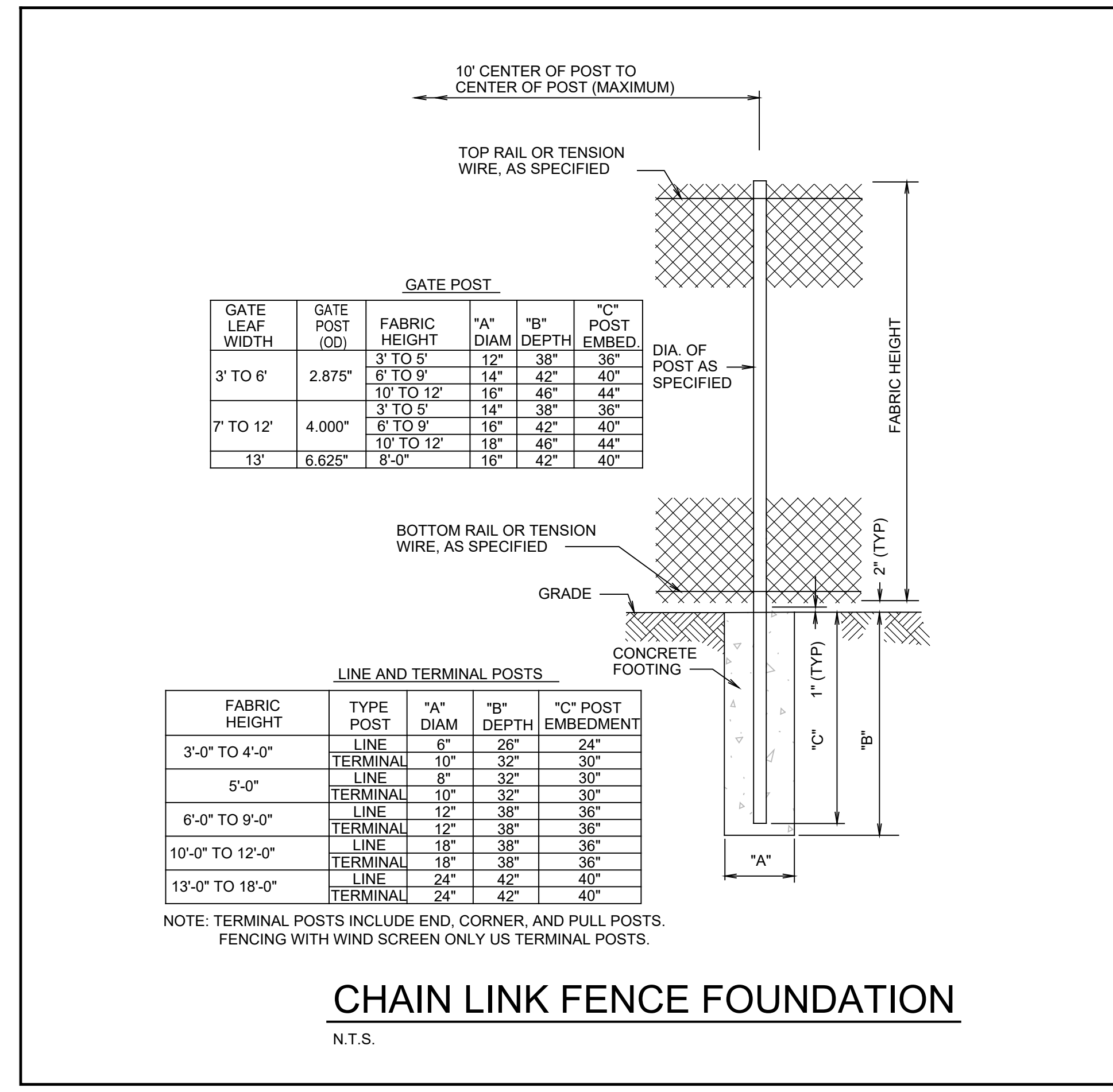
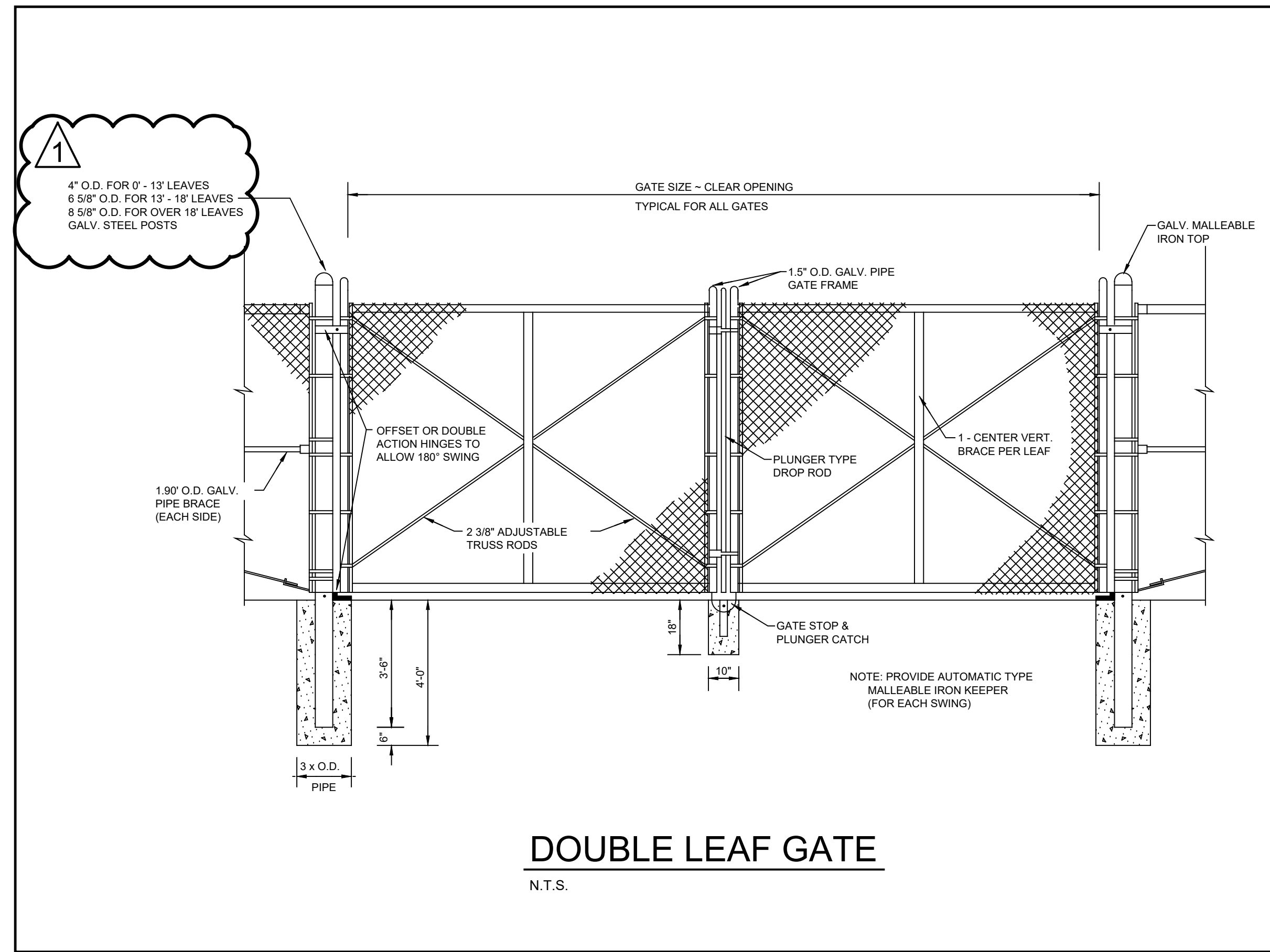
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RED OAK HIGH SCHOOL  
 ARTIFICIAL  
 TURF PRACTICE FIELDS  
 FOR  
 RED OAK INDEPENDENT SCHOOL DISTRICT

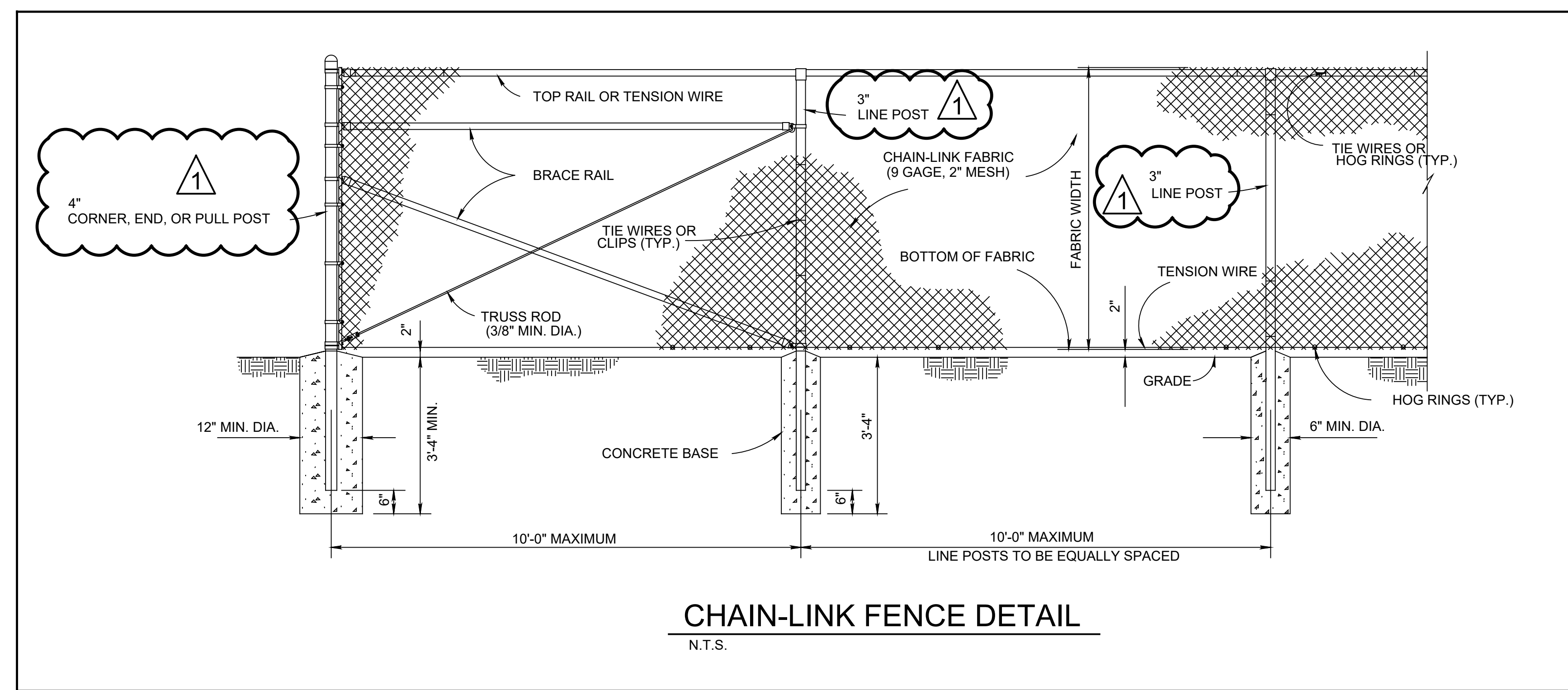
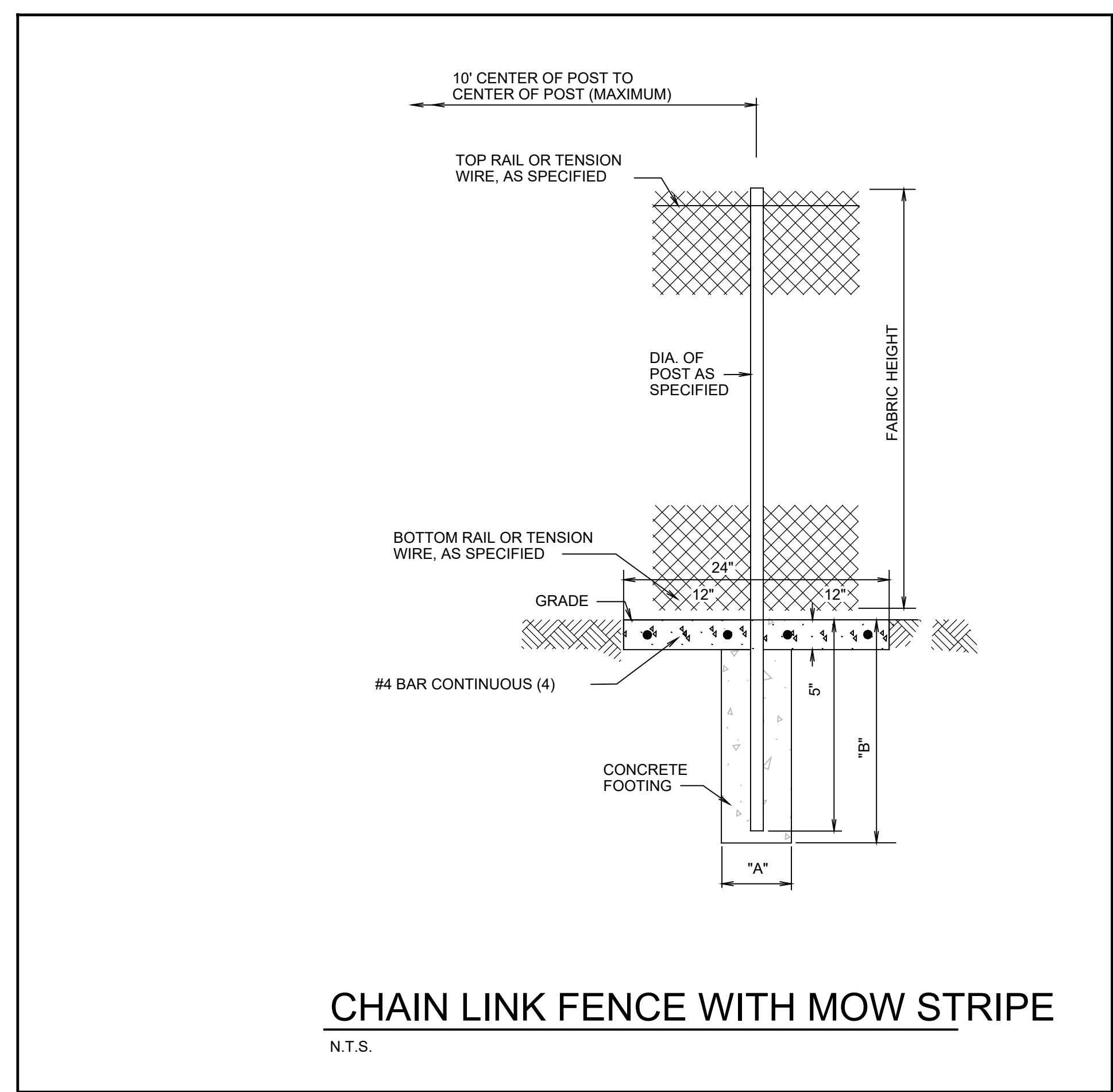
FIELD  
 DRAINAGE  
 PLAN  
 JOB 19306.0000  
 DATE 09/13/2019  
 SHEET  
 C07.04

NOTE: THE CITY OF RED OAK CONSTRUCTION STANDARDS APPLY, WHETHER INDICATED ON THESE PLANS OR NOT.

NOTE: EROSION CONTROLS SHALL BE IN PLACE PRIOR TO THE DISTURBANCE OF ANY EXISTING SURFACE.



- CHAIN LINK FENCE NOTES:**
1. ALL FENCING SHALL HAVE WIND SCREEN SLATS BOTTOM AND TOP LOCK 1 3/4" BY PDS FENCE OR APPROVED EQUAL.
  2. ALL SLATS SHALL BE LOCKING AT INTERIOR FENCE.
  3. TUBULAR SLATS WITH REINFORCED LEGS. LOCK SNAP CHANNEL.
  4. INSET LOCKING CHANNEL HORIZONTALLY THROUGH THE BOTTOM; SLIDE VERTICAL SLATS FROM THE TOP OF THE MESH DOWN INTO THE BOTTOM CHANNEL; INSET TOP LOCKING CHANNEL.
  5. SLAT SIZE SHALL BE 7/8" WIDE.
  6. COLOR SHALL BE GREEN.
  7. ALTERNATE FOR FABRIC PER ARCHITECTURAL SPECIFICATIONS.



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**RED OAK HIGH SCHOOL  
ARTIFICIAL  
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FOR  
RED OAK INDEPENDENT SCHOOL DISTRICT**

**FENCE DETAILS**

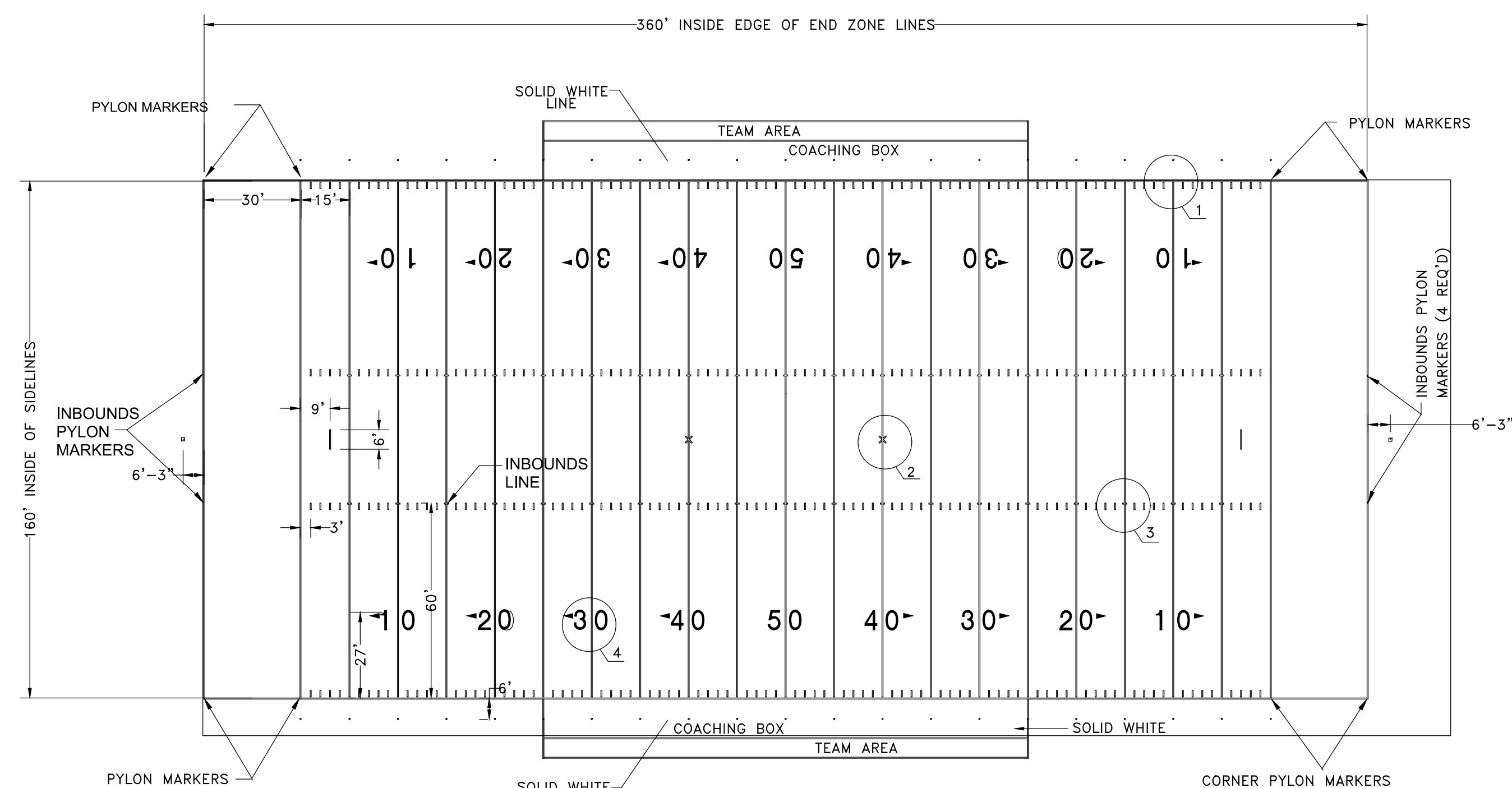
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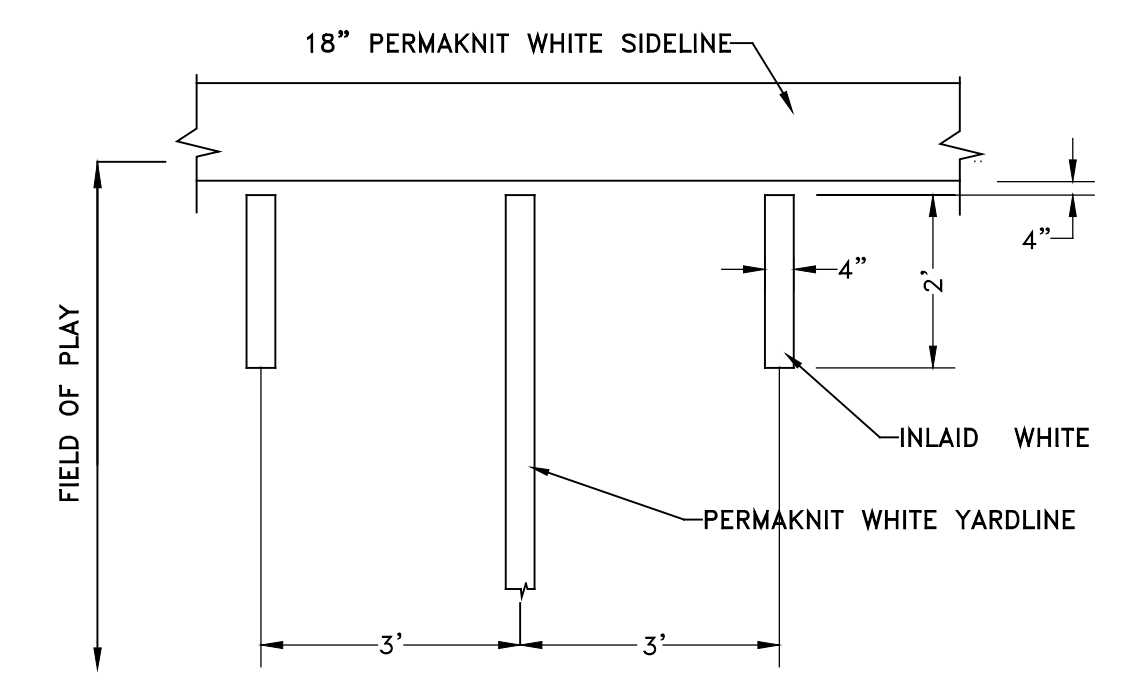
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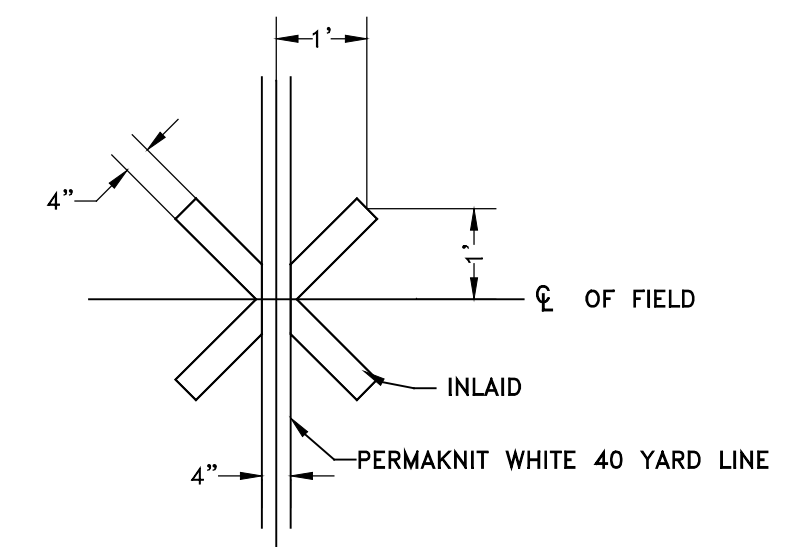




**FOOTBALL LAYOUT PLAN**  
SCALE: 1" = 30'-0"



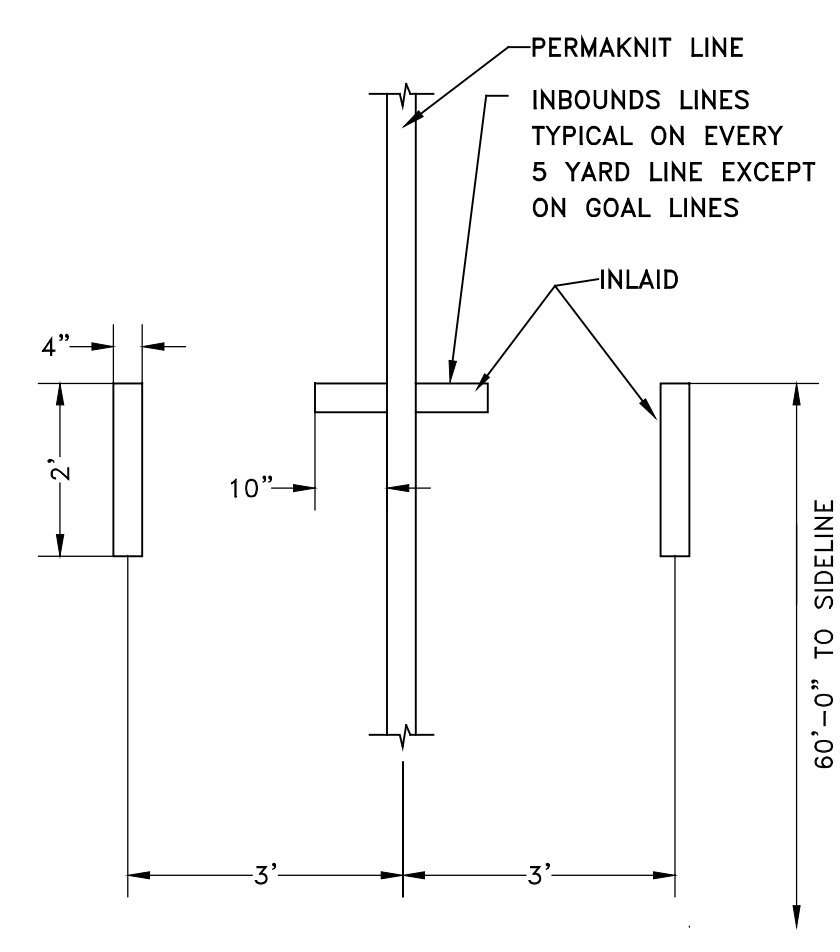
**1 SIDELINE DETAIL**  
SCALE: 1/2" = 1'-0"



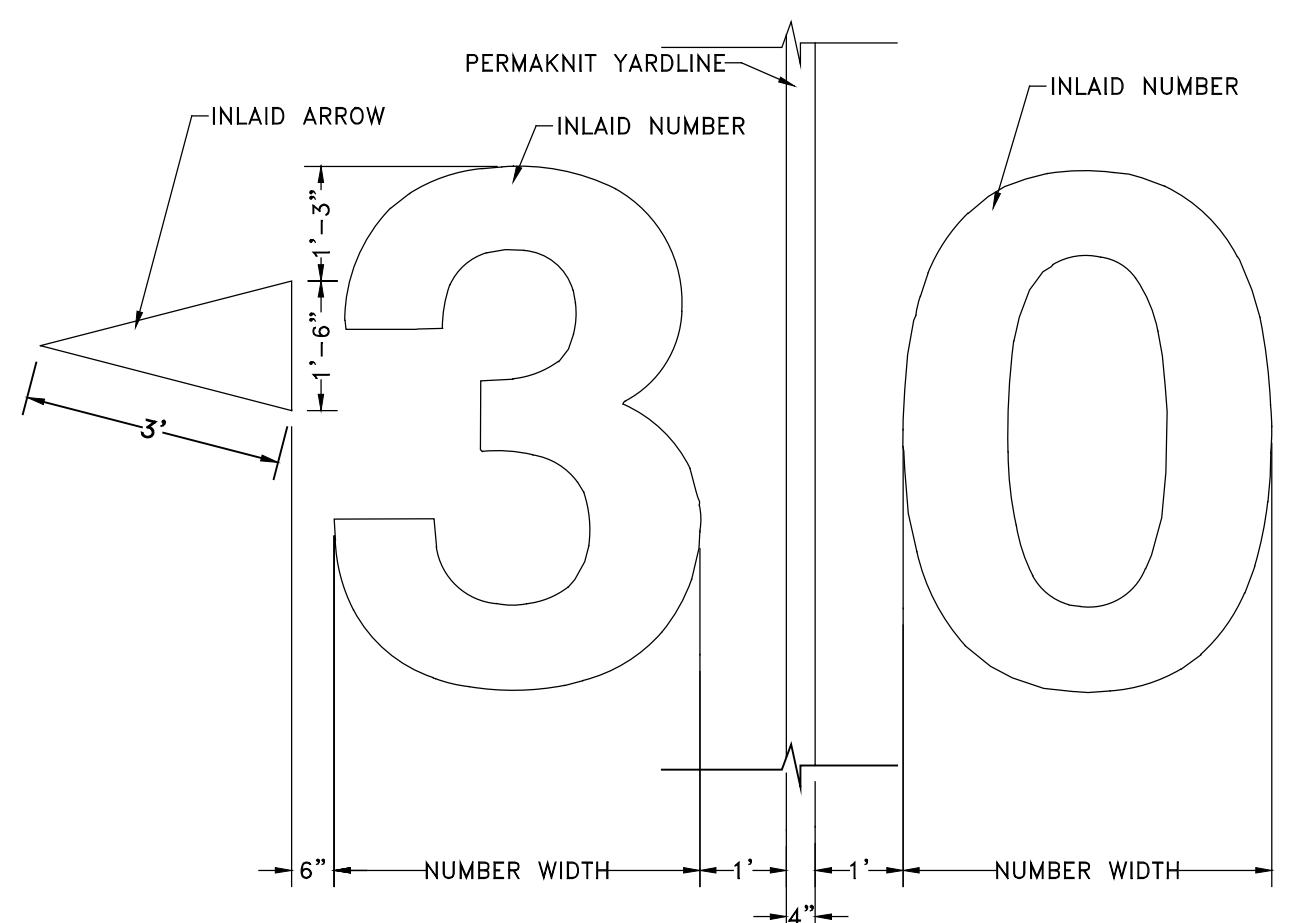
**2 KICK-OFF MARKER**  
SCALE: 1/2" = 1'-0"

**FIELD LAYOUT NOTES**

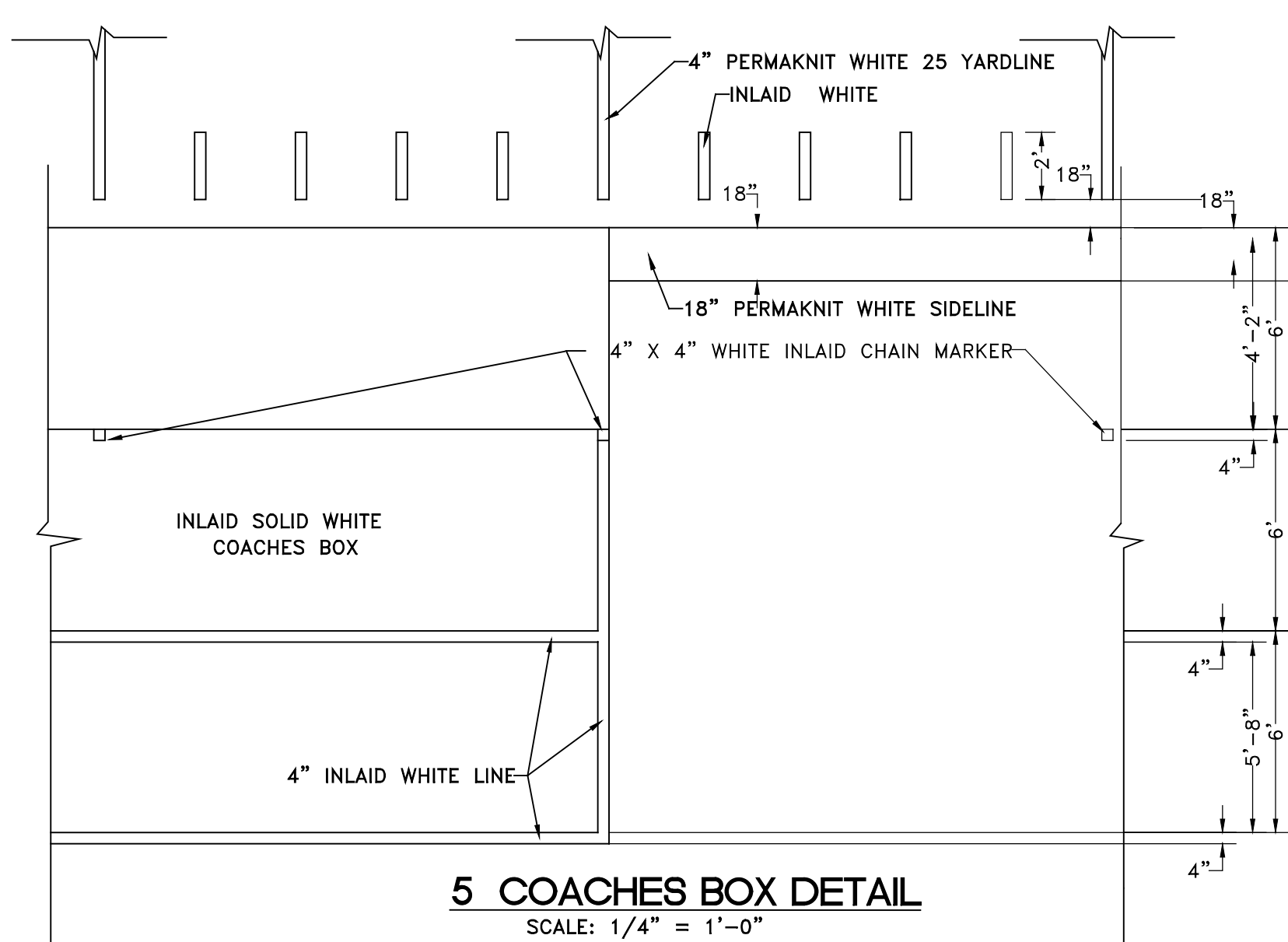
- 1 CONTRACTOR SHALL VERIFY ALL DIMENSIONS.
- 2 ALL LINE WORK IS TO BE LAID OUT WITH A TOLERANCE OF 1/4 INCH.
- 3 ALL YARDLINES AND SIDELINES SHALL BE 4 INCH, WHITE, PERMAKNIT TURF. REFER TO DETAIL 1.
- 4 24 INCH SHORT YARDLINE EXTENSIONS, 4 INCHES FROM THE SIDELINES SHALL BE 4 INCHES WIDE, WHITE, INLAID LINES. REFER TO DETAIL 1.
- 5 THE COACHING BOX AND TEAM AREA SHALL BE PER NCAA RULES AS DRAWN ON THE PLAN AND SHALL BE OUTLINED IN 4 INCH INLAID WHITE LINES.
- 6 THE TWO INBOUNDS LINES ARE 60 FEET FROM THE SIDELINES. INBOUNDS LINES AND SHORT YARDLINE EXTENSIONS SHALL BE 24 INCHES LONG AND 4 INCHES WIDE, INLAID, WHITE LINES. REFER TO DETAIL 3.
- 7 THE EXTRA POINT LINES ARE 6 FEET LONG, 4 INCHES WIDE, WHITE INLAID LINES AT THE CENTERLINE OF THE FIELD AND THE 3 YARDLINE ON EACH END OF THE FIELD. REFER TO PLAN FOR LOCATION.
- 8 WHITE YARDLINE NUMBERS MEASURING 6 FEET IN HEIGHT AND 4 FEET IN WIDTH WITH THE TOP OF THE NUMBERS 27 FEET FROM THE SIDELINES ARE INLAID TURF. REFER TO DETAIL 4.
- 9 DIRECTIONAL ARROWS POINT TOWARD RESPECTIVE ENDZONES AND ARE WHITE, INLAID TURF AS DIMENSIONED ON DETAIL 4. THERE ARE NO ARROWS ON THE 50 YARDLINE.
- 10 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 2. THE 40 YARDLINE IS WHITE PERMAKNIT TURF AND THE EXTENSIONS TO FORM THE X ARE INLAID WHITE.
- 11 PYLON LOCATIONS AT THE INTERSECTIONS OF THE GOAL LINES AND THE ENDLINES WITH THE SIDELINES, AND THE ENDLINES AND THE EXTENSION OF THE INBOUNDS LINE SHALL BE 4 INCHES BY 4 INCHES. THE PYLONS WILL BE FREE-STANDING, WEIGHTED TYPE.
- 12 THE SOUTH ENDZONE - NO LOGO.
- 13 THE NORTH ENDZONE - NO LOGO.
- 14 THE MID-FIELD LOGO NONE.



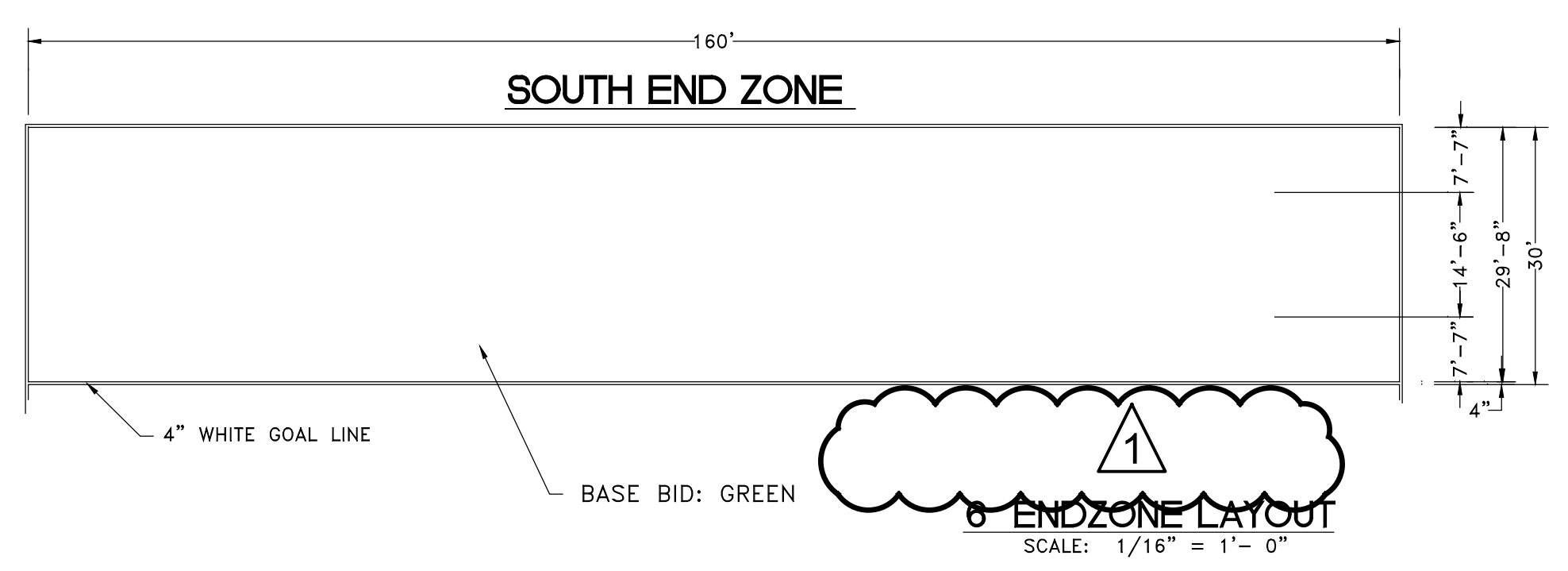
**3 INBOUND LINE DETAIL**  
SCALE: 1/2" = 1'-0"



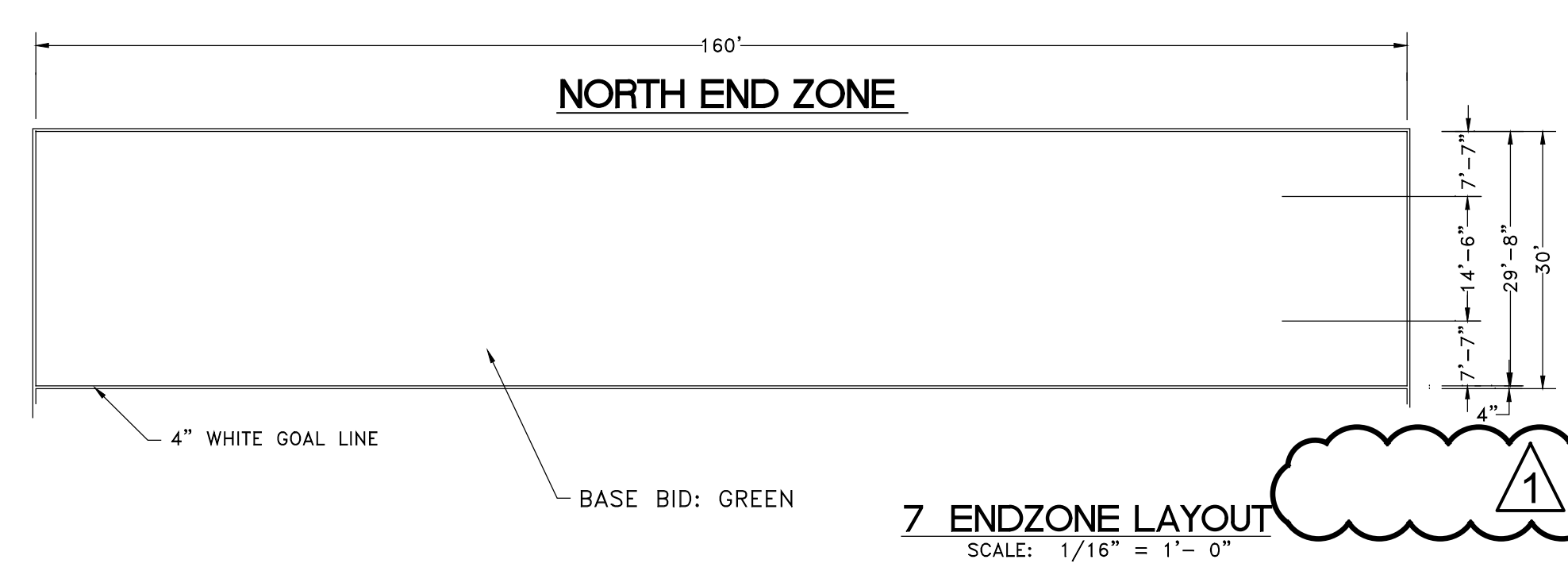
**4 YARDLINE NUMBERS**  
SCALE: 1/2" = 1'-0"



**5 COACHES BOX DETAIL**  
SCALE: 1/4" = 1'-0"



**6 ENDZONE LAYOUT**  
SCALE: 1/16" = 1'-0"



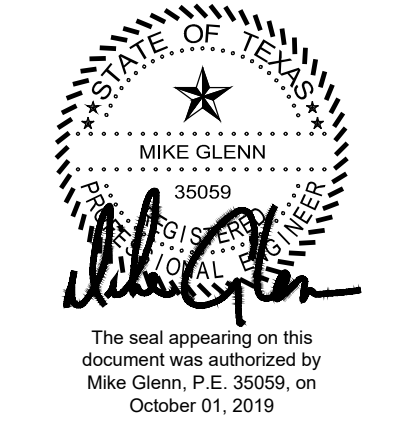
**7 ENDZONE LAYOUT**  
SCALE: 1/16" = 1'-0"

**FIELD MARKINGS**



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**RED OAK HIGH SCHOOL  
ARTIFICIAL  
TURF PRACTICE FIELDS  
FOR  
RED OAK INDEPENDENT SCHOOL DISTRICT**

**TURF MARKINGS  
FOOTBALL**

**JOB** 19306.0000  
**DATE** 09/13/2019  
**SHEET**  
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